



Peace River Area Monitoring Program

JANUARY 2022

Monthly Ambient Air Quality Monitoring Report

PRAMP-202201

Operation and Maintenance:

Bureau Veritas Canada

Data Validation and Report:

Peace River Area Monitoring Program

February 14, 2022

Pages may be left blank for double-sided printing

Table of Contents

LIST OF ACRONYMS	4
COVER LETTER	5
NETWORK STATION SUMMARY	6
Listing of Continuous Monitoring Stations	6
Listing of Intermittent Monitoring Stations.....	6
Monitoring Notes during the Month of January 2022.....	6
986c Station	6
842b Station	7
Reno Station	7
AQHI – Grimshaw Station	7
VOCs Canister Sampling program:.....	7
Revisions to Alberta’s Ambient Air Quality Data Warehouse.....	8
Deviations from Authorized Monitoring Methods	8
Disclaimer.....	8
Certification.....	9
Map of PRAMP Continuous Monitoring Network	10
CONTINUOUS NETWORK EQUIPMENT AND MONITORING RESULTS SUMMARY	11
986c Station	12
842b Station.....	15
Reno Station.....	18
AQHI – Grimshaw Station	22
TABLES, CHARTS, WIND ROSES AND EQUIPMENT CALIBRATION RECORDS	26
986c STATION.....	27
842b STATION	71
RENO STATION	114
AQHI GRIMSHAW STATION.....	159
END OF REPORT	227

LIST OF ACRONYMS

AAAQOs	Alberta Ambient Air Quality Objectives
AEP	Alberta Environment and Parks
AMD	Air Monitoring Directive
AT	Ambient Temperature
BP	Barometric Pressure
CH ₄	Methane
EPEA	Environmental Protection and Enhancement Act
H ₂ S	Hydrogen Sulphide
kph	kilometers per hour
mb	millibar
mm	millimeter
NMHC	Non-Methane Hydrocarbons
ppb	parts per billion
ppm	parts per million
PRAMP	Peace River Area Monitoring Program
RH	Relative Humidity
SO ₂	Sulphur Dioxide
ST	Station Temperature
THC	Total Hydrocarbons
TRS	Total Reduced Sulphur
VWD	Vector Wind Direction
VWS	Vector Wind Speed
WD	Wind Direction
WS	Wind Speed
°C	Degrees Celsius



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

Alberta Environment and Parks (AEP)
11th Floor, Oxbridge Place
9820 106 Street
Edmonton, AB, T5K 2J6

February 14, 2022

RE: PRAMP – January 2022 Monthly Ambient Air Quality Monitoring Report

Enclosed is the January 2022 Monthly Ambient Air Quality Monitoring Report for the continuous ambient air quality monitoring stations of the Peace River Area Monitoring Program (PRAMP) regional air quality monitoring network.

The representative of the Person Responsible for this monitoring program is

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

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

NETWORK STATION SUMMARY

Listing of Continuous Monitoring Stations

The PRAMP continuous ambient air quality monitoring network stations are:

- 986c Station
- 842b Station
- Reno Station
- AQHI Grimshaw

Station ID	Station Name	Latitude	Longitude
1562	986c	56.36980	-116.92500
1561	842b	56.27406	-116.98129
1563	Reno	55.86936	-117.05739
1689	AQHI-Grimshaw	56.186570	-117.604994

Listing of Intermittent Monitoring Stations

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

Monitoring Notes during the Month of January 2022

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, except precipitation (72.8%).
- **AT/RH:** On January 13, the Rotronic HC2-S3 RH/AT sensor, s/n: 20357528, as removed following a shut-down verification due to persistently high RH readings. The Rotronic HC2-S3 RH/AT sensor, s/n: 61116376, was installed afterwards. Two hours of downtime were recorded due to this event.
- **Precipitation:** The precipitation gauge was found to be non-functional (tipping bucket and drain holes frozen) on January 13. Troubleshooting was performed on the precipitation unit and batteries for the unit were changed. The unit passed the tip-test afterwards. In the absence of a clear point of failure, data were invalidated back to the last known good value, which was January 5 hour 4. Two hundred and two hours of data were invalidated. Data collected from the last sensor check, which was December 7, 2021, to January 5 hour 4 should also be used with caution.

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.
- No major issues were identified this month.

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 BV-supplied Thermo 43i-TLE analyzer, s/n: 1162460023, was removed and the PRAMP-owned Thermo 43iQTL analyzer, s/n: 12101910505, was installed on January 11. An installation calibration was completed on January 12. Twenty hours of downtime were recorded due to this event.
- **TRS:** The BV-supplied Thermo 43i-TLE analyzer, s/n: 1162460022, was removed and the PRAMP-owned Thermo 43iQTL analyzer, s/n: 12101910504, was installed on January 11. An installation calibration was completed on January 12. Twenty hours of downtime were recorded due to this event.
- **THC/CH4/NMHC:** The BV-supplied Thermo 55i analyzer, s/n: 1505664392, was removed and the PRAMP-owned Thermo 55i analyzer, s/n: 12101910497, was installed on January 11. An installation calibration was completed on January 12. Twenty-one hours of downtime were recorded due to this event.
- **Meteorological channels:** Channels were put offline during the datalogger swap (the BV-supplied data logger was removed and the PRAMP-owned datalogger was installed) on January 11 between hour 16 and 17. Two hours of downtime were recorded as a result.
- **Precipitation:** The precipitation gauge was found to be non-functional (tipping bucket and drain holes frozen) on January 11. Troubleshooting was performed on the precipitation unit on January 12. The unit passed the tip-test afterwards. In the absence of a clear point of failure, data were invalidated back to the last known good value, which was January 10 hour 17. Forty-two hours of data were invalidated. Data collected from the last sensor check, which was December 2, 2021, to January 10 hour 16 should also be used with caution.

AQHI – Grimshaw Station

- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) and /or Alberta Ambient Air Quality Guidelines (AAAQGs) where applicable.
- No major issues were identified this month.

VOCs Canister Sampling program

- The canister sampling program collects a 1-hour sample of air when the continuously measured non-methane hydrocarbon (NMHC) concentration reaches a specified trigger point. The current

trigger point is 0.3 ppm for non-methane hydrocarbons. The trigger point is based on real-time monitoring data that are averaged over a 5-minute period.

- The canister sample collection systems are in place at Station 986c, 842b, and the Reno Station; a canister sample collection system is not part of the suite of instruments currently deployed at the AQHI-Grimshaw Station.
- Sample analysis and analytical results were prepared and provided by InnoTech Alberta.
- There were no canister events recorded this month.

Revisions to Alberta's Ambient Air Quality Data Warehouse

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

Deviations from Authorized Monitoring Methods

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

Equipment calibration / maintenance records were provided by Bureau Veritas.

Certification

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

A handwritten signature in blue ink, appearing to read 'Lily Lin', with a stylized flourish at the end.

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).

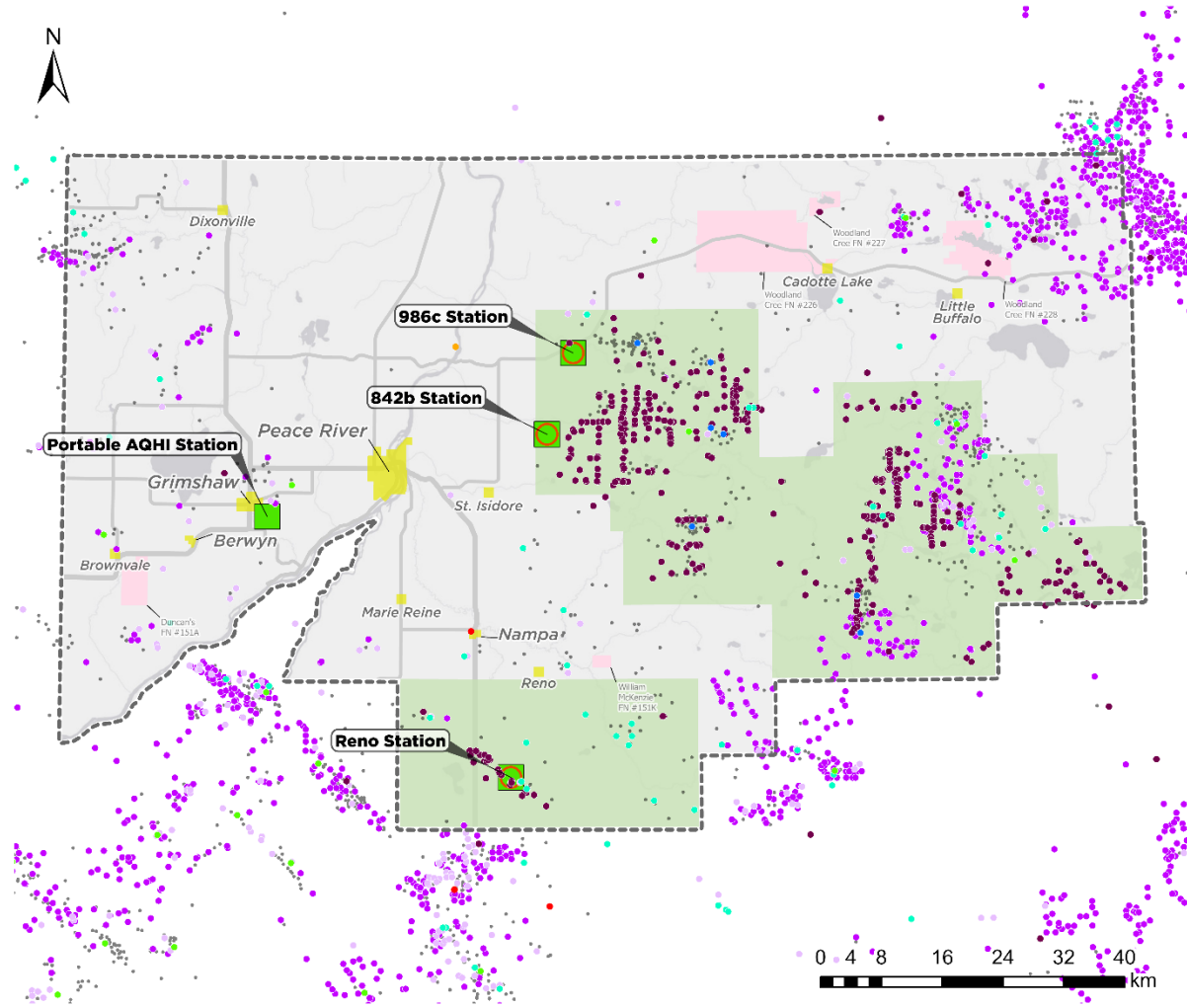
I certify that I have reviewed and verified this report and that the information is complete, accurate and representative of the monitoring results, reporting timeframe and the specified analysis, summarization and reporting requirements. I also certify that at the time of this report's submission, all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

A handwritten signature in blue ink, appearing to read 'Michael Bisaga', with a stylized flourish at the end.

Michael Bisaga, Technical Program Manager, PRAMP Airshed

February 14, 2022

Map of PRAMP Continuous Monitoring Network



Map Legend

- New Operating Area
- Old Operating Area
- Monitoring Methods**
- Continuous (existing)
- Triggered Canister (existing)
- Industrial Facilities**
- Heavy Oil/Bitumen Well or Battery
- Conventional Oil Well or Battery
- In-Situ Oil Sands Facility
- Natural Gas Well or Battery
- Gas Plant or Processing Facility
- Compressor Station or Pipeline Facility
- Pulp and Paper
- Agricultural Storage and Transfer
- Well (Not Associated with Batteries)

Date Exported: 2022-01-12 12:37 AM

CONTINUOUS NETWORK EQUIPMENT AND MONITORING RESULTS SUMMARY

986c Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	
SO2	Thermo / 43iQTL	1193585646	
<ul style="list-style-type: none"> • A successful monthly calibration was performed on January 13. • No operational issues were identified this month. 			
TRS	Thermo / 43iQTL	1191833341	
<ul style="list-style-type: none"> • A successful monthly calibration was performed on January 13. • Low ambient temperatures had a marked effect on TRS span results. This is a perennial problem when the moisture levels in sample air drop very low, causing TRS analyzer to respond more slowly due to the SO2 scrubber requiring a certain humidity to function optimally. Although daily span check results were often below the requirements, and the daily zero check results were occasionally close to or outside the allowable drift range (while low temperatures were occurring), experience indicates the analyzer’s performance remains in compliance with AMD performance criteria, and collected data remain valid. 			
THC/CH4/NMHC	Thermo / 55i	1193585652	
<ul style="list-style-type: none"> • The HC analyzer was put offline while the desiccant was changed on January 12 hour 16. The analyzer was unstable following the change with bad injections, NMHC spikes and multiple flameouts. The analyzer marginal passed the as-found points check on January 13. Drift appeared to be caused by the January 12’s maintenance on the hydrogen generator. A multi-point calibration was performed on January 13 to correct the issue. Data collected between January 12 hour 17 and January 13 hour 11 were discarded as data quality was affected by the maintenance. Nineteen hours of downtime were recorded due to this event. 			
Relative Humidity (RH)	Rotronic / HC2-S3	20357528 / 61116376	
<ul style="list-style-type: none"> • On January 13, the Rotronic HC2-S3 RH/AT, s/n: 20357528, as removed following a successful shut-down verification due to persistently high RH readings. The Rotronic HC2-S3, s/n: 61116376, was installed afterwards. Two hours of downtime were recorded due to this event. 			

Parameter	Make / Model	Serial Number	
Barometric Pressure (BP)	MetOne / 092	Y23358	
<ul style="list-style-type: none"> The BP sensor was checked on January 13. The sensor passed the check requirements. All met channels were put offline on January 13 hour 14 during hardware change for AT/RH. One hour of downtime was recorded. 			
Ambient Temperature (AT)	Rotronic / HC2-S3	20357528 / 61116376	
<ul style="list-style-type: none"> On January 13, the Rotronic HC2-S3 RH/AT sensor, s/n: 20357528, as removed following a successful shut-down verification due to persistently high RH readings. The Rotronic HC2-S3, s/n: 61116376, was installed afterwards. Two hours of downtime were recorded due to this event. 			
Station Temperature (ST)	Bureau Veritas Canada	N/A	
<ul style="list-style-type: none"> All met channels were put offline on January 13 hour 14 during hardware change for AT/RH. One hour of downtime was recorded. 			
Precipitation (Precip)	RM Young 52202	TB 16325	
<ul style="list-style-type: none"> The precipitation gauge was found to be non-functional (tipping bucket and drain holes frozen) on January 13. Troubleshooting was performed on the precipitation unit and batteries for the unit were changed. The unit passed the tip-test afterwards. In the absence of a clear point of failure, data were invalidated back to the last known good value, which was January 5 hour 4. Two hundred and two hours of data were invalidated. Data collected from the last sensor check, which was December 7, 2021, to January 5 hour 4 should also be used with caution. 			
Wind Speed/Wind Direction (WS/ WD)	RM Young / 05305L	174795	
<ul style="list-style-type: none"> Wind direction data contained in this report represents where the wind is coming from. The annual wind system calibration was completed on July 3, 2021. The anemometer sensors were checked on January 13. The sensor passed the check requirements. All met channels were put offline on January 13 hour 14 during hardware change for AT/RH. One hour of downtime was recorded. 			

Monitored Data Summary for 986c Station

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.0	0	1	January 5 at hour 18	9.1	WSW	0.4	January 10	100.0	94.9
TRS (ppb)	10	3	-	-	-	-	0.09	0.00	0.90	January 4 at hour 5	11.2	N	0.31	January 13	100.0	94.9
THC (ppm)	-	-	-	-	-	-	2.10	1.91	2.62	January 8 at hour 11	1.6	WSW	2.31	January 8	97.3	92.3
CH4 (ppm)	-	-	-	-	-	-	2.10	1.91	2.62	January 8 at hour 11	1.6	WSW	2.31	January 8	97.3	92.3
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.00	January 1 at hour 0	6.2	S	0.00	January 1	97.3	92.3
RH (%)	-	-	-	-	-	-	80.4	43	100	January 1 at hour 10	8.4	SW	100.0	January 11	99.7	99.7
BP (millibar)	-	-	-	-	-	-	942	921	964	January 4 at hour 23	3.3	NNW	962	January 5	99.9	99.9
Ext. Temp. (°C)	-	-	-	-	-	-	-12.9	-37.2	5.8	January 22 at hour 19	15.7	W	3.4	January 23	99.7	99.7
Stn. Temp. (°C)	-	-	-	-	-	-	23.2	22.1	24.2	January 13 at hour 15	7.1	NNW	23.6	January 31	99.9	99.9
Precipitation (mm)*	-	-	-	-	-	-	8.3	0.0	0.8	January 23 at hour 19	12	NW	2.1	January 26	72.8	72.6
WSV (km/hr)	-	-	-	-	-	-	4.5	0.5	29.8	January 31 at hour 0	29.8	N	15.7	January 17	99.9	99.9
WDV (sector)	-	-	-	-	-	-	268 (W)	-	-	-	-	-	-	-	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) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) 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 / 43iQTL	1200736629
<ul style="list-style-type: none"> • A successful monthly calibration was performed on January 20. The oven temperature for the permeation tube was adjusted from 45C to 35C. Time was given to the zero-span system to stabilize after the temperature change. The expected span value was adjusted on January 23. • No operational issues were identified this month. 		
TRS	Thermo 43iQTL	1200736630
<ul style="list-style-type: none"> • A successful monthly calibration was performed on January 20. • Low ambient temperatures had a marked effect on TRS span results. This is a perennial problem when the moisture levels in sample air drop very low, causing TRS analyzer to respond more slowly due to the SO2 scrubber requiring a certain humidity to function optimally. Although daily span check results were often below the requirements, and the daily zero check results were occasionally close to or outside the allowable drift range (while low temperatures were occurring), experience indicates the analyzer's performance remains in compliance with AMD performance criteria, and collected data remain valid. 		
THC/CH4/NMHC	Thermo / 55i	1501663728
<ul style="list-style-type: none"> • The analyzer spanned low on January 9. A repeat zero-span check was completed on January 10 to investigate the drift. On January 11, a span gas cylinder was replaced following by a repeat zero-span check to obtain new expected span values. Four hours of downtime were recorded due to additional quality checks. • Spike readings for CH4 and NMHC were recorded on January 8 hour 21. After reviewing 1-minute data, data were confirmed to be real. • A successful monthly calibration was performed on January 20. The carrier gas cylinder was replaced prior to the calibration. 		
Relative Humidity (RH)	Rotronic / HC2A-S3	20370767
<ul style="list-style-type: none"> • The RH sensor was checked on January 20. The sensor passed the check requirements. • No operational issues were identified this month. 		

Parameter	Make / Model	Serial Number	
Barometric Pressure (BP)	MetOne / 092	Y23362	
<ul style="list-style-type: none"> • The BP sensor was checked on January 20. The sensor passed the check requirements. • No operational issues were identified this month. 			
Ambient Temperature (AT)	Rotronic / HC2A-S3	20370767	
<ul style="list-style-type: none"> • The temperature sensor was checked on January 20. The sensor passed the check requirements. • No operational issues were identified this month. 			
Station Temperature (ST)	Bureau Veritas Canada	N/A	
<ul style="list-style-type: none"> • No operational issues were identified this month. 			
Precipitation (Precip)	RM Young / 52202	TB 15878	
<ul style="list-style-type: none"> • The precipitation sensor was checked on January 20. The sensor passed the check requirements. • No operational issues were identified this month. 			
Wind Speed/Wind Direction (WS/ WD)	RM Young / 05305AQ	174802	
<ul style="list-style-type: none"> • Wind direction data contained in this report represents where the wind is coming from. • The annual wind system calibration was completed on July 4, 2021. • The anemometer sensors were checked on January 20. The sensor passed the check requirements. • No operational issues were identified this month. 			

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	0.1	0	2	January 26 at hour 4	10.5	WNW	0.5	January 10	100.0	94.9
TRS (ppb)	10	3	-	-	-	-	0.31	0.05	0.94	January 8 at hour 21	5.8	ENE	0.48	January 20	100.0	94.9
THC (ppm)	-	-	-	-	-	-	1.87	1.77	3.33	January 8 at hour 21	5.8	ENE	1.98	January 8	99.5	94.3
CH4 (ppm)	-	-	-	-	-	-	1.87	1.77	3.26	January 8 at hour 21	5.8	ENE	1.97	January 8	99.5	94.3
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.07	January 8 at hour 21	5.8	ENE	0.00	January 8	99.5	94.3
RH (%)	-	-	-	-	-	-	80.0	42	100	January 12 at hour 22	4	SE	97.2	January 13	100.0	100.0
BP (millibar)	-	-	-	-	-	-	941	919	963	January 5 at hour 3	1.4	W	961	January 5	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	-12.6	-37.6	5.8	January 22 at hour 19	26.5	WSW	3.2	January 23	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	22.3	20.9	23.4	January 5 at hour 23	11.2	SSW	23.1	January 5	100.0	100.0
Precipitation (mm)*	-	-	-	-	-	-	8.1	0.0	0.8	January 25 at hour 18	18.4	NW	1.9	January 23	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	2.3	0.2	26.5	January 22 at hour 19	26.5	WSW	14.0	January 14	100.0	100.0
WDV (sector)	-	-	-	-	-	-	243 (WSW)	-	-	-	-	-	-	-	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) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) 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	Thermo 43i-TLE / Thermo 43iQTL	1162460023 / 12101910505
<ul style="list-style-type: none"> The BV-supplied Thermo 43i-TLE analyzer, s/n: 1162460023, was removed and the PRAMP-owned Thermo 43iQTL analyzer, s/n: 12101910505, was installed on January 11. An installation calibration was completed on January 12. Twenty hours of downtime were recorded due to this event. No operational issues were identified this month. No data were collected on January 30 hour 1 and hour 2. The true cause could not be identified. A weekly restart was added to Windows on datalogger to potentially avoid this problem repeating. Two hours of downtime were recorded due to this event. 		
TRS	Thermo 43i-TLE / Thermo 43iQTL	1162460022 / 12101910504
<ul style="list-style-type: none"> The BV-supplied Thermo 43i-TLE analyzer, s/n: 1162460022, was removed and the PRAMP-owned Thermo 43iQTL analyzer, s/n: 12101910504, was installed on January 11. An installation calibration was completed on January 12. Twenty hours of downtime were recorded due to this event. Low ambient temperatures had a marked effect on TRS span results. This is a perennial problem when the moisture levels in sample air drop very low, causing TRS analyzer to respond more slowly due to the SO2 scrubber requiring a certain humidity to function optimally. Although daily span check results were often below the requirements, and the daily zero check results were occasionally close to or outside the allowable drift range (while low temperatures were occurring), experience indicates the analyzer's performance remains in compliance with AMD performance criteria, and collected data remain valid. No data were collected on January 30 hour 1 and hour 2. The true cause could not be identified. A weekly restart was added to Windows on datalogger to potentially avoid this problem repeating. Two hours of downtime were recorded due to this event. 		
THC/CH4/NMHC	Thermo / 55i	1505664392 / 12101910497
<ul style="list-style-type: none"> The BV-supplied Thermo 55i analyzer, s/n: 1505664392, was removed and the PRAMP-owned Thermo 55i analyzer, s/n: 12101910497, was installed on January 11. An installation calibration was completed on January 12. Twenty-one hours of downtime were recorded due to this event. No operational issues were identified this month. No data were collected on January 30 hour 1 and hour 2. The true cause could not be identified. A weekly restart was added to Windows on datalogger to potentially avoid this problem repeating. Two hours of downtime were recorded due to this event. 		

Parameter	Make / Model	Serial Number	
Relative Humidity (RH)	RM Young / 43172VC	60837897	
<ul style="list-style-type: none"> The RH sensor was checked on January 11 before the datalogger swap. The sensor passed the check requirements. The BV-supplied data logger was removed and the PRAMP-owned datalogger was installed on January 11 between hour 16 and 17. A successful sensor check was completed after new datalogger installation. Two hours of downtime were recorded as a result No data were collected on January 30 hour 1 and hour 2. The true cause could not be identified. A weekly restart was added to Windows on datalogger to potentially avoid this problem repeating. Two hours of downtime were recorded due to this event. 			
Barometric Pressure (BP)	MetOne / 092	K12864	
<ul style="list-style-type: none"> The BP sensor was checked on January 11. The sensor passed the check requirements. The BV-supplied data logger was removed and the PRAMP-owned datalogger was installed on January 11 between hour 16 and 17. A successful sensor check was completed after new datalogger installation. Two hours of downtime were recorded as a result. No data were collected on January 30 hour 1 and hour 2. The true cause could not be identified. A weekly restart was added to Windows on datalogger to potentially avoid this problem repeating. Two hours of downtime were recorded due to this event. 			
Ambient Temperature (AT)	RM Young / 43172VC	60837897	
<ul style="list-style-type: none"> The temperature sensor was checked on January 11. The sensor passed the check requirements. The BV-supplied data logger was removed and the PRAMP-owned datalogger was installed on January 11 between hour 16 and 17. A successful sensor check was completed after new datalogger installation. Two hours of downtime were recorded as a result. No data were collected on January 30 hour 1 and hour 2. The true cause could not be identified. A weekly restart was added to Windows on datalogger to potentially avoid this problem repeating. Two hours of downtime were recorded due to this event. 			
Station Temperature (ST)	Bureau Veritas Canada	N/A	
<ul style="list-style-type: none"> The BV-supplied data logger was removed and the PRAMP-owned datalogger was installed on January 11 between hour 16 and 17. Two hours of downtime were recorded as a result. No data were collected on January 30 hour 1 and hour 2. The true cause could not be identified. A weekly restart was added to Windows on datalogger to potentially avoid this problem repeating. Two hours of downtime were recorded due to this event. 			

Parameter	Make / Model	Serial Number	
Precipitation (Precip)	RM Young / 5202	TB15877	
<ul style="list-style-type: none"> • The precipitation sensor was checked on December 2. The sensor passed the check requirements. • The precipitation gauge was found to be non-functional (tipping bucket and drain holes frozen) on January 11. Troubleshooting was performed on the precipitation unit on January 12. The unit passed the tip-test afterwards. In the absence of a clear point of failure, data were invalidated back to the last known good value, which was January 10 hour 17. Forty-two hours of data were invalidated. Data collected from the last sensor check, which was December 2, 2021, to January 10 hour 16 should also be used with caution. • No data were collected on January 30 hour 1 and hour 2. The true cause could not be identified. A weekly restart was added to Windows on datalogger to potentially avoid this problem repeating. Two hours of downtime were recorded due to this event. 			
Wind Speed/Wind Direction (WS/ WD)	RM Young / 5305VK	149769	
<ul style="list-style-type: none"> • Wind direction data contained in this report represents where the wind is coming from. • The annual wind system calibration was completed on July 5, 2021. • The anemometer sensors were checked on January 11. The sensor passed the check requirements. The BV-supplied data logger was removed and the PRAMP-owned datalogger was installed on January 11 between hour 16 and 17. A successful sensors check was completed after new datalogger installation. Two hours of downtime were recorded as a result. • No data were collected on January 30 hour 1 and hour 2. The true cause could not be identified. A weekly restart was added to Windows on datalogger to potentially avoid this problem repeating. Two hours of downtime were recorded due to this event. 			

Monitored Data Summary for Reno Station

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.1	0	2	January 5 at hour 15	3	SSW	0.9	January 10	97.0	91.9
TRS (ppb)	10	3	-	-	-	-	0.26	0.10	3.75	January 27 at hour 1	3.1	S	0.82	January 19	97.0	91.9
THC (ppm)	-	-	-	-	-	-	2.00	1.87	2.78	January 27 at hour 18	1.6	S	2.12	January 7	96.9	91.9
CH4 (ppm)	-	-	-	-	-	-	2.00	1.87	2.78	January 27 at hour 18	1.6	S	2.12	January 7	96.9	91.9
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.16	January 4 at hour 9	8.2	N	0.01	January 4	96.9	91.9
RH (%)	-	-	-	-	-	-	70.7	41	100	January 13 at hour 8	2.6	SW	93.4	January 24	99.5	99.5
BP (millibar)	-	-	-	-	-	-	940	918	962	January 5 at hour 3	2.5	NW	960	January 5	99.5	99.5
Ext. Temp. (°C)	-	-	-	-	-	-	-12.6	-37.5	5.7	January 22 at hour 13	13.8	WSW	2.6	January 23	99.5	99.5
Stn. Temp. (°C)	-	-	-	-	-	-	22.4	17.0	25.3	January 11 at hour 1	5.3	SW	24.0	January 11	99.5	99.5
Precipitation (mm)*	-	-	-	-	-	-	12.5	0.0	1.3	January 26 at hour 6	6	W	6.6	January 23	94.1	94.0
WSV (km/hr)	-	-	-	-	-	-	1.6	0.0	19.6	January 30 at hour 23	19.6	N	12.5	January 3	99.5	99.5
WDV (sector)	-	-	-	-	-	-	268 (W)	-	-	-	-	-	-	-	99.5	99.5

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

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

Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) Exceedances at Reno Station

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

AQHI – Grimshaw Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	
SO2	Teledyne / T100	722	
<ul style="list-style-type: none"> • A monthly calibration was attempted but aborted on January 19 as the analyzer was calibrated in parallel with the TRS analyzer. The TRS analyzer showed that maintenance was required from the as-found points check results. A shut-down calibration was proceeded with the TRS analyzer while the monthly calibration was paused after the as-found points checks for the SO2 analyzer. Two hours of downtime were recorded as a result. • A successful monthly calibration was performed on January 20. • No operational issues were identified this month. 			
TRS	Teledyne / T100U	132	
<ul style="list-style-type: none"> • The analyzer failed due to firmware issues on January 15 hour 11. The analyzer was reset and a repeat zero-span check was completed to confirm the analyzer’s functionality. Twenty-one hours of downtime were recorded due to this event. • Following a shut-down calibration on January 19, the SO2 scrubber material was renewed. The analyzer was allowed time to stabilize overnight. A successful post-repair calibration was completed on January 20. Twenty-two hours of downtime were recorded due to this event. • The TRS analyzer was removed from ethernet to serial connection with datalogger in an attempt to improve reliability (i.e. Recurring firmware issue) on January 19. • Low ambient temperatures had a marked effect on TRS span results. This is a perennial problem when the moisture levels in sample air drop very low, causing TRS analyzer to respond more slowly due to the SO2 scrubber requiring a certain humidity to function optimally. Although daily span check results were often below the requirements, and the daily zero check results were occasionally close to or outside the allowable drift range (while low temperatures were occurring), experience indicates the analyzer’s performance remains in compliance with AMD performance criteria, and collected data remain valid. 			
NOx/NO/NO2	Teledyne / T200	837	
<ul style="list-style-type: none"> • A successful monthly calibration was performed on January 19. • No operational issues were identified this month. 			

Parameter	Make / Model	Serial Number	
O3	API / 400A	445	
<ul style="list-style-type: none"> A successful monthly calibration was performed on January 19. The sample line was forgot to re-attach after the monthly calibration on January 19. The issue was corrected on January 20. Fifteen hours of downtime were recorded. 			
THC/CH4/NMHC	Thermo / 55i	1191032505	
<ul style="list-style-type: none"> The analyzer failed due to low carrier pressure on January 12 hour 22. The gas cylinder was replaced and a repeat zero-span check was completed to confirm the analyzer's functionality on January 13. Thirteen hours of downtime were recorded due to this event. A successful monthly calibration was performed on January 19. Incorrect span gas cylinder was installed after the calibration, which affected the post-calibration zero-span check. The check was aborted, and the original gas cylinder was reinstalled. A successful post-calibration zero-span check was completed afterwards. The span gas cylinder was replaced on February 20. A repeat zero-span check was completed afterwards to obtain the expected span values. One hour of downtime was recorded. 			
PM 2.5	Teledyne / T640	318	
<ul style="list-style-type: none"> A successful monthly calibration was performed on January 19. The PM unit failed due to an intermittent error on January 22 hour 2. The unit was reset to correct the issue at hour 7. Five hours of downtime were recorded due to this event. 			
Relative Humidity (RH)	Vaisala / HMP155	N2910506	
<ul style="list-style-type: none"> The sensor was checked on January 19. The sensor passed the check requirements. No operational issues were identified this month. 			
Barometric Pressure (BP)	MetOne / 092	A2397	
<ul style="list-style-type: none"> The sensor was checked on January 19. The sensor passed the check requirements. No operational issues were identified this month. 			

Parameter	Make / Model	Serial Number	
Ambient Temperature (AT)	Vaisala / HMP155	N2910506	
<ul style="list-style-type: none"> • The sensor was checked on January 19. The sensor passed the check requirements. • No operational issues were identified this month. 			
Station Temperature (ST)	Bureau Veritas Canada	N/A	
<ul style="list-style-type: none"> • No operational issues were identified this month. 			
Wind Speed/Wind Direction (WS/ WD)	RM Young / 05305AQ	174801	
<ul style="list-style-type: none"> • Wind direction data contained in this report represents where the wind is coming from. • The annual wind system calibration was completed on July 22, 2021. • The anemometer sensors were checked on January 19. The sensor passed the check requirements. • No operational issues were identified this month. 			

Monitored Data Summary for AQHI - Grimshaw Station

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.1	0	3	January 7 at hour 3	4	WSW	0.6	January 7	99.7	94.7
TRS (ppb)	10	3	-	-	-	-	0.36	0.00	1.51	January 18 at hour 8	2.5	WNW	0.60	January 18	94.2	89.2
NOx (ppb)	-	-	-	-	-	-	9.4	0	96	January 18 at hour 8	2.5	WNW	37.9	January 18	100.0	94.7
NO (ppb)	-	-	-	-	-	-	2.1	0	54	January 18 at hour 9	3	WNW	15.6	January 18	100.0	94.7
NO2 (ppb)	159	-	-	0	-	-	7.2	0	46	January 18 at hour 8	2.5	WNW	22.1	January 18	100.0	94.7
O3 (ppb)	76	-	-	0	-	-	26.8	0	45	January 23 at hour 5	23	W	39.7	January 23	98.0	93.3
THC (ppm)	-	-	-	-	-	-	2.05	1.85	3.82	January 27 at hour 22	2.9	NE	2.31	January 14	98.1	93.0
CH4 (ppm)	-	-	-	-	-	-	2.03	1.85	3.10	January 14 at hour 3	3.1	SSW	2.26	January 14	98.1	93.0
NMHC (ppm)	-	-	-	-	-	-	0.01	0.00	1.61	January 27 at hour 22	2.9	NE	0.09	January 27	98.1	93.0
PM2.5 (µg/m3)	80	30	-	0	0	-	5.5	0.0	37.0	January 19 at hour 20	0.3	NNE	11.3	January 27	99.3	99.2
RH (%)	-	-	-	-	-	-	76.3	42	96	January 16 at hour 21	3.5	NE	87.5	January 24	100.0	100.0
BP (millibar)	-	-	-	-	-	-	944	922	966	January 4 at hour 23	3.6	NNW	964	January 5	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	-12.7	-37.3	5.9	January 22 at hour 15	23.3	WNW	3.5	January 23	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	22.5	20.9	24.3	January 18 at hour 21	0.1	W	23.2	January 15	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	8.8	0.1	30.2	January 22 at hour 17	30.2	W	20.2	January 15	100.0	100.0
WDV (sector)	-	-	-	-	-	-	305 (WNW)	-	-	-	-	-	-	-	100.0	100.0

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

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

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

TABLES, CHARTS, WIND ROSES AND EQUIPMENT CALIBRATION RECORDS

986c STATION



PEACE RIVER AREA MONITORING PROGRAM

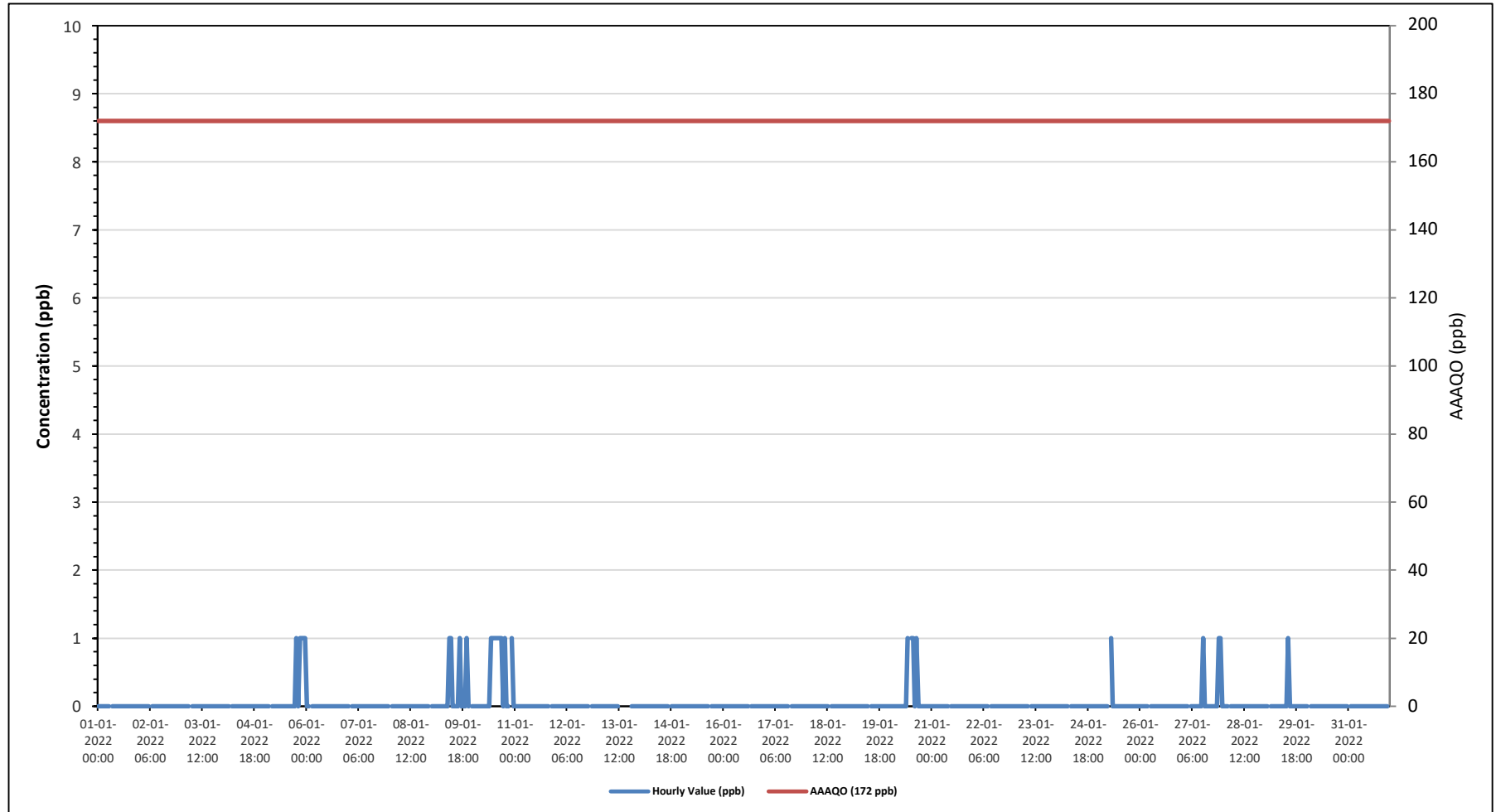
986c Station - January 2022

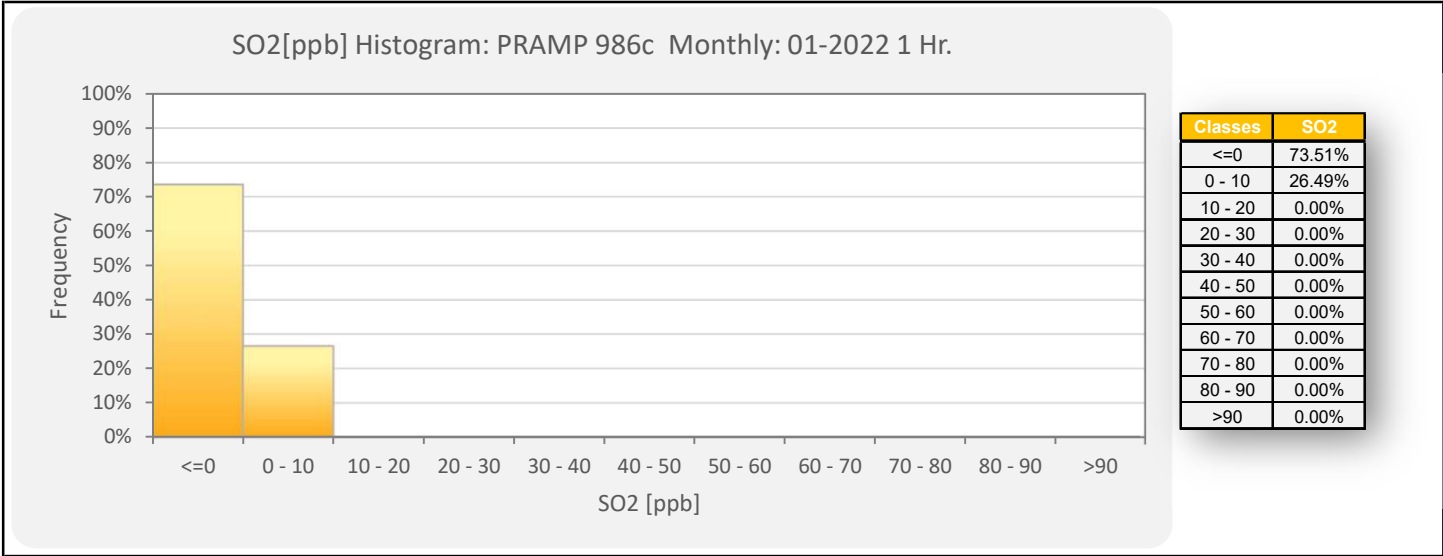
Summary of Hourly Averages

SULPHUR DIOXIDE (SO₂) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb																															
Number of 1-Hour Exceedances: 0					Number of 24-Hour Exceedances: 0					30-Day Exceedance: 0																					
Maximum Hourly Value: 1 ppb on January 5 at hour 18										Hours in Service: 744																					
Maximum Daily Value: 0.4 ppb on January 10										Hours of Data: 706																					
Minimum Hourly Value: 0 ppb on January 1 at hour 0										Hours of Missing Data: 0																					
Minimum Daily Value: 0.0 ppb on January 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					
Jan 1	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				
Jan 2	0	0	0	0	0	0	S	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Jan 3	0	0	0	0	0	S	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Jan 4	0	0	0	0	S	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Jan 5	0	0	0	S	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	0	0	0			
Jan 6	0	0	S	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			
Jan 7	0	S	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			
Jan 8	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	S	0	0			
Jan 9	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	S	1	0	0			
Jan 10	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	1	0	0	S	1	0	0	0	1			
Jan 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0			
Jan 12	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			
Jan 13	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	0	S	0	0	0	0	0	0	0	0	0			
Jan 14	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			
Jan 15	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			
Jan 16	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			
Jan 17	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			
Jan 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			
Jan 19	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Jan 20	0	0	0	0	0	0	0	0	0	0	1	S	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0			
Jan 21	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			
Jan 22	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			
Jan 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			
Jan 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			
Jan 25	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	0	0	0			
Jan 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			
Jan 27	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1			
Jan 28	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			
Jan 29	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1			
Jan 30	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Jan 31	S	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0			
Diurnal Maximum	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1	1	1	0	1	0	1	0	1	1	1	1	1			
Diurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	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.																															

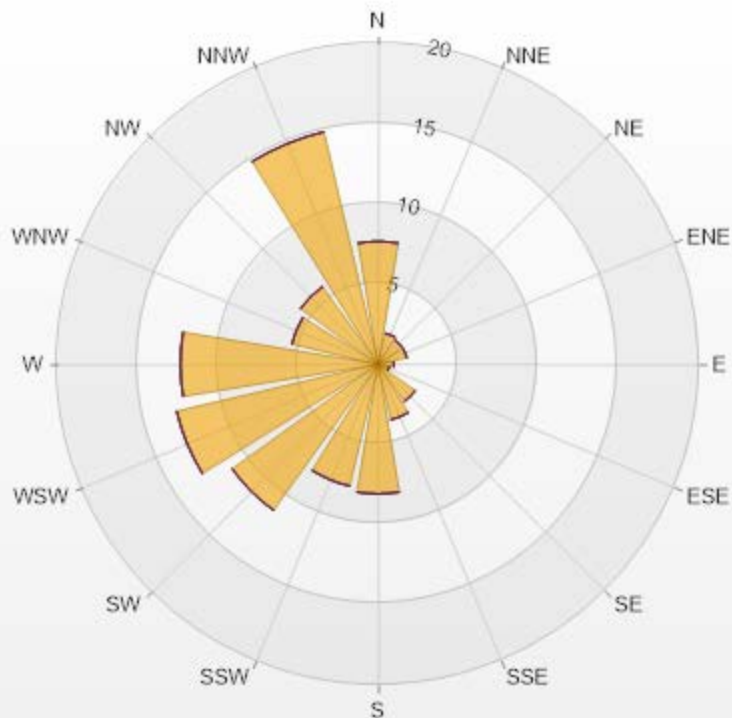
Timeseries Chart of Hourly Average for SO2 - 986c Station





Wind: PRAMP 986c Poll.: PRAMP 986c-SO2[ppb] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	7.65	0	0	0	0	7.65
NNE	1.98	0	0	0	0	1.98
NE	1.84	0	0	0	0	1.84
ENE	1.84	0	0	0	0	1.84
E	0.99	0	0	0	0	0.99
ESE	0.71	0	0	0	0	0.71
SE	2.83	0	0	0	0	2.83
SSE	3.54	0	0	0	0	3.54
S	8.07	0	0	0	0	8.07
SSW	7.79	0	0	0	0	7.79
SW	11.19	0	0	0	0	11.19
WSW	12.89	0	0	0	0	12.89
W	12.32	0	0	0	0	12.32
WNW	5.52	0	0	0	0	5.52
NW	5.95	0	0	0	0	5.95
NNW	14.87	0	0	0	0	14.87
Summary	100	0	0	0	0	100



PRAMP-202201

Page 32 of 227

% Icon Classes (ppb)

100 0-10

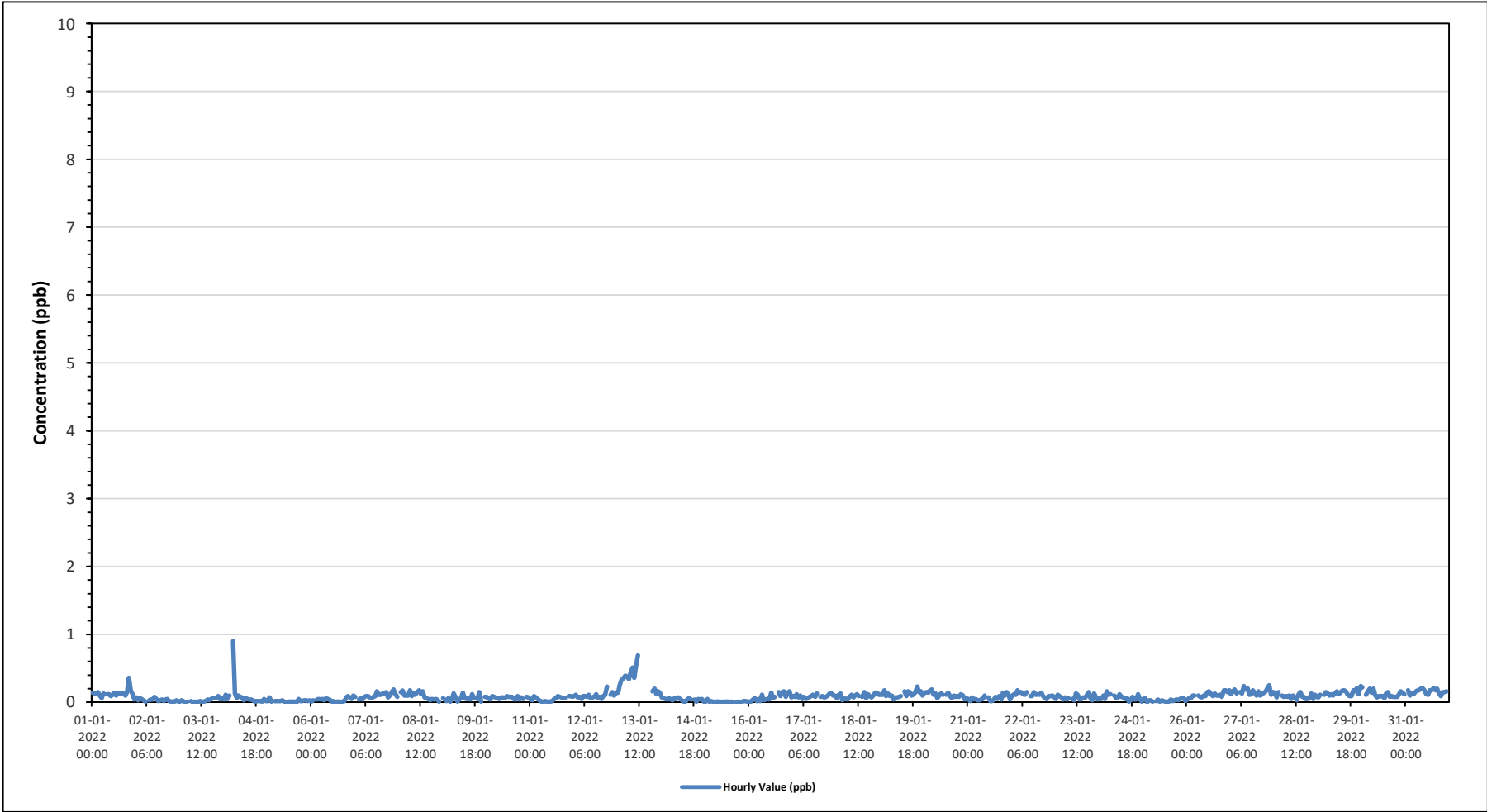
0 10-50

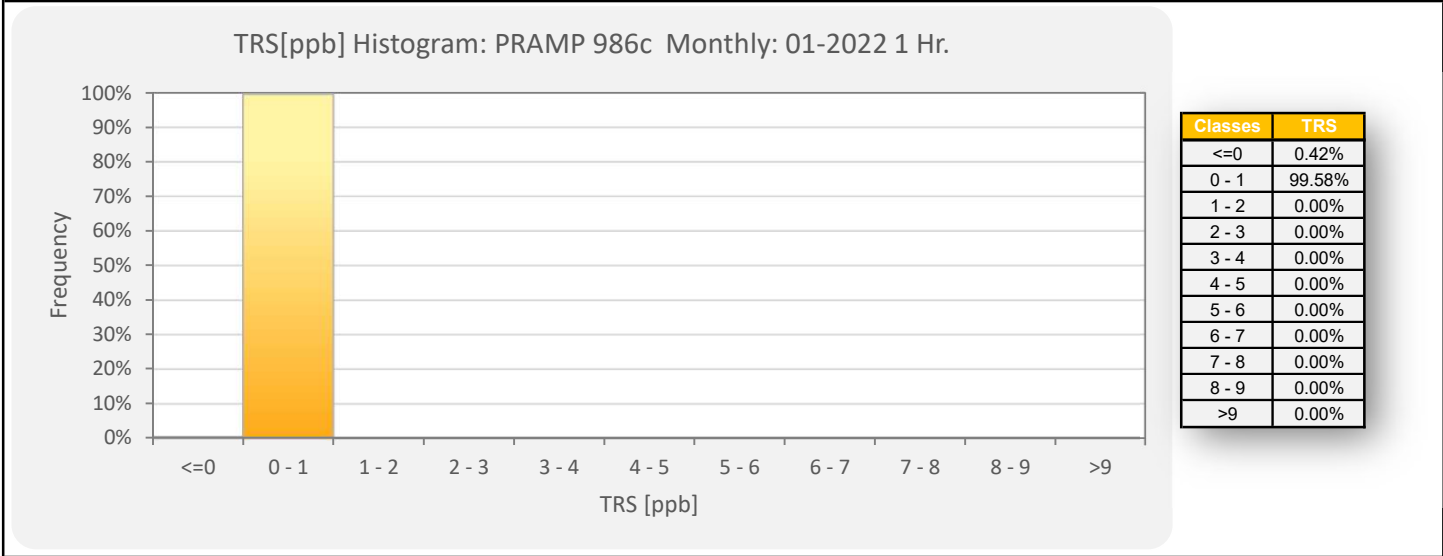
0 50-100

0 100-172

0 >172.0

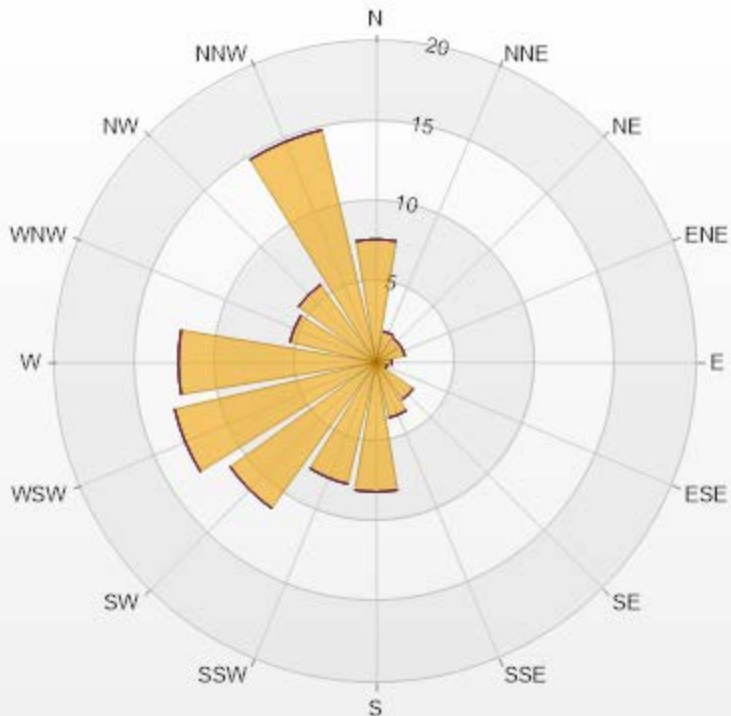
Timeseries Chart of Hourly Average for TRS - 986c Station





Wind: PRAMP 986c Poll.: PRAMP 986c-TRS[ppb] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	7.65	0	0	0	0	7.65
NNE	1.98	0	0	0	0	1.98
NE	1.84	0	0	0	0	1.84
ENE	1.84	0	0	0	0	1.84
E	0.99	0	0	0	0	0.99
ESE	0.71	0	0	0	0	0.71
SE	2.83	0	0	0	0	2.83
SSE	3.54	0	0	0	0	3.54
S	8.07	0	0	0	0	8.07
SSW	7.79	0	0	0	0	7.79
SW	11.19	0	0	0	0	11.19
WSW	12.89	0	0	0	0	12.89
W	12.32	0	0	0	0	12.32
WNW	5.52	0	0	0	0	5.52
NW	5.95	0	0	0	0	5.95
NNW	14.87	0	0	0	0	14.87
Summary	100	0	0	0	0	100



% Icon Classes (ppb)

100 0-2

Page 37 of 227

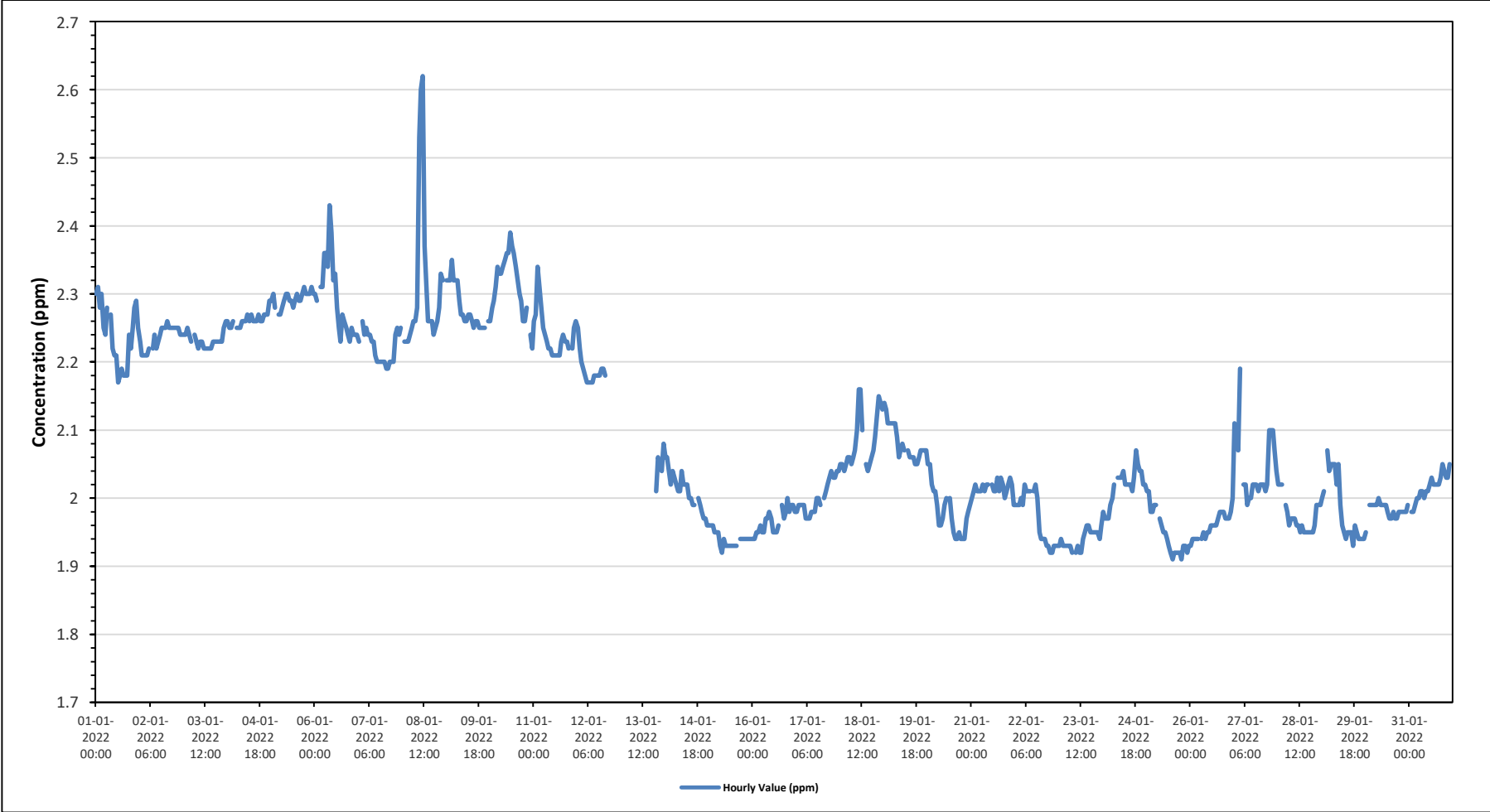
0 2-5

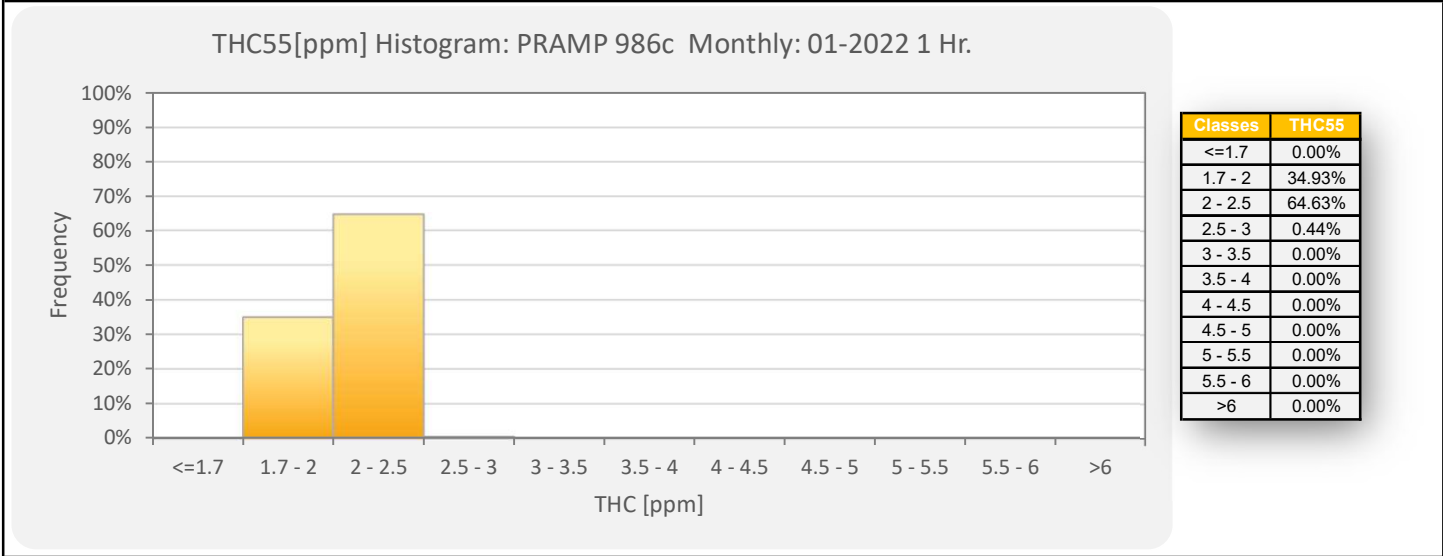
0 5-10

0 10-50

0 >50.0

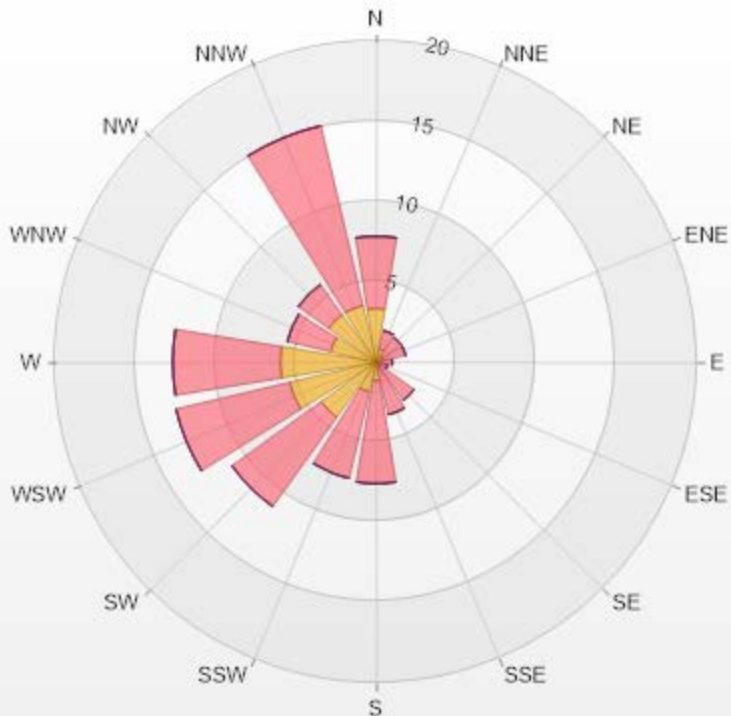
Timeseries Chart of Hourly Average for THC - 986c Station





Wind: PRAMP 986c Poll.: PRAMP 986c-THC55[ppm] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 92.34% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	3.35	4.51	0	0	0	7.86
NNE	0.87	1.16	0	0	0	2.03
NE	0.44	1.46	0	0	0	1.9
ENE	0.44	1.46	0	0	0	1.9
E	0	1.02	0	0	0	1.02
ESE	0.29	0.44	0	0	0	0.73
SE	0.29	2.62	0	0	0	2.91
SSE	0.15	3.2	0	0	0	3.35
S	1.16	6.4	0	0	0	7.56
SSW	1.89	5.53	0	0	0	7.42
SW	4.22	6.84	0	0	0	11.06
WSW	5.53	7.28	0	0	0	12.81
W	5.97	6.7	0	0	0	12.67
WNW	2.91	2.77	0	0	0	5.68
NW	3.64	2.33	0	0	0	5.97
NNW	3.64	11.5	0	0	0	15.14
Summary	34.79	65.22	0	0	0	100



PRAMP-202201

Page 42 of 227

% Icon Classes (ppm)

35

0-2

65

2-5

0

5-10

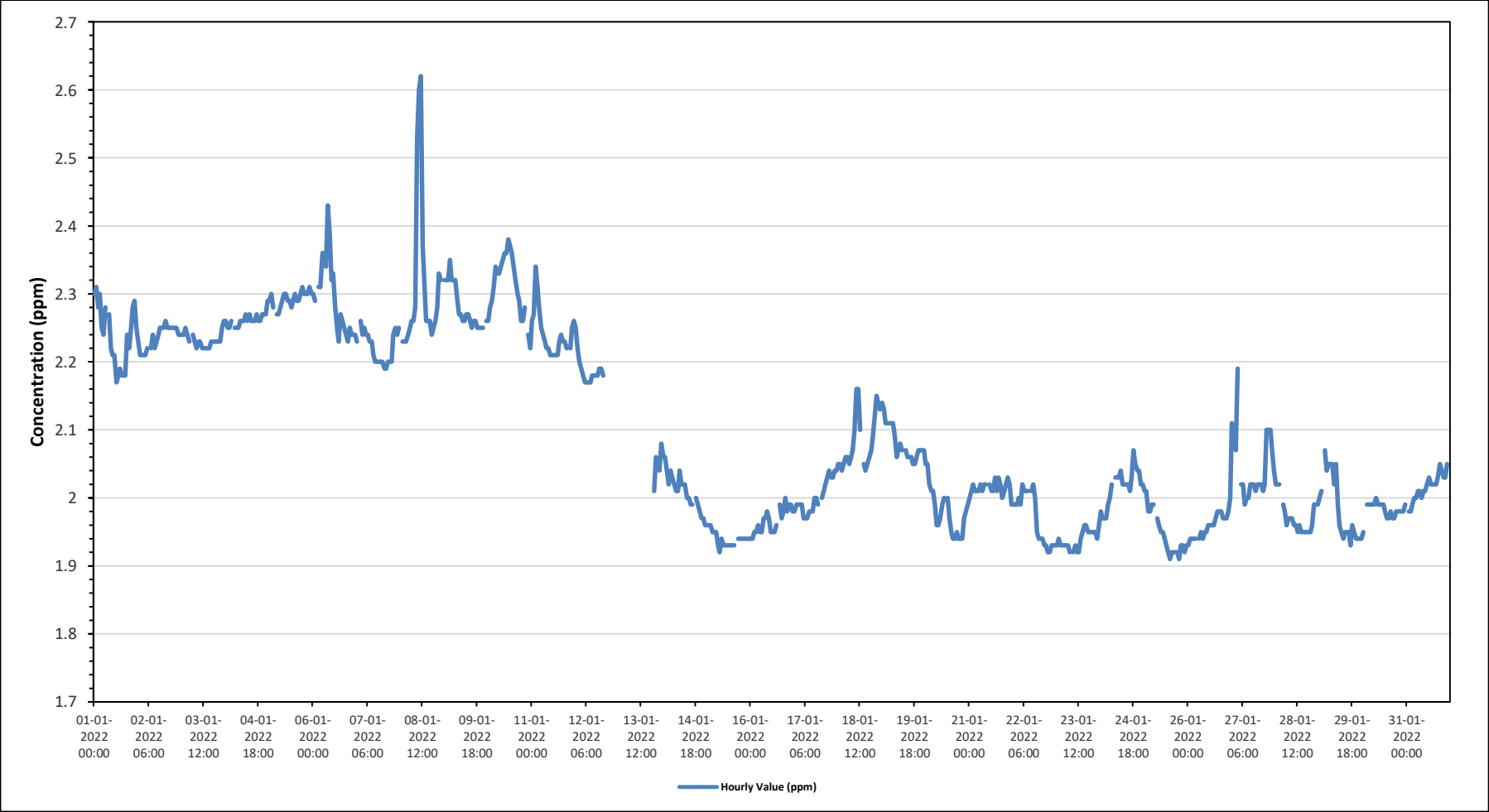
0

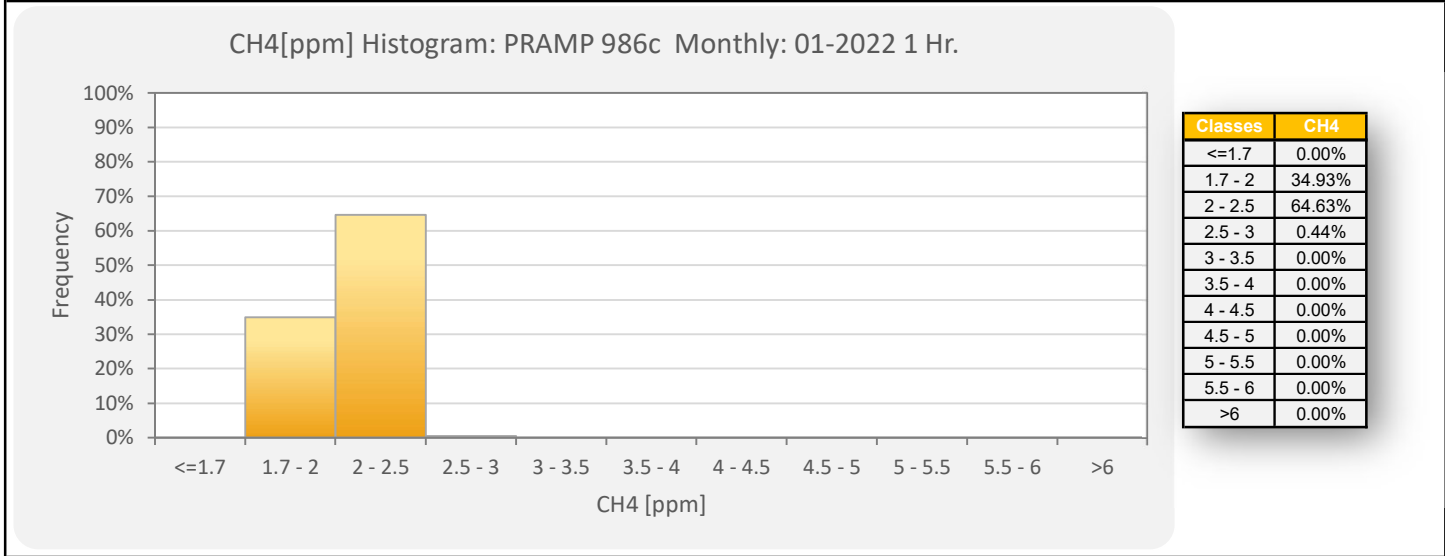
10-40

0

>40.0

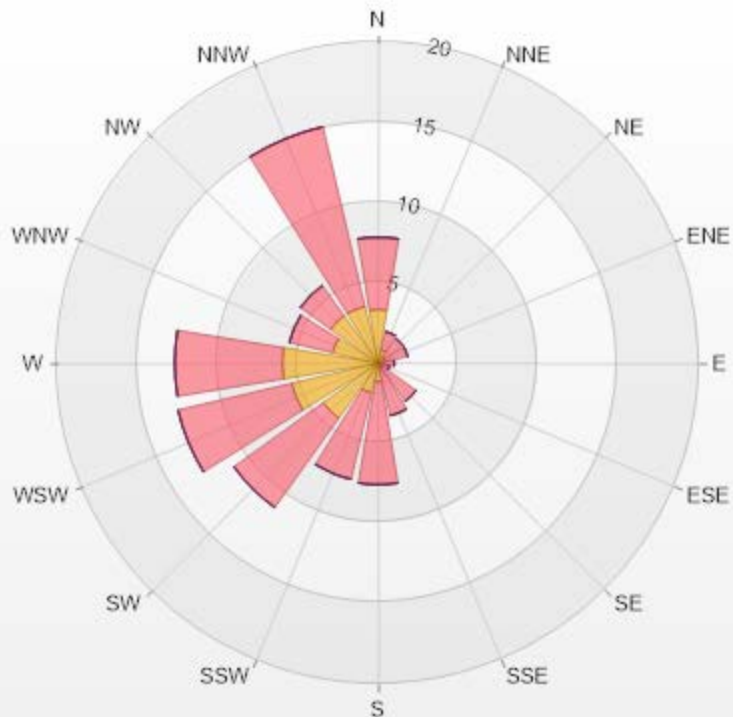
Timeseries Chart of Hourly Average for CH4 - 986c Station





Wind: PRAMP 986c Poll.: PRAMP 986c-CH4[ppm] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 92.34% Calm Avg: 0.00 [ppm]

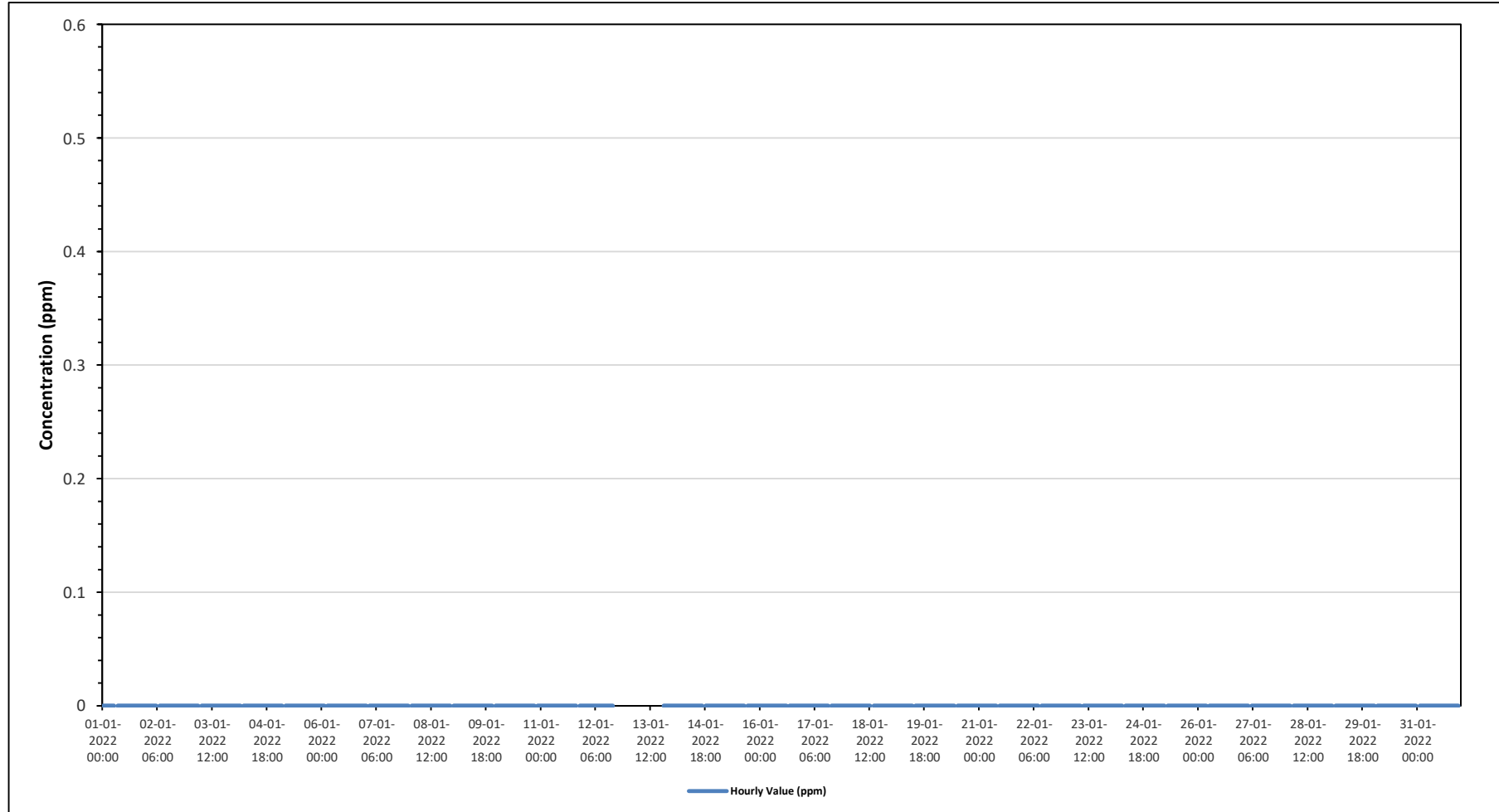
Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	3.35	4.51	0	0	0	7.86
NNE	0.87	1.16	0	0	0	2.03
NE	0.44	1.46	0	0	0	1.9
ENE	0.44	1.46	0	0	0	1.9
E	0	1.02	0	0	0	1.02
ESE	0.29	0.44	0	0	0	0.73
SE	0.29	2.62	0	0	0	2.91
SSE	0.15	3.2	0	0	0	3.35
S	1.16	6.4	0	0	0	7.56
SSW	1.89	5.53	0	0	0	7.42
SW	4.22	6.84	0	0	0	11.06
WSW	5.53	7.28	0	0	0	12.81
W	5.97	6.7	0	0	0	12.67
WNW	2.91	2.77	0	0	0	5.68
NW	3.64	2.33	0	0	0	5.97
NNW	3.64	11.5	0	0	0	15.14
Summary	34.79	65.22	0	0	0	100

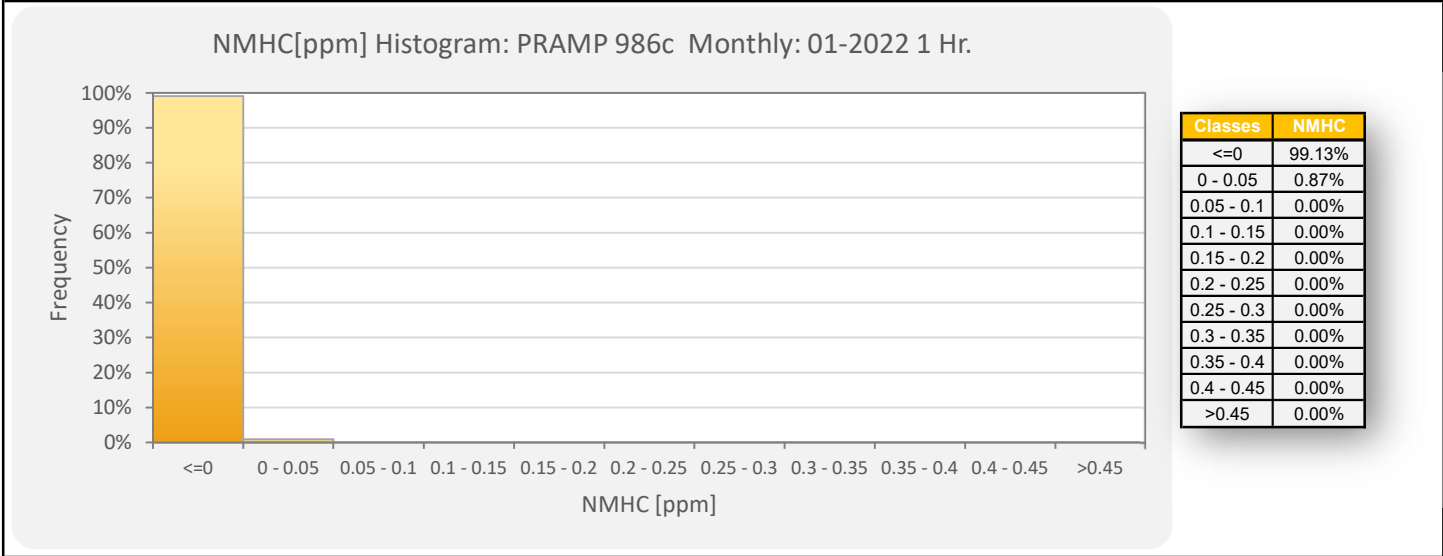


PRAMP-202201

% Icon Classes (ppm)	35	0-2	65	2-5	0	5-10	0	10-20	0	>20.0
----------------------	----	-----	----	-----	---	------	---	-------	---	-------

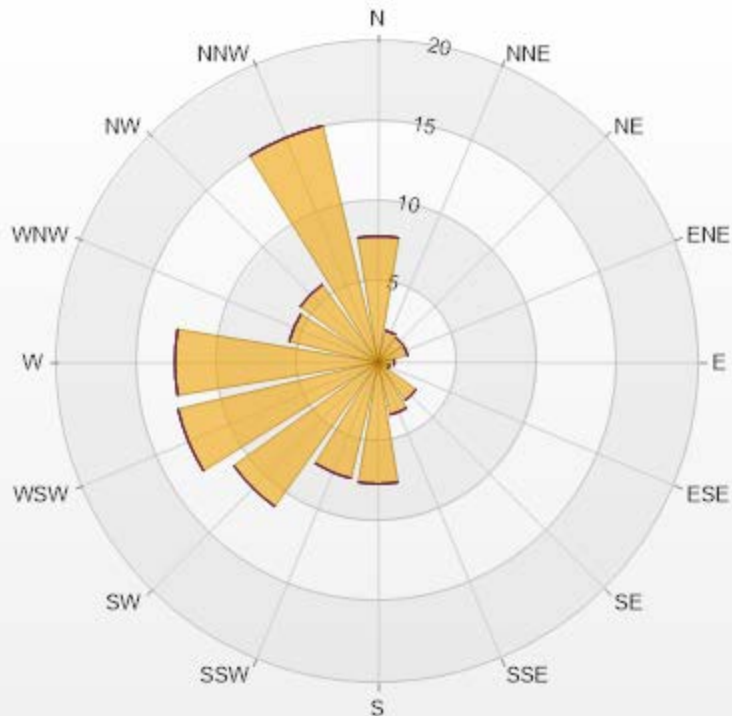
Timeseries Chart of Hourly Average for NMHC - 986c Station





Wind: PRAMP 986c Poll.: PRAMP 986c-NMHC[ppm] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 92.34% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	7.86	0	0	0	0	7.86
NNE	2.04	0	0	0	0	2.04
NE	1.89	0	0	0	0	1.89
ENE	1.89	0	0	0	0	1.89
E	1.02	0	0	0	0	1.02
ESE	0.73	0	0	0	0	0.73
SE	2.91	0	0	0	0	2.91
SSE	3.35	0	0	0	0	3.35
S	7.57	0	0	0	0	7.57
SSW	7.42	0	0	0	0	7.42
SW	11.06	0	0	0	0	11.06
WSW	12.81	0	0	0	0	12.81
W	12.66	0	0	0	0	12.66
WNW	5.68	0	0	0	0	5.68
NW	5.97	0	0	0	0	5.97
NNW	15.14	0	0	0	0	15.14
Summary	100	0	0	0	0	100



PRAMP-202201

Page 52 of 227

% Icon Classes (ppm)

100 0-0.1

0 0.1-0.3

0 0.3-1

0 1-2

0 >2.0



PEACE RIVER AREA MONITORING PROGRAM

986c Station - January 2022

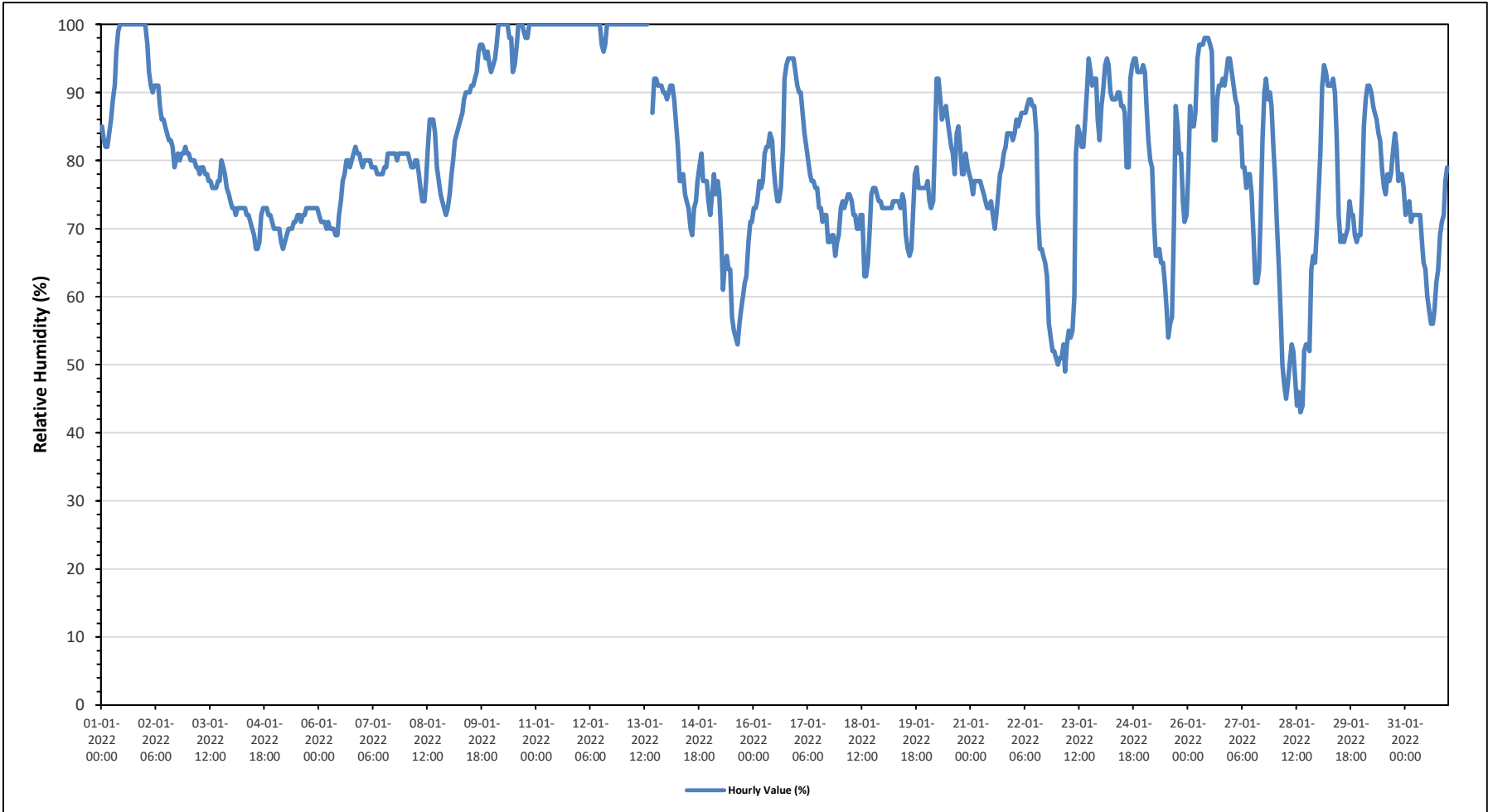
Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

Maximum Hourly Value:	100 %	on January 1 at hour 10	Hours in Service:	744
Maximum Daily Value:	####	% on January 11	Hours of Data:	742
Minimum Hourly Value:	43 %	on January 28 at hour 14	Hours of Missing Data:	2
Minimum Daily Value:	54.7 %	on January 28	Hours of Calibration:	0
Monthly Average:	80.4 %		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	
Jan 1	85	83	82	82	84	86	89	91	96	99	100	100	100	100	100	100	100	100	100	100	100	100	100	82	100	94.9		
Jan 2	100	97	93	91	90	91	91	91	88	86	86	85	84	83	83	82	79	80	81	80	81	81	81	82	81	79	100	86.1
Jan 3	81	80	80	80	79	79	78	79	79	78	78	77	77	76	76	76	77	77	80	79	78	76	75	74	74	81	77.9	
Jan 4	73	73	72	73	73	73	73	73	72	72	71	70	69	67	67	68	72	73	73	73	72	72	71	70	67	73	71.5	
Jan 5	70	70	70	68	67	68	69	70	70	70	71	71	72	72	71	72	72	73	73	73	73	73	73	73	67	73	71.0	
Jan 6	72	71	71	71	70	71	70	70	70	69	69	72	74	77	78	80	80	79	80	81	82	81	81	80	69	82	75.0	
Jan 7	79	80	80	80	80	79	79	79	78	78	78	78	79	79	81	81	81	81	81	80	81	81	81	81	78	81	79.8	
Jan 8	81	81	80	79	79	80	80	78	76	74	74	77	82	86	86	84	79	77	75	74	73	72	73	72	72	86	78.6	
Jan 9	75	78	80	83	84	85	86	87	89	90	90	90	91	91	92	93	96	97	97	96	95	96	94	93	75	97	89.5	
Jan 10	94	95	97	100	100	100	100	100	100	98	98	93	94	97	100	100	100	99	98	98	100	100	100	100	93	100	98.4	
Jan 11	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100.0	
Jan 12	100	100	100	100	100	100	100	100	100	100	100	100	97	96	97	100	100	100	100	100	100	100	100	100	96	100	99.6	
Jan 13	100	100	100	100	100	100	100	100	100	100	100	100	100	100	Y	Y	87	92	92	91	91	91	90	90	87	100	96.5	
Jan 14	89	90	91	91	89	86	82	77	77	78	75	74	73	70	69	73	74	77	79	81	77	77	77	74	69	91	79.2	
Jan 15	72	75	78	75	77	75	69	61	65	66	64	64	57	55	54	53	56	58	60	62	63	68	71	71	53	78	65.4	
Jan 16	73	73	74	77	76	77	81	82	82	84	83	79	76	74	74	76	82	92	94	95	95	95	95	93	73	95	82.6	
Jan 17	91	90	90	87	84	82	80	78	77	77	76	76	73	73	71	72	72	68	68	69	69	66	68	69	66	91	76.1	
Jan 18	73	74	73	74	75	75	74	72	72	70	70	72	63	63	65	70	75	76	76	75	74	74	73	63	76	72.1		
Jan 19	73	73	73	73	73	74	74	74	74	73	75	74	69	67	66	67	73	78	79	76	76	76	76	76	66	79	73.4	
Jan 20	77	74	73	74	83	92	92	89	86	87	88	86	84	82	81	78	84	85	82	78	78	81	79	78	73	92	82.1	
Jan 21	77	75	77	77	77	77	76	75	74	73	73	74	72	70	72	75	78	79	81	82	84	84	84	83	70	84	77.0	
Jan 22	84	86	85	86	87	87	87	88	89	89	88	88	84	72	67	67	66	65	63	56	54	52	52	51	51	89	74.7	
Jan 23	50	51	51	53	49	53	55	54	55	60	81	85	84	82	82	86	90	95	93	91	92	92	86	83	49	95	73.0	
Jan 24	88	90	94	95	94	90	89	89	89	90	90	88	88	87	79	79	92	94	95	95	93	93	93	94	79	95	90.3	
Jan 25	93	88	83	80	79	71	66	66	67	65	65	62	58	54	56	57	70	88	85	81	81	74	71	72	54	93	72.2	
Jan 26	79	88	85	85	87	95	97	97	97	98	98	98	97	96	83	83	89	91	91	92	91	93	95	95	79	98	91.7	
Jan 27	93	91	89	88	84	85	79	79	76	78	78	75	69	62	62	64	72	83	90	92	89	90	88	82	62	93	80.8	
Jan 28	77	71	64	57	50	47	45	47	50	53	52	48	44	46	43	44	52	53	52	54	64	66	65	70	43	77	54.7	
Jan 29	76	81	91	94	93	91	91	91	92	90	83	72	68	69	68	69	70	74	72	72	69	68	69	69	68	94	78.4	
Jan 30	76	85	89	91	91	90	88	87	86	84	83	79	76	75	78	77	78	81	84	82	77	78	78	76	75	91	82.0	
Jan 31	72	73	74	71	72	72	72	72	72	68	65	64	60	58	56	56	58	62	64	69	71	72	77	79	56	79	67.9	
Diurnal Maximum	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
Diurnal Average	81.4	81.8	81.9	81.8	81.5	81.6	81.0	80.5	80.6	80.5	80.7	79.7	78.2	76.7	75.2	76.0	79.2	81.5	82.0	81.5	81.5	81.4	81.2	80.7				
C	Monthly Calibration								S	Daily Zero-Span Check								Q	Quality Assurance									
K	Collection Error								N	No Data (Machine Not in Service)								Y	Routine Maintenance									
X	Invalid Data (Equipment Malfunction / Recovery)								NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)								P	Power Failure									
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met. Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																												

Timeseries Chart of Hourly Average for RH - 986c Station





PEACE RIVER AREA MONITORING PROGRAM

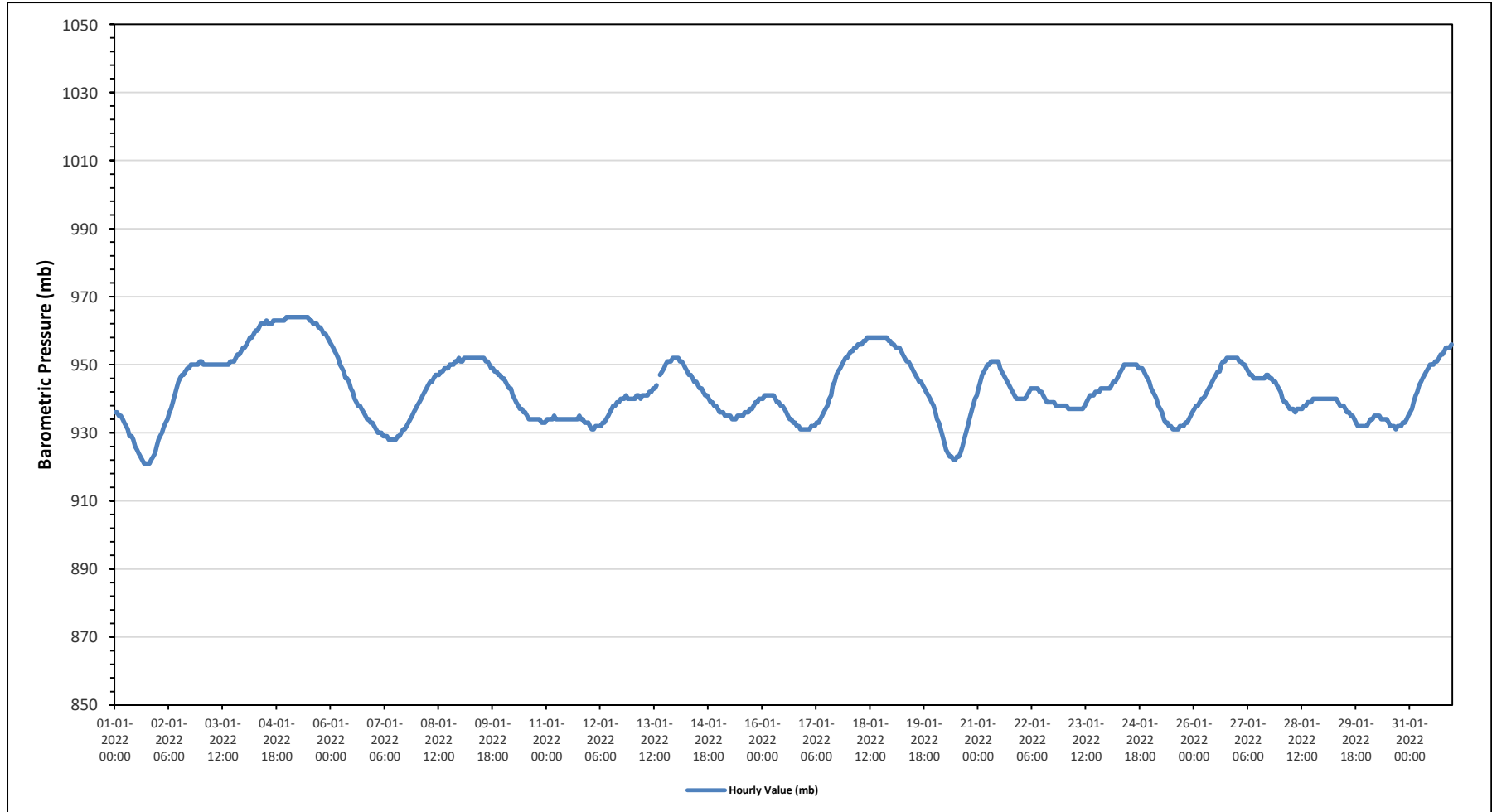
986c Station - January 2022

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

Maximum Hourly Value:	964 mb	on January 4 at hour 23	Hours in Service:	744																							
Maximum Daily Value:	962 mb	on January 5	Hours of Data:	743																							
Minimum Hourly Value:	921 mb	on January 1 at hour 16	Hours of Missing Data:	1																							
Minimum Daily Value:	927 mb	on January 1	Hours of Calibration:	0																							
Monthly Average:	942 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
Jan 1	936	936	935	935	934	933	932	931	929	929	928	926	925	924	923	922	921	921	921	921	922	923	924	926	921	936	927.4
Jan 2	928	929	930	932	933	934	936	937	939	941	943	945	946	947	947	948	949	949	950	950	950	950	951	928	951	942.3	
Jan 3	951	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	951	951	951	952	953	953	954	955	950	955	950.9
Jan 4	955	956	957	958	958	959	960	960	961	962	962	962	963	962	962	962	963	963	963	963	963	963	964	955	964	961.0	
Jan 5	964	964	964	964	964	964	964	964	964	964	964	964	963	963	962	962	961	961	960	959	959	958	957	957	964	962.3	
Jan 6	956	955	954	953	952	950	949	948	946	946	945	943	942	940	939	938	938	937	936	935	934	934	933	933	933	956	943.2
Jan 7	932	931	930	930	930	929	929	929	928	928	928	928	928	929	929	930	931	931	932	933	934	935	936	937	928	937	930.7
Jan 8	938	939	940	941	942	943	944	945	945	946	947	947	947	948	948	949	949	949	950	950	951	951	951	952	938	952	946.3
Jan 9	951	951	952	952	952	952	952	952	952	952	952	952	952	951	951	950	949	949	948	948	948	947	947	946	946	952	950.5
Jan 10	946	945	944	943	943	941	940	939	938	937	937	936	936	935	934	934	934	934	934	934	934	933	933	933	933	946	937.4
Jan 11	934	934	934	934	935	934	934	934	934	934	934	934	934	934	934	934	934	934	935	934	934	933	933	933	933	935	934.0
Jan 12	932	931	931	932	932	932	932	933	933	934	935	936	937	938	938	939	939	940	940	940	941	940	940	940	931	941	936.0
Jan 13	940	940	941	941	940	941	941	941	941	942	942	943	943	944	Y	947	948	949	950	951	951	951	952	952	940	952	944.8
Jan 14	952	952	951	951	950	949	948	947	947	946	945	945	944	943	943	942	941	941	940	939	939	938	938	937	937	952	944.5
Jan 15	936	936	936	935	935	935	935	934	934	934	935	935	935	935	936	936	936	937	937	938	939	939	940	940	934	940	936.2
Jan 16	940	941	941	941	941	941	941	940	939	939	938	938	937	936	935	934	934	933	933	932	932	931	931	931	931	941	936.6
Jan 17	931	931	931	932	932	932	933	933	934	935	936	937	938	940	941	944	945	947	948	949	950	951	952	952	931	952	939.8
Jan 18	953	954	954	955	955	956	956	956	957	957	958	958	958	958	958	958	958	958	958	958	958	958	957	957	953	958	956.8
Jan 19	956	956	955	955	955	954	953	952	951	951	950	949	948	947	946	945	945	944	943	942	941	940	939	938	938	956	948.1
Jan 20	936	934	933	931	929	927	925	924	923	923	922	922	923	923	924	926	928	930	932	934	936	938	940	941	922	941	929.3
Jan 21	943	945	947	948	949	950	950	951	951	951	951	951	949	948	947	946	945	944	943	942	941	940	940	940	940	951	946.3
Jan 22	940	940	940	941	942	943	943	943	943	943	942	942	941	940	939	939	939	939	939	938	938	938	938	938	938	943	940.3
Jan 23	938	938	937	937	937	937	937	937	937	937	937	938	939	940	941	941	941	942	942	942	943	943	943	943	937	943	939.5
Jan 24	943	943	944	945	945	946	947	948	949	950	950	950	950	950	950	950	949	949	949	948	947	946	945	945	943	950	947.6
Jan 25	943	942	941	940	938	937	936	934	933	933	932	932	931	931	931	932	932	932	933	933	934	935	946	935	931	943	934.7
Jan 26	937	938	938	939	940	940	941	942	943	944	945	946	947	948	948	950	951	951	952	952	952	952	952	952	937	952	945.8
Jan 27	952	951	951	950	950	949	948	947	947	946	946	946	946	946	946	947	947	946	946	945	945	944	943	943	952	947.1	
Jan 28	942	940	939	939	938	937	937	937	936	937	937	937	937	938	938	939	939	939	940	940	940	940	940	940	936	942	938.6
Jan 29	940	940	940	940	940	940	940	940	939	938	938	938	937	936	936	935	935	934	933	932	932	932	932	932	932	940	936.6
Jan 30	932	933	934	934	935	935	935	935	934	934	934	933	932	932	932	931	932	932	932	933	933	934	935	931	935	933.3	
Jan 31	936	937	939	941	942	944	945	946	947	948	949	950	950	950	951	951	952	953	953	954	955	955	956	936	956	948.3	
Diurnal Maximum	964	964	964	964	964	964	964	964	964	964	964	964	963	963	962	962	963	963	963	963	963	963	963	964			
Diurnal Average	942	942	942	943	943	942	942	942	942	942	942	942	942	942	942	942	943	943	943	943	943	943	943				
C	Monthly Calibration							S	Daily Zero-Span Check							Q	Quality Assurance										
K	Collection Error							N	No Data (Machine Not in Service)							Y	Routine Maintenance										
X	Invalid Data (Equipment Malfunction / Recovery)							NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)							P	Power Failure										
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.																											
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																											

Timeseries Chart of Hourly Average for BP - 986c Station





PEACE RIVER AREA MONITORING PROGRAM

986c Station - January 2022

Summary of Hourly Averages

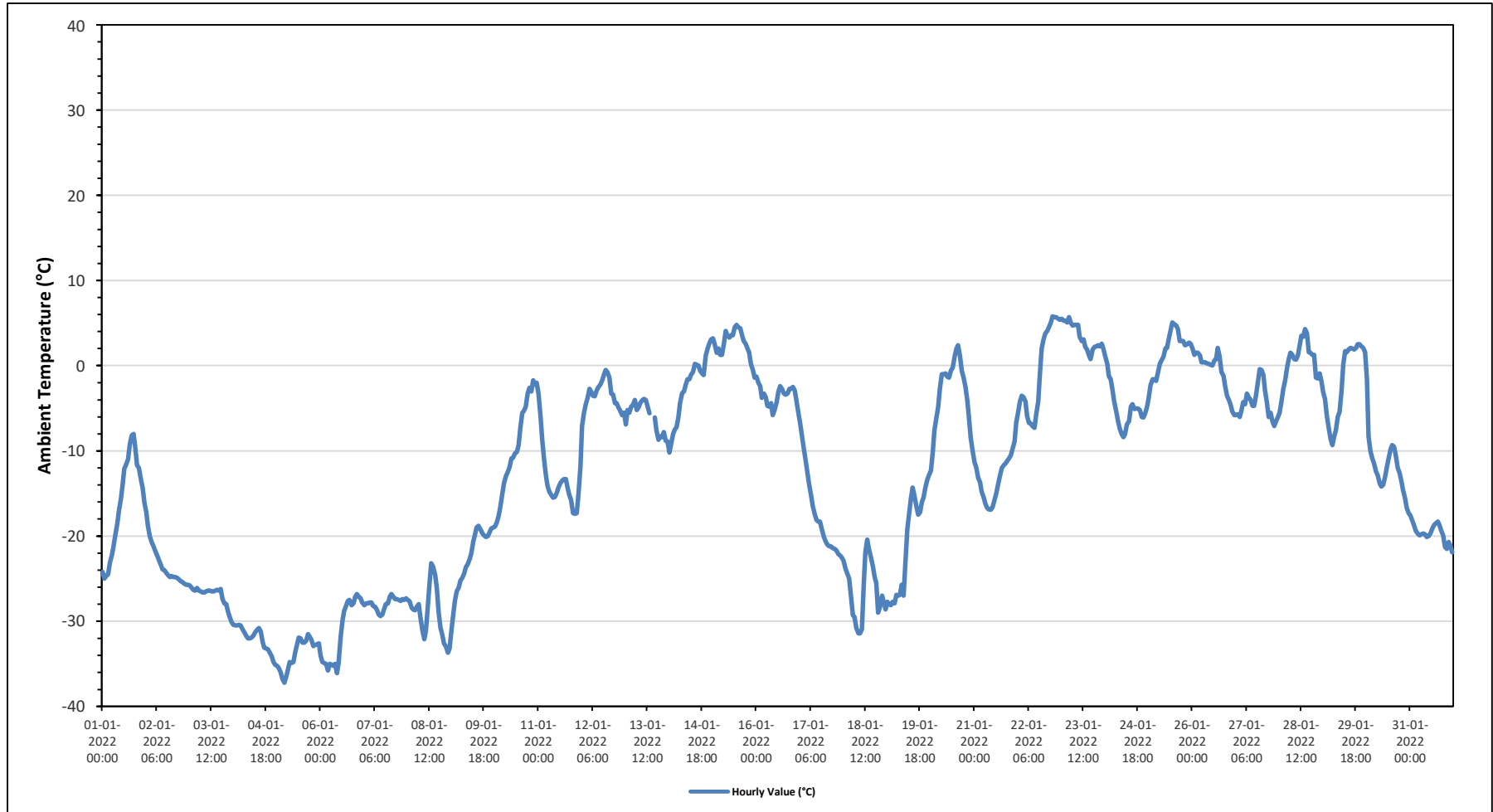
AMBIENT TEMPERATURE (AT) in Degree Celsius

Maximum Hourly Value:	5.8 °C	on January 22 at hour 19	Hours in Service:	744
Maximum Daily Value:	3.4 °C	on January 23	Hours of Data:	742
Minimum Hourly Value:	-37.2 °C	on January 5 at hour 4	Hours of Missing Data:	1
Minimum Daily Value:	-33.8 °C	on January 5	Hours of Calibration:	0
Monthly Average:	-12.9 °C		Operational Uptime:	99.7

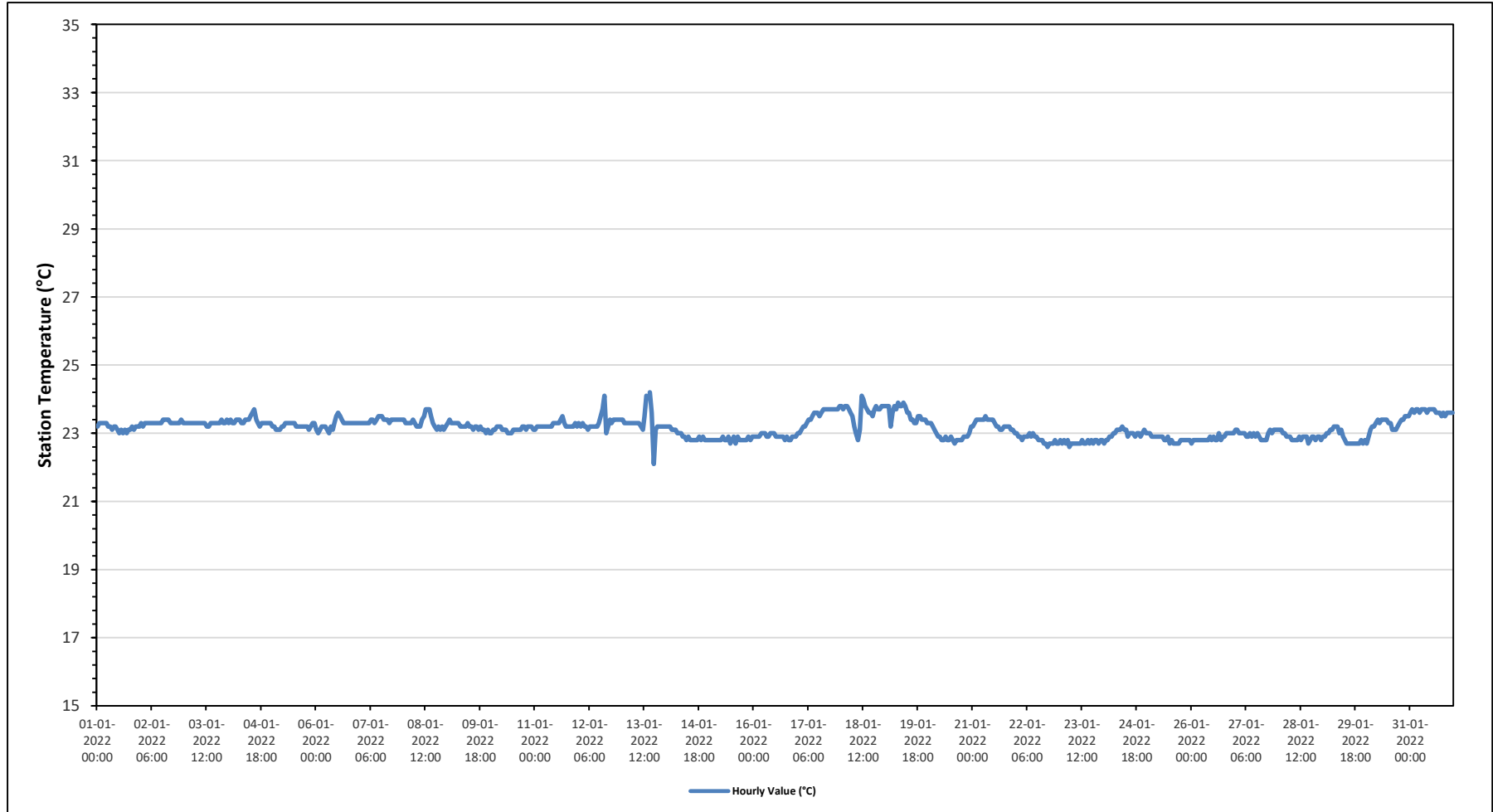
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Jan 1	-24.2	-25	-24.7	-24.5	-23.1	-22.3	-21.3	-19.9	-18.5	-17	-15.7	-13.9	-12.1	-11.6	-11	-9.2	-8.2	-8	-9.5	-11.7	-12	-13.4	-14.3	-16.1	-25.0	-8.0	-16.1	
Jan 2	-17.2	-18.8	-20	-20.7	-21.2	-21.8	-22.3	-22.8	-23.3	-23.9	-24	-24.3	-24.6	-24.8	-24.7	-24.8	-24.8	-24.9	-25.1	-25.3	-25.4	-25.6	-25.7	-25.7	-25.7	-25.7	-17.2	-23.4
Jan 3	-25.8	-26.1	-26.3	-26.4	-26.1	-26.4	-26.5	-26.6	-26.6	-26.5	-26.4	-26.4	-26.5	-26.5	-26.4	-26.3	-26.4	-26.2	-27.4	-27.9	-28	-28.8	-29.5	-30.1	-30.1	-25.8	-26.9	
Jan 4	-30.4	-30.5	-30.5	-30.4	-30.5	-30.9	-31.3	-31.7	-32	-32	-31.9	-31.7	-31.3	-31	-30.8	-31.2	-32.4	-33.1	-33.2	-33.3	-33.7	-34.1	-34.8	-35.1	-35.1	-30.4	-32.0	
Jan 5	-35.2	-35.5	-36	-36.8	-37.2	-36.6	-35.7	-34.8	-34.9	-34.8	-33.6	-32.7	-31.9	-32	-32.5	-32.5	-32.3	-31.5	-31.8	-32.2	-32.9	-32.8	-32.7	-32.6	-37.2	-31.5	-33.8	
Jan 6	-34	-34.8	-34.9	-35	-35.8	-35	-35.1	-35.2	-35	-36.1	-34.9	-31.8	-29.9	-28.8	-28.2	-27.6	-27.5	-28.1	-27.9	-27.1	-26.8	-27.1	-27.3	-27.8	-36.1	-26.8	-31.3	
Jan 7	-28.1	-27.9	-27.9	-27.8	-27.8	-28.2	-28.3	-28.7	-29.2	-29.4	-29.2	-28.6	-28	-27.9	-27.1	-26.8	-27.1	-27.4	-27.4	-27.5	-27.6	-27.4	-27.5	-27.3	-29.4	-26.8	-27.9	
Jan 8	-27.5	-27.6	-28.4	-28.6	-28.7	-28.3	-28	-29.5	-31.1	-32.1	-31.1	-28.3	-25.4	-23.2	-23.6	-24.6	-26.1	-29	-30.8	-31.5	-32	-33	-33.7	-33.2	-33.7	-23.2	-29.0	
Jan 9	-31.1	-29.2	-27.6	-26.5	-26	-25.2	-24.9	-24.4	-23.7	-23.3	-22.7	-22	-20.7	-19.8	-19	-18.8	-19.2	-19.7	-19.9	-20.1	-20	-19.6	-19.1	-19	-31.1	-18.8	-22.6	
Jan 10	-18.9	-18.4	-17.6	-16.6	-15.2	-13.8	-13	-12.5	-11.9	-10.9	-10.8	-10.3	-10.1	-9.3	-7.2	-5.5	-5.3	-4.8	-3.3	-2.6	-3	-1.7	-2.2	-2	-18.9	-1.7	-9.5	
Jan 11	-3.3	-6.1	-8.7	-11	-12.9	-14.1	-14.8	-15.2	-15.5	-15.4	-14.9	-14.3	-13.8	-13.5	-13.3	-13.3	-14.4	-15.2	-15.8	-17.3	-17.4	-17.3	-14.9	-11.8	-17.4	-3.3	-13.5	
Jan 12	-7.1	-5.6	-4.5	-3.8	-2.7	-3.1	-3.5	-3.6	-2.9	-2.5	-2.2	-1.7	-1	-0.5	-0.8	-1.4	-3.3	-3.4	-4.4	-4.4	-4.9	-5.3	-5.8	-5.5	-7.1	-0.5	-3.5	
Jan 13	-6.9	-5.2	-5.5	-4.8	-4.6	-4	-5.2	-4.9	-4.4	-4.1	-3.9	-4	-4.8	-5.6	Y	U	-6.1	-7.6	-8.7	-8.3	-8.4	-7.8	-8.8	-8.9	-8.9	-3.9	-6.0	
Jan 14	-10.2	-9.1	-8	-7.5	-7.2	-6	-4.4	-3.2	-3	-2.3	-1.6	-1.6	-1.1	-0.7	0.2	0.1	0	-0.6	-0.9	-1.1	1.2	2	2.6	3.1	-10.2	3.1	-2.5	
Jan 15	3.2	2.6	1.5	2	1.3	1.3	2.5	4.1	3.6	3.3	3.6	4.5	4.8	4.5	4.4	3.5	2.9	2.6	2	1.6	0.2	-0.6	-1.4	-1.4	4.8	2.6	2.6	
Jan 16	-1.3	-2	-2.4	-3.8	-3.3	-3.7	-4.7	-4.8	-4.4	-5.8	-5.2	-4.3	-3.1	-2.4	-2.7	-3.2	-3.4	-3.3	-2.7	-2.7	-2.5	-2.9	-4	-5.4	-5.8	-1.3	-3.5	
Jan 17	-6.9	-8.2	-9.7	-11.1	-12.4	-13.9	-15.3	-16.5	-17.4	-18.1	-18.3	-18.3	-19.2	-20.1	-20.6	-21	-21.2	-21.2	-21.4	-21.5	-21.7	-22.1	-22.3	-22.5	-22.5	-6.9	-17.5	
Jan 18	-22.9	-23.8	-24.4	-25	-27.1	-29.3	-29.5	-30.8	-31.4	-31.4	-30.9	-25.6	-21.9	-20.4	-21.6	-22.5	-23.5	-24.8	-25.5	-29	-28.3	-27	-27.7	-28.6	-31.4	-20.4	-26.4	
Jan 19	-27.7	-28	-28.1	-27.7	-27.9	-26.9	-27	-26.9	-25.7	-27	-23	-19.2	-17.3	-15.5	-14.3	-15.3	-16.5	-17.5	-17.2	-16	-15.5	-14.3	-13.4	-12.8	-28.1	-12.8	-20.9	
Jan 20	-12.3	-10.1	-7.6	-6.2	-4.9	-2.6	-1	-1	-0.9	-1.3	-1.4	-0.6	-0.2	1	2	2.4	1.2	-0.6	-1.4	-2.5	-4.1	-6.1	-8.5	-10	-12.3	2.4	-3.2	
Jan 21	-11.3	-12	-13.2	-13.7	-14.8	-15.4	-16.2	-16.7	-16.9	-16.6	-15.8	-15	-13.9	-12.9	-12	-11.7	-11.5	-11.2	-10.9	-10.5	-9.7	-8.9	-6.7	-6.9	-16.9	-6.7	-13.1	
Jan 22	-5.5	-4.2	-3.5	-3.7	-4.2	-5.9	-6.7	-6.8	-7.1	-7.3	-5.6	-4.2	-1.1	2	3.1	3.8	4.1	4.6	5	5.8	5.7	5.7	5.5	5.4	-7.3	5.8	-0.6	
Jan 23	5.5	5.3	5.3	5.1	5.7	5	4.7	4.8	4.8	4.8	3.4	2.9	3.1	2.2	1.9	1.2	0.8	1.9	2.2	2.3	2.4	2.3	2.6	2	0.8	5.7	3.4	
Jan 24	1	0.2	-1.2	-1.6	-2.9	-4.2	-5.4	-6.6	-7.4	-8	-8.4	-8	-6.9	-6.5	-4.8	-4.5	-5.1	-5	-5	-5.2	-6	-6.1	-5.6	-4.8	-8.4	1.0	-4.9	
Jan 25	-3.8	-2.3	-1.6	-1.6	-1.8	-0.8	0.2	0.6	1.1	2	2.1	3.2	4.2	5.1	4.9	4.7	4.3	2.9	2.9	2.9	2.4	2.5	2.7	2.6	-3.8	5.1	1.6	
Jan 26	2	1.3	1.5	1.5	1.2	0.4	0.4	0.4	0.3	0.2	0.1	0	0.6	0.8	2.1	1.1	-0.7	-1.2	-2.4	-3.5	-4	-4.5	-5.4	-5.8	-5.8	2.1	-0.6	
Jan 27	-5.8	-5.7	-6	-5.3	-4.3	-4.5	-3.3	-3.7	-4	-4.7	-4.7	-3.5	-1.8	-0.4	-0.5	-1.1	-2.9	-4.3	-6	-5.5	-6.5	-7.1	-6.6	-6.1	-7.1	-0.4	-4.3	
Jan 28	-5.5	-4.2	-2.7	-1.7	-0.3	0.7	1.5	1.3	0.8	0.7	1.2	2.3	3.5	3.4	4.3	3.8	1.6	1.5	1.3	1.3	-1.4	-1.5	-0.9	-1.9	-5.5	4.3	0.4	
Jan 29	-3.1	-3.9	-5.9	-7.3	-8.6	-9.3	-8.4	-7.6	-6	-5.4	-3.1	0.2	1.7	1.6	1.9	2.1	2	1.9	2.1	2.5	2.5	2.3	2.1	1.6	-9.3	2.5	-1.8	
Jan 30	-1.6	-8.3	-10	-10.9	-11.5	-12.4	-12.9	-13.8	-14.2	-14	-13.1	-11.9	-10.8	-9.8	-9.3	-9.5	-10.6	-12	-12.6	-13.6	-14.6	-15.5	-16.7	-17.3	-17.3	-1.6	-12.0	
Jan 31	-17.6	-18.2	-18.8	-19.4	-19.7	-19.9	-19.8	-19.7	-19.8	-20.1	-20	-19.7	-19.2	-18.7	-18.5	-18.3	-18.7	-19.4	-19.9	-21.3	-21.5	-20.7	-21.1	-21.9	-21.9	-17.6	-19.7	
Diurnal Maximum	5.5	5.3	5.3	5.1	5.7	5.0	4.7	4.8	4.8	4.8	3.6	3.6	4.5	5.1	4.9	4.7	4.3	4.6	5.0	5.8	5.7	5.7	5.5	5.4				
Diurnal Average	-13.3	-13.6	-13.8	-13.9	-14.0	-14.1	-14.0	-14.1	-14.1	-14.2	-13.6	-12.6	-11.6	-11.0	-10.8	-10.9	-11.3	-11.8	-12.1	-12.4	-12.7	-12.8	-13.0	-13.1				
C	Monthly Calibration							S	Daily Zero-Span Check							Q	Quality Assurance											
K	Collection Error							N	No Data (Machine Not in Service)							Y	Routine Maintenance											
X	Invalid Data (Equipment Malfunction /Recovery)							NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)							P	Power Failure											

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is 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



Timeseries Chart of Hourly Average for ST - 986c Station





PEACE RIVER AREA MONITORING PROGRAM

986c Station - January 2022

Summary of Hourly Averages

PRECIPITATION in mm

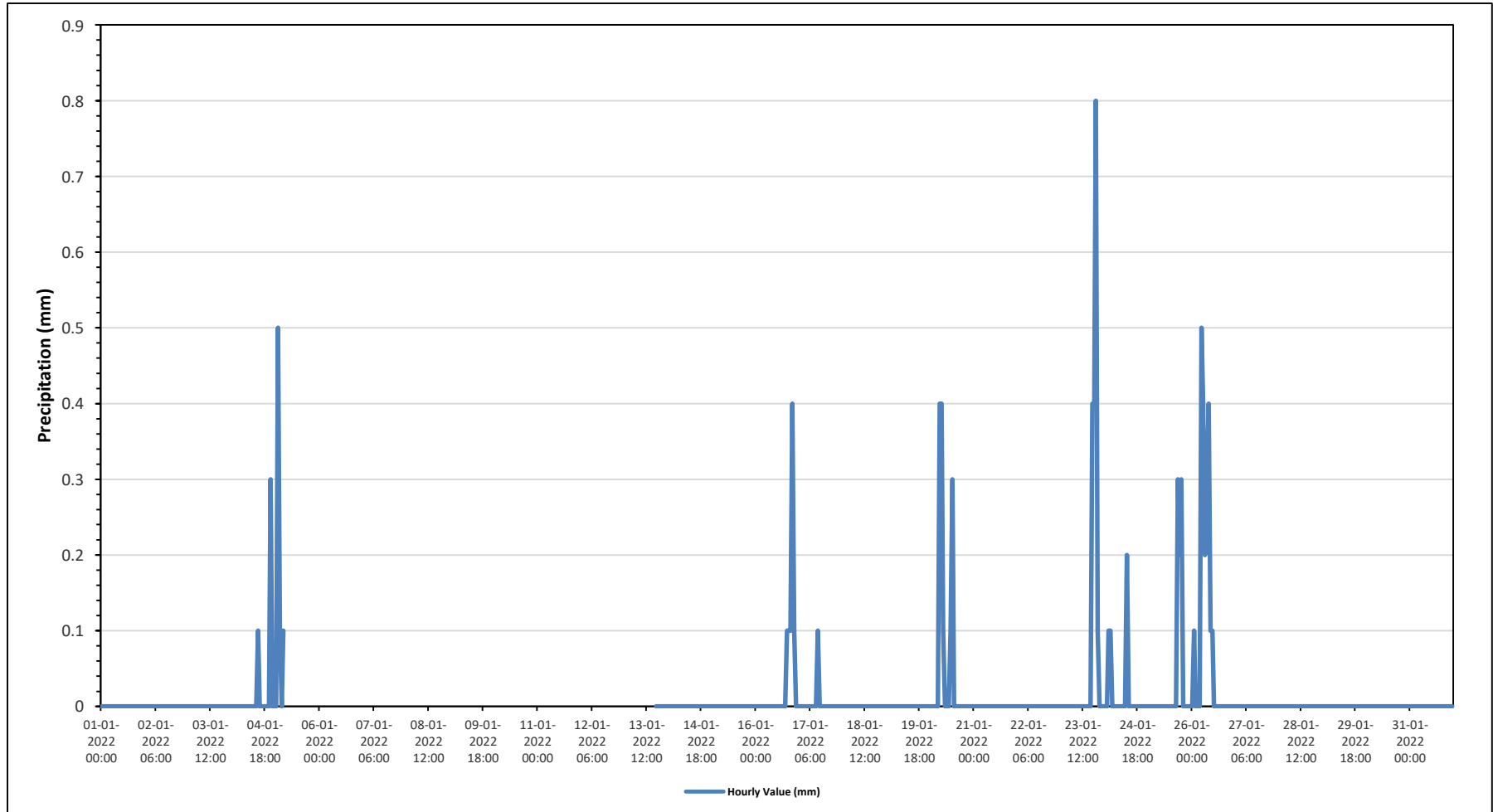
Maximum Hourly Value:	0.8 mm on January 23 at hour 19	Hours in Service:	744
Maximum Daily Value:	2.1 mm on January 26	Hours of Data:	540
Minimum Hourly Value:	0.0 mm on January 1 at hour 0	Hours of Missing Data:	202
Minimum Daily Value:	0.0 mm on January 1	Hours of Calibration:	2
Monthly Total:	8.3 mm	Operational Uptime:	72.8

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Total	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Jan 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
Jan 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
Jan 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
Jan 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0.3	0	0.0	0.3	0.4
Jan 5	0	0.5	0.1	0	0.1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Jan 6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Jan 7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Jan 8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Jan 9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Jan 10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Jan 11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Jan 12	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Jan 13	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C	C	0	0	0	0	0	0	0	-	-	-
Jan 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	
Jan 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	
Jan 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.1	0.4	0.1	0	0.0	0.4	0.8
Jan 17	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1	0.1
Jan 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
Jan 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
Jan 20	0	0	0	0	0	0.4	0.4	0.1	0	0	0	0.1	0.3	0	0	0	0	0	0	0	0	0	0	0	0.0	0.4	1.3
Jan 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
Jan 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
Jan 23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.4	0.8	0.1	0	0	0.0	0.8	1.7
Jan 24	0	0	0.1	0.1	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2	0.4
Jan 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.2	0.3	0	0	0	0	0	0.0	0.3	0.8
Jan 26	0	0.1	0	0	0	0.5	0.4	0.2	0.3	0.4	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.5	2.1
Jan 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
Jan 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
Jan 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
Jan 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
Jan 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	0.5	0.1	0.1	0.1	0.5	0.4	0.2	0.3	0.4	0.1	0.1	0.3	0.0	0.1	0.0	0.3	0.4	0.4	0.8	0.4	0.3	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
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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

Timeseries Chart of Hourly Average for Precipitation - 986c Station





PEACE RIVER AREA MONITORING PROGRAM

986c Station - January 2022

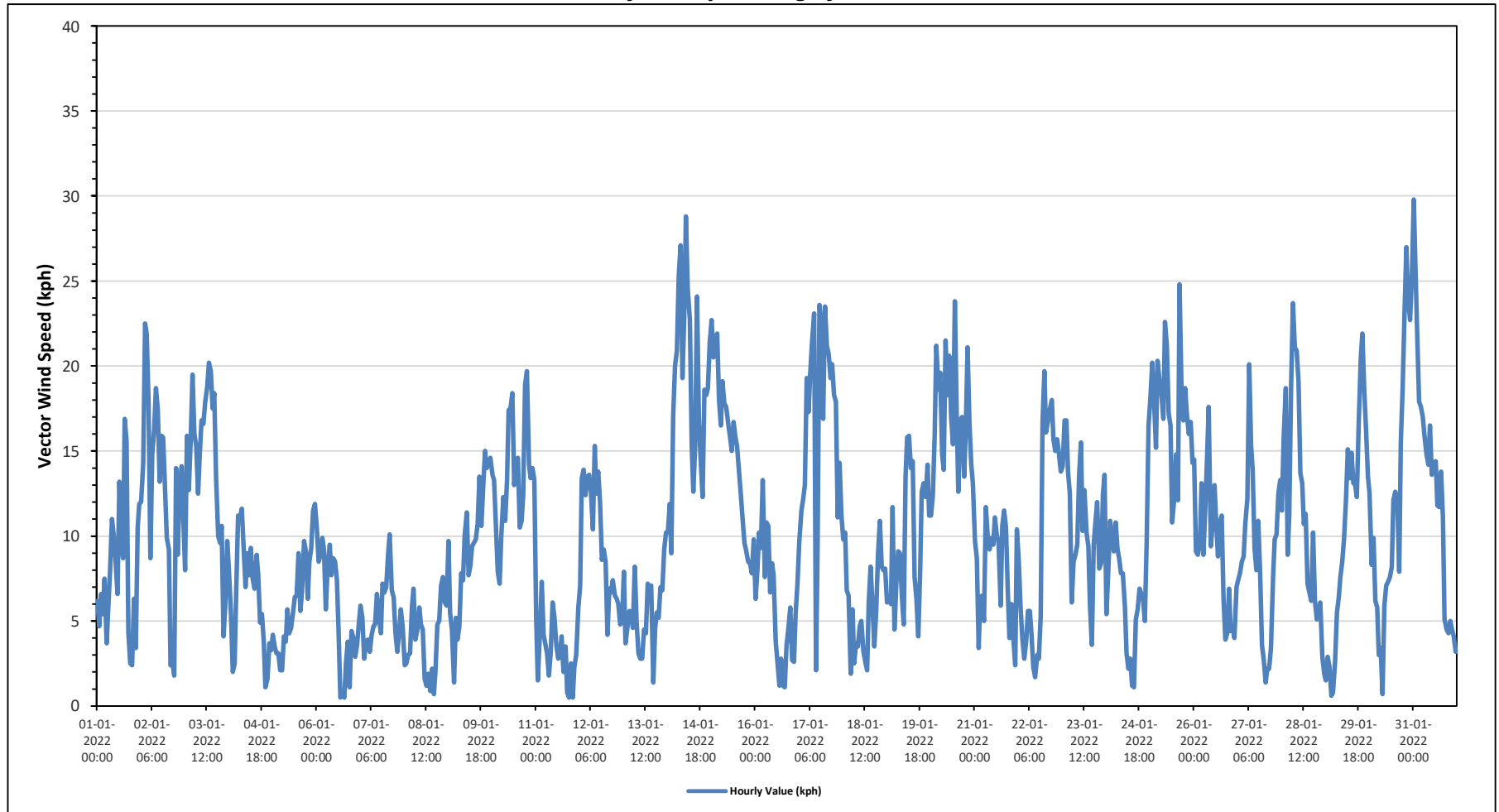
Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

Maximum Hourly Value:	29.8 kph	on January 31 at hour 0	Hours in Service:	744
Maximum Daily Value:	15.7 kph	on January 17	Hours of Data:	743
Minimum Hourly Value:	0.5 kph	on January 6 at hour 13	Hours of Missing Data:	1
Minimum Daily Value:	1.8 kph	on January 24	Hours of Calibration:	0
Monthly Average:	4.5 kph		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					
Jan 1	6.2	4.7	6.6	5.4	7.5	3.7	6.1	8.0	11.0	10.0	8.4	6.6	13.2	9.7	8.7	16.9	15.6	4.3	2.5	2.4	6.3	3.4	10.5	11.9	2.4	16.9	5.1					
Jan 2	12.0	14.3	22.5	21.9	17.9	8.7	14.8	16.2	18.7	17.4	13.2	15.9	15.8	12.9	9.9	9.2	2.4	2.6	1.8	14.0	8.9	12.5	14.1	10.7	1.8	22.5	7.6					
Jan 3	8.0	15.9	12.7	15.6	19.5	16.0	15.3	12.5	14.7	16.8	16.6	17.9	18.7	20.2	19.7	17.5	18.4	13.4	10.0	9.6	10.6	4.1	6.0	9.7	4.1	20.2	7.9					
Jan 4	8.1	5.5	2.0	2.5	6.8	11.2	11.1	11.6	9.3	7.0	9.0	7.7	9.3	7.5	6.9	8.9	7.7	4.9	5.4	3.8	1.1	1.6	3.7	3.3	1.1	11.6	6.3					
Jan 5	4.2	3.5	3.1	3.1	2.1	2.1	4.1	3.8	5.7	4.3	4.6	5.6	6.4	6.5	9.0	5.6	6.7	9.7	9.1	6.3	8.5	9.3	11.5	11.9	2.1	11.9	5.5					
Jan 6	10.5	8.5	8.9	9.9	9.2	5.7	8.2	9.5	7.7	8.7	8.5	7.4	4.5	0.5	0.7	0.5	2.5	3.8	1.1	4.4	4.0	2.9	3.6	4.9	0.5	10.5	5.3					
Jan 7	5.9	5.2	2.8	3.8	3.9	3.2	4.2	4.7	4.8	6.6	5.2	4.3	7.2	6.7	7.0	8.9	10.1	6.8	6.4	4.3	3.2	4.2	5.7	4.7	2.8	10.1	4.9					
Jan 8	2.4	2.5	3.0	3.1	5.8	6.9	3.9	4.5	5.8	4.8	4.5	1.6	1.2	1.9	0.9	2.2	0.7	2.1	4.8	5.0	7.1	7.6	6.1	5.9	0.7	7.6	3.5					
Jan 9	9.7	5.5	4.5	1.4	5.2	3.9	4.7	7.8	7.4	10.0	11.4	7.7	8.3	9.4	9.6	9.8	10.7	13.5	10.6	12.9	15.0	14.0	14.3	14.6	1.4	15.0	6.2					
Jan 10	13.6	13.3	10.6	7.9	7.2	9.9	12.3	10.9	13.3	17.4	17.5	18.4	13.0	14.4	14.6	10.5	10.9	12.4	18.9	19.7	14.2	13.4	14.0	13.3	7.2	19.7	12.2					
Jan 11	5.2	1.5	4.3	7.3	4.2	3.7	3.1	1.8	3.2	6.1	5.2	3.6	2.8	2.9	4.1	2.0	3.5	0.8	0.5	2.5	0.5	2.3	3.0	5.8	0.5	7.3	2.0					
Jan 12	7.1	13.4	13.9	12.4	13.5	13.6	12.5	10.4	15.3	12.5	13.8	12.0	8.6	9.2	8.5	4.2	6.9	6.7	7.4	6.5	6.3	6.0	4.8	4.9	4.2	15.3	8.4					
Jan 13	7.9	3.7	4.7	5.6	5.4	4.6	8.2	4.9	3.1	2.8	2.8	4.5	4.3	7.2	Y	7.1	1.4	4.6	5.5	5.2	7.0	6.8	9.2	10.2	1.4	10.2	3.2					
Jan 14	10.2	11.9	9.0	17.1	20.0	20.9	25.3	27.1	19.3	23.1	28.8	24.5	22.7	15.3	12.6	15.3	24.1	16.9	14.7	12.3	18.6	18.3	18.7	21.4	9.0	28.8	15.6					
Jan 15	22.7	20.5	21.3	21.9	18.0	16.5	19.1	17.8	17.6	16.6	15.9	15.0	16.7	15.8	15.3	13.7	12.3	10.8	9.6	9.1	8.5	8.4	7.8	9.8	7.8	22.7	14.4					
Jan 16	6.3	8.0	10.2	9.3	13.3	7.6	10.8	10.6	6.7	8.4	7.7	3.8	2.5	1.2	2.8	1.2	1.1	3.6	4.6	5.8	2.7	2.6	5.4	7.2	1.1	13.3	3.3					
Jan 17	9.7	11.5	12.1	13.0	19.3	17.3	19.5	21.4	23.1	2.1	9.5	23.6	22.6	16.9	23.5	21.2	20.7	19.3	20.1	18.3	17.9	11.1	14.3	11.2	2.1	23.6	15.7					
Jan 18	9.8	10.2	6.8	6.5	1.9	5.7	2.5	3.7	3.5	4.7	5.0	3.2	2.6	2.1	6.1	8.2	6.0	3.5	5.5	8.9	10.9	8.2	8.0	8.1	1.9	10.9	4.2					
Jan 19	6.1	6.4	6.0	11.7	4.5	7.1	9.1	9.0	6.5	4.8	13.5	15.8	15.9	14.0	14.4	7.6	6.3	4.1	7.9	12.6	13.1	12.3	14.2	11.2	4.1	15.9	8.6					
Jan 20	11.2	12.4	16.0	21.2	18.6	19.6	14.8	13.9	21.5	18.3	20.6	17.0	15.4	23.8	17.2	12.6	16.8	17.0	13.5	16.1	21.1	16.7	14.2	13.1	11.2	23.8	9.7					
Jan 21	9.7	8.7	3.4	6.4	6.5	5.0	11.7	10.0	9.2	9.9	9.5	11.1	10.1	9.6	5.9	10.6	11.5	10.5	6.7	4.0	6.0	3.9	2.4	10.4	2.4	11.7	5.3					
Jan 22	8.6	5.8	3.9	2.8	3.8	5.6	5.6	4.3	2.3	1.7	3.0	2.8	5.3	16.7	19.7	16.1	16.7	17.5	18.0	15.7	15.0	15.7	14.8	13.8	1.7	19.7	7.5					
Jan 23	14.1	16.8	16.8	13.8	12.5	6.1	8.5	8.9	9.5	13.6	15.5	10.3	12.7	10.2	9.4	5.9	3.6	9.5	10.9	12.0	8.1	8.4	12.5	13.6	3.6	16.8	9.9					
Jan 24	5.4	7.9	10.9	10.1	9.1	10.8	9.2	8.7	7.8	7.8	5.8	3.1	2.2	2.8	1.2	1.1	5.1	5.7	6.9	6.6	6.3	5.0	9.7	16.5	1.1	16.5	1.8					
Jan 25	18.1	20.2	17.9	15.2	20.3	19.2	18.3	16.9	22.6	21.2	17.2	16.5	10.8	12.2	14.8	12.1	24.8	18.9	16.8	18.7	17.1	16.0	16.7	14.3	10.8	24.8	12.1					
Jan 26	14.5	9.1	8.9	9.6	13.1	8.9	11.6	14.7	17.6	9.4	10.7	13.0	10.9	8.8	10.8	11.2	6.3	3.9	4.3	6.9	4.4	4.7	4.0	7.0	3.9	17.6	8.3					
Jan 27	7.4	7.8	8.5	8.8	10.7	12.2	20.1	15.3	13.9	9.3	8.0	10.9	7.9	3.6	2.7	1.4	2.2	2.2	3.4	7.6	9.8	10.1	12.5	13.3	1.4	20.1	7.7					
Jan 28	11.5	15.8	18.7	8.9	11.2	18.8	23.7	21.1	20.9	19.1	13.7	13.1	10.7	11.3	7.2	6.7	6.2	10.2	6.2	5.1	5.3	6.1	2.9	1.9	1.9	23.7	10.7					
Jan 29	1.5	2.9	2.3	0.6	0.8	2.6	5.5	6.4	7.6	8.5	9.9	12.1	15.1	13.4	14.9	13.1	13.1	12.3	16.5	20.5	21.9	18.6	16.2	13.5	0.6	21.9	9.3					
Jan 30	12.5	8.3	9.9	6.2	5.8	3.0	3.4	0.7	5.9	7.1	7.3	7.6	8.2	12.1	12.6	12.1	7.9	15.5	18.7	23.1	27.0	24.0	22.7	25.4	0.7	27.0	11.0					
Jan 31	29.8	26.0	21.8	17.9	17.6	17.0	15.8	14.8	14.2	16.5	13.6	14.3	14.4	11.8	11.7	13.8	11.1	5.1	4.5	4.3	5.0	4.5	4.1	3.2	3.2	29.8	12.7					
Diurnal Maximum	30	26	23	22	20	21	25	27	23	23	29	25	23	24	24	21	25	19	20	23	27	24	23	25								
Diurnal Average	10.0	9.9	9.8	9.7	10.2	9.6	11.1	10.7	11.3	10.5	10.8	10.7	10.3	10.0	10.1	9.3	9.5	8.8	8.8	9.8	10.0	9.1	9.9	10.5								
C	Monthly Calibration																	S	Daily Zero-Span Check									Q	Quality Assurance			
K	Collection Error																		N	No Data (Machine Not in Service)									Y	Routine Maintenance		
X	InValid Data (Equipment Malfunction /Recovery)																		NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)									P	Power Failure		
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.																																
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																																

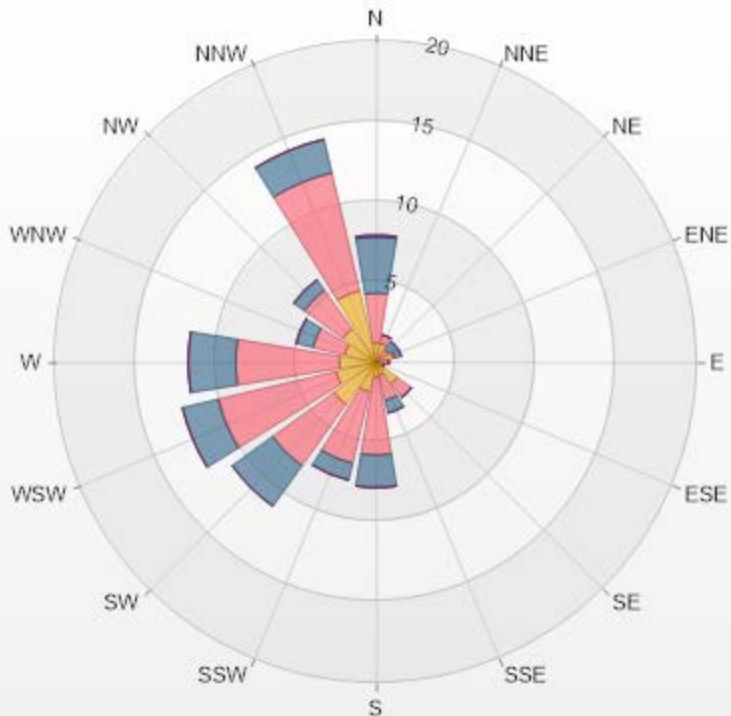
Timeseries Chart of Hourly Average for VWS - 986c Station



Wind: PRAMP 986c Monitor: WDS [KPH] Monthly: 01-2022 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.

Calm: 3.63% 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	1.21	3.1	3.5	0.13	0	7.94
NNE	1.21	0.54	0	0	0	1.75
NE	0.13	0.81	0.67	0	0	1.61
ENE	1.08	0.13	0.4	0	0	1.61
E	0.13	0.67	0	0	0	0.8
ESE	0.4	0.13	0	0	0	0.53
SE	1.62	1.08	0	0	0	2.7
SSE	0.81	1.62	0.81	0	0	3.24
S	0.94	4.85	2.02	0	0	7.81
SSW	1.88	4.58	1.08	0	0	7.54
SW	3.23	4.71	3.1	0	0	11.04
WSW	2.56	7.54	2.29	0	0	12.39
W	2.29	6.46	2.96	0	0	11.71
WNW	2.02	2.02	1.08	0	0	5.12
NW	2.56	2.96	0.81	0	0	6.33
NNW	4.58	7.54	2.15	0	0	14.27
Summary	26.65	48.74	20.87	0.13	0	96.39



PRAMP-202201

% Icon Classes (KPH)

27

1.8-6.0

49

6.0-15.0

21

15.0-29.0

0

29.0-39.0

0

>39.0



PEACE RIVER AREA MONITORING PROGRAM

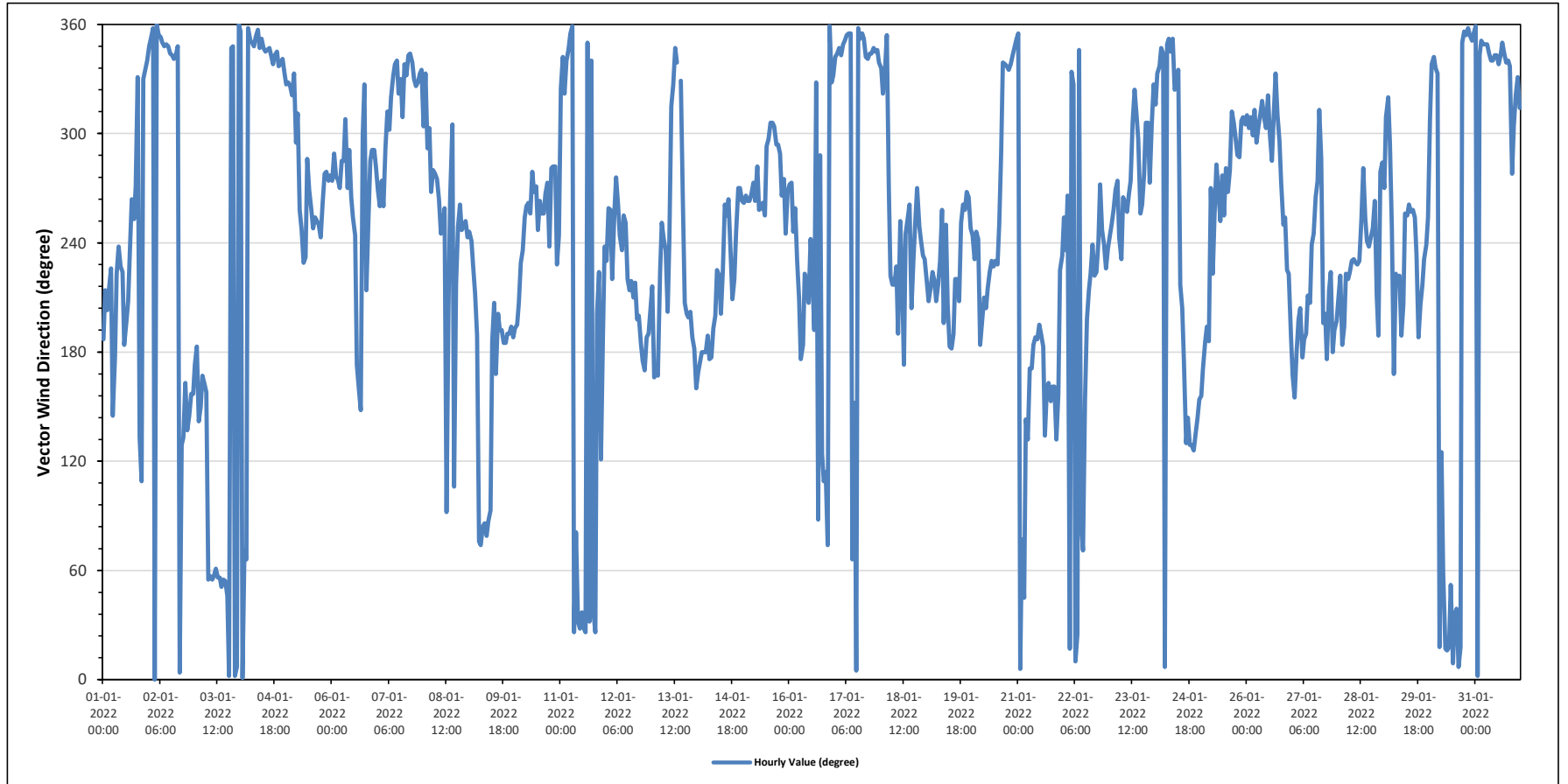
986c Station - January 2022

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

Monthly Average: 268 (W) 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	
Jan 1	S	SSW	SSW	SSW	SW	SE	S	SW	SW	SW	S	SSW	SSW	WSW	W	WSW	W	NNW	SE	ESE	NNW	NNW	NNW	232	SW		
Jan 2	NNW	N	N	N	N	N	N	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	SE	SE	SSE	SE	SSE	SSE	358	N		
Jan 3	S	S	SE	SSE	SSE	SSE	SSE	NE	ENE	NE	ENE	ENE	NE	NE	NE	NE	NE	N	NNW	NNW	N	N	N	71	ENE		
Jan 4	N	N	ENE	ENE	N	N	N	NNW	N	NNW	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	350	N		
Jan 5	NW	NNW	NW	NW	NNW	WNW	NW	WSW	WSW	SW	WNW	W	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	W	269	W		
Jan 6	W	WNW	W	W	W	WNW	WNW	NW	W	WNW	W	WSW	WSW	S	SSE	SE	WNW	NW	SSW	WSW	WNW	WNW	WNW	278	W		
Jan 7	W	WSW	W	WSW	WNW	NW	WNW	NW	NNW	NNW	NNW	NW	NNW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NW	NNW	NNW	322	NW		
Jan 8	WNW	NNW	WNW	WNW	W	W	W	W	W	WSW	WSW	WSW	E	SSW	W	WNW	ESE	SW	WSW	W	WSW	WSW	WSW	262	W		
Jan 9	WSW	WSW	SW	SSW	S	ENE	ENE	E	E	ENE	E	E	S	SSW	SSE	SSW	S	S	S	S	S	S	S	176	S		
Jan 10	S	SSW	SSW	SW	SW	WSW	WSW	W	WSW	W	W	W	WSW	W	WSW	W	WSW	W	W	SW	W	W	SW	254	WSW		
Jan 11	NW	NNW	NW	NNW	NNW	N	N	NNE	E	NNE	NNE	NNE	NNE	N	NNE	NNW	NE	NNE	SSW	SW	ESE	S	SW	360	N		
Jan 12	SW	WSW	WSW	SW	WSW	W	W	WSW	SW	WSW	WSW	SW	SSW	SW	SSW	SW	SSW	SSW	S	S	SSE	S	S	SSW	231	SW	
Jan 13	SW	SSE	SSE	SSE	SW	WSW	WSW	SW	SSW	WSW	NW	NW	NNW	NNW	Y	NNW	W	SSW	SSW	SSW	SSW	S	S	SSE	216	SW	
Jan 14	SSE	S	S	S	S	S	S	S	S	S	S	S	SSW	SW	SW	SSW	W	WSW	W	SW	SSW	SW	WSW	W	W	216	SW
Jan 15	W	W	W	W	W	W	W	W	WSW	WSW	W	WSW	WNW	WNW	NW	NW	WNW	WNW	WNW	WNW	WNW	W	W	WSW	W	274	W
Jan 16	W	W	WSW	WSW	SW	SSW	S	S	SW	SW	SSW	WSW	SW	S	NNW	E	WNW	ESE	ESE	ESE	ESE	N	NNW	NNW	227	SW	
Jan 17	NNW	NNW	NNW	NNW	NNW	N	N	N	N	ENE	SSE	N	N	N	N	N	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	350	N	
Jan 18	NNW	NW	NNW	N	W	SW	SW	SW	SW	S	WSW	SW	S	WSW	WSW	W	SSW	SW	WSW	W	WSW	WSW	SW	SW	256	WSW	
Jan 19	SW	SSW	SSW	SW	SW	SSW	SW	SW	WSW	SSW	WSW	SSW	S	S	S	SW	SSW	SSW	WSW	W	WSW	W	W	WSW	226	SW	
Jan 20	WSW	SW	WSW	WSW	S	SSW	SSW	SSW	SSW	SW	SW	SW	SW	SW	WSW	WNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	257	WSW	
Jan 21	N	N	ENE	NE	SE	SE	S	S	S	S	S	SSW	S	S	SE	SSE	SSE	SSE	SSE	SSE	SE	SSE	SW	SW	168	SSE	
Jan 22	WSW	SW	W	NNE	NNW	NW	N	NNE	NNW	E	ENE	SSE	SSW	SSW	SW	WSW	SW	WSW	W	WSW	WSW	SW	SW	240	WSW		
Jan 23	WSW	WSW	WSW	W	W	WSW	SW	W	W	WSW	W	W	NW	NW	NW	WNW	WSW	W	W	NW	NW	W	WNW	NW	276	W	
Jan 24	NW	NNW	NNW	NNW	NNW	N	NNW	N	NNW	N	NW	NW	NNW	SW	SSW	S	SE	SE	SE	SE	SE	SE	SSE	14	NNE		
Jan 25	SSE	S	S	SSW	S	W	SW	WSW	W	WSW	W	WSW	W	W	NW	NNW	WNW	WNW	WNW	WNW	NW	NW	NNW	W	264	W	
Jan 26	NW	WNW	NW	WNW	NW	WNW	WNW	NW	NW	NW	WNW	NW	WNW	WNW	NW	NNW	NW	WNW	W	WSW	WSW	SW	SW	S	301	WNW	
Jan 27	SSE	SSE	S	SSW	SSW	S	S	S	SSW	SSW	WSW	WSW	W	W	NW	WNW	SSW	SSW	S	SSW	SW	S	S	SSW	202	SSW	
Jan 28	SSW	SW	S	SSW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	W	WSW	WSW	SW	WSW	WSW	W	SSW	S	W	WNW	228	SW	
Jan 29	W	NW	NW	WNW	WSW	SSE	SW	SW	SW	S	SSW	WSW	WSW	W	WSW	WSW	WSW	SW	S	SSW	SW	SW	WSW	WSW	233	SW	
Jan 30	NW	NNW	NNW	NNW	NNW	NNE	SE	ENE	NNE	NNE	NE	N	NE	NE	N	NNE	N	N	N	N	N	N	N	N	360	N	
Jan 31	N	N	NNW	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	NNW	NNW	NNW	NNW	NNW	W	WNW	NW	NNW	NW	345	NNW	
C	Monthly Calibration							S	Daily Zero-Span Check							Q	Quality Assurance										
K	Collection Error							N	No Data (Machine Not in Service)							Y	Routine Maintenance										
X	Invalid Data (Machine Malfunction /Recovery)							NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)							P	Power Failure										
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.																											
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																											

Timeseries Chart of Hourly Average for VWD - 986c Station





PEACE RIVER AREA MONITORING PROGRAM

986c Station - January 2022

Summary of Hourly Averages

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

WIND SPEED		WIND DIRECTION																																																	
Maximum Hourly Value:	29.8 kph on January 31 at hour 0	Hours in Service:	744																																																
Maximum Daily Value:	15.7 kph on January 17	Hours of Data:	743																																																
Minimum Hourly Value:	0.5 kph on January 6 at hour 13	Hours of Missing Data:	1																																																
Minimum Daily Value:	1.8 kph on January 24	Hours of Calibration:	0																																																
Monthly Average:	4.5 kph	Operational Uptime:	99.9																																																
Monthly Average: 268 (W) degree																																																			
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average																									
Jan 21	9.7	8.7	3.4	6.4	6.5	5.0	11.7	10.0	9.2	9.9	9.5	11.1	10.1	9.6	5.9	10.6	11.5	10.5	6.7	4.0	6.0	3.9	2.4	10.4	2.4	11.7	5.3																								
Jan 22	N	N	ENE	NE	SE	SE	S	S	S	S	S	SSW	S	S	SE	SSE	SSE	SSE	SSE	SSE	SE	SSE	SW	SW	1.7	19.7	7.5																								
Jan 23	8.6	5.8	3.9	2.8	3.8	5.6	5.6	4.3	2.3	1.7	3.0	2.8	5.3	16.7	19.7	16.1	16.7	17.5	18.0	15.7	15.0	15.7	14.8	13.8	3.6	16.8	9.9																								
Jan 24	14.1	16.8	16.8	13.8	12.5	6.1	8.5	8.9	9.5	13.6	15.5	10.3	12.7	10.2	9.4	5.9	3.6	9.5	10.9	12.0	8.1	8.4	12.5	13.6	1.1	16.5	1.8																								
Jan 25	WSW	SW	W	NNE	NNW	NW	N	NNE	NNW	E	ENE	SSE	SSW	SSW	SW	WSW	SW	SW	WSW	W	WSW	WSW	SW	SW	10.8	24.8	12.1																								
Jan 26	WSW	WSW	WSW	W	W	WSW	SW	W	WSW	W	W	NW	NW	NW	NW	WNW	WSW	W	W	NW	NW	WNW	WNW	NW	NW	WNW	3.9	17.6	8.3																						
Jan 27	5.4	7.9	10.9	10.1	9.1	10.8	9.2	8.7	7.8	7.8	5.8	3.1	2.2	2.8	1.2	1.1	5.1	5.7	6.9	6.6	6.3	5.0	9.7	16.5	1.4	20.1	7.7																								
Jan 28	NW	NNW	NNW	NNW	NNW	N	NNW	N	NNW	N	NW	NW	NNW	SW	SSW	S	SE	SE	SE	SE	SE	SE	SE	SSE	1.9	23.7	10.7																								
Jan 29	18.1	20.2	17.9	15.2	20.3	19.2	18.3	16.9	22.6	21.2	17.2	16.5	10.8	12.2	14.8	12.1	24.8	18.9	16.8	18.7	17.1	16.0	16.7	14.3	0.6	21.9	9.3																								
Jan 30	SSE	S	S	SSW	S	W	SW	WSW	W	W	WSW	W	WSW	W	W	W	NW	NW	WNW	WNW	WNW	NW	NW	WNW	0.7	27.0	11.0																								
Jan 31	14.5	9.1	8.9	9.6	13.1	8.9	11.6	14.7	17.6	9.4	10.7	13.0	10.9	8.8	10.8	11.2	6.3	3.9	4.3	6.9	4.4	4.7	4.0	7.0	3.2	29.8	12.7																								
Jan 31	NW	WNW	NW	WNW	NW	WNW	WNW	NW	NW	WNW	NW	WNW	NW	WNW	NW	NNW	NW	WNW	W	WSW	WSW	SW	SW	S																											
Jan 31	7.4	7.8	8.5	8.8	10.7	12.2	20.1	15.3	13.9	9.3	8.0	10.9	7.9	3.6	2.7	1.4	2.2	2.2	3.4	7.6	9.8	10.1	12.5	13.3																											
Jan 31	11.5	15.8	18.7	8.9	11.2	18.8	23.7	21.1	20.9	19.1	13.7	13.1	10.7	11.3	7.2	6.7	6.2	10.2	6.2	5.1	5.3	6.1	2.9	1.9																											
Jan 31	SSW	SW	S	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	WSW	SW	WSW	WSW	W	SSW	S	W	WNW																										
Jan 31	1.5	2.9	2.3	0.6	0.8	2.6	5.5	6.4	7.6	8.5	9.9	12.1	15.1	13.4	14.9	13.1	13.1	12.3	16.5	20.5	21.9	18.6	16.2	13.5																											
Jan 31	W	NW	NW	WNW	WSW	SSE	SW	SW	SW	S	SSW	WSW	WSW	W	WSW	WSW	WSW	SW	S	SSW	SW	SW	WSW	WSW																											
Jan 31	12.5	8.3	9.9	6.2	5.8	3.0	3.4	0.7	5.9	7.1	7.3	7.6	8.2	12.1	12.6	12.1	7.9	15.5	18.7	23.1	27.0	24.0	22.7	25.4																											
Jan 31	NW	NNW	NNW	NNW	NNW	NNE	SE	ENE	NNE	NNE	NNE	NE	N	NE	NE	N	NNE	N	N	N	N	N	N	N																											
Jan 31	29.8	26.0	21.8	17.9	17.6	17.0	15.8	14.8	14.2	16.5	13.6	14.3	14.4	11.8	11.7	13.8	11.1	5.1	4.5	4.3	5.0	4.5	4.1	3.2	3.2	29.8	12.7																								
Jan 31	N	N	NNW	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	NNW	NNW	NNW	NNW	W	WNW	NW	NNW	NW																											
C	Monthly Calibration										S	Daily Zero-Span Check										Q	Quality Assurance																												
K	Collection Error										N	No Data (Machine Not in Service)										Y	Routine Maintenance										P	Power Failure																	
X	Invalid Data (Equipment Malfunction/Recovery)										NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)																																							
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.																																																			
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																																																			

842b STATION



PEACE RIVER AREA MONITORING PROGRAM

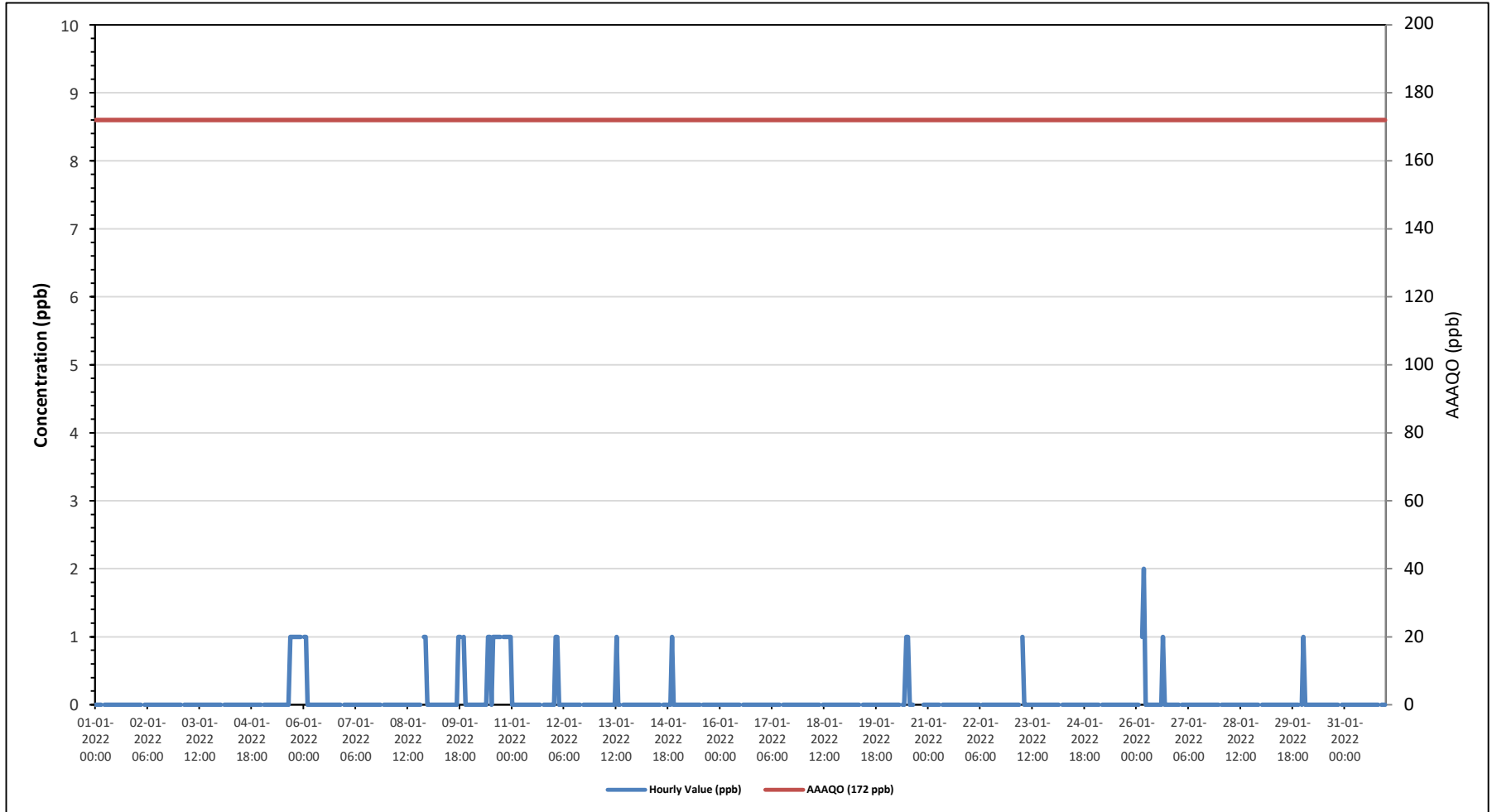
842b Station - January 2022

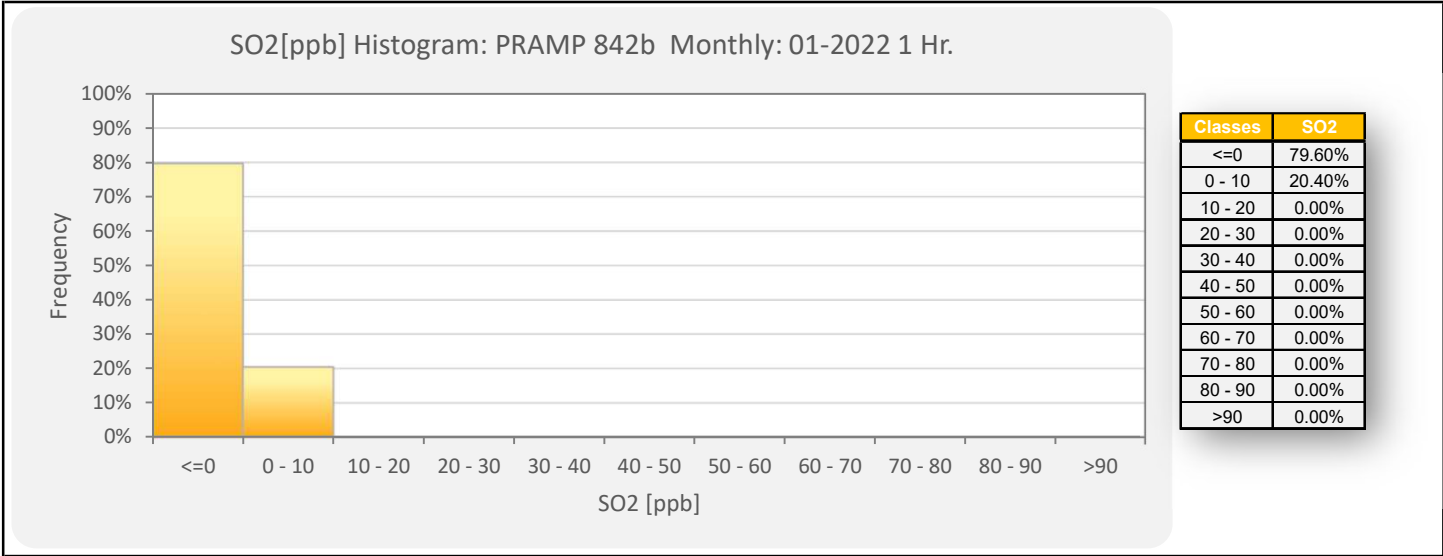
Summary of Hourly Averages

SULPHUR DIOXIDE (SO₂) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb																											
Number of 1-Hour Exceedances: 0						Number of 24-Hour Exceedances: 0						30-Day Exceedance: 0															
Maximum Hourly Value: 2 ppb on January 26 at hour 4												Hours in Service: 744															
Maximum Daily Value: 0.5 ppb on January 10												Hours of Data: 706															
Minimum Hourly Value: 0 ppb on January 1 at hour 0												Hours of Missing Data: 0															
Minimum Daily Value: 0.0 ppb on January 1												Hours of Calibration: 38															
Monthly Average: 0.1 ppb												Operational Uptime: 100.0															
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
Jan 1	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
Jan 2	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
Jan 3	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
Jan 4	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
Jan 5	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	S	0	1	0.3
Jan 6	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0.1
Jan 7	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
Jan 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	1	1	0	0	1	0.1
Jan 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	S	1	0	0	0	1	0.1
Jan 10	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1	1	1	S	1	1	1	1	1	0	1	0.5
Jan 11	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
Jan 12	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	S	0	0	0	0	0	0	1	0.1
Jan 13	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	S	0	0	0	0	0	0	0	0	0	1	0.0
Jan 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	1	0	0	0	1	0.0
Jan 15	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
Jan 16	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
Jan 17	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
Jan 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
Jan 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
Jan 20	0	0	0	0	0	0	0	0	0	0	S	0	1	1	0	0	0	0	C	C	C	C	C	0	0	1	0.1
Jan 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
Jan 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
Jan 23	0	0	0	0	0	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Jan 24	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
Jan 25	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
Jan 26	0	0	S	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2
Jan 27	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
Jan 28	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
Jan 29	0	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
Jan 30	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0.0
Jan 31	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
Diurnal Maximum	1	1	1	1	2	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
Diurnal Average	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1			
C	Monthly Calibration										S	Daily Zero-Span Check						Q	Quality Assurance								
K	Collection Error										N	No Data (Machine Not in Service)						Y	Routine Maintenance								
X	Invalid Data (Equipment Malfunction / Recovery)										NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)						P	Power Failure								
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.																											
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																											

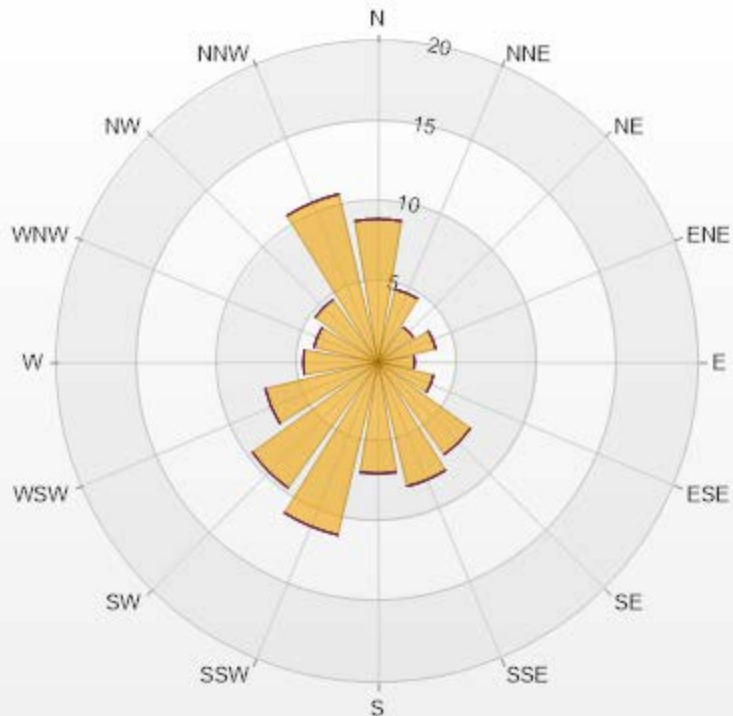
Timeseries Chart of Hourly Average for SO2 - 842b Station





Wind: PRAMP 842b Poll.: PRAMP 842b-SO2[ppb] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	8.92	0	0	0	0	8.92
NNE	4.67	0	0	0	0	4.67
NE	2.69	0	0	0	0	2.69
ENE	3.68	0	0	0	0	3.68
E	2.27	0	0	0	0	2.27
ESE	3.54	0	0	0	0	3.54
SE	7.08	0	0	0	0	7.08
SSE	7.93	0	0	0	0	7.93
S	6.94	0	0	0	0	6.94
SSW	11.05	0	0	0	0	11.05
SW	9.63	0	0	0	0	9.63
WSW	7.22	0	0	0	0	7.22
W	4.67	0	0	0	0	4.67
WNW	4.11	0	0	0	0	4.11
NW	4.82	0	0	0	0	4.82
NNW	10.76	0	0	0	0	10.76
Summary	100	0	0	0	0	100



PRAMP-202201

% Icon Classes (ppb)

100 0-10

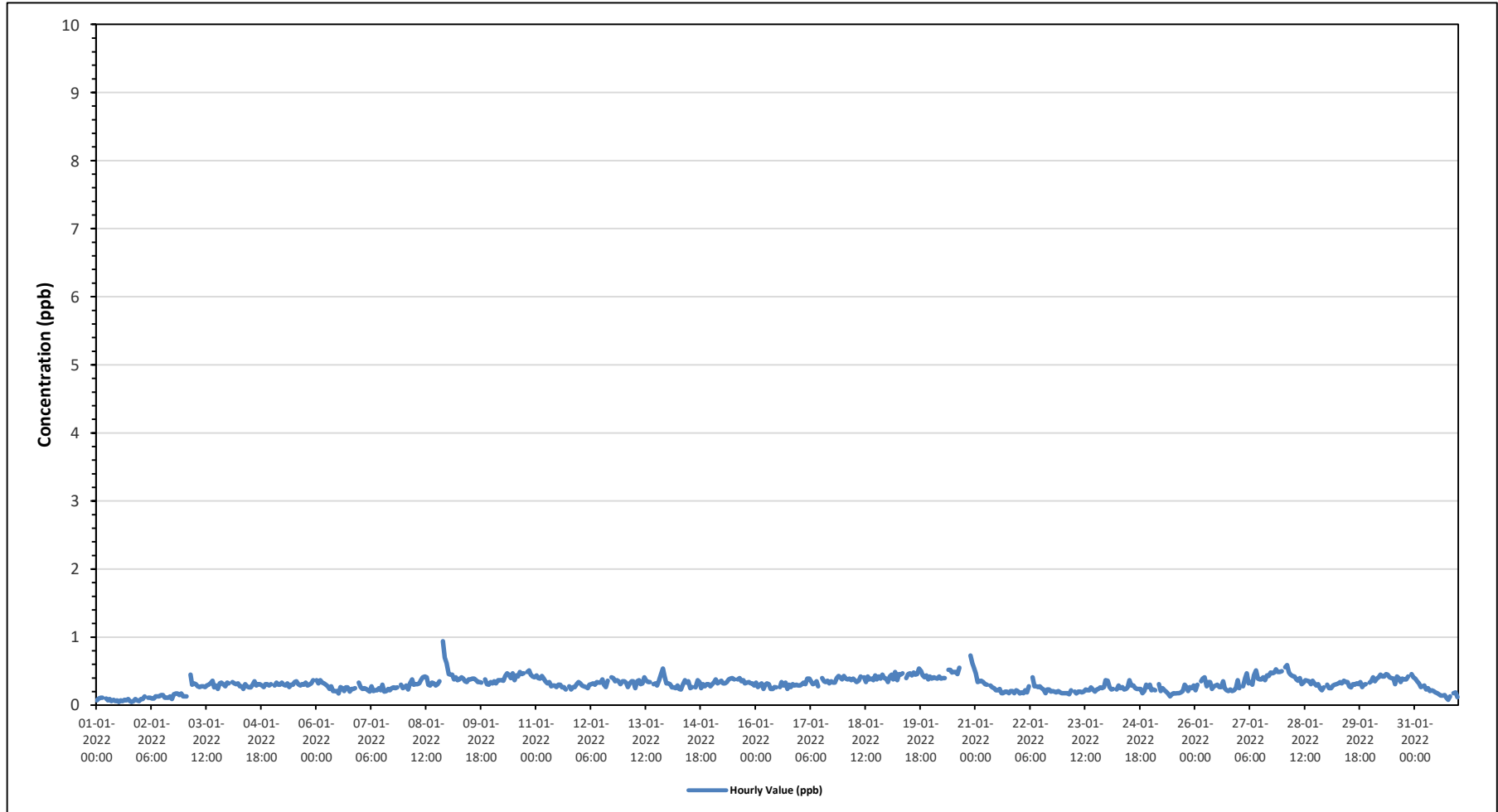
0 10-50

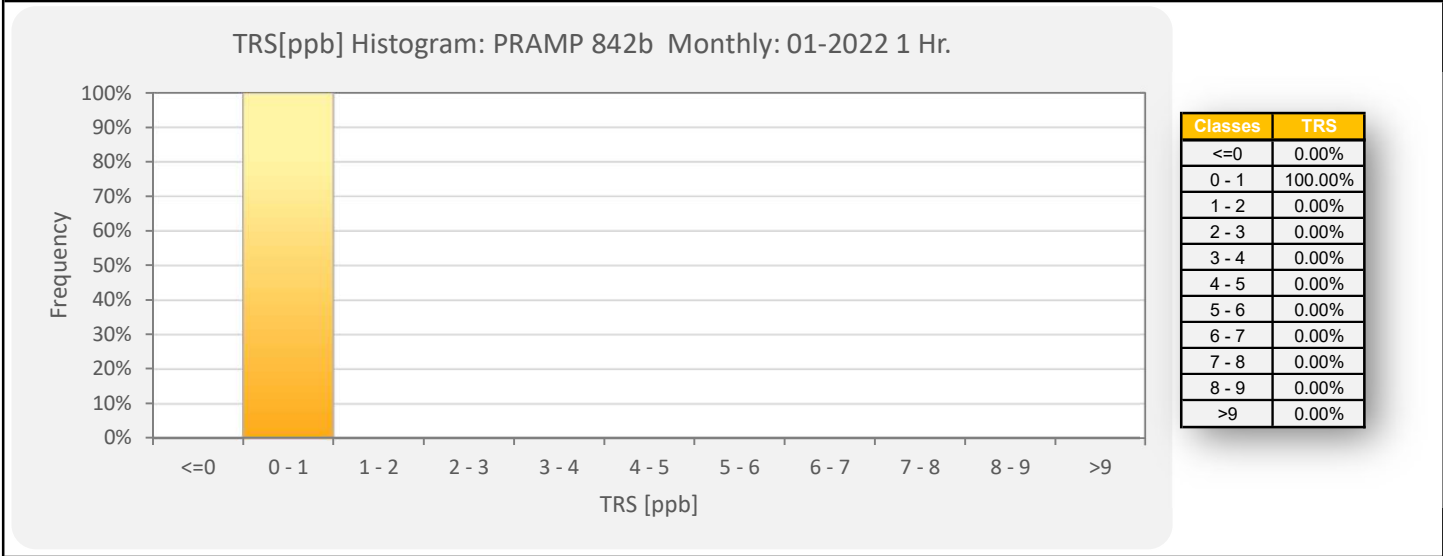
0 50-100

0 100-172

0 >172.0

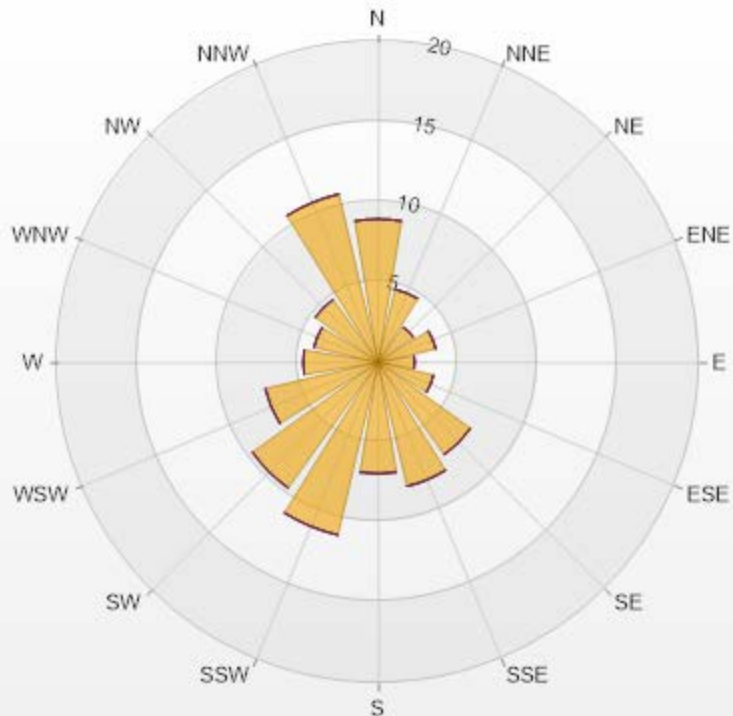
Timeseries Chart of Hourly Average for TRS - 842b Station





Wind: PRAMP 842b Poll.: PRAMP 842b-TRS[ppb] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	8.92	0	0	0	0	8.92
NNE	4.67	0	0	0	0	4.67
NE	2.69	0	0	0	0	2.69
ENE	3.68	0	0	0	0	3.68
E	2.27	0	0	0	0	2.27
ESE	3.54	0	0	0	0	3.54
SE	7.08	0	0	0	0	7.08
SSE	7.93	0	0	0	0	7.93
S	6.94	0	0	0	0	6.94
SSW	11.05	0	0	0	0	11.05
SW	9.63	0	0	0	0	9.63
WSW	7.22	0	0	0	0	7.22
W	4.67	0	0	0	0	4.67
WNW	4.11	0	0	0	0	4.11
NW	4.82	0	0	0	0	4.82
NNW	10.76	0	0	0	0	10.76
Summary	100	0	0	0	0	100



PRAMP-202201

Page 81 of 227

% Icon Classes (ppb)

100 0-2

0 2-5

0 5-10

0 10-50

0 >50.0



PEACE RIVER AREA MONITORING PROGRAM

842b Station - January 2022

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

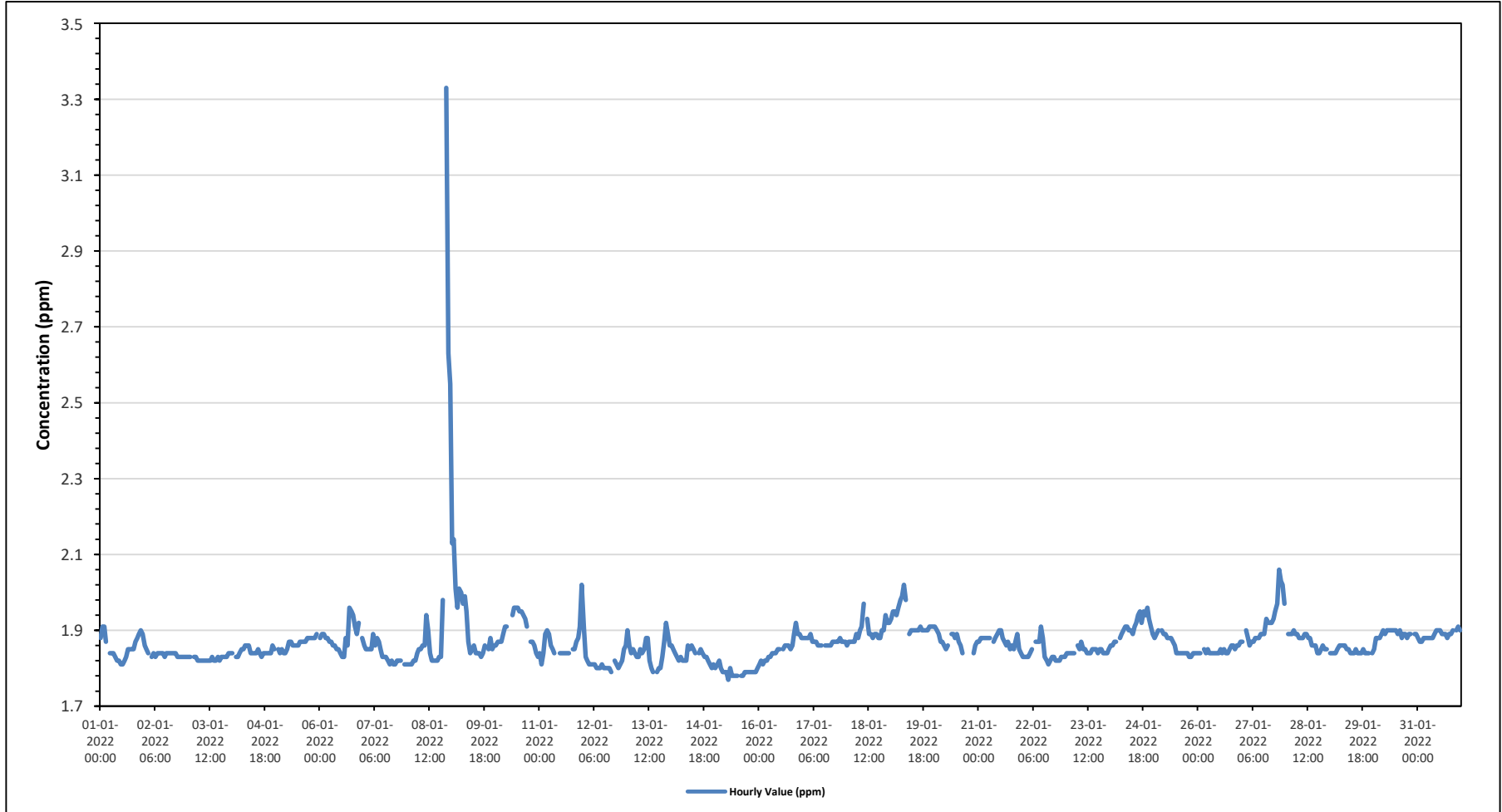
Maximum Hourly Value:	3.33 ppm on January 8 at hour 21	Hours in Service:	744
Maximum Daily Value:	1.98 ppm on January 8	Hours of Data:	702
Minimum Hourly Value:	1.77 ppm on January 15 at hour 7	Hours of Missing Data:	4
Minimum Daily Value:	1.79 ppm on January 15	Hours of Calibration:	38
Monthly Average:	1.87 ppm	Operational Uptime:	99.5

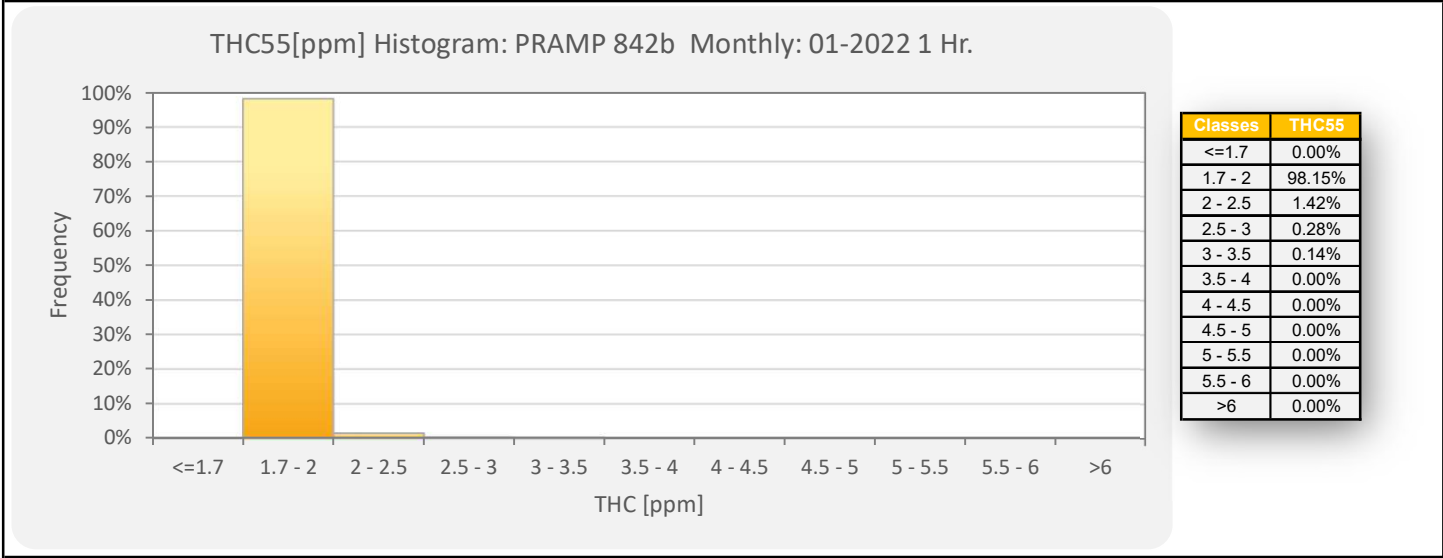
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Jan 1	1.88	1.91	1.91	1.87	S	1.84	1.84	1.84	1.83	1.82	1.82	1.81	1.81	1.82	1.83	1.85	1.85	1.85	1.85	1.87	1.88	1.89	1.90	1.89	1.81	1.91	1.85	
Jan 2	1.86	1.85	1.84	S	1.83	1.84	1.83	1.84	1.84	1.84	1.84	1.83	1.84	1.84	1.84	1.84	1.84	1.84	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.86	1.84	
Jan 3	1.83	1.83	S	1.83	1.83	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.83	1.82	1.82	1.83	1.82	1.83	1.83	1.83	1.83	1.84	1.84	1.82	1.84	1.83	
Jan 4	1.84	S	1.83	1.83	1.84	1.85	1.85	1.86	1.86	1.86	1.84	1.84	1.84	1.84	1.85	1.84	1.83	1.84	1.84	1.84	1.84	1.84	1.86	1.85	1.83	1.86	1.84	
Jan 5	S	1.85	1.84	1.85	1.84	1.84	1.85	1.87	1.87	1.86	1.86	1.86	1.86	1.87	1.87	1.87	1.88	1.88	1.88	1.88	1.88	1.89	S	1.84	1.89	1.86		
Jan 6	1.88	1.89	1.89	1.88	1.88	1.87	1.87	1.86	1.86	1.85	1.85	1.84	1.83	1.83	1.88	1.86	1.96	1.95	1.94	1.91	1.89	1.92	S	1.88	1.83	1.96	1.88	
Jan 7	1.86	1.85	1.85	1.85	1.85	1.89	1.86	1.88	1.87	1.85	1.83	1.83	1.83	1.82	1.81	1.82	1.81	1.81	1.82	1.82	1.82	S	1.81	1.81	1.81	1.89	1.84	
Jan 8	1.81	1.81	1.81	1.82	1.82	1.84	1.85	1.85	1.86	1.86	1.94	1.90	1.84	1.82	1.82	1.82	1.83	1.83	1.98	S	3.33	2.63	2.55	1.81	3.33	1.98		
Jan 9	2.13	2.14	2.01	1.96	2.01	2.00	1.97	1.99	1.95	1.87	1.84	1.85	1.86	1.84	1.84	1.83	1.84	1.86	S	1.85	1.88	1.85	1.86	1.83	2.14	1.92		
Jan 10	1.86	1.87	1.87	1.87	1.89	1.91	1.91	NRM	NRM	1.94	1.96	1.96	1.96	1.95	1.95	1.94	1.93	1.91	S	1.87	1.87	1.86	1.84	1.83	1.83	1.96	1.90	
Jan 11	1.84	1.81	1.84	1.89	1.90	1.89	1.86	1.85	1.84	NRM	NRM	1.84	1.84	1.84	1.84	1.84	1.84	1.84	S	1.85	1.85	1.87	1.88	1.91	2.02	1.81	2.02	1.86
Jan 12	1.91	1.83	1.82	1.81	1.81	1.81	1.81	1.80	1.80	1.80	1.81	1.80	1.80	1.80	1.80	1.79	S	1.82	1.81	1.80	1.81	1.82	1.85	1.86	1.79	1.91	1.82	
Jan 13	1.90	1.86	1.84	1.85	1.84	1.83	1.83	1.85	1.84	1.85	1.88	1.88	1.82	1.80	1.79	S	1.79	1.80	1.80	1.83	1.87	1.92	1.89	1.86	1.79	1.92	1.84	
Jan 14	1.86	1.85	1.84	1.83	1.82	1.83	1.82	1.82	1.82	1.86	1.85	1.86	1.85	1.84	S	1.84	1.85	1.84	1.83	1.83	1.82	1.81	1.80	1.81	1.80	1.86	1.83	
Jan 15	1.80	1.81	1.82	1.80	1.79	1.79	1.79	1.77	1.80	1.78	1.78	1.78	1.78	S	1.78	1.78	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.80	1.77	1.82	1.79	
Jan 16	1.81	1.82	1.81	1.82	1.82	1.83	1.83	1.84	1.84	1.84	1.85	1.85	S	1.85	1.86	1.86	1.86	1.85	1.86	1.89	1.92	1.89	1.89	1.88	1.81	1.92	1.85	
Jan 17	1.88	1.88	1.88	1.88	1.89	1.87	1.87	1.87	1.86	1.86	1.86	S	1.86	1.86	1.86	1.86	1.87	1.87	1.87	1.87	1.88	1.87	1.87	1.87	1.86	1.89	1.87	
Jan 18	1.86	1.87	1.87	1.87	1.87	1.89	1.88	1.90	1.91	1.97	S	1.93	1.89	1.89	1.88	1.89	1.89	1.88	1.88	1.90	1.90	1.94	1.92	1.92	1.86	1.97	1.90	
Jan 19	1.93	1.95	1.95	1.94	1.96	1.98	1.99	2.02	1.98	S	1.89	1.90	1.90	1.90	1.90	1.90	1.91	1.90	1.90	1.90	1.90	1.91	1.91	1.91	1.89	2.02	1.93	
Jan 20	1.91	1.90	1.89	1.87	1.87	1.86	1.85	1.86	S	1.89	1.89	1.88	1.89	1.87	1.86	1.84	C	C	C	C	C	1.84	1.86	1.87	1.84	1.91	1.87	
Jan 21	1.87	1.88	1.88	1.88	1.88	1.88	S	1.87	1.88	1.89	1.90	1.90	1.88	1.87	1.88	1.87	1.86	1.87	1.85	1.86	1.85	1.87	1.89	1.85	1.84	1.84	1.87	
Jan 22	1.83	1.83	1.83	1.83	1.84	1.85	S	1.87	1.87	1.87	1.91	1.88	1.83	1.82	1.81	1.82	1.83	1.83	1.82	1.82	1.82	1.83	1.83	1.83	1.81	1.91	1.84	
Jan 23	1.84	1.84	1.84	1.84	1.84	S	1.86	1.85	1.87	1.85	1.85	1.84	1.84	1.84	1.84	1.85	1.85	1.84	1.85	1.85	1.84	1.84	1.84	1.85	1.84	1.87	1.85	
Jan 24	1.86	1.86	1.87	1.87	S	1.88	1.89	1.90	1.91	1.91	1.90	1.90	1.89	1.91	1.92	1.94	1.95	1.92	1.95	1.94	1.96	1.93	1.91	1.89	1.86	1.96	1.91	
Jan 25	1.88	1.89	1.90	S	1.90	1.89	1.89	1.88	1.88	1.88	1.87	1.86	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.83	1.83	1.84	1.84	1.84	1.83	1.90	1.86	
Jan 26	1.84	1.84	S	1.85	1.84	1.85	1.84	1.84	1.84	1.84	1.84	1.84	1.85	1.84	1.85	1.84	1.84	1.85	1.86	1.86	1.85	1.86	1.86	1.87	1.84	1.87	1.85	
Jan 27	1.87	S	1.90	1.88	1.86	1.87	1.87	1.88	1.88	1.88	1.89	1.89	1.89	1.93	1.92	1.92	1.92	1.93	1.95	1.97	2.06	2.03	2.02	1.97	1.86	2.06	1.92	
Jan 28	S	1.89	1.89	1.89	1.90	1.89	1.89	1.88	1.88	1.88	1.88	1.89	1.89	1.88	1.88	1.86	1.86	1.86	1.84	1.84	1.85	1.86	1.85	S	1.84	1.90	1.87	
Jan 29	1.84	1.84	1.84	1.84	1.85	1.86	1.86	1.86	1.86	1.85	1.85	1.84	1.84	1.84	1.84	1.85	1.84	1.84	1.85	1.84	1.84	1.84	1.84	S	1.84	1.84	1.85	
Jan 30	1.85	1.88	1.88	1.88	1.89	1.90	1.89	1.90	1.90	1.90	1.90	1.90	1.90	1.89	1.90	1.88	1.89	1.89	1.88	1.89	1.89	S	1.89	1.89	1.85	1.90	1.89	
Jan 31	1.88	1.87	1.87	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.90	1.90	1.90	1.90	1.89	1.89	1.88	1.89	1.89	1.90	S	1.90	1.91	1.90	1.87	1.91	1.89	
Diurnal Maximum	2.13	2.14	2.01	1.96	2.01	2.00	1.99	2.02	1.98	1.97	1.96	1.96	1.96	1.95	1.95	1.94	1.96	1.95	1.95	1.95	1.98	2.06	3.33	2.63	2.55			
Diurnal Average	1.87	1.87	1.87	1.86	1.86	1.87	1.86	1.87	1.87	1.86	1.87	1.86	1.86	1.86	1.85	1.85	1.86	1.86	1.86	1.86	1.87	1.87	1.92	1.89	1.89			

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

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

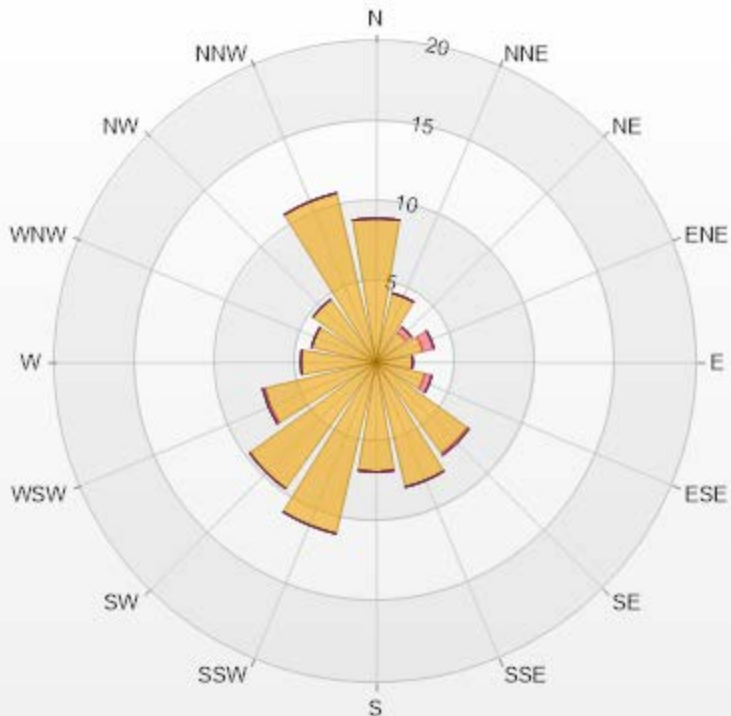
Timeseries Chart of Hourly Average for THC - 842b Station





Wind: PRAMP 842b Poll.: PRAMP 842b-THC55[ppm] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.35% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	8.97	0	0	0	0	8.97
NNE	4.42	0	0	0	0	4.42
NE	2.28	0.43	0	0	0	2.71
ENE	2.99	0.71	0	0	0	3.7
E	2.28	0	0	0	0	2.28
ESE	3.13	0.43	0	0	0	3.56
SE	6.98	0.14	0	0	0	7.12
SSE	7.98	0	0	0	0	7.98
S	6.84	0	0	0	0	6.84
SSW	10.97	0	0	0	0	10.97
SW	9.69	0	0	0	0	9.69
WSW	7.12	0.14	0	0	0	7.26
W	4.7	0	0	0	0	4.7
WNW	4.13	0	0	0	0	4.13
NW	4.84	0	0	0	0	4.84
NNW	10.83	0	0	0	0	10.83
Summary	98.15	1.85	0	0	0	100



PRAMP-202201

Page 86 of 227

% Icon Classes (ppm)

98 0-2

2 2-5

0 5-10

0 10-40

0 >40.0



PEACE RIVER AREA MONITORING PROGRAM

842b Station - January 2022

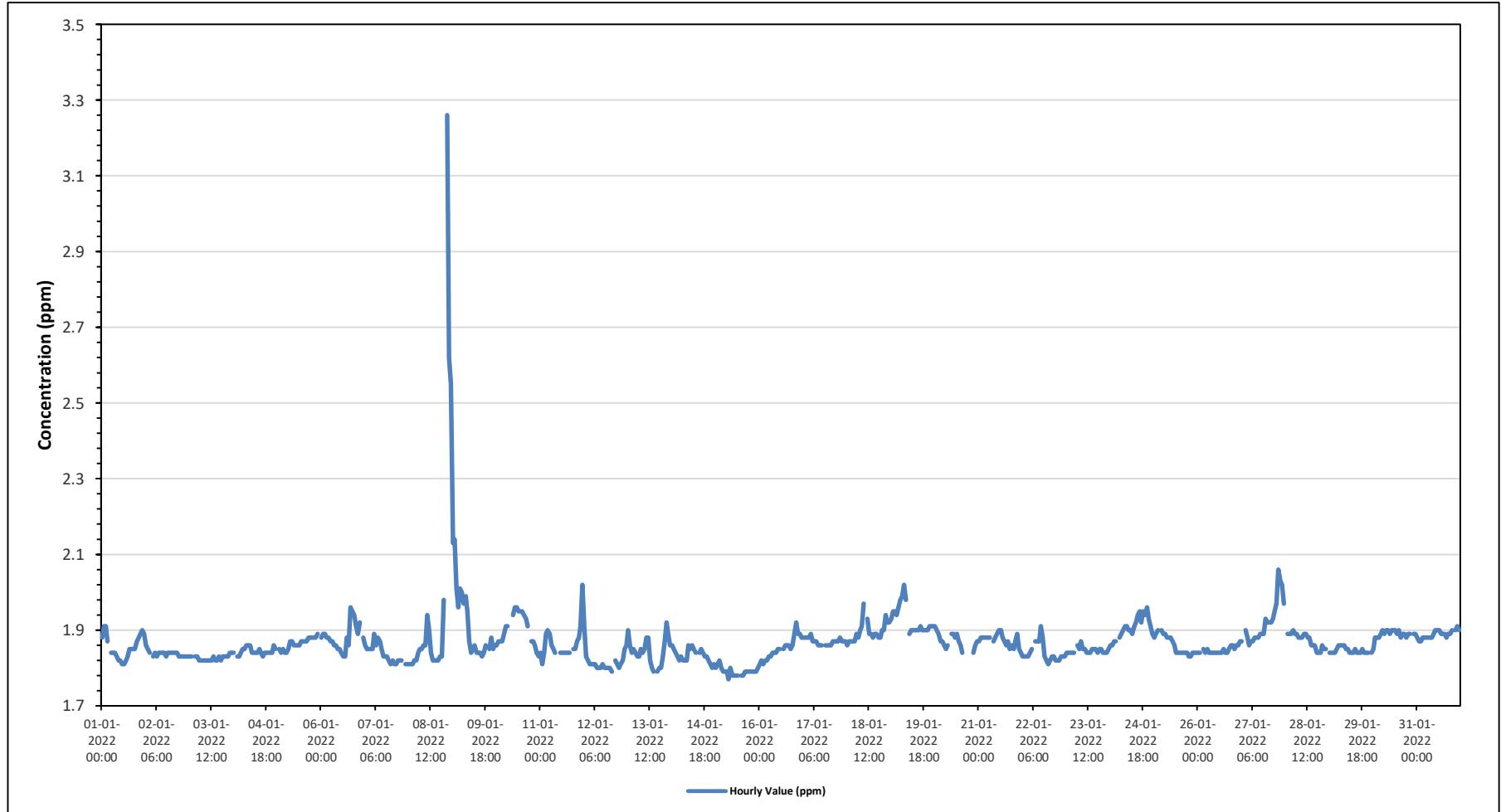
Summary of Hourly Averages

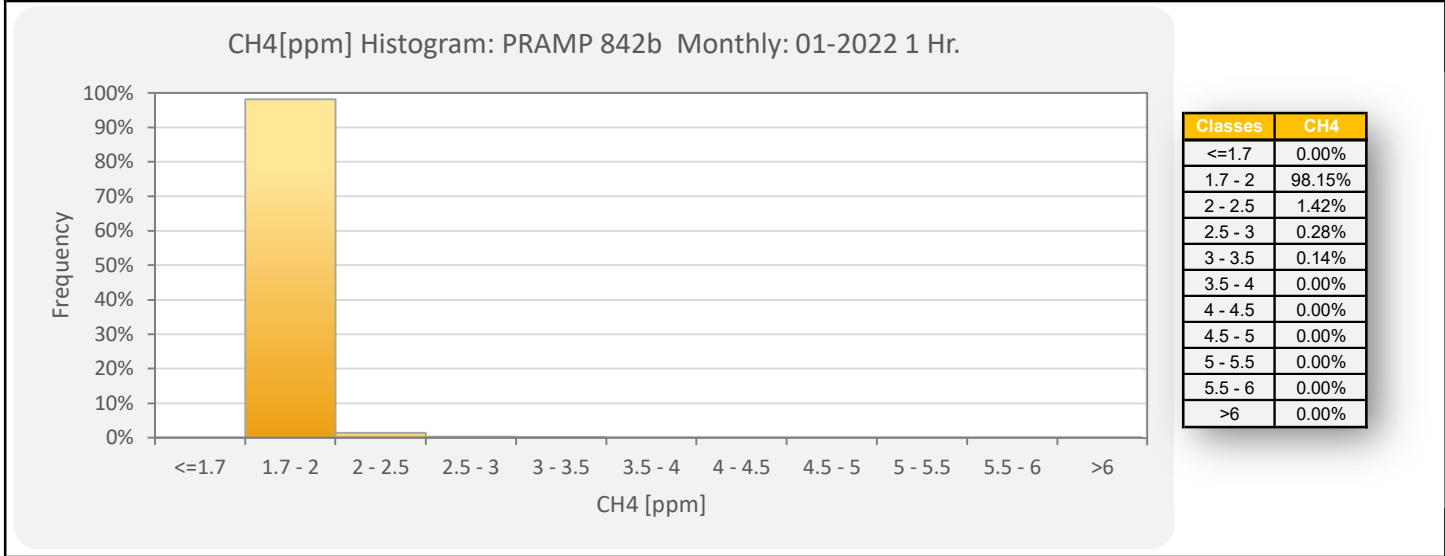
METHANE (CH4) in ppm

Maximum Hourly Value:	3.26 ppm on January 8 at hour 21	Hours in Service:	744
Maximum Daily Value:	1.97 ppm on January 8	Hours of Data:	702
Minimum Hourly Value:	1.77 ppm on January 15 at hour 7	Hours of Missing Data:	4
Minimum Daily Value:	1.79 ppm on January 15	Hours of Calibration:	38
Monthly Average:	1.87 ppm	Operational Uptime:	99.5

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				
Jan 1	1.88	1.91	1.91	1.87	S	1.84	1.84	1.84	1.83	1.82	1.82	1.81	1.81	1.82	1.83	1.85	1.85	1.85	1.85	1.87	1.88	1.89	1.90	1.89	1.81	1.91	1.85				
Jan 2	1.86	1.85	1.84	S	1.83	1.84	1.83	1.84	1.84	1.84	1.83	1.84	1.84	1.84	1.84	1.84	1.84	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.86	1.84				
Jan 3	1.83	1.83	S	1.83	1.83	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.83	1.82	1.82	1.83	1.82	1.83	1.83	1.83	1.83	1.84	1.84	1.82	1.84	1.83				
Jan 4	1.84	S	1.83	1.83	1.84	1.85	1.85	1.86	1.86	1.86	1.84	1.84	1.84	1.84	1.85	1.84	1.83	1.84	1.84	1.84	1.84	1.84	1.86	1.85	1.83	1.86	1.84				
Jan 5	S	1.85	1.84	1.85	1.84	1.84	1.85	1.87	1.87	1.86	1.86	1.86	1.86	1.87	1.87	1.87	1.87	1.88	1.88	1.88	1.88	1.88	1.89	S	1.84	1.89	1.86				
Jan 6	1.88	1.89	1.89	1.88	1.88	1.87	1.87	1.86	1.86	1.85	1.85	1.84	1.83	1.83	1.88	1.86	1.96	1.95	1.94	1.91	1.89	1.92	S	1.88	1.83	1.96	1.88				
Jan 7	1.86	1.85	1.85	1.85	1.85	1.89	1.86	1.88	1.87	1.85	1.83	1.83	1.83	1.82	1.81	1.82	1.81	1.81	1.82	1.82	1.82	S	1.81	1.81	1.81	1.89	1.84				
Jan 8	1.81	1.81	1.81	1.82	1.82	1.84	1.85	1.85	1.86	1.86	1.94	1.90	1.84	1.82	1.82	1.82	1.83	1.83	1.98	S	3.26	2.62	2.55	1.81	3.26	1.97					
Jan 9	2.13	2.14	2.01	1.96	2.01	2.00	1.97	1.99	1.95	1.87	1.84	1.85	1.86	1.84	1.84	1.83	1.84	1.86	S	1.85	1.88	1.85	1.86	1.83	2.14	1.92					
Jan 10	1.86	1.87	1.87	1.87	1.89	1.91	1.91	NRM	NRM	1.94	1.96	1.96	1.95	1.95	1.95	1.94	1.93	1.91	S	1.87	1.87	1.86	1.84	1.83	1.83	1.96	1.90				
Jan 11	1.84	1.81	1.84	1.89	1.90	1.89	1.86	1.85	1.84	NRM	NRM	1.84	1.84	1.84	1.84	1.84	1.84	1.84	S	1.85	1.85	1.87	1.88	1.91	2.02	1.81	2.02	1.86			
Jan 12	1.91	1.83	1.82	1.81	1.81	1.81	1.81	1.80	1.80	1.80	1.81	1.80	1.80	1.80	1.80	1.79	S	1.82	1.81	1.80	1.81	1.82	1.85	1.86	1.79	1.91	1.82				
Jan 13	1.90	1.86	1.84	1.85	1.84	1.83	1.83	1.85	1.84	1.85	1.88	1.88	1.82	1.80	1.79	S	1.79	1.80	1.80	1.83	1.87	1.92	1.89	1.86	1.79	1.92	1.84				
Jan 14	1.86	1.85	1.84	1.83	1.82	1.83	1.82	1.82	1.82	1.86	1.85	1.86	1.85	1.84	S	1.84	1.85	1.84	1.83	1.83	1.82	1.81	1.80	1.81	1.80	1.86	1.83				
Jan 15	1.80	1.81	1.82	1.80	1.79	1.79	1.79	1.77	1.80	1.78	1.78	1.78	1.78	S	1.78	1.78	1.79	1.79	1.79	1.79	1.79	1.79	1.80	1.81	1.80	1.81	1.83				
Jan 16	1.81	1.82	1.81	1.82	1.82	1.83	1.83	1.84	1.84	1.84	1.85	1.85	S	1.85	1.86	1.86	1.86	1.85	1.86	1.89	1.92	1.89	1.89	1.88	1.81	1.92	1.85				
Jan 17	1.88	1.88	1.88	1.88	1.89	1.87	1.87	1.87	1.86	1.86	1.86	S	1.86	1.86	1.86	1.86	1.87	1.87	1.87	1.87	1.88	1.87	1.87	1.87	1.86	1.89	1.87				
Jan 18	1.86	1.87	1.87	1.87	1.87	1.89	1.88	1.90	1.91	1.97	S	1.93	1.89	1.89	1.88	1.89	1.89	1.88	1.88	1.90	1.90	1.94	1.92	1.92	1.86	1.97	1.90				
Jan 19	1.93	1.95	1.95	1.94	1.96	1.98	1.99	2.02	1.98	S	1.89	1.90	1.90	1.90	1.90	1.90	1.91	1.90	1.90	1.90	1.90	1.91	1.91	1.91	1.89	2.02	1.93				
Jan 20	1.91	1.90	1.89	1.87	1.87	1.86	1.85	1.86	S	1.89	1.89	1.88	1.89	1.87	1.86	1.84	C	C	C	C	C	1.84	1.86	1.87	1.84	1.91	1.87				
Jan 21	1.87	1.88	1.88	1.88	1.88	1.88	S	1.87	1.88	1.89	1.90	1.90	1.88	1.87	1.88	1.87	1.86	1.87	1.85	1.86	1.85	1.87	1.89	1.85	1.84	1.84	1.87				
Jan 22	1.83	1.83	1.83	1.83	1.84	1.85	S	1.87	1.87	1.87	1.91	1.88	1.83	1.82	1.81	1.82	1.83	1.83	1.82	1.82	1.82	1.83	1.83	1.83	1.81	1.91	1.84				
Jan 23	1.84	1.84	1.84	1.84	1.84	S	1.86	1.85	1.87	1.85	1.85	1.84	1.84	1.84	1.84	1.85	1.85	1.84	1.85	1.85	1.84	1.84	1.84	1.84	1.84	1.85	1.85				
Jan 24	1.86	1.86	1.87	1.87	S	1.88	1.89	1.90	1.91	1.91	1.90	1.90	1.89	1.91	1.92	1.94	1.95	1.92	1.95	1.94	1.96	1.93	1.91	1.89	1.86	1.96	1.91				
Jan 25	1.88	1.89	1.90	S	1.90	1.89	1.89	1.88	1.88	1.88	1.87	1.86	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.83	1.83	1.84	1.84	1.84	1.83	1.90	1.86				
Jan 26	1.84	1.84	S	1.85	1.84	1.85	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.85	1.84	1.84	1.85	1.86	1.86	1.85	1.86	1.86	1.87	1.85				
Jan 27	1.87	S	1.90	1.88	1.86	1.87	1.87	1.88	1.88	1.88	1.89	1.89	1.89	1.93	1.92	1.92	1.92	1.93	1.95	1.97	2.06	2.03	2.02	1.97	1.86	2.06	1.92				
Jan 28	S	1.89	1.89	1.89	1.90	1.89	1.89	1.88	1.88	1.88	1.88	1.89	1.89	1.88	1.88	1.86	1.86	1.86	1.84	1.84	1.84	1.86	1.85	1.85	S	1.84	1.90	1.87			
Jan 29	1.84	1.84	1.84	1.84	1.85	1.86	1.86	1.86	1.86	1.85	1.85	1.84	1.84	1.84	1.84	1.85	1.84	1.84	1.84	1.85	1.84	1.84	1.84	1.84	1.84	1.86	1.85				
Jan 30	1.85	1.88	1.88	1.88	1.89	1.90	1.89	1.90	1.90	1.89	1.90	1.90	1.90	1.89	1.90	1.88	1.89	1.89	1.88	1.89	1.89	S	1.89	1.89	1.85	1.90	1.89				
Jan 31	1.88	1.87	1.87	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.90	1.90	1.90	1.90	1.89	1.89	1.89	1.88	1.89	1.89	1.90	S	1.90	1.91	1.90	1.87	1.91	1.89			
Diurnal Maximum	2.13	2.14	2.01	1.96	2.01	2.00	1.99	2.02	1.98	1.97	1.96	1.96	1.95	1.95	1.95	1.94	1.96	1.95	1.95	1.95	1.98	2.06	3.26	2.62	2.55						
Diurnal Average	1.87	1.87	1.87	1.86	1.86	1.87	1.86	1.87	1.87	1.86	1.87	1.86	1.86	1.86	1.86	1.85	1.85	1.86	1.86	1.86	1.86	1.86	1.87	1.92	1.89	1.89					
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.																															

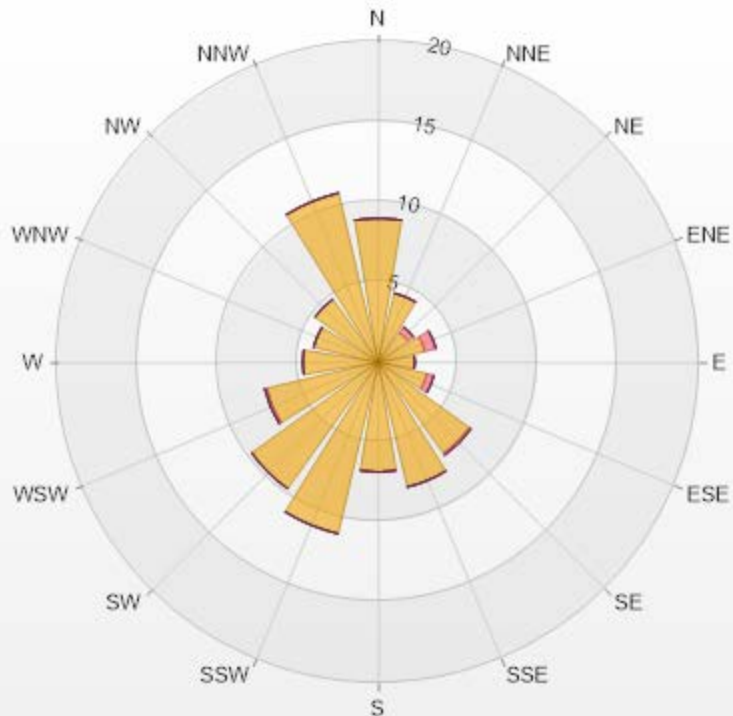
Timeseries Chart of Hourly Average for CH4 - 842b Station





Wind: PRAMP 842b Poll.: PRAMP 842b-CH4[ppm] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.35% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	8.97	0	0	0	0	8.97
NNE	4.42	0	0	0	0	4.42
NE	2.28	0.43	0	0	0	2.71
ENE	2.99	0.71	0	0	0	3.7
E	2.28	0	0	0	0	2.28
ESE	3.13	0.43	0	0	0	3.56
SE	6.98	0.14	0	0	0	7.12
SSE	7.98	0	0	0	0	7.98
S	6.84	0	0	0	0	6.84
SSW	10.97	0	0	0	0	10.97
SW	9.69	0	0	0	0	9.69
WSW	7.12	0.14	0	0	0	7.26
W	4.7	0	0	0	0	4.7
WNW	4.13	0	0	0	0	4.13
NW	4.84	0	0	0	0	4.84
NNW	10.83	0	0	0	0	10.83
Summary	98.15	1.85	0	0	0	100



PRAMP-202201

Page 91 of 227

% Icon Classes (ppm)

98 0-2

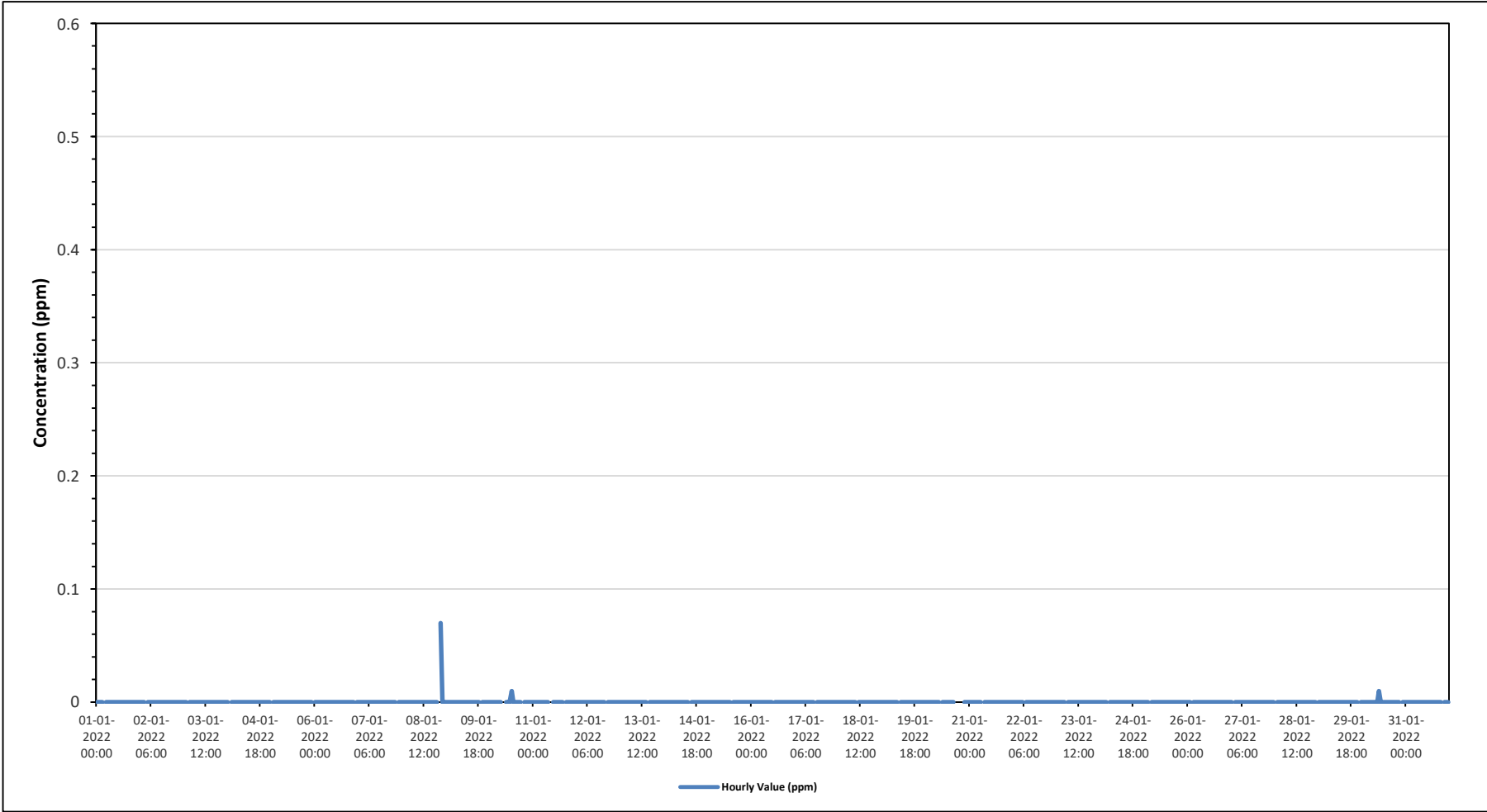
2 2-5

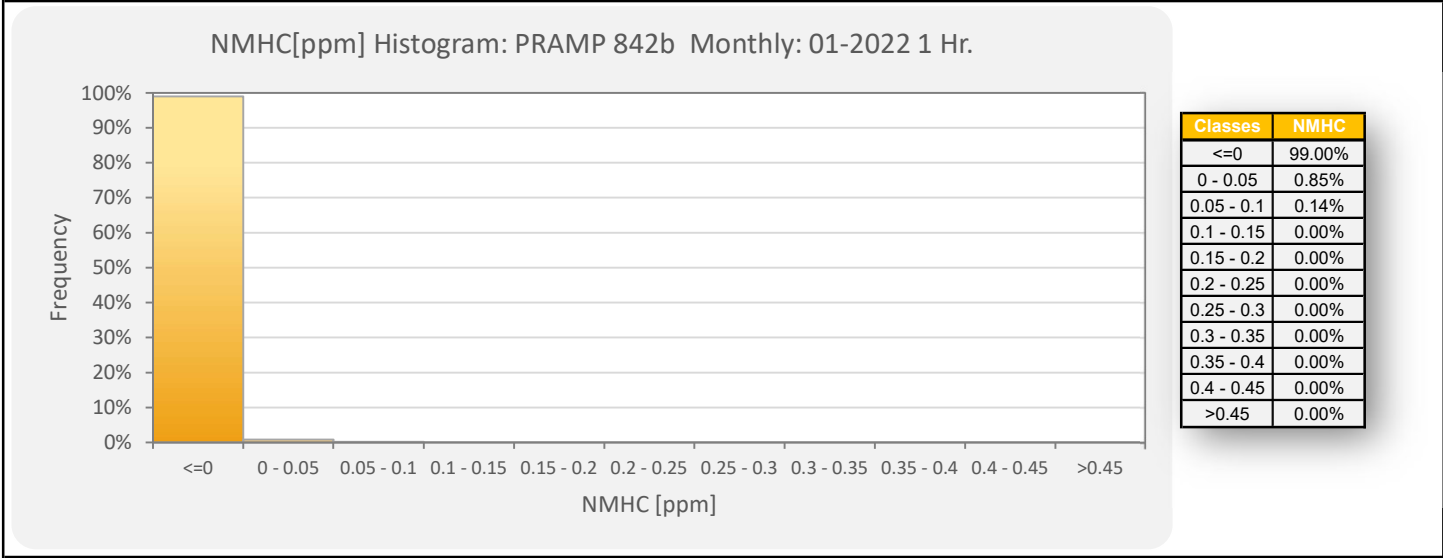
0 5-10

0 10-20

0 >20.0

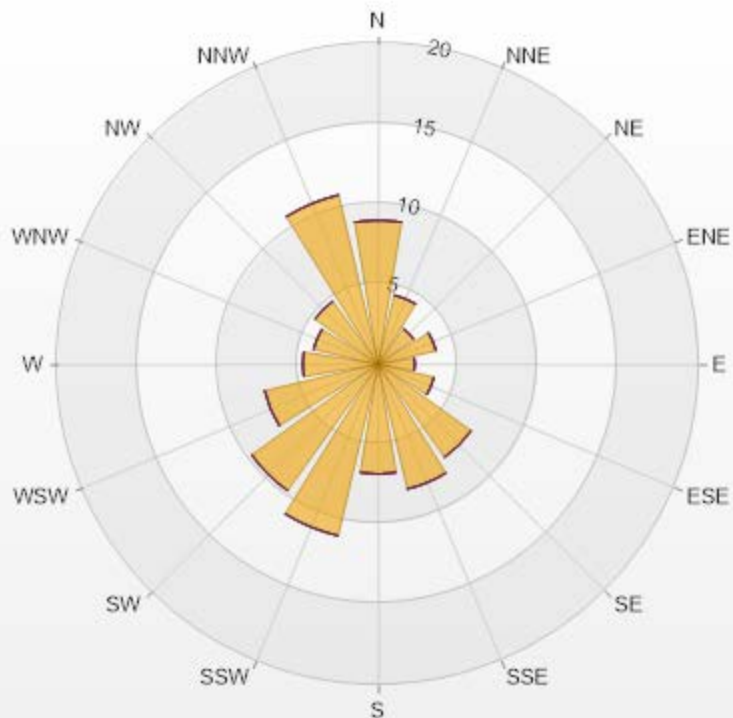
Timeseries Chart of Hourly Average for NMHC - 842b Station





Wind: PRAMP 842b Poll.: PRAMP 842b-NMHC[ppm] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.35% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	8.97	0	0	0	0	8.97
NNE	4.42	0	0	0	0	4.42
NE	2.71	0	0	0	0	2.71
ENE	3.7	0	0	0	0	3.7
E	2.28	0	0	0	0	2.28
ESE	3.56	0	0	0	0	3.56
SE	7.12	0	0	0	0	7.12
SSE	7.98	0	0	0	0	7.98
S	6.84	0	0	0	0	6.84
SSW	10.97	0	0	0	0	10.97
SW	9.69	0	0	0	0	9.69
WSW	7.26	0	0	0	0	7.26
W	4.7	0	0	0	0	4.7
WNW	4.13	0	0	0	0	4.13
NW	4.84	0	0	0	0	4.84
NNW	10.83	0	0	0	0	10.83
Summary	100	0	0	0	0	100



PRAMP-202201

% Icon Classes (ppm)

100 0-0.1

Page 96 of 227

0 0.1-0.3

0 0.3-1

0 1-2

0 >2.0



PEACE RIVER AREA MONITORING PROGRAM

842b Station - January 2022

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

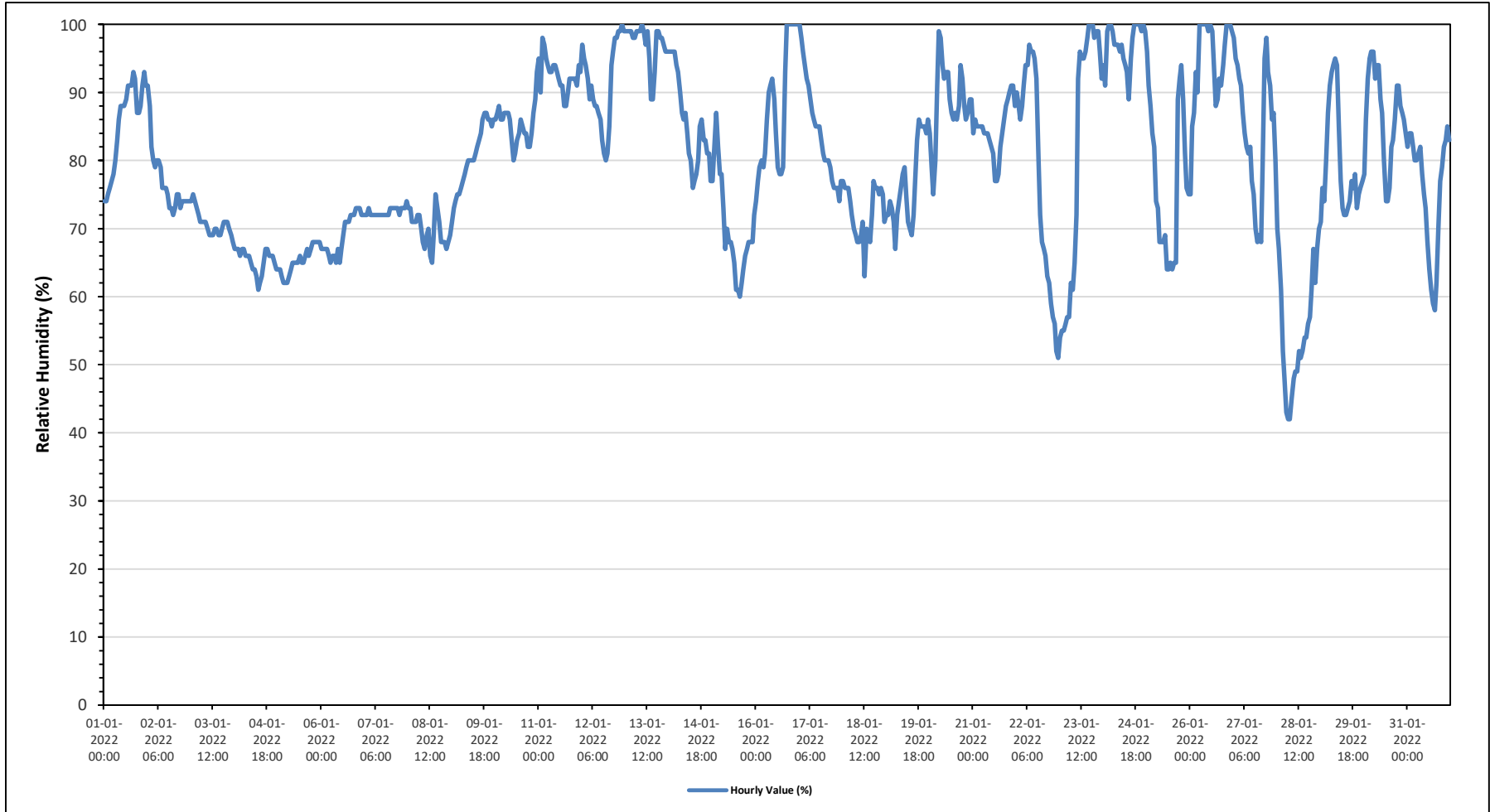
Maximum Hourly Value:	100 %	on January 12 at hour 22	Hours in Service:	744
Maximum Daily Value:	97.2 %	on January 13	Hours of Data:	744
Minimum Hourly Value:	42 %	on January 28 at hour 6	Hours of Missing Data:	0
Minimum Daily Value:	55.0 %	on January 28	Hours of Calibration:	0
Monthly Average:	80.0 %		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
Jan 1	74	74	75	76	77	78	80	83	86	88	88	88	89	91	91	91	93	92	87	87	88	91	93	91	74	93	85.5
Jan 2	91	88	82	80	79	80	80	79	76	76	76	75	73	73	72	73	75	75	73	74	74	74	74	74	72	91	76.9
Jan 3	74	75	74	73	72	71	71	71	71	70	69	69	69	70	70	69	69	70	71	71	71	70	69	68	68	75	70.7
Jan 4	67	67	67	66	67	67	66	66	66	65	64	64	63	61	62	63	65	67	67	66	66	66	65	64	61	67	65.3
Jan 5	64	64	63	62	62	62	63	64	65	65	65	65	66	65	65	66	67	66	67	68	68	68	68	68	62	68	65.3
Jan 6	67	67	67	67	66	65	66	66	65	67	65	67	69	71	71	71	72	72	72	73	73	73	72	72	65	73	69.0
Jan 7	72	72	73	72	72	72	72	72	72	72	72	72	72	72	73	73	73	73	73	72	73	73	73	74	72	74	72.5
Jan 8	73	73	71	71	71	72	72	70	68	67	69	70	66	65	69	75	73	71	68	68	68	67	68	69	65	75	69.8
Jan 9	71	73	74	75	75	76	77	78	79	80	80	80	80	81	82	83	84	86	87	87	86	86	85	86	71	87	80.5
Jan 10	86	87	88	86	86	87	87	87	86	83	80	81	83	84	86	85	84	84	82	82	84	87	89	93	80	93	85.3
Jan 11	95	90	98	97	95	94	93	93	94	94	93	92	91	91	88	88	90	92	92	92	92	91	94	93	88	98	92.6
Jan 12	97	95	94	92	89	91	89	88	88	87	86	83	81	80	81	85	94	96	98	98	99	99	100	99	80	100	91.2
Jan 13	99	99	99	99	98	98	99	99	99	100	99	97	99	95	89	89	93	99	99	98	98	97	96	96	89	100	97.2
Jan 14	96	96	96	96	94	93	90	87	86	87	84	81	80	76	77	78	80	85	86	83	83	81	81	77	76	96	85.5
Jan 15	77	82	87	82	78	78	73	67	70	68	68	67	65	61	61	60	62	64	66	67	68	68	68	72	60	87	70.0
Jan 16	74	77	79	80	79	81	86	90	91	92	89	84	79	78	78	79	93	100	100	100	100	100	100	100	74	100	87.9
Jan 17	100	98	96	94	92	91	89	87	86	85	85	85	83	81	80	80	80	79	77	76	76	76	74	77	74	100	84.5
Jan 18	77	76	76	76	74	72	70	69	68	68	69	71	63	70	69	68	72	77	76	76	75	76	75	71	63	77	72.3
Jan 19	72	72	74	73	71	67	72	74	76	78	79	75	71	70	69	72	78	83	86	85	85	85	84	86	67	86	76.5
Jan 20	84	79	75	80	91	99	98	94	92	93	93	89	87	86	87	86	88	94	92	88	86	87	89	89	75	99	88.6
Jan 21	84	86	85	85	85	85	84	84	84	83	82	81	77	77	78	82	84	86	88	89	90	91	91	88	77	91	84.5
Jan 22	90	88	86	88	91	94	94	97	96	96	95	92	80	72	68	67	66	63	62	59	57	56	52	51	51	97	77.5
Jan 23	54	55	55	56	57	57	62	61	65	72	92	96	95	95	96	98	100	100	100	98	99	99	96	92	54	100	81.3
Jan 24	94	91	99	100	100	99	97	97	97	96	97	95	94	93	89	95	98	100	100	100	100	99	100	99	89	100	97.0
Jan 25	96	91	88	84	82	74	73	68	68	68	69	64	64	65	64	65	65	89	92	94	89	81	76	75	64	96	76.8
Jan 26	75	85	87	93	90	100	100	100	100	100	99	100	99	94	88	89	92	91	94	97	100	100	100	99	75	100	94.7
Jan 27	98	95	94	92	91	87	84	82	81	82	77	75	70	68	69	68	80	95	98	93	91	86	87	80	68	98	84.3
Jan 28	70	67	61	52	48	43	42	42	45	48	49	49	52	51	52	54	54	56	57	61	67	62	67	70	42	70	55.0
Jan 29	71	76	74	80	87	91	93	94	95	94	85	77	73	72	72	73	74	77	76	78	73	75	76	77	71	95	79.7
Jan 30	78	86	92	95	96	96	92	94	94	89	87	80	74	74	76	82	83	86	91	91	88	87	86	84	74	96	86.7
Jan 31	82	84	84	82	80	80	81	82	78	75	73	68	64	61	59	58	62	70	77	79	82	83	85	83	58	85	75.5
Diurnal Maximum	100	99	99	100	100	100	100	100	100	100	99	100	99	95	96	98	100	100	100	100	100	100	100	100	100	100	100
Diurnal Average	80.7	80.9	81.1	80.8	80.5	80.6	80.5	80.2	80.2	80.3	79.9	78.5	76.5	75.6	75.2	76.3	78.8	81.9	82.4	82.3	82.2	81.7	81.7	81.2			

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

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

Timeseries Chart of Hourly Average for RH - 842b Station





PEACE RIVER AREA MONITORING PROGRAM

842b Station - January 2022

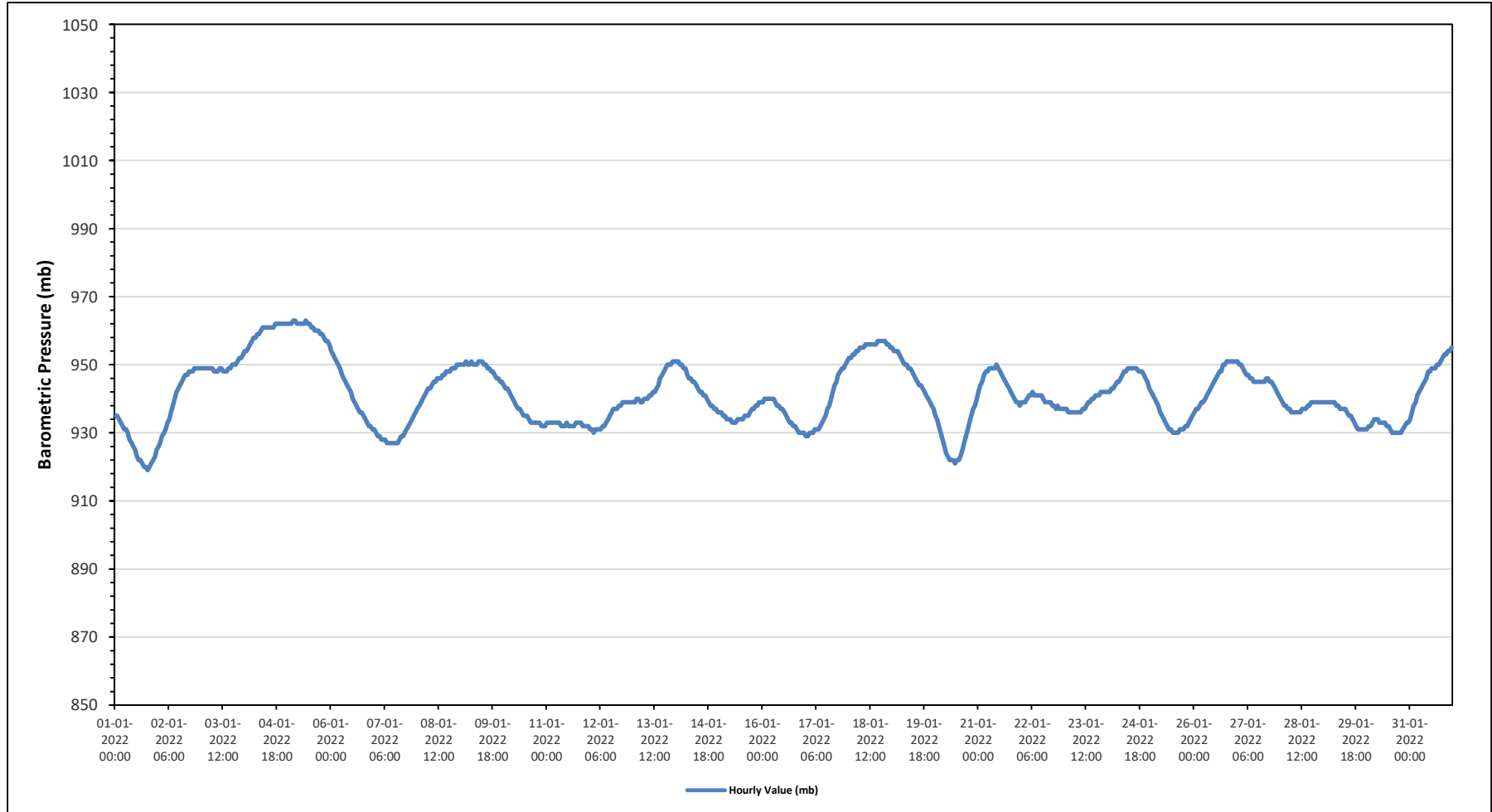
Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

Maximum Hourly Value:	963 mb on January 5 at hour 3	Hours in Service:	744
Maximum Daily Value:	961 mb on January 5	Hours of Data:	744
Minimum Hourly Value:	919 mb on January 1 at hour 18	Hours of Missing Data:	0
Minimum Daily Value:	926 mb on January 1	Hours of Calibration:	0
Monthly Average:	941 mb	Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Jan 1	935	935	934	933	932	931	931	930	928	927	926	925	923	922	922	921	920	920	919	920	921	922	923	925	919	935	926.0	
Jan 2	926	927	929	930	931	933	934	936	938	940	942	943	944	945	946	947	947	948	948	948	949	949	949	949	926	949	940.8	
Jan 3	949	949	949	949	949	949	949	948	948	948	949	949	948	948	948	949	949	950	950	950	951	952	952	953	948	953	949.4	
Jan 4	954	954	955	956	957	958	958	959	959	960	961	961	961	961	961	961	961	962	962	962	962	962	962	962	954	962	959.6	
Jan 5	962	962	962	963	963	962	962	962	962	962	962	963	962	962	961	961	960	960	960	959	959	958	957	957	956	956	963	960.7
Jan 6	954	953	952	951	950	949	947	946	945	944	943	942	940	939	938	937	936	936	935	934	933	932	932	931	931	954	941.6	
Jan 7	931	930	929	929	928	928	928	927	927	927	927	927	927	927	928	929	929	930	931	932	933	934	935	936	927	936	929.5	
Jan 8	937	938	939	940	941	942	943	943	944	945	945	946	946	946	947	947	948	948	948	949	949	949	950	950	937	950	945.0	
Jan 9	950	950	950	951	950	950	951	950	950	950	951	951	951	950	950	949	949	948	948	948	947	946	946	945	945	945	949.1	
Jan 10	944	943	943	942	941	940	939	938	937	937	936	935	935	935	934	933	933	933	933	933	933	933	932	932	932	932	936.4	
Jan 11	933	933	933	933	933	933	933	933	932	932	932	933	932	932	932	932	933	933	933	933	932	932	932	932	932	932	932.5	
Jan 12	931	931	930	931	931	931	931	932	932	933	934	935	936	937	937	937	938	938	939	939	939	939	939	939	930	939	935.0	
Jan 13	939	939	940	940	939	939	940	940	940	941	941	942	942	943	944	946	947	948	949	950	950	950	951	951	939	951	943.8	
Jan 14	951	951	950	950	949	949	947	946	946	945	945	944	943	942	942	941	941	940	939	938	938	937	937	936	936	951	943.6	
Jan 15	936	936	935	935	934	934	934	933	933	933	934	934	934	934	935	935	935	936	937	937	938	938	939	939	933	939	935.3	
Jan 16	939	940	940	940	940	940	940	939	938	938	937	937	936	935	934	933	933	932	932	931	930	930	930	930	930	940	935.6	
Jan 17	929	929	930	930	930	931	931	931	932	933	934	935	937	938	940	942	944	945	947	948	949	949	950	951	929	951	938.1	
Jan 18	952	952	953	953	954	954	955	955	955	956	956	956	956	956	956	957	957	957	957	957	957	956	956	955	952	957	955.3	
Jan 19	955	954	954	954	953	952	951	950	950	949	949	948	947	946	945	944	944	943	942	941	940	939	938	937	937	955	946.9	
Jan 20	935	934	932	930	928	926	924	923	922	922	922	921	922	922	923	925	927	929	931	933	935	937	938	940	921	940	928.4	
Jan 21	942	944	945	947	948	948	949	949	949	949	950	949	948	947	946	945	944	943	942	941	940	939	939	938	938	950	945.0	
Jan 22	939	939	939	940	941	941	942	941	941	941	941	941	940	939	939	939	939	938	938	937	937	937	937	937	937	942	939.3	
Jan 23	937	937	936	936	936	936	936	936	936	936	937	937	938	939	939	940	940	941	941	941	942	942	942	942	936	942	938.5	
Jan 24	942	942	943	943	944	945	945	946	947	948	948	949	949	949	949	949	949	948	948	948	947	946	945	943	942	949	946.3	
Jan 25	942	941	940	939	938	936	935	934	933	932	931	931	930	930	930	930	931	931	931	932	932	933	934	935	930	942	933.8	
Jan 26	936	937	937	938	939	939	940	941	942	943	944	945	946	947	948	948	950	950	951	951	951	951	951	951	936	951	944.8	
Jan 27	951	950	950	949	948	947	947	946	946	945	945	945	945	945	945	946	946	945	945	944	943	942	941	941	941	951	945.9	
Jan 28	940	939	938	938	937	937	936	936	936	936	936	936	937	937	937	938	938	939	939	939	939	939	939	939	936	940	937.7	
Jan 29	939	939	939	939	939	939	939	938	938	937	937	937	937	936	935	935	934	933	932	931	931	931	931	931	931	939	935.7	
Jan 30	931	932	932	933	934	934	934	933	933	933	933	932	932	931	930	930	930	930	930	930	931	932	933	933	930	934	931.9	
Jan 31	934	936	938	939	941	942	943	944	945	946	948	948	949	949	950	950	951	952	953	953	954	954	955	934	955	946.8		
Diurnal Maximum	962	962	962	963	963	962	962	962	962	962	963	962	962	961	961	961	961	962	962	962	962	962	962	962	962	962	962	
Diurnal Average	941	941	941	941	941	941	941	941	941	941	941	941	941	941	941	941	941	941	942	942	942	942	942	942	942	942	942	
C	Monthly Calibration						S	Daily Zero-Span Check						Q	Quality Assurance													
K	Collection Error						N	No Data (Machine Not in Service)						Y	Routine Maintenance													
X	Invalid Data (Equipment Malfunction /Recovery)						NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)						P	Power Failure													
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.																												
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																												

Timeseries Chart of Hourly Average for BP - 842b Station





PEACE RIVER AREA MONITORING PROGRAM

842b Station - January 2022

Summary of Hourly Averages

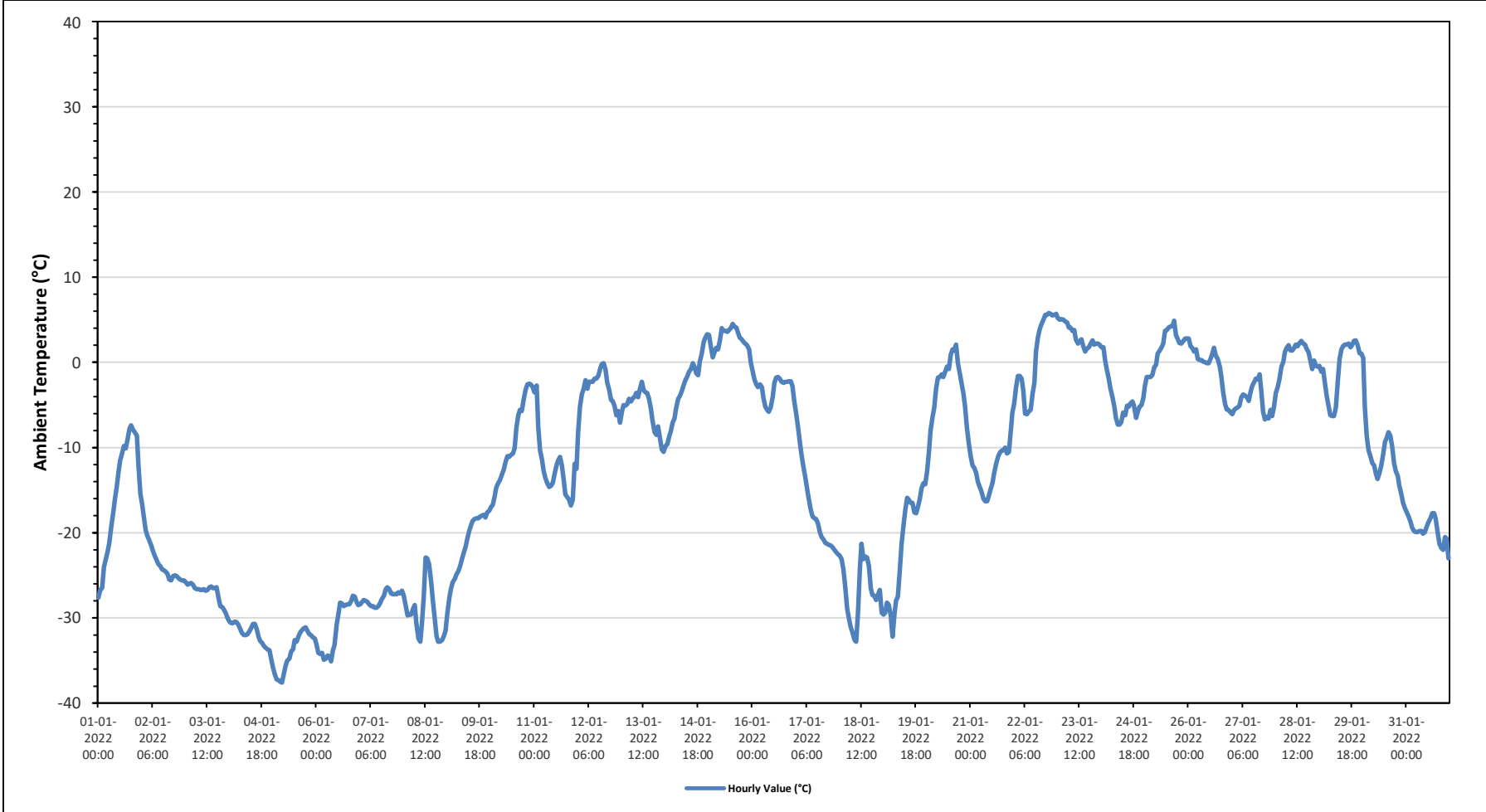
AMBIENT TEMPERATURE (AT) in Degree Celsius

Maximum Hourly Value:	5.8 °C	on January 22 at hour 19	Hours in Service:	744
Maximum Daily Value:	3.2 °C	on January 23	Hours of Data:	744
Minimum Hourly Value:	-37.6 °C	on January 5 at hour 5	Hours of Missing Data:	0
Minimum Daily Value:	-33.9 °C	on January 5	Hours of Calibration:	0
Monthly Average:	-12.6 °C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average																	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23																
Jan 1	-27.6	-26.7	-26.5	-24	-23.1	-22.2	-21.2	-19.4	-17.6	-16.1	-14.6	-12.8	-11.5	-10.7	-9.8	-10.1	-9	-7.8	-7.4	-7.9	-8.2	-8.6	-12.2	-15.4	-27.6	-7.4	-15.4																
Jan 2	-16.7	-18.1	-19.7	-20.4	-20.9	-21.5	-22.2	-22.7	-23.2	-23.7	-23.9	-24.3	-24.4	-24.6	-24.8	-25.5	-25.6	-25.1	-25	-25.1	-25.3	-25.5	-25.6	-25.6	-25.6	-16.7	-23.3																
Jan 3	-25.8	-26.1	-26	-25.9	-26.1	-26.5	-26.6	-26.6	-26.7	-26.7	-26.6	-26.8	-26.7	-26.4	-26.3	-26.5	-26.5	-26.4	-27.6	-28.6	-28.7	-29	-29.4	-30	-30.0	-25.8	-27.0																
Jan 4	-30.4	-30.6	-30.6	-30.4	-30.5	-30.8	-31.3	-31.8	-32	-32	-31.9	-31.6	-31.2	-30.7	-30.7	-31.3	-32.2	-32.7	-32.9	-33.3	-33.5	-33.7	-33.8	-34.7	-34.7	-30.4	-31.9																
Jan 5	-35.8	-36.6	-37.2	-37.3	-37.5	-37.6	-36.6	-35.6	-35	-34.8	-33.9	-33.7	-32.6	-32.8	-32.2	-31.7	-31.4	-31.2	-31.1	-31.5	-31.9	-32	-32.3	-32.4	-37.6	-31.1	-33.9																
Jan 6	-33.1	-34.1	-34.2	-34.1	-34.9	-34.8	-34.4	-34.5	-35.1	-33.8	-33.2	-30.8	-29.5	-28.2	-28.3	-28.6	-28.5	-28.4	-28.4	-28	-27.4	-27.5	-28.1	-28.5	-35.1	-27.4	-31.1																
Jan 7	-28.4	-28.1	-27.9	-28	-28.1	-28.4	-28.6	-28.6	-28.8	-28.8	-28.6	-28.3	-27.8	-27.4	-26.6	-26.4	-26.6	-27.1	-27.2	-27.2	-27.2	-27	-27.1	-26.8	-28.8	-26.4	-27.7																
Jan 8	-27.3	-28.4	-29.7	-29.6	-29.6	-29	-28.5	-30.6	-32.4	-32.8	-30.7	-27.5	-22.9	-23	-23.7	-25.8	-27.9	-30	-32.1	-32.8	-32.8	-32.6	-32.1	-31.5	-32.8	-22.9	-29.3																
Jan 9	-29.4	-27.7	-26.6	-25.8	-25.4	-24.9	-24.5	-23.9	-23.2	-22.4	-21.6	-20.7	-19.8	-19.1	-18.6	-18.4	-18.3	-18.3	-18.1	-18	-17.9	-18.2	-17.6	-17.4	-29.4	-17.4	-21.5																
Jan 10	-17	-16.7	-15.7	-14.7	-14.2	-13.8	-13.2	-12.6	-11.7	-11	-11.1	-10.9	-10.7	-10.1	-7.6	-6.2	-5.6	-5.7	-4.4	-3.3	-2.6	-2.5	-2.6	-2.9	-17.0	-2.5	-9.5																
Jan 11	-3.5	-2.7	-7.6	-10.4	-11.4	-12.7	-13.6	-14.2	-14.6	-14.5	-14.1	-13.2	-12.2	-11.5	-11.1	-12.1	-13.8	-15.5	-15.8	-16.1	-16.8	-16.1	-11.9	-12.5	-16.8	-2.7	-12.4																
Jan 12	-8.3	-5.2	-3.8	-3.1	-2.1	-3.1	-2.3	-2.3	-2.3	-4.3	-1.9	-1.9	-1.6	-0.8	-0.2	-0.1	-0.8	-2.4	-3.2	-4.4	-4.5	-5.1	-6.2	-5.7	-7.1	-8.3	-0.1	-3.3															
Jan 13	-5.8	-5	-5.1	-4.9	-4.3	-4.6	-4.2	-4	-3.6	-4.1	-3.1	-2.3	-3.3	-3.5	-3.6	-4.3	-5.4	-6.8	-8.2	-8.5	-7.5	-8.8	-10.2	-10.5	-10.5	-2.3	-5.5																
Jan 14	-9.8	-9.6	-8.7	-8.1	-7.1	-6.6	-5.4	-4.3	-3.9	-3.4	-2.7	-2.1	-1.7	-1.1	-0.8	-0.1	-0.5	-1.3	-1.5	0	1.1	2.4	2.9	3.3	-9.8	3.3	-2.9																
Jan 15	3.2	2	0.6	1.2	1.7	1.5	2.6	4	3.7	3.7	3.6	3.8	4	4.5	4.2	4.1	3.4	2.9	2.7	2.4	2.2	2	1.5	0	0	4.5	2.7																
Jan 16	-1	-2	-2.6	-2.9	-2.6	-2.9	-4.2	-5.2	-5.6	-5.8	-5.3	-4	-2.4	-1.8	-1.7	-1.9	-2.3	-2.4	-2.3	-2.3	-2.2	-2.2	-2.8	-4.6	-5.8	-1.0	-3.0																
Jan 17	-6.2	-7.6	-9.4	-11	-12.2	-13.4	-15	-16.1	-17.3	-18.1	-18.3	-18.4	-18.9	-20	-20.5	-20.8	-21.2	-21.3	-21.4	-21.5	-21.7	-22	-22.3	-22.5	-22.5	-6.2	-17.4																
Jan 18	-22.7	-23.1	-24.3	-26.4	-28.9	-30.1	-31	-31.7	-32.6	-32.8	-29.3	-24.2	-21.3	-23.1	-22.8	-22.9	-23.9	-26.5	-27.3	-27.4	-27.9	-27.2	-26.7	-29.4	-32.8	-21.3	-26.8																
Jan 19	-29.6	-29.4	-28.2	-28.5	-29.7	-32.2	-29.6	-28	-27.5	-24.5	-21.3	-19.2	-17.3	-15.9	-16.1	-16.5	-16.5	-17.6	-17.7	-16.9	-16.1	-14.8	-14.2	-14.3	-32.2	-14.2	-21.7																
Jan 20	-12.8	-10.5	-8	-6.5	-5.3	-3	-1.8	-1.7	-1.4	-1.7	-1.1	-0.5	-0.8	0.9	1.5	1.4	2.1	-0.1	-1.3	-2.5	-3.7	-5.2	-7.7	-9.5	-12.8	2.1	-3.3																
Jan 21	-11	-12.1	-12.4	-13	-14	-14.6	-15.2	-16	-16.3	-16.3	-15.7	-14.9	-14.2	-12.9	-11.9	-11.1	-10.6	-10.4	-10.3	-10	-10.7	-10.5	-8.1	-5.9	-16.3	-5.9	-12.4																
Jan 22	-4.8	-2.9	-1.6	-1.6	-1.9	-3.3	-6	-6.1	-5.8	-5.6	-3.7	-2.4	1.3	2.9	3.9	4.5	5	5.6	5.6	5.8	5.7	5.5	5.6	5.7	-6.1	5.8	0.5																
Jan 23	5.2	5	5.1	5	4.8	4.7	4.1	4.1	3.7	3.8	2.7	2.2	2.5	2.7	1.9	1.3	1.6	1.8	2.2	2.6	2.1	2.2	2.2	2.1	1.3	5.2	3.2																
Jan 24	1.8	1.8	0.3	-0.9	-1.9	-3	-4.1	-5.2	-6.5	-7.3	-7.3	-7	-5.9	-6.2	-5.1	-5.2	-4.8	-4.6	-5.1	-6.5	-5.7	-5.2	-5	-4.2	-7.3	1.8	-4.3																
Jan 25	-2.8	-1.7	-1.7	-1.7	-1.5	-0.6	-0.3	1	1.4	1.8	2.2	3.7	3.8	4.1	4.2	4.3	4.9	3.2	2.7	2.3	2.2	2.5	2.8	2.8	-2.8	4.9	1.7																
Jan 26	2.8	1.9	1.7	1.3	1.5	0.4	0.3	0.3	0.1	0	-0.1	-0.1	0.4	1	1.7	0.8	0.4	-0.5	-1.7	-3.6	-4.9	-5.5	-5.6	-5.9	-5.9	2.8	-0.6																
Jan 27	-6.1	-5.6	-5.4	-5.3	-5.1	-4.1	-3.8	-3.9	-4.1	-4.5	-3.6	-2.8	-2.3	-1.9	-2	-1.4	-3.3	-5.8	-6.7	-6.4	-6.6	-6.3	-5.2	-6.7	-1.4	-4.5																	
Jan 28	-3.6	-2.9	-1.9	-0.5	0	1.2	1.7	2	1.4	1.4	1.7	2.1	1.9	2.3	2.5	2.2	2.1	1.6	1.2	0.2	-0.8	0.2	-0.4	-0.5	-3.6	2.5	0.6																
Jan 29	-0.4	-1.1	-0.8	-2.5	-4	-5.2	-6.2	-6.3	-6.3	-5.3	-2.3	0.4	1.5	1.9	2.1	2.1	2.2	1.8	2.1	2.5	2.6	2	1.1	1	-6.3	2.6	-0.7																
Jan 30	0.5	-5.2	-8.6	-10.3	-11	-11.8	-12.1	-13.1	-13.7	-13	-12.1	-10.8	-9.3	-8.8	-8.2	-8.6	-9.9	-11.8	-12.8	-13.3	-14.5	-15.4	-16.5	-17.1	-17.1	0.5	-11.1																
Jan 31	-17.6	-18.1	-18.7	-19.4	-19.8	-19.9	-19.9	-19.8	-19.8	-20.1	-19.9	-19.3	-18.8	-18.3	-17.7	-18.4	-19.9	-21.3	-21.8	-22	-20.5	-20.7	-23	-23.0	-17.6	-19.7																	
Diurnal Maximum	5.2	5.0	5.1	5.0	4.8	4.7	4.1	4.1	3.7	3.8	3.6	3.8	4.0	4.5	4.2	4.5	5.0	5.6	5.6	5.8	5.7	5.5	5.6	5.7																			
Diurnal Average	-13.0	-13.1	-13.4	-13.5	-13.7	-14.0	-14.0	-14.0	-14.1	-13.9	-13.2	-12.2	-11.3	-10.9	-10.6	-10.7	-11.1	-11.7	-12.1	-12.3	-12.4	-12.4	-12.5	-13.0																			
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 AT - 842b Station





PEACE RIVER AREA MONITORING PROGRAM

842b Station - January 2022

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

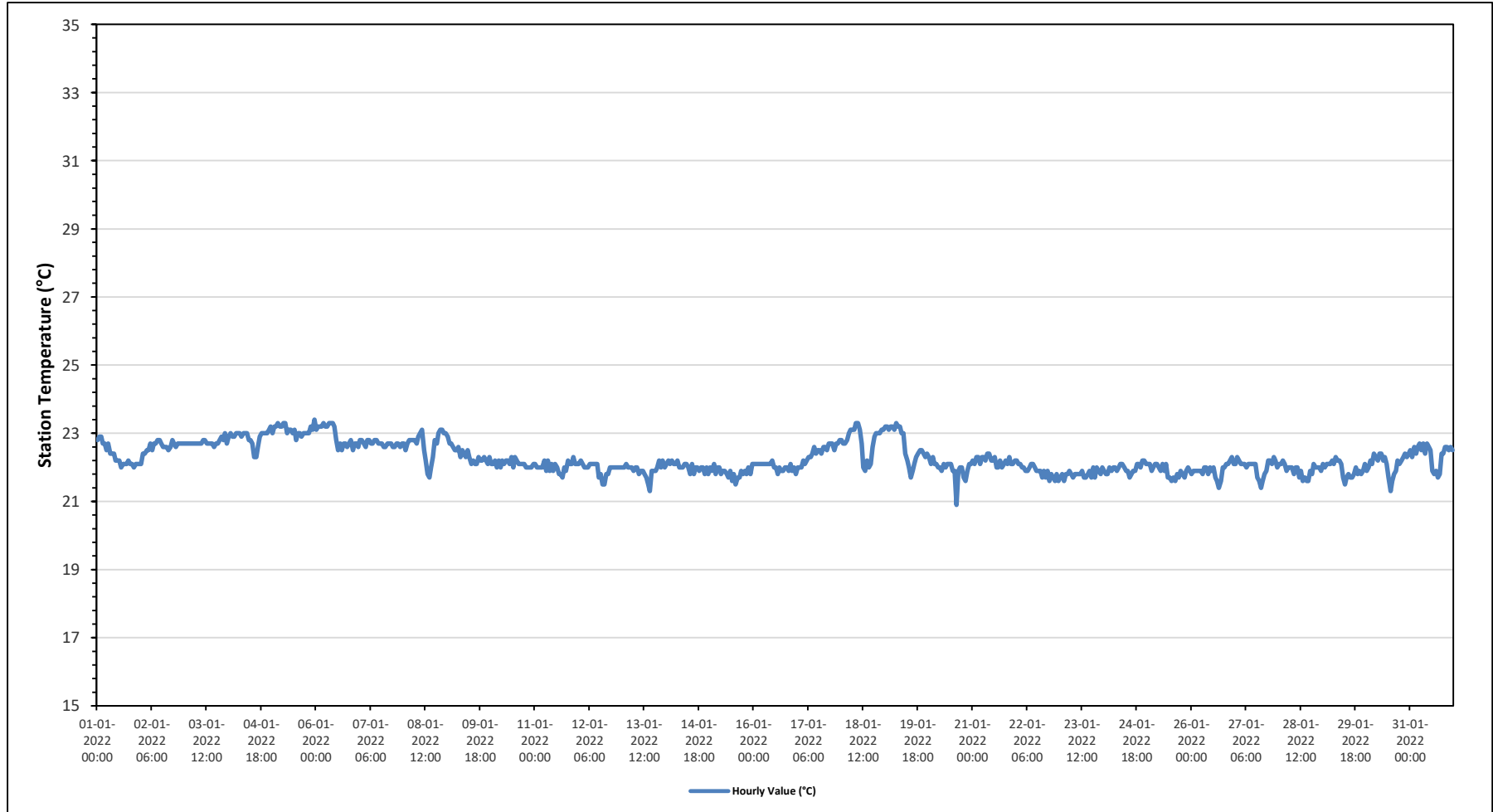
Maximum Hourly Value:	23.4 °C	on January 5 at hour 23	Hours in Service:	744
Maximum Daily Value:	23.1 °C	on January 5	Hours of Data:	744
Minimum Hourly Value:	20.9 °C	on January 20 at hour 15	Hours of Missing Data:	0
Minimum Daily Value:	21.8 °C	on January 23	Hours of Calibration:	0
Monthly Average:	22.3 °C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Jan 1	22.8	22.9	22.9	22.7	22.7	22.5	22.7	22.4	22.4	22.2	22.2	22.2	22.0	22.1	22.1	22.2	22.1	22.1	22.0	22.1	22.1	22.1	22.1	22.1	22.0	22.9	22.3
Jan 2	22.1	22.4	22.4	22.5	22.5	22.7	22.5	22.7	22.7	22.8	22.8	22.7	22.6	22.6	22.6	22.5	22.6	22.8	22.7	22.6	22.7	22.7	22.7	22.7	22.1	22.8	22.6
Jan 3	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.8	22.8	22.7	22.7	22.7	22.7	22.6	22.7	22.7	22.8	22.9	22.8	23.0	22.7	22.6	23.0	22.7
Jan 4	22.9	23.0	22.9	22.9	23.0	23.0	23.0	22.9	23.0	23.0	23.0	22.8	22.8	22.7	22.3	22.3	22.6	22.9	23.0	23.0	23.0	23.0	23.0	23.1	23.2	22.3	22.9
Jan 5	23.0	23.2	23.2	23.3	23.2	23.2	23.3	23.3	23.0	23.1	23.1	23.0	23.1	22.8	23.0	23.0	22.9	23.0	23.0	23.0	23.0	23.2	23.1	23.4	22.8	23.4	23.1
Jan 6	23.1	23.2	23.2	23.2	23.3	23.2	23.2	23.3	23.3	23.3	23.2	22.8	22.5	22.7	22.5	22.7	22.6	22.7	22.8	22.5	22.7	22.7	22.6	22.6	22.5	23.3	22.9
Jan 7	22.8	22.8	22.7	22.6	22.8	22.8	22.7	22.7	22.8	22.8	22.7	22.7	22.6	22.6	22.7	22.7	22.7	22.6	22.6	22.7	22.7	22.6	22.7	22.6	22.6	22.8	22.7
Jan 8	22.7	22.5	22.7	22.8	22.8	22.8	22.8	22.7	22.9	23.0	23.1	22.5	22.2	21.8	21.7	22.0	22.3	22.8	22.7	23.0	23.1	23.1	23.0	23.0	21.7	23.1	22.7
Jan 9	22.9	22.7	22.7	22.6	22.5	22.5	22.6	22.3	22.5	22.4	22.3	22.5	22.3	22.1	22.2	22.1	22.3	22.2	22.2	23.1	23.1	22.2	22.1	22.3	22.1	22.9	22.4
Jan 10	22.1	22.1	22.2	22.0	22.2	22.0	22.2	22.1	22.2	22.2	22.1	22.3	22.0	22.3	22.2	22.1	22.1	22.1	22.1	22.0	22.0	22.0	22.0	22.1	22.0	22.3	22.1
Jan 11	22.1	22.0	22.0	22.0	22.0	22.2	21.9	22.2	21.9	22.1	21.9	22.1	22.0	21.8	21.8	21.7	22.0	21.9	22.2	22.1	22.1	22.3	22.1	22.1	21.7	22.3	22.0
Jan 12	22.1	22.2	22.1	22.0	22.0	22.0	22.1	22.1	22.1	22.1	22.1	22.1	21.7	21.8	21.5	21.5	21.8	22.0	22.0	22.0	22.0	22.0	22.0	22.0	21.5	22.2	22.0
Jan 13	22.0	22.0	22.1	22.0	22.0	22.0	21.9	22.0	22.0	21.8	21.9	21.9	21.8	21.7	21.5	21.3	21.9	21.9	21.9	22.0	22.2	22.0	22.2	22.0	21.3	22.2	21.9
Jan 14	22.1	22.2	22.1	22.2	22.1	22.1	22.2	22.0	22.0	22.1	22.1	22.1	22.0	21.8	22.1	21.8	22.0	22.0	21.9	22.0	22.0	21.8	22.0	21.8	21.8	22.2	22.0
Jan 15	22.0	21.9	22.1	21.8	22.0	22.0	21.8	21.9	21.9	21.8	21.7	21.9	21.6	21.8	21.5	21.7	21.7	21.9	21.8	21.9	21.8	21.9	21.8	21.8	22.1	21.5	22.1
Jan 16	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.2	22.0	22.0	21.8	22.0	21.9	21.9	22.0	22.0	21.9	22.1	21.9	22.0	21.8	22.2	22.0
Jan 17	22.0	22.0	22.0	22.2	22.1	22.2	22.3	22.3	22.4	22.6	22.4	22.5	22.5	22.4	22.6	22.6	22.5	22.7	22.7	22.7	22.5	22.7	22.7	22.8	22.0	22.8	22.4
Jan 18	22.8	22.7	22.7	22.8	23.0	23.1	23.1	23.1	23.3	23.3	23.1	22.7	22.0	21.9	22.2	22.0	22.1	22.6	22.9	23.0	23.0	23.0	23.1	23.1	21.9	23.3	22.8
Jan 19	23.2	23.2	23.1	23.2	23.2	23.1	23.3	23.2	23.2	23.0	23.0	22.4	22.2	22.0	21.7	21.9	22.1	22.3	22.4	22.5	22.5	22.4	22.3	22.4	21.7	23.3	22.7
Jan 20	22.3	22.1	22.3	22.1	22.1	22.0	22.0	21.9	22.1	22.0	22.1	22.1	22.1	21.9	21.9	20.9	21.9	22.0	22.0	21.7	21.6	21.9	22.1	22.1	20.9	22.3	22.0
Jan 21	22.2	22.1	22.3	22.3	22.1	22.3	22.3	22.2	22.4	22.4	22.2	22.2	22.3	22.0	22.0	22.2	22.0	22.1	22.2	22.1	22.3	22.1	22.1	22.2	22.0	22.4	22.2
Jan 22	22.2	22.1	22.1	22.0	22.0	21.9	21.9	22.0	22.1	22.1	22.0	21.9	21.9	21.9	21.7	21.9	21.7	21.9	21.6	21.8	21.7	21.6	21.8	21.6	21.6	22.2	21.9
Jan 23	21.7	21.8	21.6	21.8	21.8	21.9	21.8	21.7	21.8	21.8	21.8	21.8	21.9	21.7	21.7	21.8	21.9	21.7	22.0	21.7	22.0	21.9	21.8	22.0	21.6	22.0	21.8
Jan 24	21.9	21.8	21.8	22.0	21.9	22.0	22.0	21.9	22.0	22.1	22.1	22.0	21.9	21.9	21.7	21.8	21.9	21.9	22.1	22.1	22.0	22.2	22.2	22.1	21.7	22.2	22.0
Jan 25	22.1	22.1	21.9	22.0	22.1	22.1	22.0	21.9	22.1	21.9	22.1	21.9	21.7	21.7	21.6	21.7	21.6	21.8	21.7	21.9	21.8	21.7	21.9	22.0	21.6	22.1	21.9
Jan 26	21.8	21.9	21.9	21.9	21.9	21.9	21.8	22.0	22.0	21.8	22.0	21.9	22.0	21.7	21.6	21.4	21.6	22.0	22.0	22.1	22.1	22.2	22.3	22.1	21.4	22.3	21.9
Jan 27	22.1	22.3	22.2	22.1	22.1	22.1	22.0	22.1	22.1	22.1	22.1	22.1	21.7	21.6	21.4	21.6	21.8	21.9	22.2	22.2	22.1	22.3	22.2	22.0	21.4	22.3	22.0
Jan 28	22.1	22.1	22.2	22.1	21.9	22.0	22.0	22.0	21.8	22.0	22.0	21.7	21.9	21.6	21.7	21.6	21.6	21.9	21.8	22.1	22.0	22.0	22.0	21.9	21.6	22.2	21.9
Jan 29	22.1	22.0	22.1	22.1	22.1	22.2	22.1	22.3	22.2	22.2	22.1	21.7	21.5	21.7	21.8	21.7	21.7	21.8	22.0	21.8	21.9	21.8	21.9	22.1	21.5	22.3	22.0
Jan 30	21.9	22.0	22.2	22.1	22.4	22.3	22.2	22.4	22.4	22.2	22.3	22.1	21.7	21.3	21.6	21.8	21.9	22.2	22.1	22.2	22.3	22.4	22.3	22.4	21.3	22.4	22.1
Jan 31	22.5	22.3	22.6	22.4	22.6	22.7	22.5	22.7	22.4	22.7	22.6	22.5	21.9	21.8	21.9	21.7	21.8	22.4	22.4	22.6	22.5	22.6	22.5	22.6	22.5	22.7	22.4
Diurnal Maximum	23.2	23.2	23.2	23.3	23.3	23.2	23.3	23.3	23.3	23.3	23.2	23.0	23.1	22.8	23.0	23.0	22.9	23.0	23.0	23.0	23.1	23.2	23.1	23.4			
Diurnal Average	22.3	22.3	22.4	22.3	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.2	22.1	22.0	22.0	22.0	22.1	22.2	22.3	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
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is 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 - January 2022

Summary of Hourly Averages

PRECIPITATION in mm

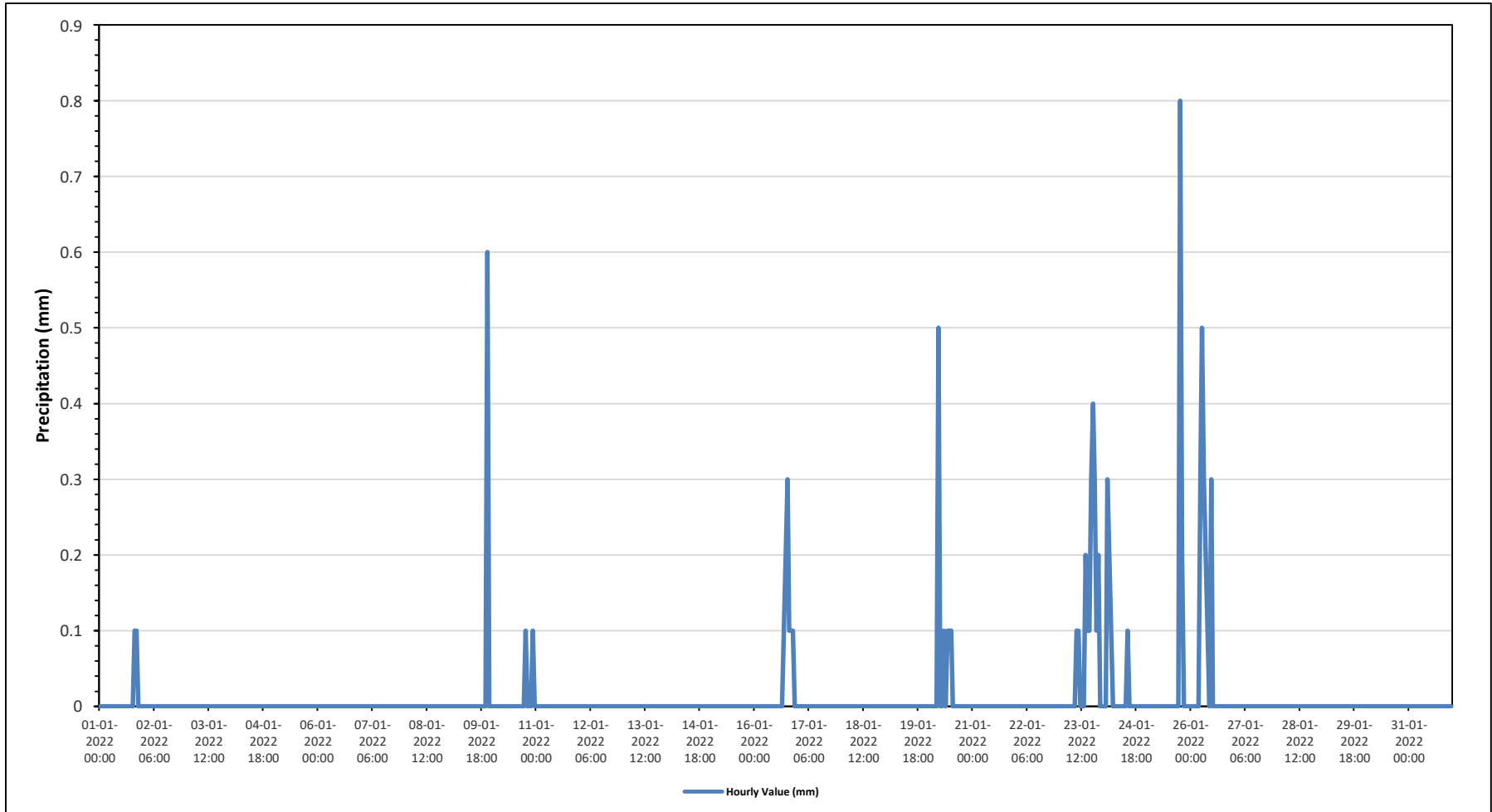
Maximum Hourly Value:	0.8 mm on January 25 at hour 18	Hours in Service:	744
Maximum Daily Value:	1.9 mm on January 23	Hours of Data:	744
Minimum Hourly Value:	0.0 mm on January 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.0 mm on January 2	Hours of Calibration:	0
Monthly Total:	8.1 mm	Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Total		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Jan 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0	0	0	0.0	0.1	0.2	
Jan 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	0	0	0.0	0.6	0.6
Jan 10	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	0.0	0.1	0.2
Jan 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	0.3	0.1	0.1	0.1	0	0	0	0.0	0.3	0.9
Jan 17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 20	0	0	0	0	0	0.5	0	0	0.1	0	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.5	0.9
Jan 21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 23	0	0	0	0	0	0	0	0	0	0.1	0.1	0	0	0	0.2	0.1	0.1	0.3	0.4	0.3	0.1	0.2	0	0	0	0.0	0.4	1.9
Jan 24	0	0	0.3	0.2	0.1	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0.0	0.3	0.7
Jan 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	0.2	0	0	0	0	0.0	0.8	1.0
Jan 26	0	0	0	0	0	0.3	0.5	0.3	0.2	0.1	0	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.5	1.7
Jan 27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Jan 31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Diurnal Maximum	0.0	0.0	0.3	0.2	0.1	0.5	0.5	0.3	0.2	0.1	0.1	0.3	0.1	0.1	0.2	0.1	0.1	0.3	0.8	0.3	0.1	0.6	0.1	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	0.1	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
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is 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





PEACE RIVER AREA MONITORING PROGRAM

842b Station - January 2022

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

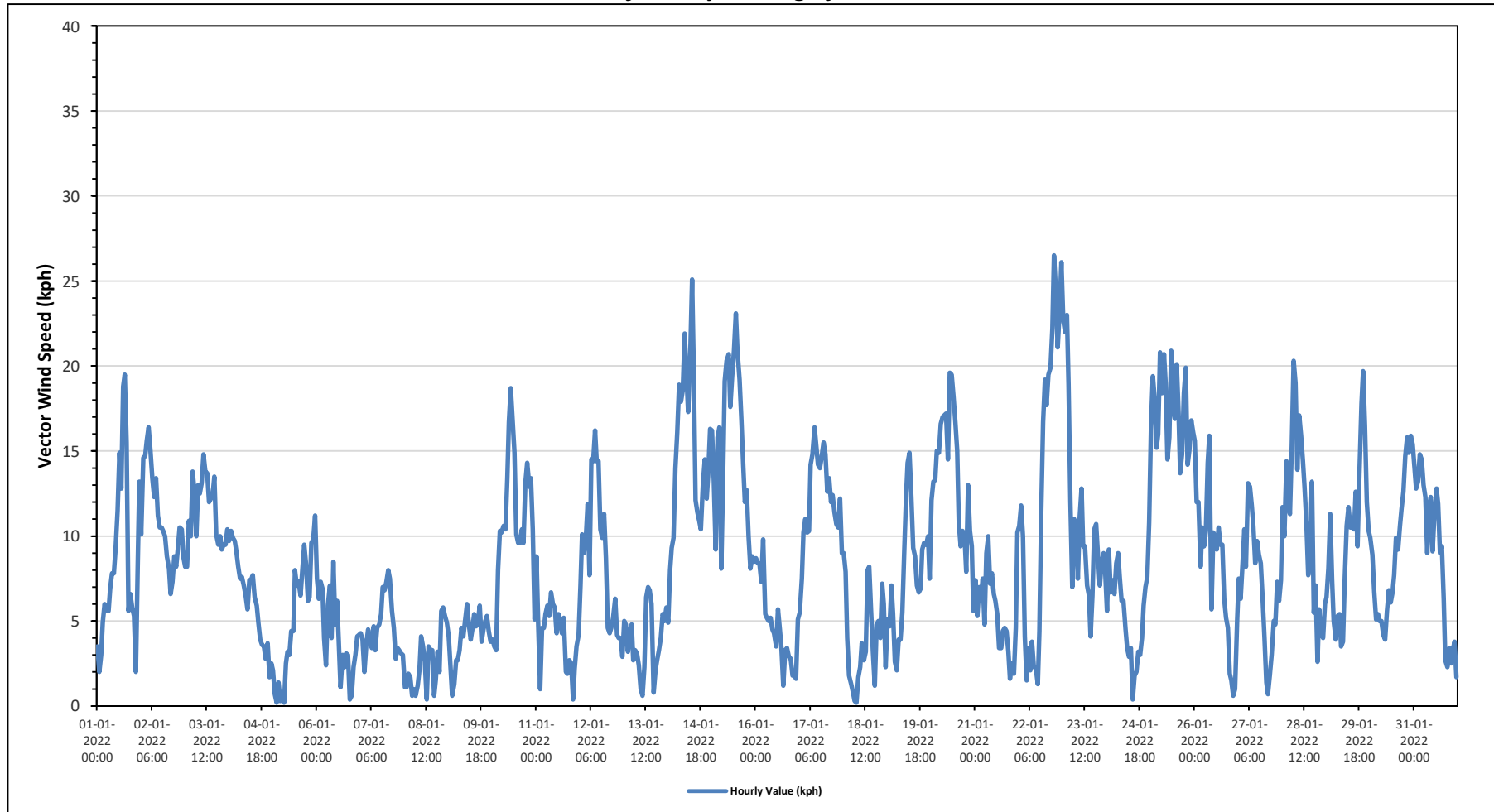
Maximum Hourly Value:	26.5 kph on January 22 at hour 19	Hours in Service:	744
Maximum Daily Value:	14.0 kph on January 14	Hours of Data:	744
Minimum Hourly Value:	0.2 kph on January 5 at hour 2	Hours of Missing Data:	0
Minimum Daily Value:	0.8 kph on January 8	Hours of Calibration:	0
Monthly Average:	2.3 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
Jan 1	3.5	2.0	3.0	4.9	6.0	5.6	5.6	6.9	7.8	7.8	9.4	11.5	14.9	12.8	18.8	19.5	15.5	5.6	6.6	5.8	5.3	2.0	8.3	13.2	2.0	19.5	6.1
Jan 2	10.1	14.6	14.7	15.6	16.4	15.0	13.4	12.3	13.4	11.2	10.5	10.5	10.3	10.0	8.8	8.1	6.6	7.3	8.8	8.2	9.2	10.5	10.4	8.7	6.6	16.4	10.6
Jan 3	8.2	8.2	10.9	10.0	13.8	12.6	10.0	13.0	12.5	13.1	14.8	13.8	13.7	12.0	12.2	12.5	13.5	10.1	9.5	10.0	9.2	9.5	9.5	10.4	8.2	14.8	10.8
Jan 4	9.7	10.3	9.9	9.7	9.1	8.2	7.5	7.6	7.1	6.5	5.7	7.4	7.4	7.7	6.4	5.9	4.9	3.9	3.6	3.5	2.8	3.7	1.7	2.5	1.7	10.3	6.3
Jan 5	2.1	0.7	0.2	1.4	0.3	0.7	0.2	2.5	3.2	3.0	4.4	4.4	8.0	7.1	7.3	6.5	7.8	9.5	8.3	6.2	6.4	9.6	9.8	11.2	0.2	11.2	4.7
Jan 6	7.5	6.3	7.3	6.9	4.0	2.4	5.9	7.1	4.0	8.5	4.8	6.2	3.9	1.1	3.0	2.3	3.1	3.0	0.4	0.6	2.3	3.0	4.1	4.2	0.4	8.5	3.3
Jan 7	4.3	3.9	2.0	3.6	4.5	4.1	3.4	4.7	3.3	4.6	4.8	5.4	7.0	6.8	7.3	8.0	7.5	5.6	4.6	2.8	3.4	3.3	3.1	3.0	2.0	8.0	3.5
Jan 8	1.1	1.1	1.9	1.7	0.6	1.0	0.6	1.2	2.2	4.1	3.5	2.6	0.4	3.5	3.3	3.3	0.6	1.5	3.2	2.0	5.6	5.8	5.3	4.9	0.4	5.8	0.8
Jan 9	4.1	2.5	0.6	1.3	2.7	2.7	3.3	4.6	4.1	4.9	6.0	4.8	3.9	4.5	5.4	4.7	4.9	5.9	3.8	4.5	5.0	5.3	4.4	3.8	0.6	6.0	3.9
Jan 10	3.9	3.5	3.3	8.0	10.3	10.2	10.6	10.4	13.4	16.7	18.7	16.8	14.9	10.1	9.6	9.6	10.4	9.6	13.1	14.3	12.9	13.4	10.4	5.1	3.3	18.7	9.9
Jan 11	8.8	5.1	1.0	4.6	4.6	5.4	5.9	5.3	6.7	6.0	5.8	4.3	5.4	5.1	4.3	5.2	2.0	1.9	2.7	2.5	0.4	2.2	3.5	4.2	0.4	8.8	2.3
Jan 12	7.1	10.1	9.0	9.8	11.9	7.7	14.5	14.4	16.2	14.4	14.4	10.4	9.9	11.3	8.7	4.6	4.3	4.6	5.2	6.3	4.2	4.0	4.0	2.9	2.9	16.2	7.6
Jan 13	5.0	4.8	3.2	4.4	4.8	2.7	3.3	3.1	2.4	1.0	0.6	2.3	6.4	7.0	6.8	6.0	0.8	2.1	2.7	3.3	4.0	5.4	5.0	5.8	0.6	7.0	1.2
Jan 14	4.9	8.0	9.3	9.9	14.0	16.1	18.9	17.9	18.6	21.9	19.8	17.3	20.6	25.1	19.9	12.1	11.4	10.9	10.4	13.1	14.5	12.2	13.7	16.3	4.9	25.1	14.0
Jan 15	16.2	13.2	9.2	15.8	16.4	8.1	12.8	19.1	20.3	20.7	17.6	19.4	20.9	23.1	20.9	19.2	16.8	14.1	12.0	12.7	10.0	8.1	8.8	8.5	8.1	23.1	13.8
Jan 16	8.7	8.4	8.4	7.3	9.8	5.4	5.2	5.0	5.2	4.5	4.3	3.5	5.7	4.5	3.4	1.2	3.3	3.4	2.9	2.8	1.8	1.8	1.6	5.1	1.2	9.8	2.6
Jan 17	5.5	7.5	10.2	11.0	10.2	10.3	14.2	14.8	16.4	15.2	14.2	14.0	14.7	15.5	14.8	12.6	13.4	12.0	12.4	11.4	10.7	10.5	12.2	9.0	5.5	16.4	12.0
Jan 18	9.0	7.9	4.0	1.8	1.3	0.8	0.3	0.2	1.7	2.3	3.7	2.7	3.2	8.0	8.2	5.6	3.2	1.2	4.8	5.0	4.0	7.2	6.0	2.3	0.2	9.0	0.9
Jan 19	5.1	4.7	7.1	5.4	2.6	2.1	3.9	3.9	5.5	9.0	12.3	14.3	14.9	12.3	9.3	8.8	7.1	6.7	6.9	9.2	9.6	9.5	10.0	7.5	2.1	14.9	6.7
Jan 20	12.1	13.2	13.3	15.0	14.9	16.6	17.0	17.1	17.2	14.5	19.6	19.5	18.2	16.7	15.0	10.8	9.4	10.3	9.9	7.9	13.0	10.3	9.4	5.6	5.6	19.6	6.8
Jan 21	7.4	5.3	7.0	6.2	7.5	4.8	9.0	10.0	7.2	7.8	6.6	6.2	5.4	3.4	3.4	4.4	4.6	4.4	3.2	1.6	2.5	1.9	4.6	10.2	1.6	10.2	2.8
Jan 22	10.6	11.8	10.0	4.1	1.5	3.4	2.1	3.8	2.3	2.3	1.3	4.4	11.5	16.7	19.2	17.7	19.5	19.9	22.2	26.5	24.5	21.1	23.2	26.1	1.3	26.5	11.1
Jan 23	22.7	22.0	23.0	18.9	12.0	7.0	11.0	10.5	7.5	11.1	12.8	9.4	9.4	7.1	6.5	4.1	6.5	10.4	10.7	9.1	7.1	8.5	9.0	8.0	4.1	23.0	10.5
Jan 24	5.6	9.2	6.7	7.4	6.6	8.4	9.0	7.6	6.2	6.2	4.5	3.4	2.9	3.4	0.4	1.8	2.0	3.2	3.0	4.0	5.9	7.0	7.6	10.8	0.4	10.8	1.7
Jan 25	16.5	19.4	18.0	15.2	16.0	20.8	18.4	20.7	19.0	14.5	15.8	20.9	17.5	16.9	20.1	17.2	13.7	14.8	18.4	19.9	14.2	15.1	16.8	16.1	13.7	20.9	11.3
Jan 26	15.6	12.0	12.0	8.2	10.5	9.4	10.3	14.3	15.9	5.7	10.2	9.8	9.2	10.5	9.5	9.5	6.3	5.2	4.6	1.9	1.5	0.6	1.0	5.1	0.6	15.9	7.5
Jan 27	7.5	6.3	8.3	10.4	8.2	13.1	12.9	11.8	10.6	8.4	9.7	8.9	8.4	6.3	4.0	1.4	0.7	1.8	3.0	5.0	4.8	7.3	6.2	7.4	0.7	13.1	5.6
Jan 28	11.7	10.0	14.4	11.8	11.3	15.3	20.3	19.0	13.9	17.1	15.9	14.4	12.9	10.8	7.7	9.0	13.2	5.5	7.1	2.6	5.7	4.3	4.0	6.0	2.6	20.3	9.9
Jan 29	6.4	8.1	11.3	7.4	5.0	3.9	5.3	5.4	3.5	3.8	7.6	10.6	11.7	10.5	10.5	10.4	12.6	9.4	13.6	17.8	19.7	16.5	12.0	10.3	3.5	19.7	8.8
Jan 30	9.9	8.9	6.7	5.1	5.4	5.0	5.0	4.2	3.9	5.6	6.8	6.1	6.7	7.7	9.9	9.2	10.6	11.6	12.6	14.7	15.8	14.9	15.9	15.4	3.9	15.9	8.3
Jan 31	14.0	12.8	13.2	14.8	14.5	13.0	12.3	9.0	11.8	12.3	9.1	11.3	12.8	11.9	9.0	9.4	6.3	2.7	2.3	3.4	2.5	3.3	3.8	1.7	1.7	14.8	8.9
Diurnal Maximum	23	22	23	19	16	21	20	21	20	22	20	21	21	25	21	20	20	20	22	27	25	21	23	26			
Diurnal Average	8.5	8.4	8.4	8.3	8.3	7.8	8.8	9.3	9.1	9.2	9.5	9.6	10.1	10.0	9.5	8.4	7.8	7.0	7.5	7.7	7.7	7.7	7.9	8.1			

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

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

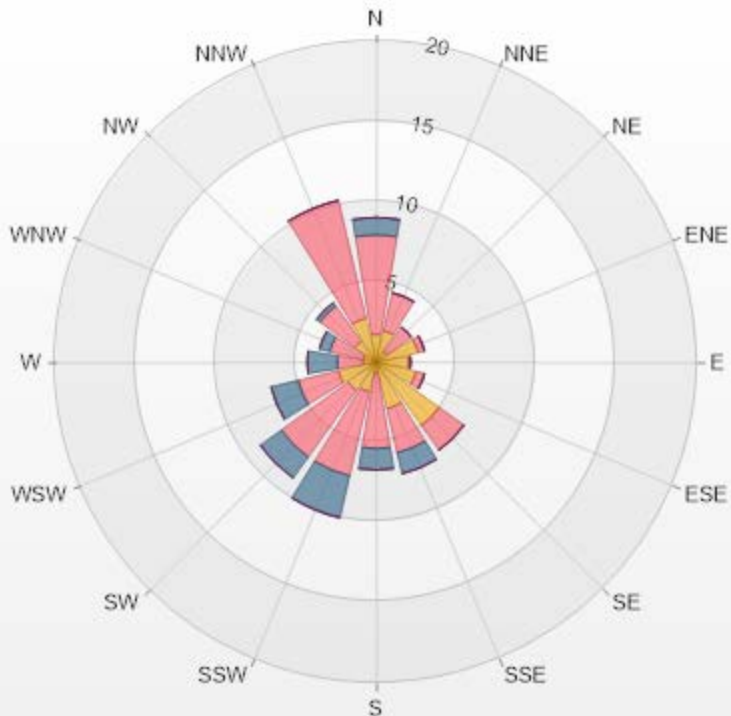
Timeseries Chart of Hourly Average for VWS - 842b Station



Wind: PRAMP 842b Monitor: WDS [KPH] Monthly: 01-2022 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.

Calm: 6.59% Valid Data: 100.00%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	1.75	6.18	1.08	0	0	9.01
NNE	2.02	2.42	0	0	0	4.44
NE	0.81	1.88	0	0	0	2.69
ENE	2.69	0.4	0	0	0	3.09
E	2.02	0.13	0	0	0	2.15
ESE	2.55	0.54	0	0	0	3.09
SE	4.84	1.88	0	0	0	6.72
SSE	2.96	2.82	1.34	0	0	7.12
S	0.67	4.7	1.34	0	0	6.71
SSW	1.88	5.38	2.69	0	0	9.95
SW	2.15	5.11	1.61	0	0	8.87
WSW	2.42	2.55	1.75	0	0	6.72
W	0.81	1.61	1.88	0	0	4.3
WNW	0.81	2.15	0.67	0	0	3.63
NW	1.61	2.69	0.27	0	0	4.57
NNW	2.82	7.53	0	0	0	10.35
Summary	32.81	47.97	12.63	0	0	93.41



PRAMP-202201

Page 110 of 227

% Icon Classes (KPH)	33	1.8-6.0	48	6.0-15.0	13	15.0-29.0	0	29.0-39.0	0	>39.0
----------------------	----	---------	----	----------	----	-----------	---	-----------	---	-------



PEACE RIVER AREA MONITORING PROGRAM

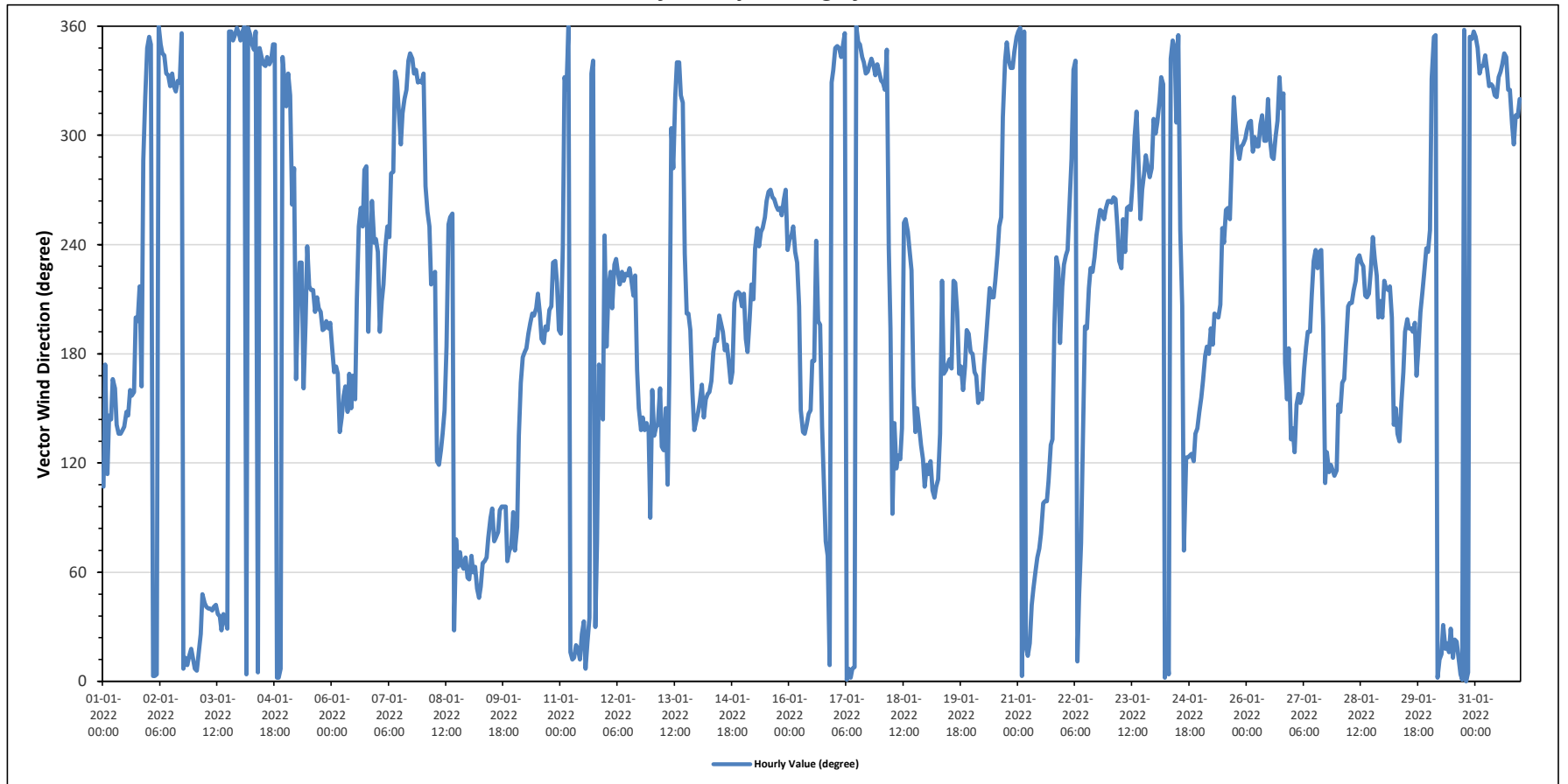
842b Station - January 2022

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

Monthly Average: 243 (WSW) 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
Jan 1	ESE	S	ESE	SE	SE	SSE	SSE	SE	SE	SE	SE	SE	SE	SSE	SSE	SSE	SSW	SSW	SW	SSE	WNW	NW	NNW	154	SSE	
Jan 2	N	N	N	N	N	N	N	NNW	NNW	NNW	NNW	NW	NNW	NW	NW	NNW	NNW	N	N	NNE	N	NNE	NNE	352	N	
Jan 3	N	N	NNE	NNE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NNE	NE	NE	NNE	N	N	N	N	N	N	26	NNE	
Jan 4	N	N	N	N	N	N	N	NNW	N	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	N	N	N	NNW	NNW	352	N	
Jan 5	NW	NNW	NW	W	W	SSE	SSW	SW	SW	SSE	SSW	WSW	SW	SSW	SSW	SSW	SSW	SSW	S	SSW	SSW	SSW	207	SSW		
Jan 6	S	SSE	S	SSE	SE	SE	SSE	SSE	SE	SSE	SSE	SSE	SSE	SSW	WSW	WSW	WSW	W	W	S	SW	W	WSW	182	S	
Jan 7	SW	S	SSW	SW	WSW	WSW	WSW	W	W	NNW	NNW	NW	WNW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	305	WNW	
Jan 8	NNW	W	WSW	WSW	SW	SW	SW	ESE	ESE	SE	SE	SSE	S	WSW	WSW	WSW	NNE	ENE	ENE	ENE	ENE	ENE	ENE	92	E	
Jan 9	NE	ENE	ENE	ENE	NE	NE	NE	ENE	ENE	ENE	ENE	E	E	ENE	ENE	E	E	E	E	ENE	ENE	ENE	E	77	ENE	
Jan 10	ENE	E	SE	SSE	S	S	S	S	SSW	SSW	SSW	SSW	SSW	S	S	SSW	S	SSW	SSW	SW	SW	SW	S	198	SSW	
Jan 11	S	WSW	NNW	NW	N	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	N	NNE	NNW	NNW	NNW	NNE	ENE	S	SSE	SE	WSW	12	NNE
Jan 12	S	SW	SW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SW	S	SSE	SE	SE	SE	E	210	SSW	
Jan 13	SSE	SE	SE	SE	SSE	SE	SE	SSE	ESE	SSE	WNW	W	NNW	NNW	NW	NW	SW	SSW	SSW	S	SSE	SE	SE	162	SSE	
Jan 14	SE	SSE	SSE	SE	SSE	SSE	SSE	SSE	S	S	S	SSW	SSW	S	S	S	SSE	SSE	SSW	SSW	SSW	SSW	SSW	183	S	
Jan 15	SSW	S	S	SSW	SW	SSW	SW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	W	WSW	WSW	WSW	W	W	SW	246	WSW	
Jan 16	WSW	WSW	WSW	SW	SW	SSW	SSE	SE	SE	SE	SSE	S	S	WSW	SSW	SSW	SE	ESE	ENE	ENE	N	NNW	NNW	198	SSW	
Jan 17	NNW	NNW	NNW	NNW	N	N	N	N	N	N	N	N	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	349	NNW	
Jan 18	NNW	NNW	NW	NNW	SW	SSW	E	SE	ESE	ESE	ESE	SE	WSW	WSW	WSW	SW	SW	SSE	SE	SSE	SE	ESE	ESE	201	SSW	
Jan 19	ESE	ESE	ESE	ESE	E	ESE	ESE	SE	SW	SSE	S	S	S	SW	SW	SSW	SSE	S	SSE	S	S	S	S	172	S	
Jan 20	S	SSE	SSE	SSE	SSE	SSE	S	S	SSW	SW	SSW	SSW	SW	SW	WSW	WSW	NW	NNW	N	NNW	NNW	NNW	N	212	SSW	
Jan 21	N	N	N	N	NNE	NNE	NNE	NE	NE	ENE	ENE	ENE	E	E	E	E	ESE	SE	SE	SSW	SW	SW	S	SW	52	NE
Jan 22	SW	SW	SW	W	WNW	NNW	NNW	NNE	NE	ENE	SE	SSW	SSW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	W	245	WSW	
Jan 23	W	W	W	W	WSW	SW	SW	WSW	SW	WSW	W	WSW	W	WNW	NW	WNW	WSW	W	W	WNW	W	W	NW	267	W	
Jan 24	WNW	NW	NW	NNW	NNW	N	NNE	N	NNW	N	NNW	NW	N	WSW	SSW	ENE	ESE	ESE	ESE	SE	ESE	SE	SE	2	N	
Jan 25	SSE	SSE	S	S	S	SSW	S	SSW	SSW	SSW	SSW	WSW	WSW	WSW	WSW	WNW	NW	WNW	WNW	WNW	WNW	WNW	WNW	235	SW	
Jan 26	WNW	NW	NW	WNW	WNW	WNW	WNW	NW	NW	WNW	WNW	NW	WNW	WNW	WNW	NW	NNW	NW	NW	S	SSE	S	SE	301	WNW	
Jan 27	SE	SE	SSE	SSE	SSE	SSE	S	S	S	S	SSW	SW	SW	SW	SW	SSW	ESE	SE	ESE	ESE	ESE	ESE	ESE	168	SSE	
Jan 28	SSE	SE	SSE	SSE	S	SSW	SSW	SSW	SSW	SW	SW	SW	SW	SW	SSW	SSW	SW	WSW	SW	SSW	SSW	SSW	SSW	207	SSW	
Jan 29	SW	SW	SSW	SW	SSW	SE	SSE	SE	SE	SSE	SSE	S	SSW	SSW	S	SSW	SSE	S	SSW	SSW	SW	SW	SW	200	SSW	
Jan 30	WSW	NNW	N	N	N	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	N	N	N	N	N	N	N	2	N	
Jan 31	N	NNW	NNW	NNW	NNW	NNW	NNW	NW	NNW	NW	NW	NW	NNW	NNW	NNW	NNW	NNW	NW	NW	NW	WNW	NW	NW	334	NNW	
C	Monthly Calibration										S	Daily Zero-Span Check										Q	Quality Assurance			
K	Collection Error										N	No Data (Machine Not in Service)										Y	Routine Maintenance			
X	Invalid Data (Machine Malfunction /Recovery)										NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)										P	Power Failure			
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is 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





PEACE RIVER AREA MONITORING PROGRAM

842b Station - January 2022

Summary of Hourly Averages

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

WIND SPEED																											
Maximum Hourly Value:		26.5 kph on January 22 at hour 19													Hours in Service:		744										
Maximum Daily Value:		14.0 kph on January 14													Hours of Data:		744										
Minimum Hourly Value:		0.2 kph on January 5 at hour 2													Hours of Missing Data:		0										
Minimum Daily Value:		0.8 kph on January 8													Hours of Calibration:		0										
Monthly Average:		2.3 kph													Operational Uptime:		100										
WIND DIRECTION																											
Monthly Average:		243 (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
Jan 1	3.5	2.0	3.0	4.9	6.0	5.6	5.6	6.9	7.8	7.8	9.4	11.5	14.9	12.8	18.8	19.5	15.5	5.6	6.6	5.8	5.3	2.0	8.3	13.2	2.0	19.5	6.1
Jan 2	10.1	14.6	14.7	15.6	16.4	15.0	13.4	12.3	13.4	11.2	10.5	10.5	10.3	10.0	8.8	8.1	6.6	7.3	8.8	8.2	9.2	10.5	10.4	8.7	6.6	16.4	10.6
Jan 3	8.2	8.2	10.9	10.0	13.8	12.6	10.0	13.0	12.5	13.1	14.8	13.8	13.7	12.0	12.2	12.5	13.5	10.1	9.5	10.0	9.2	9.5	9.5	10.4	8.2	14.8	10.8
Jan 4	9.7	10.3	9.9	9.7	9.1	8.2	7.5	7.6	7.1	6.5	5.7	7.4	7.4	7.7	6.4	5.9	4.9	3.9	3.6	3.5	2.8	3.7	1.7	2.5	1.7	10.3	6.3
Jan 5	2.1	0.7	0.2	1.4	0.3	0.7	0.2	2.5	3.2	3.0	4.4	4.4	8.0	7.1	7.3	6.5	7.8	9.5	8.3	6.2	6.4	9.6	9.8	11.2	0.2	11.2	4.7
Jan 6	7.5	6.3	7.3	6.9	4.0	2.4	5.9	7.1	4.0	8.5	4.8	6.2	3.9	1.1	3.0	2.3	3.1	3.0	0.4	0.6	2.3	3.0	4.1	4.2	0.4	8.5	3.3
Jan 7	4.3	3.9	2.0	3.6	4.5	4.1	3.4	4.7	3.3	4.6	4.8	5.4	7.0	6.8	7.3	8.0	7.5	5.6	4.6	2.8	3.4	3.3	3.1	3.0	2.0	8.0	3.5
Jan 8	1.1	1.1	1.9	1.7	0.6	1.0	0.6	1.2	2.2	4.1	3.5	2.6	0.4	3.5	3.3	3.3	0.6	1.5	3.2	2.0	5.6	5.8	5.3	4.9	0.4	5.8	0.8
Jan 9	4.1	2.5	0.6	1.3	2.7	2.7	3.3	4.6	4.1	4.9	6.0	4.8	3.9	4.5	5.4	4.7	4.9	5.9	3.8	4.5	5.0	5.3	4.4	3.8	0.6	6.0	3.9
Jan 10	3.9	3.5	3.3	8.0	10.3	10.2	10.6	10.4	13.4	16.7	18.7	16.8	14.9	10.1	9.6	9.6	10.4	9.6	13.1	14.3	12.9	13.4	10.4	5.1	3.3	18.7	9.9
Jan 11	8.8	5.1	1.0	4.6	4.6	5.4	5.9	5.3	6.7	6.0	5.8	4.3	5.4	5.1	4.3	5.2	2.0	1.9	2.7	2.5	0.4	2.2	3.5	4.2	0.4	8.8	2.3
Jan 12	7.1	10.1	9.0	9.8	11.9	7.7	14.5	14.4	16.2	14.4	14.4	10.4	9.9	11.3	8.7	4.6	4.3	4.6	5.2	6.3	4.2	4.0	4.0	2.9	2.9	16.2	7.6
Jan 13	5.0	4.8	3.2	4.4	4.8	2.7	3.3	3.1	2.4	1.0	0.6	2.3	6.4	7.0	6.8	6.0	0.8	2.1	2.7	3.3	4.0	5.4	5.0	5.8	0.6	7.0	1.2
Jan 14	4.9	8.0	9.3	9.9	14.0	16.1	18.9	17.9	18.6	21.9	19.8	17.3	20.6	25.1	19.9	12.1	11.4	10.9	10.4	13.1	14.5	12.2	13.7	16.3	4.9	25.1	14.0
Jan 15	16.2	13.2	9.2	15.8	16.4	8.1	12.8	19.1	20.3	20.7	17.6	19.4	20.9	23.1	20.9	19.2	16.8	14.1	12.0	12.7	10.0	8.1	8.8	8.5	8.1	23.1	13.8
Jan 16	8.7	8.4	8.4	7.3	9.8	5.4	5.2	5.0	5.2	4.5	4.3	3.5	5.7	4.5	3.4	1.2	3.3	3.4	2.9	2.8	1.8	1.8	1.6	5.1	1.2	9.8	2.6
Jan 17	5.5	7.5	10.2	11.0	10.2	10.3	14.2	14.8	16.4	15.2	14.2	14.0	14.7	15.5	14.8	12.6	13.4	12.0	12.4	11.4	10.7	10.5	12.2	9.0	5.5	16.4	12.0
Jan 18	9.0	7.9	4.0	1.8	1.3	0.8	0.3	0.2	1.7	2.3	3.7	2.7	3.2	8.0	8.2	5.6	3.2	1.2	4.8	5.0	4.0	7.2	6.0	2.3	0.2	9.0	0.9
Jan 19	5.1	4.7	7.1	5.4	2.6	2.1	3.9	3.9	5.5	9.0	12.3	14.3	14.9	12.3	9.3	8.8	7.1	6.7	6.9	9.2	9.6	9.5	10.0	7.5	2.1	14.9	6.7
Jan 20	12.1	13.2	13.3	15.0	14.9	16.6	17.0	17.1	17.2	14.5	19.6	19.5	18.2	16.7	15.0	10.8	9.4	10.3	9.9	7.9	13.0	10.3	9.4	5.6	5.6	19.6	6.8



PEACE RIVER AREA MONITORING PROGRAM

842b Station - January 2022

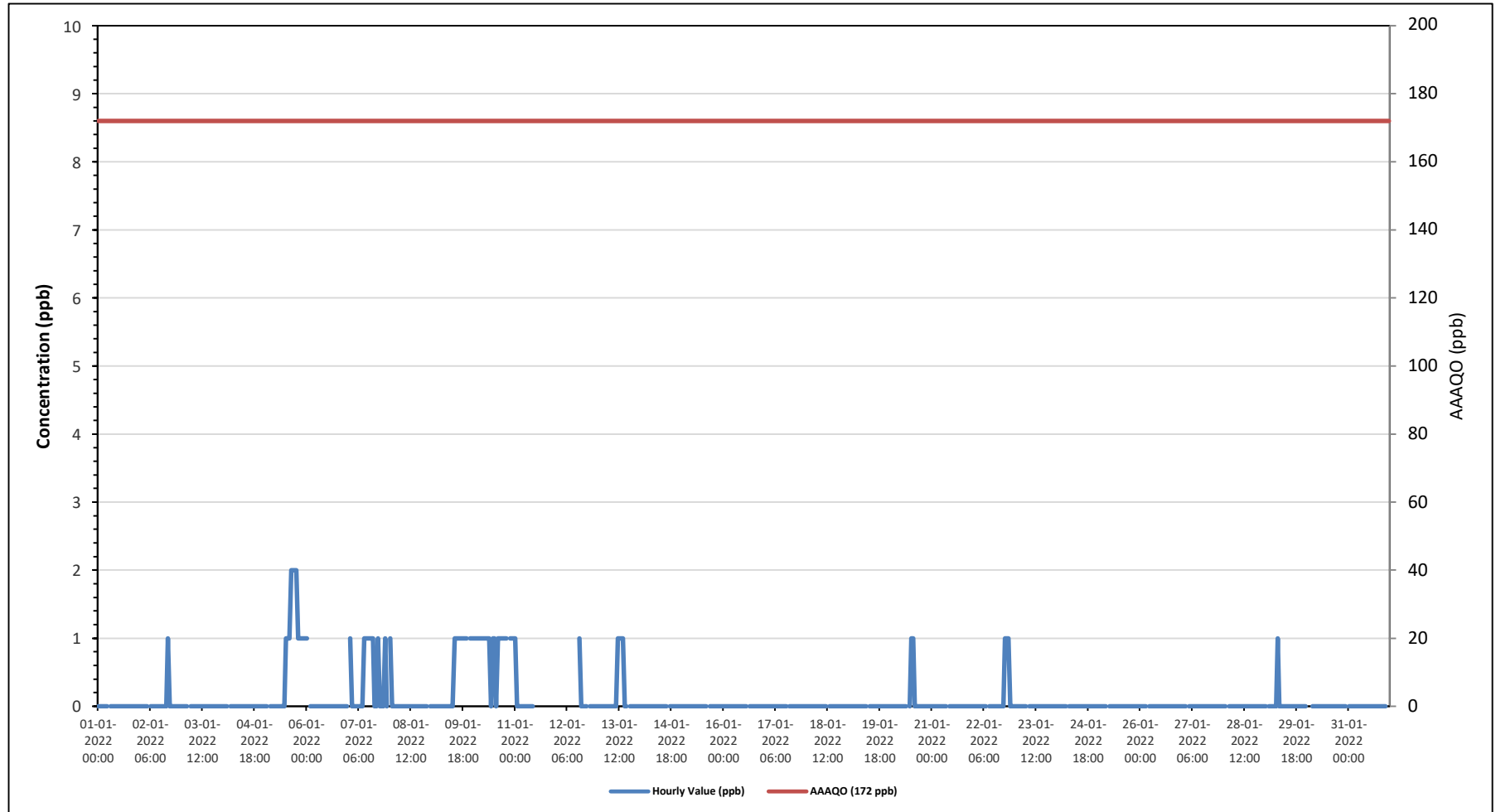
Summary of Hourly Averages

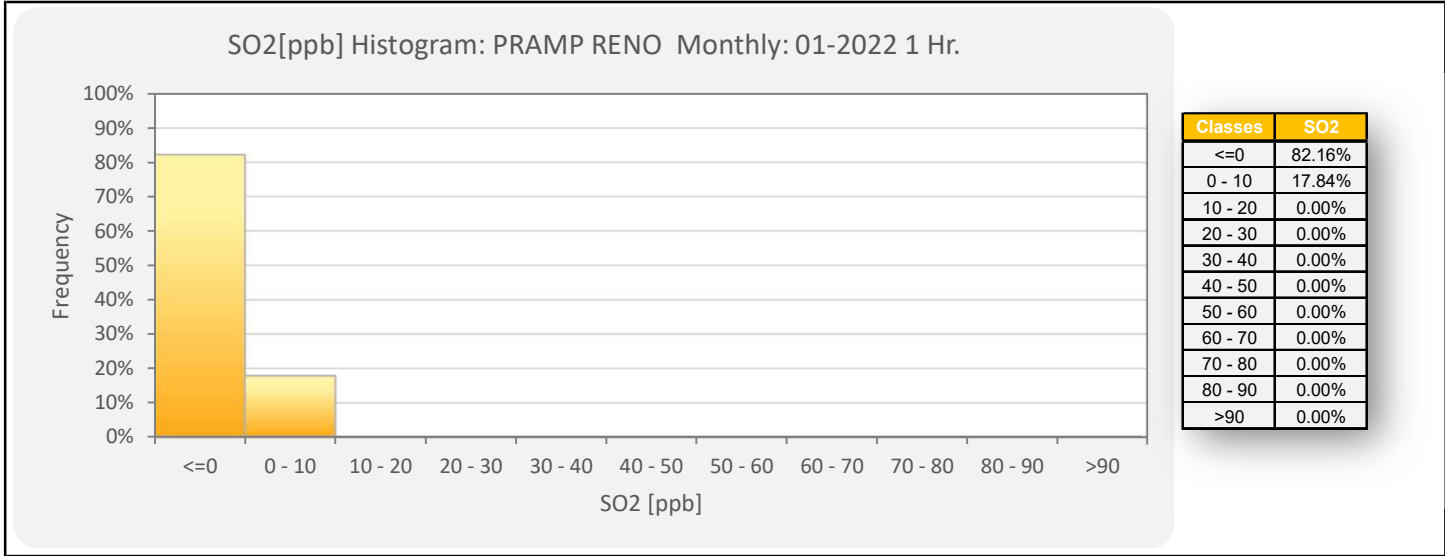
VECTOR WIND SPEED (VWS) in km/hr & WIND DIRECTION (VWD) in sector

WIND SPEED		WIND DIRECTION																																																	
Maximum Hourly Value:	26.5 kph on January 22 at hour 19	Hours in Service:	744																																																
Maximum Daily Value:	14.0 kph on January 14	Hours of Data:	744																																																
Minimum Hourly Value:	0.2 kph on January 5 at hour 2	Hours of Missing Data:	0																																																
Minimum Daily Value:	0.8 kph on January 8	Hours of Calibration:	0																																																
Monthly Average:	2.3 kph	Operational Uptime:	100																																																
Monthly Average:	243 (WSW degree)																																																		
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average																									
Jan 21	7.4	5.3	7.0	6.2	7.5	4.8	9.0	10.0	7.2	7.8	6.6	6.2	5.4	3.4	3.4	4.4	4.6	4.4	3.2	1.6	2.5	1.9	4.6	10.2	1.6	10.2	2.8																								
Jan 22	10.6	11.8	10.0	4.1	1.5	3.4	2.1	3.8	2.3	2.3	1.3	4.4	11.5	16.7	19.2	17.7	19.5	19.9	22.2	26.5	24.5	21.1	23.2	26.1	1.3	26.5	11.1																								
Jan 23	22.7	22.0	23.0	18.9	12.0	7.0	11.0	10.5	7.5	11.1	12.8	9.4	9.4	7.1	6.5	4.1	6.5	10.4	10.7	9.1	7.1	8.5	9.0	8.0	4.1	23.0	10.5																								
Jan 24	5.6	9.2	6.7	7.4	6.6	8.4	9.0	7.6	6.2	6.2	4.5	3.4	2.9	3.4	0.4	1.8	2.0	3.2	3.0	4.0	5.9	7.0	7.6	10.8	0.4	10.8	1.7																								
Jan 25	16.5	19.4	18.0	15.2	16.0	20.8	18.4	20.7	19.0	14.5	15.8	20.9	17.5	16.9	20.1	17.2	13.7	14.8	18.4	19.9	14.2	15.1	16.8	16.1	13.7	20.9	11.3																								
Jan 26	15.6	12.0	12.0	8.2	10.5	9.4	10.3	14.3	15.9	5.7	10.2	9.8	9.2	10.5	9.5	9.5	6.3	5.2	4.6	1.9	1.5	0.6	1.0	5.1	0.6	15.9	7.5																								
Jan 27	7.5	6.3	8.3	10.4	8.2	13.1	12.9	11.8	10.6	8.4	9.7	8.9	8.4	6.3	4.0	1.4	0.7	1.8	3.0	5.0	4.8	7.3	6.2	7.4	0.7	13.1	5.6																								
Jan 28	11.7	10.0	14.4	11.8	11.3	15.3	20.3	19.0	13.9	17.1	15.9	14.4	12.9	10.8	7.7	9.0	13.2	5.5	7.1	2.6	5.7	4.3	4.0	6.0	2.6	20.3	9.9																								
Jan 29	6.4	8.1	11.3	7.4	5.0	3.9	5.3	5.4	3.5	3.8	7.6	10.6	11.7	10.5	10.5	10.4	12.6	9.4	13.6	17.8	19.7	16.5	12.0	10.3	3.5	19.7	8.8																								
Jan 30	9.9	8.9	6.7	5.1	5.4	5.0	4.2	3.9	5.6	6.8	6.1	6.7	7.7	9.9	9.2	10.6	11.6	12.6	14.7	15.8	14.9	15.9	15.4	3.9	15.9	8.3																									
Jan 31	14.0	12.8	13.2	14.8	14.5	13.0	12.3	9.0	11.8	12.3	9.1	11.3	12.8	11.9	9.0	9.4	6.3	2.7	2.3	3.4	2.5	3.3	3.8	1.7	1.7	14.8	8.9																								
C	Monthly Calibration										S	Daily Zero-Span Check										Q	Quality Assurance																												
K	Collection Error										N	No Data (Machine Not in Service)										Y	Routine Maintenance										P	Power Failure																	
X	Invalid Data (Equipment Malfunction/Recovery)										NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)																																							
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.																																																			
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																																																			

RENO STATION

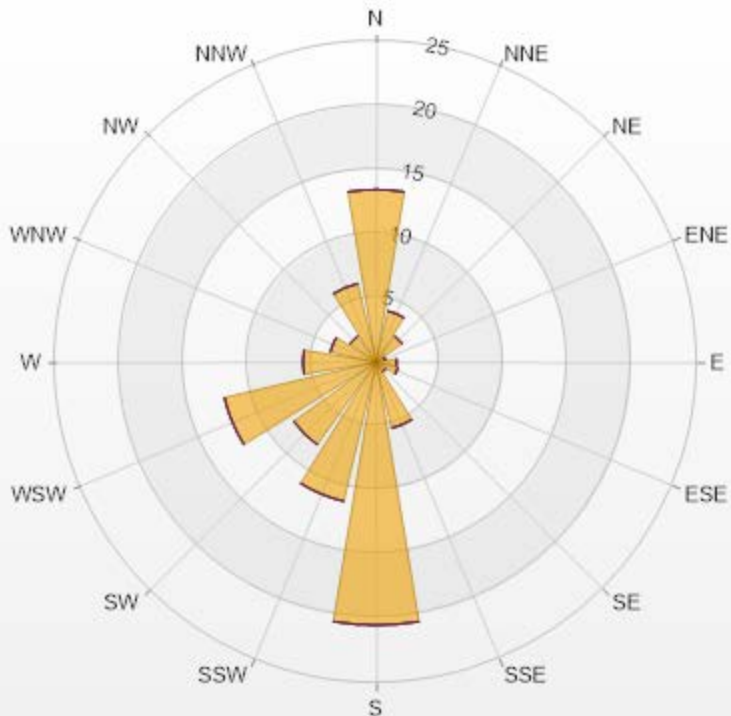
Timeseries Chart of Hourly Average for SO2 - Reno Station





Wind: PRAMP RENO Poll.: PRAMP RENO-SO2[ppb] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 91.94% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	13.45	0	0	0	0	13.45
NNE	4.09	0	0	0	0	4.09
NE	2.49	0	0	0	0	2.49
ENE	0.73	0	0	0	0	0.73
E	1.61	0	0	0	0	1.61
ESE	1.75	0	0	0	0	1.75
SE	0.88	0	0	0	0	0.88
SSE	5.26	0	0	0	0	5.26
S	20.47	0	0	0	0	20.47
SSW	11.11	0	0	0	0	11.11
SW	7.89	0	0	0	0	7.89
WSW	12.13	0	0	0	0	12.13
W	5.7	0	0	0	0	5.7
WNW	3.65	0	0	0	0	3.65
NW	2.49	0	0	0	0	2.49
NNW	6.29	0	0	0	0	6.29
Summary	100	0	0	0	0	100



PRAMP-202201

Page 120 of 227

% Icon Classes (ppb)

100 0-10

0 10-50

0 50-100

0 100-172

0 >172.0



PEACE RIVER AREA MONITORING PROGRAM

Reno Station - January 2022

Summary of Hourly Averages

TOTAL REDUCED SULPHUR (TRS) in ppb

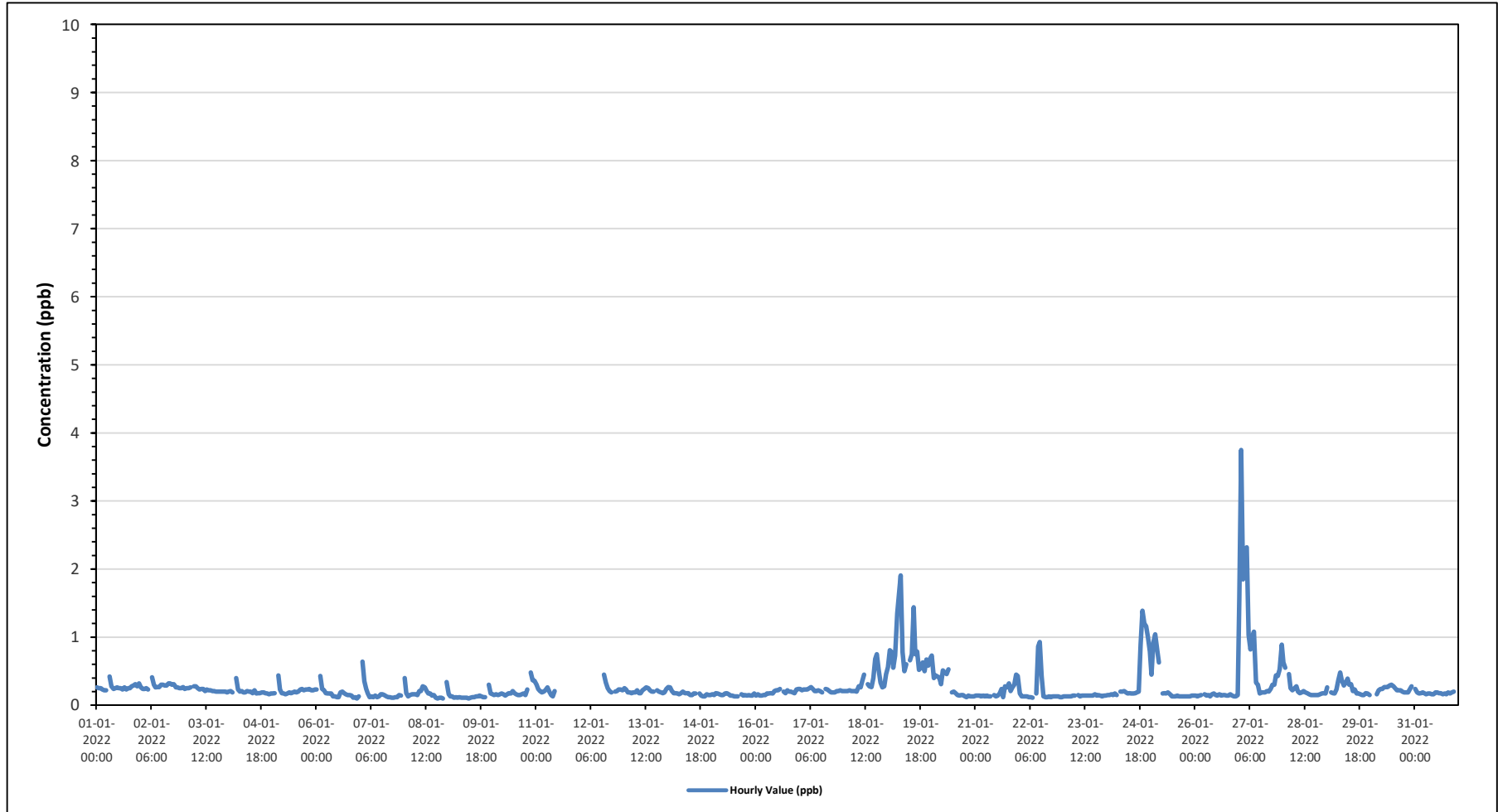
Maximum Hourly Value:	3.75 ppb on January 27 at hour 1	Hours in Service:	744
Maximum Daily Value:	0.82 ppb on January 19	Hours of Data:	684
Minimum Hourly Value:	0.10 ppb on January 6 at hour 22	Hours of Missing Data:	22
Minimum Daily Value:	0.13 ppb on January 9	Hours of Calibration:	38
Monthly Average:	0.26 ppb	Operational Uptime:	97.0

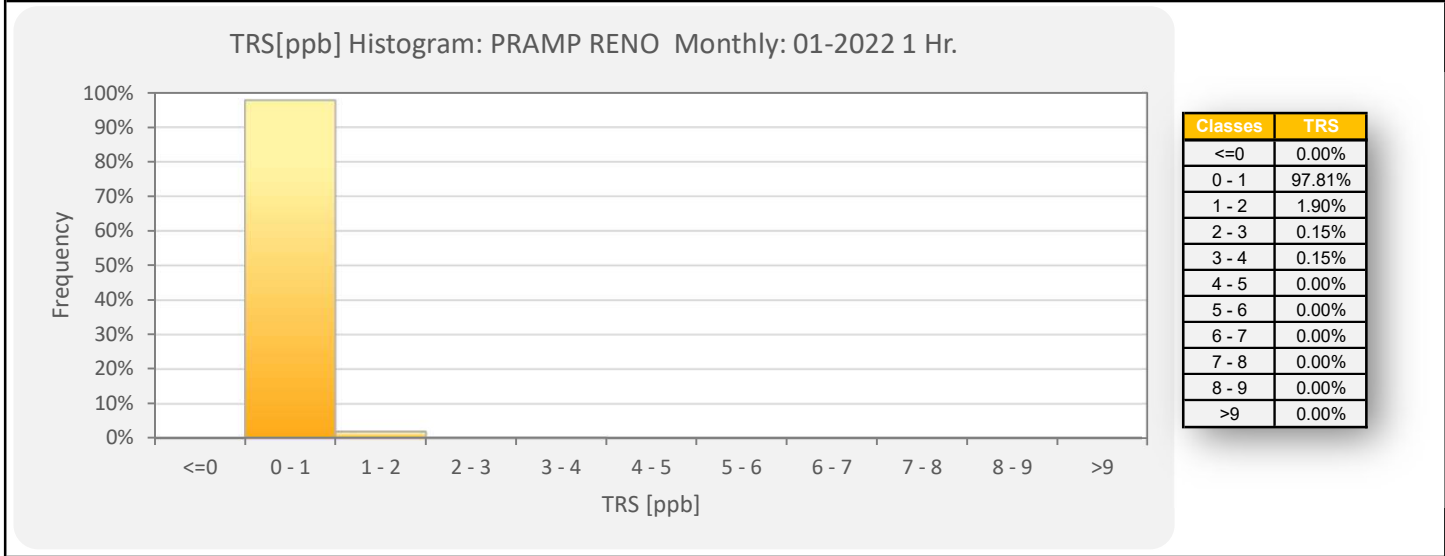
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Jan 1	0.26	0.25	0.25	0.23	0.22	0.22	S	0.42	0.28	0.24	0.25	0.26	0.25	0.25	0.23	0.26	0.23	0.25	0.25	0.28	0.29	0.31	0.28	0.32	0.22	0.42	0.26
Jan 2	0.26	0.24	0.24	0.25	0.23	S	0.41	0.3	0.26	0.27	0.27	0.3	0.3	0.29	0.29	0.32	0.32	0.3	0.31	0.26	0.26	0.25	0.25	0.27	0.23	0.41	0.28
Jan 3	0.24	0.25	0.25	0.26	S	0.28	0.28	0.25	0.23	0.24	0.24	0.21	0.23	0.22	0.22	0.21	0.21	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.19	0.28	0.23
Jan 4	0.2	0.21	0.19	S	0.4	0.23	0.2	0.21	0.19	0.19	0.19	0.21	0.2	0.2	0.18	0.22	0.17	0.18	0.18	0.19	0.19	0.18	0.17	0.16	0.17	0.16	0.20
Jan 5	0.17	0.18	S	0.44	0.23	0.18	0.17	0.16	0.17	0.19	0.18	0.19	0.2	0.19	0.2	0.23	0.24	0.22	0.23	0.23	0.24	0.22	0.22	0.23	0.16	0.44	0.21
Jan 6	0.23	S	0.43	0.24	0.22	0.18	0.17	0.17	0.17	0.13	0.13	0.12	0.12	0.19	0.2	0.18	0.16	0.15	0.15	0.14	0.11	0.12	0.1	0.13	0.10	0.43	0.17
Jan 7	S	0.64	0.35	0.24	0.17	0.12	0.13	0.12	0.14	0.12	0.13	0.16	0.16	0.15	0.13	0.12	0.12	0.11	0.11	0.12	0.12	0.15	0.14	S	0.11	0.64	0.17
Jan 8	0.4	0.18	0.13	0.15	0.16	0.16	0.15	0.21	0.21	0.28	0.26	0.21	0.17	0.17	0.14	0.15	0.11	0.1	0.11	0.11	0.11	0.1	S	0.34	0.10	0.40	0.18
Jan 9	0.16	0.13	0.13	0.11	0.12	0.11	0.12	0.11	0.11	0.11	0.11	0.11	0.12	0.12	0.13	0.13	0.14	0.13	0.12	0.12	0.12	S	0.3	0.17	0.10	0.30	0.13
Jan 10	0.16	0.15	0.16	0.15	0.16	0.17	0.16	0.14	0.16	0.18	0.17	0.21	0.18	0.16	0.15	0.15	0.16	0.17	0.15	0.23	S	0.48	0.37	0.36	0.14	0.48	0.20
Jan 11	0.3	0.24	0.21	0.19	0.2	0.22	0.26	0.2	0.15	0.13	0.21	C	C	C	C	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	0.13	0.30	-
Jan 12	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	C	C	C	C	0.45	0.33	0.25	0.21	0.19	S	S	S	NRM	0.19	0.45	-
Jan 13	0.25	0.23	0.19	0.19	0.18	0.19	0.19	0.22	0.18	0.18	0.22	0.24	0.26	0.25	0.22	0.2	0.2	S	0.22	0.2	0.19	0.18	0.19	0.24	0.18	0.26	0.21
Jan 14	0.27	0.26	0.21	0.18	0.18	0.17	0.16	0.18	0.2	0.18	0.18	0.18	0.15	0.15	0.17	0.17	S	0.17	0.14	0.13	0.13	0.16	0.15	0.15	0.13	0.27	0.17
Jan 15	0.16	0.15	0.18	0.17	0.16	0.15	0.15	0.17	0.18	0.16	0.14	0.14	0.13	0.13	0.13	S	0.16	0.14	0.15	0.14	0.15	0.14	0.14	0.17	0.13	0.18	0.15
Jan 16	0.14	0.16	0.14	0.14	0.15	0.15	0.17	0.17	0.18	0.17	0.21	0.22	0.22	0.24	S	0.2	0.18	0.22	0.2	0.2	0.19	0.18	0.23	0.24	0.14	0.24	0.19
Jan 17	0.24	0.22	0.23	0.23	0.23	0.25	0.27	0.24	0.21	0.21	0.22	0.21	0.19	S	0.24	0.23	0.21	0.19	0.19	0.19	0.21	0.21	0.22	0.21	0.19	0.27	0.22
Jan 18	0.21	0.21	0.21	0.22	0.21	0.21	0.21	0.2	0.28	0.26	0.35	0.45	S	0.31	0.28	0.27	0.4	0.68	0.75	0.52	0.33	0.26	0.28	0.46	0.20	0.75	0.33
Jan 19	0.56	0.81	0.78	0.55	0.73	1.35	1.65	1.91	0.78	0.5	0.6	S	0.66	0.75	1.44	0.75	0.79	0.52	0.56	0.63	0.5	0.67	0.58	0.68	0.50	1.91	0.82
Jan 20	0.73	0.4	0.44	0.42	0.41	0.31	0.51	0.48	0.46	0.53	S	0.19	0.2	0.18	0.15	0.14	0.15	0.15	0.13	0.12	0.14	0.13	0.13	0.13	0.12	0.73	0.29
Jan 21	0.14	0.14	0.14	0.13	0.14	0.13	0.14	0.13	0.13	S	0.15	0.13	0.14	0.17	0.24	0.12	0.28	0.26	0.32	0.21	0.26	0.3	0.45	0.43	0.12	0.45	0.20
Jan 22	0.17	0.13	0.13	0.13	0.13	0.12	0.12	0.11	S	0.17	0.86	0.93	0.43	0.13	0.12	0.12	0.13	0.12	0.13	0.13	0.13	0.13	0.12	0.12	0.11	0.93	0.21
Jan 23	0.13	0.13	0.13	0.13	0.13	0.14	0.14	S	0.15	0.13	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.16	0.14	0.15	0.14	0.13	0.14	0.14	0.13	0.16	0.14
Jan 24	0.15	0.15	0.16	0.15	0.17	0.15	S	0.2	0.2	0.21	0.19	0.17	0.18	0.17	0.17	0.18	0.19	0.2	0.89	1.39	1.2	1.16	0.99	0.79	0.15	1.39	0.41
Jan 25	0.45	0.92	1.04	0.8	0.63	S	0.17	0.18	0.17	0.19	0.16	0.13	0.13	0.13	0.14	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.14	0.14	0.13	1.04	0.28
Jan 26	0.14	0.13	0.14	0.15	S	0.16	0.14	0.15	0.13	0.16	0.17	0.15	0.14	0.16	0.14	0.15	0.15	0.14	0.14	0.16	0.14	0.13	0.13	0.15	0.13	0.17	0.15
Jan 27	1.58	3.75	1.85	S	2.32	1.03	0.82	1.01	1.08	0.33	0.3	0.17	0.19	0.19	0.19	0.21	0.2	0.24	0.3	0.3	0.44	0.43	0.53	0.89	0.17	3.75	0.80
Jan 28	0.63	0.55	S	0.46	0.25	0.22	0.25	0.28	0.2	0.18	0.19	0.21	0.19	0.18	0.16	0.15	0.15	0.15	0.15	0.15	0.16	0.17	0.18	0.17	0.15	0.63	0.23
Jan 29	0.26	S	0.19	0.18	0.17	0.23	0.37	0.48	0.37	0.29	0.33	0.39	0.3	0.31	0.21	0.23	0.17	0.17	0.16	0.15	0.15	0.18	0.17	0.15	0.15	0.48	0.24
Jan 30	S	X	X	0.16	0.22	0.24	0.24	0.27	0.27	0.27	0.29	0.3	0.28	0.25	0.22	0.22	0.2	0.19	0.19	0.19	0.19	0.23	0.28	S	0.16	0.30	0.24
Jan 31	0.24	0.19	0.17	0.18	0.19	0.18	0.16	0.17	0.17	0.16	0.16	0.19	0.19	0.18	0.18	0.16	0.17	0.16	0.19	0.17	0.19	0.2	S	0.22	0.16	0.24	0.18
Diurnal Maximum	1.58	3.75	1.85	0.80	2.32	1.35	1.65	1.91	1.08	0.53	0.86	0.93	0.66	0.75	1.44	0.75	0.79	0.68	0.89	1.39	1.20	1.16	0.99	0.89	-	-	-
Diurnal Average	0.32	0.41	0.32	0.24	0.31	0.26	0.28	0.30	0.26	0.22	0.24	0.23	0.22	0.22	0.23	0.20	0.21	0.21	0.24	0.24	0.23	0.25	0.26	0.28	-	-	-

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

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

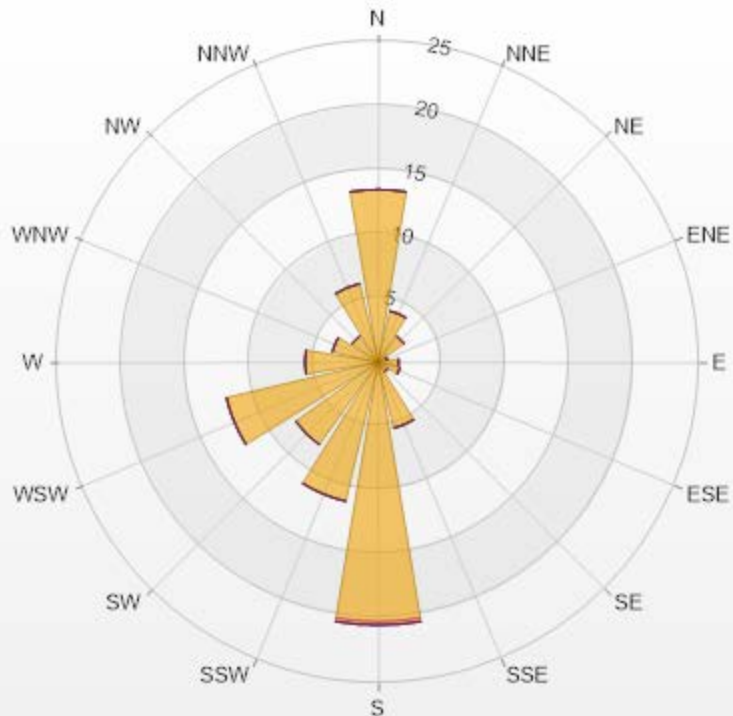
Timeseries Chart of Hourly Average for TRS - Reno Station





Wind: PRAMP RENO Poll.: PRAMP RENO-TRS[ppb] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 91.94% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	13.45	0	0	0	0	13.45
NNE	4.09	0	0	0	0	4.09
NE	2.49	0	0	0	0	2.49
ENE	0.73	0	0	0	0	0.73
E	1.61	0	0	0	0	1.61
ESE	1.75	0	0	0	0	1.75
SE	0.88	0	0	0	0	0.88
SSE	5.26	0	0	0	0	5.26
S	20.18	0.29	0	0	0	20.47
SSW	11.11	0	0	0	0	11.11
SW	7.89	0	0	0	0	7.89
WSW	12.13	0	0	0	0	12.13
W	5.7	0	0	0	0	5.7
WNW	3.65	0	0	0	0	3.65
NW	2.49	0	0	0	0	2.49
NNW	6.29	0	0	0	0	6.29
Summary	100	0.29	0	0	0	100



PRAMP-202201

Page 125 of 227

% Icon Classes (ppb)

100 0-2

0 2-5

0 5-10

0 10-50

0 >50.0



PEACE RIVER AREA MONITORING PROGRAM

Reno Station - January 2022

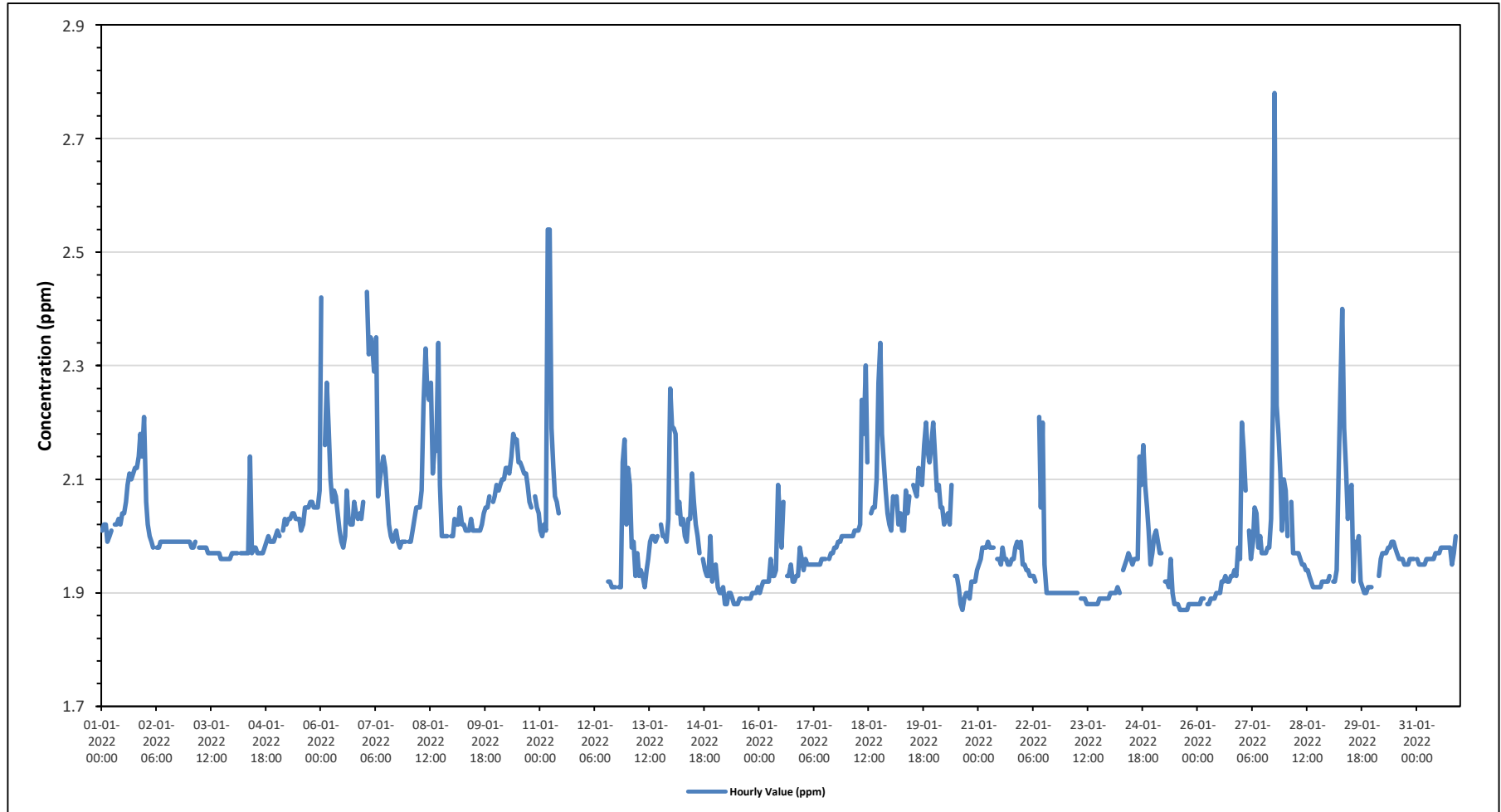
Summary of Hourly Averages

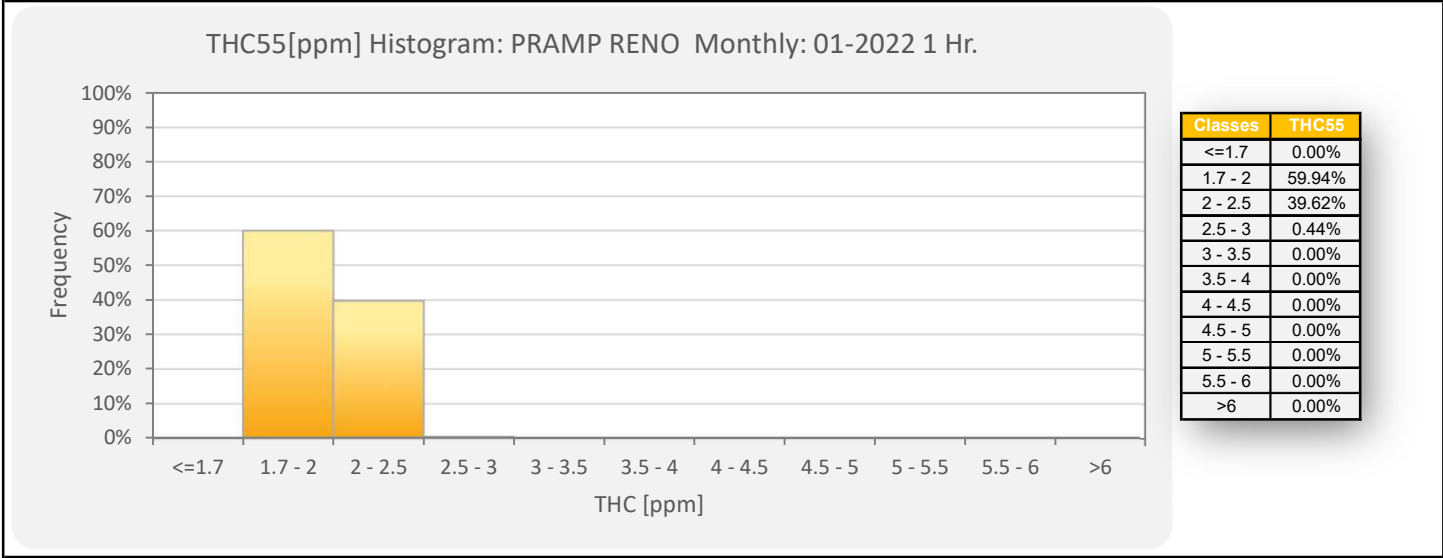
TOTAL HYDROCARBONS (THC) in ppm

Maximum Hourly Value:	2.78 ppm on January 27 at hour 18	Hours in Service:	744
Maximum Daily Value:	2.12 ppm on January 7	Hours of Data:	684
Minimum Hourly Value:	1.87 ppm on January 20 at hour 15	Hours of Missing Data:	23
Minimum Daily Value:	1.89 ppm on January 23	Hours of Calibration:	37
Monthly Average:	2.00 ppm	Operational Uptime:	96.9

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
Jan 1	2.01	2.02	2.02	1.99	2.00	2.01	S	2.02	2.02	2.03	2.02	2.04	2.04	2.06	2.09	2.11	2.10	2.11	2.12	2.12	2.14	2.18	2.14	2.21	1.99	2.21	2.07
Jan 2	2.06	2.02	2.00	1.99	1.98	S	1.98	1.98	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.98	2.06	1.99
Jan 3	1.99	1.98	1.98	1.99	S	1.98	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.99	1.97
Jan 4	1.97	1.97	1.97	S	1.97	1.97	1.97	1.97	1.97	2.14	1.97	1.98	1.98	1.97	1.97	1.97	1.97	1.98	1.99	2.00	1.99	1.99	1.99	2.00	1.97	2.14	1.98
Jan 5	2.01	2.00	S	2.01	2.03	2.02	2.03	2.03	2.04	2.04	2.03	2.03	2.03	2.01	2.02	2.05	2.05	2.05	2.06	2.06	2.05	2.05	2.05	2.08	2.00	2.08	2.04
Jan 6	2.42	S	2.16	2.27	2.19	2.10	2.06	2.08	2.07	2.04	2.01	1.99	1.98	2.00	2.08	2.03	2.02	2.02	2.06	2.04	2.03	2.04	2.03	2.06	1.98	2.42	2.08
Jan 7	S	2.43	2.32	2.35	2.33	2.29	2.35	2.07	2.10	2.12	2.14	2.12	2.08	2.02	2.00	1.99	2.00	2.01	1.99	1.98	1.99	1.99	1.99	S	1.98	2.43	2.12
Jan 8	1.99	1.99	2.01	2.03	2.05	2.05	2.05	2.08	2.23	2.33	2.26	2.24	2.27	2.11	2.15	2.15	2.34	2.09	2.00	2.00	2.00	S	2.00	1.99	2.34	2.11	
Jan 9	2.00	2.03	2.02	2.02	2.05	2.02	2.02	2.01	2.01	2.01	2.03	2.01	2.01	2.01	2.01	2.01	2.02	2.04	2.05	2.05	2.07	S	2.06	2.07	2.00	2.07	2.03
Jan 10	2.09	2.08	2.09	2.10	2.10	2.12	2.12	2.11	2.14	2.18	2.17	2.17	2.13	2.12	2.11	2.11	2.09	2.06	2.05	S	2.07	2.05	2.04	2.04	2.18	2.11	2.11
Jan 11	2.01	2.00	2.02	2.01	2.54	2.54	2.19	2.12	2.07	2.06	2.04	C	C	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	2.00	2.54	-	
Jan 12	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	C	C	C	1.92	1.92	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	2.17	2.02
Jan 13	2.12	2.09	1.98	1.99	1.93	1.97	1.93	1.94	1.93	1.91	1.94	1.96	1.99	2.00	2.00	1.99	2.00	S	2.02	2.00	2.00	1.99	2.03	2.26	1.91	2.26	2.00
Jan 14	2.19	2.19	2.18	2.04	2.06	2.02	2.03	2.00	1.99	2.03	2.03	2.11	2.06	2.02	2.00	1.97	S	1.96	1.94	1.93	1.93	2.00	1.92	1.94	1.92	2.19	2.02
Jan 15	1.95	1.91	1.90	1.90	1.91	1.88	1.88	1.90	1.90	1.89	1.88	1.88	1.88	1.89	1.89	S	1.89	1.89	1.89	1.89	1.90	1.90	1.90	1.91	1.88	1.95	1.90
Jan 16	1.90	1.91	1.92	1.92	1.92	1.92	1.96	1.93	1.93	1.94	2.09	2.03	1.98	2.06	S	1.93	1.93	1.95	1.92	1.92	1.93	1.93	1.98	1.96	1.90	2.09	1.95
Jan 17	1.94	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.96	1.96	S	1.96	1.97	1.97	1.98	1.98	1.99	1.99	2.00	2.00	2.00	1.94	2.00	1.97
Jan 18	2.00	2.00	2.00	2.00	2.01	2.01	2.01	2.02	2.24	2.18	2.30	2.13	S	2.04	2.05	2.05	2.10	2.27	2.34	2.18	2.13	2.08	2.04	2.02	2.00	2.34	2.10
Jan 19	2.01	2.07	2.06	2.07	2.02	2.04	2.01	2.01	2.08	2.04	2.07	S	2.09	2.08	2.07	2.12	2.10	2.09	2.16	2.20	2.15	2.13	2.16	2.20	2.01	2.20	2.09
Jan 20	2.15	2.08	2.09	2.05	2.05	2.02	2.03	2.04	2.02	2.09	S	1.93	1.93	1.91	1.88	1.87	1.89	1.90	1.90	1.89	1.92	1.92	1.94	1.87	1.87	2.15	1.97
Jan 21	1.95	1.96	1.98	1.98	1.98	1.98	1.98	1.98	1.98	S	1.96	1.96	1.95	1.98	1.96	1.95	1.95	1.95	1.96	1.96	1.98	1.99	1.98	1.99	1.95	1.99	1.97
Jan 22	1.95	1.95	1.94	1.94	1.93	1.93	1.93	1.92	S	2.21	2.05	2.20	1.95	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	2.21	1.95
Jan 23	1.90	1.90	1.90	1.90	1.90	1.90	1.90	S	1.89	1.89	1.89	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.89	1.89	1.89	1.89	1.88	1.90	1.89
Jan 24	1.90	1.90	1.90	1.90	1.91	1.90	S	1.94	1.95	1.96	1.97	1.96	1.95	1.96	1.96	1.96	2.14	2.09	2.16	2.09	2.05	2.01	1.95	1.97	1.90	2.16	1.98
Jan 25	2.00	2.01	1.99	1.97	1.97	S	1.92	1.92	1.91	1.96	1.90	1.88	1.88	1.87	1.87	1.87	1.87	1.87	1.88	1.88	1.88	1.88	1.88	1.87	1.87	2.01	1.91
Jan 26	1.88	1.88	1.89	1.89	S	1.88	1.88	1.89	1.89	1.89	1.90	1.90	1.90	1.92	1.92	1.93	1.92	1.92	1.93	1.93	1.94	1.93	1.98	1.96	1.88	1.98	1.91
Jan 27	2.20	2.15	2.08	S	2.01	1.96	1.99	2.05	2.04	1.98	2.00	1.97	1.97	1.98	1.98	2.03	2.23	2.78	2.23	2.18	2.11	2.01	2.10	1.96	2.78	2.09	
Jan 28	2.08	2.00	S	2.06	1.97	1.97	1.97	1.97	1.96	1.95	1.95	1.94	1.94	1.93	1.92	1.91	1.91	1.91	1.91	1.91	1.92	1.92	1.92	1.92	1.91	2.08	1.95
Jan 29	1.93	S	1.92	1.92	1.94	2.13	2.28	2.40	2.19	2.12	2.03	2.08	2.09	1.92	1.99	1.98	2.00	1.92	1.91	1.90	1.90	1.91	1.91	1.91	1.90	2.40	2.01
Jan 30	S	X	X	1.93	1.96	1.97	1.97	1.97	1.98	1.98	1.99	1.99	1.98	1.97	1.96	1.96	1.95	1.95	1.95	1.96	1.96	1.96	S	1.93	1.99	1.97	
Jan 31	1.96	1.95	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.98	1.95	1.97	2.00	S	1.99	1.95	2.00	1.97
Diurnal Maximum	2.42	2.43	2.32	2.35	2.54	2.54	2.35	2.40	2.24	2.33	2.30	2.24	2.27	2.13	2.15	2.15	2.34	2.27	2.78	2.23	2.18	2.18	2.17	2.26			
Diurnal Average	2.02	2.02	2.01	2.00	2.02	2.02	2.01	2.01	2.01	2.03	2.02	2.01	1.99	1.98	1.98	1.98	2.00	2.00	2.02	1.99	1.99	1.99	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.																											

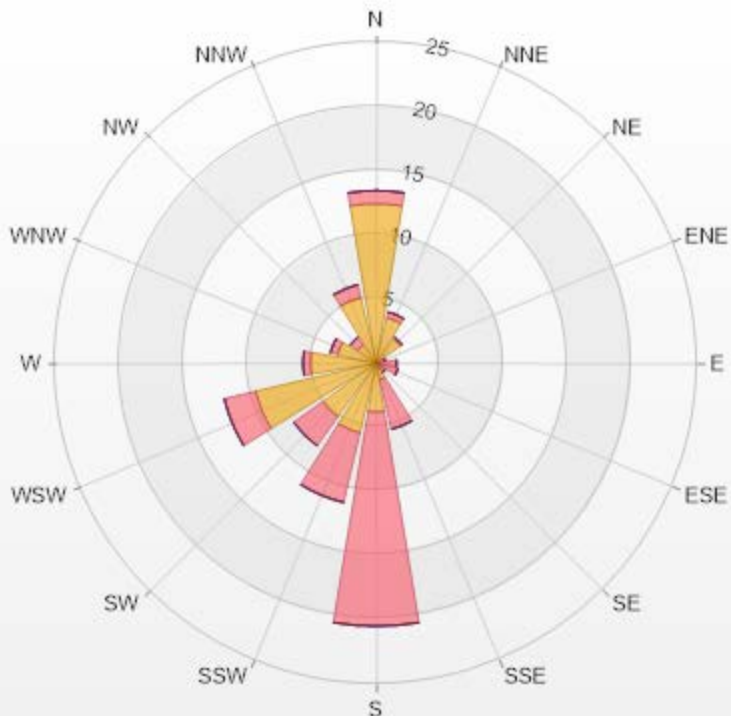
Timeseries Chart of Hourly Average for THC - Reno Station





Wind: PRAMP RENO Poll.: PRAMP RENO-THC55[ppm] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 91.94% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	12.43	1.02	0	0	0	13.45
NNE	3.65	0.44	0	0	0	4.09
NE	2.34	0.15	0	0	0	2.49
ENE	0.15	0.58	0	0	0	0.73
E	0.15	1.46	0	0	0	1.61
ESE	0.29	1.46	0	0	0	1.75
SE	0.29	0.58	0	0	0	0.87
SSE	1.32	3.95	0	0	0	5.27
S	3.8	16.67	0	0	0	20.47
SSW	5.56	5.56	0	0	0	11.12
SW	5.12	2.78	0	0	0	7.9
WSW	9.65	2.49	0	0	0	12.14
W	5.12	0.58	0	0	0	5.7
WNW	3.07	0.58	0	0	0	3.65
NW	1.75	0.73	0	0	0	2.48
NNW	5.26	1.02	0	0	0	6.28
Summary	59.95	40.05	0	0	0	100



PRAMP-202201

Page 130 of 227

% Icon Classes (ppm)

60 0-2

40 2-5

0 5-10

0 10-40

0 >40.0



PEACE RIVER AREA MONITORING PROGRAM

Reno Station - January 2022

Summary of Hourly Averages

METHANE (CH4) in ppm

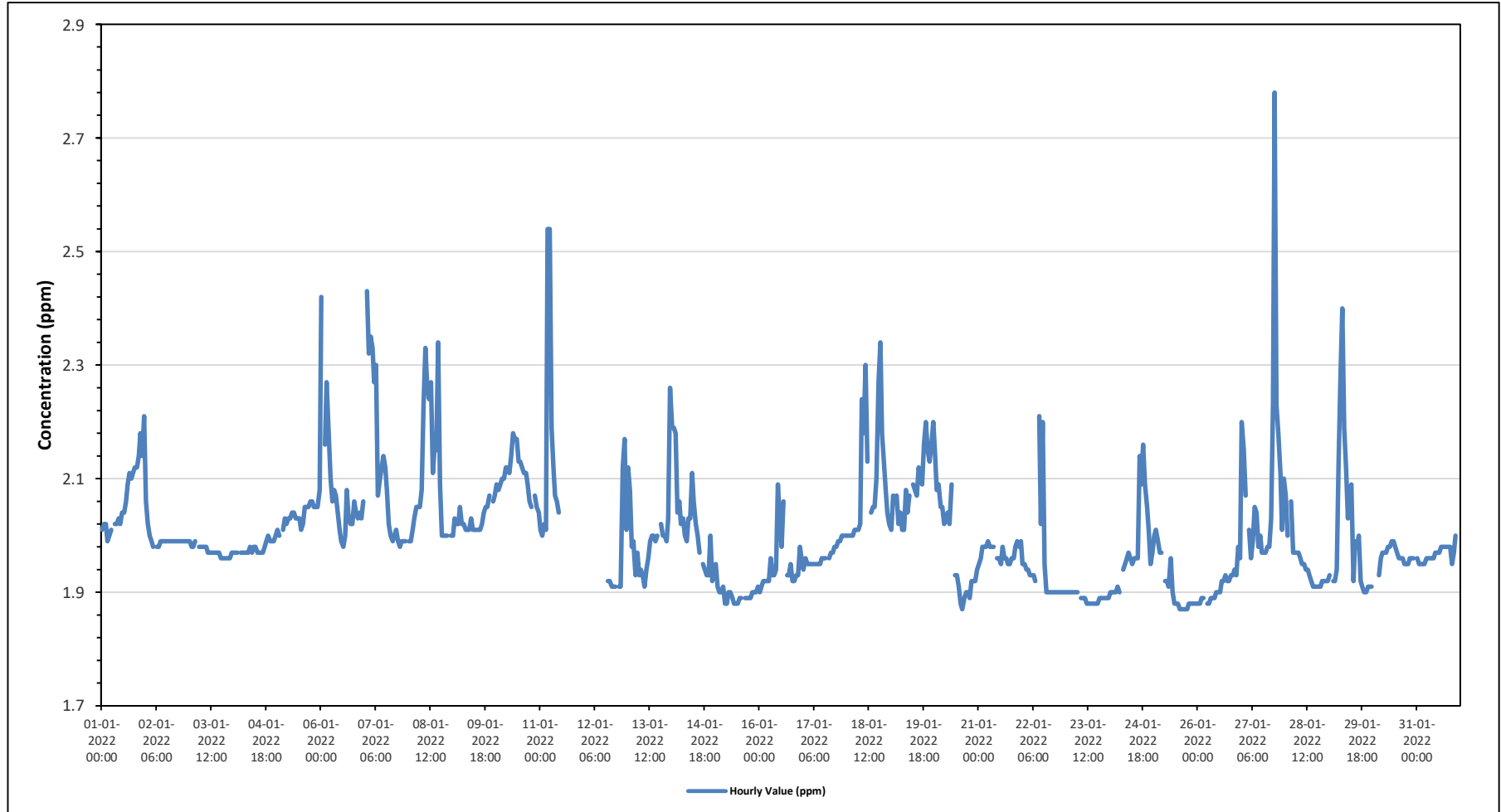
Maximum Hourly Value:	2.78 ppm on January 27 at hour 18	Hours in Service:	744
Maximum Daily Value:	2.12 ppm on January 7	Hours of Data:	684
Minimum Hourly Value:	1.87 ppm on January 20 at hour 15	Hours of Missing Data:	23
Minimum Daily Value:	1.89 ppm on January 23	Hours of Calibration:	37
Monthly Average:	2.00 ppm	Operational Uptime:	96.9

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
Jan 1	2.01	2.02	2.02	1.99	2.00	2.01	S	2.02	2.02	2.03	2.02	2.04	2.04	2.06	2.09	2.11	2.10	2.11	2.12	2.12	2.14	2.18	2.14	2.21	1.99	2.21	2.07
Jan 2	2.06	2.02	2.00	1.99	1.98	S	1.98	1.98	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.98	2.06	1.99
Jan 3	1.99	1.98	1.98	1.99	S	1.98	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.99	1.97
Jan 4	1.97	1.97	1.97	S	1.97	1.97	1.97	1.97	1.97	1.98	1.97	1.98	1.98	1.97	1.97	1.97	1.97	1.98	1.99	2.00	1.99	1.99	1.99	2.00	1.97	2.00	1.98
Jan 5	2.01	2.00	S	2.01	2.03	2.02	2.03	2.03	2.04	2.04	2.03	2.03	2.03	2.01	2.02	2.05	2.05	2.05	2.06	2.06	2.05	2.05	2.05	2.08	2.00	2.08	2.04
Jan 6	2.42	S	2.16	2.27	2.19	2.10	2.06	2.08	2.07	2.04	2.01	1.99	1.98	2.00	2.08	2.03	2.02	2.02	2.06	2.04	2.03	2.04	2.03	2.06	1.98	2.42	2.08
Jan 7	S	2.43	2.32	2.35	2.33	2.27	2.30	2.07	2.10	2.12	2.14	2.12	2.08	2.02	2.00	1.99	2.00	2.01	1.99	1.98	1.99	1.99	1.99	S	1.98	2.43	2.12
Jan 8	1.99	1.99	2.01	2.03	2.05	2.05	2.05	2.08	2.23	2.33	2.26	2.24	2.27	2.11	2.15	2.15	2.34	2.09	2.00	2.00	2.00	2.00	S	2.00	1.99	2.34	2.11
Jan 9	2.00	2.03	2.02	2.02	2.05	2.02	2.02	2.01	2.01	2.01	2.03	2.01	2.01	2.01	2.01	2.01	2.02	2.04	2.05	2.05	2.07	S	2.06	2.07	2.00	2.07	2.03
Jan 10	2.09	2.08	2.09	2.10	2.10	2.12	2.12	2.11	2.14	2.18	2.17	2.17	2.13	2.13	2.12	2.11	2.11	2.09	2.06	2.05	S	2.07	2.05	2.04	2.04	2.18	2.11
Jan 11	2.01	2.00	2.02	2.01	2.54	2.54	2.19	2.12	2.07	2.06	2.04	C	C	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	2.00	2.54	-
Jan 12	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	C	C	C	1.92	1.92	1.91	1.91	1.91	1.91	S	2.02	2.00	2.00	1.91	2.17	-
Jan 13	2.12	2.08	1.98	1.99	1.93	1.97	1.93	1.94	1.93	1.91	1.94	1.96	1.99	2.00	2.00	1.99	2.00	S	2.02	2.00	2.00	1.99	2.03	2.26	1.91	2.26	2.00
Jan 14	2.19	2.19	2.18	2.04	2.06	2.02	2.03	2.00	1.99	2.03	2.03	2.11	2.06	2.02	2.00	1.97	S	1.95	1.94	1.93	1.93	2.00	1.92	1.94	1.92	2.19	2.02
Jan 15	1.95	1.91	1.90	1.90	1.91	1.88	1.88	1.90	1.90	1.89	1.88	1.88	1.88	1.89	1.89	S	1.89	1.89	1.89	1.89	1.90	1.90	1.90	1.91	1.88	1.95	1.90
Jan 16	1.90	1.91	1.92	1.92	1.92	1.92	1.96	1.93	1.93	1.94	2.09	2.03	1.98	2.06	S	1.93	1.93	1.95	1.92	1.92	1.93	1.93	1.98	1.96	1.90	2.09	1.95
Jan 17	1.94	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.96	1.96	S	1.96	1.97	1.97	1.98	1.98	1.99	1.99	2.00	2.00	2.00	1.94	2.00	1.97
Jan 18	2.00	2.00	2.00	2.00	2.01	2.01	2.01	2.02	2.24	2.18	2.30	2.13	S	2.04	2.05	2.05	2.10	2.27	2.34	2.18	2.13	2.08	2.04	2.02	2.00	2.34	2.10
Jan 19	2.01	2.07	2.06	2.07	2.02	2.04	2.01	2.01	2.08	2.04	2.07	S	2.09	2.08	2.07	2.12	2.10	2.09	2.16	2.20	2.15	2.13	2.16	2.20	2.01	2.20	2.09
Jan 20	2.15	2.08	2.09	2.05	2.05	2.02	2.03	2.04	2.02	2.09	S	1.93	1.93	1.91	1.88	1.87	1.89	1.90	1.90	1.89	1.92	1.92	1.94	1.87	1.87	2.15	1.97
Jan 21	1.95	1.96	1.98	1.98	1.98	1.99	1.98	1.98	1.98	S	1.96	1.96	1.95	1.98	1.96	1.95	1.95	1.95	1.96	1.96	1.98	1.99	1.98	1.99	1.95	1.99	1.97
Jan 22	1.95	1.95	1.94	1.94	1.93	1.93	1.93	1.92	S	2.21	2.02	2.20	1.95	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	2.21	1.95
Jan 23	1.90	1.90	1.90	1.90	1.90	1.90	1.90	S	1.89	1.89	1.89	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.89	1.89	1.89	1.89	1.88	1.90	1.89
Jan 24	1.90	1.90	1.90	1.90	1.91	1.90	S	1.94	1.95	1.96	1.97	1.96	1.95	1.96	1.96	1.96	2.14	2.09	2.16	2.09	2.05	2.01	1.95	1.97	1.90	2.16	1.98
Jan 25	2.00	2.01	1.99	1.97	1.97	S	1.92	1.92	1.91	1.96	1.90	1.88	1.88	1.88	1.87	1.87	1.87	1.87	1.87	1.88	1.88	1.88	1.88	1.88	1.87	2.01	1.91
Jan 26	1.88	1.88	1.89	1.89	S	1.88	1.88	1.89	1.89	1.89	1.90	1.90	1.90	1.92	1.92	1.93	1.92	1.92	1.92	1.93	1.93	1.94	1.93	1.98	1.88	1.98	1.91
Jan 27	2.20	2.15	2.07	S	2.01	1.96	1.99	2.05	2.04	1.98	2.00	1.97	1.97	1.98	1.98	2.03	2.23	2.78	2.23	2.18	2.11	2.01	2.10	1.96	2.78	2.09	
Jan 28	2.07	2.00	S	2.06	1.97	1.97	1.97	1.97	1.96	1.95	1.95	1.94	1.94	1.93	1.92	1.91	1.91	1.91	1.91	1.91	1.92	1.92	1.92	1.92	1.91	2.07	1.95
Jan 29	1.93	S	1.92	1.92	1.94	2.13	2.28	2.40	2.19	2.12	2.03	2.08	2.09	1.92	1.99	1.98	2.00	1.92	1.91	1.90	1.90	1.91	1.91	1.91	1.90	2.40	2.01
Jan 30	S	X	X	1.93	1.96	1.97	1.97	1.97	1.98	1.98	1.99	1.99	1.98	1.97	1.96	1.96	1.95	1.95	1.95	1.96	1.96	1.96	S	1.93	1.99	1.97	
Jan 31	1.96	1.95	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.98	1.95	1.97	2.00	S	1.99	1.95	2.00	1.97
Diurnal Maximum	2.42	2.43	2.32	2.35	2.54	2.54	2.30	2.40	2.24	2.33	2.30	2.24	2.27	2.13	2.15	2.15	2.34	2.27	2.78	2.23	2.18	2.18	2.17	2.26			
Diurnal Average	2.02	2.02	2.01	2.00	2.02	2.02	2.01	2.01	2.01	2.02	2.02	2.01	1.99	1.98	1.98	1.98	2.00	2.00	2.02	1.99	1.99	1.99	2.01				

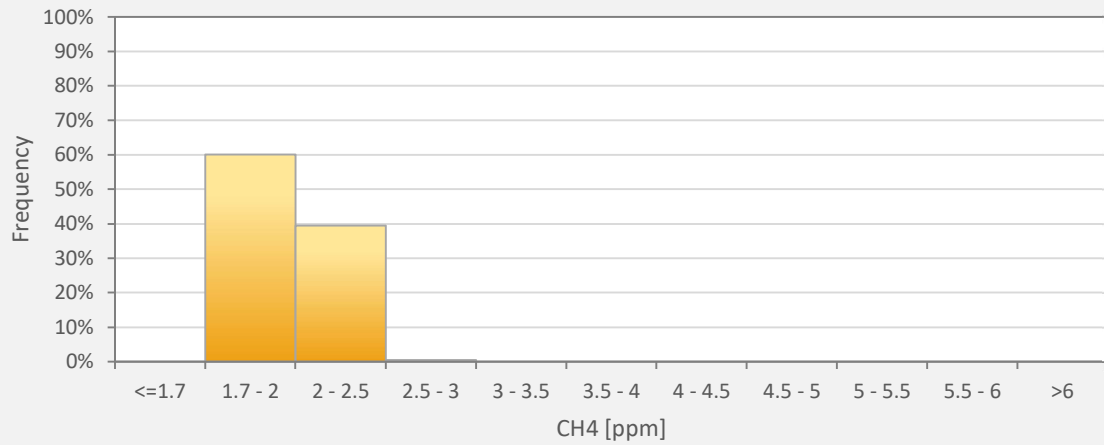
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is 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



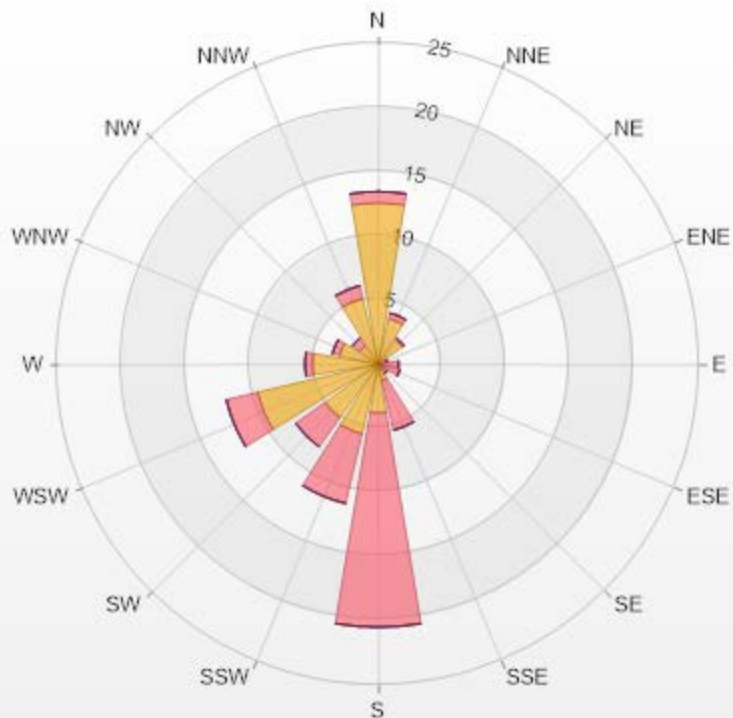
CH4[ppm] Histogram: PRAMP RENO Monthly: 01-2022 1 Hr.



Classes	CH4
<=1.7	0.00%
1.7 - 2	60.09%
2 - 2.5	39.47%
2.5 - 3	0.44%
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: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 91.94% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	12.57	0.88	0	0	0	13.45
NNE	3.65	0.44	0	0	0	4.09
NE	2.34	0.15	0	0	0	2.49
ENE	0.15	0.58	0	0	0	0.73
E	0.15	1.46	0	0	0	1.61
ESE	0.29	1.46	0	0	0	1.75
SE	0.29	0.58	0	0	0	0.87
SSE	1.32	3.95	0	0	0	5.27
S	3.8	16.67	0	0	0	20.47
SSW	5.56	5.56	0	0	0	11.12
SW	5.12	2.78	0	0	0	7.9
WSW	9.65	2.49	0	0	0	12.14
W	5.12	0.58	0	0	0	5.7
WNW	3.07	0.58	0	0	0	3.65
NW	1.75	0.73	0	0	0	2.48
NNW	5.26	1.02	0	0	0	6.28
Summary	60.09	39.91	0	0	0	100



PRAMP-202201

Page 135 of 227

% Icon Classes (ppm)

60 0-2

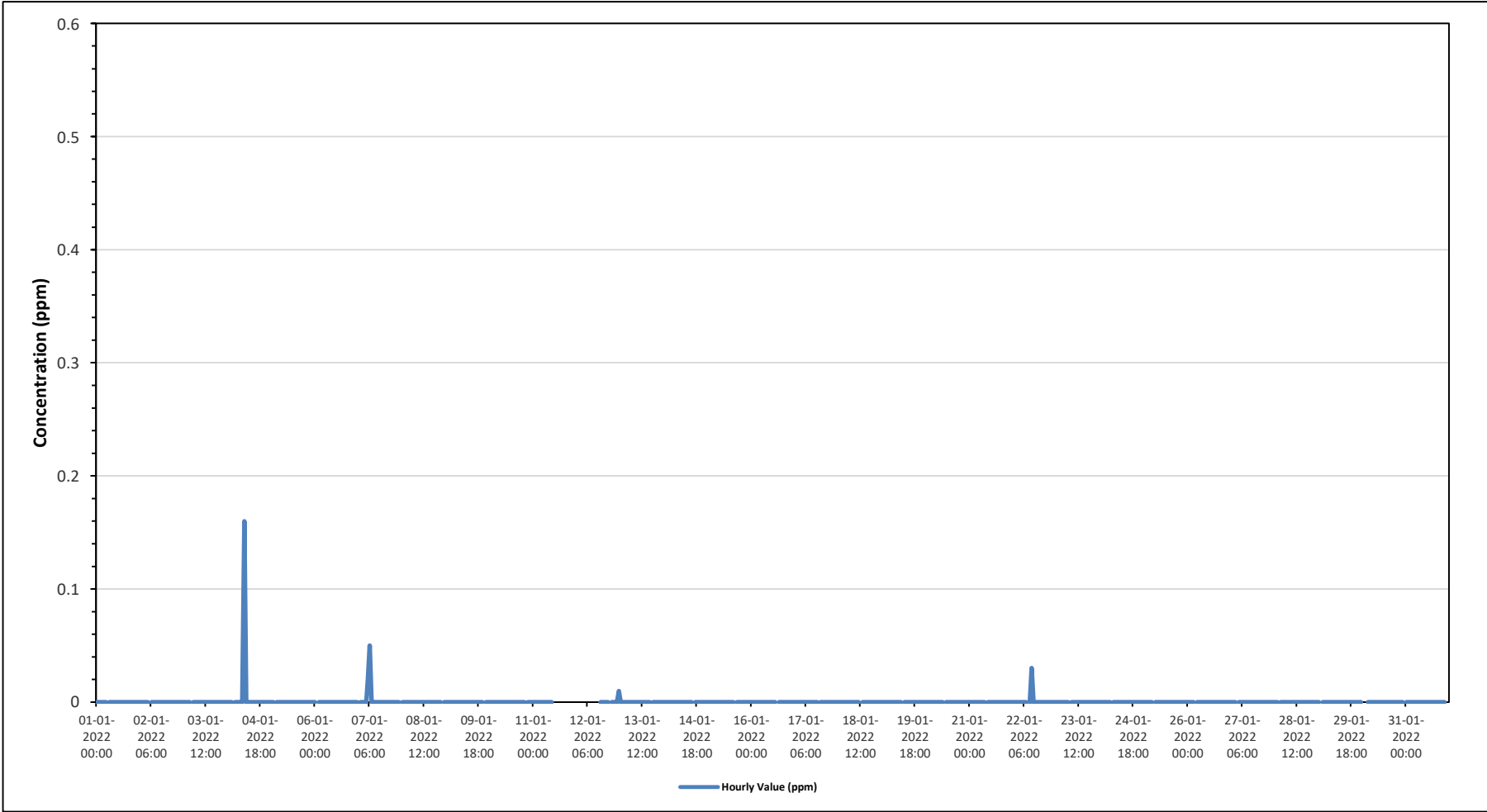
40 2-5

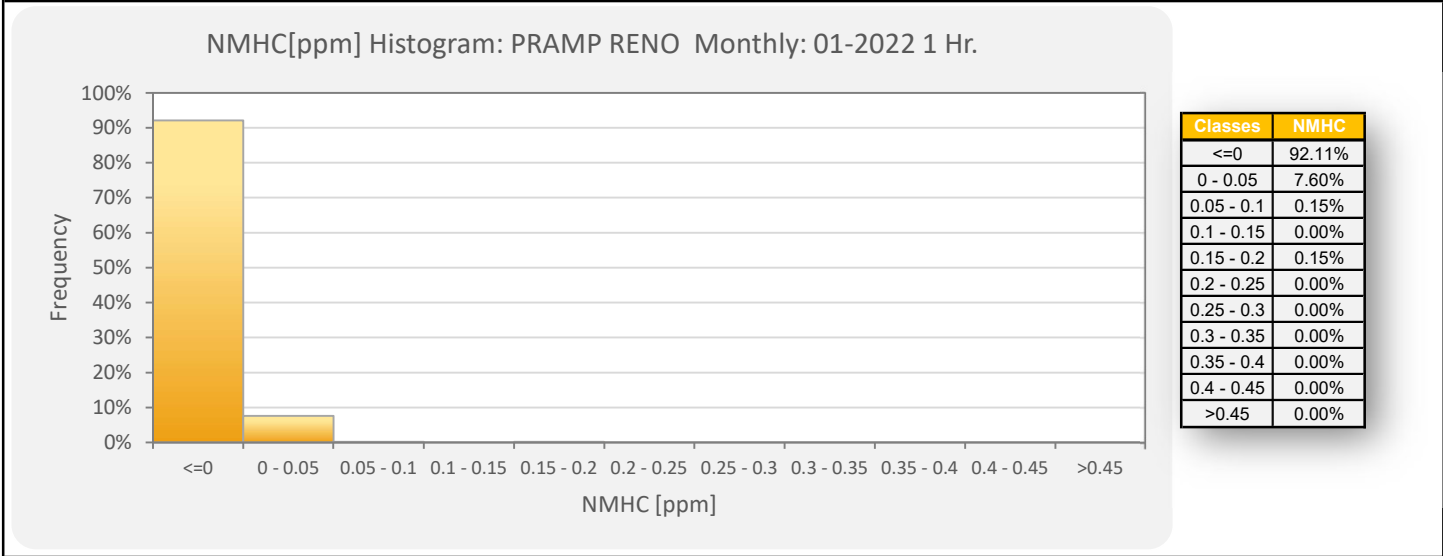
0 5-10

0 10-20

0 >20.0

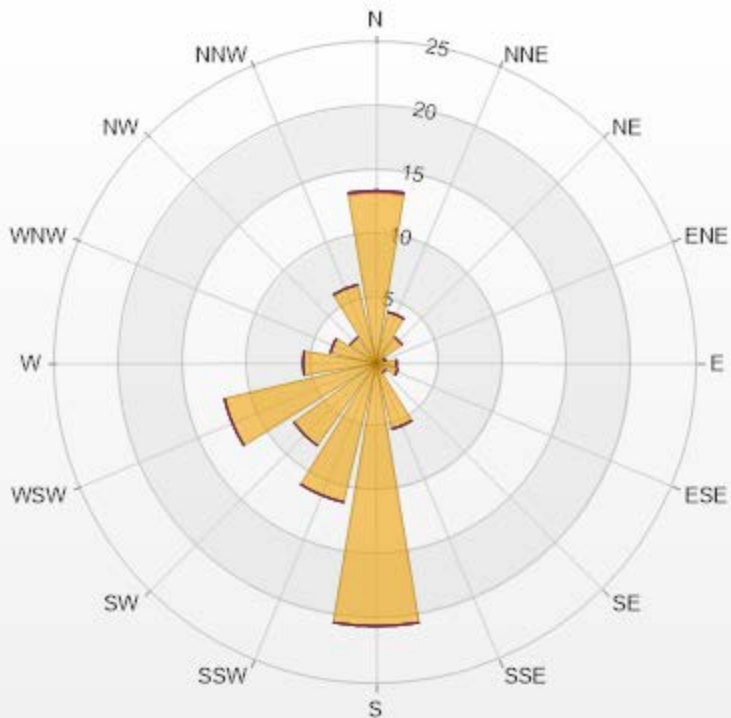
Timeseries Chart of Hourly Average for NMHC - Reno Station





Wind: PRAMP RENO Poll.: PRAMP RENO-NMHC[ppm] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 91.94% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	13.3	0.15	0	0	0	13.45
NNE	4.09	0	0	0	0	4.09
NE	2.49	0	0	0	0	2.49
ENE	0.73	0	0	0	0	0.73
E	1.61	0	0	0	0	1.61
ESE	1.75	0	0	0	0	1.75
SE	0.88	0	0	0	0	0.88
SSE	5.26	0	0	0	0	5.26
S	20.47	0	0	0	0	20.47
SSW	11.11	0	0	0	0	11.11
SW	7.89	0	0	0	0	7.89
WSW	12.13	0	0	0	0	12.13
W	5.7	0	0	0	0	5.7
WNW	3.65	0	0	0	0	3.65
NW	2.49	0	0	0	0	2.49
NNW	6.29	0	0	0	0	6.29
Summary	100	0.15	0	0	0	100



PRAMP-202201

Page 140 of 227

% Icon Classes (ppm)

100 0-0.1

0 0.1-0.3

0 0.3-1

0 1-2

0 >2.0



PEACE RIVER AREA MONITORING PROGRAM

Reno Station - January 2022

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

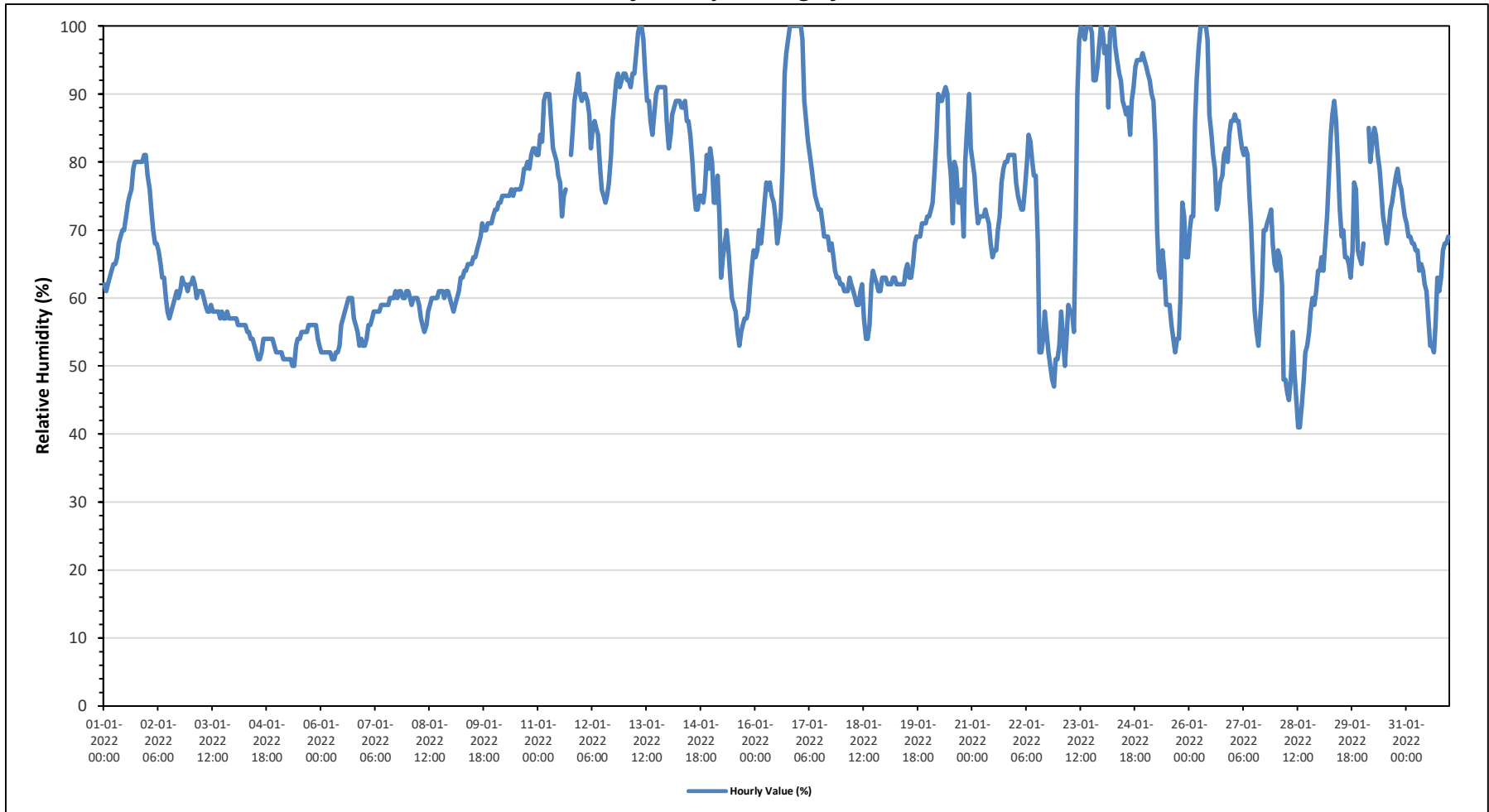
Maximum Hourly Value:	100 %	on January 13 at hour 8	Hours in Service:	744
Maximum Daily Value:	93.4 %	on January 24	Hours of Data:	740
Minimum Hourly Value:	41 %	on January 28 at hour 12	Hours of Missing Data:	4
Minimum Daily Value:	53.3 %	on January 5	Hours of Calibration:	0
Monthly Average:	70.7 %		Operational Uptime:	99.5

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
Jan 1	62	61	62	63	64	65	65	66	68	69	70	70	72	74	75	76	79	80	80	80	80	81	81	61	81	71.8	
Jan 2	78	76	73	70	68	68	67	65	63	63	60	58	57	58	59	60	61	60	61	63	62	62	61	62	57	78	64.0
Jan 3	62	63	62	60	61	61	61	60	59	58	58	59	58	58	58	58	57	58	57	57	58	57	57	57	57	63	58.9
Jan 4	57	57	56	56	56	56	56	55	55	54	54	53	52	51	51	52	54	54	54	54	54	53	52	51	57	54.2	
Jan 5	52	52	52	51	51	51	51	51	50	50	53	54	54	55	55	55	55	56	56	56	56	54	53	50	56	53.3	
Jan 6	52	52	52	52	52	52	51	51	52	52	53	56	57	58	59	60	60	60	57	56	55	53	54	53	51	60	54.5
Jan 7	53	54	56	56	57	58	58	58	58	59	59	59	59	59	60	60	60	61	60	61	61	60	60	53	61	58.6	
Jan 8	61	60	59	60	60	60	59	57	56	55	56	58	59	60	60	60	60	61	61	61	60	61	61	55	61	59.4	
Jan 9	59	58	59	60	61	63	63	64	64	65	65	65	66	66	67	68	69	71	70	70	71	71	71	58	72	65.8	
Jan 10	73	73	74	74	75	75	75	75	75	76	75	76	76	76	76	77	79	79	80	79	81	82	82	73	82	76.8	
Jan 11	81	84	83	89	90	90	90	86	82	81	80	78	77	72	75	76	81	86	81	85	89	91	93	72	93	83.8	
Jan 12	89	90	90	89	87	82	85	86	85	84	79	76	75	74	75	77	81	86	89	92	93	91	92	74	93	85.0	
Jan 13	93	92	92	91	93	93	96	99	100	100	98	93	89	89	86	84	87	90	91	91	91	91	91	84	100	91.9	
Jan 14	82	84	87	88	89	89	89	88	88	89	86	86	84	80	76	73	75	75	74	76	81	79	82	73	89	82.2	
Jan 15	80	74	74	78	72	63	66	68	70	67	63	60	59	58	55	53	55	56	57	57	58	62	65	53	80	64.0	
Jan 16	66	67	70	68	71	74	77	76	77	75	74	72	68	70	72	79	93	96	98	100	100	100	100	66	100	81.0	
Jan 17	100	100	98	89	86	83	81	79	77	75	74	73	73	71	69	69	69	67	68	66	64	63	63	62	100	75.8	
Jan 18	62	61	61	61	63	62	61	60	59	59	61	62	57	54	54	56	62	64	63	62	61	61	63	54	64	60.5	
Jan 19	63	62	62	62	63	63	62	62	62	62	62	64	65	63	63	65	68	69	69	69	71	71	71	62	72	65.2	
Jan 20	72	73	74	79	84	90	89	89	90	91	90	81	78	71	80	79	74	74	76	69	80	85	90	69	91	80.8	
Jan 21	80	78	74	71	72	72	72	73	72	71	68	66	67	67	70	72	77	79	80	80	81	81	81	66	81	74.4	
Jan 22	77	75	74	73	73	76	80	84	83	80	78	78	68	52	52	54	58	55	52	50	48	47	51	47	84	65.4	
Jan 23	53	58	54	50	54	59	58	58	55	71	90	98	100	99	98	100	100	100	99	92	92	94	97	50	100	80.4	
Jan 24	99	96	97	88	99	100	100	97	95	93	92	89	88	87	88	84	89	91	94	95	95	95	96	84	100	93.4	
Jan 25	94	93	92	90	89	83	70	64	63	67	64	59	59	59	56	54	52	54	54	60	74	72	66	52	94	68.9	
Jan 26	70	72	72	86	92	97	100	100	100	100	98	87	84	81	79	73	74	77	78	81	82	80	84	70	100	84.7	
Jan 27	86	87	86	86	84	82	81	82	81	75	71	64	58	55	53	57	61	70	70	71	72	73	68	53	87	72.4	
Jan 28	64	67	66	62	48	48	46	45	48	55	49	45	41	41	44	48	52	53	55	58	60	59	61	64	41	67	53.3
Jan 29	64	66	64	68	72	78	84	87	89	86	80	73	69	70	66	66	65	63	67	77	76	67	66	63	89	72.0	
Jan 30	68	X	X	85	80	83	85	84	81	79	76	72	70	68	70	73	74	76	78	79	77	76	74	68	85	76.4	
Jan 31	71	69	69	68	68	67	67	64	65	64	62	61	57	53	53	52	56	63	61	63	67	68	68	52	71	63.5	
Diurnal Maximum	100	100	98	91	99	100	100	100	100	100	98	98	100	99	98	100	100	100	99	100	100	100	100	100	100	100	100
Diurnal Average	71.7	71.8	71.5	71.7	72.1	72.4	72.4	71.7	71.8	70.9	69.2	67.6	66.1	66.3	66.8	68.5	69.9	70.7	71.2	72.4	72.4	72.7	72.4				

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

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

Timeseries Chart of Hourly Average for RH - Reno Station





PEACE RIVER AREA MONITORING PROGRAM

Reno Station - January 2022

Summary of Hourly Averages

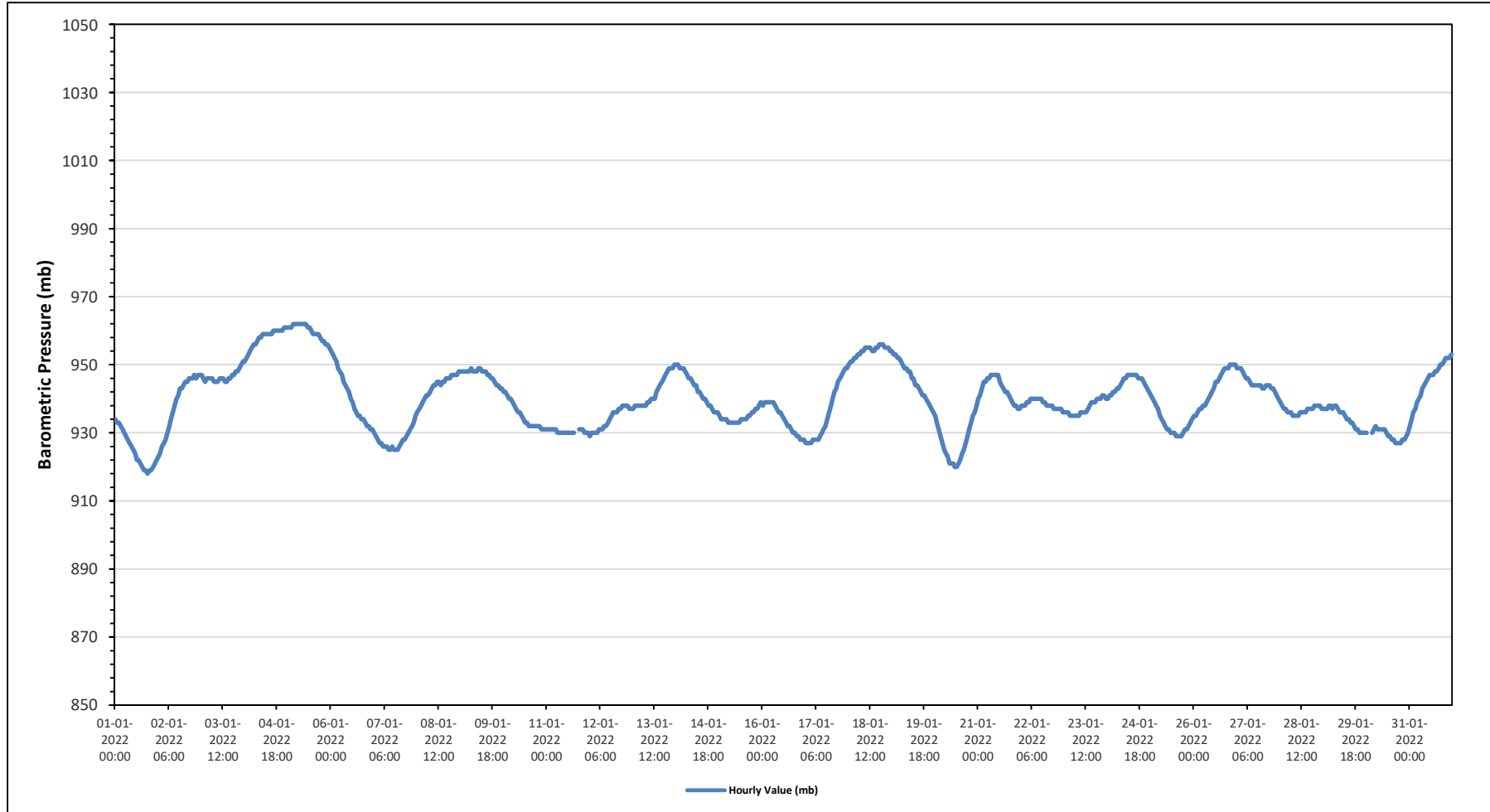
BAROMETRIC PRESSURE (BP) in millibar

Maximum Hourly Value:	962 mb	on January 5 at hour 3	Hours in Service:	744
Maximum Daily Value:	960 mb	on January 5	Hours of Data:	740
Minimum Hourly Value:	918 mb	on January 1 at hour 18	Hours of Missing Data:	4
Minimum Daily Value:	925 mb	on January 1	Hours of Calibration:	0
Monthly Average:	940 mb		Operational Uptime:	99.5

Day	Hourly Period Starting at (MST)																							Daily	Daily	Daily					
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average				
Jan 1	934	933	933	932	931	930	929	928	927	926	925	924	922	922	921	920	919	919	918	919	919	920	921	922	918	934	924.8				
Jan 2	923	924	926	927	928	930	932	934	936	938	940	941	943	943	944	945	945	946	946	946	947	946	947	947	923	947	938.5				
Jan 3	947	946	945	946	946	946	946	945	945	945	946	946	946	945	945	946	946	947	947	948	948	949	950	951	945	951	946.5				
Jan 4	951	952	953	954	955	956	956	957	958	958	959	959	959	959	959	959	960	960	960	960	960	960	961	961	951	961	957.8				
Jan 5	961	961	961	962	962	962	962	962	962	962	962	962	961	961	960	959	959	959	958	957	957	956	956	955	955	962	959.8				
Jan 6	954	953	952	951	949	948	947	945	944	943	942	940	939	937	936	935	935	934	934	933	932	932	931	931	931	931	954	940.7			
Jan 7	930	929	928	927	927	926	926	926	925	925	926	925	925	925	926	927	928	928	929	930	931	932	933	935	925	935	927.9				
Jan 8	936	937	938	939	940	941	941	942	943	944	944	945	945	944	945	945	946	946	946	947	947	947	947	948	936	948	943.5				
Jan 9	948	948	948	948	948	948	949	948	948	948	949	949	948	948	948	947	947	946	946	945	944	944	943	943	943	949	947.0				
Jan 10	942	942	941	940	940	939	938	937	936	936	935	934	933	933	932	932	932	932	932	932	932	931	931	931	931	942	935.1				
Jan 11	931	931	931	931	931	931	930	930	930	930	930	930	930	930	930	930	930	Y	Y	931	931	931	930	930	930	931	930.4				
Jan 12	929	930	930	930	930	931	931	931	932	932	933	934	935	936	936	936	937	937	938	938	938	938	937	937	929	938	934.0				
Jan 13	937	938	938	938	938	938	938	938	939	939	940	940	940	942	943	944	945	946	947	948	949	949	949	950	937	950	942.2				
Jan 14	950	950	949	949	949	948	947	946	946	945	944	944	942	942	941	940	940	939	938	938	937	936	936	936	936	950	943.0				
Jan 15	935	934	934	934	934	933	933	933	933	933	933	933	934	934	934	934	935	935	936	936	937	937	938	939	933	939	934.6				
Jan 16	938	939	939	939	939	939	939	938	937	936	936	935	934	933	932	932	931	930	930	929	929	928	928	928	928	939	934.1				
Jan 17	927	927	927	927	928	928	928	928	929	930	931	932	934	936	938	940	942	943	945	946	947	948	949	949	927	949	935.8				
Jan 18	950	951	951	952	952	953	953	954	954	955	955	955	955	954	954	955	955	956	956	956	955	955	955	954	950	956	954.0				
Jan 19	954	953	953	952	952	951	950	949	948	948	948	946	946	944	944	943	942	941	941	940	939	938	937	936	936	954	945.7				
Jan 20	935	933	931	929	927	925	924	923	921	921	921	920	920	921	922	924	925	927	929	931	933	935	936	938	920	938	927.1				
Jan 21	940	941	943	945	945	946	946	947	947	947	947	947	945	944	943	942	942	941	940	939	938	938	937	937	937	947	942.8				
Jan 22	938	938	938	939	939	940	940	940	940	940	940	940	939	939	938	938	938	938	937	937	937	937	937	936	936	940	938.5				
Jan 23	936	936	936	935	935	935	935	935	935	936	936	936	936	937	938	939	939	939	940	940	940	941	941	940	935	941	937.3				
Jan 24	940	941	941	942	942	943	943	944	945	946	946	947	947	947	947	947	947	946	946	946	945	944	943	942	940	947	944.5				
Jan 25	941	940	939	938	937	935	934	933	932	931	931	930	930	930	929	929	929	929	930	931	931	932	933	934	929	941	932.8				
Jan 26	935	935	936	937	937	938	938	939	940	941	942	943	945	945	946	947	948	949	949	949	950	950	950	950	935	950	943.3				
Jan 27	949	949	949	948	947	946	946	945	944	944	944	944	944	943	943	944	944	944	943	943	942	941	940	940	940	949	944.6				
Jan 28	939	938	937	937	936	936	936	935	935	935	935	935	936	936	936	937	937	937	937	938	938	938	937	937	935	939	936.7				
Jan 29	937	937	937	938	938	937	938	938	937	936	936	936	935	934	934	933	933	932	931	931	930	930	930	930	930	938	934.5				
Jan 30	930	X	X	930	931	932	931	931	931	931	931	930	929	929	928	928	927	927	927	927	928	928	929	930	927	932	929.3				
Jan 31	932	934	936	937	939	940	941	943	944	945	946	947	947	948	948	949	950	950	951	952	952	952	953	932	953	945.1					
Diurnal Maximum	961	961	961	962	962	962	962	962	962	962	962	961	961	960	959	959	960	960	960	960	960	960	961	961							
Diurnal Average	940	940	940	940	940	940	940	939	939	940	940	940	939	939	939	939	940	940	940	940	940	940	940	940							
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

Reno Station - January 2022

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

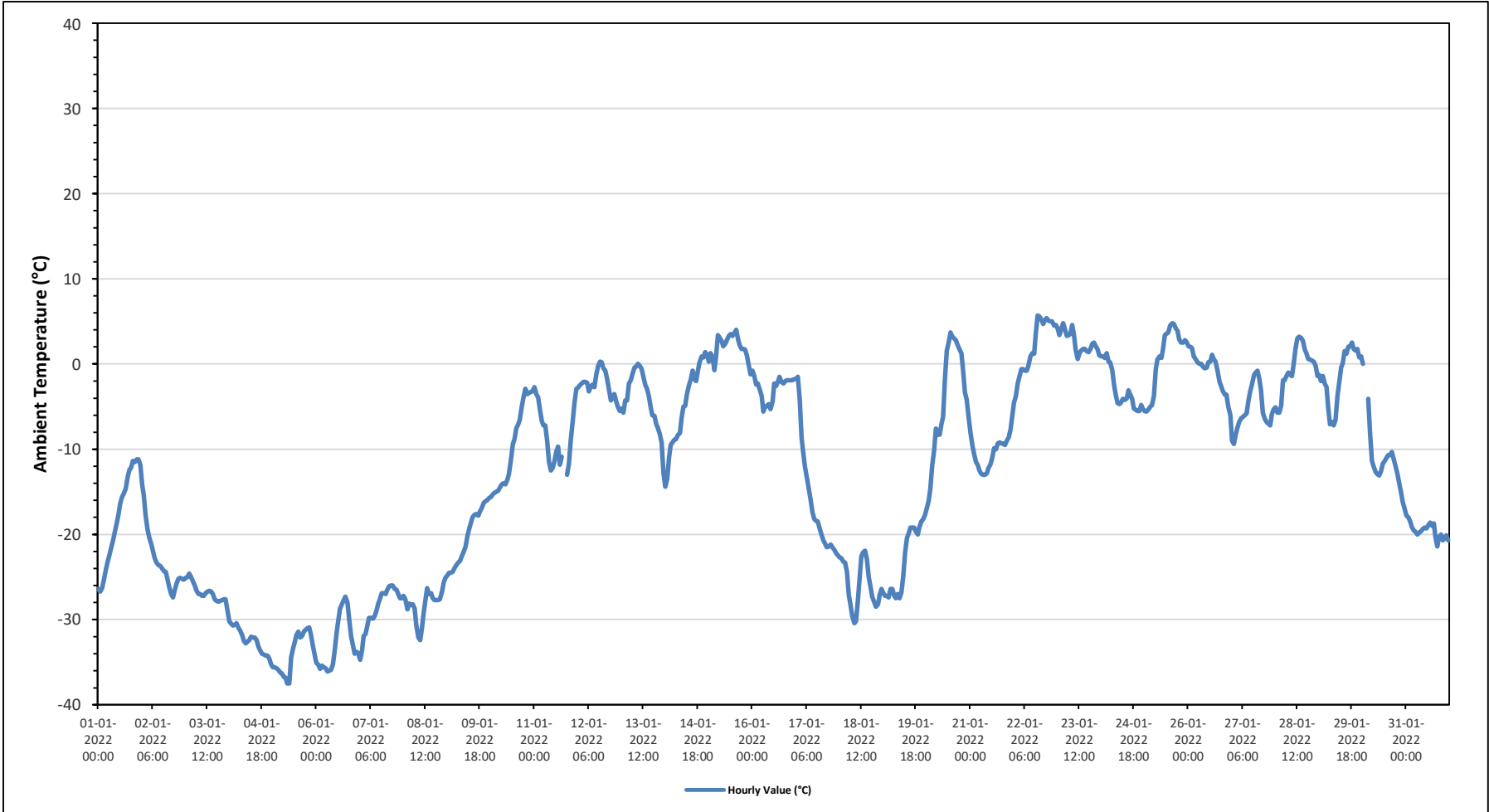
Maximum Hourly Value:	5.7 °C on January 22 at hour 13	Hours in Service:	744
Maximum Daily Value:	2.6 °C on January 23	Hours of Data:	740
Minimum Hourly Value:	-37.5 °C on January 5 at hour 8	Hours of Missing Data:	4
Minimum Daily Value:	-34.0 °C on January 5	Hours of Calibration:	0
Monthly Average:	-12.6 °C	Operational Uptime:	99.5

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		
Jan 1	-26.4	-26.7	-26.3	-25.3	-24.2	-23.2	-22.5	-21.6	-20.6	-19.7	-18.7	-17.6	-16.4	-15.6	-15.2	-14.6	-13.3	-12.4	-12.2	-11.4	-11.5	-11.2	-11.2	-11.8	-26.7	-11.2	-17.9		
Jan 2	-14.2	-15.4	-17.8	-19.4	-20.4	-21.1	-22	-22.8	-23.3	-23.6	-23.7	-24	-24.3	-24.4	-25.2	-26.2	-27	-27.4	-26.5	-25.7	-25.2	-25.1	-25.2	-25.3	-27.4	-14.2	-23.1		
Jan 3	-25.1	-25	-24.6	-25	-25.5	-26	-26.6	-27	-27	-27.2	-27.2	-26.9	-26.7	-26.6	-26.7	-27	-27.6	-27.8	-27.9	-27.8	-27.7	-27.6	-27.6	-28.9	-28.9	-24.6	-26.8		
Jan 4	-30.2	-30.5	-30.7	-30.6	-30.4	-30.9	-31.3	-31.8	-32.5	-32.8	-32.6	-32.4	-32	-32.1	-32.1	-32.4	-33.2	-33.6	-34	-34.1	-34.2	-34.2	-34.6	-35.2	-35.2	-30.2	-32.4		
Jan 5	-35.6	-35.6	-35.7	-35.9	-36.2	-36.3	-36.7	-36.8	-37.5	-37.5	-34.4	-33.4	-32.7	-31.8	-31.4	-32.1	-31.9	-31.4	-31.2	-31	-30.9	-31.7	-33.1	-34.2	-37.5	-30.9	-34.0		
Jan 6	-35.1	-35.3	-35.8	-35.4	-35.6	-35.7	-36.1	-36	-35.9	-35.3	-33.9	-31.6	-30	-28.7	-28.2	-27.7	-27.3	-28	-30.1	-32	-32.9	-34	-33.8	-33.9	-36.1	-27.3	-32.8		
Jan 7	-34.7	-33.6	-31.9	-31.7	-30.7	-29.8	-29.8	-29.9	-29.6	-29	-28.1	-27.6	-26.9	-26.9	-27	-26.5	-26.1	-26	-26	-26.4	-26.5	-27	-27.5	-27.5	-34.7	-26.0	-28.6		
Jan 8	-27.2	-27.6	-28.8	-28.1	-28.3	-28.2	-28.7	-30.6	-32.1	-32.4	-31.1	-29.2	-27.6	-26.3	-27	-26.9	-27.5	-27.7	-27.7	-27.7	-27.6	-27.6	-25.6	-25.1	-32.4	-25.1	-28.2		
Jan 9	-24.8	-24.5	-24.5	-24.4	-23.9	-23.6	-23.3	-23.1	-22.6	-22.1	-21.4	-20.3	-19.4	-18.6	-18	-17.7	-17.6	-17.8	-17.3	-16.9	-16.3	-16.1	-16	-15.7	-24.8	-15.7	-20.2		
Jan 10	-15.6	-15.3	-15.1	-15	-14.9	-14.5	-14.1	-14	-14.1	-13.6	-12.9	-11.4	-9.4	-8.8	-7.5	-7.1	-6.5	-5.1	-3.9	-2.9	-3.5	-3.4	-3.3	-3.2	-15.6	-2.9	-9.8		
Jan 11	-2.7	-3.6	-3.9	-5.4	-6.7	-7.2	-7.2	-9	-11.5	-12.5	-12.2	-11.5	-10.3	-9.7	-11.8	-10.9	Y	Y	-13	-11.7	-8.9	-6.8	-4.5	-2.9	-13.0	-2.7	-8.4		
Jan 12	-2.8	-2.5	-2.3	-2.1	-2.1	-2.2	-3.2	-2.7	-2.4	-2.7	-1.2	-0.2	0.3	0.2	-0.5	-0.8	-1.8	-3	-4.3	-3.9	-3.5	-4.4	-5.1	-5.5	-5.5	0.3	-2.4		
Jan 13	-5.2	-5.7	-4.3	-4.3	-2.3	-1.9	-1.1	-0.4	-0.3	0	-0.2	-0.6	-1.6	-2.5	-2.9	-3.8	-5.1	-6	-6.1	-7.1	-7.5	-8.2	-9.2	-12.8	-12.8	0.0	-4.1		
Jan 14	-14.4	-13.5	-11	-9.5	-9.2	-8.9	-8.8	-8.3	-8.1	-6.4	-5	-4.9	-3.6	-2.5	-1.8	-0.8	-1.8	-2	-0.7	0.2	0.9	0.8	1.4	1.1	-14.4	1.4	-4.9		
Jan 15	0.3	1.3	0.8	-0.7	0.9	3.4	3.1	2.7	2.1	2.4	2.9	3.3	3.5	3.3	3.6	4	2.9	2.2	1.8	1.8	1.7	1	-0.3	-1.2	-1.2	4.0	2.0		
Jan 16	-0.8	-1.4	-2.4	-2.3	-3	-3.8	-5.6	-5	-4.9	-4.7	-5.3	-4.4	-2.3	-2.6	-2.1	-1.5	-2.1	-2.3	-2	-1.9	-1.9	-1.9	-1.9	-1.8	-5.6	-0.8	-2.8		
Jan 17	-1.7	-1.5	-4.1	-8.6	-10.3	-12.1	-13.5	-14.6	-15.9	-17.4	-18.2	-18.4	-18.5	-19.4	-20	-20.7	-21.1	-21.5	-21.4	-21.2	-21.5	-21.8	-22.2	-22.4	-22.4	-22.4	-1.5	-16.2	
Jan 18	-22.7	-22.8	-23.2	-23.3	-24.4	-27.1	-28.2	-29.6	-30.4	-30.2	-27.8	-25	-22.6	-23.8	-24.9	-22.1	-20.4	-19.9	-19.2	-19.2	-19.7	-20	-19.1	-18.5	-18.2	-17.7	-27.5	-17.7	-23.2
Jan 19	-26.9	-27.2	-27.2	-27.4	-26.4	-26.4	-27.2	-27.5	-27	-27.5	-26.8	-24.9	-22.1	-20.4	-19.9	-19.2	-19.2	-19.2	-19.7	-20	-19.1	-18.5	-18.2	-17.7	-27.5	-17.7	-23.2		
Jan 20	-16.9	-16	-14.6	-11.9	-10.2	-7.6	-8.3	-8.3	-7	-6.2	-1.7	1.6	2.5	3.7	3.2	3	2.8	2.2	1.7	1.3	-1	-3.3	-4.2	-6.2	-16.9	3.7	-4.2		
Jan 21	-8	-9.5	-10.6	-11.5	-11.8	-12.5	-12.9	-13	-13	-12.8	-12.2	-11.8	-11	-9.9	-10	-9.3	-9.2	-9.3	-9.3	-9.5	-9	-8.6	-7.7	-6.2	-13.0	-6.2	-10.4		
Jan 22	-4.5	-3.8	-2.3	-1.4	-0.6	-0.6	-0.8	-0.8	-0.2	0.9	1.3	1.2	3.6	5.7	5.6	5.2	4.7	5.2	5.4	5.1	5	5	4.5	4.6	-4.5	5.7	2.0		
Jan 23	4.2	3.4	4.1	4.8	4.1	3.3	3.4	3.5	4.6	3.4	1.7	0.6	1.3	1.6	1.8	1.8	1.5	1.4	1.8	2.4	2.5	2.1	1.7	1	0.6	4.8	2.6		
Jan 24	0.9	0.9	0.7	1.3	0.3	0.2	-0.7	-2.5	-3.6	-4.6	-4.7	-4.5	-4.1	-4.2	-4	-3.1	-3.6	-4.1	-5.2	-5.4	-5.5	-5.5	-4.8	-5.3	-5.5	1.3	-3.0		
Jan 25	-5.5	-5.6	-5.3	-5	-4.8	-3.7	-0.6	0.5	0.9	0.7	1.7	3.4	3.6	3.7	4.5	4.8	4.7	4.2	3.9	2.9	2.5	2.5	2.8	2.6	-5.6	4.8	0.8		
Jan 26	2.1	2	1.9	0.9	0.5	0.2	0	0	-0.3	-0.5	-0.4	0.2	0.3	1.1	0.6	0.3	-0.7	-2.1	-2.6	-3.2	-3.6	-3.6	-5	-6	-6.0	2.1	-0.7		
Jan 27	-9	-9.4	-8.3	-7.5	-6.8	-6.4	-6.2	-6	-5.8	-4.3	-3.3	-2.4	-1.3	-1	-0.8	-1.8	-3	-5.7	-6.4	-6.8	-7	-7.2	-5.9	-5.3	-9.4	-0.8	-5.3		
Jan 28	-5.1	-5.7	-5.7	-4.9	-1.9	-1.9	-1.4	-1	-1.3	-1.4	0.2	1.8	3	3.2	3.1	2.7	1.7	1.3	0.6	0.5	0.4	0.3	-0.2	-1.4	-5.7	3.2	-0.5		
Jan 29	-1.3	-2	-1.4	-2.3	-2.7	-5.4	-7.1	-6.8	-7.2	-6.5	-3.8	-2.1	-0.4	0.1	1.5	1.2	2	2.1	2.5	1.8	1.6	1.8	0.8	0.9	-7.2	2.5	-1.4		
Jan 30	0	X	X	-4.1	-8.2	-11.4	-12.1	-12.7	-12.9	-13.1	-12.6	-11.7	-11.4	-11	-10.7	-10.7	-10.3	-11.2	-12	-12.9	-13.9	-15	-16.2	-17	-17.0	0.0	-11.4		
Jan 31	-17.8	-18	-18.5	-19.1	-19.5	-19.7	-20	-19.8	-19.6	-19.4	-19.2	-19.3	-19	-18.6	-19	-18.7	-20.3	-21.4	-20.3	-20	-20.7	-20.4	-20.1	-20.7	-21.4	-17.8	-19.5		
Diurnal Maximum	4.2	3.4	4.1	4.8	4.1	3.4	3.4	3.5	4.6	3.4	2.9	3.4	3.6	5.7	5.6	5.2	4.7	5.2	5.4	5.1	5.0	5.0	4.5	4.6					
Diurnal Average	-13.1	-13.7	-13.6	-13.4	-13.4	-13.6	-13.9	-14.0	-14.2	-14.1	-13.3	-12.4	-11.5	-11.0	-11.0	-10.9	-11.4	-11.8	-11.9	-12.0	-12.0	-12.2	-12.2	-12.6					

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

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

Timeseries Chart of Hourly Average for AT - Reno Station





PEACE RIVER AREA MONITORING PROGRAM

Reno Station - January 2022

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

Maximum Hourly Value:	25.3 °C	on January 11 at hour 1	Hours in Service:	744
Maximum Daily Value:	24.0 °C	on January 11	Hours of Data:	740
Minimum Hourly Value:	17.0 °C	on January 5 at hour 9	Hours of Missing Data:	4
Minimum Daily Value:	18.9 °C	on January 4	Hours of Calibration:	0
Monthly Average:	22.4 °C		Operational Uptime:	99.5

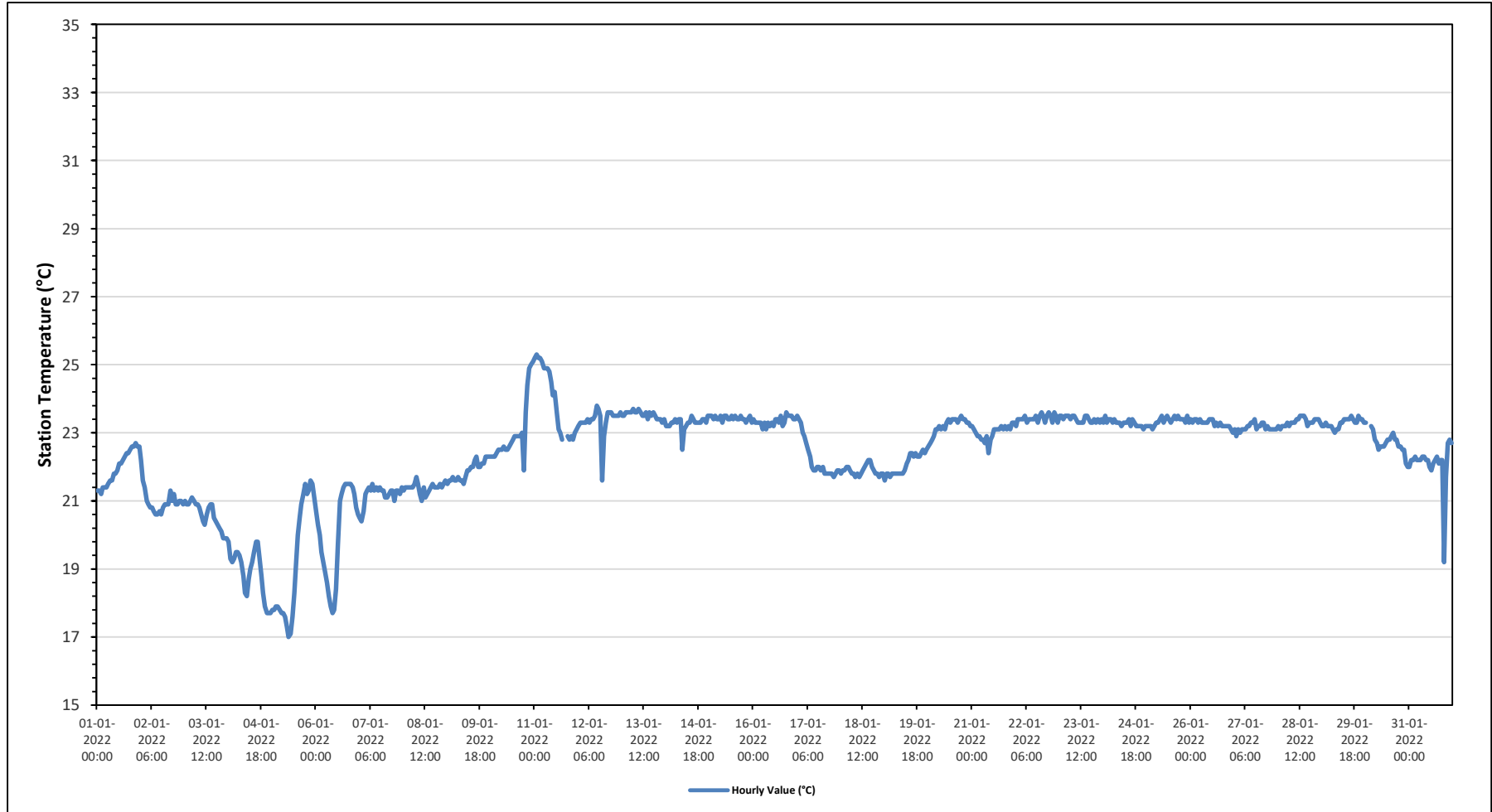
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Jan 1	21.3	21.3	21.2	21.4	21.4	21.4	21.5	21.6	21.6	21.8	21.8	21.9	22.1	22.1	22.2	22.3	22.4	22.4	22.5	22.6	22.6	22.7	22.6	22.6	21.2	22.7	22.0	
Jan 2	22.2	21.6	21.4	21.0	20.9	20.8	20.8	20.7	20.6	20.6	20.7	20.6	20.8	20.9	20.9	20.9	20.9	21.3	21.0	21.2	20.9	20.9	21.0	21.0	20.9	20.6	22.2	21.0
Jan 3	21.0	20.9	20.9	21.0	21.1	21.0	20.9	20.9	20.8	20.6	20.4	20.3	20.6	20.8	20.9	20.9	20.5	20.4	20.3	20.2	20.1	19.9	19.9	19.9	19.9	19.9	21.1	20.6
Jan 4	19.8	19.3	19.2	19.3	19.5	19.5	19.4	19.2	18.8	18.3	18.2	18.7	19.0	19.2	19.5	19.8	19.8	19.3	18.8	18.3	17.9	17.7	17.7	17.7	17.7	19.8	18.9	
Jan 5	17.8	17.8	17.9	17.9	17.8	17.7	17.7	17.6	17.3	17.0	17.1	17.6	18.3	19.1	20.0	20.5	20.9	21.2	21.5	21.2	21.3	21.6	21.5	21.1	17.0	21.6	19.1	
Jan 6	20.7	20.3	20.0	19.5	19.2	18.9	18.6	18.2	17.9	17.7	17.8	18.4	19.7	21.0	21.2	21.4	21.5	21.5	21.5	21.5	21.4	21.2	20.8	20.6	17.7	21.5	20.0	
Jan 7	20.5	20.4	20.7	21.2	21.3	21.4	21.3	21.5	21.3	21.4	21.3	21.4	21.3	21.3	21.1	21.1	21.2	21.3	21.3	21.0	21.3	21.3	21.2	21.4	20.4	21.5	21.2	
Jan 8	21.3	21.4	21.4	21.4	21.4	21.4	21.5	21.5	21.2	21.0	21.4	21.1	21.2	21.3	21.4	21.5	21.4	21.4	21.4	21.4	21.5	21.4	21.5	21.6	21.0	21.7	21.4	
Jan 9	21.5	21.6	21.6	21.7	21.6	21.6	21.7	21.6	21.6	21.5	21.7	21.9	21.9	22.0	22.0	22.2	22.3	22.0	22.0	22.1	22.1	22.3	22.3	22.3	21.5	22.3	21.9	
Jan 10	22.3	22.3	22.3	22.4	22.5	22.5	22.5	22.6	22.5	22.5	22.6	22.7	22.8	22.9	22.9	22.9	23.0	21.9	23.6	24.4	24.9	25.0	25.1	21.9	25.1	23.0		
Jan 11	25.2	25.3	25.2	25.2	25.1	24.9	24.9	24.8	24.5	24.1	24.2	23.6	23.1	23.0	22.8	Y	Y	22.9	22.8	22.9	22.8	23.0	23.1	22.8	25.3	24.0		
Jan 12	23.2	23.3	23.3	23.3	23.4	23.3	23.4	23.3	23.4	23.4	23.5	23.8	23.7	23.5	21.6	22.9	23.3	23.6	23.6	23.5	23.5	23.5	23.5	23.6	21.6	23.8	23.4	
Jan 13	23.5	23.5	23.6	23.6	23.6	23.6	23.7	23.6	23.6	23.7	23.6	23.5	23.5	23.6	23.4	23.6	23.5	23.6	23.5	23.4	23.4	23.4	23.3	23.4	23.3	23.7	23.5	
Jan 14	23.2	23.2	23.2	23.3	23.3	23.4	23.3	23.4	23.3	23.4	22.5	23.1	23.2	23.3	23.3	23.5	23.4	23.3	23.3	23.3	23.4	23.4	23.3	23.5	22.5	23.5	23.3	
Jan 15	23.5	23.5	23.4	23.5	23.4	23.4	23.5	23.4	23.5	23.5	23.4	23.4	23.5	23.4	23.5	23.4	23.4	23.5	23.4	23.4	23.3	23.4	23.5	23.3	23.3	23.5	23.4	
Jan 16	23.4	23.3	23.3	23.3	23.3	23.1	23.3	23.1	23.3	23.2	23.3	23.2	23.4	23.4	23.3	23.5	23.2	23.3	23.6	23.5	23.5	23.5	23.4	23.4	23.1	23.6	23.3	
Jan 17	23.5	23.4	23.3	23.0	22.9	22.7	22.5	22.3	22.0	21.9	21.9	22.0	21.9	22.0	21.8	21.8	21.8	21.8	21.8	21.8	21.7	21.8	21.9	21.9	21.7	23.5	22.2	
Jan 18	21.8	21.9	21.9	22.0	22.0	21.9	21.8	21.8	21.7	21.8	21.7	21.8	21.7	21.8	21.9	22.0	22.1	22.2	22.0	21.9	21.8	21.7	21.8	21.8	21.7	22.2	21.9	
Jan 19	21.6	21.8	21.8	21.7	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.9	22.1	22.2	22.4	22.4	22.3	22.4	22.3	22.4	22.5	22.4	22.5	21.6	22.5	22.1	
Jan 20	22.6	22.7	22.8	22.9	23.1	23.1	23.2	23.1	23.2	23.1	23.3	23.4	23.3	23.4	23.4	23.4	23.3	23.4	23.5	23.4	23.4	23.3	23.3	23.2	22.6	23.5	23.2	
Jan 21	23.2	23.1	23.0	22.9	22.9	22.8	22.8	22.7	22.9	22.4	22.8	22.9	23.1	23.1	23.1	23.1	23.2	23.1	23.2	23.1	23.2	23.1	23.3	23.3	22.4	23.3	23.0	
Jan 22	23.2	23.4	23.4	23.4	23.4	23.5	23.3	23.4	23.4	23.4	23.4	23.5	23.3	23.5	23.6	23.5	23.3	23.5	23.6	23.5	23.3	23.6	23.5	23.3	23.2	23.6	23.4	
Jan 23	23.5	23.5	23.4	23.5	23.5	23.5	23.4	23.5	23.5	23.4	23.3	23.3	23.3	23.3	23.5	23.5	23.4	23.3	23.3	23.4	23.3	23.4	23.3	23.4	23.3	23.5	23.4	
Jan 24	23.3	23.5	23.3	23.4	23.4	23.3	23.4	23.3	23.3	23.3	23.2	23.3	23.3	23.3	23.4	23.2	23.4	23.3	23.2	23.2	23.2	23.2	23.1	23.2	23.1	23.5	23.3	
Jan 25	23.2	23.2	23.2	23.1	23.2	23.3	23.3	23.4	23.5	23.3	23.4	23.5	23.4	23.3	23.4	23.5	23.4	23.5	23.4	23.4	23.4	23.3	23.5	23.3	23.1	23.5	23.4	
Jan 26	23.4	23.3	23.4	23.4	23.3	23.4	23.3	23.3	23.3	23.3	23.4	23.4	23.4	23.2	23.3	23.2	23.3	23.2	23.2	23.2	23.2	23.2	23.1	23.0	23.0	23.4	23.3	
Jan 27	23.1	22.9	23.1	23.0	23.1	23.1	23.1	23.2	23.2	23.3	23.3	23.4	23.1	23.2	23.2	23.3	23.3	23.1	23.2	23.1	23.1	23.1	23.1	23.1	22.9	23.4	23.2	
Jan 28	23.2	23.1	23.2	23.2	23.2	23.3	23.2	23.3	23.3	23.3	23.4	23.4	23.5	23.5	23.5	23.4	23.2	23.3	23.3	23.3	23.4	23.4	23.3	23.3	23.1	23.5	23.3	
Jan 29	23.2	23.2	23.3	23.2	23.2	23.2	23.1	23.0	23.1	23.1	23.3	23.3	23.4	23.4	23.4	23.5	23.4	23.3	23.3	23.5	23.4	23.4	23.3	23.0	23.5	23.5	23.3	
Jan 30	23.3	X	X	23.2	23.1	22.8	22.7	22.5	22.6	22.6	22.6	22.7	22.8	22.8	22.9	23.0	22.8	22.8	22.6	22.6	22.5	22.5	22.1	22.0	22.0	23.3	22.7	
Jan 31	22.0	22.2	22.2	22.3	22.2	22.2	22.2	22.3	22.2	22.2	22.2	22.0	21.9	22.1	22.2	22.3	22.1	22.2	22.2	19.2	21.7	22.7	22.8	22.7	19.2	22.8	22.1	
Diurnal Maximum	25.2	25.3	25.2	25.2	25.1	24.9	24.9	24.9	24.8	24.5	24.1	24.2	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6	24.4	24.9	25.0	25.1				
Diurnal Average	22.4	22.3	22.3	22.4	22.4	22.3	22.3	22.3	22.2	22.1	22.2	22.3	22.3	22.4	22.5	22.5	22.5	22.5	22.5	22.4	22.5	22.5	22.5	22.5				

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

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is 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 - January 2022
Summary of Hourly Averages

PRECIPITATION in mm

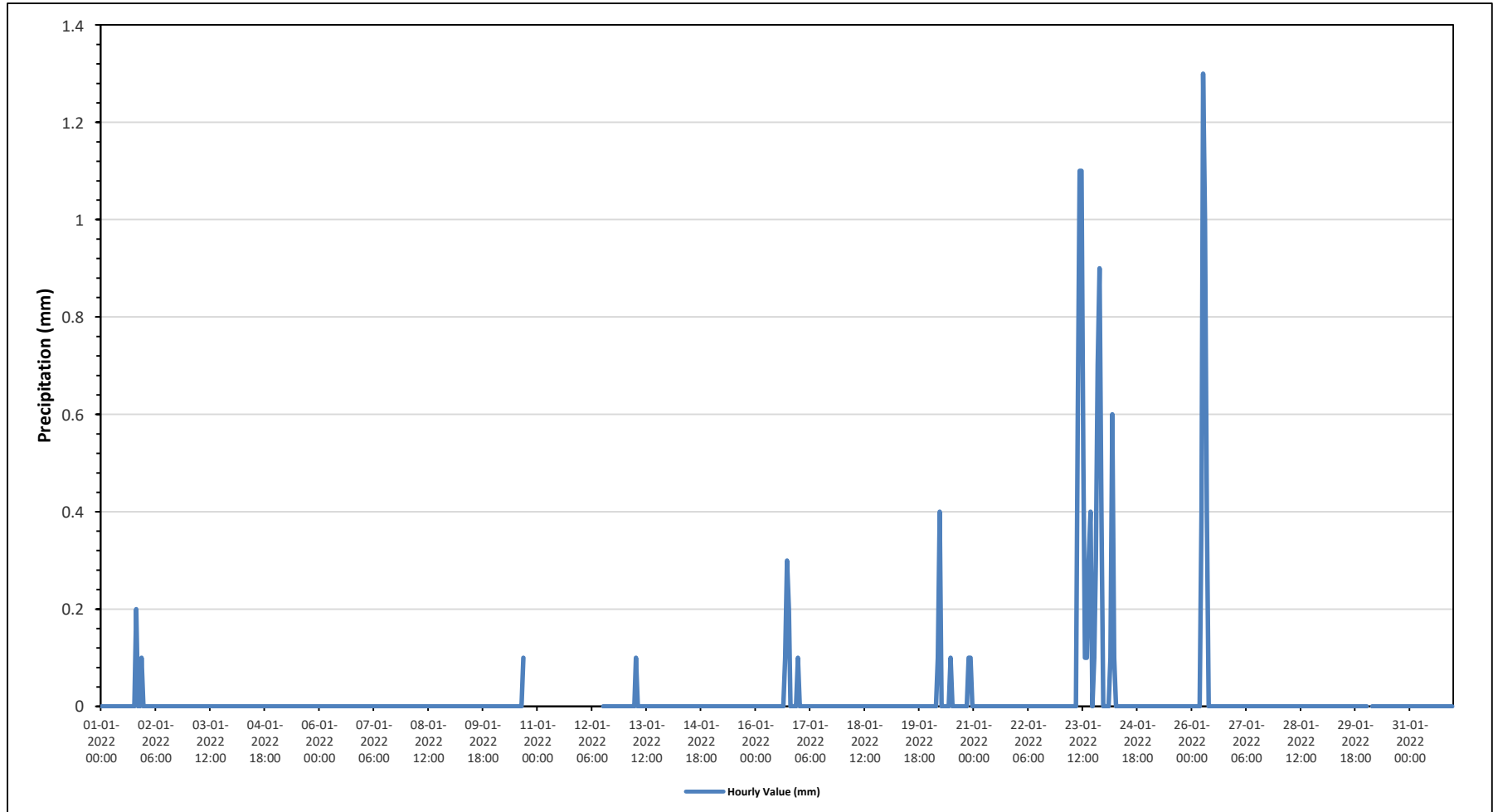
Maximum Hourly Value:	1.3 mm on January 26 at hour 6	Hours in Service:	744
Maximum Daily Value:	6.6 mm on January 23	Hours of Data:	699
Minimum Hourly Value:	0.0 mm on January 1 at hour 0	Hours of Missing Data:	44
Minimum Daily Value:	0.0 mm on January 2	Hours of Calibration:	1
Monthly Total:	12.5 mm	Operational Uptime:	94.1

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Total		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Jan 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0.1	0	0.0	0.2	0.3	
Jan 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	
Jan 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	
Jan 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	
Jan 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	
Jan 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	
Jan 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	
Jan 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	
Jan 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	
Jan 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	X	X	X	X	X	X	0.0	0.1	-
Jan 11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Jan 12	X	X	X	X	X	X	X	X	X	X	X	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	-
Jan 13	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	
Jan 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	
Jan 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	
Jan 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3	0.2	0	0	0	0	0.1	0.0	0.3	0.7	
Jan 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	
Jan 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	
Jan 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	
Jan 20	0	0	0	0	0.1	0.4	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.0	0.0	0.4	0.8
Jan 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	
Jan 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	
Jan 23	0	0	0	0	0	0	0	0	0	0.6	1.1	1.1	0.5	0.1	0.1	0.3	0.4	0	0.1	0.3	0.7	0.9	0.4	0	0.0	1.1	6.6	
Jan 24	0	0	0	0.1	0.6	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.6	0.8	
Jan 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	
Jan 26	0	0	0	0	0	0.4	1.3	1	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	1.3	3.1	
Jan 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	
Jan 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	
Jan 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	
Jan 30	0	X	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	
Jan 31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	
Diurnal Maximum	0.0	0.0	0.0	0.1	0.6	0.4	1.3	1.0	0.4	0.6	1.1	1.1	0.5	0.1	0.1	0.3	0.4	0.3	0.2	0.3	0.7	0.9	0.4	0.1				
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
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is 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





PEACE RIVER AREA MONITORING PROGRAM

Reno Station - January 2022

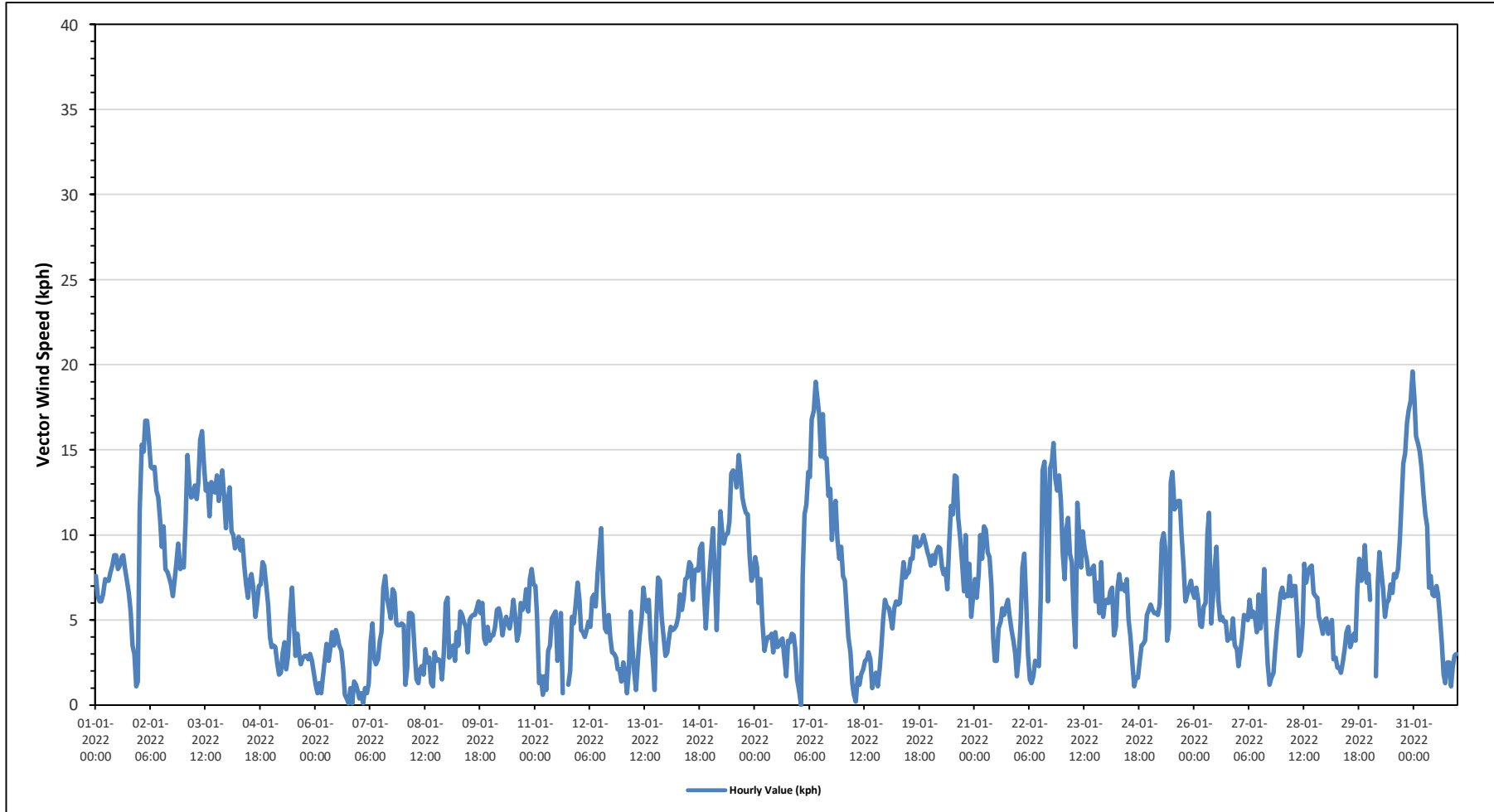
Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

Maximum Hourly Value:	19.6 kph on January 30 at hour 23	Hours in Service:	744
Maximum Daily Value:	12.5 kph on January 3	Hours of Data:	740
Minimum Hourly Value:	0.0 kph on January 17 at hour 1	Hours of Missing Data:	4
Minimum Daily Value:	0.5 kph on January 11	Hours of Calibration:	0
Monthly Average:	1.6 kph	Operational Uptime:	99.5

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				
Jan 1	7.6	6.4	6.1	6.1	6.5	7.4	7.3	7.3	7.8	8.2	8.8	8.8	8.0	8.2	8.7	8.8	8.0	7.3	6.6	5.5	3.5	3.0	1.1	1.4	1.1	8.8	6.5				
Jan 2	11.4	15.3	14.9	16.7	16.7	15.5	14.0	13.9	14.0	12.6	12.2	10.9	9.3	10.5	8.0	7.8	7.5	7.1	6.4	7.4	8.3	9.5	8.0	8.4	6.4	16.7	10.9				
Jan 3	8.1	10.8	14.7	13.0	12.2	12.3	12.9	12.1	13.1	15.6	16.1	14.2	12.6	13.0	11.1	13.1	12.9	12.5	13.5	12.0	12.9	13.8	12.3	10.4	8.1	16.1	12.5				
Jan 4	11.9	12.8	10.2	10.0	9.2	9.4	9.9	9.1	9.7	8.2	7.1	6.3	7.3	7.7	6.9	5.2	5.9	7.0	7.1	8.4	8.2	7.0	5.9	4.0	4.0	12.8	8.0				
Jan 5	3.4	3.5	3.4	2.5	1.8	1.9	3.1	3.7	2.1	2.9	5.2	6.9	5.1	2.9	4.2	3.0	2.4	2.8	2.9	2.9	2.7	3.0	2.6	1.9	1.8	6.9	2.3				
Jan 6	1.2	0.7	1.3	0.7	1.6	2.6	3.6	2.6	3.3	4.3	3.5	4.4	4.1	3.5	3.2	2.1	0.6	0.4	0.1	1.0	0.1	1.4	1.2	0.8	0.1	4.4	1.9				
Jan 7	0.4	0.7	0.1	1.0	0.7	1.3	3.7	4.8	2.8	2.4	2.7	3.8	4.3	6.9	7.6	6.3	5.8	5.1	6.8	6.6	4.8	4.7	4.7	4.8	0.1	7.6	3.1				
Jan 8	4.7	1.2	2.2	5.4	5.4	5.3	3.4	1.5	1.3	2.1	2.3	1.8	3.3	2.5	2.8	1.3	1.1	3.1	2.6	2.7	2.6	1.5	3.1	6.0	1.1	6.0	0.6				
Jan 9	6.3	2.8	3.0	3.5	2.6	4.3	3.5	5.5	5.3	4.9	4.6	3.1	5.0	5.2	5.3	5.3	5.7	6.1	5.4	6.0	3.9	3.6	4.6	3.8	2.6	6.3	4.3				
Jan 10	4.1	4.1	4.6	5.6	5.7	5.3	4.1	4.8	5.2	4.8	4.5	5.2	6.2	5.2	3.8	4.3	6.0	5.6	5.8	6.8	5.5	7.4	8.0	7.1	3.8	8.0	5.1				
Jan 11	7.0	5.3	1.3	1.7	0.6	1.7	0.9	3.2	3.5	5.1	5.3	5.5	2.6	3.7	5.4	0.7	Y	Y	1.2	2.0	5.2	4.8	5.8	7.2	0.6	7.2	0.5				
Jan 12	6.2	4.4	4.3	4.0	4.4	4.9	4.6	6.3	6.5	5.8	7.7	9.1	10.4	6.6	4.5	4.3	5.3	4.0	3.1	3.0	2.8	2.1	2.1	1.4	1.4	10.4	4.7				
Jan 13	2.5	2.1	0.7	2.0	5.5	3.5	2.0	0.9	2.6	4.1	5.1	6.9	5.9	5.5	6.2	3.9	2.8	0.9	4.8	7.5	7.3	5.1	4.0	2.9	0.7	7.5	3.5				
Jan 14	3.1	4.0	4.6	4.4	4.5	4.7	5.2	6.5	5.6	6.3	7.4	7.5	8.4	8.2	6.2	7.9	8.0	7.9	9.2	9.5	6.7	4.5	6.2	7.5	3.1	9.5	6.3				
Jan 15	9.0	10.4	7.7	4.4	7.9	11.4	10.3	9.5	10.0	10.1	10.8	13.6	13.8	13.5	12.8	14.7	13.6	12.2	11.7	11.3	11.2	8.8	7.3	7.6	4.4	14.7	10.3				
Jan 16	8.7	8.1	6.0	7.4	4.9	3.2	3.7	4.0	4.0	4.2	3.1	4.3	3.4	3.5	3.8	3.9	2.8	1.7	3.8	3.7	4.2	4.1	3.3	1.5	1.5	8.7	3.6				
Jan 17	0.9	0.0	7.6	11.2	11.8	13.7	13.4	16.8	17.3	19.0	18.1	17.1	14.6	17.1	14.5	14.5	12.3	12.7	9.7	11.5	12.0	9.7	8.6	9.3	0.0	19.0	12.0				
Jan 18	7.6	7.3	5.8	4.0	3.1	1.3	0.6	0.2	1.6	1.2	1.8	2.1	2.6	2.7	3.1	2.7	1.0	1.5	1.9	1.1	2.1	3.5	5.0	6.2	0.2	7.6	0.5				
Jan 19	5.8	5.7	5.1	4.5	5.7	6.1	5.9	6.0	7.2	8.4	7.5	7.7	7.8	8.6	8.6	9.9	9.9	9.3	9.4	9.6	10.0	9.5	9.0	8.7	4.5	10.0	7.7				
Jan 20	8.2	8.8	8.3	9.0	9.3	9.2	8.1	7.7	8.0	6.8	9.5	11.7	11.2	13.5	13.4	11.0	9.9	8.5	6.7	10.0	6.4	8.3	5.2	6.2	5.2	13.5	4.4				
Jan 21	7.4	6.3	7.7	10.0	8.6	10.5	10.3	9.0	8.7	7.1	3.9	2.6	2.6	4.5	4.9	5.7	5.3	5.8	6.2	5.3	4.4	3.8	3.0	1.7	1.7	10.5	2.8				
Jan 22	2.8	4.8	8.1	8.9	6.1	3.0	1.5	1.3	1.7	2.6	2.4	2.3	6.4	13.8	14.3	11.5	6.1	13.9	14.3	15.4	13.3	12.6	13.5	12.0	1.3	15.4	7.9				
Jan 23	8.9	7.4	10.4	11.0	8.9	8.4	5.4	3.4	11.9	10.0	8.1	10.2	9.2	8.6	7.7	7.7	8.0	8.2	6.1	7.2	5.4	8.4	5.2	5.9	3.4	11.9	7.6				
Jan 24	6.2	6.0	6.7	6.9	4.1	4.6	7.0	7.7	6.8	7.1	6.7	7.4	5.0	4.0	2.5	1.1	1.6	1.6	2.6	3.5	3.6	3.8	5.3	5.6	1.1	7.7	1.8				
Jan 25	5.9	5.6	5.4	5.4	5.3	5.9	9.6	10.1	9.2	3.8	4.5	13.1	13.7	11.5	11.7	12.0	12.0	9.9	8.2	6.1	6.5	6.9	7.3	6.6	3.8	13.7	6.4				
Jan 26	6.3	6.9	6.2	4.7	4.6	5.8	6.0	10.1	11.3	4.8	6.3	8.2	9.3	6.2	5.0	5.2	4.9	4.9	3.8	4.1	3.9	5.1	3.5	3.3	3.3	11.3	5.3				
Jan 27	2.3	3.1	4.0	5.3	5.2	5.0	6.2	5.2	5.5	5.2	4.3	6.5	4.5	5.4	8.0	4.4	2.4	1.2	1.6	1.9	3.2	4.5	5.5	6.6	1.2	8.0	4.1				
Jan 28	6.9	6.3	6.5	6.4	7.6	6.4	7.0	7.0	5.2	2.9	3.2	4.8	8.3	7.2	7.8	8.1	8.2	6.6	6.4	6.3	5.2	4.8	4.2	5.0	2.9	8.3	5.4				
Jan 29	5.1	4.2	4.5	5.0	2.7	2.8	2.2	2.2	1.9	2.5	3.3	4.3	4.6	3.4	3.8	4.2	3.8	6.9	8.6	7.3	7.5	9.4	7.2	7.7	1.9	9.4	4.5				
Jan 30	6.2	X	X	1.7	7.2	9.0	7.9	6.8	5.2	6.0	6.2	7.1	6.6	7.7	7.5	8.0	9.7	11.8	14.2	14.8	16.6	17.3	17.9	19.6	1.7	19.6	9.3				
Jan 31	18.0	15.8	15.4	14.9	13.9	12.4	11.2	10.5	6.9	7.6	6.5	6.4	7.0	6.5	5.2	3.7	1.8	1.3	2.5	2.5	1.1	2.2	2.9	3.0	1.1	18.0	7.2				
Diurnal Maximum	18	16	15	17	17	16	14	17	17	19	18	17	15	17	15	15	14	14	14	15	17	17	18	20							
Diurnal Average	6.3	6.0	6.2	6.4	6.3	6.4	6.3	6.4	6.6	6.3	6.4	7.2	7.2	7.3	7.0	6.5	6.2	6.3	6.2	6.5	6.2	6.3	5.9	5.9							
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.																															

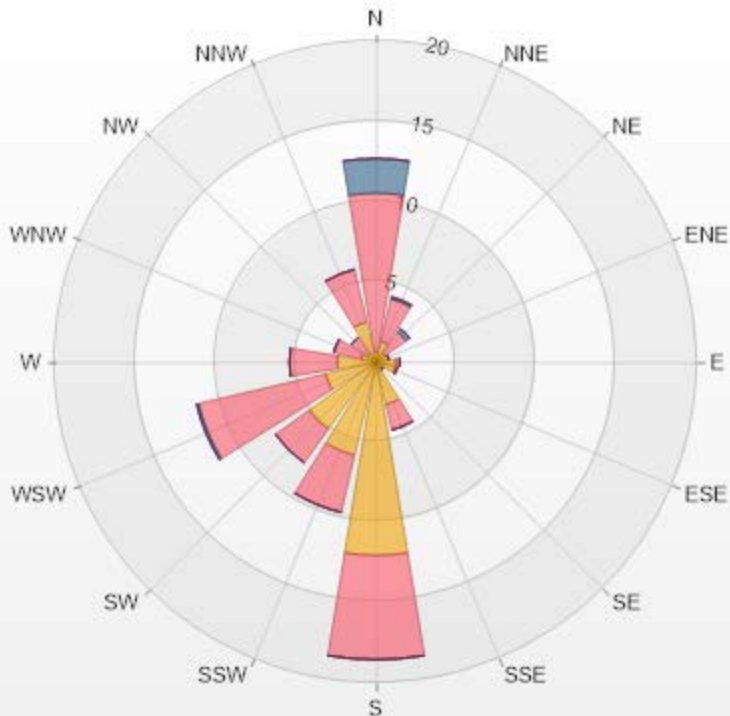
Timeseries Chart of Hourly Average for VWS - Reno Station



Wind: PRAMP RENO Monitor: WDS [KPH] Monthly: 01-2022 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.

Calm: 8.78% Valid Data: 99.46%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	0.68	9.86	2.16	0	0	12.7
NNE	1.35	2.7	0.14	0	0	4.19
NE	0.68	1.62	0.27	0	0	2.57
ENE	0.81	0	0	0	0	0.81
E	1.22	0.27	0	0	0	1.49
ESE	1.22	0.14	0	0	0	1.36
SE	0.54	0	0	0	0	0.54
SSE	2.7	1.62	0	0	0	4.32
S	12.03	6.49	0	0	0	18.52
SSW	5.95	3.65	0	0	0	9.6
SW	5.14	2.57	0	0	0	7.71
WSW	3.24	8.11	0.14	0	0	11.49
W	2.43	2.97	0	0	0	5.4
WNW	0.95	1.76	0	0	0	2.71
NW	0.68	1.22	0	0	0	1.9
NNW	2.57	3.38	0	0	0	5.95
Summary	42.19	46.36	2.71	0	0	91.26



PRAMP-202201

Page 154 of 227

% Icon Classes (KPH)	42	1.8-6.0	46	5.0-15.0	3	15.0-29.0	0	29.0-39.0	0	>39.0
----------------------	----	---------	----	----------	---	-----------	---	-----------	---	-------



PEACE RIVER AREA MONITORING PROGRAM

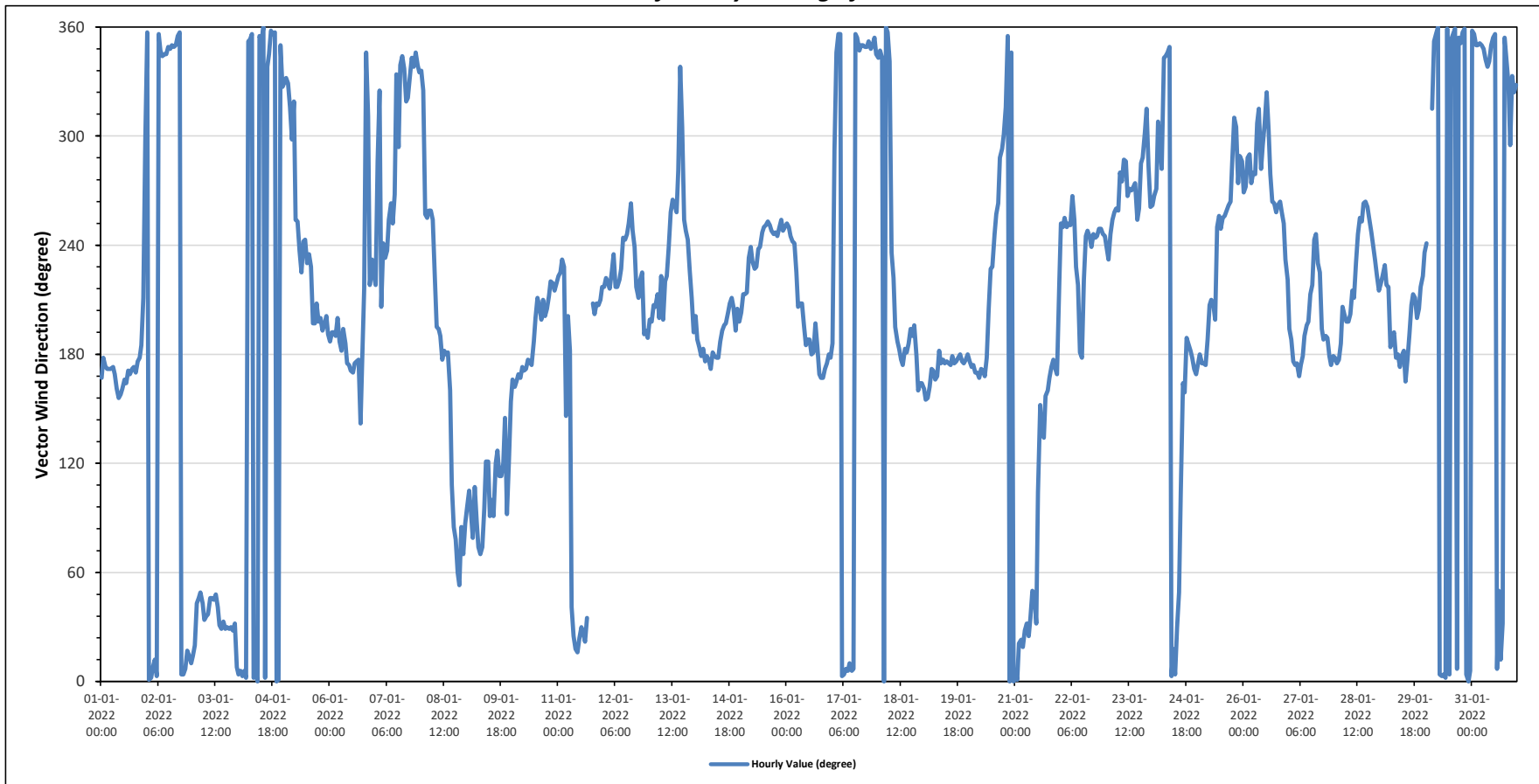
Reno Station - January 2022

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

Monthly Average: 268 (W) degree															Hours in Service: 744												
															Hours of Data: 740												
															Hours of Missing Data: 4												
															Hours of Calibration: 0												
															Operational Uptime: 99.5												
Day	Hourly Period Starting at (MST)																							Daily Average			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Degree	Quadrant	
Jan 1	SSE	S	S	S	S	S	S	SSE	SSE	SSE	SSE	SSE	SSE	S	SSE	S	S	SSE	S	S	S	SSW	WNW	169	SSE		
Jan 2	N	N	N	N	NNE	N	N	NNW	NNW	NNW	NNW	NNW	NNW	N	NNW	N	N	N	N	N	N	NNE	NNE	N	358	N	
Jan 3	NNE	NNE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	N	N	36	NE	
Jan 4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	NNW	NNW	N	N	N	N	N	NW	N	358	N	
Jan 5	NNW	NNW	NNW	NW	WNW	NW	WSW	WSW	SW	SW	WSW	WSW	SW	SW	SSW	SSW	SSW	SSW	SSW	S	SSW	SSW	S	239	WSW		
Jan 6	S	S	S	S	SSW	S	S	SSW	S	S	S	S	SSE	S	S	S	SE	S	SW	NNW	NW	SW	SW	SW	183	S	
Jan 7	SW	WNW	NW	SSW	WSW	SW	SW	WSW	W	WSW	W	NNW	WNW	NNW	NNW	NNW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	319	NW	
Jan 8	NNW	NW	WSW	WSW	WSW	WSW	WSW	SW	SSW	SSW	S	S	S	S	SSE	ESE	E	ENE	ENE	ENE	NE	E	ENE	E	197	SSW	
Jan 9	E	ESE	E	ENE	ESE	E	ENE	ENE	ENE	E	ESE	ESE	E	E	E	ESE	SE	ESE	ESE	ESE	SE	E	ESE	SSE	104	ESE	
Jan 10	SSE	SSE	SSE	SSE	SSE	S	S	S	S	S	S	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	193	S	
Jan 11	SW	SW	SW	SW	SE	SSW	S	NE	NNE	NNE	NNE	NNE	NNE	NE	NE	NE	Y	Y	SSW	SSW	SSW	SSW	SSW	SSW	245	WSW	
Jan 12	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	W	WSW	WSW	SW	SSW	SSW	SSW	S	S	S	230	SW	
Jan 13	SSW	SSW	SSW	SSW	SSW	SSW	SW	SSW	SW	SW	WSW	WSW	W	WSW	W	NNW	WNW	WSW	WSW	WSW	WSW	WSW	SSW	S	240	WSW	
Jan 14	SSW	S	S	S	S	S	S	S	S	S	S	S	S	S	S	SSW	SSW	SSW	SSW	SSW	SSW	S	SSW	SSW	191	S	
Jan 15	SSW	SSW	SSW	SSW	SW	WSW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	240	WSW	
Jan 16	WSW	WSW	WSW	WSW	WSW	WSW	SSW	SSW	SSW	SSW	S	S	S	S	S	SSW	S	SSE	SSE	SSE	S	S	S	S	208	SSW	
Jan 17	S	WNW	NNW	N	N	N	N	N	N	N	N	N	N	N	NNW	N	N	NNW	NNW	N	NNW	N	N	NNW	357	N	
Jan 18	NNW	NNW	NNW	N	N	N	NNW	SW	SW	SSW	S	S	S	S	S	S	S	SSW	S	SSW	S	SSE	SSE	SSE	203	SSW	
Jan 19	SSE	SSE	SSE	SSE	S	S	SSE	SSE	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	174	S	
Jan 20	S	S	S	SSE	SSE	SSE	S	S	SSE	S	SSW	SW	SW	WSW	WSW	W	WNW	WNW	WNW	NW	N	N	NNW	N	226	SW	
Jan 21	N	N	NNE	NNE	NNE	NNE	NNE	NE	NE	NE	NE	NNE	ESE	SSE	SE	SE	SSE	SSE	SSE	S	S	S	SSE	SW	59	ENE	
Jan 22	WSW	WSW	WSW	WSW	WSW	WSW	W	WSW	SW	SW	S	S	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	244	WSW	
Jan 23	SW	SW	WSW	WSW	WSW	WSW	W	W	WNW	WNW	W	W	W	W	W	W	WSW	WSW	WNW	WNW	WNW	NW	W	W	269	W	
Jan 24	W	W	W	NW	WNW	W	NNW	NNW	NNW	NNW	N	NNE	N	NNE	NE	ESE	SSE	SSE	S	S	S	S	SSE	315	NW		
Jan 25	S	S	S	S	S	S	SSW	SSW	SSW	SSW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	WNW	NW	WNW	W	WNW	WNW	244	WSW	
Jan 26	W	W	WNW	WNW	W	W	W	NW	NW	W	WNW	NW	NW	WNW	W	W	W	WSW	W	W	WSW	WSW	SW	SW	284	WNW	
Jan 27	SSW	S	S	S	S	SSE	S	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	S	S	S	S	195	SSW	
Jan 28	S	S	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	224	SW	
Jan 29	SW	SW	SW	SW	SW	S	S	S	S	S	S	S	S	SSE	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	206	SSW	
Jan 30	WSW	X	X	X	NW	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	358	N	
Jan 31	N	N	N	N	N	N	NNW	NNW	NNW	NNW	N	N	N	N	NE	NNE	NNE	N	NNW	NNW	WNW	NNW	NW	NNW	352	N	
C	Monthly Calibration								S	Daily Zero-Span Check								Q	Quality Assurance								
K	Collection Error								N	No Data (Machine Not in Service)								Y	Routine Maintenance								
X	Invalid Data (Machine Malfunction /Recovery)								NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)								P	Power Failure								
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.																											
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																											

Timeseries Chart of Hourly Average for VWD - Reno Station





PEACE RIVER AREA MONITORING PROGRAM

Reno Station - January 2022

Summary of Hourly Averages

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

WIND SPEED																											
Maximum Hourly Value:	19.6	kph	on January 30 at hour 23													Hours in Service:	744										
Maximum Daily Value:	12.5	kph	on January 3													Hours of Data:	740										
Minimum Hourly Value:	0.0	kph	on January 17 at hour 1													Hours of Missing Data:	4										
Minimum Daily Value:	0.5	kph	on January 11													Hours of Calibration:	0										
Monthly Average:	1.6	kph														Operational Uptime:	99.5										
WIND DIRECTION																											
Monthly Average:	268	(W)	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
Jan 1	7.6	6.4	6.1	6.1	6.5	7.4	7.3	7.3	7.8	8.2	8.8	8.8	8.0	8.2	8.7	8.8	8.0	7.3	6.6	5.5	3.5	3.0	1.1	1.4	1.1	8.8	6.5
Jan 2	11.4	15.3	14.9	16.7	16.7	15.5	14.0	13.9	14.0	12.6	12.2	10.9	9.3	10.5	8.0	7.8	7.5	7.1	6.4	7.4	8.3	9.5	8.0	8.4	6.4	16.7	10.9
Jan 3	8.1	10.8	14.7	13.0	12.2	12.3	12.9	12.1	13.1	15.6	16.1	14.2	12.6	13.0	11.1	13.1	12.9	12.5	13.5	12.0	12.9	13.8	12.3	10.4	8.1	16.1	12.5
Jan 4	11.9	12.8	10.2	10.0	9.2	9.4	9.9	9.1	9.7	8.2	7.1	6.3	7.3	7.7	6.9	5.2	5.9	7.0	7.1	8.4	8.2	7.0	5.9	4.0	4.0	12.8	8.0
Jan 5	3.4	3.5	3.4	2.5	1.8	1.9	3.1	3.7	2.1	2.9	5.2	6.9	5.1	2.9	4.2	3.0	2.4	2.8	2.9	2.9	2.7	3.0	2.6	1.9	1.8	6.9	2.3
Jan 6	1.2	0.7	1.3	0.7	1.6	2.6	3.6	2.6	3.3	4.3	3.5	4.4	4.1	3.5	3.2	2.1	0.6	0.4	0.1	1.0	0.1	1.4	1.2	0.8	0.1	4.4	1.9
Jan 7	0.4	0.7	0.1	1.0	0.7	1.3	3.7	4.8	2.8	2.4	2.7	3.8	4.3	6.9	7.6	6.3	5.8	5.1	6.8	6.6	4.8	4.7	4.7	4.8	0.1	7.6	3.1
Jan 8	4.7	1.2	2.2	5.4	5.4	5.3	3.4	1.5	1.3	2.1	2.3	1.8	3.3	2.5	2.8	1.3	1.1	3.1	2.6	2.7	2.6	1.5	3.1	6.0	1.1	6.0	0.6
Jan 9	6.3	2.8	3.0	3.5	2.6	4.3	3.5	5.5	5.3	4.9	4.6	3.1	5.0	5.2	5.3	5.3	5.7	6.1	5.4	6.0	3.9	3.6	4.6	3.8	2.6	6.3	4.3
Jan 10	4.1	4.1	4.6	5.6	5.7	5.3	4.1	4.8	5.2	4.8	4.5	5.2	6.2	5.2	3.8	4.3	6.0	5.6	5.8	6.8	5.5	7.4	8.0	7.1	3.8	8.0	5.1
Jan 11	7.0	5.3	1.3	1.7	0.6	1.7	0.9	3.2	3.5	5.1	5.3	5.5	2.6	3.7	5.4	0.7	Y	Y	1.2	2.0	5.2	4.8	5.8	7.2	0.6	7.2	0.5
Jan 12	6.2	4.4	4.3	4.0	4.4	4.9	4.6	6.3	6.5	5.8	7.7	9.1	10.4	6.6	4.5	4.3	5.3	4.0	3.1	3.0	2.8	2.1	2.1	1.4	1.4	10.4	4.7
Jan 13	2.5	2.1	0.7	2.0	5.5	3.5	2.0	0.9	2.6	4.1	5.1	6.9	5.9	5.5	6.2	3.9	2.8	0.9	4.8	7.5	7.3	5.1	4.0	2.9	0.7	7.5	3.5
Jan 14	3.1	4.0	4.6	4.4	4.5	4.7	5.2	6.5	5.6	6.3	7.4	7.5	8.4	8.2	6.2	7.9	8.0	7.9	9.2	9.5	6.7	4.5	6.2	7.5	3.1	9.5	6.3
Jan 15	9.0	10.4	7.7	4.4	7.9	11.4	10.3	9.5	10.0	10.1	10.8	13.6	13.8	13.5	12.8	14.7	13.6	12.2	11.7	11.3	11.2	8.8	7.3	7.6	4.4	14.7	10.3
Jan 16	8.7	8.1	6.0	7.4	4.9	3.2	3.7	4.0	4.0	4.2	3.1	4.3	3.4	3.5	3.8	3.9	2.8	1.7	3.8	3.7	4.2	4.1	3.3	1.5	1.5	8.7	3.6
Jan 17	0.9	0.0	7.6	11.2	11.8	13.7	13.4	16.8	17.3	19.0	18.1	17.1	14.6	17.1	14.5	14.5	12.3	12.7	9.7	11.5	12.0	9.7	8.6	9.3	0.0	19.0	12.0
Jan 18	7.6	7.3	5.8	4.0	3.1	1.3	0.6	0.2	1.6	1.2	1.8	2.1	2.6	2.7	3.1	2.7	1.0	1.5	1.9	1.1	2.1	3.5	5.0	6.2	0.2	7.6	0.5
Jan 19	5.8	5.7	5.1	4.5	5.7	6.1	5.9	6.0	7.2	8.4	7.5	7.7	7.8	8.6	8.6	9.9	9.9	9.3	9.4	9.6	10.0	9.5	9.0	8.7	4.5	10.0	7.7
Jan 20	8.2	8.8	8.3	9.0	9.3	9.2	8.1	7.7	8.0	6.8	9.5	11.7	11.7	13.5	13.4	11.0	9.9	8.5	6.7	10.0	6.4	8.3	5.2	6.2	5.2	13.5	4.4



PEACE RIVER AREA MONITORING PROGRAM

Reno Station - January 2022

Summary of Hourly Averages

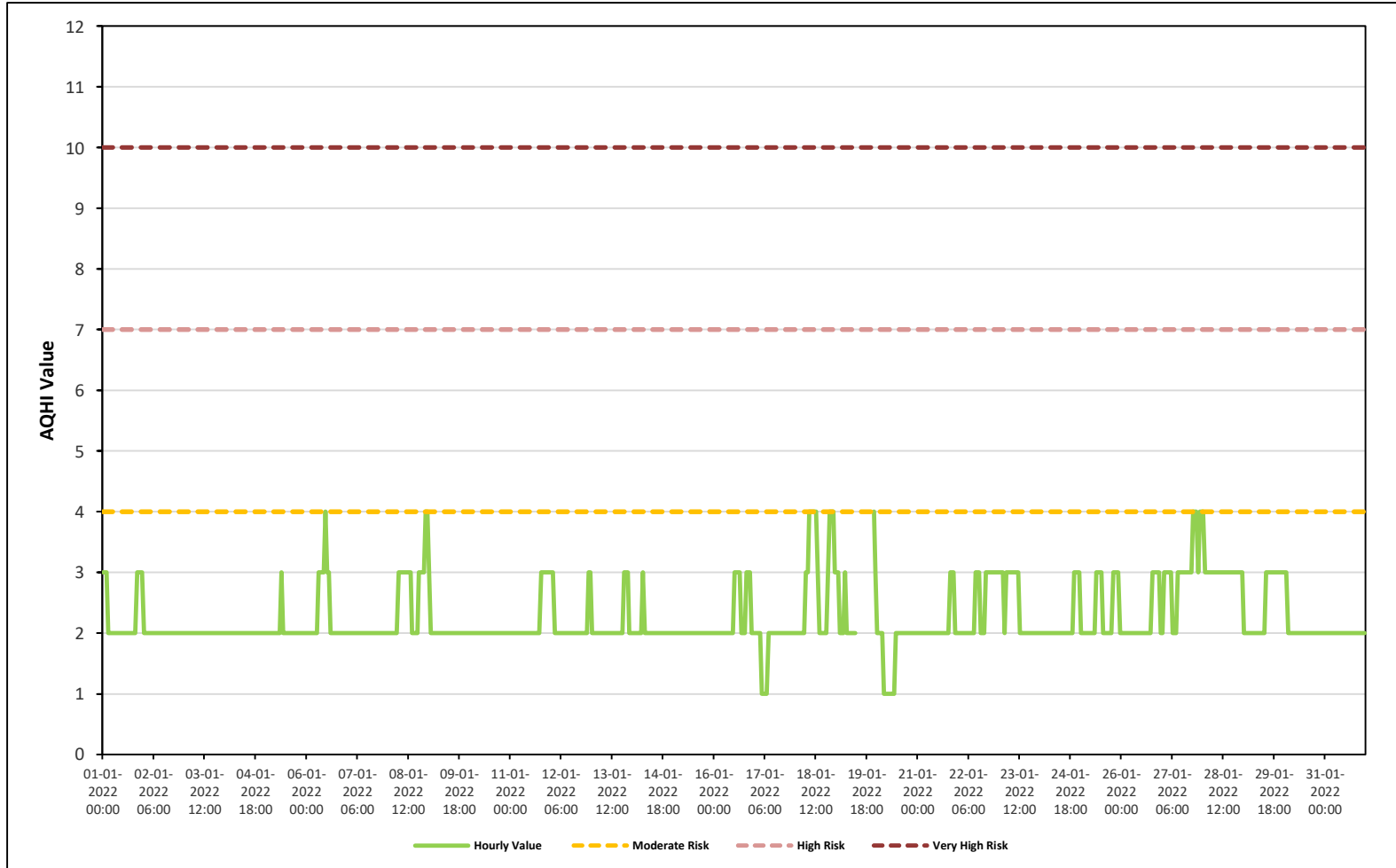
VECTOR WIND SPEED (VWS) in km/hr & WIND DIRECTION (VWD) in sector

WIND SPEED		Maximum Hourly Value: 19.6 kph on January 30 at hour 23		Hours in Service: 744																								
WIND DIRECTION		Maximum Daily Value: 12.5 kph on January 3		Hours of Data: 740																								
		Minimum Hourly Value: 0.0 kph on January 17 at hour 1		Hours of Missing Data: 4																								
		Minimum Daily Value: 0.5 kph on January 11		Hours of Calibration: 0																								
		Monthly Average: 1.6 kph		Operational Uptime: 99.5																								
		Monthly Average: 268 (W) 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				
Jan 21	7.4	6.3	7.7	10.0	8.6	10.5	10.3	9.0	8.7	7.1	3.9	2.6	2.6	4.5	4.9	5.7	5.3	5.8	6.2	5.3	4.4	3.8	3.0	1.7	1.7	10.5	2.8	
Jan 22	N	N	NNE	NNE	NNE	NNE	NNE	NNE	NE	NE	NE	NNE	ESE	SSE	SE	SSE	SSE	SSE	S	S	S	SSE	SW	1.3	15.4	7.9		
Jan 23	2.8	4.8	8.1	8.9	6.1	3.0	1.5	1.3	1.7	2.6	2.4	2.3	6.4	13.8	14.3	11.5	6.1	13.9	14.3	15.4	13.3	12.6	13.5	12.0	3.4	11.9	7.6	
Jan 24	WSW	WSW	WSW	WSW	WSW	WSW	W	WSW	SW	SW	S	S	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	1.1	7.7	1.8	
Jan 25	8.9	7.4	10.4	11.0	8.9	8.4	5.4	3.4	11.9	10.0	8.1	10.2	9.2	8.6	7.7	7.7	8.0	8.2	6.1	7.2	5.4	8.4	5.2	5.9	3.8	13.7	6.4	
Jan 26	SW	SW	WSW	WSW	WSW	WSW	WSW	W	W	WNW	WNW	W	W	W	W	WSW	WSW	WNW	WNW	WNW	NW	NW	W	W	3.3	11.3	5.3	
Jan 27	6.2	6.0	6.7	6.9	4.1	4.6	7.0	7.7	6.8	7.1	6.7	7.4	5.0	4.0	2.5	1.1	1.6	1.6	2.6	3.5	3.6	3.8	5.3	5.6	1.2	8.0	4.1	
Jan 28	W	W	W	NW	WNW	W	NNW	NNW	NNW	NNW	N	NNE	N	NNE	NE	ESE	SSE	SSE	S	S	S	S	SSE	2.9	8.3	5.4		
Jan 29	5.9	5.6	5.4	5.4	5.3	5.9	9.6	10.1	9.2	3.8	4.5	13.1	13.7	11.5	11.7	12.0	12.0	9.9	8.2	6.1	6.5	6.9	7.3	6.6	1.9	9.4	4.5	
Jan 30	S	S	S	S	S	S	SSW	SSW	SSW	SSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	WNW	NW	WNW	W	WNW	WNW	1.7	19.6	9.3
Jan 31	6.3	6.9	6.2	4.7	4.6	5.8	6.0	10.1	11.3	4.8	6.3	8.2	9.3	6.2	5.0	5.2	4.9	4.9	3.8	4.1	3.9	5.1	3.5	3.3	1.1	18.0	7.2	
	W	W	WNW	WNW	W	W	NW	NW	W	WNW	NW	NW	WNW	W	W	W	WSW	W	W	WSW	WSW	WSW	SW	SW				
	2.3	3.1	4.0	5.3	5.2	5.0	6.2	5.2	5.5	5.2	4.3	6.5	4.5	5.4	8.0	4.4	2.4	1.2	1.6	1.9	3.2	4.5	5.5	6.6				
	SSW	S	S	S	SSE	S	S	S	SSW	SSW	SSW	SW	WSW	WSW	SW	SW	SSW	S	S	S	S	S	S	S				
	6.9	6.3	6.5	6.4	7.6	6.4	7.0	7.0	5.2	2.9	3.2	4.8	8.3	7.2	7.8	8.1	8.2	6.6	6.4	6.3	5.2	4.8	4.2	5.0				
	S	S	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	WSW	WSW	WSW	W	W	W	WSW	WSW	WSW	SW	SW	SSW				
	5.1	4.2	4.5	5.0	2.7	2.8	2.2	2.2	1.9	2.5	3.3	4.3	4.6	3.4	3.8	4.2	3.8	6.9	8.6	7.3	7.5	9.4	7.2	7.7				
	SW	SW	SW	SW	SW	S	S	S	S	S	S	S	S	SSE	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW				
	6.2	X	X	1.7	7.2	9.0	7.9	6.8	5.2	6.0	6.2	7.1	6.6	7.7	7.5	8.0	9.7	11.8	14.2	14.8	16.6	17.3	17.9	19.6				
	WSW	X	X	NW	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N				
	18.0	15.8	15.4	14.9	13.9	12.4	11.2	10.5	6.9	7.6	6.5	6.4	7.0	6.5	5.2	3.7	1.8	1.3	2.5	1.1	2.2	2.9	3.0					
	N	N	N	N	N	NNW	NNW	NNW	NNW	N	N	N	N	N	NE	NNE	NNE	N	NNW	NNW	NNW	NW	NNW					
C	Monthly Calibration							S	Daily Zero-Span Check							Q	Quality Assurance											
K	Collection Error							N	No Data (Machine Not in Service)							Y	Routine Maintenance							P	Power Failure			
X	Invalid Data (Equipment Malfunction/Recovery)							NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)																			

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

AQHI GRIMSHAW STATION

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





PEACE RIVER AREA MONITORING PROGRAM

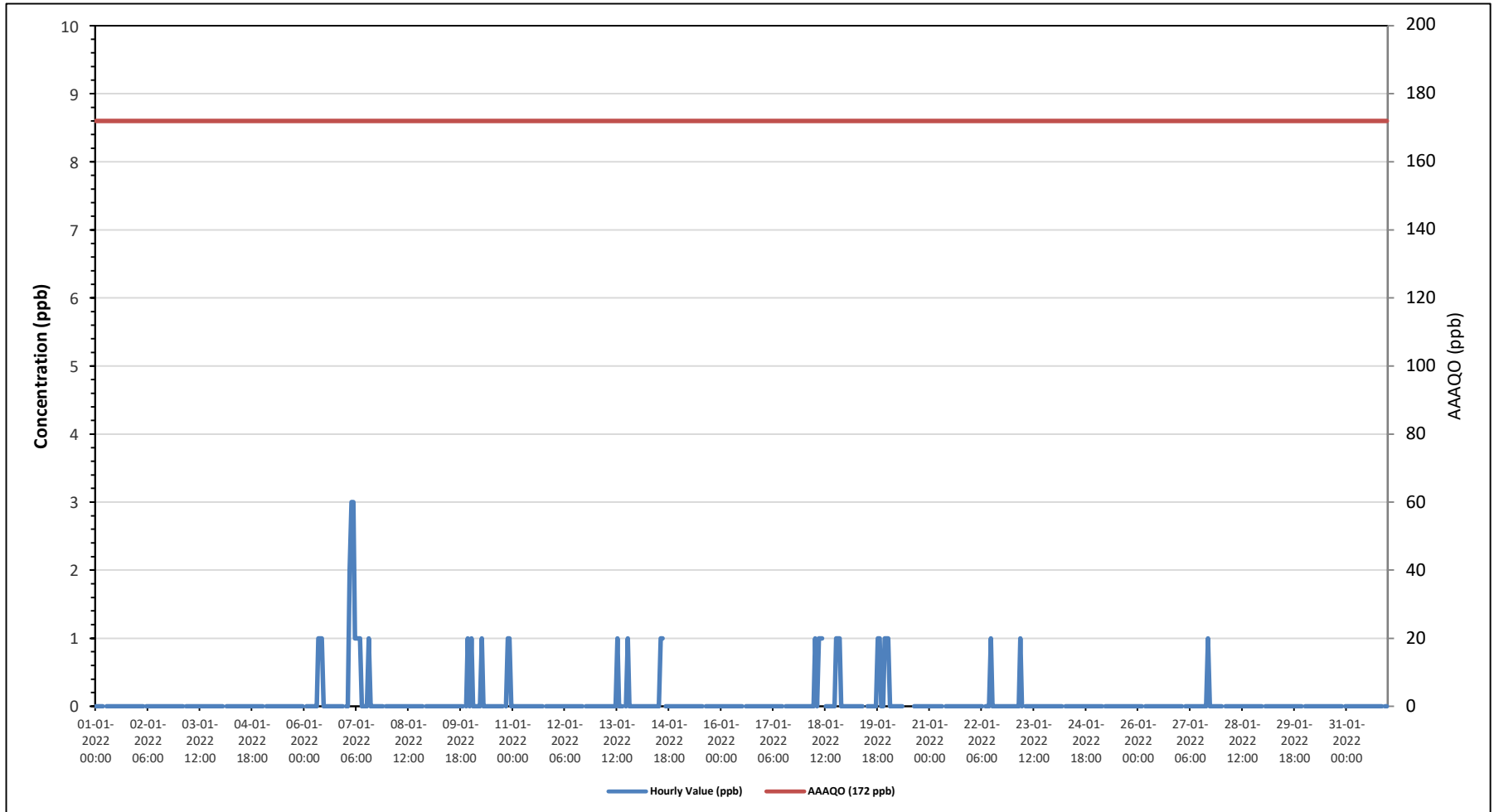
AQHI - Grimshaw Station - January 2022

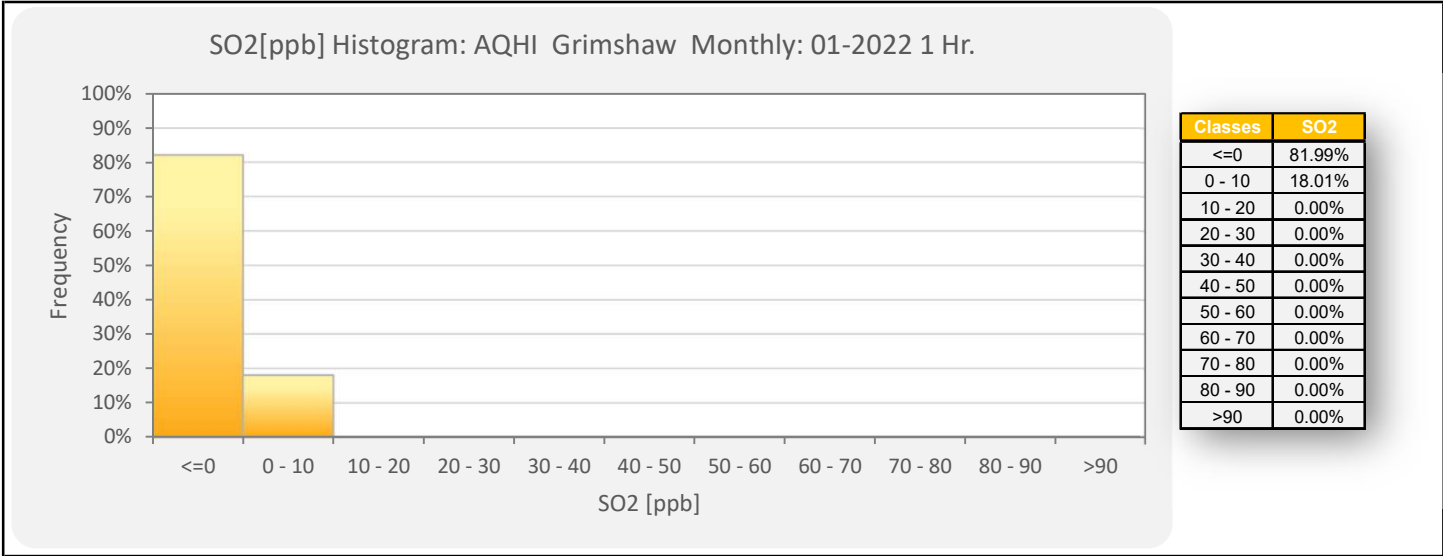
Summary of Hourly Averages

SULPHUR DIOXIDE (SO₂) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb																																
Number of 1-Hour Exceedances: 0						Number of 24-Hour Exceedances: 0						30-Day Exceedance: 0																				
Maximum Hourly Value: 3 ppb on January 7 at hour 3												Hours in Service: 744																				
Maximum Daily Value: 0.6 ppb on January 7												Hours of Data: 705																				
Minimum Hourly Value: 0 ppb on January 1 at hour 0												Hours of Missing Data: 2																				
Minimum Daily Value: 0.0 ppb on January 1												Hours of Calibration: 37																				
Monthly Average: 0.1 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								
Jan 1	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	0.0				
Jan 2	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	0.0				
Jan 3	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0				
Jan 4	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0				
Jan 5	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0				
Jan 6	S	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0.1				
Jan 7	0	0	2	3	3	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	S	0	3	0.6					
Jan 8	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					
Jan 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0	1	0.0					
Jan 10	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	1	0	0	1	0.2					
Jan 11	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					
Jan 12	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					
Jan 13	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	S	0	1	0	0	0	0	0	0	1	0.1					
Jan 14	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	S	0	0	0	0	0	0	0	0	0	1	0.1					
Jan 15	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					
Jan 16	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					
Jan 17	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					
Jan 18	0	0	0	0	0	0	1	0	1	1	1	S	0	0	0	0	0	0	1	1	1	0	0	0	0	1	0.3					
Jan 19	0	0	0	0	0	0	0	0	0	0	Y	Y	0	0	0	0	0	0	1	1	0	0	1	1	0	1	0.2					
Jan 20	1	0	0	0	0	0	0	0	0	S	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	1	0.1					
Jan 21	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					
Jan 22	0	0	0	0	0	0	0	S	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0					
Jan 23	0	0	0	0	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0					
Jan 24	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					
Jan 25	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					
Jan 26	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					
Jan 27	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0.0					
Jan 28	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					
Jan 29	S	0	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					
Jan 30	0	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					
Jan 31	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					
Diurnal Maximum	1	0	2	3	3	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1					
Diurnal Average	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	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.																																

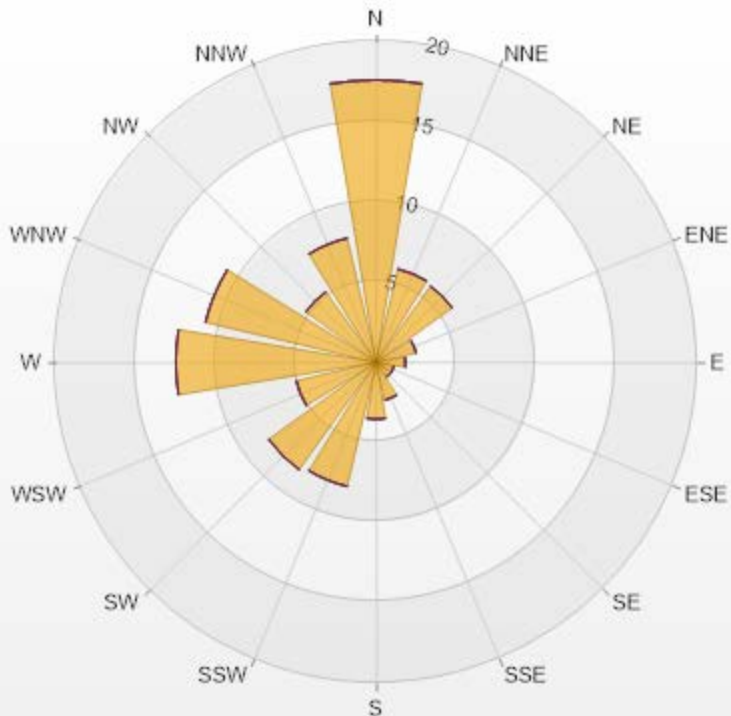
Timeseries Chart of Hourly Average for SO₂ - AQHI - Grimshaw Station





Wind: AQHI Grimshaw Poll.: AQHI Grimshaw-SO2[ppb] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	17.59	0	0	0	0	17.59
NNE	5.96	0	0	0	0	5.96
NE	5.82	0	0	0	0	5.82
ENE	2.55	0	0	0	0	2.55
E	1.84	0	0	0	0	1.84
ESE	1.13	0	0	0	0	1.13
SE	1.13	0	0	0	0	1.13
SSE	2.41	0	0	0	0	2.41
S	3.55	0	0	0	0	3.55
SSW	7.94	0	0	0	0	7.94
SW	8.23	0	0	0	0	8.23
WSW	5.11	0	0	0	0	5.11
W	12.48	0	0	0	0	12.48
WNW	10.92	0	0	0	0	10.92
NW	5.39	0	0	0	0	5.39
NNW	7.94	0	0	0	0	7.94
Summary	100	0	0	0	0	100



PRAMP-202201

Page 165 of 227

% Icon Classes (ppb)

100 0-10

0 10-50

0 50-100

0 100-172

0 >172.0



PEACE RIVER AREA MONITORING PROGRAM

AQHI - Grimshaw Station - January 2022

Summary of Hourly Averages

TOTAL REDUCED SULPHUR (TRS) in ppb

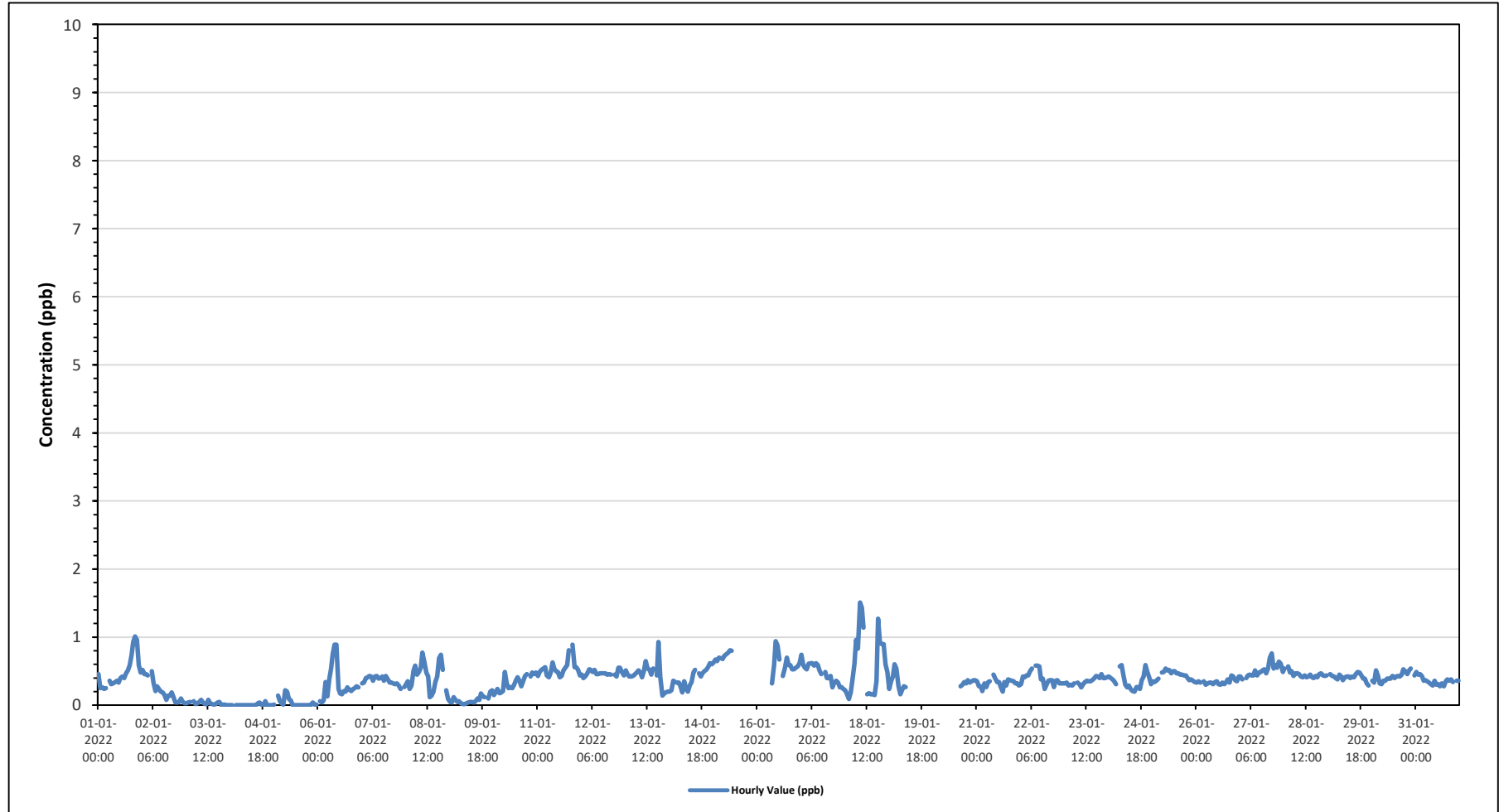
Maximum Hourly Value:	1.51 ppb on January 18 at hour 8	Hours in Service:	744
Maximum Daily Value:	0.60 ppb on January 18	Hours of Data:	664
Minimum Hourly Value:	0.00 ppb on January 3 at hour 19	Hours of Missing Data:	43
Minimum Daily Value:	0.01 ppb on January 4	Hours of Calibration:	37
Monthly Average:	0.36 ppb	Operational Uptime:	94.2

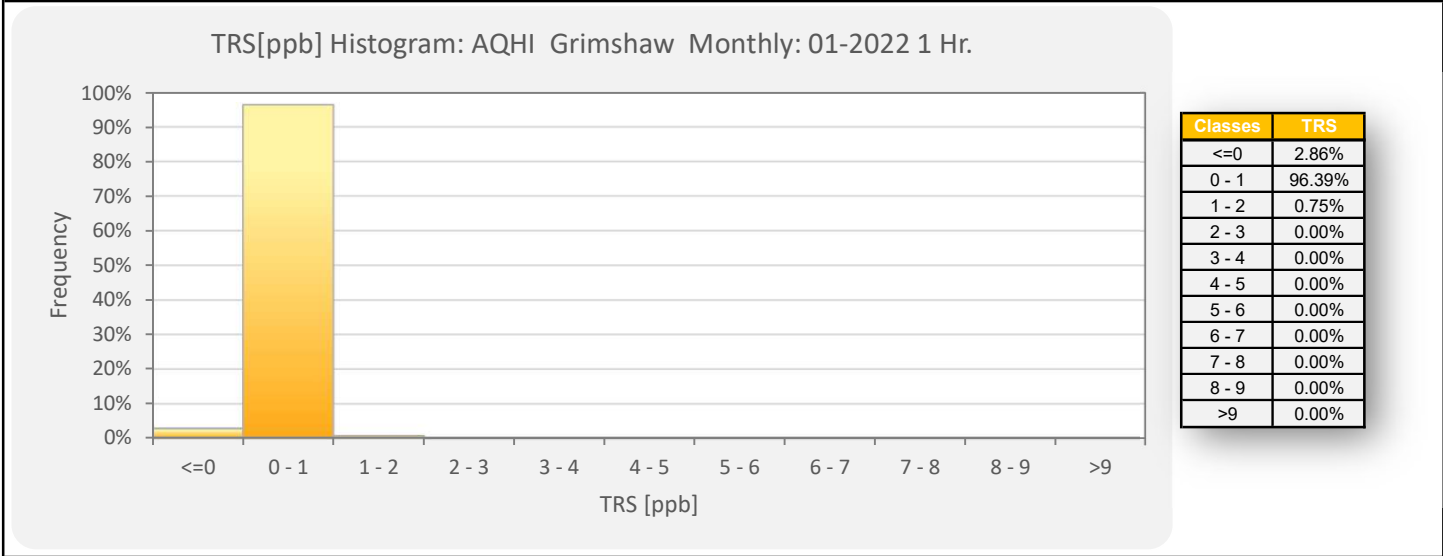
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Jan 1	0.46	0.25	0.26	0.24	0.25	S	0.36	0.31	0.32	0.34	0.36	0.33	0.4	0.42	0.4	0.47	0.51	0.59	0.74	0.93	1.01	0.96	0.59	0.48	0.24	1.01	0.48	
Jan 2	0.52	0.46	0.46	0.44	S	0.5	0.32	0.21	0.28	0.24	0.2	0.19	0.15	0.08	0.14	0.14	0.19	0.12	0.04	0.04	0.05	0.1	0.05	0.03	0.03	0.52	0.22	
Jan 3	0.03	0.04	0.05	S	0.06	0.02	0.03	0.05	0.08	0.04	0.02	0.02	0.08	0.03	0.02	0.01	0.02	0.04	0.05	0	0.01	0.01	0	0	0.00	0.08	0.03	
Jan 4	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0.03	0.04	0.01	0	0.06	0	0	0	0	0.00	0.06	0.01	
Jan 5	0.01	S	0.14	0.06	0.03	0.01	0.22	0.2	0.09	0.07	0	0	0	0	0	0	0	0	0	0	0	0.04	0.01	0.01	0.00	0.22	0.04	
Jan 6	S	0.06	0.04	0.07	0.34	0.13	0.38	0.54	0.75	0.89	0.89	0.24	0.17	0.16	0.21	0.2	0.26	0.23	0.21	0.24	0.25	0.28	0.26	S	0.04	0.89	0.31	
Jan 7	0.32	0.33	0.4	0.41	0.43	0.42	0.36	0.42	0.43	0.39	0.4	0.42	0.36	0.43	0.38	0.33	0.33	0.32	0.31	0.32	0.29	0.24	S	0.27	0.24	0.43	0.36	
Jan 8	0.31	0.35	0.24	0.29	0.51	0.58	0.45	0.49	0.55	0.77	0.65	0.48	0.42	0.12	0.14	0.2	0.34	0.42	0.69	0.74	0.52	S	0.22	0.09	0.09	0.77	0.42	
Jan 9	0.05	0.04	0.12	0.08	0.05	0.06	0.03	0.02	0.02	0.03	0.04	0.05	0.05	0.04	0.06	0.1	0.08	0.17	0.13	0.12	S	0.1	0.2	0.22	0.02	0.22	0.08	
Jan 10	0.15	0.19	0.24	0.18	0.19	0.21	0.49	0.32	0.25	0.27	0.25	0.3	0.37	0.41	0.36	0.28	0.35	0.43	0.46	S	0.42	0.48	0.46	0.48	0.15	0.49	0.33	
Jan 11	0.43	0.49	0.52	0.54	0.56	0.44	0.41	0.48	0.63	0.54	0.5	0.49	0.41	0.43	0.51	0.55	0.59	0.81	S	0.89	0.56	0.56	0.52	0.44	0.41	0.89	0.53	
Jan 12	0.45	0.4	0.42	0.47	0.53	0.52	0.49	0.52	0.46	0.46	0.47	0.47	0.47	0.47	0.45	0.46	0.45	S	0.45	0.42	0.55	0.55	0.49	0.44	0.40	0.55	0.47	
Jan 13	0.51	0.46	0.42	0.42	0.43	0.45	0.48	0.51	0.48	0.41	0.5	0.65	0.54	0.52	0.45	0.54	S	0.44	0.93	0.41	0.14	0.17	0.19	0.2	0.14	0.93	0.45	
Jan 14	0.2	0.22	0.36	0.34	0.33	0.33	0.28	0.19	0.35	0.23	0.2	0.29	0.34	0.48	0.52	S	0.47	0.42	0.47	0.5	0.52	0.56	0.62	0.6	0.19	0.62	0.38	
Jan 15	0.63	0.67	0.65	0.7	0.69	0.68	0.73	0.75	0.77	0.81	0.8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0.63	0.81	-
Jan 16	X	X	X	X	X	X	X	NRM	0.32	0.59	0.94	0.88	0.67	S	0.43	0.55	0.7	0.59	0.59	0.53	0.53	0.55	0.57	0.62	0.32	0.94	-	
Jan 17	0.74	0.59	0.55	0.53	0.61	0.62	0.62	0.58	0.62	0.59	0.51	0.46	S	0.49	0.4	0.4	0.43	0.26	0.33	0.36	0.33	0.26	0.27	0.24	0.24	0.74	0.47	
Jan 18	0.22	0.16	0.09	0.19	0.39	0.61	0.96	0.83	1.51	1.43	1.14	S	0.16	0.18	0.16	0.15	0.35	1.27	0.92	0.9	0.9	0.6	0.49	0.09	1.51	0.60		
Jan 19	0.24	0.35	0.42	0.6	0.54	0.28	0.16	0.22	0.28	0.27	C	C	C	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	0.16	0.60	-	
Jan 20	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	NRM	C	C	C	C	0.28	0.3	0.34	0.32	0.37	0.33	0.35	0.37	0.37	0.28	0.37	-	
Jan 21	0.35	0.28	0.28	0.21	0.32	0.27	0.34	0.35	S	0.45	0.39	0.34	0.34	0.26	0.2	0.34	0.29	0.38	0.37	0.36	0.35	0.32	0.32	0.29	0.20	0.45	0.32	
Jan 22	0.31	0.42	0.41	0.44	0.44	0.5	0.54	S	0.58	0.58	0.57	0.38	0.39	0.24	0.31	0.36	0.37	0.37	0.27	0.36	0.37	0.32	0.32	0.32	0.24	0.58	0.40	
Jan 23	0.32	0.33	0.29	0.3	0.29	0.32	S	0.33	0.31	0.26	0.31	0.34	0.36	0.35	0.35	0.37	0.39	0.43	0.42	0.4	0.46	0.4	0.4	0.41	0.26	0.46	0.35	
Jan 24	0.42	0.4	0.38	0.35	0.31	S	0.57	0.59	0.44	0.3	0.26	0.29	0.24	0.21	0.2	0.27	0.24	0.37	0.42	0.59	0.49	0.41	0.31	0.20	0.59	0.36		
Jan 25	0.35	0.34	0.36	0.39	S	0.48	0.49	0.54	0.51	0.52	0.47	0.5	0.5	0.47	0.47	0.45	0.45	0.44	0.44	0.4	0.37	0.38	0.36	0.34	0.34	0.54	0.44	
Jan 26	0.33	0.35	0.33	S	0.35	0.3	0.32	0.33	0.33	0.31	0.34	0.35	0.31	0.3	0.33	0.31	0.33	0.38	0.33	0.44	0.42	0.37	0.35	0.42	0.30	0.44	0.34	
Jan 27	0.42	0.38	S	0.4	0.44	0.45	0.44	0.44	0.51	0.44	0.48	0.49	0.51	0.53	0.47	0.54	0.7	0.76	0.54	0.59	0.55	0.64	0.61	0.49	0.38	0.76	0.51	
Jan 28	0.54	S	0.57	0.48	0.5	0.43	0.47	0.47	0.46	0.42	0.41	0.44	0.41	0.42	0.45	0.41	0.4	0.43	0.41	0.46	0.47	0.44	0.43	0.44	0.40	0.57	0.45	
Jan 29	S	0.46	0.43	0.42	0.4	0.38	0.45	0.42	0.37	0.41	0.42	0.42	0.4	0.42	0.41	0.46	0.49	0.48	0.44	0.39	0.39	0.32	0.29	S	0.29	0.49	0.41	
Jan 30	0.36	0.33	0.51	0.44	0.32	0.31	0.36	0.36	0.39	0.39	0.39	0.43	0.4	0.42	0.43	0.42	0.45	0.53	0.5	0.46	0.51	0.54	S	0.44	0.31	0.54	0.42	
Jan 31	0.49	0.45	0.46	0.43	0.36	0.37	0.35	0.33	0.31	0.29	0.36	0.3	0.31	0.28	0.32	0.28	0.35	0.38	0.36	0.38	0.34	S	0.36	0.36	0.28	0.49	0.36	
Diurnal Maximum	0.74	0.67	0.65	0.70	0.69	0.68	0.96	0.83	1.51	1.43	1.14	0.88	0.67	0.53	0.52	0.55	0.70	0.81	1.27	0.93	1.01	0.96	0.62	0.62				
Diurnal Average	0.34	0.33	0.35	0.35	0.36	0.36	0.40	0.39	0.43	0.42	0.42	0.35	0.32	0.30	0.31	0.32	0.35	0.37	0.41	0.41	0.40	0.38	0.34	0.33				

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

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

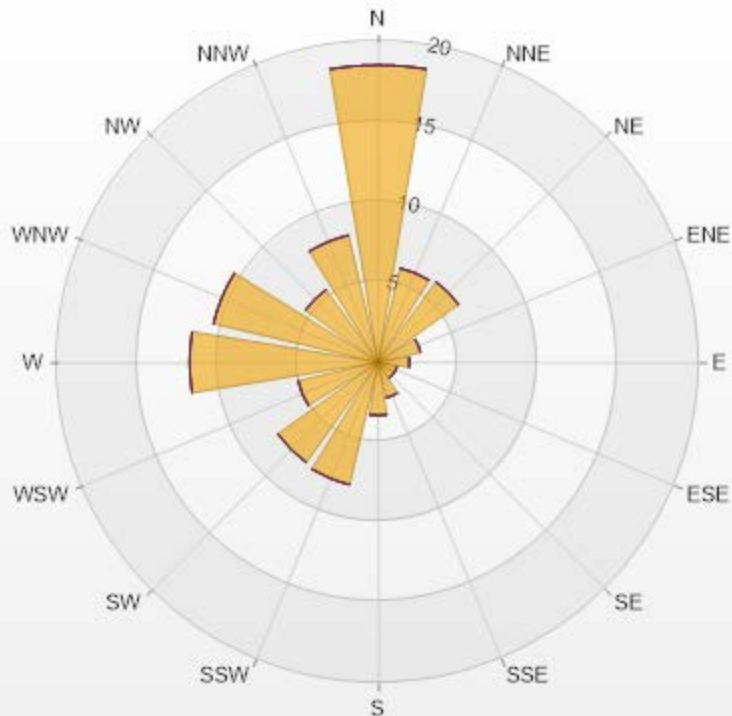
Timeseries Chart of Hourly Average for TRS - AQHI - Grimshaw Station





Wind: AQHI Grimshaw Poll.: AQHI Grimshaw-TRS[ppb] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 89.25% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	18.52	0	0	0	0	18.52
NNE	6.02	0	0	0	0	6.02
NE	6.17	0	0	0	0	6.17
ENE	2.71	0	0	0	0	2.71
E	1.96	0	0	0	0	1.96
ESE	1.2	0	0	0	0	1.2
SE	1.2	0	0	0	0	1.2
SSE	2.26	0	0	0	0	2.26
S	3.31	0	0	0	0	3.31
SSW	7.83	0	0	0	0	7.83
SW	7.68	0	0	0	0	7.68
WSW	5.12	0	0	0	0	5.12
W	11.75	0	0	0	0	11.75
WNW	10.54	0	0	0	0	10.54
NW	5.57	0	0	0	0	5.57
NNW	8.13	0	0	0	0	8.13
Summary	100	0	0	0	0	100



PRAMP-202201

Page 170 of 227

% Icon Classes (ppb)

100 0-2

0 2-5

0 5-10

0 10-50

0 >50.0



PEACE RIVER AREA MONITORING PROGRAM

AQHI - Grimshaw Station - January 2022

Summary of Hourly Averages

OXIDES OF NITROGEN (NOx) in ppb

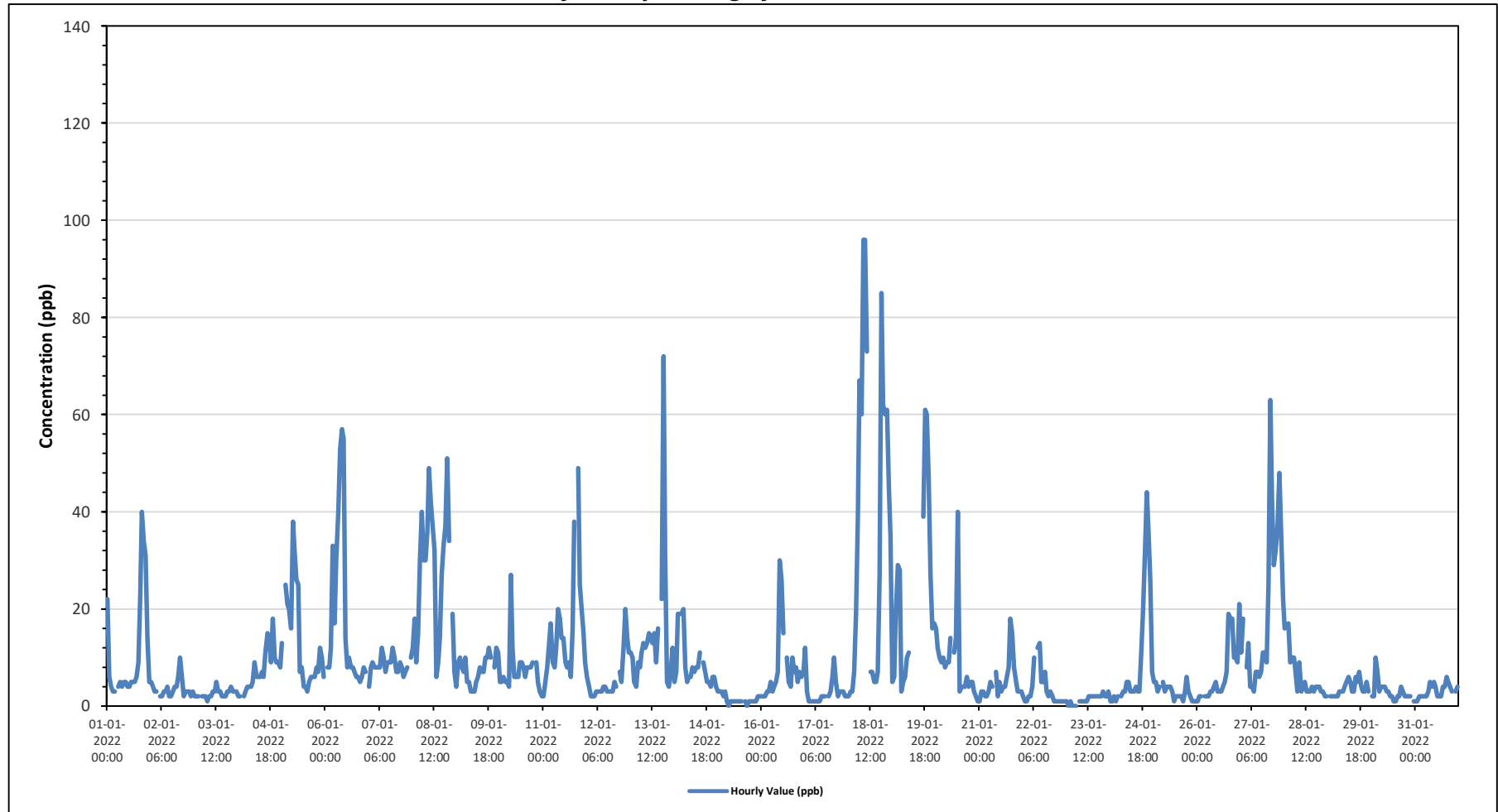
Maximum Hourly Value:	96 ppb on January 18 at hour 8	Hours in Service:	744
Maximum Daily Value:	37.9 ppb on January 18	Hours of Data:	705
Minimum Hourly Value:	0 ppb on January 15 at hour 6	Hours of Missing Data:	0
Minimum Daily Value:	1.4 ppb on January 15	Hours of Calibration:	39
Monthly Average:	9.4 ppb	Operational Uptime:	100.0

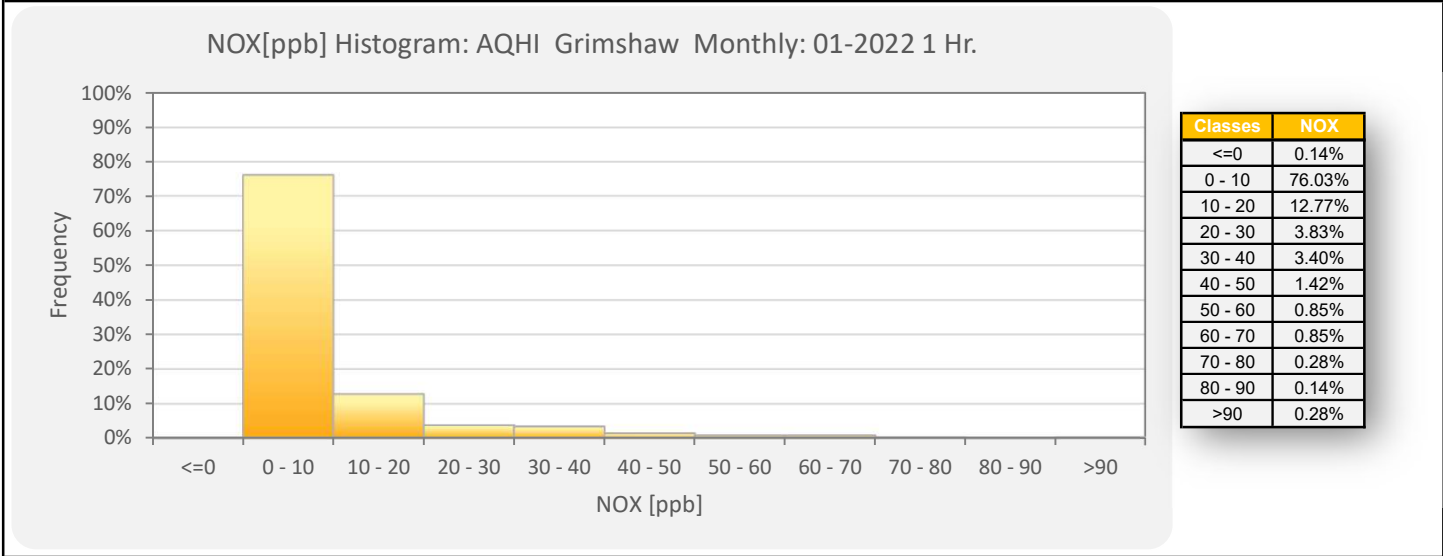
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Jan 1	22	6	4	3	3	S	4	5	4	5	5	4	4	5	5	6	9	23	40	34	31	14	5	3	40	10.7	
Jan 2	5	4	3	3	S	2	2	3	3	4	2	2	3	4	4	6	10	6	2	3	3	3	2	3	2	10	3.6
Jan 3	2	2	2	S	2	2	2	1	2	2	3	3	5	3	3	2	2	3	3	4	3	3	3	1	5	2.6	
Jan 4	2	2	S	2	3	4	4	4	5	9	6	6	6	7	6	11	15	14	9	18	10	9	9	8	2	18	7.3
Jan 5	13	S	25	21	20	16	38	32	26	25	7	8	4	4	3	5	6	6	8	7	12	10	6	3	38	13.4	
Jan 6	S	8	8	12	33	17	30	40	53	57	55	14	8	10	8	8	7	6	6	5	6	8	7	S	5	57	18.5
Jan 7	4	8	9	8	8	8	8	12	10	7	9	9	9	12	10	7	7	9	8	6	7	8	S	10	4	12	8.4
Jan 8	12	18	9	15	30	40	30	30	36	49	42	37	32	6	9	14	27	33	37	51	34	S	19	7	6	51	26.8
Jan 9	4	9	10	8	7	10	5	5	3	3	3	5	6	8	7	7	10	10	12	10	S	8	12	11	3	12	7.5
Jan 10	5	5	6	5	5	4	27	12	6	6	6	9	9	8	6	8	8	8	9	S	9	5	3	2	2	27	7.4
Jan 11	2	5	8	12	17	9	8	12	20	18	14	14	9	8	9	6	16	38	S	49	25	20	15	9	2	49	14.9
Jan 12	6	4	2	2	2	3	3	3	3	4	4	3	3	3	3	5	4	S	7	5	12	20	14	11	2	20	5.5
Jan 13	11	10	5	4	9	8	11	13	12	13	15	14	13	15	9	16	S	22	72	31	5	4	7	12	4	72	14.4
Jan 14	5	7	19	19	19	20	8	5	6	6	8	7	8	8	11	S	9	7	5	5	4	6	6	4	4	20	8.8
Jan 15	3	3	3	2	3	1	0	1	1	1	1	1	1	1	1	S	1	0	1	1	1	1	2	2	0	3	1.4
Jan 16	2	2	2	3	3	5	3	4	5	7	30	26	15	S	10	5	4	10	7	8	5	7	6	7	2	30	7.7
Jan 17	12	3	1	1	1	1	1	1	1	2	2	2	S	2	3	6	10	5	2	3	3	3	2	2	1	12	3.0
Jan 18	2	3	3	7	19	39	67	60	96	96	73	S	7	5	5	7	27	85	62	60	61	45	35	2	96	37.9	
Jan 19	5	6	19	29	28	3	5	6	10	11	C	C	C	C	C	C	C	39	61	60	47	27	16	17	3	61	-
Jan 20	16	12	10	9	10	8	9	9	14	S	11	14	40	3	4	4	4	6	4	5	5	3	2	1	1	40	8.8
Jan 21	1	3	3	2	2	3	5	4	S	7	2	5	3	4	4	6	8	18	15	8	5	3	3	3	1	18	5.1
Jan 22	2	1	1	2	2	4	10	S	12	13	5	5	7	3	2	3	2	1	1	1	1	1	1	1	1	13	3.5
Jan 23	1	0	1	0	0	0	S	1	1	1	1	1	2	2	2	2	2	2	2	2	3	2	2	3	0	3	1.4
Jan 24	1	1	2	1	2	S	2	3	3	5	5	3	3	4	3	3	11	20	30	44	35	26	7	1	44	9.4	
Jan 25	5	5	3	4	S	5	3	4	4	4	3	1	2	2	2	1	3	6	3	2	1	1	1	1	1	6	2.9
Jan 26	1	2	2	S	2	2	2	3	3	4	5	3	3	3	4	5	7	19	18	18	10	10	9	21	1	21	6.8
Jan 27	11	18	S	8	13	4	4	3	7	7	6	7	11	11	9	25	63	43	29	32	37	48	35	22	3	63	19.7
Jan 28	16	S	17	9	10	10	7	3	9	3	4	5	3	3	3	4	3	4	4	3	3	3	2	2	2	17	5.7
Jan 29	S	2	2	2	2	2	3	3	3	4	5	6	5	3	3	6	5	7	4	3	3	5	3	S	2	7	3.7
Jan 30	2	2	10	7	3	4	4	4	3	3	2	2	1	1	2	2	4	3	2	2	2	2	S	1	1	10	3.0
Jan 31	1	1	2	2	2	2	2	3	5	4	5	4	2	2	2	4	4	6	5	4	3	S	3	4	1	6	3.1
Diurnal Maximum	22	18	25	29	33	40	67	60	96	96	73	37	40	15	11	25	63	43	85	62	60	61	45	35			
Diurnal Average	6.0	5.2	6.6	7.0	9.0	8.1	10.2	9.6	12.2	12.7	11.3	7.6	7.7	5.2	5.2	6.3	8.8	12.5	15.5	16.0	13.1	12.0	9.6	7.6			

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

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

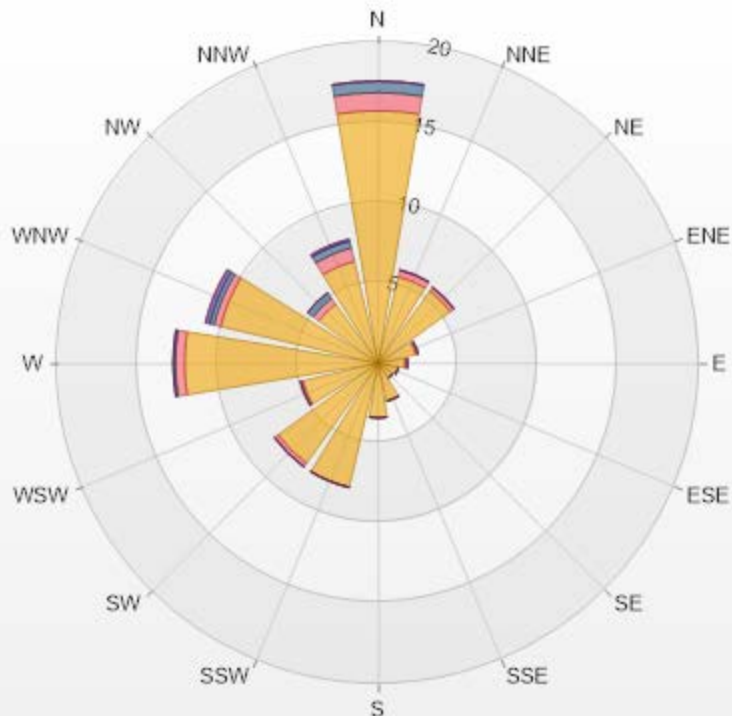
Timeseries Chart of Hourly Average for NOx - AQHI - Grimshaw Station





Wind: AQHI Grimshaw Poll.: AQHI Grimshaw-NOX[ppb] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	15.74	1.13	0.71	0	0	17.58
NNE	5.53	0.43	0	0	0	5.96
NE	5.53	0.28	0	0	0	5.81
ENE	2.41	0.14	0	0	0	2.55
E	1.7	0.14	0	0	0	1.84
ESE	1.28	0	0	0	0	1.28
SE	1.13	0	0	0	0	1.13
SSE	2.41	0	0	0	0	2.41
S	3.4	0	0	0	0	3.4
SSW	7.94	0	0	0	0	7.94
SW	7.66	0.28	0	0	0	7.94
WSW	4.82	0.14	0	0	0	4.96
W	12.06	0.57	0.14	0	0	12.77
WNW	10.07	0.43	0.28	0.28	0	11.06
NW	4.54	0.43	0.43	0	0	5.4
NNW	6.52	0.85	0.43	0.14	0	7.94
Summary	92.74	4.82	1.99	0.42	0	100



PRAMP-202201

Page 175 of 227

% Icon Classes (ppb)

93 0-30

5 30-50

2 50-76

0 76-159

0 >159.0



PEACE RIVER AREA MONITORING PROGRAM

AQHI - Grimshaw Station - January 2022

Summary of Hourly Averages

NITRIC OXIDE (NO) in ppb

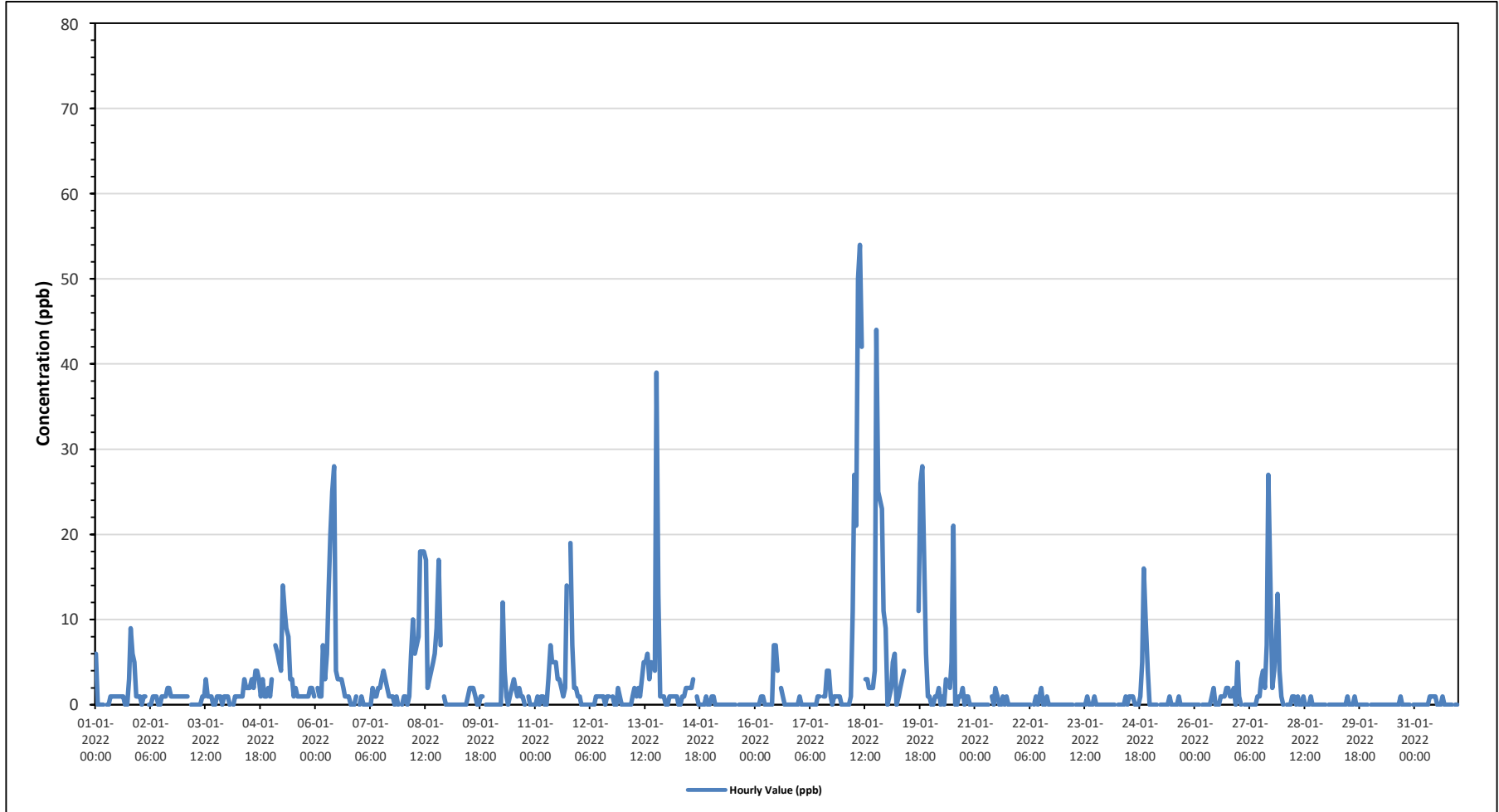
Maximum Hourly Value:	54 ppb on January 18 at hour 9	Hours in Service:	744
Maximum Daily Value:	15.6 ppb on January 18	Hours of Data:	705
Minimum Hourly Value:	0 ppb on January 1 at hour 1	Hours of Missing Data:	0
Minimum Daily Value:	0.0 ppb on January 30	Hours of Calibration:	39
Monthly Average:	2.1 ppb	Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Jan 1	6	0	0	0	0	S	0	0	1	1	1	1	1	1	1	0	0	3	9	6	5	1	1	0	9	1.7		
Jan 2	1	0	1	1	S	0	0	1	1	1	0	0	1	1	1	2	2	1	1	1	1	1	1	1	0	2	0.9	
Jan 3	1	1	1	S	0	0	0	0	0	0	1	1	3	1	1	1	0	0	1	1	1	0	1	1	0	3	0.7	
Jan 4	1	0	S	0	1	1	1	1	1	3	2	2	2	3	2	4	4	3	1	3	1	1	2	1	0	4	1.7	
Jan 5	3	S	7	6	5	4	14	11	9	8	3	3	1	2	1	1	1	1	1	1	1	2	2	1	1	14	3.8	
Jan 6	S	2	1	1	7	3	6	14	20	25	28	4	3	3	3	2	1	1	1	0	0	0	1	S	0	28	5.7	
Jan 7	0	1	0	0	0	0	0	2	1	1	2	2	3	4	3	2	1	1	1	0	1	0	S	0	0	4	1.1	
Jan 8	1	1	0	1	6	10	6	7	8	18	18	17	2	3	4	5	6	9	17	7	S	1	0	0	18	7.2		
Jan 9	0	0	0	0	0	0	0	0	0	0	0	1	2	2	2	1	0	0	1	1	S	0	0	0	0	2	0.4	
Jan 10	0	0	0	0	0	0	12	4	1	0	1	2	3	2	1	2	1	1	0	S	1	0	0	0	0	12	1.3	
Jan 11	0	1	0	1	1	0	0	3	7	5	5	3	3	2	1	2	14	S	19	7	2	2	1	0	19	3.7		
Jan 12	1	0	0	0	0	0	0	0	0	1	1	1	1	1	0	1	1	S	1	0	0	2	1	0	0	2	0.5	
Jan 13	0	0	0	0	0	1	2	1	2	1	3	5	5	6	3	5	S	4	39	13	1	1	1	0	0	39	4.0	
Jan 14	0	1	1	1	1	1	0	0	1	1	2	2	2	2	3	S	1	0	0	0	0	1	0	0	0	3	0.9	
Jan 15	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0.1	
Jan 16	0	0	0	1	1	0	0	0	0	0	7	7	4	S	2	1	0	0	0	0	0	0	0	0	0	7	1.0	
Jan 17	1	0	0	0	0	0	0	0	0	0	1	1	S	1	1	4	4	1	0	1	1	1	1	0	0	4	0.8	
Jan 18	0	0	0	0	1	11	27	21	50	54	42	S	3	3	2	2	2	4	44	25	24	23	11	9	0	54	15.6	
Jan 19	0	1	2	5	6	0	1	2	3	4	C	C	C	C	C	C	C	11	26	28	17	6	1	1	0	28	-	
Jan 20	0	0	1	1	2	0	1	0	3	S	2	5	21	0	0	1	1	2	0	1	1	0	0	0	0	21	1.8	
Jan 21	0	0	0	0	0	0	0	0	S	1	0	2	1	0	0	1	0	1	0	0	0	0	0	0	0	2	0.3	
Jan 22	0	0	0	0	0	0	0	S	0	1	0	1	2	0	0	1	0	0	0	0	0	0	0	0	0	2	0.2	
Jan 23	0	0	0	0	0	0	S	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0.1	
Jan 24	0	0	0	0	0	S	0	0	0	0	1	0	1	1	1	0	0	1	5	16	10	4	0	0	0	16	1.7	
Jan 25	0	0	0	0	S	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.1	
Jan 26	0	0	0	S	0	0	0	0	0	1	2	0	0	0	1	1	1	2	2	1	1	2	0	5	0	5	0.8	
Jan 27	1	0	S	0	0	0	0	0	0	0	1	1	3	4	2	7	27	14	2	4	7	13	4	1	0	27	4.0	
Jan 28	0	S	0	0	0	0	1	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0.2	
Jan 29	S	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	S	0	1	0.1
Jan 30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	S	0	1	0.0
Jan 31	0	0	0	0	0	0	0	0	1	1	1	1	0	0	1	0	0	0	0	0	0	S	0	0	0	1	0.2	
Diurnal Maximum	6	2	7	6	7	11	27	21	50	54	42	18	21	6	3	7	27	14	44	28	24	23	11	9				
Diurnal Average	0.6	0.3	0.5	0.6	1.1	1.1	2.4	2.2	3.7	4.2	4.2	2.3	2.8	1.5	1.2	1.7	1.9	2.3	4.5	4.3	3.1	2.4	1.2	0.8				

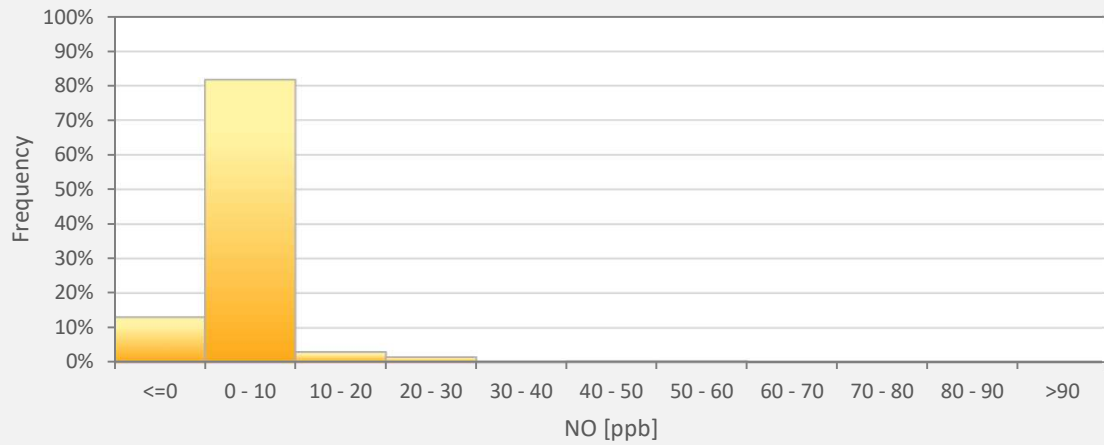
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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

Timeseries Chart of Hourly Average for NO - AQHI - Grimshaw Station



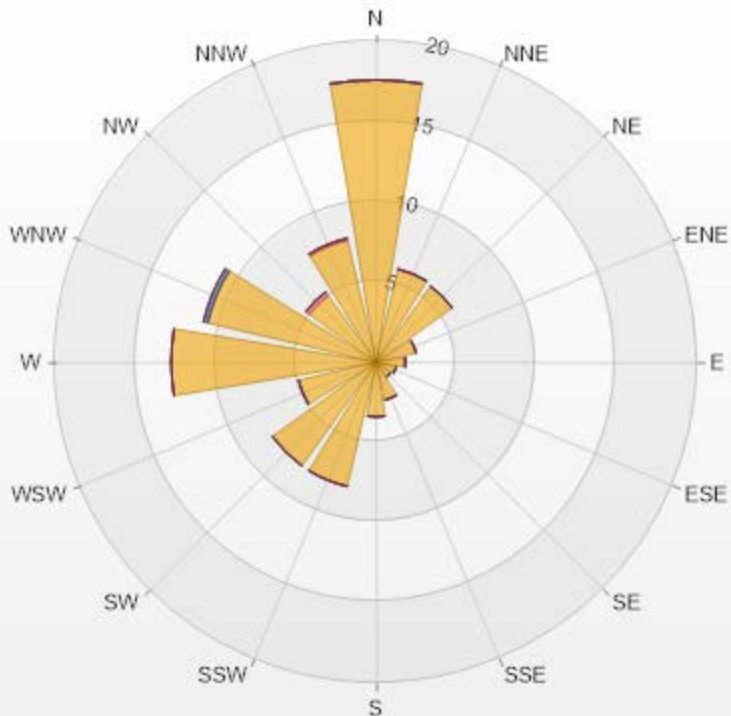
NO[ppb] Histogram: AQHI Grimshaw Monthly: 01-2022 1 Hr.



Classes	NO
<=0	13.05%
0 - 10	81.70%
10 - 20	2.98%
20 - 30	1.56%
30 - 40	0.14%
40 - 50	0.28%
50 - 60	0.28%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: AQHI Grimshaw Poll.: AQHI Grimshaw-NO[ppb] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	17.59	0	0	0	0	17.59
NNE	5.96	0	0	0	0	5.96
NE	5.82	0	0	0	0	5.82
ENE	2.55	0	0	0	0	2.55
E	1.84	0	0	0	0	1.84
ESE	1.28	0	0	0	0	1.28
SE	1.13	0	0	0	0	1.13
SSE	2.41	0	0	0	0	2.41
S	3.4	0	0	0	0	3.4
SSW	7.94	0	0	0	0	7.94
SW	7.94	0	0	0	0	7.94
WSW	4.96	0	0	0	0	4.96
W	12.77	0	0	0	0	12.77
WNW	10.78	0	0.28	0	0	11.06
NW	5.11	0.28	0	0	0	5.39
NNW	7.8	0.14	0	0	0	7.94
Summary	99.28	0.42	0.28	0	0	100



PRAMP-202201

Page 180 of 227



PEACE RIVER AREA MONITORING PROGRAM

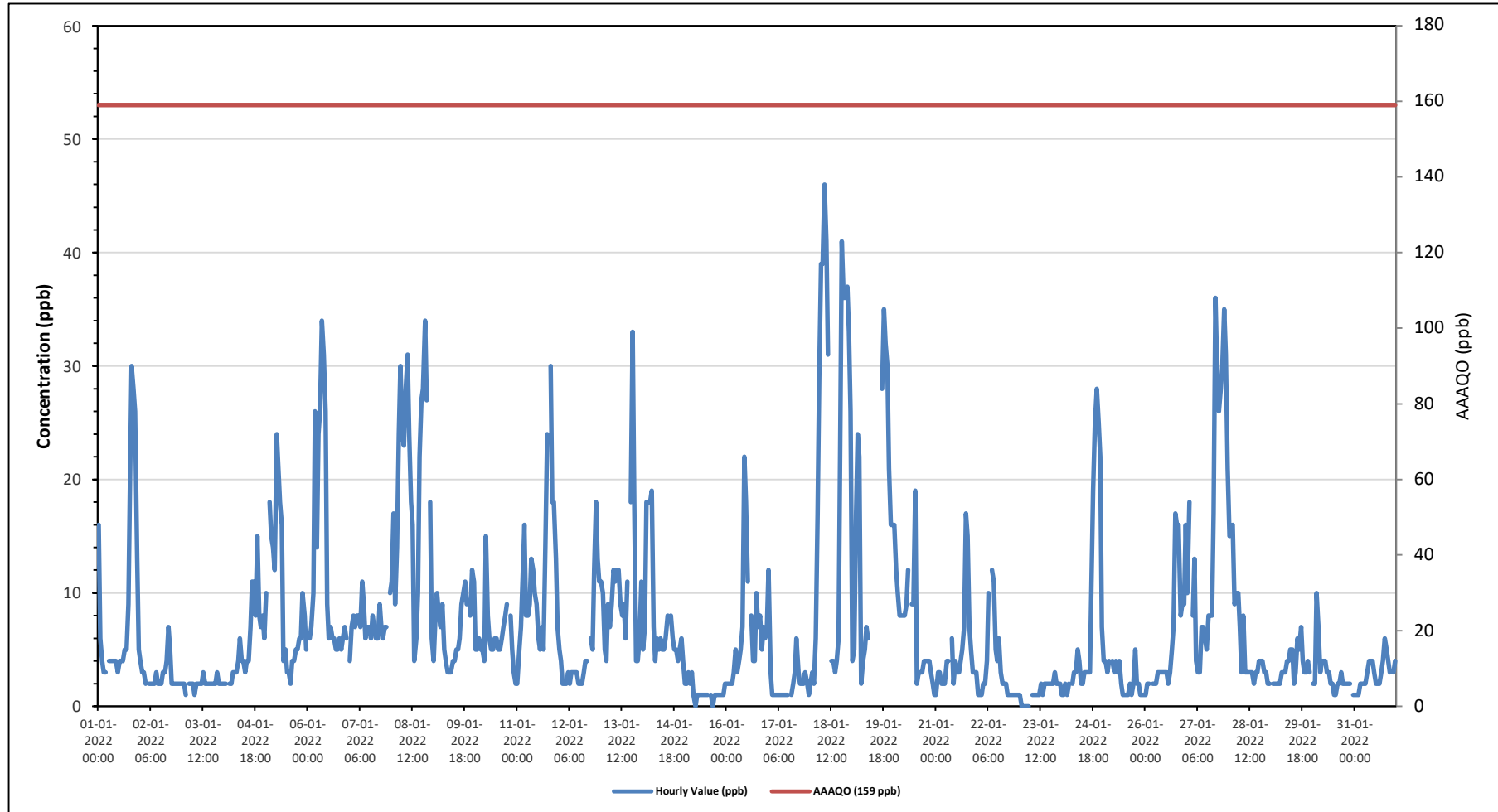
AQHI - Grimshaw Station - January 2022

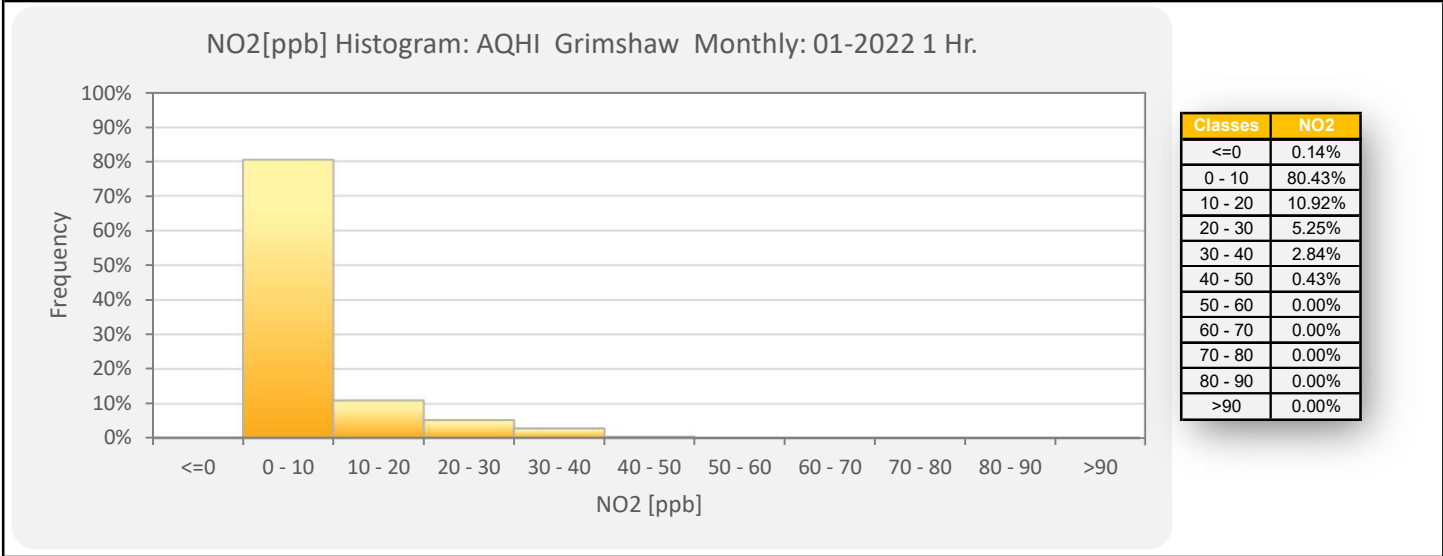
Summary of Hourly Averages

NITROGEN DIOXIDE (NO₂) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 159 ppb																																															
Number of 1-Hour Exceedances: 0																																															
Maximum Hourly Value: 46 ppb on January 18 at hour 8												Hours in Service: 744																																			
Maximum Daily Value: 22.1 ppb on January 18												Hours of Data: 705																																			
Minimum Hourly Value: 0 ppb on January 15 at hour 6												Hours of Missing Data: 0																																			
Minimum Daily Value: 1.3 ppb on January 15												Hours of Calibration: 39																																			
Monthly Average: 7.2 ppb												Operational Uptime: 100.0																																			
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average																					
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23																				
Jan 1	16	6	4	3	3	S	4	4	4	4	4	3	4	4	5	5	9	20	30	28	26	13	5	3	30	9.0																					
Jan 2	4	3	3	2	S	2	2	2	2	3	2	2	2	3	3	4	7	5	2	2	2	2	2	2	2	7	2.7																				
Jan 3	2	2	1	S	2	2	2	1	2	2	2	2	3	2	2	2	2	2	2	3	2	2	2	2	1	3	2.0																				
Jan 4	2	2	S	2	2	3	3	3	4	6	4	4	3	4	4	7	11	11	8	15	8	7	8	6	2	15	5.5																				
Jan 5	10	S	18	15	14	12	24	21	18	16	4	5	3	3	2	4	4	5	5	6	6	10	8	5	2	24	9.5																				
Jan 6	S	6	7	10	26	14	24	26	34	31	26	9	6	7	6	6	5	5	6	5	6	7	6	S	5	34	12.6																				
Jan 7	4	7	8	7	8	8	7	11	9	6	7	7	6	8	7	6	6	9	7	6	7	7	S	10	4	11	7.3																				
Jan 8	11	17	9	14	24	30	24	23	28	31	24	18	16	4	6	10	22	27	28	34	27	S	18	6	4	34	19.6																				
Jan 9	4	8	10	8	7	9	5	4	3	3	3	4	4	5	5	6	9	10	11	9	S	8	12	11	3	12	6.9																				
Jan 10	5	5	6	5	5	4	15	8	6	5	5	6	6	5	5	6	7	8	9	S	8	5	3	2	2	15	6.0																				
Jan 11	2	5	7	11	16	8	8	9	13	12	10	9	6	5	7	5	14	24	S	30	18	18	13	7	2	30	11.2																				
Jan 12	5	4	2	2	2	3	2	3	3	3	2	2	2	3	4	4	S	6	5	12	18	13	11	2	2	18	5.0																				
Jan 13	11	10	5	4	9	7	9	12	11	12	12	9	8	9	6	11	S	18	33	18	4	4	6	11	4	33	10.4																				
Jan 14	5	7	18	18	18	19	7	4	6	5	6	5	5	6	8	S	8	6	5	5	4	5	6	4	4	19	7.8																				
Jan 15	2	2	3	2	3	1	0	1	1	1	1	1	1	1	1	S	1	0	1	1	1	1	1	2	0	3	1.3																				
Jan 16	2	2	2	2	3	5	3	4	5	7	22	18	11	S	8	4	4	10	7	8	5	7	6	7	2	22	6.6																				
Jan 17	12	3	1	1	1	1	1	1	1	1	1	1	1	S	1	2	3	6	3	2	2	3	2	1	1	12	2.3																				
Jan 18	2	3	2	6	17	29	39	39	46	41	31	S	4	4	3	4	6	23	41	36	36	37	33	26	2	46	22.1																				
Jan 19	4	5	17	24	22	2	4	5	7	6	C	C	C	C	C	C	C	28	35	32	30	21	16	16	2	35	-																				
Jan 20	16	12	10	8	8	8	8	9	12	S	9	9	19	2	3	3	3	4	4	4	4	3	2	1	1	19	7.0																				
Jan 21	1	3	3	2	2	2	4	S	6	2	4	3	3	4	5	7	17	15	7	5	3	3	3	1	1	17	4.7																				
Jan 22	1	1	1	2	2	4	10	S	12	11	5	4	6	3	2	2	2	1	1	1	1	1	1	1	1	1	12	3.3																			
Jan 23	1	0	0	0	0	0	S	1	1	1	1	1	2	1	2	2	2	2	2	2	3	2	2	2	0	3	1.3																				
Jan 24	1	1	2	1	2	S	2	3	3	5	4	2	2	3	3	3	3	11	19	25	28	25	22	7	1	28	7.7																				
Jan 25	4	4	3	4	S	4	3	4	3	4	2	1	1	1	1	2	1	2	5	2	2	1	1	1	1	5	2.4																				
Jan 26	1	2	2	S	2	2	2	3	3	3	3	3	3	3	3	2	3	5	7	17	16	16	8	9	9	16	6.0																				
Jan 27	10	18	S	8	13	4	3	3	7	7	6	5	8	8	8	17	36	29	26	28	30	35	31	21	3	36	15.7																				
Jan 28	15	S	16	9	10	10	7	3	8	3	3	3	3	3	2	3	3	4	4	3	3	2	2	2	2	16	5.3																				
Jan 29	S	2	2	2	2	2	3	3	3	4	4	5	5	2	3	6	5	7	4	3	3	4	3	S	2	7	3.5																				
Jan 30	2	2	10	7	3	4	4	4	3	3	2	2	1	1	2	2	3	2	2	2	2	2	S	1	1	10	2.9																				
Jan 31	1	1	1	2	2	2	2	3	4	4	4	3	2	2	2	3	4	6	5	4	3	S	3	4	1	6	2.9																				
Diurnal Maximum	16	18	18	24	26	30	39	39	46	41	31	18	19	9	8	17	36	29	41	36	36	37	33	26																							
Diurnal Average	5.4	4.9	6.0	6.2	7.9	6.9	7.7	7.4	8.7	8.2	7.1	5.1	5.0	3.6	4.0	4.9	6.8	10.2	11.0	11.5	10.0	9.5	8.5	6.7																							
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.																																															

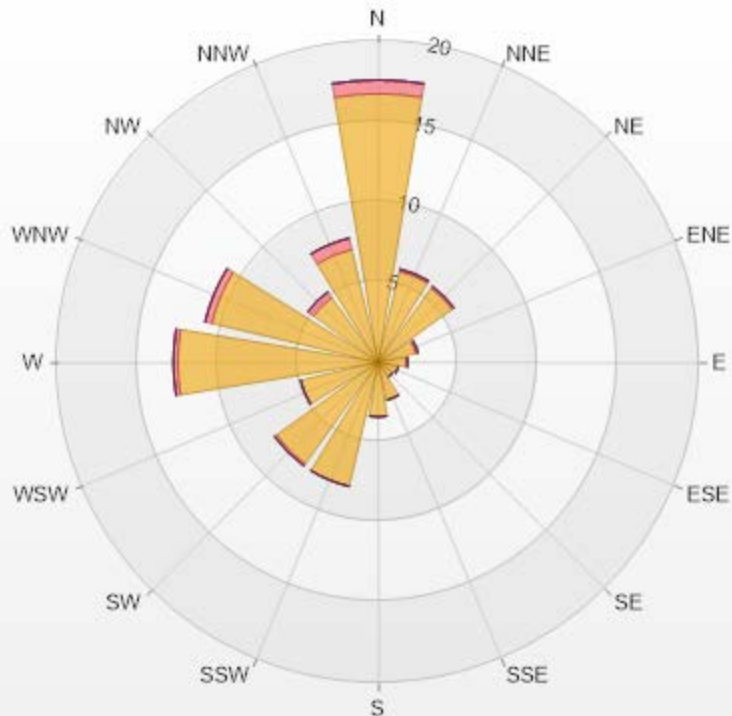
Timeseries Chart of Hourly Average for NO2 - AQHI - Grimshaw Station





Wind: AQHI Grimshaw Poll.: AQHI Grimshaw-NO2[ppb] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	16.74	0.85	0	0	0	17.59
NNE	5.82	0.14	0	0	0	5.96
NE	5.67	0.14	0	0	0	5.81
ENE	2.41	0.14	0	0	0	2.55
E	1.84	0	0	0	0	1.84
ESE	1.28	0	0	0	0	1.28
SE	1.13	0	0	0	0	1.13
SSE	2.41	0	0	0	0	2.41
S	3.4	0	0	0	0	3.4
SSW	7.94	0	0	0	0	7.94
SW	7.8	0.14	0	0	0	7.94
WSW	4.96	0	0	0	0	4.96
W	12.48	0.28	0	0	0	12.76
WNW	10.64	0.43	0	0	0	11.07
NW	4.96	0.43	0	0	0	5.39
NNW	7.23	0.71	0	0	0	7.94
Summary	96.71	3.26	0	0	0	100



PRAMP-202201

Page 185 of 227



PEACE RIVER AREA MONITORING PROGRAM

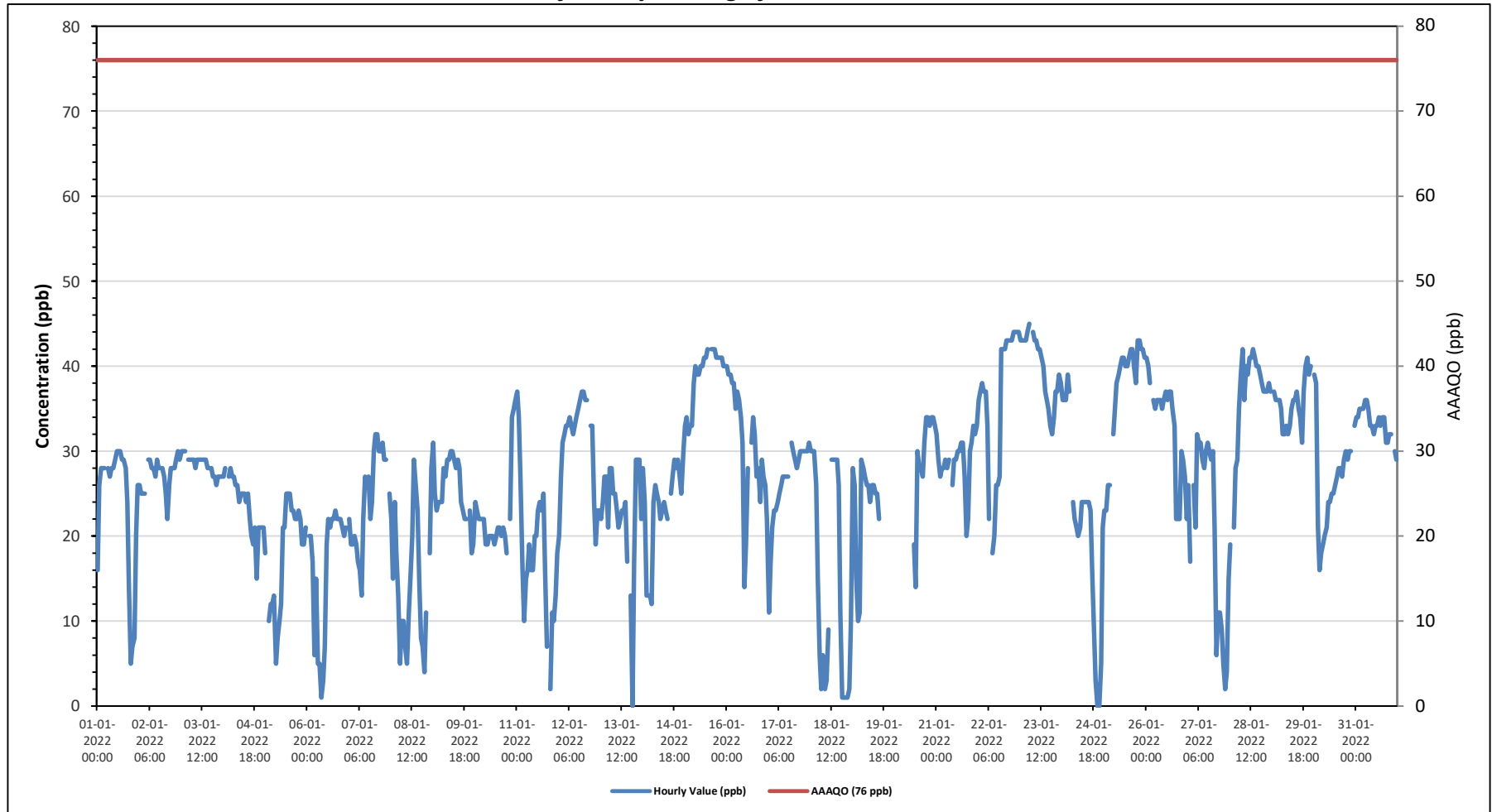
AQHI - Grimshaw Station - January 2022

Summary of Hourly Averages

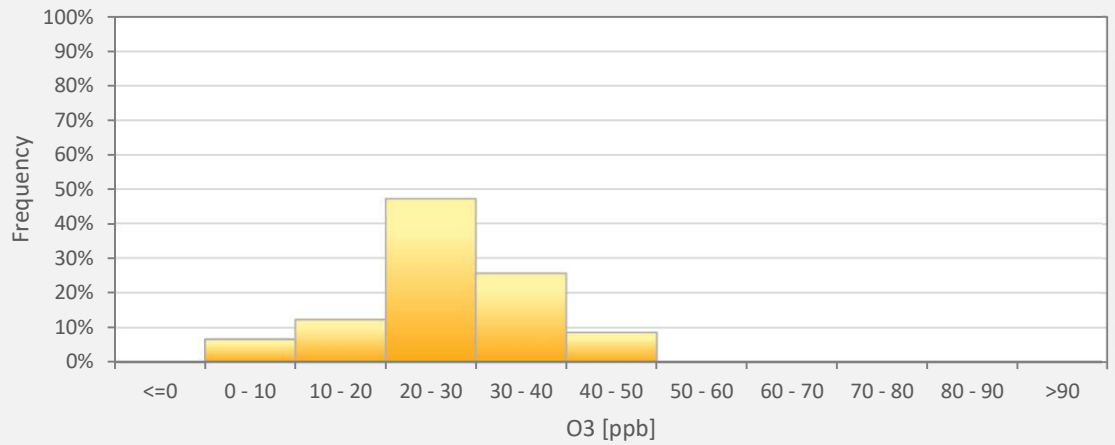
OZONE (O₃) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 76 ppb																																															
Number of 1-Hour Exceedances: 0																																															
Maximum Hourly Value: 45 ppb on January 23 at hour 5												Hours in Service: 744																																			
Maximum Daily Value: 39.7 ppb on January 23												Hours of Data: 694																																			
Minimum Hourly Value: 0 ppb on January 13 at hour 18												Hours of Missing Data: 15																																			
Minimum Daily Value: 14.3 ppb on January 18												Hours of Calibration: 35																																			
Monthly Average: 26.8 ppb												Operational Uptime: 98.0																																			
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average																					
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23																							
Jan 1	16	26	28	28	28	S	28	27	28	28	29	30	30	30	29	29	28	24	14	5	7	8	20	26	5.0	30.0	23.7																				
Jan 2	26	25	25	25	S	29	29	28	28	27	29	28	28	28	27	25	22	26	28	28	28	29	30	29	22.0	30.0	27.3																				
Jan 3	30	30	30	S	29	29	29	29	28	29	29	29	29	29	29	28	28	28	27	27	26	27	27	27	26.0	30.0	28.4																				
Jan 4	27	28	S	27	28	27	27	26	26	24	25	25	25	24	25	22	20	19	21	15	21	21	21	21	15.0	28.0	23.7																				
Jan 5	18	S	10	12	12	13	5	8	10	12	21	25	25	25	25	23	23	22	22	23	22	19	19	21	5.0	25.0	17.9																				
Jan 6	S	20	20	17	6	15	5	5	1	3	7	19	22	21	22	22	23	22	22	22	21	20	21	S	1.0	23.0	16.2																				
Jan 7	22	19	19	20	19	17	16	13	22	27	26	27	22	24	30	32	32	30	30	31	29	29	S	25	13.0	32.0	24.4																				
Jan 8	22	15	24	18	13	5	10	10	7	5	11	15	20	29	26	23	14	8	7	4	11	S	18	28	4.0	29.0	14.9																				
Jan 9	31	25	23	24	24	24	28	27	29	29	30	30	29	28	29	28	24	23	22	22	S	23	18	19	18.0	31.0	25.6																				
Jan 10	24	23	22	22	22	22	19	19	20	20	20	19	20	21	21	20	21	20	18	S	22	34	35	36	18.0	36.0	22.6																				
Jan 11	37	34	27	16	10	15	16	19	16	16	20	20	23	24	23	25	16	7	S	2	11	10	13	18	2.0	37.0	18.2																				
Jan 12	20	27	31	32	33	33	34	33	32	33	34	35	36	37	37	36	36	S	33	33	24	19	23	23	19.0	37.0	31.0																				
Jan 13	22	24	27	27	21	28	28	25	25	23	21	22	23	23	24	17	S	13	0	17	29	29	29	22	0.0	29.0	22.6																				
Jan 14	28	24	13	13	13	12	24	26	25	24	22	23	24	23	22	S	25	27	29	28	29	27	25	30	12.0	30.0	23.3																				
Jan 15	33	34	32	33	33	38	40	39	39	40	40	41	41	42	S	42	42	42	41	41	41	41	40	40	32.0	42.0	38.9																				
Jan 16	40	39	39	38	38	35	37	36	34	31	14	19	28	S	31	34	32	27	28	24	29	27	26	22	14.0	40.0	30.8																				
Jan 17	11	17	21	23	23	24	25	26	27	27	27	S	31	30	29	28	29	30	30	30	30	30	31	31	11.0	31.0	26.3																				
Jan 18	30	30	30	26	15	6	2	6	2	3	9	S	29	29	29	26	11	1	1	1	1	2	10	1.0	30.0	14.3																					
Jan 19	28	26	15	10	11	29	28	27	26	26	24	26	26	25	25	22	C	C	C	C	X	X	X	X	10.0	29.0	-																				
Jan 20	X	X	X	X	X	X	X	X	X	X	X	X	19	14	30	28	28	27	31	34	34	33	34	33	14.0	34.0	-																				
Jan 21	32	29	27	28	28	29	28	29	S	26	29	29	30	30	31	31	27	20	22	30	31	33	32	33	20.0	33.0	28.9																				
Jan 22	36	37	38	37	37	33	22	S	18	20	26	26	27	42	42	42	43	43	43	43	44	44	44	44	18.0	44.0	36.1																				
Jan 23	43	43	43	43	44	45	S	44	43	43	42	42	41	40	37	36	35	33	32	34	37	37	39	38	32.0	45.0	39.7																				
Jan 24	36	36	36	39	37	S	24	22	21	20	21	24	24	24	24	24	23	15	9	3	0	0	5	21	0.0	39.0	21.2																				
Jan 25	23	23	26	26	S	32	35	38	39	40	41	41	40	40	41	42	42	40	38	43	43	42	42	41	23.0	43.0	37.3																				
Jan 26	41	40	38	S	36	35	36	36	36	35	36	37	36	37	37	35	33	22	22	22	30	29	27	22	22.0	41.0	33.0																				
Jan 27	26	17	S	26	21	32	31	31	29	28	30	31	30	29	30	21	6	11	11	9	5	2	4	15	2.0	32.0	20.7																				
Jan 28	19	S	21	28	29	35	39	42	36	40	39	41	41	42	41	40	40	39	38	37	37	37	38	37	19.0	42.0	36.3																				
Jan 29	S	37	36	36	36	35	32	32	33	32	33	35	36	36	37	35	34	31	37	40	41	39	40	S	31.0	41.0	35.6																				
Jan 30	39	38	21	16	18	19	20	21	24	24	25	25	26	27	28	28	27	29	30	29	30	30	S	33	16.0	39.0	26.4																				
Jan 31	34	34	35	35	35	36	36	35	33	33	32	33	33	34	33	34	34	31	32	32	S	30	29	29	29.0	36.0	33.2																				
Diurnal Maximum	43	43	43	43	44	45	40	44	43	43	42	42	41	42	42	42	43	43	43	43	44	44	44	44	44	44	44	44																			
Diurnal Average	28.4	28.6	27.0	25.9	25.0	26.1	25.3	26.2	25.4	25.6	26.4	28.0	28.6	30.1	29.8	29.4	28.0	24.9	24.8	24.4	25.7	25.8	26.1	27.6																							
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 O3 - AQHI - Grimshaw Station



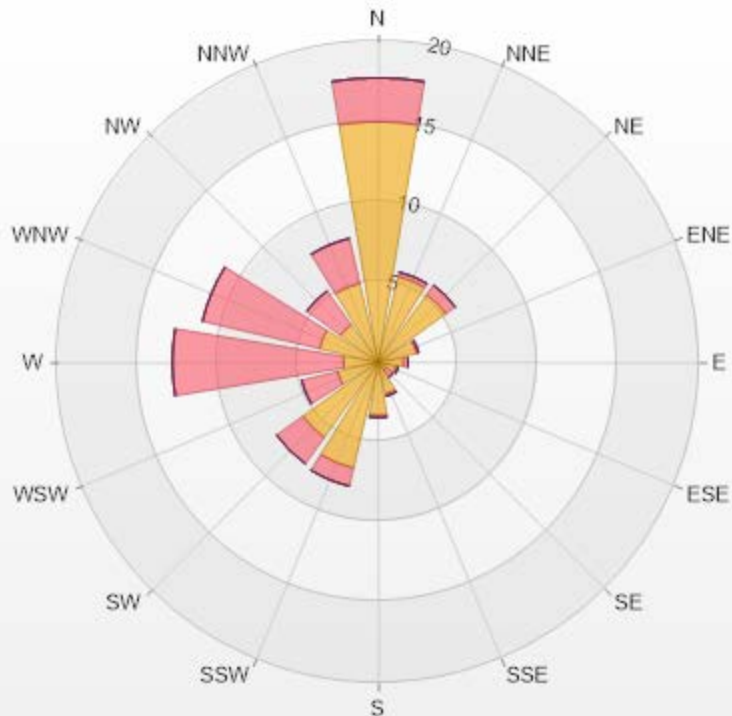
O3[ppb] Histogram: AQHI Grimshaw Monthly: 01-2022 1 Hr.



Classes	O3
<=0	0.00%
0 - 10	6.63%
10 - 20	12.25%
20 - 30	46.97%
30 - 40	25.50%
40 - 50	8.65%
50 - 60	0.00%
60 - 70	0.00%
70 - 80	0.00%
80 - 90	0.00%
>90	0.00%

Wind: AQHI Grimshaw Poll.: AQHI Grimshaw-O3[ppb] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 93.28% Calm Avg: 0.00 [ppb]

Direction	0-30	30-50	50-76	76-159	>159.0	Total
N	14.99	2.74	0	0	0	17.73
NNE	5.48	0.29	0	0	0	5.77
NE	5.19	0.72	0	0	0	5.91
ENE	2.45	0.14	0	0	0	2.59
E	1.59	0.29	0	0	0	1.88
ESE	1.15	0.14	0	0	0	1.29
SE	0.58	0.58	0	0	0	1.16
SSE	2.02	0.14	0	0	0	2.16
S	3.31	0.14	0	0	0	3.45
SSW	6.77	1.15	0	0	0	7.92
SW	5.76	2.02	0	0	0	7.78
WSW	2.59	2.31	0	0	0	4.9
W	2.16	10.66	0	0	0	12.82
WNW	3.75	7.49	0	0	0	11.24
NW	2.88	2.59	0	0	0	5.47
NNW	5.04	2.88	0	0	0	7.92
Summary	65.71	34.28	0	0	0	100



PRAMP-202201

Page 190 of 227

% Icon Classes (ppb)	66	34	0	0	0
0-30	66				
30-50		34			
50-76			0		
76-159				0	
>159.0					0



PEACE RIVER AREA MONITORING PROGRAM

AQHI - Grimshaw Station - January 2022

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

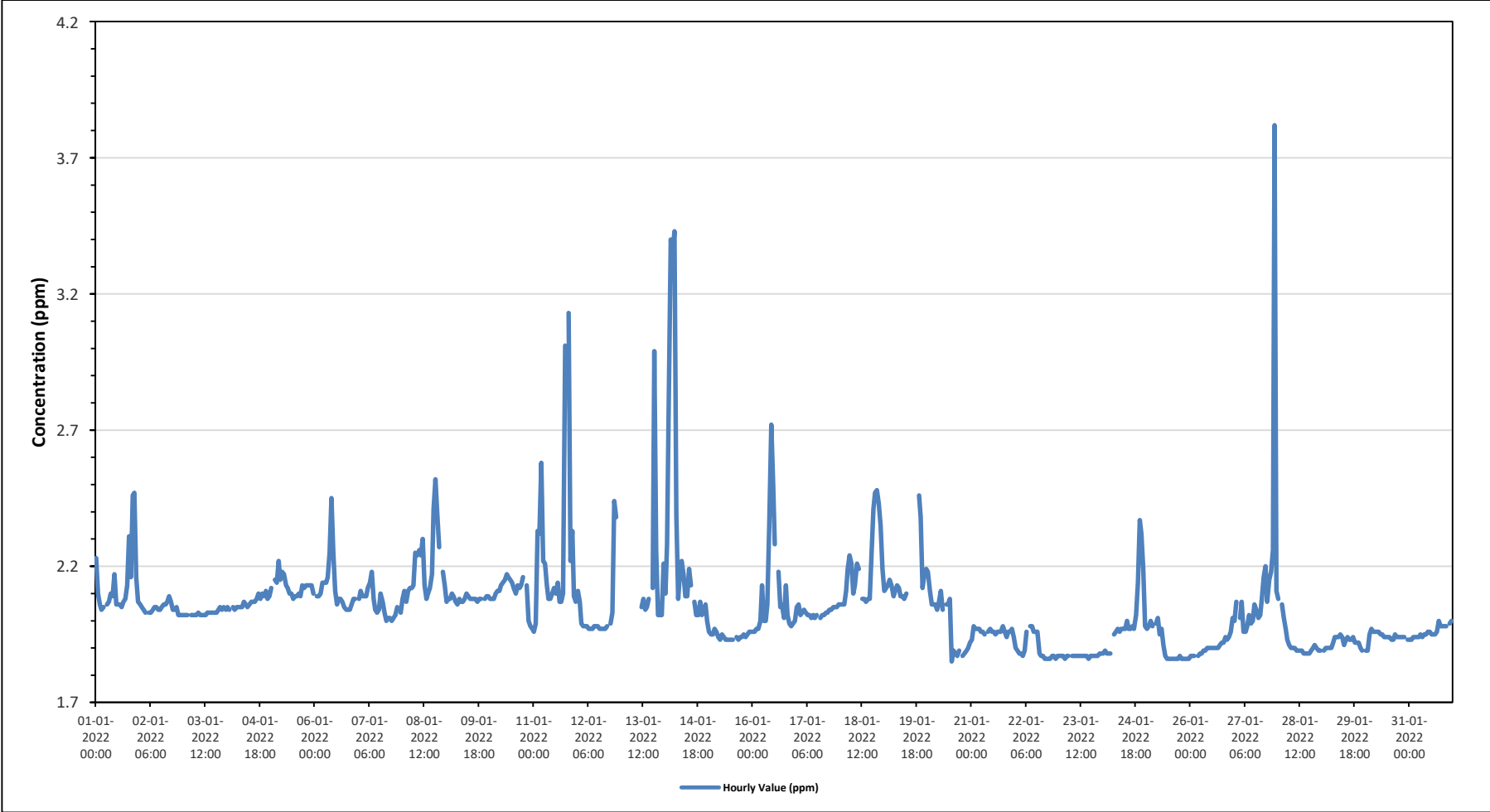
Maximum Hourly Value:	3.82 ppm on January 27 at hour 22	Hours in Service:	744
Maximum Daily Value:	2.31 ppm on January 14	Hours of Data:	692
Minimum Hourly Value:	1.85 ppm on January 20 at hour 13	Hours of Missing Data:	14
Minimum Daily Value:	1.87 ppm on January 23	Hours of Calibration:	38
Monthly Average:	2.05 ppm	Operational Uptime:	98.1

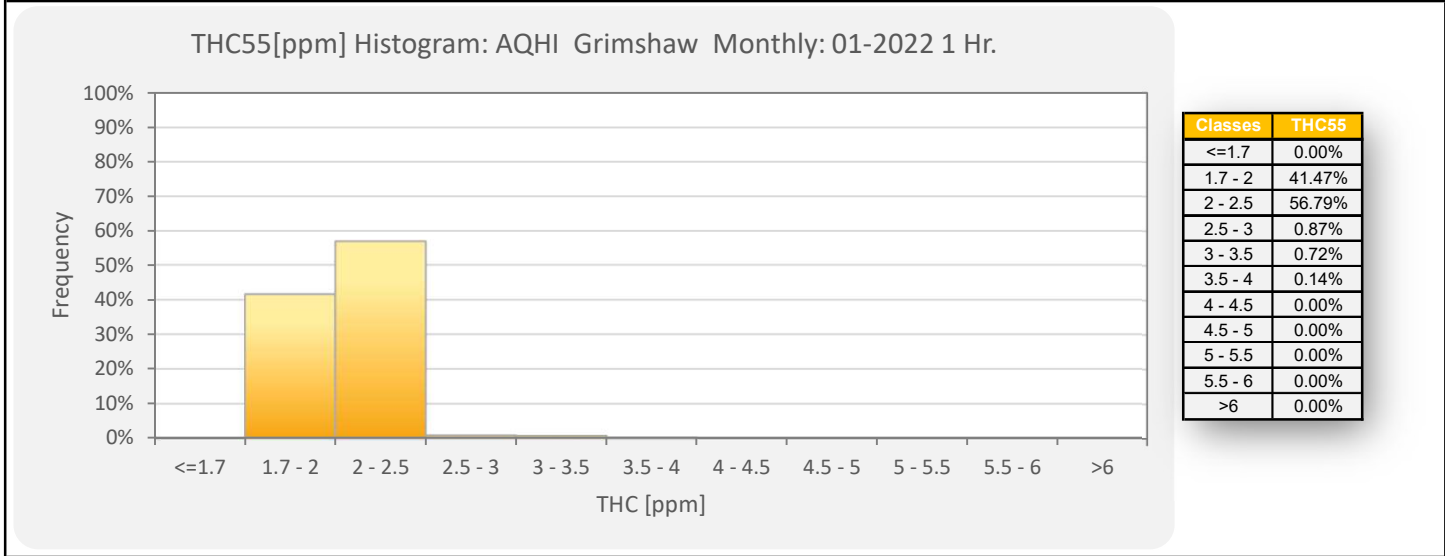
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23		
Jan 1	2.23	2.10	2.06	2.04	2.05	S	2.06	2.07	2.10	2.09	2.17	2.06	2.06	2.06	2.05	2.07	2.08	2.13	2.31	2.16	2.46	2.47	2.16	2.07	2.04	2.47	2.14		
Jan 2	2.06	2.05	2.04	2.03	S	2.03	2.03	2.04	2.05	2.05	2.04	2.04	2.05	2.06	2.06	2.07	2.09	2.07	2.04	2.04	2.05	2.02	2.02	2.02	2.02	2.02	2.09	2.05	
Jan 3	2.02	2.02	2.02	S	2.02	2.02	2.02	2.02	2.03	2.02	2.02	2.02	2.02	2.03	2.03	2.03	2.03	2.03	2.03	2.04	2.05	2.04	2.05	2.04	2.02	2.05	2.03		
Jan 4	2.05	2.04	S	2.05	2.04	2.05	2.05	2.05	2.05	2.07	2.06	2.05	2.06	2.07	2.07	2.07	2.08	2.10	2.08	2.10	2.09	2.11	2.08	2.09	2.04	2.11	2.07		
Jan 5	2.12	S	2.15	2.14	2.22	2.15	2.18	2.17	2.13	2.12	2.10	2.10	2.08	2.09	2.09	2.10	2.09	2.13	2.12	2.13	2.13	2.13	2.13	2.10	2.08	2.22	2.13		
Jan 6	S	2.09	2.09	2.10	2.14	2.14	2.14	2.16	2.25	2.45	2.25	2.11	2.06	2.08	2.08	2.07	2.05	2.04	2.04	2.04	2.06	2.08	2.08	S	2.04	2.45	2.12		
Jan 7	2.08	2.11	2.09	2.09	2.09	2.12	2.14	2.18	2.08	2.04	2.03	2.04	2.10	2.07	2.03	2.00	2.01	2.01	2.00	2.01	2.02	2.05	S	2.03	2.00	2.18	2.06		
Jan 8	2.08	2.11	2.07	2.11	2.12	2.13	2.25	2.24	2.26	2.24	2.30	2.13	2.08	2.10	2.12	2.17	2.41	2.52	2.39	2.27	S	2.18	2.13	2.07	2.52	2.20	2.20		
Jan 9	2.07	2.08	2.08	2.10	2.09	2.07	2.06	2.08	2.07	2.07	2.08	2.10	2.09	2.08	2.08	2.08	2.08	2.07	2.08	2.08	S	2.08	2.09	2.09	2.06	2.10	2.08		
Jan 10	2.08	2.08	2.08	2.10	2.11	2.11	2.13	2.14	2.15	2.17	2.16	2.15	2.14	2.12	2.10	2.13	2.12	2.13	2.16	S	2.13	2.00	1.98	1.97	1.97	2.17	2.11		
Jan 11	1.96	1.99	2.33	2.32	2.58	2.22	2.21	2.13	2.08	2.08	2.10	2.12	2.10	2.14	2.07	2.07	2.10	3.01	S	3.13	2.22	2.33	2.09	2.07	1.96	3.13	2.24		
Jan 12	2.11	2.07	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.98	1.98	1.97	1.97	1.97	1.98	S	1.99	2.03	2.44	2.38	X	X	1.97	2.44	2.03			
Jan 13	X	X	X	X	X	X	X	X	X	X	X	NRM	2.05	2.08	2.04	2.05	2.08	S	2.12	2.99	2.26	2.02	2.02	2.02	2.02	2.21	2.02	2.99	-
Jan 14	2.10	2.28	2.85	3.40	3.35	3.43	2.39	2.08	2.18	2.22	2.17	2.09	2.09	2.19	2.13	S	2.07	2.02	2.02	2.07	2.02	2.03	2.06	2.00	2.00	3.43	2.31		
Jan 15	1.96	1.95	1.95	1.97	1.96	1.94	1.93	1.95	1.94	1.93	1.93	1.93	1.93	S	1.94	1.93	1.94	1.94	1.94	1.95	1.94	1.95	1.96	1.96	1.93	1.97	1.94		
Jan 16	1.96	1.96	1.97	1.97	2.00	2.13	2.00	2.00	2.06	2.34	2.72	2.50	2.28	S	2.18	2.05	2.06	2.01	2.13	2.02	1.99	1.98	1.99	2.00	1.96	2.72	2.10		
Jan 17	2.05	2.06	2.02	2.03	2.04	2.03	2.02	2.02	2.01	2.02	2.01	2.02	S	2.01	2.02	2.02	2.03	2.03	2.04	2.04	2.05	2.05	2.05	2.06	2.01	2.06	2.03		
Jan 18	2.06	2.06	2.06	2.11	2.19	2.24	2.21	2.10	2.13	2.21	2.19	S	2.08	2.07	2.08	2.08	2.25	2.41	2.47	2.48	2.43	2.35	2.19	2.06	2.48	2.20	2.20		
Jan 19	2.11	2.12	2.13	2.15	2.13	2.09	2.11	2.13	2.12	2.09	2.09	2.08	2.10	C	C	C	C	C	C	2.46	2.38	2.12	2.17	2.19	2.08	2.46	2.15		
Jan 20	2.18	2.11	2.06	2.06	2.06	2.04	2.07	2.11	2.04	S	2.06	2.06	2.08	1.85	1.89	1.88	1.87	1.89	NRM	1.87	1.88	1.89	1.90	1.92	1.85	2.18	1.99		
Jan 21	1.93	1.98	1.97	1.97	1.97	1.96	1.96	S	1.96	1.97	1.96	1.96	1.96	1.95	1.96	1.96	1.96	1.98	1.96	1.94	1.96	1.96	1.97	1.94	1.93	1.98	1.96		
Jan 22	1.90	1.89	1.88	1.88	1.87	1.89	1.96	S	1.98	1.98	1.96	1.96	1.96	1.88	1.87	1.87	1.86	1.86	1.86	1.86	1.87	1.87	1.86	1.87	1.86	1.98	1.90		
Jan 23	1.87	1.87	1.87	1.86	1.87	1.87	S	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.86	1.87	1.87	1.87	1.87	1.88	1.88	1.86	1.88	1.88	1.87		
Jan 24	1.88	1.89	1.88	1.88	1.88	S	1.95	1.96	1.97	1.96	1.97	1.97	1.97	2.00	1.97	1.97	1.98	1.97	2.02	2.14	2.37	2.32	2.19	1.98	1.88	2.37	2.00		
Jan 25	1.97	1.98	2.00	1.98	S	1.99	2.01	1.95	1.97	1.91	1.87	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.87	1.86	1.86	1.86	1.86	1.86	1.86	2.01	1.91		
Jan 26	1.87	1.87	1.87	S	1.87	1.88	1.88	1.89	1.89	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.91	1.92	1.92	1.94	1.93	1.94	1.96	2.01	1.87	2.01	1.91		
Jan 27	2.00	2.07	S	2.01	2.07	1.96	1.96	1.98	2.02	1.99	2.00	2.06	2.04	2.01	2.02	2.08	2.16	2.20	2.07	2.15	2.18	2.26	3.82	2.11	1.96	3.82	2.14		
Jan 28	2.08	S	2.06	2.01	1.97	1.93	1.91	1.90	1.90	1.90	1.89	1.89	1.89	1.89	1.88	1.88	1.88	1.88	1.89	1.90	1.91	1.90	1.89	1.89	1.88	2.08	1.92		
Jan 29	S	1.89	1.90	1.90	1.90	1.90	1.92	1.94	1.94	1.94	1.95	1.94	1.91	1.93	1.94	1.93	1.93	1.94	1.92	1.92	1.92	1.90	1.89	S	1.89	1.95	1.92		
Jan 30	1.89	1.89	1.95	1.97	1.96	1.96	1.96	1.96	1.95	1.95	1.94	1.94	1.94	1.94	1.93	1.93	1.95	1.94	1.94	1.94	1.94	1.94	S	1.93	1.89	1.97	1.94		
Jan 31	1.93	1.93	1.94	1.94	1.94	1.94	1.95	1.94	1.95	1.95	1.96	1.96	1.95	1.95	1.95	1.96	2.00	1.98	1.98	1.98	1.98	S	1.99	2.00	1.93	2.00	1.96		
Diurnal Maximum	2.23	2.28	2.85	3.40	3.35	3.43	2.39	2.25	2.25	2.45	2.72	2.50	2.28	2.19	2.18	2.13	2.17	3.01	2.99	3.13	2.48	2.47	3.82	2.21					
Diurnal Average	2.02	2.02	2.05	2.08	2.09	2.08	2.05	2.03	2.04	2.05	2.06	2.04	2.03	2.00	2.01	2.00	2.01	2.06	2.08	2.09	2.08	2.07	2.10	2.02					

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

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

Timeseries Chart of Hourly Average for THC - AQHI - Grimshaw Station





Wind: AQHI Grimshaw Poll.: AQHI Grimshaw-THC55[ppm] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 93.01% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	3.03	14.74	0	0	0	17.77
NNE	2.31	3.47	0	0	0	5.78
NE	2.17	3.76	0	0	0	5.93
ENE	0.58	2.02	0	0	0	2.6
E	0.87	1.01	0	0	0	1.88
ESE	0.58	0.72	0	0	0	1.3
SE	1.01	0.14	0	0	0	1.15
SSE	0.43	2.02	0	0	0	2.45
S	0.29	3.47	0	0	0	3.76
SSW	1.3	6.94	0	0	0	8.24
SW	2.17	5.78	0	0	0	7.95
WSW	2.17	2.75	0	0	0	4.92
W	10.84	2.02	0	0	0	12.86
WNW	8.53	2.46	0	0	0	10.99
NW	2.75	1.88	0	0	0	4.63
NNW	2.31	5.49	0	0	0	7.8
Summary	41.34	58.67	0	0	0	100



PEACE RIVER AREA MONITORING PROGRAM

AQHI - Grimshaw Station - January 2022

Summary of Hourly Averages

METHANE (CH4) in ppm

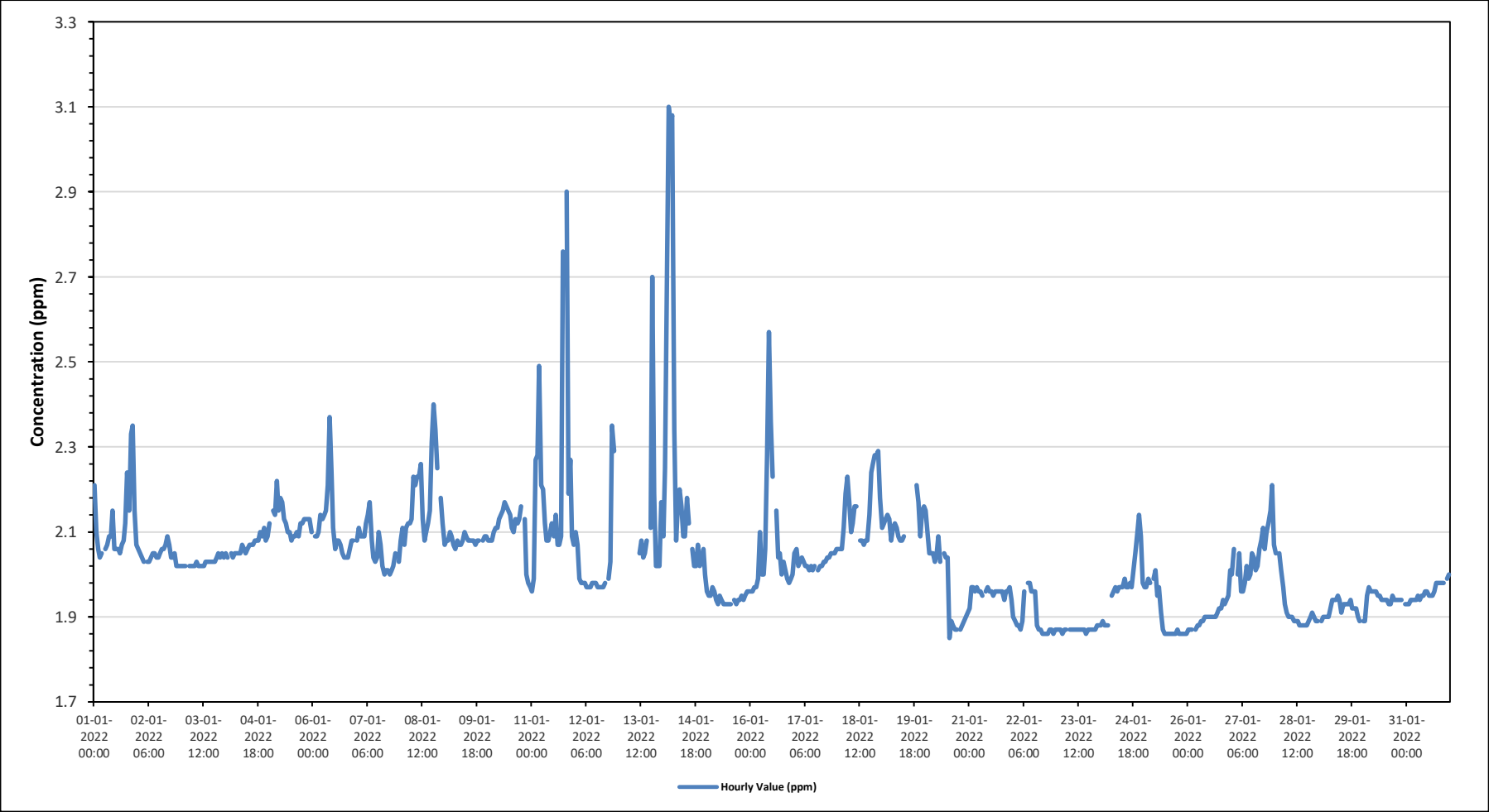
Maximum Hourly Value:	3.10 ppm on January 14 at hour 3	Hours in Service:	744
Maximum Daily Value:	2.26 ppm on January 14	Hours of Data:	692
Minimum Hourly Value:	1.85 ppm on January 20 at hour 13	Hours of Missing Data:	14
Minimum Daily Value:	1.87 ppm on January 23	Hours of Calibration:	38
Monthly Average:	2.03 ppm	Operational Uptime:	98.1

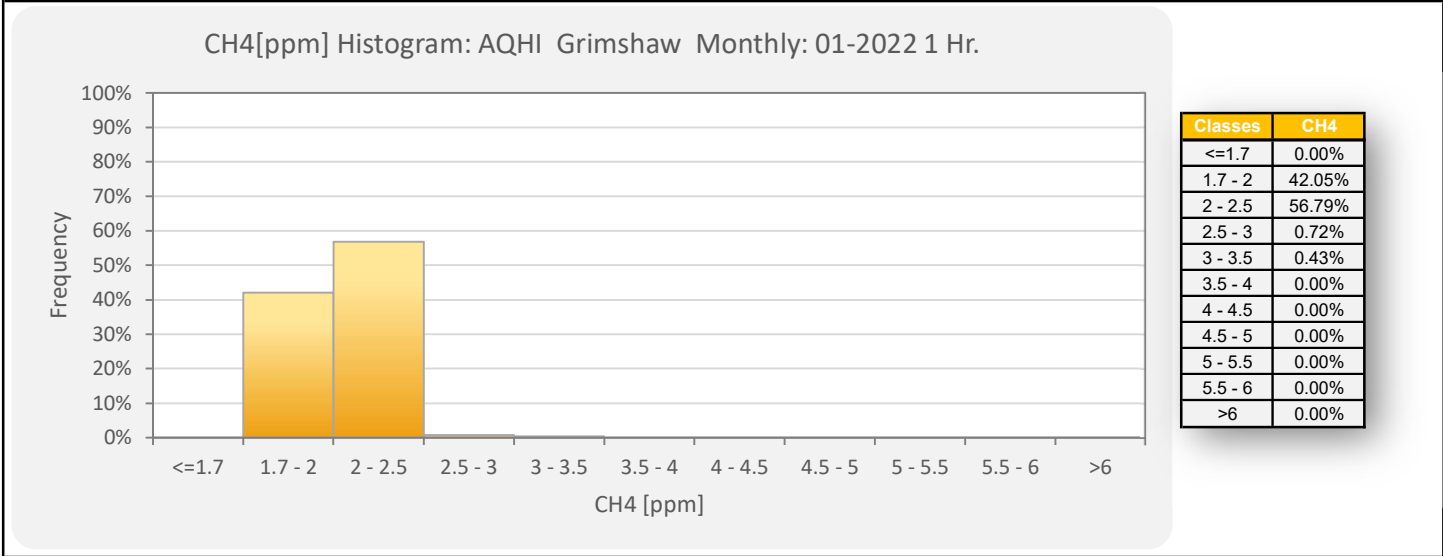
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
Jan 1	2.21	2.10	2.06	2.04	2.05	S	2.06	2.07	2.09	2.09	2.15	2.06	2.06	2.06	2.05	2.07	2.08	2.12	2.24	2.15	2.33	2.35	2.15	2.07	2.04	2.35	2.12	
Jan 2	2.06	2.05	2.04	2.03	S	2.03	2.03	2.04	2.05	2.05	2.04	2.04	2.05	2.06	2.06	2.07	2.09	2.07	2.04	2.04	2.05	2.02	2.02	2.02	2.02	2.02	2.09	2.05
Jan 3	2.02	2.02	2.02	S	2.02	2.02	2.02	2.02	2.03	2.02	2.02	2.02	2.02	2.03	2.03	2.03	2.03	2.03	2.03	2.04	2.05	2.04	2.05	2.04	2.02	2.05	2.03	
Jan 4	2.05	2.04	S	2.05	2.04	2.05	2.05	2.05	2.05	2.07	2.06	2.05	2.06	2.07	2.07	2.08	2.08	2.08	2.10	2.09	2.11	2.08	2.09	2.04	2.11	2.07		
Jan 5	2.12	S	2.15	2.14	2.22	2.15	2.18	2.17	2.13	2.12	2.10	2.10	2.08	2.09	2.09	2.10	2.09	2.12	2.12	2.13	2.13	2.13	2.13	2.10	2.08	2.22	2.13	
Jan 6	S	2.09	2.09	2.10	2.14	2.13	2.14	2.15	2.21	2.37	2.24	2.11	2.06	2.08	2.08	2.07	2.05	2.04	2.04	2.04	2.06	2.08	2.08	S	2.04	2.37	2.11	
Jan 7	2.08	2.11	2.09	2.09	2.09	2.12	2.14	2.17	2.08	2.04	2.03	2.04	2.10	2.07	2.02	2.00	2.01	2.01	2.00	2.01	2.02	2.05	S	2.03	2.00	2.17	2.06	
Jan 8	2.08	2.11	2.07	2.11	2.12	2.13	2.23	2.21	2.23	2.23	2.26	2.13	2.08	2.10	2.12	2.15	2.31	2.40	2.34	2.25	S	2.18	2.12	2.07	2.40	2.18		
Jan 9	2.07	2.08	2.08	2.10	2.09	2.07	2.06	2.08	2.07	2.07	2.08	2.10	2.09	2.08	2.08	2.08	2.07	2.08	2.08	S	2.08	2.09	2.09	2.06	2.10	2.08		
Jan 10	2.08	2.08	2.08	2.10	2.11	2.11	2.13	2.14	2.15	2.17	2.16	2.15	2.14	2.11	2.10	2.13	2.12	2.13	2.16	S	2.13	2.00	1.98	1.97	1.97	2.17	2.11	
Jan 11	1.96	1.99	2.27	2.28	2.49	2.21	2.20	2.12	2.08	2.08	2.10	2.12	2.09	2.14	2.07	2.07	2.09	2.76	S	2.90	2.19	2.27	2.09	2.07	1.96	2.90	2.20	
Jan 12	2.10	2.07	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.98	1.98	1.98	1.97	1.97	1.97	1.98	S	1.99	2.03	2.35	2.29	X	X	1.97	2.35	2.02		
Jan 13	X	X	X	X	X	X	X	X	X	X	X	NRM	2.05	2.08	2.04	2.05	2.08	S	2.11	2.70	2.19	2.02	2.02	2.02	2.17	2.02	2.70	-
Jan 14	2.09	2.25	2.68	3.10	3.06	3.08	2.34	2.08	2.17	2.20	2.16	2.09	2.09	2.18	2.12	S	2.06	2.02	2.02	2.07	2.02	2.03	2.06	2.00	2.00	3.10	2.26	
Jan 15	1.96	1.95	1.95	1.97	1.96	1.94	1.93	1.95	1.94	1.93	1.93	1.93	1.93	1.93	S	1.94	1.93	1.94	1.94	1.95	1.94	1.95	1.96	1.96	1.93	1.97	1.94	
Jan 16	1.96	1.96	1.97	1.97	1.99	2.10	2.00	2.00	2.06	2.28	2.57	2.36	2.23	S	2.15	2.04	2.05	2.00	2.03	2.01	1.99	1.98	1.99	2.00	1.96	2.57	2.07	
Jan 17	2.05	2.06	2.02	2.03	2.04	2.03	2.02	2.02	2.01	2.02	2.01	2.02	S	2.01	2.02	2.02	2.03	2.03	2.04	2.04	2.05	2.05	2.05	2.06	2.01	2.06	2.03	
Jan 18	2.06	2.06	2.06	2.11	2.19	2.23	2.17	2.10	2.12	2.16	2.16	S	2.08	2.08	2.07	2.08	2.08	2.14	2.24	2.26	2.28	2.28	2.29	2.18	2.06	2.29	2.15	
Jan 19	2.11	2.12	2.13	2.14	2.13	2.08	2.11	2.12	2.11	2.09	2.08	2.08	2.09	C	C	C	C	C	C	2.21	2.17	2.09	2.15	2.16	2.08	2.21	2.12	
Jan 20	2.15	2.10	2.05	2.05	2.05	2.03	2.05	2.09	2.03	S	2.05	2.04	2.04	1.85	1.89	1.88	1.87	1.87	NRM	1.87	1.88	1.89	1.90	1.91	1.85	2.15	1.98	
Jan 21	1.92	1.97	1.97	1.96	1.97	1.96	1.96	1.95	S	1.96	1.97	1.96	1.96	1.95	1.96	1.96	1.96	1.96	1.96	1.94	1.96	1.96	1.97	1.94	1.92	1.97	1.96	
Jan 22	1.90	1.89	1.88	1.88	1.87	1.89	1.96	S	1.98	1.98	1.96	1.96	1.96	1.88	1.87	1.87	1.86	1.86	1.86	1.86	1.87	1.87	1.86	1.87	1.86	1.98	1.90	
Jan 23	1.87	1.87	1.87	1.86	1.87	1.87	S	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.86	1.87	1.87	1.87	1.87	1.87	1.88	1.88	1.86	1.88	1.87	
Jan 24	1.88	1.89	1.88	1.88	1.88	S	1.95	1.96	1.97	1.96	1.97	1.97	1.97	1.99	1.97	1.97	1.98	1.97	2.01	2.05	2.10	2.14	2.09	1.98	1.88	2.14	1.97	
Jan 25	1.97	1.97	1.99	1.98	S	1.99	2.01	1.95	1.97	1.91	1.87	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.87	1.86	1.86	1.86	1.86	1.86	1.86	2.01	1.90	
Jan 26	1.87	1.87	1.87	S	1.87	1.88	1.88	1.89	1.89	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.91	1.92	1.92	1.94	1.93	1.94	1.95	2.01	1.87	2.01	1.91	
Jan 27	2.00	2.06	S	2.00	2.05	1.96	1.96	1.98	2.02	1.99	2.00	2.05	2.04	2.01	2.02	2.06	2.08	2.11	2.06	2.10	2.12	2.15	2.21	2.07	1.96	2.21	2.05	
Jan 28	2.05	S	2.05	2.01	1.97	1.93	1.91	1.90	1.90	1.90	1.89	1.89	1.89	1.88	1.88	1.88	1.88	1.88	1.89	1.90	1.91	1.90	1.89	1.89	1.88	2.05	1.92	
Jan 29	S	1.89	1.90	1.90	1.90	1.90	1.92	1.94	1.94	1.94	1.95	1.94	1.91	1.93	1.93	1.93	1.93	1.94	1.92	1.92	1.92	1.90	1.89	S	1.89	1.95	1.92	
Jan 30	1.89	1.89	1.95	1.97	1.96	1.96	1.96	1.96	1.95	1.95	1.94	1.94	1.94	1.94	1.93	1.93	1.95	1.94	1.94	1.94	1.94	1.94	S	1.93	1.89	1.97	1.94	
Jan 31	1.93	1.93	1.94	1.94	1.94	1.94	1.95	1.94	1.95	1.96	1.96	1.95	1.95	1.95	1.95	1.96	1.98	1.98	1.98	1.98	1.98	S	1.99	2.00	1.93	2.00	1.96	
Diurnal Maximum	2.21	2.25	2.68	3.10	3.06	3.08	2.34	2.23	2.21	2.37	2.57	2.36	2.23	2.18	2.15	2.13	2.15	2.76	2.70	2.90	2.35	2.29	2.18					
Diurnal Average	2.02	2.02	2.04	2.06	2.07	2.06	2.04	2.03	2.03	2.04	2.05	2.03	2.02	2.00	2.01	2.00	2.00	2.04	2.05	2.06	2.05	2.04	2.03	2.02				

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

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

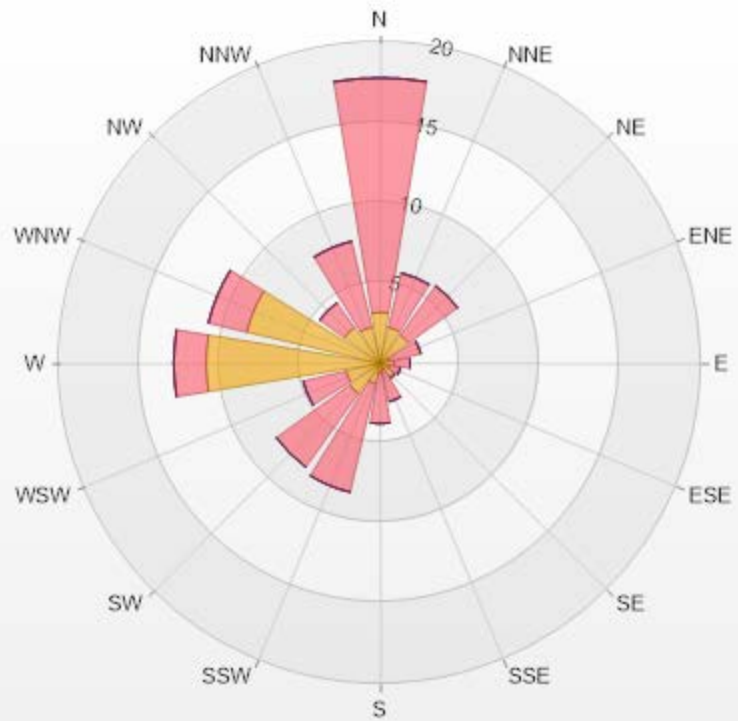
Timeseries Chart of Hourly Average for CH4 - AQHI - Grimshaw Station





Wind: AQHI Grimshaw Poll.: AQHI Grimshaw-CH4[ppm] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 93.01% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	3.18	14.6	0	0	0	17.78
NNE	2.31	3.47	0	0	0	5.78
NE	2.17	3.76	0	0	0	5.93
ENE	0.58	2.02	0	0	0	2.6
E	0.87	1.01	0	0	0	1.88
ESE	0.58	0.72	0	0	0	1.3
SE	1.01	0.14	0	0	0	1.15
SSE	0.43	2.02	0	0	0	2.45
S	0.58	3.18	0	0	0	3.76
SSW	1.3	6.94	0	0	0	8.24
SW	2.31	5.64	0	0	0	7.95
WSW	2.17	2.75	0	0	0	4.92
W	10.84	2.02	0	0	0	12.86
WNW	8.53	2.46	0	0	0	10.99
NW	2.75	1.88	0	0	0	4.63
NNW	2.31	5.49	0	0	0	7.8
Summary	41.92	58.1	0	0	0	100



PRAMP-202201

% Icon Classes (ppm)	42	58	0	0	0
0-2	42				
2-5		58			
5-10			0		
10-20				0	
>20.0					0



PEACE RIVER AREA MONITORING PROGRAM

AQHI - Grimshaw Station - January 2022

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

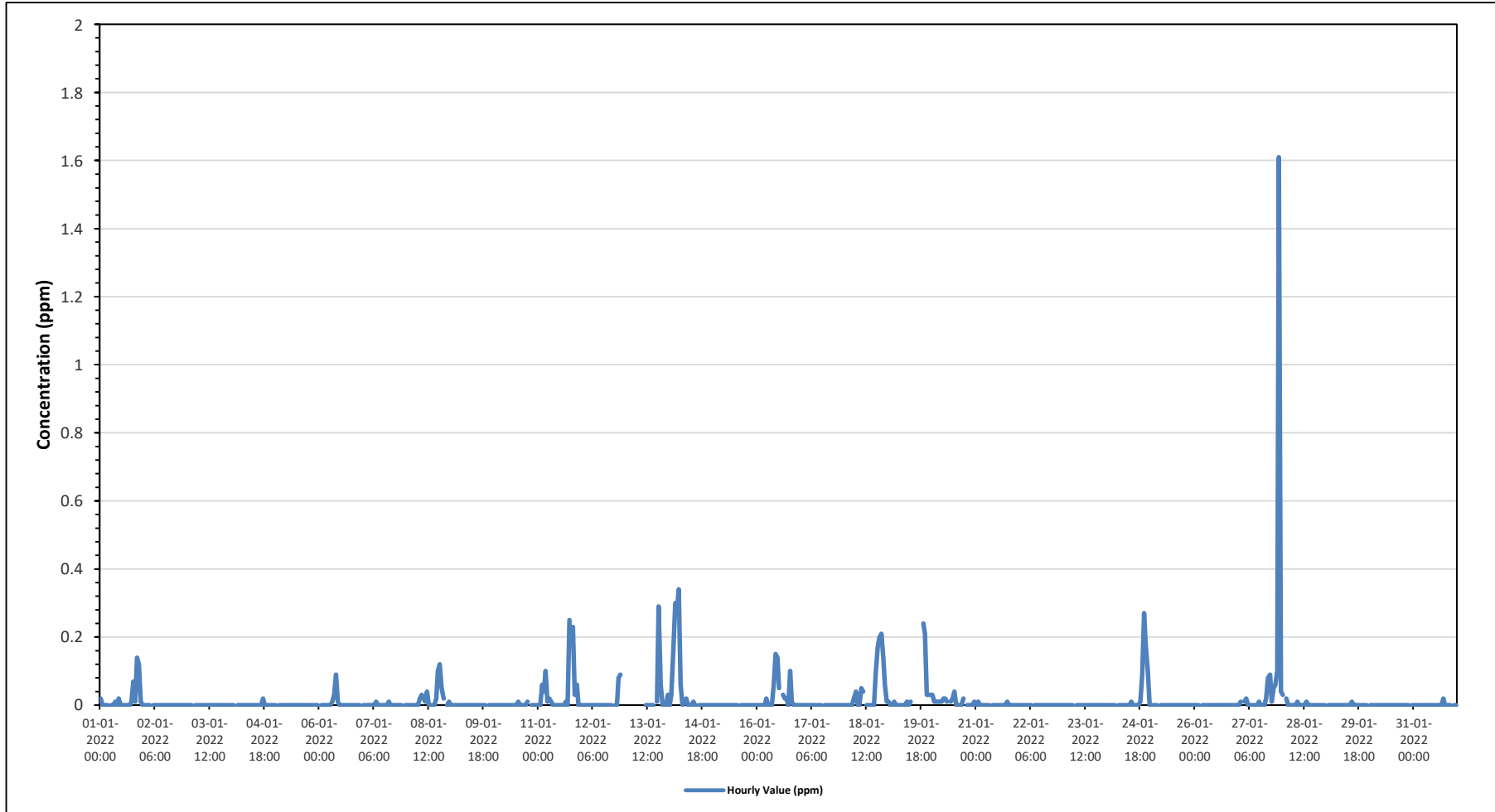
Maximum Hourly Value:	1.61 ppm on January 27 at hour 22	Hours in Service:	744
Maximum Daily Value:	0.09 ppm on January 27	Hours of Data:	692
Minimum Hourly Value:	0.00 ppm on January 1 at hour 1	Hours of Missing Data:	14
Minimum Daily Value:	0.00 ppm on January 2	Hours of Calibration:	38
Monthly Average:	0.01 ppm	Operational Uptime:	98.1

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22			
Jan 1	0.02	0.00	0.00	0.00	0.00	S	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.07	0.01	0.14	0.12	0.01	0.00	0.00	0.14	0.02
Jan 2	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 3	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 4	0.00	0.00	S	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	0.02	0.00
Jan 5	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 6	S	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.09	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	S	0.00	0.09
Jan 7	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	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.01	0.00
Jan 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.02	0.01	0.04	0.00	0.00	0.00	0.00	0.02	0.10	0.12	0.05	0.02	S	0.00	0.01	0.00	0.12
Jan 9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Jan 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	S	0.00	0.00	0.00	0.00	0.01	0.00
Jan 11	0.00	0.00	0.06	0.04	0.10	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.25	S	0.23	0.03	0.06	0.00	0.00	0.00	0.25	0.04
Jan 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	S	0.00	0.08	0.09	X	X	0.00	0.09	0.01	
Jan 13	X	X	X	X	X	X	X	X	X	X	NRM	0.00	0.00	0.00	0.00	0.00	S	0.01	0.29	0.06	0.00	0.00	0.03	0.00	0.29	-
Jan 14	0.00	0.03	0.17	0.30	0.29	0.34	0.06	0.00	0.01	0.02	0.00	0.00	0.01	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.05
Jan 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 16	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.06	0.15	0.14	0.05	S	0.03	0.02	0.02	0.00	0.10	0.01	0.00	0.00	0.00	0.00	0.15	0.03
Jan 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 18	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.00	0.00	0.05	0.04	S	0.00	0.00	0.00	0.00	0.10	0.17	0.20	0.21	0.14	0.06	0.01	0.00	0.21	0.05
Jan 19	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	C	C	C	C	C	C	0.24	0.21	0.03	0.03	0.03	0.00	0.24
Jan 20	0.03	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.01	S	0.01	0.02	0.04	0.00	0.00	0.00	0.00	0.02	NRM	0.00	0.00	0.00	0.01	0.00	0.04	0.01
Jan 21	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00
Jan 22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 23	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 24	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.09	0.27	0.18	0.10	0.00	0.00	0.27	0.03
Jan 25	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 26	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 27	0.00	0.01	S	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.08	0.09	0.01	0.05	0.06	0.10	1.61	0.04	0.00	1.61
Jan 28	0.03	S	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
Jan 29	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.01
Jan 30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00
Jan 31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.02
Diurnal Maximum	0.03	0.03	0.17	0.30	0.29	0.34	0.06	0.02	0.03	0.09	0.15	0.14	0.05	0.01	0.03	0.02	0.08	0.25	0.29	0.24	0.27	0.18	1.61	0.04	0.00	0.04
Diurnal Average	0.00	0.00	0.01	0.01	0.02	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.02	0.03	0.03	0.03	0.03	0.02	0.06	0.00	0.00	0.00

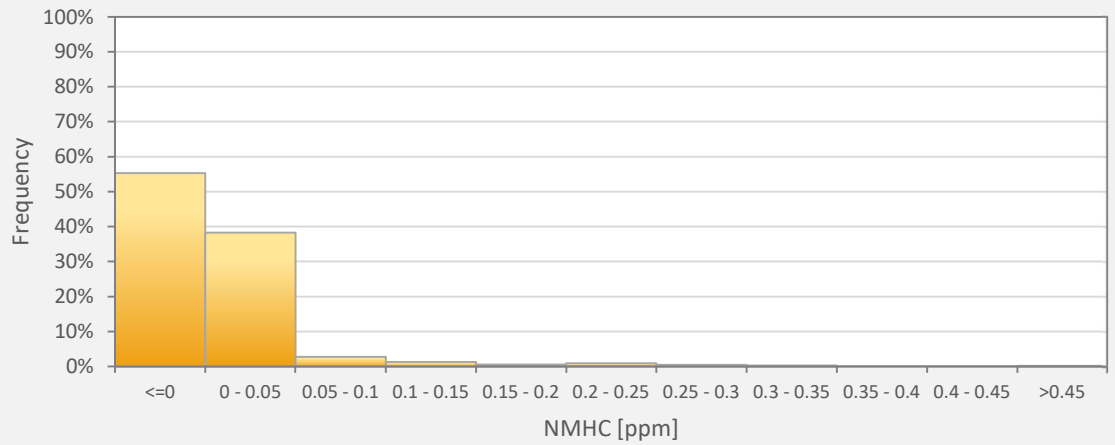
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	InValid Data (Equipment Malfunction /Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure

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

Timeseries Chart of Hourly Average for NMHC - AQHI - Grimshaw Station



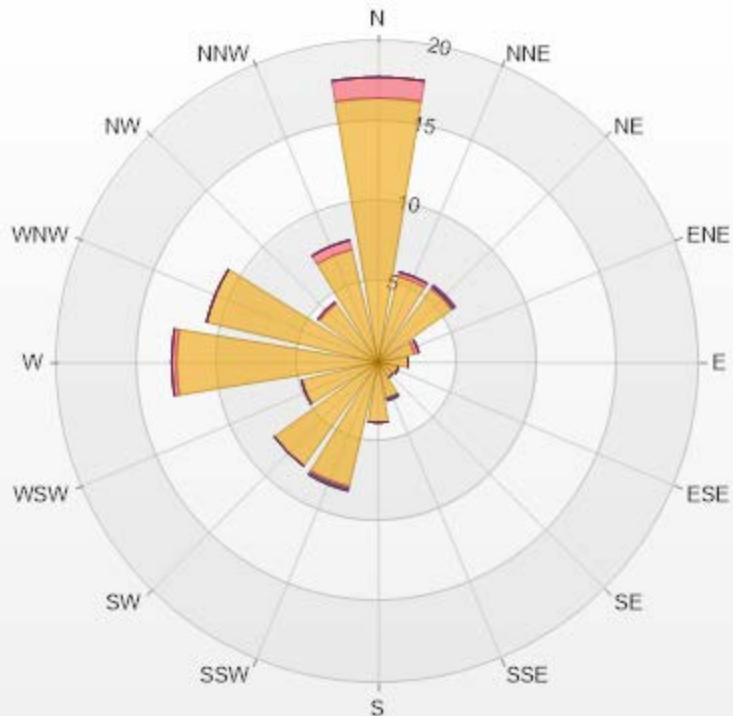
NMHC[ppm] Histogram: AQHI Grimshaw Monthly: 01-2022 1 Hr.



Classes	NMHC
<=0	55.35%
0 - 0.05	38.29%
0.05 - 0.1	2.75%
0.1 - 0.15	1.30%
0.15 - 0.2	0.58%
0.2 - 0.25	0.87%
0.25 - 0.3	0.43%
0.3 - 0.35	0.29%
0.35 - 0.4	0.00%
0.4 - 0.45	0.00%
>0.45	0.14%

Wind: AQHI Grimshaw Poll.: AQHI Grimshaw-NMHC[ppm] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 93.01% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	16.47	1.3	0	0	0	17.77
NNE	5.49	0.29	0	0	0	5.78
NE	5.64	0.14	0	0.14	0	5.92
ENE	2.31	0.29	0	0	0	2.6
E	1.88	0	0	0	0	1.88
ESE	1.3	0	0	0	0	1.3
SE	1.16	0	0	0	0	1.16
SSE	2.31	0	0.14	0	0	2.45
S	3.76	0	0	0	0	3.76
SSW	7.95	0.14	0.14	0	0	8.23
SW	7.95	0	0	0	0	7.95
WSW	4.91	0	0	0	0	4.91
W	12.57	0.29	0	0	0	12.86
WNW	10.98	0	0	0	0	10.98
NW	4.48	0.14	0	0	0	4.62
NNW	7.23	0.58	0	0	0	7.81
Summary	96.39	3.17	0.28	0.14	0	100



PRAMP-202201

Page 205 of 227

% Icon Classes (ppm)

96 0-0.1

3 0.1-0.3

0 0.3-1

0 1-2

0 >2.0



PEACE RIVER AREA MONITORING PROGRAM

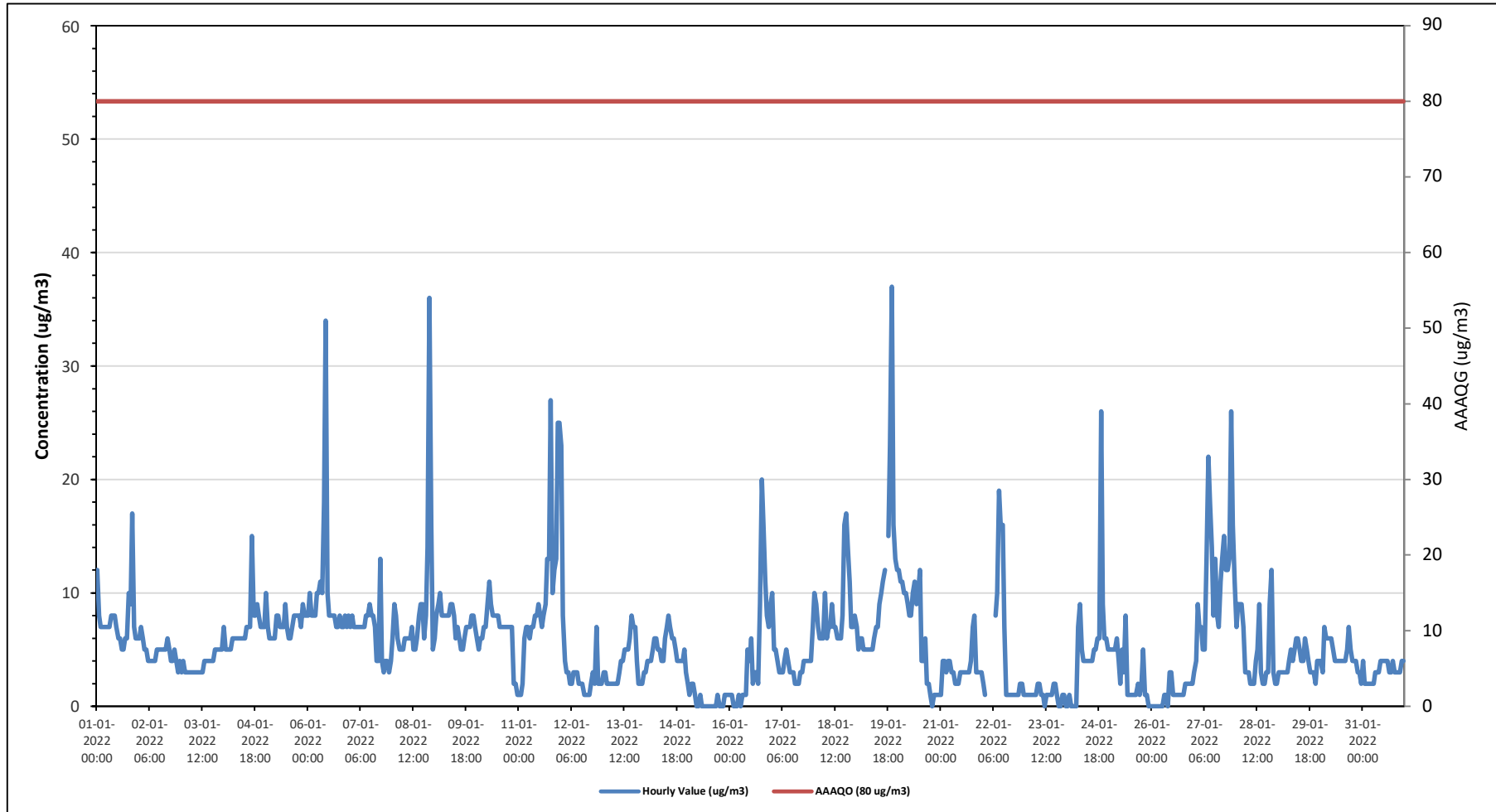
AQHI - Grimshaw Station - January 2022

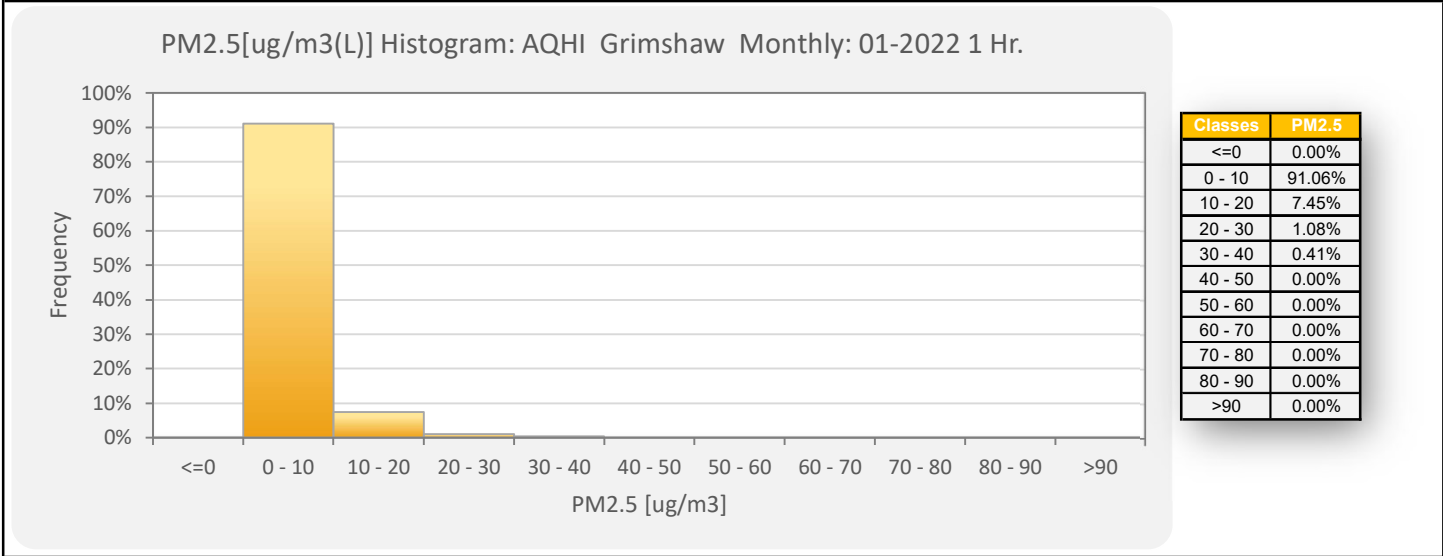
Summary of Hourly Averages

PARTICULATE MATTER 2.5 (PM_{2.5}) in µg/m³

Alberta Ambient Air Quality Guideline (AAAQG): 1-Hour 80 µg/m ³ , Alberta Ambient Air Quality Objective (AAAQO): 24-Hour 29 µg/m ³																															
Number of 1-Hour Exceedances: 0													Number of 24-Hour Exceedances: 0																		
Maximum Hourly Value: 37 µg/m ³ on January 19 at hour 20													Hours in Service: 744																		
Maximum Daily Value: 11.3 µg/m ³ on January 27													Hours of Data: 738																		
Minimum Hourly Value: 0 µg/m ³ on January 15 at hour 5													Hours of Missing Data: 5																		
Minimum Daily Value: 0.5 µg/m ³ on January 15													Hours of Calibration: 1																		
Monthly Average: 5.5 µg/m ³													Operational Uptime: 99.3																		
Day	Hourly Period Starting at (MST)																							Daily	Daily	Daily					
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average				
Jan 1	12	8	7	7	7	7	7	7	8	8	8	7	6	6	5	5	6	6	10	9	17	7	6	6	5	17	7.6				
Jan 2	6	7	6	5	5	4	4	4	4	4	5	5	5	5	5	6	5	4	4	5	4	3	4	3	7	4.8					
Jan 3	3	4	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	5	5	5	5	5	3	5	3.7					
Jan 4	7	5	5	5	5	6	6	6	6	6	6	6	7	7	7	15	8	8	9	8	7	7	7	5	15	6.9					
Jan 5	10	7	6	6	6	6	8	8	7	7	9	7	6	6	7	8	8	8	8	7	9	8	8	6	10	7.4					
Jan 6	8	10	8	8	8	10	10	11	10	18	34	10	8	8	8	7	7	8	7	7	8	7	8	7	34	9.8					
Jan 7	7	8	7	7	7	7	7	7	7	8	8	9	8	8	7	4	4	13	4	3	4	4	3	4	13	6.5					
Jan 8	6	9	8	6	5	5	6	6	6	6	7	5	5	6	8	9	9	6	8	14	36	16	5	36	8.4						
Jan 9	6	8	9	10	8	8	8	8	8	9	9	8	6	7	6	5	5	6	7	7	8	8	7	5	10	7.4					
Jan 10	6	5	6	6	7	7	9	11	9	8	8	8	8	7	7	7	7	7	7	7	2	2	1	1	11	6.6					
Jan 11	1	1	2	6	7	7	6	7	7	8	8	9	8	7	8	9	13	13	27	10	12	13	25	25	27	10.0					
Jan 12	23	8	4	3	3	2	2	3	3	3	2	2	2	1	1	1	2	3	2	7	2	2	2	1	23	3.5					
Jan 13	3	3	2	2	2	2	2	2	2	3	4	4	5	5	5	6	8	7	7	4	2	2	2	3	8	3.6					
Jan 14	3	4	4	4	5	6	6	5	5	4	4	6	7	8	7	6	6	5	4	4	4	5	3	3	8	5.0					
Jan 15	2	1	2	2	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	0	2	0.5					
Jan 16	1	1	0	0	0	1	0	1	1	1	5	4	6	2	3	3	2	9	20	16	11	8	7	9	20	4.6					
Jan 17	10	5	5	4	3	3	3	4	5	4	3	3	3	2	2	2	3	3	4	4	4	4	4	7	10	3.9					
Jan 18	10	9	7	6	6	6	10	6	7	7	7	7	6	6	6	8	16	17	14	11	7	7	8	6	17	8.5					
Jan 19	7	5	6	6	5	5	5	5	5	5	6	7	7	9	10	11	12	C	15	23	37	16	13	12	37	10.1					
Jan 20	12	11	11	10	10	9	8	8	10	11	9	10	12	4	4	6	2	2	1	0	1	1	1	1	12	6.4					
Jan 21	1	4	4	3	4	4	3	3	2	2	3	3	3	3	3	3	4	7	8	3	3	3	3	1	8	3.4					
Jan 22	2	1	X	X	X	X	X	8	10	19	16	16	7	1	1	1	1	1	1	1	2	2	1	1	19	4.8					
Jan 23	1	1	1	1	1	1	1	2	2	1	1	0	1	1	1	2	2	1	0	0	1	1	0	0	2	1.0					
Jan 24	0	1	0	0	0	0	7	9	5	4	4	4	4	4	5	5	6	6	26	9	6	6	5	0	26	5.0					
Jan 25	5	5	5	5	6	4	2	5	3	8	1	1	1	1	1	2	1	2	5	1	1	0	0	0	8	2.8					
Jan 26	0	0	0	0	0	0	0	1	1	0	3	3	1	1	1	1	1	1	1	2	2	2	2	2	3	1.0					
Jan 27	3	4	9	7	7	5	5	13	22	18	14	8	13	8	7	11	13	15	12	12	13	26	16	11	26	11.3					
Jan 28	7	9	9	9	7	3	3	3	2	2	4	5	9	3	2	2	3	3	9	12	3	2	2	2	12	4.8					
Jan 29	3	3	3	3	3	3	4	5	4	5	6	6	5	4	4	6	5	4	3	3	3	2	4	4	6	4.0					
Jan 30	4	3	7	6	6	6	6	5	4	4	4	4	4	4	4	5	7	5	4	4	4	3	3	2	7	4.5					
Jan 31	4	2	2	2	2	2	2	3	3	3	4	4	4	4	4	3	3	4	3	3	3	4	4	2	4	3.1					
Diurnal Maximum	23	11	11	10	10	10	10	13	22	19	34	16	13	9	10	11	15	16	27	26	37	36	25	25							
Diurnal Average	5.6	4.9	4.9	4.7	4.6	4.4	4.7	5.5	5.5	6.1	6.5	5.7	5.4	4.7	4.5	4.8	5.5	5.9	6.7	7.0	7.1	6.5	5.6	5.2							
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.																															

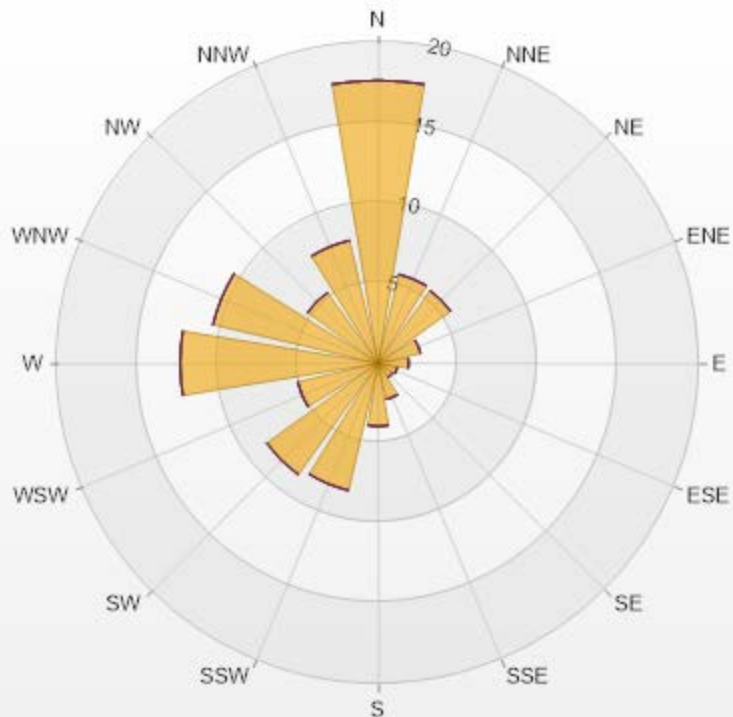
Timeseries Chart of Hourly Average for PM2.5 - AQHI - Grimshaw Station





Wind: AQHI Grimshaw Poll.: AQHI Grimshaw-PM2.5[ug/m3(L)] Monthly: 01-2022 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 99.19% Calm Avg: 0.00 [ug/m3(L)]

Direction	0-50	50-80	80-120	120-240	>240.0	Total
N	17.62	0	0	0	0	17.62
NNE	5.69	0	0	0	0	5.69
NE	5.56	0	0	0	0	5.56
ENE	2.71	0	0	0	0	2.71
E	1.9	0	0	0	0	1.9
ESE	1.22	0	0	0	0	1.22
SE	1.08	0	0	0	0	1.08
SSE	2.3	0	0	0	0	2.3
S	3.93	0	0	0	0	3.93
SSW	8.13	0	0	0	0	8.13
SW	8.54	0	0	0	0	8.54
WSW	5.15	0	0	0	0	5.15
W	12.33	0	0	0	0	12.33
WNW	10.57	0	0	0	0	10.57
NW	5.42	0	0	0	0	5.42
NNW	7.86	0	0	0	0	7.86
Summary	100	0	0	0	0	100



PRAMP-202201

Page 210 of 227

% Icon Classes (ug/m3(L))

100 0-50

0 50-80

0 80-120

0 120-240

0 >240.0



PEACE RIVER AREA MONITORING PROGRAM

AQHI - Grimshaw Station - January 2022

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

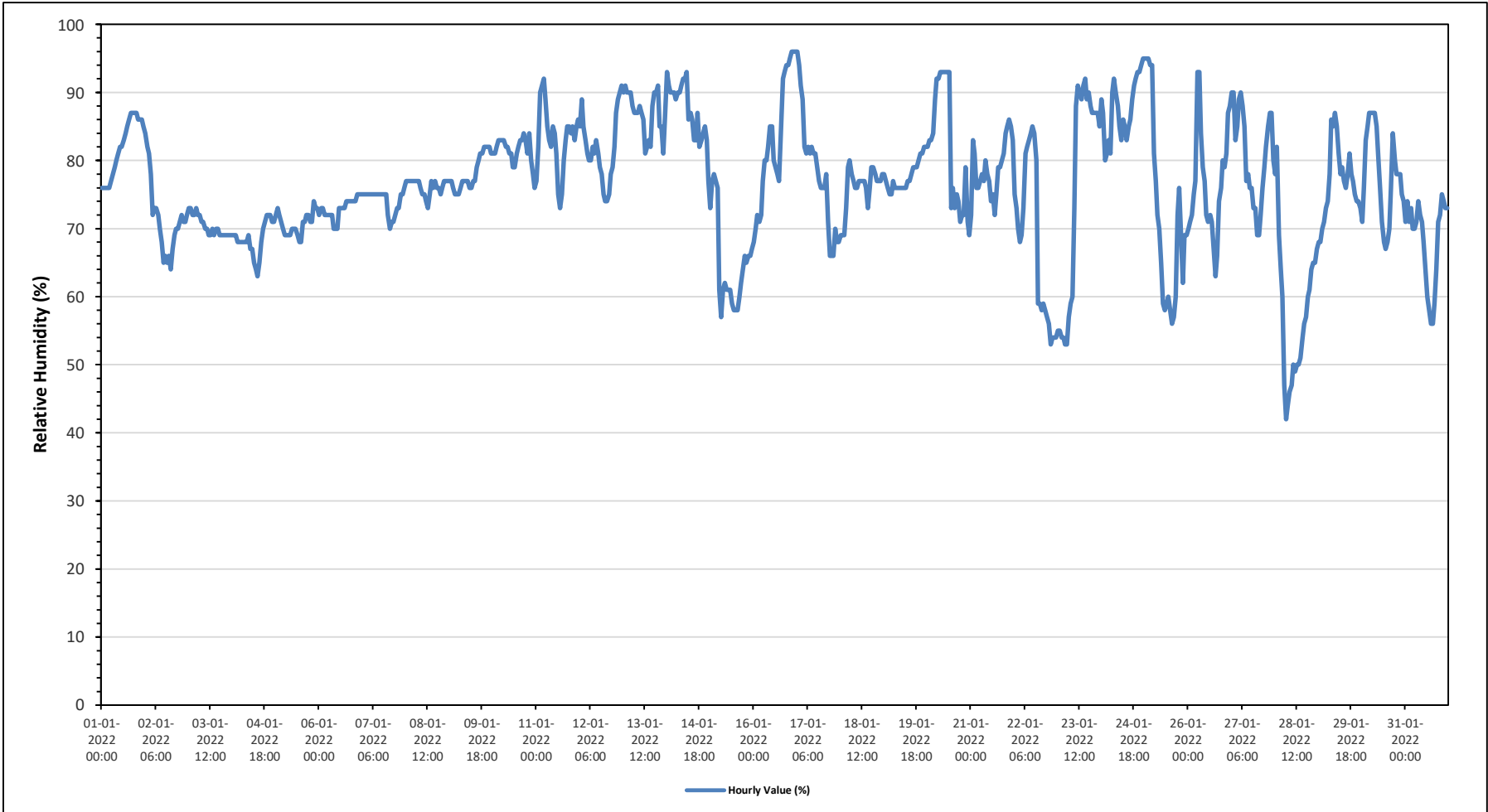
Maximum Hourly Value:	96 %	on January 16 at hour 21	Hours in Service:	744
Maximum Daily Value:	87.5 %	on January 24	Hours of Data:	744
Minimum Hourly Value:	42 %	on January 28 at hour 6	Hours of Missing Data:	0
Minimum Daily Value:	57.4 %	on January 28	Hours of Calibration:	0
Monthly Average:	76.3 %		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
Jan 1	76	76	76	76	76	77	78	79	80	81	82	82	83	84	85	86	87	87	87	87	86	86	86	85	76	87	82.0
Jan 2	84	82	81	78	72	73	73	72	70	68	65	66	65	66	64	67	69	70	70	71	72	71	71	72	64	84	71.3
Jan 3	73	73	72	72	73	72	72	71	71	70	70	69	69	70	69	70	70	69	69	69	69	69	69	69	69	73	70.4
Jan 4	69	69	69	68	68	68	68	68	68	69	67	67	65	64	63	65	68	70	71	72	72	72	71	71	63	72	68.4
Jan 5	72	73	72	71	70	69	69	69	69	70	70	70	69	68	68	71	71	72	72	71	71	74	73	73	68	74	70.7
Jan 6	72	73	73	72	72	72	72	72	70	70	70	73	73	73	73	74	74	74	74	74	74	75	75	75	70	75	72.9
Jan 7	75	75	75	75	75	75	75	75	75	75	75	75	75	75	72	70	71	71	72	73	73	75	75	76	70	76	74.1
Jan 8	77	77	77	77	77	77	77	77	76	75	75	74	73	75	77	76	77	76	76	75	76	77	77	77	73	77	76.2
Jan 9	77	77	76	75	75	75	76	77	77	77	77	76	76	77	77	79	80	81	81	82	82	82	82	81	75	82	78.1
Jan 10	81	81	82	83	83	83	83	82	82	81	81	79	79	81	82	83	83	84	83	81	84	80	78	76	76	84	81.5
Jan 11	77	82	90	91	92	89	85	83	82	85	84	81	75	73	75	80	83	85	85	84	85	83	85	86	73	92	83.3
Jan 12	85	89	85	83	81	80	80	82	81	83	81	79	78	75	74	74	75	78	79	82	87	89	90	91	74	91	81.7
Jan 13	90	91	90	90	90	88	87	87	87	88	87	86	81	82	83	82	88	90	90	91	85	85	81	86	81	91	86.9
Jan 14	93	91	90	90	90	89	90	90	91	92	92	93	86	87	86	83	83	87	82	83	84	85	83	77	77	93	87.4
Jan 15	73	77	78	77	76	61	57	61	62	61	61	61	59	58	58	58	60	62	64	66	65	66	66	67	57	78	64.8
Jan 16	68	70	72	71	72	77	80	80	82	85	85	80	79	78	77	84	92	93	94	94	95	96	96	96	68	96	83.2
Jan 17	96	94	91	89	82	81	82	81	82	81	81	79	77	76	76	76	78	71	66	66	66	70	68	68	66	96	78.2
Jan 18	69	69	69	73	79	80	78	77	76	76	77	77	77	77	76	73	76	79	79	78	77	77	77	78	69	80	76.0
Jan 19	78	77	76	75	75	77	76	76	76	76	76	76	76	76	77	78	79	79	79	80	81	81	82	82	75	82	77.7
Jan 20	82	83	83	84	89	92	92	93	93	93	93	93	93	93	73	76	73	75	74	71	72	72	79	71	69	69	82.0
Jan 21	72	83	81	76	76	77	78	77	80	78	77	74	75	72	75	79	80	81	84	85	86	85	83	72	86	78.9	
Jan 22	75	73	70	68	69	73	81	82	83	84	85	84	80	59	59	58	59	58	57	56	53	54	54	54	53	85	67.8
Jan 23	55	55	54	54	53	53	57	59	60	73	88	91	90	89	91	92	89	90	88	87	87	87	87	85	53	92	75.6
Jan 24	89	87	80	81	83	81	90	92	90	88	85	83	86	85	83	85	86	89	91	92	93	93	94	95	80	95	87.5
Jan 25	95	95	95	94	94	81	77	72	70	65	59	58	59	60	58	56	57	60	72	76	69	62	69	69	56	95	71.8
Jan 26	70	71	72	75	77	93	93	84	79	77	72	71	72	71	67	63	66	74	76	80	79	81	87	88	63	93	76.6
Jan 27	90	90	83	85	89	90	88	85	77	78	76	76	73	73	69	69	72	76	79	82	85	87	87	80	69	90	80.8
Jan 28	78	82	69	64	60	47	42	44	46	47	50	49	50	50	51	54	56	57	60	61	64	65	65	67	62	82	57.4
Jan 29	68	68	70	71	73	74	78	86	85	87	85	81	78	79	77	76	78	81	78	77	75	74	73	73	68	87	76.9
Jan 30	71	76	83	85	87	87	87	87	85	80	76	71	68	67	68	70	76	84	80	78	78	78	75	74	67	87	78.0
Jan 31	71	74	71	73	70	70	71	74	72	71	68	64	60	58	56	59	64	71	72	75	74	73	73	73	56	75	68.3
Diurnal Maximum	96	95	95	94	94	93	93	93	93	93	93	93	93	89	91	92	92	93	94	94	95	96	96	96			
Diurnal Average	77.5	78.5	77.6	77.3	77.4	76.8	77.2	77.2	76.7	76.9	76.5	75.4	74.2	72.6	72.3	72.9	74.7	76.3	76.7	77.3	77.4	77.8	77.6	77.3			

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

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

Timeseries Chart of Hourly Average for RH - AQHI - Grimshaw Station





PEACE RIVER AREA MONITORING PROGRAM

AQHI - Grimshaw Station - January 2022

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

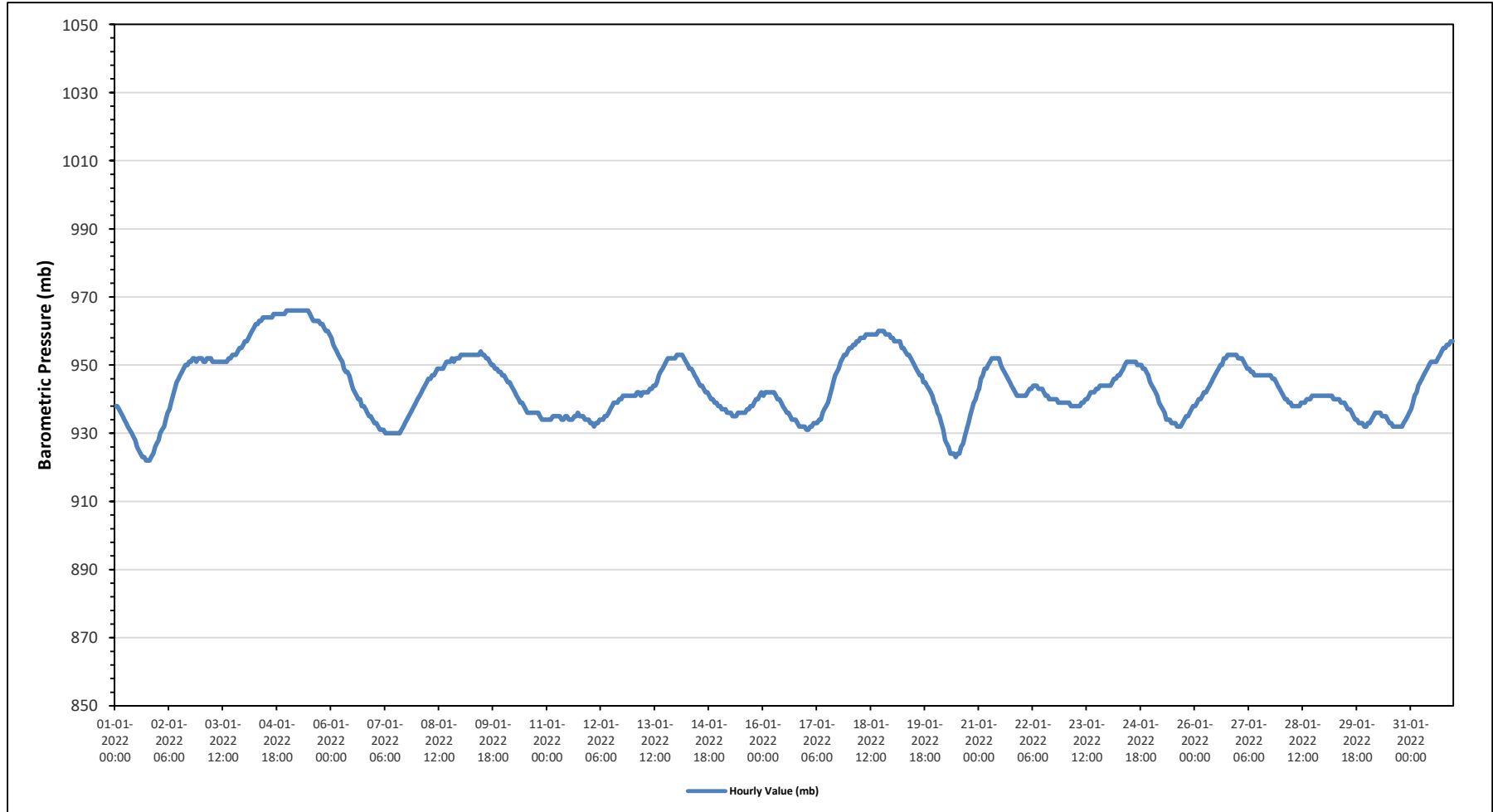
Maximum Hourly Value:	966 mb on January 4 at hour 23	Hours in Service:	744
Maximum Daily Value:	964 mb on January 5	Hours of Data:	744
Minimum Hourly Value:	922 mb on January 1 at hour 17	Hours of Missing Data:	0
Minimum Daily Value:	929 mb on January 1	Hours of Calibration:	0
Monthly Average:	944 mb	Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Jan 1	938	938	937	936	935	934	933	932	931	930	929	928	926	925	924	923	923	922	922	922	923	924	926	927	922	938	928.7
Jan 2	928	930	931	932	934	936	937	939	941	943	945	946	947	948	949	950	950	951	951	952	952	951	952	952	928	952	943.6
Jan 3	952	951	951	952	952	952	951	951	951	951	951	951	951	951	951	952	952	953	953	953	954	955	955	956	951	956	952.2
Jan 4	957	957	958	959	960	961	962	962	963	963	964	964	964	964	964	965	965	965	965	965	965	965	965	966	957	966	962.8
Jan 5	966	966	966	966	966	966	966	966	966	966	966	966	966	966	965	964	963	963	962	962	961	960	960	959	959	966	964.0
Jan 6	958	956	955	954	953	952	951	949	948	948	947	945	943	942	941	940	940	938	938	937	936	935	935	934	934	958	944.8
Jan 7	933	933	932	931	931	931	930	930	930	930	930	930	930	930	930	931	932	933	934	935	936	937	938	939	930	939	932.3
Jan 8	940	941	942	943	944	945	946	946	947	947	948	949	949	949	949	950	951	951	951	952	951	952	952	952	940	952	947.8
Jan 9	953	953	953	953	953	953	953	953	953	953	953	954	953	953	952	952	951	950	950	949	949	948	948	947	947	954	951.6
Jan 10	947	946	945	945	944	943	942	941	940	939	939	938	937	936	936	936	936	936	936	936	935	934	934	934	934	947	939.0
Jan 11	934	934	934	935	935	935	935	935	934	934	935	935	934	934	935	935	935	936	935	935	935	934	934	934	934	936	934.6
Jan 12	933	933	932	933	933	934	934	934	934	935	935	936	937	938	939	939	940	940	941	941	941	941	941	941	932	941	937.1
Jan 13	941	941	942	942	941	942	942	942	942	943	943	944	944	945	947	948	949	950	951	952	952	952	952	952	941	952	945.8
Jan 14	953	953	953	953	952	951	950	949	949	948	947	946	945	944	944	943	942	942	941	940	940	939	939	938	938	953	945.9
Jan 15	938	937	937	937	936	936	936	935	935	935	936	936	936	936	937	937	938	938	939	940	940	941	942	942	935	942	937.3
Jan 16	941	942	942	942	942	942	942	941	940	940	939	938	937	936	936	935	934	934	934	933	932	932	932	932	932	942	937.4
Jan 17	931	931	932	932	933	933	933	934	934	936	937	938	939	941	943	945	947	948	949	951	952	953	953	954	931	954	940.8
Jan 18	955	955	956	956	957	957	958	958	958	959	959	959	959	959	959	960	960	960	960	959	959	959	958	955	960	958.3	
Jan 19	958	957	957	957	957	955	955	954	953	953	952	951	950	949	948	947	947	945	945	944	943	942	941	939	939	958	950.0
Jan 20	938	936	935	933	931	928	927	926	924	924	924	923	924	924	926	927	929	931	933	935	937	939	940	942	923	942	930.7
Jan 21	943	946	947	949	949	950	951	952	952	952	952	950	949	948	947	946	945	944	943	942	941	941	941	941	941	952	947.2
Jan 22	941	941	941	942	943	943	944	944	944	943	943	943	942	941	941	940	940	940	940	939	939	939	939	939	939	944	941.3
Jan 23	939	939	939	938	938	938	938	938	938	938	939	939	940	940	941	942	942	943	943	944	944	944	944	944	938	944	940.7
Jan 24	944	944	945	946	946	947	947	948	949	950	951	951	951	951	951	951	950	950	949	949	948	947	945	944	951	948.3	
Jan 25	944	943	942	941	939	938	937	936	934	934	934	933	933	933	932	932	932	933	934	935	935	936	937	938	932	944	936.0
Jan 26	938	939	940	940	941	942	942	943	944	945	946	947	948	949	950	950	952	952	953	953	953	953	953	953	938	953	946.9
Jan 27	952	952	952	951	950	949	949	948	948	947	947	947	947	947	947	947	947	947	946	946	945	944	943	943	952	947.7	
Jan 28	942	941	940	940	939	939	938	938	938	938	938	938	939	939	940	940	940	941	941	941	941	941	941	941	938	942	939.8
Jan 29	941	941	941	941	941	940	940	940	940	939	939	939	938	937	937	936	935	934	934	933	933	933	932	932	932	941	937.3
Jan 30	933	933	934	935	936	936	936	936	935	935	935	934	933	933	932	932	932	932	932	932	933	934	935	936	932	936	933.9
Jan 31	937	939	941	942	944	945	946	947	948	949	950	951	951	951	951	952	953	954	955	955	956	957	957	937	957	949.5	
Diurnal Maximum	966	966	966	966	966	966	966	966	966	966	966	966	965	964	964	965	965	965	965	965	965	965	965	966			
Diurnal Average	943	943	944	944	944	944	944	943	943	943	944	944	943	943	943	943	944	944	944	944	944	944	944	944			

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

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

Timeseries Chart of Hourly Average for BP - AQHI - Grimshaw Station





PEACE RIVER AREA MONITORING PROGRAM

AQHI - Grimshaw Station - January 2022

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

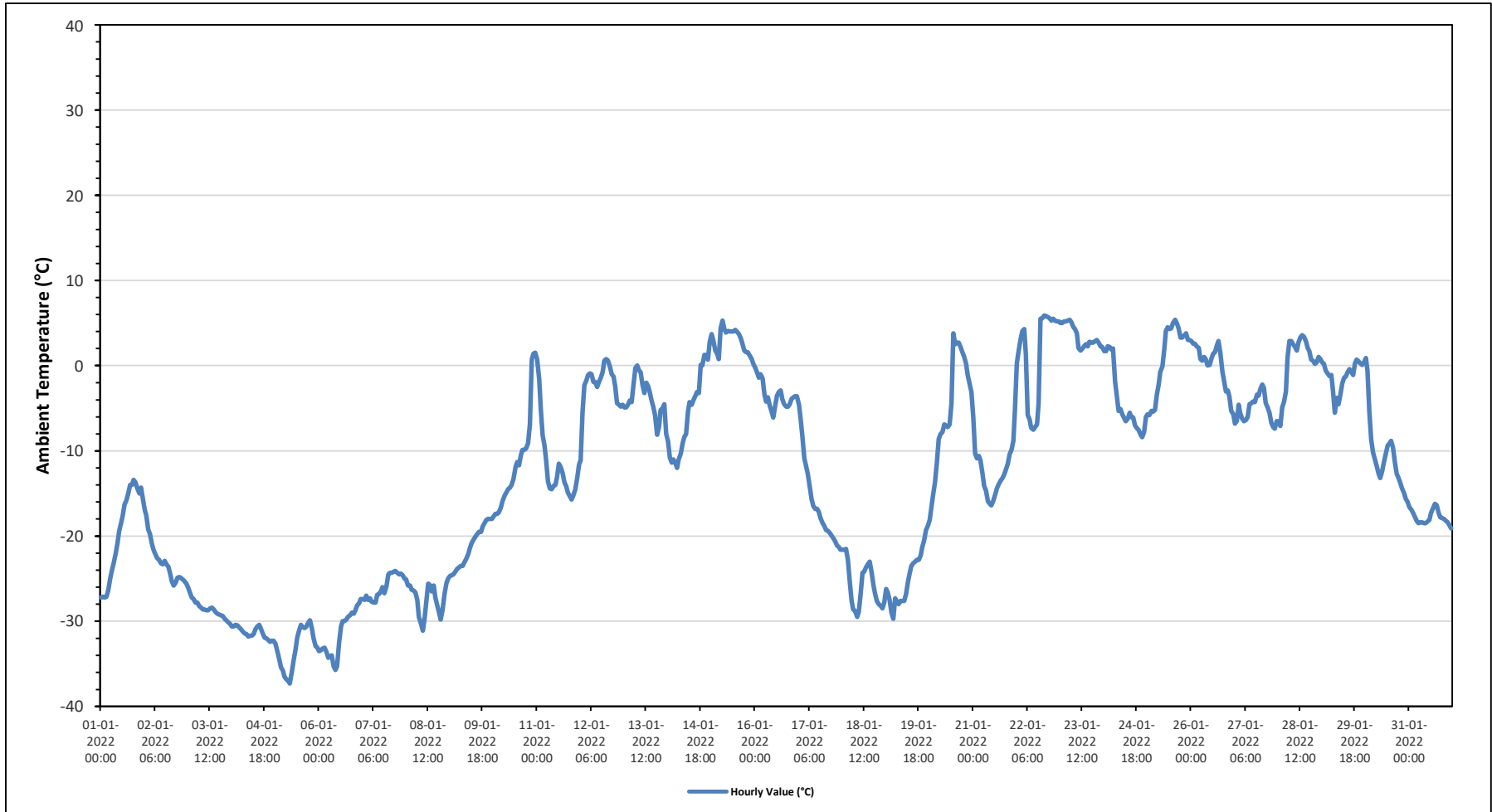
Maximum Hourly Value:	5.9 °C	on January 22 at hour 15	Hours in Service:	744
Maximum Daily Value:	3.5 °C	on January 23	Hours of Data:	744
Minimum Hourly Value:	-37.3 °C	on January 5 at hour 8	Hours of Missing Data:	0
Minimum Daily Value:	-33.2 °C	on January 5	Hours of Calibration:	0
Monthly Average:	-12.7 °C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
Jan 1	-27.2	-27.1	-27.2	-27.1	-26.3	-25	-24.1	-23.2	-22	-20.9	-19.4	-18.5	-17.6	-16.3	-15.8	-15	-14	-14	-13.4	-13.7	-14.4	-15	-14.3	-15.6	-27.2	-13.4	-19.5
Jan 2	-16.9	-17.6	-19.2	-19.8	-20.9	-21.7	-22.2	-22.6	-22.8	-23.2	-23.3	-22.9	-23.3	-23.6	-24.3	-25.3	-25.8	-25.5	-24.9	-24.8	-24.9	-25.1	-25.3	-25.6	-25.8	-16.9	-23.0
Jan 3	-26.1	-26.7	-27.2	-27.4	-27.8	-27.8	-28.2	-28.4	-28.6	-28.6	-28.7	-28.7	-28.5	-28.4	-28.6	-28.9	-29.1	-29.2	-29.3	-29.4	-29.7	-29.9	-30.1	-30.3	-30.3	-26.1	-28.6
Jan 4	-30.6	-30.6	-30.4	-30.5	-30.7	-30.9	-31.2	-31.4	-31.5	-31.8	-31.7	-31.7	-31.5	-30.9	-30.6	-30.4	-30.9	-31.4	-31.9	-32	-32.2	-32.4	-32.3	-32.3	-32.4	-30.4	-31.3
Jan 5	-32.6	-33.5	-34.4	-35.4	-35.8	-36.5	-36.8	-37	-37.3	-35.9	-34.5	-33.3	-31.9	-31.1	-30.4	-30.7	-30.8	-30.6	-30.2	-29.9	-30.8	-31.9	-32.9	-33.1	-37.3	-29.9	-33.2
Jan 6	-33.5	-33.4	-33.2	-33.1	-33.6	-34.3	-34.1	-34	-35.3	-35.7	-35.3	-32.4	-30.6	-30	-30	-29.8	-29.5	-29.3	-29	-29.1	-28.7	-28.1	-27.9	-27.4	-35.7	-27.4	-31.6
Jan 7	-27.4	-27.5	-27	-27.5	-27.3	-27.7	-27.8	-27.8	-26.9	-26.8	-26.5	-26	-26.7	-25.9	-24.5	-24.3	-24.3	-24.2	-24.1	-24.3	-24.5	-24.4	-24.6	-25	-27.8	-24.1	-26.0
Jan 8	-25.1	-25.8	-25.8	-26.3	-26.4	-26.6	-27.5	-29.5	-30.3	-31.1	-29.8	-27.7	-25.6	-25.7	-26.5	-25.8	-27.2	-28.1	-29	-29.8	-28.7	-26.7	-25.5	-25	-31.1	-25.0	-27.3
Jan 9	-24.7	-24.6	-24.5	-24.2	-23.8	-23.7	-23.5	-23.5	-23.1	-22.7	-22.1	-21.4	-20.8	-20.4	-20.1	-19.8	-19.5	-19.5	-18.9	-18.5	-18.1	-18	-18	-18	-24.7	-18.0	-21.3
Jan 10	-17.7	-17.4	-17.4	-17.2	-16.7	-15.9	-15.3	-14.9	-14.5	-14.3	-14	-13.3	-11.9	-11.3	-11.7	-10.5	-9.9	-9.9	-9.7	-9.1	-6.9	0.7	1.4	1.5	-17.7	1.5	-11.5
Jan 11	0.8	-1.6	-5.1	-8.2	-9.4	-11.1	-13.6	-14.4	-14.5	-14.1	-14	-13.1	-11.5	-11.9	-12.6	-13.7	-14.2	-14.9	-15.3	-15.7	-15.2	-14.5	-13.2	-11.6	-15.7	0.8	-11.8
Jan 12	-11.1	-5.5	-2.3	-1.8	-1.1	-0.9	-1	-1.9	-1.9	-2.5	-1.9	-1.4	-0.7	0.6	0.8	0.6	-0.1	-1	-1.3	-2.4	-4.4	-4.6	-4.8	-4.6	-11.1	0.8	-2.3
Jan 13	-4.9	-4.9	-4.6	-4.1	-4.3	-2.2	-0.3	0	-0.5	-0.8	-2.3	-3.2	-2	-2.4	-3.1	-4.1	-4.9	-5.8	-8.1	-7.2	-5.2	-5	-4.5	-8	-8.1	0.0	-3.9
Jan 14	-8.9	-10.8	-11.4	-11	-11.4	-12	-11	-10.3	-9.1	-8.4	-8	-5.4	-4.3	-4.6	-4	-3.5	-3.1	-3.2	0.1	0	1.3	1.2	0.7	2.8	-12.0	2.8	-5.6
Jan 15	3.7	3	1.8	1.4	0.8	4.4	5.3	4.3	3.9	4.1	4	4	4	4.2	4	3.7	3.2	2.6	1.8	1.6	1.6	1.2	0.8	0.2	0.2	5.3	2.9
Jan 16	-0.2	-0.8	-1.4	-1	-1.5	-3.4	-4.2	-3.7	-4.7	-5.3	-6.1	-4.6	-3.5	-3.1	-2.9	-3.9	-4.5	-4.8	-4.8	-4.5	-3.9	-3.7	-3.6	-3.6	-6.1	-0.2	-3.5
Jan 17	-4.6	-6.2	-8.4	-10.9	-11.7	-12.7	-14.3	-15.6	-16.5	-16.8	-16.8	-17.1	-17.9	-18.5	-18.8	-19.3	-19.4	-19.6	-19.9	-20.3	-20.6	-21.1	-21.3	-21.6	-21.6	-4.6	-16.2
Jan 18	-21.6	-21.6	-21.5	-22.8	-25.3	-27.6	-28.6	-28.8	-29.5	-28.9	-26.8	-24.3	-24.2	-23.7	-23.3	-23	-24.2	-25.7	-26.7	-27.6	-28	-28.2	-28.5	-27.8	-29.5	-21.5	-25.8
Jan 19	-26.2	-26.6	-27.5	-29	-29.7	-27.3	-27.7	-28	-27.6	-27.6	-26.8	-25.4	-24.3	-23.5	-23.2	-23	-22.8	-22.8	-22.3	-21.3	-20.5	-19.3	-18.8	-29.7	-18.8	-25.0	
Jan 20	-18.1	-16.5	-15.1	-13.7	-11.4	-8.6	-8	-7.8	-6.9	-7	-7.2	-6.9	-4.4	3.8	2.5	2.7	2.7	2.2	1.6	1	0.2	-1.1	-2.1	-3.1	-18.1	3.8	-5.1
Jan 21	-6	-10.3	-10.9	-10.6	-11.1	-12.5	-14.1	-14.7	-15.9	-16.2	-16.4	-15.9	-15.2	-14.4	-13.9	-13.5	-13.2	-12.8	-12.2	-11.5	-10.4	-9.9	-8.8	-5.1	-16.4	-5.1	-12.3
Jan 22	0.3	1.8	3.1	4.1	4.3	1.3	-5.8	-6.3	-7.3	-7.5	-7.2	-6.9	-4.4	5.5	5.6	5.9	5.8	5.7	5.6	5.3	5.5	5.3	5.2	5.2	-7.5	5.9	1.3
Jan 23	5	5	5.2	5.2	5.3	5.4	5.1	4.6	4.3	3.8	2.1	1.8	2	2.3	2.5	2.3	2.8	2.7	2.7	2.9	3	2.7	2.3	2.2	1.8	5.4	3.5
Jan 24	1.7	1.7	2.3	2.2	1.9	2	-1.9	-3.7	-5.3	-5.1	-5.7	-6.1	-6.5	-6.2	-5.5	-6	-6.1	-7	-7.3	-7.6	-8.1	-8.4	-7.8	-6	-8.4	2.3	-4.1
Jan 25	-5.7	-5.8	-5.3	-5.4	-5.2	-3.4	-2.2	-0.7	-0.1	1.9	4.1	4.5	4.3	4.4	5	5.4	5	4.4	3.3	3.3	3.5	3.8	3	3	-5.8	5.4	1.0
Jan 26	2.9	2.6	2.6	2.3	2.1	0.8	0.6	1	0.8	0	0.1	0.8	1.4	1.6	2.3	2.9	1.5	-0.7	-1.8	-3	-2.9	-3.6	-5.3	-5.7	-5.7	2.9	0.1
Jan 27	-6.8	-6.5	-4.6	-5.6	-6.2	-6.5	-6.4	-6	-4.5	-4.4	-4.2	-4.3	-3.4	-3.5	-2.7	-2.2	-2.6	-4.4	-4.9	-5.5	-6.7	-7.2	-7.4	-6.5	-7.4	-2.2	-5.1
Jan 28	-6.5	-7.1	-4.9	-4.2	-3	0.9	2.9	2.9	2.5	2.2	1.8	2.7	3.3	3.6	3.4	2.9	2.1	1.7	0.7	0.6	0.2	0.4	1	0.8	-7.1	3.6	0.5
Jan 29	0.4	0.2	-0.6	-0.9	-1.2	-1.1	-2.9	-5.5	-3.8	-4.5	-3.4	-2.1	-1.4	-1.3	-0.8	-0.4	-0.7	-1.1	0.3	0.7	0.5	0.3	0.1	0.4	-5.5	0.7	-1.2
Jan 30	0.9	-0.6	-5.4	-8.7	-10.2	-11	-11.8	-12.7	-13.2	-12.4	-11.3	-10.3	-9.4	-9.1	-8.8	-9.6	-11.3	-12.7	-13.2	-13.8	-14.4	-14.9	-15.6	-16	-16.0	0.9	-10.6
Jan 31	-16.6	-16.9	-17.3	-17.7	-18.2	-18.5	-18.4	-18.4	-18.5	-18.3	-18.1	-17.3	-16.7	-16.2	-16.4	-17.2	-17.8	-17.9	-18	-18.2	-18.4	-18.7	-19.1	-19.1	-19.1	-16.2	-17.8
Diurnal Maximum	5.0	5.0	5.2	5.2	5.3	5.4	5.3	4.6	4.3	4.1	4.1	4.5	4.3	5.5	5.6	5.9	5.8	5.7	5.6	5.3	5.5	5.3	5.2	5.2			
Diurnal Average	-12.4	-12.6	-12.8	-13.2	-13.4	-13.4	-13.8	-14.1	-14.2	-14.2	-13.9	-13.2	-12.4	-11.5	-11.4	-11.4	-11.7	-12.2	-12.3	-12.4	-12.3	-12.2	-12.2	-12.1			

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

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

Timeseries Chart of Hourly Average for AT - AQHI - Grimshaw Station





PEACE RIVER AREA MONITORING PROGRAM

AQHI - Grimshaw Station - January 2022

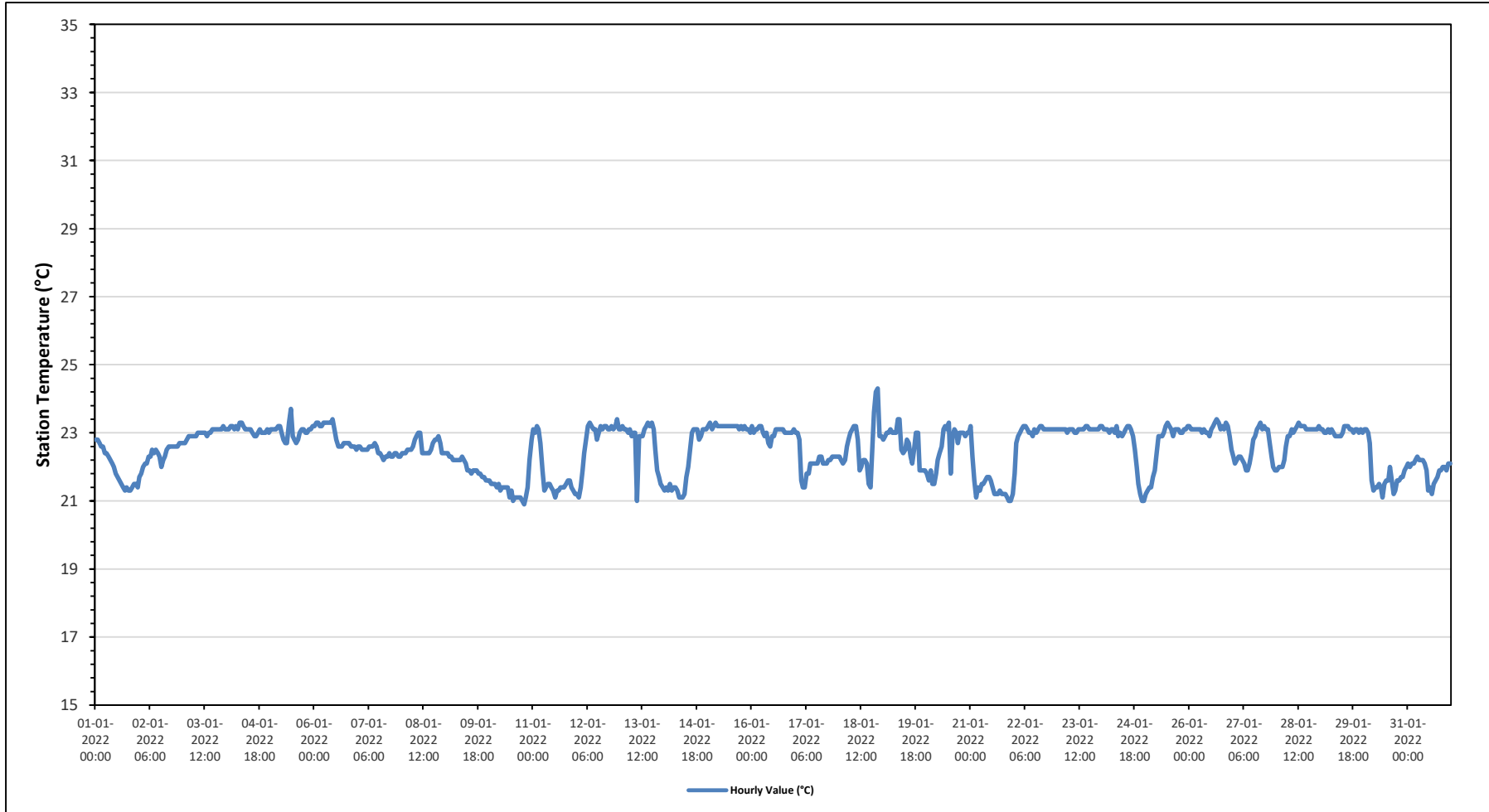
Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

Maximum Hourly Value:	24.3 °C	on January 18 at hour 21	Hours in Service:	744
Maximum Daily Value:	23.2 °C	on January 15	Hours of Data:	744
Minimum Hourly Value:	20.9 °C	on January 10 at hour 19	Hours of Missing Data:	0
Minimum Daily Value:	21.4 °C	on January 10	Hours of Calibration:	0
Monthly Average:	22.5 °C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23		
Jan 1	22.8	22.8	22.7	22.6	22.6	22.4	22.4	22.3	22.2	22.1	22.0	21.8	21.7	21.6	21.5	21.4	21.3	21.4	21.3	21.3	21.4	21.5	21.4	21.5	21.4	21.3	22.8	22.8	21.9
Jan 2	21.7	21.8	22.0	22.1	22.1	22.3	22.3	22.5	22.4	22.5	22.4	22.3	22.0	22.2	22.3	22.5	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.7	22.7	21.7	22.7	22.4	
Jan 3	22.7	22.7	22.8	22.9	22.9	22.9	22.9	22.9	23.0	23.0	23.0	23.0	23.0	22.9	23.0	23.0	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.2	23.1	22.7	23.2	23.0	
Jan 4	23.1	23.1	23.2	23.2	23.1	23.2	23.1	23.3	23.3	23.2	23.1	23.1	23.1	23.1	23.0	22.9	22.9	23.0	23.1	23.0	23.0	23.0	23.1	23.0	22.9	22.9	23.3	23.1	
Jan 5	23.1	23.1	23.1	23.1	23.2	23.2	23.0	22.8	22.7	22.7	23.3	23.7	22.9	22.8	22.7	22.8	23.0	23.1	23.1	23.0	23.0	23.1	23.1	23.2	22.7	22.7	23.7	23.0	
Jan 6	23.2	23.3	23.3	23.2	23.2	23.3	23.3	23.3	23.3	23.4	23.1	22.8	22.6	22.6	22.6	22.7	22.7	22.7	22.7	22.7	22.6	22.6	22.6	22.5	22.5	22.5	23.4	23.0	
Jan 7	22.6	22.6	22.5	22.5	22.5	22.5	22.6	22.6	22.6	22.7	22.6	22.4	22.4	22.3	22.2	22.3	22.3	22.4	22.3	22.3	22.4	22.4	22.3	22.3	22.2	22.7	22.7	22.4	
Jan 8	22.4	22.4	22.4	22.5	22.5	22.5	22.6	22.8	22.9	23.0	23.0	22.4	22.4	22.4	22.4	22.5	22.7	22.8	22.8	22.8	22.9	22.7	22.4	22.4	22.4	22.4	23.0	22.6	
Jan 9	22.4	22.4	22.3	22.3	22.2	22.2	22.2	22.2	22.2	22.3	22.2	22.1	21.9	21.9	21.8	21.9	21.9	21.9	21.8	21.8	21.7	21.7	21.6	21.6	21.6	21.6	22.4	22.0	
Jan 10	21.6	21.5	21.5	21.5	21.4	21.5	21.3	21.4	21.4	21.4	21.4	21.1	21.3	21.0	21.1	21.1	21.1	21.1	21.0	20.9	21.1	21.4	22.2	22.8	20.9	22.8	21.4		
Jan 11	23.1	23.0	23.2	23.1	22.7	21.9	21.3	21.4	21.5	21.5	21.4	21.3	21.1	21.3	21.3	21.4	21.4	21.4	21.5	21.6	21.6	21.4	21.3	21.2	21.1	23.2	21.7		
Jan 12	21.2	21.1	21.4	21.9	22.4	22.8	23.2	23.3	23.2	23.1	23.1	22.8	23.0	23.2	23.1	23.2	23.2	23.1	23.1	23.2	23.1	23.2	23.2	23.4	23.1	21.1	23.4	22.8	
Jan 13	23.1	23.2	23.1	23.1	23.0	23.1	22.9	23.0	23.0	21.0	22.9	22.9	22.9	23.1	23.2	23.3	23.2	23.3	23.1	22.5	21.9	21.7	21.5	21.4	21.0	23.3	22.7		
Jan 14	21.3	21.4	21.3	21.5	21.3	21.4	21.4	21.3	21.1	21.1	21.1	21.2	21.7	22.0	22.5	23.0	23.1	23.1	23.1	22.8	22.9	23.1	23.1	23.1	21.1	23.1	22.0		
Jan 15	23.2	23.3	23.1	23.2	23.3	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.1	23.2	23.1	23.2	23.1	23.1	23.0	23.0	23.3	23.2		
Jan 16	23.2	23.0	23.1	23.1	23.2	23.2	23.0	22.9	23.0	22.7	22.6	22.9	22.9	23.1	23.1	23.1	23.1	23.1	23.0	23.0	23.0	23.0	23.0	23.1	22.6	23.2	23.0		
Jan 17	23.0	23.0	22.8	21.6	21.4	21.4	21.8	21.8	22.1	22.1	22.1	22.1	22.1	22.3	22.3	22.1	22.1	22.1	22.2	22.2	22.3	22.3	22.3	21.4	23.0	22.2			
Jan 18	22.3	22.2	22.1	22.2	22.6	22.8	23.0	23.1	23.2	23.2	22.8	21.9	22.0	22.2	22.2	22.1	21.5	21.4	22.6	23.6	24.2	24.3	22.9	21.4	24.3	22.6			
Jan 19	22.8	22.9	23.0	23.0	23.1	23.0	23.0	23.0	23.4	23.4	22.5	22.4	22.5	22.8	22.7	22.3	22.1	22.5	23.0	23.0	21.9	21.9	21.9	21.9	21.9	23.4	22.7		
Jan 20	21.8	21.6	21.9	21.5	21.5	21.8	22.2	22.4	22.6	23.1	23.2	23.1	23.3	21.8	22.9	23.1	23.0	22.7	23.0	23.0	22.9	23.0	23.0	21.5	23.3	22.6			
Jan 21	23.2	22.3	21.6	21.1	21.4	21.3	21.5	21.6	21.7	21.7	21.6	21.4	21.2	21.2	21.2	21.3	21.2	21.2	21.2	21.2	21.1	21.0	21.0	21.2	21.0	23.2	21.4		
Jan 22	21.8	22.7	22.9	23.0	23.1	23.2	23.2	23.1	23.0	23.0	22.9	23.1	23.0	23.1	23.2	23.2	23.1	23.1	23.1	23.1	23.1	23.1	23.1	21.8	23.2	23.0			
Jan 23	23.1	23.1	23.1	23.1	23.1	23.0	23.1	23.1	23.1	23.0	23.0	23.1	23.1	23.1	23.1	23.2	23.2	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.0	23.2	23.1		
Jan 24	23.2	23.1	23.1	23.1	23.0	23.1	23.1	23.0	23.2	22.9	23.0	22.9	23.0	23.1	23.2	23.2	23.1	22.9	22.5	22.0	21.5	21.2	21.0	21.0	21.0	23.2	22.7		
Jan 25	21.2	21.3	21.4	21.4	21.7	21.9	22.4	22.9	22.9	22.9	23.0	23.2	23.3	23.2	23.1	22.9	23.1	23.1	23.1	23.0	23.0	23.1	23.1	21.2	23.3	22.6			
Jan 26	23.2	23.1	23.1	23.1	23.1	23.1	23.1	23.0	23.1	23.0	23.0	22.9	23.1	23.2	23.3	23.4	23.3	23.1	23.2	23.1	23.3	23.2	22.9	22.5	22.5	23.4	23.1		
Jan 27	22.3	22.1	22.2	22.3	22.3	22.2	22.1	21.9	21.9	22.1	22.4	22.8	22.9	23.1	23.2	23.3	23.1	23.2	23.1	23.1	23.1	22.7	22.3	22.0	21.9	21.9	23.3	22.5	
Jan 28	21.9	22.0	22.0	22.0	22.2	22.6	22.9	22.9	23.1	23.0	23.1	23.2	23.3	23.2	23.2	23.2	23.1	23.1	23.1	23.1	23.1	23.1	23.1	21.9	23.3	22.9			
Jan 29	23.1	23.1	23.0	23.0	23.1	23.0	23.1	23.0	22.9	22.9	22.9	22.9	23.0	23.2	23.2	23.2	23.1	23.1	23.0	23.1	23.1	23.0	23.1	22.9	23.2	23.0			
Jan 30	23.1	23.1	23.0	22.7	21.6	21.3	21.4	21.4	21.5	21.4	21.1	21.5	21.6	21.6	22.0	21.6	21.2	21.3	21.6	21.6	21.7	21.7	21.9	22.0	21.1	23.1	21.8		
Jan 31	22.1	22.0	22.1	22.1	22.2	22.3	22.2	22.2	22.1	21.9	21.3	21.4	21.2	21.5	21.6	21.7	21.9	22.0	22.0	21.9	22.0	21.9	22.1	22.1	21.2	22.3	21.9		
Diurnal Maximum	23.2	23.3	23.3	23.2	23.3	23.3	23.3	23.3	23.4	23.4	23.4	23.7	23.3	23.2	23.3	23.4	23.3	23.3	23.2	23.6	24.2	24.3	23.4	23.2					
Diurnal Average	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.6	22.6	22.5	22.6	22.5	22.5	22.6	22.6	22.5	22.5	22.6	22.6	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		
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 ST - AQHI - Grimshaw Station





PEACE RIVER AREA MONITORING PROGRAM

AQHI - Grimshaw Station - January 2022

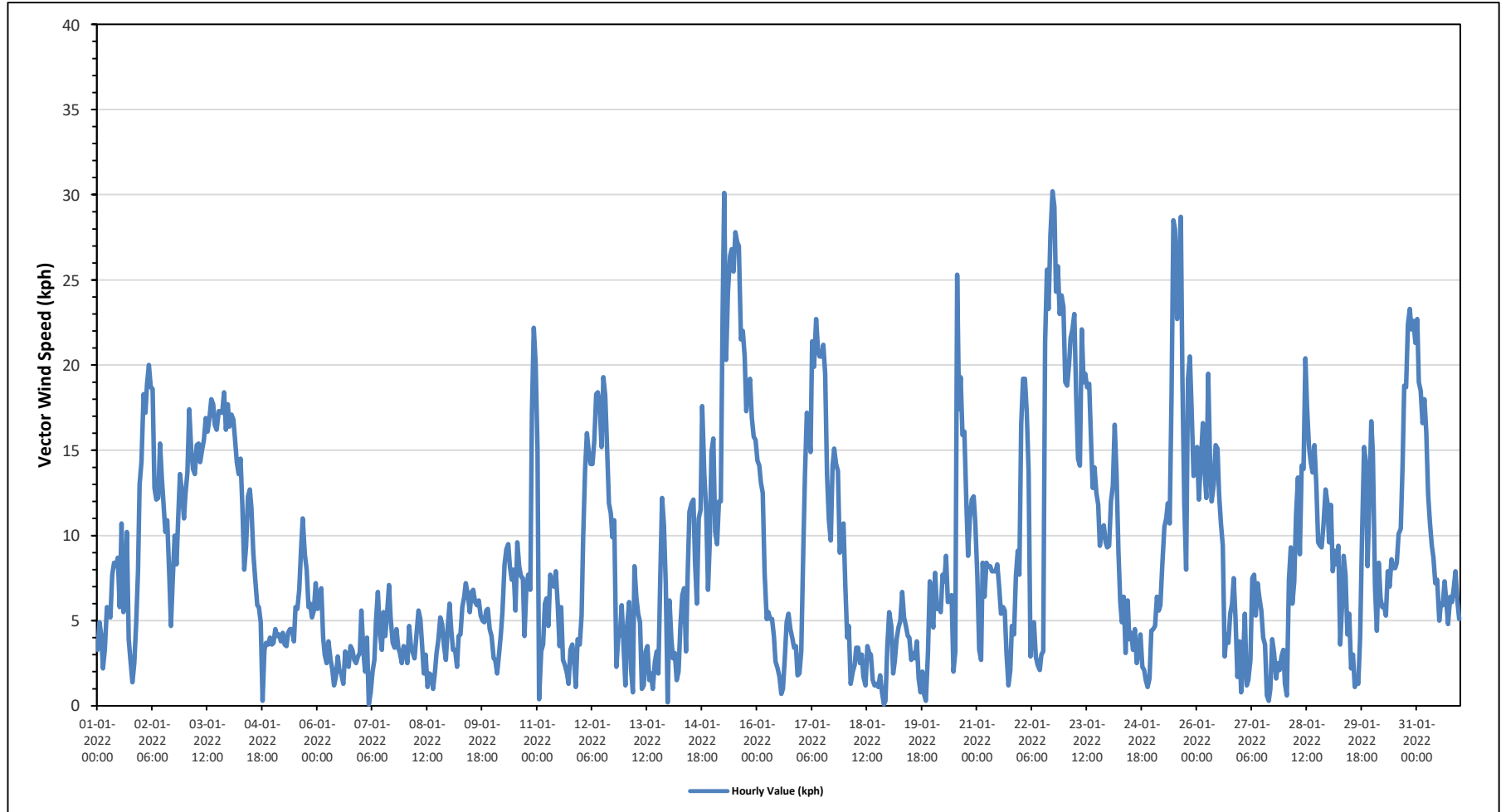
Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

Maximum Hourly Value:	30.2 kph on January 22 at hour 17	Hours in Service:	744
Maximum Daily Value:	20.2 kph on January 15	Hours of Data:	744
Minimum Hourly Value:	0.1 kph on January 7 at hour 4	Hours of Missing Data:	0
Minimum Daily Value:	2.4 kph on January 18	Hours of Calibration:	0
Monthly Average:	8.8 kph	Operational Uptime:	100.0

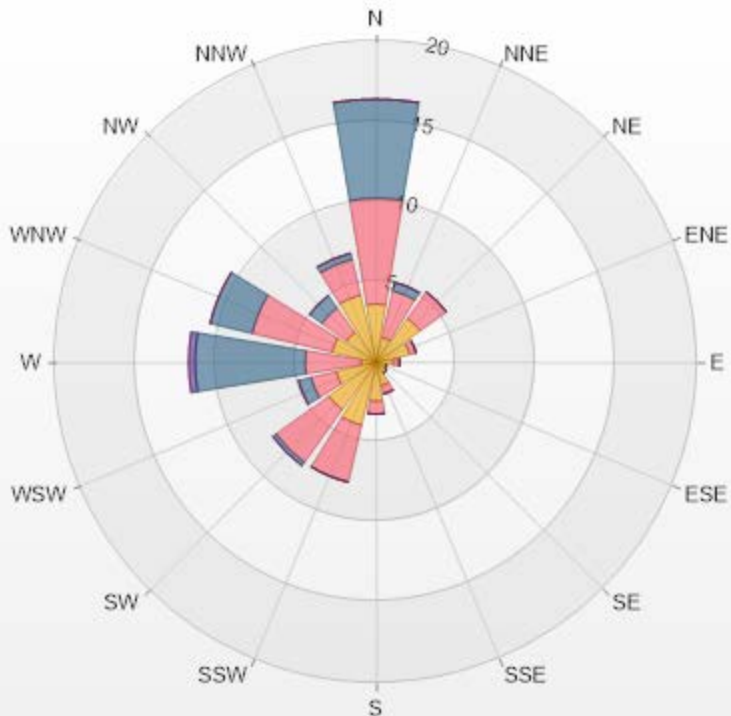
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average					
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23				
Jan 1	3.3	4.9	4.1	2.2	3.3	5.8	5.7	5.2	7.7	8.4	8.2	8.7	5.8	10.7	5.5	6.0	10.2	3.9	2.6	1.4	2.5	4.8	7.9	13.0	1.4	13.0	5.9				
Jan 2	14.3	18.3	17.2	18.9	20.0	18.7	18.6	12.8	12.1	12.2	15.4	13.3	11.9	10.2	10.9	7.6	4.7	7.5	10.0	8.3	10.9	13.6	12.5	11.0	4.7	20.0	13.0				
Jan 3	12.5	13.7	17.4	15.1	13.9	13.6	15.3	15.4	14.3	15.0	15.6	16.9	16.1	16.9	18.0	17.7	16.5	16.2	17.3	17.3	17.2	18.4	16.2	17.7	12.5	18.4	16.0				
Jan 4	16.4	17.1	16.8	15.5	14.3	13.6	14.5	11.7	8.0	9.4	12.3	12.7	11.6	9.0	7.5	5.9	5.8	4.9	0.3	3.3	3.7	3.6	4.0	3.6	0.3	17.1	9.4				
Jan 5	3.7	4.5	4.1	4.2	3.8	4.3	3.6	3.5	4.3	4.5	4.5	3.8	5.8	5.7	6.8	9.2	11.0	8.9	8.0	5.8	6.0	5.2	5.6	7.2	3.5	11.0	5.6				
Jan 6	5.7	6.4	6.9	4.0	3.0	2.5	3.8	2.7	2.2	1.2	1.7	2.9	2.1	1.9	1.3	3.2	2.6	2.3	3.5	3.3	2.7	2.5	2.9	3.1	1.2	6.9	3.1				
Jan 7	5.6	3.3	2.0	4.0	0.1	0.8	2.0	2.7	5.0	6.7	4.2	3.3	5.5	4.1	5.5	7.1	5.2	3.7	3.4	4.5	3.4	3.1	2.5	3.5	0.1	7.1	3.8				
Jan 8	3.2	2.5	4.7	3.4	3.1	2.8	4.1	5.6	5.1	3.7	1.9	3.0	1.1	1.9	1.8	1.0	2.0	3.1	3.9	5.2	4.8	3.5	2.7	4.6	1.0	5.6	3.3				
Jan 9	6.0	4.5	3.3	3.3	2.3	4.1	4.2	5.8	6.4	7.2	6.5	5.5	6.7	6.8	6.1	5.9	6.2	5.3	5.0	4.9	5.6	5.7	4.5	4.1	2.3	7.2	5.2				
Jan 10	2.8	2.7	1.9	3.0	4.2	5.5	8.3	9.2	9.5	8.2	7.4	8.0	5.6	9.6	8.2	7.6	7.5	4.1	6.9	7.7	6.8	17.2	22.2	20.1	1.9	22.2	8.1				
Jan 11	15.1	0.4	3.2	3.6	6.0	6.3	4.7	7.2	7.0	7.9	6.0	3.5	5.8	2.7	2.4	1.9	1.3	3.3	3.6	2.6	1.1	3.9	3.6	0.4	15.1	4.6					
Jan 12	5.3	9.9	13.8	16.0	14.9	14.2	14.2	15.6	18.3	18.4	17.7	15.2	19.3	18.2	15.1	11.9	11.3	9.9	10.9	2.3	4.0	4.2	5.9	3.5	2.3	19.3	12.1				
Jan 13	1.2	4.6	6.1	2.2	0.8	8.2	6.4	5.4	4.9	1.0	1.2	3.2	3.5	1.5	1.9	1.0	2.6	3.2	1.9	7.3	12.2	10.6	7.1	0.2	0.2	12.2	4.1				
Jan 14	6.2	3.9	2.8	3.1	1.5	2.0	4.7	6.5	6.9	3.2	7.5	11.4	11.9	12.1	8.5	6.0	11.0	11.5	17.6	13.6	11.5	6.8	9.4	14.9	1.5	17.6	8.1				
Jan 15	15.7	10.2	9.5	12.0	12.0	23.1	30.1	20.3	24.3	26.4	26.8	25.5	27.8	27.2	27.0	21.5	22.0	20.5	17.3	18.5	19.2	16.9	15.8	15.6	9.5	30.1	20.2				
Jan 16	14.4	14.1	13.1	12.5	7.8	5.1	5.5	5.1	5.1	4.1	2.6	2.2	1.7	0.7	1.0	2.8	4.9	5.4	4.5	4.0	3.4	3.5	1.8	1.9	0.7	14.4	5.3				
Jan 17	3.2	9.4	13.6	17.2	16.4	14.9	21.4	19.9	22.7	20.9	20.5	21.2	19.5	13.6	10.9	9.7	14.1	15.1	14.2	13.8	9.0	10.3	10.7	3.2	22.7	15.1					
Jan 18	7.0	4.0	4.7	1.3	2.0	2.4	3.4	3.4	2.5	3.0	1.7	1.2	3.5	3.1	3.0	1.5	1.2	1.3	1.1	1.8	0.8	0.1	0.3	3.5	0.1	7.0	2.4				
Jan 19	5.5	4.7	1.9	2.6	3.9	4.6	5.0	6.7	5.2	4.7	4.1	4.0	2.7	3.1	2.8	3.8	1.6	0.8	2.0	0.7	0.3	3.1	7.3	6.1	0.3	7.3	3.6				
Jan 20	4.6	7.8	5.7	5.9	5.5	7.7	7.3	8.8	6.1	6.2	6.5	2.0	3.2	25.3	17.4	19.3	15.9	16.1	11.7	8.8	11.1	12.1	12.3	10.8	2.0	25.3	9.9				
Jan 21	7.6	3.3	2.7	8.4	6.4	8.4	8.2	8.2	7.9	7.9	8.3	7.0	5.4	5.8	5.6	3.0	1.2	2.1	4.7	4.2	7.6	9.1	7.7	1.2	9.1	6.2					
Jan 22	16.5	19.2	19.2	17.2	13.7	2.9	4.7	4.9	2.9	2.4	2.1	3.0	3.2	21.3	25.6	23.3	27.6	30.2	29.3	24.3	25.8	23.0	24.1	23.4	2.1	30.2	16.2				
Jan 23	19.0	18.8	20.0	21.6	22.1	23.0	18.2	14.5	14.1	22.1	19.0	19.5	18.7	18.9	15.6	12.8	14.0	12.5	11.8	9.4	10.3	10.6	9.6	9.3	9.3	23.0	16.1				
Jan 24	9.4	12.0	12.9	16.5	13.6	9.1	6.1	4.9	6.4	3.1	6.2	3.9	4.3	3.3	4.5	2.5	3.2	4.2	2.3	2.1	1.5	1.1	1.6	4.4	1.1	16.5	5.8				
Jan 25	4.5	4.7	6.4	5.6	5.9	8.2	10.5	11.0	11.9	10.7	18.2	28.5	28.0	22.7	26.0	28.7	19.1	11.9	8.0	19.2	20.5	17.2	13.5	13.8	4.5	28.7	14.8				
Jan 26	15.2	12.1	14.3	16.6	13.9	12.2	19.5	14.4	12.0	13.0	15.3	15.1	12.4	10.7	9.4	2.9	4.2	3.7	5.4	6.0	7.5	5.1	1.7	3.8	1.7	19.5	10.3				
Jan 27	0.8	2.6	5.4	1.2	1.5	2.7	7.5	7.7	5.3	7.2	6.3	5.6	4.0	3.6	0.6	0.3	1.0	3.9	3.1	1.6	2.5	2.1	2.9	3.3	0.3	7.7	3.4				
Jan 28	1.3	0.6	7.4	9.3	6.0	7.3	11.3	13.4	8.9	14.1	13.9	20.4	17.6	15.3	14.3	13.7	15.3	13.0	9.6	9.4	9.3	10.6	12.7	11.9	0.6	20.4	11.1				
Jan 29	9.6	11.8	7.9	9.1	8.3	9.4	3.6	5.9	8.8	7.7	4.2	5.4	2.2	3.0	1.1	1.7	1.3	4.0	9.8	15.2	14.4	8.2	12.3	16.7	1.1	16.7	7.6				
Jan 30	14.8	7.0	4.4	8.4	6.3	5.8	5.9	5.3	7.9	7.0	8.6	8.1	8.1	8.4	10.1	10.4	14.2	18.8	18.7	22.4	23.3	22.1	22.6	21.3	4.4	23.3	12.1				
Jan 31	22.7	19.0	18.5	16.6	18.0	16.1	12.4	10.7	9.4	8.7	7.2	7.4	5.0	6.0	5.9	7.3	6.0	4.8	6.4	6.1	7.0	7.9	6.2	5.1	4.8	22.7	10.0				
Diurnal Maximum	23	19	20	22	22	23	30	20	24	26	27	29	28	27	27	29	28	30	29	24	26	23	24	23							
Diurnal Average	8.8	8.3	8.8	9.0	8.2	8.6	9.4	8.9	8.8	8.9	9.1	9.5	9.1	10.1	9.1	8.4	8.5	8.1	8.2	8.3	8.7	8.4	8.8	9.0							
C	Monthly Calibration							S	Daily Zero-Span Check							Q	Quality Assurance														
K	Collection Error							N	No Data (Machine Not in Service)							Y	Routine Maintenance							P	Power Failure						
X	InValid Data (Equipment Malfunction /Recovery)							NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)																						
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.																															
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																															

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



Wind: AQHI Grimshaw Monitor: WDS [KPH] Monthly: 01-2022 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 7.39% Valid Data: 100.00%

Direction	1.8-6.0	6.0-15.0	15.0-29.0	29.0-39.0	>39.0	Total
N	3.63	6.59	6.18	0	0	16.4
NNE	1.61	2.96	0.54	0	0	5.11
NE	3.36	2.02	0	0	0	5.38
ENE	2.15	0.4	0	0	0	2.55
E	1.08	0.4	0	0	0	1.48
ESE	0.67	0	0	0	0	0.67
SE	0.81	0	0	0	0	0.81
SSE	1.48	0.54	0	0	0	2.02
S	2.42	0.81	0	0	0	3.23
SSW	4.03	3.63	0	0	0	7.66
SW	3.63	4.03	0.27	0	0	7.93
WSW	2.55	1.61	0.81	0	0	4.97
W	0.94	3.49	6.85	0.4	0	11.68
WNW	2.82	5.11	2.69	0	0	10.62
NW	2.28	1.88	0.94	0	0	5.1
NNW	4.3	2.28	0.4	0	0	6.98
Summary	37.76	35.75	18.68	0.4	0	92.59



PRAMP-202201

Page 222 of 227

% Icon Classes (KPH)

38

1.8-6.0

36

6.0-15.0

19

15.0-29.0

0

29.0-39.0

0

>39.0



PEACE RIVER AREA MONITORING PROGRAM

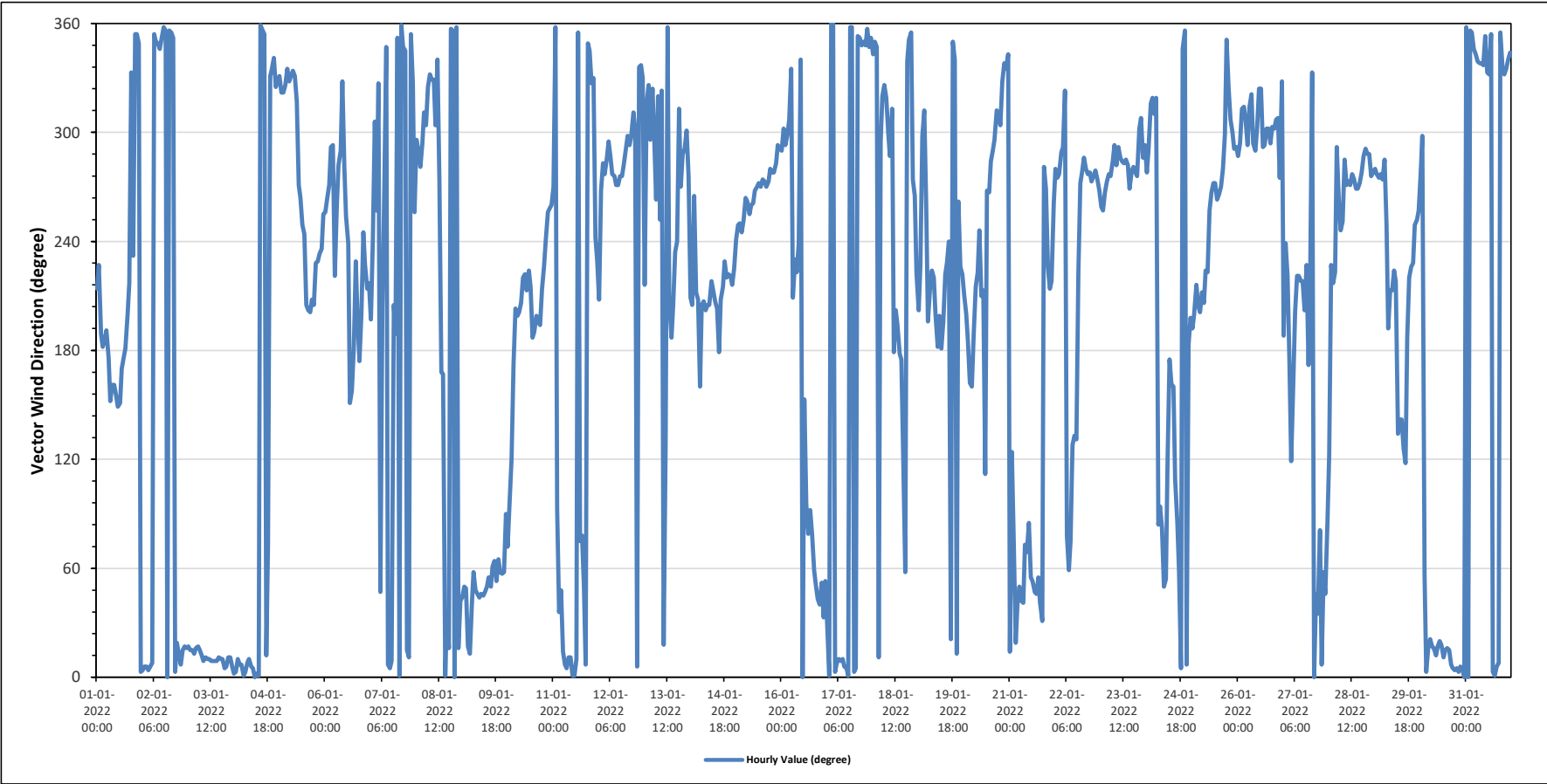
AQHI - Grimshaw Station - January 2022

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

Monthly Average:		305 (WNW) 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	
Jan 1	SSW	SW	S	S	S	S	S	SSE	SSE	SSE	SSE	SSE	SSE	S	S	SSW	SW	NNW	SW	N	N	NNW	N	187	S		
Jan 2	N	N	N	N	N	N	N	N	NNW	NNW	N	N	N	N	N	N	N	NNE	NNE	N	NNE	NNE	NNE	2	N		
Jan 3	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	N	NNE	N	N	N	N	N	NNE	N	N	N	N	NNE	NNE	N	11	NNE		
Jan 4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	NNE	ENE	NNW	NNW	NNW	NW	NNW	2	N		
Jan 5	NNW	NW	NW	NW	NNW	NNW	NNW	NNW	NNW	NW	W	W	WSW	WSW	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	WSW	271	W		
Jan 6	WSW	W	W	WNW	WNW	SW	WSW	W	WNW	NNW	W	WSW	WSW	SSE	SSE	S	SW	SSW	S	SSW	WSW	SW	SSW	SW	240	WSW	
Jan 7	SSW	WSW	NW	WSW	NW	NE	SSW	WSW	NNW	N	N	N	SSW	S	N	N	NNW	NNW	NNE	NNE	N	NW	WSW	327	NW		
Jan 8	WNW	WNW	W	WNW	NW	WNW	NW	NNW	NNW	NNW	WNW	NNW	W	SSE	SSE	N	NE	NNW	N	N	N	NNE	NE	332	NNW		
Jan 9	NE	NE	NE	NNE	NNE	NE	ENE	NE	NE	NE	NE	NE	NE	NE	NE	ENE	ENE	NE	ENE	ENE	ENE	ENE	E	50	NE		
Jan 10	ENE	E	ESE	S	SSW	SSW	SSW	SSW	SW	SW	SSW	SW	SSW	S	S	SSW	SSW	SSW	SSW	SW	WSW	WSW	WSW	WSW	206	SSW	
Jan 11	W	N	E	NE	NE	NNE	N	N	NNE	NNE	N	N	N	ENE	ENE	NE	N	NNW	NNW	NW	WSW	WSW	SW	7	N		
Jan 12	SSW	W	W	W	WNW	WNW	WNW	W	W	W	W	W	W	W	W	WNW	WNW	WNW	WNW	NW	WNW	N	NNW	NNW	291	WNW	
Jan 13	SW	NW	NW	WNW	NW	WNW	W	NW	WSW	NW	NNE	SE	N	SSW	S	SSW	SW	WSW	NW	W	WNW	WNW	W	282	W		
Jan 14	SSW	SSW	W	SSW	SSW	SSE	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	SSW	SSW	SSW	SW	SW	SW	SW	SW	SW	211	SSW	
Jan 15	WSW	WSW	WSW	WSW	WSW	W	W	WSW	WSW	W	W	W	W	W	W	W	W	W	W	W	W	W	WNW	WNW	267	W	
Jan 16	WNW	WNW	WNW	WNW	NW	NNW	SSW	SW	SW	WSW	NNW	N	SSE	E	ENE	E	ENE	ENE	NE	NE	NE	NNE	NE	13	NNE		
Jan 17	NNE	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	NNW	N	NNW	N	NNW	N	0	N	
Jan 18	NNW	N	NNW	NNE	WNW	NW	NW	NW	WNW	WNW	NW	S	SSW	SSW	S	S	ESE	ENE	NNW	N	W	W	SW	305	WNW		
Jan 19	SSW	SW	WNW	NW	WSW	SSW	SSW	SW	SW	SSW	S	SSW	S	SSW	SW	SW	WSW	NNE	N	NNW	NNE	W	SW	SW	234	SW	
Jan 20	SSW	SSW	S	SSE	SSE	S	SSW	SW	WSW	SSW	SSW	ESE	W	W	WNW	WNW	WNW	NW	NW	WNW	NNW	NNW	NNW	NNW	254	WSW	
Jan 21	NNE	ESE	E	NNE	NE	NE	NE	NE	ENE	ENE	E	NE	NE	NE	NE	NE	NE	NNE	W	W	SSW	SW	W	47	NE		
Jan 22	W	W	W	WNW	WNW	NW	ENE	ENE	ENE	SE	SE	SE	SW	W	W	WNW	W	W	W	W	W	W	W	W	277	W	
Jan 23	WSW	WSW	W	W	W	W	WNW	WNW	W	WNW	WNW	WNW	W	WNW	W	W	W	W	W	W	W	WNW	NW	WNW	WNW	281	W
Jan 24	W	WNW	NW	NW	NW	NW	E	E	E	NE	NE	ESE	S	SSE	SSE	ESE	E	ENE	N	NNW	N	S	SSW	46	NE		
Jan 25	S	SSW	SW	SSW	SSW	SSW	SSW	SW	SW	WSW	W	W	W	W	W	W	WNW	N	NW	WNW	WNW	WNW	WNW	257	WSW		
Jan 26	WNW	WNW	NW	NW	NW	WNW	NW	NW	WNW	WNW	WNW	NW	NW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	W	NNW	303	WNW		
Jan 27	S	WSW	SW	S	ESE	SSE	SSW	SW	SW	SW	SSW	SW	S	SW	NNW	N	NE	NE	E	N	ENE	NE	E	183	S		
Jan 28	ESE	SW	SW	SW	WNW	WSW	WSW	WSW	WNW	W	W	W	W	W	W	W	W	WNW	WNW	WNW	WNW	W	W	267	W		
Jan 29	W	W	W	W	W	WNW	WSW	S	SSW	SSW	SW	SW	SE	SE	SE	SE	ESE	S	SW	SW	SW	WSW	WSW	225	SW		
Jan 30	W	WNW	NE	N	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	N	N	N	N	N	N	8	N		
Jan 31	N	N	N	N	NNW	NNW	NNW	NNW	NNW	NNW	N	NNW	NNW	N	N	N	N	N	NNW	NNW	NNW	NNW	NNW	348	NNW		
C	Monthly Calibration							S	Daily Zero-Span Check							Q	Quality Assurance										
K	Collection Error							N	No Data (Machine Not in Service)							Y	Routine Maintenance										
X	Invalid Data (Machine Malfunction /Recovery)							NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)							P	Power Failure										
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.																											
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																											

Timeseries Chart of Hourly Average for VWD - AQHI - Grimshaw Station





PEACE RIVER AREA MONITORING PROGRAM

AQHI - Grimshaw Station - January 2022

Summary of Hourly Averages

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

WIND SPEED																											
Maximum Hourly Value: 30.2 kph on January 22 at hour 17													Hours in Service: 744														
Maximum Daily Value: 20.2 kph on January 15													Hours of Data: 744														
Minimum Hourly Value: 0.1 kph on January 7 at hour 4													Hours of Missing Data: 0														
Minimum Daily Value: 2.4 kph on January 18													Hours of Calibration: 0														
Monthly Average: 8.8 kph													Operational Uptime: 100														
WIND DIRECTION																											
Monthly Average: 305 (WNW 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
Jan 1	3.3	4.9	4.1	2.2	3.3	5.8	5.7	5.2	7.7	8.4	8.2	8.7	5.8	10.7	5.5	6.0	10.2	3.9	2.6	1.4	2.5	4.8	7.9	13.0	1.4	13.0	5.9
Jan 2	14.3	18.3	17.2	18.9	20.0	18.7	18.6	12.8	12.1	12.2	15.4	13.3	11.9	10.2	10.9	7.6	4.7	7.5	10.0	8.3	10.9	13.6	12.5	11.0	4.7	20.0	13.0
Jan 3	12.5	13.7	17.4	15.1	13.9	13.6	15.3	15.4	14.3	15.0	15.6	16.9	16.1	16.9	18.0	17.7	16.5	16.2	17.3	17.3	17.2	18.4	16.2	17.7	12.5	18.4	16.0
Jan 4	16.4	17.1	16.8	15.5	14.3	13.6	14.5	11.7	8.0	9.4	12.3	12.7	11.6	9.0	7.5	5.9	5.8	4.9	0.3	3.3	3.7	3.6	4.0	3.6	0.3	17.1	9.4
Jan 5	3.7	4.5	4.1	4.2	3.8	4.3	3.6	3.5	4.3	4.5	4.5	3.8	5.8	5.7	6.8	9.2	11.0	8.9	8.0	5.8	6.0	5.2	5.6	7.2	3.5	11.0	5.6
Jan 6	5.7	6.4	6.9	4.0	3.0	2.5	3.8	2.7	2.2	1.2	1.7	2.9	2.1	1.9	1.3	3.2	2.6	2.3	3.5	3.3	2.7	2.5	2.9	3.1	1.2	6.9	3.1
Jan 7	5.6	3.3	2.0	4.0	0.1	0.8	2.0	2.7	5.0	6.7	4.2	3.3	5.5	4.1	5.5	7.1	5.2	3.7	3.4	4.5	3.4	3.1	2.5	3.5	0.1	7.1	3.8
Jan 8	3.2	2.5	4.7	3.4	3.1	2.8	4.1	5.6	5.1	3.7	1.9	3.0	1.1	1.9	1.8	1.0	2.0	3.1	3.9	5.2	4.8	3.5	2.7	4.6	1.0	5.6	3.3
Jan 9	6.0	4.5	3.3	3.3	2.3	4.1	4.2	5.8	6.4	7.2	6.5	5.5	6.7	6.8	6.1	5.9	6.2	5.3	5.0	4.9	5.6	5.7	4.5	4.1	2.3	7.2	5.2
Jan 10	2.8	2.7	1.9	3.0	4.2	5.5	8.3	9.2	9.5	8.2	7.4	8.0	5.6	9.6	8.2	7.6	7.5	4.1	6.9	7.7	6.8	17.2	22.2	20.1	1.9	22.2	8.1
Jan 11	15.1	0.4	3.2	3.6	6.0	6.3	4.7	7.7	7.2	7.0	7.9	6.0	3.5	5.8	2.7	2.4	1.9	1.3	3.3	3.6	2.6	1.1	3.9	3.6	0.4	15.1	4.6
Jan 12	5.3	9.9	13.8	16.0	14.9	14.2	15.6	18.3	18.4	17.7	15.2	19.3	18.2	15.1	11.9	11.3	9.9	10.9	2.3	4.0	4.2	5.9	3.5	2.3	19.3	12.1	
Jan 13	1.2	4.6	6.1	2.2	0.8	8.2	6.4	5.4	4.9	1.0	1.2	3.2	3.5	1.5	1.9	1.0	2.6	3.2	1.9	7.3	12.2	10.6	7.1	0.2	0.2	12.2	4.1
Jan 14	6.2	3.9	2.8	3.1	1.5	2.0	4.7	6.5	6.9	3.2	7.5	11.4	11.9	12.1	8.5	6.0	11.0	11.5	17.6	13.6	11.5	6.8	9.4	14.9	1.5	17.6	8.1
Jan 15	15.7	10.2	9.5	12.0	12.0	23.1	30.1	20.3	24.3	26.4	26.8	25.5	27.8	27.2	27.0	21.5	22.0	20.5	17.3	18.5	19.2	16.9	15.8	15.6	9.5	30.1	20.2
Jan 16	14.4	14.1	13.1	12.5	7.8	5.1	5.5	5.1	5.1	4.1	2.6	2.2	1.7	0.7	1.0	2.8	4.9	5.4	4.5	4.0	3.4	3.5	1.8	1.9	0.7	14.4	5.3
Jan 17	3.2	9.4	13.6	17.2	16.4	14.9	21.4	19.9	22.7	20.9	20.5	20.5	21.2	19.5	13.6	10.9	9.7	14.1	15.1	14.2	13.8	9.0	10.3	10.7	3.2	22.7	15.1
Jan 18	7.0	4.0	4.7	1.3	2.0	2.4	3.4	3.4	2.5	3.0	1.7	1.2	3.5	3.1	3.0	1.5	1.2	1.3	1.1	1.8	0.8	0.1	0.3	3.5	0.1	7.0	2.4
Jan 19	5.5	4.7	1.9	2.6	3.9	4.6	5.0	6.7	5.2	4.7	4.1	4.0	2.7	3.1	2.8	3.8	1.6	0.8	2.0	0.7	0.3	3.1	7.3	6.1	0.3	7.3	3.6
Jan 20	4.6	7.8	5.7	5.9	5.5	7.7	7.3	8.8	6.1	6.2	6.5	2.0	3.2	25.3	17.4	19.3	15.9	16.1	11.7	8.8	11.1	12.1	12.3	10.8	2.0	25.3	9.9
	SSW	SSW	S	SSE	SSE	S	SSW	SW	WSW	SSW	SSW	ESE	W	W	WNW	WNW	WNW	NW	NW	WNW	NNW	NNW	NNW	NNW			



PEACE RIVER AREA MONITORING PROGRAM

AQHI - Grimshaw Station - January 2022

Summary of Hourly Averages

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

WIND SPEED					
Maximum Hourly Value:	30.2 kph on January 22 at hour 17				
Maximum Daily Value:	20.2 kph on January 15				
Minimum Hourly Value:	0.1 kph on January 7 at hour 4				
Minimum Daily Value:	2.4 kph on January 18				
Monthly Average:	8.8 kph				
Hours in Service:	744				
Hours of Data:	744				
Hours of Missing Data:	0				
Hours of Calibration:	0				
Operational Uptime:	100				
WIND DIRECTION					
Monthly Average:	305 (WNW degree)				
Day	Hourly Period Starting at (MST)	Daily Minimum	Daily Maximum	Daily Average	
Jan 21	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	1.2	9.1	6.2	
Jan 22	7.6 3.3 2.7 8.4 6.4 8.4 8.2 7.9 7.9 8.3 7.0 5.4 5.8 5.6 3.0 1.2 2.1 4.7 4.2 7.6 9.1 7.7	2.1	30.2	16.2	
Jan 23	16.5 19.2 19.2 17.2 13.7 2.9 4.7 4.9 2.9 2.4 2.1 3.0 3.2 21.3 25.6 23.3 27.6 30.2 29.3 24.3 25.8 23.0 24.1 23.4	9.3	23.0	16.1	
Jan 24	19.0 18.8 20.0 21.6 22.1 23.0 18.2 14.5 14.1 22.1 19.0 19.5 18.7 18.9 15.6 12.8 14.0 12.5 11.8 9.4 10.3 10.6 9.6 9.3	1.1	16.5	5.8	
Jan 25	9.4 12.0 12.9 16.5 13.6 9.1 6.1 4.9 6.4 3.1 6.2 3.9 4.3 3.3 4.5 2.5 3.2 4.2 2.3 2.1 1.5 1.1 1.6 4.4	4.5	28.7	14.8	
Jan 26	W WNW NW NW NW NW W WNW WNW WNW WNW W WNW W W W W W W WNW N NNW N N S SSW	1.7	19.5	10.3	
Jan 27	4.5 4.7 6.4 5.6 5.9 8.2 10.5 11.0 11.9 10.7 18.2 28.5 28.0 22.7 26.0 28.7 19.1 11.9 8.0 19.2 20.5 17.2 13.5 13.8	0.3	7.7	3.4	
Jan 28	S SSW SW SSW SSW SSW SW SW WSW W W W W W W WNW N NW NW WNW WNW WNW	0.6	20.4	11.1	
Jan 29	15.2 12.1 14.3 16.6 13.9 12.2 19.5 14.4 12.0 13.0 15.3 15.1 12.4 10.7 9.4 2.9 4.2 3.7 5.4 6.0 7.5 5.1 1.7 3.8	1.1	16.7	7.6	
Jan 30	WNW WNW NW NW NW WNW NW NW WNW WNW WNW NW WNW WNW WNW WNW WNW WNW WNW WNW WNW WNW WNW WNW	4.4	23.3	12.1	
Jan 31	0.8 2.6 5.4 1.2 1.5 2.7 7.5 7.7 5.3 7.2 6.3 5.6 4.0 3.6 0.6 0.3 1.0 3.9 3.1 1.6 2.5 2.1 2.9 3.3	4.8	22.7	10.0	
Jan 31	1.3 0.6 7.4 9.3 6.0 7.3 11.3 13.4 8.9 14.1 13.9 20.4 17.6 15.3 14.3 13.7 15.3 13.0 9.6 9.4 9.3 10.6 12.7 11.9				
Jan 31	22.7 19.0 18.5 18.0 16.6 16.1 12.4 10.7 9.4 8.7 7.2 7.4 5.0 6.0 5.9 7.3 6.0 4.8 6.4 6.1 7.0 7.9 6.2 5.1				
Jan 31	W W W W W WNW WSW S SSW SSW SW SW SE SE SE ESE S SW SW SW WSW WSW WSW				
Jan 31	W WNW NE N NNE				
Jan 31	N N N N NNW				
C	Monthly Calibration	S	Daily Zero-Span Check	Q	Quality Assurance
K	Collection Error	N	No Data (Machine Not in Service)	Y	Routine Maintenance
X	Invalid Data (Equipment Malfunction/Recovery)	NRM	UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)	P	Power Failure
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.					
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.					

END OF REPORT

This page, 227 of 227, ends the January 2022 Monthly Ambient Air Quality Monitoring Report.



Peace River Area Monitoring Program

JANUARY 2022

Ambient Air Monitoring Calibration Report

- 842b STATION-

CAL-PRAMP-202201-01561

Operation and Maintenance:

Bureau Veritas Canada

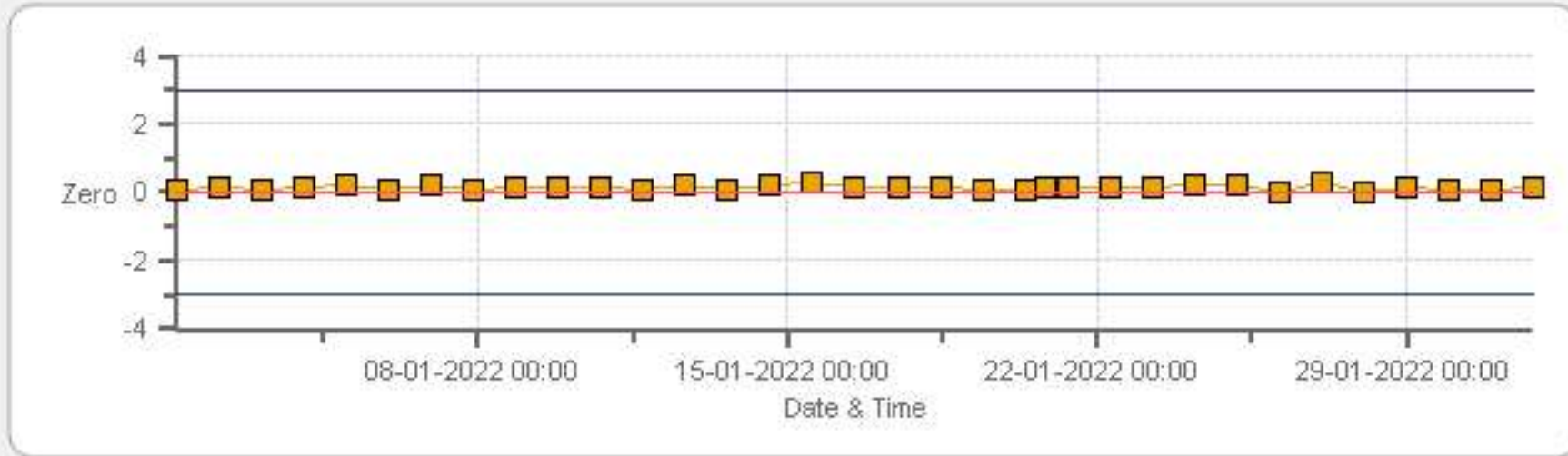
Data Validation and Report:

Bureau Veritas Canada

February 10, 2022

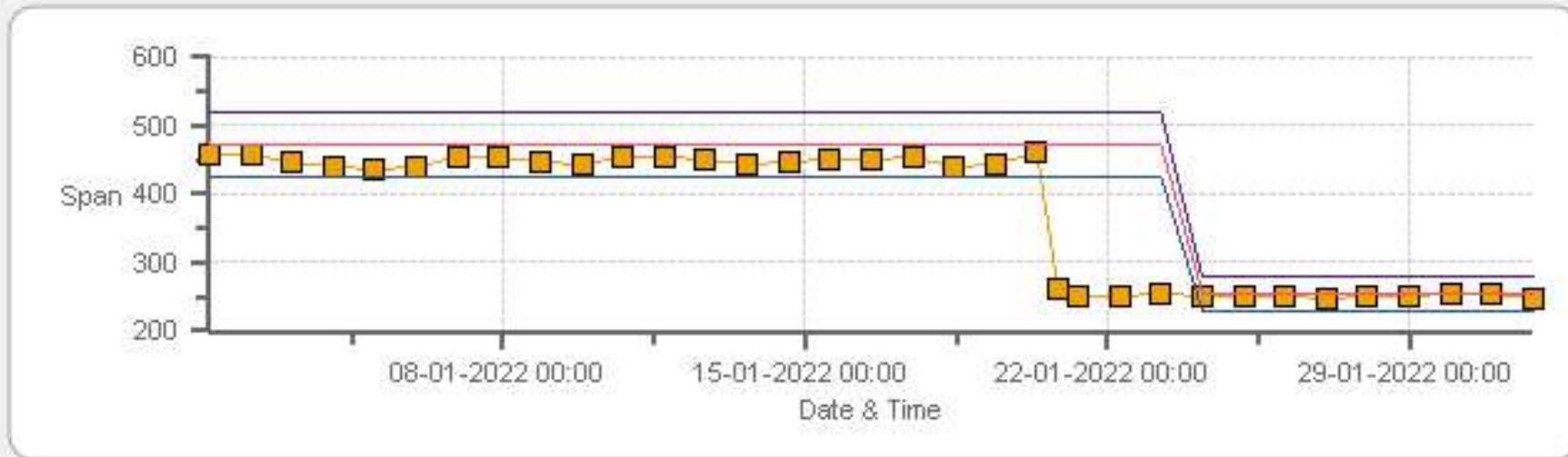
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: PRAMP 842b Monthly: 01-2022 Type: SpanAndZero - Zero



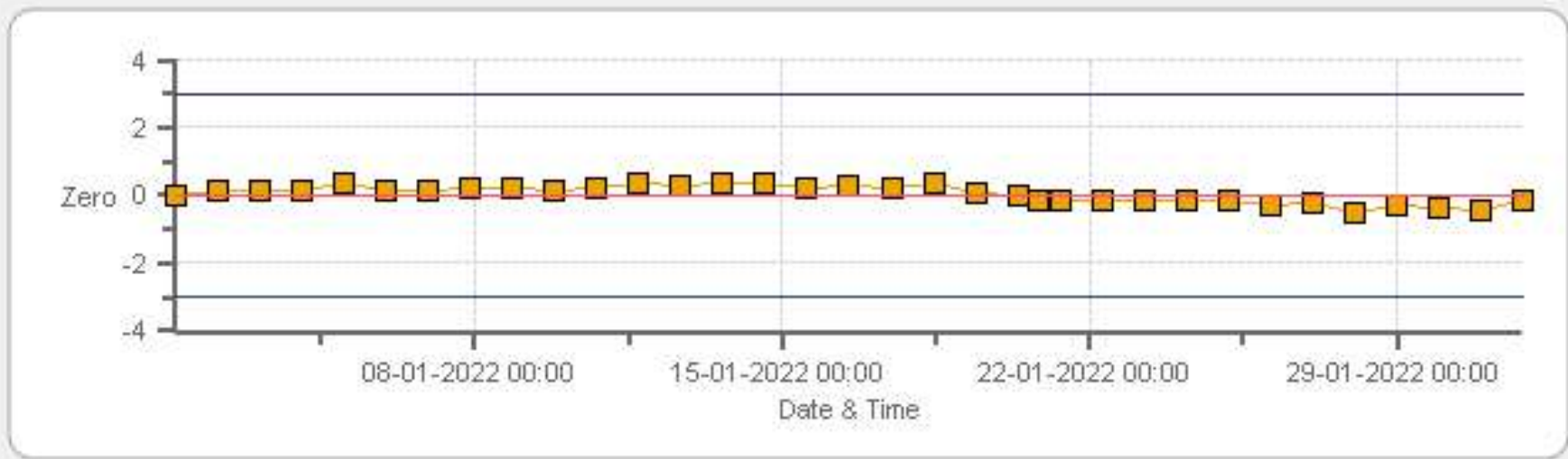
■ Zero
 — Zero Ref
 — Zero Low
 — Zero High

SO2[ppb] Calibration: PRAMP 842b Monthly: 01-2022 Type: SpanAndZero - Span



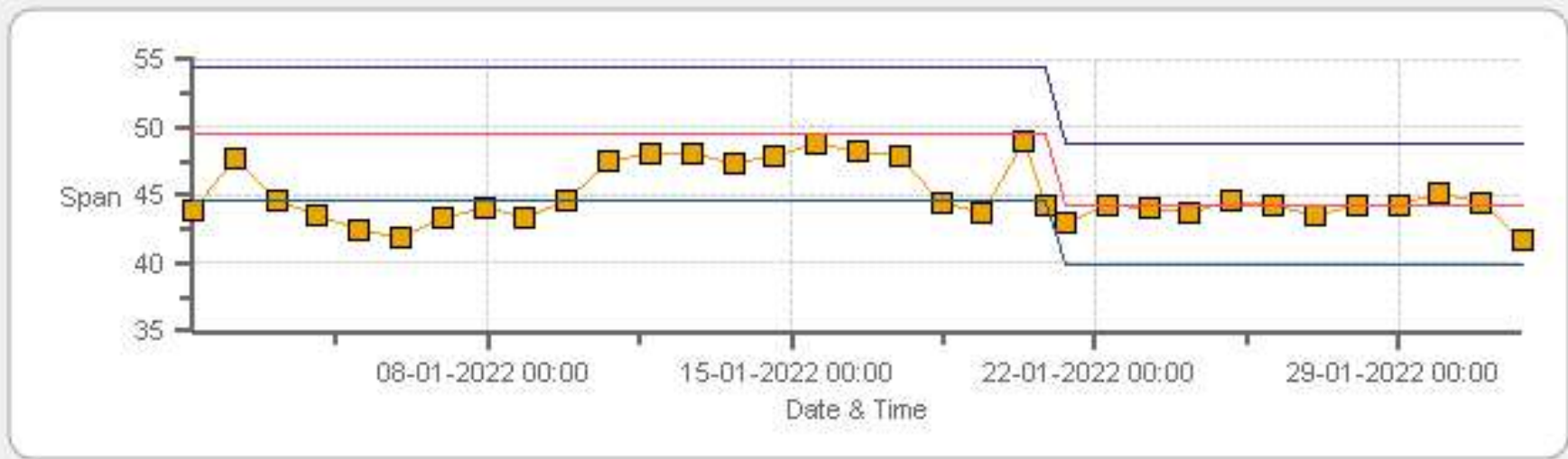
■ Span
 — SpanRef
 — Span Low
 — Span High

TRS[ppb] Calibration: PRAMP 842b Monthly: 01-2022 Type: SpanAndZero - Zero



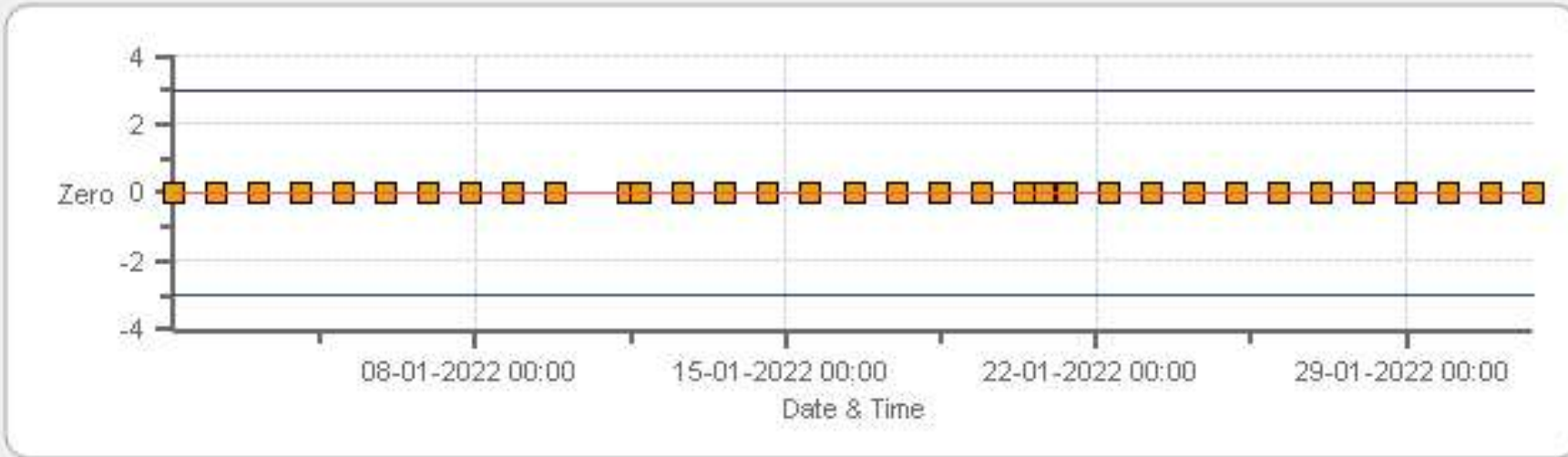
Zero Zero Ref Zero Low Zero High

TRS[ppb] Calibration: PRAMP 842b Monthly: 01-2022 Type: SpanAndZero - Span



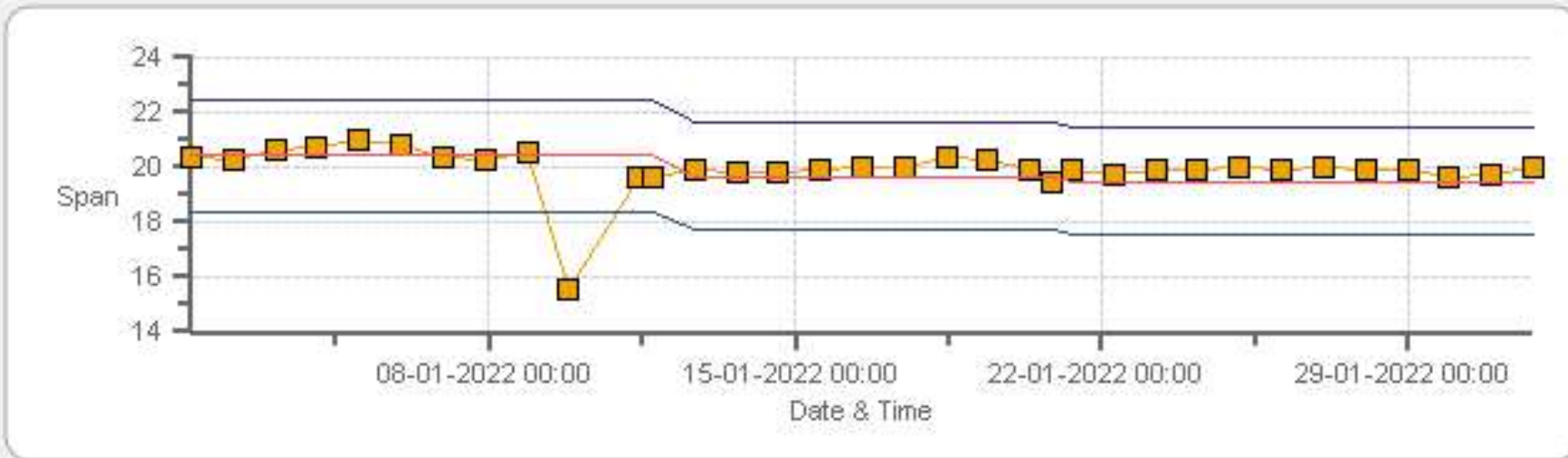
Span Span Ref Span Low Span High

THC55[ppm] Calibration: PRAMP 842b Monthly: 01-2022 Type: SpanAndZero - Zero



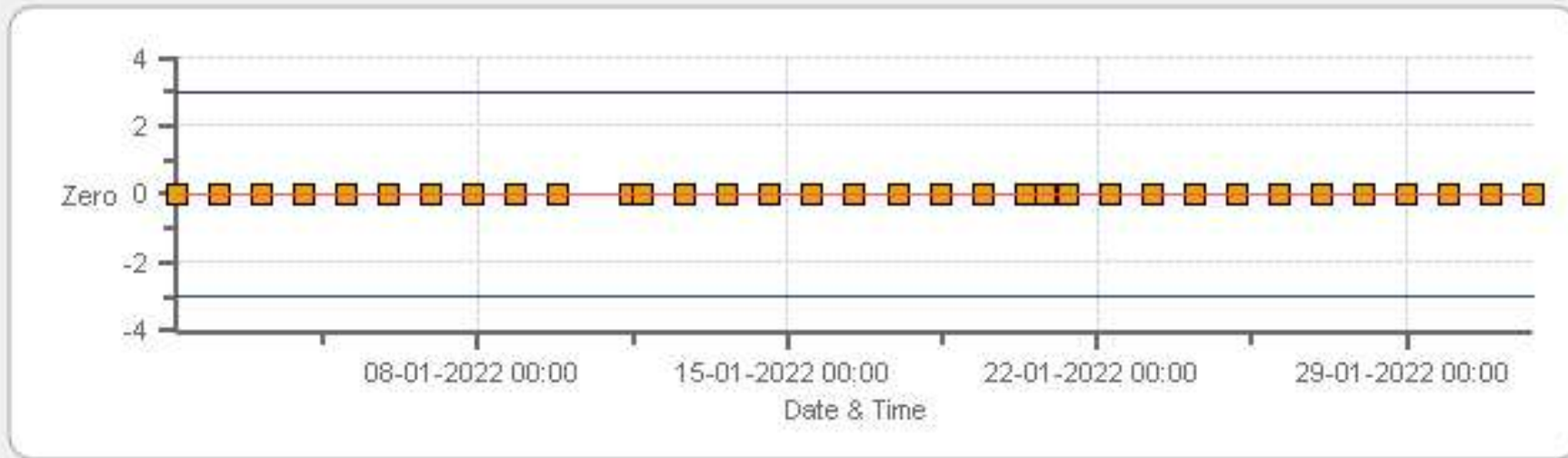
Zero Zero Ref Zero Low Zero High

THC55[ppm] Calibration: PRAMP 842b Monthly: 01-2022 Type: SpanAndZero - Span



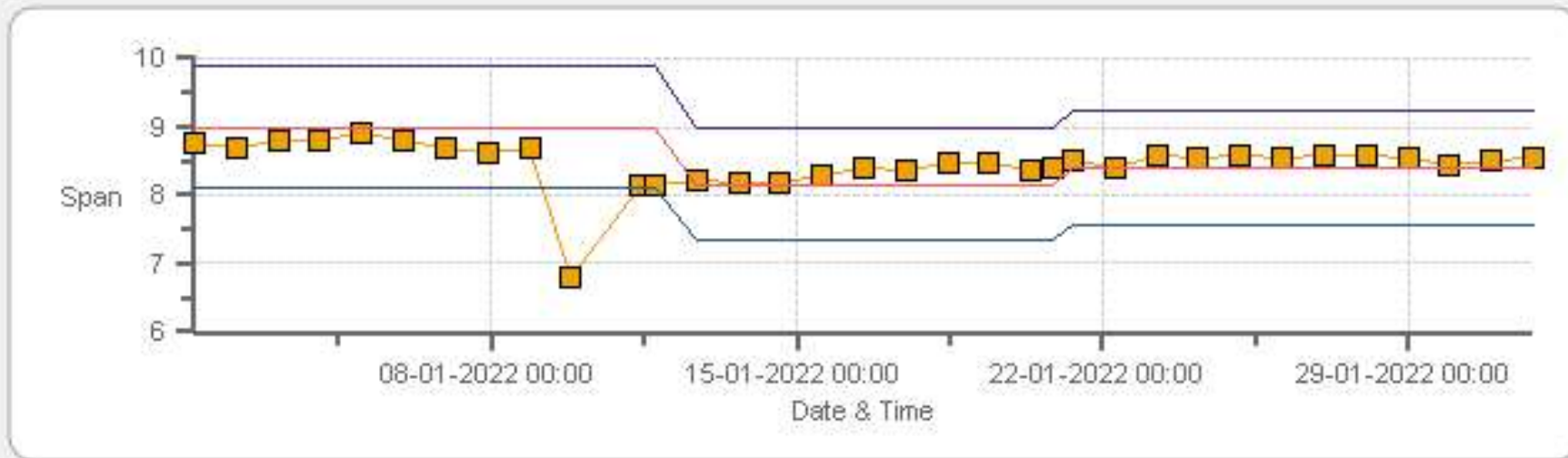
Span SpanRef Span Low Span High

CH4[ppm] Calibration: PRAMP 842b Monthly: 01-2022 Type: SpanAndZero - Zero



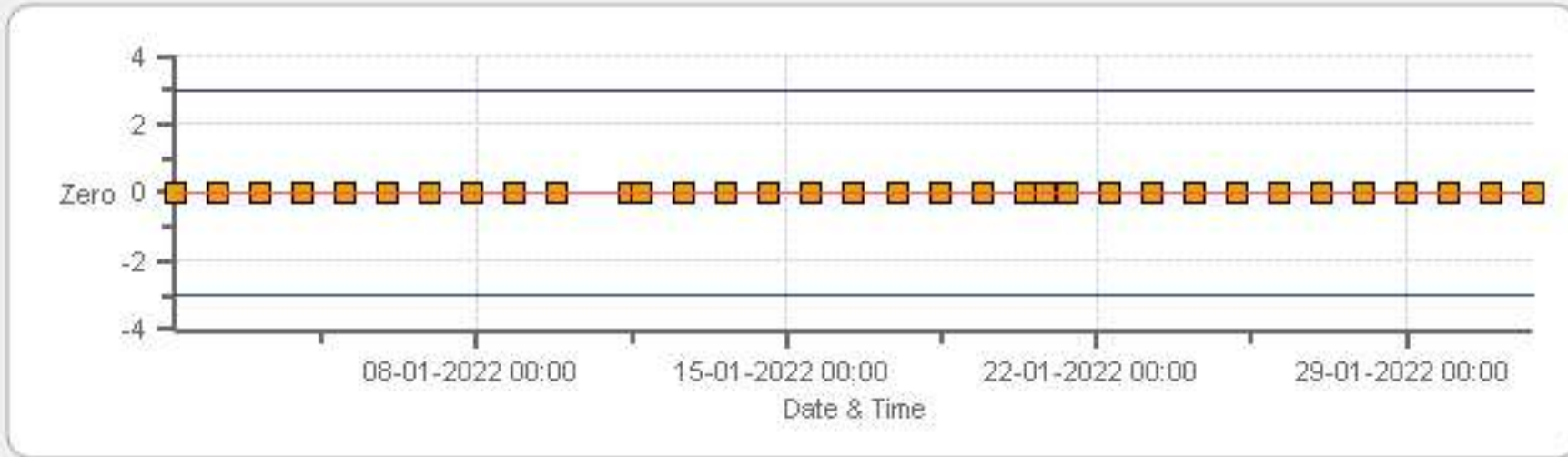
Zero Zero Ref Zero Low Zero High

CH4[ppm] Calibration: PRAMP 842b Monthly: 01-2022 Type: SpanAndZero - Span



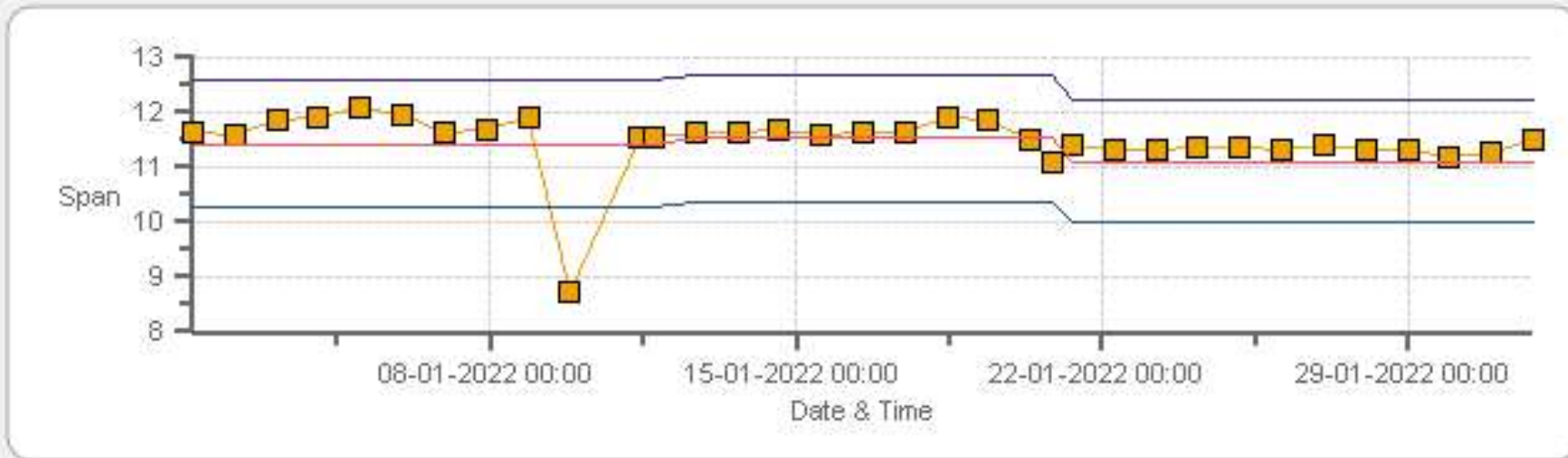
Span SpanRef Span Low Span High

NMHC[ppm] Calibration: PRAMP 842b Monthly: 01-2022 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NMHC[ppm] Calibration: PRAMP 842b Monthly: 01-2022 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



DATE:	20-Jan-2022	PREVIOUS CALIBRATION DATE:	07-Dec-2021
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	PRAMP	TEMPERATURE (°C):	20.9
LOCATION:	842b	BAROMETRIC (mBar):	926
PURPOSE:	Routine	START TIME (MST):	16:02
PERFORMED BY:	Chris Wesson	END TIME (MST):	20:27

ANALYZER:

MAKE/MODEL	Thermo 43iQTL	RANGE	500 ppb
SERIAL #	1200736629	FLOW (mL/min)	420
INITIAL		FINAL	
BKG/OFFSET	8.6	BKG/OFFSET	8.5
COEF/SLOPE	1.12	COEF/SLOPE	1.125
Expected (reference) Value	471.5	Expected (reference) Value	471.5

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	M701
ID:	58100720	ID:	4568
MFC CALIBRATION DATE:	12-Oct-2021	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):	700	LOW ID	n/a
EXPIRY DATE	03-Jul-2023	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

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

CALIBRATION:

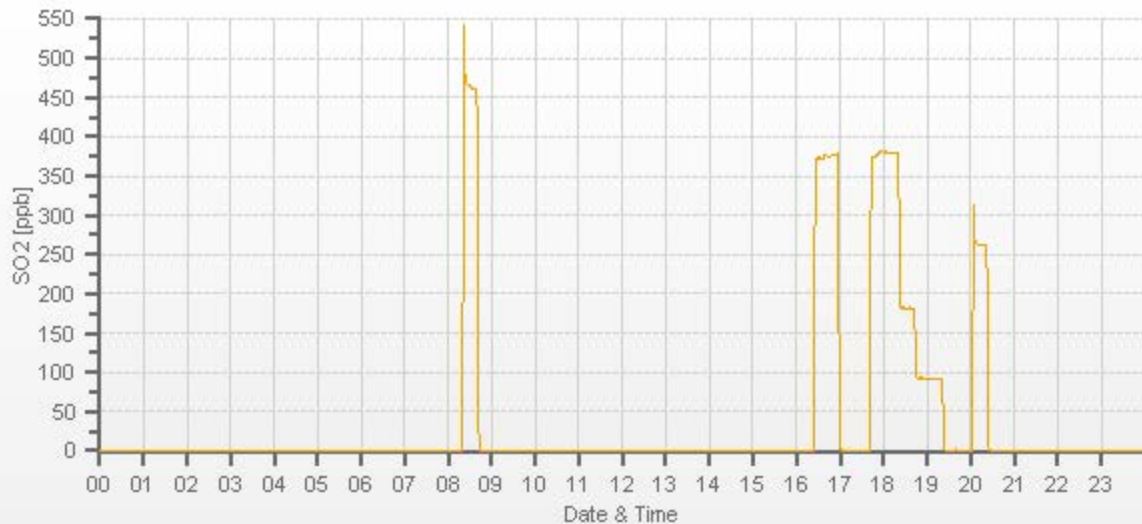
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
3751	58.90	3751	0.00	0.1	0	1.007	1.001
3691	58.90	3750	380.10	377.6	379.8	1.007	1.001
3722	27.90	3750	180.05	n/a	182.5	n/a	0.987
3738	14.00	3752	90.30	n/a	91.3	n/a	0.989

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.999	0.2%

COMMENTS:

Sample filter changed. Monthly calibration - no issues.
Perm oven temp from 45 to 35C. Will take few days for span to restabilise.



TRS Analyzer Calibration by Dilution



DATE:	20-Jan-2022	PREVIOUS CALIBRATION DATE:	08-Dec-2021
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	PRAMP	TEMPERATURE (°C):	20.9
LOCATION:	842b	BAROMETRIC (mBar):	926
PURPOSE:	Routine	START TIME (MST):	16:02
PERFORMED BY:	Chris Wesson	END TIME (MST):	20:32

ANALYZER:

MAKE/MODEL	Thermo 43iQTL	RANGE	100 ppb
SERIAL #	1200736630	FLOW (mL/min)	371
INITIAL		FINAL	
BKG/OFFSET	13.3	BKG/OFFSET	12.8
COEF/SLOPE	0.891	COEF/SLOPE	0.832
Expected (reference) Value	49.52	Expected (reference) Value	44.34

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	M701
ID:	58100720	ID:	4568
MFC CALIBRATION DATE:	12-Oct-2021	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY0002519	HIGH ID	n/a
CONC (ppm):	9.41	EXPIRY DATE	n/a
CYLINDER (psi):	1500	LOW ID	n/a
EXPIRY DATE	10-Nov-2023	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

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

CALIBRATION:

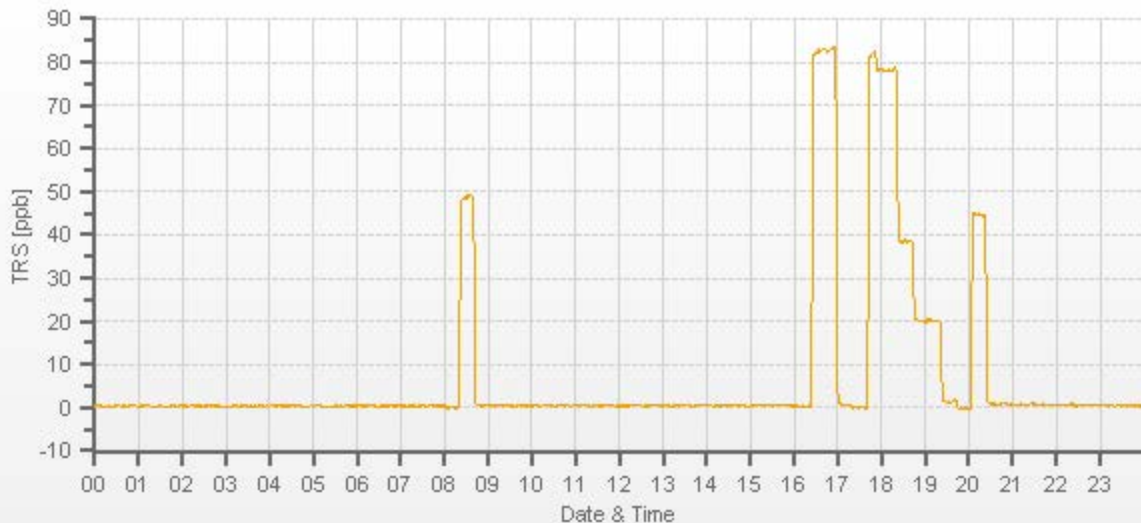
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
3751	31.10	3751	0.00	0.31	0	0.943	0.999
3719	31.10	3750	78.04	83.05	78.1	0.943	0.999
3735	15.10	3750	37.89	n/a	38.35	n/a	0.988
3744	7.60	3752	19.06	n/a	19.93	n/a	0.956

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.998	0.4%

COMMENTS:

TRS Converter CDNOVA CDN #576.
Sample filter changed. Monthly calibration - no issues.



Methane/Non-Methane Analyzer Calibration by Dilution



CALIBRATION:				ANALYZER:			
DATE:	20-Jan-2022	PREVIOUS CALIBRATION DATE:	08-Dec-2021	VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
CLIENT:	PRAMP	TEMPERATURE (°C):	20.9		Thermo 55i	1501663728	1059
LOCATION:	842b	BAROMETRIC (mBar):	926	PARAMETER:	CH4	NMHC	THC
PURPOSE	Routine	START TIME (MST):	16:02	RANGE (ppm):	20	20	40
PERFORMED BY:	Chris Wesson	END TIME (MST):	20:27	PREVIOUS CF:	1.001	1.002	1.002

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	Sabio	MAKE:	Teledyne	CYLINDER ID:	LL119576	HIGH ID:	n/a
MODEL:	2010	MODEL:	M701	CH ₄ /C ₃ H ₈ (ppm):	870.0 299.0	HIGH EXPIRY:	n/a
ID:	26701218	ID:	4568	CYLINDER (psi):	1500	LOW ID:	n/a
MFC CALIBRATION DATE:	12-Oct-2021	OXIDIZER ID:	Internal	EXPIRY DATE	22-Dec-2028	LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH ₄ /NMHC)	HIGH	MID	LOW	CH ₄ EQUIVILANCE	
TARGET	14	7	3.5	C ₃ H ₈ as CH ₄	822.3
RANGE	12 - 16	6 - 8	2 - 4	THC as CH ₄	1692.3

EXPECTED (REFERENCE) VALUE:

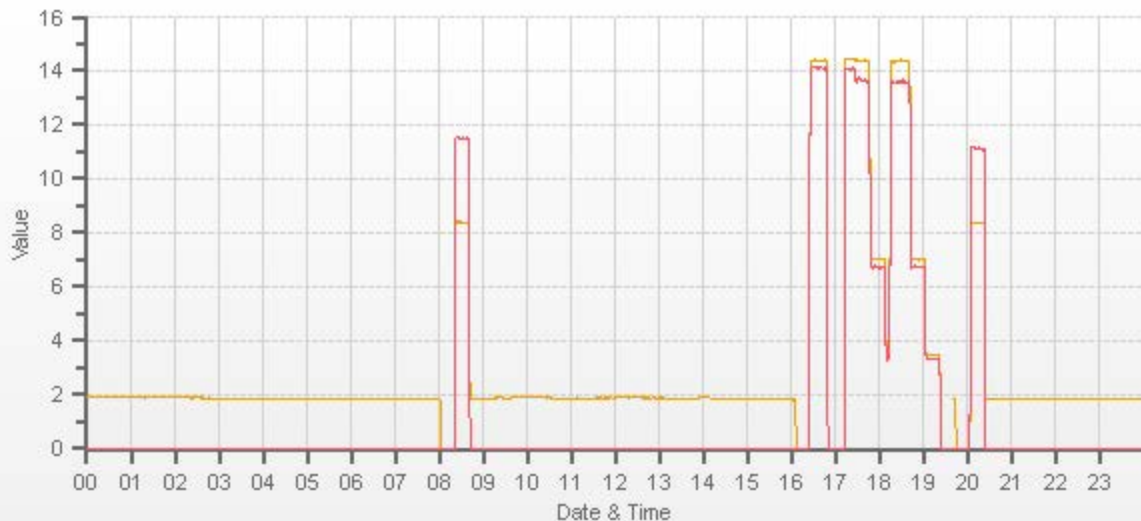
INITIAL	CH ₄	NMHC	THC	FINAL	CH ₄	NMHC	THC
	8.15	11.53	19.68		8.39	11.10	19.49

CALIBRATION:

FLOW RATE			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC
3248	X	3248	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	X	X	X	X	X
3196	53.80	3250	14.40	13.61	28.01	14.38	14.12	28.50	14.38	13.59	27.98	1.002	0.964	0.983	1.002	1.002	1.001
3224	26.90	3251	7.20	6.80	14.00	n/a	n/a	n/a	7.03	6.73	13.76	n/a	n/a	n/a	1.024	1.011	1.018
3235	13.40	3248	3.59	3.39	6.98	n/a	n/a	n/a	3.47	3.36	6.83	n/a	n/a	n/a	1.034	1.010	1.022

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT	Comments:
CH ₄	1.000	1.000	-0.4%	Swapped N2 prior to cal 1st attempt CH ₄ failed at low. Return to adjusted high and restart.
NMHC	1.000	0.999	-0.1%	
THC	1.000	1.000	-0.3%	
Use Zero Chrom?				Yes



CAL-PRAMP-202201-01561

Meteorological System Checklist



Date:	January 20, 2022
Technician:	Chris Wesson
Station:	PRAMP 842b

Unit:	Make:	Model:	Serial #:
Precipitation Sampler:	RM Young	52202	TB 15878
Temperature Sensor:	Rotronic	HC2A-S3	20370767
Barometric Pressure Sensor:	MetOne	92	Y23362
Relative Humidity Sensor:	Rotronic	HC2A-S3	20370767
Anemometer:	RM Young	05305AQ	174802

PRECIPITATION SENSOR CHECK

Checklist:	Reply:	Comments:
Previous check date:	December 7, 2021	Channel offline = 16:49 - 16:57
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 tips are heard. (10 tips = 1 ml)

# of Tips	Data Logger Response (ml):	Manual Specification = +/- 0.1 ml
10	1.0	0.00

AMBIENT TEMPERATURE SENSOR CHECK

Previous check date:	December 7, 2021
Parameter:	Temperature @ 2 metres
Reference Thermometer ID:	F.S. 181341226 expires Jul 29, 2022
Reference Temperature (°C):	1.1
Station - Ambient Temperature (°C):	1.5
Temperature Difference (°C):	-0.4

BAROMETRIC PRESSURE SENSOR CHECK

Previous check date:	December 7, 2021
Reference Barometer ID:	BRUNTON #05535, Expire: Feb 17, 2022
Reference Pressure - Units/Reading:	millibar 927.7
Station Pressure - Units/Reading:	millibar 927.5
Pressure Tolerance +/- 15% of error:	789 - 1067 0.02%

RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK

Previous check date:	December 7, 2021
Reference Hygrometer ID:	F.S. 181341226 expires Jul 29, 2022
Reference Hygrometer % RH- Reading:	91.50
Station Hygrometer % RH- Reading:	92.00
RH Tolerance +/- 15% of difference:	77.78 - 105.23 -0.5%

ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK

WIND SPEED		WIND DIRECTION	
Previous check date:	December 7, 2021	Previous check date:	December 7, 2021
Wind Speed Observed (kph):	10~20	Wind Direction Observed:	NW
Wind speed on Data Logger (kph):	13.2	Wind Direction on Data Logger:	NW
		Wind Direction Pass/Fail?:	Pass

Comments

No issues



Meteorological Sensor Audit/Calibration

Location Information

Company:	PRAMP	Performed By:	Limin Li
Audit Location:	842b	Reviewed By:	Chris Wesson
Audit Date:	July 4, 2021	Start/End Time (mst):	12:16/13:43
Calibration Purpose:	routine annual	Weather Conditions:	Mainly cloudy with sunny breaks

Wind Sensor Information

Sensor ID Data:		Sensor Outputs:	
Sensor Make:	RM Young	Velocity Voltage Output Range:	n/a
Sensor Model:	05305AQ	Velocity Unit Output Range:	0-200
Serial #:	174802	Direction Voltage Output Range:	0-1
Previous Cal/Audit Date:	December 16, 2020	Direction Unit Output Range:	0-360

Wind Calibrator Information

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

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.0	0.0	-
1000	18.4	18.3	18.3	1.007
2000	36.9	36.7	36.7	1.004
3000	55.3	55.1	55.1	1.003
4000	73.7	73.6	73.6	1.002
5000	92.2	92.0	92.0	1.002
6000	110.6	110.5	110.5	1.001
7000	129.0	128.9	128.9	1.001
8000	147.4	147.3	147.3	1.001
9000	165.9	165.8	165.8	1.000
10000	184.3	184.2	184.2	1.001
The audit meets AMD requirements.			Average Correction Factor=	1.002

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

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	0	355	0.0	0.0	0.0
30	330	29	331	1.0	-1.0	1.0
60	300	58	301	2.0	-1.0	1.5
90	270	88	272	2.0	-2.0	2.0
120	240	118	241	2.0	-1.0	1.5
150	210	149	211	1.0	-1.0	1.0
180	180	179	180	1.0	0.0	0.5
210	150	210	149	0.0	1.0	0.5
240	120	241	119	-1.0	1.0	1.0
270	90	272	88	-2.0	2.0	2.0
300	60	301	58	-1.0	2.0	1.5
330	30	331	29	-1.0	1.0	1.0
355	0	355	0	0.0	0.0	0.0
The audit meets AMD requirements.			Average Absolute Degrees Difference=		1.0	

Comments:

Change 2 speed bearing.



Peace River Area Monitoring Program

JANUARY 2022

Ambient Air Monitoring Calibration Report

- 986c STATION-

CAL-PRAMP-202201-01562

Operation and Maintenance:

Bureau Veritas Canada

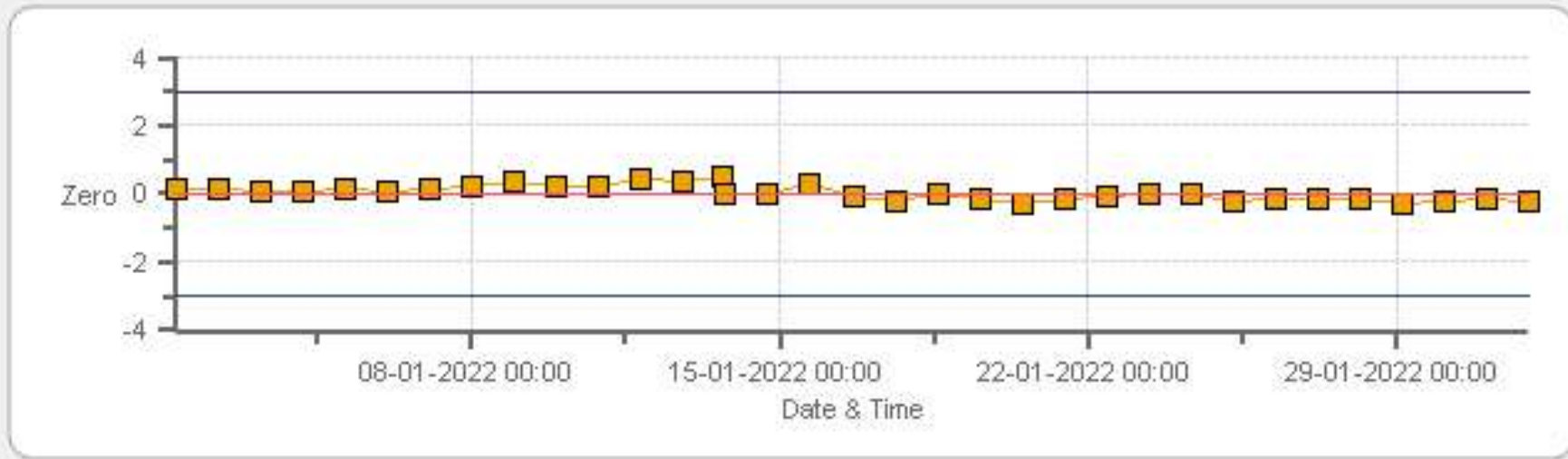
Data Validation and Report:

Bureau Veritas Canada

February 10, 2022

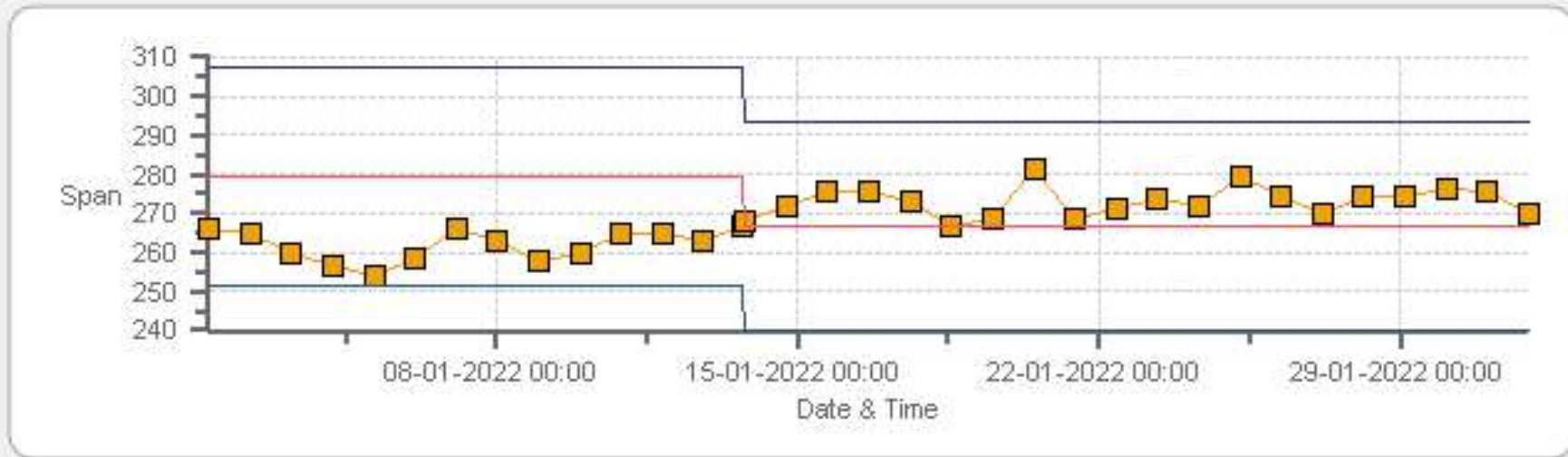
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO₂[ppb] Calibration: PRAMP 986c Monthly: 01-2022 Type: SpanAndZero - Zero



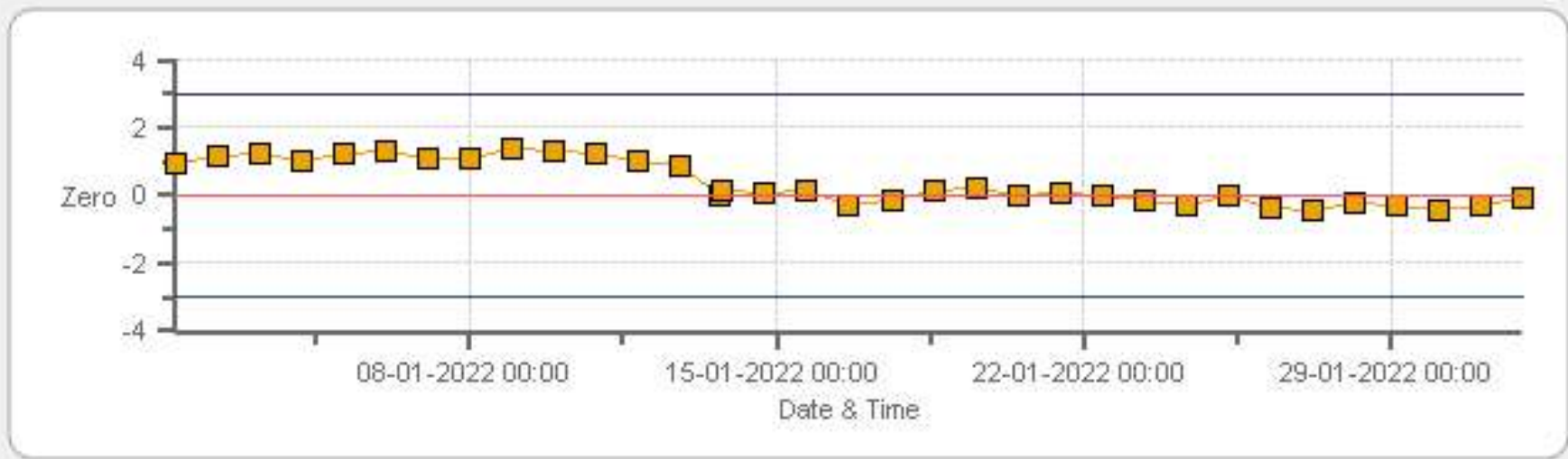
■ Zero
 — Zero Ref
 — Zero Low
 — Zero High

SO₂[ppb] Calibration: PRAMP 986c Monthly: 01-2022 Type: SpanAndZero - Span



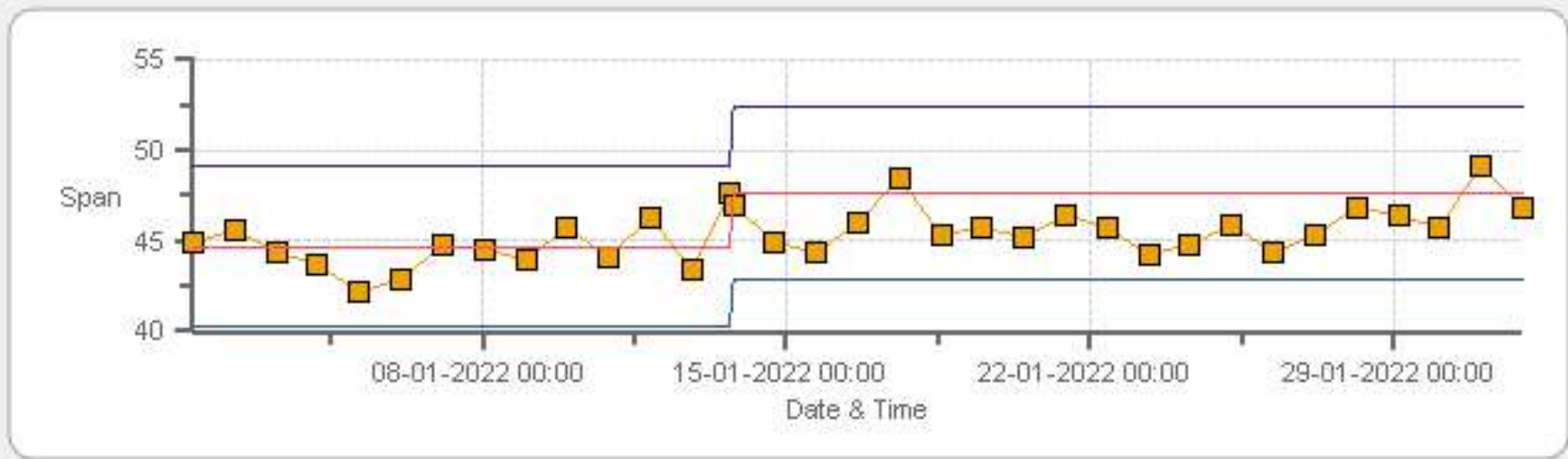
■ Span
 — SpanRef
 — Span Low
 — Span High

TRS[ppb] Calibration: PRAMP 986c Monthly: 01-2022 Type: SpanAndZero - Zero



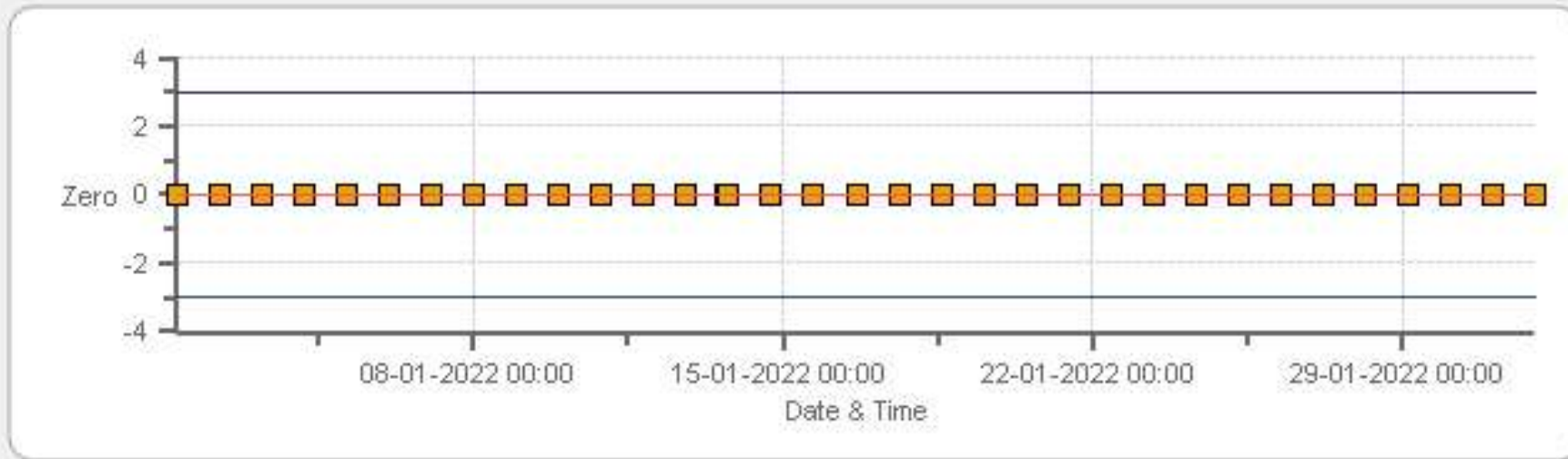
■ Zero
 — Zero Ref
 — Zero Low
 — Zero High

TRS[ppb] Calibration: PRAMP 986c Monthly: 01-2022 Type: SpanAndZero - Span



■ Span
 — SpanRef
 — Span Low
 — Span High

CH4[ppm] Calibration: PRAMP 986c Monthly: 01-2022 Type: SpanAndZero - Zero



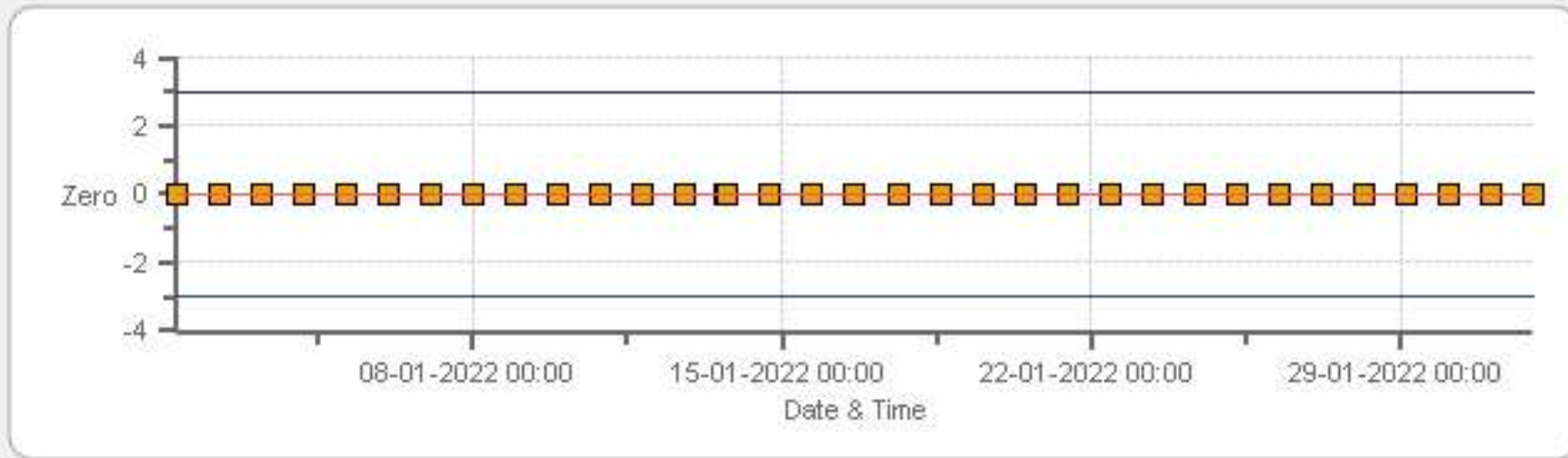
Zero Zero Ref Zero Low Zero High

CH4[ppm] Calibration: PRAMP 986c Monthly: 01-2022 Type: SpanAndZero - Span



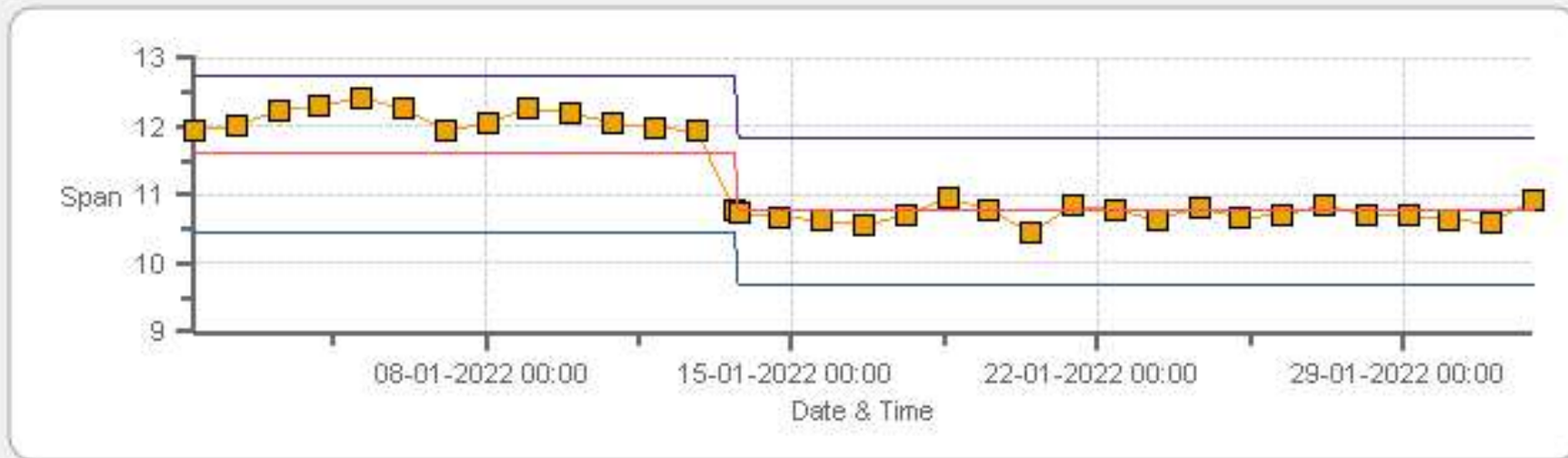
Span Span Ref Span Low Span High

NMHC[ppm] Calibration: PRAMP 986c Monthly: 01-2022 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NMHC[ppm] Calibration: PRAMP 986c Monthly: 01-2022 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



DATE:	13-Jan-2022	PREVIOUS CALIBRATION DATE:	07-Dec-2021
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.001
CLIENT:	PRAMP	TEMPERATURE (°C):	23.4
LOCATION:	986C	BAROMETRIC (mBar):	943
PURPOSE:	Routine	START TIME (MST):	11:46
PERFORMED BY:	Chris Wesson	END TIME (MST):	16:39

ANALYZER:

MAKE/MODEL	Thermo 43iQTL	RANGE	500 ppb
SERIAL #	1193585646	FLOW (mL/min)	430
INITIAL		FINAL	
BKG/OFFSET	14	BKG/OFFSET	14.5
COEF/SLOPE	1.044	COEF/SLOPE	1.072
Expected (reference) Value	279.7	Expected (reference) Value	266.9

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	M701
ID:	58100720	ID:	4568
MFC CALIBRATION DATE:	12-Oct-2021	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):	600	LOW ID	n/a
EXPIRY DATE	03-Jul-2023	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

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

CALIBRATION:

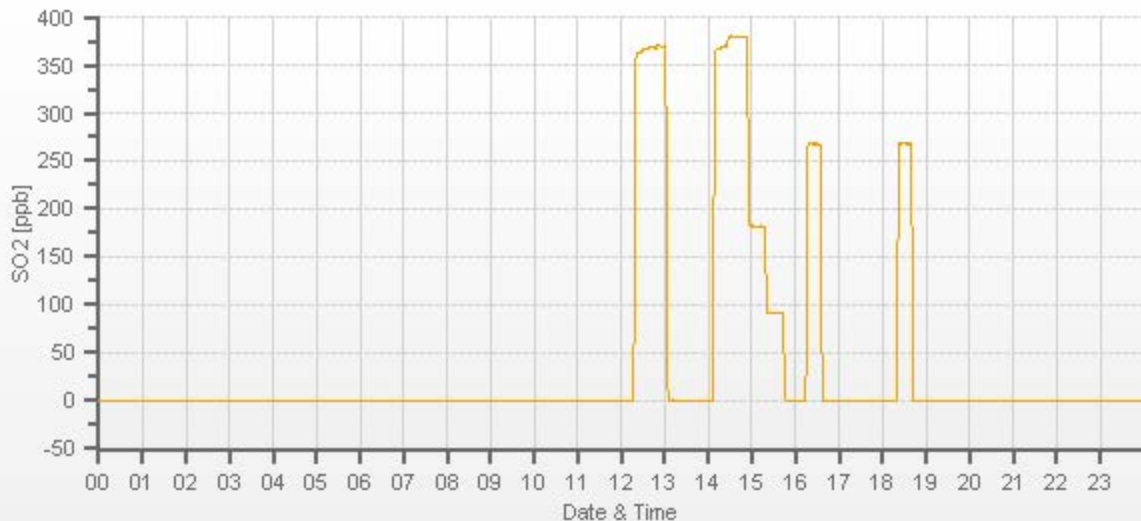
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
3751	58.90	3751	0.00	0.2	0	1.030	1.000
3691	58.90	3750	380.10	369.2	380	1.030	1.000
3724	27.90	3752	179.95	n/a	182.5	n/a	0.986
3738	14.00	3752	90.30	n/a	91.8	n/a	0.984

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.999	0.2%

COMMENTS:

No issues



TRS Analyzer Calibration by Dilution



DATE:	13-Jan-2022	PREVIOUS CALIBRATION DATE:	08-Dec-2021
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	PRAMP	TEMPERATURE (°C):	23.4
LOCATION:	986C	BAROMETRIC (mBar):	942
PURPOSE:	Routine	START TIME (MST):	11:46
PERFORMED BY:	Chris Wesson	END TIME (MST):	16:39

ANALYZER:

MAKE/MODEL	Thermo 43iQTL	RANGE	100 ppb
SERIAL #	1191833341	FLOW (mL/min)	426
INITIAL		FINAL	
BKG/OFFSET	13.5	BKG/OFFSET	14.3
COEF/SLOPE	0.927	COEF/SLOPE	0.946
Expected (reference) Value	44.69	Expected (reference) Value	47.7

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	M701
ID:	58100720	ID:	4568
MFC CALIBRATION DATE:	12-Oct-2021	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY0002519	HIGH ID	n/a
CONC (ppm):	9.41	EXPIRY DATE	n/a
CYLINDER (psi):	1500	LOW ID	n/a
EXPIRY DATE	10-Nov-2023	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

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

CALIBRATION:

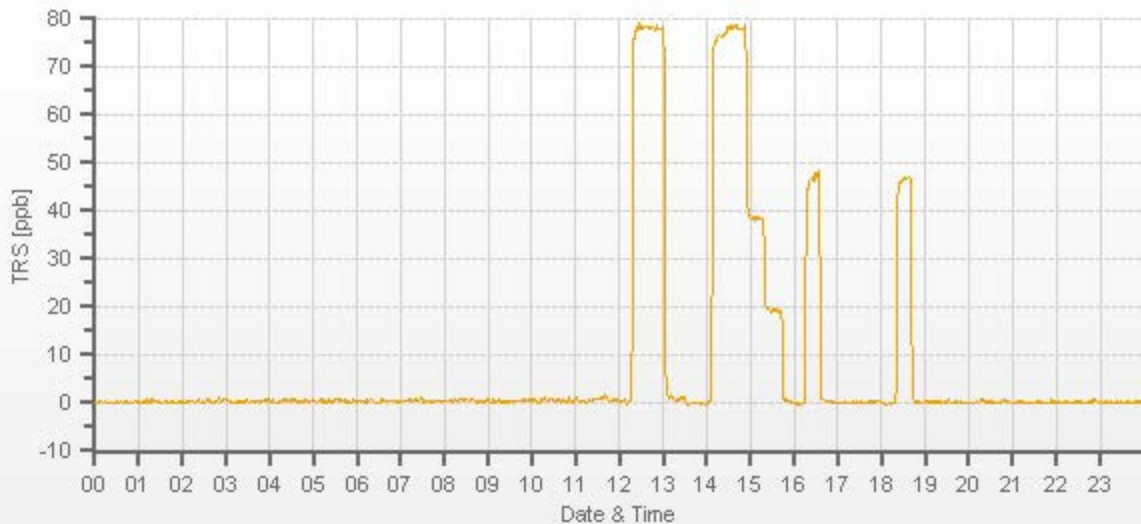
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
3751	31.10	3751	0.00	0.3	0	1.005	1.001
3719	31.10	3750	78.04	77.95	78	1.005	1.001
3737	15.10	3752	37.87	n/a	38.5	n/a	0.984
3743	7.60	3751	19.07	n/a	19.31	n/a	0.987

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.999	0.2%

COMMENTS:

No issues



Methane/Non-Methane Analyzer Calibration by Dilution



CALIBRATION:				ANALYZER:			
DATE:	13-Jan-2022	PREVIOUS CALIBRATION DATE:	08-Dec-2021	VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
CLIENT:	PRAMP	TEMPERATURE (°C):	23.4		Thermo 55i	1193585652	1289
LOCATION:	986C	BAROMETRIC (mBar):	943	PARAMETER:	CH4	NMHC	THC
PURPOSE	Routine	START TIME (MST):	11:46	RANGE (ppm):	20	20	40
PERFORMED BY:	Chris Wesson	END TIME (MST):	16:39	PREVIOUS CF:	0.999	1.000	0.999

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	Sabio	MAKE:	Teledyne	CYLINDER ID:	LL119576	HIGH ID:	n/a
MODEL:	2010	MODEL:	M701	CH ₄ /C ₃ H ₈ (ppm):	870.0 299.0	HIGH EXPIRY:	n/a
ID:	26701218	ID:	4568	CYLINDER (psi):	1500	LOW ID:	n/a
MFC CALIBRATION DATE:	12-Oct-2021	OXIDIZER ID:	Internal	EXPIRY DATE	22-Dec-2028	LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH ₄ /NMHC)	HIGH	MID	LOW	CH ₄ EQUIVILANCE	
TARGET	14	7	3.5	C ₃ H ₈ as CH ₄	822.3
RANGE	12 - 16	6 - 8	2 - 4	THC as CH ₄	1692.3

EXPECTED (REFERENCE) VALUE:

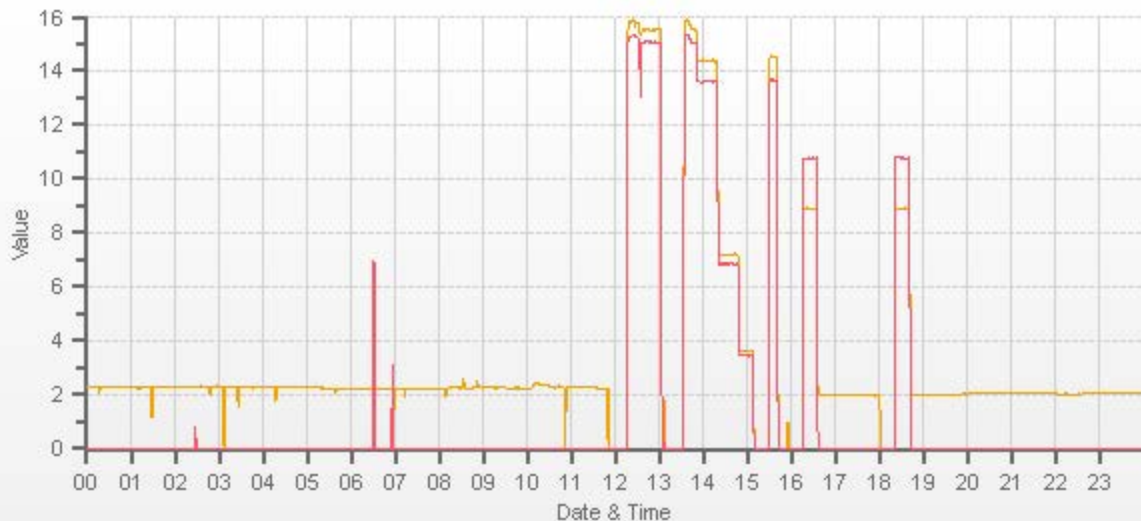
INITIAL	CH ₄	NMHC	THC	FINAL	CH ₄	NMHC	THC
	9.42	11.60	21.01		8.92	10.77	19.69

CALIBRATION:

FLOW RATE			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC
3250	X	3250	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	X	X	X	X	X
3196	53.80	3250	14.40	13.61	28.01	15.58	15.05	30.62	14.40	13.61	28.01	0.924	0.904	0.915	1.000	1.000	1.000
3224	26.90	3251	7.20	6.80	14.00	n/a	n/a	n/a	7.21	6.84	14.06	n/a	n/a	n/a	0.998	0.995	0.996
3235	13.40	3248	3.59	3.39	6.98	n/a	n/a	n/a	3.62	3.47	7.09	n/a	n/a	n/a	0.992	0.978	0.985

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT	Comments:
CH ₄	1.000	0.999	0.1%	12:34 = bad injection (NMHC unstable). AF high restarts. Marginal pass. Drift caused by unstable flame temp (poor quality H2?) Change N2 after low point. Back to high after for final check
NMHC	1.000	0.998	0.2%	
THC	1.000	0.999	0.1%	
				Use Zero Chrom? No



CAL-PRAMP-202201-01562

Page 14 of 17
CH4 [ppm] NMHC [ppm]

Meteorological System Checklist



Date:	January 13, 2022
Technician:	Chris Wesson
Station:	PRAMP 986c

Unit:	Make:	Model:	Serial #:
Temperature Sensor:	Rotronic	HC2-S3	20357528
Barometric Pressure Sensor:	MetOne	092	Y23358
Relative Humidity Sensor:	Rotronic	HC2-S3	20357528
Anemometer:	RM Young	05305L	174795

AMBIENT TEMPERATURE SENSOR CHECK

Previous check date:	December 7, 2021
Parameter:	Temperature @ 2 metres
Reference Thermometer ID:	F.S. 160348895 expires Sep 4, 2022
Reference Temperature (°C):	-5.9
Station - Ambient Temperature (°C):	-5.6
Temperature Difference (°C):	-0.3

BAROMETRIC PRESSURE SENSOR CHECK

Previous check date:	December 7, 2021
Reference Barometer ID:	Brunton 05535 Expires Feb 17, 2022
Reference Pressure - Units/Reading:	millibar 944.8
Station Pressure - Units/Reading:	millibar 944.5
Pressure Tolerance +/- 15% of error:	803 - 1087 0.03%

RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK

Previous check date:	December 7, 2021
Reference Hygrometer ID:	F.S. 160348895 expires Sep 4, 2022
Reference Hygrometer % RH- Reading:	96.40
Station Hygrometer % RH- Reading:	100.20
RH Tolerance +/- 15% of difference:	81.94 - 110.86 -3.9%

ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK

WIND SPEED		WIND DIRECTION	
Previous check date:	December 7, 2021	Previous check date:	December 7, 2021
Wind Speed Observed (kph):	5~10	Wind Direction Observed:	NW
Wind speed on Data Logger (kph):	7.2	Wind Direction on Data Logger:	NW
		Wind Direction Pass/Fail?:	Pass

Comments

Before removing PRAMP's Rotronic HC2-S3 #20357528

Meteorological System Checklist



Date:	January 13, 2022
Technician:	Chris Wesson
Station:	PRAMP 986c

Unit:	Make:	Model:	Serial #:
Precipitation Sampler:	RM Young	52202	TB 16325
Temperature Sensor:	Rotronic	HC2-S3	61116376
Barometric Pressure Sensor:	MetOne	092	Y23358
Relative Humidity Sensor:	Rotronic	HC2-S3	61116376
Anemometer:	RM Young	05305L	174795

PRECIPITATION SENSOR CHECK

Checklist:	Reply:	Comments:
Previous check date:	December 7, 2021	Tip test/maintenance 15:02-16:35
Is the sensor Level?	yes	
Is the heater operating properly?	yes	Funnel is clear of ice/snow
Are the bucket drain holes clean?	no	Frozen below tipping mechanism
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 tips are heard. (10 tips = 1 ml)

# of Tips	Data Logger Response (ml):	Manual Specification = +/- 0.1 ml
10	1.0	0.00

AMBIENT TEMPERATURE SENSOR CHECK

Previous check date:	December 7, 2021
Parameter:	Temperature @ 2 metres
Reference Thermometer ID:	F.S. 160348895 expires Sep 4, 2022
Reference Temperature (°C):	-5.5
Station - Ambient Temperature (°C):	-5.7
Temperature Difference (°C):	0.2

BAROMETRIC PRESSURE SENSOR CHECK

Previous check date:	December 7, 2021
Reference Barometer ID:	Brunton 05535 Expires Feb 17, 2022
Reference Pressure - Units/Reading:	millibar 946.5
Station Pressure - Units/Reading:	millibar 946.1
Pressure Tolerance +/- 15% of error:	805 - 1088 0.04%

RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK

Previous check date:	December 7, 2021
Reference Hygrometer ID:	F.S. 160348895 expires Sep 4, 2022
Reference Hygrometer % RH- Reading:	88.90
Station Hygrometer % RH- Reading:	85.20
RH Tolerance +/- 15% of difference:	75.57 - 102.24 4.2%

ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK

WIND SPEED		WIND DIRECTION	
Previous check date:	December 7, 2021	Previous check date:	December 7, 2021
Wind Speed Observed (kph):	5~10	Wind Direction Observed:	N
Wind speed on Data Logger (kph):	5.8	Wind Direction on Data Logger:	N
		Wind Direction Pass/Fail?:	Pass

Comments

After installing BV's Rotronic HC2-S3 #61116376
As-found tip test failed as bucket/drains frozen. Defrosted. Still not good. Changed batteries, post-repair test OK



Meteorological Sensor Audit/Calibration

Location Information

Company:	PRAMP	Performed By:	Limin Li
Audit Location:	986C	Reviewed By:	Chris Wesson
Audit Date:	July 3, 2021	Start/End Time (mst):	15:58 / 17:20
Calibration Purpose:	routine annual	Weather Conditions:	Mainly cloudy with sunny breaks

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:	July 16, 2020	Direction Unit Output Range:	0-360

Wind Calibrator Information

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

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.0	0.0	-
1000	18.4	18.3	18.3	1.007
2000	36.9	36.7	36.7	1.004
3000	55.3	55.1	55.1	1.003
4000	73.7	73.6	73.6	1.002
5000	92.2	92.0	92.0	1.002
6000	110.6	110.5	110.5	1.001
7000	129.0	128.9	128.9	1.001
8000	147.4	147.3	147.3	1.001
9000	165.9	165.8	165.8	1.000
10000	184.3	184.2	184.2	1.001
The audit meets AMD requirements.			Average Correction Factor=	1.002

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

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	1	354	1.0	1.0	1.0
30	330	30	333	0.0	-3.0	1.5
60	300	59	303	1.0	-3.0	2.0
90	270	88	273	2.0	-3.0	2.5
120	240	118	243	2.0	-3.0	2.5
150	210	147	209	3.0	1.0	2.0
180	180	177	177	3.0	3.0	3.0
210	150	209	147	1.0	3.0	2.0
240	120	242	117	-2.0	3.0	2.5
270	90	273	87	-3.0	3.0	3.0
300	60	303	59	-3.0	1.0	2.0
330	30	333	30	-3.0	0.0	1.5
355	0	354	1	1.0	1.0	1.0
The audit meets AMD requirements.				Average Absolute Degrees Difference=		2.0

Comments:

Magnetic declination = 15Deg(E)



Peace River Area Monitoring Program

JANUARY 2022

Ambient Air Monitoring Calibration Report

- RENO STATION-

CAL-PRAMP-202201-01563

Operation and Maintenance:

Bureau Veritas Canada

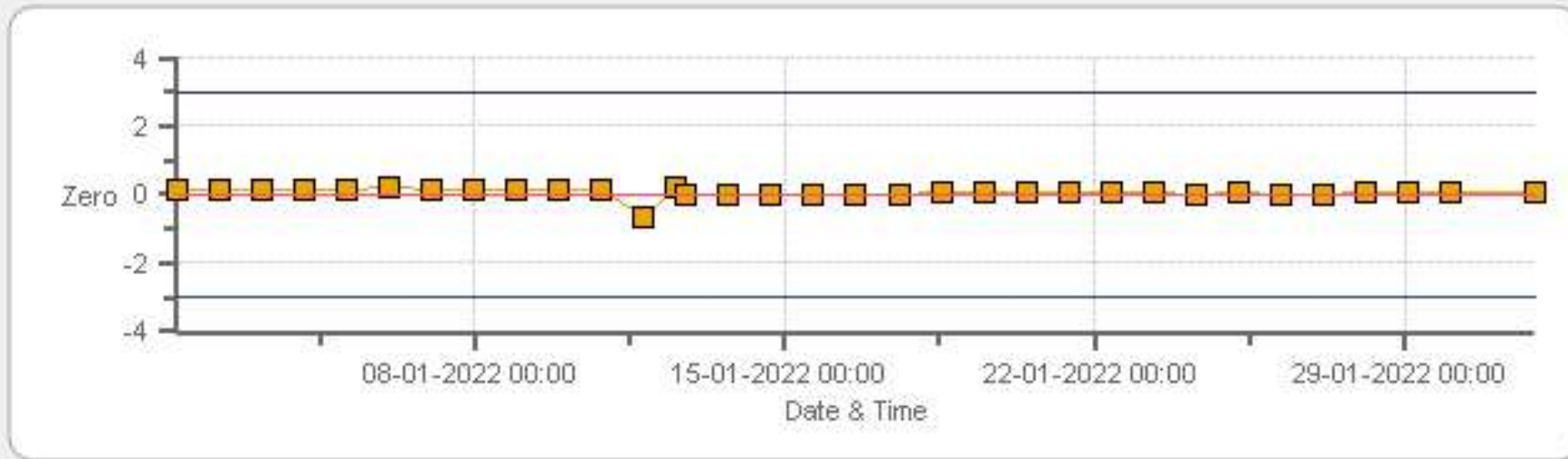
Data Validation and Report:

Bureau Veritas Canada

February 10, 2022

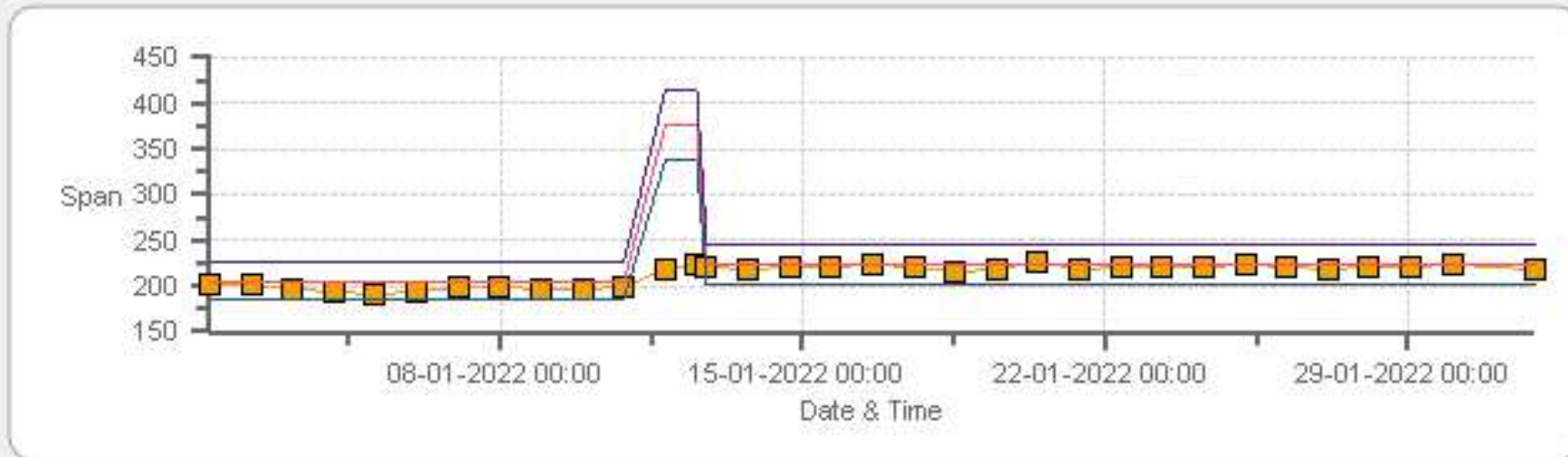
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: PRAMP RENO Monthly: 01-2022 Type: SpanAndZero - Zero



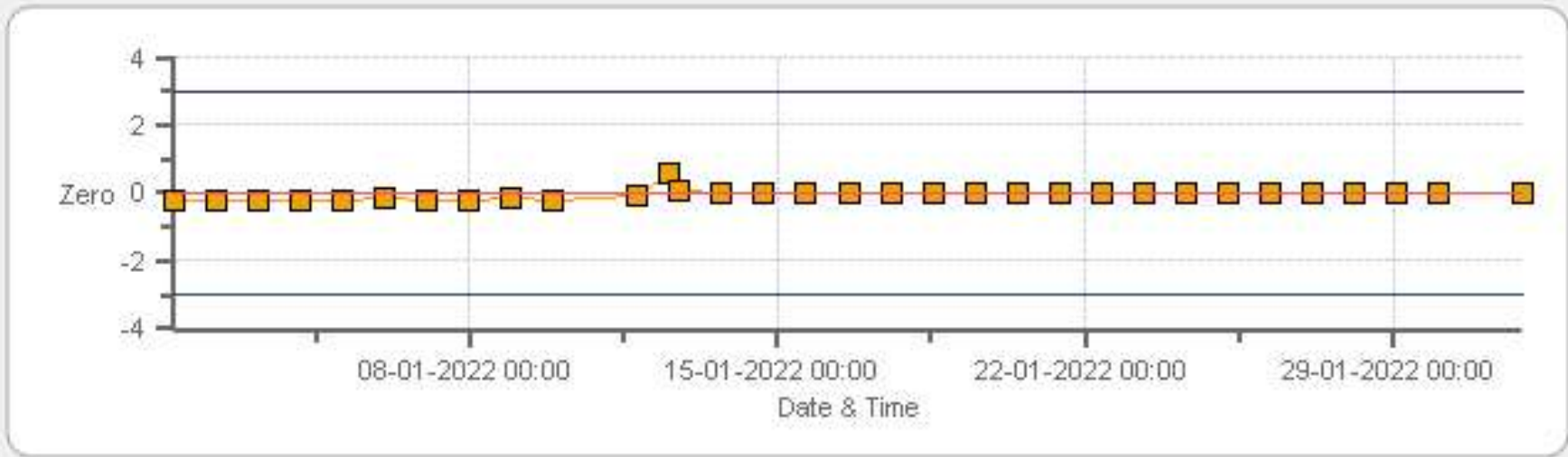
Zero Zero Ref Zero Low Zero High

SO2[ppb] Calibration: PRAMP RENO Monthly: 01-2022 Type: SpanAndZero - Span



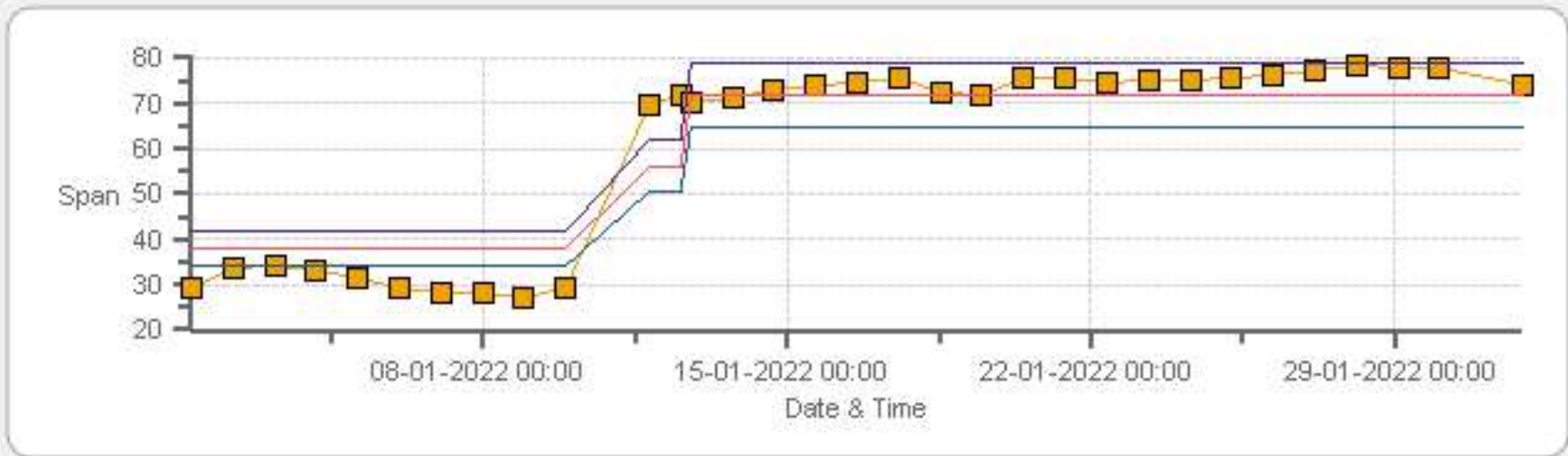
Span Span Ref Span Low Span High

TRS[ppb] Calibration: PRAMP RENO Monthly: 01-2022 Type: SpanAndZero - Zero



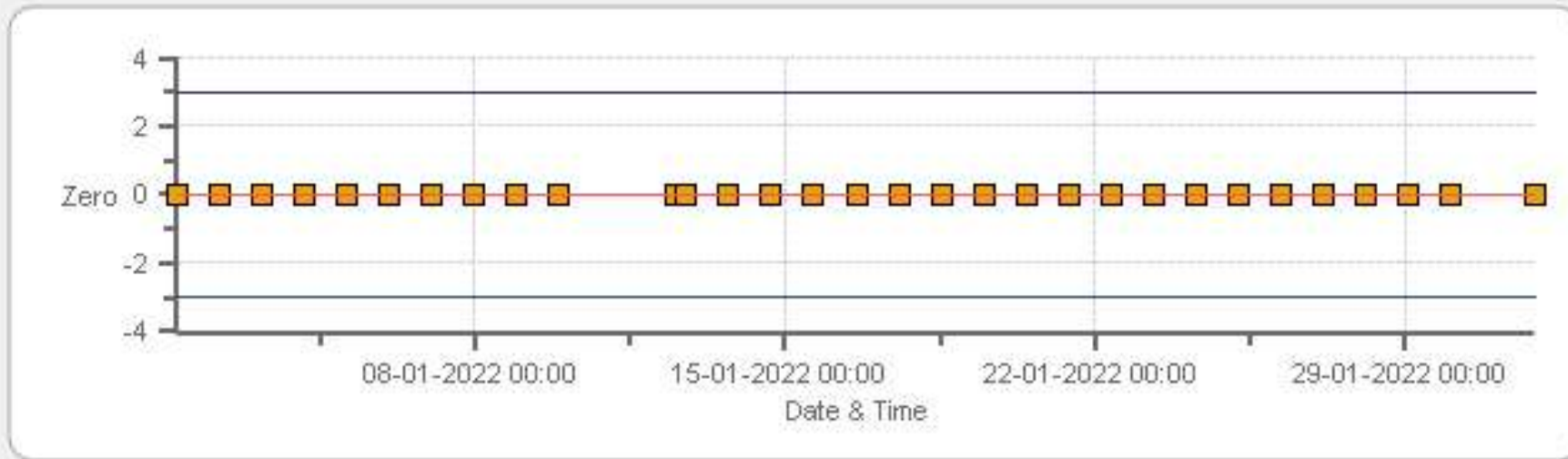
Legend: Zero (Yellow square), Zero Ref (Pink line), Zero Low (Blue line), Zero High (Purple line)

TRS[ppb] Calibration: PRAMP RENO Monthly: 01-2022 Type: SpanAndZero - Span



Legend: Span (Yellow square), Span Ref (Pink line), Span Low (Blue line), Span High (Purple line)

THC55[ppm] Calibration: PRAMP RENO Monthly: 01-2022 Type: SpanAndZero - Zero



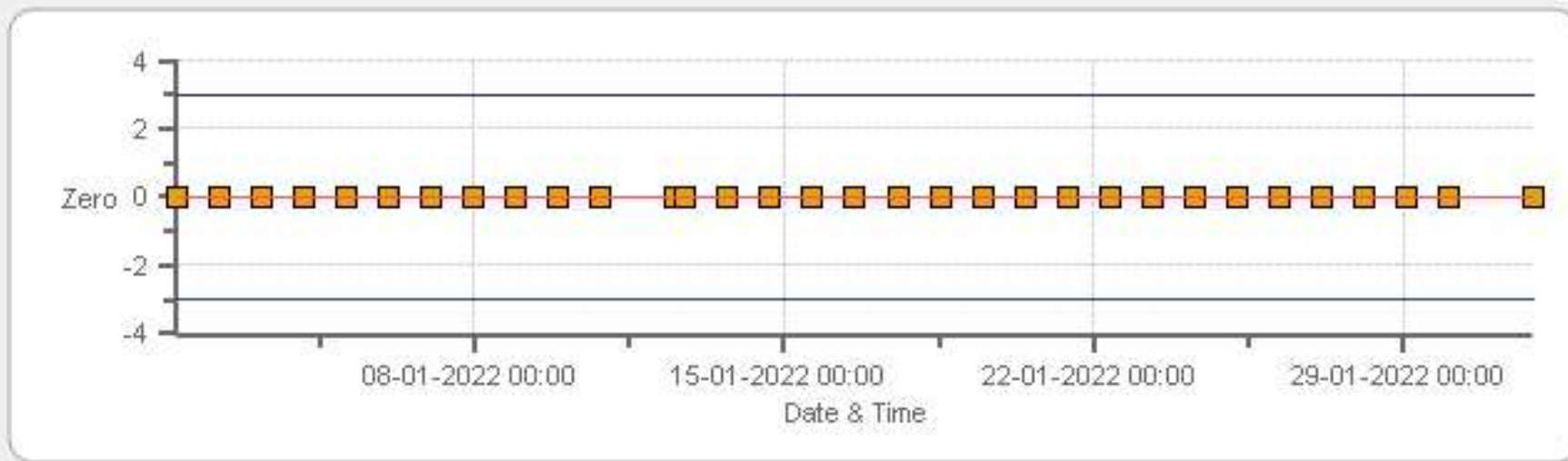
■ Zero
 — Zero Ref
 — Zero Low
 — Zero High

THC55[ppm] Calibration: PRAMP RENO Monthly: 01-2022 Type: SpanAndZero - Span



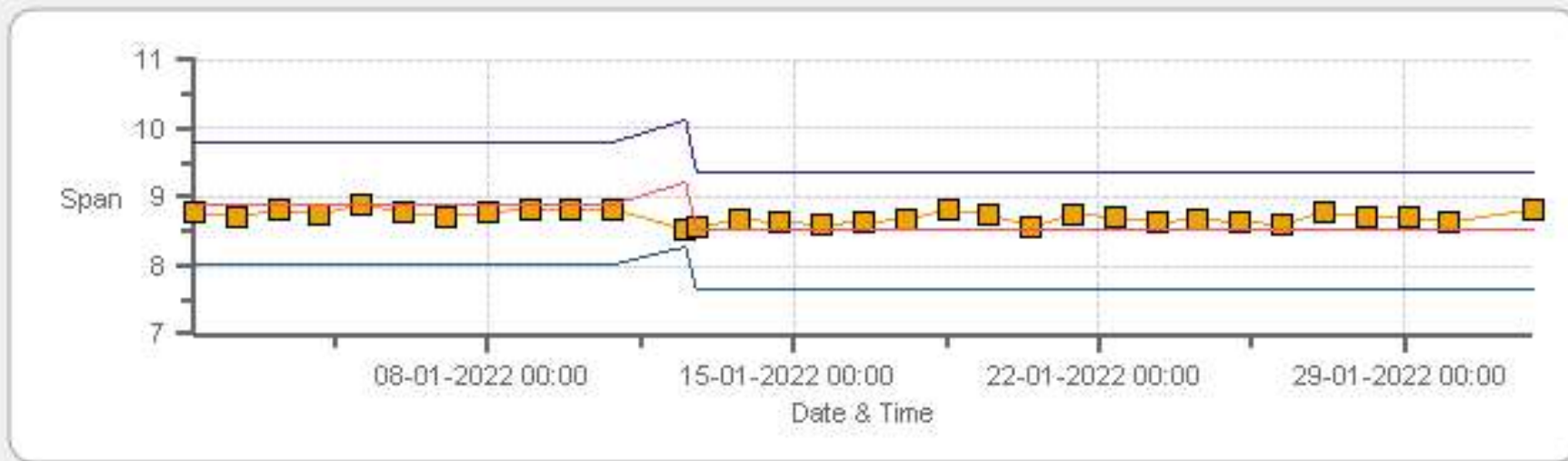
■ Span
 — SpanRef
 — Span Low
 — Span High

CH4[ppm] Calibration: PRAMP RENO Monthly: 01-2022 Type: SpanAndZero - Zero



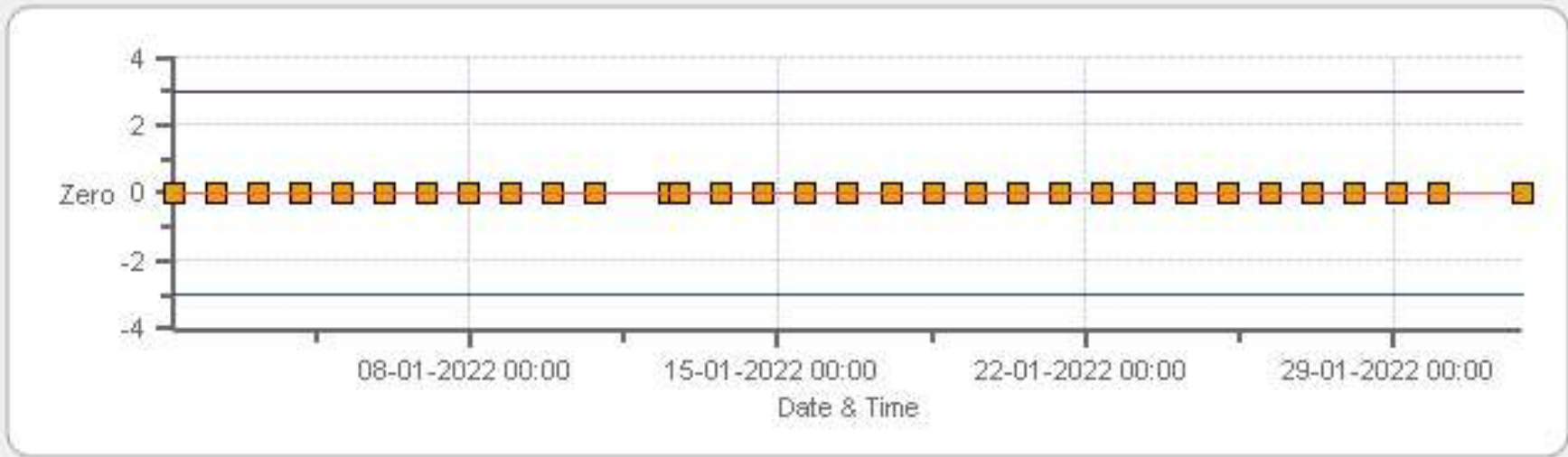
Zero Zero Ref Zero Low Zero High

CH4[ppm] Calibration: PRAMP RENO Monthly: 01-2022 Type: SpanAndZero - Span



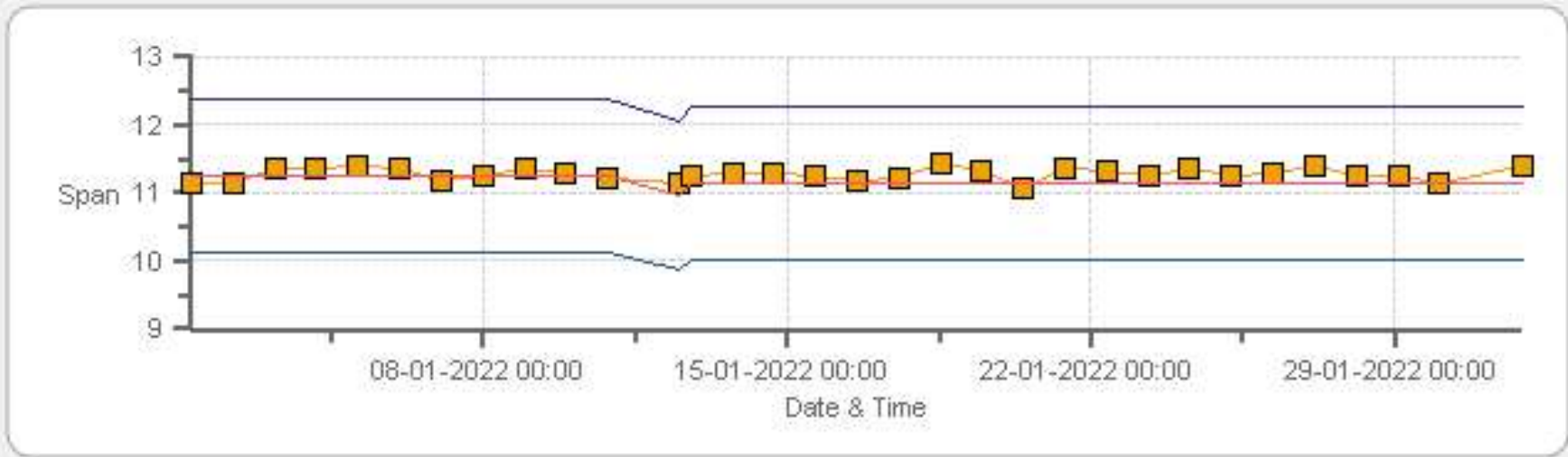
Span SpanRef Span Low Span High

NMHC[ppm] Calibration: PRAMP RENO Monthly: 01-2022 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NMHC[ppm] Calibration: PRAMP RENO Monthly: 01-2022 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



DATE:	11-Jan-2022	PREVIOUS CALIBRATION DATE:	02-Dec-2021
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	PRAMP	TEMPERATURE (°C):	24.0
LOCATION:	Reno	BAROMETRIC (mBar):	930
PURPOSE:	Removal/Shut-down	START TIME (MST):	10:56
PERFORMED BY:	Chris Wesson	END TIME (MST):	13:38

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	500 ppb
SERIAL #	1162460023	FLOW (mL/min)	395
INITIAL		FINAL	
BKG/OFFSET	3.02	BKG/OFFSET	n/a
COEF/SLOPE	0.996	COEF/SLOPE	n/a
Expected (reference) Value	205.2	Expected (reference) Value	n/a

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	M701
ID:	58100720	ID:	4568
MFC CALIBRATION DATE:	12-Oct-2021	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):	600	LOW ID	n/a
EXPIRY DATE	03-Jul-2023	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

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

CALIBRATION:

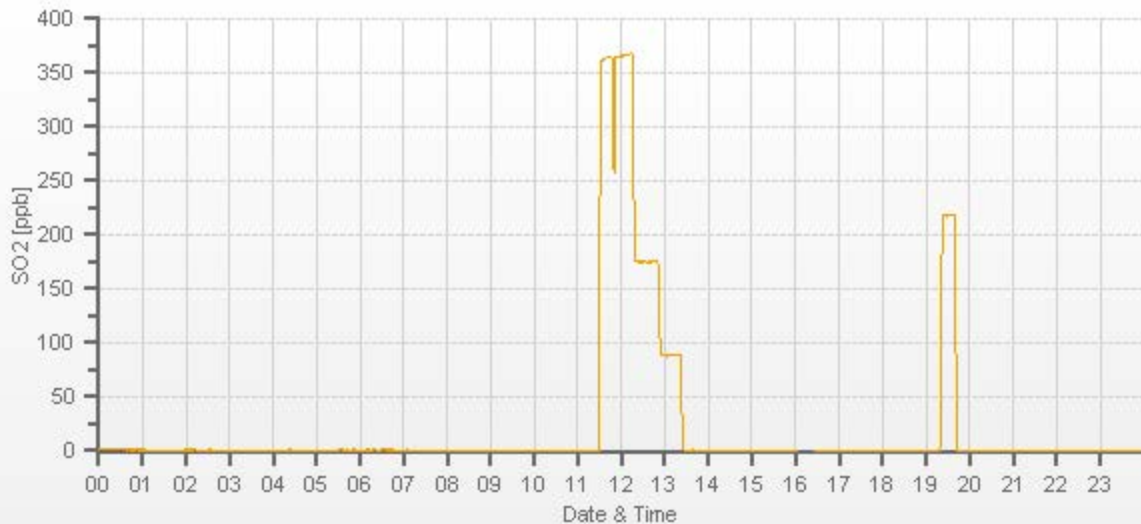
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
4002	 	4002	0.00	0.1	n/a	 	
3938	62.80	4001	379.85	367.3	n/a	1.034	n/a
3970	29.70	4000	179.69	175.2	n/a	1.026	n/a
3987	14.90	4002	90.10	87.9	n/a	1.026	n/a

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.966	0.1%

COMMENTS:

11:49 - tech error, high repoint restarts



SO2 Analyzer Calibration by Dilution



DATE:	12-Jan-2022	PREVIOUS CALIBRATION DATE:	n/a
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	n/a
CLIENT:	PRAMP	TEMPERATURE (°C):	23.5
LOCATION:	Reno	BAROMETRIC (mBar):	933
PURPOSE:	Install/Post-Repair	START TIME (MST):	10:10
PERFORMED BY:	Chris Wesson	END TIME (MST):	13:06

ANALYZER:

MAKE/MODEL	Thermo 43iQTL	RANGE	500 ppb
SERIAL #	12101910505	FLOW (mL/min)	438
INITIAL		FINAL	
BKG/OFFSET	1.51	BKG/OFFSET	0.9
COEF/SLOPE	0.931	COEF/SLOPE	0.951
Expected (reference) Value	n/a	Expected (reference) Value	222.8

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	M701
ID:	58100720	ID:	4568
MFC CALIBRATION DATE:	12-Oct-2021	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):	600	LOW ID	n/a
EXPIRY DATE	03-Jul-2023	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

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

CALIBRATION:

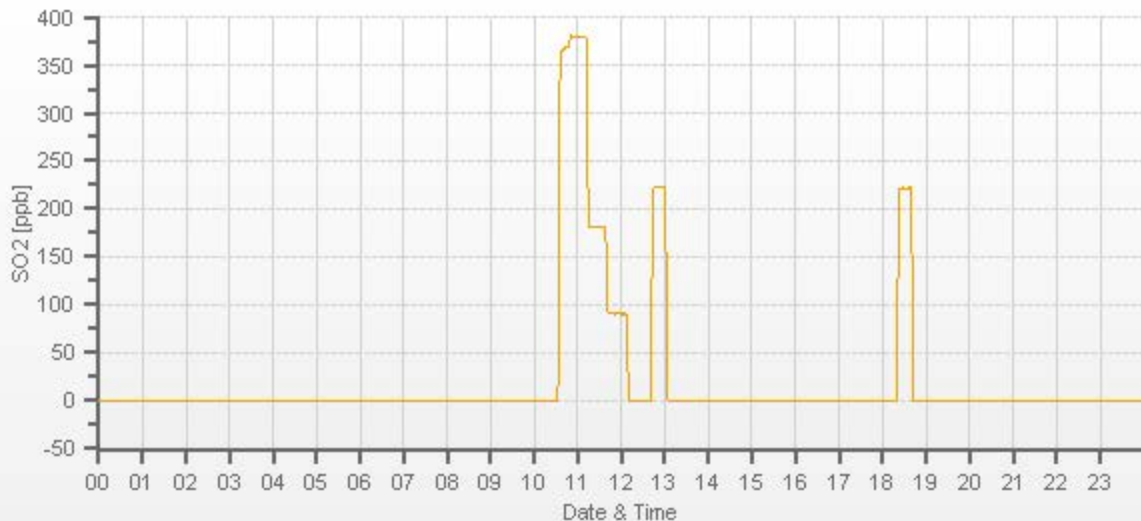
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
4002	 	4002	0.00	n/a	0	 	
3939	62.80	4002	379.75	n/a	380.1	n/a	0.999
3973	29.80	4003	180.15	n/a	181	n/a	0.995
3984	14.90	3999	90.17	n/a	90.3	n/a	0.999

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.001	0.0%

COMMENTS:

No issues



TRS Analyzer Calibration by Dilution



DATE:	11-Jan-2022	PREVIOUS CALIBRATION DATE:	13-Dec-2021
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	PRAMP	TEMPERATURE (°C):	24.0
LOCATION:	Reno	BAROMETRIC (mBar):	930
PURPOSE:	Removal/Shut-down	START TIME (MST):	10:56
PERFORMED BY:	Chris Wesson	END TIME (MST):	13:38

ANALYZER:

MAKE/MODEL	Thermo 43I-TLE	RANGE	100 ppb
SERIAL #	1162460022	FLOW (mL/min)	405
INITIAL		FINAL	
BKG/OFFSET	3.3	BKG/OFFSET	n/a
COEF/SLOPE	1	COEF/SLOPE	n/a
Expected (reference) Value	37.88	Expected (reference) Value	n/a

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	M701
ID:	58100720	ID:	4568
MFC CALIBRATION DATE:	12-Oct-2021	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY0002519	HIGH ID	n/a
CONC (ppm):	9.41	EXPIRY DATE	n/a
CYLINDER (psi):	1500	LOW ID	n/a
EXPIRY DATE	10-Nov-2023	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

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

CALIBRATION:

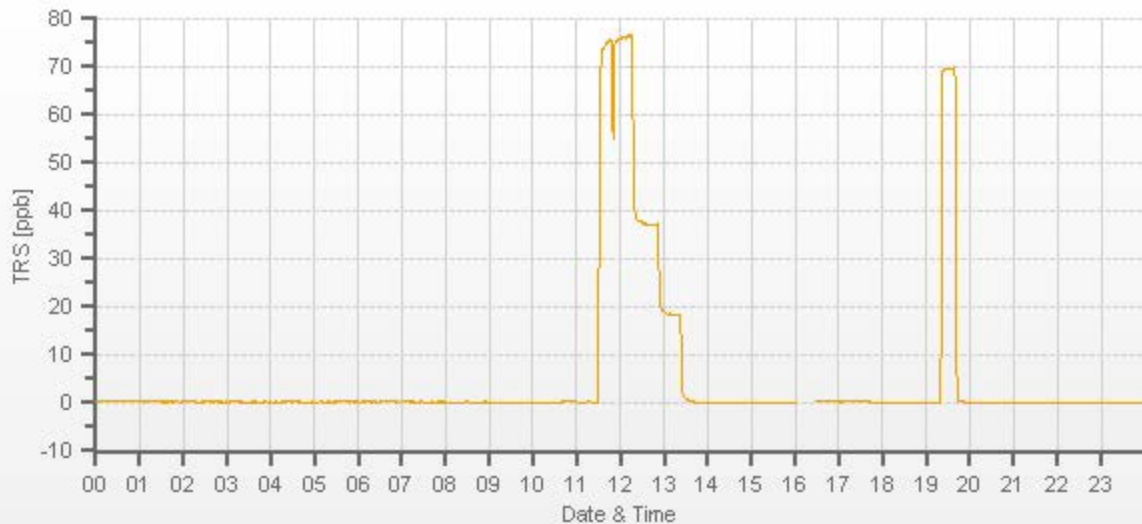
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
4002	33.20	4002	0.00	0.07	n/a	1.020	n/a
3968	33.20	4001	78.08	76.64	n/a	1.020	n/a
3984	16.20	4000	38.11	37.12	n/a	1.029	n/a
3994	8.10	4002	19.05	18.42	n/a	1.038	n/a

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.982	-0.1%

COMMENTS:

11:49 - tech error, high repoint restarts



TRS Analyzer Calibration by Dilution



DATE:	12-Jan-2022	PREVIOUS CALIBRATION DATE:	n/a
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	n/a
CLIENT:	PRAMP	TEMPERATURE (°C):	23.5
LOCATION:	Reno	BAROMETRIC (mBar):	933
PURPOSE:	Install/Post-Repair	START TIME (MST):	10:10
PERFORMED BY:	Chris Wesson	END TIME (MST):	13:11

ANALYZER:

MAKE/MODEL	Thermo 43iQTL	RANGE	100 ppb
SERIAL #	12101910504	FLOW (mL/min)	394
INITIAL		FINAL	
BKG/OFFSET	1	BKG/OFFSET	0.86
COEF/SLOPE	0.897	COEF/SLOPE	0.891
Expected (reference) Value	n/a	Expected (reference) Value	71.88

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	M701
ID:	58100720	ID:	4568
MFC CALIBRATION DATE:	12-Oct-2021	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY0002519	HIGH ID	n/a
CONC (ppm):	9.41	EXPIRY DATE	n/a
CYLINDER (psi):	1500	LOW ID	n/a
EXPIRY DATE	10-Nov-2023	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

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

CALIBRATION:

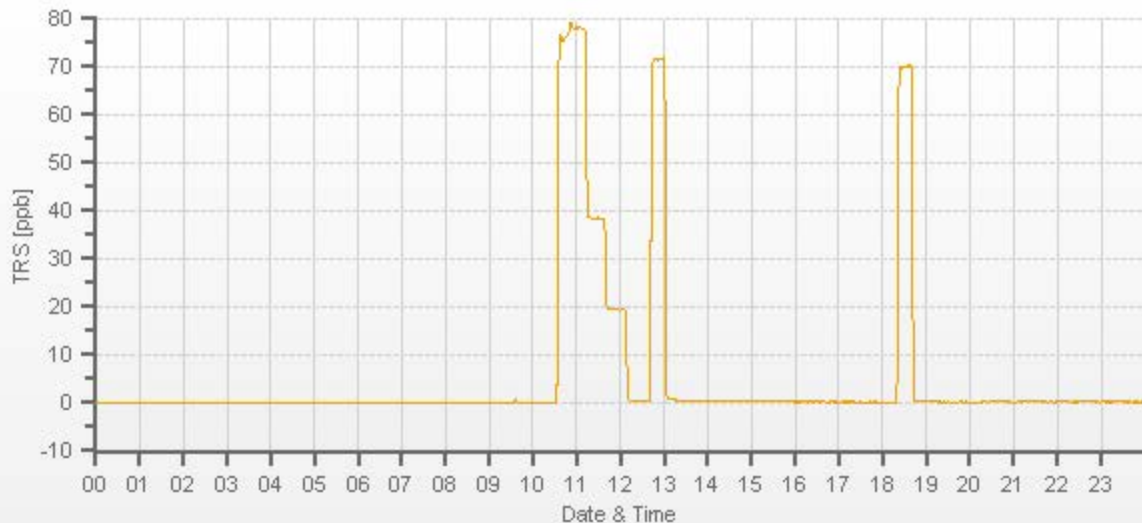
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
4002	33.20	4002	0.00	n/a	0	n/a	1.001
3969	33.20	4002	78.06	n/a	78.01	n/a	1.001
3987	16.20	4003	38.08	n/a	38.47	n/a	0.990
3991	8.10	3999	19.06	n/a	19.47	n/a	0.979

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.998	0.3%

COMMENTS:

Converter: CDNova CDN-101 #590



Methane/Non-Methane Analyzer Calibration by Dilution



CALIBRATION:				ANALYZER:			
DATE:	11-Jan-2022	PREVIOUS CALIBRATION DATE:	02-Dec-2021	VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
CLIENT:	PRAMP	TEMPERATURE (°C):	24.0		Thermo 55i	1505664392	1035
LOCATION:	Reno	BAROMETRIC (mBar):	930	PARAMETER:	CH4	NMHC	THC
PURPOSE:	Removal/Shut-down	START TIME (MST):	10:56	RANGE (ppm):	20	20	40
PERFORMED BY:	Chris Wesson	END TIME (MST):	12:56	PREVIOUS CF:	1.000	1.003	1.002

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	Sabio	MAKE:	Teledyne	CYLINDER ID:	LL119576	HIGH ID:	n/a
MODEL:	2010	MODEL:	M701	CH ₄ /C ₃ H ₈ (ppm):	870.0 299.0	HIGH EXPIRY:	n/a
ID:	26701218	ID:	4568	CYLINDER (psi):	1500	LOW ID:	n/a
MFC CALIBRATION DATE:	12-Oct-2021	OXIDIZER ID:	Internal	EXPIRY DATE	22-Dec-2028	LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH ₄ /NMHC)	HIGH	MID	LOW	CH ₄ EQUIVILANCE	
TARGET	14	7	3.5	C ₃ H ₈ as CH ₄	822.3
RANGE	12 - 16	6 - 8	2 - 4	THC as CH ₄	1692.3

EXPECTED (REFERENCE) VALUE:

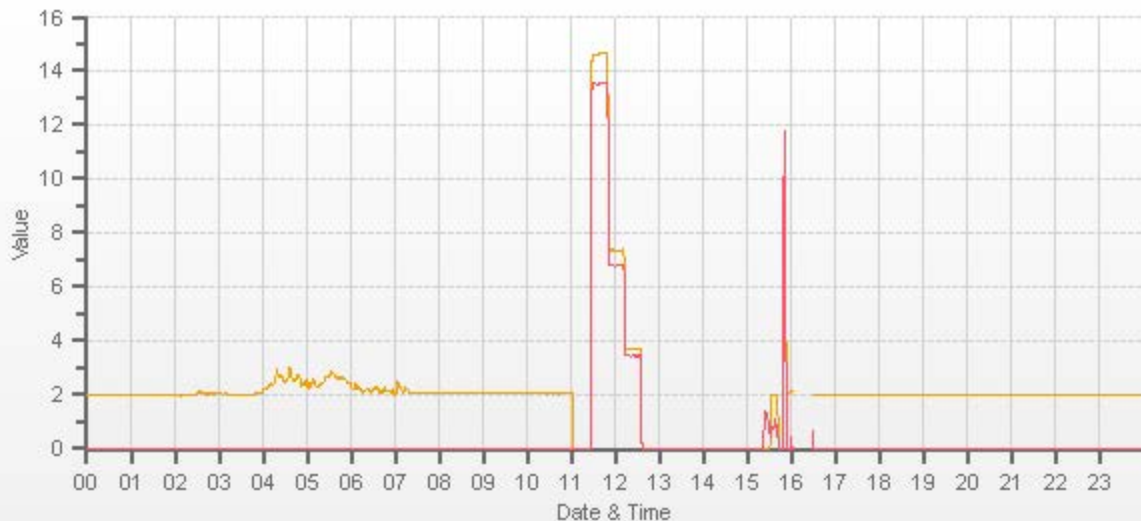
INITIAL	CH ₄	NMHC	THC	FINAL	CH ₄	NMHC	THC
	8.90	11.24	20.14		n/a	n/a	n/a

CALIBRATION:

FLOW RATE			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC
2700	X	2700	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a	X	X	X	X	X	X
2655	44.70	2700	14.40	13.61	28.02	14.67	13.53	28.20	n/a	n/a	n/a	0.982	1.006	0.993	n/a	n/a	n/a
2677	22.30	2699	7.19	6.79	13.98	7.37	6.81	14.18	n/a	n/a	n/a	0.975	0.998	0.986	n/a	n/a	n/a
2688	11.20	2699	3.61	3.41	7.02	3.69	3.45	7.14	n/a	n/a	n/a	0.978	0.989	0.984	n/a	n/a	n/a

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT	Comments:
CH ₄	1.000	1.019	0.1%	No issues
NMHC	1.000	0.993	0.2%	
THC	1.000	1.006	0.1%	
				Use Zero Chrom? No



CAL-PRAMP-202201-01563

Methane/Non-Methane Analyzer Calibration by Dilution



CALIBRATION:				ANALYZER:			
DATE:	12-Jan-2022	PREVIOUS CALIBRATION DATE:	n/a	VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
CLIENT:	PRAMP	TEMPERATURE (°C):	23.5		Thermo 55i	12101910497	1184
LOCATION:	Reno	BAROMETRIC (mBar):	933	PARAMETER:	CH4	NMHC	THC
PURPOSE:	Install/Post-Repair	START TIME (MST):	10:10	RANGE (ppm):	20	20	40
PERFORMED BY:	Chris Wesson	END TIME (MST):	12:39	PREVIOUS CF:	n/a	n/a	n/a

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	Sabio	MAKE:	Teledyne	CYLINDER ID:	LL119576	HIGH ID:	n/a
MODEL:	2010	MODEL:	M701	CH ₄ /C ₃ H ₈ (ppm):	870.0 299.0	HIGH EXPIRY:	n/a
ID:	26701218	ID:	4568	CYLINDER (psi):	1500	LOW ID:	n/a
MFC CALIBRATION DATE:	12-Oct-2021	OXIDIZER ID:	Internal	EXPIRY DATE:	22-Dec-2028	LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH ₄ /NMHC)	HIGH	MID	LOW	CH ₄ EQUIVILANCE	
TARGET	14	7	3.5	C ₃ H ₈ as CH ₄	822.3
RANGE	12 - 16	6 - 8	2 - 4	THC as CH ₄	1692.3

EXPECTED (REFERENCE) VALUE:

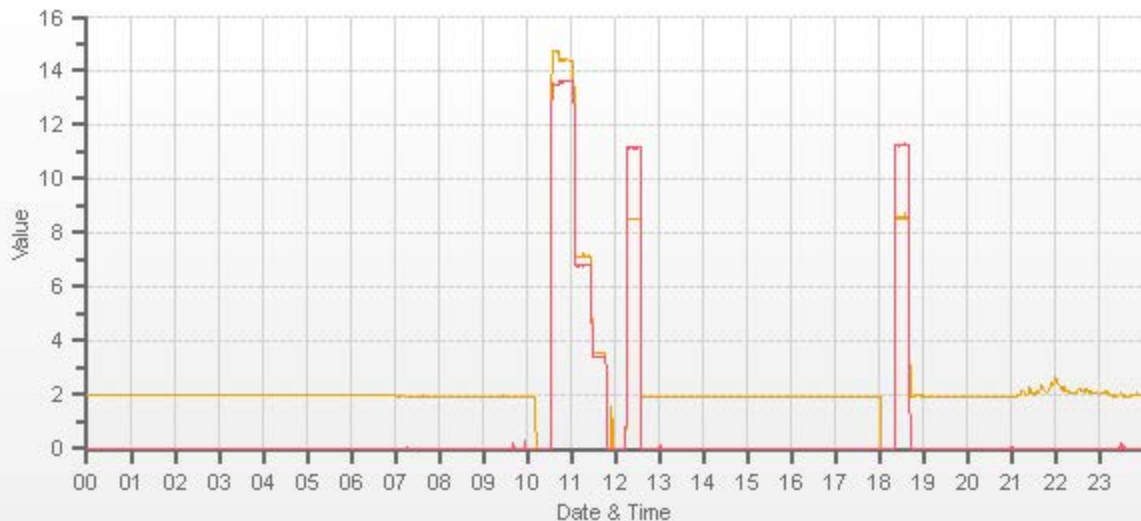
INITIAL	CH ₄	NMHC	THC	FINAL	CH ₄	NMHC	THC
	8.90	11.24	20.14		8.51	11.15	19.67

CALIBRATION:

FLOW RATE			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC
3000	X	3000	0.00	0.00	0.00	n/a	n/a	n/a	0.00	0.00	0.00	X	X	X	X	X	X
2948	49.60	2998	14.39	13.60	28.00	n/a	n/a	n/a	14.40	13.61	28.01	n/a	n/a	n/a	1.000	1.000	1.000
2975	24.80	3000	7.19	6.80	13.99	n/a	n/a	n/a	7.13	6.81	13.93	n/a	n/a	n/a	1.009	0.998	1.004
2987	12.40	2999	3.60	3.40	7.00	n/a	n/a	n/a	3.56	3.43	6.99	n/a	n/a	n/a	1.010	0.991	1.001

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT	Comments:	
CH ₄	1.000	1.001	-0.1%	No issues	
NMHC	1.000	1.000	0.1%		
THC	1.000	1.000	0.0%		
				Use Zero Chrom?	No



CAL-PRAMP-202201-01563

Meteorological System Checklist



Date:	January 11, 2022
Technician:	Chris Wesson
Station:	PRAMP Reno

Unit:	Make:	Model:	Serial #:
Precipitation Sampler:	RM Young	52202	TB 15877
Temperature Sensor:	RM Young	43172VC	60837897
Barometric Pressure Sensor:	MetOne	92	K12864
Relative Humidity Sensor:	RM Young	43172VC	60837897
Anemometer:	RM Young	05305VK	149769

PRECIPITATION SENSOR CHECK

Checklist:	Reply:	Comments:
Previous check date:	December 2, 2021	Tip test = 12:16-
Is the sensor Level?	yes	
Is the heater operating properly?	yes	No ice/snow in collection funnel
Are the bucket drain holes clean?	no	Frozen under tipping mechanism; bucket frozen inplace
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	0.00	1.00

AMBIENT TEMPERATURE SENSOR CHECK

Previous check date:	December 2, 2021
Parameter:	Temperature @ 2 metres
Reference Thermometer ID:	F.S. 181341226 expires Jul 29, 2022
Reference Temperature (°C):	-11.2
Station - Ambient Temperature (°C):	-10.9
Temperature Difference (°C):	-0.3

BAROMETRIC PRESSURE SENSOR CHECK

Previous check date:	December 2, 2021
Reference Barometer ID:	BRUNTON #05535, Expire: Feb 17, 2022
Reference Pressure - Units/Reading:	millibar 928.6
Station Pressure - Units/Reading:	millibar 930.3
Pressure Tolerance +/- 15% of error:	789 - 1068 -0.18%

RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK

Previous check date:	December 2, 2021
Reference Hygrometer ID:	F.S. 181341226 expires Jul 29, 2022
Reference Hygrometer % RH- Reading:	74.20
Station Hygrometer % RH- Reading:	77.20
RH Tolerance +/- 15% of difference:	63.07 - 85.33 -4.0%

ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK

WIND SPEED		WIND DIRECTION	
Previous check date:	December 2, 2021	Previous check date:	December 2, 2021
Wind Speed Observed (kph):	5~10	Wind Direction Observed:	N
Wind speed on Data Logger (kph):	6.8	Wind Direction on Data Logger:	N
		Wind Direction Pass/Fail?:	Pass

Comments

Checked prior to datalogger swap
Tippng bucket drainholes and bucket frozen. Tipping test failed.

Meteorological System Checklist



Date:	January 12, 2022
Technician:	Chris Wesson
Station:	PRAMP Reno

Unit:	Make:	Model:	Serial #:
Precipitation Sampler:	RM Young	52202	TB 15877
Temperature Sensor:	RM Young	43172VC	60837897
Barometric Pressure Sensor:	MetOne	92	K12864
Relative Humidity Sensor:	RM Young	43172VC	60837897
Anemometer:	RM Young	05305VK	149769

PRECIPITATION SENSOR CHECK

Checklist:	Reply:	Comments:
Previous check date:	January 11, 2022	Tiptest = 11:31-11:40
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:	January 11, 2022
Parameter:	Temperature @ 2 metres
Reference Thermometer ID:	F.S. 181341226 expires Jul 29, 2022
Reference Temperature (°C):	-0.5
Station - Ambient Temperature (°C):	-0.2
Temperature Difference (°C):	-0.3

BAROMETRIC PRESSURE SENSOR CHECK

Previous check date:	January 11, 2022
Reference Barometer ID:	BRUNTON #05535, Expire: Feb 17, 2022
Reference Pressure - Units/Reading:	millibar 932.8
Station Pressure - Units/Reading:	millibar 933.9
Pressure Tolerance +/- 15% of error:	793 - 1073 -0.12%

RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK

Previous check date:	January 11, 2022
Reference Hygrometer ID:	F.S. 181341226 expires Jul 29, 2022
Reference Hygrometer % RH- Reading:	79.70
Station Hygrometer % RH- Reading:	77.00
RH Tolerance +/- 15% of difference:	67.75 - 91.66 3.4%

ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK

WIND SPEED		WIND DIRECTION	
Previous check date:	January 11, 2022	Previous check date:	January 11, 2022
Wind Speed Observed (kph):	10~20	Wind Direction Observed:	W
Wind speed on Data Logger (kph):	12	Wind Direction on Data Logger:	W
		Wind Direction Pass/Fail?:	Pass

Comments

Checked after datalogger swap.



Meteorological Sensor Audit/Calibration

Location Information

Company:	PRAMP	Performed By:	Limin Li
Audit Location:	Reno	Reviewed By:	
Audit Date:	July 5, 2021	Start/End Time (mst):	12:46/13:50
Calibration Purpose:	routine annual	Weather Conditions:	Mainly sunny

Wind Sensor Information

Sensor ID Data:		Sensor Outputs:	
Sensor Make:	RM Young	Velocity Voltage Output Range:	0-1
Sensor Model:	05305VK	Velocity Unit Output Range:	0-200
Serial #:	149769	Direction Voltage Output Range:	0-1
Previous Cal/Audit Date:	June 17, 2020	Direction Unit Output Range:	0-360

Wind Calibrator Information

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

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.0	0.0	-
1000	18.4	18.4	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	147.6	147.6	0.999
9000	165.9	166.2	166.2	0.998
10000	184.3	184.8	184.8	0.997
The audit meets AMD requirements.			Average Correction Factor=	1.000

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

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	1	354	1.0	1.0	1.0
30	330	32	329	-2.0	1.0	1.5
60	300	62	300	-2.0	0.0	1.0
90	270	93	270	-3.0	0.0	1.5
120	240	122	240	-2.0	0.0	1.0
150	210	152	211	-2.0	-1.0	1.5
180	180	182	181	-2.0	-1.0	1.5
210	150	212	151	-2.0	-1.0	1.5
240	120	241	121	-1.0	-1.0	1.0
270	90	270	91	0.0	-1.0	0.5
300	60	300	61	0.0	-1.0	0.5
330	30	329	31	1.0	-1.0	1.0
355	0	354	0	1.0	0.0	0.5
The audit meets AMD requirements.				Average Absolute Degrees Difference=		1.1

Comments:

Bearings replaced. Declination = 15deg East



Peace River Area Monitoring Program

JANUARY 2022

Ambient Air Monitoring Calibration Report

- AQHI - GRIMSHAW STATION-

CAL-PRAMP-202201-01689

Operation and Maintenance:

Bureau Veritas Canada

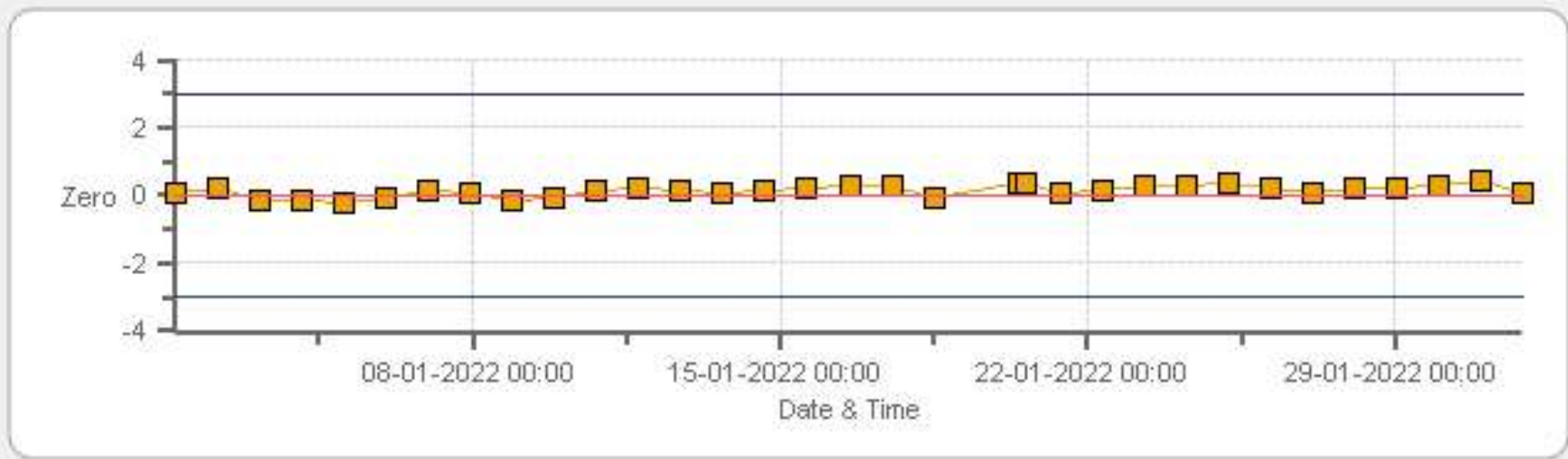
Data Validation and Report:

Bureau Veritas Canada

February 10, 2022

DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: AQHI Grimshaw Monthly: 01-2022 Type: SpanAndZero - Zero



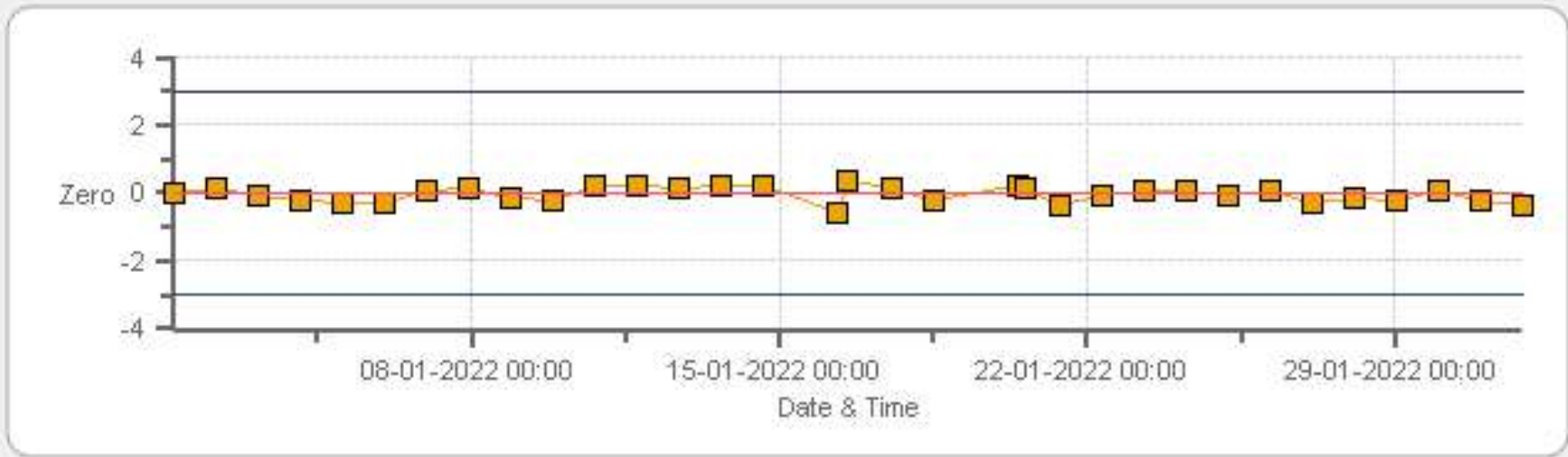
■ Zero
 — Zero Ref
 — Zero Low
 — Zero High

SO2[ppb] Calibration: AQHI Grimshaw Monthly: 01-2022 Type: SpanAndZero - Span



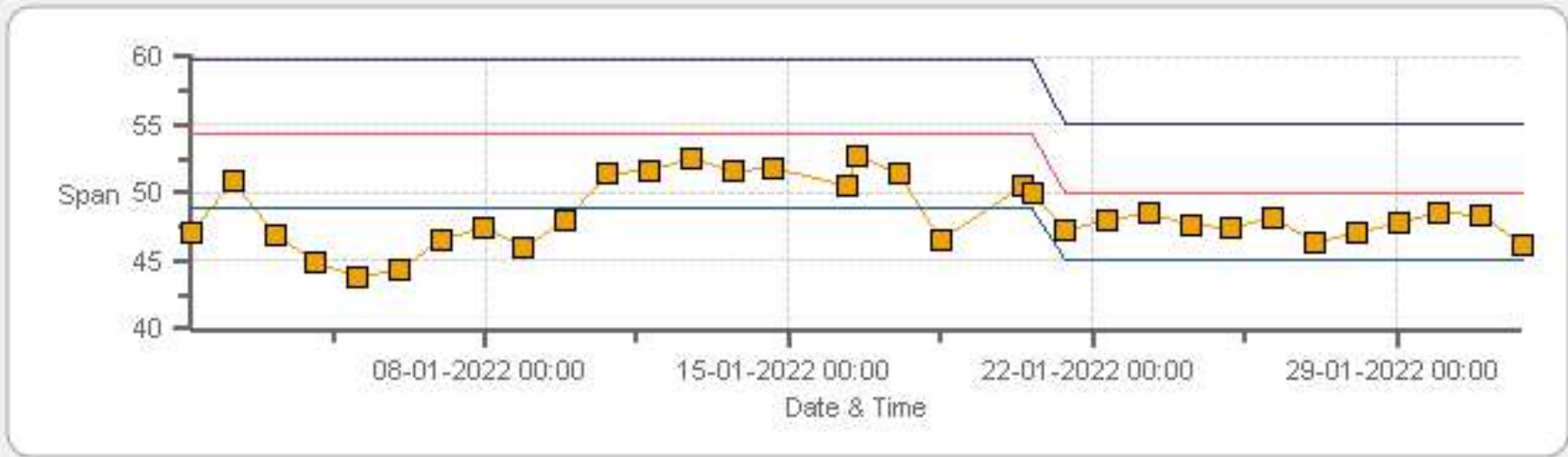
■ Span
 — SpanRef
 — Span Low
 — Span High

TRS[ppb] Calibration: AQHI Grimshaw Monthly: 01-2022 Type: SpanAndZero - Zero



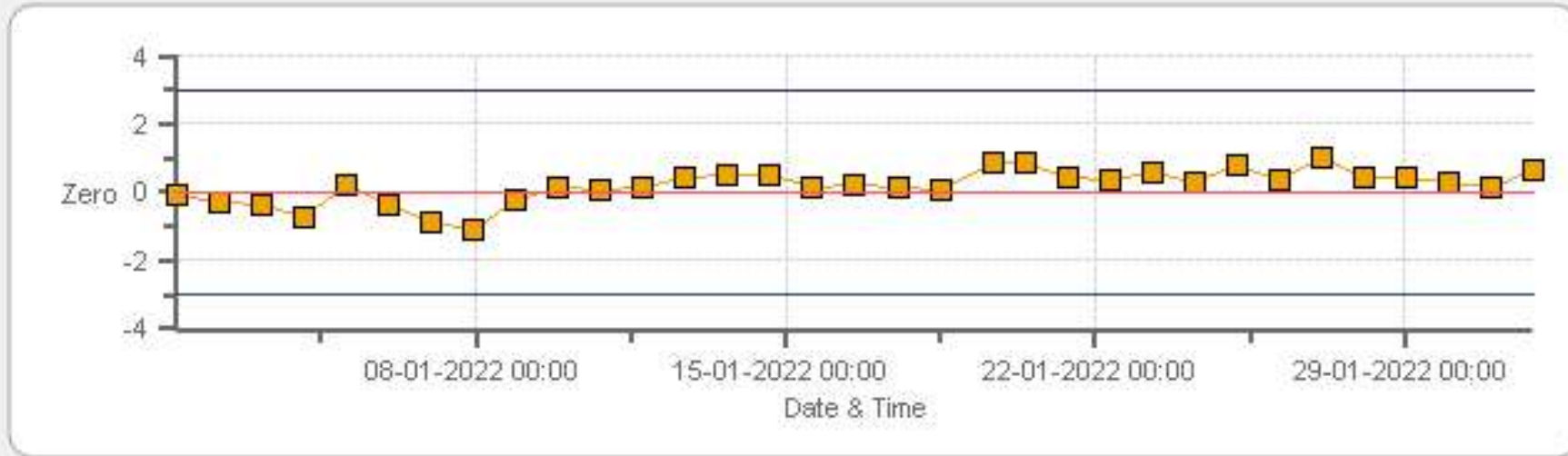
Zero Zero Ref Zero Low Zero High

TRS[ppb] Calibration: AQHI Grimshaw Monthly: 01-2022 Type: SpanAndZero - Span



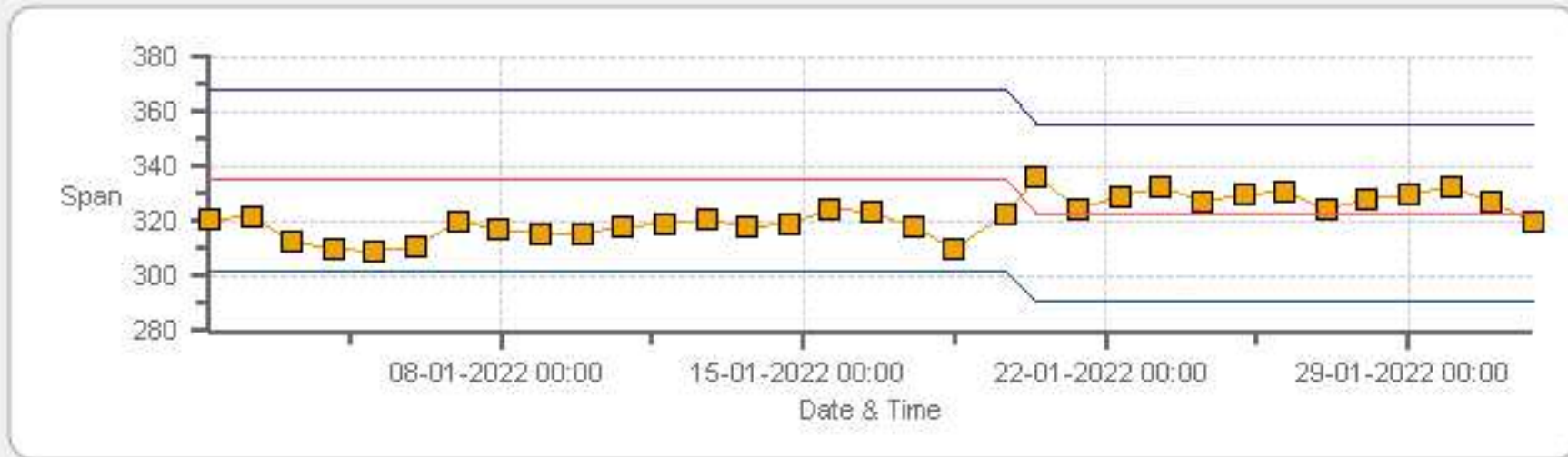
Span SpanRef Span Low Span High

NOX[ppb] Calibration: AQHI Grimshaw Monthly: 01-2022 Type: SpanAndZero - Zero



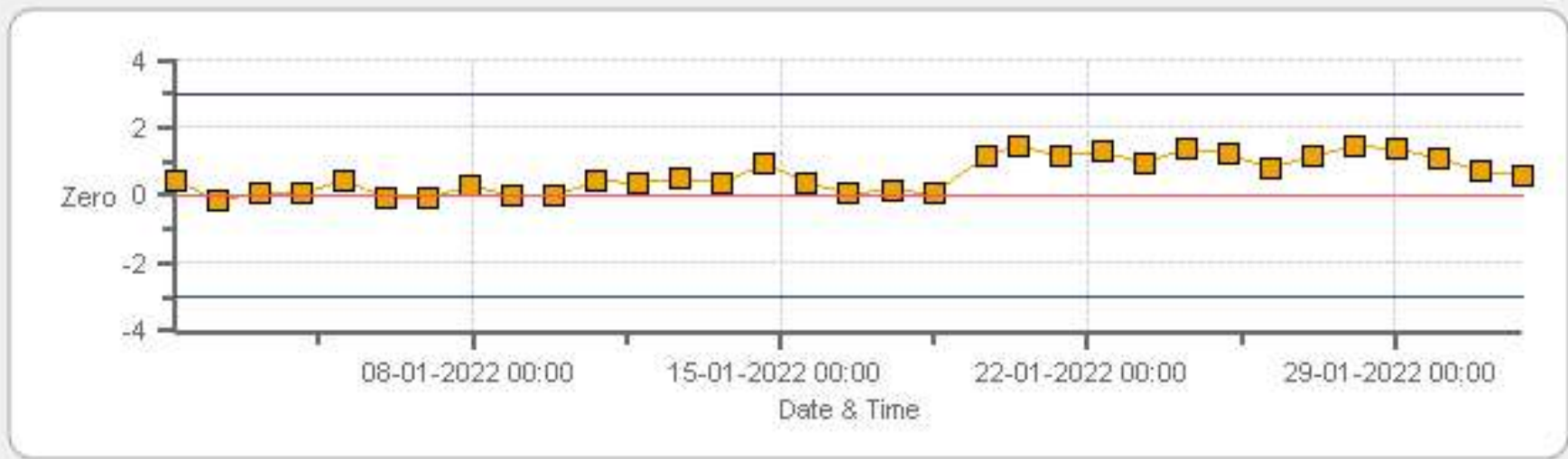
Zero Zero Ref Zero Low Zero High

NOX[ppb] Calibration: AQHI Grimshaw Monthly: 01-2022 Type: SpanAndZero - Span



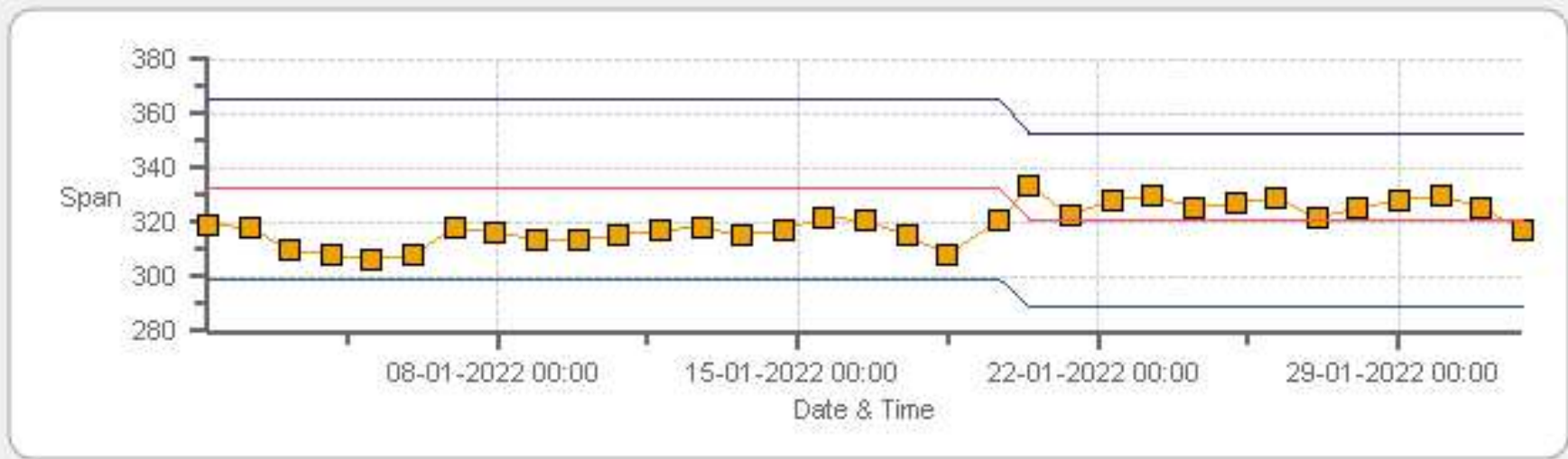
Span SpanRef Span Low Span High

NO2[ppb] Calibration: AQHI Grimshaw Monthly: 01-2022 Type: SpanAndZero - Zero



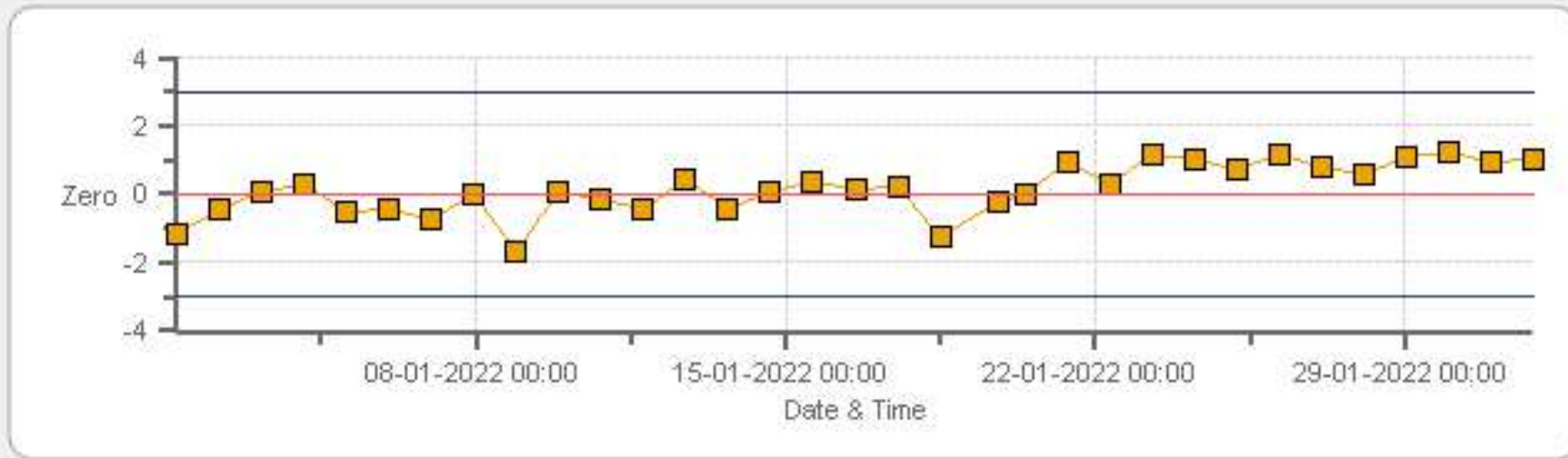
■ Zero
 — Zero Ref
 — Zero Low
 — Zero High

NO2[ppb] Calibration: AQHI Grimshaw Monthly: 01-2022 Type: SpanAndZero - Span



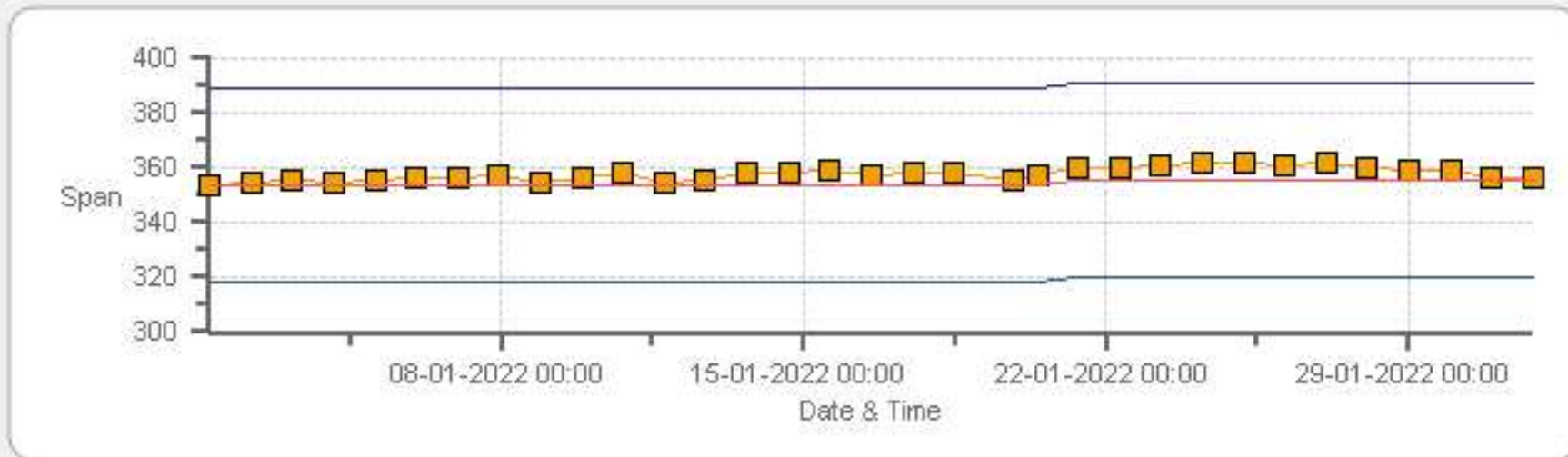
■ Span
 — SpanRef
 — Span Low
 — Span High

O3[ppb] Calibration: AQHI Grimshaw Monthly: 01-2022 Type: SpanAndZero - Zero



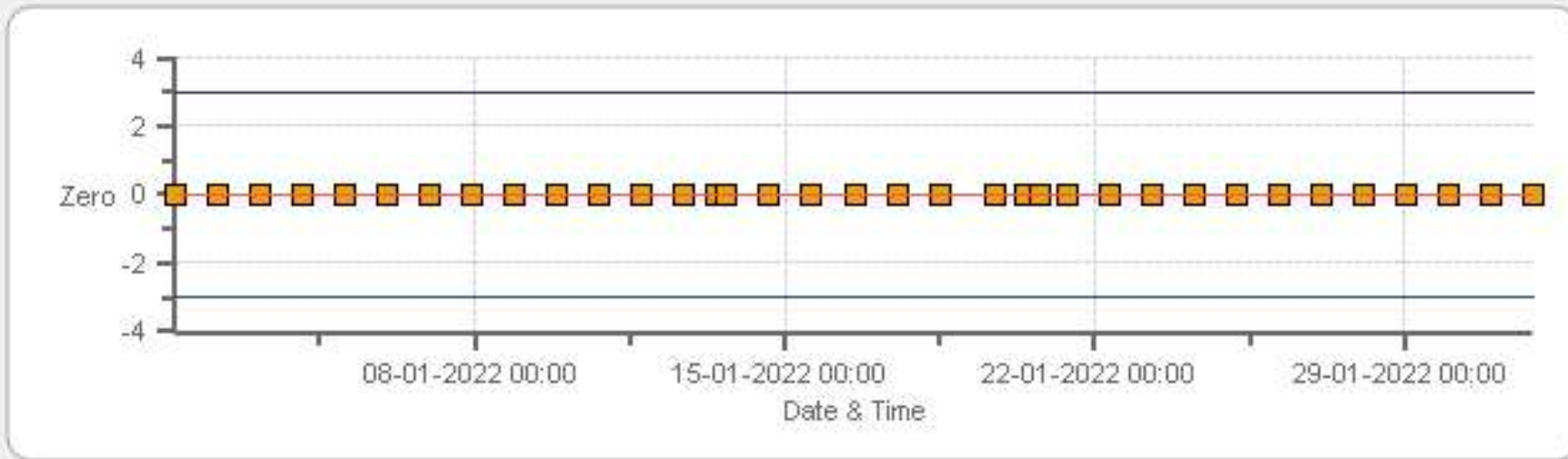
Zero Zero Ref Zero Low Zero High

O3[ppb] Calibration: AQHI Grimshaw Monthly: 01-2022 Type: SpanAndZero - Span



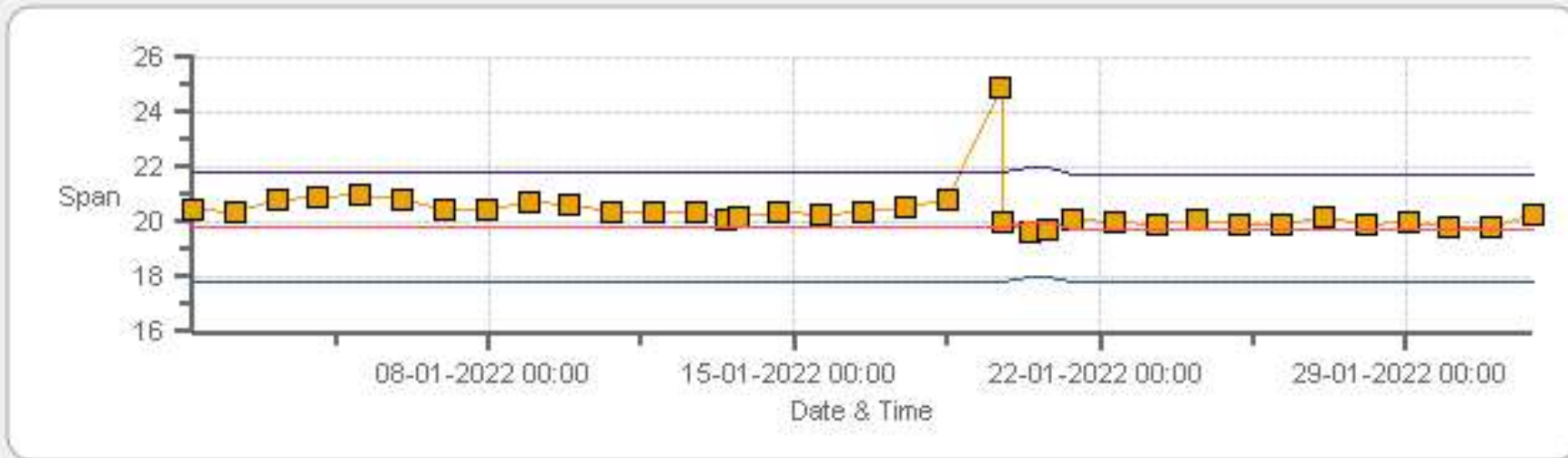
Span Span Ref Span Low Span High

THC55[ppm] Calibration: AQHI Grimshaw Monthly: 01-2022 Type: SpanAndZero - Zero



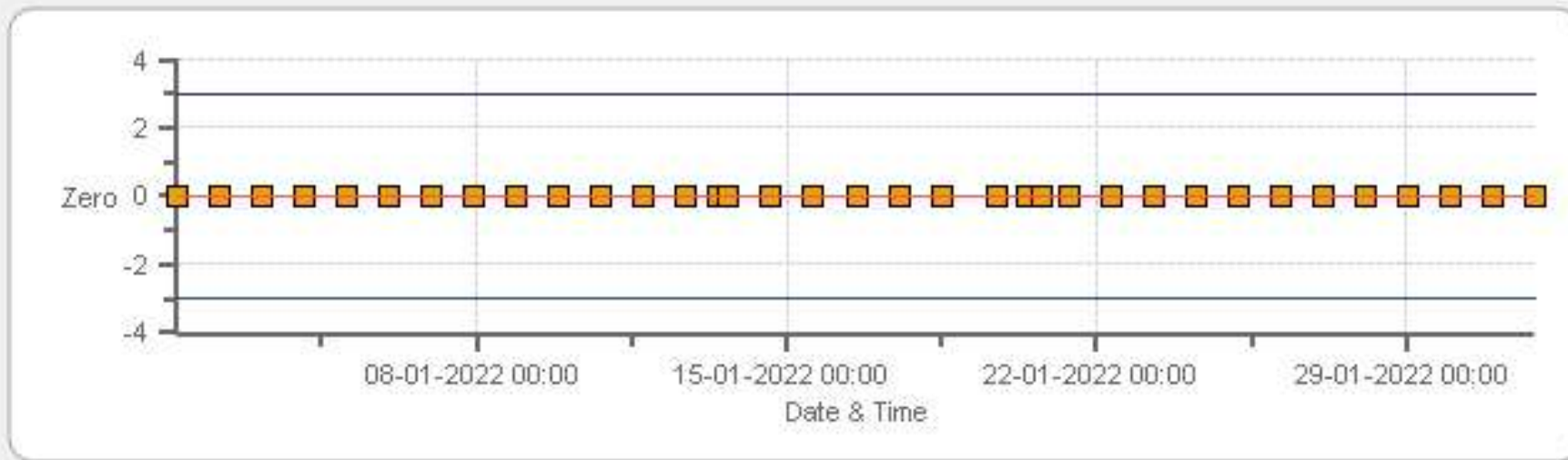
Zero Zero Ref Zero Low Zero High

THC55[ppm] Calibration: AQHI Grimshaw Monthly: 01-2022 Type: SpanAndZero - Span



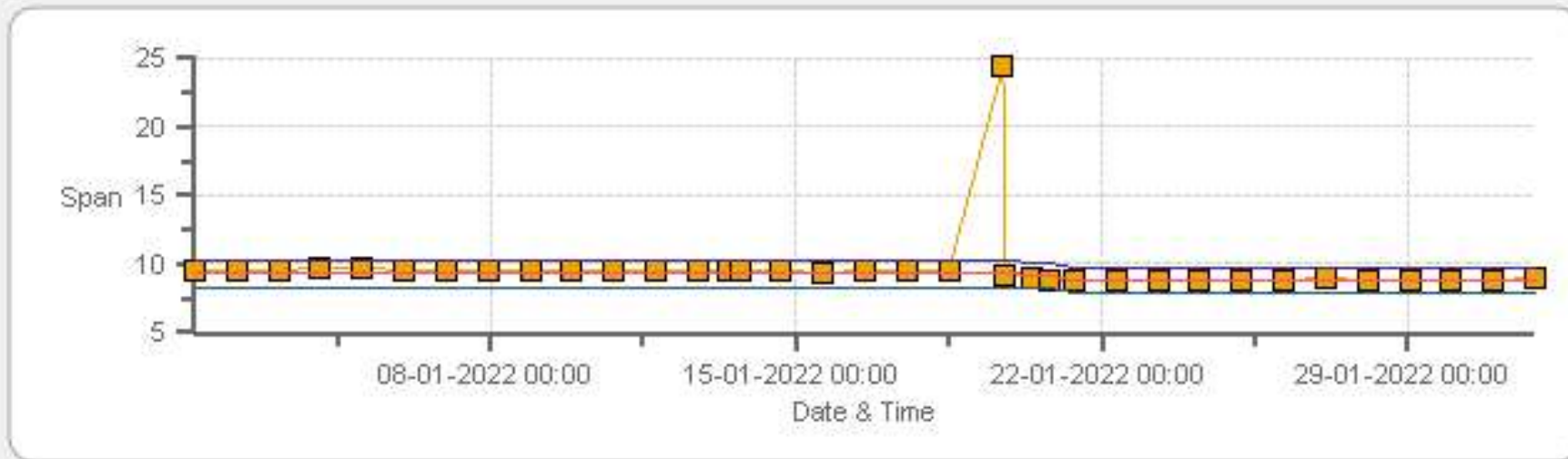
Span SpanRef Span Low Span High

CH4[ppm] Calibration: AQHI Grimshaw Monthly: 01-2022 Type: SpanAndZero - Zero



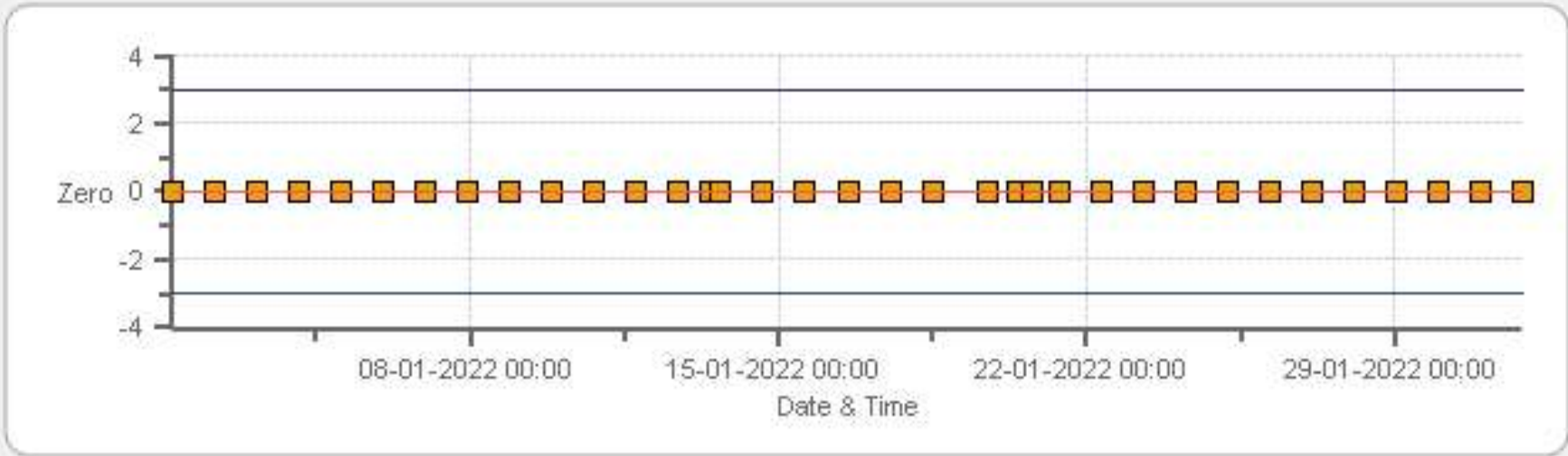
Zero Zero Ref Zero Low Zero High

CH4[ppm] Calibration: AQHI Grimshaw Monthly: 01-2022 Type: SpanAndZero - Span



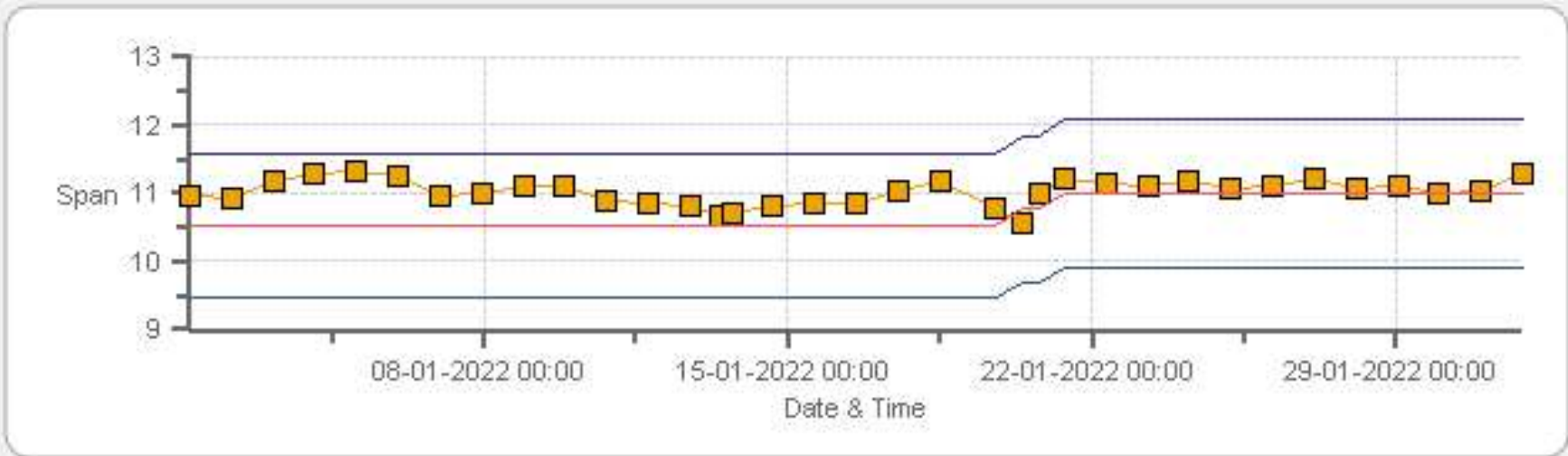
Span Span Ref Span Low Span High

NMHC[ppm] Calibration: AQHI Grimshaw Monthly: 01-2022 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NMHC[ppm] Calibration: AQHI Grimshaw Monthly: 01-2022 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



DATE:	19-Jan-2022	PREVIOUS CALIBRATION DATE:	01-Dec-2021
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	PRAMP	TEMPERATURE (°C):	23.9
LOCATION:	Grimshaw	BAROMETRIC (mBar):	952
PURPOSE:	As-Found	START TIME (MST):	10:05
PERFORMED BY:	Chris Wesson	END TIME (MST):	11:33

ANALYZER:

MAKE/MODEL	Teledyne T100	RANGE	500 ppb
SERIAL #	722	FLOW (mL/min)	539
INITIAL		FINAL	
BKG/OFFSET	23.5	BKG/OFFSET	23.5
COEF/SLOPE	0.937	COEF/SLOPE	0.937
Expected (reference) Value	270.9	Expected (reference) Value	270.9

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	M701
ID:	58100720	ID:	4568
MFC CALIBRATION DATE:	12-Oct-2021	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):	500	LOW ID	n/a
EXPIRY DATE	03-Jul-2023	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

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

CALIBRATION:

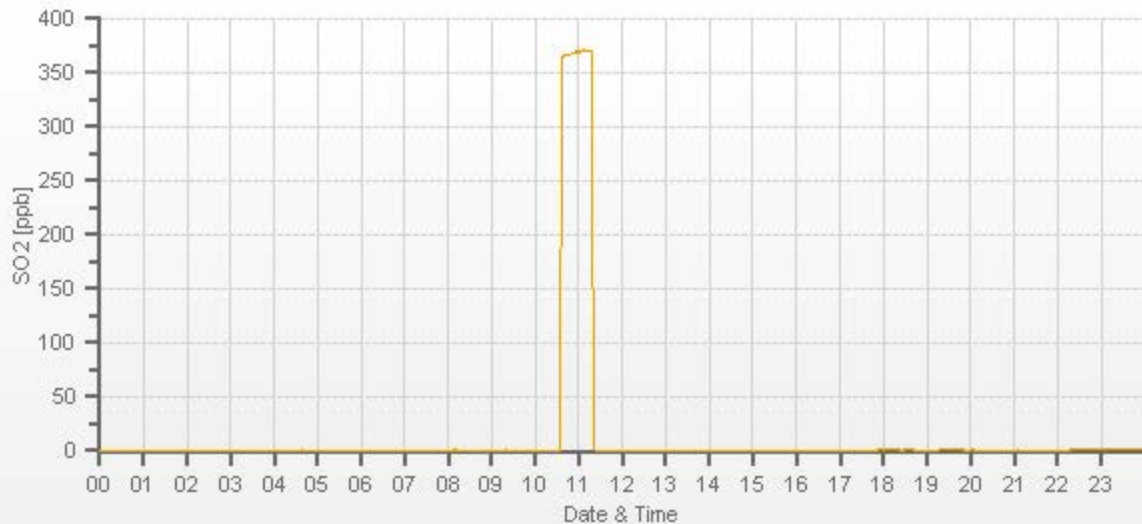
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
3755	3755	3755	0.00	-0.3	n/a	1.000	n/a
3692	58.90	3751	380.00	370.7	n/a	1.024	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

LINEAR REGRESSION ANALYSIS:

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

COMMENTS:

Routine calibration terminated after as-found to allow TRS shutdown to be completed.



SO2 Analyzer Calibration by Dilution



DATE:	20-Jan-2022	PREVIOUS CALIBRATION DATE:	01-Dec-2021
PARAMETER:	SO2	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	PRAMP	TEMPERATURE (°C):	22.4
LOCATION:	Grimshaw	BAROMETRIC (mBar):	923
PURPOSE:	Routine	START TIME (MST):	10:40
PERFORMED BY:	Chris Wesson	END TIME (MST):	14:17

ANALYZER:

MAKE/MODEL	Teledyne T100	RANGE	500 ppb
SERIAL #	722	FLOW (mL/min)	518
INITIAL		FINAL	
BKG/OFFSET	23.5	BKG/OFFSET	23.6
COEF/SLOPE	0.937	COEF/SLOPE	0.951
Expected (reference) Value	270.9	Expected (reference) Value	275.8

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	M701
ID:	58100720	ID:	4568
MFC CALIBRATION DATE:	12-Oct-2021	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):	500	LOW ID	n/a
EXPIRY DATE	03-Jul-2023	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

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

CALIBRATION:

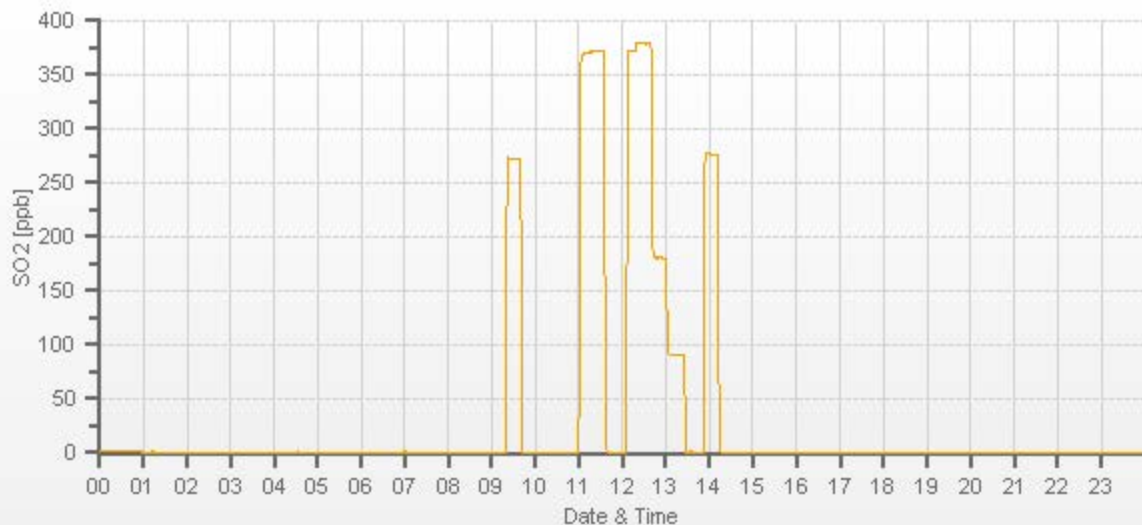
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
3751	 	3751	0.00	-0.3	0	 	
3692	58.90	3751	380.00	373.4	380	1.017	1.000
3724	27.90	3752	179.95	n/a	180.6	n/a	0.996
3736	14.00	3750	90.35	n/a	91.5	n/a	0.987

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.999	0.1%

COMMENTS:

No issues



TRS Analyzer Calibration by Dilution



DATE:	19-Jan-2022	PREVIOUS CALIBRATION DATE:	01-Dec-2021
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	PRAMP	TEMPERATURE (°C):	23.9
LOCATION:	Grimshaw	BAROMETRIC (mBar):	952
PURPOSE:	Removal/Shut-down	START TIME (MST):	10:05
PERFORMED BY:	Chris Wesson	END TIME (MST):	12:49

ANALYZER:

MAKE/MODEL	Teledyne T100U	RANGE	100 ppb
SERIAL #	132	FLOW (mL/min)	513
INITIAL		FINAL	
BKG/OFFSET	25.5	BKG/OFFSET	n/a
COEF/SLOPE	1.081	COEF/SLOPE	n/a
Expected (reference) Value	54.32	Expected (reference) Value	n/a

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	M701
ID:	58100720	ID:	4568
MFC CALIBRATION DATE:	12-Oct-2021	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY0002519	HIGH ID	n/a
CONC (ppm):	9.41	EXPIRY DATE	n/a
CYLINDER (psi):	1500	LOW ID	n/a
EXPIRY DATE	10-Nov-2023	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

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

CALIBRATION:

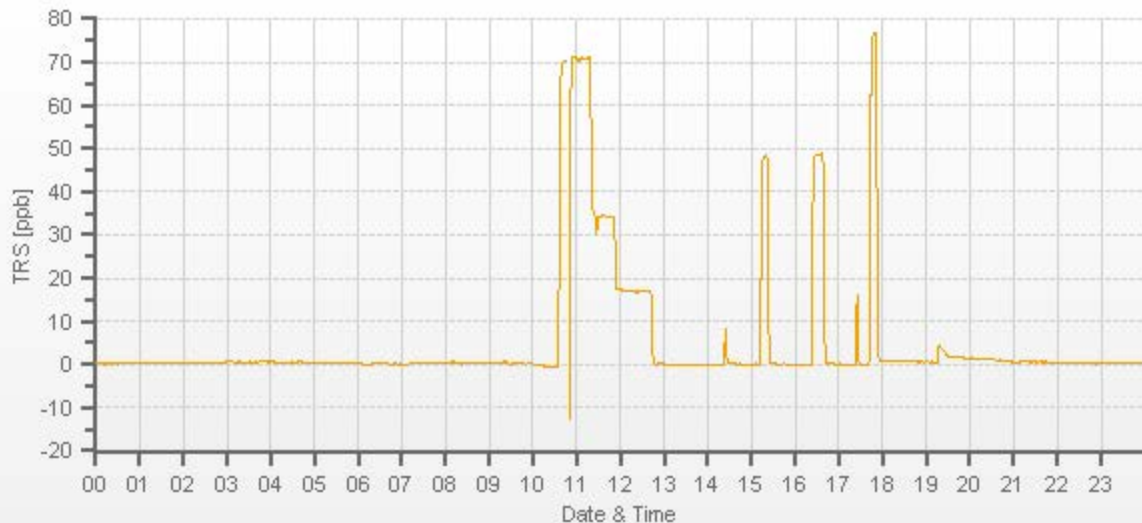
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
3755	31.10	3755	0.00	-0.3	n/a	1.093	n/a
3720	31.10	3751	78.02	71.06	n/a	1.093	n/a
3985	16.10	4001	37.87	34.39	n/a	1.092	n/a
3992	8.10	4000	19.06	17.05	n/a	1.098	n/a

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	0.915	-0.3%

COMMENTS:

<p>Converter: CDNova CDN-101 #534 10:45 - communication with analyzer fails. Analyzer reset and as-found high restarts. 11:27 (start of mid point): calibrator settings check. Shutdown to renew scrubber beads.</p>



TRS Analyzer Calibration by Dilution



DATE:	20-Jan-2022	PREVIOUS CALIBRATION DATE:	n/a
PARAMETER:	TRS	PREVIOUS CORRECTION FACTOR:	n/a
CLIENT:	PRAMP	TEMPERATURE (°C):	22.4
LOCATION:	Grimshaw	BAROMETRIC (mBar):	923
PURPOSE:	Install/Post-Repair	START TIME (MST):	11:38
PERFORMED BY:	Chris Wesson	END TIME (MST):	14:17

ANALYZER:

MAKE/MODEL	Teledyne T100U	RANGE	100 ppb
SERIAL #	132	FLOW (mL/min)	522
INITIAL		FINAL	
BKG/OFFSET	25.1	BKG/OFFSET	25.3
COEF/SLOPE	1.078	COEF/SLOPE	1.061
Expected (reference) Value	54.32	Expected (reference) Value	50.07

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	M701
ID:	58100720	ID:	4568
MFC CALIBRATION DATE:	12-Oct-2021	OXIDIZER ID:	n/a
CALIBRATION GAS:		FLOWMETERS (if applicable):	
CYLINDER ID:	EY0002519	HIGH ID	n/a
CONC (ppm):	9.41	EXPIRY DATE	n/a
CYLINDER (psi):	1500	LOW ID	n/a
EXPIRY DATE	10-Nov-2023	EXPIRY DATE	n/a

CALIBRATION PARAMETERS:

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

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

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

CALIBRATION:

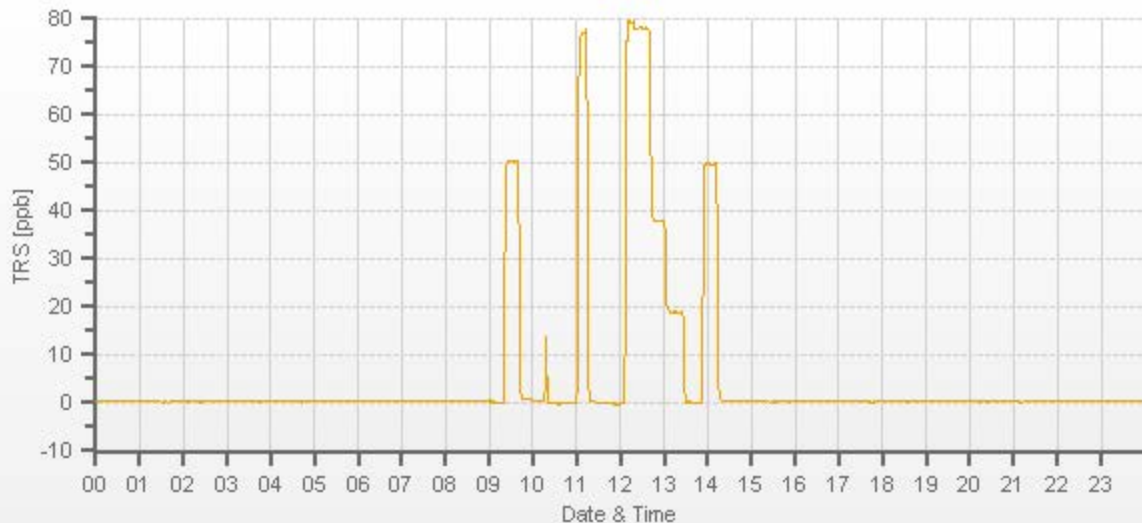
FLOW RATES (mL/min)			CONCENTRATION (ppb)		CORRECTION FACTOR		
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
3751	31.10	3751	0.00	n/a	0	n/a	1.000
3720	31.10	3751	78.02	n/a	78	n/a	1.000
3737	15.10	3752	37.87	n/a	37.98	n/a	0.997
3742	7.60	3750	19.07	n/a	19.06	n/a	1.001

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.000	0.0%

COMMENTS:

Converter: CDNova CDN-101 #534



NOx Calibration by Dilution/Gas-Phase Titration



CALIBRATION:				ANALYZER:			
DATE:	19-Jan-2022	PREVIOUS CALIBRATION DATE:	01-Dec-2021	MAKE/MODEL:	Teledyne T200	PREVIOUS CF.	
CLIENT:	PRAMP	TEMPERATURE (°C):	23.9	SERIAL #:	837	NOx	1.000
LOCATION:	Grimshaw	BAROMETRIC (mBar):	952	FLOW (mL/min)	445	NO	1.000
PURPOSE:	Routine	START TIME (MST):	10:05	RANGE (ppb)	500	NO2	0.995
PERFORMED BY:	Chris Wesson	END TIME (MST):	16:54	GPT FOR O3?		No	

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	Sabio	MAKE:	Teledyne	CYLINDER ID:	LL48147	HIGH ID:	n/a
MODEL:	2010	MODEL:	M701	NO/NOx (PPM):	50.5 50.6	HIGH EXPIRY:	n/a
ID:	26701218	ID:	4568	CYLINDER (psi):	500	LOW ID:	n/a
MFC CALIBRATION DATE:	12-Oct-2021	OXIDIZER ID:	n/a	EXPIRY DATE	20-Aug-2026	LOW EXPIRY:	n/a

CALIBRATION SETTINGS:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
BKG/OFFSET:	0.5	0.3	n/a	BKG/OFFSET:	-0.4	0.8	n/a
SLOPE/COEF/CE:	1.13	1.115	0.999	SLOPE/COEF/CE:	1.171	1.161	0.999

EXPECTED (REFERENCE) VALUE:							
INITIAL	NOx	NO	NO2	FINAL	NOx	NO	NO2
	335.0	2.5	332.5		323.1	2.4	320.8

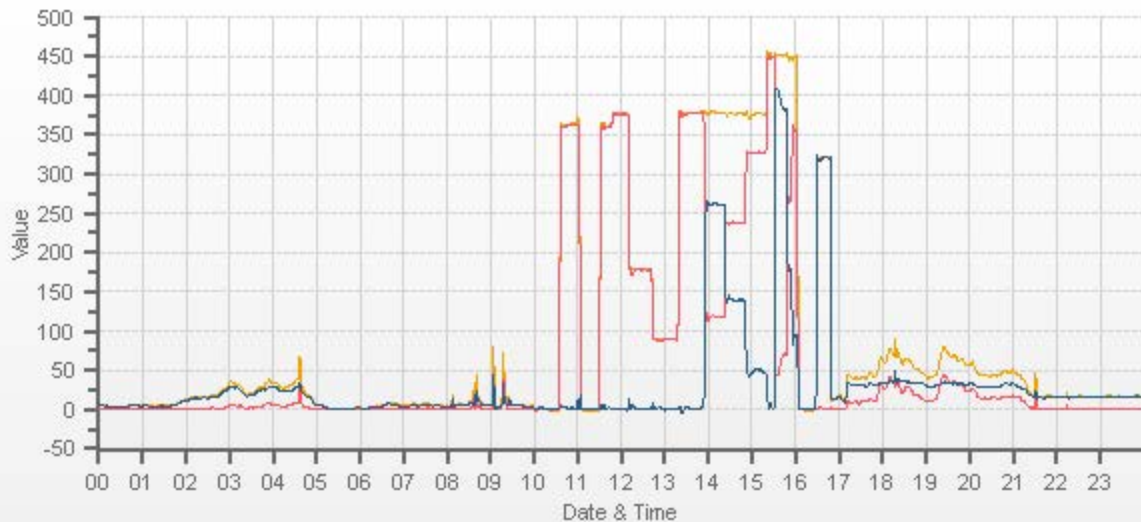
CALIBRATION PARAMETERS:				
POINT	NO TARGET (PPB)	NO2 TARGET (PPB)	NO2 RANGE	O3 POINT
HIGH	380	250	230-265	n/a
MID	180	125	115-150	n/a
LOW	90	45	40-55	n/a
EXTRA 1	n/a	n/a	n/a	n/a

FLOW RATE			CONCENTRATION (ppb)									CORRECTION FACTOR (CF.)					
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2	NO	NOx	NO2
5000	37.30	5000	0.0	0.0	0.0	-0.4	0.1	0.5	0.0	0.0	0.0	1.039	1.036	n/a	0.999	0.999	n/a
4963	37.30	5000	376.7	377.5	0.7	362.3	364.5	2.2	377.0	378.0	1.0	1.039	1.036	n/a	0.999	0.999	n/a
4981	17.70	4999	178.8	179.2	0.4	n/a	n/a	n/a	177.0	178.4	1.4	n/a	n/a	n/a	1.010	1.004	n/a
4990	8.80	4999	88.9	89.1	0.2	n/a	n/a	n/a	89.0	90.4	1.4	n/a	n/a	n/a	0.999	0.985	n/a

GPT CALIBRATION:										
Point	CALIBRATOR			INDICATED (ppb)			NO DROP / O3 Conc (ppb)	NO2 GAIN (ppb)	NO2 Corr. FACTOR	CONV. EFFICIENCY
	GAS	TOTAL	O3 SETPOINT	NO	NOx	NO2				
REFERENCE	37.30	5000	0	377.0	378.9	1.9	n/a	n/a	n/a	n/a
AS-FOUND HIGH	37.30	5000	250	117.8	379.2	261.3	259.2	259.4	0.999	100.08%
ADJUSTED HIGH	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MID	37.30	5000	135	238.4	377.7	139.3	138.6	137.4	1.009	99.13%
LOW	37.30	5000	48	327.8	378.2	50.5	49.2	48.6	1.012	98.78%
NO2 adjustment not required.									AVERAGE:	99.33%

LINEAR REGRESSION ANALYSIS:				COMMENTS:
	CORRELATION	SLOPE	INTERCEPT	
NO	1.000	1.000	-0.08%	
NOx	1.000	1.000	0.05%	
NO2	1.000	1.004	-0.23%	

No issues.
15:20-16:06 = GPT for O3



CAL-PRAMP-202201-01689

Ozone Calibration by Direct GPT



DATE:	19-Jan-2022	PREVIOUS CALIBRATION DATE:	01-Dec-2021
PARAMETER:	O3	PREVIOUS CORRECTION FACTOR:	1.000
CLIENT:	PRAMP	TEMPERATURE (°C):	23.4
LOCATION:	Cadotte Lake	BAROMETRIC (mBar):	947
PURPOSE:	Routine	START TIME (MST):	16:14
PERFORMED BY:	Chris Wesson	END TIME (MST):	19:59

ANALYZER:

MAKE/MODEL	API 400A	RANGE	500 ppb
SERIAL #	445	FLOW (mL/min)	823
INITIAL		FINAL	
BKG/OFFSET	-1	BKG/OFFSET	-1.8
COEF/SLOPE	0.974	COEF/SLOPE	0.977
Expected (reference) Value	353.8	Expected (reference) Value	355.3

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:	
MAKE:	Sabio	MAKE:	Teledyne
MODEL:	2010	MODEL:	M701
ID:	26701218	ID:	4658
MFC CALIBRATION DATE:	12-Oct-2021	OXIDIZER ID:	n/a
CALIBRATION METHOD:		Direct GPT	
GPT DATE:	19-Jan-2022	GPT END TIME:	16:54

CALIBRATION PARAMETERS:

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

CALIBRATION:

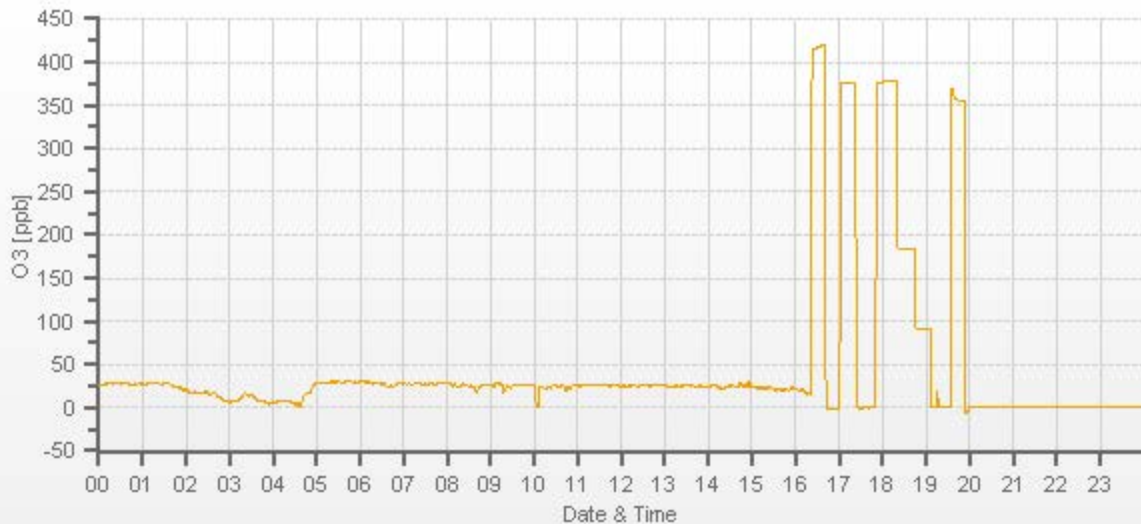
FLOW RATES (mL/min)			CONCENTRATION (ppb)			CORRECTION FACTOR	
DILUENT	GAS	TOTAL	ACTUAL	INDICATED		Initial	Final
				Initial	Final		
4999	 	4999	0.0	-1.2	0.0	 	
5000	 	5000	378.7	375.7	378.7	1.005	1.000
5000	 	5000	181.3	n/a	183.9	n/a	0.986
5000	 	5000	92.7	n/a	91.5	n/a	1.013

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT
VALUE	1.000	1.002	0.0%

COMMENTS:

16:14-16:33 incorrect calibrator setting. As-found zero starts at 16:42



Methane/Non-Methane Analyzer Calibration by Dilution



CALIBRATION:				ANALYZER:			
DATE:	19-Jan-2022	PREVIOUS CALIBRATION DATE:	01-Dec-2021	VALUE	MAKE/MODEL	SERIAL	FLOW (mL/min)
CLIENT:	PRAMP	TEMPERATURE (°C):	21.6		Thermo 55i	1191032505	1148
LOCATION:	Grimshaw	BAROMETRIC (mBar):	949	PARAMETER:	CH4	NMHC	THC
PURPOSE	Routine	START TIME (MST):	13:07	RANGE (ppm):	20	20	40
PERFORMED BY:	Chris Wesson	END TIME (MST):	18:40	PREVIOUS CF:	0.999	0.998	0.998

CALIBRATION SYSTEM:

CALIBRATOR:		ZERO AIR:		CALIBRATION GAS:		FLOWMETERS (if applicable):	
MAKE:	Sabio	MAKE:	Teledyne	CYLINDER ID:	LL119576	HIGH ID:	n/a
MODEL:	2010	MODEL:	M701	CH ₄ /C ₃ H ₈ (ppm):	870.0 299.0	HIGH EXPIRY:	n/a
ID:	58100720	ID:	4568	CYLINDER (psi):	1800	LOW ID:	n/a
MFC CALIBRATION DATE:	12-Oct-2021	OXIDIZER ID:	Internal	EXPIRY DATE	22-Dec-2028	LOW EXPIRY:	n/a

CALIBRATION PARAMETERS:

POINT (CH ₄ /NMHC)	HIGH	MID	LOW	CH ₄ EQUIVILANCE	
TARGET	14	7	3.5	C ₃ H ₈ as CH ₄	822.3
RANGE	12 - 16	6 - 8	2 - 4	THC as CH ₄	1692.3

EXPECTED (REFERENCE) VALUE:

INITIAL	CH ₄	NMHC	THC	FINAL	CH ₄	NMHC	THC
	9.28	10.53	19.81		9.19	10.77	19.96

CALIBRATION:

FLOW RATE			CONCENTRATION (PPM)									CORRECTION FACTOR (CF.)					
(mL/min)			CALCULATED			INITIAL INDICATED			FINAL INDICATED			INITIAL			FINAL		
DILUENT	GAS	TOTAL	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC	CH ₄	NMHC	THC
2900	X	2900	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	X	X	X	X	X
2851	48.00	2899	14.40	13.61	28.02	14.90	13.72	28.62	14.42	13.59	28.00	0.967	0.992	0.979	0.999	1.002	1.001
2878	24.00	2902	7.20	6.80	14.00	n/a	n/a	n/a	7.25	6.84	14.09	n/a	n/a	n/a	0.992	0.994	0.993
2888	12.00	2900	3.60	3.40	7.00	n/a	n/a	n/a	3.67	3.45	7.12	n/a	n/a	n/a	0.981	0.986	0.983

LINEAR REGRESSION ANALYSIS:

	CORRELATION	SLOPE	INTERCEPT	Comments:
CH ₄	1.000	1.000	0.2%	No issues New span gas installed. Incorrect type. ZS aborted. Previous cylinder reinstalled.
NMHC	1.000	0.997	0.2%	
THC	1.000	0.998	0.2%	
				Use Zero Chrom? Yes



CAL-PRAMP-202201-01689



Teledyne T640 Audit/Calibration

Date/Previous Audit Date:	January 19, 2022	December 1, 2021	Weather Conditions:	Cloudy/Overcast	
Company:	PRAMP		Start Time (mst):	17:06	
Station:	Grimshaw		End Time (mst):	17:40	
Parameter:	PM 2.5	Performed By/Reviewer:	Chris Wesson	Ferdinand Roy	
Instrument Data:					
Make/Model:	Teledyne T640		Serial Number:	318	
Owner:	PRAMP		Alarms (detail in comments):	No	
Reference Standards/I.D./Expiry Date:					
Flow Standard: Deltacal DC-1 #201587, expires Nov01, 2022		Temperature: Deltacal DC-1 #201587, expires Nov01, 2022			
Digital Manometer: Deltacal DC-1 #201587, expires Nov01, 2022		Pressure: Deltacal DC-1 #201587, expires Nov01, 2022			
DIAGNOSTICS:					
Ambient Pressure (mmHg)	708.0	Ambient Temp (°C)	-21.8	ASC Heater Duty (%)	0.0
Box Temp (°C)	25.3	Current PMT HV (V)	1541	LED Temp (°C)	33.75
P3 Value	45	PMT Setting (V)	1547	Pump PWM (%)	45
Sample Flow (L/min)	5.00	Sample RH (%RH)	3.1	Sample Temp (°C)	22.9
Item:	As-found		As-left		Tolerance
	Reference	T640x	Reference	T640x	
Zero Test (Leak Check)	PM10	0.0	n/a	0.0	0.0 to 0.2
	PM2.5	0.0	n/a	0.0	
Ambient Pressure (mmHg)	708.0	708.0	n/a	n/a	+/- 10 mm Hg
Ambient Temperature (°C)	-22.80	-21.8	n/a		+/- 2°C
Sample Flow (L/min)	5.10	4.99	n/a	n/a	+/-5% of T640x (e.g., 4.75 – 5.25 lpm)
Comments:					
No issues.					

Meteorological System Checklist



Date:	January 19, 2022
Technician:	Chris Wesson
Station:	PRAMP Grimshaw

Unit:	Make:	Model:	Serial #:
Temperature Sensor:	Vaisala	HMP155	N2910506
Barometric Pressure Sensor:	MetOne	92	A2397
Relative Humidity Sensor:	Vaisala	HMP155	N2910506
Anemometer:	RM Young	05305AQ	174801

AMBIENT TEMPERATURE SENSOR CHECK

Previous check date:	December 1, 2021
Parameter:	Temperature @ 2 metres
Reference Thermometer ID:	F.S. 181341226 expires June 10, 2021
Reference Temperature (°C):	-22.8
Station - Ambient Temperature (°C):	-22.8
Temperature Difference (°C):	0.0

BAROMETRIC PRESSURE SENSOR CHECK

Previous check date:	December 1, 2021
Reference Barometer ID:	Brunton 05535 expires Feb 17, 2022
Reference Pressure - Units/Reading:	millibar 944.3
Station Pressure - Units/Reading:	millibar 946.1
Pressure Tolerance +/- 15% of error:	803 - 1086 -0.19%

RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK

Previous check date:	December 1, 2021
Reference Hygrometer ID:	F.S. 181341226 expires June 10, 2021
Reference Hygrometer % RH- Reading:	82.80
Station Hygrometer % RH- Reading:	79.30
RH Tolerance +/- 15% of difference:	70.38 - 95.22 4.2%

ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK

WIND SPEED		WIND DIRECTION	
Previous check date:	December 1, 2021	Previous check date:	December 1, 2021
Wind Speed Observed (kph):	0	Wind Direction Observed:	S
Wind speed on Data Logger (kph):	0	Wind Direction on Data Logger:	S
		Wind Direction Pass/Fail?:	Pass

Comments

No issues



Meteorological Sensor Audit/Calibration

Location Information

Company:	PRAMP	Performed By:	Ferdinand Roy
Audit Location:	Cadotte Lake	Reviewed By:	Chris Wesson
Audit Date:	July 22, 2021	Start/End Time (mst):	12:47-15:52
Calibration Purpose:	routine annual	Weather Conditions:	Cloudy/Overcast

Wind Sensor Information

Sensor ID Data:		Sensor Outputs:	
Sensor Make:	RM Young	Velocity Voltage Output Range:	n/a
Sensor Model:	05305AQ	Velocity Unit Output Range:	0-180
Serial #:	174801	Direction Voltage Output Range:	n/a
Previous Cal/Audit Date:	June 18, 2020	Direction Unit Output Range:	0-360

Wind Calibrator Information

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

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.0	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
			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	27	330	3.5	-0.3	1.9
60	300	56	300	3.9	0.1	2.0
90	270	87	269	3.5	1.1	2.3
120	240	118	238	2.4	2.5	2.5
150	210	149	207	1.5	3.5	2.5
180	180	178	177	1.8	2.8	2.3
210	150	208	148	2.1	2.5	2.3
240	120	239	117	1.1	2.9	2.0
270	90	270	86	-0.1	3.6	1.9
300	60	300	57	0.2	3.5	1.8
330	30	330	27	-0.1	3.0	1.6
355	0	353	0	1.8	0.1	1.0
The audit meets AMD requirements.				Average Absolute Degrees Difference=		1.9

Comments:

Physical inspection completed - no issues.