Peace River Area Monitoring Program

APRIL 2019

- Monthly Ambient Air Quality Monitoring Report -

- Ambient Air Monthly Calibration Report -

- Certified Laboratory Analysis Report-

May 8, 2019

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Peace River Area Monitoring Program

APRIL 2019

Monthly Ambient Air Quality Monitoring Report

PRAMP-201904

Operation and Maintenance:
Maxxam Analytics

Data Validation and Report:
Peace River Area Monitoring Program

May 8, 2019

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LIST OF ACRONYMS

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

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May 8, 2019

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

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

The representative of the Person Responsible for this monitoring program is

PRAMP Airshed
Michael Bisaga / Lily Lin, Technical Program Managers
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This report has been prepared, reviewed and submitted by Michael Bisaga & Lily Lin of the PRAMP Airshed

NETWORK STATION SUMMARY

Listing of Continuous Monitoring Stations

The PRAMP continuous ambient air quality monitoring network stations are:

- 986 Station
- 842 Station
- Reno Station

Station ID	Station Name	Latitude	Longitude
1562	986	56.376056	-116.940704
1561	842	56.27406	-116.98129
1563	Reno	55.86936	-117.05739

Listing of Intermittent Monitoring Stations

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

Monitoring Notes during the Month of April 2019

986 Station:

- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable.
- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- THC/CH4/NMHC:
    - Hourly data collected on April 13 hour 13 was invalidated due to polling errors which occurred between the analyzer and the datalogger.
    - The channels were put offline on April 23 at hour 16 and hour 18, and on April 24 hour 9 when the canister system was tested and the data logger programming was performed.
- RH/ TPX: The RM Young RH/ TPX 43172VC sensor, s/n: 61012322, was removed, and a replacement RM Young RH/TPX 43182VC sensor, s/n: 030978, was installed on April 30.
- Wind system: The wind system calibration was performed on April 24.
- All meteorological channels: On April 23 hour 16 and hour 18, and on April 24 hour 9, the channels were put offline while the data logger programming and DAC audit were performed. Three hours of downtime were recorded due to this event.

842 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.
- TRS: The convertor thermocouple was repaired to correct the issue of the unstable temperature of the oxidizer following a shut-down calibration on April 9. The convertor was allowed to stabilize overnight. A post-repair calibration was performed on April 10. 25 hours of downtime were recorded due to this event.
- THC/CH4/NMHC: The analyzer failed the daily span check on April 20; during the site visit on April 22, the valve for the span gas was to be partially closed. The valve was fully opened, and a span check was triggered. The analyzer passed the span check requirements. As the issue was confined in the span system, data quality was not affected. No data were invalidated due to this event. However, three hours of downtime were recoded due to additional quality checks and maintenance that were performed to correct the issue.

Reno Station:

- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable.
- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- All gas analyzers: The daily zero-span check failed on April 12 hour 12 as the data logger appeared to have abandoned the span-phase check after the zero- phase check was completed. Another zero-span check was initialed on April 12 hour 13. All analyzers passed the check requirements. One hour of downtime was recorded due to this event.
- THC/CH4/NMHC: The analyzer flamed out on April 7 at 07:47 due to the zero air supply shutting off. The zero air supply was turned on at 11:50 following a zero span check. The analyzer passed the check requirements. 5 hours of downtime were recorded due to this event.
- WS/WD: A wind system check was performed on April 17. A routine annual wind system audit/calibration was performed on April 24. Both the wind speed sensor and the wind direction sensor passed the audit requirements. The root cause of the frozen sensor from January to March 2019 was likely due to errors associated with the datalogger.

VOCs Canister Sampling program:

- The canister sampling program collects a 1-hour sample of air when the continuously measured methane (CH4) and/or non-methane hydrocarbon (NMHC) concentration reaches a specified trigger point. The current trigger points are 5.5 ppm for methane and 0.3 ppm for non-methane hydrocarbons and are in place at all stations in the PRAMP network. Both trigger points are based on real-time monitoring data that are averaged over a 5-minute period.
- One methane-triggered event was recorded in April. The canister sample was collected at the Reno station.

Parameter	Concentration (ppm)	Date	Time
Methane	5.86	April 10	21:20

- Sample analysis and analytical results were prepared and provided by InnoTech Alberta.

- In this report, a value of zero (0) value is assigned if the laboratory analysis results in a concentration that is below Reported Detection Limits (RDL).
- Analytical results for the control samples that were collected on March 17 at the Reno station and on March 20 at the 986 station are included in this monthly report.

- Reno Station:
    - Methane-triggered sample was collected on April 10.

Sample Date/Time	2019-04-10				
Canister Sample	Methane				
Canister ID	32212				
Method	NA-025	Method	NA-024	Method	AC-058
Maximum Reading	2.9	Maximum Reading	NA	Maximum Reading	12.6

RSC analysis (Method: NA-024) is not performed due to equipment failure.

    - Blank sample was collected on April 10.

Sample Date/Time	2019-04-10				
Canister Sample	Blank				
Canister ID	32190				
Method	NA-025	Method	NA-024	Method	AC-058
Maximum Reading	0	Maximum Reading	0	Maximum Reading	1.27

RSC analysis (Method: NA-024) is not performed due to equipment failure.

    - Control sample was collected on March 17.

Sample Date/Time	2019-03-17				
Canister Sample	Control Sample				
Canister ID	29002				
Method	NA-025	Method	NA-024	Method	AC-058
Maximum Reading	0	Maximum Reading	0	Maximum Reading	1.87

- 986 Station:
    - Control sample was collected on March 20.

Sample Date/Time	2019-03-20				
Canister Sample	Control Sample				
Canister ID	28953				
Method	NA-025	Method	NA-024	Method	AC-058
Maximum Reading	2	Maximum Reading	2.2	Maximum Reading	25.5

Revisions to Alberta's Ambient Air Quality Data Warehouse

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

Deviations from Authorized Monitoring Methods

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

At the 986 station, nearby trees exceed the height allowed under section 2.3 of the wind speed and wind direction siting criteria in Chapter 3 of the AMD. This non-conformance was documented in the updated station site documents. Further actions are being considered including siting the wind sensor so that it meets AMD Chapter 3 siting requirements, or obtaining written authorization from "The Director" to deviate from AMD Siting requirements.

Disclaimer

Hourly instantaneous maximum data included in this report have not gone through data validation/verification steps and are considered raw data. The intention of including this data set in the report is for reference purposes and should not be used in published documents.

Equipment calibration / maintenance records were provided by Maxxam Analytics.

Certification

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

Lily Lin, Environmental Monitoring Program Manager, PRAMP Airshed

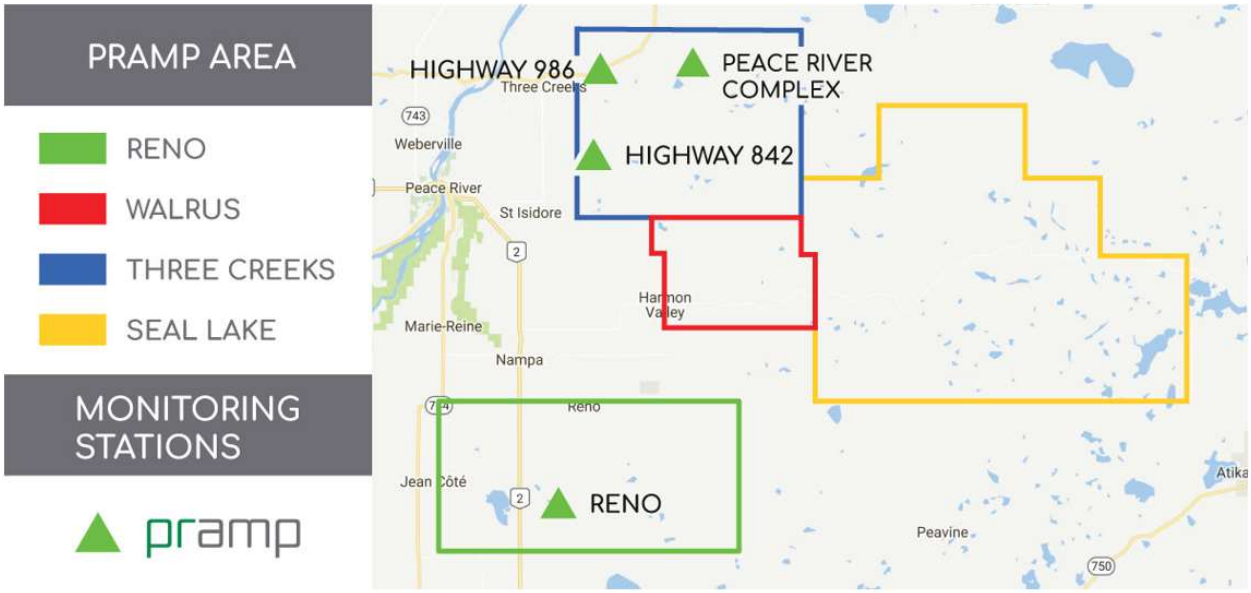
The report was reviewed by Mike Bisaga in accordance with Chapter 9 of the Air Monitoring Directive (AMD 2016).

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

Michael Bisaga, Environmental Monitoring Program Manager, PRAMP Airshed

May 8, 2019

Map of PRAMP Continuous Monitoring Network



CONTINUOUS NETWORK EQUIPMENT AND MONITORING RESULTS SUMMARY

986 Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	
SO2	**Thermo / 43C**	**43C-62339-335**	
• A successful monthly calibration was performed on April 11.			
TRS	**Thermo / 43i-TLE**	**1152940011**	
• A successful monthly calibration was performed on April 11.			
THC/CH4/NMHC	**Thermo / 55i**	**1022143392**	
• A successful monthly calibration was performed on April 11. • Hourly data collected on April 13 hour 13 was invalidated due to polling errors that occurred between the analyzer and the datalogger. • On April 23 at hour 16 and hour 18 and on April 24 at hour 9, the channels were put offline while the canister system was tested, and the data logger programming and DAC audit were performed. Three hours of downtime were recorded due to this event.			
Relative Humidity (RH)	**RM Young / 43172VC & 431872VC**	**61012322 & 030978**	
• The RH sensor was checked on April 10. The sensor passed the check requirements. • On April 23 at hour 16 and hour 18 and on April 24 at hour 9, the channel was put offline while the data logger programming and DAC audit were performed. Three hours of downtime were recorded due to this event. • The RM Young RH/ TPX 43172VC sensor, s/n: 61012322, was removed, and a replacement RM Young RH/TPX 43182VC sensor, s/n: 030978, was installed on April 30. Two hours of downtime were recorded due to this event.			
Barometric Pressure (BP)	**MetOne / 090D**	**F3845**	
• The BP sensor was checked on April 10. The sensor passed the check requirements. • On April 23 at hour 16 and hour 18 and on April 24 at hour 9, the channel was put offline while the data logger programming and DAC audit were performed. Three hours of downtime were recorded due to this event. • The channel was put offline on April 30 while the RH/TPX sensor was replaced. Two hours of downtime were recorded due to this event.			

Parameter	Make / Model	Serial Number	
Ambient Temperature (AT)	**RM Young 43172VC & 431872VC**	**61012322 & 030978**	
• The RH sensor was checked on April 10. The sensor passed the check requirements. • On April 23 at hour 16 and hour 18 and on April 24 at hour 9, the channel was put offline while the data logger programming and DAC audit were performed. Three hours of downtime were recorded due to this event. • The RM Young RH/ TPX 43172VC sensor, s/n: 61012322, was removed, and a replacement RM Young RH/TPX 43182VC sensor, s/n: 030978, was installed on April 30. Two hours of downtime were recorded due to this event.			
Station Temperature (ST)	**Maxxam**	**N/A**	
• On April 23 at hour 16 and hour 18, the channel was put offline while the data logger programming was performed. Two hours of downtime were recorded due to this event.			
Wind Speed/Wind Direction (WS/ WD)	**RM Young / 5305VK**	**129612**	
• Wind direction data contained in this report represents where the wind is coming from. • The wind sensor was checked on April 21. The check result passed the check requirements. • On April 23 at hour 16 and hour 18, the channel was put offline while the data logger programming was performed. Two hours of downtime were recorded due to this event. • A routine annual wind system audit/calibration was performed on April 24. Both the wind speed sensor and the wind direction sensor passed the audit requirements.			

Monitored Data Summary

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.7	0	3	April 29 at hour 8	8.2	WNW	1.1	April 2	100.0	94.8
TRS (ppb)	10	3	-	-	-	-	0.2	0.05	0.72	April 11 at hour 15	11.8	SSE	0.25	April 2	100.0	94.7
THC (ppm)	-	-	-	-	-	-	2.01	1.93	2.60	April 15 at hour 1	3.5	NW	2.07	April 23	99.4	94.4
CH4 (ppm)	-	-	-	-	-	-	2.01	1.93	2.60	April 15 at hour 1	3.5	NW	2.07	April 23	99.4	94.4
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.01	April 13 at hour 21	1.8	ESE	0.00	April 1	99.4	94.4
RH (%)	-	-	-	-	-	-	55.6	16	100	April 6 at hour 18	7	NW	85.5	April 25	99.3	99.3
BP (millibar)	-	-	-	-	-	-	940	924	955	April 28 at hour 10	8.9	NW	954	April 14	99.3	99.3
Ext. Temp. (°C)	-	-	-	-	-	-	4.5	-8.4	16.5	April 18 at hour 14	15.7	WSW	10.4	April 4	99.3	99.3
Stn. Temp. (°C)	-	-	-	-	-	-	21.5	20.4	24.0	April 9 at hour 15	9	SW	22.0	April 4	99.7	99.7
WSV (km/hr)	-	-	-	-	-	-	1.8	0.0	23.7	April 24 at hour 16	23.7	WNW	11.4	April 14	99.7	99.3
WDV (sector)	-	-	-	-	-	-	251 (WSW)	-	-	-	-	-	-	-	99.7	99.3

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

Alberta Ambient Air Quality Objectives (AAAQOs) Exceedances

The measured ambient air quality for the 842b Station was within the AAAQOs for all monitored parameters.

842 Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	
SO2	**Thermo / 43i**	**835033373**	
• A successful monthly calibration was performed on April 9.			
TRS	**Thermo / 43i-TLE**	**1162460023**	
• A shut-down calibration was performed on April 9 before maintenance was performed on the convertor thermocouple. The convertor thermocouple was repaired to correct the issue of the unstable temperature of the oxidizer. The convertor was allowed to stabilize overnight. A post-repair calibration was performed on April 10. 25 hours of downtime were recorded due to this event.			
THC/CH4/NMHC	**Thermo / 55i**	**1505664392**	
• A successful monthly calibration was performed on April 9. • The analyzer failed the daily span check on April 20; during the site visit on April 22, the valve for the span gas was not to be partially closed. The valve was fully opened, and a span check was triggered. The analyzer passed the span check requirements. As the issue was confined in the span system, data quality was not affected. No data were invalidated due to this event. However, three hours of downtime were recoded due to additional quality checks and maintenance that were performed to correct the issue.			
Relative Humidity (RH)	**Campbell Scientific / HMP45C**	**C2608**	
• No issue was identified this month. • The RH sensor was checked on April 9. The sensor passed the check requirements.			
Barometric Pressure (BP)	**MetOne / 92**	**K12864**	
• No issue was identified this month. • The BP sensor was checked on April 9. The sensor passed the check requirements.			
Station Temperature (ST)	**Maxxam**	**N/A**	
• No issue was identified this month.			
Ambient Temperature (AT)	**Campbell Scientific / HMP45C**	**C2608**	
• No issue was identified this month. • The temperature sensor was checked on April 9. The sensor passed the check requirements.			

Parameter	Make / Model	Serial Number	
Wind Speed/Wind Direction (WS/ WD)	**RM Young / 5305VK**	**124638**	

- Wind direction data contained in this report represents where the wind is coming from.
- No issue was identified this month.
- The wind sensor was checked on April 9. The sensor passed the check requirements.

Monitored Data Summary

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.0	0	1	April 11 at hour 10	5.2	SW	0.1	April 1	100.0	94.6
TRS (ppb)	10	3	-	-	-	-	0.4	0.11	0.66	April 19 at hour 2	12.5	SW	0.50	April 8	96.5	91.1
THC (ppm)	-	-	-	-	-	-	2.00	1.95	2.22	April 11 at hour 3	3.3	E	2.04	April 2	99.6	94.6
CH4 (ppm)	-	-	-	-	-	-	2.00	1.95	2.22	April 11 at hour 3	3.3	E	2.04	April 2	99.6	94.6
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.00	April 1 at hour 1	1.8	SW	0.00	April 1	99.6	94.6
RH (%)	-	-	-	-	-	-	54.3	13	97	April 7 at hour 4	1.3	SE	81.8	April 25	100.0	100.0
BP (millibar)	-	-	-	-	-	-	941	925	955	April 28 at hour 5	4.2	NNW	955	April 14	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	3.3	-7.9	15.4	April 18 at hour 14	29.8	WSW	8.7	April 4	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	22.4	21.8	23.9	April 9 at hour 14	13.3	SW	22.9	April 4	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	3.5	0.1	29.8	April 18 at hour 14	29.8	WSW	17.4	April 14	100.0	100.0
WDV (sector)	-	-	-	-	-	-	241 (WSW)	-	-	-	-	-	-	-	100.0	100.0

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

Alberta Ambient Air Quality Objectives (AAAQOs) Exceedances

The measured ambient air quality for the 842b Station was within the AAAQOs for all monitored parameters.

Reno Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	
SO2	**API / 100A**	**841**	
• The daily zero span check failed on April 12 hour 12 as the data logger appeared to have abandoned the span-phase check after the zero- phase check was completed. Another zero span check was initialed on April 12 hour 13. The analyzer passed the check requirements. One hour of downtime was recorded due to this event. • A successful monthly calibration was performed on April 17.			
TRS	**Thermo / 43i-TLE**	**1162460022**	
• The daily zero span check failed on April 12 hour 12 as the data logger appeared to have abandoned the span-phase check after the zero- phase check was completed. Another zero span check was initialed on April 12 hour 13. The analyzer passed the check requirements. One hour of downtime was recorded due to this event. • A successful monthly calibration was performed on April 17.			
THC/CH4/NMHC	**Thermo / 55i**	**1314057759**	
• The analyzer flamed out on April 7 at 07:47 due to the zero air supply shutting off. The zero air supply was turned on at 11:50 following a zero-span check. The analyzer passed the check requirements. 5 hours of downtime were recorded due to this event. • The daily zero span-check failed on April 12 hour 12 as the data logger appeared to have abandoned the span-phase check after the zero- phase check was completed. Another zero span check was initialed on April 12 hour 13. The analyzer passed the check requirements. One hour of downtime was recorded due to this event. • A successful monthly calibration was performed on April 17.			
Relative Humidity (RH)	**RM Young / 43172VC**	**60837897**	
• No issue was identified this month. • The RH sensor was checked on April 17. The sensor passed the check requirements.			
Barometric Pressure (BP)	**MetOne / 92**	**R12877**	
• No issue was identified this month. • The BP sensor was checked on April 17. The sensor passed the check requirements.			
Ambient Temperature (AT)	**RM Young / 43172VC**	**60837897**	
• No issue was identified this month.			

Parameter	Make / Model	Serial Number	
Station Temperature (ST)	**Maxxam**	**N/A**	

- No issue was identified this month.
- The temperature sensor was checked on April 17. The sensor passed the check requirements.

Wind Speed/Wind Direction (WS/ WD)	**RM Young / 5305VK**	**149769**	

- Wind direction data contained in this report represents where the wind is coming from.
- No issue was identified this month.
- The wind sensor was checked on April 17. The sensor passed the check requirements.
- A routine annual wind system audit/calibration was performed on April 24. Both the wind speed sensor and the wind direction sensor passed the audit requirements.
- An investigation was performed during the month of April to try to determine issues that caused the frozen sensor which was recorded in January to March. As the wind system passed the sensor check on April 17 and the annual audit on April 24, the system concluded to be in a proper operation mode. The root cause of the frozen sensor was likely due to errors associated with the datalogger. Datalogger programming and maintenance continue being performed to minimize/avoid issue re-occurrence.

Monitored Data Summary

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.2	0	1	April 1 at hour 6	7.4	WSW	0.8	April 18	99.9	94.6
TRS (ppb)	10	3	-	-	-	-	0.4	0.24	1.36	April 22 at hour 19	15.8	WSW	0.53	April 1	99.9	94.4
THC (ppm)	-	-	-	-	-	-	1.99	1.92	3.85	April 10 at hour 21	1.6	SSW	2.16	April 19	99.2	94.0
CH4 (ppm)	-	-	-	-	-	-	1.99	1.92	3.85	April 10 at hour 21	1.6	SSW	2.16	April 19	99.2	94.0
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.02	April 11 at hour 0	2.5	SSW	0.00	April 1	99.2	94.0
RH (%)	-	-	-	-	-	-	52.1	12	93	April 7 at hour 5	1.9	S	80.1	April 26	100.0	100.0
BP (millibar)	-	-	-	-	-	-	936	920	951	April 28 at hour 8	10.1	NNE	950	April 14	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	3.5	-6.8	15.0	April 18 at hour 15	12	W	8.4	April 4	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	23.5	22.3	25.4	April 17 at hour 12	11	W	23.9	April 30	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	1.9	0.4	17.6	April 17 at hour 13	17.6	WSW	11.4	April 9	100.0	99.9
WDV (sector)	-	-	-	-	-	-	260 (WSW)	-	-	-	-	-	-	-	100.0	99.9

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

Alberta Ambient Air Quality Objectives (AAAQOs) Exceedances

The measured ambient air quality for the 842b Station was within the AAAQOs for all monitored parameters.

TABLES, CHARTS, WIND ROSES AND EQUIPMENT CALIBRATION RECORDS

986 STATION

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

986b Station - April 2019

Summary of Hourly Averages

SULPHUR DIOXIDE (SO_2) in ppb

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

Number of 1-Hour Exceedences: 0 Number of 24-Hour Exceedences: 0 30-Day Exceedence: 0

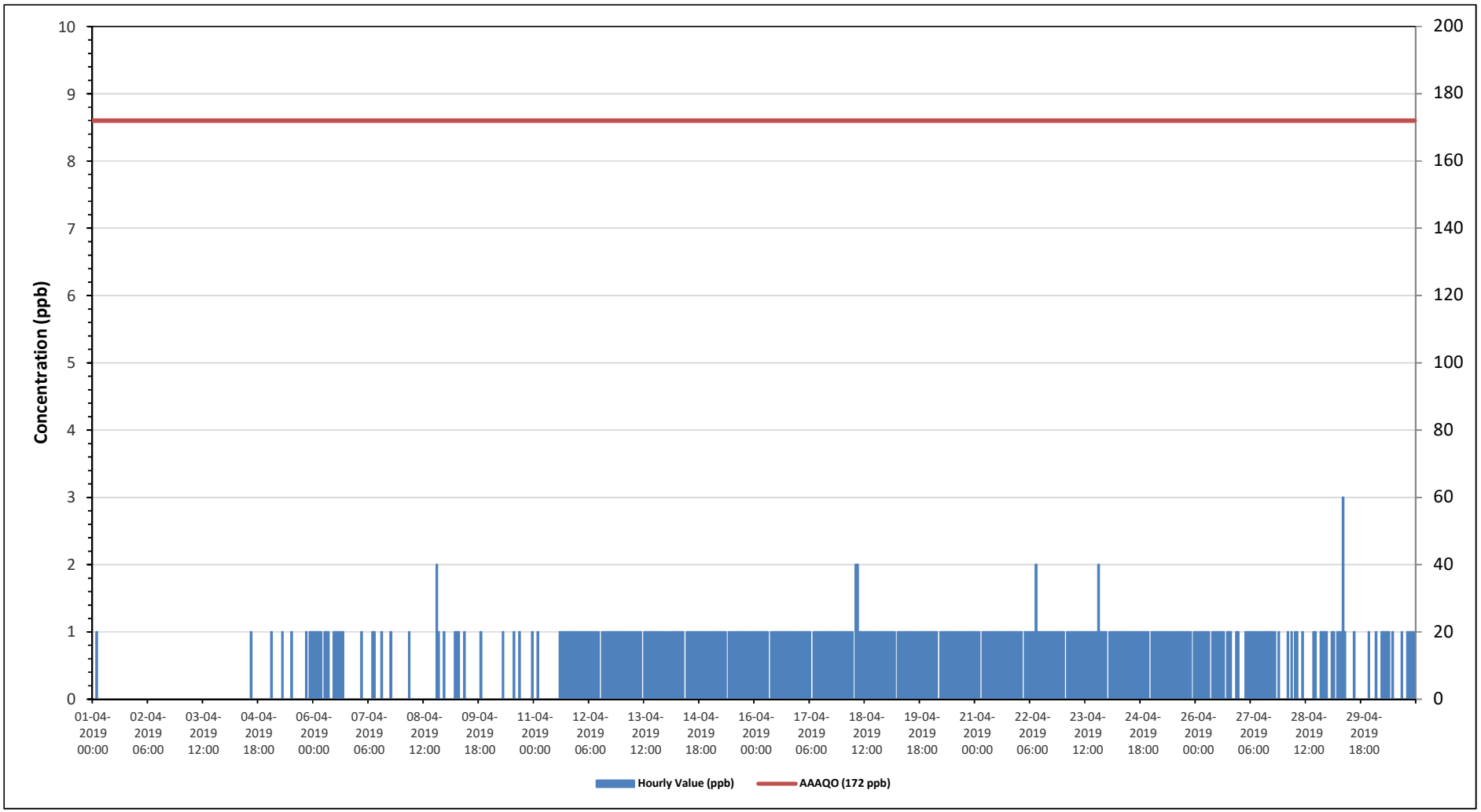
Maximum Hourly Value:	3	ppb	on April 29 at hour 8	Hours in Service:	720
Maximum Daily Value:	1.1	ppb	on April 18	Hours of Data:	683
Minimum Hourly Value:	0	ppb	on April 1 at hour 1	Hours of Missing Data:	0
Minimum Daily Value:	0.0	ppb	on April 2	Hours of Calibration:	37
Monthly Average:	0.7	ppb		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	S	0	1	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
Apr 2	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
Apr 3	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
Apr 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	S	0	0	0	0	1	0.0
Apr 5	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	S	1	0	1	1	0	1	0.3
Apr 6	1	1	1	1	1	0	1	1	1	0	0	1	1	1	1	1	1	0	S	0	0	0	0	0	0	1	0.6
Apr 7	0	0	1	0	0	0	0	0	1	1	0	0	0	1	0	0	0	S	1	0	0	0	0	0	0	1	0.2
Apr 8	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	2	1	0	0	1	0	2	0.2
Apr 9	0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	S	0	0	0	1	0	0	0	0	0	1	0.2
Apr 10	0	0	0	0	0	0	0	1	0	0	0	0	0	1	S	0	1	0	0	0	0	0	0	1	0	1	0.2
Apr 11	0	0	1	0	0	0	0	0	C	C	C	C	C	C	1	1	1	1	1	1	1	1	1	1	0	1	0.6
Apr 12	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0
Apr 13	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0
Apr 14	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0
Apr 15	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0
Apr 16	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0
Apr 17	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0
Apr 18	1	1	1	1	1	1	S	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1
Apr 19	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0
Apr 20	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0
Apr 21	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0
Apr 22	1	1	S	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0
Apr 23	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	2	1.0
Apr 24	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1.0
Apr 25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1.0
Apr 26	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	0	S	1	1	0	1	0.9
Apr 27	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	0	0	0	1	0.8
Apr 28	0	0	1	0	1	0	1	1	0	0	1	0	0	0	0	0	1	1	0	S	1	1	1	1	0	1	0.5
Apr 29	0	0	1	1	0	1	1	1	3	1	0	0	0	0	1	0	0	0	S	0	0	0	1	0	0	3	0.5
Apr 30	0	0	1	0	0	1	1	1	1	1	0	1	0	0	0	0	1	S	0	1	1	1	1	1	0	1	0.6
Diurnal Maximum	1	1	1	1	1	1	1	2	3	2	1	1	1	1	1	1	1	1	1	2	1	1	1	1			
Daiurnal Average	0.5	0.6	0.7	0.6	0.6	0.6	0.7	0.8	0.8	0.7	0.6	0.6	0.6	0.7	0.7	0.6	0.7	0.6	0.6	0.8	0.7	0.6	0.7	0.7			

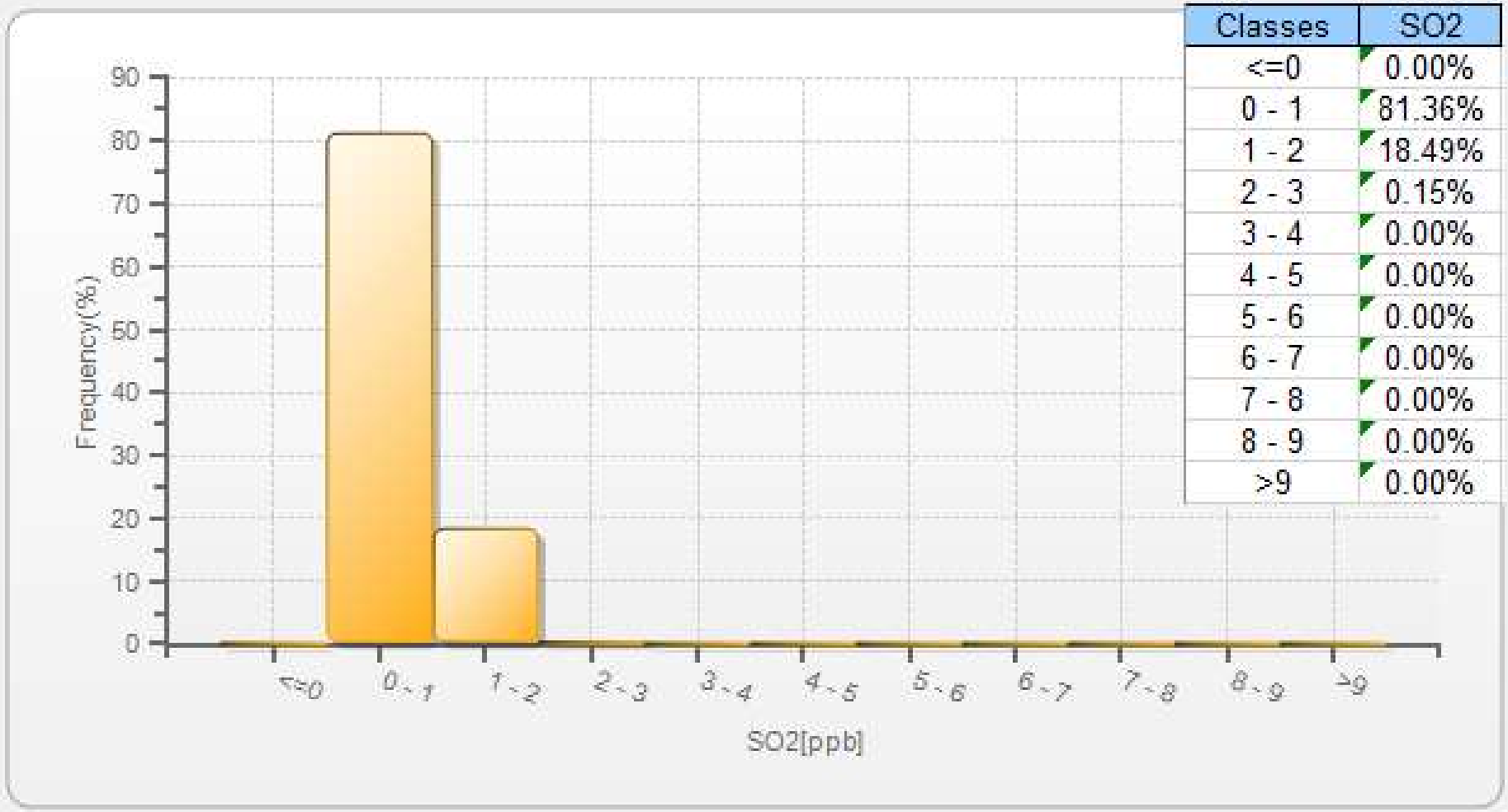
C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

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

Timeseries Chart of Hourly Average for SO2 - 986b Station



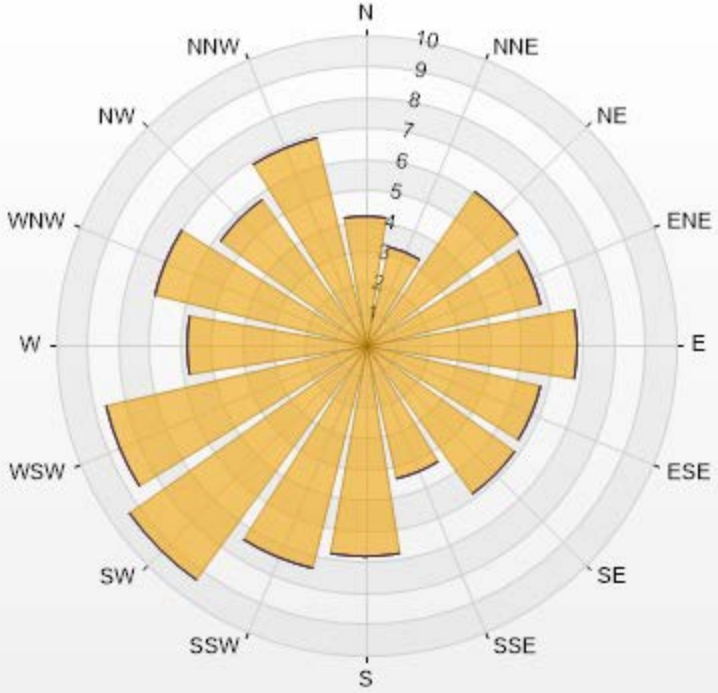
SO2[ppb] Histogram: PRAMP 986 Monthly: 04-2019 1 Hr.



Wind: PRAMP 986 Poll.: PRAMP 986-SO2[ppb] Monthly: 04-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.47% Calm Avg: 0.00 [ppb]

Direction	10-50	50-100	100-172	>172.0	Total
N	4.16	0	0	0	4.16
NNE	3.27	0	0	0	3.27
NE	6.09	0	0	0	6.09
ENE	5.79	0	0	0	5.79
E	6.84	0	0	0	6.84
ESE	5.79	0	0	0	5.79
SE	5.94	0	0	0	5.94
SSE	4.46	0	0	0	4.46
S	6.84	0	0	0	6.84
SSW	7.43	0	0	0	7.43
SW	9.36	0	0	0	9.36
WSW	8.62	0	0	0	8.62
W	5.79	0	0	0	5.79
WNW	6.98	0	0	0	6.98
NW	5.79	0	0	0	5.79
NNW	6.84	0	0	0	6.84
Summary	100	0	0	0	100

PRAMP 986 Poll.: PRAMP 986-SO2[ppb] 01-04-2019 00:00 - 30-04-2019 23:00 Calm: 0.00%



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

PEACE RIVER AREA MONITORING PROGRAM

986b Station - April 2019

Summary of Hourly Averages

TOTAL REDUCED SULPHUR (TRS) in ppb

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

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

Maximum Hourly Value:	0.72	ppb	on April 11 at hour 15	Hours in Service:	720
Maximum Daily Value:	0.25	ppb	on April 29	Hours of Data:	682
Minimum Hourly Value:	0.05	ppb	on April 7 at hour 14	Hours of Missing Data:	0
Minimum Daily Value:	0.10	ppb	on April 2	Hours of Calibration:	38
Monthly Average:	0.17	ppb		Operational Uptime:	100.0

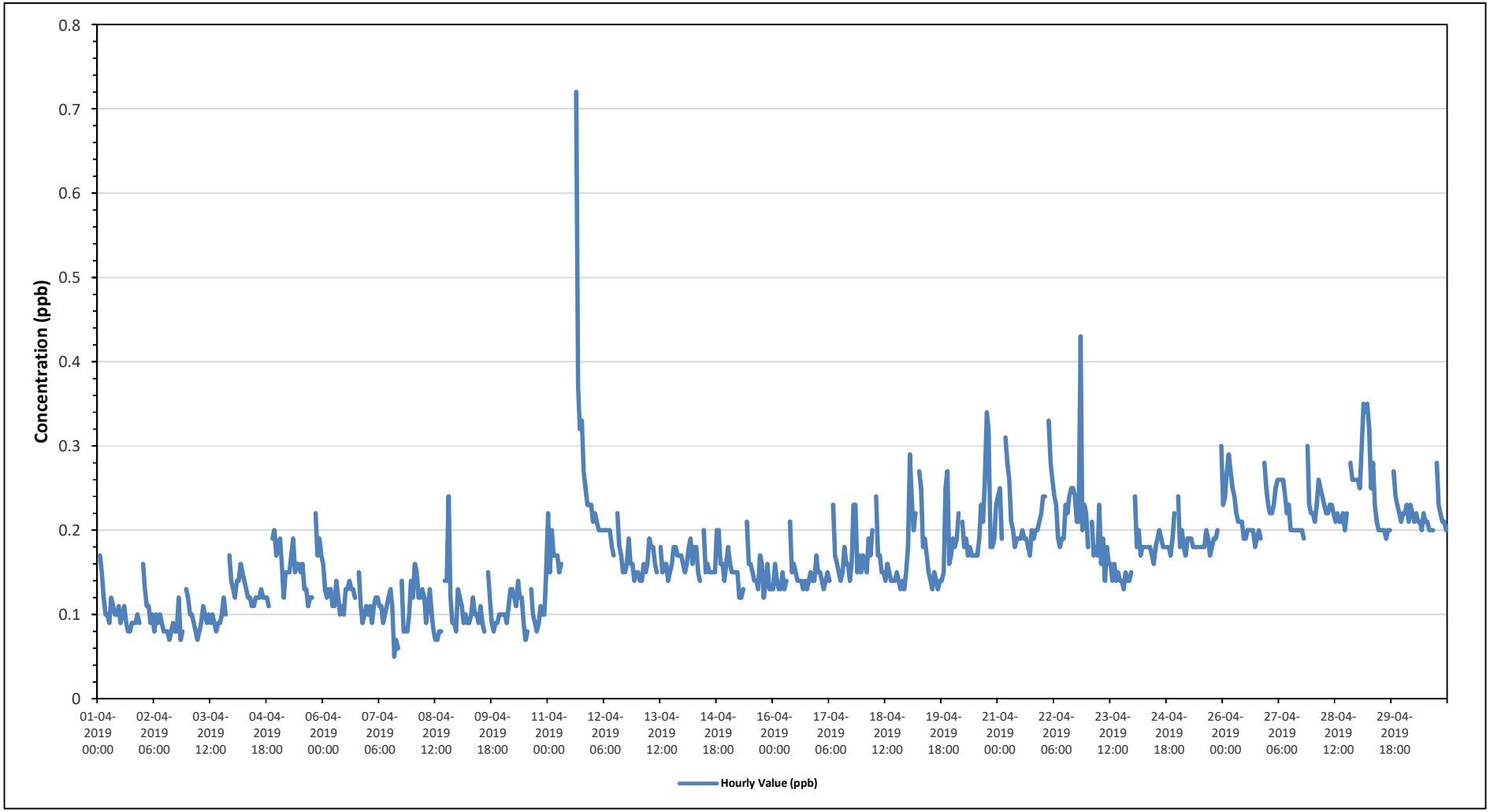
Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	S	0.17	0.15	0.12	0.1	0.1	0.09	0.12	0.11	0.1	0.1	0.11	0.09	0.1	0.11	0.09	0.08	0.08	0.09	0.09	0.09	0.1	0.09	S	0.08	0.17	0.10
Apr 2	0.16	0.13	0.11	0.11	0.09	0.1	0.08	0.1	0.09	0.1	0.09	0.08	0.08	0.08	0.07	0.08	0.09	0.08	0.08	0.12	0.07	0.08	S	0.13	0.07	0.16	0.10
Apr 3	0.12	0.1	0.1	0.09	0.08	0.07	0.08	0.09	0.11	0.1	0.09	0.1	0.09	0.1	0.09	0.08	0.09	0.09	0.1	0.12	0.1	S	0.17	0.14	0.07	0.17	0.10
Apr 4	0.13	0.12	0.14	0.14	0.16	0.15	0.14	0.13	0.12	0.12	0.11	0.11	0.12	0.12	0.12	0.13	0.12	0.12	0.12	0.11	S	0.19	0.2	0.17	0.11	0.20	0.13
Apr 5	0.18	0.19	0.16	0.12	0.15	0.15	0.15	0.17	0.19	0.15	0.16	0.16	0.15	0.16	0.13	0.13	0.11	0.12	0.12	S	0.22	0.17	0.19	0.17	0.11	0.22	0.16
Apr 6	0.16	0.13	0.12	0.13	0.13	0.11	0.11	0.14	0.12	0.1	0.11	0.1	0.13	0.13	0.14	0.13	0.13	0.12	S	0.15	0.11	0.09	0.1	0.11	0.09	0.16	0.12
Apr 7	0.1	0.11	0.09	0.11	0.12	0.12	0.11	0.11	0.09	0.1	0.11	0.12	0.13	0.11	**0.05**	0.07	0.06	S	0.14	0.08	0.08	0.08	0.1	0.14	**0.05**	0.14	0.10
Apr 8	0.12	0.16	0.15	0.12	0.12	0.13	0.12	0.09	0.11	0.13	0.1	0.08	0.07	0.07	0.08	0.08	S	0.14	0.14	0.24	0.12	0.09	0.09	0.08	0.07	0.24	0.11
Apr 9	0.13	0.12	0.11	0.09	0.1	0.09	0.09	0.1	0.12	0.1	0.1	0.09	0.11	0.09	0.08	S	0.15	0.12	0.09	0.08	0.09	0.09	0.1	0.1	0.08	0.15	0.10
Apr 10	0.1	0.1	0.09	0.11	0.13	0.13	0.12	0.11	0.14	0.12	0.12	0.09	0.07	0.08	S	0.13	0.1	0.09	0.08	0.09	0.11	0.1	0.1	0.15	0.07	0.15	0.11
Apr 11	0.22	0.15	0.2	0.17	0.17	0.17	0.15	0.16	C	C	C	C	C	C	S	**0.72**	0.37	0.32	0.33	0.27	0.25	0.23	0.23	0.23	0.15	**0.72**	-
Apr 12	0.21	0.22	0.21	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18	0.17	S	0.22	0.18	0.17	0.15	0.15	0.16	0.19	0.16	0.16	0.14	0.15	0.14	0.22	0.18
Apr 13	0.15	0.14	0.14	0.16	0.15	0.16	0.19	0.18	0.18	0.16	0.15	S	0.18	0.15	0.16	0.16	0.14	0.15	0.16	0.18	0.18	0.17	0.17	0.17	0.14	0.19	0.16
Apr 14	0.16	0.15	0.16	0.18	0.19	0.16	0.18	0.18	0.15	0.14	S	0.2	0.15	0.16	0.15	0.15	0.15	0.15	0.2	0.2	0.16	0.16	0.14	0.16	0.14	0.20	0.16
Apr 15	0.18	0.16	0.15	0.15	0.15	0.15	0.12	0.12	0.13	S	0.21	0.16	0.16	0.15	0.14	0.14	0.13	0.17	0.16	0.12	0.14	0.16	0.13	0.13	0.12	0.21	0.15
Apr 16	0.13	0.16	0.14	0.13	0.13	0.15	0.13	0.14	S	0.21	0.15	0.16	0.15	0.14	0.14	0.14	0.13	0.14	0.13	0.14	0.15	0.14	0.14	0.17	0.13	0.21	0.15
Apr 17	0.15	0.15	0.14	0.13	0.14	0.15	0.14	S	0.23	0.17	0.16	0.15	0.14	0.15	0.18	0.16	0.16	0.14	0.16	0.23	0.23	0.15	0.17	0.15	0.13	0.23	0.16
Apr 18	0.17	0.16	0.15	0.19	0.17	0.2	S	0.24	0.17	0.17	0.15	0.15	0.14	0.16	0.15	0.14	0.14	0.14	0.15	0.14	0.13	0.14	0.13	0.15	0.13	0.24	0.16
Apr 19	0.18	0.29	0.24	0.2	0.22	S	0.27	0.25	0.18	0.19	0.17	0.15	0.14	0.13	0.15	0.14	0.13	0.14	0.14	0.15	0.25	0.27	0.16	0.17	0.13	0.29	0.19
Apr 20	0.19	0.18	0.19	0.22	S	0.21	0.18	0.19	0.17	0.18	0.17	0.17	0.17	0.17	0.19	0.23	0.21	0.26	0.34	0.32	0.18	0.18	0.19	0.23	0.17	0.34	0.21
Apr 21	0.24	0.25	0.19	S	0.31	0.28	0.26	0.21	0.2	0.18	0.19	0.19	0.19	0.2	0.19	0.19	0.18	0.17	0.2	0.19	0.2	0.2	0.21	0.22	0.17	0.31	0.21
Apr 22	0.24	0.24	S	0.33	0.28	0.26	0.24	0.23	0.19	0.18	0.19	0.19	0.23	0.22	0.24	0.25	0.25	0.24	0.21	0.21	0.43	0.2	0.23	0.22	0.18	0.43	0.24
Apr 23	0.18	S	0.21	0.17	0.18	0.17	0.23	0.16	0.19	0.14	0.18	0.16	0.16	0.14	0.16	0.14	0.15	0.14	0.14	0.13	0.15	0.14	0.14	0.15	0.13	0.23	0.16
Apr 24	S	0.24	0.18	0.2	0.17	0.18	0.18	0.18	0.18	0.18	0.17	0.16	0.18	0.19	0.2	0.19	0.18	0.18	0.18	0.18	0.17	0.19	0.22	S	0.16	0.24	0.19
Apr 25	0.24	0.18	0.2	0.18	0.17	0.19	0.19	0.19	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.2	0.19	0.17	0.18	0.19	0.19	0.2	S	0.3	0.17	0.30	0.19
Apr 26	0.23	0.24	0.27	0.29	0.27	0.25	0.24	0.22	0.21	0.21	0.21	0.19	0.19	0.2	0.2	0.2	0.2	0.18	0.19	0.2	0.19	S	0.28	0.25	0.18	0.29	0.22
Apr 27	0.23	0.22	0.22	0.23	0.25	0.26	0.26	0.26	0.26	0.24	0.22	0.23	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	S	0.3	0.23	0.22	0.19	0.30	0.23
Apr 28	0.22	0.21	0.23	0.26	0.25	0.24	0.23	0.22	0.22	0.23	0.23	0.22	0.21	0.22	0.21	0.21	0.22	0.2	0.22	S	0.28	0.26	0.26	0.26	0.20	0.28	0.23
Apr 29	0.26	0.25	0.3	0.35	0.34	0.35	0.32	0.25	0.28	0.23	0.21	0.2	0.2	0.2	0.2	0.19	0.2	0.2	S	0.27	0.24	0.23	0.22	0.21	0.19	0.35	**0.25**
Apr 30	0.22	0.22	0.23	0.21	0.23	0.22	0.21	0.22	0.21	0.21	0.2	0.22	0.21	0.21	0.2	0.2	0.2	S	0.28	0.23	0.22	0.21	0.21	0.2	0.20	0.28	0.22
Diurnal Maximum	0.26	0.29	0.30	0.35	0.34	0.35	0.32	0.26	0.28	0.24	0.23	0.23	0.23	0.22	0.24	0.72	0.37	0.32	0.34	0.32	0.43	0.30	0.28	0.30			
Daiurnal Average	0.18	0.18	0.17	0.18	0.18	0.18	0.17	0.17	0.17	0.16	0.16	0.15	0.15	0.15	0.15	0.17	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.18			

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

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

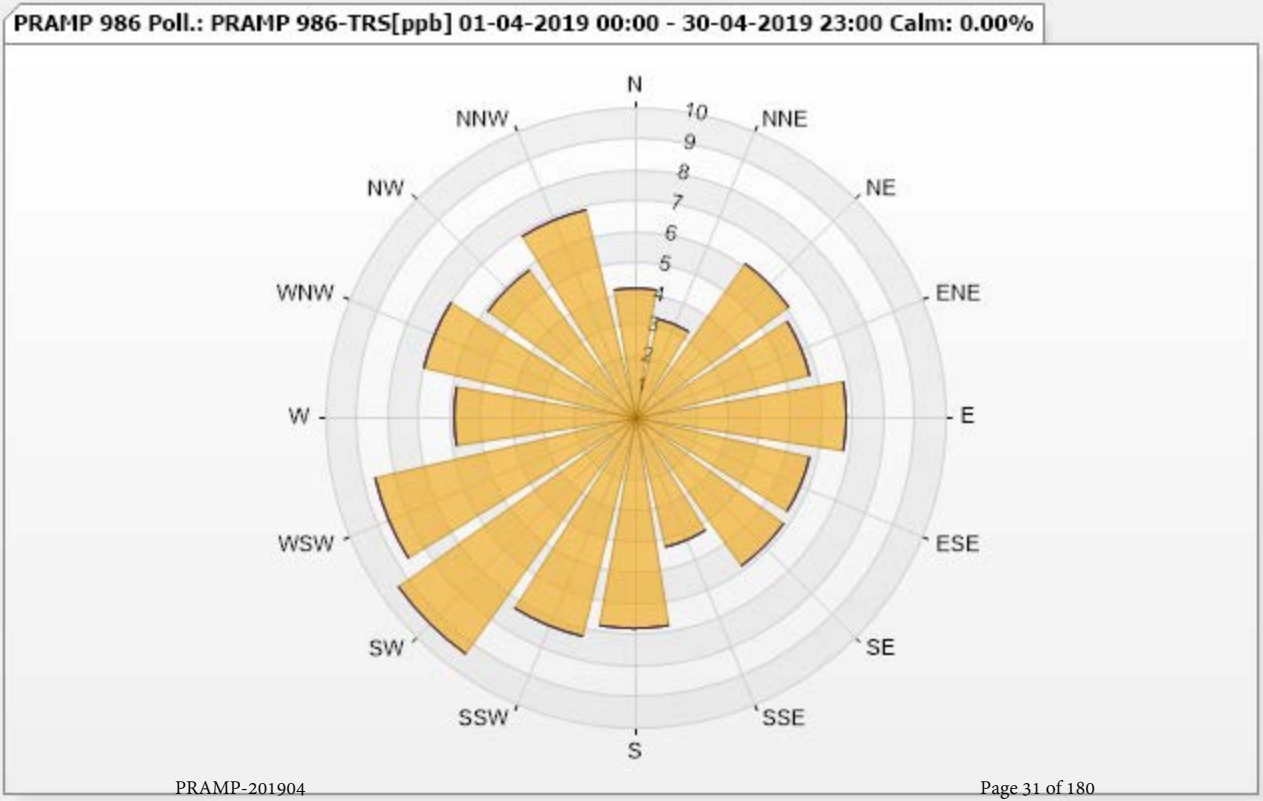
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for TRS - 986b Station



Wind: PRAMP 986 Poll.: PRAMP 986-TRS[ppb] Monthly: 04-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.19% Calm Avg: 0.00 [ppb]

Direction	2-5	5-10	10-50	>50.0	Total
N	4.17	0	0	0	4.17
NNE	3.28	0	0	0	3.28
NE	6.11	0	0	0	6.11
ENE	5.81	0	0	0	5.81
E	6.86	0	0	0	6.86
ESE	5.81	0	0	0	5.81
SE	5.96	0	0	0	5.96
SSE	4.32	0	0	0	4.32
S	6.86	0	0	0	6.86
SSW	7.3	0	0	0	7.3
SW	9.39	0	0	0	9.39
WSW	8.64	0	0	0	8.64
W	5.81	0	0	0	5.81
WNW	7	0	0	0	7
NW	5.81	0	0	0	5.81
NNW	6.86	0	0	0	6.86
Summary	100	0	0	0	100


PRAMP 986 Poll.: PRAMP 986-TRS[ppb] 01-04-2019 00:00 - 30-04-2019 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
10
9
8
7
6
5
4
3
2
1
% Icon Classes (ppb)
100 2-5
0 5-10
0 10-50
0 >50.0

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

986b Station - April 2019

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

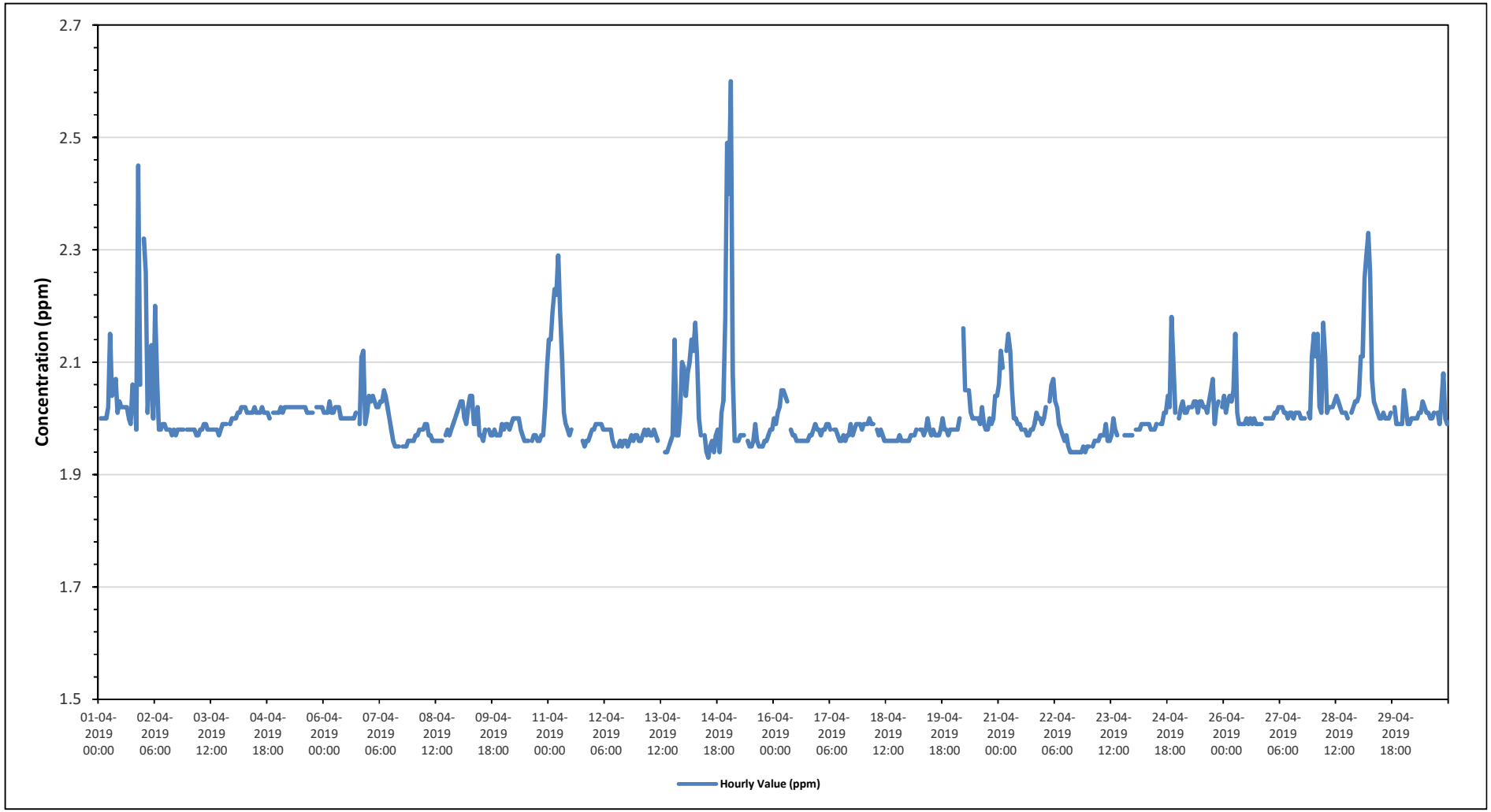
Maximum Hourly Value:	2.60	ppm	on April 15 at hour 1	Hours in Service:	720
Maximum Daily Value:	2.07	ppm	on April 29	Hours of Data:	680
Minimum Hourly Value:	1.93	ppm	on April 14 at hour 13	Hours of Missing Data:	4
Minimum Daily Value:	1.97	ppm	on April 23	Hours of Calibration:	36
Monthly Average:	2.01	ppm		Operational Uptime:	99.4

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
Apr 1	S	2.00	2.00	2.00	2.00	2.02	2.15	2.04	2.05	2.07	2.01	2.03	2.02	2.02	2.02	2.02	2.00	1.99	2.06	2.05	1.98	2.45	2.06	S	1.98	2.45	2.05
Apr 2	2.32	2.26	2.01	2.07	2.13	2.00	2.20	2.07	1.98	1.98	1.99	1.99	1.98	1.98	1.98	1.97	1.98	1.97	1.98	1.99	1.98	1.98	S	1.98	1.97	2.32	2.03
Apr 3	1.98	1.98	1.98	1.98	1.97	1.97	1.98	1.98	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.98	1.99	1.99	1.99	S	1.99	2.00	1.97	2.00	1.98
Apr 4	2.00	2.00	2.01	2.01	2.02	2.02	2.02	2.01	2.01	2.01	2.01	2.02	2.01	2.01	2.01	2.02	2.01	2.01	2.01	2.00	S	2.01	2.01	2.01	2.00	2.02	2.01
Apr 5	2.01	2.02	2.01	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.01	2.01	2.01	2.01	S	2.02	2.02	2.02	2.02	2.01	2.02	2.02
Apr 6	2.01	2.01	2.01	2.03	2.01	2.01	2.02	2.02	2.02	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.01	S	1.99	2.11	2.12	1.99	2.01	1.99	2.12	2.02
Apr 7	2.04	2.03	2.04	2.03	2.02	2.02	2.03	2.03	2.05	2.04	2.02	2.00	1.98	1.96	1.95	1.95	1.95	S	1.95	1.95	1.95	1.96	1.96	1.96	1.95	2.05	1.99
Apr 8	1.96	1.97	1.97	1.98	1.98	1.98	1.99	1.99	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	S	1.97	1.98	1.97	1.98	1.99	2.00	2.01	1.96	2.01	1.97
Apr 9	2.02	2.03	2.03	2.00	1.99	2.02	2.04	2.04	1.99	1.99	2.02	1.97	1.97	1.96	1.98	S	1.98	1.97	1.97	1.98	1.97	1.97	1.97	1.99	1.96	2.04	1.99
Apr 10	1.98	1.99	1.99	1.98	1.99	2.00	2.00	2.00	2.00	1.98	1.97	1.96	1.96	1.96	S	1.96	1.97	1.97	1.96	1.96	1.97	1.97	2.02	2.09	1.96	2.09	1.98
Apr 11	2.14	2.14	2.19	2.23	2.22	2.29	2.19	2.11	2.01	1.99	1.98	1.97	1.98	C	C	C	C	C	1.96	1.95	1.96	1.96	1.97	1.98	1.95	2.29	2.06
Apr 12	1.98	1.99	1.99	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.96	1.95	S	1.95	1.96	1.95	1.96	1.96	1.95	1.96	1.97	1.96	1.97	1.97	1.95	1.99	1.97
Apr 13	1.96	1.96	1.97	1.98	1.97	1.98	1.97	1.97	1.98	1.97	1.96	S	1.94	X	1.94	1.94	1.95	1.96	1.97	2.14	1.97	1.97	2.01	2.10	1.94	2.14	1.98
Apr 14	2.09	2.04	2.08	2.10	2.14	2.12	2.17	2.11	2.00	1.97	S	1.97	1.94	1.93	1.95	1.96	1.94	1.97	1.98	1.94	2.01	2.03	2.18	2.49	1.93	2.49	2.05
Apr 15	2.40	2.60	2.08	1.96	1.96	1.96	1.97	1.97	1.97	S	1.96	1.95	1.95	1.96	1.99	1.96	1.95	1.95	1.95	1.96	1.96	1.97	1.98	1.98	1.95	2.60	2.01
Apr 16	2.00	1.99	2.01	2.02	2.05	2.05	2.04	2.03	S	1.98	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.98	1.99	1.98	1.96	2.05	1.99
Apr 17	1.98	1.97	1.98	1.98	1.99	1.99	1.98	S	1.98	1.98	1.97	1.96	1.96	1.97	1.96	1.97	1.97	1.99	1.97	1.98	1.99	1.99	1.99	1.98	1.96	1.99	1.98
Apr 18	1.99	1.99	1.99	2.00	1.99	1.99	S	1.98	1.97	1.98	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.96	1.96	1.96	1.96	2.00	1.97
Apr 19	1.96	1.97	1.97	1.97	1.98	S	1.98	1.98	1.97	1.98	2.00	1.98	1.97	1.98	1.97	1.97	1.97	1.98	2.00	1.98	1.98	1.97	1.98	1.98	1.96	2.00	1.98
Apr 20	1.98	1.98	1.98	2.00	S	2.16	2.05	2.05	2.05	2.01	2.00	2.00	2.00	2.00	1.99	2.02	1.99	1.98	1.98	2.00	1.99	2.00	2.04	2.04	1.98	2.16	2.01
Apr 21	2.06	2.12	2.09	S	2.12	2.15	2.12	2.05	2.00	2.00	1.99	1.99	1.98	1.98	1.98	1.97	1.97	1.98	1.98	1.99	2.01	2.00	2.00	1.99	1.97	2.15	2.02
Apr 22	2.00	2.02	S	2.03	2.06	2.07	2.03	2.02	1.99	1.98	1.97	1.96	1.97	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.94	1.95	1.94	2.07	1.98
Apr 23	1.95	S	1.95	1.96	1.96	1.96	1.97	1.97	1.97	1.99	1.96	1.96	1.97	2.00	1.98	1.97	Y	1.97	Y	1.97	1.97	1.97	1.97	1.97	1.95	2.00	1.97
Apr 24	S	1.98	1.98	1.98	1.99	1.99	1.99	1.99	1.99	1.98	1.98	1.98	1.99	Y	1.99	1.99	2.01	2.01	2.04	2.02	2.18	2.10	2.01	S	1.98	2.18	2.01
Apr 25	2.00	2.02	2.03	2.01	2.01	2.02	2.02	2.02	2.03	2.03	2.01	2.03	2.03	2.02	2.02	2.01	2.03	2.05	2.07	1.99	2.02	2.03	S	2.02	1.99	2.07	2.02
Apr 26	2.04	2.01	2.03	2.04	2.03	2.05	2.15	2.01	1.99	1.99	1.99	1.99	2.00	1.99	2.00	1.99	2.00	1.99	1.99	1.99	1.99	S	2.00	2.00	1.99	2.15	2.01
Apr 27	2.00	2.00	2.00	2.01	2.01	2.02	2.02	2.02	2.01	2.01	2.00	2.01	2.01	2.00	2.01	2.01	2.01	2.00	2.00	2.00	S	2.01	2.00	2.11	2.00	2.11	2.01
Apr 28	2.15	2.11	2.15	2.02	2.01	2.17	2.11	2.01	2.02	2.02	2.02	2.03	2.04	2.03	2.02	2.01	2.01	2.01	2.00	S	2.01	2.02	2.03	2.03	2.00	2.17	2.04
Apr 29	2.04	2.11	2.11	2.25	2.29	2.33	2.26	2.07	2.03	2.02	2.01	2.00	2.00	2.01	2.00	2.00	2.00	2.01	S	2.02	1.99	1.99	1.99	1.99	1.99	2.33	2.07
Apr 30	2.05	2.02	1.99	1.99	2.00	2.00	2.00	2.00	2.01	2.01	2.03	2.02	2.01	2.01	2.00	2.00	2.01	S	2.01	1.99	2.03	2.08	2.00	1.99	1.99	2.08	2.01
Diurnal Maximum	2.40	2.60	2.19	2.25	2.29	2.33	2.26	2.11	2.05	2.07	2.03	2.03	2.04	2.03	2.02	2.02	2.03	2.05	2.07	2.14	2.18	2.45	2.18	2.49			
Daiurnal Average	2.04	2.05	2.02	2.02	2.03	2.05	2.05	2.02	2.00	2.00	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	1.99	2.01	2.00	2.02			

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

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

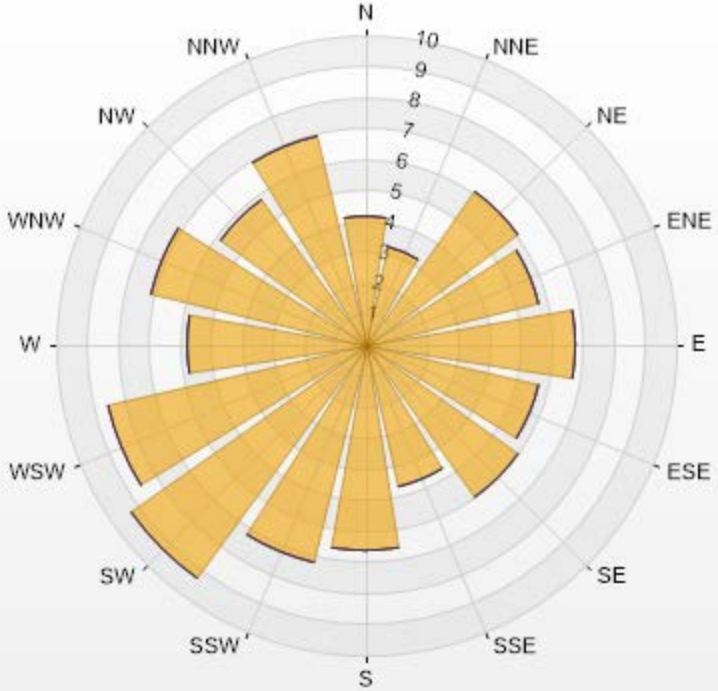
Timeseries Chart of Hourly Average for THC - 986b Station



Wind: PRAMP 986 Poll.: PRAMP 986-THC55[ppm] Monthly: 04-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.89% Calm Avg: 0.00 [ppm]

Direction	2-5	5-10	10-40	>40.0	Total
N	4.14	0	0	0	4.14
NNE	3.25	0	0	0	3.25
NE	6.07	0	0	0	6.07
ENE	5.77	0	0	0	5.77
E	6.8	0	0	0	6.8
ESE	5.77	0	0	0	5.77
SE	6.07	0	0	0	6.07
SSE	4.73	0	0	0	4.73
S	6.66	0	0	0	6.66
SSW	7.25	0	0	0	7.25
SW	9.32	0	0	0	9.32
WSW	8.58	0	0	0	8.58
W	5.77	0	0	0	5.77
WNW	7.1	0	0	0	7.1
NW	5.77	0	0	0	5.77
NNW	6.95	0	0	0	6.95
Summary	100	0	0	0	100

PRAMP 986 Poll.: PRAMP 986-THC55[ppm] 01-04-2019 00:00 - 30-04-2019 23:00 Calm: 0.00%



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

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

986b Station - April 2019

Summary of Hourly Averages

METHANE (CH4) in ppm

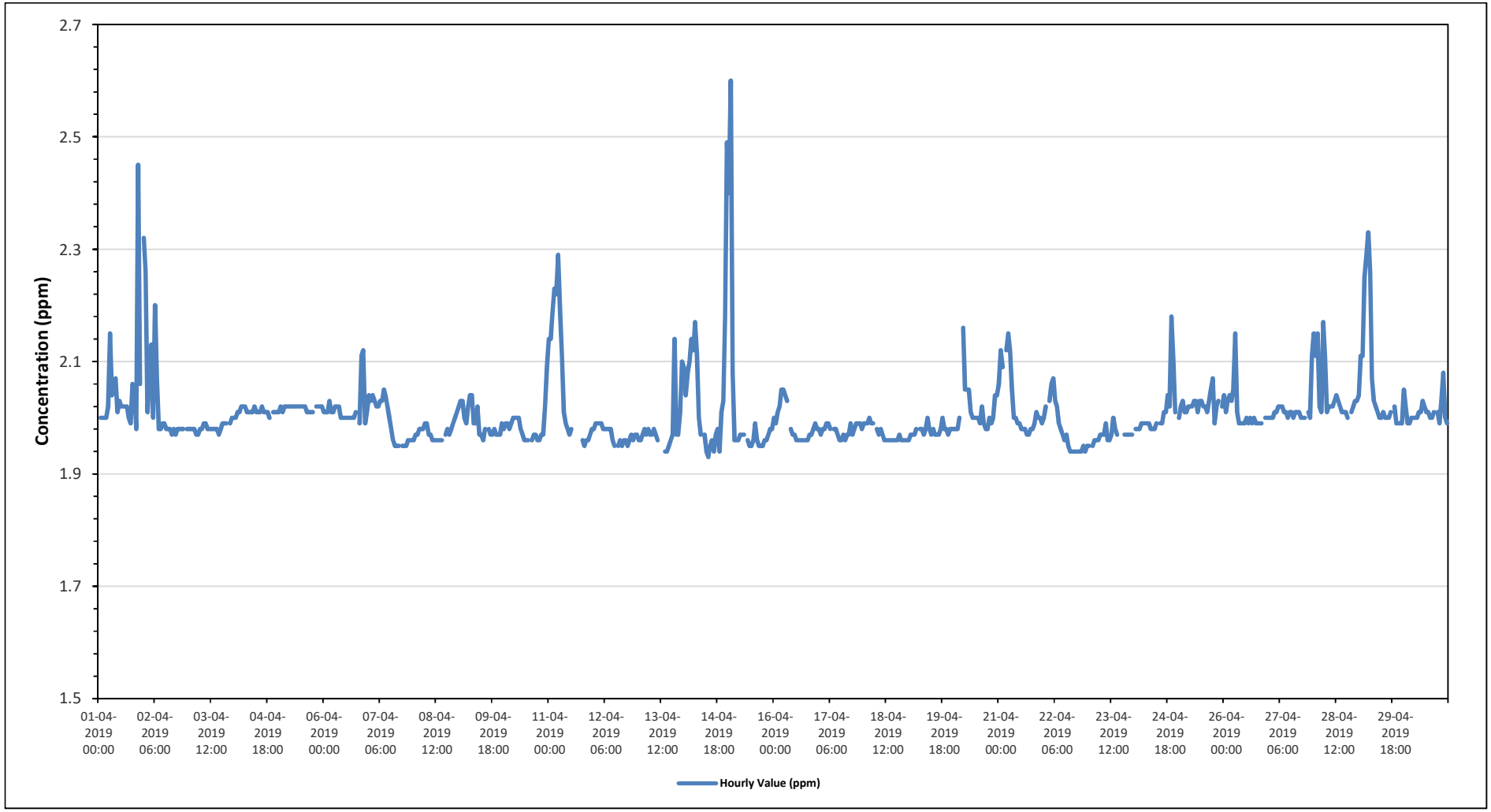
Maximum Hourly Value:	2.60	ppm	on April 15 at hour 1	Hours in Service:	720
Maximum Daily Value:	2.07	ppm	on April 29	Hours of Data:	680
Minimum Hourly Value:	1.93	ppm	on April 14 at hour 13	Hours of Missing Data:	4
Minimum Daily Value:	1.97	ppm	on April 23	Hours of Calibration:	36
Monthly Average:	2.01	ppm		Operational Uptime:	99.4

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
Apr 1	S	2.00	2.00	2.00	2.00	2.02	2.15	2.04	2.05	2.07	2.01	2.03	2.02	2.02	2.02	2.02	2.00	1.99	2.06	2.05	1.98	2.45	2.06	S	1.98	2.45	2.05
Apr 2	2.32	2.26	2.01	2.07	2.13	2.00	2.20	2.07	1.98	1.98	1.99	1.99	1.98	1.98	1.98	1.97	1.98	1.97	1.98	1.99	1.98	1.98	S	1.98	1.97	2.32	2.03
Apr 3	1.98	1.98	1.98	1.98	1.97	1.97	1.98	1.98	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.98	1.99	1.99	1.99	S	1.99	2.00	1.97	2.00	1.98
Apr 4	2.00	2.00	2.01	2.01	2.02	2.02	2.02	2.01	2.01	2.01	2.01	2.02	2.01	2.01	2.01	2.02	2.01	2.01	2.01	2.00	S	2.01	2.01	2.01	2.00	2.02	2.01
Apr 5	2.01	2.02	2.01	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.01	2.01	2.01	2.01	S	2.02	2.02	2.02	2.02	2.01	2.02	2.02
Apr 6	2.01	2.01	2.01	2.03	2.01	2.01	2.02	2.02	2.02	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.01	S	1.99	2.11	2.12	1.99	2.01	1.99	2.12	2.02
Apr 7	2.04	2.03	2.04	2.03	2.02	2.02	2.03	2.03	2.05	2.04	2.02	2.00	1.98	1.96	1.95	1.95	1.95	S	1.95	1.95	1.95	1.96	1.96	1.96	1.95	2.05	1.99
Apr 8	1.96	1.97	1.97	1.98	1.98	1.98	1.99	1.99	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	S	1.97	1.98	1.97	1.98	1.99	2.00	2.01	1.96	2.01	1.97
Apr 9	2.02	2.03	2.03	2.00	1.99	2.02	2.04	2.04	1.99	1.99	2.02	1.97	1.97	1.96	1.98	S	1.98	1.97	1.97	1.98	1.97	1.97	1.97	1.99	1.96	2.04	1.99
Apr 10	1.98	1.99	1.99	1.98	1.99	2.00	2.00	2.00	2.00	1.98	1.97	1.96	1.96	1.96	S	1.96	1.97	1.97	1.96	1.96	1.97	1.97	2.02	2.09	1.96	2.09	1.98
Apr 11	2.14	2.14	2.19	2.23	2.22	2.29	2.19	2.11	2.01	1.99	1.98	1.97	1.98	C	C	C	C	C	1.96	1.95	1.96	1.96	1.97	1.98	1.95	2.29	2.06
Apr 12	1.98	1.99	1.99	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.96	1.95	S	1.95	1.96	1.95	1.96	1.96	1.95	1.96	1.97	1.96	1.97	1.97	1.95	1.99	1.97
Apr 13	1.96	1.96	1.97	1.98	1.97	1.98	1.97	1.97	1.98	1.97	1.96	S	1.94	X	1.94	1.94	1.95	1.96	1.97	2.14	1.97	1.97	2.01	2.10	1.94	2.14	1.98
Apr 14	2.09	2.04	2.08	2.10	2.14	2.12	2.17	2.11	2.00	1.97	S	1.97	1.94	1.93	1.95	1.96	1.94	1.97	1.98	1.94	2.01	2.03	2.18	2.49	1.93	2.49	2.05
Apr 15	2.40	2.60	2.08	1.96	1.96	1.96	1.97	1.97	1.97	S	1.96	1.95	1.95	1.96	1.99	1.96	1.95	1.95	1.95	1.96	1.96	1.97	1.98	1.98	1.95	2.60	2.01
Apr 16	2.00	1.99	2.01	2.02	2.05	2.05	2.04	2.03	S	1.98	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.98	1.99	1.98	1.96	2.05	1.99
Apr 17	1.98	1.97	1.98	1.98	1.99	1.99	1.98	S	1.98	1.98	1.97	1.96	1.96	1.97	1.96	1.97	1.97	1.99	1.97	1.98	1.99	1.99	1.99	1.98	1.96	1.99	1.98
Apr 18	1.99	1.99	1.99	2.00	1.99	1.99	S	1.98	1.97	1.98	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.96	1.96	1.96	1.96	2.00	1.97
Apr 19	1.96	1.97	1.97	1.97	1.98	S	1.98	1.98	1.97	1.98	2.00	1.98	1.97	1.98	1.97	1.97	1.97	1.98	2.00	1.98	1.98	1.97	1.98	1.98	1.96	2.00	1.98
Apr 20	1.98	1.98	1.98	2.00	S	2.16	2.05	2.05	2.05	2.01	2.00	2.00	2.00	2.00	1.99	2.02	1.99	1.98	1.98	2.00	1.99	2.00	2.04	2.04	1.98	2.16	2.01
Apr 21	2.06	2.12	2.09	S	2.12	2.15	2.12	2.05	2.00	2.00	1.99	1.99	1.98	1.98	1.98	1.97	1.97	1.98	1.98	1.99	2.01	2.00	2.00	1.99	1.97	2.15	2.02
Apr 22	2.00	2.02	S	2.03	2.06	2.07	2.03	2.02	1.99	1.98	1.97	1.96	1.97	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.94	1.95	1.94	2.07	1.98
Apr 23	1.95	S	1.95	1.96	1.96	1.96	1.97	1.97	1.97	1.99	1.96	1.96	1.97	2.00	1.98	1.97	Y	1.97	Y	1.97	1.97	1.97	1.97	1.97	1.95	2.00	1.97
Apr 24	S	1.98	1.98	1.98	1.99	1.99	1.99	1.99	1.99	1.98	1.98	1.98	1.99	Y	1.99	1.99	2.01	2.01	2.04	2.02	2.18	2.10	2.01	S	1.98	2.18	2.01
Apr 25	2.00	2.02	2.03	2.01	2.01	2.02	2.02	2.02	2.03	2.03	2.01	2.03	2.03	2.02	2.02	2.01	2.03	2.05	2.07	1.99	2.02	2.03	S	2.02	1.99	2.07	2.02
Apr 26	2.04	2.01	2.03	2.04	2.03	2.05	2.15	2.01	1.99	1.99	1.99	1.99	2.00	1.99	2.00	1.99	2.00	1.99	1.99	1.99	1.99	S	2.00	2.00	1.99	2.15	2.01
Apr 27	2.00	2.00	2.00	2.01	2.01	2.02	2.02	2.02	2.01	2.01	2.00	2.01	2.01	2.00	2.01	2.01	2.01	2.00	2.00	2.00	S	2.01	2.00	2.11	2.00	2.11	2.01
Apr 28	2.15	2.11	2.15	2.02	2.01	2.17	2.11	2.01	2.02	2.02	2.02	2.03	2.04	2.03	2.02	2.01	2.01	2.01	2.00	S	2.01	2.02	2.03	2.03	2.00	2.17	2.04
Apr 29	2.04	2.11	2.11	2.25	2.29	2.33	2.26	2.07	2.03	2.02	2.01	2.00	2.00	2.01	2.00	2.00	2.00	2.01	S	2.02	1.99	1.99	1.99	1.99	1.99	2.33	2.07
Apr 30	2.05	2.02	1.99	1.99	2.00	2.00	2.00	2.00	2.01	2.01	2.03	2.02	2.01	2.01	2.00	2.00	2.01	S	2.01	1.99	2.03	2.08	2.00	1.99	1.99	2.08	2.01
Diurnal Maximum	2.40	2.60	2.19	2.25	2.29	2.33	2.26	2.11	2.05	2.07	2.03	2.03	2.04	2.03	2.02	2.02	2.03	2.05	2.07	2.14	2.18	2.45	2.18	2.49			
Daiurnal Average	2.04	2.05	2.02	2.02	2.03	2.05	2.05	2.02	2.00	2.00	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	1.99	2.01	2.00	2.02			

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

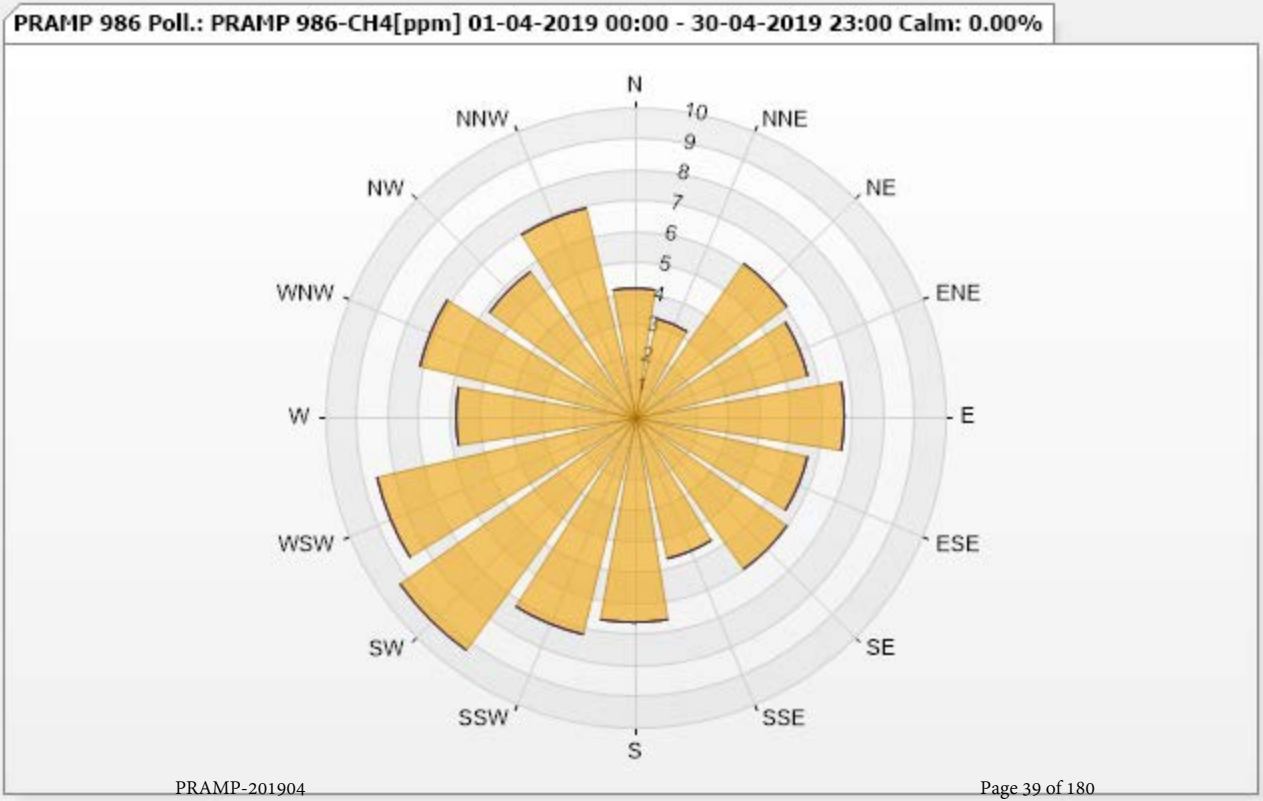
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for CH4 - 986b Station



Wind: PRAMP 986 Poll.: PRAMP 986-CH4[ppm] Monthly: 04-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.89% Calm Avg: 0.00 [ppm]

Direction	2-5	5-10	10-20	>20.0	Total
N	4.14	0	0	0	4.14
NNE	3.25	0	0	0	3.25
NE	6.07	0	0	0	6.07
ENE	5.77	0	0	0	5.77
E	6.8	0	0	0	6.8
ESE	5.77	0	0	0	5.77
SE	6.07	0	0	0	6.07
SSE	4.73	0	0	0	4.73
S	6.66	0	0	0	6.66
SSW	7.25	0	0	0	7.25
SW	9.32	0	0	0	9.32
WSW	8.58	0	0	0	8.58
W	5.77	0	0	0	5.77
WNW	7.1	0	0	0	7.1
NW	5.77	0	0	0	5.77
NNW	6.95	0	0	0	6.95
Summary	100	0	0	0	100


PRAMP 986 Poll.: PRAMP 986-CH4[ppm] 01-04-2019 00:00 - 30-04-2019 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
10
9
8
7
6
5
4
% Icon Classes (ppm)
100 2-5
0 5-10
0 10-20
0 >20.0

PEACE RIVER AREA MONITORING PROGRAM

986b Station - April 2019

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

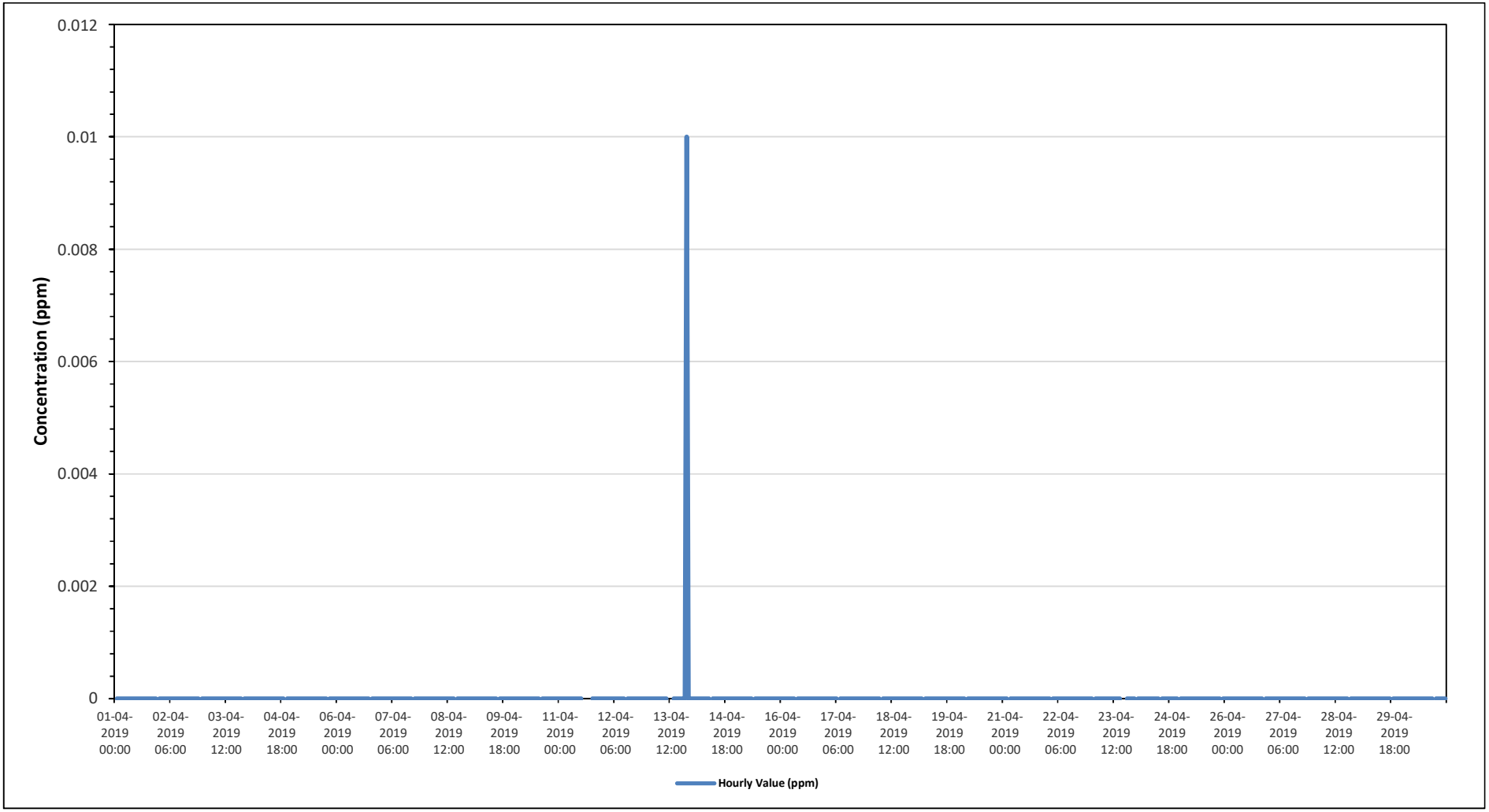
Maximum Hourly Value:	0.01	ppm	on April 13 at hour 21	Hours in Service:	720
Maximum Daily Value:	0.00	ppm	on April 13	Hours of Data:	680
Minimum Hourly Value:	0.00	ppm	on April 1 at hour 1	Hours of Missing Data:	4
Minimum Daily Value:	0.00	ppm	on April 1	Hours of Calibration:	36
Monthly Average:	0.00	ppm		Operational Uptime:	99.4

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
Apr 1	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Apr 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Apr 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Apr 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Apr 5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.01**	0.00	0.00	0.00	**0.01**	0.00
Apr 14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 18	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 19	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 20	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 21	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 22	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 23	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Y	0.00	Y	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 24	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Y	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00
Apr 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Apr 26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Apr 27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Apr 28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diurnal Maximum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00			
Daiurnal Average	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

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

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

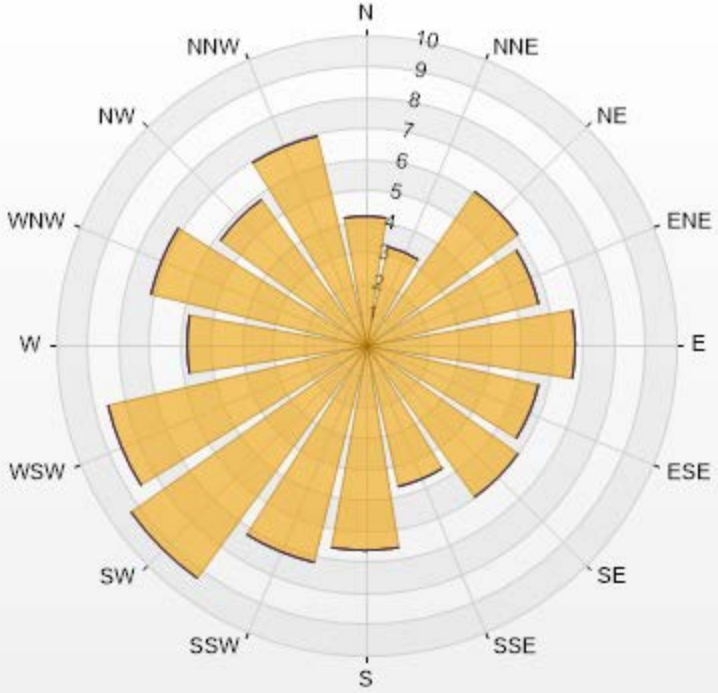
Timeseries Chart of Hourly Average for NMHC - 986b Station



Wind: PRAMP 986 Poll.: PRAMP 986-NMHC[ppm] Monthly: 04-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.89% Calm Avg: 0.00 [ppm]

Direction	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	4.14	0	0	0	4.14
NNE	3.25	0	0	0	3.25
NE	6.07	0	0	0	6.07
ENE	5.77	0	0	0	5.77
E	6.8	0	0	0	6.8
ESE	5.77	0	0	0	5.77
SE	6.07	0	0	0	6.07
SSE	4.73	0	0	0	4.73
S	6.66	0	0	0	6.66
SSW	7.25	0	0	0	7.25
SW	9.32	0	0	0	9.32
WSW	8.58	0	0	0	8.58
W	5.77	0	0	0	5.77
WNW	7.1	0	0	0	7.1
NW	5.77	0	0	0	5.77
NNW	6.95	0	0	0	6.95
Summary	100	0	0	0	100

PRAMP 986 Poll.: PRAMP 986-NMHC[ppm] 01-04-2019 00:00 - 30-04-2019 23:00 Calm: 0.00%



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

PEACE RIVER AREA MONITORING PROGRAM

986b Station - April 2019

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

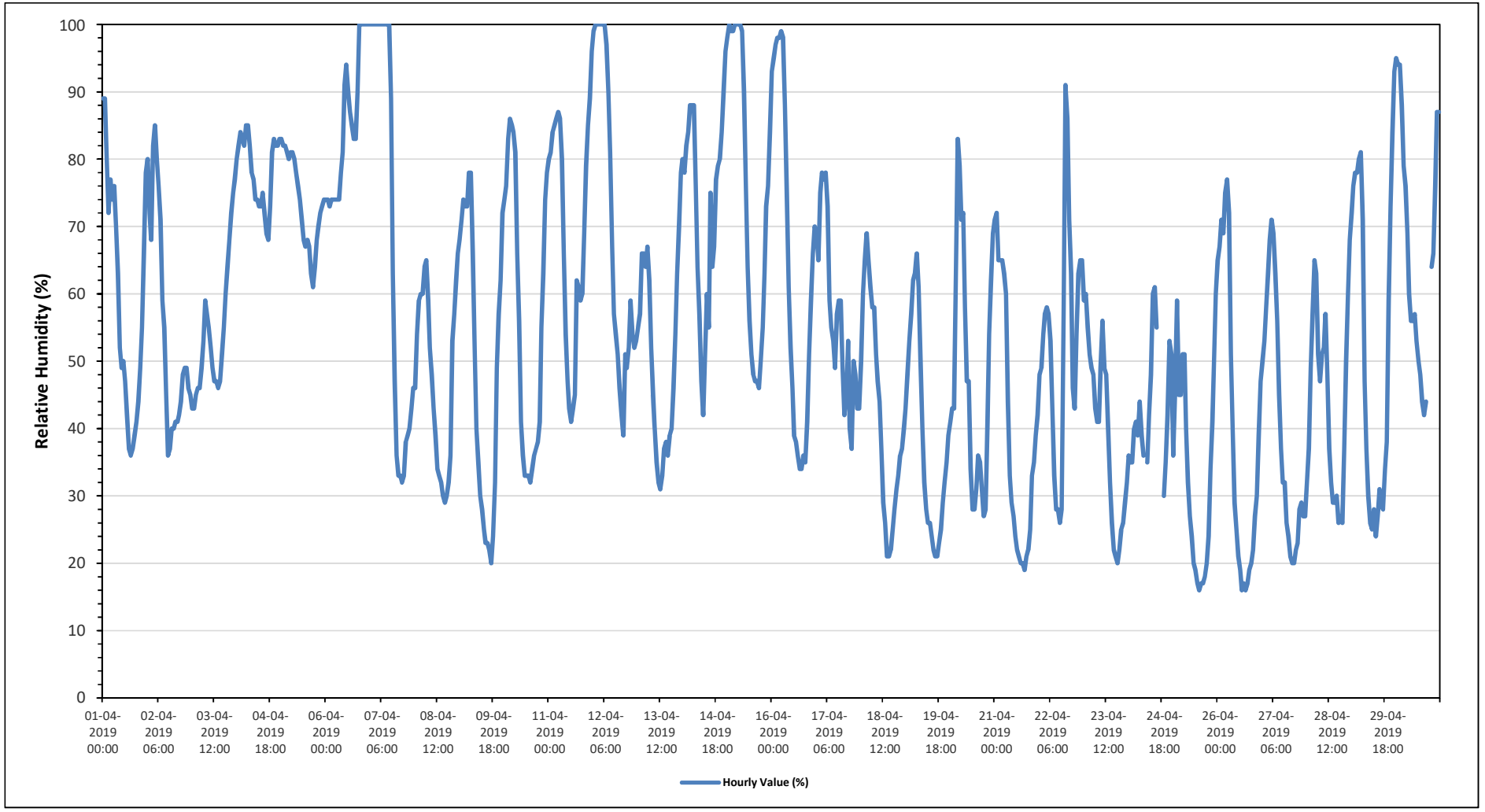
Maximum Hourly Value:	100	%	on April 6 at hour 18	Hours in Service:	720
Maximum Daily Value:	85.5	%	on April 6	Hours of Data:	715
Minimum Hourly Value:	16	%	on April 25 at hour 14	Hours of Missing Data:	5
Minimum Daily Value:	33.7	%	on April 25	Hours of Calibration:	0
Monthly Average:	55.6	%		Operational 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
Apr 1	89	89	80	72	77	74	76	70	63	52	49	50	47	42	37	36	37	39	41	44	49	55	66	78	36	89	59
Apr 2	80	72	68	82	85	80	76	71	59	55	45	36	37	40	40	41	41	42	44	48	49	49	46	45	36	85	55
Apr 3	43	43	45	46	46	49	53	59	57	55	52	49	47	47	46	47	51	55	60	64	68	72	75	77	43	77	54
Apr 4	80	82	84	83	82	85	85	82	78	77	74	74	73	73	75	72	69	68	73	81	83	82	82	83	68	85	78
Apr 5	83	82	82	81	80	81	81	80	78	76	74	71	68	67	68	67	63	61	64	68	70	72	73	74	61	83	74
Apr 6	74	74	73	74	74	74	74	74	78	81	91	94	90	87	85	83	83	90	**100**	**100**	**100**	**100**	**100**	**100**	73	**100**	**86**
Apr 7	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	89	63	47	36	33	33	32	33	38	39	40	43	46	32	**100**	70
Apr 8	46	54	59	60	60	64	65	59	52	48	43	39	34	33	32	30	29	30	32	36	53	57	62	66	29	66	48
Apr 9	68	71	74	73	73	78	78	66	52	40	35	30	28	25	23	23	22	20	24	32	49	57	62	72	20	78	49
Apr 10	74	76	83	86	85	84	81	66	56	41	36	33	33	33	32	34	36	37	38	41	55	63	74	78	32	86	56
Apr 11	80	81	84	85	86	87	86	80	66	54	47	43	41	43	45	62	61	59	60	69	79	85	89	96	41	96	70
Apr 12	99	**100**	**100**	**100**	**100**	**100**	**100**	97	90	81	67	57	54	51	46	42	39	51	49	52	59	54	52	53	39	**100**	71
Apr 13	55	57	66	66	64	67	62	52	45	40	35	32	31	33	37	38	36	39	40	46	54	63	70	78	31	78	50
Apr 14	80	78	82	84	88	88	88	76	64	57	47	42	51	60	55	75	64	67	77	79	80	84	90	96	42	96	73
Apr 15	98	**100**	99	99	**100**	**100**	**100**	**100**	99	90	76	64	56	51	48	47	47	46	50	55	63	73	76	84	46	**100**	76
Apr 16	93	95	97	98	98	99	98	88	75	61	52	46	39	38	36	34	34	36	35	41	51	59	66	70	34	99	64
Apr 17	69	65	75	78	77	78	73	59	55	53	49	57	59	59	49	42	45	53	40	37	50	48	43	43	37	78	57
Apr 18	50	60	65	69	65	61	58	58	51	47	44	37	29	26	21	21	22	25	28	31	33	36	37	40	21	69	42
Apr 19	43	48	53	57	62	63	66	61	50	40	32	28	26	26	24	22	21	21	23	25	29	32	35	39	21	66	39
Apr 20	41	43	43	63	83	79	71	72	58	47	47	34	28	28	31	36	35	31	27	28	41	54	62	69	27	83	48
Apr 21	71	72	65	65	65	63	60	44	33	29	27	24	22	21	20	20	19	21	22	25	33	35	39	42	19	72	39
Apr 22	48	49	54	57	58	57	53	43	33	28	28	26	28	58	91	86	71	63	46	43	54	63	65	65	26	91	53
Apr 23	59	60	55	51	49	48	43	41	41	49	56	49	48	40	32	26	**Y**	21	**Y**	22	25	26	29	32	21	60	41
Apr 24	36	35	35	40	41	39	44	39	36	**Y**	35	42	48	60	61	55	29	28	31	30	35	42	53	51	28	61	41
Apr 25	36	46	59	45	45	51	51	40	32	27	24	20	19	17	**16**	17	17	18	20	24	34	41	50	60	**16**	60	34
Apr 26	65	67	71	69	75	77	72	51	40	29	25	21	19	**16**	17	**16**	17	19	20	22	27	30	39	47	**16**	77	40
Apr 27	50	53	58	63	68	71	69	63	56	45	37	32	32	26	24	21	20	20	22	23	28	29	27	27	20	71	40
Apr 28	32	37	49	57	65	63	51	47	51	52	57	48	37	32	29	29	30	26	27	26	37	50	60	68	26	68	44
Apr 29	72	76	78	78	80	81	71	47	37	30	26	25	28	24	27	31	29	28	34	38	59	73	84	93	24	93	52
Apr 30	95	94	94	88	79	76	69	60	56	56	57	53	50	48	44	42	44	**Y**	**Y**	64	66	76	87	87	42	95	68
Diurnal Maximum	100	100	100	100	100	100	100	100	100	100	100	94	90	87	91	86	83	90	100	100	100	100	100	100			
Daiurnal Average	67.0	68.6	71.0	72.3	73.7	73.9	71.8	64.8	58.0	53.1	48.9	44.8	42.2	41.7	40.9	40.9	39.4	39.5	41.4	44.4	51.7	56.7	61.2	65.3			

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

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

Timeseries Chart of Hourly Average for RH - 986b Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

986b Station - April 2019

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

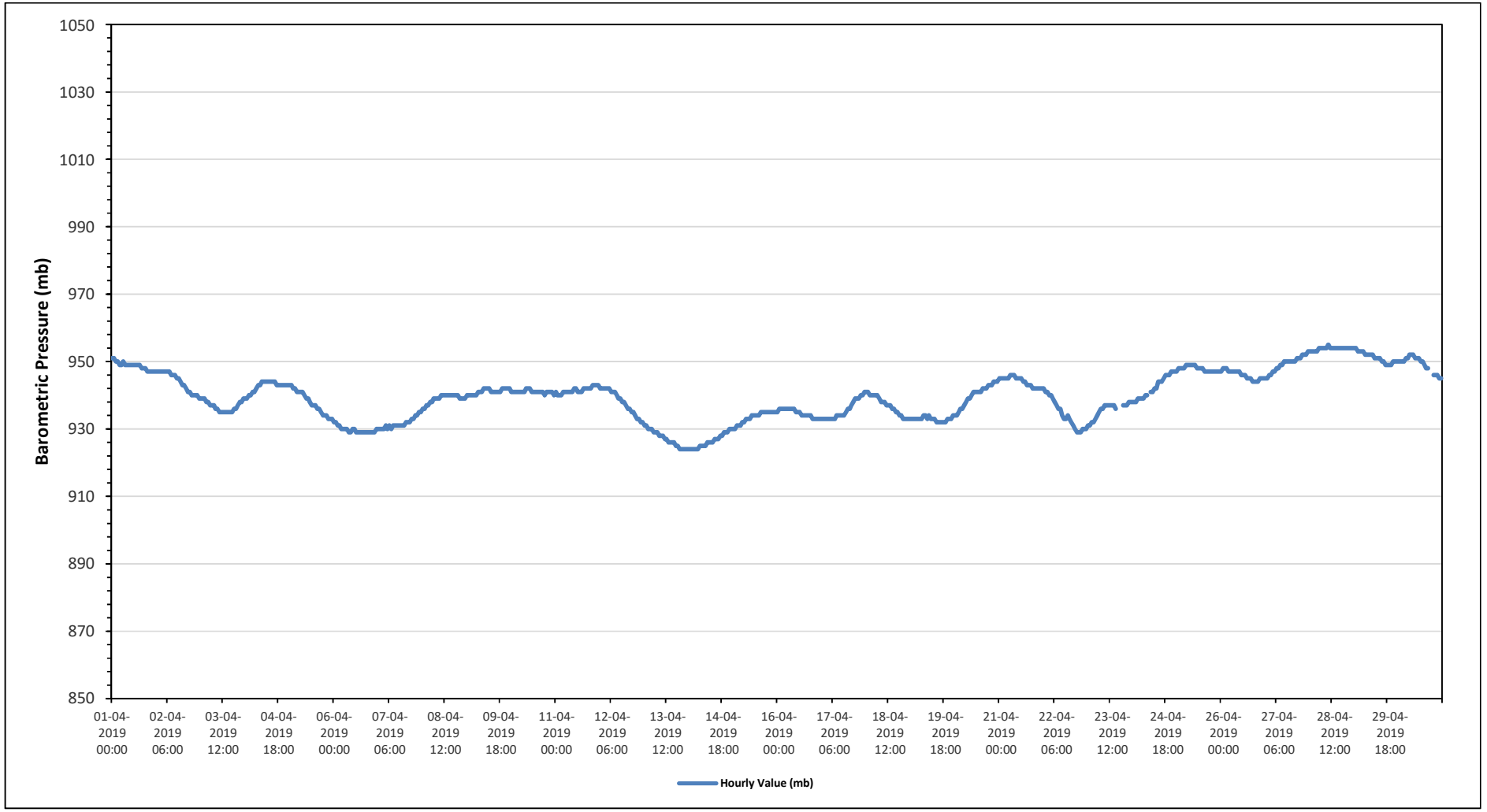
Maximum Hourly Value:	955	mb	on April 28 at hour 10	Hours in Service:	720
Maximum Daily Value:	954	mb	on April 28	Hours of Data:	715
Minimum Hourly Value:	924	mb	on April 13 at hour 19	Hours of Missing Data:	5
Minimum Daily Value:	926	mb	on April 14	Hours of Calibration:	0
Monthly Average:	940	mb		Operational Uptime:	99.3

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	951	951	950	950	949	949	950	949	949	949	949	949	949	949	949	949	948	948	948	947	947	947	947	947	947	951	949
Apr 2	947	947	947	947	947	947	947	947	946	946	946	945	945	944	943	943	942	941	941	940	940	940	940	939	939	947	944
Apr 3	939	939	939	938	938	937	937	937	936	936	935	935	935	935	935	935	935	935	936	936	937	938	938	939	935	939	937
Apr 4	939	939	940	940	941	941	942	943	943	944	944	944	944	944	944	944	944	943	943	943	943	943	943	943	939	944	943
Apr 5	943	943	942	942	941	941	941	941	940	939	939	938	937	937	937	936	936	935	934	934	934	933	933	933	933	943	938
Apr 6	932	932	931	931	930	930	930	930	929	929	930	930	929	929	929	929	929	929	929	929	929	929	929	930	929	932	930
Apr 7	930	930	930	930	931	930	931	930	931	931	931	931	931	931	931	932	932	932	933	933	934	934	935	935	930	935	932
Apr 8	936	936	937	937	938	938	939	939	939	939	940	940	940	940	940	940	940	940	940	940	939	939	939	939	936	940	939
Apr 9	940	940	940	940	940	940	941	941	941	942	942	942	942	941	941	941	941	941	941	942	942	942	942	942	940	942	941
Apr 10	941	941	941	941	941	941	941	941	942	942	942	941	941	941	941	941	941	941	940	941	941	941	941	940	940	942	941
Apr 11	941	940	940	940	941	941	941	941	941	941	942	942	941	941	941	942	942	942	942	942	943	943	943	943	940	943	942
Apr 12	942	942	942	942	942	942	941	941	941	940	939	939	938	938	937	936	936	935	935	934	933	933	932	932	932	942	938
Apr 13	931	931	930	930	930	929	929	929	928	928	928	927	927	926	926	926	926	925	925	**924**	**924**	**924**	**924**	**924**	**924**	931	927
Apr 14	**924**	**924**	**924**	**924**	**924**	**924**	925	925	925	925	926	926	926	926	927	927	927	928	928	929	929	929	930	930	**924**	930	926
Apr 15	930	930	931	931	931	932	932	933	933	933	934	934	934	934	934	935	935	935	935	935	935	935	935	935	930	935	933
Apr 16	935	936	936	936	936	936	936	936	936	936	935	935	935	934	934	934	934	934	934	933	933	933	933	933	933	936	935
Apr 17	933	933	933	933	933	933	933	933	934	934	934	934	934	935	936	936	937	938	939	939	939	940	940	941	933	941	936
Apr 18	941	941	940	940	940	940	940	939	938	938	938	937	937	937	936	936	935	935	934	934	933	933	933	933	933	941	937
Apr 19	933	933	933	933	933	933	933	934	934	933	934	933	933	933	932	932	932	932	932	932	933	933	933	934	932	934	933
Apr 20	934	934	935	936	936	937	938	939	939	940	941	941	941	941	941	942	942	942	943	943	943	944	944	944	934	944	940
Apr 21	945	945	945	945	945	945	946	946	946	945	945	945	945	944	944	943	943	943	942	942	942	942	942	942	942	946	944
Apr 22	942	941	941	940	940	939	938	937	936	936	934	933	933	934	933	932	931	930	929	929	929	930	930	930	929	942	934
Apr 23	931	931	932	932	933	934	935	936	936	937	937	937	937	937	937	936	**Y**	936	**Y**	937	937	937	938	938	931	938	936
Apr 24	938	938	938	939	939	939	939	940	940	**Y**	941	941	942	942	944	944	944	945	946	946	946	947	947	947	938	947	942
Apr 25	947	948	948	948	948	949	949	949	949	949	949	948	948	948	948	947	947	947	947	947	947	947	947	947	947	949	948
Apr 26	947	948	948	948	947	947	947	947	947	947	947	946	946	946	945	945	945	944	944	944	944	945	945	945	944	948	946
Apr 27	945	945	946	946	947	947	948	948	949	949	950	950	950	950	950	950	950	951	951	951	952	952	952	953	945	953	949
Apr 28	953	953	953	953	953	954	954	954	954	954	**955**	954	954	954	954	954	954	954	954	954	954	954	954	954	953	**955**	**954**
Apr 29	954	954	953	953	953	953	952	952	952	952	952	951	951	951	951	950	950	949	949	949	949	950	950	950	949	954	951
Apr 30	950	950	950	950	951	951	952	952	952	951	951	951	950	950	949	948	948	**Y**	**Y**	946	946	946	945	945	945	952	949
Diurnal Maximum	954	954	953	953	953	954	954	954	954	954	955	954	954	954	954	954	954	954	954	954	954	954	954	954			
Daiurnal Average	940	940	940	940	940	940	940	940	940	940	940	940	940	940	940	940	940	939	939	939	939	939	939	940			

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

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

Timeseries Chart of Hourly Average for BP - 986b Station



PEACE RIVER AREA MONITORING PROGRAM

986b Station - April 2019

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

Maximum Hourly Value:	16.5	°C	on April 18 at hour 14	Hours in Service:	720
Maximum Daily Value:	10.4	°C	on April 22	Hours of Data:	715
Minimum Hourly Value:	-8.4	°C	on April 29 at hour 5	Hours of Missing Data:	5
Minimum Daily Value:	-5.0	°C	on April 4	Hours of Calibration:	0
Monthly Average:	4.5	°C		Operational Uptime:	99.3

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	-1.6	-1.6	-0.2	0.2	-0.3	0.3	0.4	2.7	5.1	5.3	6.9	6.8	7.8	8.1	8.0	7.8	7.4	7.1	6.1	5.4	3.6	1.9	-0.2	-1.8	-1.8	8.1	3.6
Apr 2	-2.0	-0.7	0.0	-1.3	-1.8	-1.9	-2.1	-1.5	-0.6	0.0	1.2	2.2	2.3	2.7	3.2	3.2	3.5	3.3	2.7	1.6	0.6	0.2	-0.6	-1.3	-2.1	3.5	0.5
Apr 3	-1.8	-2.4	-2.9	-3.0	-3.1	-3.4	-3.7	-3.9	-3.2	-2.0	-0.7	0.7	1.7	2.1	3.5	3.5	2.2	0.9	-0.8	-2.3	-3.4	-4.4	-5.0	-5.1	-5.1	3.5	-1.5
Apr 4	-5.4	-5.8	-6.1	-6.2	-6.2	-6.6	-7.0	-7.2	-7.2	-6.7	-6.0	-5.3	-4.7	-4.3	-3.5	-3.2	-2.9	-2.7	-3.1	-3.8	-4.1	-4.1	-4.0	-4.1	-7.2	-2.7	-5.0
Apr 5	-4.3	-4.4	-4.5	-4.5	-4.7	-5.1	-5.1	-4.8	-4.0	-2.6	-1.6	-0.7	0.8	1.0	1.2	1.6	3.0	3.4	2.3	1.2	0.6	0.3	0.0	-0.3	-5.1	3.4	-1.3
Apr 6	-0.5	-0.5	-0.4	-0.5	-0.5	-0.3	-0.4	-0.4	-0.3	0.0	0.0	0.4	1.5	2.5	3.4	4.3	4.2	2.7	0.8	0.6	0.6	0.5	0.4	0.6	-0.5	4.3	0.8
Apr 7	0.4	0.2	0.1	0.0	-0.1	-0.2	-0.4	-0.4	0.1	1.4	2.3	6.0	9.7	12.4	13.2	13.4	13.5	13.3	12.3	10.8	9.2	8.5	7.6	6.8	-0.4	13.5	5.8
Apr 8	6.5	4.4	3.6	3.3	3.2	2.5	2.5	4.7	6.6	8.3	10.3	12.4	13.4	13.6	13.9	14.0	13.5	13.0	12.3	11.0	5.8	5.3	4.5	3.3	2.5	14.0	8.0
Apr 9	2.7	2.0	1.4	1.5	1.2	-0.3	-0.8	4.6	7.8	10.9	12.2	14.0	14.3	14.8	15.3	15.4	15.4	15.2	14.3	12.4	9.5	8.3	6.6	4.6	-0.8	15.4	8.5
Apr 10	4.7	4.4	2.8	2.4	2.5	2.1	1.4	4.6	6.7	9.7	11.6	13.0	13.1	13.2	13.0	12.9	12.5	12.2	11.6	10.3	6.6	4.3	2.2	0.3	0.3	13.2	7.4
Apr 11	-0.4	-1.1	-1.9	-2.2	-2.3	-2.0	-0.7	1.9	6.3	7.8	9.4	12.2	13.2	13.2	12.6	10.7	11.0	10.8	10.2	7.8	5.8	5.1	4.1	2.5	-2.3	13.2	5.6
Apr 12	1.5	1.4	0.6	1.3	2.4	2.6	2.4	3.7	5.3	7.4	9.0	10.3	11.2	11.8	12.8	13.0	12.7	10.7	10.1	8.7	6.4	7.4	7.0	6.1	0.6	13.0	6.9
Apr 13	4.9	3.9	2.0	1.6	1.6	0.6	2.1	4.6	7.6	8.6	10.4	12.4	12.3	12.0	11.3	11.6	11.9	11.0	10.6	9.3	6.3	4.5	3.0	1.5	0.6	12.4	6.9
Apr 14	1.6	2.1	1.3	0.1	-1.2	-1.7	-1.4	3.0	6.5	8.2	10.4	11.4	9.7	8.6	9.6	7.0	8.3	7.8	6.7	6.3	6.1	5.3	4.6	4.0	-1.7	11.4	5.2
Apr 15	3.8	3.2	3.0	2.7	1.9	1.0	0.4	0.6	1.4	3.1	4.6	5.6	6.7	7.4	7.9	8.2	8.1	8.1	7.7	6.8	4.6	2.3	1.0	-0.2	-0.2	8.2	4.2
Apr 16	-0.2	-1.3	-1.4	-1.8	-2.4	-2.6	-1.8	2.3	5.8	7.8	9.2	10.5	12.2	12.2	12.5	12.6	12.5	12.2	11.8	10.3	7.6	6.6	4.9	4.5	-2.6	12.6	6.0
Apr 17	4.4	4.8	2.7	1.7	1.8	1.5	3.2	6.6	8.7	8.9	9.8	9.2	9.5	9.9	12.4	12.7	12.1	10.5	12.8	11.6	7.3	7.0	7.0	6.5	1.5	12.8	7.6
Apr 18	5.2	3.4	3.0	3.2	4.3	5.2	5.6	7.0	9.5	11.7	13.2	14.3	14.9	15.4	**16.5**	15.6	15.2	14.3	13.5	12.6	11.9	10.6	10.2	9.6	3.0	**16.5**	10.2
Apr 19	8.9	7.7	6.8	6.2	4.9	4.6	4.3	5.7	7.7	9.5	10.9	12.0	12.7	12.9	13.2	14.0	13.5	12.9	12.0	10.8	10.0	8.6	7.9	7.7	4.3	14.0	9.4
Apr 20	6.9	6.2	6.1	4.5	4.0	4.0	4.5	4.5	5.6	7.0	7.4	9.2	9.8	9.5	8.9	8.0	9.0	8.9	9.3	8.4	4.8	1.1	-1.4	-2.2	-2.2	9.8	6.0
Apr 21	-3.7	-3.7	-3.6	-3.8	-3.5	-3.3	-1.5	6.0	9.0	10.3	12.2	13.6	14.1	15.1	14.9	15.3	15.7	15.2	14.8	13.2	8.7	8.2	6.9	6.2	-3.8	15.7	7.3
Apr 22	5.3	5.0	4.3	4.3	4.7	5.0	5.7	9.4	12.0	13.5	14.6	15.9	15.6	12.9	10.0	11.5	13.1	14.8	16.1	14.5	11.6	10.3	9.8	9.8	4.3	16.1	**10.4**
Apr 23	10.2	9.1	9.0	9.0	8.4	7.9	8.2	8.4	8.2	8.0	8.0	8.9	9.9	11.6	12.6	13.5	Y	13.7	Y	11.5	9.6	8.6	7.7	6.3	6.3	13.7	9.5
Apr 24	4.9	5.3	5.1	3.8	3.6	4.2	3.8	5.5	7.0	Y	7.3	6.2	4.7	4.1	3.7	4.3	6.6	6.8	6.1	5.2	3.0	0.7	-2.2	-2.6	-2.6	7.3	4.2
Apr 25	-1.0	-3.5	-5.1	-3.5	-3.1	-3.6	-1.9	0.9	2.8	4.6	6.0	6.9	7.1	7.9	8.5	8.1	8.2	7.8	7.0	5.3	2.6	0.7	-2.1	-3.9	-5.1	8.5	2.4
Apr 26	-4.7	-4.9	-4.8	-3.8	-5.5	-6.2	-3.6	1.9	4.0	5.6	6.7	7.6	8.1	9.0	9.1	9.4	8.9	8.4	7.7	6.8	5.5	4.5	3.4	2.7	-6.2	9.4	3.2
Apr 27	2.2	1.3	0.5	-0.2	-0.8	-1.2	-1.1	-0.6	0.5	3.0	5.0	6.3	6.1	7.2	7.2	8.3	7.9	7.5	6.8	5.5	3.1	2.6	2.7	2.4	-1.2	8.3	3.4
Apr 28	1.0	-0.8	-3.1	-4.5	-5.8	-5.3	-1.8	1.6	2.0	2.8	2.7	3.4	4.1	5.0	5.6	5.3	5.3	5.8	4.9	4.5	1.2	-2.4	-4.2	-5.5	-5.8	5.8	0.9
Apr 29	-6.3	-7.2	-7.4	-7.8	-8.1	**-8.4**	-4.6	0.8	3.0	4.7	6.3	7.1	7.0	6.9	6.5	5.9	6.1	6.1	4.7	3.8	1.5	0.1	-0.8	-1.9	**-8.4**	7.1	0.8
Apr 30	-2.3	-2.6	-3.4	-4.6	-5.6	-7.0	-6.8	-5.2	-4.6	-4.6	-4.0	-2.9	-2.1	-1.3	-0.1	0.4	0.0	Y	Y	-1.3	-1.8	-2.6	-3.8	-4.0	-7.0	0.4	-3.2
Diurnal Maximum	10.2	9.1	9.0	9.0	8.4	7.9	8.2	9.4	12.0	13.5	14.6	15.9	15.6	15.4	16.5	15.6	15.7	15.2	16.1	14.5	11.9	10.6	10.2	9.8			
Daiurnal Average	1.4	0.8	0.3	-0.1	-0.4	-0.6	0.0	2.2	4.0	5.2	6.5	7.7	8.2	8.6	8.9	8.9	8.9	9.0	8.3	7.0	4.8	3.7	2.6	1.8			

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

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
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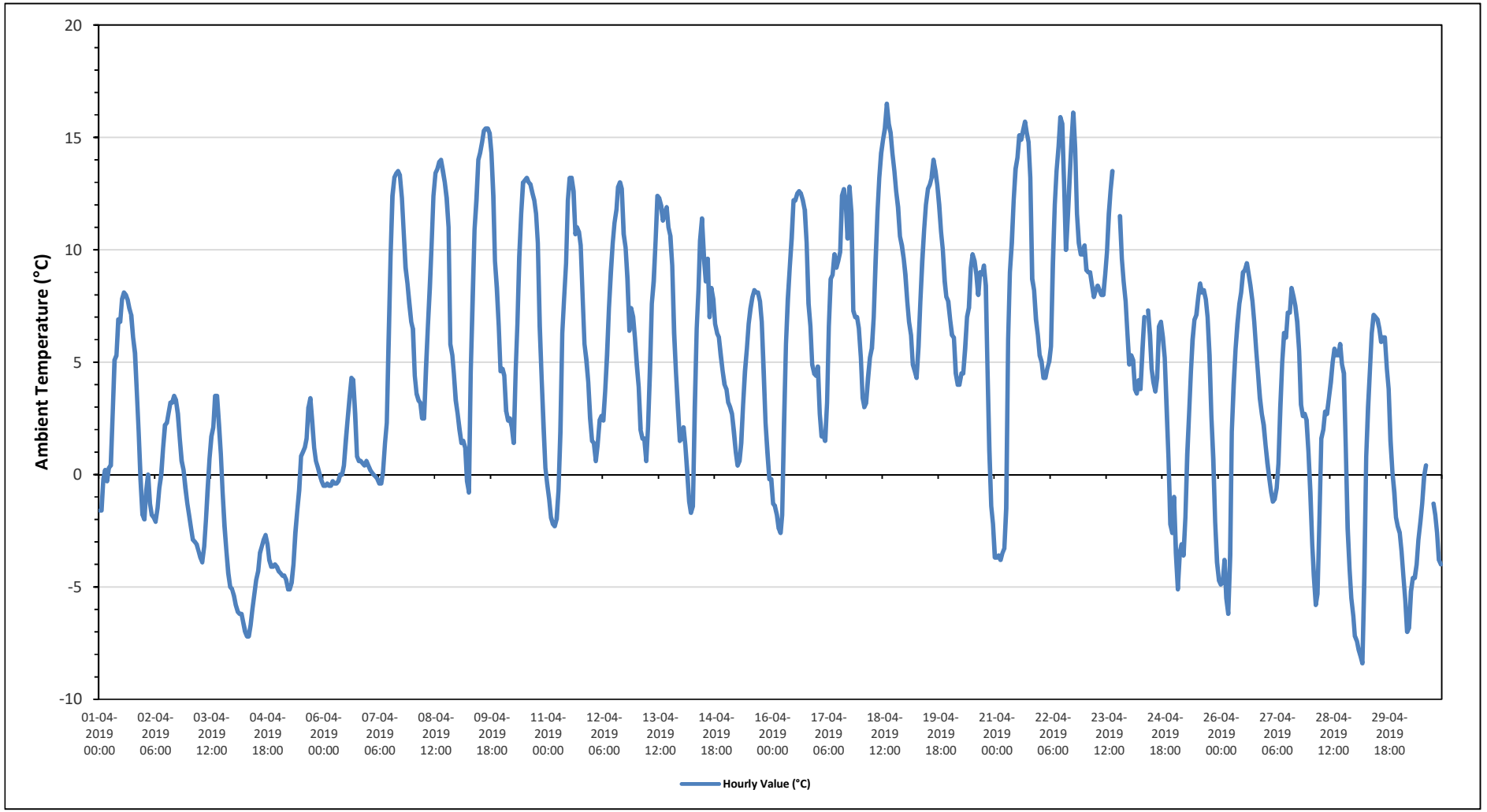
Timeseries Chart of Hourly Average for AT - 986b Station



PEACE RIVER AREA MONITORING PROGRAM

986b Station - April 2019

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

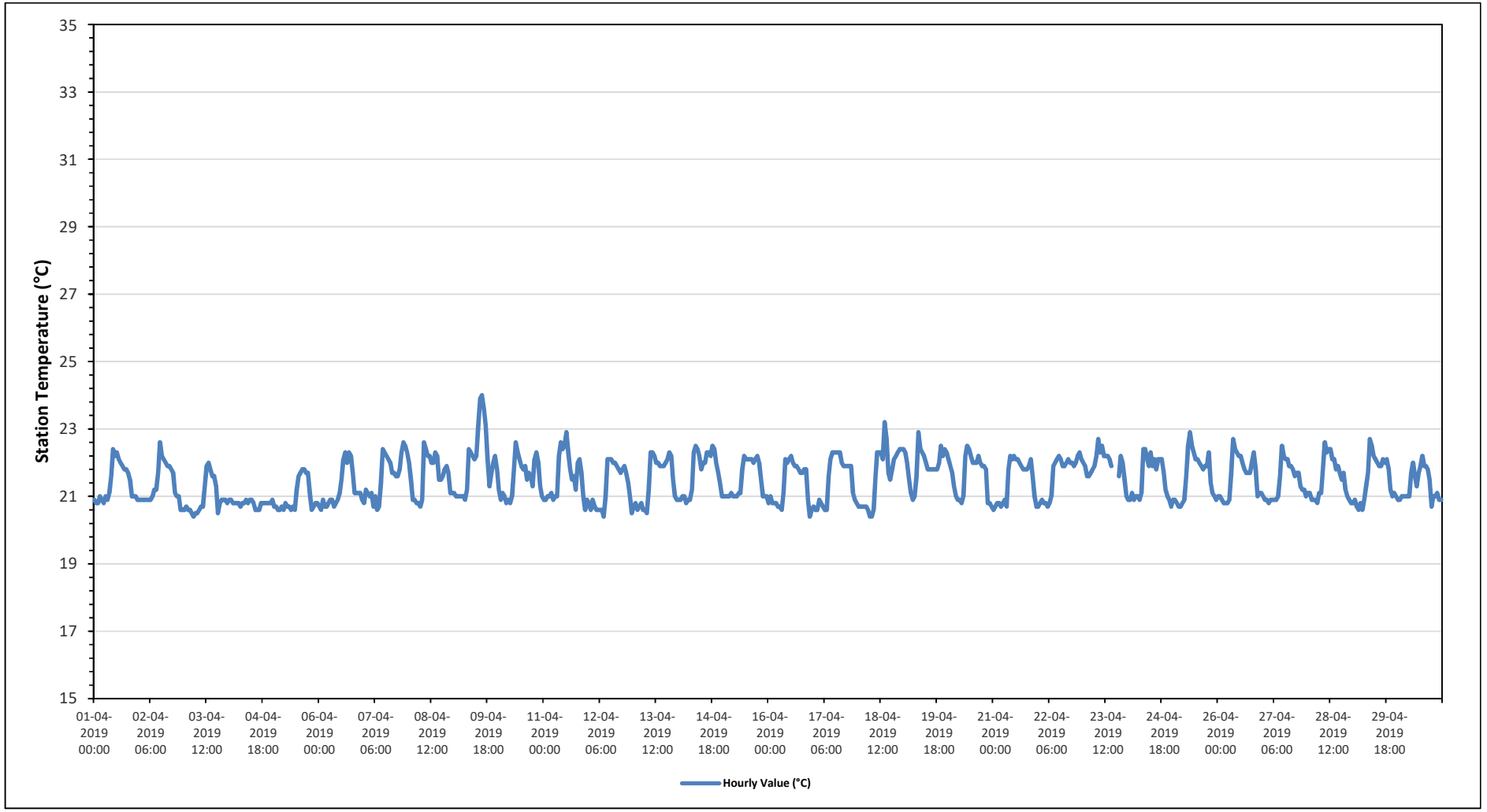
Maximum Hourly Value:	24.0	°C	on April 9 at hour 15	Hours in Service:	720
Maximum Daily Value:	22.0	°C	on April 9	Hours of Data:	718
Minimum Hourly Value:	20.4	°C	on April 3 at hour 5	Hours of Missing Data:	2
Minimum Daily Value:	20.8	°C	on April 4	Hours of Calibration:	0
Monthly Average:	21.5	°C		Operational Uptime:	99.7

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	20.9	20.8	20.8	21.0	20.9	20.8	21.0	20.9	21.1	21.6	22.4	22.2	22.3	22.1	22.0	21.9	21.8	21.8	21.7	21.5	21.0	21.0	21.0	20.9	20.8	22.4	21.4
Apr 2	20.9	20.9	20.9	20.9	20.9	20.9	20.9	21.0	21.2	21.2	21.7	22.6	22.2	22.1	22.0	21.9	21.9	21.8	21.7	21.1	21.0	21.0	20.6	20.6	20.6	22.6	21.3
Apr 3	20.6	20.7	20.6	20.6	20.5	**20.4**	20.5	20.5	20.6	20.7	20.7	21.3	21.9	22.0	21.8	21.6	21.6	21.3	20.5	20.8	20.9	20.9	20.9	20.8	**20.4**	22.0	20.9
Apr 4	20.9	20.9	20.8	20.8	20.8	20.8	20.7	20.8	20.8	20.9	20.8	20.9	20.9	20.8	20.6	20.6	20.6	20.8	20.8	20.8	20.8	20.8	20.8	20.9	20.6	20.9	20.8
Apr 5	20.7	20.7	20.6	20.6	20.7	20.6	20.8	20.7	20.7	20.6	20.7	20.6	21.2	21.6	21.7	21.8	21.8	21.7	21.7	21.1	20.6	20.7	20.8	20.8	20.6	21.8	21.0
Apr 6	20.7	20.6	20.9	20.7	20.7	20.8	20.9	20.9	20.7	20.8	20.9	21.1	21.5	22.1	22.3	22.0	22.3	22.2	21.7	21.1	21.1	21.1	21.1	20.9	20.6	22.3	21.2
Apr 7	20.8	21.2	21.1	21.0	21.1	20.7	21.0	20.6	20.7	21.4	22.4	22.3	22.2	22.1	22.0	21.7	21.7	21.6	21.6	21.8	22.3	22.6	22.5	22.3	20.6	22.6	21.6
Apr 8	22.0	21.5	20.9	20.9	20.8	20.8	20.7	20.9	22.6	22.4	22.2	22.2	22.0	22.0	22.3	22.2	21.5	21.5	21.6	21.8	21.9	21.7	21.1	21.1	20.7	22.6	21.6
Apr 9	21.1	21.0	21.0	21.0	21.0	21.0	20.9	21.2	22.4	22.3	22.2	22.1	22.2	23.1	23.9	**24.0**	23.6	23.1	22.1	21.3	21.7	22.0	22.2	21.8	20.9	**24.0**	**22.0**
Apr 10	21.2	20.9	21.1	21.0	20.8	20.9	20.8	21.0	21.8	22.6	22.3	22.1	21.9	21.8	21.9	21.5	21.7	21.6	21.3	22.1	22.3	22.0	21.3	21.0	20.8	22.6	21.5
Apr 11	20.9	20.9	21.0	21.0	21.1	20.9	21.0	21.0	22.2	22.6	22.4	22.5	22.9	22.3	21.8	21.5	21.6	21.2	22.0	22.1	21.7	21.0	20.6	20.9	20.6	22.9	21.5
Apr 12	20.8	20.6	20.9	20.7	20.6	20.6	20.6	20.6	**20.4**	21.0	22.1	22.1	22.1	22.0	22.0	21.9	21.8	21.7	21.8	21.9	21.7	21.4	21.0	20.5	**20.4**	22.1	21.3
Apr 13	20.7	20.8	20.6	20.7	20.8	20.6	20.6	20.5	21.2	22.3	22.3	22.2	22.0	22.0	21.9	21.9	21.9	22.0	22.1	22.3	22.2	21.5	21.0	20.9	20.5	22.3	21.5
Apr 14	20.9	20.9	21.0	21.0	20.8	20.9	20.9	21.2	22.3	22.5	22.4	22.2	21.8	22.0	22.0	22.3	22.3	22.2	22.5	22.4	22.0	21.7	21.4	21.0	20.8	22.5	21.7
Apr 15	21.0	21.0	21.0	21.0	21.1	21.0	21.0	21.0	21.1	21.1	21.8	22.2	22.1	22.1	22.1	22.1	22.0	22.1	22.2	22.0	21.5	21.0	21.0	21.0	21.0	22.2	21.5
Apr 16	20.8	21.0	20.8	20.8	20.8	20.7	20.7	20.6	21.1	22.1	22.0	22.1	22.2	22.0	21.9	21.9	21.8	21.7	21.7	21.8	21.8	20.9	**20.4**	20.6	**20.4**	22.2	21.3
Apr 17	20.7	20.6	20.6	20.9	20.8	20.7	20.6	20.6	21.6	22.1	22.3	22.3	22.3	22.3	22.3	22.0	21.9	21.9	21.9	21.9	21.9	21.1	20.9	20.8	20.6	22.3	21.5
Apr 18	20.7	20.7	20.7	20.7	20.7	20.6	**20.4**	**20.4**	20.6	21.6	22.3	22.3	22.3	22.1	23.2	22.7	21.7	21.5	21.8	22.1	22.2	22.3	22.4	22.4	**20.4**	23.2	21.6
Apr 19	22.4	22.3	22.0	21.5	21.1	20.9	21.0	21.6	22.9	22.4	22.3	22.2	22.0	21.8	21.8	21.8	21.8	21.8	21.8	22.0	22.5	22.2	22.4	22.3	20.9	22.9	22.0
Apr 20	22.1	21.9	21.7	21.3	21.0	20.9	20.9	20.8	21.0	22.2	22.5	22.4	22.2	22.0	22.0	22.0	22.2	22.0	21.9	21.9	21.8	20.8	20.8	20.7	20.7	22.5	21.6
Apr 21	20.6	20.7	20.8	20.8	20.7	20.8	20.9	20.7	21.8	22.2	22.1	22.2	22.1	22.1	22.0	21.9	21.8	21.8	21.8	21.9	22.1	21.6	21.0	20.7	20.6	22.2	21.5
Apr 22	20.7	20.8	20.9	20.8	20.8	20.7	20.8	21.0	21.9	22.0	22.1	22.2	22.1	21.9	21.9	22.0	22.1	22.0	22.0	21.9	22.0	22.2	22.3	22.1	20.7	22.3	21.6
Apr 23	22.0	21.9	21.6	21.6	21.7	21.8	21.9	22.2	22.7	22.3	22.5	22.2	22.2	22.2	22.1	21.9	Y	21.8	Y	21.6	22.2	22.0	21.5	21.0	21.0	22.7	22.0
Apr 24	20.9	20.9	21.1	20.9	21.0	21.0	20.9	21.1	22.4	22.4	22.1	21.9	22.3	21.9	22.1	21.8	22.1	22.1	22.1	21.7	21.2	21.0	20.9	20.7	20.7	22.4	21.5
Apr 25	20.9	20.9	20.8	20.7	20.7	20.8	20.9	21.6	22.5	22.9	22.5	22.3	22.1	22.1	22.0	21.9	21.8	21.9	21.9	22.3	21.4	21.1	21.0	20.9	20.7	22.9	21.6
Apr 26	21.0	21.0	20.9	20.8	20.8	20.8	20.9	21.7	22.7	22.4	22.3	22.2	22.2	22.0	21.8	21.7	21.7	21.7	22.0	22.3	21.8	21.0	21.1	21.1	20.8	22.7	21.6
Apr 27	21.0	20.9	20.9	20.8	20.9	20.9	20.9	20.9	21.0	21.6	22.5	22.2	22.1	22.1	21.9	21.9	21.8	21.6	21.7	21.7	21.3	21.2	21.2	21.0	20.8	22.5	21.4
Apr 28	21.1	21.1	20.9	20.9	20.9	20.8	21.1	21.1	21.8	22.6	22.3	22.4	22.4	22.1	22.1	21.8	21.9	21.7	21.5	21.7	21.2	21.0	20.9	20.8	20.8	22.6	21.5
Apr 29	20.8	20.9	20.7	20.6	20.8	20.6	20.9	21.3	21.7	22.7	22.5	22.2	22.1	22.0	21.9	21.9	22.1	22.0	22.1	21.8	21.2	21.0	21.1	21.0	20.6	22.7	21.5
Apr 30	20.9	20.9	21.0	21.0	21.0	21.0	21.0	21.7	22.0	21.6	21.3	21.7	21.9	22.2	21.9	21.9	21.8	21.5	20.7	21.0	21.0	21.1	20.9	20.9	20.7	22.2	21.3
Diurnal Maximum	22.4	22.3	22.0	21.6	21.7	21.8	21.9	22.2	22.9	22.9	22.5	22.6	22.9	23.1	23.9	24.0	23.6	23.1	22.5	22.4	22.5	22.6	22.5	22.4			
Daiurnal Average	21.0	21.0	21.0	20.9	20.9	20.8	20.9	21.0	21.6	21.9	22.0	22.0	22.1	22.0	22.0	21.9	21.9	21.8	21.7	21.7	21.6	21.4	21.2	21.1			

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

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

Timeseries Chart of Hourly Average for ST - 986b Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

986b Station - April 2019

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

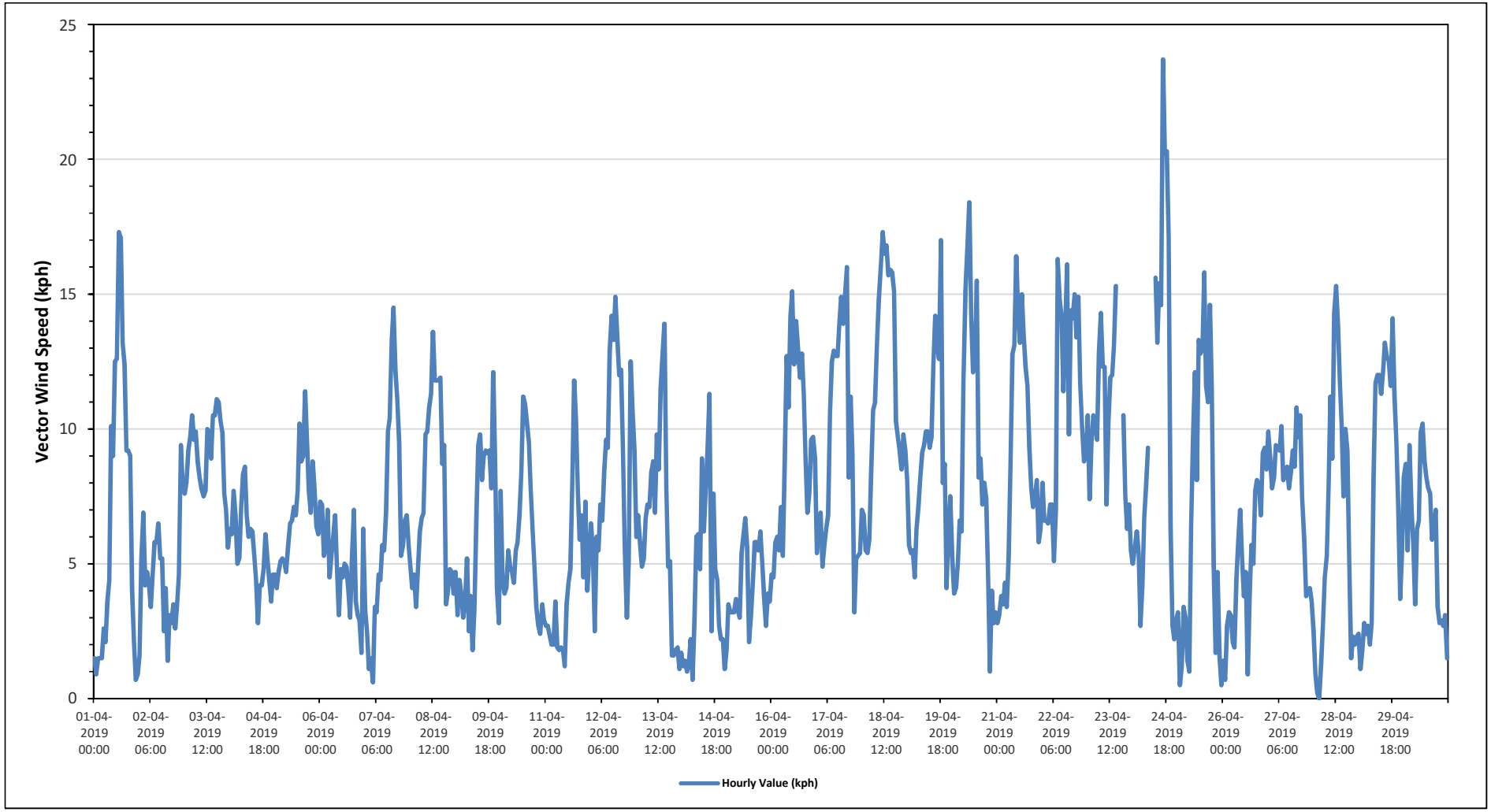
Maximum Hourly Value:	23.7	kph	on April 24 at hour 16	Hours in Service:	720
Maximum Daily Value:	11.4	kph	on April 18	Hours of Data:	715
Minimum Hourly Value:	0.0	kph	on April 28 at hour 3	Hours of Missing Data:	2
Minimum Daily Value:	4.2	kph	on April 14	Hours of Calibration:	3
Monthly Average:	1.8	kph		Operational Uptime:	99.7

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	1.5	0.9	1.5	1.5	1.5	2.6	2.1	3.6	4.4	10.1	9	12.5	12.6	17.3	17.1	13.2	12.4	9.2	9.2	9	4	2.1	0.7	0.9	0.7	17.3	6.6
Apr 2	1.6	5.2	6.9	4.2	4.7	4.3	3.4	4.6	5.8	5.8	6.5	5.2	5.2	2.5	4.1	1.4	3.1	2.8	3.5	2.6	3.5	4.6	9.4	8	1.4	9.4	4.5
Apr 3	7.6	8	9.2	9.7	10.5	9.6	9.9	8.8	8.2	7.8	7.5	7.7	10	9.9	8.9	10.5	10.5	11.1	11	10.3	9.9	7.6	7	5.6	5.6	11.1	9.0
Apr 4	6.3	6.1	7.7	6.8	5	5.2	7.1	8.3	8.6	6.8	6	6.3	6.2	5.3	4.4	2.8	4.2	4.2	4.8	6.1	5.2	4.4	3.6	4.6	2.8	8.6	5.7
Apr 5	4.6	4.1	4.7	5.1	5.2	5.1	4.7	5.7	6.5	6.6	7.1	6.8	7.7	10.2	8.8	9	11.4	9.6	7.7	6.9	8.8	7.8	6.4	6.1	4.1	11.4	6.9
Apr 6	7.3	7.2	5.3	5.6	7	4.5	5.3	6	6.8	4.8	3.1	4.8	4.5	5	4.9	4	3	5.2	7	3.6	3.1	2.9	1.7	6.3	1.7	7.3	5.0
Apr 7	3.3	2.5	1.1	1.5	0.6	3.4	3.2	4.6	4.4	5.7	5.5	6.9	9.9	10.4	13.3	14.5	12.2	11.1	9.5	5.3	5.7	6.6	6.8	5.7	0.6	14.5	6.4
Apr 8	4.9	4.1	4.6	3.4	4.8	6.2	6.7	6.9	9.8	9.9	10.8	11.3	13.6	11.8	11.8	11.8	11.9	8.7	9.4	3.5	4	4.8	4.7	3.9	3.4	13.6	7.6
Apr 9	4.7	3.1	4.4	3.9	3	3.6	5.2	2.5	3.8	1.8	3.3	6.6	9.4	9.8	8.1	9	9.2	9.1	9.2	7.8	12.1	8.9	4.1	2.8	1.8	12.1	6.1
Apr 10	7.7	4.3	3.9	4.1	5.5	4.9	4.7	4.3	5.5	5.8	6.8	8.4	11.2	10.9	10.2	9.5	7.8	6.2	4.9	3.4	2.7	2.4	3.5	2.9	2.4	11.2	5.9
Apr 11	2.7	2.7	2.3	2	2	3.6	1.9	1.8	1.9	1.8	1.2	3.5	4.3	4.8	8	11.8	10.3	7.7	5.9	6.8	4.5	7.3	4	5.2	1.2	11.8	4.5
Apr 12	6.5	5.3	2.5	6	5.5	7.2	6.6	8.4	9.6	9.3	12.9	14.2	13.3	14.9	13.4	12	12.2	9.2	5.6	3	5.1	12.5	10.7	9.2	2.5	14.9	9.0
Apr 13	6	6.8	5.8	4.9	5.2	6.7	7.2	7.1	8.4	8.8	6.9	9.8	8.5	11.5	12.8	13.9	7.8	4.9	5.1	1.6	1.6	1.8	1.9	1.1	1.1	13.9	6.5
Apr 14	1.7	1.2	1.4	1	1.3	2.2	0.7	2.9	6	6.1	4.8	8.9	6.2	7.7	9.2	11.3	2.5	7.6	4.8	4.4	2.7	2.2	2.2	1.1	0.7	11.3	**4.2**
Apr 15	1.8	3.5	3.2	3.2	3.2	3.7	3.3	3	5.4	6.1	6.7	5.6	2.1	3.1	4.3	5.8	5.8	5.5	6.2	5.1	3.8	2.7	3.9	3.6	1.8	6.7	4.2
Apr 16	4.6	4.5	5.8	6	5.5	7.1	5.3	8.8	12.7	10.8	14.2	15.1	12.4	14	12.9	11.9	12.8	11.3	8.9	6.9	7.6	9.6	9.7	8.9	4.5	15.1	9.5
Apr 17	5.4	6.5	6.9	4.9	5.7	6.3	6.8	10.6	12.5	12.9	12.7	12.7	13.9	14.9	13.9	14.9	16	8.2	11.2	9.1	3.2	5.2	5.3	5.4	3.2	16.0	9.4
Apr 18	7	6.8	5.5	5.4	5.9	8.5	10.7	11	13.1	14.8	16.1	17.3	16.5	16.8	15.7	15.9	15.8	15.1	10.3	9.7	9.2	8.5	9.8	9.2	5.4	17.3	**11.4**
Apr 19	8.1	5.7	5.4	5.5	4.5	6.3	7.1	8.2	9.1	9.4	9.9	9.9	9.3	9.7	12.4	14.2	13.1	12.6	17	8	8.7	4.1	6.1	7.5	4.1	17.0	8.8
Apr 20	5.3	3.9	4.1	5	6.6	6.2	11.7	15.2	16.8	18.4	14.1	12.1	12.7	15.5	8.2	8.9	7.2	8	7.4	4.5	1	4	2.8	3.2	1.0	18.4	8.5
Apr 21	2.8	3.1	3.8	3.5	4.3	3.4	5.3	8.8	12.8	13.1	16.4	14.3	13.2	15	13.5	12.3	11.6	9.3	7.8	7.1	7.5	8.1	5.8	6.3	2.8	16.4	8.7
Apr 22	8	6.6	6.6	6.5	7.2	7.2	5.1	7	16.3	14.8	14.2	11.4	13.9	16.1	9.8	14.4	14.1	15	13.4	14.9	11.7	10	8.8	9	5.1	16.3	10.9
Apr 23	10.5	7.4	9.5	10.5	10.1	9.6	12.8	14.3	12.3	12.3	7.2	10.2	11.9	12	13.1	15.3	Y	14.8	Y	10.5	7.5	6.3	7.2	5.5	5.5	15.3	10.5
Apr 24	5	5.6	6.2	5.4	2.7	4.2	6.7	7.9	9.3	C	C	C	15.6	13.2	15.4	14.6	**23.7**	20.2	20.3	17.1	6.4	2.7	2.2	2.9	2.2	**23.7**	9.9
Apr 25	3.2	0.5	1.2	3.4	3	1.4	1	6.4	9.6	12.1	8.1	13.3	12.8	13	15.8	11.6	11	14.6	11.5	5	1.7	4.7	1.6	0.5	0.5	15.8	7.0
Apr 26	1.4	0.7	2.7	3.2	3.1	2.1	1.9	4.4	5.9	7	5.2	3.8	4.7	0.9	3.7	5.7	5	7.7	8.1	7.9	6.8	9.1	9.3	8.5	0.7	9.3	5.0
Apr 27	9.9	8.9	7.8	8.2	9.4	9.3	9.2	10.1	8.1	8.3	8.6	7.8	8.4	9.2	8.6	10.8	9.7	10.5	7.5	5.9	3.8	4	4.1	3.6	3.6	10.8	8.0
Apr 28	2.5	0.9	0.2	**0**	1.3	2.8	4.5	5.3	7.8	11.2	8.9	14.3	15.3	13.8	11.7	10.1	7.5	10	9.2	5.1	1.5	2.3	2	2.3	**0.0**	15.3	6.3
Apr 29	2.4	1.1	1.8	2.8	2.4	2.7	2	2.8	8.2	11.7	12	12	11.3	12.1	13.2	12.7	12.5	11.6	14.1	11.2	9.5	7.1	3.7	5.3	1.1	14.1	7.8
Apr 30	8.2	8.7	5.5	9.4	7.1	5.7	3.5	6.3	6.6	9.9	10.2	8.8	8.2	7.8	7.6	5.9	6.4	7	3.4	2.8	2.9	2.7	3.1	1.5	1.5	10.2	6.2
Diurnal Maximum	11	9	10	11	11	10	13	15	17	18	16	17	17	17	17	16	24	20	20	17	12	13	11	9			
Daiurnal Average	5.1	4.5	4.6	4.8	4.8	5.2	5.5	6.9	8.5	9.1	8.8	9.7	10.2	10.6	10.5	10.7	10.0	9.6	8.8	6.8	5.5	5.6	5.1	4.9			

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

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

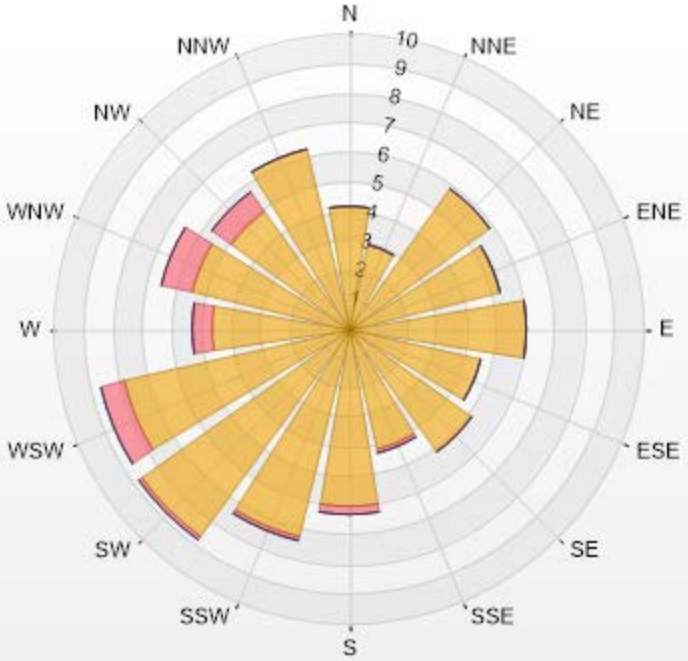
Timeseries Chart of Hourly Average for VWS - 986b Station



Wind: PRAMP 986 Poll.: PRAMP 986-WDS[KPH] Monthly: 04-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 6.43% Valid Data: 99.31% Calm Avg: 1.21 [KPH]

Direction	6-15	15-29	29-39	>39.0	Total
N	4.2	0	0	0	4.2
NNE	2.94	0	0	0	2.94
NE	5.87	0	0	0	5.87
ENE	5.31	0	0	0	5.31
E	6.01	0	0	0	6.01
ESE	4.62	0	0	0	4.62
SE	5.17	0	0	0	5.17
SSE	4.2	0.14	0	0	4.34
S	6.01	0.28	0	0	6.29
SSW	7.27	0.14	0	0	7.41
SW	8.67	0.14	0	0	8.81
WSW	7.83	0.84	0	0	8.67
W	4.62	0.7	0	0	5.32
WNW	5.45	1.12	0	0	6.57
NW	4.9	0.84	0	0	5.74
NNW	6.29	0	0	0	6.29
Summary	89.36	4.2	0	0	93.56

PRAMP 986 Poll.: PRAMP 986-WDS[KPH] 01-04-2019 00:00 - 30-04-2019 23:00 Calm: 6.43% Calm Poll Avg: 1.21[KPH]



% Icon Classes (KPH)	89 6-15	4 15-29	0 29-39	0 >39.0

PEACE RIVER AREA MONITORING PROGRAM

986b Station - April 2019

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

Monthly Average: 251 (WSW) degree

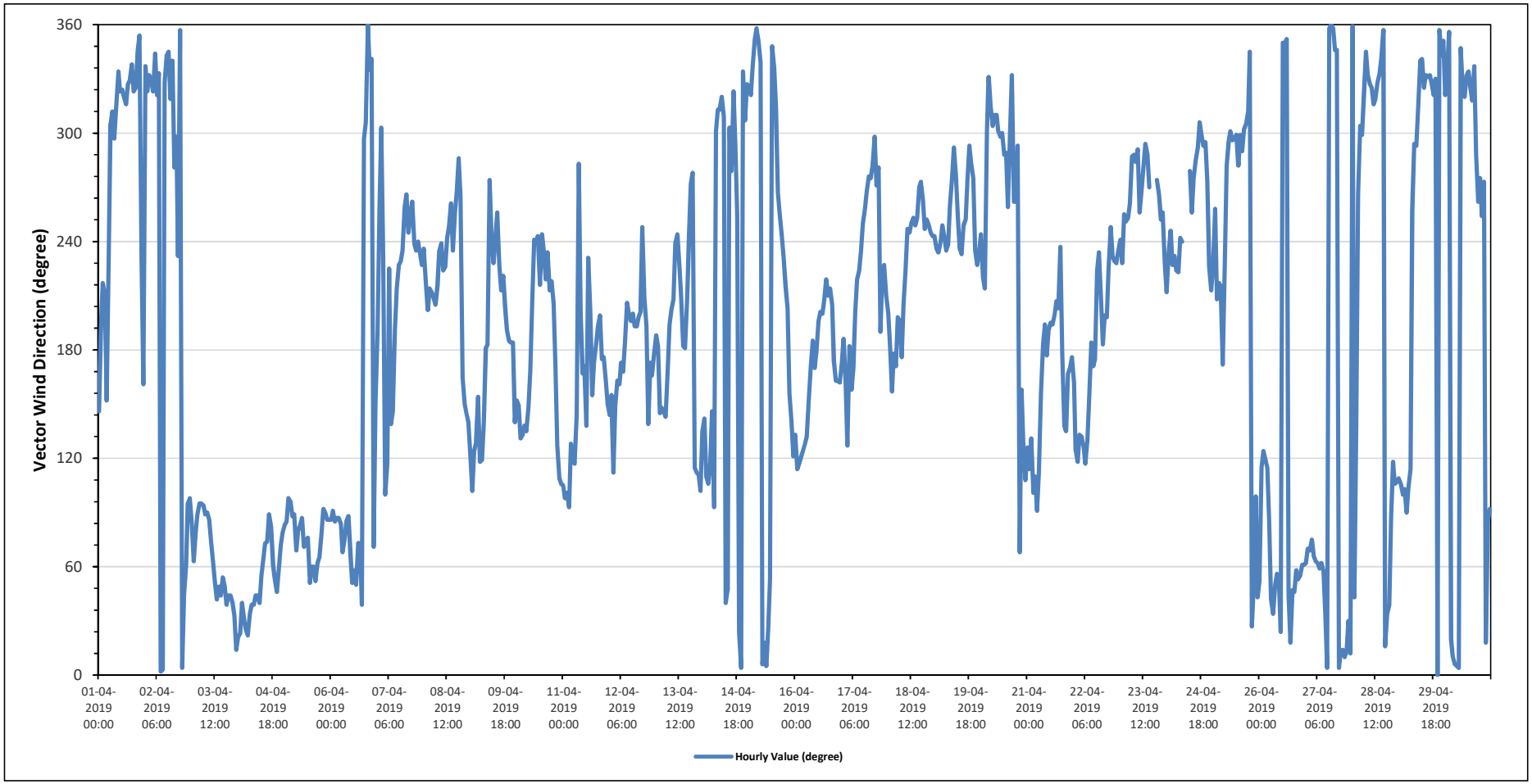
Hours in Service:	720
Hours of Data:	715
Hours of Missing Data:	2
Hours of Calibration:	3
Operational Uptime:	99.7

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
Apr 1	SE	S	SW	SSW	SSE	SW	WNW	NW	WNW	NW	NNW	NW	NW	NW	NW	NW	NNW	NNW	NW	NW	NNW	N	SW	SSE	321	NW
Apr 2	NNW	NW	NNW	NNW	NW	NNW	NW	NNW	N	N	NNW	NNW	NNW	NW	NNW	W	WNW	SW	N	N	NE	ENE	E	E	353	N
Apr 3	E	ENE	E	E	E	E	E	E	E	E	ENE	ENE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NNE	NNE	63	ENE
Apr 4	NNE	NNE	NE	NNE	NNE	NNE	NE	NE	NE	NE	NE	NE	NE	ENE	ENE	ENE	E	E	ENE	NE	NE	ENE	ENE	ENE	47	NE
Apr 5	E	E	E	E	E	E	ENE	E	E	E	ENE	ENE	ENE	NE	ENE	ENE	NE	ENE	ENE	ENE	E	E	E	E	75	ENE
Apr 6	E	E	E	E	E	E	ENE	ENE	E	E	ENE	NE	ENE	NE	ENE	ENE	NE	WNW	NW	N	NNW	NNW	ENE	SSE	67	ENE
Apr 7	S	WSW	WNW	SW	E	ESE	SW	SE	SE	S	SSW	SW	SW	SW	WSW	W	WSW	WSW	W	WSW	SW	WSW	SW	SW	236	SW
Apr 8	SW	SW	SSW	SSW	SSW	SSW	SSW	SW	SW	WSW	SW	SW	WSW	WSW	W	SW	WSW	W	WNW	W	SSE	SSE	SE	SE	232	SW
Apr 9	ESE	E	ESE	SE	SSE	ESE	ESE	SE	S	S	W	WSW	SW	WSW	WSW	SW	SSW	SW	SSW	S	S	S	S	SE	197	SSW
Apr 10	SSE	SSE	SE	SE	SE	SE	SE	SSE	SSW	WSW	WSW	WSW	SW	WSW	SW	SW	SW	SSW	SW	SSW	S	SE	ESE	ESE	200	SSW
Apr 11	ESE	E	E	E	SE	ESE	ESE	SE	W	SSW	SSE	S	SE	SW	SSW	SSE	S	S	S	SSW	S	S	SSE	SSE	168	SSE
Apr 12	SE	SSE	ESE	SSE	SSE	SSE	S	SSE	S	SSW	SSW	SSW	SSW	S	S	SSW	SSW	WSW	SSW	S	SE	S	SSE	S	185	S
Apr 13	S	S	SE	SE	SE	SE	SSE	SSW	SSW	SSW	WSW	WSW	SW	SSW	S	S	SSW	WSW	W	W	ESE	ESE	ESE	E	195	SSW
Apr 14	SE	SE	ESE	ESE	ESE	SE	E	WNW	NW	NW	NW	NW	NE	NE	WNW	W	NW	WNW	WSW	NNE	N	NNW	NW	NW	320	NW
Apr 15	NW	NW	NNW	N	N	N	NNW	N	NNE	N	NNE	NE	NNW	NNW	NW	W	WSW	WSW	SW	SSW	SSW	SSE	SE	ESE	324	NW
Apr 16	SE	ESE	ESE	ESE	ESE	SE	SE	SSE	S	S	SSE	S	SSW	SSW	SSW	SSW	SW	SSW	SSW	SSW	S	SSE	SSE	SSE	178	S
Apr 17	S	S	SSE	SE	S	SSE	SSE	SSW	SW	SW	SW	WSW	WSW	W	W	W	W	WNW	W	W	S	SW	SW	SSW	239	WSW
Apr 18	SSW	S	SSE	S	S	SSW	SSW	S	SSW	SW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	WSW	WSW	WSW	WSW	WSW	236	SW
Apr 19	WSW	SW	SW	WSW	WSW	WSW	SW	SW	WSW	W	WNW	W	WSW	SW	SW	WSW	WSW	W	WNW	W	W	SW	SW	SW	256	WSW
Apr 20	WSW	SW	SSW	WNW	NNW	NW	WNW	NW	NW	WNW	WNW	WNW	WNW	WNW	WSW	WNW	NNW	W	W	WNW	ENE	SSE	ESE	ESE	293	WNW
Apr 21	SE	ESE	SE	E	ESE	E	ESE	SSE	S	SSW	S	S	SSW	SSW	SSW	SSW	SSW	SW	S	SE	SE	SSE	SSE	S	178	S
Apr 22	SSE	ESE	ESE	SE	SE	SE	ESE	SE	SSE	S	S	S	SW	SW	SSW	S	SSW	SSW	SW	WSW	SW	SW	SW	SW	192	S
Apr 23	WSW	SW	WSW	WSW	WSW	W	WNW	WNW	WNW	WNW	WSW	W	W	WNW	WNW	W	Y	W	Y	W	W	WSW	WSW	SW	270	W
Apr 24	SSW	SW	WSW	SW	SW	SW	SW	WSW	WSW	C	C	C	W	WSW	W	WNW	WNW	NW	WNW	WNW	WNW	W	SW	SSW	273	W
Apr 25	SW	WSW	SSW	SW	SSW	S	SW	W	WNW	WNW	WNW	WNW	WNW	W	WNW	WNW	WNW	WNW	NW	NNW	NNE	NE	E	NE	297	WNW
Apr 26	NE	ESE	ESE	ESE	ESE	E	NE	NE	NE	NE	NE	NNE	N	NNW	N	NE	NNE	NE	NE	ENE	NE	NE	ENE	ENE	51	NE
Apr 27	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	NE	N	N	N	N	NNW	NNW	N	NNE	NNE	N	NNE	NNE	NNE	33	NNE
Apr 28	N	NE	SE	W	WNW	WNW	NW	NNW	NNW	NW	NW	NW	NW	NNW	NNW	NNW	N	NNE	NE	NE	E	ESE	ESE	ESE	342	NNW
Apr 29	ESE	ESE	E	ESE	E	ESE	ESE	WSW	WNW	WNW	NW	NNW	NNW	NW	NNW	NNW	NNW	NW	NW	NNW	N	N	NNW	N	332	NNW
Apr 30	NW	NNW	N	NNE	N	N	N	N	NNW	NNW	NW	NNW	NNW	NW	NW	NNW	WNW	W	W	WSW	W	NNE	E	E	334	NNW

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

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

Timeseries Chart of Hourly Average for VWD - 986b Station



842 STATION

PEACE RIVER AREA MONITORING PROGRAM

842b Station - April 2019

Summary of Hourly Averages

SULPHUR DIOXIDE (SO_2) in ppb

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

Number of 1-Hour Exceedences: 0 Number of 24-Hour Exceedences: 0 30-Day Exceedence: 0

Maximum Hourly Value:	1	ppb	on April 11 at hour 10	Hours in Service:	720
Maximum Daily Value:	0.1	ppb	on April 27	Hours of Data:	681
Minimum Hourly Value:	0	ppb	on April 1 at hour 1	Hours of Missing Data:	0
Minimum Daily Value:	0.0	ppb	on April 1	Hours of Calibration:	39
Monthly Average:	0.0	ppb		Operational Uptime:	100.0

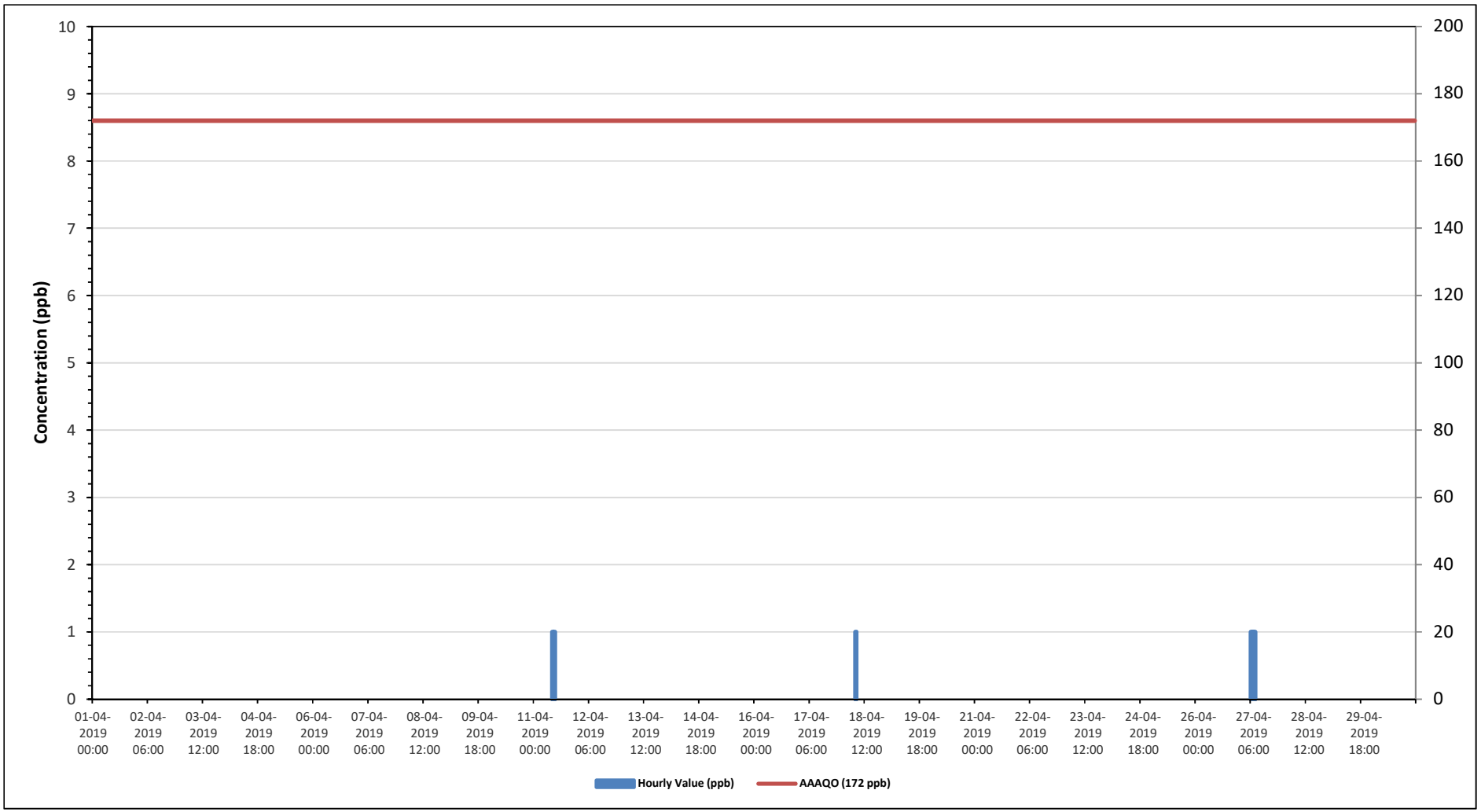
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Apr 1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0.0
Apr 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0.0
Apr 3	0	0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

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

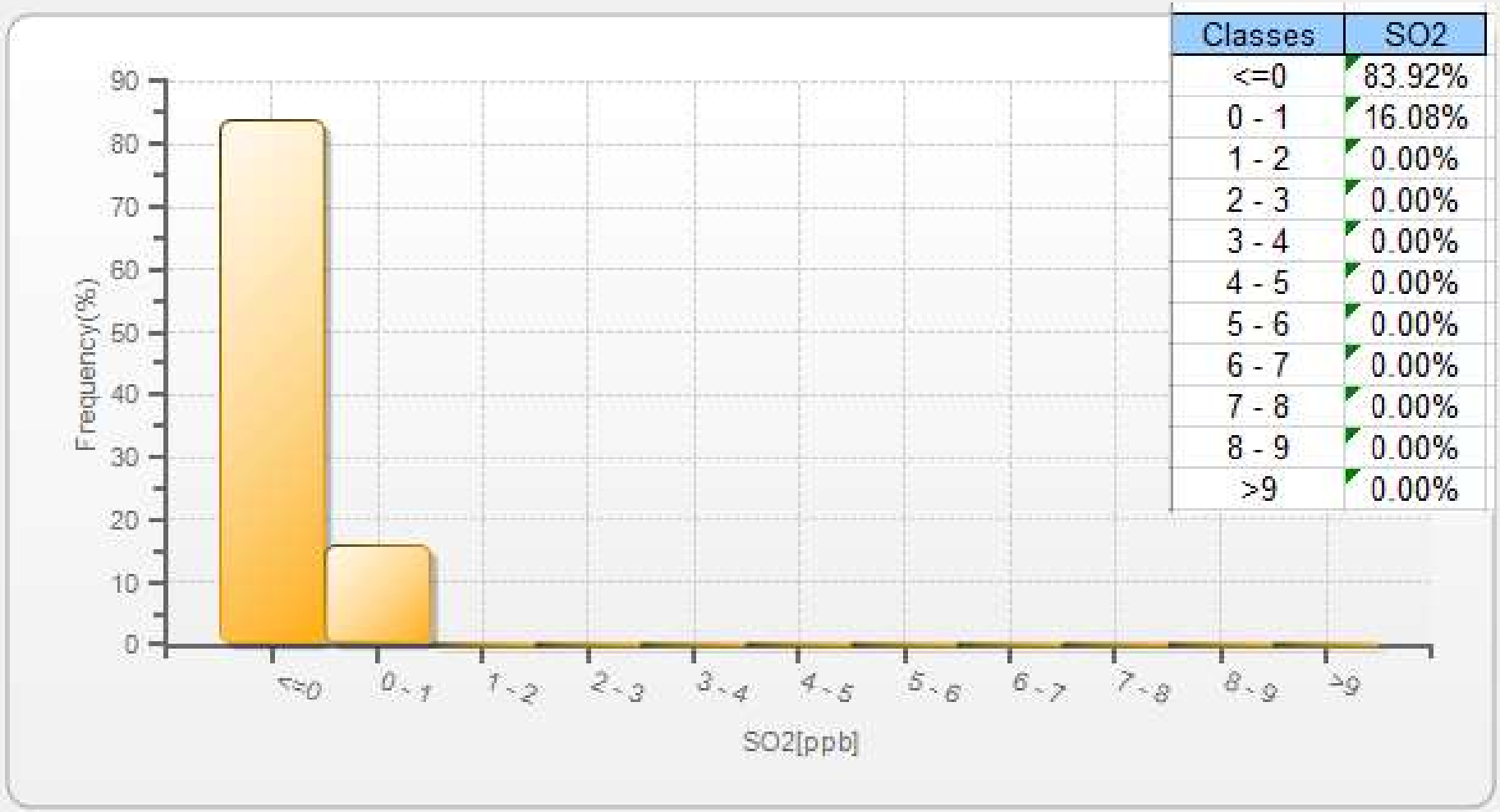
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

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

Timeseries Chart of Hourly Average for SO2 - 842b Station



SO2[ppb] Histogram: PRAMP 842 Monthly: 04-2019 1 Hr.

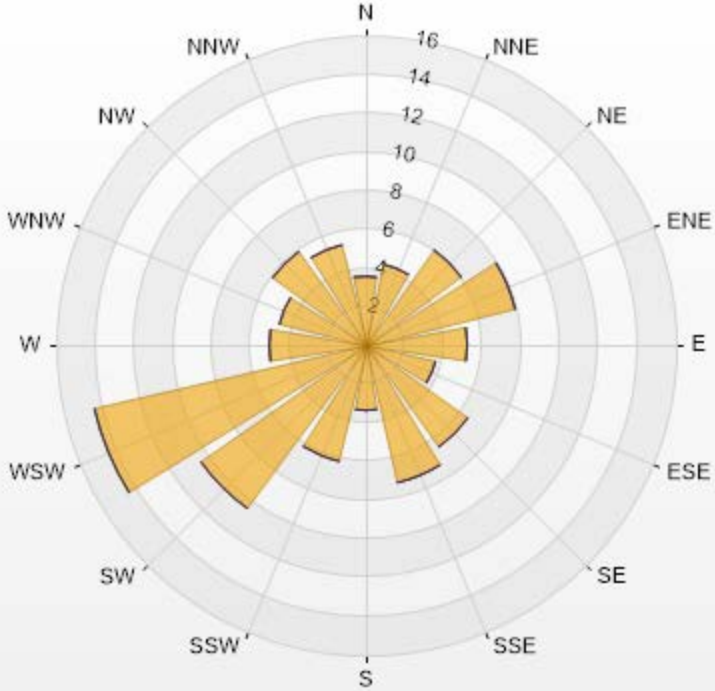


Classes	SO2
<=0	83.92%
0 - 1	16.08%
1 - 2	0.00%
2 - 3	0.00%
3 - 4	0.00%
4 - 5	0.00%
5 - 6	0.00%
6 - 7	0.00%
7 - 8	0.00%
8 - 9	0.00%
>9	0.00%

Wind: PRAMP 842 Poll.: PRAMP 842-SO2[ppb] Monthly: 04-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.17% Calm Avg: 0.00 [ppb]

Direction	10-50	50-100	100-172	>172.0	Total
N	3.54	0	0	0	3.54
NNE	4.28	0	0	0	4.28
NE	6.05	0	0	0	6.05
ENE	7.96	0	0	0	7.96
E	5.31	0	0	0	5.31
ESE	3.69	0	0	0	3.69
SE	6.49	0	0	0	6.49
SSE	7.37	0	0	0	7.37
S	3.39	0	0	0	3.39
SSW	6.19	0	0	0	6.19
SW	10.47	0	0	0	10.47
WSW	14.45	0	0	0	14.45
W	5.01	0	0	0	5.01
WNW	4.57	0	0	0	4.57
NW	5.9	0	0	0	5.9
NNW	5.31	0	0	0	5.31
Summary	100	0	0	0	100

PRAMP 842 Poll.: PRAMP 842-SO2[ppb] 01-04-2019 00:00 - 30-04-2019 23:00 Calm: 0.00%



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

PEACE RIVER AREA MONITORING PROGRAM

842b Station - April 2019

Summary of Hourly Averages

TOTAL REDUCED SULPHUR (TRS) in ppb

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

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

Maximum Hourly Value:	0.66	ppb	on April 19 at hour 2	Hours in Service:	720
Maximum Daily Value:	0.50	ppb	on April 28	Hours of Data:	656
Minimum Hourly Value:	0.11	ppb	on April 3 at hour 6	Hours of Missing Data:	25
Minimum Daily Value:	0.18	ppb	on April 8	Hours of Calibration:	39
Monthly Average:	0.39	ppb		Operational Uptime:	96.5

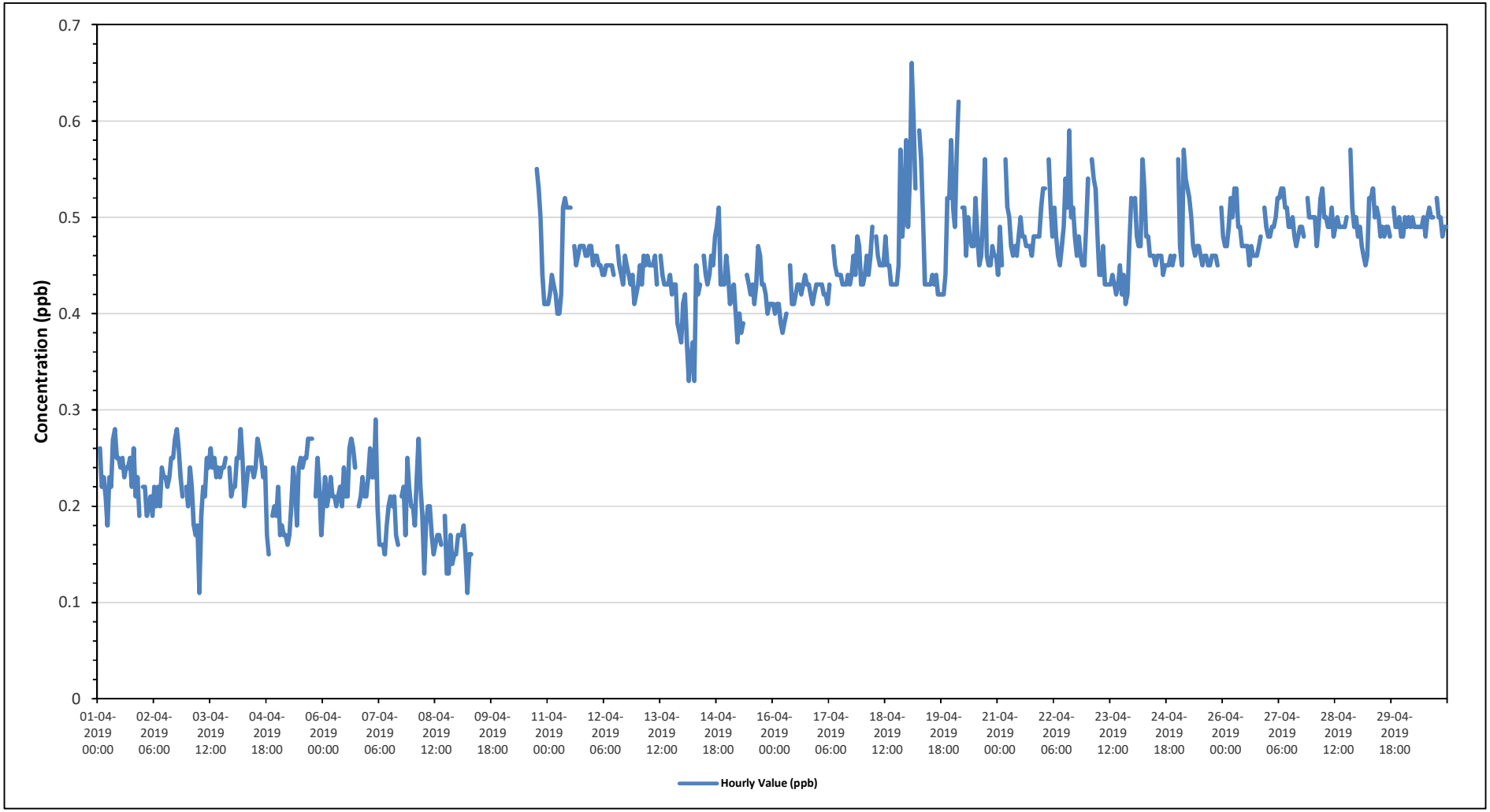
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Apr 1	S	0.26	0.22	0.23	0.21	0.18	0.23	0.22	0.27	0.28	0.25	0.25	0.24	0.25	0.23	0.24	0.24	0.25	0.22	0.26	0.21	0.23	0.19	S	0.18	0.28	0.23
Apr 2	0.22	0.22	0.19	0.2	0.21	0.19	0.22	0.2	0.22	0.2	0.24	0.23	0.23	0.22	0.23	0.25	0.25	0.27	0.28	0.26	0.23	0.21	S	0.22	0.19	0.28	0.23
Apr 3	0.2	0.24	0.22	0.18	0.17	0.18	**0.11**	0.19	0.22	0.21	0.25	0.24	0.26	0.24	0.25	0.23	0.24	0.23	0.24	0.24	0.25	S	0.24	0.21	**0.11**	0.26	0.22
Apr 4	0.22	0.22	0.25	0.25	0.28	0.25	0.2	0.22	0.24	0.24	0.24	0.23	0.24	0.27	0.26	0.25	0.23	0.24	0.17	0.15	S	0.19	0.2	0.19	0.15	0.28	0.23
Apr 5	0.22	0.17	0.18	0.17	0.17	0.16	0.17	0.2	0.24	0.22	0.18	0.24	0.25	0.24	0.25	0.25	0.27	0.27	0.27	S	0.21	0.25	0.22	0.17	0.16	0.27	0.22
Apr 6	0.2	0.23	0.2	0.21	0.23	0.21	0.21	0.2	0.21	0.22	0.2	0.24	0.21	0.21	0.26	0.27	0.26	0.24	S	0.2	0.21	0.23	0.21	0.21	0.20	0.27	0.22
Apr 7	0.23	0.26	0.23	0.23	0.29	0.2	0.16	0.16	0.16	0.15	0.18	0.2	0.21	0.2	0.21	0.17	0.16	S	0.21	0.22	0.17	0.25	0.22	0.2	0.15	0.29	0.20
Apr 8	0.2	0.18	0.23	0.27	0.22	0.19	0.13	0.18	0.2	0.2	0.17	0.15	0.16	0.17	0.17	0.16	S	0.19	0.13	0.13	0.17	0.14	0.15	0.15	0.13	0.27	0.18
Apr 9	0.17	0.17	0.17	0.18	0.15	0.11	0.15	0.15	C	C	C	C	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	0.11	0.18	-
Apr 10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	C	0.55	0.53	0.5	0.44	0.41	0.41	0.41	0.55	-
Apr 11	0.41	0.42	0.44	0.43	0.42	0.4	0.4	0.42	0.51	0.52	0.51	0.51	0.51	S	0.47	0.45	0.46	0.47	0.47	0.47	0.46	0.46	0.47	0.47	0.40	0.52	0.46
Apr 12	0.45	0.46	0.46	0.45	0.45	0.44	0.44	0.45	0.45	0.45	0.45	0.44	S	0.47	0.45	0.44	0.43	0.46	0.45	0.44	0.43	0.44	0.41	0.42	0.41	0.47	0.44
Apr 13	0.43	0.45	0.43	0.46	0.45	0.46	0.45	0.45	0.45	0.46	0.43	S	0.46	0.44	0.43	0.43	0.43	0.44	0.42	0.43	0.43	0.39	0.38	0.37	0.37	0.46	0.43
Apr 14	0.41	0.42	0.37	0.33	0.35	0.37	0.33	0.45	0.42	0.43	S	0.46	0.44	0.43	0.44	0.46	0.45	0.48	0.49	0.51	0.43	0.43	0.43	0.46	0.33	0.51	0.43
Apr 15	0.44	0.41	0.42	0.43	0.4	0.37	0.4	0.38	0.39	S	0.44	0.43	0.42	0.43	0.41	0.43	0.47	0.46	0.43	0.43	0.42	0.4	0.41	0.41	0.37	0.47	0.42
Apr 16	0.41	0.4	0.41	0.41	0.39	0.38	0.39	0.4	S	0.45	0.41	0.41	0.42	0.43	0.43	0.42	0.43	0.44	0.43	0.43	0.42	0.41	0.42	0.43	0.38	0.45	0.42
Apr 17	0.43	0.43	0.43	0.42	0.42	0.41	0.43	S	0.47	0.45	0.44	0.44	0.44	0.43	0.43	0.43	0.44	0.43	0.44	0.46	0.44	0.48	0.47	0.43	0.41	0.48	0.44
Apr 18	0.43	0.44	0.46	0.44	0.46	0.49	S	0.48	0.46	0.45	0.45	0.45	0.48	0.45	0.45	0.43	0.43	0.43	0.43	0.45	0.57	0.48	0.51	0.58	0.43	0.58	0.47
Apr 19	0.49	0.54	**0.66**	0.6	0.53	S	0.59	0.56	0.5	0.43	0.43	0.43	0.43	0.44	0.43	0.44	0.42	0.42	0.42	0.42	0.44	0.52	0.52	0.58	0.42	**0.66**	0.49
Apr 20	0.51	0.49	0.57	0.62	S	0.51	0.51	0.46	0.5	0.48	0.47	0.47	0.52	0.48	0.45	0.46	0.5	0.56	0.46	0.45	0.45	0.47	0.46	0.46	0.45	0.62	0.49
Apr 21	0.44	0.49	0.45	S	0.56	0.51	0.5	0.47	0.46	0.47	0.46	0.48	0.5	0.48	0.48	0.47	0.47	0.47	0.46	0.48	0.48	0.48	0.48	0.51	0.44	0.56	0.48
Apr 22	0.53	0.53	S	0.56	0.51	0.48	0.51	0.48	0.46	0.45	0.47	0.49	0.54	0.51	0.59	0.5	0.51	0.48	0.46	0.48	0.46	0.45	0.45	0.49	0.45	0.59	0.50
Apr 23	0.54	S	0.56	0.54	0.53	0.48	0.44	0.44	0.47	0.43	0.43	0.43	0.43	0.44	0.43	0.42	0.43	0.45	0.42	0.44	0.41	0.42	0.47	0.52	0.41	0.56	0.46
Apr 24	S	0.52	0.48	0.47	0.47	0.56	0.53	0.48	0.48	0.46	0.46	0.46	0.45	0.46	0.46	0.46	0.44	0.45	0.45	0.45	0.46	0.45	0.46	S	0.44	0.56	0.47
Apr 25	0.56	0.47	0.45	0.57	0.54	0.53	0.52	0.5	0.47	0.46	0.47	0.47	0.46	0.45	0.46	0.46	0.45	0.45	0.46	0.46	0.46	0.45	S	0.51	0.45	0.57	0.48
Apr 26	0.48	0.47	0.47	0.49	0.52	0.5	0.53	0.53	0.49	0.49	0.47	0.47	0.47	0.47	0.45	0.47	0.46	0.46	0.46	0.47	0.48	S	0.51	0.49	0.45	0.53	0.48
Apr 27	0.48	0.48	0.49	0.49	0.5	0.52	0.52	0.53	0.53	0.51	0.51	0.49	0.49	0.5	0.48	0.47	0.48	0.49	0.49	0.48	S	0.52	0.5	0.5	0.47	0.53	0.50
Apr 28	0.5	0.5	0.47	0.49	0.52	0.53	0.5	0.5	0.49	0.49	0.51	0.48	0.49	0.5	0.49	0.49	0.49	0.49	0.5	S	0.57	0.51	0.49	0.5	0.47	0.57	**0.50**
Apr 29	0.48	0.49	0.47	0.46	0.45	0.46	0.52	0.52	0.53	0.5	0.51	0.5	0.48	0.49	0.48	0.49	0.49	0.48	S	0.51	0.49	0.49	0.5	0.48	0.45	0.53	0.49
Apr 30	0.48	0.5	0.49	0.5	0.49	0.5	0.49	0.49	0.49	0.49	0.49	0.5	0.48	0.5	0.51	0.5	0.5	S	0.52	0.5	0.5	0.48	0.49	0.49	0.48	0.52	0.49
Diurnal Maximum	0.56	0.54	0.66	0.62	0.56	0.56	0.59	0.56	0.53	0.52	0.51	0.51	0.54	0.51	0.59	0.50	0.51	0.56	0.55	0.53	0.57	0.52	0.52	0.58			
Daiurnal Average	0.39	0.39	0.39	0.40	0.39	0.38	0.38	0.38	0.40	0.39	0.39	0.39	0.40	0.39	0.40	0.39	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40			

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

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

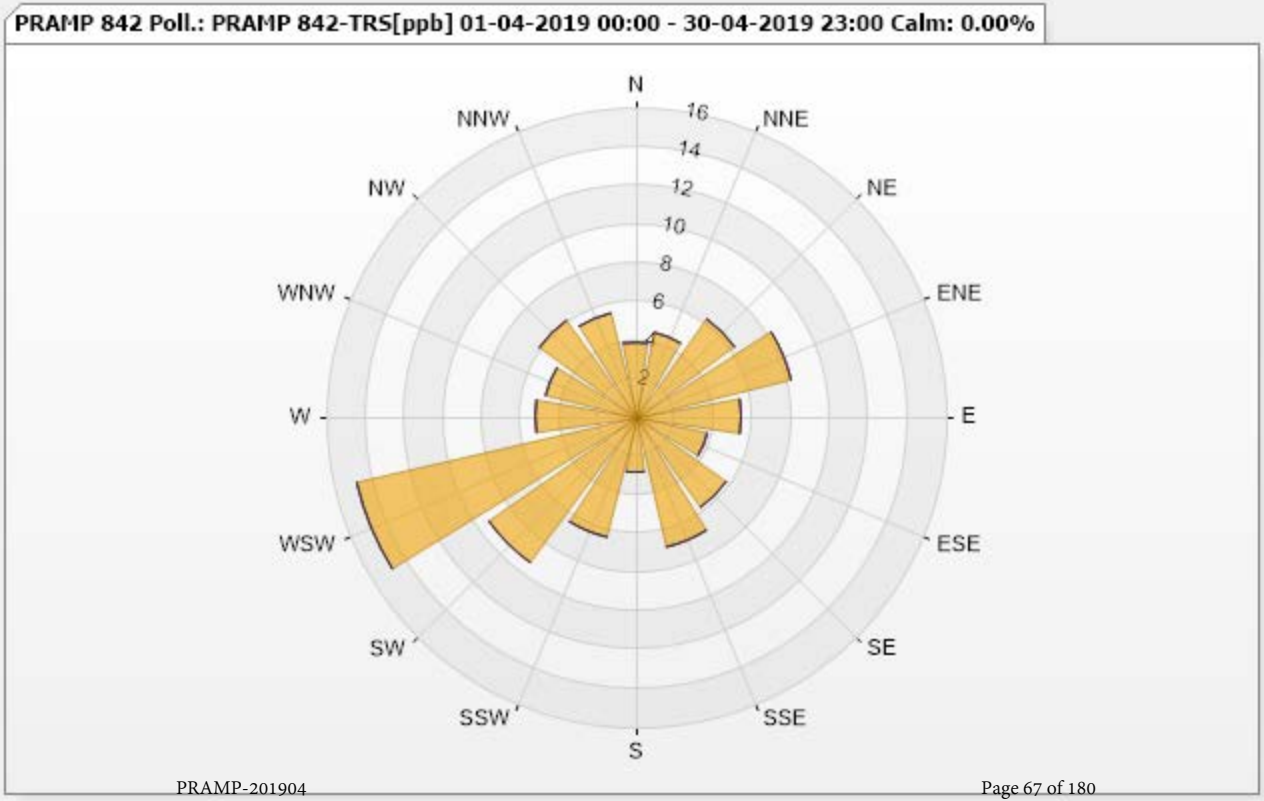
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for TRS - 842b Station



Wind: PRAMP 842 Poll.: PRAMP 842-TRS[ppb] Monthly: 04-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 90.69% Calm Avg: 0.00 [ppb]

Direction	2-5	5-10	10-50	>50.0	Total
N	3.83	0	0	0	3.83
NNE	4.44	0	0	0	4.44
NE	6.28	0	0	0	6.28
ENE	8.27	0	0	0	8.27
E	5.51	0	0	0	5.51
ESE	3.83	0	0	0	3.83
SE	5.82	0	0	0	5.82
SSE	6.89	0	0	0	6.89
S	2.91	0	0	0	2.91
SSW	6.43	0	0	0	6.43
SW	9.34	0	0	0	9.34
WSW	14.85	0	0	0	14.85
W	5.21	0	0	0	5.21
WNW	4.75	0	0	0	4.75
NW	6.13	0	0	0	6.13
NNW	5.51	0	0	0	5.51
Summary	100	0	0	0	100


PRAMP 842 Poll.: PRAMP 842-TRS[ppb] 01-04-2019 00:00 - 30-04-2019 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
2
% Icon Classes (ppb)
100 2-5
0 5-10
0 10-50
0 >50.0

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - April 2019

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

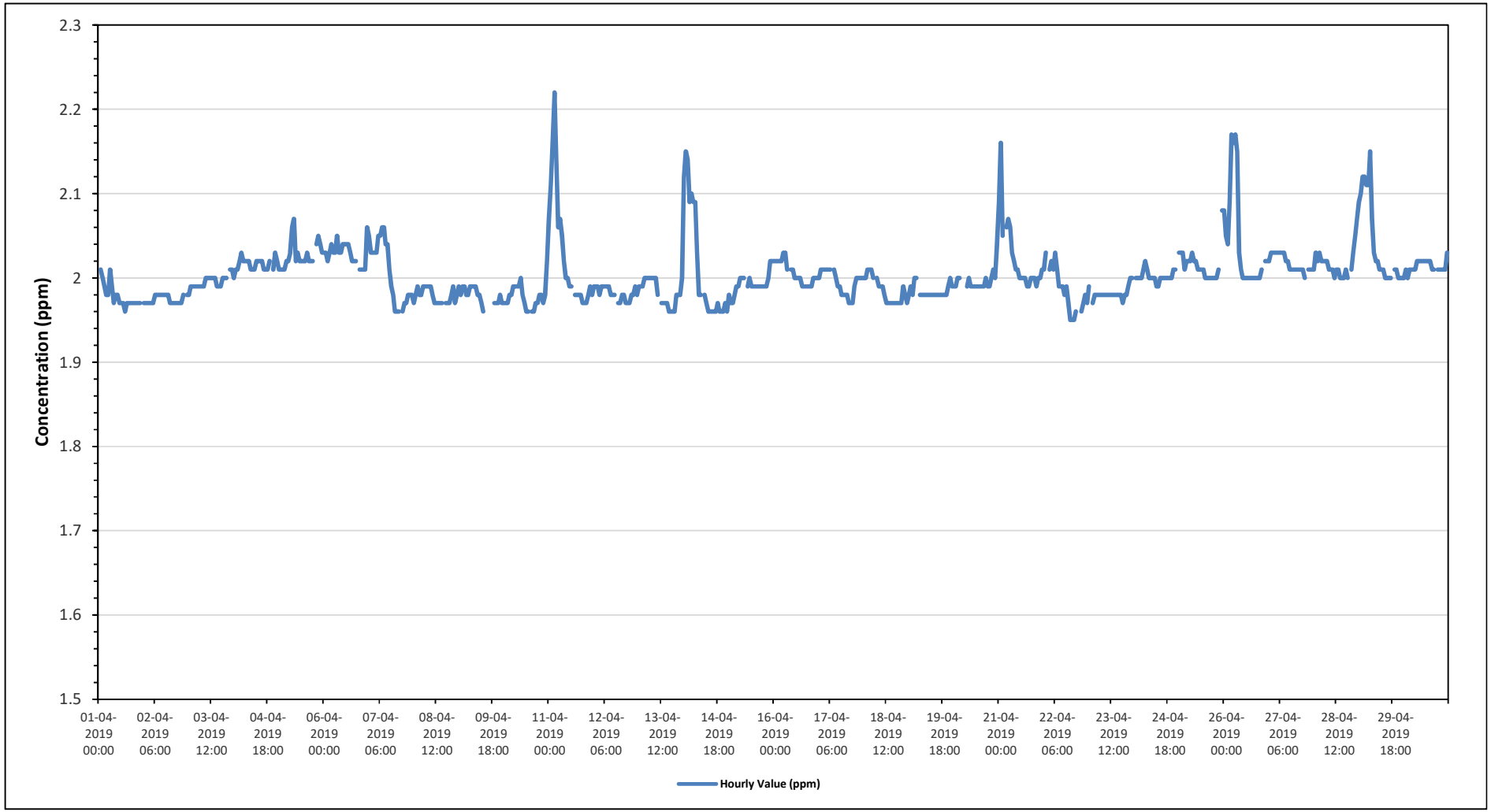
Maximum Hourly Value:	2.22	ppm	on April 11 at hour 3	Hours in Service:	720
Maximum Daily Value:	2.04	ppm	on April 26	Hours of Data:	681
Minimum Hourly Value:	1.95	ppm	on April 22 at hour 14	Hours of Missing Data:	3
Minimum Daily Value:	1.97	ppm	on April 2	Hours of Calibration:	36
Monthly Average:	2.00	ppm		Operational Uptime:	99.6

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	S	2.01	2.00	1.99	1.98	1.98	2.01	1.99	1.97	1.98	1.98	1.97	1.97	1.97	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	S	1.96	2.01	1.98
Apr 2	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	S	1.98	1.97	1.98	1.97
Apr 3	1.98	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	2.00	2.00	2.00	2.00	2.00	2.00	1.99	1.99	1.99	2.00	2.00	2.00	S	2.01	2.01	1.98	2.01	2.00
Apr 4	2.00	2.01	2.01	2.02	2.03	2.02	2.02	2.02	2.02	2.01	2.01	2.01	2.02	2.02	2.02	2.02	2.01	2.01	2.01	2.02	S	2.01	2.03	2.02	2.00	2.03	2.02
Apr 5	2.01	2.01	2.01	2.01	2.02	2.02	2.03	2.06	2.07	2.02	2.03	2.02	2.02	2.02	2.02	2.03	2.02	2.02	2.02	S	2.04	2.05	2.04	2.03	2.01	2.07	2.03
Apr 6	2.03	2.03	2.02	2.03	2.04	2.03	2.03	2.05	2.03	2.03	2.04	2.04	2.04	2.04	2.03	2.02	2.02	2.02	S	2.01	2.01	2.01	2.01	2.06	2.01	2.06	2.03
Apr 7	2.05	2.03	2.03	2.03	2.03	2.05	2.05	2.06	2.06	2.04	2.04	2.01	1.99	1.98	1.96	1.96	1.96	S	1.96	1.97	1.97	1.98	1.98	1.98	1.96	2.06	2.01
Apr 8	1.97	1.98	1.99	1.98	1.98	1.99	1.99	1.99	1.99	1.99	1.98	1.97	1.97	1.97	1.97	1.97	S	1.97	1.97	1.97	1.98	1.99	1.97	1.98	1.97	1.99	1.98
Apr 9	1.99	1.98	1.99	1.99	1.98	1.98	1.99	1.99	1.99	1.99	1.98	1.98	1.97	1.96	C	C	C	C	C	1.97	1.97	1.97	1.98	1.97	1.96	1.99	1.98
Apr 10	1.97	1.97	1.97	1.98	1.98	1.99	1.99	1.99	1.99	2.00	1.98	1.97	1.96	1.96	S	1.96	1.96	1.97	1.97	1.98	1.98	1.97	1.98	2.02	1.96	2.02	1.98
Apr 11	2.07	2.11	2.16	**2.22**	2.14	2.06	2.07	2.05	2.02	2.00	2.00	1.99	1.99	S	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.98	1.99	1.98	1.97	**2.22**	2.03
Apr 12	1.99	1.99	1.99	1.98	1.99	1.99	1.99	1.99	1.99	1.98	1.98	1.98	S	1.97	1.97	1.98	1.98	1.97	1.97	1.97	1.98	1.98	1.99	1.98	1.97	1.99	1.98
Apr 13	1.99	1.99	1.99	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.98	S	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.98	1.98	1.98	2.00	1.96	2.00	1.98
Apr 14	2.12	2.15	2.14	2.09	2.10	2.09	2.09	2.03	1.98	1.98	S	1.98	1.97	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.96	1.96	1.97	1.96	1.96	2.15	2.01
Apr 15	1.98	1.97	1.97	1.98	1.99	1.99	2.00	2.00	2.00	S	1.99	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	2.00	2.02	2.02	1.97	2.02	1.99
Apr 16	2.02	2.02	2.02	2.02	2.02	2.03	2.03	2.01	S	2.01	2.01	2.00	2.00	2.00	2.00	1.99	1.99	1.99	1.99	1.99	1.99	2.00	2.00	2.00	1.99	2.03	2.01
Apr 17	2.00	2.01	2.01	2.01	2.01	2.01	2.01	S	2.01	2.00	1.99	1.99	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.99	2.00	2.00	2.00	2.00	1.97	2.01	1.99
Apr 18	2.00	2.00	2.01	2.01	2.01	2.00	S	2.00	1.99	1.99	1.99	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.99	1.98	1.97	1.97	2.01	1.98
Apr 19	1.98	1.99	1.98	2.00	2.00	S	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	2.00	1.99	1.98	2.00	1.98
Apr 20	1.99	1.99	2.00	2.00	S	2.00	S1	1.99	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	2.00	1.99	1.99	2.00	2.01	2.00	2.04	1.99	2.04	2.00
Apr 21	2.09	2.16	2.05	S	2.06	2.07	2.06	2.03	2.02	2.01	2.01	2.00	2.00	2.00	2.00	1.99	1.99	2.00	2.00	2.00	1.99	2.00	2.00	2.01	1.99	2.16	2.02
Apr 22	2.01	2.03	S	2.01	2.02	2.01	2.03	2.01	1.99	1.99	1.99	1.98	1.99	1.97	**1.95**	1.95	1.95	1.96	Y	S1	1.96	1.97	1.98	1.97	**1.95**	2.03	1.99
Apr 23	1.99	S	1.97	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.98	1.98	1.99	2.00	2.00	1.97	2.00	1.98
Apr 24	S	2.00	2.00	2.00	2.00	2.01	2.02	2.01	2.00	2.00	2.00	2.00	1.99	1.99	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.01	2.01	S	1.99	2.02	2.00
Apr 25	2.03	2.03	2.03	2.01	2.02	2.02	2.02	2.03	2.02	2.02	2.01	2.01	2.01	2.01	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.01	S	2.08	2.00	2.08	2.02
Apr 26	2.08	2.05	2.04	2.09	2.17	2.16	2.17	2.15	2.03	2.01	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.01	S	2.02	2.02	2.00	2.17	**2.04**
Apr 27	2.02	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.02	2.02	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.00	S	2.01	2.01	2.01	2.00	2.03	2.02
Apr 28	2.01	2.03	2.02	2.03	2.02	2.02	2.02	2.02	2.01	2.01	2.01	2.00	2.01	2.01	2.00	2.00	2.00	2.01	2.00	S	2.01	2.03	2.05	2.07	2.00	2.07	2.02
Apr 29	2.09	2.10	2.12	2.12	2.11	2.11	2.15	2.07	2.03	2.02	2.02	2.01	2.01	2.01	2.00	2.00	2.00	2.00	S	2.01	2.01	2.00	2.00	2.00	2.00	2.15	2.04
Apr 30	2.00	2.01	2.00	2.01	2.01	2.01	2.01	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.01	2.01	S	2.01	2.01	2.01	2.01	2.01	2.03	2.00	2.03	2.01
Diurnal Maximum	2.12	2.16	2.16	2.22	2.17	2.16	2.17	2.15	2.07	2.04	2.04	2.04	2.04	2.04	2.03	2.03	2.02	2.02	2.02	2.02	2.04	2.05	2.05	2.08			
Daiurnal Average	2.02	2.02	2.02	2.02	2.02	2.02	2.03	2.02	2.01	2.00	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	2.00	2.01			

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

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

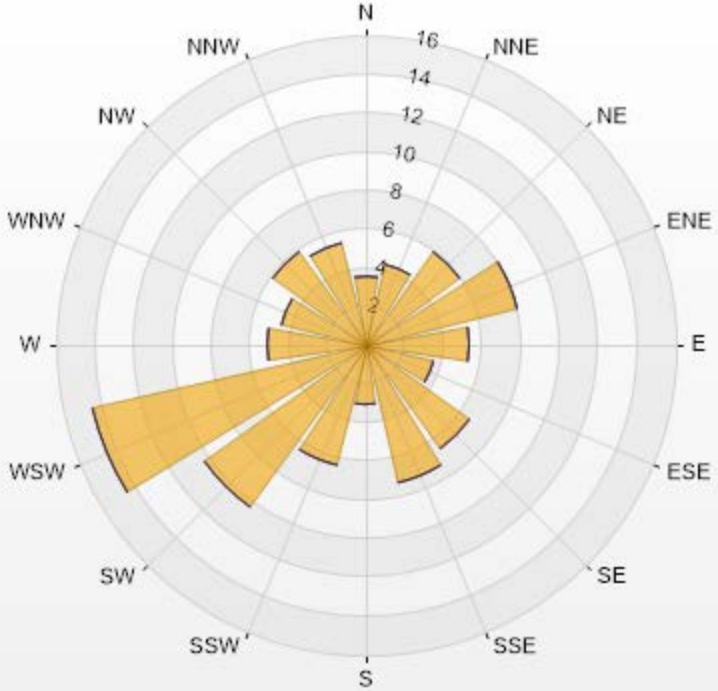
Timeseries Chart of Hourly Average for THC - 842b Station



Wind: PRAMP 842 Poll.: PRAMP 842-THC55[ppm] Monthly: 04-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.06% Calm Avg: 0.00 [ppm]

Direction	2-5	5-10	10-40	>40.0	Total
N	3.58	0	0	0	3.58
NNE	4.33	0	0	0	4.33
NE	5.97	0	0	0	5.97
ENE	8.06	0	0	0	8.06
E	5.37	0	0	0	5.37
ESE	3.58	0	0	0	3.58
SE	6.57	0	0	0	6.57
SSE	7.31	0	0	0	7.31
S	3.13	0	0	0	3.13
SSW	6.42	0	0	0	6.42
SW	10.3	0	0	0	10.3
WSW	14.48	0	0	0	14.48
W	5.07	0	0	0	5.07
WNW	4.48	0	0	0	4.48
NW	5.97	0	0	0	5.97
NNW	5.37	0	0	0	5.37
Summary	100	0	0	0	100

PRAMP 842 Poll.: PRAMP 842-THC55[ppm] 01-04-2019 00:00 - 30-04-2019 23:00 Calm: 0.00%



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

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PEACE RIVER AREA MONITORING PROGRAM

842b Station - April 2019

Summary of Hourly Averages

METHANE (CH4) in ppm

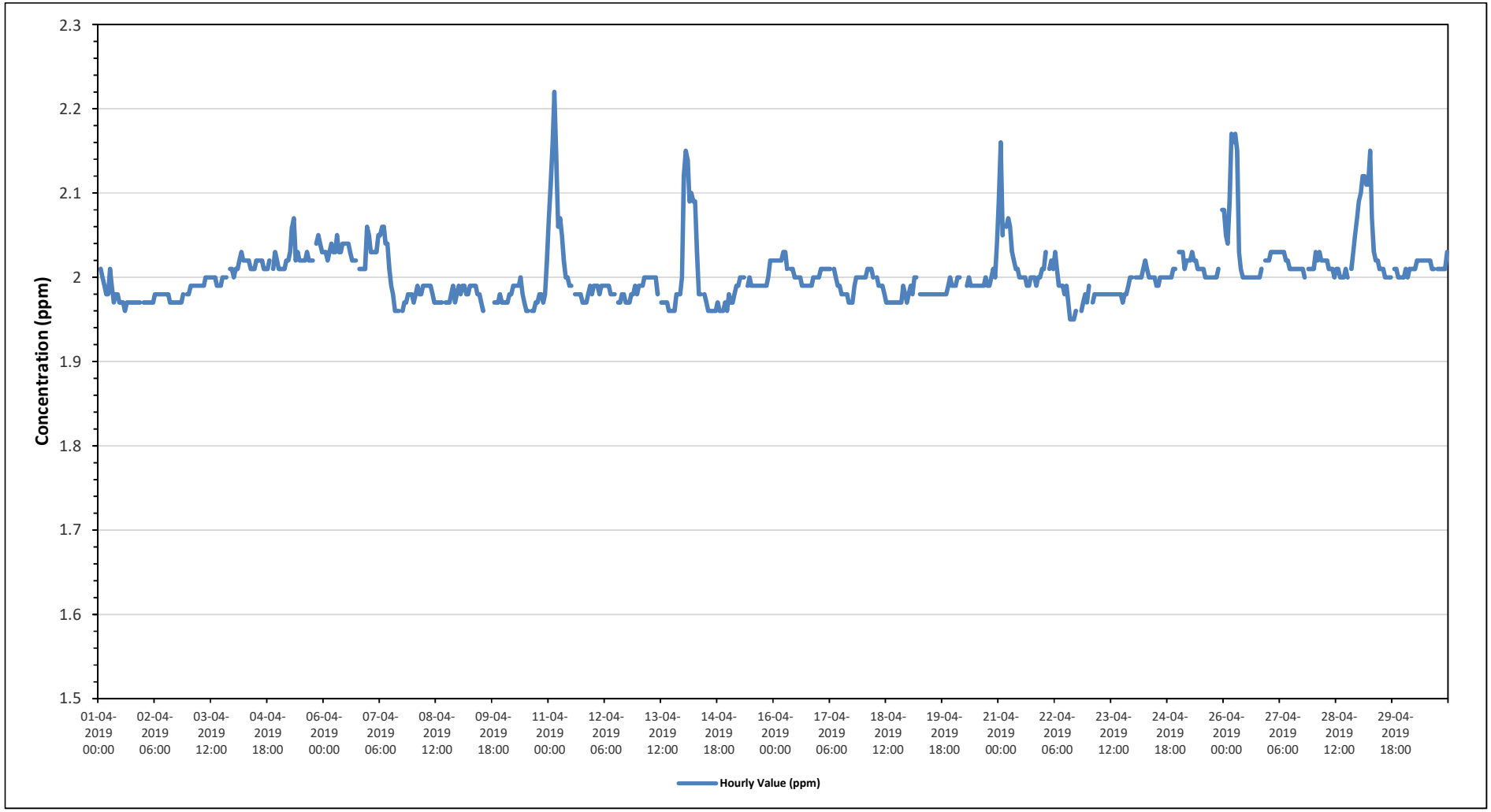
Maximum Hourly Value:	2.22	ppm	on April 11 at hour 3	Hours in Service:	720
Maximum Daily Value:	2.04	ppm	on April 26	Hours of Data:	681
Minimum Hourly Value:	1.95	ppm	on April 22 at hour 14	Hours of Missing Data:	3
Minimum Daily Value:	1.97	ppm	on April 2	Hours of Calibration:	36
Monthly Average:	2.00	ppm		Operational Uptime:	99.6

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	S	2.01	2.00	1.99	1.98	1.98	2.01	1.99	1.97	1.98	1.98	1.97	1.97	1.97	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	S	1.96	2.01	1.98
Apr 2	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	S	1.98	1.97	1.98	1.97
Apr 3	1.98	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	2.00	2.00	2.00	2.00	2.00	2.00	1.99	1.99	1.99	2.00	2.00	2.00	S	2.01	2.01	1.98	2.01	2.00
Apr 4	2.00	2.01	2.01	2.02	2.03	2.02	2.02	2.02	2.02	2.01	2.01	2.01	2.02	2.02	2.02	2.02	2.01	2.01	2.01	2.02	S	2.01	2.03	2.02	2.00	2.03	2.02
Apr 5	2.01	2.01	2.01	2.01	2.02	2.02	2.03	2.06	2.07	2.02	2.03	2.02	2.02	2.02	2.02	2.03	2.02	2.02	2.02	S	2.04	2.05	2.04	2.03	2.01	2.07	2.03
Apr 6	2.03	2.03	2.02	2.03	2.04	2.03	2.03	2.05	2.03	2.03	2.04	2.04	2.04	2.04	2.03	2.02	2.02	2.02	S	2.01	2.01	2.01	2.01	2.06	2.01	2.06	2.03
Apr 7	2.05	2.03	2.03	2.03	2.03	2.05	2.05	2.06	2.06	2.04	2.04	2.01	1.99	1.98	1.96	1.96	1.96	S	1.96	1.97	1.97	1.98	1.98	1.98	1.96	2.06	2.01
Apr 8	1.97	1.98	1.99	1.98	1.98	1.99	1.99	1.99	1.99	1.99	1.98	1.97	1.97	1.97	1.97	1.97	S	1.97	1.97	1.97	1.98	1.99	1.97	1.98	1.97	1.99	1.98
Apr 9	1.99	1.98	1.99	1.99	1.98	1.98	1.99	1.99	1.99	1.99	1.98	1.98	1.97	1.96	C	C	C	C	C	1.97	1.97	1.97	1.98	1.97	1.96	1.99	1.98
Apr 10	1.97	1.97	1.97	1.98	1.98	1.99	1.99	1.99	1.99	2.00	1.98	1.97	1.96	1.96	S	1.96	1.96	1.97	1.97	1.98	1.98	1.97	1.98	2.02	1.96	2.02	1.98
Apr 11	2.07	2.11	2.16	**2.22**	2.14	2.06	2.07	2.05	2.02	2.00	2.00	1.99	1.99	S	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.98	1.99	1.98	1.97	**2.22**	2.03
Apr 12	1.99	1.99	1.99	1.98	1.99	1.99	1.99	1.99	1.99	1.98	1.98	1.98	S	1.97	1.97	1.98	1.98	1.97	1.97	1.97	1.98	1.98	1.99	1.98	1.97	1.99	1.98
Apr 13	1.99	1.99	1.99	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.98	S	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.98	1.98	1.98	2.00	1.96	2.00	1.98
Apr 14	2.12	2.15	2.14	2.09	2.10	2.09	2.09	2.03	1.98	1.98	S	1.98	1.97	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.96	1.96	1.97	1.96	1.96	2.15	2.01
Apr 15	1.98	1.97	1.97	1.98	1.99	1.99	2.00	2.00	2.00	S	1.99	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	2.00	2.02	2.02	1.97	2.02	1.99
Apr 16	2.02	2.02	2.02	2.02	2.02	2.03	2.03	2.01	S	2.01	2.01	2.00	2.00	2.00	2.00	1.99	1.99	1.99	1.99	1.99	1.99	2.00	2.00	2.00	1.99	2.03	2.01
Apr 17	2.00	2.01	2.01	2.01	2.01	2.01	2.01	S	2.01	2.00	1.99	1.99	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.99	2.00	2.00	2.00	2.00	1.97	2.01	1.99
Apr 18	2.00	2.00	2.01	2.01	2.01	2.00	S	2.00	1.99	1.99	1.99	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.99	1.98	1.97	1.97	2.01	1.98
Apr 19	1.98	1.99	1.98	2.00	2.00	S	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	2.00	1.99	1.98	2.00	1.98
Apr 20	1.99	1.99	2.00	2.00	S	2.00	S1	1.99	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	2.00	1.99	1.99	2.00	2.01	2.00	2.04	1.99	2.04	2.00
Apr 21	2.09	2.16	2.05	S	2.06	2.07	2.06	2.03	2.02	2.01	2.01	2.00	2.00	2.00	2.00	1.99	1.99	2.00	2.00	2.00	1.99	2.00	2.00	2.01	1.99	2.16	2.02
Apr 22	2.01	2.03	S	2.01	2.02	2.01	2.03	2.01	1.99	1.99	1.99	1.98	1.99	1.97	**1.95**	1.95	1.95	1.96	Y	S1	1.96	1.97	1.98	1.97	**1.95**	2.03	1.99
Apr 23	1.99	S	1.97	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.98	1.98	1.99	2.00	2.00	1.97	2.00	1.98
Apr 24	S	2.00	2.00	2.00	2.00	2.01	2.02	2.01	2.00	2.00	2.00	2.00	1.99	1.99	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.01	2.01	S	1.99	2.02	2.00
Apr 25	2.03	2.03	2.03	2.01	2.02	2.02	2.02	2.03	2.02	2.02	2.01	2.01	2.01	2.01	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.01	S	2.08	2.00	2.08	2.02
Apr 26	2.08	2.05	2.04	2.09	2.17	2.16	2.17	2.15	2.03	2.01	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.01	S	2.02	2.02	2.00	2.17	**2.04**
Apr 27	2.02	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.02	2.02	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.00	S	2.01	2.01	2.01	2.00	2.03	2.02
Apr 28	2.01	2.03	2.02	2.03	2.02	2.02	2.02	2.02	2.01	2.01	2.01	2.00	2.01	2.01	2.00	2.00	2.00	2.01	2.00	S	2.01	2.03	2.05	2.07	2.00	2.07	2.02
Apr 29	2.09	2.10	2.12	2.12	2.11	2.11	2.15	2.07	2.03	2.02	2.02	2.01	2.01	2.01	2.00	2.00	2.00	2.00	S	2.01	2.01	2.00	2.00	2.00	2.00	2.15	2.04
Apr 30	2.00	2.01	2.00	2.01	2.01	2.01	2.01	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.01	2.01	S	2.01	2.01	2.01	2.01	2.01	2.03	2.00	2.03	2.01
Diurnal Maximum	2.12	2.16	2.16	2.22	2.17	2.16	2.17	2.15	2.07	2.04	2.04	2.04	2.04	2.04	2.03	2.03	2.02	2.02	2.02	2.02	2.04	2.05	2.05	2.08			
Daiurnal Average	2.02	2.02	2.02	2.02	2.02	2.02	2.03	2.02	2.01	2.00	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	2.00	2.01			

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

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

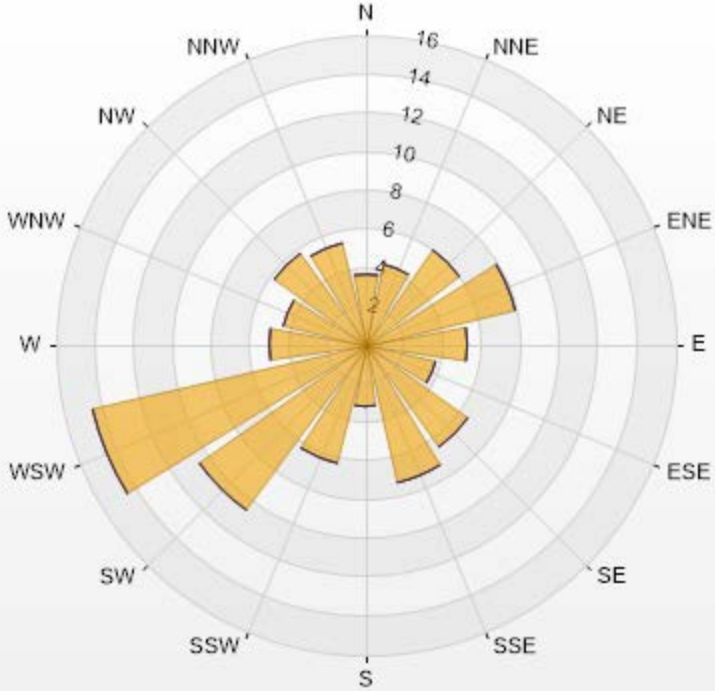
Timeseries Chart of Hourly Average for CH4 - 842b Station



Wind: PRAMP 842 Poll.: PRAMP 842-CH4[ppm] Monthly: 04-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.58% Calm Avg: 0.00 [ppm]

Direction	2-5	5-10	10-20	>20.0	Total
N	3.67	0	0	0	3.67
NNE	4.26	0	0	0	4.26
NE	6.02	0	0	0	6.02
ENE	7.93	0	0	0	7.93
E	5.29	0	0	0	5.29
ESE	3.67	0	0	0	3.67
SE	6.46	0	0	0	6.46
SSE	7.34	0	0	0	7.34
S	3.23	0	0	0	3.23
SSW	6.31	0	0	0	6.31
SW	10.57	0	0	0	10.57
WSW	14.54	0	0	0	14.54
W	4.99	0	0	0	4.99
WNW	4.41	0	0	0	4.41
NW	5.87	0	0	0	5.87
NNW	5.43	0	0	0	5.43
Summary	100	0	0	0	100

PRAMP 842 Poll.: PRAMP 842-CH4[ppm] 01-04-2019 00:00 - 30-04-2019 23:00 Calm: 0.00%



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

PEACE RIVER AREA MONITORING PROGRAM

842b Station - April 2019

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

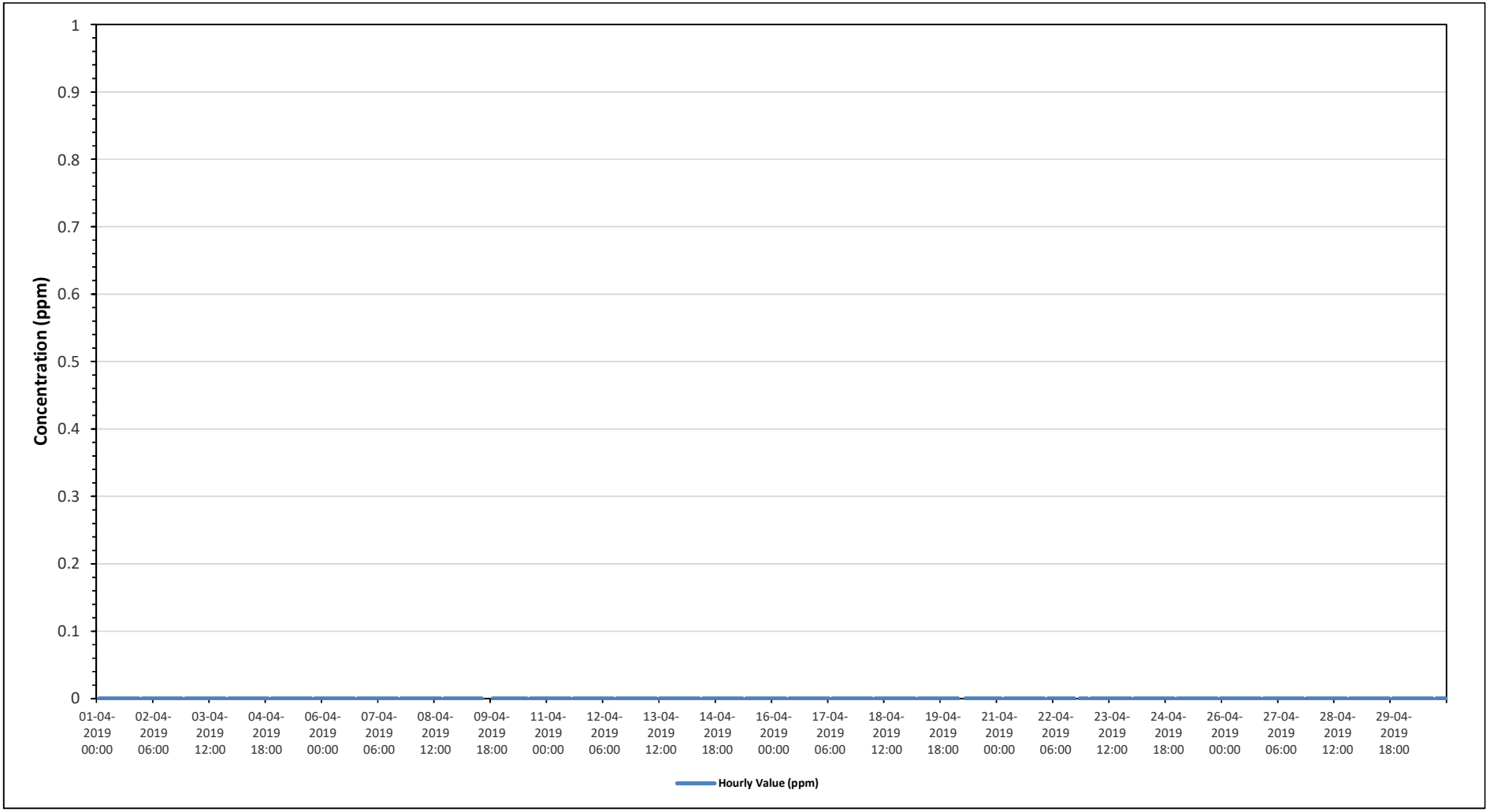
Maximum Hourly Value:	0.00	ppm	on April 1 at hour 1	Hours in Service:	720
Maximum Daily Value:	0.00	ppm	on April 1	Hours of Data:	681
Minimum Hourly Value:	0.00	ppm	on April 1 at hour 1	Hours of Missing Data:	3
Minimum Daily Value:	0.00	ppm	on April 1	Hours of Calibration:	36
Monthly Average:	0.00	ppm		Operational Uptime:	99.6

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Apr 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Apr 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Apr 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Apr 5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 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	C	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 18	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 19	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 20	0.00	0.00	0.00	0.00	S	0.00	S1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 21	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 22	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Y	S1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 23	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 24	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Apr 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Apr 26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Apr 27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Apr 28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diurnal Maximum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Daiurnal Average	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

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

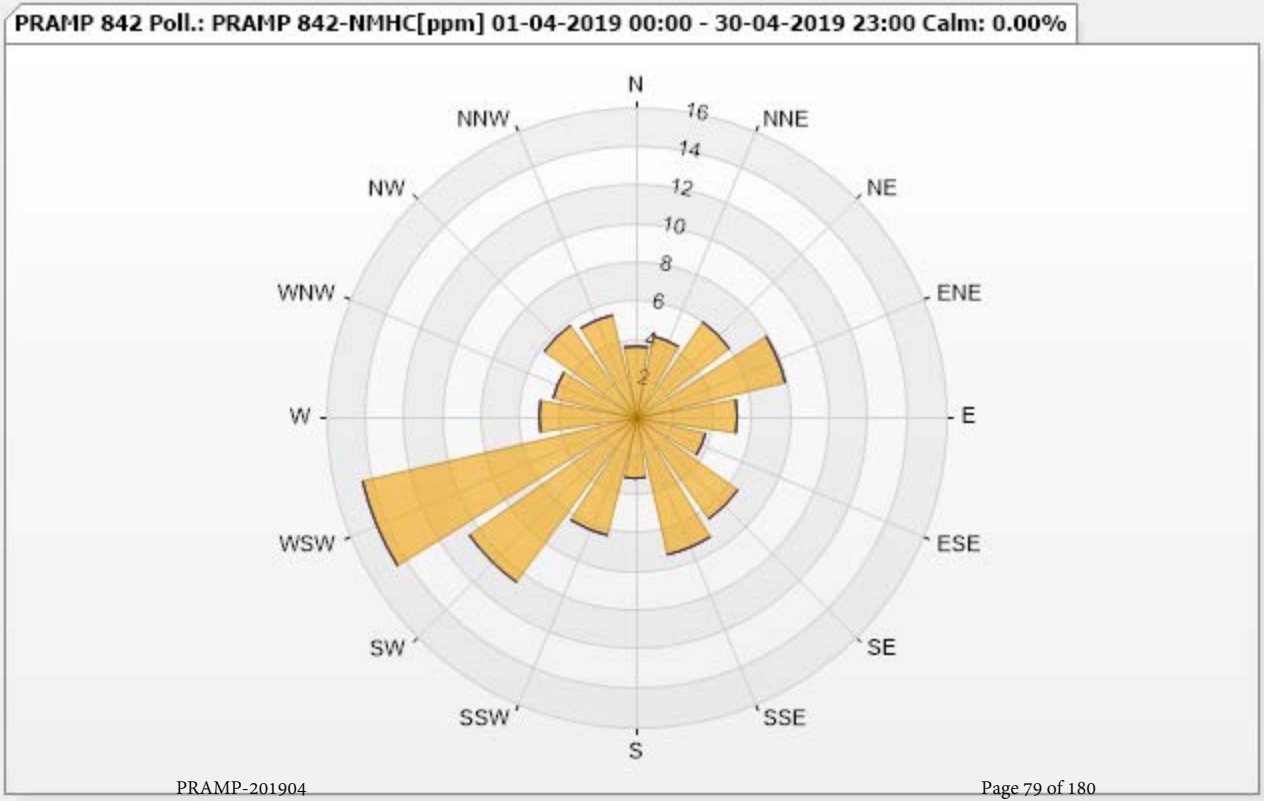
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for NMHC - 842b Station



Wind: PRAMP 842 Poll.: PRAMP 842-NMHC[ppm] Monthly: 04-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.58% Calm Avg: 0.00 [ppm]

Direction	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	3.67	0	0	0	3.67
NNE	4.26	0	0	0	4.26
NE	6.02	0	0	0	6.02
ENE	7.93	0	0	0	7.93
E	5.29	0	0	0	5.29
ESE	3.67	0	0	0	3.67
SE	6.46	0	0	0	6.46
SSE	7.34	0	0	0	7.34
S	3.23	0	0	0	3.23
SSW	6.31	0	0	0	6.31
SW	10.57	0	0	0	10.57
WSW	14.54	0	0	0	14.54
W	4.99	0	0	0	4.99
WNW	4.41	0	0	0	4.41
NW	5.87	0	0	0	5.87
NNW	5.43	0	0	0	5.43
Summary	100	0	0	0	100


PRAMP 842 Poll.: PRAMP 842-NMHC[ppm] 01-04-2019 00:00 - 30-04-2019 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
% Icon Classes (ppm)
100 0.1-0.3
0 0.3-0.9
0 0.9-2
0 >2.0

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - April 2019

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

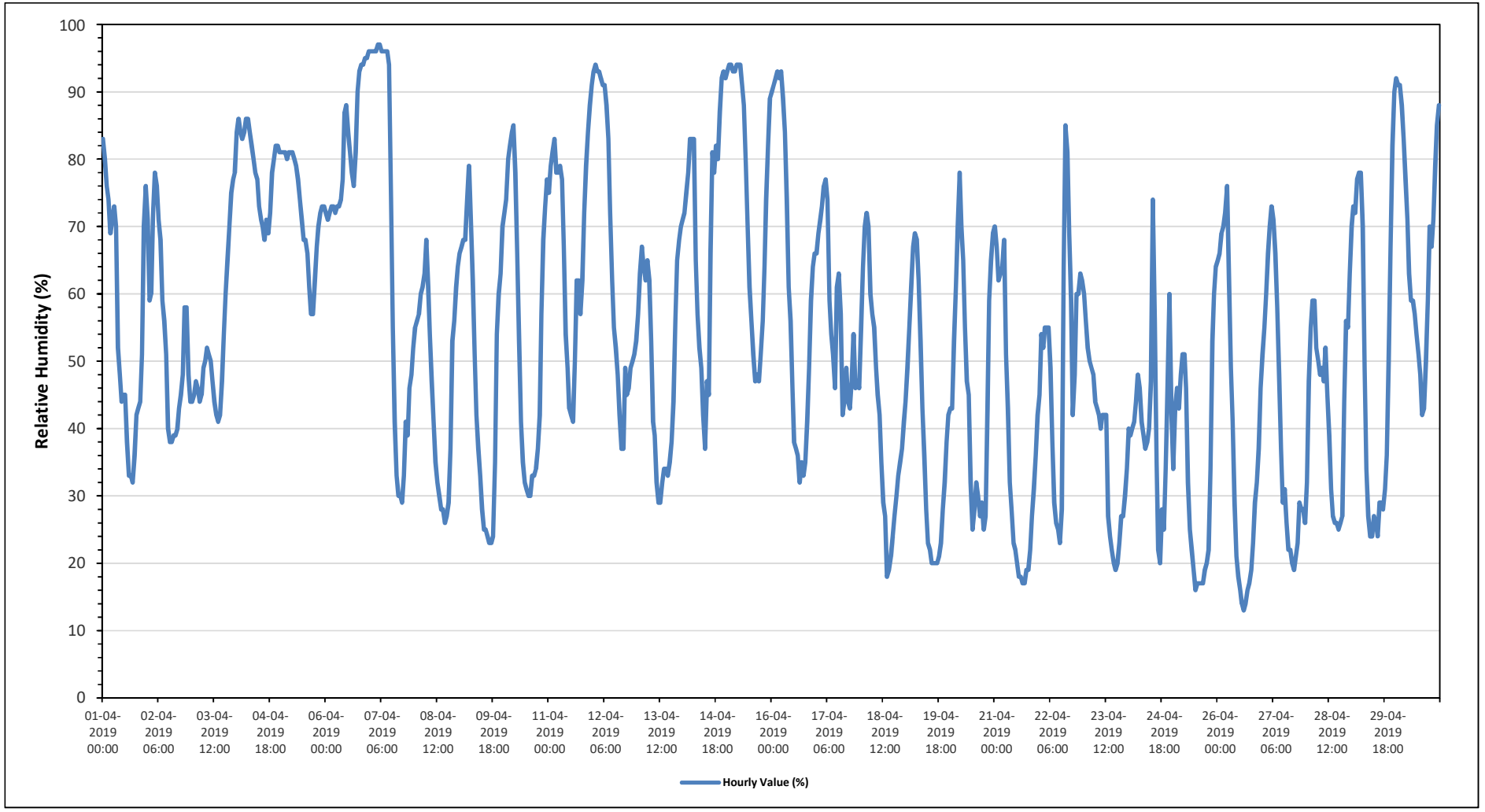
Maximum Hourly Value:	97	%	on April 7 at hour 4	Hours in Service:	720
Maximum Daily Value:	81.8	%	on April 6	Hours of Data:	720
Minimum Hourly Value:	13	%	on April 26 at hour 14	Hours of Missing Data:	0
Minimum Daily Value:	34.0	%	on April 25	Hours of Calibration:	0
Monthly Average:	54.3	%		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	83	80	76	74	69	71	73	70	52	48	44	45	45	38	33	33	32	36	42	43	44	51	70	76	32	83	55
Apr 2	71	59	60	72	78	76	71	68	59	56	51	40	38	38	39	39	40	43	45	48	58	58	48	44	38	78	54
Apr 3	44	45	47	46	44	45	49	50	52	51	50	47	44	42	41	42	47	54	60	65	70	75	77	78	41	78	53
Apr 4	84	86	84	83	84	86	86	84	82	80	78	77	73	71	70	68	71	69	72	78	80	82	82	81	68	86	79
Apr 5	81	81	81	80	81	81	81	80	79	77	74	71	68	68	66	61	57	57	62	67	70	72	73	73	57	81	73
Apr 6	72	71	72	73	73	72	73	73	74	77	87	88	84	81	78	76	81	90	93	94	94	95	95	96	71	96	**82**
Apr 7	96	96	96	96	**97**	**97**	96	96	96	96	94	74	55	41	33	30	30	29	33	41	39	46	48	52	29	**97**	67
Apr 8	55	56	57	60	61	63	68	61	54	47	41	35	32	30	28	28	26	27	29	37	53	56	61	64	26	68	47
Apr 9	66	67	68	68	74	79	71	62	51	42	37	33	28	25	25	24	23	23	24	35	54	60	63	70	23	79	49
Apr 10	72	74	80	82	84	85	78	66	53	41	35	32	31	30	30	33	33	34	37	42	57	68	73	77	30	85	55
Apr 11	75	79	81	83	78	78	79	77	67	54	49	43	42	41	50	62	62	57	62	72	79	84	88	91	41	91	68
Apr 12	93	94	93	93	92	91	91	88	83	72	62	55	52	48	42	37	37	49	45	46	49	50	51	53	37	94	65
Apr 13	57	63	67	64	62	65	62	53	41	39	32	29	29	32	34	34	33	35	38	44	56	65	68	70	29	70	49
Apr 14	71	72	75	78	83	83	83	65	57	52	49	42	37	47	45	66	81	78	82	80	87	92	93	92	37	93	70
Apr 15	93	94	94	93	93	94	94	94	91	88	79	70	61	56	51	47	48	47	51	56	64	74	82	89	47	94	75
Apr 16	90	91	92	93	92	93	89	84	74	61	56	46	38	37	36	32	35	33	35	41	49	59	64	66	32	93	62
Apr 17	66	69	71	73	76	77	74	59	54	51	46	61	63	57	42	44	49	44	43	47	54	46	47	46	42	77	57
Apr 18	55	64	70	72	70	60	57	55	49	45	42	35	29	27	18	19	21	24	27	30	33	35	37	41	18	72	42
Apr 19	44	49	55	61	67	69	68	62	53	43	36	28	23	22	20	20	20	20	21	23	28	32	38	42	20	69	39
Apr 20	43	43	53	61	70	78	70	65	55	47	45	32	25	28	32	30	27	29	25	27	43	59	65	69	25	78	47
Apr 21	70	67	62	63	64	68	51	43	32	28	23	22	20	18	18	17	17	19	19	22	27	31	36	42	17	70	37
Apr 22	45	54	52	55	55	55	49	38	29	26	25	23	28	64	85	81	69	59	42	48	60	60	63	62	23	85	51
Apr 23	60	56	52	50	49	48	44	43	42	40	42	42	42	27	24	22	20	19	20	23	27	27	30	34	19	60	37
Apr 24	40	39	40	41	44	48	46	41	39	37	38	40	47	74	56	35	22	20	28	25	34	46	60	43	20	74	41
Apr 25	34	43	46	43	48	51	51	46	32	25	22	19	16	17	17	17	17	19	20	22	34	53	60	64	16	64	34
Apr 26	65	66	69	70	72	76	62	49	41	29	21	18	16	14	**13**	14	16	17	19	23	29	32	37	46	**13**	76	38
Apr 27	51	55	60	66	70	73	71	66	58	48	37	29	31	26	22	22	20	19	21	23	29	28	28	26	19	73	41
Apr 28	32	47	55	59	59	52	50	48	49	47	52	45	39	31	27	26	26	25	26	27	44	56	55	63	25	63	43
Apr 29	70	73	72	77	78	78	70	49	34	27	24	24	27	26	24	29	29	28	31	36	50	67	82	90	24	90	50
Apr 30	92	91	91	88	83	77	71	63	59	59	57	54	51	48	42	43	50	59	70	67	71	79	85	88	42	92	68
Diurnal Maximum	96	96	96	96	97	97	96	96	96	96	94	88	84	81	85	81	81	90	93	94	94	95	95	96			
Daiurnal Average	65.7	67.5	69.0	70.6	71.7	72.3	69.3	63.3	56.4	51.1	47.6	43.3	40.5	40.1	38.0	37.7	38.0	38.7	40.7	44.4	52.2	57.9	62.0	64.3			

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

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

Timeseries Chart of Hourly Average for RH - 842b Station



PEACE RIVER AREA MONITORING PROGRAM

842b Station - April 2019

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

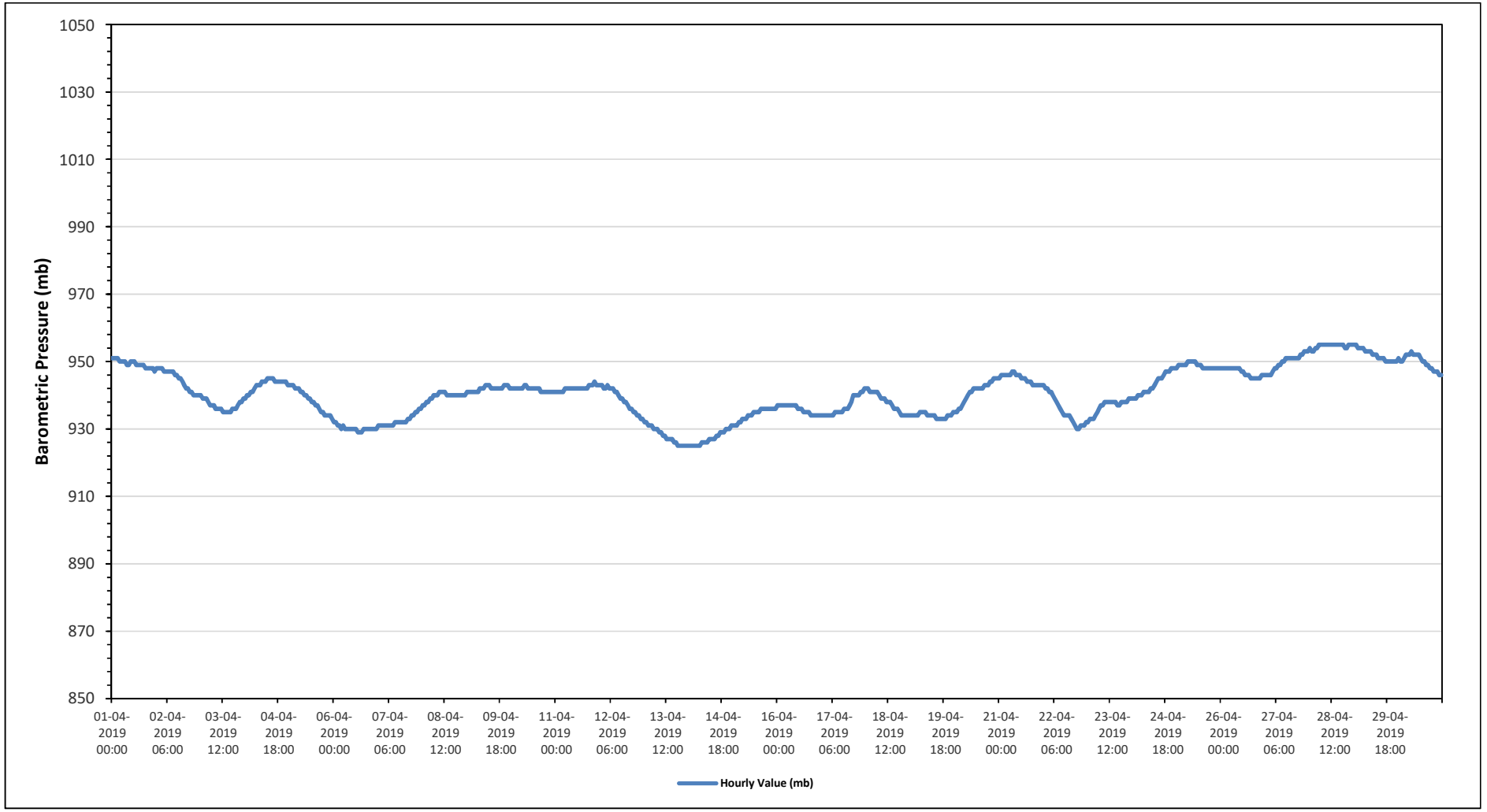
Maximum Hourly Value:	955	mb	on April 28 at hour 5	Hours in Service:	720
Maximum Daily Value:	955	mb	on April 28	Hours of Data:	720
Minimum Hourly Value:	925	mb	on April 13 at hour 18	Hours of Missing Data:	0
Minimum Daily Value:	927	mb	on April 14	Hours of Calibration:	0
Monthly Average:	941	mb		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	951	951	951	951	950	950	950	950	949	949	950	950	950	949	949	949	949	949	948	948	948	948	948	947	947	951	949
Apr 2	948	948	948	948	947	947	947	947	947	947	946	946	945	945	944	943	942	942	941	941	940	940	940	940	940	948	945
Apr 3	940	939	939	939	938	937	937	937	936	936	936	936	935	935	935	935	935	936	936	936	937	938	938	939	935	940	937
Apr 4	939	940	940	941	941	942	943	943	943	944	944	944	945	945	945	945	944	944	944	944	944	944	944	943	939	945	943
Apr 5	943	943	943	942	942	942	941	941	940	940	939	939	938	938	937	937	936	935	935	934	934	934	934	933	933	943	938
Apr 6	932	932	931	931	930	931	930	930	930	930	930	930	930	929	929	929	930	930	930	930	930	930	930	930	929	932	930
Apr 7	931	931	931	931	931	931	931	931	931	932	932	932	932	932	932	932	933	933	934	934	935	935	936	936	931	936	932
Apr 8	937	937	938	938	939	939	940	940	940	941	941	941	941	940	940	940	940	940	940	940	940	940	940	940	937	941	940
Apr 9	941	941	941	941	941	941	941	942	942	942	943	943	943	942	942	942	942	942	942	942	943	943	943	942	941	943	942
Apr 10	942	942	942	942	942	942	942	943	943	942	942	942	942	942	942	942	941	941	941	941	941	941	941	941	941	943	942
Apr 11	941	941	941	941	941	942	942	942	942	942	942	942	942	942	942	942	942	942	943	943	943	944	943	943	941	944	942
Apr 12	943	943	942	942	943	942	942	942	941	941	940	939	939	938	938	937	936	936	935	935	934	934	933	933	933	943	939
Apr 13	932	932	931	931	931	930	930	930	929	929	928	928	927	927	927	927	926	926	**925**	**925**	**925**	**925**	**925**	**925**	**925**	932	928
Apr 14	**925**	**925**	**925**	**925**	**925**	**925**	**925**	926	926	926	926	927	927	927	927	928	928	929	929	929	930	930	930	931	**925**	931	927
Apr 15	931	931	931	932	932	933	933	933	934	934	934	935	935	935	935	936	936	936	936	936	936	936	936	936	931	936	934
Apr 16	937	937	937	937	937	937	937	937	937	937	937	936	936	936	935	935	935	935	934	934	934	934	934	934	934	937	936
Apr 17	934	934	934	934	934	934	934	935	935	935	935	935	936	936	936	937	938	940	940	940	940	941	941	942	934	942	937
Apr 18	942	942	941	941	941	941	941	940	939	939	939	938	938	938	937	936	936	936	935	934	934	934	934	934	934	942	938
Apr 19	934	934	934	934	934	935	935	935	935	934	934	934	934	934	933	933	933	933	933	933	934	934	934	935	933	935	934
Apr 20	935	935	936	936	937	938	939	940	941	941	942	942	942	942	942	942	943	943	943	944	944	945	945	945	935	945	941
Apr 21	945	946	946	946	946	946	946	947	947	946	946	946	945	945	945	944	944	944	943	943	943	943	943	943	943	947	945
Apr 22	943	942	942	941	941	940	939	938	937	936	935	934	934	934	934	933	932	931	930	930	931	931	931	932	930	943	935
Apr 23	932	933	933	933	934	935	936	937	937	938	938	938	938	938	938	938	937	937	938	938	938	938	939	939	932	939	937
Apr 24	939	939	939	940	940	940	941	941	941	941	942	942	943	944	945	945	945	946	947	947	947	948	948	948	939	948	943
Apr 25	948	949	949	949	949	949	950	950	950	950	950	949	949	949	948	948	948	948	948	948	948	948	948	948	948	950	949
Apr 26	948	948	948	948	948	948	948	948	948	948	948	947	947	946	946	946	945	945	945	945	945	945	946	946	945	948	947
Apr 27	946	946	946	946	947	948	948	949	949	950	950	951	951	951	951	951	951	951	951	952	952	953	953	953	946	953	950
Apr 28	954	953	953	954	954	**955**	**955**	**955**	**955**	**955**	**955**	**955**	**955**	**955**	**955**	**955**	**955**	**955**	**955**	954	954	**955**	**955**	**955**	953	**955**	**955**
Apr 29	**955**	**955**	954	954	954	954	953	953	953	953	952	952	952	951	951	951	951	950	950	950	950	950	950	950	950	**955**	952
Apr 30	951	950	950	951	952	952	952	953	952	952	952	952	951	950	950	949	949	948	948	947	947	947	946	946	946	953	950
Diurnal Maximum	955	955	954	954	954	955	955	955	955	955	955	955	955	955	955	955	955	955	955	954	954	955	955	955			
Daiurnal Average	941	941	941	941	941	941	941	941	941	941	941	941	941	941	940	940	940	940	940	940	940	940	940	940			

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

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

Timeseries Chart of Hourly Average for BP - 842b Station



PEACE RIVER AREA MONITORING PROGRAM

842b Station - April 2019

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

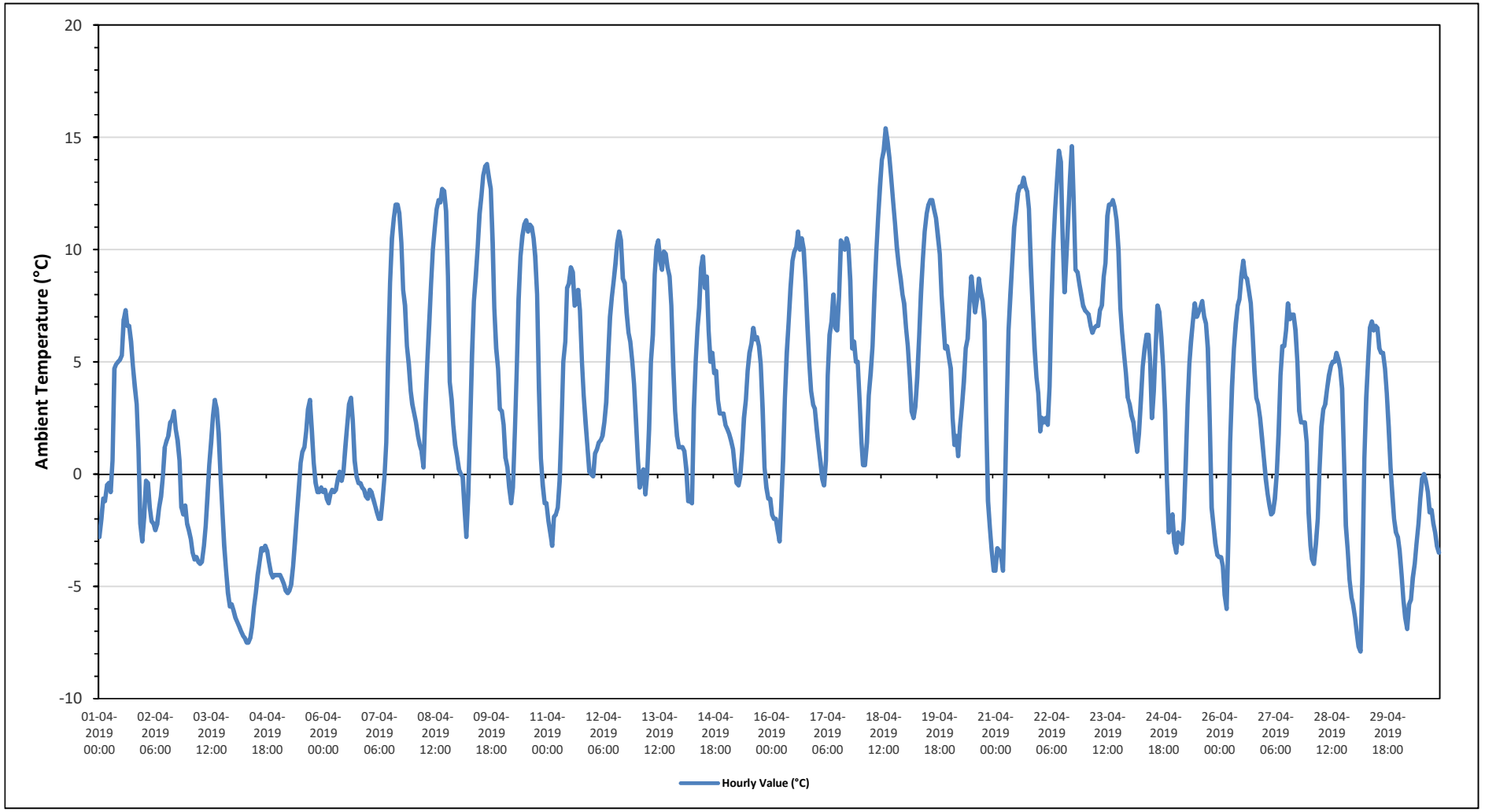
Maximum Hourly Value:	15.4	°C	on April 18 at hour 14	Hours in Service:	720
Maximum Daily Value:	8.7	°C	on April 18	Hours of Data:	720
Minimum Hourly Value:	-7.9	°C	on April 29 at hour 5	Hours of Missing Data:	0
Minimum Daily Value:	-5.5	°C	on April 4	Hours of Calibration:	0
Monthly Average:	3.3	°C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	-2.8	-2.0	-1.1	-1.2	-0.5	-0.4	-0.8	0.6	4.7	4.9	5.0	5.1	5.3	6.9	7.3	6.6	6.6	5.9	4.8	3.9	3.1	1.1	-2.2	-3.0	-3.0	7.3	2.4
Apr 2	-1.9	-0.3	-0.4	-1.5	-2.1	-2.2	-2.5	-2.2	-1.5	-1.0	-0.1	1.2	1.5	1.7	2.3	2.4	2.8	2.0	1.5	0.6	-1.5	-1.8	-1.4	-2.2	-2.5	2.8	-0.3
Apr 3	-2.5	-2.9	-3.5	-3.8	-3.7	-3.9	-4.0	-3.9	-3.2	-2.3	-1.1	0.4	1.4	2.6	3.3	2.9	1.8	-0.1	-1.6	-3.2	-4.3	-5.3	-5.9	-5.8	-5.9	3.3	-2.0
Apr 4	-6.1	-6.4	-6.6	-6.8	-7.0	-7.2	-7.3	-7.5	-7.5	-7.3	-6.8	-5.9	-5.3	-4.5	-3.9	-3.3	-3.4	-3.2	-3.4	-3.9	-4.4	-4.6	-4.5	-4.5	-7.5	-3.2	-5.5
Apr 5	-4.5	-4.5	-4.7	-4.9	-5.2	-5.3	-5.2	-4.9	-4.1	-3.0	-1.8	-0.7	0.5	1.0	1.2	1.9	2.9	3.3	1.9	0.5	-0.4	-0.8	-0.8	-0.6	-5.3	3.3	-1.6
Apr 6	-0.8	-0.7	-1.1	-1.3	-0.9	-0.7	-0.8	-0.7	-0.2	0.1	-0.3	0.1	1.2	2.2	3.1	3.4	2.4	0.6	-0.1	-0.4	-0.4	-0.6	-0.7	-1.0	-1.3	3.4	0.1
Apr 7	-1.1	-0.7	-0.8	-1.1	-1.4	-1.7	-2.0	-2.0	-1.2	-0.1	1.4	5.2	8.5	10.5	11.4	12.0	12.0	11.6	10.3	8.2	7.5	5.7	4.9	3.7	-2.0	12.0	4.2
Apr 8	3.1	2.7	2.3	1.7	1.3	1.0	0.3	2.9	5.0	6.7	8.5	10.0	11.0	11.8	12.2	12.1	12.7	12.6	11.7	8.8	4.1	3.3	2.2	1.3	0.3	12.7	6.2
Apr 9	0.8	0.2	0.0	-0.1	-1.6	-2.8	-0.9	2.1	5.3	7.7	8.8	10.1	11.6	12.4	13.3	13.7	13.8	13.2	12.7	10.3	7.4	5.6	4.7	2.9	-2.8	13.8	6.3
Apr 10	2.8	2.2	0.7	0.3	-0.6	-1.3	-0.6	2.0	4.6	7.8	9.7	10.6	11.1	11.3	10.8	11.1	11.0	10.5	9.7	8.0	3.8	0.7	-0.5	-1.3	-1.3	11.3	5.2
Apr 11	-1.3	-2.1	-2.6	-3.2	-1.9	-1.8	-1.5	-0.3	2.2	5.0	5.9	8.3	8.5	9.2	9.0	7.5	7.6	8.2	7.3	5.0	3.5	2.3	1.2	0.1	-3.2	9.2	3.2
Apr 12	0.0	-0.1	0.9	1.1	1.4	1.5	1.7	2.3	3.2	5.2	7.0	7.9	8.6	9.4	10.3	10.8	10.4	8.7	8.5	7.2	6.3	5.9	5.0	4.0	-0.1	10.8	5.3
Apr 13	2.4	0.7	-0.6	-0.1	0.2	-0.9	0.0	2.0	5.0	6.2	8.9	10.1	10.4	9.5	9.1	9.9	9.8	9.2	8.8	7.5	4.8	2.8	1.7	1.2	-0.9	10.4	4.9
Apr 14	1.2	1.2	1.0	0.2	-1.2	-1.2	-1.3	2.9	5.1	6.5	7.4	9.2	9.7	8.3	8.8	6.4	5.0	5.4	4.5	4.6	3.3	2.7	2.7	2.7	-1.3	9.7	4.0
Apr 15	2.2	2.0	1.8	1.5	1.1	0.3	-0.4	-0.5	-0.1	1.0	2.5	3.3	4.6	5.4	5.8	6.5	6.0	6.1	5.7	4.9	2.9	0.3	-0.6	-1.1	-1.1	6.5	2.6
Apr 16	-1.1	-1.8	-2.0	-2.0	-2.5	-3.0	-1.5	0.6	3.4	5.4	6.8	8.3	9.5	9.9	10.1	10.8	10.0	10.5	10.0	8.5	6.6	4.9	3.7	3.1	-3.0	10.8	4.5
Apr 17	2.9	2.0	1.2	0.5	-0.2	-0.5	0.6	4.4	6.2	6.8	8.0	6.5	6.4	7.9	10.4	10.2	10.0	10.5	10.2	8.6	5.6	5.9	5.0	5.0	-0.5	10.5	5.6
Apr 18	3.2	1.4	0.4	0.4	1.4	3.5	4.5	5.7	8.0	9.9	11.4	12.8	14.0	14.4	**15.4**	14.8	14.1	13.2	12.1	11.2	10.1	9.3	8.7	8.0	0.4	**15.4**	**8.7**
Apr 19	7.6	6.5	5.7	4.3	2.8	2.5	3.0	4.3	6.1	8.1	9.6	10.8	11.6	12.0	12.2	12.2	11.8	11.4	10.6	9.8	8.0	6.7	5.6	5.7	2.5	12.2	7.9
Apr 20	5.2	4.7	2.5	1.3	1.7	0.8	2.1	3.0	4.1	5.6	6.0	7.6	8.8	8.0	7.2	7.8	8.7	8.1	7.7	6.8	2.7	-1.2	-2.4	-3.4	-3.4	8.8	4.3
Apr 21	-4.3	-4.3	-3.3	-3.4	-3.7	-4.3	-0.9	3.1	6.4	8.0	9.5	11.0	11.7	12.5	12.8	12.8	13.2	12.8	12.6	11.8	9.3	7.4	5.6	4.3	-4.3	13.2	5.9
Apr 22	3.6	1.9	2.5	2.3	2.5	2.2	3.9	7.6	10.2	11.8	13.2	14.4	13.9	10.5	8.1	9.7	11.3	13.2	14.6	12.1	9.1	9.0	8.5	8.0	1.9	14.6	8.5
Apr 23	7.5	7.3	7.2	7.1	6.6	6.3	6.5	6.6	6.6	7.3	7.5	8.8	9.4	11.5	12.0	12.0	12.2	11.9	11.3	10.0	7.4	6.3	5.3	4.5	4.5	12.2	8.3
Apr 24	3.4	3.1	2.6	2.3	1.6	1.0	1.8	3.3	4.8	5.6	6.2	6.2	5.1	2.5	3.7	5.6	7.5	7.2	6.1	4.8	2.8	-0.3	-2.6	-2.3	-2.6	7.5	3.4
Apr 25	-1.8	-3.1	-3.5	-2.6	-2.9	-3.1	-2.0	0.4	3.1	4.9	5.9	6.8	7.6	7.0	7.2	7.4	7.7	7.0	6.7	5.6	2.4	-1.5	-2.3	-3.1	-3.5	7.7	2.2
Apr 26	-3.6	-3.7	-3.7	-4.1	-5.4	-6.0	-2.5	1.4	3.9	5.6	6.7	7.5	7.8	8.8	9.5	8.8	8.7	8.2	7.6	6.3	4.6	3.4	3.1	2.5	-6.0	9.5	3.1
Apr 27	1.6	0.7	-0.2	-0.9	-1.4	-1.8	-1.7	-1.1	0.0	1.8	4.4	5.7	5.7	6.4	7.6	6.9	7.1	7.1	6.4	5.0	2.8	2.3	2.3	2.3	-1.8	7.6	2.9
Apr 28	1.4	-1.7	-3.2	-3.8	-4.0	-3.1	-2.0	0.2	2.1	2.9	3.1	3.8	4.4	4.8	5.0	5.0	5.4	5.1	4.7	3.8	0.8	-2.3	-3.4	-4.7	-4.7	5.4	1.0
Apr 29	-5.5	-5.8	-6.4	-7.1	-7.7	**-7.9**	-4.5	0.7	3.4	5.1	6.5	6.8	6.4	6.6	6.5	5.6	5.4	5.4	4.7	3.6	2.1	0.3	-1.0	-2.0	**-7.9**	6.8	0.9
Apr 30	-2.6	-2.8	-3.4	-4.5	-5.6	-6.4	-6.9	-5.8	-5.6	-4.6	-4.0	-3.1	-2.2	-1.1	-0.2	0.0	-0.3	-0.8	-1.7	-1.6	-2.2	-2.6	-3.2	-3.5	-6.9	0.0	-3.1
Diurnal Maximum	7.6	7.3	7.2	7.1	6.6	6.3	6.5	7.6	10.2	11.8	13.2	14.4	14.0	14.4	15.4	14.8	14.1	13.2	14.6	12.1	10.1	9.3	8.7	8.0			
Daiurnal Average	0.3	-0.2	-0.6	-1.0	-1.3	-1.5	-0.8	0.9	2.7	4.1	5.2	6.3	7.0	7.3	7.7	7.8	7.8	7.5	6.9	5.6	3.6	2.2	1.3	0.7			

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

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

Timeseries Chart of Hourly Average for AT - 842b Station



PEACE RIVER AREA MONITORING PROGRAM

842b Station - April 2019

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

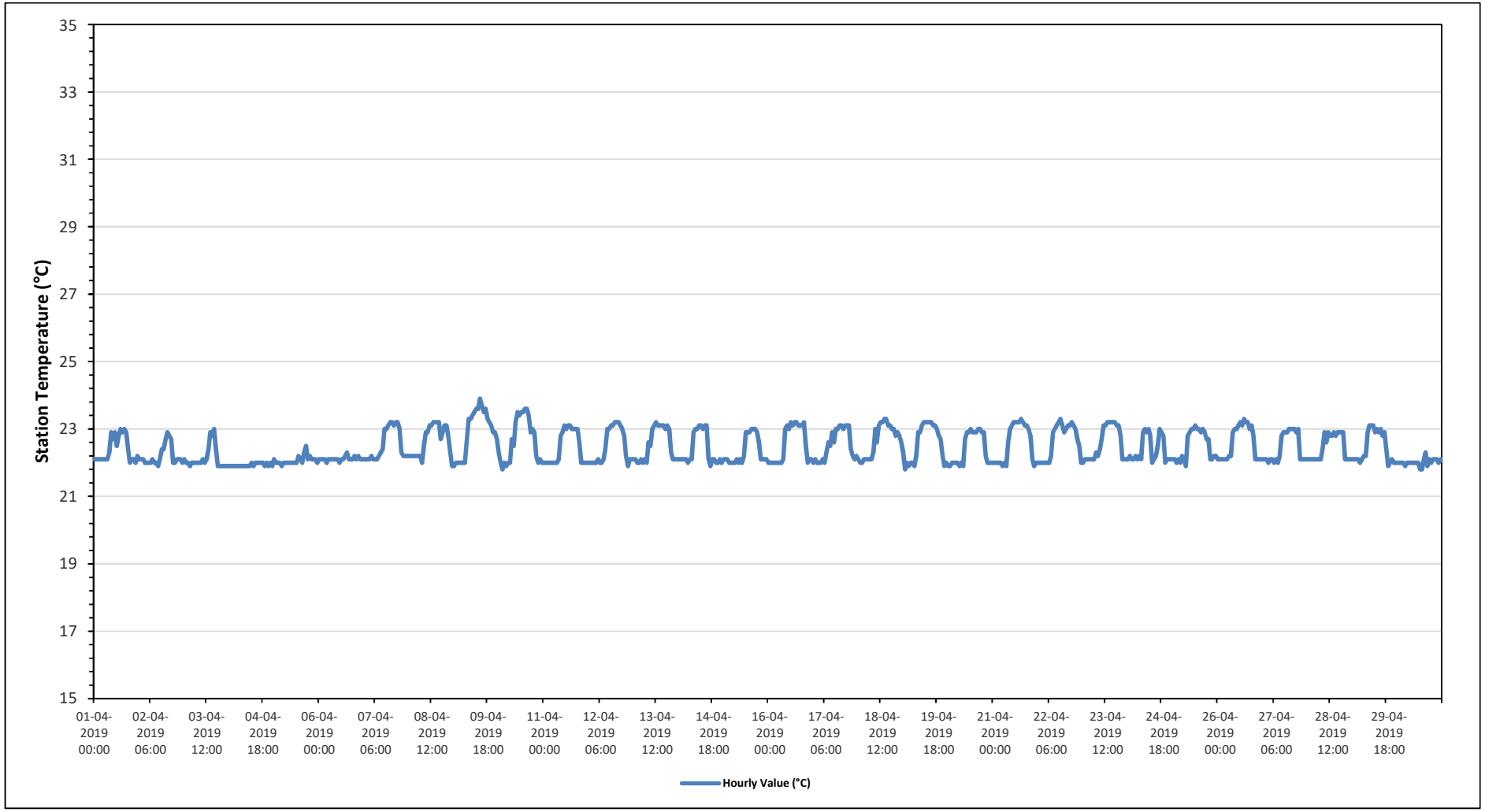
Maximum Hourly Value:	23.9	°C	on April 9 at hour 14	Hours in Service:	720
Maximum Daily Value:	22.9	°C	on April 9	Hours of Data:	720
Minimum Hourly Value:	21.8	°C	on April 10 at hour 2	Hours of Missing Data:	0
Minimum Daily Value:	21.9	°C	on April 4	Hours of Calibration:	0
Monthly Average:	22.4	°C		Operational Uptime:	100.0

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

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

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

Timeseries Chart of Hourly Average for ST - 842b Station



PEACE RIVER AREA MONITORING PROGRAM

842b Station - April 2019

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

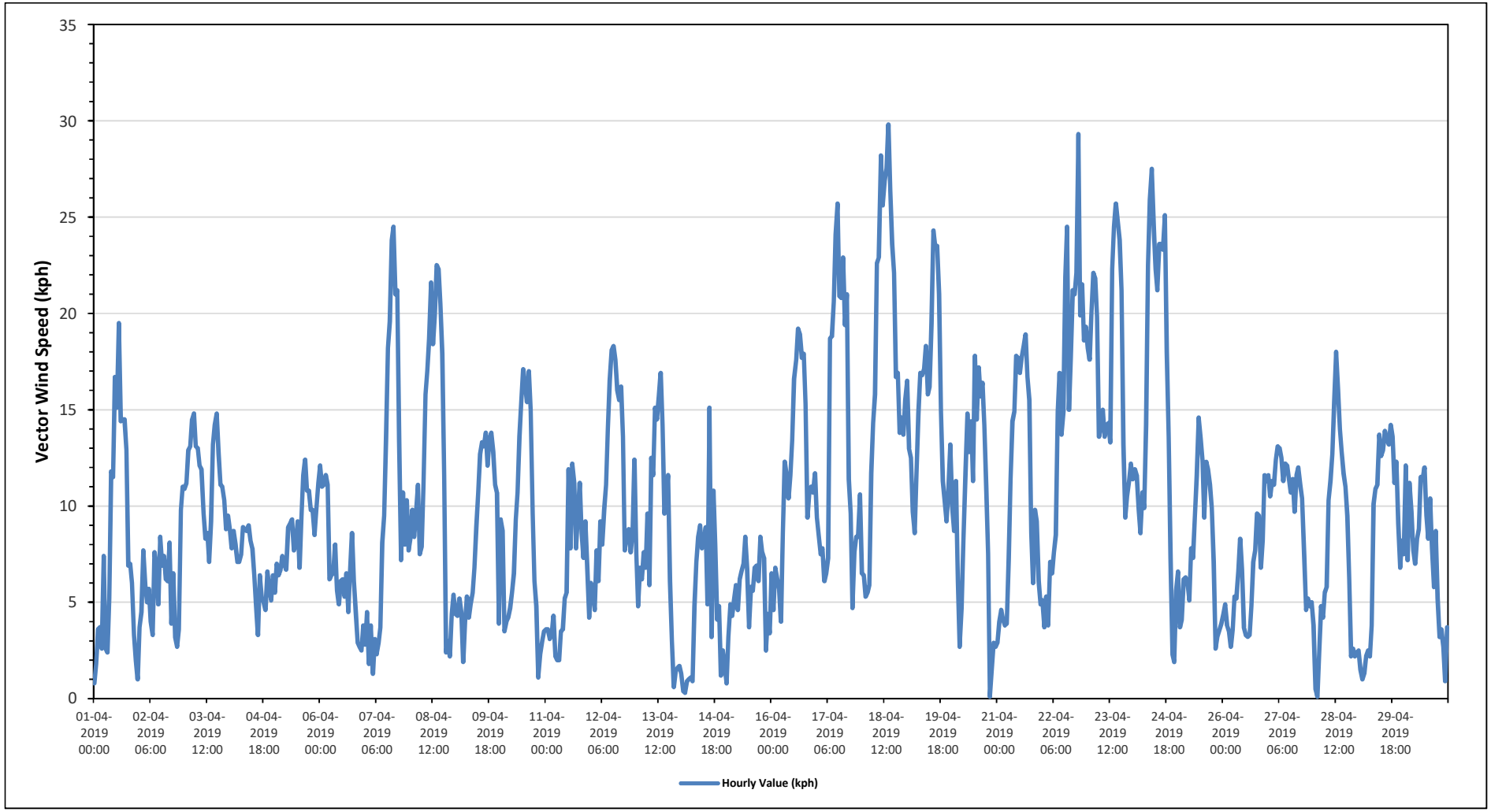
Maximum Hourly Value:	29.8	kph	on April 18 at hour 14	Hours in Service:	720
Maximum Daily Value:	17.4	kph	on April 18	Hours of Data:	720
Minimum Hourly Value:	0.1	kph	on April 20 at hour 2	Hours of Missing Data:	0
Minimum Daily Value:	4.9	kph	on April 14	Hours of Calibration:	0
Monthly Average:	3.5	kph		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
Apr 1	0.8	1.8	3.6	3.7	2.6	7.4	2.6	2.4	5.2	11.8	11.5	16.7	15.1	19.5	14.4	14.5	14.5	12.9	6.9	7	6	3.3	2	1	0.8	19.5	7.8
Apr 2	3.7	4.5	7.7	5.9	5	5.7	4	3.3	7.6	6.8	4.9	8.4	6.9	7.4	6.2	6.1	8.1	3.9	6.5	3.2	2.7	3.6	9.8	11	2.7	11.0	6.0
Apr 3	10.9	11.2	12.9	13.1	14.5	14.8	13.1	13	12.1	11.9	9.6	8.3	8.6	7.1	9.2	13.2	14.2	14.8	12.7	11.1	11	10.3	8.8	9.5	7.1	14.8	11.5
Apr 4	8.8	7.8	8.7	8	7.1	7.1	7.5	8.9	8.8	8.7	9	8.2	7.8	6.4	4.8	3.3	6.4	5.2	5	4.6	6.6	5.7	5.1	6.4	3.3	9.0	6.9
Apr 5	5.5	7	6.4	6.7	7.4	7	6.7	8.9	9.1	9.3	7.7	8	9.2	6.8	9.4	11.6	12.4	10.8	10.8	9.8	9.8	8.5	9.8	11.2	5.5	12.4	8.7
Apr 6	12.1	11	11.1	11.6	11.1	6.2	6.4	6.5	8	5.6	4.9	6.1	6.2	5.3	6.5	4.5	6.7	8.6	6.1	4.5	2.9	2.7	2.5	3.8	2.5	12.1	6.7
Apr 7	2.8	4.5	1.8	3.8	1.3	3.1	2.3	2.9	3.7	8.1	9.5	13.5	18.2	19.6	23.8	24.5	21	21.2	13.4	7.2	10.7	8	10.3	7.7	1.3	24.5	10.1
Apr 8	8.3	9.8	8.4	9.6	11.1	7.5	7.9	11.1	15.8	17	18.7	21.6	18.4	19.9	22.5	22.3	20.5	17.9	11.6	2.4	3	2.2	4.4	5.4	2.2	22.5	12.4
Apr 9	4.4	4.3	5.2	4.5	1.9	4	5.3	4.2	4.9	5.5	6.8	8.9	10.7	12.7	13.3	13.1	13.8	12.1	13.5	13.8	12.8	11.1	10.7	3.9	1.9	13.8	8.4
Apr 10	9.3	8.7	3.5	4	4.2	4.7	5.5	6.5	9.3	10.7	13.6	15.5	17.1	16.3	15.4	17	15	9.6	6.1	4.8	1.1	2.3	3	3.5	1.1	17.1	8.6
Apr 11	3.6	3.6	3.1	3.3	4.3	2.2	2	2	3.5	3.6	5.2	5.5	11.9	7.8	12.2	11.2	7.8	9.5	11.2	8.6	7.3	9.2	6.8	4.2	2.0	12.2	6.2
Apr 12	6	5.6	4.6	7.7	6.1	9.2	8	9.8	11.1	14	16.5	18.1	18.3	17.6	16	15.5	16.2	13.6	7.7	8.6	8.8	7.6	8.6	12.4	4.6	18.3	11.2
Apr 13	7.5	4.8	6.8	6.2	7.6	6.8	9.6	5.9	12.5	11.6	15.1	14.5	15.7	16.9	14.2	9.6	10.4	11.6	6.1	3	0.6	1.4	1.6	1.7	0.6	16.9	8.4
Apr 14	1.3	0.4	0.3	0.9	1	1.1	0.9	4.8	7.1	8.4	9	7.8	8.2	8.9	4.9	15.1	3.2	10.8	8	4.1	4.8	1.2	2.5	1.7	0.3	15.1	**4.9**
Apr 15	0.8	3.2	4.9	4.3	5.1	5.9	4.6	6.2	6.6	7	8.4	6.7	3.7	5.8	5.6	6.8	6.9	6.1	8.4	7.6	7.3	2.5	4.4	3.4	0.8	8.4	5.5
Apr 16	6.5	4.6	6.8	6.2	5.7	4	8.6	12.3	11.6	10.4	11.6	13.4	16.6	17.6	19.2	18.9	17.7	17.9	15.3	9.4	10.7	11	10.7	11.7	4.0	19.2	11.6
Apr 17	9.4	8.5	7.5	7.8	6.1	6.5	7.3	18.7	18.8	20.6	24.1	25.7	20.9	20.8	22.9	19.4	21	11.4	9.6	4.7	7.6	8.4	8.4	10.6	4.7	25.7	13.6
Apr 18	6.5	6.4	5.3	5.5	5.9	11.7	14.3	15.8	22.6	22.9	28.2	25.6	26.9	27.5	**29.8**	26.4	23.6	22.1	16.7	16.9	13.8	14.6	13.7	15.5	5.3	**29.8**	**17.4**
Apr 19	16.5	13	12.5	9.7	8.6	11.7	14.8	16.9	16.8	17.1	18.3	15.8	16.2	19.5	24.3	23.4	23.5	21	14.9	11.3	10.2	9.2	10.8	13.2	8.6	24.3	15.4
Apr 20	10	8.7	11.3	6.1	2.7	4.7	8.2	11.8	14.8	12.8	14.4	11.3	17.8	14.5	17.2	15.7	16.4	14.2	11	7.5	**0.1**	1.6	2.9	2.7	**0.1**	17.8	9.9
Apr 21	2.9	4	4.6	4.1	3.8	3.9	7.2	11.4	14.4	14.9	17.8	17.7	16.9	17.8	18.3	18.9	16.7	15.5	8.6	6	9.8	9.2	6.1	4.9	2.9	18.9	10.6
Apr 22	5.1	3.7	5.3	3.8	7.1	6.5	7.6	8.5	14.9	16.9	13.7	14.9	21.9	24.5	15	17.7	21.2	21	22.1	29.3	19.9	21.5	18.6	19.3	3.7	29.3	15.0
Apr 23	18.2	17.6	20.1	22.1	21.8	19.8	13.6	14.1	15	13.6	14.2	14.3	13.3	22.3	24.5	25.7	24.8	23.8	21.2	13.2	9.4	10.5	11.3	12.2	9.4	25.7	17.4
Apr 24	11.4	11.9	11.6	9.8	8.6	10.7	9.9	14.2	22.5	25.9	27.5	24.6	22.3	21.2	23.6	23.6	23.3	25.1	18	13.6	7.3	2.3	1.9	5.6	1.9	27.5	15.7
Apr 25	6.6	3.7	4.1	6.2	6.3	6.1	5.1	7.8	7.3	9.5	11.6	14.6	13.5	12.4	9.4	12.3	11.9	11.1	9.9	7.1	2.6	3.2	3.6	3.9	2.6	14.6	7.9
Apr 26	4.4	4.9	3.8	3.5	2.7	3.6	5.3	5.2	6.6	8.3	6.7	3.7	3.3	3.2	3.3	4.8	7.1	7.7	9.6	9.5	6.8	8.2	11.6	11.3	2.7	11.6	6.0
Apr 27	11.6	10.5	11.3	11.1	12.4	13.1	13	12.5	11.3	12.2	12.1	11.4	10.7	11.4	9.7	11.6	12	11.1	10.4	7.4	4.6	5.2	4.8	5	4.6	13.1	10.3
Apr 28	3.8	0.5	**0.1**	2.4	4.8	4.2	5.5	5.8	10.3	11.3	12.7	15.4	18	16	14	12.8	11.7	11	9.5	6.2	2.2	2.6	2.2	2.4	**0.1**	18.0	7.7
Apr 29	2.5	1.5	1	1.3	2.2	2.5	2.2	3.8	10.1	10.9	11.1	13.7	12.6	12.9	13.9	13.5	13.2	14.2	13.6	11.2	12.3	9.1	6.8	8.2	1.0	14.2	8.5
Apr 30	7.5	12.1	7.2	11.2	9.7	7.7	7	8.3	8.8	11.5	11.4	12	9.5	8.3	10.4	7.8	5.8	8.7	5.2	3.2	3.6	2.7	0.9	3.7	0.9	12.1	7.7
Diurnal Maximum	18	18	20	22	22	20	15	19	23	26	28	26	27	28	30	26	25	25	22	29	20	22	19	19			
Daiurnal Average	7.0	6.7	6.7	6.8	6.6	7.0	7.2	8.8	11.0	12.0	12.9	13.4	13.9	14.3	14.5	14.7	14.2	13.5	11.0	8.6	7.2	6.6	6.8	7.2			

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

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

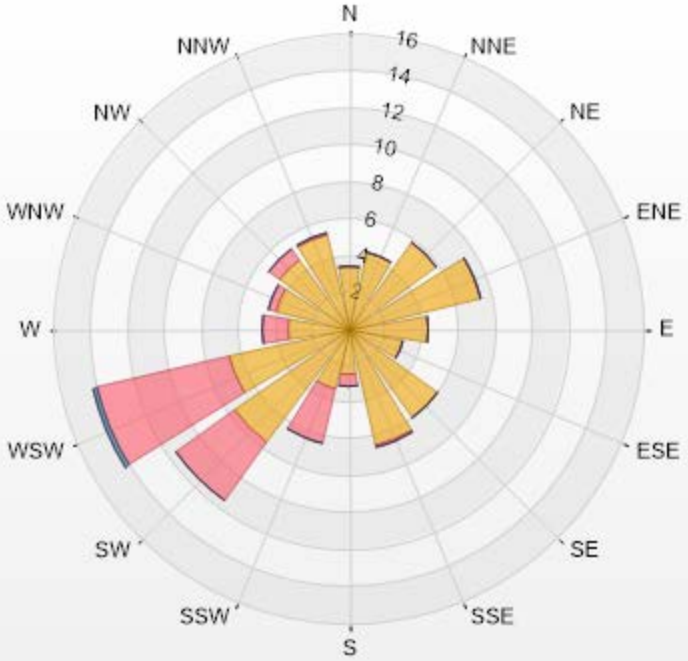
Timeseries Chart of Hourly Average for VWS - 842b Station



Wind: PRAMP 842 Poll.: PRAMP 842-WDS[KPH] Monthly: 04-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 3.61% Valid Data: 100.00% Calm Avg: 1.02 [KPH]

Direction	6-15	15-29	29-39	>39.0	Total
N	3.47	0	0	0	3.47
NNE	4.31	0	0	0	4.31
NE	5.83	0	0	0	5.83
ENE	7.36	0	0	0	7.36
E	4.31	0	0	0	4.31
ESE	3.06	0	0	0	3.06
SE	5.97	0	0	0	5.97
SSE	6.53	0.14	0	0	6.67
S	2.5	0.69	0	0	3.19
SSW	3.33	3.06	0	0	6.39
SW	7.64	3.89	0	0	11.53
WSW	6.67	7.36	0.28	0	14.31
W	3.33	1.39	0	0	4.72
WNW	4.03	0.42	0	0	4.45
NW	4.58	0.83	0	0	5.41
NNW	5.28	0.14	0	0	5.42
Summary	78.2	17.92	0.28	0	96.4

PRAMP 842 Poll.: PRAMP 842-WDS[KPH] 01-04-2019 00:00 - 30-04-2019 23:00 Calm: 3.61% Calm Poll Avg: 1.02[KPH]



% Icon Classes (KPH)	78 6-15	18 15-29	0 29-39	0 >39.0

PEACE RIVER AREA MONITORING PROGRAM

842b Station - April 2019

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

Monthly Average: 241 (WSW) degree

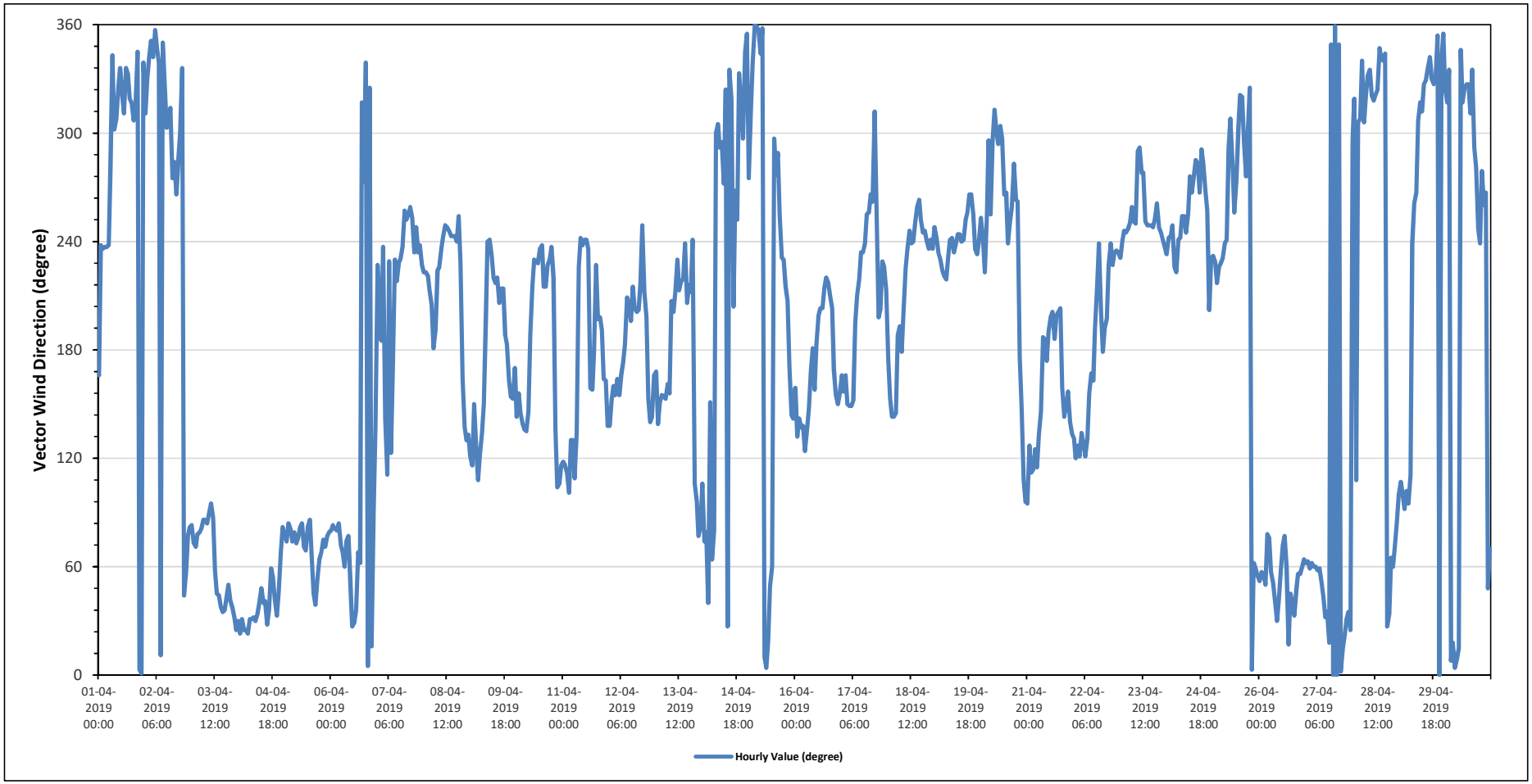
Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Hours of Calibration:	0
Operational Uptime:	100.0

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
Apr 1	SSE	SW	SW	SW	SW	SW	W	NNW	WNW	NW	NW	NNW	NW	NW	NNW	NNW	NW	NW	NW	NW	NNW	N	N	NNW	316	NW
Apr 2	NW	NNW	NNW	N	NNW	N	NNW	NNW	NNE	N	NNW	WNW	WNW	NW	W	WNW	W	W	WNW	NNW	NE	ENE	ENE	E	336	NNW
Apr 3	E	ENE	ENE	ENE	ENE	E	E	E	E	E	E	E	ENE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NNE	NNE	62	ENE
Apr 4	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NE	NE	NE	NE	NE	NNE	NE	ENE	NE	NE	NNE	NE	ENE	E	37	NE
Apr 5	ENE	ENE	E	E	ENE	ENE	ENE	ENE	E	E	ENE	ENE	E	E	ENE	NE	NE	NE	ENE	ENE	ENE	ENE	ENE	ENE	71	ENE
Apr 6	E	E	E	E	E	ENE	ENE	ENE	ENE	ENE	NE	NNE	NNE	NE	ENE	ENE	NW	W	NNW	N	NW	NNE	E	SE	59	ENE
Apr 7	SW	SSW	S	SW	SE	ESE	SW	ESE	SSE	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	SW	WSW	SW	SW	SW	240	WSW
Apr 8	SW	SW	SW	SSW	SSW	S	S	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SSE	SE	SE	SE	232	SW
Apr 9	ESE	ESE	SSE	SE	ESE	ESE	SE	SSE	SSW	WSW	WSW	SW	SW	SW	SW	SSW	SSW	SSW	S	S	SSE	SSE	SSE	SSE	189	S
Apr 10	SE	SSE	SE	SE	SE	SE	SE	S	SSW	SW	SW	SW	SW	SW	SSW	SSW	SW	SW	SW	SW	SE	ESE	ESE	ESE	208	SSW
Apr 11	ESE	ESE	ESE	E	SE	SE	ESE	SE	SW	WSW	SW	WSW	WSW	SW	SSE	SSE	S	SW	SSW	SSW	S	SSE	SSE	SE	185	S
Apr 12	SE	SSE	SSE	SSE	SSE	SSE	SSE	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	WSW	SSW	SSW	SSE	SE	SE	SSE	190	S
Apr 13	SSE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SSW	SSW	SSW	SW	SSW	SW	SW	WSW	SSW	SW	SSW	WSW	ESE	E	ENE	E	199	SSW
Apr 14	ESE	ENE	ENE	NE	SSE	ENE	E	WNW	WNW	WNW	WNW	W	NW	NNE	NNW	NW	SSW	W	WSW	NNW	NW	WNW	NNW	N	306	NW
Apr 15	W	NW	NNW	N	N	N	NNW	N	N	N	NNE	NE	ENE	WNW	W	WNW	WSW	SW	SW	SSW	SSW	S	SE	SE	316	NW
Apr 16	SSE	SE	SE	SE	SE	ESE	SE	SE	SSE	S	SSE	S	SSW	SSW	SSW	SSW	SW	SW	SSW	SSW	SSE	SSE	SSE	SSE	182	S
Apr 17	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSW	SSW	SW	SW	SW	WSW	WSW	WSW	W	W	NW	WSW	SSW	SSW	SW	SW	SSW	226	SW
Apr 18	S	SSE	SE	SE	SE	S	S	S	SSW	SW	SW	WSW	WSW	WSW	WSW	WSW	W	WSW	WSW	WSW	WSW	SW	WSW	SW	232	SW
Apr 19	WSW	WSW	SW	SW	SW	SW	SW	SW	WSW	WSW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	WSW	SW	SW	WSW	242	WSW
Apr 20	WSW	WSW	SW	WSW	WNW	WSW	WNW	NW	WNW	WNW	WNW	WNW	W	W	WSW	WSW	WSW	W	W	W	S	SSE	ESE	E	270	W
Apr 21	E	SE	ESE	ESE	SE	ESE	SE	SE	S	S	S	S	SSW	SSW	S	SSW	SSW	SSW	SSE	SE	SE	SSE	SE	SE	175	S
Apr 22	SE	ESE	SE	ESE	SE	SE	ESE	SE	SSE	SSE	SSE	S	SSW	WSW	SSW	S	S	SSW	SW	WSW	SW	SW	SW	SW	201	SSW
Apr 23	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WNW	WNW	W	W	WSW	WSW	WSW	WSW	WSW	WSW	W	WSW	WSW	WSW	SW	252	WSW
Apr 24	SW	WSW	WSW	WSW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	WNW	W	W	WNW	W	W	WSW	SSW	SW	260	WSW
Apr 25	SW	SW	SW	SW	SW	SW	WSW	WSW	WNW	NW	WNW	WSW	W	WNW	NW	NW	WNW	W	WNW	NW	N	ENE	ENE	NE	282	W
Apr 26	NE	ENE	NE	NE	ENE	ENE	ENE	NE	NE	NNE	NE	ENE	ENE	ENE	ENE	NNE	NE	NE	NNE	NE	NE	NE	ENE	ENE	51	NE
Apr 27	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	NE	NE	NNE	NE	NNE	NNW	N	N	N	NNW	N	NNE	NNE	NNE	NE	NNE	34	NE
Apr 28	WNW	NW	ESE	NW	NW	NNW	NW	NW	NNW	NNW	NW	NW	NW	NW	NNW	NNW	NNW	NNW	NNE	NE	ENE	ENE	ENE	E	336	NNW
Apr 29	E	ESE	E	E	E	E	ESE	WSW	W	W	NW	NW	NW	NW	NNW	NNW	NNW	NW	NNW	NNW	N	N	NNW	N	327	NW
Apr 30	NW	NW	NNW	N	NNE	N	N	NNE	NNW	NW	NW	NW	NW	NW	NNW	WNW	W	WSW	WSW	W	WSW	W	NE	ENE	328	NNW

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

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

Timeseries Chart of Hourly Average for VWD - 842b Station



RENO STATION

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - April 2019

Summary of Hourly Averages

SULPHUR DIOXIDE (SO_2) in ppb

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

Number of 1-Hour Exceedences: 0 Number of 24-Hour Exceedences: 0 30-Day Exceedence: 0

Maximum Hourly Value:	1	ppb	on April 1 at hour 6	Hours in Service:	720
Maximum Daily Value:	0.8	ppb	on April 14	Hours of Data:	681
Minimum Hourly Value:	0	ppb	on April 1 at hour 1	Hours of Missing Data:	1
Minimum Daily Value:	0.0	ppb	on April 18	Hours of Calibration:	38
Monthly Average:	0.2	ppb		Operational Uptime:	99.9

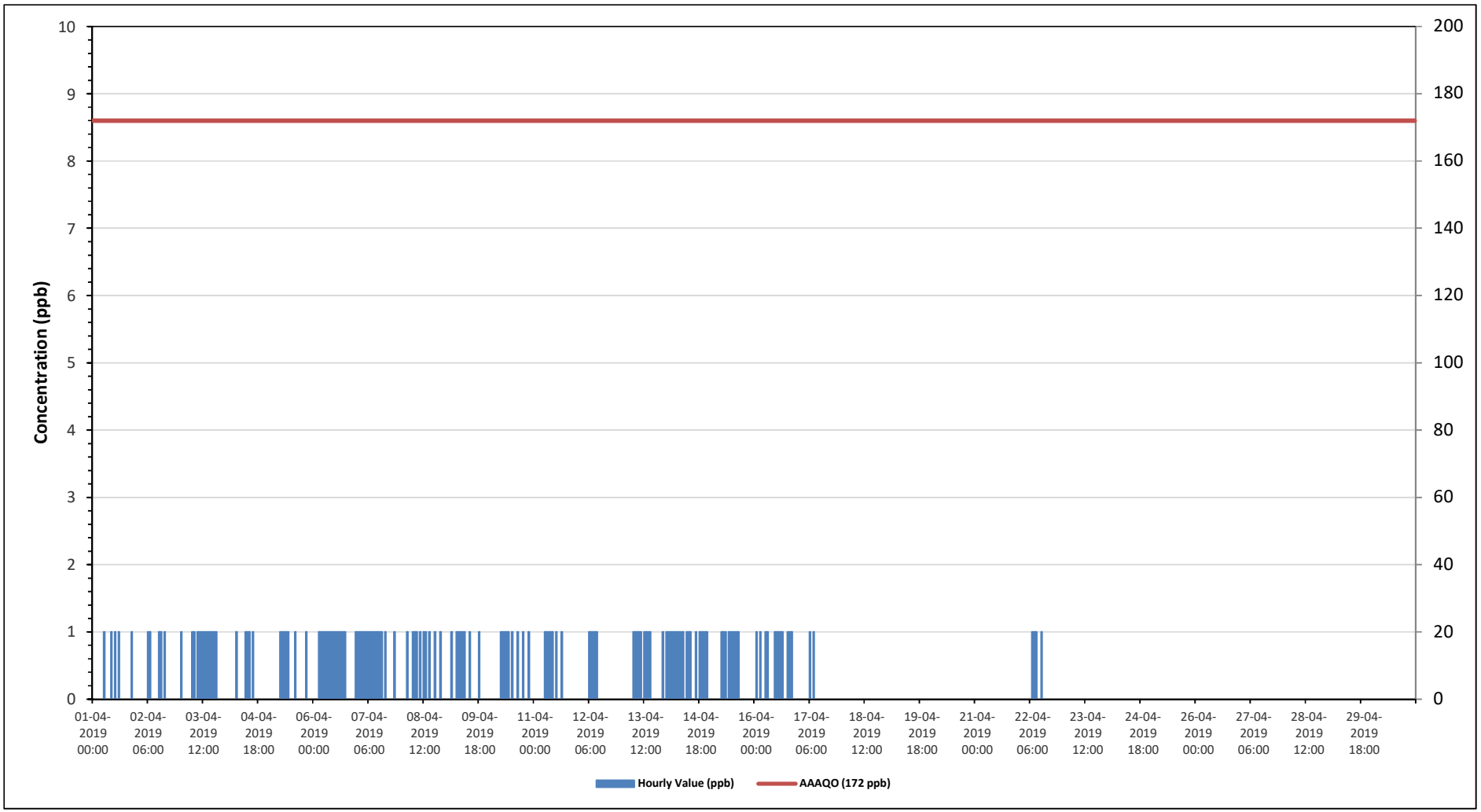
Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Apr 1	S	0	0	0	0	0	1	0	0	0	1	0	1	0	1	0	0	0	0	0	0	1	0	S	0	1	0.2
Apr 2	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	1	0	0	0	0	0	0	S	0	0	1	0.2
Apr 3	1	0	0	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	S	0	0	0	1	0.6
Apr 4	0	0	0	0	0	0	1	0	0	0	0	1	1	1	0	1	0	0	0	0	S	0	0	0	0	1	0.2
Apr 5	0	0	0	0	0	0	1	1	1	1	1	0	0	0	1	0	0	0	0	S	1	0	0	0	0	1	0.3
Apr 6	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	0	0	0	0	1	0	1	0.7
Apr 7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	S	0	0	1	0	0	0	0	1	0.7
Apr 8	0	0	0	1	0	0	1	1	1	0	1	0	1	1	0	1	S	0	1	0	0	1	0	0	0	1	0.4
Apr 9	0	0	0	1	0	0	1	1	1	1	1	0	0	1	0	S	0	0	1	0	0	0	0	0	0	1	0.3
Apr 10	0	0	0	0	0	0	1	1	1	1	1	0	1	0	S	1	0	0	1	0	0	1	0	0	0	1	0.4
Apr 11	0	0	0	0	0	0	1	1	1	1	1	0	1	S	0	1	0	0	0	0	0	0	0	0	0	1	0.3
Apr 12	0	0	0	0	0	0	1	1	1	1	1	0	S	S1	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Apr 13	0	0	0	0	0	0	1	1	1	1	1	S	1	1	1	1	0	0	0	0	0	0	1	0	0	1	0.4
Apr 14	1	1	1	1	1	1	1	1	1	1	S	1	1	1	0	0	1	0	1	1	1	1	1	0	0	1	**0.8**
Apr 15	0	0	0	0	0	0	1	1	1	S	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0.4
Apr 16	0	1	0	1	0	0	1	1	S	0	0	1	1	1	1	1	0	0	1	1	1	0	0	0	0	1	0.5
Apr 17	0	0	0	0	0	0	1	S	1	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	1	-
Apr 18	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Apr 19	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
Apr 20	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
Apr 21	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
Apr 22	0	0	S	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Apr 23	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
Apr 24	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
Apr 25	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
Apr 26	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
Apr 27	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
Apr 28	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
Apr 29	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
Apr 30	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
Diurnal Maximum	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
Daiurnal Average	0.1	0.1	0.1	0.2	0.1	0.1	0.6	0.5	0.4	0.4	0.4	0.3	0.5	0.4	0.3	0.4	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0			

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

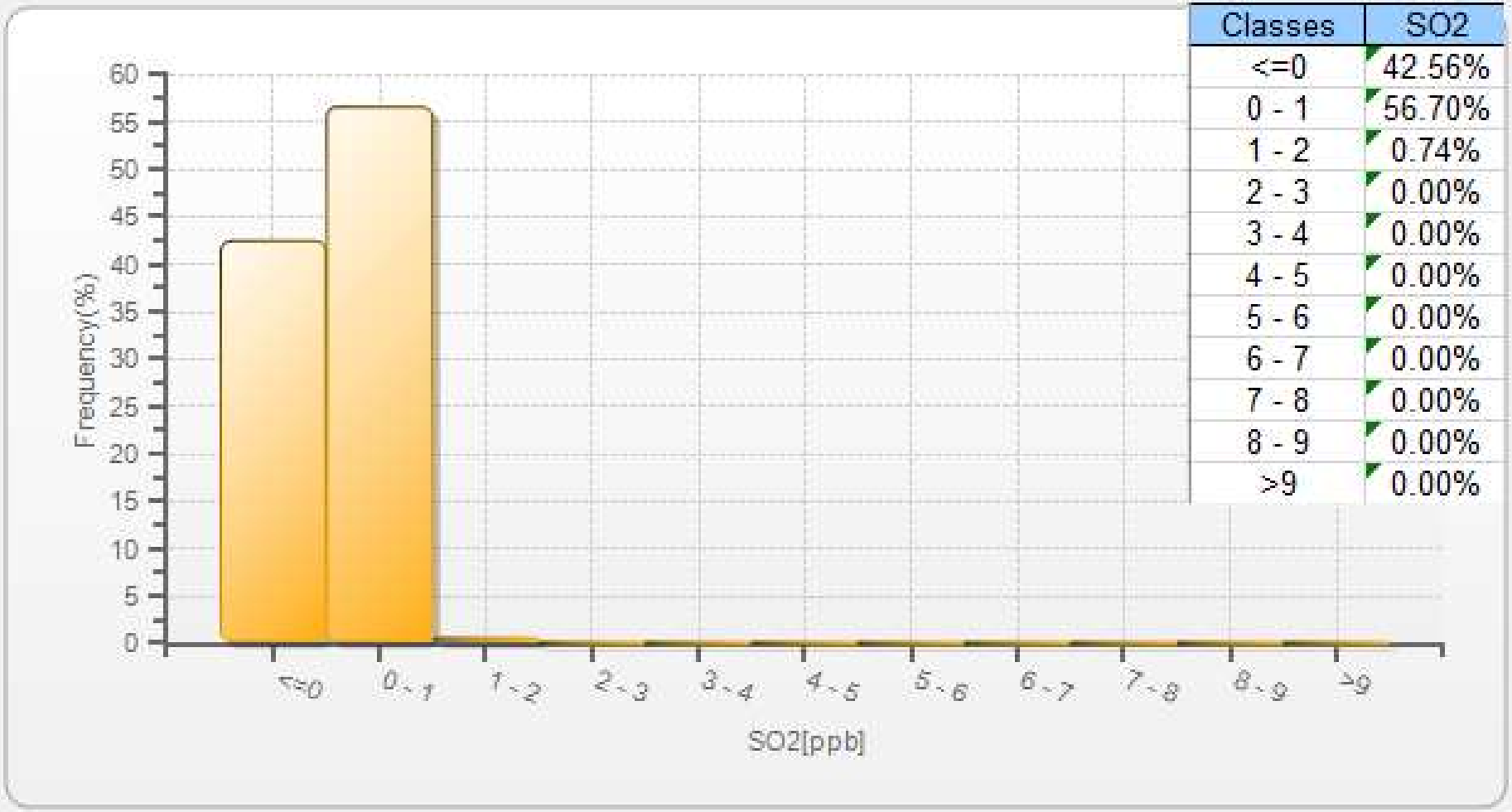
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

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

Timeseries Chart of Hourly Average for SO2 - Reno Site



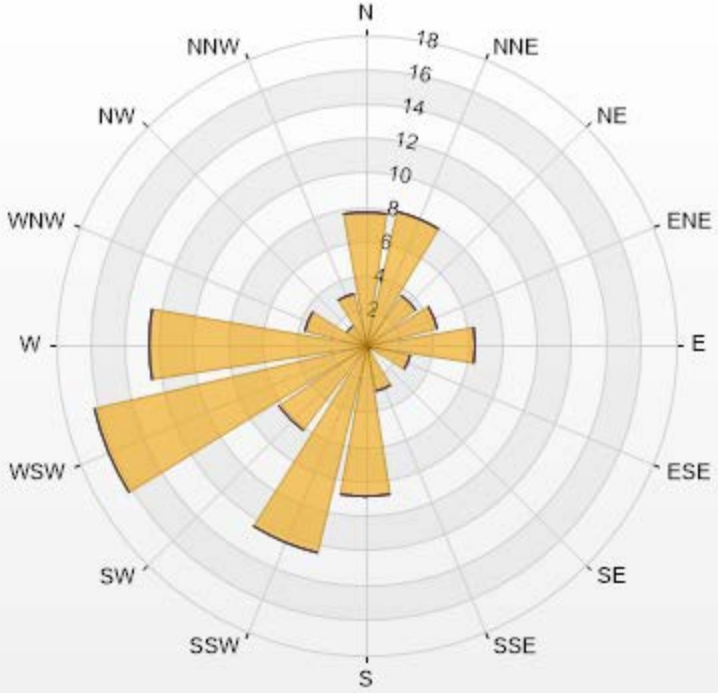
SO2[ppb] Histogram: PRAMP RENO Monthly: 04-2019 1 Hr.



Wind: PRAMP RENO Poll.: PRAMP RENO-SO2[ppb] Monthly: 04-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.03% Calm Avg: 0.00 [ppb]

Direction	10-50	50-100	100-172	>172.0	Total
N	7.68	0	0	0	7.68
NNE	7.98	0	0	0	7.98
NE	3.55	0	0	0	3.55
ENE	4.28	0	0	0	4.28
E	6.35	0	0	0	6.35
ESE	2.66	0	0	0	2.66
SE	0.3	0	0	0	0.3
SSE	2.81	0	0	0	2.81
S	8.86	0	0	0	8.86
SSW	12.41	0	0	0	12.41
SW	6.2	0	0	0	6.2
WSW	16.25	0	0	0	16.25
W	12.56	0	0	0	12.56
WNW	3.69	0	0	0	3.69
NW	1.33	0	0	0	1.33
NNW	3.1	0	0	0	3.1
Summary	100	0	0	0	100

PRAMP RENO Poll.: PRAMP RENO-SO2[ppb] 01-04-2019 00:00 - 30-04-2019 23:00 Calm: 0.00%



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

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - April 2019

Summary of Hourly Averages

TOTAL REDUCED SULPHUR (TRS) in ppb

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

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

Maximum Hourly Value:	1.36	ppb	on April 22 at hour 19	Hours in Service:	720
Maximum Daily Value:	0.53	ppb	on April 22	Hours of Data:	680
Minimum Hourly Value:	0.24	ppb	on April 17 at hour 20	Hours of Missing Data:	1
Minimum Daily Value:	0.31	ppb	on April 1	Hours of Calibration:	39
Monthly Average:	0.37	ppb		Operational Uptime:	99.9

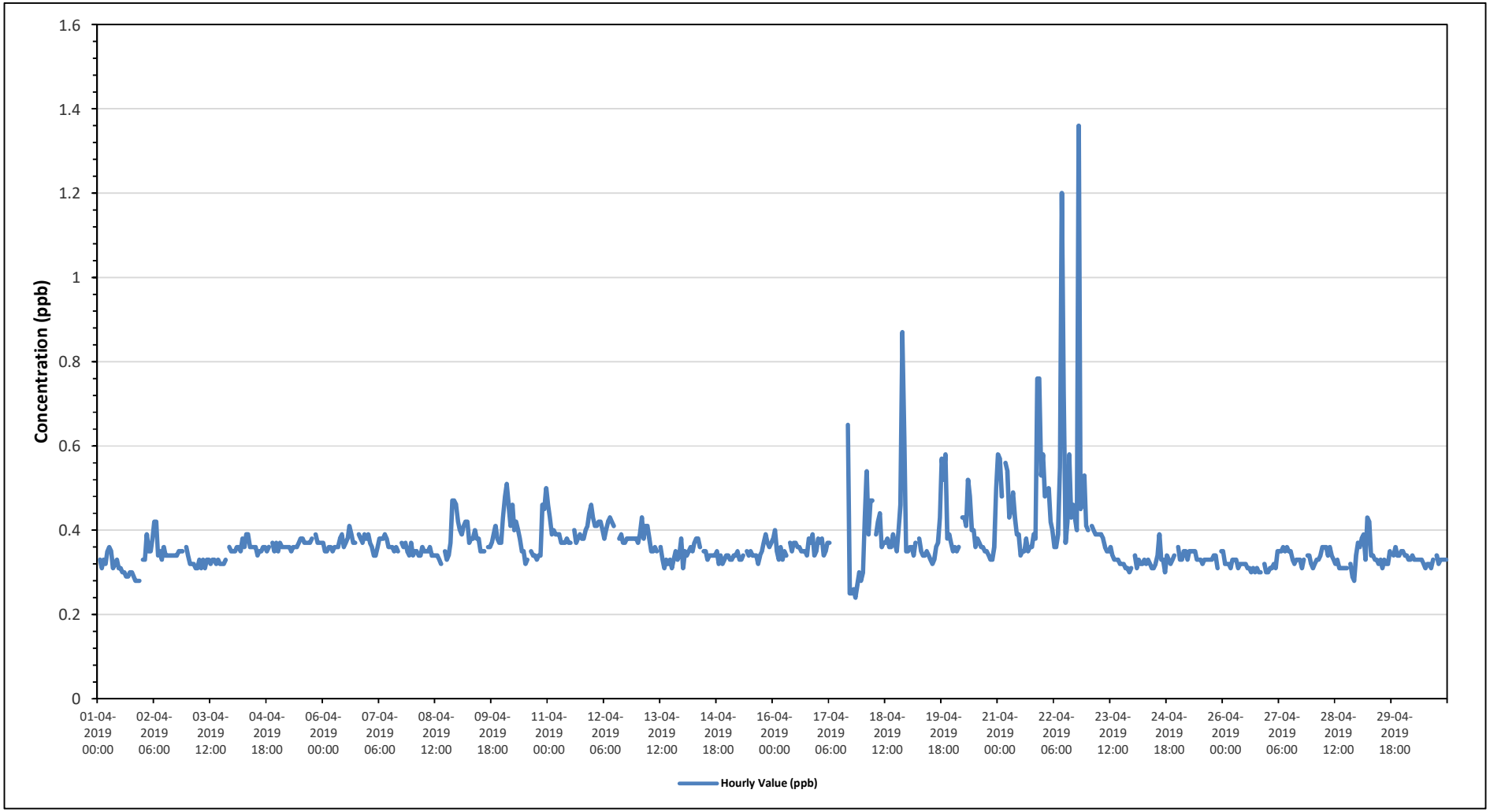
Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	S	0.33	0.31	0.33	0.32	0.35	0.36	0.35	0.31	0.32	0.33	0.31	0.31	0.3	0.3	0.29	0.29	0.3	0.3	0.29	0.28	0.28	0.28	S	0.28	0.36	0.31
Apr 2	0.33	0.33	0.39	0.35	0.35	0.38	0.42	0.42	0.34	0.35	0.33	0.36	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.35	0.35	0.35	S	0.36	0.33	0.42	0.35
Apr 3	0.34	0.32	0.32	0.32	0.31	0.31	0.33	0.31	0.33	0.31	0.33	0.33	0.32	0.33	0.33	0.32	0.33	0.32	0.32	0.32	0.33	S	0.36	0.35	0.31	0.36	0.33
Apr 4	0.35	0.35	0.36	0.36	0.35	0.38	0.36	0.39	0.39	0.36	0.36	0.36	0.36	0.34	0.35	0.35	0.36	0.36	0.35	0.36	S	0.37	0.35	0.37	0.34	0.39	0.36
Apr 5	0.35	0.37	0.36	0.36	0.36	0.36	0.36	0.35	0.36	0.36	0.36	0.37	0.38	0.38	0.37	0.37	0.37	0.37	0.38	S	0.39	0.37	0.37	0.37	0.35	0.39	0.37
Apr 6	0.37	0.35	0.35	0.36	0.36	0.35	0.36	0.36	0.36	0.38	0.39	0.36	0.37	0.38	0.41	0.39	0.37	0.37	S	0.39	0.38	0.37	0.39	0.38	0.35	0.41	0.37
Apr 7	0.39	0.37	0.36	0.34	0.34	0.36	0.38	0.38	0.38	0.39	0.38	0.36	0.36	0.36	0.35	0.36	0.35	S	0.37	0.36	0.37	0.35	0.34	0.37	0.34	0.39	0.36
Apr 8	0.34	0.35	0.35	0.34	0.34	0.36	0.35	0.35	0.35	0.36	0.34	0.34	0.34	0.34	0.33	0.32	S	0.35	0.33	0.34	0.37	0.47	0.47	0.46	0.32	0.47	0.36
Apr 9	0.42	0.4	0.39	0.41	0.42	0.42	0.37	0.38	0.38	0.4	0.38	0.38	0.35	0.35	0.35	S	0.36	0.36	0.37	0.39	0.41	0.38	0.37	0.37	0.35	0.42	0.38
Apr 10	0.43	0.48	0.51	0.46	0.41	0.46	0.4	0.42	0.4	0.38	0.35	0.35	0.32	0.33	S	0.35	0.34	0.34	0.33	0.34	0.34	0.46	0.45	0.5	0.32	0.51	0.40
Apr 11	0.46	0.43	0.39	0.4	0.39	0.39	0.39	0.37	0.37	0.37	0.38	0.37	0.37	S	0.4	0.37	0.38	0.39	0.38	0.38	0.4	0.41	0.44	0.46	0.37	0.46	0.40
Apr 12	0.43	0.41	0.41	0.42	0.42	0.4	0.38	0.4	0.42	0.43	0.42	0.41	S	S1	0.38	0.39	0.37	0.37	0.38	0.38	0.38	0.38	0.38	0.38	0.37	0.43	0.40
Apr 13	0.37	0.39	0.43	0.38	0.41	0.41	0.38	0.35	0.35	0.36	0.35	S	0.36	0.33	0.31	0.33	0.32	0.33	0.31	0.33	0.35	0.33	0.34	0.38	0.31	0.43	0.36
Apr 14	0.31	0.35	0.34	0.35	0.36	0.35	0.37	0.38	0.38	0.36	S	0.35	0.35	0.33	0.34	0.34	0.34	0.34	0.35	0.32	0.34	0.32	0.33	0.34	0.31	0.38	0.35
Apr 15	0.34	0.33	0.33	0.34	0.34	0.35	0.33	0.33	0.34	S	0.35	0.34	0.35	0.34	0.34	0.34	0.32	0.34	0.35	0.37	0.39	0.37	0.36	0.37	0.32	0.39	0.35
Apr 16	0.38	0.4	0.35	0.33	0.36	0.33	0.35	0.34	S	0.37	0.35	0.37	0.37	0.36	0.36	0.35	0.35	0.35	0.34	0.38	0.37	0.39	0.34	0.35	0.33	0.40	0.36
Apr 17	0.38	0.37	0.38	0.34	0.35	0.37	0.37	S	0.34	C	C	C	C	C	C	C	0.65	0.25	0.25	0.26	**0.24**	0.27	0.3	0.28	**0.24**	0.65	-
Apr 18	0.3	0.43	0.54	0.39	0.47	0.47	S	0.39	0.42	0.44	0.36	0.37	0.37	0.38	0.36	0.36	0.39	0.37	0.35	0.4	0.46	0.87	0.62	0.35	0.30	0.87	0.43
Apr 19	0.35	0.36	0.36	0.34	0.37	S	0.38	0.35	0.34	0.34	0.35	0.34	0.33	0.32	0.33	0.36	0.37	0.43	0.57	0.52	0.58	0.38	0.39	0.37	0.32	0.58	0.38
Apr 20	0.35	0.36	0.35	0.36	S	0.43	0.43	0.41	0.52	0.48	0.4	0.4	0.36	0.38	0.37	0.36	0.36	0.35	0.35	0.34	0.33	0.33	0.36	0.5	0.33	0.52	0.39
Apr 21	0.58	0.57	0.48	S	0.56	0.54	0.43	0.45	0.49	0.43	0.39	0.39	0.34	0.35	0.35	0.38	0.35	0.36	0.36	0.39	0.38	0.76	0.76	0.53	0.34	0.76	0.46
Apr 22	0.58	0.48	S	0.5	0.42	0.4	0.36	0.36	0.39	0.55	1.2	0.73	0.37	0.42	0.58	0.43	0.46	0.43	0.4	**1.36**	0.45	0.46	0.53	0.41	0.36	**1.36**	**0.53**
Apr 23	0.4	S	0.41	0.4	0.39	0.39	0.39	0.39	0.38	0.36	0.35	0.35	0.36	0.34	0.33	0.33	0.33	0.32	0.32	0.32	0.31	0.31	0.3	0.31	0.30	0.41	0.35
Apr 24	S	0.34	0.31	0.33	0.32	0.32	0.33	0.32	0.33	0.32	0.31	0.31	0.32	0.34	0.39	0.33	0.33	0.3	0.34	0.33	0.32	0.33	0.34	S	0.30	0.39	0.33
Apr 25	0.36	0.33	0.33	0.35	0.35	0.33	0.35	0.35	0.35	0.35	0.33	0.33	0.33	0.32	0.33	0.33	0.33	0.33	0.33	0.33	0.34	0.34	0.31	S	0.31	0.36	0.34
Apr 26	0.35	0.32	0.32	0.32	0.31	0.33	0.33	0.33	0.31	0.32	0.32	0.32	0.32	0.31	0.31	0.3	0.31	0.3	0.31	0.3	0.3	S	0.32	0.3	0.30	0.35	0.32
Apr 27	0.3	0.31	0.31	0.32	0.31	0.35	0.35	0.35	0.36	0.35	0.36	0.35	0.35	0.33	0.32	0.33	0.33	0.33	0.31	0.33	S	0.34	0.34	0.32	0.30	0.36	0.33
Apr 28	0.31	0.32	0.33	0.33	0.34	0.36	0.36	0.36	0.34	0.36	0.34	0.33	0.32	0.33	0.31	0.31	0.31	0.31	0.31	S	0.32	0.29	0.28	0.34	0.28	0.36	0.33
Apr 29	0.37	0.36	0.38	0.39	0.33	0.43	0.42	0.34	0.34	0.33	0.33	0.32	0.33	0.31	0.33	0.32	0.32	0.35	S	0.34	0.36	0.34	0.34	0.35	0.31	0.43	0.35
Apr 30	0.35	0.34	0.34	0.33	0.33	0.34	0.33	0.33	0.33	0.33	0.33	0.32	0.31	0.32	0.32	0.31	0.33	S	0.34	0.32	0.33	0.33	0.33	0.33	0.31	0.35	0.33
Diurnal Maximum	0.58	0.57	0.54	0.50	0.56	0.54	0.43	0.45	0.52	0.55	1.20	0.73	0.38	0.42	0.58	0.43	0.65	0.43	0.57	1.36	0.58	0.87	0.76	0.53			
Daiurnal Average	0.38	0.37	0.37	0.36	0.37	0.38	0.37	0.37	0.37	0.37	0.38	0.37	0.35	0.34	0.35	0.35	0.36	0.35	0.35	0.39	0.36	0.39	0.39	0.38			

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

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

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

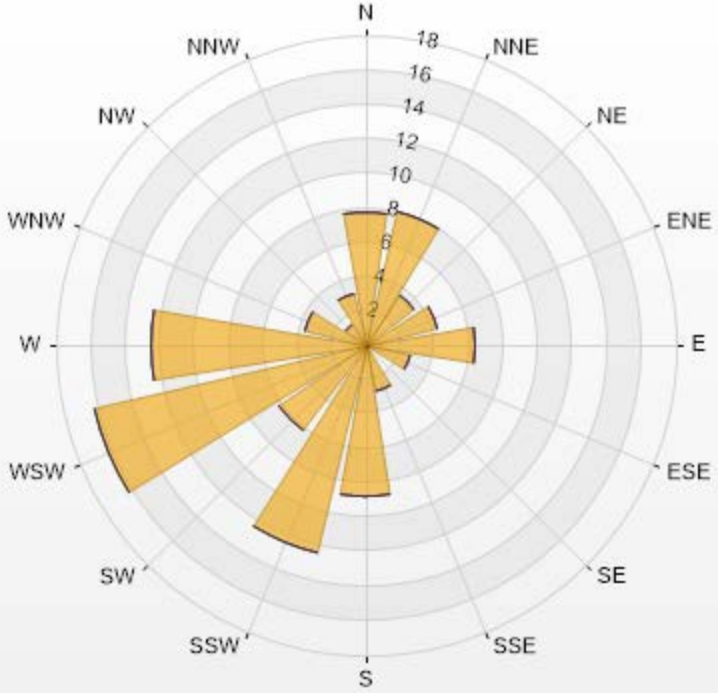
Timeseries Chart of Hourly Average for TRS - Reno Site



Wind: PRAMP RENO Poll.: PRAMP RENO-TRS[ppb] Monthly: 04-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.17% Calm Avg: 0.00 [ppb]

Direction	2-5	5-10	10-50	>50.0	Total
N	7.67	0	0	0	7.67
NNE	7.96	0	0	0	7.96
NE	3.54	0	0	0	3.54
ENE	4.28	0	0	0	4.28
E	6.34	0	0	0	6.34
ESE	2.65	0	0	0	2.65
SE	0.29	0	0	0	0.29
SSE	2.8	0	0	0	2.8
S	8.85	0	0	0	8.85
SSW	12.39	0	0	0	12.39
SW	6.19	0	0	0	6.19
WSW	16.22	0	0	0	16.22
W	12.54	0	0	0	12.54
WNW	3.69	0	0	0	3.69
NW	1.47	0	0	0	1.47
NNW	3.1	0	0	0	3.1
Summary	100	0	0	0	100

PRAMP RENO Poll.: PRAMP RENO-TRS[ppb] 01-04-2019 00:00 - 30-04-2019 23:00 Calm: 0.00%



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

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - April 2019

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

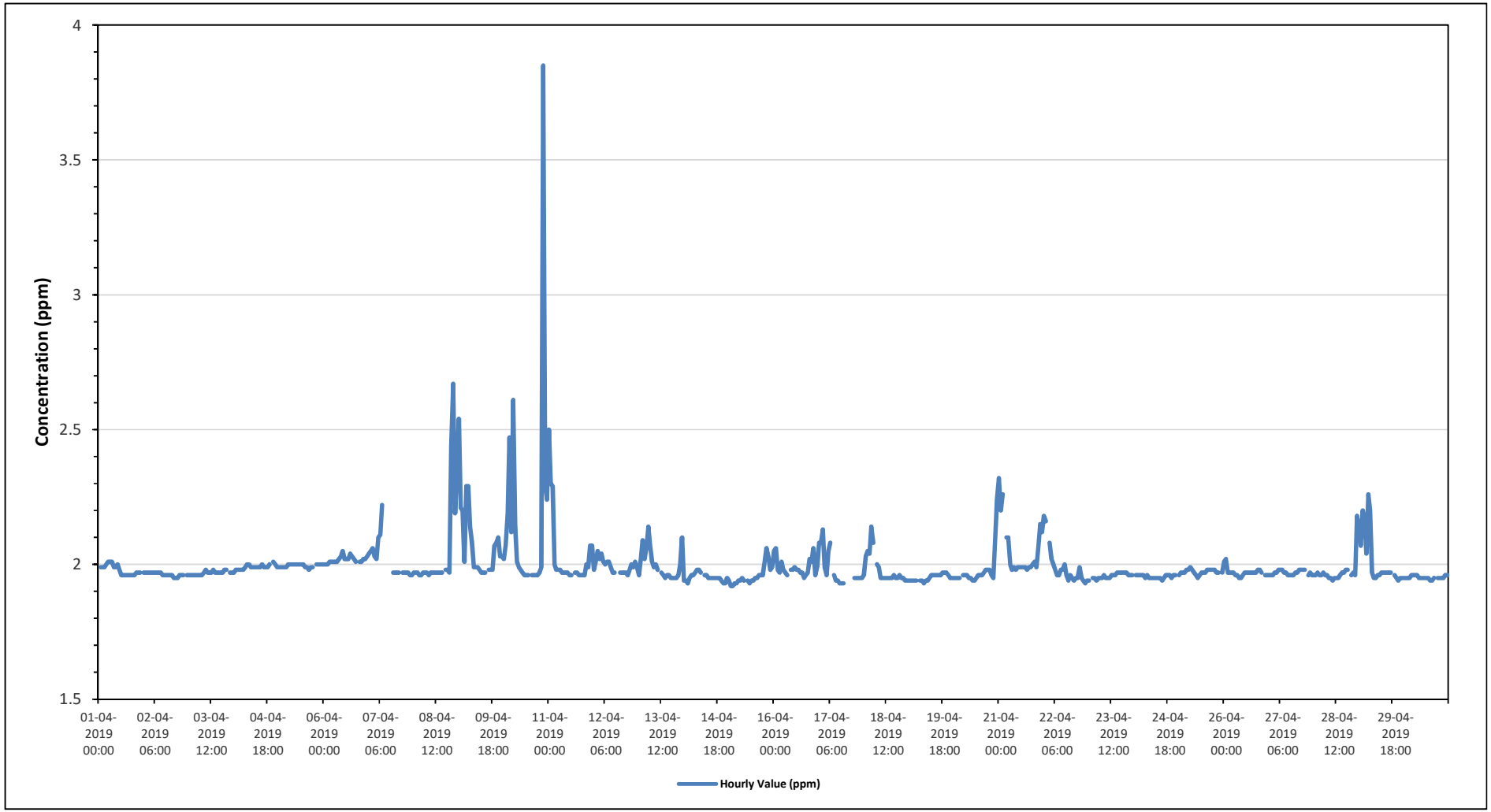
Maximum Hourly Value:	3.85	ppm	on April 10 at hour 21	Hours in Service:	720
Maximum Daily Value:	2.16	ppm	on April 10	Hours of Data:	677
Minimum Hourly Value:	1.92	ppm	on April 15 at hour 1	Hours of Missing Data:	6
Minimum Daily Value:	1.95	ppm	on April 19	Hours of Calibration:	37
Monthly Average:	1.99	ppm		Operational Uptime:	99.2

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	S	1.99	1.99	1.99	2.00	2.01	2.01	2.01	1.99	1.99	2.00	1.98	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.97	S	1.96	2.01	1.98
Apr 2	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.95	1.95	1.96	1.96	1.96	S	1.96	1.95	1.97	1.96
Apr 3	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.98	1.97	1.97	1.97	1.98	1.97	1.97	1.97	1.97	1.97	1.98	1.98	S	1.97	1.97	1.96	1.98	1.97
Apr 4	1.97	1.98	1.98	1.98	1.98	1.98	1.99	2.00	2.00	1.99	1.99	1.99	1.99	1.99	1.99	2.00	1.99	1.99	1.99	2.00	S	2.01	2.00	1.99	1.97	2.01	1.99
Apr 5	1.99	1.99	1.99	1.99	1.99	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.99	1.99	1.98	1.99	1.99	S	2.00	2.00	2.00	2.00	1.98	2.00	2.00
Apr 6	2.00	2.00	2.00	2.01	2.01	2.01	2.01	2.01	2.02	2.03	2.05	2.02	2.02	2.02	2.04	2.03	2.02	2.01	S	2.01	2.01	2.02	2.02	2.03	2.00	2.05	2.02
Apr 7	2.04	2.05	2.06	2.03	2.02	2.10	2.11	2.22	X	X	X	X	S1	1.97	1.97	1.97	1.97	S	1.97	1.97	1.97	1.97	1.96	1.96	1.96	2.22	2.02
Apr 8	1.97	1.97	1.97	1.96	1.96	1.97	1.97	1.97	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	S	1.98	1.98	1.97	2.44	2.67	2.19	2.35	1.96	2.67	2.05
Apr 9	2.54	2.21	2.20	2.01	2.29	2.29	2.14	2.08	1.99	1.99	1.99	1.98	1.97	1.97	1.97	S	1.98	1.98	1.98	2.07	2.08	2.10	2.03	2.03	1.97	2.54	2.08
Apr 10	2.02	2.07	2.19	2.47	2.12	2.61	2.15	2.01	1.99	1.98	1.97	1.96	1.96	1.96	S	1.96	1.96	1.96	1.96	1.97	1.99	**3.85**	2.30	2.24	1.96	**3.85**	**2.16**
Apr 11	2.50	2.30	2.29	2.00	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.96	1.96	S	1.97	1.97	1.96	1.96	1.96	1.96	2.00	1.99	2.07	2.07	1.96	2.50	2.03
Apr 12	1.98	2.01	2.05	2.02	2.04	2.01	2.00	2.01	2.01	1.99	1.97	1.97	S	S1	1.97	1.97	1.97	1.97	1.96	1.98	2.00	1.99	2.01	1.99	1.96	2.05	1.99
Apr 13	1.96	2.02	2.09	2.02	2.06	2.14	2.07	2.01	1.99	2.00	1.98	S	1.97	1.96	1.95	1.96	1.96	1.95	1.95	1.95	1.95	1.96	2.00	2.10	1.95	2.14	2.00
Apr 14	1.94	1.94	1.93	1.95	1.96	1.96	1.97	1.98	1.98	1.97	S	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.93	1.93	1.95	1.93	1.98	1.95
Apr 15	1.94	**1.92**	1.92	1.93	1.93	1.94	1.94	1.95	1.94	S	1.94	1.93	1.94	1.94	1.95	1.95	1.96	1.96	1.96	2.01	2.06	2.03	1.98	1.99	**1.92**	2.06	1.96
Apr 16	2.05	2.06	1.98	1.97	2.01	1.98	1.97	1.96	S	1.98	1.98	1.99	1.98	1.98	1.97	1.97	1.95	1.96	1.97	2.02	2.01	2.06	1.96	1.99	1.95	2.06	1.99
Apr 17	2.08	2.08	2.13	1.99	1.96	2.05	2.08	S	1.96	1.94	1.94	1.93	1.93	1.93	C	C	C	C	C	1.95	1.95	1.95	1.95	1.95	1.93	2.13	1.99
Apr 18	1.96	2.03	2.05	2.04	2.14	2.08	S	2.00	1.99	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.95	1.95	1.96	1.95	1.95	1.94	1.94	1.94	2.14	1.98
Apr 19	1.94	1.94	1.94	1.94	1.94	S	1.94	1.94	1.93	1.94	1.94	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.96	1.95	1.95	1.93	1.97	1.95
Apr 20	1.95	1.95	1.95	1.95	S	1.96	1.96	1.96	1.95	1.95	1.94	1.94	1.95	1.96	1.96	1.96	1.97	1.98	1.98	1.98	1.96	1.95	2.09	2.24	1.94	2.24	1.98
Apr 21	2.32	2.20	2.26	S	2.10	2.10	2.00	1.98	1.99	1.98	1.99	1.99	1.99	1.99	1.99	1.98	1.99	1.99	2.00	2.01	1.99	2.06	2.15	2.12	1.98	2.32	2.05
Apr 22	2.18	2.16	S	2.08	2.02	2.00	1.98	1.96	1.96	1.98	1.98	2.00	1.96	1.94	1.96	1.95	1.94	1.95	1.95	1.99	1.95	1.94	1.93	1.94	1.93	2.18	1.99
Apr 23	1.94	S	1.95	1.95	1.94	1.95	1.95	1.95	1.96	1.95	1.95	1.95	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.94	1.97	1.96
Apr 24	S	1.96	1.96	1.96	1.96	1.96	1.95	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.95	1.96	1.96	1.96	1.95	1.96	1.96	S	1.94	1.96	1.95
Apr 25	1.96	1.97	1.97	1.97	1.98	1.98	1.99	1.98	1.97	1.96	1.95	1.96	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.97	1.97	S	1.97	1.95	1.99	1.97
Apr 26	2.01	2.02	1.97	1.97	1.97	1.97	1.96	1.96	1.95	1.95	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.97	S	1.96	1.96	1.95	2.02	1.97
Apr 27	1.96	1.96	1.96	1.97	1.97	1.98	1.98	1.98	1.97	1.97	1.96	1.96	1.96	1.96	1.97	1.97	1.98	1.98	1.98	1.98	S	1.96	1.97	1.96	1.96	1.98	1.97
Apr 28	1.96	1.96	1.97	1.96	1.96	1.97	1.96	1.96	1.95	1.95	1.94	1.95	1.95	1.95	1.96	1.97	1.97	1.98	1.98	S	1.96	1.97	1.96	2.18	1.94	2.18	1.97
Apr 29	2.14	2.07	2.20	2.17	2.04	2.26	2.20	1.97	1.95	1.95	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	S	1.96	1.95	1.94	1.95	1.95	1.94	2.26	2.02
Apr 30	1.95	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.94	1.95	S	1.95	1.95	1.95	1.95	1.96	1.96	1.94	1.96	1.95
Diurnal Maximum	2.54	2.30	2.29	2.47	2.29	2.61	2.20	2.22	2.02	2.03	2.05	2.02	2.02	2.02	2.04	2.03	2.02	2.01	2.00	2.07	2.44	3.85	2.30	2.35			
Daiurnal Average	2.04	2.02	2.03	2.01	2.01	2.04	2.01	1.99	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.99	2.07	2.00	2.03			

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

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

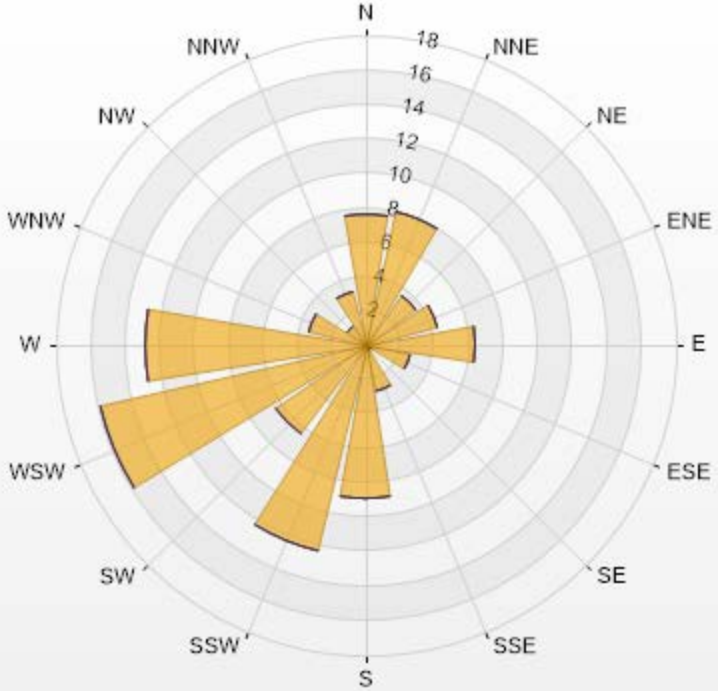
Timeseries Chart of Hourly Average for THC - Reno Site



Wind: PRAMP RENO Poll.: PRAMP RENO-THC55[ppm] Monthly: 04-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 92.92% Calm Avg: 0.00 [ppm]

Direction	2-5	5-10	10-40	>40.0	Total
N	7.62	0	0	0	7.62
NNE	7.92	0	0	0	7.92
NE	3.59	0	0	0	3.59
ENE	4.33	0	0	0	4.33
E	6.43	0	0	0	6.43
ESE	2.69	0	0	0	2.69
SE	0.3	0	0	0	0.3
SSE	2.84	0	0	0	2.84
S	8.97	0	0	0	8.97
SSW	12.26	0	0	0	12.26
SW	6.43	0	0	0	6.43
WSW	15.84	0	0	0	15.84
W	12.86	0	0	0	12.86
WNW	3.44	0	0	0	3.44
NW	1.35	0	0	0	1.35
NNW	3.14	0	0	0	3.14
Summary	100	0	0	0	100

PRAMP RENO Poll.: PRAMP RENO-THC55[ppm] 01-04-2019 00:00 - 30-04-2019 23:00 Calm: 0.00%



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

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - April 2019

Summary of Hourly Averages

METHANE (CH4) in ppm

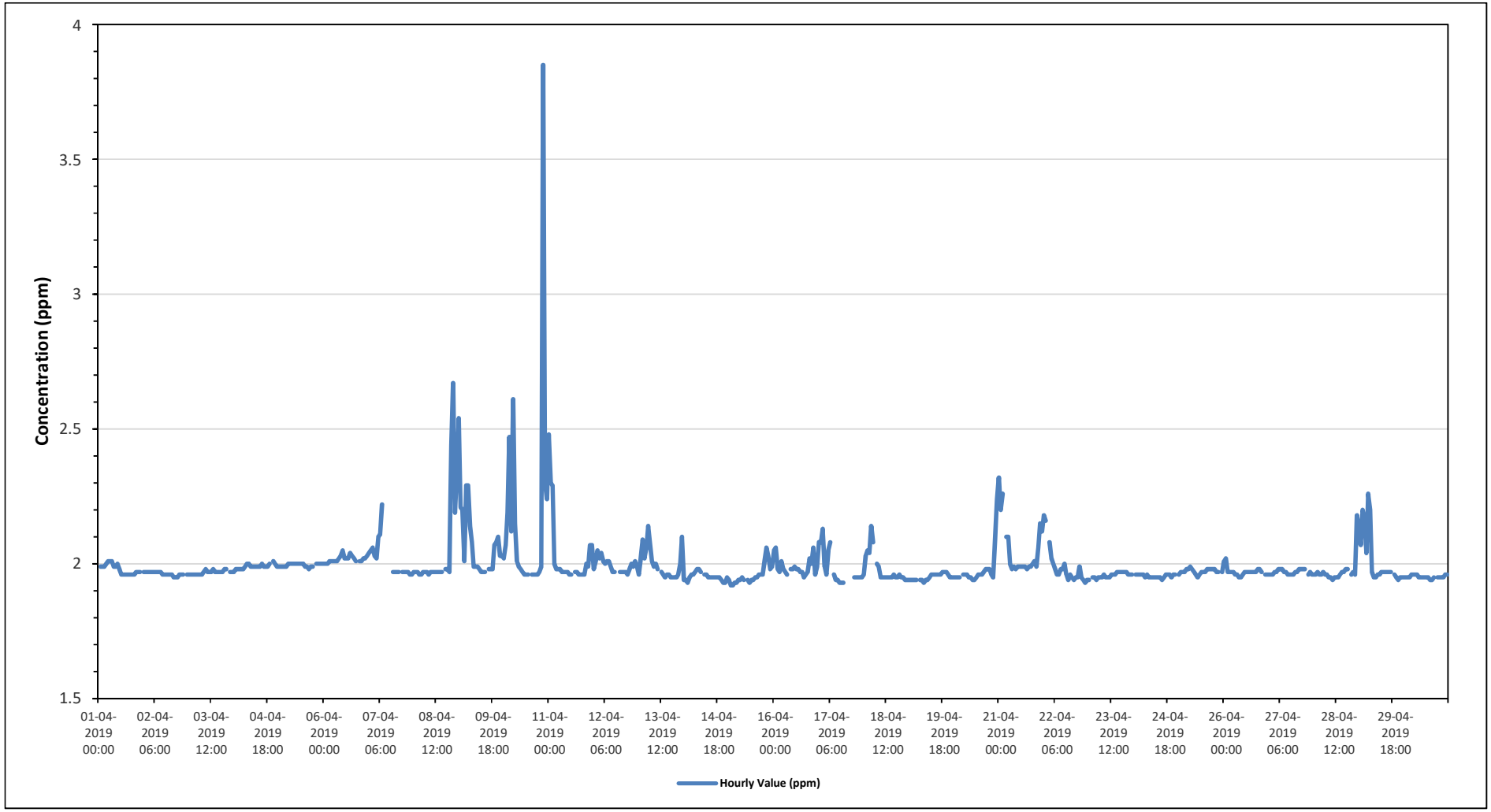
Maximum Hourly Value:	3.85	ppm	on April 10 at hour 21	Hours in Service:	720
Maximum Daily Value:	2.16	ppm	on April 10	Hours of Data:	677
Minimum Hourly Value:	1.92	ppm	on April 15 at hour 1	Hours of Missing Data:	6
Minimum Daily Value:	1.95	ppm	on April 19	Hours of Calibration:	37
Monthly Average:	1.99	ppm		Operational Uptime:	99.2

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	S	1.99	1.99	1.99	2.00	2.01	2.01	2.01	1.99	1.99	2.00	1.98	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.97	S	1.96	2.01	1.98
Apr 2	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.95	1.95	1.96	1.96	1.96	S	1.96	1.95	1.97	1.96
Apr 3	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.98	1.97	1.97	1.97	1.98	1.97	1.97	1.97	1.97	1.97	1.98	1.98	S	1.97	1.97	1.96	1.98	1.97
Apr 4	1.97	1.98	1.98	1.98	1.98	1.98	1.99	2.00	2.00	1.99	1.99	1.99	1.99	1.99	1.99	2.00	1.99	1.99	1.99	2.00	S	2.01	2.00	1.99	1.97	2.01	1.99
Apr 5	1.99	1.99	1.99	1.99	1.99	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.99	1.99	1.98	1.99	1.99	S	2.00	2.00	2.00	2.00	1.98	2.00	2.00
Apr 6	2.00	2.00	2.00	2.01	2.01	2.01	2.01	2.01	2.02	2.03	2.05	2.02	2.02	2.02	2.04	2.03	2.02	2.01	S	2.01	2.01	2.02	2.02	2.03	2.00	2.05	2.02
Apr 7	2.04	2.05	2.06	2.03	2.02	2.10	2.11	2.22	X	X	X	X	S1	1.97	1.97	1.97	1.97	S	1.97	1.97	1.97	1.97	1.96	1.96	1.96	2.22	2.02
Apr 8	1.97	1.97	1.97	1.96	1.96	1.97	1.97	1.97	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	S	1.98	1.98	1.97	2.44	2.67	2.19	2.35	1.96	2.67	2.05
Apr 9	2.54	2.21	2.20	2.01	2.29	2.29	2.14	2.08	1.99	1.99	1.99	1.98	1.97	1.97	1.97	S	1.98	1.98	1.98	2.07	2.08	2.10	2.03	2.03	1.97	2.54	2.08
Apr 10	2.02	2.07	2.19	2.47	2.12	2.61	2.15	2.01	1.99	1.98	1.97	1.96	1.96	1.96	S	1.96	1.96	1.96	1.96	1.97	1.99	**3.85**	2.30	2.24	1.96	**3.85**	**2.16**
Apr 11	2.48	2.30	2.29	2.00	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.96	1.96	S	1.97	1.97	1.96	1.96	1.96	1.96	2.00	1.99	2.07	2.07	1.96	2.48	2.03
Apr 12	1.98	2.01	2.05	2.02	2.04	2.01	2.00	2.01	2.01	1.99	1.97	1.97	S	S1	1.97	1.97	1.97	1.97	1.96	1.98	2.00	1.99	2.01	1.99	1.96	2.05	1.99
Apr 13	1.96	2.02	2.09	2.02	2.06	2.14	2.07	2.01	1.99	2.00	1.98	S	1.97	1.96	1.95	1.96	1.96	1.95	1.95	1.95	1.95	1.96	2.00	2.10	1.95	2.14	2.00
Apr 14	1.94	1.94	1.93	1.95	1.96	1.96	1.97	1.98	1.98	1.97	S	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.93	1.93	1.95	1.93	1.98	1.95
Apr 15	1.94	**1.92**	1.92	1.93	1.93	1.94	1.94	1.95	1.94	S	1.94	1.93	1.94	1.94	1.95	1.95	1.96	1.96	1.96	2.01	2.06	2.03	1.98	1.99	**1.92**	2.06	1.96
Apr 16	2.05	2.06	1.98	1.97	2.01	1.98	1.97	1.96	S	1.98	1.98	1.99	1.98	1.98	1.97	1.97	1.95	1.96	1.97	2.02	2.00	2.06	1.96	1.99	1.95	2.06	1.99
Apr 17	2.08	2.08	2.13	1.99	1.96	2.05	2.08	S	1.96	1.94	1.94	1.93	1.93	1.93	C	C	C	C	C	1.95	1.95	1.95	1.95	1.95	1.93	2.13	1.99
Apr 18	1.96	2.03	2.05	2.04	2.14	2.08	S	2.00	1.99	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.95	1.95	1.96	1.95	1.95	1.94	1.94	1.94	2.14	1.98
Apr 19	1.94	1.94	1.94	1.94	1.94	S	1.94	1.94	1.93	1.94	1.94	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.96	1.95	1.95	1.93	1.97	1.95
Apr 20	1.95	1.95	1.95	1.95	S	1.96	1.96	1.96	1.95	1.95	1.94	1.94	1.95	1.96	1.96	1.96	1.97	1.98	1.98	1.98	1.96	1.95	2.09	2.24	1.94	2.24	1.98
Apr 21	2.32	2.20	2.26	S	2.10	2.10	2.00	1.98	1.99	1.98	1.99	1.99	1.99	1.99	1.99	1.98	1.99	1.99	2.00	2.01	1.99	2.06	2.15	2.12	1.98	2.32	2.05
Apr 22	2.18	2.16	S	2.08	2.02	2.00	1.98	1.96	1.96	1.98	1.98	2.00	1.96	1.94	1.96	1.95	1.94	1.95	1.95	1.99	1.95	1.94	1.93	1.94	1.93	2.18	1.99
Apr 23	1.94	S	1.95	1.95	1.94	1.95	1.95	1.95	1.96	1.95	1.95	1.95	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.94	1.97	1.96
Apr 24	S	1.96	1.96	1.96	1.96	1.96	1.95	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.95	1.96	1.96	1.96	1.95	1.96	1.96	S	1.94	1.96	1.95
Apr 25	1.96	1.97	1.97	1.97	1.98	1.98	1.99	1.98	1.97	1.96	1.95	1.96	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.97	1.97	S	1.97	1.95	1.99	1.97
Apr 26	2.01	2.02	1.97	1.97	1.97	1.97	1.96	1.96	1.95	1.95	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.97	S	1.96	1.96	1.95	2.02	1.97
Apr 27	1.96	1.96	1.96	1.97	1.97	1.98	1.98	1.98	1.97	1.97	1.96	1.96	1.96	1.96	1.97	1.97	1.98	1.98	1.98	1.98	S	1.96	1.97	1.96	1.96	1.98	1.97
Apr 28	1.96	1.96	1.97	1.96	1.96	1.97	1.96	1.96	1.95	1.95	1.94	1.95	1.95	1.95	1.96	1.97	1.97	1.98	1.98	S	1.96	1.97	1.96	2.18	1.94	2.18	1.97
Apr 29	2.14	2.07	2.20	2.17	2.04	2.26	2.20	1.97	1.95	1.95	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	S	1.96	1.95	1.94	1.95	1.95	1.94	2.26	2.02
Apr 30	1.95	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.94	1.95	S	1.95	1.95	1.95	1.95	1.96	1.96	1.94	1.96	1.95
Diurnal Maximum	2.54	2.30	2.29	2.47	2.29	2.61	2.20	2.22	2.02	2.03	2.05	2.02	2.02	2.02	2.04	2.03	2.02	2.01	2.00	2.07	2.44	3.85	2.30	2.35			
Daiurnal Average	2.04	2.02	2.03	2.01	2.01	2.04	2.01	1.99	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.99	2.07	2.00	2.03			

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

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

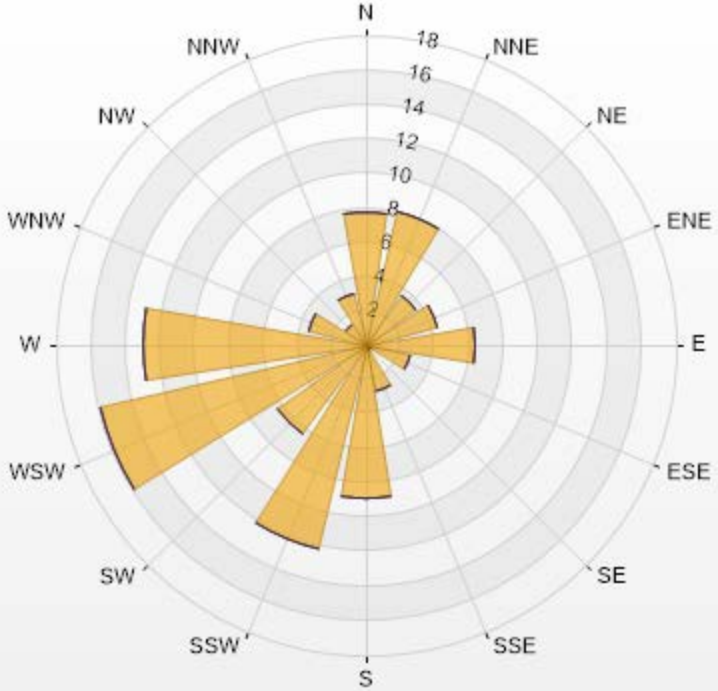
Timeseries Chart of Hourly Average for CH4 - Reno Site



Wind: PRAMP RENO Poll.: PRAMP RENO-CH4[ppm] Monthly: 04-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.61% Calm Avg: 0.00 [ppm]

Direction	2-5	5-10	10-20	>20.0	Total
N	7.72	0	0	0	7.72
NNE	8.01	0	0	0	8.01
NE	3.56	0	0	0	3.56
ENE	4.3	0	0	0	4.3
E	6.38	0	0	0	6.38
ESE	2.67	0	0	0	2.67
SE	0.3	0	0	0	0.3
SSE	2.82	0	0	0	2.82
S	8.9	0	0	0	8.9
SSW	12.17	0	0	0	12.17
SW	6.38	0	0	0	6.38
WSW	15.88	0	0	0	15.88
W	12.91	0	0	0	12.91
WNW	3.41	0	0	0	3.41
NW	1.48	0	0	0	1.48
NNW	3.12	0	0	0	3.12
Summary	100	0	0	0	100

PRAMP RENO Poll.: PRAMP RENO-CH4[ppm] 01-04-2019 00:00 - 30-04-2019 23:00 Calm: 0.00%



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

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - April 2019

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

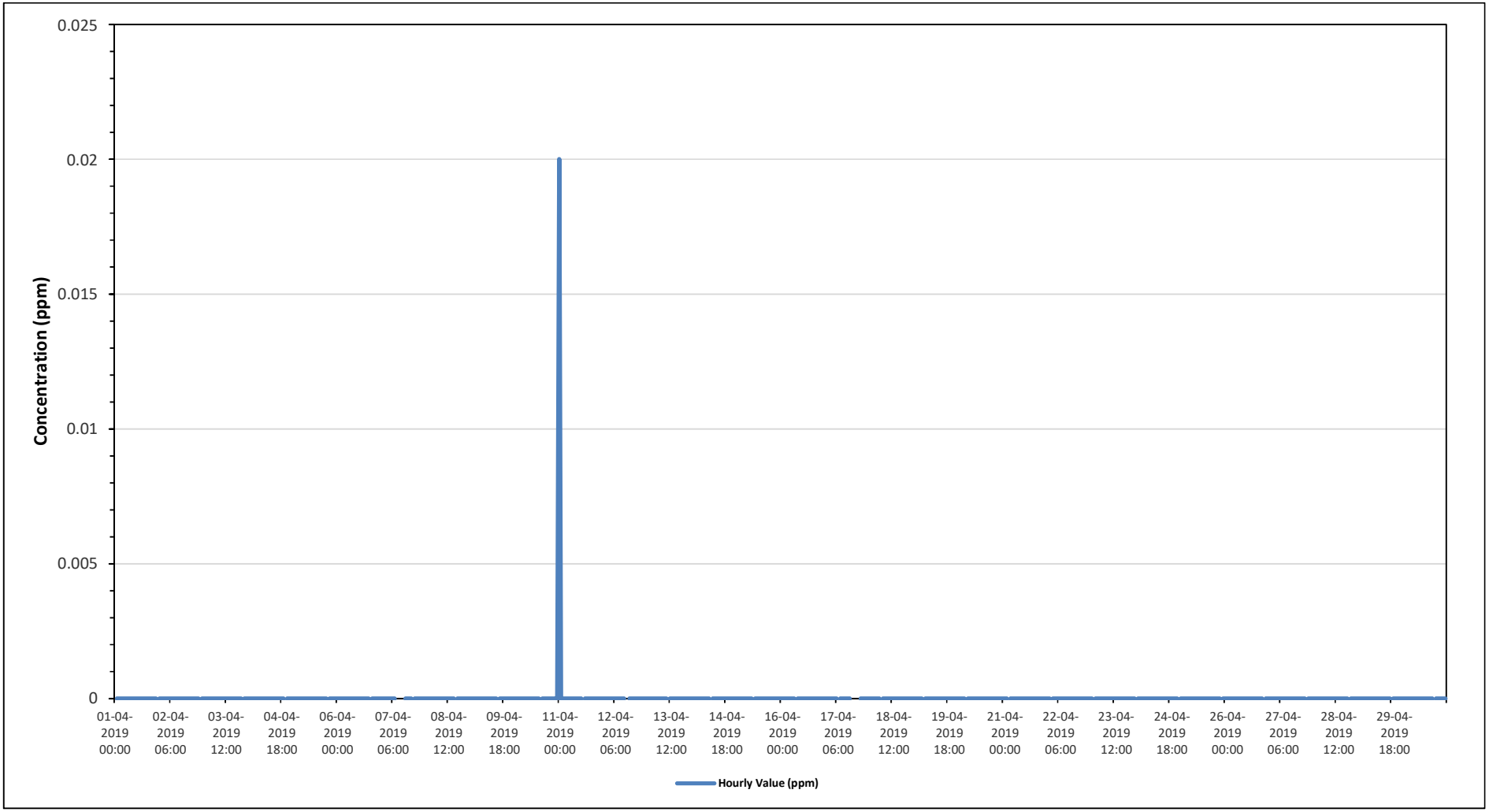
Maximum Hourly Value:	0.02	ppm	on April 11 at hour 0	Hours in Service:	720
Maximum Daily Value:	0.00	ppm	on April 11	Hours of Data:	677
Minimum Hourly Value:	0.00	ppm	on April 1 at hour 1	Hours of Missing Data:	6
Minimum Daily Value:	0.00	ppm	on April 1	Hours of Calibration:	37
Monthly Average:	0.00	ppm		Operational Uptime:	99.2

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Apr 1	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Apr 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Apr 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Apr 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Apr 5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	X	X	X	S1	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 11	0.02	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	0.02	0.00
Apr 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	S	S1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 18	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 19	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 20	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 21	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 22	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 23	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 24	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Apr 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Apr 26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Apr 27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Apr 28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diurnal Maximum	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Daiurnal Average	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

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

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

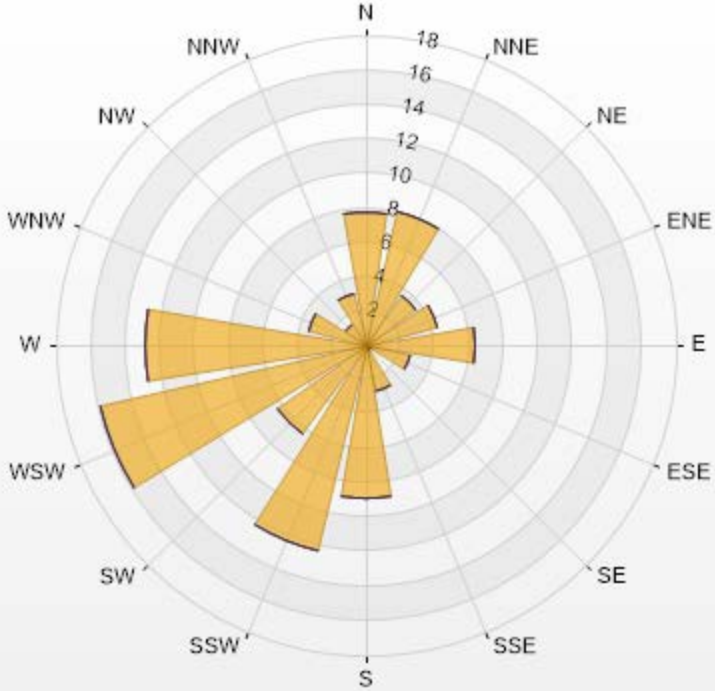
Timeseries Chart of Hourly Average for NMHC - Reno Site



Wind: PRAMP RENO Poll.: PRAMP RENO-NMHC[ppm] Monthly: 04-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.75% Calm Avg: 0.00 [ppm]

Direction	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	7.7	0	0	0	7.7
NNE	8	0	0	0	8
NE	3.56	0	0	0	3.56
ENE	4.3	0	0	0	4.3
E	6.37	0	0	0	6.37
ESE	2.67	0	0	0	2.67
SE	0.3	0	0	0	0.3
SSE	2.81	0	0	0	2.81
S	8.89	0	0	0	8.89
SSW	12.3	0	0	0	12.3
SW	6.37	0	0	0	6.37
WSW	15.85	0	0	0	15.85
W	12.89	0	0	0	12.89
WNW	3.41	0	0	0	3.41
NW	1.48	0	0	0	1.48
NNW	3.11	0	0	0	3.11
Summary	100	0	0	0	100

PRAMP RENO Poll.: PRAMP RENO-NMHC[ppm] 01-04-2019 00:00 - 30-04-2019 23:00 Calm: 0.00%



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

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - April 2019

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

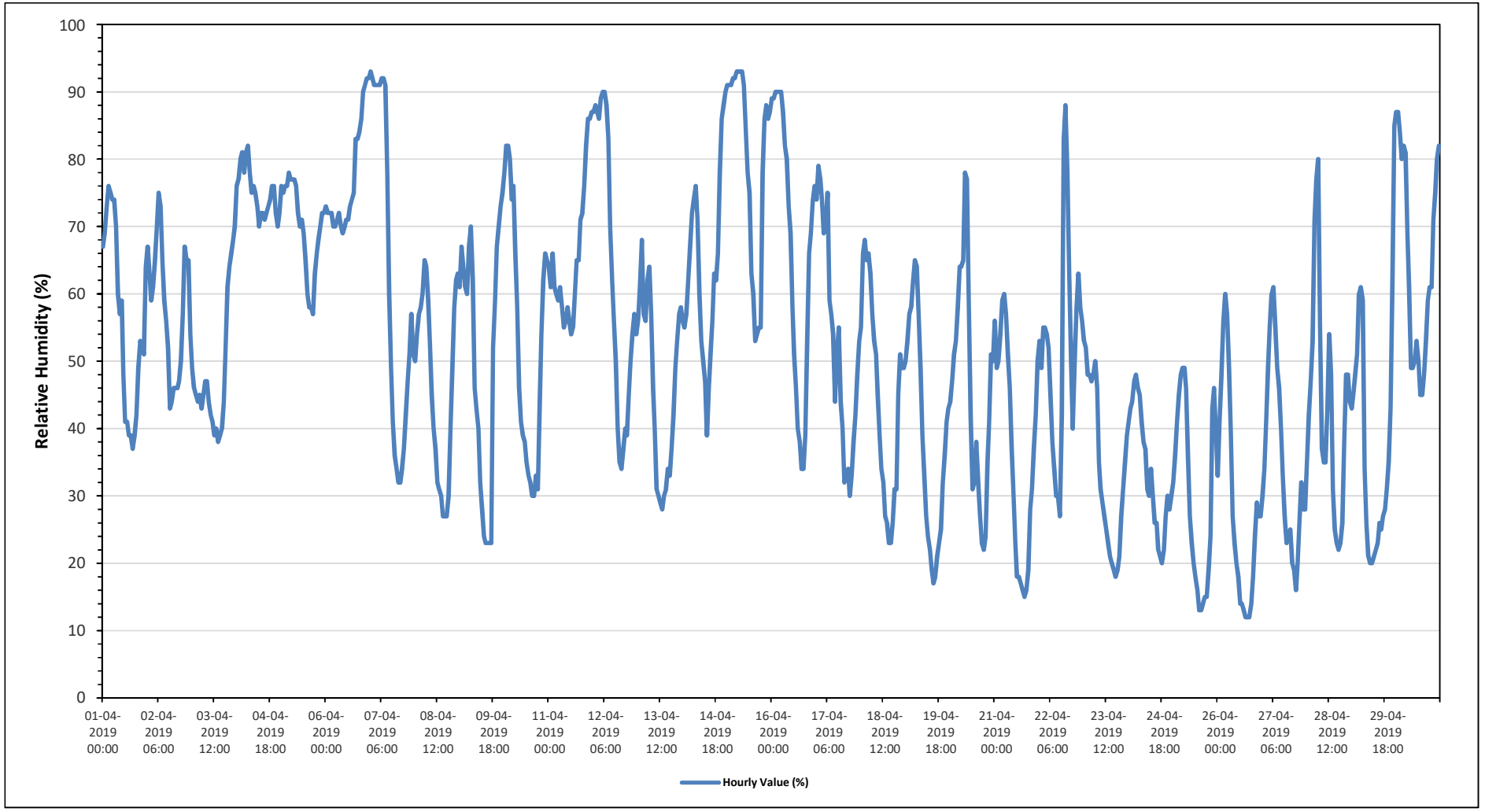
Maximum Hourly Value:	93	%	on April 7 at hour 5	Hours in Service:	720
Maximum Daily Value:	80.1	%	on April 15	Hours of Data:	720
Minimum Hourly Value:	12	%	on April 26 at hour 15	Hours of Missing Data:	0
Minimum Daily Value:	28.6	%	on April 26	Hours of Calibration:	0
Monthly Average:	52.1	%		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	67	69	73	76	75	74	74	70	60	57	59	48	41	41	39	39	37	39	42	49	53	52	51	64	37	76	56
Apr 2	67	63	59	61	65	70	75	73	65	59	56	52	43	44	46	46	46	47	50	57	67	65	65	54	43	75	58
Apr 3	49	46	45	44	45	43	45	47	47	44	42	41	39	40	38	39	40	44	52	61	64	66	68	70	38	70	48
Apr 4	76	77	80	81	78	81	82	78	75	76	75	73	70	72	72	71	72	73	74	76	76	72	70	72	70	82	75
Apr 5	76	75	76	76	78	77	77	77	76	72	70	71	69	65	60	58	58	57	63	66	68	70	72	72	57	78	70
Apr 6	73	72	72	72	70	70	71	72	70	69	70	71	71	73	74	75	83	83	84	86	90	91	92	92	69	92	77
Apr 7	**93**	92	91	91	91	91	92	92	91	78	60	49	41	36	34	32	32	34	37	42	47	51	57	51	32	**93**	63
Apr 8	50	54	57	58	60	65	64	59	53	45	40	37	32	31	30	27	27	27	30	40	49	58	62	63	27	65	47
Apr 9	61	67	64	61	60	67	70	62	46	43	40	32	28	24	23	23	23	23	52	59	67	70	73	75	23	75	51
Apr 10	78	82	82	80	74	76	66	58	46	41	39	38	35	33	32	30	30	33	31	44	54	62	66	65	30	82	53
Apr 11	64	61	66	61	60	59	61	58	55	56	58	56	54	55	60	65	65	71	72	76	82	86	86	87	54	87	66
Apr 12	87	88	87	86	89	90	90	88	83	70	62	56	50	40	35	34	37	40	39	45	50	54	57	54	34	90	63
Apr 13	56	61	68	57	56	62	64	57	46	40	31	30	29	28	30	31	34	33	37	42	49	53	57	58	28	68	46
Apr 14	56	55	57	62	67	72	74	76	71	60	53	50	47	39	46	51	56	63	62	66	78	86	88	90	39	90	64
Apr 15	91	91	91	92	92	**93**	**93**	**93**	**93**	91	84	78	75	63	60	53	54	55	55	78	86	88	86	87	53	**93**	**80**
Apr 16	89	89	90	90	90	90	87	82	80	73	69	58	51	46	40	38	34	34	39	53	66	69	74	76	34	90	67
Apr 17	74	79	77	74	69	70	75	59	57	54	44	51	55	44	40	32	33	34	30	33	38	42	48	53	30	79	53
Apr 18	55	66	68	65	66	63	57	53	51	45	39	34	32	27	26	23	23	26	31	31	45	51	49	49	23	68	45
Apr 19	50	53	57	58	62	65	64	57	49	39	33	27	24	22	19	17	18	21	23	25	32	36	41	43	17	65	39
Apr 20	44	47	51	53	58	64	64	65	78	77	59	42	31	32	38	32	27	23	22	24	35	41	51	50	22	78	46
Apr 21	56	49	50	54	59	60	57	51	46	37	30	23	18	18	17	16	15	16	19	28	31	37	42	50	15	60	37
Apr 22	53	49	55	55	54	52	45	38	34	30	30	27	42	83	88	78	63	50	40	50	58	63	58	56	27	88	52
Apr 23	53	52	48	48	47	48	50	46	35	31	29	27	25	23	21	20	19	18	19	21	27	31	35	39	18	53	34
Apr 24	41	43	44	47	48	46	45	41	38	37	31	30	34	30	26	26	22	21	20	22	27	30	28	30	20	48	34
Apr 25	32	36	41	45	48	49	49	46	36	27	23	20	18	16	13	13	14	15	15	19	24	43	46	40	13	49	30
Apr 26	33	41	48	56	60	57	49	39	27	23	20	18	14	14	13	**12**	**12**	**12**	14	18	24	29	27	27	**12**	60	29
Apr 27	30	34	41	49	55	60	61	55	49	46	40	33	27	23	24	25	20	19	16	20	26	32	28	28	16	61	35
Apr 28	35	42	47	53	71	77	80	55	37	35	35	43	54	48	31	25	23	22	23	26	38	48	48	44	22	80	43
Apr 29	43	45	48	51	60	61	59	34	26	21	20	20	21	22	23	26	25	27	28	31	35	43	62	85	20	85	38
Apr 30	87	87	84	80	82	81	69	61	49	49	50	53	50	45	45	48	53	59	61	61	71	75	80	82	45	87	65
Diurnal Maximum	93	92	91	92	92	93	93	93	93	91	84	78	75	83	88	78	83	83	84	86	90	91	92	92			
Daiurnal Average	60.6	62.2	63.9	64.5	66.3	67.8	67.0	61.4	55.6	50.8	46.4	42.9	40.7	39.2	38.1	36.8	36.5	37.3	39.3	45.0	51.9	56.5	58.9	60.2			

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

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

Timeseries Chart of Hourly Average for RH - Reno Site



PEACE RIVER AREA MONITORING PROGRAM

Reno Site - April 2019

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

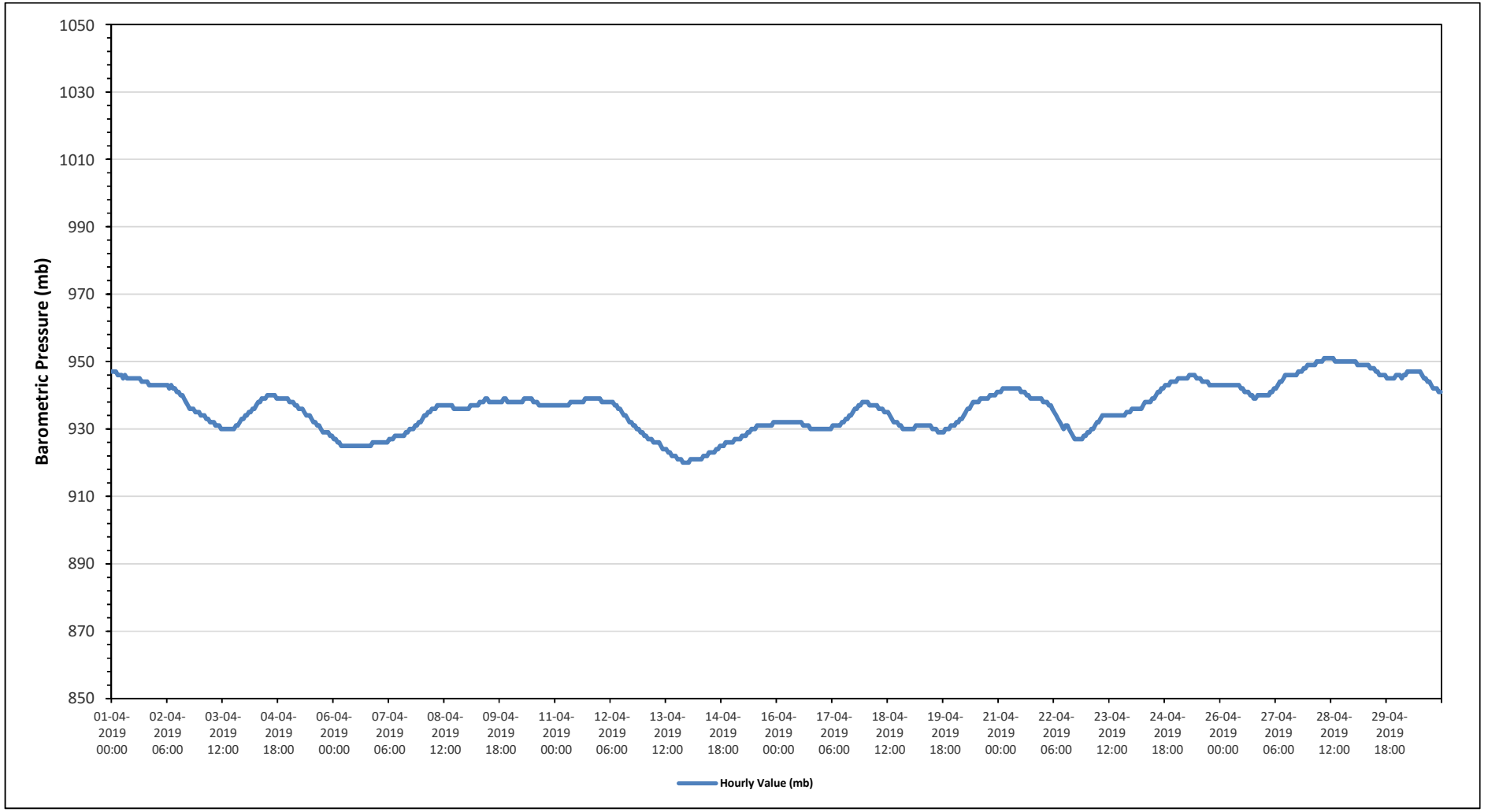
Maximum Hourly Value:	951	mb	on April 28 at hour 8	Hours in Service:	720
Maximum Daily Value:	950	mb	on April 28	Hours of Data:	720
Minimum Hourly Value:	920	mb	on April 13 at hour 21	Hours of Missing Data:	0
Minimum Daily Value:	923	mb	on April 14	Hours of Calibration:	0
Monthly Average:	936	mb		Operational Uptime:	100.0

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

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

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

Timeseries Chart of Hourly Average for BP - Reno Site



PEACE RIVER AREA MONITORING PROGRAM

Reno Site - April 2019

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

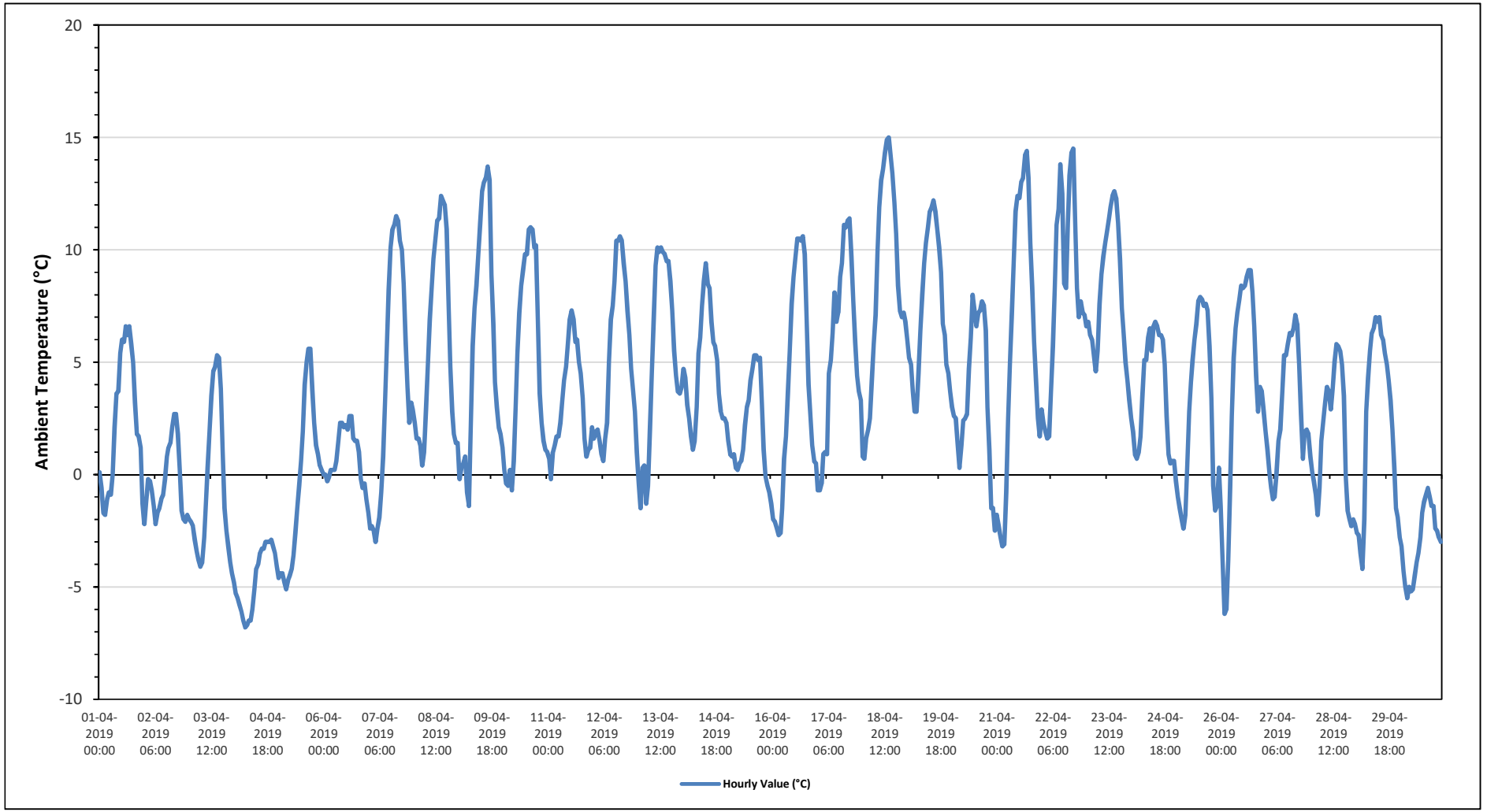
Maximum Hourly Value:	15.0	°C	on April 18 at hour 15	Hours in Service:	720
Maximum Daily Value:	8.4	°C	on April 18	Hours of Data:	720
Minimum Hourly Value:	-6.8	°C	on April 4 at hour 6	Hours of Missing Data:	0
Minimum Daily Value:	-4.7	°C	on April 4	Hours of Calibration:	0
Monthly Average:	3.5	°C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	0.1	-0.6	-1.7	-1.8	-1.1	-0.8	-0.9	0.0	2.1	3.6	3.7	5.4	6.0	5.9	6.6	6.2	6.6	5.8	5.0	3.2	1.8	1.7	1.2	-1.3	-1.8	6.6	2.4
Apr 2	-2.2	-1.2	-0.2	-0.3	-0.7	-1.4	-2.2	-1.7	-1.5	-1.1	-0.9	-0.2	0.8	1.2	1.4	2.1	2.7	2.7	1.8	0.2	-1.6	-2.0	-2.1	-1.8	-2.2	2.7	-0.3
Apr 3	-2.0	-2.1	-2.3	-2.9	-3.4	-3.8	-4.1	-3.9	-2.8	-1.2	0.3	1.9	3.5	4.6	4.8	5.3	5.2	3.8	1.1	-1.5	-2.5	-3.2	-3.9	-4.4	-4.4	5.3	-0.6
Apr 4	-4.8	-5.3	-5.5	-5.8	-6.1	-6.5	**-6.8**	-6.7	-6.5	-6.5	-6.0	-5.1	-4.2	-4.0	-3.5	-3.3	-3.3	-3.0	-3.0	-3.0	-2.9	-3.2	-3.5	-4.1	**-6.8**	-2.9	-4.7
Apr 5	-4.6	-4.4	-4.4	-4.8	-5.1	-4.7	-4.5	-4.2	-3.6	-2.6	-1.5	-0.5	0.6	1.9	4.0	5.0	5.6	5.6	3.8	2.3	1.3	0.9	0.4	0.2	-5.1	5.6	-0.6
Apr 6	0.0	0.0	-0.3	-0.1	0.2	0.2	0.2	0.6	1.5	2.3	2.3	2.1	2.2	2.0	2.6	2.6	1.6	1.5	1.5	1.0	-0.2	-0.6	-0.4	-1.1	-1.1	2.6	0.9
Apr 7	-1.7	-2.4	-2.3	-2.5	-3.0	-2.4	-1.9	-0.8	0.8	3.2	5.6	8.2	10.1	10.9	11.1	11.5	11.3	10.4	10.0	8.5	6.0	3.9	2.3	3.2	-3.0	11.5	4.2
Apr 8	2.9	2.3	1.6	1.6	1.3	0.4	1.0	2.9	4.9	6.9	8.3	9.6	10.5	11.3	11.4	12.4	12.2	12.0	10.9	7.6	4.8	2.8	1.8	1.4	0.4	12.4	6.0
Apr 9	1.4	-0.2	0.3	0.5	0.8	-0.8	-1.4	2.1	5.7	7.4	8.4	9.8	11.2	12.6	13.0	13.2	13.7	13.1	8.9	6.7	4.1	3.0	2.1	1.8	-1.4	13.7	5.7
Apr 10	1.2	0.2	-0.4	-0.5	0.2	-0.7	0.6	3.0	5.4	7.2	8.4	9.1	9.8	9.8	10.9	11.0	10.9	10.1	10.2	6.9	3.6	2.3	1.5	1.1	-0.7	11.0	5.1
Apr 11	1.0	0.7	-0.2	1.0	1.3	1.7	1.7	2.3	3.3	4.2	4.8	5.8	6.9	7.3	6.9	5.9	6.0	5.0	4.5	3.4	1.6	0.8	1.1	1.2	-0.2	7.3	3.3
Apr 12	2.1	1.6	1.9	2.0	1.5	0.9	0.6	1.6	2.3	5.0	6.9	7.5	8.6	10.4	10.4	10.6	10.4	9.4	8.6	7.3	6.2	4.7	3.7	2.8	0.6	10.6	5.3
Apr 13	1.0	-0.4	-1.5	0.3	0.4	-1.3	-0.5	2.0	4.5	6.9	9.3	10.1	9.9	10.1	9.9	9.8	9.5	9.5	8.6	7.3	5.5	4.4	3.7	3.6	-1.5	10.1	5.1
Apr 14	3.9	4.7	4.3	3.1	2.5	1.7	1.1	1.5	3.0	5.4	6.1	7.5	8.6	9.4	8.5	8.3	6.8	5.9	5.7	5.1	3.6	2.8	2.5	2.5	1.1	9.4	4.8
Apr 15	2.3	1.5	0.9	0.8	0.9	0.3	0.2	0.5	0.6	1.1	2.2	3.0	3.3	4.2	4.7	5.3	5.3	5.1	5.2	3.3	1.1	-0.1	-0.5	-0.8	-0.8	5.3	2.1
Apr 16	-1.3	-2.0	-2.1	-2.4	-2.7	-2.6	-1.5	0.7	1.7	3.6	5.5	7.6	8.8	9.6	10.5	10.5	10.4	10.6	9.8	6.9	4.0	2.6	1.3	0.6	-2.7	10.6	3.8
Apr 17	0.5	-0.7	-0.7	-0.4	0.9	1.0	0.9	4.5	5.1	6.3	8.1	6.8	7.2	8.8	9.4	11.1	11.0	11.3	11.4	9.7	7.7	5.9	4.4	3.7	-0.7	11.4	5.6
Apr 18	3.3	0.8	0.7	1.6	2.0	2.5	4.2	5.8	7.1	9.9	11.9	13.1	13.6	14.3	14.9	**15.0**	14.2	13.4	12.1	10.7	8.4	7.3	7.0	7.2	0.7	**15.0**	**8.4**
Apr 19	6.8	6.0	5.2	4.9	3.7	2.8	2.8	4.5	6.4	8.0	9.4	10.3	11.0	11.7	11.9	12.2	11.7	10.9	10.1	9.0	6.7	6.2	4.9	4.5	2.8	12.2	7.6
Apr 20	3.7	3.0	2.6	2.5	1.3	0.3	1.3	2.4	2.5	2.7	4.7	6.1	8.0	7.3	6.6	7.2	7.3	7.7	7.5	6.4	3.0	1.1	-1.5	-1.5	-1.5	8.0	3.8
Apr 21	-2.5	-1.8	-2.3	-2.8	-3.2	-3.1	-0.8	2.5	4.9	7.1	9.4	11.7	12.4	12.3	13.0	13.2	14.2	14.4	13.2	10.3	8.3	5.9	4.2	2.5	-3.2	14.4	6.0
Apr 22	1.7	2.9	2.3	1.9	1.6	1.7	3.7	5.7	8.3	11.1	11.8	13.8	12.5	8.5	8.3	11.2	13.3	14.3	14.5	11.2	8.3	7.0	7.7	7.2	1.6	14.5	7.9
Apr 23	7.1	6.6	6.8	6.2	6.0	5.3	4.6	5.5	7.6	8.9	9.7	10.3	10.8	11.4	11.9	12.4	12.6	12.3	11.2	9.6	7.4	6.3	5.0	4.2	4.2	12.6	8.3
Apr 24	3.3	2.5	1.9	0.9	0.7	1.0	1.7	3.5	5.1	5.1	6.1	6.5	5.5	6.6	6.8	6.6	6.2	6.2	6.0	4.9	2.6	0.9	0.5	0.6	0.5	6.8	3.8
Apr 25	0.6	-0.3	-1.0	-1.5	-2.0	-2.4	-1.8	0.3	2.8	4.1	5.1	6.0	6.7	7.7	7.9	7.8	7.5	7.6	7.3	5.7	3.4	-0.5	-1.6	-1.4	-2.4	7.9	2.8
Apr 26	0.3	-1.4	-4.0	-6.2	-6.0	-3.8	-0.5	2.6	5.2	6.5	7.2	7.8	8.4	8.3	8.4	8.8	9.1	9.1	8.1	6.6	4.4	2.8	3.9	3.7	-6.2	9.1	3.7
Apr 27	2.8	1.9	1.1	0.1	-0.6	-1.1	-1.0	0.1	1.5	2.0	3.6	5.3	5.3	5.8	6.3	6.2	6.5	7.1	6.7	4.9	2.7	0.7	1.9	2.0	-1.1	7.1	3.0
Apr 28	1.8	0.8	0.1	-0.3	-0.9	-1.8	-0.6	1.5	2.4	3.2	3.9	3.7	2.9	3.8	5.0	5.8	5.7	5.5	4.9	3.5	-0.1	-1.6	-2.0	-2.3	-2.3	5.8	1.9
Apr 29	-2.0	-2.2	-2.6	-2.7	-3.5	-4.2	-2.0	2.8	4.3	5.5	6.3	6.5	7.0	6.8	7.0	6.2	6.0	5.4	4.9	4.2	3.3	2.0	0.3	-1.5	-4.2	7.0	2.4
Apr 30	-1.9	-2.8	-3.2	-4.3	-5.0	-5.5	-5.0	-5.2	-5.1	-4.5	-3.9	-3.5	-2.8	-1.7	-1.2	-0.9	-0.6	-1.0	-1.4	-1.4	-2.4	-2.5	-2.8	-3.0	-5.5	-0.6	-3.0
Diurnal Maximum	7.1	6.6	6.8	6.2	6.0	5.3	4.6	5.8	8.3	11.1	11.9	13.8	13.6	14.3	14.9	15.0	14.2	14.4	14.5	11.2	8.4	7.3	7.7	7.2			
Daiurnal Average	0.8	0.3	-0.2	-0.4	-0.6	-0.9	-0.4	1.2	2.7	4.0	5.2	6.2	6.8	7.3	7.6	8.0	8.0	7.7	7.0	5.4	3.3	2.1	1.4	1.0			

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

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

Timeseries Chart of Hourly Average for AT - Reno Site



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - April 2019

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

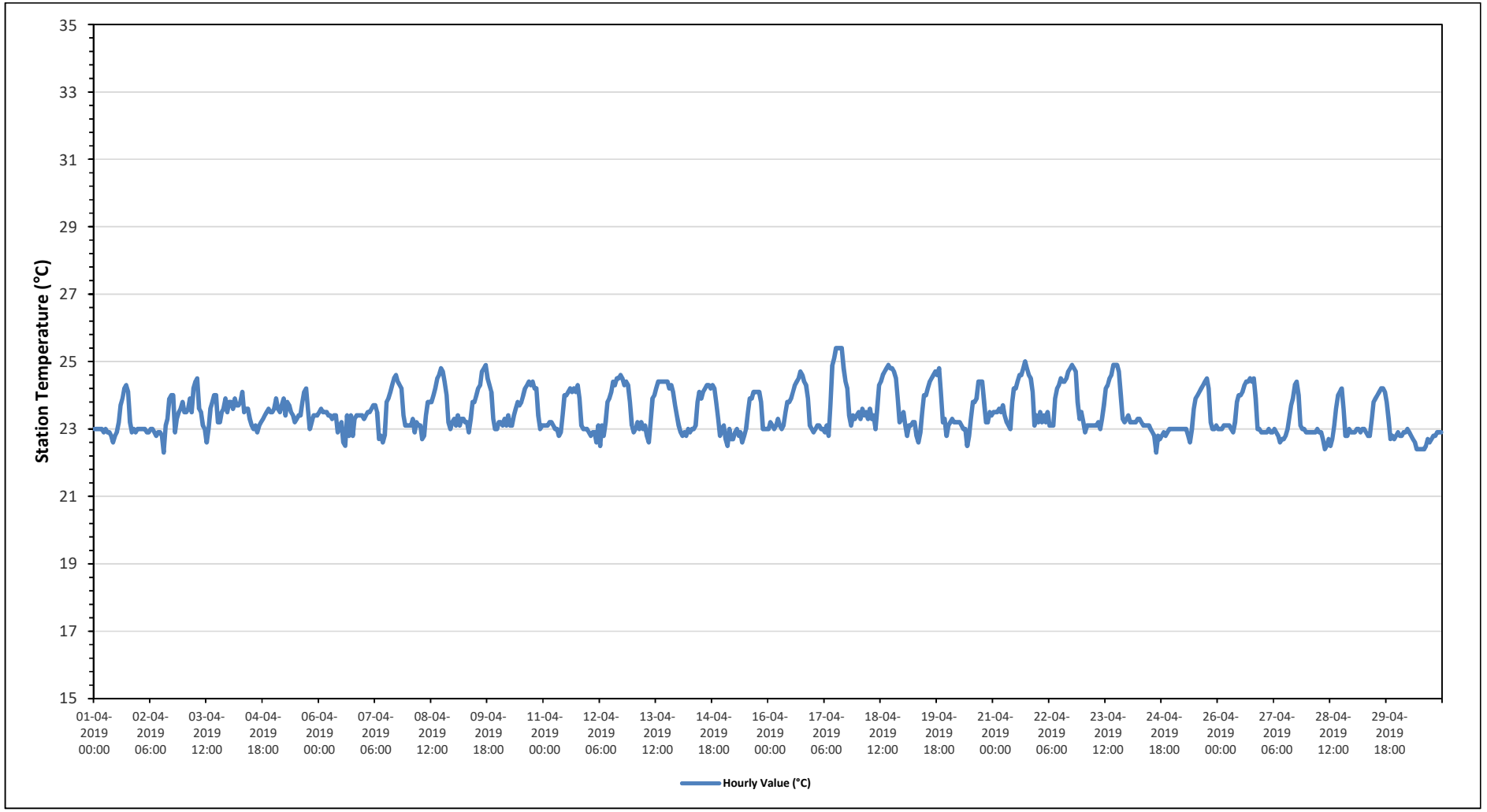
Maximum Hourly Value:	25.4	°C	on April 17 at hour 12	Hours in Service:	720
Maximum Daily Value:	23.9	°C	on April 18	Hours of Data:	720
Minimum Hourly Value:	22.3	°C	on April 2 at hour 13	Hours of Missing Data:	0
Minimum Daily Value:	22.7	°C	on April 30	Hours of Calibration:	0
Monthly Average:	23.5	°C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	23.0	23.0	23.0	23.0	23.0	22.9	23.0	22.9	22.9	22.8	22.6	22.8	22.9	23.2	23.7	23.9	24.2	24.3	24.1	23.2	22.9	23.0	22.9	23.0	22.6	24.3	23.2
Apr 2	23.0	23.0	23.0	23.0	22.9	22.9	23.0	23.0	22.9	22.8	22.9	22.9	22.8	**22.3**	23.1	23.3	23.9	24.0	24.0	22.9	23.3	23.5	23.6	23.8	**22.3**	24.0	23.2
Apr 3	23.5	23.5	23.6	23.9	23.5	24.2	24.4	24.5	23.6	23.5	23.1	23.0	22.6	23.0	23.6	23.8	24.0	24.0	23.2	23.2	23.5	23.6	23.9	23.5	22.6	24.5	23.6
Apr 4	23.8	23.8	23.6	23.9	23.7	23.7	23.8	24.1	23.5	23.6	23.6	23.3	23.1	23.0	23.1	22.9	23.1	23.2	23.3	23.4	23.5	23.6	23.5	23.5	22.9	24.1	23.5
Apr 5	23.6	23.9	23.6	23.5	23.7	23.9	23.4	23.8	23.7	23.5	23.4	23.2	23.3	23.4	23.4	23.8	24.1	24.2	23.6	23.0	23.2	23.4	23.4	23.4	23.0	24.2	23.6
Apr 6	23.5	23.6	23.5	23.5	23.5	23.4	23.4	23.3	23.4	23.4	22.9	23.0	23.2	22.6	22.5	23.4	22.8	23.4	22.8	23.3	23.4	23.4	23.4	23.4	22.5	23.6	23.3
Apr 7	23.3	23.4	23.5	23.5	23.6	23.7	23.7	23.5	22.7	22.8	22.6	22.8	23.8	23.9	24.1	24.3	24.5	24.6	24.4	24.3	24.2	23.4	23.1	23.1	22.6	24.6	23.6
Apr 8	23.1	23.1	23.3	22.9	23.2	23.1	23.1	22.7	22.8	23.4	23.8	23.8	23.8	24.0	24.2	24.5	24.6	24.8	24.7	24.4	24.0	23.2	23.0	23.2	22.7	24.8	23.6
Apr 9	23.3	23.1	23.4	23.1	23.3	23.3	23.2	23.2	22.9	23.3	23.8	23.8	24.0	24.2	24.3	24.7	24.8	24.9	24.5	24.3	24.1	23.3	23.0	23.0	22.9	24.9	23.7
Apr 10	23.2	23.2	23.1	23.3	23.1	23.4	23.1	23.1	23.4	23.6	23.8	23.7	23.8	24.0	24.2	24.3	24.4	24.3	24.4	24.2	24.2	23.4	23.0	23.1	23.0	24.4	23.6
Apr 11	23.1	23.1	23.1	23.2	23.2	23.1	23.0	23.0	22.8	22.9	23.4	24.0	24.0	24.1	24.2	24.1	24.2	24.1	24.3	23.9	23.1	23.0	23.0	23.0	22.8	24.3	23.5
Apr 12	22.9	22.8	22.9	22.9	22.6	23.1	22.5	23.1	22.8	23.2	23.8	23.9	24.1	24.4	24.3	24.5	24.5	24.6	24.5	24.3	24.4	24.3	23.8	23.1	22.5	24.6	23.6
Apr 13	22.9	23.0	23.2	23.0	23.2	23.0	23.1	22.8	22.6	23.2	23.9	24.0	24.2	24.4	24.4	24.4	24.4	24.4	24.4	24.2	24.3	24.1	23.7	23.4	22.6	24.4	23.7
Apr 14	23.1	22.9	22.8	22.9	22.8	23.0	22.9	23.0	23.0	23.1	23.8	24.1	23.9	24.1	24.2	24.3	24.3	24.2	24.3	24.2	23.8	23.3	22.8	23.0	22.8	24.3	23.5
Apr 15	23.1	22.7	22.5	23.0	22.7	22.7	22.9	23.0	22.8	22.9	22.6	22.8	23.0	23.5	23.9	23.9	24.1	24.1	24.1	24.1	23.8	23.0	23.0	23.0	22.5	24.1	23.2
Apr 16	23.0	23.2	23.1	23.0	23.1	23.3	23.1	23.0	23.1	23.5	23.8	23.8	23.9	24.1	24.3	24.4	24.5	24.7	24.6	24.4	24.3	23.9	23.1	23.0	23.0	24.7	23.7
Apr 17	22.9	23.0	23.1	23.1	23.0	23.0	22.9	23.1	22.8	23.7	24.9	25.1	**25.4**	**25.4**	**25.4**	**25.4**	24.8	24.4	24.2	23.4	23.1	23.4	23.3	23.4	22.8	**25.4**	23.8
Apr 18	23.5	23.3	23.6	23.4	23.5	23.3	23.6	23.3	23.4	23.0	23.6	24.3	24.4	24.6	24.7	24.8	24.9	24.8	24.8	24.7	24.5	23.9	23.2	23.3	23.0	24.9	**23.9**
Apr 19	23.5	23.1	22.8	23.1	23.1	23.2	23.2	22.8	22.6	22.9	23.5	24.0	24.0	24.2	24.4	24.5	24.6	24.7	24.6	24.8	24.1	23.2	23.3	22.8	22.6	24.8	23.6
Apr 20	23.1	23.2	23.3	23.2	23.2	23.2	23.2	23.1	23.0	23.0	22.5	22.8	23.3	23.8	23.8	23.9	24.4	24.4	24.4	23.8	23.2	23.2	23.5	23.4	22.5	24.4	23.4
Apr 21	23.5	23.5	23.5	23.6	23.5	23.7	23.4	23.2	23.1	23.0	23.8	24.2	24.2	24.4	24.6	24.6	24.8	25.0	24.8	24.6	24.5	24.1	23.1	23.4	23.0	25.0	23.9
Apr 22	23.2	23.5	23.2	23.4	23.2	23.5	23.1	23.1	23.1	23.9	24.2	24.3	24.5	24.4	24.4	24.5	24.7	24.8	24.9	24.8	24.7	23.8	23.3	23.5	23.1	24.9	23.9
Apr 23	23.2	22.9	23.1	23.1	23.1	23.1	23.1	23.1	23.2	23.0	23.3	23.7	24.2	24.3	24.5	24.6	24.9	24.9	24.9	24.7	24.0	23.3	23.2	23.3	22.9	24.9	23.7
Apr 24	23.4	23.2	23.2	23.2	23.2	23.3	23.3	23.2	23.1	23.1	23.1	23.1	23.0	22.9	22.8	**22.3**	22.8	22.7	22.8	22.9	22.8	22.9	23.0	23.0	**22.3**	23.4	23.0
Apr 25	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	22.8	22.6	23.0	23.6	23.9	24.0	24.1	24.2	24.3	24.4	24.5	24.2	23.2	23.0	23.0	23.1	22.6	24.5	23.4
Apr 26	23.0	23.0	23.0	23.1	23.1	23.1	23.1	23.0	22.9	23.2	23.8	24.0	24.0	24.1	24.3	24.4	24.4	24.5	24.4	24.5	23.9	23.0	23.0	22.9	22.9	24.5	23.6
Apr 27	22.9	22.9	22.9	23.0	22.9	22.9	23.0	22.9	22.8	22.6	22.7	22.7	22.8	23.0	23.3	23.7	23.9	24.3	24.4	24.0	23.1	23.0	23.0	22.9	22.6	24.4	23.2
Apr 28	22.9	22.9	22.9	22.9	22.9	23.0	22.9	22.9	22.7	22.4	22.5	22.7	22.5	22.7	23.1	23.6	24.0	24.1	24.2	23.6	22.8	22.8	23.0	22.9	22.4	24.2	23.0
Apr 29	22.9	22.9	23.0	23.0	22.9	23.0	23.0	22.9	22.8	22.8	23.3	23.8	23.9	24.0	24.1	24.2	24.2	24.1	23.8	23.3	22.7	22.8	22.7	22.8	22.7	24.2	23.3
Apr 30	22.9	22.8	22.8	22.9	22.9	23.0	22.9	22.8	22.7	22.6	22.4	22.4	22.4	22.4	22.4	22.5	22.7	22.6	22.7	22.8	22.8	22.9	22.9	22.9	22.4	23.0	22.7
Diurnal Maximum	23.8	23.9	23.6	23.9	23.7	24.2	24.4	24.5	23.7	23.9	24.9	25.1	25.4	25.4	25.4	25.4	24.9	25.0	24.9	24.8	24.7	24.3	23.9	23.8			
Daiurnal Average	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.1	23.0	23.1	23.3	23.5	23.6	23.7	23.9	24.1	24.2	24.3	24.2	23.9	23.6	23.4	23.2	23.2			

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

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

Timeseries Chart of Hourly Average for ST - Reno Site



PEACE RIVER AREA MONITORING PROGRAM

Reno Site - April 2019

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

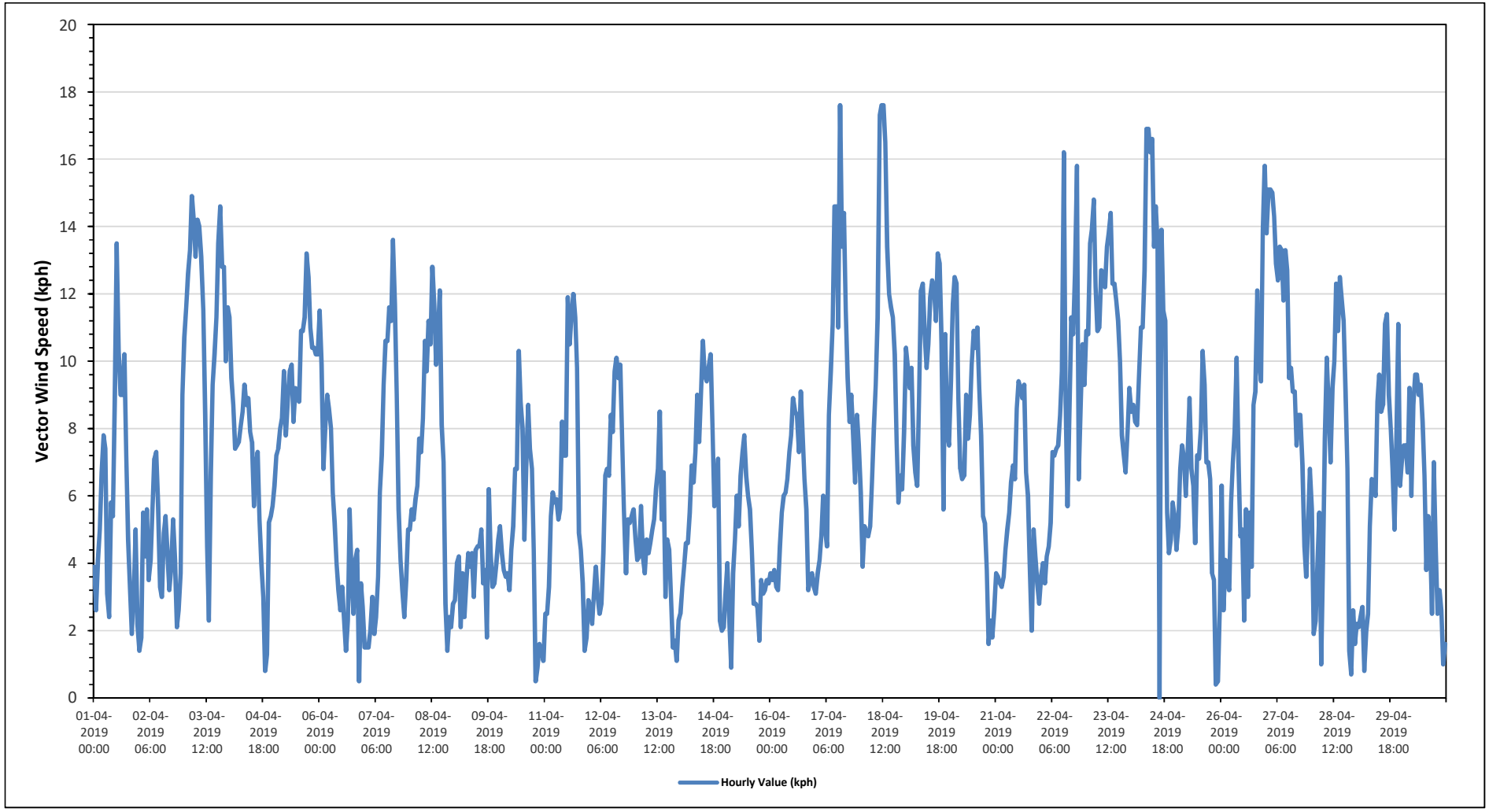
Maximum Hourly Value:	17.6	kph	on April 17 at hour 13	Hours in Service:	720
Maximum Daily Value:	11.4	kph	on April 23	Hours of Data:	719
Minimum Hourly Value:	0.4	kph	on April 25 at hour 21	Hours of Missing Data:	0
Minimum Daily Value:	3.8	kph	on April 9	Hours of Calibration:	1
Monthly Average:	1.9	kph		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
Apr 1	3.9	2.6	4.1	5	6.7	7.8	7.4	3.1	2.4	5.8	5.4	8.9	13.5	10.3	9	9	10.2	7.2	4.7	3.2	1.9	3.2	5	2.2	1.9	13.5	5.9
Apr 2	1.4	1.8	5.5	4.2	5.6	3.5	4.1	5.6	7.1	7.3	5.7	3.3	3	4.9	5.4	4.3	3.2	3.9	5.3	4.1	2.1	2.6	3.7	9	1.4	9.0	4.4
Apr 3	10.7	11.6	12.6	13.3	14.9	14.2	13.1	14.2	14	13.1	11.5	8.4	4.5	2.3	6.6	9.3	10.2	11.3	13.5	14.6	12.8	12.8	10	11.6	2.3	14.9	11.3
Apr 4	11.3	9.5	8.7	7.4	7.5	7.6	8.1	8.5	9.3	8.7	8.9	7.9	7.6	5.7	6.9	7.3	5.3	4	3	0.8	1.3	5.2	5.4	5.7	0.8	11.3	6.7
Apr 5	6.3	7.2	7.4	8	8.3	9.7	7.8	8.9	9.7	9.9	8.2	9.2	9.1	8.8	10.9	10.9	11.3	13.2	12.5	11	10.4	10.4	10.2	10.2	6.3	13.2	9.6
Apr 6	11.5	9.9	6.8	8.1	9	8.6	8	6.1	5.2	4	3.2	2.6	3.3	2.3	1.4	2.3	5.6	3.6	2.5	4.1	4.4	0.5	3.4	2.7	0.5	11.5	5.0
Apr 7	1.5	1.5	1.5	2	3	1.9	2.4	3.6	6.1	7.2	9.3	10.6	10.6	11.6	11.2	13.6	11.7	9	5.6	4.1	3.2	2.4	3.5	5	1.5	13.6	5.9
Apr 8	5	5.6	5.3	5.9	6.3	7.7	7.3	8.3	10.6	9.7	11.2	10.5	12.8	11.7	9.9	10.9	12.1	8.1	7	2.8	1.4	2.4	2.1	2.8	1.4	12.8	7.4
Apr 9	2.9	4	4.2	2.1	3.7	2.4	3.5	4.3	3.9	4.3	3	4.4	4.5	4.5	5	3.4	3.8	1.8	6.2	4.3	3.3	3.4	4	4.7	1.8	6.2	**3.8**
Apr 10	5.1	4.3	3.8	3.6	3.7	3.2	4.4	5.1	6.8	6.8	10.3	8.8	8	4.7	7	8.7	7.4	6.8	4.4	0.5	0.9	1.6	1.4	1.1	0.5	10.3	4.9
Apr 11	2.5	2.5	3.3	5.4	6.1	5.8	5.9	5.3	5.6	8.2	7.2	7.2	11.9	10.5	11.4	12	11.3	9.8	4.9	4.4	3.4	1.4	1.8	2.9	1.4	12.0	6.3
Apr 12	2.7	2.2	3.1	3.9	3	2.5	2.8	4.3	6.6	6.8	6.6	8.4	7.9	9.7	10.1	9.5	9.9	7.7	5.6	3.7	5.3	5.2	5.4	5.6	2.2	10.1	5.8
Apr 13	4.7	4.1	4.2	5.7	4.2	3.7	4.7	4.3	4.6	5	5.3	6.2	6.8	8.5	5.3	6.7	3	4.7	4.4	3	1.5	1.7	1.1	2.3	1.1	8.5	4.4
Apr 14	2.5	3.3	3.9	4.6	4.6	5.5	6.9	6.4	7.3	9	7.6	9	10.6	9.6	9.4	9.8	10.2	8	5.7	6.1	7.1	2.3	2	2.1	2.0	10.6	6.4
Apr 15	3.2	4	2.2	0.9	3.7	4.7	6	5.1	6.6	7.3	7.8	6.6	6	5.6	4.4	2.8	2.8	2.7	1.7	3.5	3.1	3.2	3.5	3.4	0.9	7.8	4.2
Apr 16	3.7	3.5	3.8	3.3	3.2	4.5	5.5	6	6.1	6.5	7.3	7.8	8.9	8.5	8.4	7.3	9.1	7.8	6.5	5.6	3.2	3.5	3.7	3.3	3.2	9.1	5.7
Apr 17	3.1	3.7	4.1	4.8	6	5	4.5	8.4	9.7	11.1	14.6	14.6	11	**17.6**	13.4	14.4	11.5	9.5	8.2	9	7.8	6.4	8.4	7.5	3.1	**17.6**	8.9
Apr 18	6.1	3.9	5.1	4.9	4.8	5.1	6.4	8	9.3	11.3	17.3	**17.6**	**17.6**	16.5	13.4	12	11.6	11.3	10.2	7.6	5.8	6.6	6.2	7.9	3.9	**17.6**	9.4
Apr 19	10.4	9.8	9.2	9.8	7.5	6.7	6.3	8.9	12.1	12.3	10.8	9.8	10.5	11.9	12.4	12.2	11.2	13.2	12.9	10.5	5.6	10.8	7.9	7.5	5.6	13.2	10.0
Apr 20	9.4	11.7	12.5	12.3	8.9	6.8	6.5	6.6	9	7.7	8.4	9.9	10.9	10.4	11	9.2	7.8	5.4	5.2	3.8	1.6	2.3	1.8	2.6	1.6	12.5	7.6
Apr 21	3.7	3.6	3.4	3.3	3.6	4.4	5	5.5	6.4	6.9	6.5	8.6	9.4	9.2	8.9	9.3	6.7	6	3.8	2	5	4.2	3.4	2.8	2.0	9.4	5.5
Apr 22	3.6	4	3.4	4.2	4.5	5.2	7.3	7.2	7.4	7.5	8.4	9.7	16.2	8.8	5.7	8.4	11.3	10.8	12.6	15.8	6.5	8.7	10.5	9.3	3.4	16.2	8.2
Apr 23	10.9	10.8	13.5	13.9	14.8	12.2	10.9	11	12.7	12.6	12.2	13.4	13.8	14.4	12.3	12.3	11.8	11.2	10	7.8	7.2	6.7	7.9	9.2	6.7	14.8	**11.4**
Apr 24	8.5	8.7	8.2	8.1	9.5	11	11	12.7	16.9	16.9	16.2	16.6	13.4	14.6	13.4	**C**	13.9	11.5	11.2	5.5	4.3	4.7	5.8	5.4	4.3	16.9	10.8
Apr 25	4.4	5.1	6.8	7.5	7.1	6	7.4	8.9	6.8	6.3	4.6	7.2	7.1	8	10.3	9.3	7	7	6.5	3.7	3.5	**0.4**	0.5	2.6	**0.4**	10.3	6.0
Apr 26	6.3	2.6	4.1	3.5	3.2	5.8	7	7.9	10.1	7	4.8	5	2.3	5.6	3	5.5	3.9	8.7	9.1	12.1	10	9.4	13.9	15.8	2.3	15.8	6.9
Apr 27	13.8	15.1	15.1	15	14.3	12.9	12.4	13.4	13.3	11.8	13.3	12.7	9.5	9.8	9.1	9.1	7.5	8.4	8.4	6.9	4.5	3.6	5.3	6.8	3.6	15.1	10.5
Apr 28	5.6	1.9	2.3	4	5.5	1	4	7.7	10.1	8.6	7	9.2	10	12.3	10.9	12.5	11.8	11.2	9.1	6.8	1.4	0.7	2.6	1.6	0.7	12.5	6.6
Apr 29	2.2	2.1	2.4	2.7	0.8	2	2.5	5.1	6.5	6.4	6	8.8	9.6	8.5	8.7	11.1	11.4	9	8	6.8	5	7.6	11.1	6.3	0.8	11.4	6.3
Apr 30	7.1	7.5	7.5	6.7	9.2	6	8.7	9.6	9.6	9	9.3	8.2	6.6	3.8	5.4	4.7	2.5	7	4.4	2.5	3.2	2.6	1	1.6	1.0	9.6	6.0
Diurnal Maximum	14	15	15	15	15	14	13	14	17	17	17	18	18	18	13	14	14	13	14	16	13	13	14	16			
Daiurnal Average	5.8	5.6	5.9	6.1	6.4	6.1	6.6	7.3	8.4	8.5	8.6	9.0	9.2	9.0	8.7	8.9	8.6	8.0	7.1	5.9	4.6	4.6	5.1	5.4			

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

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

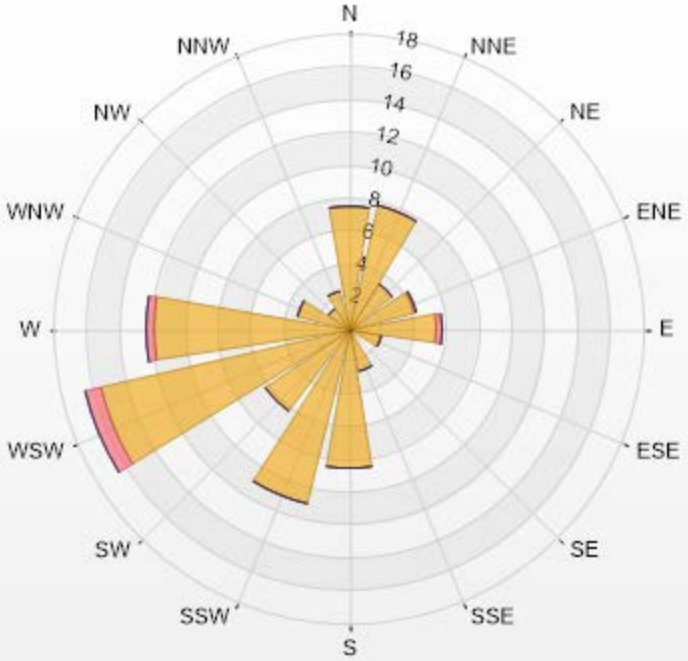
Timeseries Chart of Hourly Average for VWS - Reno Site



Wind: PRAMP RENO Poll.: PRAMP RENO-WDS[KPH] Monthly: 04-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 4.46% Valid Data: 99.72% Calm Avg: 1.22 [KPH]

Direction	6-15	15-29	29-39	>39.0	Total
N	7.52	0	0	0	7.52
NNE	7.8	0	0	0	7.8
NE	3.34	0	0	0	3.34
ENE	4.18	0.14	0	0	4.32
E	5.43	0.28	0	0	5.71
ESE	2.09	0	0	0	2.09
SE	0.28	0	0	0	0.28
SSE	2.65	0	0	0	2.65
S	8.5	0	0	0	8.5
SSW	11	0	0	0	11
SW	6.27	0	0	0	6.27
WSW	15.6	0.97	0	0	16.57
W	11.84	0.56	0	0	12.4
WNW	3.2	0	0	0	3.2
NW	1.53	0	0	0	1.53
NNW	2.37	0	0	0	2.37
Summary	93.6	1.95	0	0	95.55

PRAMP RENO Poll.: PRAMP RENO-WDS[KPH] 01-04-2019 00:00 - 30-04-2019 23:00 Calm: 4.46% Calm Poll Avg: 1.22[KPH]



%	Icon	Classes (KPH)	94	6-15	2	15-29	0	29-39	0	>39.0

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - April 2019

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

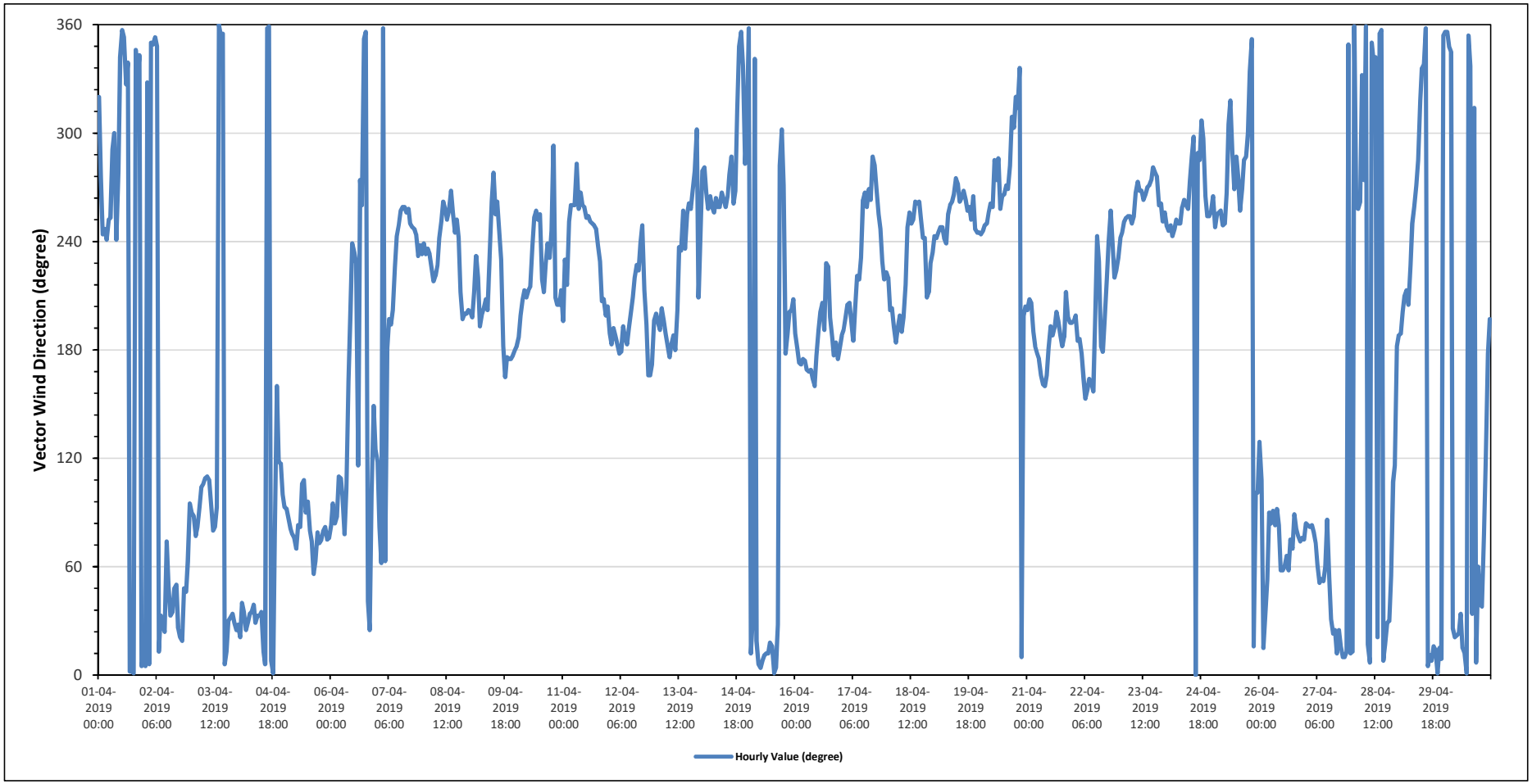
Monthly Average:	260 (WSW) degree	Hours in Service:	720
		Hours of Data:	719
		Hours of Missing Data:	0
		Hours of Calibration:	1
		Operational Uptime:	100.0

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
Apr 1	NW	W	WSW	WSW	WSW	WSW	WSW	WNW	WNW	WSW	W	NNW	N	N	NW	NNW	N	N	N	NNW	NNW	NNW	N	N	321	NW
Apr 2	N	NNW	N	N	NNW	N	NNW	NNE	NNE	NNE	NNE	ENE	NE	NNE	NE	NE	NE	NNE	NNE	NNE	NE	NE	ENE	E	29	NNE
Apr 3	E	E	ENE	E	E	ESE	ESE	ESE	ESE	ESE	E	E	E	E	N	N	N	N	NNE	NNE	NNE	NE	NNE	NNE	65	ENE
Apr 4	NNE	NNE	NE	NE	NNE	NNE	NE	NE	NE	NNE	NNE	NNE	NE	NNE	N	N	N	N	N	ENE	SSE	ESE	ESE	E	33	NNE
Apr 5	E	E	E	E	ENE	ENE	ENE	E	E	ESE	ESE	E	E	E	ENE	NE	ENE	ENE	ENE	ENE	E	E	ENE	ENE	80	E
Apr 6	E	E	E	E	ESE	ESE	E	ENE	ESE	SSE	SSW	WSW	SW	SW	ESE	W	WSW	N	N	NE	NNE	E	SSE	SE	99	E
Apr 7	ESE	E	ENE	N	ENE	S	SSW	SSW	SSW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	245	WSW
Apr 8	WSW	SW	SW	SW	SW	SW	SW	SW	WSW	WSW	W	WSW	WSW	WSW	W	WSW	WSW	WSW	WSW	SSW	SSW	SSW	SSW	SSW	243	WSW
Apr 9	SSW	SSW	SSW	SW	SW	S	SSW	SSW	SSW	SSW	SW	W	W	WSW	W	WSW	SW	S	SSE	S	S	S	S	S	211	SSW
Apr 10	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SW	WSW	WSW	WSW	WSW	SW	SSW	SW	WSW	SW	WSW	WNW	SSW	SSW	SSW	SSW	229	SW
Apr 11	SSW	SW	SW	WSW	WSW	WSW	WSW	W	WSW	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SSW	SSW	SSW	SSW	249	WSW
Apr 12	S	S	S	S	S	S	S	S	S	S	S	SSW	SSW	SW	SW	SW	WSW	WSW	SSW	SSW	SSE	SSE	S	SSW	203	SSW
Apr 13	SSW	SSW	S	SSW	SSW	S	S	S	S	S	S	SSW	SW	SW	WSW	SW	WSW	W	WSW	W	W	WNW	SSW	WSW	217	SW
Apr 14	W	W	W	WSW	W	WSW	WSW	W	WSW	WSW	W	W	WSW	W	W	WNW	W	W	NW	NNW	N	NNW	W	WNW	275	W
Apr 15	N	NNE	NNE	NNW	NNE	N	N	N	NNE	NNE	NNE	NNE	NNE	N	N	NNE	W	WNW	W	S	S	SSW	SSW	SSW	3	N
Apr 16	S	S	S	S	S	S	SSE	SSE	SSE	SSE	SSE	S	S	SSW	SSW	S	SW	SW	SSW	S	S	S	S	S	187	S
Apr 17	S	S	SSW	SSW	SSW	SSW	S	SSW	SW	SW	SW	W	W	WSW	W	W	WNW	W	W	WSW	WSW	SW	SW	SW	242	WSW
Apr 18	SW	SSW	SSW	S	S	S	SSW	S	SSW	SW	WSW	WSW	WSW	WSW	W	W	W	WSW	WSW	WSW	SSW	SSW	SW	SW	235	SW
Apr 19	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	W	W	W	W	WSW	WSW	WSW	W	WSW	WSW	WSW	256	WSW
Apr 20	WSW	WSW	WSW	WSW	WSW	W	WSW	WNW	W	WNW	WSW	W	W	W	W	W	NW	WNW	NW	NW	NNW	N	SSW	SSW	268	W
Apr 21	SSW	SSW	SSW	S	S	S	S	SSE	SSE	SSE	SSE	S	S	S	S	SSW	SSW	S	S	S	SSW	SSW	SSW	SSW	187	S
Apr 22	SSW	SSW	S	S	S	SSE	SSE	SSE	SSE	SSE	SSE	S	WSW	SW	S	S	SSW	SW	WSW	WSW	WSW	SW	SW	SW	206	SSW
Apr 23	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	W	W	W	W	W	W	W	W	WSW	W	WSW	WSW	262	W
Apr 24	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	WSW	WSW	W	WNW	WNW	C	WNW	WNW	NW	WNW	W	WSW	WSW	WSW	266	W
Apr 25	W	WSW	WSW	WSW	WSW	WSW	WSW	W	WNW	NW	WNW	W	WNW	W	WSW	W	WNW	WNW	WNW	NNW	N	NNE	E	E	275	W
Apr 26	SE	ESE	NNE	NE	NE	E	E	E	E	E	E	ENE	ENE	ENE	ENE	ENE	ENE	ENE	E	E	ENE	ENE	ENE	ENE	77	ENE
Apr 27	E	E	E	E	ENE	ENE	ENE	NE	NE	NE	ENE	E	NE	NNE	NNE	NNE	NNE	NNE	NNE	N	N	NNE	NNW	NNE	54	NE
Apr 28	NNE	N	WSW	WSW	W	NNW	W	N	NNE	N	N	NNW	NNW	NNE	N	N	N	NNE	NNE	NNE	NE	ESE	ESE	S	0	N
Apr 29	S	S	SSW	SSW	SSW	SSW	SW	WSW	WSW	W	WNW	NW	NNW	NNW	N	N	NNE	N	NNE	NNE	N	NNE	N	N	341	NNW
Apr 30	N	N	NNW	NNW	NNE	NNE	NNE	NNE	NE	NNE	NNE	N	N	NNW	NE	NW	N	ENE	NE	NE	ENE	ESE	S	SSW	15	NNE

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

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

Timeseries Chart of Hourly Average for VWD - Reno Site



VOC CANISTER SAMPLING RESULTS

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PEACE RIVER AREA MONITORING PROGRAM

Reno Site - April 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	2019-04-10
Canister Sample	Methane
Canister ID	32212

Method	NA-025		Method	NA-024		Method	AC-058	
Maximum Reading	2.9		Maximum Reading	NA		Maximum Reading	12.6	
Parameter	**Result (ppmv)**	**RDL (ppmv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**
1-Butene	0	0.15	2,5-Dimethylthiophene	NA	NA	1,1,1-Trichloroethane	0	0.03
Acetylene	0	0.12	2-Ethylthiophene	NA	NA	1,1,2,2-Tetrachloroethane	0	0.03
cis-2-Butene	0	0.06	2-Methylthiophene	NA	NA	1,1,2-Trichloroethane	0	0.03
Ethane	0	0.15	3-Methylthiophene	NA	NA	1,1-Dichloroethane	0	0.03
Ethylacetylene	0	0.09	Butyl mercaptan	NA	NA	1,1-Dichloroethylene	0	0.06
Ethylene	0	0.11	Carbon disulphide	NA	NA	1,2,3-Trimethylbenzene	0	0.08
Isobutane	0	0.15	Carbonyl sulphide	NA	NA	1,2,4-Trichlorobenzene	0	1.2
Isobutylene	0	0.15	Dimethyl disulphide	NA	NA	1,2,4-Trimethylbenzene	0	0.08
Methane	2.9	0.15	Dimethyl sulphide	NA	NA	1,2-Dibromoethane	0	0.03
n-Butane	0	0.30	Ethyl mercaptan	NA	NA	1,2-Dichlorobenzene	0	0.05
n-Propane	0	0.11	Ethyl sulphide	NA	NA	1,2-Dichloroethane	0	0.02
Propylene	0	0.15	Hydrogen sulphide	NA	NA	1,2-Dichloropropane	0	0.02
Propyne	0	0.15	Isobutyl mercaptan	NA	NA	1,3,5-Trimethylbenzene	0	0.03
trans-2-Butene	0	0.14	Isopropyl mercaptan	NA	NA	1,3-Butadiene	0	0.03
			Methyl mercaptan	NA	NA	1,3-Dichlorobenzene	0	0.5
			Pentyl mercaptan	NA	NA	1,4-Dichlorobenzene	0	0.6
			Propyl mercaptan	NA	NA	1,4-Dioxane	0	0.6
			tert-Butyl mercaptan	NA	NA	1-Butene/Isobutylene	0	0.03
			Thiophene	NA	NA	1-Hexene/2-Methyl-1-pentene	0	0.03
						1-Pentene	0	0.02
						2,2,4-Trimethylpentane	0	0.02
						2,2-Dimethylbutane	0	0.02
						2,3,4-Trimethylpentane	0	0.02
						2,3-Dimethylbutane	0	0.03
						2,3-Dimethylpentane	0	0.03
						2,4-Dimethylpentane	0	0.02
						2-Methylheptane	0	0.02
						2-Methylhexane	0	0.02
						2-Methylpentane	0.05	0.02
						3-Methylheptane	0	0.03
						3-Methylhexane	0	0.03
						3-Methylpentane	0	0.02
						Acetone	12.6	0.6
						Acrolein	0.5	0.5
						Benzene	0	0.02
						Benzyl chloride	0	0.6
						Bromodichloromethane	0	0.03
						Bromoform	0	0.03
						Bromomethane	0	0.02
						Carbon disulfide	0.12	0.02
						Carbon tetrachloride	0	0.02
						Chlorobenzene	0	0.03
						Chloroethane	0	0.03
						Chloroform	0	0.03
						Chloromethane	0.55	0.03
						cis-1,2-Dichloroethene	0	0.02
						cis-1,3-Dichloropropene	0	0.06
						cis-2-Butene	0	0.03
						cis-2-Pentene	0	0.03
						Cyclohexane	0	0.03
						Cyclopentane	0	0.02
						Dibromochloromethane	0	0.02
						Ethanol	2.5	0.5
						Ethyl acetate	0	0.6
						Ethylbenzene	0	0.02
						Freon-11	0.15	0.03
						Freon-113	0	0.02
						Freon-114	0	0.03

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PEACE RIVER AREA MONITORING PROGRAM

Reno Site - April 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	2019-04-10
Canister Sample	Methane
Canister ID	32212

Method	NA-025	Method	NA-024	Method	AC-058
Maximum Reading	2.9	Maximum Reading	NA	Maximum Reading	12.6

Parameter	Result (ppmv)	RDL (ppmv)	Parameter	Result (ppbv)	RDL (ppbv)	Parameter	Result (ppbv)	RDL (ppbv)
						Freon-12	0.43	0.03
						Hexachloro-1,3-butadiene	0	0.76
						Isobutane	0.24	0.03
						Isopentane	0.28	0.05
						Isoprene	0	0.02
						Isopropyl alcohol	0	0.6
						Isopropylbenzene	0	0.02
						m,p-Xylene	0	0.05
						m-Diethylbenzene	0	0.06
						m-Ethyltoluene	0	0.12
						Methyl butyl ketone	0	0.76
						Methyl ethyl ketone	0	0.5
						Methyl isobutyl ketone	0	0.6
						Methyl methacrylate	0	0.11
						Methyl tert butyl ether	0	0.05
						Methylcyclohexane	0.16	0.02
						Methylcyclopentane	0.11	0.03
						Methylene chloride	0	0.5
						n-Butane	0.25	0.05
						n-Decane	0	0.09
						n-Dodecane	0	0.6
						n-Heptane	0	0.02
						n-Hexane	0	0.02
						n-Nonane	0	0.02
						n-Octane	0	0.03
						n-Pentane	0	0.2
						n-Propylbenzene	0	0.08
						n-Undecane	0	0.8
						Naphthalene	0	0.8
						o-Ethyltoluene	0	0.02
						o-Xylene	0	0.02
						p-Diethylbenzene	0	0.06
						p-Ethyltoluene	0	0.11
						Styrene	0.22	0.06
						Tetrachloroethylene	0	0.06
						Tetrahydrofuran	0	0.6
						Toluene	0.85	0.02
						trans-1,2-Dichloroethylene	0	0.02
						trans-1,3-Dichloropropylene	0	0.06
						trans-2-Butene	0	0.02
						trans-2-Pentene	0	0.03
						Trichloroethylene	0	0.06
						Vinyl acetate	0	0.6
						Vinyl chloride	0	0.03

Note: RSC analysis (NA-024) is not performed due to equipment failure.

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PEACE RIVER AREA MONITORING PROGRAM

Reno Site - April 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	**2019-04-10**
Canister Sample	**Blank**
Canister ID	**32190**

Method	**NA-025**		**Method**	**NA-024**		**Method**	**AC-058**	
Maximum Reading	**0**		**Maximum Reading**	**0**		**Maximum Reading**	**1.27**	
Parameter	**Result (ppmv)**	**RDL (ppmv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**
1-Butene	0	1.34	2,5-Dimethylthiophene	NA	NA	1,1,1-Trichloroethane	0	0.02
Acetylene	0	1.08	2-Ethylthiophene	NA	NA	1,1,2,2-Tetrachloroethane	0	0.02
cis-2-Butene	0	0.54	2-Methylthiophene	NA	NA	1,1,2-Trichloroethane	0	0.02
Ethane	0	1.34	3-Methylthiophene	NA	NA	1,1-Dichloroethane	0	0.02
Ethylacetylene	0	0.81	Butyl mercaptan	NA	NA	1,1-Dichloroethylene	0	0.04
Ethylene	0	0.94	Carbon disulphide	NA	NA	1,2,3-Trimethylbenzene	0	0.05
Isobutane	0	1.34	Carbonyl sulphide	NA	NA	1,2,4-Trichlorobenzene	0	0.8
Isobutylene	0	1.34	Dimethyl disulphide	NA	NA	1,2,4-Trimethylbenzene	0	0.05
Methane	0	1.34	Dimethyl sulphide	NA	NA	1,2-Dibromoethane	0	0.02
n-Butane	0	2.69	Ethyl mercaptan	NA	NA	1,2-Dichlorobenzene	0	0.03
n-Propane	0	0.94	Ethyl sulphide	NA	NA	1,2-Dichloroethane	0	0.01
Propylene	0	1.34	Hydrogen sulphide	NA	NA	1,2-Dichloropropane	0	0.01
Propyne	0	1.34	Isobutyl mercaptan	NA	NA	1,3,5-Trimethylbenzene	0	0.02
trans-2-Butene	0	1.21	Isopropyl mercaptan	NA	NA	1,3-Butadiene	0	0.02
			Methyl mercaptan	NA	NA	1,3-Dichlorobenzene	0	0.3
			Pentyl mercaptan	NA	NA	1,4-Dichlorobenzene	0	0.4
			Propyl mercaptan	NA	NA	1,4-Dioxane	0	0.4
			tert-Butyl mercaptan	NA	NA	1-Butene/Isobutylene	1.27	0.02
			Thiophene	NA	NA	1-Hexene/2-Methyl-1-pentene	0	0.02
						1-Pentene	0	0.01
						2,2,4-Trimethylpentane	0	0.01
						2,2-Dimethylbutane	0	0.01
						2,3,4-Trimethylpentane	0	0.01
						2,3-Dimethylbutane	0	0.02
						2,3-Dimethylpentane	0	0.02
						2,4-Dimethylpentane	0	0.01
						2-Methylheptane	0	0.01
						2-Methylhexane	0	0.01
						2-Methylpentane	0	0.01
						3-Methylheptane	0	0.02
						3-Methylhexane	0	0.02
						3-Methylpentane	0	0.01
						Acetone	0	0.4
						Acrolein	0	0.3
						Benzene	0	0.01
						Benzyl chloride	0	0.4
						Bromodichloromethane	0	0.02
						Bromoform	0	0.02
						Bromomethane	0	0.01
						Carbon disulfide	0	0.01
						Carbon tetrachloride	0	0.01
						Chlorobenzene	0	0.02
						Chloroethane	0	0.02
						Chloroform	0	0.02
						Chloromethane	0	0.02
						cis-1,2-Dichloroethene	0	0.01
						cis-1,3-Dichloropropene	0	0.04
						cis-2-Butene	0	0.02
						cis-2-Pentene	0	0.02
						Cyclohexane	0	0.02
						Cyclopentane	0	0.01
						Dibromochloromethane	0	0.01
						Ethanol	0	0.3
						Ethyl acetate	0	0.4
						Ethylbenzene	0	0.01
						Freon-11	0	0.02
						Freon-113	0	0.01
						Freon-114	0	0.02

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PEACE RIVER AREA MONITORING PROGRAM

Reno Site - April 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	**2019-04-10**
Canister Sample	**Blank**
Canister ID	**32190**

Method	**NA-025**	**Method**	**NA-024**	**Method**	**AC-058**
Maximum Reading	**0**	**Maximum Reading**	**0**	**Maximum Reading**	**1.27**

Parameter	**Result (ppmv)**	**RDL (ppmv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**
						Freon-12	0	0.02
						Hexachloro-1,3-butadiene	0	0.50
						Isobutane	0	0.02
						Isopentane	0	0.03
						Isoprene	0	0.01
						Isopropyl alcohol	0	0.4
						Isopropylbenzene	0	0.01
						m,p-Xylene	0	0.03
						m-Diethylbenzene	0	0.04
						m-Ethyltoluene	0	0.08
						Methyl butyl ketone	0	0.50
						Methyl ethyl ketone	0	0.3
						Methyl isobutyl ketone	0	0.4
						Methyl methacrylate	0	0.07
						Methyl tert butyl ether	0	0.03
						Methylcyclohexane	0	0.01
						Methylcyclopentane	0	0.02
						Methylene chloride	0	0.3
						n-Butane	0	0.03
						n-Decane	0	0.06
						n-Dodecane	0	0.4
						n-Heptane	0	0.01
						n-Hexane	0	0.01
						n-Nonane	0	0.01
						n-Octane	0	0.02
						n-Pentane	0	0.1
						n-Propylbenzene	0	0.05
						n-Undecane	0	0.5
						Naphthalene	0	0.5
						o-Ethyltoluene	0	0.01
						o-Xylene	0	0.01
						p-Diethylbenzene	0	0.04
						p-Ethyltoluene	0	0.07
						Styrene	0.12	0.04
						Tetrachloroethylene	0	0.04
						Tetrahydrofuran	0	0.4
						Toluene	0	0.01
						trans-1,2-Dichloroethylene	0	0.01
						trans-1,3-Dichloropropylene	0	0.04
						trans-2-Butene	0	0.01
						trans-2-Pentene	0	0.02
						Trichloroethylene	0	0.04
						Vinyl acetate	0	0.4
						Vinyl chloride	0	0.02

Note: RSC analysis (NA-024) is not performed due to equipment failure.

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PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	2019-03-17
Canister Sample	Control Sample
Canister ID	29002

Method	NA-025		Method	NA-024		Method	AC-058	
Maximum Reading	0		Maximum Reading	0		Maximum Reading	1.87	
Parameter	**Result (ppmv)**	**RDL (ppmv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**
1-Butene	0	1.48	2,5-Dimethylthiophene	0	0.3	1,1,1-Trichloroethane	0	0.02
Acetylene	0	1.18	2-Ethylthiophene	0	0.2	1,1,2,2-Tetrachloroethane	0	0.02
cis-2-Butene	0	0.59	2-Methylthiophene	0	0.2	1,1,2-Trichloroethane	0	0.02
Ethane	0	1.48	3-Methylthiophene	0	0.3	1,1-Dichloroethane	0	0.02
Ethylacetylene	0	0.89	Butyl mercaptan	0	0.3	1,1-Dichloroethylene	0	0.04
Ethylene	0	1.04	Carbon disulphide	0	0.2	1,2,3-Trimethylbenzene	0	0.05
Isobutane	0	1.48	Carbonyl sulphide	0	0.3	1,2,4-Trichlorobenzene	0	0.8
Isobutylene	0	1.48	Dimethyl disulphide	0	0.2	1,2,4-Trimethylbenzene	0	0.05
Methane	0	1.48	Dimethyl sulphide	0	0.2	1,2-Dibromoethane	0	0.02
n-Butane	0	2.96	Ethyl mercaptan	0	0.3	1,2-Dichlorobenzene	0	0.03
n-Propane	0	1.04	Ethyl sulphide	0	0.3	1,2-Dichloroethane	0	0.01
Propylene	0	1.48	Hydrogen sulphide	0	0.1	1,2-Dichloropropane	0	0.01
Propyne	0	1.48	Isobutyl mercaptan	0	0.3	1,3,5-Trimethylbenzene	0	0.02
trans-2-Butene	0	1.33	Isopropyl mercaptan	0	0.3	1,3-Butadiene	0	0.02
			Methyl mercaptan	0	0.2	1,3-Dichlorobenzene	0	0.3
			Pentyl mercaptan	0	0.4	1,4-Dichlorobenzene	0	0.4
			Propyl mercaptan	0	0.4	1,4-Dioxane	0	0.4
			tert-Butyl mercaptan	0	0.3	1-Butene/Isobutylene	0	0.02
			Thiophene	0	0.2	1-Hexene/2-Methyl-1-pentene	0	0.02
						1-Pentene	0	0.01
						2,2,4-Trimethylpentane	0	0.01
						2,2-Dimethylbutane	0	0.01
						2,3,4-Trimethylpentane	0	0.01
						2,3-Dimethylbutane	0	0.02
						2,3-Dimethylpentane	0	0.02
						2,4-Dimethylpentane	0	0.01
						2-Methylheptane	0	0.01
						2-Methylhexane	0	0.01
						2-Methylpentane	0	0.01
						3-Methylheptane	0	0.02
						3-Methylhexane	0	0.02
						3-Methylpentane	0	0.01
						Acetone	0	0.4
						Acrolein	0	0.3
						Benzene	0	0.01
						Benzyl chloride	0	0.4
						Bromodichloromethane	0	0.02
						Bromoform	0	0.02
						Bromomethane	0	0.01
						Carbon disulfide	0	0.01
						Carbon tetrachloride	0	0.01
						Chlorobenzene	0	0.02
						Chloroethane	0	0.02
						Chloroform	0	0.02
						Chloromethane	0	0.02
						cis-1,2-Dichloroethene	0	0.01
						cis-1,3-Dichloropropene	0	0.04
						cis-2-Butene	0	0.02
						cis-2-Pentene	0	0.02
						Cyclohexane	0	0.02
						Cyclopentane	1.87	0.01
						Dibromochloromethane	0	0.01
						Ethanol	0	0.3
						Ethyl acetate	0	0.4
						Ethylbenzene	0	0.01
						Freon-11	0	0.02
						Freon-113	0	0.01
						Freon-114	0	0.02

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PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	2019-03-17
Canister Sample	Control Sample
Canister ID	29002

Method	NA-025	Method	NA-024	Method	AC-058
Maximum Reading	0	Maximum Reading	0	Maximum Reading	1.87

Parameter	Result (ppmv)	RDL (ppmv)	Parameter	Result (ppbv)	RDL (ppbv)	Parameter	Result (ppbv)	RDL (ppbv)
						Freon-12	0	0.02
						Hexachloro-1,3-butadiene	0	0.50
						Isobutane	0	0.02
						Isopentane	0.08	0.03
						Isoprene	0	0.01
						Isopropyl alcohol	0	0.4
						Isopropylbenzene	0	0.01
						m,p-Xylene	0	0.03
						m-Diethylbenzene	0	0.04
						m-Ethyltoluene	0	0.08
						Methyl butyl ketone	0	0.50
						Methyl ethyl ketone	0	0.3
						Methyl isobutyl ketone	0	0.4
						Methyl methacrylate	0	0.07
						Methyl tert butyl ether	0	0.03
						Methylcyclohexane	0	0.01
						Methylcyclopentane	0	0.02
						Methylene chloride	0	0.3
						n-Butane	0	0.03
						n-Decane	0	0.06
						n-Dodecane	0	0.4
						n-Heptane	0	0.01
						n-Hexane	0	0.01
						n-Nonane	0.04	0.01
						n-Octane	0	0.02
						n-Pentane	0	0.1
						n-Propylbenzene	0	0.05
						n-Undecane	0	0.5
						Naphthalene	0	0.5
						o-Ethyltoluene	0	0.01
						o-Xylene	0	0.01
						p-Diethylbenzene	0	0.04
						p-Ethyltoluene	0	0.07
						Styrene	0	0.04
						Tetrachloroethylene	0	0.04
						Tetrahydrofuran	0	0.4
						Toluene	0	0.01
						trans-1,2-Dichloroethylene	0	0.01
						trans-1,3-Dichloropropylene	0	0.04
						trans-2-Butene	0	0.01
						trans-2-Pentene	0	0.02
						Trichloroethylene	0	0.04
						Vinyl acetate	0	0.4
						Vinyl chloride	0	0.02

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PEACE RIVER AREA MONITORING PROGRAM

986 Site - March 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	2019-03-20
Canister Sample	Control Sample
Canister ID	28953

Method	NA-025		Method	NA-024		Method	AC-058	
Maximum Reading	2		Maximum Reading	2.2		Maximum Reading	25.5	
Parameter	**Result (ppmv)**	**RDL (ppmv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**
1-Butene	0	0.14	2,5-Dimethylthiophene	0	0.4	1,1,1-Trichloroethane	0	0.03
Acetylene	0	0.11	2-Ethylthiophene	0	0.3	1,1,2,2-Tetrachloroethane	0	0.03
cis-2-Butene	0	0.06	2-Methylthiophene	0	0.3	1,1,2-Trichloroethane	0	0.03
Ethane	0	0.14	3-Methylthiophene	0	0.4	1,1-Dichloroethane	0	0.03
Ethylacetylene	0	0.08	Butyl mercaptan	0	0.4	1,1-Dichloroethylene	0	0.06
Ethylene	0	0.10	Carbon disulphide	0	0.3	1,2,3-Trimethylbenzene	0	0.07
Isobutane	0	0.14	Carbonyl sulphide	2.2	0.4	1,2,4-Trichlorobenzene	0	1.1
Isobutylene	0	0.14	Dimethyl disulphide	0	0.3	1,2,4-Trimethylbenzene	0	0.07
Methane	2	0.14	Dimethyl sulphide	0	0.3	1,2-Dibromoethane	0	0.03
n-Butane	0	0.28	Ethyl mercaptan	0	0.4	1,2-Dichlorobenzene	0	0.04
n-Propane	0	0.10	Ethyl sulphide	0	0.4	1,2-Dichloroethane	0	0.01
Propylene	0	0.14	Hydrogen sulphide	1.9	0.1	1,2-Dichloropropane	0	0.01
Propyne	0	0.14	Isobutyl mercaptan	0	0.4	1,3,5-Trimethylbenzene	0	0.03
trans-2-Butene	0	0.13	Isopropyl mercaptan	0	0.4	1,3-Butadiene	0	0.03
			Methyl mercaptan	0	0.3	1,3-Dichlorobenzene	0	0.4
			Pentyl mercaptan	0	0.6	1,4-Dichlorobenzene	0	0.6
			Propyl mercaptan	0	0.6	1,4-Dioxane	0	0.6
			tert-Butyl mercaptan	0	0.4	1-Butene/Isobutylene	0.13	0.03
			Thiophene	0	0.3	1-Hexene/2-Methyl-1-pentene	0	0.03
						1-Pentene	0	0.01
						2,2,4-Trimethylpentane	0	0.01
						2,2-Dimethylbutane	0.06	0.01
						2,3,4-Trimethylpentane	0	0.01
						2,3-Dimethylbutane	0	0.03
						2,3-Dimethylpentane	0	0.03
						2,4-Dimethylpentane	0	0.01
						2-Methylheptane	0	0.01
						2-Methylhexane	0	0.01
						2-Methylpentane	0.2	0.01
						3-Methylheptane	0	0.03
						3-Methylhexane	0	0.03
						3-Methylpentane	0	0.01
						Acetone	8.1	0.6
						Acrolein	0	0.4
						Benzene	0	0.01
						Benzyl chloride	0	0.6
						Bromodichloromethane	0	0.03
						Bromoform	0	0.03
						Bromomethane	0	0.01
						Carbon disulfide	0.05	0.01
						Carbon tetrachloride	0.08	0.01
						Chlorobenzene	0	0.03
						Chloroethane	0	0.03
						Chloroform	0	0.03
						Chloromethane	0.49	0.03
						cis-1,2-Dichloroethene	0	0.01
						cis-1,3-Dichloropropene	0	0.06
						cis-2-Butene	0	0.03
						cis-2-Pentene	0	0.03
						Cyclohexane	0	0.03
						Cyclopentane	25.5	0.01
						Dibromochloromethane	0.04	0.01
						Ethanol	2.2	0.4
						Ethyl acetate	0	0.6
						Ethylbenzene	0	0.01
						Freon-11	0.2	0.03
						Freon-113	0	0.01
						Freon-114	0	0.03

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PEACE RIVER AREA MONITORING PROGRAM

986 Site - March 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	2019-03-20
Canister Sample	Control Sample
Canister ID	28953

Method	NA-025	Method	NA-024	Method	AC-058
Maximum Reading	2	Maximum Reading	2.2	Maximum Reading	25.5

Parameter	Result (ppmv)	RDL (ppmv)	Parameter	Result (ppbv)	RDL (ppbv)	Parameter	Result (ppbv)	RDL (ppbv)
						Freon-12	0.4	0.03
						Hexachloro-1,3-butadiene	0	0.70
						Isobutane	0.87	0.03
						Isopentane	1.68	0.04
						Isoprene	0	0.01
						Isopropyl alcohol	0	0.6
						Isopropylbenzene	0	0.01
						m,p-Xylene	0	0.04
						m-Diethylbenzene	0	0.06
						m-Ethyltoluene	0	0.11
						Methyl butyl ketone	0	0.70
						Methyl ethyl ketone	0	0.4
						Methyl isobutyl ketone	0	0.6
						Methyl methacrylate	0	0.10
						Methyl tert butyl ether	0	0.04
						Methylcyclohexane	0	0.01
						Methylcyclopentane	0	0.03
						Methylene chloride	0	0.4
						n-Butane	1.94	0.04
						n-Decane	0	0.08
						n-Dodecane	0	0.6
						n-Heptane	0	0.01
						n-Hexane	0.03	0.01
						n-Nonane	0	0.01
						n-Octane	0	0.03
						n-Pentane	1	0.1
						n-Propylbenzene	0	0.07
						n-Undecane	0	0.7
						Naphthalene	0	0.7
						o-Ethyltoluene	0	0.01
						o-Xylene	0	0.01
						p-Diethylbenzene	0	0.06
						p-Ethyltoluene	0	0.10
						Styrene	0	0.06
						Tetrachloroethylene	0	0.06
						Tetrahydrofuran	0	0.6
						Toluene	0.17	0.01
						trans-1,2-Dichloroethylene	0.14	0.01
						trans-1,3-Dichloropropylene	0	0.06
						trans-2-Butene	0	0.01
						trans-2-Pentene	0	0.03
						Trichloroethylene	0	0.06
						Vinyl acetate	0	0.6
						Vinyl chloride	0	0.03

REFERENCE DOCUMENTS

HOURLY INSTANTANEOUS DATA

986 STATION

PEACE RIVER AREA MONITORING PROGRAM

986b Station - April 2019

Summary of Hourly Instantaneous Maximums

SULPHUR DIOXIDE (SO_2) in ppb

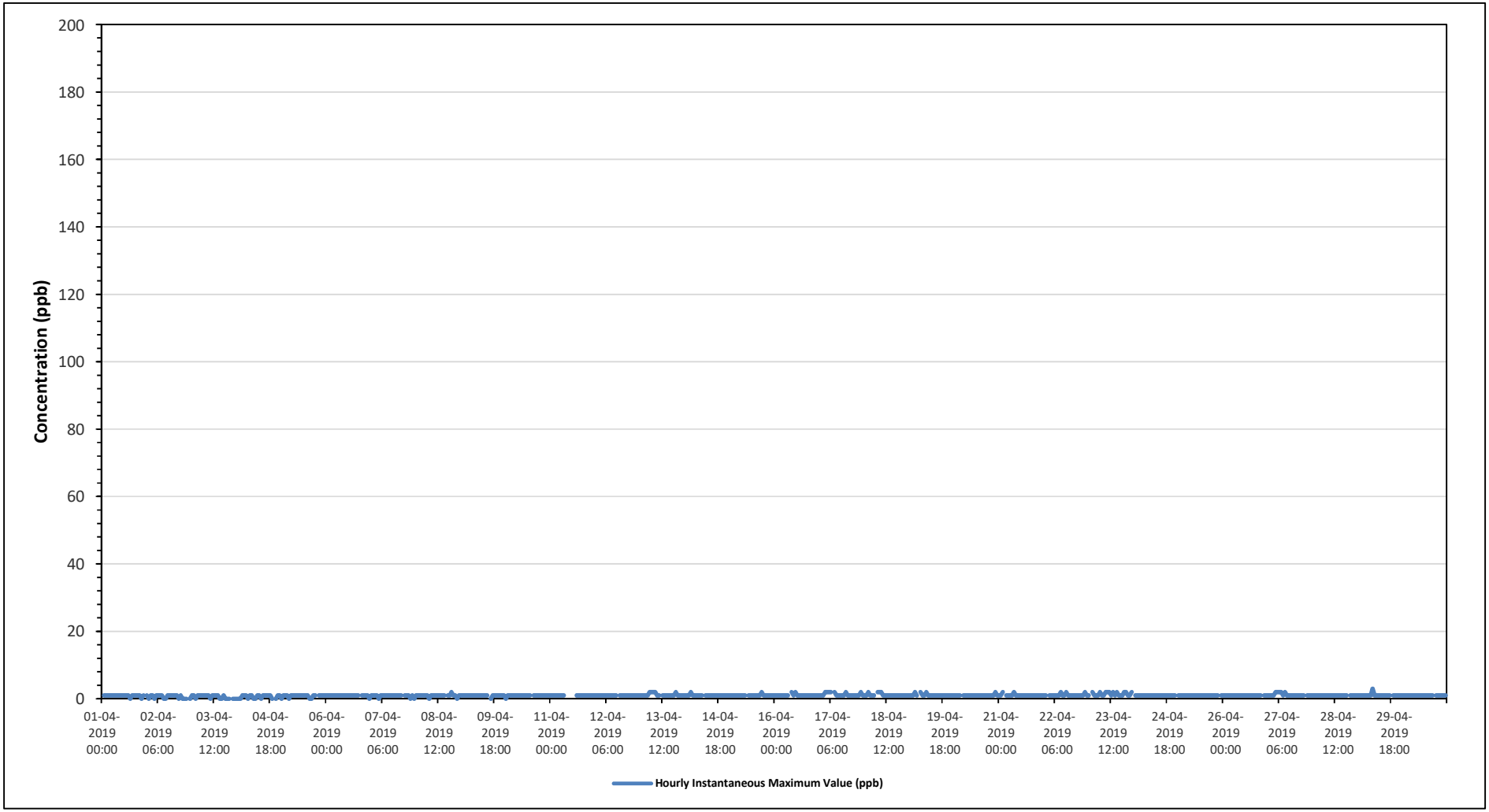
Maximum Hourly Value:	3	ppb	on April 29 at hour 8	Hours in Service:	720
Maximum Daily Value:	1.4	ppb	on April 23	Hours of Data:	683
Minimum Hourly Value:	0	ppb	on April 1 at hour 1	Hours of Missing Data:	0
Minimum Daily Value:	0.6	ppb	on April 2	Hours of Calibration:	37
Monthly Average:	1.0	ppb		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	S	0	1	0.9
Apr 2	1	0	1	1	0	1	1	1	1	0	0	1	1	1	1	1	1	0	1	0	0	0	S	0	0	1	0.6
Apr 3	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	0	0	1	0	0	0	S	0	0	0	1	0.6
Apr 4	0	0	0	1	1	1	0	1	1	0	0	1	1	0	1	1	1	1	1	0	S	0	1	1	0	1	0.6
Apr 5	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	0	1	1	S	1	1	1	1	0	1	0.8
Apr 6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	0	0	1	1.0
Apr 7	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	0	1	0	0	1	0.9
Apr 8	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	S	1	1	2	1	1	0	1	0	2	1.0
Apr 9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	0	1	1	1	1	1	1	1	0	1	1.0
Apr 10	0	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	0	1	1.0
Apr 11	1	1	1	1	1	1	1	1	C	C	C	C	C	C	1	1	1	1	1	1	1	1	1	1	1	1	1.0
Apr 12	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0
Apr 13	1	1	1	1	1	2	2	2	2	1	1	S	1	1	1	1	1	1	1	2	1	1	1	1	1	2	1.2
Apr 14	1	1	1	2	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0
Apr 15	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	2	1.0
Apr 16	1	1	1	1	1	1	1	1	S	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1
Apr 17	1	1	1	2	2	2	2	S	2	1	1	1	1	1	2	1	1	1	1	1	1	1	2	1	1	2	1.3
Apr 18	1	1	2	1	1	1	S	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.2
Apr 19	1	1	1	2	1	S	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1
Apr 20	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	1.0
Apr 21	1	1	2	S	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1
Apr 22	1	1	S	1	1	1	1	1	1	2	1	1	2	1	1	1	1	1	1	1	1	1	2	1	1	2	1.1
Apr 23	1	S	2	1	1	1	2	1	1	2	2	2	1	2	1	2	1	1	1	2	2	1	1	2	1	2	1.4
Apr 24	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1.0
Apr 25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1.0
Apr 26	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1.0
Apr 27	1	1	1	1	2	2	2	2	1	2	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	2	1.2
Apr 28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1.0
Apr 29	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	3	1.1
Apr 30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1.0
Diurnal Maximum	1	1	2	2	2	2	2	2	3	2	2	2	2	2	2	2	1	2	1	2	2	1	2	2			
Daiurnal Average	0.9	0.9	1.0	1.1	1.0	1.1	1.1	1.1	1.2	1.1	0.9	1.1	1.0	1.0	1.0	0.9	0.9	1.0	1.0	1.0	1.0	0.9	1.0	0.9			

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

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

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



PEACE RIVER AREA MONITORING PROGRAM

986b Station - April 2019

Summary of Hourly Instantaneous Maximums

TOTAL REDUCED SULPHUR (TRS) in ppb

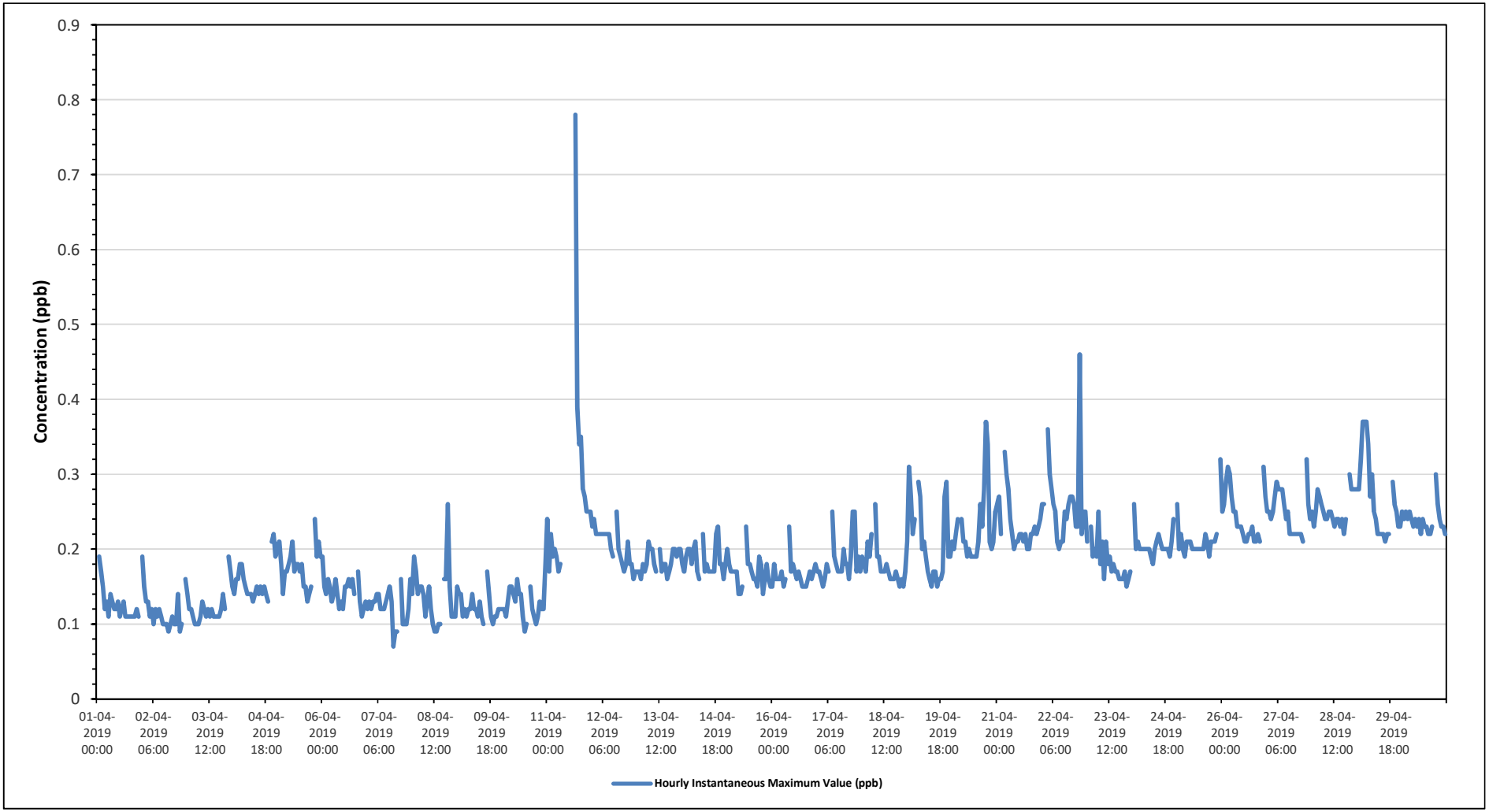
Maximum Hourly Value:	0.78	ppb	on April 11 at hour 15	Hours in Service:	720
Maximum Daily Value:	0.27	ppb	on April 29	Hours of Data:	682
Minimum Hourly Value:	0.07	ppb	on April 7 at hour 14	Hours of Missing Data:	0
Minimum Daily Value:	0.12	ppb	on April 2	Hours of Calibration:	38
Monthly Average:	0.19	ppb		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	S	0.19	0.17	0.15	0.12	0.13	0.11	0.14	0.13	0.12	0.12	0.13	0.11	0.12	0.13	0.11	0.11	0.11	0.11	0.11	0.11	0.12	0.11	S	0.11	0.19	0.13
Apr 2	0.19	0.15	0.13	0.13	0.11	0.12	0.1	0.12	0.11	0.12	0.11	0.1	0.1	0.1	0.09	0.1	0.11	0.1	0.1	0.14	0.09	0.1	S	0.16	0.09	0.19	0.12
Apr 3	0.14	0.12	0.12	0.11	0.1	0.1	0.1	0.11	0.13	0.12	0.11	0.12	0.11	0.12	0.11	0.11	0.11	0.11	0.12	0.14	0.12	S	0.19	0.17	0.10	0.19	0.12
Apr 4	0.15	0.14	0.16	0.16	0.18	0.18	0.16	0.15	0.14	0.14	0.14	0.13	0.14	0.15	0.14	0.15	0.14	0.15	0.14	0.13	S	0.21	0.22	0.19	0.13	0.22	0.16
Apr 5	0.2	0.21	0.18	0.14	0.17	0.17	0.18	0.19	0.21	0.17	0.18	0.18	0.17	0.18	0.15	0.15	0.13	0.14	0.15	S	0.24	0.19	0.21	0.19	0.13	0.24	0.18
Apr 6	0.19	0.15	0.14	0.16	0.15	0.13	0.14	0.16	0.14	0.12	0.13	0.12	0.15	0.15	0.16	0.15	0.16	0.14	S	0.17	0.13	0.11	0.12	0.13	0.11	0.19	0.14
Apr 7	0.12	0.13	0.12	0.13	0.13	0.14	0.14	0.12	0.12	0.12	0.13	0.14	0.15	0.13	**0.07**	0.09	0.09	S	0.16	0.1	0.1	0.1	0.12	0.16	**0.07**	0.16	0.12
Apr 8	0.14	0.19	0.17	0.14	0.15	0.15	0.14	0.11	0.13	0.15	0.12	0.1	0.09	0.09	0.1	0.1	S	0.16	0.16	0.26	0.15	0.11	0.11	0.11	0.09	0.26	0.14
Apr 9	0.15	0.14	0.14	0.11	0.12	0.11	0.12	0.12	0.14	0.12	0.12	0.11	0.13	0.11	0.1	S	0.17	0.14	0.11	0.1	0.11	0.11	0.12	0.12	0.10	0.17	0.12
Apr 10	0.12	0.12	0.11	0.13	0.15	0.15	0.14	0.13	0.16	0.14	0.14	0.11	0.09	0.1	S	0.15	0.12	0.11	0.1	0.11	0.13	0.12	0.12	0.18	0.09	0.18	0.13
Apr 11	0.24	0.17	0.22	0.19	0.2	0.19	0.17	0.18	C	C	C	C	C	C	C	**0.78**	0.39	0.34	0.35	0.28	0.27	0.25	0.25	0.25	0.17	**0.78**	-
Apr 12	0.23	0.24	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.2	0.19	S	0.25	0.2	0.19	0.18	0.17	0.18	0.21	0.18	0.18	0.16	0.17	0.16	0.25	0.20
Apr 13	0.17	0.17	0.16	0.18	0.17	0.18	0.21	0.2	0.2	0.18	0.17	S	0.2	0.17	0.18	0.18	0.16	0.17	0.18	0.2	0.2	0.19	0.2	0.2	0.16	0.21	0.18
Apr 14	0.18	0.17	0.19	0.2	0.2	0.18	0.2	0.21	0.17	0.16	S	0.22	0.17	0.18	0.17	0.17	0.17	0.17	0.22	0.23	0.18	0.18	0.16	0.18	0.16	0.23	0.19
Apr 15	0.2	0.18	0.17	0.17	0.17	0.17	0.14	0.14	0.15	S	0.23	0.18	0.18	0.17	0.16	0.16	0.15	0.19	0.18	0.14	0.16	0.18	0.16	0.15	0.14	0.23	0.17
Apr 16	0.15	0.18	0.16	0.16	0.16	0.17	0.15	0.16	S	0.23	0.17	0.18	0.17	0.16	0.17	0.16	0.15	0.15	0.15	0.16	0.17	0.16	0.17	0.18	0.15	0.23	0.17
Apr 17	0.17	0.17	0.16	0.15	0.16	0.18	0.17	S	0.25	0.19	0.18	0.17	0.17	0.17	0.2	0.18	0.18	0.16	0.19	0.25	0.25	0.17	0.19	0.17	0.15	0.25	0.18
Apr 18	0.19	0.18	0.17	0.21	0.19	0.22	S	0.26	0.19	0.19	0.17	0.17	0.17	0.18	0.17	0.16	0.16	0.16	0.17	0.16	0.15	0.16	0.15	0.17	0.15	0.26	0.18
Apr 19	0.21	0.31	0.27	0.22	0.24	S	0.29	0.27	0.2	0.21	0.19	0.17	0.16	0.15	0.17	0.17	0.15	0.16	0.16	0.17	0.27	0.29	0.19	0.19	0.15	0.31	0.21
Apr 20	0.21	0.2	0.22	0.24	S	0.24	0.21	0.21	0.19	0.2	0.19	0.19	0.19	0.19	0.21	0.26	0.23	0.28	0.37	0.34	0.21	0.2	0.21	0.25	0.19	0.37	0.23
Apr 21	0.26	0.27	0.22	S	0.33	0.3	0.28	0.24	0.22	0.2	0.21	0.21	0.22	0.22	0.21	0.22	0.2	0.2	0.22	0.22	0.23	0.22	0.23	0.24	0.20	0.33	0.23
Apr 22	0.26	0.26	S	0.36	0.3	0.28	0.26	0.25	0.21	0.2	0.21	0.21	0.25	0.24	0.26	0.27	0.27	0.26	0.23	0.23	0.46	0.22	0.25	0.25	0.20	0.46	0.26
Apr 23	0.21	S	0.23	0.19	0.2	0.19	0.25	0.18	0.21	0.16	0.21	0.18	0.19	0.17	0.18	0.17	0.17	0.16	0.16	0.16	0.17	0.15	0.16	0.17	0.15	0.25	0.18
Apr 24	S	0.26	0.2	0.21	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.18	0.2	0.21	0.22	0.21	0.2	0.2	0.2	0.2	0.19	0.21	0.24	S	0.18	0.26	0.21
Apr 25	0.26	0.2	0.22	0.2	0.19	0.21	0.21	0.21	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.21	0.19	0.21	0.21	0.21	0.22	S	0.32	0.19	0.32	0.21
Apr 26	0.25	0.26	0.29	0.31	0.3	0.27	0.25	0.25	0.23	0.23	0.23	0.22	0.21	0.21	0.22	0.22	0.23	0.21	0.21	0.22	0.21	S	0.31	0.27	0.21	0.31	0.24
Apr 27	0.25	0.25	0.24	0.25	0.27	0.29	0.28	0.28	0.28	0.26	0.24	0.25	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.21	S	0.32	0.26	0.24	0.21	0.32	0.25
Apr 28	0.25	0.23	0.25	0.28	0.27	0.26	0.25	0.24	0.24	0.25	0.25	0.24	0.23	0.24	0.24	0.23	0.24	0.22	0.24	S	0.3	0.28	0.28	0.28	0.22	0.30	0.25
Apr 29	0.28	0.28	0.32	0.37	0.37	0.37	0.34	0.27	0.3	0.25	0.24	0.22	0.22	0.22	0.22	0.21	0.22	0.22	S	0.29	0.26	0.25	0.23	0.23	0.21	0.37	**0.27**
Apr 30	0.25	0.24	0.25	0.24	0.25	0.24	0.23	0.24	0.23	0.24	0.22	0.24	0.23	0.23	0.22	0.22	0.23	S	0.3	0.26	0.24	0.23	0.23	0.22	0.22	0.30	0.24
Diurnal Maximum	0.28	0.31	0.32	0.37	0.37	0.37	0.34	0.28	0.30	0.26	0.25	0.25	0.25	0.25	0.26	0.78	0.39	0.34	0.37	0.34	0.46	0.32	0.31	0.32			
Daiurnal Average	0.20	0.20	0.19	0.20	0.20	0.20	0.19	0.19	0.19	0.18	0.18	0.17	0.17	0.17	0.17	0.20	0.18	0.18	0.19	0.19	0.20	0.19	0.19	0.20			

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

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

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



PEACE RIVER AREA MONITORING PROGRAM

986b Station - April 2019

Summary of Hourly Instantaneous Maximums

TOTAL HYDROCARBONS (THC) in ppm

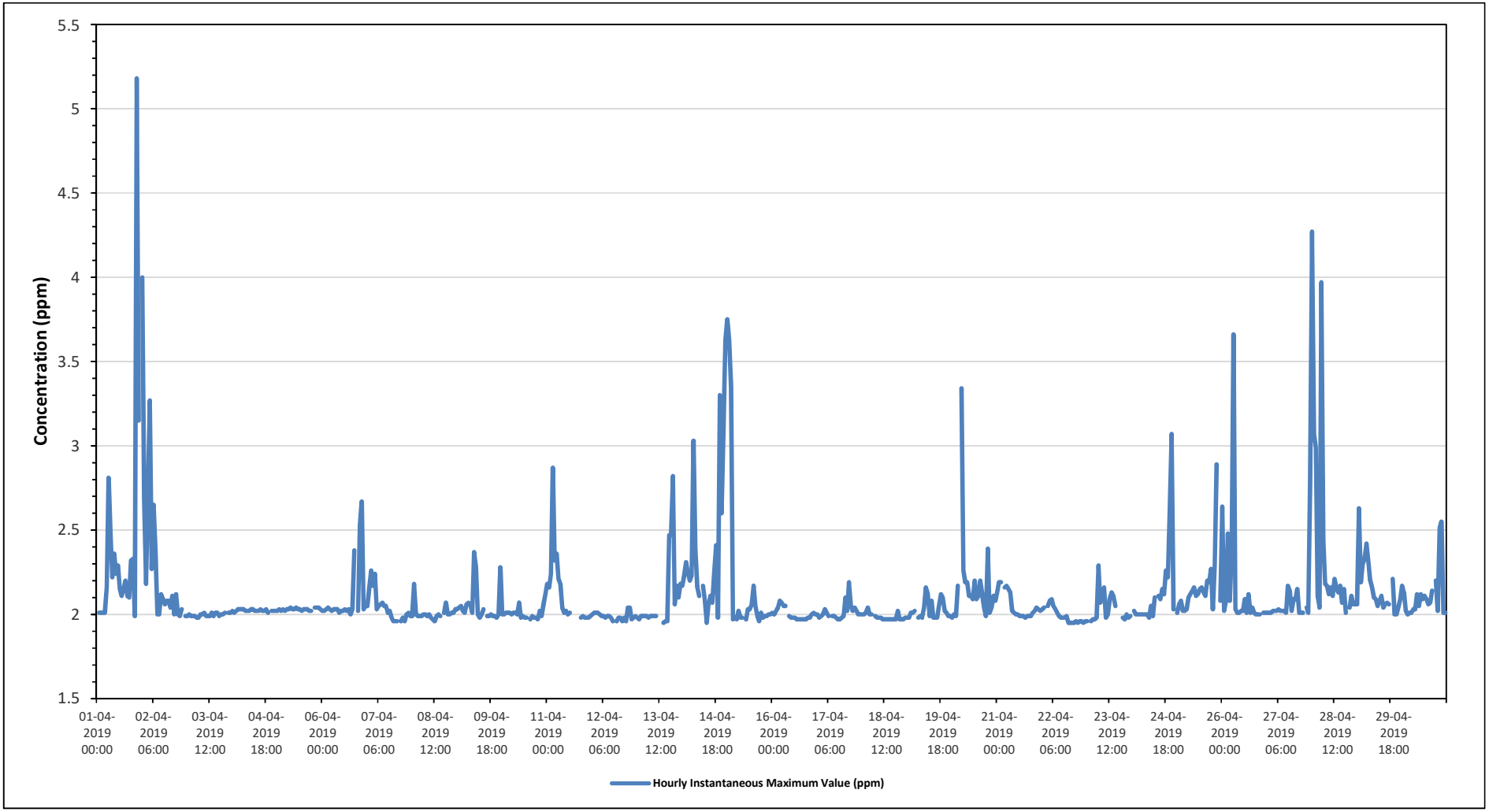
Maximum Hourly Value:	5.18	ppm	on April 1 at hour 21	Hours in Service:	720
Maximum Daily Value:	2.38	ppm	on April 14	Hours of Data:	680
Minimum Hourly Value:	1.95	ppm	on April 13 at hour 14	Hours of Missing Data:	4
Minimum Daily Value:	1.98	ppm	on April 18	Hours of Calibration:	36
Monthly Average:	2.11	ppm		Operational Uptime:	99.4

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
Apr 1	S	2.01	2.01	2.01	2.01	2.16	2.81	2.49	2.22	2.36	2.24	2.29	2.15	2.11	2.15	2.20	2.11	2.10	2.32	2.33	1.99	**5.18**	3.15	S	1.99	**5.18**	2.38
Apr 2	4.00	2.69	2.18	2.74	3.27	2.27	2.65	2.37	2.00	2.00	2.12	2.09	2.06	2.08	2.08	2.04	2.11	2.00	2.12	2.00	1.99	2.03	S	1.99	1.99	4.00	2.30
Apr 3	1.99	2.00	1.99	1.99	1.99	1.98	1.98	2.00	2.00	2.01	1.99	1.99	1.99	2.01	1.99	2.01	2.01	1.99	2.00	2.00	2.01	S	2.01	2.01	1.98	2.01	2.00
Apr 4	2.02	2.01	2.02	2.03	2.03	2.03	2.03	2.02	2.02	2.02	2.03	2.03	2.02	2.02	2.02	2.03	2.02	2.02	2.03	2.01	S	2.02	2.02	2.02	2.01	2.03	2.02
Apr 5	2.02	2.03	2.02	2.03	2.02	2.03	2.03	2.04	2.03	2.03	2.04	2.03	2.03	2.02	2.03	2.03	2.03	2.02	2.02	S	2.04	2.04	2.04	2.03	2.02	2.04	2.03
Apr 6	2.02	2.02	2.03	2.04	2.03	2.02	2.03	2.03	2.03	2.01	2.02	2.02	2.03	2.02	2.03	2.00	2.03	2.38	S	2.02	2.53	2.67	2.03	2.05	2.00	2.67	2.09
Apr 7	2.05	2.16	2.26	2.17	2.24	2.03	2.05	2.06	2.07	2.05	2.05	2.01	2.02	1.98	1.96	1.96	1.96	S	1.96	1.98	1.96	2.00	2.01	1.99	1.96	2.26	2.04
Apr 8	1.99	2.18	2.00	1.99	1.99	1.99	2.00	2.00	1.99	2.00	1.98	1.97	1.96	1.99	2.00	1.99	S	2.01	2.07	2.00	2.00	2.01	2.01	2.03	1.96	2.18	2.01
Apr 9	2.03	2.04	2.05	2.02	2.01	2.06	2.07	2.06	2.01	2.37	2.28	2.00	1.98	2.00	2.03	S	1.99	1.99	2.00	1.99	1.99	1.98	2.00	2.28	1.98	2.37	2.05
Apr 10	2.00	2.00	2.01	2.01	2.01	2.00	2.01	2.01	2.00	2.07	1.98	1.99	1.98	1.98	S	1.97	1.99	1.98	1.98	1.97	2.02	1.99	2.06	2.12	1.97	2.12	2.01
Apr 11	2.18	2.16	2.24	2.87	2.32	2.36	2.21	2.18	2.04	2.01	2.02	2.00	2.01	C	C	C	C	C	1.98	1.99	1.98	1.98	1.98	1.99	1.98	2.87	2.13
Apr 12	2.00	2.01	2.01	2.01	2.00	1.99	1.99	1.98	1.99	1.99	1.98	1.96	S	1.96	1.98	1.98	1.96	1.98	1.96	2.04	2.04	1.97	1.98	1.99	1.96	2.04	1.99
Apr 13	1.98	1.97	1.99	1.99	1.99	1.99	1.98	1.99	1.99	1.99	1.99	S	1.96	X	**1.95**	1.96	1.96	2.47	2.47	2.82	2.06	2.17	2.10	2.18	**1.95**	2.82	2.09
Apr 14	2.17	2.23	2.31	2.25	2.20	2.23	3.03	2.39	2.16	2.11	S	2.17	2.09	1.95	2.06	2.11	2.07	2.24	2.41	1.98	3.30	2.60	3.11	3.63	1.95	3.63	**2.38**
Apr 15	3.75	3.63	3.35	1.97	1.98	1.97	2.02	1.98	1.98	S	1.97	2.03	2.03	2.06	2.17	2.05	1.99	1.96	2.01	1.98	1.99	1.99	2.00	2.00	1.96	3.75	2.21
Apr 16	2.01	2.00	2.02	2.04	2.08	2.07	2.05	2.05	S	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	2.00	2.01	2.00	1.97	2.08	2.00
Apr 17	2.00	1.98	1.99	2.00	2.03	2.01	1.99	S	1.99	1.99	1.98	1.97	1.97	1.98	1.99	2.10	2.02	2.19	2.05	2.02	2.04	2.02	2.00	2.00	1.97	2.19	2.01
Apr 18	2.00	2.00	2.01	2.04	2.00	2.00	S	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	2.02	1.97	1.97	1.97	1.98	1.97	2.04	1.98
Apr 19	1.98	1.98	2.01	2.01	2.02	S	1.98	1.99	1.98	2.04	2.16	2.12	1.99	2.08	1.98	1.98	1.98	2.05	2.12	2.10	2.02	2.01	1.99	1.99	1.98	2.16	2.02
Apr 20	1.98	2.00	1.99	2.17	S	3.34	2.26	2.19	2.19	2.11	2.11	2.09	2.20	2.09	2.11	2.20	2.12	2.04	1.99	2.39	2.01	2.04	2.11	2.08	1.98	3.34	2.17
Apr 21	2.13	2.19	2.19	S	2.16	2.17	2.15	2.13	2.02	2.01	2.00	2.00	1.99	1.99	1.99	1.98	1.99	1.99	1.99	2.01	2.02	2.04	2.03	2.02	1.98	2.19	2.05
Apr 22	2.03	2.04	S	2.05	2.08	2.09	2.05	2.03	2.01	1.99	1.98	1.98	1.98	1.99	1.95	1.95	1.95	1.95	1.96	1.95	1.96	1.96	1.95	1.96	1.95	2.09	1.99
Apr 23	1.96	S	1.96	1.97	1.97	1.98	2.29	2.07	2.10	2.16	1.98	2.00	2.09	2.13	2.11	2.05	Y	1.97	Y	1.98	1.97	2.00	1.98	1.99	1.96	2.29	2.03
Apr 24	S	2.02	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.98	2.05	1.99	2.10	Y	2.11	2.09	2.15	2.12	2.26	2.22	2.60	3.07	2.03	S	1.98	3.07	2.13
Apr 25	2.01	2.06	2.08	2.02	2.02	2.03	2.10	2.12	2.14	2.16	2.11	2.12	2.15	2.16	2.13	2.11	2.20	2.19	2.27	2.03	2.29	2.89	S	2.08	2.01	2.89	2.15
Apr 26	2.64	2.02	2.08	2.48	2.08	2.36	3.66	2.03	2.01	2.01	2.02	2.02	2.09	2.01	2.12	2.01	2.04	2.01	2.00	2.00	2.00	S	2.01	2.01	2.00	3.66	2.16
Apr 27	2.01	2.01	2.01	2.02	2.02	2.02	2.03	2.02	2.02	2.02	2.01	2.17	2.14	2.02	2.09	2.09	2.15	2.01	2.01	2.01	S	2.04	2.01	2.79	2.01	2.79	2.07
Apr 28	4.27	3.07	2.99	2.11	2.04	3.97	2.44	2.18	2.17	2.12	2.16	2.11	2.21	2.16	2.13	2.17	2.07	2.15	2.01	S	2.04	2.11	2.06	2.06	2.01	4.27	**2.38**
Apr 29	2.06	2.63	2.19	2.30	2.33	2.42	2.32	2.20	2.16	2.10	2.09	2.05	2.08	2.11	2.04	2.06	2.07	2.06	S	2.21	2.00	2.00	2.04	2.09	2.00	2.63	2.16
Apr 30	2.17	2.13	2.02	2.00	2.01	2.01	2.03	2.03	2.12	2.05	2.12	2.09	2.11	2.09	2.06	2.07	2.14	S	2.20	2.02	2.51	2.55	2.01	2.01	2.00	2.55	2.11
Diurnal Maximum	4.27	3.63	3.35	2.87	3.27	3.97	3.66	2.49	2.22	2.37	2.28	2.29	2.21	2.16	2.17	2.20	2.20	2.47	2.47	2.82	3.30	5.18	3.15	3.63			
Daiurnal Average	2.27	2.18	2.14	2.11	2.10	2.19	2.22	2.09	2.05	2.06	2.05	2.04	2.05	2.03	2.04	2.04	2.04	2.07	2.08	2.07	2.12	2.26	2.10	2.12			

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

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

Timeseries Chart of Hourly Instantaneous Maximum for THC - 986b Station



PEACE RIVER AREA MONITORING PROGRAM

986b Station - April 2019

Summary of Hourly Instantaneous Maximums

METHANE (CH4) in ppm

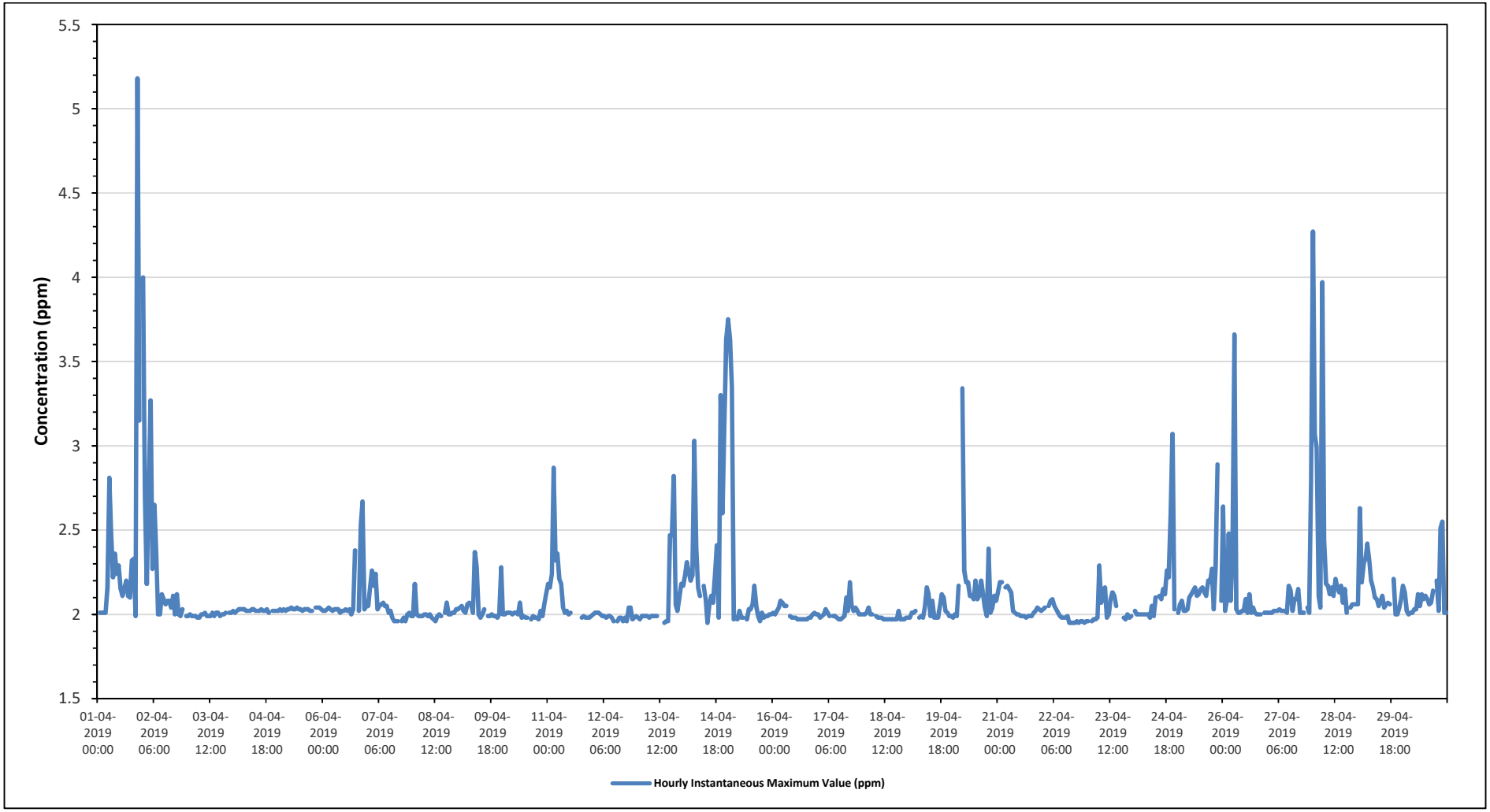
Maximum Hourly Value:	5.18	ppm	on April 1 at hour 21	Hours in Service:	720
Maximum Daily Value:	2.38	ppm	on April 14	Hours of Data:	680
Minimum Hourly Value:	1.95	ppm	on April 13 at hour 14	Hours of Missing Data:	4
Minimum Daily Value:	1.98	ppm	on April 18	Hours of Calibration:	36
Monthly Average:	2.11	ppm		Operational Uptime:	99.4

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
Apr 1	S	2.01	2.01	2.01	2.01	2.16	2.81	2.49	2.22	2.36	2.24	2.29	2.15	2.11	2.15	2.20	2.11	2.10	2.32	2.33	1.99	**5.18**	3.15	S	1.99	**5.18**	2.38
Apr 2	4.00	2.69	2.18	2.74	3.27	2.27	2.65	2.37	2.00	2.00	2.12	2.09	2.06	2.08	2.08	2.04	2.11	2.00	2.12	2.00	1.99	2.03	S	1.99	1.99	4.00	2.30
Apr 3	1.99	2.00	1.99	1.99	1.99	1.98	1.98	2.00	2.00	2.01	1.99	1.99	1.99	2.01	1.99	2.01	2.01	1.99	2.00	2.00	2.01	S	2.01	2.01	1.98	2.01	2.00
Apr 4	2.02	2.01	2.02	2.03	2.03	2.03	2.03	2.02	2.02	2.02	2.03	2.03	2.02	2.02	2.02	2.03	2.02	2.02	2.03	2.01	S	2.02	2.02	2.02	2.01	2.03	2.02
Apr 5	2.02	2.03	2.02	2.03	2.02	2.03	2.03	2.04	2.03	2.03	2.04	2.03	2.03	2.02	2.03	2.03	2.03	2.02	2.02	S	2.04	2.04	2.04	2.03	2.02	2.04	2.03
Apr 6	2.02	2.02	2.03	2.04	2.03	2.02	2.03	2.03	2.03	2.01	2.02	2.02	2.03	2.02	2.03	2.00	2.03	2.38	S	2.02	2.53	2.67	2.03	2.05	2.00	2.67	2.09
Apr 7	2.05	2.16	2.26	2.17	2.24	2.03	2.05	2.06	2.07	2.05	2.05	2.01	2.02	1.98	1.96	1.96	1.96	S	1.96	1.98	1.96	2.00	2.01	1.99	1.96	2.26	2.04
Apr 8	1.99	2.18	2.00	1.99	1.99	1.99	2.00	2.00	1.99	2.00	1.98	1.97	1.96	1.99	2.00	1.99	S	2.01	2.07	2.00	2.00	2.01	2.01	2.03	1.96	2.18	2.01
Apr 9	2.03	2.04	2.05	2.02	2.01	2.06	2.07	2.06	2.01	2.37	2.28	2.00	1.98	2.00	2.03	S	1.99	1.99	2.00	1.99	1.99	1.98	2.00	2.28	1.98	2.37	2.05
Apr 10	2.00	2.00	2.01	2.01	2.01	2.00	2.01	2.01	2.00	2.07	1.98	1.99	1.98	1.98	S	1.97	1.99	1.98	1.98	1.97	2.02	1.99	2.06	2.12	1.97	2.12	2.01
Apr 11	2.18	2.16	2.24	2.87	2.32	2.36	2.21	2.18	2.04	2.01	2.02	2.00	2.01	C	C	C	C	C	1.98	1.99	1.98	1.98	1.98	1.99	1.98	2.87	2.13
Apr 12	2.00	2.01	2.01	2.01	2.00	1.99	1.99	1.98	1.99	1.99	1.98	1.96	S	1.96	1.98	1.98	1.96	1.98	1.96	2.04	2.04	1.97	1.98	1.99	1.96	2.04	1.99
Apr 13	1.98	1.97	1.99	1.99	1.99	1.99	1.98	1.99	1.99	1.99	1.99	S	1.96	X	**1.95**	1.96	1.96	2.47	2.47	2.82	2.06	2.02	2.10	2.18	**1.95**	2.82	2.08
Apr 14	2.17	2.23	2.31	2.25	2.20	2.23	3.03	2.39	2.16	2.11	S	2.17	2.09	1.95	2.06	2.11	2.07	2.24	2.41	1.98	3.30	2.60	3.11	3.63	1.95	3.63	**2.38**
Apr 15	3.75	3.63	3.35	1.97	1.98	1.97	2.02	1.98	1.98	S	1.97	2.03	2.03	2.06	2.17	2.05	1.99	1.96	2.01	1.98	1.99	1.99	2.00	2.00	1.96	3.75	2.21
Apr 16	2.01	2.00	2.02	2.04	2.08	2.07	2.05	2.05	S	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	2.00	2.01	2.00	1.97	2.08	2.00
Apr 17	2.00	1.98	1.99	2.00	2.03	2.01	1.99	S	1.99	1.99	1.98	1.97	1.97	1.98	1.99	2.10	2.02	2.19	2.05	2.02	2.04	2.02	2.00	2.00	1.97	2.19	2.01
Apr 18	2.00	2.00	2.01	2.04	2.00	2.00	S	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	2.02	1.97	1.97	1.97	1.98	1.97	2.04	1.98
Apr 19	1.98	1.98	2.01	2.01	2.02	S	1.98	1.99	1.98	2.04	2.16	2.12	1.99	2.08	1.98	1.98	1.98	2.05	2.12	2.10	2.02	2.01	1.99	1.99	1.98	2.16	2.02
Apr 20	1.98	2.00	1.99	2.17	S	3.34	2.26	2.19	2.19	2.11	2.11	2.09	2.20	2.09	2.11	2.20	2.12	2.04	1.99	2.39	2.01	2.04	2.11	2.08	1.98	3.34	2.17
Apr 21	2.13	2.19	2.19	S	2.16	2.17	2.15	2.13	2.02	2.01	2.00	2.00	1.99	1.99	1.99	1.98	1.99	1.99	1.99	2.01	2.02	2.04	2.03	2.02	1.98	2.19	2.05
Apr 22	2.03	2.04	S	2.05	2.08	2.09	2.05	2.03	2.01	1.99	1.98	1.98	1.98	1.99	1.95	1.95	1.95	1.95	1.96	1.95	1.96	1.96	1.95	1.96	1.95	2.09	1.99
Apr 23	1.96	S	1.96	1.97	1.97	1.98	2.29	2.07	2.10	2.16	1.98	2.00	2.09	2.13	2.11	2.05	Y	1.97	Y	1.98	1.97	2.00	1.98	1.99	1.96	2.29	2.03
Apr 24	S	2.02	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.98	2.05	1.99	2.10	Y	2.11	2.09	2.15	2.12	2.26	2.22	2.60	3.07	2.03	S	1.98	3.07	2.13
Apr 25	2.01	2.06	2.08	2.02	2.02	2.03	2.10	2.12	2.14	2.16	2.11	2.12	2.15	2.16	2.13	2.11	2.20	2.19	2.27	2.03	2.29	2.89	S	2.08	2.01	2.89	2.15
Apr 26	2.64	2.02	2.08	2.48	2.08	2.36	3.66	2.03	2.01	2.01	2.02	2.02	2.09	2.01	2.12	2.01	2.04	2.01	2.00	2.00	2.00	S	2.01	2.01	2.00	3.66	2.16
Apr 27	2.01	2.01	2.01	2.02	2.02	2.02	2.03	2.02	2.02	2.02	2.01	2.17	2.14	2.02	2.09	2.09	2.15	2.01	2.01	2.01	S	2.04	2.01	2.79	2.01	2.79	2.07
Apr 28	4.27	3.07	2.99	2.11	2.04	3.97	2.44	2.18	2.17	2.12	2.16	2.11	2.21	2.16	2.13	2.17	2.07	2.15	2.01	S	2.04	2.06	2.06	2.06	2.01	4.27	2.38
Apr 29	2.06	2.63	2.19	2.30	2.33	2.42	2.32	2.20	2.16	2.10	2.09	2.05	2.08	2.11	2.04	2.06	2.07	2.06	S	2.21	2.00	2.00	2.04	2.09	2.00	2.63	2.16
Apr 30	2.17	2.13	2.02	2.00	2.01	2.01	2.03	2.03	2.12	2.05	2.12	2.09	2.11	2.09	2.06	2.07	2.14	S	2.20	2.02	2.51	2.55	2.01	2.01	2.00	2.55	2.11
Diurnal Maximum	4.27	3.63	3.35	2.87	3.27	3.97	3.66	2.49	2.22	2.37	2.28	2.29	2.21	2.16	2.17	2.20	2.20	2.47	2.47	2.82	3.30	5.18	3.15	3.63			
Daiurnal Average	2.27	2.18	2.14	2.11	2.10	2.19	2.22	2.09	2.05	2.06	2.05	2.04	2.05	2.03	2.04	2.04	2.04	2.07	2.08	2.07	2.12	2.25	2.10	2.12			

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

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

Timeseries Chart of Hourly Instantaneous Maximum for CH4 - 986b Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

986b Station - April 2019

Summary of Hourly Instantaneous Maximums

NON-METHANE HYDROCARBONS (NMHC) in ppm

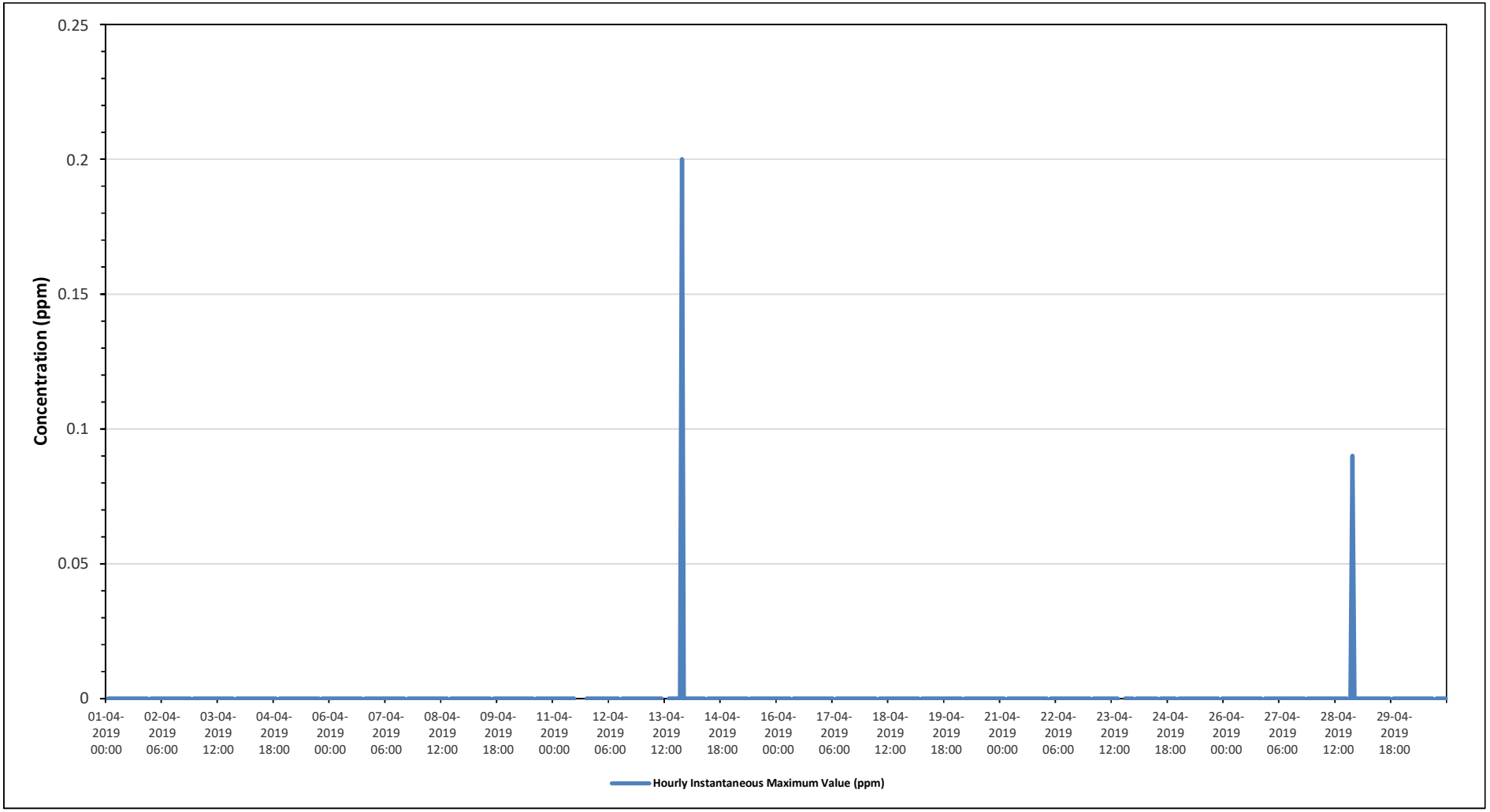
Maximum Hourly Value:	0.20	ppm	on April 13 at hour 21	Hours in Service:	720
Maximum Daily Value:	0.01	ppm	on April 13	Hours of Data:	679
Minimum Hourly Value:	0.00	ppm	on April 1 at hour 1	Hours of Missing Data:	4
Minimum Daily Value:	0.00	ppm	on April 1	Hours of Calibration:	37
Monthly Average:	0.00	ppm		Operational Uptime:	99.4

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
Apr 1	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Apr 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Apr 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Apr 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Apr 5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.20**	0.00	0.00	0.00	**0.20**	0.01
Apr 14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 18	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 19	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 20	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 21	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 22	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 23	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Y	0.00	Y	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 24	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Y	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00
Apr 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Apr 26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Apr 27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Apr 28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.09	0.00	0.00	0.00	0.09	0.00
Apr 29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diurnal Maximum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00			
Daiurnal Average	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00			

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

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

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



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

986b Station - April 2019

Summary of Hourly Instantaneous Maximums

WIND SPEED (WS) in km/h

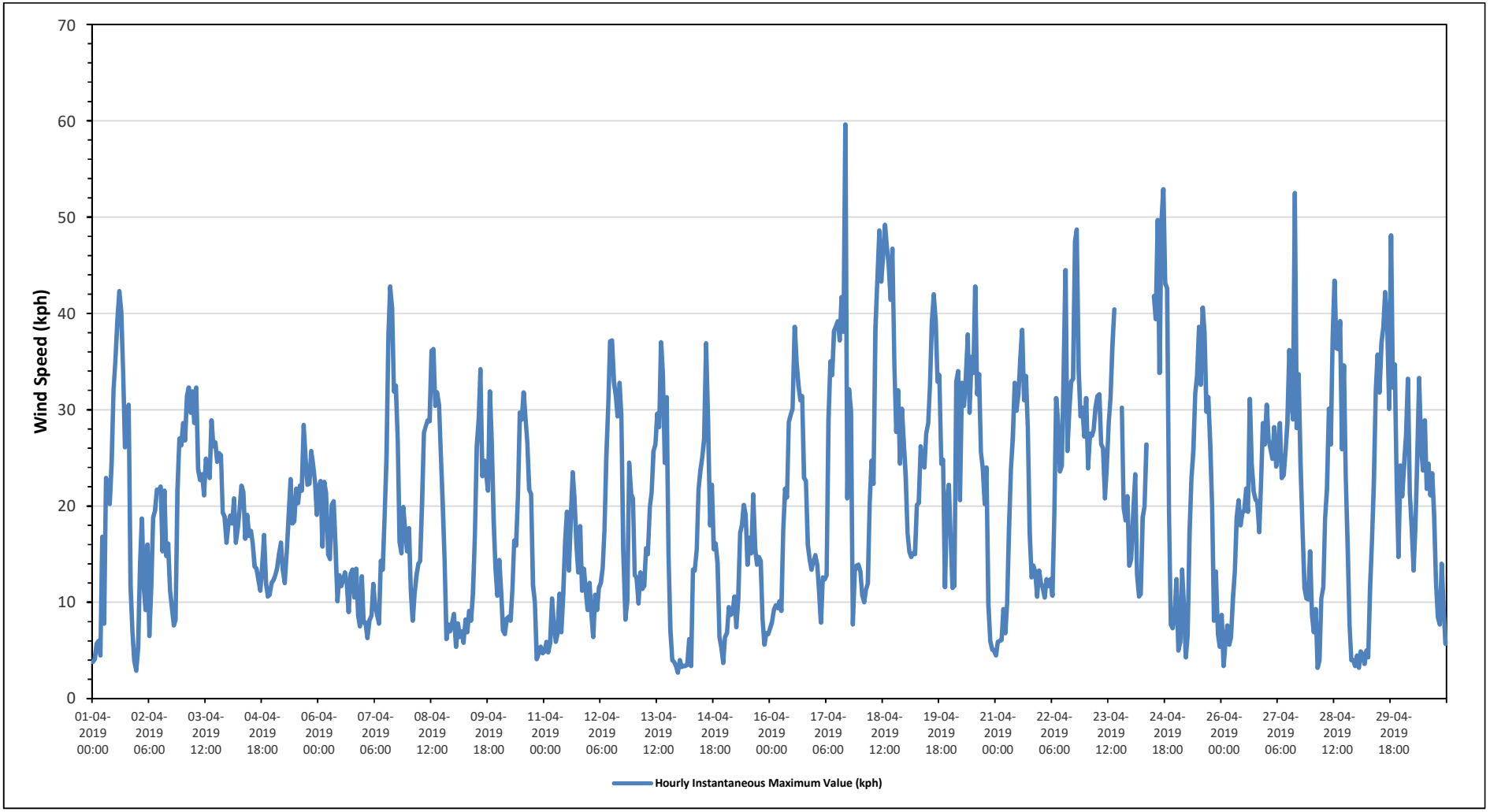
Maximum Hourly Value:	59.6	kph	on April 17 at hour 16	Hours in Service:	720
Maximum Daily Value:	31.2	kph	on April 18	Hours of Data:	715
Minimum Hourly Value:	2.7	kph	on April 13 at hour 23	Hours of Missing Data:	2
Minimum Daily Value:	11.9	kph	on April 11	Hours of Calibration:	3
Monthly Average:	20.1	kph		Operational Uptime:	99.7

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	3.8	4.1	5.7	6.0	4.5	16.8	7.8	22.9	22.2	20.2	24.6	32.1	35.0	39.3	42.3	40.1	33.9	26.1	27.3	30.5	11.7	6.9	3.9	2.9	2.9	42.3	19.6
Apr 2	5.3	14.0	18.7	11.4	9.2	16.0	6.5	11.7	18.8	19.5	21.7	21.6	22.0	15.3	21.6	14.8	16.1	11.2	9.5	7.6	8.2	21.6	27.0	26.3	5.3	27.0	15.7
Apr 3	28.6	26.8	31.4	32.3	29.7	31.9	28.6	32.3	23.8	22.7	23.3	21.1	24.9	23.8	22.9	28.9	26.2	26.6	24.6	25.5	25.3	19.3	18.9	16.2	16.2	32.3	25.7
Apr 4	18.2	19.0	18.2	20.8	16.2	17.7	19.7	22.1	21.4	16.6	19.1	16.9	17.4	16.1	13.7	13.5	12.4	11.2	13.7	17.0	12.0	10.6	10.8	12.0	10.6	22.1	16.1
Apr 5	12.3	12.8	13.6	15.0	16.2	13.4	12.0	15.3	18.9	22.8	18.2	18.4	21.8	20.3	22.1	21.6	28.4	24.9	22.2	22.3	25.7	24.4	22.5	19.1	12.0	28.4	19.3
Apr 6	22.0	22.6	15.8	22.5	21.3	15.0	14.5	20.1	20.5	15.6	10.1	12.8	11.7	12.3	13.1	12.0	9.0	12.9	13.4	10.5	13.5	8.6	7.5	12.7	7.5	22.6	14.6
Apr 7	7.9	7.9	6.3	8.1	8.6	11.9	9.6	8.7	7.8	14.3	13.4	18.9	25.0	37.8	42.8	40.5	31.9	32.5	26.9	16.3	15.1	19.9	17.4	15.3	6.3	42.8	18.5
Apr 8	17.7	11.1	8.1	10.9	12.8	14.0	14.3	20.3	27.6	28.3	28.9	28.8	36.1	36.3	30.4	31.8	30.5	25.4	20.2	14.3	6.2	7.7	7.0	7.9	6.2	36.3	19.9
Apr 9	8.8	5.4	7.8	6.4	7.0	5.8	8.2	6.9	9.1	8.1	11.0	16.9	26.1	29.0	34.2	23.1	24.7	23.4	21.6	31.9	26.7	18.5	13.3	10.7	5.4	34.2	16.0
Apr 10	14.4	11.3	7.1	6.7	8.3	8.5	8.1	11.4	16.4	15.9	21.2	29.7	29.0	31.8	29.1	26.6	21.7	21.2	11.8	10.0	4.1	4.7	5.4	4.7	4.1	31.8	15.0
Apr 11	4.9	5.9	4.8	5.7	10.4	7.5	5.9	6.8	10.9	6.9	10.9	16.4	19.4	13.3	18.7	23.5	20.9	16.2	13.1	17.9	11.2	13.5	11.1	9.2	4.8	23.5	**11.9**
Apr 12	12.0	8.8	6.4	10.8	9.2	11.5	12.0	13.6	17.5	25.2	30.5	37.1	37.2	32.9	31.4	29.3	32.8	29.4	15.5	8.2	10.2	24.5	21.3	20.8	6.4	37.2	20.3
Apr 13	12.8	12.6	9.9	13.1	11.4	11.7	15.6	15.0	19.9	21.4	25.7	26.4	29.6	28.2	37.0	33.6	24.5	31.3	14.9	7.1	4.0	3.8	3.4	**2.7**	**2.7**	37.0	17.3
Apr 14	4.0	3.3	3.4	3.4	3.5	6.2	3.4	13.4	13.3	15.5	21.7	23.7	25.1	27.0	36.9	29.0	18.0	22.2	15.5	16.1	14.1	6.4	5.4	3.7	3.3	36.9	13.9
Apr 15	6.4	6.8	9.5	8.7	8.9	10.6	7.4	10.4	17.2	18.0	20.1	19.1	13.9	16.7	15.1	21.2	15.6	13.9	14.7	14.3	8.2	5.6	6.8	6.7	5.6	21.2	12.3
Apr 16	7.3	7.9	9.2	9.7	9.4	10.1	9.1	17.5	21.8	20.9	28.7	29.5	30.1	38.6	35.0	32.5	31.0	31.4	22.9	22.6	16.0	14.4	13.4	14.3	7.3	38.6	20.1
Apr 17	14.9	13.9	11.1	7.9	12.6	12.4	12.8	29.0	35.0	33.6	38.2	38.7	39.2	37.2	41.7	38.1	**59.6**	20.8	32.1	29.9	7.7	13.2	13.8	13.9	7.7	**59.6**	25.3
Apr 18	13.2	10.8	10.0	11.3	12.0	20.4	24.7	22.3	38.3	43.4	48.6	43.3	45.9	49.2	46.9	45.0	41.4	46.7	34.4	27.7	32.0	24.4	30.1	26.7	10.0	49.2	**31.2**
Apr 19	23.2	17.2	15.3	14.7	15.1	15.0	20.1	20.3	26.2	24.6	24.0	27.5	28.6	32.6	39.1	42.0	39.2	32.9	33.6	24.4	24.8	11.6	20.1	22.2	11.6	42.0	24.8
Apr 20	16.7	11.5	11.7	32.9	34.0	20.6	32.8	30.4	33.4	37.8	29.7	35.5	33.8	42.8	31.6	33.7	25.6	24.0	20.2	24.0	9.9	6.0	5.1	5.0	5.0	42.8	24.5
Apr 21	4.5	5.9	6.0	6.1	9.3	6.8	9.9	17.7	23.8	27.1	32.8	29.9	31.7	35.3	38.3	31.0	33.5	28.1	17.2	12.6	13.8	13.2	10.6	13.3	4.5	38.3	19.1
Apr 22	12.0	11.5	10.5	12.4	11.7	12.4	10.7	18.9	31.2	28.8	23.6	24.2	34.1	44.5	25.7	30.0	32.9	33.2	47.5	48.7	34.2	29.3	30.2	27.2	10.5	48.7	26.1
Apr 23	31.2	23.9	27.5	27.3	27.9	30.2	31.4	31.6	26.4	26.0	20.8	23.9	28.7	31.2	36.6	40.4	**Y**	38.7	**Y**	30.2	19.8	18.5	21.0	13.8	13.8	40.4	27.6
Apr 24	14.5	19.4	23.3	12.9	10.6	10.9	18.8	20.0	26.4	**C**	**C**	**C**	41.8	39.4	49.7	33.8	49.6	52.9	43.1	42.6	19.3	7.7	7.3	8.7	7.3	52.9	26.3
Apr 25	12.4	5.0	5.8	13.4	9.8	4.3	6.6	17.3	22.9	25.7	31.7	33.5	38.6	32.6	40.6	38.0	29.8	31.3	26.4	19.9	8.1	13.2	6.7	5.4	4.3	40.6	20.0
Apr 26	8.7	3.4	5.9	7.6	5.6	6.4	10.4	13.2	18.8	20.6	18.0	19.3	19.5	21.8	19.4	31.1	24.4	21.6	20.7	20.4	17.3	22.4	28.6	26.4	3.4	31.1	17.1
Apr 27	30.5	26.9	26.0	24.9	28.2	24.1	25.4	28.6	22.9	23.2	25.6	28.6	36.2	30.8	29.0	52.5	28.1	33.7	24.5	17.2	11.5	10.4	10.3	15.3	10.3	52.5	25.6
Apr 28	8.6	6.9	9.3	3.2	4.0	10.4	11.6	18.7	21.8	30.1	26.4	37.6	43.4	36.4	36.3	39.2	25.9	34.6	22.9	15.9	7.6	4.0	4.0	3.4	3.2	43.4	19.3
Apr 29	4.5	3.2	4.9	4.6	3.6	5.0	4.3	11.6	16.4	22.5	32.0	35.7	31.8	36.9	38.6	42.2	39.0	30.1	48.1	32.3	34.7	22.1	14.7	24.2	3.2	48.1	22.6
Apr 30	21.0	24.3	27.4	33.2	21.3	17.9	13.3	17.6	24.9	33.3	26.3	23.7	28.9	21.8	24.4	21.1	23.4	19.0	11.9	8.5	7.7	14.0	9.4	5.7	5.7	33.3	20.0
Diurnal Maximum	31.2	26.9	31.4	33.2	34.0	31.9	32.8	32.3	38.3	43.4	48.6	43.3	45.9	49.2	49.7	52.5	59.6	52.9	48.1	48.7	34.7	29.3	30.2	27.2			
Daiurnal Average	13.4	12.1	12.4	13.5	13.1	13.5	13.9	18.2	21.9	23.1	24.4	26.6	29.6	30.4	31.5	31.3	28.6	26.9	23.1	20.9	15.4	14.0	13.6	13.2			

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

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

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



842 STATION

PEACE RIVER AREA MONITORING PROGRAM

842b Station - April 2019

Summary of Hourly Instantaneous Maximums

SULPHUR DIOXIDE (SO_2) in ppb

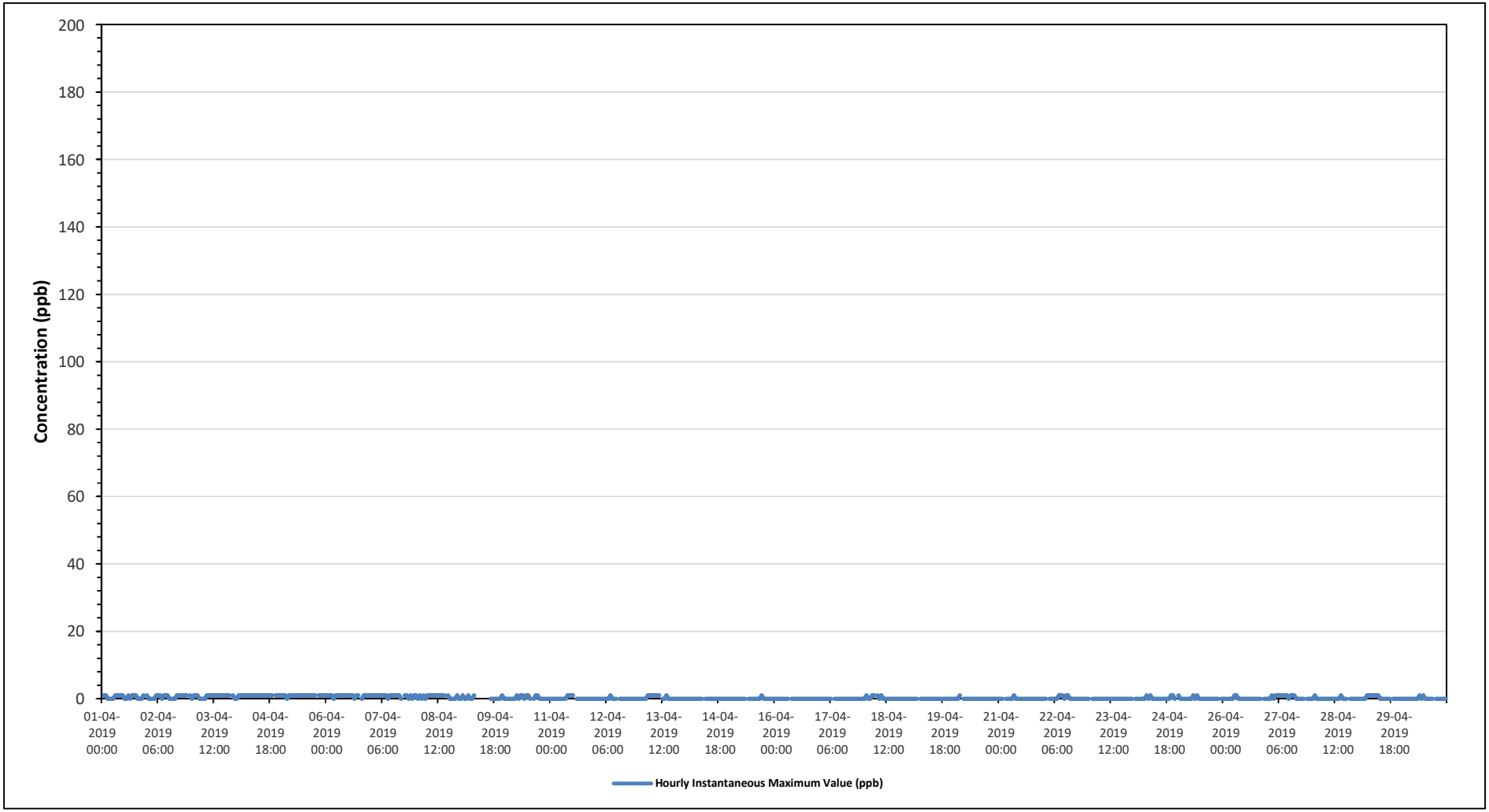
Maximum Hourly Value:	1	ppb	on April 1 at hour 1	Hours in Service:	720
Maximum Daily Value:	1.0	ppb	on April 4	Hours of Data:	681
Minimum Hourly Value:	0	ppb	on April 1 at hour 3	Hours of Missing Data:	0
Minimum Daily Value:	0.0	ppb	on April 14	Hours of Calibration:	39
Monthly Average:	0.3	ppb		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	S	1	1	0	0	0	0	1	1	1	1	1	0	0	1	0	1	1	1	0	0	0	1	S	0	1	0.5
Apr 2	1	0	0	0	0	1	1	1	0	1	1	1	0	0	0	0	1	1	1	1	1	1	S	1	0	1	0.6
Apr 3	0	1	1	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	0	0	1	0.7
Apr 4	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	0	1	1.0
Apr 5	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	0	1	1.0
Apr 6	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	S	0	1	1	1	1	0	1	0.9
Apr 7	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	S	1	1	0	1	0	1	0	1	0.8
Apr 8	1	0	1	0	1	0	1	1	1	1	1	1	1	1	1	1	S	1	0	0	0	0	1	0	0	1	0.7
Apr 9	0	1	0	0	1	0	0	1	C	C	C	C	C	C	C	C	0	0	0	0	0	0	1	0	0	1	-
Apr 10	0	0	0	0	0	0	1	0	1	1	0	1	1	0	S	0	1	1	0	0	0	0	0	0	0	1	0.3
Apr 11	0	0	0	0	0	0	0	0	0	1	1	1	1	S	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Apr 12	0	0	0	0	0	0	0	0	1	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Apr 13	0	0	0	0	1	1	1	1	1	1	1	S	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.3
Apr 14	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
Apr 15	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.0
Apr 16	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Apr 17	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
Apr 18	0	1	0	0	1	1	S	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Apr 19	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
Apr 20	0	0	0	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Apr 21	0	0	0	S	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Apr 22	0	0	S	0	0	0	0	0	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.2
Apr 23	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
Apr 24	S	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	S	0	1	0.2
Apr 25	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	1	0.1
Apr 26	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	1	0.1
Apr 27	0	0	1	0	1	1	1	1	1	1	1	0	1	1	1	0	0	0	0	0	S	0	0	0	0	1	0.5
Apr 28	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	S	0	0	0	0	0	1	0.1
Apr 29	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	S	0	0	0	0	0	0	1	0.3
Apr 30	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	S	0	0	0	0	0	0	0	1	0.1
Diurnal Maximum	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
Daiurnal Average	0.2	0.3	0.3	0.2	0.3	0.3	0.4	0.5	0.5	0.6	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.3	0.2	0.1	0.2	0.2	0.3	0.2			

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

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

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



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - April 2019

Summary of Hourly Instantaneous Maximums

TOTAL REDUCED SULPHUR (TRS) in ppb

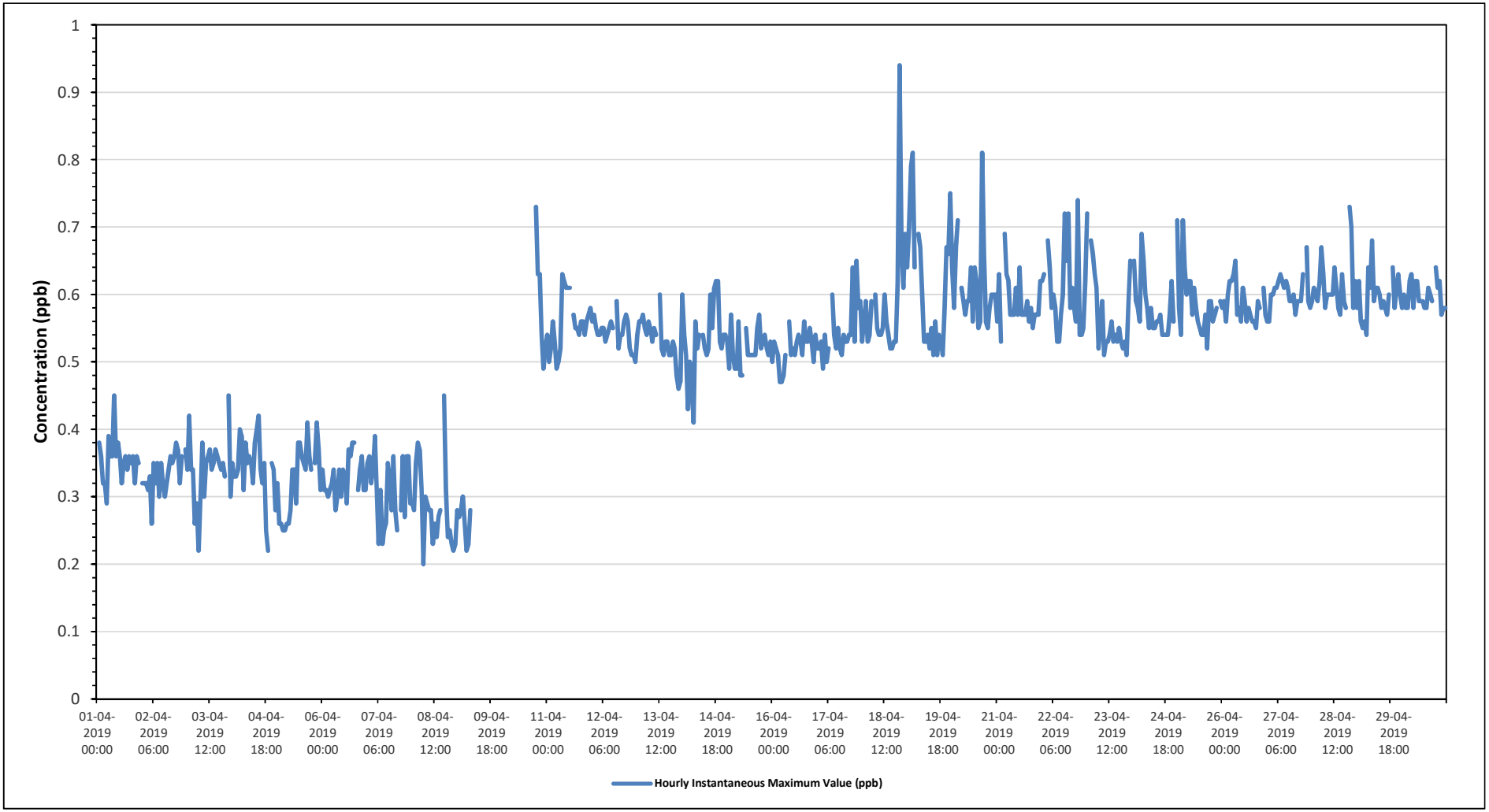
Maximum Hourly Value:	0.94	ppb	on April 18 at hour 20	Hours in Service:	720
Maximum Daily Value:	0.61	ppb	on April 28	Hours of Data:	656
Minimum Hourly Value:	0.20	ppb	on April 8 at hour 6	Hours of Missing Data:	25
Minimum Daily Value:	0.28	ppb	on April 8	Hours of Calibration:	39
Monthly Average:	0.50	ppb		Operational Uptime:	96.5

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			
Apr 1	S	0.38	0.36	0.32	0.32	0.29	0.39	0.36	0.36	0.45	0.36	0.38	0.36	0.32	0.35	0.36	0.34	0.36	0.35	0.36	0.32	0.36	0.35	S	0.29	0.45	0.35
Apr 2	0.32	0.32	0.32	0.31	0.33	0.26	0.35	0.32	0.35	0.3	0.35	0.32	0.3	0.32	0.34	0.36	0.35	0.36	0.38	0.37	0.32	0.36	S	0.37	0.26	0.38	0.33
Apr 3	0.34	0.42	0.34	0.34	0.26	0.29	0.22	0.3	0.38	0.3	0.35	0.36	0.37	0.34	0.35	0.37	0.36	0.35	0.34	0.35	0.33	S	0.45	0.3	0.22	0.45	0.34
Apr 4	0.35	0.33	0.33	0.34	0.4	0.39	0.31	0.38	0.35	0.36	0.35	0.32	0.38	0.4	0.42	0.34	0.32	0.35	0.25	0.22	S	0.35	0.34	0.28	0.22	0.42	0.34
Apr 5	0.32	0.26	0.26	0.25	0.25	0.26	0.26	0.28	0.34	0.34	0.29	0.38	0.38	0.36	0.35	0.34	0.41	0.36	0.34	S	0.35	0.41	0.37	0.31	0.25	0.41	0.32
Apr 6	0.34	0.31	0.31	0.3	0.31	0.32	0.34	0.28	0.3	0.34	0.3	0.34	0.33	0.29	0.37	0.36	0.38	0.38	S	0.31	0.34	0.36	0.31	0.31	0.28	0.38	0.33
Apr 7	0.35	0.36	0.32	0.34	0.39	0.31	0.23	0.31	0.23	0.25	0.26	0.35	0.33	0.28	0.36	0.28	0.25	S	0.28	0.36	0.27	0.36	0.36	0.29	0.23	0.39	0.31
Apr 8	0.29	0.28	0.35	0.38	0.37	0.31	**0.2**	0.3	0.29	0.28	0.28	0.23	0.26	0.24	0.27	0.28	S	0.45	0.31	0.24	0.25	0.23	0.22	0.23	**0.20**	0.45	0.28
Apr 9	0.28	0.27	0.28	0.3	0.26	0.22	0.23	0.28	C	C	C	C	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	0.22	0.30	-
Apr 10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	C	0.73	0.63	0.63	0.54	0.49	0.52	0.49	0.73	-
Apr 11	0.54	0.5	0.52	0.56	0.53	0.49	0.5	0.52	0.63	0.62	0.61	0.61	0.61	S	0.57	0.55	0.55	0.54	0.56	0.56	0.54	0.56	0.57	0.58	0.49	0.63	0.56
Apr 12	0.56	0.57	0.55	0.54	0.54	0.55	0.55	0.53	0.54	0.55	0.56	0.55	S	0.59	0.52	0.54	0.54	0.56	0.57	0.56	0.52	0.51	0.51	0.5	0.50	0.59	0.54
Apr 13	0.54	0.56	0.56	0.57	0.55	0.54	0.56	0.55	0.53	0.55	0.54	S	0.6	0.52	0.51	0.53	0.53	0.51	0.51	0.53	0.52	0.48	0.46	0.47	0.46	0.60	0.53
Apr 14	0.6	0.54	0.51	0.43	0.5	0.48	0.41	0.56	0.52	0.54	S	0.54	0.52	0.51	0.52	0.6	0.55	0.61	0.62	0.62	0.53	0.52	0.54	0.54	0.41	0.62	0.54
Apr 15	0.53	0.49	0.57	0.51	0.49	0.49	0.56	0.48	0.48	S	0.55	0.51	0.51	0.51	0.51	0.51	0.55	0.57	0.52	0.53	0.54	0.52	0.51	0.53	0.48	0.57	0.52
Apr 16	0.5	0.53	0.52	0.51	0.47	0.47	0.48	0.51	S	0.56	0.51	0.52	0.51	0.53	0.54	0.53	0.51	0.56	0.53	0.53	0.55	0.53	0.5	0.54	0.47	0.56	0.52
Apr 17	0.52	0.52	0.53	0.49	0.54	0.5	0.52	S	0.6	0.54	0.52	0.55	0.52	0.51	0.54	0.53	0.53	0.54	0.54	0.64	0.53	0.65	0.58	0.59	0.49	0.65	0.54
Apr 18	0.53	0.56	0.59	0.53	0.54	0.59	S	0.6	0.55	0.54	0.54	0.55	0.6	0.56	0.54	0.52	0.52	0.53	0.53	0.62	**0.94**	0.67	0.61	0.69	0.52	**0.94**	0.58
Apr 19	0.64	0.7	0.79	0.81	0.64	S	0.69	0.67	0.6	0.53	0.53	0.54	0.52	0.55	0.51	0.56	0.51	0.54	0.53	0.51	0.58	0.67	0.66	0.75	0.51	0.81	0.61
Apr 20	0.64	0.58	0.67	0.71	S	0.61	0.59	0.57	0.59	0.59	0.64	0.56	0.64	0.62	0.55	0.56	0.81	0.66	0.56	0.55	0.58	0.6	0.6	0.6	0.55	0.81	0.61
Apr 21	0.56	0.63	0.53	S	0.69	0.63	0.62	0.57	0.57	0.57	0.61	0.57	0.64	0.57	0.57	0.57	0.59	0.56	0.58	0.55	0.57	0.57	0.57	0.62	0.53	0.69	0.59
Apr 22	0.62	0.63	S	0.68	0.64	0.58	0.6	0.58	0.53	0.53	0.57	0.6	0.72	0.65	0.72	0.58	0.61	0.58	0.56	0.74	0.54	0.54	0.55	0.62	0.53	0.74	0.61
Apr 23	0.72	S	0.68	0.66	0.63	0.61	0.52	0.55	0.59	0.51	0.53	0.53	0.54	0.56	0.53	0.54	0.53	0.55	0.53	0.52	0.53	0.51	0.59	0.65	0.51	0.72	0.57
Apr 24	S	0.65	0.59	0.58	0.56	0.69	0.65	0.6	0.58	0.55	0.58	0.55	0.55	0.56	0.56	0.57	0.54	0.54	0.54	0.54	0.57	0.62	0.56	S	0.54	0.69	0.58
Apr 25	0.71	0.58	0.54	0.71	0.64	0.6	0.62	0.62	0.57	0.61	0.58	0.56	0.55	0.54	0.54	0.57	0.52	0.59	0.59	0.56	0.57	0.58	S	0.59	0.52	0.71	0.59
Apr 26	0.58	0.59	0.56	0.6	0.62	0.62	0.63	0.65	0.57	0.58	0.56	0.61	0.59	0.56	0.58	0.57	0.56	0.56	0.55	0.59	0.58	S	0.61	0.57	0.55	0.65	0.59
Apr 27	0.56	0.56	0.6	0.6	0.61	0.61	0.62	0.63	0.62	0.61	0.62	0.61	0.59	0.59	0.6	0.57	0.59	0.59	0.59	0.63	S	0.67	0.59	0.58	0.56	0.67	0.60
Apr 28	0.59	0.61	0.6	0.59	0.62	0.67	0.63	0.58	0.6	0.6	0.6	0.6	0.64	0.61	0.58	0.57	0.63	0.59	0.58	S	0.73	0.7	0.58	0.62	0.57	0.73	**0.61**
Apr 29	0.58	0.62	0.56	0.55	0.56	0.54	0.64	0.61	0.68	0.59	0.61	0.61	0.6	0.58	0.59	0.58	0.57	0.6	S	0.64	0.58	0.61	0.63	0.6	0.54	0.68	0.60
Apr 30	0.58	0.6	0.58	0.58	0.62	0.63	0.58	0.62	0.62	0.59	0.59	0.59	0.58	0.58	0.61	0.6	0.59	S	0.64	0.61	0.62	0.57	0.58	0.58	0.57	0.64	0.60
Diurnal Maximum	0.72	0.70	0.79	0.81	0.69	0.69	0.69	0.67	0.68	0.62	0.64	0.61	0.72	0.65	0.72	0.60	0.81	0.66	0.73	0.74	0.94	0.70	0.66	0.75			
Daiurnal Average	0.51	0.50	0.50	0.50	0.50	0.48	0.48	0.49	0.50	0.50	0.50	0.50	0.51	0.49	0.50	0.49	0.51	0.52	0.50	0.51	0.52	0.52	0.51	0.51			

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

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

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



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - April 2019

Summary of Hourly Instantaneous Maximums

TOTAL HYDROCARBONS (THC) in ppm

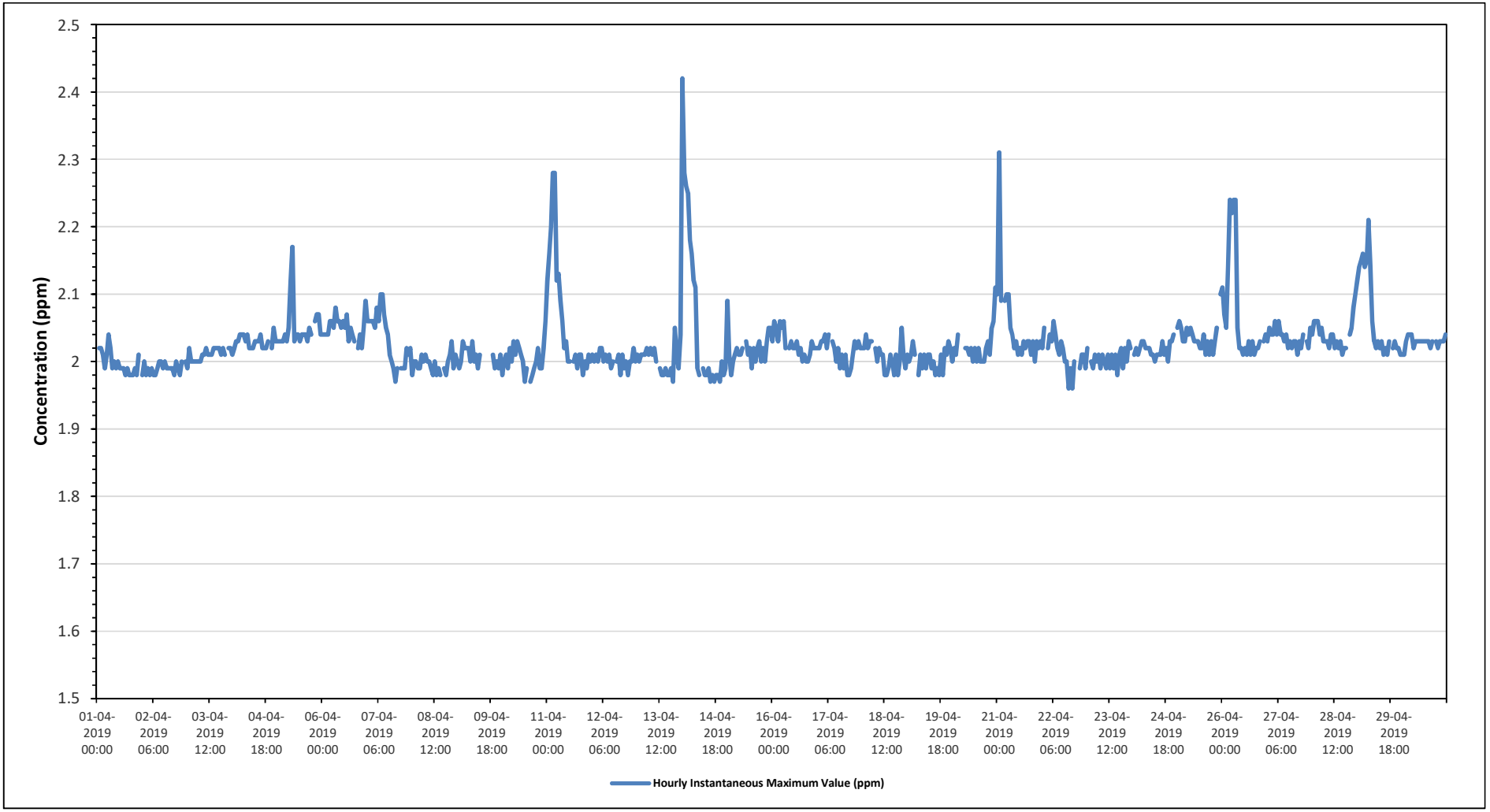
Maximum Hourly Value:	2.42	ppm	on April 14 at hour 0	Hours in Service:	720
Maximum Daily Value:	2.07	ppm	on April 26	Hours of Data:	680
Minimum Hourly Value:	1.96	ppm	on April 22 at hour 16	Hours of Missing Data:	3
Minimum Daily Value:	1.99	ppm	on April 2	Hours of Calibration:	37
Monthly Average:	2.03	ppm		Operational Uptime:	99.6

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	S	2.02	2.02	2.01	1.99	2.01	2.04	2.02	1.99	2.00	1.99	2.00	1.99	1.99	1.99	1.98	1.99	1.98	1.98	1.98	1.99	1.98	2.01	S	1.98	2.04	2.00
Apr 2	1.98	2.00	1.98	1.99	1.98	1.99	1.98	1.98	1.99	2.00	2.00	1.99	2.00	1.99	1.99	1.99	1.99	1.98	2.00	1.99	1.98	2.00	S	2.00	1.98	2.00	1.99
Apr 3	1.99	2.02	2.00	2.00	2.00	2.00	2.00	2.00	2.01	2.01	2.02	2.01	2.01	2.01	2.02	2.02	2.02	2.02	2.01	2.02	2.01	S	2.02	2.02	1.99	2.02	2.01
Apr 4	2.01	2.02	2.03	2.03	2.04	2.04	2.04	2.03	2.04	2.02	2.02	2.02	2.03	2.03	2.03	2.04	2.02	2.02	2.02	2.03	S	2.02	2.05	2.03	2.01	2.05	2.03
Apr 5	2.03	2.03	2.03	2.03	2.04	2.03	2.05	2.12	2.17	2.03	2.04	2.04	2.03	2.04	2.04	2.04	2.03	2.05	2.04	S	2.06	2.07	2.07	2.04	2.03	2.17	2.05
Apr 6	2.04	2.04	2.04	2.04	2.06	2.06	2.05	2.08	2.06	2.06	2.05	2.06	2.05	2.07	2.03	2.05	2.04	2.03	S	2.02	2.04	2.02	2.05	2.09	2.02	2.09	2.05
Apr 7	2.06	2.06	2.06	2.06	2.05	2.08	2.06	2.10	2.10	2.07	2.05	2.04	2.01	2.00	1.99	1.97	1.99	S	1.99	1.99	1.99	2.02	2.01	2.02	1.97	2.10	2.03
Apr 8	1.98	2.00	2.00	1.99	1.99	2.01	2.00	2.01	2.00	2.00	1.99	1.98	2.00	1.98	1.99	1.98	S	1.99	1.98	2.00	2.01	2.03	1.99	2.01	1.98	2.03	2.00
Apr 9	2.00	1.99	2.00	2.03	2.02	2.02	2.02	2.00	2.03	2.00	2.01	1.99	2.01	C	C	C	C	C	C	2.01	1.99	2.00	1.99	2.01	1.99	2.03	2.01
Apr 10	1.98	2.00	2.01	1.99	2.02	2.00	2.03	2.01	2.03	2.02	2.01	2.00	1.97	1.99	S	1.97	1.98	1.99	2.00	2.02	1.99	1.99	2.02	2.06	1.97	2.06	2.00
Apr 11	2.12	2.16	2.20	2.28	2.28	2.12	2.13	2.09	2.06	2.02	2.03	2.00	2.00	S	2.00	2.01	1.99	2.01	2.01	1.98	2.00	1.99	2.01	2.00	1.98	2.28	2.06
Apr 12	2.01	2.00	2.01	2.00	2.02	2.02	2.00	2.01	2.00	2.01	1.99	2.00	S	2.00	2.01	1.98	2.01	1.99	2.00	1.98	2.00	2.00	2.02	2.00	1.98	2.02	2.00
Apr 13	2.01	2.00	2.01	2.01	2.01	2.02	2.01	2.02	2.01	2.02	2.00	S	1.99	1.98	1.98	1.99	1.98	1.98	1.99	1.97	2.05	2.01	1.99	2.04	1.97	2.05	2.00
Apr 14	2.42	2.28	2.26	2.25	2.18	2.16	2.12	2.11	1.99	1.98	S	1.99	1.98	1.98	1.99	1.97	1.98	1.97	1.98	1.98	1.97	2.00	1.98	1.99	1.97	2.42	2.07
Apr 15	2.09	2.01	1.98	2.00	2.01	2.02	2.01	2.01	2.02	S	2.03	2.01	2.02	1.99	2.02	2.00	2.02	2.03	2.00	2.02	2.00	2.03	2.05	2.05	1.98	2.09	2.02
Apr 16	2.03	2.06	2.05	2.03	2.06	2.05	2.06	2.02	S	2.02	2.03	2.02	2.02	2.03	2.01	2.02	2.00	2.01	2.00	2.00	2.01	2.03	2.02	2.02	2.00	2.06	2.03
Apr 17	2.02	2.02	2.03	2.03	2.04	2.02	2.04	S	2.03	2.02	2.00	2.02	1.99	2.01	1.99	2.01	1.98	1.98	1.99	2.01	2.03	2.02	2.03	2.02	1.98	2.04	2.01
Apr 18	2.02	2.02	2.04	2.02	2.03	2.03	S	2.02	2.00	2.02	2.01	2.01	1.98	1.98	1.99	2.01	2.00	1.98	2.01	1.98	2.00	2.05	2.01	1.99	1.98	2.05	2.01
Apr 19	2.01	2.00	2.01	2.03	2.01	S	1.98	2.01	1.99	2.01	1.99	2.01	2.01	1.99	2.00	1.98	1.99	1.98	2.01	1.98	2.02	2.01	2.03	2.02	1.98	2.03	2.00
Apr 20	2.00	2.02	2.01	2.04	S	2.03	S1	2.02	2.02	2.01	2.02	2.00	2.02	2.00	2.02	2.00	2.00	2.00	2.02	2.03	2.01	2.05	2.06	2.11	2.00	2.11	2.02
Apr 21	2.10	2.31	2.09	S	2.09	2.10	2.10	2.05	2.04	2.02	2.03	2.01	2.02	2.01	2.03	2.02	2.03	2.03	2.01	2.03	2.00	2.03	2.02	2.03	2.00	2.31	2.05
Apr 22	2.02	2.05	S	2.02	2.04	2.03	2.06	2.04	2.02	2.01	2.03	2.02	2.00	2.00	1.96	1.99	1.96	2.00	Y	S1	1.99	2.01	2.01	1.99	1.96	2.06	2.01
Apr 23	2.02	S	2.00	1.99	2.01	2.00	2.01	1.99	2.01	2.00	1.99	2.01	1.99	2.01	1.99	2.01	1.98	2.01	2.02	1.99	2.02	2.00	2.03	2.02	1.98	2.03	2.00
Apr 24	S	2.01	2.02	2.01	2.02	2.03	2.03	2.02	2.02	2.02	2.01	2.01	2.00	2.01	2.01	2.01	2.03	2.01	2.02	2.00	2.03	2.03	2.04	S	2.00	2.04	2.02
Apr 25	2.05	2.06	2.05	2.03	2.03	2.05	2.04	2.05	2.04	2.03	2.03	2.03	2.02	2.02	2.04	2.01	2.03	2.01	2.03	2.01	2.03	2.05	S	2.10	2.01	2.10	2.04
Apr 26	2.11	2.07	2.05	2.14	2.24	2.22	2.24	2.24	2.05	2.02	2.02	2.01	2.02	2.01	2.03	2.01	2.03	2.01	2.02	2.02	2.03	S	2.03	2.04	2.01	2.24	2.07
Apr 27	2.03	2.05	2.04	2.04	2.06	2.04	2.06	2.04	2.04	2.03	2.04	2.02	2.03	2.02	2.03	2.03	2.01	2.03	2.02	2.04	S	2.03	2.02	2.05	2.01	2.06	2.03
Apr 28	2.04	2.06	2.06	2.06	2.04	2.05	2.03	2.03	2.03	2.02	2.04	2.04	2.02	2.03	2.02	2.03	2.01	2.02	2.02	S	2.04	2.05	2.08	2.10	2.01	2.10	2.04
Apr 29	2.12	2.14	2.15	2.16	2.14	2.15	2.21	2.14	2.06	2.03	2.02	2.03	2.02	2.03	2.01	2.02	2.01	2.03	S	2.02	2.03	2.02	2.02	2.01	2.01	2.21	2.07
Apr 30	2.01	2.01	2.03	2.04	2.04	2.04	2.02	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.02	2.03	S	2.03	2.02	2.03	2.03	2.03	2.04	2.01	2.04	2.03
Diurnal Maximum	2.42	2.31	2.26	2.28	2.28	2.22	2.24	2.24	2.17	2.07	2.05	2.06	2.05	2.07	2.04	2.05	2.04	2.05	2.04	2.04	2.06	2.07	2.08	2.11			
Daiurnal Average	2.05	2.05	2.04	2.05	2.05	2.05	2.05	2.04	2.03	2.02	2.02	2.01	2.01	2.01	2.01	2.01	2.00	2.01	2.01	2.00	2.01	2.02	2.02	2.03			

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

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

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



PEACE RIVER AREA MONITORING PROGRAM

842b Station - April 2019

Summary of Hourly Instantaneous Maximums

METHANE (CH4) in ppm

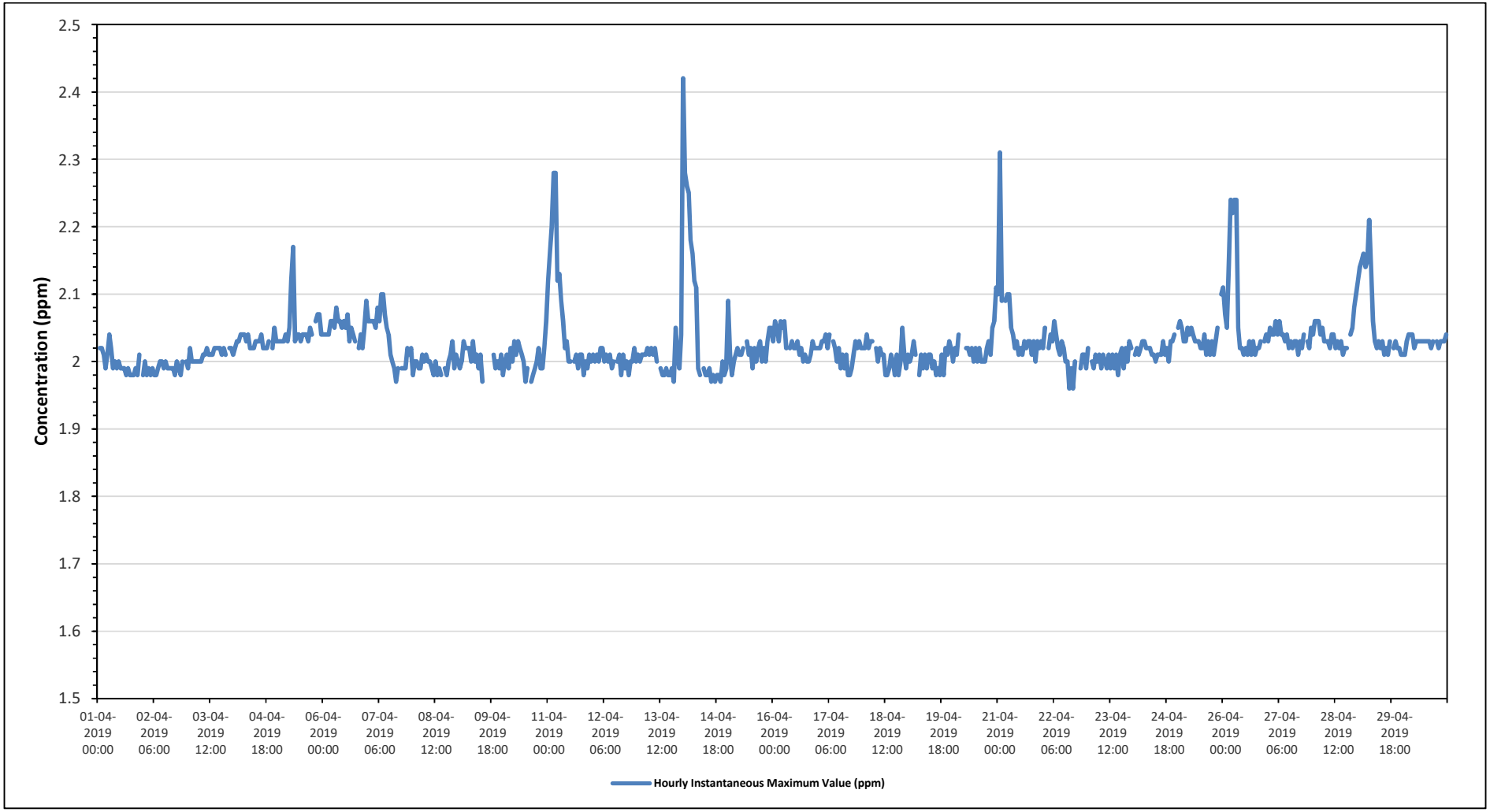
Maximum Hourly Value:	2.42	ppm	on April 14 at hour 0	Hours in Service:	720
Maximum Daily Value:	2.07	ppm	on April 26	Hours of Data:	681
Minimum Hourly Value:	1.96	ppm	on April 22 at hour 14	Hours of Missing Data:	3
Minimum Daily Value:	1.99	ppm	on April 2	Hours of Calibration:	36
Monthly Average:	2.03	ppm		Operational Uptime:	99.6

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	S	2.02	2.02	2.01	1.99	2.01	2.04	2.02	1.99	2.00	1.99	2.00	1.99	1.99	1.99	1.98	1.99	1.98	1.98	1.98	1.99	1.98	2.01	S	1.98	2.04	2.00
Apr 2	1.98	2.00	1.98	1.99	1.98	1.99	1.98	1.98	1.99	2.00	2.00	1.99	2.00	1.99	1.99	1.99	1.99	1.98	2.00	1.99	1.98	2.00	S	2.00	1.98	2.00	1.99
Apr 3	1.99	2.02	2.00	2.00	2.00	2.00	2.00	2.00	2.01	2.01	2.02	2.01	2.01	2.01	2.02	2.02	2.02	2.02	2.01	2.02	2.01	S	2.02	2.02	1.99	2.02	2.01
Apr 4	2.01	2.02	2.03	2.03	2.04	2.04	2.04	2.03	2.04	2.02	2.02	2.02	2.03	2.03	2.03	2.04	2.02	2.02	2.02	2.03	S	2.02	2.05	2.03	2.01	2.05	2.03
Apr 5	2.03	2.03	2.03	2.03	2.04	2.03	2.05	2.12	2.17	2.03	2.04	2.04	2.03	2.04	2.04	2.04	2.03	2.05	2.04	S	2.06	2.07	2.07	2.04	2.03	2.17	2.05
Apr 6	2.04	2.04	2.04	2.04	2.06	2.06	2.05	2.08	2.06	2.06	2.05	2.06	2.05	2.07	2.03	2.05	2.04	2.03	S	2.02	2.04	2.02	2.05	2.09	2.02	2.09	2.05
Apr 7	2.06	2.06	2.06	2.06	2.05	2.08	2.06	2.10	2.10	2.07	2.05	2.04	2.01	2.00	1.99	1.97	1.99	S	1.99	1.99	1.99	2.02	2.01	2.02	1.97	2.10	2.03
Apr 8	1.98	2.00	2.00	1.99	1.99	2.01	2.00	2.01	2.00	2.00	1.99	1.98	2.00	1.98	1.99	1.98	S	1.99	1.98	2.00	2.01	2.03	1.99	2.01	1.98	2.03	2.00
Apr 9	2.00	1.99	2.00	2.03	2.02	2.02	2.02	2.00	2.03	2.00	2.01	1.99	2.01	1.97	C	C	C	C	C	2.01	1.99	2.00	1.99	2.01	1.97	2.03	2.00
Apr 10	1.98	2.00	2.01	1.99	2.02	2.00	2.03	2.01	2.03	2.02	2.01	2.00	1.97	1.99	S	1.97	1.98	1.99	2.00	2.02	1.99	1.99	2.02	2.06	1.97	2.06	2.00
Apr 11	2.12	2.16	2.20	2.28	2.28	2.12	2.13	2.09	2.06	2.02	2.03	2.00	2.00	S	2.00	2.01	1.99	2.01	2.01	1.98	2.00	1.99	2.01	2.00	1.98	2.28	2.06
Apr 12	2.01	2.00	2.01	2.00	2.02	2.02	2.00	2.01	2.00	2.01	1.99	2.00	S	2.00	2.01	1.98	2.01	1.99	2.00	1.98	2.00	2.00	2.02	2.00	1.98	2.02	2.00
Apr 13	2.01	2.00	2.01	2.01	2.01	2.02	2.01	2.02	2.01	2.02	2.00	S	1.99	1.98	1.98	1.99	1.98	1.98	1.99	1.97	2.05	2.01	1.99	2.04	1.97	2.05	2.00
Apr 14	2.42	2.28	2.26	2.25	2.18	2.16	2.12	2.11	1.99	1.98	S	1.99	1.98	1.98	1.99	1.97	1.98	1.97	1.98	1.98	1.97	2.00	1.98	1.99	1.97	2.42	2.07
Apr 15	2.09	2.01	1.98	2.00	2.01	2.02	2.01	2.01	2.02	S	2.03	2.01	2.02	1.99	2.02	2.00	2.02	2.03	2.00	2.02	2.00	2.03	2.05	2.05	1.98	2.09	2.02
Apr 16	2.03	2.06	2.05	2.03	2.06	2.05	2.06	2.02	S	2.02	2.03	2.02	2.02	2.03	2.01	2.02	2.00	2.01	2.00	2.00	2.01	2.03	2.02	2.02	2.00	2.06	2.03
Apr 17	2.02	2.02	2.03	2.03	2.04	2.02	2.04	S	2.03	2.02	2.00	2.02	1.99	2.01	1.99	2.01	1.98	1.98	1.99	2.01	2.03	2.02	2.03	2.02	1.98	2.04	2.01
Apr 18	2.02	2.02	2.04	2.02	2.03	2.03	S	2.02	2.00	2.02	2.01	2.01	1.98	1.98	1.99	2.01	2.00	1.98	2.01	1.98	2.00	2.05	2.01	1.99	1.98	2.05	2.01
Apr 19	2.01	2.00	2.01	2.03	2.01	S	1.98	2.01	1.99	2.01	1.99	2.01	2.01	1.99	2.00	1.98	1.99	1.98	2.01	1.98	2.02	2.01	2.03	2.02	1.98	2.03	2.00
Apr 20	2.00	2.02	2.01	2.04	S	2.03	S1	2.02	2.02	2.01	2.02	2.00	2.02	2.00	2.02	2.00	2.00	2.00	2.02	2.03	2.01	2.05	2.06	2.11	2.00	2.11	2.02
Apr 21	2.10	2.31	2.09	S	2.09	2.10	2.10	2.05	2.04	2.02	2.03	2.01	2.02	2.01	2.03	2.02	2.03	2.03	2.01	2.03	2.00	2.03	2.02	2.03	2.00	2.31	2.05
Apr 22	2.02	2.05	S	2.02	2.04	2.03	2.06	2.04	2.02	2.01	2.03	2.02	2.00	2.00	1.96	1.99	1.96	2.00	Y	S1	1.99	2.01	2.01	1.99	1.96	2.06	2.01
Apr 23	2.02	S	2.00	1.99	2.01	2.00	2.01	1.99	2.01	2.00	1.99	2.01	1.99	2.01	1.99	2.01	1.98	2.01	2.02	1.99	2.02	2.00	2.03	2.02	1.98	2.03	2.00
Apr 24	S	2.01	2.02	2.01	2.02	2.03	2.03	2.02	2.02	2.02	2.01	2.01	2.00	2.01	2.01	2.01	2.03	2.01	2.02	2.00	2.03	2.03	2.04	S	2.00	2.04	2.02
Apr 25	2.05	2.06	2.05	2.03	2.03	2.05	2.04	2.05	2.04	2.03	2.03	2.03	2.02	2.02	2.04	2.01	2.03	2.01	2.03	2.01	2.03	2.05	S	2.03	2.01	2.10	2.04
Apr 26	2.11	2.07	2.05	2.14	2.24	2.22	2.24	2.24	2.05	2.02	2.02	2.01	2.02	2.01	2.03	2.01	2.03	2.01	2.02	2.02	2.03	S	2.03	2.04	2.01	2.24	2.07
Apr 27	2.03	2.05	2.04	2.04	2.06	2.04	2.06	2.04	2.04	2.03	2.04	2.02	2.03	2.02	2.03	2.03	2.01	2.03	2.02	2.04	S	2.03	2.02	2.05	2.01	2.06	2.03
Apr 28	2.04	2.06	2.06	2.06	2.04	2.05	2.03	2.03	2.03	2.02	2.04	2.04	2.02	2.03	2.02	2.03	2.01	2.02	2.02	S	2.04	2.05	2.08	2.10	2.01	2.10	2.04
Apr 29	2.12	2.14	2.15	2.16	2.14	2.15	2.21	2.14	2.06	2.03	2.02	2.03	2.02	2.03	2.01	2.02	2.01	2.03	S	2.02	2.03	2.02	2.02	2.01	2.01	2.21	2.07
Apr 30	2.01	2.01	2.03	2.04	2.04	2.04	2.02	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.02	2.03	S	2.03	2.02	2.03	2.03	2.03	2.04	2.01	2.04	2.03
Diurnal Maximum	2.42	2.31	2.26	2.28	2.28	2.22	2.24	2.24	2.17	2.07	2.05	2.06	2.05	2.07	2.04	2.05	2.04	2.05	2.04	2.04	2.06	2.07	2.08	2.11			
Daiurnal Average	2.05	2.05	2.04	2.05	2.05	2.05	2.05	2.04	2.03	2.02	2.02	2.01	2.01	2.01	2.01	2.01	2.00	2.01	2.01	2.00	2.01	2.02	2.02	2.03			

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

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

Timeseries Chart of Hourly Instantaneous Maximum for CH4 - 842b Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - April 2019

Summary of Hourly Instantaneous Maximums

NON-METHANE HYDROCARBONS (NMHC) in ppm

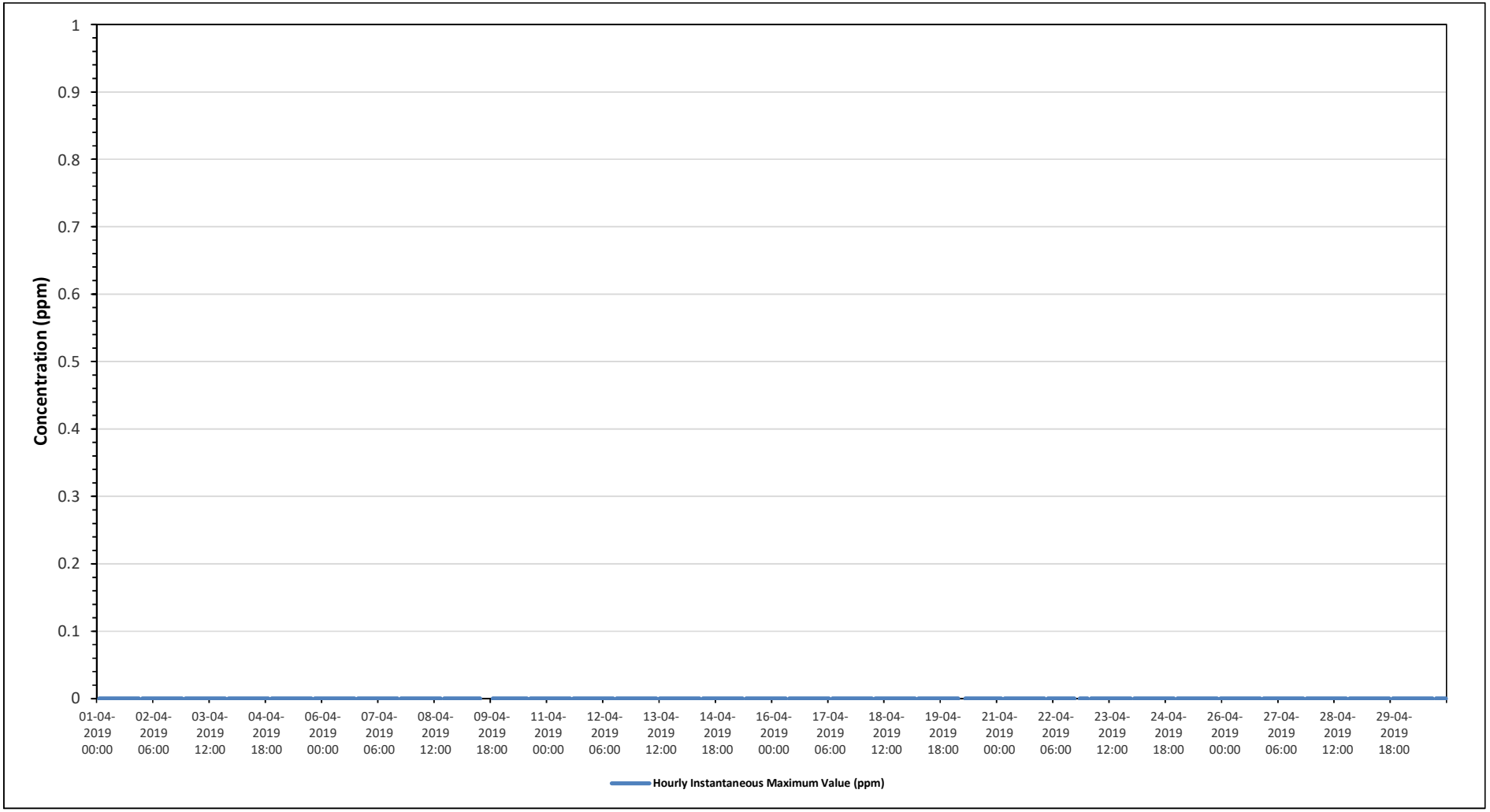
Maximum Hourly Value:	0.00	ppm	on April 1 at hour 1	Hours in Service:	720
Maximum Daily Value:	0.00	ppm	on April 1	Hours of Data:	679
Minimum Hourly Value:	0.00	ppm	on April 1 at hour 1	Hours of Missing Data:	3
Minimum Daily Value:	0.00	ppm	on April 1	Hours of Calibration:	37
Monthly Average:	0.00	ppm		Operational Uptime:	99.4

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
Apr 1	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Apr 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Apr 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Apr 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Apr 5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 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	C	C	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 18	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 19	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 20	0.00	0.00	0.00	0.00	S	0.00	S1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 21	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 22	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Y	S1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 23	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 24	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Apr 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Apr 26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Apr 27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Apr 28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diurnal Maximum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Daiurnal Average	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

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

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

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



PEACE RIVER AREA MONITORING PROGRAM

842b Station - April 2019

Summary of Hourly Instantaneous Maximums

WIND SPEED (WS) in km/h

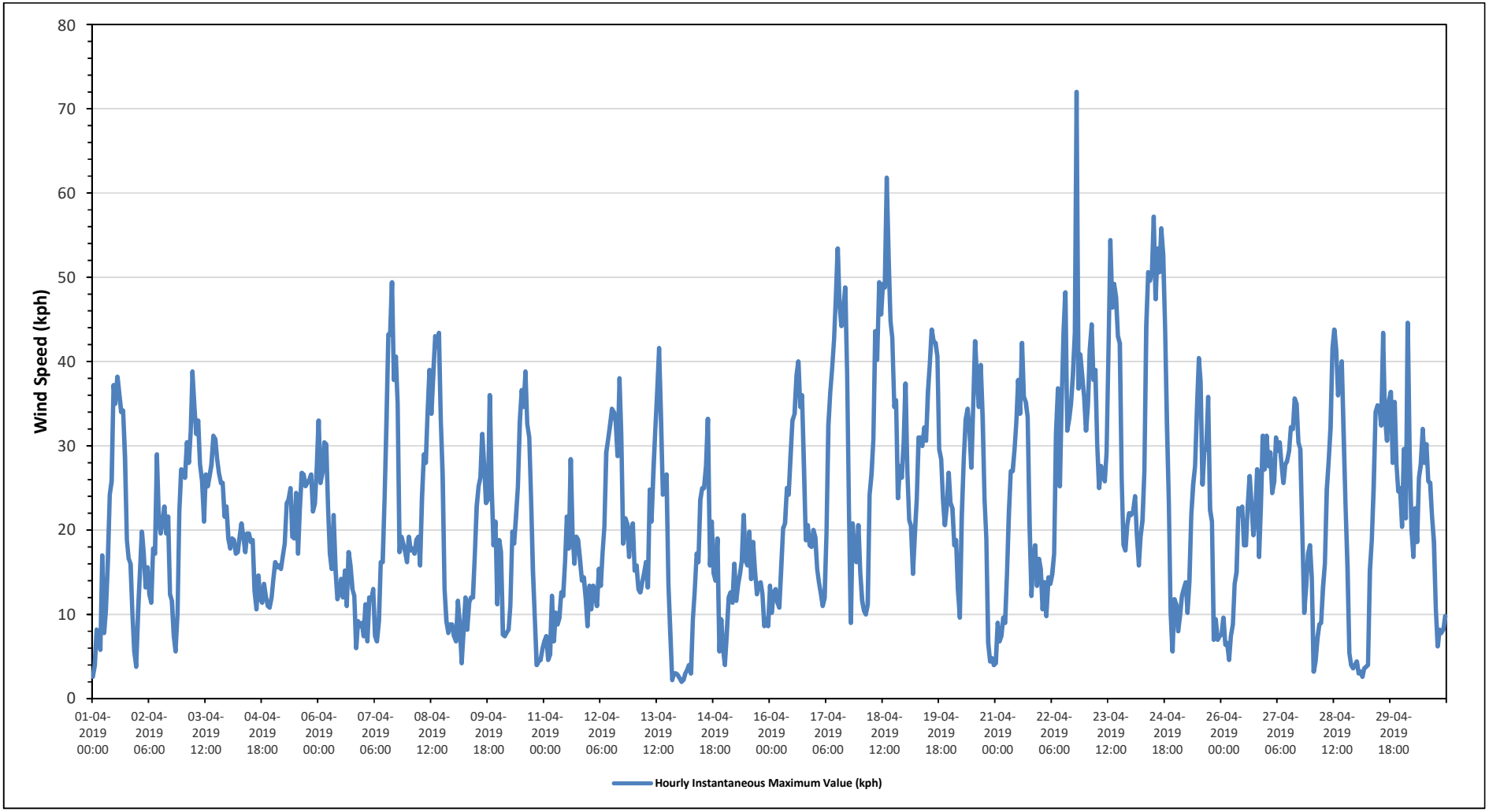
Maximum Hourly Value:	72.0	kph	on April 22 at hour 19	Hours in Service:	720
Maximum Daily Value:	34.3	kph	on April 23	Hours of Data:	720
Minimum Hourly Value:	2.0	kph	on April 14 at hour 1	Hours of Missing Data:	0
Minimum Daily Value:	13.1	kph	on April 14	Hours of Calibration:	0
Monthly Average:	22.2	kph		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	2.6	4.0	8.2	7.4	5.8	17.0	7.8	10.6	16.4	24.2	25.8	37.2	35.0	38.2	36.2	34.0	34.2	28.6	18.8	16.6	16.0	10.0	5.6	3.8	2.6	38.2	18.5
Apr 2	10.4	15.2	19.8	17.2	13.2	15.6	12.4	11.4	17.8	17.2	29.0	21.2	19.6	21.0	22.8	19.6	21.6	12.4	11.6	7.4	5.6	10.2	22.2	27.2	5.6	29.0	16.7
Apr 3	27.0	26.2	30.4	28.0	31.6	38.8	34.6	31.4	33.0	27.8	25.8	21.0	26.6	25.2	26.4	27.8	31.2	30.8	28.4	26.8	25.6	25.6	21.6	22.8	21.0	38.8	28.1
Apr 4	19.0	17.8	19.0	18.8	17.2	17.4	19.2	20.8	19.2	17.4	19.6	19.6	18.6	18.8	12.8	10.6	14.6	11.8	11.4	13.6	12.2	11.0	10.8	12.0	10.6	20.8	16.0
Apr 5	14.2	16.2	15.6	15.8	15.4	16.8	18.4	23.2	23.6	25.0	19.2	19.0	24.4	17.2	22.4	26.8	26.6	25.2	25.6	26.0	26.6	22.2	23.2	27.4	14.2	27.4	21.5
Apr 6	33.0	25.6	26.8	30.4	30.2	22.6	17.2	15.4	21.8	15.4	11.8	12.6	14.2	12.0	15.2	11.0	17.4	15.8	13.0	12.2	6.0	9.2	8.6	9.0	6.0	33.0	16.9
Apr 7	7.4	11.2	6.8	12.0	11.8	13.0	7.4	6.8	9.2	16.2	16.2	23.6	32.6	43.2	43.2	49.4	37.8	40.6	35.0	17.4	19.2	18.4	17.4	16.2	6.8	49.4	21.3
Apr 8	19.2	17.6	17.8	17.2	18.8	19.2	15.8	23.8	29.0	28.0	34.2	39.0	33.8	38.6	43.0	41.8	43.4	33.2	26.4	13.0	9.2	7.8	8.8	8.8	7.8	43.4	24.5
Apr 9	7.4	6.8	11.6	8.8	4.2	8.2	12.0	8.2	11.4	12.0	12.0	17.0	22.8	25.2	26.2	31.4	27.8	23.2	23.6	36.0	25.0	18.2	21.0	11.2	4.2	36.0	17.1
Apr 10	18.8	17.4	7.6	7.4	7.8	8.2	11.0	19.8	18.4	21.6	25.2	32.8	36.6	34.6	38.8	32.6	31.0	24.0	15.2	9.6	4.0	4.4	4.6	6.0	4.0	38.8	18.2
Apr 11	6.8	7.4	4.6	5.2	12.2	6.8	10.2	8.8	9.6	12.6	12.2	16.2	21.6	17.8	28.4	19.4	16.0	19.2	18.8	16.4	14.0	14.4	11.8	8.6	4.6	28.4	13.3
Apr 12	13.4	10.6	13.4	12.4	11.0	15.4	13.4	17.4	20.4	29.2	30.8	32.4	34.4	34.0	32.8	28.8	38.0	31.4	18.4	21.4	20.8	16.8	20.0	20.8	10.6	38.0	22.4
Apr 13	15.2	15.8	13.0	12.6	13.8	14.8	16.2	13.2	24.8	21.0	27.0	32.0	36.2	41.6	33.2	24.2	25.4	26.6	13.6	7.8	2.2	3.0	3.0	2.8	2.2	41.6	18.3
Apr 14	2.4	**2.0**	2.2	3.0	3.4	4.0	3.0	9.4	12.6	17.2	16.2	23.6	25.0	25.0	27.6	33.2	15.8	21.0	14.8	14.0	19.0	5.6	9.4	5.8	**2.0**	33.2	**13.1**
Apr 15	4.0	7.8	12.0	12.6	11.4	16.0	11.6	13.6	14.8	16.4	21.8	16.4	15.8	19.8	14.2	18.6	15.4	12.4	13.6	13.8	12.4	8.6	9.4	8.6	4.0	21.8	13.4
Apr 16	13.4	10.2	12.6	13.0	11.4	10.8	15.6	20.2	20.8	25.0	24.2	28.8	33.0	33.8	38.4	40.0	34.6	36.0	27.6	18.8	20.6	18.2	18.0	20.0	10.2	40.0	22.7
Apr 17	19.2	15.4	13.8	12.4	11.0	12.0	19.6	32.4	36.4	39.0	42.6	47.6	53.4	46.6	44.2	46.4	48.8	38.4	22.6	9.0	20.8	17.0	16.2	20.6	9.0	53.4	28.6
Apr 18	15.0	11.6	10.4	10.0	11.2	24.2	26.6	30.8	43.6	40.2	49.4	45.6	49.2	48.8	61.8	52.0	44.8	42.8	34.6	35.4	23.8	27.6	26.2	30.4	10.0	61.8	33.2
Apr 19	37.4	26.8	21.2	20.4	14.8	19.6	23.6	31.0	31.0	30.0	32.2	30.6	36.4	39.8	43.8	42.4	42.2	40.6	29.6	28.4	23.6	20.6	22.8	26.8	14.8	43.8	29.8
Apr 20	23.2	22.6	18.2	18.8	13.0	9.6	21.6	28.8	33.2	34.4	32.0	27.4	34.8	42.4	38.0	34.6	39.6	33.2	23.6	19.0	6.6	4.4	4.8	4.0	4.0	42.4	23.7
Apr 21	4.2	9.0	6.8	7.4	9.6	9.0	14.8	22.0	27.0	27.0	29.6	32.8	37.8	33.8	42.2	35.8	35.2	33.4	20.8	12.2	16.2	18.2	13.4	16.6	4.2	42.2	21.5
Apr 22	15.4	10.6	13.8	9.8	14.4	13.6	14.8	17.2	31.4	36.8	25.2	35.4	43.4	48.2	31.8	33.2	35.0	38.4	43.4	**72.0**	36.8	40.8	38.2	35.8	9.8	**72.0**	30.6
Apr 23	31.8	34.8	41.4	44.4	37.8	39.0	30.0	25.0	27.6	26.8	25.8	29.2	42.0	54.4	46.4	49.2	47.6	43.0	42.2	26.0	18.2	17.6	20.6	22.0	17.6	54.4	**34.3**
Apr 24	21.8	22.2	24.0	19.4	15.8	19.2	21.2	27.0	44.2	50.6	49.6	50.8	57.2	47.4	53.4	50.6	55.8	52.6	44.2	32.6	23.2	10.2	5.6	11.8	5.6	57.2	33.8
Apr 25	11.2	8.0	10.0	12.2	13.0	13.8	10.2	14.0	21.8	25.4	27.6	34.2	40.4	37.6	25.4	29.4	29.6	35.8	22.4	21.0	7.0	9.4	7.0	7.4	7.0	40.4	19.7
Apr 26	7.6	9.6	6.4	6.6	4.6	7.4	8.8	13.6	15.0	22.6	21.8	22.8	18.2	18.2	23.0	26.4	23.0	19.4	22.0	27.2	16.8	22.6	31.2	27.2	4.6	31.2	17.6
Apr 27	31.2	27.6	29.2	24.4	25.6	31.0	29.4	30.4	27.8	25.6	27.8	28.2	29.4	32.2	32.0	35.6	35.0	30.4	29.6	19.0	10.2	13.4	17.2	18.2	10.2	35.6	26.7
Apr 28	14.4	3.2	4.4	7.2	8.8	9.0	13.2	16.0	24.8	28.2	32.2	41.6	43.8	41.4	36.0	37.8	40.0	31.2	22.8	15.8	5.4	4.0	3.6	4.0	3.2	43.8	20.4
Apr 29	4.4	3.0	3.2	2.6	3.6	3.8	4.0	15.2	18.8	25.2	34.0	34.8	34.6	32.4	43.4	33.6	30.6	35.4	36.4	28.0	35.2	27.8	24.6	25.0	2.6	43.4	22.5
Apr 30	20.4	29.6	21.4	44.6	29.6	20.2	16.8	22.6	18.6	26.2	27.8	32.0	28.0	30.2	25.8	25.6	21.6	18.6	10.6	6.2	8.2	7.8	8.2	9.8	6.2	44.6	21.3
Diurnal Maximum	37.4	34.8	41.4	44.6	37.8	39.0	34.6	32.4	44.2	50.6	49.6	50.8	57.2	54.4	61.8	52.0	55.8	52.6	44.2	72.0	36.8	40.8	38.2	35.8			
Daiurnal Average	15.7	14.9	14.9	15.4	14.4	15.9	16.0	19.3	23.5	25.5	27.0	29.5	32.6	33.3	33.6	32.7	32.0	29.5	24.0	20.8	16.3	14.8	15.2	15.7			

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

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

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



RENO STATION

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - April 2019

Summary of Hourly Instantaneous Maximums

SULPHUR DIOXIDE (SO_2) in ppb

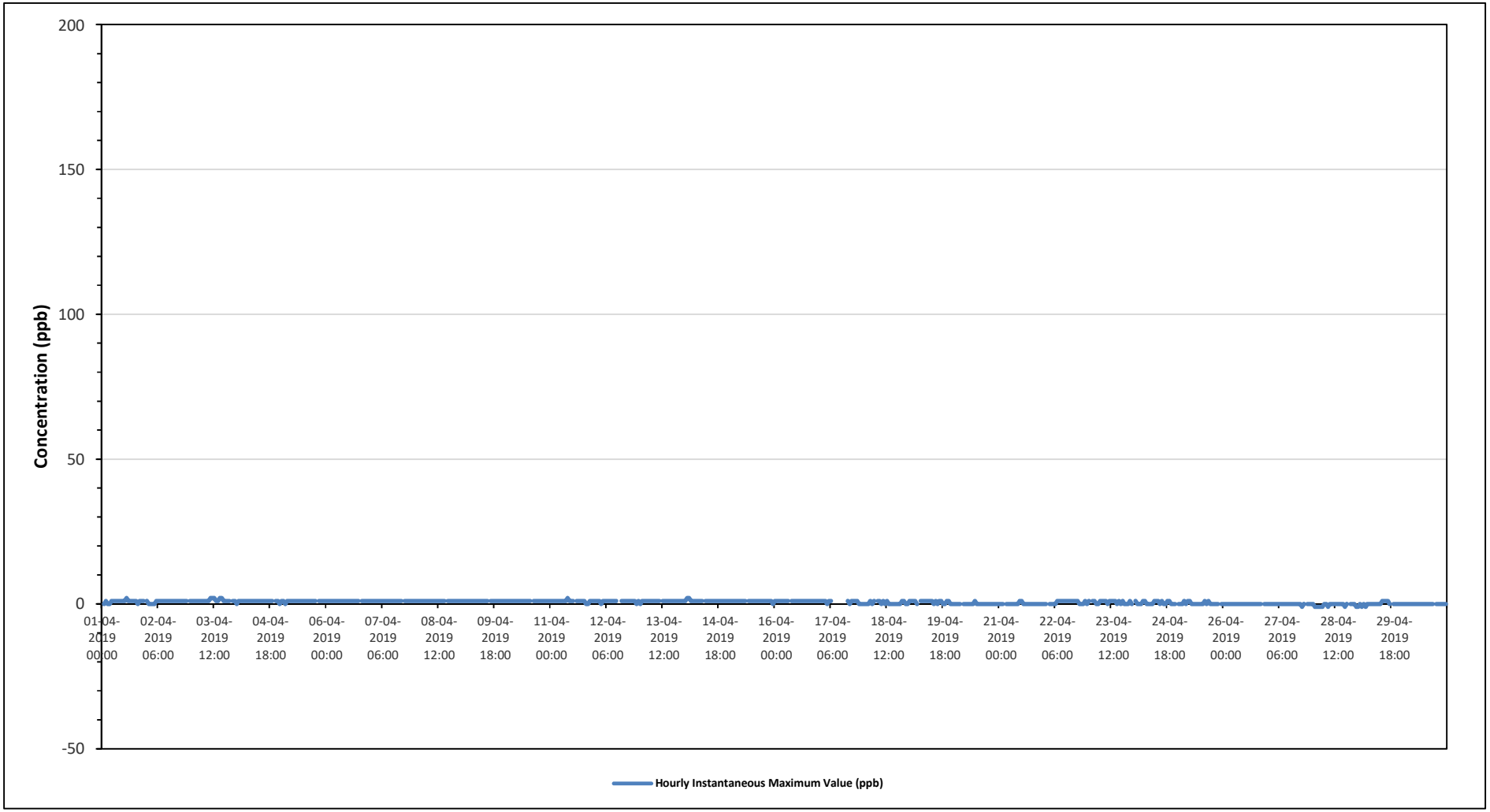
Maximum Hourly Value:	2	ppb	on April 1 at hour 13	Hours in Service:	720
Maximum Daily Value:	1.2	ppb	on April 3	Hours of Data:	681
Minimum Hourly Value:	-1	ppb	on April 27 at hour 18	Hours of Missing Data:	1
Minimum Daily Value:	-0.3	ppb	on April 28	Hours of Calibration:	38
Monthly Average:	0.6	ppb		Operational Uptime:	99.9

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Apr 1	S	0	1	0	0	1	1	1	1	1	1	1	1	2	1	1	1	1	1	0	1	1	1	S	0	2	0.9
Apr 2	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	0	1	0.8
Apr 3	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	2	2	1	1	1	1	S	1	1	1	2	1.2
Apr 4	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	0	0	1	0.9
Apr 5	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	0	1	1.0
Apr 6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1.0
Apr 7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1.0
Apr 8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1.0
Apr 9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1.0
Apr 10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1.0
Apr 11	1	1	1	1	1	1	1	1	1	2	1	1	1	S	1	1	1	1	1	0	0	1	1	1	0	2	1.0
Apr 12	1	1	1	0	1	1	1	1	1	1	1	1	S	S1	1	1	1	1	1	1	1	1	0	1	0	1	0.9
Apr 13	0	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1.0
Apr 14	1	2	2	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1
Apr 15	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1.0
Apr 16	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0
Apr 17	1	1	1	1	0	1	1	S	1	C	C	C	C	C	C	1	0	1	1	1	1	0	0	0	0	1	-
Apr 18	0	0	0	1	0	1	S	1	1	0	1	0	1	0	0	0	0	0	0	0	1	1	0	0	0	1	0.3
Apr 19	1	1	1	1	0	S	1	1	1	1	1	1	1	0	1	0	1	1	0	0	1	1	0	0	0	1	0.7
Apr 20	0	0	0	0	S	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Apr 21	0	0	0	S	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Apr 22	0	0	S	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	1	0.6
Apr 23	1	S	1	1	0	0	1	1	1	1	0	1	1	1	1	0	1	0	1	0	0	0	1	0	0	1	0.6
Apr 24	S	1	0	0	0	1	1	0	0	0	0	1	1	1	0	1	0	0	1	1	0	0	0	S	0	1	0.4
Apr 25	0	0	0	1	0	1	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	S	0	0	1	0.2
Apr 26	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
Apr 27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	S	0	0	0	-1	0	0.0
Apr 28	0	-1	-1	-1	-1	-1	0	0	-1	0	0	0	0	0	0	0	0	-1	0	S	0	0	0	-1	-1	0	-0.3
Apr 29	-1	0	-1	0	-1	0	0	0	0	0	0	0	0	1	1	1	1	0	S	0	0	0	0	0	-1	1	0.0
Apr 30	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
Diurnal Maximum	1	2	2	1	1	1	1	1	1	2	2	2	2	2	1	2	2	1	1	1	1	1	1	1			
Daiurnal Average	0.5	0.6	0.6	0.6	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.5	0.6	0.6	0.6	0.4			

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

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

Timeseries Chart of Hourly Instantaneous Maximum for SO2 - Reno Site



PEACE RIVER AREA MONITORING PROGRAM

Reno Site - April 2019

Summary of Hourly Instantaneous Maximums

TOTAL REDUCED SULPHUR (TRS) in ppb

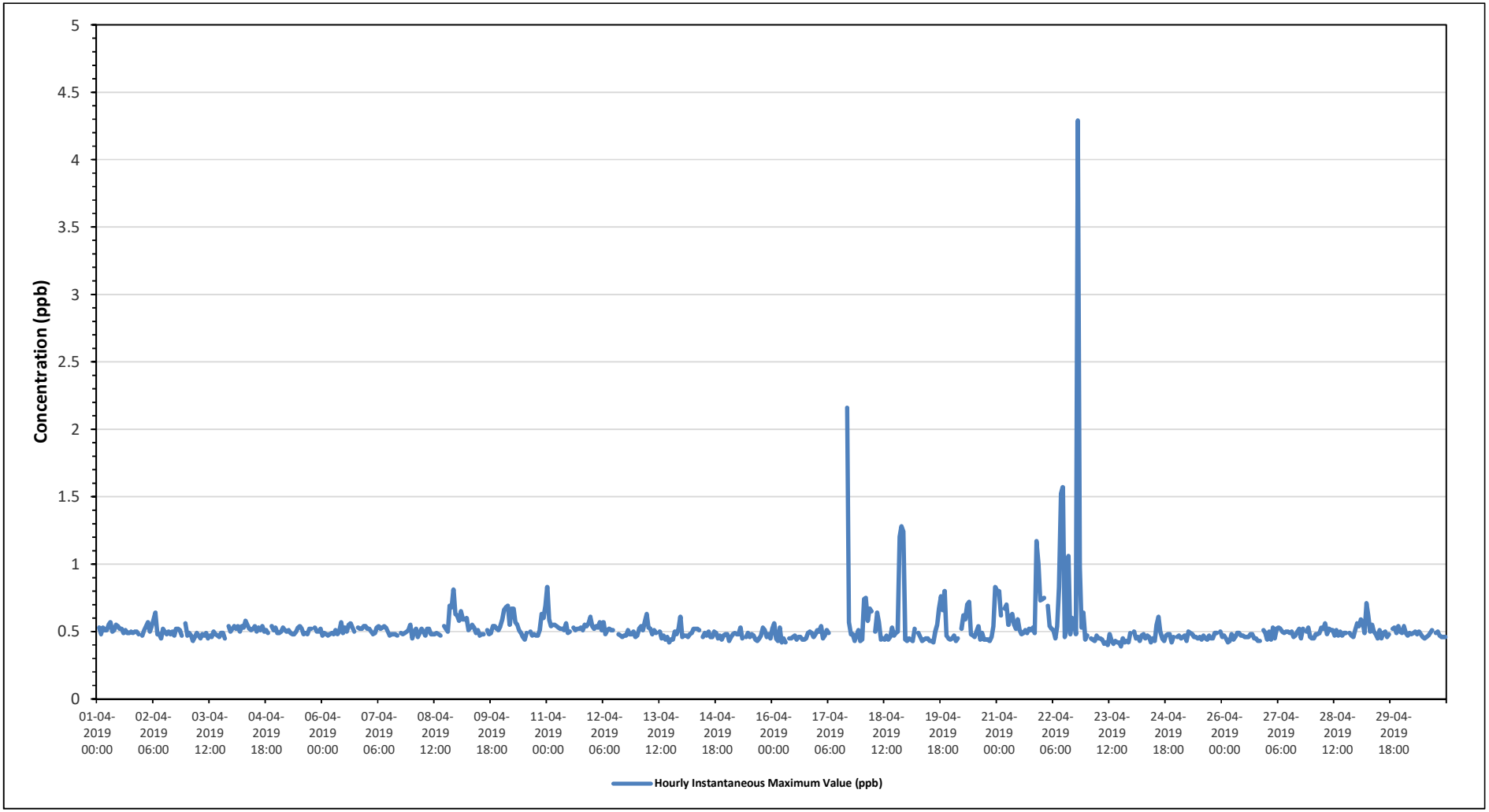
Maximum Hourly Value:	4.29	ppb	on April 22 at hour 19	Hours in Service:	720
Maximum Daily Value:	0.86	ppb	on April 22	Hours of Data:	680
Minimum Hourly Value:	0.39	ppb	on April 23 at hour 18	Hours of Missing Data:	1
Minimum Daily Value:	0.44	ppb	on April 23	Hours of Calibration:	39
Monthly Average:	0.52	ppb		Operational Uptime:	99.9

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	S	0.53	0.48	0.53	0.51	0.51	0.55	0.57	0.5	0.51	0.55	0.54	0.52	0.52	0.49	0.51	0.49	0.49	0.5	0.49	0.5	0.5	0.48	S	0.48	0.57	0.51
Apr 2	0.47	0.51	0.54	0.57	0.5	0.54	0.59	0.64	0.48	0.48	0.45	0.52	0.5	0.48	0.5	0.48	0.5	0.47	0.52	0.52	0.51	0.47	S	0.56	0.45	0.64	0.51
Apr 3	0.47	0.49	0.47	0.43	0.46	0.49	0.47	0.45	0.48	0.47	0.49	0.45	0.47	0.46	0.5	0.48	0.47	0.46	0.49	0.49	0.45	S	0.54	0.5	0.43	0.54	0.48
Apr 4	0.52	0.54	0.52	0.54	0.5	0.54	0.53	0.58	0.55	0.52	0.51	0.52	0.54	0.5	0.53	0.51	0.54	0.5	0.51	0.49	S	0.54	0.51	0.53	0.49	0.58	0.52
Apr 5	0.49	0.49	0.5	0.53	0.51	0.5	0.51	0.49	0.48	0.48	0.5	0.53	0.54	0.52	0.48	0.49	0.48	0.52	0.52	S	0.53	0.5	0.5	0.52	0.48	0.54	0.50
Apr 6	0.47	0.49	0.48	0.47	0.48	0.49	0.48	0.51	0.48	0.5	0.57	0.49	0.53	0.5	0.55	0.56	0.53	0.5	S	0.53	0.52	0.52	0.54	0.54	0.47	0.57	0.51
Apr 7	0.52	0.52	0.5	0.48	0.49	0.53	0.54	0.52	0.53	0.54	0.53	0.5	0.47	0.48	0.48	0.48	0.47	S	0.49	0.48	0.49	0.5	0.51	0.55	0.47	0.55	0.50
Apr 8	0.45	0.5	0.52	0.46	0.49	0.52	0.5	0.47	0.52	0.52	0.48	0.48	0.48	0.49	0.48	0.47	S	0.54	0.52	0.5	0.69	0.68	0.81	0.63	0.45	0.81	0.53
Apr 9	0.62	0.58	0.65	0.59	0.59	0.6	0.51	0.53	0.55	0.53	0.49	0.51	0.47	0.48	0.48	S	0.51	0.48	0.49	0.54	0.54	0.52	0.51	0.54	0.47	0.65	0.54
Apr 10	0.59	0.66	0.68	0.69	0.55	0.67	0.67	0.57	0.55	0.51	0.49	0.46	0.44	0.49	S	0.5	0.47	0.48	0.47	0.47	0.51	0.63	0.6	0.69	0.44	0.69	0.56
Apr 11	0.83	0.59	0.54	0.55	0.55	0.54	0.53	0.52	0.52	0.51	0.56	0.49	0.5	S	0.53	0.51	0.52	0.52	0.53	0.51	0.55	0.54	0.56	0.61	0.49	0.83	0.55
Apr 12	0.54	0.52	0.54	0.53	0.57	0.51	0.57	0.48	0.51	0.52	0.51	0.51	S	S1	0.48	0.47	0.46	0.47	0.47	0.51	0.48	0.48	0.5	0.46	0.46	0.57	0.50
Apr 13	0.47	0.52	0.54	0.51	0.57	0.63	0.53	0.52	0.48	0.51	0.49	S	0.5	0.45	0.47	0.44	0.46	0.42	0.44	0.44	0.5	0.48	0.52	0.61	0.42	0.63	0.50
Apr 14	0.46	0.47	0.47	0.46	0.48	0.49	0.52	0.52	0.52	0.51	S	0.46	0.49	0.47	0.5	0.46	0.46	0.5	0.49	0.45	0.47	0.44	0.47	0.48	0.44	0.52	0.48
Apr 15	0.48	0.43	0.46	0.48	0.49	0.48	0.48	0.53	0.45	S	0.46	0.49	0.46	0.48	0.47	0.44	0.43	0.45	0.47	0.53	0.51	0.46	0.48	0.45	0.43	0.53	0.47
Apr 16	0.52	0.56	0.45	0.43	0.53	0.42	0.45	0.42	S	0.45	0.45	0.46	0.47	0.44	0.46	0.46	0.44	0.44	0.45	0.49	0.5	0.49	0.46	0.48	0.42	0.56	0.47
Apr 17	0.51	0.5	0.54	0.45	0.47	0.51	0.49	S	0.49	C	C	C	C	C	C	C	2.16	0.57	0.48	0.48	0.43	0.47	0.51	0.43	0.43	2.16	-
Apr 18	0.44	0.74	0.75	0.58	0.67	0.65	S	0.5	0.64	0.57	0.44	0.45	0.44	0.47	0.44	0.46	0.53	0.47	0.49	0.5	1.2	1.28	1.24	0.44	0.44	1.28	0.63
Apr 19	0.43	0.45	0.44	0.43	0.52	S	0.49	0.46	0.43	0.44	0.45	0.45	0.43	0.43	0.42	0.5	0.55	0.67	0.76	0.66	0.8	0.47	0.45	0.44	0.42	0.80	0.50
Apr 20	0.45	0.47	0.43	0.45	S	0.52	0.62	0.59	0.7	0.72	0.48	0.47	0.46	0.5	0.54	0.44	0.49	0.44	0.44	0.44	0.43	0.46	0.54	0.83	0.43	0.83	0.52
Apr 21	0.8	0.8	0.62	S	0.67	0.7	0.55	0.61	0.63	0.55	0.52	0.59	0.51	0.48	0.49	0.51	0.49	0.52	0.51	0.53	0.49	1.17	1	0.73	0.48	1.17	0.63
Apr 22	0.74	0.75	S	0.69	0.54	0.52	0.51	0.45	0.54	0.83	1.52	1.57	0.46	0.52	1.06	0.48	0.6	0.58	0.48	**4.29**	0.98	0.53	0.64	0.44	0.44	**4.29**	**0.86**
Apr 23	0.47	S	0.45	0.44	0.43	0.47	0.45	0.45	0.44	0.41	0.42	0.4	0.48	0.43	0.41	0.43	0.42	0.42	**0.39**	0.45	0.42	0.43	0.42	0.49	**0.39**	0.49	0.44
Apr 24	S	0.5	0.45	0.46	0.43	0.47	0.48	0.45	0.47	0.46	0.42	0.45	0.43	0.55	0.61	0.5	0.45	0.43	0.47	0.48	0.48	0.42	0.46	S	0.42	0.61	0.47
Apr 25	0.46	0.47	0.45	0.46	0.47	0.43	0.5	0.49	0.48	0.46	0.46	0.45	0.46	0.44	0.47	0.45	0.44	0.47	0.45	0.45	0.49	0.49	S	0.5	0.43	0.50	0.46
Apr 26	0.46	0.47	0.45	0.42	0.43	0.48	0.44	0.46	0.49	0.49	0.47	0.47	0.46	0.46	0.46	0.48	0.48	0.45	0.45	0.43	0.43	S	0.51	0.49	0.42	0.51	0.46
Apr 27	0.44	0.5	0.44	0.53	0.45	0.52	0.53	0.52	0.5	0.49	0.5	0.5	0.49	0.5	0.46	0.47	0.5	0.52	0.45	0.52	S	0.5	0.53	0.46	0.44	0.53	0.49
Apr 28	0.45	0.45	0.48	0.48	0.49	0.53	0.52	0.56	0.48	0.52	0.51	0.51	0.47	0.51	0.47	0.5	0.47	0.49	0.49	S	0.49	0.47	0.46	0.51	0.45	0.56	0.49
Apr 29	0.56	0.54	0.59	0.57	0.49	0.71	0.62	0.5	0.55	0.5	0.48	0.45	0.51	0.45	0.49	0.5	0.46	0.48	S	0.52	0.53	0.49	0.54	0.5	0.45	0.71	0.52
Apr 30	0.49	0.54	0.49	0.47	0.49	0.48	0.49	0.5	0.48	0.5	0.48	0.46	0.45	0.46	0.47	0.49	0.51	S	0.49	0.5	0.47	0.46	0.46	0.46	0.45	0.54	0.48
Diurnal Maximum	0.83	0.80	0.75	0.69	0.67	0.71	0.67	0.64	0.70	0.83	1.52	1.57	0.54	0.55	1.06	0.56	2.16	0.67	0.76	4.29	1.20	1.28	1.24	0.83			
Daiurnal Average	0.52	0.54	0.51	0.51	0.51	0.53	0.52	0.51	0.51	0.52	0.52	0.52	0.48	0.48	0.51	0.48	0.54	0.49	0.49	0.63	0.55	0.55	0.56	0.53			

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

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

Timeseries Chart of Hourly Instantaneous Maximum for TRS - Reno Site



PEACE RIVER AREA MONITORING PROGRAM

Reno Site - April 2019

Summary of Hourly Instantaneous Maximums

TOTAL HYDROCARBONS (THC) in ppm

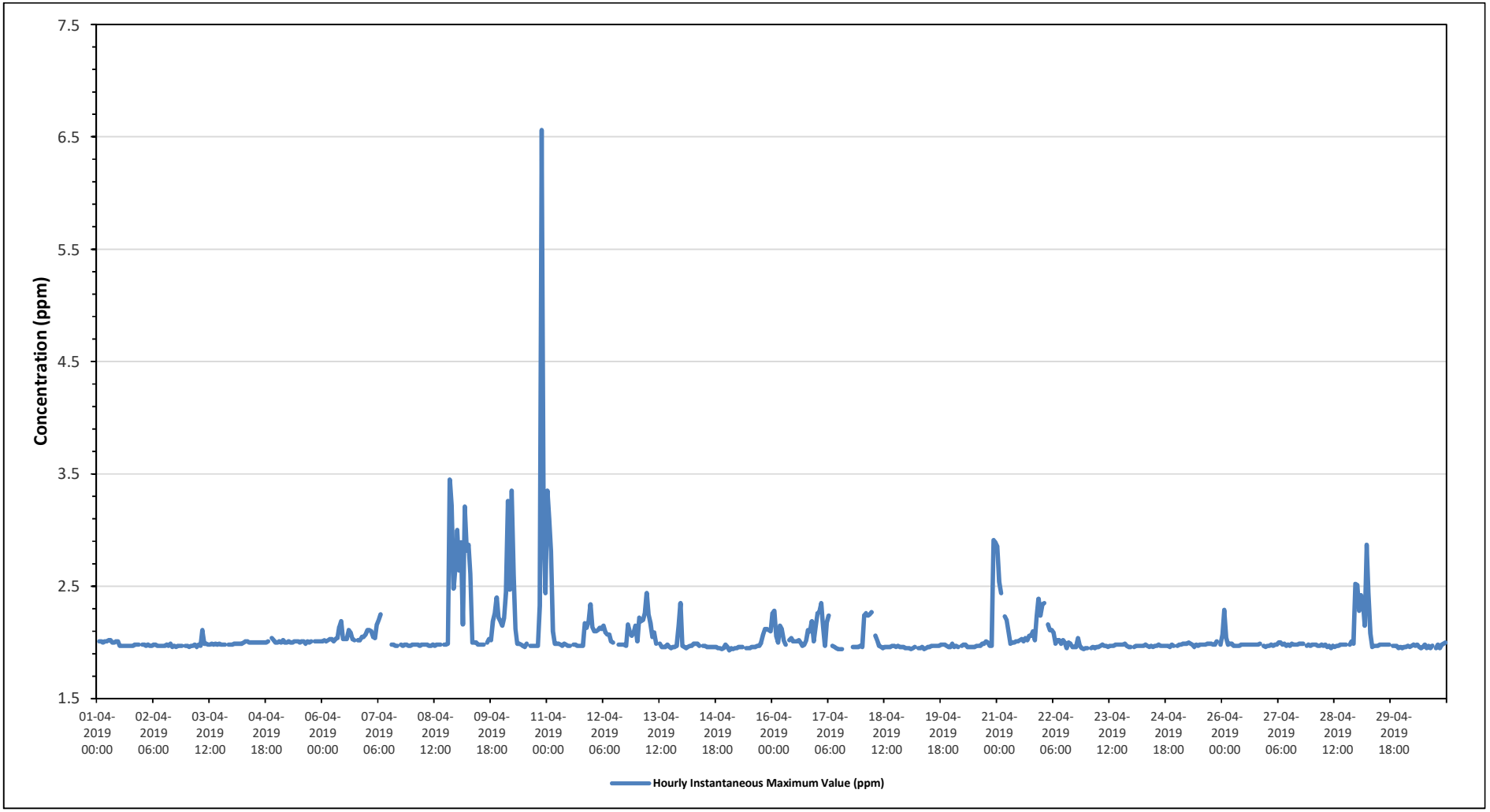
Maximum Hourly Value:	6.56	ppm	on April 10 at hour 21	Hours in Service:	720
Maximum Daily Value:	2.47	ppm	on April 10	Hours of Data:	677
Minimum Hourly Value:	1.93	ppm	on April 15 at hour 1	Hours of Missing Data:	6
Minimum Daily Value:	1.96	ppm	on April 19	Hours of Calibration:	37
Monthly Average:	2.05	ppm		Operational Uptime:	99.2

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	S	2.01	2.01	2.00	2.01	2.01	2.02	2.02	2.00	2.00	2.01	2.01	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.98	S	1.97	2.02	1.99
Apr 2	1.98	1.98	1.97	1.98	1.97	1.97	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.98	1.97	1.99	1.96	1.97	1.96	1.97	1.97	1.97	S	1.97	1.96	1.99	1.97
Apr 3	1.97	1.96	1.97	1.97	1.98	1.96	1.98	1.97	2.11	1.99	1.99	1.98	1.98	1.99	1.98	1.99	1.98	1.99	1.98	1.98	1.98	S	1.98	1.98	1.96	2.11	1.98
Apr 4	1.98	1.99	1.99	1.99	1.99	1.99	2.00	2.01	2.01	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.01	S	2.04	2.02	2.00	1.98	2.04	2.00
Apr 5	2.00	2.01	2.00	2.02	2.00	2.00	2.01	2.00	2.00	2.01	2.01	2.01	2.00	2.01	2.01	1.99	2.01	2.00	2.01	S	2.01	2.01	2.01	2.01	1.99	2.02	2.01
Apr 6	2.01	2.02	2.01	2.02	2.03	2.03	2.01	2.03	2.04	2.14	2.19	2.03	2.03	2.03	2.11	2.09	2.03	2.02	S	2.02	2.02	2.05	2.05	2.07	2.01	2.19	2.05
Apr 7	2.11	2.11	2.10	2.05	2.04	2.16	2.20	2.25	X	X	X	X	S1	1.98	1.98	1.97	1.97	S	1.98	1.97	1.98	1.98	1.97	1.97	1.97	2.25	2.04
Apr 8	1.98	1.98	1.98	1.98	1.97	1.98	1.98	1.98	1.98	1.97	1.97	1.98	1.97	1.98	1.98	1.98	S	1.98	1.98	1.99	3.45	3.22	2.48	2.67	1.97	3.45	2.15
Apr 9	3.00	2.64	2.89	2.16	3.21	2.82	2.87	2.61	2.00	2.00	2.00	1.98	1.98	1.98	1.98	S	2.00	2.03	2.02	2.19	2.26	2.40	2.22	2.19	1.98	3.21	2.32
Apr 10	2.15	2.22	2.45	3.26	2.47	3.35	2.61	2.12	1.99	1.99	1.98	1.97	1.96	1.99	S	1.97	1.97	1.97	1.97	1.97	2.33	**6.56**	3.01	2.44	1.96	**6.56**	**2.47**
Apr 11	3.35	3.10	2.81	2.10	1.99	1.99	1.99	1.98	1.97	1.99	1.98	1.97	1.97	S	1.98	1.98	1.97	1.97	1.97	1.97	2.17	2.13	2.19	2.34	1.97	3.35	2.17
Apr 12	2.14	2.10	2.10	2.11	2.13	2.12	2.15	2.09	2.07	2.07	2.01	2.00	S	S1	1.98	1.98	1.98	1.98	1.97	2.16	2.09	2.06	2.09	2.15	1.97	2.16	2.07
Apr 13	2.01	2.22	2.19	2.20	2.26	2.44	2.25	2.17	2.05	2.09	1.99	S	1.99	1.96	1.96	1.96	1.98	1.96	1.95	1.96	1.96	1.97	2.15	2.35	1.95	2.44	2.09
Apr 14	1.97	1.96	1.95	1.96	1.97	1.97	1.99	1.99	1.99	1.97	S	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.95	1.94	1.95	1.98	1.94	1.99	1.96
Apr 15	1.96	**1.93**	1.95	1.94	1.95	1.95	1.96	1.96	1.96	S	1.95	1.95	1.95	1.96	1.96	1.96	1.97	1.97	2.00	2.07	2.12	2.12	2.11	2.10	**1.93**	2.12	1.99
Apr 16	2.26	2.28	2.06	2.00	2.15	2.12	2.02	1.98	S	2.02	2.04	2.01	2.01	2.01	2.02	2.00	1.97	1.98	2.02	2.11	2.10	2.19	2.01	2.13	1.97	2.28	2.06
Apr 17	2.26	2.27	2.35	2.14	1.97	2.18	2.24	S	1.97	1.96	1.95	1.94	1.94	1.94	C	C	C	C	C	1.96	1.96	1.96	1.96	1.97	1.94	2.35	2.05
Apr 18	1.96	2.24	2.26	2.24	2.25	2.27	S	2.06	2.02	1.97	1.96	1.95	1.96	1.96	1.96	1.96	1.97	1.97	1.96	1.97	1.96	1.96	1.96	1.95	1.95	2.27	2.03
Apr 19	1.95	1.95	1.94	1.95	1.96	S	1.95	1.95	1.96	1.94	1.95	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.97	1.96	1.96	1.94	1.98	1.96
Apr 20	1.99	1.96	1.97	1.96	S	1.97	1.98	1.98	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.99	1.99	2.01	2.00	1.97	1.97	2.91	2.89	1.96	2.91	2.05
Apr 21	2.85	2.54	2.44	S	2.23	2.20	2.09	1.99	2.00	2.00	2.01	2.01	2.02	2.03	2.01	2.04	2.02	2.06	2.06	2.10	2.02	2.23	2.39	2.24	1.99	2.85	2.16
Apr 22	2.34	2.35	S	2.16	2.11	2.11	2.09	1.99	2.02	2.02	1.99	2.02	2.00	1.95	2.00	1.99	1.96	1.96	1.96	2.04	1.97	1.95	1.94	1.95	1.94	2.35	2.04
Apr 23	1.95	S	1.95	1.96	1.95	1.96	1.96	1.97	1.98	1.97	1.97	1.96	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.99	1.97	1.96	1.96	1.95	1.99	1.97
Apr 24	S	1.96	1.97	1.97	1.97	1.97	1.97	1.98	1.97	1.96	1.97	1.96	1.97	1.97	1.98	1.97	1.97	1.97	1.97	1.97	1.96	1.98	1.97	S	1.96	1.98	1.97
Apr 25	1.97	1.98	1.98	1.99	1.99	1.99	2.00	1.99	1.98	1.96	1.98	1.97	1.98	1.98	1.98	1.98	1.99	1.99	1.99	1.98	1.98	2.01	S	1.98	1.96	2.01	1.98
Apr 26	2.07	2.29	2.04	1.98	1.99	1.99	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	S	1.97	1.96	1.96	2.29	2.00
Apr 27	1.97	1.97	1.98	1.97	1.98	1.98	2.00	2.00	1.98	1.99	1.97	1.98	1.97	1.99	1.98	1.98	1.98	1.99	1.99	1.99	S	1.97	1.98	1.97	1.97	2.00	1.98
Apr 28	1.98	1.98	1.98	1.97	1.97	1.98	1.97	1.98	1.96	1.97	1.95	1.97	1.96	1.97	1.97	1.98	1.98	1.98	1.98	S	1.98	2.01	1.99	2.52	1.95	2.52	2.00
Apr 29	2.51	2.28	2.42	2.36	2.15	2.87	2.44	2.08	1.96	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.98	S	1.97	1.97	1.97	1.95	1.96	1.95	2.87	2.12
Apr 30	1.95	1.96	1.96	1.97	1.96	1.97	1.98	1.97	1.98	1.96	1.95	1.96	1.98	1.95	1.97	1.95	1.97	S	1.95	1.98	1.95	1.98	1.99	2.00	1.95	2.00	1.97
Diurnal Maximum	3.35	3.10	2.89	3.26	3.21	3.35	2.87	2.61	2.11	2.14	2.19	2.03	2.03	2.03	2.11	2.09	2.03	2.06	2.06	2.19	3.45	6.56	3.01	2.89			
Daiurnal Average	2.17	2.15	2.13	2.08	2.09	2.15	2.09	2.04	1.99	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	2.01	2.07	2.23	2.11	2.13			

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

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

Timeseries Chart of Hourly Instantaneous Maximum for THC - Reno Site



PEACE RIVER AREA MONITORING PROGRAM

Reno Site - April 2019

Summary of Hourly Instantaneous Maximums

METHANE (CH4) in ppm

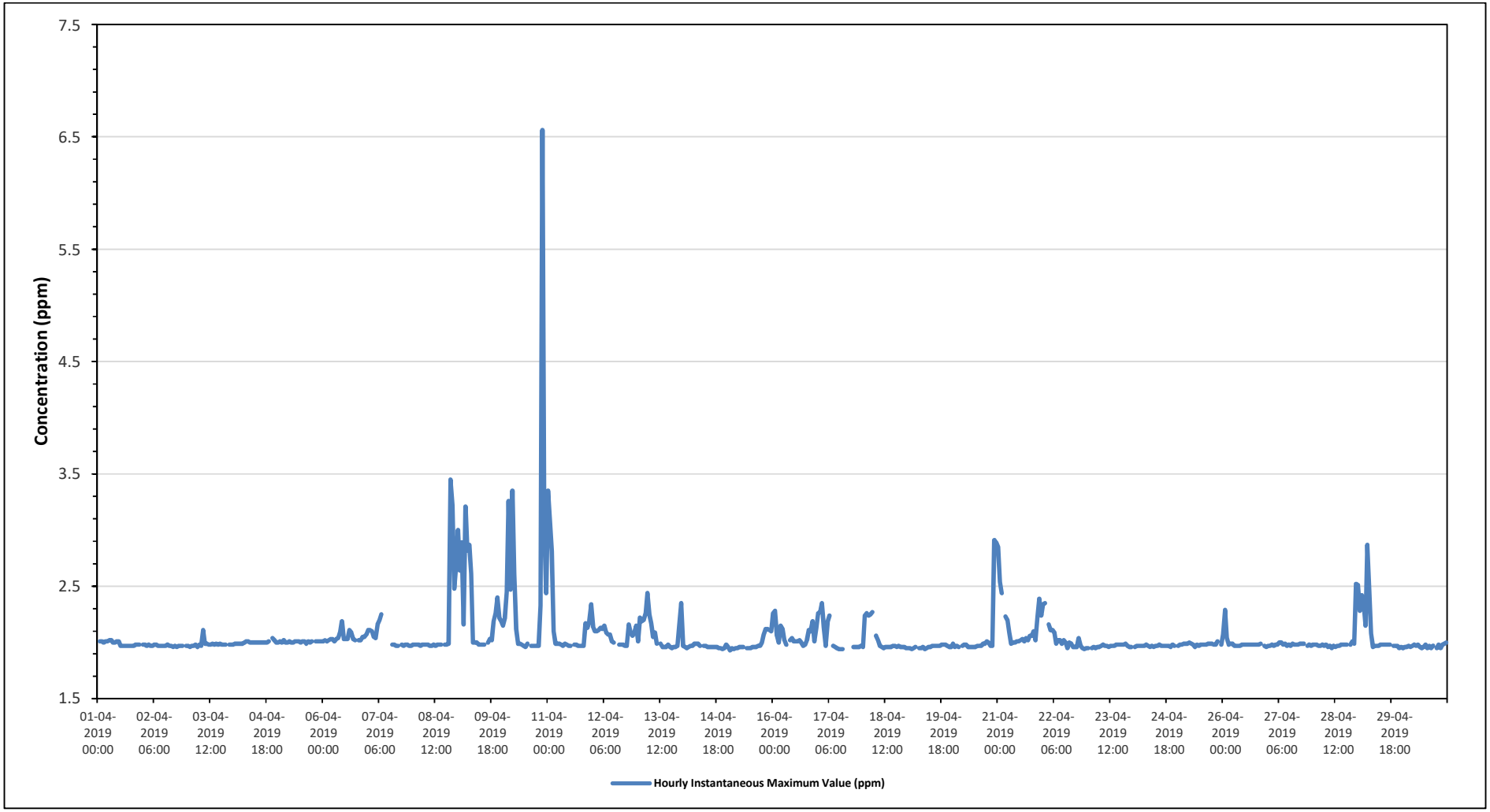
Maximum Hourly Value:	6.56	ppm	on April 10 at hour 21	Hours in Service:	720
Maximum Daily Value:	2.47	ppm	on April 10	Hours of Data:	677
Minimum Hourly Value:	1.93	ppm	on April 15 at hour 1	Hours of Missing Data:	6
Minimum Daily Value:	1.96	ppm	on April 19	Hours of Calibration:	37
Monthly Average:	2.05	ppm		Operational Uptime:	99.2

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	S	2.01	2.01	2.00	2.01	2.01	2.02	2.02	2.00	2.00	2.01	2.01	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.98	S	1.97	2.02	1.99
Apr 2	1.98	1.98	1.97	1.98	1.97	1.97	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.98	1.97	1.97	1.96	1.97	1.96	1.97	1.97	1.97	S	1.97	1.96	1.98	1.97
Apr 3	1.97	1.96	1.97	1.97	1.98	1.96	1.98	1.97	2.11	1.99	1.99	1.98	1.98	1.99	1.98	1.99	1.98	1.99	1.98	1.98	1.98	S	1.98	1.98	1.96	2.11	1.98
Apr 4	1.98	1.99	1.99	1.99	1.99	1.99	2.00	2.01	2.01	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.01	S	2.04	2.02	2.00	1.98	2.04	2.00
Apr 5	2.00	2.01	2.00	2.02	2.00	2.00	2.01	2.00	2.00	2.01	2.01	2.01	2.00	2.01	2.01	1.99	2.01	2.00	2.01	S	2.01	2.01	2.01	2.01	1.99	2.02	2.01
Apr 6	2.01	2.02	2.01	2.02	2.03	2.03	2.01	2.03	2.04	2.09	2.19	2.03	2.03	2.03	2.11	2.09	2.03	2.02	S	2.02	2.02	2.05	2.05	2.07	2.01	2.19	2.04
Apr 7	2.11	2.11	2.10	2.05	2.04	2.16	2.20	2.25	X	X	X	X	S1	1.98	1.98	1.97	1.97	S	1.98	1.97	1.98	1.98	1.97	1.97	1.97	2.25	2.04
Apr 8	1.98	1.98	1.98	1.98	1.97	1.98	1.98	1.98	1.98	1.97	1.97	1.98	1.97	1.98	1.98	1.98	S	1.98	1.98	1.99	3.45	3.22	2.48	2.67	1.97	3.45	2.15
Apr 9	3.00	2.64	2.89	2.16	3.21	2.82	2.87	2.61	2.00	2.00	2.00	1.98	1.98	1.98	1.98	S	2.00	2.03	2.02	2.19	2.26	2.40	2.22	2.19	1.98	3.21	2.32
Apr 10	2.15	2.22	2.45	3.26	2.47	3.35	2.61	2.12	1.99	1.99	1.98	1.97	1.96	1.99	S	1.97	1.97	1.97	1.97	1.97	2.33	**6.56**	3.01	2.44	1.96	**6.56**	**2.47**
Apr 11	3.35	3.10	2.81	2.10	1.99	1.99	1.99	1.98	1.97	1.99	1.98	1.97	1.97	S	1.98	1.98	1.97	1.97	1.97	1.97	2.17	2.13	2.19	2.34	1.97	3.35	2.17
Apr 12	2.14	2.10	2.10	2.11	2.13	2.12	2.15	2.09	2.07	2.07	2.01	2.00	S	S1	1.98	1.98	1.98	1.97	1.97	2.16	2.09	2.06	2.09	2.15	1.97	2.16	2.07
Apr 13	2.01	2.22	2.19	2.20	2.26	2.44	2.25	2.17	2.05	2.09	1.99	S	1.99	1.96	1.96	1.96	1.98	1.96	1.95	1.96	1.96	1.97	2.15	2.35	1.95	2.44	2.09
Apr 14	1.97	1.96	1.95	1.96	1.97	1.97	1.99	1.99	1.99	1.97	S	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.95	1.94	1.95	1.98	1.94	1.99	1.96
Apr 15	1.96	**1.93**	1.95	1.94	1.95	1.95	1.96	1.96	1.96	S	1.95	1.95	1.95	1.96	1.96	1.96	1.97	1.97	2.00	2.07	2.12	2.12	2.11	2.10	**1.93**	2.12	1.99
Apr 16	2.26	2.28	2.06	2.00	2.15	2.12	2.02	1.98	S	2.02	2.04	2.01	2.01	2.01	2.02	2.00	1.97	1.98	2.02	2.11	2.10	2.19	2.01	2.13	1.97	2.28	2.06
Apr 17	2.26	2.27	2.35	2.14	1.97	2.18	2.24	S	1.97	1.96	1.95	1.94	1.94	1.94	C	C	C	C	C	1.96	1.96	1.96	1.96	1.97	1.94	2.35	2.05
Apr 18	1.96	2.24	2.26	2.24	2.25	2.27	S	2.06	2.02	1.97	1.96	1.95	1.96	1.96	1.96	1.96	1.97	1.97	1.96	1.97	1.96	1.96	1.96	1.95	1.95	2.27	2.03
Apr 19	1.95	1.95	1.94	1.95	1.96	S	1.95	1.95	1.96	1.94	1.95	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.97	1.96	1.96	1.94	1.98	1.96
Apr 20	1.99	1.96	1.97	1.96	S	1.97	1.98	1.98	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.99	1.99	2.01	2.00	1.97	1.97	2.91	2.89	1.96	2.91	2.05
Apr 21	2.85	2.54	2.44	S	2.23	2.20	2.09	1.99	2.00	2.00	2.01	2.01	2.02	2.03	2.01	2.04	2.02	2.06	2.06	2.10	2.02	2.23	2.39	2.24	1.99	2.85	2.16
Apr 22	2.34	2.35	S	2.16	2.11	2.11	2.09	1.99	2.02	2.02	1.99	2.02	2.00	1.95	2.00	1.99	1.96	1.96	1.96	2.04	1.97	1.95	1.94	1.95	1.94	2.35	2.04
Apr 23	1.95	S	1.95	1.96	1.95	1.96	1.96	1.97	1.98	1.97	1.97	1.96	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.99	1.97	1.96	1.96	1.95	1.99	1.97
Apr 24	S	1.96	1.97	1.97	1.97	1.97	1.97	1.98	1.97	1.96	1.97	1.96	1.97	1.97	1.98	1.97	1.97	1.97	1.97	1.97	1.96	1.98	1.97	S	1.96	1.98	1.97
Apr 25	1.97	1.98	1.98	1.99	1.99	1.99	2.00	1.99	1.98	1.96	1.98	1.97	1.98	1.98	1.98	1.98	1.99	1.99	1.99	1.98	1.98	2.01	S	1.98	1.96	2.01	1.98
Apr 26	2.07	2.29	2.04	1.98	1.99	1.99	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	S	1.97	1.96	1.96	2.29	2.00
Apr 27	1.97	1.97	1.98	1.97	1.98	1.98	2.00	2.00	1.98	1.99	1.97	1.98	1.97	1.99	1.98	1.98	1.98	1.99	1.99	1.99	S	1.97	1.98	1.97	1.97	2.00	1.98
Apr 28	1.98	1.98	1.98	1.97	1.97	1.98	1.97	1.98	1.96	1.97	1.95	1.97	1.96	1.97	1.97	1.98	1.98	1.98	1.98	S	1.98	2.01	1.99	2.52	1.95	2.52	2.00
Apr 29	2.51	2.28	2.42	2.36	2.15	2.87	2.46	2.08	1.96	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.98	S	1.97	1.97	1.97	1.95	1.96	1.95	2.87	2.12
Apr 30	1.95	1.96	1.96	1.97	1.96	1.97	1.98	1.97	1.98	1.96	1.95	1.96	1.98	1.95	1.97	1.95	1.97	S	1.95	1.98	1.95	1.98	1.99	2.00	1.95	2.00	1.97
Diurnal Maximum	3.35	3.10	2.89	3.26	3.21	3.35	2.87	2.61	2.11	2.09	2.19	2.03	2.03	2.03	2.11	2.09	2.03	2.06	2.06	2.19	3.45	6.56	3.01	2.89			
Daiurnal Average	2.17	2.15	2.13	2.08	2.09	2.15	2.09	2.04	1.99	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	2.01	2.07	2.23	2.11	2.13			

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

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

Timeseries Chart of Hourly Instantaneous Maximum for CH4 - Reno Site



PEACE RIVER AREA MONITORING PROGRAM

Reno Site - April 2019

Summary of Hourly Instantaneous Maximums

NON-METHANE HYDROCARBONS (NMHC) in ppm

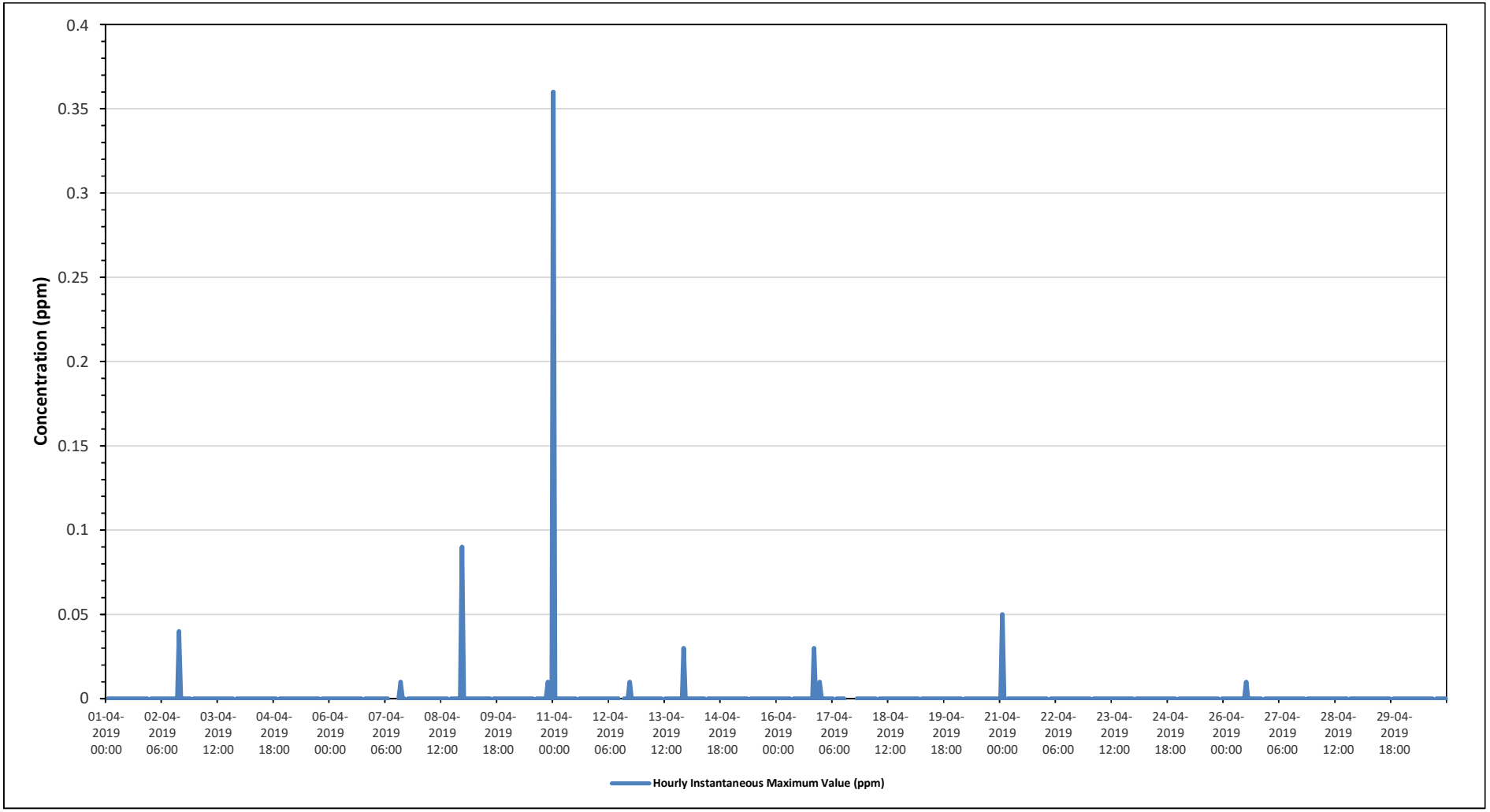
Maximum Hourly Value:	0.36	ppm	on April 11 at hour 0	Hours in Service:	720
Maximum Daily Value:	0.02	ppm	on April 11	Hours of Data:	676
Minimum Hourly Value:	0.00	ppm	on April 1 at hour 1	Hours of Missing Data:	6
Minimum Daily Value:	0.00	ppm	on April 1	Hours of Calibration:	38
Monthly Average:	0.00	ppm		Operational Uptime:	99.2

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Apr 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.04	0.00
Apr 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Apr 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Apr 5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	X	X	X	S1	0.00	0.01	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Apr 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.09	0.00
Apr 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00
Apr 11	0.36	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	0.36	0.02
Apr 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	S	S1	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Apr 13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03	0.00
Apr 14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.01	0.00	0.03	0.00
Apr 17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	C	C	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Apr 18	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 19	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 20	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 21	0.00	0.05	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00
Apr 22	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 23	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 24	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Apr 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Apr 26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.01	0.00
Apr 27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Apr 28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diurnal Maximum	0.36	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.04	0.00	0.01	0.00	0.00	0.03	0.01	0.03	0.09			
Daiurnal Average	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

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

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

Timeseries Chart of Hourly Instantaneous Maximum for NMHC - Reno Site



PEACE RIVER AREA MONITORING PROGRAM

Reno Site - April 2019

Summary of Hourly Instantaneous Maximums

WIND SPEED (WS) in km/h

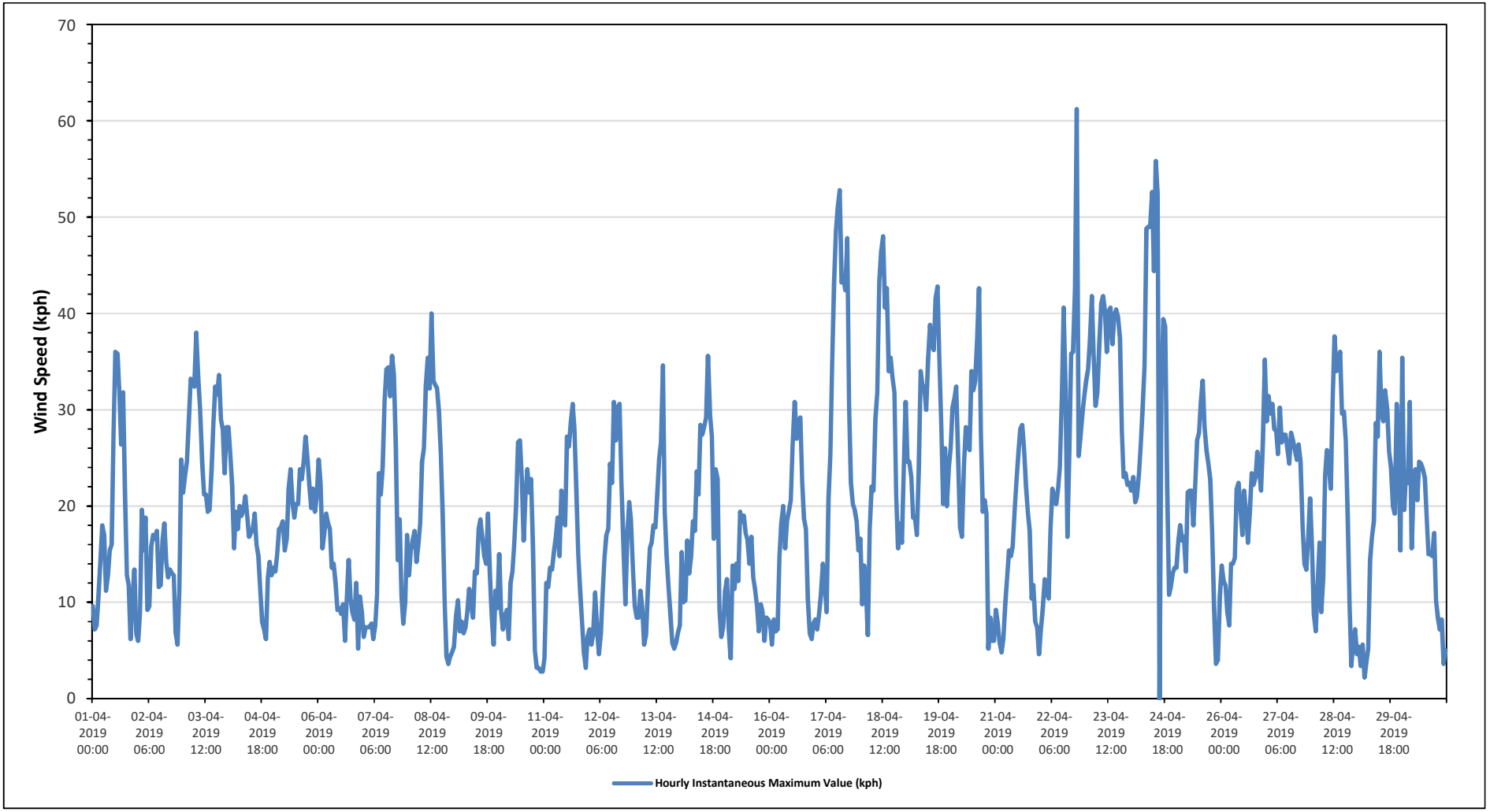
Maximum Hourly Value:	61.2	kph	on April 22 at hour 19	Hours in Service:	720
Maximum Daily Value:	34.7	kph	on April 23	Hours of Data:	719
Minimum Hourly Value:	2.2	kph	on April 29 at hour 4	Hours of Missing Data:	0
Minimum Daily Value:	11.1	kph	on April 9	Hours of Calibration:	1
Monthly Average:	20.0	kph		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Apr 1	9.6	7.2	7.6	10.8	14.4	18.0	17.0	11.2	12.8	15.4	16.0	27.6	36.0	35.8	31.8	26.4	31.8	21.2	12.8	11.8	6.2	10.4	13.4	6.8	6.2	36.0	17.2
Apr 2	6.0	9.0	19.6	15.4	18.8	9.2	9.6	15.8	17.0	16.6	17.4	11.6	11.8	16.4	18.2	14.2	12.6	13.4	13.0	12.8	6.8	5.6	11.2	24.8	5.6	24.8	13.6
Apr 3	21.4	23.2	24.6	28.8	33.2	32.6	32.4	38.0	33.4	30.2	24.6	21.2	21.2	19.4	19.6	23.6	28.6	32.4	31.6	33.6	29.0	28.0	23.4	28.2	19.4	38.0	27.6
Apr 4	28.2	25.4	22.0	15.6	19.4	17.6	20.0	19.0	19.6	21.0	19.0	16.8	17.2	17.6	19.2	16.0	14.8	11.2	8.0	7.2	6.2	12.6	14.2	12.8	6.2	28.2	16.7
Apr 5	13.6	13.2	15.0	17.6	17.8	18.4	15.4	16.6	21.8	23.8	20.4	18.8	20.2	20.2	23.8	22.8	24.6	27.2	25.0	22.2	19.8	21.8	19.4	21.0	13.2	27.2	20.0
Apr 6	24.8	22.4	15.6	17.2	19.2	18.2	17.6	13.6	14.0	12.0	9.2	9.4	8.8	9.8	6.0	10.4	14.4	10.4	9.0	8.2	12.0	5.2	10.6	9.0	5.2	24.8	12.8
Apr 7	6.4	7.4	7.4	7.4	7.8	6.2	7.6	10.8	23.4	21.2	24.2	31.0	34.2	34.4	31.4	35.6	33.6	26.2	14.4	18.6	10.6	7.8	10.0	17.0	6.2	35.6	18.1
Apr 8	12.8	15.4	16.4	17.4	14.2	16.0	18.2	24.6	26.0	32.4	35.4	32.2	40.0	33.0	32.6	32.2	29.8	25.4	19.0	10.2	4.4	3.6	4.4	4.8	3.6	40.0	20.9
Apr 9	5.4	8.6	10.2	7.0	8.0	6.8	7.4	9.0	11.4	9.8	8.4	13.2	13.0	17.6	18.6	16.6	14.8	14.0	19.2	13.0	8.4	5.6	11.2	9.4	5.4	19.2	**11.1**
Apr 10	15.0	9.0	7.2	8.6	9.2	6.2	12.0	13.2	16.0	20.0	26.6	26.8	23.0	16.4	21.2	23.8	21.4	22.8	15.6	5.0	3.2	3.2	2.8	2.8	2.8	26.8	13.8
Apr 11	4.2	12.0	11.6	13.6	13.4	15.2	16.8	18.8	14.8	21.6	19.2	18.0	27.2	26.2	28.6	30.6	28.0	21.6	15.0	11.2	8.0	4.8	3.2	6.4	3.2	30.6	16.3
Apr 12	7.2	5.6	6.8	11.0	7.2	4.6	6.8	11.0	14.6	17.0	17.6	24.4	22.4	30.8	26.8	30.2	30.6	22.6	16.6	9.8	17.0	20.4	18.6	13.4	4.6	30.8	16.4
Apr 13	9.6	8.4	8.4	11.2	9.4	5.6	6.6	11.6	15.6	16.2	18.0	17.8	21.2	25.0	26.6	34.6	19.4	14.8	11.6	8.8	5.8	5.2	5.8	6.8	5.2	34.6	13.5
Apr 14	7.6	15.2	10.0	10.2	16.4	13.0	14.8	18.4	17.4	23.6	21.2	28.4	27.4	28.2	29.2	35.6	29.4	27.2	16.6	23.8	22.8	9.2	6.4	7.4	6.4	35.6	19.1
Apr 15	11.2	12.4	7.0	4.2	13.8	11.4	14.0	12.2	19.4	18.4	19.0	17.2	16.4	14.0	16.8	12.6	11.4	9.6	7.0	9.8	9.0	6.0	8.4	8.2	4.2	19.4	12.1
Apr 16	7.8	5.6	8.2	7.0	7.2	14.8	18.2	20.0	15.6	18.4	19.4	20.6	26.2	30.8	27.0	28.8	29.2	22.6	18.6	17.6	10.4	6.8	6.2	7.8	5.6	30.8	16.5
Apr 17	8.2	7.2	8.8	10.8	14.0	12.0	9.0	20.8	25.4	34.8	43.0	48.6	51.0	52.8	43.2	43.8	42.4	47.8	30.6	22.4	20.2	19.6	18.4	15.4	7.2	52.8	27.1
Apr 18	16.6	9.8	13.8	11.4	6.6	17.6	22.0	21.6	29.0	31.8	43.4	46.4	48.0	40.6	42.6	34.0	35.4	33.4	31.8	21.0	15.6	18.2	16.2	23.8	6.6	48.0	26.3
Apr 19	30.8	24.6	24.6	23.0	18.8	18.8	17.0	23.8	34.0	32.6	32.0	30.0	35.2	38.8	36.8	36.2	41.6	42.8	35.4	28.2	20.2	26.0	20.0	24.0	17.0	42.8	29.0
Apr 20	26.0	30.2	31.2	32.4	25.2	17.8	16.8	24.4	28.2	26.4	25.8	34.0	32.0	33.0	37.4	42.6	27.4	19.4	20.6	19.2	5.2	8.4	6.0	6.0	5.2	42.6	24.0
Apr 21	9.2	7.8	5.8	4.8	6.2	9.8	12.6	15.4	14.8	15.8	19.6	22.6	25.4	28.0	28.4	26.0	22.2	19.4	17.4	10.4	11.8	8.0	7.4	4.6	4.6	28.4	14.7
Apr 22	7.2	9.4	12.4	11.0	10.4	17.6	21.8	21.0	20.2	21.8	24.0	31.4	40.6	32.4	16.8	25.8	35.8	36.0	42.6	**61.2**	25.2	27.2	29.6	31.4	7.2	**61.2**	25.5
Apr 23	33.0	34.2	37.2	41.8	35.8	30.4	31.8	36.8	41.0	41.8	40.2	36.0	40.2	40.6	36.8	39.8	40.4	39.6	37.4	27.8	23.0	23.4	22.2	22.4	22.2	41.8	**34.7**
Apr 24	21.6	23.0	20.4	21.0	23.4	26.4	30.2	34.6	48.8	49.0	49.0	52.6	44.4	55.8	52.4	**C**	32.0	39.4	38.6	22.4	10.8	11.6	13.0	13.6	10.8	55.8	31.9
Apr 25	13.6	16.4	18.0	16.4	16.8	13.2	21.4	21.6	21.6	18.0	22.2	26.8	27.6	30.8	33.0	28.2	25.8	24.4	22.8	17.4	9.8	3.6	4.0	10.6	3.6	33.0	19.3
Apr 26	13.8	12.2	11.8	9.0	7.6	14.0	14.0	14.6	21.8	22.4	19.8	17.0	21.6	19.2	16.2	19.4	23.4	22.2	23.0	25.6	23.6	21.6	26.8	35.2	7.6	35.2	19.0
Apr 27	28.8	31.4	29.6	30.6	28.0	27.8	25.4	30.2	26.6	27.4	27.4	26.0	24.4	27.6	26.8	25.8	24.8	26.4	24.6	17.8	14.0	13.4	16.8	20.8	13.4	31.4	25.1
Apr 28	15.8	8.8	7.0	11.8	16.2	9.0	12.6	23.2	25.8	24.0	21.8	31.0	37.6	34.0	35.0	36.0	29.6	29.8	26.8	19.2	9.8	3.4	5.8	7.2	3.4	37.6	20.1
Apr 29	4.6	5.4	3.4	5.6	**2.2**	3.8	5.2	14.4	16.8	18.4	28.6	27.2	36.0	29.6	28.8	32.0	30.0	25.6	24.0	20.0	19.2	30.6	28.0	15.4	**2.2**	36.0	19.0
Apr 30	35.4	19.6	23.4	22.4	30.8	15.6	22.2	23.8	20.6	24.6	24.4	23.8	23.0	18.8	15.0	15.0	14.8	17.2	10.2	8.4	7.2	8.2	3.6	5.0	3.6	35.4	18.0
Diurnal Maximum	35.4	34.2	37.2	41.8	35.8	32.6	32.4	38.0	48.8	49.0	49.0	52.6	51.0	55.8	52.4	43.8	42.4	47.8	42.6	61.2	29.0	30.6	29.6	35.2			
Daiurnal Average	15.2	14.7	14.8	15.2	15.7	14.9	16.5	19.7	22.2	23.5	24.6	26.3	28.4	28.6	27.6	27.5	26.7	24.9	21.3	18.2	13.2	12.6	12.9	14.1			

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

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

Timeseries Chart of Hourly Instantaneous Maximum for WS - Reno Site



END OF REPORT

This report, 180 of 180, ends the April 2019 Monthly Ambient Air Quality Monitoring Report.

Peace River Area Monitoring Program

APRIL 2019

Ambient Air Monitoring Calibration Report

- 986 STATION-

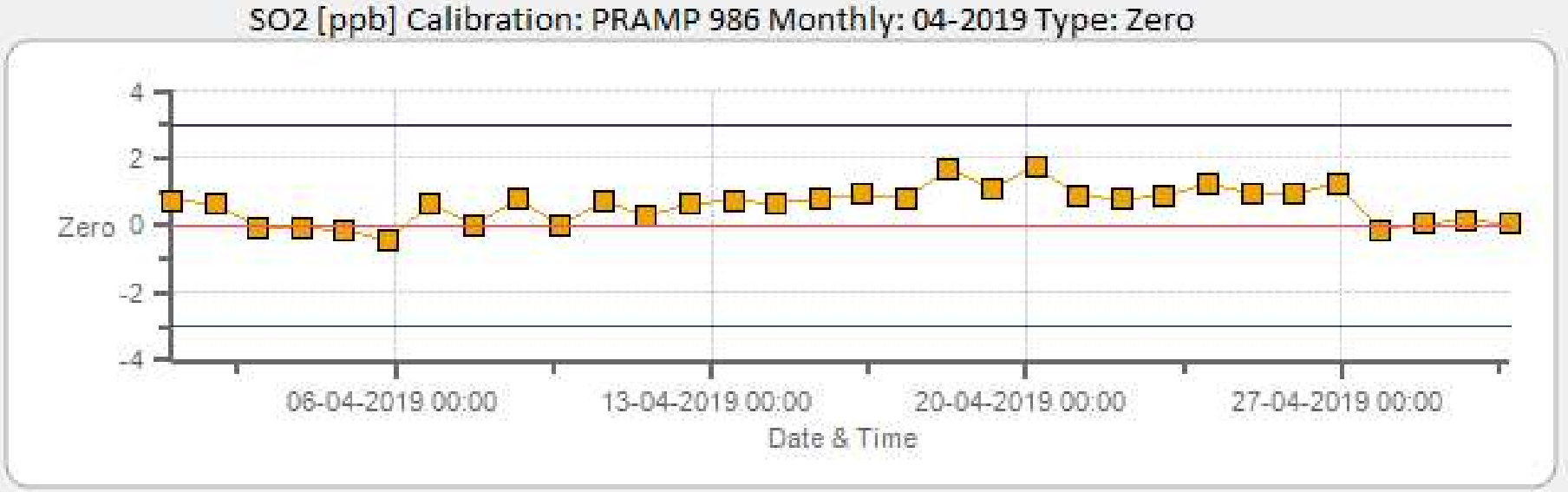
CAL-PRAMP-201904-01562

Operation and Maintenance:
Maxxam Analytics

Data Validation and Report:
Maxxam Analytics

May 8, 2019

DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS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Date & Time
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Zero Ref
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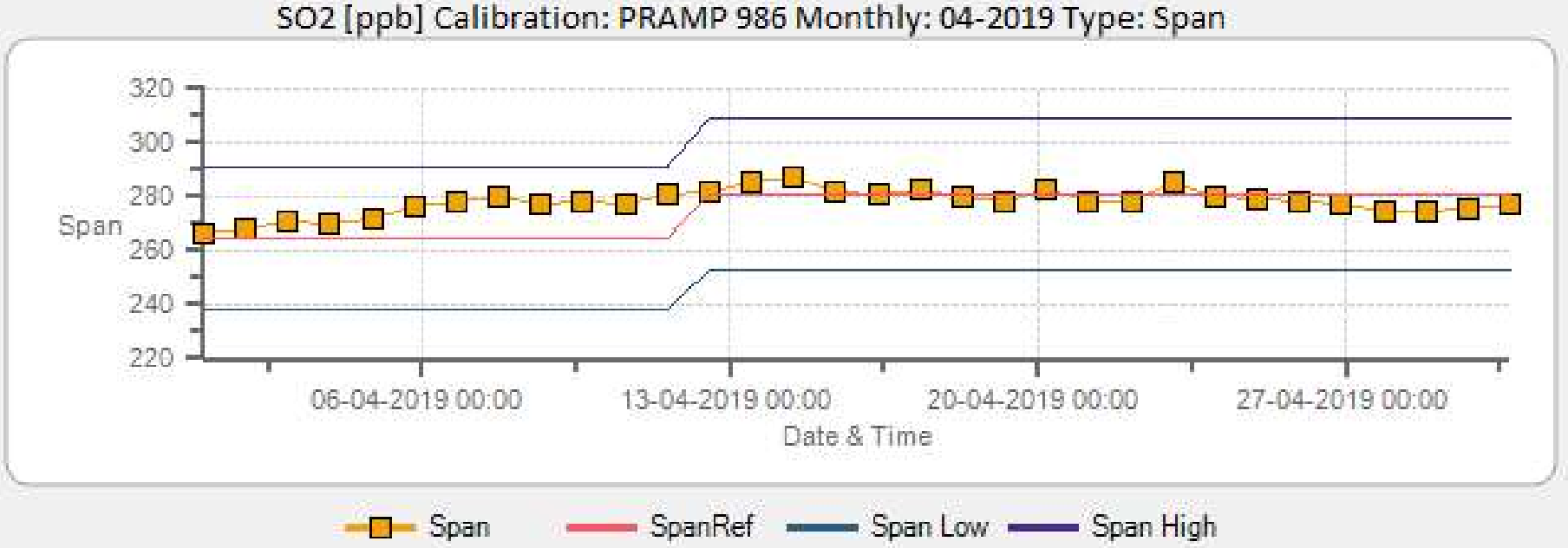
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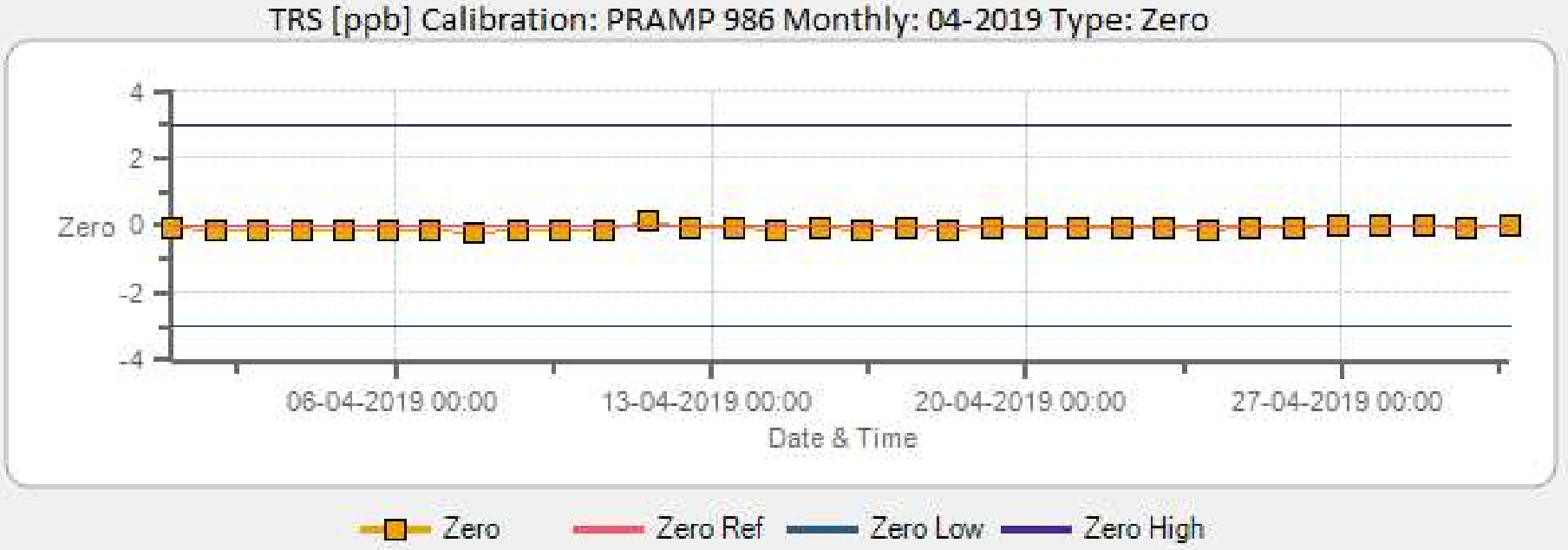
27-04-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High


TRS [ppb] Calibration: PRAMP 986 Monthly: 04-2019 Type: Zero
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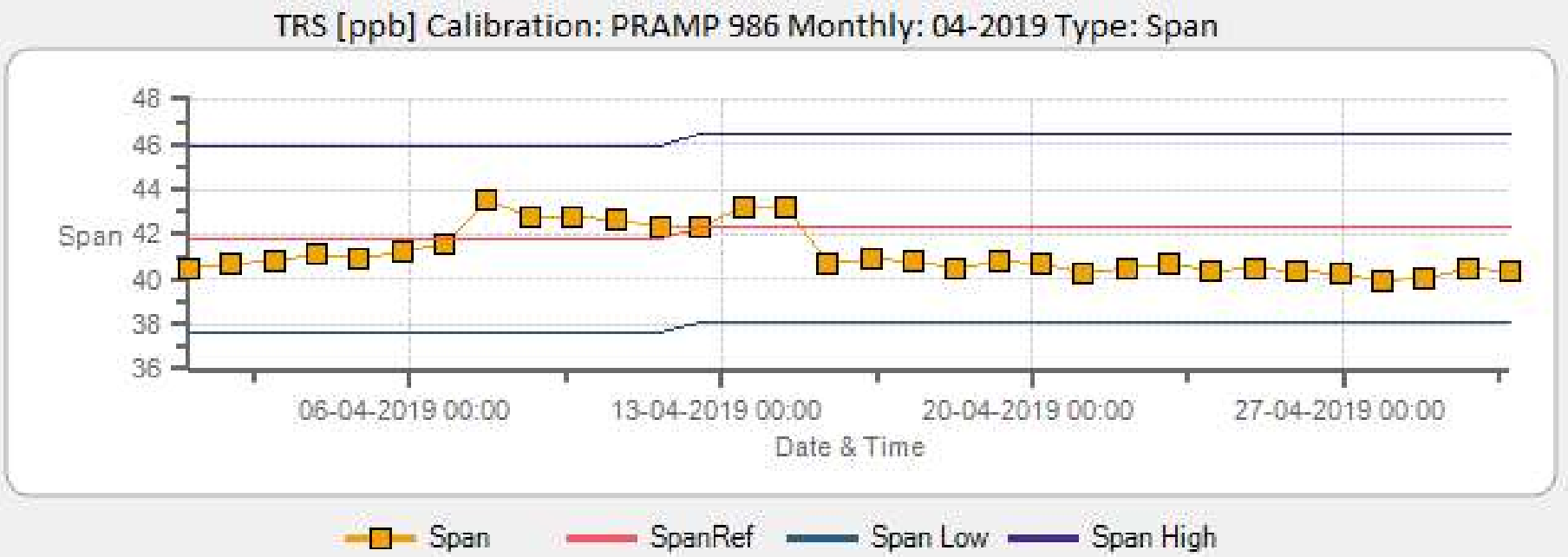
2
Zero 0
-2
-4
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High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Span 42
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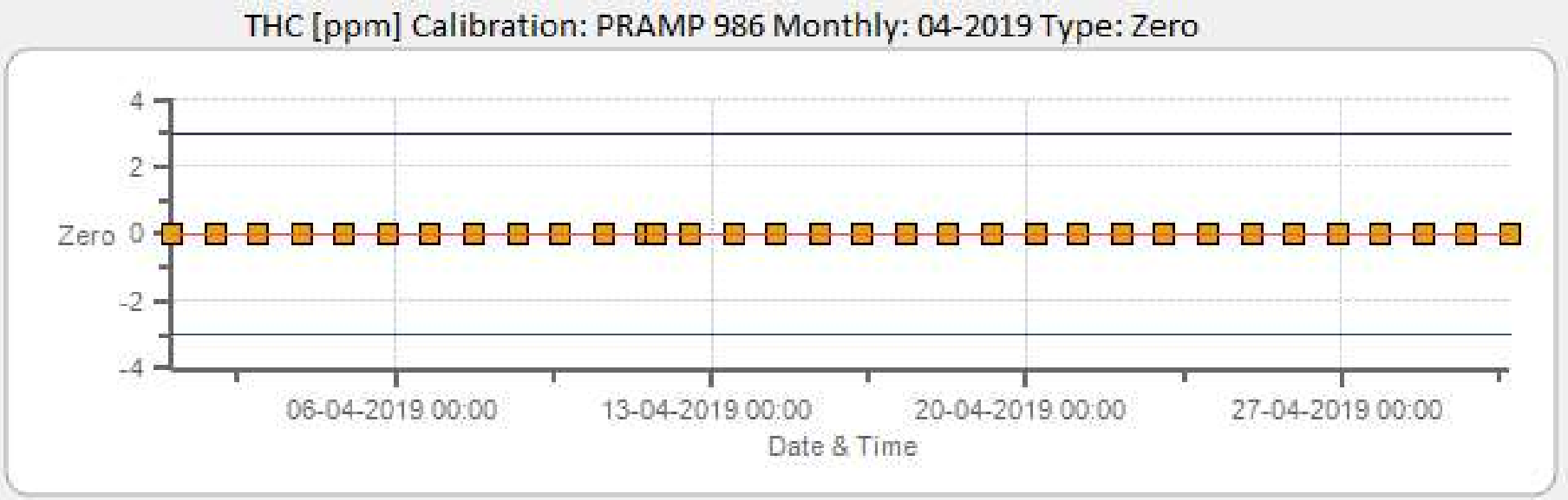
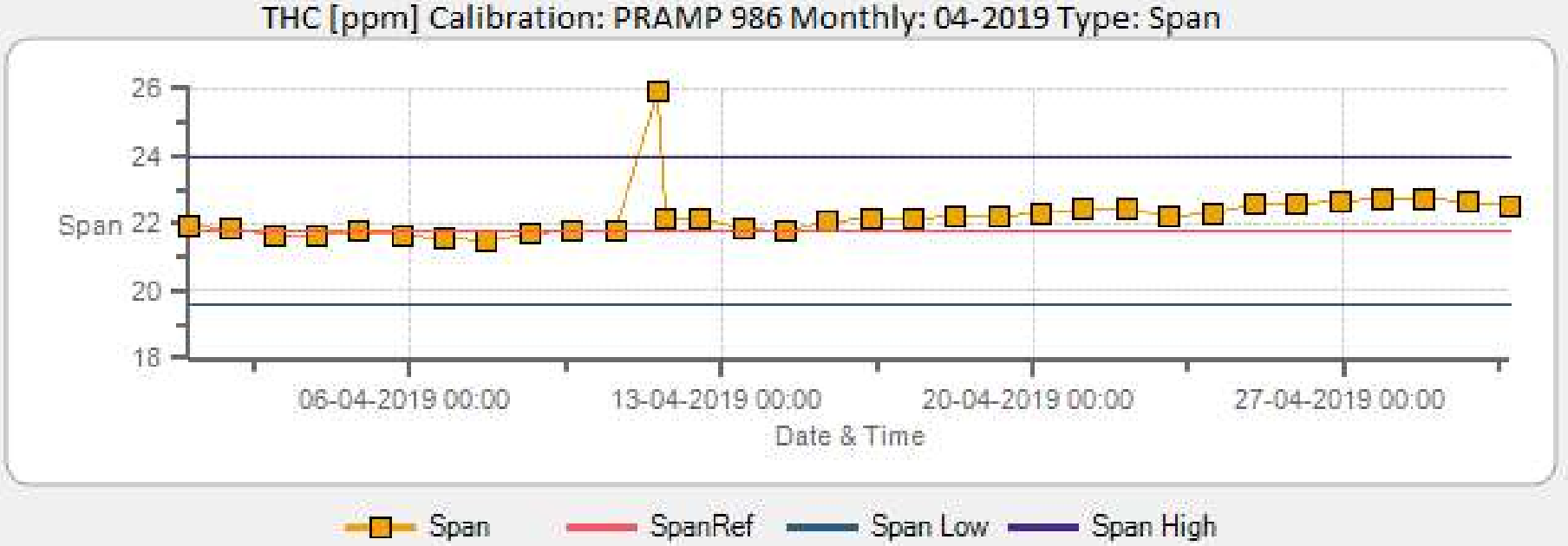
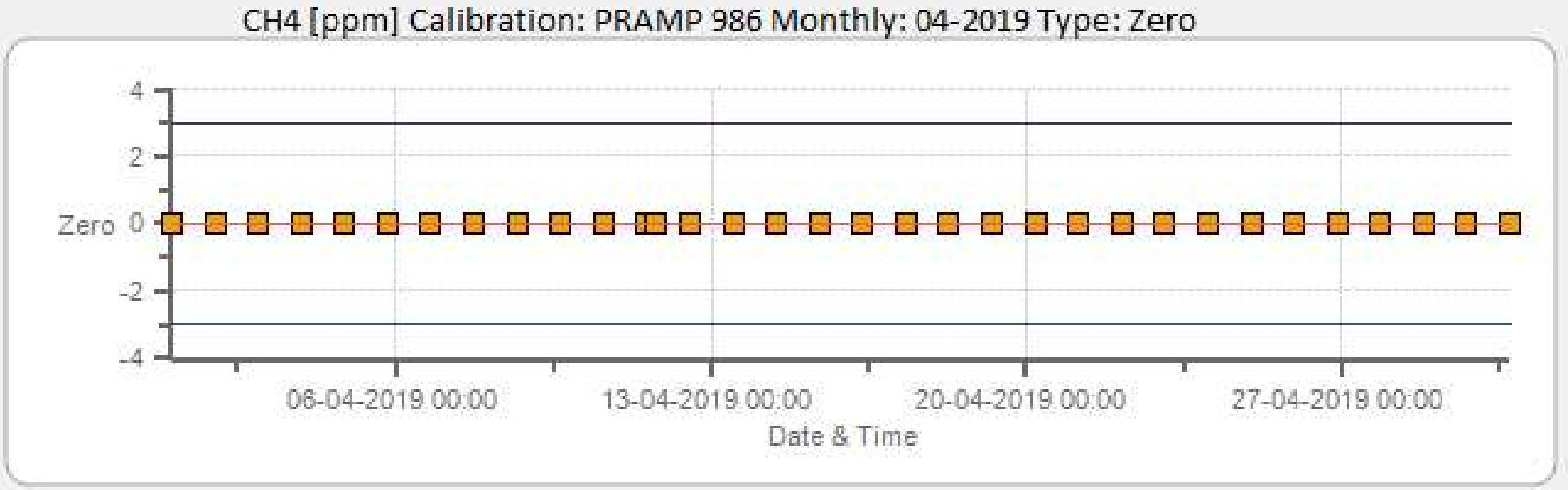
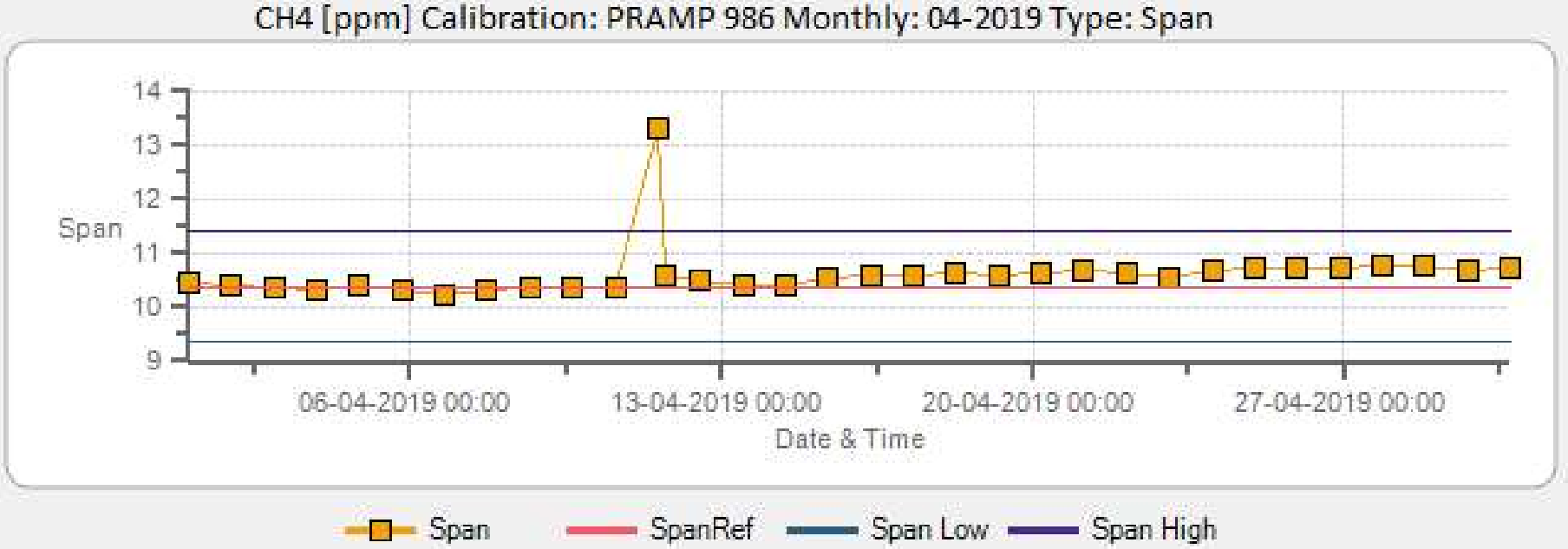
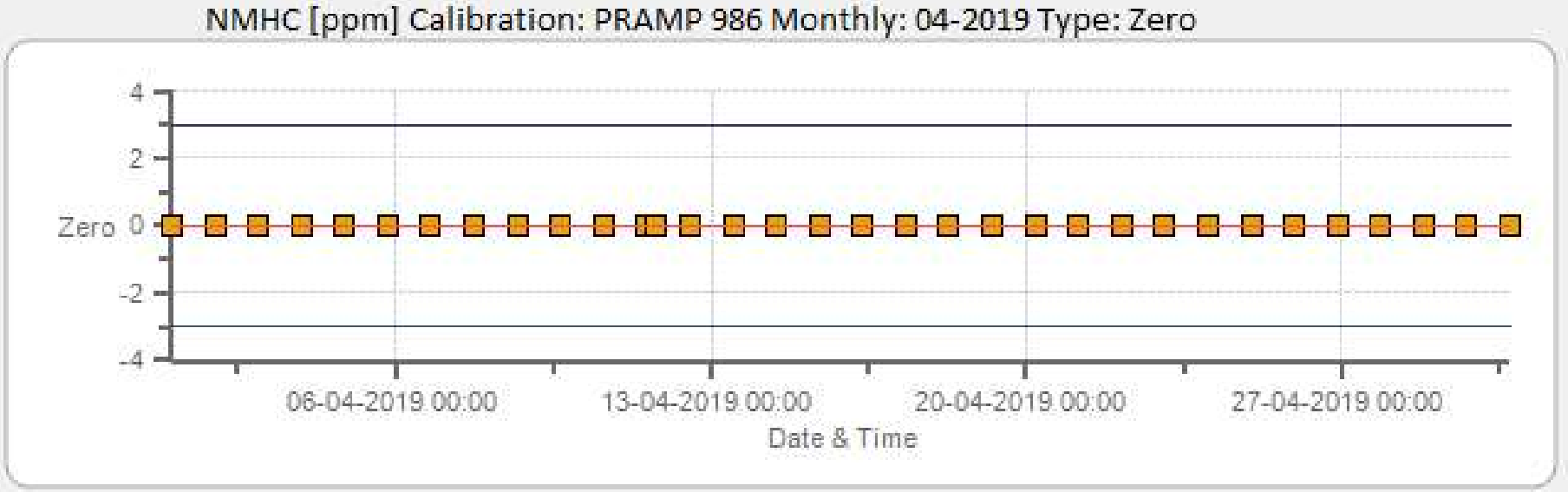
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

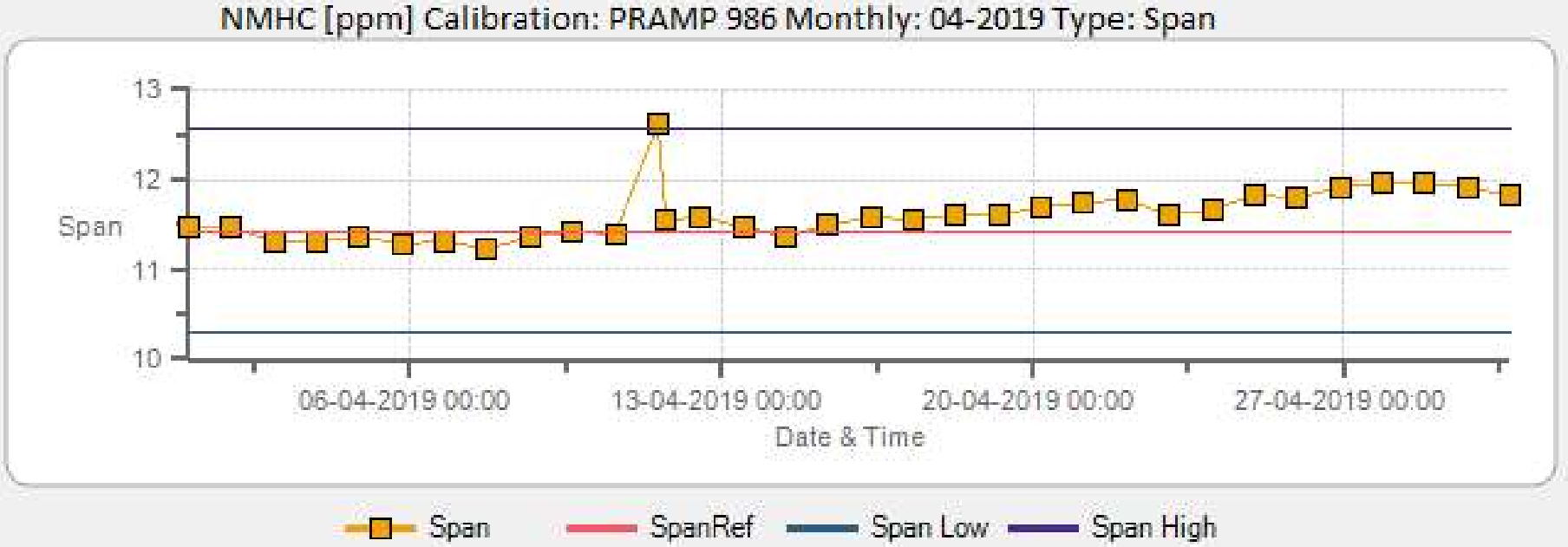

THC [ppm] Calibration: PRAMP 986 Monthly: 04-2019 Type: Zero
4
2
Zero 0
-2
-4
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High


THC [ppm] Calibration: PRAMP 986 Monthly: 04-2019 Type: Span
26
24
Span 22
20
18
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High


CH4 [ppm] Calibration: PRAMP 986 Monthly: 04-2019 Type: Zero
4
2
Zero 0
-2
-4
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High


CH4 [ppm] Calibration: PRAMP 986 Monthly: 04-2019 Type: Span
14
13
12
Span
11
10
9
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High


NMHC [ppm] Calibration: PRAMP 986 Monthly: 04-2019 Type: Zero
4
2
Zero 0
-2
-4
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High


NMHC [ppm] Calibration: PRAMP 986 Monthly: 04-2019 Type: Span
13
12
Span
11
10
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

MULTI-POINT CALIBRATION RECORDS

Thermo 43C Sulphur Dioxide Analyzer Calibration

Date:	April 11, 2019	**Barometer/B.P./units:**	F.S. 10528 expires January 23, 2020	942	millibars
Company/Airshed:	PRAMP	**Thermometer/Station Temp:**	F.S. 181341226 expires Jun 7, 2020	21.86	°C
Location/Station Name:	986b	**Weather Conditions:**	Mix of sun and clouds		
Parameter:	Sulphur Dioxide	**Calibration Purpose:**	routine monthly		
Start Time 24 hr. (mst):	8:14	**Performed By/Reviewer:**	Ferdinand Roy	Rob Fisher	
End Time 24 hr. (mst):	13:34	**Cal Gas Expiry Date:**	December 8, 2019		
Calibration Method:	Gas Dilution	**Converter Model & s/n (if applicable):**	n/a		

Analyzer:

Serial Number/Owner:	43C-62339-335 Maxxam	**Range ppb:**	500
Last Calibration Date:	March 20, 2019	**As Found C.F.:**	1.021
Previous C.F.:	0.999	**New C.F.:**	1.000

Calibration Standards:

Low Flow Meter ID/Expiry Date:	N/A
High Flow Meter ID/Expiry Date:	N/A
Calibrator ID/Expiry Date:	Environics id# 5212 expires February 13, 2020
Cal Gas Cylinder I.D. # :	EY0000597
Cal Gas Conc. (ppm):	50.4

Standard Calibration Points for Ranges

Point	ppb
High	380
Mid	180
Low	90

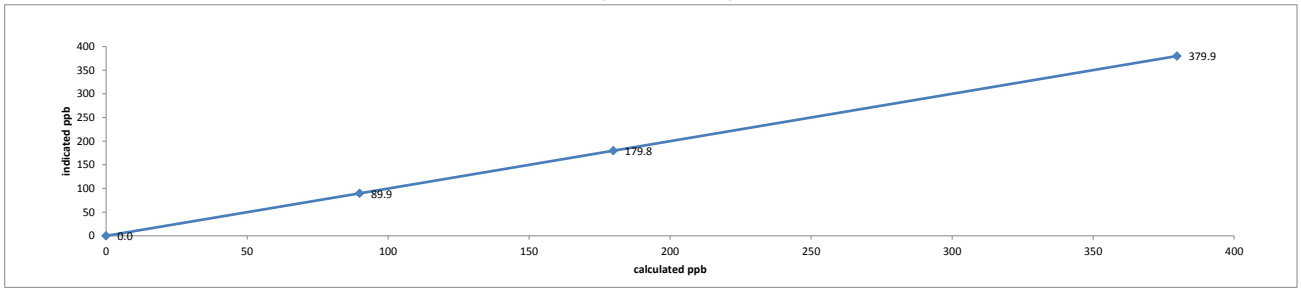
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total	Concentration (ppb):		
as found zero	5995	0.00	5995	0.0	0	n/a
as found high	5952	45.20	5997	379.8	372.2	1.021
adjusted zero	5999	0.00	5999	0.0	0	n/a
adjusted high	5952	45.19	5997	379.8	379.9	1.000
mid	5976	21.40	5997	179.9	179.8	1.000
low	5985	10.69	5996	89.9	89.9	1.000
calibrator zero	5999	0.00	5999	0.0	0.6	n/a
					Average C.F.=	1.000

Linear Regression/Calibration Results:

		LIMITS
Correlation Coefficient =	**1.000**	**> or = 0.995**
Slope =	**1.000**	**0.95-1.05**
b (Intercept as % of full scale)=	**0.01%**	**± 3% F.S.**
% change in C.F. from last cal=	**-2.16%**	**± 10%**

Thermo 43C Sulphur Dioxide Analyzer Calibration



As found:		As left:	
Bkg:	89.7	Bkg:	90.2
Coef:	0.915	Coef:	0.924
Pmt:	-654	Pmt:	-654
0	LAMP=851	0	LAMP=852
Battery:	3.3	Battery:	3.3
Internal:	27.2	Internal:	27.8
Chamber:	45.3	Chamber:	45.3
Pressure:	378.4	Pressure:	378.7
Flow:	0.670	Flow:	0.672
Intensity:	37266	Intensity:	37707
Averaging Time:	120	Averaging Time:	120
Expected Value:	264.0	Expected Value:	264.0

Comments:

The analyzer sample inlet filter was changed.

The analyzer cooling fan filter(s) were cleaned.

The manifold blower was found to be working normally.

Thermo 43I-TLE Total Reduced Sulphur Analyzer Calibration

Date:	April 11, 2019	**Barometer/B.P./units:**	F.S. 10528 expires January 23, 2020	942	millibars
Company/Airshed:	PRAMP	**Thermometer/Station Temp:**	F.S. 181341226 expires Jun 7, 2020	21.86	°C
Location/Station Name:	986b	**Weather Conditions:**	Mix of sun and clouds		
Parameter:	Total Reduced Sulphur	**Calibration Purpose:**	routine monthly		
Start Time 24 hr. (mst):	8:13	**Performed By/Reviewer:**	Ferdinand Roy	Rob Fisher	
End Time 24 hr. (mst):	15:04	**Cal Gas Expiry Date:**	May 16, 2020		
Calibration Method:	Gas Dilution	**Converter Model & s/n (if applicable):**	CDN-101 #516		

Analyzer:

Serial Number/Owner:	1152940011 Maxxam	**Range ppb:**	100
Last Calibration Date:	March 20, 2019	**As Found C.F.:**	0.985
Previous C.F.:	1.000	**New C.F.:**	1.000

Calibration Standards:

Low Flow Meter ID/Expiry Date:	N/A
High Flow Meter ID/Expiry Date:	N/A
Calibrator ID/Expiry Date:	Environics id# 4760 expires February 14, 2020
Cal Gas Cylinder I.D. # :	LL119420
Cal Gas Conc. (ppm):	10.2

Standard Calibration Points for Ranges

Point	ppb
High	78
Mid	38
Low	19

SO2 Scrubber Check (10 minutes):

Start/End Time 24 hr.:	8:59/9:14
SO2 Analyzer Range:	500
Target Concentration (ppb):	380
As Found Zero:	-0.2
Analyzer Response: (ppb):	-0.1
Zero Corrected Result (ppb):	0.1

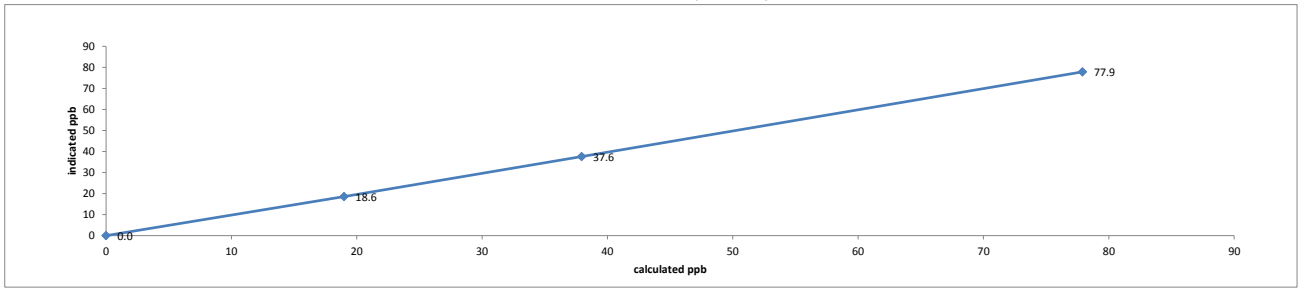
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	**Diluent**	**Cal Gas**	**Total**	**Concentration (ppb):**		
as found zero	7486	0.00	7486	0.0	-0.15	n/a
as found high	7430	57.20	7487	77.9	78.96	0.985
adjusted zero	7488	0.00	7488	0.0	0	n/a
adjusted high	7430	57.18	7487	77.9	77.86	1.000
mid	7459	27.85	7487	37.9	37.61	1.009
low	7475	13.94	7489	19.0	18.58	1.022
calibrator zero	7488	0.00	7488	0.0	0.3	n/a
					Average C.F.=	1.010

Linear Regression/Calibration Results:

		LIMITS
Correlation Coefficient =	**1.000**	**> or = 0.995**
Slope =	**0.999**	**0.95-1.05**
b (Intercept as % of full scale)=	**0.23%**	**± 3% F.S.**
% change in C.F. from last cal=	**1.50%**	**± 10%**

Thermo 43I-TLE Total Reduced Sulphur Analyzer Calibration



As found:		As left:	
Bkg:	2.21	Bkg:	2.10
Coef:	0.964	Coef:	0.958
Pmt:	-691.5	Pmt:	-691.2
Flash:	967	Flash:	968
Internal:	30.8	Internal:	31.1
Chamber:	45.1	Chamber:	44.9
Perm Oven Gas:	45.00	Perm Oven Gas:	45.00
Perm Oven Heater:	44.25	Perm Oven Heater:	44.25
Pressure:	655.3	Pressure:	655.0
Sample Flow:	0.477	Sample Flow:	0.478
Lamp Intensity:	92	Lamp Intensity:	91
Converter:	820	Converter:	820
Converter Set:	820	Converter Set:	820
Averaging Time:	120	Averaging Time:	120
Expected Value:	41.8	Expected Value:	41.8

Comments:

The analyzer sample inlet filter was changed.

The analyzer cooling fan filter(s) were cleaned.

The manifold blower was found to be working normally.

The IZS check occurred during the low point at 13:00. The low point restarted at 13:00.

Maxxam
A Bureau Veritas Group Company

Thermo 55i Methane/Non-Methane Analyzer Calibration

Date:	April 11, 2019	**Barometer/B.P./units:**	F.S. 10528 expires January 23, 2020	942	millibars
Company/Airshed:	PRAMP	**Thermometer/Station Temp:**	F.S. 181341226 expires Jun 7, 2020	22.26	°C
Location/Station Name:	986b	**Weather Conditions:**	Mainly cloudy with drizzle		
Parameter:	CH4 / NMHC / THC	**Calibration Purpose:**	routine monthly		
Start/End Time 24 hr. (mst):	12:51/18:00	**Performed By/Reviewer:**	Ferdinand Roy	Rob Fisher	
Calibration Method:	Gas Dilution	**Cal Gas Expiry Date:**	October 18, 2025		

Analyzer:

Serial Number/Owner:	1022143392	Maxxam
Measured Flow:	0.9675 l/min	
Last Calibration Date:	March 20, 2019	
Range ppm:	20 CH4/20 NMHC/40 THC	

Correction Factors:

	Previous C.F.:	As Found C.F.:	New C.F.:
CH_4 =	0.997	1.001	0.999
NMHC =	0.999	1.007	0.999
THC =	0.997	1.004	1.000

Calibration Standards:

Low Flow Meter ID/Expiry Date:	N/A		
High Flow Meter ID/Expiry Date:	N/A		
Calibrator ID/Expiry Date:	Environics id# 5212 expires February 13, 2020		
Cal Gas Cylinder I.D. # :	LL43221		
CH4 Cylinder Conc.=	595.0	206.0	**=C_3H_8 Cylinder Conc.**
CH_4 expressed as C_3H_8=	566.5	1161.5	**=total CH4 equivalent**

Standard Calibration Points for Analyzer Range of 20/20/40 ppm

Point	CH4	NMHC	THC
High	13.00	13.00	26.00
Mid	7.00	7.00	14.00
Low	3.00	3.00	6.00

ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated CH_4 (ppm)	Calculated NMHC (ppm)	Calculated THC (ppm)	Indicated CH_4 (ppm)	Indicated NMHC (ppm)	Indicated THC (ppm)	Correction Factors:		
Point	**Diluent**	**Cal Gas**	**Total Flow**							**CH_4**	**NMHC**	**THC**
as found zero	2998	0.00	2998	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
as found high	2931	67.12	2999	13.32	12.68	26.00	13.30	12.59	25.90	1.001	1.007	1.004
adjusted zero	2998	0.00	2998	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
adjusted high	2931	67.11	2998	13.32	12.68	26.00	13.33	12.69	26.01	0.999	0.999	1.000
mid	2960	36.15	2996	7.18	6.84	14.01	7.17	6.81	13.98	1.001	1.004	1.002
low	2983	15.46	2999	3.07	2.92	5.99	3.07	2.91	5.99	0.999	1.003	0.999
calibrator zero	2999	0.00	2999	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
									Average C.F.=	1.000	1.002	1.000

Linear Regression/Calibration Results:

	CH_4	NMHC	THC	LIMITS
Correlation Coefficient =	**1.000**	**1.000**	**1.000**	**> or = 0.995**
Slope =	**1.001**	**1.001**	**1.000**	**0.95-1.05**
b (Intercept as % of full scale)=	**-0.01%**	**-0.05%**	**-0.02%**	**± 3% F.S.**
% change in C.F. from last cal=	**-0.44%**	**-0.82%**	**-0.69%**	**± 10%**

As Left Instrument Diagnostics:

Interface Board Voltages:	Bias Supply:	-311.3		Calibration History cnt'd:	NM Peak Area:	66924
Temperatures:	Detector Oven:	175.0		Crucial Settings:	Methane Start:	n/a
	Filter:	175.0			Methane End:	n/a
	Column Oven:	75.4			Backflush:	n/a
	Internal:	35.6			NMHV Start:	n/a
Cylinder Pressures/reg.:	Carrier:	1900	50		NMHC End:	n/a
	Fuel:	800	50	Run History>1:	Date:	11Apr19
	Span Gas:	2000	28		Time:	16:47
	Zero Air Generator:	50			CH_4 PK HT:	0
Internal Pressures:	Carrier:	31.3			CH_4 RT:	8.0
	Fuel:	40.5			CH_4 Baseline:	1643
	Air:	31.7			CH_4 LOD:	28
FID Status:	Status:	LIT			CH_4 SD:	9
	Counts:	20679			CH_4 CONC:	0.00
	Flame:	321.6			NM PK HT:	0
	Det Base:	175.0			NM Peak Area:	0
Flame and Power Stats:	Last Power On:	19Jan2019@16:45			NM CONC:	0.00
	Flameouts:	2			NM Base Start:	1660
	Det Oven at Start:	168.5			NM Base End:	1660
	Col Oven at Start:	74.7			NM LOD:	8
Calibration History:	Time:	11Apr19@15:19			NM Start IDX:	34
	Type:	SPAN			NM End IDX:	64
	Status:	GOOD			NM Max Slope:	7.6e-01
	Check/Adjust:	ADJUST			NM Min Slope:	-5.4e-01
	CH_4 Span Conc:	13.32			NM PT Count:	0
	CH_4 SP Ratio:	0.000774		Expected Values:	Previous CH4:	10.38
	CH_4 RT:	12.4			Previous NMHC	11.43
	CH_4 PK IDX:	22			Previous THC:	21.81
	CH_4 PK HT:	17215			New CH4:	10.38
	NM Span Conc:	12.68			New NMHC	11.43
	NM SP Ratio:	0.000189			New THC:	21.81

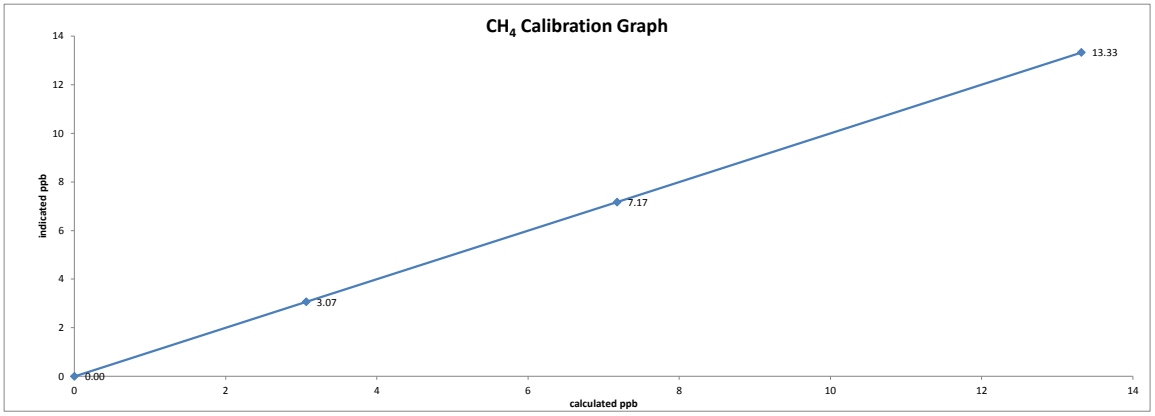
Comments:

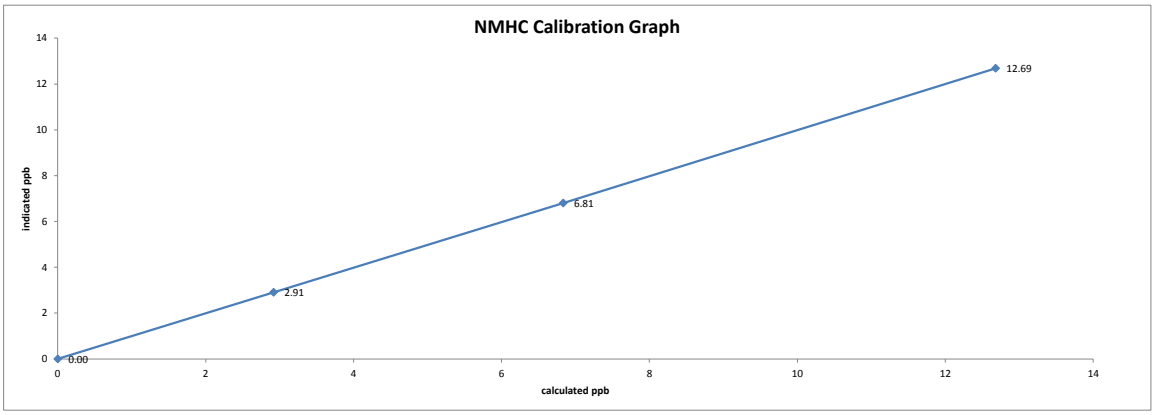
The analyzer sample inlet filter was changed.

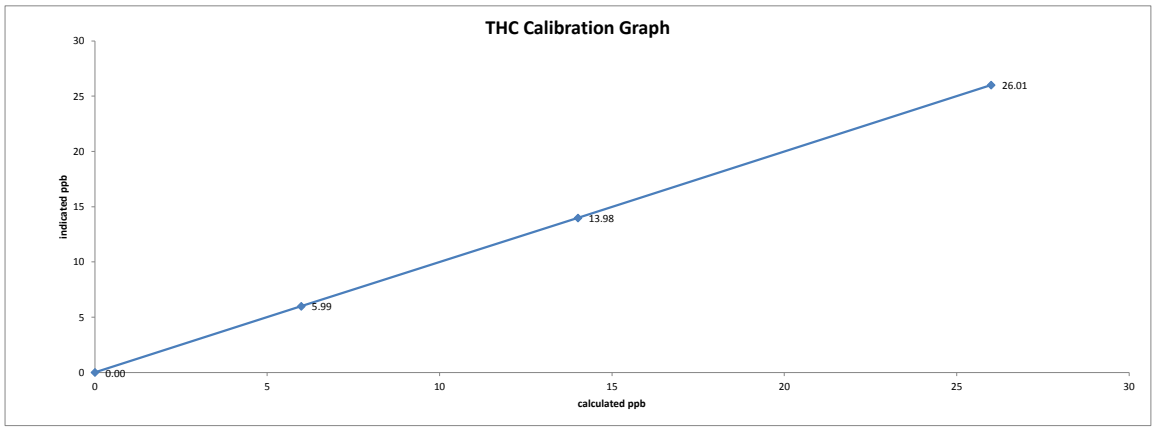
A new span gas cylinder was installed.
The analyzer cooling fan filter(s) were cleaned.
The manifold blower was found to be working normally.

The calibration gas valve was closed without pressing update calibrator to zero concentration causing an increase in the analyzer reading at 16:17. The error was corrected at 16:20.

Date:	April 11, 2019	Start/End Time 24 hr. (mst):	12:51/18:00
Company/Airshed:	PRAMP	Calibration Purpose:	routine monthly
Location/Station Name:	986b	Calibration Method:	Gas Dilution







Meteorological Sensor Audit/Calibration

Location Information

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

Wind Sensor Information

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

Wind Calibrator Information

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

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.1	0.1	-
1000	18.4	18.5	18.5	0.996
2000	36.9	36.9	36.8	1.000
3000	55.3	55.3	55.3	1.000
4000	73.7	73.7	73.7	1.000
5000	92.2	92.2	92.2	0.999
6000	110.6	110.7	110.7	0.999
7000	129.0	129.2	129.2	0.999
8000	147.4	147.7	147.7	0.998
9000	165.9	166.2	166.2	0.998
10000	184.3	184.9	184.8	0.997
		The audit meets AMD requirements.	**Average Correction Factor=**	**0.999**

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

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	0	353	0.0	2.0	1.0
30	330	29	330	1.0	0.0	0.5
60	300	60	301	0.0	-1.0	0.5
90	270	91	272	-1.0	-2.0	1.5
120	240	121	242	-1.0	-2.0	1.5
150	210	152	212	-2.0	-2.0	2.0
180	180	182	181	-2.0	-1.0	1.5
210	150	214	150	-4.0	0.0	2.0
240	120	244	121	-4.0	-1.0	2.5
270	90	273	90	-3.0	0.0	1.5
300	60	302	60	-2.0	0.0	1.0
330	30	330	29	0.0	1.0	0.5
355	0	353	0	2.0	0.0	1.0
The audit meets AMD requirements.			**Average Absolute Degrees Difference=**			**1.3**

Comments:

Physical inspection completed. No issues.

Meteorological System Checklist

Date:	April 10, 2019		
Technician:	Ferdinand Roy		
Reviewer:	Rob Fisher		
Station:	PRAMP 986b		
Unit:	**Make:**	**Model:**	**Serial #:**
Temperature Sensor:	RM Young	43172VC	61012322
Barometric Pressure Sensor:	MetOne	090D	F3845
Relative Humidity Sensor:	RM Young	43172VC	61012322
Anemometer:	RM Young	05305VK	129612
AMBIENT TEMPERATURE SENSOR CHECK			
Previous check date:	March 20, 2019		
Parameter:	Temperature @ 2 metres (1 C tolerance)		
Reference Thermometer ID:	Fluke 4295 expires January 16, 2020		
Reference Temperature (^{o}C):	5.1		
Station - Ambient Temperature (^{o}C):	6.1		
Temperature Difference (^{o}C):	-1.0		
BAROMETRIC PRESSURE SENSOR CHECK			
Previous check date:	March 20, 2019		
Reference Barometer ID:	F.S. 10528 expires January 23, 2020		
Reference Pressure - Units/Reading:	millibar	942	
Station Pressure - Units/Reading:	millibar	941.2	
Pressure Tolerance +/- 15% of error:	801 - 1083	0.08%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Previous check date:	March 20, 2019		
Reference Hygrometer ID:	F.S. 181341226 expires Jun 7, 2020		
Reference Hygrometer % RH- Reading:	50.40		
Station Hygrometer % RH- Reading:	56.00		
RH Tolerance +/- 15% of difference:	42.84 - 57.96	-11.1%	
ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK			
WIND SPEED		WIND DIRECTION	
Previous check date:	March 20, 2019	Previous check date:	March 20, 2019
Wind Speed Observed (kph):	1-5 kph	Wind Direction Observed:	SE
Wind speed on Data Logger (kph):	3.6 kph	Wind Direction on Data Logger:	SE
		Wind Direction Pass/Fail?:	Pass

Meteorological System Checklist

Date:	April 30, 2019		
Technician:	Chris Wesson		
Reviewer:	Rob Fisher		
Station:	PRAMP 986b		
Unit:	**Make:**	**Model:**	**Serial #:**
Temperature Sensor:	RM Young	43182VC	030978
Relative Humidity Sensor:	RM Young	43182VC	030978
AMBIENT TEMPERATURE SENSOR CHECK			
Previous check date:	n/a		
Parameter:	Temperature @ 2 metres		
Reference Thermometer ID:	F.S. 181341226 expires June 07, 2020		
Reference Temperature (°C):	-0.8		
Station - Ambient Temperature (°C):	-1.1		
Temperature Difference (°C):	0.3		
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Previous check date:	n/a		
Reference Hygrometer ID:	F.S. 181341226 expires June 07, 2020		
Reference Hygrometer % RH- Reading:	57.10		
Station Hygrometer % RH- Reading:	57.50		
RH Tolerance +/- 15% of difference:	48.54 - 65.67	-0.7%	

Alberta Government

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2019-426A

Company: Maxxam **Operator:** C. Wesson

Calibrator:		Flow Measurement Device:	
Make/Model	Evironics 6100	Make/Model	N/A
Serial Number	5212	Serial Number	N/A
Last Verification Date	March 2018	Temperature (°C)	N/A
NO Cylinder S/N	LL107918	Barometric Pressure	N/A
NO [PPM]	50.1 NOx [PPM] 50.2		
Expiry Date	August 2026		

Dilution Flow (sccm)
Pt. #1 5000 Pt. #2 5000 Pt. #3 5000
Gas Flow (sccm)
Pt. #1 80 Pt. #2 40 Pt. #3 20

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO_2	NOx	NO	NOx
5000	0.0	0.000	0.000	0.000	0.000	0.000	Limit ± 10%	
4997	77.8	0.780	0.782	0.768	-0.003	0.766	-2%	-2%
4997	37.9	0.380	0.381	0.372	-0.002	0.370	-2%	-3%
4996	18.9	0.190	0.190	0.186	-0.001	0.185	-2%	-3%
					Absolute Average Percent Difference		2%	2%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO		LIMITS	NOx	
Correlation=	1.0000	≥ 0.990	Correlation=	1.0000
m (Slope)=	0.9846	0.90-1.10	m (Slope)=	0.9802
b (Intercept % of FS)=	-0.0683	± 3% F.S.	b (Intercept % of FS)=	-0.1101

Flow	O_3 Conc	NO Decrease	NO	NO2	NOX	% Diff. Vs Audit gas	
						NO_2	% Diff. Limit
4997	0.000	0.000	0.765	-0.002	0.764		
4997	0.500	0.491	0.274	0.486	0.760	-1%	± 10%
4997	0.275	0.274	0.491	0.271	0.762	0%	± 10%
4997	0.090	0.091	0.674	0.089	0.762	0%	± 10%
				Absolute Average Percent Difference		0%	± 10%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO_2		LIMITS
Correlation=	1.0000	≥ 0.995
m (Slope)=	0.9937	0.90-1.10
b (Intercept % of FS)=	-0.1650	± 3% F.S.

AENV Standards Audit Calibrator		NO_X Analyzer	
Make/Model	Sabio 2010	Make/Model	Teco 42i
Serial/AMU Number	AMU 2092	Serial/AMU Number	AMU 1868
SRM Gas Cylinder No.	APEX1236645	Last Calibration Date	February 12, 2019
Cylinder Conc. (ppm)	50.05	Full Scale (ppm)	1.0
		Cylinder Gas Expiry Date	June 2021

COMMENTS: Contains 49.5 ppm SO2.

Auditor: Al Clark Date: February 13, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2019-427A

Company: Maxxam **Operator:** C. Wesson

Calibrator:				**Flow Measurement Device:**	
Make/Model	Evironics 6100			Make/Model	N/A
Serial Number	4760			Serial Number	N/A
Last Verification Date	March 2018			Temperature (°C)	N/A
NO Cylinder S/N	LL107918			Barometric Pressure	N/A
NO [PPM]	50.1	NOx [PPM]	50.2		
Expiry Date	August 2026				

Dilution Flow (sccm)

Pt. #1 5000 Pt. #2 5000 Pt. #3 5000

Gas Flow (sccm)

Pt. #1 80 Pt. #2 40 Pt. #3 20

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO_2	NOx	NO	NOx
5000	0.0	0.000	0.000	0.000	0.000	0.000	Limit ± 10%	
4994	77.7	0.779	0.781	0.798	0.000	0.798	2%	2%
4993	37.8	0.379	0.380	0.388	-0.001	0.387	2%	2%
4993	18.9	0.190	0.190	0.193	0.000	0.193	2%	2%
					Absolute Average Percent Difference		2%	2%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

	NO	**LIMITS**	**NOx**	
Correlation=	1.0000	**≥ 0.990**	Correlation=	1.0000
m (Slope)=	1.0242	**0.90-1.10**	m (Slope)=	1.0221
b (Intercept % of FS)=	-0.0519	**± 3% F.S.**	b (Intercept % of FS)=	-0.0726

Flow	O_3 Conc	NO Decrease	NO	NO2	NOX	% Diff. Vs Audit gas	
4994	0.000	0.000	0.796	0.000	0.796	NO_2	% Diff. Limit
4994	0.550	0.502	0.294	0.499	0.792	-1%	± 10%
4994	0.300	0.275	0.521	0.274	0.795	0%	± 10%
4994	0.100	0.062	0.734	0.061	0.796	-2%	± 10%
			Absolute Average Percent Difference			1%	± 10%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

	NO_2	**LIMITS**
Correlation=	1.0000	**≥ 0.995**
m (Slope)=	0.9949	**0.90-1.10**
b (Intercept % of FS)=	-0.0179	**± 3% F.S.**

AENV Standards		**NO_X Analyzer**	
Audit Calibrator			
Make/Model	Sabio 2010	Make/Model	Teco 42i
Serial/AMU Number	AMU 2092	Serial/AMU Number	AMU 1868
SRM Gas Cylinder No.	APEX1236645	Last Calibration Date	February 14, 2019
Cylinder Conc. (ppm)	50.05	Full Scale (ppm)	1.0
		Cylinder Gas Expiry Date	June 2021

COMMENTS: Contains 49.5 ppm SO2.

Auditor: Al Clark Date: February 14, 2019

Operator Signature: Location: McIntyre Center Edmonton

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

Alberta Government

Calibration Gas Audit

Single Component Cylinder Gas

File No. 2016-438CGA

Company: Maxxam **Operator's Name:** Chris

Cylinder #: EY0000597 Concentration PPM: 50.4 Tolerance(%) 1.0 Certified By: Praxair

Expiry Date: December 8, 2019

Reference Calibrator and Gas:

Make/Model: Thermo 146i
Serial Number: AMU 1809
Last Verification Date: January 26, 2017
Gas Type: SO2 Conc. 98.07
Cylinder Number: CAL016625
Expiry Date: January 5, 2019

Flow Measurement Device:

Make/Model: Bios Befiner 220
Serial Number: AMU1941
Temp.°C: 24.4
B.P. 704.7

Reference Analyzer:

Make/Model: Themro 43C Serial/AMU Number: AMU 1623

Instrument Settings: Zero: 9.5 Span: 1.023 Range: 1.0

Last Calibration: Date: 25-Jan-17 C.F. 1.000 Done By: SB

Calibrator Flows (sccm)		Indicated	Gas Flow/	Concentration	Cylinder
Dilution	Gas	Concentration (PPM)	Dilution Flow	Factor	Concentration
4923	0.0	0.000			
4916	80.7	0.834	0.01642	60.917	50.8
4902	40.3	0.416	0.00822	121.638	50.6
4916	19.9	0.206	0.00405	247.035	50.9
				Average Cylinder Concentration:	**50.7**

Previous Stated Concentration PPM: 50.4

Percent variance from Stated: **0.7**

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Shea Beaton Date: January 26, 2017

Operator Signature: Location: McIntyre Center Edmonton

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

Alberta Government

Calibration Gas Audit

Single Component Cylinder Gas

File No. 2017-135CGA

Company: Maxxam **Operator's Name:** Raja Abid Ashraf

Cylinder #: LL119420 Concentration PPM: 10.2 Tolerance(%) 2 Certified By: Praxair

Expiry Date: May 16, 2020

Reference Calibrator and Gas:

Make/Model: R&R MFC 201
Serial Number: AMU 1690
Last Verification Date: July 27, 2017
Gas Type: H2S Conc. 20.43
Cylinder Number: CAL015272
Expiry Date: Janaury 2019

Flow Measurement Device:

Make/Model: Mesa Definer 220
Serial Number: H-133034 L-132702
Temp.°C: 22.0 C
B.P. 700 mmhg

Reference Analyzer:

Make/Model: Teco 450i Serial/AMU Number: 1980

Instrument Settings: Zero: 21.9 Span: 1.069 Range: 0.1

Last Calibration: Date: July 27, 2017 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated Concentration (PPM)	Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration
Dilution	Gas				
5000	0.0	0.0020			
5117	38.9	0.0781	0.00760	131.542	10.0
5103	18.4	0.0379	0.00361	277.337	10.5
5097	9.4	0.0198	0.00184	542.234	10.7
				Average Cylinder Concentration:	**10.4**

Previous Stated Concentration PPM: 10.2

Percent variance from Stated: 2

Meets Manufacturer Tolerance. Use manufacturers stated concentration [ ] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [X]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: July 27, 2017

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

CH4 / C3H8 Cylinder Gas

File No. 2017-492CGA

Company: Maxxam **Operators name:** Mike

Cylinder #: LL43221 Conc CH4 (PPM) 595/206 Tolerance (%) 2 Certified By: Praxair

Expiry Date: October 2025

Reference Calibrator and Gas:

Make/Model	R&R MFC 201		
Serial Number	AMU 1690		
Last Verification Date	December 13, 2017		
Gas Type	CH4	Conc.	990.4
Cylinder Number	5604875	Expiry Date	July 2021
Gas Type	C3H8	Conc.	246.5
Cylinder Number	XF003845B	Expiry Date	July 2022

Flow Measurement Device:

Make/Model	Mesa Definer 220
Serial Number	H-133034 / L-132702
Temp.°C	23.1 C
B.P.	707 mmHg

Reference Analyzer:

Make/Model: Teco 55i Serial/AMU Number: 2108

Instrument Settings Zero: N/A Span: N/A Range: 20.0

Last Calibration: Date: Dec 12/17 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated Conc. (ppm)		Gas Flow/	Concentration	Cylinder Concentration	
Dilution	Gas	CH4	C3H8	Dilution Flow	Factor	CH4	C3H8
3500	0.0	0.00	0.00				
3618	80.4	13.23	12.70	0.02	45.00	595	208
3547	39.8	6.65	6.44	0.01	89.12	593	209
3560	19.8	3.33	3.23	0.01	179.80	599	211
					Average Cylinder Concentration:	**596**	**209**

	CH4	C3H8
Previous Stated Concentration PPM:	595	206
Percent variance from Stated:	**0**	**2**

Cylinder gas tolerances based on CH4 only

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: December 13, 2017

Operator Signature: Location: McIntyre Center Edmonton

Peace River Area Monitoring Program

APRIL 2019

Ambient Air Monitoring Calibration Report

- 842 STATION-

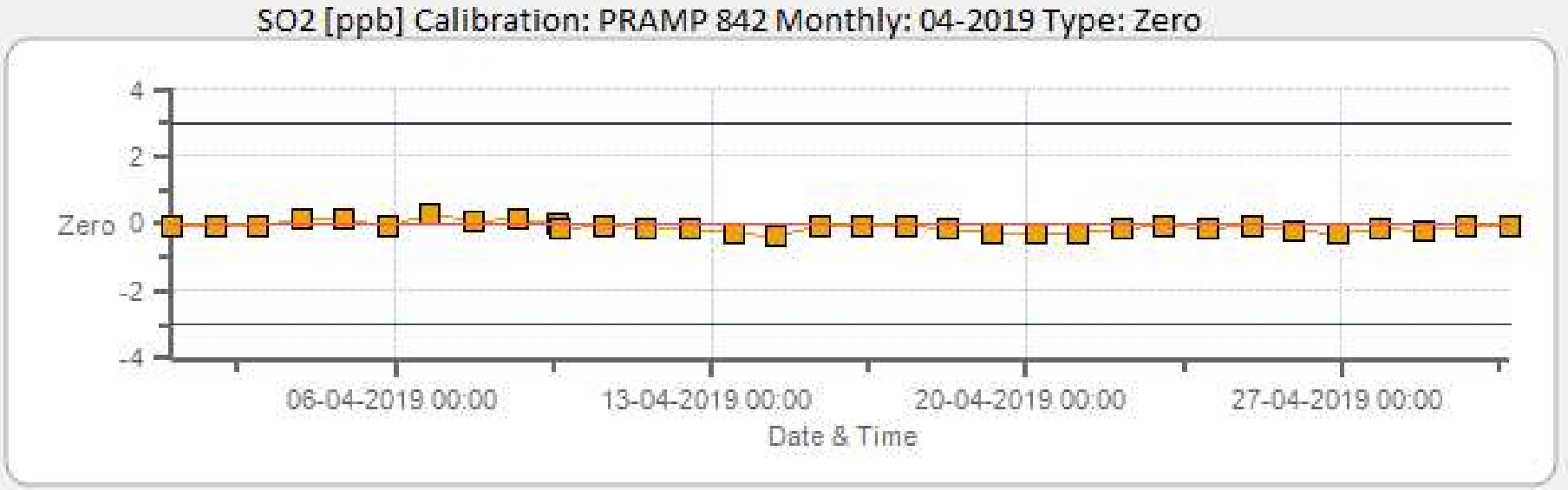
CAL-PRAMP-201904-01561

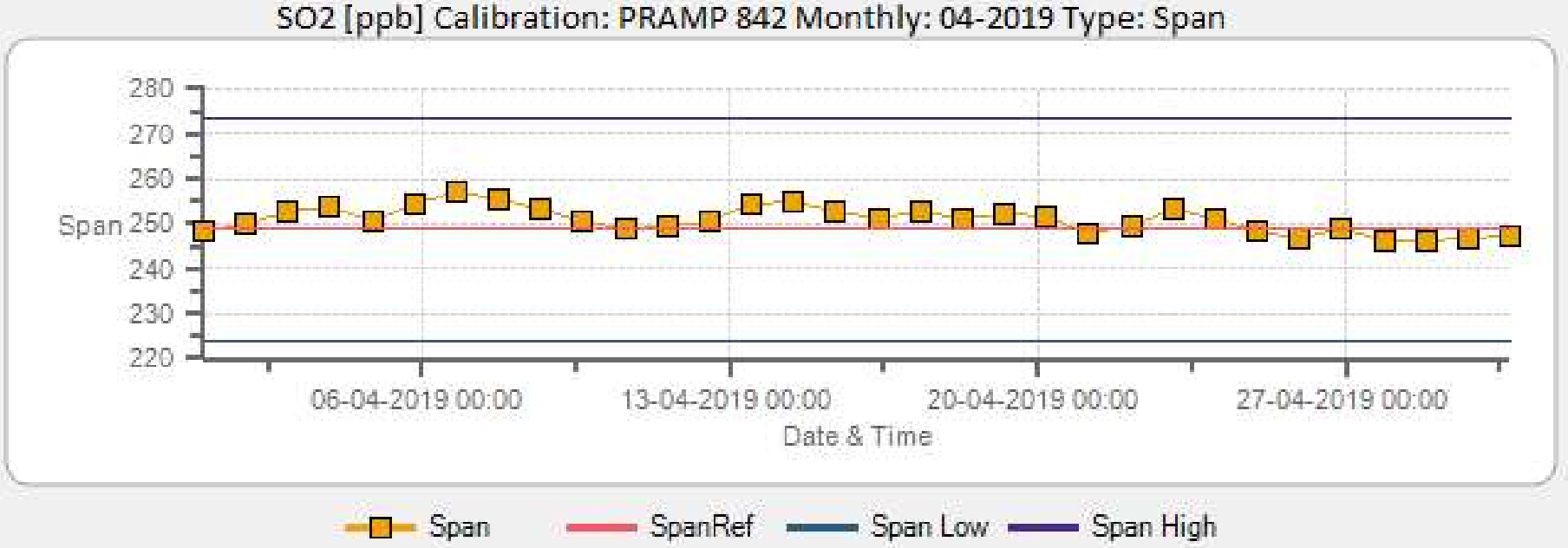
Operation and Maintenance:
Maxxam Analytics

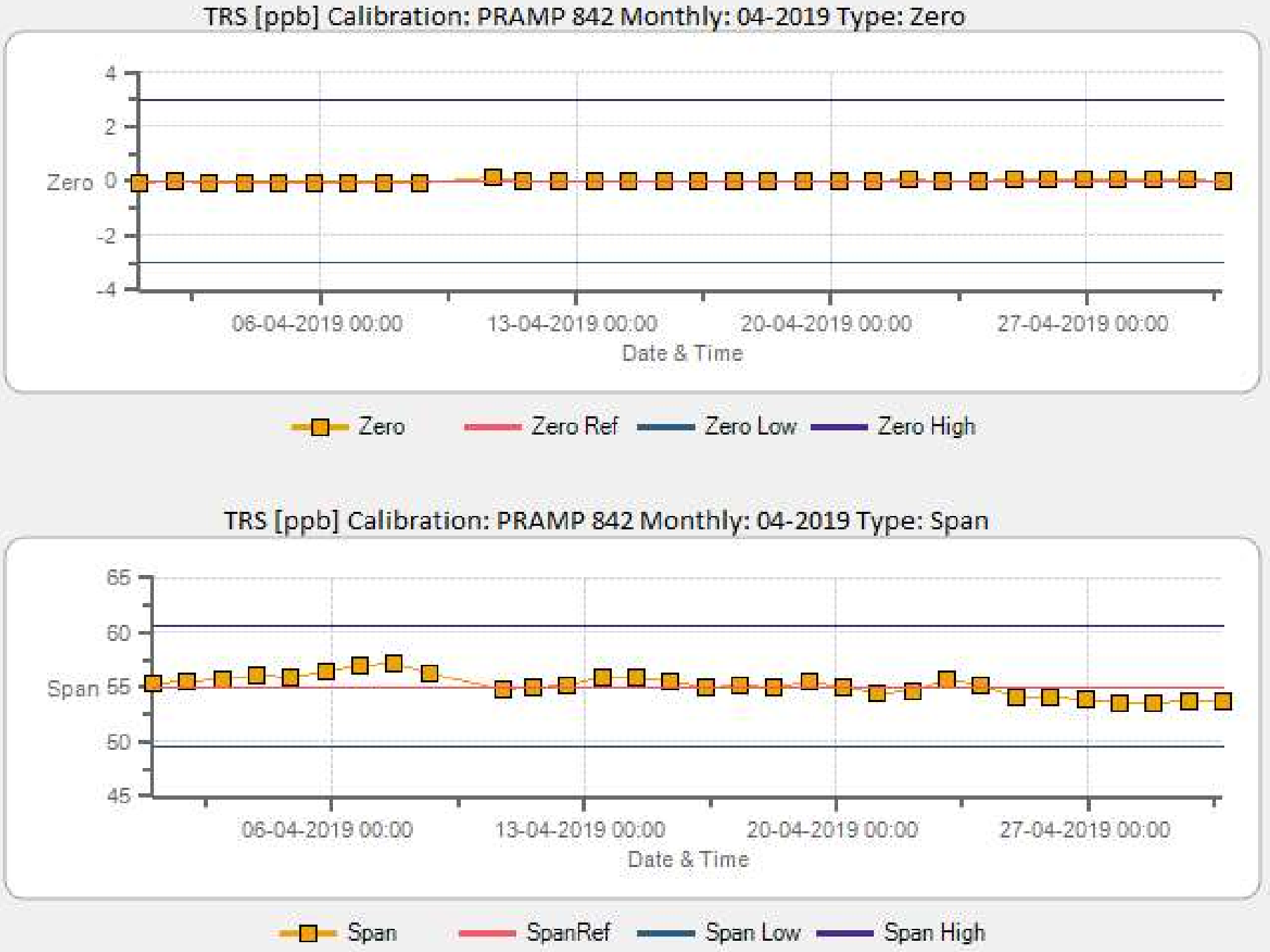
Data Validation and Report:
Maxxam Analytics

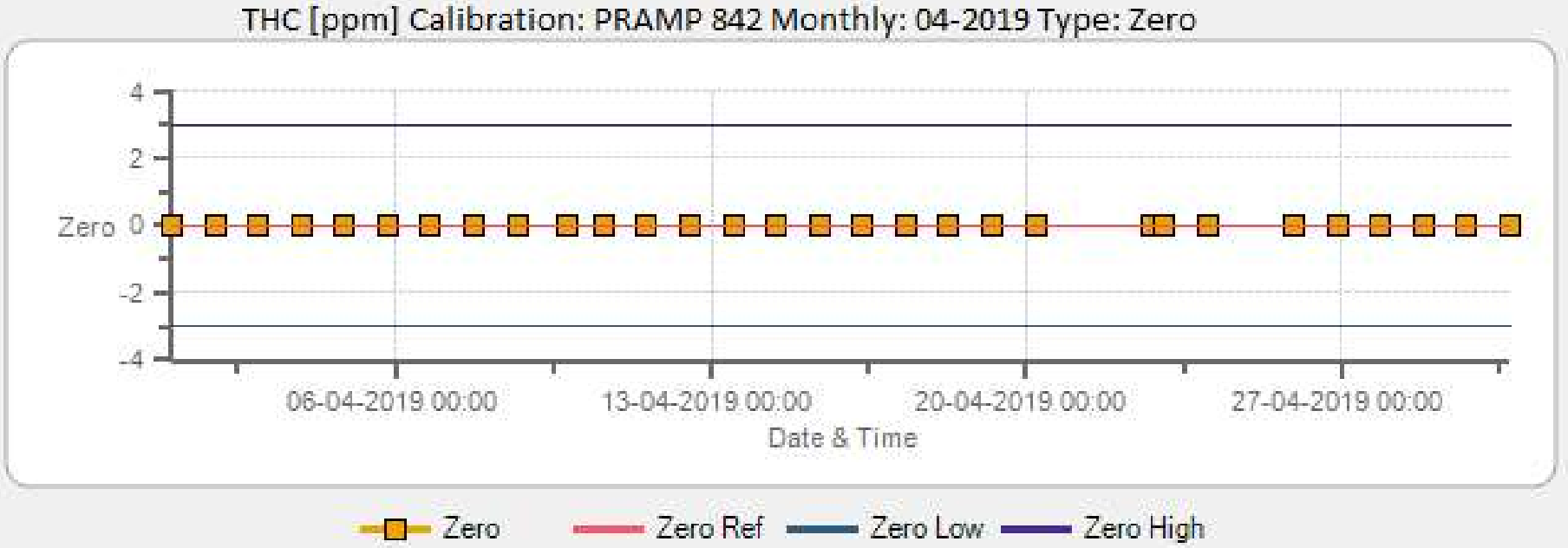
May 8, 2019

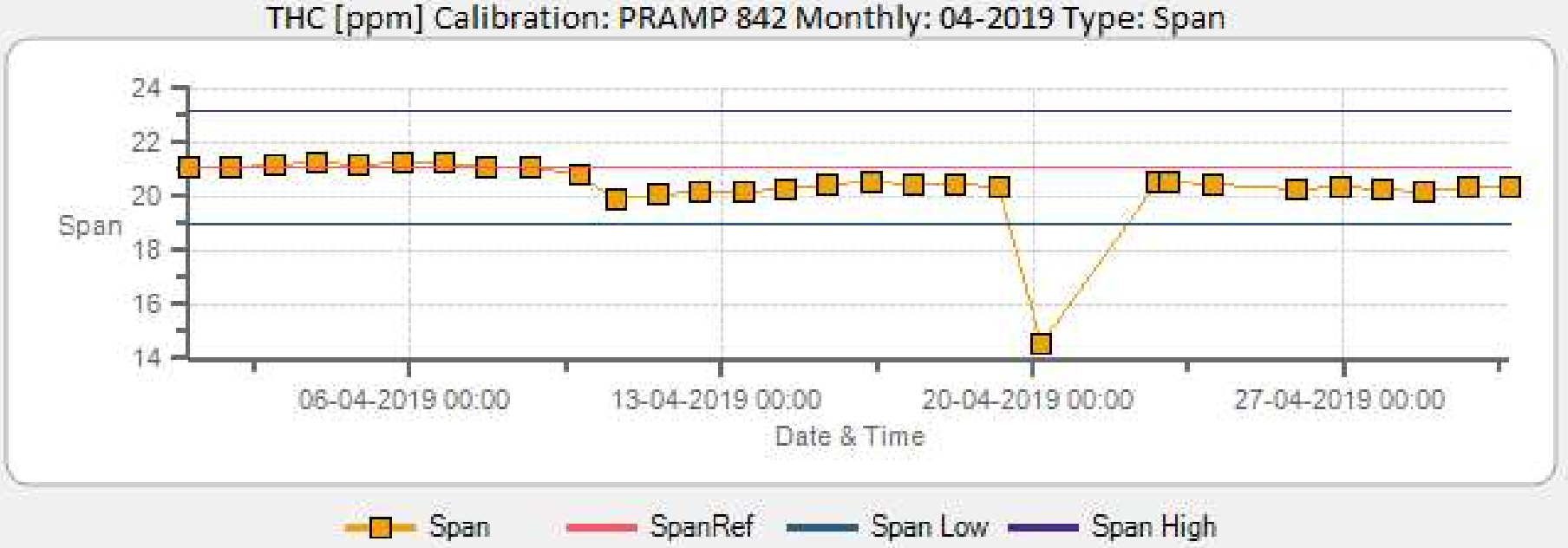
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS


SO2 [ppb] Calibration: PRAMP 842 Monthly: 04-2019 Type: Zero
4
2
Zero 0
-2
-4
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High

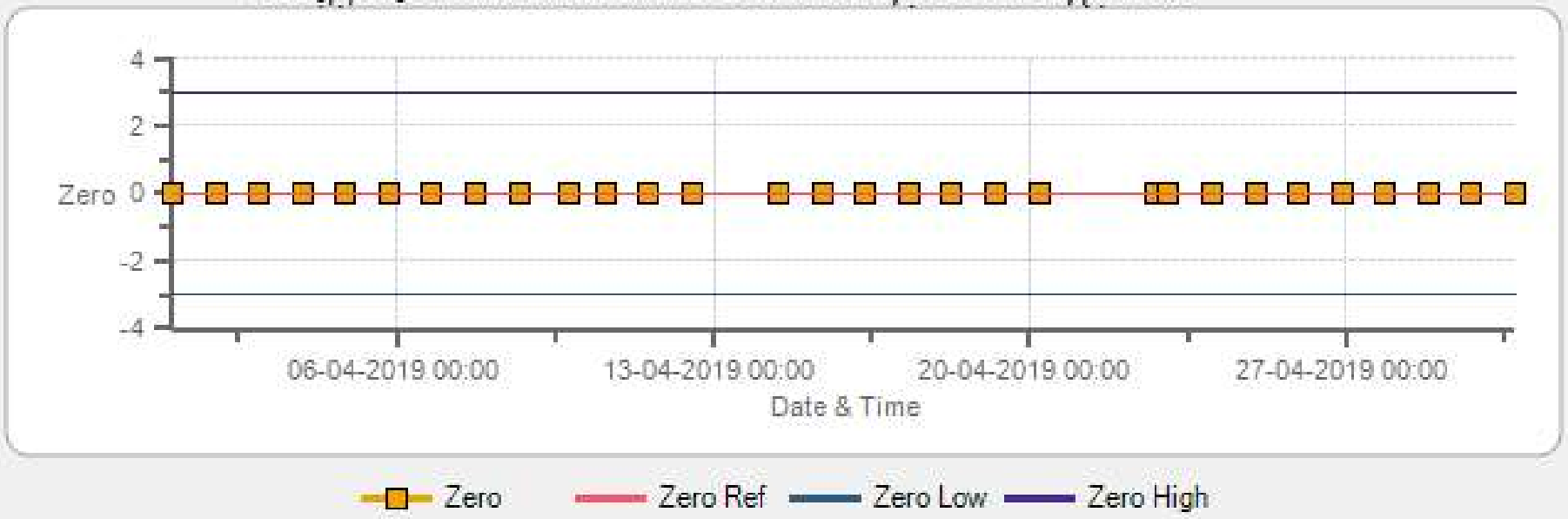

SO2 [ppb] Calibration: PRAMP 842 Monthly: 04-2019 Type: Span
280
270
260
Span 250
240
230
220
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High


TRS [ppb] Calibration: PRAMP 842 Monthly: 04-2019 Type: Zero
4
2
Zero 0
-2
-4
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
TRS [ppb] Calibration: PRAMP 842 Monthly: 04-2019 Type: Span
65
60
Span 55
50
45
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

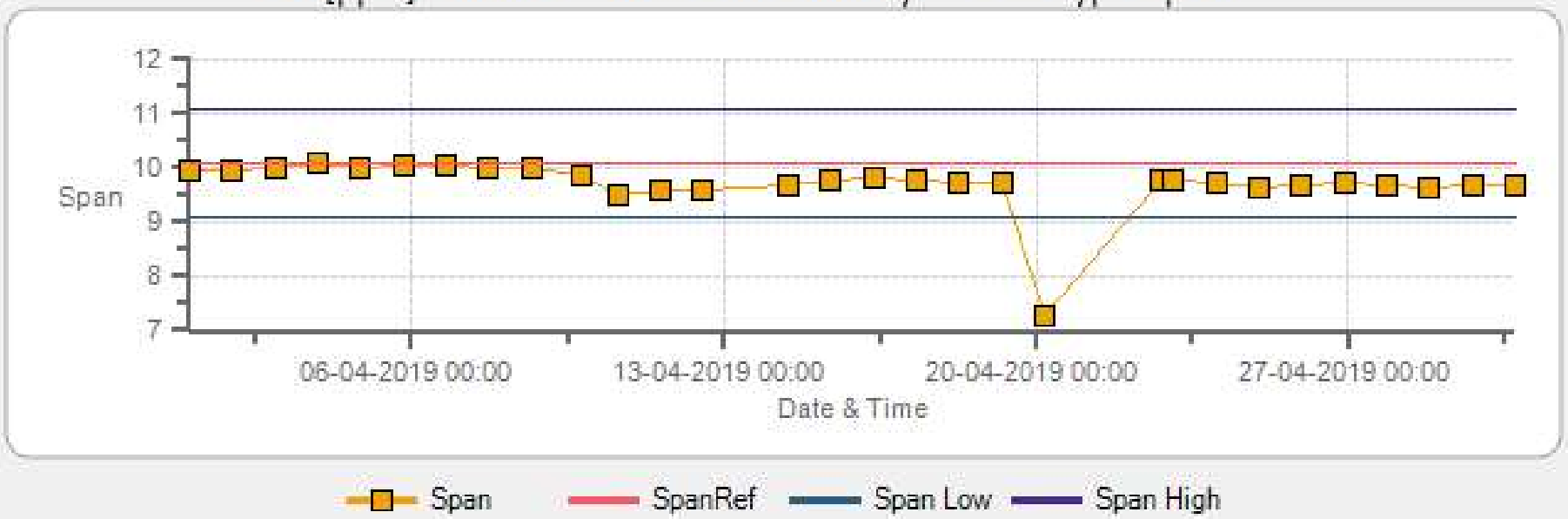

THC [ppm] Calibration: PRAMP 842 Monthly: 04-2019 Type: Zero
4
2
Zero 0
-2
-4
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High

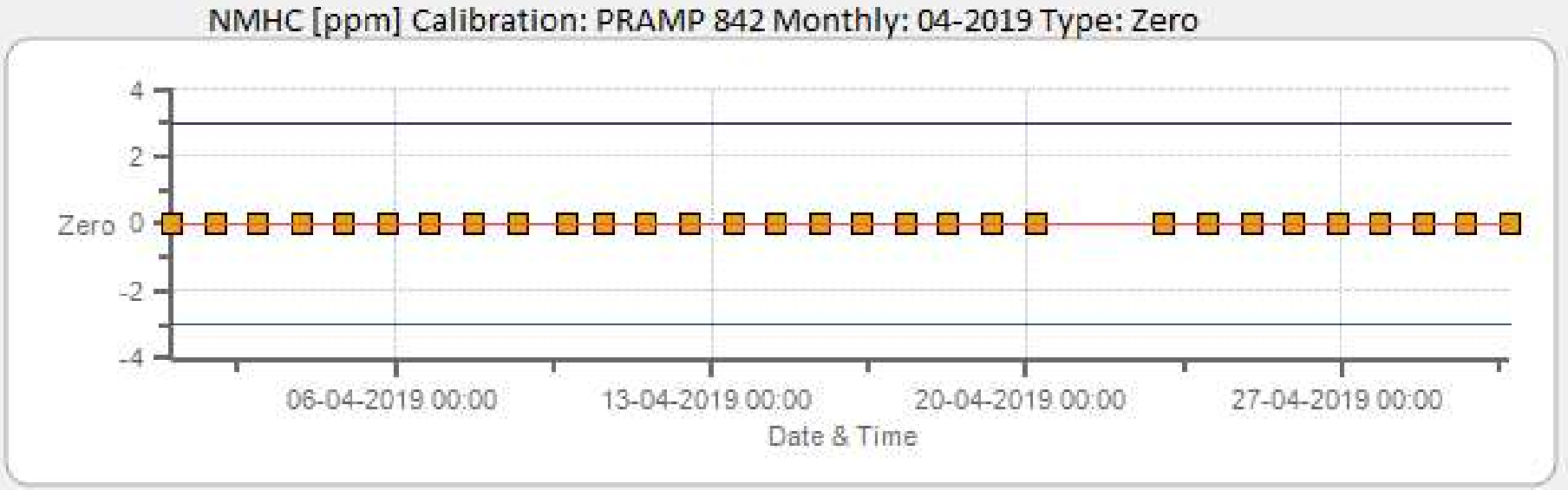

THC [ppm] Calibration: PRAMP 842 Monthly: 04-2019 Type: Span
24
22
20
Span
18
16
14
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

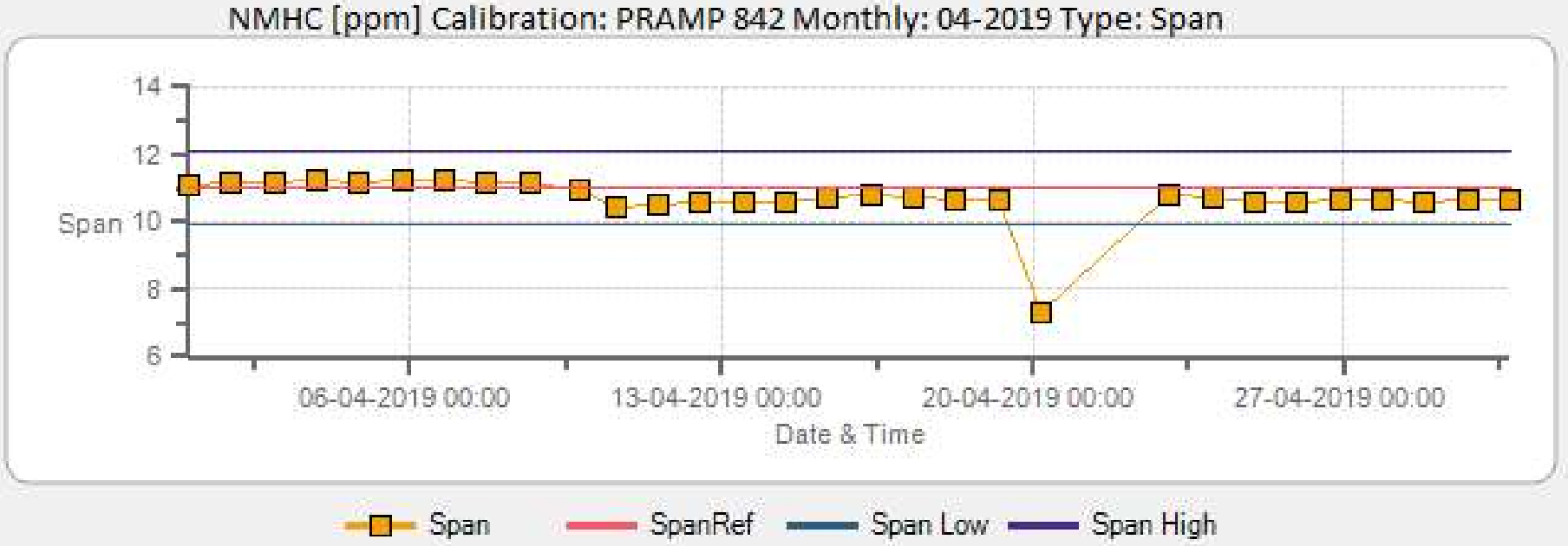
CH4 [ppm] Calibration: PRAMP 842 Monthly: 04-2019 Type: Zero



CH4 [ppm] Calibration: PRAMP 842 Monthly: 04-2019 Type: Span




NMHC [ppm] Calibration: PRAMP 842 Monthly: 04-2019 Type: Zero
4
2
Zero 0
-2
-4
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High


NMHC [ppm] Calibration: PRAMP 842 Monthly: 04-2019 Type: Span
14
12
Span 10
8
6
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

MULTI-POINT CALIBRATION RECORDS

Thermo 43i Sulphur Dioxide Analyzer Calibration

Date:	April 9, 2019	**Barometer/B.P./units:**	F.S. 10528 expires January 23, 2020	940	millibars
Company/Airshed:	PRAMP	**Thermometer/Station Temp:**	F.S. 181341226 expires Jun 7, 2020	22.8	°C
Location/Station Name:	842b	**Weather Conditions:**	Sunny		
Parameter:	Sulphur Dioxide	**Calibration Purpose:**	routine monthly		
Start Time 24 hr. (mst):	7:58	**Performed By/Reviewer:**	Ferdinand Roy	Rob Fisher	
End Time 24 hr. (mst):	14:33	**Cal Gas Expiry Date:**	December 8, 2019		
Calibration Method:	Gas Dilution	**Converter Model & s/n (if applicable):**	n/a		

Analyzer:

Serial Number/Owner:	835033373 Maxxam	**Range ppb:**	500
Last Calibration Date:	March 13, 2019	**As Found C.F.:**	0.994
Previous C.F.:	0.999	**New C.F.:**	0.999

Calibration Standards:

Low Flow Meter ID/Expiry Date:	N/A
High Flow Meter ID/Expiry Date:	N/A
Calibrator ID/Expiry Date:	Environics id# 5212 expires February 13, 2020
Cal Gas Cylinder I.D. # :	EY0000597
Cal Gas Conc. (ppm):	50.4

Standard Calibration Points for Ranges

Point	ppb
High	380
Mid	180
Low	90

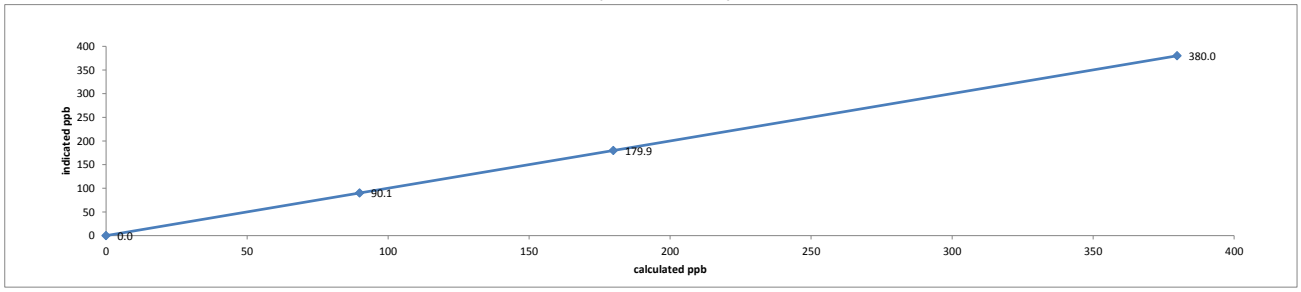
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration (ppb):	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	**Diluent**	**Cal Gas**	**Total**			
as found zero	5996	0.00	5996	0.0	0	n/a
as found high	5952	45.20	5997	379.8	382.3	0.994
adjusted zero	5998	0.00	5998	0.0	0	n/a
adjusted high	5952	45.19	5997	379.8	380	0.999
mid	5976	21.40	5997	179.9	179.9	1.000
low	5985	10.69	5996	89.9	90.1	0.998
calibrator zero	5999	0.00	5999	0.0	0	n/a
					Average C.F.=	0.999

Linear Regression/Calibration Results:

		LIMITS
Correlation Coefficient =	**1.000**	**> or = 0.995**
Slope =	**1.000**	**0.95-1.05**
b (Intercept as % of full scale)=	**-0.01%**	**± 3% F.S.**
% change in C.F. from last cal=	**0.54%**	**± 10%**

Thermo 43i Sulphur Dioxide Analyzer Calibration



As found:		As left:	
Bkg:	14.9	Bkg:	15.0
Coef:	1.033	Coef:	1.025
Pmt:	-621.6	Pmt:	-621.6
Flash:	903	Flash:	903
Internal:	26.7	Internal:	26.8
Chamber:	44.8	Chamber:	45.0
Perm Oven Gas:	45.13	Perm Oven Gas:	45.00
Perm Oven Heater:	43.95	Perm Oven Heater:	44.08
Pressure:	679.0	Pressure:	678.7
Sample Flow:	0.421	Sample Flow:	0.421
Lamp Intensity:	81	Lamp Intensity:	81
Converter:	n/a	Converter:	n/a
Converter Set:	n/a	Converter Set:	n/a
Averaging Time:	120	Averaging Time:	120
Expected Value:	248.8	Expected Value:	248.8

Comments:

The analyzer sample inlet filter was changed.

The analyzer cooling fan filter(s) were cleaned.

The manifold blower was found to be working normally.

The As found high point was restarted at 9:18 after purging and flushing regulator. The Adjust High point was interrupted at 11:12 due to the repair of the oxidizer for TRS analyzer. The Adjust High point restarted at 11:22.

Thermo 43I-TLE Total Reduced Sulphur Analyzer Calibration

Date:	April 9, 2019	**Barometer/B.P./units:**	F.S. 10528 expires January 23, 2020	940	millibars
Company/Airshed:	PRAMP	**Thermometer/Station Temp:**	F.S. 181341226 expires Jun 7, 2020	22.8	°C
Location/Station Name:	842b	**Weather Conditions:**	Sunny		
Parameter:	Total Reduced Sulphur	**Calibration Purpose:**	shut down		
Start Time 24 hr. (mst):	7:58	**Performed By/Reviewer:**	Ferdinand Roy	Rob Fisher	
End Time 24 hr. (mst):	11:04	**Cal Gas Expiry Date:**	May 16, 2020		
Calibration Method:	Gas Dilution	**Converter Model & s/n (if applicable):**	CD Nova CDN-101 #553		

Analyzer:

Serial Number/Owner:	1162460023	Maxxam	**Range ppb:**	100
Last Calibration Date:	March 13, 2019		**As Found C.F.:**	0.975
Previous C.F.:	1.001		**New C.F.:**	n/a

Calibration Standards:

Low Flow Meter ID/Expiry Date:	N/A
High Flow Meter ID/Expiry Date:	N/A
Calibrator ID/Expiry Date:	Environics id# 4760 expires February 14, 2020
Cal Gas Cylinder I.D. # :	LL119420
Cal Gas Conc. (ppm):	10.2

Standard Calibration Points for Ranges

Point	ppb
High	78
Mid	38
Low	19

SO2 Scrubber Check (10 minutes):

Start/End Time 24 hr.:	8:09/8:24
SO2 Analyzer Range:	500
Target Concentration (ppb):	380
As Found Zero:	-0.1
Analyzer Response: (ppb):	0-0.1
Zero Corrected Result (ppb):	#VALUE!

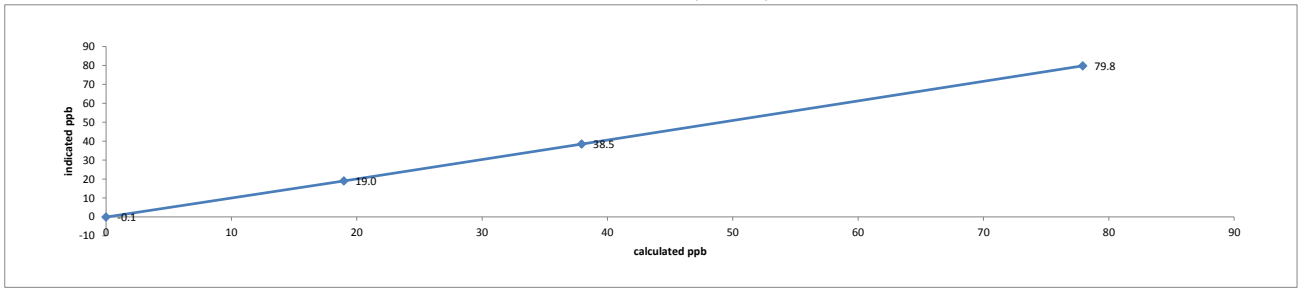
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	**Diluent**	**Cal Gas**	**Total**	**Concentration (ppb):**		
as found zero	7487	0.00	7487	0.0	-0.1	n/a
as found high	7430	57.20	7487	77.9	79.81	0.975
mid	7459	27.85	7487	37.9	38.45	0.984
low	7474	13.93	7488	19.0	18.98	0.995
					Average C.F.=	0.985

Linear Regression/Calibration Results:

		LIMITS
Correlation Coefficient =	**1.000**	**> or = 0.995**
Slope =	**0.974**	**0.90-1.10**
b (Intercept as % of full scale)=	**0.32%**	**± 3% F.S.**
% change in C.F. from last cal=	**2.58%**	**± 10%**

Thermo 43I-TLE Total Reduced Sulphur Analyzer Calibration



As found:		As left:	
Bkg:	2.99	Bkg:	n/a
Coef:	0.891	Coef:	n/a
Pmt:	-720.4	Pmt:	n/a
Flash:	981	Flash:	n/a
Internal:	31.9	Internal:	n/a
Chamber:	45.0	Chamber:	n/a
Perm Oven Gas:	45.00	Perm Oven Gas:	n/a
Perm Oven Heater:	44.11	Perm Oven Heater:	n/a
Pressure:	666.3	Pressure:	n/a
Sample Flow:	0.404	Sample Flow:	n/a
Lamp Intensity:	87	Lamp Intensity:	n/a
Converter:	840	Converter:	n/a
Converter Set:	850	Converter Set:	n/a
Averaging Time:	120	Averaging Time:	n/a
Expected Value:	55.1	Expected Value:	n/a

Comments:

A Shutdown was performed due to unstable temperature of the oxidizer.

Thermo 43I-TLE Total Reduced Sulphur Analyzer Calibration

Date:	April 10, 2019	**Barometer/B.P./units:**	F.S. 10528 expires January 23, 2020	941	millibars
Company/Airshed:	PRAMP	**Thermometer/Station Temp:**	F.S. 181341226 expires Jun 7, 2020	23.09	°C
Location/Station Name:	842b	**Weather Conditions:**	Mainly sunny		
Parameter:	Total Reduced Sulphur	**Calibration Purpose:**	post repair		
Start Time 24 hr. (mst):	13:55	**Performed By/Reviewer:**	Ferdinand Roy	Rob Fisher	
End Time 24 hr. (mst):	17:35	**Cal Gas Expiry Date:**	May 16, 2020		
Calibration Method:	Gas Dilution	**Converter Model & s/n (if applicable):**	CD Nova CDN-101 # 553		

Analyzer:

Serial Number/Owner:	1162460023 Maxxam	**Range ppb:**	100
Last Calibration Date:	March 13, 2019	**As Found C.F.:**	n/a
Previous C.F.:	1.001	**New C.F.:**	1.000

Calibration Standards:

Low Flow Meter ID/Expiry Date:	N/A
High Flow Meter ID/Expiry Date:	N/A
Calibrator ID/Expiry Date:	Environics id# 4760 expires February 14, 2020
Cal Gas Cylinder I.D. # :	LL119420
Cal Gas Conc. (ppm):	10.2

Standard Calibration Points for Ranges

Point	ppb
High	78
Mid	38
Low	19

SO2 Scrubber Check (10 minutes):

Start/End Time 24 hr.:	7:47/8:02
SO2 Analyzer Range:	500
Target Concentration (ppb):	380
As Found Zero:	0.2
Analyzer Response: (ppb):	0.2
Zero Corrected Result (ppb):	0.0

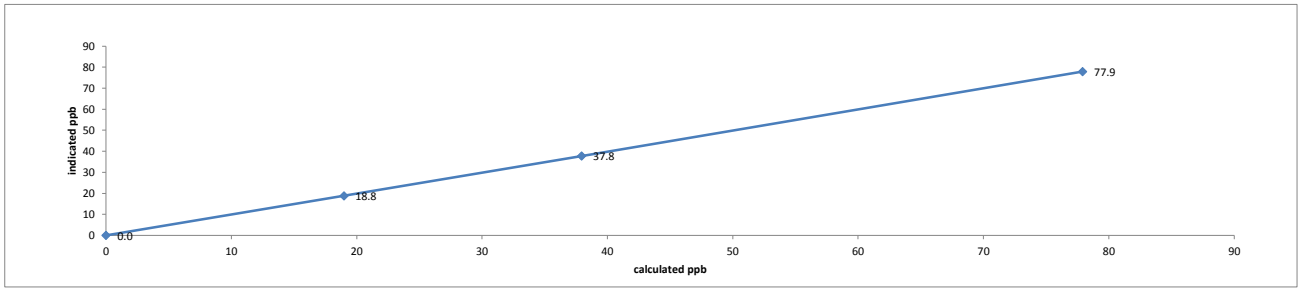
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration (ppb):	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	**Diluent**	**Cal Gas**	**Total**			
adjusted zero	7488	0.00	7488	0.0	0	n/a
adjusted high	7430	57.19	7488	77.9	77.9	1.000
mid	7459	27.85	7487	37.9	37.77	1.005
low	7474	13.94	7488	19.0	18.81	1.009
calibrator zero	7489	0.00	7489	0.0	0.13	n/a
					Average C.F.=	1.005

Linear Regression/Calibration Results:

		LIMITS
Correlation Coefficient =	**1.000**	**> or = 0.995**
Slope =	**1.000**	**0.95-1.05**
b (Intercept as % of full scale)=	**0.10%**	**± 3% F.S.**
% change in C.F. from last cal=	**n/a**	**n/a**

Thermo 43I-TLE Total Reduced Sulphur Analyzer Calibration



	As found:	As left:
Bkg:	3.09	2.84
Coef:	0.891	0.879
Pmt:	-720.4	-720.4
Flash:	980	980
Internal:	30.7	30.6
Chamber:	44.9	45.0
Perm Oven Gas:	45.00	44.9
Perm Oven Heater:	44.11	44.11
Pressure:	666.3	666.0
Sample Flow:	0.406	0.403
Lamp Intensity:	89	88
Converter:	820	820
Converter Set:	820	820
Averaging Time:	120	120
Expected Value:	55.1	55.1

Comments:

The analyzer sample inlet filter was changed.

The SO2 scrubber check was not performed.
The manifold blower was found to be working normally.

A Post Repaired calibration was performed after reparing the converter thermocouple. The scrubber check was performed during the shutdown calibration.

Maxxam
A Bureau Veritas Group Company

Thermo 55i Methane/Non-Methane Analyzer Calibration

Date:	April 9, 2019	**Barometer/B.P./units:**	F.S. 10528 expires January 23, 2020	940	millibars
Company/Airshed:	PRAMP	**Thermometer/Station Temp:**	F.S. 181341226 expires Jun 7, 2020	23.24	°C
Location/Station Name:	842b	**Weather Conditions:**	Mainly sunny		
Parameter:	CH4 / NMHC / THC	**Calibration Purpose:**	routine monthly		
Start/End Time 24 hr. (mst):	13:49/19:00	**Performed By/Reviewer:**	Ferdinand Roy	Rob Fisher	
Calibration Method:	Gas Dilution	**Cal Gas Expiry Date:**	October 18, 2025		

Analyzer:

Serial Number/Owner:	1505664392	Maxxam
Measured Flow:	1.2536 l/min	
Last Calibration Date:	March 13, 2019	
Range ppm:	20 CH4/20 NMHC/40 THC	

Correction Factors:

	Previous C.F.:	As Found C.F.:	New C.F.:
CH_4 =	1.000	1.003	0.999
NMHC =	0.999	0.998	0.999
THC =	1.000	1.001	0.999

Calibration Standards:

Low Flow Meter ID/Expiry Date:	N/A		
High Flow Meter ID/Expiry Date:	N/A		
Calibrator ID/Expiry Date:	Environics id# 5212 expires February 13, 2020		
Cal Gas Cylinder I.D. # :	LL43221		
CH4 Cylinder Conc.=	595.0	206.0	**=C_3H_8 Cylinder Conc.**
CH_4 expressed as C_3H_8=	566.5	1161.5	**=total CH4 equivalent**

Standard Calibration Points for Analyzer Range of 20/20/40 ppm

Point	CH4	NMHC	THC
High	13.00	13.00	26.00
Mid	7.00	7.00	14.00
Low	3.00	3.00	6.00

ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated CH_4 (ppm)	Calculated NMHC (ppm)	Calculated THC (ppm)	Indicated CH_4 (ppm)	Indicated NMHC (ppm)	Indicated THC (ppm)	Correction Factors:		
Point	**Diluent**	**Cal Gas**	**Total Flow**							**CH_4**	**NMHC**	**THC**
as found zero	2998	0.00	2998	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
as found high	2932	67.12	2999	13.32	12.68	26.00	13.28	12.70	25.98	1.003	0.998	1.001
adjusted zero	2998	0.00	2998	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
adjusted high	2931	67.10	2999	13.32	12.68	25.99	13.33	12.69	26.02	0.999	0.999	0.999
mid	2960	36.13	2996	7.17	6.83	14.01	7.18	6.89	14.07	0.999	0.991	0.995
low	2983	15.46	2998	3.07	2.92	5.99	3.08	3.02	6.10	0.996	0.967	0.982
calibrator zero	2998	0.00	2998	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
									Average C.F.=	0.998	0.986	0.992

Linear Regression/Calibration Results:

	CH_4	NMHC	THC	LIMITS
Correlation Coefficient =	1.000	1.000	1.000	> or = 0.995
Slope =	1.001	0.999	1.000	0.95-1.05
b (Intercept as % of full scale)=	0.02%	0.25%	0.13%	± 3% F.S.
% change in C.F. from last cal=	-0.28%	0.07%	-0.06%	± 10%

As Left Instrument Diagnostics:

Interface Board Voltages:	Bias Supply:	-294.5		Calibration History cnt'd:	NM Peak Area:	74242
Temperatures:	Detector Oven:	175.0		Crucial Settings:	Methane Start:	n/a
	Filter:	175.0			Methane End:	n/a
	Column Oven:	75.0			Backflush:	n/a
	Internal:	33.0			NMHV Start:	n/a
Cylinder Pressures/reg.:	Carrier:	1356	50		NMHC End:	n/a
	Fuel:	420	50	Run History>1:	Date:	09Apr19
	Span Gas:	1800	16		Time:	17:52
	Zero Air Generator:	50			CH_4 PK HT:	0
Internal Pressures:	Carrier:	31.1			CH_4 RT:	11.4
	Fuel:	47.4			CH_4 Baseline:	3161
	Air:	23.7			CH_4 LOD:	38
FID Status:	Status:	LIT			CH_4 SD:	12
	Counts:	35528			CH_4 CONC:	0.00
	Flame:	371.6			NM PK HT:	0
	Det Base:	175.0			NM Peak Area:	0
Flame and Power Stats:	Last Power On:	20Nov2018at18:11			NM CONC:	0.00
	Flameouts:	7			NM Base Start:	3156
	Det Oven at Start:	121.5			NM Base End:	3198
	Col Oven at Start:	74.1			NM LOD:	14
Calibration History:	Time:	09Apr19 at 16:33			NM Start IDX:	5
	Type:	SPAN			NM End IDX:	55
	Status:	GOOD			NM Max Slope:	1.5e+00
	Check/Adjust:	ADJUST			NM Min Slope:	-4.5e-01
	CH_4 Span Conc:	13.32			NM PT Count:	0
	CH_4 SP Ratio:	0.000716		Expected Values:	Previous CH4:	10.08
	CH_4 RT:	12.2			Previous NMHC	11.02
	CH_4 PK IDX:	21			Previous THC:	21.1
	CH_4 PK HT:	18611			New CH4:	10.08
	NM Span Conc:	12.68			New NMHC	11.02
	NM SP Ratio:	0.000171			New THC:	21.10

Comments:

The analyzer sample inlet filter was changed.

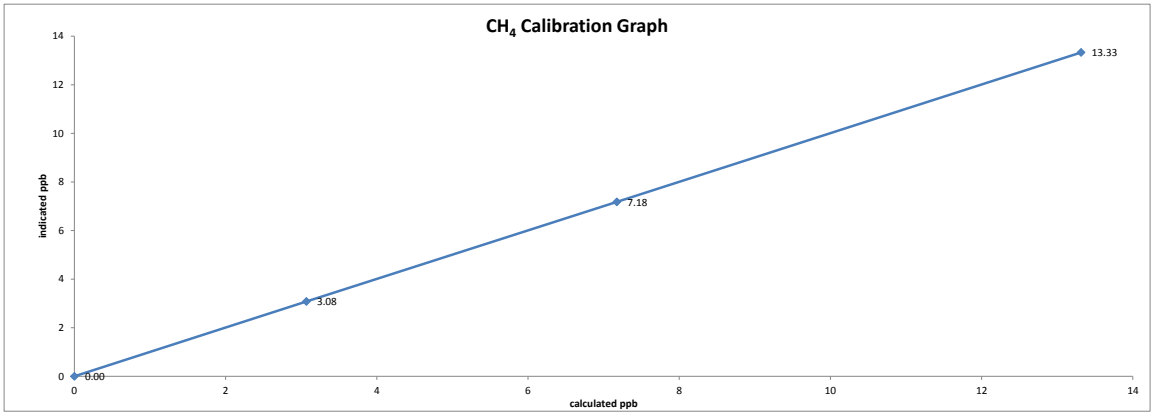
A new hydrogen cylinder was installed.

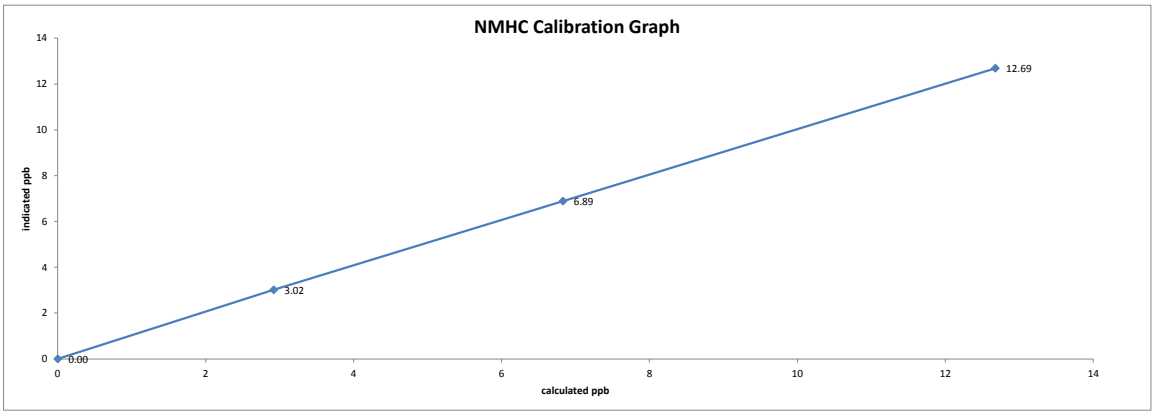
The analyzer cooling fan filter(s) were cleaned.

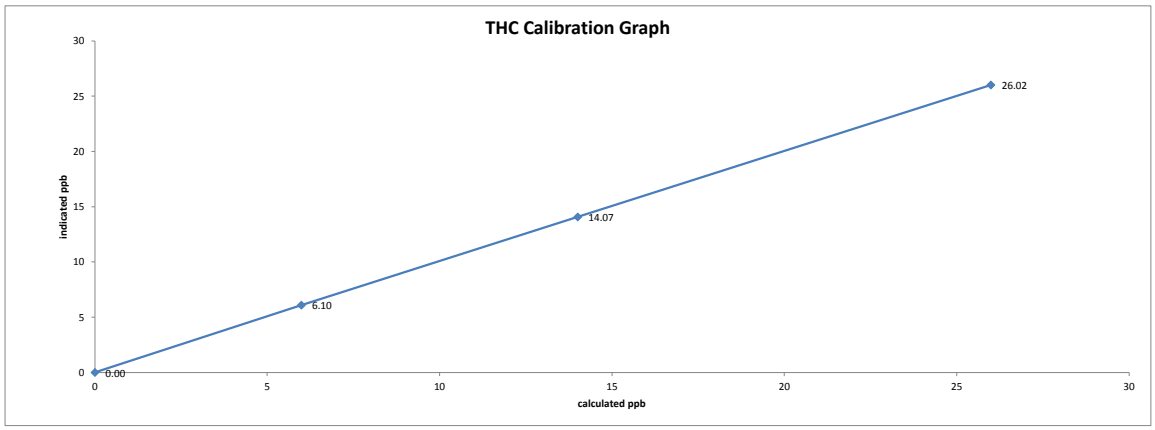
The manifold blower was found to be working normally.

The H2 gas was changed on April 10 at 8:36am (~2000 psi).

Date:	April 9, 2019	Start/End Time 24 hr. (mst):	13:49/19:00
Company/Airshed:	PRAMP	Calibration Purpose:	routine monthly
Location/Station Name:	842b	Calibration Method:	Gas Dilution







Meteorological System Checklist

Date:	April 9, 2019		
Technician:	Ferdinand Roy		
Reviewer:	Rob Fisher		
Station:	PRAMP 842b		
Unit:	**Make:**	**Model:**	**Serial #:**
Temperature Sensor:	Campbell Scientific	HMP45C	C2608
Barometric Pressure Sensor:	MetOne	92	K12864
Relative Humidity Sensor:	Campbell Scientific	HMP45C	C2608
Anemometer:	RM Young	05305VK	124638
AMBIENT TEMPERATURE SENSOR CHECK			
Previous check date:	February 21, 2019		
Parameter:	Temperature @ 2 metres (1 C tolerance)		
Reference Thermometer ID:	F.S. 181341226 expires Jun 7, 2020		
Reference Temperature (^{o}C):	8.4		
Station - Ambient Temperature (^{o}C):	7.8		
Temperature Difference (^{o}C):	0.6		
BAROMETRIC PRESSURE SENSOR CHECK			
Previous check date:	February 21, 2019		
Reference Barometer ID:	F.S. 181341226 expires Jun 7, 2020		
Reference Pressure - Units/Reading:	millibar	941	
Station Pressure - Units/Reading:	millibar	942.5	
Pressure Tolerance +/- 15% of error:	800 - 1082	-0.16%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Previous check date:	February 21, 2019		
Reference Hygrometer ID:	F.S. 10528 expires January 23, 2020		
Reference Hygrometer % RH- Reading:	39.11		
Station Hygrometer % RH- Reading:	39.60		
RH Tolerance +/- 15% of difference:	33.24 - 44.98	-1.3%	
ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK			
WIND SPEED		WIND DIRECTION	
Previous check date:	February 21, 2019	Previous check date:	February 21, 2019
Wind Speed Observed (kph):	7-10 kph	Wind Direction Observed:	SE
Wind speed on Data Logger (kph):	7.2	Wind Direction on Data Logger:	SE
		Wind Direction Pass/Fail?:	Pass

Alberta Government

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2019-426A

Company: Maxxam **Operator:** C. Wesson

Calibrator:		Flow Measurement Device:	
Make/Model	Evironics 6100	Make/Model	N/A
Serial Number	5212	Serial Number	N/A
Last Verification Date	March 2018	Temperature (°C)	N/A
NO Cylinder S/N	LL107918	Barometric Pressure	N/A
NO [PPM]	50.1 NOx [PPM] 50.2		
Expiry Date	August 2026		

Dilution Flow (sccm)
Pt. #1 5000 Pt. #2 5000 Pt. #3 5000
Gas Flow (sccm)
Pt. #1 80 Pt. #2 40 Pt. #3 20

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO_2	NOx	NO	NOx
5000	0.0	0.000	0.000	0.000	0.000	0.000	Limit ± 10%	
4997	77.8	0.780	0.782	0.768	-0.003	0.766	-2%	-2%
4997	37.9	0.380	0.381	0.372	-0.002	0.370	-2%	-3%
4996	18.9	0.190	0.190	0.186	-0.001	0.185	-2%	-3%
					Absolute Average Percent Difference		2%	2%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO		LIMITS	NOx	
Correlation=	1.0000	≥ 0.990	Correlation=	1.0000
m (Slope)=	0.9846	0.90-1.10	m (Slope)=	0.9802
b (Intercept % of FS)=	-0.0683	± 3% F.S.	b (Intercept % of FS)=	-0.1101

Flow	O_3 Conc	NO Decrease	NO	NO2	NOX	% Diff. Vs Audit gas	
						NO_2	% Diff. Limit
4997	0.000	0.000	0.765	-0.002	0.764		
4997	0.500	0.491	0.274	0.486	0.760	-1%	± 10%
4997	0.275	0.274	0.491	0.271	0.762	0%	± 10%
4997	0.090	0.091	0.674	0.089	0.762	0%	± 10%
				Absolute Average Percent Difference		0%	± 10%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO_2		LIMITS
Correlation=	1.0000	≥ 0.995
m (Slope)=	0.9937	0.90-1.10
b (Intercept % of FS)=	-0.1650	± 3% F.S.

AENV Standards Audit Calibrator		NO_X Analyzer	
Make/Model	Sabio 2010	Make/Model	Teco 42i
Serial/AMU Number	AMU 2092	Serial/AMU Number	AMU 1868
SRM Gas Cylinder No.	APEX1236645	Last Calibration Date	February 12, 2019
Cylinder Conc. (ppm)	50.05	Full Scale (ppm)	1.0
		Cylinder Gas Expiry Date	June 2021

COMMENTS: Contains 49.5 ppm SO2.

Auditor: Al Clark Date: February 13, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2019-427A

Company: Maxxam **Operator:** C. Wesson

Calibrator:				**Flow Measurement Device:**	
Make/Model	Evironics 6100			Make/Model	N/A
Serial Number	4760			Serial Number	N/A
Last Verification Date	March 2018			Temperature (°C)	N/A
NO Cylinder S/N	LL107918			Barometric Pressure	N/A
NO [PPM]	50.1	NOx [PPM]	50.2		
Expiry Date	August 2026				

Dilution Flow (sccm)

Pt. #1 5000 Pt. #2 5000 Pt. #3 5000

Gas Flow (sccm)

Pt. #1 80 Pt. #2 40 Pt. #3 20

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO_2	NOx	NO	NOx
5000	0.0	0.000	0.000	0.000	0.000	0.000	Limit ± 10%	
4994	77.7	0.779	0.781	0.798	0.000	0.798	2%	2%
4993	37.8	0.379	0.380	0.388	-0.001	0.387	2%	2%
4993	18.9	0.190	0.190	0.193	0.000	0.193	2%	2%
					Absolute Average Percent Difference		2%	2%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO		**LIMITS**	**NOx**	
Correlation=	1.0000	**≥ 0.990**	Correlation=	1.0000
m (Slope)=	1.0242	**0.90-1.10**	m (Slope)=	1.0221
b (Intercept % of FS)=	-0.0519	**± 3% F.S.**	b (Intercept % of FS)=	-0.0726

Flow	O_3 Conc	NO Decrease	NO	NO2	NOX	% Diff. Vs Audit gas	
						NO_2	% Diff. Limit
4994	0.000	0.000	0.796	0.000	0.796		
4994	0.550	0.502	0.294	0.499	0.792	-1%	± 10%
4994	0.300	0.275	0.521	0.274	0.795	0%	± 10%
4994	0.100	0.062	0.734	0.061	0.796	-2%	± 10%
			Absolute Average Percent Difference			1%	± 10%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO_2		**LIMITS**
Correlation=	1.0000	**≥ 0.995**
m (Slope)=	0.9949	**0.90-1.10**
b (Intercept % of FS)=	-0.0179	**± 3% F.S.**

AENV Standards		**NO_X Analyzer**	
Audit Calibrator			
Make/Model	Sabio 2010	Make/Model	Teco 42i
Serial/AMU Number	AMU 2092	Serial/AMU Number	AMU 1868
SRM Gas Cylinder No.	APEX1236645	Last Calibration Date	February 14, 2019
Cylinder Conc. (ppm)	50.05	Full Scale (ppm)	1.0
		Cylinder Gas Expiry Date	June 2021

COMMENTS: Contains 49.5 ppm SO2.

Auditor: Al Clark Date: February 14, 2019

Operator Signature: Location: McIntyre Center Edmonton

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

Alberta Government

Calibration Gas Audit

Single Component Cylinder Gas

File No. 2016-438CGA

Company: Maxxam **Operator's Name:** Chris

Cylinder #: EY0000597 Concentration PPM: 50.4 Tolerance(%) 1.0 Certified By: Praxair

Expiry Date: December 8, 2019

Reference Calibrator and Gas:

Make/Model: Thermo 146i
Serial Number: AMU 1809
Last Verification Date: January 26, 2017
Gas Type: SO2 Conc. 98.07
Cylinder Number: CAL016625
Expiry Date: January 5, 2019

Flow Measurement Device:

Make/Model: Bios Befiner 220
Serial Number: AMU1941
Temp.°C: 24.4
B.P. 704.7

Reference Analyzer:

Make/Model: Themro 43C Serial/AMU Number: AMU 1623

Instrument Settings: Zero: 9.5 Span: 1.023 Range: 1.0

Last Calibration: Date: 25-Jan-17 C.F. 1.000 Done By: SB

Calibrator Flows (sccm)		Indicated	Gas Flow/	Concentration	Cylinder
Dilution	Gas	Concentration (PPM)	Dilution Flow	Factor	Concentration
4923	0.0	0.000			
4916	80.7	0.834	0.01642	60.917	50.8
4902	40.3	0.416	0.00822	121.638	50.6
4916	19.9	0.206	0.00405	247.035	50.9
				Average Cylinder Concentration:	**50.7**

Previous Stated Concentration PPM: 50.4

Percent variance from Stated: **0.7**

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Shea Beaton Date: January 26, 2017

Operator Signature: Location: McIntyre Center Edmonton

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

Alberta Government

Calibration Gas Audit

Single Component Cylinder Gas

File No. 2017-135CGA

Company: Maxxam **Operator's Name:** Raja Abid Ashraf

Cylinder #: LL119420 Concentration PPM: 10.2 Tolerance(%) 2 Certified By: Praxair

Expiry Date: May 16, 2020

Reference Calibrator and Gas:

Make/Model: R&R MFC 201
Serial Number: AMU 1690
Last Verification Date: July 27, 2017
Gas Type: H2S Conc. 20.43
Cylinder Number: CAL015272
Expiry Date: Janaury 2019

Flow Measurement Device:

Make/Model: Mesa Definer 220
Serial Number: H-133034 L-132702
Temp.°C: 22.0 C
B.P. 700 mmhg

Reference Analyzer:

Make/Model: Teco 450i Serial/AMU Number: 1980

Instrument Settings: Zero: 21.9 Span: 1.069 Range: 0.1

Last Calibration: Date: July 27, 2017 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated Concentration (PPM)	Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration
Dilution	Gas				
5000	0.0	0.0020			
5117	38.9	0.0781	0.00760	131.542	10.0
5103	18.4	0.0379	0.00361	277.337	10.5
5097	9.4	0.0198	0.00184	542.234	10.7
				Average Cylinder Concentration:	**10.4**

Previous Stated Concentration PPM: 10.2

Percent variance from Stated: 2

Meets Manufacturer Tolerance. Use manufacturers stated concentration [ ] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [X]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: July 27, 2017

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

CH4 / C3H8 Cylinder Gas

File No. 2017-492CGA

Company: Maxxam **Operators name:** Mike

Cylinder #: LL43221 Conc CH4 (PPM) 595/206 Tolerance (%) 2 Certified By: Praxair

Expiry Date: October 2025

Reference Calibrator and Gas:

Make/Model	R&R MFC 201		
Serial Number	AMU 1690		
Last Verification Date	December 13, 2017		
Gas Type	CH4	Conc.	990.4
Cylinder Number	5604875	Expiry Date	July 2021
Gas Type	C3H8	Conc.	246.5
Cylinder Number	XF003845B	Expiry Date	July 2022

Flow Measurement Device:

Make/Model	Mesa Definer 220
Serial Number	H-133034 / L-132702
Temp.°C	23.1 C
B.P.	707 mmHg

Reference Analyzer:

Make/Model: Teco 55i Serial/AMU Number: 2108

Instrument Settings Zero: N/A Span: N/A Range: 20.0

Last Calibration: Date: Dec 12/17 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated Conc. (ppm)		Gas Flow/	Concentration	Cylinder Concentration	
Dilution	Gas	CH4	C3H8	Dilution Flow	Factor	CH4	C3H8
3500	0.0	0.00	0.00				
3618	80.4	13.23	12.70	0.02	45.00	595	208
3547	39.8	6.65	6.44	0.01	89.12	593	209
3560	19.8	3.33	3.23	0.01	179.80	599	211
					Average Cylinder Concentration:	**596**	**209**

	CH4	C3H8
Previous Stated Concentration PPM:	595	206
Percent variance from Stated:	**0**	**2**

Cylinder gas tolerances based on CH4 only

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: December 13, 2017

Operator Signature: Location: McIntyre Center Edmonton

Peace River Area Monitoring Program

APRIL 2019

Ambient Air Monitoring Calibration Report

- RENO STATION-

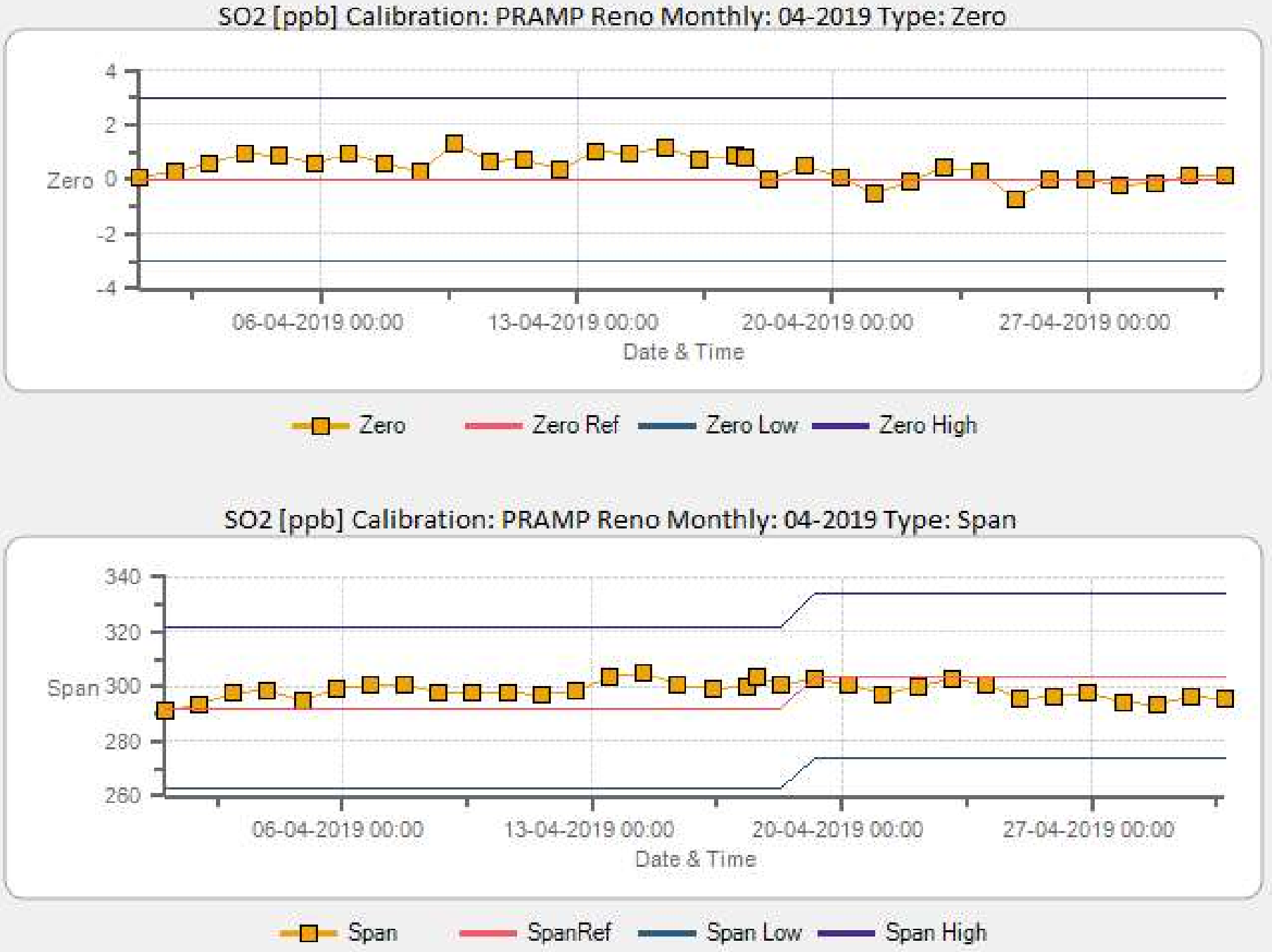
CAL-PRAMP-201904-01563

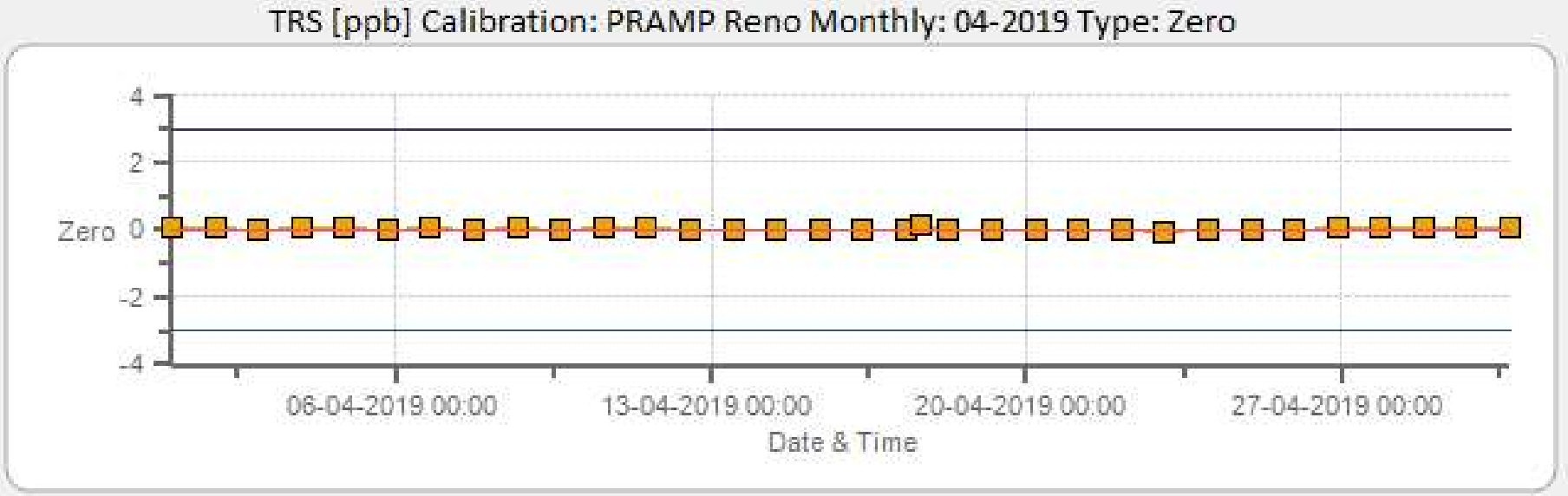
Operation and Maintenance:
Maxxam Analytics

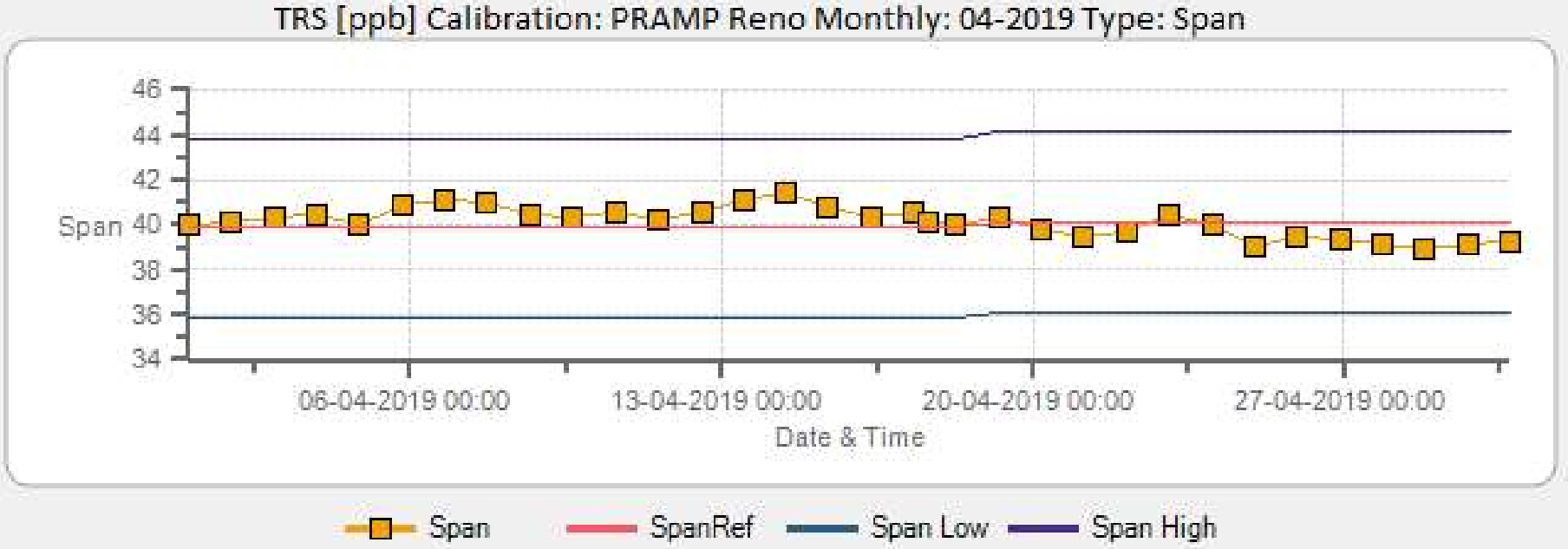
Data Validation and Report:
Maxxam Analytics

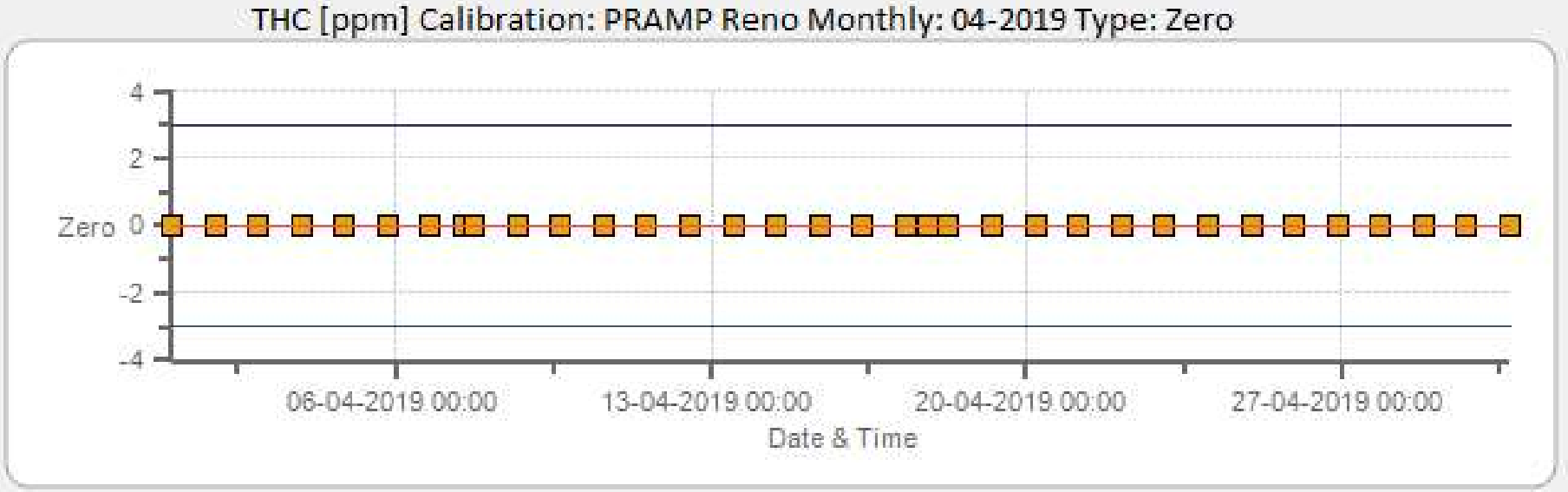
May 8, 2019

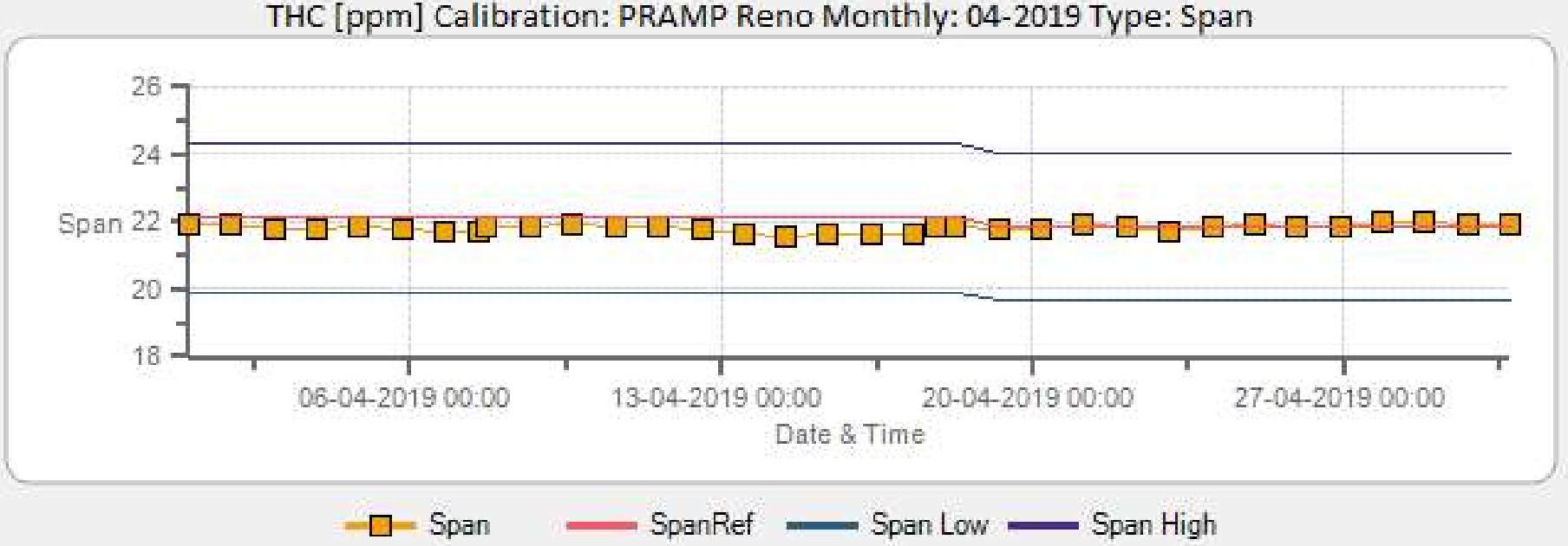
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

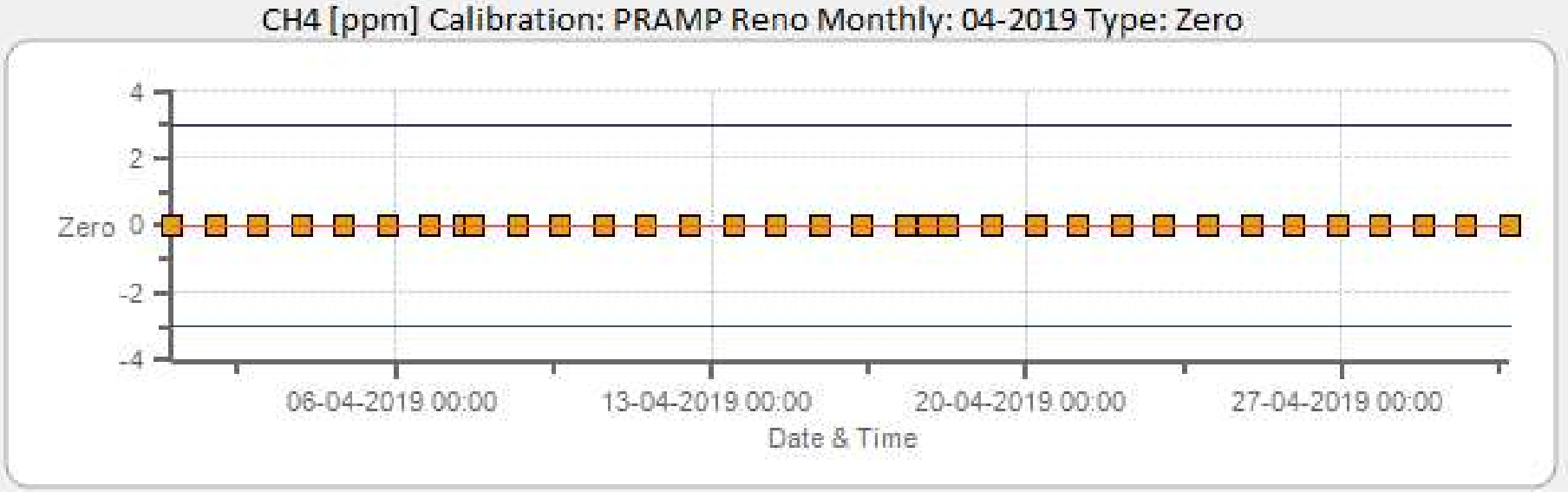

SO2 [ppb] Calibration: PRAMP Reno Monthly: 04-2019 Type: Zero
4
2
Zero 0
-2
-4
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
SO2 [ppb] Calibration: PRAMP Reno Monthly: 04-2019 Type: Span
340
320
Span 300
280
260
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

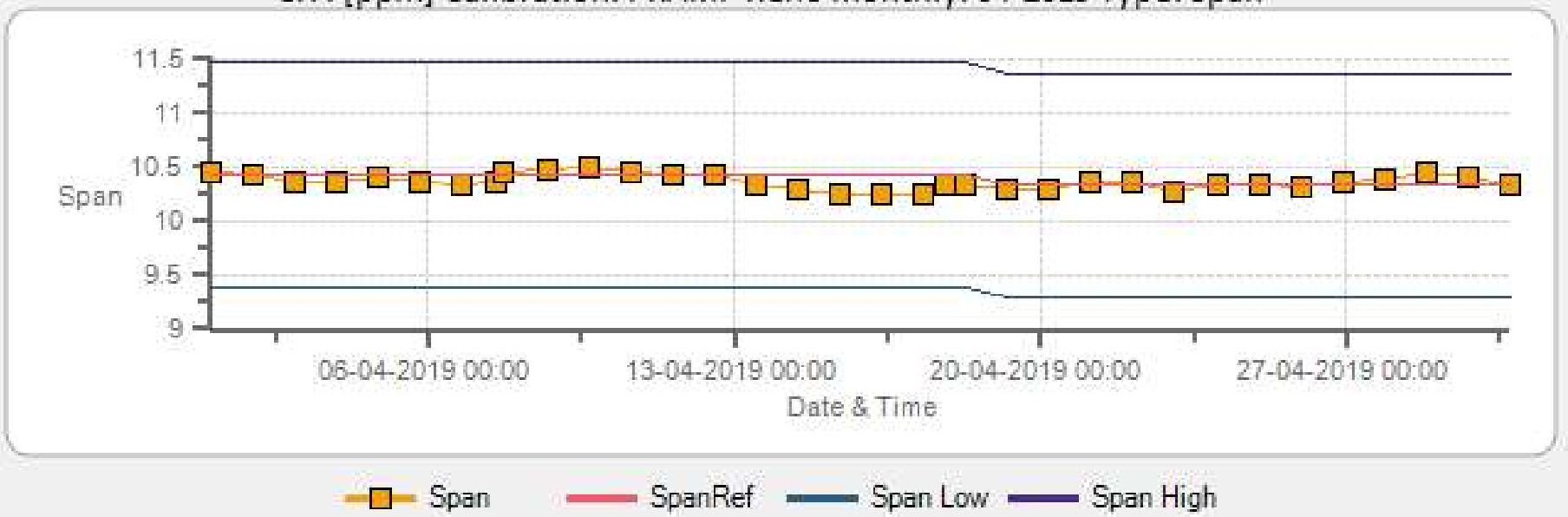

TRS [ppb] Calibration: PRAMP Reno Monthly: 04-2019 Type: Zero
4
2
Zero 0
-2
-4
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High

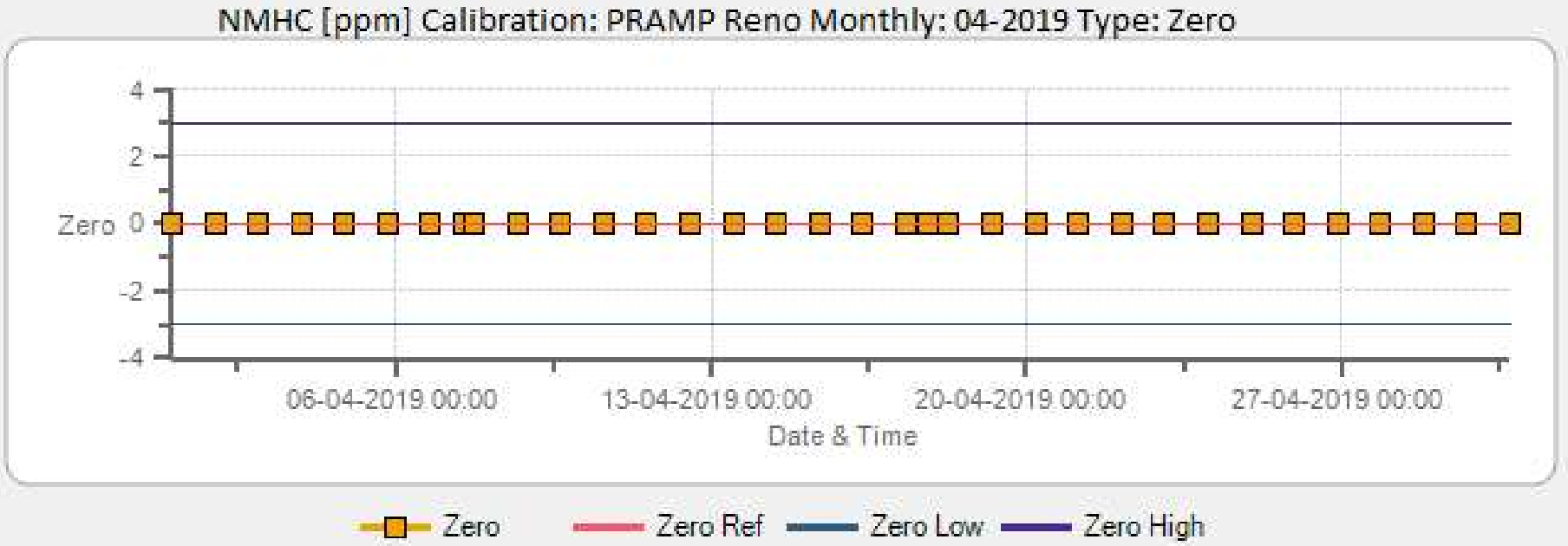

TRS [ppb] Calibration: PRAMP Reno Monthly: 04-2019 Type: Span
46
44
42
Span 40
38
36
34
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

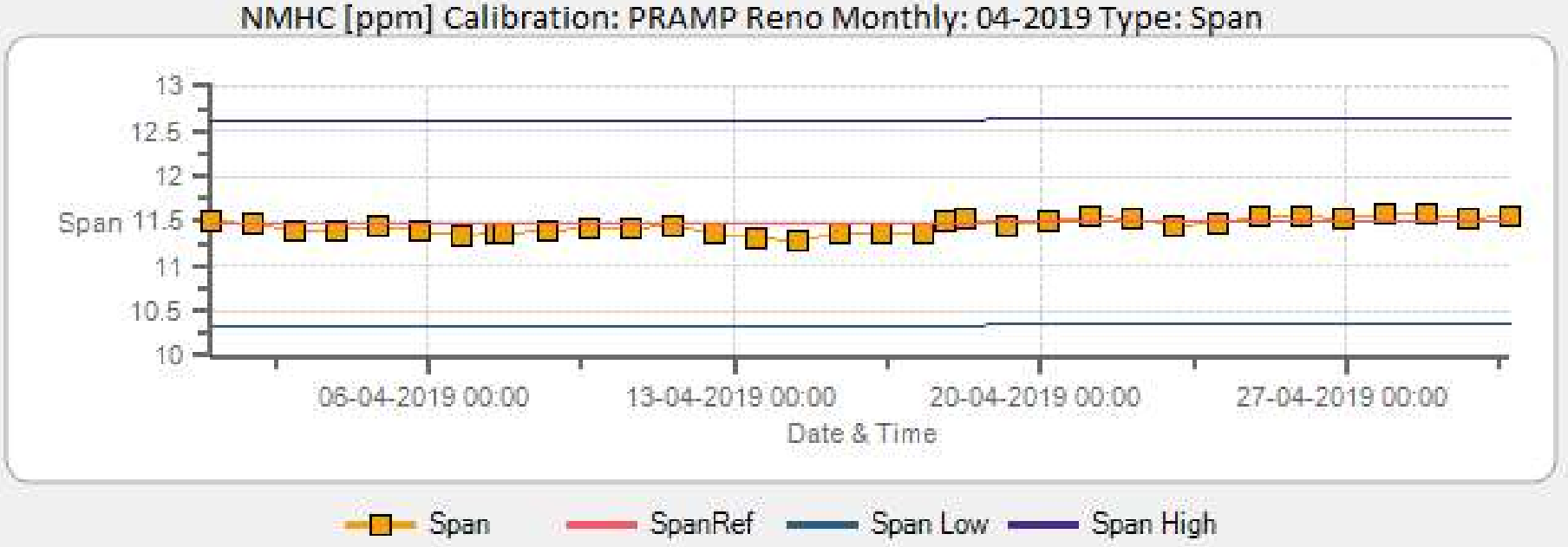

THC [ppm] Calibration: PRAMP Reno Monthly: 04-2019 Type: Zero
4
2
Zero 0
-2
-4
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High


THC [ppm] Calibration: PRAMP Reno Monthly: 04-2019 Type: Span
26
24
Span 22
20
18
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High


CH4 [ppm] Calibration: PRAMP Reno Monthly: 04-2019 Type: Zero
4
2
Zero 0
-2
-4
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High


CH4 [ppm] Calibration: PRAMP Reno Monthly: 04-2019 Type: Span
11.5
11
10.5
Span
10
9.5
9
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High


NMHC [ppm] Calibration: PRAMP Reno Monthly: 04-2019 Type: Zero
4
2
Zero 0
-2
-4
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High


NMHC [ppm] Calibration: PRAMP Reno Monthly: 04-2019 Type: Span
13
12.5
12
Span 11.5
11
10.5
10
06-04-2019 00:00
13-04-2019 00:00
20-04-2019 00:00
27-04-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

MULTI-POINT CALIBRATION RECORDS

Maxxam
A Bureau Veritas Group Company

API 100A Sulphur Dioxide Analyzer Calibration

Date:	April 17, 2019	**Barometer/B.P./units:**	F.S. 10528 expires January 23, 2020	930	millibars
Company/Airshed:	PRAMP	**Thermometer/Station Temp:**	F.S. 181341226 expires Jun 7, 2020	24.04	°C
Location/Station Name:	Reno	**Weather Conditions:**	Mix of sun and clouds		
Parameter:	Sulphur Dioxide	**Calibration Purpose:**	routine monthly		
Start Time 24 hr. (mst):	9:43	**Performed By/Reviewer:**	Ferdinand Roy	Rob Fisher	
End Time 24 hr. (mst):	15:00	**Cal Gas Expiry Date:**	December 8, 2019		
Calibration Method:	Gas Dilution	**Converter Model & s/n (if applicable):**	n/a		

Analyzer:

Serial Number/Owner:	841 Maxxam	**Range ppb:**	500
Last Calibration Date:	March 20, 2019	**As Found C.F.:**	1.011
Previous C.F.:	1.000	**New C.F.:**	1.000

Calibration Standards:

Low Flow Meter ID/Expiry Date:	N/A
High Flow Meter ID/Expiry Date:	N/A
Calibrator ID/Expiry Date:	Environics id# 5212 expires February 13, 2020
Cal Gas Cylinder I.D. # :	EY0000597
Cal Gas Conc. (ppm):	50.4

Standard Calibration Points for Ranges

Point	ppb
High	380
Mid	180
Low	90

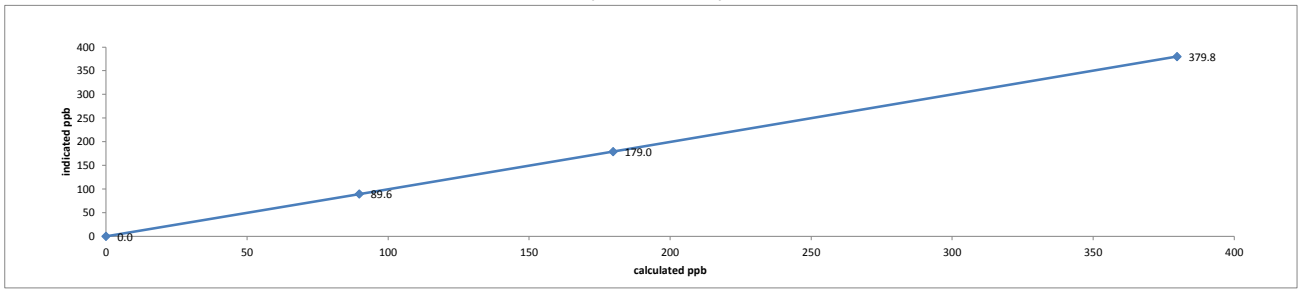
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration (ppb):	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	**Diluent**	**Cal Gas**	**Total**			
as found zero	5996	0.00	5996	0.0	0.7	n/a
as found high	5952	45.19	5997	379.8	376.5	1.011
adjusted zero	5998	0.00	5998	0.0	0	n/a
adjusted high	5952	45.19	5997	379.8	379.8	1.000
mid	5976	21.40	5998	179.8	179	1.005
low	5985	10.69	5996	89.8	89.6	1.003
calibrator zero	5999	0.00	5999	0.0	-0.3	n/a
					Average C.F.=	1.002

Linear Regression/Calibration Results:

		LIMITS
Correlation Coefficient =	**1.000**	**> or = 0.995**
Slope =	**1.000**	**0.95-1.05**
b (Intercept as % of full scale)=	**0.05%**	**± 3% F.S.**
% change in C.F. from last cal=	**-1.05%**	**± 10%**

API 100A Sulphur Dioxide Analyzer Calibration



	As found:		As left:
Slope:	1.069	Slope:	1.079
Offset:	51.1	Offset:	52.3
Hvps:	763	Hvps:	763
Dcps:	2554	Dcps:	2554
Rcell Temp:	50.8	Rcell Temp:	50.7
Box Temp:	32.3	Box Temp:	32.7
Pmt Temp:	7.1	Pmt Temp:	7.0
Izs Temp:	35.0	Izs Temp:	35.0
Pres:	24.9	Pres:	24.8
Samp Fl:	641	Samp Fl:	640
Pmt:	64.0	Pmt:	63.0
Uv Lamp:	1803.0	Uv Lamp:	1746.3
Lamp Ratio:	88.8	Lamp Ratio:	85.8
Str Lgt:	27.3	Str Lgt:	28.2
Drk Pmt:	24.3	Drk Pmt:	24.6
Drk Lmp:	-17.3	Drk Lmp:	-17.3
Expected Value:	292.3	Expected Value:	292.3

Comments:

The analyzer sample inlet filter was changed.

The manifold blower was found to be working normally.

Thermo 43I-TLE Total Reduced Sulphur Analyzer Calibration

Date:	April 17, 2019	**Barometer/B.P./units:**	F.S. 10528 expires January 23, 2020	930	millibars
Company/Airshed:	PRAMP	**Thermometer/Station Temp:**	F.S. 181341226 expires Jun 7, 2020	24.04	°C
Location/Station Name:	Reno	**Weather Conditions:**	Mix of sun and clouds		
Parameter:	Total Reduced Sulphur	**Calibration Purpose:**	routine monthly		
Start Time 24 hr. (mst):	9:43	**Performed By/Reviewer:**	Ferdinand Roy	Rob Fisher	
End Time 24 hr. (mst):	15:54	**Cal Gas Expiry Date:**	May 16, 2020		
Calibration Method:	Gas Dilution	**Converter Model & s/n (if applicable):**	CDN-101 #516		

Analyzer:

Serial Number/Owner:	1162460022 Maxxam	**Range ppb:**	100
Last Calibration Date:	March 22, 2019	**As Found C.F.:**	0.991
Previous C.F.:	1.000	**New C.F.:**	1.000

Calibration Standards:

Low Flow Meter ID/Expiry Date:	N/A
High Flow Meter ID/Expiry Date:	N/A
Calibrator ID/Expiry Date:	Environics id# 4760 expires February 14, 2020
Cal Gas Cylinder I.D. # :	LL119420
Cal Gas Conc. (ppm):	10.2

Standard Calibration Points for Ranges

Point	ppb
High	78
Mid	38
Low	19

SO2 Scrubber Check (10 minutes):

Start/End Time 24 hr.:	10:26/10:41
SO2 Analyzer Range:	500
Target Concentration (ppb):	380
As Found Zero:	0.0
Analyzer Response: (ppb):	0.0
Zero Corrected Result (ppb):	0.0

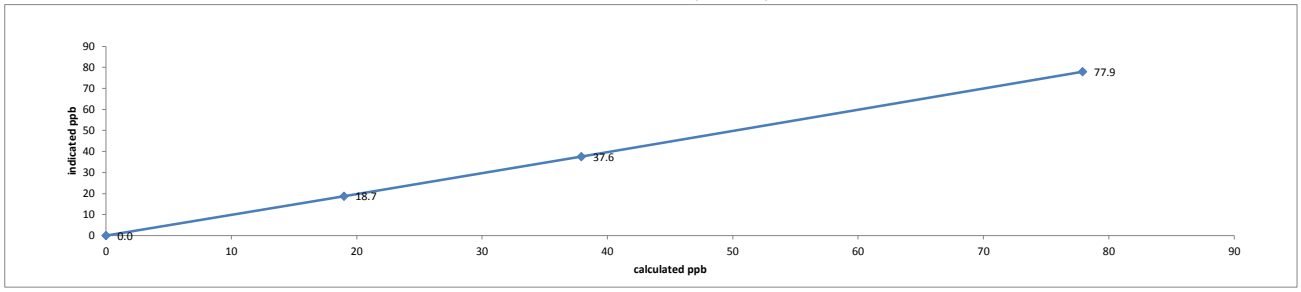
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration (ppb):	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	**Diluent**	**Cal Gas**	**Total**			
as found zero	7486	0.00	7486	0.0	0.02	n/a
as found high	7429	57.19	7487	77.9	78.64	0.991
adjusted zero	7488	0.00	7488	0.0	0	n/a
adjusted high	7430	57.19	7487	77.9	77.9	1.000
mid	7460	27.84	7487	37.9	37.55	1.010
low	7474	13.94	7488	19.0	18.73	1.014
calibrator zero	7488	0.00	7488	0.0	0.2	n/a
					Average C.F.=	1.008

Linear Regression/Calibration Results:

		LIMITS
Correlation Coefficient =	**1.000**	**> or = 0.995**
Slope =	**0.999**	**0.95-1.05**
b (Intercept as % of full scale)=	**0.18%**	**± 3% F.S.**
% change in C.F. from last cal=	**0.89%**	**± 10%**

Thermo 43I-TLE Total Reduced Sulphur Analyzer Calibration



As found:		As left:	
Bkg:	2.24	Bkg:	2.23
Coef:	0.949	Coef:	0.939
Pmt:	-706.7	Pmt:	-706.7
Flash:	995	Flash:	996
Internal:	33.1	Internal:	33.9
Chamber:	44.9	Chamber:	45.2
Perm Oven Gas:	35.00	Perm Oven Gas:	35.00
Perm Oven Heater:	34.15	Perm Oven Heater:	34.16
Pressure:	635.5	Pressure:	636.7
Sample Flow:	0.407	Sample Flow:	0.407
Lamp Intensity:	83	Lamp Intensity:	81
Converter:	825	Converter:	825
Converter Set:	825	Converter Set:	825
Averaging Time:	120	Averaging Time:	120
Expected Value:	39.9	Expected Value:	39.9

Comments:

The analyzer sample inlet filter was changed.

The manifold blower was found to be working normally.

Maxxam
A Bureau Veritas Group Company

Thermo 55i Methane/Non-Methane Analyzer Calibration

Date:	April 17, 2019	**Barometer/B.P./units:**	F.S. 10528 expires January 23, 2020 — 933 millibars
Company/Airshed:	PRAMP	**Thermometer/Station Temp:**	F.S. 181341226 expires Jun 7, 2020 — 25.8 °C
Location/Station Name:	Reno	**Weather Conditions:**	Mainly cloudy with sunny breaks
Parameter:	CH4 / NMHC / THC	**Calibration Purpose:**	routine monthly
Start/End Time 24 hr. (mst):	13:59/19:10	**Performed By/Reviewer:**	Ferdinand Roy — Rob Fisher
Calibration Method:	Gas Dilution	**Cal Gas Expiry Date:**	October 18, 2025

Analyzer:

Serial Number/Owner:	1314057759	Maxxam
Measured Flow:	1.1981 l/min	
Last Calibration Date:	March 20, 2019	
Range ppm:	20 CH4/20 NMHC/40 THC	

Correction Factors:

	Previous C.F.:	As Found C.F.:	New C.F.:
CH_4 =	1.000	1.006	1.000
NMHC =	0.999	1.007	1.000
THC =	1.000	1.007	1.000

Calibration Standards:

Low Flow Meter ID/Expiry Date:	N/A		
High Flow Meter ID/Expiry Date:	N/A		
Calibrator ID/Expiry Date:	Environics id# 5212 expires February 13, 2020		
Cal Gas Cylinder I.D. # :	LL43221		
CH4 Cylinder Conc.=	595.0	206.0	**=C_3H_8 Cylinder Conc.**
CH_4 expressed as C_3H_8=	566.5	1161.5	**=total CH4 equivalent**

Standard Calibration Points for Analyzer Range of 20/20/40 ppm

Point	CH4	NMHC	THC
High	13.00	13.00	26.00
Mid	7.00	7.00	14.00
Low	3.00	3.00	6.00

ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)										Correction Factors:		
Point	**Diluent**	**Cal Gas**	**Total Flow**	**Calculated CH_4 (ppm)**	**Calculated NMHC (ppm)**	**Calculated THC (ppm)**	**Indicated CH_4 (ppm)**	**Indicated NMHC (ppm)**	**Indicated THC (ppm)**	**CH_4**	**NMHC**	**THC**
as found zero	2998	0.00	2998	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
as found high	2932	67.11	2999	13.31	12.68	25.99	13.23	12.59	25.81	1.006	1.007	1.007
adjusted zero	2998	0.00	2998	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
adjusted high	2931	67.10	2999	13.31	12.68	25.99	13.32	12.68	26.00	1.000	1.000	1.000
mid	2960	36.13	2996	7.17	6.83	14.01	7.19	6.86	14.05	0.998	0.996	0.997
low	2983	15.46	2998	3.07	2.92	5.99	3.06	2.93	6.00	1.002	0.997	0.998
calibrator zero	2998	0.00	2998	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
									Average C.F.=	1.000	0.997	0.998

Linear Regression/Calibration Results:

	CH_4	NMHC	THC	LIMITS
Correlation Coefficient =	**1.000**	**1.000**	**1.000**	**> or = 0.995**
Slope =	**1.001**	**1.000**	**1.000**	**0.95-1.05**
b (Intercept as % of full scale)=	**-0.01%**	**0.04%**	**0.03%**	**± 3% F.S.**
% change in C.F. from last cal=	**-0.64%**	**-0.79%**	**-0.70%**	**± 10%**

As Left Instrument Diagnostics:

Interface Board Voltages:	Bias Supply:	-290.3		Calibration History cnt'd:	NM Peak Area:	78872
Temperatures:	Detector Oven:	175.0		Crucial Settings:	Methane Start:	n/a
	Filter:	175.0			Methane End:	n/a
	Column Oven:	75.0			Backflush:	n/a
	Internal:	35.0			NMHV Start:	n/a
Cylinder Pressures/reg.:	Carrier:	2000	50		NMHC End:	n/a
	Fuel:	1800	50	Run History>1:	Date:	17Apr19
	Span Gas:	600	24		Time:	17:41
	Zero Air Generator:	52			CH_4 PK HT:	0
Internal Pressures:	Carrier:	31.3			CH_4 RT:	8.0
	Fuel:	41.6			CH_4 Baseline:	2103
	Air:	25.9			CH_4 LOD:	81
FID Status:	Status:	LIT			CH_4 SD:	27
	Counts:	25088			CH_4 CONC:	0.00
	Flame:	405.0			NM PK HT:	0
	Det Base:	175.0			NM Peak Area:	0
Flame and Power Stats:	Last Power On:	02Oct2018@16:42			NM CONC:	0.00
	Flameouts:	2			NM Base Start:	2082
	Det Oven at Start:	45.0			NM Base End:	2076
	Col Oven at Start:	26.6			NM LOD:	11
Calibration History:	Time:	17Apr19@16:19			NM Start IDX:	62
	Type:	SPAN			NM End IDX:	89
	Status:	GOOD			NM Max Slope:	4.0e-01
	Check/Adjust:	ADJUST			NM Min Slope:	-4.6e-01
	CH_4 Span Conc:	13,.31			NM PT Count:	0
	CH_4 SP Ratio:	0.000769		Expected Values:	Previous CH4:	10.43
	CH_4 RT:	11.6			Previous NMHC	11.46
	CH_4 PK IDX:	18			Previous THC:	22.14
	CH_4 PK HT:	17309			New CH4:	10.43
	NM Span Conc:	12.68			New NMHC	11.46
	NM SP Ratio:	0.000161			New THC:	22.14

Comments:

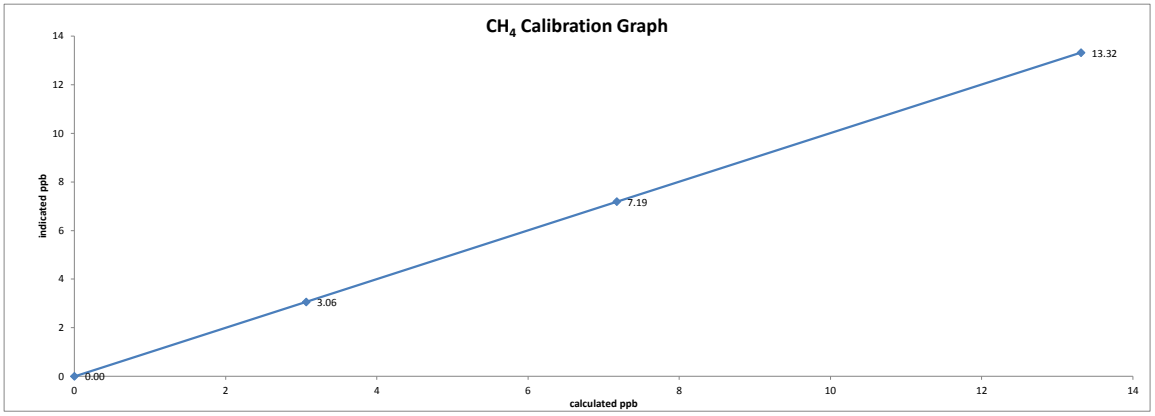
The analyzer sample inlet filter was changed.

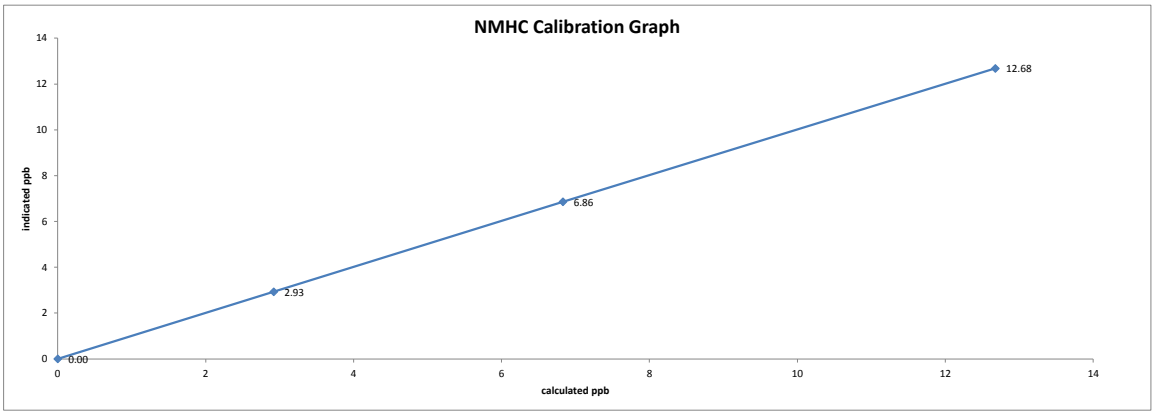
A new hydrogen cylinder was installed.

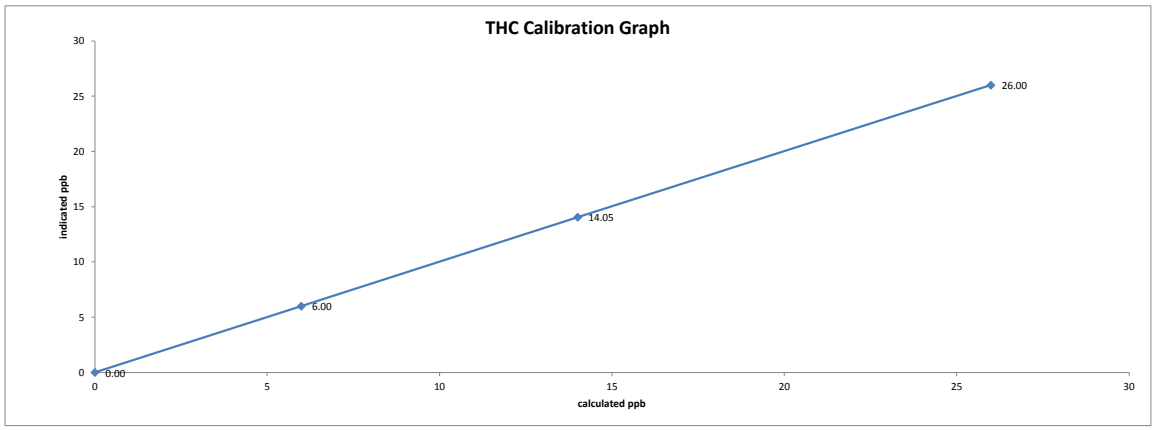
The analyzer cooling fan filter(s) were cleaned.

The manifold blower was found to be working normally.

Date:	April 17, 2019	Start/End Time 24 hr. (mst):	13:59/19:10
Company/Airshed:	PRAMP	Calibration Purpose:	routine monthly
Location/Station Name:	Reno	Calibration Method:	Gas Dilution







Meteorological Sensor Audit/Calibration

Location Information

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

Wind Sensor Information

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

Wind Calibrator Information

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

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.0	0.0	-
1000	18.4	18.4	18.4	1.002
2000	36.9	36.8	36.8	1.002
3000	55.3	55.2	55.2	1.002
4000	73.7	73.6	73.6	1.002
5000	92.2	92.2	92.2	0.999
6000	110.6	110.6	110.6	1.000
7000	129.0	129.2	129.2	0.999
8000	147.4	147.8	147.6	0.998
9000	165.9	166.2	166.2	0.998
10000	184.3	184.8	184.8	0.997
		The audit meets AMD requirements.	**Average Correction Factor=**	**1.000**

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

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	0	354	0.0	1.0	0.5
30	330	29	329	1.0	1.0	1.0
60	300	60	299	0.0	1.0	0.5
90	270	90	269	0.0	1.0	0.5
120	240	120	239	0.0	1.0	0.5
150	210	150	210	0.0	0.0	0.0
180	180	179	179	1.0	1.0	1.0
210	150	209	150	1.0	0.0	0.5
240	120	239	120	1.0	0.0	0.5
270	90	269	90	1.0	0.0	0.5
300	60	300	60	0.0	0.0	0.0
330	30	329	30	1.0	0.0	0.5
355	0	354	0	1.0	0.0	0.5
The audit meets AMD requirements.			**Average Absolute Degrees Difference=**			**0.5**

Comments:

Physical inspection completed. No issues.

Meteorological System Checklist

Date:	April 17, 2019		
Technician:	Ferdinand Roy		
Reviewer:	Rob Fisher		
Station:	PRAMP Reno		
Unit:	**Make:**	**Model:**	**Serial #:**
Temperature Sensor:	RM Young	43172VC	60837897
Barometric Pressure Sensor:	MetOne	92	R12877
Relative Humidity Sensor:	RM Young	43172VC	60837897
Anemometer:	RM Young	05305VK	149769
AMBIENT TEMPERATURE SENSOR CHECK			
Previous check date:	March 20, 2019		
Parameter:	Temperature @ 2 metres (1 C tolerance)		
Reference Thermometer ID:	F.S. 181341226 expires Jun 7, 2020		
Reference Temperature (^{o}C):	8.7		
Station - Ambient Temperature (^{o}C):	8.2		
Temperature Difference (^{o}C):	0.5		
BAROMETRIC PRESSURE SENSOR CHECK			
Previous check date:	March 20, 2019		
Reference Barometer ID:	F.S. 10528 expires January 23, 2020		
Reference Pressure - Units/Reading:	millibar	930	
Station Pressure - Units/Reading:	millibar	931.5	
Pressure Tolerance +/- 15% of error:	791 - 1070	-0.16%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Previous check date:	March 20, 2019		
Reference Hygrometer ID:	F.S. 181341226 expires Jun 7, 2020		
Reference Hygrometer % RH- Reading:	41.60		
Station Hygrometer % RH- Reading:	42.30		
RH Tolerance +/- 15% of difference:	35.36 - 47.84	-1.7%	
ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK			
WIND SPEED		WIND DIRECTION	
Previous check date:	March 20, 2019	Previous check date:	March 20, 2019
Wind Speed Observed (kph):	10-15	Wind Direction Observed:	SW
Wind speed on Data Logger (kph):	11	Wind Direction on Data Logger:	SW
		Wind Direction Pass/Fail?:	Pass

Alberta Government

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2019-426A

Company: Maxxam **Operator:** C. Wesson

Calibrator:				**Flow Measurement Device:**	
Make/Model	Evironics 6100			Make/Model	N/A
Serial Number	5212			Serial Number	N/A
Last Verification Date	March 2018			Temperature (°C)	N/A
NO Cylinder S/N	LL107918			Barometric Pressure	N/A
NO [PPM]	50.1	NOx [PPM]	50.2		
Expiry Date	August 2026				

Dilution Flow (sccm)

Pt. #1 5000 Pt. #2 5000 Pt. #3 5000

Gas Flow (sccm)

Pt. #1 80 Pt. #2 40 Pt. #3 20

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO_2	NOx	NO	NOx
5000	0.0	0.000	0.000	0.000	0.000	0.000	Limit ± 10%	
4997	77.8	0.780	0.782	0.768	-0.003	0.766	-2%	-2%
4997	37.9	0.380	0.381	0.372	-0.002	0.370	-2%	-3%
4996	18.9	0.190	0.190	0.186	-0.001	0.185	-2%	-3%
					Absolute Average Percent Difference		2%	2%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO		**LIMITS**	**NOx**	
Correlation=	1.0000	**≥ 0.990**	Correlation=	1.0000
m (Slope)=	0.9846	**0.90-1.10**	m (Slope)=	0.9802
b (Intercept % of FS)=	-0.0683	**± 3% F.S.**	b (Intercept % of FS)=	-0.1101

Flow	O_3 Conc	NO Decrease	NO	NO2	NOX	% Diff. Vs Audit gas	
						NO_2	% Diff. Limit
4997	0.000	0.000	0.765	-0.002	0.764		
4997	0.500	0.491	0.274	0.486	0.760	-1%	± 10%
4997	0.275	0.274	0.491	0.271	0.762	0%	± 10%
4997	0.090	0.091	0.674	0.089	0.762	0%	± 10%
				Absolute Average Percent Difference		0%	± 10%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

NO_2		**LIMITS**
Correlation=	1.0000	**≥ 0.995**
m (Slope)=	0.9937	**0.90-1.10**
b (Intercept % of FS)=	-0.1650	**± 3% F.S.**

AENV Standards		**NO_X Analyzer**	
Audit Calibrator			
Make/Model	Sabio 2010	Make/Model	Teco 42i
Serial/AMU Number	AMU 2092	Serial/AMU Number	AMU 1868
SRM Gas Cylinder No.	APEX1236645	Last Calibration Date	February 12, 2019
Cylinder Conc. (ppm)	50.05	Full Scale (ppm)	1.0
		Cylinder Gas Expiry Date	June 2021

COMMENTS: Contains 49.5 ppm SO2.

Auditor: Al Clark Date: February 13, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2019-427A

Company: Maxxam **Operator:** C. Wesson

Calibrator:				**Flow Measurement Device:**	
Make/Model	Evironics 6100			Make/Model	N/A
Serial Number	4760			Serial Number	N/A
Last Verification Date	March 2018			Temperature (°C)	N/A
NO Cylinder S/N	LL107918			Barometric Pressure	N/A
NO [PPM]	50.1	NOx [PPM]	50.2		
Expiry Date	August 2026				

Dilution Flow (sccm)

Pt. #1 5000 Pt. #2 5000 Pt. #3 5000

Gas Flow (sccm)

Pt. #1 80 Pt. #2 40 Pt. #3 20

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO_2	NOx	NO	NOx
5000	0.0	0.000	0.000	0.000	0.000	0.000	Limit ± 10%	
4994	77.7	0.779	0.781	0.798	0.000	0.798	2%	2%
4993	37.8	0.379	0.380	0.388	-0.001	0.387	2%	2%
4993	18.9	0.190	0.190	0.193	0.000	0.193	2%	2%
					Absolute Average Percent Difference		2%	2%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

	NO	**LIMITS**	**NOx**	
Correlation=	1.0000	**≥ 0.990**	Correlation=	1.0000
m (Slope)=	1.0242	**0.90-1.10**	m (Slope)=	1.0221
b (Intercept % of FS)=	-0.0519	**± 3% F.S.**	b (Intercept % of FS)=	-0.0726

Flow	O_3 Conc	NO Decrease	NO	NO2	NOX	% Diff. Vs Audit gas	
4994	0.000	0.000	0.796	0.000	0.796	NO_2	% Diff. Limit
4994	0.550	0.502	0.294	0.499	0.792	-1%	± 10%
4994	0.300	0.275	0.521	0.274	0.795	0%	± 10%
4994	0.100	0.062	0.734	0.061	0.796	-2%	± 10%
			Absolute Average Percent Difference			1%	± 10%

LINEAR REGRESSION ANALYSIS *y=mx+b (where x=calculated concentration, y=indicated concentration)*

	NO_2	**LIMITS**
Correlation=	1.0000	**≥ 0.995**
m (Slope)=	0.9949	**0.90-1.10**
b (Intercept % of FS)=	-0.0179	**± 3% F.S.**

AENV Standards		**NO_X Analyzer**	
Audit Calibrator			
Make/Model	Sabio 2010	Make/Model	Teco 42i
Serial/AMU Number	AMU 2092	Serial/AMU Number	AMU 1868
SRM Gas Cylinder No.	APEX1236645	Last Calibration Date	February 14, 2019
Cylinder Conc. (ppm)	50.05	Full Scale (ppm)	1.0
		Cylinder Gas Expiry Date	June 2021

COMMENTS: Contains 49.5 ppm SO2.

Auditor: Al Clark Date: February 14, 2019

Operator Signature: Location: McIntyre Center Edmonton

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

Alberta Government

Calibration Gas Audit

Single Component Cylinder Gas

File No. 2016-438CGA

Company: Maxxam **Operator's Name:** Chris

Cylinder #: EY0000597 Concentration PPM: 50.4 Tolerance(%) 1.0 Certified By: Praxair

Expiry Date: December 8, 2019

Reference Calibrator and Gas:

Make/Model: Thermo 146i
Serial Number: AMU 1809
Last Verification Date: January 26, 2017
Gas Type: SO2 Conc. 98.07
Cylinder Number: CAL016625
Expiry Date: January 5, 2019

Flow Measurement Device:

Make/Model: Bios Befiner 220
Serial Number: AMU1941
Temp.°C: 24.4
B.P. 704.7

Reference Analyzer:

Make/Model: Themro 43C Serial/AMU Number: AMU 1623

Instrument Settings: Zero: 9.5 Span: 1.023 Range: 1.0

Last Calibration: Date: 25-Jan-17 C.F. 1.000 Done By: SB

Calibrator Flows (sccm)		Indicated	Gas Flow/	Concentration	Cylinder
Dilution	Gas	Concentration (PPM)	Dilution Flow	Factor	Concentration
4923	0.0	0.000			
4916	80.7	0.834	0.01642	60.917	50.8
4902	40.3	0.416	0.00822	121.638	50.6
4916	19.9	0.206	0.00405	247.035	50.9
				Average Cylinder Concentration:	**50.7**

Previous Stated Concentration PPM: 50.4

Percent variance from Stated: **0.7**

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Shea Beaton Date: January 26, 2017

Operator Signature: Location: McIntyre Center Edmonton

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

Alberta Government

Calibration Gas Audit

Single Component Cylinder Gas

File No. 2017-135CGA

Company: Maxxam **Operator's Name:** Raja Abid Ashraf

Cylinder #: LL119420 Concentration PPM: 10.2 Tolerance(%) 2 Certified By: Praxair

Expiry Date: May 16, 2020

Reference Calibrator and Gas:

Make/Model: R&R MFC 201
Serial Number: AMU 1690
Last Verification Date: July 27, 2017
Gas Type: H2S Conc. 20.43
Cylinder Number: CAL015272
Expiry Date: Janaury 2019

Flow Measurement Device:

Make/Model: Mesa Definer 220
Serial Number: H-133034 L-132702
Temp.°C: 22.0 C
B.P. 700 mmhg

Reference Analyzer:

Make/Model: Teco 450i Serial/AMU Number: 1980

Instrument Settings: Zero: 21.9 Span: 1.069 Range: 0.1

Last Calibration: Date: July 27, 2017 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated Concentration (PPM)	Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration
Dilution	Gas				
5000	0.0	0.0020			
5117	38.9	0.0781	0.00760	131.542	10.0
5103	18.4	0.0379	0.00361	277.337	10.5
5097	9.4	0.0198	0.00184	542.234	10.7
				Average Cylinder Concentration:	**10.4**

Previous Stated Concentration PPM: 10.2

Percent variance from Stated: 2

Meets Manufacturer Tolerance. Use manufacturers stated concentration [ ] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [X]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: July 27, 2017

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

CH4 / C3H8 Cylinder Gas

File No. 2017-492CGA

Company: Maxxam **Operators name:** Mike

Cylinder #: LL43221 Conc CH4 (PPM) 595/206 Tolerance (%) 2 Certified By: Praxair

Expiry Date: October 2025

Reference Calibrator and Gas:

Make/Model	R&R MFC 201		
Serial Number	AMU 1690		
Last Verification Date	December 13, 2017		
Gas Type	CH4	Conc.	990.4
Cylinder Number	5604875	Expiry Date	July 2021
Gas Type	C3H8	Conc.	246.5
Cylinder Number	XF003845B	Expiry Date	July 2022

Flow Measurement Device:

Make/Model	Mesa Definer 220
Serial Number	H-133034 / L-132702
Temp.°C	23.1 C
B.P.	707 mmHg

Reference Analyzer:

Make/Model: Teco 55i Serial/AMU Number: 2108

Instrument Settings Zero: N/A Span: N/A Range: 20.0

Last Calibration: Date: Dec 12/17 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated Conc. (ppm)		Gas Flow/	Concentration	Cylinder Concentration	
Dilution	Gas	CH4	C3H8	Dilution Flow	Factor	CH4	C3H8
3500	0.0	0.00	0.00				
3618	80.4	13.23	12.70	0.02	45.00	595	208
3547	39.8	6.65	6.44	0.01	89.12	593	209
3560	19.8	3.33	3.23	0.01	179.80	599	211
					Average Cylinder Concentration:	**596**	**209**

	CH4	C3H8
Previous Stated Concentration PPM:	595	206
Percent variance from Stated:	**0**	**2**

Cylinder gas tolerances based on CH4 only

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder [ ]

Auditor: Al Clark Date: December 13, 2017

Operator Signature: Location: McIntyre Center Edmonton

Peace River Area Monitoring Program

APRIL 2019

Ambient Air Monitoring

Certified Laboratory Analysis Report

LAB-PRAMP-201904

Operation and Maintenance:
Maxxam Analytics

Data Validation and Report:
InnoTech Alberta

May 8, 2019

InnoTech ALBERTA

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

EAS CANISTER
CHAIN OF CUSTODY FORM
Sample ID: 19040140-001
Customer ID: PRAMP
Cust Samp ID: PRAMP_Reno-2019-0410
Priority: Normal

Date Received- Lab Use Only
RECEIVED
APR 15 2019

Client Contact Details:

Contact: Karla Ressor, Michael Bisaga/ Lily Lin
Company: PRAMP Airshed
PO#: □ 842 Station □ 986 Station □ Reno Station
Address: □ 842 (Lat. 56.27406N, Long. 116.98129W)
□ 986 (Lat. 56.376056N, Long. 116.940704W)
□ Reno (Lat. 55.86936N, Long. 117.05739W)
Telephone: 403-8072995, 780-2667068/587-2252248
Email: karla@prampairshed.ca, pramptech@prampairshed.ca

RUSH (Surcharge) ☐

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

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

Sample ID (PRAMP_statiom_yyyymmdd)	Canister Number	Sample Description	Date/Time Sampled From/To		Analysis Requested
			Date (dd/mm/yy)	Time (24 Hr) (MST)	
PRAMP_842- _____ (Sample date: yyyymmdd) PRAMP_986- _____ (Sample date: yyyymmdd) PRAMP_Reno-20190410 (Sample date: yyyymmdd)	32212	☑ Methane Trigger □ NMHC Trigger			* AIR C1C4, AIR VOC, AIR RSC * Unknown to be reported * Carbon Isotopic Analysis (if sample is collected from Methane trigger)

Sample Collection:

Collect By JOHN HICKEY **(Name) of** Baytex Energy **(Company) on** 11/APR/19 **(Date/Time (MST).**

InnoTech ALBERTA

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

EAS CANISTER
Sample ID: 19040140-002
Customer ID: PRAMP
Cust Samp ID: PRAMP_Reno-Blank
Priority: Normal

Date Received- Lab Use Only
RECEIVED
APR 15 2019

Client Contact Details:

Contact: Karla Ressor, Michael Bisaga/ Lily Lin
Company: PRAMP Airshed
PO#: □ 842 Station □ 986 Station □ Reno Station
Address: □ 842 (Lat. 56.27406N, Long. 116.98129W)
□ 986 (Lat. 56.376056N, Long. 116.940704W)
□ Reno (Lat. 55.86936N, Long. 117.05739W)
Telephone: 403-8072995, 780-2667068/587-2252248
Email: karla@prampairshed.ca, pramptech@prampairshed.ca

RUSH (Surcharge) ☐

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

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

Sample ID (PRAMP_statiom_yyyymmdd)	Canister Number	Sample Description	Date/Time Sampled From/To		Analysis Requested
			Date (dd/mm/yy)	Time (24 Hr) (MST)	
PRAMP_842- _____ (Sample date: yyyymmdd) PRAMP_986- _____ (Sample date: yyyymmdd) PRAMP_Reno- BLANK (Sample date: yyyymmdd)	32190	□ Methane Trigger □ NMHC Trigger			* AIR C1C4, AIR VOC, AIR RSC * Unknown to be reported * Carbon Isotopic Analysis (if sample is collected from Methane trigger)

Sample Collection:

Collect By JOHN H CHUEY **(Name) of** Baytex Energy **(Company) on** 11/APR/19 **(Date/Time (MST).**

InnoTech ALBERTA

Canister ID: 32217

This cleaned canister meets or exceeds TO-15 Method Specifications

Proofed by: DOSY on MAR 1 2 2019

Evacuated on: MAR 1 4 2019

Laboratory Contact Number: 780-632-8403

Sample ID: _____

Sampled By: _____

Starting Vacuum: -27.8 "Hg

End Pressure: KG 3 "Hg/psig

InnoTech ALBERTA

Canister ID: 32190

This cleaned canister meets or exceeds TO-15 Method Specifications

Proofed by: DOSY on MAR 0 8 2019

Evacuated on: MAR 1 3 2019

Laboratory Contact Number: 780-632-8403

Sample ID: _____

Sampled By: _____

Starting Vacuum: -27.6 "Hg

End Vacuum: KG -29 "Hg/psig

Sample ID: 19040140-001

Customer ID: PRAMP

Cust Samp ID: PRAMP_Reno-2019-0410

Priority: Normal

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

ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

RESULTS: Karla Reesor 403 807 2995
Peace River Area Monitoring Program Committee

INVOICE: Office Manager

CLIENT SAMPLE ID	CANISTER ID	Matrix	Priority
PRAMP_Reno-2019-0410	32212	Ambient Air	Normal

DESCRIPTION: Methane Trigger

DATE SAMPLED: 10-Apr-19
REPORT CREATED: 24-Apr-19
DATE RECEIVED: 15-Apr-19
REPORT NUMBER: 19040140
VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19040140-001	1-Butene	K, T, U	< 0.15	ppmv	0.15	NA-025	16-Apr-19
19040140-001	Acetylene	K, T, U	< 0.12	ppmv	0.12	NA-025	16-Apr-19
19040140-001	n-Butane	K, T, U	< 0.3	ppmv	0.3	NA-025	16-Apr-19
19040140-001	cis-2-Butene	K, T, U	< 0.06	ppmv	0.06	NA-025	16-Apr-19
19040140-001	Ethane	K, T, U	< 0.2	ppmv	0.2	NA-025	16-Apr-19
19040140-001	Ethylacetylene	K, T, U	< 0.09	ppmv	0.09	NA-025	16-Apr-19
19040140-001	Ethylene	K, T, U	< 0.11	ppmv	0.11	NA-025	16-Apr-19
19040140-001	Isobutane	K, T, U	< 0.2	ppmv	0.2	NA-025	16-Apr-19
19040140-001	Isobutylene	K, T, U	< 0.2	ppmv	0.2	NA-025	16-Apr-19
19040140-001	Methane		2.9	ppmv	0.2	NA-025	16-Apr-19
19040140-001	n-Propane	K, T, U	< 0.11	ppmv	0.11	NA-025	16-Apr-19
19040140-001	Propylene	K, T, U	< 0.2	ppmv	0.2	NA-025	16-Apr-19
19040140-001	Propyne	K, T, U	< 0.2	ppmv	0.2	NA-025	16-Apr-19
19040140-001	trans-2-Butene	K, T, U	< 0.14	ppmv	0.14	NA-025	16-Apr-19
19040140-001	1,1,1-Trichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	1,1,2,2-Tetrachloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	1,1,2-Trichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	1,1-Dichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19

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

Date: April 24, 2019
Inquiries: (780) 632 8455 E-mail: EAS.Results@innotechalberta.ca

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

ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-2019-0410	32212	Ambient Air	10-Apr-19

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19040140 **REPORT CREATED:** 24-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19040140-001	1,1-Dichloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	16-Apr-19
19040140-001	1,2,3-Trimethylbenzene	K, T, U	< 0.08	ppbv	0.08	AC-058	16-Apr-19
19040140-001	1,2,4-Trichlorobenzene	K, T, U	< 1.2	ppbv	1.2	AC-058	16-Apr-19
19040140-001	1,2,4-Trimethylbenzene	K, T, U	< 0.08	ppbv	0.08	AC-058	16-Apr-19
19040140-001	1,2-Dibromoethane	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	1,2-Dichlorobenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	16-Apr-19
19040140-001	1,2-Dichloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	1,2-Dichloropropane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	1,3,5-Trimethylbenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	1,3-Butadiene	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	1,3-Dichlorobenzene	K, T, U	< 0.5	ppbv	0.5	AC-058	16-Apr-19
19040140-001	1,4-Dichlorobenzene	K, T, U	< 0.6	ppbv	0.6	AC-058	16-Apr-19
19040140-001	1,4-Dioxane	K, T, U	< 0.6	ppbv	0.6	AC-058	16-Apr-19
19040140-001	1-Butene/Isobutylene	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	1-Pentene	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	2,2,4-Trimethylpentane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	2,2-Dimethylbutane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	2,3,4-Trimethylpentane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	2,3-Dimethylbutane	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	2,3-Dimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	2,4-Dimethylpentane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	2-Methylheptane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	2-Methylhexane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	2-Methylpentane		0.05	ppbv	0.02	AC-058	16-Apr-19

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

Date: April 24, 2019

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-2019-0410	32212	Ambient Air	10-Apr-19

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19040140 **REPORT CREATED:** 24-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19040140-001	3-Methylheptane	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	3-Methylhexane	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	3-Methylpentane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	Acetone		12.6	ppbv	0.6	AC-058	16-Apr-19
19040140-001	Acrolein		0.5	ppbv	0.5	AC-058	16-Apr-19
19040140-001	Benzene	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	Benzyl chloride	K, T, U	< 0.6	ppbv	0.6	AC-058	16-Apr-19
19040140-001	Bromodichloromethane	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	Bromoform	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	Bromomethane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	Carbon disulfide	I	0.12	ppbv	0.02	AC-058	16-Apr-19
19040140-001	Carbon tetrachloride	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	Chlorobenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	Chloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	Chloroform	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	Chloromethane		0.55	ppbv	0.03	AC-058	16-Apr-19
19040140-001	cis-1,2-Dichloroethene	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	cis-1,3-Dichloropropene	K, T, U	< 0.06	ppbv	0.06	AC-058	16-Apr-19
19040140-001	cis-2-Butene	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	cis-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	Cyclohexane	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	Cyclopentane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	Dibromochloromethane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	Ethanol		2.5	ppbv	0.5	AC-058	16-Apr-19
19040140-001	Ethyl acetate	K, T, U	< 0.6	ppbv	0.6	AC-058	16-Apr-19

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-2019-0410	32212	Ambient Air	10-Apr-19

DESCRIPTION: Methane Trigger
REPORT NUMBER: 19040140 **REPORT CREATED:** 24-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19040140-001	Ethylbenzene	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	Freon-11	I	0.15	ppbv	0.03	AC-058	16-Apr-19
19040140-001	Freon-113	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	Freon-114	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	Freon-12	I	0.43	ppbv	0.03	AC-058	16-Apr-19
19040140-001	Hexachloro-1,3-butadiene	K, T, U	< 0.76	ppbv	0.76	AC-058	16-Apr-19
19040140-001	Isobutane		0.24	ppbv	0.03	AC-058	16-Apr-19
19040140-001	Isopentane		0.28	ppbv	0.05	AC-058	16-Apr-19
19040140-001	Isoprene	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	Isopropyl alcohol	K, T, U	< 0.6	ppbv	0.6	AC-058	16-Apr-19
19040140-001	Isopropylbenzene	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	m,p-Xylene	K, T, U	< 0.05	ppbv	0.05	AC-058	16-Apr-19
19040140-001	m-Diethylbenzene	K, T, U	< 0.06	ppbv	0.06	AC-058	16-Apr-19
19040140-001	m-Ethyltoluene	K, T, U	< 0.12	ppbv	0.12	AC-058	16-Apr-19
19040140-001	Methyl butyl ketone	K, T, U	< 0.76	ppbv	0.76	AC-058	16-Apr-19
19040140-001	Methyl ethyl ketone	K, T, U	< 0.5	ppbv	0.5	AC-058	16-Apr-19
19040140-001	Methyl isobutyl ketone	K, T, U	< 0.6	ppbv	0.6	AC-058	16-Apr-19
19040140-001	Methyl methacrylate	K, T, U	< 0.11	ppbv	0.11	AC-058	16-Apr-19
19040140-001	Methyl tert butyl ether	K, T, U	< 0.05	ppbv	0.05	AC-058	16-Apr-19
19040140-001	Methylcyclohexane		0.16	ppbv	0.02	AC-058	16-Apr-19
19040140-001	Methylcyclopentane		0.11	ppbv	0.03	AC-058	16-Apr-19
19040140-001	Methylene chloride	K, T, U	< 0.5	ppbv	0.5	AC-058	16-Apr-19
19040140-001	n-Butane		0.25	ppbv	0.05	AC-058	16-Apr-19
19040140-001	n-Decane	K, T, U	< 0.09	ppbv	0.09	AC-058	16-Apr-19
19040140-001	n-Dodecane	K, T, U	< 0.6	ppbv	0.6	AC-058	16-Apr-19

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-2019-0410	32212	Ambient Air	10-Apr-19

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19040140 **REPORT CREATED:** 24-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19040140-001	n-Heptane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	n-Hexane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	n-Octane	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	n-Pentane	K, T, U	< 0.2	ppbv	0.2	AC-058	16-Apr-19
19040140-001	n-Propylbenzene	K, T, U	< 0.08	ppbv	0.08	AC-058	16-Apr-19
19040140-001	n-Undecane	K, T, U	< 0.8	ppbv	0.8	AC-058	16-Apr-19
19040140-001	Naphthalene	K, T, U	< 0.8	ppbv	0.8	AC-058	16-Apr-19
19040140-001	n-Nonane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	o-Ethyltoluene	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	o-Xylene	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	p-Diethylbenzene	K, T, U	< 0.06	ppbv	0.06	AC-058	16-Apr-19
19040140-001	p-Ethyltoluene	K, T, U	< 0.11	ppbv	0.11	AC-058	16-Apr-19
19040140-001	Styrene	I	0.22	ppbv	0.06	AC-058	16-Apr-19
19040140-001	Tetrachloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	16-Apr-19
19040140-001	Tetrahydrofuran	K, T, U	< 0.6	ppbv	0.6	AC-058	16-Apr-19
19040140-001	Toluene		0.85	ppbv	0.02	AC-058	16-Apr-19
19040140-001	trans-1,2-Dichloroethylene	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	trans-1,3-Dichloropropylene	K, T, U	< 0.06	ppbv	0.06	AC-058	16-Apr-19
19040140-001	trans-2-Butene	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-001	trans-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-001	Trichloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	16-Apr-19
19040140-001	Vinyl acetate	K, T, U	< 0.6	ppbv	0.6	AC-058	16-Apr-19
19040140-001	Vinyl chloride	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-Blank	32190	Ambient Air	11-Apr-19

DESCRIPTION:

REPORT NUMBER: 19040140 **REPORT CREATED:** 24-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19040140-002	1-Butene	K, T, U	< 1.34	ppmv	1.34	NA-025	16-Apr-19
19040140-002	Acetylene	K, T, U	< 1.08	ppmv	1.08	NA-025	16-Apr-19
19040140-002	n-Butane	K, T, U	< 2.7	ppmv	2.7	NA-025	16-Apr-19
19040140-002	cis-2-Butene	K, T, U	< 0.54	ppmv	0.54	NA-025	16-Apr-19
19040140-002	Ethane	K, T, U	< 1.3	ppmv	1.3	NA-025	16-Apr-19
19040140-002	Ethylacetylene	K, T, U	< 0.81	ppmv	0.81	NA-025	16-Apr-19
19040140-002	Ethylene	K, T, U	< 0.94	ppmv	0.94	NA-025	16-Apr-19
19040140-002	Isobutane	K, T, U	< 1.3	ppmv	1.3	NA-025	16-Apr-19
19040140-002	Isobutylene	K, T, U	< 1.3	ppmv	1.3	NA-025	16-Apr-19
19040140-002	Methane	K, T, U	< 1.3	ppmv	1.3	NA-025	16-Apr-19
19040140-002	n-Propane	K, T, U	< 0.94	ppmv	0.94	NA-025	16-Apr-19
19040140-002	Propylene	K, T, U	< 1.3	ppmv	1.3	NA-025	16-Apr-19
19040140-002	Propyne	K, T, U	< 1.3	ppmv	1.3	NA-025	16-Apr-19
19040140-002	trans-2-Butene	K, T, U	< 1.21	ppmv	1.21	NA-025	16-Apr-19
19040140-002	1,1,1-Trichloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	1,1,2,2-Tetrachloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	1,1,2-Trichloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	1,1-Dichloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	1,1-Dichloroethylene	K, T, U	< 0.04	ppbv	0.04	AC-058	16-Apr-19
19040140-002	1,2,3-Trimethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	16-Apr-19
19040140-002	1,2,4-Trichlorobenzene	K, T, U	< 0.8	ppbv	0.8	AC-058	16-Apr-19
19040140-002	1,2,4-Trimethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	16-Apr-19
19040140-002	1,2-Dibromoethane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	1,2-Dichlorobenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-002	1,2-Dichloroethane	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-Blank	32190	Ambient Air	11-Apr-19

DESCRIPTION:

REPORT NUMBER: 19040140 **REPORT CREATED:** 24-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19040140-002	1,2-Dichloropropane	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	1,3,5-Trimethylbenzene	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	1,3-Butadiene	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	1,3-Dichlorobenzene	K, T, U	< 0.3	ppbv	0.3	AC-058	16-Apr-19
19040140-002	1,4-Dichlorobenzene	K, T, U	< 0.4	ppbv	0.4	AC-058	16-Apr-19
19040140-002	1,4-Dioxane	K, T, U	< 0.4	ppbv	0.4	AC-058	16-Apr-19
19040140-002	1-Butene/Isobutylene		1.27	ppbv	0.02	AC-058	16-Apr-19
19040140-002	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	1-Pentene	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	2,2,4-Trimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	2,2-Dimethylbutane	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	2,3,4-Trimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	2,3-Dimethylbutane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	2,3-Dimethylpentane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	2,4-Dimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	2-Methylheptane	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	2-Methylhexane	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	2-Methylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	3-Methylheptane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	3-Methylhexane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	3-Methylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	Acetone	K, T, U	< 0.4	ppbv	0.4	AC-058	16-Apr-19
19040140-002	Acrolein	K, T, U	< 0.3	ppbv	0.3	AC-058	16-Apr-19
19040140-002	Benzene	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	Benzyl chloride	K, T, U	< 0.4	ppbv	0.4	AC-058	16-Apr-19

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-Blank	32190	Ambient Air	11-Apr-19

DESCRIPTION:

REPORT NUMBER: 19040140 **REPORT CREATED:** 24-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19040140-002	Bromodichloromethane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	Bromoform	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	Bromomethane	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	Carbon disulfide	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	Carbon tetrachloride	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	Chlorobenzene	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	Chloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	Chloroform	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	Chloromethane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	cis-1,2-Dichloroethene	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	cis-1,3-Dichloropropene	K, T, U	< 0.04	ppbv	0.04	AC-058	16-Apr-19
19040140-002	cis-2-Butene	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	cis-2-Pentene	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	Cyclohexane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	Cyclopentane	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	Dibromochloromethane	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	Ethanol	K, T, U	< 0.3	ppbv	0.3	AC-058	16-Apr-19
19040140-002	Ethyl acetate	K, T, U	< 0.4	ppbv	0.4	AC-058	16-Apr-19
19040140-002	Ethylbenzene	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	Freon-11	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	Freon-113	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	Freon-114	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	Freon-12	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	Hexachloro-1,3-butadiene	K, T, U	< 0.50	ppbv	0.50	AC-058	16-Apr-19
19040140-002	Isobutane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19

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

Date: April 24, 2019

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

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-Blank	32190	Ambient Air	11-Apr-19

DESCRIPTION:

REPORT NUMBER: 19040140 **REPORT CREATED:** 24-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19040140-002	Isopentane	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-002	Isoprene	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	Isopropyl alcohol	K, T, U	< 0.4	ppbv	0.4	AC-058	16-Apr-19
19040140-002	Isopropylbenzene	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	m,p-Xylene	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-002	m-Diethylbenzene	K, T, U	< 0.04	ppbv	0.04	AC-058	16-Apr-19
19040140-002	m-Ethyltoluene	K, T, U	< 0.08	ppbv	0.08	AC-058	16-Apr-19
19040140-002	Methyl butyl ketone	K, T, U	< 0.50	ppbv	0.50	AC-058	16-Apr-19
19040140-002	Methyl ethyl ketone	K, T, U	< 0.3	ppbv	0.3	AC-058	16-Apr-19
19040140-002	Methyl isobutyl ketone	K, T, U	< 0.4	ppbv	0.4	AC-058	16-Apr-19
19040140-002	Methyl methacrylate	K, T, U	< 0.07	ppbv	0.07	AC-058	16-Apr-19
19040140-002	Methyl tert butyl ether	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-002	Methylcyclohexane	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	Methylcyclopentane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	Methylene chloride	K, T, U	< 0.3	ppbv	0.3	AC-058	16-Apr-19
19040140-002	n-Butane	K, T, U	< 0.03	ppbv	0.03	AC-058	16-Apr-19
19040140-002	n-Decane	K, T, U	< 0.06	ppbv	0.06	AC-058	16-Apr-19
19040140-002	n-Dodecane	K, T, U	< 0.4	ppbv	0.4	AC-058	16-Apr-19
19040140-002	n-Heptane	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	n-Hexane	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	n-Octane	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	n-Pentane	K, T, U	< 0.1	ppbv	0.1	AC-058	16-Apr-19
19040140-002	n-Propylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	16-Apr-19
19040140-002	n-Undecane	K, T, U	< 0.5	ppbv	0.5	AC-058	16-Apr-19
19040140-002	Naphthalene	K, T, U	< 0.5	ppbv	0.5	AC-058	16-Apr-19

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

Date: April 24, 2019

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

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-Blank	32190	Ambient Air	11-Apr-19

DESCRIPTION:

REPORT NUMBER: 19040140 **REPORT CREATED:** 24-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19040140-002	n-Nonane	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	o-Ethyltoluene	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	o-Xylene	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	p-Diethylbenzene	K, T, U	< 0.04	ppbv	0.04	AC-058	16-Apr-19
19040140-002	p-Ethyltoluene	K, T, U	< 0.07	ppbv	0.07	AC-058	16-Apr-19
19040140-002	Styrene	I	0.12	ppbv	0.04	AC-058	16-Apr-19
19040140-002	Tetrachloroethylene	K, T, U	< 0.04	ppbv	0.04	AC-058	16-Apr-19
19040140-002	Tetrahydrofuran	K, T, U	< 0.4	ppbv	0.4	AC-058	16-Apr-19
19040140-002	Toluene	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	trans-1,2-Dichloroethylene	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	trans-1,3-Dichloropropylene	K, T, U	< 0.04	ppbv	0.04	AC-058	16-Apr-19
19040140-002	trans-2-Butene	K, T, U	< 0.01	ppbv	0.01	AC-058	16-Apr-19
19040140-002	trans-2-Pentene	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19
19040140-002	Trichloroethylene	K, T, U	< 0.04	ppbv	0.04	AC-058	16-Apr-19
19040140-002	Vinyl acetate	K, T, U	< 0.4	ppbv	0.4	AC-058	16-Apr-19
19040140-002	Vinyl chloride	K, T, U	< 0.02	ppbv	0.02	AC-058	16-Apr-19

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

Date: April 24, 2019

Revision History

Order ID	Ver	Date	Reason
19040140	01	24-Apr-19	Report created

Methods

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

Qualifiers

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

Order Comments

19040140

Send results to pramptech@prampairshed.ca. Unknowns to be reported. Return sample to reception for isotope analysis.

Sample Comments

19040140-001

RSC analysis not performed due to equipment failure.

19040140-002

RSC analysis not performed due to equipment failure.

Result Comments

Note:

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

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

InnoTech ALBERTA

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

EAS CANISTER
Sample ID: 19030174-001
Customer ID: PRAMP
Cust Samp ID: PRAMP-RENO-20190317
Priority: Normal

RECEIVED
MAR 2 8 2019

Date Received- Lab Use Only

Client Contact Details:

Contact: Karla Ressor, Michael Bisaga/ Lily Lin
Company: PRAMP Airshed
PO#: □ 842 Station □ 986 Station □ Reno Station
Address: □ 842 (Lat. 56.27406N, Long. 116.98129W)
□ 986 (Lat. 56.376056N, Long. 116.940704W)
□ Reno (Lat. 55.86936N, Long. 117.05739W)
Telephone: 403-8072995, 780-2667068/587-2252248
Email: karla@prampairshed.ca, pramptech@prampairshed.ca

RUSH (Surcharge) ☐

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

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

Sample ID (PRAMP_statiom_yyyymmdd)	Canister Number	Sample Description	Date/Time Sampled From/To		Analysis Requested
			Date (dd/mm/yy)	Time (24 Hr) (MST)	
PRAMP_842- _____ (Sample date: yyyymmdd) PRAMP_986- _____ (Sample date: yyyymmdd) PRAMP_Reno-20190317 (Sample date: yyyymmdd)	29002	□ Methane Trigger □ NMHC Trigger N/A N/A - Triggered Canister	18/03/19		* AIR C1C4, AIR VOC, AIR RSC * Unknown to be reported * Carbon Isotopic Analysis (if sample is collected from Methane trigger)

Sample Collection:

Collect By John Hackley **(Name) of** Baytex Energy **(Company) on** 18/Mar/19 **(Date/Time (MST).**

InnoTech ALBERTA

Canister ID: 29002

This cleaned canister meets or exceeds TO-15 Method Specifications

Proofed by: P053 on FEB 15 2019

Evacuated on: FEB 20 2019

Laboratory Contact Number: 780-632-8403

Sample ID: _____

Sampled By: _____

Starting Vacuum: -27.3 "Hg

End Vacuum: -30 "Hg/psig

Sample ID: 19030174-001

Customer ID: PRAMP

Cust Samp ID: PRAMP-RENO-20190317

Priority: Normal

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Canada T9C 1T4
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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

RESULTS: Karla Reesor 403 807 2995
Peace River Area Monitoring Program Committee

INVOICE: Office Manager

CLIENT SAMPLE ID	CANISTER ID	Matrix	Priority
PRAMP-RENO-20190317	29002	Ambient Air	Normal

DESCRIPTION: Non-Triggered Canister

DATE SAMPLED: 18-Mar-19
DATE RECEIVED: 20-Mar-19
REPORT CREATED: 02-Apr-19
REPORT NUMBER: 19030174
VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030174-001	1-Butene	K, T, U	< 1.48	ppmv	1.48	NA-025	21-Mar-19
19030174-001	Acetylene	K, T, U	< 1.18	ppmv	1.18	NA-025	21-Mar-19
19030174-001	n-Butane	K, T, U	< 3.0	ppmv	3.0	NA-025	21-Mar-19
19030174-001	cis-2-Butene	K, T, U	< 0.59	ppmv	0.59	NA-025	21-Mar-19
19030174-001	Ethane	K, T, U	< 1.5	ppmv	1.5	NA-025	21-Mar-19
19030174-001	Ethylacetylene	K, T, U	< 0.89	ppmv	0.89	NA-025	21-Mar-19
19030174-001	Ethylene	K, T, U	< 1.04	ppmv	1.04	NA-025	21-Mar-19
19030174-001	Isobutane	K, T, U	< 1.5	ppmv	1.5	NA-025	21-Mar-19
19030174-001	Isobutylene	K, T, U	< 1.5	ppmv	1.5	NA-025	21-Mar-19
19030174-001	Methane	K, T, U	< 1.5	ppmv	1.5	NA-025	21-Mar-19
19030174-001	n-Propane	K, T, U	< 1.04	ppmv	1.04	NA-025	21-Mar-19
19030174-001	Propylene	K, T, U	< 1.5	ppmv	1.5	NA-025	21-Mar-19
19030174-001	Propyne	K, T, U	< 1.5	ppmv	1.5	NA-025	21-Mar-19
19030174-001	trans-2-Butene	K, T, U	< 1.33	ppmv	1.33	NA-025	21-Mar-19
19030174-001	2,5-Dimethylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	21-Mar-19
19030174-001	2-Ethylthiophene	K, T, U	< 0.2	ppbv	0.2	NA-024	21-Mar-19
19030174-001	2-Methylthiophene	K, T, U	< 0.2	ppbv	0.2	NA-024	21-Mar-19
19030174-001	3-Methylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	21-Mar-19

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

Date: April 2, 2019

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP-RENO-20190317	29002	Ambient Air	18-Mar-19

DESCRIPTION: Non-Triggered Canister

REPORT NUMBER: 19030174 **REPORT CREATED:** 02-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030174-001	Butyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	21-Mar-19
19030174-001	Carbon disulphide	K, T, U	< 0.2	ppbv	0.2	NA-024	21-Mar-19
19030174-001	Carbonyl sulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	21-Mar-19
19030174-001	Dimethyl disulphide	K, T, U	< 0.2	ppbv	0.2	NA-024	21-Mar-19
19030174-001	Dimethyl sulphide	K, T, U	< 0.2	ppbv	0.2	NA-024	21-Mar-19
19030174-001	Ethyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	21-Mar-19
19030174-001	Ethyl sulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	21-Mar-19
19030174-001	Hydrogen sulphide	K, T, U	< 0.1	ppbv	0.1	NA-024	21-Mar-19
19030174-001	Isobutyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	21-Mar-19
19030174-001	Isopropyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	21-Mar-19
19030174-001	Methyl mercaptan	K, T, U	< 0.2	ppbv	0.2	NA-024	21-Mar-19
19030174-001	Pentyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	21-Mar-19
19030174-001	Propyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	21-Mar-19
19030174-001	tert-Butyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	21-Mar-19
19030174-001	Thiophene	K, T, U	< 0.2	ppbv	0.2	NA-024	21-Mar-19
19030174-001	1,1,1-Trichloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	1,1,2,2-Tetrachloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	1,1,2-Trichloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	1,1-Dichloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	1,1-Dichloroethylene	K, T, U	< 0.04	ppbv	0.04	AC-058	22-Mar-19
19030174-001	1,2,3-Trimethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	22-Mar-19
19030174-001	1,2,4-Trichlorobenzene	K, T, U	< 0.8	ppbv	0.8	AC-058	22-Mar-19
19030174-001	1,2,4-Trimethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	22-Mar-19
19030174-001	1,2-Dibromoethane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	1,2-Dichlorobenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19

Report certified by: Graham Knox, Admin. & Ops. Supervisor On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: April 2, 2019

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP-RENO-20190317	29002	Ambient Air	18-Mar-19

DESCRIPTION: Non-Triggered Canister

REPORT NUMBER: 19030174 **REPORT CREATED:** 02-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030174-001	1,2-Dichloroethane	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	1,2-Dichloropropane	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	1,3,5-Trimethylbenzene	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	1,3-Butadiene	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	1,3-Dichlorobenzene	K, T, U	< 0.3	ppbv	0.3	AC-058	22-Mar-19
19030174-001	1,4-Dichlorobenzene	K, T, U	< 0.4	ppbv	0.4	AC-058	22-Mar-19
19030174-001	1,4-Dioxane	K, T, U	< 0.4	ppbv	0.4	AC-058	22-Mar-19
19030174-001	1-Butene/Isobutylene	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	1-Pentene	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	2,2,4-Trimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	2,2-Dimethylbutane	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	2,3,4-Trimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	2,3-Dimethylbutane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	2,3-Dimethylpentane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	2,4-Dimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	2-Methylheptane	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	2-Methylhexane	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	2-Methylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	3-Methylheptane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	3-Methylhexane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	3-Methylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	Acetone	K, T, U	< 0.4	ppbv	0.4	AC-058	22-Mar-19
19030174-001	Acrolein	K, T, U	< 0.3	ppbv	0.3	AC-058	22-Mar-19
19030174-001	Benzene	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19

Report certified by: Graham Knox, Admin. & Ops. Supervisor On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: April 2, 2019

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP-RENO-20190317	29002	Ambient Air	18-Mar-19

DESCRIPTION: Non-Triggered Canister

REPORT NUMBER: 19030174 **REPORT CREATED:** 02-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030174-001	Benzyl chloride	K, T, U	< 0.4	ppbv	0.4	AC-058	22-Mar-19
19030174-001	Bromodichloromethane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	Bromoform	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	Bromomethane	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	Carbon disulfide	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	Carbon tetrachloride	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	Chlorobenzene	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	Chloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	Chloroform	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	Chloromethane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	cis-1,2-Dichloroethene	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	cis-1,3-Dichloropropene	K, T, U	< 0.04	ppbv	0.04	AC-058	22-Mar-19
19030174-001	cis-2-Butene	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	cis-2-Pentene	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	Cyclohexane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	Cyclopentane		1.87	ppbv	0.01	AC-058	22-Mar-19
19030174-001	Dibromochloromethane	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	Ethanol	K, T, U	< 0.3	ppbv	0.3	AC-058	22-Mar-19
19030174-001	Ethyl acetate	K, T, U	< 0.4	ppbv	0.4	AC-058	22-Mar-19
19030174-001	Ethylbenzene	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	Freon-11	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	Freon-113	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	Freon-114	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	Freon-12	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	Hexachloro-1,3-butadiene	K, T, U	< 0.50	ppbv	0.50	AC-058	22-Mar-19

Report certified by: Graham Knox, Admin. & Ops. Supervisor On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: April 2, 2019 Inquiries: (780) 632 8455 E-mail: EAS.Results@innotechalberta.ca

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP-RENO-20190317	29002	Ambient Air	18-Mar-19

DESCRIPTION: Non-Triggered Canister

REPORT NUMBER: 19030174 **REPORT CREATED:** 02-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030174-001	Isobutane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	Isopentane		0.08	ppbv	0.03	AC-058	22-Mar-19
19030174-001	Isoprene	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	Isopropyl alcohol	K, T, U	< 0.4	ppbv	0.4	AC-058	22-Mar-19
19030174-001	Isopropylbenzene	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	m,p-Xylene	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030174-001	m-Diethylbenzene	K, T, U	< 0.04	ppbv	0.04	AC-058	22-Mar-19
19030174-001	m-Ethyltoluene	K, T, U	< 0.08	ppbv	0.08	AC-058	22-Mar-19
19030174-001	Methyl butyl ketone	K, T, U	< 0.50	ppbv	0.50	AC-058	22-Mar-19
19030174-001	Methyl ethyl ketone	K, T, U	< 0.3	ppbv	0.3	AC-058	22-Mar-19
19030174-001	Methyl isobutyl ketone	K, T, U	< 0.4	ppbv	0.4	AC-058	22-Mar-19
19030174-001	Methyl methacrylate	K, T, U	< 0.07	ppbv	0.07	AC-058	22-Mar-19
19030174-001	Methyl tert butyl ether	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030174-001	Methylcyclohexane	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	Methylcyclopentane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	Methylene chloride	K, T, U	< 0.3	ppbv	0.3	AC-058	22-Mar-19
19030174-001	n-Butane	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030174-001	n-Decane	K, T, U	< 0.06	ppbv	0.06	AC-058	22-Mar-19
19030174-001	n-Dodecane	K, T, U	< 0.4	ppbv	0.4	AC-058	22-Mar-19
19030174-001	n-Heptane	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	n-Hexane	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	n-Octane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	n-Pentane	K, T, U	< 0.1	ppbv	0.1	AC-058	22-Mar-19
19030174-001	n-Propylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	22-Mar-19
19030174-001	n-Undecane	K, T, U	< 0.5	ppbv	0.5	AC-058	22-Mar-19

Report certified by: Graham Knox, Admin. & Ops. Supervisor On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: April 2, 2019

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP-RENO-20190317	29002	Ambient Air	18-Mar-19

DESCRIPTION: Non-Triggered Canister

REPORT NUMBER: 19030174 **REPORT CREATED:** 02-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030174-001	Naphthalene	K, T, U	< 0.5	ppbv	0.5	AC-058	22-Mar-19
19030174-001	n-Nonane		0.04	ppbv	0.01	AC-058	22-Mar-19
19030174-001	o-Ethyltoluene	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	o-Xylene	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	p-Diethylbenzene	K, T, U	< 0.04	ppbv	0.04	AC-058	22-Mar-19
19030174-001	p-Ethyltoluene	K, T, U	< 0.07	ppbv	0.07	AC-058	22-Mar-19
19030174-001	Styrene	K, T, U	< 0.04	ppbv	0.04	AC-058	22-Mar-19
19030174-001	Tetrachloroethylene	K, T, U	< 0.04	ppbv	0.04	AC-058	22-Mar-19
19030174-001	Tetrahydrofuran	K, T, U	< 0.4	ppbv	0.4	AC-058	22-Mar-19
19030174-001	Toluene	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	trans-1,2-Dichloroethylene	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	trans-1,3-Dichloropropylene	K, T, U	< 0.04	ppbv	0.04	AC-058	22-Mar-19
19030174-001	trans-2-Butene	K, T, U	< 0.01	ppbv	0.01	AC-058	22-Mar-19
19030174-001	trans-2-Pentene	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030174-001	Trichloroethylene	K, T, U	< 0.04	ppbv	0.04	AC-058	22-Mar-19
19030174-001	Vinyl acetate	K, T, U	< 0.4	ppbv	0.4	AC-058	22-Mar-19
19030174-001	Vinyl chloride	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19

Report certified by: Graham Knox, Admin. & Ops. Supervisor On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: April 2, 2019

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

Revision History

Order ID	Ver	Date	Reason
19030174	01	02-Apr-19	Report created

Methods

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

Qualifiers

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

Order Comments

19030174

Send results to Pramptech. Unknows to be reported.

Sample Comments

Result Comments

Note:

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

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

InnoTech ALBERTA

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Environmental Analytical Services
Phone: (780) 632-8403 Fax: (780) 632-8620

Sample ID: 19030234-001

Customer ID: PRAMP

Cust Samp ID: PRAMP_986-20190320 (Background)

Date Received- Lab Use Only

RECEIVED
MAR 27 2019

Client Contact Details:

Contact: Karla Ressor, Michael Bisaga/ Lily Lin
Company: PRAMP Airshed
PO#: □ 842 Station ☒ 986 Station □ Reno Station
Address: □ 842 (Lat. 56.27406N, Long. 116.98129W)
☒ 986 (Lat. 56.376056N, Long. 116.940704W)
□ Reno (Lat. 55.86936N, Long. 117.05739W)
Telephone: 403-8072995, 780-2667068/587-2252248
Email: karla@prampairshed.ca, pramptech@prampairshed.ca

RUSH (Surcharge) ☐

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

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

Sample ID (PRAMP_statiom_yyyymmdd)	Canister Number	Sample Description/Source	Date/Time Sampled From/To		Analysis Requested
			Date (dd/mm/yy)	Time (24 Hr) (MST)	
PRAMP_842-_____ (Sample date: yyyymmdd) PRAMP_986-20190320 (Sample date: yyyymmdd) PRAMP_Reno-_____ (Sample date: yyyymmdd) (Background)	28957	**Collected By:** CW **Company:** MAXXAM **Contact Number:** 780 446 2724 **Date/Time (MST) Collected:** Mar 20, 2019 @ 09:02	MCC 20/03/19 08:00	20/03/19 09:00	* AIR C1C4, AIR VOC, AIR RSC *** Unknown to be reported**

EMF078FRM

Page 1 of 2

InnoTech ALBERTA

Canister ID: 28953

This cleaned canister meets or exceeds TO-15 Method Specifications

Proofed by: DOSY on DEC 19 2018

Evacuated on: DEC 21 2018

Use within: 3 months of evacuation

Laboratory Contact Number: 780-632-8403

Sample ID: PRAMP-986-20190320 ~~(Duplicate)~~ (Background)

Sampled By: -4"Hg JMP

Starting Vacuum: -27 "Hg

End Vacuum: -0.2 "Hg/ ~~psig~~

Sample ID: 19030234-001

Customer ID: PRAMP

Cust Samp ID: PRAMP_986-20190320 (Background)

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

RESULTS: Karla Reesor 403 807 2995
Peace River Area Monitoring Program Committee

INVOICE: Office Manager

CLIENT SAMPLE ID	CANISTER ID	Matrix	Priority
PRAMP_986-20190320 (Background)	28953	Ambient Air	Normal

DESCRIPTION:

DATE SAMPLED: 19-Mar-19 8:00 **DATE RECEIVED:** 27-Mar-19

REPORT CREATED: 24-Apr-19 **REPORT NUMBER:** 19030234

VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030234-001	1-Butene	K, T, U	< 0.14	ppmv	0.14	NA-025	27-Mar-19
19030234-001	Acetylene	K, T, U	< 0.11	ppmv	0.11	NA-025	27-Mar-19
19030234-001	n-Butane	K, T, U	< 0.3	ppmv	0.3	NA-025	27-Mar-19
19030234-001	cis-2-Butene	K, T, U	< 0.06	ppmv	0.06	NA-025	27-Mar-19
19030234-001	Ethane	K, T, U	< 0.1	ppmv	0.1	NA-025	27-Mar-19
19030234-001	Ethylacetylene	K, T, U	< 0.08	ppmv	0.08	NA-025	27-Mar-19
19030234-001	Ethylene	K, T, U	< 0.10	ppmv	0.10	NA-025	27-Mar-19
19030234-001	Isobutane	K, T, U	< 0.1	ppmv	0.1	NA-025	27-Mar-19
19030234-001	Isobutylene	K, T, U	< 0.1	ppmv	0.1	NA-025	27-Mar-19
19030234-001	Methane		2.0	ppmv	0.1	NA-025	27-Mar-19
19030234-001	n-Propane	K, T, U	< 0.10	ppmv	0.10	NA-025	27-Mar-19
19030234-001	Propylene	K, T, U	< 0.1	ppmv	0.1	NA-025	27-Mar-19
19030234-001	Propyne	K, T, U	< 0.1	ppmv	0.1	NA-025	27-Mar-19
19030234-001	trans-2-Butene	K, T, U	< 0.13	ppmv	0.13	NA-025	27-Mar-19
19030234-001	2,5-Dimethylthiophene	K, T, U, Q	< 0.4	ppbv	0.4	NA-024	27-Mar-19
19030234-001	2-Ethylthiophene	K, T, U, Q	< 0.3	ppbv	0.3	NA-024	27-Mar-19
19030234-001	2-Methylthiophene	K, T, U, Q	< 0.3	ppbv	0.3	NA-024	27-Mar-19
19030234-001	3-Methylthiophene	K, T, U, Q	< 0.4	ppbv	0.4	NA-024	27-Mar-19

Report certified by: Graham Knox, Admin. & Ops. Supervisor On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: April 24, 2019

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
RAMP_986-20190320 (Backgroun	28953	Ambient Air	19-Mar-19 8:00

DESCRIPTION:

REPORT NUMBER: 19030234 **REPORT CREATED:** 24-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030234-001	Butyl mercaptan	K, T, U, Q	< 0.4	ppbv	0.4	NA-024	27-Mar-19
19030234-001	Carbon disulphide	K, T, U, Q	< 0.3	ppbv	0.3	NA-024	27-Mar-19
19030234-001	Carbonyl sulphide	Q	2.2	ppbv	0.4	NA-024	27-Mar-19
19030234-001	Dimethyl disulphide	K, T, U, Q	< 0.3	ppbv	0.3	NA-024	27-Mar-19
19030234-001	Dimethyl sulphide	K, T, U, Q	< 0.3	ppbv	0.3	NA-024	27-Mar-19
19030234-001	Ethyl mercaptan	K, T, U, Q	< 0.4	ppbv	0.4	NA-024	27-Mar-19
19030234-001	Ethyl sulphide	K, T, U, Q	< 0.4	ppbv	0.4	NA-024	27-Mar-19
19030234-001	Hydrogen sulphide	Q	1.9	ppbv	0.1	NA-024	27-Mar-19
19030234-001	Isobutyl mercaptan	K, T, U, Q	< 0.4	ppbv	0.4	NA-024	27-Mar-19
19030234-001	Isopropyl mercaptan	K, T, U, Q	< 0.4	ppbv	0.4	NA-024	27-Mar-19
19030234-001	Methyl mercaptan	K, T, U, Q	< 0.3	ppbv	0.3	NA-024	27-Mar-19
19030234-001	Pentyl mercaptan	K, T, U, Q	< 0.6	ppbv	0.6	NA-024	27-Mar-19
19030234-001	Propyl mercaptan	K, T, U, Q	< 0.6	ppbv	0.6	NA-024	27-Mar-19
19030234-001	tert-Butyl mercaptan	K, T, U, Q	< 0.4	ppbv	0.4	NA-024	27-Mar-19
19030234-001	Thiophene	K, T, U, Q	< 0.3	ppbv	0.3	NA-024	27-Mar-19
19030234-001	1,1,1-Trichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	1,1,2,2-Tetrachloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	1,1,2-Trichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	1,1-Dichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	1,1-Dichloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	29-Mar-19
19030234-001	1,2,3-Trimethylbenzene	K, T, U	< 0.07	ppbv	0.07	AC-058	29-Mar-19
19030234-001	1,2,4-Trichlorobenzene	K, T, U	< 1.1	ppbv	1.1	AC-058	29-Mar-19
19030234-001	1,2,4-Trimethylbenzene	K, T, U	< 0.07	ppbv	0.07	AC-058	29-Mar-19
19030234-001	1,2-Dibromoethane	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	1,2-Dichlorobenzene	K, T, U	< 0.04	ppbv	0.04	AC-058	29-Mar-19

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

Date: April 24, 2019

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
RAMP_986-20190320 (Backgroun	28953	Ambient Air	19-Mar-19 8:00

DESCRIPTION:

REPORT NUMBER: 19030234 **REPORT CREATED:** 24-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030234-001	1,2-Dichloroethane	K, T, U	< 0.01	ppbv	0.01	AC-058	29-Mar-19
19030234-001	1,2-Dichloropropane	K, T, U	< 0.01	ppbv	0.01	AC-058	29-Mar-19
19030234-001	1,3,5-Trimethylbenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	1,3-Butadiene	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	1,3-Dichlorobenzene	K, T, U	< 0.4	ppbv	0.4	AC-058	29-Mar-19
19030234-001	1,4-Dichlorobenzene	K, T, U	< 0.6	ppbv	0.6	AC-058	29-Mar-19
19030234-001	1,4-Dioxane	K, T, U	< 0.6	ppbv	0.6	AC-058	29-Mar-19
19030234-001	1-Butene/Isobutylene	I	0.13	ppbv	0.03	AC-058	29-Mar-19
19030234-001	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	1-Pentene	K, T, U	< 0.01	ppbv	0.01	AC-058	29-Mar-19
19030234-001	2,2,4-Trimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	29-Mar-19
19030234-001	2,2-Dimethylbutane		0.06	ppbv	0.01	AC-058	29-Mar-19
19030234-001	2,3,4-Trimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	29-Mar-19
19030234-001	2,3-Dimethylbutane	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	2,3-Dimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	2,4-Dimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	29-Mar-19
19030234-001	2-Methylheptane	K, T, U	< 0.01	ppbv	0.01	AC-058	29-Mar-19
19030234-001	2-Methylhexane	K, T, U	< 0.01	ppbv	0.01	AC-058	29-Mar-19
19030234-001	2-Methylpentane		0.20	ppbv	0.01	AC-058	29-Mar-19
19030234-001	3-Methylheptane	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	3-Methylhexane	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	3-Methylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	29-Mar-19
19030234-001	Acetone		8.1	ppbv	0.6	AC-058	29-Mar-19
19030234-001	Acrolein	K, T, U	< 0.4	ppbv	0.4	AC-058	29-Mar-19
19030234-001	Benzene	K, T, U	< 0.01	ppbv	0.01	AC-058	29-Mar-19

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

Date: April 24, 2019

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

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
RAMP_986-20190320 (Backgroun	28953	Ambient Air	19-Mar-19 8:00

DESCRIPTION:

REPORT NUMBER: 19030234 **REPORT CREATED:** 24-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030234-001	Benzyl chloride	K, T, U	< 0.6	ppbv	0.6	AC-058	29-Mar-19
19030234-001	Bromodichloromethane	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	Bromoform	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	Bromomethane	K, T, U	< 0.01	ppbv	0.01	AC-058	29-Mar-19
19030234-001	Carbon disulfide	I	0.05	ppbv	0.01	AC-058	29-Mar-19
19030234-001	Carbon tetrachloride	I	0.08	ppbv	0.01	AC-058	29-Mar-19
19030234-001	Chlorobenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	Chloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	Chloroform	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	Chloromethane		0.49	ppbv	0.03	AC-058	29-Mar-19
19030234-001	cis-1,2-Dichloroethene	K, T, U	< 0.01	ppbv	0.01	AC-058	29-Mar-19
19030234-001	cis-1,3-Dichloropropene	K, T, U	< 0.06	ppbv	0.06	AC-058	29-Mar-19
19030234-001	cis-2-Butene	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	cis-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	Cyclohexane	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	Cyclopentane		25.5	ppbv	0.01	AC-058	29-Mar-19
19030234-001	Dibromochloromethane	I	0.04	ppbv	0.01	AC-058	29-Mar-19
19030234-001	Ethanol		2.2	ppbv	0.4	AC-058	29-Mar-19
19030234-001	Ethyl acetate	K, T, U	< 0.6	ppbv	0.6	AC-058	29-Mar-19
19030234-001	Ethylbenzene	K, T, U	< 0.01	ppbv	0.01	AC-058	29-Mar-19
19030234-001	Freon-11	I	0.20	ppbv	0.03	AC-058	29-Mar-19
19030234-001	Freon-113	K, T, U	< 0.01	ppbv	0.01	AC-058	29-Mar-19
19030234-001	Freon-114	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	Freon-12	I	0.40	ppbv	0.03	AC-058	29-Mar-19
19030234-001	Hexachloro-1,3-butadiene	K, T, U	< 0.70	ppbv	0.70	AC-058	29-Mar-19

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

Date: April 24, 2019

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

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
RAMP_986-20190320 (Backgroun	28953	Ambient Air	19-Mar-19 8:00

DESCRIPTION:

REPORT NUMBER: 19030234 **REPORT CREATED:** 24-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030234-001	Isobutane		0.87	ppbv	0.03	AC-058	29-Mar-19
19030234-001	Isopentane		1.68	ppbv	0.04	AC-058	29-Mar-19
19030234-001	Isoprene	K, T, U	< 0.01	ppbv	0.01	AC-058	29-Mar-19
19030234-001	Isopropyl alcohol	K, T, U	< 0.6	ppbv	0.6	AC-058	29-Mar-19
19030234-001	Isopropylbenzene	K, T, U	< 0.01	ppbv	0.01	AC-058	29-Mar-19
19030234-001	m,p-Xylene	K, T, U	< 0.04	ppbv	0.04	AC-058	29-Mar-19
19030234-001	m-Diethylbenzene	K, T, U	< 0.06	ppbv	0.06	AC-058	29-Mar-19
19030234-001	m-Ethyltoluene	K, T, U	< 0.11	ppbv	0.11	AC-058	29-Mar-19
19030234-001	Methyl butyl ketone	K, T, U	< 0.70	ppbv	0.70	AC-058	29-Mar-19
19030234-001	Methyl ethyl ketone	K, T, U	< 0.4	ppbv	0.4	AC-058	29-Mar-19
19030234-001	Methyl isobutyl ketone	K, T, U	< 0.6	ppbv	0.6	AC-058	29-Mar-19
19030234-001	Methyl methacrylate	K, T, U	< 0.10	ppbv	0.10	AC-058	29-Mar-19
19030234-001	Methyl tert butyl ether	K, T, U	< 0.04	ppbv	0.04	AC-058	29-Mar-19
19030234-001	Methylcyclohexane	K, T, U	< 0.01	ppbv	0.01	AC-058	29-Mar-19
19030234-001	Methylcyclopentane	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	Methylene chloride	K, T, U	< 0.4	ppbv	0.4	AC-058	29-Mar-19
19030234-001	n-Butane		1.94	ppbv	0.04	AC-058	29-Mar-19
19030234-001	n-Decane	K, T, U	< 0.08	ppbv	0.08	AC-058	29-Mar-19
19030234-001	n-Dodecane	K, T, U	< 0.6	ppbv	0.6	AC-058	29-Mar-19
19030234-001	n-Heptane	K, T, U	< 0.01	ppbv	0.01	AC-058	29-Mar-19
19030234-001	n-Hexane		0.03	ppbv	0.01	AC-058	29-Mar-19
19030234-001	n-Octane	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	n-Pentane		1.0	ppbv	0.1	AC-058	29-Mar-19
19030234-001	n-Propylbenzene	K, T, U	< 0.07	ppbv	0.07	AC-058	29-Mar-19
19030234-001	n-Undecane	K, T, U	< 0.7	ppbv	0.7	AC-058	29-Mar-19

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

Date: April 24, 2019

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Vegreville, Alberta
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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
RAMP_986-20190320 (Backgroun	28953	Ambient Air	19-Mar-19 8:00

DESCRIPTION:

REPORT NUMBER: 19030234 **REPORT CREATED:** 24-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030234-001	Naphthalene	K, T, U	< 0.7	ppbv	0.7	AC-058	29-Mar-19
19030234-001	n-Nonane	K, T, U	< 0.01	ppbv	0.01	AC-058	29-Mar-19
19030234-001	o-Ethyltoluene	K, T, U	< 0.01	ppbv	0.01	AC-058	29-Mar-19
19030234-001	o-Xylene	K, T, U	< 0.01	ppbv	0.01	AC-058	29-Mar-19
19030234-001	p-Diethylbenzene	K, T, U	< 0.06	ppbv	0.06	AC-058	29-Mar-19
19030234-001	p-Ethyltoluene	K, T, U	< 0.10	ppbv	0.10	AC-058	29-Mar-19
19030234-001	Styrene	K, T, U	< 0.06	ppbv	0.06	AC-058	29-Mar-19
19030234-001	Tetrachloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	29-Mar-19
19030234-001	Tetrahydrofuran	K, T, U	< 0.6	ppbv	0.6	AC-058	29-Mar-19
19030234-001	Toluene		0.17	ppbv	0.01	AC-058	29-Mar-19
19030234-001	trans-1,2-Dichloroethylene	I	0.14	ppbv	0.01	AC-058	29-Mar-19
19030234-001	trans-1,3-Dichloropropylene	K, T, U	< 0.06	ppbv	0.06	AC-058	29-Mar-19
19030234-001	trans-2-Butene	K, T, U	< 0.01	ppbv	0.01	AC-058	29-Mar-19
19030234-001	trans-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19
19030234-001	Trichloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	29-Mar-19
19030234-001	Vinyl acetate	K, T, U	< 0.6	ppbv	0.6	AC-058	29-Mar-19
19030234-001	Vinyl chloride	K, T, U	< 0.03	ppbv	0.03	AC-058	29-Mar-19

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

Date: April 24, 2019

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

Revision History

Order ID	Ver	Date	Reason
19030234	01	24-Apr-19	Report created

Methods

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

Qualifiers

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

Order Comments

19030234

Send results to Pramp tech. Unknowns to be reported.

Sample Comments

19030234-001

RSC past hold time due to late submission from client.

Result Comments

Note:

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

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