Peace River Area Monitoring Program

MARCH 2019

Monthly Ambient Air Quality Monitoring Report

Operation and Maintenance:

Maxxam Analytics

Data Validation and Report:

Peace River Area Monitoring Program

April 10, 2019

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LIST OF ACRONYMS

AAAQOs	Alberta Ambient Air Quality Objectives
AEP	Alberta Environment and Park
AMD	Air Monitoring Directive
AT	Ambient Temperature
BP	Barometric Pressure
CH4	Methane
EPEA	Environmental Protection and Enhancement Act
H2S	Hydrogen Sulphide
kph	kilometer 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	Degree Celsius

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April 10, 2019

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

Enclosed is the March 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 is 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

ID	Station Name	Latitude	Longitude
01	986	56.376056	-116.940704
02	842	56.27406	-116.98129
03	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 March 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.

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.
- THC/CH4/NMHC:
    - The CH4 channel failed the daily zero check on March 4 during hour 5. A repeat zero span check was conducted during hour 7, and this also returned a failed result. As the issue was confined to the zero/span system, data quality was not affected. No data were discarded due to this event. However, one hour of downtime was recorded due to additional the zero/span check.
    - The zero/span system was checked on March 5 during hour 15. No issues were identified.
    - Elevated zero results for the CH4 channel started being recorded again on March 9. A repeat zero span check was conducted on March 12 during hour 6, and this returned a failed result. Troubleshooting was performed by replacing

the zero air generator following the monthly calibration on March 13. No issue was observed after the troubleshooting. Five hours of downtime were recorded due to this event.

- The span gas was replaced following a zero/span check on March 21. One hour of downtime was recorded as a result.

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.
- TRS: Upon arrival at the station on March 20, the analyzer was not operating due to a faulty power supply. The power supply was replaced on March 21. The analyzer was allowed to stabilize overnight. A successful post-repair calibration was performed on March 22. Data was invalidated back to the point of the failure, which was March 19 hour 21. 58 hours of data were invalidated due to this event.
- WS/WD: Wind speed data are deemed invalid if 1-minute data are recorded as 0.0kph; the sensor is considered to be 'frozen'. The minute data were discarded, and hourly data were re-averaged. Hourly data ere discarded if less than 75% of valid minute data in an hour was recorded. 27 hours of data were invalidated due to this event. The wind direction data with the corresponding period were also considered invalid and were discarded. A frozen sensor can be attributed to a malfunctioning wind instrument or an error associated with the datalogger. This issue will be investigated further during the April site visit; and the results of the investigation will be included in the April monthly report.

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.
- Five possible methane-triggered events were recorded in March. However, only four canisters were collected. Canister sample for the March 7 was not collected as no spare canister was available for sampling. All canister samples were all collected at the Reno station.

Parameter	Concentration (ppm)	Date	Time
Methane	9.51	March 7	20:15
Methane	9.92	March 8	22:20
Methane	5.93	March 10	08:25
Methane	6.05	March 16	15:35
Methane	6.56	March 29	01:55

- Two NMHC-triggered canisters were collected in March. The samples were all collected at the Reno station.

Parameter	Concentration (ppm)	Date	Time
NMHC	0.32	March 18	21:55
NMHC	0.67	March 19	18:30

- 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).

- Reno Station: Seven canister samples were collected in March.
    - Methane-triggered samples were collected on March 8, 10, 16 and 29.

Sample Date/Time	2019-03-08				
Canister Sample	Methane				
Canister ID	29016				
Method	NA-025	Method	NA-024	Method	AC-058
Maximum Reading	2.8	Maximum Reading	3.3	Maximum Reading	2.2

Sample Date/Time	2019-03-10				
Canister Sample	Methane				
Canister ID	28954				
Method	NA-025	Method	NA-024	Method	AC-058
Maximum Reading	14.4	Maximum Reading	3.5	Maximum Reading	23.9

Sample Date/Time	2019-03-16*				
Canister Sample	Methane				
Canister ID	28887				
Method	NA-025	Method	NA-024	Method	AC-058
Maximum Reading	2.4	Maximum Reading	3.5	Maximum Reading	3

* Sample Date/Time for March 16 canister event was recorded incorrectly on the Chain of Custody. The canister was collected on March 16 at 15:35, not March 17 at 20:00.

Sample Date/Time	2019-03-29				
Canister Sample	Methane				
Canister ID	29007				
Method	NA-025	Method	NA-024	Method	AC-058
Maximum Reading	2.3	Maximum Reading	2.2	Maximum Reading	6.85

    - Non-methane Hydrocarbons-triggered samples were collected on March 18 and 19.

Sample Date/Time	2019-03-18				
Canister Sample	Non-Methane Hydrocarbons				
Canister ID	14997				
Method	NA-025	Method	NA-024	Method	AC-058
Maximum Reading	1.9	Maximum Reading	1.6	Maximum Reading	5.6

Sample Date/Time	2019-03-19				
Canister Sample	Non-Methane Hydrocarbons				
Canister ID	29025				
Method	NA-025	Method	NA-024	Method	AC-058
Maximum Reading	2.1	Maximum Reading	1.9	Maximum Reading	3.8

- Blank samples were collected on March 08.

Sample Date/Time	2019-03-08				
Canister Sample	Blank				
Canister ID	28897				
Method	NA-025	Method	NA-024	Method	AC-058
Maximum Reading	0	Maximum Reading	0	Maximum Reading	0.01

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

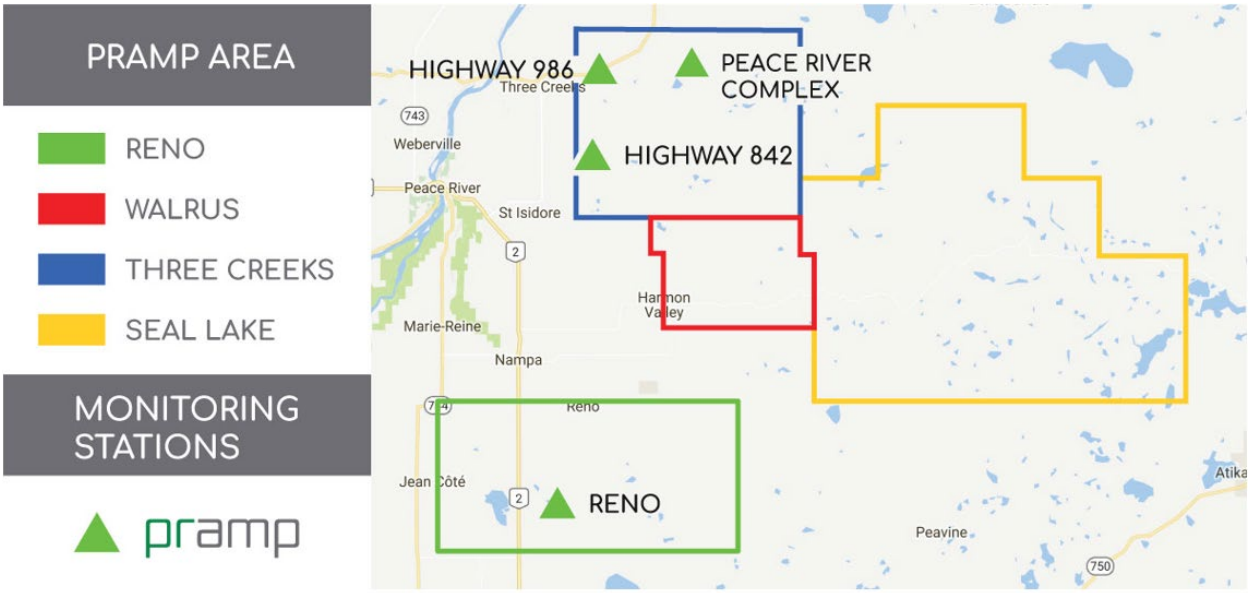
The report was reviewed by Mike Bisaga in accordance with Chapter 9 of the Air Monitoring Directive (AMD 2016).

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

April 10, 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 March 20.			
TRS	**Thermo / 43i-TLE**	**1152940011**	
• A successful monthly calibration was performed on March 20.			
THC/CH4/NMHC	**Thermo / 55i**	**1022143392**	
• A successful monthly calibration was performed on March 20. • The H2 gas was replaced on March 13.			
Relative Humidity (RH)	**RM Young / 43172VC**	**61012322**	
• The RH sensor was checked on March 20. The sensor passed the check requirements			
Barometric Pressure (BP)	**MetOne / 090D**	**F3845**	
• The BP sensor was checked on March 20. The sensor passed the check requirements.			
Ambient Temperature (AT)	**RM Young 43172VC**	**61012322**	
• The AT sensor was checked on March 20. The sensor passed the check requirements.			
Station Temperature (ST)	**Maxxam**	**N/A**	
• No issue was identified this month.			
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 March 20. The check result was within the acceptable range.			

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	0.3	0	2	March 18 at hour 6	4.7	SSE	1.6	March 1	100.0	95.0
TRS (ppb)	10	3	-	-	-	-	0.2	0.06	0.96	March 2 at hour 8	2.2	ESE	0.37	March 19	100.0	95.1
THC (ppm)	-	-	-	-	-	-	2.04	1.92	2.66	March 2 at hour 8	2.2	ESE	2.21	March 11	100.0	95.1
CH4 (ppm)	-	-	-	-	-	-	2.04	1.92	2.64	March 2 at hour 8	2.2	ESE	2.20	March 11	100.0	95.1
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.05	March 9 at hour 7	2.7	ESE	0.01	March 1	100.0	95.1
RH (%)	-	-	-	-	-	-	59.3	19	100	March 26 at hour 9	2.5	WNW	77.2	March 21	100.0	100.0
BP (millibar)	-	-	-	-	-	-	947	923	973	March 2 at hour 3	1.9	ESE	970	March 11	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	-2.7	-37.2	19.2	March 21 at hour 16	3.8	W	8.3	March 2	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	21.1	19.7	25.1	March 21 at hour 16	3.8	W	21.9	March 4	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	2.1	0.1	17.5	March 14 at hour 13	17.5	S	10.0	March 2	100.0	100.0
WDV (sector)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	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 986 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 March 13.			
TRS	**Thermo / 43i-TLE**	**1162460023**	
• A successful monthly calibration was performed on March 13.			
THC/CH4/NMHC	**Thermo / 55i**	**1505664392**	
• The CH4 channel failed the daily zero check on March 4 during hour 5. A repeat zero span check was conducted during hour 7, and this also returned a failed result. As the issue was confined to the zero/span system, data quality was not affected. No data were discarded due to this event. However, one hour of downtime was recorded due to additional the zero/span check. • The zero/span system was checked on March 5 during hour 15. No issues were identified. • Elevated zero results for the CH4 channel started being recorded again on March 9. A repeat zero span check was conducted on March 12 during hour 6, and this returned a failed result. Troubleshooting was performed by replacing the zero air generator following the monthly calibration on March 13. No issue was observed after the troubleshooting. Five hours of downtime were recorded due to this event. • The span gas was replaced following a zero/span check on March 21. One hour of downtime was recorded as a result.			
Relative Humidity (RH)	**Campbell Scientific / HMP45C**	**C2608**	
• No issue was identified this month.			
Barometric Pressure (BP)	**MetOne / 92**	**K12864**	
• No issue was identified this month.			
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.			
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.			

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	2	March 21 at hour 2	8	E	0.9	March 2	100.0	94.9
TRS (ppb)	10	3	-	-	-	-	0.3	0.05	0.54	March 20 at hour 22	6.1	ENE	0.44	March 1	100.0	94.7
THC (ppm)	-	-	-	-	-	-	2.01	1.91	2.53	March 2 at hour 8	2	ESE	2.15	March 11	98.9	93.9
CH4 (ppm)	-	-	-	-	-	-	2.01	1.91	2.53	March 2 at hour 8	2	ESE	2.15	March 11	98.9	93.9
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.02	March 26 at hour 3	2.1	ENE	0.00	March 1	98.9	93.9
RH (%)	-	-	-	-	-	-	60.4	16	94	March 12 at hour 7	5	WSW	77.0	March 21	100.0	100.0
BP (millibar)	-	-	-	-	-	-	948	923	971	March 2 at hour 6	2.4	E	969	March 11	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	-3.6	-36.4	18.4	March 21 at hour 16	5.6	W	7.3	March 2	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	22.3	20.7	23.5	March 21 at hour 16	5.6	W	22.6	March 7	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	3.7	0.3	24.0	March 10 at hour 14	24	SSW	14.2	March 5	100.0	100.0
WDV (sector)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	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 was within the AAAQOs for all monitored parameters.

Reno Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	
SO2	**API / 100A**	**841**	
• A successful monthly calibration was performed on March 20.			
TRS	**Thermo / 43i-TLE**	**1162460022**	
• Upon arrival at the station on March 20, the analyzer was not operating due to a faulty power supply. The power supply was replaced on March 21. The analyzer was allowed to stabilize overnight. A successful post-repair calibration was performed on March 22. Data was invalidated back to the point of the failure, which was March 19 hour 21. 58 hours of data were invalidated due to this event.			
THC/CH4/NMHC	**Thermo / 55i**	**1314057759**	
• A successful monthly calibration was performed on March 20. • Five possible methane-triggered canisters were collected in March. However, only four canisters were collected. Canister sample for the March 7 was not collected as no spare canister was available for sampling. • Canister samples were collected at concentration of 9.51 ppm on Mar 7 at 20:15, concentration of 9.92 ppm on Mar 8 at 22:20, concentration of 5.93 ppm on Mar 10 at 08:25, concentration of 6.05 ppm on Mar 16 at 15:35, and concentration of 6.56 ppm on Mar 29 at 01:55. • Two NMHC-triggered canisters were collected in March: concentration of 0.32 ppm on Mar 18 at 21:55, and concentration of 0.67 ppm on Mar 19 at 18:30.			
Relative Humidity (RH)	**RM Young / 43172VC**	**60837897**	
• The hygrometer was checked on March 20. The sensor passed the check requirements.			
Barometric Pressure (BP)	**MetOne / 92**	**R12877**	
• The hygrometer was checked on March 20. The sensor passed the check requirements.			
Ambient Temperature (AT)	**RM Young / 43172VC**	**60837897**	
• The temperature sensor was checked on March 20. The sensor passed the check requirements.			
Station Temperature (ST)	**Maxxam**	**N/A**	
• No issue was identified this month.			

Parameter	Make / Model	Serial Number	
Wind Speed/Wind Direction (WS/ WD)	**RM Young / 5305VK**	**149769**	

- Wind direction data contained in this report represents where the wind is coming from.
- Wind speed data are deemed invalid if 1-minute data are recorded as 0.0kph; the sensor is considered to be 'frozen'. The minute data were discarded, and hourly data were re-averaged. Hourly data ere discarded if less than 75% of valid minute data in an hour was recorded. 27 hours of data were invalidated due to this event. The wind direction data with the corresponding period were also considered invalid and were discarded. A frozen sensor can be attributed to a malfunctioning wind instrument or an error associated with the datalogger. This issue will be investigated further during the April site visit; and the results of the investigation will be included in the April monthly report.

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	0.4	0	3	March 22 at hour 8	5.2	SW	1.3	March 1	100.0	95.1
TRS (ppb)*	10	3	-	-	-	-	0.3	0.09	1.01	March 27 at hour 18	X	X	0.50	March 12	92.2	87.7
THC (ppm)	-	-	-	-	-	-	2.11	1.95	6.31	March 7 at hour 20	2	SSW	2.40	March 11	100.0	95.1
CH4 (ppm)	-	-	-	-	-	-	2.11	1.95	6.31	March 7 at hour 20	2	SSW	2.40	March 11	100.0	95.1
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.36	March 18 at hour 23	3.8	SSW	0.02	March 1	100.0	95.1
RH (%)	-	-	-	-	-	-	55.7	18	91	March 12 at hour 2	10.2	WSW	73.6	March 21	100.0	100.0
BP (millibar)	-	-	-	-	-	-	943	919	964	March 2 at hour 2	1.9	SSW	964	March 11	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	-3.4	-33.6	17.3	March 21 at hour 15	4.4	S	6.8	March 2	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	23.0	21.3	26.3	March 14 at hour 16	5.9	SSE	23.6	March 1	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	2.6	0.3	15.3	March 23 at hour 10	15.3	ESE	11.8	March 2	96.4	96.4
WDV (sector)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96.4	96.4

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

* Flag of "X" is used if VWS and VWD data are not valid.

Alberta Ambient Air Quality Objectives (AAAQOs) Exceedances

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

TABLES, CHARTS, WIND ROSES AND EQUIPMENT CALIBRATION RECORDS

986 STATION

PEACE RIVER AREA MONITORING PROGRAM

986b Station - March 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

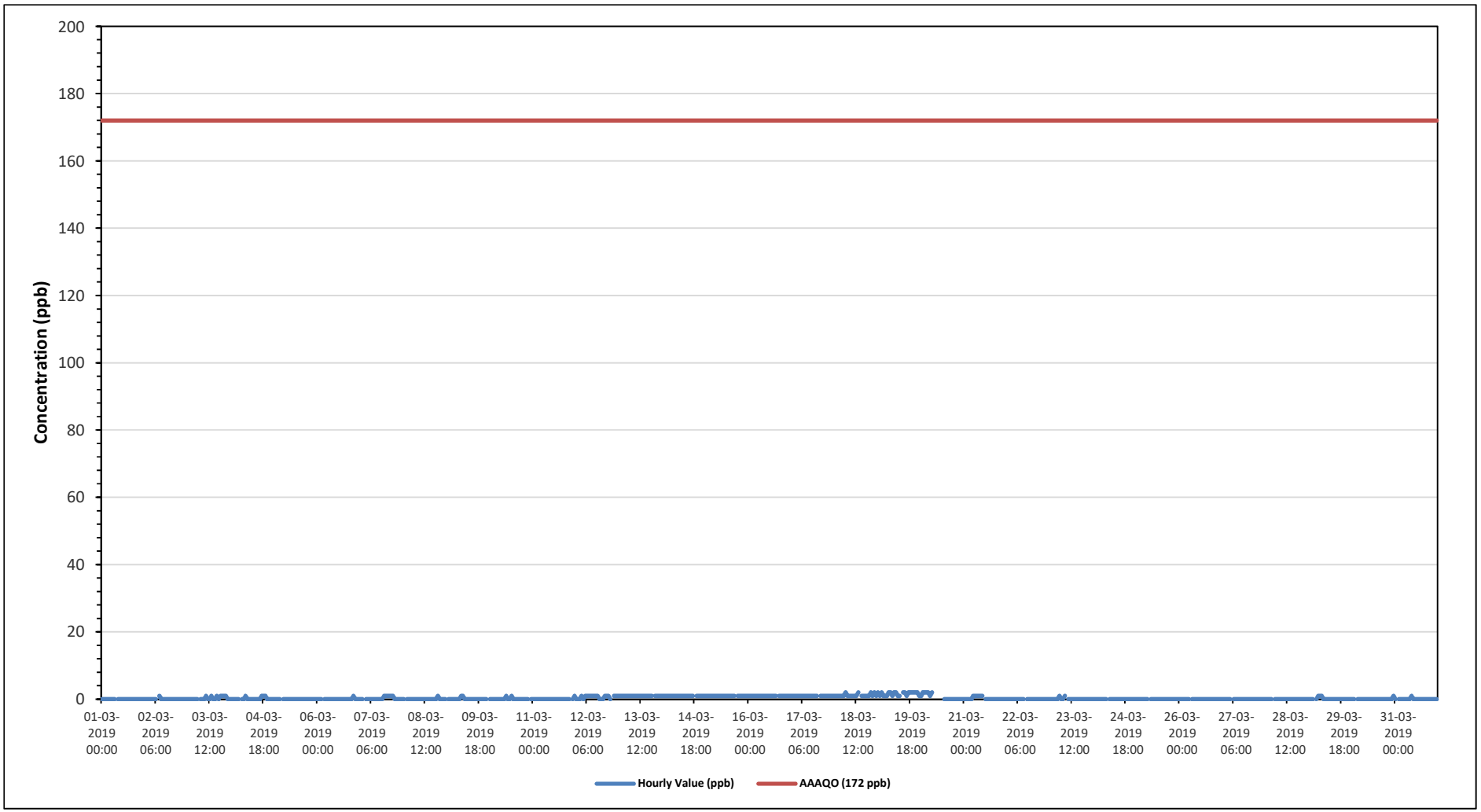
Maximum Hourly Value:	2	ppb	on March 18 at hour 6	Hours in Service:	744
Maximum Daily Value:	1.6	ppb	on March 19	Hours of Data:	707
Minimum Hourly Value:	0	ppb	on March 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.0	ppb	on March 1	Hours of Calibration:	37
Monthly Average:	0.3	ppb		Operational 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
Mar 1	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
Mar 2	0	0	0	0	0	0	0	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 3	0	0	0	0	0	0	S	0	0	0	1	0	0	1	0	0	1	0	1	1	1	1	0	0	0	1	0.3
Mar 4	0	0	0	0	0	S	0	0	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	0.2
Mar 5	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
Mar 6	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0.0
Mar 7	0	0	S	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	1	0.3
Mar 8	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.0
Mar 9	S	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0.1
Mar 10	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	S	0	0	1	0.1
Mar 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0	1	0.0
Mar 12	0	0	0	1	0	1	1	1	1	1	1	1	1	0	0	0	1	1	1	0	S	1	1	1	0	1	0.7
Mar 13	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
Mar 14	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
Mar 15	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
Mar 16	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
Mar 17	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
Mar 18	1	1	1	1	1	1	2	1	1	1	1	1	1	2	S	1	1	1	1	1	2	1	2	1	1	2	1.2
Mar 19	2	1	2	1	1	1	2	2	1	2	2	1	1	S	2	2	1	2	2	2	2	2	2	1	1	2	1.6
Mar 20	1	2	2	2	2	1	2	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	2	0.7
Mar 21	0	0	0	0	0	1	1	1	1	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3
Mar 22	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Mar 23	0	0	0	0	0	1	0	0	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Mar 24	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
Mar 25	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
Mar 26	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
Mar 27	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
Mar 28	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
Mar 29	0	0	0	S	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Mar 30	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.0
Mar 31	0	S	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Diurnal Maximum	2	2	2	2	2	1	2	2	1	2	2	1	1	2	2	2	1	2	2	2	2	2	2	1			
Daiurnal Average	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.4	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.4	0.3	0.3	0.3			

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

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

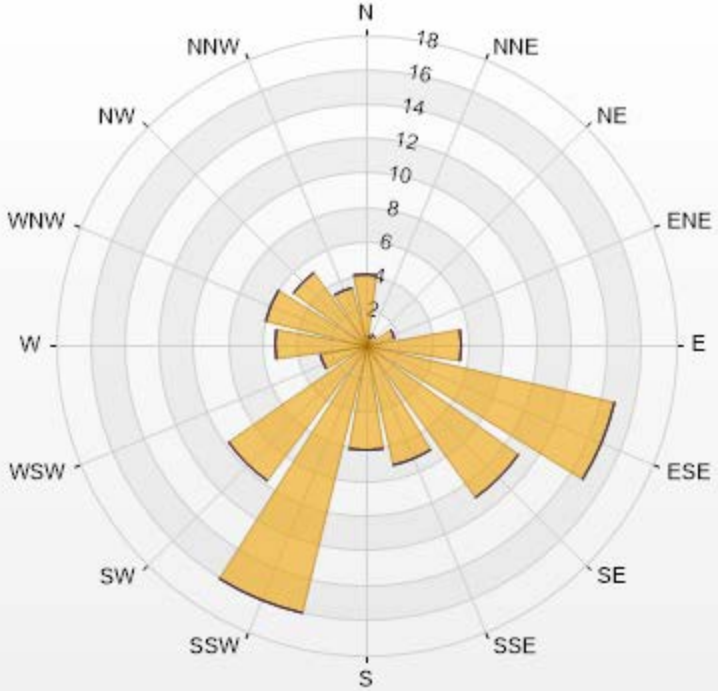
Timeseries Chart of Hourly Average for SO2 - 986b Station



Wind: PRAMP 986 Poll.: PRAMP 986-SO2[ppb] Monthly: 03-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.62% Calm Avg: 0.00 [ppb]

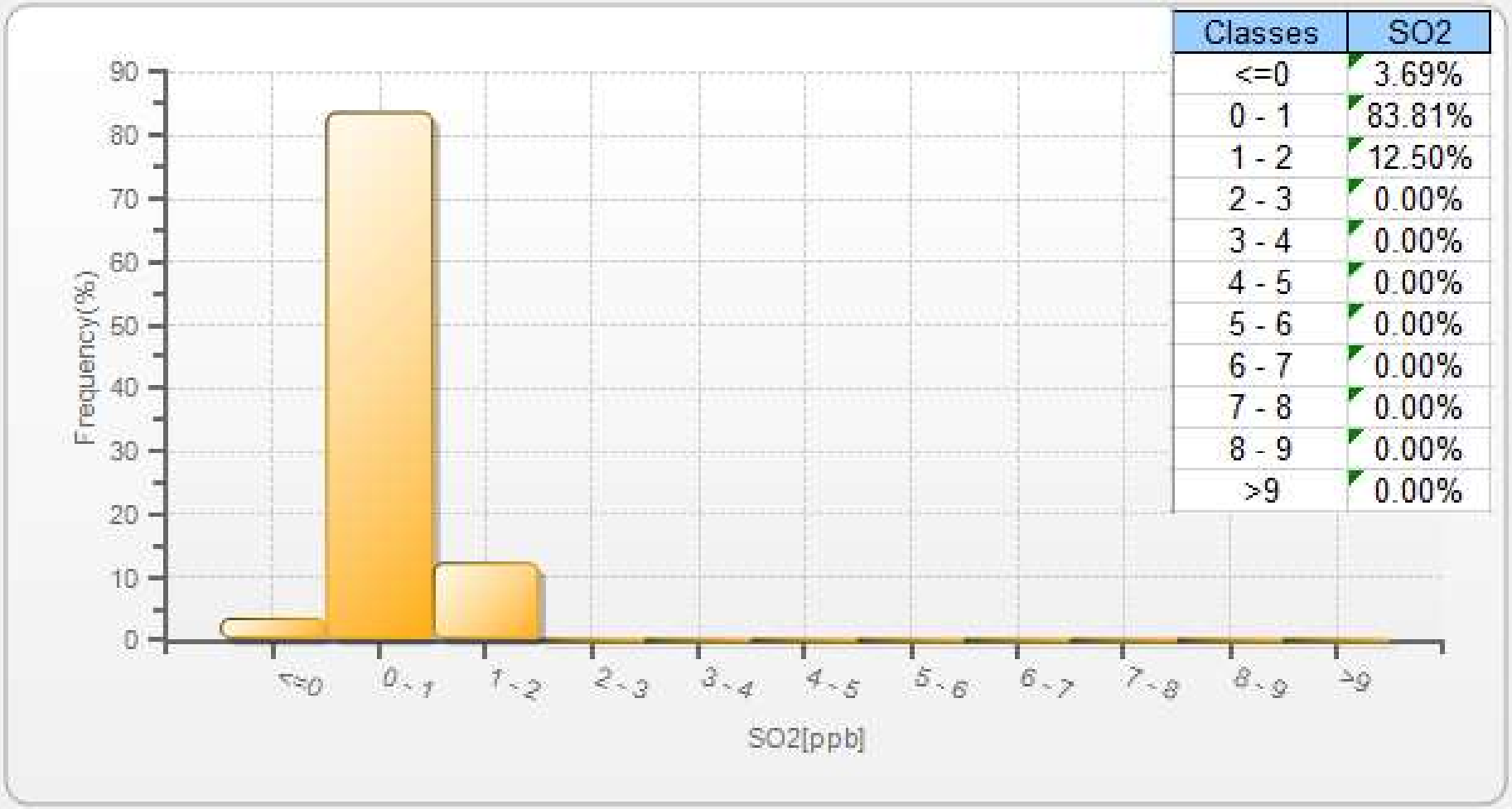
Direction	10-50	50-100	100-172	>172.0	Total
N	4.12	0	0	0	4.12
NNE	0.57	0	0	0	0.57
NE	0.71	0	0	0	0.71
ENE	1.7	0	0	0	1.7
E	5.54	0	0	0	5.54
ESE	14.91	0	0	0	14.91
SE	10.8	0	0	0	10.8
SSE	7.24	0	0	0	7.24
S	6.11	0	0	0	6.11
SSW	16.05	0	0	0	16.05
SW	9.8	0	0	0	9.8
WSW	2.7	0	0	0	2.7
W	5.26	0	0	0	5.26
WNW	5.97	0	0	0	5.97
NW	5.11	0	0	0	5.11
NNW	3.41	0	0	0	3.41
Summary	100	0	0	0	100

PRAMP 986 Poll.: PRAMP 986-SO2[ppb] 01-03-2019 00:00 - 31-03-2019 23:00 Calm: 0.00%



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

SO2[ppb] Histogram: PRAMP 986 Monthly: 03-2019 1 Hr.




Zero
4
2
Zero 0
-2
-4
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
Span
300
290
280
270
Span
260
250
240
230
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

PEACE RIVER AREA MONITORING PROGRAM

986b Station - March 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

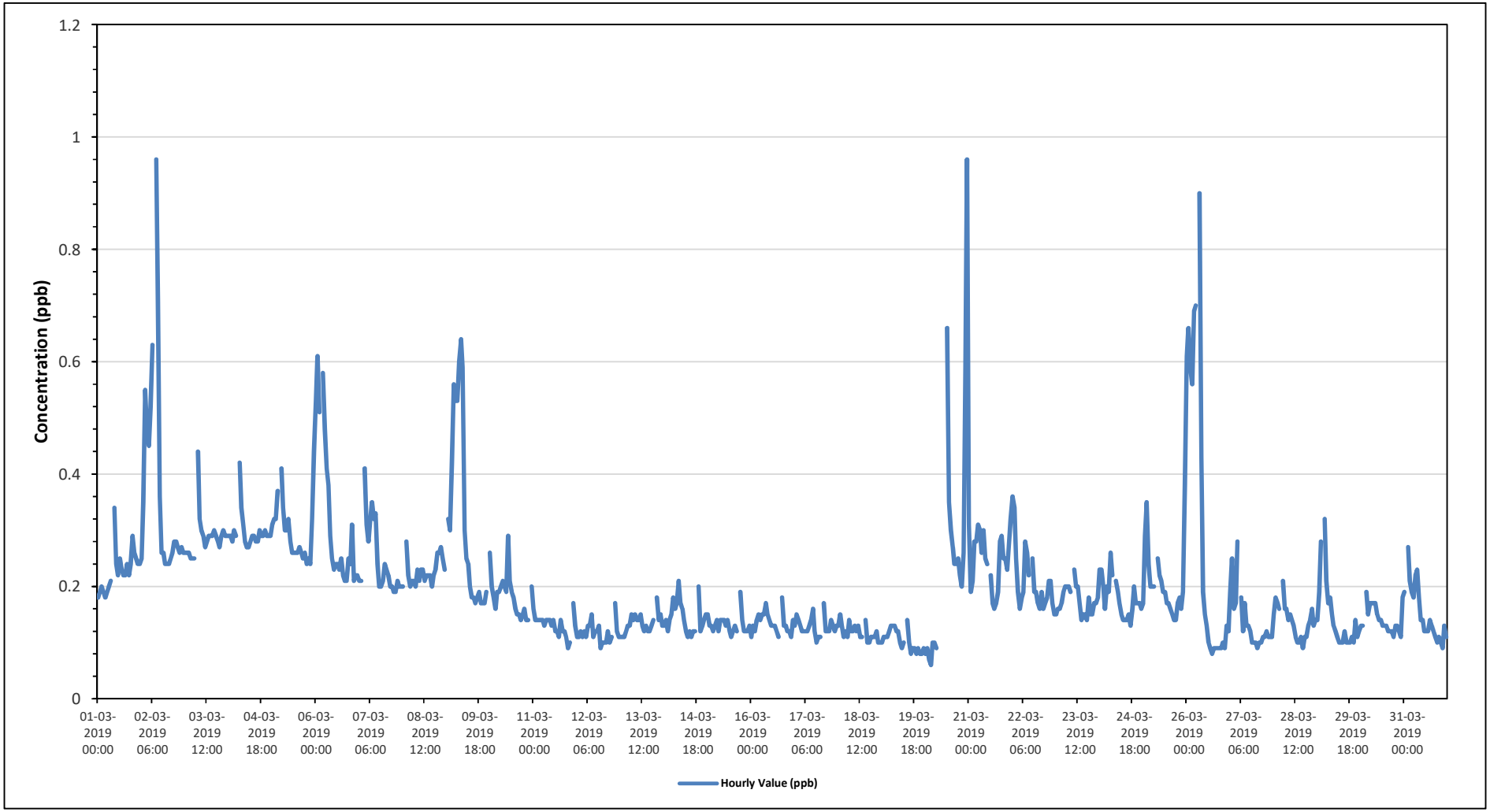
Maximum Hourly Value:	0.96	ppb	on March 2 at hour 8	Hours in Service:	744
Maximum Daily Value:	0.37	ppb	on March 2	Hours of Data:	708
Minimum Hourly Value:	0.06	ppb	on March 20 at hour 3	Hours of Missing Data:	0
Minimum Daily Value:	0.10	ppb	on March 19	Hours of Calibration:	36
Monthly Average:	0.20	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			
Mar 1	0.18	0.19	0.2	0.19	0.18	0.19	0.2	0.21	S	0.34	0.24	0.22	0.25	0.23	0.22	0.22	0.24	0.22	0.24	0.29	0.26	0.25	0.24	0.24	0.18	0.34	0.23
Mar 2	0.25	0.35	0.55	0.47	0.45	0.52	0.63	S	**0.96**	0.71	0.36	0.26	0.26	0.24	0.24	0.24	0.25	0.26	0.28	0.28	0.27	0.26	0.27	0.26	0.24	**0.96**	**0.37**
Mar 3	0.26	0.26	0.26	0.25	0.25	0.25	S	0.44	0.32	0.3	0.29	0.27	0.28	0.29	0.29	0.29	0.3	0.29	0.28	0.27	0.29	0.3	0.29	0.29	0.25	0.44	0.29
Mar 4	0.29	0.29	0.28	0.3	0.29	S	0.42	0.34	0.31	0.28	0.27	0.27	0.28	0.29	0.29	0.28	0.28	0.3	0.29	0.29	0.3	0.29	0.29	0.29	0.27	0.42	0.30
Mar 5	0.31	0.32	0.32	0.37	S	0.41	0.34	0.3	0.3	0.32	0.28	0.26	0.26	0.26	0.26	0.27	0.26	0.25	0.26	0.24	0.25	0.24	0.32	0.44	0.24	0.44	0.30
Mar 6	0.53	0.61	0.51	S	0.58	0.48	0.41	0.38	0.29	0.25	0.23	0.24	0.24	0.23	0.25	0.22	0.21	0.21	0.25	0.24	0.31	0.21	0.22	0.22	0.21	0.61	0.32
Mar 7	0.21	0.21	S	0.41	0.31	0.28	0.32	0.35	0.32	0.33	0.24	0.2	0.2	0.21	0.24	0.23	0.22	0.2	0.2	0.19	0.19	0.21	0.2	0.2	0.19	0.41	0.25
Mar 8	0.2	S	0.28	0.22	0.2	0.21	0.21	0.2	0.23	0.21	0.23	0.23	0.21	0.22	0.22	0.22	0.2	0.22	0.23	0.26	0.26	0.27	0.25	0.23	0.20	0.28	0.23
Mar 9	S	0.32	0.3	0.42	0.56	0.53	0.53	0.6	0.64	0.59	0.3	0.25	0.24	0.2	0.18	0.18	0.17	0.18	0.19	0.17	0.17	0.17	0.19	S	0.17	0.64	0.32
Mar 10	0.26	0.2	0.18	0.16	0.19	0.19	0.2	0.21	0.2	0.19	0.29	0.21	0.19	0.18	0.16	0.15	0.15	0.14	0.15	0.16	0.14	0.14	S	0.2	0.14	0.29	0.18
Mar 11	0.16	0.14	0.14	0.14	0.14	0.14	0.13	0.14	0.14	0.14	0.13	0.14	0.12	0.12	0.11	0.14	0.12	0.12	0.11	0.09	0.1	S	0.17	0.13	0.09	0.17	0.13
Mar 12	0.11	0.11	0.12	0.11	0.12	0.11	0.13	0.13	0.15	0.11	0.12	0.12	0.13	0.09	0.1	0.1	0.1	0.12	0.1	0.11	S	0.17	0.12	0.11	0.09	0.17	0.12
Mar 13	0.11	0.11	0.11	0.12	0.13	0.13	0.15	0.14	0.15	0.14	0.14	0.15	0.13	0.12	0.13	0.12	0.12	0.13	0.14	S	0.18	0.14	0.15	0.13	0.11	0.18	0.13
Mar 14	0.13	0.14	0.12	0.14	0.15	0.18	0.16	0.17	0.21	0.17	0.16	0.14	0.12	0.11	0.12	0.11	0.12	0.12	S	0.2	0.12	0.13	0.14	0.15	0.11	0.21	0.14
Mar 15	0.15	0.13	0.13	0.12	0.13	0.14	0.12	0.14	0.14	0.14	0.13	0.14	0.12	0.11	0.12	0.13	0.12	S	0.19	0.14	0.12	0.12	0.12	0.13	0.11	0.19	0.13
Mar 16	0.11	0.13	0.12	0.14	0.15	0.14	0.15	0.15	0.17	0.15	0.14	0.13	0.13	0.13	0.12	0.11	S	0.18	0.13	0.13	0.12	0.12	0.11	0.14	0.11	0.18	0.13
Mar 17	0.13	0.15	0.14	0.13	0.12	0.12	0.12	0.12	0.13	0.14	0.16	0.12	0.1	0.11	0.11	S	0.17	0.12	0.12	0.12	0.14	0.13	0.12	0.13	0.10	0.17	0.13
Mar 18	0.13	0.15	0.13	0.11	0.12	0.11	0.14	0.12	0.12	0.13	0.12	0.13	0.11	0.11	S	0.14	0.1	0.1	0.11	0.11	0.11	0.12	0.1	0.1	0.10	0.15	0.12
Mar 19	0.1	0.11	0.11	0.11	0.12	0.13	0.13	0.13	0.12	0.12	0.1	0.09	0.1	S	0.14	0.1	0.08	0.09	0.09	0.08	0.09	0.08	0.08	0.09	0.08	0.14	**0.10**
Mar 20	0.08	0.09	0.07	**0.06**	0.1	0.1	0.09	C	C	C	C	C	0.66	0.35	0.3	0.27	0.24	0.24	0.25	0.22	0.2	0.26	0.59	**0.96**	**0.06**	**0.96**	0.27
Mar 21	0.31	0.19	0.21	0.28	0.28	0.31	0.3	0.26	0.3	0.25	0.24	S	0.22	0.17	0.16	0.17	0.19	0.28	0.29	0.25	0.25	0.23	0.27	0.32	0.16	0.32	0.25
Mar 22	0.36	0.34	0.25	0.19	0.16	0.18	0.19	0.28	0.26	0.22	S	0.25	0.19	0.19	0.17	0.16	0.19	0.16	0.17	0.18	0.21	0.21	0.17	0.15	0.15	0.36	0.21
Mar 23	0.15	0.16	0.16	0.17	0.19	0.2	0.2	0.2	0.19	S	0.23	0.2	0.2	0.17	0.14	0.15	0.15	0.14	0.18	0.15	0.15	0.17	0.17	0.18	0.14	0.23	0.17
Mar 24	0.23	0.23	0.2	0.16	0.2	0.19	0.26	0.22	S	0.21	0.19	0.17	0.15	0.14	0.14	0.14	0.15	0.13	0.16	0.2	0.17	0.17	0.17	0.16	0.13	0.26	0.18
Mar 25	0.17	0.29	0.35	0.24	0.2	0.2	0.2	S	0.25	0.22	0.21	0.19	0.19	0.17	0.17	0.16	0.15	0.14	0.14	0.17	0.18	0.16	0.19	0.38	0.14	0.38	0.21
Mar 26	0.61	0.66	0.59	0.56	0.69	0.7	S	0.9	0.43	0.19	0.15	0.13	0.1	0.09	0.08	0.09	0.09	0.09	0.09	0.09	0.1	0.09	0.13	0.12	0.08	0.90	0.29
Mar 27	0.19	0.25	0.16	0.17	0.28	S	0.18	0.12	0.17	0.13	0.13	0.12	0.1	0.1	0.1	0.09	0.1	0.1	0.11	0.11	0.12	0.11	0.11	0.11	0.09	0.28	0.14
Mar 28	0.15	0.18	0.17	0.16	S	0.21	0.16	0.16	0.14	0.15	0.14	0.13	0.11	0.1	0.1	0.11	0.09	0.11	0.11	0.13	0.14	0.16	0.13	0.14	0.09	0.21	0.14
Mar 29	0.14	0.19	0.28	S	0.32	0.21	0.17	0.18	0.15	0.13	0.12	0.11	0.1	0.1	0.1	0.12	0.1	0.1	0.1	0.11	0.1	0.14	0.11	0.12	0.10	0.32	0.14
Mar 30	0.13	0.13	S	0.19	0.15	0.17	0.17	0.17	0.17	0.15	0.14	0.14	0.13	0.13	0.13	0.12	0.12	0.12	0.11	0.13	0.13	0.12	0.11	0.18	0.11	0.19	0.14
Mar 31	0.19	S	0.27	0.21	0.19	0.18	0.22	0.23	0.18	0.14	0.14	0.12	0.12	0.12	0.14	0.13	0.12	0.11	0.1	0.11	0.1	0.09	0.13	0.11	0.09	0.27	0.15
Diurnal Maximum	0.61	0.66	0.59	0.56	0.69	0.70	0.63	0.90	0.96	0.71	0.36	0.27	0.66	0.35	0.30	0.29	0.30	0.30	0.29	0.29	0.31	0.30	0.59	0.96			
Daiurnal Average	0.21	0.23	0.23	0.22	0.24	0.24	0.23	0.25	0.26	0.23	0.19	0.18	0.19	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.18	0.18	0.19	0.21			

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

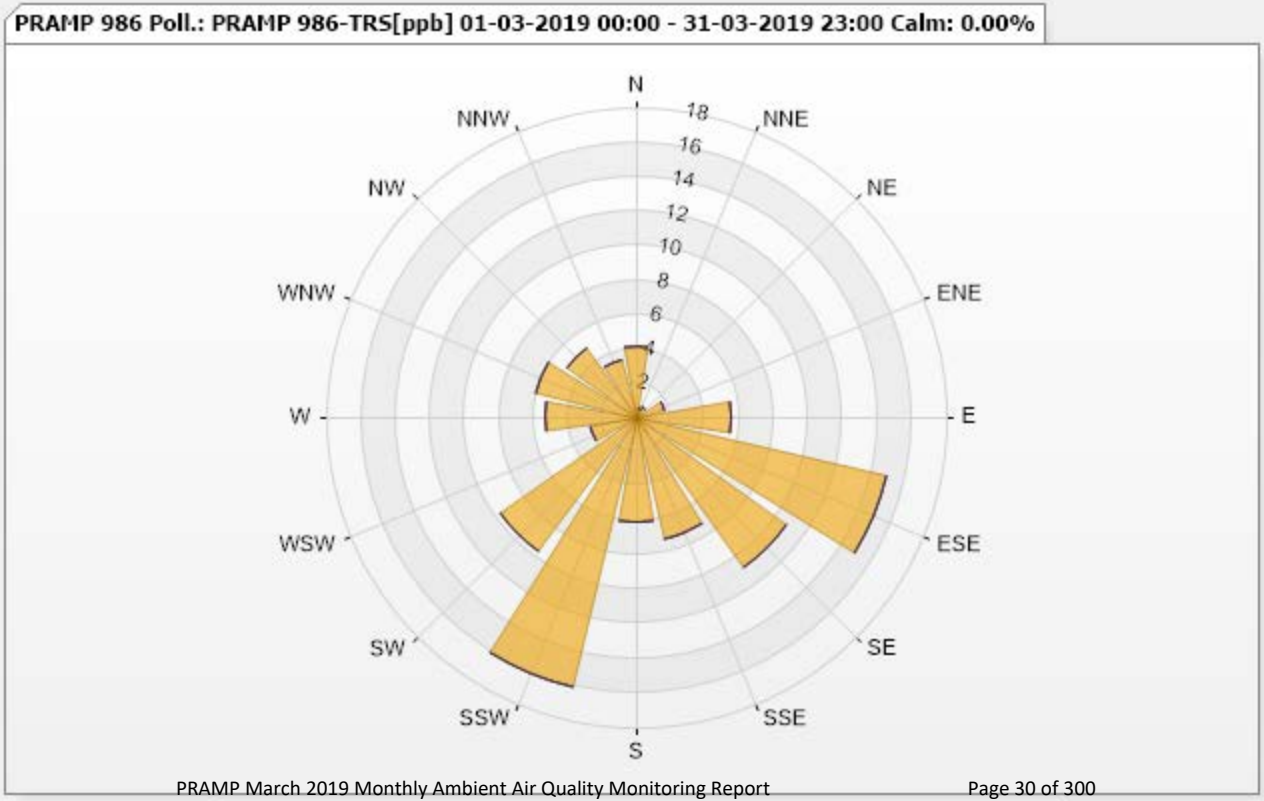
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

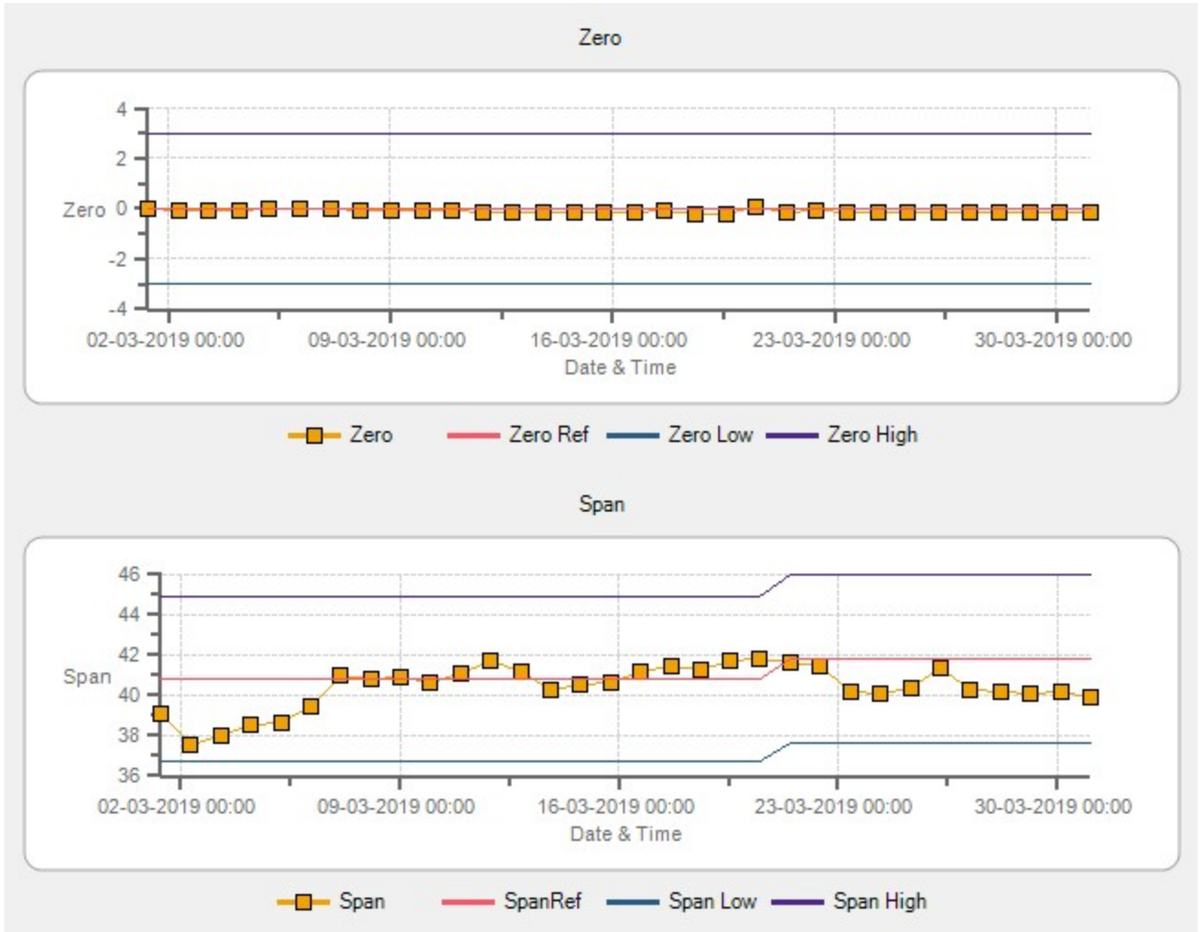
Timeseries Chart of Hourly Average for TRS - 986b Station



Wind: PRAMP 986 Poll.: PRAMP 986-TRS[ppb] Monthly: 03-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.35% Calm Avg: 0.00 [ppb]

Direction	2-5	5-10	10-50	>50.0	Total
N	4.13	0	0	0	4.13
NNE	0.57	0	0	0	0.57
NE	0.71	0	0	0	0.71
ENE	1.71	0	0	0	1.71
E	5.56	0	0	0	5.56
ESE	14.96	0	0	0	14.96
SE	10.83	0	0	0	10.83
SSE	7.26	0	0	0	7.26
S	6.13	0	0	0	6.13
SSW	16.1	0	0	0	16.1
SW	9.69	0	0	0	9.69
WSW	2.71	0	0	0	2.71
W	5.27	0	0	0	5.27
WNW	5.98	0	0	0	5.98
NW	4.99	0	0	0	4.99
NNW	3.42	0	0	0	3.42
Summary	100	0	0	0	100


PRAMP 986 Poll.: PRAMP 986-TRS[ppb] 01-03-2019 00:00 - 31-03-2019 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
18
16
14
12
10
8
6
4
2
% Icon Classes (ppb)
100 2-5
0 5-10
0 10-50
0 >50.0


Zero
4
2
Zero 0
-2
-4
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
Span
46
44
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Span
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38
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02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

PEACE RIVER AREA MONITORING PROGRAM

986b Station - March 2019

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

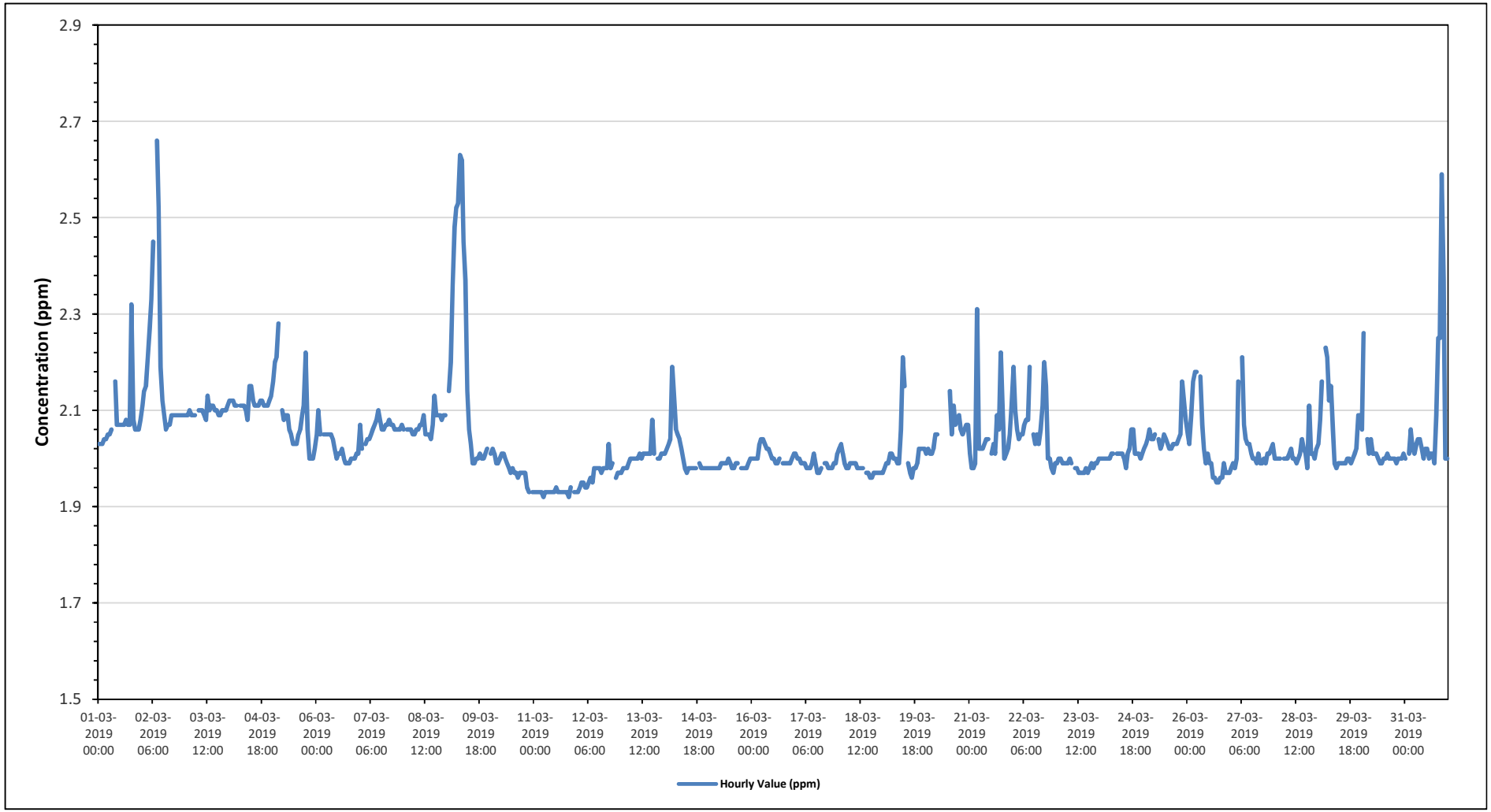
Maximum Hourly Value:	2.66	ppm	on March 2 at hour 8	Hours in Service:	744
Maximum Daily Value:	2.21	ppm	on March 9	Hours of Data:	708
Minimum Hourly Value:	1.92	ppm	on March 11 at hour 5	Hours of Missing Data:	0
Minimum Daily Value:	1.93	ppm	on March 11	Hours of Calibration:	36
Monthly Average:	2.04	ppm		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Mar 1	2.03	2.03	2.03	2.04	2.04	2.05	2.05	2.06	S	2.16	2.07	2.07	2.07	2.07	2.07	2.08	2.07	2.07	2.32	2.08	2.06	2.06	2.06	2.08	2.03	2.32	2.07
Mar 2	2.11	2.14	2.15	2.21	2.27	2.33	2.45	S	**2.66**	2.52	2.19	2.12	2.09	2.06	2.07	2.07	2.09	2.09	2.09	2.09	2.09	2.09	2.09	2.09	2.06	**2.66**	2.18
Mar 3	2.09	2.09	2.10	2.09	2.09	2.09	S	2.10	2.10	2.10	2.09	2.08	2.13	2.10	2.11	2.11	2.10	2.10	2.09	2.09	2.10	2.10	2.10	2.11	2.08	2.13	2.10
Mar 4	2.12	2.12	2.12	2.11	2.11	S	2.11	2.11	2.11	2.10	2.08	2.15	2.15	2.12	2.11	2.11	2.11	2.12	2.12	2.11	2.11	2.11	2.12	2.13	2.08	2.15	2.12
Mar 5	2.16	2.20	2.21	2.28	S	2.10	2.08	2.09	2.09	2.06	2.05	2.03	2.03	2.03	2.05	2.06	2.09	2.11	2.22	2.06	2.00	2.00	2.00	2.02	2.00	2.28	2.09
Mar 6	2.05	2.10	2.05	S	2.05	2.05	2.05	2.05	2.05	2.04	2.02	2.00	2.01	2.01	2.02	2.00	1.99	1.99	1.99	2.00	2.00	2.00	2.01	2.01	1.99	2.10	2.02
Mar 7	2.07	2.02	S	2.03	2.04	2.04	2.05	2.06	2.07	2.08	2.10	2.08	2.06	2.06	2.07	2.07	2.08	2.07	2.07	2.06	2.06	2.06	2.06	2.07	2.02	2.10	2.06
Mar 8	2.06	S	2.06	2.06	2.06	2.05	2.05	2.06	2.06	2.07	2.07	2.09	2.05	2.05	2.05	2.04	2.07	2.13	2.09	2.09	2.09	2.08	2.09	2.09	2.04	2.13	2.07
Mar 9	S	2.14	2.20	2.36	2.48	2.52	2.53	2.63	2.62	2.45	2.37	2.14	2.06	2.03	1.99	1.99	2.00	2.00	2.01	2.00	2.00	2.01	2.02	S	1.99	2.63	**2.21**
Mar 10	2.01	2.02	2.01	1.99	1.99	2.00	2.01	2.01	2.00	1.99	1.98	1.97	1.98	1.97	1.97	1.96	1.97	1.97	1.97	1.97	1.94	1.93	S	1.93	1.93	2.02	1.98
Mar 11	1.93	1.93	1.93	1.93	1.93	**1.92**	1.93	1.93	1.93	1.93	1.93	1.93	1.94	1.93	1.93	1.93	1.93	1.93	1.93	1.92	1.94	S	1.93	1.93	**1.92**	1.94	**1.93**
Mar 12	1.93	1.94	1.95	1.95	1.94	1.94	1.95	1.96	1.95	1.98	1.98	1.98	1.98	1.97	1.98	1.98	1.98	2.03	1.98	1.99	S	1.96	1.97	1.97	1.93	2.03	1.97
Mar 13	1.97	1.98	1.98	1.98	1.99	2.00	2.00	2.00	2.00	2.00	2.01	2.00	2.01	2.01	2.01	2.01	2.01	2.08	2.01	S	2.00	2.00	2.01	2.01	1.97	2.08	2.00
Mar 14	2.01	2.02	2.03	2.04	2.19	2.13	2.06	2.05	2.04	2.02	2.00	1.98	1.97	1.98	1.98	1.98	1.98	1.98	S	1.99	1.98	1.98	1.98	1.98	1.97	2.19	2.02
Mar 15	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	1.99	1.99	2.00	1.99	1.98	1.98	1.99	1.99	S	1.98	1.98	1.98	1.98	1.99	2.00	1.98	2.00	1.99
Mar 16	2.00	2.00	2.00	2.00	2.03	2.04	2.04	2.03	2.02	2.02	2.01	2.00	2.00	1.99	1.99	2.00	S	1.99	1.99	1.99	1.99	1.99	2.00	2.01	1.99	2.04	2.01
Mar 17	2.01	2.00	2.00	1.99	1.99	1.99	1.98	1.98	1.98	1.99	2.01	1.99	1.97	1.97	1.98	S	1.99	1.99	1.98	1.98	1.98	1.99	1.99	2.01	1.97	2.01	1.99
Mar 18	2.02	2.03	2.01	1.99	1.98	1.98	1.99	1.99	1.99	1.99	1.98	1.98	1.98	1.98	S	1.97	1.97	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.96	2.03	1.98
Mar 19	1.97	1.98	1.99	1.99	2.01	2.01	2.00	2.00	1.99	1.99	2.06	2.21	2.15	S	1.99	1.97	1.96	1.98	1.98	1.99	2.02	2.02	2.02	2.02	1.96	2.21	2.01
Mar 20	2.01	2.02	2.01	2.01	2.02	2.05	2.05	C	C	C	C	2.04	S	2.14	2.05	2.11	2.07	2.08	2.09	2.06	2.05	2.06	2.07	2.07	2.01	2.14	2.06
Mar 21	2.01	1.98	1.98	1.99	2.31	2.02	2.02	2.02	2.03	2.04	2.04	S	2.01	2.03	2.01	2.09	2.06	2.22	2.12	2.00	2.01	2.02	2.05	2.11	1.98	2.31	2.05
Mar 22	2.19	2.10	2.06	2.04	2.05	2.05	2.07	2.08	2.08	2.19	S	2.05	2.03	2.05	2.03	2.06	2.11	2.20	2.15	2.00	2.00	1.98	1.97	1.99	1.97	2.20	2.07
Mar 23	1.99	2.00	2.00	1.99	1.99	1.99	1.99	2.00	1.99	S	1.98	1.98	1.97	1.97	1.97	1.97	1.98	1.97	1.98	1.99	1.98	1.99	1.99	2.00	1.97	2.00	1.99
Mar 24	2.00	2.00	2.00	2.00	2.00	2.00	2.01	2.01	S	2.01	2.01	2.01	2.01	2.00	1.98	2.01	2.02	2.06	2.06	2.01	2.01	2.01	2.00	2.01	1.98	2.06	2.01
Mar 25	2.02	2.03	2.04	2.06	2.04	2.04	2.05	S	2.04	2.02	2.03	2.05	2.04	2.03	2.02	2.02	2.03	2.03	2.03	2.04	2.05	2.16	2.12	2.08	2.02	2.16	2.05
Mar 26	2.05	2.03	2.09	2.16	2.18	2.18	S	2.17	2.07	2.02	1.99	2.01	1.99	1.99	1.96	1.96	1.95	1.95	1.96	1.96	1.99	1.97	1.97	1.97	1.95	2.18	2.02
Mar 27	1.98	1.99	1.98	2.00	2.16	S	2.21	2.07	2.04	2.03	2.03	2.01	2.00	2.00	1.99	2.01	1.99	1.99	2.00	1.99	2.01	2.01	2.02	2.03	1.98	2.21	2.02
Mar 28	2.00	2.00	2.00	2.00	S	2.00	2.00	2.00	2.01	2.02	2.00	2.00	1.99	2.00	2.01	2.04	2.02	2.01	1.98	2.11	2.01	2.01	2.00	2.02	1.98	2.11	2.01
Mar 29	2.03	2.08	2.16	S	2.23	2.21	2.12	2.15	2.06	1.99	1.98	1.99	1.99	1.99	1.99	1.99	2.00	2.00	1.99	2.00	2.01	2.02	2.09	2.09	1.98	2.23	2.05
Mar 30	2.06	2.26	S	2.04	2.01	2.04	2.01	2.01	2.01	2.00	1.99	1.99	2.00	2.00	2.01	2.00	2.00	2.00	2.00	1.99	2.00	2.00	2.00	2.01	1.99	2.26	2.02
Mar 31	2.00	S	2.01	2.06	2.02	2.01	2.03	2.04	2.04	2.02	2.00	2.02	2.02	2.00	2.01	2.01	1.99	2.09	2.25	2.25	2.59	2.37	2.00	2.00	1.99	2.59	2.08
Diurnal Maximum	2.19	2.26	2.21	2.36	2.48	2.52	2.53	2.63	2.66	2.52	2.37	2.21	2.15	2.14	2.11	2.11	2.11	2.22	2.32	2.25	2.59	2.37	2.12	2.13			
Daiurnal Average	2.03	2.04	2.04	2.05	2.08	2.06	2.06	2.06	2.07	2.06	2.04	2.03	2.02	2.02	2.01	2.02	2.02	2.04	2.05	2.03	2.03	2.03	2.02	2.03			

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

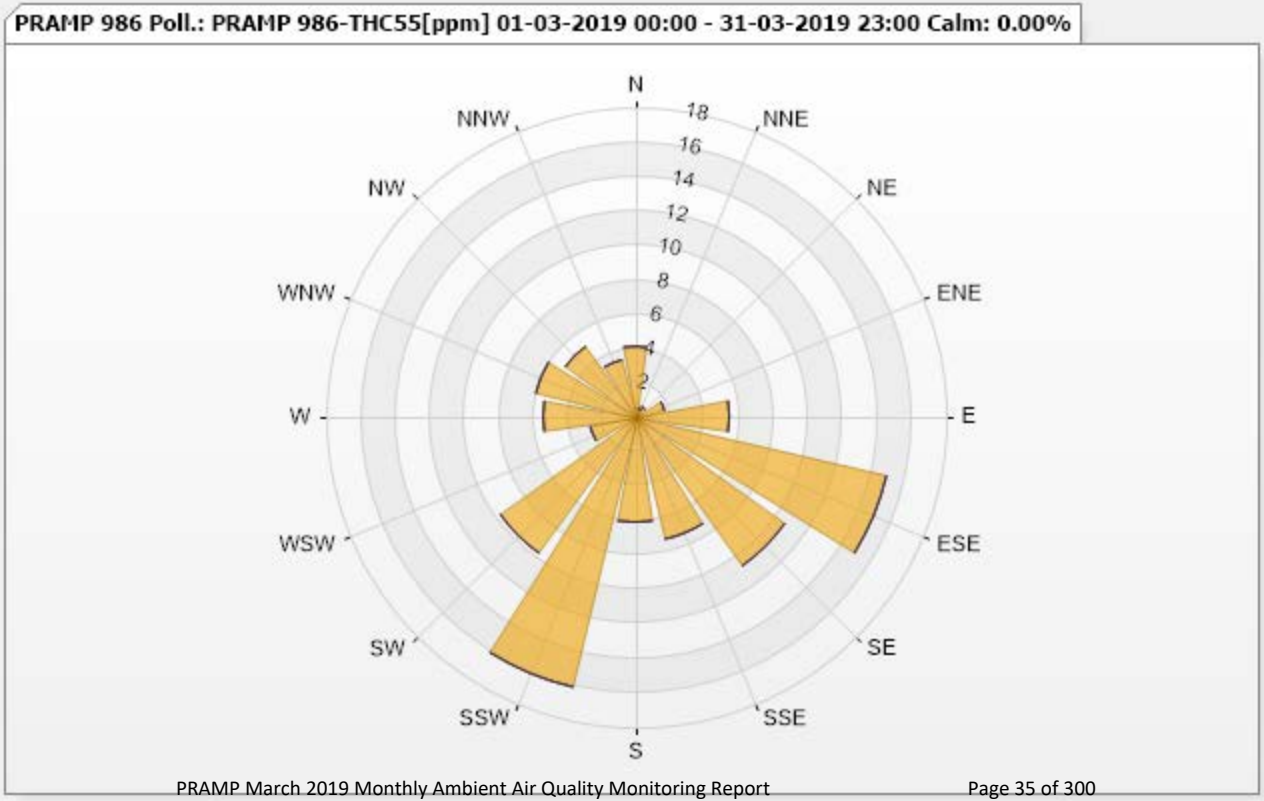
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

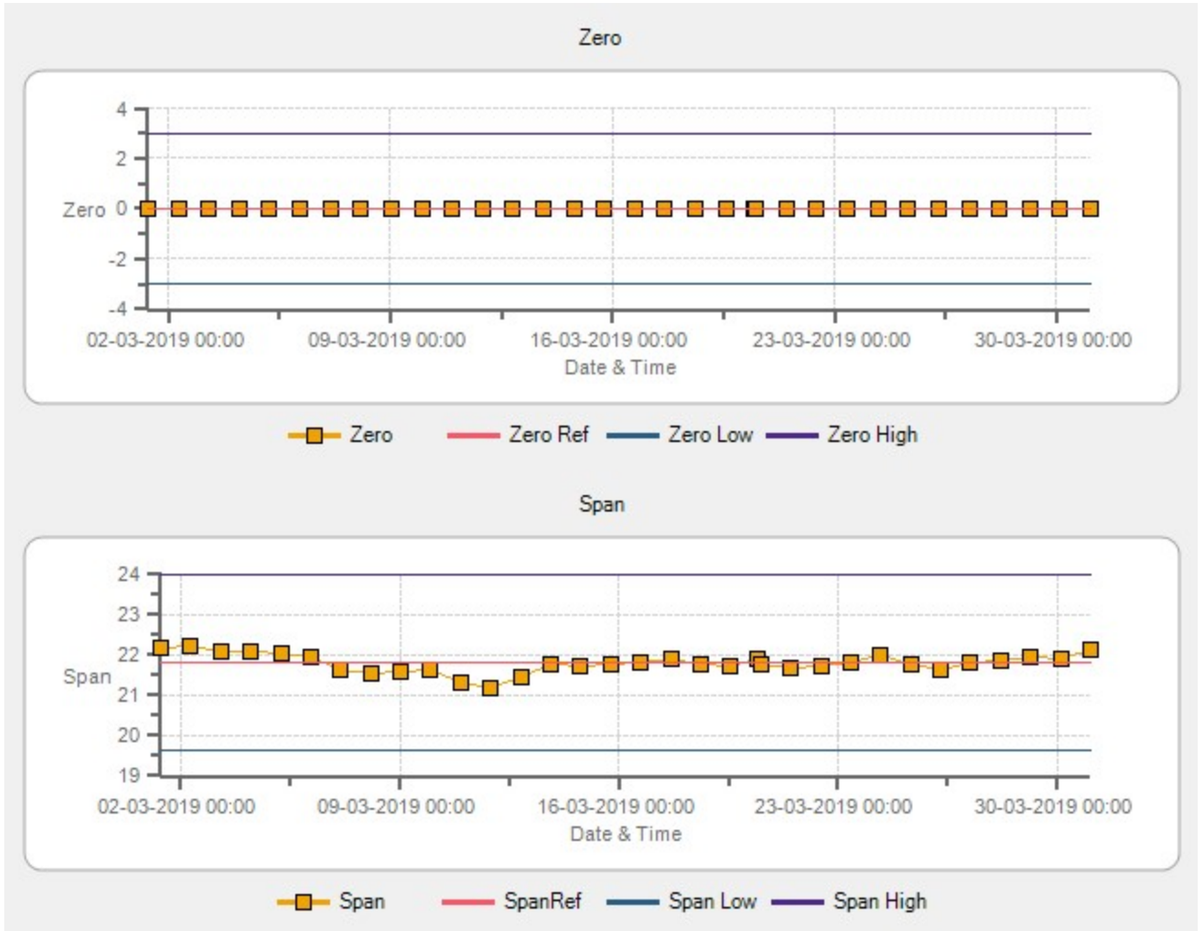
Timeseries Chart of Hourly Average for THC - 986b Station



Wind: PRAMP 986 Poll.: PRAMP 986-THC55[ppm] Monthly: 03-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 95.16% Calm Avg: 0.00 [ppm]

Direction	2-5	5-10	10-40	>40.0	Total
N	4.1	0	0	0	4.1
NNE	0.56	0	0	0	0.56
NE	0.71	0	0	0	0.71
ENE	1.69	0	0	0	1.69
E	5.51	0	0	0	5.51
ESE	14.97	0	0	0	14.97
SE	10.73	0	0	0	10.73
SSE	7.2	0	0	0	7.2
S	6.21	0	0	0	6.21
SSW	16.1	0	0	0	16.1
SW	9.75	0	0	0	9.75
WSW	2.68	0	0	0	2.68
W	5.37	0	0	0	5.37
WNW	5.93	0	0	0	5.93
NW	5.08	0	0	0	5.08
NNW	3.39	0	0	0	3.39
Summary	100	0	0	0	100


PRAMP 986 Poll.: PRAMP 986-THC55[ppm] 01-03-2019 00:00 - 31-03-2019 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
18
16
14
12
10
8
6
4
2
% Icon Classes (ppm)
100 2-5
0 5-10
0 10-40
0 >40.0


Zero
4
2
Zero 0
-2
-4
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
Span
24
23
22
Span
21
20
19
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

986b Station - March 2019

Summary of Hourly Averages

METHANE (CH4) in ppm

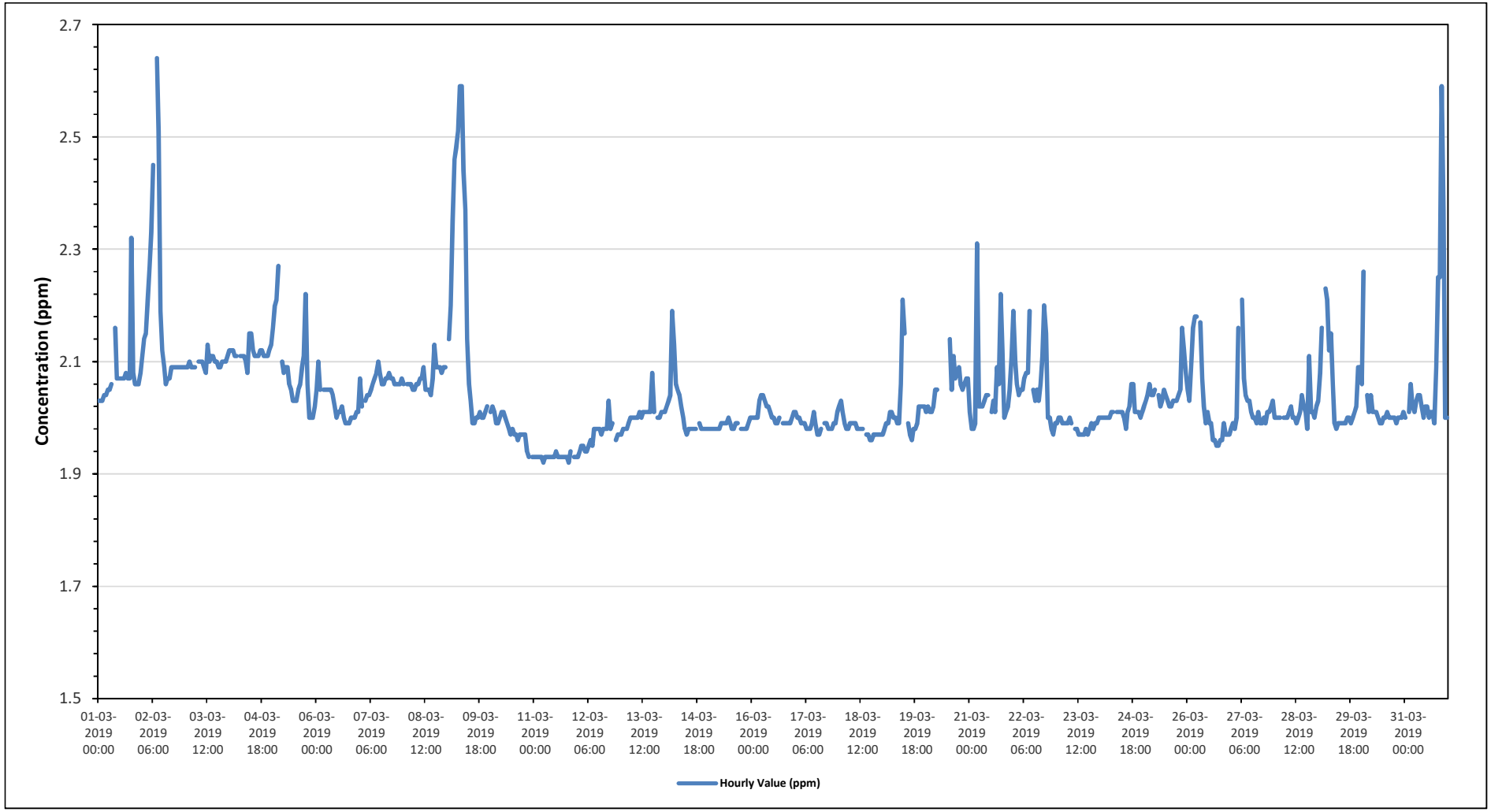
Maximum Hourly Value:	2.64	ppm	on March 2 at hour 8	Hours in Service:	744
Maximum Daily Value:	2.20	ppm	on March 9	Hours of Data:	708
Minimum Hourly Value:	1.92	ppm	on March 11 at hour 5	Hours of Missing Data:	0
Minimum Daily Value:	1.93	ppm	on March 11	Hours of Calibration:	36
Monthly Average:	2.04	ppm		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Mar 1	2.03	2.03	2.03	2.04	2.04	2.05	2.05	2.06	S	2.16	2.07	2.07	2.07	2.07	2.07	2.08	2.07	2.07	2.32	2.08	2.06	2.06	2.06	2.08	2.03	2.32	2.07
Mar 2	2.11	2.14	2.15	2.21	2.27	2.33	2.45	S	**2.64**	2.51	2.19	2.12	2.09	2.06	2.07	2.07	2.09	2.09	2.09	2.09	2.09	2.09	2.09	2.09	2.06	**2.64**	2.18
Mar 3	2.09	2.09	2.10	2.09	2.09	2.09	S	2.10	2.10	2.10	2.09	2.08	2.13	2.10	2.11	2.11	2.10	2.10	2.09	2.09	2.10	2.10	2.10	2.11	2.08	2.13	2.10
Mar 4	2.12	2.12	2.12	2.11	2.11	S	2.11	2.11	2.11	2.10	2.08	2.15	2.15	2.12	2.11	2.11	2.11	2.12	2.12	2.11	2.11	2.11	2.12	2.13	2.08	2.15	2.12
Mar 5	2.16	2.20	2.21	2.27	S	2.10	2.08	2.09	2.09	2.06	2.05	2.03	2.03	2.03	2.05	2.06	2.09	2.11	2.22	2.06	2.00	2.00	2.00	2.02	2.00	2.27	2.09
Mar 6	2.05	2.10	2.05	S	2.05	2.05	2.05	2.05	2.05	2.04	2.02	2.00	2.01	2.01	2.02	2.00	1.99	1.99	1.99	2.00	2.00	2.00	2.01	2.01	1.99	2.10	2.02
Mar 7	2.07	2.02	S	2.03	2.04	2.04	2.05	2.06	2.07	2.08	2.10	2.08	2.06	2.06	2.07	2.07	2.08	2.07	2.07	2.06	2.06	2.06	2.06	2.07	2.02	2.10	2.06
Mar 8	2.06	S	2.06	2.06	2.06	2.05	2.05	2.06	2.06	2.07	2.07	2.09	2.05	2.05	2.05	2.04	2.07	2.13	2.09	2.09	2.09	2.08	2.09	2.09	2.04	2.13	2.07
Mar 9	S	2.14	2.20	2.35	2.46	2.48	2.51	2.59	2.59	2.44	2.37	2.14	2.06	2.03	1.99	1.99	2.00	2.00	2.01	2.00	2.00	2.01	2.02	S	1.99	2.59	**2.20**
Mar 10	2.01	2.02	2.01	1.99	1.99	2.00	2.01	2.01	2.00	1.99	1.98	1.97	1.98	1.97	1.97	1.96	1.97	1.97	1.97	1.97	1.94	1.93	S	1.93	1.93	2.02	1.98
Mar 11	1.93	1.93	1.93	1.93	1.93	**1.92**	1.93	1.93	1.93	1.93	1.93	1.93	1.94	1.93	1.93	1.93	1.93	1.93	1.93	1.92	1.94	S	1.93	1.93	**1.92**	1.94	**1.93**
Mar 12	1.93	1.94	1.95	1.95	1.94	1.94	1.95	1.96	1.95	1.98	1.98	1.98	1.98	1.97	1.98	1.98	1.98	2.03	1.98	1.99	S	1.96	1.97	1.97	1.93	2.03	1.97
Mar 13	1.97	1.98	1.98	1.98	1.99	2.00	2.00	2.00	2.00	2.00	2.01	2.00	2.01	2.01	2.01	2.01	2.01	2.08	2.01	S	2.00	2.00	2.01	2.01	1.97	2.08	2.00
Mar 14	2.01	2.02	2.03	2.04	2.19	2.13	2.06	2.05	2.04	2.02	2.00	1.98	1.97	1.98	1.98	1.98	1.98	1.98	S	1.99	1.98	1.98	1.98	1.98	1.97	2.19	2.02
Mar 15	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	1.99	1.99	2.00	1.99	1.98	1.98	1.99	1.99	S	1.98	1.98	1.98	1.98	1.99	2.00	1.98	2.00	1.99
Mar 16	2.00	2.00	2.00	2.00	2.03	2.04	2.04	2.03	2.02	2.02	2.01	2.00	2.00	1.99	1.99	2.00	S	1.99	1.99	1.99	1.99	1.99	2.00	2.01	1.99	2.04	2.01
Mar 17	2.01	2.00	2.00	1.99	1.99	1.99	1.98	1.98	1.98	1.99	2.01	1.99	1.97	1.97	1.98	S	1.99	1.99	1.98	1.98	1.98	1.99	1.99	2.01	1.97	2.01	1.99
Mar 18	2.02	2.03	2.01	1.99	1.98	1.98	1.99	1.99	1.99	1.99	1.98	1.98	1.98	1.98	S	1.97	1.97	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.96	2.03	1.98
Mar 19	1.97	1.98	1.99	1.99	2.01	2.01	2.00	2.00	1.99	1.99	2.06	2.21	2.15	S	1.99	1.97	1.96	1.98	1.98	1.99	2.02	2.02	2.02	2.02	1.96	2.21	2.01
Mar 20	2.01	2.02	2.01	2.01	2.02	2.05	2.05	C	C	C	C	2.04	S	2.14	2.05	2.11	2.07	2.08	2.09	2.06	2.05	2.06	2.07	2.07	2.01	2.14	2.06
Mar 21	2.01	1.98	1.98	1.99	2.31	2.02	2.02	2.02	2.03	2.04	2.04	S	2.01	2.03	2.01	2.09	2.06	2.22	2.12	2.00	2.01	2.02	2.05	2.11	1.98	2.31	2.05
Mar 22	2.19	2.10	2.06	2.04	2.05	2.05	2.07	2.08	2.08	2.19	S	2.05	2.03	2.05	2.03	2.06	2.11	2.20	2.15	2.00	2.00	1.98	1.97	1.99	1.97	2.20	2.07
Mar 23	1.99	2.00	2.00	1.99	1.99	1.99	1.99	2.00	1.99	S	1.98	1.98	1.97	1.97	1.97	1.97	1.98	1.97	1.98	1.99	1.98	1.99	1.99	2.00	1.97	2.00	1.99
Mar 24	2.00	2.00	2.00	2.00	2.00	2.00	2.01	2.01	S	2.01	2.01	2.01	2.01	2.00	1.98	2.01	2.02	2.06	2.06	2.01	2.01	2.01	2.00	2.01	1.98	2.06	2.01
Mar 25	2.02	2.03	2.04	2.06	2.04	2.04	2.05	S	2.04	2.02	2.03	2.05	2.04	2.03	2.02	2.02	2.03	2.03	2.03	2.04	2.05	2.16	2.12	2.08	2.02	2.16	2.05
Mar 26	2.05	2.03	2.09	2.16	2.18	2.18	S	2.17	2.07	2.02	1.99	2.01	1.99	1.99	1.96	1.96	1.95	1.95	1.96	1.96	1.99	1.97	1.97	1.97	1.95	2.18	2.02
Mar 27	1.98	1.99	1.98	2.00	2.16	S	2.21	2.07	2.04	2.03	2.03	2.01	2.00	2.00	1.99	2.01	1.99	1.99	2.00	1.99	2.01	2.01	2.02	2.03	1.98	2.21	2.02
Mar 28	2.00	2.00	2.00	2.00	S	2.00	2.00	2.00	2.01	2.02	2.00	2.00	1.99	2.00	2.01	2.04	2.02	2.01	1.98	2.11	2.01	2.01	2.00	2.02	1.98	2.11	2.01
Mar 29	2.03	2.08	2.16	S	2.23	2.21	2.12	2.15	2.06	1.99	1.98	1.99	1.99	1.99	1.99	1.99	2.00	2.00	1.99	2.00	2.01	2.02	2.09	2.09	1.98	2.23	2.05
Mar 30	2.06	2.26	S	2.04	2.01	2.04	2.01	2.01	2.01	2.00	1.99	1.99	2.00	2.00	2.01	2.00	2.00	2.00	2.00	1.99	2.00	2.00	2.00	2.01	1.99	2.26	2.02
Mar 31	2.00	S	2.01	2.06	2.02	2.01	2.03	2.04	2.04	2.02	2.00	2.02	2.02	2.00	2.01	2.01	1.99	2.09	2.25	2.25	2.59	2.37	2.00	2.00	1.99	2.59	2.08
Diurnal Maximum	2.19	2.26	2.21	2.35	2.46	2.48	2.51	2.59	2.64	2.51	2.37	2.21	2.15	2.14	2.11	2.11	2.11	2.22	2.32	2.25	2.59	2.37	2.12	2.13			
Daiurnal Average	2.03	2.04	2.04	2.05	2.07	2.06	2.06	2.06	2.07	2.06	2.04	2.03	2.02	2.02	2.01	2.02	2.02	2.04	2.05	2.03	2.03	2.03	2.02	2.03			

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

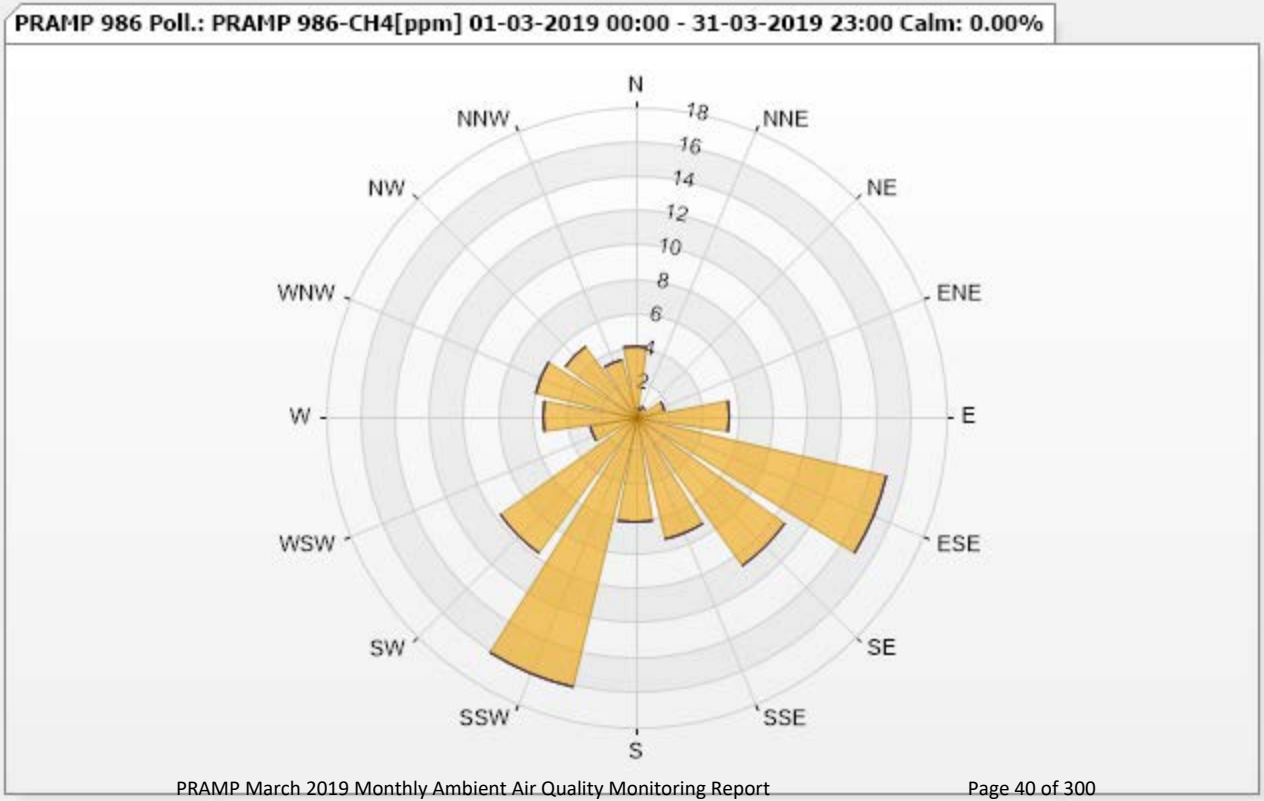
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

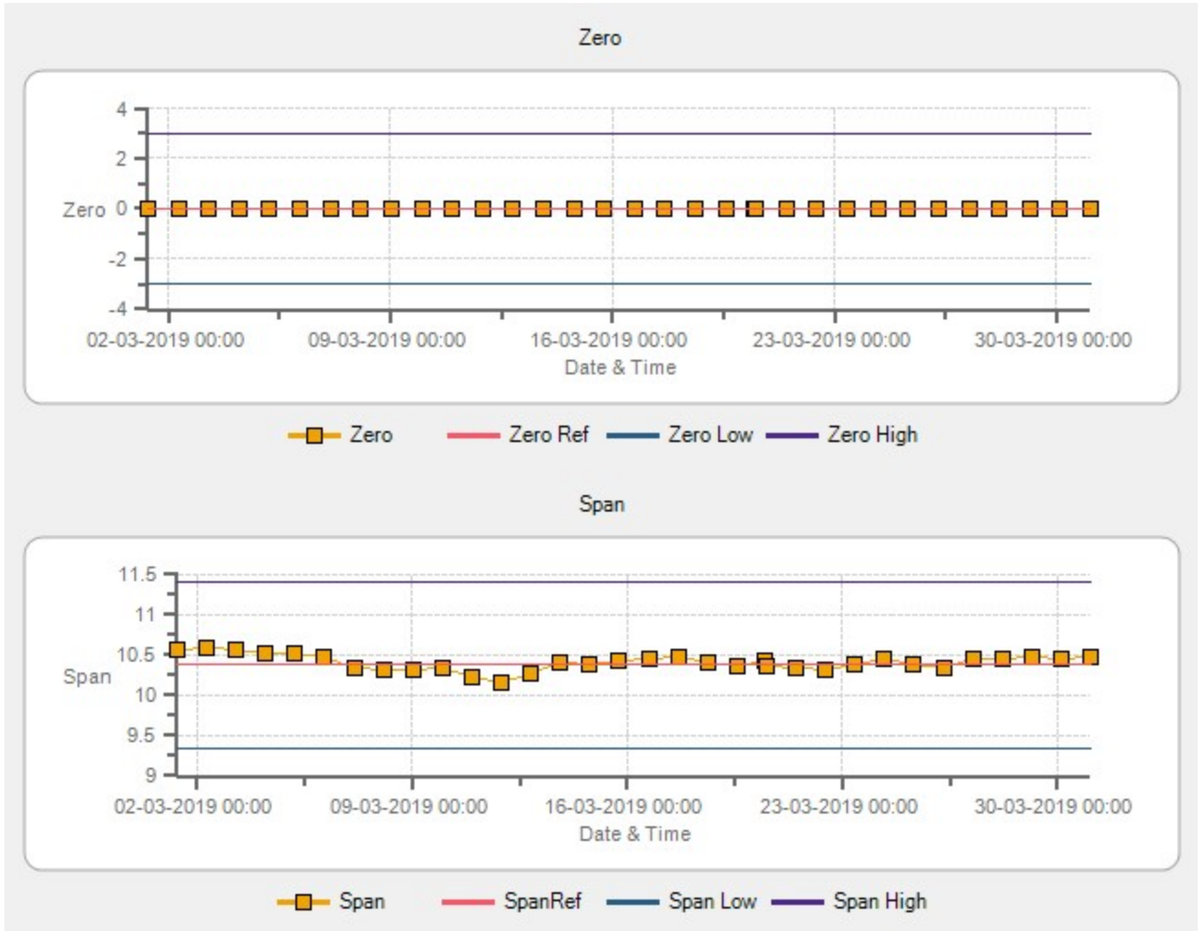
Timeseries Chart of Hourly Average for CH4 - 986b Station



Wind: PRAMP 986 Poll.: PRAMP 986-CH4[ppm] Monthly: 03-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 95.16% Calm Avg: 0.00 [ppm]

Direction	2-5	5-10	10-20	>20.0	Total
N	4.1	0	0	0	4.1
NNE	0.56	0	0	0	0.56
NE	0.71	0	0	0	0.71
ENE	1.69	0	0	0	1.69
E	5.51	0	0	0	5.51
ESE	14.97	0	0	0	14.97
SE	10.73	0	0	0	10.73
SSE	7.2	0	0	0	7.2
S	6.21	0	0	0	6.21
SSW	16.1	0	0	0	16.1
SW	9.75	0	0	0	9.75
WSW	2.68	0	0	0	2.68
W	5.37	0	0	0	5.37
WNW	5.93	0	0	0	5.93
NW	5.08	0	0	0	5.08
NNW	3.39	0	0	0	3.39
Summary	100	0	0	0	100


PRAMP 986 Poll.: PRAMP 986-CH4[ppm] 01-03-2019 00:00 - 31-03-2019 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
18
16
14
12
10
8
6
4
2
% Icon Classes (ppm)
100 2-5
0 5-10
0 10-20
0 >20.0


Zero
4
2
Zero 0
-2
-4
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
Span
11.5
11
10.5
Span
10
9.5
9
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

986b Station - March 2019

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

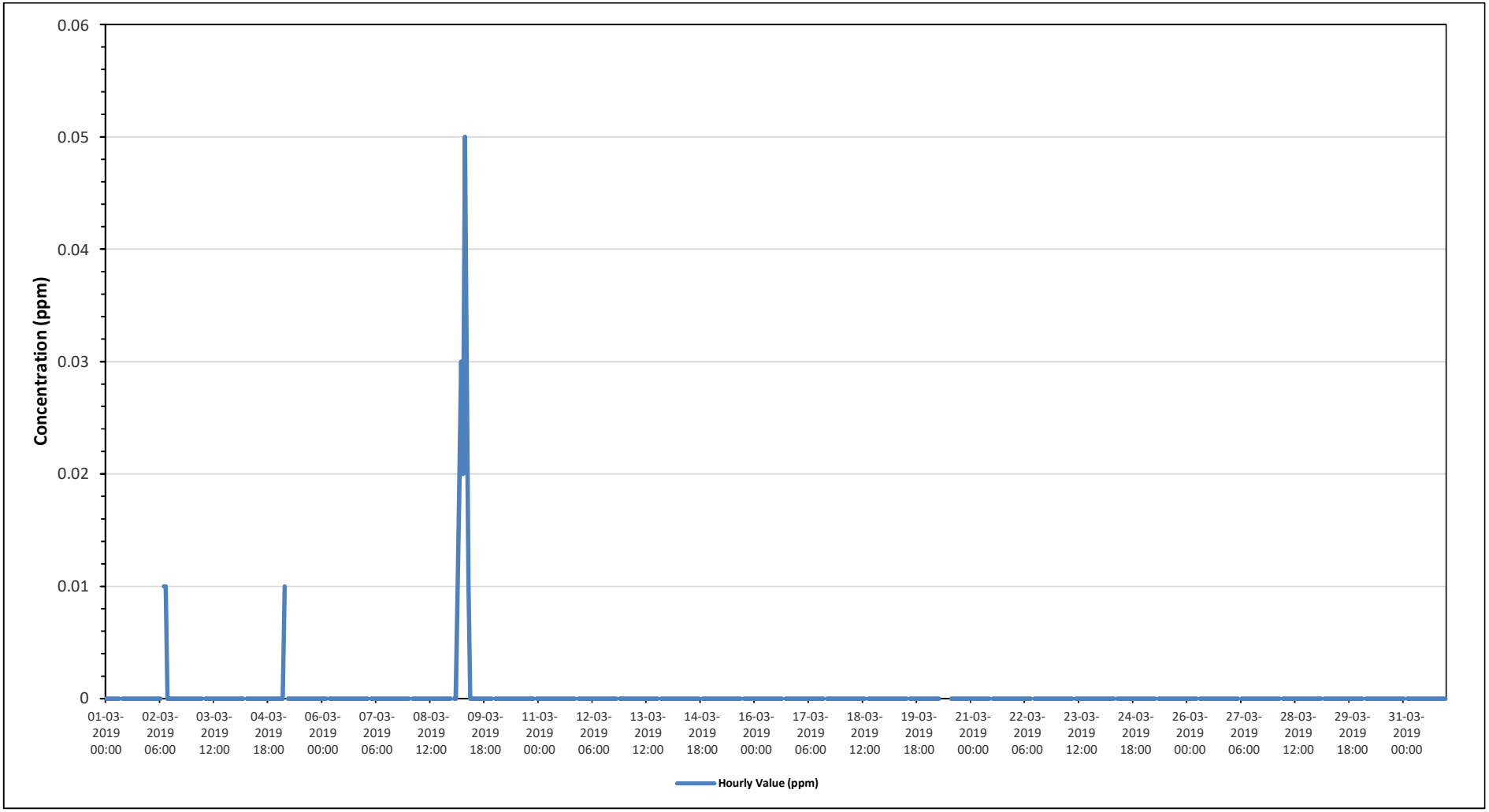
Maximum Hourly Value:	0.05	ppm	on March 9 at hour 7	Hours in Service:	744
Maximum Daily Value:	0.01	ppm	on March 9	Hours of Data:	708
Minimum Hourly Value:	0.00	ppm	on March 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.00	ppm	on March 1	Hours of Calibration:	36
Monthly Average:	0.00	ppm		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Mar 1	**0.00**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	**0.00**
Mar 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.01	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	0.01	0.00
Mar 3	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 4	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 5	0.00	0.00	0.00	0.01	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Mar 6	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 7	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 8	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 9	S	0.00	0.00	0.01	0.02	0.03	0.02	**0.05**	0.03	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	S	0.00	**0.05**	**0.01**
Mar 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Mar 11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Mar 12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Mar 13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 26	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 27	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 28	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 29	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 30	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 31	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diurnal Maximum	0.00	0.00	0.00	0.01	0.02	0.03	0.02	0.05	0.03	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			
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

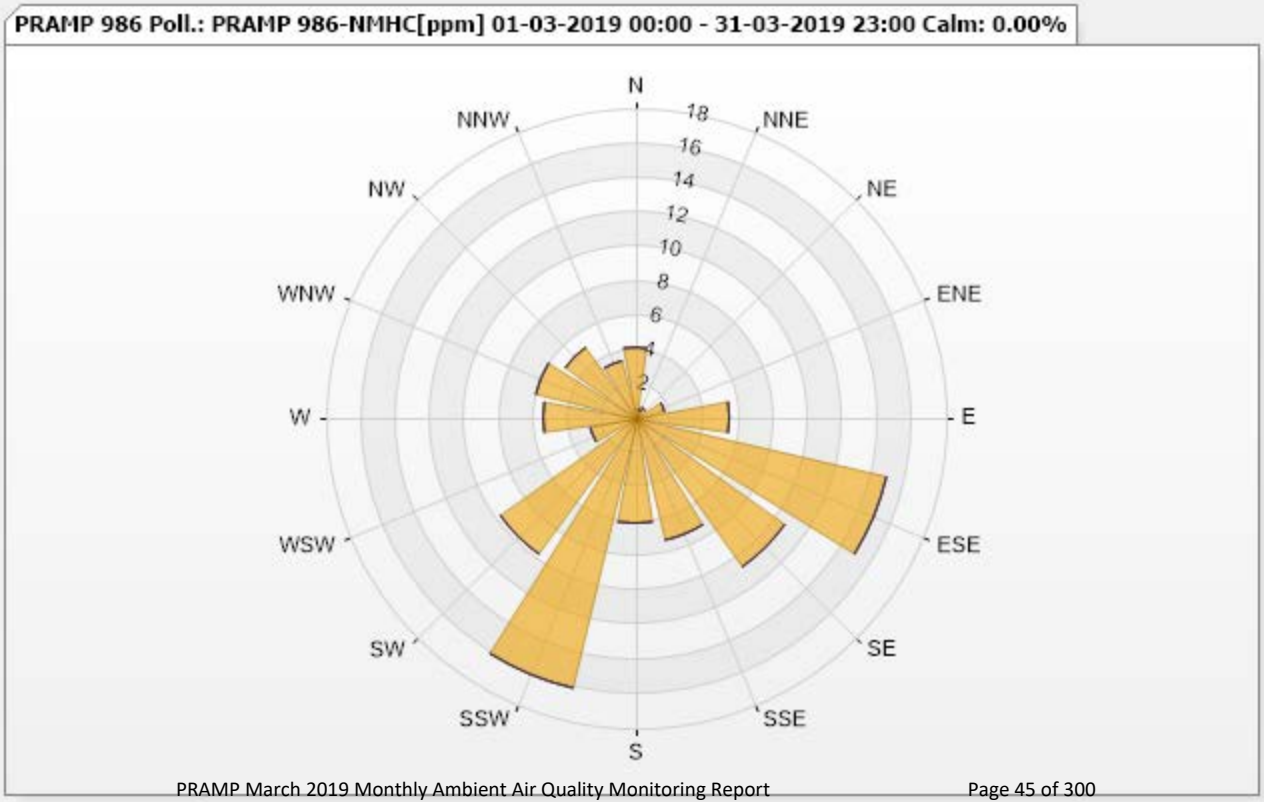
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

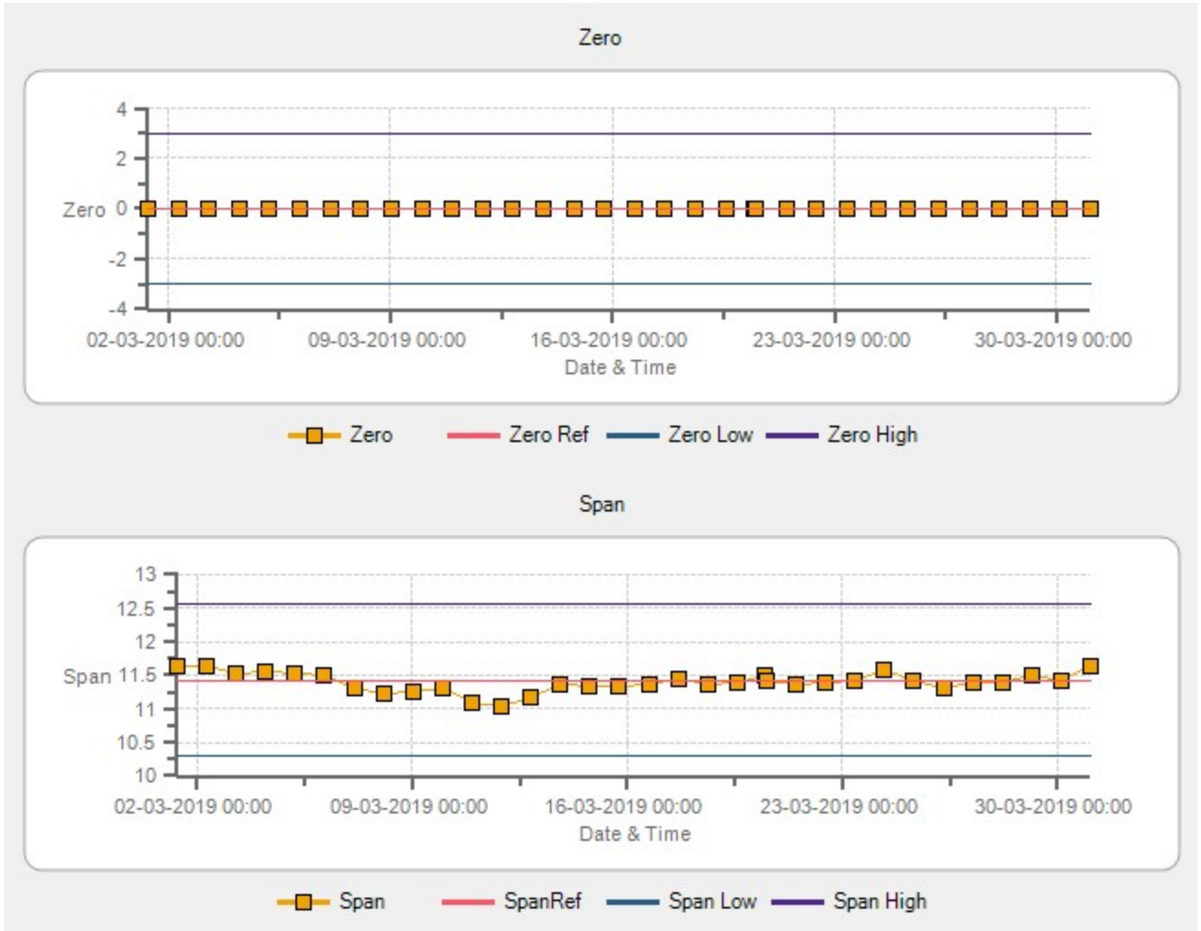
Timeseries Chart of Hourly Average for NMHC - 986b Station



Wind: PRAMP 986 Poll.: PRAMP 986-NMHC[ppm] Monthly: 03-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 95.16% Calm Avg: 0.00 [ppm]

Direction	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	4.1	0	0	0	4.1
NNE	0.56	0	0	0	0.56
NE	0.71	0	0	0	0.71
ENE	1.69	0	0	0	1.69
E	5.51	0	0	0	5.51
ESE	14.97	0	0	0	14.97
SE	10.73	0	0	0	10.73
SSE	7.2	0	0	0	7.2
S	6.21	0	0	0	6.21
SSW	16.1	0	0	0	16.1
SW	9.75	0	0	0	9.75
WSW	2.68	0	0	0	2.68
W	5.37	0	0	0	5.37
WNW	5.93	0	0	0	5.93
NW	5.08	0	0	0	5.08
NNW	3.39	0	0	0	3.39
Summary	100	0	0	0	100


PRAMP 986 Poll.: PRAMP 986-NMHC[ppm] 01-03-2019 00:00 - 31-03-2019 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
18
16
14
12
10
8
6
4
2
% Icon Classes (ppm)
100 0.1-0.3
0 0.3-0.9
0 0.9-2
0 >2.0


Zero
4
2
Zero 0
-2
-4
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
Span
13
12.5
12
Span 11.5
11
10.5
10
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

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PEACE RIVER AREA MONITORING PROGRAM

986b Station - March 2019

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

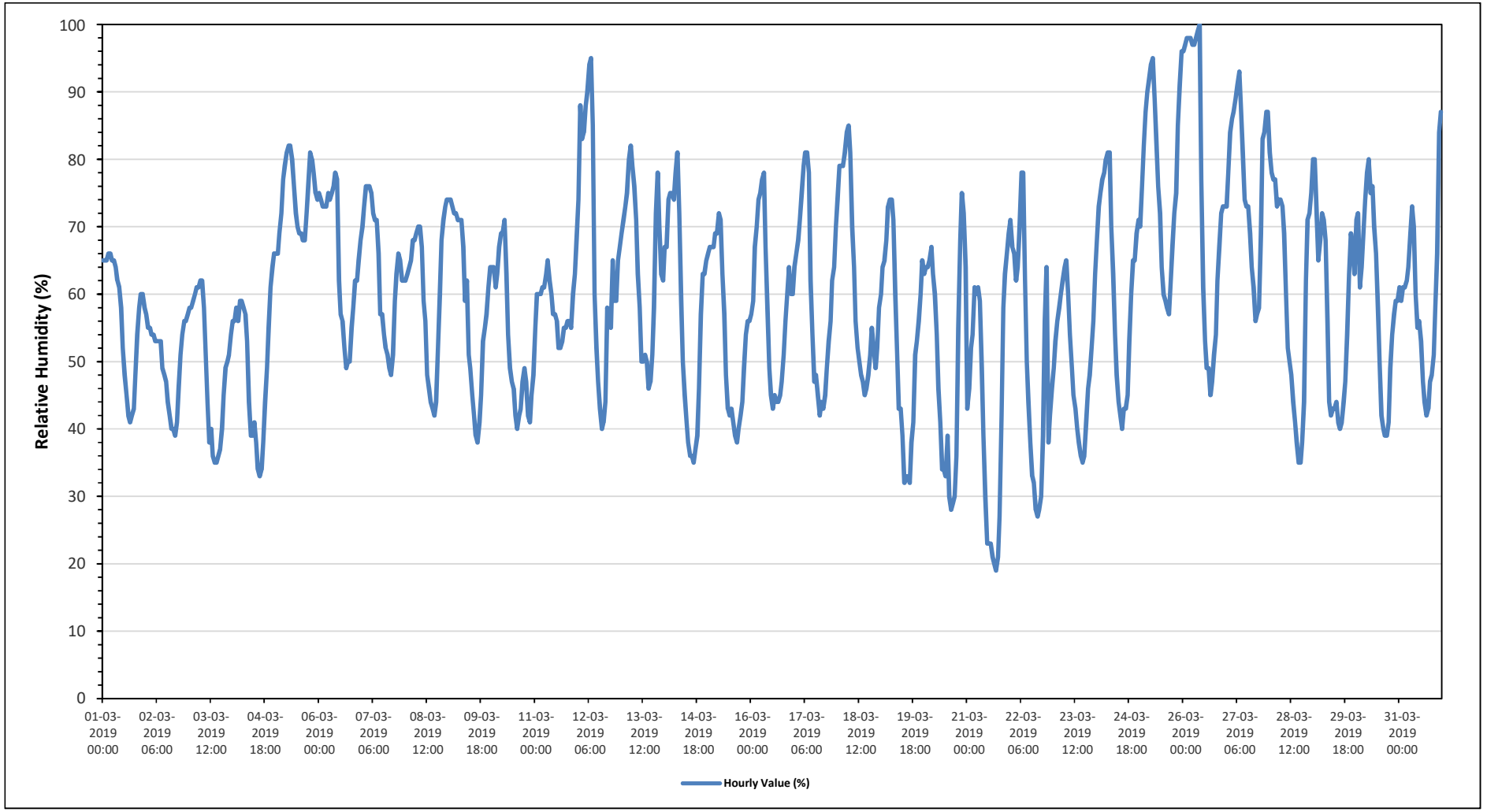
Maximum Hourly Value:	100	%	on March 26 at hour 9	Hours in Service:	744
Maximum Daily Value:	77.2	%	on March 25	Hours of Data:	744
Minimum Hourly Value:	19	%	on March 21 at hour 16	Hours of Missing Data:	0
Minimum Daily Value:	42.9	%	on March 21	Hours of Calibration:	0
Monthly Average:	59.3	%		Operational 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
Mar 1	65	65	65	66	66	65	65	64	62	61	58	52	48	45	42	41	42	43	48	54	58	60	60	58	41	66	56
Mar 2	57	55	55	54	54	53	53	53	53	49	48	47	44	42	40	40	39	41	46	51	54	56	56	57	39	57	50
Mar 3	58	58	59	60	61	61	62	62	58	51	44	38	40	36	35	35	36	37	40	45	49	50	51	54	35	62	49
Mar 4	56	56	58	56	59	59	58	57	53	44	39	39	41	38	34	33	34	38	44	49	55	61	64	66	33	66	50
Mar 5	66	66	69	72	77	79	81	82	82	80	76	72	70	69	69	68	68	72	76	81	80	78	75	74	66	82	74
Mar 6	75	74	73	73	73	75	74	75	76	78	77	62	57	56	52	49	50	50	55	58	62	62	65	68	49	78	65
Mar 7	70	73	76	76	76	75	72	71	71	66	57	57	54	52	51	49	48	51	59	63	66	65	62	62	48	76	63
Mar 8	62	63	64	65	68	68	69	70	70	67	59	56	48	46	44	43	42	44	52	60	68	71	73	74	42	74	60
Mar 9	74	74	73	72	72	71	71	71	67	59	62	51	49	45	42	39	38	41	45	53	55	57	61	64	38	74	59
Mar 10	64	64	61	63	67	69	69	71	63	54	49	47	46	42	40	42	43	47	49	47	42	41	45	48	40	71	53
Mar 11	55	60	60	60	61	61	63	65	62	60	57	57	56	52	52	53	55	55	56	56	55	60	63	68	52	68	58
Mar 12	74	88	83	84	88	90	94	95	85	60	52	47	43	40	41	44	58	56	55	65	59	59	65	67	40	95	66
Mar 13	69	71	73	75	80	82	79	76	71	63	58	50	50	51	50	46	47	51	58	72	78	70	63	62	46	82	64
Mar 14	67	67	74	75	75	74	78	81	72	59	50	45	41	38	36	36	35	37	39	46	57	63	63	65	35	81	57
Mar 15	66	67	67	67	69	69	72	71	63	57	48	43	42	43	41	39	38	40	42	44	49	54	56	56	38	72	54
Mar 16	57	59	67	70	74	75	77	78	67	58	49	45	43	45	44	44	45	47	51	56	60	64	60	60	43	78	58
Mar 17	64	66	68	71	75	79	81	81	78	62	54	47	48	45	42	44	43	45	49	53	56	62	64	70	42	81	60
Mar 18	74	79	79	79	81	84	85	81	70	64	56	52	50	48	47	45	46	48	51	55	52	49	52	58	45	85	62
Mar 19	60	64	65	68	73	74	74	71	60	51	43	43	39	32	33	33	32	38	41	51	53	56	60	65	32	74	53
Mar 20	63	64	64	65	67	63	60	54	46	41	34	34	33	39	30	28	29	30	36	55	68	75	72	64	28	75	51
Mar 21	43	46	52	54	61	60	61	59	49	39	30	23	23	23	21	20	**19**	21	27	42	58	63	66	69	**19**	69	43
Mar 22	71	67	66	62	64	70	78	78	62	50	44	38	33	32	28	27	28	30	39	56	64	38	42	46	27	78	51
Mar 23	49	53	56	58	60	62	64	65	60	54	49	45	43	40	38	36	35	36	41	46	48	52	56	63	35	65	50
Mar 24	68	73	75	77	78	80	81	81	70	63	54	48	44	42	40	43	43	45	53	60	65	65	69	71	40	81	62
Mar 25	70	76	82	87	90	92	94	95	89	83	76	72	64	60	59	58	57	62	67	72	75	85	91	96	57	96	**77**
Mar 26	96	97	98	98	98	97	97	98	99	**100**	77	61	53	49	49	45	47	51	54	62	67	72	73	73	45	**100**	75
Mar 27	73	78	84	86	87	89	91	93	88	81	74	73	73	69	64	61	56	57	58	69	83	84	87	87	56	93	77
Mar 28	81	78	77	77	73	74	74	73	69	60	52	50	48	44	41	38	35	35	38	44	62	71	72	75	35	81	60
Mar 29	80	80	72	65	68	72	71	68	56	44	42	43	43	44	41	40	41	44	47	54	63	69	67	63	40	80	57
Mar 30	71	72	61	64	69	74	78	80	75	76	70	66	58	50	42	40	39	39	41	49	54	57	59	59	39	80	60
Mar 31	61	59	61	61	62	64	69	73	70	60	55	56	53	47	44	42	43	47	48	51	58	66	84	87	42	87	59
Diurnal Maximum	96	97	98	98	98	97	97	98	99	100	77	73	73	69	69	68	68	72	76	81	83	85	91	96			
Daiurnal Average	66.4	68.1	68.9	69.7	71.8	72.9	74.0	73.9	68.3	61.1	54.6	50.3	47.6	45.3	43.0	42.0	42.3	44.5	48.5	55.5	60.4	62.4	64.4	66.1			

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 RH - 986b Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

986b Station - March 2019

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

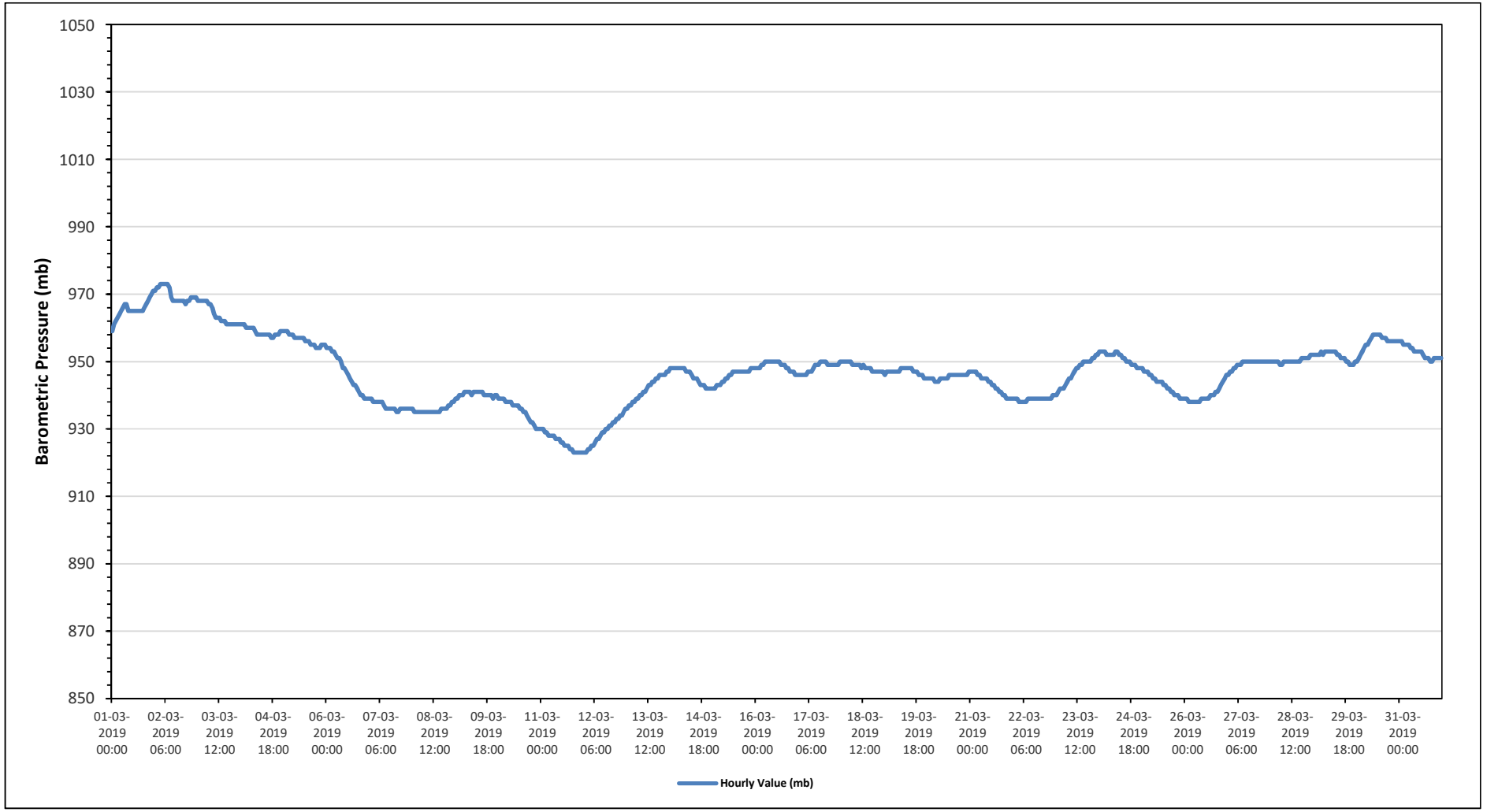
Maximum Hourly Value:	973	mb	on March 2 at hour 3	Hours in Service:	744
Maximum Daily Value:	970	mb	on March 2	Hours of Data:	744
Minimum Hourly Value:	923	mb	on March 11 at hour 18	Hours of Missing Data:	0
Minimum Daily Value:	926	mb	on March 11	Hours of Calibration:	0
Monthly Average:	947	mb		Operational 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
Mar 1	959	961	962	963	964	965	966	967	967	965	965	965	965	965	965	965	965	965	966	967	968	969	970	971	959	971	965
Mar 2	971	972	972	**973**	**973**	**973**	**973**	**973**	972	969	968	968	968	968	968	968	968	967	968	968	969	969	969	969	967	**973**	**970**
Mar 3	968	968	968	968	968	968	967	967	966	964	963	963	963	962	962	962	961	961	961	961	961	961	961	961	961	968	964
Mar 4	961	961	961	960	960	960	960	960	959	958	958	958	958	958	958	958	958	957	957	958	958	958	959	959	957	961	959
Mar 5	959	959	959	958	958	958	957	957	957	957	957	957	956	956	956	955	955	955	954	954	954	955	955	955	954	959	956
Mar 6	954	954	954	953	953	952	951	951	950	948	948	947	946	945	944	943	943	942	941	940	940	939	939	939	939	954	947
Mar 7	939	939	938	938	938	938	938	938	937	936	936	936	936	936	936	935	935	936	936	936	936	936	936	936	935	939	937
Mar 8	936	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	936	936	936	936	937	937	938	938	935	938	936
Mar 9	939	939	940	940	940	941	941	941	941	940	941	941	941	941	941	941	940	940	940	940	940	939	940	940	939	941	940
Mar 10	939	939	939	939	938	938	938	938	937	937	937	937	936	936	935	935	934	933	932	932	931	930	930	930	930	939	935
Mar 11	930	930	929	929	928	928	928	928	927	927	927	926	926	925	925	925	924	924	**923**	**923**	**923**	**923**	**923**	**923**	**923**	930	926
Mar 12	**923**	**923**	924	924	925	925	926	927	927	928	929	929	930	930	931	931	932	932	933	933	934	934	935	936	**923**	936	929
Mar 13	936	937	937	938	938	939	939	940	940	941	941	942	943	943	944	944	945	945	946	946	946	946	947	947	936	947	942
Mar 14	948	948	948	948	948	948	948	948	948	947	947	947	946	945	945	945	944	943	943	943	942	942	942	942	942	948	946
Mar 15	942	942	943	943	943	944	944	945	945	946	946	947	947	947	947	947	947	947	947	947	947	948	948	948	942	948	946
Mar 16	948	948	948	949	949	950	950	950	950	950	950	950	950	950	949	949	949	948	948	947	947	947	946	946	946	950	949
Mar 17	946	946	946	946	946	947	947	947	948	949	949	949	950	950	950	950	949	949	949	949	949	949	949	950	946	950	948
Mar 18	950	950	950	950	950	950	949	949	949	949	949	948	949	948	948	948	948	947	947	947	947	947	947	947	947	950	948
Mar 19	946	947	947	947	947	947	947	947	947	948	948	948	948	948	948	948	947	947	947	946	946	946	945	945	945	948	947
Mar 20	945	945	945	945	944	944	944	945	945	945	945	945	946	946	946	946	946	946	946	946	946	946	946	947	944	947	945
Mar 21	947	947	947	947	946	946	945	945	945	945	944	944	943	943	942	942	941	941	940	940	939	939	939	939	939	947	943
Mar 22	939	939	939	938	938	938	938	938	939	939	939	939	939	939	939	939	939	939	939	939	939	939	940	940	938	940	939
Mar 23	940	941	942	942	942	943	944	945	945	946	947	948	948	949	949	950	950	950	950	950	950	951	951	952	940	952	947
Mar 24	953	953	953	953	952	952	952	952	952	953	953	952	952	951	951	950	950	950	949	949	949	948	948	948	948	953	951
Mar 25	948	947	947	947	946	946	945	945	944	944	944	944	943	943	942	942	941	941	940	940	940	939	939	939	939	948	943
Mar 26	939	939	938	938	938	938	938	938	938	939	939	939	939	939	940	940	940	941	941	942	943	944	945	946	938	946	940
Mar 27	946	947	947	948	948	949	949	949	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	946	950	949
Mar 28	950	950	950	950	950	949	949	950	950	950	950	950	950	950	950	950	950	951	951	951	951	951	952	952	949	952	950
Mar 29	952	952	952	952	953	952	953	953	953	953	953	953	953	952	952	951	951	951	950	950	949	949	949	950	949	953	952
Mar 30	950	951	952	953	954	955	955	956	957	958	958	958	958	958	957	957	957	956	956	956	956	956	956	956	950	958	956
Mar 31	956	956	955	955	955	955	954	954	953	953	953	953	953	952	951	951	951	950	950	951	951	951	951	951	950	956	953
Diurnal Maximum	971	972	972	973	973	973	973	973	972	969	968	968	968	968	968	968	968	967	968	968	969	969	970	971			
Daiurnal Average	947	947	947	947	947	948	947	948	948	947	947	947	947	947	947	947	947	946	946	946	946	946	947	947			

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 - March 2019

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

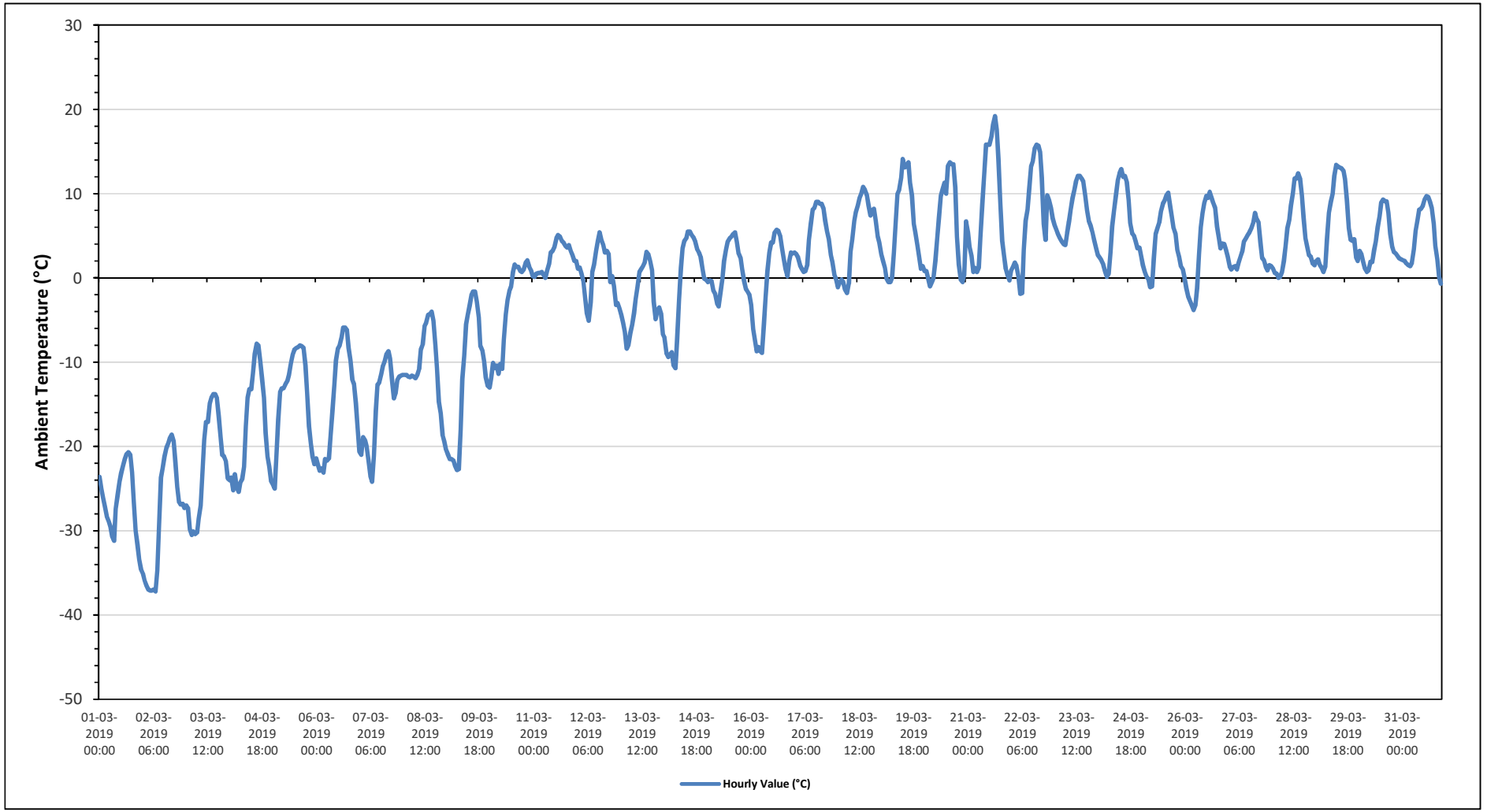
Maximum Hourly Value:	19.2	°C	on March 21 at hour 16	Hours in Service:	744
Maximum Daily Value:	8.3	°C	on March 21	Hours of Data:	744
Minimum Hourly Value:	-37.2	°C	on March 7 at hour	Hours of Missing Data:	0
Minimum Daily Value:	-28.1	°C	on March 2	Hours of Calibration:	0
Monthly Average:	-2.7	°C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Mar 1	-23.6	-25.0	-26.1	-27.1	-28.3	-28.9	-29.5	-30.7	-31.2	-27.4	-25.8	-24.2	-23.2	-22.3	-21.5	-20.9	-20.7	-21.0	-23.1	-26.7	-30.0	-31.7	-33.4	-34.6	-34.6	-20.7	-26.5
Mar 2	-35.1	-35.9	-36.5	-37.0	-37.1	-37.1	-37.0	**-37.2**	-34.7	-29.3	-23.7	-22.6	-21.2	-20.2	-19.6	-19.0	-18.6	-19.4	-21.8	-24.8	-26.6	-26.9	-26.8	-27.3	**-37.2**	-18.6	-28.1
Mar 3	-27.0	-27.3	-29.8	-30.5	-30.1	-30.4	-30.2	-28.6	-27.0	-23.1	-19.2	-17.1	-17.1	-14.9	-14.2	-13.8	-13.8	-14.2	-16.4	-18.9	-21.0	-21.2	-21.8	-23.8	-30.5	-13.8	-22.1
Mar 4	-24.0	-23.7	-25.2	-23.3	-24.9	-25.4	-24.3	-23.9	-22.4	-17.6	-14.2	-13.2	-13.2	-11.4	-9.0	-7.8	-8.0	-9.8	-12.0	-14.2	-18.4	-21.2	-22.4	-24.1	-25.4	-7.8	-18.1
Mar 5	-24.5	-25.0	-21.3	-16.8	-13.5	-13.1	-13.1	-12.6	-12.2	-11.5	-10.1	-9.1	-8.5	-8.3	-8.2	-8.0	-8.1	-8.3	-10.4	-13.6	-17.6	-19.7	-21.2	-22.1	-25.0	-8.0	-14.0
Mar 6	-21.4	-22.2	-22.9	-22.6	-23.1	-21.5	-21.7	-21.4	-18.8	-15.8	-12.7	-9.8	-8.4	-8.0	-7.0	-5.9	-5.9	-6.2	-8.3	-9.8	-12.1	-12.6	-14.9	-18.1	-23.1	-5.9	-14.6
Mar 7	-20.6	-21.0	-18.9	-19.3	-20.0	-21.8	-23.5	-24.2	-21.1	-15.8	-12.7	-12.4	-11.4	-10.4	-9.9	-9.0	-8.7	-9.6	-12.0	-14.3	-13.7	-12.1	-11.7	-11.6	-24.2	-8.7	-15.2
Mar 8	-11.5	-11.5	-11.5	-11.7	-11.8	-11.6	-11.7	-11.9	-11.5	-10.8	-8.5	-7.9	-5.7	-5.3	-4.4	-4.3	-4.0	-5.1	-8.1	-10.7	-14.7	-16.1	-18.7	-19.4	-19.4	-4.0	-10.4
Mar 9	-20.4	-21.0	-21.5	-21.5	-21.7	-22.3	-22.8	-22.7	-18.0	-12.0	-9.3	-5.5	-4.4	-3.3	-2.0	-1.6	-1.6	-2.8	-4.7	-8.1	-8.6	-9.9	-11.8	-12.8	-22.8	-1.6	-12.1
Mar 10	-13.0	-11.9	-10.1	-10.7	-10.4	-11.4	-10.2	-10.8	-7.4	-4.3	-2.6	-1.6	-1.0	0.7	1.6	1.3	1.3	0.8	0.7	1.0	1.8	2.1	1.3	0.9	-13.0	2.1	-3.8
Mar 11	0.2	0.1	0.5	0.6	0.6	0.7	0.3	0.0	0.9	1.7	3.0	3.2	3.7	4.7	5.1	4.9	4.4	4.2	3.8	3.6	3.9	3.2	2.7	2.0	0.0	5.1	2.4
Mar 12	2.0	1.1	1.2	0.5	-0.4	-2.5	-4.2	-5.1	-2.9	0.7	1.6	3.2	4.4	5.4	4.5	3.9	3.0	3.2	2.8	-0.5	0.2	-1.0	-3.2	-3.0	-5.1	5.4	0.6
Mar 13	-3.6	-4.4	-5.3	-6.4	-8.4	-8.0	-6.6	-5.6	-4.2	-2.5	-1.1	0.7	1.0	1.4	1.9	3.1	2.8	2.0	0.9	-2.8	-4.9	-3.9	-3.5	-4.2	-8.4	3.1	-2.6
Mar 14	-6.7	-7.1	-8.9	-9.4	-9.1	-8.8	-10.4	-10.7	-7.2	-2.6	1.2	3.5	4.4	4.7	5.5	5.5	5.1	4.8	4.3	3.4	3.0	2.5	1.1	-0.1	-10.7	5.5	-1.3
Mar 15	-0.2	-0.5	-0.3	-0.4	-1.5	-1.9	-3.0	-3.4	-1.7	-0.1	2.0	3.3	4.3	4.7	4.9	5.2	5.4	4.3	2.9	2.4	1.1	-0.3	-1.3	-1.6	-3.4	5.4	1.0
Mar 16	-2.0	-3.2	-6.1	-7.2	-8.7	-8.2	-8.7	-8.9	-5.5	-2.4	0.8	3.0	4.2	4.2	5.4	5.7	5.6	5.0	3.6	2.3	1.1	0.2	2.0	3.0	-8.9	5.7	-0.6
Mar 17	2.9	3.0	2.8	2.4	1.5	1.1	0.7	0.8	1.6	4.5	6.4	8.1	8.3	9.0	9.0	8.8	8.8	8.2	6.8	5.5	4.6	2.7	1.9	0.4	0.4	9.0	4.6
Mar 18	-0.2	-1.1	-0.6	-0.2	-0.5	-1.4	-1.8	-0.7	3.1	4.6	6.8	7.8	8.6	9.5	10.0	10.8	10.4	9.8	8.6	7.4	8.0	8.2	6.8	4.9	-1.8	10.8	5.0
Mar 19	4.2	2.8	2.0	1.2	-0.1	-0.5	-0.5	0.0	3.0	6.5	9.9	10.5	11.9	14.1	13.1	13.2	13.7	11.3	9.8	6.4	5.4	3.9	2.5	1.1	-0.5	14.1	6.1
Mar 20	1.4	0.8	0.8	-0.1	-1.0	-0.5	0.0	2.0	4.8	7.1	9.7	10.5	11.3	10.0	13.3	13.7	13.5	13.5	10.7	4.9	1.6	-0.2	-0.5	0.4	-1.0	13.7	5.3
Mar 21	6.7	5.4	3.7	2.6	0.7	1.2	0.7	1.2	4.8	8.7	12.2	15.8	15.8	15.8	16.8	18.2	**19.2**	17.6	14.1	8.9	4.4	2.6	1.1	0.3	0.3	**19.2**	**8.3**
Mar 22	-0.3	0.9	1.3	1.8	1.4	0.1	-1.9	-1.8	3.3	6.8	8.1	10.5	13.2	13.9	15.3	15.8	15.7	14.9	11.9	6.4	4.5	9.8	9.2	8.3	-1.9	15.8	7.0
Mar 23	7.1	6.3	5.7	5.2	4.7	4.3	4.0	3.9	5.3	6.7	8.1	9.5	10.5	11.5	12.1	12.1	11.8	11.4	9.7	8.0	6.8	6.2	5.4	4.5	3.9	12.1	7.5
Mar 24	3.5	2.7	2.4	2.1	1.6	0.7	0.1	0.5	3.0	6.1	8.0	9.8	11.6	12.4	12.9	12.0	12.1	11.4	9.2	6.5	5.3	5.0	4.3	3.5	0.1	12.9	6.1
Mar 25	3.6	2.5	1.5	0.7	0.1	-0.1	-1.1	-1.0	2.2	5.2	5.9	6.6	7.9	8.8	9.2	9.8	10.1	8.5	7.3	5.9	5.2	3.3	2.5	1.4	-1.1	10.1	4.4
Mar 26	1.0	0.1	-1.2	-2.2	-2.7	-3.2	-3.8	-3.2	-1.2	2.8	6.0	7.7	8.9	9.7	9.5	10.2	9.5	8.9	8.3	6.1	4.7	3.5	4.1	4.0	-3.8	10.2	3.6
Mar 27	3.3	2.5	1.3	1.0	1.3	1.4	1.0	1.8	2.5	3.2	4.3	4.7	5.1	5.4	5.9	6.5	7.7	7.0	6.6	4.2	2.4	2.1	1.3	0.9	0.9	7.7	3.5
Mar 28	1.5	1.4	1.1	0.6	0.5	0.0	0.1	0.7	2.0	3.7	5.9	6.9	8.6	10.0	11.8	11.8	12.4	11.8	9.8	7.2	4.7	3.7	2.7	2.5	0.0	12.4	5.1
Mar 29	1.7	1.5	2.0	2.2	1.5	1.2	0.7	1.4	4.6	7.7	9.0	10.0	12.1	13.4	13.2	13.1	13.0	12.7	11.7	9.2	5.9	4.5	4.4	4.6	0.7	13.4	6.7
Mar 30	2.4	2.0	3.2	2.8	1.9	1.1	0.7	0.9	1.9	1.9	3.3	4.3	6.0	7.3	8.9	9.3	9.1	9.1	7.7	5.2	3.7	3.1	2.9	2.6	0.7	9.3	4.2
Mar 31	2.3	2.2	2.1	2.0	1.7	1.5	1.4	1.8	3.4	5.6	6.8	8.1	8.2	8.5	9.3	9.7	9.6	9.0	8.3	6.4	3.8	2.2	0.1	-0.7	-0.7	9.7	4.7
Diurnal Maximum	7.1	6.3	5.7	5.2	4.7	4.3	4.0	3.9	5.3	8.7	12.2	15.8	15.8	15.8	16.8	18.2	19.2	17.6	14.1	9.2	8.0	9.8	9.2	8.3			
Daiurnal Average	-6.1	-6.6	-6.9	-7.1	-7.6	-7.9	-8.3	-8.0	-5.8	-3.0	-0.7	0.8	1.8	2.6	3.3	3.7	3.7	3.0	1.4	-1.1	-2.8	-3.5	-4.4	-5.1			

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

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

Timeseries Chart of Hourly Average for AT - 986b Station



PEACE RIVER AREA MONITORING PROGRAM

986b Station - March 2019

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

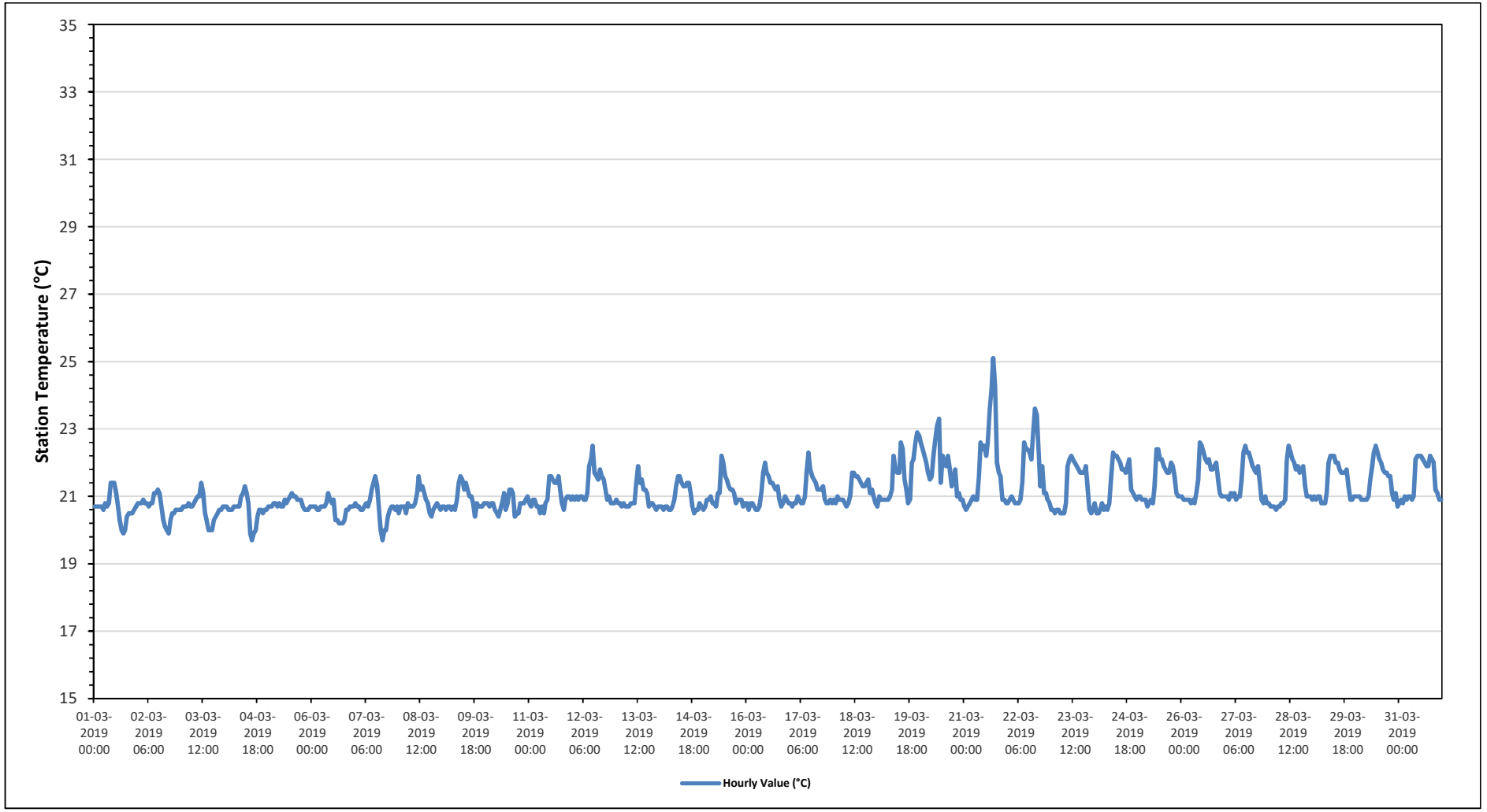
Maximum Hourly Value:	25.1	°C	on March 21 at hour 16	Hours in Service:	744
Maximum Daily Value:	21.9	°C	on March 21	Hours of Data:	744
Minimum Hourly Value:	19.7	°C	on March 4 at hour 15	Hours of Missing Data:	0
Minimum Daily Value:	20.6	°C	on March 4	Hours of Calibration:	0
Monthly Average:	21.1	°C		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
Mar 1	20.7	20.7	20.7	20.7	20.7	20.6	20.8	20.7	20.8	21.4	21.4	21.4	21.1	20.7	20.3	20.0	19.9	20.0	20.4	20.5	20.5	20.5	20.6	20.7	19.9	21.4	20.7
Mar 2	20.8	20.8	20.8	20.9	20.8	20.8	20.7	20.8	20.8	21.1	21.1	21.2	21.1	20.7	20.3	20.1	20.0	19.9	20.3	20.5	20.5	20.6	20.6	20.6	19.9	21.2	20.7
Mar 3	20.6	20.7	20.7	20.7	20.8	20.7	20.7	20.8	20.9	21.0	21.0	21.4	21.1	20.5	20.3	20.0	20.0	20.0	20.3	20.4	20.5	20.6	20.6	20.7	20.0	21.4	20.6
Mar 4	20.7	20.7	20.6	20.6	20.6	20.7	20.7	20.7	20.7	21.0	21.1	21.3	21.1	20.8	19.9	**19.7**	19.9	20.0	20.4	20.6	20.6	20.5	20.6	20.6	**19.7**	21.3	20.6
Mar 5	20.7	20.7	20.7	20.8	20.8	20.7	20.8	20.7	20.7	20.9	20.8	20.9	21.0	21.1	21.0	21.0	20.9	20.9	20.9	20.7	20.6	20.6	20.6	20.7	20.6	21.1	20.8
Mar 6	20.7	20.7	20.7	20.6	20.6	20.7	20.7	20.7	20.8	21.1	20.9	20.8	20.9	20.3	20.3	20.2	20.2	20.2	20.3	20.6	20.6	20.7	20.7	20.7	20.2	21.1	20.6
Mar 7	20.8	20.7	20.7	20.6	20.6	20.7	20.8	20.7	20.9	21.2	21.4	21.6	21.3	20.7	20.0	**19.7**	20.0	20.0	20.4	20.6	20.7	20.7	20.6	20.7	**19.7**	21.6	20.7
Mar 8	20.5	20.7	20.7	20.7	20.5	20.8	20.7	20.7	20.7	20.8	21.1	21.6	21.2	21.3	21.1	20.9	20.8	20.5	20.4	20.6	20.7	20.8	20.7	20.6	20.4	21.6	20.8
Mar 9	20.7	20.7	20.6	20.7	20.7	20.6	20.7	20.6	20.9	21.4	21.6	21.5	21.2	21.4	21.2	21.0	21.0	20.8	20.4	20.8	20.7	20.7	20.7	20.8	20.4	21.6	20.9
Mar 10	20.8	20.8	20.7	20.8	20.8	20.6	20.5	20.4	20.6	20.8	21.1	20.6	20.8	21.2	21.2	21.1	20.4	20.5	20.5	20.8	20.8	20.8	20.9	21.0	20.4	21.2	20.8
Mar 11	20.8	20.7	20.9	20.9	20.7	20.7	20.5	20.7	20.5	20.8	20.9	21.6	21.6	21.5	21.4	21.4	21.6	21.2	20.8	20.6	20.9	21.0	21.0	20.9	20.5	21.6	21.0
Mar 12	21.0	20.9	21.0	20.9	21.0	21.0	20.9	20.9	21.1	21.9	22.1	22.5	21.7	21.6	21.5	21.8	21.6	21.5	21.2	20.9	21.0	20.8	20.8	20.8	20.8	22.5	21.3
Mar 13	20.9	20.8	20.8	20.7	20.8	20.7	20.7	20.7	20.8	20.8	20.8	21.4	21.9	21.4	21.5	21.2	21.2	21.1	20.7	20.8	20.8	20.7	20.6	20.7	20.6	21.9	20.9
Mar 14	20.7	20.7	20.6	20.7	20.7	20.6	20.6	20.7	20.9	21.3	21.6	21.6	21.4	21.3	21.3	21.4	21.4	21.1	20.7	20.5	20.6	20.6	20.8	20.7	20.5	21.6	20.9
Mar 15	20.6	20.7	20.9	20.9	21.0	20.8	20.8	20.7	21.1	21.1	22.2	22.0	21.6	21.5	21.3	21.2	21.2	21.1	20.8	20.9	20.9	20.9	20.7	20.8	20.6	22.2	21.1
Mar 16	20.8	20.6	20.8	20.8	20.7	20.6	20.6	20.7	21.1	21.7	22.0	21.7	21.6	21.4	21.4	21.3	21.2	21.3	20.9	20.7	20.8	21.0	20.9	20.8	20.6	22.0	21.1
Mar 17	20.8	20.7	20.8	20.8	21.0	20.9	20.8	20.8	21.0	21.7	22.3	21.8	21.6	21.5	21.4	21.2	21.2	21.2	21.3	20.9	20.8	20.8	20.9	20.8	20.7	22.3	21.1
Mar 18	20.9	20.8	21.0	20.9	20.9	20.9	20.8	20.7	20.8	21.0	21.7	21.7	21.6	21.6	21.5	21.4	21.3	21.3	21.4	21.5	21.1	21.2	21.0	20.8	20.7	21.7	21.2
Mar 19	20.7	21.0	20.9	20.9	20.9	20.9	20.9	21.0	21.2	22.2	21.8	21.7	21.7	22.6	22.4	21.5	21.2	20.8	20.9	22.0	22.1	22.6	22.9	22.8	20.7	22.9	21.6
Mar 20	22.6	22.4	22.2	22.0	21.7	21.5	21.6	22.2	22.7	23.1	23.3	21.4	22.2	22.0	21.9	22.2	21.8	21.3	21.5	21.8	21.0	21.1	20.9	20.9	20.9	23.3	21.9
Mar 21	20.7	20.6	20.7	20.8	20.9	21.0	20.9	20.9	21.6	22.6	22.4	22.5	22.2	22.6	23.6	24.2	**25.1**	24.3	22.0	21.7	21.6	20.9	20.9	20.8	20.6	**25.1**	**21.9**
Mar 22	20.8	20.9	21.0	20.9	20.8	20.8	20.8	20.9	21.4	22.6	22.4	22.4	22.3	22.1	22.9	23.6	23.4	22.3	21.3	21.9	21.1	21.1	20.9	20.8	20.8	23.6	21.6
Mar 23	20.6	20.6	20.5	20.6	20.6	20.5	20.5	20.5	20.8	21.9	22.1	22.2	22.1	22.0	21.9	21.8	21.7	21.7	21.7	21.9	21.3	20.6	20.5	20.6	20.5	22.2	21.2
Mar 24	20.8	20.5	20.5	20.6	20.8	20.6	20.7	20.6	20.8	21.6	22.3	22.2	22.2	22.1	22.0	21.8	21.8	21.7	21.9	22.1	21.2	21.1	21.0	20.9	20.5	22.3	21.3
Mar 25	21.0	21.0	20.9	20.9	20.9	20.7	20.8	20.9	20.8	21.3	22.4	22.4	22.1	22.1	21.9	21.8	21.7	21.7	22.0	21.9	21.6	21.1	21.0	21.0	20.7	22.4	21.4
Mar 26	21.0	20.9	20.9	20.9	20.9	20.8	20.9	20.8	21.1	21.5	22.6	22.5	22.3	22.1	22.0	22.1	21.8	21.8	21.9	22.0	21.5	21.1	21.0	21.0	20.8	22.6	21.5
Mar 27	21.0	21.0	20.9	21.1	21.0	21.1	20.9	21.0	21.0	21.5	22.3	22.5	22.3	22.3	22.1	21.9	21.8	21.7	21.9	21.4	20.9	20.8	21.0	20.8	20.8	22.5	21.4
Mar 28	20.8	20.7	20.7	20.7	20.6	20.7	20.7	20.8	20.8	20.9	22.1	22.5	22.3	22.1	22.0	21.8	21.9	21.7	21.8	21.9	21.3	21.0	21.0	21.0	20.6	22.5	21.3
Mar 29	20.9	21.0	20.9	21.0	21.0	20.8	20.8	20.8	21.1	22.0	22.2	22.2	22.2	22.0	22.0	21.8	21.7	21.7	21.7	21.8	21.3	20.9	20.9	21.0	20.8	22.2	21.4
Mar 30	21.0	21.0	21.0	20.9	20.9	20.9	20.9	21.0	21.5	21.9	22.3	22.5	22.3	22.1	22.0	21.8	21.7	21.7	21.6	21.6	21.1	20.9	21.1	20.7	20.7	22.5	21.4
Mar 31	20.8	20.9	20.8	21.0	20.9	21.0	21.0	20.9	21.0	22.1	22.2	22.2	22.2	22.1	22.0	21.9	21.9	22.2	22.1	22.0	21.2	21.1	20.9	20.9	20.8	22.2	21.5
Diurnal Maximum	22.6	22.4	22.2	22.0	21.7	21.5	21.6	22.2	22.7	23.1	23.3	22.5	22.3	22.6	23.6	24.2	25.1	24.3	22.1	22.1	22.1	22.6	22.9	22.8			
Daiurnal Average	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	21.0	21.5	21.8	21.8	21.7	21.6	21.5	21.4	21.3	21.2	21.1	21.2	21.0	20.9	20.9	20.9			

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 ST - 986b Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

986b Station - March 2019

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

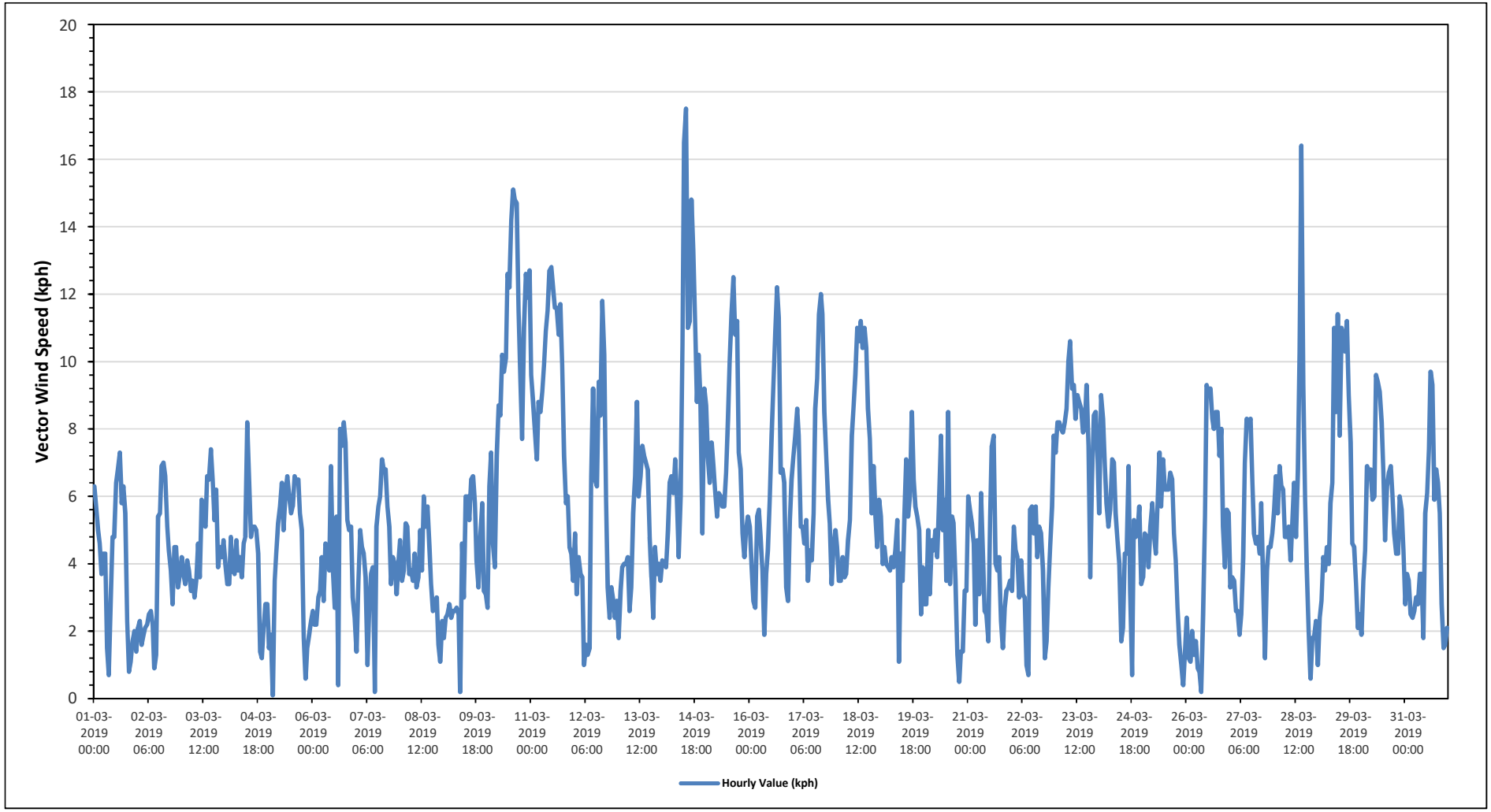
Maximum Hourly Value:	17.5	kph	on March 14 at hour 13	Hours in Service:	744
Maximum Daily Value:	10.0	kph	on March 10	Hours of Data:	744
Minimum Hourly Value:	0.1	kph	on March 5 at hour 2	Hours of Missing Data:	0
Minimum Daily Value:	3.6	kph	on March 2	Hours of Calibration:	0
Monthly Average:	2.1	kph		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
Mar 1	6.3	5.7	5	4.6	3.7	4.3	4.3	1.5	0.7	2.9	4.8	4.8	6.4	6.8	7.3	5.8	6.3	5.5	2.3	0.8	1.1	1.7	2	1.4	0.7	7.3	4.0
Mar 2	2.1	2.3	1.6	1.9	2.1	2.2	2.5	2.6	2.2	0.9	1.3	5.4	5.5	6.9	7	6.6	5.1	4.4	3.8	2.8	4.5	4.5	3.3	3.7	0.9	7.0	**3.6**
Mar 3	4.2	3.7	3.4	4.1	3.8	3.2	3.5	3	3.5	4.6	3.6	5.9	5.3	5.1	6.6	6.5	7.4	6.5	5.3	6.2	3.9	4.5	4.2	4.7	3.0	7.4	4.7
Mar 4	4	3.4	3.4	4.8	3.8	3.7	4.7	3.8	4.2	3.6	4.6	4.8	8.2	6.4	4.8	5.1	5.1	5	4.3	1.4	1.2	2.1	2.8	2.8	1.2	8.2	4.1
Mar 5	1.5	1.9	**0.1**	3.5	4.3	5.2	5.7	6.4	5	6.1	6.6	6	5.5	5.7	6.6	6.4	6.5	5.5	5	1.8	0.6	1.5	1.9	2.3	**0.1**	6.6	4.2
Mar 6	2.6	2.2	2.2	3	3.2	4.2	2.9	4.6	4.4	3.8	6.9	3.9	2.7	5.4	0.4	8	7.5	8.2	7.6	5.3	5	5.1	3	2.4	0.4	8.2	4.4
Mar 7	1.4	3.5	5	4.5	4.3	3.6	1	2.7	3.7	3.9	0.2	5.1	5.7	6	7.1	6.8	6.8	5.7	5.1	3.4	4.2	4	3.1	4.1	0.2	7.1	4.2
Mar 8	4.7	3.5	3.8	5.2	5.1	3.7	3.8	3.5	4.3	3.3	3.6	5	3.8	6	5.1	5.7	4.5	3.4	2.6	2.7	3	1.6	1.1	2.3	1.1	6.0	3.8
Mar 9	1.8	2.4	2.5	2.8	2.4	2.6	2.6	2.7	2.5	0.2	4.6	3	6	6	5.3	6.5	6.6	5.8	4.1	3.3	4.8	5.8	3.2	3.1	0.2	6.6	3.8
Mar 10	2.7	6.3	7.3	4.6	3.9	7.2	8.7	8.4	10.2	9.7	10.1	12.6	12.2	14.2	15.1	14.8	14.7	11.5	9.5	7.7	11	12.6	11.9	12.7	2.7	15.1	**10.0**
Mar 11	9.6	8.8	7.9	7.1	8.8	8.5	9.1	9.9	10.9	11.5	12.7	12.8	12.2	11.6	11.6	10.8	11.7	9.9	7.2	5.8	6	4.5	4.3	3.5	3.5	12.8	9.0
Mar 12	4.9	3.1	4.2	3.7	3.6	1	1.6	1.3	1.5	6.6	9.2	6.5	6.3	9.4	8.4	11.8	10.2	5.9	3.3	2.4	3.3	2.9	2.4	2.9	1.0	11.8	4.9
Mar 13	1.8	3.2	3.9	4	4	4.2	2.6	3.3	5.5	6.6	8.8	6	6.6	7.5	7.2	7	6.8	4.8	3.6	2.4	4.5	3.7	4	3.5	1.8	8.8	4.8
Mar 14	4.1	4	3.9	5	6.4	6.6	6.1	7.1	6.1	4.2	6	10.5	16.5	**17.5**	11	11.2	14.8	13.3	11.2	8.8	10.2	8.8	4.9	9.2	3.9	**17.5**	8.6
Mar 15	8.7	7.2	6.4	7.6	6.9	6.2	5.4	6.1	6	5.7	5.7	6.7	8.3	10	11.4	12.5	10.8	11.2	7.3	6.8	4.9	4.2	5	5.4	4.2	12.5	7.4
Mar 16	5.1	3.9	2.9	2.7	5.4	5.6	4.8	3.8	1.9	3.7	4.4	5.9	7.8	9.4	10.9	12.2	11.3	6.7	6.8	6.4	3.3	2.9	5.3	6.5	1.9	12.2	5.8
Mar 17	7.2	7.8	8.6	7.8	5.1	5.1	4.6	5.3	3.5	4.4	4.1	5.5	8.6	9.5	11.4	12	11.4	8.5	7.2	5.9	5.2	3.4	4.5	5	3.4	12.0	6.7
Mar 18	4.5	3.5	3.5	4.2	3.6	3.7	4.7	5.3	7.8	8.6	9.6	11	10.6	11.2	10.4	11	10.4	8.6	7.7	5.5	6.9	5.4	4.5	5.9	3.5	11.2	7.0
Mar 19	5.4	4	4.5	4	3.9	3.8	4.2	3.9	4.4	5.3	1.1	4.3	3.5	5.5	7.1	5.4	6	8.5	6.5	5.7	5.4	5	2.5	3.9	1.1	8.5	4.7
Mar 20	2.8	2.8	5	3.1	4.7	4.4	5	4.2	5.8	7.8	5	5.9	3.5	8.5	3.4	5.4	5.2	3.5	1.3	0.5	1.4	1.4	3.2	3.2	0.5	8.5	4.0
Mar 21	6	5.6	5.2	4.6	2.2	4.7	3.1	6.1	4.2	2.6	2.5	1.7	5.4	7.5	7.8	4	3.8	4.2	2.3	1.5	2.7	3.2	3.3	3.5	1.5	7.8	4.1
Mar 22	3.2	5.1	4.4	4.2	3	4.1	3.1	3	1	0.7	5.6	5.7	4.9	5.7	4.2	5.1	4.9	3.8	1.2	1.7	3.3	4.5	5.7	7.8	0.7	7.8	4.0
Mar 23	7.3	8.2	8.2	8	7.9	8.2	8.6	10	10.6	9.2	9.3	8.3	9	8.8	8.6	7.9	8	9.3	7.5	3.6	6.5	8.4	8.5	7.1	3.6	10.6	8.2
Mar 24	5.5	9	8.3	6.9	5.8	5.1	5.6	7.1	7	5.5	4.7	4	1.7	2.1	4.3	4.3	6.9	3.2	0.7	5.3	4.8	4.9	5.7	3.4	0.7	9.0	5.1
Mar 25	3.6	4.9	4.8	3.9	5.1	5.8	4.9	4.3	5.8	7.3	5.7	7.1	6.2	6.2	6.2	6.7	6.5	4.9	4.1	2.7	1.6	1	0.4	1.3	0.4	7.3	4.6
Mar 26	2.4	1.2	1.1	2	1.3	1.7	0.9	0.8	0.2	2.5	5.4	9.3	9.1	9.2	8.3	8	8.5	8.5	7.2	8	5.1	3.9	5.6	5.5	0.2	9.3	4.8
Mar 27	3.3	3.6	3.5	2.6	2.6	1.9	2.5	4.2	7	8.3	8.1	8.3	6.4	4.9	4.6	4.8	4.3	5.8	3.5	1.2	3.8	4.5	4.5	4.9	1.2	8.3	4.5
Mar 28	5.6	6.6	5.5	6.9	6.3	6.2	4.8	4.8	5.1	4.1	5.2	6.4	4.8	6.8	10.3	16.4	9.3	5.9	3.9	2	0.6	1.8	1.8	2.3	0.6	16.4	5.6
Mar 29	1	2.4	2.9	4.2	3.8	4.5	4	5.8	6.4	11	8.5	11.4	7.8	11	10.6	10.3	11.2	9	7.6	4.6	4.5	3.4	2.1	2.5	1.0	11.4	6.3
Mar 30	1.9	3.5	4.4	6.9	6.6	6.8	5.9	6	9.6	9.4	9.1	8.2	6.8	4.7	6.3	6.7	6.9	6.1	4.9	4.3	4.3	6	5.6	4.4	1.9	9.6	6.1
Mar 31	2.8	3.7	3.5	2.5	2.4	2.6	3	2.8	3.7	3.7	1.8	5.5	6.1	7.4	9.7	9.3	5.9	6.8	6.4	5.5	2.8	1.5	1.6	2.1	1.5	9.7	4.3
Diurnal Maximum	10	9	9	8	9	9	9	10	11	12	13	13	17	18	15	16	15	13	11	9	11	13	12	13			
Daiurnal Average	4.1	4.4	4.4	4.5	4.4	4.5	4.3	4.7	5.0	5.4	5.8	6.7	6.9	7.8	7.7	8.2	7.9	6.8	5.2	4.1	4.2	4.2	3.9	4.3			

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.

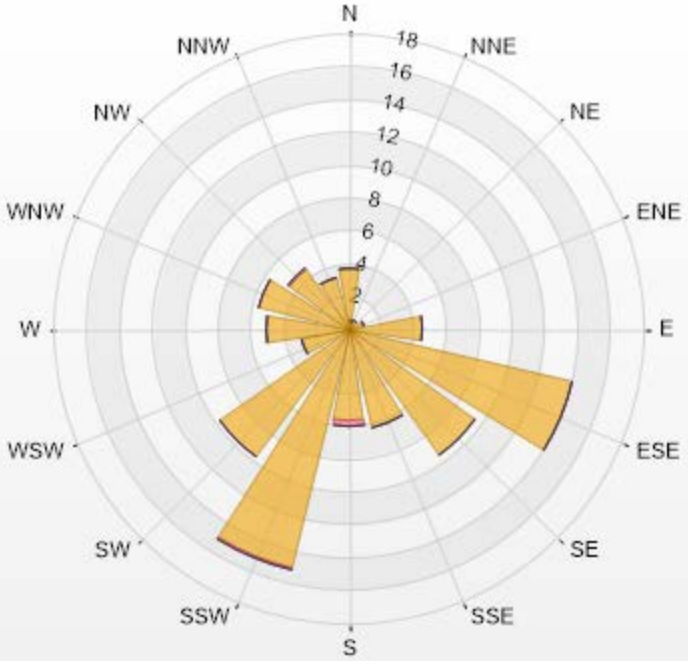
Timeseries Chart of Hourly Average for VWS - 986b Station



Wind: PRAMP 986 Poll.: PRAMP 986-WDS[KPH] Monthly: 03-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 7.53% Valid Data: 100.00% Calm Avg: 1.15 [KPH]

Direction	6-15	15-29	29-39	>39.0	Total
N	3.76	0	0	0	3.76
NNE	0.54	0	0	0	0.54
NE	0.67	0	0	0	0.67
ENE	0.94	0	0	0	0.94
E	4.57	0	0	0	4.57
ESE	13.98	0	0	0	13.98
SE	9.54	0	0	0	9.54
SSE	6.18	0	0	0	6.18
S	5.65	0.27	0	0	5.92
SSW	15.05	0.13	0	0	15.18
SW	9.68	0	0	0	9.68
WSW	2.96	0	0	0	2.96
W	5.11	0	0	0	5.11
WNW	5.65	0	0	0	5.65
NW	4.44	0.13	0	0	4.57
NNW	3.23	0	0	0	3.23
Summary	91.95	0.53	0	0	92.48

PRAMP 986 Poll.: PRAMP 986-WDS[KPH] 01-03-2019 00:00 - 31-03-2019 23:00 Calm: 7.53% Calm Poll Avg: 1.15[KPH]



%	Icon	Classes (KPH)	92	6-15	1	15-29	0	29-39	0	>39.0

PEACE RIVER AREA MONITORING PROGRAM

986b Station - March 2019

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

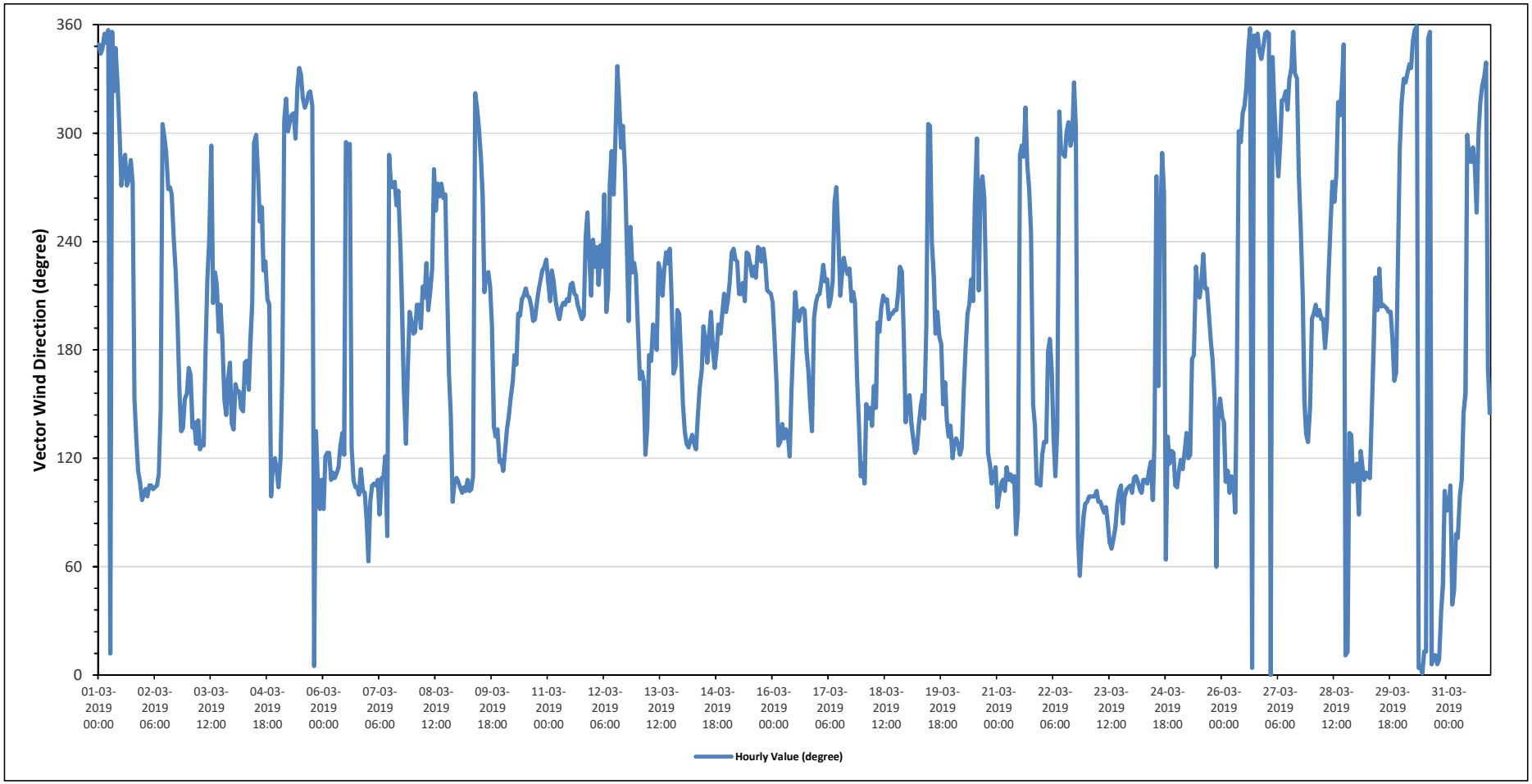
Monthly Average:	197 (SSW) degree	Hours in Service:	744
		Hours of Data:	744
		Hours of Missing Data:	0
		Hours of Calibration:	0
		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Degree	Quadrant
Mar 1	NNW	NNW	NNW	N	N	N	NNE	N	NW	NNW	NW	WNW	W	W	WNW	W	W	WNW	W	SSE	SE	ESE	ESE	E	316	NW
Mar 2	E	ESE	E	ESE	ESE	ESE	ESE	ESE	ESE	SE	WNW	WNW	WNW	W	W	W	WSW	SW	SSW	SSE	SE	SE	SSE	SSE	201	SSW
Mar 3	SSE	SSE	SE	SE	SE	SE	SE	SE	SE	S	SW	WSW	WNW	SSW	SW	SW	S	SSW	S	SSE	SE	SSE	S	SE	178	S
Mar 4	SE	SSE	SSE	SSE	SE	SE	S	S	SSE	S	SSW	WNW	WNW	W	WSW	WSW	SW	SW	SSW	SSW	E	ESE	ESE	ESE	199	SSW
Mar 5	ESE	ESE	SSE	NW	NW	WNW	NW	NW	NW	WNW	NW	NNW	NNW	NW	NW	NW	NW	NW	NW	N	SE	ESE	E	ESE	320	NW
Mar 6	E	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	ESE	WNW	WNW	WNW	SE	ESE	ESE	ESE	E	ESE	E	E	E	112	ESE
Mar 7	ENE	E	ESE	ESE	ESE	ESE	E	ESE	ESE	ESE	ENE	WNW	W	W	W	WSW	W	SW	SSW	SSE	SE	SSE	SSW	SSW	195	SSW
Mar 8	S	S	SSW	SSW	S	SSW	SSW	SW	SSW	SSW	SW	W	WSW	W	W	W	W	W	SSW	SSE	SE	E	ESE	ESE	224	SW
Mar 9	ESE	ESE	E	ESE	E	ESE	E	ESE	ESE	NW	NW	WNW	WNW	W	SSW	SW	SW	SSW	S	SE	SE	SE	ESE	ESE	174	S
Mar 10	ESE	ESE	SE	SE	SSE	SSE	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	SW	200	SSW
Mar 11	SW	SSW	SW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	SSW	SSW	SSW	SSW	SSW	SSW	WSW	WSW	SW	SSW	210	SSW
Mar 12	WSW	SW	SW	SW	SW	SW	W	SSW	SSW	W	WNW	W	WNW	NNW	NW	WNW	WNW	W	WSW	SSW	WSW	SW	SW	SW	273	W
Mar 13	S	SSE	SSE	SSE	ESE	SE	S	S	SSW	S	S	SW	SW	SSW	SW	SW	SW	SW	SSW	SSE	S	SSW	SSW	S	196	SSW
Mar 14	SSE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SSE	S	S	S	S	SSW	S	SSE	S	SSW	S	SSW	SSW	SSW	174	S
Mar 15	SSW	SW	SW	SW	SW	SW	SSW	SSW	SW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SSW	SSW	224	SW
Mar 16	SSW	S	SSE	SE	SE	SE	SE	SE	SE	ESE	SSE	S	SSW	SSW	SSW	SSW	SSW	SSW	S	SSE	SSE	SE	SSW	SSW	181	S
Mar 17	SSW	SSW	SW	SW	SW	SW	SSW	SSW	SW	W	W	WSW	SSW	SW	SW	SW	SW	SW	SSW	SSW	SSW	SSE	SE	ESE	216	SW
Mar 18	ESE	ESE	SSE	SE	SE	SE	SSE	SE	SSW	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	S	S	SE	191	S
Mar 19	SSE	SSE	SE	SE	ESE	SE	SE	SSE	SSE	SE	SSW	WNW	WNW	WSW	SW	S	SSW	S	S	SSE	SSE	SE	SE	SE	168	SSE
Mar 20	ESE	SE	SE	SE	ESE	SE	SSE	S	SSW	SSW	SW	SSW	W	WNW	SSW	W	W	W	SSW	ESE	ESE	ESE	ESE	ESE	192	S
Mar 21	E	E	ESE	ESE	E	ESE	ESE	ESE	ESE	ESE	ENE	E	WNW	WNW	WNW	NW	W	W	WSW	SSE	SE	ESE	ESE	ESE	107	ESE
Mar 22	ESE	SE	SE	S	S	SSE	SE	ESE	SE	NW	WNW	WNW	WNW	WNW	NW	WNW	WNW	NNW	WNW	ENE	NE	ENE	E	E	100	E
Mar 23	E	E	E	E	E	E	E	E	E	E	E	E	ENE	ENE	ENE	E	E	E	ESE	E	E	ESE	ESE	ESE	93	E
Mar 24	E	ESE	ESE	ESE	ESE	E	ESE	ESE	ESE	ESE	ESE	E	SE	W	SSE	WSW	WNW	W	ENE	SE	ESE	ESE	ESE	ESE	116	ESE
Mar 25	ESE	ESE	ESE	ESE	ESE	SE	ESE	ESE	S	S	SW	SSW	SSW	SW	SW	SSW	SSW	SSW	S	S	SSE	ENE	SE	SSE	175	S
Mar 26	SE	SE	ESE	ESE	E	ESE	ESE	E	SSE	WNW	WNW	NW	NW	NW	NNW	N	N	N	NNW	N	NNW	NNW	NNW	N	344	NNW
Mar 27	N	N	N	NNW	NW	WNW	W	WNW	NW	NW	NW	NW	NNW	NNW	N	NNW	NNW	W	WSW	SSW	SSE	SE	SE	SE	320	NW
Mar 28	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	SSW	SW	WSW	W	W	W	NW	NW	NW	NNW	NNE	NNE	SE	SE	ESE	ESE	252	WSW
Mar 29	ESE	E	ESE	ESE	ESE	ESE	ESE	ESE	SSE	S	SW	SSW	SW	SSW	SSW	SSW	SSW	SSW	SSW	S	SSE	SSE	SW	WNW	186	S
Mar 30	NW	NNW	NNW	NNW	NNW	NNW	N	N	N	N	N	N	NNE	NNE	N	N	N	NNE	NNE	N	N	NE	NE	E	2	N
Mar 31	E	E	ESE	NE	NE	ENE	ENE	E	ESE	SE	SSE	WNW	WNW	WNW	WNW	W	WSW	WNW	NW	NW	NNW	NNW	SSE	SE	307	NW

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 - March 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

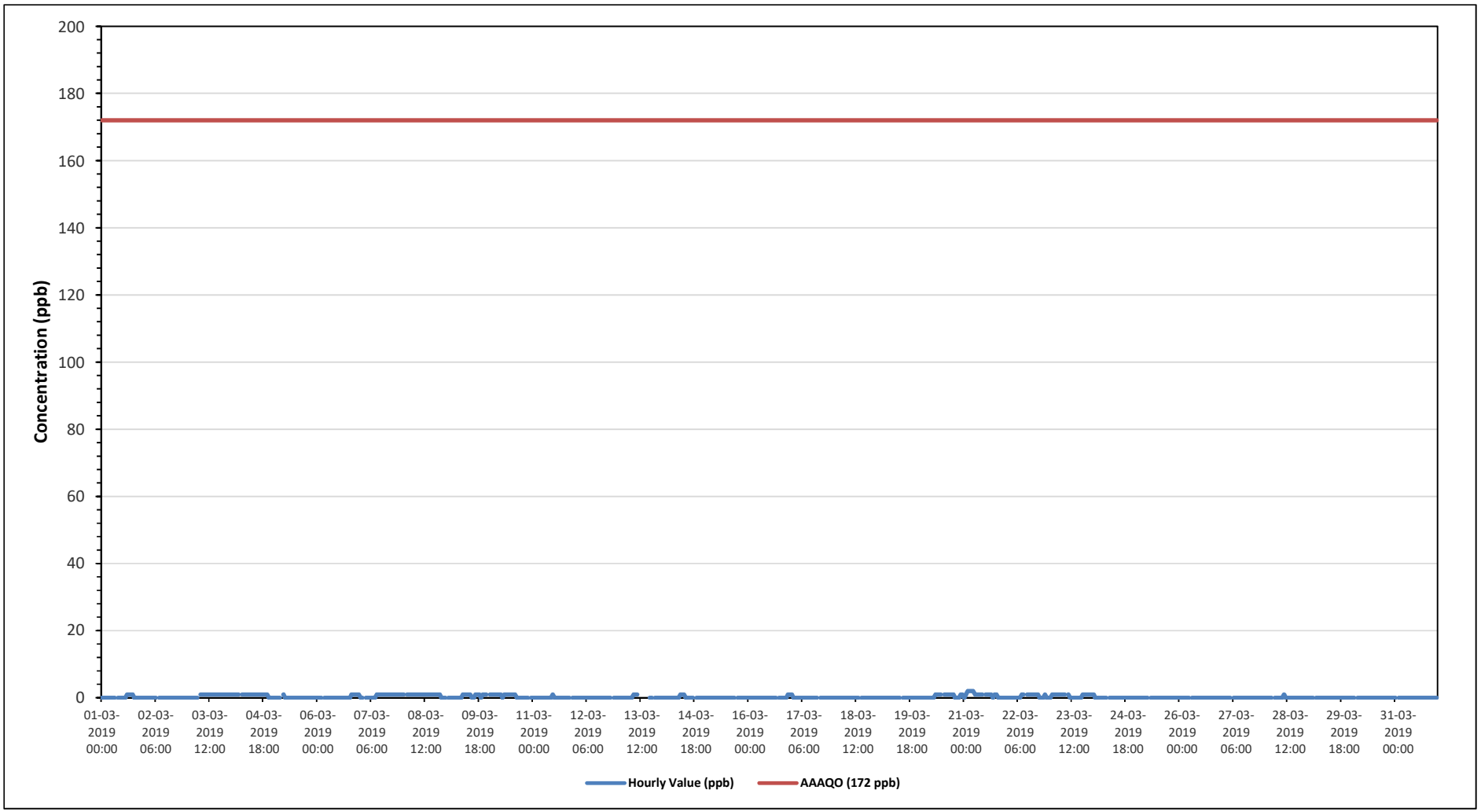
Maximum Hourly Value:	2	ppb	on March 21 at hour 2	Hours in Service:	744
Maximum Daily Value:	0.9	ppb	on March 4	Hours of Data:	706
Minimum Hourly Value:	0	ppb	on March 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.0	ppb	on March 2	Hours of Calibration:	38
Monthly Average:	0.2	ppb		Operational 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
Mar 1	0	0	0	0	0	0	0	0	S	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	0.2
Mar 2	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
Mar 3	0	0	0	0	0	0	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.7
Mar 4	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0.9
Mar 5	0	0	0	0	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 6	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	1	0.2
Mar 7	0	0	S	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.7
Mar 8	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0.9
Mar 9	S	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	1	1	1	0	1	1	1	S	0	1	0.5
Mar 10	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	S	0	0	1	0.6
Mar 11	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	S	0	0	0	1	0.0
Mar 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0.0
Mar 13	0	0	0	0	0	0	0	0	1	1	1	C	C	C	C	C	C	0	0	S	0	0	0	0	0	1	-
Mar 14	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	S	0	0	0	0	0	0	1	0.1
Mar 15	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
Mar 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	1	1	0	1	0.1
Mar 17	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0.0
Mar 18	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
Mar 19	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Mar 20	0	0	0	0	0	0	0	0	1	1	1	1	S	1	1	1	1	1	1	0	0	0	1	1	0	1	0.5
Mar 21	0	1	2	2	2	2	1	1	1	1	1	S	1	1	1	1	0	1	1	0	0	0	0	0	0	2	0.9
Mar 22	0	0	0	0	0	0	0	0	1	1	S	1	1	1	1	1	1	1	0	0	0	1	0	0	0	1	0.4
Mar 23	0	1	1	1	1	1	1	1	1	S	1	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	0.7
Mar 24	1	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 25	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
Mar 26	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
Mar 27	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
Mar 28	0	0	0	0	S	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 29	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
Mar 30	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
Mar 31	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
Diurnal Maximum	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
Daiurnal Average	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	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.

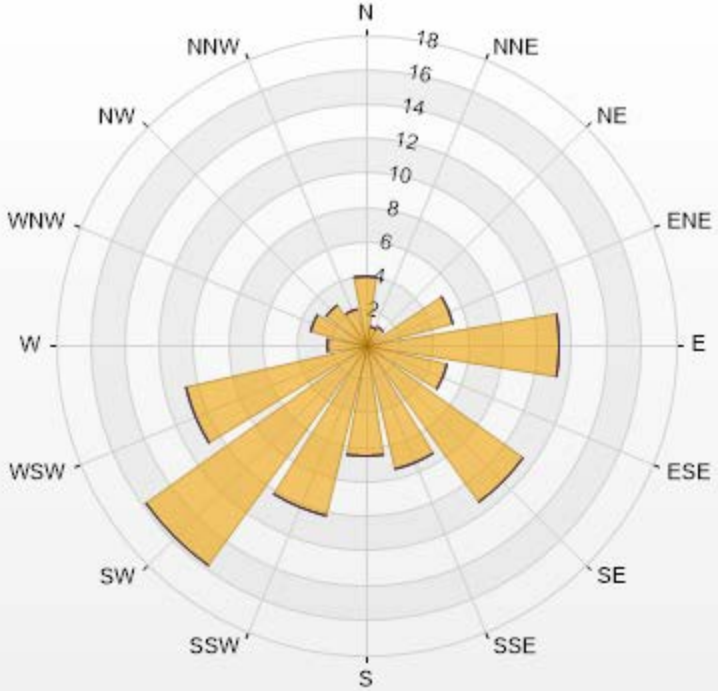
Timeseries Chart of Hourly Average for SO2 - 842b Station



Wind: PRAMP 842 Poll.: PRAMP 842-SO2[ppb] Monthly: 03-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppb]

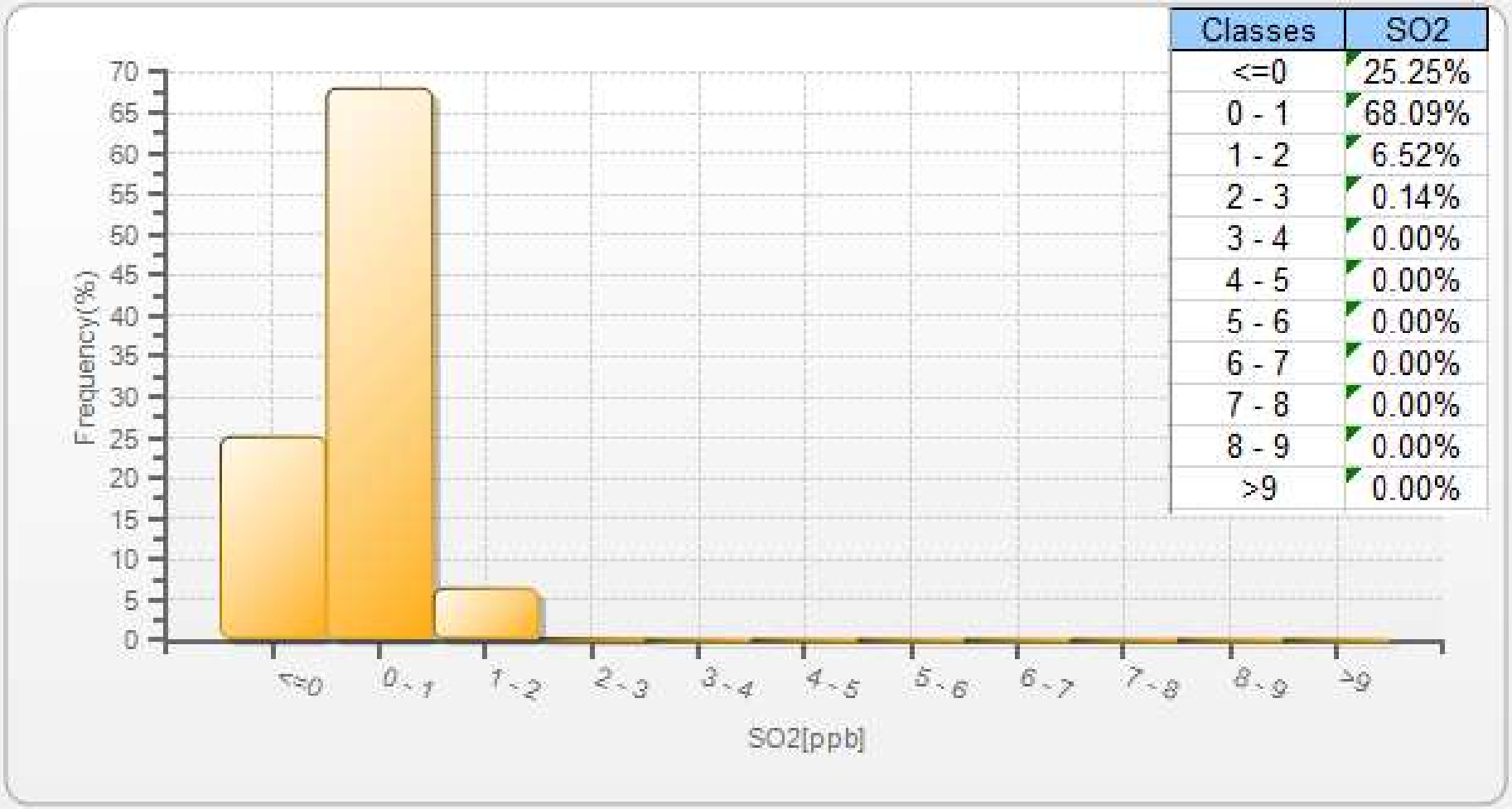
Direction	10-50	50-100	100-172	>172.0	Total
N	3.97	0	0	0	3.97
NNE	1.13	0	0	0	1.13
NE	1.28	0	0	0	1.28
ENE	5.25	0	0	0	5.25
E	11.21	0	0	0	11.21
ESE	4.82	0	0	0	4.82
SE	11.21	0	0	0	11.21
SSE	7.38	0	0	0	7.38
S	6.52	0	0	0	6.52
SSW	10.21	0	0	0	10.21
SW	15.74	0	0	0	15.74
WSW	10.78	0	0	0	10.78
W	2.27	0	0	0	2.27
WNW	3.26	0	0	0	3.26
NW	2.84	0	0	0	2.84
NNW	2.13	0	0	0	2.13
Summary	100	0	0	0	100

PRAMP 842 Poll.: PRAMP 842-SO2[ppb] 01-03-2019 00:00 - 31-03-2019 23:00 Calm: 0.00%

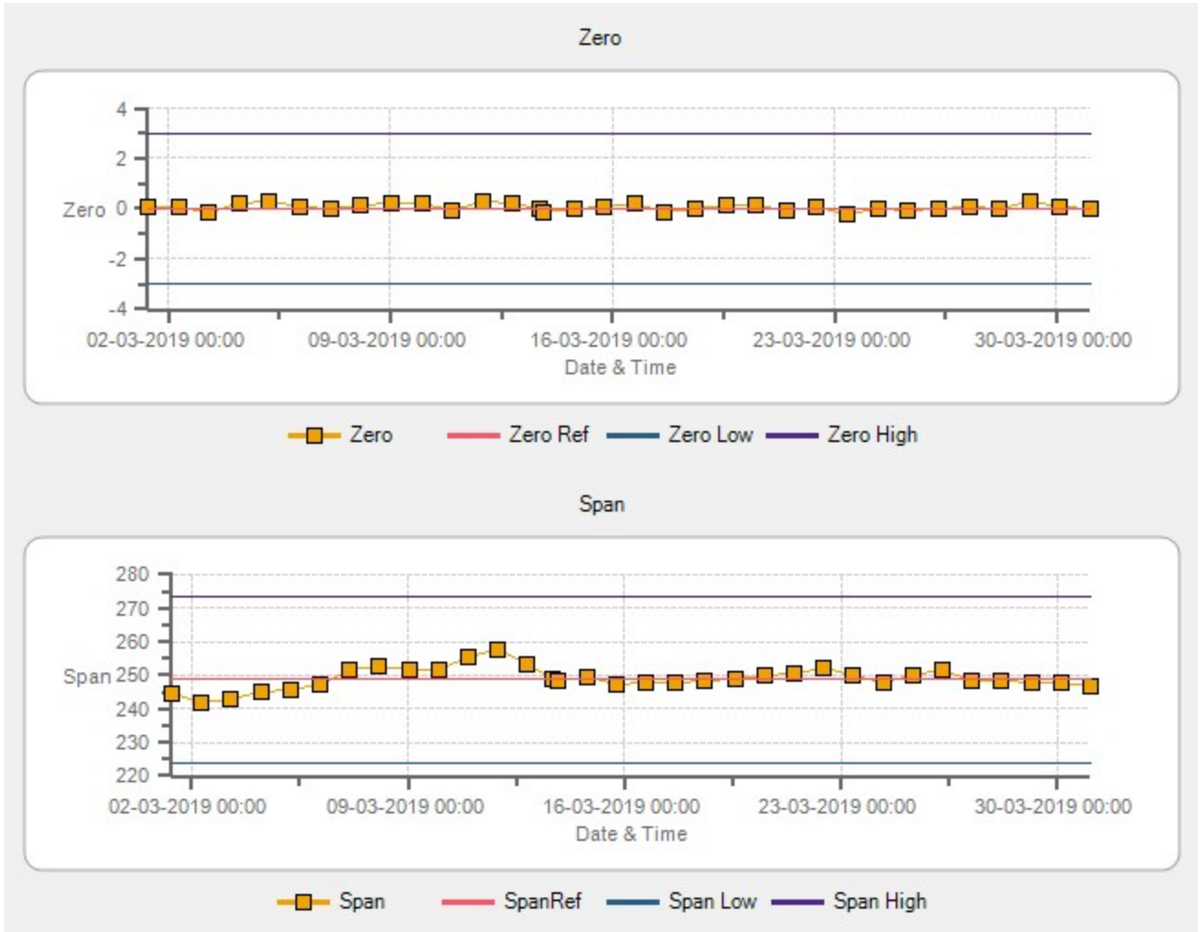


%	Icon	Classes (ppb)	100	10-50	0	50-100	0	100-172	0	>172.0

SO2[ppb] Histogram: PRAMP 842 Monthly: 03-2019 1 Hr.



Classes	SO2
<=0	25.25%
0 - 1	68.09%
1 - 2	6.52%
2 - 3	0.14%
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%


Zero
4
2
Zero 0
-2
-4
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
Span
280
270
260
Span 250
240
230
220
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

PEACE RIVER AREA MONITORING PROGRAM

842b Station - March 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

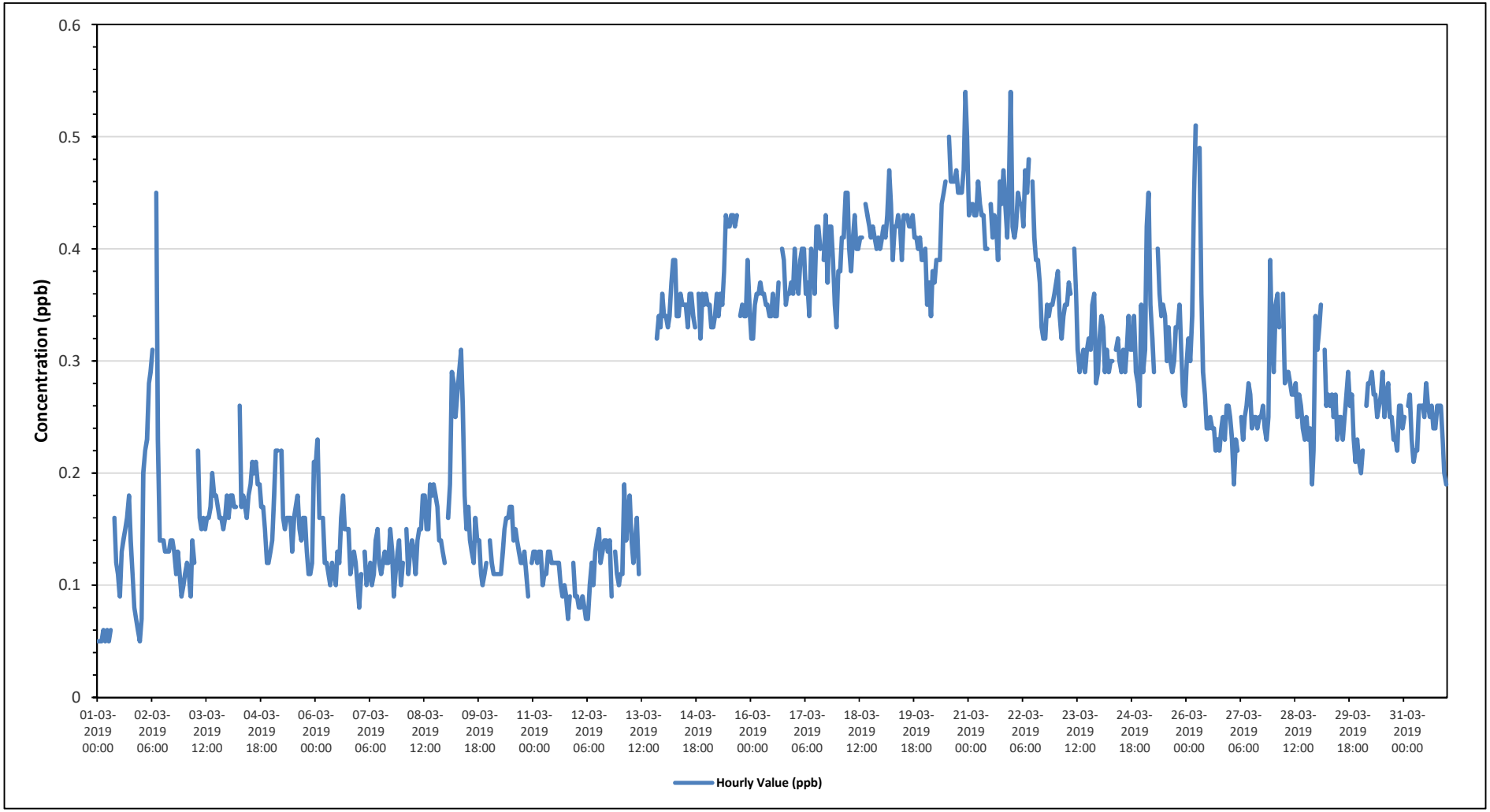
Maximum Hourly Value:	0.54	ppb	on March 20 at hour 22	Hours in Service:	744
Maximum Daily Value:	0.44	ppb	on March 21	Hours of Data:	705
Minimum Hourly Value:	0.05	ppb	on March 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.09	ppb	on March 1	Hours of Calibration:	39
Monthly Average:	0.26	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			
Mar 1	**0.05**	0.05	0.05	0.06	0.05	0.06	0.05	0.06	S	0.16	0.12	0.11	0.09	0.13	0.14	0.15	0.16	0.18	0.14	0.11	0.08	0.07	0.06	0.05	**0.05**	0.18	**0.09**
Mar 2	0.07	0.2	0.22	0.23	0.28	0.29	0.31	S	0.45	0.23	0.14	0.14	0.14	0.13	0.13	0.13	0.14	0.14	0.13	0.11	0.13	0.11	0.09	0.1	0.07	0.45	0.18
Mar 3	0.11	0.12	0.11	0.09	0.14	0.12	S	0.22	0.16	0.15	0.16	0.15	0.16	0.16	0.17	0.2	0.18	0.18	0.17	0.16	0.16	0.15	0.16	0.18	0.09	0.22	0.15
Mar 4	0.16	0.18	0.18	0.17	0.17	S	0.26	0.17	0.18	0.17	0.16	0.18	0.19	0.21	0.2	0.21	0.19	0.19	0.17	0.17	0.15	0.12	0.12	0.13	0.12	0.26	0.18
Mar 5	0.14	0.18	0.22	0.22	S	0.22	0.16	0.15	0.16	0.16	0.16	0.13	0.16	0.17	0.18	0.15	0.14	0.16	0.16	0.13	0.11	0.11	0.12	0.21	0.11	0.22	0.16
Mar 6	0.21	0.23	0.16	S	0.16	0.12	0.12	0.11	0.1	0.12	0.11	0.1	0.13	0.12	0.16	0.18	0.15	0.15	0.15	0.11	0.12	0.13	0.12	0.1	0.10	0.23	0.14
Mar 7	0.08	0.11	S	0.13	0.1	0.11	0.12	0.1	0.11	0.14	0.15	0.12	0.11	0.12	0.13	0.12	0.12	0.15	0.13	0.09	0.11	0.13	0.14	0.1	0.08	0.15	0.12
Mar 8	0.12	S	0.15	0.11	0.13	0.14	0.13	0.11	0.14	0.15	0.15	0.18	0.18	0.15	0.15	0.19	0.18	0.19	0.18	0.17	0.14	0.14	0.13	0.12	0.11	0.19	0.15
Mar 9	S	0.16	0.19	0.29	0.28	0.25	0.27	0.29	0.31	0.26	0.18	0.15	0.17	0.14	0.13	0.12	0.16	0.14	0.14	0.11	0.1	0.11	0.12	S	0.10	0.31	0.19
Mar 10	0.14	0.12	0.11	0.11	0.11	0.11	0.11	0.13	0.15	0.16	0.16	0.17	0.17	0.14	0.15	0.14	0.13	0.12	0.12	0.13	0.11	0.09	S	0.12	0.09	0.17	0.13
Mar 11	0.13	0.13	0.12	0.13	0.13	0.1	0.11	0.11	0.13	0.13	0.12	0.12	0.12	0.12	0.12	0.1	0.09	0.1	0.09	0.07	0.09	S	0.12	0.09	0.07	0.13	0.11
Mar 12	0.09	0.08	0.08	0.09	0.08	0.07	0.07	0.1	0.12	0.1	0.13	0.14	0.15	0.12	0.13	0.14	0.14	0.13	0.14	0.09	S	0.13	0.11	0.1	0.07	0.15	0.11
Mar 13	0.11	0.11	0.19	0.14	0.16	0.18	0.14	0.12	0.14	0.16	0.11	C	C	C	C	C	C	C	0.42	S	0.32	0.34	0.33	0.36	0.11	0.42	-
Mar 14	0.34	0.34	0.33	0.34	0.37	0.39	0.39	0.34	0.34	0.36	0.35	0.35	0.35	0.33	0.36	0.36	0.34	0.33	S	0.36	0.32	0.36	0.35	0.36	0.32	0.39	0.35
Mar 15	0.35	0.35	0.33	0.33	0.34	0.36	0.34	0.36	0.35	0.38	0.43	0.42	0.42	0.43	0.43	0.42	0.43	S	0.34	0.35	0.34	0.34	0.39	0.35	0.33	0.43	0.37
Mar 16	0.32	0.32	0.35	0.36	0.36	0.37	0.36	0.36	0.35	0.35	0.34	0.34	0.36	0.34	0.34	0.37	S	0.4	0.39	0.35	0.36	0.36	0.37	0.36	0.32	0.40	0.36
Mar 17	0.4	0.37	0.36	0.39	0.4	0.4	0.36	0.37	0.34	0.4	0.39	0.36	0.42	0.42	0.4	S	0.39	0.43	0.37	0.42	0.42	0.39	0.35	0.33	0.33	0.43	0.39
Mar 18	0.38	0.38	0.41	0.41	0.45	0.45	0.4	0.38	0.41	0.43	0.4	0.4	0.41	0.41	S	0.44	0.43	0.42	0.41	0.42	0.41	0.4	0.41	0.4	0.38	0.45	0.41
Mar 19	0.41	0.42	0.41	0.43	0.47	0.44	0.39	0.42	0.42	0.43	0.42	0.39	0.43	S	0.43	0.42	0.42	0.43	0.41	0.41	0.4	0.41	0.39	0.39	0.39	0.47	0.42
Mar 20	0.4	0.35	0.37	0.34	0.38	0.37	0.39	0.39	0.39	0.44	0.45	0.46	S	0.5	0.46	0.46	0.46	0.47	0.45	0.45	0.45	0.47	**0.54**	0.5	0.34	**0.54**	0.43
Mar 21	0.43	0.44	0.44	0.43	0.43	0.46	0.44	0.43	0.43	0.4	0.4	S	0.44	0.41	0.43	0.42	0.39	0.46	0.44	0.47	0.44	0.41	0.45	**0.54**	0.39	**0.54**	**0.44**
Mar 22	0.42	0.41	0.42	0.45	0.44	0.44	0.42	0.47	0.45	0.48	S	0.46	0.41	0.39	0.39	0.37	0.33	0.32	0.32	0.35	0.34	0.35	0.35	0.36	0.32	0.48	0.40
Mar 23	0.37	0.38	0.34	0.32	0.34	0.35	0.35	0.37	0.36	S	0.4	0.36	0.31	0.29	0.3	0.31	0.29	0.31	0.32	0.31	0.35	0.36	0.28	0.29	0.28	0.40	0.33
Mar 24	0.32	0.34	0.33	0.29	0.31	0.29	0.3	0.3	S	0.31	0.32	0.3	0.29	0.31	0.29	0.31	0.34	0.31	0.31	0.34	0.29	0.28	0.26	0.35	0.26	0.35	0.31
Mar 25	0.29	0.31	0.42	0.45	0.35	0.32	0.29	S	0.4	0.36	0.34	0.35	0.34	0.3	0.33	0.3	0.29	0.3	0.33	0.33	0.35	0.31	0.27	0.26	0.26	0.45	0.33
Mar 26	0.3	0.32	0.3	0.34	0.45	0.51	S	0.49	0.36	0.29	0.27	0.24	0.24	0.25	0.24	0.24	0.22	0.23	0.22	0.24	0.25	0.23	0.26	0.26	0.22	0.51	0.29
Mar 27	0.25	0.23	0.19	0.23	0.22	S	0.25	0.23	0.25	0.26	0.28	0.27	0.24	0.25	0.25	0.24	0.25	0.25	0.26	0.24	0.23	0.25	0.39	0.32	0.19	0.39	0.25
Mar 28	0.29	0.35	0.36	0.33	S	0.36	0.28	0.29	0.29	0.28	0.27	0.27	0.28	0.25	0.27	0.26	0.24	0.23	0.25	0.23	0.24	0.19	0.22	0.34	0.19	0.36	0.28
Mar 29	0.31	0.33	0.35	S	0.31	0.26	0.27	0.26	0.27	0.25	0.27	0.23	0.25	0.25	0.23	0.25	0.27	0.29	0.26	0.27	0.23	0.21	0.23	0.21	0.21	0.35	0.26
Mar 30	0.2	0.22	S	0.26	0.28	0.28	0.29	0.27	0.27	0.25	0.26	0.27	0.29	0.25	0.27	0.28	0.25	0.25	0.23	0.23	0.22	0.26	0.26	0.24	0.20	0.29	0.26
Mar 31	0.25	S	0.26	0.27	0.23	0.21	0.22	0.22	0.26	0.26	0.26	0.25	0.28	0.26	0.25	0.26	0.24	0.24	0.26	0.26	0.26	0.23	0.2	0.19	0.19	0.28	0.24
Diurnal Maximum	0.43	0.44	0.44	0.45	0.47	0.51	0.44	0.49	0.45	0.48	0.45	0.46	0.44	0.50	0.46	0.46	0.46	0.47	0.45	0.47	0.45	0.47	0.54	0.54			
Daiurnal Average	0.25	0.26	0.27	0.27	0.27	0.28	0.26	0.26	0.28	0.27	0.26	0.26	0.26	0.25	0.26	0.26	0.25	0.26	0.26	0.25	0.25	0.25	0.25	0.26			

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

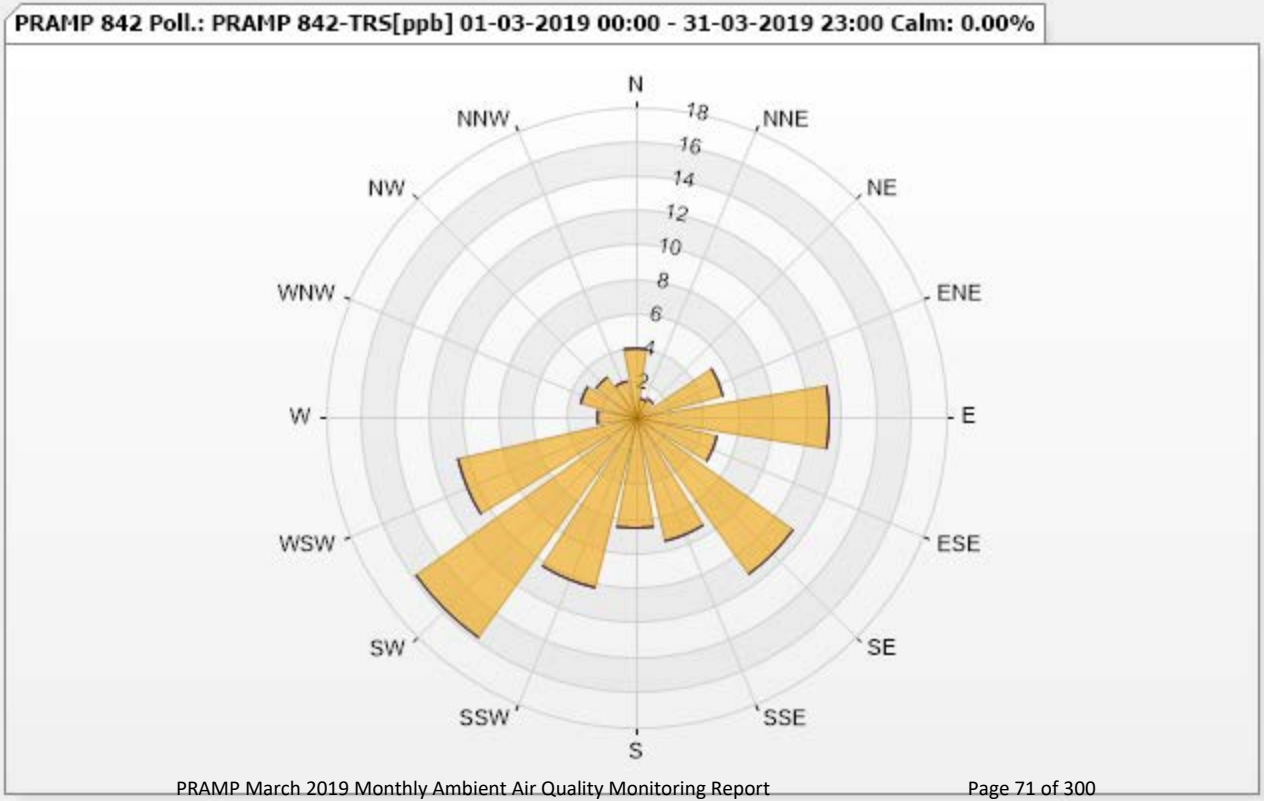
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

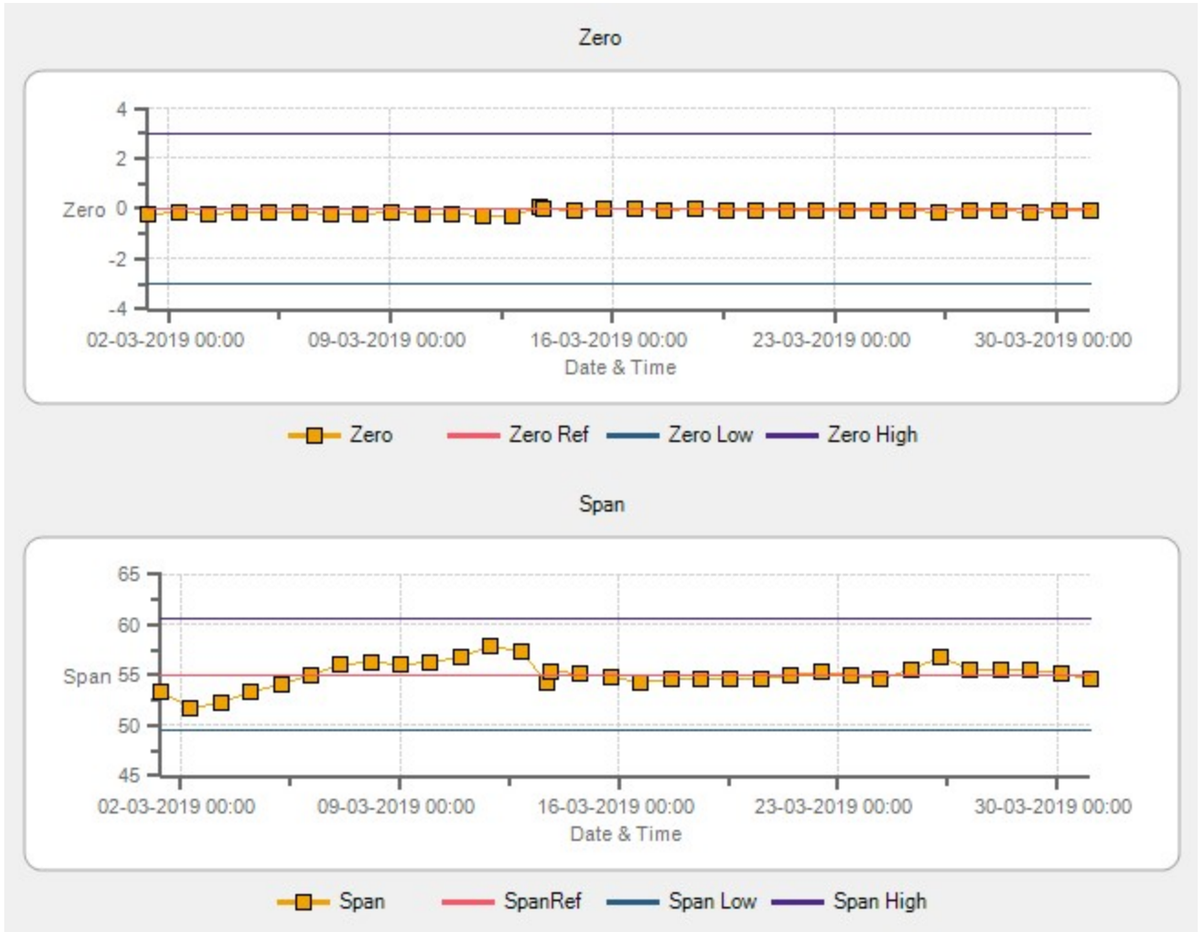
Timeseries Chart of Hourly Average for TRS - 842b Station



Wind: PRAMP 842 Poll.: PRAMP 842-TRS[ppb] Monthly: 03-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 94.62% Calm Avg: 0.00 [ppb]

Direction	2-5	5-10	10-50	>50.0	Total
N	3.98	0	0	0	3.98
NNE	1.14	0	0	0	1.14
NE	1.28	0	0	0	1.28
ENE	5.26	0	0	0	5.26
E	11.22	0	0	0	11.22
ESE	4.83	0	0	0	4.83
SE	11.22	0	0	0	11.22
SSE	7.39	0	0	0	7.39
S	6.53	0	0	0	6.53
SSW	10.23	0	0	0	10.23
SW	15.77	0	0	0	15.77
WSW	10.65	0	0	0	10.65
W	2.27	0	0	0	2.27
WNW	3.27	0	0	0	3.27
NW	2.84	0	0	0	2.84
NNW	2.13	0	0	0	2.13
Summary	100	0	0	0	100


PRAMP 842 Poll.: PRAMP 842-TRS[ppb] 01-03-2019 00:00 - 31-03-2019 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
18
16
14
12
10
8
6
4
2
% Icon Classes (ppb)
100 2-5
0 5-10
0 10-50
0 >50.0


Zero
4
2
Zero 0
-2
-4
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
Span
65
60
Span 55
50
45
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - March 2019

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

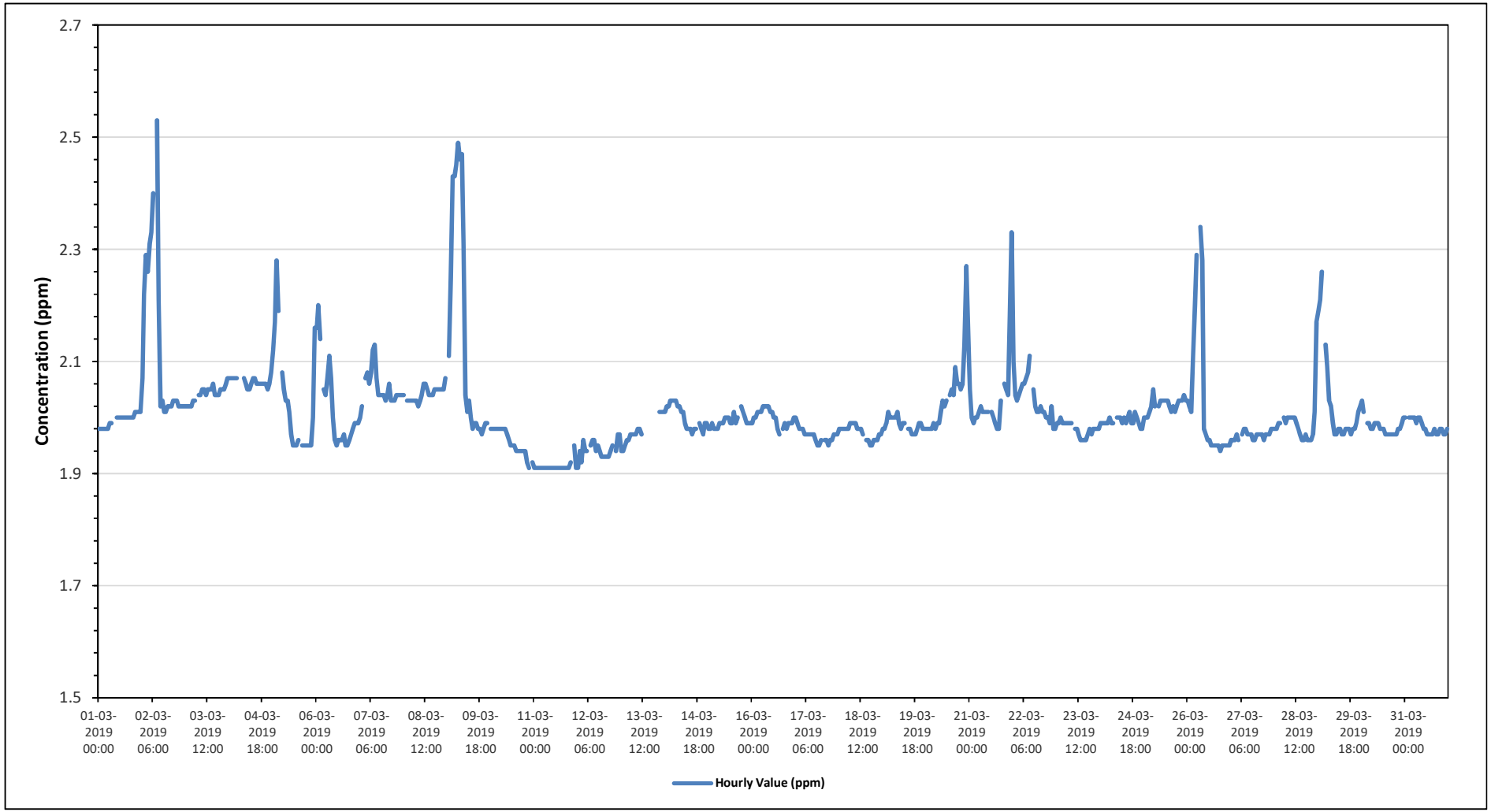
Maximum Hourly Value:	2.53	ppm	on March 2 at hour 8	Hours in Service:	744
Maximum Daily Value:	2.15	ppm	on March 9	Hours of Data:	699
Minimum Hourly Value:	1.91	ppm	on March 10 at hour 21	Hours of Missing Data:	8
Minimum Daily Value:	1.91	ppm	on March 11	Hours of Calibration:	37
Monthly Average:	2.01	ppm		Operational Uptime:	98.9

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
Mar 1	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	S	S	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.01	2.01	2.01	2.01	1.98	2.01	2.00
Mar 2	2.07	2.22	2.29	2.26	2.31	2.33	2.40	S	**2.53**	2.21	2.02	2.03	2.01	2.01	2.02	2.02	2.02	2.03	2.03	2.03	2.02	2.02	2.02	2.02	2.01	**2.53**	2.13
Mar 3	2.02	2.02	2.02	2.02	2.03	2.03	S	2.04	2.04	2.05	2.05	2.04	2.05	2.05	2.05	2.06	2.04	2.04	2.04	2.05	2.05	2.05	2.06	2.07	2.02	2.07	2.04
Mar 4	2.07	2.07	2.07	2.07	2.07	S	2.07	S1	2.07	2.06	2.05	2.05	2.06	2.07	2.07	2.06	2.06	2.06	2.06	2.06	2.06	2.05	2.06	2.08	2.05	2.08	2.06
Mar 5	2.12	2.17	2.28	2.19	S	2.08	2.05	2.03	2.03	2.01	1.97	1.95	1.95	1.95	1.96	Y	1.95	1.95	1.95	1.95	1.95	1.95	2.00	2.16	1.95	2.28	2.03
Mar 6	2.16	2.20	2.14	S	2.05	2.04	2.07	2.11	2.07	2.00	1.96	1.95	1.96	1.96	1.96	1.97	1.95	1.95	1.96	1.97	1.98	1.99	1.99	1.99	1.95	2.20	2.02
Mar 7	2.00	2.02	S	2.07	2.08	2.06	2.08	2.12	2.13	2.07	2.04	2.04	2.04	2.04	2.03	2.04	2.06	2.03	2.03	2.03	2.04	2.04	2.04	2.04	2.00	2.13	2.05
Mar 8	2.04	S	2.03	2.03	2.03	2.03	2.03	2.03	2.02	2.03	2.04	2.06	2.06	2.05	2.04	2.04	2.04	2.05	2.05	2.05	2.05	2.05	2.05	2.07	2.02	2.07	2.04
Mar 9	S	2.11	2.25	2.43	2.43	2.45	2.49	2.46	2.47	2.31	2.04	2.01	2.03	2.00	1.98	1.99	1.99	1.98	1.98	1.97	1.98	1.99	1.99	S	1.97	2.49	**2.15**
Mar 10	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.96	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.92	**1.91**	S	1.92	**1.91**	1.98	1.96
Mar 11	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.92	S	1.95	1.91	1.91	1.95	**1.91**
Mar 12	1.91	1.94	1.92	1.96	1.94	1.94	S1	1.95	1.96	1.96	1.94	1.95	1.94	1.93	1.93	1.93	1.93	1.93	1.94	1.95	S	1.94	1.97	1.97	1.91	1.97	1.94
Mar 13	1.94	1.94	1.95	1.96	1.96	1.97	1.97	1.97	1.97	1.98	1.98	1.97	Y	Y	Y	Y	C	C	C	C	S	2.01	2.01	2.01	1.94	2.01	-
Mar 14	2.01	2.02	2.02	2.03	2.03	2.03	2.03	2.02	2.02	2.01	2.01	1.99	1.98	1.98	1.98	1.97	1.98	1.98	S	1.99	1.98	1.97	1.99	1.99	1.97	2.03	2.00
Mar 15	1.98	1.98	1.99	1.98	1.98	1.98	1.99	1.99	1.99	2.00	2.00	2.00	1.99	1.99	2.01	1.99	2.00	S	2.02	2.01	2.00	1.99	1.99	1.99	1.98	2.02	1.99
Mar 16	1.99	2.00	2.00	2.01	2.01	2.01	2.02	2.02	2.02	2.02	2.01	2.01	2.00	2.00	1.98	1.97	S	1.98	1.99	1.98	1.99	1.99	1.99	2.00	1.97	2.02	2.00
Mar 17	2.00	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.95	1.95	1.96	S	1.96	1.96	1.95	1.96	1.96	1.97	1.97	1.97	1.95	2.00	1.97
Mar 18	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	1.99	1.99	1.98	1.98	1.98	1.97	S	1.96	1.96	1.95	1.95	1.96	1.96	1.96	1.97	1.97	1.95	1.99	1.97
Mar 19	1.98	1.98	1.99	2.01	2.00	2.00	2.00	2.00	2.01	1.99	1.98	1.99	1.99	S	1.98	1.98	1.97	1.97	1.97	1.98	1.99	1.99	1.98	1.98	1.97	2.01	1.99
Mar 20	1.98	1.98	1.98	1.98	1.99	1.98	1.99	1.99	2.01	2.03	2.02	2.03	S	2.04	2.05	2.04	2.09	2.06	2.06	2.05	2.06	2.13	2.27	2.16	1.98	2.27	2.04
Mar 21	2.05	2.00	1.99	2.00	2.00	2.01	2.02	2.01	2.01	2.01	2.01	S	2.01	2.00	1.99	1.98	1.98	2.03	S1	2.06	2.05	2.04	2.18	2.33	1.98	2.33	2.03
Mar 22	2.10	2.04	2.03	2.04	2.05	2.06	2.06	2.07	2.08	2.11	S	2.05	2.02	2.01	2.01	2.02	2.01	2.01	2.00	2.00	1.99	2.02	1.98	1.98	1.98	2.11	2.03
Mar 23	1.99	1.99	2.00	1.99	1.99	1.99	1.99	1.99	1.99	S	1.98	1.98	1.97	1.96	1.96	1.96	1.96	1.97	1.98	1.97	1.98	1.98	1.98	1.98	1.96	2.00	1.98
Mar 24	1.99	1.99	1.99	1.99	1.99	2.00	1.99	1.99	S	2.00	2.00	2.00	1.99	2.00	1.99	2.00	2.01	1.99	1.99	2.01	2.00	1.99	1.98	1.98	1.98	2.01	1.99
Mar 25	2.00	2.00	2.00	2.01	2.02	2.05	2.02	S	2.02	2.03	2.03	2.03	2.03	2.03	2.02	2.01	2.02	2.01	2.02	2.03	2.03	2.03	2.04	2.03	2.00	2.05	2.02
Mar 26	2.03	2.02	2.01	2.11	2.20	2.29	S	2.34	2.28	1.98	1.97	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.94	1.95	1.95	1.95	1.95	1.95	1.94	2.34	2.03
Mar 27	1.96	1.96	1.96	1.97	1.96	S	1.97	1.98	1.98	1.97	1.97	1.97	1.96	1.96	1.97	1.97	1.97	1.97	1.96	1.97	1.97	1.97	1.98	1.98	1.96	1.98	1.97
Mar 28	1.98	1.98	1.99	1.99	S	2.00	1.99	2.00	2.00	2.00	2.00	2.00	1.99	1.98	1.97	1.96	1.96	1.97	1.96	1.96	1.96	1.97	2.01	2.17	1.96	2.17	1.99
Mar 29	2.19	2.21	2.26	S	2.13	2.09	2.03	2.02	1.99	1.97	1.97	1.98	1.98	1.97	1.97	1.98	1.98	1.98	1.97	1.98	1.98	1.99	2.01	2.02	1.97	2.26	2.03
Mar 30	2.03	2.01	S	1.99	1.99	1.98	1.98	1.99	1.99	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.99	2.00	1.97	2.03	1.98
Mar 31	2.00	S	2.00	2.00	2.00	2.00	1.99	2.00	2.00	1.99	1.98	1.98	1.97	1.97	1.97	1.97	1.98	1.97	1.97	1.98	1.98	1.97	1.97	1.98	1.97	2.00	1.98
Diurnal Maximum	2.19	2.22	2.29	2.43	2.43	2.45	2.49	2.46	2.53	2.31	2.05	2.06	2.06	2.07	2.07	2.06	2.09	2.06	2.06	2.06	2.06	2.13	2.27	2.33			
Daiurnal Average	2.01	2.02	2.03	2.03	2.04	2.04	2.04	2.03	2.05	2.02	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	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

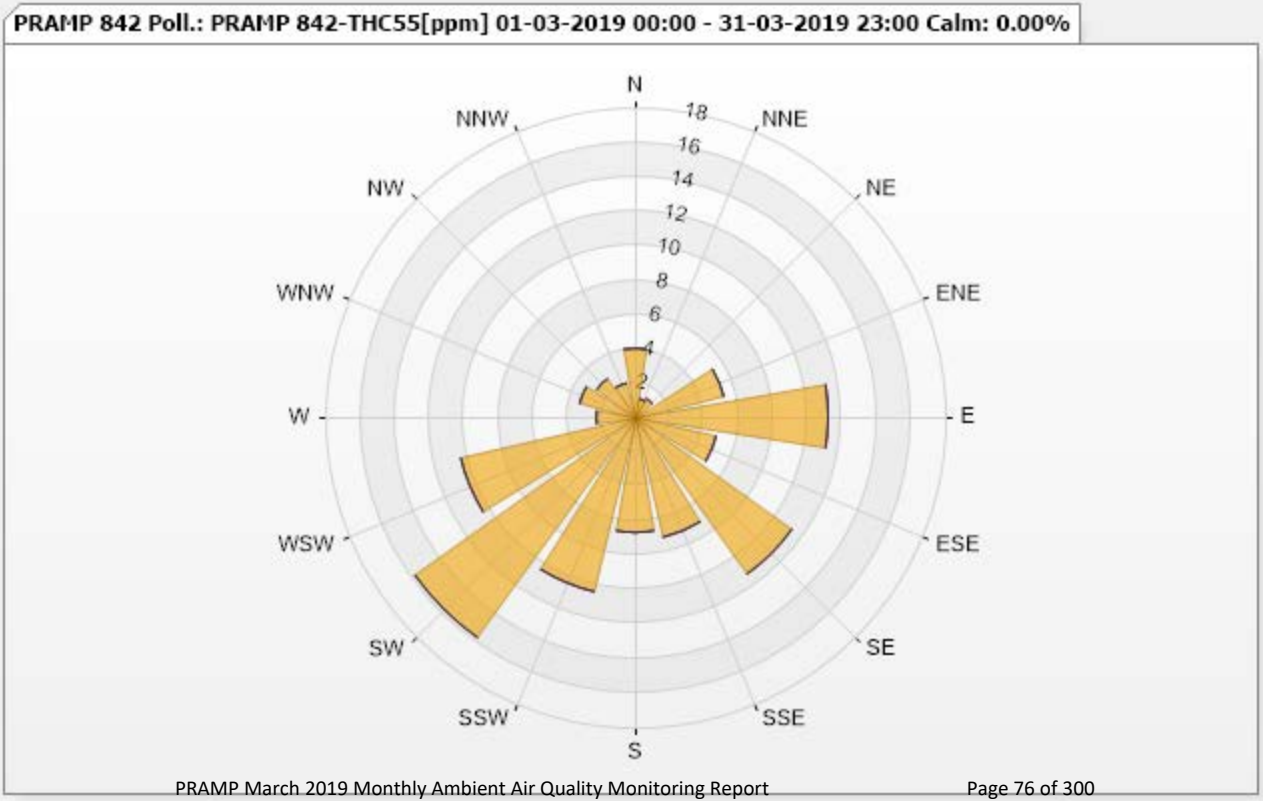
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

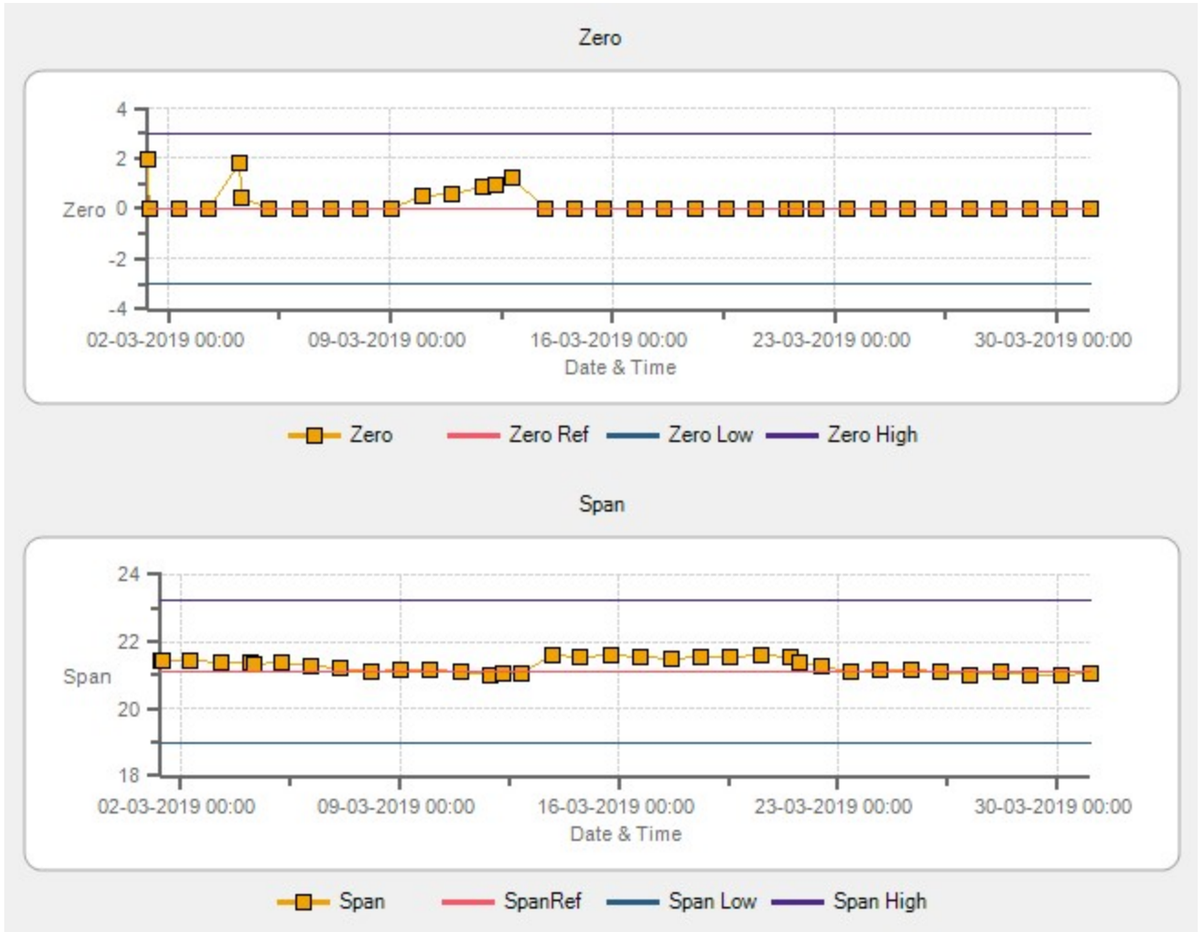
Timeseries Chart of Hourly Average for THC - 842b Station



Wind: PRAMP 842 Poll.: PRAMP 842-THC55[ppm] Monthly: 03-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.95% Calm Avg: 0.00 [ppm]

Direction	2-5	5-10	10-40	>40.0	Total
N	4.01	0	0	0	4.01
NNE	1.14	0	0	0	1.14
NE	1.29	0	0	0	1.29
ENE	5.29	0	0	0	5.29
E	11.3	0	0	0	11.3
ESE	4.86	0	0	0	4.86
SE	11.3	0	0	0	11.3
SSE	7.15	0	0	0	7.15
S	6.72	0	0	0	6.72
SSW	10.44	0	0	0	10.44
SW	15.74	0	0	0	15.74
WSW	10.44	0	0	0	10.44
W	2.29	0	0	0	2.29
WNW	3.29	0	0	0	3.29
NW	2.72	0	0	0	2.72
NNW	2	0	0	0	2
Summary	100	0	0	0	100


PRAMP 842 Poll.: PRAMP 842-THC55[ppm] 01-03-2019 00:00 - 31-03-2019 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
18
16
14
12
10
8
6
4
2
% Icon Classes (ppm)
100 2-5
0 5-10
0 10-40
0 >40.0


Zero
4
2
Zero 0
-2
-4
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
Span
24
22
Span
20
18
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - March 2019

Summary of Hourly Averages

METHANE (CH4) in ppm

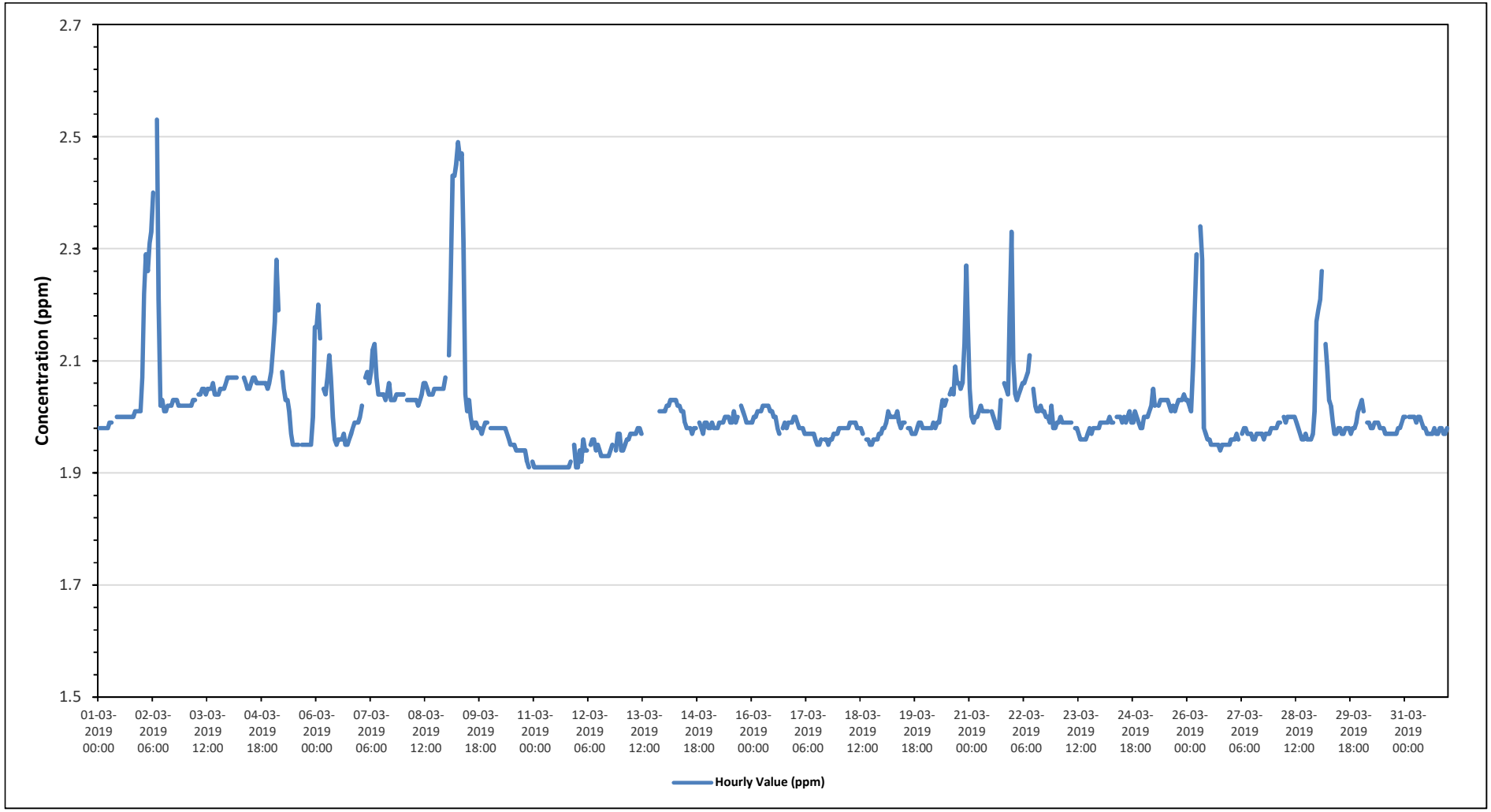
Maximum Hourly Value:	2.53	ppm	on March 2 at hour 8	Hours in Service:	744
Maximum Daily Value:	2.15	ppm	on March 9	Hours of Data:	699
Minimum Hourly Value:	1.91	ppm	on March 10 at hour 21	Hours of Missing Data:	8
Minimum Daily Value:	1.91	ppm	on March 11	Hours of Calibration:	37
Monthly Average:	2.01	ppm		Operational Uptime:	98.9

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
Mar 1	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	S	S	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.01	2.01	2.01	2.01	1.98	2.01	2.00
Mar 2	2.07	2.22	2.29	2.26	2.31	2.33	2.40	S	**2.53**	2.21	2.02	2.03	2.01	2.01	2.02	2.02	2.02	2.03	2.03	2.03	2.02	2.02	2.02	2.02	2.01	**2.53**	2.13
Mar 3	2.02	2.02	2.02	2.02	2.03	2.03	S	2.04	2.04	2.05	2.05	2.04	2.05	2.05	2.05	2.06	2.04	2.04	2.04	2.05	2.05	2.05	2.06	2.07	2.02	2.07	2.04
Mar 4	2.07	2.07	2.07	2.07	2.07	S	2.07	S1	2.07	2.06	2.05	2.05	2.06	2.07	2.07	2.06	2.06	2.06	2.06	2.06	2.06	2.05	2.06	2.08	2.05	2.08	2.06
Mar 5	2.12	2.17	2.28	2.19	S	2.08	2.05	2.03	2.03	2.01	1.97	1.95	1.95	1.95	1.95	Y	1.95	1.95	1.95	1.95	1.95	1.95	2.00	2.16	1.95	2.28	2.03
Mar 6	2.16	2.20	2.14	S	2.05	2.04	2.07	2.11	2.07	2.00	1.96	1.95	1.96	1.96	1.96	1.97	1.95	1.95	1.96	1.97	1.98	1.99	1.99	1.99	1.95	2.20	2.02
Mar 7	2.00	2.02	S	2.07	2.08	2.06	2.08	2.12	2.13	2.07	2.04	2.04	2.04	2.04	2.03	2.04	2.06	2.03	2.03	2.03	2.04	2.04	2.04	2.04	2.00	2.13	2.05
Mar 8	2.04	S	2.03	2.03	2.03	2.03	2.03	2.03	2.02	2.03	2.04	2.06	2.06	2.05	2.04	2.04	2.04	2.05	2.05	2.05	2.05	2.05	2.05	2.07	2.02	2.07	2.04
Mar 9	S	2.11	2.25	2.43	2.43	2.45	2.49	2.46	2.47	2.31	2.04	2.01	2.03	2.00	1.98	1.99	1.99	1.98	1.98	1.97	1.98	1.99	1.99	S	1.97	2.49	**2.15**
Mar 10	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.96	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.92	**1.91**	S	1.92	**1.91**	1.98	1.96
Mar 11	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.92	S	1.95	1.91	1.91	1.95	**1.91**
Mar 12	1.91	1.94	1.92	1.96	1.94	1.94	S1	1.95	1.96	1.96	1.94	1.95	1.94	1.93	1.93	1.93	1.93	1.93	1.94	1.95	S	1.94	1.97	1.97	1.91	1.97	1.94
Mar 13	1.94	1.94	1.95	1.96	1.96	1.97	1.97	1.97	1.97	1.98	1.98	1.97	Y	Y	Y	Y	C	C	C	C	S	2.01	2.01	2.01	1.94	2.01	-
Mar 14	2.01	2.02	2.02	2.03	2.03	2.03	2.03	2.02	2.02	2.01	2.01	1.99	1.98	1.98	1.98	1.97	1.98	1.98	S	1.99	1.98	1.97	1.99	1.99	1.97	2.03	2.00
Mar 15	1.98	1.98	1.99	1.98	1.98	1.98	1.99	1.99	1.99	2.00	2.00	2.00	1.99	1.99	2.01	1.99	2.00	S	2.02	2.01	2.00	1.99	1.99	1.99	1.98	2.02	1.99
Mar 16	1.99	2.00	2.00	2.01	2.01	2.01	2.02	2.02	2.02	2.02	2.01	2.01	2.00	2.00	1.98	1.97	S	1.98	1.99	1.98	1.99	1.99	1.99	2.00	1.97	2.02	2.00
Mar 17	2.00	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.95	1.95	1.96	S	1.96	1.96	1.95	1.96	1.96	1.97	1.97	1.97	1.95	2.00	1.97
Mar 18	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	1.99	1.99	1.98	1.98	1.98	1.97	S	1.96	1.96	1.95	1.95	1.96	1.96	1.96	1.97	1.97	1.95	1.99	1.97
Mar 19	1.98	1.98	1.99	2.01	2.00	2.00	2.00	2.00	2.01	1.99	1.98	1.99	1.99	S	1.98	1.98	1.97	1.97	1.97	1.98	1.99	1.99	1.98	1.98	1.97	2.01	1.99
Mar 20	1.98	1.98	1.98	1.98	1.99	1.98	1.99	1.99	2.01	2.03	2.02	2.03	S	2.04	2.05	2.04	2.09	2.06	2.06	2.05	2.06	2.13	2.27	2.16	1.98	2.27	2.04
Mar 21	2.05	2.00	1.99	2.00	2.00	2.01	2.02	2.01	2.01	2.01	2.01	S	2.01	2.00	1.99	1.98	1.98	2.03	S1	2.06	2.05	2.04	2.18	2.33	1.98	2.33	2.03
Mar 22	2.10	2.04	2.03	2.04	2.05	2.06	2.06	2.07	2.08	2.11	S	2.05	2.02	2.01	2.01	2.02	2.01	2.01	2.00	2.00	1.99	2.02	1.98	1.98	1.98	2.11	2.03
Mar 23	1.99	1.99	2.00	1.99	1.99	1.99	1.99	1.99	1.99	S	1.98	1.98	1.97	1.96	1.96	1.96	1.96	1.97	1.98	1.97	1.98	1.98	1.98	1.98	1.96	2.00	1.98
Mar 24	1.99	1.99	1.99	1.99	1.99	2.00	1.99	1.99	S	2.00	2.00	2.00	1.99	2.00	1.99	2.00	2.01	1.99	1.99	2.01	2.00	1.99	1.98	1.98	1.98	2.01	1.99
Mar 25	2.00	2.00	2.00	2.01	2.02	2.05	2.02	S	2.02	2.03	2.03	2.03	2.03	2.03	2.02	2.01	2.02	2.01	2.02	2.03	2.03	2.03	2.04	2.03	2.00	2.05	2.02
Mar 26	2.03	2.02	2.01	2.09	2.20	2.29	S	2.34	2.28	1.98	1.97	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.94	1.95	1.95	1.95	1.95	1.95	1.94	2.34	2.02
Mar 27	1.96	1.96	1.96	1.97	1.96	S	1.97	1.98	1.98	1.97	1.97	1.97	1.96	1.96	1.97	1.97	1.97	1.97	1.96	1.97	1.97	1.97	1.98	1.98	1.96	1.98	1.97
Mar 28	1.98	1.98	1.99	1.99	S	2.00	1.99	2.00	2.00	2.00	2.00	2.00	1.99	1.98	1.97	1.96	1.96	1.97	1.96	1.96	1.96	1.97	2.01	2.17	1.96	2.17	1.99
Mar 29	2.19	2.21	2.26	S	2.13	2.09	2.03	2.02	1.99	1.97	1.97	1.98	1.98	1.97	1.97	1.98	1.98	1.98	1.97	1.98	1.98	1.99	2.01	2.02	1.97	2.26	2.03
Mar 30	2.03	2.01	S	1.99	1.99	1.98	1.98	1.99	1.99	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.99	2.00	1.97	2.03	1.98
Mar 31	2.00	S	2.00	2.00	2.00	2.00	1.99	2.00	2.00	1.99	1.98	1.98	1.97	1.97	1.97	1.97	1.98	1.97	1.97	1.98	1.98	1.97	1.97	1.98	1.97	2.00	1.98
Diurnal Maximum	2.19	2.22	2.29	2.43	2.43	2.45	2.49	2.46	2.53	2.31	2.05	2.06	2.06	2.07	2.07	2.06	2.09	2.06	2.06	2.06	2.06	2.13	2.27	2.33			
Daiurnal Average	2.01	2.02	2.03	2.03	2.04	2.04	2.04	2.03	2.05	2.02	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	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

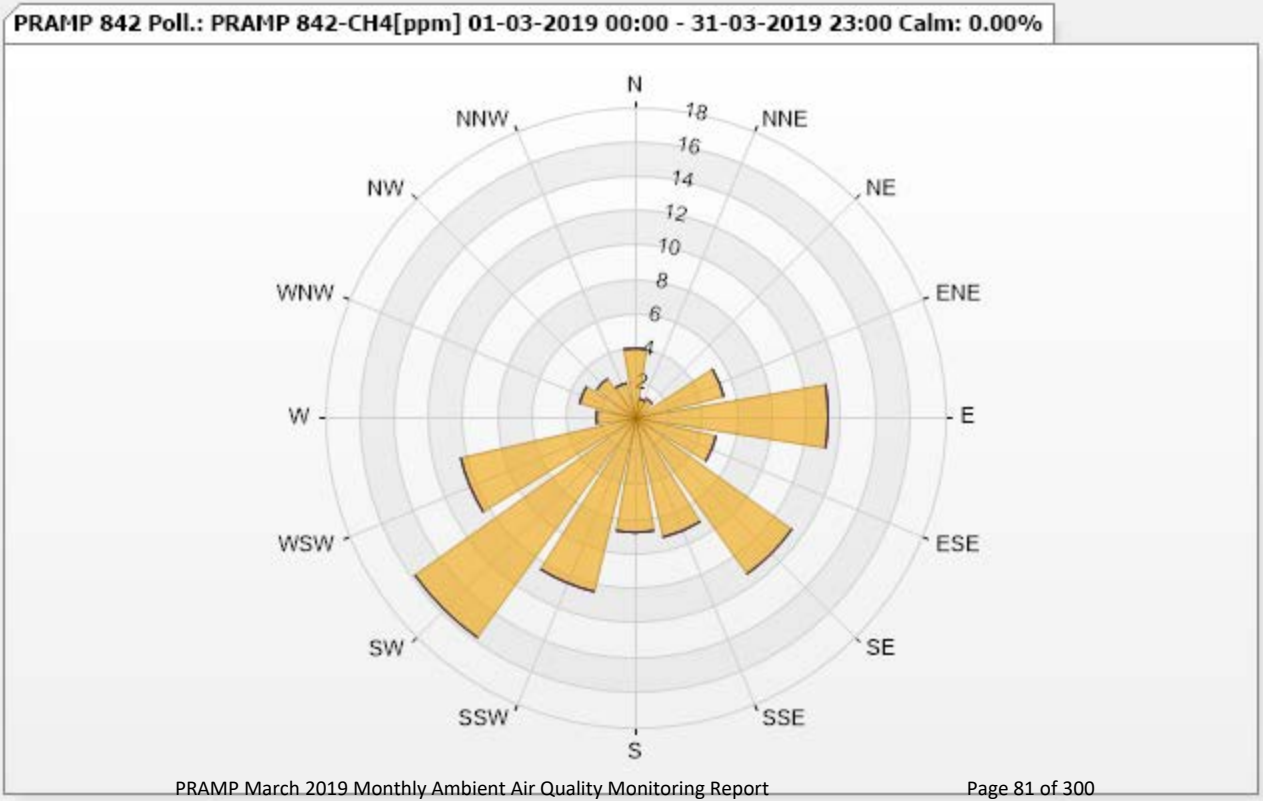
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

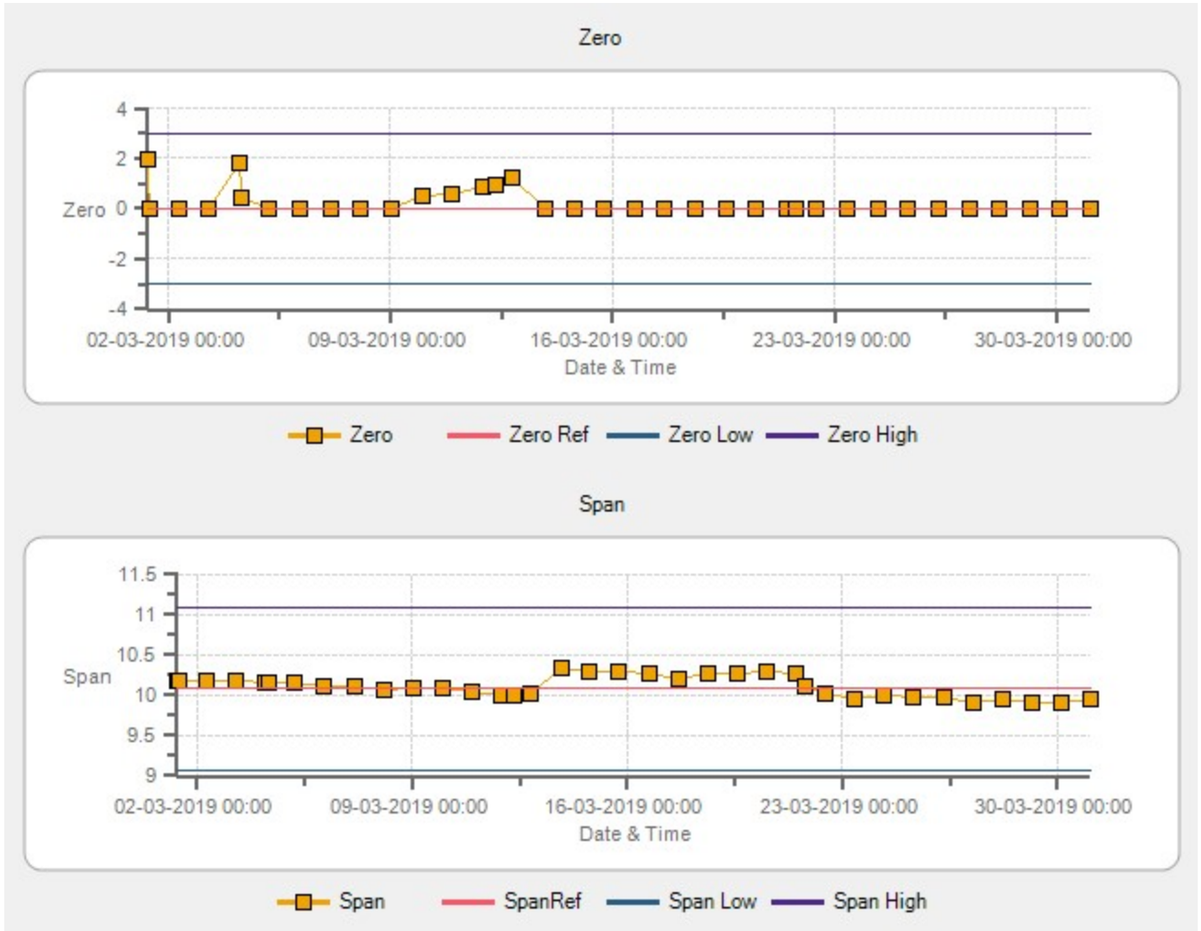
Timeseries Chart of Hourly Average for CH4 - 842b Station



Wind: PRAMP 842 Poll.: PRAMP 842-CH4[ppm] Monthly: 03-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.95% Calm Avg: 0.00 [ppm]

Direction	2-5	5-10	10-20	>20.0	Total
N	4.01	0	0	0	4.01
NNE	1.14	0	0	0	1.14
NE	1.29	0	0	0	1.29
ENE	5.29	0	0	0	5.29
E	11.3	0	0	0	11.3
ESE	4.86	0	0	0	4.86
SE	11.3	0	0	0	11.3
SSE	7.15	0	0	0	7.15
S	6.72	0	0	0	6.72
SSW	10.44	0	0	0	10.44
SW	15.74	0	0	0	15.74
WSW	10.44	0	0	0	10.44
W	2.29	0	0	0	2.29
WNW	3.29	0	0	0	3.29
NW	2.72	0	0	0	2.72
NNW	2	0	0	0	2
Summary	100	0	0	0	100


PRAMP 842 Poll.: PRAMP 842-CH4[ppm] 01-03-2019 00:00 - 31-03-2019 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
18
16
14
12
10
8
6
4
2
% Icon Classes (ppm)
100 2-5
0 5-10
0 10-20
0 >20.0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4
2
Zero 0
-2
-4
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
Span
11.5
11
10.5
Span
10
9.5
9
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

PEACE RIVER AREA MONITORING PROGRAM

842b Station - March 2019

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

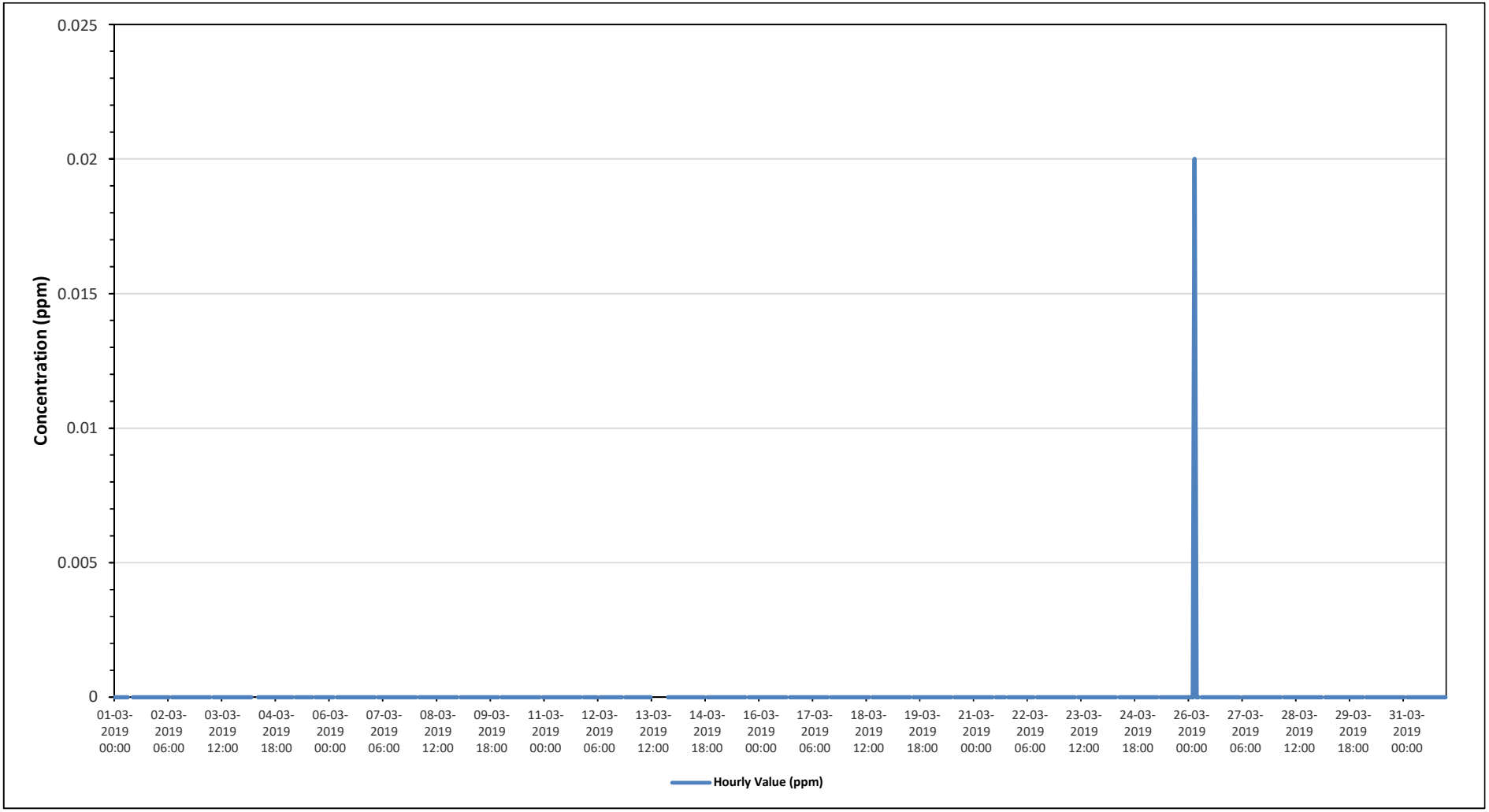
Maximum Hourly Value:	0.02	ppm	on March 26 at hour 3	Hours in Service:	744
Maximum Daily Value:	0.00	ppm	on March 26	Hours of Data:	699
Minimum Hourly Value:	0.00	ppm	on March 1 at hour 0	Hours of Missing Data:	8
Minimum Daily Value:	0.00	ppm	on March 1	Hours of Calibration:	37
Monthly Average:	0.00	ppm		Operational Uptime:	98.9

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
Mar 1	**0.00**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	**0.00**
Mar 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 3	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 4	0.00	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
Mar 5	0.00	0.00	0.00	0.00	S	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	0.00	0.00
Mar 6	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 7	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 8	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 9	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Mar 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Mar 11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Mar 12	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00
Mar 13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Y	Y	Y	Y	C	C	C	C	S	0.00	0.00	0.00	0.00	0.00	-
Mar 14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	S1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 26	0.00	0.00	0.00	**0.02**	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.02**	**0.00**
Mar 27	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 28	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 29	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 30	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 31	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diurnal Maximum	0.00	0.00	0.00	0.02	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			
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

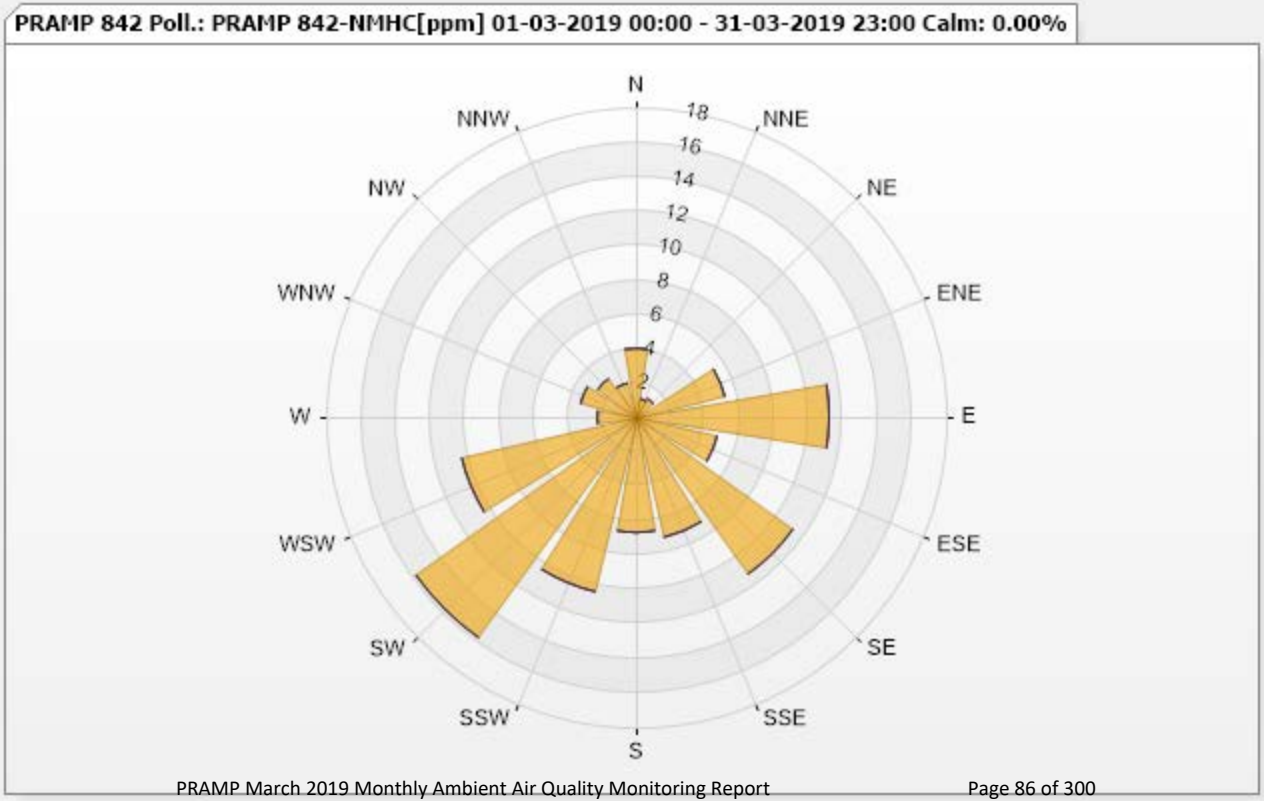
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

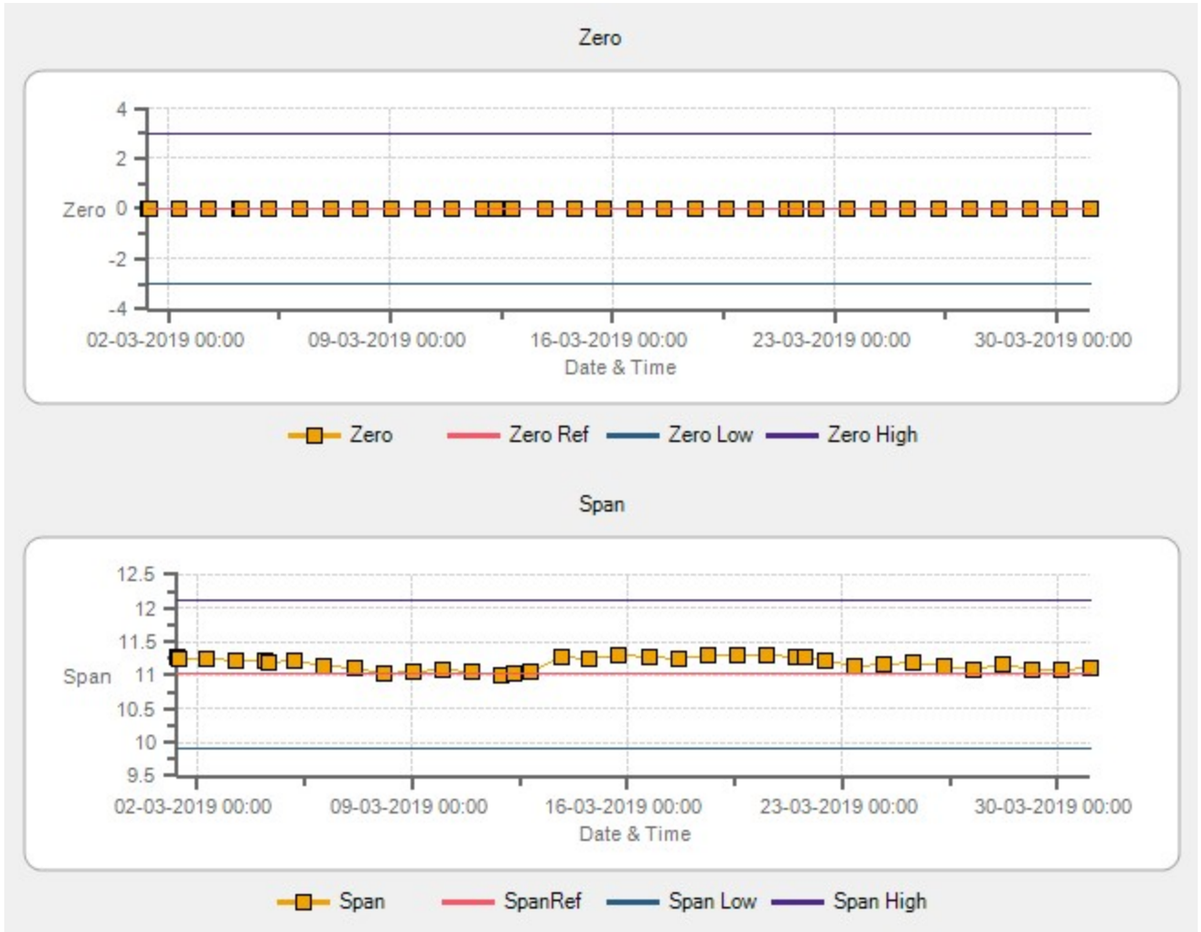
Timeseries Chart of Hourly Average for NMHC - 842b Station



Wind: PRAMP 842 Poll.: PRAMP 842-NMHC[ppm] Monthly: 03-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 93.95% Calm Avg: 0.00 [ppm]

Direction	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	4.01	0	0	0	4.01
NNE	1.14	0	0	0	1.14
NE	1.29	0	0	0	1.29
ENE	5.29	0	0	0	5.29
E	11.3	0	0	0	11.3
ESE	4.86	0	0	0	4.86
SE	11.3	0	0	0	11.3
SSE	7.15	0	0	0	7.15
S	6.72	0	0	0	6.72
SSW	10.44	0	0	0	10.44
SW	15.74	0	0	0	15.74
WSW	10.44	0	0	0	10.44
W	2.29	0	0	0	2.29
WNW	3.29	0	0	0	3.29
NW	2.72	0	0	0	2.72
NNW	2	0	0	0	2
Summary	100	0	0	0	100


PRAMP 842 Poll.: PRAMP 842-NMHC[ppm] 01-03-2019 00:00 - 31-03-2019 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
18
16
14
12
10
8
6
4
2
% Icon Classes (ppm)
100 0.1-0.3
0 0.3-0.9
0 0.9-2
0 >2.0


Zero
4
2
Zero 0
-2
-4
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
Span
12.5
12
11.5
Span 11
10.5
10
9.5
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - March 2019

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

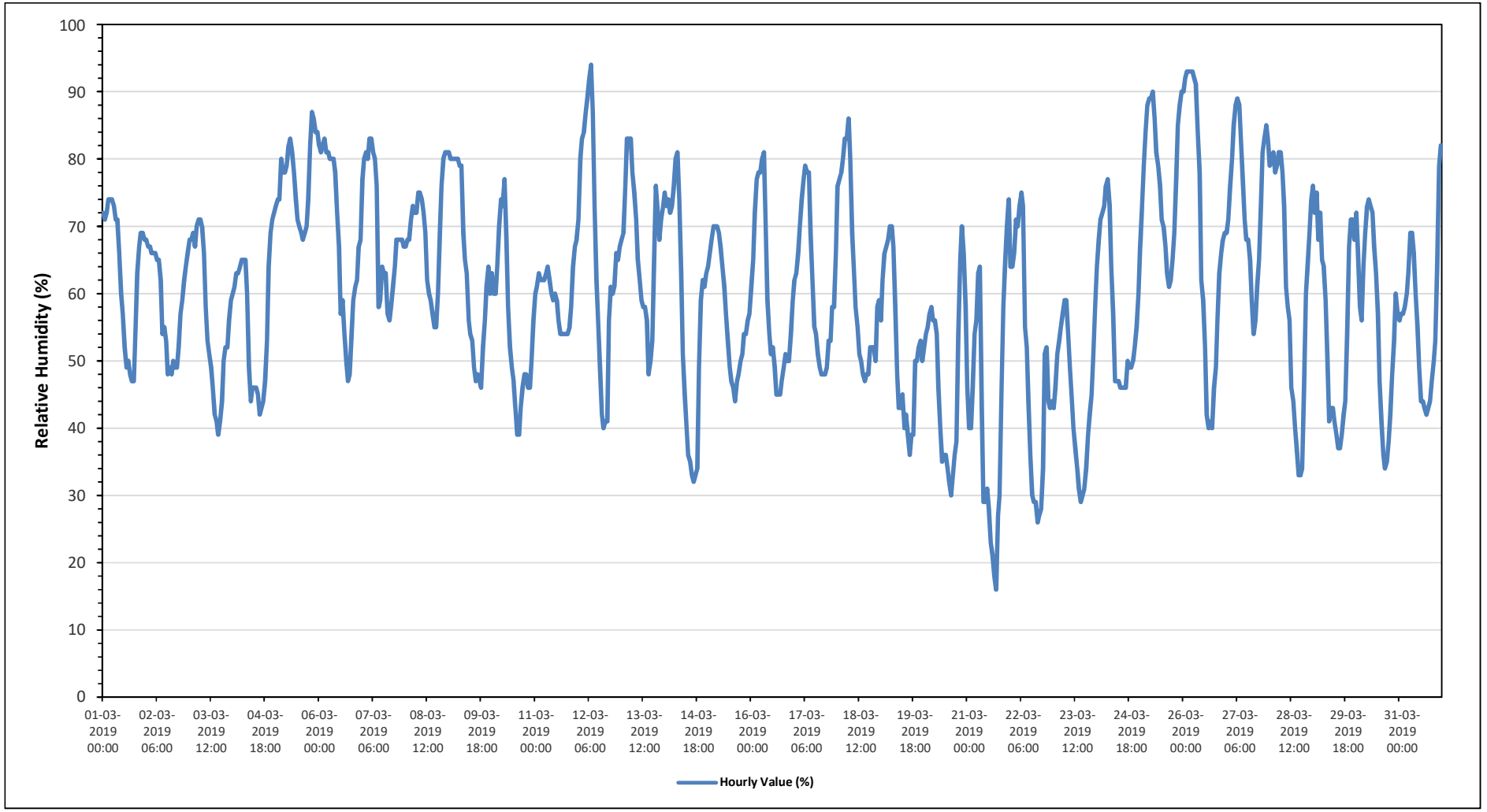
Maximum Hourly Value:	94	%	on March 12 at hour 7	Hours in Service:	744
Maximum Daily Value:	77.0	%	on March 25	Hours of Data:	744
Minimum Hourly Value:	16	%	on March 21 at hour 16	Hours of Missing Data:	0
Minimum Daily Value:	42.3	%	on March 21	Hours of Calibration:	0
Monthly Average:	60.4	%		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Mar 1	72	71	72	74	74	74	73	71	71	66	60	57	52	49	50	48	47	47	54	63	67	69	69	68	47	74	63
Mar 2	68	67	67	66	66	66	65	65	62	54	55	53	48	49	48	50	49	49	52	57	59	62	64	66	48	68	59
Mar 3	68	68	69	67	70	71	71	70	66	58	53	51	49	46	42	41	39	41	44	50	52	52	56	59	39	71	56
Mar 4	60	61	63	63	64	65	65	65	60	49	44	46	46	46	45	42	43	44	47	53	64	69	71	72	42	72	56
Mar 5	73	74	74	80	78	78	79	82	83	81	78	74	71	70	69	68	69	70	74	82	87	86	84	84	68	87	77
Mar 6	82	81	82	83	81	81	80	80	80	78	72	67	57	59	54	50	47	48	54	59	61	62	67	68	47	83	68
Mar 7	77	80	81	80	83	83	81	80	76	58	59	64	63	63	57	56	58	61	64	68	68	68	68	67	56	83	69
Mar 8	67	68	68	71	73	72	72	75	75	74	72	69	62	60	59	57	55	55	60	69	76	80	81	81	55	81	69
Mar 9	81	80	80	80	80	80	79	79	69	65	63	56	54	53	49	47	48	47	46	52	56	61	64	60	46	81	64
Mar 10	63	60	60	64	70	74	73	77	68	58	52	49	47	43	39	39	43	46	48	48	46	46	50	56	39	77	55
Mar 11	60	61	63	62	62	62	63	64	62	60	59	60	59	56	54	54	54	54	54	55	58	64	67	68	54	68	60
Mar 12	71	80	83	84	87	89	92	**94**	87	73	62	56	49	42	40	41	41	56	61	60	61	66	65	67	40	**94**	67
Mar 13	68	69	76	83	83	83	78	75	71	65	62	59	58	58	56	48	50	53	64	76	72	68	71	73	48	83	67
Mar 14	75	73	74	72	73	76	80	81	74	63	51	45	40	36	35	33	32	33	34	49	59	62	61	63	32	81	57
Mar 15	64	66	68	70	70	70	69	67	64	61	57	53	49	47	46	44	47	48	50	51	54	54	56	57	44	70	58
Mar 16	61	65	72	77	78	78	80	81	71	59	54	51	52	49	45	45	45	47	49	51	50	50	54	59	45	81	59
Mar 17	62	63	66	70	74	77	79	78	78	69	62	55	54	51	49	48	48	48	49	53	53	58	58	66	48	79	61
Mar 18	76	77	78	80	83	83	86	80	69	63	58	55	51	50	48	47	48	48	52	52	52	50	58	59	47	86	63
Mar 19	56	62	66	67	68	70	70	67	58	48	43	43	45	40	42	39	36	39	39	50	50	52	53	50	36	70	52
Mar 20	52	54	55	57	58	56	56	54	46	40	35	36	36	34	32	30	33	36	38	54	65	70	66	58	30	70	48
Mar 21	46	40	40	46	54	56	63	64	43	29	29	31	28	23	21	18	**16**	27	30	46	58	64	70	74	**16**	74	42
Mar 22	64	64	66	71	70	73	75	73	55	52	44	36	30	29	29	26	27	28	34	51	52	44	43	44	26	75	49
Mar 23	43	46	51	53	55	57	59	59	54	49	44	40	37	34	31	29	30	31	34	39	42	45	51	58	29	59	45
Mar 24	64	68	71	72	73	76	77	73	64	57	47	47	47	46	46	46	46	50	49	49	50	52	55	60	46	77	58
Mar 25	67	73	79	84	88	89	89	90	86	81	79	76	71	70	67	63	61	62	65	69	77	85	88	90	61	90	**77**
Mar 26	90	92	93	93	93	93	92	91	84	78	62	59	52	42	40	41	40	46	49	56	63	66	68	69	40	93	69
Mar 27	69	71	76	80	85	88	89	88	83	77	71	68	68	65	59	54	56	61	65	73	81	83	85	83	54	89	74
Mar 28	79	80	81	78	79	81	81	78	73	61	58	56	46	44	40	37	33	33	34	46	60	64	69	74	33	81	61
Mar 29	76	72	75	68	72	65	64	59	50	41	43	43	41	39	37	37	39	42	44	54	67	71	71	68	37	76	56
Mar 30	72	66	58	56	64	69	73	74	73	72	67	63	57	47	41	36	34	35	38	42	48	53	60	57	34	74	56
Mar 31	56	57	57	58	60	63	69	69	66	60	55	49	44	44	43	42	43	44	47	50	53	64	79	82	42	82	56
Diurnal Maximum	90	92	93	93	93	93	92	94	87	81	79	76	71	70	69	68	69	70	74	82	87	86	88	90			
Daiurnal Average	67.2	68.0	69.8	71.3	73.2	74.1	74.9	74.3	68.4	61.3	56.5	53.8	50.4	47.9	45.6	43.7	43.8	46.1	49.1	55.7	60.0	62.6	65.2	66.5			

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 - March 2019

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

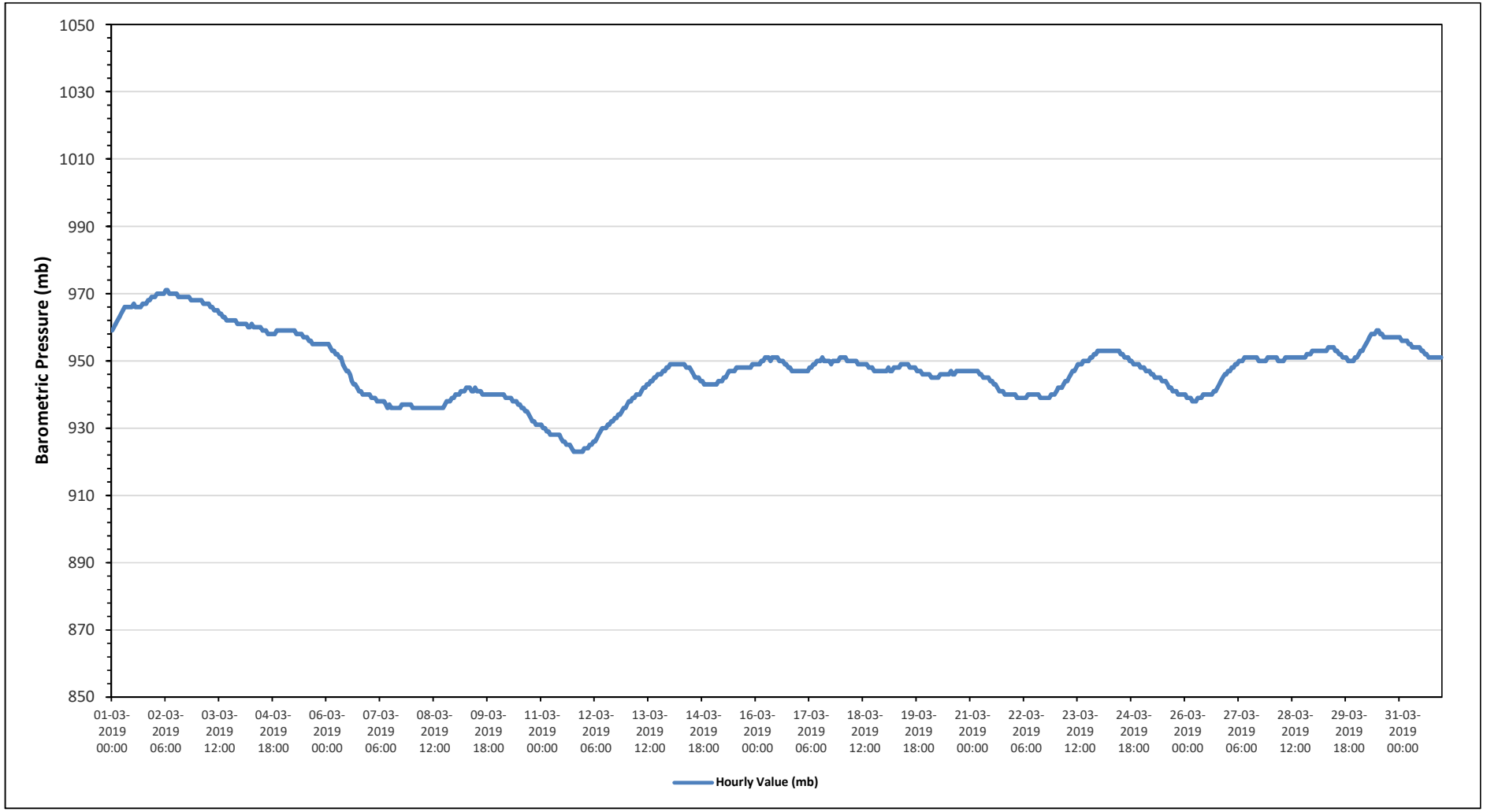
Maximum Hourly Value:	971	mb	on March 2 at hour 6	Hours in Service:	744
Maximum Daily Value:	969	mb	on March 2	Hours of Data:	744
Minimum Hourly Value:	923	mb	on March 11 at hour 18	Hours of Missing Data:	0
Minimum Daily Value:	926	mb	on March 11	Hours of Calibration:	0
Monthly Average:	948	mb		Operational 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
Mar 1	959	960	961	962	963	964	965	966	966	966	966	966	967	966	966	966	966	967	967	967	968	968	969	969	959	969	965
Mar 2	969	970	970	970	970	970	**971**	**971**	970	970	970	970	970	969	969	969	969	969	969	969	968	968	968	968	968	**971**	**969**
Mar 3	968	968	968	967	967	967	967	966	966	965	965	965	964	964	963	963	962	962	962	962	962	962	961	961	961	968	964
Mar 4	961	961	961	961	960	960	961	960	960	960	960	960	959	959	959	958	958	958	958	958	959	959	959	959	958	961	960
Mar 5	959	959	959	959	959	959	959	958	958	958	958	957	957	957	956	956	955	955	955	955	955	955	955	955	955	959	957
Mar 6	955	955	954	953	953	952	952	951	951	949	948	947	947	946	944	943	943	942	941	941	940	940	940	940	940	955	947
Mar 7	940	939	939	939	938	938	938	938	938	937	936	937	936	936	936	936	936	936	937	937	937	937	937	937	936	940	937
Mar 8	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	937	938	938	938	939	939	936	939	937
Mar 9	940	940	940	941	941	941	942	942	942	941	941	942	941	941	941	940	940	940	940	940	940	940	940	940	940	942	941
Mar 10	940	940	940	940	939	939	939	939	938	938	938	937	937	936	936	935	935	934	933	932	932	931	931	931	931	940	936
Mar 11	931	930	930	929	929	928	928	928	928	928	928	927	926	926	925	925	925	924	**923**	**923**	**923**	**923**	**923**	**923**	**923**	931	926
Mar 12	924	924	924	925	925	926	926	927	928	929	930	930	930	931	931	932	932	933	933	934	934	935	936	936	924	936	930
Mar 13	937	938	938	939	939	940	940	940	941	942	942	943	943	944	944	945	945	946	946	946	947	947	948	948	937	948	943
Mar 14	949	949	949	949	949	949	949	949	949	948	948	948	947	946	945	945	945	944	944	943	943	943	943	943	943	949	947
Mar 15	943	943	943	944	944	944	945	945	946	947	947	947	947	948	948	948	948	948	948	948	948	948	949	949	943	949	946
Mar 16	949	949	949	950	950	951	951	951	950	951	951	951	951	950	950	950	949	949	948	948	947	947	947	947	947	951	949
Mar 17	947	947	947	947	947	947	948	948	949	949	950	950	950	951	950	950	950	950	949	950	950	950	950	951	947	951	949
Mar 18	951	951	951	950	950	950	950	950	950	949	949	949	949	949	949	948	948	948	947	947	947	947	947	947	947	951	949
Mar 19	947	947	948	947	947	948	948	948	948	949	949	949	949	949	948	948	948	948	947	947	947	946	946	946	946	949	948
Mar 20	946	946	945	945	945	945	945	946	946	946	946	946	946	947	946	946	947	947	947	947	947	947	947	947	945	947	946
Mar 21	947	947	947	947	947	946	946	945	945	945	945	944	944	943	943	942	941	941	941	940	940	940	940	940	940	947	944
Mar 22	940	940	939	939	939	939	939	939	940	940	940	940	940	940	940	939	939	939	939	939	939	940	940	940	939	940	940
Mar 23	941	942	942	942	943	944	944	945	946	947	947	948	949	949	949	950	950	950	950	951	951	952	952	953	941	953	947
Mar 24	953	953	953	953	953	953	953	953	953	953	953	953	952	952	951	951	951	950	950	949	949	949	949	948	948	953	952
Mar 25	948	948	947	947	947	946	946	945	945	945	945	944	944	944	943	942	942	941	941	941	940	940	940	940	940	948	944
Mar 26	940	939	939	939	938	938	938	939	939	939	940	940	940	940	940	940	941	941	942	943	944	945	946	946	938	946	941
Mar 27	947	947	948	948	949	949	950	950	950	951	951	951	951	951	951	951	951	950	950	950	950	950	951	951	947	951	950
Mar 28	951	951	951	951	950	950	950	950	951	951	951	951	951	951	951	951	951	951	951	951	952	952	952	953	950	953	951
Mar 29	953	953	953	953	953	953	953	953	954	954	954	954	953	953	952	952	951	951	951	950	950	950	950	951	950	954	952
Mar 30	951	952	953	953	954	955	956	957	958	958	958	959	959	958	958	957	957	957	957	957	957	957	957	957	951	959	956
Mar 31	957	956	956	956	956	955	955	954	954	954	954	954	953	953	952	952	951	951	951	951	951	951	951	951	951	957	953
Diurnal Maximum	969	970	970	970	970	970	971	971	970	970	970	970	970	969	969	969	969	969	969	969	968	968	969	969			
Daiurnal Average	948	948	948	948	948	948	948	948	948	948	948	948	948	948	947	947	947	947	947	947	947	947	947	947			

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 - March 2019

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

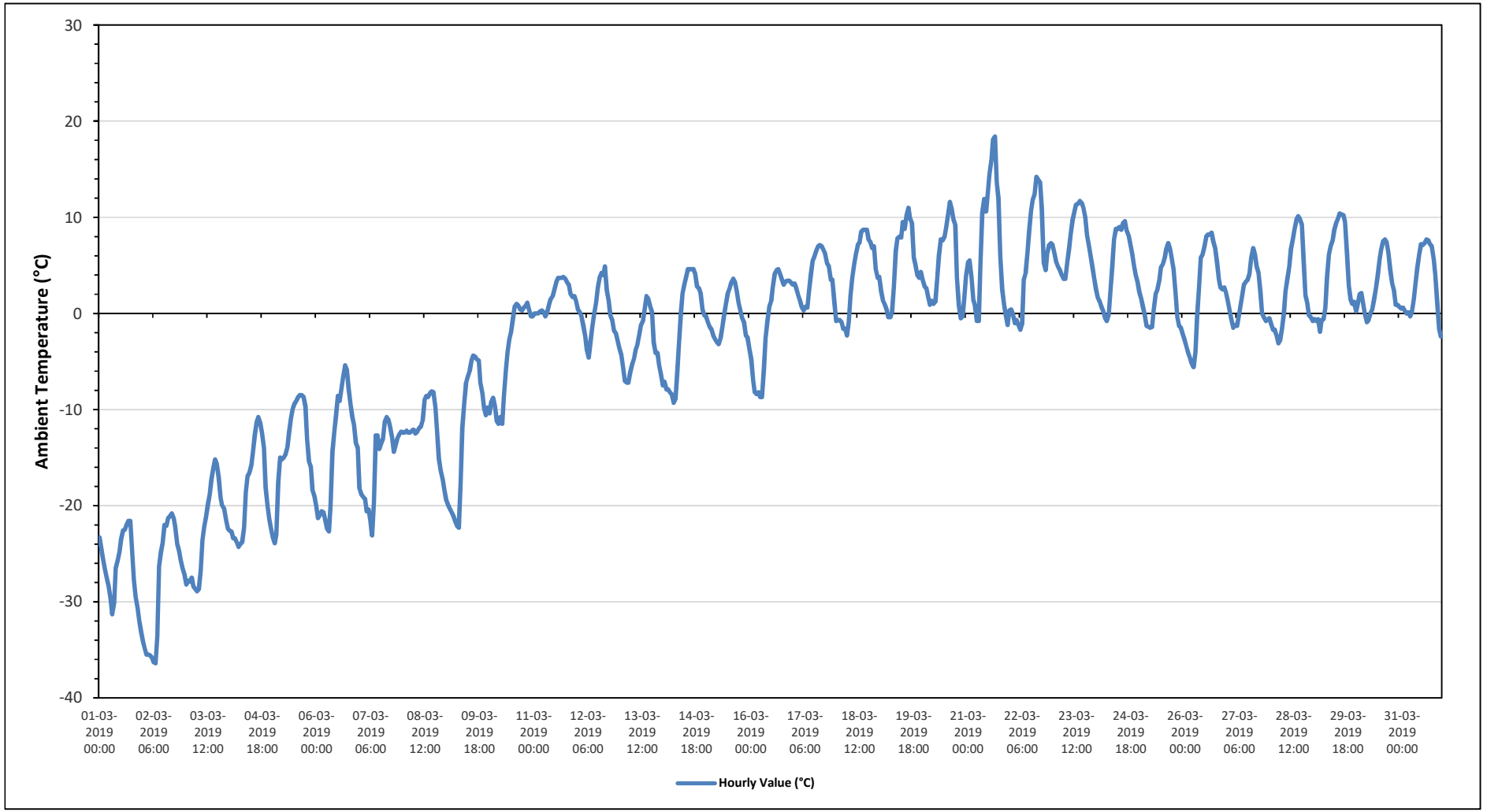
Maximum Hourly Value:	18.4	°C	on March 21 at hour 16	Hours in Service:	744
Maximum Daily Value:	7.3	°C	on March 23	Hours of Data:	744
Minimum Hourly Value:	-36.4	°C	on March 2 at hour 7	Hours of Missing Data:	0
Minimum Daily Value:	-28.0	°C	on March 2	Hours of Calibration:	0
Monthly Average:	-3.6	°C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Mar 1	-23.3	-24.6	-25.6	-26.6	-27.6	-28.4	-29.6	-31.3	-30.1	-26.5	-25.7	-24.8	-23.5	-22.6	-22.5	-22.0	-21.6	-21.6	-24.7	-27.7	-29.5	-30.7	-31.9	-33.1	-33.1	-21.6	-26.5
Mar 2	-34.1	-34.8	-35.5	-35.5	-35.6	-35.8	-36.3	**-36.4**	-33.6	-26.3	-24.8	-23.9	-22.0	-22.1	-21.3	-21.1	-20.8	-21.3	-22.2	-24.0	-24.7	-25.7	-26.5	-27.2	**-36.4**	-20.8	-28.0
Mar 3	-28.2	-27.8	-27.9	-27.5	-28.4	-28.7	-28.9	-28.7	-26.8	-23.6	-22.2	-21.2	-19.9	-18.8	-17.3	-16.1	-15.2	-15.7	-17.1	-19.2	-20.0	-20.3	-21.4	-22.4	-28.9	-15.2	-22.6
Mar 4	-22.6	-22.7	-23.4	-23.4	-23.8	-24.3	-24.0	-23.8	-22.3	-18.6	-16.9	-16.6	-15.8	-14.5	-12.7	-11.3	-10.8	-11.4	-12.4	-14.0	-18.1	-20.0	-21.4	-22.4	-24.3	-10.8	-18.6
Mar 5	-23.3	-23.9	-23.0	-17.6	-15.0	-15.2	-15.0	-14.7	-13.9	-12.4	-10.9	-9.9	-9.4	-9.1	-8.7	-8.5	-8.5	-8.7	-9.7	-13.1	-15.4	-16.0	-18.4	-19.0	-23.9	-8.5	-14.1
Mar 6	-20.0	-21.3	-21.0	-20.6	-20.7	-21.5	-22.4	-22.7	-20.0	-14.4	-12.3	-10.7	-8.6	-9.1	-7.7	-6.6	-5.4	-5.9	-7.8	-9.4	-10.8	-11.6	-13.5	-14.0	-22.7	-5.4	-14.1
Mar 7	-18.2	-18.8	-19.1	-19.3	-20.6	-20.4	-21.6	-23.1	-19.7	-12.7	-12.7	-14.1	-13.5	-13.0	-11.3	-10.8	-11.1	-11.8	-12.9	-14.4	-13.7	-13.0	-12.6	-12.3	-23.1	-10.8	-15.4
Mar 8	-12.4	-12.4	-12.2	-12.4	-12.4	-12.2	-12.1	-12.5	-12.3	-11.9	-11.8	-11.1	-9.0	-8.6	-8.7	-8.3	-8.1	-8.2	-9.8	-12.1	-15.1	-16.4	-17.3	-18.3	-18.3	-8.1	-11.9
Mar 9	-19.4	-19.9	-20.3	-20.7	-21.1	-21.6	-22.1	-22.3	-17.5	-11.9	-9.4	-7.2	-6.6	-6.0	-4.9	-4.4	-4.5	-4.8	-4.9	-7.2	-8.3	-9.9	-10.6	-9.8	-22.3	-4.4	-12.3
Mar 10	-10.4	-9.2	-8.8	-9.7	-11.2	-11.5	-10.8	-11.5	-8.8	-6.0	-4.0	-2.7	-1.9	-0.5	0.7	1.0	0.8	0.4	0.3	0.6	0.8	1.1	0.3	-0.3	-11.5	1.1	-4.2
Mar 11	-0.3	0.0	0.0	0.0	0.2	0.3	0.1	-0.3	0.1	1.0	1.5	1.8	2.5	3.3	3.7	3.7	3.7	3.8	3.6	3.2	3.0	2.0	1.7	1.8	-0.3	3.8	1.7
Mar 12	1.3	0.4	0.1	-0.3	-1.3	-2.4	-3.8	-4.6	-2.8	-1.4	-0.1	1.1	2.7	3.7	4.2	4.0	4.9	2.4	1.3	-0.2	-0.7	-1.8	-2.1	-2.8	-4.6	4.9	0.1
Mar 13	-3.7	-4.3	-5.6	-7.0	-7.2	-7.2	-6.1	-5.3	-4.7	-3.8	-3.2	-2.1	-1.2	-0.8	0.5	1.8	1.5	0.7	0.1	-3.0	-4.1	-4.1	-5.4	-6.3	-7.2	1.8	-3.4
Mar 14	-7.5	-7.1	-7.9	-7.9	-8.2	-8.4	-9.3	-8.9	-6.3	-3.0	0.1	2.1	3.0	3.9	4.6	4.6	4.6	4.6	4.1	2.8	2.6	2.1	0.4	-0.2	-9.3	4.6	-1.5
Mar 15	-0.3	-0.9	-1.4	-1.7	-2.3	-2.7	-3.0	-3.2	-2.6	-1.4	-0.2	1.0	2.1	2.6	3.2	3.6	3.2	2.3	1.1	0.2	-0.5	-0.9	-2.3	-2.5	-3.2	3.6	-0.3
Mar 16	-3.7	-4.8	-7.0	-8.2	-8.4	-8.2	-8.7	-8.7	-5.8	-2.6	-0.8	0.7	1.3	2.8	4.1	4.5	4.6	4.1	3.5	3.0	3.3	3.4	3.4	3.2	-8.7	4.6	-1.0
Mar 17	3.0	3.1	2.6	1.9	1.3	0.7	0.3	0.7	0.6	2.2	4.0	5.5	5.9	6.5	7.0	7.1	7.0	6.6	6.2	5.2	4.9	3.5	3.5	1.3	0.3	7.1	3.8
Mar 18	-0.8	-0.7	-0.7	-0.9	-1.6	-1.6	-2.3	-0.9	1.9	3.7	5.2	6.1	7.1	7.4	8.5	8.7	8.7	8.7	7.7	7.4	6.8	7.0	4.6	3.7	-2.3	8.7	3.9
Mar 19	3.8	2.3	1.3	0.9	0.4	-0.4	-0.4	0.1	2.8	6.5	7.8	8.0	7.9	9.5	8.8	10.2	11.0	9.9	9.4	5.8	5.1	4.0	3.7	4.3	-0.4	11.0	5.1
Mar 20	3.5	2.8	2.6	1.7	0.9	1.3	1.0	1.2	3.7	6.0	7.7	7.6	8.0	8.9	10.3	11.6	10.9	9.8	9.2	3.7	0.9	-0.5	-0.3	1.5	-0.5	11.6	4.8
Mar 21	3.9	5.3	5.5	3.7	1.4	0.8	-0.8	-0.8	5.0	10.5	11.9	10.6	12.4	14.5	16.0	18.1	**18.4**	13.6	12.0	5.9	2.5	0.9	-0.1	-1.2	-1.2	**18.4**	7.1
Mar 22	0.3	0.4	-0.1	-1.0	-0.7	-1.2	-1.7	-1.1	3.5	4.2	6.4	8.6	10.7	11.9	12.4	14.2	13.9	13.6	10.9	5.3	4.5	6.2	7.1	7.3	-1.7	14.2	5.7
Mar 23	7.1	6.2	5.3	4.9	4.5	4.0	3.6	3.6	5.2	6.7	8.2	9.7	10.6	11.3	11.4	11.7	11.5	11.0	10.0	8.1	7.1	6.0	4.8	3.7	3.6	11.7	**7.3**
Mar 24	2.5	1.6	1.2	0.7	0.2	-0.5	-0.8	-0.1	2.4	4.7	7.7	8.8	8.8	9.0	8.7	9.4	9.6	8.6	8.1	7.3	6.2	5.0	4.0	3.3	-0.8	9.6	4.9
Mar 25	2.2	1.5	0.7	-0.2	-1.3	-1.4	-1.5	-1.4	0.3	2.0	2.5	3.5	4.8	5.1	5.8	6.7	7.3	6.7	5.7	4.6	2.1	-0.4	-1.3	-1.5	-1.5	7.3	2.2
Mar 26	-2.2	-2.7	-3.4	-4.1	-4.6	-5.2	-5.6	-4.0	-0.3	2.7	5.8	6.1	6.9	8.0	8.2	8.2	8.4	7.5	6.8	5.3	3.5	2.7	2.5	2.7	-5.6	8.4	2.2
Mar 27	2.2	1.3	0.2	-0.6	-1.5	-1.2	-1.3	-0.4	0.7	2.0	3.0	3.3	3.5	4.1	5.8	6.8	6.1	4.9	4.2	2.2	0.0	-0.4	-0.8	-0.7	-1.5	6.8	1.8
Mar 28	-0.5	-1.1	-1.7	-1.7	-2.3	-3.1	-2.8	-1.6	0.0	2.3	3.6	4.9	6.7	7.7	8.8	9.8	10.1	9.8	9.2	5.7	1.9	1.1	-0.2	-0.4	-3.1	10.1	2.8
Mar 29	-0.8	-0.6	-0.8	-0.6	-1.9	-0.7	-0.6	0.6	3.7	6.1	7.0	7.6	8.7	9.4	9.9	10.4	10.3	10.2	9.5	6.4	2.9	1.4	1.0	1.2	-1.9	10.4	4.2
Mar 30	0.2	0.9	2.0	2.1	1.0	-0.1	-0.9	-0.7	0.0	0.4	1.5	2.5	3.9	5.6	6.6	7.5	7.7	7.4	6.3	4.5	3.1	2.4	0.9	0.9	-0.9	7.7	2.7
Mar 31	0.7	0.5	0.6	0.3	0.0	0.1	-0.3	0.1	1.5	3.2	4.7	6.1	7.2	7.1	7.3	7.7	7.6	7.2	7.0	5.6	4.0	1.2	-1.6	-2.4	-2.4	7.7	3.1
Diurnal Maximum	7.1	6.2	5.5	4.9	4.5	4.0	3.6	3.6	5.2	10.5	11.9	10.6	12.4	14.5	16.0	18.1	18.4	13.6	12.0	8.1	7.1	7.0	7.1	7.3			
Daiurnal Average	-6.5	-6.8	-7.2	-7.5	-8.0	-8.3	-8.6	-8.5	-6.3	-3.6	-2.1	-1.2	-0.2	0.6	1.3	2.0	2.1	1.4	0.5	-1.7	-3.1	-3.9	-4.8	-5.2			

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

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

Timeseries Chart of Hourly Average for AT - 842b Station



PEACE RIVER AREA MONITORING PROGRAM

842b Station - March 2019

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

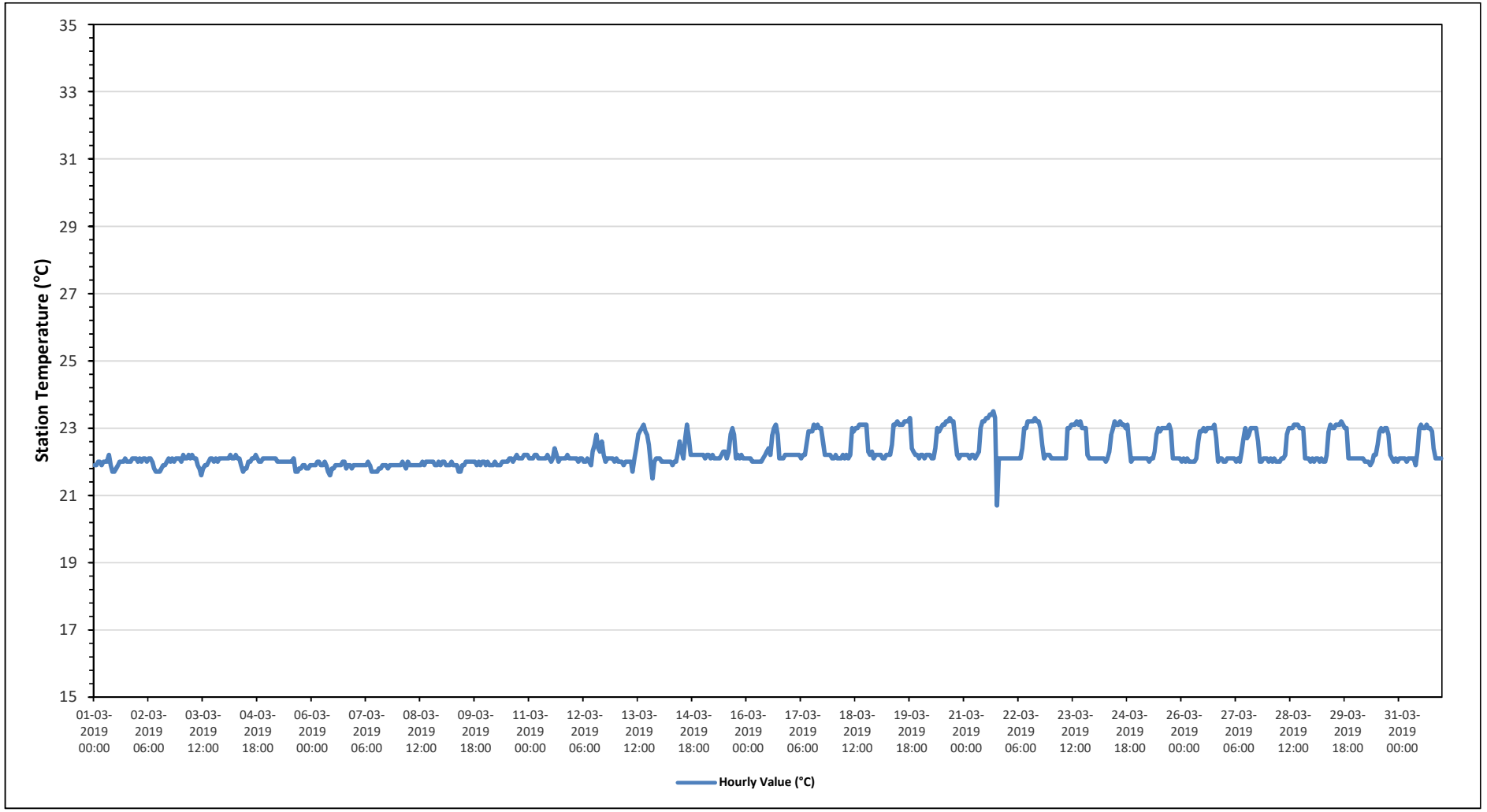
Maximum Hourly Value:	23.5	°C	on March 21 at hour 16	Hours in Service:	744
Maximum Daily Value:	22.6	°C	on March 19	Hours of Data:	744
Minimum Hourly Value:	20.7	°C	on March 21 at hour 18	Hours of Missing Data:	0
Minimum Daily Value:	21.9	°C	on March 7	Hours of Calibration:	0
Monthly Average:	22.3	°C		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
Mar 1	21.9	21.9	22.0	22.0	21.9	22.0	22.0	22.0	22.2	21.9	21.7	21.7	21.8	21.9	22.0	22.0	22.0	22.1	22.0	22.0	22.0	22.1	22.1	22.1	21.7	22.2	22.0
Mar 2	22.0	22.1	22.0	22.1	22.1	22.0	22.1	22.1	22.0	21.8	21.7	21.7	21.7	21.8	21.9	21.9	22.0	22.1	22.0	22.1	22.0	22.1	22.1	22.1	21.7	22.1	22.0
Mar 3	22.0	22.2	22.1	22.1	22.2	22.1	22.2	22.1	22.1	21.9	21.8	21.6	21.8	21.9	21.9	22.0	22.1	22.1	22.0	22.1	22.0	22.1	22.1	22.1	21.6	22.2	22.0
Mar 4	22.1	22.1	22.1	22.2	22.1	22.1	22.2	22.1	22.1	21.9	21.7	21.8	21.8	22.0	22.0	22.1	22.1	22.2	22.1	22.0	22.0	22.1	22.1	22.1	21.7	22.2	22.0
Mar 5	22.1	22.1	22.1	22.1	22.1	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.1	21.7	21.7	21.8	21.8	21.9	21.9	21.8	21.8	21.9	21.7	22.1	22.0
Mar 6	21.9	21.9	21.9	22.0	22.0	21.9	21.9	22.0	21.9	21.7	21.6	21.8	21.8	21.9	21.9	21.9	21.9	22.0	22.0	21.8	21.9	21.9	21.8	21.9	21.6	22.0	21.9
Mar 7	21.9	21.9	21.9	21.9	21.9	21.9	21.9	22.0	21.9	21.7	21.7	21.7	21.7	21.8	21.8	21.9	21.9	21.9	21.8	21.9	21.9	21.9	21.9	21.9	21.7	22.0	21.9
Mar 8	21.9	21.9	22.0	21.9	21.8	22.0	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	21.9	22.0	21.9	21.8	22.0	21.9
Mar 9	22.0	22.0	21.9	21.9	21.9	22.0	21.9	21.9	21.9	21.7	21.7	21.9	21.9	22.0	22.0	22.0	22.0	22.0	22.0	21.9	22.0	21.9	22.0	22.0	21.7	22.0	21.9
Mar 10	21.9	22.0	21.9	21.9	21.9	22.0	21.9	21.9	21.9	22.0	22.0	22.0	22.0	22.1	22.1	22.0	22.1	22.2	22.1	22.1	22.1	22.2	22.2	22.2	21.9	22.2	22.0
Mar 11	22.1	22.1	22.1	22.2	22.2	22.1	22.1	22.1	22.1	22.1	22.2	22.1	22.0	22.1	22.4	22.2	22.0	22.1	22.1	22.1	22.1	22.2	22.1	22.1	22.0	22.4	22.1
Mar 12	22.1	22.1	22.1	22.0	22.1	22.1	22.0	22.0	22.1	22.0	21.9	22.3	22.5	22.8	22.4	22.3	22.6	22.2	22.0	22.1	22.1	22.1	22.1	22.0	21.9	22.8	22.2
Mar 13	22.1	22.0	22.0	22.0	21.9	22.0	22.0	22.0	22.0	21.7	22.1	22.4	22.8	22.9	23.0	23.1	22.9	22.8	22.5	21.9	21.5	22.0	22.1	22.1	21.5	23.1	22.2
Mar 14	22.1	22.0	22.0	22.0	22.0	22.0	22.0	21.9	22.0	22.0	22.3	22.6	22.3	22.1	22.7	23.1	22.7	22.2	22.2	22.2	22.2	22.2	22.2	22.2	21.9	23.1	22.2
Mar 15	22.2	22.1	22.2	22.2	22.1	22.2	22.1	22.1	22.1	22.1	22.2	22.3	22.3	22.1	22.3	22.8	23.0	22.8	22.1	22.2	22.1	22.2	22.1	22.1	22.1	23.0	22.3
Mar 16	22.1	22.1	22.1	22.0	22.0	22.0	22.0	22.0	22.0	22.1	22.2	22.3	22.4	22.2	22.8	23.0	23.1	22.8	22.1	22.1	22.1	22.2	22.2	22.2	22.0	23.1	22.3
Mar 17	22.2	22.2	22.2	22.2	22.2	22.2	22.1	22.2	22.2	22.5	22.9	22.9	22.9	23.1	23.0	23.1	23.0	23.0	22.6	22.2	22.2	22.2	22.2	22.1	22.1	23.1	22.5
Mar 18	22.1	22.2	22.1	22.1	22.1	22.2	22.1	22.2	22.1	22.2	23.0	22.9	23.0	23.0	23.1	23.1	23.1	23.1	23.1	22.3	22.2	22.3	22.1	22.2	22.1	23.1	22.5
Mar 19	22.2	22.2	22.2	22.1	22.1	22.2	22.2	22.2	22.5	23.1	23.1	23.2	23.1	23.1	23.1	23.2	23.2	23.2	23.3	22.4	22.3	22.2	22.2	22.1	22.1	23.3	**22.6**
Mar 20	22.2	22.2	22.1	22.2	22.2	22.2	22.1	22.1	22.4	23.0	22.9	23.0	23.1	23.1	23.2	23.2	23.3	23.2	23.2	22.7	22.2	22.1	22.2	22.2	22.1	23.3	22.6
Mar 21	22.2	22.2	22.2	22.1	22.2	22.2	22.1	22.2	22.3	23.0	23.2	23.2	23.3	23.3	23.4	23.4	**23.5**	23.3	**20.7**	22.1	22.1	22.1	22.1	22.1	**20.7**	**23.5**	22.5
Mar 22	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.4	23.0	23.0	23.2	23.2	23.2	23.2	23.3	23.2	23.2	23.0	22.5	22.1	22.2	22.2	22.2	22.1	23.3	22.6
Mar 23	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	23.0	23.0	23.1	23.1	23.1	23.2	23.1	23.2	23.0	23.0	23.0	22.2	22.1	22.1	22.1	22.1	23.2	22.6
Mar 24	22.1	22.1	22.1	22.1	22.1	22.1	22.0	22.1	22.3	22.8	23.0	23.2	23.1	23.1	23.2	23.1	23.1	23.0	23.1	22.5	22.0	22.1	22.1	22.1	22.0	23.2	22.5
Mar 25	22.1	22.1	22.1	22.1	22.1	22.1	22.0	22.1	22.1	22.3	22.8	23.0	22.9	23.0	23.0	23.0	23.0	23.1	22.9	22.1	22.1	22.1	22.1	22.1	22.0	23.1	22.4
Mar 26	22.0	22.1	22.0	22.1	22.0	22.0	22.0	22.0	22.1	22.6	22.9	22.9	23.0	22.9	23.0	23.0	23.0	23.0	23.1	22.7	22.0	22.1	22.1	22.0	22.0	23.1	22.4
Mar 27	22.0	22.1	22.1	22.1	22.1	22.1	22.0	22.1	22.0	22.3	22.7	23.0	22.7	22.8	23.0	23.0	23.0	23.0	22.6	22.0	22.0	22.1	22.1	22.1	22.0	23.0	22.4
Mar 28	22.0	22.1	22.0	22.1	22.0	22.0	22.0	22.1	22.1	22.2	22.8	23.0	23.0	23.0	23.1	23.1	23.1	23.0	23.0	23.0	22.1	22.1	22.1	22.0	22.0	23.1	22.5
Mar 29	22.1	22.0	22.1	22.1	22.0	22.1	22.0	22.0	22.2	22.9	23.1	23.0	23.0	23.1	23.1	23.1	23.2	23.1	23.0	23.0	22.1	22.1	22.1	22.1	22.0	23.2	22.5
Mar 30	22.1	22.1	22.1	22.1	22.1	22.0	22.0	22.0	21.9	22.0	22.2	22.2	22.5	22.9	23.0	22.9	23.0	23.0	22.8	22.2	22.1	22.0	22.1	22.0	21.9	23.0	22.3
Mar 31	22.1	22.1	22.1	22.1	22.0	22.1	22.1	22.1	22.1	21.9	22.3	23.0	23.1	23.0	23.0	23.1	23.0	23.0	22.9	22.4	22.1	22.1	22.1	22.1	21.9	23.1	22.4
Diurnal Maximum	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.5	23.1	23.2	23.2	23.3	23.3	23.4	23.4	23.5	23.3	23.3	23.0	22.3	22.3	22.2	22.2			
Daiurnal Average	22.1	22.1	22.1	22.1	22.1	22.1	22.0	22.1	22.1	22.2	22.4	22.5	22.5	22.6	22.6	22.7	22.7	22.6	22.4	22.2	22.1	22.1	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 pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - March 2019

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

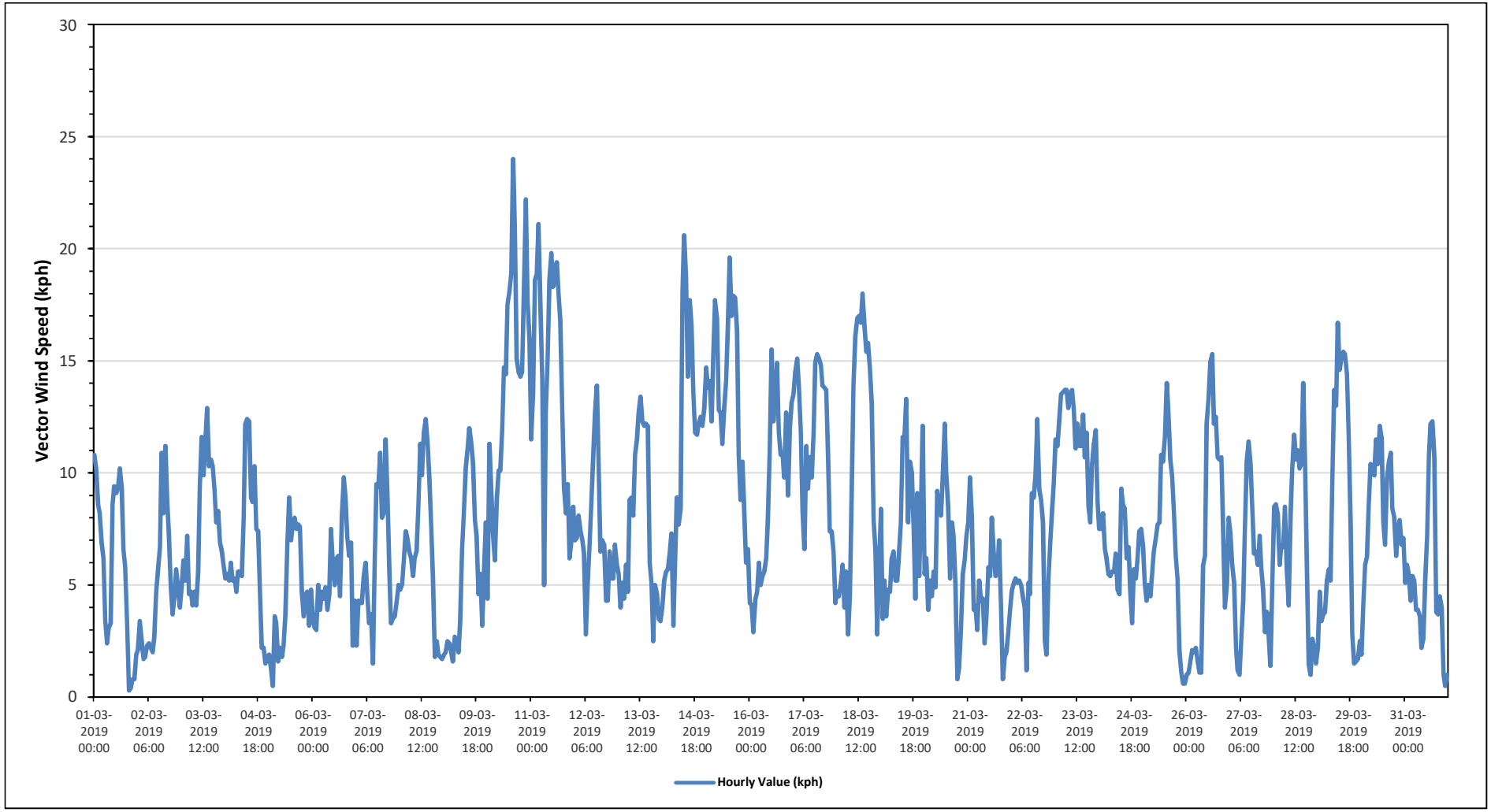
Maximum Hourly Value:	24.0	kph	on March 10 at hour 14	Hours in Service:	744
Maximum Daily Value:	14.2	kph	on March 10	Hours of Data:	744
Minimum Hourly Value:	0.3	kph	on March 1 at hour 19	Hours of Missing Data:	0
Minimum Daily Value:	4.5	kph	on March 5	Hours of Calibration:	0
Monthly Average:	3.7	kph		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Mar 1	10.8	10.2	8.6	8.2	6.9	6.2	3.4	2.4	3.1	3.3	8.6	9.4	9.1	9.3	10.2	9.3	6.6	5.8	3.2	**0.3**	0.4	0.8	0.8	1.9	**0.3**	10.8	5.8
Mar 2	2.1	3.4	2.5	1.7	1.8	2.3	2.4	2.2	2	2.7	4.7	5.7	6.7	10.9	8.2	11.2	8.7	7.2	4.9	3.7	4.5	5.7	4.9	4	1.7	11.2	4.8
Mar 3	5	6.1	5.2	7.2	4.6	4.7	4.1	4.7	4.1	5.6	9.4	11.6	9.9	11.5	12.9	10.3	10.6	10.3	9.3	7.8	8.3	6.9	6.5	5.9	4.1	12.9	7.6
Mar 4	5.3	5.5	5.2	6	5.2	5.3	4.7	5.6	5.6	5.4	8	12.2	12.4	12.3	8.9	8.7	10.3	7.5	7.4	4.5	2.2	2.2	1.5	1.8	1.5	12.4	6.4
Mar 5	1.9	1.3	0.5	3.6	3.3	1.6	2.2	1.8	2.3	3.7	6.8	8.9	7	7.7	8	7.5	7.7	7.6	4.7	3.6	4.6	4.7	3.2	4.8	0.5	8.9	**4.5**
Mar 6	3.5	3.1	3	5	3.9	4.7	4.4	4.9	3.9	4.6	7.5	5.9	5	6.2	6.3	4.5	8.1	9.8	8.9	7.1	6.3	6.9	2.3	4.3	2.3	9.8	5.4
Mar 7	2.3	4.3	4.2	4.2	5.4	6	4.4	3.3	3.7	1.5	6.3	9.5	9.4	10.9	8	8.2	11.5	9.1	5.7	3.3	3.5	3.6	4.2	5	1.5	11.5	5.7
Mar 8	4.8	5	6.1	7.4	7.1	6.5	6.2	5.4	6.2	6.5	8.6	11.3	9.9	11.8	12.4	11.4	9.7	7.8	5.3	1.8	2.5	1.9	1.8	1.7	1.7	12.4	6.6
Mar 9	1.9	2	2.5	2.4	2	1.6	2.7	2.6	2	3.4	6.6	8.2	10.2	11.1	12	11.4	10.4	7.9	7.2	4.6	5.5	3.2	5.4	7.8	1.6	12.0	5.6
Mar 10	4.4	11.3	9.5	7.3	6.1	8.8	10.1	10.1	11.9	14.7	14.4	17.5	18.1	18.9	**24**	21.1	15.1	14.5	14.3	14.5	18.2	22.2	17.6	15.9	4.4	**24.0**	**14.2**
Mar 11	11.5	13.6	18.6	18.9	21.1	17.5	14.2	5	12.7	15	18.6	19.8	18.3	18.6	19.4	17.9	16.8	12.9	9.3	8.2	9.5	6.2	6.9	8.5	5.0	21.1	14.1
Mar 12	7	7.1	8.1	7.4	7	6.4	2.8	5	6.9	8.5	10.6	12.7	13.9	10.1	6.5	7	6.8	4.3	4.3	6.5	5.3	5.3	6.8	5.9	2.8	13.9	7.2
Mar 13	5.5	4	5.1	4.4	5.9	4.7	8.8	8.9	8.1	10.8	11.5	12.7	13.4	12.3	12.1	12.2	12.1	6	5.1	2.5	5	4.6	3.5	3.4	2.5	13.4	7.6
Mar 14	4	5.2	5.6	5.7	6.4	7.3	3.2	6.1	8.9	7.7	8.4	18.1	20.6	18.8	14.3	17.7	16.6	13.6	11.8	11.7	12.2	12.5	12.1	12.9	3.2	20.6	10.9
Mar 15	14.7	13.8	14.1	12.3	15.6	17.7	16.9	12.8	12.7	11.3	12.9	14.1	16.7	19.6	17	17.9	17.8	16.3	10.8	8.8	10.5	8.1	6	6.6	6.0	19.6	13.5
Mar 16	4.2	4.1	2.9	4.3	4.7	6	5	5.4	5.6	6.2	7.9	11	15.5	12.3	13.5	14.9	11.8	10.8	10.8	9.8	12.7	9	12	13.1	2.9	15.5	8.9
Mar 17	13.5	14.5	15.1	14	11.9	8.3	6.6	11.2	9.3	10.7	9.8	11.8	14.9	15.3	15.1	14.8	13.9	13.8	13.7	10.7	7.4	7.4	6.5	4.2	4.2	15.3	11.4
Mar 18	4.7	4.5	5.1	5.9	4	5.6	2.8	4.5	9.5	13.9	16.1	16.9	17	16.7	18	16.6	15.4	15.8	14.7	13.1	7.9	6.5	2.8	5.6	2.8	18.0	10.2
Mar 19	8.4	3.5	5.2	3.6	4.8	4.7	6.2	6.5	5.2	5.2	6.4	7.8	11.6	11.6	13.3	7.8	10.5	10	7.4	4.4	9.1	5.4	8.6	12.1	3.5	13.3	7.5
Mar 20	5.5	6.2	3.9	5.2	4.5	5.6	4.9	9.2	8.5	8.1	9.9	12.2	10	8.5	5.3	7.8	7.2	5	0.8	1.3	2.9	5.5	6.1	7.2	0.8	12.2	6.3
Mar 21	7.8	9.8	8	3.9	4.1	3	5.2	4.3	4.4	2.4	3.5	5.8	5.4	8	6.5	5.4	5.6	7	4.1	0.8	1.8	2	2.9	3.9	0.8	9.8	4.8
Mar 22	4.8	5.1	5.3	5.1	5.2	5	4.5	4	1.2	5.1	4.6	9.1	8.9	10	12.4	9.3	8.8	7.8	2.5	1.9	5.2	6.8	8.3	9.5	1.2	12.4	6.3
Mar 23	11.5	11.2	12.4	13.5	13.6	13.7	13.7	12.9	13.5	13.7	12.8	11.1	12.2	11.2	11.2	12.6	10.7	11.8	8.5	7.8	10.4	11.3	11.9	8.7	7.8	13.7	11.7
Mar 24	7.5	7.5	8.2	6.6	6.2	5.5	5.4	5.6	5.6	6.4	4.8	4.6	9.3	8.6	8.4	6.2	6.7	4.8	3.3	5.7	5.3	6.1	7.4	7.5	3.3	9.3	6.4
Mar 25	6.7	5.1	4.3	5	4.5	5.6	6.5	7.1	7.7	7.8	10.8	10.5	11.6	14	12.7	10.6	9.8	8.2	6.3	5.3	2.1	1.1	0.6	0.6	0.6	14.0	6.9
Mar 26	1	1.1	1.6	2.1	2	2.2	1.6	1.1	1.1	5.9	6.3	12.2	13.3	15	15.3	12.2	12.5	10.7	10.6	10.7	7.7	4	5	8	1.0	15.3	6.8
Mar 27	7.3	5.9	5.1	2.2	1.2	1	2.6	4.3	7.4	10.5	11.4	10.4	8.3	6.4	6.5	5.9	7.2	5.8	4.8	2.9	3.8	2.8	1.4	5.1	1.0	11.4	5.4
Mar 28	8.5	8.6	8.2	5.9	6.8	6.7	8.5	5.7	4.1	8.2	10.2	11.7	10.6	11	10.2	10.4	14	10.3	6.2	1.5	1	2.6	2.2	1.5	1.0	14.0	7.3
Mar 29	2.2	4.7	3.4	3.7	3.8	5.2	5.7	5.2	9.7	13.7	13	16.7	14.6	15.1	15.4	15.3	14.4	11.6	7.7	2.8	1.5	1.6	1.7	2.5	1.5	16.7	8.0
Mar 30	1.9	4.2	5.9	6.3	8.5	10.4	10	9.9	11.5	10.4	12.1	11.6	7.8	6.8	9.8	10.5	10.9	8.4	8	6.3	7.5	7.9	6.8	7.1	1.9	12.1	8.4
Mar 31	5.1	5.9	5.5	4.3	5.4	5.2	3.9	3.9	3.6	2.2	2.6	5.3	7.2	10.8	12.2	12.3	10.7	3.8	3.7	4.5	4	1	0.5	1	0.5	12.3	5.2
Diurnal Maximum	15	15	19	19	21	18	17	13	14	15	19	20	21	20	24	21	18	16	15	15	18	22	18	16			
Daiurnal Average	6.0	6.4	6.4	6.2	6.2	6.3	5.9	5.9	6.5	7.6	9.2	11.2	11.6	12.0	11.8	11.3	10.9	9.2	7.3	5.8	6.1	5.7	5.4	6.1			

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

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

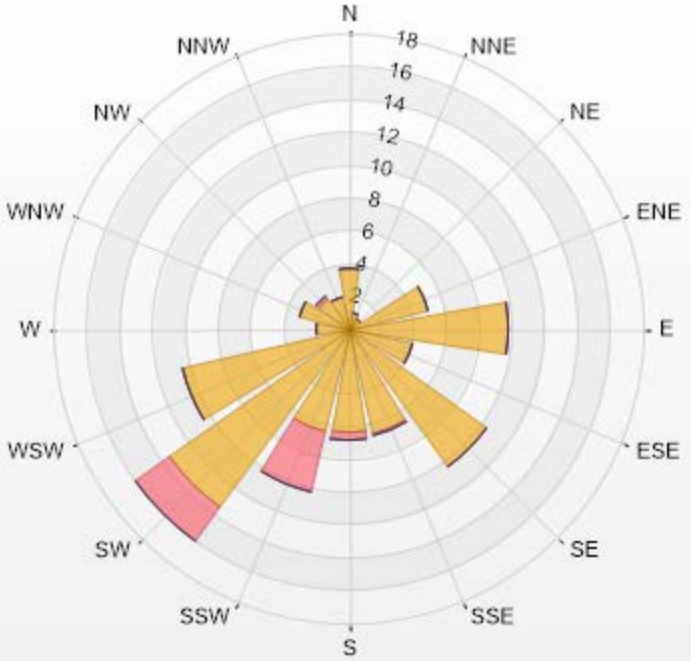
Timeseries Chart of Hourly Average for VWS - 842b Station



Wind: PRAMP 842 Poll.: PRAMP 842-WDS[KPH] Monthly: 03-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 5.24% Valid Data: 100.00% Calm Avg: 1.18 [KPH]

Direction	6-15	15-29	29-39	>39.0	Total
N	3.76	0	0	0	3.76
NNE	1.08	0	0	0	1.08
NE	0.81	0	0	0	0.81
ENE	4.97	0	0	0	4.97
E	9.81	0	0	0	9.81
ESE	4.03	0	0	0	4.03
SE	10.35	0	0	0	10.35
SSE	6.59	0.13	0	0	6.72
S	6.32	0.54	0	0	6.86
SSW	6.45	3.76	0	0	10.21
SW	13.44	2.55	0	0	15.99
WSW	10.48	0	0	0	10.48
W	2.02	0	0	0	2.02
WNW	3.09	0	0	0	3.09
NW	2.28	0.27	0	0	2.55
NNW	2.02	0	0	0	2.02
Summary	87.5	7.25	0	0	94.75

PRAMP 842 Poll.: PRAMP 842-WDS[KPH] 01-03-2019 00:00 - 31-03-2019 23:00 Calm: 5.24% Calm Poll Avg: 1.18[KPH]



%	Icon	Classes (KPH)	88	6-15	7	15-29	0	29-39	0	>39.0

PEACE RIVER AREA MONITORING PROGRAM

842b Station - March 2019

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

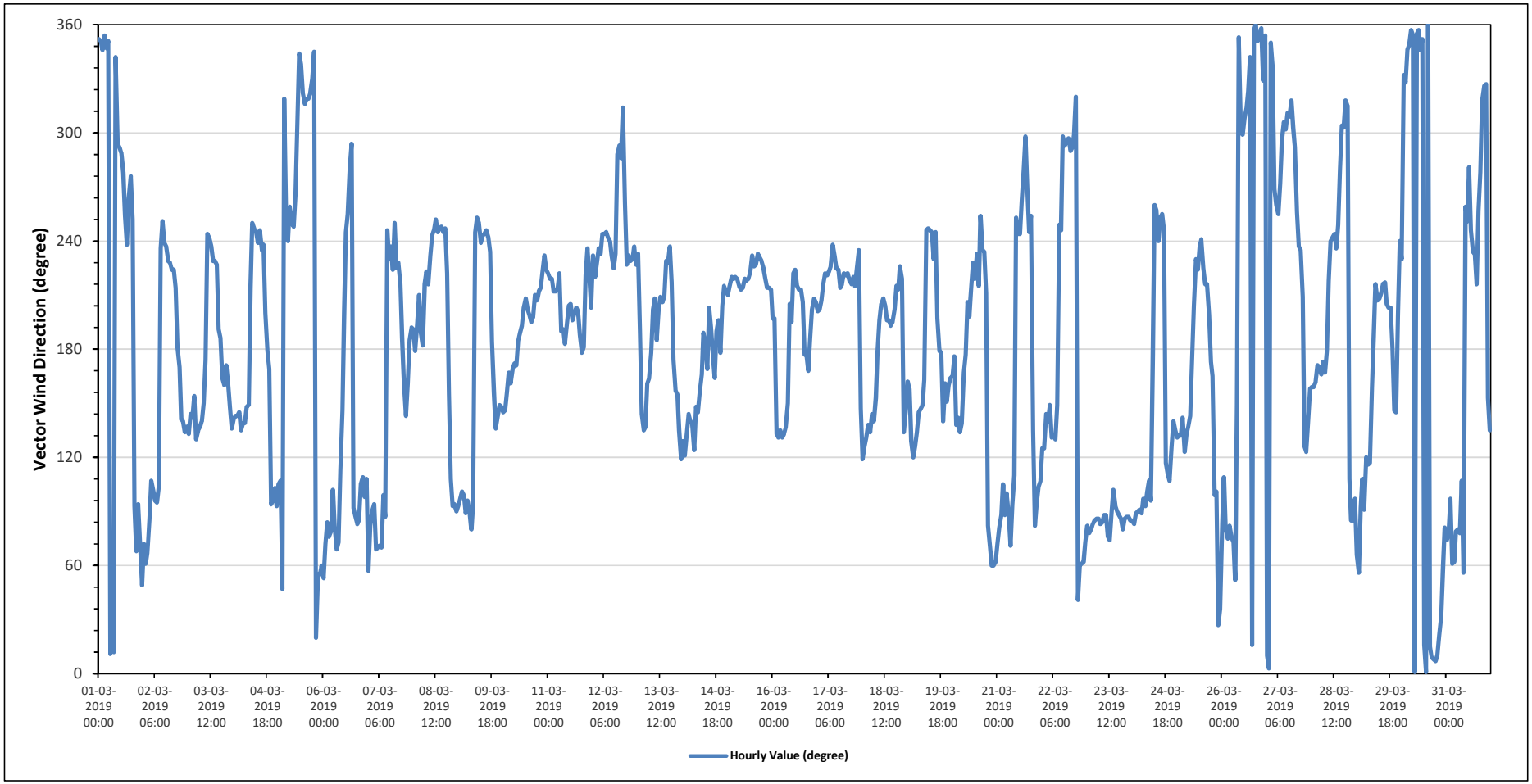
Monthly Average:	202 (SSW) degree	Hours in Service:	744
		Hours of Data:	744
		Hours of Missing Data:	0
		Hours of Calibration:	0
		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Degree	Quadrant
Mar 1	N	N	NNW	N	NNW	N	NNE	NNE	NNE	NNW	WNW	WNW	WNW	W	WSW	SW	W	W	WSW	E	ENE	E	ENE	NE	313	NW
Mar 2	ENE	ENE	ENE	E	ESE	E	E	E	ESE	SW	WSW	WSW	SW	SW	SW	SW	SW	SSW	S	SSE	SE	SE	SE	SE	195	SSW
Mar 3	SE	SE	SE	SSE	SE	SE	SE	SE	SSE	S	WSW	WSW	SW	SW	SW	SW	S	S	SSE	SSE	S	SSE	SE	SE	184	S
Mar 4	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SSW	S	SSE	E	E	ESE	E	199	SSW
Mar 5	ESE	ESE	NE	NW	WSW	WSW	WSW	WSW	WSW	W	WNW	NNW	NNW	NW	NW	NW	NW	NW	NNW	NNW	NNE	NE	NE	ENE	329	NNW
Mar 6	NE	ENE	E	ENE	ENE	E	E	ENE	ENE	ESE	SE	SSW	WSW	WSW	W	WNW	E	E	E	E	ESE	ESE	E	ESE	98	E
Mar 7	ENE	E	E	E	ENE	ENE	ENE	ENE	E	E	WSW	SW	SW	SW	WSW	SW	SW	SW	S	SSE	SE	SSE	S	S	194	SSW
Mar 8	S	S	S	SSW	S	S	SW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SSE	ESE	E	E	E	226	SW
Mar 9	E	E	E	E	E	E	E	E	E	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	S	SSE	SE	SE	SSE	SE	210	SSW
Mar 10	SE	SE	SSE	SSE	SSE	SSE	S	S	S	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	198	SSW
Mar 11	SW	SW	SW	SSW	SSW	SSW	SW	S	S	S	S	SSW	SSW	SSW	SSW	SSW	SSW	S	S	S	SW	SW	SW	SSW	205	SSW
Mar 12	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	WNW	WNW	WNW	NW	W	SW	SW	SW	SW	SW	SW	243	WSW
Mar 13	SW	S	SE	SE	SE	SSE	SSE	S	SSW	SSW	S	SSW	SSW	SSW	SSW	SW	SW	SW	SW	S	SSE	SSE	SE	ESE	194	SSW
Mar 14	SE	ESE	SE	SE	SE	SE	ESE	SE	SE	SSE	SSE	S	S	SSE	SSW	S	S	SSE	S	SSW	S	SSW	SSW	SSW	177	S
Mar 15	SSW	SSW	SW	SW	SW	SW	SSW	SSW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SSW	SSW	221	SW
Mar 16	SSW	SSW	SE	SE	SE	SE	SE	SE	SSE	SSW	SSW	SW	SW	SSW	SSW	SSW	SSW	S	S	SSE	S	SSW	SSW	SSW	193	S
Mar 17	SSW	SSW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SW	SW	SW	SW	SW	SW	SW	SSW	SW	SW	SE	218	SW
Mar 18	ESE	SE	SE	SE	SE	SE	SE	SSE	S	SSW	SSW	SSW	SSW	SSW	SSW	S	SSW	SSW	SSW	SSW	SW	SW	SE	SE	191	S
Mar 19	SSE	SSE	SE	ESE	SE	SE	SE	SE	SSE	SSE	WSW	WSW	WSW	WSW	SW	WSW	SSW	S	S	SE	SSE	SSE	SSE	SSE	184	S
Mar 20	SSE	S	SE	SE	SE	SE	SSE	S	SSW	SSW	SSW	SW	SW	SW	SSW	WSW	SW	SW	SSW	E	ENE	ENE	ENE	ENE	192	S
Mar 21	ENE	E	E	ESE	E	E	E	ENE	E	ESE	WSW	WSW	WSW	W	W	WNW	W	WSW	WSW	SE	E	E	ESE	ESE	115	ESE
Mar 22	SE	SE	SE	SE	SSE	SE	SE	SE	SSE	WSW	WSW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NE	ENE	ENE	ENE	ENE	310	NW
Mar 23	E	ENE	E	E	E	E	E	E	E	E	E	ENE	ENE	E	E	E	E	E	E	E	E	E	E	E	85	E
Mar 24	E	E	E	E	E	E	E	E	E	ESE	E	S	WSW	WSW	WSW	WSW	WSW	WSW	ESE	ESE	ESE	SE	SE	SE	126	SE
Mar 25	SE	SE	SE	SE	ESE	SE	SE	SE	S	SSW	SW	SW	SW	WSW	SW	SW	SW	SSW	S	SSE	E	E	NNE	NE	193	S
Mar 26	E	ESE	E	ENE	E	ENE	ENE	NE	SSE	N	WNW	WNW	NW	NW	NW	NNW	NNE	N	N	N	N	N	NNW	N	342	NNW
Mar 27	N	N	N	NNW	W	WSW	WSW	W	WNW	NW	WNW	NW	NW	NW	WNW	WNW	WSW	SW	SW	SSW	SE	ESE	SE	SSE	298	WNW
Mar 28	SSE	SSE	SSE	S	SSE	SSE	S	SSE	S	SW	WSW	WSW	WSW	SW	WSW	W	WNW	WNW	NW	NW	ESE	E	E	E	223	SW
Mar 29	ENE	NE	E	ESE	E	ESE	ESE	ESE	SSE	S	SW	SSW	SSW	SSW	SW	SW	SSW	SSW	SSW	S	SE	SE	SSW	WSW	192	S
Mar 30	SW	NNW	NNW	NNW	NNW	N	N	N	N	N	NNW	N	NNE	N	N	NNE	N	N	N	N	NNE	NNE	ENE	E	4	N
Mar 31	ENE	ENE	E	ENE	ENE	ENE	E	ENE	ESE	NE	WSW	WSW	W	WSW	SW	SW	SW	WSW	W	NW	NW	NW	SSE	SE	237	SW

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 pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 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

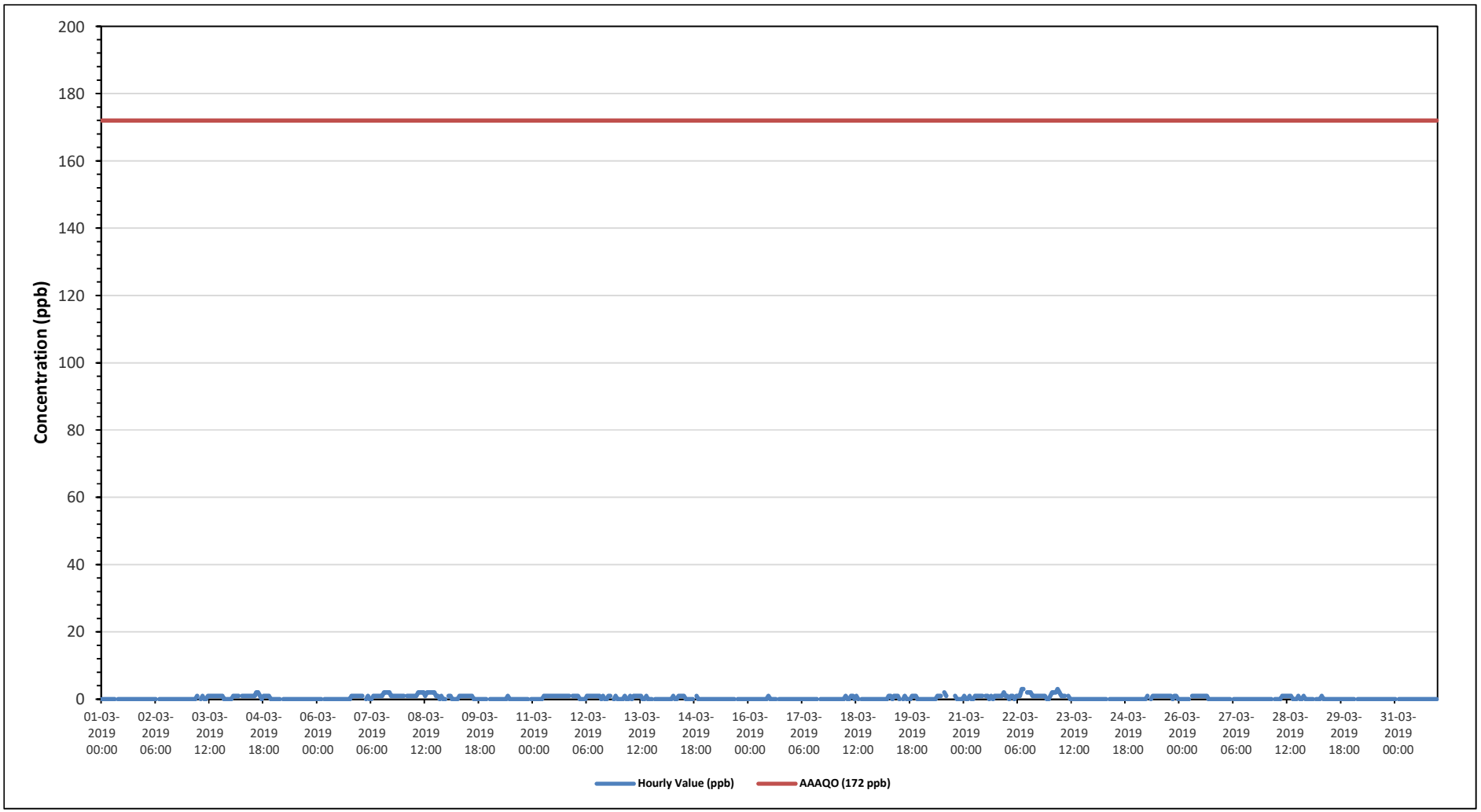
Maximum Hourly Value:	3	ppb	on March 22 at hour 8	Hours in Service:	744
Maximum Daily Value:	1.3	ppb	on March 8	Hours of Data:	708
Minimum Hourly Value:	0	ppb	on March 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.0	ppb	on March 1	Hours of Calibration:	36
Monthly Average:	0.4	ppb		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Mar 1	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
Mar 2	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
Mar 3	0	0	0	0	0	1	S	0	1	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	0.5
Mar 4	0	1	1	1	1	S	1	1	1	1	1	1	1	1	2	2	1	0	1	1	1	1	0	0	0	2	0.9
Mar 5	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
Mar 6	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	1	0.2
Mar 7	1	1	S	0	1	0	0	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	0	2	1.0
Mar 8	1	S	1	1	1	1	1	1	2	2	2	2	1	2	2	2	2	2	1	1	0	1	0	0	0	2	1.3
Mar 9	S	1	1	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	S	0	1	0.5
Mar 10	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	S	0	0	1	0.0
Mar 11	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	0	1	0.7
Mar 12	1	1	0	0	0	0	1	1	1	1	1	1	1	1	0	1	0	0	1	1	S	0	1	0	0	1	0.6
Mar 13	0	0	0	1	0	0	1	0	1	1	1	1	1	0	0	1	0	0	0	S	0	0	0	0	0	1	0.3
Mar 14	0	0	0	0	0	0	1	0	0	1	1	1	1	0	0	0	0	0	S	1	0	0	0	0	0	1	0.3
Mar 15	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
Mar 16	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	S	0	0	0	0	0	0	0	0	1	0.0
Mar 17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0
Mar 18	0	0	0	0	0	0	1	0	0	1	1	0	1	0	S	0	0	0	0	0	0	0	0	0	0	1	0.2
Mar 19	0	0	0	0	0	0	1	1	0	1	1	1	0	S	0	1	0	0	0	1	1	1	0	0	0	1	0.4
Mar 20	0	0	0	0	0	0	0	0	0	1	1	1	S	2	1	C	C	C	C	1	0	0	0	0	0	2	0.4
Mar 21	1	0	0	1	0	0	1	1	1	1	1	S	1	1	0	1	0	1	1	1	1	1	2	1	0	2	0.8
Mar 22	1	0	1	1	0	1	1	1	3	3	S	2	2	2	1	1	1	1	1	1	1	1	0	0	0	3	1.1
Mar 23	1	2	2	2	3	2	1	1	1	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.7
Mar 24	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
Mar 25	0	0	0	0	0	0	1	S	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	1	0.6
Mar 26	0	0	0	0	0	0	S	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0.4
Mar 27	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
Mar 28	0	0	0	0	S	0	0	0	0	1	1	1	1	1	1	0	0	0	1	0	0	1	0	0	0	1	0.3
Mar 29	0	0	0	S	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 30	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
Mar 31	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
Diurnal Maximum	1	2	2	2	3	2	1	1	3	3	2	2	2	2	2	2	2	2	1	1	1	1	2	1			
Daiurnal Average	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.5	0.6	0.6	0.6	0.5	0.6	0.5	0.5	0.3	0.3	0.3	0.4	0.2	0.3	0.2	0.1			

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

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

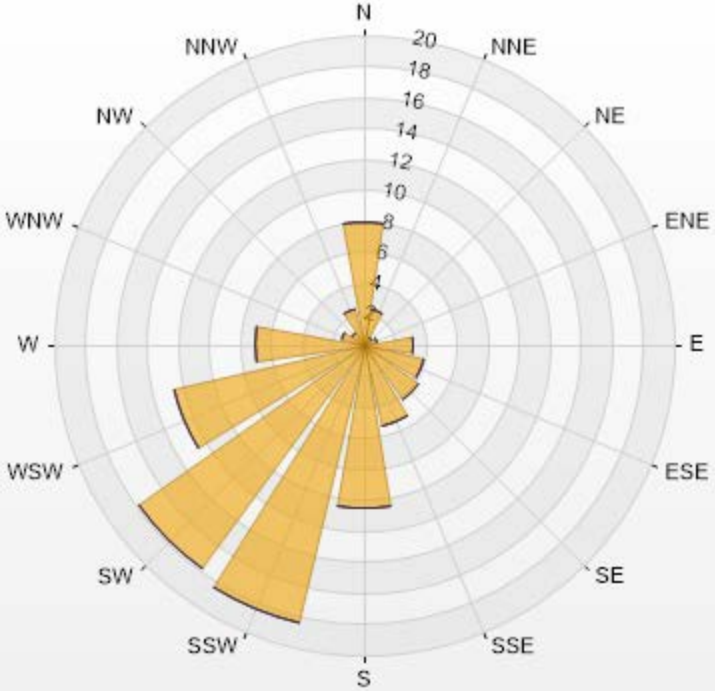
Timeseries Chart of Hourly Average for SO2 - Reno Site



Wind: PRAMP RENO Poll.: PRAMP RENO-SO2[ppb] Monthly: 03-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 91.80% Calm Avg: 0.00 [ppb]

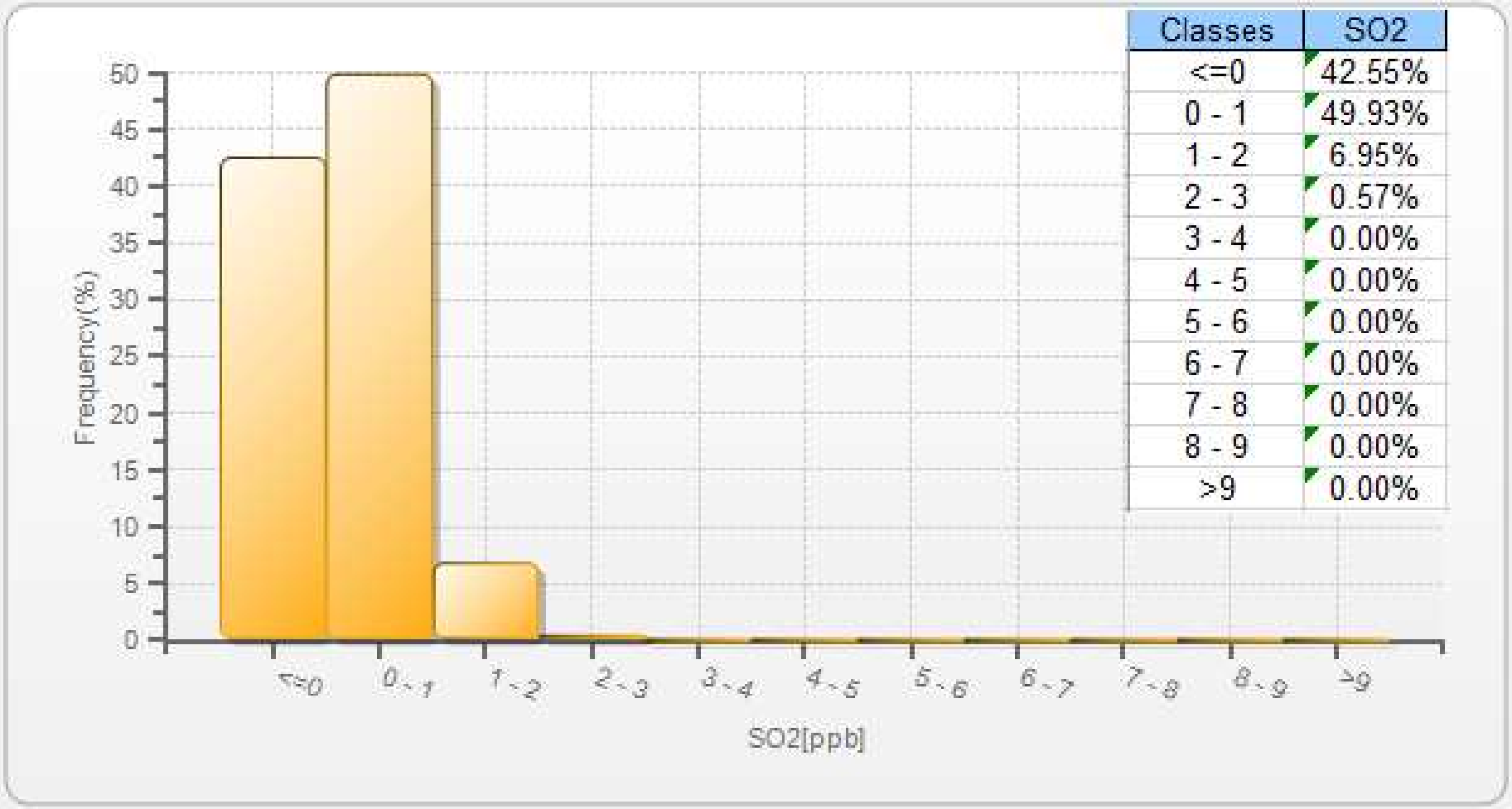
Direction	10-50	50-100	100-172	>172.0	Total
N	7.91	0	0	0	7.91
NNE	2.34	0	0	0	2.34
NE	0.59	0	0	0	0.59
ENE	0.88	0	0	0	0.88
E	3.22	0	0	0	3.22
ESE	3.95	0	0	0	3.95
SE	4.39	0	0	0	4.39
SSE	5.42	0	0	0	5.42
S	10.54	0	0	0	10.54
SSW	18.45	0	0	0	18.45
SW	17.86	0	0	0	17.86
WSW	12.59	0	0	0	12.59
W	7.03	0	0	0	7.03
WNW	1.46	0	0	0	1.46
NW	1.02	0	0	0	1.02
NNW	2.34	0	0	0	2.34
Summary	100	0	0	0	100

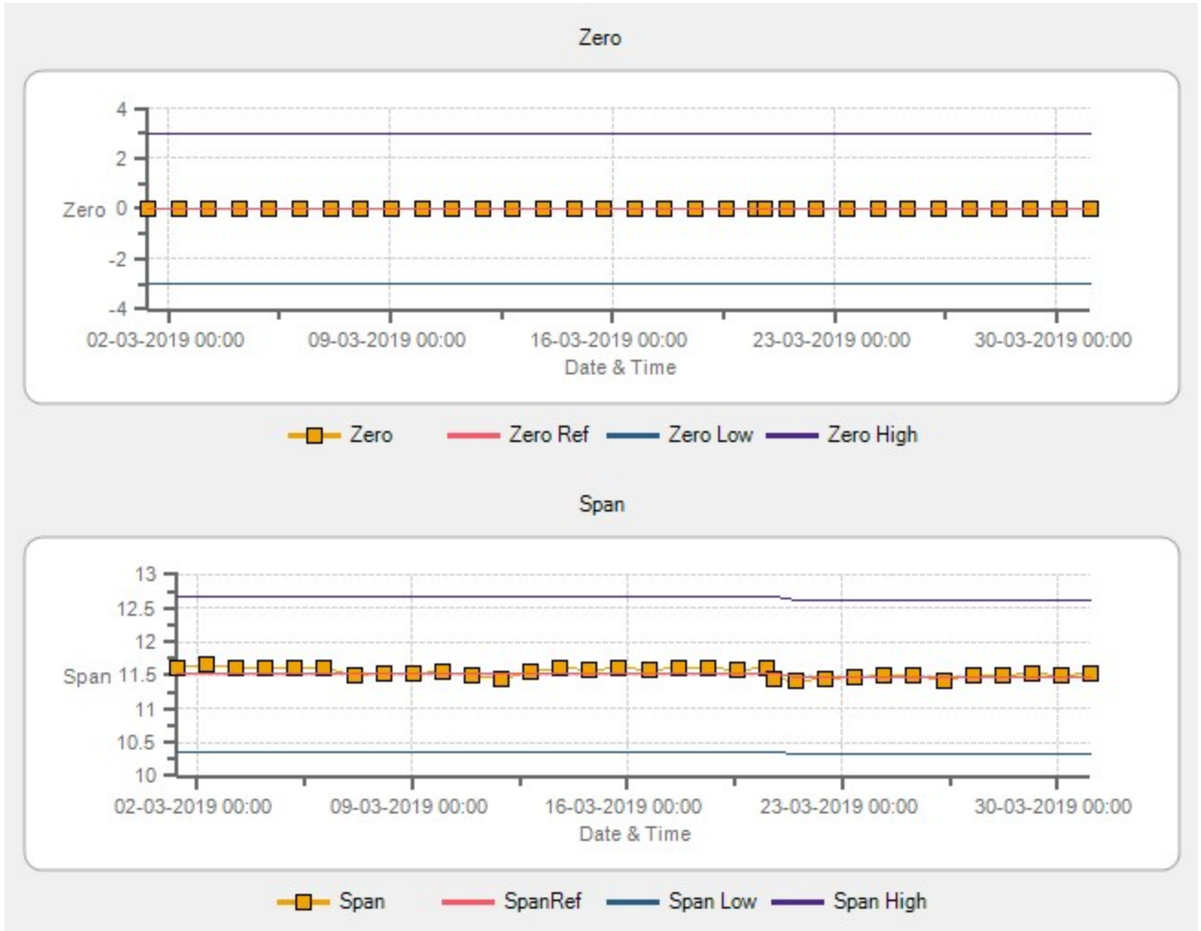
PRAMP RENO Poll.: PRAMP RENO-SO2[ppb] 01-03-2019 00:00 - 31-03-2019 23:00 Calm: 0.00%



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

SO2[ppb] Histogram: PRAMP RENO Monthly: 03-2019 1 Hr.




Zero
4
2
Zero 0
-2
-4
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
Span
13
12.5
12
Span 11.5
11
10.5
10
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 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

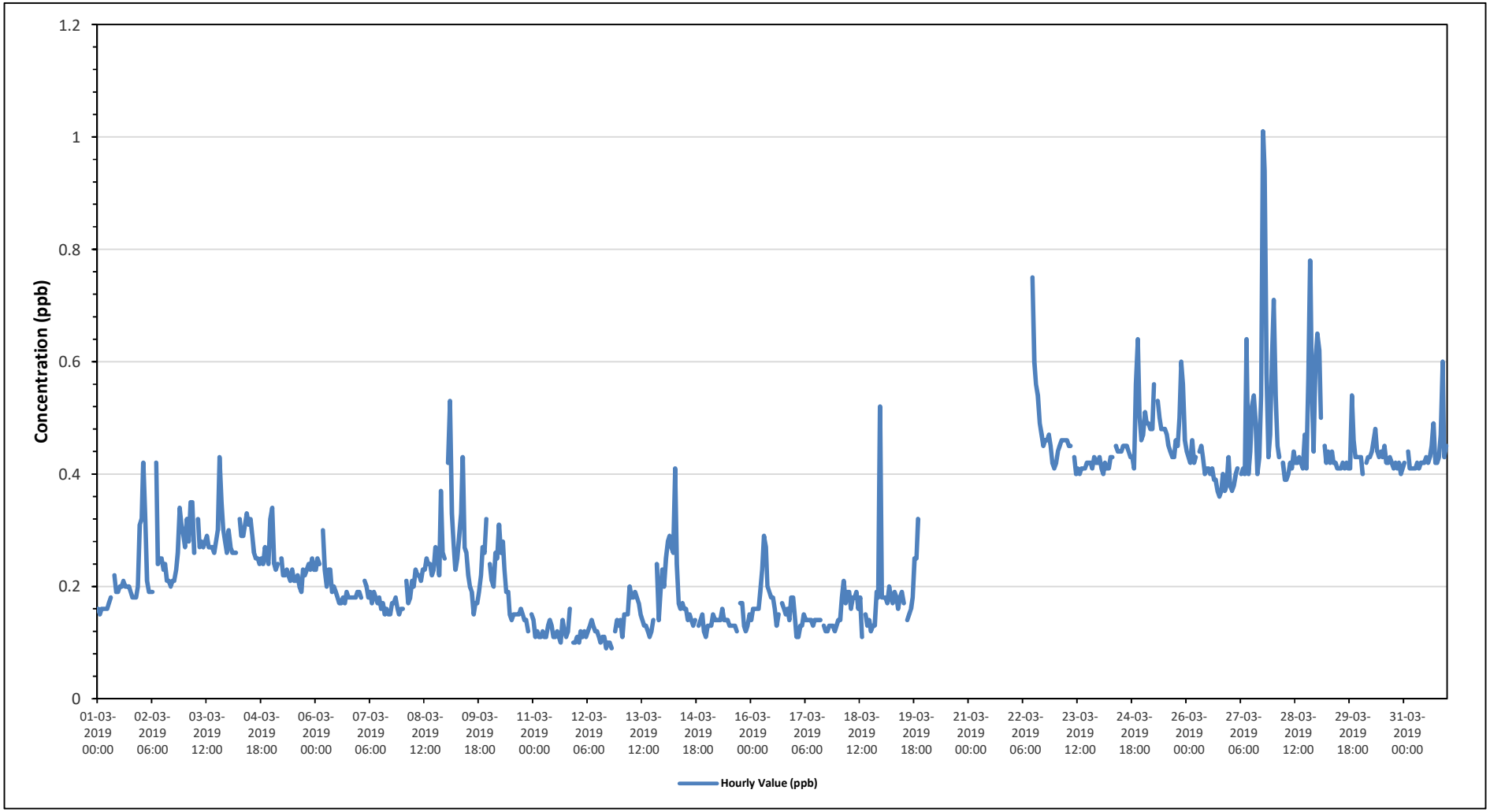
Maximum Hourly Value:	1.01	ppb	on March 27 at hour 18	Hours in Service:	744
Maximum Daily Value:	0.50	ppb	on March 27	Hours of Data:	653
Minimum Hourly Value:	0.09	ppb	on March 12 at hour 16	Hours of Missing Data:	58
Minimum Daily Value:	0.11	ppb	on March 12	Hours of Calibration:	33
Monthly Average:	0.28	ppb		Operational Uptime:	92.2

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			
Mar 1	0.16	0.15	0.16	0.16	0.16	0.16	0.17	0.18	S	0.22	0.19	0.19	0.2	0.2	0.21	0.2	0.2	0.2	0.19	0.18	0.18	0.18	0.2	0.31	0.15	0.31	0.19
Mar 2	0.32	0.42	0.33	0.21	0.19	0.19	0.19	S	0.42	0.24	0.25	0.25	0.23	0.24	0.21	0.21	0.2	0.21	0.21	0.23	0.26	0.34	0.31	0.29	0.19	0.42	0.26
Mar 3	0.27	0.32	0.28	0.35	0.35	0.26	S	0.32	0.27	0.28	0.27	0.28	0.29	0.27	0.27	0.27	0.26	0.28	0.3	0.43	0.35	0.3	0.28	0.26	0.26	0.43	0.30
Mar 4	0.3	0.27	0.26	0.26	0.26	S	0.32	0.29	0.29	0.31	0.33	0.31	0.32	0.29	0.26	0.25	0.25	0.24	0.25	0.24	0.27	0.25	0.24	0.32	0.24	0.33	0.28
Mar 5	0.34	0.24	0.23	0.24	S	0.25	0.22	0.22	0.23	0.22	0.21	0.23	0.21	0.21	0.22	0.2	0.19	0.23	0.22	0.23	0.24	0.23	0.25	0.23	0.19	0.34	0.23
Mar 6	0.23	0.25	0.24	S	0.3	0.23	0.2	0.23	0.23	0.19	0.2	0.19	0.18	0.17	0.17	0.18	0.17	0.19	0.18	0.18	0.18	0.18	0.18	0.19	0.17	0.30	0.20
Mar 7	0.19	0.18	S	0.21	0.2	0.18	0.19	0.17	0.19	0.18	0.17	0.18	0.16	0.17	0.15	0.16	0.15	0.15	0.17	0.17	0.18	0.16	0.15	0.16	0.15	0.21	0.17
Mar 8	0.16	S	0.21	0.17	0.18	0.21	0.2	0.23	0.22	0.22	0.21	0.23	0.23	0.25	0.24	0.24	0.22	0.23	0.27	0.26	0.22	0.37	0.26	0.25	0.16	0.37	0.23
Mar 9	S	0.42	0.53	0.33	0.27	0.23	0.25	0.29	0.33	0.43	0.27	0.26	0.22	0.2	0.19	0.15	0.17	0.17	0.19	0.22	0.27	0.26	0.32	S	0.15	0.53	0.27
Mar 10	0.24	0.21	0.2	0.26	0.25	0.31	0.26	0.28	0.23	0.19	0.19	0.15	0.14	0.15	0.15	0.15	0.15	0.16	0.15	0.14	0.14	0.12	S	0.15	0.12	0.31	0.19
Mar 11	0.14	0.11	0.12	0.11	0.11	0.12	0.11	0.11	0.13	0.14	0.13	0.11	0.11	0.12	0.11	0.1	0.14	0.12	0.11	0.12	0.16	S	0.1	0.1	0.10	0.16	0.12
Mar 12	0.11	0.1	0.12	0.11	0.12	0.11	0.12	0.13	0.14	0.13	0.12	0.12	0.11	0.1	0.11	0.11	**0.09**	0.1	0.1	0.09	S	0.12	0.14	0.13	**0.09**	0.14	**0.11**
Mar 13	0.14	0.11	0.15	0.15	0.15	0.2	0.18	0.18	0.19	0.18	0.17	0.15	0.14	0.13	0.13	0.12	0.11	0.12	0.14	S	0.24	0.14	0.19	0.23	0.11	0.24	0.16
Mar 14	0.2	0.25	0.28	0.29	0.27	0.26	0.41	0.24	0.17	0.16	0.17	0.16	0.16	0.14	0.15	0.14	0.13	0.14	S	0.13	0.14	0.15	0.12	0.11	0.11	0.41	0.19
Mar 15	0.13	0.13	0.13	0.15	0.14	0.14	0.14	0.14	0.16	0.14	0.14	0.14	0.13	0.13	0.13	0.13	0.12	S	0.17	0.17	0.13	0.12	0.13	0.15	0.12	0.17	0.14
Mar 16	0.14	0.16	0.16	0.16	0.16	0.19	0.23	0.29	0.27	0.2	0.19	0.18	0.18	0.16	0.13	0.15	S	0.17	0.16	0.15	0.16	0.14	0.18	0.18	0.13	0.29	0.18
Mar 17	0.15	0.11	0.11	0.13	0.13	0.15	0.14	0.14	0.14	0.14	0.13	0.14	0.14	0.14	0.14	S	0.13	0.12	0.12	0.13	0.13	0.13	0.12	0.13	0.11	0.15	0.13
Mar 18	0.14	0.14	0.18	0.21	0.17	0.19	0.19	0.16	0.18	0.18	0.19	0.16	0.18	0.11	S	0.15	0.13	0.14	0.12	0.13	0.13	0.19	0.18	0.52	0.11	0.52	0.18
Mar 19	0.18	0.18	0.18	0.17	0.2	0.18	0.17	0.19	0.18	0.16	0.18	0.19	0.17	S	0.14	0.15	0.16	0.18	0.25	0.25	0.32	X	X	X	0.14	0.32	0.19
Mar 20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Mar 21	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-
Mar 22	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	0.75	0.6	0.56	0.54	0.49	0.47	0.45	0.46	0.46	0.47	0.45	0.42	0.41	0.41	0.75	-
Mar 23	0.42	0.44	0.45	0.46	0.46	0.46	0.46	0.45	0.45	S	0.43	0.4	0.41	0.4	0.41	0.41	0.41	0.42	0.42	0.42	0.41	0.43	0.42	0.42	0.40	0.46	0.43
Mar 24	0.43	0.41	0.4	0.42	0.41	0.41	0.43	0.43	S	0.45	0.44	0.44	0.44	0.45	0.45	0.45	0.44	0.43	0.43	0.41	0.56	0.64	0.5	0.46	0.40	0.64	0.45
Mar 25	0.47	0.51	0.49	0.49	0.48	0.48	0.56	S	0.53	0.5	0.48	0.48	0.48	0.47	0.45	0.44	0.43	0.43	0.46	0.45	0.5	0.6	0.56	0.46	0.43	0.60	0.49
Mar 26	0.44	0.43	0.42	0.46	0.42	0.43	S	0.44	0.45	0.43	0.4	0.41	0.41	0.4	0.41	0.39	0.39	0.37	0.36	0.37	0.4	0.37	0.38	0.43	0.36	0.46	0.41
Mar 27	0.38	0.37	0.38	0.4	0.41	S	0.4	0.41	0.4	0.64	0.4	0.44	0.52	0.54	0.49	0.4	0.43	0.54	**1.01**	0.94	0.58	0.43	0.47	0.61	0.37	**1.01**	**0.50**
Mar 28	0.71	0.54	0.45	0.43	S	0.42	0.39	0.39	0.4	0.42	0.41	0.44	0.42	0.42	0.43	0.42	0.41	0.47	0.41	0.57	0.78	0.53	0.44	0.6	0.39	0.78	0.47
Mar 29	0.65	0.62	0.5	S	0.45	0.42	0.44	0.42	0.44	0.42	0.42	0.41	0.41	0.41	0.42	0.41	0.42	0.41	0.41	0.54	0.46	0.43	0.43	0.43	0.41	0.65	0.45
Mar 30	0.43	0.4	S	0.42	0.43	0.43	0.44	0.46	0.48	0.44	0.43	0.44	0.43	0.45	0.42	0.42	0.43	0.42	0.41	0.42	0.41	0.42	0.4	0.41	0.40	0.48	0.43
Mar 31	0.42	S	0.44	0.41	0.41	0.41	0.41	0.42	0.41	0.42	0.42	0.42	0.43	0.42	0.43	0.45	0.49	0.42	0.42	0.43	0.47	0.6	0.43	0.45	0.41	0.60	0.44
Diurnal Maximum	0.71	0.62	0.53	0.49	0.48	0.48	0.56	0.46	0.53	0.64	0.48	0.75	0.60	0.56	0.54	0.49	0.49	0.54	1.01	0.94	0.78	0.64	0.56	0.61			
Daiurnal Average	0.29	0.29	0.28	0.28	0.27	0.27	0.28	0.28	0.29	0.28	0.27	0.28	0.28	0.28	0.27	0.26	0.26	0.27	0.29	0.30	0.31	0.31	0.29	0.31			

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

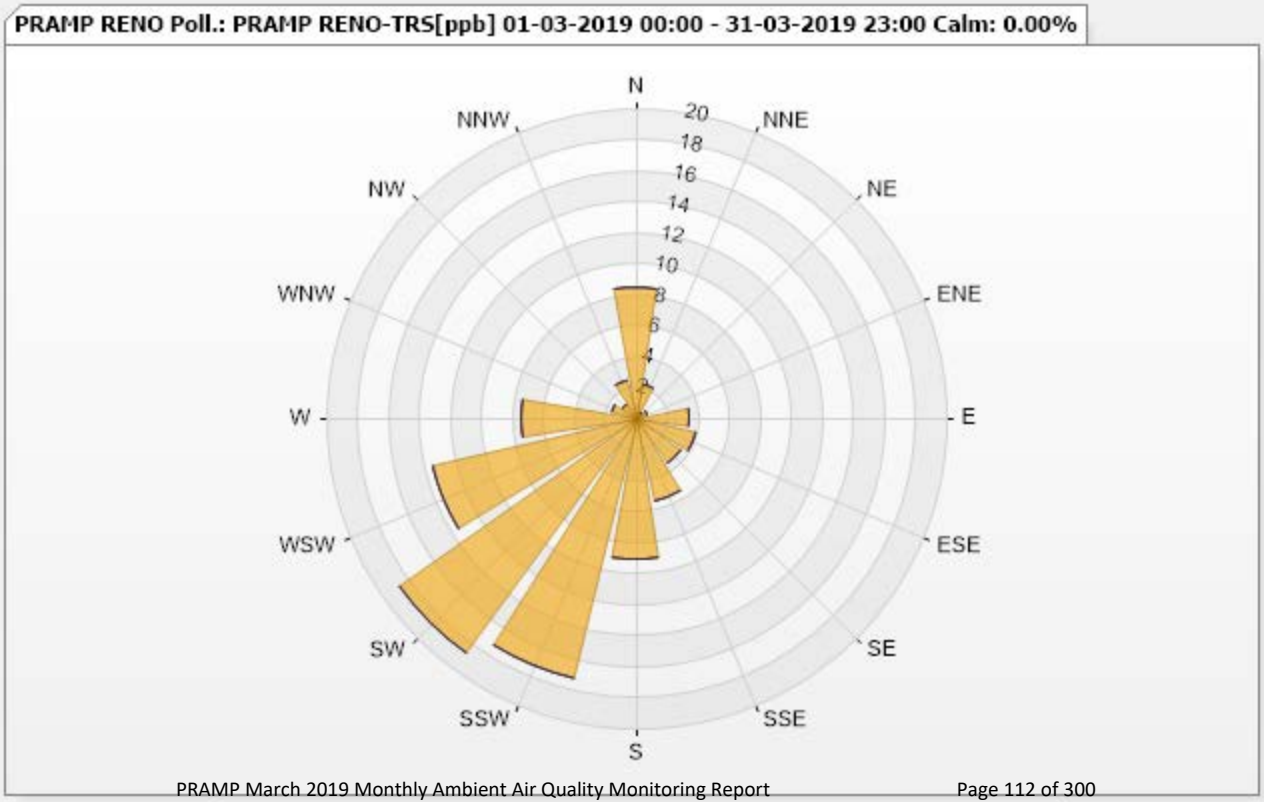
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

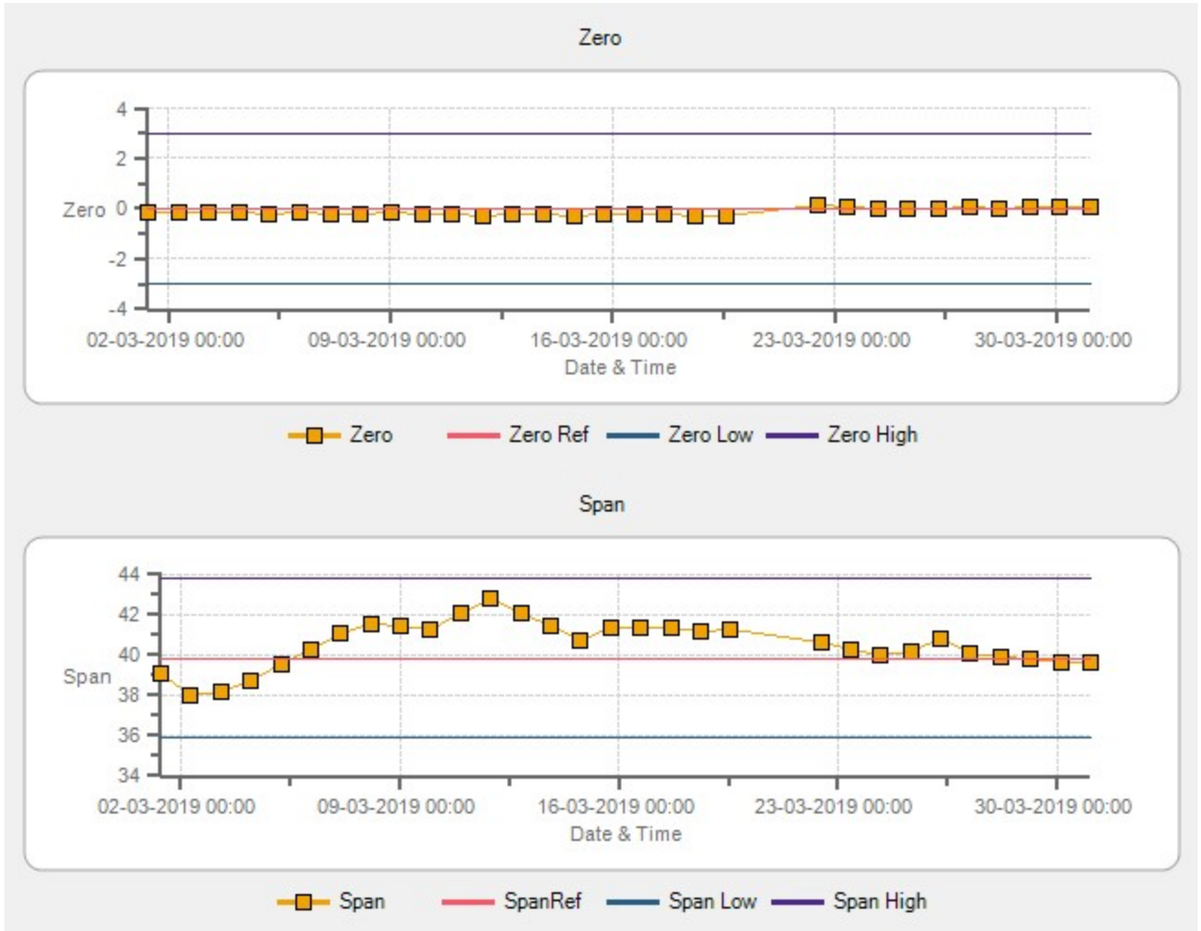
Timeseries Chart of Hourly Average for TRS - Reno Site



Wind: PRAMP RENO Poll.: PRAMP RENO-TRS[ppb] Monthly: 03-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 84.68% Calm Avg: 0.00 [ppb]

Direction	2-5	5-10	10-50	>50.0	Total
N	8.41	0	0	0	8.41
NNE	2.22	0	0	0	2.22
NE	0.48	0	0	0	0.48
ENE	0.79	0	0	0	0.79
E	3.49	0	0	0	3.49
ESE	3.97	0	0	0	3.97
SE	3.65	0	0	0	3.65
SSE	5.56	0	0	0	5.56
S	9.21	0	0	0	9.21
SSW	17.3	0	0	0	17.3
SW	18.73	0	0	0	18.73
WSW	13.49	0	0	0	13.49
W	7.46	0	0	0	7.46
WNW	1.59	0	0	0	1.59
NW	1.11	0	0	0	1.11
NNW	2.54	0	0	0	2.54
Summary	100	0	0	0	100


PRAMP RENO Poll.: PRAMP RENO-TRS[ppb] 01-03-2019 00:00 - 31-03-2019 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
20
18
16
14
12
10
8
6
% Icon Classes (ppb)
100 2-5
0 5-10
0 10-50
0 >50.0


Zero
4
2
Zero 0
-2
-4
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
Span
44
42
40
Span
38
36
34
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

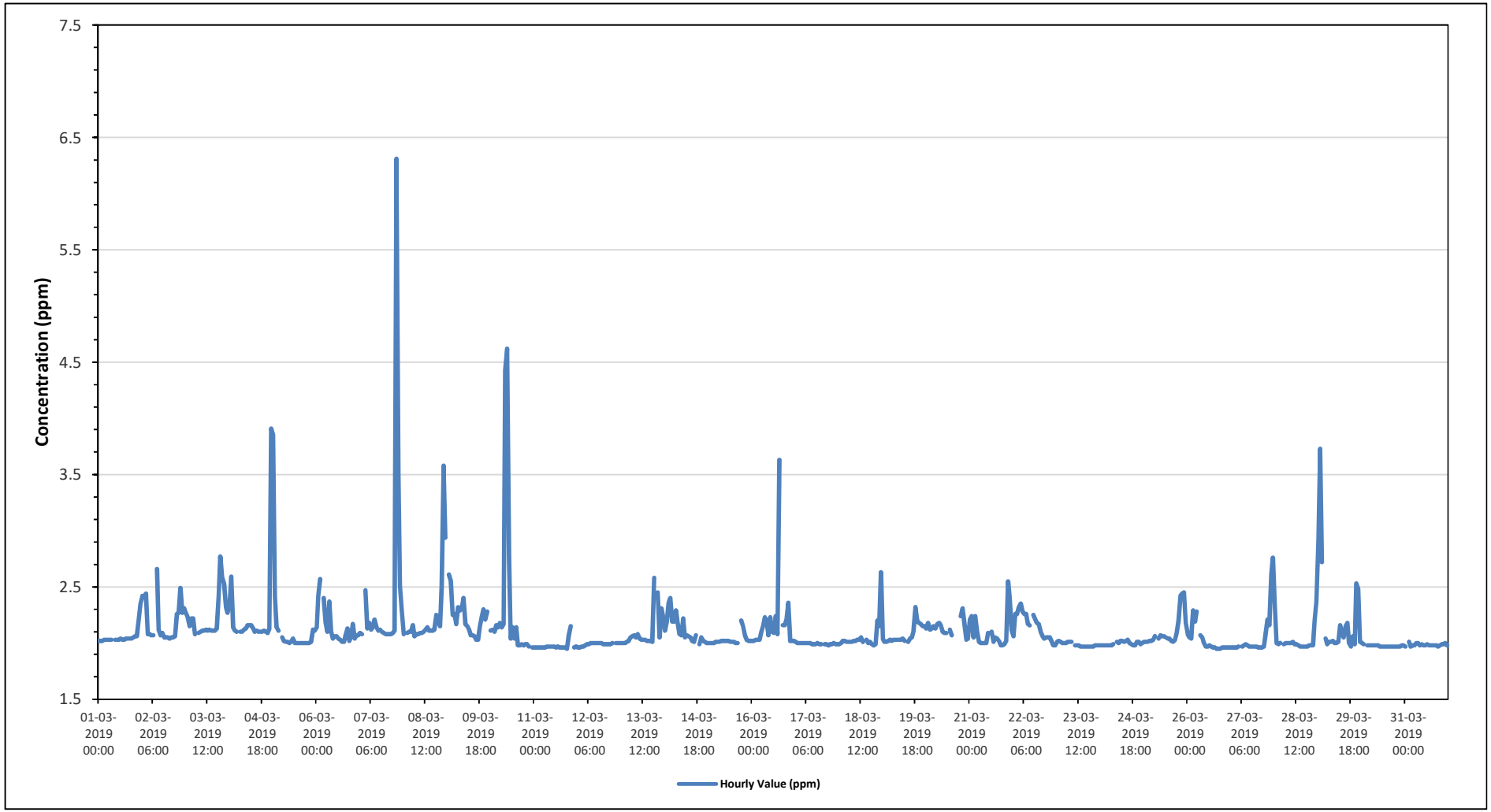
Maximum Hourly Value:	6.31	ppm	on March 7 at hour 20	Hours in Service:	744
Maximum Daily Value:	2.40	ppm	on March 7	Hours of Data:	708
Minimum Hourly Value:	1.95	ppm	on March 11 at hour 18	Hours of Missing Data:	0
Minimum Daily Value:	1.98	ppm	on March 11	Hours of Calibration:	36
Monthly Average:	2.11	ppm		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Mar 1	2.02	2.02	2.02	2.03	2.03	2.03	2.03	2.03	S	2.03	2.03	2.03	2.04	2.03	2.03	2.04	2.04	2.04	2.04	2.05	2.06	2.06	2.21	2.35	2.02	2.35	2.06
Mar 2	2.42	2.41	2.44	2.08	2.08	2.07	2.07	S	2.66	2.12	2.07	2.09	2.05	2.05	2.05	2.04	2.05	2.05	2.06	2.26	2.27	2.49	2.27	2.31	2.04	2.66	2.19
Mar 3	2.27	2.23	2.15	2.22	2.22	2.08	S	2.09	2.10	2.11	2.11	2.12	2.11	2.12	2.11	2.11	2.11	2.13	2.42	2.77	2.58	2.53	2.32	2.27	2.08	2.77	2.23
Mar 4	2.34	2.59	2.14	2.11	2.10	S	2.10	2.10	2.12	2.13	2.16	2.16	2.16	2.13	2.10	2.11	2.10	2.10	2.10	2.11	2.10	2.09	2.13	3.91	2.09	3.91	2.23
Mar 5	3.85	2.42	2.14	2.11	S	2.05	2.02	2.01	2.01	2.00	2.01	2.04	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.01	2.12	2.11	2.00	3.85	2.13
Mar 6	2.14	2.42	2.57	S	2.40	2.18	2.10	2.37	2.11	2.04	2.06	2.06	2.04	2.03	2.01	2.01	2.07	2.13	2.02	2.06	2.17	2.04	2.07	2.07	2.01	2.57	2.14
Mar 7	2.09	2.08	S	2.47	2.13	2.18	2.12	2.14	2.21	2.14	2.11	2.12	2.10	2.09	2.08	2.08	2.08	2.08	2.09	2.11	**6.31**	3.51	2.51	2.29	2.08	**6.31**	**2.40**
Mar 8	2.08	S	2.09	2.10	2.10	2.16	2.06	2.08	2.08	2.09	2.09	2.10	2.12	2.14	2.11	2.11	2.11	2.12	2.25	2.21	2.15	2.51	3.58	2.94	2.06	3.58	2.23
Mar 9	S	2.61	2.55	2.25	2.26	2.17	2.32	2.29	2.31	2.40	2.17	2.15	2.12	2.07	2.07	2.06	2.03	2.03	2.15	2.23	2.30	2.21	2.28	S	2.03	2.61	2.23
Mar 10	2.11	2.12	2.10	2.16	2.14	2.18	2.14	2.17	4.43	4.62	2.76	2.04	2.14	2.04	2.14	1.98	1.98	1.99	1.98	1.99	1.99	1.97	S	1.96	1.96	4.62	2.31
Mar 11	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.96	1.97	1.96	1.96	1.96	1.96	**1.95**	2.07	2.15	S	1.96	1.97	**1.95**	2.15	**1.98**
Mar 12	1.96	1.96	1.97	1.97	1.98	1.99	1.99	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.99	1.99	1.99	1.99	1.99	2.00	S	2.00	2.00	2.00	1.96	2.00	1.99
Mar 13	2.00	2.00	2.00	2.01	2.02	2.05	2.06	2.07	2.05	2.08	2.04	2.03	2.03	2.03	2.02	2.02	2.02	2.01	2.58	S	2.45	2.05	2.31	2.24	2.00	2.58	2.09
Mar 14	2.11	2.19	2.36	2.40	2.19	2.19	2.29	2.18	2.08	2.07	2.22	2.05	2.07	2.06	2.05	2.02	2.01	2.07	S	1.99	2.05	2.02	2.01	2.00	1.99	2.40	2.12
Mar 15	2.00	2.00	2.00	2.00	2.01	2.01	2.01	2.02	2.02	2.02	2.02	2.02	2.01	2.01	2.01	2.00	2.00	S	2.20	2.15	2.07	2.03	2.02	2.02	2.00	2.20	2.03
Mar 16	2.02	2.02	2.03	2.03	2.03	2.09	2.15	2.23	2.19	2.07	2.23	2.10	2.09	2.24	2.08	3.63	S	2.16	2.16	2.22	2.36	2.02	2.02	2.02	2.02	3.63	2.18
Mar 17	2.01	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.99	1.99	1.99	2.00	1.99	1.99	S	1.99	1.99	1.98	1.99	1.99	2.00	1.99	1.99	1.98	2.01	1.99
Mar 18	1.99	2.00	2.02	2.02	2.01	2.01	2.01	2.01	2.02	2.02	2.03	2.03	2.05	2.01	S	2.03	2.00	2.01	1.99	1.98	1.99	2.20	2.15	2.63	1.98	2.63	2.05
Mar 19	2.04	2.01	2.01	2.02	2.03	2.02	2.03	2.03	2.03	2.03	2.03	2.04	2.02	S	2.01	2.04	2.05	2.11	2.32	2.19	2.18	2.17	2.15	2.15	2.01	2.32	2.07
Mar 20	2.13	2.18	2.12	2.13	2.15	2.13	2.17	2.18	2.16	2.10	2.09	2.09	S	2.12	2.07	C	C	C	C	2.24	2.31	2.17	2.03	2.04	2.03	2.31	2.14
Mar 21	2.21	2.24	2.05	2.24	2.10	2.01	2.00	2.00	2.00	2.00	2.09	S	2.10	2.01	2.05	2.04	2.02	1.98	1.98	1.99	2.02	2.55	2.40	2.12	1.98	2.55	2.10
Mar 22	2.06	2.26	2.26	2.32	2.35	2.28	2.26	2.26	2.17	2.16	S	2.25	2.21	2.18	2.17	2.10	2.06	2.04	2.05	2.05	2.05	2.02	1.98	1.98	1.98	2.35	2.15
Mar 23	2.01	2.02	2.01	2.00	2.00	2.00	2.01	2.01	2.01	S	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.97	2.02	1.99
Mar 24	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	S	2.01	2.00	2.02	2.02	2.01	2.02	2.03	2.00	1.99	1.98	1.98	2.01	2.01	1.99	2.00	1.98	2.03	2.00
Mar 25	2.01	2.01	2.01	2.02	2.02	2.03	2.06	S	2.04	2.07	2.06	2.06	2.05	2.04	2.04	2.02	2.01	2.03	2.09	2.20	2.42	2.44	2.45	2.18	2.01	2.45	2.10
Mar 26	2.08	2.05	2.04	2.29	2.19	2.28	S	2.07	2.05	2.00	1.97	1.97	1.98	1.97	1.96	1.96	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.95	2.29	2.02
Mar 27	1.96	1.96	1.96	1.96	1.97	S	1.97	1.98	1.99	1.98	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.97	2.08	2.21	2.16	2.61	2.76	1.96	2.76	2.05
Mar 28	2.34	2.00	1.99	2.00	S	1.99	2.00	2.00	2.00	2.00	2.01	1.99	1.99	1.98	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.98	2.20	2.37	1.97	2.37	2.03
Mar 29	2.92	3.73	2.72	S	2.04	1.99	2.01	2.01	2.02	2.00	2.00	2.01	2.16	2.10	2.05	2.15	2.18	2.00	1.97	2.06	1.99	2.53	2.48	2.01	1.97	3.73	2.22
Mar 30	2.00	1.99	S	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	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.97	2.00	1.98
Mar 31	1.97	S	2.01	1.97	1.98	1.98	2.00	2.00	1.98	1.99	1.98	1.98	1.99	1.98	1.98	1.98	1.98	1.98	1.97	1.98	1.99	1.99	2.00	1.98	1.97	2.01	1.98
Diurnal Maximum	3.85	3.73	2.72	2.47	2.40	2.28	2.32	2.37	4.43	4.62	2.76	2.25	2.21	2.24	2.17	3.63	2.18	2.16	2.58	2.77	6.31	3.51	3.58	3.91			
Daiurnal Average	2.17	2.19	2.13	2.10	2.08	2.07	2.07	2.08	2.17	2.14	2.07	2.05	2.05	2.04	2.03	2.08	2.02	2.03	2.07	2.09	2.27	2.19	2.21	2.22			

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

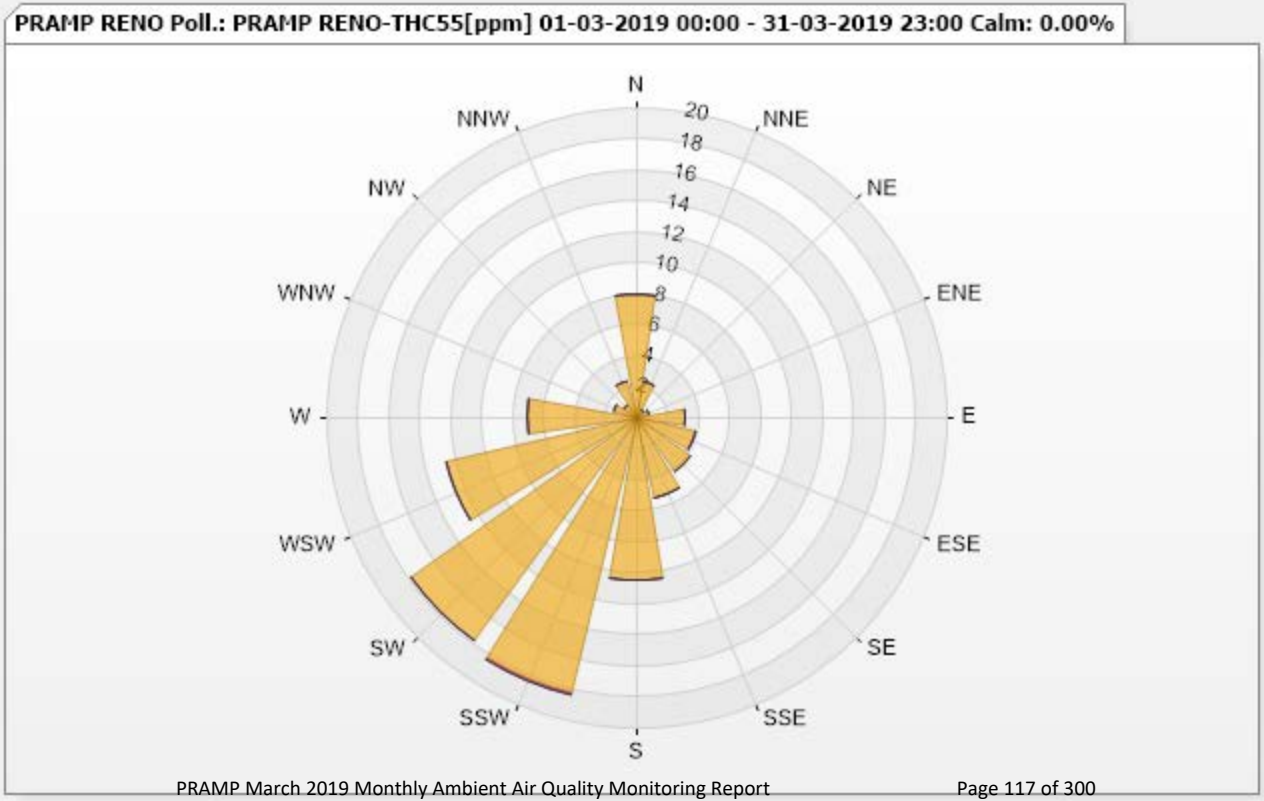
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

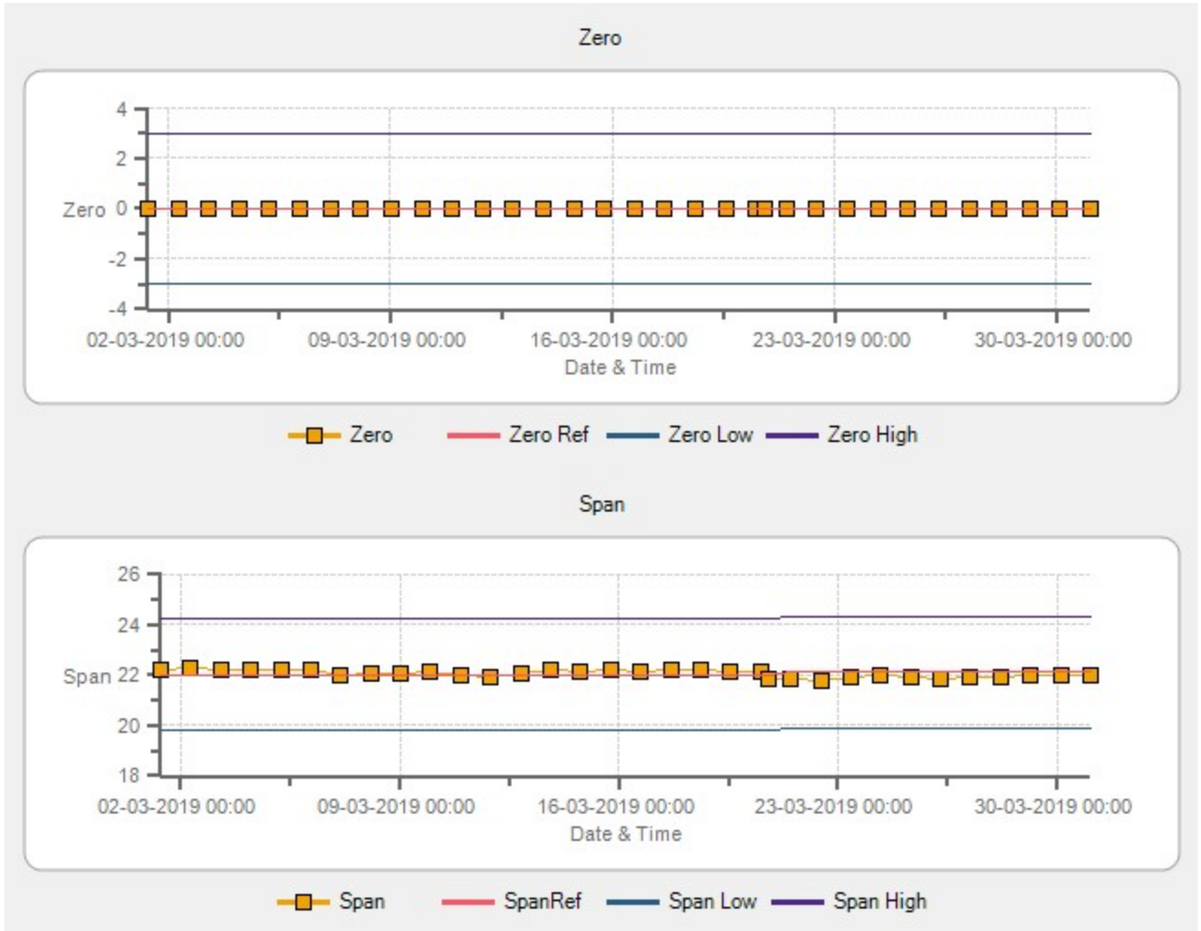
Timeseries Chart of Hourly Average for THC - Reno Site



Wind: PRAMP RENO Poll.: PRAMP RENO-THC55[ppm] Monthly: 03-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 91.80% Calm Avg: 0.00 [ppm]

Direction	2-5	5-10	10-40	>40.0	Total
N	7.91	0	0	0	7.91
NNE	2.34	0	0	0	2.34
NE	0.59	0	0	0	0.59
ENE	0.88	0	0	0	0.88
E	3.22	0	0	0	3.22
ESE	3.95	0	0	0	3.95
SE	4.39	0	0	0	4.39
SSE	5.42	0	0	0	5.42
S	10.54	0	0	0	10.54
SSW	18.3	0.15	0	0	18.45
SW	17.86	0	0	0	17.86
WSW	12.59	0	0	0	12.59
W	7.03	0	0	0	7.03
WNW	1.46	0	0	0	1.46
NW	1.02	0	0	0	1.02
NNW	2.34	0	0	0	2.34
Summary	100	0.15	0	0	100


PRAMP RENO Poll.: PRAMP RENO-THC55[ppm] 01-03-2019 00:00 - 31-03-2019 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
20
18
16
14
12
10
8
6
4
% Icon Classes (ppm)
100 2-5
0 5-10
0 10-40
0 >40.0


Zero
4
2
Zero 0
-2
-4
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
Span
26
24
Span 22
20
18
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Summary of Hourly Averages

METHANE (CH4) in ppm

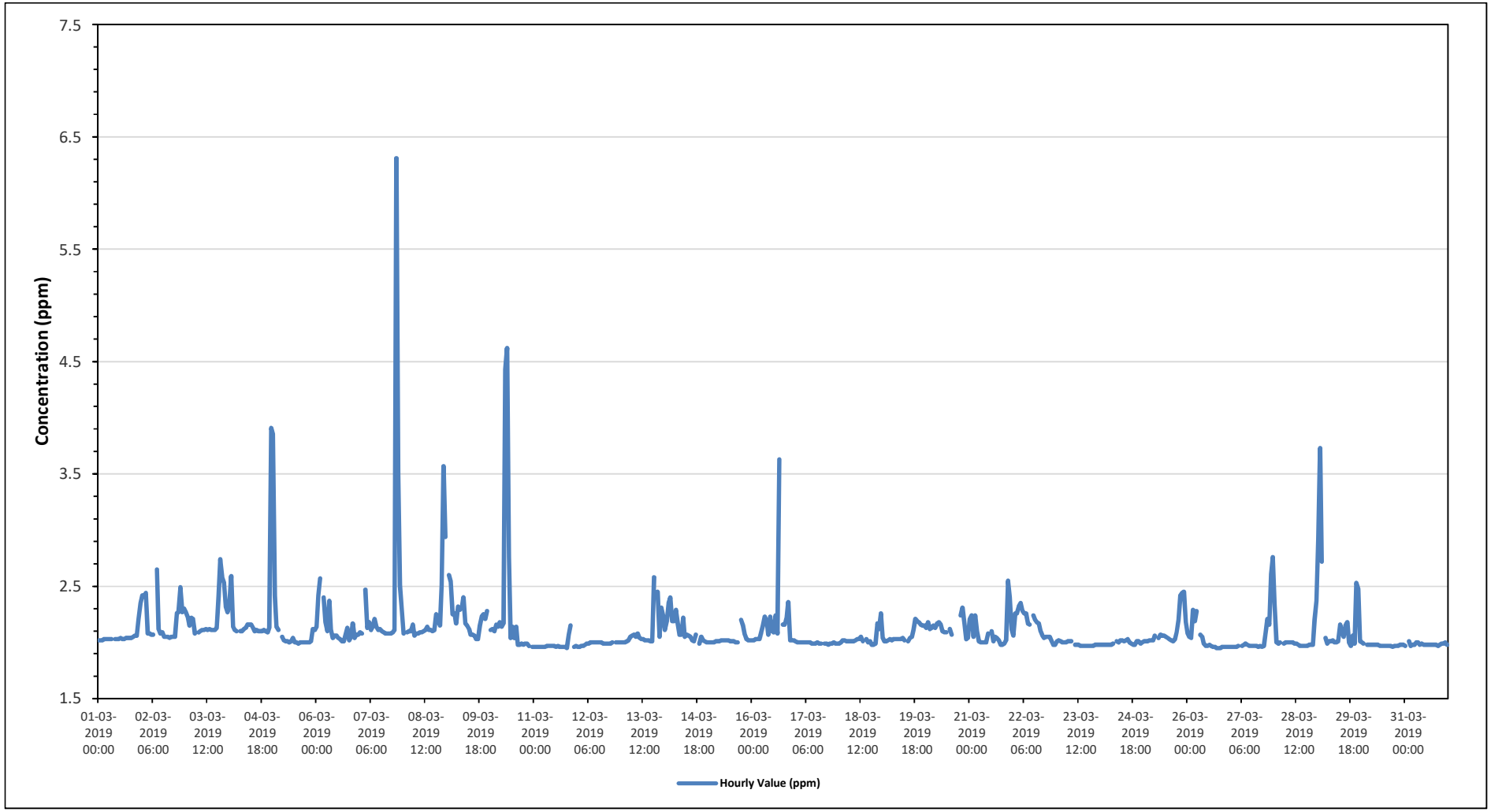
Maximum Hourly Value:	6.31	ppm	on March 7 at hour 20	Hours in Service:	744
Maximum Daily Value:	2.40	ppm	on March 7	Hours of Data:	708
Minimum Hourly Value:	1.95	ppm	on March 11 at hour 18	Hours of Missing Data:	0
Minimum Daily Value:	1.98	ppm	on March 11	Hours of Calibration:	36
Monthly Average:	2.11	ppm		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Mar 1	2.02	2.02	2.02	2.03	2.03	2.03	2.03	2.03	S	2.03	2.03	2.03	2.04	2.03	2.03	2.04	2.04	2.04	2.04	2.05	2.06	2.06	2.21	2.35	2.02	2.35	2.06
Mar 2	2.42	2.41	2.44	2.08	2.08	2.07	2.07	S	2.65	2.12	2.08	2.09	2.05	2.05	2.05	2.04	2.05	2.05	2.05	2.26	2.27	2.49	2.27	2.30	2.04	2.65	2.19
Mar 3	2.27	2.23	2.15	2.22	2.21	2.08	S	2.09	2.10	2.11	2.11	2.12	2.11	2.12	2.11	2.11	2.11	2.13	2.41	2.74	2.58	2.53	2.32	2.27	2.08	2.74	2.23
Mar 4	2.34	2.59	2.14	2.11	2.10	S	2.10	2.10	2.12	2.13	2.16	2.16	2.16	2.13	2.10	2.11	2.10	2.10	2.10	2.11	2.10	2.09	2.13	3.91	2.09	3.91	2.23
Mar 5	3.85	2.42	2.14	2.11	S	2.05	2.02	2.01	2.01	2.00	2.01	2.04	2.00	2.00	1.99	2.00	2.00	2.00	2.00	2.00	2.00	2.01	2.12	2.11	1.99	3.85	2.13
Mar 6	2.14	2.42	2.57	S	2.40	2.18	2.10	2.37	2.11	2.04	2.06	2.06	2.04	2.03	2.01	2.01	2.07	2.13	2.02	2.05	2.17	2.04	2.07	2.07	2.01	2.57	2.14
Mar 7	2.09	2.08	S	2.47	2.13	2.18	2.11	2.14	2.21	2.14	2.11	2.12	2.10	2.09	2.08	2.08	2.08	2.08	2.09	2.11	**6.31**	3.50	2.51	2.29	2.08	**6.31**	**2.40**
Mar 8	2.08	S	2.09	2.10	2.10	2.16	2.06	2.08	2.08	2.09	2.09	2.10	2.11	2.14	2.11	2.11	2.10	2.11	2.25	2.20	2.15	2.51	3.57	2.94	2.06	3.57	2.23
Mar 9	S	2.60	2.54	2.25	2.26	2.17	2.32	2.29	2.31	2.40	2.17	2.15	2.12	2.07	2.07	2.06	2.03	2.03	2.15	2.23	2.25	2.21	2.28	S	2.03	2.60	2.23
Mar 10	2.11	2.12	2.10	2.16	2.14	2.18	2.14	2.17	4.43	4.62	2.76	2.04	2.14	2.04	2.14	1.98	1.98	1.99	1.98	1.99	1.99	1.97	S	1.96	1.96	4.62	2.31
Mar 11	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.96	1.97	1.96	1.96	1.96	1.96	**1.95**	2.07	2.15	S	1.96	1.97	**1.95**	2.15	**1.98**
Mar 12	1.96	1.96	1.97	1.97	1.98	1.99	1.99	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.99	1.99	1.99	1.99	1.99	2.00	S	2.00	2.00	2.00	1.96	2.00	1.99
Mar 13	2.00	2.00	2.00	2.01	2.02	2.05	2.06	2.07	2.05	2.08	2.04	2.03	2.03	2.02	2.02	2.02	2.01	2.01	2.58	S	2.45	2.05	2.31	2.24	2.00	2.58	2.09
Mar 14	2.11	2.19	2.35	2.40	2.19	2.19	2.29	2.18	2.07	2.07	2.22	2.05	2.07	2.06	2.05	2.02	2.01	2.07	S	1.99	2.05	2.02	2.01	2.00	1.99	2.40	2.12
Mar 15	2.00	2.00	2.00	2.00	2.01	2.01	2.01	2.02	2.02	2.02	2.02	2.02	2.01	2.01	2.01	2.00	2.00	S	2.20	2.15	2.07	2.03	2.02	2.02	2.00	2.20	2.03
Mar 16	2.02	2.02	2.03	2.03	2.03	2.09	2.15	2.23	2.19	2.07	2.23	2.10	2.09	2.24	2.08	3.63	S	2.16	2.16	2.22	2.36	2.02	2.02	2.02	2.02	3.63	2.18
Mar 17	2.01	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.99	1.99	1.99	2.00	1.99	1.99	S	1.99	1.99	1.98	1.99	1.99	2.00	1.99	1.99	1.98	2.01	1.99
Mar 18	1.99	2.00	2.02	2.02	2.01	2.01	2.01	2.01	2.01	2.02	2.03	2.03	2.05	2.01	S	2.03	2.00	2.01	1.98	1.98	1.99	2.17	2.12	2.26	1.98	2.26	2.03
Mar 19	2.04	2.01	2.01	2.02	2.03	2.02	2.03	2.03	2.03	2.03	2.03	2.04	2.02	S	2.01	2.04	2.05	2.11	2.21	2.19	2.18	2.16	2.15	2.15	2.01	2.21	2.07
Mar 20	2.13	2.18	2.12	2.13	2.15	2.13	2.17	2.18	2.16	2.10	2.09	2.09	S	2.12	2.07	C	C	C	C	2.24	2.31	2.17	2.03	2.04	2.03	2.31	2.14
Mar 21	2.21	2.24	2.05	2.24	2.10	2.01	2.00	2.00	2.00	2.00	2.08	S	2.10	2.01	2.05	2.04	2.02	1.98	1.98	1.99	2.02	2.55	2.40	2.12	1.98	2.55	2.10
Mar 22	2.06	2.26	2.26	2.32	2.35	2.28	2.26	2.26	2.17	2.16	S	2.24	2.20	2.18	2.17	2.10	2.06	2.04	2.05	2.05	2.05	2.02	1.98	1.98	1.98	2.35	2.15
Mar 23	2.01	2.02	2.01	2.00	2.00	2.00	2.01	2.01	2.01	S	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.97	2.02	1.99
Mar 24	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	S	2.01	2.00	2.02	2.02	2.01	2.02	2.03	2.00	1.99	1.98	1.98	2.01	2.01	1.99	2.00	1.98	2.03	2.00
Mar 25	2.01	2.01	2.01	2.02	2.02	2.02	2.06	S	2.04	2.07	2.06	2.06	2.05	2.04	2.03	2.02	2.01	2.03	2.09	2.20	2.42	2.44	2.45	2.18	2.01	2.45	2.10
Mar 26	2.08	2.05	2.04	2.29	2.19	2.28	S	2.07	2.05	1.99	1.97	1.97	1.98	1.97	1.96	1.96	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.95	2.29	2.02
Mar 27	1.96	1.96	1.96	1.96	1.97	S	1.97	1.98	1.99	1.98	1.97	1.97	1.97	1.97	1.97	1.96	1.97	1.96	1.97	2.08	2.21	2.16	2.61	2.76	1.96	2.76	2.05
Mar 28	2.34	2.00	1.99	2.00	S	1.99	2.00	2.00	2.00	2.00	2.00	1.99	1.99	1.98	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.98	2.20	2.37	1.97	2.37	2.03
Mar 29	2.92	3.73	2.72	S	2.04	1.99	2.01	2.01	2.02	2.00	2.00	2.01	2.16	2.10	2.05	2.15	2.18	2.00	1.97	2.06	1.99	2.53	2.48	2.01	1.97	3.73	2.22
Mar 30	2.00	1.99	S	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	1.96	1.97	1.97	1.97	1.98	1.98	1.98	1.96	2.00	1.98
Mar 31	1.97	S	2.01	1.97	1.98	1.98	2.00	2.00	1.98	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.98	1.99	1.99	2.00	1.98	1.97	2.01	1.98
Diurnal Maximum	3.85	3.73	2.72	2.47	2.40	2.28	2.32	2.37	4.43	4.62	2.76	2.24	2.20	2.24	2.17	3.63	2.18	2.16	2.58	2.74	6.31	3.50	3.57	3.91			
Daiurnal Average	2.17	2.19	2.13	2.10	2.08	2.07	2.07	2.08	2.16	2.14	2.07	2.05	2.05	2.04	2.03	2.08	2.02	2.03	2.07	2.09	2.27	2.19	2.20	2.21			

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

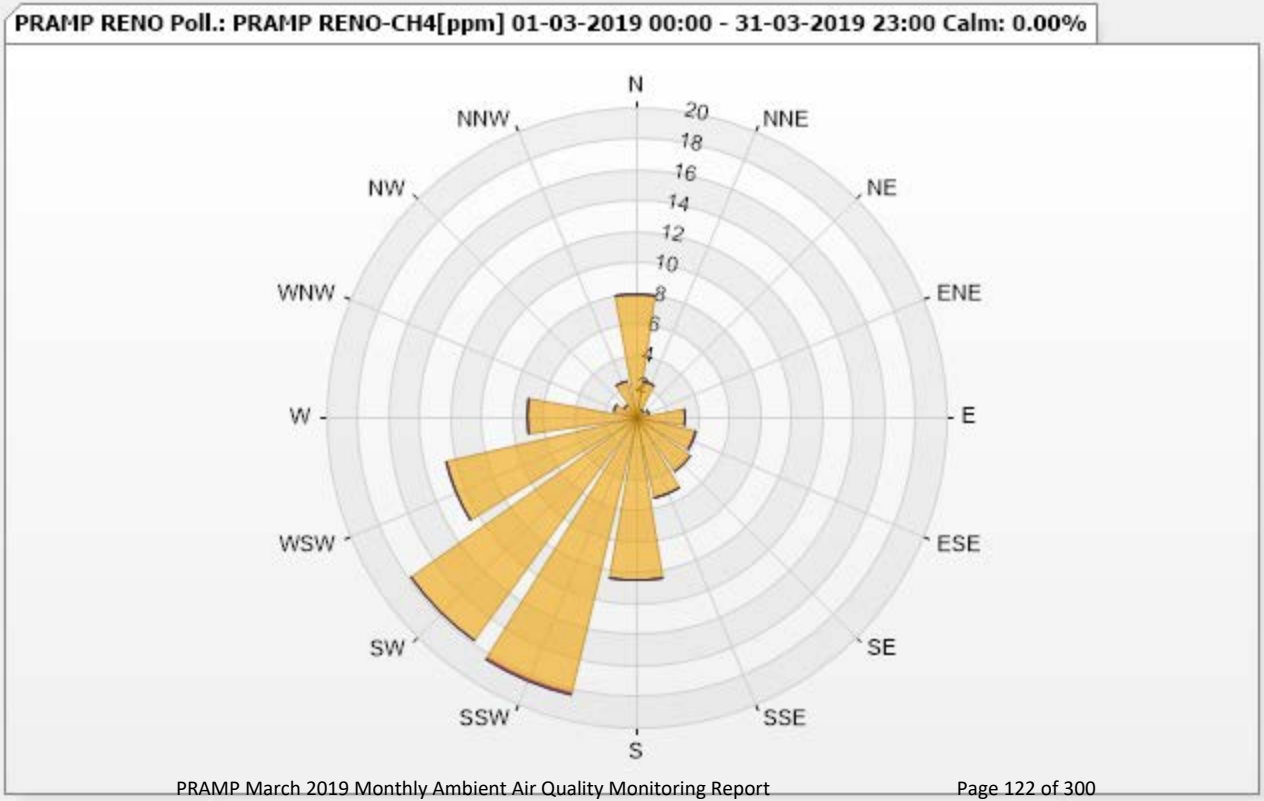
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

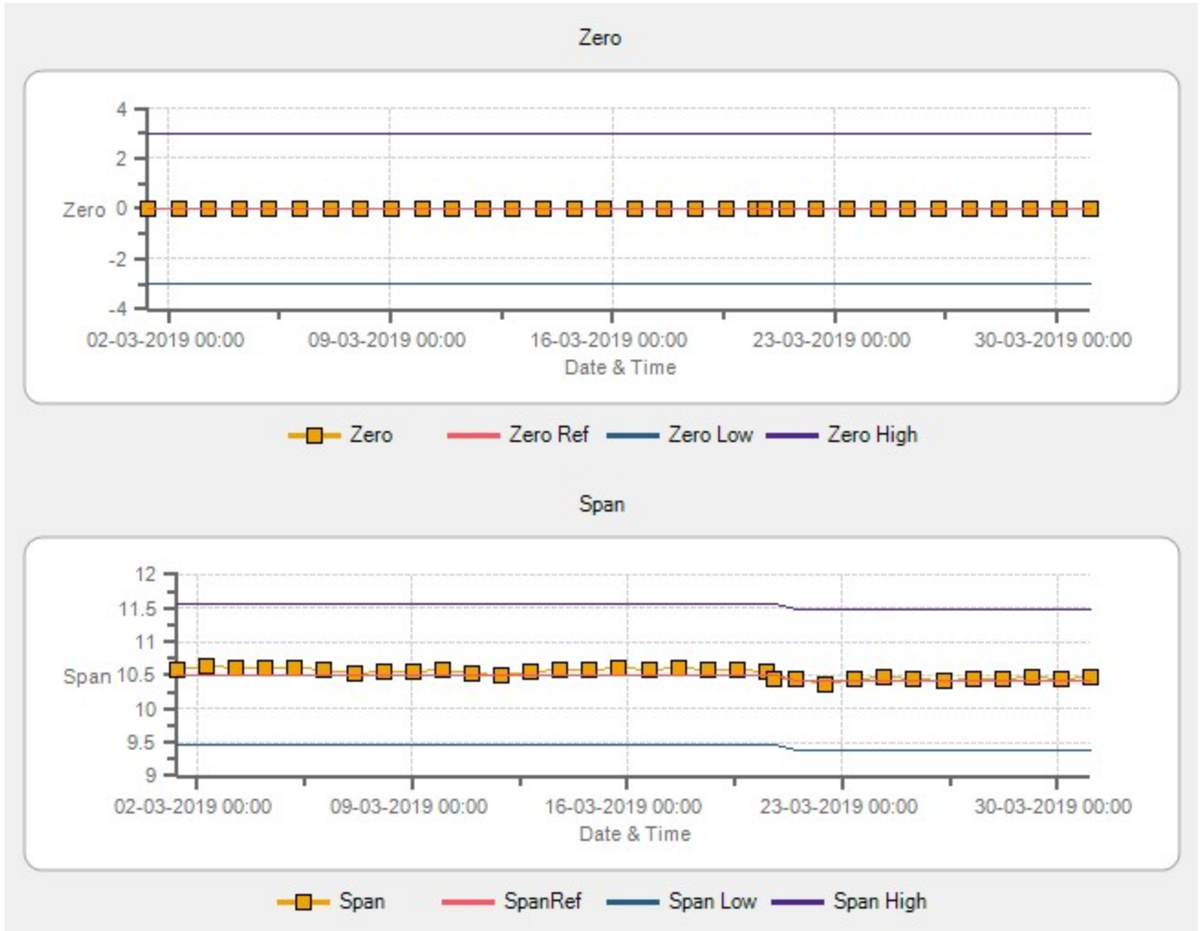
Timeseries Chart of Hourly Average for CH4 - Reno Site



Wind: PRAMP RENO Poll.: PRAMP RENO-CH4[ppm] Monthly: 03-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 91.80% Calm Avg: 0.00 [ppm]

Direction	2-5	5-10	10-20	>20.0	Total
N	7.91	0	0	0	7.91
NNE	2.34	0	0	0	2.34
NE	0.59	0	0	0	0.59
ENE	0.88	0	0	0	0.88
E	3.22	0	0	0	3.22
ESE	3.95	0	0	0	3.95
SE	4.39	0	0	0	4.39
SSE	5.42	0	0	0	5.42
S	10.54	0	0	0	10.54
SSW	18.3	0.15	0	0	18.45
SW	17.86	0	0	0	17.86
WSW	12.59	0	0	0	12.59
W	7.03	0	0	0	7.03
WNW	1.46	0	0	0	1.46
NW	1.02	0	0	0	1.02
NNW	2.34	0	0	0	2.34
Summary	100	0.15	0	0	100


PRAMP RENO Poll.: PRAMP RENO-CH4[ppm] 01-03-2019 00:00 - 31-03-2019 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
20
18
16
14
12
10
8
6
4
% Icon Classes (ppm)
100 2-5
0 5-10
0 10-20
0 >20.0


Zero
4
2
Zero 0
-2
-4
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Zero
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Zero Low
Zero High
Span
12
11.5
11
Span 10.5
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9
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

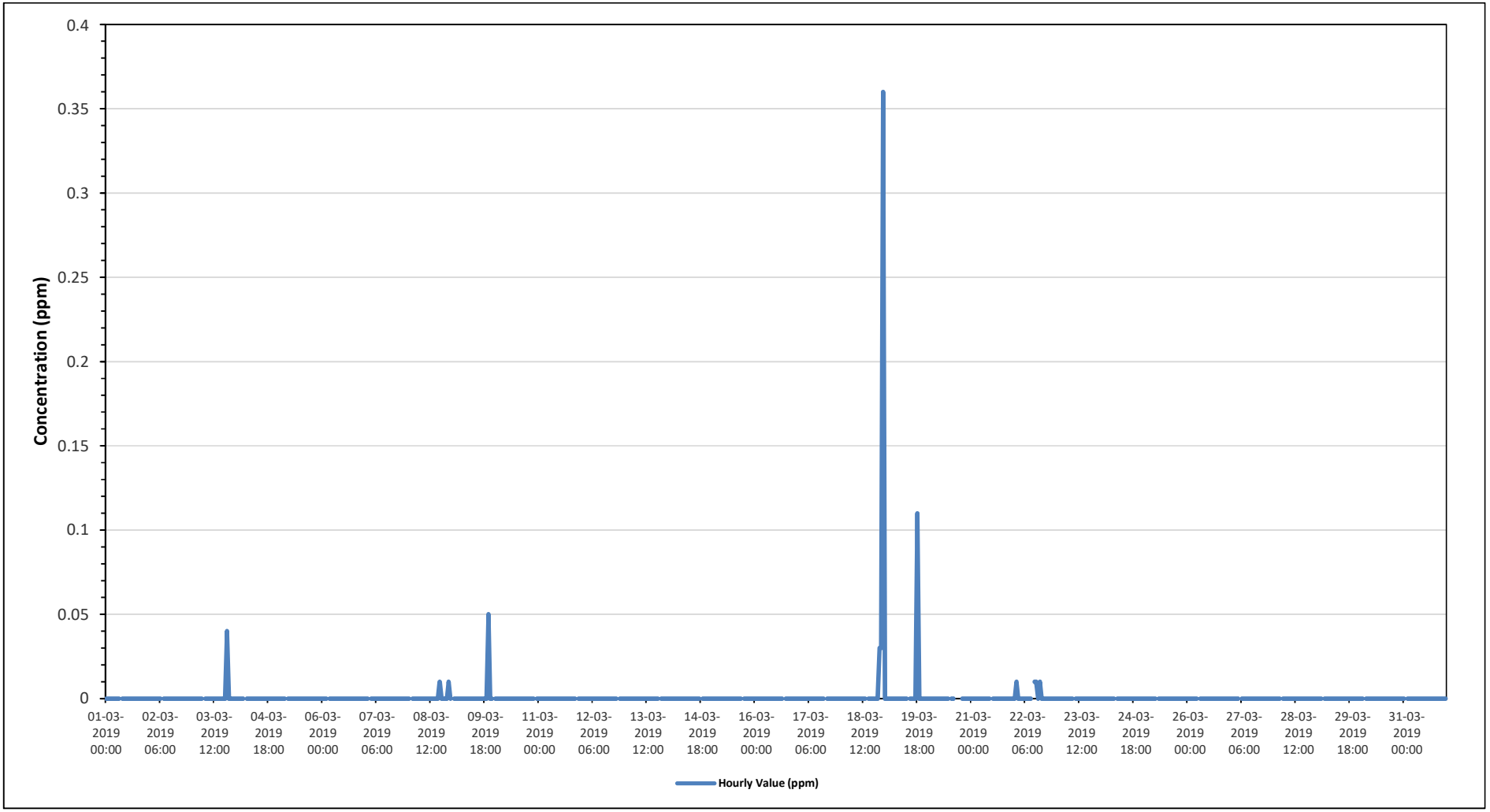
Maximum Hourly Value:	0.36	ppm	on March 18 at hour 23	Hours in Service:	744
Maximum Daily Value:	0.02	ppm	on March 18	Hours of Data:	708
Minimum Hourly Value:	0.00	ppm	on March 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.00	ppm	on March 1	Hours of Calibration:	36
Monthly Average:	0.00	ppm		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Mar 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 3	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	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	0.04	0.00
Mar 4	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 5	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 6	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 7	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 8	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00
Mar 9	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	S	0.00	0.05	0.00
Mar 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Mar 11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Mar 12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Mar 13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	**0.36**	0.00	**0.36**	**0.02**
Mar 19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00
Mar 20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 22	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Mar 23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 26	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 27	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 28	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 29	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 30	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 31	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diurnal Maximum	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.01	0.11	0.04	0.05	0.03	0.03	0.36			
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	0.01			

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

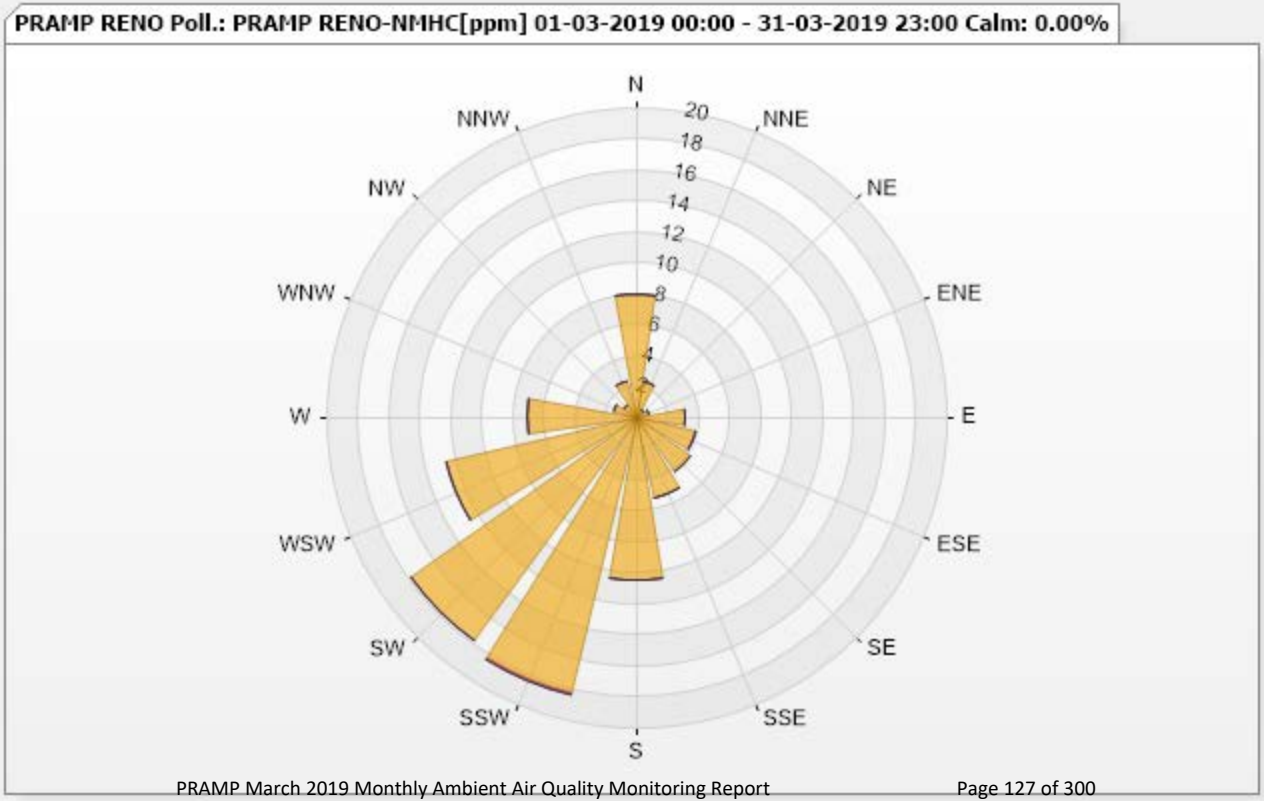
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

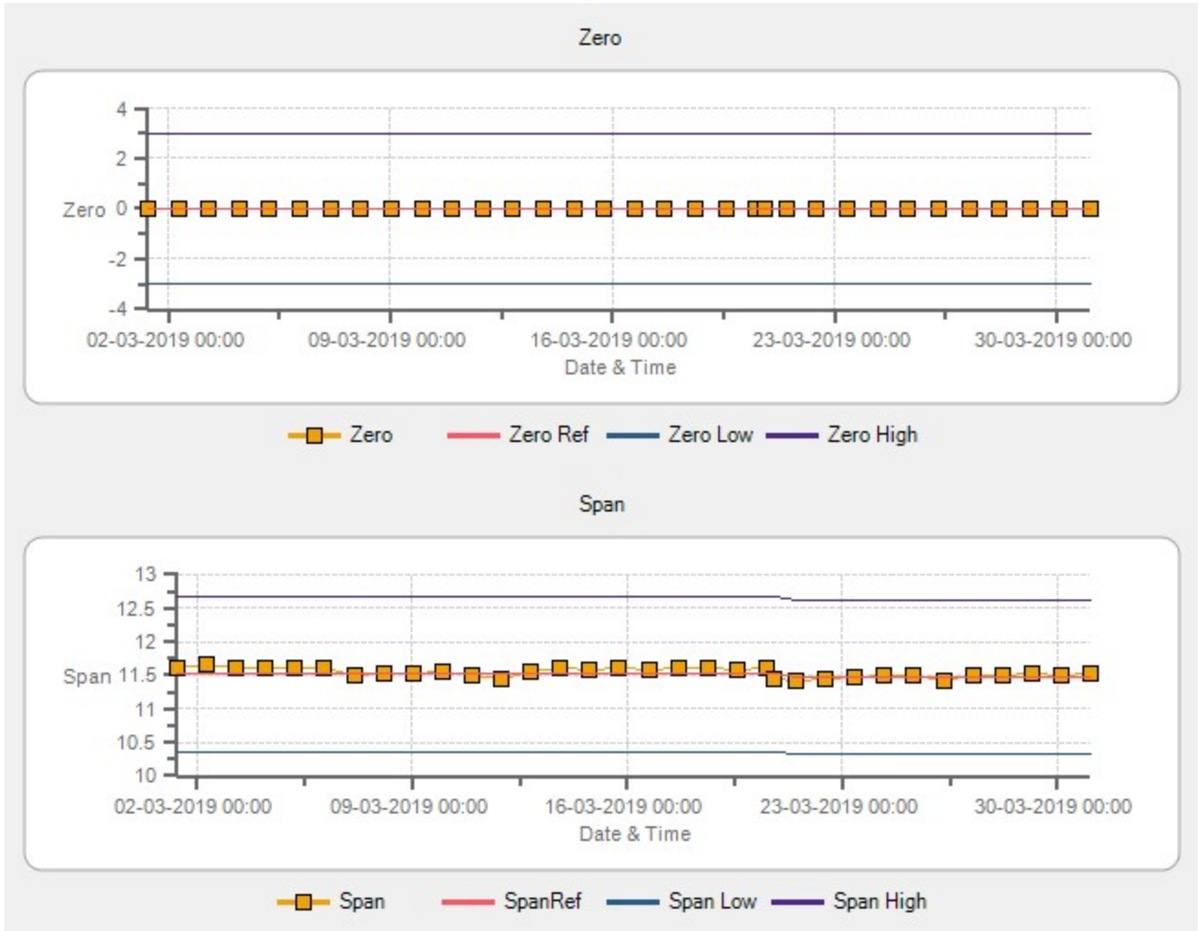
Timeseries Chart of Hourly Average for NMHC - Reno Site



Wind: PRAMP RENO Poll.: PRAMP RENO-NMHC[ppm] Monthly: 03-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 91.80% Calm Avg: 0.00 [ppm]

Direction	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	7.91	0	0	0	7.91
NNE	2.34	0	0	0	2.34
NE	0.59	0	0	0	0.59
ENE	0.88	0	0	0	0.88
E	3.22	0	0	0	3.22
ESE	3.95	0	0	0	3.95
SE	4.39	0	0	0	4.39
SSE	5.42	0	0	0	5.42
S	10.54	0	0	0	10.54
SSW	18.3	0.15	0	0	18.45
SW	17.86	0	0	0	17.86
WSW	12.59	0	0	0	12.59
W	7.03	0	0	0	7.03
WNW	1.46	0	0	0	1.46
NW	1.02	0	0	0	1.02
NNW	2.34	0	0	0	2.34
Summary	100	0.15	0	0	100


PRAMP RENO Poll.: PRAMP RENO-NMHC[ppm] 01-03-2019 00:00 - 31-03-2019 23:00 Calm: 0.00%
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
20
18
16
14
12
10
8
6
4
% Icon Classes (ppm)
100 0.1-0.3
0 0.3-0.9
0 0.9-2
0 >2.0


Zero
4
2
Zero 0
-2
-4
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Zero
Zero Ref
Zero Low
Zero High
Span
13
12.5
12
Span 11.5
11
10.5
10
02-03-2019 00:00
09-03-2019 00:00
16-03-2019 00:00
23-03-2019 00:00
30-03-2019 00:00
Date & Time
Span
SpanRef
Span Low
Span High

peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

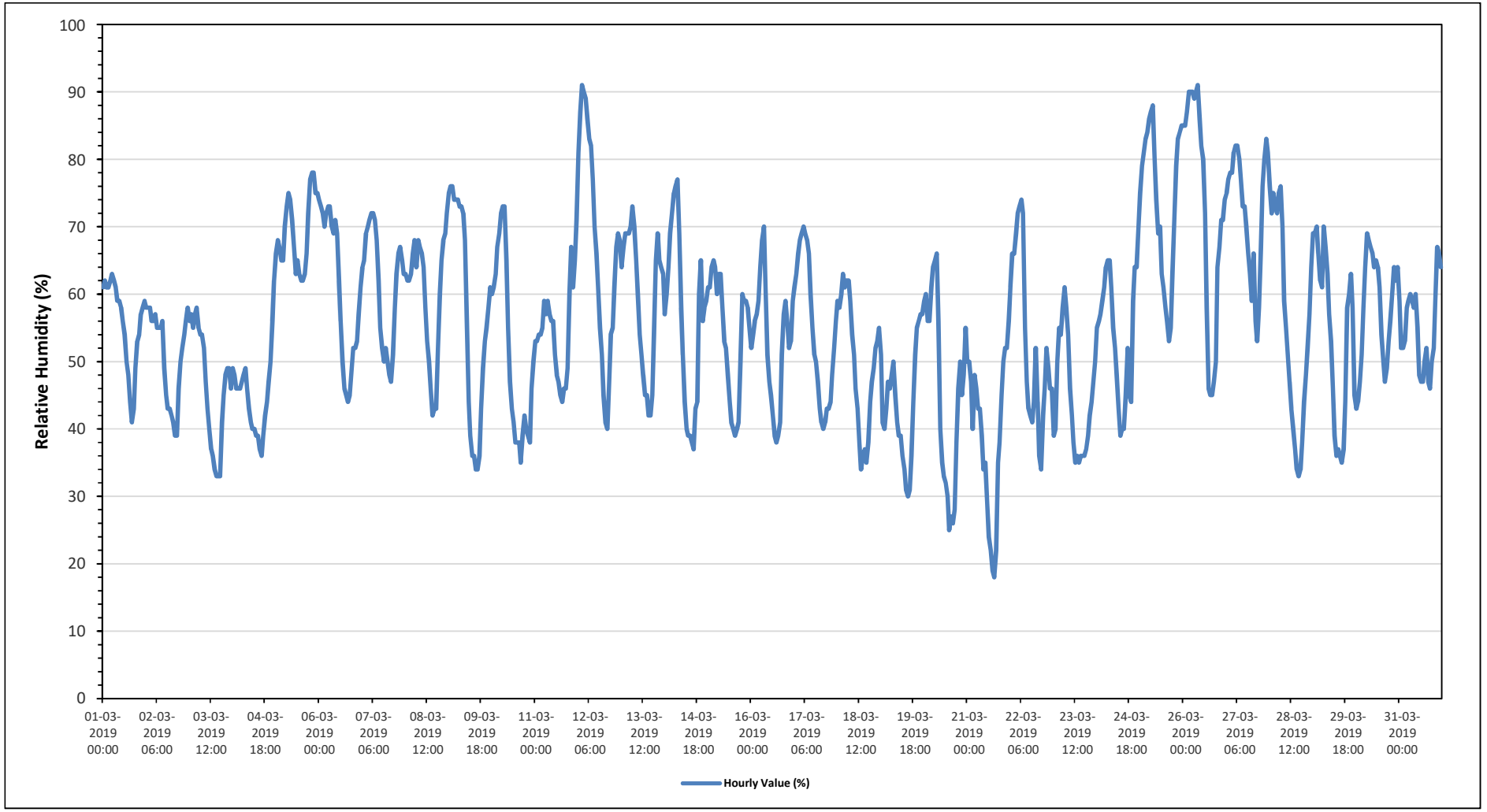
Maximum Hourly Value:	91	%	on March 12 at hour 2	Hours in Service:	744
Maximum Daily Value:	73.6	%	on March 25	Hours of Data:	744
Minimum Hourly Value:	18	%	on March 21 at hour 15	Hours of Missing Data:	0
Minimum Daily Value:	39.0	%	on March 21	Hours of Calibration:	0
Monthly Average:	55.7	%		Operational 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
Mar 1	61	62	61	61	62	63	62	61	59	59	58	56	54	50	48	44	41	43	49	53	54	57	58	59	41	63	56
Mar 2	58	58	58	56	56	57	55	55	55	56	49	45	43	43	42	41	39	39	46	50	52	54	56	58	39	58	51
Mar 3	56	57	55	57	58	55	54	54	52	47	43	40	37	36	34	33	33	33	41	45	48	49	49	46	33	58	46
Mar 4	49	48	46	46	46	47	48	49	46	43	41	40	40	39	39	37	36	39	42	44	47	50	56	62	36	62	45
Mar 5	66	68	67	65	65	70	73	75	74	71	67	63	65	63	62	62	63	66	72	77	78	78	75	75	62	78	69
Mar 6	74	73	72	70	72	73	73	70	69	71	69	62	56	50	46	45	44	45	49	52	52	53	57	61	44	74	61
Mar 7	64	65	69	70	71	72	72	71	68	62	55	52	50	52	50	48	47	51	58	63	66	67	65	63	47	72	61
Mar 8	63	62	62	63	66	68	64	68	67	66	64	58	53	50	46	42	43	43	52	60	65	68	69	72	42	72	60
Mar 9	75	76	76	74	74	74	73	73	72	68	56	44	39	36	36	34	34	36	43	49	53	55	58	61	34	76	57
Mar 10	60	61	63	67	69	72	73	73	65	55	47	43	41	38	38	38	35	39	42	40	39	38	46	50	35	73	51
Mar 11	53	53	54	54	55	59	57	59	57	56	56	51	48	47	45	44	46	46	49	60	67	61	65	71	44	71	55
Mar 12	81	87	**91**	90	89	86	83	82	77	70	66	61	55	51	45	41	40	46	54	55	61	67	69	68	40	**91**	67
Mar 13	64	67	69	69	69	70	73	70	65	60	54	51	48	45	45	42	42	45	54	65	69	65	64	63	42	73	60
Mar 14	57	60	64	69	72	75	76	77	69	58	51	44	40	39	39	38	37	43	44	60	65	56	58	59	37	77	56
Mar 15	61	61	64	65	64	60	63	63	58	53	52	48	44	41	40	39	40	41	50	60	59	59	58	55	39	65	54
Mar 16	52	54	56	57	59	64	68	70	61	51	47	45	42	39	38	39	41	51	57	59	56	52	53	59	38	70	53
Mar 17	61	63	66	68	69	70	69	68	66	60	55	51	50	47	43	41	40	41	43	43	44	48	52	56	40	70	55
Mar 18	59	58	60	63	61	62	62	59	54	51	46	43	38	34	36	37	35	38	44	47	49	52	53	55	34	63	50
Mar 19	51	41	40	43	47	46	48	50	45	41	39	39	36	34	31	30	31	36	44	51	55	56	57	57	30	57	44
Mar 20	59	60	56	56	61	64	65	66	56	40	35	33	32	30	25	27	26	28	38	46	50	45	48	55	25	66	46
Mar 21	50	50	47	40	48	46	43	43	39	34	35	29	24	22	19	**18**	22	35	38	45	50	52	52	56	**18**	56	39
Mar 22	61	66	66	69	72	73	74	72	55	47	43	42	41	44	52	44	36	34	42	46	52	49	46	46	34	74	53
Mar 23	39	40	50	55	54	58	61	58	54	46	42	38	35	36	35	36	36	36	37	39	42	44	47	50	35	61	45
Mar 24	55	56	57	59	61	64	65	65	61	55	52	48	43	39	40	40	45	52	45	44	59	64	64	70	39	70	54
Mar 25	75	79	81	83	84	86	87	88	80	74	69	70	63	61	58	56	53	55	63	71	79	83	84	85	53	88	**74**
Mar 26	85	85	87	90	90	90	89	90	**91**	86	82	80	72	58	46	45	45	47	50	64	67	71	71	74	45	**91**	73
Mar 27	75	77	78	78	81	82	82	80	77	73	73	70	66	63	59	66	56	53	58	67	76	80	83	81	53	83	72
Mar 28	76	72	75	73	72	75	76	70	59	55	51	47	43	40	37	34	33	34	38	44	48	52	57	64	33	76	55
Mar 29	69	69	70	66	62	61	70	67	63	57	53	46	39	36	37	36	35	37	44	58	60	63	58	45	35	70	54
Mar 30	43	44	47	51	58	64	69	68	67	66	64	65	64	61	54	50	47	49	53	56	60	64	62	64	43	69	58
Mar 31	59	52	52	53	58	59	60	59	58	60	55	48	47	47	50	52	47	46	50	52	59	67	66	64	46	67	55
Diurnal Maximum	85	87	91	90	90	90	89	90	91	86	82	80	72	63	62	66	63	66	72	77	79	83	84	85			
Daiurnal Average	61.6	62.1	63.2	63.9	65.3	66.6	67.3	66.9	62.5	57.8	53.8	50.1	46.7	44.2	42.4	41.3	40.3	42.8	48.0	53.7	57.5	58.7	59.9	61.4			

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 RH - Reno Site



PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

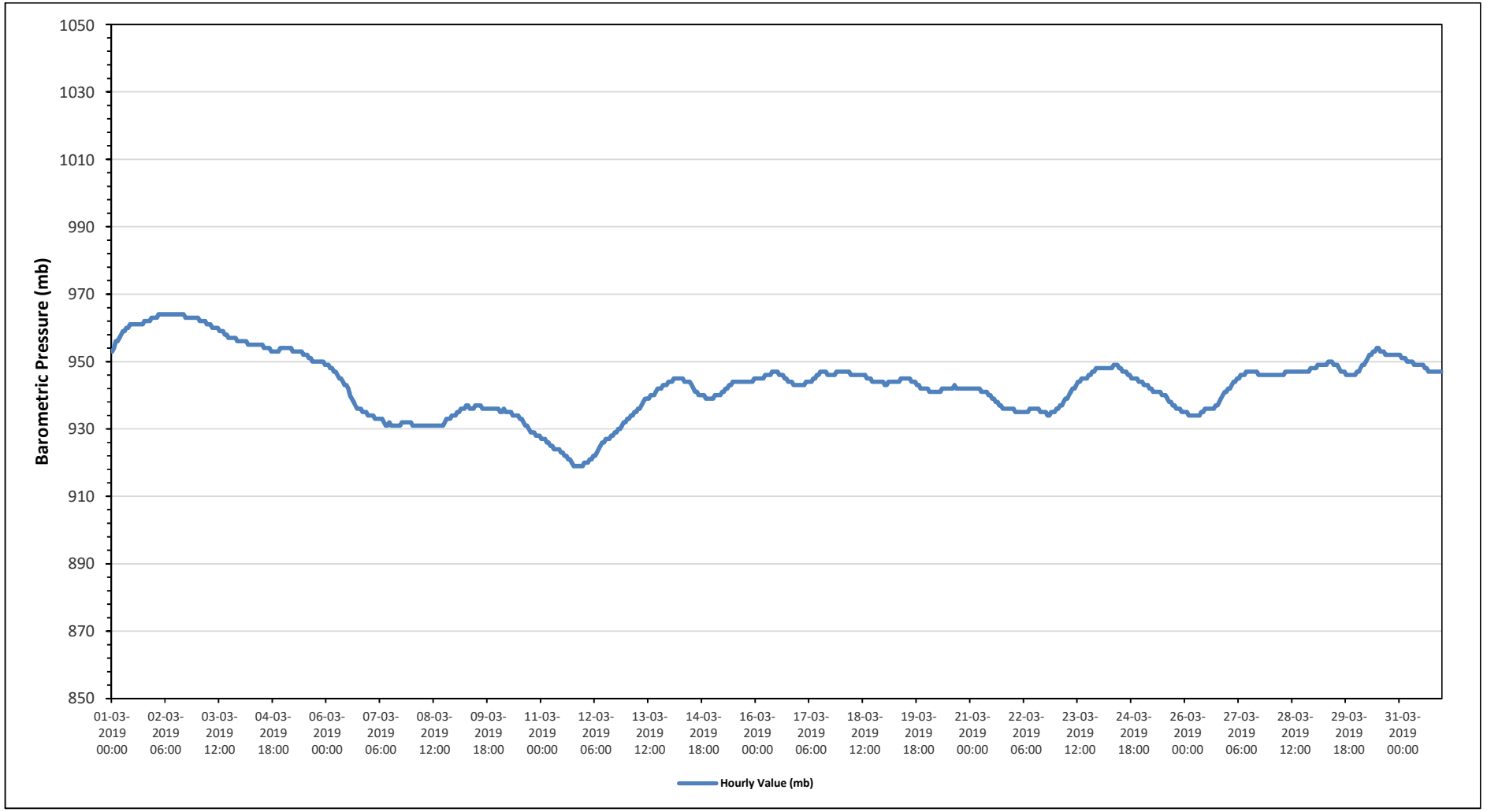
Maximum Hourly Value:	964	mb	on March 2 at hour 2	Hours in Service:	744
Maximum Daily Value:	964	mb	on March 2	Hours of Data:	744
Minimum Hourly Value:	919	mb	on March 11 at hour 18	Hours of Missing Data:	0
Minimum Daily Value:	923	mb	on March 11	Hours of Calibration:	0
Monthly Average:	943	mb		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Mar 1	953	954	956	956	957	958	959	959	960	960	961	961	961	961	961	961	961	961	962	962	962	962	963	963	953	963	960
Mar 2	963	963	**964**	**964**	**964**	**964**	**964**	**964**	**964**	**964**	**964**	**964**	**964**	**964**	**964**	**964**	**964**	963	963	963	963	963	963	963	963	**964**	**964**
Mar 3	963	962	962	962	962	961	961	961	960	960	960	960	959	959	959	958	958	957	957	957	957	957	956	956	956	963	959
Mar 4	956	956	956	956	955	955	955	955	955	955	955	955	955	954	954	954	954	953	953	953	953	953	954	954	953	956	955
Mar 5	954	954	954	954	954	953	953	953	953	953	953	952	952	952	951	951	950	950	950	950	950	950	950	949	949	954	952
Mar 6	949	949	948	948	947	947	946	945	945	944	943	943	942	940	939	938	937	936	936	936	935	935	935	934	934	949	942
Mar 7	934	934	934	933	933	933	933	933	932	931	931	932	931	931	931	931	931	931	932	932	932	932	932	932	931	934	932
Mar 8	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	932	933	933	933	934	934	931	934	932
Mar 9	934	935	935	936	936	936	937	937	936	936	936	937	937	937	937	936	936	936	936	936	936	936	936	936	934	937	936
Mar 10	936	935	935	936	935	935	935	935	934	934	934	934	933	933	932	931	931	930	929	929	929	928	928	928	928	936	932
Mar 11	927	927	927	926	926	925	925	924	924	924	924	923	923	922	922	921	921	920	**919**	**919**	**919**	**919**	**919**	**919**	**919**	927	923
Mar 12	920	920	920	921	921	922	922	923	924	925	926	926	927	927	927	928	928	929	929	930	930	931	932	932	920	932	926
Mar 13	933	933	934	934	935	935	936	936	937	938	939	939	939	940	940	940	941	942	942	942	943	943	943	944	933	944	939
Mar 14	944	944	945	945	945	945	945	945	944	944	944	944	943	942	941	941	940	940	940	940	939	939	939	939	939	945	942
Mar 15	939	940	940	940	940	941	941	942	942	943	943	944	944	944	944	944	944	944	944	944	944	944	944	945	939	945	943
Mar 16	945	945	945	945	945	946	946	946	946	947	947	947	947	946	946	946	945	945	944	944	944	943	943	943	943	947	945
Mar 17	943	943	943	943	944	944	944	944	945	945	946	946	947	947	947	947	946	946	946	946	946	947	947	947	943	947	945
Mar 18	947	947	947	947	947	946	946	946	946	946	946	946	946	946	945	945	945	944	944	944	944	944	944	944	944	947	946
Mar 19	943	943	944	944	944	944	944	944	944	945	945	945	945	945	945	944	944	944	943	943	942	942	942	942	942	945	944
Mar 20	942	941	941	941	941	941	941	941	942	942	942	942	942	942	942	943	942	942	942	942	942	942	942	942	941	943	942
Mar 21	942	942	942	942	942	942	941	941	941	941	940	940	939	939	938	938	937	937	936	936	936	936	936	936	936	942	939
Mar 22	936	935	935	935	935	935	935	935	935	936	936	936	936	936	936	935	935	935	935	934	934	935	935	935	934	936	935
Mar 23	936	936	937	937	938	939	939	940	941	942	942	943	944	944	945	945	945	945	946	946	947	947	948	948	936	948	943
Mar 24	948	948	948	948	948	948	948	948	949	949	949	948	948	947	947	947	946	946	945	945	945	945	944	944	944	949	947
Mar 25	944	943	943	943	942	942	941	941	941	941	941	940	940	940	939	938	938	937	937	936	936	936	935	935	935	944	940
Mar 26	935	935	934	934	934	934	934	934	934	935	935	936	936	936	936	936	936	937	937	938	939	940	941	941	934	941	936
Mar 27	942	942	943	944	944	945	945	946	946	946	947	947	947	947	947	947	947	946	946	946	946	946	946	946	942	947	946
Mar 28	946	946	946	946	946	946	946	946	947	947	947	947	947	947	947	947	947	947	947	947	947	947	948	948	946	948	947
Mar 29	948	948	949	949	949	949	949	949	950	950	950	949	949	949	948	947	947	947	946	946	946	946	946	946	946	950	948
Mar 30	947	947	948	949	949	950	951	952	952	953	953	954	954	953	953	953	952	952	952	952	952	952	952	952	947	954	951
Mar 31	952	951	951	951	950	950	950	950	949	949	949	949	949	949	948	948	947	947	947	947	947	947	947	947	947	952	949
Diurnal Maximum	963	963	964	964	964	964	964	964	964	964	964	964	964	964	964	964	964	963	963	963	963	963	963	963			
Daiurnal Average	943	943	943	943	943	943	943	943	944	944	944	944	944	944	943	943	943	943	942	943	943	943	943	943			

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

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

Timeseries Chart of Hourly Average for BP - Reno Site



PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

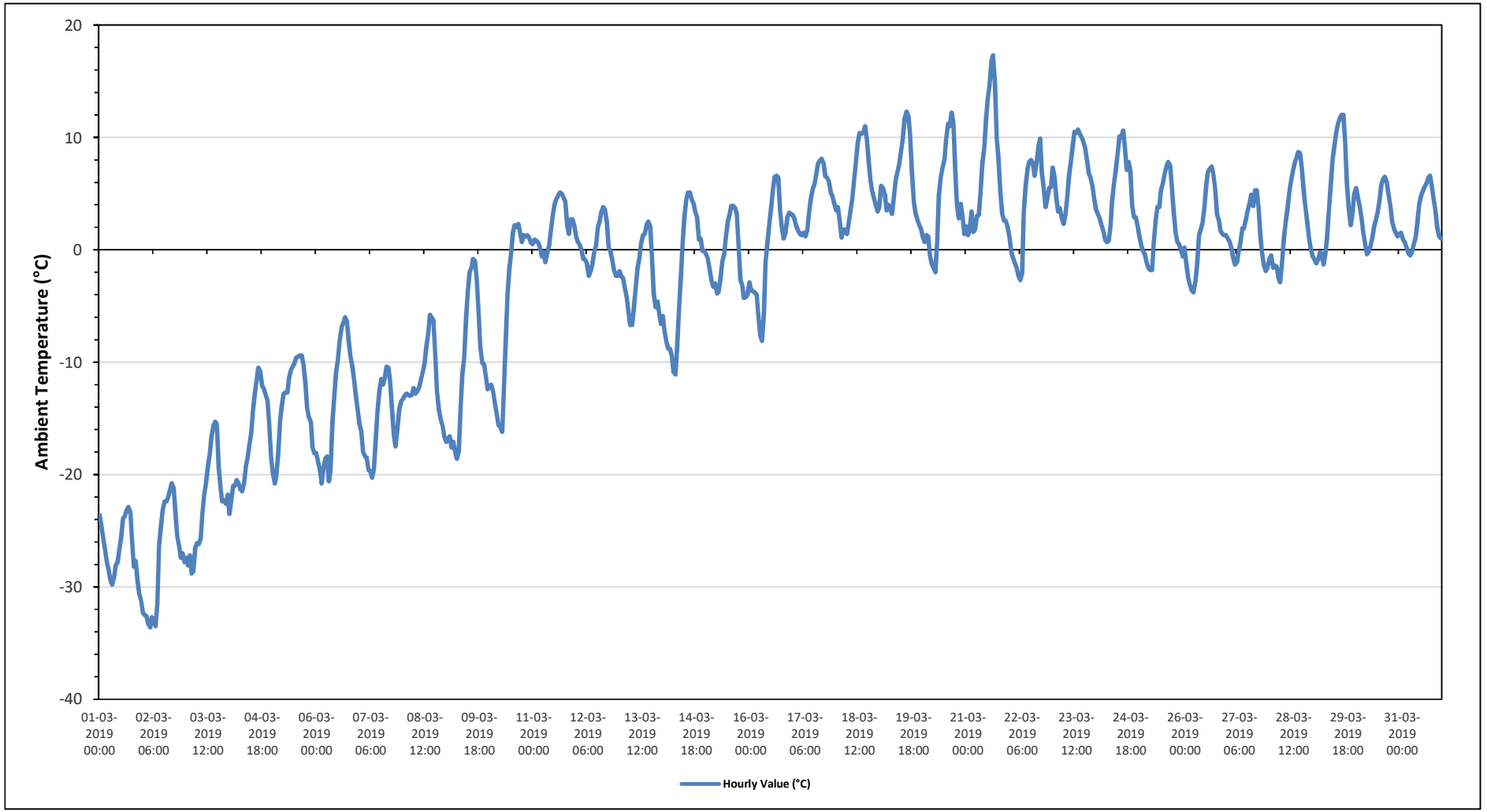
Maximum Hourly Value:	17.3	°C	on March 21 at hour 15	Hours in Service:	744
Maximum Daily Value:	6.8	°C	on March 23	Hours of Data:	744
Minimum Hourly Value:	-33.6	°C	on March 2 at hour 4	Hours of Missing Data:	0
Minimum Daily Value:	-27.4	°C	on March 2	Hours of Calibration:	0
Monthly Average:	-3.4	°C		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
Mar 1	-23.6	-24.5	-25.6	-26.6	-27.8	-28.5	-29.4	-29.8	-29.1	-28.1	-27.8	-26.6	-25.6	-23.9	-23.7	-23.2	-22.9	-23.3	-25.9	-28.2	-27.7	-29.4	-30.6	-31.2	-31.2	-22.9	-26.8
Mar 2	-32.3	-32.5	-32.6	-33.3	**-33.6**	-32.7	-33.1	-33.5	-31.6	-26.3	-24.6	-23.2	-22.4	-22.4	-22.0	-21.4	-20.8	-21.2	-23.3	-25.5	-26.3	-27.4	-27.0	-27.8	**-33.6**	-20.8	-27.4
Mar 3	-27.4	-28.1	-27.2	-28.8	-28.6	-26.5	-26.1	-26.2	-25.7	-23.4	-21.8	-20.8	-19.3	-18.2	-16.7	-15.7	-15.3	-15.5	-19.4	-21.2	-22.4	-22.3	-22.6	-21.8	-28.8	-15.3	-22.5
Mar 4	-23.5	-22.2	-21.0	-21.0	-20.5	-20.8	-21.3	-21.5	-20.8	-19.3	-18.5	-17.4	-16.2	-14.4	-12.8	-11.6	-10.5	-10.8	-12.1	-12.4	-12.9	-13.4	-15.6	-18.4	-23.5	-10.5	-17.0
Mar 5	-19.9	-20.8	-20.1	-18.1	-15.2	-13.9	-12.8	-12.7	-12.7	-11.4	-10.7	-10.4	-10.1	-9.6	-9.5	-9.4	-9.4	-10.3	-11.9	-14.1	-14.9	-15.3	-17.6	-18.1	-20.8	-9.4	-13.7
Mar 6	-18.1	-18.8	-19.5	-20.8	-19.4	-18.6	-18.4	-20.6	-19.6	-15.3	-13.0	-11.0	-9.8	-8.1	-6.9	-6.5	-6.0	-6.4	-8.0	-9.5	-10.4	-11.5	-13.0	-14.3	-20.8	-6.0	-13.5
Mar 7	-15.5	-16.2	-18.0	-18.4	-18.5	-19.6	-19.7	-20.3	-19.5	-16.8	-14.4	-12.6	-11.5	-12.0	-11.4	-10.4	-10.5	-11.7	-14.1	-16.5	-17.5	-16.0	-14.2	-13.5	-20.3	-10.4	-15.4
Mar 8	-13.3	-13.0	-12.8	-12.9	-13.0	-12.9	-12.3	-12.8	-12.6	-12.2	-11.6	-10.9	-10.1	-8.7	-7.5	-5.8	-6.0	-6.3	-9.7	-12.6	-14.2	-15.1	-15.7	-16.6	-16.6	-5.8	-11.6
Mar 9	-17.1	-16.8	-16.6	-17.6	-17.1	-18.0	-18.6	-17.9	-13.9	-11.1	-9.6	-6.1	-3.8	-2.0	-1.6	-0.8	-1.0	-2.7	-6.0	-8.7	-10.1	-10.2	-11.3	-12.4	-18.6	-0.8	-10.5
Mar 10	-12.2	-12.0	-12.6	-13.7	-14.6	-15.6	-15.8	-16.2	-12.7	-8.2	-3.9	-1.8	-0.3	1.6	2.2	2.0	2.3	1.5	0.7	1.3	1.2	1.3	1.1	0.6	-16.2	2.3	-5.2
Mar 11	0.5	0.9	0.8	0.6	0.2	-0.6	-0.2	-1.1	-0.3	0.4	1.6	3.0	4.0	4.5	4.8	5.1	5.0	4.7	4.3	2.2	1.4	2.7	2.7	2.1	-1.1	5.1	2.1
Mar 12	1.2	0.7	0.4	0.0	-0.8	-0.9	-1.2	-2.3	-1.9	-1.3	-0.3	0.4	2.0	2.5	3.4	3.8	3.6	2.5	0.2	-0.1	-0.9	-1.8	-2.3	-2.3	-2.3	3.8	0.2
Mar 13	-1.9	-2.4	-2.5	-3.4	-4.3	-5.5	-6.7	-6.7	-5.0	-3.4	-1.6	-0.7	0.5	1.3	1.4	2.2	2.5	2.1	-0.8	-3.9	-5.1	-4.6	-5.6	-6.6	-6.7	2.5	-2.5
Mar 14	-5.9	-7.2	-8.2	-8.8	-8.8	-9.4	-10.9	-11.1	-8.6	-5.2	-2.3	0.5	3.0	4.5	5.1	5.1	4.5	4.1	3.4	2.9	0.9	1.0	-0.1	-0.1	-11.1	5.1	-2.2
Mar 15	-0.4	-0.8	-1.8	-2.8	-3.3	-3.0	-3.9	-3.7	-2.5	-1.0	-0.4	1.2	2.5	3.2	3.9	3.9	3.7	3.2	0.4	-2.7	-3.1	-4.3	-4.2	-4.0	-4.3	3.9	-0.8
Mar 16	-2.9	-3.6	-3.7	-3.8	-4.0	-6.0	-7.6	-8.1	-5.6	-1.1	0.6	2.3	3.8	5.3	6.5	6.6	6.4	3.4	1.9	1.0	1.5	2.9	3.3	3.2	-8.1	6.6	0.1
Mar 17	3.1	2.7	2.1	1.7	1.4	1.3	1.5	1.2	1.8	3.2	4.5	5.4	5.8	6.7	7.7	7.9	8.1	7.7	6.6	6.4	6.1	5.1	4.8	4.1	1.2	8.1	4.5
Mar 18	3.5	3.8	2.6	1.1	1.8	1.8	1.4	2.4	3.5	4.5	6.4	7.7	9.5	10.4	10.3	10.4	11.0	9.8	8.0	6.2	5.2	4.6	4.0	3.4	1.1	11.0	5.6
Mar 19	3.8	5.7	5.5	4.9	3.5	4.0	3.6	3.2	4.7	6.2	6.9	7.6	8.9	9.8	11.7	12.3	11.9	10.3	6.9	4.3	3.3	2.7	2.2	1.9	1.9	12.3	6.1
Mar 20	1.2	0.7	1.3	1.2	-0.5	-1.3	-1.6	-2.0	0.9	4.9	6.5	7.3	8.1	9.8	11.2	11.0	12.2	11.3	7.0	4.0	2.8	4.1	3.0	1.4	-2.0	12.2	4.4
Mar 21	2.1	1.3	1.8	3.4	1.6	1.8	3.0	3.1	4.9	7.6	9.0	11.6	13.4	14.6	16.8	**17.3**	14.9	9.9	8.2	5.2	3.2	2.6	2.6	2.0	1.3	**17.3**	6.7
Mar 22	1.2	-0.1	-0.7	-1.2	-1.6	-2.3	-2.7	-2.1	3.3	5.7	7.2	7.8	8.0	7.7	6.6	7.6	9.2	9.9	6.9	5.5	3.8	4.5	5.5	5.6	-2.7	9.9	4.0
Mar 23	7.3	6.5	4.5	3.4	3.7	2.8	2.3	3.1	4.6	6.6	7.7	9.1	10.5	10.4	10.7	10.3	10.0	9.6	9.0	7.9	6.8	6.4	5.6	4.6	2.3	10.7	**6.8**
Mar 24	3.6	3.2	2.8	2.2	1.7	0.9	0.7	0.8	2.1	4.4	5.9	7.2	8.7	10.1	10.0	10.6	9.1	7.1	7.8	7.1	3.9	2.9	2.9	2.2	0.7	10.6	4.9
Mar 25	1.2	0.4	-0.1	-0.4	-1.1	-1.6	-1.8	-1.8	0.5	2.6	3.8	3.8	5.3	5.9	6.8	7.4	7.8	7.5	5.7	3.4	1.6	0.7	0.5	0.0	-1.8	7.8	2.4
Mar 26	-0.6	0.2	-1.2	-2.5	-3.1	-3.6	-3.8	-2.8	-1.3	1.3	1.8	2.4	3.7	5.7	6.9	7.2	7.4	6.8	5.4	3.2	2.6	1.7	1.4	1.3	-3.8	7.4	1.7
Mar 27	1.3	1.0	0.7	0.2	-0.7	-1.3	-1.1	-0.2	0.6	1.9	1.9	2.7	3.5	4.1	4.9	3.9	5.3	5.3	3.8	1.2	-0.3	-1.4	-1.9	-1.6	-1.9	5.3	1.4
Mar 28	-0.8	-0.5	-1.6	-1.4	-1.5	-2.5	-2.9	-1.2	1.0	2.3	3.6	5.1	6.0	7.0	7.7	8.2	8.7	8.6	7.2	5.4	3.8	2.4	1.1	0.1	-2.9	8.7	2.7
Mar 29	-0.6	-0.9	-1.2	-0.9	-0.2	-0.3	-1.3	-0.4	1.0	3.5	5.8	8.1	9.2	10.4	11.2	11.7	12.0	12.0	9.8	5.9	3.6	2.2	3.1	5.0	-1.3	12.0	4.5
Mar 30	5.5	4.8	3.9	2.9	1.6	0.6	-0.4	-0.2	0.3	1.0	2.1	2.6	3.3	4.4	5.7	6.3	6.5	6.1	5.0	3.9	2.5	1.9	1.5	1.2	-0.4	6.5	3.0
Mar 31	1.4	1.5	0.9	0.7	0.2	-0.3	-0.5	-0.2	0.5	1.1	2.3	4.0	4.8	5.2	5.6	5.9	6.4	6.6	5.7	4.4	3.6	2.0	1.2	1.0	-0.5	6.6	2.7
Diurnal Maximum	7.3	6.5	5.5	4.9	3.7	4.0	3.6	3.2	4.9	7.6	9.0	11.6	13.4	14.6	16.8	17.3	14.9	12.0	9.8	7.9	6.8	6.4	5.6	5.6			
Daiurnal Average	-5.8	-6.0	-6.4	-6.9	-7.2	-7.5	-7.8	-7.8	-6.2	-4.1	-2.7	-1.3	-0.1	0.8	1.6	2.0	2.1	1.3	-0.6	-2.4	-3.5	-3.9	-4.4	-4.8			

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

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

Timeseries Chart of Hourly Average for AT - Reno Site



PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

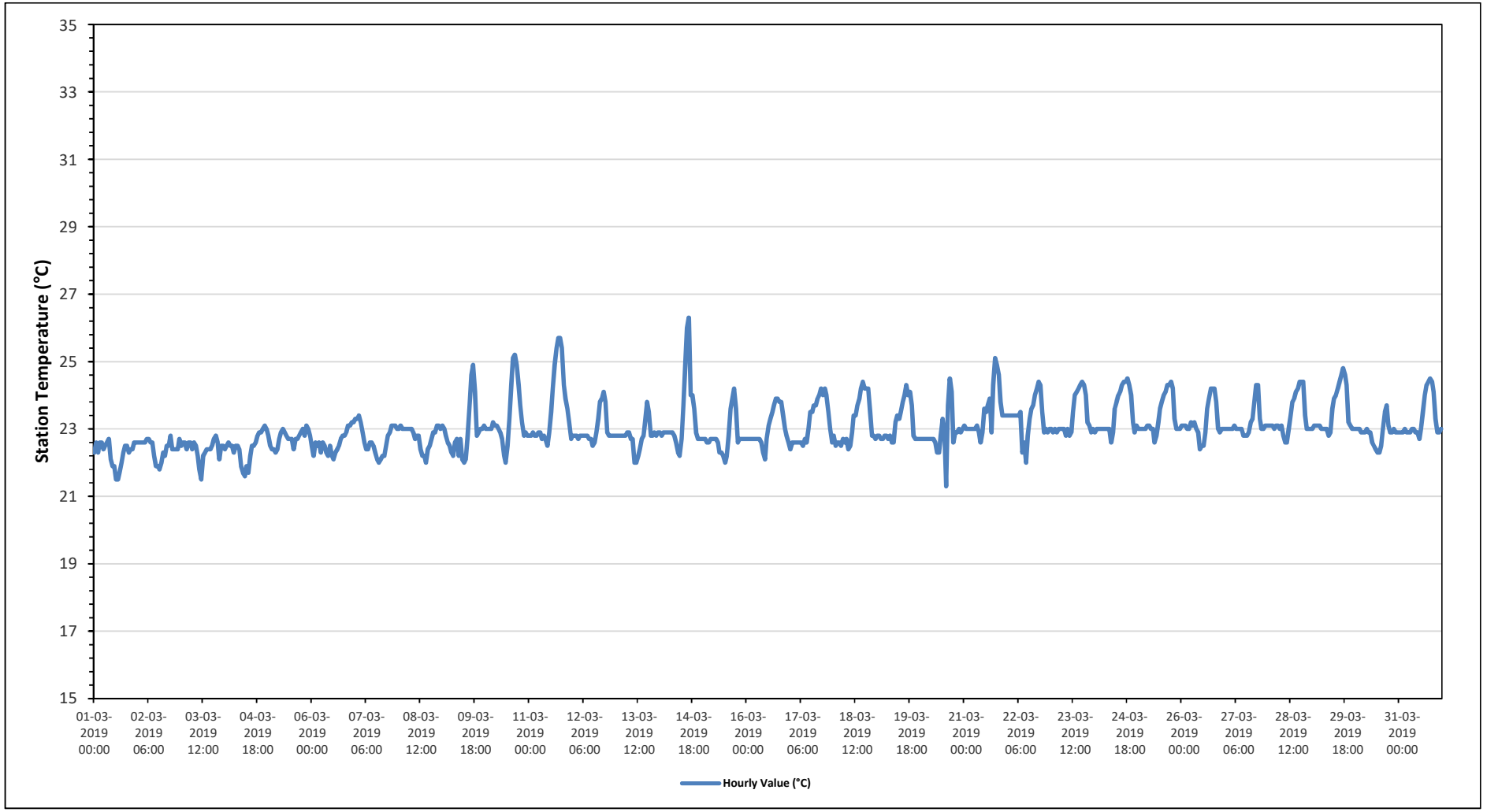
Maximum Hourly Value:	26.3	°C	on March 14 at hour 16	Hours in Service:	744
Maximum Daily Value:	23.6	°C	on March 11	Hours of Data:	744
Minimum Hourly Value:	21.3	°C	on March 20 at hour 14	Hours of Missing Data:	0
Minimum Daily Value:	22.3	°C	on March 1	Hours of Calibration:	0
Monthly Average:	23.0	°C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Mar 1	22.3	22.6	22.3	22.6	22.6	22.4	22.5	22.6	22.7	22.1	21.9	21.9	21.5	21.5	21.7	22.0	22.3	22.5	22.5	22.3	22.4	22.4	22.6	22.6	21.5	22.7	22.3
Mar 2	22.6	22.6	22.6	22.6	22.6	22.7	22.7	22.6	22.6	22.2	21.9	21.9	21.8	22.0	22.3	22.2	22.5	22.5	22.8	22.4	22.4	22.4	22.4	22.7	21.8	22.8	22.4
Mar 3	22.5	22.6	22.6	22.4	22.6	22.6	22.4	22.6	22.5	22.2	21.8	21.5	22.2	22.3	22.4	22.4	22.4	22.5	22.7	22.8	22.6	22.1	22.5	22.5	21.5	22.8	22.4
Mar 4	22.4	22.5	22.6	22.5	22.5	22.3	22.5	22.5	22.4	21.9	21.7	21.6	21.9	21.7	22.2	22.5	22.5	22.6	22.8	22.9	22.9	23.0	23.1	23.0	21.6	23.1	22.4
Mar 5	22.8	22.5	22.4	22.4	22.3	22.4	22.7	22.9	23.0	22.9	22.8	22.7	22.7	22.7	22.4	22.7	22.7	22.8	22.9	23.0	22.8	23.1	23.0	22.8	22.3	23.1	22.7
Mar 6	22.5	22.2	22.6	22.5	22.6	22.3	22.6	22.5	22.3	22.2	22.5	22.2	22.1	22.3	22.4	22.5	22.7	22.8	22.8	22.9	23.1	23.1	23.2	23.2	22.1	23.2	22.6
Mar 7	23.3	23.3	23.4	23.2	22.9	22.6	22.4	22.4	22.6	22.6	22.5	22.3	22.1	22.0	22.1	22.2	22.2	22.5	22.8	22.9	23.1	23.1	23.1	23.0	22.0	23.4	22.7
Mar 8	23.0	23.1	23.0	23.0	23.0	23.0	23.0	23.0	22.9	22.7	22.8	22.8	22.4	22.2	22.2	22.0	22.4	22.5	22.7	22.9	22.9	23.1	23.1	23.0	22.0	23.1	22.8
Mar 9	23.1	23.0	22.8	22.6	22.5	22.3	22.2	22.6	22.7	22.2	22.7	22.1	22.0	22.1	22.8	23.7	24.6	24.9	24.1	22.8	22.9	23.0	23.0	23.1	22.0	24.9	22.9
Mar 10	23.0	23.0	23.0	23.0	23.2	23.1	23.1	23.0	22.9	22.7	22.2	22.0	22.5	23.3	24.3	25.1	25.2	24.9	24.3	23.7	23.2	22.8	22.9	22.8	22.0	25.2	23.3
Mar 11	22.8	22.8	22.9	22.8	22.8	22.9	22.9	22.7	22.8	22.7	22.5	22.9	23.5	24.2	24.9	25.4	25.7	25.7	25.4	24.3	23.9	23.6	23.2	22.7	22.5	25.7	**23.6**
Mar 12	22.8	22.8	22.8	22.7	22.8	22.8	22.8	22.8	22.8	22.7	22.7	22.5	22.6	22.9	23.3	23.8	23.9	24.1	23.8	22.9	22.8	22.8	22.8	22.8	22.5	24.1	23.0
Mar 13	22.8	22.8	22.8	22.8	22.8	22.8	22.9	22.9	22.7	22.7	22.0	22.0	22.2	22.4	22.7	22.8	23.3	23.8	23.5	22.8	22.8	22.9	22.8	22.9	22.0	23.8	22.8
Mar 14	22.9	22.8	22.9	22.9	22.9	22.9	22.9	22.9	22.8	22.6	22.3	22.2	22.7	23.7	24.9	26.0	**26.3**	24.0	24.0	23.6	22.9	22.7	22.7	22.7	22.2	**26.3**	23.3
Mar 15	22.7	22.7	22.6	22.6	22.7	22.7	22.7	22.7	22.6	22.3	22.3	22.2	22.0	22.2	22.8	23.6	23.9	24.2	23.6	22.6	22.7	22.7	22.7	22.7	22.0	24.2	22.8
Mar 16	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.6	22.3	22.1	22.7	23.1	23.3	23.5	23.7	23.9	23.9	23.8	23.8	23.4	23.0	22.8	22.6	22.1	23.9	23.0
Mar 17	22.4	22.6	22.6	22.6	22.6	22.6	22.6	22.5	22.7	22.6	23.0	23.5	23.5	23.7	23.7	23.9	24.0	24.2	24.0	24.2	24.0	23.5	23.0	22.6	22.4	24.2	23.2
Mar 18	22.8	22.5	22.6	22.6	22.5	22.7	22.6	22.7	22.4	22.5	22.9	23.4	23.4	23.7	23.9	24.2	24.4	24.2	24.2	24.2	23.5	22.8	22.8	22.7	22.4	24.4	23.2
Mar 19	22.8	22.8	22.7	22.7	22.8	22.8	22.7	22.8	22.6	22.6	23.2	23.4	23.3	23.5	23.8	24.0	24.3	24.0	24.1	23.7	22.8	22.7	22.7	22.7	22.6	24.3	23.1
Mar 20	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.6	22.3	22.3	22.8	23.3	22.9	**21.3**	23.7	24.5	24.1	22.6	22.9	22.9	23.0	22.9	23.0	**21.3**	24.5	22.9
Mar 21	23.1	23.0	23.0	23.0	23.0	23.0	23.0	23.1	22.9	22.6	22.9	23.6	23.5	23.7	23.9	22.9	24.3	25.1	24.9	24.6	23.8	23.4	23.4	23.4	22.6	25.1	23.5
Mar 22	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.5	22.3	22.6	22.0	22.8	23.3	23.6	23.7	24.0	24.2	24.4	24.3	23.5	22.9	23.0	22.9	23.0	22.0	24.4	23.3
Mar 23	23.0	22.9	23.0	22.9	23.0	23.0	23.0	23.0	22.8	23.0	22.8	22.9	23.5	24.0	24.1	24.2	24.3	24.4	24.3	24.0	23.2	23.1	22.9	23.0	22.8	24.4	23.3
Mar 24	22.9	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	22.6	22.9	23.6	23.8	24.0	24.1	24.3	24.4	24.4	24.5	24.3	24.0	23.2	22.9	23.1	22.6	24.5	23.5
Mar 25	23.0	23.0	23.0	23.0	23.0	23.1	23.1	23.0	23.0	22.6	22.8	23.2	23.6	23.8	24.0	24.1	24.3	24.3	24.4	24.2	23.3	23.0	23.0	23.0	22.6	24.4	23.4
Mar 26	23.1	23.1	23.1	23.0	23.0	23.2	23.1	23.2	23.0	22.9	22.4	22.5	22.5	22.9	23.6	23.9	24.2	24.2	24.2	23.8	23.0	22.9	23.0	23.0	22.4	24.2	23.2
Mar 27	23.0	23.0	23.0	23.0	23.0	23.1	23.0	23.0	23.0	23.0	22.8	22.8	22.8	22.9	23.2	23.3	23.8	24.3	24.3	23.3	23.0	23.0	23.1	23.1	22.8	24.3	23.2
Mar 28	23.1	23.1	23.1	23.0	23.1	23.1	23.0	23.1	22.8	22.6	22.6	23.0	23.4	23.8	23.9	24.1	24.2	24.4	24.4	24.4	23.4	23.0	23.0	23.0	22.6	24.4	23.4
Mar 29	23.0	23.1	23.1	23.1	23.1	23.0	23.0	23.0	23.0	22.8	22.9	23.6	23.9	24.0	24.2	24.4	24.6	24.8	24.6	24.3	23.2	23.1	23.0	23.0	22.8	24.8	23.5
Mar 30	23.0	23.0	23.0	22.9	22.9	22.9	23.0	22.9	22.9	22.6	22.5	22.4	22.3	22.3	22.5	23.0	23.5	23.7	23.1	22.9	22.9	23.0	22.9	22.9	22.3	23.7	22.9
Mar 31	22.9	22.9	22.9	23.0	22.9	22.9	22.9	23.0	23.0	22.9	22.9	22.7	23.0	23.5	24.0	24.3	24.4	24.5	24.4	24.1	23.3	22.9	22.9	23.0	22.7	24.5	23.3
Diurnal Maximum	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.5	23.0	23.0	23.2	23.6	23.9	24.2	24.9	26.0	26.3	25.7	25.4	24.6	24.0	23.6	23.4	23.4			
Daiurnal Average	22.9	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.7	22.6	22.5	22.6	22.8	23.0	23.3	23.6	23.9	23.9	23.8	23.5	23.1	22.9	22.9	22.9			

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 ST - Reno Site



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

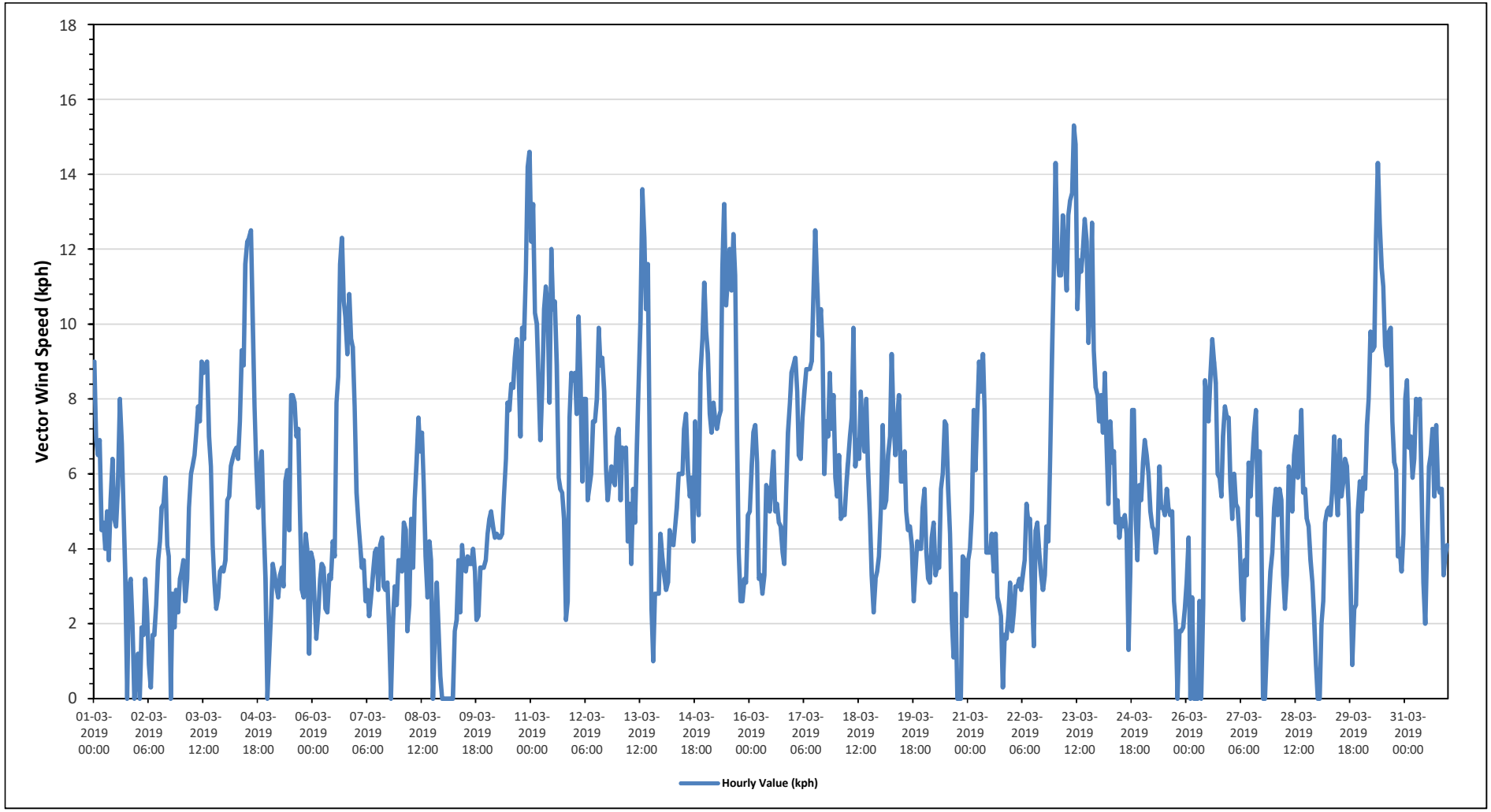
Maximum Hourly Value:	15.3	kph	on March 23 at hour 10	Hours in Service:	744
Maximum Daily Value:	11.8	kph	on March 23	Hours of Data:	717
Minimum Hourly Value:	0.3	kph	on March 2 at hour 7	Hours of Missing Data:	27
Minimum Daily Value:	2.8	kph	on March 2	Hours of Calibration:	0
Monthly Average:	2.6	kph		Operational Uptime:	96.4

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
Mar 1	9	6.9	6.5	6.9	4.5	4.7	4	5	3.7	5.3	6.4	4.8	4.6	5.7	8	6.8	5.2	3.3	X	3	3.2	2	X	0.6	0.6	9.0	5.0
Mar 2	1.2	X	1.9	1.7	3.2	2.3	0.9	**0.3**	1.7	1.7	2.5	3.7	4.2	5.1	5.2	5.9	4.1	3.8	X	2.8	1.9	2.9	2.3	3.2	**0.3**	5.9	**2.8**
Mar 3	3.4	3.7	2.6	3.2	5.1	6	6.2	6.5	7.1	7.8	7.4	9	8.7	8.9	9	7	6.2	4.1	3.1	2.4	2.7	3.4	3.5	3.4	2.4	9.0	5.4
Mar 4	3.7	5.3	5.4	6.2	6.4	6.6	6.7	6.4	7.4	9.3	8.9	11.6	12.2	12.3	12.5	10.2	7.8	6.2	5.1	6.2	6.6	4.7	3.2	X	3.2	12.5	7.4
Mar 5	1.1	2.2	3.6	3.3	3	2.7	3.3	3.5	3	5.8	6.1	4.5	8.1	8.1	7.9	7	7.2	5	2.9	2.7	4.4	4	1.2	3.9	1.1	8.1	4.4
Mar 6	3.7	2.6	1.6	2.3	3.2	3.6	3.5	2.4	2.3	3.3	3.2	4.2	3.8	7.9	8.6	11.6	12.3	10.6	10.2	9.2	10.8	9.6	9.4	7.8	1.6	12.3	6.2
Mar 7	5.5	4.7	4.1	3.5	3.7	2.6	2.9	2.2	2.7	3.3	3.9	4	2.9	4.1	4.3	3	2.9	3.1	1.7	X	2	3	2.5	3.7	1.7	5.5	3.3
Mar 8	3.7	3.4	4.7	4.5	1.8	2.5	4.8	3.5	5.3	6.3	7.5	6.6	7.1	5.7	3.8	2.7	4.2	3.7	X	1.6	3.1	2	0.6	X	0.6	7.5	4.1
Mar 9	X	X	X	X	X	X	1.8	2.1	3.7	2.3	4.1	3.5	3.4	3.8	3.6	3.6	4	3.4	2.1	2.2	3.5	3.5	3.5	3.7	-	-	-
Mar 10	4.4	4.8	5	4.6	4.3	4.4	4.3	4.3	4.4	5.4	6.4	7.9	7.7	8.4	8.3	9.1	9.6	8.8	7	9.9	9.6	11.4	14.2	14.6	4.3	14.6	7.5
Mar 11	12.2	13.2	10.3	10	8.5	6.9	8.3	10.4	11	10.5	7.9	12	10.4	10.6	8.9	5.9	5.6	5.5	4.8	2.1	2.6	7.5	8.7	8.5	2.1	13.2	8.4
Mar 12	8.7	7.6	10.2	8.5	5.8	8	8	5.3	5.7	6	7.4	7.4	8	9.9	8.9	9.1	8.2	6.1	5.3	5.8	6.2	5.8	5.7	7	5.3	10.2	7.3
Mar 13	7.2	5.3	6.7	6.6	6.7	4.2	5.2	3.6	5.6	4.7	6.8	8.4	10.1	13.6	12.3	10.4	11.6	6.7	2.4	1	2.8	2.8	2.8	4.4	1.0	13.6	6.3
Mar 14	3.8	3.3	2.9	3.1	4.5	4.2	4.1	4.6	5.1	6	6	6	7.2	7.6	6.1	5.4	5.9	4.2	7.4	5.7	4.9	8.7	9.6	11.1	2.9	11.1	5.7
Mar 15	9.8	9.2	7.6	7.1	7.9	7.5	7.2	7.5	7.7	11.5	13.2	10.5	11.3	12	10.9	12.4	11.3	6.9	3.9	2.6	2.6	3.2	3.1	4.9	2.6	13.2	8.0
Mar 16	5	6.2	7.1	7.3	6.3	3.2	3.3	2.8	3.3	5.7	5.6	5	5.8	6.6	5	5.2	4.7	4.6	3.9	3.6	5.5	7.1	7.9	8.7	2.8	8.7	5.4
Mar 17	8.9	9.1	8.2	6.5	6.4	7.5	8.2	8.8	8.8	8.8	9	11	12.5	11.1	9.7	10.4	9.5	6	7.4	7	8.7	7.2	8.1	5.9	5.9	12.5	8.5
Mar 18	5.4	6.5	4.8	4.9	4.9	5.6	6.3	7	7.5	9.9	6.2	6.9	6.4	8.2	7.2	6.6	8	6.2	4.9	3.3	2.3	3.2	3.4	3.8	2.3	9.9	5.8
Mar 19	5.1	7.3	5.1	5.3	6.5	7	9.2	7.4	6.5	7.5	8.1	5.8	5.8	6.6	5	4.5	4.6	4.1	2.6	3.4	4.2	4	4	5.1	2.6	9.2	5.6
Mar 20	5.6	3.9	3.2	3.1	4.3	4.7	3.3	3.5	3.5	5.6	6	7.4	7.3	5.6	4.4	2.1	1.1	2.8	X	X	X	3.8	3.7	2.2	1.1	7.4	4.1
Mar 21	3.7	4	5	7.7	6.1	7.6	9	8.2	9.2	7.7	3.9	3.9	3.9	4.4	3.4	4.4	2.7	2.5	2.2	**0.3**	1.7	1.6	2.2	3.1	**0.3**	9.2	4.5
Mar 22	1.8	2.3	3	3	3.2	2.9	3.3	3.7	5.2	4.7	4.8	3	1.4	4.5	4.7	3.9	3.3	2.9	3.3	4.6	4.2	6.4	9.2	11.3	1.4	11.3	4.2
Mar 23	14.3	11.9	11.3	11.3	12.9	11.8	10.9	12.9	13.3	13.5	**15.3**	14.8	10.4	11.7	11.4	12	12.8	12.2	9.5	10.7	12.7	9.3	8.3	8.1	8.1	**15.3**	**11.8**
Mar 24	7.4	8.1	7.1	8.7	6.9	5.2	7.4	6.3	6.6	4.7	5.3	4.3	4.8	4.6	4.9	4.4	1.3	3.4	7.7	7.7	4.8	3.7	5.7	5.3	1.3	8.7	5.7
Mar 25	6.3	6.9	6.5	6	5	4.6	4.5	3.9	4.4	6.2	5.1	5.1	4.9	5.6	5.1	4.9	5	2.6	2	X	1.8	1.8	1.9	2.4	1.8	6.9	4.5
Mar 26	3.1	4.3	X	2.7	X	X	X	2.6	X	2.5	8.5	8	7.4	8.6	9.6	9	8.4	6	5.9	5.4	7	7.8	7.5	7.5	2.5	9.6	6.4
Mar 27	5.8	4.8	6	5.2	5.1	4.3	2.9	2.1	3.7	3.3	6.3	5.4	6.4	7.1	7.7	4.9	6.6	4.8	X	X	1.5	2.4	3.4	3.9	1.5	7.7	4.7
Mar 28	5.1	5.6	4.9	5.6	5.3	3.3	2.4	3.3	6.2	5.9	5	6.5	7	5.9	6.6	7.7	5.5	5.6	4.8	4.6	3.7	3.1	2.2	0.9	0.9	7.7	4.9
Mar 29	X	X	2	2.6	4.7	5	5.1	4.9	5.6	7	5.6	4.9	6.9	5.4	5.8	6.4	6.2	5.1	3	0.9	2.4	2.5	5	5.8	0.9	7.0	4.7
Mar 30	5	5.9	5.6	7.3	8	9.8	9.3	9.4	12.3	14.3	12.7	11.5	11	9.4	8.9	9.8	9.9	7.4	6.3	6.1	3.8	4	3.4	4.4	3.4	14.3	8.1
Mar 31	8	8.5	6.7	7	5.9	6.4	8	7.6	8	5.8	3.1	2	4.2	6.2	6.5	7.2	5.4	7.3	5.7	5.5	5.6	3.3	3.8	4.1	2.0	8.5	5.9
Diurnal Maximum	14	13	11	11	13	12	11	13	13	14	15	15	13	14	13	12	13	12	10	11	13	11	14	15			
Daiurnal Average	5.8	6.0	5.5	5.5	5.5	5.3	5.5	5.2	6.0	6.5	6.7	6.8	7.0	7.6	7.2	6.9	6.5	5.3	4.8	4.5	4.6	4.7	5.0	5.5			

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.

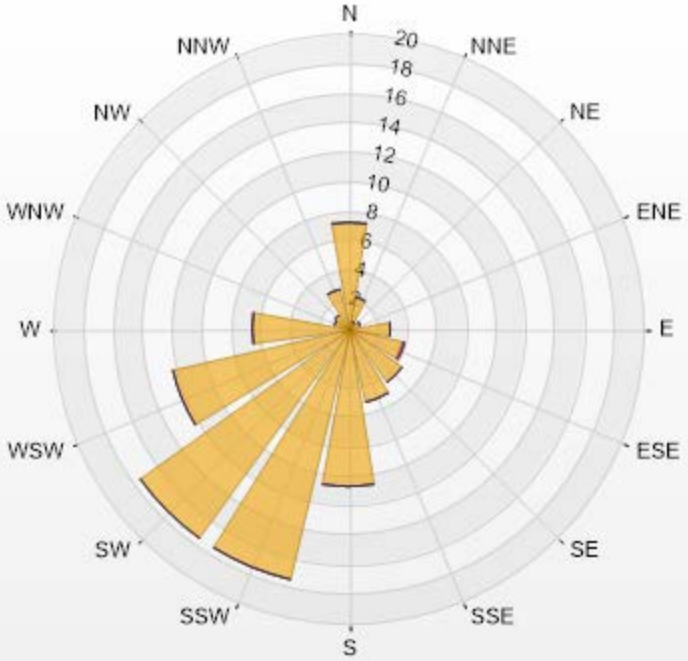
Timeseries Chart of Hourly Average for VWS - Reno Site



Wind: PRAMP RENO Poll.: PRAMP RENO-WDS[KPH] Monthly: 03-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 3.35% Valid Data: 96.24% Calm Avg: 1.22 [KPH]

Direction	6-15	15-29	29-39	>39.0	Total
N	7.26	0	0	0	7.26
NNE	2.23	0	0	0	2.23
NE	0.56	0	0	0	0.56
ENE	0.84	0	0	0	0.84
E	2.79	0	0	0	2.79
ESE	3.77	0.14	0	0	3.91
SE	4.47	0	0	0	4.47
SSE	5.17	0	0	0	5.17
S	10.75	0	0	0	10.75
SSW	17.46	0	0	0	17.46
SW	17.46	0	0	0	17.46
WSW	12.29	0	0	0	12.29
W	6.56	0	0	0	6.56
WNW	0.98	0	0	0	0.98
NW	1.12	0	0	0	1.12
NNW	2.79	0	0	0	2.79
Summary	96.5	0.14	0	0	96.64

PRAMP RENO Poll.: PRAMP RENO-WDS[KPH] 01-03-2019 00:00 - 31-03-2019 23:00 Calm: 3.35% Calm Poll Avg: 1.22[KPH]



% Icon Classes (KPH)	97 6-15	0 15-29	0 29-39	0 >39.0

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

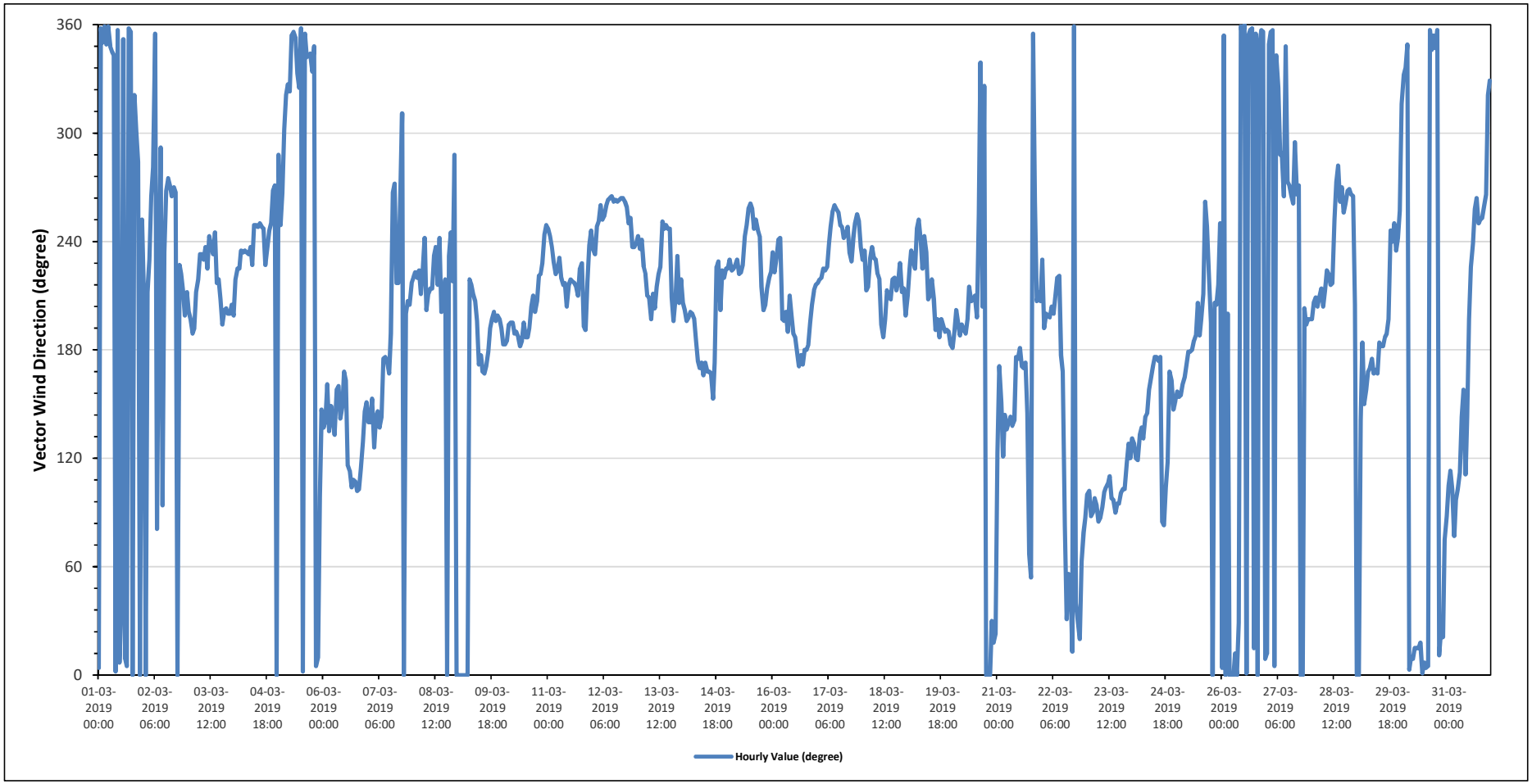
Monthly Average:	215 (SSW) degree	Hours in Service:	744
		Hours of Data:	717
		Hours of Missing Data:	27
		Hours of Calibration:	0
		Operational Uptime:	96.4

Day	Hourly Period Starting at (MST)																								Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Degree	Quadrant
Mar 1	N	N	N	N	NNW	N	NNW	NNW	NNW	N	N	N	NE	N	N	N	N	N	X	NW	WNW	WNW	X	WSW	355	N
Mar 2	SSW	X	SSW	SW	W	W	N	E	SW	WNW	E	SW	W	W	W	W	W	W	X	SW	SW	SSW	SSW	SSW	250	WSW
Mar 3	SSW	SSW	S	S	SSW	SW	SW	SW	SW	SW	SW	WSW	SW	SW	WSW	SW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	222	SW
Mar 4	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	WSW	WSW	W	W	X	240	WSW
Mar 5	WNW	WSW	W	WNW	NW	NW	NW	N	N	N	NNW	NW	N	N	N	NNW	NNW	NNW	NNW	NNW	N	N	E	SE	343	NNW
Mar 6	SE	SE	SSE	SE	SSE	SE	SE	SSE	SSE	SE	SSE	SSE	SSE	ESE	ESE	ESE	ESE	ESE	E	ESE	ESE	SE	SE	SSE	125	SE
Mar 7	SE	SE	SSE	SE	SE	SE	SE	SE	S	S	S	SSE	S	W	W	SW	SW	W	NW	X	SSW	SSW	SSW	SW	182	S
Mar 8	SW	SW	SW	SW	SSW	SW	WSW	SSW	SSW	SSW	SSW	SW	SW	SW	WSW	SSW	SSW	SW	X	SW	WSW	SW	WNW	X	222	SW
Mar 9	X	X	X	X	X	X	SW	SW	SSW	SSW	SSW	S	S	SSE	SSE	S	S	S	SSW	SSW	SSW	SSW	SSW	S	-	-
Mar 10	S	S	S	SSW	SSW	SSW	S	S	S	S	S	SSW	S	S	S	SSW	SSW	SSW	SSW	SW	SW	SW	WSW	WSW	207	SSW
Mar 11	WSW	WSW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SW	SW	SW	SW	SSW	SSW	SW	SW	S	S	SW	SW	WSW	225	SW
Mar 12	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	W	W	W	W	W	W	WSW	WSW	WSW	SW	SW	WSW	254	WSW
Mar 13	WSW	SW	WSW	SW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	WSW	WSW	WSW	WSW	WSW	SSW	SSW	SSW	SW	SSW	SW	231	SW
Mar 14	SSW	SSW	SSW	SSW	SSW	SSW	SSW	S	S	SSE	S	SSE	S	SSE	SSE	SSE	SSE	S	SW	SW	SSW	SW	SW	SW	193	S
Mar 15	SW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	WSW	WSW	W	WSW	WSW	WSW	WSW	WSW	SSW	SSW	SSW	SSW	SW	SW	238	SW
Mar 16	SW	SW	SW	WSW	WSW	SSW	SSW	SSW	S	SSW	SSW	S	S	S	S	S	S	S	S	S	SSW	SSW	SSW	SW	203	SSW
Mar 17	SW	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	WSW	WSW	WSW	WSW	SW	242	WSW
Mar 18	SW	SW	SSW	SSW	SW	SW	SW	SW	SW	SW	SSW	S	SSW	SSW	SSW	SSW	SW	SW	SSW	SW	SW	SSW	SSW	SSW	216	SW
Mar 19	SSW	SW	SW	SW	SW	WSW	WSW	WSW	SW	WSW	SW	SSW	SSW	SW	SSW	S	SSW	S	SSW	SSW	S	S	S	S	219	SW
Mar 20	S	S	SSW	SSW	S	SSW	S	S	SSW	SSW	SSW	SSW	SSW	SSW	WSW	NNW	SSW	NW	X	X	X	NNE	NNE	NNE	205	SSW
Mar 21	ESE	S	SSE	ESE	SE	SE	SE	SE	SE	SE	S	S	S	S	SSE	S	SE	ENE	NE	N	W	SSW	SSW	SSW	150	SSE
Mar 22	SW	S	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	S	SSE	E	NNE	NE	NE	NNE	N	NE	NNE	NNE	ENE	ENE	E	101	E
Mar 23	E	E	E	E	E	E	E	E	E	E	ESE	ESE	ESE	E	E	E	E	E	E	ESE	ESE	ESE	SE	ESE	99	E
Mar 24	SE	SE	ESE	ESE	SE	SE	SE	SE	SE	SSE	SSE	S	S	S	S	S	E	E	ESE	ESE	SSE	SSE	SE	SSE	141	SE
Mar 25	SSE	SSE	SSE	SSE	SSE	S	S	S	S	S	S	SSW	S	SSW	SSW	W	WSW	SW	SSW	X	SSW	SSW	SW	WSW	188	S
Mar 26	N	N	X	SSW	X	X	X	NNE	X	NNE	N	N	N	N	N	N	N	NNE	N	N	NNW	N	N	N	359	N
Mar 27	NNE	NNW	N	N	N	NNW	NW	WNW	WNW	W	NNW	W	W	W	W	WNW	W	W	X	X	SSW	SSW	SSW	SSW	298	WNW
Mar 28	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	SW	WSW	W	W	W	W	WSW	W	W	W	W	W	SSW	238	SW
Mar 29	X	X	SE	S	SSE	SSE	SSE	SSE	S	SSE	SSE	SSE	S	S	S	S	S	SSW	WSW	WSW	WSW	SW	WSW	WSW	187	S
Mar 30	NW	NNW	NNW	NNW	N	N	N	NNE	NNE	NNE	NNE	N	N	N	N	N	NNW	N	NNW	N	NNE	NNE	NNE	ENE	4	N
Mar 31	E	ESE	ESE	ESE	ENE	E	ESE	ESE	SE	SSE	ESE	SE	SSW	SW	WSW	WSW	W	WSW	WSW	WSW	WSW	W	NW	NNW	162	SSE

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 - March 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	2019-03-08
Canister Sample	Methane
Canister ID	29016

Method	NA-025		Method	NA-024		Method	AC-058	
Maximum Reading	2.8		Maximum Reading	3.3		Maximum Reading	2.2	
Parameter	**Result (ppmv)**	**RDL (ppmv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**
1-Butene	0	0.15	2,5-Dimethylthiophene	0	0.4	1,1,1-Trichloroethane	0	0.03
Acetylene	0	0.12	2-Ethylthiophene	0	0.3	1,1,2,2-Tetrachloroethane	0	0.03
cis-2-Butene	0	0.06	2-Methylthiophene	0	0.3	1,1,2-Trichloroethane	0	0.03
Ethane	0	0.15	3-Methylthiophene	0	0.4	1,1-Dichloroethane	0	0.03
Ethylacetylene	0	0.09	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	0.15	Carbonyl sulphide	1.6	0.4	1,2,4-Trichlorobenzene	0	1.2
Isobutylene	0	0.15	Dimethyl disulphide	0	0.3	1,2,4-Trimethylbenzene	0	0.07
Methane	2.8	0.15	Dimethyl sulphide	0	0.3	1,2-Dibromoethane	0	0.03
n-Butane	0	0.30	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	0.15	Hydrogen sulphide	3.3	0.1	1,2-Dichloropropane	0	0.01
Propyne	0	0.15	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	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	0.01
						2,3,4-Trimethylpentane	0	0.01
						2,3-Dimethylbutane	0.06	0.03
						2,3-Dimethylpentane	0.03	0.03
						2,4-Dimethylpentane	0	0.01
						2-Methylheptane	0	0.01
						2-Methylhexane	0.08	0.01
						2-Methylpentane	0.34	0.01
						3-Methylheptane	0	0.03
						3-Methylhexane	0.12	0.03
						3-Methylpentane	0.17	0.01
						Acetone	2.1	0.6
						Acrolein	0	0.4
						Benzene	0.08	0.01
						Benzyl chloride	0	0.6
						Bromodichloromethane	0	0.03
						Bromoform	0	0.03
						Bromomethane	0	0.01
						Carbon disulfide	0	0.01
						Carbon tetrachloride	0	0.01
						Chlorobenzene	0	0.03
						Chloroethane	0	0.03
						Chloroform	0	0.03
						Chloromethane	0.56	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	0.19	0.03
						Cyclopentane	0.03	0.01
						Dibromochloromethane	0	0.01
						Ethanol	2.2	0.4
						Ethyl acetate	0	0.6
						Ethylbenzene	0	0.01
						Freon-11	0.21	0.03
						Freon-113	0	0.01
						Freon-114	0	0.03

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	2019-03-08
Canister Sample	Methane
Canister ID	29016

Method	NA-025	Method	NA-024	Method	AC-058
Maximum Reading	2.8	Maximum Reading	3.3	Maximum Reading	2.2

Parameter	Result (ppmv)	RDL (ppmv)	Parameter	Result (ppbv)	RDL (ppbv)	Parameter	Result (ppbv)	RDL (ppbv)
						Freon-12	0.48	0.03
						Hexachloro-1,3-butadiene	0	0.75
						Isobutane	1.42	0.03
						Isopentane	0.95	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	0.12
						Methyl butyl ketone	0	0.75
						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	0.42	0.01
						Methylcyclopentane	0.37	0.03
						Methylene chloride	0	0.4
						n-Butane	2.12	0.04
						n-Decane	0	0.09
						n-Dodecane	0	0.6
						n-Heptane	0.05	0.01
						n-Hexane	0.33	0.01
						n-Nonane	0	0.01
						n-Octane	0	0.03
						n-Pentane	0.8	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	0.12	0.01
						trans-1,2-Dichloroethylene	0	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

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PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	2019-03-10
Canister Sample	Methane
Canister ID	28954

Method	NA-025		Method	NA-024		Method	AC-058	
Maximum Reading	14.4		Maximum Reading	3.5		Maximum Reading	23.9	
Parameter	**Result (ppmv)**	**RDL (ppmv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**
1-Butene	0	0.15	2,5-Dimethylthiophene	0	0.5	1,1,1-Trichloroethane	0.17	0.03
Acetylene	0	0.12	2-Ethylthiophene	0	0.3	1,1,2,2-Tetrachloroethane	0.2	0.03
cis-2-Butene	0	0.06	2-Methylthiophene	0	0.3	1,1,2-Trichloroethane	0.21	0.03
Ethane	0	0.2	3-Methylthiophene	0	0.5	1,1-Dichloroethane	0.22	0.03
Ethylacetylene	0	0.09	Butyl mercaptan	0	0.5	1,1-Dichloroethylene	0.23	0.06
Ethylene	0	0.11	Carbon disulphide	0	0.3	1,2,3-Trimethylbenzene	0.22	0.08
Isobutane	0	0.2	Carbonyl sulphide	1.8	0.5	1,2,4-Trichlorobenzene	0	1.2
Isobutylene	0	0.2	Dimethyl disulphide	0	0.3	1,2,4-Trimethylbenzene	0.49	0.08
Methane	14.4	0.2	Dimethyl sulphide	0	0.3	1,2-Dibromoethane	0.17	0.03
n-Butane	0	0.3	Ethyl mercaptan	0	0.5	1,2-Dichlorobenzene	0.18	0.05
n-Propane	0	0.11	Ethyl sulphide	0	0.5	1,2-Dichloroethane	0.28	0.02
Propylene	0	0.2	Hydrogen sulphide	3.5	0.2	1,2-Dichloropropane	0.22	0.02
Propyne	0	0.2	Isobutyl mercaptan	0	0.5	1,3,5-Trimethylbenzene	0.5	0.03
trans-2-Butene	0	0.14	Isopropyl mercaptan	0	0.5	1,3-Butadiene	0.24	0.03
			Methyl mercaptan	0	0.3	1,3-Dichlorobenzene	0	0.5
			Pentyl mercaptan	0	0.6	1,4-Dichlorobenzene	0	0.6
			Propyl mercaptan	0	0.6	1,4-Dioxane	0	0.6
			tert-Butyl mercaptan	0	0.5	1-Butene/Isobutylene	0.64	0.03
			Thiophene	0	0.3	1-Hexene/2-Methyl-1-pentene	0.43	0.03
						1-Pentene	0.24	0.02
						2,2,4-Trimethylpentane	0.25	0.02
						2,2-Dimethylbutane	0.29	0.02
						2,3,4-Trimethylpentane	0.26	0.02
						2,3-Dimethylbutane	0.43	0.03
						2,3-Dimethylpentane	0.33	0.03
						2,4-Dimethylpentane	0.27	0.02
						2-Methylheptane	0.24	0.02
						2-Methylhexane	0.4	0.02
						2-Methylpentane	0.98	0.02
						3-Methylheptane	0.26	0.03
						3-Methylhexane	0.41	0.03
						3-Methylpentane	0.66	0.02
						Acetone	2.4	0.6
						Acrolein	0	0.5
						Benzene	0.69	0.02
						Benzyl chloride	0	0.6
						Bromodichloromethane	0.16	0.03
						Bromoform	0.12	0.03
						Bromomethane	0.23	0.02
						Carbon disulfide	0.11	0.02
						Carbon tetrachloride	0.22	0.02
						Chlorobenzene	0.22	0.03
						Chloroethane	0.24	0.03
						Chloroform	0.24	0.03
						Chloromethane	0.83	0.03
						cis-1,2-Dichloroethene	0.23	0.02
						cis-1,3-Dichloropropene	0.11	0.06
						cis-2-Butene	0.25	0.03
						cis-2-Pentene	0.23	0.03
						Cyclohexane	0.92	0.03
						Cyclopentane	0.52	0.02
						Dibromochloromethane	0.13	0.02
						Ethanol	2.1	0.5
						Ethyl acetate	0	0.6
						Ethylbenzene	0.51	0.02
						Freon-11	0.49	0.03
						Freon-113	0.33	0.02
						Freon-114	0.15	0.03

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	2019-03-10
Canister Sample	Methane
Canister ID	28954

Method	NA-025	Method	NA-024	Method	AC-058
Maximum Reading	14.4	Maximum Reading	3.5	Maximum Reading	23.9

Parameter	Result (ppmv)	RDL (ppmv)	Parameter	Result (ppbv)	RDL (ppbv)	Parameter	Result (ppbv)	RDL (ppbv)
						Freon-12	0.67	0.03
						Hexachloro-1,3-butadiene	0	0.76
						Isobutane	20.8	0.03
						Isopentane	5.21	0.05
						Isoprene	0.18	0.02
						Isopropyl alcohol	0	0.6
						Isopropylbenzene	0.27	0.02
						m,p-Xylene	0.79	0.05
						m-Diethylbenzene	0.27	0.06
						m-Ethyltoluene	0.25	0.12
						Methyl butyl ketone	0	0.76
						Methyl ethyl ketone	0	0.5
						Methyl isobutyl ketone	0	0.6
						Methyl methacrylate	0.22	0.11
						Methyl tert butyl ether	0.22	0.05
						Methylcyclohexane	0.67	0.02
						Methylcyclopentane	0.73	0.03
						Methylene chloride	0	0.5
						n-Butane	23.9	0.05
						n-Decane	0.26	0.09
						n-Dodecane	0	0.6
						n-Heptane	0.7	0.02
						n-Hexane	1.21	0.02
						n-Nonane	0.3	0.02
						n-Octane	0.33	0.03
						n-Pentane	3.5	0.2
						n-Propylbenzene	0.24	0.08
						n-Undecane	0	0.8
						Naphthalene	0	0.8
						o-Ethyltoluene	0.24	0.02
						o-Xylene	0.53	0.02
						p-Diethylbenzene	0.23	0.06
						p-Ethyltoluene	0.49	0.11
						Styrene	0.42	0.06
						Tetrachloroethylene	0.24	0.06
						Tetrahydrofuran	0	0.6
						Toluene	0.62	0.02
						trans-1,2-Dichloroethylene	0.23	0.02
						trans-1,3-Dichloropropylene	0.09	0.06
						trans-2-Butene	0.27	0.02
						trans-2-Pentene	0.21	0.03
						Trichloroethylene	0.21	0.06
						Vinyl acetate	0	0.6
						Vinyl chloride	0.18	0.03

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PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	2019-03-16*
Canister Sample	Methane
Canister ID	28887

Method	NA-025		Method	NA-024		Method	AC-058	
Maximum Reading	2.4		Maximum Reading	3.5		Maximum Reading	3	
Parameter	**Result (ppmv)**	**RDL (ppmv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**
1-Butene	< 0.15	0.15	2,5-Dimethylthiophene	< 0.5	0.5	1,1,1-Trichloroethane	< 0.03	0.03
Acetylene	< 0.12	0.12	2-Ethylthiophene	< 0.3	0.3	1,1,2,2-Tetrachloroethane	< 0.03	0.03
cis-2-Butene	< 0.06	0.06	2-Methylthiophene	< 0.3	0.3	1,1,2-Trichloroethane	< 0.03	0.03
Ethane	< 0.2	0.2	3-Methylthiophene	< 0.5	0.5	1,1-Dichloroethane	< 0.03	0.03
Ethylacetylene	< 0.09	0.09	Butyl mercaptan	< 0.5	0.5	1,1-Dichloroethylene	< 0.06	0.06
Ethylene	< 0.11	0.11	Carbon disulphide	< 0.3	0.3	1,2,3-Trimethylbenzene	< 0.08	0.08
Isobutane	< 0.2	0.2	Carbonyl sulphide	1.2	0.5	1,2,4-Trichlorobenzene	< 1.2	1.2
Isobutylene	< 0.2	0.2	Dimethyl disulphide	< 0.3	0.3	1,2,4-Trimethylbenzene	< 0.08	0.08
Methane	2.4	0.2	Dimethyl sulphide	< 0.3	0.3	1,2-Dibromoethane	< 0.03	0.03
n-Butane	< 0.3	0.3	Ethyl mercaptan	< 0.5	0.5	1,2-Dichlorobenzene	< 0.05	0.05
n-Propane	< 0.11	0.11	Ethyl sulphide	< 0.5	0.5	1,2-Dichloroethane	< 0.02	0.02
Propylene	< 0.2	0.2	Hydrogen sulphide	3.5	0.2	1,2-Dichloropropane	< 0.02	0.02
Propyne	< 0.2	0.2	Isobutyl mercaptan	< 0.5	0.5	1,3,5-Trimethylbenzene	< 0.03	0.03
trans-2-Butene	< 0.14	0.14	Isopropyl mercaptan	< 0.5	0.5	1,3-Butadiene	< 0.03	0.03
			Methyl mercaptan	< 0.3	0.3	1,3-Dichlorobenzene	< 0.5	0.5
			Pentyl mercaptan	< 0.6	0.6	1,4-Dichlorobenzene	< 0.6	0.6
			Propyl mercaptan	< 0.6	0.6	1,4-Dioxane	< 0.6	0.6
			tert-Butyl mercaptan	< 0.5	0.5	1-Butene/Isobutylene	0.17	0.03
			Thiophene	< 0.3	0.3	1-Hexene/2-Methyl-1-pentene	< 0.03	0.03
						1-Pentene	< 0.02	0.02
						2,2,4-Trimethylpentane	< 0.02	0.02
						2,2-Dimethylbutane	< 0.02	0.02
						2,3,4-Trimethylpentane	< 0.02	0.02
						2,3-Dimethylbutane	< 0.03	0.03
						2,3-Dimethylpentane	< 0.03	0.03
						2,4-Dimethylpentane	< 0.02	0.02
						2-Methylheptane	< 0.02	0.02
						2-Methylhexane	< 0.02	0.02
						2-Methylpentane	0.1	0.02
						3-Methylheptane	< 0.03	0.03
						3-Methylhexane	< 0.03	0.03
						3-Methylpentane	0.03	0.02
						Acetone	3	0.6
						Acrolein	< 0.5	0.5
						Benzene	0.07	0.02
						Benzyl chloride	< 0.6	0.6
						Bromodichloromethane	< 0.03	0.03
						Bromoform	< 0.03	0.03
						Bromomethane	< 0.02	0.02
						Carbon disulfide	< 0.02	0.02
						Carbon tetrachloride	0.07	0.02
						Chlorobenzene	< 0.03	0.03
						Chloroethane	< 0.03	0.03
						Chloroform	< 0.03	0.03
						Chloromethane	0.53	0.03
						cis-1,2-Dichloroethene	< 0.02	0.02
						cis-1,3-Dichloropropene	< 0.06	0.06
						cis-2-Butene	< 0.03	0.03
						cis-2-Pentene	< 0.03	0.03
						Cyclohexane	< 0.03	0.03
						Cyclopentane	< 0.02	0.02
						Dibromochloromethane	0.05	0.02
						Ethanol	< 0.5	0.5
						Ethyl acetate	< 0.6	0.6
						Ethylbenzene	< 0.02	0.02
						Freon-11	0.2	0.03
						Freon-113	< 0.02	0.02
						Freon-114	< 0.03	0.03

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PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	2019-03-16*
Canister Sample	Methane
Canister ID	28887

Method	NA-025	Method	NA-024	Method	AC-058
Maximum Reading	2.4	Maximum Reading	3.5	Maximum Reading	3

Parameter	Result (ppmv)	RDL (ppmv)	Parameter	Result (ppbv)	RDL (ppbv)	Parameter	Result (ppbv)	RDL (ppbv)
						Freon-12	0.44	0.03
						Hexachloro-1,3-butadiene	< 0.77	0.77
						Isobutane	0.36	0.03
						Isopentane	0.3	0.05
						Isoprene	< 0.02	0.02
						Isopropyl alcohol	< 0.6	0.6
						Isopropylbenzene	< 0.02	0.02
						m,p-Xylene	< 0.05	0.05
						m-Diethylbenzene	< 0.06	0.06
						m-Ethyltoluene	< 0.12	0.12
						Methyl butyl ketone	< 0.77	0.77
						Methyl ethyl ketone	< 0.5	0.5
						Methyl isobutyl ketone	< 0.6	0.6
						Methyl methacrylate	< 0.11	0.11
						Methyl tert butyl ether	< 0.05	0.05
						Methylcyclohexane	< 0.02	0.02
						Methylcyclopentane	< 0.03	0.03
						Methylene chloride	< 0.5	0.5
						n-Butane	0.56	0.05
						n-Decane	< 0.09	0.09
						n-Dodecane	< 0.6	0.6
						n-Heptane	< 0.02	0.02
						n-Hexane	< 0.02	0.02
						n-Nonane	0.03	0.02
						n-Octane	< 0.03	0.03
						n-Pentane	0.2	0.2
						n-Propylbenzene	< 0.08	0.08
						n-Undecane	< 0.8	0.8
						Naphthalene	< 0.8	0.8
						o-Ethyltoluene	< 0.02	0.02
						o-Xylene	< 0.02	0.02
						p-Diethylbenzene	< 0.06	0.06
						p-Ethyltoluene	< 0.11	0.11
						Styrene	< 0.06	0.06
						Tetrachloroethylene	< 0.06	0.06
						Tetrahydrofuran	< 0.6	0.6
						Toluene	< 0.02	0.02
						trans-1,2-Dichloroethylene	< 0.02	0.02
						trans-1,3-Dichloropropylene	< 0.06	0.06
						trans-2-Butene	< 0.02	0.02
						trans-2-Pentene	< 0.03	0.03
						Trichloroethylene	< 0.06	0.06
						Vinyl acetate	< 0.6	0.6
						Vinyl chloride	< 0.03	0.03

*** Date and time sampled for this canister event was recorded incorrectly on the Chain of Custody. The canister was collected on March 16 at 15:35, not March 17 at 20:00.**

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PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	2019-03-29
Canister Sample	Methane
Canister ID	29007

Method	NA-025		Method	NA-024		Method	AC-058	
Maximum Reading	2.3		Maximum Reading	2.2		Maximum Reading	6.85	
Parameter	**Result (ppmv)**	**RDL (ppmv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**
1-Butene	0	0.15	2,5-Dimethylthiophene	0	0.5	1,1,1-Trichloroethane	0	0.02
Acetylene	0	0.12	2-Ethylthiophene	0	0.3	1,1,2,2-Tetrachloroethane	0	0.02
cis-2-Butene	0	0.06	2-Methylthiophene	0	0.3	1,1,2-Trichloroethane	0	0.03
Ethane	0	0.2	3-Methylthiophene	0	0.5	1,1-Dichloroethane	0	0.03
Ethylacetylene	0	0.09	Butyl mercaptan	0	0.5	1,1-Dichloroethylene	0	0.06
Ethylene	0	0.11	Carbon disulphide	0	0.3	1,2,3-Trimethylbenzene	0	0.08
Isobutane	0	0.2	Carbonyl sulphide	1.2	0.5	1,2,4-Trichlorobenzene	0	1.2
Isobutylene	0	0.2	Dimethyl disulphide	0	0.3	1,2,4-Trimethylbenzene	0	0.08
Methane	2.3	0.2	Dimethyl sulphide	0	0.3	1,2-Dibromoethane	0	0.03
n-Butane	0	0.3	Ethyl mercaptan	0	0.5	1,2-Dichlorobenzene	0	0.05
n-Propane	0	0.11	Ethyl sulphide	0	0.5	1,2-Dichloroethane	0	0.02
Propylene	0	0.2	Hydrogen sulphide	2.2	0.2	1,2-Dichloropropane	0	0.02
Propyne	0	0.2	Isobutyl mercaptan	0	0.5	1,3,5-Trimethylbenzene	0	0.03
trans-2-Butene	0	0.14	Isopropyl mercaptan	0	0.5	1,3-Butadiene	0	0.03
			Methyl mercaptan	0	0.3	1,3-Dichlorobenzene	0	0.5
			Pentyl mercaptan	0	0.6	1,4-Dichlorobenzene	0	0.6
			Propyl mercaptan	0	0.6	1,4-Dioxane	0	0.6
			tert-Butyl mercaptan	0	0.5	1-Butene/Isobutylene	0.48	0.03
			Thiophene	0	0.3	1-Hexene/2-Methyl-1-pentene	0	0.03
						1-Pentene	0.04	0.02
						2,2,4-Trimethylpentane	0.03	0.02
						2,2-Dimethylbutane	0.02	0.02
						2,3,4-Trimethylpentane	0	0.02
						2,3-Dimethylbutane	0.04	0.03
						2,3-Dimethylpentane	0	0.03
						2,4-Dimethylpentane	0	0.02
						2-Methylheptane	0	0.02
						2-Methylhexane	0.14	0.02
						2-Methylpentane	0.14	0.02
						3-Methylheptane	0	0.03
						3-Methylhexane	0.13	0.03
						3-Methylpentane	0.14	0.02
						Acetone	2.6	0.6
						Acrolein	0	0.5
						Benzene	0.2	0.02
						Benzyl chloride	0	0.6
						Bromodichloromethane	0	0.03
						Bromoform	0	0.03
						Bromomethane	0.08	0.02
						Carbon disulfide	0	0.02
						Carbon tetrachloride	0.23	0.02
						Chlorobenzene	0	0.03
						Chloroethane	0	0.03
						Chloroform	0.07	0.03
						Chloromethane	0.58	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	0.14	0.03
						Cyclopentane	6.85	0.02
						Dibromochloromethane	0	0.02
						Ethanol	1.9	0.5
						Ethyl acetate	0	0.6
						Ethylbenzene	0	0.02
						Freon-11	0	0.03
						Freon-113	0	0.02
						Freon-114	0	0.03

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PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	2019-03-29
Canister Sample	Methane
Canister ID	29007

Method	NA-025	Method	NA-024	Method	AC-058
Maximum Reading	2.3	Maximum Reading	2.2	Maximum Reading	6.85

Parameter	Result (ppmv)	RDL (ppmv)	Parameter	Result (ppbv)	RDL (ppbv)	Parameter	Result (ppbv)	RDL (ppbv)
						Freon-12	0.25	0.03
						Hexachloro-1,3-butadiene	0	0.76
						Isobutane	0.4	0.03
						Isopentane	0.69	0.05
						Isoprene	0	0.02
						Isopropyl alcohol	0	0.6
						Isopropylbenzene	0	0.02
						m,p-Xylene	0.05	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	0.05	0.02
						Methylcyclopentane	0.2	0.03
						Methylene chloride	0	0.5
						n-Butane	0.65	0.05
						n-Decane	0	0.09
						n-Dodecane	0	0.6
						n-Heptane	0.47	0.02
						n-Hexane	0.31	0.02
						n-Nonane	0	0.02
						n-Octane	0.09	0.03
						n-Pentane	0.3	0.2
						n-Propylbenzene	0	0.08
						n-Undecane	0	0.8
						Naphthalene	0	0.8
						o-Ethyltoluene	0	0.02
						o-Xylene	0.02	0.02
						p-Diethylbenzene	0	0.06
						p-Ethyltoluene	0	0.11
						Styrene	0	0.06
						Tetrachloroethylene	0	0.06
						Tetrahydrofuran	0	0.6
						Toluene	1.74	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

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PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	2019-03-18
Canister Sample	Non-Methane Hydrocarbons
Canister ID	14997

Method	NA-025		Method	NA-024		Method	AC-058	
Maximum Reading	1.9		Maximum Reading	1.6		Maximum Reading	5.6	
Parameter	**Result (ppmv)**	**RDL (ppmv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**
1-Butene	0	0.15	2,5-Dimethylthiophene	0	0.4	1,1,1-Trichloroethane	0	0.03
Acetylene	0	0.12	2-Ethylthiophene	0	0.3	1,1,2,2-Tetrachloroethane	0	0.03
cis-2-Butene	0	0.06	2-Methylthiophene	0	0.3	1,1,2-Trichloroethane	0	0.03
Ethane	0	0.1	3-Methylthiophene	0	0.4	1,1-Dichloroethane	0	0.03
Ethylacetylene	0	0.09	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	0.1	Carbonyl sulphide	1.1	0.4	1,2,4-Trichlorobenzene	0	1.2
Isobutylene	0	0.1	Dimethyl disulphide	0	0.3	1,2,4-Trimethylbenzene	0	0.07
Methane	1.9	0.1	Dimethyl sulphide	0	0.3	1,2-Dibromoethane	0	0.03
n-Butane	0	0.3	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	0.1	Hydrogen sulphide	1.6	0.1	1,2-Dichloropropane	0	0.01
Propyne	0	0.1	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	1.23	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	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	0.03	0.01
						2-Methylpentane	0.18	0.01
						3-Methylheptane	0	0.03
						3-Methylhexane	0.05	0.03
						3-Methylpentane	0.08	0.01
						Acetone	5.6	0.6
						Acrolein	0	0.4
						Benzene	0.43	0.01
						Benzyl chloride	0	0.6
						Bromodichloromethane	0	0.03
						Bromoform	0	0.03
						Bromomethane	0	0.01
						Carbon disulfide	0	0.01
						Carbon tetrachloride	0.11	0.01
						Chlorobenzene	0	0.03
						Chloroethane	0	0.03
						Chloroform	0	0.03
						Chloromethane	0.81	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	0	0.01
						Dibromochloromethane	0	0.01
						Ethanol	2.8	0.4
						Ethyl acetate	0	0.6
						Ethylbenzene	0.11	0.01
						Freon-11	0.32	0.03
						Freon-113	0.04	0.01
						Freon-114	0	0.03

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	2019-03-18
Canister Sample	Non-Methane Hydrocarbons
Canister ID	14997

Method	NA-025	Method	NA-024	Method	AC-058
Maximum Reading	1.9	Maximum Reading	1.6	Maximum Reading	5.6

Parameter	Result (ppmv)	RDL (ppmv)	Parameter	Result (ppbv)	RDL (ppbv)	Parameter	Result (ppbv)	RDL (ppbv)
						Freon-12	0.52	0.03
						Hexachloro-1,3-butadiene	0	0.73
						Isobutane	1.88	0.03
						Isopentane	0.54	0.04
						Isoprene	0	0.01
						Isopropyl alcohol	0	0.6
						Isopropylbenzene	0	0.01
						m,p-Xylene	0.45	0.04
						m-Diethylbenzene	0	0.06
						m-Ethyltoluene	0	0.12
						Methyl butyl ketone	0	0.73
						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	0.15	0.01
						Methylcyclopentane	0.13	0.03
						Methylene chloride	0	0.4
						n-Butane	2.13	0.04
						n-Decane	0	0.09
						n-Dodecane	0	0.6
						n-Heptane	0.09	0.01
						n-Hexane	0.32	0.01
						n-Nonane	0.05	0.01
						n-Octane	0.08	0.03
						n-Pentane	0.9	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	1.85	0.01
						trans-1,2-Dichloroethylene	0	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

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PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	2019-03-19
Canister Sample	Non-Methane Hydrocarbons
Canister ID	29025

Method	NA-025		Method	NA-024		Method	AC-058	
Maximum Reading	2.1		Maximum Reading	1.9		Maximum Reading	3.8	
Parameter	**Result (ppmv)**	**RDL (ppmv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**
1-Butene	0	0.15	2,5-Dimethylthiophene	0	0.5	1,1,1-Trichloroethane	0	0.03
Acetylene	0	0.12	2-Ethylthiophene	0	0.3	1,1,2,2-Tetrachloroethane	0	0.03
cis-2-Butene	0	0.06	2-Methylthiophene	0	0.3	1,1,2-Trichloroethane	0	0.03
Ethane	0	0.2	3-Methylthiophene	0	0.5	1,1-Dichloroethane	0	0.03
Ethylacetylene	0	0.09	Butyl mercaptan	0	0.5	1,1-Dichloroethylene	0	0.06
Ethylene	0	0.11	Carbon disulphide	0	0.3	1,2,3-Trimethylbenzene	0	0.08
Isobutane	0	0.2	Carbonyl sulphide	0.6	0.5	1,2,4-Trichlorobenzene	0	1.2
Isobutylene	0	0.2	Dimethyl disulphide	0	0.3	1,2,4-Trimethylbenzene	0	0.08
Methane	2.1	0.2	Dimethyl sulphide	0	0.3	1,2-Dibromoethane	0	0.03
n-Butane	0	0.3	Ethyl mercaptan	0	0.5	1,2-Dichlorobenzene	0	0.05
n-Propane	0	0.11	Ethyl sulphide	0	0.5	1,2-Dichloroethane	0	0.02
Propylene	0	0.2	Hydrogen sulphide	1.9	0.2	1,2-Dichloropropane	0	0.02
Propyne	0	0.2	Isobutyl mercaptan	0	0.5	1,3,5-Trimethylbenzene	0	0.03
trans-2-Butene	0	0.14	Isopropyl mercaptan	0	0.5	1,3-Butadiene	0	0.03
			Methyl mercaptan	0	0.3	1,3-Dichlorobenzene	0	0.5
			Pentyl mercaptan	0	0.6	1,4-Dichlorobenzene	0	0.6
			Propyl mercaptan	0	0.6	1,4-Dioxane	0	0.6
			tert-Butyl mercaptan	0	0.5	1-Butene/Isobutylene	0	0.03
			Thiophene	0	0.3	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	0.06	0.03
						2,3-Dimethylpentane	0.17	0.03
						2,4-Dimethylpentane	0	0.02
						2-Methylheptane	0	0.02
						2-Methylhexane	0.24	0.02
						2-Methylpentane	0.35	0.02
						3-Methylheptane	0	0.03
						3-Methylhexane	0.36	0.03
						3-Methylpentane	0.24	0.02
						Acetone	3.8	0.6
						Acrolein	0	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	0.02
						Carbon tetrachloride	0.05	0.02
						Chlorobenzene	0	0.03
						Chloroethane	0	0.03
						Chloroform	0	0.03
						Chloromethane	0.64	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	0.66	0.03
						Cyclopentane	2.18	0.02
						Dibromochloromethane	0	0.02
						Ethanol	0	0.5
						Ethyl acetate	0	0.6
						Ethylbenzene	0	0.02
						Freon-11	0.21	0.03
						Freon-113	0	0.02
						Freon-114	0	0.03

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	2019-03-19				
Canister Sample	Non-Methane Hydrocarbons				
Canister ID	29025				
Method	**NA-025**	**Method**	**NA-024**	**Method**	**AC-058**
Maximum Reading	**2.1**	**Maximum Reading**	**1.9**	**Maximum Reading**	**3.8**
Parameter	**Result (ppmv) RDL (ppmv)**	**Parameter**	**Result (ppbv) RDL (ppbv)**	**Parameter**	**Result (ppbv) RDL (ppbv)**
				Freon-12	0.5 0.03
				Hexachloro-1,3-butadiene	0 0.77
				Isobutane	0.9 0.03
				Isopentane	1.03 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 0.77
				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	1.01 0.02
				Methylcyclopentane	0.59 0.03
				Methylene chloride	0 0.5
				n-Butane	1.13 0.05
				n-Decane	0 0.09
				n-Dodecane	0 0.6
				n-Heptane	0 0.02
				n-Hexane	0.18 0.02
				n-Nonane	0 0.02
				n-Octane	0 0.03
				n-Pentane	0.4 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 0.06
				Tetrachloroethylene	0 0.06
				Tetrahydrofuran	0 0.6
				Toluene	0.1 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

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	2019-03-08
Canister Sample	Blank
Canister ID	28897

Method	NA-025		Method	NA-024		Method	AC-058	
Maximum Reading	0		Maximum Reading	0		Maximum Reading	0.01	
Parameter	**Result (ppmv)**	**RDL (ppmv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**	**Parameter**	**Result (ppbv)**	**RDL (ppbv)**
1-Butene	0	1.50	2,5-Dimethylthiophene	0	0.3	1,1,1-Trichloroethane	0	0.02
Acetylene	0	1.20	2-Ethylthiophene	0	0.2	1,1,2,2-Tetrachloroethane	0	0.02
cis-2-Butene	0	0.60	2-Methylthiophene	0	0.2	1,1,2-Trichloroethane	0	0.02
Ethane	0	1.5	3-Methylthiophene	0	0.3	1,1-Dichloroethane	0	0.02
Ethylacetylene	0	0.90	Butyl mercaptan	0	0.3	1,1-Dichloroethylene	0	0.04
Ethylene	0	1.05	Carbon disulphide	0	0.2	1,2,3-Trimethylbenzene	0	0.05
Isobutane	0	1.5	Carbonyl sulphide	0	0.3	1,2,4-Trichlorobenzene	0	0.8
Isobutylene	0	1.5	Dimethyl disulphide	0	0.2	1,2,4-Trimethylbenzene	0	0.05
Methane	0	1.5	Dimethyl sulphide	0	0.2	1,2-Dibromoethane	0	0.02
n-Butane	0	3.0	Ethyl mercaptan	0	0.3	1,2-Dichlorobenzene	0	0.03
n-Propane	0	1.05	Ethyl sulphide	0	0.3	1,2-Dichloroethane	0	0.01
Propylene	0	1.5	Hydrogen sulphide	0	0.1	1,2-Dichloropropane	0	0.01
Propyne	0	1.5	Isobutyl mercaptan	0	0.3	1,3,5-Trimethylbenzene	0	0.02
trans-2-Butene	0	1.35	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	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

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	**2019-03-08**
Canister Sample	**Blank**
Canister ID	**28897**

Method	**NA-025**	**Method**	**NA-024**	**Method**	**AC-058**
Maximum Reading	**0**	**Maximum Reading**	**0**	**Maximum Reading**	**0.01**

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	0.01	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

REFERENCE DOCUMENTS

HOURLY INSTANTANEOUS DATA

986 STATION

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PEACE RIVER AREA MONITORING PROGRAM

986b Station - March 2019

Summary of Hourly Instantaneous Maximums

SULPHUR DIOXIDE (SO_2) in ppb

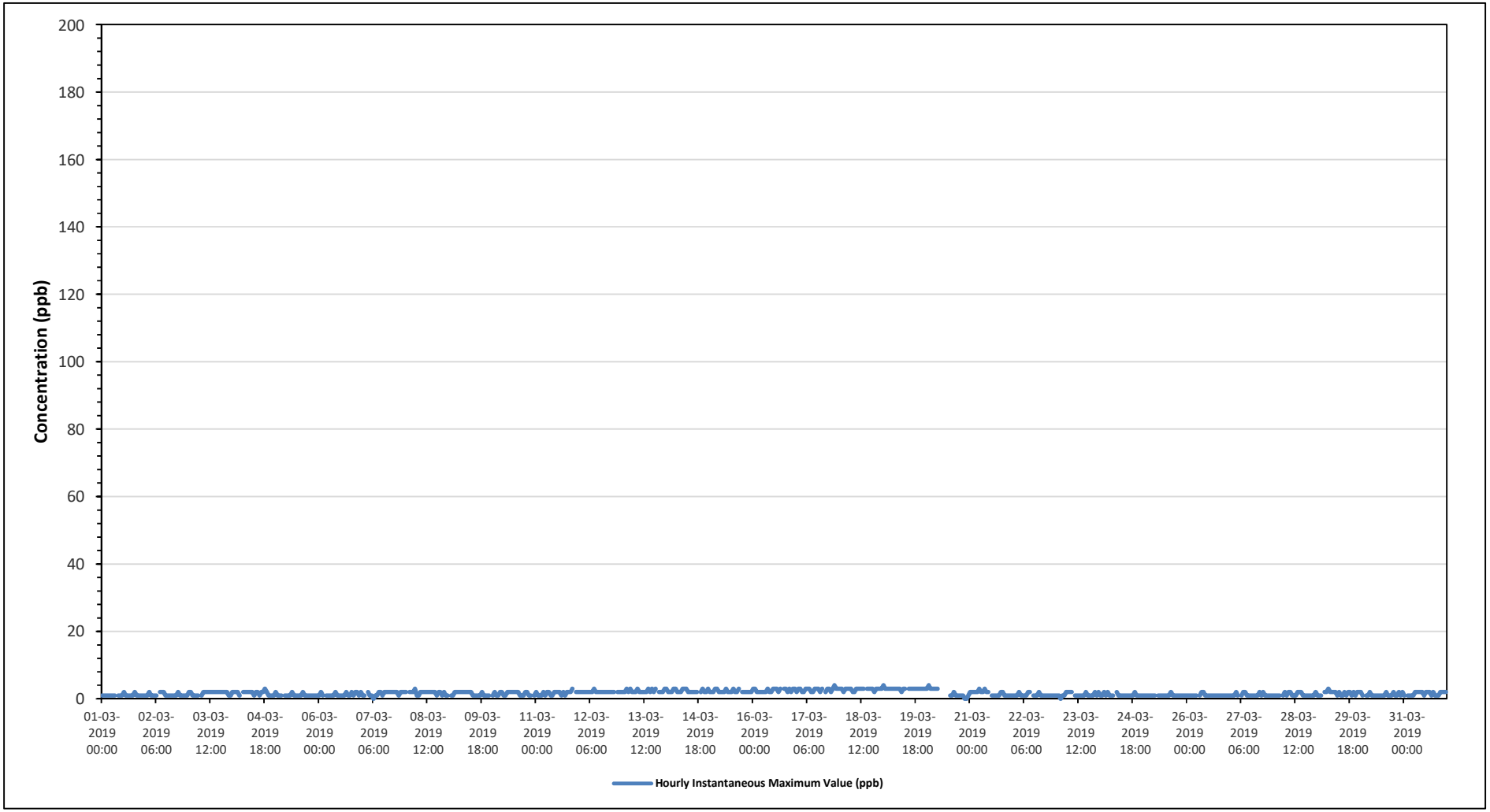
Maximum Hourly Value:	4	ppb	on March 17 at hour 21	Hours in Service:	744
Maximum Daily Value:	3.0	ppb	on March 19	Hours of Data:	707
Minimum Hourly Value:	0	ppb	on March 7 at hour 6	Hours of Missing Data:	0
Minimum Daily Value:	1.0	ppb	on March 25	Hours of Calibration:	37
Monthly Average:	1.7	ppb		Operational 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
Mar 1	1	1	1	1	1	1	1	1	S	1	1	1	2	1	1	1	1	1	2	1	1	1	1	1	1	2	1.1
Mar 2	1	1	2	1	1	1	1	S	2	2	2	1	1	1	1	1	1	1	2	1	1	1	1	1	1	2	1.2
Mar 3	2	2	1	1	1	1	S	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	2	1.7
Mar 4	2	2	2	2	1	S	2	2	2	2	2	2	1	2	2	1	2	2	3	2	1	1	1	1	1	3	1.7
Mar 5	2	1	1	1	S	1	1	1	1	2	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	2	1.1
Mar 6	1	2	1	S	1	1	1	1	1	2	1	1	1	1	1	2	1	1	2	1	2	2	1	2	1	2	1.3
Mar 7	1	1	S	2	1	1	0	1	1	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	0	2	1.6
Mar 8	2	S	2	2	2	3	1	1	2	2	2	2	2	2	2	2	2	1	2	2	1	2	1	1	1	3	1.8
Mar 9	S	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	2	1	1	1	1	S	1	2	1.5
Mar 10	1	2	1	1	2	2	1	1	2	2	2	2	2	2	2	1	1	1	2	2	1	1	S	1	1	2	1.5
Mar 11	2	1	1	1	2	1	2	2	1	1	2	2	2	2	1	2	1	2	2	2	3	S	2	2	1	3	1.7
Mar 12	2	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	S	2	2	2	2	3	2.0
Mar 13	2	2	3	2	3	2	2	2	3	2	2	2	2	2	3	2	3	2	3	S	2	2	2	3	2	3	2.3
Mar 14	3	2	2	2	3	3	2	2	2	3	3	3	2	2	2	2	2	2	S	2	3	2	2	3	2	3	2.3
Mar 15	2	2	2	3	3	2	2	2	2	3	2	2	2	3	2	2	3	S	2	2	2	2	2	2	2	3	2.2
Mar 16	3	3	2	2	2	2	2	2	3	2	2	3	3	3	2	3	S	3	3	2	3	2	3	3	2	3	2.5
Mar 17	2	3	3	2	2	3	3	3	2	2	3	3	3	2	3	S	2	3	3	2	3	4	3	3	2	4	2.7
Mar 18	3	3	2	3	3	3	3	2	2	3	3	3	3	3	S	3	3	3	3	2	3	3	3	3	2	3	2.8
Mar 19	4	3	3	3	3	3	3	3	3	3	2	3	3	S	3	3	3	3	3	3	3	3	3	3	2	4	3.0
Mar 20	3	4	3	3	3	3	3	C	C	C	C	C	C	1	1	2	1	1	1	1	1	0	0	1	0	4	1.8
Mar 21	2	2	2	2	2	3	2	2	3	2	2	S	1	1	1	1	1	2	2	1	1	1	1	1	1	3	1.7
Mar 22	1	1	1	2	1	1	1	1	2	2	S	1	1	1	2	1	1	1	1	1	1	1	1	1	1	2	1.2
Mar 23	1	1	0	1	1	2	2	2	2	S	1	1	1	1	1	1	2	1	1	1	1	2	1	2	0	2	1.3
Mar 24	1	1	2	1	2	1	1	1	S	2	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	2	1.2
Mar 25	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	2	1.0
Mar 26	1	1	1	1	1	1	S	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1
Mar 27	1	1	1	2	1	S	1	2	2	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1	2	1.2
Mar 28	1	1	1	1	S	1	2	1	2	2	1	1	1	2	2	2	1	1	1	1	1	1	1	2	1	2	1.3
Mar 29	1	1	1	S	2	2	3	2	2	2	2	1	2	1	1	2	1	2	2	1	2	1	2	2	1	3	1.7
Mar 30	2	1	S	1	1	2	1	1	1	1	1	1	1	1	2	1	1	1	2	1	1	2	1	2	1	2	1.3
Mar 31	1	S	1	1	1	1	2	2	2	2	2	1	2	2	2	1	2	1	1	1	2	2	2	2	1	2	1.6
Diurnal Maximum	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	3			
Daiurnal Average	1.7	1.7	1.6	1.7	1.8	1.8	1.7	1.6	2.0	2.0	1.8	1.7	1.7	1.6	1.6	1.7	1.6	1.6	1.9	1.5	1.6	1.6	1.5	1.7			

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 SO2 - 986b Station



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PEACE RIVER AREA MONITORING PROGRAM

986b Station - March 2019

Summary of Hourly Instantaneous Maximums

TOTAL REDUCED SULPHUR (TRS) in ppb

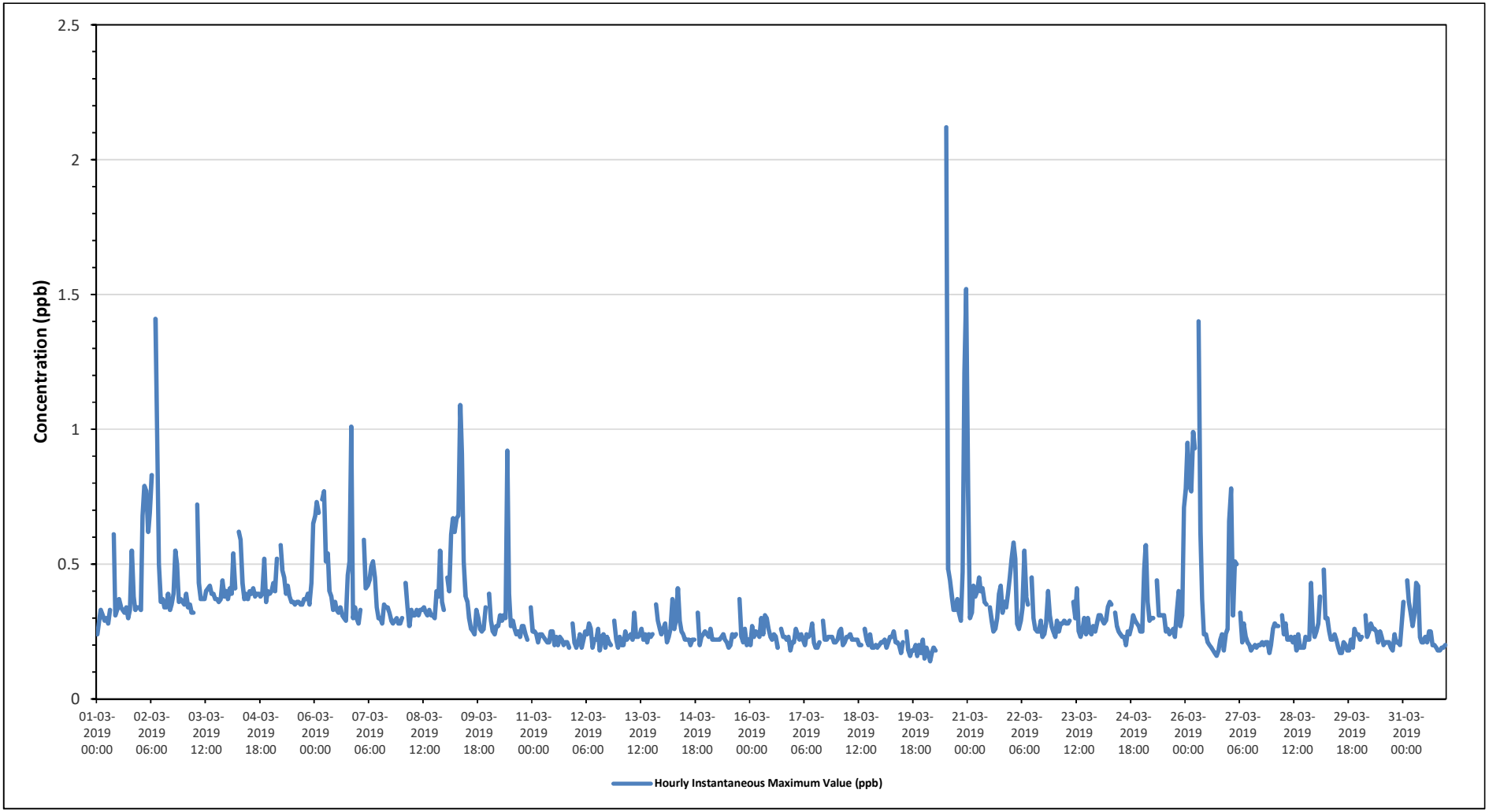
Maximum Hourly Value:	2.12	ppb	on March 20 at hour 12	Hours in Service:	744
Maximum Daily Value:	0.55	ppb	on March 2	Hours of Data:	708
Minimum Hourly Value:	0.14	ppb	on March 20 at hour 3	Hours of Missing Data:	0
Minimum Daily Value:	0.20	ppb	on March 19	Hours of Calibration:	36
Monthly Average:	0.32	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
Mar 1	0.24	0.29	0.33	0.31	0.29	0.3	0.28	0.33	S	0.61	0.31	0.33	0.37	0.34	0.33	0.32	0.34	0.3	0.33	0.55	0.38	0.33	0.34	0.34	0.24	0.61	0.34
Mar 2	0.33	0.68	0.79	0.77	0.62	0.69	0.83	S	1.41	0.98	0.5	0.36	0.37	0.34	0.34	0.39	0.33	0.35	0.39	0.55	0.5	0.36	0.37	0.36	0.33	1.41	**0.55**
Mar 3	0.35	0.39	0.34	0.35	0.32	0.32	S	0.72	0.43	0.37	0.37	0.37	0.4	0.41	0.42	0.39	0.39	0.37	0.37	0.36	0.37	0.44	0.38	0.4	0.32	0.72	0.39
Mar 4	0.37	0.41	0.39	0.54	0.41	S	0.62	0.59	0.43	0.37	0.39	0.37	0.4	0.39	0.41	0.38	0.39	0.39	0.38	0.39	0.52	0.36	0.4	0.39	0.36	0.62	0.42
Mar 5	0.4	0.43	0.4	0.52	S	0.57	0.48	0.45	0.39	0.42	0.38	0.36	0.36	0.35	0.36	0.36	0.35	0.35	0.37	0.37	0.39	0.35	0.43	0.65	0.35	0.65	0.41
Mar 6	0.68	0.73	0.69	S	0.74	0.77	0.51	0.54	0.4	0.38	0.33	0.36	0.33	0.32	0.34	0.31	0.3	0.29	0.46	0.51	1.01	0.3	0.34	0.3	0.29	1.01	0.48
Mar 7	0.28	0.33	S	0.59	0.41	0.42	0.44	0.49	0.51	0.45	0.34	0.3	0.3	0.28	0.35	0.34	0.34	0.32	0.29	0.28	0.29	0.3	0.28	0.28	0.28	0.59	0.36
Mar 8	0.3	S	0.43	0.34	0.27	0.33	0.31	0.31	0.33	0.31	0.33	0.33	0.34	0.32	0.31	0.33	0.31	0.31	0.3	0.4	0.38	0.55	0.36	0.33	0.27	0.55	0.34
Mar 9	S	0.45	0.4	0.61	0.67	0.62	0.67	0.68	1.09	0.91	0.51	0.38	0.36	0.3	0.26	0.25	0.24	0.33	0.3	0.26	0.25	0.26	0.34	S	0.24	1.09	0.46
Mar 10	0.39	0.29	0.25	0.24	0.27	0.27	0.31	0.29	0.31	0.3	0.92	0.39	0.27	0.29	0.26	0.24	0.25	0.23	0.27	0.27	0.24	0.22	S	0.34	0.22	0.92	0.31
Mar 11	0.25	0.25	0.24	0.21	0.24	0.24	0.23	0.22	0.21	0.21	0.25	0.25	0.2	0.23	0.2	0.23	0.22	0.2	0.21	0.21	0.19	S	0.28	0.21	0.19	0.28	0.23
Mar 12	0.19	0.21	0.24	0.19	0.22	0.25	0.24	0.28	0.26	0.19	0.22	0.22	0.26	0.18	0.23	0.24	0.19	0.23	0.21	0.2	S	0.29	0.22	0.19	0.18	0.29	0.22
Mar 13	0.23	0.2	0.2	0.25	0.22	0.23	0.24	0.22	0.32	0.23	0.23	0.24	0.26	0.22	0.24	0.21	0.24	0.23	0.24	S	0.35	0.29	0.26	0.24	0.20	0.35	0.24
Mar 14	0.26	0.28	0.21	0.23	0.26	0.37	0.26	0.29	0.41	0.29	0.25	0.24	0.22	0.22	0.22	0.2	0.22	0.22	S	0.32	0.2	0.23	0.24	0.25	0.20	0.41	0.26
Mar 15	0.24	0.23	0.26	0.22	0.22	0.22	0.22	0.22	0.23	0.24	0.22	0.21	0.19	0.2	0.24	0.23	0.24	S	0.37	0.23	0.21	0.26	0.2	0.22	0.19	0.37	0.23
Mar 16	0.2	0.27	0.23	0.25	0.24	0.23	0.3	0.24	0.31	0.3	0.26	0.23	0.22	0.24	0.23	0.19	S	0.26	0.23	0.23	0.22	0.23	0.18	0.21	0.18	0.31	0.24
Mar 17	0.21	0.26	0.24	0.22	0.24	0.22	0.2	0.24	0.23	0.24	0.28	0.21	0.19	0.19	0.21	S	0.29	0.22	0.22	0.23	0.23	0.23	0.21	0.21	0.19	0.29	0.23
Mar 18	0.22	0.25	0.26	0.2	0.21	0.23	0.23	0.24	0.22	0.22	0.22	0.22	0.2	0.2	S	0.26	0.22	0.2	0.24	0.19	0.19	0.2	0.19	0.2	0.19	0.26	0.22
Mar 19	0.21	0.21	0.22	0.19	0.21	0.23	0.23	0.25	0.21	0.21	0.2	0.17	0.21	S	0.25	0.18	0.16	0.18	0.18	0.2	0.16	0.2	0.17	0.22	0.16	0.25	**0.20**
Mar 20	0.15	0.19	0.17	**0.14**	0.17	0.19	0.18	C	C	C	C	C	**2.12**	0.48	0.44	0.38	0.33	0.33	0.37	0.32	0.29	0.47	1.21	1.52	**0.14**	**2.12**	0.50
Mar 21	0.78	0.3	0.32	0.42	0.38	0.4	0.45	0.4	0.41	0.36	0.35	S	0.34	0.29	0.25	0.26	0.3	0.39	0.42	0.32	0.36	0.34	0.39	0.45	0.25	0.78	0.38
Mar 22	0.52	0.58	0.52	0.28	0.26	0.29	0.34	0.55	0.38	0.35	S	0.45	0.3	0.26	0.25	0.25	0.29	0.23	0.24	0.28	0.4	0.31	0.27	0.25	0.23	0.58	0.34
Mar 23	0.23	0.29	0.25	0.28	0.28	0.29	0.28	0.28	0.29	S	0.36	0.3	0.41	0.25	0.23	0.26	0.3	0.24	0.3	0.25	0.24	0.27	0.25	0.28	0.23	0.41	0.28
Mar 24	0.31	0.31	0.29	0.28	0.29	0.34	0.36	0.35	S	0.32	0.27	0.25	0.24	0.23	0.23	0.2	0.25	0.24	0.27	0.31	0.29	0.28	0.27	0.25	0.20	0.36	0.28
Mar 25	0.25	0.48	0.57	0.36	0.29	0.3	0.3	S	0.44	0.31	0.31	0.31	0.31	0.25	0.26	0.24	0.25	0.26	0.23	0.32	0.4	0.27	0.31	0.71	0.23	0.71	0.34
Mar 26	0.78	0.95	0.79	0.77	0.99	0.93	S	1.4	0.62	0.37	0.24	0.24	0.21	0.2	0.19	0.18	0.17	0.16	0.18	0.22	0.24	0.18	0.24	0.26	0.16	1.40	0.46
Mar 27	0.66	0.78	0.31	0.51	0.5	S	0.32	0.21	0.28	0.23	0.21	0.2	0.18	0.19	0.2	0.19	0.2	0.2	0.21	0.2	0.21	0.21	0.17	0.2	0.17	0.78	0.29
Mar 28	0.26	0.28	0.27	0.27	S	0.31	0.24	0.28	0.22	0.22	0.23	0.21	0.23	0.18	0.24	0.19	0.19	0.19	0.23	0.22	0.22	0.43	0.27	0.23	0.18	0.43	0.24
Mar 29	0.25	0.28	0.38	S	0.48	0.3	0.3	0.25	0.22	0.22	0.24	0.22	0.19	0.17	0.17	0.21	0.2	0.18	0.18	0.22	0.19	0.26	0.24	0.24	0.17	0.48	0.24
Mar 30	0.22	0.23	S	0.31	0.23	0.25	0.28	0.26	0.26	0.25	0.21	0.25	0.23	0.2	0.21	0.21	0.21	0.19	0.18	0.24	0.21	0.21	0.2	0.27	0.18	0.31	0.23
Mar 31	0.36	S	0.44	0.36	0.32	0.27	0.32	0.43	0.42	0.23	0.21	0.21	0.23	0.21	0.25	0.25	0.2	0.2	0.19	0.18	0.18	0.19	0.19	0.2	0.18	0.44	0.26
Diurnal Maximum	0.78	0.95	0.79	0.77	0.99	0.93	0.83	1.40	1.41	0.98	0.92	0.45	2.12	0.48	0.44	0.39	0.39	0.39	0.46	0.55	1.01	0.55	1.21	1.52			
Daiurnal Average	0.34	0.37	0.36	0.35	0.35	0.36	0.34	0.39	0.40	0.35	0.32	0.28	0.34	0.26	0.27	0.26	0.26	0.26	0.28	0.29	0.31	0.29	0.31	0.34			

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 pramp

PEACE RIVER AREA MONITORING PROGRAM

986b Station - March 2019

Summary of Hourly Instantaneous Maximums

TOTAL HYDROCARBONS (THC) in ppm

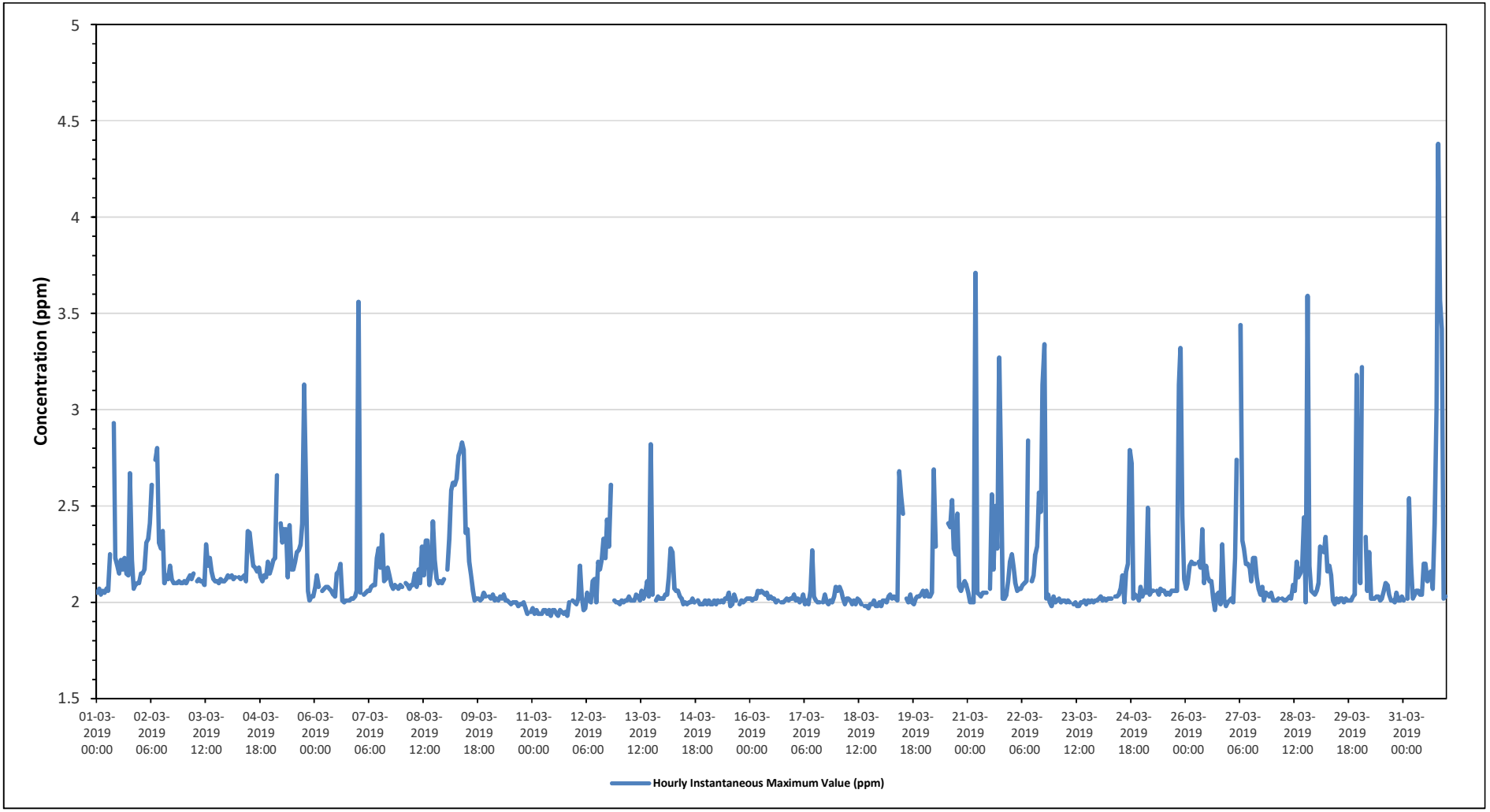
Maximum Hourly Value:	4.38	ppm	on March 31 at hour 19	Hours in Service:	744
Maximum Daily Value:	2.38	ppm	on March 31	Hours of Data:	708
Minimum Hourly Value:	1.93	ppm	on March 11 at hour 19	Hours of Missing Data:	0
Minimum Daily Value:	1.96	ppm	on March 11	Hours of Calibration:	36
Monthly Average:	2.14	ppm		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Mar 1	2.05	2.07	2.04	2.06	2.05	2.07	2.06	2.25	S	2.93	2.23	2.19	2.15	2.22	2.17	2.23	2.15	2.14	2.67	2.22	2.07	2.09	2.10	2.10	2.04	2.93	2.19
Mar 2	2.15	2.15	2.17	2.31	2.33	2.41	2.61	S	2.74	2.80	2.31	2.28	2.37	2.10	2.14	2.12	2.19	2.12	2.10	2.10	2.10	2.11	2.10	2.10	2.10	2.80	2.26
Mar 3	2.11	2.10	2.12	2.14	2.12	2.15	S	2.11	2.12	2.11	2.11	2.09	2.30	2.19	2.23	2.16	2.12	2.11	2.11	2.10	2.12	2.11	2.11	2.12	2.09	2.30	2.13
Mar 4	2.14	2.13	2.14	2.12	2.13	S	2.13	2.12	2.13	2.14	2.11	2.37	2.36	2.26	2.19	2.18	2.16	2.18	2.13	2.11	2.14	2.13	2.21	2.15	2.11	2.37	2.17
Mar 5	2.18	2.22	2.23	2.66	S	2.41	2.31	2.38	2.38	2.13	2.40	2.17	2.17	2.21	2.26	2.27	2.30	2.41	3.13	2.57	2.06	2.01	2.03	2.03	2.01	3.13	2.30
Mar 6	2.08	2.14	2.08	S	2.06	2.07	2.08	2.08	2.07	2.06	2.04	2.03	2.15	2.16	2.20	2.01	2.00	2.01	2.01	2.01	2.02	2.02	2.03	2.06	2.00	2.20	2.06
Mar 7	3.56	2.05	S	2.04	2.05	2.06	2.06	2.08	2.09	2.09	2.23	2.28	2.18	2.35	2.11	2.12	2.18	2.14	2.09	2.07	2.09	2.08	2.07	2.09	2.04	3.56	2.18
Mar 8	2.08	S	2.10	2.09	2.07	2.09	2.09	2.15	2.08	2.17	2.10	2.29	2.14	2.32	2.32	2.09	2.17	2.42	2.22	2.12	2.10	2.11	2.10	2.12	2.07	2.42	2.15
Mar 9	S	2.17	2.33	2.58	2.62	2.61	2.64	2.76	2.79	2.83	2.79	2.36	2.38	2.21	2.14	2.06	2.01	2.02	2.02	2.01	2.02	2.05	2.03	S	2.01	2.83	2.34
Mar 10	2.03	2.02	2.04	2.01	2.02	2.01	2.03	2.02	2.04	2.01	2.01	2.00	1.99	2.00	2.00	2.00	1.98	1.99	1.99	2.00	1.97	1.94	S	1.95	1.94	2.04	2.00
Mar 11	1.97	1.94	1.96	1.94	1.94	1.94	1.96	1.96	1.94	1.96	1.93	1.96	1.96	1.94	1.93	1.96	1.95	1.94	1.95	**1.93**	2.00	S	2.01	2.00	**1.93**	2.01	**1.96**
Mar 12	1.99	2.02	2.19	2.03	1.96	1.97	2.05	2.01	2.00	2.11	2.12	2.00	2.21	2.17	2.22	2.33	2.23	2.43	2.29	2.61	S	2.01	2.00	2.00	1.96	2.61	2.13
Mar 13	1.99	2.01	2.00	2.01	2.01	2.03	2.01	2.01	2.01	2.04	2.03	2.01	2.06	2.02	2.05	2.11	2.03	2.82	2.04	S	2.01	2.03	2.02	2.02	1.99	2.82	2.06
Mar 14	2.02	2.04	2.04	2.13	2.28	2.26	2.07	2.06	2.06	2.03	2.02	1.99	2.00	1.99	2.00	2.00	2.02	2.00	S	2.01	1.99	1.99	1.99	2.01	1.99	2.28	2.04
Mar 15	1.99	2.01	1.99	1.99	2.01	1.99	2.01	2.00	2.01	2.00	2.02	2.02	2.05	1.98	1.99	2.04	2.01	S	1.99	2.01	2.00	2.01	2.02	2.02	1.98	2.05	2.01
Mar 16	2.02	2.01	2.02	2.02	2.06	2.05	2.06	2.05	2.04	2.05	2.02	2.03	2.02	2.02	2.00	2.01	S	2.00	2.00	2.01	2.02	2.01	2.02	2.02	2.00	2.06	2.02
Mar 17	2.04	2.01	2.02	2.00	2.01	2.04	1.99	2.01	1.99	2.06	2.27	2.03	2.01	2.00	2.00	S	2.00	2.04	2.00	1.99	2.01	2.00	2.03	2.08	1.99	2.27	2.03
Mar 18	2.06	2.08	2.06	2.02	1.99	2.02	2.02	2.01	1.99	2.01	1.99	2.02	2.01	1.99	S	1.98	1.98	1.97	1.99	1.99	2.01	1.98	1.98	2.00	1.97	2.08	2.01
Mar 19	1.98	2.01	2.01	2.00	2.03	2.04	2.02	2.03	2.02	2.01	2.68	2.55	2.46	S	2.02	2.00	2.04	2.00	1.99	2.02	2.03	2.03	2.04	2.06	1.98	2.68	2.09
Mar 20	2.03	2.06	2.03	2.03	2.05	2.69	2.29	C	C	C	C	2.05	S	2.41	2.39	2.53	2.28	2.25	2.46	2.08	2.06	2.09	2.11	2.09	2.03	2.69	2.21
Mar 21	2.05	2.00	2.00	2.00	3.71	2.05	2.04	2.03	2.05	2.05	2.05	S	2.07	2.56	2.17	2.50	2.28	3.27	2.78	2.02	2.02	2.04	2.11	2.21	2.00	3.71	2.26
Mar 22	2.25	2.18	2.10	2.06	2.07	2.07	2.09	2.10	2.11	2.84	S	2.11	2.14	2.25	2.29	2.57	2.47	3.13	3.34	2.02	2.04	2.00	1.98	2.03	1.98	3.34	2.27
Mar 23	2.00	2.01	2.02	2.00	2.01	2.01	2.00	2.01	2.00	S	1.99	2.00	1.98	1.98	2.00	2.00	2.01	1.99	2.01	2.00	2.01	2.00	2.01	2.01	1.98	2.02	2.00
Mar 24	2.02	2.03	2.01	2.02	2.01	2.02	2.02	2.02	S	2.03	2.03	2.04	2.07	2.14	2.00	2.16	2.20	2.79	2.72	2.02	2.04	2.03	2.01	2.08	2.00	2.79	2.11
Mar 25	2.03	2.06	2.05	2.49	2.04	2.06	2.06	S	2.06	2.04	2.07	2.06	2.06	2.04	2.05	2.04	2.06	2.06	2.06	2.06	3.13	3.32	2.45	2.12	2.03	3.32	2.19
Mar 26	2.07	2.10	2.19	2.21	2.20	2.20	S	2.21	2.18	2.38	2.10	2.19	2.13	2.11	2.11	2.02	1.96	2.04	2.05	1.99	2.30	2.02	1.98	2.00	1.96	2.38	2.12
Mar 27	2.01	2.02	2.00	2.23	2.74	S	3.44	2.32	2.28	2.20	2.20	2.18	2.11	2.23	2.23	2.13	2.07	2.04	2.08	2.01	2.05	2.04	2.03	2.05	2.00	3.44	2.20
Mar 28	2.01	2.01	2.01	2.02	S	2.02	2.01	2.01	2.02	2.03	2.02	2.09	2.06	2.21	2.13	2.15	2.19	2.44	2.00	3.59	2.19	2.06	2.05	2.04	2.00	3.59	2.15
Mar 29	2.06	2.10	2.29	S	2.26	2.34	2.16	2.19	2.14	2.01	1.99	2.02	2.00	2.02	2.02	2.00	2.02	2.01	2.01	2.01	2.03	2.04	3.18	2.49	1.99	3.18	2.15
Mar 30	2.10	3.22	S	2.34	2.06	2.26	2.02	2.02	2.02	2.03	2.03	2.01	2.02	2.06	2.10	2.09	2.04	2.01	2.01	2.00	2.05	2.01	2.01	2.03	2.00	3.22	2.11
Mar 31	2.01	S	2.02	2.54	2.20	2.02	2.04	2.06	2.06	2.04	2.04	2.20	2.20	2.11	2.15	2.16	2.07	2.41	3.01	**4.38**	3.57	3.42	2.02	2.03	2.01	**4.38**	**2.38**
Diurnal Maximum	3.56	3.22	2.33	2.66	3.71	2.69	3.44	2.76	2.79	2.93	2.79	2.55	2.46	2.56	2.39	2.57	2.47	3.27	3.34	4.38	3.57	3.42	3.18	2.49			
Daiurnal Average	2.10	2.10	2.08	2.14	2.18	2.14	2.15	2.11	2.12	2.18	2.14	2.12	2.13	2.14	2.12	2.13	2.11	2.24	2.24	2.20	2.14	2.13	2.09	2.07			

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



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PEACE RIVER AREA MONITORING PROGRAM

986b Station - March 2019

Summary of Hourly Instantaneous Maximums

METHANE (CH4) in ppm

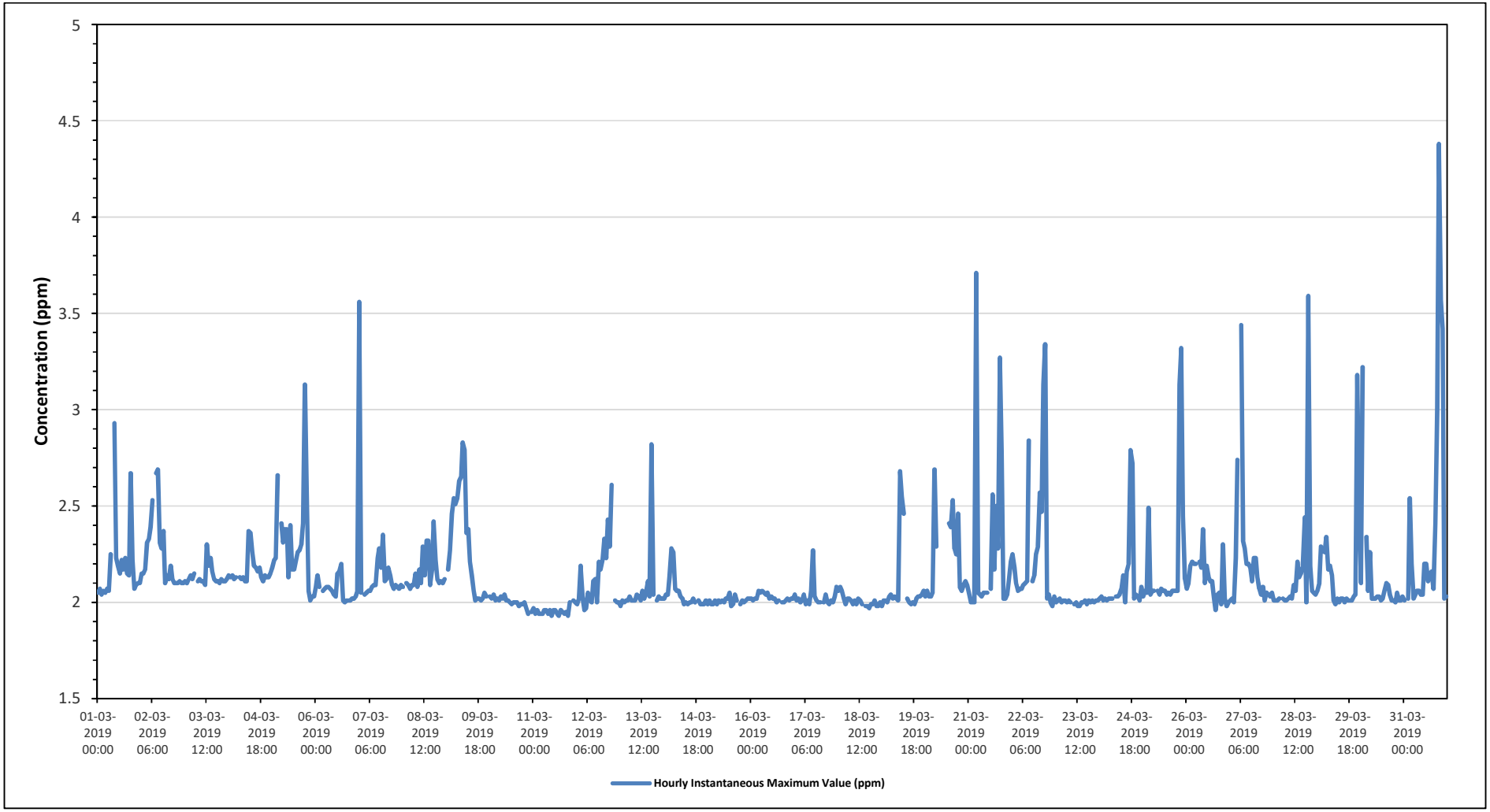
Maximum Hourly Value:	4.38	ppm	on March 31 at hour 19	Hours in Service:	744
Maximum Daily Value:	2.38	ppm	on March 31	Hours of Data:	708
Minimum Hourly Value:	1.93	ppm	on March 11 at hour 10	Hours of Missing Data:	0
Minimum Daily Value:	1.96	ppm	on March 11	Hours of Calibration:	36
Monthly Average:	2.14	ppm		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Mar 1	2.05	2.07	2.04	2.06	2.05	2.07	2.06	2.25	S	2.93	2.23	2.19	2.15	2.22	2.17	2.23	2.15	2.14	2.67	2.22	2.07	2.09	2.10	2.10	2.04	2.93	2.19
Mar 2	2.15	2.15	2.17	2.31	2.33	2.39	2.53	S	2.67	2.69	2.31	2.28	2.37	2.10	2.14	2.12	2.19	2.12	2.10	2.10	2.10	2.11	2.10	2.10	2.10	2.69	2.24
Mar 3	2.11	2.10	2.12	2.14	2.12	2.15	S	2.11	2.12	2.11	2.11	2.09	2.30	2.19	2.23	2.16	2.12	2.11	2.11	2.10	2.12	2.11	2.11	2.12	2.09	2.30	2.13
Mar 4	2.14	2.13	2.14	2.12	2.13	S	2.13	2.12	2.13	2.11	2.11	2.37	2.36	2.26	2.19	2.18	2.16	2.18	2.13	2.11	2.14	2.13	2.13	2.15	2.11	2.37	2.16
Mar 5	2.18	2.22	2.23	2.66	S	2.41	2.31	2.38	2.38	2.13	2.40	2.17	2.17	2.21	2.26	2.27	2.30	2.41	3.13	2.57	2.06	2.01	2.03	2.03	2.01	3.13	2.30
Mar 6	2.08	2.14	2.08	S	2.06	2.07	2.08	2.08	2.07	2.06	2.04	2.03	2.15	2.16	2.20	2.01	2.00	2.01	2.01	2.01	2.02	2.02	2.03	2.06	2.00	2.20	2.06
Mar 7	3.56	2.05	S	2.04	2.05	2.06	2.06	2.08	2.09	2.09	2.23	2.28	2.18	2.35	2.11	2.12	2.18	2.14	2.09	2.07	2.09	2.08	2.07	2.09	2.04	3.56	2.18
Mar 8	2.08	S	2.10	2.09	2.07	2.09	2.09	2.15	2.08	2.17	2.10	2.29	2.14	2.32	2.32	2.09	2.17	2.42	2.22	2.12	2.10	2.11	2.10	2.12	2.07	2.42	2.15
Mar 9	S	2.17	2.27	2.46	2.54	2.51	2.54	2.63	2.65	2.83	2.79	2.36	2.38	2.21	2.14	2.06	2.01	2.02	2.02	2.01	2.02	2.05	2.03	S	2.01	2.83	2.30
Mar 10	2.03	2.02	2.04	2.01	2.02	2.01	2.03	2.02	2.04	2.01	2.01	2.00	1.99	2.00	2.00	2.00	1.98	1.99	1.99	2.00	1.97	1.94	S	1.95	1.94	2.04	2.00
Mar 11	1.97	1.94	1.96	1.94	1.94	1.94	1.96	1.96	1.94	1.96	**1.93**	1.96	1.96	1.94	1.93	1.96	1.95	1.94	1.95	1.93	2.00	S	2.01	2.00	**1.93**	2.01	**1.96**
Mar 12	1.99	2.02	2.19	2.03	1.96	1.97	2.05	2.01	2.00	2.11	2.12	2.00	2.21	2.17	2.22	2.33	2.23	2.43	2.29	2.61	S	2.01	2.00	2.00	1.96	2.61	2.13
Mar 13	1.98	2.01	2.00	2.01	2.01	2.03	2.01	2.01	2.01	2.04	2.03	2.01	2.06	2.02	2.05	2.11	2.03	2.82	2.04	S	2.01	2.03	2.02	2.02	1.98	2.82	2.06
Mar 14	2.02	2.04	2.04	2.13	2.28	2.26	2.07	2.06	2.06	2.03	2.02	1.99	2.00	1.99	2.00	2.00	2.02	2.00	S	2.01	1.99	1.99	1.99	2.01	1.99	2.28	2.04
Mar 15	1.99	2.01	1.99	1.99	2.01	1.99	2.01	2.00	2.01	2.00	2.02	2.02	2.05	1.98	1.99	2.04	2.01	S	1.99	2.01	2.00	2.01	2.02	2.02	1.98	2.05	2.01
Mar 16	2.02	2.01	2.02	2.02	2.06	2.05	2.06	2.05	2.04	2.05	2.02	2.03	2.02	2.02	2.00	2.01	S	2.00	2.00	2.01	2.02	2.01	2.02	2.02	2.00	2.06	2.02
Mar 17	2.04	2.01	2.02	2.00	2.01	2.04	1.99	2.01	1.99	2.06	2.27	2.03	2.01	2.00	2.00	S	2.00	2.04	2.00	1.99	2.01	2.00	2.03	2.08	1.99	2.27	2.03
Mar 18	2.06	2.08	2.06	2.02	1.99	2.02	2.02	2.01	1.99	2.01	1.99	2.02	2.01	1.99	S	1.98	1.98	1.97	1.99	1.99	2.01	1.98	1.98	2.00	1.97	2.08	2.01
Mar 19	1.98	2.01	2.01	2.00	2.03	2.04	2.02	2.03	2.02	2.01	2.68	2.55	2.46	S	2.02	2.00	1.99	2.00	1.99	2.02	2.03	2.03	2.04	2.06	1.98	2.68	2.09
Mar 20	2.03	2.06	2.03	2.03	2.05	2.69	2.29	C	C	C	C	2.05	S	2.41	2.39	2.53	2.28	2.25	2.46	2.08	2.06	2.09	2.11	2.09	2.03	2.69	2.21
Mar 21	2.05	2.00	2.00	2.00	3.71	2.05	2.04	2.03	2.05	2.05	2.05	S	2.07	2.56	2.17	2.50	2.28	3.27	2.78	2.02	2.02	2.04	2.11	2.21	2.00	3.71	2.26
Mar 22	2.25	2.18	2.10	2.06	2.07	2.07	2.09	2.10	2.11	2.84	S	2.11	2.14	2.25	2.29	2.57	2.47	3.13	3.34	2.02	2.04	2.00	1.98	2.03	1.98	3.34	2.27
Mar 23	2.00	2.01	2.02	2.00	2.01	2.01	2.00	2.01	2.00	S	1.99	2.00	1.98	1.98	2.00	2.00	2.01	1.99	2.01	2.00	2.01	2.00	2.01	2.01	1.98	2.02	2.00
Mar 24	2.02	2.03	2.01	2.02	2.01	2.02	2.02	2.02	S	2.03	2.03	2.04	2.07	2.14	2.00	2.16	2.20	2.79	2.72	2.02	2.04	2.03	2.01	2.08	2.00	2.79	2.11
Mar 25	2.03	2.06	2.05	2.49	2.04	2.06	2.06	S	2.06	2.04	2.07	2.06	2.06	2.04	2.05	2.04	2.06	2.06	2.06	2.06	3.13	3.32	2.45	2.12	2.03	3.32	2.19
Mar 26	2.07	2.10	2.19	2.21	2.20	2.20	S	2.21	2.18	2.38	2.10	2.19	2.13	2.11	2.11	2.02	1.96	2.04	2.05	1.99	2.30	2.02	1.98	2.00	1.96	2.38	2.12
Mar 27	2.01	2.02	2.00	2.23	2.74	S	3.44	2.32	2.28	2.20	2.20	2.18	2.11	2.23	2.23	2.13	2.07	2.04	2.08	2.01	2.05	2.04	2.03	2.05	2.00	3.44	2.20
Mar 28	2.01	2.01	2.01	2.02	S	2.02	2.01	2.01	2.02	2.03	2.02	2.09	2.06	2.21	2.13	2.15	2.19	2.44	2.00	3.59	2.19	2.06	2.05	2.04	2.00	3.59	2.15
Mar 29	2.06	2.10	2.29	S	2.26	2.34	2.17	2.19	2.14	2.01	1.99	2.02	2.00	2.02	2.02	2.00	2.02	2.01	2.01	2.01	2.03	2.04	3.18	2.49	1.99	3.18	2.15
Mar 30	2.10	3.22	S	2.34	2.06	2.26	2.02	2.02	2.02	2.03	2.03	2.01	2.02	2.06	2.10	2.09	2.04	2.01	2.01	2.00	2.05	2.01	2.01	2.03	2.00	3.22	2.11
Mar 31	2.01	S	2.02	2.54	2.20	2.02	2.04	2.06	2.06	2.04	2.04	2.20	2.20	2.11	2.15	2.16	2.07	2.41	3.01	**4.38**	3.57	3.42	2.02	2.03	2.01	**4.38**	**2.38**
Diurnal Maximum	3.56	3.22	2.29	2.66	3.71	2.69	3.44	2.63	2.67	2.93	2.79	2.55	2.46	2.56	2.39	2.57	2.47	3.27	3.34	4.38	3.57	3.42	3.18	2.49			
Daiurnal Average	2.10	2.10	2.08	2.14	2.17	2.13	2.14	2.10	2.11	2.17	2.14	2.12	2.13	2.14	2.12	2.13	2.10	2.24	2.24	2.20	2.14	2.13	2.09	2.07			

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 - March 2019

Summary of Hourly Instantaneous Maximums

NON-METHANE HYDROCARBONS (NMHC) in ppm

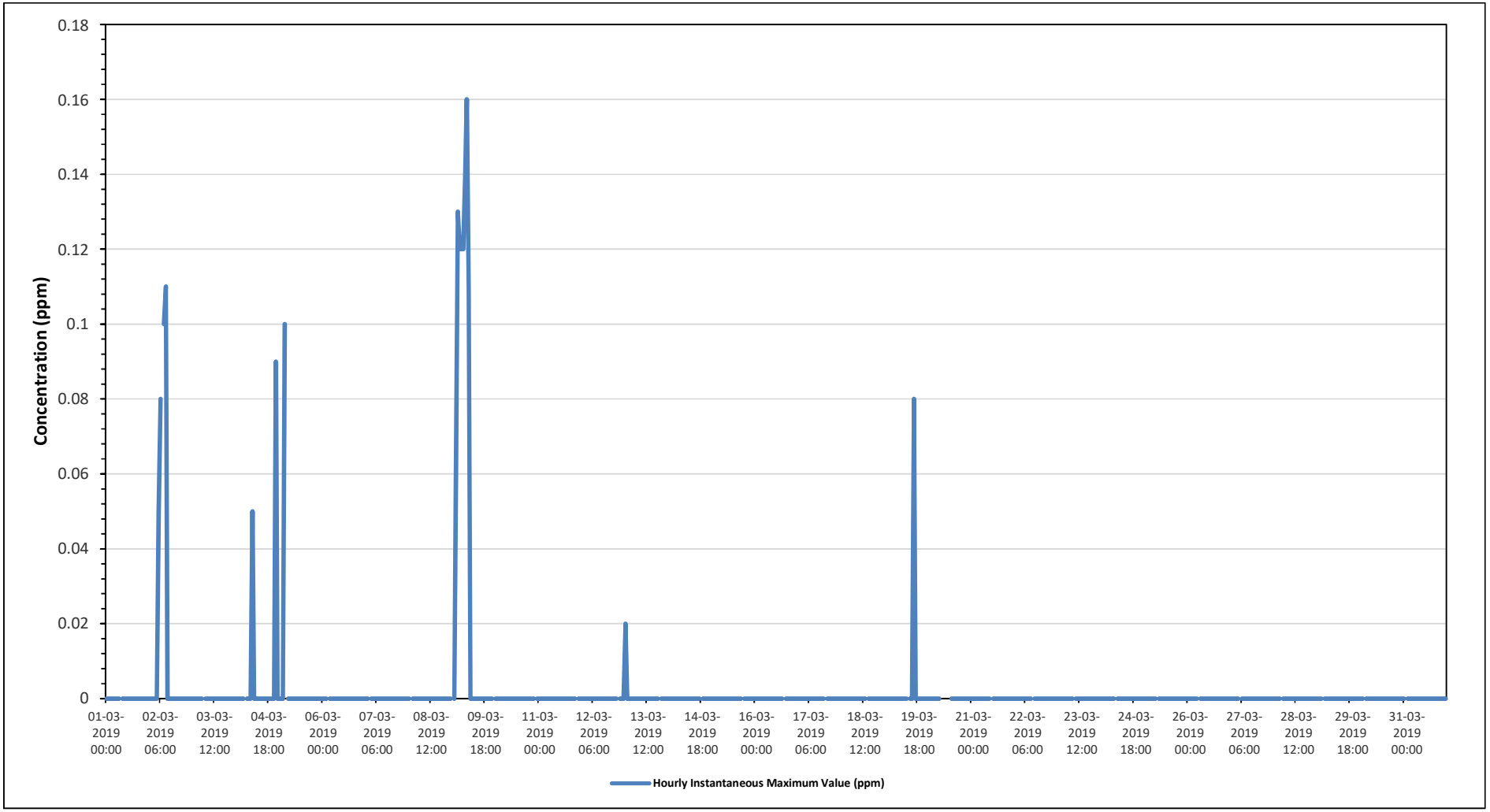
Maximum Hourly Value:	0.16	ppm	on March 9 at hour 8	Hours in Service:	744
Maximum Daily Value:	0.04	ppm	on March 9	Hours of Data:	708
Minimum Hourly Value:	0.00	ppm	on March 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.00	ppm	on March 1	Hours of Calibration:	36
Monthly Average:	0.00	ppm		Operational Uptime:	100.0

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

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

986b Station - March 2019

Summary of Hourly Instantaneous Maximums

WIND SPEED (WS) in km/h

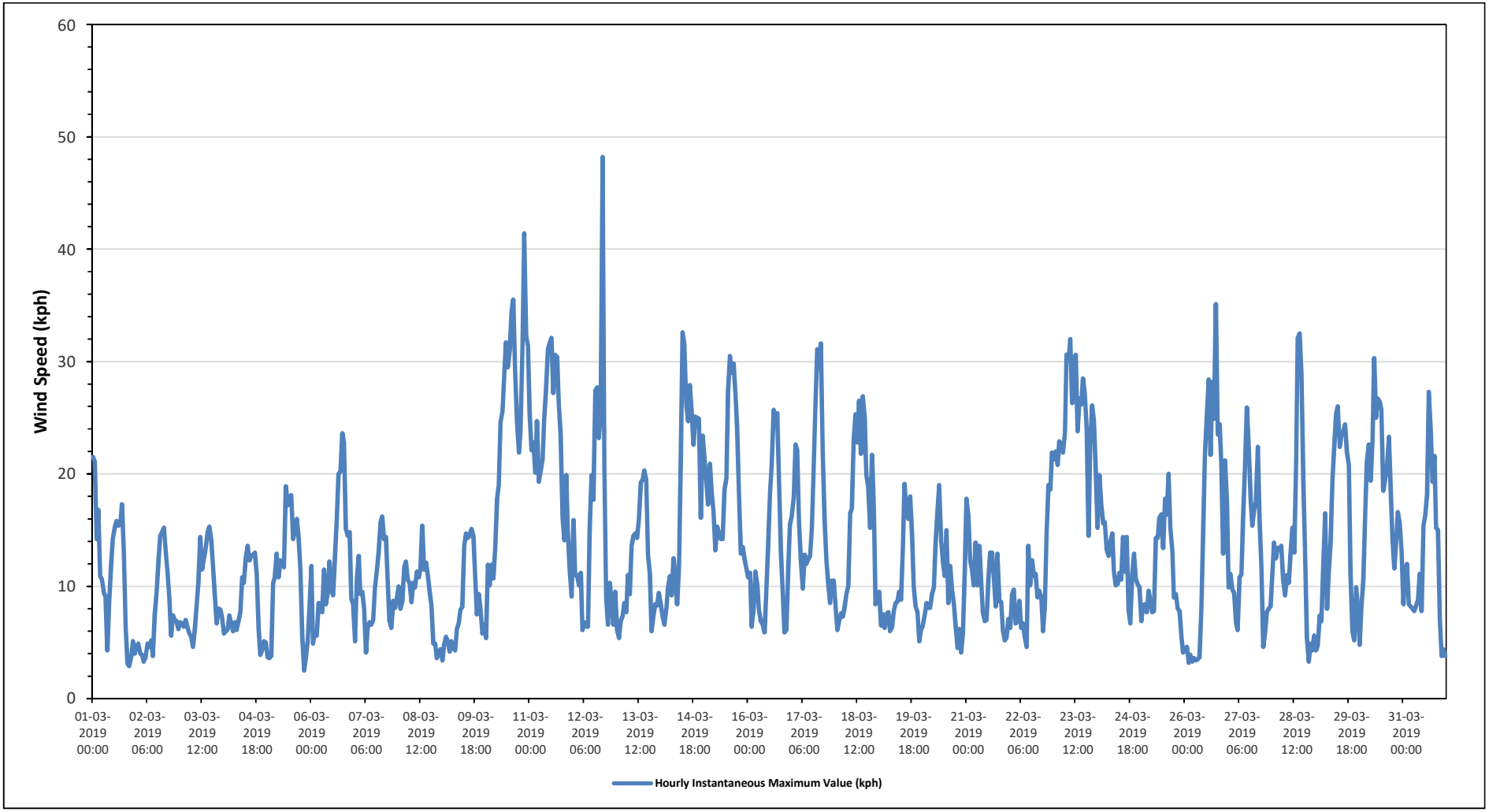
Maximum Hourly Value:	48.2	kph	on March 12 at hour 16	Hours in Service:	744
Maximum Daily Value:	24.9	kph	on March 23	Hours of Data:	744
Minimum Hourly Value:	2.5	kph	on March 5 at hour 20	Hours of Missing Data:	0
Minimum Daily Value:	7.6	kph	on March 2	Hours of Calibration:	0
Monthly Average:	13.5	kph		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
Mar 1	21.5	21.1	14.2	16.8	10.9	10.6	9.4	9.1	4.3	8.7	11.9	14.2	15.2	15.8	15.4	15.5	17.3	13.0	6.4	3.1	2.9	3.7	5.1	4.0	2.9	21.5	11.3
Mar 2	4.7	4.9	4.0	3.9	3.3	3.7	4.9	4.6	5.2	3.8	7.5	9.5	12.3	14.5	14.8	15.2	13.1	11.3	9.1	5.6	7.4	7.0	6.9	6.2	3.3	15.2	**7.6**
Mar 3	6.8	6.7	6.4	7.0	6.3	5.8	5.5	4.6	6.2	8.4	10.3	14.4	11.5	12.5	13.3	14.8	15.3	14.1	12.0	9.3	6.7	8.0	7.9	7.3	4.6	15.3	9.2
Mar 4	5.8	6.0	6.2	7.4	6.7	6.0	6.8	6.1	6.9	7.7	10.8	10.3	12.5	13.6	12.3	12.7	12.8	13.0	11.1	6.3	3.9	4.3	5.1	5.0	3.9	13.6	8.3
Mar 5	3.7	3.6	3.8	10.3	10.8	12.9	10.8	12.3	12.1	11.7	18.9	17.2	17.8	18.1	14.2	14.9	16.0	14.5	11.6	5.6	**2.5**	3.6	5.1	8.1	**2.5**	18.9	10.8
Mar 6	11.8	4.9	5.9	5.6	8.5	7.9	7.7	11.5	8.4	9.4	12.2	9.7	9.2	12.7	15.7	20.0	20.2	23.6	22.8	15.1	14.5	14.8	8.9	8.4	4.9	23.6	12.1
Mar 7	5.1	10.6	12.7	9.3	9.5	8.0	4.1	6.3	6.8	6.6	7.0	9.9	11.3	13.0	15.7	16.2	14.2	14.4	10.2	6.9	6.3	8.7	8.1	9.0	4.1	16.2	9.6
Mar 8	10.0	8.0	8.7	11.7	12.2	10.6	10.3	8.6	10.3	9.9	11.3	10.8	11.5	15.4	11.5	12.1	10.9	9.6	8.3	4.9	4.9	3.6	3.9	4.4	3.6	15.4	9.3
Mar 9	3.4	4.8	5.5	5.1	4.2	5.1	4.5	4.3	6.2	6.7	7.9	8.2	13.6	14.7	14.3	14.5	15.1	14.5	11.1	7.5	9.3	7.9	5.8	6.6	3.4	15.1	8.4
Mar 10	5.4	11.9	10.1	11.9	10.7	13.4	17.8	19.0	24.6	25.6	28.9	31.7	29.5	31.0	34.5	35.5	29.1	24.7	21.9	23.6	31.2	41.4	32.2	31.4	5.4	41.4	24.0
Mar 11	25.4	22.1	22.8	20.1	24.7	19.3	20.2	21.3	24.8	27.5	31.1	31.7	32.1	27.2	30.6	30.4	26.3	23.5	16.1	14.1	19.9	14.9	11.5	9.1	9.1	32.1	22.8
Mar 12	15.9	11.0	11.0	10.1	11.2	6.1	6.8	6.4	6.4	14.9	19.9	17.7	27.4	27.7	23.2	25.4	**48.2**	20.4	9.0	6.6	10.3	8.4	6.6	9.5	6.1	**48.2**	15.0
Mar 13	6.1	5.4	6.9	7.3	8.5	7.7	11.0	9.3	13.6	14.5	14.7	14.3	16.0	19.2	19.5	20.3	19.5	12.8	11.1	6.0	7.4	8.4	8.3	9.4	5.4	20.3	11.6
Mar 14	8.4	7.3	6.6	8.0	9.9	10.9	9.2	12.5	11.1	8.4	11.7	21.9	32.6	31.6	26.1	24.7	27.9	25.7	22.6	25.1	25.0	24.9	16.1	23.4	6.6	32.6	18.0
Mar 15	21.2	19.5	17.3	20.9	18.3	16.6	13.2	15.3	14.7	14.2	14.2	18.6	19.6	27.3	30.5	29.0	29.8	27.1	24.1	18.1	12.9	13.5	12.5	11.6	11.6	30.5	19.2
Mar 16	10.8	11.2	6.4	7.9	11.3	10.1	7.9	6.9	6.6	5.9	9.4	13.6	18.3	21.0	25.7	24.5	25.4	19.1	12.9	9.7	5.9	6.1	11.7	15.5	5.9	25.7	12.7
Mar 17	16.2	17.9	22.6	22.1	15.7	12.3	9.8	12.8	12.0	12.4	12.7	15.2	20.4	26.0	31.1	29.5	31.6	22.0	15.9	12.2	10.4	8.5	10.5	10.5	8.5	31.6	17.1
Mar 18	8.5	6.1	6.9	7.6	7.3	8.1	9.3	10.0	16.5	16.9	23.1	25.3	22.8	26.5	21.8	26.9	25.0	19.9	18.9	15.2	21.7	16.9	8.4	9.0	6.1	26.9	15.8
Mar 19	9.5	6.5	7.5	6.3	7.5	7.7	6.0	6.3	7.8	8.5	8.6	9.5	8.8	13.4	19.1	16.4	16.0	18.0	14.5	10.0	8.2	7.7	5.1	6.1	5.1	19.1	9.8
Mar 20	6.5	7.5	8.5	8.1	8.1	9.3	9.9	13.7	16.7	19.0	14.0	12.1	10.9	15.0	8.5	11.8	9.7	8.5	6.4	4.5	6.2	4.1	5.7	11.3	4.1	19.0	9.8
Mar 21	17.8	16.3	12.3	11.5	10.1	13.9	10.1	13.6	10.3	7.7	6.9	7.0	10.7	13.0	13.0	10.7	8.2	12.9	8.7	8.6	6.0	5.2	5.4	7.1	5.2	17.8	10.3
Mar 22	6.3	9.3	9.7	6.7	6.9	8.7	6.3	6.7	5.4	4.6	13.6	10.1	12.3	10.9	11.1	9.0	9.6	9.0	6.0	8.1	14.7	19.0	18.6	21.9	4.6	21.9	10.2
Mar 23	21.3	22.0	20.8	22.9	22.5	21.9	23.7	30.6	30.1	32.0	26.3	29.5	30.6	23.8	26.7	26.2	28.5	27.0	24.0	14.5	22.4	26.1	24.7	20.0	14.5	32.0	**24.9**
Mar 24	15.2	19.9	17.3	15.6	15.7	13.3	12.7	14.0	14.7	11.3	10.1	10.2	11.2	10.6	14.4	11.3	14.4	7.9	6.7	11.0	12.9	10.7	10.2	9.9	6.7	19.9	12.6
Mar 25	6.9	8.3	8.4	7.7	9.6	8.7	7.7	7.8	14.3	14.3	16.1	16.4	13.4	17.8	16.4	20.0	15.2	13.1	9.0	9.3	8.0	7.8	5.5	4.1	4.1	20.0	11.1
Mar 26	4.3	4.6	3.2	3.9	3.3	3.6	3.4	3.5	3.7	8.0	15.2	21.7	25.0	28.4	21.7	28.2	24.9	35.1	23.5	24.4	20.9	12.9	21.2	17.4	3.2	35.1	15.1
Mar 27	9.9	11.1	9.7	9.4	6.8	6.1	10.8	11.1	16.1	20.7	25.9	22.4	17.8	15.4	16.7	17.6	22.4	16.1	11.8	4.6	5.9	7.7	8.0	8.2	4.6	25.9	13.0
Mar 28	11.3	13.9	12.5	13.4	13.4	13.6	10.6	9.2	11.0	10.3	12.8	15.2	13.0	21.2	32.1	32.5	29.0	19.3	13.3	5.5	3.3	4.9	4.3	5.6	3.3	32.5	13.8
Mar 29	4.3	4.8	7.4	6.9	11.7	16.5	8.0	11.1	13.9	19.5	22.6	25.3	26.0	22.4	23.5	23.8	24.4	21.9	20.8	11.2	6.0	5.2	9.9	8.2	4.3	26.0	14.8
Mar 30	4.8	8.2	10.6	16.6	21.1	22.6	19.4	23.0	30.3	25.0	26.7	26.4	25.7	18.5	19.5	20.6	23.3	18.9	14.2	11.6	14.1	16.6	15.6	13.2	4.8	30.3	18.6
Mar 31	8.4	11.5	12.0	8.4	8.2	8.0	7.8	8.3	8.8	11.1	7.8	15.4	16.3	18.2	27.3	23.9	19.3	21.6	15.2	15.0	7.0	3.8	4.4	3.8	3.8	27.3	12.1
Diurnal Maximum	25.4	22.1	22.8	22.9	24.7	22.6	23.7	30.6	30.3	32.0	31.1	31.7	32.6	31.6	34.5	35.5	48.2	35.1	24.1	25.1	31.2	41.4	32.2	31.4			
Daiurnal Average	10.2	10.5	10.3	10.7	10.8	10.6	9.9	11.0	12.3	13.1	15.2	16.6	17.9	19.2	20.0	20.5	20.7	17.8	13.8	10.7	10.9	10.8	10.1	10.5			

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 - March 2019

Summary of Hourly Instantaneous Maximums

SULPHUR DIOXIDE (SO_2) in ppb

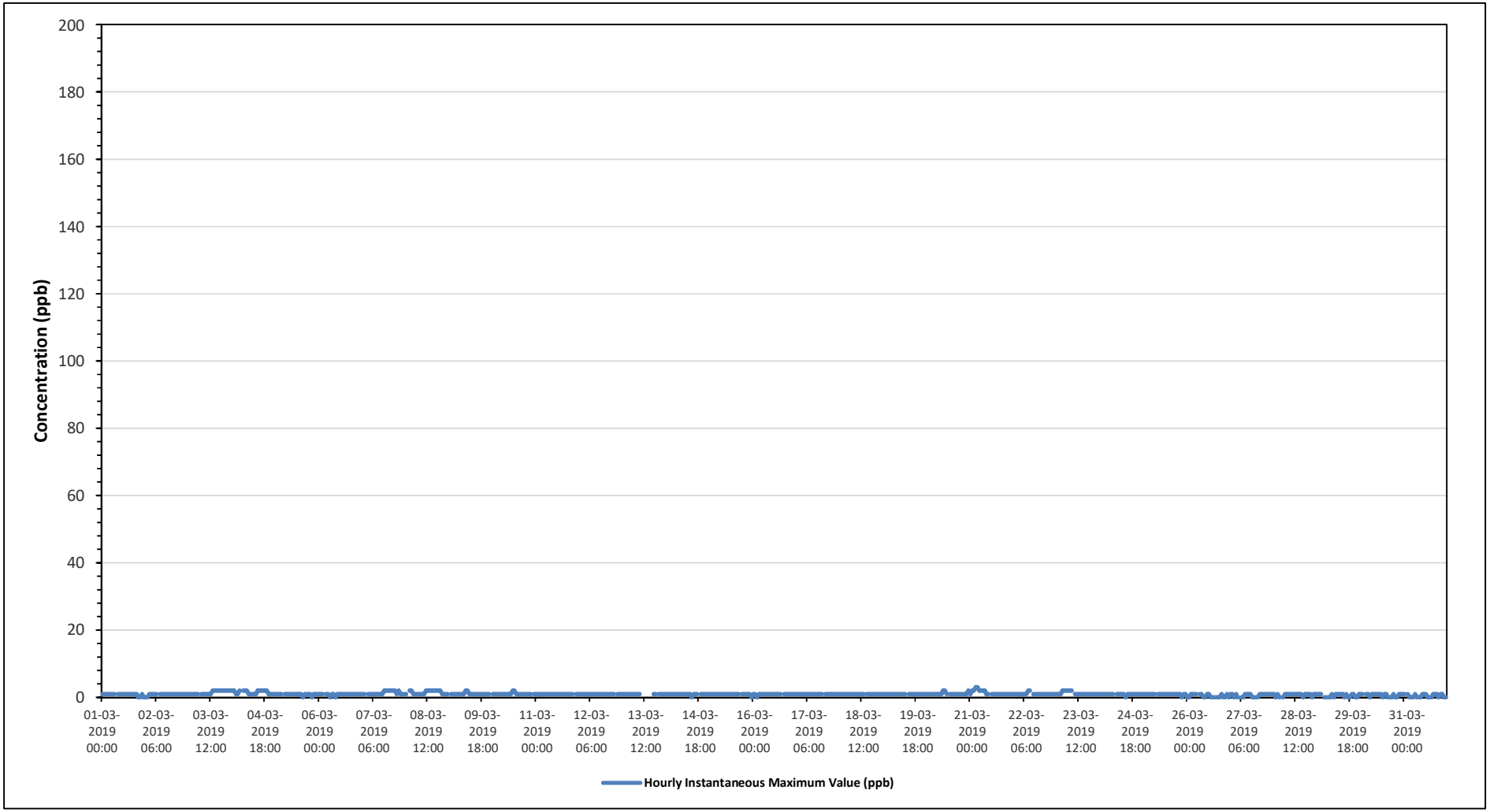
Maximum Hourly Value:	3	ppb	on March 21 at hour 3	Hours in Service:	744
Maximum Daily Value:	1.5	ppb	on March 4	Hours of Data:	705
Minimum Hourly Value:	0	ppb	on March 1 at hour 20	Hours of Missing Data:	0
Minimum Daily Value:	0.4	ppb	on March 26	Hours of Calibration:	39
Monthly Average:	1.0	ppb		Operational 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			
Mar 1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	1	0.9
Mar 2	0	0	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.9
Mar 3	1	1	1	1	1	1	S	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	1	2	1.5
Mar 4	2	2	1	1	2	S	2	2	2	1	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1	2	1.5
Mar 5	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	0	1	0.9
Mar 6	1	1	1	S	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.9
Mar 7	1	1	S	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	1	2	1	1	1	1	2	1.3
Mar 8	1	S	2	2	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	1	1	1	1	1	2	1.5
Mar 9	S	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	S	1	2	1.1
Mar 10	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	S	1	1	2	1.1
Mar 11	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
Mar 12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1.0
Mar 13	1	1	1	1	1	1	1	1	1	1	C	C	C	C	C	C	C	1	1	S	1	1	1	1	1	1	-
Mar 14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	S	1	1	1	1	1	0	1	1.0
Mar 15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	0	0	1	1.0
Mar 16	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	0	1	1.0
Mar 17	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
Mar 18	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
Mar 19	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1.0
Mar 20	1	1	1	1	1	1	1	1	1	2	2	1	S	1	1	1	1	1	1	1	1	1	1	2	1	2	1.1
Mar 21	1	2	2	3	3	2	2	2	2	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1.4
Mar 22	1	1	1	1	1	1	1	1	2	2	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1
Mar 23	1	1	1	2	2	2	2	2	2	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.3
Mar 24	1	1	1	1	1	1	1	1	S	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1.0
Mar 25	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1.0
Mar 26	0	0	1	1	1	1	S	1	1	0	0	1	1	0	0	0	0	0	0	1	0	0	1	0	0	1	0.4
Mar 27	1	1	0	1	0	S	0	0	1	1	1	1	0	0	0	0	1	1	1	1	1	1	1	1	0	1	0.7
Mar 28	1	0	1	0	S	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	0	1	0.8
Mar 29	1	1	1	S	0	0	0	0	1	0	1	1	1	1	1	0	1	0	0	1	1	0	0	1	0	1	0.6
Mar 30	1	1	S	1	1	0	1	1	1	1	1	1	0	1	1	0	0	0	1	0	0	1	1	1	0	1	0.7
Mar 31	1	S	1	0	0	0	1	0	0	0	1	1	1	0	0	0	1	1	1	0	1	1	0	0	0	1	0.5
Diurnal Maximum	2	2	2	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2			
Daiurnal Average	1.0	1.0	1.0	1.1	1.0	0.9	1.0	1.0	1.1	1.0	1.0	1.1	1.0	1.0	1.0	0.9	1.0	1.0	1.1	1.0	0.9	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 - 842b Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - March 2019

Summary of Hourly Instantaneous Maximums

TOTAL REDUCED SULPHUR (TRS) in ppb

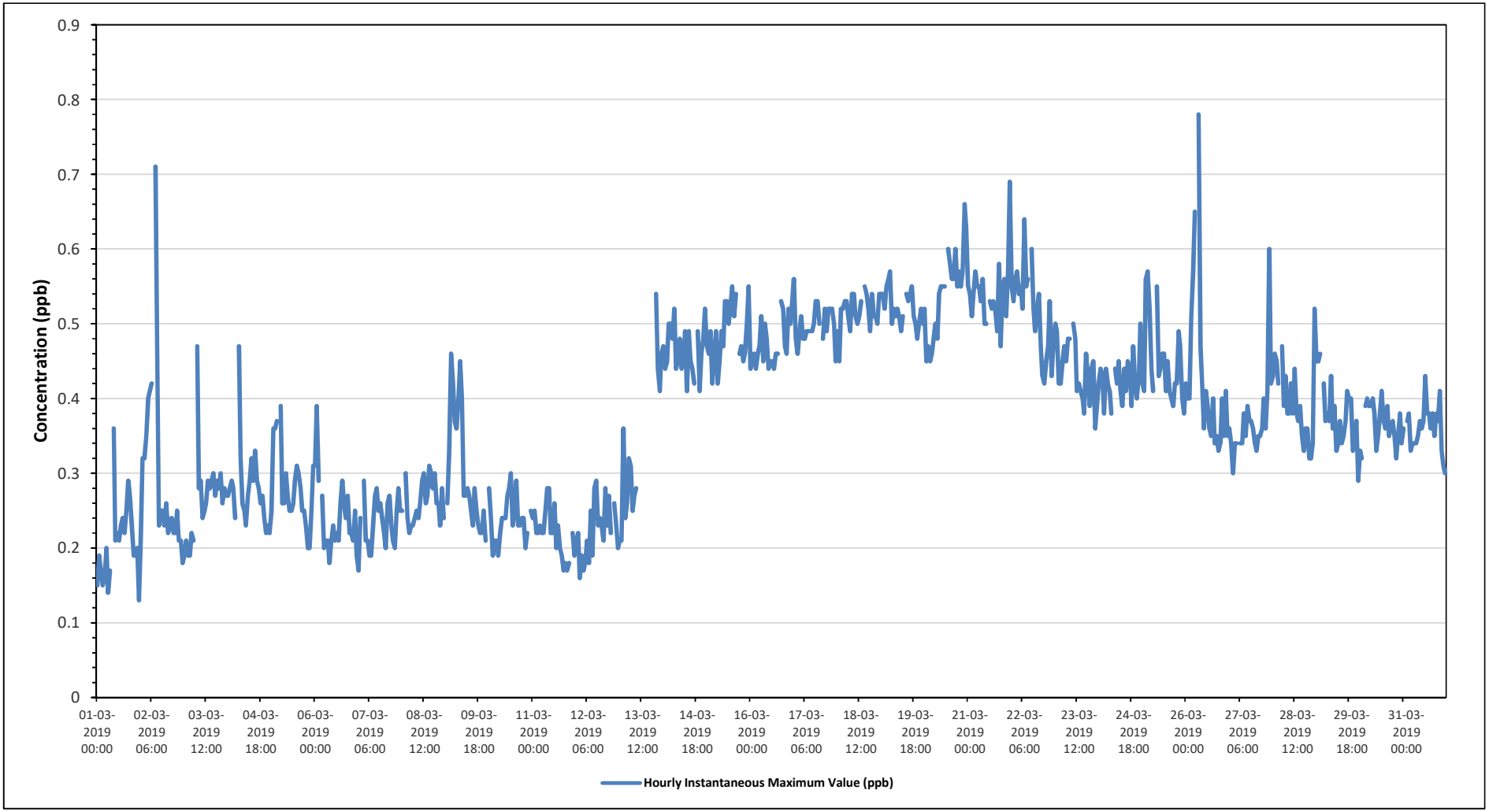
Maximum Hourly Value:	0.78	ppb	on March 26 at hour 7	Hours in Service:	744
Maximum Daily Value:	0.54	ppb	on March 20	Hours of Data:	704
Minimum Hourly Value:	0.13	ppb	on March 1 at hour 23	Hours of Missing Data:	0
Minimum Daily Value:	0.21	ppb	on March 1	Hours of Calibration:	40
Monthly Average:	0.37	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
Mar 1	0.15	0.19	0.17	0.15	0.16	0.2	0.14	0.17	S	0.36	0.21	0.22	0.21	0.23	0.24	0.22	0.25	0.29	0.27	0.23	0.19	0.19	0.2	**0.13**	**0.13**	0.36	**0.21**
Mar 2	0.22	0.32	0.32	0.35	0.4	0.41	0.42	S	0.71	0.47	0.23	0.25	0.25	0.23	0.26	0.22	0.23	0.24	0.22	0.22	0.25	0.21	0.21	0.18	0.18	0.71	0.30
Mar 3	0.19	0.21	0.19	0.19	0.22	0.21	S	0.47	0.28	0.29	0.24	0.25	0.26	0.29	0.28	0.29	0.3	0.27	0.29	0.28	0.3	0.26	0.28	0.27	0.19	0.47	0.27
Mar 4	0.27	0.28	0.29	0.28	0.24	S	0.47	0.32	0.26	0.25	0.23	0.27	0.29	0.32	0.29	0.33	0.29	0.28	0.26	0.27	0.24	0.22	0.23	0.22	0.22	0.47	0.28
Mar 5	0.25	0.36	0.36	0.37	S	0.39	0.26	0.26	0.3	0.27	0.25	0.25	0.26	0.29	0.31	0.3	0.28	0.25	0.25	0.23	0.2	0.2	0.25	0.31	0.20	0.39	0.28
Mar 6	0.31	0.39	0.29	S	0.27	0.2	0.21	0.21	0.18	0.21	0.23	0.21	0.22	0.21	0.26	0.29	0.26	0.24	0.27	0.22	0.22	0.21	0.25	0.19	0.18	0.39	0.24
Mar 7	0.17	0.24	S	0.29	0.21	0.21	0.19	0.19	0.23	0.27	0.28	0.25	0.26	0.24	0.22	0.2	0.26	0.27	0.23	0.21	0.2	0.25	0.28	0.25	0.17	0.29	0.23
Mar 8	0.25	S	0.3	0.24	0.22	0.23	0.23	0.24	0.25	0.24	0.26	0.29	0.3	0.26	0.27	0.31	0.3	0.28	0.3	0.26	0.26	0.23	0.28	0.24	0.22	0.31	0.26
Mar 9	S	0.26	0.33	0.46	0.42	0.37	0.36	0.4	0.45	0.4	0.27	0.27	0.28	0.27	0.25	0.23	0.28	0.25	0.23	0.22	0.22	0.25	0.21	S	0.21	0.46	0.30
Mar 10	0.28	0.24	0.19	0.21	0.21	0.19	0.22	0.24	0.24	0.24	0.27	0.28	0.3	0.23	0.25	0.29	0.23	0.23	0.24	0.24	0.2	0.22	S	0.25	0.19	0.30	0.24
Mar 11	0.24	0.25	0.22	0.22	0.23	0.22	0.22	0.25	0.28	0.28	0.22	0.22	0.26	0.2	0.23	0.2	0.19	0.17	0.18	0.17	0.18	S	0.22	0.19	0.17	0.28	0.22
Mar 12	0.21	0.22	0.16	0.19	0.17	0.18	0.21	0.18	0.25	0.19	0.28	0.29	0.23	0.24	0.23	0.21	0.28	0.23	0.27	0.22	S	0.26	0.23	0.2	0.16	0.29	0.22
Mar 13	0.21	0.21	0.36	0.24	0.26	0.32	0.31	0.25	0.27	0.28	C	C	C	C	C	C	C	C	0.53	S	0.54	0.44	0.41	0.46	0.21	0.54	-
Mar 14	0.47	0.44	0.45	0.5	0.5	0.48	0.52	0.44	0.45	0.48	0.44	0.45	0.49	0.41	0.49	0.45	0.44	0.42	S	0.49	0.41	0.46	0.48	0.52	0.41	0.52	0.46
Mar 15	0.47	0.46	0.49	0.42	0.46	0.49	0.42	0.45	0.49	0.47	0.53	0.53	0.5	0.52	0.55	0.51	0.54	S	0.46	0.47	0.45	0.46	0.5	0.55	0.42	0.55	0.49
Mar 16	0.44	0.45	0.46	0.44	0.46	0.47	0.51	0.45	0.5	0.48	0.44	0.45	0.45	0.44	0.46	0.46	S	0.53	0.52	0.47	0.46	0.52	0.5	0.53	0.44	0.53	0.47
Mar 17	0.56	0.48	0.46	0.49	0.51	0.48	0.48	0.49	0.49	0.49	0.49	0.5	0.53	0.53	0.5	S	0.48	0.52	0.49	0.52	0.52	0.52	0.5	0.45	0.45	0.56	0.50
Mar 18	0.49	0.45	0.52	0.52	0.53	0.53	0.51	0.49	0.54	0.54	0.51	0.5	0.51	0.53	S	0.55	0.54	0.52	0.49	0.54	0.51	0.51	0.5	0.54	0.45	0.55	0.52
Mar 19	0.54	0.54	0.52	0.55	0.56	0.57	0.5	0.52	0.51	0.52	0.51	0.49	0.51	S	0.54	0.53	0.54	0.55	0.51	0.5	0.48	0.5	0.52	0.5	0.48	0.57	0.52
Mar 20	0.52	0.45	0.47	0.45	0.46	0.48	0.5	0.48	0.54	0.55	0.55	0.55	S	0.6	0.58	0.56	0.56	0.6	0.55	0.57	0.55	0.57	0.66	0.63	0.45	0.66	**0.54**
Mar 21	0.55	0.54	0.51	0.54	0.57	0.55	0.55	0.53	0.56	0.5	0.5	S	0.53	0.52	0.53	0.52	0.49	0.58	0.47	0.55	0.56	0.51	0.57	0.69	0.47	0.69	0.54
Mar 22	0.55	0.53	0.56	0.57	0.54	0.55	0.52	0.64	0.55	0.56	S	0.6	0.52	0.49	0.52	0.54	0.47	0.43	0.42	0.45	0.47	0.53	0.43	0.47	0.42	0.64	0.52
Mar 23	0.5	0.49	0.42	0.42	0.45	0.47	0.45	0.48	0.48	S	0.5	0.48	0.41	0.42	0.41	0.4	0.38	0.46	0.43	0.39	0.44	0.45	0.36	0.39	0.36	0.50	0.44
Mar 24	0.42	0.44	0.43	0.38	0.44	0.42	0.41	0.38	S	0.44	0.42	0.45	0.41	0.39	0.44	0.41	0.45	0.44	0.39	0.47	0.42	0.4	0.43	0.5	0.38	0.50	0.43
Mar 25	0.42	0.41	0.56	0.57	0.52	0.44	0.41	S	0.55	0.43	0.44	0.46	0.46	0.41	0.45	0.41	0.4	0.39	0.42	0.42	0.49	0.47	0.4	0.38	0.38	0.57	0.45
Mar 26	0.42	0.4	0.4	0.51	0.57	0.65	S	**0.78**	0.47	0.42	0.36	0.41	0.39	0.36	0.35	0.4	0.34	0.35	0.33	0.34	0.4	0.35	0.41	0.35	0.33	**0.78**	0.42
Mar 27	0.36	0.34	0.3	0.34	0.34	S	0.34	0.34	0.38	0.35	0.39	0.37	0.37	0.36	0.34	0.33	0.35	0.35	0.36	0.4	0.36	0.41	0.6	0.42	0.30	0.60	0.37
Mar 28	0.43	0.46	0.45	0.42	S	0.47	0.39	0.43	0.38	0.38	0.42	0.38	0.44	0.38	0.37	0.39	0.35	0.33	0.36	0.36	0.32	0.32	0.34	0.52	0.32	0.52	0.40
Mar 29	0.45	0.45	0.46	S	0.42	0.37	0.38	0.37	0.43	0.36	0.39	0.33	0.34	0.37	0.34	0.35	0.37	0.41	0.4	0.4	0.33	0.34	0.37	0.29	0.29	0.46	0.38
Mar 30	0.33	0.32	S	0.39	0.4	0.39	0.39	0.4	0.38	0.33	0.35	0.38	0.41	0.37	0.36	0.39	0.35	0.36	0.37	0.35	0.32	0.35	0.38	0.34	0.32	0.41	0.37
Mar 31	0.36	S	0.37	0.38	0.33	0.34	0.34	0.34	0.35	0.37	0.36	0.37	0.43	0.38	0.38	0.36	0.38	0.35	0.38	0.37	0.41	0.33	0.31	0.3	0.30	0.43	0.36
Diurnal Maximum	0.56	0.54	0.56	0.57	0.57	0.65	0.55	0.78	0.71	0.56	0.55	0.60	0.53	0.60	0.58	0.56	0.56	0.60	0.55	0.57	0.56	0.57	0.66	0.69			
Daiurnal Average	0.37	0.37	0.38	0.38	0.38	0.39	0.37	0.39	0.41	0.38	0.36	0.37	0.37	0.36	0.37	0.37	0.36	0.37	0.36	0.36	0.36	0.36	0.38	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 Instantaneous Maximum for TRS - 842b Station



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

842b Station - March 2019

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

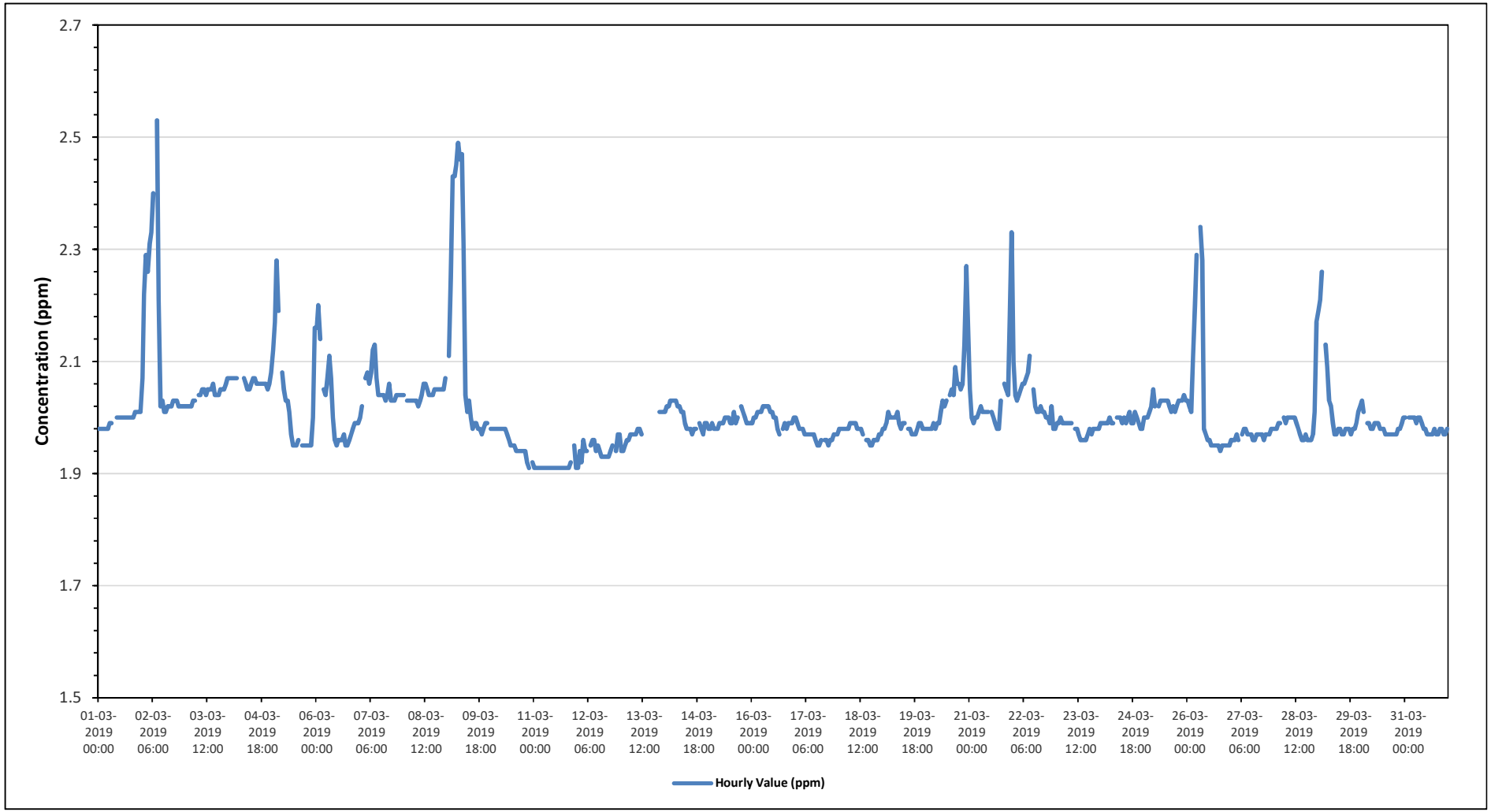
Maximum Hourly Value:	2.53	ppm	on March 2 at hour 8	Hours in Service:	744
Maximum Daily Value:	2.15	ppm	on March 9	Hours of Data:	699
Minimum Hourly Value:	1.91	ppm	on March 10 at hour 21	Hours of Missing Data:	8
Minimum Daily Value:	1.91	ppm	on March 11	Hours of Calibration:	37
Monthly Average:	2.01	ppm		Operational Uptime:	98.9

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
Mar 1	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	S	S	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.01	2.01	2.01	2.01	1.98	2.01	2.00
Mar 2	2.07	2.22	2.29	2.26	2.31	2.33	2.40	S	**2.53**	2.21	2.02	2.03	2.01	2.01	2.02	2.02	2.02	2.03	2.03	2.03	2.02	2.02	2.02	2.02	2.01	**2.53**	2.13
Mar 3	2.02	2.02	2.02	2.02	2.03	2.03	S	2.04	2.04	2.05	2.05	2.04	2.05	2.05	2.05	2.06	2.04	2.04	2.04	2.05	2.05	2.05	2.06	2.07	2.02	2.07	2.04
Mar 4	2.07	2.07	2.07	2.07	2.07	S	2.07	S1	2.07	2.06	2.05	2.05	2.06	2.07	2.07	2.06	2.06	2.06	2.06	2.06	2.06	2.05	2.06	2.08	2.05	2.08	2.06
Mar 5	2.12	2.17	2.28	2.19	S	2.08	2.05	2.03	2.03	2.01	1.97	1.95	1.95	1.95	1.96	Y	1.95	1.95	1.95	1.95	1.95	1.95	2.00	2.16	1.95	2.28	2.03
Mar 6	2.16	2.20	2.14	S	2.05	2.04	2.07	2.11	2.07	2.00	1.96	1.95	1.96	1.96	1.96	1.97	1.95	1.95	1.96	1.97	1.98	1.99	1.99	1.99	1.95	2.20	2.02
Mar 7	2.00	2.02	S	2.07	2.08	2.06	2.08	2.12	2.13	2.07	2.04	2.04	2.04	2.04	2.03	2.04	2.06	2.03	2.03	2.03	2.04	2.04	2.04	2.04	2.00	2.13	2.05
Mar 8	2.04	S	2.03	2.03	2.03	2.03	2.03	2.03	2.02	2.03	2.04	2.06	2.06	2.05	2.04	2.04	2.04	2.05	2.05	2.05	2.05	2.05	2.05	2.07	2.02	2.07	2.04
Mar 9	S	2.11	2.25	2.43	2.43	2.45	2.49	2.46	2.47	2.31	2.04	2.01	2.03	2.00	1.98	1.99	1.99	1.98	1.98	1.97	1.98	1.99	1.99	S	1.97	2.49	**2.15**
Mar 10	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.96	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.92	**1.91**	S	1.92	**1.91**	1.98	1.96
Mar 11	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.92	S	1.95	1.91	1.91	1.95	**1.91**
Mar 12	1.91	1.94	1.92	1.96	1.94	1.94	S1	1.95	1.96	1.96	1.94	1.95	1.94	1.93	1.93	1.93	1.93	1.93	1.94	1.95	S	1.94	1.97	1.97	1.91	1.97	1.94
Mar 13	1.94	1.94	1.95	1.96	1.96	1.97	1.97	1.97	1.97	1.98	1.98	1.97	Y	Y	Y	Y	C	C	C	C	S	2.01	2.01	2.01	1.94	2.01	-
Mar 14	2.01	2.02	2.02	2.03	2.03	2.03	2.03	2.02	2.02	2.01	2.01	1.99	1.98	1.98	1.98	1.97	1.98	1.98	S	1.99	1.98	1.97	1.99	1.99	1.97	2.03	2.00
Mar 15	1.98	1.98	1.99	1.98	1.98	1.98	1.99	1.99	1.99	2.00	2.00	2.00	1.99	1.99	2.01	1.99	2.00	S	2.02	2.01	2.00	1.99	1.99	1.99	1.98	2.02	1.99
Mar 16	1.99	2.00	2.00	2.01	2.01	2.01	2.02	2.02	2.02	2.02	2.01	2.01	2.00	2.00	1.98	1.97	S	1.98	1.99	1.98	1.99	1.99	1.99	2.00	1.97	2.02	2.00
Mar 17	2.00	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.95	1.95	1.96	S	1.96	1.96	1.95	1.96	1.96	1.97	1.97	1.97	1.95	2.00	1.97
Mar 18	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	1.99	1.99	1.98	1.98	1.98	1.97	S	1.96	1.96	1.95	1.95	1.96	1.96	1.96	1.97	1.97	1.95	1.99	1.97
Mar 19	1.98	1.98	1.99	2.01	2.00	2.00	2.00	2.00	2.01	1.99	1.98	1.99	1.99	S	1.98	1.98	1.97	1.97	1.97	1.98	1.99	1.99	1.98	1.98	1.97	2.01	1.99
Mar 20	1.98	1.98	1.98	1.98	1.99	1.98	1.99	1.99	2.01	2.03	2.02	2.03	S	2.04	2.05	2.04	2.09	2.06	2.06	2.05	2.06	2.13	2.27	2.16	1.98	2.27	2.04
Mar 21	2.05	2.00	1.99	2.00	2.00	2.01	2.02	2.01	2.01	2.01	2.01	S	2.01	2.00	1.99	1.98	1.98	2.03	S1	2.06	2.05	2.04	2.18	2.33	1.98	2.33	2.03
Mar 22	2.10	2.04	2.03	2.04	2.05	2.06	2.06	2.07	2.08	2.11	S	2.05	2.02	2.01	2.01	2.02	2.01	2.01	2.00	2.00	1.99	2.02	1.98	1.98	1.98	2.11	2.03
Mar 23	1.99	1.99	2.00	1.99	1.99	1.99	1.99	1.99	1.99	S	1.98	1.98	1.97	1.96	1.96	1.96	1.96	1.97	1.98	1.97	1.98	1.98	1.98	1.98	1.96	2.00	1.98
Mar 24	1.99	1.99	1.99	1.99	1.99	2.00	1.99	1.99	S	2.00	2.00	2.00	1.99	2.00	1.99	2.00	2.01	1.99	1.99	2.01	2.00	1.99	1.98	1.98	1.98	2.01	1.99
Mar 25	2.00	2.00	2.00	2.01	2.02	2.05	2.02	S	2.02	2.03	2.03	2.03	2.03	2.03	2.02	2.01	2.02	2.01	2.02	2.03	2.03	2.03	2.04	2.03	2.00	2.05	2.02
Mar 26	2.03	2.02	2.01	2.11	2.20	2.29	S	2.34	2.28	1.98	1.97	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.94	1.95	1.95	1.95	1.95	1.95	1.94	2.34	2.03
Mar 27	1.96	1.96	1.96	1.97	1.96	S	1.97	1.98	1.98	1.97	1.97	1.97	1.96	1.96	1.97	1.97	1.97	1.97	1.96	1.97	1.97	1.97	1.98	1.98	1.96	1.98	1.97
Mar 28	1.98	1.98	1.99	1.99	S	2.00	1.99	2.00	2.00	2.00	2.00	2.00	1.99	1.98	1.97	1.96	1.96	1.97	1.96	1.96	1.96	1.97	2.01	2.17	1.96	2.17	1.99
Mar 29	2.19	2.21	2.26	S	2.13	2.09	2.03	2.02	1.99	1.97	1.97	1.98	1.98	1.97	1.97	1.98	1.98	1.98	1.97	1.98	1.98	1.99	2.01	2.02	1.97	2.26	2.03
Mar 30	2.03	2.01	S	1.99	1.99	1.98	1.98	1.99	1.99	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.99	2.00	1.97	2.03	1.98
Mar 31	2.00	S	2.00	2.00	2.00	2.00	1.99	2.00	2.00	1.99	1.98	1.98	1.97	1.97	1.97	1.97	1.98	1.97	1.97	1.98	1.98	1.97	1.97	1.98	1.97	2.00	1.98
Diurnal Maximum	2.19	2.22	2.29	2.43	2.43	2.45	2.49	2.46	2.53	2.31	2.05	2.06	2.06	2.07	2.07	2.06	2.09	2.06	2.06	2.06	2.06	2.13	2.27	2.33			
Daiurnal Average	2.01	2.02	2.03	2.03	2.04	2.04	2.04	2.03	2.05	2.02	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	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 - 842b Station



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PEACE RIVER AREA MONITORING PROGRAM

842b Station - March 2019

Summary of Hourly Instantaneous Maximums

METHANE (CH4) in ppm

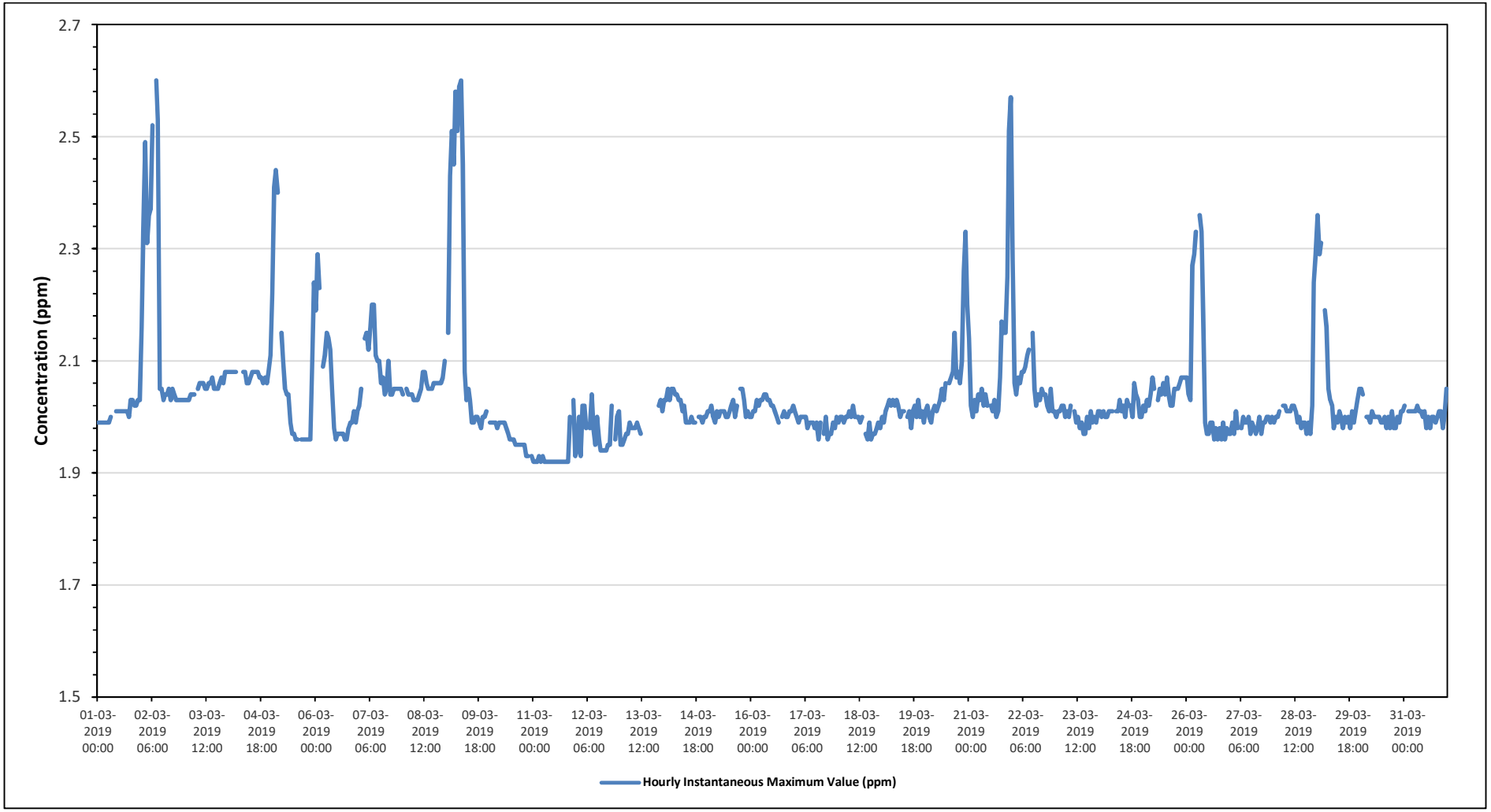
Maximum Hourly Value:	2.60	ppm	on March 2 at hour 8	Hours in Service:	744
Maximum Daily Value:	2.20	ppm	on March 9	Hours of Data:	699
Minimum Hourly Value:	1.92	ppm	on March 11 at hour 0	Hours of Missing Data:	8
Minimum Daily Value:	1.93	ppm	on March 11	Hours of Calibration:	37
Monthly Average:	2.04	ppm		Operational Uptime:	98.9

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
Mar 1	1.99	1.99	1.99	1.99	1.99	1.99	1.99	2.00	S	S	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.00	2.03	2.03	2.02	2.02	2.03	2.03	1.99	2.03	2.01
Mar 2	2.16	2.33	2.49	2.31	2.36	2.37	2.52	S	**2.60**	2.53	2.05	2.05	2.03	2.04	2.04	2.05	2.03	2.05	2.04	2.03	2.03	2.03	2.03	2.03	2.03	**2.60**	2.18
Mar 3	2.03	2.03	2.03	2.04	2.04	2.04	S	2.05	2.06	2.06	2.06	2.05	2.05	2.06	2.06	2.07	2.05	2.05	2.05	2.06	2.07	2.06	2.08	2.08	2.03	2.08	2.05
Mar 4	2.08	2.08	2.08	2.08	2.08	S	2.08	S1	2.08	2.08	2.06	2.06	2.07	2.08	2.08	2.08	2.08	2.07	2.07	2.06	2.07	2.06	2.08	2.11	2.06	2.11	2.08
Mar 5	2.22	2.41	2.44	2.40	S	2.15	2.10	2.05	2.04	2.04	1.99	1.97	1.97	1.96	1.96	Y	1.96	1.96	1.96	1.96	1.96	1.96	2.09	2.24	1.96	2.44	2.08
Mar 6	2.19	2.29	2.23	S	2.09	2.11	2.15	2.14	2.12	2.05	1.98	1.96	1.97	1.97	1.97	1.97	1.96	1.96	1.98	1.99	1.99	2.01	1.99	2.01	1.96	2.29	2.05
Mar 7	2.02	2.05	S	2.14	2.15	2.12	2.16	2.20	2.20	2.11	2.10	2.10	2.06	2.07	2.04	2.05	2.10	2.04	2.04	2.05	2.05	2.05	2.05	2.05	2.02	2.20	2.09
Mar 8	2.04	S	2.05	2.04	2.04	2.04	2.03	2.03	2.03	2.04	2.05	2.08	2.08	2.06	2.05	2.05	2.05	2.06	2.06	2.06	2.06	2.06	2.07	2.10	2.03	2.10	2.05
Mar 9	S	2.15	2.43	2.51	2.45	2.58	2.51	2.59	**2.60**	2.45	2.08	2.03	2.05	2.03	1.99	1.99	2.00	2.00	1.99	1.98	2.00	2.00	2.01	S	1.98	**2.60**	**2.20**
Mar 10	1.99	1.99	1.99	1.99	1.98	1.99	1.99	1.99	1.99	1.98	1.97	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.93	1.93	S	1.93	1.93	1.99	1.97
Mar 11	**1.92**	1.92	1.92	1.93	1.92	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	2.00	S	2.03	1.93	**1.92**	2.03	**1.93**
Mar 12	1.94	2.00	1.93	2.02	2.02	1.98	S1	1.98	2.04	1.98	1.95	2.00	1.96	1.94	1.94	1.94	1.94	1.95	1.95	2.02	S	1.96	2.00	2.01	1.93	2.04	1.98
Mar 13	1.95	1.95	1.96	1.97	1.97	1.99	1.98	1.98	1.98	1.99	1.98	1.97	Y	Y	Y	Y	C	C	C	C	S	2.02	2.03	2.01	1.95	2.03	-
Mar 14	2.03	2.03	2.05	2.03	2.05	2.05	2.04	2.04	2.03	2.03	2.01	2.02	1.99	1.99	1.99	2.00	1.99	1.99	S	2.00	2.00	1.99	2.00	2.00	1.99	2.05	2.02
Mar 15	2.01	2.01	2.02	2.00	1.99	2.01	2.00	2.01	2.01	2.01	2.00	2.00	2.01	2.02	2.03	2.00	2.02	S	2.05	2.05	2.03	2.00	2.01	2.00	1.99	2.05	2.01
Mar 16	2.00	2.01	2.01	2.03	2.02	2.03	2.03	2.04	2.04	2.03	2.03	2.02	2.02	2.01	2.00	1.99	S	2.00	2.01	2.00	2.00	2.01	2.01	2.02	1.99	2.04	2.02
Mar 17	2.01	2.00	1.99	2.00	2.00	2.00	2.00	1.98	1.99	1.99	1.99	1.98	1.99	1.96	1.99	S	1.97	2.00	1.96	1.97	1.97	1.99	1.98	2.00	1.96	2.01	1.99
Mar 18	1.99	2.00	2.00	1.99	2.00	2.00	2.01	2.00	2.02	2.00	2.00	2.00	1.99	2.00	S	1.97	1.96	1.99	1.96	1.97	1.97	1.98	1.99	1.98	1.96	2.02	1.99
Mar 19	2.00	1.99	2.01	2.02	2.03	2.02	2.03	2.02	2.03	2.02	2.00	2.01	2.01	S	2.00	2.01	1.98	2.01	2.02	2.00	2.03	2.00	2.01	1.99	1.98	2.03	2.01
Mar 20	2.01	2.02	2.00	1.99	2.01	2.02	2.01	2.02	2.03	2.05	2.03	2.06	S	2.06	2.07	2.08	2.15	2.07	2.08	2.06	2.10	2.26	2.33	2.20	1.99	2.33	2.07
Mar 21	2.14	2.02	2.00	2.03	2.01	2.04	2.03	2.05	2.02	2.04	2.02	S	2.02	2.01	2.03	2.00	2.01	2.07	S1	2.15	2.15	2.25	2.51	2.57	2.00	2.57	2.10
Mar 22	2.28	2.06	2.04	2.07	2.06	2.08	2.08	2.09	2.11	2.12	S	2.15	2.05	2.02	2.04	2.03	2.05	2.04	2.04	2.02	2.01	2.05	2.01	2.01	2.01	2.28	2.07
Mar 23	2.00	2.01	2.01	2.02	2.02	2.00	2.01	2.00	2.02	S	2.01	1.99	2.00	1.98	1.99	1.97	1.97	2.00	1.98	2.01	1.99	2.00	1.99	2.01	1.97	2.02	2.00
Mar 24	2.01	2.00	2.01	2.00	2.00	2.01	2.01	2.01	S	2.01	2.01	2.03	2.01	2.02	2.00	2.03	2.02	2.02	2.00	2.06	2.04	2.03	2.00	2.00	2.00	2.06	2.01
Mar 25	2.02	2.01	2.03	2.02	2.04	2.07	2.05	S	2.03	2.05	2.04	2.06	2.04	2.07	2.04	2.02	2.02	2.05	2.05	2.05	2.06	2.07	2.07	2.07	2.01	2.07	2.04
Mar 26	2.07	2.04	2.03	2.27	2.29	2.33	S	2.36	2.33	2.18	1.99	1.97	1.97	1.99	1.99	1.96	1.98	1.96	1.98	1.96	1.99	1.96	1.98	1.97	1.96	2.36	2.07
Mar 27	1.97	1.99	1.97	2.01	1.98	S	1.98	2.00	1.99	1.99	2.00	1.97	1.99	1.98	1.97	1.98	2.00	1.97	1.99	1.99	2.00	2.00	1.99	2.00	1.97	2.01	1.99
Mar 28	1.99	2.00	2.00	2.01	S	2.02	2.02	2.01	2.01	2.01	2.02	2.02	2.01	1.99	2.00	1.98	1.99	1.99	1.97	1.99	1.97	2.02	2.24	2.29	1.97	2.29	2.02
Mar 29	2.36	2.29	2.31	S	2.19	2.16	2.05	2.03	2.02	1.98	2.00	1.99	2.01	2.00	1.98	2.00	1.99	2.00	1.98	2.01	1.99	2.01	2.03	2.05	1.98	2.36	2.06
Mar 30	2.05	2.04	S	2.00	2.00	1.99	2.01	2.00	2.00	2.00	2.00	1.99	1.99	2.00	1.98	2.00	1.98	2.01	1.98	1.98	2.00	1.99	2.01	2.01	1.98	2.05	2.00
Mar 31	2.02	S	2.01	2.01	2.01	2.01	2.01	2.02	2.01	2.01	2.00	2.01	1.98	2.00	1.98	2.00	2.00	1.99	2.00	2.01	2.01	1.98	2.00	2.05	1.98	2.05	2.01
Diurnal Maximum	2.36	2.41	2.49	2.51	2.45	2.58	2.52	2.59	2.60	2.53	2.10	2.15	2.08	2.08	2.08	2.08	2.15	2.07	2.08	2.15	2.15	2.26	2.51	2.57			
Daiurnal Average	2.05	2.06	2.07	2.07	2.06	2.07	2.06	2.06	2.08	2.06	2.01	2.01	2.01	2.01	2.00	2.00	2.00	2.01	2.00	2.01	2.02	2.03	2.06	2.06			

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

842b Station - March 2019

Summary of Hourly Instantaneous Maximums

NON-METHANE HYDROCARBONS (NMHC) in ppm

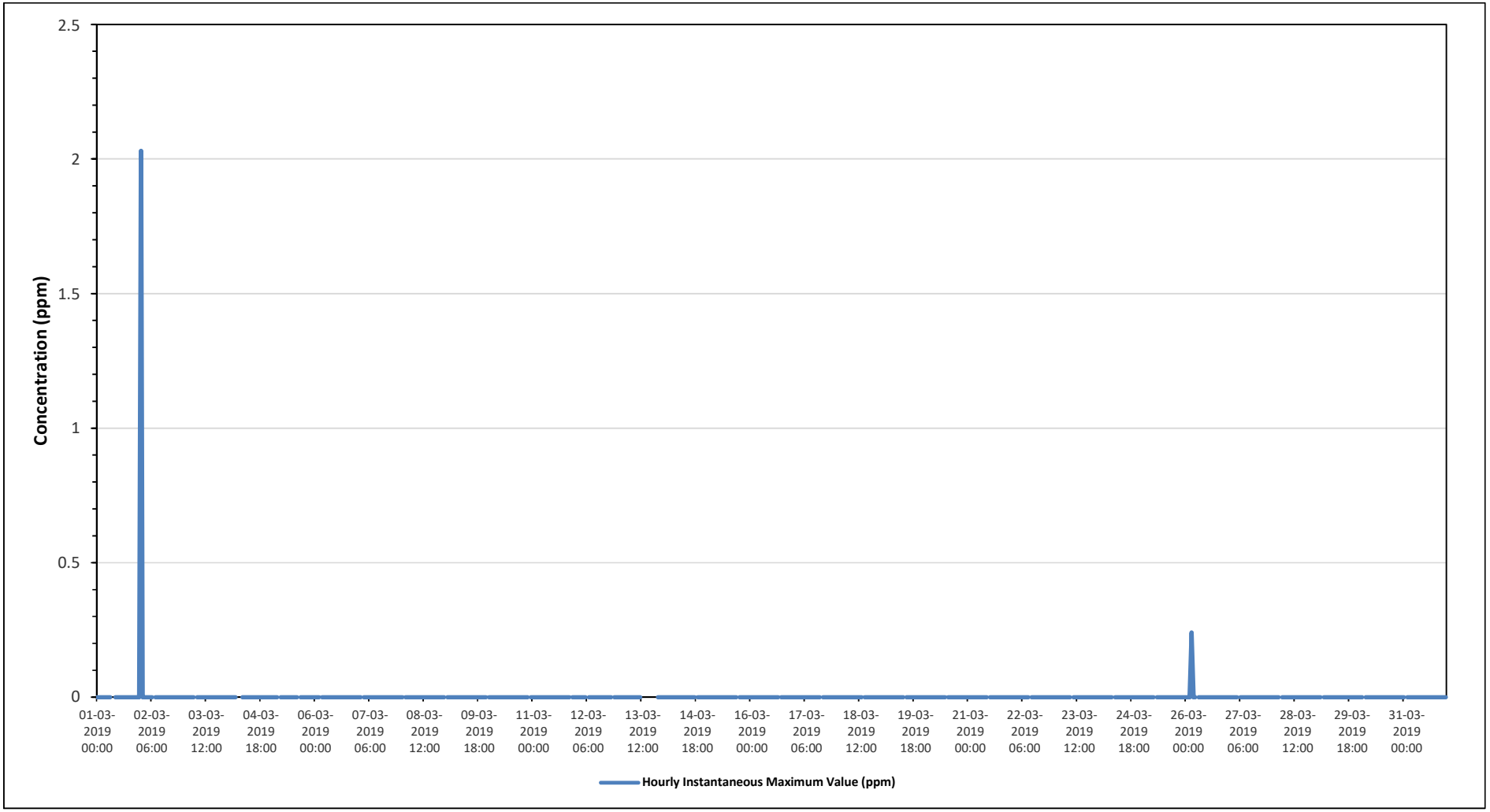
Maximum Hourly Value:	2.03	ppm	on March 2 at hour 0	Hours in Service:	744
Maximum Daily Value:	0.09	ppm	on March 2	Hours of Data:	701
Minimum Hourly Value:	0.00	ppm	on March 1 at hour 0	Hours of Missing Data:	8
Minimum Daily Value:	0.00	ppm	on March 1	Hours of Calibration:	37
Monthly Average:	0.00	ppm		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
Mar 1	**0.00**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	**0.00**
Mar 2	**2.03**	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**2.03**	**0.09**
Mar 3	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 4	0.00	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
Mar 5	0.00	0.00	0.00	0.00	S	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	0.00	0.00
Mar 6	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 7	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 8	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 9	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Mar 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00
Mar 11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Mar 12	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00
Mar 13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Y	Y	Y	Y	C	C	C	C	S	0.00	0.00	0.00	0.00	0.00	-
Mar 14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	S1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 26	0.00	0.00	0.00	0.24	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.01
Mar 27	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 28	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 29	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 30	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 31	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diurnal Maximum	2.03	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Daiurnal Average	0.07	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 - March 2019

Summary of Hourly Instantaneous Maximums

WIND SPEED (WS) in km/h

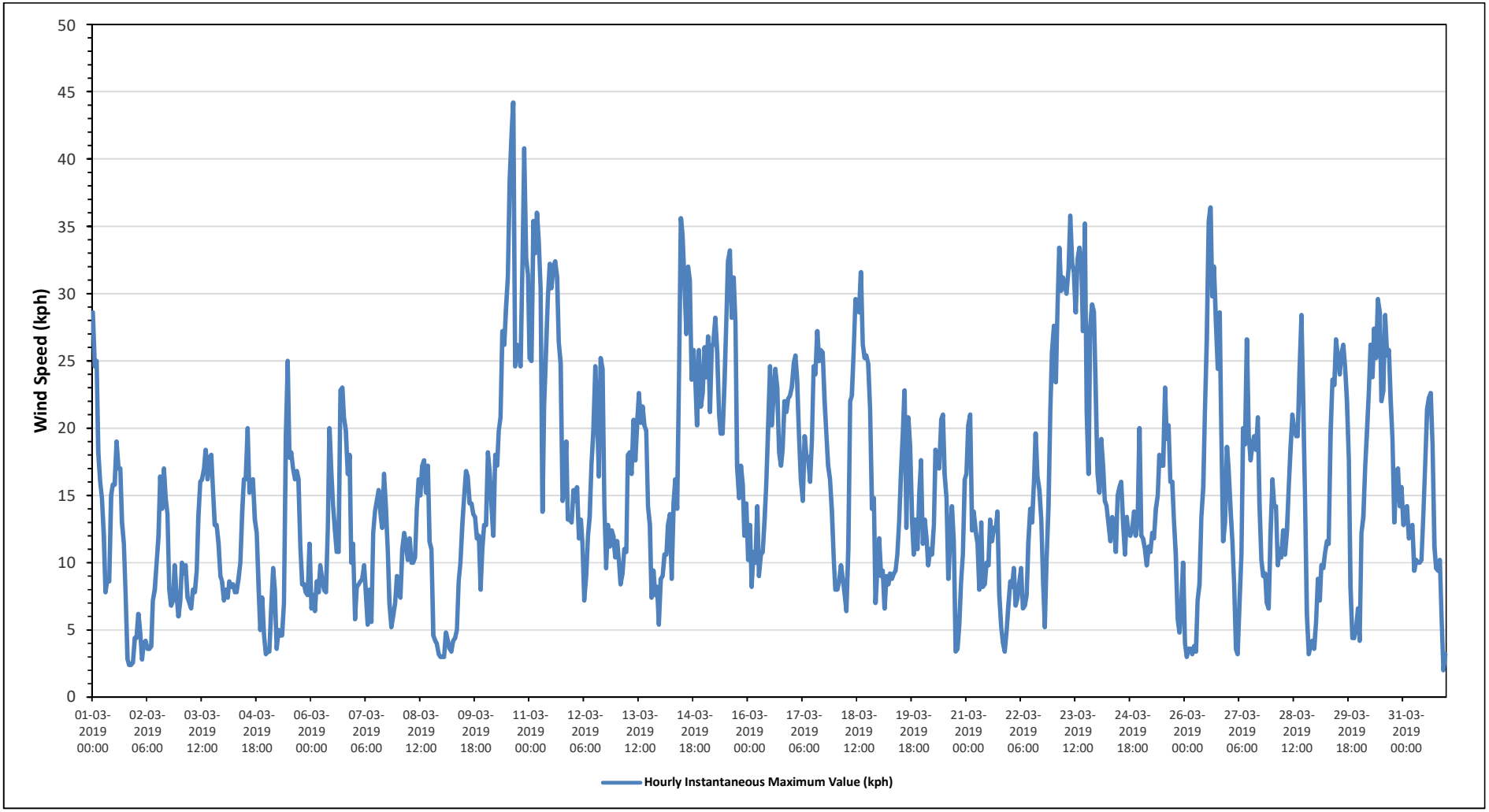
Maximum Hourly Value:	44.2	kph	on March 10 at hour 15	Hours in Service:	744
Maximum Daily Value:	29.2	kph	on March 23	Hours of Data:	744
Minimum Hourly Value:	2.0	kph	on March 31 at hour 22	Hours of Missing Data:	0
Minimum Daily Value:	8.2	kph	on March 2	Hours of Calibration:	0
Monthly Average:	15.2	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
Mar 1	28.6	24.6	25.0	18.2	16.0	14.8	12.0	7.8	8.8	8.6	15.0	15.8	15.8	19.0	17.0	17.0	13.0	11.4	7.6	2.8	2.4	2.4	2.6	4.4	2.4	28.6	12.9
Mar 2	4.4	6.2	4.8	2.8	4.0	4.2	3.6	3.6	3.8	7.2	8.0	10.0	12.0	16.4	14.0	17.0	14.8	13.6	8.0	6.8	7.2	9.8	7.6	6.0	2.8	17.0	**8.2**
Mar 3	7.2	10.0	9.2	9.8	7.4	7.0	6.6	8.0	7.8	9.4	13.4	16.0	16.2	17.0	18.4	16.2	17.8	18.0	15.6	12.8	12.8	11.4	9.0	8.6	6.6	18.4	11.9
Mar 4	7.2	8.0	7.4	8.6	8.2	8.4	7.8	7.8	8.8	10.0	13.8	16.2	16.2	20.0	15.2	16.0	16.2	13.2	12.2	8.2	5.0	7.4	4.6	3.2	3.2	20.0	10.4
Mar 5	3.4	3.4	6.6	9.6	8.0	3.6	5.0	4.6	4.6	7.0	19.2	25.0	17.8	18.2	17.0	16.2	16.8	16.2	11.2	8.4	8.4	7.8	7.6	11.4	3.4	25.0	10.7
Mar 6	6.6	7.6	6.4	8.6	7.8	9.8	8.8	8.0	7.8	12.6	20.0	16.8	14.2	12.4	10.8	10.8	22.8	23.0	20.8	19.8	16.6	18.0	10.0	11.4	6.4	23.0	13.0
Mar 7	5.8	8.2	8.4	8.6	8.8	9.8	7.6	5.4	8.0	5.6	12.2	13.8	14.6	15.4	13.6	12.6	16.6	14.0	10.8	7.0	5.2	6.0	7.0	9.0	5.2	16.6	9.8
Mar 8	7.8	7.4	11.0	12.2	11.4	10.2	11.8	10.0	10.0	10.4	14.0	16.2	15.0	17.2	17.6	15.2	17.2	11.6	11.0	4.6	4.2	4.0	3.2	3.0	3.0	17.6	10.7
Mar 9	3.0	3.0	4.8	4.2	3.6	3.4	4.2	4.4	5.0	8.6	10.0	12.8	15.0	16.8	16.4	14.4	14.4	13.6	13.4	11.8	12.0	8.0	11.0	12.8	3.0	16.8	9.4
Mar 10	12.8	18.2	16.8	14.2	12.0	18.0	17.2	19.8	20.8	27.2	26.2	28.8	31.2	38.4	42.0	**44.2**	24.6	26.2	25.6	24.6	32.2	40.8	32.6	31.4	12.0	**44.2**	26.1
Mar 11	25.2	25.0	35.4	33.0	36.0	33.8	30.4	13.8	21.6	25.8	29.8	32.2	30.4	32.0	32.4	31.2	26.4	24.8	14.6	15.4	19.0	13.2	13.2	13.0	13.0	36.0	25.3
Mar 12	15.4	14.6	15.6	11.8	13.2	11.4	7.2	9.0	12.0	13.4	17.4	19.8	24.6	21.0	16.4	25.2	24.4	14.2	9.6	12.8	11.2	12.4	12.0	10.4	7.2	25.2	14.8
Mar 13	11.6	10.0	8.4	9.2	11.0	10.8	18.0	18.2	16.6	20.6	17.6	20.2	22.6	20.4	21.6	20.2	19.8	14.2	12.8	7.4	9.4	7.6	8.2	5.4	5.4	22.6	14.2
Mar 14	8.8	9.0	10.6	10.6	12.8	13.6	8.8	14.4	16.2	14.0	23.8	35.6	34.4	30.8	27.0	32.0	31.0	23.6	25.8	23.4	20.2	25.8	21.6	22.6	8.8	35.6	20.7
Mar 15	26.0	23.8	26.8	21.2	26.0	26.4	28.2	25.6	21.0	19.6	19.6	23.4	28.2	32.4	33.2	28.2	31.2	27.8	17.2	14.8	17.2	15.8	12.0	14.4	12.0	33.2	23.3
Mar 16	10.2	12.8	8.2	10.8	10.0	14.2	9.0	10.6	10.8	13.2	15.8	20.0	24.6	20.2	22.6	24.4	23.0	18.2	17.2	18.4	22.0	21.2	22.2	22.4	8.2	24.6	16.8
Mar 17	23.0	24.8	25.4	23.6	19.4	16.2	14.6	19.4	18.0	17.8	16.0	19.0	24.6	24.0	27.2	25.0	25.8	25.6	22.0	19.4	17.2	16.2	13.8	10.2	10.2	27.2	20.3
Mar 18	8.0	8.0	8.6	9.8	8.8	7.8	6.4	11.0	22.0	22.4	25.8	29.6	29.0	28.6	31.6	26.2	25.2	25.4	24.8	21.4	14.0	14.8	7.0	9.6	6.4	31.6	17.7
Mar 19	11.8	9.0	9.4	6.6	9.0	8.4	9.2	8.8	9.2	9.4	10.6	13.0	16.6	19.8	22.8	12.6	20.8	18.6	13.2	10.6	13.2	11.0	15.2	17.6	6.6	22.8	12.8
Mar 20	11.4	13.2	11.8	9.8	11.0	10.6	12.8	18.4	17.6	17.0	20.6	21.0	16.6	14.8	8.8	12.0	14.2	11.6	3.4	3.6	5.4	8.6	10.6	16.2	3.4	21.0	12.5
Mar 21	16.6	20.2	21.0	12.4	13.8	12.4	11.4	8.0	13.0	8.2	8.4	10.0	9.8	13.2	11.6	12.6	12.4	13.8	7.6	5.2	4.0	3.4	4.8	6.8	3.4	21.0	10.9
Mar 22	8.6	8.2	9.6	6.8	7.4	8.6	9.6	6.6	6.8	7.6	11.4	14.0	13.0	16.0	19.6	16.4	15.4	13.2	8.6	5.2	10.2	14.2	21.4	25.6	5.2	25.6	11.8
Mar 23	27.6	23.4	29.4	33.4	30.2	31.2	30.6	30.0	31.8	35.8	32.2	31.6	28.6	32.6	33.4	32.0	27.2	35.2	21.2	16.6	27.6	29.2	28.6	22.2	16.6	35.8	**29.2**
Mar 24	16.6	15.2	19.2	17.0	14.6	14.2	12.8	11.6	13.4	13.0	10.8	15.0	15.6	16.0	13.0	10.6	13.4	12.2	12.0	12.6	13.8	12.0	13.0	20.0	10.6	20.0	14.1
Mar 25	12.0	11.8	11.0	9.8	11.2	10.8	12.2	11.8	14.0	15.0	18.0	17.2	17.2	23.0	19.2	20.2	16.0	16.0	13.2	10.6	5.8	4.8	7.2	10.0	4.8	23.0	13.3
Mar 26	4.0	3.0	3.6	3.6	3.2	3.8	3.4	7.2	8.4	13.4	15.6	21.2	26.6	35.4	36.4	29.8	32.0	28.0	24.4	28.6	19.8	11.6	13.0	18.6	3.0	36.4	16.4
Mar 27	17.0	14.0	11.6	8.4	3.6	3.2	7.2	10.6	20.0	18.8	26.6	19.4	17.6	18.6	19.4	18.4	20.8	14.4	10.2	9.0	9.2	7.0	6.6	12.2	3.2	26.6	13.5
Mar 28	16.2	14.2	14.2	9.8	11.0	10.4	12.4	10.6	12.4	15.8	18.4	21.0	20.0	19.4	19.4	24.2	28.4	21.4	15.0	6.2	3.2	3.8	4.2	3.6	3.2	28.4	14.0
Mar 29	5.6	8.8	7.2	9.8	9.6	10.8	11.6	11.4	19.6	23.6	23.2	26.6	25.4	24.0	25.6	26.2	24.6	22.0	17.6	8.2	4.4	4.4	5.2	6.6	4.4	26.6	15.1
Mar 30	4.2	12.2	13.4	17.2	19.6	22.6	26.2	23.8	27.4	25.2	29.6	28.6	22.0	22.8	28.4	25.4	25.8	22.2	19.2	13.0	16.8	17.0	14.2	15.6	4.2	29.6	20.5
Mar 31	12.8	14.0	14.2	11.8	12.4	12.8	9.4	10.2	10.0	10.0	10.2	13.8	17.4	21.4	22.2	22.6	18.8	11.2	9.6	9.4	10.2	5.8	**2.0**	3.2	**2.0**	22.6	12.3
Diurnal Maximum	28.6	25.0	35.4	33.4	36.0	33.8	30.6	30.0	31.8	35.8	32.2	35.6	34.4	38.4	42.0	44.2	32.0	35.2	25.8	28.6	32.2	40.8	32.6	31.4			
Daiurnal Average	12.2	12.6	13.4	12.4	12.3	12.4	12.1	11.9	13.8	15.0	17.8	20.1	20.4	21.8	21.7	21.1	21.0	18.5	14.7	12.2	12.3	12.1	11.3	12.5			

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 pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Summary of Hourly Instantaneous Maximums

SULPHUR DIOXIDE (SO_2) in ppb

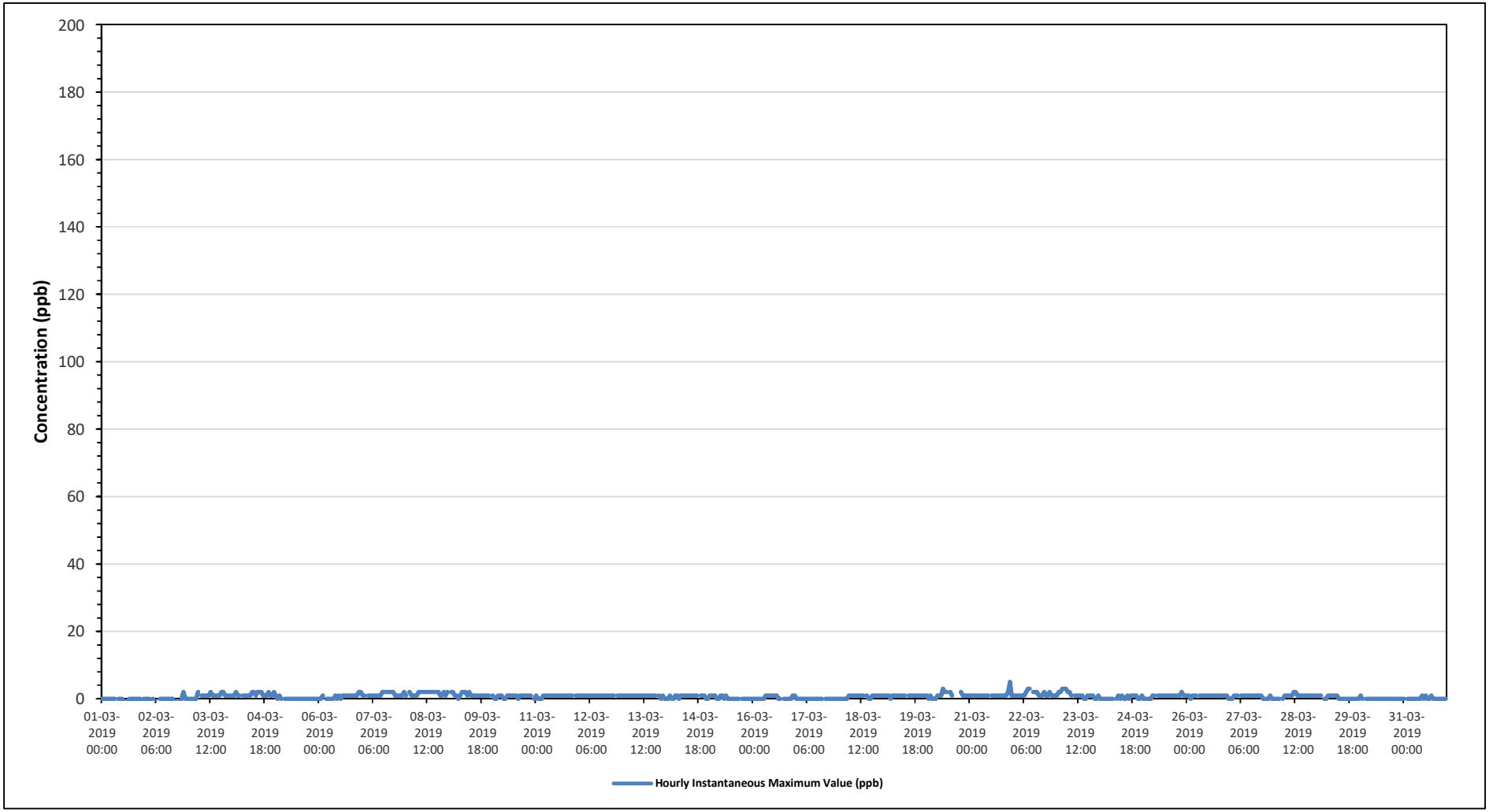
Maximum Hourly Value:	5	ppb	on March 21 at hour 22	Hours in Service:	744
Maximum Daily Value:	1.7	ppb	on March 8	Hours of Data:	708
Minimum Hourly Value:	-1	ppb	on March 1 at hour 12	Hours of Missing Data:	0
Minimum Daily Value:	-0.2	ppb	on March 2	Hours of Calibration:	36
Monthly Average:	0.7	ppb		Operational 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			
Mar 1	0	0	0	0	0	0	0	0	S	0	0	0	-1	-1	-1	0	0	0	0	0	0	0	-1	0	-1	0	-0.2
Mar 2	0	0	0	-1	0	-1	-1	S	0	0	0	0	0	0	0	0	-1	-1	-1	-1	0	2	0	0	-1	2	-0.2
Mar 3	0	0	0	0	0	2	S	1	1	1	1	1	2	1	1	1	1	1	2	2	1	1	1	1	0	2	1.0
Mar 4	1	1	2	1	1	S	1	1	1	1	1	2	2	1	2	2	2	1	1	1	2	1	1	2	1	2	1.3
Mar 5	1	0	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Mar 6	0	0	1	S	0	0	0	0	0	1	0	1	0	1	1	1	1	1	1	1	1	1	2	2	0	2	0.7
Mar 7	1	1	S	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	1	1	1	1	1	2	1	2	1.3
Mar 8	1	S	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	2	1	2	1	2	1.7
Mar 9	S	2	2	1	1	0	1	2	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	S	0	2	1.2
Mar 10	1	0	0	1	1	1	0	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	S	0	0	1	0.7
Mar 11	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	0	1	0.9
Mar 12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1.0
Mar 13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	0	1	0	0	1	0.9
Mar 14	0	0	1	0	0	1	1	0	1	1	1	1	1	1	1	1	1	1	S	1	1	1	0	0	0	1	0.7
Mar 15	1	1	1	1	0	0	1	1	0	1	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	1	0.3
Mar 16	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	S	0	0	0	0	0	1	1	0	1	0.4
Mar 17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0.0
Mar 18	0	0	0	0	0	1	1	1	1	1	1	1	1	1	S	1	0	0	1	1	1	1	1	1	0	1	0.7
Mar 19	1	1	1	1	0	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	0	1	1.0
Mar 20	1	0	1	0	0	0	1	1	1	3	2	2	S	2	1	C	C	C	C	2	1	1	1	1	0	3	1.1
Mar 21	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	2	5	1	1	5	1.2
Mar 22	1	1	1	1	1	1	1	2	3	3	S	2	2	2	1	1	1	2	1	1	2	1	1	1	1	3	1.4
Mar 23	1	2	2	3	3	3	2	2	1	S	1	1	1	1	1	0	0	1	1	1	1	0	0	1	0	3	1.3
Mar 24	0	0	0	0	0	0	0	0	S	0	1	0	1	0	0	1	0	1	1	1	1	0	0	1	0	1	0.3
Mar 25	0	0	0	0	0	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	0	2	0.8
Mar 26	1	1	0	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0.9
Mar 27	0	0	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0	0	1	0.7
Mar 28	0	0	0	0	S	0	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	0	2	0.9
Mar 29	1	1	1	S	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4
Mar 30	1	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Mar 31	0	S	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0.1
Diurnal Maximum	1	2	2	3	3	3	2	2	3	3	2	2	2	2	2	2	2	2	2	2	2	2	5	2			
Daiurnal Average	0.6	0.5	0.7	0.5	0.5	0.6	0.7	0.8	0.9	1.0	0.8	1.0	0.9	0.8	0.7	0.8	0.7	0.8	0.7	0.7	0.7	0.7	0.8	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 Instantaneous Maximum for SO2 - Reno Site



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Summary of Hourly Instantaneous Maximums

TOTAL REDUCED SULPHUR (TRS) in ppb

Maximum Hourly Value:	1.58	ppb	on March 22 at hour 11	Hours in Service:	744
Maximum Daily Value:	0.69	ppb	on March 27	Hours of Data:	653
Minimum Hourly Value:	0.19	ppb	on March 12 at hour 15	Hours of Missing Data:	58
Minimum Daily Value:	0.22	ppb	on March 12	Hours of Calibration:	33
Monthly Average:	0.42	ppb		Operational Uptime:	92.2

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
Mar 1	0.26	0.24	0.27	0.28	0.27	0.34	0.26	0.26	S	0.34	0.31	0.29	0.28	0.35	0.33	0.31	0.32	0.31	0.29	0.28	0.29	0.3	0.29	0.42	0.24	0.42	0.30
Mar 2	0.51	0.7	0.55	0.3	0.28	0.3	0.29	S	0.83	0.46	0.35	0.39	0.33	0.36	0.31	0.3	0.3	0.32	0.28	0.42	0.6	1.24	0.47	0.66	0.28	1.24	0.46
Mar 3	0.66	0.49	0.37	0.54	0.64	0.34	S	0.47	0.39	0.41	0.37	0.41	0.42	0.41	0.35	0.35	0.38	0.38	0.48	0.69	0.58	0.4	0.41	0.34	0.34	0.69	0.45
Mar 4	0.47	0.46	0.34	0.37	0.35	S	0.48	0.41	0.38	0.42	0.48	0.41	0.44	0.39	0.39	0.34	0.36	0.34	0.36	0.36	0.38	0.38	0.33	0.72	0.33	0.72	0.41
Mar 5	0.85	0.37	0.35	0.32	S	0.39	0.34	0.29	0.32	0.33	0.29	0.35	0.3	0.32	0.31	0.36	0.3	0.31	0.34	0.35	0.35	0.31	0.39	0.35	0.29	0.85	0.36
Mar 6	0.34	0.39	0.37	S	0.48	0.38	0.31	0.37	0.35	0.32	0.3	0.31	0.26	0.25	0.28	0.3	0.3	0.3	0.27	0.3	0.28	0.28	0.3	0.3	0.25	0.48	0.32
Mar 7	0.33	0.31	S	0.32	0.32	0.29	0.3	0.3	0.47	0.26	0.26	0.31	0.25	0.26	0.28	0.25	0.26	0.3	0.28	0.27	0.3	0.31	0.26	0.25	0.25	0.47	0.29
Mar 8	0.3	S	0.32	0.29	0.31	0.32	0.34	0.35	0.33	0.35	0.33	0.33	0.37	0.35	0.34	0.37	0.33	0.37	0.36	0.36	0.33	0.97	0.38	1.06	0.29	1.06	0.40
Mar 9	S	1.04	0.83	0.6	0.5	0.34	0.54	0.75	0.97	0.83	0.36	0.34	0.34	0.3	0.29	0.24	0.28	0.28	0.28	0.37	0.5	0.4	0.6	S	0.24	1.04	0.50
Mar 10	0.33	0.32	0.35	0.36	0.4	0.73	0.44	0.56	0.33	0.29	0.29	0.31	0.28	0.29	0.26	0.25	0.28	0.26	0.26	0.24	0.27	0.2	S	0.24	0.20	0.73	0.33
Mar 11	0.24	0.2	0.24	0.22	0.2	0.22	0.22	0.2	0.28	0.24	0.29	0.24	0.21	0.23	0.22	0.2	0.27	0.24	0.24	0.25	0.29	S	0.21	0.22	0.20	0.29	0.23
Mar 12	0.21	0.23	0.21	0.22	0.24	0.2	0.22	0.24	0.26	0.21	0.21	0.21	0.21	0.19	0.21	**0.19**	0.23	0.2	0.19	0.22	S	0.23	0.25	0.26	**0.19**	0.26	**0.22**
Mar 13	0.24	0.22	0.25	0.26	0.25	0.31	0.27	0.28	0.31	0.32	0.27	0.25	0.23	0.21	0.24	0.22	0.2	0.25	0.25	S	0.59	0.29	0.49	0.42	0.20	0.59	0.29
Mar 14	0.46	0.44	0.54	0.52	0.47	0.51	0.83	0.42	0.3	0.29	0.29	0.3	0.3	0.24	0.27	0.24	0.24	0.26	S	0.26	0.34	0.24	0.25	0.24	0.24	0.83	0.36
Mar 15	0.22	0.22	0.24	0.24	0.23	0.28	0.24	0.25	0.24	0.26	0.23	0.23	0.26	0.24	0.21	0.21	0.25	S	0.39	0.37	0.28	0.23	0.24	0.24	0.21	0.39	0.25
Mar 16	0.22	0.27	0.24	0.26	0.28	0.31	0.33	0.46	0.44	0.36	0.34	0.27	0.29	0.29	0.23	0.26	S	0.27	0.26	0.31	0.28	0.23	0.26	0.27	0.22	0.46	0.29
Mar 17	0.26	0.22	0.21	0.24	0.23	0.23	0.25	0.26	0.21	0.23	0.21	0.21	0.24	0.24	0.24	S	0.26	0.2	0.22	0.23	0.31	0.21	0.23	0.26	0.20	0.31	0.23
Mar 18	0.25	0.23	0.29	0.35	0.27	0.26	0.28	0.26	0.32	0.3	0.28	0.28	0.33	0.22	S	0.31	0.23	0.25	0.24	0.24	0.22	0.35	0.39	1.34	0.22	1.34	0.33
Mar 19	0.28	0.28	0.3	0.31	0.32	0.29	0.28	0.35	0.27	0.31	0.28	0.33	0.32	S	0.23	0.27	0.27	0.28	0.46	0.37	0.48	X	X	X	0.23	0.48	0.31
Mar 20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
Mar 21	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-
Mar 22	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	**1.58**	0.77	0.64	0.65	0.61	0.57	0.54	0.57	0.54	0.61	0.59	0.5	0.54	0.50	**1.58**	-
Mar 23	0.53	0.54	0.55	0.59	0.55	0.56	0.55	0.56	0.58	S	0.51	0.49	0.5	0.51	0.49	0.51	0.53	0.5	0.51	0.54	0.52	0.55	0.52	0.51	0.49	0.59	0.53
Mar 24	0.55	0.52	0.48	0.51	0.5	0.53	0.54	0.54	S	0.54	0.54	0.58	0.53	0.54	0.53	0.55	0.54	0.54	0.52	0.5	0.84	0.83	0.64	0.54	0.48	0.84	0.56
Mar 25	0.61	0.6	0.61	0.59	0.61	0.6	0.67	S	0.63	0.62	0.58	0.57	0.55	0.55	0.54	0.53	0.58	0.55	0.6	0.6	0.64	1.13	0.82	0.59	0.53	1.13	0.62
Mar 26	0.56	0.54	0.52	0.64	0.51	0.53	S	0.56	0.53	0.56	0.5	0.53	0.5	0.49	0.52	0.53	0.47	0.48	0.48	0.48	0.51	0.45	0.5	0.56	0.45	0.64	0.52
Mar 27	0.51	0.47	0.49	0.47	0.5	S	0.49	0.53	0.49	0.8	0.49	0.89	0.96	0.69	0.75	0.53	0.59	0.77	1.55	1.14	0.79	0.51	0.63	0.83	0.47	1.55	**0.69**
Mar 28	0.91	0.66	0.56	0.54	S	0.49	0.51	0.48	0.49	0.53	0.53	0.57	0.5	0.51	0.51	0.5	0.5	0.64	0.51	0.74	0.89	0.76	0.56	0.77	0.48	0.91	0.59
Mar 29	0.78	0.94	0.82	S	0.56	0.52	0.56	0.51	0.55	0.54	0.53	0.5	0.51	0.51	0.52	0.5	0.5	0.52	0.53	0.69	0.66	0.54	0.53	0.53	0.50	0.94	0.58
Mar 30	0.54	0.5	S	0.52	0.53	0.53	0.53	0.56	0.55	0.56	0.54	0.53	0.54	0.55	0.51	0.51	0.56	0.51	0.52	0.53	0.49	0.5	0.47	0.5	0.47	0.56	0.53
Mar 31	0.5	S	0.59	0.49	0.51	0.49	0.52	0.54	0.54	0.5	0.53	0.52	0.54	0.51	0.55	0.61	0.62	0.52	0.53	0.52	0.85	0.92	0.53	0.54	0.49	0.92	0.56
Diurnal Maximum	0.91	1.04	0.83	0.64	0.64	0.73	0.83	0.75	0.97	0.83	0.58	1.58	0.96	0.69	0.75	0.61	0.62	0.77	1.55	1.14	0.89	1.24	0.82	1.34			
Daiurnal Average	0.44	0.44	0.42	0.40	0.40	0.40	0.41	0.41	0.44	0.41	0.37	0.43	0.40	0.38	0.38	0.37	0.38	0.38	0.42	0.43	0.48	0.49	0.42	0.50			

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

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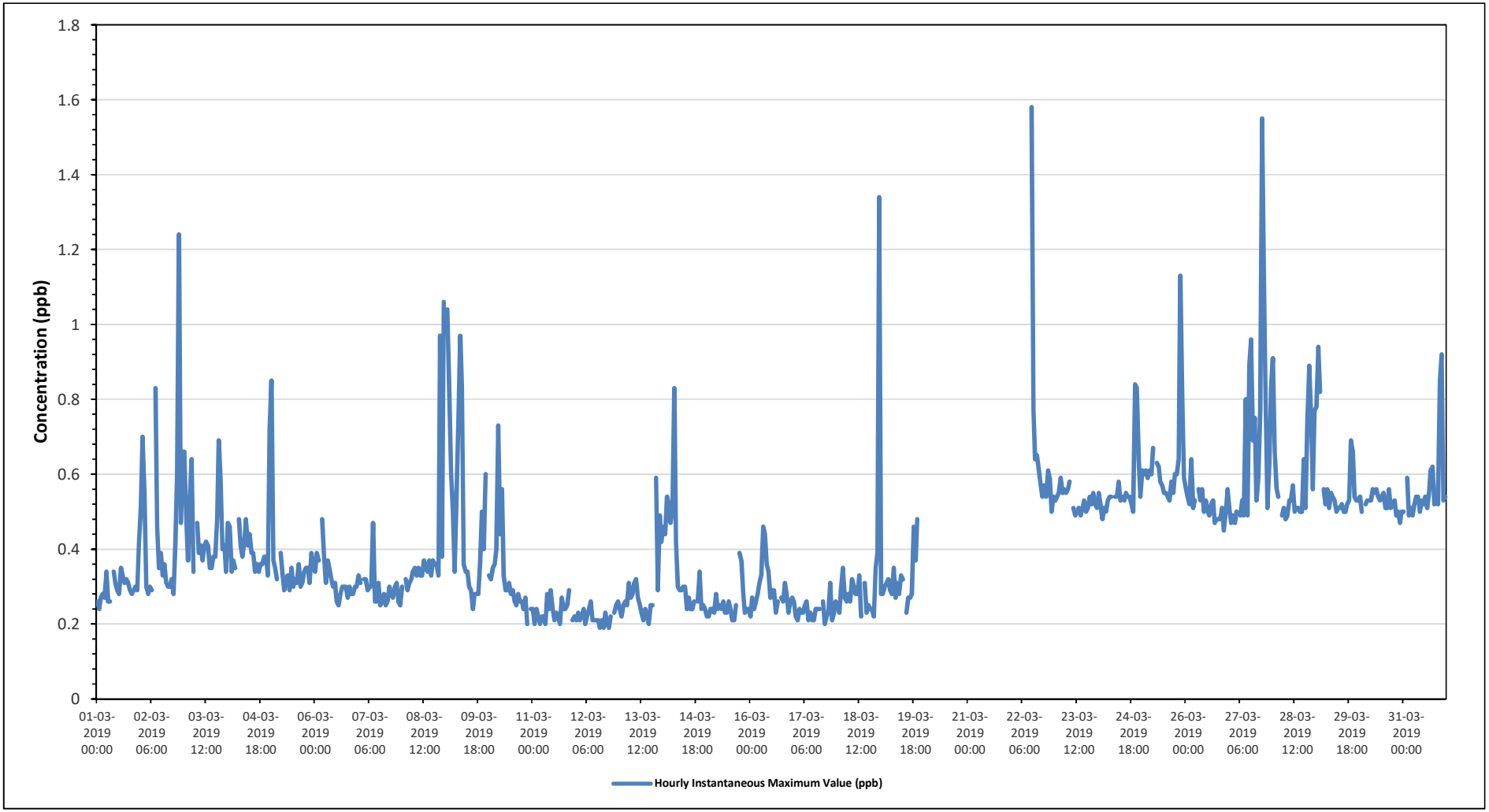
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Instantaneous Maximum for TRS - Reno Site



peace river area monitoring program pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Summary of Hourly Instantaneous Maximums

TOTAL HYDROCARBONS (THC) in ppm

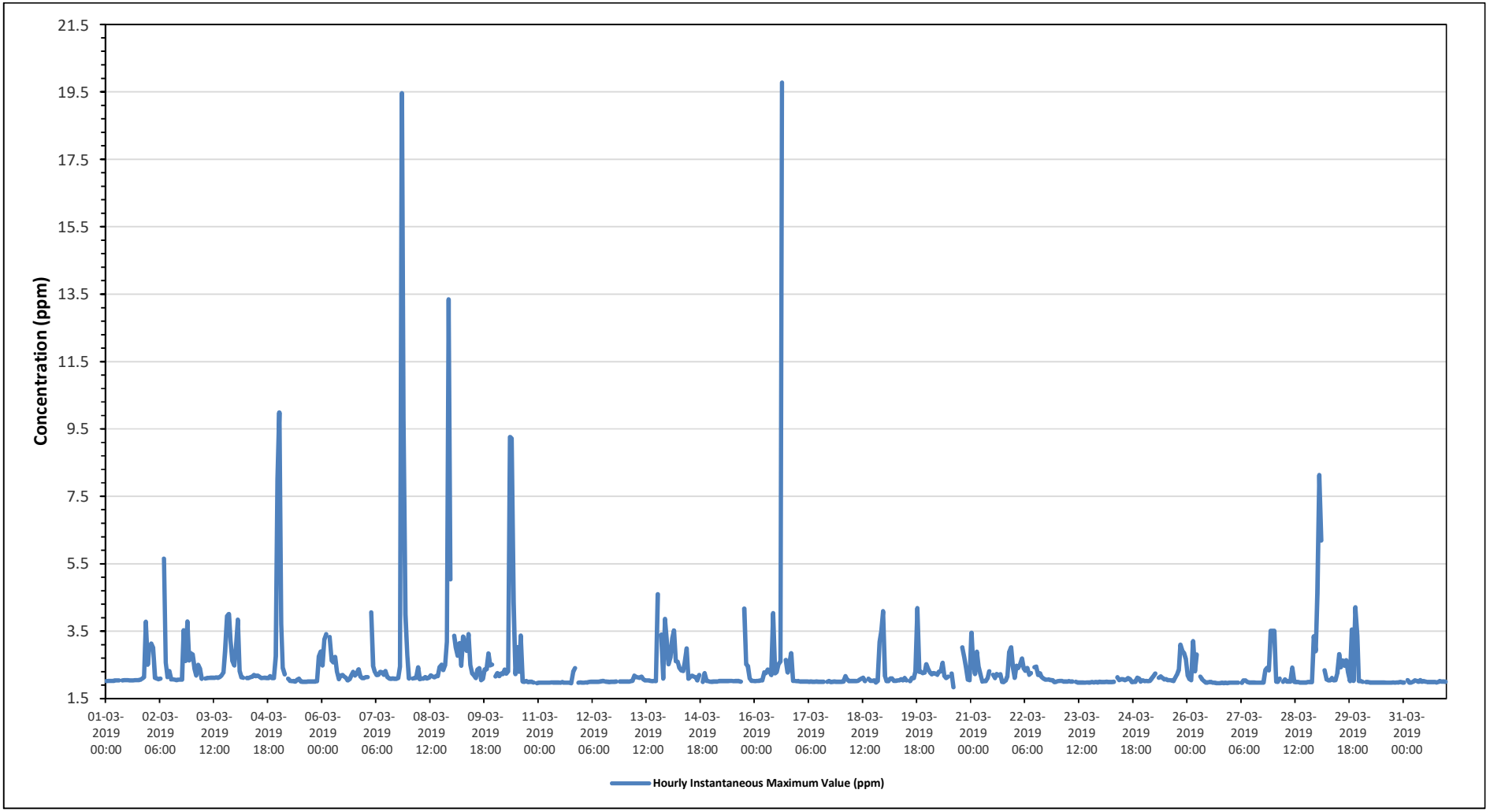
Maximum Hourly Value:	####	ppm	on March 16 at hour 15	Hours in Service:	744
Maximum Daily Value:	3.47	ppm	on March 7	Hours of Data:	708
Minimum Hourly Value:	1.84	ppm	on March 20 at hour 14	Hours of Missing Data:	0
Minimum Daily Value:	1.98	ppm	on March 30	Hours of Calibration:	36
Monthly Average:	2.38	ppm		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Mar 1	2.02	2.03	2.03	2.03	2.03	2.04	2.04	2.04	S	2.04	2.05	2.05	2.05	2.04	2.04	2.04	2.05	2.05	2.05	2.06	2.10	2.14	3.78	2.51	2.02	3.78	2.14
Mar 2	3.04	3.13	3.00	2.12	2.10	2.08	2.09	S	5.65	2.57	2.14	2.32	2.07	2.07	2.06	2.05	2.06	2.06	2.06	3.53	2.62	3.79	2.63	2.85	2.05	5.65	2.61
Mar 3	2.81	2.38	2.19	2.50	2.39	2.09	S	2.10	2.11	2.12	2.12	2.12	2.12	2.13	2.12	2.14	2.19	2.28	2.91	3.95	4.01	3.22	2.62	2.49	2.09	4.01	2.48
Mar 4	2.97	3.84	2.32	2.14	2.12	S	2.11	2.11	2.13	2.15	2.20	2.17	2.18	2.15	2.11	2.12	2.12	2.11	2.11	2.17	2.11	2.11	2.76	8.02	2.11	8.02	2.54
Mar 5	9.99	3.72	2.42	2.22	S	2.09	2.03	2.02	2.02	2.01	2.06	2.09	2.01	2.00	2.00	2.00	2.01	2.01	2.01	2.01	2.01	2.02	2.76	2.90	2.00	9.99	2.54
Mar 6	2.49	3.25	3.41	S	3.33	2.64	2.58	2.74	2.30	2.08	2.18	2.20	2.15	2.12	2.04	2.08	2.18	2.29	2.19	2.25	2.37	2.16	2.11	2.11	2.04	3.41	2.40
Mar 7	2.14	2.14	S	4.06	2.48	2.30	2.20	2.21	2.29	2.28	2.21	2.32	2.14	2.10	2.09	2.10	2.09	2.09	2.11	2.45	19.46	9.80	4.00	2.79	2.09	19.46	**3.47**
Mar 8	2.10	S	2.10	2.11	2.12	2.43	2.08	2.09	2.10	2.14	2.10	2.12	2.19	2.16	2.13	2.17	2.17	2.44	2.51	2.35	2.49	3.19	13.34	5.04	2.08	13.34	2.86
Mar 9	S	3.36	3.02	2.77	3.15	2.48	3.34	3.04	2.92	3.41	2.50	2.26	2.19	2.11	2.36	2.40	2.05	2.09	2.37	2.37	2.84	2.49	2.51	S	2.05	3.41	2.64
Mar 10	2.16	2.26	2.17	2.24	2.23	2.36	2.24	2.31	9.26	9.22	4.37	2.23	3.03	2.30	3.37	2.01	2.00	2.02	1.99	2.00	2.00	1.98	S	1.96	1.96	9.26	2.94
Mar 11	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.97	1.99	1.97	1.97	1.97	1.97	1.96	2.29	2.40	S	1.97	1.98	1.96	2.40	2.01
Mar 12	1.97	1.97	1.98	1.98	1.99	2.00	2.00	2.00	2.00	2.00	2.01	2.02	2.02	2.01	2.00	1.99	2.00	2.00	2.00	2.01	S	2.01	2.01	2.01	1.97	2.02	2.00
Mar 13	2.01	2.01	2.01	2.02	2.03	2.18	2.14	2.13	2.12	2.15	2.07	2.04	2.04	2.04	2.03	2.02	2.03	2.02	4.59	S	3.40	2.10	3.86	3.15	2.01	4.59	2.36
Mar 14	2.52	2.74	3.30	3.52	2.61	2.59	2.42	2.34	2.32	2.56	2.99	2.09	2.14	2.18	2.15	2.13	2.04	2.20	S	2.00	2.26	2.03	2.02	2.01	2.00	3.52	2.40
Mar 15	2.00	2.01	2.01	2.01	2.02	2.02	2.02	2.02	2.02	2.02	2.03	2.03	2.02	2.02	2.02	2.02	2.01	S	4.17	2.52	2.47	2.10	2.03	2.03	2.00	4.17	2.16
Mar 16	2.02	2.03	2.03	2.04	2.04	2.28	2.26	2.36	2.31	2.20	4.04	2.25	2.29	2.52	2.60	**19.77**	S	2.65	2.28	2.51	2.85	2.03	2.03	2.02	2.02	**19.77**	3.10
Mar 17	2.02	2.01	2.01	2.01	2.01	2.01	2.00	2.01	2.00	2.00	2.01	2.00	2.00	2.00	2.00	S	2.00	2.02	1.99	2.00	2.01	2.00	2.00	2.00	1.99	2.02	2.00
Mar 18	2.00	2.01	2.17	2.08	2.02	2.02	2.02	2.02	2.02	2.03	2.06	2.10	2.12	2.02	S	2.09	2.03	2.03	2.04	1.98	2.02	3.19	3.51	4.09	1.98	4.09	2.25
Mar 19	2.17	2.02	2.02	2.10	2.10	2.03	2.03	2.04	2.04	2.08	2.04	2.11	2.04	S	2.02	2.12	2.11	2.30	4.18	2.30	2.29	2.26	2.27	2.52	2.02	4.18	2.23
Mar 20	2.39	2.28	2.22	2.26	2.24	2.21	2.30	2.31	2.56	2.18	2.11	2.15	S	2.24	**1.84**	C	C	C	C	3.02	2.72	2.42	2.07	2.05	**1.84**	3.02	2.29
Mar 21	3.45	2.58	2.23	2.89	2.44	2.22	2.01	2.02	2.02	2.12	2.31	S	2.21	2.11	2.23	2.19	2.22	2.00	1.99	2.04	2.17	2.89	3.02	2.45	1.99	3.45	2.34
Mar 22	2.12	2.47	2.41	2.51	2.69	2.39	2.33	2.41	2.21	2.26	S	2.43	2.45	2.20	2.25	2.14	2.10	2.06	2.06	2.07	2.05	2.05	1.99	2.00	1.99	2.69	2.25
Mar 23	2.02	2.03	2.03	2.01	2.01	2.01	2.02	2.01	2.01	S	2.00	1.98	1.98	1.98	1.98	1.97	1.98	1.98	1.98	1.99	1.98	1.99	1.98	2.00	1.97	2.03	2.00
Mar 24	1.99	1.99	1.99	2.00	1.99	1.99	1.99	2.00	S	2.13	2.05	2.08	2.08	2.05	2.07	2.11	2.08	1.99	2.00	2.00	2.12	2.10	2.01	2.04	1.99	2.13	2.04
Mar 25	2.02	2.03	2.02	2.03	2.10	2.17	2.24	S	2.12	2.16	2.12	2.07	2.08	2.05	2.05	2.04	2.02	2.11	2.21	2.36	3.10	2.92	2.84	2.67	2.02	3.10	2.24
Mar 26	2.19	2.08	2.05	3.20	2.31	2.81	S	2.15	2.07	2.02	1.98	1.98	1.99	1.99	1.97	1.97	1.96	1.96	1.96	1.97	1.96	1.97	1.96	1.97	1.96	3.20	2.11
Mar 27	1.97	1.97	1.97	1.97	1.97	S	1.97	2.04	2.04	1.99	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	2.34	2.41	2.34	3.51	3.51	1.97	3.51	2.16
Mar 28	3.51	2.01	2.00	2.09	S	2.00	2.07	2.01	2.01	2.01	2.42	2.00	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.99	1.99	1.99	3.35	2.91	1.98	3.51	2.18
Mar 29	4.63	8.13	6.19	S	2.34	2.07	2.04	2.04	2.11	2.04	2.05	2.25	2.82	2.43	2.63	2.48	2.64	2.28	2.02	3.55	2.03	4.21	3.37	2.02	2.02	8.13	2.97
Mar 30	2.02	2.00	S	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.98	1.97	1.98	1.98	1.99	1.98	1.97	2.02	**1.98**
Mar 31	1.98	S	2.05	1.98	1.98	2.00	2.04	2.03	2.00	2.05	2.00	2.02	2.01	1.99	1.99	1.99	1.99	1.99	1.98	1.99	2.02	2.01	2.01	2.00	1.98	2.05	2.00
Diurnal Maximum	9.99	8.13	6.19	4.06	3.33	2.81	3.34	3.04	9.26	9.22	4.37	2.43	3.03	2.52	3.37	19.77	2.64	2.65	4.59	3.95	19.46	9.80	13.34	8.02			
Daiurnal Average	2.62	2.57	2.39	2.31	2.23	2.19	2.16	2.16	2.51	2.40	2.27	2.11	2.14	2.10	2.13	2.69	2.07	2.10	2.33	2.33	2.94	2.65	2.94	2.67			

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



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PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Summary of Hourly Instantaneous Maximums

METHANE (CH4) in ppm

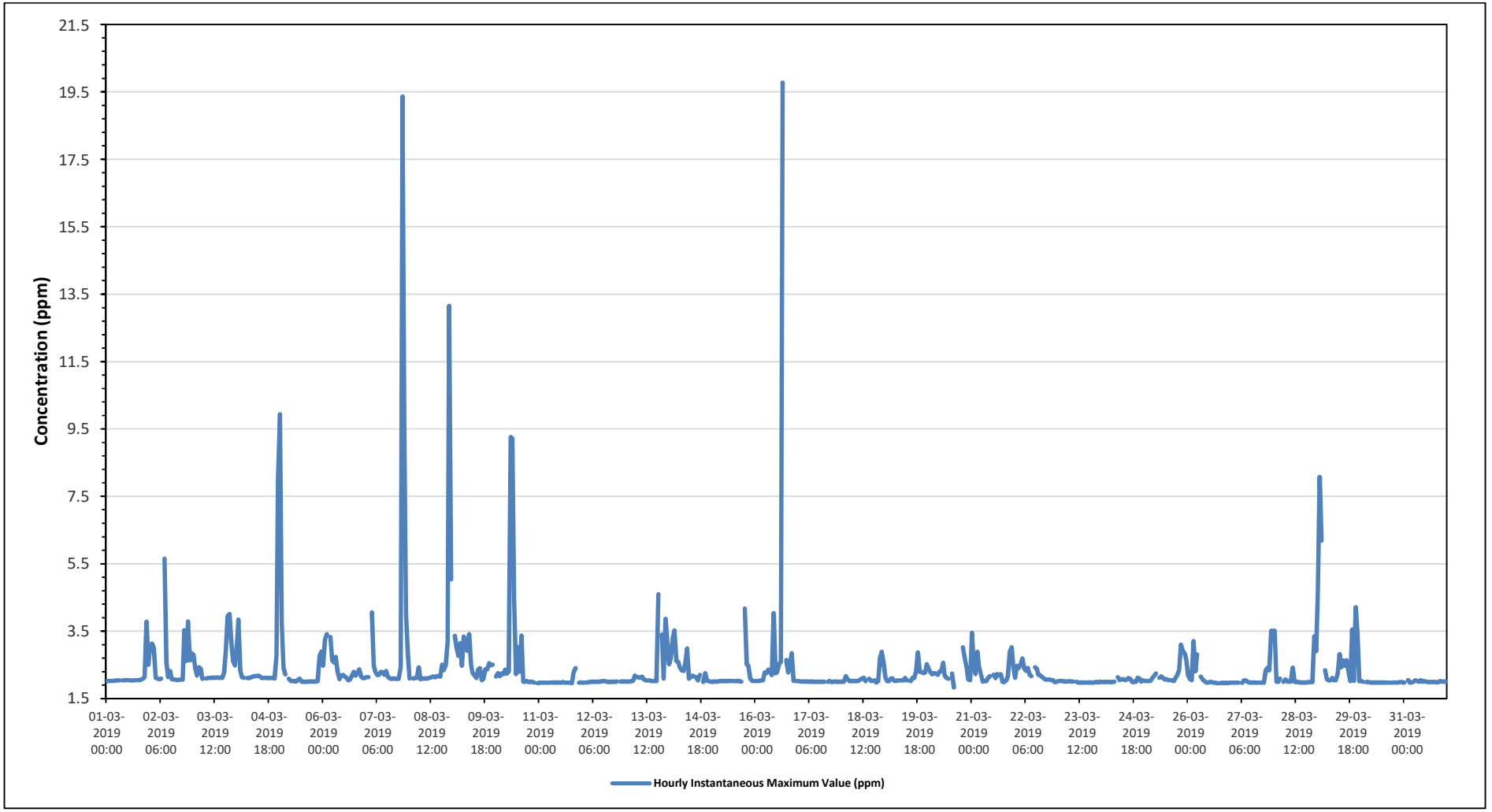
Maximum Hourly Value:	####	ppm	on March 16 at hour 15	Hours in Service:	744
Maximum Daily Value:	3.47	ppm	on March 7	Hours of Data:	708
Minimum Hourly Value:	1.83	ppm	on March 20 at hour 14	Hours of Missing Data:	0
Minimum Daily Value:	1.98	ppm	on March 30	Hours of Calibration:	36
Monthly Average:	2.37	ppm		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Mar 1	2.02	2.03	2.03	2.03	2.03	2.04	2.04	2.04	S	2.04	2.05	2.05	2.05	2.04	2.04	2.04	2.05	2.05	2.05	2.06	2.10	2.14	3.78	2.51	2.02	3.78	2.14
Mar 2	3.04	3.13	3.00	2.12	2.10	2.08	2.09	S	5.65	2.57	2.14	2.32	2.07	2.07	2.06	2.05	2.06	2.06	2.06	3.53	2.62	3.79	2.63	2.85	2.05	5.65	2.61
Mar 3	2.81	2.38	2.19	2.43	2.39	2.09	S	2.10	2.11	2.12	2.12	2.12	2.12	2.13	2.12	2.12	2.12	2.28	2.91	3.95	4.01	3.22	2.62	2.49	2.09	4.01	2.48
Mar 4	2.97	3.84	2.32	2.14	2.12	S	2.11	2.11	2.13	2.15	2.17	2.17	2.18	2.15	2.11	2.12	2.12	2.11	2.11	2.12	2.11	2.10	2.76	8.02	2.10	8.02	2.53
Mar 5	9.93	3.72	2.42	2.22	S	2.09	2.03	2.02	2.02	2.01	2.06	2.09	2.01	2.00	2.00	2.00	2.01	2.01	2.01	2.01	2.01	2.02	2.76	2.90	2.00	9.93	2.54
Mar 6	2.48	3.25	3.41	S	3.33	2.64	2.58	2.74	2.30	2.08	2.18	2.20	2.15	2.12	2.04	2.08	2.18	2.29	2.19	2.25	2.37	2.16	2.11	2.11	2.04	3.41	2.40
Mar 7	2.14	2.14	S	4.06	2.48	2.30	2.20	2.21	2.29	2.28	2.21	2.32	2.14	2.10	2.09	2.10	2.09	2.09	2.09	2.45	19.36	9.80	4.00	2.79	2.09	19.36	**3.47**
Mar 8	2.10	S	2.10	2.11	2.12	2.43	2.08	2.09	2.10	2.10	2.10	2.12	2.13	2.16	2.13	2.17	2.17	2.15	2.51	2.35	2.49	3.19	13.15	5.04	2.08	13.15	2.83
Mar 9	S	3.36	3.02	2.77	3.15	2.48	3.34	3.04	2.92	3.41	2.50	2.26	2.19	2.11	2.36	2.40	2.05	2.09	2.37	2.37	2.55	2.49	2.51	S	2.05	3.41	2.62
Mar 10	2.16	2.26	2.17	2.24	2.23	2.36	2.24	2.31	9.26	9.22	4.37	2.23	3.03	2.30	3.37	2.01	2.00	2.02	1.99	2.00	2.00	1.98	S	1.96	1.96	9.26	2.94
Mar 11	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.97	1.99	1.97	1.97	1.97	1.97	1.96	2.29	2.40	S	1.97	1.98	1.96	2.40	2.01
Mar 12	1.97	1.97	1.98	1.98	1.99	2.00	2.00	2.00	2.00	2.00	2.01	2.02	2.02	2.01	2.00	1.99	2.00	2.00	2.00	2.01	S	2.01	2.01	2.01	1.97	2.02	2.00
Mar 13	2.01	2.01	2.01	2.02	2.03	2.18	2.14	2.13	2.12	2.15	2.07	2.04	2.04	2.04	2.03	2.02	2.03	2.02	4.59	S	3.40	2.10	3.86	3.15	2.01	4.59	2.36
Mar 14	2.52	2.74	3.30	3.52	2.61	2.59	2.42	2.34	2.32	2.56	2.99	2.09	2.14	2.18	2.15	2.13	2.04	2.20	S	2.00	2.26	2.03	2.02	2.01	2.00	3.52	2.40
Mar 15	2.00	2.01	2.01	2.01	2.02	2.02	2.02	2.02	2.02	2.02	2.03	2.03	2.02	2.02	2.02	2.02	2.01	S	4.17	2.52	2.47	2.10	2.03	2.03	2.00	4.17	2.16
Mar 16	2.02	2.03	2.03	2.04	2.04	2.28	2.26	2.36	2.31	2.20	4.04	2.25	2.29	2.52	2.60	**19.77**	S	2.65	2.28	2.51	2.85	2.03	2.03	2.02	2.02	**19.77**	3.10
Mar 17	2.02	2.01	2.01	2.01	2.01	2.01	2.00	2.01	2.00	2.00	2.00	2.00	2.00	2.00	2.00	S	2.00	2.02	1.99	2.00	2.01	2.00	2.00	2.00	1.99	2.02	2.00
Mar 18	2.00	2.01	2.17	2.08	2.02	2.02	2.02	2.02	2.02	2.03	2.06	2.10	2.12	2.02	S	2.09	2.03	2.03	2.04	1.98	2.02	2.72	2.89	2.55	1.98	2.89	2.13
Mar 19	2.12	2.02	2.02	2.10	2.10	2.03	2.03	2.04	2.04	2.04	2.04	2.11	2.04	S	2.02	2.12	2.11	2.30	2.87	2.30	2.29	2.26	2.27	2.52	2.02	2.87	2.16
Mar 20	2.39	2.28	2.22	2.26	2.24	2.21	2.30	2.31	2.56	2.18	2.11	2.09	S	2.24	**1.83**	C	C	C	C	3.02	2.72	2.42	2.07	2.05	**1.83**	3.02	2.29
Mar 21	3.45	2.58	2.23	2.89	2.44	2.22	2.01	2.02	2.02	2.12	2.17	S	2.21	2.11	2.23	2.19	2.22	2.00	1.99	2.04	2.17	2.89	3.02	2.45	1.99	3.45	2.33
Mar 22	2.12	2.47	2.41	2.51	2.69	2.39	2.33	2.41	2.21	2.17	S	2.43	2.39	2.20	2.19	2.14	2.10	2.06	2.06	2.07	2.05	2.05	1.99	2.00	1.99	2.69	2.24
Mar 23	2.02	2.03	2.03	2.01	2.01	2.01	2.02	2.01	2.01	S	2.00	1.98	1.98	1.98	1.98	1.97	1.98	1.98	1.98	1.98	1.98	1.99	1.98	2.00	1.97	2.03	2.00
Mar 24	1.99	1.99	1.99	2.00	1.99	1.99	1.99	2.00	S	2.13	2.05	2.08	2.08	2.05	2.07	2.11	2.08	1.99	2.00	2.00	2.12	2.10	2.01	2.04	1.99	2.13	2.04
Mar 25	2.02	2.03	2.02	2.03	2.10	2.17	2.24	S	2.12	2.16	2.12	2.07	2.08	2.05	2.05	2.04	2.02	2.11	2.21	2.36	3.10	2.92	2.84	2.67	2.02	3.10	2.24
Mar 26	2.19	2.08	2.05	3.20	2.31	2.81	S	2.15	2.07	2.02	1.98	1.98	1.99	1.99	1.97	1.97	1.96	1.96	1.96	1.97	1.96	1.97	1.96	1.97	1.96	3.20	2.11
Mar 27	1.97	1.97	1.97	1.97	1.97	S	1.97	2.04	2.04	1.99	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	2.34	2.41	2.34	3.51	3.51	1.97	3.51	2.16
Mar 28	3.51	2.01	2.00	2.09	S	2.00	2.07	2.01	2.01	2.01	2.42	2.00	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.99	1.99	1.99	3.35	2.91	1.98	3.51	2.18
Mar 29	4.63	8.07	6.19	S	2.34	2.07	2.04	2.04	2.11	2.04	2.05	2.25	2.82	2.43	2.63	2.48	2.64	2.28	2.02	3.55	2.03	4.21	3.37	2.02	2.02	8.07	2.97
Mar 30	2.02	2.00	S	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.98	1.97	1.98	1.98	1.99	1.98	1.97	2.02	**1.98**
Mar 31	1.98	S	2.05	1.98	1.98	2.00	2.04	2.03	2.00	2.05	2.00	2.02	2.01	1.99	1.99	1.99	1.99	1.99	1.98	1.99	2.02	2.01	2.01	2.00	1.98	2.05	2.00
Diurnal Maximum	9.93	8.07	6.19	4.06	3.33	2.81	3.34	3.04	9.26	9.22	4.37	2.43	3.03	2.52	3.37	19.77	2.64	2.65	4.59	3.95	19.36	9.80	13.15	8.02			
Daiurnal Average	2.62	2.57	2.39	2.30	2.23	2.19	2.16	2.16	2.51	2.39	2.27	2.11	2.14	2.10	2.13	2.69	2.07	2.09	2.29	2.33	2.93	2.63	2.92	2.62			

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 pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Summary of Hourly Instantaneous Maximums

NON-METHANE HYDROCARBONS (NMHC) in ppm

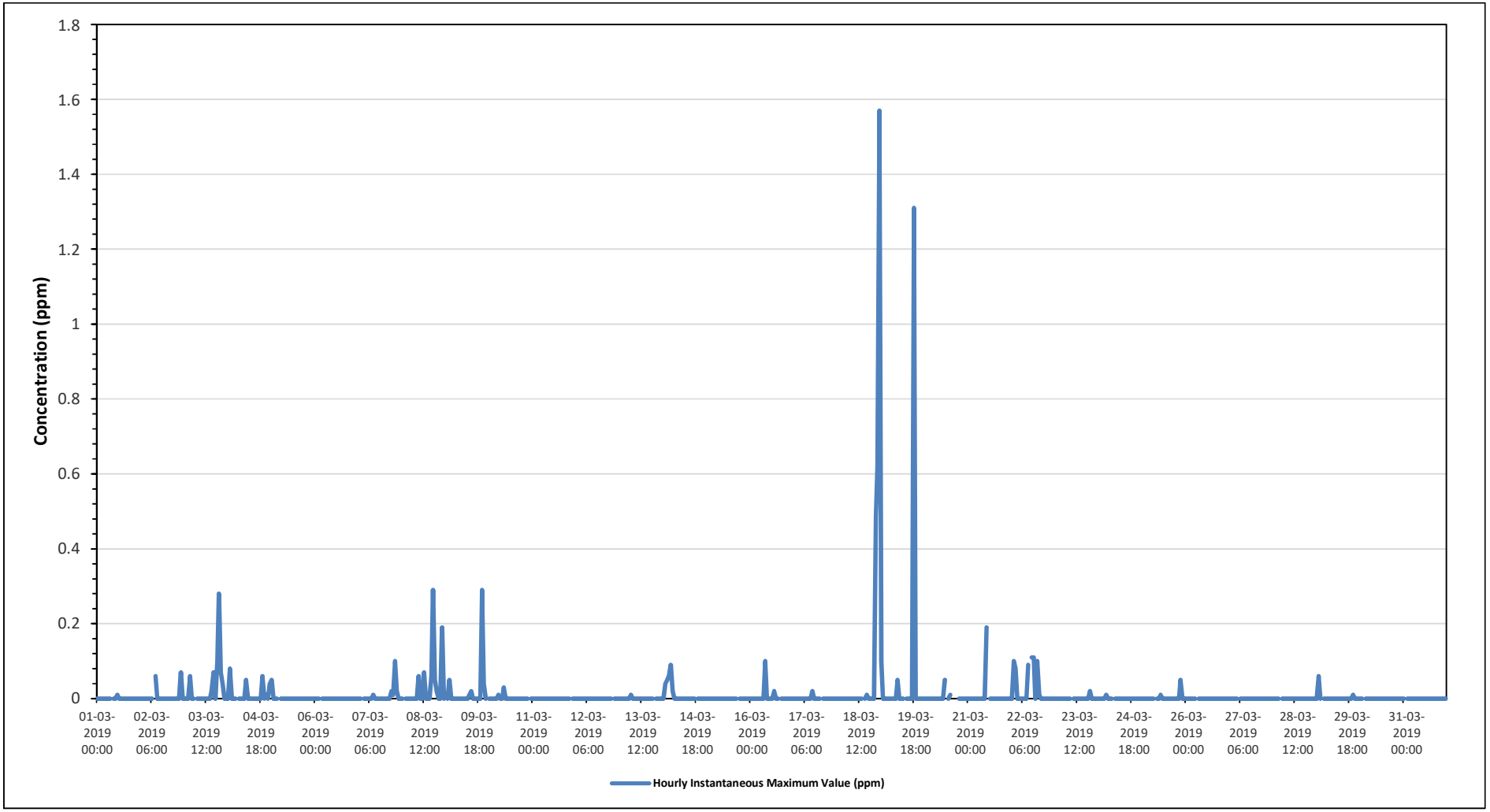
Maximum Hourly Value:	1.57	ppm	on March 18 at hour 23	Hours in Service:	744
Maximum Daily Value:	0.12	ppm	on March 18	Hours of Data:	708
Minimum Hourly Value:	0.00	ppm	on March 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.00	ppm	on March 6	Hours of Calibration:	36
Monthly Average:	0.01	ppm		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Mar 1	**0.00**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	0.01	**0.00**
Mar 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07	0.01
Mar 3	0.00	0.00	0.00	0.06	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.07	0.00	0.10	0.28	0.07	0.04	0.00	0.00	0.00	0.28	0.03
Mar 4	0.00	0.08	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.01	0.00	0.04	0.00	0.08	0.01
Mar 5	0.05	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
Mar 6	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 7	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.10	0.02	0.00	0.00	0.00	0.10	0.01
Mar 8	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.07	0.00	0.00	0.00	0.06	0.29	0.05	0.02	0.00	0.00	0.19	0.00	0.00	0.29	0.03
Mar 9	S	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.29	0.04	0.00	S	0.00	0.29	0.02
Mar 10	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.03	0.00	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	0.03	0.00
Mar 11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00
Mar 12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
Mar 13	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Mar 14	0.00	0.04	0.05	0.06	0.09	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	0.09	0.01
Mar 15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.02	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.01
Mar 17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
Mar 18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.01	0.00	0.00	0.00	0.00	0.49	0.62	**1.57**	0.00	**1.57**	**0.12**
Mar 19	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	1.31	0.00	0.00	0.00	0.00	0.00	0.00	1.31	0.06
Mar 20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	S	0.00	0.01	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00
Mar 21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.01
Mar 22	0.00	0.10	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.09	S	0.11	0.11	0.00	0.10	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.03
Mar 23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.02	0.00
Mar 24	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Mar 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.05	0.00
Mar 26	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 27	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 28	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 29	0.00	0.06	0.00	S	0.00	0.00	0.00	0.00	0.00	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	0.06	0.00
Mar 30	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 31	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diurnal Maximum	0.10	0.10	0.08	0.06	0.09	0.02	0.01	0.00	0.10	0.09	0.19	0.11	0.11	0.02	0.10	0.02	0.07	0.29	1.31	0.28	0.29	0.49	0.62	1.57			
Daiurnal Average	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.05	0.01	0.02	0.02	0.03	0.05			

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 pramp

PEACE RIVER AREA MONITORING PROGRAM

Reno Site - March 2019

Summary of Hourly Instantaneous Maximums

WIND SPEED (WS) in km/h

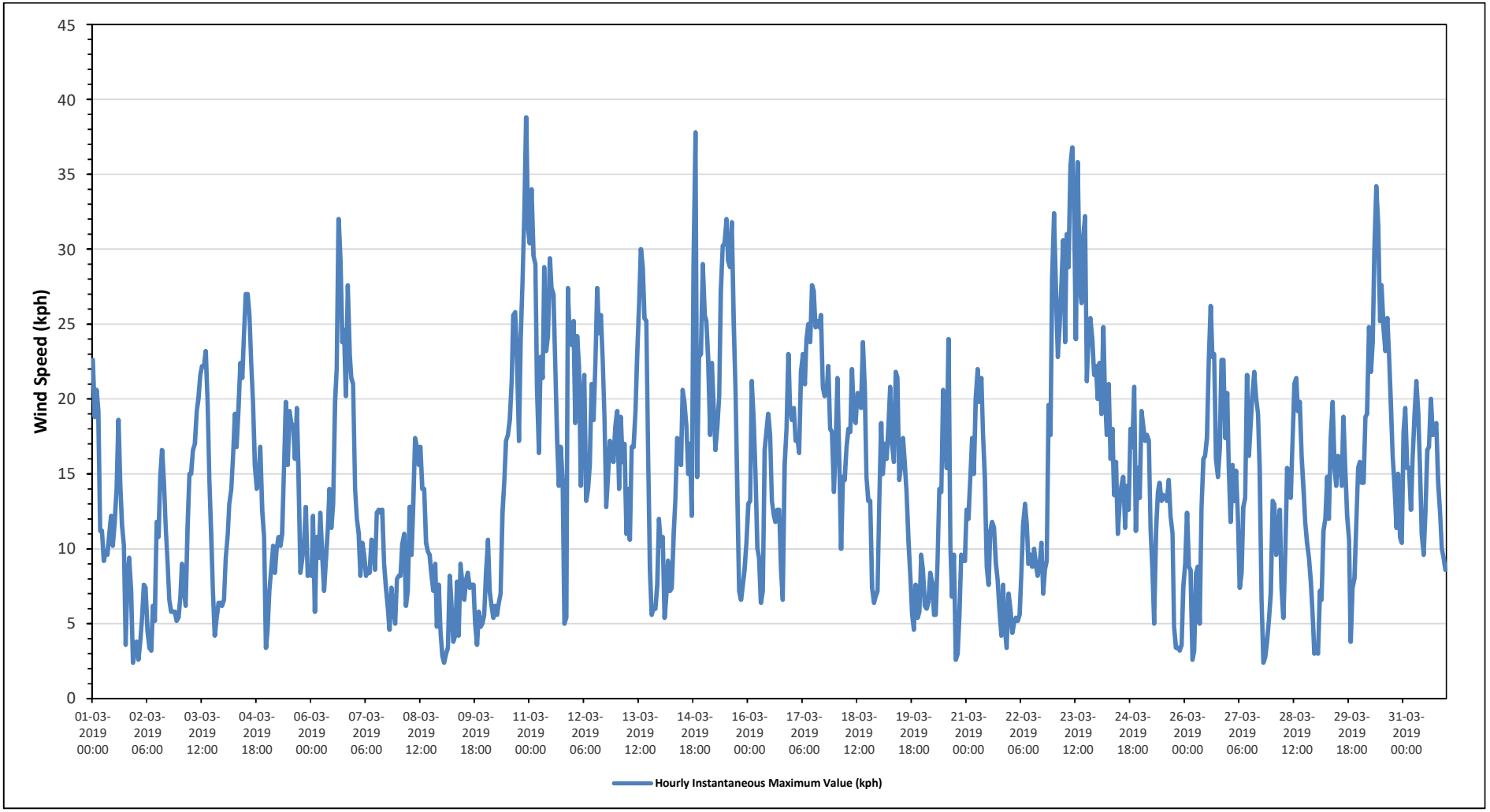
Maximum Hourly Value:	38.8	kph	on March 10 at hour 22	Hours in Service:	744
Maximum Daily Value:	27.9	kph	on March 23	Hours of Data:	744
Minimum Hourly Value:	2.4	kph	on March 1 at hour 22	Hours of Missing Data:	0
Minimum Daily Value:	5.8	kph	on March 9	Hours of Calibration:	0
Monthly Average:	14.7	kph		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																								Daily	Daily	Daily
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average
Mar 1	22.6	18.8	20.6	19.2	11.2	11.2	9.2	9.8	9.6	11.0	12.2	10.2	11.8	14.0	18.6	14.2	11.6	10.2	3.6	8.2	9.4	7.2	**2.4**	3.6	**2.4**	22.6	11.7
Mar 2	3.8	2.6	3.8	5.4	7.6	7.4	4.6	3.4	3.2	6.2	5.2	11.8	10.8	14.8	16.6	14.4	11.4	9.2	6.6	5.8	5.8	5.8	5.2	5.4	2.6	16.6	7.4
Mar 3	6.8	9.0	7.2	6.2	11.4	15.0	15.0	16.6	17.0	19.2	20.0	21.6	22.2	22.2	23.2	19.8	14.6	10.8	7.2	4.2	5.4	6.4	6.4	6.2	4.2	23.2	13.1
Mar 4	6.6	9.4	11.0	13.0	14.0	16.2	19.0	16.8	19.4	22.4	21.4	24.2	27.0	27.0	25.6	22.4	19.8	15.6	14.0	14.8	16.8	12.6	10.8	3.4	3.4	27.0	16.8
Mar 5	4.6	7.2	8.8	10.2	8.4	10.0	10.8	10.2	11.0	15.4	19.8	15.6	19.2	18.4	18.2	16.0	19.4	15.0	8.4	9.4	10.6	12.8	8.2	8.8	4.6	19.8	12.4
Mar 6	8.2	12.2	5.8	10.8	9.4	12.4	9.6	7.2	9.4	11.4	14.0	11.4	13.0	19.8	22.0	32.0	29.4	23.8	24.6	20.2	27.6	23.0	21.4	21.0	5.8	32.0	16.7
Mar 7	14.0	12.0	11.0	8.2	10.4	9.6	8.2	8.6	8.4	10.6	10.4	8.6	12.4	12.6	12.4	12.6	9.0	7.4	6.0	4.6	7.4	6.0	5.0	8.0	4.6	14.0	9.3
Mar 8	8.2	8.2	10.4	11.0	6.2	7.2	12.8	9.6	13.0	17.4	16.8	15.6	16.8	14.0	14.0	10.4	9.8	9.6	8.2	7.2	9.0	4.8	7.6	4.4	4.4	17.4	10.5
Mar 9	2.8	**2.4**	3.0	3.4	8.2	6.4	3.8	4.2	7.8	4.2	9.0	7.6	6.6	8.0	8.4	7.4	7.6	7.6	5.0	3.6	5.8	4.8	5.0	5.6	**2.4**	9.0	**5.8**
Mar 10	8.4	10.6	7.2	6.2	5.4	6.2	5.6	6.4	7.0	12.4	14.6	17.2	17.6	18.6	21.2	25.6	25.8	22.4	17.2	24.0	27.8	32.4	**38.8**	31.4	5.4	**38.8**	17.1
Mar 11	30.4	34.0	29.6	29.0	20.8	16.4	22.8	21.4	28.8	23.2	24.2	29.4	27.4	27.0	22.2	17.2	14.2	16.8	14.6	5.0	5.4	27.4	23.8	23.6	5.0	34.0	22.3
Mar 12	25.2	18.4	24.2	22.2	14.2	20.0	21.6	13.2	14.0	15.6	21.0	18.6	22.4	27.4	24.4	25.6	22.6	18.8	12.8	14.8	17.2	16.8	15.8	18.2	12.8	27.4	19.4
Mar 13	19.2	14.0	18.8	15.8	17.0	11.0	14.0	10.6	16.8	16.8	19.2	22.8	26.2	30.0	28.8	25.4	25.2	16.4	8.6	5.6	6.0	6.0	7.6	12.0	5.6	30.0	16.4
Mar 14	10.2	10.8	5.4	7.0	9.2	7.2	7.4	11.0	13.2	17.4	16.8	15.6	20.6	19.8	18.2	15.0	17.0	12.2	29.0	37.8	14.8	22.8	23.0	29.0	5.4	37.8	16.3
Mar 15	25.6	25.2	22.6	17.6	22.4	19.6	16.6	18.2	20.2	27.2	30.2	30.4	32.0	29.2	28.8	31.8	25.2	20.4	14.2	7.2	6.6	7.6	8.6	10.4	6.6	32.0	20.7
Mar 16	13.0	13.2	21.2	18.6	15.0	10.0	9.4	6.4	7.2	16.6	17.8	19.0	17.6	13.2	12.2	11.8	12.6	12.6	8.6	6.6	15.6	18.0	23.0	19.4	6.4	23.0	14.1
Mar 17	18.6	19.4	17.2	17.4	16.4	21.8	23.0	21.0	24.0	25.0	23.8	27.6	27.2	24.8	25.2	24.8	25.6	20.8	20.2	20.4	22.2	18.0	17.8	13.8	13.8	27.6	21.5
Mar 18	16.6	21.4	16.2	10.0	14.8	14.6	16.8	18.0	17.8	22.0	18.8	18.4	20.4	19.8	19.4	23.8	20.6	14.8	13.2	13.2	7.4	6.4	6.8	7.2	6.4	23.8	15.8
Mar 19	13.2	18.4	15.0	17.0	16.0	18.2	20.8	17.0	15.8	21.8	21.4	14.6	15.6	17.4	15.8	13.8	10.6	8.2	5.6	4.6	7.6	5.4	5.8	9.6	4.6	21.8	13.7
Mar 20	8.6	6.2	6.0	6.4	8.4	7.8	5.6	5.6	9.2	14.0	13.8	20.6	18.6	15.4	24.0	10.2	6.8	9.6	2.6	3.0	5.6	9.6	9.2	9.2	2.6	24.0	9.8
Mar 21	12.6	12.0	14.8	17.4	15.0	20.0	22.0	19.8	21.4	17.8	14.8	8.8	7.6	11.2	11.8	11.4	9.0	8.0	6.0	4.2	7.6	4.6	3.4	7.0	3.4	22.0	12.0
Mar 22	6.0	4.4	5.0	5.4	5.2	5.6	8.2	11.6	13.0	11.6	9.0	9.6	8.8	10.0	9.0	8.2	8.8	10.4	7.0	8.6	9.2	19.6	17.6	28.0	4.4	28.0	10.0
Mar 23	32.4	27.2	22.8	24.8	27.6	30.6	23.8	31.0	28.8	35.6	36.8	33.2	24.0	35.8	27.6	26.4	30.8	32.2	21.2	24.8	25.4	24.0	21.6	22.2	21.2	36.8	**27.9**
Mar 24	20.0	22.4	19.0	24.8	20.2	17.6	21.0	16.0	18.0	13.6	15.8	11.0	13.2	14.2	14.8	11.4	14.2	12.6	18.0	16.8	20.8	11.2	15.4	13.4	11.0	24.8	16.5
Mar 25	19.2	18.2	17.2	17.6	17.2	11.2	8.6	5.0	11.2	13.8	14.4	13.2	13.6	13.4	13.2	14.6	12.2	11.0	4.8	3.4	3.4	3.2	3.6	7.4	3.2	19.2	11.3
Mar 26	9.0	12.4	8.8	8.6	2.6	3.2	8.4	8.8	5.0	12.8	16.0	16.2	17.4	22.8	26.2	22.8	23.0	16.0	14.8	16.8	22.6	22.6	17.4	20.4	2.6	26.2	14.8
Mar 27	15.4	11.8	15.6	13.2	15.2	12.2	7.4	8.4	12.8	13.4	21.6	16.2	18.6	20.4	21.8	20.0	19.0	15.4	6.6	**2.4**	2.8	3.8	5.2	7.0	**2.4**	21.8	12.8
Mar 28	13.2	13.0	9.6	11.4	12.6	7.4	5.4	9.6	15.4	14.0	13.4	17.2	21.0	21.4	19.2	19.8	16.2	14.0	11.8	10.4	9.4	7.8	5.8	3.0	3.0	21.4	12.6
Mar 29	3.4	3.0	7.2	6.6	11.2	12.0	14.8	12.0	17.4	19.8	15.4	14.2	16.2	16.0	14.2	18.8	15.4	12.2	10.6	3.8	7.4	8.0	11.8	15.4	3.0	19.8	12.0
Mar 30	15.8	14.4	14.4	18.8	19.0	24.8	21.8	23.8	29.8	34.2	31.6	25.2	27.6	24.8	23.2	25.4	22.8	19.8	16.2	14.2	11.4	15.0	10.8	10.4	10.4	34.2	20.6
Mar 31	17.8	19.4	15.4	15.4	12.6	16.0	18.8	21.2	19.0	15.6	11.0	9.6	12.4	16.6	16.8	20.0	17.6	17.8	18.4	14.4	12.4	10.0	9.4	8.6	8.6	21.2	15.3
Diurnal Maximum	32.4	34.0	29.6	29.0	27.6	30.6	23.8	31.0	29.8	35.6	36.8	33.2	32.0	35.8	28.8	32.0	30.8	32.2	29.0	37.8	27.8	32.4	38.8	31.4			
Daiurnal Average	13.9	13.9	13.4	13.5	13.1	13.2	13.4	13.0	15.0	17.2	17.7	17.3	18.3	19.4	19.3	18.5	17.0	14.6	11.8	11.0	11.8	12.4	12.1	12.7			

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

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

Timeseries Chart of Hourly Instantaneous Maximum for WS - Reno Site



EQUIPMENT CALIBRATION / MAINTENANCE RECORDS

986 STATION

Thermo 43C Sulphur Dioxide Analyzer Calibration

Date:	March 20, 2019	**Barometer/B.P./units:**	Station Probe	945	millibars
Company/Airshed:	PRAMP	**Thermometer/Station Temp:**	Station Probe	22.2	°C
Location/Station Name:	986b	**Weather Conditions:**	Mix of sun and clouds		
Parameter:	Sulphur Dioxide	**Calibration Purpose:**	routine monthly		
Start Time 24 hr. (mst):	7:11	**Performed By/Reviewer:**	Chris Wesson	Rob Fisher	
End Time 24 hr. (mst):	11:41	**Cal Gas Expiry Date:**	October 24, 2020		
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:	February 20, 2019	**As Found C.F.:**	0.993
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 2000 #1991 expires February 13, 2020
Cal Gas Cylinder I.D. # :	LL108015
Cal Gas Conc. (ppm):	47.9

Standard Calibration Points for Ranges

Point	ppb
High	**380**
Mid	**180**
Low	**90**

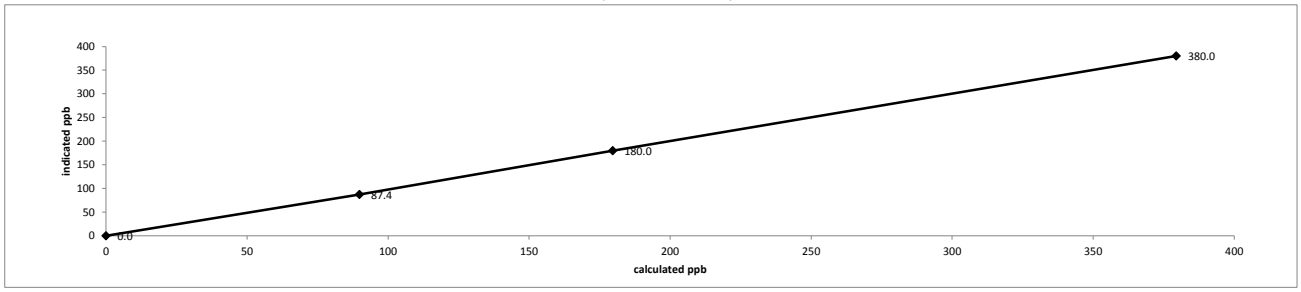
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

	Calibrator Flow Rates (cc/min)			Calculated		
Point	**Diluent**	**Cal Gas**	**Total**	**Concentration (ppb):**	**Indicated Concentration (ppb):**	**Correction Factors (C.F.):**
as found zero	6001	0.00	6001	0.0	0.7	n/a
as found high	5953	47.55	6001	379.5	383	0.993
adjusted zero	6002	0.00	6002	0.0	0	n/a
adjusted high	5954	47.55	6002	379.5	380	0.999
mid	5980	22.52	6003	179.7	180	0.998
low	5993	11.26	6004	89.9	87.4	1.028
calibrator zero	6003	0.00	6003	0.0	0	n/a
					Average C.F.=	1.008

Linear Regression/Calibration Results:

		LIMITS
Correlation Coefficient =	**1.000**	**> or = 0.995**
Slope =	**0.996**	**0.95-1.05**
b (Intercept as % of full scale)=	**0.20%**	**± 3% F.S.**
% change in C.F. from last cal=	**0.63%**	**± 10%**

Thermo 43C Sulphur Dioxide Analyzer Calibration



As found:		**As left:**	
Bkg:	87.1	Bkg:	88.1
Coef:	0.927	Coef:	0.915
Pmt:	-654	Pmt:	-654
0	Lamp=848	0	Lamp=849
Battery:	3.3	Battery:	3.3
Internal:	28.1	Internal:	28.9
Chamber:	45.3	Chamber:	45.3
Pressure:	388.4	Pressure:	388.7
Flow:	0.685	Flow:	0.688
Intensity:	~38000	Intensity:	~38000
Averaging Time:	120	Averaging Time:	120
Expected Value:	257.1	Expected Value:	264.2

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.

An incorrect calibrator setting was used for the Adjusted High (08:58-09:14). The Adjusted High Point was restarted at 09:17; the incorrect setting did not impact the calibration validity.

Thermo 43I-TLE Total Reduced Sulphur Analyzer Calibration

Date:	March 20, 2019	**Barometer/B.P./units:**	Station Probe	945	millibars
Company/Airshed:	PRAMP	**Thermometer/Station Temp:**	Station Probe	22.2	°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):	7:11	**Performed By/Reviewer:**	Chris Wesson	Rob Fisher	
End Time 24 hr. (mst):	12:05	**Cal Gas Expiry Date:**	November 7, 2020		
Calibration Method:	Gas Dilution	**Converter Model & s/n (if applicable):**	CD-Nova CDN-101 #516		

Analyzer:

Serial Number/Owner:	1152940011 Maxxam	**Range ppb:**	100
Last Calibration Date:	February 20, 2019	**As Found C.F.:**	1.003
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:	Sabio2010 #26701218 expires January 15, 2020
Cal Gas Cylinder I.D. # :	LL119432
Cal Gas Conc. (ppm):	10.3

Standard Calibration Points for Ranges

Point	ppb
High	78
Mid	38
Low	19

SO2 Scrubber Check (10 minutes):

Start/End Time 24 hr.:	07:35/07:50
SO2 Analyzer Range:	500
Target Concentration (ppb):	380
As Found Zero:	-0.2
Analyzer Response: (ppb):	-0.2
Zero Corrected Result (ppb):	0.0

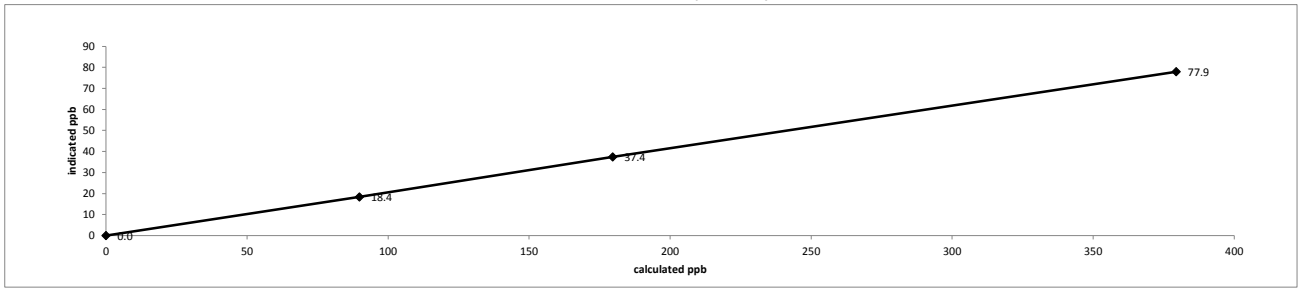
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated		
Point	**Diluent**	**Cal Gas**	**Total**	**Concentration (ppb):**	**Indicated Concentration (ppb):**	**Correction Factors (C.F.):**
as found zero	4998	0.00	4998	0.0	-0.16	n/a
as found high	4962	37.90	5000	77.9	77.53	1.003
adjusted zero	4998	0.00	4998	0.0	0	n/a
adjusted high	4962	37.90	5000	77.9	77.9	1.000
mid	4981	18.50	4999	38.0	37.4	1.017
low	4990	9.20	4999	18.9	18.35	1.031
calibrator zero	4999	0.00	4999	0.0	0.2	n/a
					Average C.F.=	1.016

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)=	**0.36%**	**± 3% F.S.**
% change in C.F. from last cal=	**-0.30%**	**± 10%**

Thermo 43I-TLE Total Reduced Sulphur Analyzer Calibration



As found:		**As left:**	
Bkg:	2.28	Bkg:	2.20
Coef:	0.963	Coef:	0.964
Pmt:	-691.5	Pmt:	-690.8
Flash:	968	Flash:	967
Internal:	31.2	Internal:	31.4
Chamber:	45.2	Chamber:	44.9
Perm Oven Gas:	45.00	Perm Oven Gas:	45.00
Perm Oven Heater:	44.25	Perm Oven Heater:	44.24
Pressure:	656.5	Pressure:	656.8
Sample Flow:	0.479	Sample Flow:	.479
Lamp Intensity:	91	Lamp Intensity:	91
Converter:	820	Converter:	820
Converter Set:	820	Converter Set:	820
Averaging Time:	120	Averaging Time:	120
Expected Value:	40.8	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.

Thermo 55i Methane/Non-Methane Analyzer Calibration

Date:	March 20, 2019	**Barometer/B.P./units:**	Station Probe	945	millibars
Company/Airshed:	PRAMP	**Thermometer/Station Temp:**	Station Probe	22.2	°C
Location/Station Name:	986b	**Weather Conditions:**	Mix of sun and clouds		
Parameter:	CH4 / NMHC / THC	**Calibration Purpose:**	routine monthly		
Start/End Time 24 hr. (mst):	07:11 / 10:53	**Performed By/Reviewer:**	Chris Wesson	Rob Fisher	
Calibration Method:	Gas Dilution	**Cal Gas Expiry Date:**	October 18, 2025		

Analyzer:

Serial Number/Owner:	1022143392	Maxxam
Measured Flow:	1.0 L/min	
Last Calibration Date:	February 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	1.002	1.000
NMHC =	0.999	1.009	1.002
THC =	0.997	1.005	1.001

Calibration Standards:

Low Flow Meter ID/Expiry Date:	N/A		
High Flow Meter ID/Expiry Date:	N/A		
Calibrator ID/Expiry Date:	Sabio id# 17100415 expires August 21, 2019		
Cal Gas Cylinder I.D. # :	LL107207		
CH4 Cylinder Conc.=	600.0	207.0	**=C_3H_8 Cylinder Conc.**
CH_4 expressed as C_3H_8=	569.3	1169.3	**=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	2999	0.00	2999	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
as found high	2924	73.40	2997	14.69	13.94	28.64	14.67	13.82	28.49	1.002	1.009	1.005
adjusted zero	2999	0.00	2999	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
adjusted high	2924	73.40	2997	14.69	13.94	28.64	14.70	13.91	28.62	1.000	1.002	1.001
mid	2963	36.80	3000	7.36	6.98	14.34	7.41	6.95	14.36	0.993	1.005	0.999
low	2980	18.50	2998	3.70	3.51	7.22	3.72	3.48	7.21	0.995	1.009	1.001
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.=	0.996	1.005	1.000

Linear Regression/Calibration Results:

	CH_4	NMHC	THC	LIMITS
Correlation Coefficient =	**1.000**	**1.000**	**1.000**	**> or = 0.995**
Slope =	**1.000**	**0.998**	**1.000**	**0.95-1.05**
b (Intercept as % of full scale)=	**0.08%**	**-0.07%**	**0.01%**	**± 3% F.S.**
% change in C.F. from last cal=	**-0.47%**	**-0.98%**	**-0.82%**	**± 10%**

As Left Instrument Diagnostics:

Interface Board Voltages:	Bias Supply:	-311.7		Calibration History cnt'd:	NM Peak Area: 74528
Temperatures:	Detector Oven:	175.0		Crucial Settings:	Methane Start: n/a
	Filter:	175.0			Methane End: n/a
	Column Oven:	74.9			Backflush: n/a
	Internal:	37.5			NMHV Start: n/a
Cylinder Pressures/reg.:	Carrier:	500/2600	50		NMHC End: n/a
	Fuel:	1350	50	Run History>1:	Date: 20Mar2019
	Span Gas:	450	28		Time: 09:56
	Zero Air Generator:	50			CH_4 PK HT: 0
Internal Pressures:	Carrier:	31.3			CH_4 RT: 12.2
	Fuel:	40.5			CH_4 Baseline: 1685
	Air:	31.7			CH_4 LOD: 25
FID Status:	Status:	LIT			CH_4 SD: 8
	Counts:	20887			CH_4 CONC: 0.00
	Flame:	322.3			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: 1695
	Det Oven at Start:	168.5			NM Base End: 1695
	Col Oven at Start:	74.7			NM LOD: 13
Calibration History:	Time:	20Mar2019@08:42			NM Start IDX: 19
	Type:	Span			NM End IDX: 40
	Status:	Good			NM Max Slope: 5.0e-01
	Check/Adjust:	Adjust			NM Min Slope: -8.5e-01
	CH_4 Span Conc:	14.69			NM PT Count: 0
	CH_4 SP Ratio:	0.000775		Expected Values:	Previous CH4: 10.49
	CH_4 RT:	12.2			Previous NMHC 11.43
	CH_4 PK IDX:	21			Previous THC: 21.93
	CH_4 PK HT:	18964			New CH4: 10.38
	NM Span Conc:	13.94			New NMHC 11.43
	NM SP Ratio:	0.000188			New THC: 21.81

Comments:

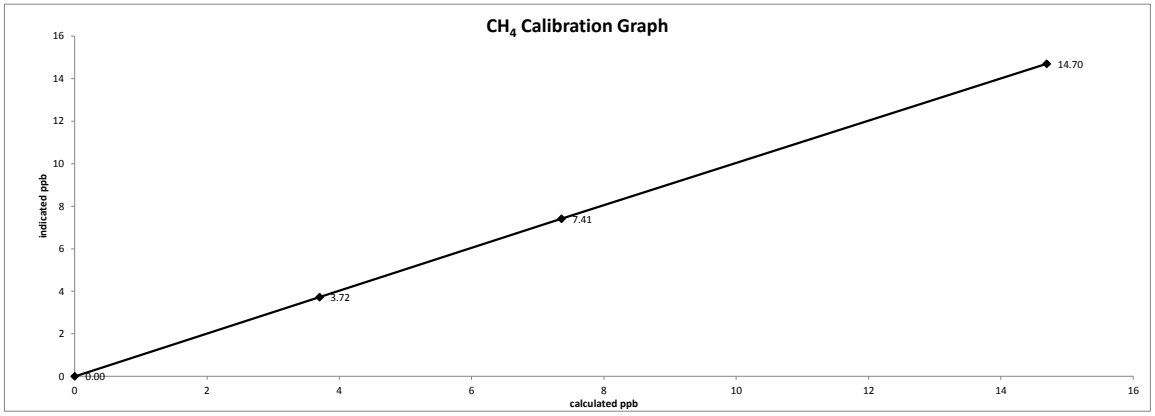
The analyzer sample inlet filter was changed.

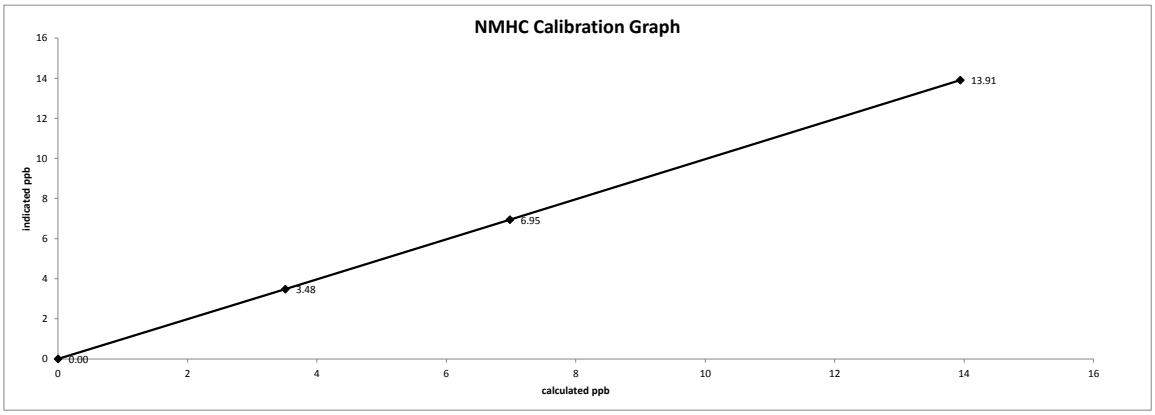
A new nitrogen cylinder was installed.

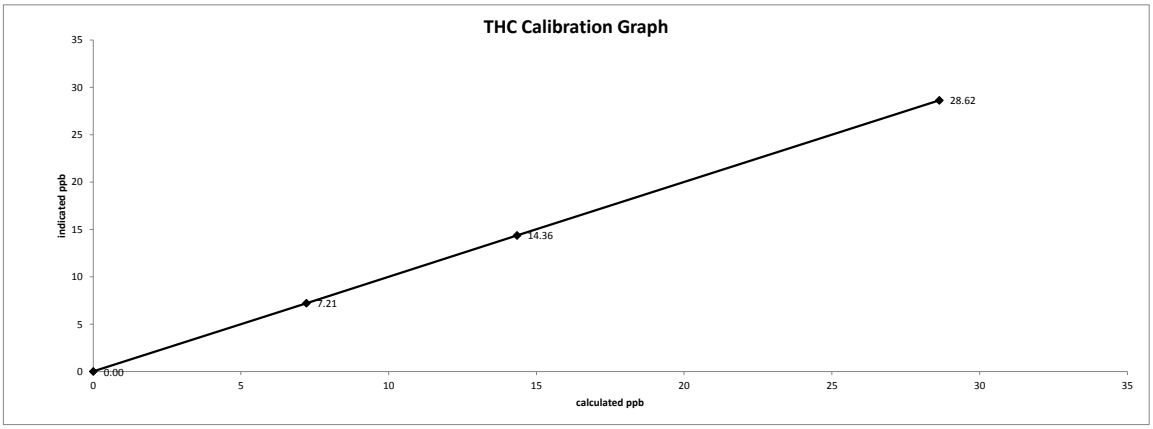
The analyzer cooling fan filter(s) were cleaned.

The manifold blower was found to be working normally.

Date:	March 20, 2019	Start/End Time 24 hr. (mst):	07:11 / 10:53
Company/Airshed:	PRAMP	Calibration Purpose:	routine monthly
Location/Station Name:	986b	Calibration Method:	Gas Dilution







Meteorological System Checklist

Date:	March 20, 2019		
Technician:	Chris Wesson		
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:	February 20, 2019		
Parameter:	Temperature @ 2 metres		
Reference Thermometer ID:	F.S. 160459244 expires June 19, 2020		
Reference Temperature (^{o}C):	9.5		
Station - Ambient Temperature (^{o}C):	9.1		
Temperature Difference (^{o}C):	0.4		
BAROMETRIC PRESSURE SENSOR CHECK			
Previous check date:	February 20, 2019		
Reference Barometer ID:	Brunton 05490 expires January 17, 2020		
Reference Pressure - Units/Reading:	millibars	946.6	
Station Pressure - Units/Reading:	millibars	945.3	
Pressure Tolerance +/- 15% of error:	805 - 1089	0.14%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Previous check date:	February 20, 2019		
Reference Hygrometer ID:	F.S. id# 160459244 expires June 19, 2020		
Reference Hygrometer % RH- Reading:	33.10		
Station Hygrometer % RH- Reading:	34.40		
RH Tolerance +/- 15% of difference:	28.14 - 38.07	-3.9%	
ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK			
WIND SPEED		WIND DIRECTION	
Previous check date:	February 20, 2019	Previous check date:	February 20, 2019
Wind Speed Observed (kph):	0-10	Wind Direction Observed:	SW
Wind speed on Data Logger (kph):	7	Wind Direction on Data Logger:	SW
		Wind Direction Pass/Fail?:	Pass

842 STATION

Thermo 43i Sulphur Dioxide Analyzer Calibration

Date:	March 13, 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	23.03	°C
Location/Station Name:	842b	**Weather Conditions:**	Mix of sun and clouds		
Parameter:	Sulphur Dioxide	**Calibration Purpose:**	routine monthly		
Start Time 24 hr. (mst):	10:48	**Performed By/Reviewer:**	Ferdinand Roy	Rob Fisher	
End Time 24 hr. (mst):	16:26	**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:	February 7, 2019		**As Found C.F.:**	0.999
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

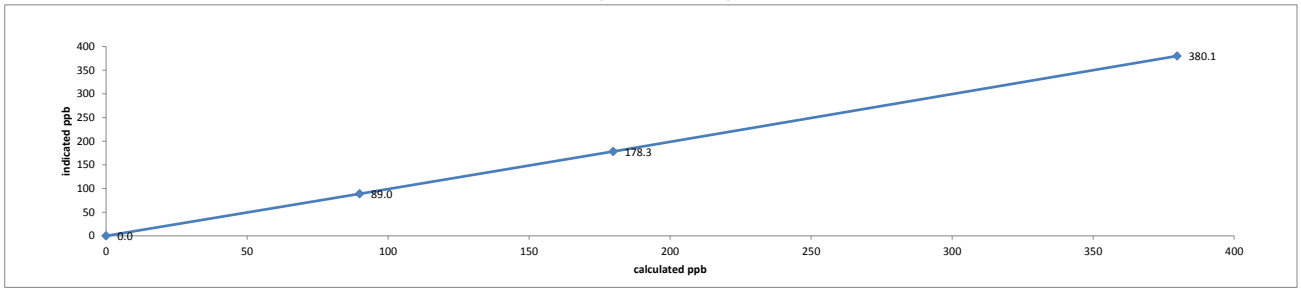
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration (ppb):	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	**Diluent**	**Cal Gas**	**Total**			
as found zero	5995	0.00	5995	0.0	0.1	n/a
as found high	5952	45.19	5997	379.8	380.1	0.999
adjusted zero	5998	0.00	5998	0.0	0	n/a
adjusted high	5952	45.19	5997	379.8	380.1	0.999
mid	5976	21.40	5998	179.8	178.3	1.008
low	5985	10.70	5996	89.9	89	1.010
calibrator zero	5999	0.00	5999	0.0	0.2	n/a
					Average C.F.=	1.006

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)=	**0.15%**	**± 3% F.S.**
% change in C.F. from last cal=	**-0.04%**	**± 10%**

Thermo 43i Sulphur Dioxide Analyzer Calibration



	As found:		**As left:**
Bkg:	15.0	Bkg:	14.8
Coef:	1.041	Coef:	1.033
Pmt:	-621.2	Pmt:	-621.2
Flash:	903	Flash:	904
Internal:	26.3	Internal:	28.0
Chamber:	45.0	Chamber:	44.9
Perm Oven Gas:	45.00	Perm Oven Gas:	45.00
Perm Oven Heater:	44.08	Perm Oven Heater:	44.09
Pressure:	676.5	Pressure:	680.5
Sample Flow:	0.419	Sample Flow:	0.422
Lamp Intensity:	81	Lamp Intensity:	81
Averaging Time:	120	Averaging Time:	120
Expected Value:	248.8	Expected Value:	249.0

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:	March 13, 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	23.03	°C
Location/Station Name:	842b	**Weather Conditions:**	Mix of sun and clouds		
Parameter:	Total Reduced Sulphur	**Calibration Purpose:**	routine monthly		
Start Time 24 hr. (mst):	12:41	**Performed By/Reviewer:**	Ferdinand Roy	Rob Fisher	
End Time 24 hr. (mst):	17:28	**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:	February 7, 2019		**As Found C.F.:**	0.962	
Previous C.F.:	1.000		**New C.F.:**	1.001	

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. # :	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.:	11:00/11:15
SO2 Analyzer Range:	500
Target Concentration (ppb):	380
As Found Zero:	-0.2
Analyzer Response: (ppb):	-0.2
Zero Corrected Result (ppb):	0.0

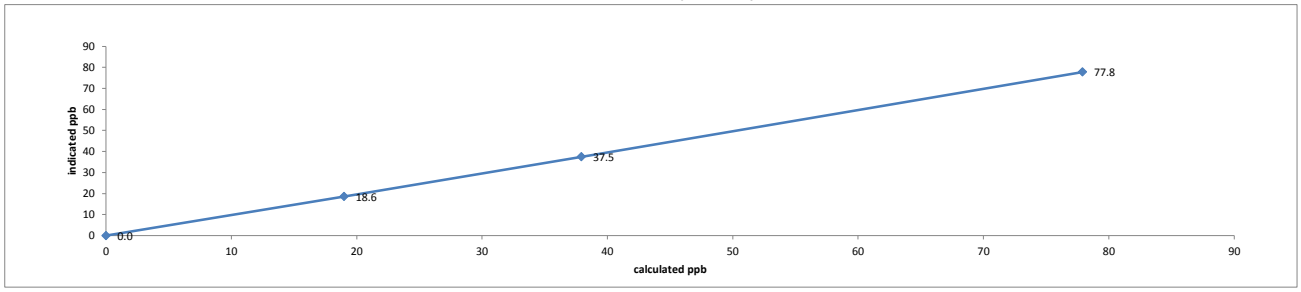
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated		
Point	**Diluent**	**Cal Gas**	**Total**	**Concentration (ppb):**	**Indicated Concentration (ppb):**	**Correction Factors (C.F.):**
as found zero	7488	0.00	7488	0.0	-0.2	n/a
as found high	7430	57.20	7487	77.9	80.84	0.962
adjusted zero	7488	0.00	7488	0.0	0	n/a
adjusted high	7430	57.18	7487	77.9	77.83	1.001
mid	7460	27.84	7488	37.9	37.51	1.011
low	7473	13.94	7487	19.0	18.62	1.020
calibrator zero	7488	0.00	7488	0.0	0.1	n/a
					Average C.F.=	1.011

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)=	**0.22%**	**± 3% F.S.**
% change in C.F. from last cal=	**3.85%**	**± 10%**

Thermo 43i Total Reduced Sulphur Analyzer Calibration



	As found:		**As left:**
Bkg:	3.32	Bkg:	2.98
Coef:	0.915	Coef:	0.891
Pmt:	-720.0	Pmt:	-720.0
Flash:	988	Flash:	987
Internal:	31.2	Internal:	32.6
Chamber:	45.0	Chamber:	45.0
Perm Oven Gas:	45.00	Perm Oven Gas:	45.00
Perm Oven Heater:	44.12	Perm Oven Heater:	44.12
Pressure:	663.9	Pressure:	668.4
Sample Flow:	0.403	Sample Flow:	0.405
Lamp Intensity:	89	Lamp Intensity:	88
Converter:	855	Converter:	880
Converter Set:	855	Converter Set:	875
Averaging Time:	120	Averaging Time:	120
Expected Value:	55.1	Expected Value:	55.1

Comments:

The analyzer sample inlet filter was changed.

The manifold blower was found to be working normally.

Thermo 55i Methane/Non-Methane Analyzer Calibration

Date:	March 13, 2019	**Barometer/B.P./units:**	F.S. 10528 expires January 23, 2020	944	millibars
Company/Airshed:	PRAMP	**Thermometer/Station Temp:**	F.S. 181341226 expires Jun 7, 2020	23.64	°C
Location/Station Name:	842b	**Weather Conditions:**	Mix of sun and clouds		
Parameter:	CH4 / NMHC / THC	**Calibration Purpose:**	routine monthly		
Start/End Time 24 hr. (mst):	12:41/19:54	**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:	1.25 slpm	
Last Calibration Date:	February 7, 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	1.024	1.000
NMHC =	1.000	1.008	0.999
THC =	1.000	1.016	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	2997	0.00	2997	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	25.99	13.01	12.58	25.58	1.024	1.008	1.016
adjusted zero	2997	0.00	2997	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
adjusted high	2932	67.11	2999	13.31	12.68	25.99	13.31	12.69	25.99	1.000	0.999	1.000
mid	2960	36.13	2996	7.17	6.83	14.01	7.17	6.89	14.07	1.001	0.991	0.995
low	2983	15.46	2998	3.07	2.92	5.99	3.09	3.03	6.12	0.993	0.964	0.979
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	0.985	0.991

Linear Regression/Calibration Results:

	CH_4	NMHC	THC	LIMITS
Correlation Coefficient =	**1.000**	**1.000**	**1.000**	**> or = 0.995**
Slope =	**0.999**	**0.999**	**0.998**	**0.95-1.05**
b (Intercept as % of full scale)=	**0.05%**	**0.27%**	**0.17%**	**± 3% F.S.**
% change in C.F. from last cal=	**-2.35%**	**-0.78%**	**-1.62%**	**± 10%**

As Left Instrument Diagnostics:

Interface Board Voltages:	Bias Supply:	-294.1	Calibration History cnt'd:	NM Peak Area:	73940
Temperatures:	Detector Oven:	175.0	Crucial Settings:	Methane Start:	n/a
	Filter:	175.0		Methane End:	n/a
	Column Oven:	74.9		Backflush:	n/a
	Internal:	32.2		NMHV Start:	n/a
Cylinder Pressures/reg.:	Carrier:	2100 50		NMHC End:	n/a
	Fuel:	1000 50	Run History>1:	Date:	13Mar19
	Span Gas:	500 16		Time:	19:25
	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:	3197
	Air:	23.7		CH_4 LOD:	54
FID Status:	Status:	LIT		CH_4 SD:	18
	Counts:	36186		CH_4 CONC:	0.00
	Flame:	380.8		NM PK HT:	0
	Det Base:	175.0		NM Peak Area:	0
Flame and Power Stats:	Last Power On:	20Nov2018@18:11		NM CONC:	0.00
	Flameouts:	5		NM Base Start:	3189
	Det Oven at Start:	121.5		NM Base End:	3218
	Col Oven at Start:	74.1		NM LOD:	16
Calibration History:	Time:	13Mar19@17:59		NM Start IDX:	36
	Type:	SPAN		NM End IDX:	69
	Status:	GOOD		NM Max Slope:	9.2e-01
	Check/Adjust:	ADJUST		NM Min Slope:	-5.9e-01
	CH_4 Span Conc:	13.31		NM PT Count:	0
	CH_4 SP Ratio:	0.000713	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:	18675		New CH4:	10.08
	NM Span Conc:	12.68		New NMHC	11.02
	NM SP Ratio:	0.000171		New THC:	21.10

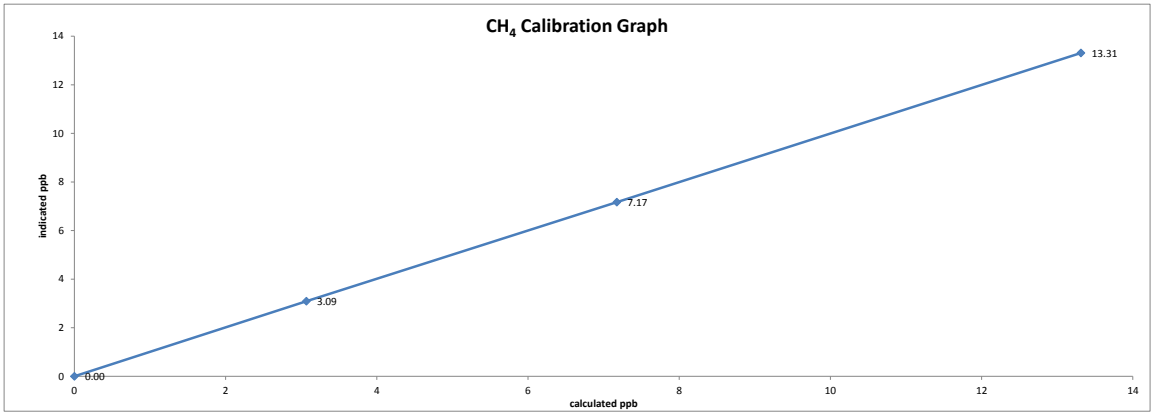
Comments:

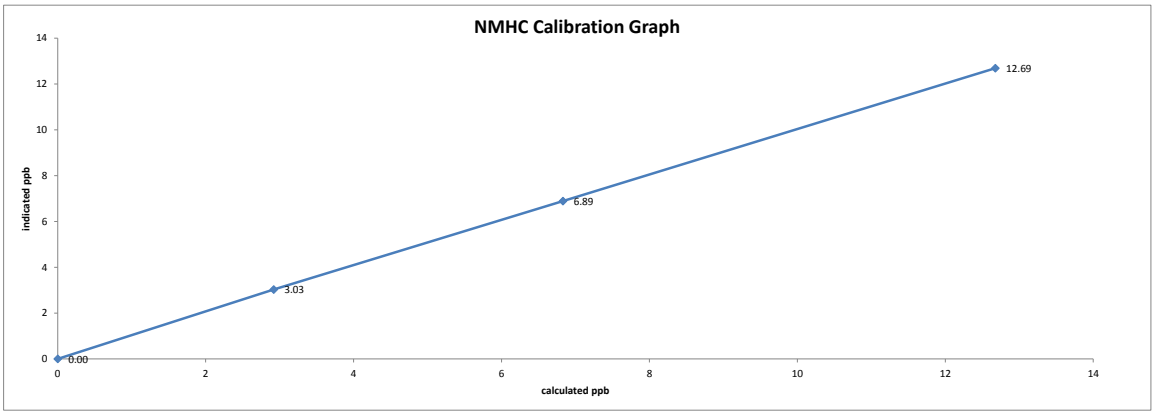
The analyzer sample inlet filter was changed.

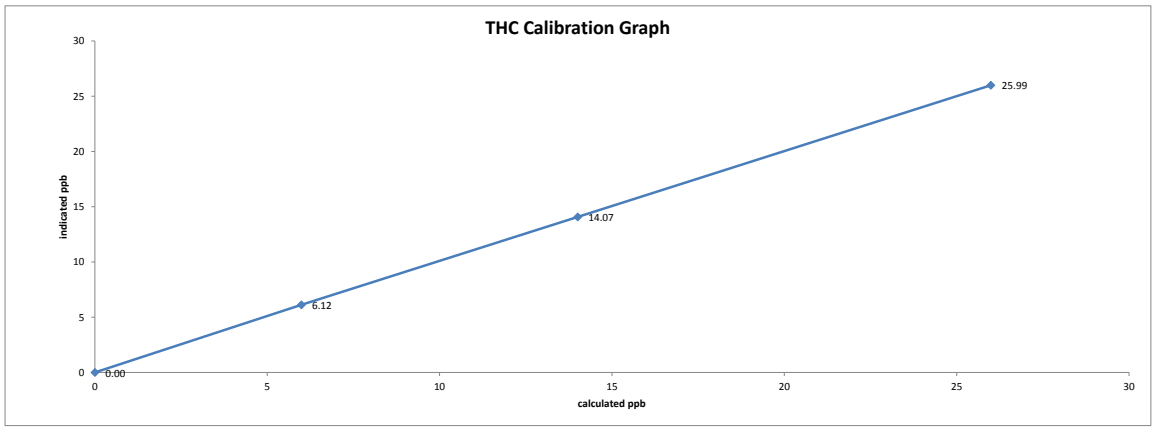
The manifold blower was found to be working normally.

The Zero Air generator was changed.

Date:	March 13, 2019	Start/End Time 24 hr. (mst):	12:41/19:54
Company/Airshed:	PRAMP	Calibration Purpose:	routine monthly
Location/Station Name:	842b	Calibration Method:	Gas Dilution







RENO STATION

API 100A Sulphur Dioxide Analyzer Calibration

Date:	March 20, 2019	**Barometer/B.P./units:**	Station Probe	942.5	millibars
Company/Airshed:	PRAMP	**Thermometer/Station Temp:**	Station Probe	23.1	°C
Location/Station Name:	Reno	**Weather Conditions:**	Mix of sun and clouds		
Parameter:	Sulphur Dioxide	**Calibration Purpose:**	routine monthly		
Start Time 24 hr. (mst):	14:49	**Performed By/Reviewer:**	Chris Wesson	Rob Fisher	
End Time 24 hr. (mst):	19:04	**Cal Gas Expiry Date:**	October 24, 2020		
Calibration Method:	Gas Dilution	**Converter Model & s/n (if applicable):**	n/a		

Analyzer:

Serial Number/Owner:	841 Maxxam	**Range ppb:**	500
Last Calibration Date:	February 6, 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:	Sabio 2010 #26701218 expires January 15, 2020
Cal Gas Cylinder I.D. # :	LL108015
Cal Gas Conc. (ppm):	47.9

Standard Calibration Points for Ranges

Point	ppb
High	380
Mid	180
Low	90

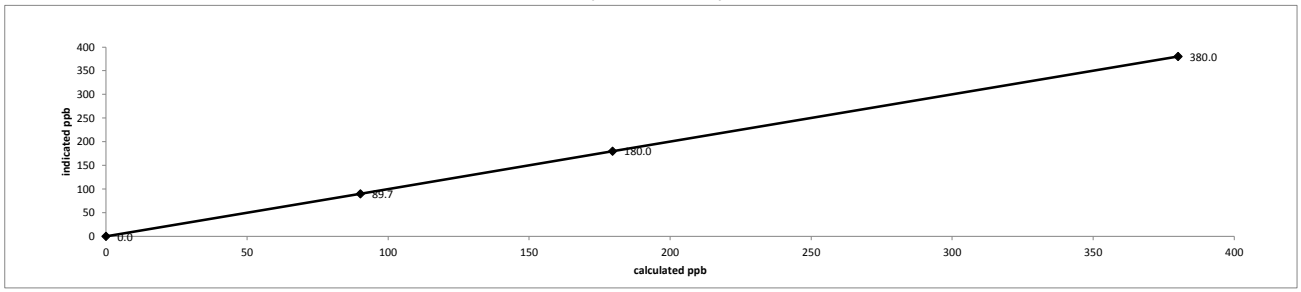
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration (ppb):	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	**Diluent**	**Cal Gas**	**Total**			
as found zero	5998	0.00	5998	0.0	-0.2	n/a
as found high	5951	47.60	5999	380.1	385.5	0.985
adjusted zero	5998	0.00	5998	0.0	0	n/a
adjusted high	5950	47.60	5998	380.1	380	1.000
mid	5978	22.50	6000	179.6	180	0.998
low	5989	11.30	6000	90.2	89.7	1.006
calibrator zero	5998	0.00	5998	0.0	0.5	n/a
					Average C.F.=	1.001

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)=	**0.02%**	**± 3% F.S.**
% change in C.F. from last cal=	**1.46%**	**± 10%**

API 100A Sulphur Dioxide Analyzer Calibration



	As found:	As left:	
Slope:	1.084	1.069	
Offset:	51.4	51.1	
Hvps:	763	763	
Dcps:	2556	2555	
Rcell Temp:	50.7	50.9	
Box Temp:	31.9	32.0	
Pmt Temp:	7.1	7.1	
Izs Temp:	35.0	35.0	
Pres:	25.0	25.1	
Samp Fl:	651	656	
Pmt:	63.6	61.1	
Uv Lamp:	1854.1	1883.6	
Lamp Ratio:	92.0	94.1	
Str Lgt:	27.9	27.3	
Drk Pmt:	24.2	23.9	
Drk Lmp:	-17.5	-17.4	
Expected Value:	289.6	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:	March 22, 2019	**Barometer/B.P./units:**	Station Probe	935.6	millibars
Company/Airshed:	PRAMP	**Thermometer/Station Temp:**	Station Probe	22.5	°C
Location/Station Name:	Reno	**Weather Conditions:**	Mainly sunny		
Parameter:	Total Reduced Sulphur	**Calibration Purpose:**	post repair		
Start Time 24 hr. (mst):	7:44	**Performed By/Reviewer:**	Chris Wesson	Rob Fisher	
End Time 24 hr. (mst):	11:03	**Cal Gas Expiry Date:**	November 7, 2020		
Calibration Method:	Gas Dilution	**Converter Model & s/n (if applicable):**	CD Nova CDN-101 #534		

Analyzer:

Serial Number/Owner:	1162460022 Maxxam	**Range ppb:**	100
Last Calibration Date:	n/a	**As Found C.F.:**	n/a
Previous C.F.:	n/a	**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:	Sabio 2010 #26701218 expires January 15, 2020
Cal Gas Cylinder I.D. # :	LL119432
Cal Gas Conc. (ppm):	10.3

Standard Calibration Points for Ranges

Point	ppb
High	78
Mid	38
Low	19

SO2 Scrubber Check (10 minutes):

Start/End Time 24 hr.:	07:56/08:11
SO2 Analyzer Range:	500
Target Concentration (ppb):	380
As Found Zero:	-0.3
Analyzer Response: (ppb):	-0.3
Zero Corrected Result (ppb):	0.0

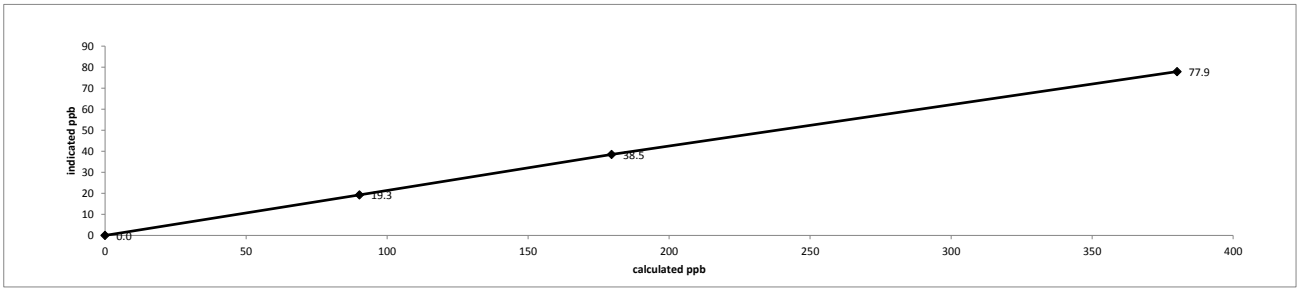
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration (ppb):	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	**Diluent**	**Cal Gas**	**Total**			
adjusted zero	4999	0.00	4999	0.0	0	n/a
adjusted high	4962	37.90	5000	77.9	77.9	1.000
mid	4981	18.50	4999	38.0	38.51	0.988
low	4989	9.20	4998	18.9	19.26	0.982
calibrator zero	4999	0.00	4999	0.0	0.25	n/a
					Average C.F.=	0.990

Linear Regression/Calibration Results:

		LIMITS
Correlation Coefficient =	**1.000**	**> or = 0.995**
Slope =	**1.001**	**0.95-1.05**
b (Intercept as % of full scale)=	**-0.23%**	**± 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:	2.69	2.24
Coef:	0.995	0.949
Pmt:	-706.7	-706.7
Flash:	998	998
Internal:	32.2	32.4
Chamber:	44.9	44.9
Perm Oven Gas:	34.99	35.00
Perm Oven Heater:	34.14	34.15
Pressure:	636.7	637.1
Sample Flow:	0.409	0.409
Lamp Intensity:	82	82
Converter:	825	825
Converter Set:	825	825
Averaging Time:	120	120
Expected Value:	n/a	39.9

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.

A Post-Repair calibration was performed after replacing the power supply.

Thermo 55i Methane/Non-Methane Analyzer Calibration

Date:	March 20, 2019	**Barometer/B.P./units:**	Station Probe	942.5	millibars
Company/Airshed:	PRAMP	**Thermometer/Station Temp:**	Station Probe	23.1	°C
Location/Station Name:	Reno	**Weather Conditions:**	Mix of sun and clouds		
Parameter:	CH4 / NMHC / THC	**Calibration Purpose:**	routine monthly		
Start/End Time 24 hr. (mst):	14:49 / 18:39	**Performed By/Reviewer:**	Chris Wesson	Rob Fisher	
Calibration Method:	Gas Dilution	**Cal Gas Expiry Date:**	October 18, 2025		

Analyzer:

Serial Number/Owner:	1314057759	Maxxam
Measured Flow:	1.3 L/min	
Last Calibration Date:	February 6, 2019	
Range ppm:	20 CH4/20 NMHC/40 THC	

Correction Factors:

	Previous C.F.:	As Found C.F.:	New C.F.:
CH_4 =	0.998	0.986	1.000
NMHC =	0.998	0.987	0.999
THC =	0.998	0.986	1.000

Calibration Standards:

Low Flow Meter ID/Expiry Date:	N/A		
High Flow Meter ID/Expiry Date:	N/A		
Calibrator ID/Expiry Date:	Sabio id# 17100415 expires August 21, 2019		
Cal Gas Cylinder I.D. # :	LL107207		
CH4 Cylinder Conc.=	600.0	207.0	**=C_3H_8 Cylinder Conc.**
CH_4 expressed as C_3H_8=	569.3	1169.3	**=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	2999	0.00	2999	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
as found high	2924	73.40	2997	14.69	13.94	28.64	14.91	14.13	29.04	0.986	0.987	0.986
adjusted zero	2999	0.00	2999	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
adjusted high	2924	73.40	2997	14.69	13.94	28.64	14.70	13.95	28.65	1.000	0.999	1.000
mid	2963	36.80	3000	7.36	6.98	14.34	7.33	6.99	14.32	1.004	0.999	1.002
low	2980	18.50	2998	3.70	3.51	7.22	3.67	3.52	7.19	1.009	0.998	1.004
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.=	1.004	0.999	1.002

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**	**1.001**	**0.95-1.05**
b (Intercept as % of full scale)=	**-0.10%**	**0.01%**	**-0.04%**	**± 3% F.S.**
% change in C.F. from last cal=	**1.25%**	**1.14%**	**1.19%**	**± 10%**

As Left Instrument Diagnostics:

Interface Board Voltages:	Bias Supply:	-290.2		Calibration History cnt'd:	NM Peak Area:	87594
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:	600	50		NMHC End:	n/a
	Fuel:	900	50	Run History>1:	Date:	20Mar2019
	Span Gas:	1200	24		Time:	17:20
	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:	2158
	Air:	25.9			CH_4 LOD:	73
FID Status:	Status:	lit			CH_4 SD:	24
	Counts:	25519			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:	1			NM Base Start:	2126
	Det Oven at Start:	45.0			NM Base End:	2121
	Col Oven at Start:	26.6			NM LOD:	12
Calibration History:	Time:	20Mar2019@15:58			NM Start IDX:	22
	Type:	span			NM End IDX:	92
	Status:	good			NM Max Slope:	4.0e-01
	Check/Adjust:	Adjust			NM Min Slope:	-5.7e-01
	CH_4 Span Conc:	14.69			NM PT Count:	0
	CH_4 SP Ratio:	0.000765		Expected Values:	Previous CH4:	10.5
	CH_4 RT:	11.8			Previous NMHC	11.52
	CH_4 PK IDX:	19			Previous THC:	22.02
	CH_4 PK HT:	19203			New CH4:	10.43
	NM Span Conc:	13.94			New NMHC	11.46
	NM SP Ratio:	0.000159			New THC:	22.14

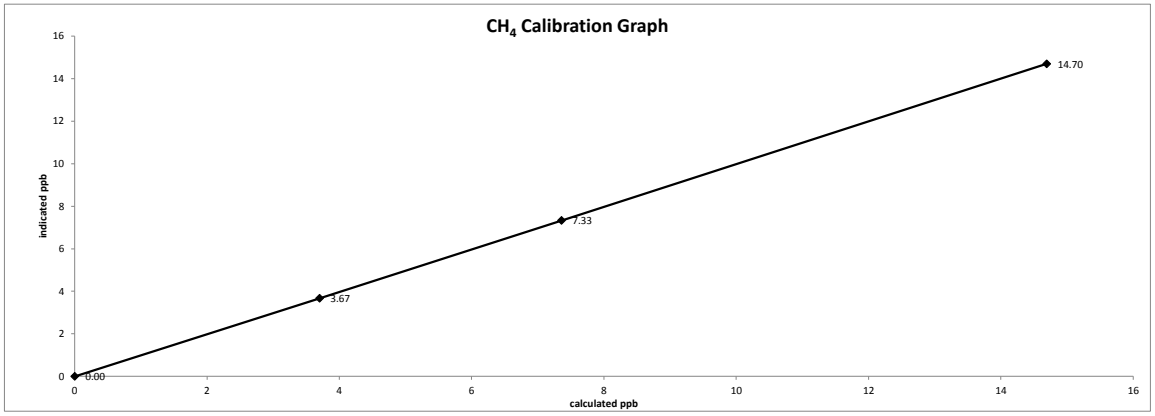
Comments:

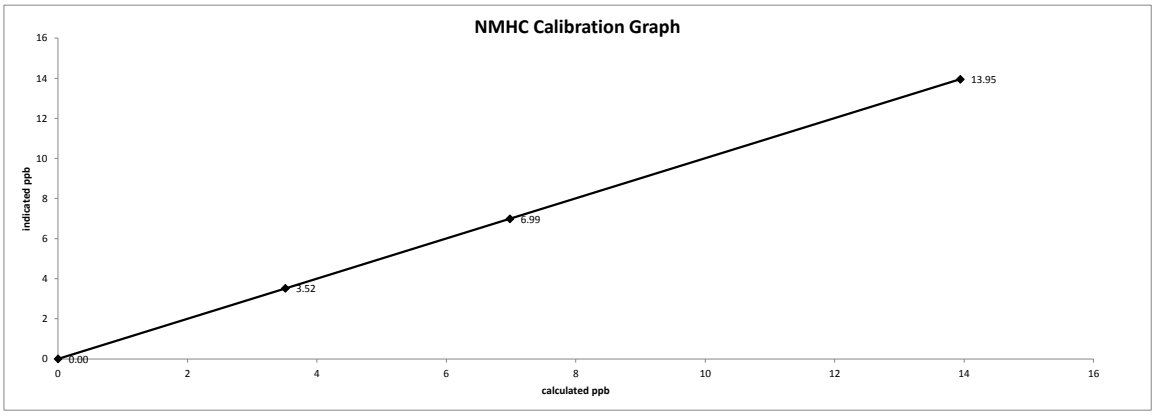
The analyzer sample inlet filter was changed.

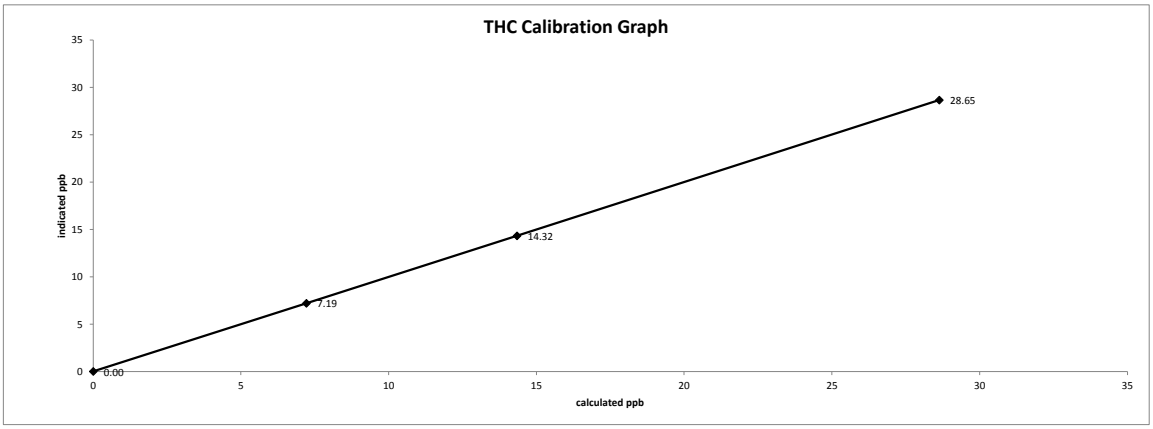
The analyzer cooling fan filter(s) were cleaned.

The manifold blower was found to be working normally.

Date:	March 20, 2019	Start/End Time 24 hr. (mst):	14:49 / 18:39
Company/Airshed:	PRAMP	Calibration Purpose:	routine monthly
Location/Station Name:	Reno	Calibration Method:	Gas Dilution







Meteorological System Checklist

Date:	March 20, 2019		
Technician:	Chris Wesson		
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:	February 6, 2019		
Parameter:	Temperature @ 2 metres (1 C tolerance)		
Reference Thermometer ID:	F.S. 160459244 expires June 19, 2020		
Reference Temperature (^{o}C):	12.2		
Station - Ambient Temperature (^{o}C):	12.2		
Temperature Difference (^{o}C):	0.0		
BAROMETRIC PRESSURE SENSOR CHECK			
Previous check date:	February 6, 2019		
Reference Barometer ID:	Brunton 05490 expires January 17, 2020		
Reference Pressure - Units/Reading:	millibars	942.3	
Station Pressure - Units/Reading:	millibars	942.5	
Pressure Tolerance +/- 15% of error:	801 - 1084	-0.02%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Previous check date:	February 6, 2019		
Reference Hygrometer ID:	F.S. id# 160459244 expires June 19, 2020		
Reference Hygrometer % RH- Reading:	28.50		
Station Hygrometer % RH- Reading:	25.30		
RH Tolerance +/- 15% of difference:	24.23 - 32.78	11.2%	
ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK			
WIND SPEED		WIND DIRECTION	
Previous check date:	February 6, 2019	Previous check date:	February 6, 2019
Wind Speed Observed (kph):	0-10	Wind Direction Observed:	N
Wind speed on Data Logger (kph):	7	Wind Direction on Data Logger:	N
		Wind Direction Pass/Fail?:	Pass

Alberta Government

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2019-395A

Company Maxxam **Operator:** Alex

Calibrator:				**Flow Measurement Device:**	
Make/Model	Sabio 2010			Make/Model	N/A
Serial Number	26701218			Serial Number	N/A
Last Verification Date	New			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	79.8	0.800	0.802	0.789	0.000	0.789	-1%	-2%
4999	39.9	0.400	0.401	0.394	0.000	0.394	-1%	-2%
4998	20.0	0.200	0.201	0.196	0.001	0.197	-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)=	0.9868	**0.90-1.10**	m (Slope)=	0.9844
b (Intercept % of FS)=	-0.0750	**± 3% F.S.**	b (Intercept % of FS)=	-0.0350

Flow	O_3 Conc	NO Decrease	NO	NO2	NOX	% Diff. Vs Audit gas	
						NO_2	% Diff. Limit
4997	0.000	0.000	0.786	0.000	0.786	0%	± 10%
4997	0.500	0.477	0.309	0.476	0.785	-2%	± 10%
4997	0.250	0.240	0.546	0.234	0.785	-1%	± 10%
4997	0.100	0.097	0.689	0.096	0.785	1%	± 10%
					Absolute Average Percent Difference		

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

NO_2		**LIMITS**
Correlation=	0.9999	**≥ 0.995**
m (Slope)=	0.9970	**0.90-1.10**
b (Intercept % of FS)=	-0.1391	**± 3% F.S.**

AENV Standards		**NO_X Analyzer**	
Audit Calibrator			
Make/Model	Teco 146i	Make/Model	Teco 42i
Serial/AMU Number	AMU 1809	Serial/AMU Number	AMU 2268
SRM Gas Cylinder No.	APEX1236645	Last Calibration Date	January 14, 2019
Cylinder Conc. (ppm)	50.05	Full Scale (ppm)	1.0
		Cylinder Gas Expiry Date	June 2021

COMMENTS:

Auditor: Al Clark Date: Janaury 15, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2018-131A

Company Maxxam **Operator:** Mike

Calibrator:

Make/Model	Sabio		
Serial Number	17100415		
Last Verification Date	May 16, 2017		
NO Cylinder S/N	LL104183		
NO [PPM]	50.8	NOx [PPM]	50.9
Expiry Date	October 24, 2020		

Flow Measurement Device:

Make/Model	Bios Definer 220
Serial Number	H=128686; L=129069
Temperature (°C)	22.2 C
Barometric Pressure	706.1mmHg

Dilution Flow (sccm)

Pt. #1 5120 Pt. #2 5121 Pt. #3 5128

Gas Flow (sccm)

Pt. #1 77.4 Pt. #2 37.8 Pt. #3 19

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO_2	NOx	NO	NOx
5136	0.0	0.0000	0.0000	0.0001	-0.0002	0.0001	Limit ± 10%	
5120	77.4	0.7680	0.7695	0.7793	0.0003	0.7796	1%	1%
5121	37.8	0.3750	0.3757	0.3802	0.0000	0.3802	1%	1%
5128	19.0	0.1882	0.1885	0.1908	0.0005	0.1909	1%	1%
						Absolute Average Percent Difference	1%	1%

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)=	1.0146	**0.90-1.10**	m (Slope)=	1.0130
b (Intercept % of FS)=	-0.0074	**± 3% F.S.**	b (Intercept % of FS)=	-0.0059

Flow	O_3 Conc	NO Decrease	NO	NO2	NOX	% Diff. Vs Audit gas	
						NO_2	% Diff. Limit
5120	0.0	0.0000	0.7794	0.0005	0.7799		
5120	500.0	0.4827	0.2967	0.4854	0.7806	0%	± 10%
5120	275.0	0.2672	0.5122	0.2676	0.7798	0%	± 10%
5120	90.0	0.0896	0.6898	0.0890	0.7787	-1%	± 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)=	1.0053	**0.90-1.10**
b (Intercept % of FS)=	-0.0370	**± 3% F.S.**

AENV Standards Audit Calibrator

Make/Model	Thermo 146i
Serial/AMU Number	1809
SRM Gas Cylinder No.	APEX1170572
Cylinder Conc. (ppm)	49.99

NO_X Analyzer

Make/Model	Thermo 42i
Serial/AMU Number	1868
Last Calibration Date	August 16, 2018
Full Scale (ppm)	1.0
Cylinder Gas Expiry Date	November 15, 2020

COMMENTS:

Auditor: Shea Beaton Date: August 21, 2018

Operator Signature: Location: McIntyre Center Edmonton

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	
4997	0.000	0.000	0.765	-0.002	0.764	NO_2	% Diff. Limit
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	Teco 42i
Make/Model	Sabio 2010	Serial/AMU Number	AMU 1868
Serial/AMU Number	AMU 2092	Last Calibration Date	February 12, 2019
SRM Gas Cylinder No.	APEX1236645	Full Scale (ppm)	1.0
Cylinder Conc. (ppm)	50.05	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

Sulphur Dioxide (by Cylinder Dilution)

File No. 2019-424A

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

Calibrator:		**Flow Measurement Device:**	
Make/Model	Environics 2000	Make/Model	N/A
Serial Number	1991	Serial Number	N/A
Last Verification Date	March 1, 2018	Temperature (°C)	N/A
SO_2 Cylinder Conc.	49.5	Barometric Pressure	N/A
SO_2 Cylinder S/N	LL48147		
Expiry Date	August 2026		

Flow Measurements

Pt. No. 1 78.8 **Pt. No. 2** 38.4 **Pt. No. 3** 19.2

Calibrator Flow (sccm)	Calculated Concentration (ppm)	Indicated Concentration (ppm)	% Difference vs Audit Gas	% Difference Limit
Zero Air	0.000	0.000		
5000	0.780	0.763	-2%	± 10%
4999	0.380	0.371	-2%	± 10%
5000	0.190	0.183	-4%	± 10%
		Absolute Average Percent Difference	3%	± 10%

LINEAR REGRESSION ANALYSIS

y=mx+b (where x=calculated concentration, y=indicated concentration)

SO_2		LIMITS
Correlation=	1.0000	**≥ 0.995**
m (Slope)=	0.9792	**0.90-1.10**
b (Intercept % of FS)=	-0.1346	**± 3% F.S.**

AENV Standards		**SO_2 Analyzer**	
Audit Calibrator		Make/Model	Teco 43i
Make/Model	Sabio 2010	Serial/AMU Number	AMU 2195
Serial/AMU Number	AMU 2092	Last Calibration Date	February 8, 2019
SO_2		Full Scale (ppm)	1.0
SRM Gas Cylinder No.	FF28071		
Cylinder Conc. (ppm)	50.3	Expiry Date	March 2020

COMMENTS:

Auditor: Al Clark Date: February 13, 2019

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibration Gas Audit

Single Component Cylinder Gas

File No. 2017-486CGA

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

Cylinder #: LL108015 Concentration PPM: 47.9 Tolerance(%) 2 Certified By: Praxair

Expiry Date: October 2020

Reference Calibrator and Gas:

Make/Model: R&R MFC 201
Serial Number: AMU 1690
Last Verification Date: December 13, 2017
Gas Type: SO2 Conc. 98.07
Cylinder Number: CAL016625
Expiry Date: January 2019

Flow Measurement Device:

Make/Model: Mesa Definer 220
Serial Number: H-133034 / L-132702
Temp.°C: 23.4 C
B.P. 707 mmHg

Reference Analyzer:

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

Instrument Settings: Zero: 10.0 Span: 1.006 Range: 1.0

Last Calibration: Date: Dec12/17 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated	Gas Flow/	Concentration	Cylinder
Dilution	Gas	Concentration (PPM)	Dilution Flow	Factor	Concentration
5000	0.0	0.000			
4989	79.5	0.760	0.01594	62.755	47.7
4995	39.6	0.374	0.00793	126.136	47.2
4992	19.6	0.183	0.00393	254.694	46.6
				Average Cylinder Concentration:	**47.2**

Previous Stated Concentration PPM: 47.9

Percent variance from Stated: **2**

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

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

Alberta Government

Calibration Gas Audit

Single Component Cylinder Gas

File No. 2017-137CGA

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

Cylinder #: LL119432 Concentration PPM: 10.3 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	0.0000			
5117	38.9	0.0595	0.00760	131.542	7.8
5103	18.4		0.00361	277.337	0.0
5097	9.4		0.00184	542.234	0.0
				Average Cylinder Concentration:	**2.6**

Previous Stated Concentration PPM: 10.3

Percent variance from Stated: **75**

Meets Manufacturer Tolerance. Use manufacturers stated concentration ☐ **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration ☐ Do not use.

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder ☒ X

Auditor: Al Clark Date: July 27, 2017

Operator Signature: Location: McIntyre Center Edmonton

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

Alberta Government

Calibration Gas Audit

CH4 / C3H8 Cylinder Gas

File No. 2017-484CGA

Company: Maxxam **Operators name:** Mike

Cylinder #: LL107207 Conc CH4 (PPM) 600/207 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	13.28	12.77	0.02	45.00	598	209
3547	39.8	6.71	6.47	0.01	89.12	598	210
3560	19.8	3.35	3.26	0.01	179.80	602	213
					Average Cylinder Concentration:	**599**	**211**

	CH4	C3H8
Previous Stated Concentration PPM:	600	207
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

LABORATORY ANALYTICAL RESULTS

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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 - Blank	28897	Ambient Air	Normal

DESCRIPTION: Methane Trigger

DATE SAMPLED: 08-Mar-19 22:25
REPORT CREATED: 27-Mar-19
DATE RECEIVED: 12-Mar-19
REPORT NUMBER: 19030066
VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030066-002	1-Butene	K, T, U	< 1.50	ppmv	1.50	NA-025	13-Mar-19
19030066-002	Acetylene	K, T, U	< 1.20	ppmv	1.20	NA-025	13-Mar-19
19030066-002	n-Butane	K, T, U	< 3.0	ppmv	3.0	NA-025	13-Mar-19
19030066-002	cis-2-Butene	K, T, U	< 0.60	ppmv	0.60	NA-025	13-Mar-19
19030066-002	Ethane	K, T, U	< 1.5	ppmv	1.5	NA-025	13-Mar-19
19030066-002	Ethylacetylene	K, T, U	< 0.90	ppmv	0.90	NA-025	13-Mar-19
19030066-002	Ethylene	K, T, U	< 1.05	ppmv	1.05	NA-025	13-Mar-19
19030066-002	Isobutane	K, T, U	< 1.5	ppmv	1.5	NA-025	13-Mar-19
19030066-002	Isobutylene	K, T, U	< 1.5	ppmv	1.5	NA-025	13-Mar-19
19030066-002	Methane	K, T, U	< 1.5	ppmv	1.5	NA-025	13-Mar-19
19030066-002	n-Propane	K, T, U	< 1.05	ppmv	1.05	NA-025	13-Mar-19
19030066-002	Propylene	K, T, U	< 1.5	ppmv	1.5	NA-025	13-Mar-19
19030066-002	Propyne	K, T, U	< 1.5	ppmv	1.5	NA-025	13-Mar-19
19030066-002	trans-2-Butene	K, T, U	< 1.35	ppmv	1.35	NA-025	13-Mar-19
19030066-002	2,5-Dimethylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19
19030066-002	2-Ethylthiophene	K, T, U	< 0.2	ppbv	0.2	NA-024	12-Mar-19
19030066-002	2-Methylthiophene	K, T, U	< 0.2	ppbv	0.2	NA-024	12-Mar-19
19030066-002	3-Methylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19

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

Date: March-27-19

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	28897	Ambient Air	08-Mar-19 22:25

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19030066 **REPORT CREATED:** 27-Mar-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030066-002	Butyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19
19030066-002	Carbon disulphide	K, T, U	< 0.2	ppbv	0.2	NA-024	12-Mar-19
19030066-002	Carbonyl sulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19
19030066-002	Dimethyl disulphide	K, T, U	< 0.2	ppbv	0.2	NA-024	12-Mar-19
19030066-002	Dimethyl sulphide	K, T, U	< 0.2	ppbv	0.2	NA-024	12-Mar-19
19030066-002	Ethyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19
19030066-002	Ethyl sulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19
19030066-002	Hydrogen sulphide	K, T, U	< 0.1	ppbv	0.1	NA-024	12-Mar-19
19030066-002	Isobutyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19
19030066-002	Isopropyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19
19030066-002	Methyl mercaptan	K, T, U	< 0.2	ppbv	0.2	NA-024	12-Mar-19
19030066-002	Pentyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	12-Mar-19
19030066-002	Propyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	12-Mar-19
19030066-002	tert-Butyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19
19030066-002	Thiophene	K, T, U	< 0.2	ppbv	0.2	NA-024	12-Mar-19
19030066-002	1,1,1-Trichloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	1,1,2,2-Tetrachloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	1,1,2-Trichloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	1,1-Dichloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	1,1-Dichloroethylene	K, T, U	< 0.04	ppbv	0.04	AC-058	20-Mar-19
19030066-002	1,2,3-Trimethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	20-Mar-19
19030066-002	1,2,4-Trichlorobenzene	K, T, U	< 0.8	ppbv	0.8	AC-058	20-Mar-19
19030066-002	1,2,4-Trimethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	20-Mar-19
19030066-002	1,2-Dibromoethane	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	1,2-Dichlorobenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19

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

Date: March-27-19

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_Reno - Blank	28897	Ambient Air	08-Mar-19	22:25

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19030066 **REPORT CREATED:** 27-Mar-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030066-002	1,2-Dichloroethane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	1,2-Dichloropropane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	1,3,5-Trimethylbenzene	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	1,3-Butadiene	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	1,3-Dichlorobenzene	K, T, U	< 0.3	ppbv	0.3	AC-058	20-Mar-19
19030066-002	1,4-Dichlorobenzene	K, T, U	< 0.4	ppbv	0.4	AC-058	20-Mar-19
19030066-002	1,4-Dioxane	K, T, U	< 0.4	ppbv	0.4	AC-058	20-Mar-19
19030066-002	1-Butene/Isobutylene	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	1-Pentene	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	2,2,4-Trimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	2,2-Dimethylbutane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	2,3,4-Trimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	2,3-Dimethylbutane	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	2,3-Dimethylpentane	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	2,4-Dimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	2-Methylheptane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	2-Methylhexane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	2-Methylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	3-Methylheptane	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	3-Methylhexane	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	3-Methylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	Acetone	K, T, U	< 0.4	ppbv	0.4	AC-058	20-Mar-19
19030066-002	Acrolein	K, T, U	< 0.3	ppbv	0.3	AC-058	20-Mar-19
19030066-002	Benzene	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19

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

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno - Blank	28897	Ambient Air	08-Mar-19 22:25

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19030066 **REPORT CREATED:** 27-Mar-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030066-002	Benzyl chloride	K, T, U	< 0.4	ppbv	0.4	AC-058	20-Mar-19
19030066-002	Bromodichloromethane	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	Bromoform	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	Bromomethane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	Carbon disulfide	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	Carbon tetrachloride	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	Chlorobenzene	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	Chloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	Chloroform	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	Chloromethane	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	cis-1,2-Dichloroethene	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	cis-1,3-Dichloropropene	K, T, U	< 0.04	ppbv	0.04	AC-058	20-Mar-19
19030066-002	cis-2-Butene	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	cis-2-Pentene	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	Cyclohexane	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	Cyclopentane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	Dibromochloromethane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	Ethanol	K, T, U	< 0.3	ppbv	0.3	AC-058	20-Mar-19
19030066-002	Ethyl acetate	K, T, U	< 0.4	ppbv	0.4	AC-058	20-Mar-19
19030066-002	Ethylbenzene	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	Freon-11	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	Freon-113	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	Freon-114	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	Freon-12	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	Hexachloro-1,3-butadiene	K, T, U	< 0.50	ppbv	0.50	AC-058	20-Mar-19

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno - Blank	28897	Ambient Air	08-Mar-19 22:25

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19030066 **REPORT CREATED:** 27-Mar-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030066-002	Isobutane	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	Isopentane	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-002	Isoprene	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	Isopropyl alcohol	K, T, U	< 0.4	ppbv	0.4	AC-058	20-Mar-19
19030066-002	Isopropylbenzene	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	m,p-Xylene	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-002	m-Diethylbenzene	K, T, U	< 0.04	ppbv	0.04	AC-058	20-Mar-19
19030066-002	m-Ethyltoluene	K, T, U	< 0.08	ppbv	0.08	AC-058	20-Mar-19
19030066-002	Methyl butyl ketone	K, T, U	< 0.50	ppbv	0.50	AC-058	20-Mar-19
19030066-002	Methyl ethyl ketone	K, T, U	< 0.3	ppbv	0.3	AC-058	20-Mar-19
19030066-002	Methyl isobutyl ketone	K, T, U	< 0.4	ppbv	0.4	AC-058	20-Mar-19
19030066-002	Methyl methacrylate	K, T, U	< 0.07	ppbv	0.07	AC-058	20-Mar-19
19030066-002	Methyl tert butyl ether	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-002	Methylcyclohexane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	Methylcyclopentane	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	Methylene chloride	K, T, U	< 0.3	ppbv	0.3	AC-058	20-Mar-19
19030066-002	n-Butane	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-002	n-Decane	K, T, U	< 0.06	ppbv	0.06	AC-058	20-Mar-19
19030066-002	n-Dodecane	K, T, U	< 0.4	ppbv	0.4	AC-058	20-Mar-19
19030066-002	n-Heptane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	n-Hexane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	n-Octane	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	n-Pentane	K, T, U	< 0.1	ppbv	0.1	AC-058	20-Mar-19
19030066-002	n-Propylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	20-Mar-19
19030066-002	n-Undecane	K, T, U	< 0.5	ppbv	0.5	AC-058	20-Mar-19

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

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno - Blank	28897	Ambient Air	08-Mar-19 22:25

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19030066 **REPORT CREATED:** 27-Mar-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030066-002	Naphthalene	K, T, U	< 0.5	ppbv	0.5	AC-058	20-Mar-19
19030066-002	n-Nonane		0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	o-Ethyltoluene	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	o-Xylene	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	p-Diethylbenzene	K, T, U	< 0.04	ppbv	0.04	AC-058	20-Mar-19
19030066-002	p-Ethyltoluene	K, T, U	< 0.07	ppbv	0.07	AC-058	20-Mar-19
19030066-002	Styrene	K, T, U	< 0.04	ppbv	0.04	AC-058	20-Mar-19
19030066-002	Tetrachloroethylene	K, T, U	< 0.04	ppbv	0.04	AC-058	20-Mar-19
19030066-002	Tetrahydrofuran	K, T, U	< 0.4	ppbv	0.4	AC-058	20-Mar-19
19030066-002	Toluene	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	trans-1,2-Dichloroethylene	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	trans-1,3-Dichloropropylene	K, T, U	< 0.04	ppbv	0.04	AC-058	20-Mar-19
19030066-002	trans-2-Butene	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-002	trans-2-Pentene	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19
19030066-002	Trichloroethylene	K, T, U	< 0.04	ppbv	0.04	AC-058	20-Mar-19
19030066-002	Vinyl acetate	K, T, U	< 0.4	ppbv	0.4	AC-058	20-Mar-19
19030066-002	Vinyl chloride	K, T, U	< 0.02	ppbv	0.02	AC-058	20-Mar-19

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

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_Reno-2019/03/08	29016	Ambient Air	08-Mar-19	22:25

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19030066 **REPORT CREATED:** 27-Mar-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030066-001	1-Butene	K, T, U	< 0.15	ppmv	0.15	NA-025	13-Mar-19
19030066-001	Acetylene	K, T, U	< 0.12	ppmv	0.12	NA-025	13-Mar-19
19030066-001	n-Butane	K, T, U	< 0.3	ppmv	0.3	NA-025	13-Mar-19
19030066-001	cis-2-Butene	K, T, U	< 0.06	ppmv	0.06	NA-025	13-Mar-19
19030066-001	Ethane	K, T, U	< 0.1	ppmv	0.1	NA-025	13-Mar-19
19030066-001	Ethylacetylene	K, T, U	< 0.09	ppmv	0.09	NA-025	13-Mar-19
19030066-001	Ethylene	K, T, U	< 0.10	ppmv	0.10	NA-025	13-Mar-19
19030066-001	Isobutane	K, T, U	< 0.1	ppmv	0.1	NA-025	13-Mar-19
19030066-001	Isobutylene	K, T, U	< 0.1	ppmv	0.1	NA-025	13-Mar-19
19030066-001	Methane		2.8	ppmv	0.1	NA-025	13-Mar-19
19030066-001	n-Propane	K, T, U	< 0.10	ppmv	0.10	NA-025	13-Mar-19
19030066-001	Propylene	K, T, U	< 0.1	ppmv	0.1	NA-025	13-Mar-19
19030066-001	Propyne	K, T, U	< 0.1	ppmv	0.1	NA-025	13-Mar-19
19030066-001	trans-2-Butene	K, T, U	< 0.13	ppmv	0.13	NA-025	13-Mar-19
19030066-001	2,5-Dimethylthiophene	K, T, U	< 0.4	ppbv	0.4	NA-024	12-Mar-19
19030066-001	2-Ethylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19
19030066-001	2-Methylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19
19030066-001	3-Methylthiophene	K, T, U	< 0.4	ppbv	0.4	NA-024	12-Mar-19
19030066-001	Butyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	12-Mar-19
19030066-001	Carbon disulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19
19030066-001	Carbonyl sulphide		1.6	ppbv	0.4	NA-024	12-Mar-19
19030066-001	Dimethyl disulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19
19030066-001	Dimethyl sulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19
19030066-001	Ethyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	12-Mar-19
19030066-001	Ethyl sulphide	K, T, U	< 0.4	ppbv	0.4	NA-024	12-Mar-19

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

Date: March-27-19 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-2019/03/08	29016	Ambient Air	08-Mar-19	22:25

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19030066 **REPORT CREATED:** 27-Mar-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030066-001	Hydrogen sulphide		3.3	ppbv	0.1	NA-024	12-Mar-19
19030066-001	Isobutyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	12-Mar-19
19030066-001	Isopropyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	12-Mar-19
19030066-001	Methyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19
19030066-001	Pentyl mercaptan	K, T, U	< 0.6	ppbv	0.6	NA-024	12-Mar-19
19030066-001	Propyl mercaptan	K, T, U	< 0.6	ppbv	0.6	NA-024	12-Mar-19
19030066-001	tert-Butyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	12-Mar-19
19030066-001	Thiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19
19030066-001	1,1,1-Trichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-001	1,1,2,2-Tetrachloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-001	1,1,2-Trichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-001	1,1-Dichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-001	1,1-Dichloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	20-Mar-19
19030066-001	1,2,3-Trimethylbenzene	K, T, U	< 0.07	ppbv	0.07	AC-058	20-Mar-19
19030066-001	1,2,4-Trichlorobenzene	K, T, U	< 1.2	ppbv	1.2	AC-058	20-Mar-19
19030066-001	1,2,4-Trimethylbenzene	K, T, U	< 0.07	ppbv	0.07	AC-058	20-Mar-19
19030066-001	1,2-Dibromoethane	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-001	1,2-Dichlorobenzene	K, T, U	< 0.04	ppbv	0.04	AC-058	20-Mar-19
19030066-001	1,2-Dichloroethane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-001	1,2-Dichloropropane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-001	1,3,5-Trimethylbenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-001	1,3-Butadiene	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-001	1,3-Dichlorobenzene	K, T, U	< 0.4	ppbv	0.4	AC-058	20-Mar-19
19030066-001	1,4-Dichlorobenzene	K, T, U	< 0.6	ppbv	0.6	AC-058	20-Mar-19
19030066-001	1,4-Dioxane	K, T, U	< 0.6	ppbv	0.6	AC-058	20-Mar-19

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

Date: March-27-19

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_Reno-2019/03/08	29016	Ambient Air	08-Mar-19	22:25

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19030066 **REPORT CREATED:** 27-Mar-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030066-001	1-Butene/Isobutylene	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-001	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-001	1-Pentene	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-001	2,2,4-Trimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-001	2,2-Dimethylbutane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-001	2,3,4-Trimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-001	2,3-Dimethylbutane		0.06	ppbv	0.03	AC-058	20-Mar-19
19030066-001	2,3-Dimethylpentane		0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-001	2,4-Dimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-001	2-Methylheptane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-001	2-Methylhexane		0.08	ppbv	0.01	AC-058	20-Mar-19
19030066-001	2-Methylpentane		0.34	ppbv	0.01	AC-058	20-Mar-19
19030066-001	3-Methylheptane	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-001	3-Methylhexane		0.12	ppbv	0.03	AC-058	20-Mar-19
19030066-001	3-Methylpentane		0.17	ppbv	0.01	AC-058	20-Mar-19
19030066-001	Acetone		2.1	ppbv	0.6	AC-058	20-Mar-19
19030066-001	Acrolein	K, T, U	< 0.4	ppbv	0.4	AC-058	20-Mar-19
19030066-001	Benzene		0.08	ppbv	0.01	AC-058	20-Mar-19
19030066-001	Benzyl chloride	K, T, U	< 0.6	ppbv	0.6	AC-058	20-Mar-19
19030066-001	Bromodichloromethane	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-001	Bromoform	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-001	Bromomethane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-001	Carbon disulfide	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-001	Carbon tetrachloride	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-001	Chlorobenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19

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

Date: March-27-19 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-2019/03/08	29016	Ambient Air	08-Mar-19	22:25

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19030066 **REPORT CREATED:** 27-Mar-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030066-001	Chloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-001	Chloroform	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-001	Chloromethane		0.56	ppbv	0.03	AC-058	20-Mar-19
19030066-001	cis-1,2-Dichloroethene	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-001	cis-1,3-Dichloropropene	K, T, U	< 0.06	ppbv	0.06	AC-058	20-Mar-19
19030066-001	cis-2-Butene	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-001	cis-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-001	Cyclohexane		0.19	ppbv	0.03	AC-058	20-Mar-19
19030066-001	Cyclopentane		0.03	ppbv	0.01	AC-058	20-Mar-19
19030066-001	Dibromochloromethane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-001	Ethanol		2.2	ppbv	0.4	AC-058	20-Mar-19
19030066-001	Ethyl acetate	K, T, U	< 0.6	ppbv	0.6	AC-058	20-Mar-19
19030066-001	Ethylbenzene	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-001	Freon-11	I	0.21	ppbv	0.03	AC-058	20-Mar-19
19030066-001	Freon-113	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-001	Freon-114	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-001	Freon-12		0.48	ppbv	0.03	AC-058	20-Mar-19
19030066-001	Hexachloro-1,3-butadiene	K, T, U	< 0.74	ppbv	0.74	AC-058	20-Mar-19
19030066-001	Isobutane		1.42	ppbv	0.03	AC-058	20-Mar-19
19030066-001	Isopentane		0.95	ppbv	0.04	AC-058	20-Mar-19
19030066-001	Isoprene	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-001	Isopropyl alcohol	K, T, U	< 0.6	ppbv	0.6	AC-058	20-Mar-19
19030066-001	Isopropylbenzene	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-001	m,p-Xylene	K, T, U	< 0.04	ppbv	0.04	AC-058	20-Mar-19
19030066-001	m-Diethylbenzene	K, T, U	< 0.06	ppbv	0.06	AC-058	20-Mar-19

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

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_Reno-2019/03/08	29016	Ambient Air	08-Mar-19	22:25

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19030066 **REPORT CREATED:** 27-Mar-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030066-001	m-Ethyltoluene	K, T, U	< 0.12	ppbv	0.12	AC-058	20-Mar-19
19030066-001	Methyl butyl ketone	K, T, U	< 0.74	ppbv	0.74	AC-058	20-Mar-19
19030066-001	Methyl ethyl ketone	K, T, U	< 0.4	ppbv	0.4	AC-058	20-Mar-19
19030066-001	Methyl isobutyl ketone	K, T, U	< 0.6	ppbv	0.6	AC-058	20-Mar-19
19030066-001	Methyl methacrylate	K, T, U	< 0.10	ppbv	0.10	AC-058	20-Mar-19
19030066-001	Methyl tert butyl ether	K, T, U	< 0.04	ppbv	0.04	AC-058	20-Mar-19
19030066-001	Methylcyclohexane		0.42	ppbv	0.01	AC-058	20-Mar-19
19030066-001	Methylcyclopentane		0.37	ppbv	0.03	AC-058	20-Mar-19
19030066-001	Methylene chloride	K, T, U	< 0.4	ppbv	0.4	AC-058	20-Mar-19
19030066-001	n-Butane		2.12	ppbv	0.04	AC-058	20-Mar-19
19030066-001	n-Decane	K, T, U	< 0.09	ppbv	0.09	AC-058	20-Mar-19
19030066-001	n-Dodecane	K, T, U	< 0.6	ppbv	0.6	AC-058	20-Mar-19
19030066-001	n-Heptane		0.05	ppbv	0.01	AC-058	20-Mar-19
19030066-001	n-Hexane		0.33	ppbv	0.01	AC-058	20-Mar-19
19030066-001	n-Octane	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-001	n-Pentane		0.8	ppbv	0.1	AC-058	20-Mar-19
19030066-001	n-Propylbenzene	K, T, U	< 0.07	ppbv	0.07	AC-058	20-Mar-19
19030066-001	n-Undecane	K, T, U	< 0.7	ppbv	0.7	AC-058	20-Mar-19
19030066-001	Naphthalene	K, T, U	< 0.7	ppbv	0.7	AC-058	20-Mar-19
19030066-001	n-Nonane	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-001	o-Ethyltoluene	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-001	o-Xylene	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-001	p-Diethylbenzene	K, T, U	< 0.06	ppbv	0.06	AC-058	20-Mar-19
19030066-001	p-Ethyltoluene	K, T, U	< 0.10	ppbv	0.10	AC-058	20-Mar-19
19030066-001	Styrene	K, T, U	< 0.06	ppbv	0.06	AC-058	20-Mar-19

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

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-2019/03/08	29016	Ambient Air	08-Mar-19 22:25

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19030066 **REPORT CREATED:** 27-Mar-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030066-001	Tetrachloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	20-Mar-19
19030066-001	Tetrahydrofuran	K, T, U	< 0.6	ppbv	0.6	AC-058	20-Mar-19
19030066-001	Toluene		0.12	ppbv	0.01	AC-058	20-Mar-19
19030066-001	trans-1,2-Dichloroethylene	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-001	trans-1,3-Dichloropropylene	K, T, U	< 0.06	ppbv	0.06	AC-058	20-Mar-19
19030066-001	trans-2-Butene	K, T, U	< 0.01	ppbv	0.01	AC-058	20-Mar-19
19030066-001	trans-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19
19030066-001	Trichloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	20-Mar-19
19030066-001	Vinyl acetate	K, T, U	< 0.6	ppbv	0.6	AC-058	20-Mar-19
19030066-001	Vinyl chloride	K, T, U	< 0.03	ppbv	0.03	AC-058	20-Mar-19

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

Date: March-27-19 Inquiries: (780) 632 8455 E-mail: EAS.Results@innotechalberta.ca

Revision History

Order ID	Ver	Date	Reason
19030066	01	27-Mar-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

19030066

Send results to Pramptech. Unknows to be reported. Return sample to reception when finished, for isotope analysis.

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.

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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-2019/03/10	28954	Ambient Air	Normal

DESCRIPTION: Methane trigger

DATE SAMPLED: 10-Mar-19 8:35
REPORT CREATED: 21-Mar-19
DATE RECEIVED: 12-Mar-19
REPORT NUMBER: 19030065
VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030065-001	1-Butene	K, T, U	< 0.15	ppmv	0.15	NA-025	13-Mar-19
19030065-001	Acetylene	K, T, U	< 0.12	ppmv	0.12	NA-025	13-Mar-19
19030065-001	n-Butane	K, T, U	< 0.3	ppmv	0.3	NA-025	13-Mar-19
19030065-001	cis-2-Butene	K, T, U	< 0.06	ppmv	0.06	NA-025	13-Mar-19
19030065-001	Ethane	K, T, U	< 0.2	ppmv	0.2	NA-025	13-Mar-19
19030065-001	Ethylacetylene	K, T, U	< 0.09	ppmv	0.09	NA-025	13-Mar-19
19030065-001	Ethylene	K, T, U	< 0.11	ppmv	0.11	NA-025	13-Mar-19
19030065-001	Isobutane	K, T, U	< 0.2	ppmv	0.2	NA-025	13-Mar-19
19030065-001	Isobutylene	K, T, U	< 0.2	ppmv	0.2	NA-025	13-Mar-19
19030065-001	Methane		14.4	ppmv	0.2	NA-025	13-Mar-19
19030065-001	n-Propane	K, T, U	< 0.11	ppmv	0.11	NA-025	13-Mar-19
19030065-001	Propylene	K, T, U	< 0.2	ppmv	0.2	NA-025	13-Mar-19
19030065-001	Propyne	K, T, U	< 0.2	ppmv	0.2	NA-025	13-Mar-19
19030065-001	trans-2-Butene	K, T, U	< 0.14	ppmv	0.14	NA-025	13-Mar-19
19030065-001	2,5-Dimethylthiophene	K, T, U	< 0.5	ppbv	0.5	NA-024	12-Mar-19
19030065-001	2-Ethylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19
19030065-001	2-Methylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19
19030065-001	3-Methylthiophene	K, T, U	< 0.5	ppbv	0.5	NA-024	12-Mar-19

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

Date: March 21, 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-2019/03/10	28954	Ambient Air	10-Mar-19 8:35

DESCRIPTION: Methane trigger

REPORT NUMBER: 19030065 **REPORT CREATED:** 21-Mar-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030065-001	Butyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	12-Mar-19
19030065-001	Carbon disulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19
19030065-001	Carbonyl sulphide		1.8	ppbv	0.5	NA-024	12-Mar-19
19030065-001	Dimethyl disulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19
19030065-001	Dimethyl sulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19
19030065-001	Ethyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	12-Mar-19
19030065-001	Ethyl sulphide	K, T, U	< 0.5	ppbv	0.5	NA-024	12-Mar-19
19030065-001	Hydrogen sulphide		3.5	ppbv	0.2	NA-024	12-Mar-19
19030065-001	Isobutyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	12-Mar-19
19030065-001	Isopropyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	12-Mar-19
19030065-001	Methyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19
19030065-001	Pentyl mercaptan	K, T, U	< 0.6	ppbv	0.6	NA-024	12-Mar-19
19030065-001	Propyl mercaptan	K, T, U	< 0.6	ppbv	0.6	NA-024	12-Mar-19
19030065-001	tert-Butyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	12-Mar-19
19030065-001	Thiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	12-Mar-19
19030065-001	1,1,1-Trichloroethane	I	0.17	ppbv	0.03	AC-058	20-Mar-19
19030065-001	1,1,2,2-Tetrachloroethane	I	0.20	ppbv	0.03	AC-058	20-Mar-19
19030065-001	1,1,2-Trichloroethane	I	0.21	ppbv	0.03	AC-058	20-Mar-19
19030065-001	1,1-Dichloroethane	I	0.22	ppbv	0.03	AC-058	20-Mar-19
19030065-001	1,1-Dichloroethylene	I	0.23	ppbv	0.06	AC-058	20-Mar-19
19030065-001	1,2,3-Trimethylbenzene	I	0.22	ppbv	0.08	AC-058	20-Mar-19
19030065-001	1,2,4-Trichlorobenzene	K, T, U	< 1.2	ppbv	1.2	AC-058	20-Mar-19
19030065-001	1,2,4-Trimethylbenzene		0.49	ppbv	0.08	AC-058	20-Mar-19
19030065-001	1,2-Dibromoethane	I	0.17	ppbv	0.03	AC-058	20-Mar-19
19030065-001	1,2-Dichlorobenzene	I	0.18	ppbv	0.05	AC-058	20-Mar-19

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

Date: March 21, 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-2019/03/10	28954	Ambient Air	10-Mar-19 8:35

DESCRIPTION: Methane trigger

REPORT NUMBER: 19030065 **REPORT CREATED:** 21-Mar-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030065-001	1,2-Dichloroethane	I	0.28	ppbv	0.02	AC-058	20-Mar-19
19030065-001	1,2-Dichloropropane	I	0.22	ppbv	0.02	AC-058	20-Mar-19
19030065-001	1,3,5-Trimethylbenzene		0.50	ppbv	0.03	AC-058	20-Mar-19
19030065-001	1,3-Butadiene	I	0.24	ppbv	0.03	AC-058	20-Mar-19
19030065-001	1,3-Dichlorobenzene	K, T, U	< 0.5	ppbv	0.5	AC-058	20-Mar-19
19030065-001	1,4-Dichlorobenzene	K, T, U	< 0.6	ppbv	0.6	AC-058	20-Mar-19
19030065-001	1,4-Dioxane	K, T, U	< 0.6	ppbv	0.6	AC-058	20-Mar-19
19030065-001	1-Butene/Isobutylene		0.64	ppbv	0.03	AC-058	20-Mar-19
19030065-001	1-Hexene/2-Methyl-1-pentene	I	0.43	ppbv	0.03	AC-058	20-Mar-19
19030065-001	1-Pentene		0.24	ppbv	0.02	AC-058	20-Mar-19
19030065-001	2,2,4-Trimethylpentane		0.25	ppbv	0.02	AC-058	20-Mar-19
19030065-001	2,2-Dimethylbutane		0.29	ppbv	0.02	AC-058	20-Mar-19
19030065-001	2,3,4-Trimethylpentane		0.26	ppbv	0.02	AC-058	20-Mar-19
19030065-001	2,3-Dimethylbutane		0.43	ppbv	0.03	AC-058	20-Mar-19
19030065-001	2,3-Dimethylpentane		0.33	ppbv	0.03	AC-058	20-Mar-19
19030065-001	2,4-Dimethylpentane		0.27	ppbv	0.02	AC-058	20-Mar-19
19030065-001	2-Methylheptane		0.24	ppbv	0.02	AC-058	20-Mar-19
19030065-001	2-Methylhexane		0.40	ppbv	0.02	AC-058	20-Mar-19
19030065-001	2-Methylpentane		0.98	ppbv	0.02	AC-058	20-Mar-19
19030065-001	3-Methylheptane		0.26	ppbv	0.03	AC-058	20-Mar-19
19030065-001	3-Methylhexane		0.41	ppbv	0.03	AC-058	20-Mar-19
19030065-001	3-Methylpentane		0.66	ppbv	0.02	AC-058	20-Mar-19
19030065-001	Acetone		2.4	ppbv	0.6	AC-058	20-Mar-19
19030065-001	Acrolein	K, T, U	< 0.5	ppbv	0.5	AC-058	20-Mar-19
19030065-001	Benzene		0.69	ppbv	0.02	AC-058	20-Mar-19

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

Date: March 21, 2019

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_Reno-2019/03/10	28954	Ambient Air	10-Mar-19	8:35

DESCRIPTION: Methane trigger

REPORT NUMBER: 19030065 **REPORT CREATED:** 21-Mar-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030065-001	Benzyl chloride	K, T, U	< 0.6	ppbv	0.6	AC-058	20-Mar-19
19030065-001	Bromodichloromethane		0.16	ppbv	0.03	AC-058	20-Mar-19
19030065-001	Bromoform	I	0.12	ppbv	0.03	AC-058	20-Mar-19
19030065-001	Bromomethane	I	0.23	ppbv	0.02	AC-058	20-Mar-19
19030065-001	Carbon disulfide	I	0.11	ppbv	0.02	AC-058	20-Mar-19
19030065-001	Carbon tetrachloride	I	0.22	ppbv	0.02	AC-058	20-Mar-19
19030065-001	Chlorobenzene	I	0.22	ppbv	0.03	AC-058	20-Mar-19
19030065-001	Chloroethane	I	0.24	ppbv	0.03	AC-058	20-Mar-19
19030065-001	Chloroform	I	0.24	ppbv	0.03	AC-058	20-Mar-19
19030065-001	Chloromethane		0.83	ppbv	0.03	AC-058	20-Mar-19
19030065-001	cis-1,2-Dichloroethene	I	0.23	ppbv	0.02	AC-058	20-Mar-19
19030065-001	cis-1,3-Dichloropropene	I	0.11	ppbv	0.06	AC-058	20-Mar-19
19030065-001	cis-2-Butene		0.25	ppbv	0.03	AC-058	20-Mar-19
19030065-001	cis-2-Pentene		0.23	ppbv	0.03	AC-058	20-Mar-19
19030065-001	Cyclohexane		0.92	ppbv	0.03	AC-058	20-Mar-19
19030065-001	Cyclopentane		0.52	ppbv	0.02	AC-058	20-Mar-19
19030065-001	Dibromochloromethane	I	0.13	ppbv	0.02	AC-058	20-Mar-19
19030065-001	Ethanol		2.1	ppbv	0.5	AC-058	20-Mar-19
19030065-001	Ethyl acetate	K, T, U	< 0.6	ppbv	0.6	AC-058	20-Mar-19
19030065-001	Ethylbenzene		0.51	ppbv	0.02	AC-058	20-Mar-19
19030065-001	Freon-11		0.49	ppbv	0.03	AC-058	20-Mar-19
19030065-001	Freon-113	I	0.33	ppbv	0.02	AC-058	20-Mar-19
19030065-001	Freon-114	I	0.15	ppbv	0.03	AC-058	20-Mar-19
19030065-001	Freon-12		0.67	ppbv	0.03	AC-058	20-Mar-19
19030065-001	Hexachloro-1,3-butadiene	K, T, U	< 0.76	ppbv	0.76	AC-058	20-Mar-19

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-2019/03/10	28954	Ambient Air	10-Mar-19 8:35

DESCRIPTION: Methane trigger

REPORT NUMBER: 19030065 **REPORT CREATED:** 21-Mar-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030065-001	Isobutane		20.8	ppbv	0.03	AC-058	20-Mar-19
19030065-001	Isopentane		5.21	ppbv	0.05	AC-058	20-Mar-19
19030065-001	Isoprene		0.18	ppbv	0.02	AC-058	20-Mar-19
19030065-001	Isopropyl alcohol	K, T, U	< 0.6	ppbv	0.6	AC-058	20-Mar-19
19030065-001	Isopropylbenzene		0.27	ppbv	0.02	AC-058	20-Mar-19
19030065-001	m,p-Xylene		0.79	ppbv	0.05	AC-058	20-Mar-19
19030065-001	m-Diethylbenzene	I	0.27	ppbv	0.06	AC-058	20-Mar-19
19030065-001	m-Ethyltoluene	I	0.25	ppbv	0.12	AC-058	20-Mar-19
19030065-001	Methyl butyl ketone	K, T, U	< 0.76	ppbv	0.76	AC-058	20-Mar-19
19030065-001	Methyl ethyl ketone	K, T, U	< 0.5	ppbv	0.5	AC-058	20-Mar-19
19030065-001	Methyl isobutyl ketone	K, T, U	< 0.6	ppbv	0.6	AC-058	20-Mar-19
19030065-001	Methyl methacrylate	I	0.22	ppbv	0.11	AC-058	20-Mar-19
19030065-001	Methyl tert butyl ether	I	0.22	ppbv	0.05	AC-058	20-Mar-19
19030065-001	Methylcyclohexane		0.67	ppbv	0.02	AC-058	20-Mar-19
19030065-001	Methylcyclopentane		0.73	ppbv	0.03	AC-058	20-Mar-19
19030065-001	Methylene chloride	K, T, U	< 0.5	ppbv	0.5	AC-058	20-Mar-19
19030065-001	n-Butane		23.9	ppbv	0.05	AC-058	20-Mar-19
19030065-001	n-Decane		0.26	ppbv	0.09	AC-058	20-Mar-19
19030065-001	n-Dodecane	K, T, U	< 0.6	ppbv	0.6	AC-058	20-Mar-19
19030065-001	n-Heptane		0.70	ppbv	0.02	AC-058	20-Mar-19
19030065-001	n-Hexane		1.21	ppbv	0.02	AC-058	20-Mar-19
19030065-001	n-Octane		0.33	ppbv	0.03	AC-058	20-Mar-19
19030065-001	n-Pentane		3.5	ppbv	0.2	AC-058	20-Mar-19
19030065-001	n-Propylbenzene		0.24	ppbv	0.08	AC-058	20-Mar-19
19030065-001	n-Undecane	K, T, U	< 0.8	ppbv	0.8	AC-058	20-Mar-19

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

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-2019/03/10	28954	Ambient Air	10-Mar-19 8:35

DESCRIPTION: Methane trigger

REPORT NUMBER: 19030065 **REPORT CREATED:** 21-Mar-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030065-001	Naphthalene	K, T, U	< 0.8	ppbv	0.8	AC-058	20-Mar-19
19030065-001	n-Nonane		0.30	ppbv	0.02	AC-058	20-Mar-19
19030065-001	o-Ethyltoluene	I	0.24	ppbv	0.02	AC-058	20-Mar-19
19030065-001	o-Xylene		0.53	ppbv	0.02	AC-058	20-Mar-19
19030065-001	p-Diethylbenzene	I	0.23	ppbv	0.06	AC-058	20-Mar-19
19030065-001	p-Ethyltoluene		0.49	ppbv	0.11	AC-058	20-Mar-19
19030065-001	Styrene	I	0.42	ppbv	0.06	AC-058	20-Mar-19
19030065-001	Tetrachloroethylene	I	0.24	ppbv	0.06	AC-058	20-Mar-19
19030065-001	Tetrahydrofuran	K, T, U	< 0.6	ppbv	0.6	AC-058	20-Mar-19
19030065-001	Toluene		0.62	ppbv	0.02	AC-058	20-Mar-19
19030065-001	trans-1,2-Dichloroethylene	I	0.23	ppbv	0.02	AC-058	20-Mar-19
19030065-001	trans-1,3-Dichloropropylene	I	0.09	ppbv	0.06	AC-058	20-Mar-19
19030065-001	trans-2-Butene		0.27	ppbv	0.02	AC-058	20-Mar-19
19030065-001	trans-2-Pentene		0.21	ppbv	0.03	AC-058	20-Mar-19
19030065-001	Trichloroethylene	I	0.21	ppbv	0.06	AC-058	20-Mar-19
19030065-001	Vinyl acetate	K, T, U	< 0.6	ppbv	0.6	AC-058	20-Mar-19
19030065-001	Vinyl chloride	I	0.18	ppbv	0.03	AC-058	20-Mar-19

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

Date: March 21, 2019 Inquiries: (780) 632 8455 E-mail: EAS.Results@innotechalberta.ca

Revision History

Order ID	Ver	Date	Reason
19030065	01	21-Mar-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

19030065

Send results to Pramptech. Unknows to be reported. Return sample to reception when finished, for isotope analysis.

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.

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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	28887	Ambient Air	Normal

DESCRIPTION: Methane Trigger

DATE SAMPLED: 17-Mar-19 20:00
REPORT CREATED: 04-Apr-19
DATE RECEIVED: 20-Mar-19
REPORT NUMBER: 19030172
VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030172-001	1-Butene	K, T, U	< 0.15	ppmv	0.15	NA-025	21-Mar-19
19030172-001	Acetylene	K, T, U	< 0.12	ppmv	0.12	NA-025	21-Mar-19
19030172-001	n-Butane	K, T, U	< 0.3	ppmv	0.3	NA-025	21-Mar-19
19030172-001	cis-2-Butene	K, T, U	< 0.06	ppmv	0.06	NA-025	21-Mar-19
19030172-001	Ethane	K, T, U	< 0.2	ppmv	0.2	NA-025	21-Mar-19
19030172-001	Ethylacetylene	K, T, U	< 0.09	ppmv	0.09	NA-025	21-Mar-19
19030172-001	Ethylene	K, T, U	< 0.11	ppmv	0.11	NA-025	21-Mar-19
19030172-001	Isobutane	K, T, U	< 0.2	ppmv	0.2	NA-025	21-Mar-19
19030172-001	Isobutylene	K, T, U	< 0.2	ppmv	0.2	NA-025	21-Mar-19
19030172-001	Methane		2.4	ppmv	0.2	NA-025	21-Mar-19
19030172-001	n-Propane	K, T, U	< 0.11	ppmv	0.11	NA-025	21-Mar-19
19030172-001	Propylene	K, T, U	< 0.2	ppmv	0.2	NA-025	21-Mar-19
19030172-001	Propyne	K, T, U	< 0.2	ppmv	0.2	NA-025	21-Mar-19
19030172-001	trans-2-Butene	K, T, U	< 0.14	ppmv	0.14	NA-025	21-Mar-19
19030172-001	2,5-Dimethylthiophene	K, T, U	< 0.5	ppbv	0.5	NA-024	21-Mar-19
19030172-001	2-Ethylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	21-Mar-19
19030172-001	2-Methylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	21-Mar-19
19030172-001	3-Methylthiophene	K, T, U	< 0.5	ppbv	0.5	NA-024	21-Mar-19

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

Date: April-04-19 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	28887	Ambient Air	17-Mar-19 20:00

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19030172 **REPORT CREATED:** 04-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030172-001	Butyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	21-Mar-19
19030172-001	Carbon disulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	21-Mar-19
19030172-001	Carbonyl sulphide		1.2	ppbv	0.5	NA-024	21-Mar-19
19030172-001	Dimethyl disulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	21-Mar-19
19030172-001	Dimethyl sulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	21-Mar-19
19030172-001	Ethyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	21-Mar-19
19030172-001	Ethyl sulphide	K, T, U	< 0.5	ppbv	0.5	NA-024	21-Mar-19
19030172-001	Hydrogen sulphide		3.5	ppbv	0.2	NA-024	21-Mar-19
19030172-001	Isobutyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	21-Mar-19
19030172-001	Isopropyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	21-Mar-19
19030172-001	Methyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	21-Mar-19
19030172-001	Pentyl mercaptan	K, T, U	< 0.6	ppbv	0.6	NA-024	21-Mar-19
19030172-001	Propyl mercaptan	K, T, U	< 0.6	ppbv	0.6	NA-024	21-Mar-19
19030172-001	tert-Butyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	21-Mar-19
19030172-001	Thiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	21-Mar-19
19030172-001	1,1,1-Trichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	1,1,2,2-Tetrachloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	1,1,2-Trichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	1,1-Dichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	1,1-Dichloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	22-Mar-19
19030172-001	1,2,3-Trimethylbenzene	K, T, U	< 0.08	ppbv	0.08	AC-058	22-Mar-19
19030172-001	1,2,4-Trichlorobenzene	K, T, U	< 1.2	ppbv	1.2	AC-058	22-Mar-19
19030172-001	1,2,4-Trimethylbenzene	K, T, U	< 0.08	ppbv	0.08	AC-058	22-Mar-19
19030172-001	1,2-Dibromoethane	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	1,2-Dichlorobenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	22-Mar-19

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

Date: April-04-19 Inquiries: (780) 632 8455 E-mail: EAS.Results@innotechalberta.ca

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(780) 632-8211

ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-20190317	28887	Ambient Air	17-Mar-19 20:00

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19030172 **REPORT CREATED:** 04-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030172-001	1,2-Dichloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	1,2-Dichloropropane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	1,3,5-Trimethylbenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	1,3-Butadiene	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	1,3-Dichlorobenzene	K, T, U	< 0.5	ppbv	0.5	AC-058	22-Mar-19
19030172-001	1,4-Dichlorobenzene	K, T, U	< 0.6	ppbv	0.6	AC-058	22-Mar-19
19030172-001	1,4-Dioxane	K, T, U	< 0.6	ppbv	0.6	AC-058	22-Mar-19
19030172-001	1-Butene/Isobutylene	I	0.17	ppbv	0.03	AC-058	22-Mar-19
19030172-001	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	1-Pentene	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	2,2,4-Trimethylpentane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	2,2-Dimethylbutane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	2,3,4-Trimethylpentane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	2,3-Dimethylbutane	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	2,3-Dimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	2,4-Dimethylpentane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	2-Methylheptane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	2-Methylhexane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	2-Methylpentane		0.10	ppbv	0.02	AC-058	22-Mar-19
19030172-001	3-Methylheptane	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	3-Methylhexane	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	3-Methylpentane		0.03	ppbv	0.02	AC-058	22-Mar-19
19030172-001	Acetone		3.0	ppbv	0.6	AC-058	22-Mar-19
19030172-001	Acrolein	K, T, U	< 0.5	ppbv	0.5	AC-058	22-Mar-19
19030172-001	Benzene		0.07	ppbv	0.02	AC-058	22-Mar-19

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

Date: April-04-19 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	28887	Ambient Air	17-Mar-19 20:00

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19030172 **REPORT CREATED:** 04-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030172-001	Benzyl chloride	K, T, U	< 0.6	ppbv	0.6	AC-058	22-Mar-19
19030172-001	Bromodichloromethane	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	Bromoform	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	Bromomethane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	Carbon disulfide	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	Carbon tetrachloride	I	0.07	ppbv	0.02	AC-058	22-Mar-19
19030172-001	Chlorobenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	Chloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	Chloroform	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	Chloromethane		0.53	ppbv	0.03	AC-058	22-Mar-19
19030172-001	cis-1,2-Dichloroethene	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	cis-1,3-Dichloropropene	K, T, U	< 0.06	ppbv	0.06	AC-058	22-Mar-19
19030172-001	cis-2-Butene	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	cis-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	Cyclohexane	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	Cyclopentane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	Dibromochloromethane	I	0.05	ppbv	0.02	AC-058	22-Mar-19
19030172-001	Ethanol	K, T, U	< 0.5	ppbv	0.5	AC-058	22-Mar-19
19030172-001	Ethyl acetate	K, T, U	< 0.6	ppbv	0.6	AC-058	22-Mar-19
19030172-001	Ethylbenzene	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	Freon-11	I	0.20	ppbv	0.03	AC-058	22-Mar-19
19030172-001	Freon-113	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	Freon-114	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	Freon-12	I	0.44	ppbv	0.03	AC-058	22-Mar-19
19030172-001	Hexachloro-1,3-butadiene	K, T, U	< 0.77	ppbv	0.77	AC-058	22-Mar-19

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-20190317	28887	Ambient Air	17-Mar-19 20:00

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19030172 **REPORT CREATED:** 04-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030172-001	Isobutane		0.36	ppbv	0.03	AC-058	22-Mar-19
19030172-001	Isopentane		0.30	ppbv	0.05	AC-058	22-Mar-19
19030172-001	Isoprene	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	Isopropyl alcohol	K, T, U	< 0.6	ppbv	0.6	AC-058	22-Mar-19
19030172-001	Isopropylbenzene	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	m,p-Xylene	K, T, U	< 0.05	ppbv	0.05	AC-058	22-Mar-19
19030172-001	m-Diethylbenzene	K, T, U	< 0.06	ppbv	0.06	AC-058	22-Mar-19
19030172-001	m-Ethyltoluene	K, T, U	< 0.12	ppbv	0.12	AC-058	22-Mar-19
19030172-001	Methyl butyl ketone	K, T, U	< 0.77	ppbv	0.77	AC-058	22-Mar-19
19030172-001	Methyl ethyl ketone	K, T, U	< 0.5	ppbv	0.5	AC-058	22-Mar-19
19030172-001	Methyl isobutyl ketone	K, T, U	< 0.6	ppbv	0.6	AC-058	22-Mar-19
19030172-001	Methyl methacrylate	K, T, U	< 0.11	ppbv	0.11	AC-058	22-Mar-19
19030172-001	Methyl tert butyl ether	K, T, U	< 0.05	ppbv	0.05	AC-058	22-Mar-19
19030172-001	Methylcyclohexane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	Methylcyclopentane	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	Methylene chloride	K, T, U	< 0.5	ppbv	0.5	AC-058	22-Mar-19
19030172-001	n-Butane		0.56	ppbv	0.05	AC-058	22-Mar-19
19030172-001	n-Decane	K, T, U	< 0.09	ppbv	0.09	AC-058	22-Mar-19
19030172-001	n-Dodecane	K, T, U	< 0.6	ppbv	0.6	AC-058	22-Mar-19
19030172-001	n-Heptane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	n-Hexane	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	n-Octane	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	n-Pentane		0.2	ppbv	0.2	AC-058	22-Mar-19
19030172-001	n-Propylbenzene	K, T, U	< 0.08	ppbv	0.08	AC-058	22-Mar-19
19030172-001	n-Undecane	K, T, U	< 0.8	ppbv	0.8	AC-058	22-Mar-19

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

Date: April-04-19 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	28887	Ambient Air	17-Mar-19	20:00

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19030172 **REPORT CREATED:** 04-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030172-001	Naphthalene	K, T, U	< 0.8	ppbv	0.8	AC-058	22-Mar-19
19030172-001	n-Nonane		0.03	ppbv	0.02	AC-058	22-Mar-19
19030172-001	o-Ethyltoluene	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	o-Xylene	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	p-Diethylbenzene	K, T, U	< 0.06	ppbv	0.06	AC-058	22-Mar-19
19030172-001	p-Ethyltoluene	K, T, U	< 0.11	ppbv	0.11	AC-058	22-Mar-19
19030172-001	Styrene	K, T, U	< 0.06	ppbv	0.06	AC-058	22-Mar-19
19030172-001	Tetrachloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	22-Mar-19
19030172-001	Tetrahydrofuran	K, T, U	< 0.6	ppbv	0.6	AC-058	22-Mar-19
19030172-001	Toluene	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	trans-1,2-Dichloroethylene	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	trans-1,3-Dichloropropylene	K, T, U	< 0.06	ppbv	0.06	AC-058	22-Mar-19
19030172-001	trans-2-Butene	K, T, U	< 0.02	ppbv	0.02	AC-058	22-Mar-19
19030172-001	trans-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19
19030172-001	Trichloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	22-Mar-19
19030172-001	Vinyl acetate	K, T, U	< 0.6	ppbv	0.6	AC-058	22-Mar-19
19030172-001	Vinyl chloride	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Mar-19

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

Date: April-04-19 Inquiries: (780) 632 8455 E-mail: EAS.Results@innotechalberta.ca

Revision History

Order ID	Ver	Date	Reason
19030172	01	04-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

19030172

Send results to Pramptech. Unknows to be reported. Return sample to reception when finished, for isotope analysis.

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.

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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-20190318	14997	Ambient Air	Normal

DESCRIPTION: NMHC Trigger

DATE SAMPLED: 18-Mar-19
DATE RECEIVED: 22-Mar-19
REPORT CREATED: 09-Apr-19
REPORT NUMBER: 19030206
VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030206-002	1-Butene	K, T, U	< 0.15	ppmv	0.15	NA-025	27-Mar-19
19030206-002	Acetylene	K, T, U	< 0.12	ppmv	0.12	NA-025	27-Mar-19
19030206-002	n-Butane	K, T, U	< 0.3	ppmv	0.3	NA-025	27-Mar-19
19030206-002	cis-2-Butene	K, T, U	< 0.06	ppmv	0.06	NA-025	27-Mar-19
19030206-002	Ethane	K, T, U	< 0.1	ppmv	0.1	NA-025	27-Mar-19
19030206-002	Ethylacetylene	K, T, U	< 0.09	ppmv	0.09	NA-025	27-Mar-19
19030206-002	Ethylene	K, T, U	< 0.10	ppmv	0.10	NA-025	27-Mar-19
19030206-002	Isobutane	K, T, U	< 0.1	ppmv	0.1	NA-025	27-Mar-19
19030206-002	Isobutylene	K, T, U	< 0.1	ppmv	0.1	NA-025	27-Mar-19
19030206-002	Methane		1.9	ppmv	0.1	NA-025	27-Mar-19
19030206-002	n-Propane	K, T, U	< 0.10	ppmv	0.10	NA-025	27-Mar-19
19030206-002	Propylene	K, T, U	< 0.1	ppmv	0.1	NA-025	27-Mar-19
19030206-002	Propyne	K, T, U	< 0.1	ppmv	0.1	NA-025	27-Mar-19
19030206-002	trans-2-Butene	K, T, U	< 0.13	ppmv	0.13	NA-025	27-Mar-19
19030206-002	2,5-Dimethylthiophene	K, T, U	< 0.4	ppbv	0.4	NA-024	22-Mar-19
19030206-002	2-Ethylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	22-Mar-19
19030206-002	2-Methylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	22-Mar-19
19030206-002	3-Methylthiophene	K, T, U	< 0.4	ppbv	0.4	NA-024	22-Mar-19

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

Date: April 9, 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-20190318	14997	Ambient Air	18-Mar-19

DESCRIPTION: NMHC Trigger

REPORT NUMBER: 19030206 **REPORT CREATED:** 09-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030206-002	Butyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	22-Mar-19
19030206-002	Carbon disulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	22-Mar-19
19030206-002	Carbonyl sulphide		1.1	ppbv	0.4	NA-024	22-Mar-19
19030206-002	Dimethyl disulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	22-Mar-19
19030206-002	Dimethyl sulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	22-Mar-19
19030206-002	Ethyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	22-Mar-19
19030206-002	Ethyl sulphide	K, T, U	< 0.4	ppbv	0.4	NA-024	22-Mar-19
19030206-002	Hydrogen sulphide		1.6	ppbv	0.1	NA-024	22-Mar-19
19030206-002	Isobutyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	22-Mar-19
19030206-002	Isopropyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	22-Mar-19
19030206-002	Methyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	22-Mar-19
19030206-002	Pentyl mercaptan	K, T, U	< 0.6	ppbv	0.6	NA-024	22-Mar-19
19030206-002	Propyl mercaptan	K, T, U	< 0.6	ppbv	0.6	NA-024	22-Mar-19
19030206-002	tert-Butyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	22-Mar-19
19030206-002	Thiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	22-Mar-19
19030206-002	1,1,1-Trichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-002	1,1,2,2-Tetrachloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-002	1,1,2-Trichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-002	1,1-Dichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-002	1,1-Dichloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	23-Mar-19
19030206-002	1,2,3-Trimethylbenzene	K, T, U	< 0.07	ppbv	0.07	AC-058	23-Mar-19
19030206-002	1,2,4-Trichlorobenzene	K, T, U	< 1.2	ppbv	1.2	AC-058	23-Mar-19
19030206-002	1,2,4-Trimethylbenzene	K, T, U	< 0.07	ppbv	0.07	AC-058	23-Mar-19
19030206-002	1,2-Dibromoethane	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-002	1,2-Dichlorobenzene	K, T, U	< 0.04	ppbv	0.04	AC-058	23-Mar-19

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

Date: April 9, 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-20190318	14997	Ambient Air	18-Mar-19

DESCRIPTION: NMHC Trigger

REPORT NUMBER: 19030206 **REPORT CREATED:** 09-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030206-002	1,2-Dichloroethane	K, T, U	< 0.01	ppbv	0.01	AC-058	23-Mar-19
19030206-002	1,2-Dichloropropane	K, T, U	< 0.01	ppbv	0.01	AC-058	23-Mar-19
19030206-002	1,3,5-Trimethylbenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-002	1,3-Butadiene	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-002	1,3-Dichlorobenzene	K, T, U	< 0.4	ppbv	0.4	AC-058	23-Mar-19
19030206-002	1,4-Dichlorobenzene	K, T, U	< 0.6	ppbv	0.6	AC-058	23-Mar-19
19030206-002	1,4-Dioxane	K, T, U	< 0.6	ppbv	0.6	AC-058	23-Mar-19
19030206-002	1-Butene/Isobutylene		1.23	ppbv	0.03	AC-058	23-Mar-19
19030206-002	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-002	1-Pentene	K, T, U	< 0.01	ppbv	0.01	AC-058	23-Mar-19
19030206-002	2,2,4-Trimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	23-Mar-19
19030206-002	2,2-Dimethylbutane	K, T, U	< 0.01	ppbv	0.01	AC-058	23-Mar-19
19030206-002	2,3,4-Trimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	23-Mar-19
19030206-002	2,3-Dimethylbutane	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-002	2,3-Dimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-002	2,4-Dimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	23-Mar-19
19030206-002	2-Methylheptane	K, T, U	< 0.01	ppbv	0.01	AC-058	23-Mar-19
19030206-002	2-Methylhexane		0.03	ppbv	0.01	AC-058	23-Mar-19
19030206-002	2-Methylpentane		0.18	ppbv	0.01	AC-058	23-Mar-19
19030206-002	3-Methylheptane	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-002	3-Methylhexane		0.05	ppbv	0.03	AC-058	23-Mar-19
19030206-002	3-Methylpentane		0.08	ppbv	0.01	AC-058	23-Mar-19
19030206-002	Acetone		5.6	ppbv	0.6	AC-058	23-Mar-19
19030206-002	Acrolein	K, T, U	< 0.4	ppbv	0.4	AC-058	23-Mar-19
19030206-002	Benzene		0.43	ppbv	0.01	AC-058	23-Mar-19

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

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-20190318	14997	Ambient Air	18-Mar-19

DESCRIPTION: NMHC Trigger

REPORT NUMBER: 19030206 **REPORT CREATED:** 09-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030206-002	Benzyl chloride	K, T, U	< 0.6	ppbv	0.6	AC-058	23-Mar-19
19030206-002	Bromodichloromethane	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-002	Bromoform	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-002	Bromomethane	K, T, U	< 0.01	ppbv	0.01	AC-058	23-Mar-19
19030206-002	Carbon disulfide	K, T, U	< 0.01	ppbv	0.01	AC-058	23-Mar-19
19030206-002	Carbon tetrachloride	I	0.11	ppbv	0.01	AC-058	23-Mar-19
19030206-002	Chlorobenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-002	Chloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-002	Chloroform	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-002	Chloromethane		0.81	ppbv	0.03	AC-058	23-Mar-19
19030206-002	cis-1,2-Dichloroethene	K, T, U	< 0.01	ppbv	0.01	AC-058	23-Mar-19
19030206-002	cis-1,3-Dichloropropene	K, T, U	< 0.06	ppbv	0.06	AC-058	23-Mar-19
19030206-002	cis-2-Butene	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-002	cis-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-002	Cyclohexane	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-002	Cyclopentane	K, T, U	< 0.01	ppbv	0.01	AC-058	23-Mar-19
19030206-002	Dibromochloromethane	K, T, U	< 0.01	ppbv	0.01	AC-058	23-Mar-19
19030206-002	Ethanol		2.8	ppbv	0.4	AC-058	23-Mar-19
19030206-002	Ethyl acetate	K, T, U	< 0.6	ppbv	0.6	AC-058	23-Mar-19
19030206-002	Ethylbenzene		0.11	ppbv	0.01	AC-058	23-Mar-19
19030206-002	Freon-11	I	0.32	ppbv	0.03	AC-058	23-Mar-19
19030206-002	Freon-113	I	0.04	ppbv	0.01	AC-058	23-Mar-19
19030206-002	Freon-114	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-002	Freon-12		0.52	ppbv	0.03	AC-058	23-Mar-19
19030206-002	Hexachloro-1,3-butadiene	K, T, U	< 0.73	ppbv	0.73	AC-058	23-Mar-19

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-20190318	14997	Ambient Air	18-Mar-19

DESCRIPTION: NMHC Trigger

REPORT NUMBER: 19030206 **REPORT CREATED:** 09-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030206-002	Isobutane		1.88	ppbv	0.03	AC-058	23-Mar-19
19030206-002	Isopentane		0.54	ppbv	0.04	AC-058	23-Mar-19
19030206-002	Isoprene	K, T, U	< 0.01	ppbv	0.01	AC-058	23-Mar-19
19030206-002	Isopropyl alcohol	K, T, U	< 0.6	ppbv	0.6	AC-058	23-Mar-19
19030206-002	Isopropylbenzene	K, T, U	< 0.01	ppbv	0.01	AC-058	23-Mar-19
19030206-002	m,p-Xylene		0.45	ppbv	0.04	AC-058	23-Mar-19
19030206-002	m-Diethylbenzene	K, T, U	< 0.06	ppbv	0.06	AC-058	23-Mar-19
19030206-002	m-Ethyltoluene	K, T, U	< 0.12	ppbv	0.12	AC-058	23-Mar-19
19030206-002	Methyl butyl ketone	K, T, U	< 0.73	ppbv	0.73	AC-058	23-Mar-19
19030206-002	Methyl ethyl ketone	K, T, U	< 0.4	ppbv	0.4	AC-058	23-Mar-19
19030206-002	Methyl isobutyl ketone	K, T, U	< 0.6	ppbv	0.6	AC-058	23-Mar-19
19030206-002	Methyl methacrylate	K, T, U	< 0.10	ppbv	0.10	AC-058	23-Mar-19
19030206-002	Methyl tert butyl ether	K, T, U	< 0.04	ppbv	0.04	AC-058	23-Mar-19
19030206-002	Methylcyclohexane		0.15	ppbv	0.01	AC-058	23-Mar-19
19030206-002	Methylcyclopentane		0.13	ppbv	0.03	AC-058	23-Mar-19
19030206-002	Methylene chloride	K, T, U	< 0.4	ppbv	0.4	AC-058	23-Mar-19
19030206-002	n-Butane		2.13	ppbv	0.04	AC-058	23-Mar-19
19030206-002	n-Decane	K, T, U	< 0.09	ppbv	0.09	AC-058	23-Mar-19
19030206-002	n-Dodecane	K, T, U	< 0.6	ppbv	0.6	AC-058	23-Mar-19
19030206-002	n-Heptane		0.09	ppbv	0.01	AC-058	23-Mar-19
19030206-002	n-Hexane		0.32	ppbv	0.01	AC-058	23-Mar-19
19030206-002	n-Octane		0.08	ppbv	0.03	AC-058	23-Mar-19
19030206-002	n-Pentane		0.9	ppbv	0.1	AC-058	23-Mar-19
19030206-002	n-Propylbenzene	K, T, U	< 0.07	ppbv	0.07	AC-058	23-Mar-19
19030206-002	n-Undecane	K, T, U	< 0.7	ppbv	0.7	AC-058	23-Mar-19

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-20190318	14997	Ambient Air	18-Mar-19

DESCRIPTION: NMHC Trigger

REPORT NUMBER: 19030206 **REPORT CREATED:** 09-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030206-002	Naphthalene	K, T, U	< 0.7	ppbv	0.7	AC-058	23-Mar-19
19030206-002	n-Nonane		0.05	ppbv	0.01	AC-058	23-Mar-19
19030206-002	o-Ethyltoluene	K, T, U	< 0.01	ppbv	0.01	AC-058	23-Mar-19
19030206-002	o-Xylene	K, T, U	< 0.01	ppbv	0.01	AC-058	23-Mar-19
19030206-002	p-Diethylbenzene	K, T, U	< 0.06	ppbv	0.06	AC-058	23-Mar-19
19030206-002	p-Ethyltoluene	K, T, U	< 0.10	ppbv	0.10	AC-058	23-Mar-19
19030206-002	Styrene	K, T, U	< 0.06	ppbv	0.06	AC-058	23-Mar-19
19030206-002	Tetrachloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	23-Mar-19
19030206-002	Tetrahydrofuran	K, T, U	< 0.6	ppbv	0.6	AC-058	23-Mar-19
19030206-002	Toluene		1.85	ppbv	0.01	AC-058	23-Mar-19
19030206-002	trans-1,2-Dichloroethylene	K, T, U	< 0.01	ppbv	0.01	AC-058	23-Mar-19
19030206-002	trans-1,3-Dichloropropylene	K, T, U	< 0.06	ppbv	0.06	AC-058	23-Mar-19
19030206-002	trans-2-Butene	K, T, U	< 0.01	ppbv	0.01	AC-058	23-Mar-19
19030206-002	trans-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-002	Trichloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	23-Mar-19
19030206-002	Vinyl acetate	K, T, U	< 0.6	ppbv	0.6	AC-058	23-Mar-19
19030206-002	Vinyl chloride	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19

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

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-20190319	29025	Ambient Air	19-Mar-19

DESCRIPTION: NMHC Trigger

REPORT NUMBER: 19030206 **REPORT CREATED:** 09-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030206-001	1-Butene	K, T, U	< 0.15	ppmv	0.15	NA-025	27-Mar-19
19030206-001	Acetylene	K, T, U	< 0.12	ppmv	0.12	NA-025	27-Mar-19
19030206-001	n-Butane	K, T, U	< 0.3	ppmv	0.3	NA-025	27-Mar-19
19030206-001	cis-2-Butene	K, T, U	< 0.06	ppmv	0.06	NA-025	27-Mar-19
19030206-001	Ethane	K, T, U	< 0.2	ppmv	0.2	NA-025	27-Mar-19
19030206-001	Ethylacetylene	K, T, U	< 0.09	ppmv	0.09	NA-025	27-Mar-19
19030206-001	Ethylene	K, T, U	< 0.11	ppmv	0.11	NA-025	27-Mar-19
19030206-001	Isobutane	K, T, U	< 0.2	ppmv	0.2	NA-025	27-Mar-19
19030206-001	Isobutylene	K, T, U	< 0.2	ppmv	0.2	NA-025	27-Mar-19
19030206-001	Methane		2.1	ppmv	0.2	NA-025	27-Mar-19
19030206-001	n-Propane	K, T, U	< 0.11	ppmv	0.11	NA-025	27-Mar-19
19030206-001	Propylene	K, T, U	< 0.2	ppmv	0.2	NA-025	27-Mar-19
19030206-001	Propyne	K, T, U	< 0.2	ppmv	0.2	NA-025	27-Mar-19
19030206-001	trans-2-Butene	K, T, U	< 0.14	ppmv	0.14	NA-025	27-Mar-19
19030206-001	2,5-Dimethylthiophene	K, T, U	< 0.5	ppbv	0.5	NA-024	22-Mar-19
19030206-001	2-Ethylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	22-Mar-19
19030206-001	2-Methylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	22-Mar-19
19030206-001	3-Methylthiophene	K, T, U	< 0.5	ppbv	0.5	NA-024	22-Mar-19
19030206-001	Butyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	22-Mar-19
19030206-001	Carbon disulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	22-Mar-19
19030206-001	Carbonyl sulphide		0.6	ppbv	0.5	NA-024	22-Mar-19
19030206-001	Dimethyl disulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	22-Mar-19
19030206-001	Dimethyl sulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	22-Mar-19
19030206-001	Ethyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	22-Mar-19
19030206-001	Ethyl sulphide	K, T, U	< 0.5	ppbv	0.5	NA-024	22-Mar-19

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

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CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-20190319	29025	Ambient Air	19-Mar-19

DESCRIPTION: NMHC Trigger

REPORT NUMBER: 19030206 **REPORT CREATED:** 09-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030206-001	Hydrogen sulphide		1.9	ppbv	0.2	NA-024	22-Mar-19
19030206-001	Isobutyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	22-Mar-19
19030206-001	Isopropyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	22-Mar-19
19030206-001	Methyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	22-Mar-19
19030206-001	Pentyl mercaptan	K, T, U	< 0.6	ppbv	0.6	NA-024	22-Mar-19
19030206-001	Propyl mercaptan	K, T, U	< 0.6	ppbv	0.6	NA-024	22-Mar-19
19030206-001	tert-Butyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	22-Mar-19
19030206-001	Thiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	22-Mar-19
19030206-001	1,1,1-Trichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-001	1,1,2,2-Tetrachloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-001	1,1,2-Trichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-001	1,1-Dichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-001	1,1-Dichloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	23-Mar-19
19030206-001	1,2,3-Trimethylbenzene	K, T, U	< 0.08	ppbv	0.08	AC-058	23-Mar-19
19030206-001	1,2,4-Trichlorobenzene	K, T, U	< 1.2	ppbv	1.2	AC-058	23-Mar-19
19030206-001	1,2,4-Trimethylbenzene	K, T, U	< 0.08	ppbv	0.08	AC-058	23-Mar-19
19030206-001	1,2-Dibromoethane	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-001	1,2-Dichlorobenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	23-Mar-19
19030206-001	1,2-Dichloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	1,2-Dichloropropane	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	1,3,5-Trimethylbenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-001	1,3-Butadiene	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-001	1,3-Dichlorobenzene	K, T, U	< 0.5	ppbv	0.5	AC-058	23-Mar-19
19030206-001	1,4-Dichlorobenzene	K, T, U	< 0.6	ppbv	0.6	AC-058	23-Mar-19
19030206-001	1,4-Dioxane	K, T, U	< 0.6	ppbv	0.6	AC-058	23-Mar-19

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CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-20190319	29025	Ambient Air	19-Mar-19

DESCRIPTION: NMHC Trigger

REPORT NUMBER: 19030206 **REPORT CREATED:** 09-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030206-001	1-Butene/Isobutylene	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-001	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-001	1-Pentene	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	2,2,4-Trimethylpentane	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	2,2-Dimethylbutane	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	2,3,4-Trimethylpentane	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	2,3-Dimethylbutane		0.06	ppbv	0.03	AC-058	23-Mar-19
19030206-001	2,3-Dimethylpentane		0.17	ppbv	0.03	AC-058	23-Mar-19
19030206-001	2,4-Dimethylpentane	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	2-Methylheptane	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	2-Methylhexane		0.24	ppbv	0.02	AC-058	23-Mar-19
19030206-001	2-Methylpentane		0.35	ppbv	0.02	AC-058	23-Mar-19
19030206-001	3-Methylheptane	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-001	3-Methylhexane		0.36	ppbv	0.03	AC-058	23-Mar-19
19030206-001	3-Methylpentane		0.24	ppbv	0.02	AC-058	23-Mar-19
19030206-001	Acetone		3.8	ppbv	0.6	AC-058	23-Mar-19
19030206-001	Acrolein	K, T, U	< 0.5	ppbv	0.5	AC-058	23-Mar-19
19030206-001	Benzene	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	Benzyl chloride	K, T, U	< 0.6	ppbv	0.6	AC-058	23-Mar-19
19030206-001	Bromodichloromethane	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-001	Bromoform	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-001	Bromomethane	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	Carbon disulfide	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	Carbon tetrachloride	I	0.05	ppbv	0.02	AC-058	23-Mar-19
19030206-001	Chlorobenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19

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PRAMP_Reno-20190319	29025	Ambient Air	19-Mar-19

DESCRIPTION: NMHC Trigger

REPORT NUMBER: 19030206 **REPORT CREATED:** 09-Apr-19 **VERSION:** Version 01

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19030206-001	Chloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-001	Chloroform	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-001	Chloromethane		0.64	ppbv	0.03	AC-058	23-Mar-19
19030206-001	cis-1,2-Dichloroethene	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	cis-1,3-Dichloropropene	K, T, U	< 0.06	ppbv	0.06	AC-058	23-Mar-19
19030206-001	cis-2-Butene	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-001	cis-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-001	Cyclohexane		0.66	ppbv	0.03	AC-058	23-Mar-19
19030206-001	Cyclopentane		2.18	ppbv	0.02	AC-058	23-Mar-19
19030206-001	Dibromochloromethane	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	Ethanol	K, T, U	< 0.5	ppbv	0.5	AC-058	23-Mar-19
19030206-001	Ethyl acetate	K, T, U	< 0.6	ppbv	0.6	AC-058	23-Mar-19
19030206-001	Ethylbenzene	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	Freon-11	I	0.21	ppbv	0.03	AC-058	23-Mar-19
19030206-001	Freon-113	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	Freon-114	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-001	Freon-12		0.50	ppbv	0.03	AC-058	23-Mar-19
19030206-001	Hexachloro-1,3-butadiene	K, T, U	< 0.76	ppbv	0.76	AC-058	23-Mar-19
19030206-001	Isobutane		0.90	ppbv	0.03	AC-058	23-Mar-19
19030206-001	Isopentane		1.03	ppbv	0.05	AC-058	23-Mar-19
19030206-001	Isoprene	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	Isopropyl alcohol	K, T, U	< 0.6	ppbv	0.6	AC-058	23-Mar-19
19030206-001	Isopropylbenzene	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	m,p-Xylene	K, T, U	< 0.05	ppbv	0.05	AC-058	23-Mar-19
19030206-001	m-Diethylbenzene	K, T, U	< 0.06	ppbv	0.06	AC-058	23-Mar-19

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

Date: April 9, 2019 Inquiries: (780) 632 8455 E-mail: EAS.Results@innotechalberta.ca

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CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-20190319	29025	Ambient Air	19-Mar-19

DESCRIPTION: NMHC Trigger
REPORT NUMBER: 19030206 **REPORT CREATED:** 09-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030206-001	m-Ethyltoluene	K, T, U	< 0.12	ppbv	0.12	AC-058	23-Mar-19
19030206-001	Methyl butyl ketone	K, T, U	< 0.76	ppbv	0.76	AC-058	23-Mar-19
19030206-001	Methyl ethyl ketone	K, T, U	< 0.5	ppbv	0.5	AC-058	23-Mar-19
19030206-001	Methyl isobutyl ketone	K, T, U	< 0.6	ppbv	0.6	AC-058	23-Mar-19
19030206-001	Methyl methacrylate	K, T, U	< 0.11	ppbv	0.11	AC-058	23-Mar-19
19030206-001	Methyl tert butyl ether	K, T, U	< 0.05	ppbv	0.05	AC-058	23-Mar-19
19030206-001	Methylcyclohexane		1.01	ppbv	0.02	AC-058	23-Mar-19
19030206-001	Methylcyclopentane		0.59	ppbv	0.03	AC-058	23-Mar-19
19030206-001	Methylene chloride	K, T, U	< 0.5	ppbv	0.5	AC-058	23-Mar-19
19030206-001	n-Butane		1.13	ppbv	0.05	AC-058	23-Mar-19
19030206-001	n-Decane	K, T, U	< 0.09	ppbv	0.09	AC-058	23-Mar-19
19030206-001	n-Dodecane	K, T, U	< 0.6	ppbv	0.6	AC-058	23-Mar-19
19030206-001	n-Heptane	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	n-Hexane		0.18	ppbv	0.02	AC-058	23-Mar-19
19030206-001	n-Octane	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-001	n-Pentane		0.4	ppbv	0.2	AC-058	23-Mar-19
19030206-001	n-Propylbenzene	K, T, U	< 0.08	ppbv	0.08	AC-058	23-Mar-19
19030206-001	n-Undecane	K, T, U	< 0.8	ppbv	0.8	AC-058	23-Mar-19
19030206-001	Naphthalene	K, T, U	< 0.8	ppbv	0.8	AC-058	23-Mar-19
19030206-001	n-Nonane	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	o-Ethyltoluene	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	o-Xylene	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	p-Diethylbenzene	K, T, U	< 0.06	ppbv	0.06	AC-058	23-Mar-19
19030206-001	p-Ethyltoluene	K, T, U	< 0.11	ppbv	0.11	AC-058	23-Mar-19
19030206-001	Styrene	K, T, U	< 0.06	ppbv	0.06	AC-058	23-Mar-19

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-20190319	29025	Ambient Air	19-Mar-19

DESCRIPTION: NMHC Trigger

REPORT NUMBER: 19030206 **REPORT CREATED:** 09-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19030206-001	Tetrachloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	23-Mar-19
19030206-001	Tetrahydrofuran	K, T, U	< 0.6	ppbv	0.6	AC-058	23-Mar-19
19030206-001	Toluene		0.10	ppbv	0.02	AC-058	23-Mar-19
19030206-001	trans-1,2-Dichloroethylene	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	trans-1,3-Dichloropropylene	K, T, U	< 0.06	ppbv	0.06	AC-058	23-Mar-19
19030206-001	trans-2-Butene	K, T, U	< 0.02	ppbv	0.02	AC-058	23-Mar-19
19030206-001	trans-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19
19030206-001	Trichloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	23-Mar-19
19030206-001	Vinyl acetate	K, T, U	< 0.6	ppbv	0.6	AC-058	23-Mar-19
19030206-001	Vinyl chloride	K, T, U	< 0.03	ppbv	0.03	AC-058	23-Mar-19

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

Date: April 9, 2019 Inquiries: (780) 632 8455 E-mail: EAS.Results@innotechalberta.ca

Revision History

Order ID	Ver	Date	Reason
19030206	01	09-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

19030206

Send results to Pramp tech. Unknowns 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.

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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-20190329	29007	Ambient Air	Normal

DESCRIPTION: Methane Trigger

DATE SAMPLED: 29-Mar-19 18:00
REPORT CREATED: 12-Apr-19
DATE RECEIVED: 02-Apr-19
REPORT NUMBER: 19040004
VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19040004-001	1-Butene	K, T, U	< 0.15	ppmv	0.15	NA-025	05-Apr-19
19040004-001	Acetylene	K, T, U	< 0.12	ppmv	0.12	NA-025	05-Apr-19
19040004-001	n-Butane	K, T, U	< 0.3	ppmv	0.3	NA-025	05-Apr-19
19040004-001	cis-2-Butene	K, T, U	< 0.06	ppmv	0.06	NA-025	05-Apr-19
19040004-001	Ethane	K, T, U	< 0.2	ppmv	0.2	NA-025	05-Apr-19
19040004-001	Ethylacetylene	K, T, U	< 0.09	ppmv	0.09	NA-025	05-Apr-19
19040004-001	Ethylene	K, T, U	< 0.11	ppmv	0.11	NA-025	05-Apr-19
19040004-001	Isobutane	K, T, U	< 0.2	ppmv	0.2	NA-025	05-Apr-19
19040004-001	Isobutylene	K, T, U	< 0.2	ppmv	0.2	NA-025	05-Apr-19
19040004-001	Methane		2.3	ppmv	0.2	NA-025	05-Apr-19
19040004-001	n-Propane	K, T, U	< 0.11	ppmv	0.11	NA-025	05-Apr-19
19040004-001	Propylene	K, T, U	< 0.2	ppmv	0.2	NA-025	05-Apr-19
19040004-001	Propyne	K, T, U	< 0.2	ppmv	0.2	NA-025	05-Apr-19
19040004-001	trans-2-Butene	K, T, U	< 0.14	ppmv	0.14	NA-025	05-Apr-19
19040004-001	2,5-Dimethylthiophene	K, T, U	< 0.5	ppbv	0.5	NA-024	03-Apr-19
19040004-001	2-Ethylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	03-Apr-19
19040004-001	2-Methylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	03-Apr-19
19040004-001	3-Methylthiophene	K, T, U	< 0.5	ppbv	0.5	NA-024	03-Apr-19

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

Date: April-12-19

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_Reno-20190329	29007	Ambient Air	29-Mar-19	18:00

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19040004 **REPORT CREATED:** 12-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19040004-001	Butyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	03-Apr-19
19040004-001	Carbon disulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	03-Apr-19
19040004-001	Carbonyl sulphide		1.2	ppbv	0.5	NA-024	03-Apr-19
19040004-001	Dimethyl disulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	03-Apr-19
19040004-001	Dimethyl sulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	03-Apr-19
19040004-001	Ethyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	03-Apr-19
19040004-001	Ethyl sulphide	K, T, U	< 0.5	ppbv	0.5	NA-024	03-Apr-19
19040004-001	Hydrogen sulphide		2.2	ppbv	0.2	NA-024	03-Apr-19
19040004-001	Isobutyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	03-Apr-19
19040004-001	Isopropyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	03-Apr-19
19040004-001	Methyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	03-Apr-19
19040004-001	Pentyl mercaptan	K, T, U	< 0.6	ppbv	0.6	NA-024	03-Apr-19
19040004-001	Propyl mercaptan	K, T, U	< 0.6	ppbv	0.6	NA-024	03-Apr-19
19040004-001	tert-Butyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	03-Apr-19
19040004-001	Thiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	03-Apr-19
19040004-001	1,1,1-Trichloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	04-Apr-19
19040004-001	1,1,2,2-Tetrachloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	04-Apr-19
19040004-001	1,1,2-Trichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Apr-19
19040004-001	1,1-Dichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Apr-19
19040004-001	1,1-Dichloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	04-Apr-19
19040004-001	1,2,3-Trimethylbenzene	K, T, U	< 0.08	ppbv	0.08	AC-058	04-Apr-19
19040004-001	1,2,4-Trichlorobenzene	K, T, U	< 1.2	ppbv	1.2	AC-058	04-Apr-19
19040004-001	1,2,4-Trimethylbenzene	K, T, U	< 0.08	ppbv	0.08	AC-058	04-Apr-19
19040004-001	1,2-Dibromoethane	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Apr-19
19040004-001	1,2-Dichlorobenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	04-Apr-19

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

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-20190329	29007	Ambient Air	29-Mar-19 18:00

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19040004 **REPORT CREATED:** 12-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19040004-001	1,2-Dichloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	04-Apr-19
19040004-001	1,2-Dichloropropane	K, T, U	< 0.02	ppbv	0.02	AC-058	04-Apr-19
19040004-001	1,3,5-Trimethylbenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Apr-19
19040004-001	1,3-Butadiene	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Apr-19
19040004-001	1,3-Dichlorobenzene	K, T, U	< 0.5	ppbv	0.5	AC-058	04-Apr-19
19040004-001	1,4-Dichlorobenzene	K, T, U	< 0.6	ppbv	0.6	AC-058	04-Apr-19
19040004-001	1,4-Dioxane	K, T, U	< 0.6	ppbv	0.6	AC-058	04-Apr-19
19040004-001	1-Butene/Isobutylene		0.48	ppbv	0.03	AC-058	04-Apr-19
19040004-001	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Apr-19
19040004-001	1-Pentene		0.04	ppbv	0.02	AC-058	04-Apr-19
19040004-001	2,2,4-Trimethylpentane		0.03	ppbv	0.02	AC-058	04-Apr-19
19040004-001	2,2-Dimethylbutane		0.02	ppbv	0.02	AC-058	04-Apr-19
19040004-001	2,3,4-Trimethylpentane	K, T, U	< 0.02	ppbv	0.02	AC-058	04-Apr-19
19040004-001	2,3-Dimethylbutane		0.04	ppbv	0.03	AC-058	04-Apr-19
19040004-001	2,3-Dimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Apr-19
19040004-001	2,4-Dimethylpentane	K, T, U	< 0.02	ppbv	0.02	AC-058	04-Apr-19
19040004-001	2-Methylheptane	K, T, U	< 0.02	ppbv	0.02	AC-058	04-Apr-19
19040004-001	2-Methylhexane		0.14	ppbv	0.02	AC-058	04-Apr-19
19040004-001	2-Methylpentane		0.14	ppbv	0.02	AC-058	04-Apr-19
19040004-001	3-Methylheptane	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Apr-19
19040004-001	3-Methylhexane		0.13	ppbv	0.03	AC-058	04-Apr-19
19040004-001	3-Methylpentane		0.14	ppbv	0.02	AC-058	04-Apr-19
19040004-001	Acetone		2.6	ppbv	0.6	AC-058	04-Apr-19
19040004-001	Acrolein	K, T, U	< 0.5	ppbv	0.5	AC-058	04-Apr-19
19040004-001	Benzene		0.20	ppbv	0.02	AC-058	04-Apr-19

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

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-20190329	29007	Ambient Air	29-Mar-19 18:00

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19040004 **REPORT CREATED:** 12-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19040004-001	Benzyl chloride	K, T, U	< 0.6	ppbv	0.6	AC-058	04-Apr-19
19040004-001	Bromodichloromethane	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Apr-19
19040004-001	Bromoform	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Apr-19
19040004-001	Bromomethane	I	0.08	ppbv	0.02	AC-058	04-Apr-19
19040004-001	Carbon disulfide	K, T, U	< 0.02	ppbv	0.02	AC-058	04-Apr-19
19040004-001	Carbon tetrachloride	I	0.23	ppbv	0.02	AC-058	04-Apr-19
19040004-001	Chlorobenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Apr-19
19040004-001	Chloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Apr-19
19040004-001	Chloroform	I	0.07	ppbv	0.03	AC-058	04-Apr-19
19040004-001	Chloromethane		0.58	ppbv	0.03	AC-058	04-Apr-19
19040004-001	cis-1,2-Dichloroethene	K, T, U	< 0.02	ppbv	0.02	AC-058	04-Apr-19
19040004-001	cis-1,3-Dichloropropene	K, T, U	< 0.06	ppbv	0.06	AC-058	04-Apr-19
19040004-001	cis-2-Butene	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Apr-19
19040004-001	cis-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Apr-19
19040004-001	Cyclohexane		0.14	ppbv	0.03	AC-058	04-Apr-19
19040004-001	Cyclopentane		6.85	ppbv	0.02	AC-058	04-Apr-19
19040004-001	Dibromochloromethane	K, T, U	< 0.02	ppbv	0.02	AC-058	04-Apr-19
19040004-001	Ethanol		1.9	ppbv	0.5	AC-058	04-Apr-19
19040004-001	Ethyl acetate	K, T, U	< 0.6	ppbv	0.6	AC-058	04-Apr-19
19040004-001	Ethylbenzene	K, T, U	< 0.02	ppbv	0.02	AC-058	04-Apr-19
19040004-001	Freon-11	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Apr-19
19040004-001	Freon-113	K, T, U	< 0.02	ppbv	0.02	AC-058	04-Apr-19
19040004-001	Freon-114	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Apr-19
19040004-001	Freon-12	I	0.25	ppbv	0.03	AC-058	04-Apr-19
19040004-001	Hexachloro-1,3-butadiene	K, T, U	< 0.76	ppbv	0.76	AC-058	04-Apr-19

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

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-20190329	29007	Ambient Air	29-Mar-19 18:00

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19040004 **REPORT CREATED:** 12-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19040004-001	Isobutane		0.40	ppbv	0.03	AC-058	04-Apr-19
19040004-001	Isopentane		0.69	ppbv	0.05	AC-058	04-Apr-19
19040004-001	Isoprene	K, T, U	< 0.02	ppbv	0.02	AC-058	04-Apr-19
19040004-001	Isopropyl alcohol	K, T, U	< 0.6	ppbv	0.6	AC-058	04-Apr-19
19040004-001	Isopropylbenzene	K, T, U	< 0.02	ppbv	0.02	AC-058	04-Apr-19
19040004-001	m,p-Xylene		0.05	ppbv	0.05	AC-058	04-Apr-19
19040004-001	m-Diethylbenzene	K, T, U	< 0.06	ppbv	0.06	AC-058	04-Apr-19
19040004-001	m-Ethyltoluene	K, T, U	< 0.12	ppbv	0.12	AC-058	04-Apr-19
19040004-001	Methyl butyl ketone	K, T, U	< 0.76	ppbv	0.76	AC-058	04-Apr-19
19040004-001	Methyl ethyl ketone	K, T, U	< 0.5	ppbv	0.5	AC-058	04-Apr-19
19040004-001	Methyl isobutyl ketone	K, T, U	< 0.6	ppbv	0.6	AC-058	04-Apr-19
19040004-001	Methyl methacrylate	K, T, U	< 0.11	ppbv	0.11	AC-058	04-Apr-19
19040004-001	Methyl tert butyl ether	K, T, U	< 0.05	ppbv	0.05	AC-058	04-Apr-19
19040004-001	Methylcyclohexane		0.05	ppbv	0.02	AC-058	04-Apr-19
19040004-001	Methylcyclopentane		0.20	ppbv	0.03	AC-058	04-Apr-19
19040004-001	Methylene chloride	K, T, U	< 0.5	ppbv	0.5	AC-058	04-Apr-19
19040004-001	n-Butane		0.65	ppbv	0.05	AC-058	04-Apr-19
19040004-001	n-Decane	K, T, U	< 0.09	ppbv	0.09	AC-058	04-Apr-19
19040004-001	n-Dodecane	K, T, U	< 0.6	ppbv	0.6	AC-058	04-Apr-19
19040004-001	n-Heptane		0.47	ppbv	0.02	AC-058	04-Apr-19
19040004-001	n-Hexane		0.31	ppbv	0.02	AC-058	04-Apr-19
19040004-001	n-Octane		0.09	ppbv	0.03	AC-058	04-Apr-19
19040004-001	n-Pentane		0.3	ppbv	0.2	AC-058	04-Apr-19
19040004-001	n-Propylbenzene	K, T, U	< 0.08	ppbv	0.08	AC-058	04-Apr-19
19040004-001	n-Undecane	K, T, U	< 0.8	ppbv	0.8	AC-058	04-Apr-19

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

Date: April-12-19 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-20190329	29007	Ambient Air	29-Mar-19	18:00

DESCRIPTION: Methane Trigger

REPORT NUMBER: 19040004 **REPORT CREATED:** 12-Apr-19 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19040004-001	Naphthalene	K, T, U	< 0.8	ppbv	0.8	AC-058	04-Apr-19
19040004-001	n-Nonane	K, T, U	< 0.02	ppbv	0.02	AC-058	04-Apr-19
19040004-001	o-Ethyltoluene	K, T, U	< 0.02	ppbv	0.02	AC-058	04-Apr-19
19040004-001	o-Xylene		0.02	ppbv	0.02	AC-058	04-Apr-19
19040004-001	p-Diethylbenzene	K, T, U	< 0.06	ppbv	0.06	AC-058	04-Apr-19
19040004-001	p-Ethyltoluene	K, T, U	< 0.11	ppbv	0.11	AC-058	04-Apr-19
19040004-001	Styrene	K, T, U	< 0.06	ppbv	0.06	AC-058	04-Apr-19
19040004-001	Tetrachloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	04-Apr-19
19040004-001	Tetrahydrofuran	K, T, U	< 0.6	ppbv	0.6	AC-058	04-Apr-19
19040004-001	Toluene		1.74	ppbv	0.02	AC-058	04-Apr-19
19040004-001	trans-1,2-Dichloroethylene	K, T, U	< 0.02	ppbv	0.02	AC-058	04-Apr-19
19040004-001	trans-1,3-Dichloropropylene	K, T, U	< 0.06	ppbv	0.06	AC-058	04-Apr-19
19040004-001	trans-2-Butene	K, T, U	< 0.02	ppbv	0.02	AC-058	04-Apr-19
19040004-001	trans-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Apr-19
19040004-001	Trichloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	04-Apr-19
19040004-001	Vinyl acetate	K, T, U	< 0.6	ppbv	0.6	AC-058	04-Apr-19
19040004-001	Vinyl chloride	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Apr-19

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

Date: April-12-19 Inquiries: (780) 632 8455 E-mail: EAS.Results@innotechalberta.ca

Revision History

Order ID	Ver	Date	Reason
19040004	01	12-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

19040004

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

Sample Comments

Result Comments

Note:

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

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

END OF REPORT

This report, 300 of 300, ends the March 2019 Monthly Ambient Air Quality Monitoring Report.