



Peace River Area Monitoring Program

MAY 2019

- Monthly Ambient Air Quality Monitoring Report -**
- Ambient Air Monthly Calibration Report -**
- Certified Laboratory Analysis Report-**

June 28, 2019

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TABLE OF CONTENTS

Part I: Monthly Ambient Air Quality Monitoring Report

LIST OF ACRONYMS	PRAMP-201905- 4
COVER LETTER	PRAMP-201905- 5
NETWORK STATION SUMMARY	PRAMP-201905- 6
Listing of Continuous Monitoring Stations	PRAMP-201905- 6
Listing of Intermittent Monitoring Stations	PRAMP-201905- 6
Monitoring Notes	PRAMP-201905- 6
986 Station	PRAMP-201905- 6
842 Station	PRAMP-201905- 6
Reno Station	PRAMP-201905- 7
VOCs Canister Sampling Program	PRAMP-201905- 7
Revisions to Alberta’s Ambient Air Quality Warehouse	PRAMP-201905- 9
Deviations from Authorized Monitoring Methods	PRAMP-201905- 9
Disclaimer	PRAMP-201905- 9
Certification	PRAMP-201905- 10
Map of PRAMP Continuous Monitoring Network	PRAMP-201905- 11
CONTINUOUS NETWORK EQUIPMENT AND MONITORING RESULTS SUMMARY	PRAMP-201905- 12
986 Station	PRAMP-201905- 12
842 Station	PRAMP-201905- 14
Reno Station	PRAMP-201905- 16
TABLES, CHARTS AND WIND ROSES	PRAMP-201905- 19
986 Station	PRAMP-201905- 20
842 Station	PRAMP-201905- 56
Reno Station	PRAMP-201905- 92
VOC CANISTER SAMPLING RESULTS	PRAMP-201905- 128
REFERENCE DOCUMENTS	PRAMP-201905- 141
HOURLY INSTANTANEOUS DATA	PRAMP-201905- 142
986 Station	PRAMP-201905- 143
842 Station	PRAMP-201905- 156
Reno Station	PRAMP-201905- 169
END OF REPORT	PRAMP-201905- 182

Part II: Ambient Air Monthly Calibration Report

986 Station	CAL-PRAMP-201905-01562- 1
842 Station	CAL-PRAMP-201905-01561- 1
Reno Station	CAL-PRAMP-201905-01563- 1

Part III: Certified Laboratory Analysis Report

LABORARY ANALYTICAL RESULTS LAB-PRAMP-201905-1



Peace River Area Monitoring Program

MAY 2019

Monthly Ambient Air Quality Monitoring Report

PRAMP-201905

Operation and Maintenance:

Maxxam Analytics

Data Validation and Report:

Peace River Area Monitoring Program

June 27, 2019

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TABLE OF CONTENTS

LIST OF ACRONYMS	4
COVER LETTER	5
NETWORK STATION SUMMARY	6
Listing of Continuous Monitoring Stations	6
Listing of Intermittent Monitoring Stations	6
Monitoring Notes	6
986b Station	6
842b Station	6
Reno Station	7
VOCs Canister Sampling Program	7
Revisions to Alberta's Ambient Air Quality Data Warehouse	9
Deviations from Authorized Monitoring Methods	9
Disclaimer	9
Certification	10
Map of PRAMP Continuous Monitoring Network	11
CONTINUOUS NETWORK EQUIPMENT AND MONITORING RESULTS SUMMARY	12
986b Station	12
842b Station	14
Reno Station	16
TABLES, CHARTS AND WIND ROSES	19
986b Station	20
842b Station	56
Reno Station	92
VOC CANISTER SAMPLING RESULTS	128
REFERENCE DOCUMENTS	141
HOURLY INSTANTANEOUS DATA	142
986b Station	143
842b Station	156
Reno Station	169
END OF REPORT	182

LIST OF ACRONYMS

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



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June 27, 2019

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

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

NETWORK STATION SUMMARY

Listing of Continuous Monitoring Stations

The PRAMP continuous ambient air quality monitoring network stations are:

- 986b Station
- 842b Station
- Reno Station

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

Listing of Intermittent Monitoring Stations

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

Monitoring Notes during the Month of May 2019

986b 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 Hydrogen gas cylinder was replaced on May 13 between hour 18 and hour 19. Two hours of downtime were recorded due to this event.
- A period of elevated TRS and NMHC concentrations were recorded beginning on May 30. The cause was likely the forest fire smoke from the High Level area.

842b Station:

- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable.
- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- THC/CH4/NMHC: The Nitrogen gas cylinder was replaced on May 15 during hour 19. As the gas bottle replacement was took less than 15 minutes, data completeness requirements for the hourly data was not affected. No data were discarded from this event.
- A meteorological system check was performed on the RH, BP, Temperature, and anemometer sensors on May 2. The sensors passed the check requirements.

- A period of elevated TRS and NMHC concentrations were recorded beginning on May 30. The cause was likely the forest fire smoke from the High Level area.

Reno Station:

- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable.
- All parameters met the 90% operational uptime requirement.
- The Daily Zero-Span Test Procedure requirements outline in the AMD 2016 Chapter 7 (Section 4.0) were contravened on May 4 for all gas parameters. The scheduled automated daily zero-span check did not execute on April 4 due to a datalogger programming error. AEP reference number: 354358.
- TRS/THC/CH4/NMHC: Due to a datalogger programming error caused by a Windows update, data collected between May 4 hour 14 and May 5 hour 5 were lost. 16 hours of data were missing due to this event.
- All gas analyzers: The channels were put offline for 2 hours on May 5 in order to correct the errors on the datalogger. Two hours of downtime were recorded due to this event.
- A period of elevated TRS and NMHC concentrations were recorded beginning on May 30. The cause was likely the forest fire smoke from the High Level area.

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.
- The wildfire burning near Chuckegg Creek caused a period of elevated TRS and NMHC concentrations beginning on May 30. The canister sampling program was temporarily modified. Starting on May 30, the NMHC canister system was manually reset in the evening everyday, so it was ready for the next canister sample collection. Three NMHC canisters, representing the smoke event, from each PRAMP station were planned to be collected using this daily reset method. After three canister samples from each station are collected using this method, the NMHC canister system will be paused; total of 9 canisters during this smoke event is expected using this sampling regime. No changes were made on the methane-triggered canister program; that component will remain in place, without modification.
- Three NMHC-triggered events were recorded in May. The canister sample was collected at the Reno station.

Station	Parameter	Concentration (ppm)	Date	Time
986b	NMHC	0.62	May 30	5:55
842b	NMHC	0.39	May 30	6:05
Reno	NMHC	0.37	May 30	7:15

- 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).

- 986b Station:
 - Non-methane-triggered sample was collected on May 30.

Sample Date/Time	2019-05-30					
Canister Sample	NMHC Sample					
Canister ID	32192					
Method	NA-025	Method	NA-024	Method	AC-058	
Maximum Reading	2.2	Maximum Reading	1.7	Maximum Reading	27.3	

- Blank sample was collected on May 30.

Sample Date/Time	2019-05-30					
Canister Sample	Blank Sample					
Canister ID	28957					
Method	NA-025	Method	NA-024	Method	AC-058	
Maximum Reading	0	Maximum Reading	0	Maximum Reading	1.5	

- 842b Station:
 - Non-methane-triggered sample was collected on May 30.

Sample Date/Time	2019-05-30					
Canister Sample	NMHC Sample					
Canister ID	29023					
Method	NA-025	Method	NA-024	Method	AC-058	
Maximum Reading	2	Maximum Reading	1.5	Maximum Reading	19.7	

- Blank sample was collected on May 30.

Sample Date/Time	2019-05-30					
Canister Sample	Blank Sample					
Canister ID	32191					
Method	NA-025	Method	NA-024	Method	AC-058	
Maximum Reading	0	Maximum Reading	0	Maximum Reading	183	

Note: This is a valid blank sample that shows evidence of contamination. The results are not indicative of ambient concentrations. PRAMP uses blank samples to support improvement of sample handling and standard operating procedures.

- Reno Station:
 - Non-methane-triggered sample was collected on May 30.

Sample Date/Time	2019-05-30					
Canister Sample	NMHC Sample					
Canister ID	32220					
Method	NA-025	Method	NA-024	Method	AC-058	
Maximum Reading	2.1	Maximum Reading	1	Maximum Reading	21.6	

- Blank sample was collected on May 30.

Sample Date/Time	2019-05-30					
Canister Sample	Blank Sample					
Canister ID	29021					
Method	NA-025	Method	NA-024	Method	AC-058	
Maximum Reading	0	Maximum Reading	0	Maximum Reading	0.02	

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).

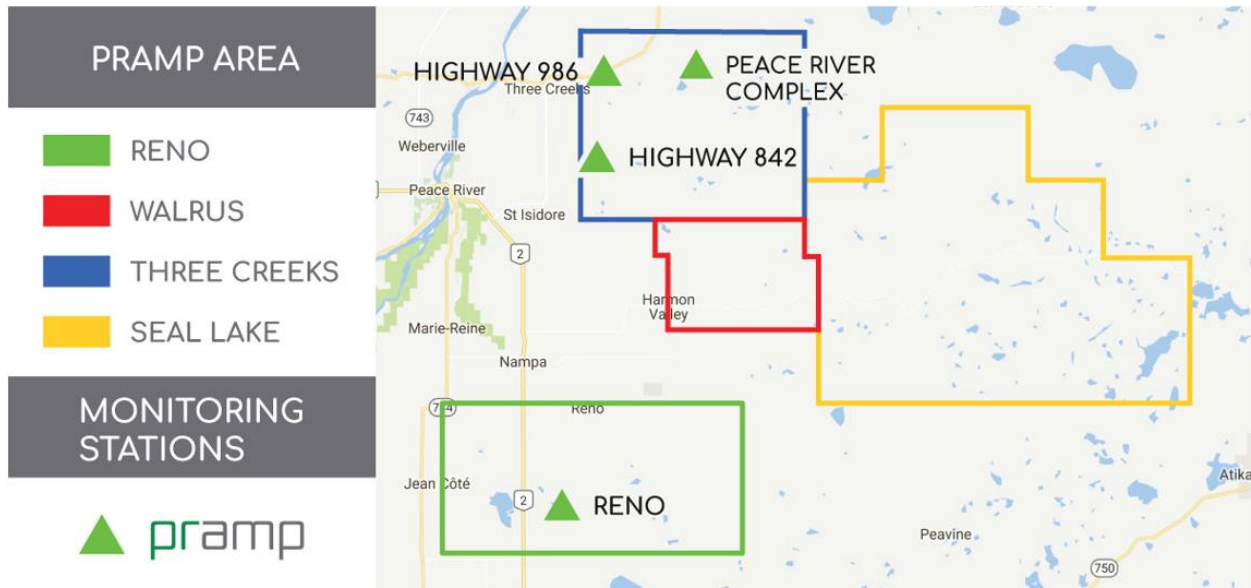
I certify that I have reviewed and verified this report and that the information is complete, accurate and representative of the monitoring results, reporting timeframe and the specified analysis, summarization and reporting requirements. I also certify that at the time of this report's submission, all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

June 27, 2019

Map of PRAMP Continuous Monitoring Network



CONTINUOUS NETWORK EQUIPMENT AND MONITORING RESULTS SUMMARY

986b Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	
SO2	Thermo / 43C	43C-62339-335	
<ul style="list-style-type: none"> A successful monthly calibration was performed on May 14. 			
TRS	Thermo / 43i-TLE	1152940011	
<ul style="list-style-type: none"> A successful monthly calibration was performed on May 14. 			
THC/CH4/NMHC	Thermo / 55i	1022143392	
<ul style="list-style-type: none"> The hydrogen gas cylinder was replaced on May 13 hour 18 and hour 19, leading two hours of downtime. A successful monthly calibration was performed on May 14. Due to the analyzer injection issue, CH4 minute data collected on May 23 at 22:01 and May 29 at 05:48 and 05:49 were invalidated. The corresponding THC and NMHC data were also discarded. Hourly averages were recalculated. 			
Relative Humidity (RH)	RM Young / 43172VC & 431872VC	61012322 & 030978	
<ul style="list-style-type: none"> No issues were identified this month. 			
Barometric Pressure (BP)	MetOne / 090D	F3845	
<ul style="list-style-type: none"> No issues were identified this month. 			
Ambient Temperature (AT)	RM Young 43172VC & 431872VC	61012322 & 030978	
<ul style="list-style-type: none"> No issues were identified this month. 			
Station Temperature (ST)	Maxxam	N/A	
<ul style="list-style-type: none"> No issues were identified this month. 			
Wind Speed/Wind Direction (WS/ WD)	RM Young / 5305VK	129612	
<ul style="list-style-type: none"> No issues were identified this month. Wind direction data contained in this report represents where the wind is coming from. 			

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	0.9	0	4	May 30 at hour 8	9.3	N	2.7	May 17	100.0	94.9
TRS (ppb)	10	3	-	-	-	-	0.3	0.10	3.67	May 30 at hour 6	10	N	2.17	May 12	100.0	94.9
THC (ppm)	-	-	-	-	-	-	2.02	1.90	3.14	May 30 at hour 6	10	N	2.46	May 16	99.7	94.5
CH4 (ppm)	-	-	-	-	-	-	2.01	1.90	2.71	May 23 at hour 1	0.5	NNE	2.23	May 16	99.7	94.5
NMHC (ppm)	-	-	-	-	-	-	0.01	0.00	0.57	May 30 at hour 6	10	N	0.23	May 1	99.7	94.5
RH (%)	-	-	-	-	-	-	44.3	14	94	May 14 at hour 4	1.8	ESE	69.0	May 17	100.0	100.0
BP (millibar)	-	-	-	-	-	-	942	929	951	May 8 at hour 7	2.3	WSW	950	May 12	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	11.1	-9.7	29.9	May 28 at hour 16	8.1	W	21.7	May 3	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	22.1	19.7	28.1	May 20 at hour 15	15.2	SE	23.8	May 3	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	1.6	0.2	31.2	May 9 at hour 14	31.2	WNW	17.4	May 22	100.0	100.0
WDV (sector)	-	-	-	-	-	-	116 (ESE)	-	-	-	-	-	-	-	100.0	100.0

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

Alberta Ambient Air Quality Objectives (AAQOs) Exceedances at 986b Station

The measured ambient air quality for the 986b Station was within the AAQOs for all monitored parameters.

842b Station**Equipment Operation Summary**

Parameter	Make / Model	Serial Number	
SO2	Thermo / 43i	835033373	
<ul style="list-style-type: none"> • A successful monthly calibration was performed on May 2. 			
TRS	Thermo / 43i-TLE	1162460023	
<ul style="list-style-type: none"> • A successful monthly calibration was performed on May 2. 			
THC/CH4/NMHC	Thermo / 55i	1505664392	
<ul style="list-style-type: none"> • A successful monthly calibration was performed on May 2. • The Nitrogen gas cylinder was replaced on May 15 during hour 19. As the gas bottle replacement was took less than 15 minutes, data completeness requirements for the hourly data was not affected. No data were discarded from this event. 			
Relative Humidity (RH)	Campbell Scientific / HMP45C	C2608	
<ul style="list-style-type: none"> • No issues were identified this month. • The RH sensor was checked on May 2. The sensor passed the check requirements. 			
Barometric Pressure (BP)	MetOne / 92	K12864	
<ul style="list-style-type: none"> • No issues were identified this month. • The BP sensor was checked on May 2. The sensor passed the check requirements. 			
Station Temperature (ST)	Maxxam	N/A	
<ul style="list-style-type: none"> • No issues were identified this month. 			
Ambient Temperature (AT)	Campbell Scientific / HMP45C	C2608	
<ul style="list-style-type: none"> • No issues were identified this month. • The temperature sensor was checked on May 2. The sensor passed the check requirements. 			
Wind Speed/Wind Direction (WS/ WD)	RM Young / 5305VK	124638	
<ul style="list-style-type: none"> • No issues were identified this month. • The wind sensor was checked on May 2. The sensor passed the check requirements. • Wind direction data contained in this report represents where the wind is coming from. 			

Monitored Data Summary

Parameter	Objectives/Guidelines			Exceedances			Monthly Avg.	Min. 1-hr	Max. 1-hr	Date/Time	VWS (km/hr)	VWD (sector)	Max. 24-hr	Date	Operational Uptime (%)	Valid Data (%)
	1-hr	24-hr	30-day	1-hr	24-hr	30-day										
SO2 (ppb)	172	48	11	0	0	0	0.0	0	2	May 22 at hour 9	6.2	NNE	0.1	May 1	100.0	95.3
TRS (ppb)	10	3	-	-	-	-	0.6	0.31	3.48	May 30 at hour 7	13.7	N	2.03	May 2	100.0	95.0
THC (ppm)	-	-	-	-	-	-	1.99	1.88	3.28	May 30 at hour 7	13.7	N	2.51	May 12	100.0	95.3
CH4 (ppm)	-	-	-	-	-	-	1.97	1.88	2.74	May 22 at hour 5	2.5	ENE	2.18	May 12	100.0	95.3
NMHC (ppm)	-	-	-	-	-	-	0.01	0.00	0.82	May 30 at hour 7	13.7	N	0.33	May 1	100.0	95.3
RH (%)	-	-	-	-	-	-	43.2	13	91	May 1 at hour 4	1.4	ESE	67.6	May 11	100.0	100.0
BP (millibar)	-	-	-	-	-	-	943	929	952	May 8 at hour 8	5.5	W	951	May 12	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	11.1	-8.7	29.5	May 28 at hour 16	15	SW	21.0	May 3	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	22.8	21.7	23.9	May 29 at hour 14	12.2	WSW	23.3	May 3	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	1.1	0.2	30.0	May 9 at hour 13	30	NW	14.1	May 7	100.0	100.0
WDV (sector)	-	-	-	-	-	-	109 (ESE)	-	-	-	-	-	-	-	100.0	100.0

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

Alberta Ambient Air Quality Objectives (AAAQOs) Exceedances at 842b Station

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

Reno Station

Equipment Operation Summary

Parameter	Make / Model	Serial Number	
SO2	API / 100A	841	
<ul style="list-style-type: none"> The scheduled automated daily zero-span check was not executed on April 4 due to a datalogger programming error. The Daily Zero-Span Test Procedure requirements outline in the AMD 2016 Chapter 7 (Section 4.0) were contravened on May 4. AEP reference number: 354358. The channel was put offline for 2 hours on May 5 in order to correct the errors on the datalogger. Two hours of downtime were recorded due to this event. A successful monthly calibration was performed on May 15. 			
TRS	Thermo / 43i-TLE	1162460022	
<ul style="list-style-type: none"> Due to a datalogger programming error caused by a Windows update, data collected between May 4 hour 14 and May 5 hour 5 were lost. 16 hours of data were missing due to this event. The channel was put offline for 2 hours on May 5 in order to correct the errors on the datalogger. Two hours of downtime were recorded due to this event. The scheduled automated daily zero-span check was not executed on April 4 due to a datalogger programming error. The Daily Zero-Span Test Procedure requirements outline in the AMD 2016 Chapter 7 (Section 4.0) were contravened on May 4. AEP reference number: 354358. A successful monthly calibration was performed on May 15. 			
THC/CH4/NMHC	Thermo / 55i	1314057759	
<ul style="list-style-type: none"> Due to a datalogger programming error caused by a Windows update, data collected between May 4 hour 14 and May 5 hour 5 were lost. 16 hours of data were missing due to this event. The channels were put offline for 2 hours on May 5 in order to correct the errors on the datalogger. Two hours of downtime were recorded due to this event. The scheduled automated daily zero-span check was not executed on April 4 due to a datalogger programming error. The Daily Zero-Span Test Procedure requirements outline in the AMD 2016 Chapter 7 (Section 4.0) were contravened on May 4. AEP reference number: 354358. A successful monthly calibration was performed on May 15. 			
Relative Humidity (RH)	RM Young / 43172VC	60837897	
<ul style="list-style-type: none"> No issues were identified this month. 			
Barometric Pressure (BP)	MetOne / 92	R12877	
<ul style="list-style-type: none"> No issues were identified this month. 			

Parameter	Make / Model	Serial Number	
Station Temperature (ST)	Maxxam	N/A	
<ul style="list-style-type: none"> No issues were identified this month. 			
Wind Speed/Wind Direction (WS/ WD)	RM Young / 5305VK	149769	
<ul style="list-style-type: none"> No issues were identified this month. Wind direction data contained in this report represents where the wind is coming from. 			

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	0.1	0	2	May 29 at hour 6	4.5	SSW	0.8	May 1	99.7	94.7
TRS (ppb)	10	3	-	-	-	-	0.4	0.29	3.59	May 30 at hour 8	12.3	NNE	1.31	May 16	97.6	92.6
THC (ppm)	-	-	-	-	-	-	2.00	1.92	3.20	May 30 at hour 8	12.3	NNE	2.23	May 12	97.6	92.6
CH4 (ppm)	-	-	-	-	-	-	1.99	1.92	2.53	May 30 at hour 8	12.3	NNE	2.11	May 12	97.6	92.6
NMHC (ppm)	-	-	-	-	-	-	0.00	0.00	0.67	May 30 at hour 8	12.3	NNE	0.12	May 1	97.6	92.6
RH (%)	-	-	-	-	-	-	41.8	11	92	May 24 at hour 5	2.1	NE	73.1	May 29	100.0	100.0
BP (millibar)	-	-	-	-	-	-	938	926	948	May 8 at hour 8	5.2	WSW	947	May 12	100.0	100.0
Ext. Temp. (°C)	-	-	-	-	-	-	11.3	-6.9	29.0	May 29 at hour 14	9.3	W	21.9	May 3	100.0	100.0
Stn. Temp. (°C)	-	-	-	-	-	-	24.1	22.1	26.3	May 15 at hour 14	12	ENE	25.1	May 3	100.0	100.0
WSV (km/hr)	-	-	-	-	-	-	1.7	0.0	20.4	May 17 at hour 13	20.4	ESE	14.2	May 27	100.0	100.0
WDV (sector)	-	-	-	-	-	-	107 (ESE)	-	-	-	-	-	-	-	100.0	100.0

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

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

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

986b STATION



PEACE RIVER AREA MONITORING PROGRAM

986b Station - May 2019

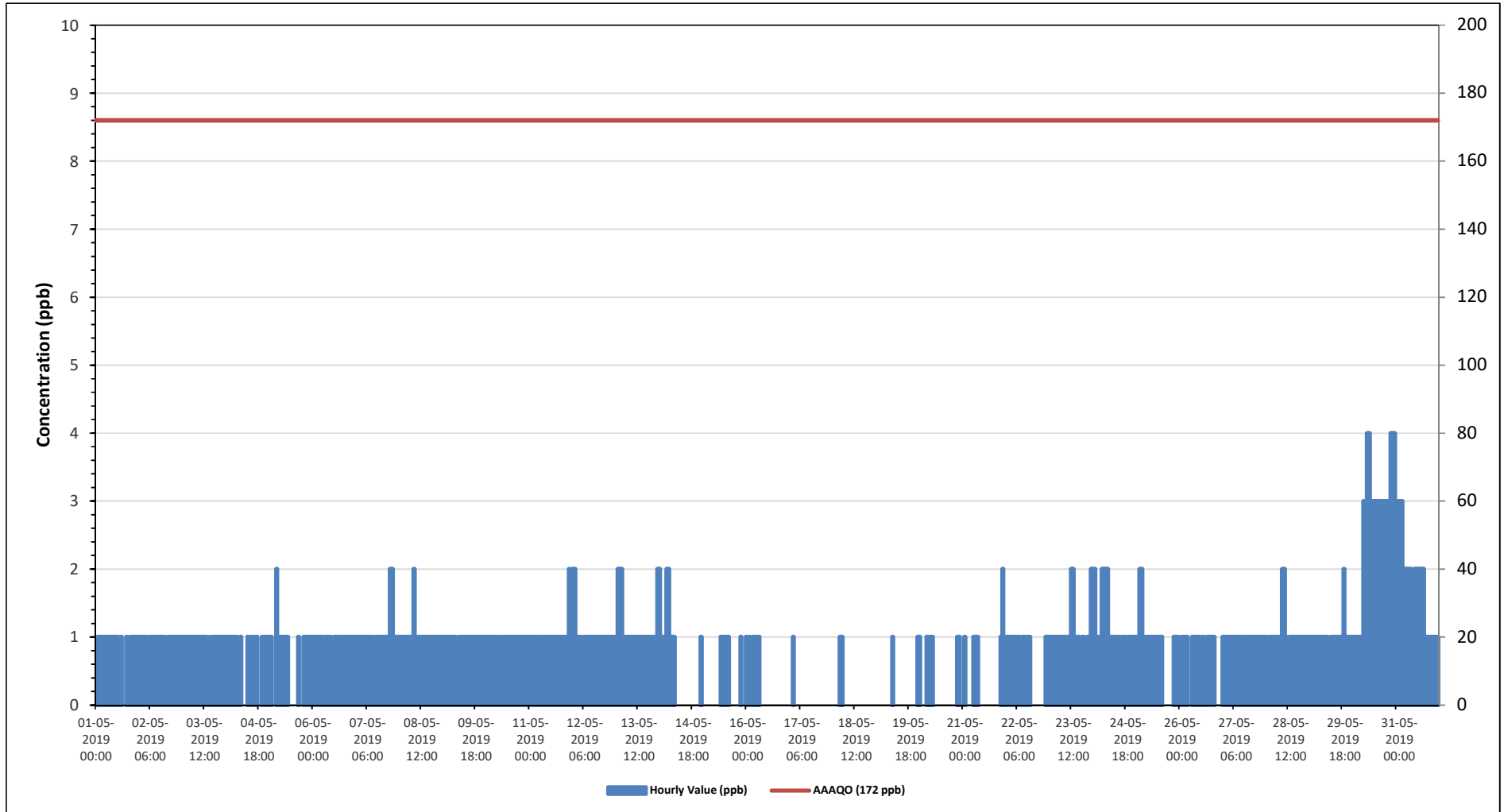
Summary of Hourly Averages

SULPHUR DIOXIDE (SO₂) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb																													
Number of 1-Hour Exceedences: 0					Number of 24-Hour Exceedences: 0					30-Day Exceedence: 0																			
Maximum Hourly Value: 4 ppb on May 30 at hour 8					Hours in Service: 744																								
Maximum Daily Value: 2.7 ppb on May 30					Hours of Data: 706																								
Minimum Hourly Value: 0 ppb on May 1 at hour 0					Hours of Missing Data: 0																								
Minimum Daily Value: 0.0 ppb on May 17					Hours of Calibration: 38																								
Monthly Average: 0.9 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		
May 1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	S	1	0	1	1	1	1	1	0	1	0.8		
May 2	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	0	1	1.0	
May 3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	0	1	1	1	1	1	1	1	1	0	1	1.0
May 4	1	1	1	1	1	1	1	0	1	0	0	0	1	S	1	0	1	1	0	0	1	1	1	1	1	1	0	1	0.7
May 5	1	1	0	0	2	1	1	1	1	1	1	0	S	0	0	0	1	0	0	1	1	1	1	1	1	1	0	2	0.7
May 6	1	1	1	1	1	1	0	1	1	1	1	S	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	0.9
May 7	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	2	1.1
May 8	1	1	1	1	1	1	1	1	2	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.0
May 9	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0
May 10	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0
May 11	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	1	1.0
May 12	2	2	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1
May 13	1	2	2	2	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1.2
May 14	2	1	1	S	2	2	1	1	1	C	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	1	0	2	-
May 15	0	0	S	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0.3
May 16	1	S	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3
May 17	S	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
May 18	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
May 19	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
May 20	1	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3
May 21	0	1	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.3
May 22	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	0	0	0	0	0	S	0	0	0	1	1	0	1	0.7
May 23	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	S	1	1	0	1	1	2	0	2	2	1	1.1
May 24	2	2	1	1	1	2	2	2	2	1	1	1	1	1	0	1	S	1	1	0	1	1	1	1	0	2	2	1	1.2
May 25	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	S	1	0	0	0	0	0	1	1	0	2	2	0.9	
May 26	0	1	1	1	1	0	0	1	1	1	1	0	1	S	1	1	1	1	1	1	1	0	0	0	0	0	1	0.7	
May 27	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	1	1.0
May 28	1	0	1	1	1	1	1	1	1	2	2	S	1	1	1	1	1	1	1	1	1	1	1	1	0	2	2	1	1.0
May 29	1	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	2	1	1	1	1	1	2	2	1	1.0
May 30	1	1	1	1	1	1	3	3	4	4	S	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	1	4	2.7
May 31	3	3	3	3	2	2	2	2	2	S	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	3	3	1.8
Diurnal Maximum	3	3	3	3	2	2	3	3	4	4	2	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4
Daiurnal Average	1.0	1.0	1.0	0.9	1.0	0.9	0.9	1.0	1.0	1.0	0.9	0.8	0.8	0.9	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.9	1.0	1.0	1.0	1.0	1.0	1.0
C	Calibration				S	Daily Zero/Span				Q	Quality Assurance				C1	Repeat Calibration				S1	Repeat Daily Zero/Span								
G	Out for Repair				K	Collection Error				N	Not in Service				O	Operator Error				P	Power Failure								
R	Recovery				X	Machine Malfunction				Y	Maintenance				T	Exceeds Temperature Limits				N	Not in Service								

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

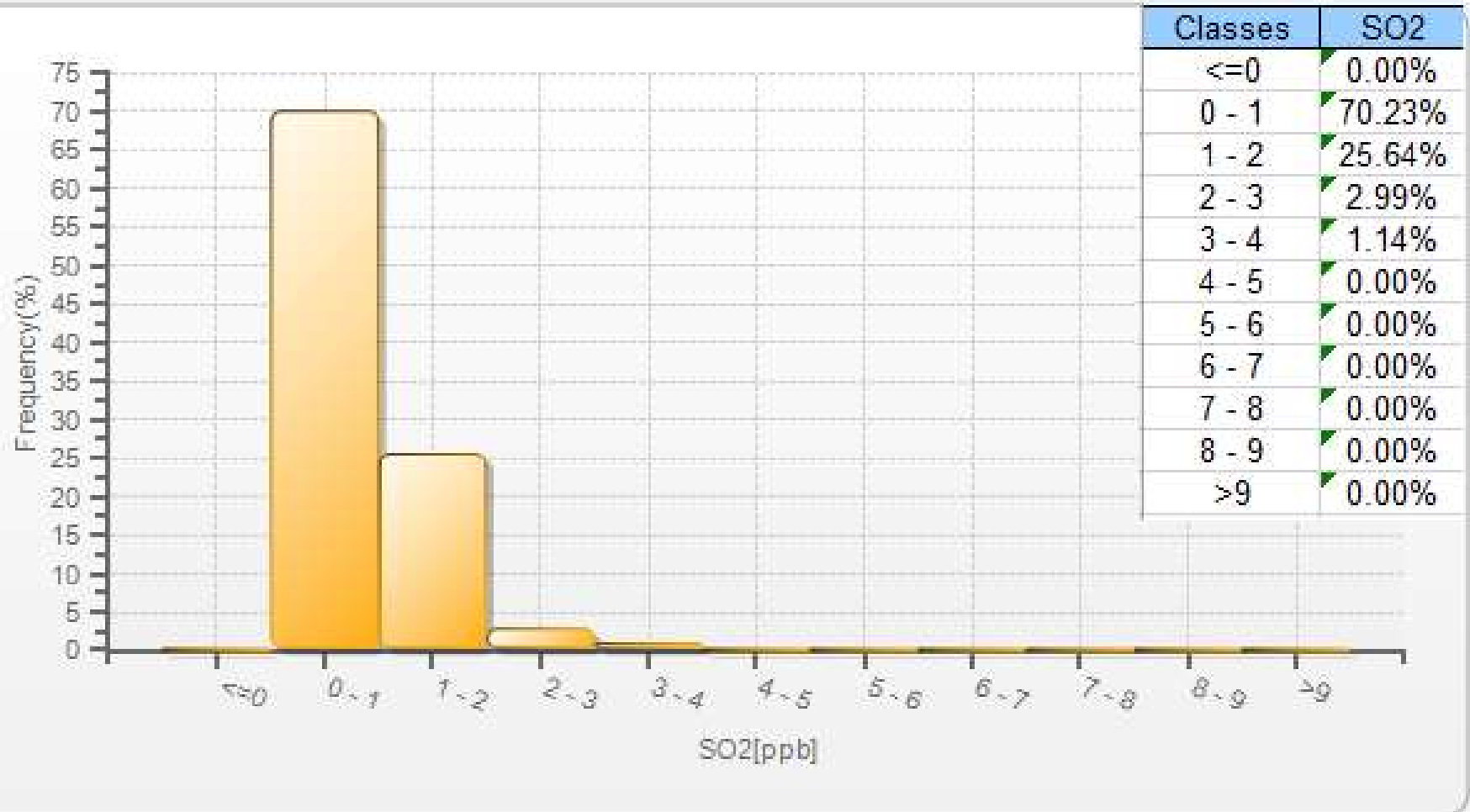
Timeseries Chart of Hourly Average for SO₂ - 986b Station



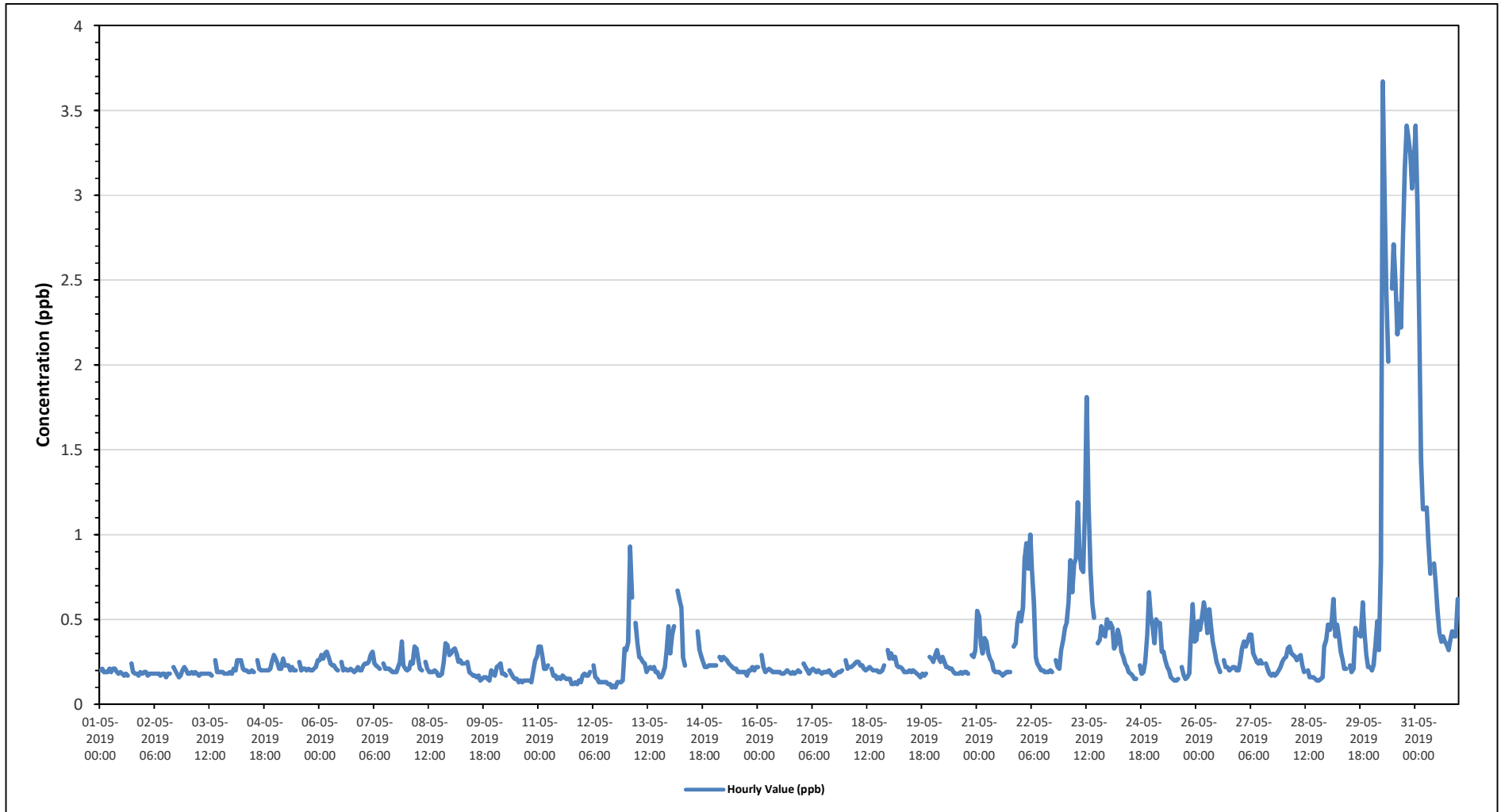
Wind: PRAMP 986 Poll.: PRAMP 986-SO₂[ppb] Monthly: 05-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.35% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	12.54	0	0	0	0	12.54
NE	7.26	0	0	0	0	7.26
E	18.23	0	0	0	0	18.23
SE	28.21	0	0	0	0	28.21
S	8.55	0	0	0	0	8.55
SW	4.99	0	0	0	0	4.99
W	5.27	0	0	0	0	5.27
NW	14.96	0	0	0	0	14.96
Summary	100	0	0	0	0	100

SO2[ppb] Histogram: PRAMP 986 Monthly: 05-2019 1 Hr.



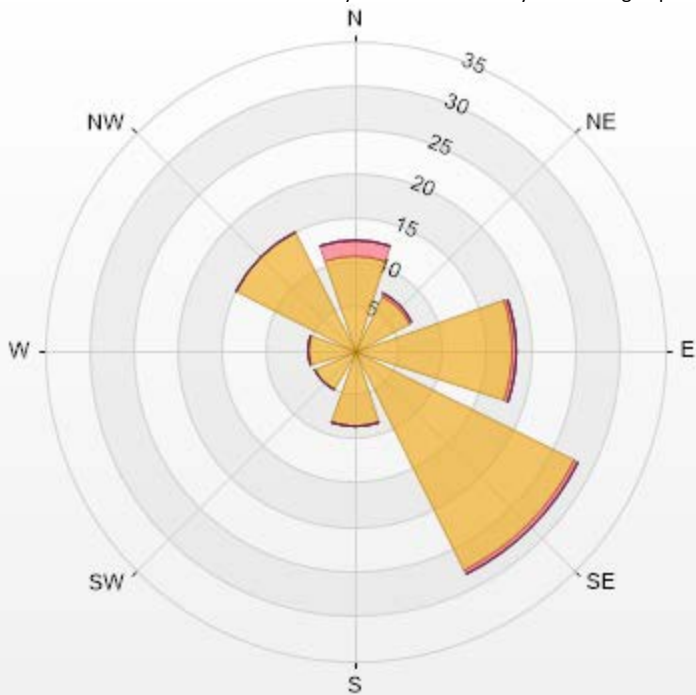
Timeseries Chart of Hourly Average for TRS - 986b Station



Wind: PRAMP 986 Poll.: PRAMP 986-TRS[ppb] Monthly: 05-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.35% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	10.83	1.71	0	0	0	12.54
NE	6.98	0.28	0	0	0	7.26
E	17.95	0.28	0	0	0	18.23
SE	27.78	0.43	0	0	0	28.21
S	8.55	0	0	0	0	8.55
SW	4.99	0	0	0	0	4.99
W	5.27	0	0	0	0	5.27
NW	14.96	0	0	0	0	14.96
Summary	97.31	2.7	0	0	0	100

PRAMP Monthly Ambient Air Quality Monitoring Report for May 2019



% Icon Classes (ppb)	97	3	0	0	0
0-2	97	3	0	0	0
2-5					
5-10					
10-50					
>50.0					



PEACE RIVER AREA MONITORING PROGRAM

986b Station - May 2019

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

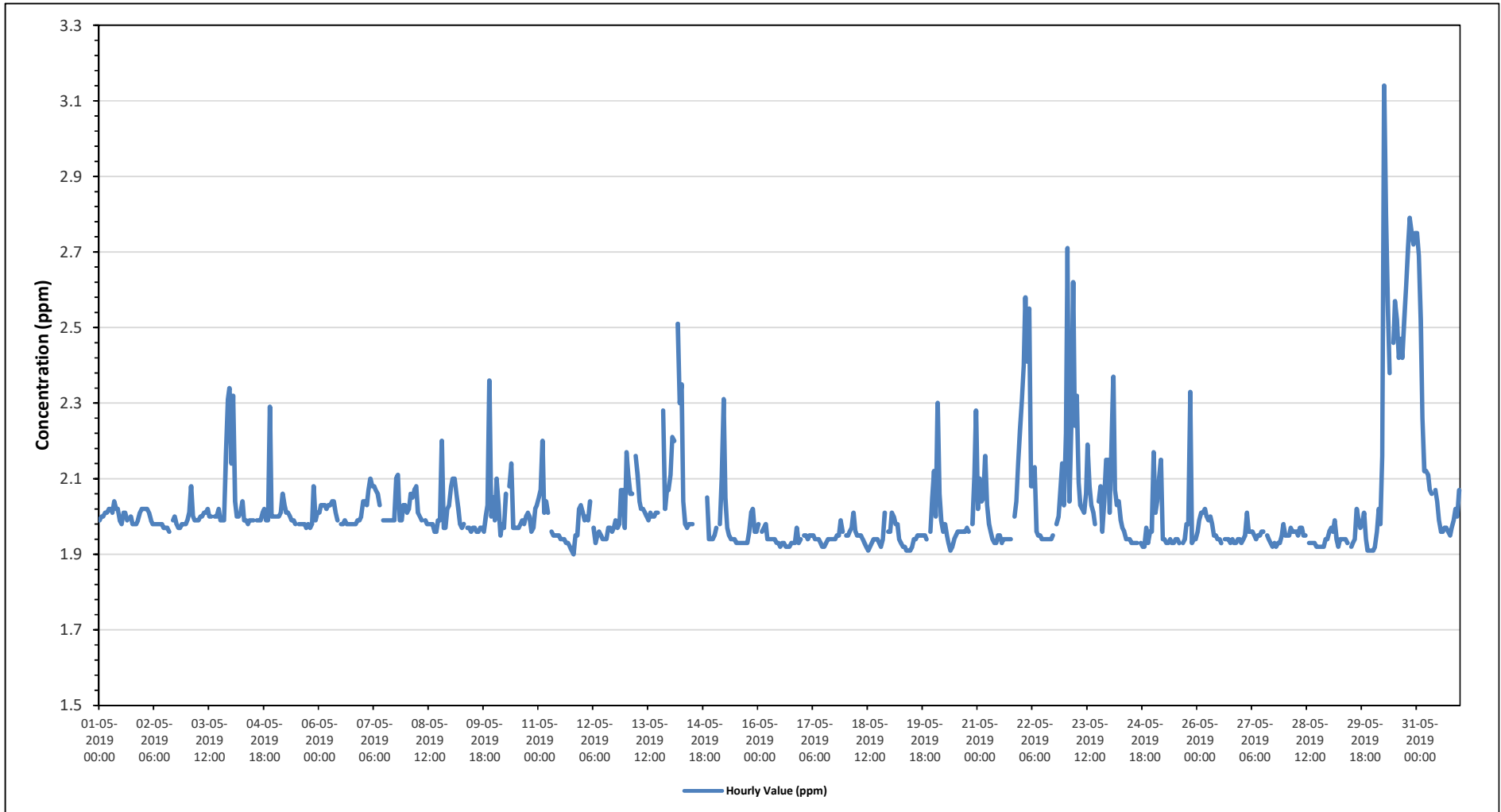
Maximum Hourly Value:	3.14 ppm on May 30 at hour 6	Hours in Service:	744
Maximum Daily Value:	2.46 ppm on May 30	Hours of Data:	703
Minimum Hourly Value:	1.90 ppm on May 11 at hour 19	Hours of Missing Data:	2
Minimum Daily Value:	1.94 ppm on May 16	Hours of Calibration:	39
Monthly Average:	2.02 ppm	Operational Uptime:	99.7

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
May 1	1.99	2.00	2.00	2.01	2.01	2.02	2.02	2.01	2.04	2.02	2.02	1.99	1.98	2.01	2.01	1.99	S	2.00	1.98	1.98	1.98	1.99	2.01	2.02	1.98	2.04	2.00	
May 2	2.02	2.02	2.02	2.01	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.96	S	1.99	2.00	1.98	1.97	1.97	1.98	1.98	1.98	1.96	2.02	1.99	
May 3	1.99	2.01	2.08	2.00	1.99	1.99	1.99	2.00	2.00	2.01	2.01	2.02	2.00	2.00	S	2.00	2.00	2.02	1.99	1.99	1.99	2.16	2.31	2.34	1.99	2.34	2.04	
May 4	2.14	2.32	2.04	2.00	2.00	2.03	2.01	2.04	1.99	1.99	1.98	1.99	1.99	1.99	S	1.99	1.99	1.99	2.01	2.02	1.99	1.99	2.29	2.00	2.00	1.98	2.32	2.03
May 5	2.00	2.00	2.00	2.01	2.06	2.03	2.01	2.01	2.00	1.99	1.99	1.98	S	1.98	1.98	1.98	1.98	1.97	1.98	1.97	1.98	2.08	1.99	2.01	1.97	2.08	2.00	
May 6	2.01	2.03	2.03	2.03	2.02	2.03	2.03	2.04	2.04	2.01	1.99	S	1.98	1.98	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	2.00	1.98	2.04	2.00	
May 7	2.04	2.04	2.03	2.07	2.10	2.08	2.08	2.07	2.06	2.03	S	1.99	1.99	1.99	1.99	1.99	1.99	1.99	2.10	2.11	1.99	1.99	2.03	2.03	1.99	2.11	2.03	
May 8	2.01	2.02	2.06	2.05	2.07	2.08	2.01	2.00	1.99	S	1.99	1.98	1.98	1.98	1.98	1.96	1.96	1.99	1.99	2.20	1.97	1.97	2.02	2.03	1.96	2.20	2.01	
May 9	2.08	2.10	2.10	2.06	2.02	1.98	1.97	1.98	S	1.97	1.97	1.96	1.97	1.97	1.96	1.96	1.97	1.97	1.96	2.00	2.03	2.36	2.00	2.05	1.96	2.36	2.02	
May 10	1.99	2.10	2.03	1.95	1.98	1.97	2.06	S	2.08	2.14	1.97	1.97	1.97	1.97	1.98	1.99	1.98	2.00	2.01	2.00	1.96	1.97	2.02	2.03	1.95	2.14	2.01	
May 11	2.05	2.07	2.20	2.01	2.04	2.01	S	1.96	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.93	1.93	1.92	1.91	1.90	1.95	1.95	2.02	2.03	1.90	2.20	1.98	
May 12	2.01	1.99	2.00	1.99	2.04	S	1.97	1.93	1.95	1.96	1.95	1.94	1.94	1.94	1.97	1.96	1.97	1.96	1.99	1.97	1.98	2.07	2.07	1.97	1.93	2.07	1.98	
May 13	2.17	2.11	2.06	2.06	S	2.16	2.11	2.04	2.02	2.02	2.01	2.00	1.99	2.01	2.00	2.01	2.01	2.01	Y	Y	2.28	2.02	2.07	2.07	1.99	2.28	2.06	
May 14	2.11	2.21	2.20	S	2.51	2.30	2.35	2.04	1.98	1.97	1.98	1.98	1.98	C	C	C	C	C	C	C	2.05	1.94	1.94	1.94	1.94	2.51	-	
May 15	1.95	1.97	S	1.98	2.10	2.31	2.05	1.97	1.95	1.94	1.94	1.94	1.93	1.93	1.93	1.93	1.93	1.93	1.96	2.01	2.02	1.96	1.96	1.93	2.31	1.98		
May 16	1.98	S	1.96	1.97	1.98	1.94	1.94	1.94	1.94	1.94	1.93	1.93	1.92	1.93	1.93	1.92	1.92	1.92	1.93	1.94	1.94	1.94	1.94	1.93	1.93	1.97	1.93	1.94
May 17	S	1.95	1.95	1.94	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.93	1.92	1.92	1.93	1.94	1.94	1.94	1.94	1.95	1.95	1.99	1.96	S	1.92	1.99	1.94	
May 18	1.95	1.95	1.96	1.97	2.01	1.96	1.95	1.95	1.95	1.94	1.93	1.92	1.91	1.92	1.93	1.94	1.94	1.94	1.93	1.92	1.94	2.01	S	1.96	1.91	2.01	1.95	
May 19	1.96	2.01	2.00	1.98	1.98	1.94	1.93	1.92	1.92	1.91	1.91	1.91	1.92	1.94	1.94	1.95	1.95	1.95	1.95	1.95	1.94	S	1.96	2.05	1.91	2.05	1.95	
May 20	2.12	2.00	2.30	2.06	1.99	1.96	1.98	1.95	1.93	1.91	1.92	1.94	1.95	1.96	1.96	1.96	1.96	1.96	1.97	1.96	S	1.98	2.11	2.28	1.91	2.30	2.00	
May 21	2.02	2.10	2.04	2.05	2.16	2.03	1.98	1.96	1.94	1.93	1.93	1.95	1.95	1.93	1.94	1.94	1.94	1.94	1.94	1.94	S	2.00	2.04	2.14	2.23	1.93	2.23	2.00
May 22	2.31	2.40	2.58	2.41	2.55	2.08	2.08	2.13	1.96	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.95	S	1.98	2.00	2.06	2.14	2.03	1.94	2.58	2.10	
May 23	2.22	2.71	2.04	2.23	2.62	2.24	2.32	2.09	2.03	2.02	2.01	2.06	2.19	2.08	2.03	2.01	1.98	S	2.04	2.08	1.96	2.04	2.15	2.15	1.96	2.71	2.14	
May 24	2.01	2.19	2.37	2.07	2.03	2.04	1.99	1.97	1.96	1.94	1.94	1.93	1.93	1.93	1.93	1.93	S	1.93	1.92	1.92	1.92	1.92	1.93	1.96	1.92	2.37	1.99	
May 25	2.17	2.01	2.04	2.10	2.15	1.94	1.94	1.93	1.93	1.94	1.93	1.93	1.94	1.94	1.93	S	1.93	1.94	1.98	1.98	2.33	1.93	1.94	1.94	1.93	2.33	1.99	
May 26	1.96	1.99	2.01	2.01	2.02	2.00	1.99	2.00	1.98	1.95	1.95	1.94	1.94	1.93	S	1.94	1.94	1.94	1.93	1.94	1.93	1.93	1.93	1.94	1.93	2.02	1.96	
May 27	1.93	1.94	1.95	2.01	1.96	1.96	1.96	1.95	1.94	1.95	1.94	1.95	1.96	1.96	S	1.95	1.94	1.93	1.92	1.93	1.92	1.93	1.95	1.98	1.92	2.01	1.95	
May 28	1.95	1.95	1.95	1.97	1.96	1.96	1.96	1.95	1.97	1.95	1.95	S	1.93	1.93	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.94	1.94	1.92	1.97	1.94	
May 29	1.96	1.97	1.96	1.99	1.94	1.92	1.94	1.94	1.94	1.94	1.93	S	1.92	1.93	1.94	2.02	1.99	1.97	1.98	2.01	1.94	1.91	1.91	1.91	1.91	2.02	1.95	
May 30	1.91	1.92	1.96	2.02	1.98	2.16	3.14	2.80	2.57	2.38	S	2.46	2.57	2.52	2.42	2.47	2.42	2.52	2.61	2.71	2.79	2.75	2.72	2.75	1.91	3.14	2.46	
May 31	2.75	2.69	2.52	2.26	2.12	2.12	2.11	2.07	2.06	S	2.07	2.04	1.99	1.96	1.96	1.97	1.97	1.96	1.95	1.97	1.99	2.02	2.00	2.07	1.95	2.75	2.11	
Diurnal Maximum	2.75	2.71	2.58	2.41	2.62	2.31	3.14	2.80	2.57	2.38	2.07	2.46	2.57	2.52	2.42	2.47	2.42	2.52	2.61	2.71	2.79	2.75	2.72	2.75				
Diurnal Average	2.06	2.09	2.08	2.04	2.08	2.04	2.06	2.02	2.00	1.99	1.96	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	2.01	2.02	2.04	2.04	2.05				

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 Average for THC - 986b Station



Wind: PRAMP 986 Poll.: PRAMP 986-THC55[ppm] Monthly: 05-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.49% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	6.54	5.12	0	0	0	11.66
NE	5.12	2.13	0	0	0	7.25
E	9.53	8.82	0	0	0	18.35
SE	18.07	10.38	0	0	0	28.45
S	7.4	1.14	0	0	0	8.54
SW	4.69	0.28	0	0	0	4.97
W	4.27	1	0	0	0	5.27
NW	7.97	7.54	0	0	0	15.51
Summary	63.59	36.41	0	0	0	100



PEACE RIVER AREA MONITORING PROGRAM

986b Station - May 2019

Summary of Hourly Averages

METHANE (CH4) in ppm

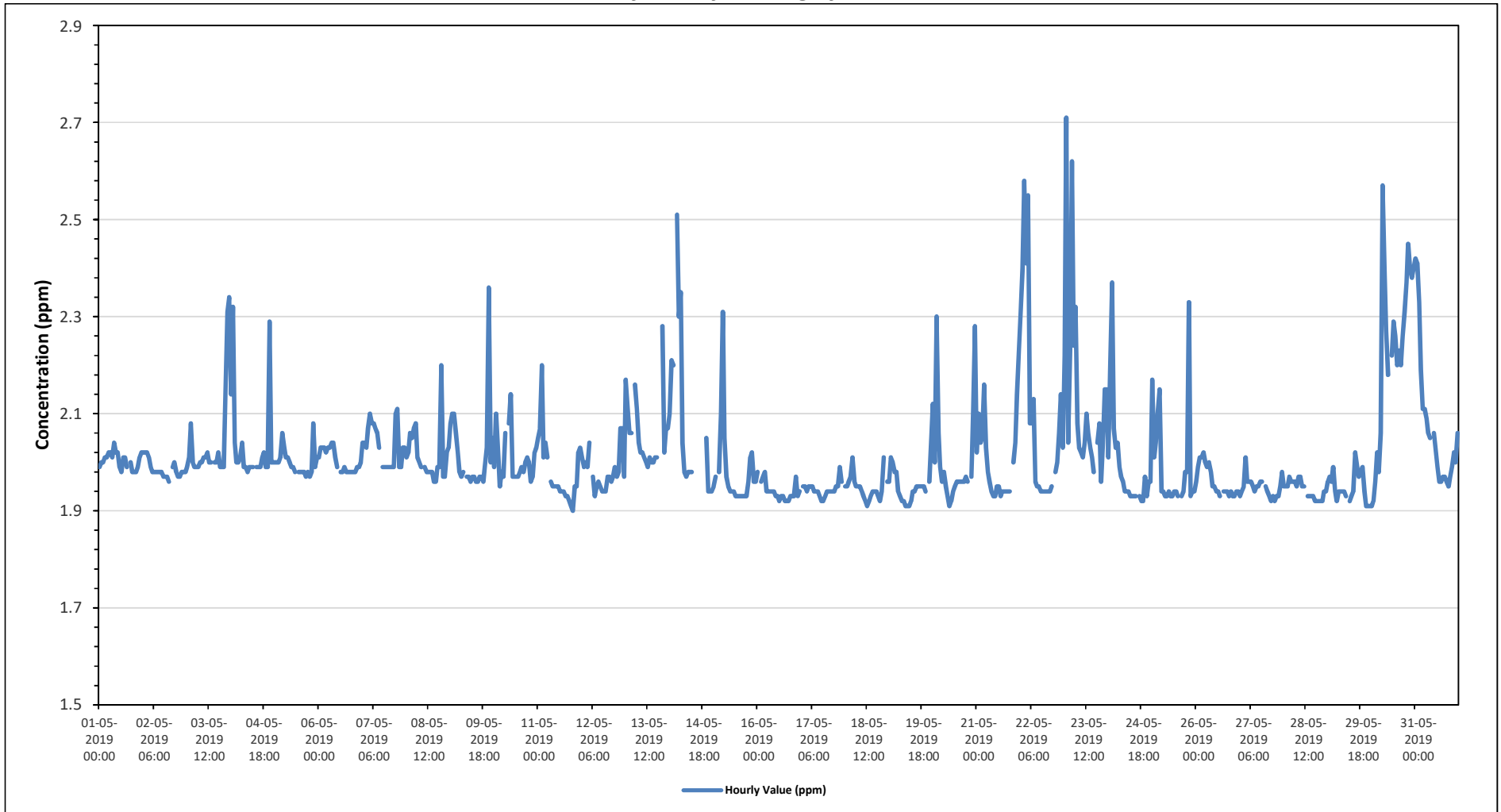
Maximum Hourly Value:	2.71 ppm on May 23 at hour 1	Hours in Service:	744
Maximum Daily Value:	2.23 ppm on May 30	Hours of Data:	703
Minimum Hourly Value:	1.90 ppm on May 11 at hour 19	Hours of Missing Data:	2
Minimum Daily Value:	1.94 ppm on May 16	Hours of Calibration:	39
Monthly Average:	2.01 ppm	Operational Uptime:	99.7

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
May 1	1.99	2.00	2.00	2.01	2.01	2.02	2.02	2.01	2.04	2.02	2.02	1.99	1.98	2.01	2.01	1.99	S	2.00	1.98	1.98	1.98	1.99	2.01	2.02	1.98	2.04	2.00	
May 2	2.02	2.02	2.02	2.01	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.96	S	1.99	2.00	1.98	1.97	1.97	1.98	1.98	1.98	1.96	2.02	1.99	
May 3	1.99	2.01	2.08	2.00	1.99	1.99	1.99	2.00	2.00	2.01	2.01	2.02	2.00	2.00	S	2.00	2.02	1.99	1.99	1.99	1.99	2.16	2.31	2.34	1.99	2.34	2.04	
May 4	2.14	2.32	2.04	2.00	2.00	2.03	2.01	2.04	1.99	1.99	1.98	1.99	1.99	S	1.99	1.99	1.99	2.01	2.02	1.99	1.99	2.29	2.00	2.00	1.98	2.32	2.03	
May 5	2.00	2.00	2.00	2.01	2.06	2.03	2.01	2.01	2.00	1.99	1.99	1.98	S	1.98	1.98	1.98	1.98	1.97	1.98	1.97	1.98	2.08	1.99	2.01	1.97	2.08	2.00	
May 6	2.01	2.03	2.03	2.03	2.02	2.03	2.03	2.04	2.04	2.01	1.99	S	1.98	1.98	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	2.00	1.98	2.04	2.00	
May 7	2.04	2.04	2.03	2.07	2.10	2.08	2.08	2.07	2.06	2.03	S	1.99	1.99	1.99	1.99	1.99	1.99	1.99	2.10	2.11	1.99	1.99	2.03	2.03	1.99	2.11	2.03	
May 8	2.01	2.02	2.06	2.05	2.07	2.08	2.01	2.00	1.99	S	1.99	1.98	1.98	1.98	1.98	1.96	1.96	1.99	1.99	2.20	1.97	1.97	2.02	2.03	1.96	2.20	2.01	
May 9	2.08	2.10	2.10	2.06	2.02	1.98	1.97	1.98	S	1.97	1.97	1.96	1.97	1.97	1.96	1.96	1.97	1.97	1.96	2.00	2.03	2.36	2.00	2.05	1.96	2.36	2.02	
May 10	1.99	2.10	2.03	1.95	1.98	1.97	2.06	S	2.08	2.14	1.97	1.97	1.97	1.97	1.98	1.99	1.98	2.00	2.01	2.00	1.96	1.97	2.02	2.03	1.95	2.14	2.01	
May 11	2.05	2.07	2.20	2.01	2.04	2.01	S	1.96	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.93	1.93	1.92	1.91	1.90	1.95	1.95	2.02	2.03	1.90	2.20	1.98	
May 12	2.01	1.99	2.00	1.99	2.04	S	1.97	1.93	1.95	1.96	1.95	1.94	1.94	1.94	1.97	1.96	1.97	1.96	1.99	1.97	1.98	2.07	2.07	1.97	1.93	2.07	1.98	
May 13	2.17	2.11	2.06	2.06	S	2.16	2.11	2.04	2.02	2.02	2.01	2.00	1.99	2.01	2.00	2.01	2.01	Y	Y	2.28	2.02	2.07	2.07	2.07	1.99	2.28	2.06	
May 14	2.10	2.21	2.20	S	2.51	2.30	2.35	2.04	1.98	1.97	1.98	1.98	1.98	C	C	C	C	C	C	C	2.05	1.94	1.94	1.94	1.94	2.51	-	
May 15	1.95	1.97	S	1.98	2.10	2.31	2.05	1.97	1.95	1.94	1.94	1.94	1.93	1.93	1.93	1.93	1.93	1.93	1.96	2.01	2.02	1.96	1.96	1.93	2.31	1.98		
May 16	1.98	S	1.96	1.97	1.98	1.94	1.94	1.94	1.94	1.94	1.93	1.93	1.92	1.93	1.93	1.92	1.92	1.93	1.94	1.94	1.94	1.94	1.93	1.93	1.97	1.93	1.94	
May 17	S	1.95	1.95	1.94	1.95	1.95	1.95	1.94	1.94	1.94	1.93	1.92	1.92	1.93	1.94	1.94	1.94	1.94	1.94	1.95	1.95	1.99	1.96	S	1.92	1.99	1.94	
May 18	1.95	1.95	1.96	1.97	2.01	1.96	1.95	1.95	1.95	1.94	1.93	1.92	1.91	1.92	1.93	1.94	1.94	1.94	1.93	1.92	1.94	2.01	S	1.96	1.91	2.01	1.95	
May 19	1.96	2.01	2.00	1.98	1.98	1.94	1.93	1.92	1.92	1.91	1.91	1.91	1.92	1.94	1.94	1.95	1.95	1.95	1.95	1.95	1.94	S	1.96	2.05	1.91	2.05	1.95	
May 20	2.12	2.00	2.30	2.06	1.99	1.96	1.98	1.95	1.93	1.91	1.92	1.94	1.95	1.96	1.96	1.96	1.96	1.96	1.97	1.96	S	1.97	2.11	2.28	1.91	2.30	2.00	
May 21	2.02	2.10	2.04	2.05	2.16	2.03	1.98	1.96	1.94	1.93	1.93	1.95	1.95	1.93	1.94	1.94	1.94	1.94	1.94	1.94	S	2.00	2.04	2.14	2.23	1.93	2.23	2.00
May 22	2.31	2.40	2.58	2.41	2.55	2.08	2.08	2.13	1.96	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.95	S	1.98	2.00	2.06	2.14	2.03	1.94	2.58	2.10	
May 23	2.22	2.71	2.04	2.23	2.62	2.24	2.32	2.08	2.03	2.02	2.01	2.04	2.10	2.06	2.03	2.01	1.98	S	2.04	2.08	1.96	2.04	2.15	2.15	1.96	2.71	2.14	
May 24	2.01	2.19	2.37	2.07	2.03	2.04	1.99	1.97	1.96	1.94	1.94	1.93	1.93	1.93	1.93	1.93	S	1.93	1.92	1.92	1.92	1.97	1.93	1.96	1.92	2.37	1.99	
May 25	2.17	2.01	2.04	2.10	2.15	1.94	1.94	1.93	1.93	1.94	1.93	1.93	1.94	1.94	1.93	S	1.93	1.94	1.98	1.98	2.33	1.93	1.94	1.94	1.93	2.33	1.99	
May 26	1.96	1.99	2.01	2.01	2.02	2.00	1.99	2.00	1.98	1.95	1.95	1.94	1.94	1.93	S	1.94	1.94	1.94	1.93	1.94	1.93	1.93	1.93	1.94	1.94	1.93	2.02	1.96
May 27	1.93	1.94	1.95	2.01	1.96	1.96	1.96	1.95	1.94	1.95	1.94	1.95	1.96	1.96	S	1.95	1.94	1.93	1.92	1.93	1.92	1.93	1.95	1.98	1.92	2.01	1.95	
May 28	1.95	1.95	1.95	1.97	1.96	1.96	1.96	1.95	1.97	1.97	1.95	1.95	S	1.93	1.93	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.94	1.94	1.92	1.97	1.94
May 29	1.96	1.97	1.96	1.99	1.94	1.95	1.94	1.94	1.94	1.94	1.93	S	1.92	1.93	1.94	2.02	1.99	1.97	1.98	1.99	1.94	1.91	1.91	1.91	1.91	2.02	1.95	
May 30	1.91	1.92	1.96	2.02	1.98	2.06	2.57	2.39	2.27	2.18	S	2.22	2.29	2.26	2.20	2.23	2.20	2.26	2.31	2.37	2.45	2.40	2.38	2.40	1.91	2.57	2.23	
May 31	2.42	2.41	2.33	2.19	2.11	2.11	2.09	2.06	2.05	S	2.06	2.03	1.99	1.96	1.96	1.97	1.97	1.96	1.95	1.97	1.99	2.02	2.00	2.06	1.95	2.42	2.07	
Diurnal Maximum	2.42	2.71	2.58	2.41	2.62	2.31	2.57	2.39	2.27	2.18	2.06	2.22	2.29	2.26	2.20	2.23	2.20	2.26	2.31	2.37	2.45	2.40	2.38	2.40				
Diurnal Average	2.05	2.08	2.08	2.04	2.08	2.04	2.04	2.00	1.99	1.98	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.99	2.01	2.03	2.03	2.04				

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.

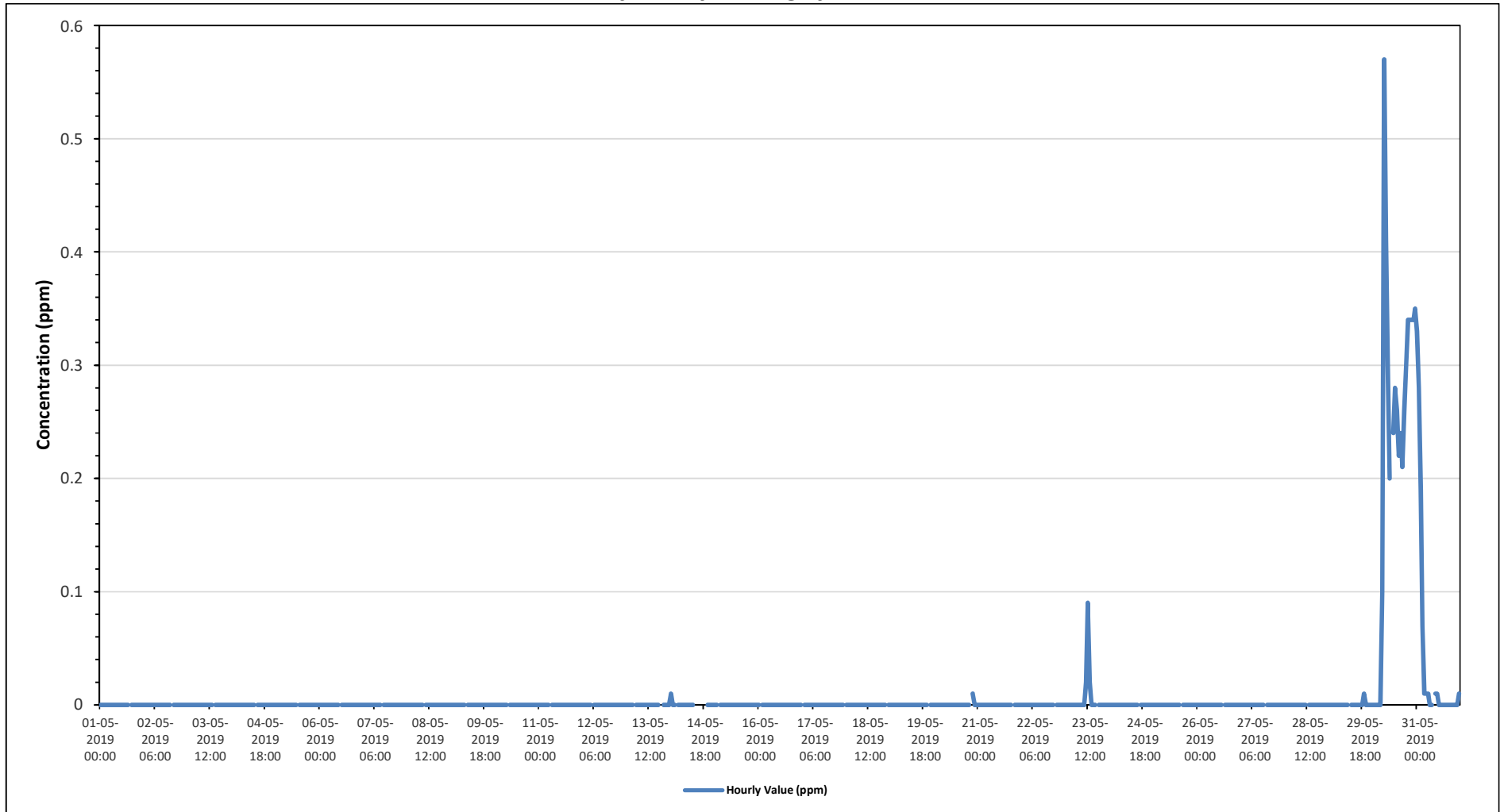
Timeseries Chart of Hourly Average for CH4 - 986b Station



Wind: PRAMP 986 Poll.: PRAMP 986-CH4[ppm] Monthly: 05-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.35% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	6.7	4.99	0	0	0	11.69
NE	5.13	2.14	0	0	0	7.27
E	9.54	8.69	0	0	0	18.23
SE	18.09	10.4	0	0	0	28.49
S	7.41	1.14	0	0	0	8.55
SW	4.7	0.28	0	0	0	4.98
W	4.27	1	0	0	0	5.27
NW	7.98	7.55	0	0	0	15.53
Summary	63.82	36.19	0	0	0	100

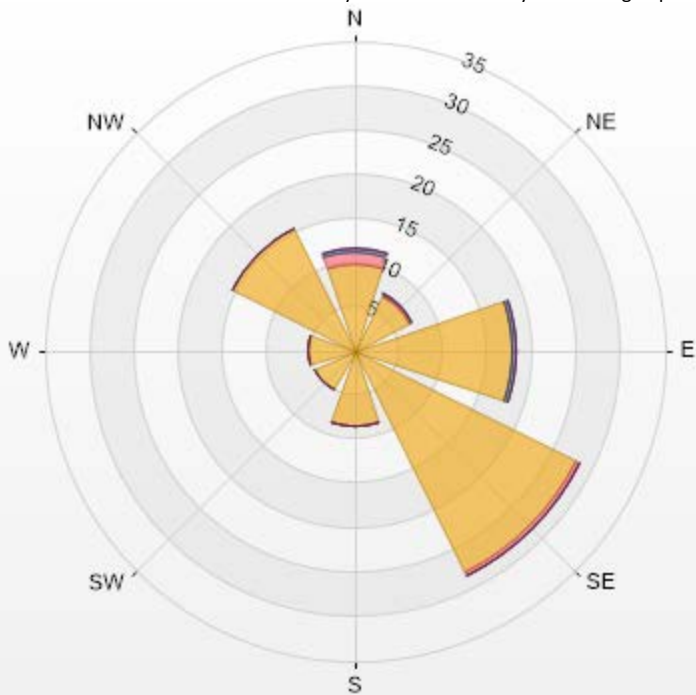
Timeseries Chart of Hourly Average for NMHC - 986b Station



Wind: PRAMP 986 Poll.: PRAMP 986-NMHC[ppm] Monthly: 05-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.35% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	9.83	1.28	0.57	0	0	11.68
NE	6.98	0.14	0.14	0	0	7.26
E	17.81	0	0.43	0	0	18.24
SE	28.06	0.28	0.14	0	0	28.48
S	8.55	0	0	0	0	8.55
SW	4.99	0	0	0	0	4.99
W	5.27	0	0	0	0	5.27
NW	15.53	0	0	0	0	15.53
Summary	97.02	1.7	1.28	0	0	100

PRAMP Monthly Ambient Air Quality Monitoring Report for May 2019



% Icon Classes (ppm)	97	2	1	0	0
	0-0.1	0.1-0.3	0.3-0.9	0.9-2	>2.0



PEACE RIVER AREA MONITORING PROGRAM

986b Station - May 2019

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

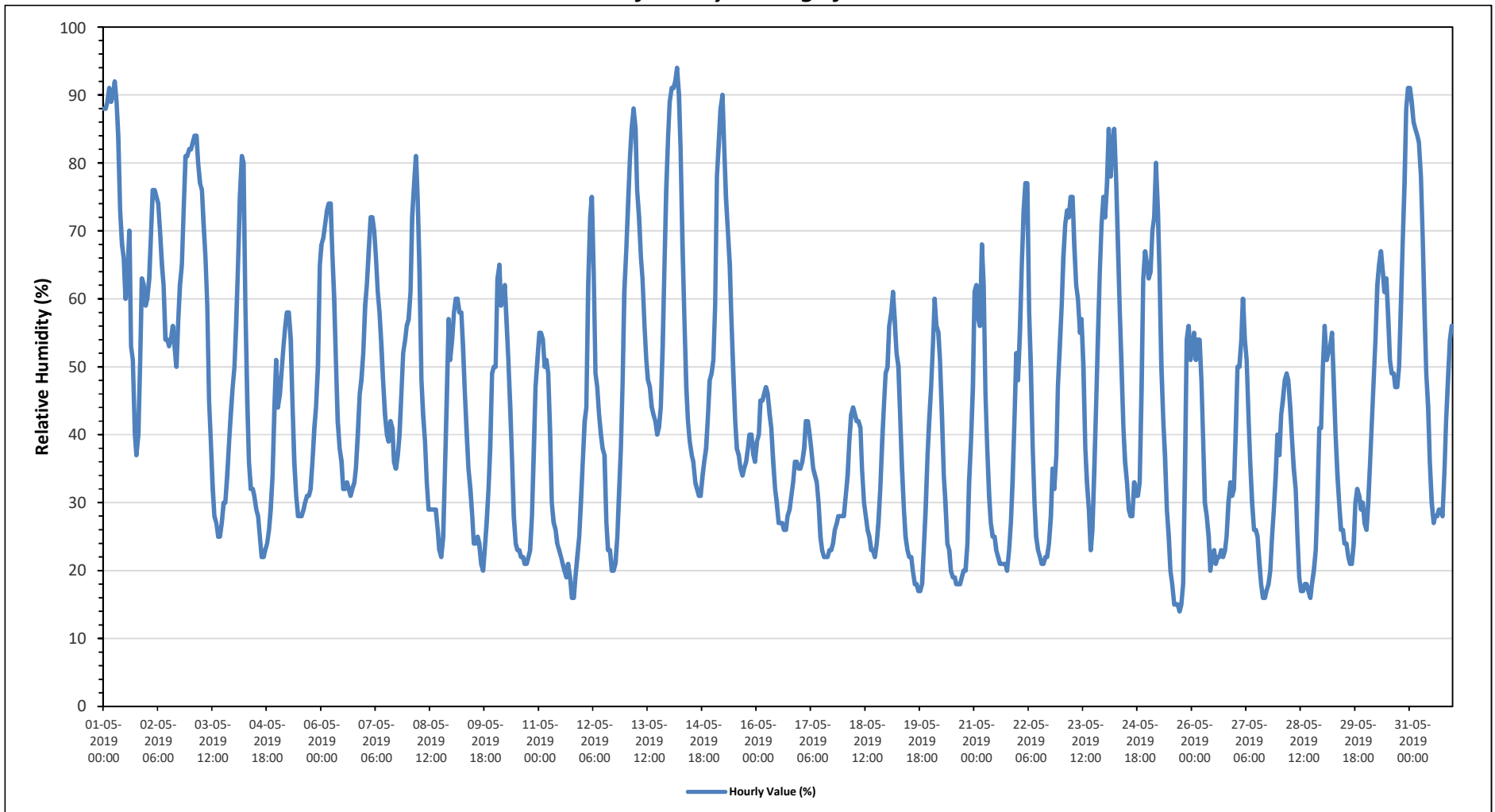
Maximum Hourly Value:	94 %	on May 14 at hour 4	Hours in Service:	744
Maximum Daily Value:	69.0 %	on May 1	Hours of Data:	744
Minimum Hourly Value:	14 %	on May 25 at hour 17	Hours of Missing Data:	0
Minimum Daily Value:	30.2 %	on May 17	Hours of Calibration:	0
Monthly Average:	44.3 %		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
May 1	88	88	89	91	89	90	92	89	84	73	68	66	60	64	70	53	51	40	37	40	51	63	62	59	37	92	69
May 2	60	63	70	76	76	75	74	70	65	62	54	54	53	54	56	53	50	57	62	65	73	81	81	82	50	82	65
May 3	82	83	84	84	80	77	76	71	66	59	45	39	32	28	27	25	25	27	30	30	34	39	43	47	25	84	51
May 4	50	56	65	75	81	80	59	45	36	32	32	31	29	28	25	22	22	23	24	26	29	34	44	51	22	81	42
May 5	44	46	49	53	56	58	54	45	36	31	28	28	28	29	30	31	31	32	36	41	44	50	65	28	65	42	
May 6	68	69	71	73	74	74	67	60	50	42	38	36	32	32	33	32	31	32	33	35	40	46	48	52	31	74	49
May 7	59	62	67	72	72	70	66	61	58	53	48	43	40	39	42	41	36	35	37	40	46	52	54	56	35	72	52
May 8	57	61	72	77	81	75	64	48	43	39	33	29	29	29	29	29	26	23	22	25	34	45	57	51	22	81	45
May 9	54	58	60	60	58	58	53	46	40	35	32	28	24	24	25	24	21	20	23	27	32	38	49	50	20	60	39
May 10	50	63	65	59	60	62	57	51	44	37	28	24	23	23	22	22	21	21	22	23	28	38	47	51	21	65	39
May 11	55	55	54	50	51	49	40	30	27	26	24	23	22	21	20	19	21	19	16	16	19	22	25	30	16	55	31
May 12	36	42	44	62	72	75	64	49	47	43	40	38	37	27	23	23	20	20	21	25	31	38	48	61	20	75	41
May 13	67	74	81	85	88	85	76	72	66	63	56	51	48	47	44	43	42	40	41	44	53	64	76	84	40	88	62
May 14	89	91	91	92	94	90	82	68	57	47	42	39	37	36	33	32	31	31	34	36	38	43	48	49	31	94	55
May 15	51	59	78	83	88	90	82	75	70	65	57	49	42	38	37	35	34	35	36	38	40	40	37	36	34	90	54
May 16	39	40	45	45	46	47	46	43	41	36	32	30	27	27	27	26	26	28	29	31	33	36	36	35	26	47	35
May 17	35	36	38	42	42	40	38	35	34	33	30	25	23	22	22	22	23	23	24	26	27	28	28	28	22	42	30
May 18	28	31	34	39	43	44	43	42	42	41	35	30	28	26	25	23	23	22	24	27	32	39	44	49	22	49	34
May 19	50	56	58	61	57	52	50	43	35	29	25	23	22	22	20	18	18	17	17	18	23	29	37	42	17	61	34
May 20	47	53	60	56	55	51	43	34	30	24	23	20	19	19	18	18	18	19	20	20	24	33	39	47	18	60	33
May 21	61	62	57	56	68	62	46	38	31	27	25	25	23	22	21	21	21	21	20	23	27	33	42	52	20	68	37
May 22	48	55	65	73	77	77	58	50	38	30	25	23	22	21	21	22	22	24	28	35	32	37	47	53	21	77	41
May 23	59	66	71	73	72	75	75	68	62	60	55	57	50	38	33	29	23	26	35	45	54	64	71	75	23	75	56
May 24	72	77	85	78	83	85	78	68	59	50	41	36	33	29	28	28	33	31	31	33	47	63	67	65	28	85	54
May 25	63	64	70	72	80	73	64	50	42	37	29	25	20	18	15	15	15	14	15	18	35	54	56	51	14	80	41
May 26	53	55	51	54	54	48	39	30	28	25	20	22	23	21	22	22	23	22	23	25	30	33	31	32	20	55	33
May 27	41	50	50	54	60	54	51	42	36	30	26	26	25	21	18	16	16	17	18	20	25	29	34	40	16	60	33
May 28	37	43	45	48	49	48	44	39	35	32	25	19	17	17	18	18	17	16	18	20	23	30	41	41	16	49	31
May 29	50	56	51	52	53	55	48	40	34	30	26	26	24	24	22	21	21	24	30	32	31	29	30	27	21	56	35
May 30	26	30	36	42	48	54	62	65	67	64	61	63	57	51	49	49	47	47	50	58	68	77	88	91	26	91	56
May 31	91	89	86	85	84	83	78	69	59	49	44	36	30	27	28	28	29	29	28	35	42	48	54	56	27	91	54
Diurnal Maximum	91	91	91	92	94	90	92	89	84	73	68	66	60	64	70	53	51	57	62	65	73	81	88	91			
Diurnal Average	55.2	59.1	62.6	65.2	67.5	66.3	60.4	53.1	47.5	42.2	37.1	34.3	31.6	29.8	29.1	27.7	27.0	26.9	28.4	31.4	36.8	43.5	48.8	51.9			

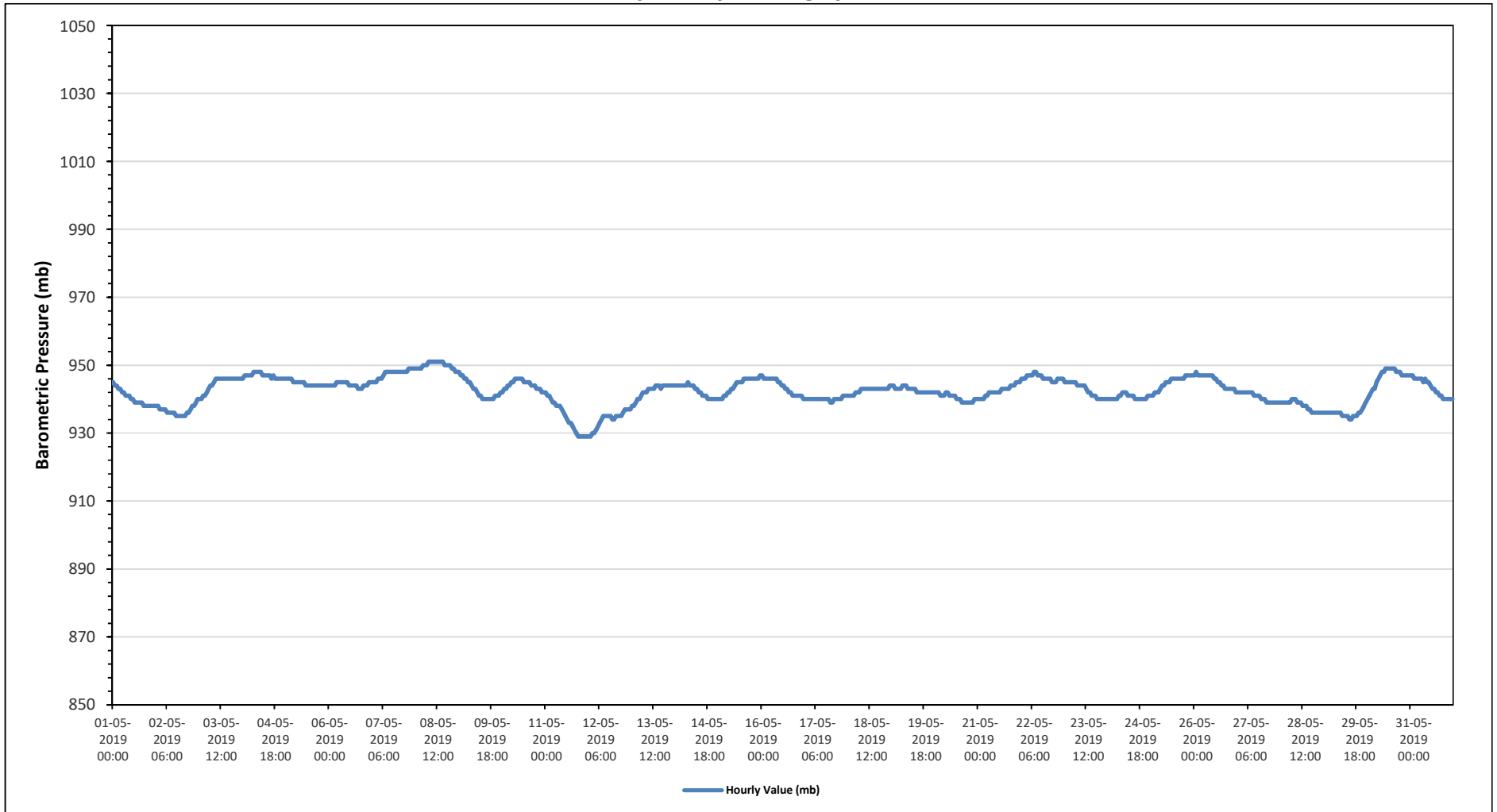
C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

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 RH - 986b Station



Timeseries Chart of Hourly Average for BP - 986b Station





PEACE RIVER AREA MONITORING PROGRAM

986b Station - May 2019
Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

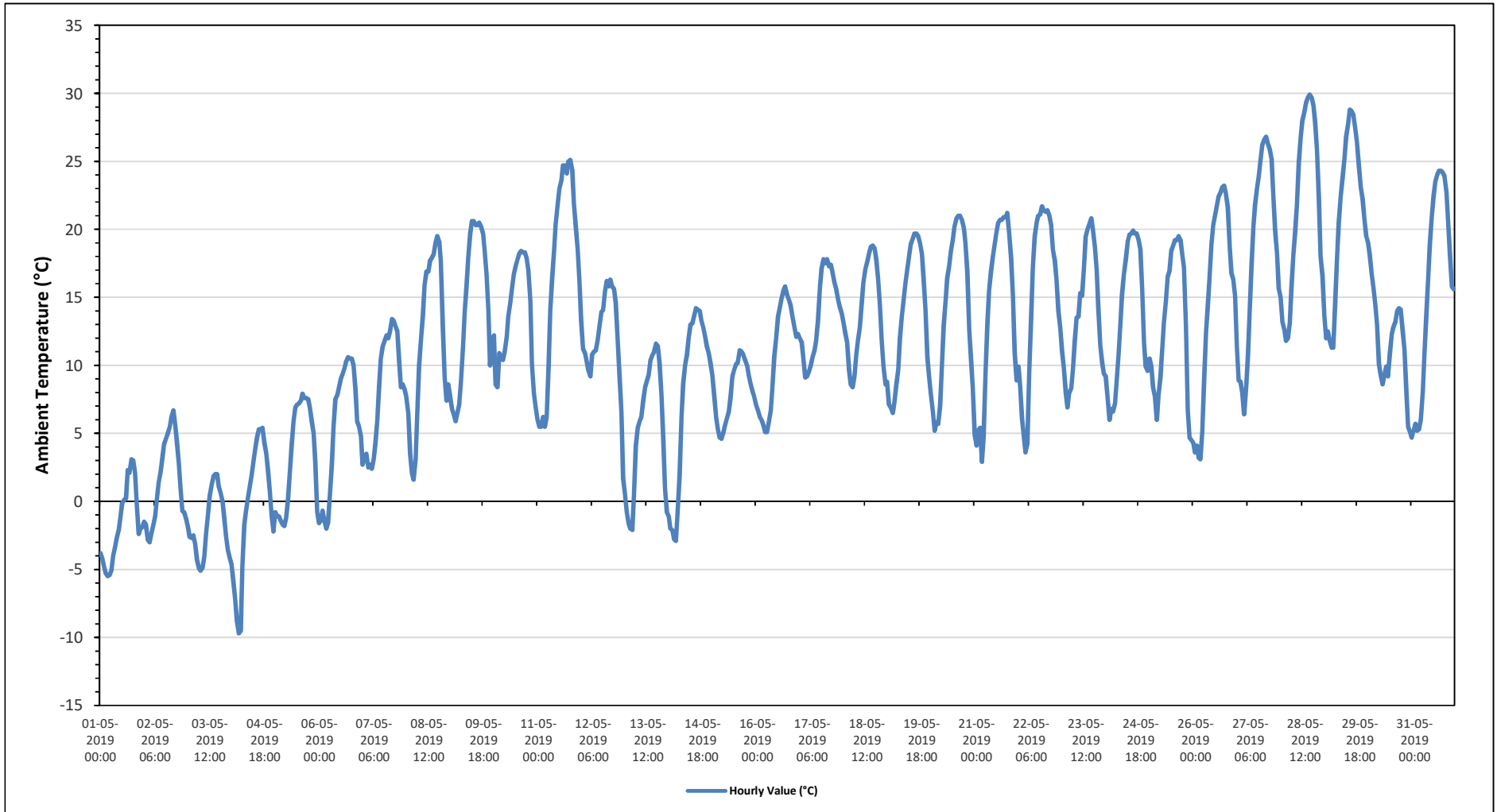
Maximum Hourly Value:	29.9 °C	on May 28 at hour 16	Hours in Service:	744
Maximum Daily Value:	21.7 °C	on May 28	Hours of Data:	744
Minimum Hourly Value:	-9.7 °C	on May 4 at hour 4	Hours of Missing Data:	0
Minimum Daily Value:	-1.8 °C	on May 3	Hours of Calibration:	0
Monthly Average:	11.1 °C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
May 1	-3.8	-4.2	-4.8	-5.3	-5.5	-5.4	-5.1	-4.0	-3.3	-2.7	-2.1	-1.1	-0.1	0.1	0.2	2.3	2.1	3.1	3.0	2.1	-0.3	-2.4	-2.0	-1.9	-5.5	3.1	-1.7
May 2	-1.5	-1.7	-2.8	-3.0	-2.3	-1.8	-1.1	0.2	1.4	2.1	3.2	4.2	4.6	5.0	5.5	6.2	6.7	5.6	4.4	2.8	0.9	-0.7	-0.8	-1.3	-3.0	6.7	1.5
May 3	-1.9	-2.6	-2.7	-2.5	-3.1	-4.3	-4.9	-5.1	-4.9	-4.1	-2.4	-1.1	0.4	1.2	1.8	2.0	2.0	1.1	0.6	0.0	-1.2	-2.6	-3.6	-4.2	-5.1	2.0	-1.8
May 4	-4.6	-5.9	-7.3	-8.8	-9.7	-9.5	-4.7	-1.7	-0.6	0.3	1.1	1.9	3.0	3.8	4.7	5.3	5.3	5.4	4.3	3.5	2.3	0.7	-1.1	-2.2	-9.7	5.4	-0.6
May 5	-0.8	-1.1	-1.1	-1.4	-1.7	-1.8	-1.2	0.2	2.3	4.1	5.9	6.9	7.1	7.2	7.4	7.9	7.6	7.6	7.5	6.9	5.9	5.0	2.9	-0.8	-1.8	7.9	3.4
May 6	-1.6	-1.4	-0.7	-1.5	-2.0	-1.6	0.5	2.7	5.4	7.5	7.8	8.3	9.0	9.4	9.8	10.3	10.6	10.5	10.5	10.0	8.2	5.9	5.5	4.8	-2.0	10.6	5.3
May 7	2.7	3.2	3.5	2.5	2.7	2.4	3.1	4.2	5.9	8.5	10.5	11.4	11.8	12.2	12.0	12.5	13.4	13.3	12.9	12.5	10.5	8.4	8.6	8.2	2.4	13.4	8.2
May 8	7.7	6.5	3.5	2.1	1.6	3.1	6.3	10.0	11.9	13.7	15.9	16.9	16.9	17.7	17.9	18.2	19.0	19.5	19.1	17.6	13.0	9.1	7.4	8.6	1.6	19.5	11.8
May 9	7.7	6.8	6.4	5.9	6.5	7.1	8.8	11.3	14.0	15.7	18.0	19.7	20.6	20.6	20.3	20.3	20.5	20.2	19.7	18.5	16.6	14.0	10.0	11.6	5.9	20.6	14.2
May 10	12.2	8.6	8.4	10.9	10.5	10.4	11.0	12.1	13.6	14.6	15.7	16.7	17.3	17.8	18.2	18.4	18.3	18.3	17.9	17.0	14.7	10.1	7.9	6.9	6.9	18.4	13.6
May 11	6.0	5.5	5.5	6.2	5.5	6.2	9.9	14.0	16.4	18.4	20.3	21.8	23.0	23.6	24.7	24.7	24.1	25.0	25.1	24.4	21.9	20.2	18.5	16.1	5.5	25.1	17.0
May 12	13.3	11.2	10.9	10.3	9.6	9.2	10.8	11.0	11.1	11.8	12.8	13.9	14.1	15.4	16.2	15.8	16.3	15.8	15.6	14.6	11.9	9.2	6.5	1.7	1.7	16.3	12.0
May 13	0.5	-0.8	-1.6	-2.0	-2.1	0.4	4.1	5.4	5.9	6.2	7.4	8.4	8.8	9.3	10.4	10.7	11.0	11.6	11.4	10.2	7.9	4.5	1.0	-0.8	-2.1	11.6	5.3
May 14	-1.1	-2.0	-2.1	-2.8	-2.9	-0.7	1.9	6.2	8.6	10.0	10.8	12.0	13.0	13.1	13.6	14.2	14.1	14.0	13.3	12.8	12.1	11.4	10.9	10.1	-2.9	14.2	7.9
May 15	9.3	7.8	6.2	5.3	4.7	4.6	5.1	5.6	6.1	6.6	7.6	9.2	9.7	10.1	10.2	11.1	11.0	10.8	10.4	10.0	9.3	8.6	8.1	7.7	4.6	11.1	8.1
May 16	7.1	6.7	6.2	6.0	5.6	5.1	5.1	5.8	6.7	8.3	10.6	12.0	13.6	14.2	14.9	15.5	15.8	15.2	14.8	14.4	13.6	12.8	12.1	12.3	5.1	15.8	10.6
May 17	12.0	11.7	10.5	9.1	9.2	9.5	10.0	10.6	11.1	11.8	13.3	15.7	17.1	17.8	17.5	17.8	17.3	17.4	16.9	16.1	15.6	14.8	14.3	13.8	9.1	17.8	13.8
May 18	13.1	12.4	11.7	9.7	8.6	8.4	9.2	10.8	11.9	12.8	14.6	16.1	17.1	17.6	18.2	18.7	18.8	18.6	17.8	16.3	14.4	11.8	9.9	8.6	8.4	18.8	13.6
May 19	8.8	7.1	6.9	6.5	7.3	8.6	9.7	12.0	13.6	14.8	16.0	17.0	18.1	18.9	19.3	19.7	19.7	19.5	19.0	18.2	16.4	14.1	10.6	9.2	6.5	19.7	13.8
May 20	7.9	6.6	5.2	5.8	5.7	7.0	9.7	12.9	14.7	16.4	17.3	18.4	19.3	20.2	20.8	21.0	21.0	20.7	20.1	19.0	16.9	12.6	10.3	8.3	5.2	21.0	14.1
May 21	4.9	4.1	5.2	5.4	2.9	4.8	9.4	13.1	15.5	16.9	18.0	18.9	19.8	20.5	20.7	20.7	20.9	20.9	21.2	19.7	17.9	15.0	11.0	8.9	2.9	21.2	14.0
May 22	9.9	8.5	6.1	4.7	3.6	4.3	9.6	13.6	17.2	19.5	20.5	21.0	21.1	21.7	21.4	21.3	21.4	21.0	20.3	18.5	17.7	16.3	14.0	12.7	3.6	21.7	15.2
May 23	11.1	9.8	8.0	6.9	8.0	8.3	9.8	11.7	13.5	13.6	15.3	15.1	17.2	19.4	20.0	20.4	20.8	20.0	18.7	17.0	14.2	11.5	10.2	9.4	6.9	20.8	13.7
May 24	9.2	7.6	6.0	6.8	6.6	7.2	8.7	10.8	13.0	15.2	16.7	17.8	19.1	19.6	19.7	19.9	19.7	19.2	18.6	15.5	11.7	9.9	9.6	6.0	19.9	13.7	
May 25	10.5	9.9	8.4	7.7	6.0	7.8	9.1	11.3	13.1	14.7	16.5	17.0	18.4	18.8	19.2	19.2	19.5	19.2	18.2	17.2	12.8	6.7	4.7	4.5	4.5	19.5	12.9
May 26	4.3	3.6	4.1	3.2	3.1	5.1	9.0	12.5	14.3	16.6	18.9	20.3	21.0	21.8	22.4	22.7	23.1	23.2	22.6	21.6	18.7	16.8	16.3	15.1	3.1	23.2	15.0
May 27	11.4	8.9	8.8	8.0	6.4	8.2	10.7	13.8	17.3	20.2	21.8	23.0	23.9	25.1	26.2	26.6	26.8	26.3	25.9	25.2	22.6	19.9	18.2	15.7	6.4	26.8	18.4
May 28	15.0	13.2	12.6	11.8	12.0	13.1	15.7	18.1	19.9	21.8	24.9	26.8	28.0	28.6	29.3	29.7	29.9	29.7	29.1	27.9	25.8	22.2	18.0	16.6	11.8	29.9	21.7
May 29	13.6	12.0	12.5	11.8	11.3	11.3	14.6	18.0	20.5	22.4	23.8	25.2	26.8	27.7	28.8	28.7	28.4	27.3	26.4	24.7	23.1	22.2	20.8	19.5	11.3	28.8	20.9
May 30	19.0	18.1	16.7	15.7	14.5	13.0	10.1	9.3	8.6	9.3	9.9	9.2	10.9	12.3	12.8	13.2	14.0	14.2	14.1	12.6	11.1	8.4	5.5	5.1	5.1	19.0	12.0
May 31	4.7	5.2	5.7	5.2	5.3	6.0	8.1	10.7	13.6	16.4	18.9	20.9	22.5	23.5	24.0	24.3	24.3	24.2	23.9	22.7	20.7	18.2	15.8	15.6	4.7	24.3	15.9
Diurnal Maximum	19.0	18.1	16.7	15.7	14.5	13.1	15.7	18.1	20.5	22.4	24.9	26.8	28.0	28.6	29.3	29.7	29.9	29.7	29.1	27.9	25.8	22.2	20.8	19.5			
Diurnal Average	6.7	5.7	5.0	4.5	4.1	4.7	6.5	8.6	10.3	11.7	13.2	14.3	15.3	15.9	16.4	16.8	16.9	16.7	16.3	15.2	13.2	10.9	9.1	8.0			

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

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

Timeseries Chart of Hourly Average for AT - 986b Station





PEACE RIVER AREA MONITORING PROGRAM

986b Station - May 2019
Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

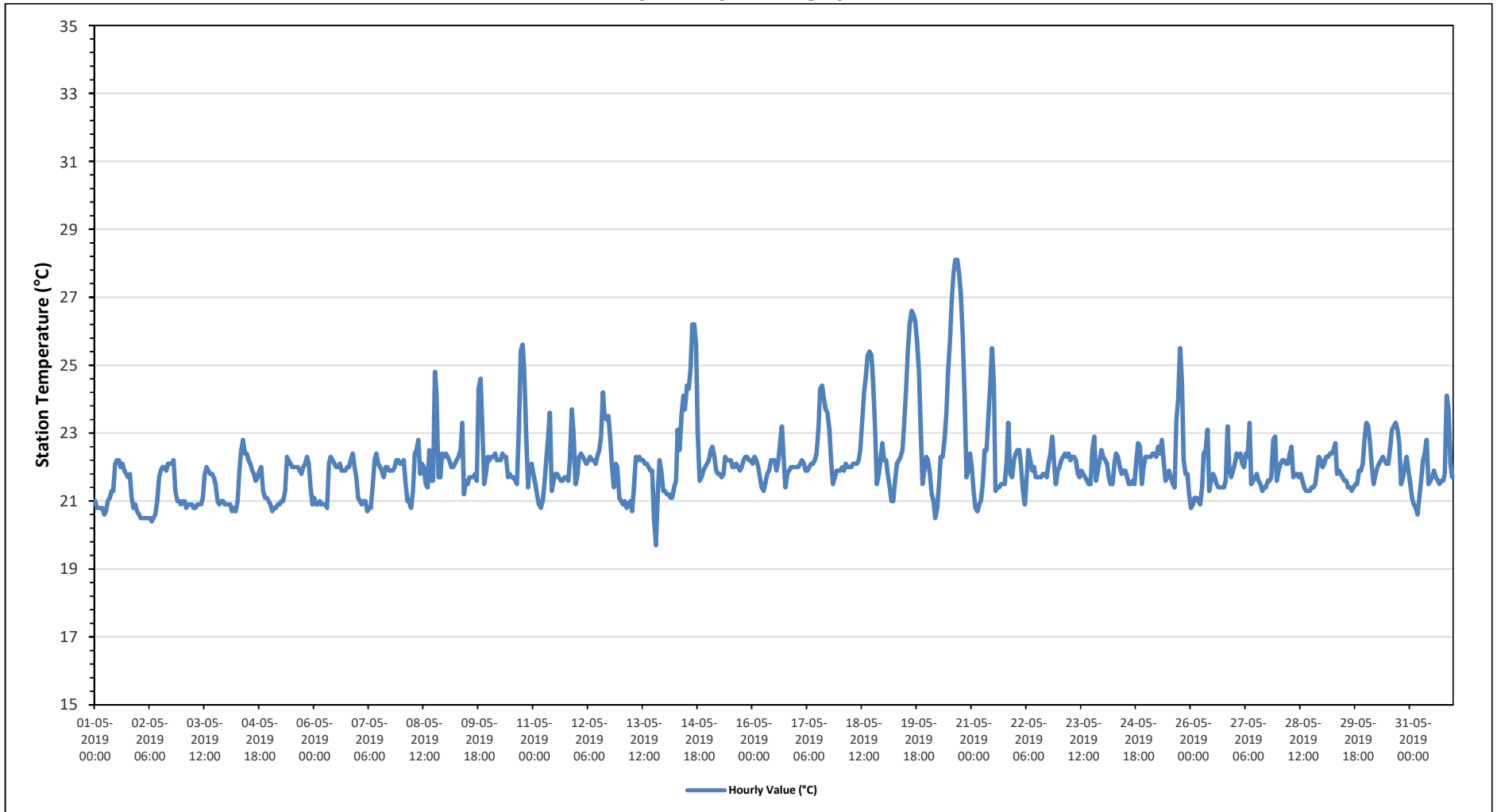
Maximum Hourly Value:	28.1 °C	on May 20 at hour 15	Hours in Service:	744
Maximum Daily Value:	23.8 °C	on May 20	Hours of Data:	744
Minimum Hourly Value:	19.7 °C	on May 13 at hour 19	Hours of Missing Data:	0
Minimum Daily Value:	21.2 °C	on May 3	Hours of Calibration:	0
Monthly Average:	22.1 °C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
May 1	21.0	20.8	20.8	20.8	20.8	20.6	20.7	21.0	21.1	21.3	21.3	22.1	22.2	22.2	22.0	22.1	21.9	21.8	21.7	21.8	21.1	20.8	20.9	20.7	20.6	22.2	21.3	
May 2	20.6	20.5	20.5	20.5	20.5	20.5	20.5	20.4	20.5	20.6	21.0	21.7	21.9	22.0	22.0	21.9	22.1	22.1	22.1	22.2	21.3	21.0	21.0	20.9	20.9	20.8	22.2	21.2
May 3	21.0	21.0	20.8	20.9	20.9	20.9	20.8	20.8	20.9	20.9	20.9	21.1	21.8	22.0	21.9	21.8	21.8	21.7	21.5	21.0	20.9	21.0	21.0	20.9	20.8	22.0	21.2	
May 4	20.9	20.9	20.9	20.7	20.8	20.7	21.0	21.9	22.5	22.8	22.4	22.4	22.2	22.1	21.9	21.8	21.6	21.7	21.9	22.0	21.3	21.1	21.1	21.0	20.7	22.8	21.6	
May 5	20.9	20.7	20.8	20.8	20.9	20.9	21.0	21.0	21.3	22.3	22.2	22.1	22.0	22.0	22.0	21.9	21.8	22.0	22.1	22.3	22.1	21.4	20.9	20.7	22.3	21.6		
May 6	21.1	20.9	20.9	21.0	20.9	20.9	20.9	20.8	22.1	22.3	22.2	22.1	22.0	22.0	22.1	21.9	21.9	21.9	22.0	22.2	22.4	22.0	21.7	20.8	22.4	21.7		
May 7	21.1	21.0	20.9	21.0	21.0	20.7	20.8	20.8	21.5	22.2	22.4	22.1	22.0	21.9	21.7	22.0	22.0	21.9	21.9	21.9	22.0	22.2	22.2	22.1	20.7	22.4	21.6	
May 8	22.1	22.2	21.5	21.0	21.0	20.8	21.3	22.4	22.5	22.8	21.8	22.1	22.0	21.5	21.4	22.5	21.6	21.6	24.8	24.1	21.7	21.7	22.4	22.3	20.8	24.8	22.0	
May 9	22.4	22.3	22.2	22.0	22.0	22.1	22.2	22.3	22.5	23.3	21.2	21.6	21.5	21.7	21.7	21.7	21.8	21.6	24.3	24.6	23.2	21.5	21.8	22.3	21.2	24.6	22.2	
May 10	22.2	22.3	22.3	22.4	22.2	22.2	22.2	22.4	22.3	22.3	21.7	21.8	21.7	21.6	21.5	23.1	25.4	25.6	24.8	22.9	21.4	22.0	22.1	21.4	25.6	22.5		
May 11	21.8	21.5	21.2	20.9	20.8	21.0	21.5	22.2	22.9	23.6	21.3	21.6	21.8	21.8	21.7	21.6	21.6	21.7	21.7	21.6	22.2	23.7	23.0	21.5	20.8	23.7	21.8	
May 12	21.7	22.3	22.4	22.3	22.2	22.1	22.2	22.3	22.2	22.2	22.1	22.3	22.5	22.9	24.2	23.5	23.4	23.5	22.8	22.0	21.4	22.1	22.0	21.1	21.1	24.2	22.4	
May 13	21.0	20.9	21.0	20.8	20.9	21.0	20.7	21.4	22.3	22.2	22.3	22.2	22.2	22.1	22.1	22.0	21.9	20.9	20.5	19.7	21.1	22.2	21.9	21.3	19.7	22.3	21.5	
May 14	21.3	21.2	21.2	21.1	21.1	21.4	21.6	23.1	22.5	23.5	24.1	23.7	24.4	24.3	24.9	26.2	26.2	25.6	23.0	21.6	21.7	21.9	22.0	22.1	21.1	26.2	22.9	
May 15	22.2	22.5	22.6	22.3	21.9	21.8	21.8	21.7	21.8	22.3	22.2	22.2	22.2	22.0	22.0	22.1	22.0	21.9	22.0	22.2	22.3	22.3	22.2	22.2	21.7	22.6	22.1	
May 16	22.1	22.3	22.2	22.0	21.7	21.4	21.3	21.5	21.8	21.9	22.2	22.2	22.2	21.9	22.2	22.7	23.2	22.2	21.4	21.8	21.9	22.0	22.0	22.0	21.3	23.2	22.0	
May 17	22.0	22.0	22.1	22.2	22.1	21.9	21.9	22.0	22.1	22.1	22.2	22.4	23.2	24.3	24.4	24.0	23.7	23.6	23.1	22.1	21.5	21.7	21.9	21.9	21.5	24.4	22.5	
May 18	21.9	22.0	21.9	22.1	22.0	22.0	22.1	22.1	22.1	22.1	22.2	22.5	23.4	24.2	24.7	25.3	25.4	25.3	24.5	23.2	21.5	21.8	22.2	22.7	21.5	25.4	22.9	
May 19	22.2	22.2	21.8	21.4	21.0	21.0	21.6	22.1	22.2	22.3	22.5	23.3	24.4	25.4	26.2	26.6	26.5	26.3	25.7	24.8	23.2	21.5	21.9	22.3	21.0	26.6	23.3	
May 20	22.2	21.8	21.2	21.0	20.5	20.8	21.5	22.3	22.3	22.8	23.6	24.8	25.7	26.9	27.7	28.1	28.1	27.7	27.1	25.9	24.1	21.7	21.9	22.4	20.5	28.1	23.8	
May 21	22.0	21.3	20.8	20.7	20.9	21.0	21.5	22.5	22.5	23.4	24.4	25.5	24.4	21.3	21.4	21.4	21.5	21.5	22.2	23.3	21.8	21.7	22.2	20.7	25.5	22.1		
May 22	22.4	22.5	22.5	22.0	21.3	20.9	21.7	22.5	22.2	21.9	22.0	21.7	21.7	21.7	21.7	21.8	21.8	21.7	22.1	22.4	22.9	22.1	21.5	21.9	20.9	22.9	22.0	
May 23	22.0	22.2	22.3	22.4	22.3	22.4	22.2	22.3	22.2	21.8	21.7	21.9	21.8	21.7	21.6	21.5	21.5	22.5	22.9	21.6	21.9	22.2	22.5	21.5	22.9	22.1		
May 24	22.3	22.2	22.1	21.7	21.5	21.5	22.1	22.4	22.3	22.0	21.8	21.9	21.9	21.7	21.5	21.5	21.6	21.5	22.1	22.7	22.6	21.5	22.0	22.3	21.5	22.7	21.9	
May 25	22.3	22.3	22.3	22.4	22.4	22.3	22.6	22.4	22.8	22.0	21.6	21.7	21.9	21.7	21.5	21.4	23.4	24.0	25.5	24.5	22.2	21.8	21.8	21.2	21.2	25.5	22.4	
May 26	20.8	20.9	21.1	21.1	21.0	20.9	21.4	22.4	22.5	23.1	21.3	21.6	21.8	21.7	21.5	21.4	21.4	21.4	21.4	21.6	23.2	22.0	21.7	21.9	20.8	23.2	21.6	
May 27	22.1	22.4	22.3	22.4	22.1	22.0	22.4	22.3	23.3	21.5	21.6	21.7	21.8	21.6	21.5	21.3	21.4	21.4	21.6	21.6	21.7	22.8	22.9	21.6	21.3	23.3	22.0	
May 28	21.9	22.1	22.2	22.2	22.1	22.1	22.4	22.6	21.7	21.8	21.8	21.7	21.8	21.6	21.4	21.3	21.3	21.3	21.4	21.4	21.5	21.9	22.3	22.2	21.3	22.6	21.8	
May 29	22.0	22.1	22.3	22.3	22.4	22.4	22.5	22.7	21.8	21.9	21.8	21.7	21.6	21.6	21.4	21.4	21.3	21.4	21.5	21.5	21.9	21.9	22.1	22.8	21.3	22.8	21.9	
May 30	23.3	23.2	22.7	22.0	21.5	21.8	22.0	22.1	22.2	22.3	22.2	22.1	22.1	22.6	23.1	23.2	23.3	23.1	22.7	21.5	21.7	22.0	22.3	21.9	21.5	23.3	22.4	
May 31	21.5	21.1	20.9	20.8	20.6	21.1	21.6	22.2	22.4	22.8	21.5	21.6	21.7	21.9	21.7	21.6	21.5	21.6	21.6	21.8	24.1	23.7	22.1	21.7	20.6	24.1	21.8	
Diurnal Maximum	23.3	23.2	22.7	22.4	22.4	22.4	22.6	23.1	23.3	23.6	24.4	25.5	25.7	26.9	27.7	28.1	28.1	27.7	27.1	25.9	24.1	23.7	23.0	22.8				
Diurnal Average	21.8	21.7	21.6	21.5	21.4	21.4	21.6	22.0	22.1	22.3	22.1	22.2	22.4	22.4	22.5	22.6	22.6	22.6	22.7	22.4	22.1	21.9	21.9	21.8				

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 ST - 986b Station





PEACE RIVER AREA MONITORING PROGRAM

986b Station - May 2019

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

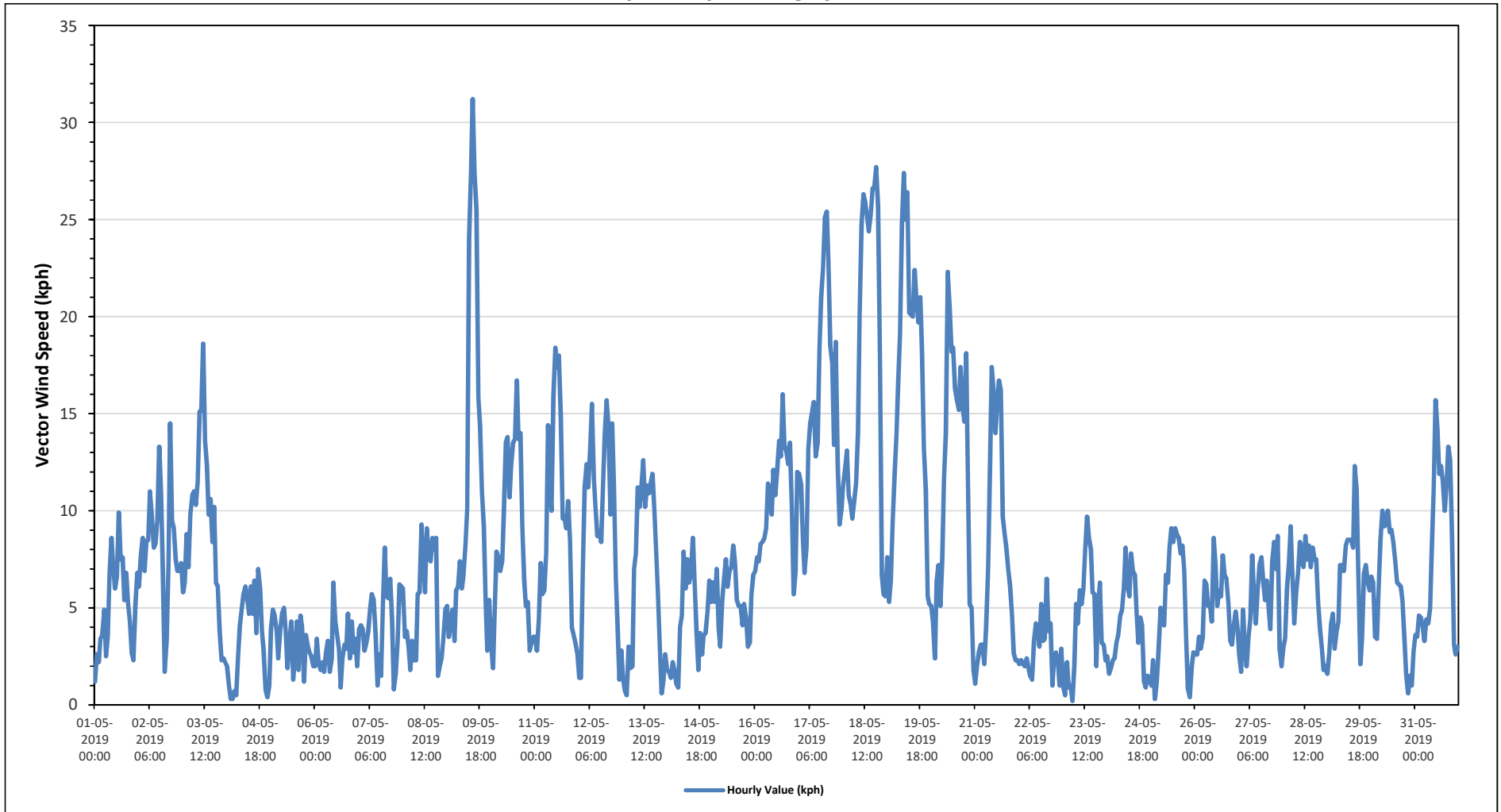
Maximum Hourly Value:	31.2 kph on May 9 at hour 14	Hours in Service:	744
Maximum Daily Value:	17.4 kph on May 18	Hours of Data:	744
Minimum Hourly Value:	0.2 kph on May 23 at hour 5	Hours of Missing Data:	0
Minimum Daily Value:	2.9 kph on May 22	Hours of Calibration:	0
Monthly Average:	1.6 kph	Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
May 1	1.2	2.6	2.2	3.4	3.6	4.9	2.5	3.5	6.8	8.6	7	6	6.6	9.9	7.5	7.6	5.4	6.8	5.2	4.3	2.7	2.3	5.1	6.8	1.2	9.9	5.1	
May 2	6.1	7.7	8.6	6.9	8.4	8.5	11	9.7	8.1	8.3	9.5	13.3	10.9	7	1.7	3.3	7.2	14.5	9.5	9.1	7.5	6.9	6.9	7.3	1.7	14.5	8.2	
May 3	5.8	6.3	8.8	7.1	9.8	10.8	11	10.3	11.5	15.1	15.2	18.6	13.6	12.3	9.8	10.6	8.4	10.2	6.3	6.1	3.8	2.3	2.4	2.2	2.2	18.6	9.1	
May 4	2	1	0.3	0.3	0.7	0.5	2.5	4	4.9	5.7	6.1	5.6	4.7	6.1	4.7	6.4	3.7	7	6	3.8	2.8	0.8	0.4	1	0.3	7.0	3.4	
May 5	3.9	4.9	4.6	3.8	2.4	3.8	4.7	5	3.9	1.9	3.2	4.3	1.3	2.4	4.3	1.8	4.6	4	1.2	3.6	3	2.7	2.5	2	1.2	5.0	3.3	
May 6	2	3.4	2.2	1.8	2.2	1.7	2.7	3.3	1.7	2.4	6.3	4.3	3.6	2.9	0.9	2.4	3.1	2.9	4.7	2.4	4.3	2.7	3.4	2	0.9	6.3	2.9	
May 7	3.9	4.1	3.9	2.8	3.2	3.8	5	5.7	5.4	3.6	1	2.6	1.5	5.1	8.1	5.6	5.5	6.5	4.3	0.8	1.6	3.2	6.2	6.1	0.8	8.1	4.1	
May 8	6	3.5	3.8	3	1.8	3.3	2.3	2.3	5.7	5.8	9.3	7.5	5.8	9.1	7.7	7.4	8.6	8	8.6	1.5	2	2.4	3.4	4.9	1.5	9.3	5.2	
May 9	5.1	3.5	4.3	4.9	3.3	5.9	6.1	7.4	6	6.6	8.2	10.1	24	27.5	31.2	27.4	25.5	15.8	14.4	11	9.2	5.1	2.8	5.4	2.8	31.2	11.3	
May 10	3.2	1.9	4.7	7.9	7.6	6.9	7.4	10	13.5	13.8	10.7	12.3	13.5	13.7	16.7	13.7	14	9.2	6.4	5.1	5.3	2.8	3.2	3.5	1.9	16.7	8.6	
May 11	3.5	2.8	4.4	7.3	5.7	5.9	7.8	14.4	11.7	10	15.9	18.4	17.4	18	14.8	9.6	9.7	9.1	10.5	8.4	4	3.6	3.2	2.6	2.6	18.4	9.1	
May 12	1.4	1.4	6.8	11.2	12.4	11.2	13.2	15.5	11.6	10.2	8.7	8.9	8.4	11.4	13.9	15.7	14.2	9.8	14.5	11.2	6.6	3.9	1.3	2.8	1.3	15.7	9.4	
May 13	1.3	0.7	0.5	3	1.9	2	7	7.8	11.2	10.2	11.3	12.6	10.2	11.3	10.9	11.4	11.9	10	7.9	5.7	3.1	0.6	1.3	2.6	0.5	12.6	6.5	
May 14	1.8	1.7	1.4	2.2	1.8	1.1	0.9	4	4.6	7.9	6	7.5	6.3	6.8	8.6	6.1	3.9	1.8	3.7	2.6	3.6	3.7	4.8	6.4	0.9	8.6	4.1	
May 15	5.3	6.3	5.3	7	3.9	3	5.3	6.5	7.5	6.1	6.9	7.1	8.2	7.4	5.4	5.1	5.1	4.1	5.2	4.5	3	3.2	5.7	6.7	3.0	8.2	5.6	
May 16	6.9	7.6	7.4	8.3	8.4	8.6	9.1	11.4	11.2	9.8	12.1	10.8	12.1	13.6	12.8	16	13.4	13	12.4	13.5	10.2	5.7	6.9	12	5.7	16.0	10.6	
May 17	11.9	11.4	8.4	6.8	8.1	13.2	14.5	15.1	15.6	12.8	13.5	18.4	21	22.5	25.1	25.4	22.9	18.5	17.6	13.4	18.7	12.5	9.3	10.1	6.8	25.4	15.3	
May 18	11.3	12.1	13.1	10.8	10.3	9.6	10.5	11.4	14	20.1	24.7	26.3	25.9	25.2	24.4	25.3	26.6	26.6	27.7	25.7	17.9	6.7	5.7	5.6	5.6	27.7	17.4	
May 19	7.6	5.3	6.4	9.4	11.8	13.9	16.5	19.1	24.7	27.4	25	26.4	20.2	20.1	20	22.4	20.8	19.7	21	18.2	13.2	11.1	5.6	5.2	5.2	27.4	16.3	
May 20	5.1	4.2	2.4	6.4	7.2	5.1	7.6	11.6	14	22.3	20.4	18.2	18.4	16.3	15.7	15.2	17.4	15.5	14.6	18.1	11.9	5.2	5	1.8	1.8	22.3	11.7	
May 21	1.1	2	2.7	3.1	3.1	2.1	4.2	7.1	12.4	17.4	16.3	14	15.6	16.7	16.2	9.7	8.8	8.1	7	6.1	4.6	2.7	2.3	2.3	1.1	17.4	7.7	
May 22	2.1	2.3	2.1	2	2.4	1.9	1.5	1.3	3.3	4.2	3.9	3	5.2	3.3	3.4	6.5	3.8	4.2	1	2.4	2.7	2.3	1	2.9	1.0	6.5	2.9	
May 23	0.9	0.5	2.2	0.9	1	0.2	2.1	5.2	4.2	5.9	5.2	6	8	9.7	8.6	8	5.8	5.7	2	5.2	6.3	3.2	3.1	2.3	0.2	9.7	4.3	
May 24	2.5	1.6	1.9	2.3	2.4	3.2	3.6	4.6	4.9	6	8.1	6.1	5.6	7.8	6.9	6.7	4.6	3.2	4.5	4.1	1.2	0.9	1.5	1.4	0.9	8.1	4.0	
May 25	1	2.3	0.3	1.2	3	5	4.2	4.1	6.7	6.3	8.1	9.1	8.4	9.1	8.8	8.6	7.8	8.2	6.9	3.6	0.8	0.4	2	2.7	0.3	9.1	4.9	
May 26	2.6	2.6	3.5	2.9	3.4	6.4	6.2	5.1	5.2	4.3	8.6	7.3	5.1	5.9	5.6	7.7	6.7	6.5	5.2	3.3	3.1	4.1	4.8	3.9	2.6	8.6	5.0	
May 27	2.6	1.7	4.9	2.8	2	3.5	4.4	7.7	5.8	4.2	5.9	7.2	7.6	6.4	5.4	6.4	4.8	3.9	7.4	8.4	7	8.7	2.9	2	1.7	8.7	5.2	
May 28	3	3.4	6	7.3	9.2	6.6	4.2	5.8	6.8	8.4	7.4	7.1	8.7	7.5	8.2	7.1	8.1	7.5	7.5	5.3	3.9	2.9	1.8	2	1.8	9.2	6.1	
May 29	1.6	2.7	4.2	4.7	2.9	3.8	4.3	7.2	7.2	6.9	8.2	8.5	8.5	8.5	8.1	12.3	11.1	6.3	2.1	3.4	6.8	7.2	6.3	5.9	1.6	12.3	6.2	
May 30	6.6	6.3	3.5	3.4	5.9	8.5	10	9.2	9.3	10	8.9	9	8.4	7.5	6.3	6.2	6.1	5.4	3.5	1.5	0.6	1.5	1	2.8	0.6	10.0	5.9	
May 31	3.6	3.5	4.6	4.5	4	3.3	4.4	4.2	5	8	11.1	15.7	14.2	11.9	12.3	11.5	10	11.4	13.3	12.6	8.5	3.1	2.6	3	2.6	15.7	7.8	
Diurnal Maximum	12	12	13	11	12	14	17	19	25	27	25	26	26	28	31	27	27	27	28	26	19	13	9	12				
Diurnal Average	4.0	3.9	4.4	4.8	5.0	5.4	6.3	7.7	8.5	9.4	10.1	10.7	10.6	11.1	10.8	10.6	10.0	9.1	8.5	7.3	5.8	4.0	3.7	4.1				

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.

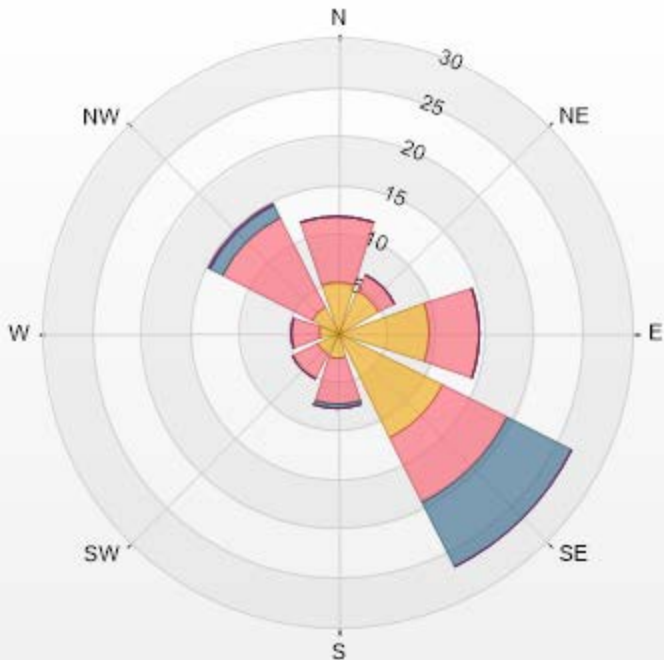
Timeseries Chart of Hourly Average for VWS - 986b Station



Wind: PRAMP 986 Poll.: PRAMP 986-WDS[KPH] Monthly: 05-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 8.06% Valid Data: 100.00% Calm Avg: 1.10 [KPH]

Direction	1.8-6	6-15	15-29	29-39	>39.0	Total
N	5.24	6.59	0	0	0	11.83
NE	4.7	1.88	0	0	0	6.58
E	9.41	4.97	0	0	0	14.38
SE	12.1	7.26	7.26	0	0	26.62
S	2.69	4.57	0.54	0	0	7.8
SW	2.42	2.82	0	0	0	5.24
W	1.88	2.96	0	0	0	4.84
NW	2.96	10.08	1.48	0.13	0	14.65
Summary	41.4	41.13	9.28	0.13	0	91.94

1.10[KPH]
 PRAMP Monthly Ambient Air Quality Monitoring Report for May 2019



% Icon Classes (KPH)	41	1.8-6	41	6-15	9	15-29	0	29-39	0	>39.0



PEACE RIVER AREA MONITORING PROGRAM

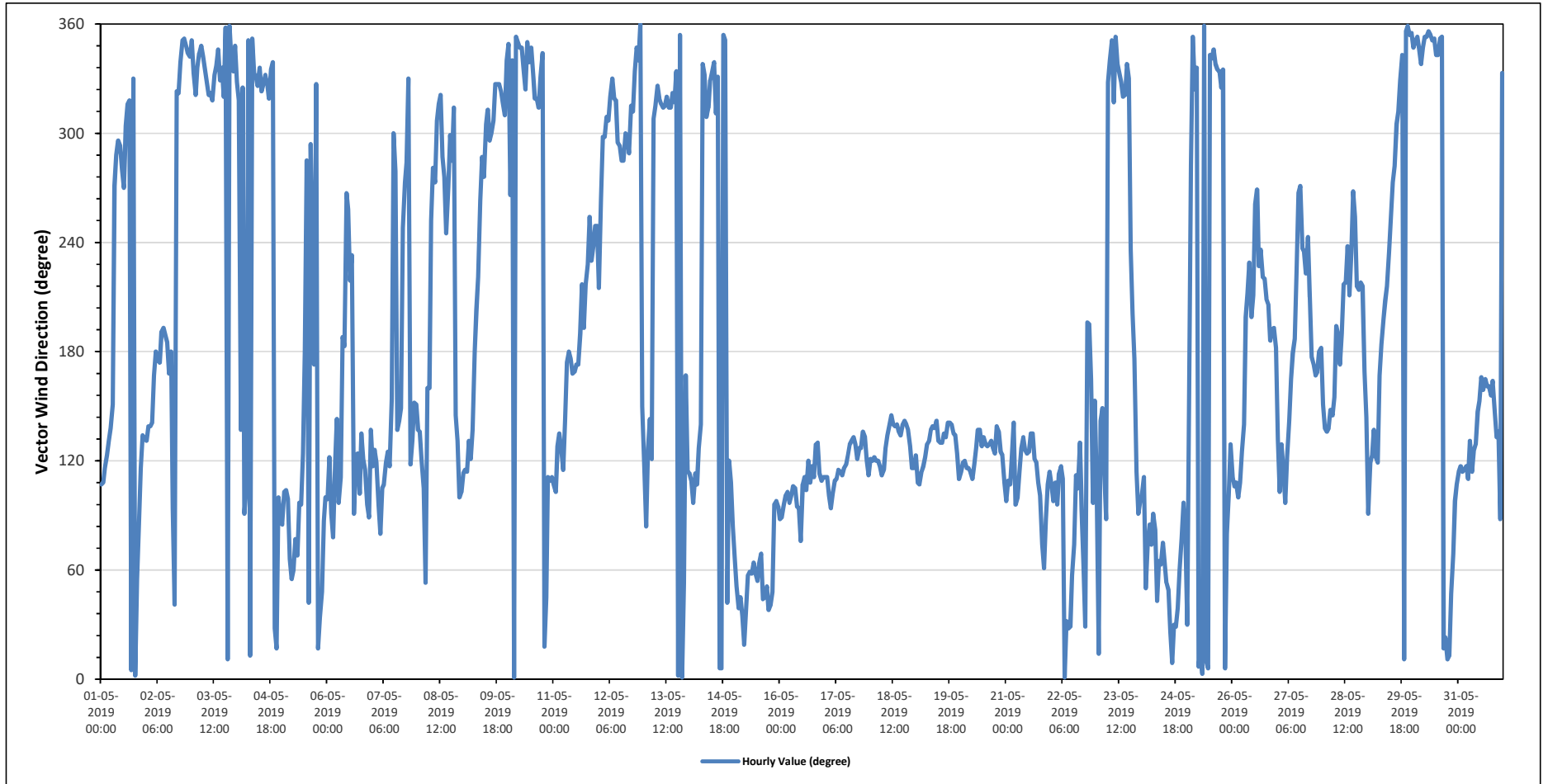
986b Station - May 2019

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

Monthly Average:		116 (ESE) 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			
May 1	ESE	ESE	ESE	ESE	SE	SE	SSE	W	WNW	WNW	WNW	W	W	WNW	NW	NW	N	NNW	N	NE	E	ESE	SE	SE	314	NW			
May 2	SE	SE	SE	SE	SSE	S	S	S	S	S	S	S	SSE	S	E	NE	NW	NW	NNW	N	N	NNW	NNW	NNW	181	S			
May 3	N	NNW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NW	NW	NNW	NNW	NNW	NNW	NNW	NW	N	NNE	N	NNW	NNW	NNW	334	NNW			
May 4	NNW	NW	SE	NW	E	ESE	N	NNE	N	NNW	NNW	NW	NNW	NW	NW	NNW	NW	NW	NNW	NNW	NNE	NNE	E	E	338	NNW			
May 5	E	ESE	ESE	E	ENE	NE	ENE	ENE	ENE	E	E	ESE	S	WNW	NE	WNW	SW	S	NW	NNE	NE	NE	E	E	81	E			
May 6	E	ESE	E	ENE	ESE	SE	E	ESE	S	W	WSW	SW	SW	E	ESE	ESE	E	SE	ESE	ESE	E	E	SE	E	135	SE			
May 7	ESE	SE	ESE	E	E	ESE	ESE	ESE	SE	ESE	SSE	WNW	W	SE	SE	SSE	WSW	W	WNW	NNW	ESE	SE	SSE	SSE	138	SE			
May 8	SE	SE	ESE	ESE	NE	SSE	SSE	WSW	W	W	NW	NW	WNW	W	WSW	W	WNW	WNW	NW	SE	E	ESE	ESE	ESE	276	W			
May 9	ESE	ESE	ESE	SE	ESE	SE	S	SSW	SW	W	WNW	W	WNW	NW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	302	WNW			
May 10	NNW	W	NNW	N	N	N	NNW	NNW	NNW	NW	N	NNW	NNW	NNW	NW	NW	NW	NNW	NNW	NNE	NE	ESE	ESE	ESE	340	NNW			
May 11	ESE	ESE	SE	SE	SE	ESE	SE	S	S	S	SSE	SSE	S	S	S	SW	S	SW	SW	WSW	SW	SW	WSW	WSW	180	S			
May 12	SSW	W	WNW	WNW	NW	NW	NNW	NW	NW	NW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NNW	NNW	N	SSE	308	NW				
May 13	ESE	E	SE	SE	ESE	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	N	N	N	NE	SSE	ESE	324	NW			
May 14	ESE	ESE	E	ESE	ESE	SE	SE	NNW	NNW	NW	NW	NNW	NNW	NNW	NNW	N	N	N	N	NE	ESE	ESE	E	353	N				
May 15	ENE	NE	NE	NE	NE	NNE	NE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	E	E	E	E	56	NE			
May 16	E	E	E	E	ESE	E	E	ESE	ESE	E	E	ENE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	106	ESE			
May 17	ESE	ESE	E	E	E	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	121	ESE			
May 18	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	134	SE			
May 19	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	133	SE			
May 20	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	128	SE			
May 21	E	ESE	ESE	ESE	SE	E	E	ESE	SE	SE	SE	SE	SE	SE	SE	ESE	ESE	ESE	E	ENE	ENE	E	ESE	ESE	120	ESE			
May 22	ESE	E	ESE	E	ESE	ESE	ESE	N	NNE	NNE	NNE	ENE	ENE	ESE	ESE	SE	E	ENE	NNE	SSW	SSW	SSE	E	SSE	94	E			
May 23	ESE	NNE	SE	SSE	ESE	E	NNW	NNW	N	NW	N	NNW	NNW	NNW	NW	NW	NNW	NNW	SW	SSW	S	ESE	E	E	332	NNW			
May 24	E	ESE	NE	ENE	E	ENE	E	E	NE	ENE	ENE	ENE	ENE	NE	NE	NNE	N	NNE	NNE	NE	ENE	ENE	E	E	58	ENE			
May 25	NNE	SSE	W	N	NW	NNW	N	NNE	N	N	N	N	NNW	NNW	NNW	NNW	NNW	NNW	NW	NNW	N	E	E	SE	351	N			
May 26	ESE	ESE	ESE	E	ESE	SE	SE	SSW	SSW	SW	SSW	SSW	W	W	SW	SW	SW	SW	SSW	SSW	S	S	S	S	198	SSW			
May 27	SE	ESE	SE	ESE	E	ESE	SE	SSE	S	S	SW	W	W	SW	SW	SW	WSW	SSW	S	S	SSE	SSE	S	S	190	S			
May 28	SSE	SE	SE	SE	SE	SE	SSE	SSW	S	S	S	SW	SW	SW	SSW	SW	W	WSW	SW	SSW	SW	SSW	SW	SSE	196	SSW			
May 29	E	ESE	ESE	SE	ESE	ESE	SSE	S	SSW	SSW	SW	SW	WSW	W	W	WNW	NW	NNW	NNW	NNE	N	N	N	276	W				
May 30	NNW	N	N	NNW	NNW	NNW	N	N	N	N	N	N	NNW	NNW	N	N	NNE	NNE	NNE	NE	ENE	E	ESE	ESE	356	N			
May 31	ESE	ESE	ESE	ESE	ESE	ESE	SE	ESE	SE	SE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	E	NNW	147	SE			
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



842b STATION



PEACE RIVER AREA MONITORING PROGRAM

842b Station - May 2019

Summary of Hourly Averages

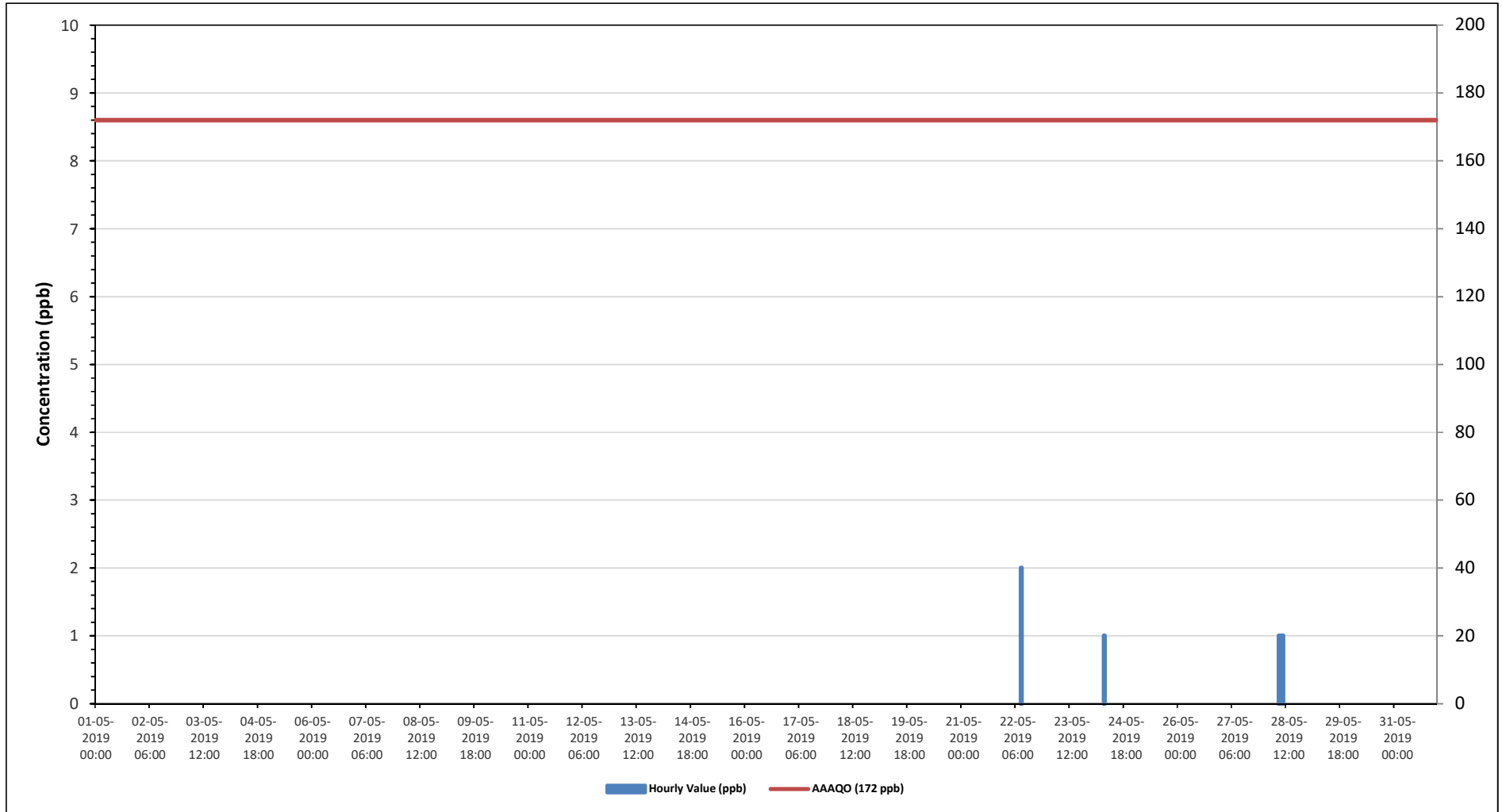
SULPHUR DIOXIDE (SO₂) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb																																					
Number of 1-Hour Exceedences:					0					Number of 24-Hour Exceedences:					0					30-Day Exceedence:					0												
Maximum Hourly Value:	2 ppb on May 22 at hour 9																				Hours in Service:	744															
Maximum Daily Value:	0.1 ppb on May 28																				Hours of Data:	709															
Minimum Hourly Value:	0 ppb on May 1 at hour 0																				Hours of Missing Data:	0															
Minimum Daily Value:	0.0 ppb on May 1																				Hours of Calibration:	35															
Monthly Average:	0.0 ppb																				Operational Uptime:	100.0															
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average											
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23										
May 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diurnal Maximum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daiurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
C	Calibration					S	Daily Zero/Span					Q	Quality Assurance					C1	Repeat Calibration					S1	Repeat Daily Zero/Span												
G	Out for Repair					K	Collection Error					N	Not in Service					O	Operator Error					P	Power Failure												
R	Recovery					X	Machine Malfunction					Y	Maintenance					T	Exceeds Temperature Limits					N	Not in Service												

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

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

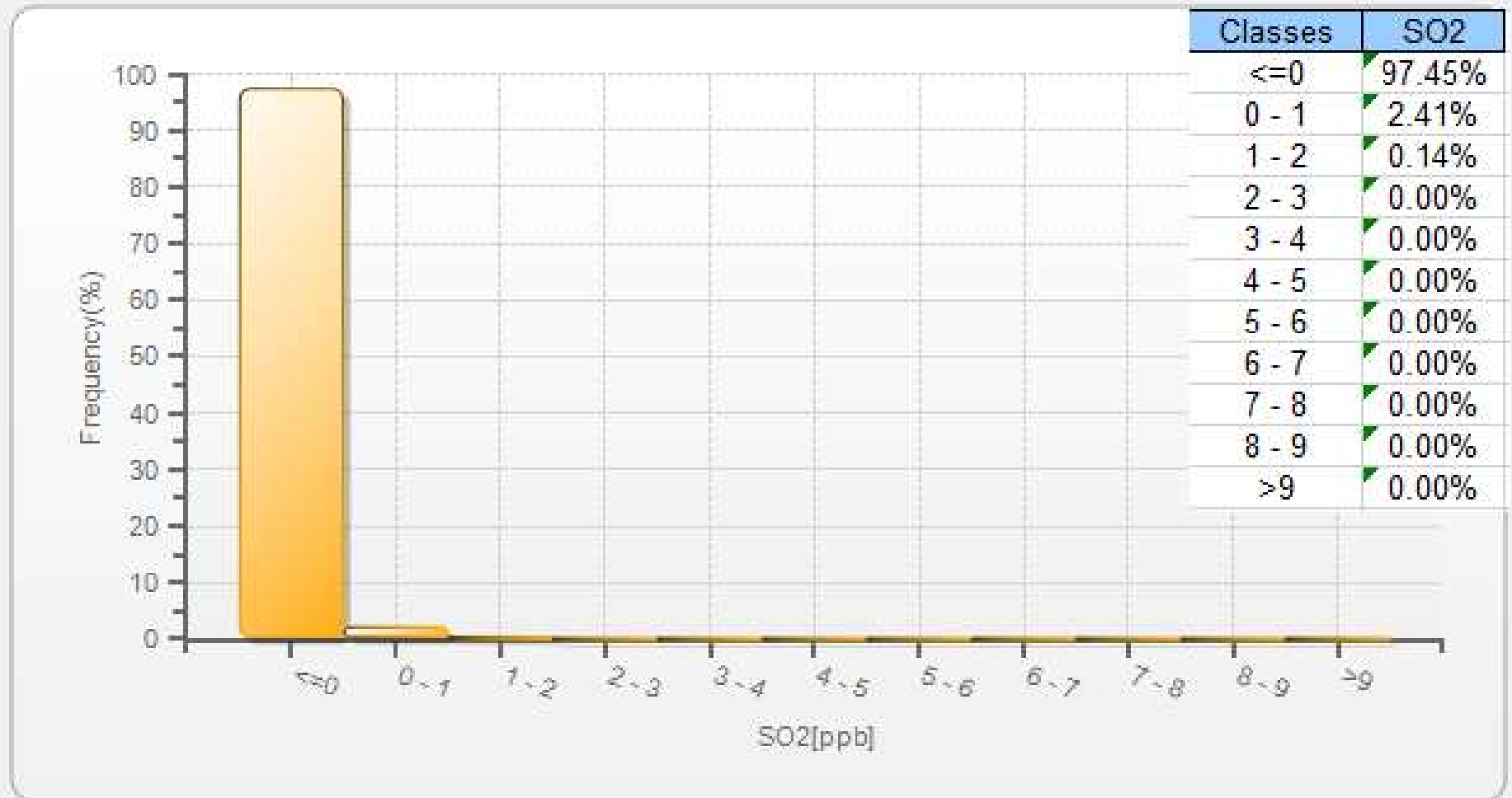
Timeseries Chart of Hourly Average for SO₂ - 842b Station



Wind: PRAMP 842 Poll.: PRAMP 842-SO2[ppb] Monthly: 05-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppb]

Direction	0-10	10-50	50-100	100-172	>172.0	Total
N	12.06	0	0	0	0	12.06
NE	11.49	0	0	0	0	11.49
E	19.86	0	0	0	0	19.86
SE	22.98	0	0	0	0	22.98
S	6.67	0	0	0	0	6.67
SW	8.51	0	0	0	0	8.51
W	4.11	0	0	0	0	4.11
NW	14.33	0	0	0	0	14.33
Summary	100	0	0	0	0	100

SO2[ppb] Histogram: PRAMP 842 Monthly: 05-2019 1 Hr.





PEACE RIVER AREA MONITORING PROGRAM

842b Station - May 2019

Summary of Hourly Averages

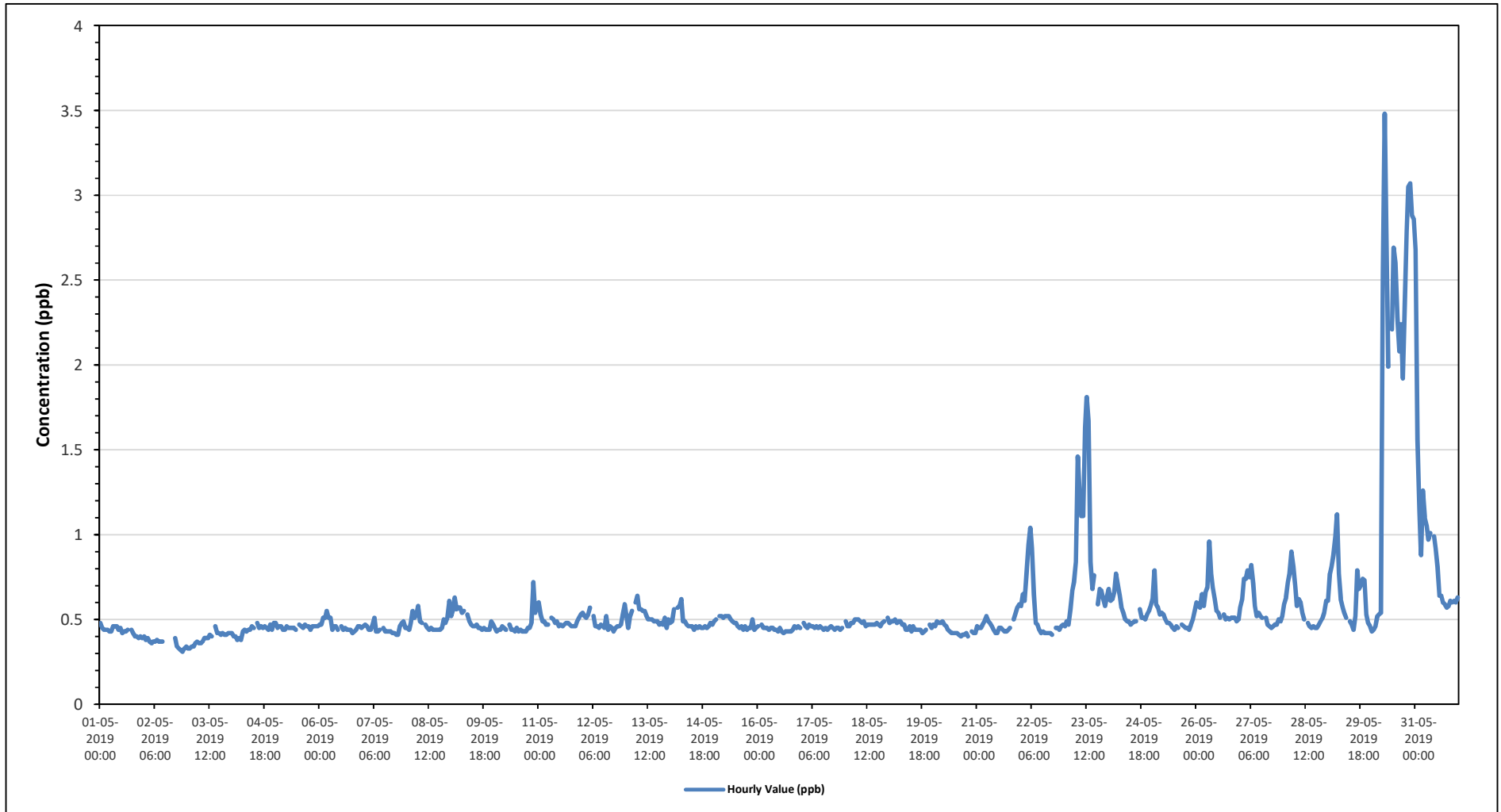
TOTAL REDUCED SULPHUR (TRS) in ppb

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:		3.48 ppb on May 30 at hour 7										Hours in Service:		744													
Maximum Daily Value:		2.03 ppb on May 30										Hours of Data:		707													
Minimum Hourly Value:		0.31 ppb on May 2 at hour 21										Hours of Missing Data:		0													
Minimum Daily Value:		0.36 ppb on May 2										Hours of Calibration:		37													
Monthly Average:		0.57 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
May 1	0.48	0.45	0.44	0.44	0.44	0.43	0.43	0.46	0.46	0.46	0.44	0.45	0.42	0.43	0.43	0.44	S	0.44	0.42	0.4	0.4	0.39	0.4	0.39	0.39	0.48	0.43
May 2	0.4	0.38	0.39	0.37	0.36	0.37	0.37	0.38	0.37	0.37	0.37	0.37	C	C	C	C	C	0.39	0.34	0.33	0.32	0.31	0.33	0.34	0.31	0.40	0.36
May 3	0.33	0.33	0.34	0.34	0.36	0.37	0.36	0.36	0.36	0.37	0.39	0.37	C	C	C	C	C	0.42	0.41	0.41	0.41	0.41	0.42	0.42	0.33	0.46	0.39
May 4	0.42	0.4	0.4	0.38	0.39	0.38	0.43	0.44	0.43	0.44	0.44	0.46	0.45	S	0.48	0.45	0.46	0.45	0.46	0.45	0.44	0.47	0.44	0.48	0.38	0.48	0.44
May 5	0.48	0.45	0.46	0.46	0.44	0.44	0.46	0.45	0.45	0.45	0.45	0.44	S	0.47	0.46	0.45	0.47	0.46	0.46	0.44	0.46	0.46	0.46	0.46	0.44	0.48	0.46
May 6	0.47	0.47	0.51	0.51	0.55	0.51	0.51	0.44	0.46	0.46	0.44	S	0.46	0.44	0.45	0.44	0.44	0.42	0.42	0.43	0.44	0.46	0.46	0.45	0.42	0.55	0.46
May 7	0.46	0.47	0.46	0.44	0.44	0.47	0.51	0.43	0.43	0.44	S	0.45	0.43	0.43	0.43	0.43	0.42	0.42	0.41	0.41	0.46	0.48	0.49	0.45	0.41	0.51	0.45
May 8	0.45	0.44	0.48	0.55	0.51	0.53	0.58	0.49	0.48	S	0.47	0.45	0.44	0.45	0.44	0.44	0.44	0.44	0.44	0.45	0.5	0.48	0.51	0.61	0.44	0.61	0.48
May 9	0.52	0.55	0.63	0.56	0.57	0.57	0.54	0.55	S	0.53	0.49	0.47	0.46	0.46	0.47	0.45	0.45	0.44	0.45	0.44	0.44	0.49	0.47	0.44	0.63	0.50	0.50
May 10	0.45	0.43	0.44	0.44	0.46	0.45	0.44	S	0.47	0.44	0.44	0.43	0.45	0.43	0.44	0.43	0.43	0.43	0.45	0.45	0.48	0.72	0.54	0.59	0.43	0.72	0.47
May 11	0.6	0.53	0.49	0.49	0.47	0.47	S	0.51	0.5	0.48	0.49	0.46	0.47	0.46	0.47	0.48	0.48	0.47	0.46	0.46	0.46	0.49	0.51	0.53	0.46	0.60	0.49
May 12	0.54	0.52	0.51	0.53	0.57	S	0.52	0.46	0.46	0.45	0.47	0.46	0.45	0.52	0.44	0.46	0.45	0.43	0.45	0.46	0.46	0.47	0.53	0.59	0.43	0.59	0.49
May 13	0.53	0.45	0.52	0.55	S	0.6	0.64	0.56	0.56	0.55	0.55	0.52	0.5	0.5	0.5	0.49	0.49	0.49	0.47	0.48	0.47	0.51	0.45	0.5	0.45	0.64	0.52
May 14	0.48	0.49	0.56	S	0.57	0.58	0.62	0.49	0.49	0.47	0.46	0.46	0.46	0.44	0.46	0.45	0.46	0.45	0.45	0.46	0.45	0.46	0.48	0.47	0.44	0.62	0.49
May 15	0.49	0.5	S	0.52	0.52	0.51	0.52	0.52	0.52	0.5	0.49	0.48	0.48	0.46	0.45	0.46	0.44	0.46	0.44	0.45	0.45	0.5	0.44	0.45	0.44	0.52	0.48
May 16	0.46	S	0.47	0.45	0.45	0.45	0.44	0.45	0.45	0.44	0.44	0.43	0.45	0.43	0.42	0.43	0.43	0.43	0.43	0.44	0.46	0.45	0.46	0.45	0.42	0.47	0.44
May 17	S	0.48	0.46	0.45	0.47	0.46	0.46	0.45	0.46	0.45	0.46	0.45	0.44	0.45	0.44	0.45	0.46	0.45	0.44	0.45	0.45	0.44	0.45	S	0.44	0.48	0.45
May 18	0.49	0.46	0.46	0.48	0.48	0.5	0.5	0.5	0.49	0.48	0.49	0.46	0.47	0.47	0.47	0.47	0.48	0.47	0.46	0.48	0.49	S	0.51	0.46	0.51	0.48	0.48
May 19	0.48	0.49	0.49	0.5	0.48	0.49	0.49	0.47	0.47	0.44	0.44	0.46	0.43	0.46	0.44	0.44	0.44	0.44	0.42	0.43	0.44	S	0.47	0.45	0.42	0.50	0.46
May 20	0.47	0.46	0.49	0.48	0.48	0.49	0.47	0.46	0.44	0.43	0.42	0.42	0.42	0.42	0.41	0.4	0.41	0.41	0.42	0.4	S	0.43	0.42	0.42	0.40	0.49	0.44
May 21	0.46	0.45	0.45	0.47	0.49	0.52	0.49	0.48	0.46	0.44	0.42	0.42	0.45	0.45	0.44	0.43	0.43	0.44	0.45	S	0.5	0.54	0.57	0.59	0.42	0.59	0.47
May 22	0.58	0.65	0.61	0.77	0.94	1.04	0.92	0.65	0.48	0.47	0.44	0.42	0.43	0.42	0.42	0.42	0.42	0.42	0.41	S	0.45	0.44	0.46	0.47	0.41	1.04	0.55
May 23	0.46	0.49	0.47	0.56	0.67	0.72	0.84	1.46	1.27	1.11	1.11	1.63	1.81	1.67	0.84	0.68	0.76	S	0.59	0.68	0.67	0.62	0.58	0.64	0.46	1.81	0.88
May 24	0.68	0.61	0.62	0.66	0.77	0.7	0.64	0.57	0.54	0.5	0.49	0.49	0.47	0.48	0.49	0.49	S	0.56	0.51	0.51	0.5	0.53	0.55	0.58	0.47	0.77	0.56
May 25	0.62	0.79	0.59	0.57	0.53	0.54	0.53	0.5	0.48	0.48	0.47	0.45	0.44	0.46	0.45	S	0.47	0.46	0.45	0.45	0.44	0.47	0.5	0.55	0.44	0.79	0.51
May 26	0.6	0.58	0.57	0.65	0.58	0.66	0.69	0.96	0.77	0.69	0.62	0.55	0.54	0.51	S	0.53	0.5	0.51	0.5	0.51	0.51	0.51	0.49	0.5	0.49	0.96	0.59
May 27	0.57	0.62	0.74	0.74	0.79	0.75	0.82	0.71	0.58	0.52	0.54	0.52	0.51	S	0.51	0.47	0.46	0.45	0.46	0.47	0.47	0.5	0.49	0.52	0.45	0.82	0.57
May 28	0.59	0.63	0.72	0.77	0.9	0.81	0.7	0.58	0.62	0.6	0.54	0.5	S	0.48	0.46	0.45	0.46	0.45	0.47	0.49	0.51	0.54	0.61	0.45	0.90	0.58	
May 29	0.61	0.77	0.81	0.88	0.99	1.12	0.77	0.62	0.57	0.54	0.51	S	0.49	0.47	0.44	0.52	0.79	0.68	0.7	0.74	0.73	0.53	0.48	0.46	0.44	1.12	0.66
May 30	0.43	0.44	0.46	0.52	0.53	0.54	2.54	3.48	2.8	1.99	S	2.21	2.69	2.6	2.28	2.08	2.24	1.92	2.36	2.79	3.05	3.07	2.88	2.86	0.43	3.48	2.03
May 31	2.68	1.56	1.14	0.88	1.26	1.1	1.05	0.97	1.01	S	0.99	0.92	0.81	0.64	0.64	0.6	0.59	0.57	0.58	0.61	0.6	0.61	0.6	0.63	0.57	2.68	0.91
Diurnal Maximum	2.68	1.56	1.14	0.88	1.26	1.12	2.54	3.48	2.80	1.99	1.11	2.21	2.69	2.60	2.28	2.08	2.24	1.92	2.36	2.79	3.05	3.07	2.88	2.86			
Daiurnal Average	0.58	0.54	0.54	0.55	0.58	0.59	0.64	0.66	0.61	0.55	0.51	0.58	0.60	0.58	0.54	0.52	0.54	0.51	0.53	0.55	0.56	0.57	0.56	0.58			
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.

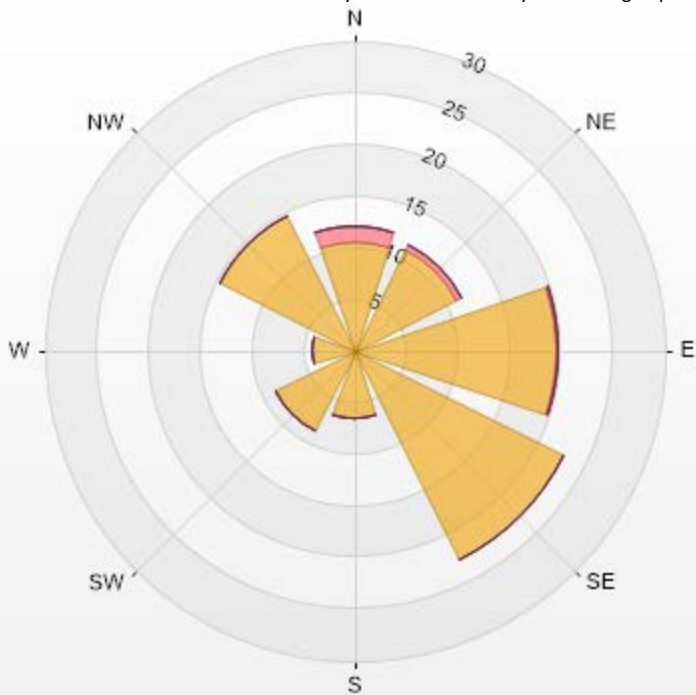
Timeseries Chart of Hourly Average for TRS - 842b Station



Wind: PRAMP 842 Poll.: PRAMP 842-TRS[ppb] Monthly: 05-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	10.61	1.41	0	0	0	12.02
NE	11.03	0.57	0	0	0	11.6
E	19.52	0.28	0	0	0	19.8
SE	22.63	0	0	0	0	22.63
S	6.65	0	0	0	0	6.65
SW	8.63	0	0	0	0	8.63
W	4.1	0	0	0	0	4.1
NW	14.57	0	0	0	0	14.57
Summary	97.74	2.26	0	0	0	100

PRAMP Monthly Ambient Air Quality Monitoring Report for May 2019



% Icon Classes (ppb)	98	2	0	0	0
0-2	98	2	0	0	0
2-5		2			
5-10			0		
10-50				0	
>50.0					0



PEACE RIVER AREA MONITORING PROGRAM

842b Station - May 2019
Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

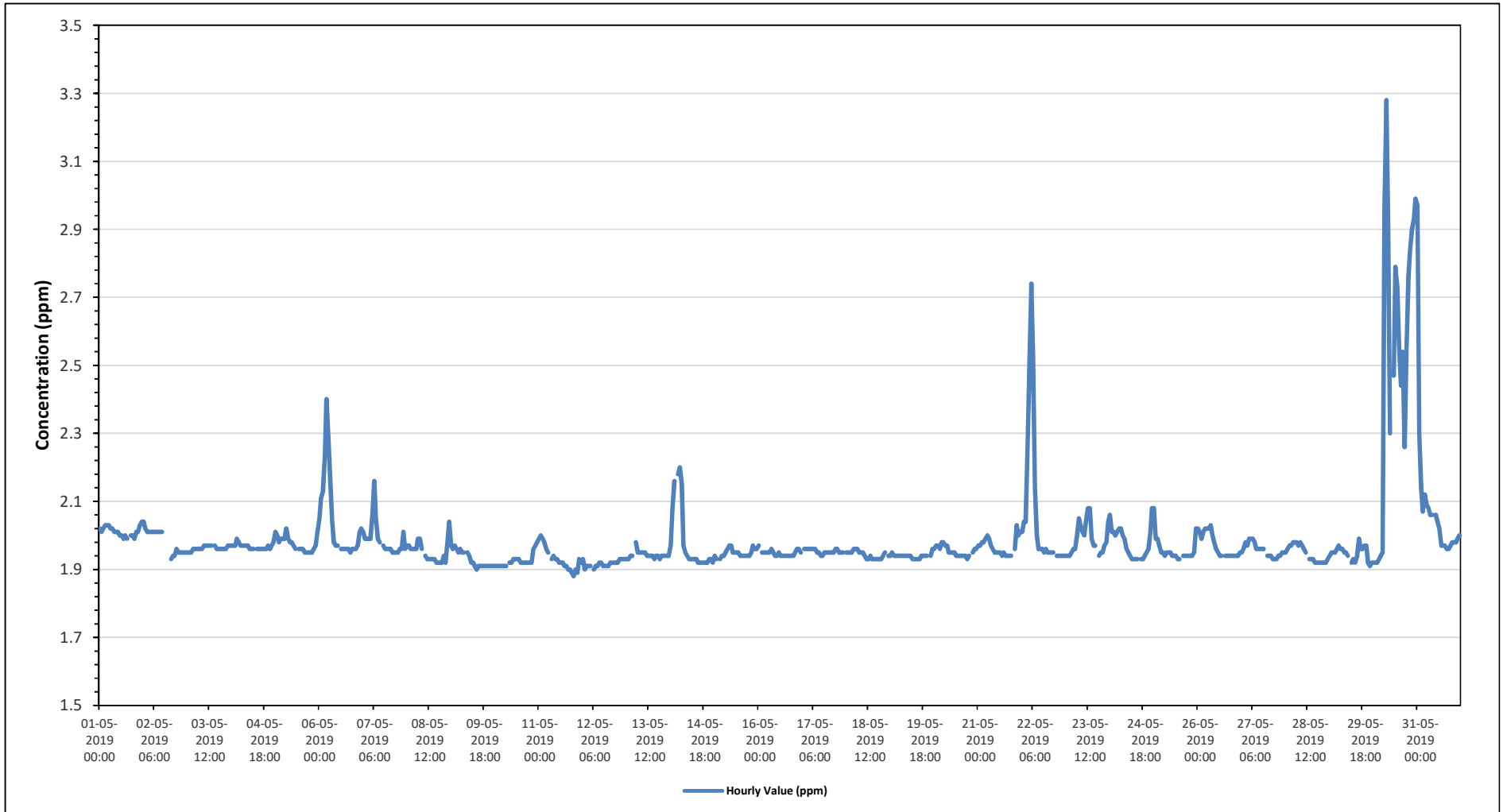
Maximum Hourly Value:	3.28 ppm on May 30 at hour 7	Hours in Service:	744
Maximum Daily Value:	2.51 ppm on May 30	Hours of Data:	709
Minimum Hourly Value:	1.88 ppm on May 11 at hour 19	Hours of Missing Data:	0
Minimum Daily Value:	1.92 ppm on May 12	Hours of Calibration:	35
Monthly Average:	1.99 ppm	Operational 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	
May 1	2.02	2.01	2.02	2.03	2.03	2.03	2.02	2.02	2.01	2.01	2.01	2.01	2.00	2.00	1.99	2.00	1.99	S	2.00	2.00	1.99	2.01	2.01	2.03	2.04	1.99	2.04	2.01
May 2	2.04	2.02	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	C	C	C	C	S	1.93	1.94	1.94	1.96	1.95	1.95	1.95	1.95	1.93	2.04	1.98
May 3	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.97	S	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.95	1.97	1.96
May 4	1.97	1.97	1.97	1.99	1.98	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.96	S	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.97	1.98	1.96	1.99	1.97
May 5	2.01	2.00	1.98	1.99	1.99	1.99	2.02	1.99	1.98	1.98	1.97	1.96	S	1.96	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.96	1.97	2.01	1.95	2.02	1.98	
May 6	2.05	2.11	2.13	2.23	2.40	2.29	2.16	2.04	1.98	1.97	1.97	S	1.96	1.96	1.96	1.96	1.96	1.95	1.96	1.96	1.96	1.97	2.01	2.02	1.95	2.40	2.04	
May 7	2.01	1.99	1.99	1.99	1.99	2.06	2.16	2.05	1.99	1.98	S	1.97	1.96	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.96	1.96	2.01	1.96	1.95	2.16	1.99	
May 8	1.97	1.97	1.96	1.96	1.96	1.96	1.99	1.99	1.96	S	1.94	1.93	1.93	1.93	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.94	1.92	1.98	2.04	1.92	2.04	1.95
May 9	1.97	1.96	1.97	1.96	1.95	1.96	1.95	S	1.95	1.94	1.92	1.92	1.91	1.90	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.90	1.97	1.93
May 10	1.91	1.91	1.91	1.91	1.91	1.91	1.91	S	1.92	1.92	1.92	1.93	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.96	1.97	1.98	1.91	1.98	1.93
May 11	1.99	2.00	1.99	1.98	1.96	1.95	S	1.93	1.94	1.93	1.93	1.92	1.92	1.92	1.91	1.91	1.90	1.90	1.89	1.88	1.90	1.89	1.93	1.92	1.88	2.00	1.93	
May 12	1.93	1.90	1.91	1.91	1.91	S	1.90	1.91	1.91	1.91	1.92	1.91	1.91	1.91	1.91	1.92	1.92	1.92	1.92	1.92	1.92	1.93	1.93	1.93	1.93	1.90	1.93	1.92
May 13	1.93	1.93	1.94	1.94	S	1.98	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.93	1.94	1.94	1.93	1.94	1.94	1.94	1.94	1.94	1.93	1.98	1.94
May 14	1.97	2.08	2.16	S	2.18	2.20	2.15	1.97	1.95	1.94	1.93	1.93	1.93	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.93	1.93	1.92	1.92	1.92	2.20	1.98
May 15	1.94	1.93	S	1.93	1.94	1.94	1.95	1.96	1.97	1.97	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.97	1.96	1.96	1.93	1.97	1.95
May 16	1.97	S	1.95	1.95	1.95	1.95	1.95	1.96	1.95	1.94	1.94	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.96	1.96	1.95	1.94	1.97	1.95
May 17	S	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.95	1.94	1.94	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.96	1.95	1.95	1.95	S	1.94	1.96	1.95
May 18	1.95	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.95	1.95	1.95	1.94	1.93	1.93	1.94	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.94	1.95	S	1.94	1.96	1.94
May 19	1.94	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.93	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.94	1.94	S	1.94	1.96	1.93	1.94
May 20	1.96	1.97	1.97	1.96	1.98	1.98	1.97	1.97	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.93	1.94	S	1.95	1.96	1.96	1.93	2.03	1.95
May 21	1.97	1.97	1.98	1.98	1.99	2.00	1.99	1.97	1.96	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.95	1.94	1.94	1.94	1.94	1.94	S	1.96	2.03	2.00	2.01	1.94
May 22	2.01	2.04	2.04	2.26	2.50	2.74	2.52	2.14	2.00	1.96	1.96	1.96	1.95	1.96	1.95	1.95	1.95	1.95	1.95	S	1.94	1.95	1.95	1.97	1.98	2.04	1.94	2.07
May 23	1.94	1.94	1.94	1.95	1.96	1.96	2.00	2.05	2.03	2.01	2.00	2.05	2.08	2.08	1.99	1.97	1.97	S	1.94	1.95	1.95	1.97	1.98	2.04	1.94	2.08	1.99	
May 24	2.06	2.01	2.01	2.00	2.01	2.02	2.02	2.00	1.99	1.96	1.95	1.94	1.93	1.93	1.93	1.93	S	S	1.93	1.93	1.94	1.95	1.96	2.01	2.08	1.93	2.08	1.98
May 25	2.08	1.99	1.99	1.97	1.95	1.95	1.94	1.95	1.95	1.95	1.94	1.94	1.94	1.93	1.93	S	1.94	1.94	1.94	1.94	1.94	1.94	1.95	2.02	1.93	2.08	1.96	
May 26	2.02	2.01	1.99	2.01	2.02	2.02	2.02	2.03	2.00	1.98	1.96	1.95	1.94	1.94	S	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	2.03	1.97
May 27	1.95	1.96	1.98	1.97	1.99	1.99	1.99	1.98	1.96	1.96	1.96	1.96	1.96	S	1.94	1.94	1.94	1.93	1.93	1.93	1.93	1.94	1.95	1.95	1.93	1.99	1.96	
May 28	1.95	1.96	1.97	1.97	1.98	1.98	1.98	1.97	1.98	1.97	1.96	1.95	S	1.93	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.98	1.95
May 29	1.94	1.95	1.95	1.95	1.96	1.97	1.96	1.96	1.95	1.95	1.94	S	1.92	1.93	1.92	1.94	1.99	1.96	1.96	1.96	1.97	1.97	1.92	1.91	1.92	1.91	1.99	1.95
May 30	1.92	1.92	1.92	1.93	1.94	1.95	2.96	3.28	2.91	2.30	S	2.47	2.79	2.73	2.55	2.44	2.54	2.26	2.55	2.76	2.84	2.90	2.93	2.99	1.92	3.28	2.51	
May 31	2.97	2.30	2.14	2.07	2.12	2.09	2.08	2.06	2.06	S	2.06	2.04	2.02	1.97	1.97	1.97	1.96	1.96	1.97	1.98	1.98	1.98	1.99	2.00	1.96	2.97	2.08	
Diurnal Maximum	2.97	2.30	2.16	2.26	2.50	2.74	2.96	3.28	2.91	2.30	2.06	2.47	2.79	2.73	2.55	2.44	2.54	2.26	2.55	2.76	2.84	2.90	2.93	2.99				
Diurnal Average	2.01	1.99	1.99	1.99	2.01	2.02	2.04	2.03	2.00	1.97	1.96	1.97	1.98	1.98	1.96	1.96	1.96	1.95	1.96	1.97	1.98	1.98	1.99	2.01				

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

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

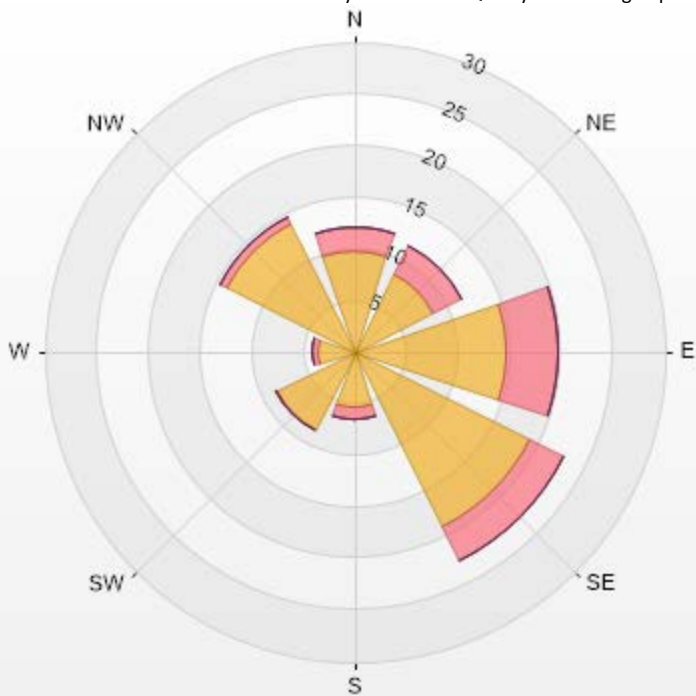
Timeseries Chart of Hourly Average for THC - 842b Station



Wind: PRAMP 842 Poll.: PRAMP 842-THC55[ppm] Monthly: 05-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 95.30% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	9.73	2.4	0	0	0	12.13
NE	8.46	3.1	0	0	0	11.56
E	14.67	5.08	0	0	0	19.75
SE	18.9	3.67	0	0	0	22.57
S	5.5	1.13	0	0	0	6.63
SW	8.46	0.14	0	0	0	8.6
W	3.67	0.42	0	0	0	4.09
NW	13.82	0.85	0	0	0	14.67
Summary	83.21	16.79	0	0	0	100

PRAMP Monthly Ambient Air Quality Monitoring Report for May 2019



% Icon Classes (ppm)	83	17	0	0	0
0-2	83	17	0	0	0
2-5		17	0	0	0
5-10			0	0	0
10-40			0	0	0
>40.0				0	0



PEACE RIVER AREA MONITORING PROGRAM

842b Station - May 2019
 Summary of Hourly Averages

METHANE (CH4) in ppm

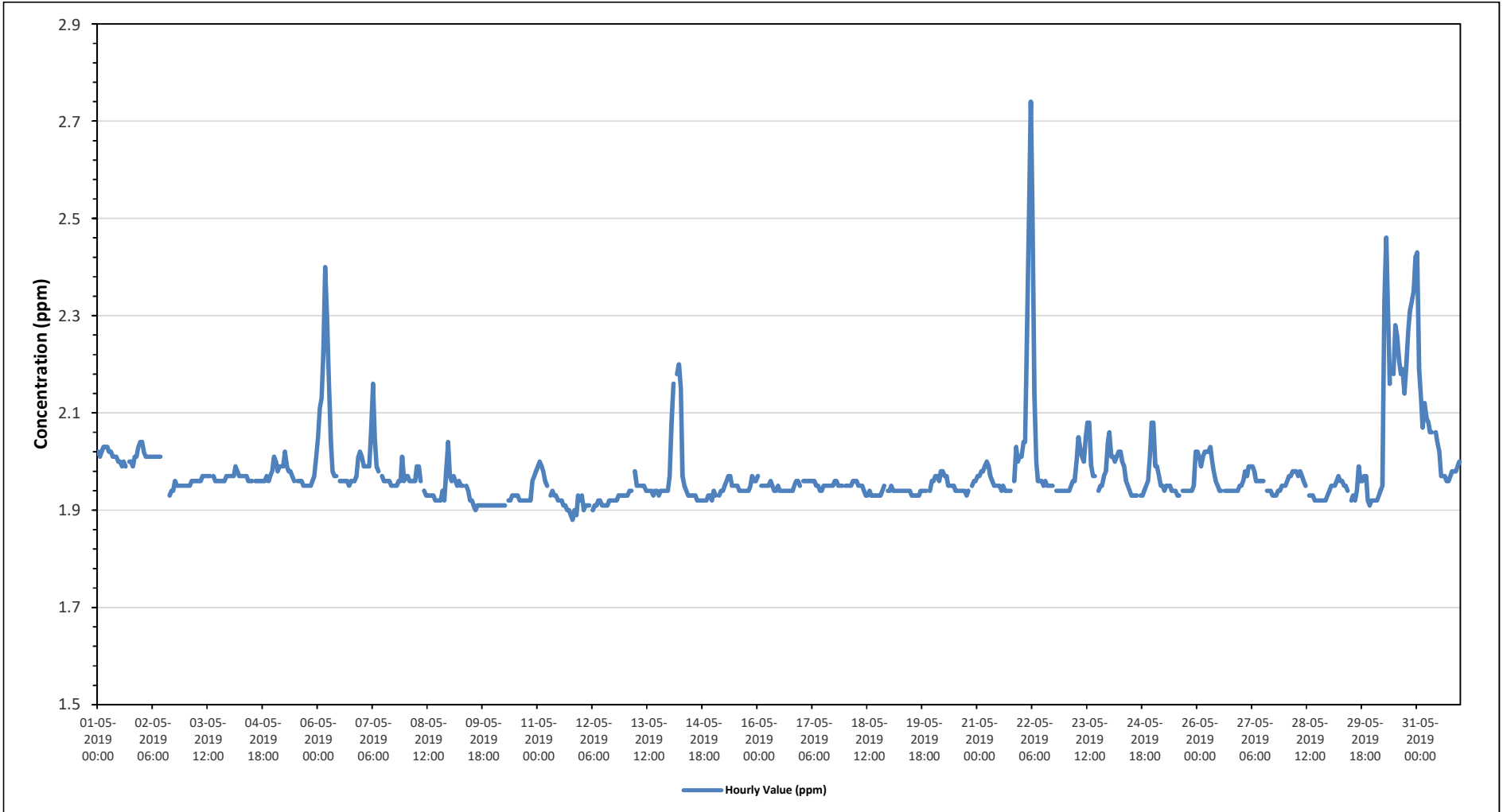
Maximum Hourly Value:	2.74 ppm on May 22 at hour 5	Hours in Service:	744
Maximum Daily Value:	2.18 ppm on May 30	Hours of Data:	709
Minimum Hourly Value:	1.88 ppm on May 11 at hour 16	Hours of Missing Data:	0
Minimum Daily Value:	1.92 ppm on May 12	Hours of Calibration:	35
Monthly Average:	1.97 ppm	Operational 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		
May 1	2.02	2.01	2.02	2.03	2.03	2.03	2.02	2.02	2.01	2.01	2.01	2.01	2.00	2.00	1.99	2.00	1.99	S	2.00	2.00	1.99	2.01	2.01	2.03	2.04	1.99	2.04	2.01	
May 2	2.04	2.02	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	C	C	C	C	S	1.93	1.94	1.94	1.96	1.95	1.95	1.95	1.95	1.95	1.93	2.04	1.98	
May 3	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.97	S	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.95	1.97	1.96	
May 4	1.97	1.97	1.97	1.99	1.98	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.96	S	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.97	1.98	1.96	1.99	1.97	
May 5	2.01	2.00	1.98	1.99	1.99	1.99	2.02	1.99	1.98	1.98	1.97	1.96	S	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.96	1.97	2.01	1.95	2.02	1.98		
May 6	2.05	2.11	2.13	2.23	2.40	2.29	2.16	2.04	1.98	1.97	1.97	S	1.96	1.96	1.96	1.96	1.96	1.95	1.96	1.96	1.96	1.97	2.01	2.02	1.95	2.40	2.04		
May 7	2.01	1.99	1.99	1.99	1.99	2.06	2.16	2.05	1.99	1.98	S	1.97	1.96	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.96	1.96	2.01	1.96	1.95	2.16	1.99		
May 8	1.97	1.97	1.96	1.96	1.96	1.96	1.99	1.99	1.96	S	1.94	1.93	1.93	1.93	1.93	1.93	1.92	1.92	1.92	1.92	1.94	1.92	1.98	2.04	1.92	2.04	1.95		
May 9	1.97	1.96	1.97	1.96	1.95	1.96	1.95	1.95	S	1.95	1.94	1.92	1.92	1.91	1.90	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.90	1.97	1.93	
May 10	1.91	1.91	1.91	1.91	1.91	1.91	1.91	S	1.92	1.92	1.93	1.93	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.96	1.97	1.98	1.91	1.98	1.93	
May 11	1.99	2.00	1.99	1.98	1.96	1.95	S	1.93	1.94	1.93	1.93	1.92	1.92	1.92	1.91	1.91	1.90	1.90	1.89	1.88	1.90	1.89	1.93	1.92	1.88	2.00	1.93		
May 12	1.93	1.90	1.91	1.91	1.91	S	1.90	1.91	1.91	1.92	1.92	1.91	1.91	1.91	1.91	1.92	1.92	1.92	1.92	1.92	1.93	1.93	1.93	1.93	1.90	1.93	1.92		
May 13	1.93	1.93	1.94	1.94	S	1.98	1.95	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.93	1.94	1.94	1.93	1.94	1.94	1.94	1.94	1.94	1.93	1.98	1.94		
May 14	1.97	2.08	2.16	S	2.18	2.20	2.15	1.97	1.95	1.94	1.93	1.93	1.93	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.93	1.93	1.92	1.92	2.20	1.98		
May 15	1.94	1.93	S	1.93	1.94	1.94	1.95	1.96	1.97	1.97	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.97	1.96	1.96	1.93	1.97	1.95	
May 16	1.97	S	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.95	1.94	1.94	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.96	1.96	1.95	1.94	1.97	1.95	
May 17	S	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.95	1.94	1.94	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.96	1.95	1.95	1.95	S	1.94	1.96	1.95	
May 18	1.95	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.95	1.95	1.95	1.94	1.93	1.93	1.94	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.94	1.95	S	1.94	1.96	1.94	
May 19	1.94	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.93	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.94	1.94	S	1.94	1.96	1.93	1.96	1.94	
May 20	1.96	1.97	1.97	1.96	1.98	1.98	1.97	1.97	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	S	1.95	1.96	1.96	1.93	1.98	1.95	
May 21	1.97	1.97	1.98	1.98	1.99	2.00	1.99	1.97	1.96	1.95	1.95	1.95	1.94	1.94	1.95	1.94	1.94	1.94	1.94	1.94	1.94	S	1.96	2.03	2.00	2.01	1.94	2.03	1.97
May 22	2.01	2.04	2.04	2.26	2.50	2.74	2.52	2.14	2.00	1.96	1.96	1.96	1.95	1.96	1.95	1.95	1.95	1.95	1.95	S	1.94	1.94	1.94	1.94	1.94	1.94	2.74	2.07	
May 23	1.94	1.94	1.94	1.95	1.96	1.96	2.00	2.05	2.03	2.01	2.00	2.05	2.08	2.08	1.99	1.97	1.97	S	1.94	1.95	1.95	1.97	1.98	2.04	1.94	2.08	1.99		
May 24	2.06	2.01	2.01	2.00	2.01	2.02	2.02	2.00	1.99	1.96	1.95	1.94	1.93	1.93	1.93	1.93	S	S	1.93	1.93	1.94	1.95	1.96	2.01	2.08	1.93	2.08	1.98	
May 25	2.08	1.99	1.99	1.97	1.95	1.95	1.94	1.95	1.95	1.95	1.94	1.94	1.94	1.93	1.93	S	1.94	1.94	1.94	1.94	1.94	1.94	1.95	2.02	1.93	2.08	1.96		
May 26	2.02	2.01	1.99	2.01	2.02	2.02	2.02	2.03	2.00	1.98	1.96	1.95	1.94	1.94	S	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	2.03	1.97	
May 27	1.95	1.96	1.98	1.97	1.99	1.99	1.99	1.98	1.96	1.96	1.96	1.96	1.96	S	1.94	1.94	1.94	1.93	1.93	1.93	1.94	1.94	1.95	1.95	1.93	1.99	1.96		
May 28	1.95	1.96	1.97	1.97	1.98	1.98	1.98	1.97	1.98	1.97	1.96	1.95	S	1.93	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.98	1.95	
May 29	1.94	1.95	1.95	1.95	1.96	1.97	1.96	1.96	1.95	1.95	1.94	S	1.92	1.93	1.92	1.94	1.99	1.96	1.96	1.96	1.97	1.97	1.92	1.91	1.92	1.91	1.99	1.95	
May 30	1.92	1.92	1.92	1.93	1.94	1.95	2.33	2.46	2.32	2.16	S	2.18	2.28	2.26	2.21	2.18	2.19	2.14	2.20	2.27	2.31	2.33	2.35	2.42	1.92	2.46	2.18		
May 31	2.43	2.19	2.13	2.07	2.12	2.09	2.08	2.06	2.06	S	2.06	2.04	2.02	1.97	1.97	1.97	1.96	1.96	1.97	1.98	1.98	1.98	1.99	2.00	1.96	2.43	2.05		
Diurnal Maximum	2.43	2.19	2.16	2.26	2.50	2.74	2.52	2.46	2.32	2.16	2.06	2.18	2.28	2.26	2.21	2.18	2.19	2.14	2.20	2.27	2.31	2.33	2.35	2.42					
Diurnal Average	1.99	1.98	1.99	1.99	2.01	2.02	2.02	2.00	1.98	1.97	1.96	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.96	1.97	1.99					

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.

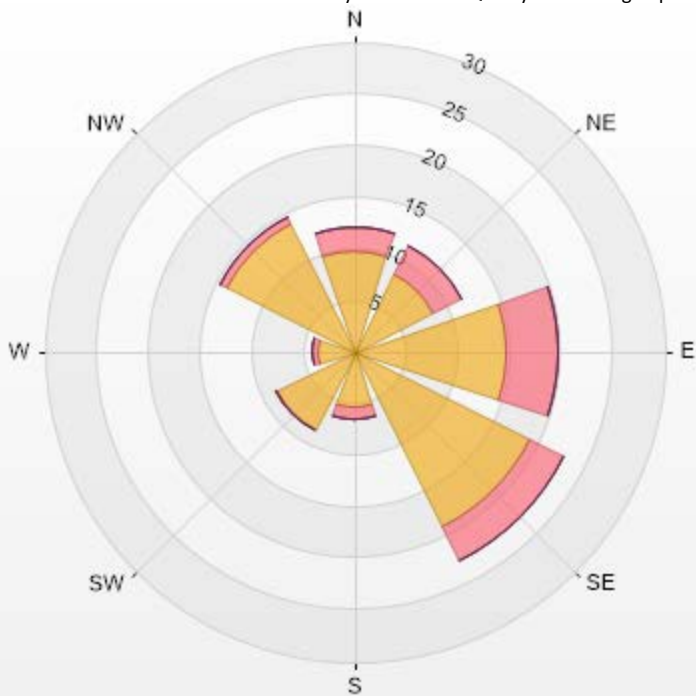
Timeseries Chart of Hourly Average for CH4 - 842b Station



Wind: PRAMP 842 Poll.: PRAMP 842-CH4[ppm] Monthly: 05-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 95.30% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	9.73	2.4	0	0	0	12.13
NE	8.46	3.1	0	0	0	11.56
E	14.67	5.08	0	0	0	19.75
SE	18.9	3.67	0	0	0	22.57
S	5.5	1.13	0	0	0	6.63
SW	8.46	0.14	0	0	0	8.6
W	3.67	0.42	0	0	0	4.09
NW	13.82	0.85	0	0	0	14.67
Summary	83.21	16.79	0	0	0	100

PRAMP Monthly Ambient Air Quality Monitoring Report for May 2019



% Icon Classes (ppm)	83	17	0	0	0
0-2	83	17	0	0	0
2-5		17	0	0	0
5-10			0	0	0
10-20				0	0
>20.0					0



PEACE RIVER AREA MONITORING PROGRAM

842b Station - May 2019

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

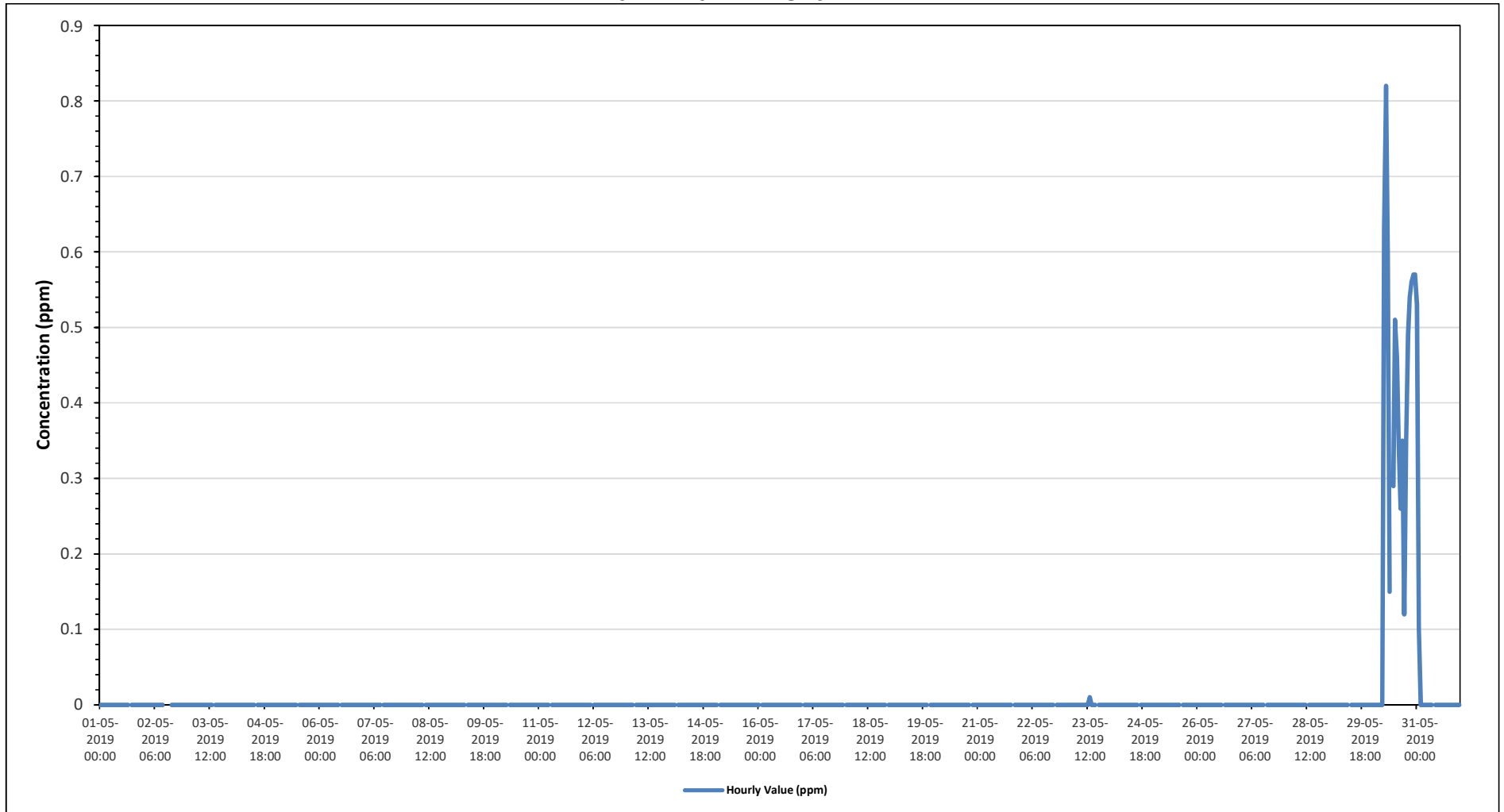
Maximum Hourly Value:	0.82 ppm on May 30 at hour 7	Hours in Service:	744
Maximum Daily Value:	0.33 ppm on May 30	Hours of Data:	709
Minimum Hourly Value:	0.00 ppm on May 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.00 ppm on May 1	Hours of Calibration:	35
Monthly Average:	0.01 ppm	Operational 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				
May 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 11	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 12	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 13	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 14	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 15	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 16	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 17	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00
May 18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00
May 19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00
May 20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
May 21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 30	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.82	0.59	0.15	S	0.29	0.51	0.46	0.34	0.26	0.35	0.12	0.35	0.49	0.54	0.56	0.57	0.57	0.00	0.82	0.33	0.00
May 31	0.53	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	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	0.53	0.10	0.00	0.00	0.00	0.00	0.63	0.82	0.59	0.15	0.00	0.29	0.51	0.46	0.34	0.26	0.35	0.12	0.35	0.49	0.54	0.56	0.57	0.57	0.00	0.53	0.03	0.00
Diurnal Average	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.02	0.01	0.00	0.01	0.02	0.02	0.01	0.01	0.01	0.00	0.01	0.02	0.02	0.02	0.02	0.02	0.00	0.02	0.02	0.02

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.

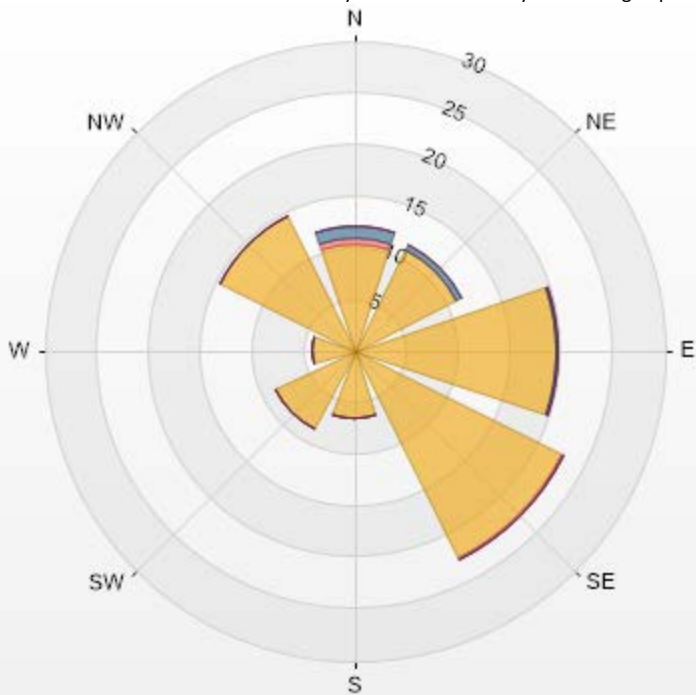
Timeseries Chart of Hourly Average for NMHC - 842b Station



Wind: PRAMP 842 Poll.: PRAMP 842-NMHC[ppm] Monthly: 05-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 95.30% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	10.44	0.56	1.13	0	0	12.13
NE	11	0	0.56	0	0	11.56
E	19.46	0	0.28	0	0	19.74
SE	22.43	0.14	0	0	0	22.57
S	6.63	0	0	0	0	6.63
SW	8.6	0	0	0	0	8.6
W	4.09	0	0	0	0	4.09
NW	14.67	0	0	0	0	14.67
Summary	97.32	0.7	1.97	0	0	100

PRAMP Monthly Ambient Air Quality Monitoring Report for May 2019





PEACE RIVER AREA MONITORING PROGRAM

842b Station - May 2019

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

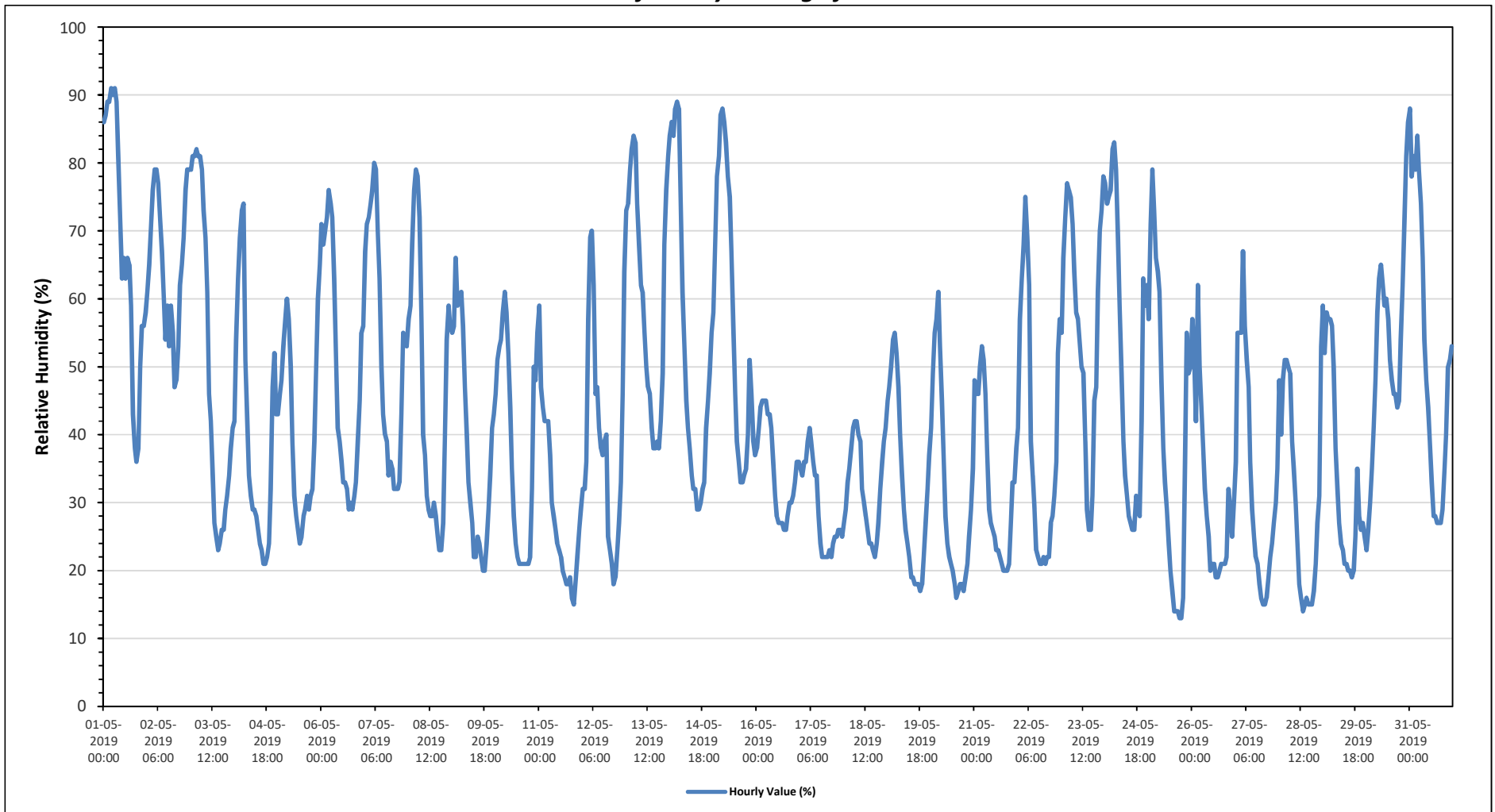
Maximum Hourly Value:	91 %	on May 1 at hour 4	Hours in Service:	744
Maximum Daily Value:	67.6 %	on May 1	Hours of Data:	744
Minimum Hourly Value:	13 %	on May 25 at hour 17	Hours of Missing Data:	0
Minimum Daily Value:	28.6 %	on May 11	Hours of Calibration:	0
Monthly Average:	43.2 %		Operational Uptime:	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
May 1	86	87	89	89	91	90	91	89	81	72	63	66	63	66	65	59	43	38	36	38	50	56	56	58	36	91	68
May 2	61	65	71	76	79	79	77	72	67	61	54	59	53	59	55	47	48	53	62	65	69	76	79	79	47	79	65
May 3	79	81	81	82	81	81	79	73	69	61	46	42	34	27	25	23	24	26	26	29	31	34	38	41	23	82	51
May 4	42	54	63	69	73	74	51	42	34	31	29	29	28	26	24	23	21	21	22	24	32	47	52	43	21	74	40
May 5	43	46	48	53	57	60	57	50	39	31	28	26	24	25	28	29	31	29	31	32	39	49	60	65	24	65	41
May 6	71	68	70	72	76	74	72	63	51	41	39	36	33	33	32	29	30	29	31	33	39	45	55	56	29	76	49
May 7	67	71	72	74	76	80	79	70	63	50	43	40	39	34	36	35	32	32	32	33	43	55	54	53	32	80	53
May 8	57	59	68	76	79	78	72	57	40	37	31	29	28	28	30	28	25	23	23	27	39	54	59	56	23	79	46
May 9	55	56	66	59	60	61	56	47	40	33	30	27	22	22	25	24	22	20	20	24	29	34	41	43	20	66	38
May 10	46	51	53	54	58	61	58	52	44	35	28	24	22	21	21	21	21	21	21	22	32	50	48	55	21	61	38
May 11	59	47	44	42	42	42	37	30	28	26	24	23	22	20	19	18	18	19	16	15	18	22	26	29	15	59	29
May 12	32	32	36	57	69	70	62	46	47	41	38	37	39	40	25	23	21	18	19	23	27	33	46	64	18	70	39
May 13	73	74	79	82	84	83	74	68	62	61	55	50	47	46	41	38	38	39	38	42	49	68	76	81	38	84	60
May 14	84	86	84	88	89	88	75	61	53	45	41	38	34	32	32	29	29	30	32	33	41	45	49	55	29	89	53
May 15	58	68	78	81	87	88	86	83	78	75	67	56	46	39	36	33	33	34	35	40	51	46	39	37	33	88	57
May 16	38	41	44	45	45	45	43	43	41	36	31	28	27	27	27	26	26	28	30	30	31	33	36	36	26	45	35
May 17	35	34	36	36	39	41	39	36	34	34	28	24	22	22	22	22	23	22	24	25	25	26	26	25	22	41	29
May 18	27	29	33	35	38	41	42	42	40	39	32	30	28	26	24	24	23	22	24	27	32	36	39	41	22	42	32
May 19	45	47	50	54	55	52	47	40	34	29	26	24	22	19	19	18	18	18	17	18	22	27	32	37	17	55	32
May 20	41	49	55	57	61	53	45	36	28	24	22	21	20	18	16	17	18	18	17	19	21	25	29	35	16	61	31
May 21	48	46	46	50	53	51	46	37	29	27	26	25	23	23	22	21	20	20	20	21	27	33	33	38	20	53	33
May 22	41	57	63	68	75	69	62	39	34	29	23	22	21	21	22	21	22	22	27	28	31	36	52	57	21	75	39
May 23	55	66	72	77	76	75	71	64	58	57	53	50	49	39	29	26	26	31	45	47	61	70	73	78	26	78	56
May 24	77	74	75	76	82	83	79	69	59	49	39	34	31	28	27	26	26	31	30	28	42	63	59	62	26	83	52
May 25	57	71	79	73	66	64	61	48	38	33	29	24	20	17	14	14	14	13	13	16	36	55	49	50	13	79	40
May 26	57	52	42	62	50	44	38	32	28	25	20	21	21	19	19	20	21	21	21	22	32	29	25	30	19	62	31
May 27	36	55	55	55	67	56	51	47	36	29	25	22	21	18	16	15	15	16	19	22	24	27	30	35	15	67	33
May 28	48	40	48	51	51	50	49	39	35	30	24	18	16	14	15	16	15	15	15	17	21	27	31	53	14	53	31
May 29	59	52	58	57	57	56	50	38	32	27	24	23	21	21	20	20	19	20	25	35	28	26	27	25	19	59	34
May 30	23	26	30	35	41	48	58	63	65	62	59	60	57	51	48	46	46	44	45	54	62	72	81	86	23	86	53
May 31	88	78	81	79	84	79	74	66	54	48	44	39	33	28	28	27	27	29	35	40	50	51	53	27	88	52	
Diurnal Maximum	88	87	89	89	91	90	91	89	81	75	67	66	63	66	65	59	48	53	62	65	69	76	81	86			
Diurnal Average	54.5	56.8	60.3	63.4	65.8	65.0	60.7	53.0	46.5	41.2	36.2	33.8	31.2	29.3	27.8	26.4	25.6	25.8	27.3	29.8	36.3	43.5	46.8	50.2			

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

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

Timeseries Chart of Hourly Average for RH - 842b Station





PEACE RIVER AREA MONITORING PROGRAM

842b Station - May 2019

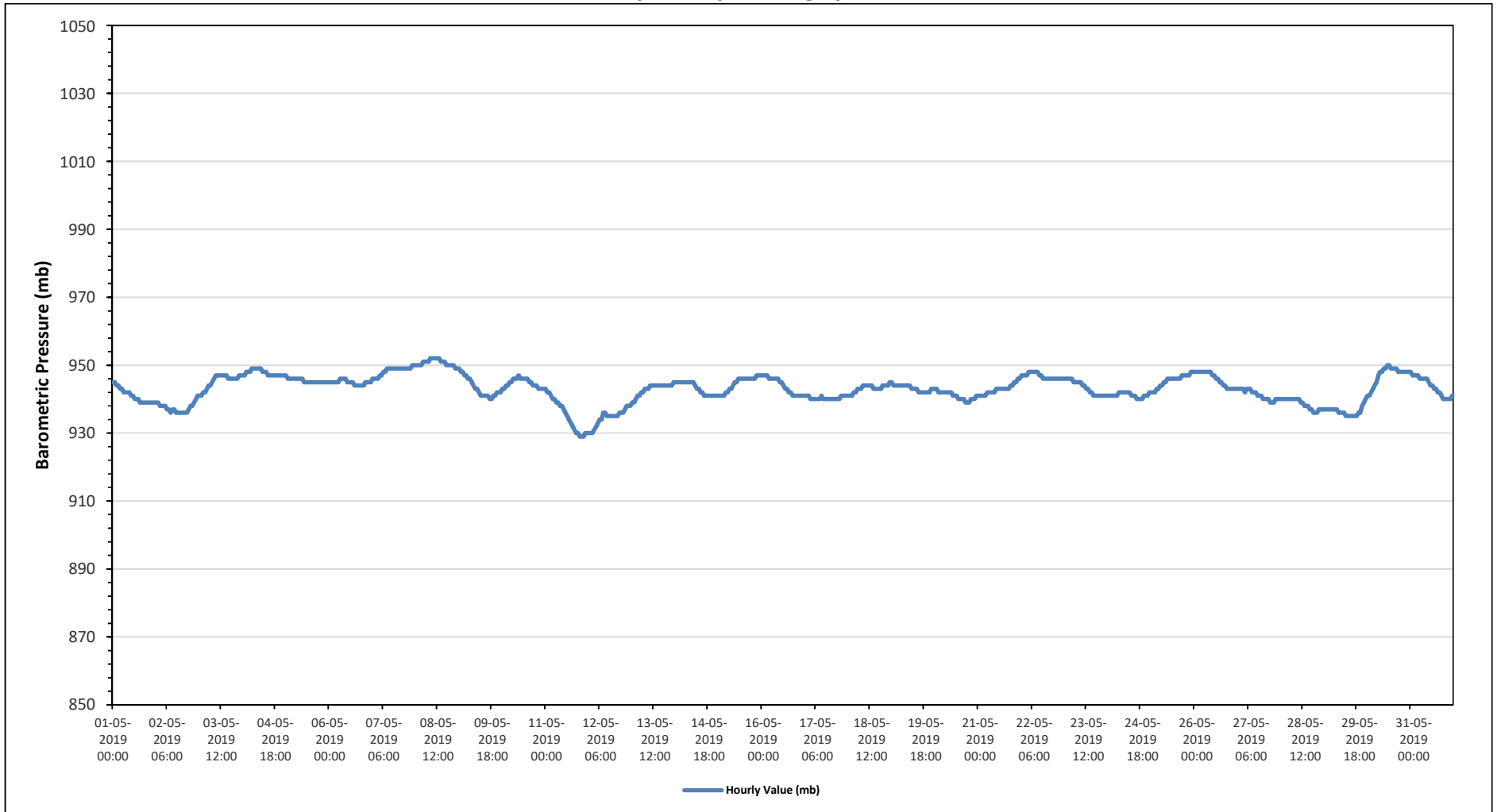
Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

Maximum Hourly Value:	952 mb on May 8 at hour 8	Hours in Service:	744
Maximum Daily Value:	951 mb on May 8	Hours of Data:	744
Minimum Hourly Value:	929 mb on May 11 at hour 19	Hours of Missing Data:	0
Minimum Daily Value:	935 mb on May 12	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	
May 1	945	945	944	944	943	943	942	942	942	942	941	941	940	940	940	939	939	939	939	939	939	939	939	939	939	939	945	941
May 2	939	939	938	938	938	938	937	937	936	937	937	936	936	936	936	936	936	936	936	937	938	938	939	940	941	936	941	937
May 3	941	941	942	942	943	944	944	945	946	947	947	947	947	947	947	947	946	946	946	946	946	946	946	947	947	947	947	945
May 4	947	947	948	948	948	949	949	949	949	949	949	948	948	948	947	947	947	947	947	947	947	947	947	947	947	947	949	948
May 5	947	946	946	946	946	946	946	946	946	946	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	947	945
May 6	945	945	945	945	945	945	946	946	946	946	945	945	945	945	944	944	944	944	944	944	945	945	945	945	945	944	946	945
May 7	946	946	946	946	947	947	948	948	949	949	949	949	949	949	949	949	949	949	949	949	949	949	950	950	950	946	950	948
May 8	950	950	950	950	951	951	951	951	952	952	952	952	952	952	951	951	951	950	950	950	950	950	949	949	949	949	952	951
May 9	949	948	948	947	947	946	946	945	944	943	943	942	941	941	941	941	940	940	941	941	942	942	942	942	942	940	949	943
May 10	943	943	944	944	945	945	946	946	946	947	946	946	946	946	946	945	945	944	944	944	943	943	943	943	943	943	947	945
May 11	943	942	942	941	940	940	939	939	938	938	937	936	935	934	933	932	931	930	930	929	929	929	930	930	929	943	935	
May 12	930	930	930	931	932	933	934	934	936	936	935	935	935	935	935	935	935	935	936	936	937	938	938	938	938	930	938	935
May 13	939	939	940	941	941	942	942	943	943	943	944	944	944	944	944	944	944	944	944	944	944	944	944	944	945	939	945	943
May 14	945	945	945	945	945	945	945	945	945	945	945	944	943	943	942	942	941	941	941	941	941	941	941	941	941	941	945	943
May 15	941	941	941	941	942	942	943	943	944	945	945	946	946	946	946	946	946	946	946	946	946	946	947	947	947	941	947	945
May 16	947	947	947	947	946	946	946	946	946	946	945	945	944	943	943	942	942	941	941	941	941	941	941	941	941	941	947	944
May 17	941	941	941	940	940	940	940	940	940	941	940	940	940	940	940	940	940	940	940	940	941	941	941	941	941	940	941	940
May 18	941	941	941	942	942	943	943	943	944	944	944	944	944	944	943	943	943	943	943	944	944	944	944	945	945	941	945	943
May 19	945	944	944	944	944	944	944	944	944	944	944	943	943	943	943	942	942	942	942	942	942	942	943	943	942	945	943	943
May 20	943	943	942	942	942	942	942	942	942	941	941	941	940	940	940	940	939	939	939	939	940	940	940	941	939	943	941	941
May 21	941	941	941	941	941	942	942	942	942	942	943	943	943	943	943	943	943	943	944	944	945	945	946	946	941	946	943	943
May 22	947	947	947	947	948	948	948	948	948	948	947	947	946	946	946	946	946	946	946	946	946	946	946	946	946	946	948	947
May 23	946	946	946	946	946	945	945	945	945	945	944	944	943	943	942	942	941	941	941	941	941	941	941	941	941	941	946	943
May 24	941	941	941	941	941	941	942	942	942	942	942	942	941	941	941	940	940	940	940	940	941	941	941	942	940	942	941	941
May 25	942	942	942	943	943	944	944	945	945	946	946	946	946	946	946	946	947	947	947	947	947	947	948	948	942	948	945	945
May 26	948	948	948	948	948	948	948	948	948	948	947	947	946	946	945	945	944	944	943	943	943	943	943	943	943	943	948	946
May 27	943	943	943	943	942	943	943	943	942	942	942	941	941	941	940	940	940	939	939	939	939	940	940	940	939	943	943	941
May 28	940	940	940	940	940	940	940	940	940	940	940	939	939	938	938	938	937	937	936	936	936	937	937	937	936	940	939	939
May 29	937	937	937	937	937	937	937	937	936	936	936	936	935	935	935	935	935	935	935	936	936	937	939	940	935	940	936	
May 30	941	941	942	943	944	945	947	948	948	949	949	950	950	949	949	949	949	948	948	948	948	948	948	948	941	950	947	947
May 31	948	947	947	947	947	946	946	946	946	945	944	944	943	943	942	941	940	940	940	940	940	940	941	940	940	948	944	944
Diurnal Maximum	950	950	950	950	951	951	951	951	952	952	952	952	952	951	951	951	950	950	950	950	950	950	950	950	950	950	950	950
Diurnal Average	943	943	943	943	943	944	944	944	944	944	944	943	943	943	943	942	942	942	942	942	942	942	943	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 - 842b Station





PEACE RIVER AREA MONITORING PROGRAM

842b Station - May 2019

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

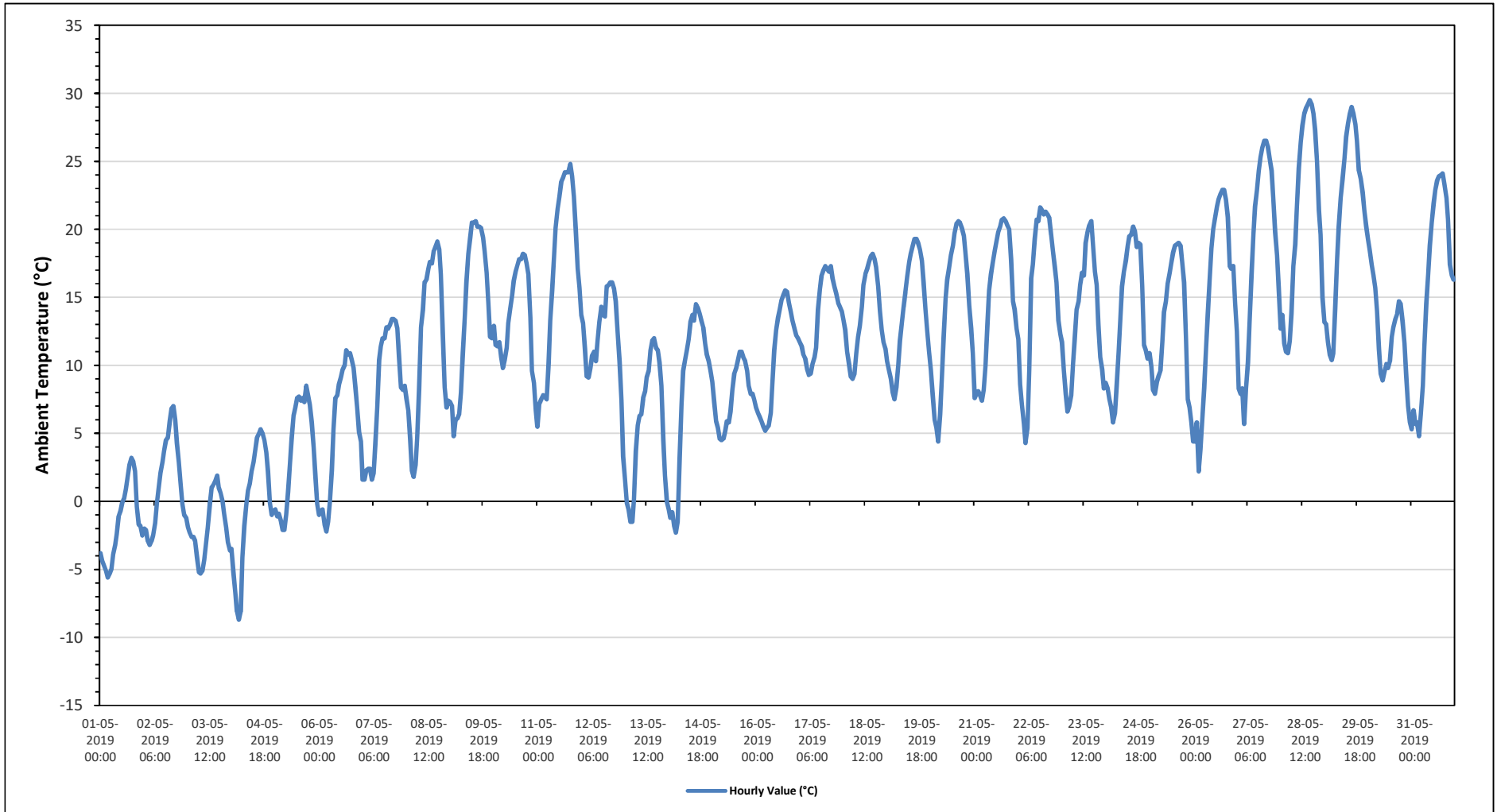
Maximum Hourly Value:	29.5 °C	on May 28 at hour 16	Hours in Service:	744
Maximum Daily Value:	21.0 °C	on May 28	Hours of Data:	744
Minimum Hourly Value:	-8.7 °C	on May 4 at hour 4	Hours of Missing Data:	0
Minimum Daily Value:	-1.8 °C	on May 3	Hours of Calibration:	0
Monthly Average:	11.1 °C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
May 1	-3.8	-4.4	-4.7	-5.1	-5.6	-5.3	-5.0	-3.9	-3.2	-2.4	-1.1	-0.7	-0.1	0.2	0.9	1.8	2.7	3.2	2.9	2.2	-0.4	-1.7	-1.8	-2.5	-5.6	3.2	-1.6
May 2	-2.0	-2.1	-2.9	-3.2	-2.9	-2.5	-1.6	-0.1	1.0	2.1	2.9	3.7	4.5	4.7	5.9	6.8	7.0	6.0	4.3	2.9	1.3	-0.2	-1.0	-1.2	-3.2	7.0	1.4
May 3	-1.9	-2.3	-2.6	-2.6	-2.9	-4.1	-5.2	-5.3	-5.1	-4.3	-3.1	-1.9	-0.3	1.0	1.2	1.5	1.9	1.0	0.6	0.0	-0.9	-1.9	-3.0	-3.6	-5.3	1.9	-1.8
May 4	-3.5	-5.2	-6.7	-8.1	-8.7	-8.1	-4.1	-1.8	-0.3	0.8	1.3	2.2	2.9	3.7	4.7	5.0	5.3	5.0	4.5	3.6	2.2	-0.1	-1.0	-0.7	-8.7	5.3	-0.3
May 5	-0.6	-1.1	-0.9	-1.4	-2.1	-2.1	-1.0	0.7	2.8	4.6	6.3	6.9	7.6	7.7	7.4	7.6	7.3	8.5	7.7	7.1	5.8	4.0	2.0	-0.2	-2.1	8.5	3.5
May 6	-1.0	-0.7	-0.6	-1.7	-2.2	-1.5	0.0	2.3	5.3	7.6	7.8	8.6	9.1	9.7	10.0	11.1	10.8	10.9	10.4	9.8	8.3	6.9	5.1	4.4	-2.2	11.1	5.4
May 7	1.6	1.6	2.3	2.4	2.4	1.6	2.1	4.2	6.9	10.4	11.4	12.0	12.0	12.8	12.7	13.0	13.4	13.4	13.3	12.7	10.7	8.4	8.2	8.5	1.6	13.4	8.3
May 8	7.6	6.7	4.6	2.3	1.8	2.7	4.7	8.2	12.8	14.1	16.1	16.3	17.1	17.6	17.5	18.4	18.7	19.1	18.5	16.7	12.4	8.4	6.9	7.4	1.8	19.1	11.5
May 9	7.3	7.0	4.8	6.0	6.1	6.4	8.0	10.9	13.5	16.1	18.2	19.4	20.5	20.5	20.6	20.2	20.1	19.4	18.4	16.8	14.5	12.1	12.0	6.7	4.8	20.6	14.1
May 10	12.9	11.5	11.4	11.7	10.6	9.8	10.4	11.3	13.1	14.2	15.1	16.2	16.9	17.4	17.8	17.8	18.2	18.1	17.5	16.7	13.5	9.6	8.7	6.0	6.7	18.2	13.6
May 11	5.5	7.2	7.5	7.8	7.7	7.5	10.1	13.3	15.5	18.0	20.1	21.5	22.4	23.5	23.8	24.2	24.2	24.2	24.8	23.9	22.4	19.9	17.1	15.7	5.5	24.8	17.0
May 12	13.7	13.1	11.2	9.2	9.1	9.8	10.7	11.0	10.3	11.8	13.2	14.3	13.7	13.6	15.8	15.9	16.1	16.1	15.6	14.7	12.4	10.3	7.4	3.3	3.3	16.1	12.2
May 13	1.6	-0.1	-0.6	-1.5	-1.5	0.1	3.7	5.6	6.3	6.4	7.6	8.1	9.1	9.6	11.1	11.8	12.0	11.3	11.1	10.2	8.5	4.5	1.9	0.0	-1.5	12.0	5.7
May 14	-0.6	-1.2	-0.8	-1.8	-2.3	-1.5	3.1	7.1	9.6	10.4	11.1	11.9	13.2	13.7	13.3	14.5	14.2	13.8	13.3	12.8	11.6	10.8	10.3	9.6	-2.3	14.5	8.2
May 15	8.8	7.3	5.9	5.4	4.6	4.5	4.6	5.1	5.9	5.8	6.6	8.2	9.4	9.8	10.3	11.0	11.0	10.6	10.3	9.6	8.5	7.9	7.9	7.5	4.5	11.0	7.8
May 16	6.9	6.5	6.2	5.9	5.5	5.2	5.4	5.6	6.5	8.6	11.1	12.6	13.5	14.1	14.8	15.2	15.5	15.4	14.6	14.0	13.3	12.7	12.2	12.0	5.2	15.5	10.6
May 17	11.7	11.4	10.8	10.5	9.7	9.3	9.4	10.1	10.6	11.3	14.1	15.6	16.6	17.0	17.3	17.1	16.9	17.3	16.4	15.8	15.3	14.6	14.3	14.0	9.3	17.3	13.6
May 18	13.3	12.6	11.0	10.1	9.2	9.0	9.4	10.9	12.1	12.9	14.3	15.9	16.7	17.1	17.6	18.0	18.2	17.8	17.2	15.8	14.0	12.6	11.7	11.2	9.0	18.2	13.7
May 19	10.3	9.6	9.0	8.0	7.5	8.4	10.0	11.8	13.1	14.3	15.4	16.5	17.6	18.2	18.8	19.3	19.3	19.0	18.5	17.7	16.1	14.1	12.5	11.0	7.5	19.3	14.0
May 20	9.7	7.8	6.0	5.4	4.4	6.4	8.9	12.1	14.9	16.3	17.2	18.1	18.8	19.7	20.4	20.6	20.5	20.1	19.5	18.3	16.7	14.4	12.7	10.9	4.4	20.6	14.2
May 21	7.6	7.9	8.1	7.8	7.4	8.2	10.0	13.0	15.5	16.7	17.6	18.4	19.1	19.8	20.2	20.7	20.8	20.6	20.3	20.0	17.8	14.7	14.1	12.7	7.4	20.8	15.0
May 22	11.9	8.6	7.1	5.7	4.3	5.4	9.7	16.4	17.4	19.3	20.7	20.6	21.6	21.4	21.1	21.3	21.1	20.8	19.6	18.4	17.2	16.1	13.3	12.3	4.3	21.6	15.5
May 23	11.7	9.6	7.9	6.6	7.0	7.8	10.1	11.9	14.1	14.7	15.9	16.8	16.6	19.0	19.8	20.3	20.6	19.0	16.9	15.9	13.0	10.6	9.7	8.3	6.6	20.6	13.5
May 24	8.7	8.3	7.5	6.9	5.8	6.5	8.5	10.9	13.4	15.8	16.9	17.7	18.8	19.5	19.6	20.2	19.9	18.7	19.0	18.9	15.8	11.5	11.1	10.5	5.8	20.2	13.8
May 25	10.9	9.9	8.2	7.9	8.8	9.2	9.6	11.7	13.9	14.7	16.0	16.8	17.5	18.3	18.8	18.9	19.0	18.8	17.6	16.1	12.0	7.5	6.9	5.8	5.8	19.0	13.1
May 26	4.4	4.4	5.8	2.2	3.8	6.0	8.3	11.3	13.7	16.3	18.6	20.0	20.8	21.7	22.2	22.6	22.9	22.9	22.2	20.9	17.3	17.1	17.3	14.6	2.2	22.9	14.9
May 27	12.5	8.3	7.9	8.3	5.7	8.3	10.2	13.2	16.6	19.6	21.7	22.9	24.3	25.3	26.0	26.5	26.5	26.1	25.2	24.3	22.3	19.8	18.1	15.7	5.7	26.5	18.1
May 28	12.7	13.7	11.6	11.0	10.9	11.8	13.8	17.3	18.9	21.7	24.5	26.4	27.6	28.5	28.9	29.2	29.5	29.2	28.5	27.3	25.0	21.4	19.6	15.0	10.9	29.5	21.0
May 29	13.2	13.0	11.7	10.8	10.4	10.9	14.2	17.8	20.2	22.3	23.7	25.2	26.8	27.8	28.5	29.0	28.5	27.7	26.5	24.3	23.7	22.7	21.4	20.2	10.4	29.0	20.9
May 30	19.2	18.5	17.4	16.6	15.7	14.0	11.2	9.4	8.9	9.5	10.1	9.8	10.3	12.1	12.8	13.4	13.8	14.7	14.5	13.2	11.6	9.3	7.0	5.8	5.8	19.2	12.5
May 31	5.3	6.7	5.7	5.8	4.8	6.4	8.5	11.4	14.5	16.7	18.8	20.5	21.9	22.9	23.6	23.9	24.0	24.1	23.3	22.3	20.7	17.4	16.6	16.3	4.8	24.1	15.9
Diurnal Maximum	19.2	18.5	17.4	16.6	15.7	14.0	14.2	17.8	20.2	22.3	24.5	26.4	27.6	28.5	28.9	29.2	29.5	29.2	28.5	27.3	25.0	22.7	21.4	20.2			
Diurnal Average	7.0	6.3	5.5	4.8	4.4	4.8	6.4	8.5	10.3	11.8	13.2	14.2	15.0	15.7	16.2	16.7	16.8	16.6	15.9	15.0	13.1	10.9	9.7	8.5			

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 AT - 842b Station





PEACE RIVER AREA MONITORING PROGRAM

842b Station - May 2019

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

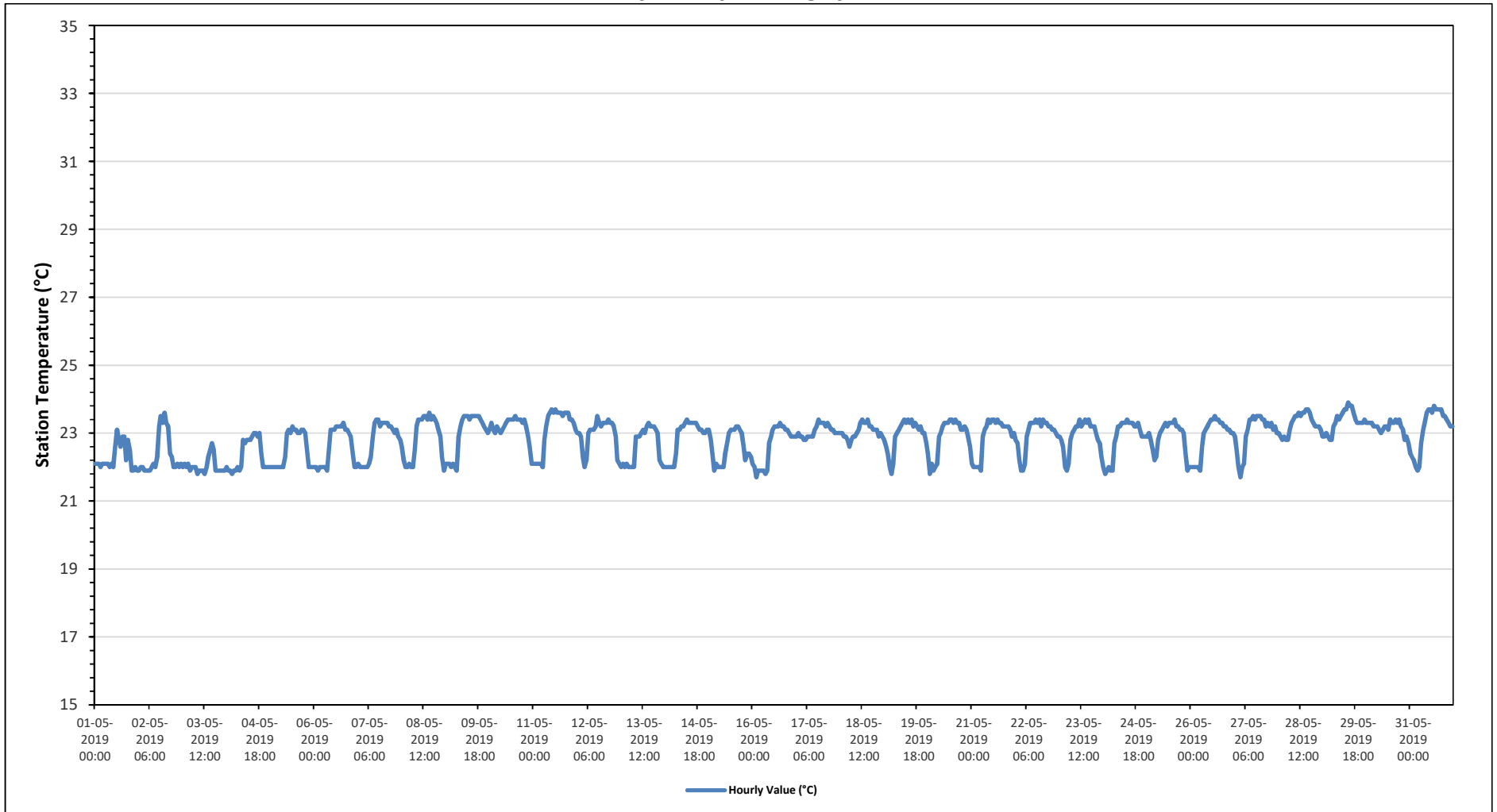
Maximum Hourly Value:	23.9 °C	on May 29 at hour 14	Hours in Service:	744
Maximum Daily Value:	23.3 °C	on May 29	Hours of Data:	744
Minimum Hourly Value:	21.7 °C	on May 16 at hour 2	Hours of Missing Data:	0
Minimum Daily Value:	22.0 °C	on May 3	Hours of Calibration:	0
Monthly Average:	22.8 °C		Operational Uptime:	100.0

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

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

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

Timeseries Chart of Hourly Average for ST - 842b Station





PEACE RIVER AREA MONITORING PROGRAM

842b Station - May 2019

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

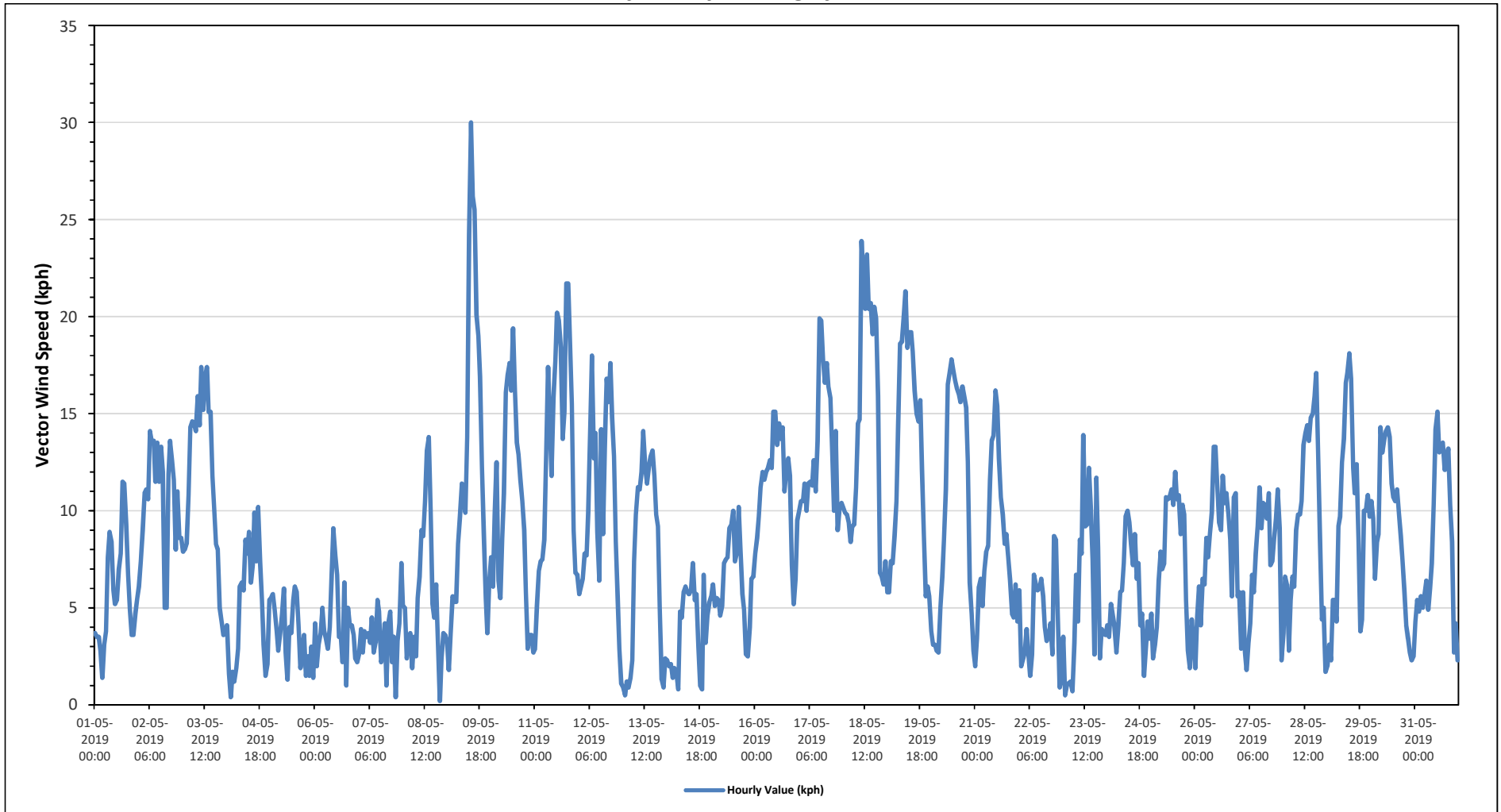
Maximum Hourly Value:	30.0 kph on May 9 at hour 13	Hours in Service:	744
Maximum Daily Value:	14.1 kph on May 18	Hours of Data:	744
Minimum Hourly Value:	0.2 kph on May 8 at hour 20	Hours of Missing Data:	0
Minimum Daily Value:	3.5 kph on May 7	Hours of Calibration:	0
Monthly Average:	1.1 kph	Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
May 1	3.7	3.5	3.5	2.8	1.4	3.1	3.8	7.6	8.9	8.4	5.9	5.2	5.4	7	7.8	11.5	11.4	9.3	6.7	4.9	3.6	3.6	4.7	5.5	1.4	11.5	5.8
May 2	6.1	7.4	9	10.9	11.1	10.6	14.1	13.5	13.6	11.5	13.5	11.5	13.3	12	5	5	11.9	13.6	12.6	11.6	8	11	8.6	8.6	5.0	14.1	10.6
May 3	7.9	8	8.3	10.8	14.3	14.6	14.5	14.1	15.9	14.4	17.4	15.2	16.9	17.4	15.1	15.1	11.8	10.1	8.3	8	5	4.3	3.6	3.7	3.6	17.4	11.4
May 4	4.1	1.6	0.4	1.7	1.2	1.9	2.9	6.1	6.3	5.9	8.5	7.8	8.9	6.3	7.2	9.9	7.4	10.2	7.4	5.4	3.1	1.5	2.1	5.4	0.4	10.2	5.1
May 5	5.5	5.7	4.9	3.8	2.8	3.7	4.7	6	2.7	1.3	4	3.7	5.4	6.1	5.8	4.1	1.9	2.7	3.6	1.5	2.5	1.5	3	1.4	1.3	6.1	3.7
May 6	4.2	2	3.1	3.7	5	3.8	3.4	2.9	4	6.7	9.1	7.7	6.7	3.5	3.6	2.2	6.3	1	5	4.1	4.1	3.6	2.4	2.2	1.0	9.1	4.2
May 7	2.6	3.9	2.7	3.8	3.5	3.7	3.2	4.5	2.7	3.2	5.4	4.8	2.2	2.6	4.2	1	4.2	4.8	2.2	3.5	0.4	3.3	4.2	7.3	0.4	7.3	3.5
May 8	5.1	5	2.4	3.4	3.7	1.9	3.5	2.5	5.5	6.6	9	8.7	10.5	13.1	13.8	10.1	5.2	4.5	6.2	3.1	0.2	2.4	3.7	3.6	0.2	13.8	5.6
May 9	3.2	1.8	3.7	5.6	5.3	5.3	8.3	9.7	11.4	10.5	9.9	13.8	24.2	30	26.2	25.5	20.1	19	16.9	12.3	8.8	5.5	3.7	6.4	1.8	30.0	12.0
May 10	7.6	6.1	9.8	12.5	6.4	5.5	8.6	10.9	16.1	17	17.6	16.2	19.4	16.2	13.5	12.9	11.6	10.5	9	5.8	2.9	3.6	3.6	2.7	2.7	19.4	10.3
May 11	2.9	5.1	6.9	7.4	7.5	8.5	13	17.4	14.5	11.8	15.8	17.7	20.2	19.8	18.4	13.7	15.1	21.7	21.7	18.6	15.5	9	6.8	6.7	2.9	21.7	13.2
May 12	5.7	6.1	6.5	7.8	7.7	9.9	14.1	18	12.7	14	8.9	6.4	14.2	8.8	13.2	16.8	15.6	17.6	14.8	12.8	8.4	5.5	2.9	1.1	1.1	18.0	10.4
May 13	0.9	0.5	1.2	0.9	1.4	2.3	7.4	9.8	11.2	11.1	12	14.1	12.3	11.4	12.3	12.8	13.1	11.8	9.8	9.2	5	1.3	0.9	2.4	0.5	14.1	7.3
May 14	2.3	2	2.1	1.4	1.9	1.7	0.8	4.8	4.5	5.8	6.1	5.8	5.7	5.9	7.3	5.4	5.7	3	1	0.8	6.7	3.2	4.6	5.3	0.8	7.3	3.9
May 15	5.6	6.2	5.1	5.5	5.4	4.6	5.1	7.3	7.5	7.6	9.1	9.3	10	7.4	7.8	10.2	8	5.7	4.9	2.6	2.5	4	6.5	6.6	2.5	10.2	6.4
May 16	7.8	8.6	9.7	11.2	12	11.6	12	12.2	12.6	12.2	15.1	15.1	13.4	14.5	13.7	14.3	11	12.1	12.7	11.8	7.2	5.2	6.5	9.5	5.2	15.1	11.3
May 17	10	10.5	10.5	11.4	10	11.4	11.5	11.3	12.6	11	13.6	19.9	19.8	17.8	16.6	17.6	16.4	15.8	13	10	14.1	9	10.1	10.4	9.0	19.9	13.1
May 18	10.2	9.9	9.8	9.4	8.4	9.2	9.3	11.2	14.5	14.7	23.9	21.6	20.4	23.2	20.4	20.7	19.1	20.5	19.9	15.9	6.8	6.6	6.2	7.4	6.2	23.9	14.1
May 19	5.8	5.8	7.4	7.3	8.7	10.5	14.3	18.6	18.7	20.1	21.3	18.4	19.2	19.2	18.2	16.2	15	14.6	15.7	12.1	8.7	5.6	6.1	5.6	5.6	21.3	13.0
May 20	3.8	3.1	3.1	2.8	2.7	5	6.6	8.5	11.1	16.5	17.1	17.8	17.3	16.7	16.3	16	15.6	16.4	15.9	15.3	12.5	6.3	4.7	2.8	2.7	17.8	10.6
May 21	2	3.4	6.1	6.5	5.1	6.9	7.9	8.2	11.6	13.6	13.9	16.2	15.4	12.7	10.7	9.8	8.3	8.8	7.6	6.4	4.7	4.5	6.2	4.3	2.0	16.2	8.4
May 22	5.9	2	2.3	2.7	3.9	2.5	1.5	2.6	6.7	6.2	5.9	6	6.5	5.6	4	3.3	3.5	4.2	2.6	8.7	8.5	4.7	0.9	1.3	0.9	8.7	4.3
May 23	3.5	0.5	1.1	1.1	1.2	0.7	3.2	6.7	4.3	8.5	7.8	13.9	9.2	9.3	12.2	10	7.5	2.6	11.7	8.1	2.4	3.9	3.7	3.6	0.5	13.9	5.7
May 24	4.1	3.5	5.2	4.6	4	2.7	4.1	5.8	5.9	7.3	9.7	10	9.4	8.3	7.2	8.8	6.5	7.3	4.1	4.7	1.5	2.7	4.3	3.4	1.5	10.0	5.6
May 25	4.7	2.4	3.1	4	6.4	7.9	7	7.3	10.7	10.6	10.7	11.1	10.3	12	10.6	10.8	8.8	10.3	9.8	5.4	2.8	1.9	4.4	3.3	1.9	12.0	7.3
May 26	1.9	4.6	6.1	4.1	6.5	6.2	8.6	7.6	8.8	9.9	13.3	13.3	11.3	9.4	9	11.8	10.4	10.9	9.8	8.5	5.6	10.7	10.9	5.6	1.9	13.3	8.5
May 27	5.8	2.9	5.8	2.7	1.8	3.2	4.2	6.7	5.8	7.8	9.2	11.2	9.1	10.4	10.3	9.6	10.9	7.2	7.4	8.6	9.6	11.1	9.1	2.3	1.8	11.2	7.2
May 28	3.7	6.6	6.2	2.8	5.4	6.6	6.1	9	9.8	9.8	10.5	13.4	14	14.4	13.6	14.8	15	15.9	17.1	13	8.5	4.4	5	1.7	1.7	17.1	9.5
May 29	2	3.1	2.3	5.4	5.4	4.3	9.2	9.7	12.5	13.7	16.6	17.1	18.1	16.8	12.2	10.9	12.4	8.5	3.8	4.4	10	10	10.8	9.7	2.0	18.1	9.5
May 30	10.5	9.6	6.5	8.4	8.8	14.3	13	13.7	14.1	14.3	13.8	11.4	10.7	10.5	11.1	9.9	8.7	7.5	5.9	4.1	3.4	2.7	2.3	2.5	2.3	14.3	9.1
May 31	4.3	5.4	4.8	5.6	5	5.6	6.4	4.9	6	7.3	10.3	14.2	15.1	13	13.4	13.5	12.1	12.6	13.2	10.3	8.4	2.7	4.2	2.3	2.3	15.1	8.4
Diurnal Maximum	11	11	11	13	14	15	15	19	19	20	24	22	24	30	26	26	20	22	22	19	16	11	11	10			
Diurnal Average	4.9	4.7	5.1	5.5	5.6	6.1	7.5	9.0	9.8	10.3	11.8	12.2	12.7	12.3	11.6	11.4	10.7	10.3	9.7	8.1	6.2	5.0	5.1	4.7			

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

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

Timeseries Chart of Hourly Average for VWS - 842b Station



Wind: PRAMP 842 Poll.: PRAMP 842-SO2[ppb] Monthly: 05-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 5.11% Valid Data: 94.76% Calm Avg: 0.00 [ppb]

Direction	1.8-6	6-15	15-29	29-39	>39.0	Total
N	11.63	0	0	0	0	11.63
NE	9.5	0	0	0	0	9.5
E	18.3	0	0	0	0	18.3
SE	22.41	0	0	0	0	22.41
S	6.52	0	0	0	0	6.52
SW	8.37	0	0	0	0	8.37
W	4.11	0	0	0	0	4.11
NW	14.04	0	0	0	0	14.04
Summary	94.88	0	0	0	0	94.88



PEACE RIVER AREA MONITORING PROGRAM

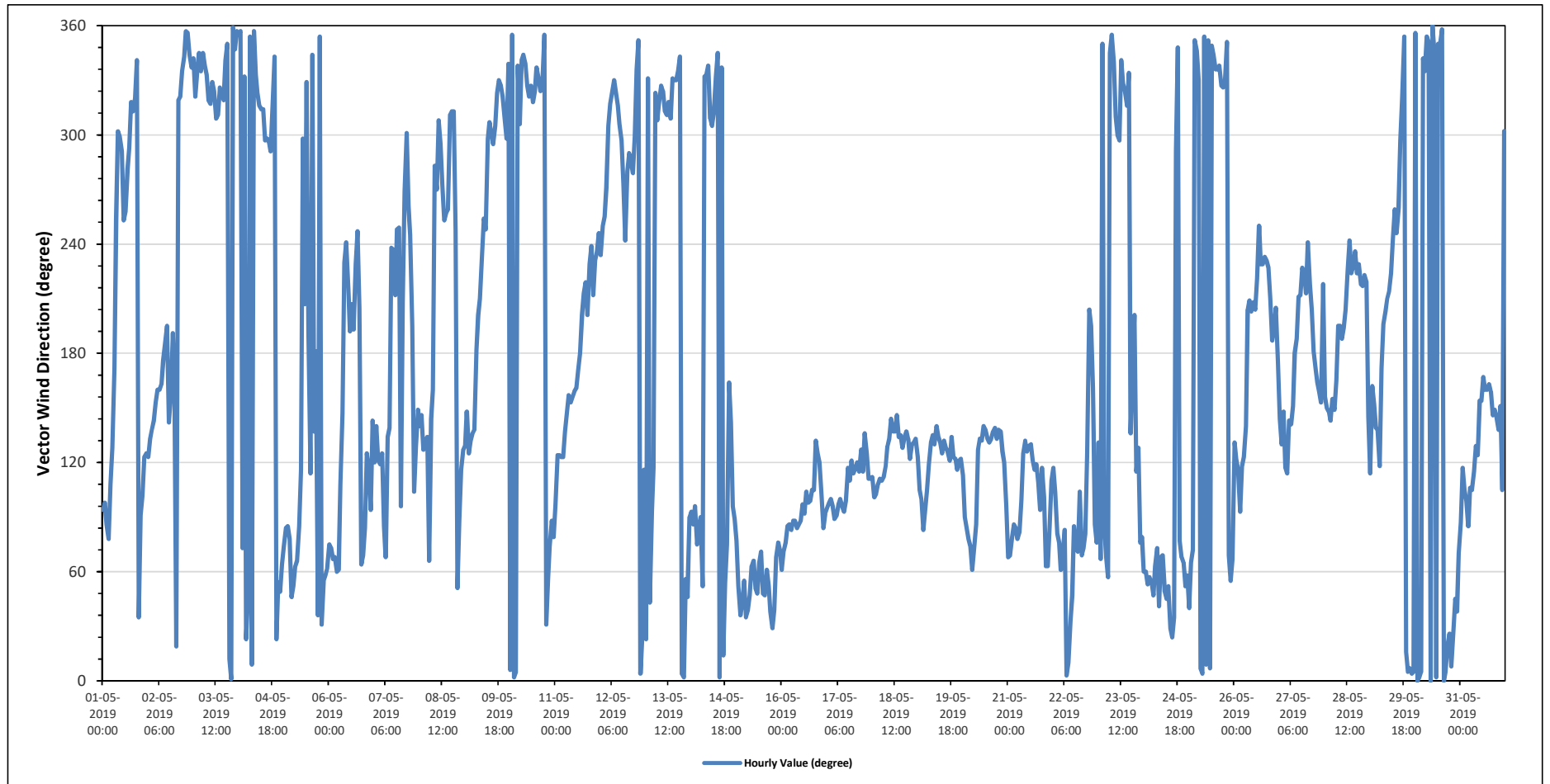
842b Station - May 2019

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

Monthly Average:		109 (ESE) 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	
May 1	E	E	E	ENE	ESE	SE	S	WSW	WNW	WNW	WNW	WSW	WSW	W	WNW	NW	NW	NW	NNW	NE	E	E	ESE	SE	308	NW	
May 2	ESE	SE	SE	SE	SSE	SSE	SSE	SSE	S	S	SSW	SE	SSE	S	SSE	NNE	NW	NW	NNW	NNW	N	N	NNW	NNW	164	SSE	
May 3	NNW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NW	NW	NNW	NW	NW	NW	NW	NW	NNW	N	NNE	N	N	NNW	N	331	NNW		
May 4	N	N	ENE	NNW	NNE	NE	N	N	N	NNW	NW	NW	NW	NW	WNW	WNW	WNW	WNW	NW	NNW	NNE	NE	NE	ENE	329	NNW	
May 5	ENE	E	E	ENE	NE	NE	ENE	ENE	E	ESE	WNW	SSW	NNW	S	ESE	NNW	SE	S	NE	N	NNE	NE	ENE	ENE	69	ENE	
May 6	ENE	ENE	ENE	ENE	ENE	ENE	ESE	SE	SW	WSW	SW	S	SSW	S	SW	WSW	SSW	ENE	ENE	E	SE	ESE	E	SE	155	SSE	
May 7	ESE	SE	ESE	ESE	SE	E	ENE	SE	SE	SW	SW	SSW	WSW	WSW	E	SSW	W	WNW	W	WSW	SSW	ESE	SE	SSE	163	SSE	
May 8	SE	SE	SE	SE	SE	ENE	SE	SSE	W	W	NW	WNW	W	WSW	WSW	NW	NW	NW	WSW	NE	E	ESE	SE	260	WSW		
May 9	SE	SE	SE	SE	SE	SE	S	SSW	SSW	SW	WSW	WSW	WNW	NW	WNW	WNW	WNW	NW	NNW	NW	NW	WNW	NNW	291	WNW		
May 10	N	N	N	N	NNW	NW	NNW	NNW	NNW	NW	NW	NW	NW	NW	NNW	NNW	NW	NW	N	NNE	NE	ENE	E	ENE	339	NNW	
May 11	E	ESE	ESE	ESE	ESE	SE	SE	SSE	SSE	SSE	SSE	SSE	S	S	SSW	SSW	SW	SSW	SW	WSW	SSW	SW	SW	WSW	185	S	
May 12	SW	WSW	WSW	W	WNW	NW	NW	NNW	NW	NW	NNW	NW	WNW	W	WSW	W	WNW	WNW	W	WNW	NNW	N	N	NNE	ESE	300	WNW
May 13	NNE	NNW	NE	E	ESE	NW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	NNW	NNW	NNW	NNW	N	N	NE	NE	E	329	NNW	
May 14	E	E	E	ENE	E	E	NE	NNW	NNW	NNW	NW	WNW	NW	NNW	NNW	N	NNW	NNE	NE	ENE	SSE	SE	E	E	2	N	
May 15	ENE	NE	NE	NE	NE	NE	NE	NE	ENE	ENE	NE	NE	ENE	NE	NE	ENE	NE	NE	ENE	NE	ENE	ENE	ENE	ENE	55	NE	
May 16	ENE	ENE	ENE	E	E	E	E	E	E	E	E	E	E	E	ESE	E	E	ESE	ESE	SE	SE	ESE	ESE	E	E	94	E
May 17	E	E	E	E	E	E	E	E	E	E	E	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	ESE	ESE	ESE	ESE	109	ESE
May 18	ESE	E	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	SE	SE	129	SE	
May 19	ESE	ESE	E	E	E	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	SE	ESE	ESE	ESE	ESE	ESE	125	SE	
May 20	ESE	E	E	ENE	ENE	ENE	ENE	E	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	E	127	SE
May 21	ENE	ENE	ENE	E	E	ENE	E	E	SE	SE	SE	SE	SE	SE	ESE	ESE	ESE	ESE	E	ESE	E	ENE	E	ESE	108	ESE	
May 22	ESE	ESE	E	ENE	ENE	ENE	E	N	N	NNE	NE	E	ENE	ENE	ESE	ENE	ENE	E	SE	SSW	SSW	SSE	E	ENE	87	E	
May 23	SE	ENE	N	E	ENE	ENE	NNW	N	NNW	NW	WNW	WNW	NNW	NW	NW	NNW	SE	S	SSW	ESE	SE	ENE	ENE	ENE	323	NW	
May 24	ENE	ENE	NE	ENE	NE	NE	ENE	ENE	NE	ENE	ENE	NE	NE	NE	NNE	NNE	NE	WNW	NNW	ENE	ENE	ENE	NE	ENE	48	NE	
May 25	NE	ENE	ENE	N	NNW	NNW	N	N	N	N	N	N	NNW	NNW	NNW	NNW	NNW	NW	NW	NNW	N	ENE	NE	ENE	353	N	
May 26	SE	ESE	ESE	E	ESE	ESE	SE	SSW	SSW	SSW	SSW	SSW	SSW	SW	WSW	SW	SW	SW	SW	SSW	S	S	SSW	S	201	SSW	
May 27	SE	SE	SE	ESE	ESE	SE	SSE	S	S	SSW	SSW	SW	SW	SSW	WSW	SW	SSW	S	S	SSE	SSE	SSE	SW	187	S		
May 28	SSE	SSE	SE	SE	SSE	SSE	SSE	SSW	SSW	S	SSW	SSW	SW	WSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SE	208	SSW	
May 29	ESE	SSE	SSE	SE	SE	ESE	S	SSW	SSW	SSW	SSW	SW	WSW	WSW	WSW	WNW	NW	N	NNE	N	N	N	N	244	WSW		
May 30	N	N	N	N	NNW	NNW	N	N	N	N	NNW	N	N	NNW	N	N	N	NNE	NNE	N	NNE	NE	NE	ENE	358	N	
May 31	E	ESE	ESE	E	E	ESE	ESE	ESE	SE	ESE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SSE	SE	SE	SSE	ESE	WNW	142	SE	
C	Calibration				S	Daily Zero/Span				Q	Quality Assurance				C1	Repeat Calibration				S1	Repeat Daily Zero/Span						
G	Out for Repair				K	Collection Error				N	Not in Service				O	Operator Error				P	Power Failure						
R	Recovery				X	Machine Malfunction				Y	Maintenance				T	Exceeds Temperature Limits				N	Not in Service						
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.																											
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.																											

Timeseries Chart of Hourly Average for VWD - 842b Station



RENO STATION



PEACE RIVER AREA MONITORING PROGRAM

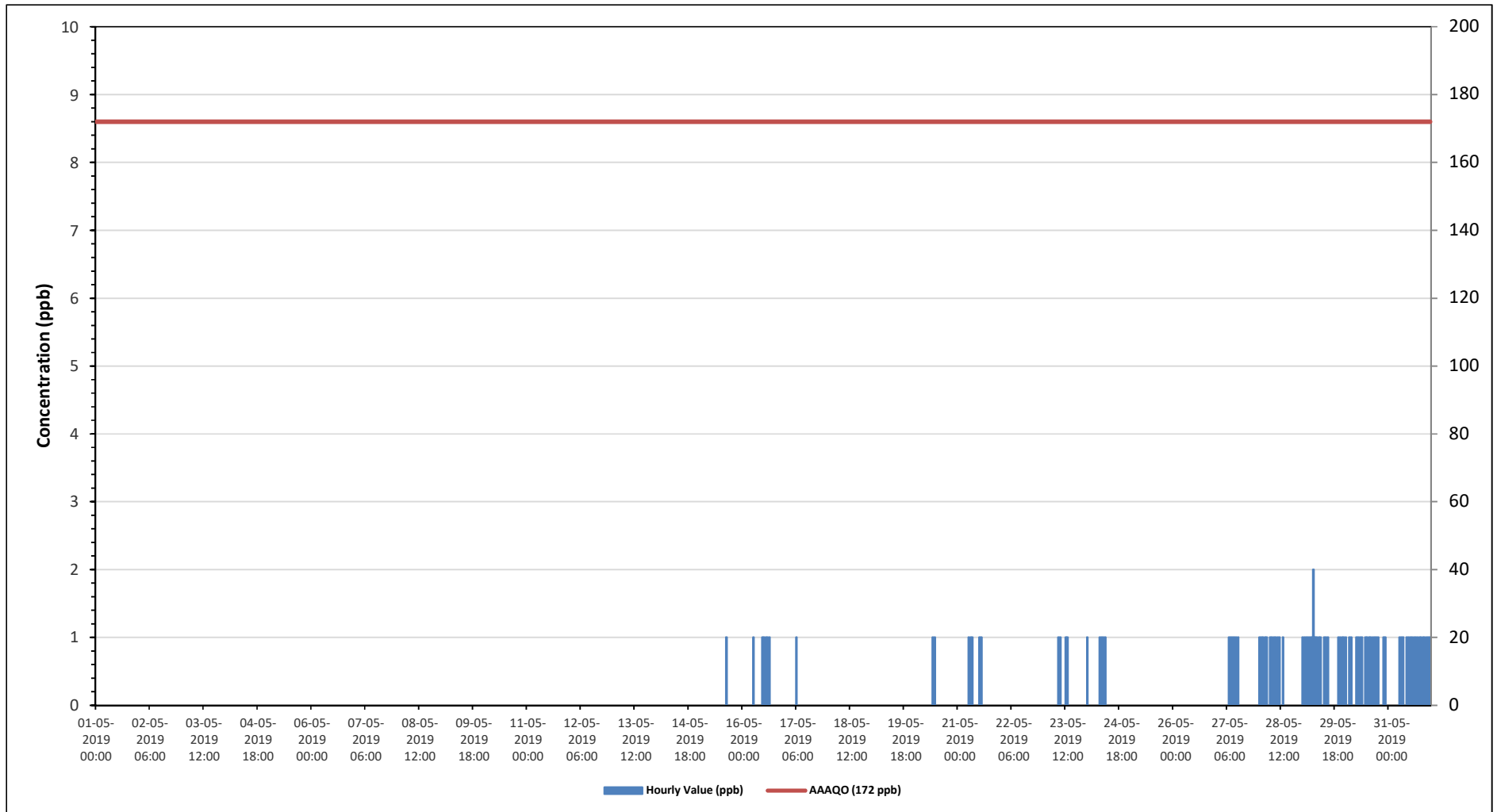
Reno Site - May 2019

Summary of Hourly Averages

SULPHUR DIOXIDE (SO₂) in ppb

Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb																												
Number of 1-Hour Exceedences:							Number of 24-Hour Exceedences:							30-Day Exceedence:														
0							0							0														
Maximum Hourly Value:	2 ppb on May 29 at hour 6															Hours in Service:	744											
Maximum Daily Value:	0.8 ppb on May 29															Hours of Data:	705											
Minimum Hourly Value:	0 ppb on May 1 at hour 0															Hours of Missing Data:	2											
Minimum Daily Value:	0.0 ppb on May 1															Hours of Calibration:	37											
Monthly Average:	0.1 ppb															Operational Uptime:	99.7											
Day	Hourly Period Starting at (MST)																							Daily	Daily	Daily		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average	
May 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	
May 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	
May 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	
May 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
May 5	0	0	0	0	0	0	Y	Y	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	
May 6	0	0	0	0	0	0	0	0	0	0	0	S	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
May 7	0	0	0	0	0	0	0	0	0	0	S	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
May 8	0	0	0	0	0	0	0	0	0	S	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
May 9	0	0	0	0	0	0	0	0	S	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
May 10	0	0	0	0	0	0	0	S	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
May 11	0	0	0	0	0	0	S	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
May 12	0	0	0	0	0	S	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
May 13	0	0	0	0	S	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
May 14	0	0	0	S	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
May 15	0	0	S	S	0	0	0	0	0	C	C	C	C	C	C	1	0	0	0	0	0	0	0	0	0	0	1	
May 16	0	S	S	0	0	0	0	0	0	C	C	C	C	C	C	1	0	0	0	0	0	0	0	0	0	0	1	
May 17	S	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
May 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	
May 19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	
May 20	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	S	S	0	0	0	0	1	
May 21	0	0	0	0	0	0	0	1	1	1	0	0	1	1	0	0	0	0	0	0	S	S	0	0	0	0	1	
May 22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	S	0	0	0	0	0	0	0	
May 23	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	S	S	0	0	0	0	0	0	0	1	
May 24	1	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	S	S	0	0	0	0	0	0	0	0	1	
May 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	S	0	0	0	0	0	0	0	0	0	0	
May 26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	S	0	0	0	0	0	0	0	0	0	0	0	
May 27	0	0	0	0	0	0	0	1	1	1	1	1	1	S	S	0	0	0	0	0	0	0	0	0	0	0	1	
May 28	1	1	1	1	1	1	1	1	1	1	1	1	S	S	1	0	0	0	0	0	0	0	0	0	0	0	1	
May 29	1	1	1	1	1	1	2	1	1	1	1	1	S	S	1	1	0	0	0	0	0	1	1	1	1	0	2	
May 30	1	0	1	1	0	0	1	1	1	1	S	S	1	1	1	1	1	1	1	0	0	1	1	0	0	0	1	
May 31	0	0	0	0	0	0	1	1	1	1	S	S	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	
Diurnal Maximum	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Daiurnal Average	0.1	0.1	0.1	0.1	0.1	0.0	0.3	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	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.																												

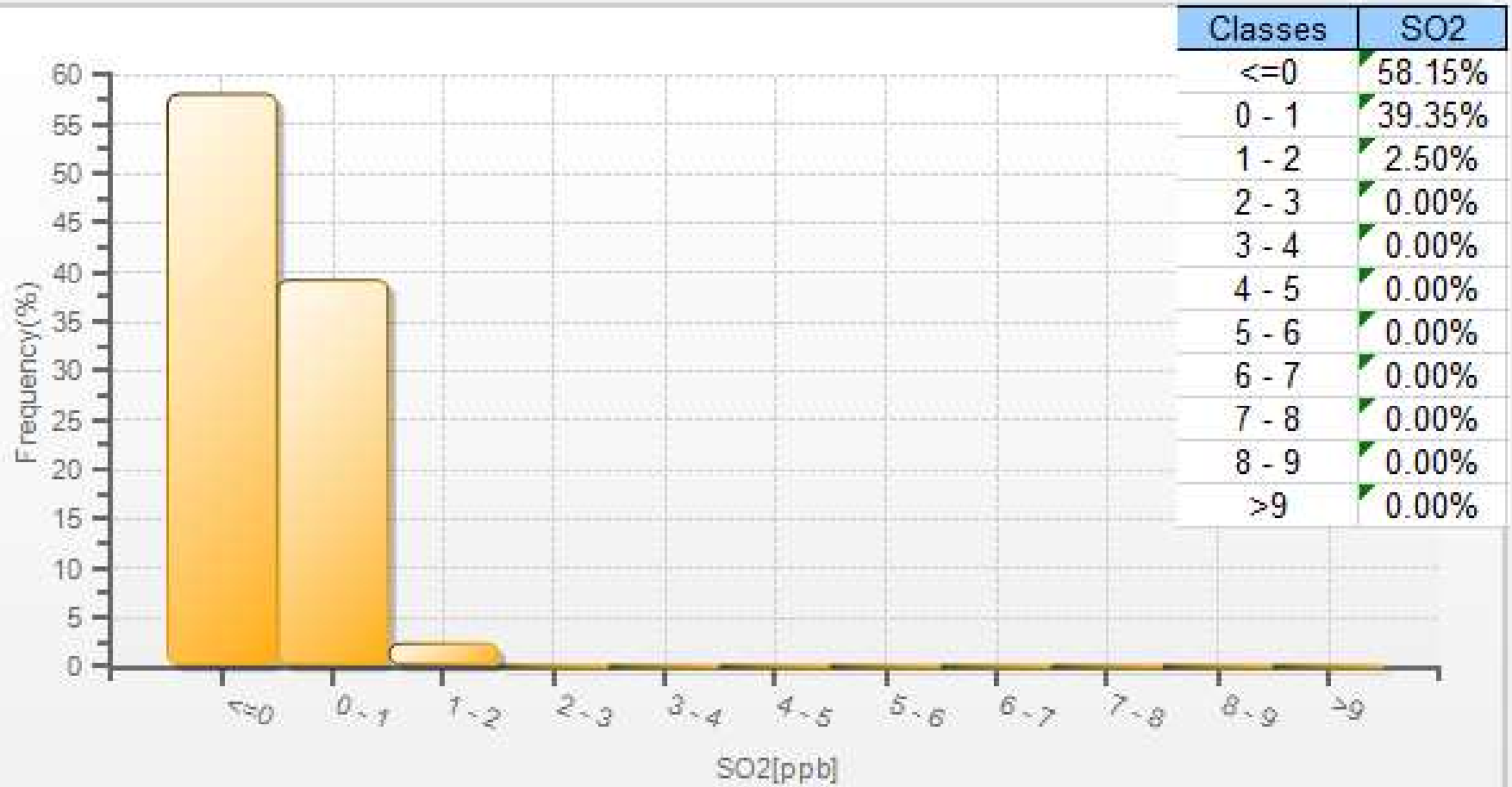
Timeseries Chart of Hourly Average for SO₂ - Reno Site



Wind: PRAMP RENO Poll.: PRAMP RENO-SO2[ppb] Monthly: 05-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 91.53% Calm Avg: 0.00 [ppb]

Direction	0-6	6-50	50-100	100-172	>172.0	Total
N	16.59	0	0	0	0	16.59
NE	8.66	0	0	0	0	8.66
E	8.37	0	0	0	0	8.37
SE	24.23	0	0	0	0	24.23
S	10.57	0	0	0	0	10.57
SW	18.06	0	0	0	0	18.06
W	7.64	0	0	0	0	7.64
NW	5.87	0	0	0	0	5.87
Summary	100	0	0	0	0	100

SO2[ppb] Histogram: PRAMP RENO Monthly: 05-2019 1 Hr.





PEACE RIVER AREA MONITORING PROGRAM

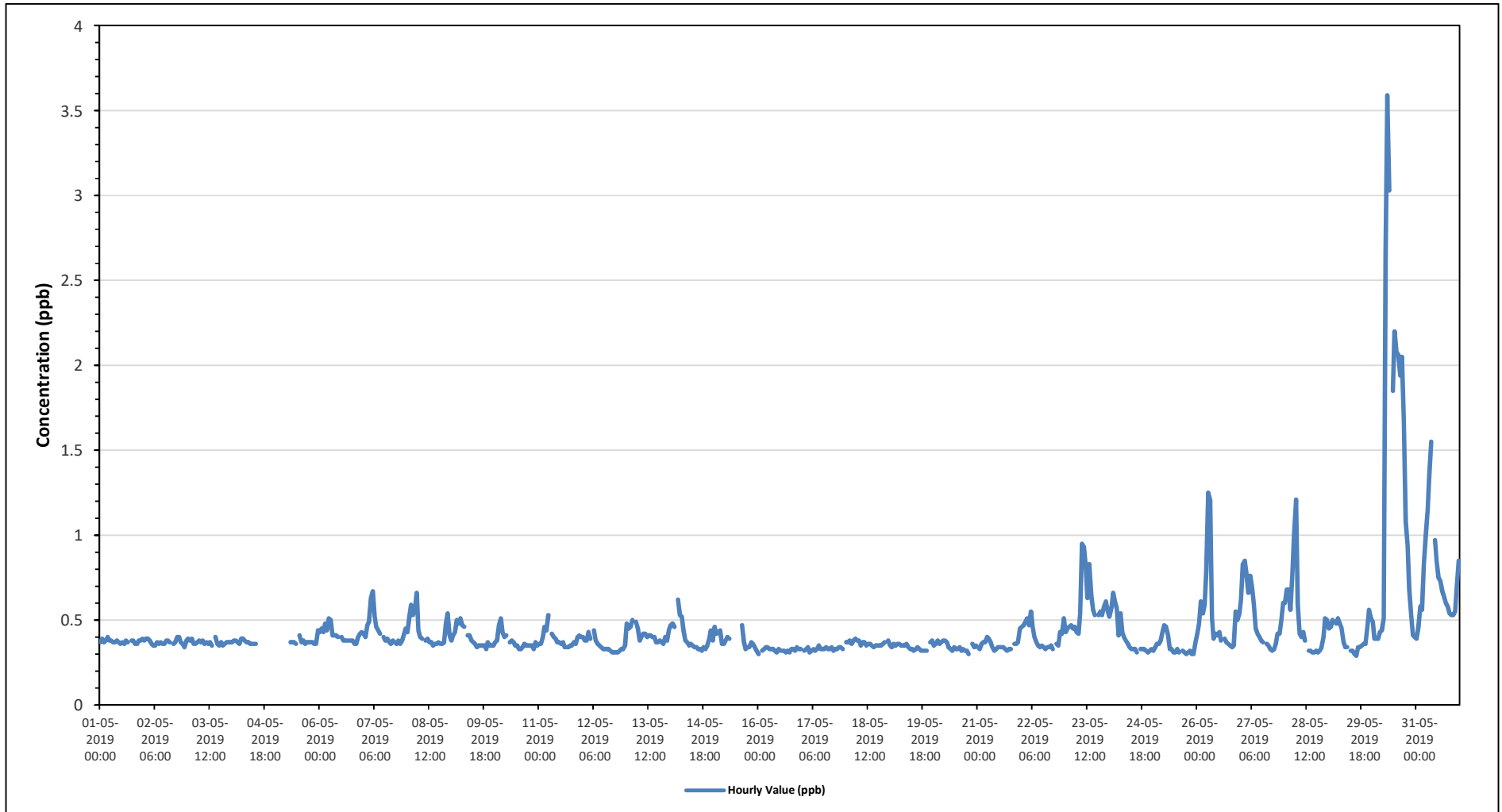
Reno Site - May 2019

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: 3.59 ppb on May 30 at hour 8							Hours in Service: 744																						
Maximum Daily Value: 1.31 ppb on May 30							Hours of Data: 689																						
Minimum Hourly Value: 0.29 ppb on May 29 at hour 15							Hours of Missing Data: 18																						
Minimum Daily Value: 0.32 ppb on May 16							Hours of Calibration: 37																						
Monthly Average: 0.44 ppb							Operational Uptime: 97.6																						
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		
May 1	0.37	0.39	0.37	0.38	0.4	0.38	0.38	0.37	0.37	0.38	0.37	0.36	0.37	0.36	0.38	0.37	S	0.38	0.38	0.36	0.36	0.38	0.38	0.39	0.36	0.40	0.38		
May 2	0.38	0.39	0.39	0.38	0.36	0.35	0.35	0.37	0.36	0.37	0.36	0.36	0.38	0.38	0.37	S	0.4	0.36	0.37	0.4	0.4	0.37	0.36	0.34	0.38	0.34	0.40	0.37	
May 3	0.39	0.38	0.39	0.36	0.36	0.37	0.38	0.37	0.38	0.36	0.37	0.36	0.37	0.35	S	0.4	0.36	0.35	0.37	0.35	0.36	0.37	0.37	0.37	0.37	0.35	0.40	0.37	
May 4	0.37	0.38	0.38	0.37	0.36	0.39	0.39	0.38	0.37	0.37	0.36	0.36	0.36	0.36	X	X	X	X	X	X	X	X	X	X	0.36	0.39	-		
May 5	X	X	X	X	X	X	Y	Y	0.37	0.37	0.37	0.36	S	0.41	0.37	0.38	0.36	0.37	0.37	0.37	0.37	0.36	0.36	0.44	0.36	0.44	-		
May 6	0.43	0.45	0.43	0.48	0.44	0.51	0.5	0.41	0.41	0.41	0.4	S	0.4	0.38	0.38	0.38	0.38	0.38	0.38	0.36	0.36	0.4	0.42	0.43	0.36	0.51	0.41		
May 7	0.42	0.4	0.47	0.49	0.63	0.67	0.52	0.46	0.44	0.42	S	0.4	0.38	0.39	0.37	0.36	0.38	0.37	0.36	0.38	0.36	0.38	0.41	0.45	0.36	0.67	0.43		
May 8	0.43	0.52	0.59	0.53	0.56	0.66	0.44	0.4	0.39	S	0.38	0.39	0.37	0.37	0.35	0.36	0.36	0.37	0.36	0.36	0.37	0.48	0.54	0.41	0.35	0.66	0.43		
May 9	0.38	0.41	0.43	0.5	0.48	0.51	0.47	0.46	S	0.41	0.41	0.38	0.37	0.36	0.34	0.35	0.35	0.35	0.35	0.33	0.37	0.35	0.35	0.35	0.33	0.51	0.39		
May 10	0.37	0.38	0.47	0.51	0.43	0.4	0.41	S	0.37	0.38	0.37	0.35	0.35	0.33	0.33	0.34	0.36	0.35	0.35	0.35	0.35	0.33	0.37	0.35	0.33	0.51	0.37		
May 11	0.36	0.36	0.4	0.46	0.44	0.53	S	0.42	0.4	0.39	0.37	0.37	0.36	0.37	0.34	0.34	0.34	0.35	0.35	0.37	0.36	0.4	0.41	0.4	0.34	0.53	0.39		
May 12	0.4	0.38	0.38	0.43	0.39	S	0.44	0.38	0.36	0.35	0.34	0.33	0.33	0.33	0.33	0.32	0.31	0.31	0.31	0.31	0.31	0.32	0.33	0.33	0.35	0.31	0.44	0.35	
May 13	0.48	0.45	0.46	0.5	S	0.49	0.45	0.38	0.4	0.42	0.42	0.4	0.41	0.41	0.4	0.4	0.37	0.37	0.38	0.37	0.36	0.4	0.38	0.44	0.36	0.50	0.41		
May 14	0.47	0.48	0.46	S	0.62	0.53	0.52	0.44	0.38	0.37	0.35	0.36	0.35	0.34	0.34	0.33	0.33	0.32	0.34	0.33	0.35	0.39	0.44	0.38	0.32	0.62	0.40		
May 15	0.46	0.42	S	0.44	0.36	0.36	0.38	0.4	0.39	C	C	C	C	C	C	C	0.47	0.37	0.33	0.34	0.34	0.37	0.36	0.34	0.32	0.32	0.47	-	
May 16	0.3	S	0.32	0.33	0.34	0.34	0.33	0.33	0.33	0.32	0.31	0.33	0.32	0.32	0.32	0.31	0.32	0.31	0.33	0.33	0.32	0.34	0.33	0.33	0.30	0.34	0.32		
May 17	S	0.32	0.33	0.34	0.31	0.32	0.33	0.32	0.33	0.35	0.33	0.33	0.33	0.34	0.33	0.33	0.34	0.32	0.33	0.33	0.34	0.34	0.33	S	0.31	0.35	0.33		
May 18	0.37	0.37	0.38	0.36	0.38	0.39	0.38	0.38	0.35	0.37	0.37	0.35	0.36	0.36	0.35	0.34	0.35	0.35	0.35	0.35	0.36	0.37	S	0.38	0.34	0.39	0.36		
May 19	0.35	0.34	0.36	0.35	0.36	0.36	0.35	0.35	0.35	0.36	0.34	0.33	0.33	0.32	0.33	0.34	0.33	0.32	0.32	0.32	0.32	S	0.37	0.38	0.32	0.38	0.34		
May 20	0.35	0.36	0.38	0.36	0.37	0.38	0.38	0.37	0.34	0.33	0.32	0.34	0.33	0.33	0.34	0.32	0.33	0.32	0.32	0.3	S	0.36	0.34	0.35	0.30	0.38	0.34		
May 21	0.34	0.33	0.36	0.37	0.37	0.4	0.39	0.37	0.34	0.32	0.33	0.34	0.34	0.34	0.34	0.33	0.32	0.33	0.33	S	S	0.36	0.36	0.37	0.45	0.32	0.45	0.35	
May 22	0.46	0.47	0.49	0.51	0.47	0.55	0.46	0.4	0.37	0.35	0.34	0.35	0.34	0.33	0.34	0.34	0.35	0.33	S	0.36	0.35	0.43	0.42	0.51	0.33	0.55	0.41		
May 23	0.43	0.45	0.46	0.47	0.45	0.46	0.43	0.42	0.54	0.95	0.93	0.82	0.63	0.83	0.65	0.56	0.53	S	0.53	0.55	0.53	0.58	0.61	0.55	0.42	0.95	0.58		
May 24	0.52	0.57	0.66	0.61	0.57	0.41	0.54	0.43	0.4	0.38	0.36	0.34	0.33	0.33	0.33	0.31	S	0.33	0.33	0.33	0.32	0.31	0.32	0.33	0.31	0.66	0.41		
May 25	0.32	0.34	0.36	0.36	0.38	0.43	0.47	0.46	0.41	0.33	0.33	0.31	0.31	0.33	0.31	S	0.32	0.31	0.3	0.31	0.32	0.3	0.3	0.37	0.30	0.47	0.35		
May 26	0.42	0.48	0.61	0.54	0.59	0.79	1.25	1.21	0.51	0.39	0.42	0.41	0.43	0.38	S	0.39	0.37	0.36	0.35	0.34	0.35	0.55	0.5	0.54	0.34	1.25	0.53		
May 27	0.62	0.83	0.85	0.76	0.66	0.76	0.69	0.59	0.45	0.42	0.4	0.38	0.37	S	0.36	0.35	0.33	0.32	0.33	0.36	0.42	0.42	0.5	0.6	0.32	0.85	0.51		
May 28	0.6	0.68	0.68	0.56	0.76	1.01	1.21	0.59	0.42	0.4	0.43	0.38	S	0.32	0.32	0.31	0.31	0.32	0.31	0.32	0.34	0.4	0.51	0.5	0.31	1.21	0.51		
May 29	0.45	0.46	0.5	0.49	0.48	0.51	0.48	0.45	0.37	0.34	0.34	S	0.32	0.32	0.3	0.29	0.34	0.34	0.35	0.36	0.36	0.45	0.56	0.51	0.29	0.56	0.41		
May 30	0.49	0.39	0.39	0.39	0.43	0.44	0.51	2.66	3.59	3.03	S	1.85	2.2	2.08	2.06	1.94	2.05	1.68	1.08	0.94	0.68	0.53	0.41	0.4	0.39	3.59	1.31		
May 31	0.39	0.46	0.58	0.56	0.83	1	1.15	1.36	1.55	S	0.97	0.85	0.75	0.73	0.67	0.64	0.6	0.58	0.54	0.53	0.53	0.55	0.69	0.85	0.39	1.55	0.75		
Diurnal Maximum	0.62	0.83	0.85	0.76	0.83	1.01	1.25	2.66	3.59	3.03	0.97	1.85	2.20	2.08	2.06	1.94	2.05	1.68	1.08	0.94	0.68	0.58	0.69	0.85					
Daiurnal Average	0.42	0.44	0.46	0.45	0.47	0.51	0.52	0.55	0.53	0.49	0.41	0.45	0.45	0.44	0.43	0.43	0.42	0.40	0.38	0.38	0.38	0.40	0.41	0.43					
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.																													

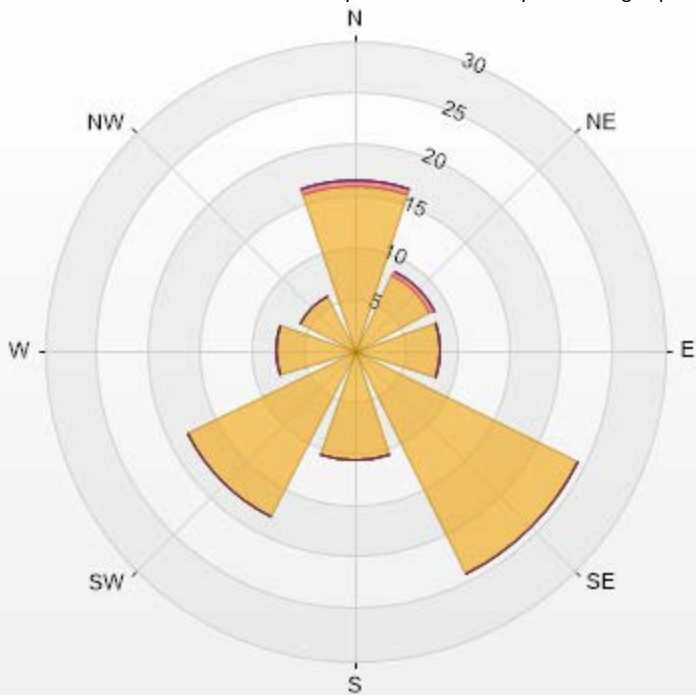
Timeseries Chart of Hourly Average for TRS - Reno Site



Wind: PRAMP RENO Poll.: PRAMP RENO-TRS[ppb] Monthly: 05-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 91.53% Calm Avg: 0.00 [ppb]

Direction	0-2	2-5	5-10	10-50	>50.0	Total
N	16.01	0.59	0	0	0	16.6
NE	8.22	0.44	0	0	0	8.66
E	8.37	0	0	0	0	8.37
SE	24.23	0	0	0	0	24.23
S	10.57	0	0	0	0	10.57
SW	18.06	0	0	0	0	18.06
W	7.64	0	0	0	0	7.64
NW	5.87	0	0	0	0	5.87
Summary	98.97	1.03	0	0	0	100

PRAMP Monthly Ambient Air Quality Monitoring Report for May 2019



% Icon	Classes (ppb)	99	1	0	0	0
	0-2	99	1	0	0	0
	2-5		1	0	0	0
	5-10			0	0	0
	10-50				0	0
	>50.0					0



PEACE RIVER AREA MONITORING PROGRAM

Reno Site - May 2019

Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

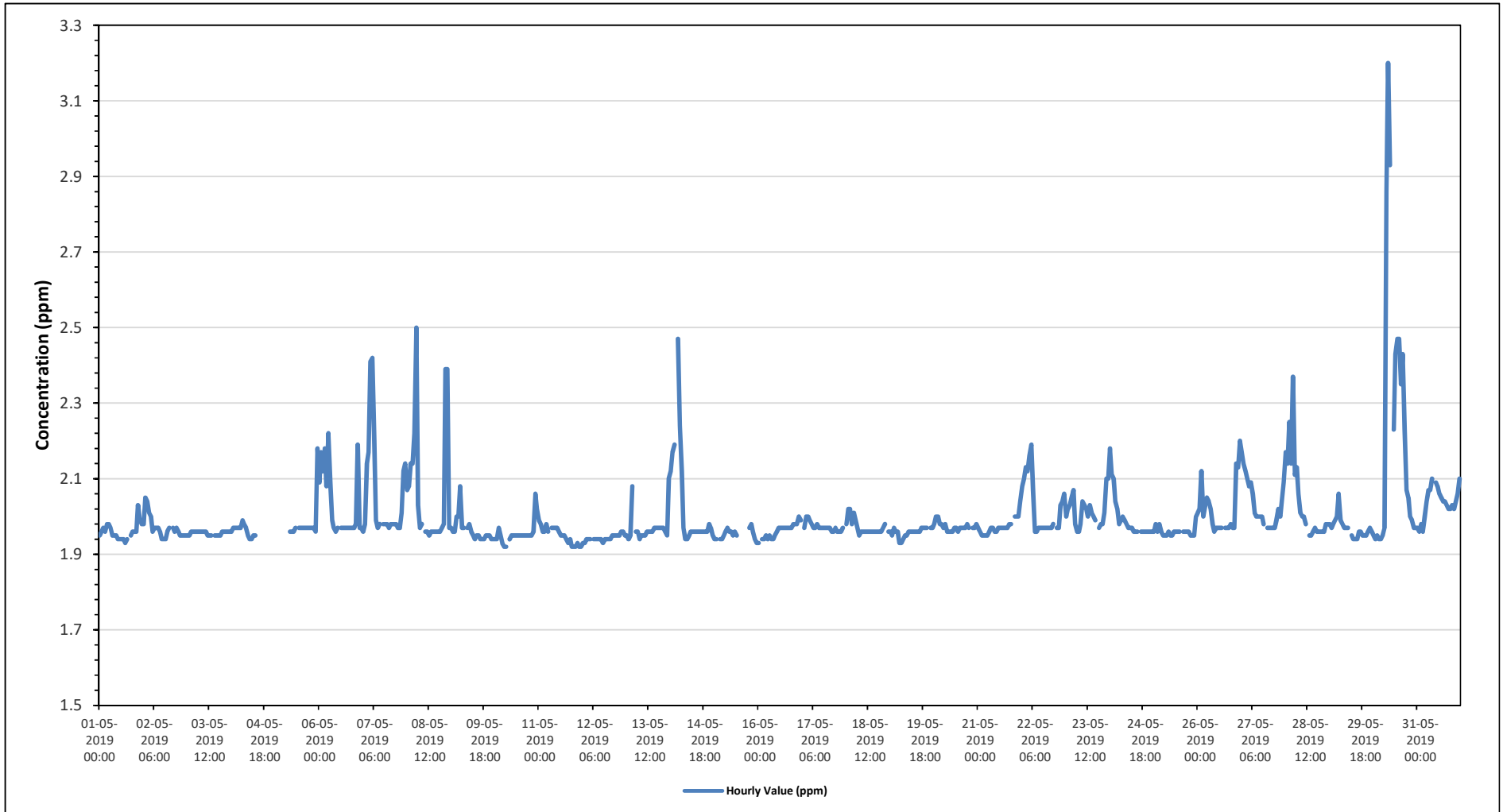
Maximum Hourly Value:	3.20 ppm on May 30 at hour 8	Hours in Service:	744
Maximum Daily Value:	2.23 ppm on May 30	Hours of Data:	689
Minimum Hourly Value:	1.92 ppm on May 10 at hour 5	Hours of Missing Data:	18
Minimum Daily Value:	1.94 ppm on May 12	Hours of Calibration:	37
Monthly Average:	2.00 ppm	Operational Uptime:	97.6

Day	Hourly Period Starting at (MST)																							Daily	Daily	Daily		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Minimum	Maximum	Average	
May 1	1.95	1.96	1.97	1.96	1.98	1.98	1.97	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.93	1.94	S	1.95	1.96	1.96	1.96	2.03	1.99	1.98	1.93	2.03	1.96	
May 2	1.98	2.05	2.04	2.01	2.00	1.96	1.97	1.97	1.97	1.96	1.94	1.94	1.94	1.96	1.97	S	1.97	1.96	1.97	1.96	1.95	1.95	1.95	1.95	1.94	2.05	1.97	
May 3	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.95	S	1.95	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.95	1.96	1.96	
May 4	1.96	1.97	1.97	1.97	1.97	1.97	1.99	1.98	1.97	1.95	1.94	1.94	1.95	1.95	X	X	X	X	X	X	X	X	X	X	1.94	1.99	-	
May 5	X	X	X	X	X	X	Y	Y	1.96	1.96	1.96	1.97	S	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.96	2.18	1.96	2.18	-	
May 6	2.09	2.17	2.12	2.18	2.08	2.22	2.09	1.99	1.97	1.96	1.97	S	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	2.19	1.97	1.97	1.96	2.22	2.03	
May 7	1.96	1.98	2.14	2.17	2.41	2.42	2.20	1.99	1.97	1.98	S	1.98	1.98	1.98	1.97	1.98	1.98	1.98	1.98	1.98	1.97	2.01	2.12	2.14	1.96	2.42	2.05	
May 8	2.07	2.08	2.14	2.14	2.22	2.50	2.03	1.97	1.98	S	1.96	1.96	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.98	2.39	2.39	1.97	1.95	2.50	2.06
May 9	1.97	1.96	1.96	2.00	2.00	2.08	1.97	1.97	S	1.97	1.98	1.96	1.95	1.94	1.95	1.95	1.94	1.94	1.94	1.95	1.95	1.95	1.94	1.94	1.94	2.08	1.96	
May 10	1.94	1.94	1.97	1.95	1.93	1.92	S	1.94	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	2.06	2.02	1.92	2.06	1.95	
May 11	1.99	1.98	1.96	1.96	1.98	1.96	S	1.97	1.97	1.97	1.96	1.95	1.95	1.95	1.95	1.94	1.93	1.94	1.92	1.92	1.92	1.93	1.92	1.92	1.92	1.99	1.95	
May 12	1.93	1.93	1.94	1.94	1.94	S	1.94	1.94	1.94	1.94	1.94	1.93	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.95	1.96	1.96	1.95	1.93	1.96	1.94	
May 13	1.95	1.94	1.95	2.08	S	1.96	1.96	1.94	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.96	1.95	2.10	1.94	2.10	1.97	
May 14	2.12	2.17	2.19	S	2.47	2.24	2.12	1.97	1.94	1.94	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.98	1.97	1.95	1.94	2.47	2.03
May 15	1.94	1.94	S	1.94	1.94	1.95	1.96	1.97	1.96	1.96	1.95	1.96	1.95	C	C	C	C	C	C	1.97	1.98	1.96	1.94	1.93	1.93	1.98	-	
May 16	1.93	S	1.94	1.94	1.95	1.94	1.95	1.94	1.94	1.94	1.95	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.98	2.00	1.99	1.93	2.00	1.96	
May 17	S	1.97	2.00	2.00	1.99	1.98	1.97	1.97	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.97	1.96	1.96	1.96	1.97	S	1.96	2.00	1.97	
May 18	1.98	2.02	2.02	1.98	2.01	1.99	1.97	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.98	S	1.96	1.95	2.02	1.97
May 19	1.96	1.95	1.97	1.96	1.96	1.93	1.93	1.94	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.97	S	1.97	1.97	1.93	1.97	1.96	
May 20	1.98	2.00	2.00	1.98	1.98	1.97	1.98	1.96	1.96	1.96	1.96	1.97	1.97	1.96	1.97	1.97	1.97	1.97	1.98	S	1.97	1.97	1.98	1.97	1.96	2.00	1.97	
May 21	1.97	1.96	1.95	1.95	1.95	1.95	1.96	1.97	1.97	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	S	2.00	2.00	2.00	2.04	1.95	2.04	1.97	
May 22	2.08	2.10	2.13	2.12	2.16	2.19	2.07	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	S	1.97	1.98	2.03	2.04	2.06	1.96	2.19	2.03	
May 23	2.00	2.02	2.03	2.05	2.07	1.98	1.96	1.96	1.98	2.04	2.03	2.02	2.00	2.03	2.01	2.00	1.99	S	1.97	1.98	1.98	2.01	2.10	2.10	1.96	2.10	2.01	
May 24	2.18	2.11	2.10	2.04	2.02	1.98	1.99	2.00	1.99	1.98	1.97	1.97	1.96	1.96	1.96	S	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	2.18	2.00
May 25	1.96	1.98	1.96	1.98	1.96	1.95	1.95	1.95	1.96	1.95	1.95	1.96	1.96	1.96	1.96	S	1.96	1.96	1.96	1.96	1.95	1.95	1.95	2.00	1.95	2.00	1.96	
May 26	2.01	2.02	2.12	2.00	2.03	2.05	2.04	2.02	1.98	1.96	1.97	1.97	1.97	1.97	S	1.97	1.97	1.97	1.98	1.97	1.97	2.14	2.13	2.20	1.96	2.20	2.02	
May 27	2.17	2.14	2.12	2.10	2.08	2.09	2.06	2.01	2.00	2.00	2.00	1.98	S	1.97	1.97	1.97	1.97	1.97	1.99	2.02	2.00	2.05	2.09	1.97	2.17	2.03		
May 28	2.17	2.14	2.25	2.14	2.37	2.11	2.13	2.06	2.01	2.00	2.00	1.98	S	1.95	1.95	1.96	1.97	1.96	1.96	1.96	1.96	1.96	1.98	1.98	1.95	2.37	2.04	
May 29	1.98	1.97	1.98	1.99	2.00	2.06	1.99	1.98	1.97	1.97	1.97	S	1.95	1.94	1.94	1.96	1.96	1.95	1.95	1.95	1.96	1.97	1.96	1.94	2.06	1.97		
May 30	1.95	1.94	1.95	1.94	1.94	1.95	1.97	2.86	3.20	2.93	S	2.23	2.43	2.47	2.47	2.35	2.43	2.23	2.07	2.05	2.00	1.99	1.97	1.97	1.94	3.20	2.23	
May 31	1.97	1.96	1.98	1.96	2.00	2.04	2.07	2.07	2.10	S	2.09	2.08	2.06	2.05	2.04	2.04	2.03	2.02	2.02	2.03	2.02	2.04	2.06	2.10	1.96	2.10	2.04	
Diurnal Maximum	2.18	2.17	2.25	2.18	2.47	2.50	2.20	2.86	3.20	2.93	2.09	2.23	2.43	2.47	2.47	2.35	2.43	2.23	2.07	2.05	2.02	2.39	2.39	2.20				
Diurnal Average	2.00	2.01	2.03	2.01	2.05	2.04	2.00	2.01	2.01	2.00	1.97	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.97	2.00	2.01	2.01				

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

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

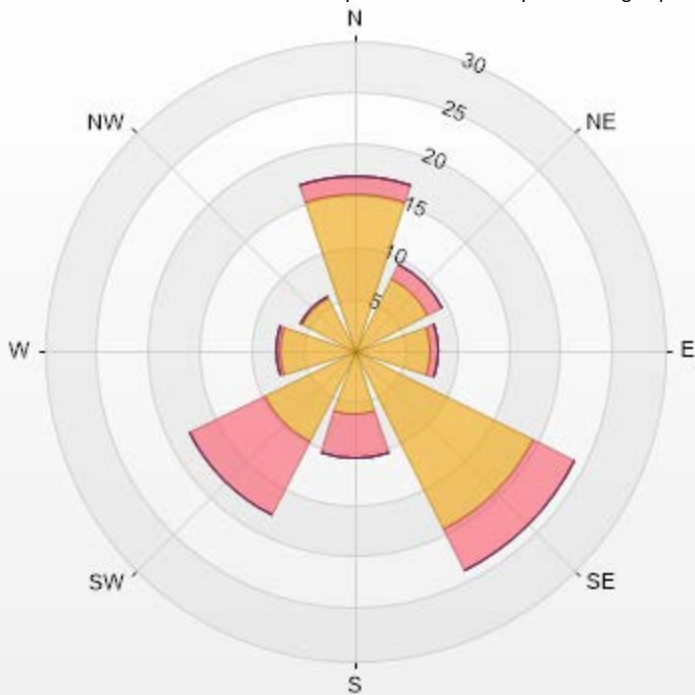
Timeseries Chart of Hourly Average for THC - Reno Site



Wind: PRAMP RENO Poll.: PRAMP RENO-THC55[ppm] Monthly: 05-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 92.61% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-40	>40.0	Total
N	15.24	1.74	0	0	0	16.98
NE	7.84	1.6	0	0	0	9.44
E	7.26	0.87	0	0	0	8.13
SE	19.45	4.35	0	0	0	23.8
S	6.24	4.21	0	0	0	10.45
SW	9.87	7.98	0	0	0	17.85
W	7.26	0.29	0	0	0	7.55
NW	5.66	0.15	0	0	0	5.81
Summary	78.82	21.19	0	0	0	100

PRAMP Monthly Ambient Air Quality Monitoring Report for May 2019





PEACE RIVER AREA MONITORING PROGRAM

Reno Site - May 2019 Summary of Hourly Averages

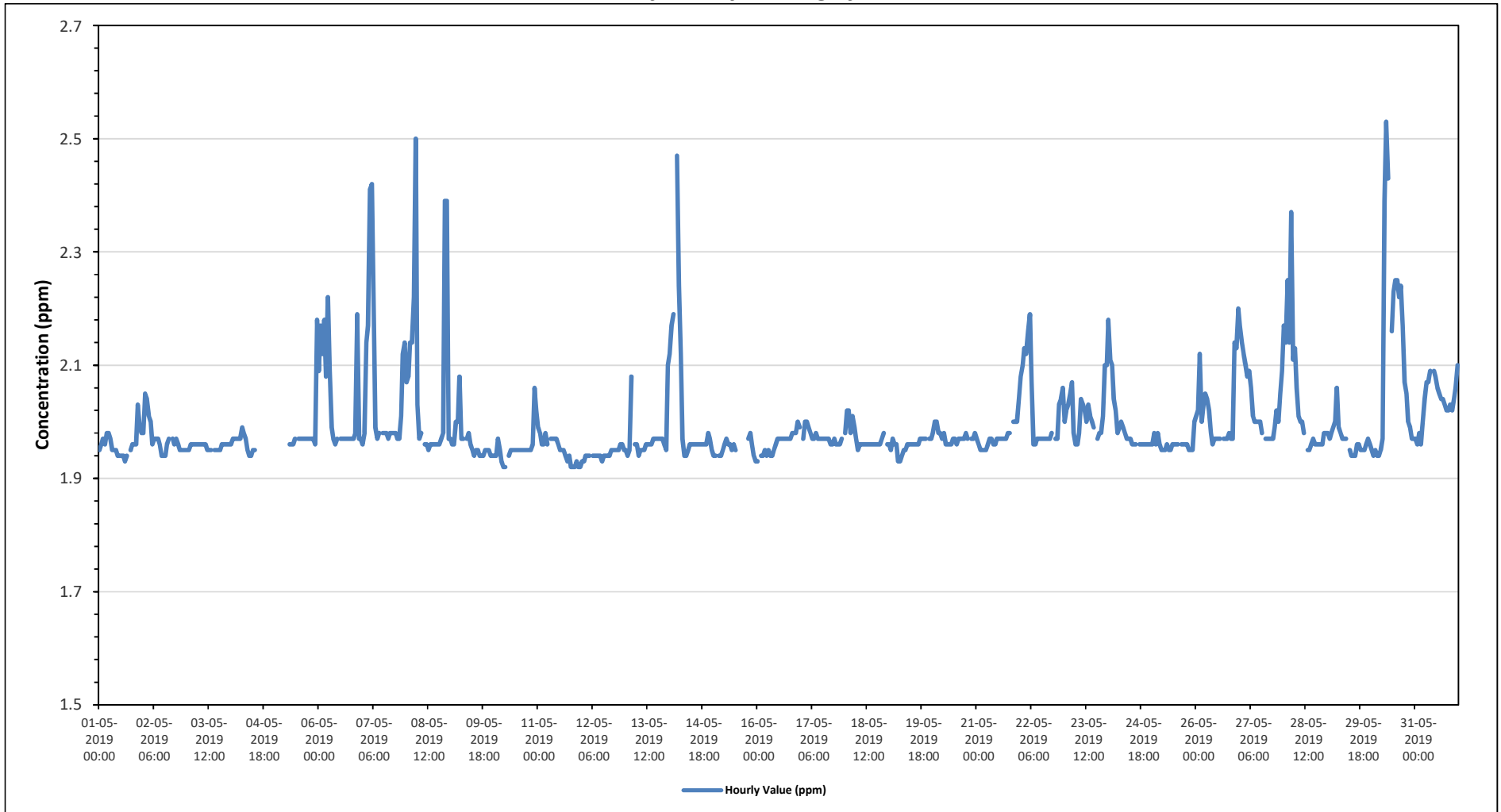
METHANE (CH4) in ppm

Maximum Hourly Value:	2.53 ppm on May 30 at hour 8	Hours in Service:	744
Maximum Daily Value:	2.11 ppm on May 30	Hours of Data:	689
Minimum Hourly Value:	1.92 ppm on May 10 at hour 5	Hours of Missing Data:	18
Minimum Daily Value:	1.94 ppm on May 12	Hours of Calibration:	37
Monthly Average:	1.99 ppm	Operational Uptime:	97.6

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		
May 1	1.95	1.96	1.97	1.96	1.98	1.98	1.97	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.93	1.94	S	1.95	1.96	1.96	1.96	2.03	1.99	1.98	1.93	2.03	1.96		
May 2	1.98	2.05	2.04	2.01	2.00	1.96	1.97	1.97	1.97	1.96	1.94	1.94	1.94	1.96	1.97	S	1.97	1.96	1.97	1.96	1.95	1.95	1.95	1.95	1.94	2.05	1.97		
May 3	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.95	1.95	S	1.95	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.95	1.96	1.96		
May 4	1.96	1.97	1.97	1.97	1.97	1.97	1.99	1.98	1.97	1.95	1.94	1.94	1.95	1.95	X	X	X	X	X	X	X	X	X	X	1.94	1.99	-		
May 5	X	X	X	X	X	X	Y	Y	1.96	1.96	1.96	1.97	S	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.96	2.18	1.96	2.18		
May 6	2.09	2.17	2.12	2.18	2.08	2.22	2.09	1.99	1.97	1.96	1.97	S	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	2.19	1.97	1.97	1.96	2.22	2.03		
May 7	1.96	1.98	2.14	2.17	2.41	2.42	2.20	1.99	1.97	1.98	S	1.98	1.98	1.98	1.97	1.98	1.98	1.98	1.98	1.98	1.97	1.97	2.01	2.12	2.14	1.96	2.42	2.05	
May 8	2.07	2.08	2.14	2.14	2.22	2.50	2.03	1.97	1.98	S	1.96	1.96	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.98	2.39	2.39	1.97	1.95	2.50	2.06	
May 9	1.97	1.96	1.96	2.00	2.00	2.08	1.97	1.97	S	1.97	1.98	1.96	1.95	1.94	1.95	1.95	1.94	1.94	1.94	1.95	1.95	1.95	1.94	1.94	1.94	1.94	2.08	1.96	
May 10	1.94	1.94	1.97	1.95	1.93	1.92	S	1.94	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	2.06	2.02	1.92	2.06	1.95		
May 11	1.99	1.98	1.96	1.96	1.98	1.96	S	1.97	1.97	1.97	1.96	1.95	1.95	1.95	1.95	1.94	1.93	1.94	1.92	1.92	1.92	1.93	1.92	1.92	1.92	1.99	1.95		
May 12	1.93	1.93	1.94	1.94	1.94	S	1.94	1.94	1.94	1.94	1.94	1.93	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.95	1.96	1.96	1.95	1.93	1.96	1.94		
May 13	1.95	1.94	1.95	2.08	S	1.96	1.96	1.94	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.96	1.95	2.10	1.94	2.10	1.97	
May 14	2.12	2.17	2.19	S	2.47	2.24	2.12	1.97	1.94	1.94	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.98	1.97	1.95	1.94	2.47	2.03	
May 15	1.94	1.94	S	1.94	1.94	1.95	1.96	1.97	1.96	1.96	1.95	1.96	1.95	C	C	C	C	C	C	C	1.97	1.98	1.96	1.94	1.93	1.93	1.98	-	
May 16	1.93	S	1.94	1.94	1.95	1.94	1.95	1.94	1.94	1.94	1.95	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.98	2.00	1.99	1.93	2.00	1.96		
May 17	S	1.97	2.00	2.00	1.99	1.98	1.97	1.97	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.97	1.96	1.96	1.96	1.96	1.97	S	1.96	2.00	1.97	
May 18	1.98	2.02	2.02	1.98	2.01	1.99	1.97	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.98	S	1.96	1.95	2.02	1.97	
May 19	1.96	1.95	1.97	1.96	1.96	1.93	1.93	1.94	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.97	S	1.97	1.97	1.93	1.97	1.96	
May 20	1.98	2.00	2.00	1.98	1.98	1.97	1.98	1.96	1.96	1.96	1.96	1.97	1.97	1.96	1.97	1.97	1.97	1.97	1.98	1.97	S	1.97	1.97	1.98	1.97	1.96	2.00	1.97	
May 21	1.97	1.96	1.95	1.95	1.95	1.95	1.96	1.97	1.97	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	S	2.00	2.00	2.00	2.04	1.95	2.04	1.97	
May 22	2.08	2.10	2.13	2.12	2.16	2.19	2.07	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	S	1.97	1.98	1.98	2.01	2.10	2.10	1.96	2.19	2.03	
May 23	2.00	2.02	2.03	2.05	2.07	1.98	1.96	1.96	1.98	2.04	2.03	2.02	2.00	2.03	2.01	2.00	1.99	S	1.97	1.98	1.98	2.01	2.10	2.10	1.96	2.10	2.01	2.01	
May 24	2.18	2.11	2.10	2.04	2.02	1.98	1.99	2.00	1.99	1.98	1.97	1.97	1.96	1.96	1.96	S	S	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	2.18	2.00	
May 25	1.96	1.98	1.96	1.98	1.96	1.95	1.95	1.95	1.96	1.95	1.95	1.96	1.96	1.96	1.96	S	1.96	1.96	1.96	1.96	1.96	1.95	1.95	1.95	2.00	1.95	2.00	1.96	
May 26	2.01	2.02	2.12	2.00	2.03	2.05	2.04	2.02	1.98	1.96	1.97	1.97	1.97	1.97	S	1.97	1.97	1.97	1.98	1.97	1.97	1.97	2.14	2.13	2.20	1.96	2.20	2.02	
May 27	2.17	2.14	2.12	2.10	2.08	2.09	2.06	2.01	2.00	2.00	2.00	2.00	1.98	S	1.97	1.97	1.97	1.97	1.97	1.99	2.02	2.00	2.05	2.09	1.97	2.17	2.03	2.03	
May 28	2.17	2.14	2.25	2.14	2.37	2.11	2.13	2.06	2.01	2.00	2.00	1.98	S	1.95	1.95	1.96	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.98	1.98	1.95	2.37	2.04	
May 29	1.98	1.97	1.98	1.99	2.00	2.06	1.99	1.98	1.97	1.97	1.97	S	1.95	1.94	1.94	1.96	1.96	1.96	1.95	1.95	1.95	1.96	1.97	1.96	1.94	2.06	1.97	1.97	
May 30	1.95	1.94	1.95	1.94	1.94	1.95	1.97	2.39	2.53	2.43	S	2.16	2.23	2.25	2.25	2.22	2.24	2.17	2.07	2.05	2.00	1.99	1.97	1.97	1.94	2.53	2.11	2.11	
May 31	1.97	1.96	1.98	1.96	2.00	2.04	2.07	2.07	2.09	S	2.09	2.08	2.06	2.05	2.04	2.04	2.03	2.02	2.02	2.03	2.02	2.04	2.06	2.10	1.96	2.10	2.04	2.04	
Diurnal Maximum	2.18	2.17	2.25	2.18	2.47	2.50	2.20	2.39	2.53	2.43	2.09	2.16	2.23	2.25	2.25	2.22	2.24	2.17	2.07	2.05	2.02	2.39	2.39	2.20					
Diurnal Average	2.00	2.01	2.03	2.01	2.05	2.04	2.00	1.99	1.99	1.98	1.97	1.97	1.97	1.97	1.98	1.97	1.98	1.97	1.97	1.97	1.97	2.00	2.01	2.01					
C	Calibration			S	Daily Zero/Span			Q	Quality Assurance					C1	Repeat Calibration			S1	Repeat Daily Zero/Span										
G	Out for Repair			K	Collection Error			N	Not in Service					O	Operator Error			P	Power Failure										
R	Recovery			X	Machine Malfunction			Y	Maintenance					T	Exceeds Temperature Limits			N	Not in Service										

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

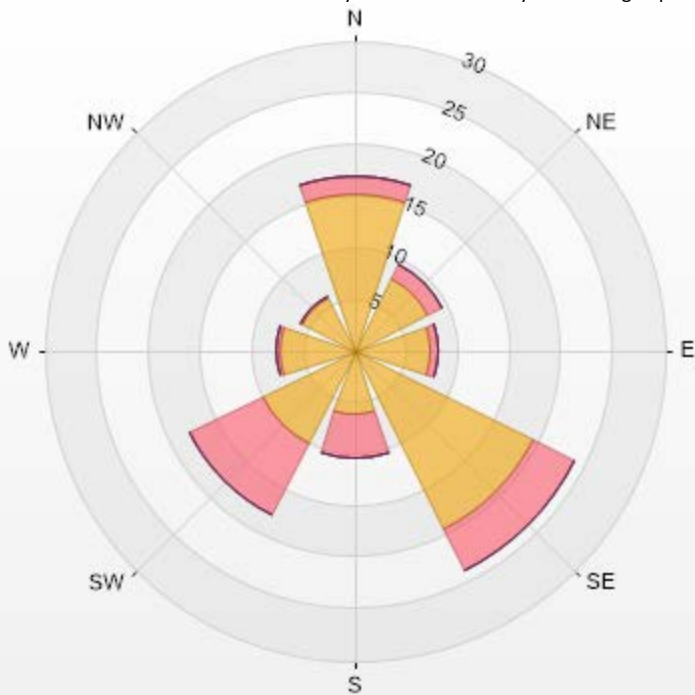
Timeseries Chart of Hourly Average for CH4 - Reno Site



Wind: PRAMP RENO Poll.: PRAMP RENO-CH4[ppm] Monthly: 05-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 92.61% Calm Avg: 0.00 [ppm]

Direction	0-2	2-5	5-10	10-20	>20.0	Total
N	15.24	1.74	0	0	0	16.98
NE	7.84	1.6	0	0	0	9.44
E	7.26	0.87	0	0	0	8.13
SE	19.45	4.35	0	0	0	23.8
S	6.24	4.21	0	0	0	10.45
SW	10.01	7.84	0	0	0	17.85
W	7.26	0.29	0	0	0	7.55
NW	5.66	0.15	0	0	0	5.81
Summary	78.96	21.05	0	0	0	100

PRAMP Monthly Ambient Air Quality Monitoring Report for May 2019





PEACE RIVER AREA MONITORING PROGRAM

Reno Site - May 2019

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

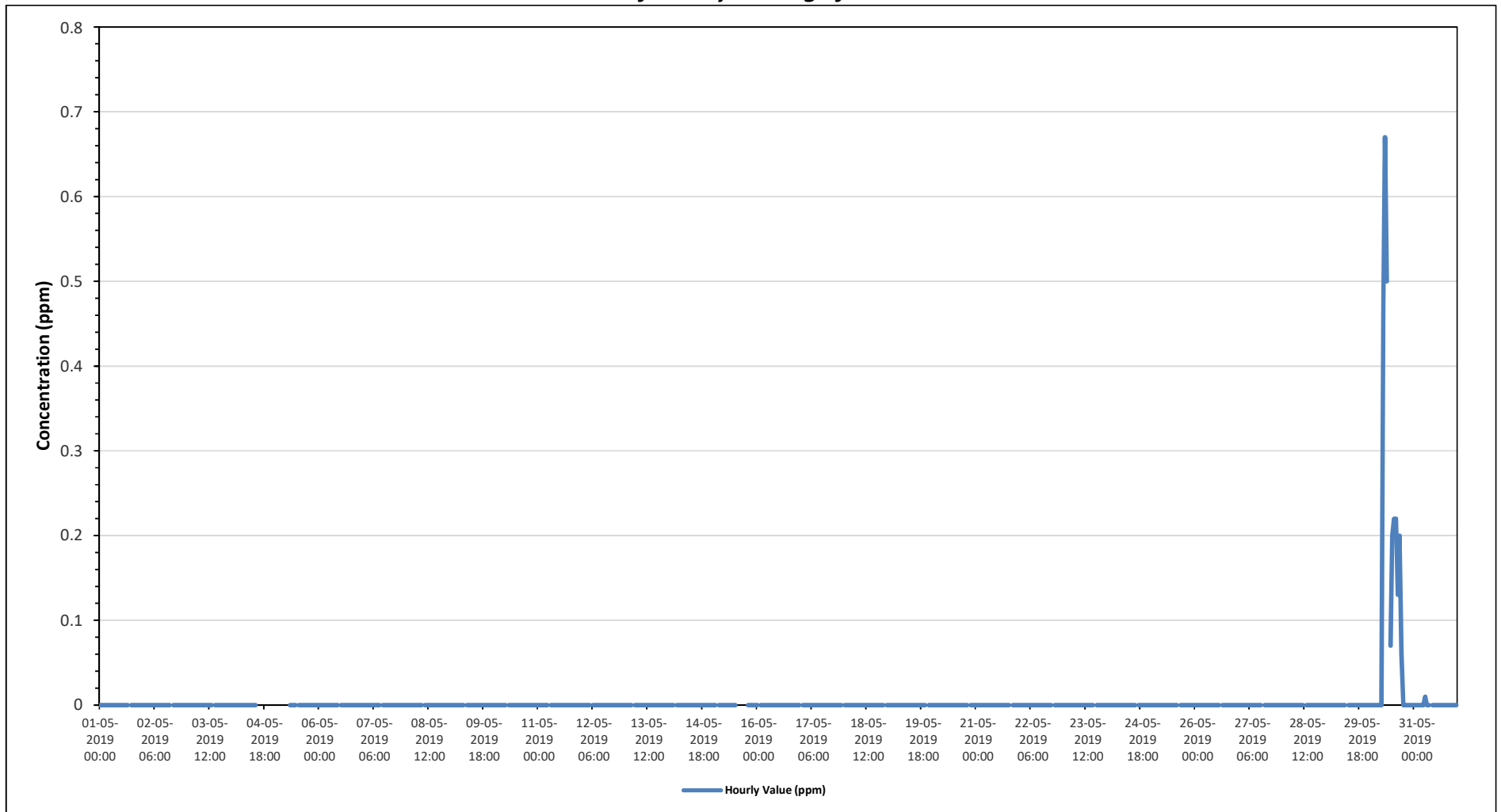
Maximum Hourly Value:	0.67 ppm on May 30 at hour 8	Hours in Service:	744
Maximum Daily Value:	0.12 ppm on May 30	Hours of Data:	689
Minimum Hourly Value:	0.00 ppm on May 1 at hour 0	Hours of Missing Data:	18
Minimum Daily Value:	0.00 ppm on May 1	Hours of Calibration:	37
Monthly Average:	0.00 ppm	Operational Uptime:	97.6

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			
May 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0.00
May 5	X	X	X	X	X	X	Y	Y	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 11	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 12	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 13	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 14	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 15	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 16	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 17	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00
May 18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00
May 19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00
May 20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.67	0.50	S	0.07	0.20	0.22	0.22	0.22	0.13	0.20	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.12
May 31	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diurnal Maximum	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.47	0.67	0.50	0.00	0.07	0.20	0.22	0.22	0.13	0.20	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
Diurnal Average	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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

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

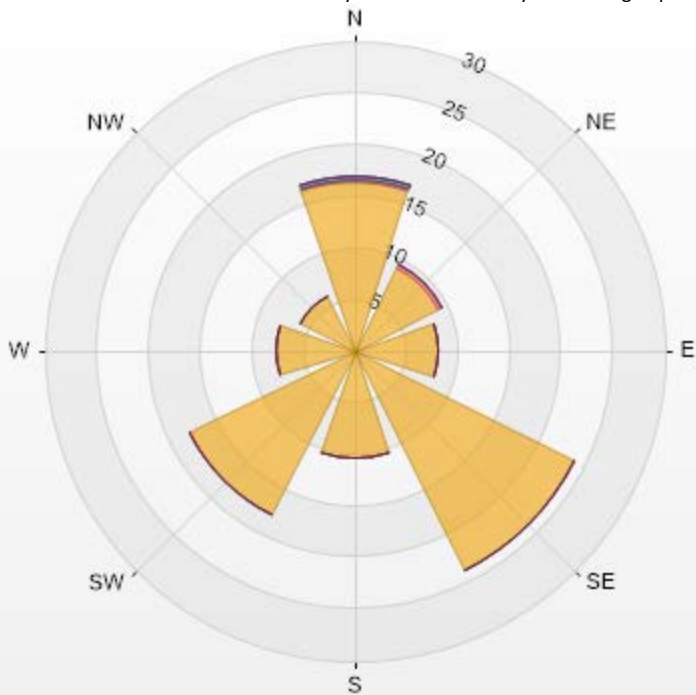
Timeseries Chart of Hourly Average for NMHC - Reno Site



Wind: PRAMP RENO Poll.: PRAMP RENO-NMHC[ppm] Monthly: 05-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 92.61% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-0.9	0.9-2	>2.0	Total
N	16.26	0.29	0.44	0	0	16.99
NE	9	0.44	0	0	0	9.44
E	8.13	0	0	0	0	8.13
SE	23.8	0	0	0	0	23.8
S	10.45	0	0	0	0	10.45
SW	17.85	0	0	0	0	17.85
W	7.55	0	0	0	0	7.55
NW	5.81	0	0	0	0	5.81
Summary	98.85	0.73	0.44	0	0	100

PRAMP Monthly Ambient Air Quality Monitoring Report for May 2019





PEACE RIVER AREA MONITORING PROGRAM

Reno Site - May 2019

Summary of Hourly Averages

RELATIVE HUMIDITY (RH) in %

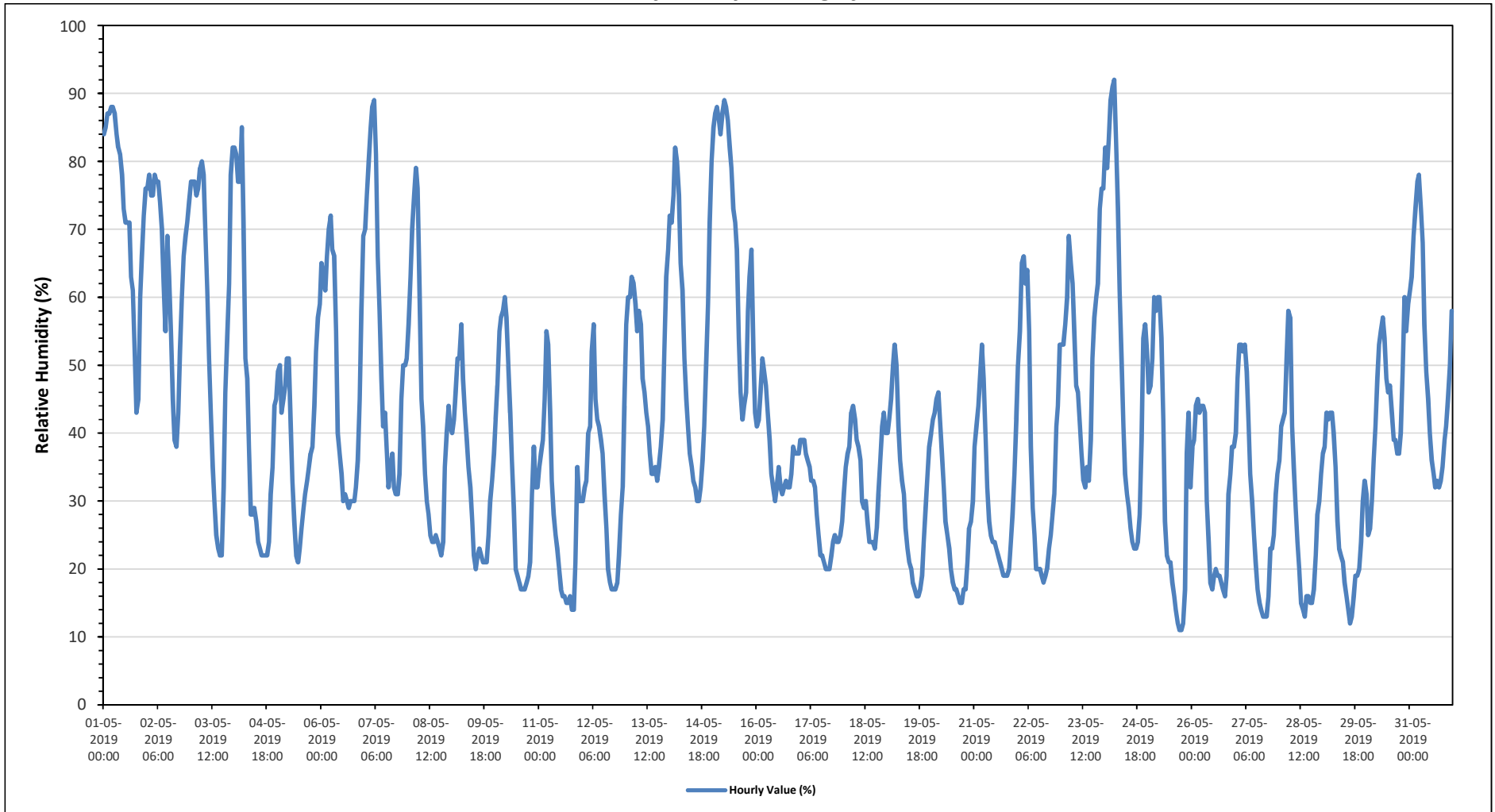
Maximum Hourly Value:	92 %	on May 24 at hour 5	Hours in Service:	744
Maximum Daily Value:	73.1 %	on May 1	Hours of Data:	744
Minimum Hourly Value:	11 %	on May 25 at hour 17	Hours of Missing Data:	0
Minimum Daily Value:	27.0 %	on May 29	Hours of Calibration:	0
Monthly Average:	41.8 %		Operational Uptime:	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
May 1	84	85	87	87	88	88	87	84	82	81	78	73	71	71	71	63	61	51	43	45	60	66	72	76	43	88	73
May 2	76	78	75	75	78	77	77	74	70	62	55	69	63	55	45	39	38	43	52	60	66	69	71	74	38	78	64
May 3	77	77	77	75	76	79	80	78	69	61	51	43	35	30	25	23	22	22	32	46	54	62	78	82	22	82	56
May 4	82	81	77	77	85	71	51	48	38	28	28	29	27	24	23	22	22	22	24	31	35	44	45	22	85	43	
May 5	49	50	43	45	47	51	51	41	33	27	22	21	23	26	29	31	33	35	37	38	44	52	57	59	21	59	39
May 6	65	63	61	66	70	72	67	66	55	40	37	34	30	31	30	29	30	30	30	32	36	45	58	69	29	72	48
May 7	70	75	80	85	88	89	81	66	58	48	41	43	37	32	35	37	32	31	31	34	45	50	50	51	31	89	54
May 8	56	63	70	75	79	76	61	45	41	34	30	28	25	24	24	25	24	23	22	24	35	40	44	41	22	79	42
May 9	40	42	46	51	51	56	48	43	39	35	32	27	22	20	22	23	22	21	21	21	25	30	33	37	20	56	34
May 10	42	47	55	57	58	60	57	50	43	36	29	20	19	18	17	17	17	18	19	21	31	38	32	32	17	60	35
May 11	35	37	39	45	55	53	43	33	28	25	23	20	17	16	16	15	15	16	14	14	21	35	30	30	14	55	28
May 12	30	32	33	40	41	52	56	45	42	41	39	37	31	26	20	18	17	17	17	18	22	28	32	44	17	56	32
May 13	56	60	60	63	62	59	55	58	56	48	46	43	41	37	34	34	35	33	35	38	42	52	62	67	33	67	49
May 14	72	71	75	82	80	75	65	61	51	45	41	37	35	33	32	30	30	32	36	41	50	59	71	80	30	82	54
May 15	85	87	88	86	84	87	89	88	86	82	79	73	71	67	54	46	42	44	46	58	63	67	52	43	42	89	69
May 16	41	42	46	51	49	47	43	39	34	32	30	32	35	32	31	32	33	32	32	34	38	37	37	37	30	51	37
May 17	39	39	39	37	36	35	33	33	32	28	25	22	22	21	20	20	20	22	24	25	24	24	25	27	20	39	28
May 18	31	35	37	38	43	44	42	39	38	36	30	29	30	27	24	24	24	23	26	31	36	41	43	40	23	44	34
May 19	40	42	45	50	53	50	41	36	33	31	26	23	21	20	18	17	16	16	17	19	24	29	34	38	16	53	31
May 20	40	42	43	45	46	42	37	32	27	25	23	20	18	17	17	16	15	15	17	17	21	26	27	30	15	46	27
May 21	38	41	44	48	53	48	40	32	27	25	24	24	23	22	21	20	19	19	19	20	24	28	34	42	19	53	31
May 22	50	55	65	66	62	64	55	38	29	25	20	20	20	19	18	19	20	23	25	28	31	41	44	53	18	66	37
May 23	53	53	56	60	69	65	62	55	47	46	41	37	33	32	35	33	39	51	57	60	62	73	76	76	32	76	53
May 24	82	79	83	89	91	92	83	73	61	51	41	34	31	29	26	24	23	23	24	28	39	54	56	52	23	92	53
May 25	46	47	51	60	58	60	60	54	42	27	22	21	21	18	16	14	12	11	11	12	17	37	43	32	11	60	33
May 26	38	39	44	45	43	44	44	43	30	24	18	17	19	20	19	19	18	17	16	19	31	34	38	38	16	45	30
May 27	40	48	53	53	52	53	49	41	34	30	25	21	17	15	14	13	13	13	16	23	23	25	31	34	13	53	31
May 28	36	41	42	43	51	58	57	41	35	29	24	20	15	14	13	16	16	15	15	17	22	28	30	34	13	58	30
May 29	37	38	43	42	43	43	40	35	27	23	22	21	18	16	14	12	13	16	19	19	20	24	30	33	12	43	27
May 30	31	25	26	30	36	41	48	53	55	57	54	48	46	47	43	39	39	37	37	40	49	60	55	59	25	60	44
May 31	61	63	69	73	77	78	73	68	56	49	45	40	36	34	32	33	32	33	35	39	41	45	50	58	32	78	51
Diurnal Maximum	85	87	88	89	91	92	89	88	86	82	79	73	71	71	71	63	61	51	57	60	66	73	78	82			
Diurnal Average	52.3	54.1	56.5	59.3	61.4	61.6	57.3	51.4	45.1	39.7	35.5	33.1	30.7	28.8	27.0	25.9	25.5	25.9	27.3	30.5	36.4	43.0	46.5	48.8			

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 RH - Reno Site





PEACE RIVER AREA MONITORING PROGRAM

Reno Site - May 2019

Summary of Hourly Averages

BAROMETRIC PRESSURE (BP) in millibar

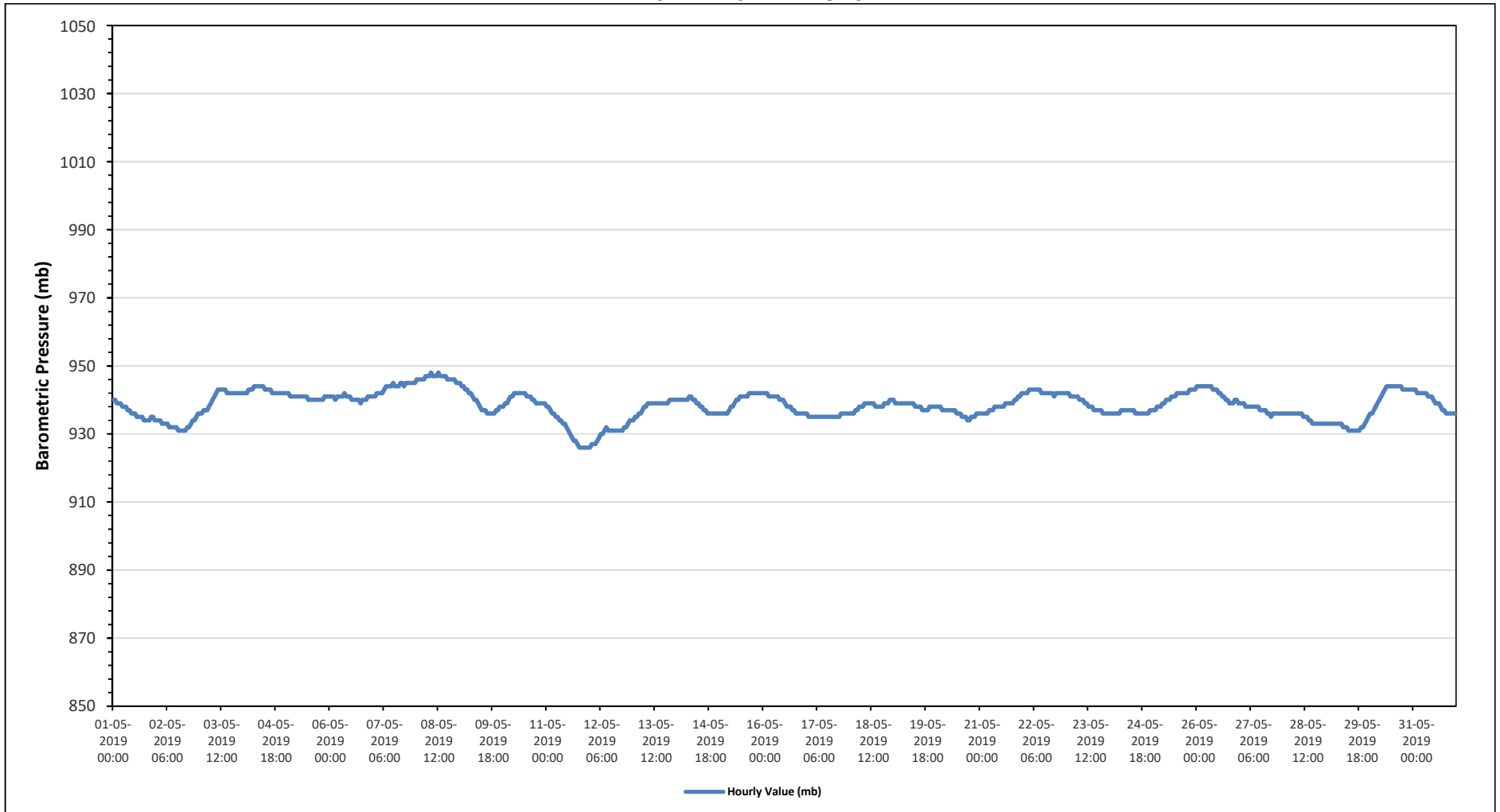
Maximum Hourly Value:	948 mb on May 8 at hour 8	Hours in Service:	744
Maximum Daily Value:	947 mb on May 8	Hours of Data:	744
Minimum Hourly Value:	926 mb on May 11 at hour 18	Hours of Missing Data:	0
Minimum Daily Value:	930 mb on May 12	Hours of Calibration:	0
Monthly Average:	938 mb	Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22			
May 1	940	940	939	939	939	938	938	938	937	937	936	936	936	935	935	935	935	934	934	934	935	935	934	934	936	
May 2	934	934	934	933	933	933	933	932	932	932	932	932	931	931	931	931	931	931	932	932	933	934	934	935	936	
May 3	936	936	937	937	937	938	939	940	941	942	943	943	943	943	943	942	942	942	942	942	942	942	942	942	941	
May 4	942	942	942	943	943	943	944	944	944	944	944	944	943	943	943	943	942	942	942	942	942	942	942	942	943	
May 5	942	942	941	941	941	941	941	941	941	941	941	941	940	940	940	940	940	940	940	940	941	941	941	941	941	
May 6	941	941	941	940	941	941	941	941	941	942	941	941	940	940	940	940	939	940	940	940	941	941	941	941	941	
May 7	941	941	942	942	942	942	943	944	944	944	944	944	945	944	944	944	945	945	944	945	945	945	945	945	944	
May 8	946	946	946	946	946	947	947	947	948	947	947	947	948	947	947	947	947	946	946	946	946	946	945	945	947	
May 9	945	944	944	943	943	942	942	941	940	940	939	938	937	937	937	936	936	936	936	936	937	937	938	938	939	
May 10	938	939	939	940	941	941	942	942	942	942	942	941	941	941	940	940	939	939	939	939	939	939	939	939	940	
May 11	938	938	937	936	936	935	935	934	934	933	933	932	931	930	929	928	928	927	926	926	926	926	926	926	938	
May 12	926	927	927	927	928	929	930	930	931	932	931	931	931	931	931	931	931	931	931	932	932	933	934	934	936	
May 13	934	935	935	936	936	937	938	938	939	939	939	939	939	939	939	939	939	939	939	939	940	940	940	940	938	
May 14	940	940	940	940	940	940	940	941	941	940	940	939	939	939	938	938	937	937	936	936	936	936	936	936	938	
May 15	936	936	936	936	936	937	938	938	939	940	940	941	941	941	941	941	942	942	942	942	942	942	942	942	940	
May 16	942	942	942	941	941	941	941	941	941	940	940	940	939	938	938	938	937	937	936	936	936	936	936	936	939	
May 17	936	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	936	936	936	936	936	935	
May 18	936	936	936	937	937	938	938	938	939	939	939	939	939	939	938	938	938	938	938	938	939	939	939	940	938	
May 19	940	939	939	939	939	939	939	939	939	939	939	939	938	938	938	938	937	937	937	937	938	938	938	938	938	
May 20	938	938	938	937	937	937	937	937	937	937	937	936	936	936	935	935	935	934	934	935	935	935	936	936	936	
May 21	936	936	936	936	936	937	937	937	938	938	938	938	938	938	939	939	939	939	939	940	940	941	941	942	938	
May 22	942	942	942	943	943	943	943	943	943	943	942	942	942	942	942	942	941	942	942	942	942	942	942	942	942	
May 23	942	942	941	941	941	941	941	940	940	940	939	939	938	938	938	937	937	937	937	937	937	936	936	936	939	
May 24	936	936	936	936	936	936	937	937	937	937	937	937	937	936	936	936	936	936	936	936	936	936	936	936	936	
May 25	937	937	938	938	938	939	939	940	940	940	941	941	941	942	942	942	942	942	942	942	943	943	943	943	936	
May 26	944	944	944	944	944	944	944	944	944	943	943	943	942	942	941	941	940	940	939	939	939	940	940	939	942	
May 27	939	939	939	938	938	938	938	938	938	938	938	937	937	937	937	936	936	935	936	936	936	936	936	936	937	
May 28	936	936	936	936	936	936	936	936	936	936	936	935	935	935	934	934	933	933	933	933	933	933	933	933	935	
May 29	933	933	933	933	933	933	933	933	933	932	932	932	931	931	931	931	931	931	931	932	932	933	934	935	932	
May 30	936	936	937	938	939	940	941	942	943	944	944	944	944	944	944	944	944	944	943	943	943	943	943	943	942	
May 31	943	943	942	942	942	942	942	941	941	941	940	939	939	939	938	937	937	936	936	936	936	936	936	936	939	
Diurnal Maximum	946	946	946	946	946	947	947	947	948	947	947	947	948	947	947	947	946	946	946	946	946	946	945	945		
Diurnal Average	939	939	939	938	939	939	939	939	939	939	939	939	939	938	938	938	938	938	938	938	938	938	938	938	938	

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 - May 2019

Summary of Hourly Averages

AMBIENT TEMPERATURE (AT) in Degree Celsius

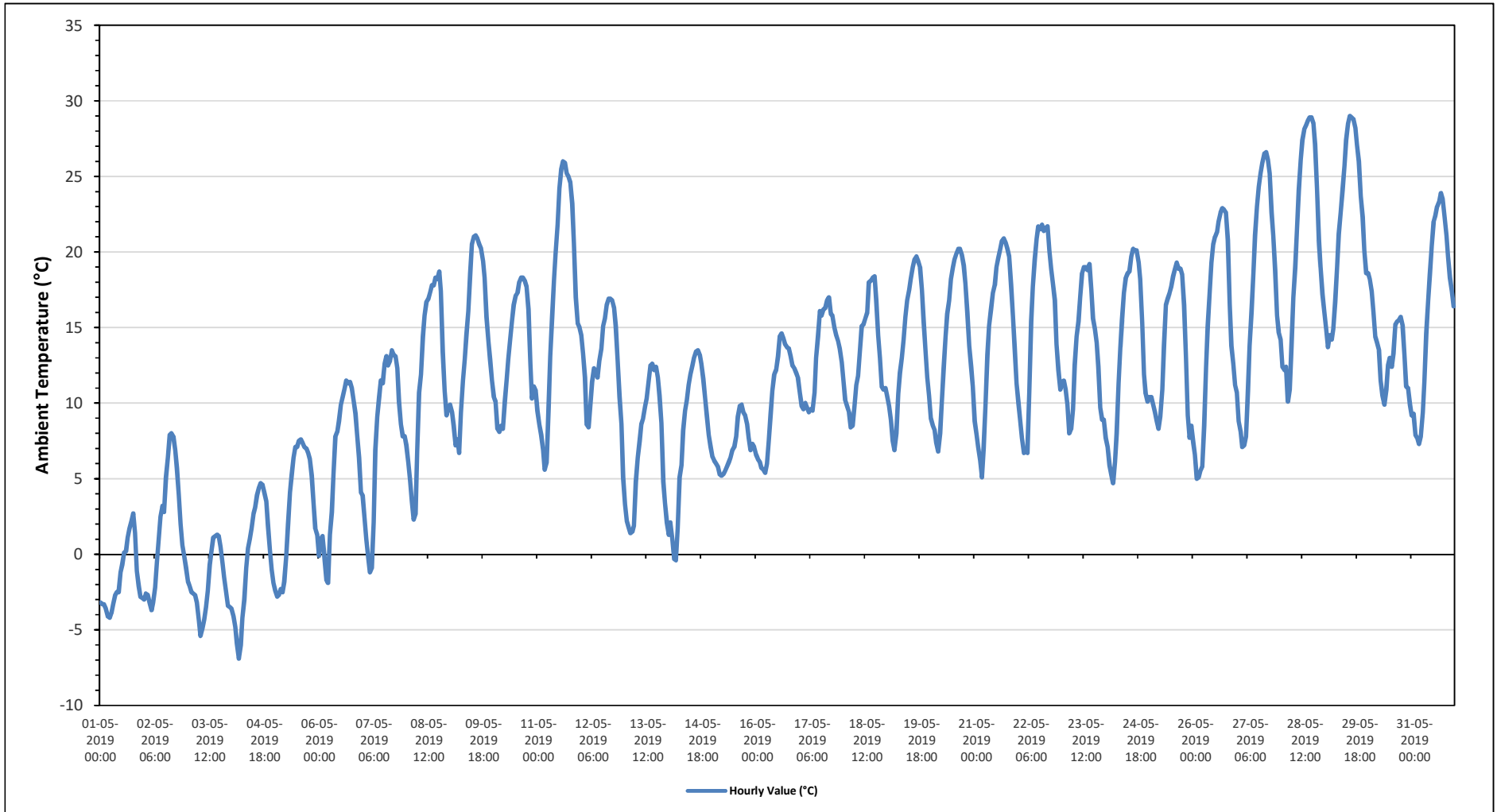
Maximum Hourly Value:	29.0 °C	on May 29 at hour 14	Hours in Service:	744
Maximum Daily Value:	21.9 °C	on May 29	Hours of Data:	744
Minimum Hourly Value:	-6.9 °C	on May 4 at hour 4	Hours of Missing Data:	0
Minimum Daily Value:	-1.9 °C	on May 3	Hours of Calibration:	0
Monthly Average:	11.3 °C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
May 1	-3.2	-3.3	-3.3	-3.6	-4.1	-4.2	-3.9	-3.3	-2.7	-2.5	-2.5	-1.2	-0.7	0.1	0.2	1.1	1.7	2.2	2.7	1.4	-1.1	-2.1	-2.8	-2.9	-4.2	2.7	-1.6	
May 2	-3.0	-2.6	-2.7	-3.2	-3.7	-3.2	-2.2	-0.5	1.0	2.5	3.2	2.8	5.1	6.4	7.9	8.0	7.8	6.9	5.7	3.9	2.0	0.6	-0.1	-0.9	-3.7	8.0	1.7	
May 3	-1.8	-2.1	-2.5	-2.6	-2.7	-3.2	-4.4	-5.4	-4.9	-4.3	-3.5	-2.4	-0.7	0.3	1.1	1.2	1.3	1.2	0.5	-0.6	-1.5	-2.5	-3.4	-3.5	-5.4	1.3	-1.9	
May 4	-3.6	-4.1	-4.8	-5.9	-6.9	-6.0	-4.2	-3.0	-0.9	0.4	1.0	1.7	2.7	3.1	3.9	4.4	4.7	4.6	4.1	3.5	1.9	0.3	-1.0	-1.9	-6.9	4.7	-0.3	
May 5	-2.4	-2.8	-2.7	-2.3	-2.5	-1.8	-0.2	2.0	4.1	5.2	6.4	7.1	7.1	7.5	7.6	7.4	7.1	7.0	6.7	6.3	5.2	3.3	1.7	1.3	-2.8	7.6	3.3	
May 6	-0.1	1.0	1.2	-0.2	-1.7	-1.9	1.3	2.8	5.3	7.8	8.1	8.8	9.9	10.4	11.0	11.5	11.3	11.4	11.0	10.2	9.3	7.9	6.4	4.1	-1.9	11.5	6.1	
May 7	3.9	2.4	1.0	-0.3	-1.2	-0.9	2.1	6.9	9.1	10.4	11.5	11.3	12.6	13.1	12.5	12.8	13.5	13.2	13.1	12.3	10.1	8.6	7.8	7.8	-1.2	13.5	8.1	
May 8	7.2	6.1	4.9	3.5	2.3	2.7	6.8	10.7	11.9	14.4	15.8	16.7	16.9	17.3	17.8	17.8	18.3	18.2	18.7	17.4	13.4	10.8	9.2	9.6	2.3	18.7	12.0	
May 9	9.9	9.4	8.5	7.2	7.6	6.7	9.4	11.5	12.9	14.5	16.1	18.6	20.5	21.0	21.1	20.9	20.5	20.2	19.4	18.3	15.7	14.1	12.9	11.5	6.7	21.1	14.5	
May 10	10.4	10.1	8.3	8.1	8.5	8.3	10.1	11.6	12.9	14.3	15.5	16.5	17.1	17.3	18.0	18.3	18.3	18.1	17.7	16.2	12.6	10.3	11.1	10.8	8.1	18.3	13.4	
May 11	9.5	8.6	7.9	6.9	5.6	6.1	9.7	13.1	15.7	18.2	19.9	21.8	24.2	25.5	26.0	25.9	25.2	25.0	24.6	23.2	20.6	17.0	15.3	15.0	5.6	26.0	17.1	
May 12	14.5	13.3	11.7	8.6	8.4	9.9	11.4	12.3	12.1	11.7	12.8	13.6	15.1	15.6	16.5	16.9	16.9	16.8	16.3	15.1	12.8	10.4	8.6	5.1	5.1	16.9	12.8	
May 13	3.3	2.2	1.8	1.4	1.5	1.9	4.8	6.4	7.5	8.6	9.0	9.8	10.3	11.5	12.5	12.6	12.2	12.4	11.7	10.5	8.7	4.8	3.4	2.1	1.4	12.6	7.1	
May 14	1.3	2.1	1.0	-0.3	-0.4	1.7	5.1	5.9	8.2	9.5	10.2	11.2	11.9	12.5	13.0	13.4	13.5	13.2	12.6	11.6	10.3	9.2	7.9	7.1	-0.4	13.5	8.0	
May 15	6.5	6.2	6.0	5.8	5.3	5.2	5.3	5.5	5.8	6.1	6.4	6.9	7.1	7.8	9.1	9.8	9.9	9.4	9.2	8.6	7.7	6.9	7.3	7.1	5.2	9.9	7.1	
May 16	6.6	6.3	6.1	5.7	5.6	5.4	6.0	7.5	9.3	10.8	11.9	12.2	13.1	14.4	14.6	14.3	13.9	13.7	13.6	13.1	12.5	12.3	12.0	11.7	5.4	14.6	10.5	
May 17	10.7	9.8	9.6	10.0	9.7	9.4	9.6	9.5	10.7	13.0	14.4	16.1	15.8	16.2	16.3	16.8	17.0	15.9	15.8	15.0	14.5	14.1	13.6	12.7	9.4	17.0	13.2	
May 18	11.4	10.2	9.8	9.4	8.4	8.5	9.8	11.2	11.8	13.4	15.1	15.2	15.6	16.0	18.0	18.1	18.3	18.4	16.8	14.5	13.0	11.1	10.9	11.0	8.4	18.4	13.2	
May 19	10.5	9.8	8.9	7.5	6.9	8.0	10.6	12.0	13.0	14.2	15.7	16.8	17.5	18.2	19.0	19.5	19.7	19.4	19.0	17.5	15.5	13.5	11.7	10.5	6.9	19.7	14.0	
May 20	9.0	8.5	8.2	7.4	6.8	8.0	10.0	12.3	14.4	15.9	16.8	18.2	19.0	19.5	19.9	20.2	20.2	19.8	19.1	17.9	16.0	13.8	12.4	11.1	6.8	20.2	14.4	
May 21	8.8	7.9	7.1	6.2	5.1	7.0	9.9	13.2	15.1	16.2	17.3	17.8	19.0	19.6	20.2	20.7	20.9	20.6	20.2	19.7	17.8	15.7	13.7	11.3	5.1	20.9	14.6	
May 22	10.0	8.9	7.7	6.7	6.9	6.7	10.7	15.4	17.7	19.5	20.9	21.7	21.5	21.8	21.4	21.6	21.7	20.1	18.9	17.9	16.8	13.9	12.2	10.9	6.7	21.8	15.5	
May 23	11.4	11.5	10.9	9.9	8.0	8.3	9.6	12.5	14.4	15.4	17.0	18.6	19.0	19.0	18.8	19.2	17.5	15.6	14.9	14.0	12.4	9.7	8.9	8.9	8.0	19.2	13.6	
May 24	7.7	7.1	5.9	5.3	4.7	6.1	8.0	11.3	13.7	15.5	17.3	18.3	18.6	18.7	19.7	20.2	20.1	20.1	19.3	18.2	15.3	11.9	10.6	10.1	4.7	20.2	13.5	
May 25	10.4	10.4	9.9	9.4	8.8	8.3	9.1	10.9	13.8	16.5	16.9	17.3	17.7	18.4	18.9	19.3	18.9	18.9	18.5	16.5	13.0	9.2	7.7	8.5	7.7	19.3	13.6	
May 26	7.4	6.6	5.0	5.1	5.5	5.8	8.5	12.4	15.1	17.3	19.3	20.5	21.0	21.3	22.0	22.6	22.9	22.8	22.6	20.8	16.5	13.8	12.6	11.2	5.0	22.9	14.9	
May 27	10.7	8.8	8.1	7.1	7.2	7.8	10.8	13.8	16.0	18.6	21.1	23.0	24.3	25.2	25.9	26.5	26.6	26.1	25.2	22.6	21.1	18.8	15.8	14.7	7.1	26.6	17.7	
May 28	14.2	12.4	12.2	12.4	10.1	10.9	13.7	17.0	19.0	21.4	24.1	26.1	27.4	28.1	28.4	28.7	28.9	28.9	28.9	28.5	27.1	24.2	20.8	19.0	17.2	10.1	28.9	20.9
May 29	16.0	14.9	13.7	14.5	14.2	14.9	16.7	19.0	21.2	22.6	24.1	25.7	27.4	28.5	29.0	28.9	28.8	28.2	27.1	26.0	23.7	22.3	20.1	18.6	13.7	29.0	21.9	
May 30	18.6	18.2	17.4	16.0	14.4	14.0	13.5	11.5	10.5	9.9	10.9	12.5	13.0	12.4	13.3	15.2	15.4	15.5	15.7	15.1	13.1	11.1	11.0	9.9	9.9	18.6	13.7	
May 31	9.2	9.3	7.9	7.7	7.3	7.8	9.4	11.4	14.6	16.8	18.5	20.4	22.0	22.4	23.0	23.3	23.9	23.5	22.4	21.1	19.7	18.3	17.4	16.4	7.3	23.9	16.4	
Diurnal Maximum	18.6	18.2	17.4	16.0	14.4	14.9	16.7	19.0	21.2	22.6	24.1	26.1	27.4	28.5	29.0	28.9	28.9	28.9	28.5	27.1	24.2	22.3	20.1	18.6				
Diurnal Average	7.3	6.7	6.0	5.3	4.7	5.1	7.0	8.9	10.6	12.1	13.3	14.3	15.2	15.8	16.3	16.7	16.7	16.4	15.9	14.7	12.7	10.6	9.5	8.6				

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 - May 2019

Summary of Hourly Averages

STATION TEMPERATURE (ST) in Degree Celsius

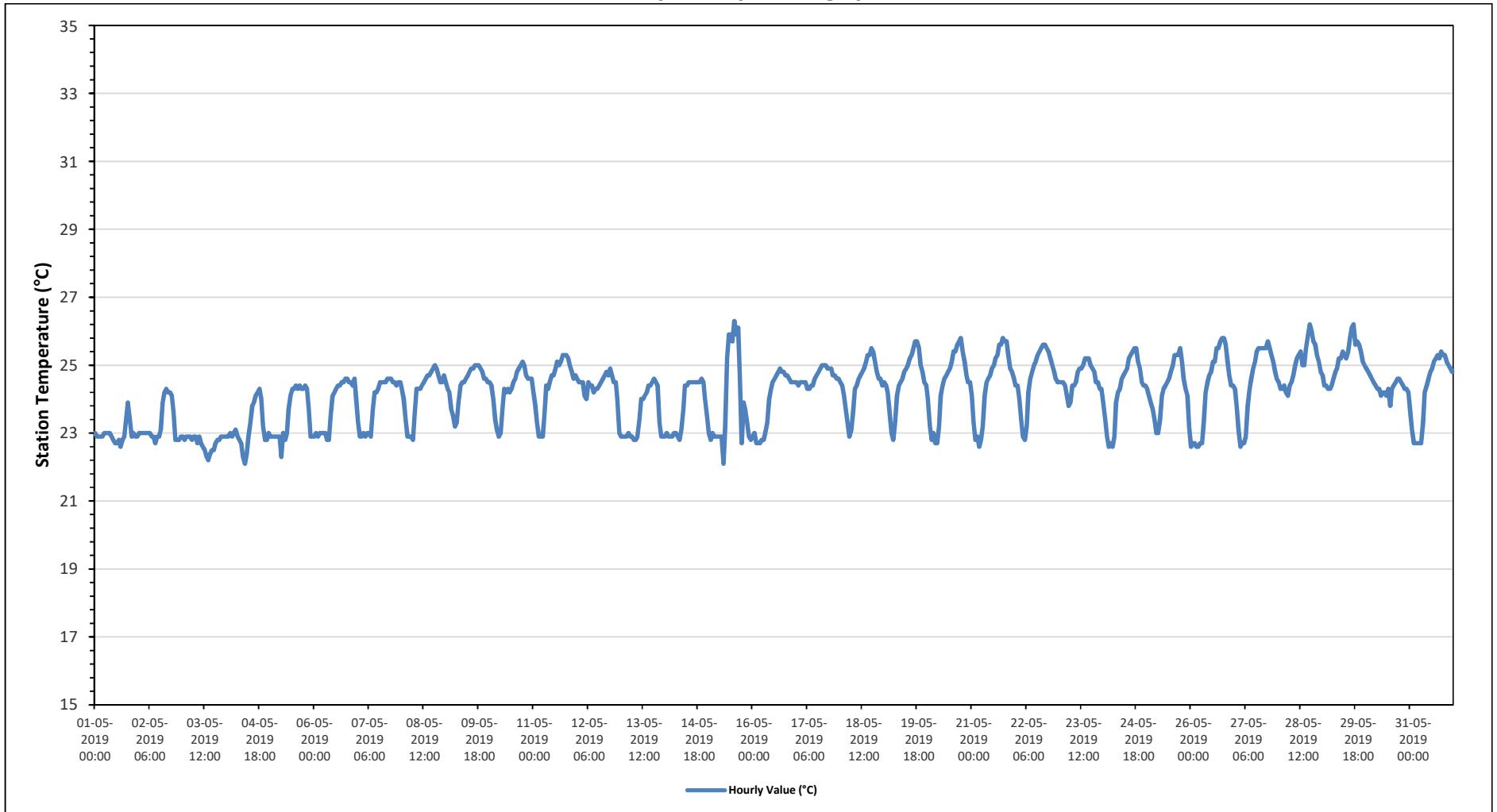
Maximum Hourly Value:	26.3 °C	on May 15 at hour 14	Hours in Service:	744
Maximum Daily Value:	25.1 °C	on May 29	Hours of Data:	744
Minimum Hourly Value:	22.1 °C	on May 4 at hour 10	Hours of Missing Data:	0
Minimum Daily Value:	22.7 °C	on May 3	Hours of Calibration:	0
Monthly Average:	24.1 °C		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
May 1	23.0	22.9	22.9	22.9	22.9	23.0	23.0	23.0	23.0	22.9	22.8	22.7	22.7	22.8	22.6	22.8	22.9	23.4	23.9	23.4	22.9	23.0	22.9	22.9	22.6	23.9	23.0
May 2	23.0	23.0	23.0	23.0	23.0	23.0	23.0	22.9	22.9	22.7	22.9	22.9	23.1	23.9	24.2	24.3	24.2	24.2	24.1	23.6	22.8	22.8	22.8	22.9	22.7	24.3	23.3
May 3	22.9	22.8	22.9	22.9	22.9	22.8	22.9	22.9	22.9	22.7	22.9	22.7	22.6	22.5	22.3	22.2	22.4	22.5	22.5	22.7	22.8	22.8	22.9	22.9	22.2	22.9	22.7
May 4	22.9	22.9	23.0	22.9	23.0	23.1	22.9	22.8	22.7	22.3	22.1	22.4	22.9	23.3	23.8	23.9	24.1	24.2	24.3	24.0	23.2	22.8	22.8	23.0	22.1	24.3	23.1
May 5	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.3	23.0	22.8	23.0	23.7	24.1	24.3	24.3	24.4	24.3	24.4	24.3	24.3	24.4	24.3	23.7	22.9	22.3	24.4	23.5
May 6	22.9	23.0	22.9	23.0	23.0	23.0	23.0	22.8	22.8	23.5	24.1	24.2	24.3	24.4	24.4	24.5	24.5	24.6	24.6	24.5	24.5	24.4	24.6	24.0	22.8	24.6	23.8
May 7	23.3	22.9	22.9	23.0	22.9	23.0	23.0	22.9	23.7	24.2	24.2	24.3	24.5	24.5	24.5	24.5	24.6	24.6	24.6	24.5	24.5	24.4	24.5	24.5	22.9	24.6	23.9
May 8	24.3	24.0	23.4	22.9	22.9	22.9	22.8	23.6	24.3	24.3	24.3	24.4	24.5	24.6	24.7	24.7	24.8	24.9	25.0	24.9	24.7	24.5	24.5	24.7	22.8	25.0	24.2
May 9	24.5	24.3	24.2	23.7	23.5	23.2	23.3	23.9	24.4	24.5	24.5	24.6	24.7	24.8	24.9	24.9	25.0	25.0	25.0	24.9	24.8	24.6	24.6	24.5	23.2	25.0	24.4
May 10	24.5	24.4	24.0	23.4	23.1	22.9	23.0	23.7	24.3	24.2	24.3	24.2	24.3	24.5	24.6	24.8	24.9	25.0	25.1	25.0	24.7	24.6	24.6	24.6	22.9	25.1	24.3
May 11	24.2	23.8	23.3	22.9	22.9	22.9	23.5	24.4	24.3	24.5	24.7	24.7	24.9	25.1	25.0	25.1	25.3	25.3	25.3	25.2	25.0	24.8	24.6	24.7	22.9	25.3	24.4
May 12	24.6	24.5	24.5	24.5	24.1	24.0	24.5	24.4	24.4	24.2	24.3	24.3	24.4	24.5	24.6	24.7	24.8	24.7	24.9	24.7	24.5	24.5	24.0	23.0	23.0	24.9	24.4
May 13	22.9	22.9	22.9	22.9	23.0	22.9	22.9	22.8	22.8	22.9	23.4	24.0	24.1	24.2	24.4	24.4	24.5	24.4	24.5	24.4	24.3	22.9	22.9	22.8	22.8	24.6	23.5
May 14	22.9	23.0	22.9	22.9	22.9	23.0	23.0	22.9	22.8	23.1	23.7	24.4	24.4	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.6	24.5	24.0	23.5	22.8	24.6	23.8
May 15	23.0	22.8	23.0	22.9	22.9	22.9	22.9	22.9	22.1	23.2	25.2	25.9	25.9	25.7	26.3	25.9	26.1	24.7	22.7	23.9	23.7	23.3	22.9	22.8	22.1	26.3	23.9
May 16	22.9	23.0	22.7	22.7	22.7	22.8	22.8	23.0	23.3	24.0	24.3	24.5	24.6	24.7	24.8	24.9	24.8	24.8	24.7	24.7	24.6	24.5	24.5	24.5	22.7	24.9	24.0
May 17	24.5	24.4	24.5	24.5	24.5	24.5	24.3	24.3	24.4	24.4	24.6	24.7	24.8	24.9	25.0	25.0	24.9	24.9	24.9	24.9	24.7	24.7	24.6	24.6	24.3	25.0	24.7
May 18	24.5	24.4	24.1	23.7	23.3	22.9	23.1	23.6	24.3	24.4	24.6	24.7	24.8	24.9	25.1	25.3	25.3	25.5	25.4	25.1	24.8	24.6	24.6	24.4	22.9	25.5	24.5
May 19	24.5	24.4	24.2	23.6	23.0	22.8	23.3	24.1	24.4	24.5	24.6	24.8	24.9	25.0	25.2	25.3	25.5	25.7	25.7	25.5	25.0	24.8	24.5	24.4	22.8	25.7	24.6
May 20	24.0	23.2	22.8	23.0	22.7	22.7	23.2	24.1	24.4	24.6	24.7	24.8	24.9	25.1	25.4	25.4	25.6	25.7	25.8	25.4	25.1	24.7	24.5	24.5	22.7	25.8	24.4
May 21	24.1	23.3	22.8	22.9	22.6	22.8	23.2	24.1	24.5	24.6	24.7	24.9	25.0	25.2	25.3	25.6	25.6	25.8	25.7	25.7	25.3	24.9	24.8	24.6	22.6	25.8	24.5
May 22	24.4	24.4	24.0	23.4	22.9	22.8	23.2	24.2	24.6	24.8	25.0	25.1	25.3	25.4	25.5	25.6	25.6	25.5	25.4	25.2	25.0	24.8	24.6	24.5	22.8	25.6	24.6
May 23	24.5	24.5	24.5	24.4	24.1	23.8	23.9	24.4	24.4	24.5	24.8	24.9	24.9	25.0	25.2	25.2	25.2	25.0	24.9	24.8	24.5	24.5	24.3	24.3	23.8	25.2	24.6
May 24	23.9	23.4	22.9	22.6	22.7	22.6	22.9	23.9	24.2	24.3	24.6	24.7	24.8	24.9	25.2	25.3	25.4	25.5	25.5	25.1	24.9	24.5	24.4	24.4	22.6	25.5	24.3
May 25	24.3	24.1	23.9	23.7	23.4	23.0	23.0	23.4	24.1	24.3	24.4	24.5	24.6	24.8	25.0	25.3	25.3	25.3	25.5	25.1	24.6	24.3	24.1	23.2	23.0	25.5	24.3
May 26	22.6	22.7	22.7	22.6	22.6	22.7	22.7	23.3	24.2	24.5	24.7	24.8	25.1	25.1	25.5	25.5	25.7	25.8	25.8	25.6	25.1	24.7	24.4	24.4	22.6	25.8	24.3
May 27	24.3	23.8	23.1	22.6	22.7	22.7	22.9	23.8	24.3	24.6	24.9	25.1	25.4	25.5	25.5	25.5	25.5	25.5	25.7	25.5	25.3	25.1	24.8	24.6	22.6	25.7	24.5
May 28	24.5	24.3	24.3	24.4	24.2	24.1	24.4	24.5	24.7	25.0	25.2	25.3	25.4	25.0	25.0	25.5	25.9	26.2	26.0	25.7	25.6	25.3	25.1	24.8	24.1	26.2	25.0
May 29	24.7	24.4	24.4	24.3	24.3	24.4	24.6	24.8	24.9	25.2	25.2	25.4	25.3	25.2	25.4	25.8	26.1	26.2	25.6	25.7	25.6	25.4	25.1	25.0	24.3	26.2	25.1
May 30	24.9	24.8	24.7	24.6	24.5	24.4	24.3	24.3	24.1	24.2	24.2	24.1	24.3	23.8	24.3	24.4	24.5	24.6	24.6	24.5	24.4	24.3	24.3	24.2	23.8	24.9	24.4
May 31	23.6	23.1	22.7	22.7	22.7	22.7	23.3	24.2	24.4	24.6	24.8	24.9	25.1	25.2	25.3	25.2	25.4	25.3	25.3	25.1	25.0	24.9	24.8	22.7	25.4	24.3	
Diurnal Maximum	24.9	24.8	24.7	24.6	24.5	24.5	24.6	24.8	24.9	25.2	25.2	25.9	25.9	25.7	26.3	25.9	26.1	26.2	26.0	25.7	25.6	25.4	25.1	25.0			
Diurnal Average	23.8	23.6	23.5	23.3	23.2	23.1	23.2	23.6	23.8	24.0	24.3	24.4	24.5	24.6	24.8	24.9	24.9	25.0	24.9	24.8	24.5	24.3	24.2	24.0			

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

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

Timeseries Chart of Hourly Average for ST - Reno Site





PEACE RIVER AREA MONITORING PROGRAM

Reno Site - May 2019

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr

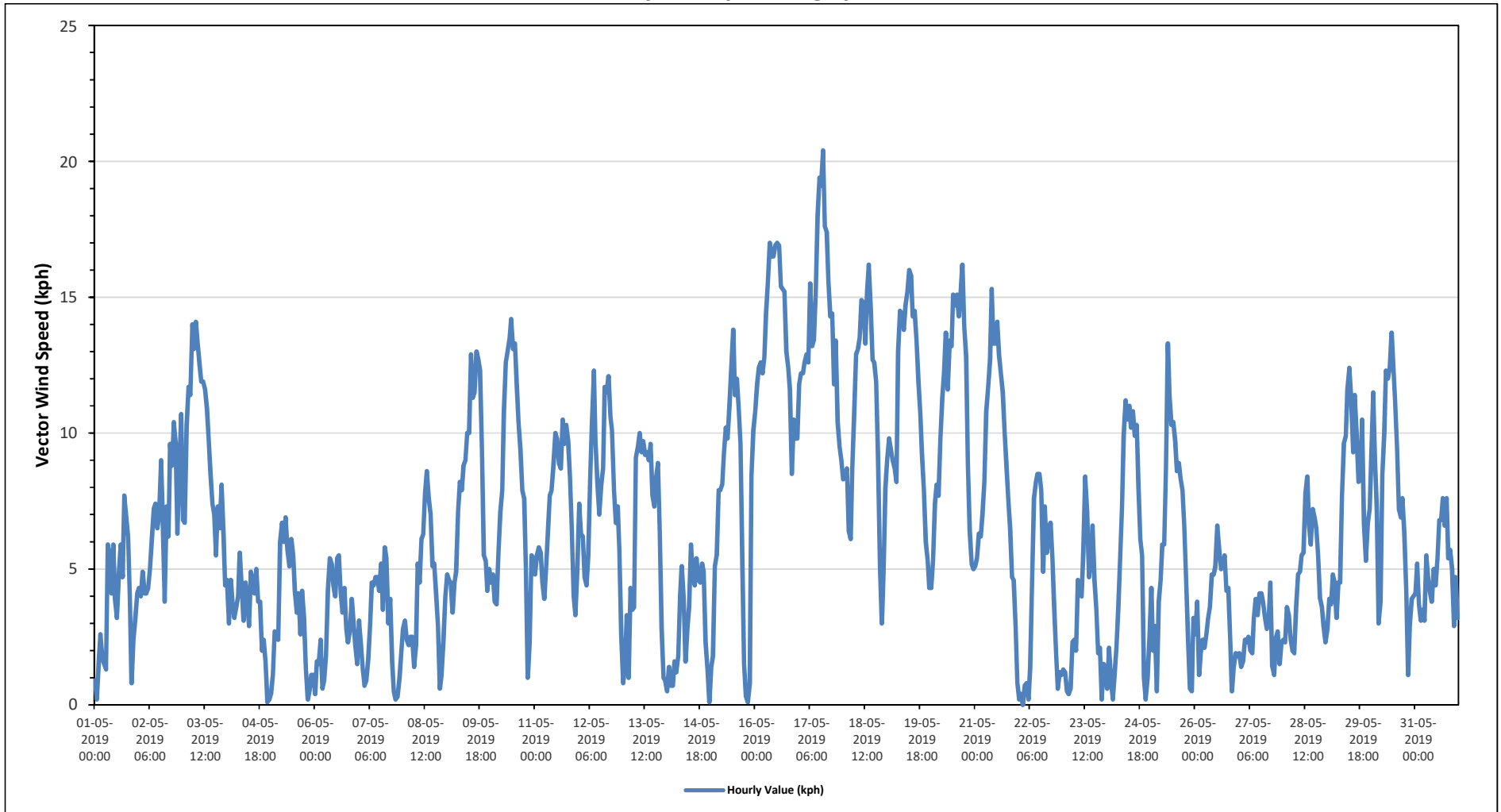
Maximum Hourly Value:	20.4 kph	on May 17 at hour 13	Hours in Service:	744
Maximum Daily Value:	14.2 kph	on May 17	Hours of Data:	744
Minimum Hourly Value:	0.0 kph	on May 22 at hour 2	Hours of Missing Data:	0
Minimum Daily Value:	2.7 kph	on May 27	Hours of Calibration:	0
Monthly Average:	1.7 kph		Operational 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
May 1	0.9	0.2	1.6	2.6	1.7	1.5	1.3	5.9	5.6	4.1	5.9	3.9	3.2	4.8	5.9	4.7	7.7	6.9	6.2	3.9	0.8	2.4	3.2	4.1	0.2	7.7	3.7
May 2	4.3	4	4.9	4.1	4.1	4.3	5	6.1	7.2	7.4	6.5	7	9	6.8	3.8	7.3	6.2	9.6	8.8	10.4	9.6	6.3	8.6	10.7	3.8	10.7	6.8
May 3	6.8	6.7	10.3	11.7	11.4	14	13.1	14.1	13.3	12.5	11.9	11.9	11.6	10.9	9.8	8.5	7.4	7	5.5	7.3	6.5	8.1	6.3	4.4	4.4	14.1	9.6
May 4	4.6	3	4.6	3.8	3.2	3.6	4	5.6	4.4	3.1	4.5	4	2.9	4.9	4.6	4.1	5	3.8	3.8	2	2.4	1.6	0.1	0.2	0.1	5.6	3.5
May 5	0.4	1.1	2.7	2.6	2.4	6	6.7	6	6.9	5.7	5.1	6.1	5.5	4.2	3.4	4.1	2.6	4.2	3.2	1.3	0.2	0.5	1.1	1.1	0.2	6.9	3.5
May 6	0.4	1.6	1.5	2.4	0.6	0.9	1.8	4.2	5.4	5.2	4.4	4	5.4	5.5	4.1	3.4	4.3	2.8	2.3	2.7	3.9	3	2.2	1.5	0.4	5.5	3.1
May 7	3.1	2.2	1.3	0.7	0.9	1.7	3	4.5	4.4	4.7	4.7	4.2	5.2	3.5	5.8	5.4	3	3.9	1.6	0.5	0.2	0.3	1	2	0.2	5.8	2.8
May 8	2.8	3.1	2.4	2.2	2.5	2.5	1.4	2.2	5.2	4.5	6.1	6.3	7.8	8.6	7.6	7	5.1	5.2	4.1	2.9	0.6	1.1	2.4	4	0.6	8.6	4.1
May 9	4.8	4.6	4.5	3.4	4.5	4.9	7.1	8.2	7.9	8.8	9	10	10	12.9	11.3	11.5	13	12.7	12.3	9.4	5.5	5.3	4.2	5	3.4	13.0	8.0
May 10	4.5	4.8	3.8	3.7	5.6	7.1	7.9	10.8	12.6	13	13.5	14.2	13.1	13.3	11.7	10.4	9.4	7.9	7.6	5	1	2.3	5.5	5.4	1.0	14.2	8.1
May 11	4.8	5.5	5.8	5.6	4.5	3.9	5.1	6.5	7.7	7.9	8.8	10	9.8	8.9	8.7	10.5	9.6	10.3	9.7	8.3	6.4	4	3.3	5	3.3	10.5	7.1
May 12	7.4	6.3	6.2	4.7	4.4	5.5	8.3	10.4	12.3	9.7	8.2	7	8.1	8.7	11.7	11.5	12.1	10.6	10.1	7.9	6.7	7.3	5.7	2.6	2.6	12.3	8.1
May 13	0.8	1.4	3.3	1	4.3	3.5	3.6	9.1	9.5	10	9.3	9.7	9.2	9.3	9	9.6	7.7	7.3	8.4	8.9	6.4	2.8	1	0.9	0.8	10.0	6.1
May 14	0.5	1.4	0.7	0.7	1.6	1.2	1.8	4	5.1	4	1.6	2.8	3.6	5.9	4.7	4.4	5.4	4.6	4.5	5.2	4.9	2.3	1.3	0.1	0.1	5.9	3.0
May 15	1.4	1.8	5.1	5.5	7.9	7.9	8.1	9.3	10.2	9.8	11	12.5	13.8	11.4	12	10.9	9.6	5.1	1.5	0.3	0.1	0.8	8.4	10.1	0.1	13.8	7.3
May 16	10.8	11.8	12.4	12.6	12.2	12.8	14.4	15.6	17	16.5	16.9	17	16.9	15.4	15.3	15.2	13	12.4	11.6	8.5	10.5	9.8	9.8	8.5	17.0	13.5	
May 17	11.8	12.2	12.2	12.6	12.9	12.6	15.5	13.2	13.4	15.1	18	19.4	19.1	20.4	17.6	17.4	15.6	14.3	14.4	11.8	13.4	10.4	9.5	9	9.0	20.4	14.2
May 18	8.3	8.4	8.7	6.4	6.1	8.7	10.7	12.9	13.1	13.5	14.9	14.8	13.3	15.2	16.2	14.6	12.7	12.6	11.9	9.1	5.1	3	4.8	8	3.0	16.2	10.5
May 19	9.1	9.8	9.4	9	8.7	8.2	13	14.5	14.4	13.8	14.7	15.2	16	15.8	14.3	14.5	13.4	11.9	10.7	9.2	7.9	6	5.3	4.3	4.3	16.0	11.2
May 20	4.3	5.3	7.4	8.1	7.7	9.8	11.3	12.2	13.7	11.6	13.4	13.2	15.1	14.7	15.1	14.3	15.1	16.2	13.9	12.8	8.9	6.4	5.2	5	4.3	16.2	10.9
May 21	5.1	5.4	6.3	6.2	7	8.2	10.8	11.7	12.7	15.3	13.3	13.3	14.1	12.9	12.2	11.5	10	8.9	7.6	6.5	4.7	4.6	2.9	0.8	0.8	15.3	8.8
May 22	0.2	0.4	0	0.7	0.8	0.2	1.4	4.6	7.6	8.2	8.5	8.5	7.9	4.9	7.3	5.6	6.1	6.7	5.4	3.7	2	0.6	1.2	1.1	0.0	8.5	3.9
May 23	1.3	1.2	0.5	0.4	0.6	2.3	2.4	2	4.6	4.1	4	5.6	8.4	7.1	4.7	5.3	6.6	4.6	3.5	1.9	2.1	0.2	1.5	1.2	0.2	8.4	3.2
May 24	0.6	2.1	0.9	0.2	1.1	2.1	3.6	5.5	7.3	9.9	11.2	10.5	11	10.2	10.8	9.9	10.3	8.1	6.1	5.5	1	0.2	1	2.5	0.2	11.2	5.5
May 25	4.3	2	2.9	0.5	3.8	4.6	5.9	5.9	8.7	13.3	11.4	10.3	10.4	9.7	8.6	8.9	8.3	7.9	6.6	4.7	2.6	0.6	0.5	3.2	0.5	13.3	6.1
May 26	2.6	3.8	1.1	1.9	2.4	2.1	2.6	3.2	3.6	4.8	4.8	5.1	6.6	5.7	5	5.1	5.5	4.2	4.3	2.4	0.5	1.4	1.9	1.8	0.5	6.6	3.4
May 27	1.9	1.4	1.6	2.4	2.3	2.5	2	1.9	3.2	3.9	3.3	4.1	4.1	3.8	3.2	2.8	3.3	4.5	1.4	1.1	2.5	2.7	1.5	2.3	1.1	4.5	2.7
May 28	2.4	2.3	3.6	3.3	2.4	2	1.9	3.6	4.8	4.9	5.5	5.6	7.8	8.4	6.6	5.9	7.2	6.9	6.5	5.5	3.9	3.6	2.9	2.3	1.9	8.4	4.6
May 29	2.8	3.9	3.7	4.8	4.5	3.2	4.5	4.5	7.7	9.6	9.9	11.6	12.4	11.2	9.3	11.4	10	8.2	8.3	10.5	6.7	5.3	6.7	7.2	2.8	12.4	7.4
May 30	9.1	11.5	9	7.1	3	3.8	8.5	10	12.3	12	12.4	13.7	12.5	11.2	9.4	7.2	6.9	7.6	6.3	4.2	1.1	2.9	3.9	4	1.1	13.7	7.9
May 31	4.1	5.2	3.7	3.1	3.5	3.1	5.5	4.6	4.1	3.8	5	4.4	5.4	6.8	6.8	7.6	6.6	7.6	5.4	5.7	5	2.9	4.7	3.2	2.9	7.6	4.9
Diurnal Maximum	12	12	12	13	13	14	16	16	17	17	18	19	19	20	18	17	16	16	14	13	13	11	10	11			
Diurnal Average	4.1	4.3	4.6	4.3	4.5	5.0	6.2	7.5	8.6	8.7	8.9	9.2	9.7	9.5	8.9	8.7	8.4	7.9	6.9	5.9	4.2	3.5	3.8	4.0			

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

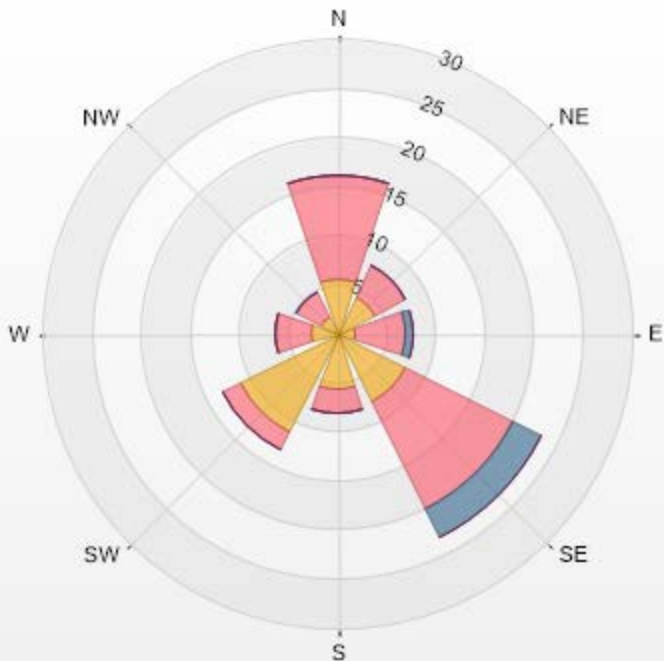
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Timeseries Chart of Hourly Average for VWS - Reno Site



Wind: PRAMP RENO Poll.: PRAMP RENO-WDS[KPH] Monthly: 05-2019 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 12.63% Valid Data: 100.00% Calm Avg: 0.92 [KPH]

Direction	1.8-6	6-15	15-29	29-39	>39.0	Total
N	5.65	10.62	0	0	0	16.27
NE	4.17	3.63	0	0	0	7.8
E	1.75	5.24	0.67	0	0	7.66
SE	7.66	12.23	3.23	0	0	23.12
S	5.78	2.42	0	0	0	8.2
SW	11.16	2.02	0	0	0	13.18
W	2.69	3.63	0	0	0	6.32
NW	2.02	2.82	0	0	0	4.84
Summary	40.88	42.61	3.9	0	0	87.39





PEACE RIVER AREA MONITORING PROGRAM

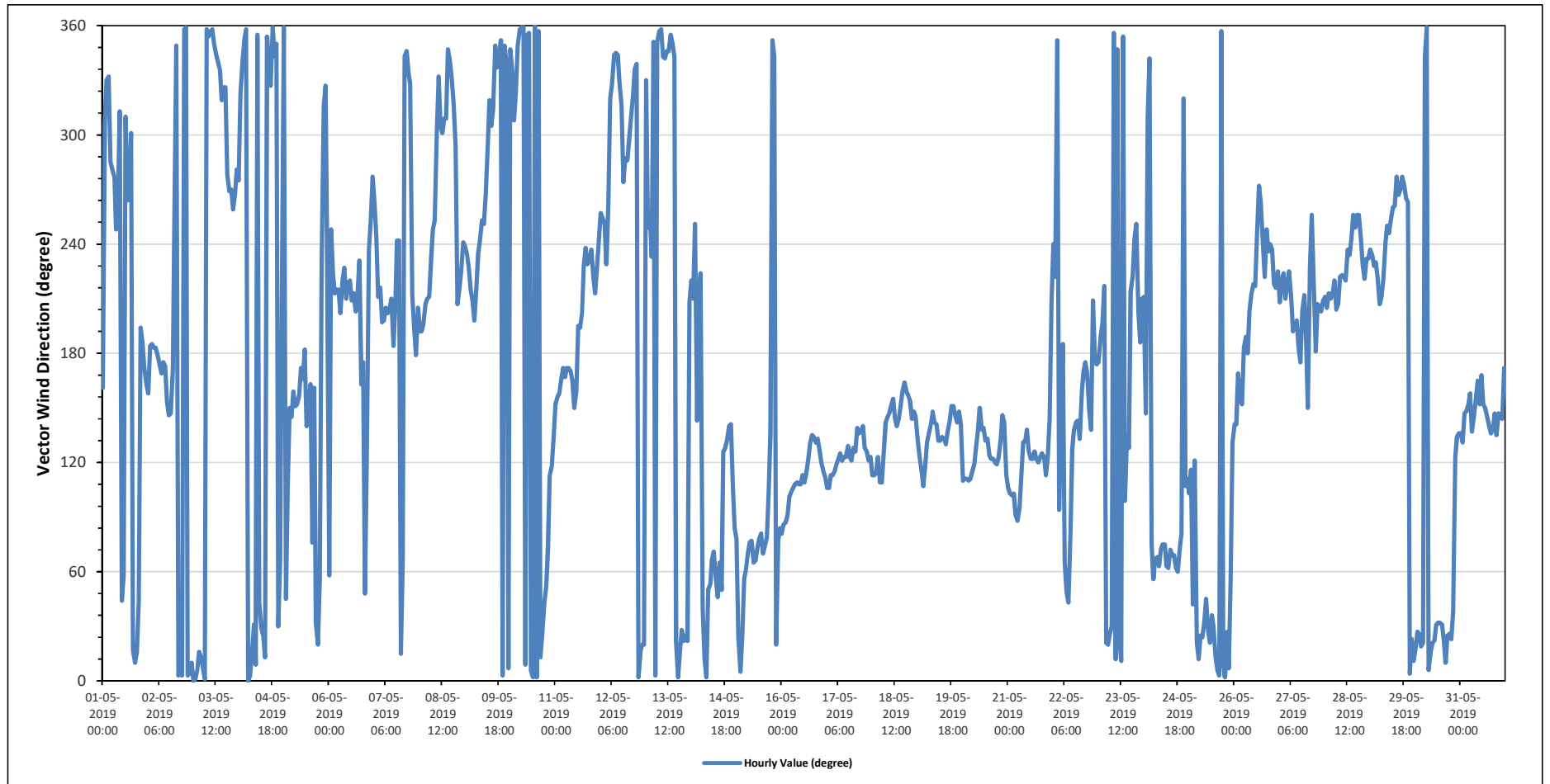
Reno Site - May 2019

Summary of Hourly Averages

WIND DIRECTION (VWD) in sector

Monthly Average:		107 (ESE) 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				
May 1	SSE	NW	NNW	NNW	WNW	W	W	WSW	W	NW	NE	ENE	NW	W	W	WNW	NNE	N	NNE	NE	SSW	S	S	SSE	322	NW				
May 2	SSE	S	S	S	S	S	S	SSE	S	S	SSE	SE	SE	S	WSW	NNW	N	N	N	N	N	N	N	N	92	E				
May 3	N	N	N	NNE	NNE	N	N	N	N	N	N	N	NNW	NNW	NNW	NW	NW	NW	W	W	W	WSW	W	W	342	NNW				
May 4	W	NW	NNW	N	N	N	N	NNE	NNE	N	N	NE	NNE	NNE	NNE	N	NNW	NW	N	NNW	N	NNE	ENE	SW	358	N				
May 5	N	NE	ESE	SSE	SE	SSE	SSE	SSE	SSE	S	SSE	S	SE	SSE	SSE	ENE	SSE	NNE	NNE	NE	SW	NW	NW	SW	146	SE				
May 6	ENE	WSW	SW	SSW	SSW	SSW	SSW	SSW	SW	SW	SSW	SW	SSW	SSW	SSW	SSW	SW	SSE	S	NE	ESE	SW	WSW	W	212	SSW				
May 7	W	WSW	SSW	SW	SSW	SSW	SSW	SSW	SSW	SSW	S	SSW	WSW	WSW	NNE	ENE	NNW	NNW	NNW	NNW	SSW	SSW	S	SSW	227	SW				
May 8	S	S	SSW	SSW	SSW	SSW	SSW	SSW	WSW	WSW	WNW	NNW	WNW	WNW	NW	NW	NNW	NNW	NNW	NW	WNW	SSW	SSW	SW	WSW	291	WNW			
May 9	WSW	SW	SW	SSW	SSW	SSW	SSW	SSW	SW	SW	WSW	WSW	WSW	W	WNW	NW	WNW	NW	NNW	NNW	N	N	NNW	NNW	N	296	WNW			
May 10	NNW	NNW	NW	NW	NNW	N	N	N	N	N	N	N	N	N	N	N	N	NNE	NNE	NE	NE	ENE	ESE	ESE	SE	6	N			
May 11	SSE	SSE	SSE	SSE	S	SSE	S	S	SSE	SSE	SSE	SSE	SSW	SSW	SSW	SSW	SW	SW	SW	SW	SW	SW	SSW	SW	WSW	195	SSW			
May 12	WSW	WSW	WSW	SW	W	NW	NNW	NNW	NNW	NNW	NW	W	WNW	WNW	WNW	NW	NW	NNW	NNW	N	NNE	NNE	NNE	NNE	316	NW				
May 13	NNW	WSW	WSW	SW	N	N	N	N	N	NNW	NNW	NNW	NNW	N	N	NNW	NNE	N	NNE	NNE	NNE	NNE	NNE	SSW	356	N				
May 14	SW	SSW	WSW	SE	SSW	SW	NE	NNE	N	NE	NE	ENE	ENE	NE	NE	ENE	NE	SE	SE	SE	SE	SE	ESE	E	79	ENE				
May 15	ENE	NNE	N	NNE	NE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	E	ENE	ENE	ENE	ESE	SE	N	NNW	NNE	ENE	E	70	ENE				
May 16	E	E	E	E	E	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	ESE	ESE	ESE	112	ESE			
May 17	ESE	ESE	ESE	ESE	ESE	ESE	ESE	SE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	ESE	ESE	ESE	124	ESE			
May 18	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SSE	SSE	SE	SE	SE	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	142	SE				
May 19	SE	ESE	ESE	ESE	ESE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SSE	SE	SE	SE	SE	136	SE				
May 20	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	SE	SSE	SE	SE	SE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	ESE	126	SE				
May 21	ESE	ESE	E	ESE	E	E	ESE	SE	SE	SE	SE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	SE	ESE	ESE	SE	SSW	SSW	119	ESE				
May 22	WSW	SW	N	E	SE	S	ENE	NE	NE	E	SE	SE	SE	SE	SE	SSE	SSE	S	SSE	SE	SE	SSW	S	S	133	SE				
May 23	S	S	SSW	SW	NNE	NNE	NNE	NNE	N	NNE	NNW	NNE	NNE	N	E	SE	SE	SSW	SW	WSW	WSW	SSW	S	SSW	30	NNE				
May 24	SSW	SE	NW	NNW	ENE	NE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	E	NW	ESE	ESE	70	ENE			
May 25	ESE	ESE	NE	ESE	NNE	NNE	NNE	NNE	NNE	NE	NNE	NNE	NE	NNE	NNE	N	N	N	N	N	NNE	N	NE	SE	26	NNE				
May 26	SE	SE	SSE	SSE	SSE	S	S	S	SSW	SSW	SW	SW	WSW	W	W	WSW	SW	WSW	SW	WSW	SW	SW	SW	SW	219	SW				
May 27	SSW	SW	SW	SSW	SW	SW	SSW	S	SSW	SSW	S	S	SSW	SSW	S	SSE	SW	WSW	SW	S	SSW	SSW	SSW	SSW	205	SSW				
May 28	SSW	SSW	SSW	SSW	SSW	SW	SSW	SSW	SW	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	232	SW				
May 29	SW	SW	SW	SW	SW	SSW	SSW	SW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	W	W	W	W	N	NNE	NNE	261	W				
May 30	NNE	NNE	NNE	NNE	NNE	NNW	N	N	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	N	NNE	NNE	NE	ESE	SE	SE	SE	25	NNE				
May 31	SE	SE	SE	SE	SSE	SSE	SE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SE	SE	SE	SE	SE	SE	SE	S	146	SE				
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



PEACE RIVER AREA MONITORING PROGRAM

986b Station - May 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time Canister Sample Canister ID			2019-05-30 NMHC Sample 32192					
Method NA-025			Method NA-024			Method AC-058		
Maximum Reading 2.2			Maximum Reading 1.7			Maximum Reading 27.3		
Parameter	Result (ppmv)	RDL (ppmv)	Parameter	Result (ppbv)	RDL (ppbv)	Parameter	Result (ppbv)	RDL (ppbv)
1-Butene	0	0.1	2,5-Dimethylthiophene	0	0.4	1,1,1-Trichloroethane	0	0.03
Acetylene	0	0.1	2-Ethylthiophene	0	0.3	1,1,2,2-Tetrachloroethane	0	0.03
cis-2-Butene	0	0.1	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	0.1	Butyl mercaptan	0	0.4	1,1-Dichloroethylene	0	0.05
Ethylene	0	0.1	Carbon disulphide	0	0.3	1,2,3-Trimethylbenzene	0	0.06
Isobutane	0	0.1	Carbonyl sulphide	1.7	0.4	1,2,4-Trichlorobenzene	0	1.0
Isobutylene	0	0.1	Dimethyl disulphide	0	0.3	1,2,4-Trimethylbenzene	0	0.06
Methane	2.2	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	0.1	Ethyl sulphide	0	0.4	1,2-Dichloroethane	0	0.01
Propylene	0	0.1	Hydrogen sulphide	1.1	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	0.1	Isopropyl mercaptan	0	0.4	1,3-Butadiene	4.48	0.03
			Methyl mercaptan	0	0.3	1,3-Dichlorobenzene	0	0.4
			Pentyl mercaptan	0	0.5	1,4-Dichlorobenzene	0	0.5
			Propyl mercaptan	0	0.5	1,4-Dioxane	0	0.5
			tert-Butyl mercaptan	0	0.4	1-Butene/isobutylene	8.73	0.03
			Thiophene	0	0.3	1-Hexene/2-Methyl-1-pentene	0	0.03
						1-Pentene	1.35	0.01
						2,2,4-Trimethylpentane	0	0.01
						2,2-Dimethylbutane	0	0.01
						2,3,4-Trimethylpentane	0.09	0.01
						2,3-Dimethylbutane	0.52	0.03
						2,3-Dimethylpentane	0.12	0.03
						2,4-Dimethylpentane	0	0.01
						2-Methylheptane	0.1	0.01
						2-Methylhexane	0.08	0.01
						2-Methylpentane	0.23	0.01
						3-Methylheptane	0.07	0.03
						3-Methylhexane	0.05	0.03
						3-Methylpentane	0.05	0.01
						Acetone	27.3	0.5
						Acrolein	12.1	0.4
						Benzene	11.9	0.01
						Benzyl chloride	0	0.5
						Bromodichloromethane	0	0.03
						Bromoform	0	0.03
						Bromomethane	0	0.01
						Carbon disulfide	0	0.01
						Carbon tetrachloride	0.06	0.01
						Chlorobenzene	0	0.03
						Chloroethane	0	0.03
						Chloroform	0.04	0.03
						Chloromethane	1.62	0.03
						cis-1,2-Dichloroethene	0	0.01
						cis-1,3-Dichloropropene	0	0.05
						cis-2-Butene	1.34	0.03
						cis-2-Pentene	1.33	0.03
						Cyclohexane	0.06	0.03
						Cyclopentane	0.87	0.01
						Dibromochloromethane	0	0.01
						Ethanol	7.2	0.4
						Ethyl acetate	0	0.5
						Ethylbenzene	0.53	0.01
						Freon-11	0.24	0.03
						Freon-113	0.06	0.01
						Freon-114	0	0.03



PEACE RIVER AREA MONITORING PROGRAM

986b Station - May 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time Canister Sample Canister ID		2019-05-30 NMHC Sample 32192						
Method NA-025		Method NA-024		Method AC-058				
Maximum Reading 2.2		Maximum Reading 1.7		Maximum Reading 27.3				
Parameter	Result (ppmv)	RDL (ppmv)	Parameter	Result (ppbv)	RDL (ppbv)	Parameter	Result (ppbv)	RDL (ppbv)
						Freon-12	0.49	0.03
						Hexachloro-1,3-butadiene	0	0.65
						Isobutane	3.8	0.03
						Isopentane	0.51	0.04
						Isoprene	1.32	0.01
						Isopropyl alcohol	0.9	0.5
						Isopropylbenzene	0	0.01
						m,p-Xylene	0.93	0.04
						m-Diethylbenzene	0.09	0.05
						m-Ethyltoluene	0.18	0.10
						Methyl butyl ketone	0	0.65
						Methyl ethyl ketone	4.7	0.4
						Methyl isobutyl ketone	0.7	0.5
						Methyl methacrylate	0	0.09
						Methyl tert butyl ether	0	0.04
						Methylcyclohexane	0.08	0.01
						Methylcyclopentane	0.12	0.03
						Methylene chloride	0	0.4
						n-Butane	2.87	0.04
						n-Decane	0.15	0.08
						n-Dodecane	0	0.5
						n-Heptane	0.5	0.01
						n-Hexane	0.63	0.01
						n-Nonane	0.26	0.01
						n-Octane	0.45	0.03
						n-Pentane	1.1	0.1
						n-Propylbenzene	0.09	0.06
						n-Undecane	< 0.6	0.6
						Naphthalene	< 0.6	0.6
						o-Ethyltoluene	0.04	0.01
						o-Xylene	0.52	0.01
						p-Diethylbenzene	0.06	0.05
						p-Ethyltoluene	0	0.09
						Styrene	0.82	0.05
						Tetrachloroethylene	0	0.05
						Tetrahydrofuran	0	0.5
						Toluene	5.8	0.01
						trans-1,2-Dichloroethylene	0.14	0.01
						trans-1,3-Dichloropropylene	0	0.05
						trans-2-Butene	1.78	0.01
						trans-2-Pentene	0.47	0.03
						Trichloroethylene	0	0.05
						Vinyl acetate	2.2	0.5
						Vinyl chloride	0	0.03



PEACE RIVER AREA MONITORING PROGRAM

986b Station - May 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time Canister Sample Canister ID			2019-05-30 Blank Sample 28957					
Method NA-025			Method NA-024			Method AC-058		
Maximum Reading 0			Maximum Reading 0			Maximum Reading 1.5		
Parameter	Result (ppmv)	RDL (ppmv)	Parameter	Result (ppbv)	RDL (ppbv)	Parameter	Result (ppbv)	RDL (ppbv)
1-Butene	0	1.30	2,5-Dimethylthiophene	0	0.3	1,1,1-Trichloroethane	0	0.02
Acetylene	0	1.04	2-Ethylthiophene	0	0.2	1,1,2,2-Tetrachloroethane	0	0.02
cis-2-Butene	0	0.52	2-Methylthiophene	0	0.2	1,1,2-Trichloroethane	0	0.02
Ethane	0	1.30	3-Methylthiophene	0	0.3	1,1-Dichloroethane	0	0.02
Ethylacetylene	0	0.78	Butyl mercaptan	0	0.3	1,1-Dichloroethylene	0	0.04
Ethylene	0	0.91	Carbon disulphide	0	0.2	1,2,3-Trimethylbenzene	0	0.05
Isobutane	0	1.30	Carbonyl sulphide	0	0.3	1,2,4-Trichlorobenzene	0	0.8
Isobutylene	0	1.30	Dimethyl disulphide	0	0.2	1,2,4-Trimethylbenzene	0	0.05
Methane	0	1.30	Dimethyl sulphide	0	0.2	1,2-Dibromoethane	0	0.02
n-Butane	0	2.60	Ethyl mercaptan	0	0.3	1,2-Dichlorobenzene	0	0.03
n-Propane	0	0.91	Ethyl sulphide	0	0.3	1,2-Dichloroethane	0	0.01
Propylene	0	1.30	Hydrogen sulphide	0	0.1	1,2-Dichloropropane	0	0.01
Propyne	0	1.30	Isobutyl mercaptan	0	0.3	1,3,5-Trimethylbenzene	0	0.02
trans-2-Butene	0	1.17	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	0.8	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	0.6	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

986b Station - May 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time Canister Sample Canister ID		2019-05-30 Blank Sample 28957					
Method NA-025		Method NA-024		Method AC-058			
Maximum Reading 0		Maximum Reading 0		Maximum Reading 1.5			
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	0.16 0.02		
				Isopentane	0.1 0.03		
				Isoprene	0 0.01		
				Isopropyl alcohol	1.5 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	0.11 0.03		
				n-Decane	0 0.06		
				n-Dodecane	0 0.4		
				n-Heptane	0 0.01		
				n-Hexane	0 0.01		
				n-Nonane	0 0.01		
				n-Octane	0 0.02		
				n-Pentane	0 0.1		
				n-Propylbenzene	0 0.05		
				n-Undecane	0 0.5		
				Naphthalene	0 0.5		
				o-Ethyltoluene	0 0.01		
				o-Xylene	0 0.01		
				p-Diethylbenzene	0 0.04		
				p-Ethyltoluene	0 0.07		
				Styrene	0 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		



PEACE RIVER AREA MONITORING PROGRAM

Reno Station - May 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time Canister Sample Canister ID			2019-05-30 NMHC Sample 32220					
Method NA-025			Method NA-024			Method AC-058		
Maximum Reading 2.1			Maximum Reading 1			Maximum Reading 21.6		
Parameter	Result (ppmv)	RDL (ppmv)	Parameter	Result (ppbv)	RDL (ppbv)	Parameter	Result (ppbv)	RDL (ppbv)
1-Butene	0	0.1	2,5-Dimethylthiophene	0	0.4	1,1,1-Trichloroethane	0	0.03
Acetylene	0	0.1	2-Ethylthiophene	0	0.3	1,1,2,2-Tetrachloroethane	0	0.03
cis-2-Butene	0	0.1	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	0.1	Butyl mercaptan	0	0.4	1,1-Dichloroethylene	0	0.06
Ethylene	0	0.1	Carbon disulphide	0	0.3	1,2,3-Trimethylbenzene	0.14	0.07
Isobutane	0	0.1	Carbonyl sulphide	0	0.4	1,2,4-Trichlorobenzene	0	1.2
Isobutylene	0	0.1	Dimethyl disulphide	0	0.3	1,2,4-Trimethylbenzene	0.14	0.07
Methane	2.1	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	0.1	Ethyl sulphide	0	0.4	1,2-Dichloroethane	0	0.01
Propylene	0	0.1	Hydrogen sulphide	1	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	0.1	Isopropyl mercaptan	0	0.4	1,3-Butadiene	2.97	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	6.02	0.03
			Thiophene	0	0.3	1-Hexene/2-Methyl-1-pentene	1.01	0.03
						1-Pentene	1.6	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	0.01
						2-Methylpentane	0.05	0.01
						3-Methylheptane	0	0.03
						3-Methylhexane	0.2	0.03
						3-Methylpentane	0	0.01
						Acetone	21.6	0.6
						Acrolein	7.2	0.4
						Benzene	8.29	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	1.06	0.03
						cis-1,2-Dichloroethene	0	0.01
						cis-1,3-Dichloropropene	0	0.06
						cis-2-Butene	0.91	0.03
						cis-2-Pentene	0.18	0.03
						Cyclohexane	0	0.03
						Cyclopentane	0	0.01
						Dibromochloromethane	0	0.01
						Ethanol	3.9	0.4
						Ethyl acetate	0	0.6
						Ethylbenzene	0.7	0.01
						Freon-11	0.18	0.03
						Freon-113	0	0.01
						Freon-114	0	0.03



PEACE RIVER AREA MONITORING PROGRAM

Reno Station - May 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time Canister Sample Canister ID		2019-05-30 NMHC Sample 32220						
Method NA-025		Method NA-024		Method AC-058				
Maximum Reading 2.1		Maximum Reading 1		Maximum Reading 21.6				
Parameter	Result (ppmv)	RDL (ppmv)	Parameter	Result (ppbv)	RDL (ppbv)	Parameter	Result (ppbv)	RDL (ppbv)
						Freon-12	0.34	0.03
						Hexachloro-1,3-butadiene	0	0.72
						Isobutane	0.74	0.03
						Isopentane	0.3	0.04
						Isoprene	0.83	0.01
						Isopropyl alcohol	0	0.6
						Isopropylbenzene	0	0.01
						m,p-Xylene	1.27	0.04
						m-Diethylbenzene	0	0.06
						m-Ethyltoluene	0.18	0.12
						Methyl butyl ketone	0	0.72
						Methyl ethyl ketone	3.4	0.4
						Methyl isobutyl ketone	0	0.6
						Methyl methacrylate	0	0.10
						Methyl tert butyl ether	0	0.04
						Methylcyclohexane	0	0.01
						Methylcyclopentane	0	0.03
						Methylene chloride	0	0.4
						n-Butane	2.19	0.04
						n-Decane	0.22	0.09
						n-Dodecane	0	0.6
						n-Heptane	0.4	0.01
						n-Hexane	0.53	0.01
						n-Nonane	0.21	0.01
						n-Octane	0.3	0.03
						n-Pentane	0.9	0.1
						n-Propylbenzene	0.12	0.07
						n-Undecane	0	0.7
						Naphthalene	0	0.7
						o-Ethyltoluene	0.15	0.01
						o-Xylene	0.53	0.01
						p-Diethylbenzene	0	0.06
						p-Ethyltoluene	0	0.10
						Styrene	1.07	0.06
						Tetrachloroethylene	0	0.06
						Tetrahydrofuran	0	0.6
						Toluene	5.35	0.01
						trans-1,2-Dichloroethylene	0	0.01
						trans-1,3-Dichloropropylene	0	0.06
						trans-2-Butene	1.08	0.01
						trans-2-Pentene	0.34	0.03
						Trichloroethylene	0	0.06
						Vinyl acetate	0	0.6
						Vinyl chloride	0	0.03



PEACE RIVER AREA MONITORING PROGRAM

Reno Station - May 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time Canister Sample Canister ID			2019-05-30 Blank Sample 29021					
Method NA-025			Method NA-024			Method AC-058		
Maximum Reading 0			Maximum Reading 0			Maximum Reading 0.02		
Parameter	Result (ppmv)	RDL (ppmv)	Parameter	Result (ppbv)	RDL (ppbv)	Parameter	Result (ppbv)	RDL (ppbv)
1-Butene	0	1.7	2,5-Dimethylthiophene	0	0.3	1,1,1-Trichloroethane	0	0.02
Acetylene	0	1.3	2-Ethylthiophene	0	0.2	1,1,2,2-Tetrachloroethane	0	0.02
cis-2-Butene	0	0.7	2-Methylthiophene	0	0.2	1,1,2-Trichloroethane	0	0.02
Ethane	0	1.7	3-Methylthiophene	0	0.3	1,1-Dichloroethane	0	0.02
Ethylacetylene	0	1.0	Butyl mercaptan	0	0.3	1,1-Dichloroethylene	0	0.04
Ethylene	0	1.2	Carbon disulphide	0	0.2	1,2,3-Trimethylbenzene	0	0.05
Isobutane	0	1.7	Carbonyl sulphide	0	0.3	1,2,4-Trichlorobenzene	0	0.8
Isobutylene	0	1.7	Dimethyl disulphide	0	0.2	1,2,4-Trimethylbenzene	0	0.05
Methane	0	1.7	Dimethyl sulphide	0	0.2	1,2-Dibromoethane	0	0.02
n-Butane	0	3.3	Ethyl mercaptan	0	0.3	1,2-Dichlorobenzene	0	0.03
n-Propane	0	1.2	Ethyl sulphide	0	0.3	1,2-Dichloroethane	0	0.01
Propylene	0	1.7	Hydrogen sulphide	0	0.1	1,2-Dichloropropane	0	0.01
Propyne	0	1.7	Isobutyl mercaptan	0	0.3	1,3,5-Trimethylbenzene	0	0.02
trans-2-Butene	0	1.5	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	0.02	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 Station - May 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time Canister Sample Canister ID		2019-05-30 Blank Sample 29021					
Method NA-025		Method NA-024		Method AC-058			
Maximum Reading 0		Maximum Reading 0		Maximum Reading 0.02			
Parameter	Result (ppmv) RDL (ppmv)	Parameter	Result (ppbv) RDL (ppbv)	Parameter	Result (ppbv) RDL (ppbv)		
				Freon-12	0 0.02		
				Hexachloro-1,3-butadiene	0 0.50		
				Isobutane	0 0.02		
				Isopentane	0 0.03		
				Isoprene	0 0.01		
				Isopropyl alcohol	0 0.4		
				Isopropylbenzene	0 0.01		
				m,p-Xylene	0 0.03		
				m-Diethylbenzene	0 0.04		
				m-Ethyltoluene	0 0.08		
				Methyl butyl ketone	0 0.50		
				Methyl ethyl ketone	0 0.3		
				Methyl isobutyl ketone	0 0.4		
				Methyl methacrylate	0 0.07		
				Methyl tert butyl ether	0 0.03		
				Methylcyclohexane	0 0.01		
				Methylcyclopentane	0 0.02		
				Methylene chloride	0 0.3		
				n-Butane	0 0.03		
				n-Decane	0 0.06		
				n-Dodecane	0 0.4		
				n-Heptane	0 0.01		
				n-Hexane	0 0.01		
				n-Nonane	0 0.01		
				n-Octane	0 0.02		
				n-Pentane	0 0.1		
				n-Propylbenzene	0 0.05		
				n-Undecane	0 0.5		
				Naphthalene	0 0.5		
				o-Ethyltoluene	0 0.01		
				o-Xylene	0 0.01		
				p-Diethylbenzene	0 0.04		
				p-Ethyltoluene	0 0.07		
				Styrene	0 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		



PEACE RIVER AREA MONITORING PROGRAM

842b Station - May 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time Canister Sample Canister ID			2019-05-30 NMHC Sample 29023					
Method NA-025			Method NA-024			Method AC-058		
Maximum Reading 2			Maximum Reading 1.5			Maximum Reading 19.7		
Parameter	Result (ppmv)	RDL (ppmv)	Parameter	Result (ppbv)	RDL (ppbv)	Parameter	Result (ppbv)	RDL (ppbv)
1-Butene	< 0.15	0.1	2,5-Dimethylthiophene	0	0.4	1,1,1-Trichloroethane	0	0.03
Acetylene	< 0.12	0.1	2-Ethylthiophene	0	0.3	1,1,2,2-Tetrachloroethane	0	0.03
cis-2-Butene	< 0.06	0.1	2-Methylthiophene	0	0.3	1,1,2-Trichloroethane	0	0.03
Ethane	< 0.1	0.1	3-Methylthiophene	0	0.4	1,1-Dichloroethane	0	0.03
Ethylacetylene	< 0.09	0.1	Butyl mercaptan	0	0.4	1,1-Dichloroethylene	0	0.06
Ethylene	< 0.10	0.1	Carbon disulphide	0	0.3	1,2,3-Trimethylbenzene	0.15	0.07
Isobutane	< 0.1	0.1	Carbonyl sulphide	0	0.4	1,2,4-Trichlorobenzene	0	1.2
Isobutylene	< 0.1	0.1	Dimethyl disulphide	0	0.3	1,2,4-Trimethylbenzene	0.18	0.07
Methane	2	0.1	Dimethyl sulphide	0	0.3	1,2-Dibromoethane	0	0.03
n-Butane	< 0.3	0.3	Ethyl mercaptan	0	0.4	1,2-Dichlorobenzene	0	0.04
n-Propane	< 0.10	0.1	Ethyl sulphide	0	0.4	1,2-Dichloroethane	0	0.01
Propylene	< 0.1	0.1	Hydrogen sulphide	1.5	0.1	1,2-Dichloropropane	0	0.01
Propyne	< 0.1	0.1	Isobutyl mercaptan	0	0.4	1,3,5-Trimethylbenzene	0	0.03
trans-2-Butene	< 0.13	0.1	Isopropyl mercaptan	0	0.4	1,3-Butadiene	2.67	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	7.93	0.03
			Thiophene	0	0.3	1-Hexene/2-Methyl-1-pentene	0.92	0.03
						1-Pentene	1.45	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	0.01
						2-Methylpentane	0.05	0.01
						3-Methylheptane	0	0.03
						3-Methylhexane	0.18	0.03
						3-Methylpentane	0	0.01
						Acetone	19.7	0.6
						Acrolein	5.4	0.4
						Benzene	6.43	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	0.05	0.01
						Chlorobenzene	0	0.03
						Chloroethane	0	0.03
						Chloroform	0	0.03
						Chloromethane	1.03	0.03
						cis-1,2-Dichloroethene	0	0.01
						cis-1,3-Dichloropropene	0	0.06
						cis-2-Butene	0.92	0.03
						cis-2-Pentene	0.21	0.03
						Cyclohexane	0	0.03
						Cyclopentane	1.76	0.01
						Dibromochloromethane	0	0.01
						Ethanol	5.2	0.4
						Ethyl acetate	0	0.6
						Ethylbenzene	0.63	0.01
						Freon-11	0.26	0.03
						Freon-113	0	0.01
						Freon-114	0	0.03



PEACE RIVER AREA MONITORING PROGRAM

842b Station - May 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time Canister Sample Canister ID		2019-05-30 NMHC Sample 29023						
Method NA-025		Method NA-024		Method AC-058				
Maximum Reading 2		Maximum Reading 1.5		Maximum Reading 19.7				
Parameter	Result (ppmv)	RDL (ppmv)	Parameter	Result (ppbv)	RDL (ppbv)	Parameter	Result (ppbv)	RDL (ppbv)
						Freon-12	0.39	0.03
						Hexachloro-1,3-butadiene	0	0.74
						Isobutane	2.58	0.03
						Isopentane	0.35	0.04
						Isoprene	0.88	0.01
						Isopropyl alcohol	0	0.6
						Isopropylbenzene	0	0.01
						m,p-Xylene	1.23	0.04
						m-Diethylbenzene	0	0.06
						m-Ethyltoluene	0.2	0.12
						Methyl butyl ketone	0	0.74
						Methyl ethyl ketone	2.7	0.4
						Methyl isobutyl ketone	0	0.6
						Methyl methacrylate	0	0.10
						Methyl tert butyl ether	0	0.04
						Methylcyclohexane	0	0.01
						Methylcyclopentane	0	0.03
						Methylene chloride	0	0.4
						n-Butane	1.94	0.04
						n-Decane	0.15	0.09
						n-Dodecane	0	0.6
						n-Heptane	0.29	0.01
						n-Hexane	0.45	0.01
						n-Nonane	0.18	0.01
						n-Octane	0.24	0.03
						n-Pentane	0.8	0.1
						n-Propylbenzene	0.11	0.07
						n-Undecane	0	0.7
						Naphthalene	0	0.7
						o-Ethyltoluene	0.14	0.01
						o-Xylene	0.54	0.01
						p-Diethylbenzene	0	0.06
						p-Ethyltoluene	0	0.10
						Styrene	1.08	0.06
						Tetrachloroethylene	0	0.06
						Tetrahydrofuran	0	0.6
						Toluene	4.85	0.01
						trans-1,2-Dichloroethylene	3.4	0.01
						trans-1,3-Dichloropropylene	0	0.06
						trans-2-Butene	1.13	0.01
						trans-2-Pentene	0.37	0.03
						Trichloroethylene	0	0.06
						Vinyl acetate	0	0.6
						Vinyl chloride	0	0.03



PEACE RIVER AREA MONITORING PROGRAM

842b Station - May 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time Canister Sample Canister ID			2019-05-30 Blank Sample 32191					
Method NA-025			Method NA-024			Method AC-058		
Maximum Reading 0			Maximum Reading 0			Maximum Reading 183		
Parameter	Result (ppmv)	RDL (ppmv)	Parameter	Result (ppbv)	RDL (ppbv)	Parameter	Result (ppbv)	RDL (ppbv)
1-Butene	0	1.2	2,5-Dimethylthiophene	0	0.3	1,1,1-Trichloroethane	0	0.02
Acetylene	0	1.0	2-Ethylthiophene	0	0.2	1,1,2,2-Tetrachloroethane	0	0.02
cis-2-Butene	0	0.5	2-Methylthiophene	0	0.2	1,1,2-Trichloroethane	0	0.02
Ethane	0	1.2	3-Methylthiophene	0	0.3	1,1-Dichloroethane	0	0.02
Ethylacetylene	0	0.7	Butyl mercaptan	0	0.3	1,1-Dichloroethylene	0	0.04
Ethylene	0	0.9	Carbon disulphide	0	0.2	1,2,3-Trimethylbenzene	0	0.05
Isobutane	0	1.2	Carbonyl sulphide	0	0.3	1,2,4-Trichlorobenzene	0	0.8
Isobutylene	0	1.2	Dimethyl disulphide	0	0.2	1,2,4-Trimethylbenzene	0	0.05
Methane	0	1.2	Dimethyl sulphide	0	0.2	1,2-Dibromoethane	0	0.02
n-Butane	0	2.5	Ethyl mercaptan	0	0.3	1,2-Dichlorobenzene	0	0.03
n-Propane	0	0.9	Ethyl sulphide	0	0.3	1,2-Dichloroethane	0	0.01
Propylene	0	1.2	Hydrogen sulphide	0	0.1	1,2-Dichloropropane	0	0.01
Propyne	0	1.2	Isobutyl mercaptan	0	0.3	1,3,5-Trimethylbenzene	0	0.02
trans-2-Butene	0	1.1	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	5.33	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	0.88	0.01
						2,3,4-Trimethylpentane	0	0.01
						2,3-Dimethylbutane	0.21	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	0.93	0.01
						3-Methylheptane	0	0.02
						3-Methylhexane	0	0.02
						3-Methylpentane	0	0.01
						Acetone	4.9	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	183	0.12
						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

842b Station - May 2019

Volatile Organic Compounds (VOCs) Results

Sample Date/Time	2019-05-30							
Canister Sample	Blank Sample							
Canister ID	32191							
Method	NA-025	Method	NA-024	Method	AC-058			
Maximum Reading	0	Maximum Reading	0	Maximum Reading	183			
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	6.36	0.02
						Isopentane	15.2	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	0.74	0.03
						n-Decane	0	0.06
						n-Dodecane	0	0.4
						n-Heptane	0	0.01
						n-Hexane	0	0.01
						n-Nonane	0	0.01
						n-Octane	0	0.02
						n-Pentane	4.1	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	0.78	0.01
						trans-1,3-Dichloropropylene	0	0.04
						trans-2-Butene	0	0.01
						trans-2-Pentene	0	0.02
						Trichloroethylene	0	0.04
						Vinyl acetate	0	0.4
						Vinyl chloride	0	0.02

Note: Analytical results show potential contaminations on the blank sample. This is a valid blank sample that shows evidence of contamination. The results are not indicative of ambient concentrations.

REFERENCE DOCUMENTS

HOURLY INSTANTANEOUS DATA

986b STATION



PEACE RIVER AREA MONITORING PROGRAM

986b Station - May 2019

Summary of Hourly Instantaneous Maximums

SULPHUR DIOXIDE (SO₂) in ppb

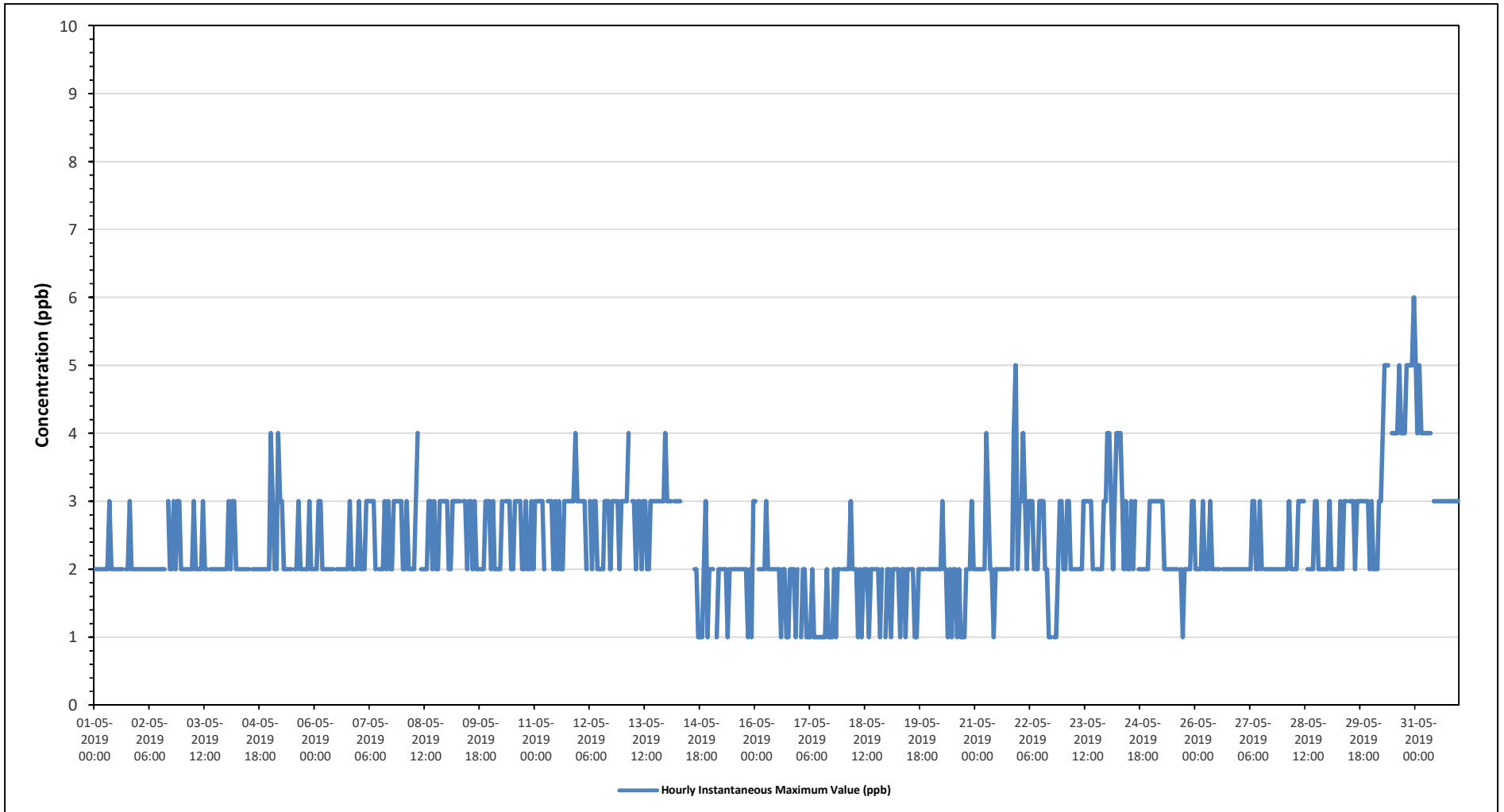
Maximum Hourly Value:	6 ppb on May 30 at hour 23	Hours in Service:	744
Maximum Daily Value:	4.0 ppb on May 30	Hours of Data:	705
Minimum Hourly Value:	1 ppb on May 14 at hour 17	Hours of Missing Data:	0
Minimum Daily Value:	1.3 ppb on May 17	Hours of Calibration:	39
Monthly Average:	2.4 ppb	Operational 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	
May 1	2	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	S	2	2	3	2	2	2	2	2	2	3	2.1
May 2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	S	3	2	2	3	2	3	3	2	2	3	2.2
May 3	2	2	2	2	2	2	3	2	2	2	2	3	2	2	S	2	2	2	2	2	2	2	2	2	2	2	2	2.1
May 4	2	3	2	3	3	2	2	2	2	2	2	2	2	S	2	2	2	2	2	2	2	2	2	2	2	2	3	2.1
May 5	4	3	2	2	4	3	3	2	2	2	2	2	S	2	2	3	2	2	2	2	2	3	2	2	2	2	4	2.4
May 6	2	2	3	3	2	2	2	2	2	2	2	S	2	2	2	2	2	2	2	2	3	2	2	2	2	2	3	2.1
May 7	3	2	2	2	3	3	3	3	3	2	S	2	2	2	3	2	3	2	2	3	3	3	3	3	3	3	3	2.6
May 8	2	2	3	2	2	2	2	3	4	S	2	2	2	2	3	3	2	3	2	2	3	3	3	3	3	3	4	2.5
May 9	3	2	2	3	3	3	3	3	S	3	3	2	3	3	2	3	3	2	2	2	2	2	3	3	3	3	3	2.6
May 10	2	3	2	2	2	2	3	S	3	3	3	2	2	3	3	3	3	3	2	2	3	2	2	3	2	2	3	2.5
May 11	3	3	3	3	3	2	S	3	3	3	2	3	2	3	2	2	3	3	3	3	3	3	3	3	3	4	3	2.8
May 12	3	3	3	3	2	S	3	2	3	3	2	2	2	2	3	3	3	3	2	3	3	3	3	3	2	3	2	2.7
May 13	3	3	3	4	S	3	3	2	3	3	2	3	2	3	2	3	3	3	3	3	3	3	3	3	3	4	2	2.9
May 14	3	3	3	S	3	3	3	3	C	C	C	C	C	C	C	2	2	1	1	1	1	2	3	3	1	2	1	-
May 15	2	2	S	1	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	1	2	1	2	1	3	1	1.9
May 16	3	S	2	2	2	2	3	2	2	2	2	2	2	1	2	2	2	1	1	2	2	2	2	1	2	1	2	1.9
May 17	S	1	2	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	2	2	1	2	1.3
May 18	2	2	2	2	3	2	2	2	1	2	1	2	2	2	1	2	2	2	2	2	1	2	S	1	2	1	3	1.8
May 19	2	2	1	2	2	2	2	1	2	2	1	2	2	2	2	1	1	2	2	2	2	S	2	2	2	2	2	1.8
May 20	2	2	2	2	2	2	3	2	2	1	2	1	2	2	1	2	1	1	1	1	1	2	S	2	3	2	1	1.8
May 21	2	2	2	2	2	2	4	3	2	2	1	2	2	2	2	2	2	2	2	2	S	2	4	5	2	1	5	2.3
May 22	3	3	4	3	2	3	3	3	2	2	2	3	3	3	2	2	1	1	S	1	1	2	3	3	3	1	4	2.4
May 23	2	2	3	3	2	2	2	2	2	2	2	3	3	3	3	3	2	S	2	2	2	2	2	3	3	2	3	2.4
May 24	4	4	3	2	3	4	4	4	3	2	3	2	2	3	2	2	S	2	2	2	2	2	2	2	2	2	4	2.7
May 25	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	S	2	1	2	2	2	2	2	3	3	1	3	2.3
May 26	2	2	2	2	3	2	2	2	3	2	2	2	2	2	S	2	2	2	2	2	2	2	2	2	2	2	3	2.1
May 27	2	2	2	2	2	2	2	3	3	2	2	3	S	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2.1
May 28	2	2	2	3	2	2	2	2	3	3	3	3	S	2	2	2	2	2	3	3	2	2	2	2	2	2	3	2.3
May 29	2	3	2	2	2	2	2	3	2	3	3	S	3	3	2	3	3	3	3	3	3	3	3	3	3	2	3	2.6
May 30	3	2	2	2	3	3	4	5	5	5	S	4	4	4	4	5	4	4	4	4	5	5	5	5	5	6	6	4.0
May 31	5	4	5	4	4	4	4	4	4	S	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.5
Diurnal Maximum	5	4	5	4	4	4	4	5	5	5	3	4	4	4	4	5	4	4	4	4	5	5	5	5	5	6	6	
Diurnal Average	2.6	2.4	2.4	2.4	2.4	2.4	2.6	2.5	2.5	2.3	2.1	2.3	2.3	2.3	2.2	2.4	2.2	2.1	2.1	2.4	2.2	2.5	2.6	2.5	2.5	2.5	2.5	

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 SO₂ - 986b Station





PEACE RIVER AREA MONITORING PROGRAM

986b Station - May 2019

Summary of Hourly Instantaneous Maximums

TOTAL REDUCED SULPHUR (TRS) in ppb

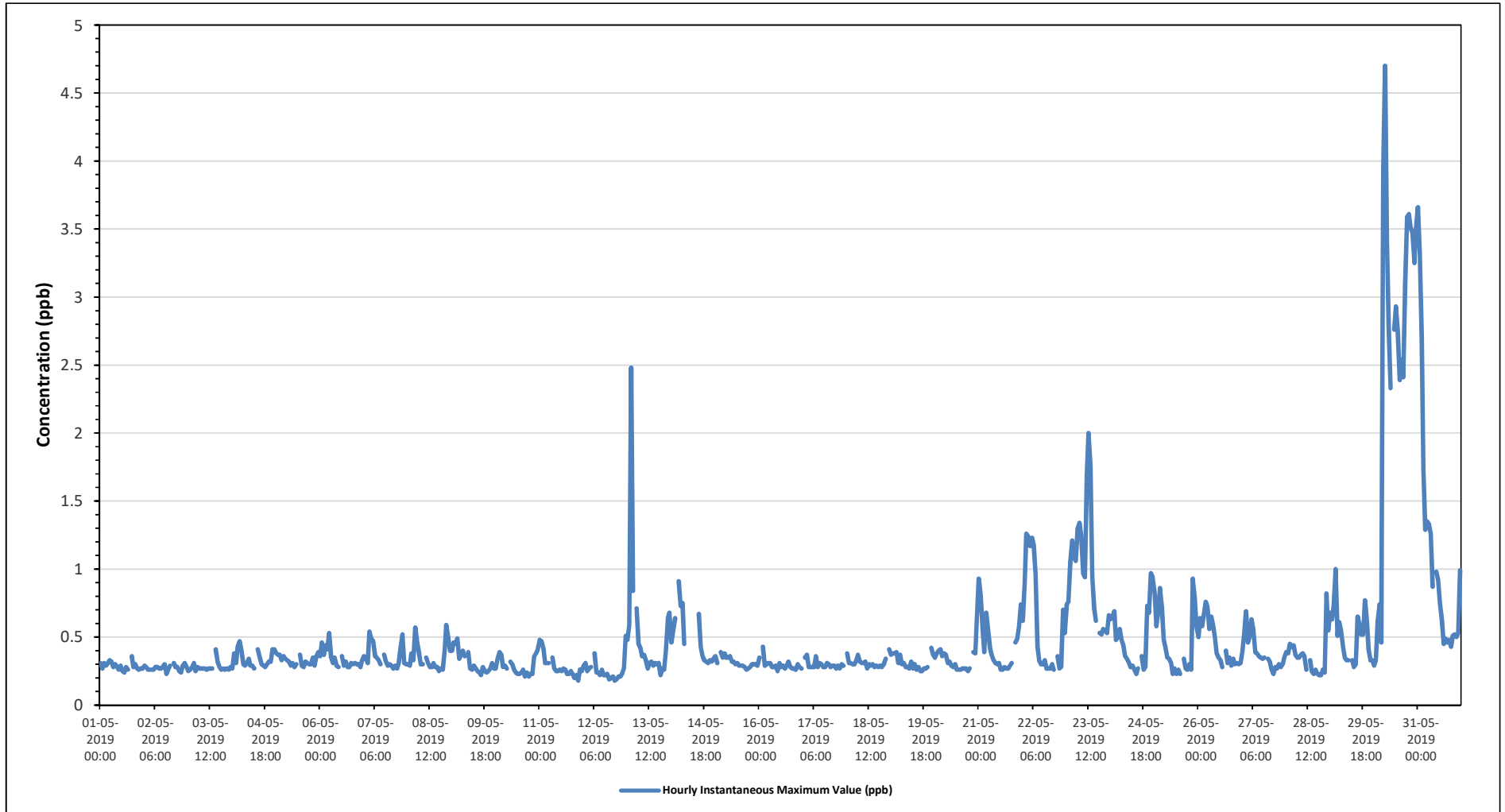
Maximum Hourly Value:	4.70 ppb on May 30 at hour 6	Hours in Service:	744
Maximum Daily Value:	2.58 ppb on May 30	Hours of Data:	705
Minimum Hourly Value:	0.18 ppb on May 11 at hour 21	Hours of Missing Data:	0
Minimum Daily Value:	0.25 ppb on May 12	Hours of Calibration:	39
Monthly Average:	0.48 ppb	Operational 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	
May 1	0.31	0.27	0.31	0.29	0.31	0.33	0.32	0.28	0.3	0.28	0.26	0.29	0.25	0.24	0.28	0.26	S	0.36	0.28	0.3	0.27	0.26	0.27	0.27	0.24	0.36	0.29	
May 2	0.29	0.28	0.26	0.26	0.26	0.26	0.28	0.28	0.27	0.27	0.28	0.3	0.23	0.26	0.29	S	0.41	0.31	0.28	0.28	0.25	0.24	0.29	0.31	0.28	0.23	0.31	0.27
May 3	0.25	0.26	0.28	0.31	0.25	0.28	0.27	0.27	0.27	0.27	0.26	0.27	0.27	0.27	S	0.41	0.32	0.28	0.26	0.27	0.26	0.27	0.26	0.28	0.25	0.41	0.28	
May 4	0.27	0.38	0.31	0.43	0.47	0.4	0.3	0.29	0.31	0.34	0.29	0.29	0.27	S	0.41	0.35	0.3	0.29	0.28	0.3	0.32	0.32	0.41	0.41	0.27	0.47	0.34	
May 5	0.38	0.37	0.37	0.33	0.36	0.34	0.33	0.32	0.29	0.31	0.28	0.3	S	0.37	0.29	0.28	0.32	0.31	0.3	0.3	0.35	0.29	0.36	0.39	0.28	0.39	0.33	
May 6	0.36	0.46	0.37	0.44	0.41	0.53	0.35	0.31	0.35	0.29	0.28	S	0.36	0.29	0.32	0.28	0.28	0.31	0.3	0.31	0.3	0.3	0.28	0.33	0.28	0.53	0.34	
May 7	0.36	0.34	0.31	0.54	0.49	0.47	0.36	0.35	0.33	0.3	S	0.37	0.32	0.29	0.3	0.29	0.27	0.29	0.27	0.31	0.43	0.52	0.31	0.3	0.27	0.54	0.35	
May 8	0.3	0.29	0.38	0.33	0.57	0.46	0.39	0.3	0.3	S	0.35	0.31	0.28	0.28	0.31	0.28	0.28	0.25	0.27	0.26	0.4	0.59	0.5	0.4	0.25	0.59	0.35	
May 9	0.4	0.46	0.45	0.49	0.34	0.37	0.4	0.36	S	0.39	0.27	0.26	0.29	0.27	0.25	0.24	0.22	0.28	0.25	0.24	0.25	0.27	0.31	0.27	0.22	0.49	0.32	
May 10	0.27	0.34	0.39	0.37	0.28	0.29	0.27	S	0.32	0.3	0.26	0.24	0.23	0.23	0.24	0.26	0.21	0.24	0.21	0.23	0.23	0.36	0.38	0.41	0.21	0.41	0.29	
May 11	0.48	0.47	0.41	0.31	0.31	0.31	S	0.35	0.27	0.25	0.25	0.26	0.25	0.27	0.26	0.23	0.23	0.25	0.23	0.2	0.22	0.18	0.26	0.25	0.18	0.48	0.28	
May 12	0.29	0.31	0.25	0.27	0.28	S	0.38	0.24	0.24	0.22	0.26	0.22	0.22	0.23	0.19	0.2	0.21	0.18	0.19	0.21	0.21	0.23	0.27	0.51	0.18	0.51	0.25	
May 13	0.48	0.59	2.48	0.84	S	0.71	0.45	0.42	0.36	0.37	0.33	0.27	0.31	0.32	0.29	0.31	0.3	0.31	0.22	0.27	0.26	0.4	0.64	0.68	0.22	2.48	0.50	
May 14	0.46	0.55	0.64	S	0.91	0.73	0.75	0.45	C	C	C	C	C	C	C	0.67	0.43	0.36	0.33	0.32	0.31	0.33	0.32	0.34	0.31	0.91	-	
May 15	0.36	0.31	S	0.39	0.35	0.38	0.35	0.35	0.36	0.32	0.32	0.3	0.31	0.29	0.29	0.29	0.28	0.26	0.27	0.28	0.3	0.3	0.3	0.29	0.26	0.39	0.32	
May 16	0.35	S	0.43	0.29	0.3	0.31	0.31	0.28	0.28	0.29	0.25	0.31	0.28	0.29	0.27	0.29	0.32	0.28	0.27	0.27	0.26	0.3	0.28	0.27	0.25	0.43	0.29	
May 17	S	0.35	0.37	0.28	0.28	0.28	0.28	0.36	0.28	0.31	0.3	0.28	0.28	0.31	0.3	0.28	0.29	0.29	0.27	0.29	0.27	0.3	0.29	S	0.27	0.37	0.30	
May 18	0.38	0.31	0.31	0.3	0.3	0.33	0.37	0.32	0.31	0.31	0.32	0.27	0.3	0.29	0.3	0.28	0.29	0.28	0.29	0.28	0.3	0.34	S	0.41	0.27	0.41	0.31	
May 19	0.37	0.38	0.38	0.39	0.31	0.37	0.3	0.31	0.28	0.28	0.27	0.32	0.27	0.3	0.26	0.28	0.25	0.25	0.27	0.27	0.28	S	0.42	0.37	0.25	0.42	0.31	
May 20	0.35	0.38	0.4	0.41	0.36	0.38	0.37	0.31	0.32	0.29	0.28	0.3	0.26	0.26	0.26	0.27	0.27	0.27	0.25	0.27	S	0.39	0.38	0.64	0.25	0.64	0.33	
May 21	0.93	0.81	0.57	0.39	0.68	0.56	0.42	0.37	0.33	0.31	0.3	0.31	0.26	0.26	0.28	0.27	0.27	0.29	0.31	S	0.46	0.49	0.58	0.74	0.26	0.93	0.44	
May 22	0.62	0.89	1.26	1.24	1.17	1.23	1.18	0.96	0.43	0.33	0.3	0.3	0.33	0.27	0.27	0.27	0.3	0.26	S	0.36	0.27	0.28	0.7	0.53	0.26	1.26	0.60	
May 23	0.74	0.76	1.05	1.21	1.08	1.06	1.3	1.34	1.25	0.97	0.94	1.68	2	1.76	0.94	0.71	0.62	S	0.53	0.52	0.56	0.55	0.53	0.66	0.52	2.00	0.99	
May 24	0.63	0.65	0.69	0.48	0.5	0.56	0.48	0.44	0.36	0.34	0.31	0.28	0.29	0.26	0.23	0.27	S	0.34	0.36	0.26	0.28	0.73	0.68	0.97	0.23	0.97	0.48	
May 25	0.83	0.58	0.68	0.86	0.72	0.48	0.43	0.35	0.34	0.31	0.23	0.27	0.23	0.26	0.23	S	0.34	0.27	0.26	0.3	0.26	0.93	0.79	0.57	0.23	0.93	0.46	
May 26	0.5	0.64	0.58	0.67	0.76	0.72	0.56	0.65	0.59	0.5	0.38	0.35	0.33	0.28	S	0.4	0.31	0.35	0.29	0.34	0.3	0.31	0.3	0.31	0.28	0.76	0.45	
May 27	0.39	0.52	0.69	0.46	0.5	0.63	0.56	0.39	0.38	0.36	0.35	0.34	0.35	S	0.34	0.32	0.26	0.23	0.28	0.27	0.3	0.28	0.3	0.35	0.23	0.69	0.38	
May 28	0.39	0.38	0.45	0.43	0.44	0.37	0.35	0.35	0.37	0.38	0.36	0.26	S	0.33	0.25	0.23	0.26	0.23	0.22	0.22	0.26	0.24	0.82	0.55	0.22	0.82	0.35	
May 29	0.68	0.63	0.73	1	0.51	0.61	0.55	0.43	0.35	0.33	0.33	S	0.33	0.28	0.3	0.65	0.59	0.52	0.52	0.77	0.62	0.41	0.33	0.33	0.28	1.00	0.51	
May 30	0.29	0.33	0.62	0.74	0.46	3.94	4.7	3.4	2.79	2.33	S	2.76	2.93	2.74	2.39	2.54	2.41	3.1	3.59	3.61	3.51	3.47	3.25	3.51	0.29	4.70	2.58	
May 31	3.66	3.32	2.71	1.74	1.29	1.35	1.33	1.26	0.87	S	0.98	0.92	0.75	0.63	0.45	0.49	0.46	0.48	0.43	0.51	0.52	0.5	0.53	0.99	0.43	3.66	1.14	
Diurnal Maximum	3.66	3.32	2.71	1.74	1.29	3.94	4.70	3.40	2.79	2.33	0.98	2.76	2.93	2.74	2.39	2.54	2.41	3.10	3.59	3.61	3.51	3.47	3.25	3.51				
Diurnal Average	0.55	0.55	0.64	0.55	0.51	0.63	0.62	0.54	0.47	0.41	0.34	0.45	0.46	0.43	0.39	0.41	0.39	0.39	0.40	0.42	0.44	0.48	0.52	0.55				

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

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

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





PEACE RIVER AREA MONITORING PROGRAM

986b Station - May 2019

Summary of Hourly Instantaneous Maximums

TOTAL HYDROCARBONS (THC) in ppm

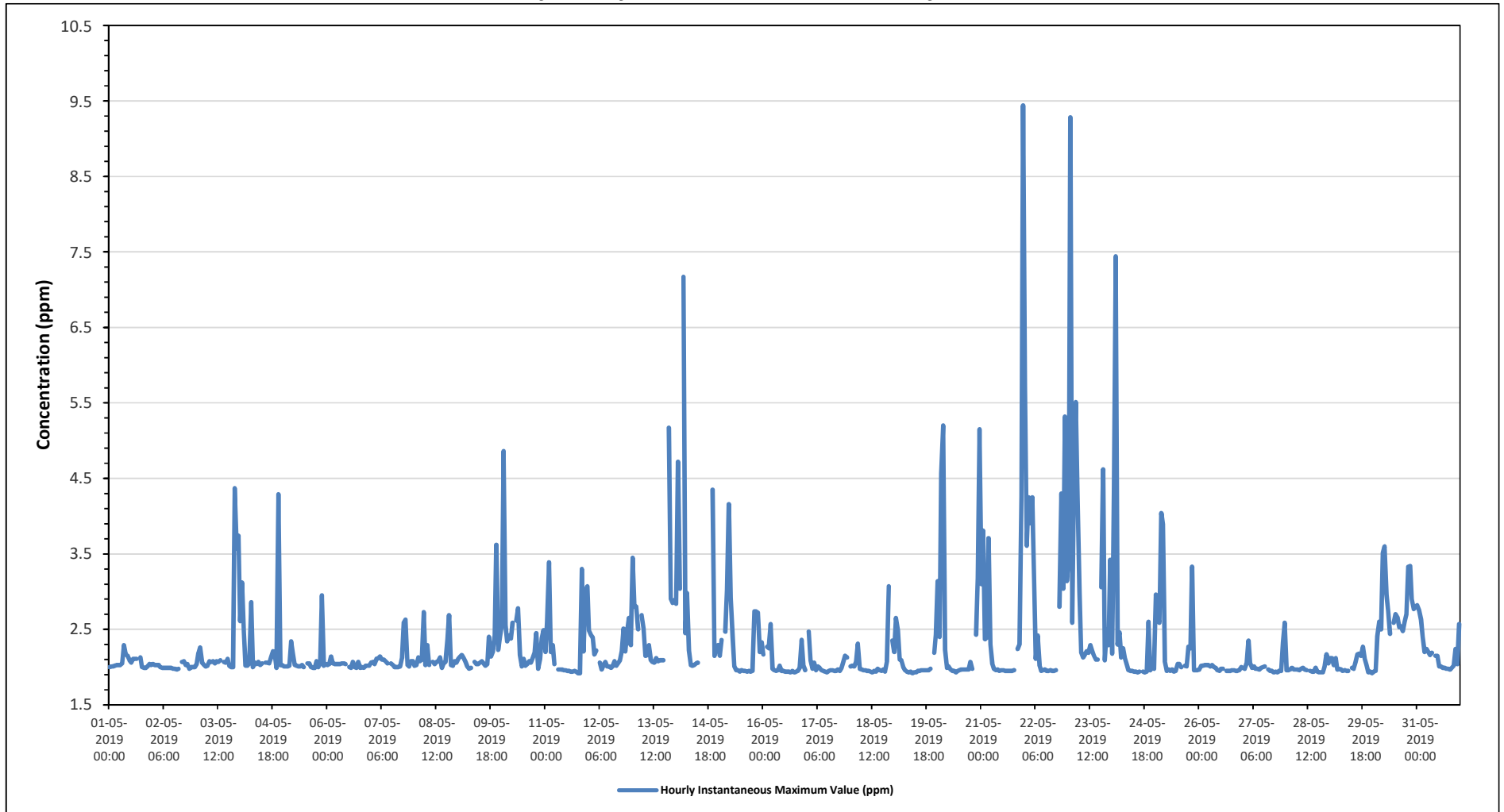
Maximum Hourly Value:	9.44 ppm on May 21 at hour 23	Hours in Service:	744
Maximum Daily Value:	3.14 ppm on May 23	Hours of Data:	703
Minimum Hourly Value:	1.92 ppm on May 11 at hour 18	Hours of Missing Data:	2
Minimum Daily Value:	1.98 ppm on May 28	Hours of Calibration:	39
Monthly Average:	2.28 ppm	Operational Uptime:	99.7

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
May 1	2.00	2.01	2.01	2.02	2.03	2.03	2.03	2.05	2.29	2.17	2.15	2.09	2.06	2.11	2.11	2.11	S	2.13	2.00	1.99	1.99	2.01	2.04	2.03	1.99	2.29	2.06	
May 2	2.04	2.03	2.03	2.03	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.98	1.98	1.97	1.98	S	2.07	2.08	2.03	2.04	1.98	2.00	2.00	2.00	2.00	4.37	3.74	2.01
May 3	2.04	2.19	2.26	2.06	2.03	2.01	2.02	2.08	2.07	2.08	2.05	2.08	2.07	2.09	S	2.07	2.06	2.11	2.02	2.00	2.00	4.37	3.57	3.74	2.00	4.37	2.31	
May 4	2.61	3.12	2.46	2.02	2.02	2.05	2.86	2.00	2.06	2.04	2.07	2.03	2.05	S	2.06	2.06	2.05	2.13	2.21	2.19	1.99	4.29	2.03	2.03	1.99	4.29	2.28	
May 5	2.01	2.01	2.01	2.02	2.34	2.18	2.03	2.02	2.01	2.01	2.03	2.00	S	2.05	2.05	2.00	1.99	1.99	2.08	2.00	2.05	2.95	2.02	2.04	1.99	2.95	2.08	
May 6	2.03	2.04	2.14	2.05	2.04	2.04	2.04	2.04	2.05	2.05	2.04	S	2.00	1.99	2.07	2.00	1.99	2.07	1.99	2.00	1.99	2.02	2.02	2.02	1.99	2.14	2.03	
May 7	2.06	2.07	2.04	2.11	2.12	2.14	2.10	2.10	2.08	2.05	S	2.05	2.03	2.00	2.00	2.00	2.01	2.12	2.59	2.63	2.03	2.01	2.08	2.08	2.00	2.63	2.11	
May 8	2.02	2.03	2.13	2.08	2.10	2.73	2.03	2.29	2.03	S	2.07	2.04	2.07	2.08	2.13	1.99	2.05	2.07	2.37	2.69	2.03	2.02	2.08	2.06	1.99	2.73	2.14	
May 9	2.11	2.14	2.16	2.12	2.07	2.01	1.98	1.99	S	2.07	2.04	2.04	2.06	2.08	2.05	2.02	2.04	2.40	2.14	2.20	2.42	3.62	2.23	2.40	1.98	3.62	2.19	
May 10	2.56	4.86	2.56	2.34	2.42	2.38	2.59	S	2.62	2.78	2.16	2.01	2.11	2.02	2.04	2.08	2.06	2.12	2.19	2.45	1.98	2.11	2.38	2.49	1.98	4.86	2.40	
May 11	2.20	2.60	3.39	2.20	2.29	2.04	S	1.97	1.97	1.97	1.96	1.96	1.95	1.95	1.94	1.94	1.95	1.94	1.92	1.92	3.30	2.21	2.97	3.07	1.92	3.39	2.24	
May 12	2.49	2.43	2.39	2.17	2.22	S	2.06	1.97	2.03	2.07	2.01	2.01	1.99	2.01	2.08	2.02	2.05	2.09	2.21	2.51	2.21	2.47	2.65	2.29	1.97	2.65	2.19	
May 13	3.45	2.80	2.80	2.50	S	2.69	2.51	2.15	2.16	2.29	2.09	2.07	2.06	2.12	2.08	2.09	2.09	2.09	2.21	2.51	Y	5.17	2.91	2.85	2.89	2.06	5.17	2.56
May 14	2.84	4.72	3.04	S	7.17	2.45	2.98	2.22	2.03	2.02	2.03	2.05	2.06	C	C	C	C	C	C	C	C	4.35	2.15	2.25	2.29	2.02	7.17	-
May 15	2.15	2.36	S	2.47	3.02	4.16	2.92	2.40	2.01	1.96	1.96	1.94	1.96	1.95	1.95	1.94	1.95	1.94	1.95	2.74	2.74	2.72	2.20	2.33	1.94	4.16	2.34	
May 16	2.17	S	2.27	2.25	2.57	1.98	1.96	1.95	1.96	2.02	1.95	1.95	1.94	1.94	1.94	1.93	1.95	1.93	1.94	1.95	1.99	2.36	2.03	1.96	1.93	2.57	2.04	
May 17	S	2.47	2.09	1.98	2.06	1.96	2.01	1.99	1.96	1.95	1.94	1.93	1.95	1.96	1.96	1.95	1.95	1.97	1.95	1.99	2.07	2.15	2.13	S	1.93	2.47	2.02	
May 18	2.01	2.02	2.01	2.07	2.31	1.98	1.97	1.96	1.96	1.95	1.95	1.94	1.93	1.95	1.94	1.98	1.96	1.95	1.97	1.94	2.08	3.07	S	2.35	1.93	3.07	2.05	
May 19	2.20	2.65	2.49	2.10	2.09	2.00	1.96	1.94	1.93	1.94	1.92	1.93	1.93	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.98	S	2.19	2.43	1.92	2.65	2.06	
May 20	3.14	2.40	4.57	5.20	2.23	1.99	2.01	1.97	1.95	1.95	1.93	1.95	1.96	1.97	1.97	1.97	1.97	1.97	1.97	2.07	1.98	S	2.43	3.18	5.15	1.93	5.20	2.52
May 21	3.10	3.81	2.37	2.39	3.71	2.30	2.04	1.98	1.96	1.97	1.95	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.96	1.96	S	2.24	2.30	4.26	9.44	1.95	9.44	2.67
May 22	5.71	3.61	4.25	3.91	4.25	3.13	2.11	2.42	2.02	1.95	1.96	1.97	1.95	1.95	1.96	1.95	1.95	1.96	S	2.80	4.30	3.04	5.32	3.14	1.95	5.71	2.94	
May 23	3.46	9.28	2.59	4.51	5.51	4.25	2.99	2.20	2.13	2.17	2.21	2.19	2.29	2.22	2.15	2.10	2.10	S	3.06	4.62	2.09	2.50	2.29	3.42	2.09	9.28	3.14	
May 24	2.18	4.40	7.44	2.30	2.46	2.13	2.25	2.12	2.03	1.96	1.95	1.95	1.94	1.94	1.93	1.94	S	1.94	1.93	1.94	2.60	1.96	2.00	1.98	1.93	7.44	2.40	
May 25	2.96	2.68	2.59	4.04	3.89	2.08	1.95	1.97	1.95	1.97	1.94	1.95	2.04	2.04	2.00	S	2.02	2.01	2.27	2.25	3.33	1.96	1.96	1.96	1.94	4.04	2.34	
May 26	1.97	2.02	2.02	2.03	2.03	2.03	2.01	2.03	2.00	1.99	1.96	1.95	1.98	1.98	S	1.95	1.95	1.95	1.96	1.96	1.95	1.95	1.96	2.00	1.95	2.03	1.98	
May 27	1.99	1.98	2.05	2.35	2.05	1.99	2.01	1.98	1.98	1.97	1.99	2.00	2.01	S	1.97	1.95	1.95	1.93	1.94	1.93	1.95	2.33	2.59	1.93	2.59	1.93	2.59	2.04
May 28	1.96	1.96	1.97	1.99	1.97	1.97	1.97	1.96	1.98	1.99	1.97	1.96	S	1.95	1.94	1.94	1.99	1.94	1.93	1.93	1.93	2.01	2.17	2.05	1.93	2.17	1.98	
May 29	2.12	2.12	2.03	2.12	1.97	1.96	1.97	1.95	1.96	1.95	1.95	S	1.99	1.98	2.07	2.17	2.18	2.15	2.27	2.11	2.03	1.93	1.94	1.92	1.92	2.27	2.04	
May 30	1.94	1.95	2.41	2.60	2.50	3.51	3.60	2.96	2.75	2.44	S	2.59	2.70	2.66	2.53	2.54	2.48	2.60	2.70	3.33	3.34	2.90	2.77	2.80	1.94	3.60	2.72	
May 31	2.82	2.75	2.63	2.40	2.20	2.24	2.20	2.16	2.19	S	2.15	2.15	2.01	2.01	1.99	1.99	1.98	1.98	1.97	1.99	2.02	2.24	2.04	2.57	1.97	2.82	2.20	
Diurnal Maximum	5.71	9.28	7.44	5.20	7.17	4.25	3.60	2.96	2.75	2.78	2.21	2.59	2.70	2.66	2.53	2.54	2.48	2.60	3.06	4.62	5.17	4.37	5.32	9.44				
Diurnal Average	2.48	2.85	2.64	2.48	2.66	2.35	2.24	2.09	2.07	2.06	2.01	2.02	2.04	2.03	2.03	2.02	2.03	2.05	2.13	2.29	2.47	2.49	2.46	2.72				

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

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

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





PEACE RIVER AREA MONITORING PROGRAM

986b Station - May 2019

Summary of Hourly Instantaneous Maximums

METHANE (CH4) in ppm

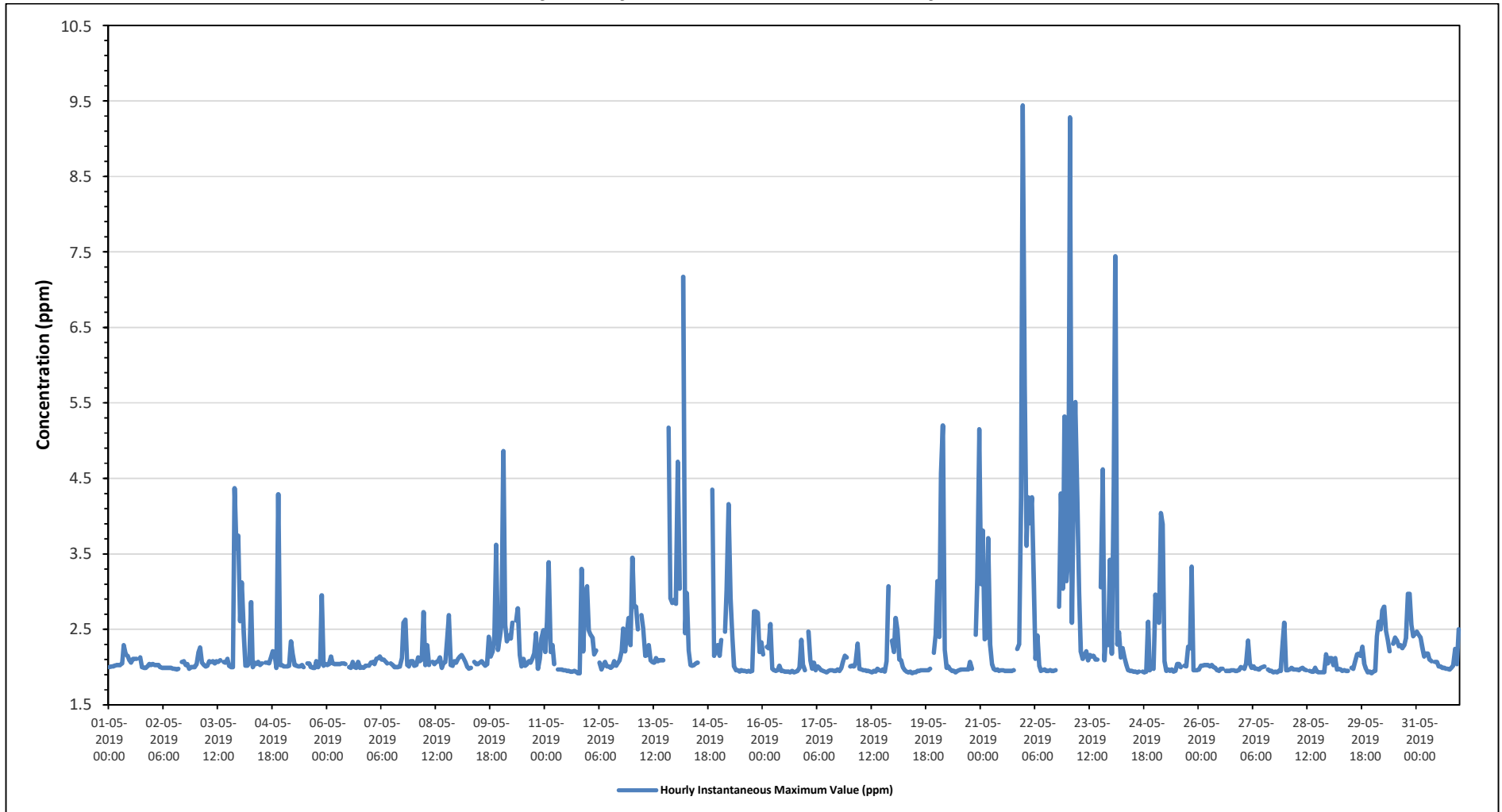
Maximum Hourly Value:	9.44 ppm on May 21 at hour 23	Hours in Service:	744
Maximum Daily Value:	3.13 ppm on May 23	Hours of Data:	703
Minimum Hourly Value:	1.92 ppm on May 11 at hour 18	Hours of Missing Data:	2
Minimum Daily Value:	1.97 ppm on May 28	Hours of Calibration:	39
Monthly Average:	2.27 ppm	Operational Uptime:	99.7

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
May 1	2.00	2.01	2.01	2.02	2.03	2.03	2.03	2.05	2.29	2.17	2.15	2.09	2.06	2.11	2.11	2.11	S	2.13	2.00	1.99	1.99	2.01	2.04	2.03	1.99	2.29	2.06	
May 2	2.04	2.03	2.03	2.03	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.98	1.98	1.97	1.98	S	2.07	2.08	2.03	2.04	1.98	2.00	2.00	2.00	2.00	4.37	3.74	2.01
May 3	2.04	2.19	2.26	2.06	2.03	2.01	2.02	2.08	2.07	2.08	2.05	2.08	2.07	2.09	S	2.07	2.06	2.11	2.02	2.00	2.00	4.37	3.57	3.74	2.00	4.37	2.31	
May 4	2.61	3.12	2.46	2.02	2.02	2.05	2.86	2.00	2.06	2.04	2.07	2.03	2.05	S	2.06	2.06	2.05	2.13	2.21	2.19	1.99	4.29	2.03	2.03	1.99	4.29	2.28	
May 5	2.01	2.01	2.01	2.02	2.34	2.18	2.03	2.02	2.01	2.01	2.03	2.00	S	2.05	2.05	2.00	1.99	1.99	2.08	2.00	2.05	2.95	2.02	2.04	1.99	2.95	2.08	
May 6	2.03	2.04	2.14	2.05	2.04	2.04	2.04	2.04	2.05	2.05	2.04	S	2.00	1.99	2.07	2.00	1.99	2.07	1.99	2.00	1.99	2.02	2.02	2.02	1.99	2.14	2.03	
May 7	2.06	2.07	2.04	2.11	2.12	2.14	2.10	2.10	2.08	2.05	S	2.05	2.03	2.00	2.00	2.00	2.01	2.12	2.59	2.63	2.03	2.01	2.08	2.08	2.00	2.63	2.11	
May 8	2.02	2.03	2.13	2.08	2.10	2.73	2.03	2.29	2.03	S	2.07	2.04	2.07	2.08	2.13	1.99	2.05	2.07	2.37	2.69	2.03	2.02	2.08	2.06	1.99	2.73	2.14	
May 9	2.11	2.14	2.16	2.12	2.07	2.01	1.98	1.99	S	2.07	2.04	2.04	2.06	2.08	2.05	2.02	2.04	2.40	2.14	2.20	2.42	3.62	2.23	2.40	1.98	3.62	2.19	
May 10	2.56	4.86	2.56	2.34	2.42	2.38	2.59	S	2.62	2.78	2.16	2.01	2.11	2.02	2.04	2.08	2.06	2.12	2.19	2.45	1.98	2.11	2.38	2.49	1.98	4.86	2.40	
May 11	2.20	2.60	3.39	2.20	2.29	2.04	S	1.97	1.97	1.97	1.96	1.96	1.95	1.95	1.94	1.94	1.95	1.94	1.92	1.92	3.30	2.21	2.97	3.07	1.92	3.39	2.24	
May 12	2.49	2.43	2.39	2.17	2.22	S	2.06	1.97	2.03	2.07	2.01	2.01	1.99	2.01	2.08	2.02	2.05	2.09	2.21	2.51	2.21	2.47	2.65	2.29	1.97	2.65	2.19	
May 13	3.45	2.80	2.80	2.50	S	2.69	2.51	2.15	2.16	2.29	2.09	2.07	2.06	2.12	2.08	2.09	2.09	2.09	Y	Y	5.17	2.91	2.85	2.89	2.06	5.17	2.56	
May 14	2.84	4.72	3.04	S	7.17	2.45	2.98	2.22	2.03	2.02	2.03	2.05	2.06	C	C	C	C	C	C	C	4.35	2.15	2.25	2.29	2.02	7.17	-	
May 15	2.15	2.36	S	2.47	3.02	4.16	2.92	2.40	2.01	1.96	1.96	1.94	1.96	1.95	1.95	1.94	1.95	1.94	1.95	2.74	2.74	2.72	2.20	2.33	1.94	4.16	2.34	
May 16	2.17	S	2.27	2.25	2.57	1.98	1.96	1.95	1.96	2.02	1.95	1.95	1.94	1.94	1.94	1.93	1.95	1.93	1.94	1.95	1.99	2.36	2.03	1.96	1.93	2.57	2.04	
May 17	S	2.47	2.09	1.98	2.06	1.96	2.01	1.99	1.96	1.95	1.94	1.93	1.95	1.96	1.96	1.95	1.95	1.97	1.95	1.99	2.07	2.15	2.13	S	1.93	2.47	2.02	
May 18	2.01	2.02	2.01	2.07	2.31	1.98	1.97	1.96	1.96	1.95	1.95	1.94	1.93	1.95	1.94	1.98	1.96	1.95	1.97	1.94	2.08	3.07	S	2.35	1.93	3.07	2.05	
May 19	2.20	2.65	2.49	2.10	2.09	2.00	1.96	1.94	1.93	1.94	1.92	1.93	1.93	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.98	S	2.19	2.43	1.92	2.65	2.06	
May 20	3.14	2.40	4.57	5.20	2.23	1.99	2.01	1.97	1.95	1.95	1.93	1.95	1.96	1.97	1.97	1.97	1.97	1.97	1.97	2.07	1.98	S	2.43	3.18	1.93	5.20	2.52	
May 21	3.10	3.81	2.37	2.39	3.71	2.30	2.04	1.98	1.96	1.97	1.95	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.96	S	2.24	2.30	4.26	9.44	1.95	9.44	2.67	
May 22	5.71	3.61	4.25	3.91	4.25	3.13	2.11	2.42	2.02	1.95	1.96	1.97	1.95	1.95	1.96	1.95	1.95	1.96	S	2.80	4.30	3.04	5.32	3.14	1.95	5.71	2.94	
May 23	3.46	9.28	2.59	4.51	5.51	4.25	2.99	2.20	2.11	2.17	2.21	2.09	2.16	2.14	2.15	2.10	2.10	S	3.06	4.62	2.09	2.50	2.29	3.42	2.09	9.28	3.13	
May 24	2.18	4.40	7.44	2.30	2.46	2.13	2.25	2.12	2.03	1.96	1.95	1.95	1.94	1.94	1.93	1.94	S	2.02	1.94	2.60	1.96	2.00	1.98	1.93	7.44	2.40		
May 25	2.96	2.68	2.59	4.04	3.89	2.08	1.95	1.97	1.95	1.97	1.94	1.95	2.04	2.04	2.00	S	2.02	2.01	2.27	2.25	3.33	1.96	1.96	1.96	1.94	4.04	2.34	
May 26	1.97	2.02	2.02	2.03	2.03	2.03	2.01	2.03	2.00	1.99	1.96	1.95	1.98	1.98	S	1.95	1.95	1.95	1.96	1.96	1.95	1.95	1.96	2.00	1.95	2.03	1.98	
May 27	1.99	1.98	2.05	2.35	2.05	1.99	2.01	1.98	1.98	1.97	1.99	2.00	2.01	S	1.97	1.95	1.95	1.93	1.94	1.93	1.95	2.33	2.59	1.93	2.59	2.04		
May 28	1.96	1.96	1.97	1.99	1.97	1.97	1.97	1.96	1.98	1.99	1.97	1.96	S	1.95	1.94	1.94	1.99	1.94	1.93	1.93	1.93	1.93	2.17	2.05	1.93	2.17	1.97	
May 29	2.12	2.12	2.03	2.12	1.97	1.96	1.97	1.95	1.96	1.95	1.95	S	1.99	1.98	2.07	2.17	2.18	2.15	2.27	2.04	1.98	1.93	1.94	1.92	1.92	2.27	2.03	
May 30	1.94	1.95	2.41	2.60	2.50	2.75	2.80	2.48	2.36	2.21	S	2.31	2.39	2.35	2.28	2.29	2.25	2.29	2.38	2.97	2.97	2.56	2.41	2.44	1.94	2.97	2.43	
May 31	2.47	2.43	2.39	2.27	2.14	2.18	2.18	2.10	2.08	S	2.07	2.07	2.01	2.01	1.99	1.99	1.98	1.98	1.97	1.99	2.02	2.24	2.04	2.50	1.97	2.50	2.13	
Diurnal Maximum	5.71	9.28	7.44	5.20	7.17	4.25	2.99	2.48	2.62	2.78	2.21	2.31	2.39	2.35	2.28	2.29	2.25	2.40	3.06	4.62	5.17	4.37	5.32	9.44				
Diurnal Average	2.47	2.84	2.63	2.48	2.65	2.32	2.21	2.08	2.05	2.05	2.01	2.01	2.02	2.02	2.02	2.01	2.02	2.04	2.12	2.27	2.46	2.47	2.45	2.70				

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

986b Station - May 2019

Summary of Hourly Instantaneous Maximums

NON-METHANE HYDROCARBONS (NMHC) in ppm

Maximum Hourly Value:	0.79 ppm on May 30 at hour 6	Hours in Service:	744
Maximum Daily Value:	0.30 ppm on May 30	Hours of Data:	703
Minimum Hourly Value:	0.00 ppm on May 1 at hour 0	Hours of Missing Data:	2
Minimum Daily Value:	0.00 ppm on May 1	Hours of Calibration:	39
Monthly Average:	0.01 ppm	Operational Uptime:	99.7

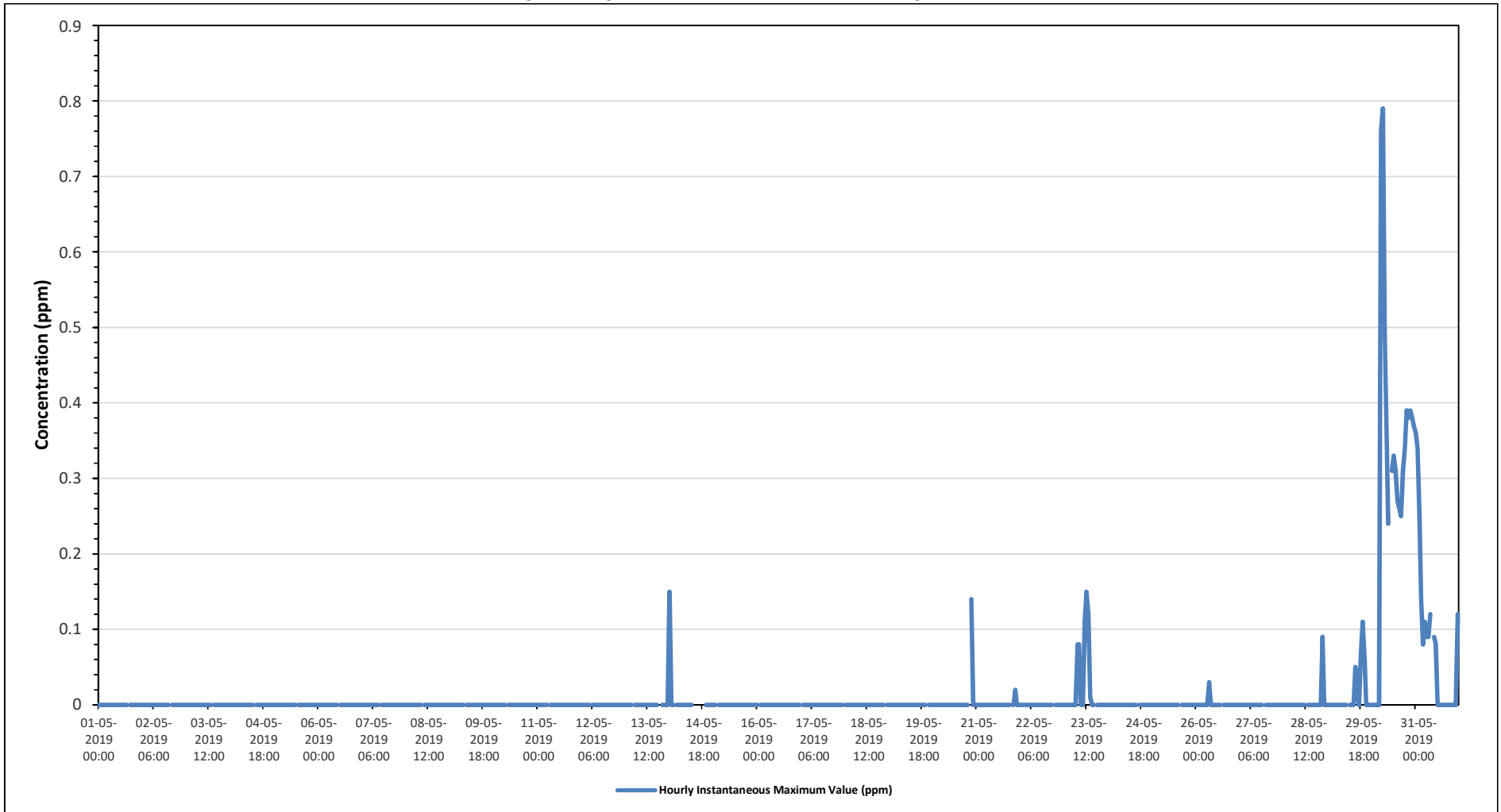
Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average								
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23							
May 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 14	0.15	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	C	C	C	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.15	-	0.00
May 15	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 16	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 17	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	
May 18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	
May 19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	
May 20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.14	0.00	0.00	0.00	0.00	0.14	0.01	0.00	
May 21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
May 22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.08	0.00	0.00	0.11	0.15	0.12	0.01	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.02	0.00	0.00
May 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00
May 27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May 30	0.00	0.00	0.00	0.00	0.00	0.76	0.79	0.49	0.38	0.24	S	0.31	0.33	0.31	0.27	0.26	0.25	0.31	0.34	0.39	0.38	0.39	0.38	0.39	0.38	0.37	0.00	0.79	0.30	0.00	0.30	0.00	0.00	
May 31	0.36	0.34	0.25	0.14	0.08	0.11	0.09	0.09	0.12	S	0.09	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.36	0.08	
Diurnal Maximum	0.36	0.34	0.25	0.14	0.08	0.76	0.79	0.49	0.38	0.24	0.09	0.31	0.33	0.31	0.27	0.26	0.25	0.31	0.34	0.39	0.38	0.39	0.38	0.37	0.00	0.36	0.34	0.25	0.14	0.08	0.76	0.79	0.49	
Diurnal Average	0.02	0.01	0.01	0.00	0.00	0.03	0.03	0.02	0.02	0.01	0.00	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.01	0.02	0.00	0.01	0.02	0.01	0.02	0.01	0.02	0.02	

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 Instantaneous Maximum for NMHC - 986b Station





PEACE RIVER AREA MONITORING PROGRAM

986b Station - May 2019

Summary of Hourly Instantaneous Maximums

WIND SPEED (WS) in km/h

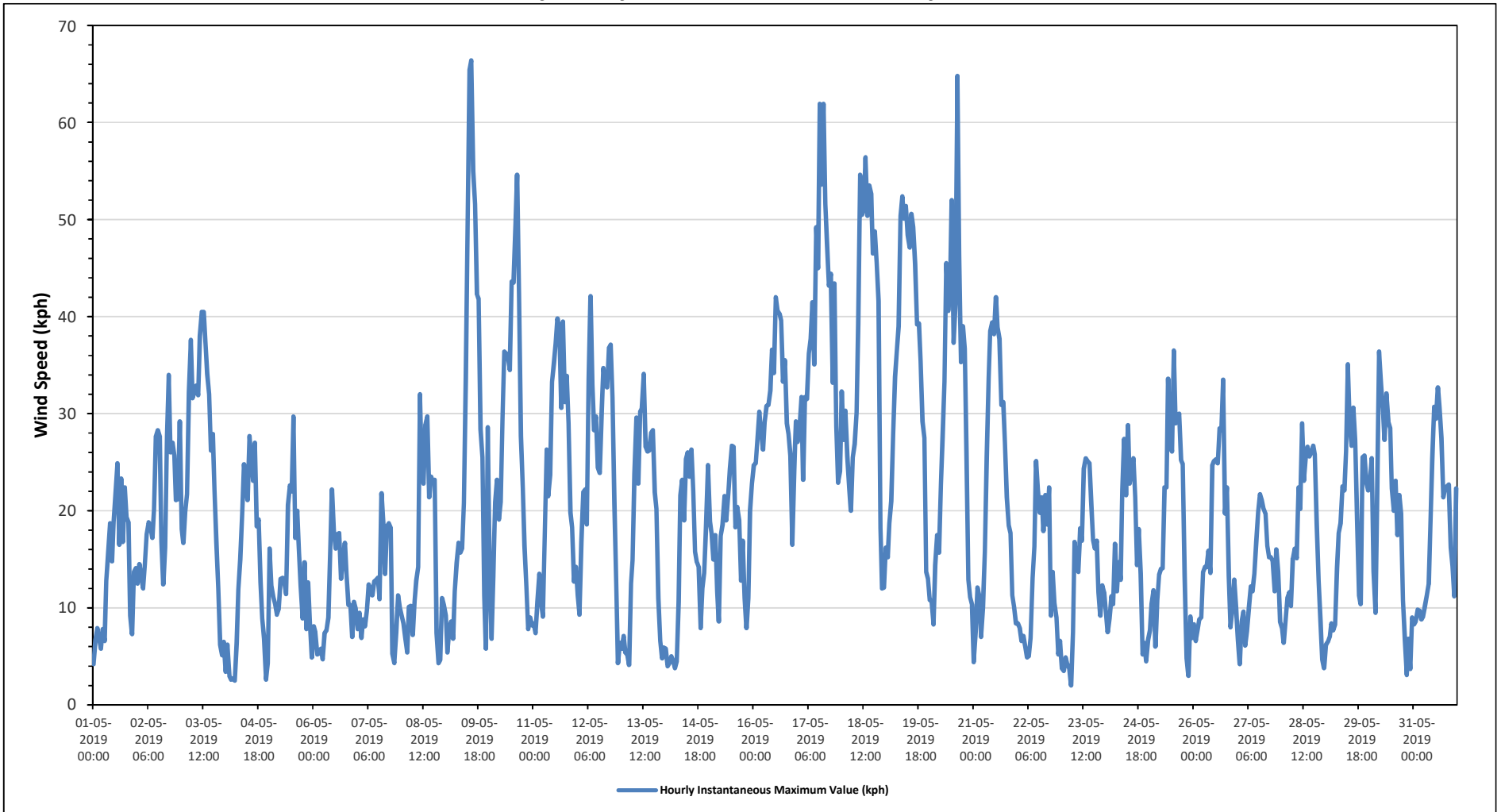
Maximum Hourly Value:	66.4 kph	on May 9 at hour 14	Hours in Service:	744
Maximum Daily Value:	39.0 kph	on May 17	Hours of Data:	744
Minimum Hourly Value:	2.0 kph	on May 23 at hour 5	Hours of Missing Data:	0
Minimum Daily Value:	11.4 kph	on May 6	Hours of Calibration:	0
Monthly Average:	20.4 kph		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
May 1	4.2	6.7	7.9	7.0	5.8	7.8	6.6	12.8	15.6	18.7	14.8	18.9	21.7	24.9	16.5	23.3	16.8	22.4	19.3	18.8	9.2	7.3	13.7	14.1	4.2	24.9	14.0
May 2	12.5	14.5	13.1	12.0	14.5	17.6	18.8	18.4	17.2	20.1	27.7	28.3	27.7	16.8	12.4	16.2	27.7	34.0	26.0	27.0	25.7	21.1	21.2	29.2	12.0	34.0	20.8
May 3	18.1	16.7	19.9	21.7	32.2	37.6	31.6	32.2	32.9	31.9	38.0	40.5	40.5	37.1	34.1	32.0	26.2	27.9	22.2	16.8	12.0	6.2	5.1	6.5	5.1	40.5	25.8
May 4	3.4	6.2	3.0	2.6	2.7	2.5	6.4	11.9	15.0	19.6	24.8	22.8	21.1	27.7	25.3	23.1	27.0	18.4	19.1	12.6	8.9	6.8	2.6	4.3	2.5	27.7	13.2
May 5	16.1	12.3	11.1	10.4	9.3	9.9	13.0	13.1	12.8	11.4	20.6	22.6	22.0	29.7	17.2	20.0	15.6	12.3	8.9	14.7	7.8	12.6	8.3	4.9	4.9	29.7	14.0
May 6	8.1	7.5	5.2	5.3	5.8	4.7	7.4	7.7	9.0	16.1	22.2	18.0	16.1	17.6	17.7	13.0	15.1	16.7	13.4	10.3	7.0	10.6	9.9	4.7	22.2	11.4	
May 7	7.8	9.5	6.9	8.8	8.1	9.7	12.4	11.6	11.3	12.7	12.9	13.1	10.9	21.8	18.7	13.5	18.4	18.7	18.2	5.3	4.3	7.5	11.3	10.0	4.3	21.8	11.8
May 8	9.2	8.4	6.9	5.4	10.1	10.2	7.2	10.7	12.8	14.2	32.0	23.7	22.8	28.9	29.7	21.4	23.5	23.0	23.2	7.4	4.3	4.6	11.0	10.3	4.3	32.0	15.0
May 9	9.2	5.4	7.9	8.6	6.8	11.7	14.6	16.7	15.7	16.1	20.8	33.6	50.3	65.4	66.4	55.0	51.6	42.3	41.8	28.4	25.5	11.3	5.8	28.6	5.4	66.4	26.6
May 10	13.1	6.8	13.2	20.9	23.2	19.1	20.9	29.5	36.4	36.2	35.7	34.5	43.6	43.5	49.5	54.6	42.4	27.7	22.3	16.4	12.2	7.8	9.0	8.2	6.8	54.6	26.1
May 11	8.4	7.4	10.6	13.5	10.7	9.1	17.1	26.3	21.5	23.7	33.3	35.2	37.2	39.8	38.5	30.6	39.5	31.2	33.9	29.0	19.8	18.3	12.7	14.2	7.4	39.8	23.4
May 12	11.3	9.3	16.8	21.9	22.2	18.6	33.6	42.1	33.0	28.3	29.7	24.4	23.9	30.2	34.7	33.0	32.7	36.8	37.1	31.7	20.8	12.2	4.3	6.4	4.3	42.1	24.8
May 13	5.8	7.1	5.4	5.2	4.1	12.5	14.9	23.8	29.6	22.8	30.2	30.5	34.1	26.6	26.1	26.2	28.0	28.3	21.9	20.2	11.0	6.6	4.8	5.9	4.1	34.1	18.0
May 14	5.8	4.0	4.3	5.0	4.6	3.8	4.5	10.6	21.6	23.2	19.0	25.3	26.0	23.5	26.3	22.0	15.8	14.7	14.2	7.9	12.0	13.6	18.5	24.7	3.8	26.3	14.6
May 15	18.9	17.7	15.0	17.5	11.7	8.6	17.4	18.6	21.5	19.0	21.4	24.3	26.7	26.6	18.3	20.4	19.0	12.8	16.9	11.0	7.9	11.0	20.0	22.8	7.9	26.7	17.7
May 16	24.7	24.9	27.1	30.2	28.2	26.3	29.1	30.8	30.9	32.4	36.6	34.2	42.0	40.6	40.3	39.6	33.3	35.5	29.0	27.9	25.7	16.5	24.2	29.2	16.5	42.0	30.8
May 17	27.1	28.8	31.7	23.2	31.7	31.5	36.2	37.7	41.5	35.1	49.2	45.0	61.9	53.6	61.9	51.6	47.6	43.2	44.4	33.2	43.4	28.7	22.9	24.1	22.9	61.9	39.0
May 18	32.3	27.3	30.3	25.6	22.3	20.0	25.5	26.9	30.1	39.3	54.6	50.5	51.1	56.4	50.4	53.5	52.6	46.5	48.8	45.6	41.6	18.2	12.0	12.1	12.0	56.4	36.4
May 19	16.2	15.2	18.7	21.0	27.9	33.8	36.3	39.0	50.4	52.4	50.1	51.4	48.4	47.1	50.6	49.2	45.4	39.2	39.3	35.4	29.2	27.5	13.7	13.0	13.0	52.4	35.4
May 20	10.8	10.7	8.3	14.4	17.5	15.7	22.7	27.5	33.3	45.5	40.6	43.1	52.0	37.3	41.5	64.8	46.3	35.3	39.0	36.7	26.2	12.9	11.1	10.3	8.3	64.8	29.3
May 21	4.4	7.5	12.1	11.2	7.0	10.1	15.8	25.6	33.7	38.5	39.4	38.2	42.0	38.9	37.7	30.9	31.2	27.0	21.4	18.5	17.7	11.3	10.1	8.4	4.4	42.0	22.4
May 22	8.4	7.9	6.6	7.1	6.0	4.9	5.0	6.9	13.1	16.3	25.1	22.1	19.8	21.4	17.9	21.6	18.6	22.4	9.2	13.7	10.5	9.0	5.2	6.6	4.9	25.1	12.7
May 23	3.8	3.5	4.9	4.2	3.8	2.0	7.5	16.8	15.0	13.7	18.2	16.9	24.3	25.4	25.1	24.9	21.0	17.0	16.1	16.9	11.6	9.2	12.3	11.6	2.0	25.4	13.6
May 24	9.7	7.5	8.9	11.2	10.4	16.6	11.7	14.7	12.9	22.2	27.4	21.6	28.8	22.8	24.1	25.4	21.4	14.4	18.1	13.5	5.2	6.4	4.5	6.7	4.5	28.8	15.3
May 25	7.7	10.4	11.8	6.0	10.8	13.4	14.0	14.1	22.4	22.4	33.6	27.6	26.1	36.5	29.0	29.2	30.0	25.2	24.8	13.4	4.8	3.0	9.1	6.9	3.0	36.5	18.0
May 26	8.3	6.6	7.8	8.8	9.0	13.7	14.2	14.2	15.9	13.6	24.7	25.1	25.3	24.9	28.5	28.3	33.5	19.7	22.4	13.3	8.0	10.0	12.9	9.8	6.6	33.5	16.6
May 27	6.7	4.2	8.6	9.6	6.1	7.6	10.0	12.2	11.7	13.5	16.8	19.9	21.7	21.1	20.2	19.7	16.4	15.2	15.2	14.8	11.7	16.0	13.7	8.6	4.2	21.7	13.4
May 28	7.9	6.4	8.7	11.0	11.6	10.2	15.1	16.1	15.1	22.4	20.2	29.0	23.1	25.7	26.6	25.6	26.0	26.7	25.8	18.7	12.8	8.6	4.7	3.8	3.8	29.0	16.7
May 29	6.2	6.5	7.0	8.4	7.7	8.3	14.1	17.7	18.7	22.5	22.1	26.1	35.1	28.5	26.7	30.6	27.3	19.2	11.3	10.4	25.5	25.7	22.9	22.1	6.2	35.1	18.8
May 30	23.2	25.4	13.8	9.5	21.7	36.4	33.0	30.5	27.3	32.1	29.2	28.5	22.3	20.0	23.1	17.5	21.6	19.7	10.8	6.8	3.1	6.8	3.7	9.0	3.1	36.4	19.8
May 31	8.3	8.6	9.8	9.7	8.8	9.1	10.2	11.3	12.4	18.4	25.4	30.7	29.5	32.7	30.7	27.5	21.4	22.4	22.5	22.7	16.2	14.3	11.2	22.2	8.3	32.7	18.2
Diurnal Maximum	32.3	28.8	31.7	30.2	32.2	37.6	36.3	42.1	50.4	52.4	54.6	51.4	61.9	65.4	66.4	64.8	52.6	46.5	48.8	45.6	43.4	28.7	24.2	29.2			
Diurnal Average	11.5	11.0	11.7	12.2	13.0	14.3	17.0	20.3	22.3	24.3	28.9	29.2	31.5	32.0	31.2	30.5	28.8	25.7	23.8	19.3	15.6	12.2	11.4	13.0			

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

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

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



842b STATION



PEACE RIVER AREA MONITORING PROGRAM

842b Station - May 2019

Summary of Hourly Instantaneous Maximums

SULPHUR DIOXIDE (SO₂) in ppb

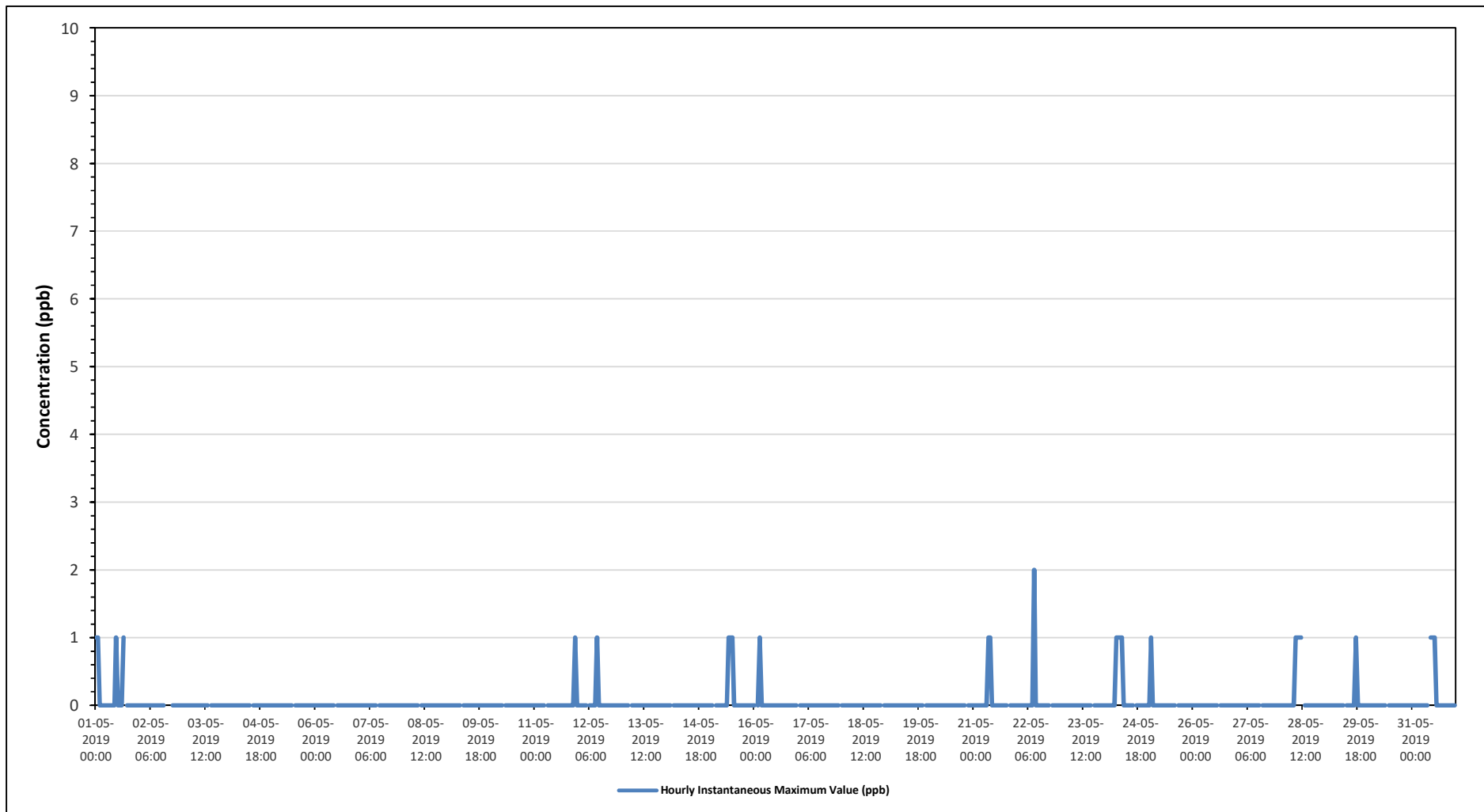
Maximum Hourly Value:	2 ppb on May 22 at hour 9	Hours in Service:	744
Maximum Daily Value:	0.2 ppb on May 1	Hours of Data:	709
Minimum Hourly Value:	0 ppb on May 1 at hour 0	Hours of Missing Data:	0
Minimum Daily Value:	0.0 ppb on May 2	Hours of Calibration:	35
Monthly Average:	0.0 ppb	Operational Uptime:	100.0

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

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

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

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





PEACE RIVER AREA MONITORING PROGRAM

842b Station - May 2019

Summary of Hourly Instantaneous Maximums

TOTAL REDUCED SULPHUR (TRS) in ppb

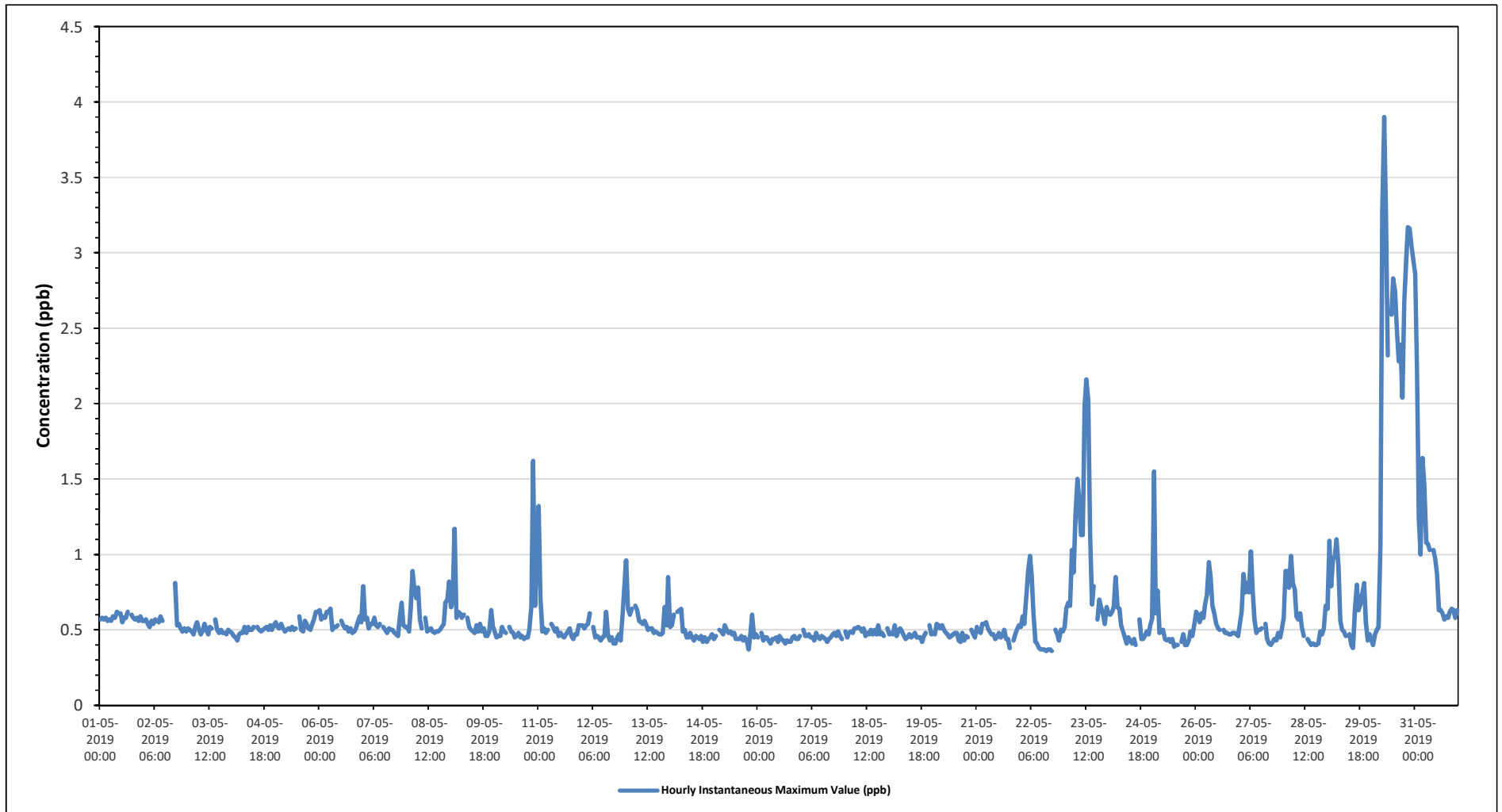
Maximum Hourly Value:	3.90 ppb on May 30 at hour 7	Hours in Service:	744
Maximum Daily Value:	2.24 ppb on May 30	Hours of Data:	707
Minimum Hourly Value:	0.36 ppb on May 22 at hour 14	Hours of Missing Data:	0
Minimum Daily Value:	0.44 ppb on May 16	Hours of Calibration:	37
Monthly Average:	0.62 ppb	Operational 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
May 1	0.57	0.58	0.57	0.58	0.56	0.57	0.56	0.59	0.58	0.62	0.61	0.61	0.55	0.58	0.58	0.62	S	0.6	0.58	0.57	0.58	0.56	0.59	0.56	0.55	0.62	0.58
May 2	0.56	0.57	0.54	0.52	0.56	0.54	0.57	0.56	0.55	0.59	0.56	C	C	C	C	C	C	0.81	0.53	0.54	0.51	0.49	0.51	0.49	0.47	0.81	0.56
May 3	0.51	0.5	0.49	0.47	0.52	0.55	0.5	0.47	0.49	0.54	0.5	0.47	0.52	0.51	S	C	C	0.57	0.5	0.48	0.5	0.48	0.47	0.5	0.49	0.47	0.50
May 4	0.48	0.46	0.45	0.43	0.47	0.48	0.48	0.52	0.48	0.52	0.5	0.5	0.52	S	S	0.52	0.5	0.49	0.5	0.51	0.52	0.5	0.53	0.5	0.53	0.43	0.50
May 5	0.55	0.52	0.51	0.54	0.51	0.49	0.5	0.51	0.5	0.52	0.5	0.51	S	S	0.59	0.5	0.49	0.56	0.54	0.51	0.5	0.54	0.57	0.62	0.62	0.49	0.53
May 6	0.63	0.57	0.59	0.58	0.62	0.62	0.64	0.5	0.52	0.52	0.53	S	S	0.56	0.53	0.51	0.52	0.49	0.51	0.48	0.49	0.51	0.55	0.59	0.55	0.48	0.55
May 7	0.79	0.57	0.58	0.51	0.54	0.54	0.58	0.53	0.52	0.54	S	S	0.52	0.5	0.48	0.51	0.5	0.5	0.48	0.47	0.46	0.59	0.68	0.53	0.52	0.46	0.54
May 8	0.52	0.49	0.64	0.89	0.76	0.71	0.78	0.57	0.51	S	S	0.58	0.49	0.5	0.51	0.49	0.48	0.49	0.49	0.5	0.52	0.54	0.68	0.7	0.82	0.48	0.59
May 9	0.65	0.7	1.17	0.58	0.62	0.61	0.58	0.6	S	S	0.58	0.52	0.5	0.49	0.48	0.53	0.49	0.54	0.49	0.51	0.46	0.46	0.49	0.63	0.52	0.46	0.57
May 10	0.49	0.45	0.46	0.46	0.52	0.49	0.48	S	S	0.52	0.49	0.48	0.45	0.46	0.48	0.45	0.46	0.44	0.45	0.45	0.5	0.65	1.62	0.66	1	0.44	0.56
May 11	1.32	0.71	0.49	0.51	0.48	0.5	S	S	0.54	0.52	0.49	0.51	0.46	0.48	0.46	0.45	0.47	0.49	0.51	0.46	0.44	0.47	0.47	0.53	0.53	0.44	0.53
May 12	0.53	0.51	0.53	0.54	0.61	S	S	0.52	0.45	0.46	0.45	0.43	0.45	0.46	0.62	0.47	0.43	0.45	0.41	0.41	0.45	0.47	0.43	0.61	0.8	0.41	0.50
May 13	0.96	0.64	0.6	0.64	S	S	0.66	0.63	0.56	0.55	0.54	0.56	0.53	0.5	0.51	0.51	0.48	0.49	0.48	0.47	0.47	0.48	0.65	0.53	0.85	0.47	0.58
May 14	0.52	0.53	0.6	S	S	0.62	0.63	0.64	0.49	0.5	0.45	0.45	0.48	0.45	0.43	0.46	0.45	0.44	0.46	0.42	0.45	0.42	0.44	0.45	0.47	0.42	0.49
May 15	0.44	0.46	S	S	0.5	0.49	0.47	0.53	0.5	0.48	0.49	0.47	0.48	0.44	0.44	0.44	0.46	0.43	0.45	0.43	0.37	0.49	0.6	0.45	0.47	0.37	0.47
May 16	0.45	S	0.48	0.43	0.45	0.45	0.43	0.41	0.44	0.44	0.45	0.42	0.46	0.44	0.43	0.41	0.43	0.42	0.42	0.45	0.46	0.44	0.44	0.46	0.41	0.48	0.44
May 17	S	0.5	0.46	0.46	0.47	0.45	0.45	0.43	0.48	0.45	0.44	0.46	0.45	0.44	0.42	0.44	0.45	0.47	0.48	0.46	0.49	0.46	0.44	S	0.42	0.50	0.46
May 18	0.49	0.45	0.48	0.49	0.48	0.51	0.51	0.52	0.51	0.49	0.51	0.46	0.48	0.47	0.5	0.47	0.5	0.47	0.53	0.47	0.48	0.46	S	0.51	0.45	0.53	0.49
May 19	0.47	0.48	0.47	0.53	0.46	0.49	0.51	0.49	0.46	0.44	0.45	0.47	0.45	0.46	0.48	0.45	0.45	0.45	0.42	0.46	0.48	S	0.53	0.47	0.42	0.53	0.47
May 20	0.48	0.47	0.54	0.53	0.51	0.53	0.5	0.48	0.47	0.45	0.46	0.47	0.48	0.48	0.43	0.42	0.48	0.43	0.46	0.45	S	0.5	0.47	0.45	0.42	0.54	0.48
May 21	0.52	0.49	0.48	0.54	0.54	0.55	0.51	0.49	0.47	0.47	0.44	0.45	0.48	0.45	0.46	0.5	0.44	0.44	0.38	S	0.43	0.47	0.5	0.53	0.38	0.55	0.48
May 22	0.52	0.59	0.54	0.71	0.88	0.99	0.86	0.6	0.42	0.41	0.38	0.37	0.37	0.37	0.36	0.37	0.37	0.36	S	0.5	0.47	0.43	0.5	0.49	0.36	0.99	0.52
May 23	0.52	0.64	0.68	0.66	1.03	0.88	1.26	1.5	1.37	1.13	1.13	1.98	2.16	2.02	1.13	0.67	0.79	S	0.57	0.7	0.65	0.61	0.54	0.65	0.52	2.16	1.01
May 24	0.61	0.6	0.62	0.65	0.85	0.65	0.64	0.53	0.49	0.45	0.41	0.45	0.43	0.41	0.44	0.4	S	0.57	0.44	0.44	0.46	0.49	0.47	0.53	0.40	0.85	0.52
May 25	0.58	1.55	0.61	0.76	0.48	0.49	0.5	0.44	0.43	0.44	0.42	0.44	0.39	0.4	0.4	S	0.42	0.47	0.4	0.4	0.43	0.49	0.46	0.53	0.39	1.55	0.52
May 26	0.62	0.6	0.55	0.61	0.58	0.67	0.73	0.95	0.85	0.66	0.61	0.54	0.51	0.5	S	0.5	0.48	0.48	0.47	0.47	0.48	0.48	0.47	0.46	0.46	0.95	0.58
May 27	0.54	0.62	0.87	0.75	0.81	0.75	1.02	0.75	0.57	0.48	0.5	0.5	0.51	S	0.54	0.44	0.41	0.4	0.42	0.44	0.43	0.48	0.45	0.5	0.40	1.02	0.57
May 28	0.58	0.89	0.89	0.78	0.99	0.81	0.77	0.59	0.57	0.61	0.52	0.46	S	0.44	0.42	0.4	0.41	0.4	0.4	0.41	0.49	0.47	0.51	0.66	0.40	0.99	0.59
May 29	0.64	1.09	0.79	0.97	0.99	1.1	0.92	0.56	0.5	0.49	0.46	S	0.47	0.4	0.38	0.63	0.8	0.63	0.67	0.74	0.81	0.55	0.43	0.47	0.38	1.10	0.67
May 30	0.43	0.4	0.47	0.5	0.52	1.06	3.28	3.9	3.25	2.32	S	2.59	2.83	2.74	2.48	2.28	2.39	2.04	2.68	2.95	3.17	3.16	3.04	2.96	0.40	3.90	2.24
May 31	2.86	2.23	1.24	1	1.64	1.46	1.08	1.07	1.03	S	1.03	0.97	0.87	0.63	0.63	0.61	0.57	0.59	0.58	0.62	0.64	0.63	0.58	0.63	0.57	2.86	1.01
Diurnal Maximum	2.86	2.23	1.24	1.00	1.64	1.46	3.28	3.90	3.25	2.32	1.13	2.59	2.83	2.74	2.48	2.28	2.39	2.04	2.68	2.95	3.17	3.16	3.04	2.96			
Diurnal Average	0.66	0.66	0.61	0.60	0.65	0.66	0.73	0.70	0.65	0.59	0.53	0.62	0.63	0.62	0.57	0.55	0.56	0.54	0.55	0.57	0.60	0.65	0.61	0.65			

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

842b Station - May 2019

Summary of Hourly Instantaneous Maximums

TOTAL HYDROCARBONS (THC) in ppm

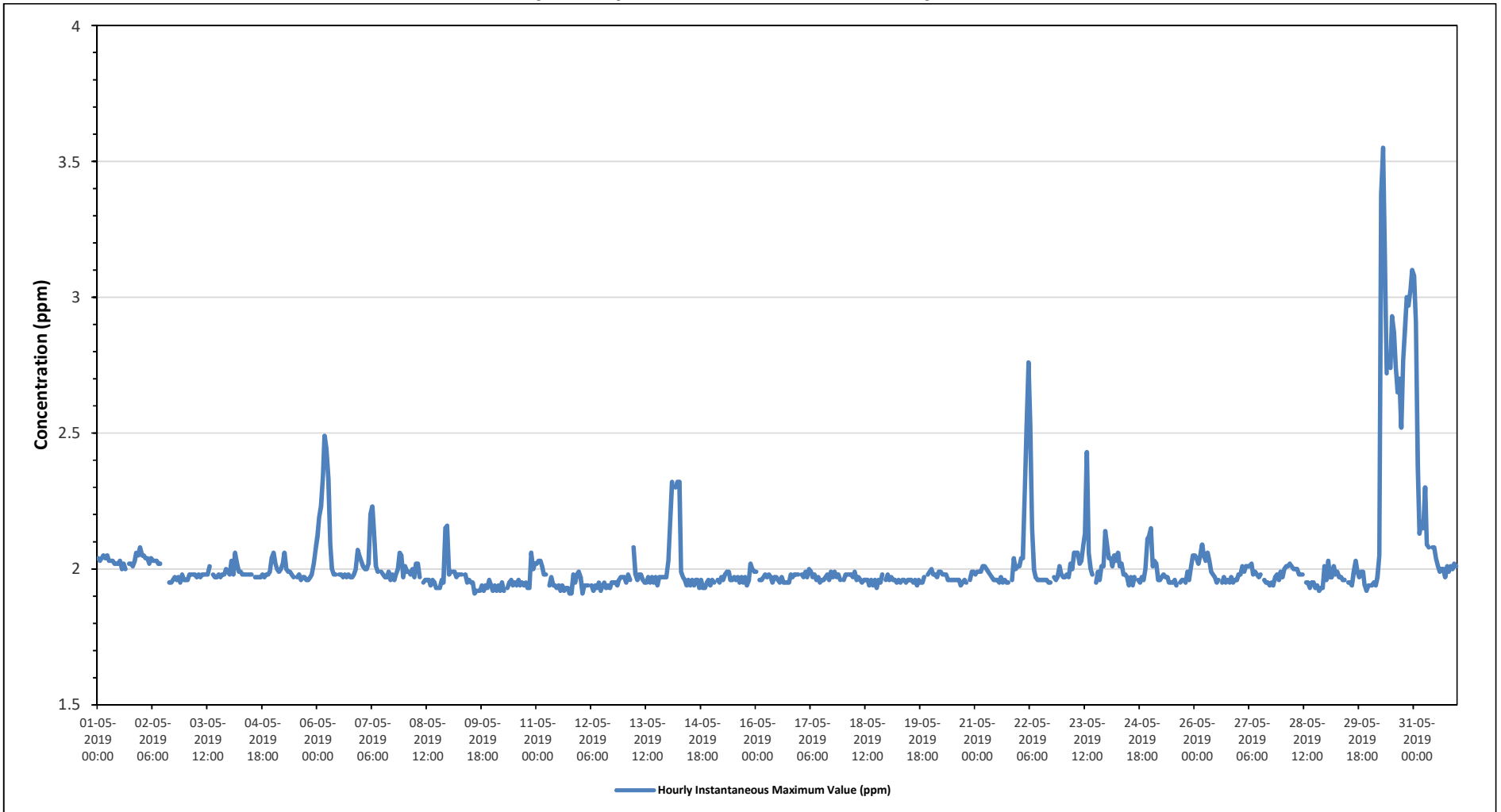
Maximum Hourly Value:	3.55 ppm on May 30 at hour 7	Hours in Service:	744
Maximum Daily Value:	2.67 ppm on May 30	Hours of Data:	709
Minimum Hourly Value:	1.91 ppm on May 9 at hour 14	Hours of Missing Data:	0
Minimum Daily Value:	1.94 ppm on May 12	Hours of Calibration:	35
Monthly Average:	2.02 ppm	Operational 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	
May 1	2.04	2.03	2.04	2.05	2.04	2.05	2.03	2.03	2.03	2.02	2.02	2.02	2.03	2.00	2.02	2.00	S	2.02	2.02	2.01	2.03	2.06	2.05	2.08	2.00	2.08	2.03	
May 2	2.05	2.05	2.04	2.04	2.02	2.04	2.03	2.03	2.03	2.02	2.02	C	C	C	C	S	1.95	1.95	1.96	1.97	1.96	1.97	1.95	1.98	1.96	1.95	2.05	2.00
May 3	1.96	1.96	1.98	1.98	1.98	1.98	1.97	1.98	1.97	1.98	1.98	1.98	1.98	2.01	S	1.98	1.97	1.97	1.98	1.97	1.98	1.98	2.00	1.99	1.96	2.01	1.98	
May 4	1.98	2.03	1.98	2.06	2.02	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.98	S	1.97	1.97	1.97	1.97	1.98	1.97	1.98	1.98	1.99	2.04	1.97	2.06	1.99	
May 5	2.06	2.02	2.00	1.99	2.00	2.02	2.06	2.00	1.99	1.99	1.98	1.97	S	1.97	1.98	1.96	1.97	1.97	1.96	1.96	1.97	1.98	2.02	2.07	1.96	2.07	2.00	
May 6	2.12	2.19	2.23	2.34	2.49	2.44	2.33	2.09	2.00	1.98	1.98	S	1.98	1.98	1.97	1.98	1.97	1.98	1.97	1.97	1.98	2.00	2.07	2.05	1.97	2.49	2.09	
May 7	2.03	2.01	2.00	2.00	2.02	2.20	2.23	2.14	2.01	1.99	S	1.99	1.98	1.97	1.97	1.99	1.96	1.98	1.96	1.98	2.00	2.06	2.05	1.97	1.96	2.23	2.02	
May 8	2.01	1.99	1.99	1.98	2.00	1.97	2.02	2.02	1.97	S	1.95	1.96	1.96	1.96	1.94	1.96	1.95	1.93	1.93	1.93	1.96	1.95	2.15	2.16	1.93	2.16	1.98	
May 9	1.98	1.99	1.99	1.99	1.97	1.98	1.98	1.98	S	1.98	1.95	1.96	1.95	1.95	1.91	1.92	1.92	1.92	1.94	1.92	1.94	1.93	1.96	1.94	1.91	1.99	1.95	
May 10	1.92	1.94	1.92	1.94	1.92	1.95	1.92	S	1.93	1.95	1.96	1.94	1.95	1.94	1.96	1.94	1.95	1.94	1.95	1.93	1.93	2.06	2.00	2.02	1.92	2.06	1.95	
May 11	2.02	2.03	2.03	2.01	1.98	1.98	S	1.94	1.97	1.94	1.94	1.93	1.94	1.92	1.94	1.92	1.93	1.93	1.91	1.91	1.98	1.95	1.98	1.99	1.91	2.03	1.96	
May 12	1.97	1.91	1.94	1.94	1.94	S	1.94	1.92	1.94	1.93	1.95	1.92	1.94	1.95	1.93	1.94	1.93	1.95	1.95	1.95	1.94	1.96	1.97	1.97	1.91	1.97	1.94	
May 13	1.97	1.95	1.98	1.96	S	2.08	1.98	1.96	1.98	1.98	1.96	1.95	1.95	1.97	1.95	1.97	1.95	1.97	1.94	1.97	1.97	1.97	1.97	1.97	1.94	2.08	1.97	
May 14	2.03	2.17	2.32	S	2.30	2.32	2.32	1.99	1.97	1.96	1.94	1.96	1.94	1.96	1.94	1.96	1.96	1.93	1.96	1.93	1.93	1.95	1.96	1.94	1.93	2.32	2.03	
May 15	1.96	1.95	S	1.96	1.95	1.97	1.96	1.98	1.99	1.99	1.96	1.96	1.97	1.96	1.97	1.95	1.97	1.95	1.97	1.94	1.96	2.02	2.00	1.99	1.94	2.02	1.97	
May 16	1.99	S	1.96	1.96	1.97	1.98	1.97	1.98	1.97	1.95	1.97	1.97	1.96	1.95	1.97	1.95	1.95	1.95	1.98	1.97	1.98	1.98	1.98	1.98	1.95	1.99	1.97	
May 17	S	1.98	1.97	1.99	1.97	2.00	1.99	1.97	1.98	1.96	1.97	1.95	1.96	1.96	1.97	1.98	1.96	1.99	1.97	1.99	1.97	1.98	1.96	S	1.95	2.00	1.97	
May 18	1.96	1.98	1.98	1.98	1.98	1.97	1.99	1.96	1.97	1.96	1.95	1.96	1.96	1.96	1.94	1.96	1.94	1.96	1.93	1.96	1.95	1.98	S	1.96	1.93	1.99	1.96	
May 19	1.98	1.96	1.97	1.96	1.96	1.95	1.96	1.95	1.96	1.96	1.95	1.96	1.96	1.96	1.95	1.96	1.94	1.96	1.95	1.95	1.97	S	1.98	1.99	1.94	1.99	1.96	
May 20	2.00	1.98	1.98	1.97	1.99	1.99	1.98	1.98	1.98	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.94	1.95	1.96	1.95	S	1.96	1.99	1.99	1.94	2.00	1.97	
May 21	1.98	1.99	1.99	1.99	2.01	2.01	2.00	1.99	1.98	1.97	1.96	1.96	1.96	1.95	1.97	1.95	1.96	1.95	1.95	1.95	S	1.96	2.04	2.00	2.01	1.95	2.04	1.98
May 22	2.01	2.04	2.04	2.28	2.52	2.76	2.53	2.15	2.00	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.95	S	1.97	1.96	1.97	2.01	1.98	1.95	2.76	2.08	
May 23	1.97	1.97	1.98	1.97	2.02	2.00	2.06	2.06	2.06	2.02	2.03	2.09	2.13	2.43	2.06	2.00	1.98	S	1.95	1.99	1.96	2.01	2.01	2.14	1.95	2.43	2.04	
May 24	2.09	2.04	2.04	2.01	2.05	2.03	2.06	2.01	2.02	1.98	1.98	1.97	1.94	1.97	1.94	1.97	S	1.95	1.96	1.95	1.97	1.96	2.00	2.11	2.12	1.94	2.12	2.01
May 25	2.15	2.01	2.03	2.02	1.96	1.96	1.97	1.98	1.97	1.97	1.95	1.95	1.95	1.96	1.94	S	1.95	1.96	1.96	1.95	1.99	1.96	2.01	2.05	1.94	2.15	1.98	
May 26	2.05	2.04	2.02	2.05	2.09	2.05	2.03	2.06	2.03	1.99	1.98	1.97	1.95	1.96	S	1.95	1.97	1.95	1.96	1.95	1.97	1.95	1.96	1.96	1.95	2.09	2.00	
May 27	1.98	1.98	2.01	1.99	2.01	2.01	2.01	2.02	1.98	1.99	1.98	1.97	1.98	S	1.96	1.95	1.95	1.94	1.95	1.94	1.97	1.98	1.96	1.99	1.94	2.02	1.98	
May 28	1.97	2.00	2.01	2.01	2.02	2.01	2.00	2.00	2.00	1.98	1.98	1.98	S	1.95	1.95	1.93	1.95	1.93	1.94	1.92	1.93	1.93	2.01	1.92	2.02	2.02	1.97	
May 29	1.96	2.03	1.97	1.97	2.01	1.98	1.99	1.97	1.97	1.96	1.96	S	1.95	1.95	1.94	1.99	2.03	1.99	1.97	1.99	1.99	1.94	1.92	1.94	1.92	2.03	1.97	
May 30	1.94	1.94	1.95	1.94	1.97	2.05	3.38	3.55	3.15	2.72	S	2.74	2.93	2.87	2.74	2.65	2.70	2.52	2.77	2.89	3.00	2.97	3.03	3.10	1.94	3.55	2.67	
May 31	3.08	2.91	2.38	2.13	2.17	2.15	2.30	2.09	2.08	S	2.08	2.08	2.04	2.01	1.99	2.00	2.00	1.97	2.01	1.99	2.01	2.00	2.02	2.01	1.97	3.08	2.15	
Diurnal Maximum	3.08	2.91	2.38	2.34	2.52	2.76	3.38	3.55	3.15	2.72	2.08	2.74	2.93	2.87	2.74	2.65	2.70	2.52	2.77	2.89	3.00	2.97	3.03	3.10				
Diurnal Average	2.04	2.04	2.02	2.02	2.04	2.06	2.10	2.06	2.03	2.00	1.97	2.00	2.01	2.01	1.99	1.99	1.98	1.98	1.99	1.99	2.00	2.02	2.03	2.05				

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 THC - 842b Station





PEACE RIVER AREA MONITORING PROGRAM

842b Station - May 2019

Summary of Hourly Instantaneous Maximums

METHANE (CH4) in ppm

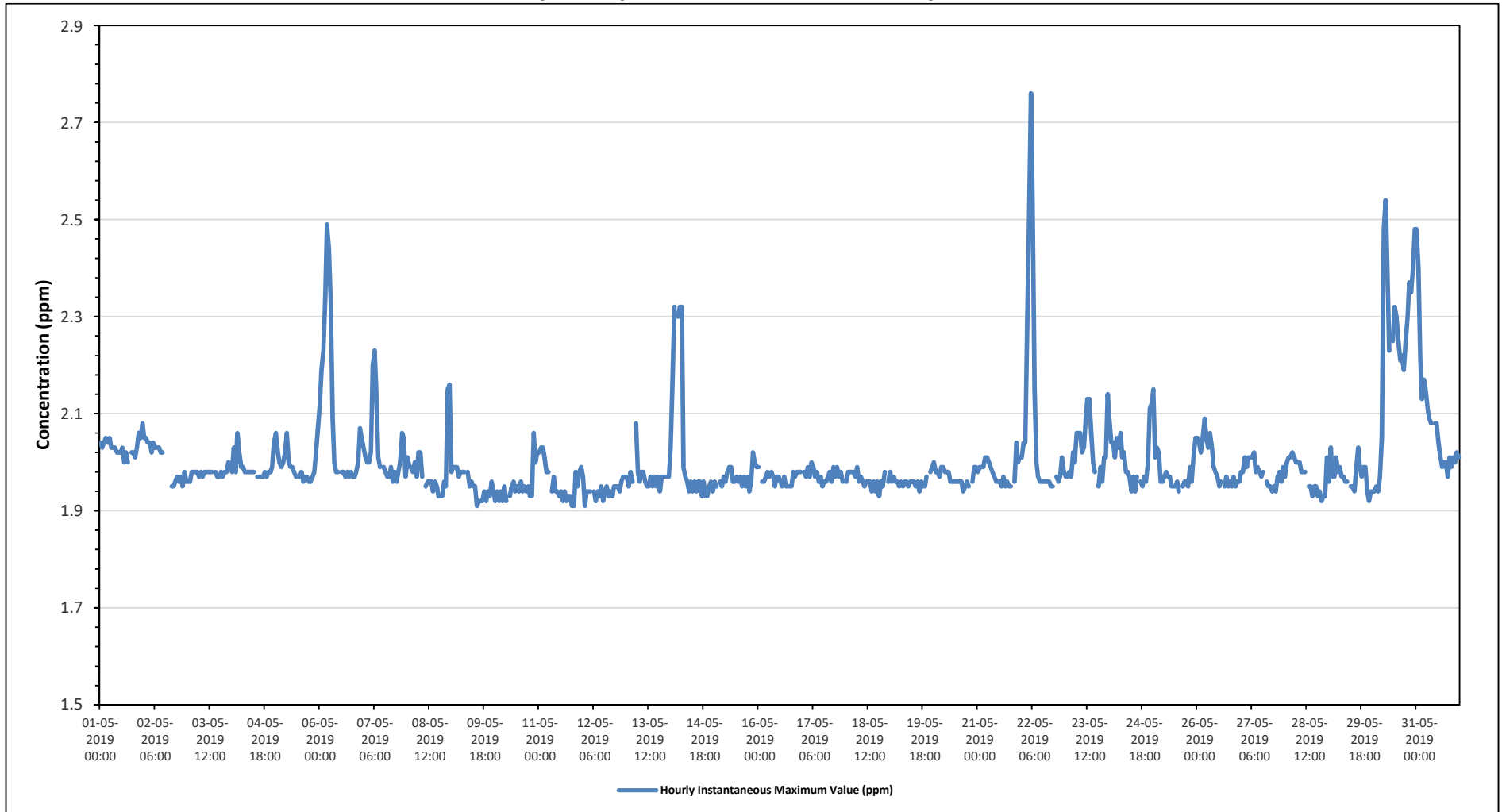
Maximum Hourly Value:	2.76 ppm on May 22 at hour 5	Hours in Service:	744
Maximum Daily Value:	2.23 ppm on May 30	Hours of Data:	709
Minimum Hourly Value:	1.91 ppm on May 9 at hour 14	Hours of Missing Data:	0
Minimum Daily Value:	1.94 ppm on May 12	Hours of Calibration:	35
Monthly Average:	2.00 ppm	Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23	
May 1	2.04	2.03	2.04	2.05	2.04	2.05	2.03	2.03	2.03	2.02	2.02	2.02	2.03	2.00	2.02	2.00	S	2.02	2.02	2.01	2.03	2.06	2.05	2.08	2.00	2.08	2.03	
May 2	2.05	2.05	2.04	2.04	2.02	2.04	2.03	2.03	2.03	2.02	2.02	C	C	C	C	1.95	1.95	1.96	1.97	1.96	1.97	1.95	1.98	1.96	1.95	2.05	2.00	
May 3	1.96	1.96	1.98	1.98	1.98	1.98	1.97	1.98	1.97	1.98	1.98	1.98	1.98	1.98	S	1.98	1.97	1.97	1.98	1.97	1.98	1.98	2.00	1.99	1.96	2.00	1.98	
May 4	1.98	2.03	1.98	2.06	2.02	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.98	S	1.97	1.97	1.97	1.97	1.98	1.97	1.98	1.98	1.99	2.04	1.97	2.06	1.99	
May 5	2.06	2.02	2.00	1.99	2.00	2.02	2.06	2.00	1.99	1.99	1.98	1.97	S	1.97	1.98	1.96	1.97	1.97	1.96	1.96	1.97	1.98	2.02	2.07	1.96	2.07	2.00	
May 6	2.12	2.19	2.23	2.34	2.49	2.44	2.33	2.09	2.00	1.98	1.98	S	1.98	1.98	1.97	1.98	1.97	1.98	1.97	1.97	1.98	2.00	2.07	2.05	1.97	2.49	2.09	
May 7	2.03	2.01	2.00	2.00	2.02	2.20	2.23	2.14	2.01	1.99	S	1.99	1.98	1.97	1.97	1.99	1.96	1.98	1.96	1.98	2.00	2.06	2.05	1.97	1.96	2.23	2.02	
May 8	2.01	1.99	1.99	1.98	2.00	1.97	2.02	2.02	1.97	S	1.95	1.96	1.96	1.96	1.94	1.96	1.95	1.93	1.93	1.93	1.96	1.95	2.15	2.16	1.93	2.16	1.98	
May 9	1.98	1.99	1.99	1.99	1.97	1.98	1.98	S	1.98	1.95	1.95	1.96	1.95	1.95	1.91	1.92	1.92	1.92	1.94	1.92	1.94	1.93	1.96	1.94	1.91	1.99	1.95	
May 10	1.92	1.94	1.92	1.94	1.92	1.95	1.92	S	1.93	1.95	1.96	1.94	1.95	1.94	1.96	1.94	1.95	1.94	1.95	1.93	1.93	2.06	2.00	2.02	1.92	2.06	1.95	
May 11	2.02	2.03	2.03	2.01	1.98	1.98	S	1.94	1.97	1.94	1.94	1.93	1.94	1.92	1.94	1.92	1.93	1.93	1.91	1.91	1.98	1.95	1.98	1.99	1.91	2.03	1.96	
May 12	1.97	1.91	1.94	1.94	1.94	S	1.94	1.92	1.94	1.93	1.95	1.92	1.94	1.95	1.93	1.94	1.93	1.95	1.95	1.95	1.94	1.96	1.97	1.97	1.91	1.97	1.94	
May 13	1.97	1.95	1.98	1.96	S	2.08	1.98	1.96	1.98	1.98	1.96	1.95	1.95	1.97	1.95	1.97	1.95	1.97	1.94	1.97	1.97	1.97	1.97	1.97	1.94	2.08	1.97	
May 14	2.03	2.17	2.32	S	2.30	2.32	2.32	1.99	1.97	1.96	1.94	1.96	1.94	1.96	1.94	1.96	1.96	1.93	1.96	1.93	1.93	1.95	1.96	1.94	1.93	2.32	2.03	
May 15	1.96	1.95	S	1.96	1.95	1.97	1.96	1.98	1.99	1.99	1.96	1.96	1.97	1.96	1.97	1.95	1.97	1.95	1.97	1.94	1.96	2.02	2.00	1.99	1.94	2.02	1.97	
May 16	1.99	S	1.96	1.96	1.97	1.98	1.97	1.98	1.97	1.95	1.97	1.96	1.95	1.97	1.95	1.95	1.95	1.95	1.98	1.97	1.98	1.98	1.98	1.98	1.95	1.99	1.97	
May 17	S	1.98	1.97	1.99	1.97	2.00	1.99	1.97	1.98	1.96	1.97	1.95	1.96	1.96	1.97	1.98	1.96	1.99	1.97	1.99	1.97	1.98	1.96	S	1.95	2.00	1.97	
May 18	1.96	1.98	1.98	1.98	1.98	1.97	1.99	1.96	1.97	1.96	1.95	1.96	1.96	1.96	1.94	1.96	1.94	1.96	1.93	1.96	1.95	1.98	S	1.96	1.93	1.99	1.96	
May 19	1.98	1.96	1.97	1.96	1.96	1.95	1.96	1.95	1.96	1.96	1.95	1.96	1.96	1.96	1.95	1.96	1.94	1.96	1.95	1.95	1.97	S	1.98	1.99	1.94	1.99	1.96	
May 20	2.00	1.98	1.98	1.97	1.99	1.99	1.98	1.98	1.98	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.94	1.95	1.96	S	1.96	1.99	1.99	1.94	2.00	1.97	1.97	
May 21	1.98	1.99	1.99	1.99	2.01	2.01	2.00	1.99	1.98	1.97	1.96	1.96	1.96	1.95	1.97	1.95	1.96	1.95	1.95	S	1.96	2.04	2.00	2.01	1.95	2.04	1.98	
May 22	2.01	2.04	2.04	2.28	2.52	2.76	2.53	2.15	2.00	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.95	S	1.97	1.96	1.97	2.01	1.98	1.95	2.76	2.08	
May 23	1.97	1.97	1.98	1.97	2.02	2.00	2.06	2.06	2.06	2.02	2.03	2.09	2.13	2.13	2.06	2.00	1.98	S	1.95	1.99	1.96	2.01	2.01	2.14	1.95	2.14	2.03	
May 24	2.09	2.04	2.04	2.01	2.05	2.03	2.06	2.01	2.02	1.98	1.98	1.97	1.94	1.97	1.94	1.97	S	1.95	1.96	1.95	1.97	1.96	2.00	2.11	2.12	1.94	2.12	2.01
May 25	2.15	2.01	2.03	2.02	1.96	1.96	1.97	1.98	1.97	1.97	1.95	1.95	1.95	1.96	1.94	S	1.95	1.96	1.96	1.95	1.99	1.96	2.01	2.05	1.94	2.15	1.98	
May 26	2.05	2.04	2.02	2.05	2.09	2.05	2.03	2.06	2.03	1.99	1.98	1.97	1.95	1.96	S	1.95	1.97	1.95	1.96	1.95	1.97	1.95	1.96	1.96	1.95	2.09	2.00	
May 27	1.98	1.98	2.01	1.99	2.01	2.01	2.01	2.02	1.98	1.99	1.98	1.97	1.98	S	1.96	1.95	1.95	1.94	1.95	1.94	1.97	1.98	1.96	1.99	1.94	2.02	1.98	
May 28	1.97	2.00	2.01	2.01	2.02	2.01	2.00	2.00	2.00	1.98	1.98	1.98	S	1.95	1.95	1.93	1.95	1.93	1.94	1.92	1.93	1.93	2.01	1.92	2.02	2.02	1.97	
May 29	1.96	2.03	1.97	1.97	2.01	1.98	1.99	1.97	1.97	1.96	1.96	S	1.95	1.95	1.94	1.99	2.03	1.99	1.97	1.99	1.99	1.94	1.92	1.94	1.92	2.03	1.97	
May 30	1.94	1.94	1.95	1.94	1.97	2.05	2.48	2.54	2.41	2.23	S	2.25	2.32	2.30	2.25	2.21	2.22	2.19	2.25	2.30	2.37	2.35	2.40	2.48	1.94	2.54	2.23	
May 31	2.48	2.40	2.21	2.13	2.17	2.15	2.11	2.09	2.08	S	2.08	2.08	2.04	2.01	1.99	2.00	2.00	1.97	2.01	1.99	2.01	2.00	2.02	2.01	1.97	2.48	2.09	
Diurnal Maximum	2.48	2.40	2.32	2.34	2.52	2.76	2.53	2.54	2.41	2.23	2.08	2.25	2.32	2.30	2.25	2.21	2.22	2.19	2.25	2.30	2.37	2.35	2.40	2.48				
Diurnal Average	2.02	2.02	2.02	2.02	2.04	2.06	2.06	2.03	2.00	1.98	1.97	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.99	2.01	2.03				

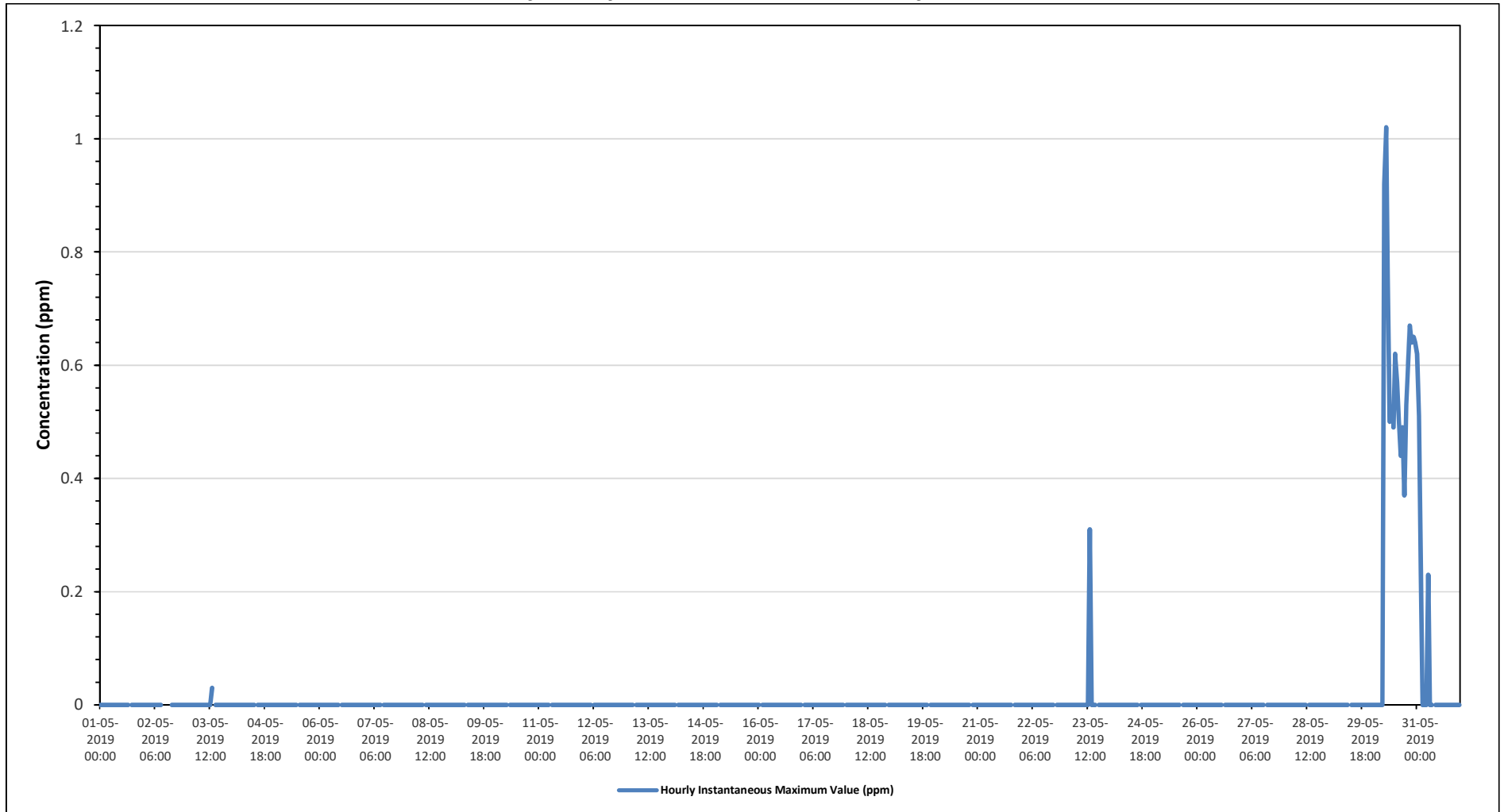
C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

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

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



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





PEACE RIVER AREA MONITORING PROGRAM

842b Station - May 2019

Summary of Hourly Instantaneous Maximums

WIND SPEED (WS) in km/h

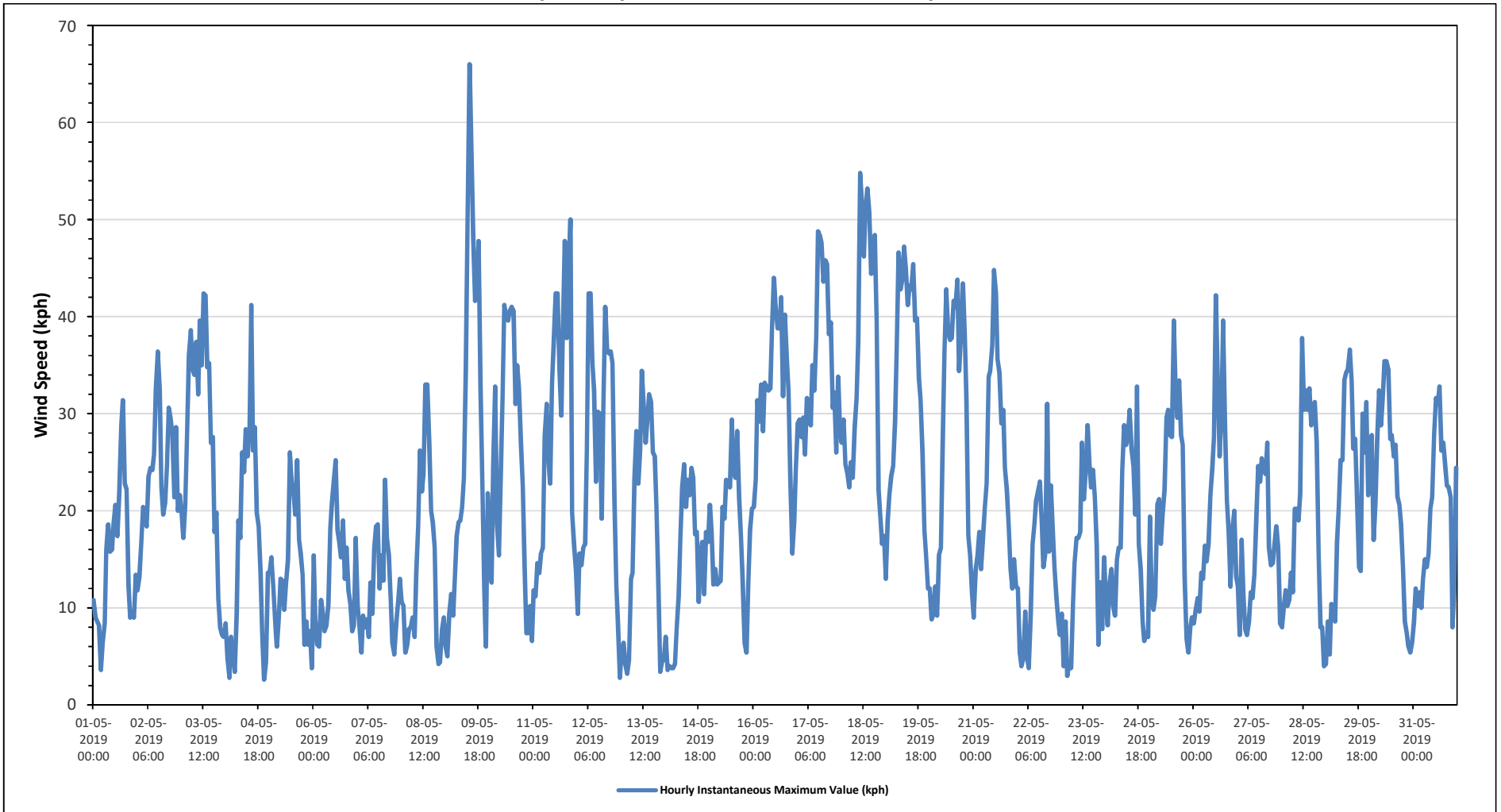
Maximum Hourly Value:	66.0 kph	on May 9 at hour 13	Hours in Service:	744
Maximum Daily Value:	35.3 kph	on May 17	Hours of Data:	744
Minimum Hourly Value:	2.6 kph	on May 4 at hour 21	Hours of Missing Data:	0
Minimum Daily Value:	11.8 kph	on May 7	Hours of Calibration:	0
Monthly Average:	21.4 kph		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
May 1	10.8	9.0	8.6	8.2	3.6	6.4	8.4	16.0	18.6	15.8	16.0	18.8	20.6	17.4	22.0	28.8	31.4	22.8	22.2	12.4	9.6	9.0	13.4	3.6	31.4	15.0	
May 2	11.8	13.2	16.8	20.4	19.6	18.4	23.6	24.4	24.2	25.8	32.6	36.4	32.4	22.4	19.6	20.8	24.6	30.6	29.6	27.8	21.4	28.6	20.0	21.6	11.8	36.4	23.6
May 3	19.6	17.2	20.6	27.8	36.0	38.6	34.6	34.0	37.4	32.0	39.6	35.0	42.4	42.2	34.8	35.2	27.0	27.6	17.8	19.8	11.0	8.0	7.2	7.0	7.0	42.4	27.2
May 4	8.4	4.8	2.8	7.0	5.2	3.4	9.4	19.0	17.2	26.0	24.0	28.4	25.6	28.4	41.2	26.2	28.6	19.8	18.4	13.6	7.2	2.6	4.4	13.6	2.6	41.2	16.1
May 5	13.6	15.2	12.0	8.6	6.0	8.8	13.0	12.8	9.8	12.6	15.0	26.0	23.0	21.8	19.6	25.2	17.0	15.6	13.4	6.2	8.6	6.2	7.6	3.8	3.8	26.0	13.4
May 6	15.4	8.8	6.2	6.0	10.8	9.6	7.6	8.2	10.4	18.2	20.8	23.2	25.2	18.0	16.8	15.2	19.0	13.0	16.2	11.8	10.4	7.6	8.2	17.2	6.0	25.2	13.5
May 7	10.2	8.0	5.4	9.2	8.0	8.8	7.0	12.6	9.4	16.2	18.4	18.6	12.0	15.4	12.8	23.2	17.2	15.4	10.8	6.4	5.2	8.4	10.6	13.0	5.2	23.2	11.8
May 8	10.6	10.2	5.4	6.2	7.8	8.0	9.0	7.0	13.6	18.4	26.2	22.0	23.8	33.0	33.0	27.0	20.0	18.8	16.2	6.0	4.2	4.4	7.8	9.0	4.2	33.0	14.5
May 9	6.0	5.0	9.4	11.4	9.2	12.8	17.4	18.8	19.0	20.4	23.4	34.4	51.2	66.0	58.2	48.4	41.6	44.0	47.8	32.6	22.4	12.0	6.0	21.8	5.0	66.0	26.6
May 10	17.8	12.6	24.6	32.8	18.6	15.4	24.2	31.4	41.2	40.0	39.6	40.6	41.0	40.6	31.0	35.0	32.6	27.0	22.4	14.8	7.4	7.4	10.2	6.6	6.6	41.2	25.6
May 11	11.8	11.2	14.6	13.6	15.6	16.2	27.8	31.0	25.6	22.8	33.2	37.8	42.4	42.4	34.6	29.8	39.2	47.8	37.8	44.4	50.0	19.8	16.6	13.8	11.2	50.0	28.3
May 12	9.4	15.6	14.4	16.2	16.6	26.2	42.4	42.4	35.2	32.4	23.0	30.2	30.0	19.2	30.6	41.0	36.6	36.2	36.4	35.2	21.4	12.4	8.4	2.8	2.8	42.4	25.6
May 13	5.8	6.4	4.2	3.2	4.6	13.0	13.6	23.2	28.2	22.8	26.2	34.4	30.8	27.0	29.6	32.0	31.2	26.0	25.6	20.4	12.6	3.4	4.6	4.6	3.2	34.4	18.1
May 14	7.0	3.6	4.0	3.8	3.8	4.2	8.0	11.2	17.0	22.4	24.8	20.4	23.2	21.6	24.4	23.4	17.6	17.8	10.6	15.6	16.8	11.4	17.8	16.8	3.6	24.8	14.5
May 15	20.6	18.0	12.4	14.0	12.4	12.6	12.8	20.4	19.2	23.2	23.0	22.4	29.4	24.0	23.4	28.2	21.4	17.2	12.8	6.4	5.4	12.8	18.0	20.2	5.4	29.4	17.9
May 16	20.4	23.2	31.4	29.2	33.0	28.2	33.2	32.8	32.4	32.6	38.8	44.0	40.8	38.8	38.8	42.0	31.8	40.2	35.4	32.4	23.0	15.6	19.0	24.4	15.6	44.0	31.7
May 17	29.0	29.4	27.6	29.6	25.8	31.6	31.0	28.8	35.0	32.4	37.8	48.8	48.4	47.6	43.6	45.8	45.4	38.2	39.4	30.6	32.2	26.0	33.8	28.2	25.8	48.8	35.3
May 18	27.0	29.4	24.8	23.8	22.4	25.0	23.4	28.6	31.6	37.4	54.8	51.8	46.2	51.0	53.2	50.8	44.4	45.6	48.4	39.6	22.2	19.2	16.6	17.4	16.6	54.8	34.8
May 19	13.0	19.0	21.6	23.6	24.6	29.2	36.8	46.6	42.8	43.8	47.2	45.0	41.2	43.2	42.8	45.4	39.6	39.8	33.6	31.4	26.0	18.0	15.2	12.0	12.0	47.2	32.6
May 20	12.0	8.8	9.4	12.2	9.2	15.4	16.2	26.2	36.4	42.8	38.4	37.6	37.8	41.6	41.0	43.8	34.4	38.0	43.4	38.2	31.4	17.4	15.4	11.6	8.8	43.8	27.4
May 21	9.0	13.8	15.4	17.8	14.0	17.2	20.4	22.8	33.8	34.4	37.0	44.8	42.4	35.6	34.2	29.0	30.4	24.4	22.2	18.4	14.0	12.0	15.0	12.2	9.0	44.8	23.8
May 22	12.0	5.4	4.0	4.8	9.6	4.8	3.8	9.4	16.6	18.6	21.0	22.0	23.0	18.8	14.2	15.6	31.0	15.8	22.6	18.4	14.2	11.2	8.6	7.2	3.8	31.0	13.9
May 23	9.4	4.0	8.6	3.0	4.4	3.8	10.4	14.6	17.2	17.2	17.8	27.0	21.2	24.0	28.8	24.8	22.4	24.2	21.4	16.4	6.2	12.6	7.8	15.2	3.0	28.8	15.1
May 24	11.0	8.2	12.6	14.0	10.2	9.2	15.0	16.2	16.2	24.2	28.8	26.8	27.8	30.4	26.4	24.6	19.6	32.8	16.6	14.0	8.6	6.6	7.4	7.0	6.6	32.8	17.3
May 25	19.4	11.2	9.8	11.2	20.6	21.2	16.6	19.6	22.2	29.6	30.4	27.8	27.6	39.6	32.6	29.6	33.4	27.8	26.8	13.2	6.8	5.4	8.0	9.0	5.4	39.6	20.8
May 26	8.4	9.8	11.0	9.6	13.6	13.0	16.4	14.8	16.6	21.6	24.4	27.6	42.2	33.2	25.6	29.8	39.6	28.6	21.0	17.6	12.2	18.0	20.0	13.2	8.4	42.2	20.3
May 27	12.2	7.2	17.0	11.4	7.8	7.2	8.6	11.6	11.0	13.4	19.0	24.6	23.0	25.4	24.2	23.8	27.0	16.2	14.4	14.6	16.8	18.4	16.2	8.4	7.2	27.0	15.8
May 28	8.0	10.0	11.8	10.2	10.8	13.6	11.6	20.2	20.2	19.0	21.8	37.8	30.4	32.4	30.4	32.6	28.8	30.6	31.2	27.0	15.6	8.0	8.0	4.0	4.0	37.8	19.8
May 29	4.2	8.6	5.2	10.4	9.8	8.6	16.8	20.2	25.2	25.2	33.4	34.2	34.6	36.6	33.4	26.4	27.4	21.2	14.2	13.8	30.0	26.0	31.2	21.6	4.2	36.6	21.6
May 30	25.6	27.8	17.0	20.8	27.2	32.4	28.8	31.8	35.4	35.4	34.6	27.4	27.8	25.6	26.8	21.4	20.6	18.6	14.2	8.6	7.4	6.0	5.4	6.4	5.4	35.4	22.2
May 31	8.6	12.0	10.2	11.6	10.0	13.0	15.0	14.2	15.6	20.2	21.4	28.0	31.6	31.0	32.8	26.2	27.0	24.6	22.6	22.4	21.4	8.0	11.6	24.4	8.0	32.8	19.3
Diurnal Maximum	29.0	29.4	31.4	32.8	36.0	38.6	42.4	46.6	42.8	43.8	54.8	51.8	51.2	66.0	58.2	50.8	45.4	47.8	48.4	44.4	50.0	28.6	33.8	28.2			
Diurnal Average	13.2	12.5	12.9	13.9	13.9	15.3	18.2	21.6	23.7	25.7	28.8	31.7	32.2	32.1	31.0	30.7	29.3	27.3	24.7	20.3	16.2	12.4	12.8	13.1			

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

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

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



RENO STATION



PEACE RIVER AREA MONITORING PROGRAM

Reno Site - May 2019

Summary of Hourly Instantaneous Maximums

SULPHUR DIOXIDE (SO₂) in ppb

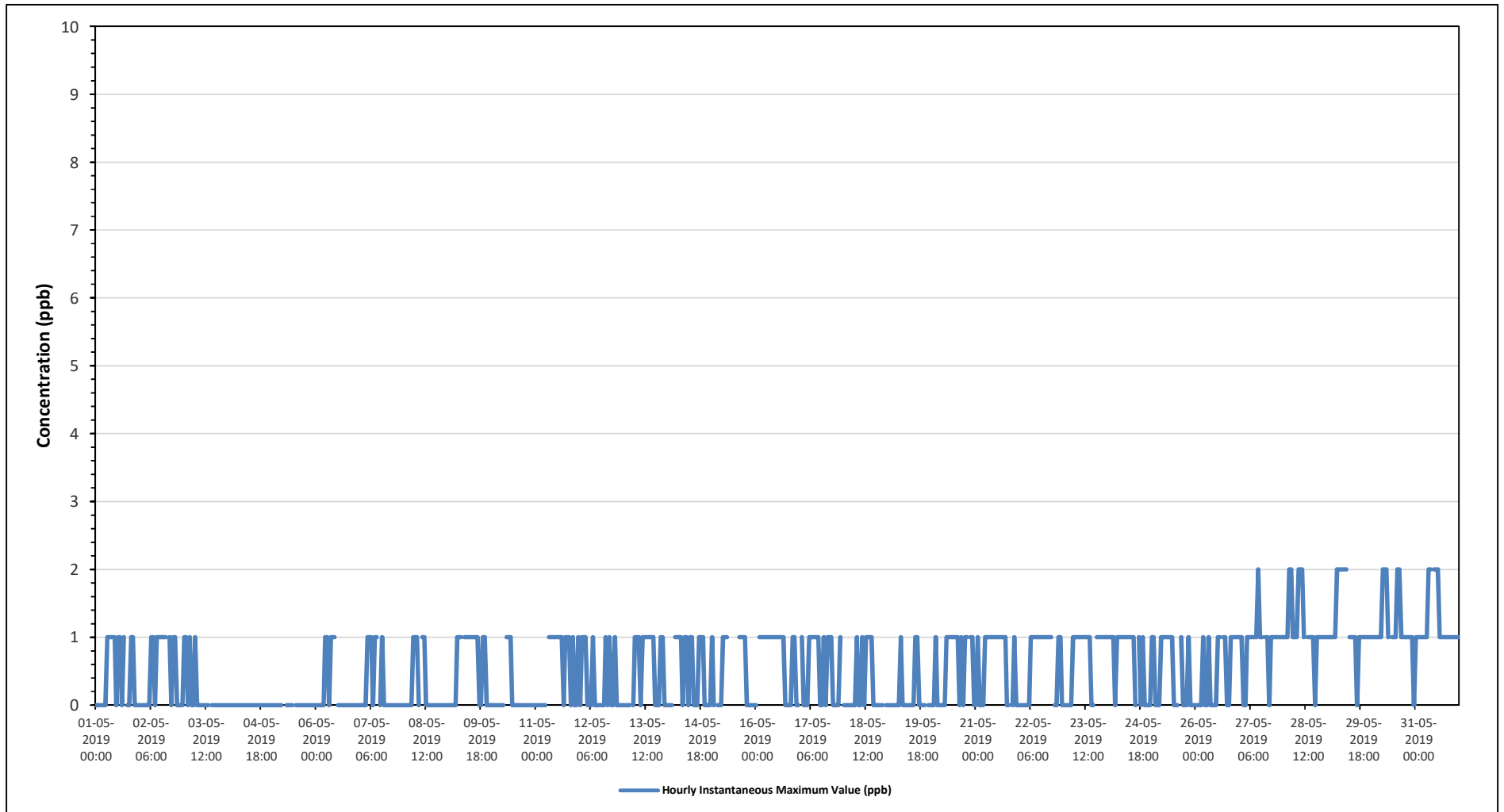
Maximum Hourly Value:	2 ppb on May 27 at hour 10	Hours in Service:	744
Maximum Daily Value:	1.2 ppb on May 29	Hours of Data:	705
Minimum Hourly Value:	0 ppb on May 1 at hour 0	Hours of Missing Data:	2
Minimum Daily Value:	0.0 ppb on May 4	Hours of Calibration:	37
Monthly Average:	0.5 ppb	Operational Uptime:	99.7

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23		
May 1	0	0	0	0	0	0	1	1	1	1	1	0	1	1	0	1	S	0	0	1	1	0	0	0	0	0	0	1	0.4
May 2	0	0	0	0	0	0	1	1	0	1	1	1	1	1	1	1	S	1	0	1	1	0	0	0	0	0	0	1	0.5
May 3	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0.2
May 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
May 5	0	0	0	0	0	0	Y	Y	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0.0
May 6	0	0	0	0	0	1	1	0	1	1	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2
May 7	0	0	0	0	1	1	1	0	1	1	S	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3
May 8	0	0	0	0	0	1	1	1	0	S	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2
May 9	0	0	0	0	0	1	1	1	S	1	1	1	1	1	1	1	1	1	0	0	1	1	0	0	0	0	0	1	0.6
May 10	0	0	0	0	0	0	0	S	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1
May 11	0	0	0	0	0	0	S	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	0	0	1	0	1	0.6
May 12	0	1	1	1	0	S	0	1	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0.3
May 13	0	0	0	0	S	1	1	1	1	0	1	1	1	1	1	1	1	1	0	0	1	1	0	0	0	0	0	1	0.5
May 14	0	0	0	S	1	1	1	1	0	1	1	0	1	1	1	0	0	0	1	1	1	1	0	0	0	0	0	1	0.5
May 15	1	0	S	0	0	0	1	1	1	C	C	C	C	C	C	C	1	1	1	1	0	0	0	0	0	0	0	1	-
May 16	0	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	1	0	0	1	0.7
May 17	S	1	0	0	0	1	1	1	1	1	0	0	1	0	1	1	1	1	0	0	0	0	0	0	0	1	S	0	0.5
May 18	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	1	1	1	0	0	0	0	0	0	0	0	S	0	0.3
May 19	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	S	0	0	0.1
May 20	0	0	1	0	0	0	0	0	1	1	1	1	1	1	1	1	0	1	0	1	1	S	1	1	0	0	1	0	0.6
May 21	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	S	0	1	0	0	0	0	1	0.6
May 22	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	S	0	0	1	1	0	0	1	0.6
May 23	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	S	1	1	1	1	1	1	1	1	0	0.7
May 24	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	0	S	1	0	1	0	0	0	0	0	0	0.7
May 25	1	1	0	0	0	1	1	1	1	1	1	1	0	0	0	0	S	1	0	0	0	0	0	0	0	0	0	0	0.5
May 26	0	0	0	0	1	0	0	1	0	0	0	0	1	1	S	1	1	0	0	1	1	0	0	1	1	1	1	1	0.5
May 27	1	1	0	0	1	1	1	1	1	1	2	1	S	1	1	1	0	1	1	1	1	1	1	1	1	1	1	2	0.9
May 28	1	1	1	2	2	1	1	1	2	2	2	1	S	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1.2
May 29	1	1	1	1	1	2	2	2	2	2	2	2	S	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1.2
May 30	1	1	1	1	1	1	2	2	2	2	1	S	1	1	1	2	2	1	1	1	1	1	1	1	1	0	0	2	1.2
May 31	1	1	1	1	1	1	1	2	2	2	S	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.2
Diurnal Maximum	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	1	1	1	1	1	1	1	1	1
Diurnal Average	0.3	0.4	0.3	0.3	0.3	0.6	0.8	0.9	0.8	0.8	0.9	0.6	0.7	0.7	0.6	0.6	0.6	0.3	0.4	0.5	0.4	0.4	0.3	0.2					

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

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

Timeseries Chart of Hourly Instantaneous Maximum for SO₂ - Reno Site





PEACE RIVER AREA MONITORING PROGRAM

Reno Site - May 2019

Summary of Hourly Instantaneous Maximums

TOTAL REDUCED SULPHUR (TRS) in ppb

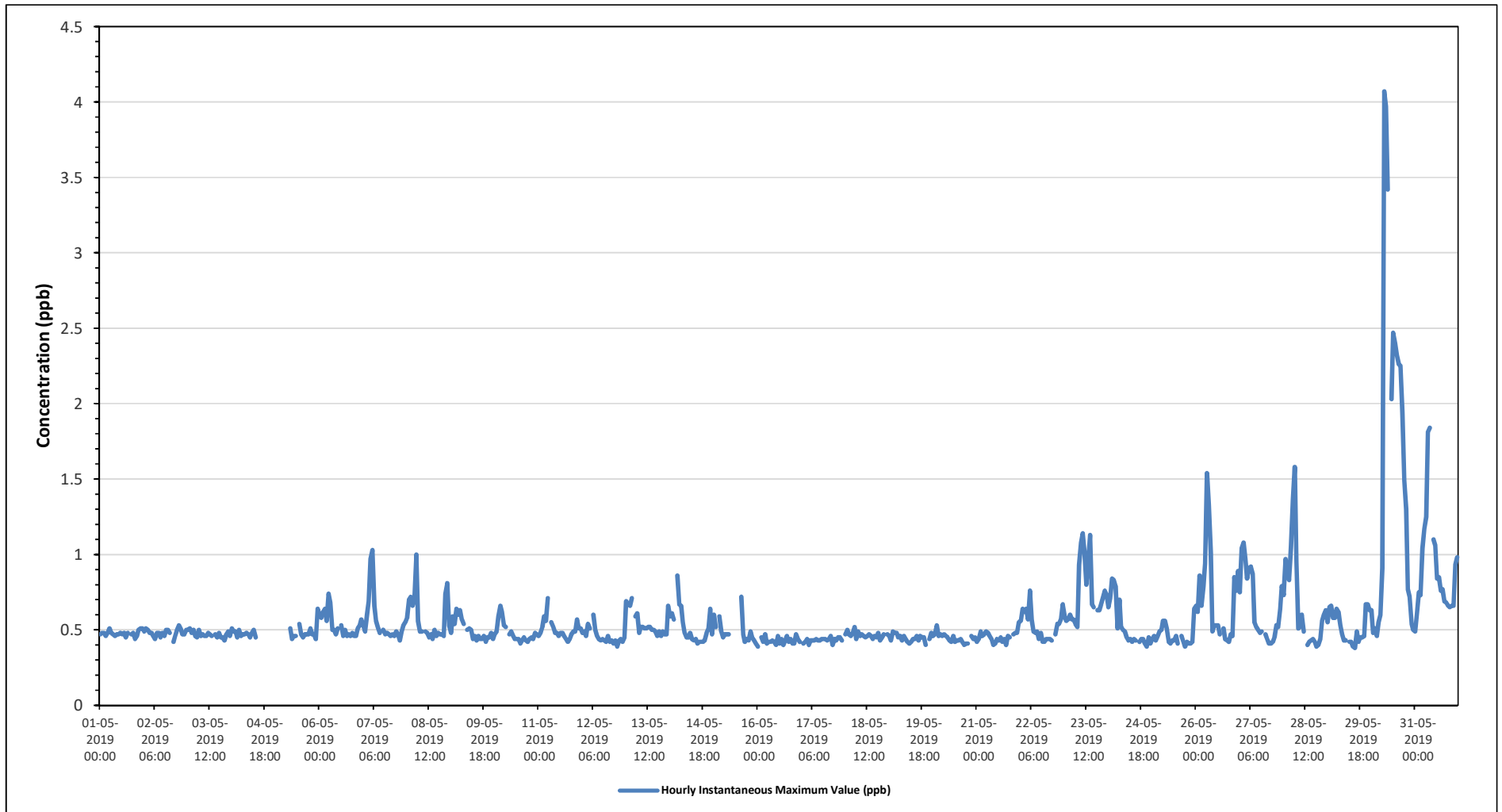
Maximum Hourly Value:	4.07 ppb on May 30 at hour 7	Hours in Service:	744
Maximum Daily Value:	1.59 ppb on May 30	Hours of Data:	689
Minimum Hourly Value:	0.38 ppb on May 29 at hour 15	Hours of Missing Data:	18
Minimum Daily Value:	0.43 ppb on May 16	Hours of Calibration:	37
Monthly Average:	0.57 ppb	Operational Uptime:	97.6

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
May 1	0.47	0.48	0.48	0.46	0.48	0.51	0.48	0.47	0.46	0.47	0.47	0.48	0.47	0.48	0.45	0.48	S	0.47	0.48	0.44	0.46	0.5	0.51	0.51	0.44	0.51	0.48
May 2	0.49	0.51	0.5	0.48	0.48	0.46	0.44	0.48	0.48	0.45	0.48	0.46	0.5	0.5	0.48	S	0.42	0.46	0.5	0.53	0.51	0.47	0.47	0.5	0.42	0.53	0.48
May 3	0.5	0.51	0.48	0.5	0.46	0.45	0.5	0.46	0.47	0.46	0.46	0.48	0.47	0.46	S	0.47	0.45	0.48	0.45	0.45	0.43	0.47	0.49	0.46	0.43	0.51	0.47
May 4	0.51	0.49	0.49	0.45	0.5	0.46	0.47	0.47	0.48	0.47	0.45	0.48	0.5	0.45	X	X	X	X	X	X	X	X	X	X	0.45	0.51	-
May 5	X	X	X	X	X	X	Y	Y	0.51	0.44	0.46	0.46	S	0.54	0.47	0.45	0.47	0.47	0.47	0.51	0.47	0.47	0.44	0.64	0.44	0.64	-
May 6	0.6	0.58	0.62	0.64	0.56	0.74	0.68	0.5	0.5	0.47	0.51	S	0.53	0.46	0.5	0.46	0.47	0.46	0.48	0.46	0.51	0.53	0.57	0.46	0.74	0.53	
May 7	0.53	0.49	0.6	0.69	0.97	1.03	0.66	0.56	0.52	0.48	S	0.5	0.47	0.48	0.47	0.46	0.47	0.46	0.49	0.47	0.43	0.49	0.53	0.55	0.43	1.03	0.56
May 8	0.58	0.7	0.72	0.66	0.7	1	0.56	0.49	0.49	S	0.49	0.48	0.45	0.47	0.44	0.5	0.46	0.48	0.47	0.47	0.46	0.74	0.81	0.53	0.44	1.00	0.57
May 9	0.48	0.59	0.54	0.64	0.6	0.63	0.57	0.54	S	0.5	0.51	0.5	0.44	0.46	0.43	0.46	0.44	0.44	0.46	0.42	0.45	0.45	0.48	0.44	0.42	0.64	0.50
May 10	0.47	0.49	0.59	0.66	0.62	0.53	0.52	S	0.47	0.49	0.46	0.44	0.44	0.44	0.41	0.43	0.45	0.43	0.42	0.44	0.45	0.44	0.48	0.47	0.41	0.66	0.48
May 11	0.46	0.48	0.52	0.59	0.56	0.71	S	0.55	0.52	0.48	0.48	0.46	0.48	0.48	0.46	0.44	0.42	0.44	0.47	0.49	0.49	0.57	0.51	0.51	0.42	0.71	0.50
May 12	0.48	0.49	0.46	0.54	0.51	S	0.6	0.5	0.46	0.44	0.43	0.44	0.43	0.42	0.46	0.42	0.43	0.41	0.43	0.39	0.43	0.44	0.42	0.45	0.39	0.60	0.46
May 13	0.69	0.67	0.66	0.71	S	0.59	0.61	0.48	0.52	0.52	0.51	0.51	0.52	0.52	0.5	0.5	0.49	0.46	0.49	0.46	0.49	0.47	0.47	0.66	0.46	0.71	0.54
May 14	0.59	0.61	0.57	S	0.86	0.67	0.66	0.55	0.48	0.45	0.45	0.48	0.44	0.43	0.44	0.41	0.42	0.42	0.42	0.43	0.48	0.51	0.64	0.47	0.41	0.86	0.52
May 15	0.6	0.52	S	0.59	0.49	0.45	0.47	0.47	0.47	C	C	C	C	C	C	0.72	0.47	0.42	0.44	0.43	0.49	0.45	0.43	0.41	0.41	0.72	-
May 16	0.39	S	0.45	0.42	0.47	0.41	0.42	0.42	0.43	0.42	0.4	0.46	0.41	0.44	0.4	0.43	0.46	0.42	0.44	0.41	0.41	0.47	0.44	0.42	0.39	0.47	0.43
May 17	S	0.41	0.42	0.44	0.4	0.43	0.43	0.43	0.44	0.43	0.43	0.44	0.44	0.44	0.43	0.44	0.46	0.4	0.44	0.43	0.45	0.45	0.43	S	0.40	0.46	0.43
May 18	0.47	0.5	0.47	0.46	0.48	0.52	0.44	0.49	0.46	0.47	0.46	0.45	0.46	0.47	0.46	0.44	0.46	0.45	0.48	0.43	0.45	0.47	S	0.47	0.43	0.52	0.47
May 19	0.46	0.43	0.49	0.48	0.48	0.45	0.46	0.43	0.46	0.44	0.42	0.41	0.42	0.44	0.44	0.46	0.43	0.46	0.45	0.45	0.4	S	0.44	0.48	0.40	0.49	0.45
May 20	0.46	0.47	0.53	0.46	0.47	0.46	0.47	0.46	0.45	0.43	0.42	0.46	0.42	0.43	0.43	0.44	0.42	0.4	0.41	0.41	S	0.46	0.44	0.45	0.40	0.53	0.45
May 21	0.42	0.44	0.49	0.46	0.47	0.49	0.48	0.46	0.44	0.4	0.41	0.44	0.43	0.45	0.42	0.44	0.4	0.46	0.45	S	0.47	0.48	0.48	0.55	0.40	0.55	0.45
May 22	0.56	0.64	0.62	0.64	0.57	0.76	0.57	0.49	0.48	0.49	0.44	0.48	0.42	0.42	0.44	0.44	0.44	0.43	S	0.47	0.54	0.54	0.57	0.67	0.42	0.76	0.53
May 23	0.59	0.56	0.57	0.6	0.57	0.57	0.54	0.52	0.93	1.08	1.14	1	0.8	0.96	1.13	0.67	0.65	S	0.63	0.63	0.67	0.71	0.76	0.73	0.52	1.14	0.74
May 24	0.65	0.71	0.84	0.83	0.79	0.51	0.7	0.52	0.5	0.49	0.45	0.43	0.44	0.42	0.44	0.43	S	0.42	0.44	0.44	0.41	0.39	0.45	0.41	0.39	0.84	0.53
May 25	0.44	0.46	0.43	0.46	0.49	0.5	0.56	0.56	0.51	0.42	0.41	0.43	0.43	0.46	0.41	S	0.46	0.42	0.39	0.42	0.41	0.41	0.42	0.64	0.39	0.64	0.46
May 26	0.66	0.62	0.86	0.66	0.79	0.94	1.54	1.33	1.01	0.49	0.53	0.53	0.53	0.47	S	0.51	0.44	0.43	0.42	0.47	0.46	0.85	0.76	0.89	0.42	1.54	0.70
May 27	0.75	1.04	1.08	0.97	0.84	0.91	0.92	0.87	0.55	0.52	0.5	0.48	0.49	S	0.47	0.44	0.41	0.41	0.42	0.45	0.53	0.52	0.64	0.79	0.41	1.08	0.65
May 28	0.73	0.97	0.89	0.83	1.05	1.37	1.58	0.95	0.51	0.52	0.6	0.49	S	0.4	0.42	0.43	0.44	0.42	0.39	0.4	0.44	0.56	0.6	0.63	0.39	1.58	0.68
May 29	0.55	0.65	0.66	0.58	0.58	0.64	0.62	0.53	0.47	0.43	0.43	S	0.42	0.42	0.39	0.38	0.49	0.42	0.45	0.45	0.46	0.67	0.67	0.63	0.38	0.67	0.52
May 30	0.63	0.48	0.51	0.46	0.55	0.6	0.91	4.07	3.97	3.42	S	2.03	2.47	2.4	2.32	2.26	2.25	1.94	1.49	1.3	0.77	0.72	0.54	0.5	0.46	4.07	1.59
May 31	0.49	0.61	0.75	0.73	1.04	1.17	1.25	1.81	1.84	S	1.1	1.06	0.84	0.85	0.76	0.77	0.69	0.68	0.66	0.65	0.66	0.66	0.93	0.98	0.49	1.84	0.91
Diurnal Maximum	0.75	1.04	1.08	0.97	1.05	1.37	1.58	4.07	3.97	3.42	1.14	2.03	2.47	2.40	2.32	2.26	2.25	1.94	1.49	1.30	0.77	0.85	0.93	0.98			
Diurnal Average	0.54	0.57	0.60	0.59	0.61	0.65	0.66	0.72	0.68	0.59	0.51	0.56	0.56	0.55	0.55	0.54	0.53	0.50	0.50	0.49	0.48	0.53	0.54	0.57			

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

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

Timeseries Chart of Hourly Instantaneous Maximum for TRS - Reno Site





PEACE RIVER AREA MONITORING PROGRAM

Reno Site - May 2019

Summary of Hourly Instantaneous Maximums

TOTAL HYDROCARBONS (THC) in ppm

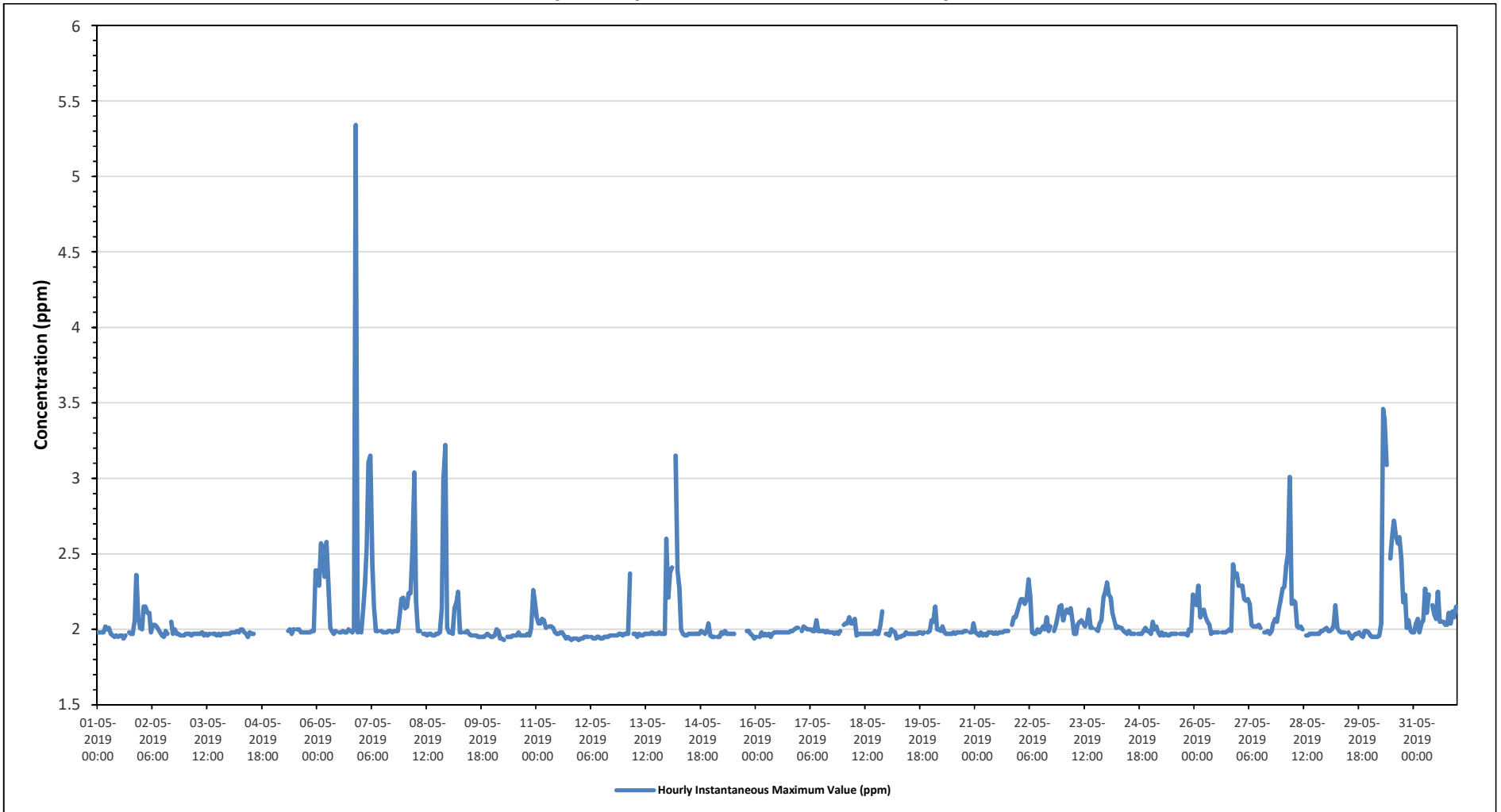
Maximum Hourly Value:	5.34 ppm on May 6 at hour 21	Hours in Service:	744
Maximum Daily Value:	2.36 ppm on May 30	Hours of Data:	689
Minimum Hourly Value:	1.93 ppm on May 10 at hour 6	Hours of Missing Data:	18
Minimum Daily Value:	1.95 ppm on May 12	Hours of Calibration:	37
Monthly Average:	2.05 ppm	Operational Uptime:	97.6

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	
May 1	1.98	1.98	1.98	1.98	2.02	2.00	2.01	1.97	1.96	1.95	1.96	1.95	1.96	1.96	1.94	1.96	S	1.98	1.97	1.97	2.06	2.36	2.08	2.01	1.94	2.36	2.00	
May 2	2.00	2.15	2.15	2.11	2.11	1.98	2.03	2.03	2.02	2.00	1.98	1.96	1.95	1.99	1.97	S	S	2.05	1.97	2.00	1.97	1.96	1.96	1.96	1.95	2.15	2.01	
May 3	1.97	1.97	1.97	1.96	1.97	1.97	1.97	1.97	1.97	1.98	1.96	1.97	1.96	1.97	S	S	1.97	2.07	1.96	1.97	1.96	1.97	1.97	1.97	1.96	1.98	1.97	
May 4	1.97	1.98	1.98	1.98	1.99	1.98	2.00	2.00	1.98	1.97	1.95	1.98	1.97	1.97	X	X	X	X	X	X	X	X	X	X	1.95	2.00	-	
May 5	X	X	X	X	X	X	Y	Y	1.99	2.00	1.97	2.00	S	2.00	2.00	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	1.97	2.39	-	
May 6	2.39	2.29	2.57	2.53	2.35	2.58	2.30	2.01	1.99	1.97	1.99	S	1.98	1.98	1.99	1.98	1.98	2.00	1.99	1.98	2.00	5.34	1.98	1.99	1.97	5.34	2.27	
May 7	1.98	2.12	2.30	2.53	3.11	3.15	2.43	2.15	1.99	1.99	S	1.99	1.98	1.98	1.98	1.99	1.99	1.98	1.99	1.99	1.99	2.09	2.20	2.21	1.98	3.15	2.18	
May 8	2.14	2.15	2.24	2.24	2.52	3.04	2.19	1.99	1.99	S	1.97	1.97	1.96	1.97	1.97	1.96	1.96	1.97	1.97	1.98	2.14	2.99	3.22	2.01	1.96	3.22	2.20	
May 9	1.98	1.98	1.97	2.14	2.18	2.25	1.98	S	1.98	1.99	1.97	1.96	1.96	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.96	1.97	1.96	1.95	1.95	2.25	1.99	
May 10	1.95	1.96	2.00	1.99	1.94	1.94	1.93	S	1.95	1.95	1.95	1.96	1.96	1.96	1.98	1.96	1.96	1.96	1.96	1.97	1.96	2.01	2.26	2.19	1.93	2.26	1.98	
May 11	2.08	2.04	2.04	2.07	2.06	2.01	S	2.02	2.02	2.01	1.98	1.97	1.97	1.98	1.98	1.96	1.94	1.95	1.94	1.93	1.94	1.94	1.94	1.93	1.93	2.08	1.99	
May 12	1.94	1.94	1.95	1.95	1.95	S	1.95	1.94	1.94	1.95	1.95	1.94	1.94	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.96	1.94	1.97	1.95	
May 13	1.97	1.97	1.97	2.37	S	1.97	1.97	1.95	1.97	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.97	1.97	1.97	2.60	1.95	2.60	2.01	
May 14	2.21	2.38	2.41	S	3.15	2.39	2.27	2.00	1.97	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.99	1.98	1.97	1.99	2.04	1.96	1.96	3.15	2.11	
May 15	1.95	1.95	S	1.95	1.95	1.98	1.97	1.99	1.97	1.97	1.97	1.97	1.97	C	C	C	C	C	C	1.99	1.99	1.97	1.96	1.94	1.94	1.99	-	
May 16	1.95	S	1.95	1.98	1.96	1.97	1.96	1.97	1.95	1.97	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	2.00	2.01	2.01	1.95	2.01	1.98		
May 17	S	1.99	2.02	2.01	2.00	2.00	2.00	1.99	1.99	2.06	1.99	1.99	1.99	1.99	1.98	1.99	1.98	1.98	1.98	1.97	1.98	1.97	1.99	1.99	S	1.97	2.06	1.99
May 18	2.03	2.04	2.04	2.08	2.04	2.04	2.07	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.99	1.97	1.97	2.03	2.12	S	1.97	1.96	2.12	2.00	
May 19	1.97	1.96	2.00	1.99	1.98	1.94	1.95	1.95	1.96	1.96	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.97	1.98	S	1.98	1.99	1.94	2.00	1.97	
May 20	2.06	2.05	2.15	2.00	2.00	1.99	2.02	1.98	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.99	1.99	S	1.98	1.98	2.04	1.97	2.15	2.00	
May 21	1.98	1.97	1.96	1.98	1.96	1.97	1.96	1.98	1.98	1.98	1.98	1.97	1.98	1.98	1.98	1.98	1.99	1.99	1.99	S	2.03	2.08	2.08	2.12	1.96	2.12	1.99	
May 22	2.17	2.20	2.20	2.17	2.20	2.33	2.22	1.98	1.97	1.97	2.00	1.98	2.00	2.02	2.00	2.08	1.99	2.02	S	1.99	2.03	2.08	2.15	2.16	1.97	2.33	2.08	
May 23	2.06	2.11	2.13	2.11	2.14	2.07	1.97	1.97	2.03	2.05	2.06	2.04	2.02	2.05	2.13	2.01	2.01	S	2.00	1.99	2.04	2.06	2.21	2.25	1.97	2.25	2.07	
May 24	2.31	2.23	2.21	2.11	2.06	2.01	2.02	2.01	1.99	1.98	1.97	1.99	1.97	1.97	1.97	1.97	S	1.97	1.97	1.97	1.99	2.01	1.99	1.99	1.97	2.31	2.03	
May 25	1.97	2.05	2.00	2.02	1.98	1.96	1.98	1.96	1.97	1.96	1.96	1.97	1.97	1.97	1.97	S	1.97	1.97	1.97	1.97	1.96	2.00	1.99	2.23	1.96	2.23	1.99	
May 26	2.22	2.16	2.29	2.08	2.12	2.13	2.08	2.05	2.03	1.97	1.98	1.98	1.98	1.98	S	1.98	1.98	1.98	1.99	2.00	1.99	2.43	2.35	2.37	1.97	2.43	2.09	
May 27	2.29	2.29	2.29	2.20	2.19	2.20	2.17	2.03	2.02	2.02	2.02	2.03	2.01	S	1.98	1.98	1.99	1.97	1.99	2.04	2.07	2.05	2.14	2.19	1.97	2.29	2.09	
May 28	2.27	2.28	2.42	2.50	3.01	2.17	2.19	2.18	2.02	2.01	2.02	2.00	S	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.99	1.99	2.00	1.96	3.01	2.12	
May 29	2.01	1.99	1.99	2.00	2.03	2.16	2.01	1.99	1.98	1.98	1.98	S	1.98	1.96	1.94	1.96	1.97	1.97	1.98	1.96	1.95	1.99	1.99	1.98	1.94	2.16	1.99	
May 30	1.96	1.95	1.95	1.95	1.95	1.96	2.04	3.46	3.39	3.09	S	2.47	2.61	2.72	2.62	2.57	2.61	2.47	2.18	2.23	2.01	2.06	1.99	1.98	1.95	3.46	2.36	
May 31	1.98	2.04	2.07	1.98	2.04	2.06	2.27	2.11	2.23	S	2.16	2.10	2.07	2.25	2.05	2.05	2.05	2.03	2.03	2.11	2.04	2.12	2.08	2.15	1.98	2.27	2.09	
Diurnal Maximum	2.39	2.38	2.57	2.53	3.15	3.15	2.43	3.46	3.39	3.09	2.16	2.47	2.61	2.72	2.62	2.57	2.61	2.47	2.18	2.23	2.14	5.34	3.22	2.60				
Diurnal Average	2.06	2.07	2.11	2.10	2.17	2.14	2.07	2.05	2.04	2.02	1.98	2.00	2.00	2.01	2.01	2.00	2.00	1.99	1.99	1.99	2.00	2.19	2.08	2.09				

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

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

Timeseries Chart of Hourly Instantaneous Maximum for THC - Reno Site





PEACE RIVER AREA MONITORING PROGRAM

Reno Site - May 2019

Summary of Hourly Instantaneous Maximums

METHANE (CH4) in ppm

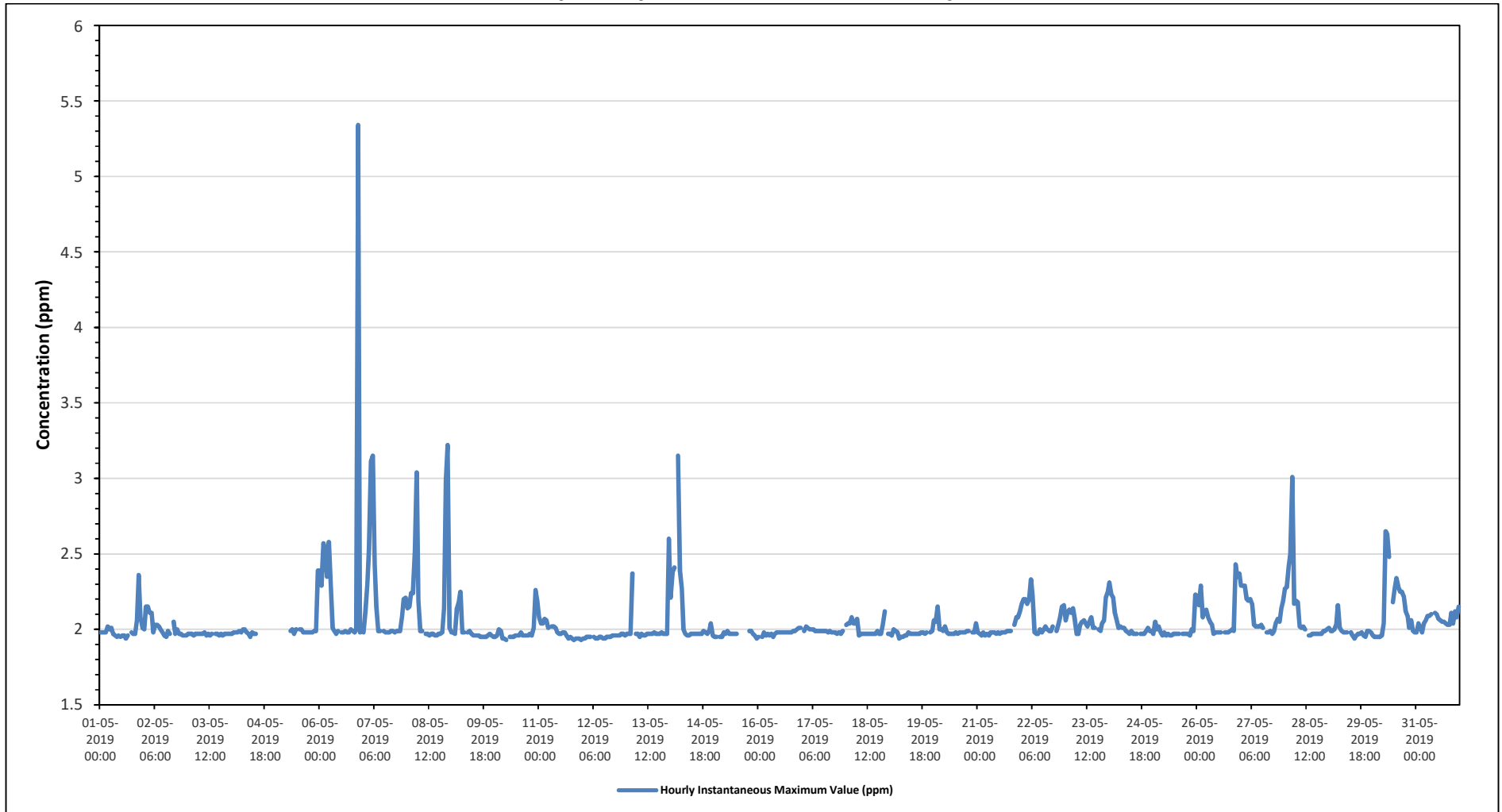
Maximum Hourly Value:	5.34 ppm on May 6 at hour 21	Hours in Service:	744
Maximum Daily Value:	2.27 ppm on May 6	Hours of Data:	689
Minimum Hourly Value:	1.93 ppm on May 10 at hour 6	Hours of Missing Data:	18
Minimum Daily Value:	1.95 ppm on May 12	Hours of Calibration:	37
Monthly Average:	2.04 ppm	Operational Uptime:	97.6

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
May 1	1.98	1.98	1.98	1.98	2.02	2.00	2.01	1.97	1.96	1.95	1.96	1.95	1.96	1.96	1.94	1.96	S	1.98	1.97	1.97	2.06	2.36	2.08	2.01	1.94	2.36	2.00
May 2	2.00	2.15	2.15	2.11	2.11	1.98	2.03	2.03	2.02	2.00	1.98	1.96	1.95	1.99	1.97	S	2.05	1.97	2.00	1.97	1.96	1.96	1.96	1.96	1.95	2.15	2.01
May 3	1.97	1.97	1.97	1.96	1.97	1.97	1.97	1.97	1.97	1.98	1.96	1.97	1.96	1.97	S	1.97	1.97	1.96	1.97	1.96	1.97	1.97	1.97	1.97	1.96	1.98	1.97
May 4	1.97	1.98	1.98	1.98	1.99	1.98	2.00	2.00	1.98	1.97	1.95	1.98	1.97	1.97	X	X	X	X	X	X	X	X	X	X	1.95	2.00	-
May 5	X	X	X	X	X	X	Y	Y	1.99	2.00	1.97	2.00	S	2.00	2.00	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	1.97	2.39	-
May 6	2.39	2.29	2.57	2.53	2.35	2.58	2.30	2.01	1.99	1.97	1.99	S	1.98	1.98	1.99	1.98	1.98	2.00	1.99	1.98	2.00	5.34	1.98	1.99	1.97	5.34	2.27
May 7	1.98	2.12	2.30	2.53	3.11	3.15	2.43	2.15	1.99	1.99	S	1.99	1.98	1.98	1.98	1.99	1.99	1.98	1.99	1.99	1.99	2.09	2.20	2.21	1.98	3.15	2.18
May 8	2.14	2.15	2.24	2.24	2.52	3.04	2.19	1.99	1.99	S	1.97	1.97	1.96	1.97	1.97	1.96	1.96	1.97	1.97	1.98	2.14	2.99	3.22	2.01	1.96	3.22	2.20
May 9	1.98	1.98	1.97	2.14	2.18	2.25	1.98	1.98	S	1.98	1.99	1.97	1.96	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.96	1.97	1.96	1.95	1.95	2.25	1.99
May 10	1.95	1.96	2.00	1.99	1.94	1.94	1.93	S	1.95	1.95	1.95	1.96	1.96	1.96	1.98	1.96	1.96	1.96	1.96	1.97	1.96	2.01	2.26	2.19	1.93	2.26	1.98
May 11	2.08	2.04	2.04	2.07	2.06	2.01	S	2.02	2.02	2.01	1.98	1.97	1.97	1.98	1.98	1.96	1.94	1.95	1.94	1.93	1.94	1.94	1.94	1.93	1.93	2.08	1.99
May 12	1.94	1.94	1.95	1.95	1.95	S	1.95	1.94	1.94	1.95	1.95	1.94	1.94	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.96	1.94	1.97	1.95
May 13	1.97	1.97	1.97	2.37	S	1.97	1.97	1.95	1.97	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.97	1.97	1.97	2.60	1.95	2.60	2.01
May 14	2.21	2.38	2.41	S	3.15	2.39	2.27	2.00	1.97	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.99	1.98	1.97	1.99	2.04	1.96	1.96	3.15	2.11
May 15	1.95	1.95	S	1.95	1.95	1.98	1.97	1.99	1.97	1.97	1.97	1.97	1.97	C	C	C	C	C	C	1.99	1.99	1.97	1.96	1.94	1.94	1.99	-
May 16	1.95	S	1.95	1.98	1.96	1.97	1.96	1.97	1.95	1.97	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	2.00	2.01	2.01	1.95	2.01	1.98	
May 17	S	1.99	2.02	2.01	2.00	2.00	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.97	1.98	1.97	1.99	1.99	1.97	2.02	1.99
May 18	2.03	2.04	2.04	2.08	2.04	2.04	2.07	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.99	1.97	1.97	2.03	2.12	S	1.97	1.96	2.12	2.00
May 19	1.97	1.96	2.00	1.99	1.98	1.94	1.95	1.95	1.96	1.96	1.98	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.97	1.98	S	1.98	1.99	1.94	2.00	1.97
May 20	2.06	2.05	2.15	2.00	2.00	1.99	2.02	1.98	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.99	1.99	S	1.98	1.98	2.04	1.97	2.15	2.00
May 21	1.98	1.97	1.96	1.98	1.96	1.97	1.96	1.98	1.98	1.98	1.98	1.97	1.98	1.98	1.98	1.98	1.99	1.99	1.99	S	2.03	2.08	2.08	2.12	1.96	2.12	1.99
May 22	2.17	2.20	2.20	2.17	2.20	2.33	2.22	1.98	1.97	1.97	2.00	1.98	2.00	2.02	2.00	1.99	1.99	2.02	S	1.99	2.03	2.08	2.15	2.16	1.97	2.33	2.08
May 23	2.06	2.11	2.13	2.11	2.14	2.07	1.97	1.97	2.03	2.05	2.06	2.04	2.02	2.05	2.08	2.01	2.01	S	2.00	1.99	2.04	2.06	2.21	2.25	1.97	2.25	2.06
May 24	2.31	2.23	2.21	2.11	2.06	2.01	2.02	2.01	1.99	1.98	1.97	1.99	1.97	1.97	1.97	1.97	S	1.97	1.97	1.97	1.99	2.01	1.99	1.99	1.97	2.31	2.03
May 25	1.97	2.05	2.00	2.02	1.98	1.96	1.98	1.96	1.97	1.96	1.96	1.97	1.97	1.97	1.97	S	1.97	1.97	1.97	1.97	1.96	2.00	1.99	2.23	1.96	2.23	1.99
May 26	2.22	2.16	2.29	2.08	2.12	2.13	2.08	2.05	2.03	1.97	1.98	1.98	1.98	1.98	S	1.98	1.98	1.98	1.99	2.00	1.99	2.43	2.35	2.37	1.97	2.43	2.09
May 27	2.29	2.29	2.29	2.20	2.19	2.20	2.17	2.03	2.02	2.02	2.02	2.03	2.01	S	1.98	1.98	1.99	1.97	1.99	2.04	2.07	2.05	2.14	2.19	1.97	2.29	2.09
May 28	2.27	2.28	2.42	2.50	3.01	2.17	2.19	2.18	2.02	2.01	2.02	2.00	S	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.99	1.99	2.00	1.96	3.01	2.12
May 29	2.01	1.99	1.99	2.00	2.03	2.16	2.01	1.99	1.98	1.98	1.98	S	1.98	1.96	1.94	1.96	1.97	1.97	1.98	1.96	1.95	1.99	1.99	1.98	1.94	2.16	1.99
May 30	1.96	1.95	1.95	1.95	1.95	1.96	2.04	2.65	2.63	2.48	S	2.18	2.27	2.34	2.28	2.25	2.25	2.22	2.12	2.09	2.01	2.06	1.99	1.98	1.95	2.65	2.15
May 31	1.98	2.04	2.01	1.98	2.04	2.06	2.09	2.09	2.10	S	2.11	2.10	2.07	2.06	2.05	2.05	2.04	2.03	2.03	2.11	2.04	2.12	2.08	2.15	1.98	2.15	2.06
Diurnal Maximum	2.39	2.38	2.57	2.53	3.15	3.15	2.43	2.65	2.63	2.48	2.11	2.18	2.27	2.34	2.28	2.25	2.25	2.22	2.12	2.11	2.14	5.34	3.22	2.60			
Diurnal Average	2.06	2.07	2.11	2.10	2.17	2.14	2.06	2.03	2.01	2.00	1.98	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.98	1.99	2.00	2.19	2.08	2.09			

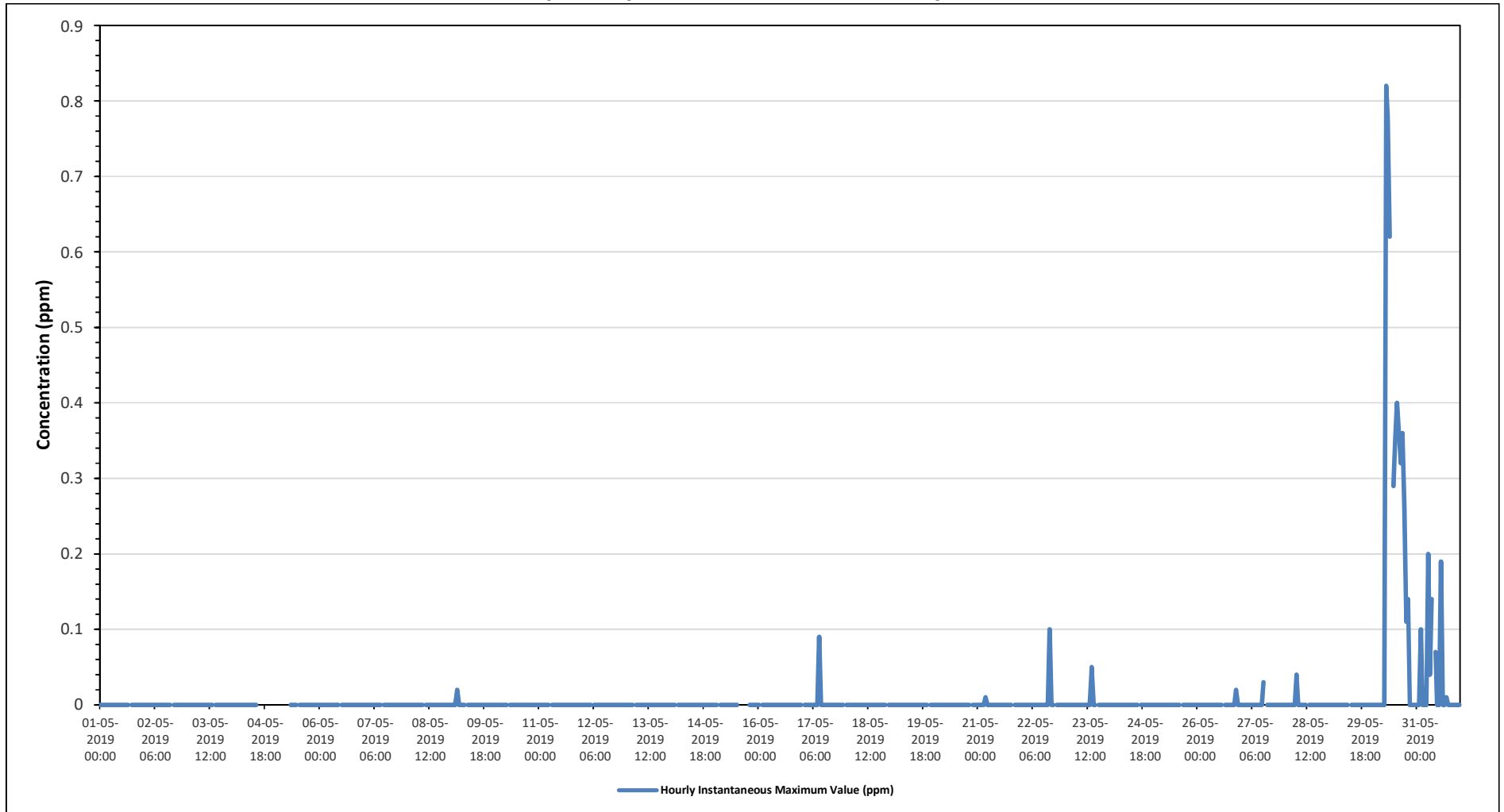
C	Calibration	S	Daily Zero/Span	Q	Quality Assurance	C1	Repeat Calibration	S1	Repeat Daily Zero/Span
G	Out for Repair	K	Collection Error	N	Not in Service	O	Operator Error	P	Power Failure
R	Recovery	X	Machine Malfunction	Y	Maintenance	T	Exceeds Temperature Limits	N	Not in Service

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



Timeseries Chart of Hourly Instantaneous Maximum for NMHC - Reno Site





PEACE RIVER AREA MONITORING PROGRAM

Reno Site - May 2019

Summary of Hourly Instantaneous Maximums

WIND SPEED (WS) in km/h

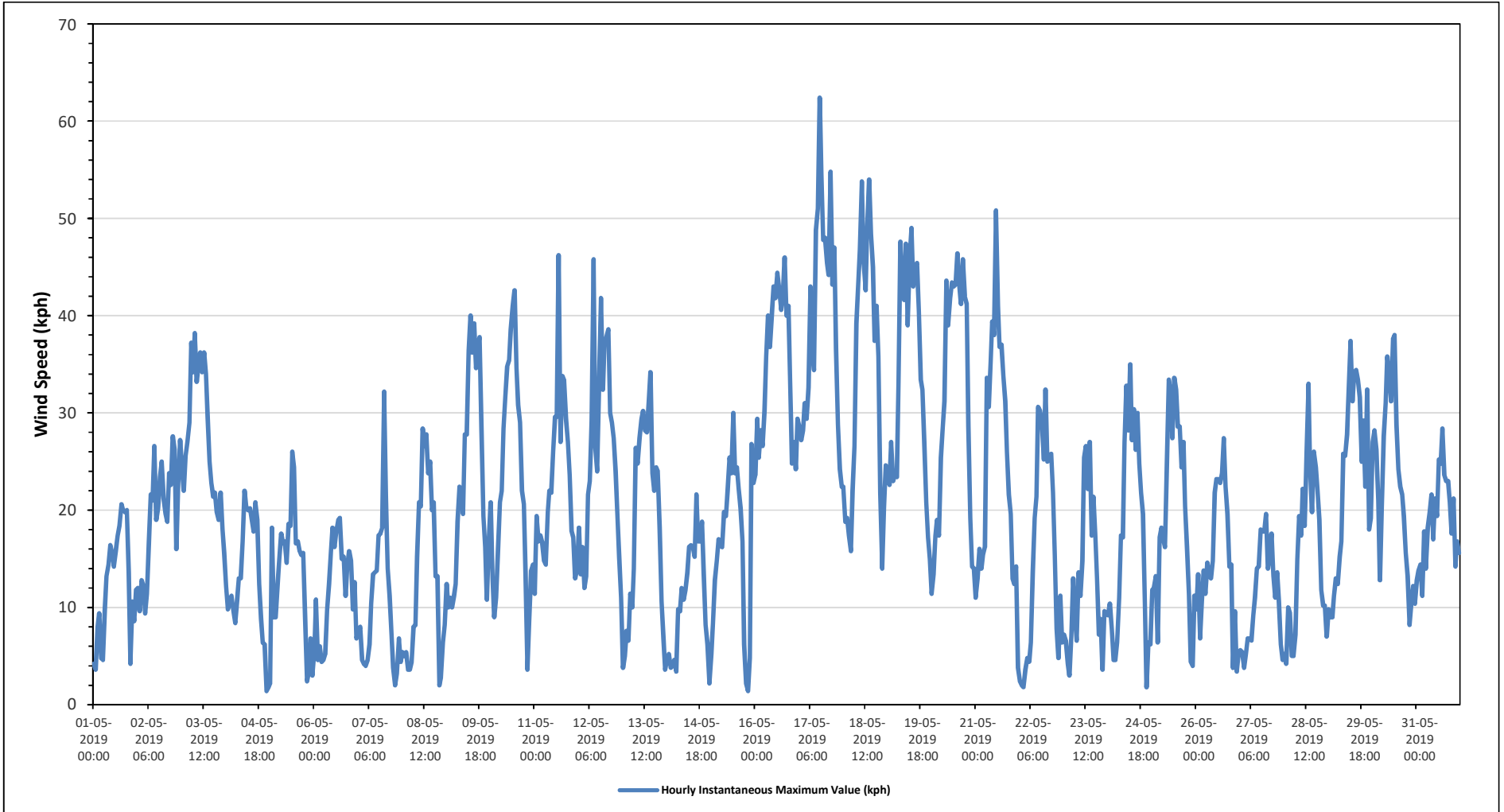
Maximum Hourly Value:	62.4 kph	on May 17 at hour 11	Hours in Service:	744
Maximum Daily Value:	39.6 kph	on May 17	Hours of Data:	744
Minimum Hourly Value:	1.4 kph	on May 4 at hour 20	Hours of Missing Data:	0
Minimum Daily Value:	10.4 kph	on May 7	Hours of Calibration:	0
Monthly Average:	20.4 kph		Operational Uptime:	100.0

Day	Hourly Period Starting at (MST)																							Daily Minimum	Daily Maximum	Daily Average	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				23
May 1	4.2	3.6	8.0	9.4	4.8	4.6	9.8	13.2	14.4	16.4	15.6	14.2	15.8	17.4	18.4	20.6	20.0	19.8	20.0	13.6	4.2	10.6	8.6	11.8	3.6	20.6	12.5
May 2	12.0	9.6	12.8	12.2	9.4	11.4	16.6	21.6	21.0	26.6	19.0	20.2	23.4	25.0	21.2	19.6	18.8	23.8	22.6	27.6	26.2	16.0	22.8	27.2	9.4	27.6	19.4
May 3	24.2	22.0	25.6	27.0	29.0	37.2	34.2	38.2	33.2	35.0	36.2	34.2	36.2	34.0	29.6	25.0	22.8	21.4	21.8	19.8	19.0	21.8	18.0	15.6	15.6	38.2	27.5
May 4	12.2	9.8	10.6	11.2	9.6	8.4	10.8	13.0	13.0	16.8	22.0	20.4	20.0	20.2	19.0	17.8	20.8	19.0	12.4	8.8	6.4	6.2	1.4	1.8	1.4	22.0	13.0
May 5	2.2	18.2	9.0	9.0	12.0	15.0	17.6	16.6	16.8	14.6	18.6	18.4	26.0	24.4	16.6	16.8	15.8	15.4	15.6	9.0	2.4	3.2	6.8	3.0	2.2	26.0	13.5
May 6	5.6	10.8	4.6	6.0	4.4	4.6	5.2	9.8	12.4	15.8	18.2	16.2	17.8	19.0	19.2	15.0	15.2	11.2	14.2	15.8	14.8	9.8	12.6	6.8	4.4	19.2	11.9
May 7	7.6	8.0	4.6	4.2	4.0	4.6	6.2	10.4	13.4	13.6	13.8	17.4	17.6	18.2	32.2	21.6	14.0	11.2	7.2	3.8	2.0	3.2	6.8	4.4	2.0	32.2	10.4
May 8	5.4	5.0	5.4	3.6	3.6	4.4	8.0	8.2	15.2	20.8	20.4	28.4	26.6	27.8	23.8	25.0	20.0	20.8	13.2	13.2	2.0	2.8	6.4	8.2	2.0	28.4	13.3
May 9	12.4	10.0	11.0	10.0	11.2	12.4	18.8	22.4	21.2	19.6	27.8	27.8	36.4	40.0	36.2	39.2	34.6	37.0	37.8	28.2	19.4	16.2	10.8	16.8	10.0	40.0	23.2
May 10	20.8	13.0	9.0	11.0	16.0	20.8	22.0	28.4	31.6	34.8	35.4	38.6	41.0	42.6	34.6	30.8	29.0	22.0	20.6	13.6	3.6	8.6	13.8	14.4	3.6	42.6	23.2
May 11	11.4	19.4	16.8	17.4	16.8	14.8	14.4	19.8	22.0	21.8	26.0	29.6	29.6	46.2	27.0	33.8	33.4	29.4	27.0	23.6	17.8	17.2	13.0	14.0	11.4	46.2	22.6
May 12	18.2	13.4	16.2	12.0	13.2	21.6	23.0	29.2	45.8	26.6	24.0	33.2	41.8	32.4	37.4	37.8	38.6	30.0	29.0	27.4	24.0	19.2	15.2	11.0	11.0	45.8	25.8
May 13	3.8	5.0	7.6	6.6	11.4	10.0	14.0	26.4	24.8	27.4	29.4	30.2	28.2	28.0	31.4	34.2	23.8	22.0	24.4	24.0	18.2	10.6	6.8	3.6	3.6	34.2	18.8
May 14	4.6	5.2	3.8	4.0	4.6	3.4	9.8	9.6	12.0	10.8	11.8	13.6	16.2	16.4	16.2	15.2	21.6	16.8	16.8	18.8	13.6	8.2	6.2	2.2	2.2	21.6	10.9
May 15	5.2	8.4	12.8	14.8	17.0	16.4	16.2	19.8	19.4	22.0	25.4	23.8	30.0	23.8	24.4	22.2	20.2	16.8	6.2	2.2	1.4	4.8	26.8	22.8	1.4	30.0	16.8
May 16	23.6	29.4	25.4	28.2	26.6	30.2	35.8	40.0	36.8	40.2	43.0	41.8	44.4	42.8	40.6	41.8	46.0	40.0	41.0	33.4	24.8	27.0	24.2	29.4	23.6	46.0	34.9
May 17	28.6	27.2	28.2	31.0	29.4	32.6	43.0	36.4	34.4	48.8	51.0	62.4	54.6	47.8	48.0	45.4	44.2	54.8	43.2	47.0	36.6	28.8	24.2	22.4	22.4	62.4	39.6
May 18	22.4	18.8	19.2	17.4	15.8	22.0	26.6	39.2	43.4	46.8	53.8	45.4	42.6	49.2	54.0	48.4	45.0	37.4	41.0	35.8	21.8	14.0	20.2	24.6	14.0	54.0	33.5
May 19	23.8	22.6	27.0	23.0	23.8	23.4	33.2	47.6	43.2	41.6	47.4	39.0	45.8	49.0	43.0	45.0	45.4	40.4	33.4	32.4	26.8	20.8	17.2	15.0	15.0	49.0	33.7
May 20	11.4	13.4	17.4	19.0	17.4	25.4	28.6	31.2	43.6	39.0	41.8	43.4	43.0	43.2	46.4	43.0	41.2	45.8	42.0	41.2	28.6	19.2	14.2	14.0	11.4	46.4	31.4
May 21	11.0	13.0	16.0	14.0	15.4	16.2	33.6	30.6	35.2	39.4	38.0	50.8	41.0	36.8	37.0	33.8	31.2	26.0	19.6	13.0	12.4	14.2	3.8	3.8	3.8	50.8	25.2
May 22	2.4	2.0	1.8	3.6	4.8	4.4	6.4	13.6	19.2	21.4	30.6	30.2	29.0	25.2	32.4	25.0	25.6	25.8	21.8	15.4	7.8	4.8	11.2	6.4	1.8	32.4	15.5
May 23	7.2	6.6	4.2	3.0	7.0	13.0	8.8	6.6	13.6	11.2	14.8	25.4	26.6	22.2	27.0	17.4	21.4	17.6	13.0	7.2	8.8	3.6	9.6	9.4	3.0	27.0	12.7
May 24	9.2	10.4	7.8	4.6	4.6	6.4	11.0	17.4	17.2	27.0	32.8	28.2	35.0	27.2	30.4	26.2	30.0	24.8	21.8	19.6	10.4	1.8	6.4	6.2	1.8	35.0	17.4
May 25	11.8	12.0	13.2	6.4	17.2	18.2	17.0	16.2	24.8	33.4	32.2	27.4	33.6	32.4	28.6	28.6	24.4	27.0	20.4	16.2	11.4	4.4	4.0	11.2	4.0	33.6	19.7
May 26	9.8	13.4	6.8	10.6	13.8	11.4	14.6	13.4	13.0	14.8	21.8	23.2	23.2	22.8	23.8	27.4	22.4	19.6	14.2	14.4	3.8	9.6	3.4	5.4	3.4	27.4	14.9
May 27	5.6	5.4	3.8	5.2	6.8	6.8	6.6	9.2	11.0	14.0	14.2	18.0	17.8	17.8	19.6	14.0	15.4	17.6	13.2	11.0	13.6	10.6	6.2	4.6	3.8	19.6	11.2
May 28	5.2	4.2	10.0	9.4	5.0	5.0	7.2	15.0	19.4	17.4	22.2	18.4	25.8	33.0	24.4	19.8	26.0	24.4	22.2	19.0	11.8	10.2	10.2	7.0	4.2	33.0	15.5
May 29	9.8	9.0	9.0	11.2	13.0	12.4	15.2	16.8	25.8	25.6	27.8	32.6	37.4	31.2	34.2	34.4	33.4	31.6	25.0	29.2	22.4	32.4	18.0	19.2	9.0	37.4	23.2
May 30	27.0	28.2	26.2	21.0	12.8	20.4	27.6	31.0	35.8	34.0	31.2	37.6	38.0	28.8	24.2	22.4	21.6	19.4	15.6	13.2	8.2	10.4	12.2	10.4	8.2	38.0	23.2
May 31	12.8	13.8	14.4	11.2	17.8	14.0	18.2	19.8	21.6	17.0	21.2	19.4	25.2	24.8	28.4	23.6	23.0	23.0	20.8	17.6	21.2	14.2	16.8	15.6	11.2	28.4	19.0
Diurnal Maximum	28.6	29.4	28.2	31.0	29.4	37.2	43.0	47.6	45.8	48.8	53.8	62.4	54.6	49.2	54.0	48.4	46.0	54.8	43.2	47.0	36.6	32.4	26.8	29.4			
Diurnal Average	12.0	12.6	12.5	12.2	12.8	14.6	18.1	21.6	24.3	25.6	28.0	29.3	31.3	30.6	30.0	28.1	27.3	25.5	22.5	20.1	14.4	12.3	12.5	11.9			

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 WS - Reno Site



END OF REPORT

This report, 182 of 182, ends the May 2019 Monthly Ambient Air Quality Monitoring Report.



Peace River Area Monitoring Program

MAY 2019

Ambient Air Monitoring Calibration Report

- 842 STATION-

CAL-PRAMP-201905-01561

Operation and Maintenance:

Maxxam Analytics

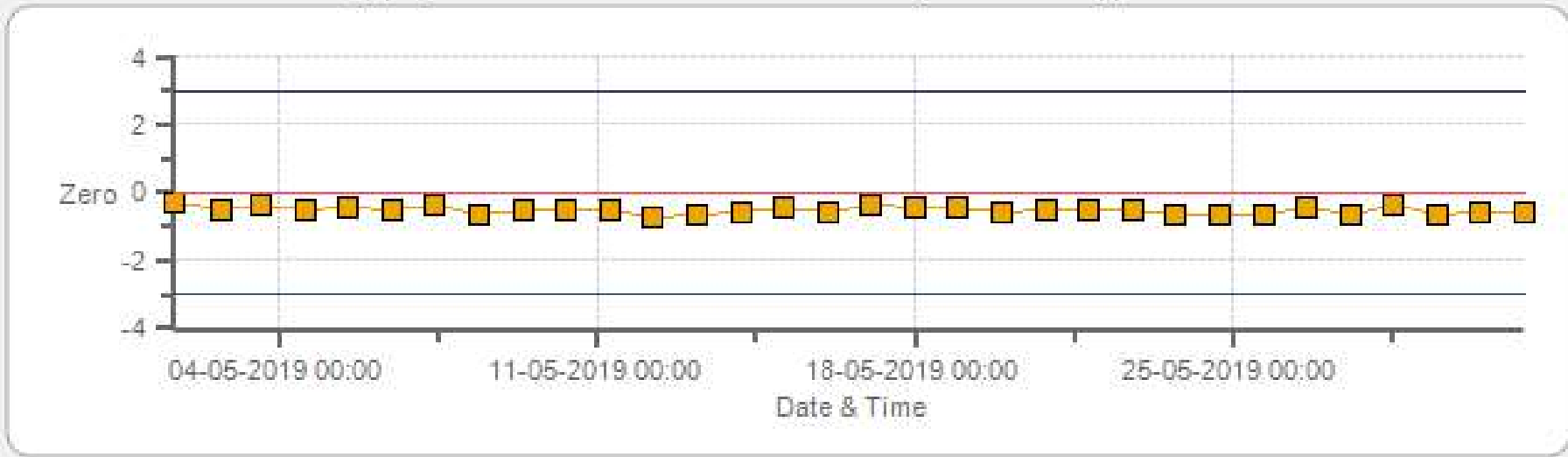
Data Validation and Report:

Maxxam Analytics

June 7, 2019

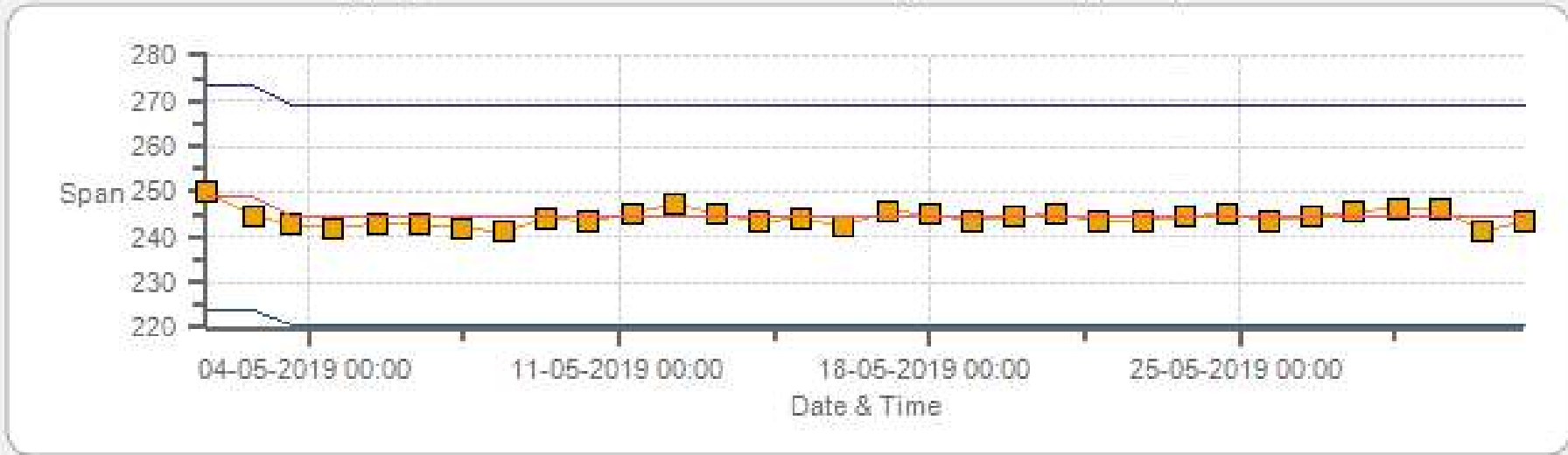
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2 [ppb] Calibration: PRAMP 842 Monthly: 05-2019 Type: Zero



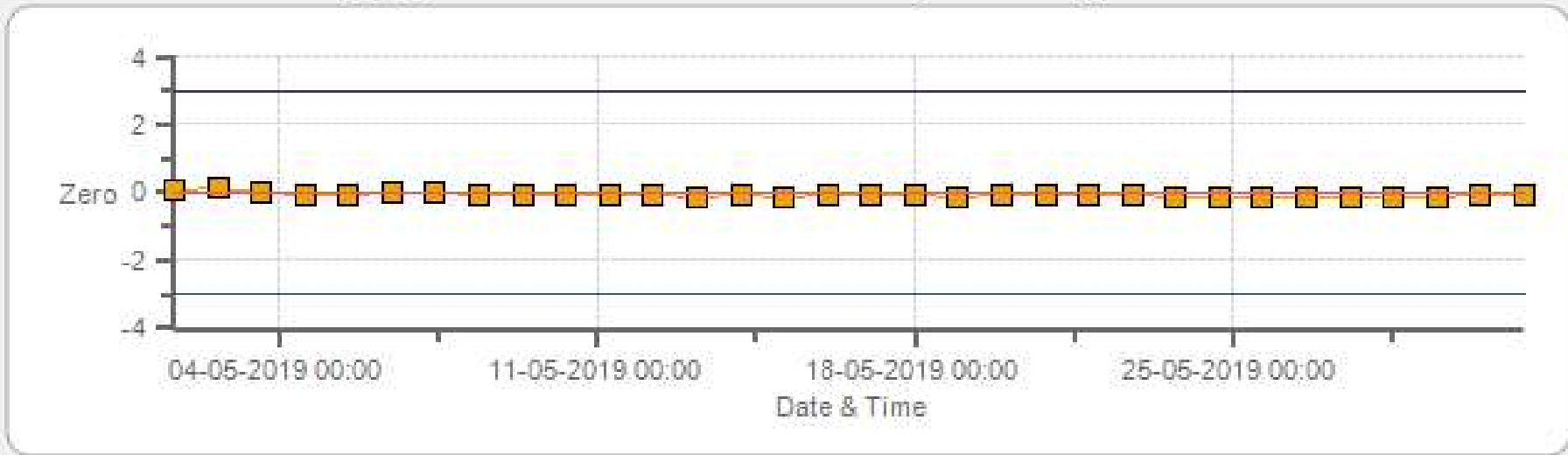
Zero Zero Ref Zero Low Zero High

SO2 [ppb] Calibration: PRAMP 842 Monthly: 05-2019 Type: Span



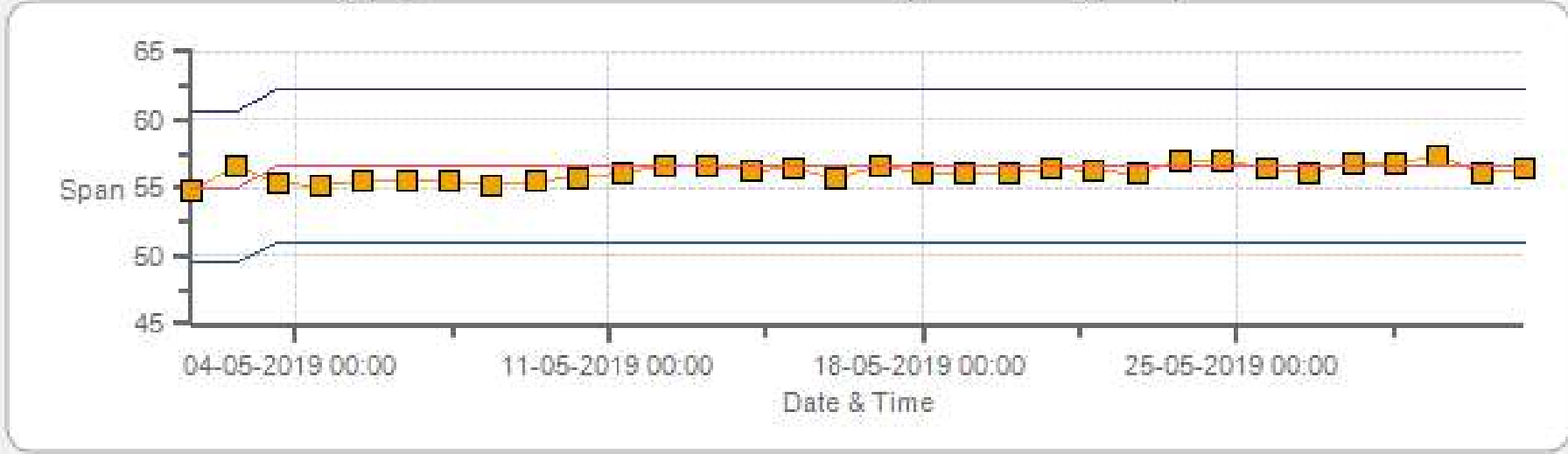
Span SpanRef Span Low Span High

TRS [ppb] Calibration: PRAMP 842 Monthly: 05-2019 Type: Zero



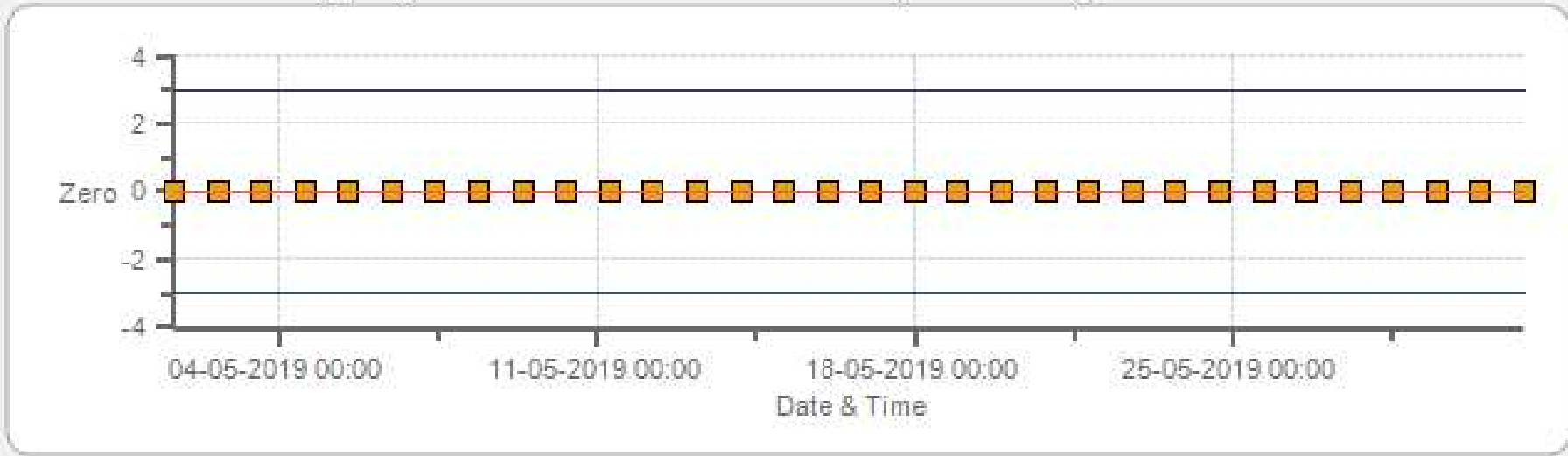
Zero Zero Ref Zero Low Zero High

TRS [ppb] Calibration: PRAMP 842 Monthly: 05-2019 Type: Span



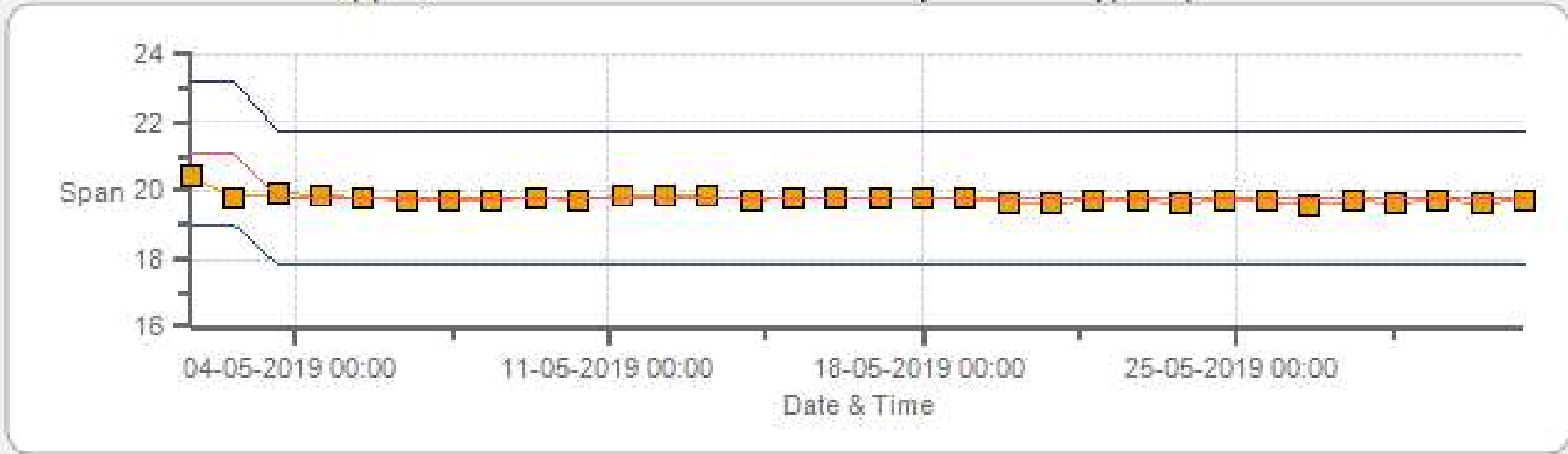
Span SpanRef Span Low Span High

THC [ppm] Calibration: PRAMP 842 Monthly: 05-2019 Type: Zero



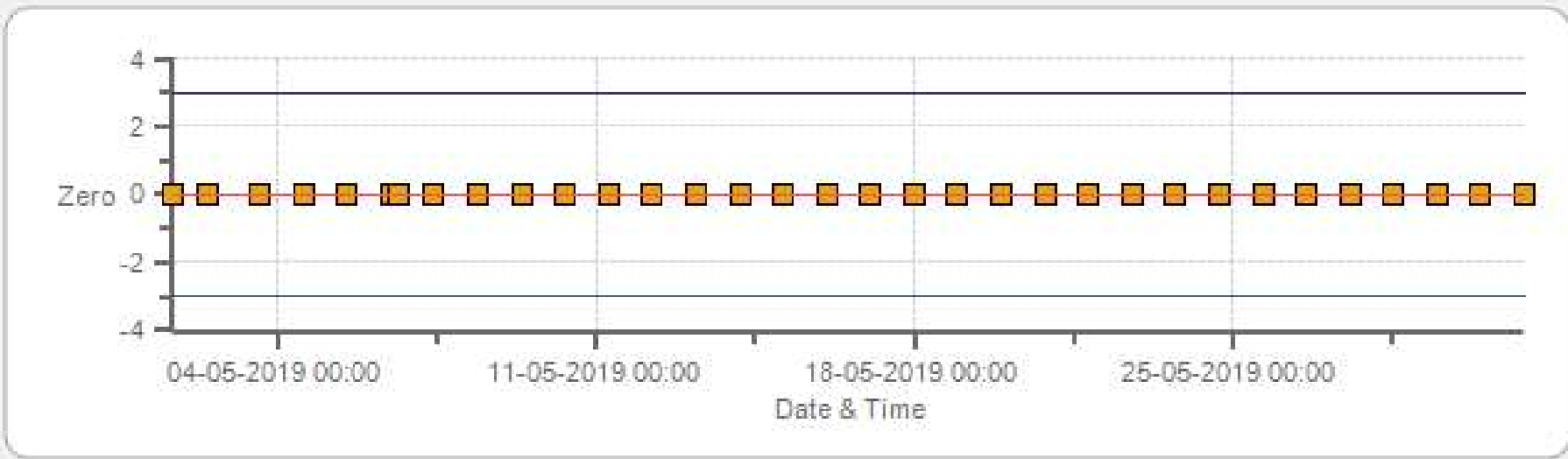
Zero Zero Ref Zero Low Zero High

THC [ppm] Calibration: PRAMP 842 Monthly: 05-2019 Type: Span



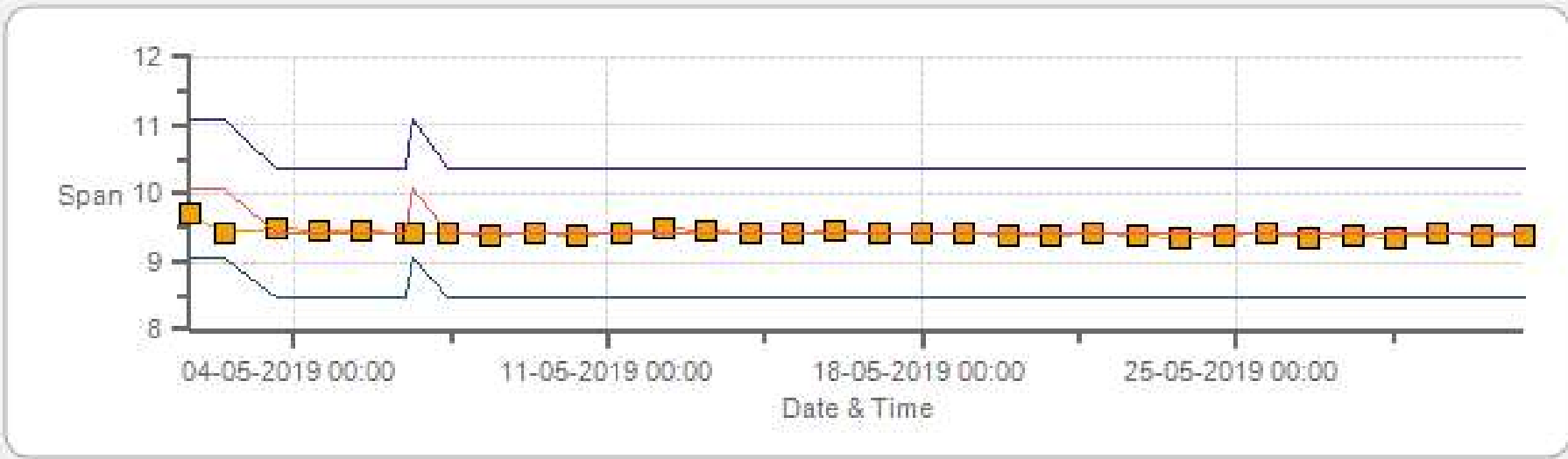
Span SpanRef Span Low Span High

CH4 [ppm] Calibration: PRAMP 842 Monthly: 05-2019 Type: Zero



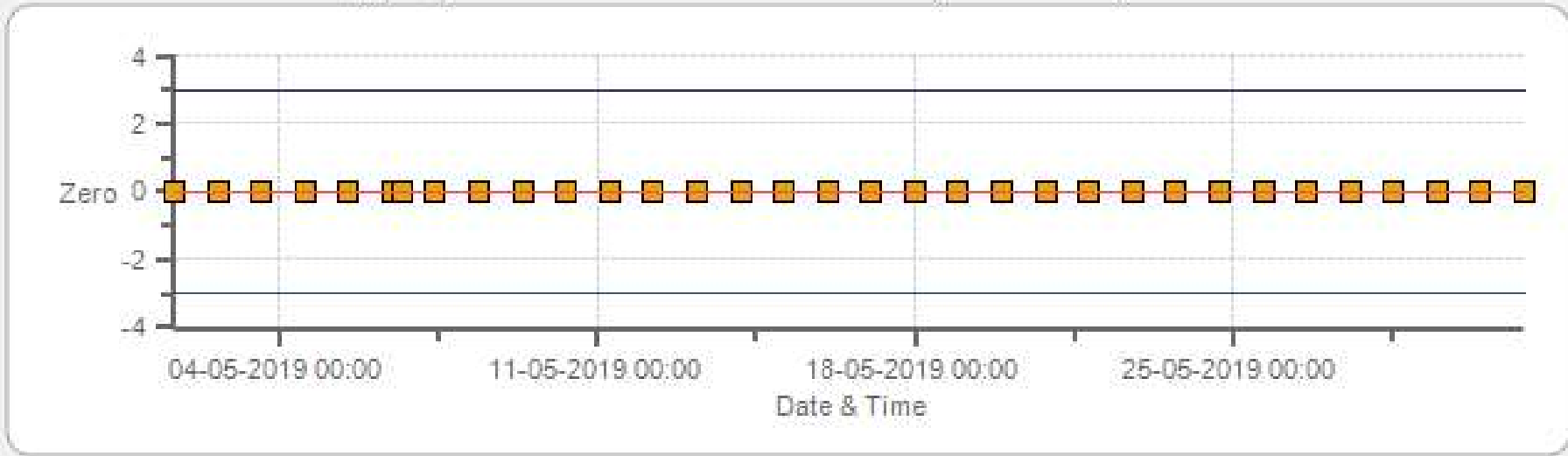
Zero Zero Ref Zero Low Zero High

CH4 [ppm] Calibration: PRAMP 842 Monthly: 05-2019 Type: Span



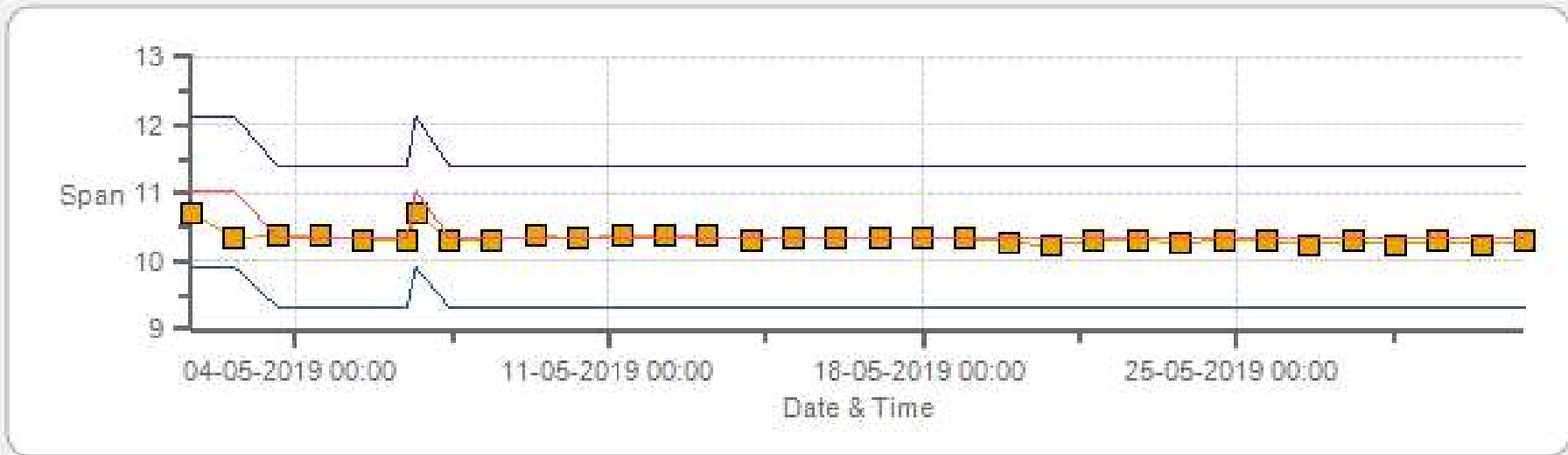
Span SpanRef Span Low Span High

NMHC [ppm] Calibration: PRAMP 842 Monthly: 05-2019 Type: Zero



Zero Zero Ref Zero Low Zero High

NMHC [ppm] Calibration: PRAMP 842 Monthly: 05-2019 Type: Span



MULTI-POINT CALIBRATION RECORDS

Maxxam A Bureau Veritas Group Company		Thermo 43i Sulphur Dioxide Analyzer Calibration	
Date: May 2, 2019 Company/Airshed: PRAMP Location/Station Name: 842b Parameter: Sulphur Dioxide Start Time 24 hr. (mst): 14:01 End Time 24 hr. (mst): 18:06 Calibration Method: Gas Dilution	Barometer/B.P./units: Brunton #05490 935 millibars Thermometer/Station Temp: Station Probe 23 °C Weather Conditions: Cloudy/Overcast Calibration Purpose: routine monthly Performed By/Reviewer: Chris Wesson Rob Fisher Cal Gas Expiry Date: October 24, 2020 Converter Model & s/n (if applicable): n/a		
Analyzer: Serial Number/Owner: 835033373 CNRL Last Calibration Date: April 9, 2019 Previous C.F.: 0.999	Range ppb: 500 As Found C.F.: 0.987 New C.F.: 1.000		

Calibration Standards: Low Flow Meter ID/Expiry Date: N/A High Flow Meter ID/Expiry Date: N/A Calibrator ID/Expiry Date: EnviroNics 2000 #1991 expires February 13, 2020 Cal Gas Cylinder I.D. #: LL108015 Cal Gas Conc. (ppm): 47.9	Standard Calibration Points for Ranges <table border="1" style="margin: auto;"> <tr><td>Point</td><td>ppb</td></tr> <tr><td>High</td><td>380</td></tr> <tr><td>Mid</td><td>180</td></tr> <tr><td>Low</td><td>90</td></tr> </table>	Point	ppb	High	380	Mid	180	Low	90
Point	ppb								
High	380								
Mid	180								
Low	90								

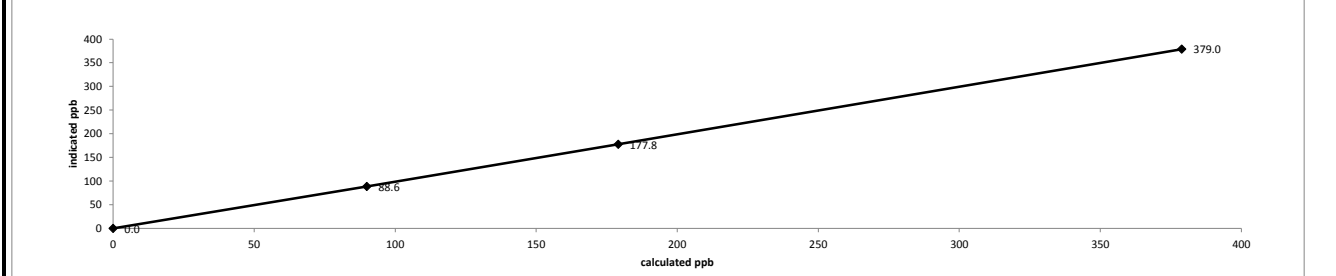
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Point	Calibrator Flow Rates (cc/min)			Calculated Concentration (ppb):	Indicated Concentration (ppb):	Correction Factors (C.F.):
	Diluent	Cal Gas	Total			
as found zero	6017	0.00	6017	0.0	-0.1	n/a
as found high	5969	47.60	6017	378.9	384	0.987
adjusted zero	6017	0.00	6017	0.0	0	n/a
adjusted high	5969	47.60	6017	378.9	379	1.000
mid	5996	22.50	6018	179.1	177.8	1.007
low	6005	11.30	6016	90.0	88.6	1.015
calibrator zero	6017	0.00	6017	0.0	0.2	n/a
Average C.F. =						1.008

Linear Regression/Calibration Results:

Correlation Coefficient = <u>1.000</u> Slope = <u>0.999</u> b (Intercept as % of full scale) = <u>0.17%</u> % change in C.F. from last cal = <u>1.25%</u>	LIMITS > or = 0.995 0.95-1.05 ± 3% F.S. ± 10%
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Thermo 43i Sulphur Dioxide Analyzer Calibration

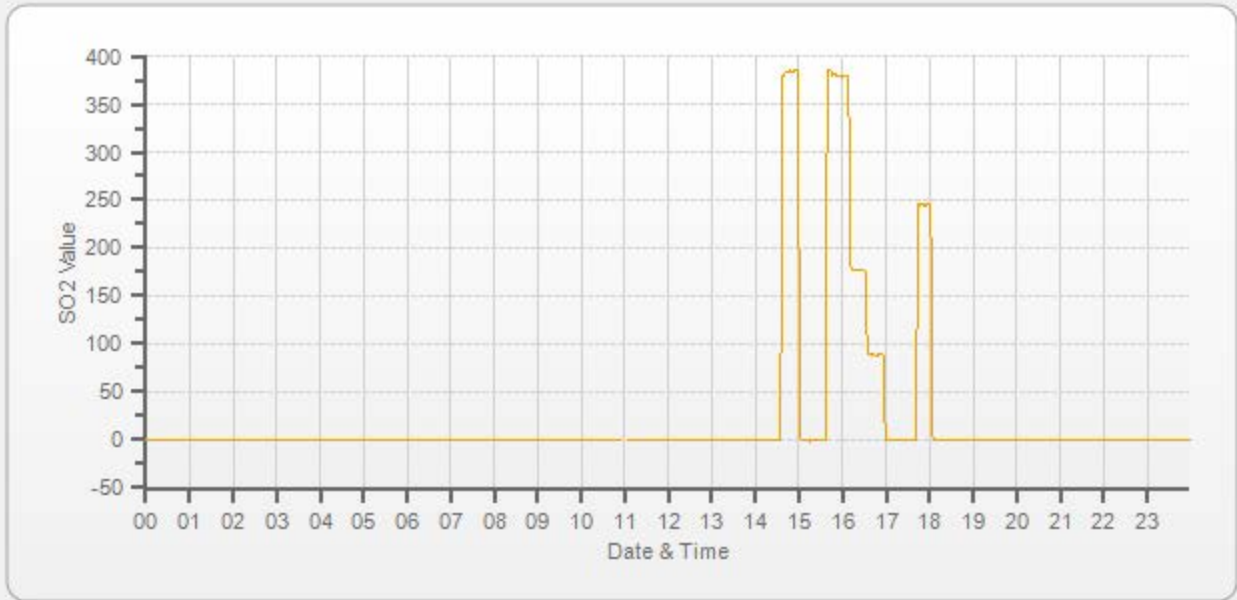


As found: Bkg: 15.0 Coef: 1.025 Pmt: -621.6 Flash: 905 Internal: 27.6 Chamber: 45.0 Perm Oven Gas: 45.00 Perm Oven Heater: 44.08 Pressure: 672.9 Sample Flow: 0.418 Lamp Intensity: 81 Averaging Time: 120 Expected Value: 248.8	As left: Bkg: 15.1 Coef: 1.004 Pmt: -621.6 Flash: 903 Internal: 26.8 Chamber: 45.0 Perm Oven Gas: 45.00 Perm Oven Heater: 44.08 Pressure: 673.2 Sample Flow: 0.418 Lamp Intensity: 81 Averaging Time: 120 Expected Value: 244.8
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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 power failure occurred at 15:13. The Adjusted Zero was restarted.

PRAMP Monthly Ambient Air Quality Monitoring Report for May 2019



Thermo 431-TLE Total Reduced Sulphur Analyzer Calibration	
Date: May 2, 2019 Company/Airshed: PRAMP Location/Station Name: 842b Parameter: Total Reduced Sulphur Start Time 24 hr. (mst): 11:10 End Time 24 hr. (mst): 16:46 Calibration Method: Gas Dilution	Barometer/B.P./units: Brunton #05490 935 millibars Thermometer/Station Temp: Station Probe 22 °C Weather Conditions: Cloudy/Overcast Calibration Purpose: routine monthly Performed By/Reviewer: Chris Wesson Rob Fisher Cal Gas Expiry Date: November 7, 2020 Converter Model & s/n (if applicable): CDNova CDN-101 #553
Analyzer: Serial Number/Owner: 1162460023 Maxxam Last Calibration Date: April 10, 2019 Previous C.F.: 1.000	Range ppb: 100 As Found C.F.: 1.015 New C.F.: 0.999

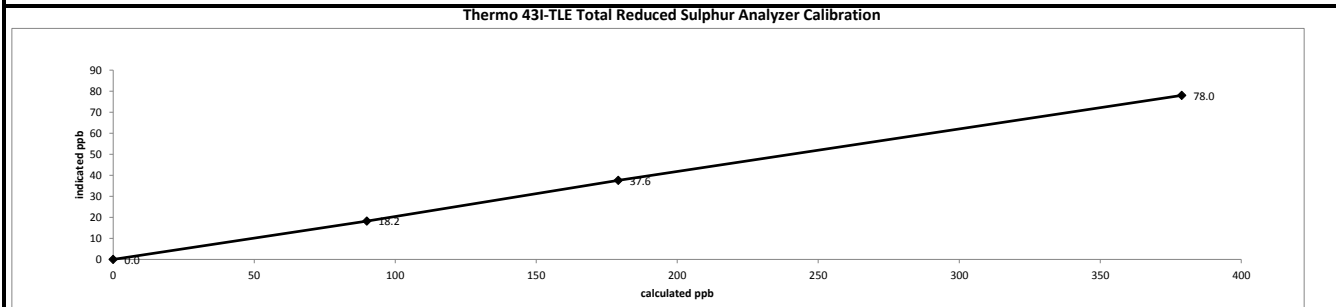
Calibration Standards: Low Flow Meter ID/Expiry Date: N/A High Flow Meter ID/Expiry Date: N/A Calibrator ID/Expiry Date: Environics 2000 #1991 expires February 13, 2020 Cal Gas Cylinder I.D. #: LL119432 Cal Gas Conc. (ppm): 10.28	Standard Calibration Points for Ranges <table border="1" style="margin: auto;"> <tr><th>Point</th><th>ppb</th></tr> <tr><td>High</td><td>78</td></tr> <tr><td>Mid</td><td>38</td></tr> <tr><td>Low</td><td>19</td></tr> </table>	Point	ppb	High	78	Mid	38	Low	19	SO2 Scrubber Check (10 minutes): Start/End Time 24 hr.: 11:52 / 12:07 SO2 Analyzer Range: 500 Target Concentration (ppb): 380 As Found Zero: 0.0 Analyzer Response: (ppb): 0.0 Zero Corrected Result (ppb): 0.0
Point	ppb									
High	78									
Mid	38									
Low	19									

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

Point	Calibrator Flow Rates (cc/min)			Calculated Concentration (ppb):	Indicated Concentration (ppb):	Correction Factors (C.F.):
	Diluent	Cal Gas	Total			
as found zero	7500	0.00	7500	0.0	0	n/a
as found high	7444	56.88	7501	78.0	76.81	1.015
adjusted zero	7500	0.00	7500	0.0	0	n/a
adjusted high	7444	56.88	7501	78.0	78	0.999
mid	7474	27.71	7502	38.0	37.57	1.010
low	7487	13.85	7501	19.0	18.2	1.043
calibrator zero	7503	0.00	7503	0.0	0.2	n/a
Average C.F. =						1.018

Linear Regression/Calibration Results:

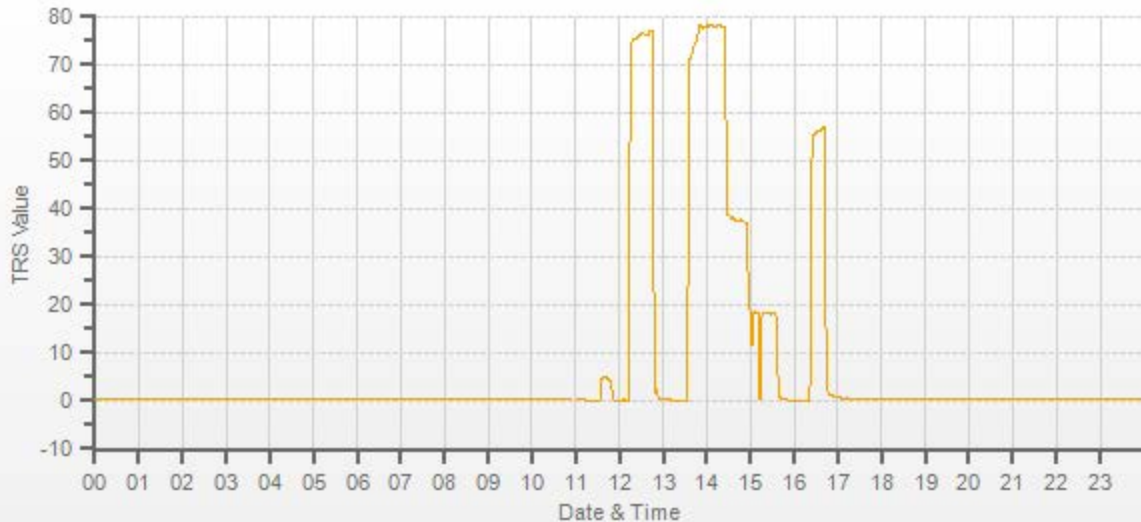
Correlation Coefficient = <u>1.000</u> Slope = <u>0.996</u> b (Intercept as % of full scale) = <u>0.41%</u> % change in C.F. from last cal = <u>-1.48%</u>	LIMITS > or = 0.995 0.95-1.05 ± 3% F.S. ± 10%
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Comments:
 The analyzer sample inlet filter was changed. The analyzer cooling fan filter(s) were cleaned. The manifold blower was found to be working normally.

An Operator error occurred at 11:34 - 11:50. The Scrubber check was restarted at 11:52
 The Daily iZS started at 15:00. A power failure occurred at 15:13. The Low point was restarted.

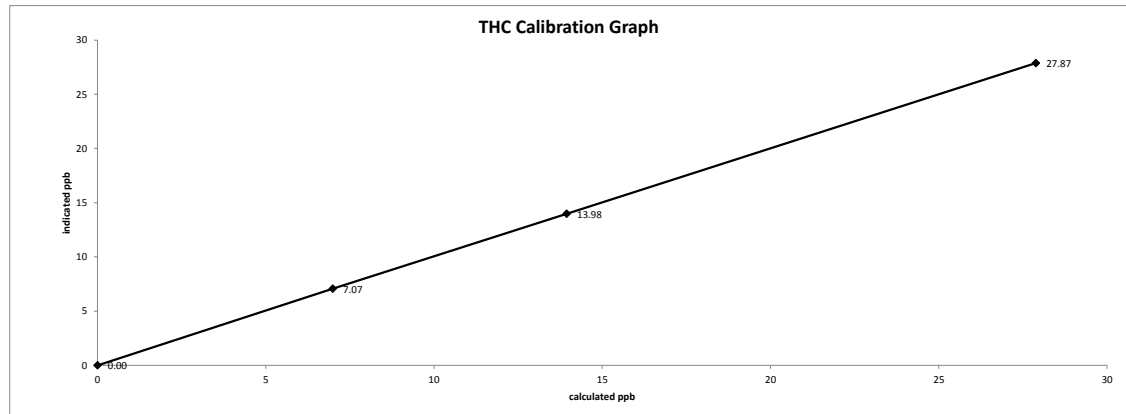
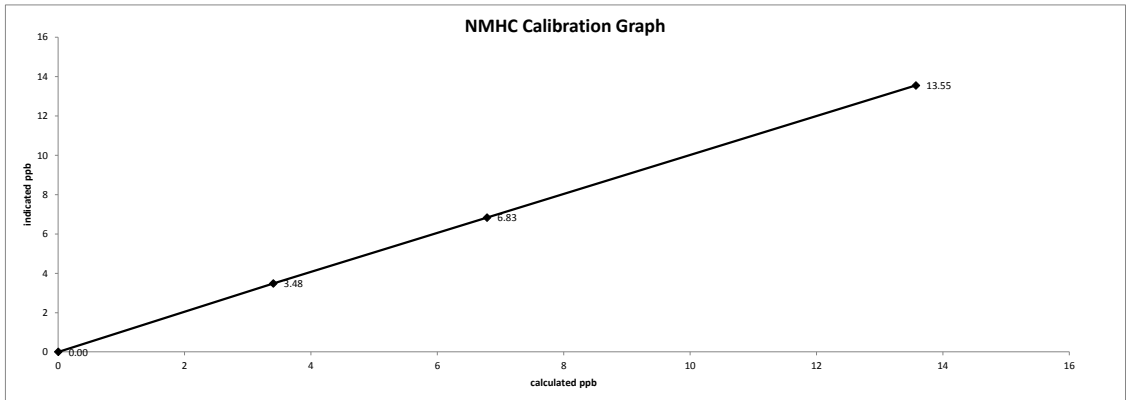
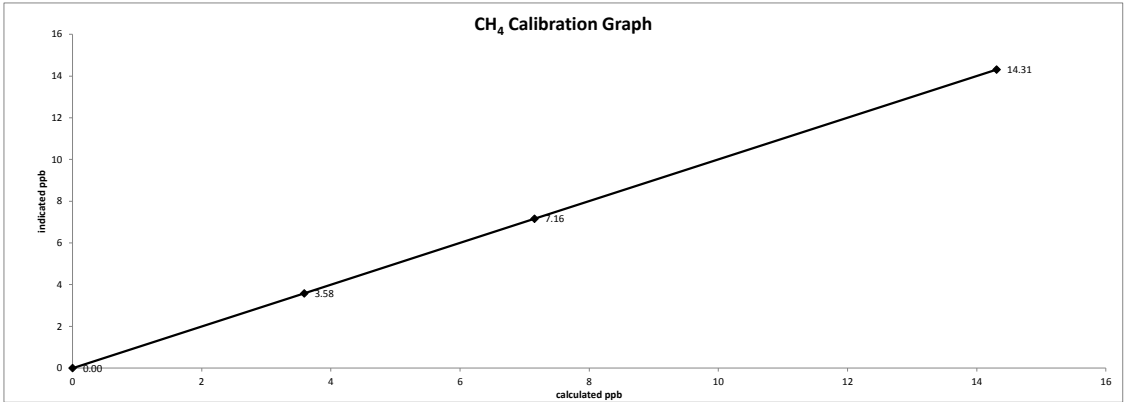
PRAMP Monthly Ambient Air Quality Monitoring Report for May 2019



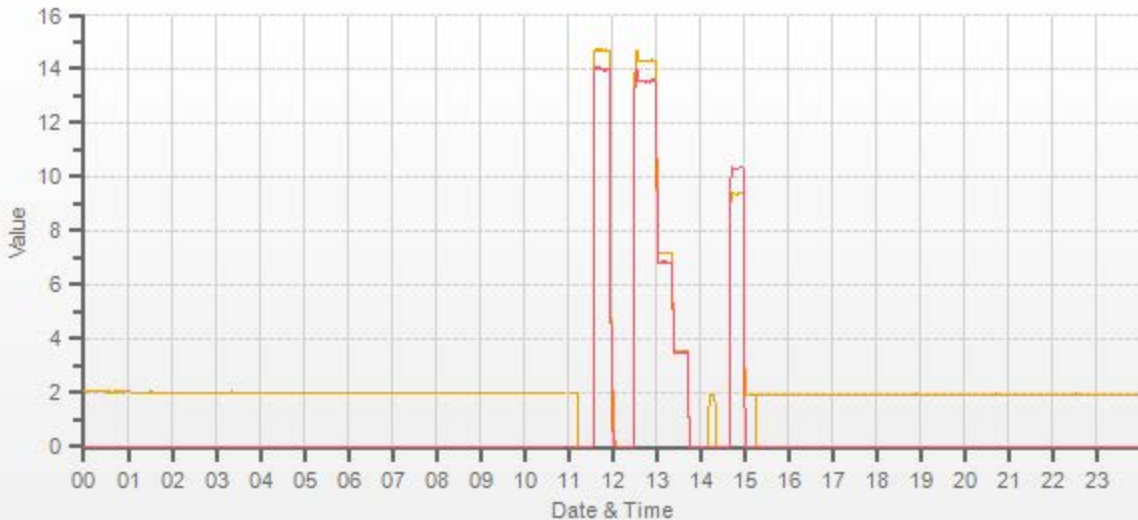
Thermo 55i Methane/Non-Methane Analyzer Calibration																																																																																																																																														
Date: May 2, 2019 Company/Airshed: PRAMP Location/Station Name: 842b Parameter: CH4 / NMHC / THC Start/End Time 24 hr. (mst): 11:10 / 15:24 Calibration Method: Gas Dilution				Barometer/B.P./units: Brunton #05490 935 millibars Thermometer/Station Temp: Station Probe 22 °C Weather Conditions: Cloudy/Overcast Calibration Purpose: routine monthly Performed By/Reviewer: Chris Wesson Rob Fisher Cal Gas Expiry Date: October 18, 2025																																																																																																																																										
Analyzer: Serial Number/Owner: 1505664392 Maxxam Measured Flow: 1.23 L/min Last Calibration Date: April 9, 2019 Range ppm: 20 CH4/20 NMHC/40 THC				Correction Factors: <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td>Previous C.F.:</td> <td>As Found C.F.:</td> <td>New C.F.:</td> </tr> <tr> <td>CH₄ =</td> <td>0.999</td> <td>0.975</td> <td>1.000</td> </tr> <tr> <td>NMHC =</td> <td>0.999</td> <td>0.972</td> <td>1.002</td> </tr> <tr> <td>THC =</td> <td>0.999</td> <td>0.973</td> <td>1.000</td> </tr> </table>										Previous C.F.:	As Found C.F.:	New C.F.:	CH ₄ =	0.999	0.975	1.000	NMHC =	0.999	0.972	1.002	THC =	0.999	0.973	1.000																																																																																																																		
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Calibration Standards: Low Flow Meter ID/Expiry Date: N/A High Flow Meter ID/Expiry Date: N/A Calibrator ID/Expiry Date: Sabio2010 #26801218 expires January 15, 2020 Cal Gas Cylinder I.D. #: LL107207 CH4 Cylinder Conc.: 600.0 207.0 =C ₃ H ₈ Cylinder Conc. CH ₄ expressed as C ₃ H ₈ : 569.3 1169.3 =total CH4 equivalent				Standard Calibration Points for Analyzer Range of 20/20/40 ppm <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>Point</td> <td>CH4</td> <td>NMHC</td> <td>THC</td> </tr> <tr> <td>High</td> <td>13.00</td> <td>13.00</td> <td>26.00</td> </tr> <tr> <td>Mid</td> <td>7.00</td> <td>7.00</td> <td>14.00</td> </tr> <tr> <td>Low</td> <td>3.00</td> <td>3.00</td> <td>6.00</td> </tr> </table>									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																																																																																																																		
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Interface Board Voltages: Temperatures: Cylinder Pressures/reg.: Internal Pressures: FID Status: Flame and Power Stats: Calibration History:				Bias Supply: -294.5 Detector Oven: 175.0 Filter: 1750 Column Oven: 74.9 Internal: 33.4 Carrier: 600 50 Fuel: 2000 50 Span Gas: 1500 18 Zero Air Generator: 50 Carrier: 31.1 Fuel: 47.4 Air: 23.7 Status: LIT Counts: 35502 Flame: 378.0 Det Base: 175.0 Last Power On: 15Apr2019@04:48 Flameouts: 1 Det Oven at Start: 166.4 Col Oven at Start: 74.0 Time: 02May2019@12:40 Type: SPAN Status: GOOD Check/Adjust: ADJUST CH ₄ Span Conc: 14.31 CH ₄ SP Ratio: 0.000698 CH ₄ RT: 12.2 CH ₄ PK IDX: 21 CH ₄ PK HT: 20487 NM Span Conc: 13.57 NM SP Ratio: 0.000166																																																																																																																																										
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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: May 2, 2019
 Company/Airshed: PRAMP
 Location/Station Name: 842b

Start/End Time 24 hr. (mst): 11:10 / 15:24
 Calibration Purpose: routine monthly
 Calibration Method: Gas Dilution



PRAMP Monthly Ambient Air Quality Monitoring Report for May 2019



Maxxam Analytics		Meteorological System Checklist	
Date:	May 2, 2019		
Technician:	Chris Wesson		
Reviewer:	Rob Fisher		
Station:	PRAMP 842b		
Unit:	Make:	Model:	Serial #:
Temperature Sensor:	Campbell Scientific	HMP45C	C2608
Barometric Pressure Sensor:	MetOne	92	K12864
Relative Humidity Sensor:	Campbell Scientific	HMP45C	C2608
Anemometer:	RM Young	05305VK	124638
AMBIENT TEMPERATURE SENSOR CHECK			
Previous check date:	April 9, 2019		
Parameter:	Temperature @ 2 metres (1 C tolerance)		
Reference Thermometer ID:	F.S. 181341226 expires June 07, 2020		
Reference Temperature (°C):	7.0		
Station - Ambient Temperature (°C):	6.8		
Temperature Difference (°C):	0.2		
BAROMETRIC PRESSURE SENSOR CHECK			
Previous check date:	April 9, 2019		
Reference Barometer ID:	Brunton 05490 expires January 17, 2020		
Reference Pressure - Units/Reading:	millibar	934.7	
Station Pressure - Units/Reading:	millibar	936	
Pressure Tolerance +/- 15% of error:	794 - 1075	-0.14%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Previous check date:	April 9, 2019		
Reference Hygrometer ID:	F.S. 181341226 expires June 07, 2020		
Reference Hygrometer % RH- Reading:	49.50		
Station Hygrometer % RH- Reading:	48.40		
RH Tolerance +/- 15% of difference:	42.08 - 56.93	2.2%	
ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK			
WIND SPEED		WIND DIRECTION	
Previous check date:	February 7, 2019	Previous check date:	February 7, 2019
Wind Speed Observed (kph):	5-15	Wind Direction Observed:	NW
Wind speed on Data Logger (kph):	9	Wind Direction on Data Logger:	NW
		Wind Direction Pass/Fail?:	Pass



Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2019-396A

Company Maxxam **Operator:** Alex

Calibrator:				Flow Measurement Device:			
Make/Model	<u>Sabio 2010</u>			Make/Model	<u>N/A</u>		
Serial Number	<u>26801218</u>			Serial Number	<u>N/A</u>		
Last Verification Date	<u>New</u>			Temperature (°C)	<u>N/A</u>		
NO Cylinder S/N	<u>LL48147</u>			Barometric Pressure	<u>N/A</u>		
NO [PPM]	<u>50.5</u>	NOx [PPM]	<u>50.6</u>				
Expiry Date	<u>August 2026</u>						

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

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%	
5015	79.1	0.797	0.798	0.793	0.001	0.794	0%	-1%
5015	39.6	0.399	0.400	0.395	0.001	0.396	-1%	-1%
5017	19.8	0.199	0.200	0.197	0.000	0.197	-1%	-1%
Absolute Average Percent Difference							1%	1%

LINEAR REGRESSION ANALYSIS				<i>y=mx+b (where x=calculated concentration, y=indicated concentration)</i>			
NO		LIMITS		NOx			
Correlation=	1.0000	≥	0.990	Correlation=	1.0000		
m (Slope)=	0.9959		0.90-1.10	m (Slope)=	0.9954		
b (Intercept % of FS)=	-0.0968	±	3% F.S.	b (Intercept % of FS)=	-0.0969		

Flow	O ₃ Conc	NO Decrease	NO	NO ₂	NOX	% Diff. Vs Audit gas	
5015	0.000	0.000	0.792	0.001	0.793	NO ₂	% Diff. Limit
5015	0.500	0.496	0.296	0.493	0.791	-1%	± 10%
5015	0.250	0.246	0.546	0.245	0.793	-1%	± 10%
5015	0.100	0.098	0.694	0.098	0.793	-1%	± 10%
Absolute Average Percent Difference						1%	± 10%

LINEAR REGRESSION ANALYSIS				<i>y=mx+b (where x=calculated concentration, y=indicated concentration)</i>			
NO₂		LIMITS					
Correlation=	1.0000	≥	0.995				
m (Slope)=	0.9921		0.90-1.10				
b (Intercept % of FS)=	0.0909	±	3% F.S.				

AENV Standards		NO_x Analyzer	
Audit Calibrator		Make/Model	<u>Teco 42i</u>
Make/Model	<u>Teco 146i</u>	Serial/AMU Number	<u>AMU 1868</u>
Serial/AMU Number	<u>AMU 1809</u>	Last Calibration Date	<u>January 14, 2019</u>
SRM Gas Cylinder No.	<u>APEX1236645</u>	Full Scale (ppm)	<u>1.0</u>
Cylinder Conc. (ppm)	<u>50.05</u>	Cylinder Gas Expiry Date	<u>June 2021</u>

COMMENTS: _____

Auditor: Al Clark Date: January 15, 2019

Operator Signature: Location: McIntyre Center Edmonton

Company: Maxxam Operator: C. Wesson

Calibrator:		Flow Measurement Device:	
Make/Model	<u>Envionics 2000</u>	Make/Model	<u>N/A</u>
Serial Number	<u>1991</u>	Serial Number	<u>N/A</u>
Last Verification Date	<u>March 1, 2018</u>	Temperature (°C)	<u>N/A</u>
SO ₂ Cylinder Conc.	<u>49.5</u>	Barometric Pressure	<u>N/A</u>
SO ₂ Cylinder S/N	<u>LL48147</u>		
Expiry Date	<u>August 2026</u>		

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	% Diff. 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 <u>Teco 43i</u>
Make/Model <u>Sabio 2010</u>	Serial/AMU Number <u>AMU 2195</u>
Serial/AMU Number <u>AMU 2092</u>	Last Calibration Date <u>February 8, 2019</u>
SO ₂	Full Scale (ppm) <u>1.0</u>
SRM Gas Cylinder No. <u>FF28071</u>	Expiry Date <u>March 2020</u>
Cylinder Conc. (ppm) <u>50.3</u>	

COMMENTS:

Auditor: Al Clark Date: February 13, 2019
Operator Signature: [Signature] Location: McIntyre Center Edmonton



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

<p>Reference Calibrator and Gas: Make/Model: <u>R&R MFC 201</u> Serial Number: <u>AMU 1690</u> Last Verification Date: <u>December 13, 2017</u> Gas Type: <u>SO2</u> Conc. <u>98.07</u> Cylinder Number: <u>CAL016625</u> Expiry Date: <u>January 2019</u></p>	<p>Flow Measurement Device: Make/Model: <u>Mesa Definer 220</u> Serial Number: <u>H-133034 / L-132702</u> Temp. °C: <u>23.4 C</u> B.P.: <u>707 mmHg</u></p>
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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 Concentration (PPM)	Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration
Dilution	Gas				
5000	0.0	0.000	0.000	0.000	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 **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: *Al Clark* Location: McIntyre Center Edmonton



Calibration Gas Audit

Single Component Cylinder Gas

File No. 2017-485CGA

Company: Maxxam **Operator's Name:** Mike
Cylinder #: LL119432 **Concentration PPM:** 10.28 **Tolerance(%)** 2 **Certified By:** Praxair
Expiry Date: November 2020

Reference Calibrator and Gas:

Make/Model: R&R MFC 201
Serial Number: AMU 1690
Last Verification Date: December 13, 2017
Gas Type: H2S **Conc.** 20.43
Cylinder Number: CAL015272
Expiry Date: January 2019

Flow Measurement Device:

Make/Model: Mesa Definer 220
Serial Number: H-133034 / L-132702
Temp. °C: 22.8 C
B.P. 705 mmHg

Reference Analyzer:

Make/Model: Teco 450i **Serial/AMU Number:** 1980
Instrument Settings: **Zero:** 22.3 **Span:** 1.090 **Range:** 0.1
Last Calibration: **Date:** Dec12/17 **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	X	X	X
5134	39.4	0.0763	0.00767	130.305	9.94
5104	18.3	0.0349	0.00359	278.907	9.73
5097	9.4	0.0169	0.00184	542.234	9.16
Average Cylinder Concentration:					9.61

Previous Stated Concentration PPM: 10.28

Percent variance from Stated: 6

Meets Manufacturer Tolerance. Use manufacturers stated concentration **COMMENTS:** _____
 < =5% Outside Manufacturer Tolerance. Use manufacturers concentration Gas trends downward suspect moisture in cylinder.
 > 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder Suggest replacing gas as it passes but its marginal.

Auditor: Al Clark
Operator Signature:

Date: December 13, 2017
Location: McIntyre Center Edmonton



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:				Flow Measurement Device:	
Make/Model	<u>R&R MFC 201</u>			Make/Model	<u>Mesa Definer 220</u>
Serial Number	<u>AMU 1690</u>			Serial Number	<u>H-133034 / L-132702</u>
Last Verification Date	<u>December 13, 2017</u>			Temp. °C	<u>23.1 C</u>
Gas Type	<u>CH4</u>	Conc.	<u>990.4</u>	B.P.	<u>707 mmHg</u>
Cylinder Number	<u>5604875</u>	Expiry Date	<u>July 2021</u>		
Gas Type	<u>C3H8</u>	Conc.	<u>246.5</u>		
Cylinder Number	<u>XF003845B</u>	Expiry Date	<u>July 2022</u>		

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/ Dilution Flow	Concentration Factor	Cylinder Concentration	
Dilution	Gas	CH4	C3H8			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

	<u>CH₄</u>	<u>C₃H₈</u>
Previous Stated Concentration PPM:	<u>600</u>	<u>207</u>
Percent variance from Stated:	<u>0</u>	<u>2</u>

Cylinder gas tolerances based on CH₄ only

Meets Manufacturer Tolerance. Use manufacturers stated concentration **COMMENTS:**
 < =5% Outside Manufacturer Tolerance. Use manufacturers concentration
 > 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder

Auditor: Al Clark Date: December 13, 2017
 Operator Signature: Location: McIntyre Center Edmonton



Peace River Area Monitoring Program

MAY 2019

Ambient Air Monitoring Calibration Report

- 986 STATION-

CAL-PRAMP-201905-01562

Operation and Maintenance:

Maxxam Analytics

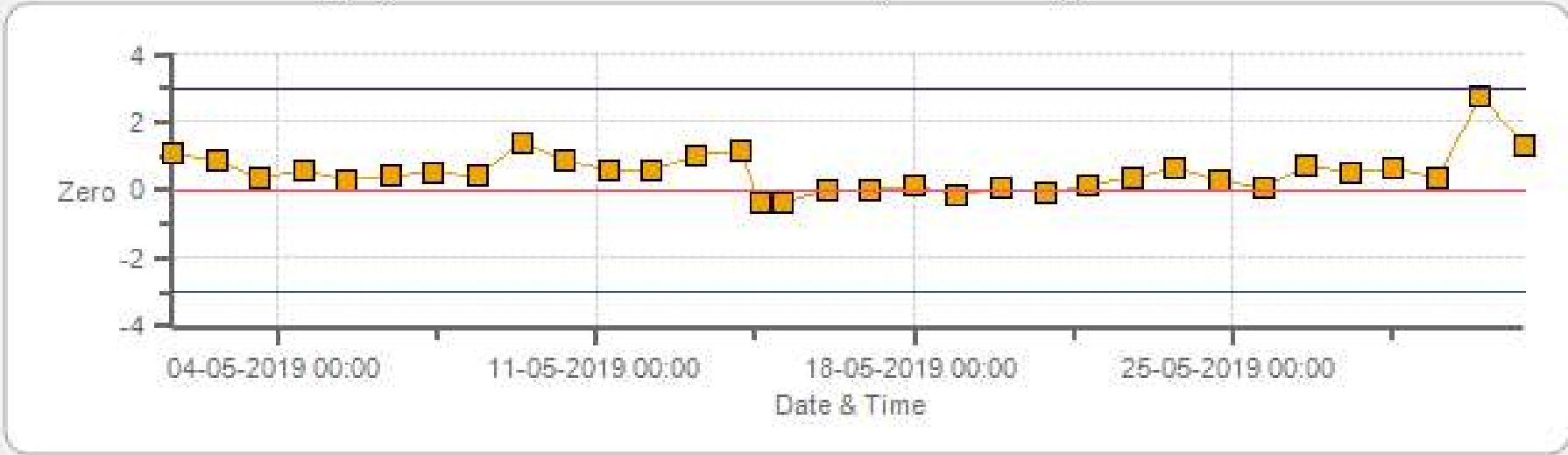
Data Validation and Report:

Maxxam Analytics

June 7, 2019

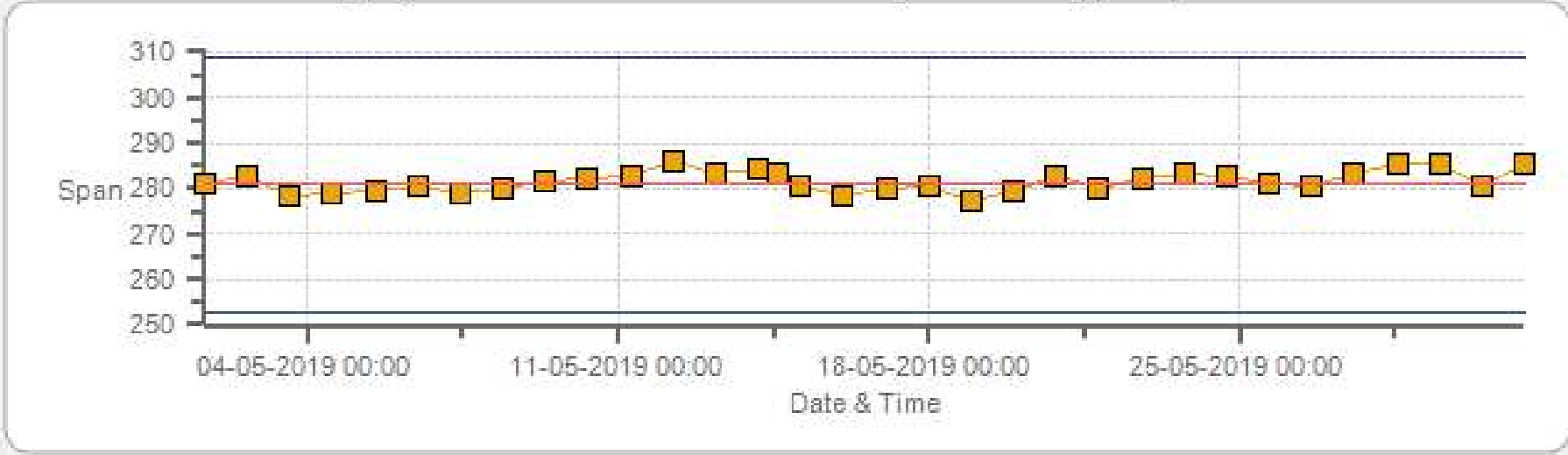
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2 [ppb] Calibration: PRAMP 986 Monthly: 05-2019 Type: Zero



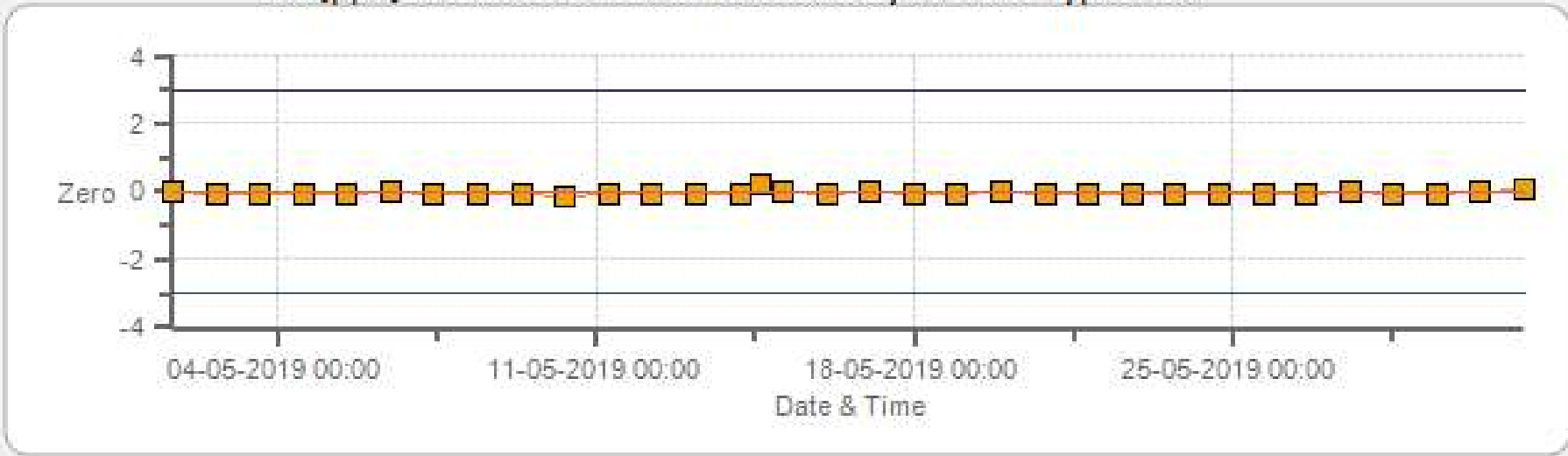
Zero Zero Ref Zero Low Zero High

SO2 [ppb] Calibration: PRAMP 986 Monthly: 05-2019 Type: Span



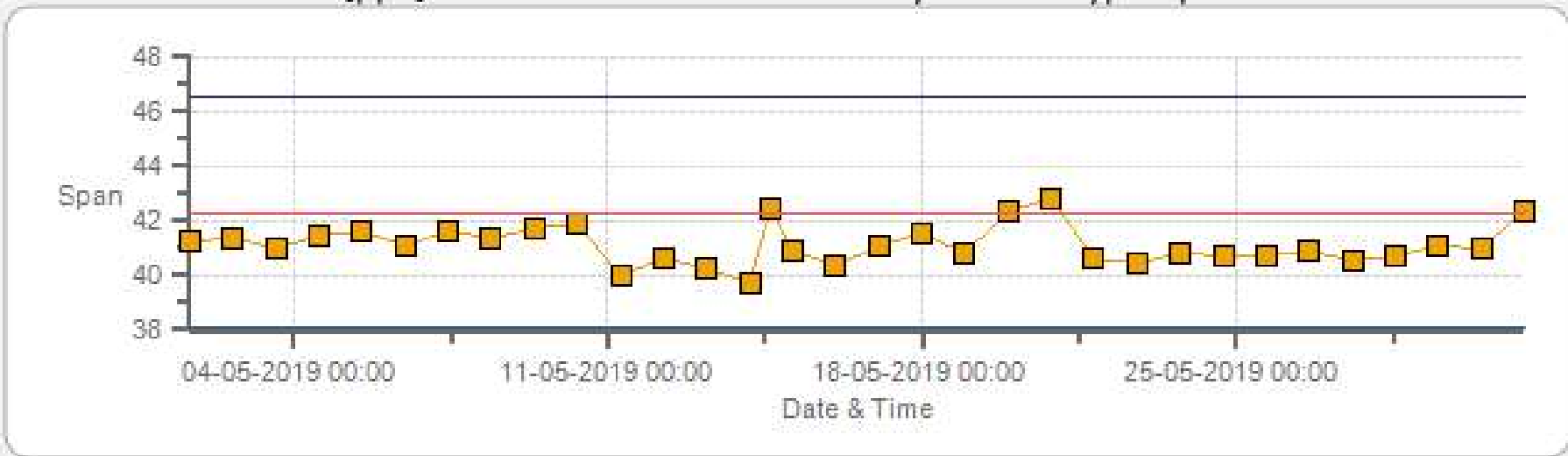
Span SpanRef Span Low Span High

TRS [ppb] Calibration: PRAMP 986 Monthly: 05-2019 Type: Zero



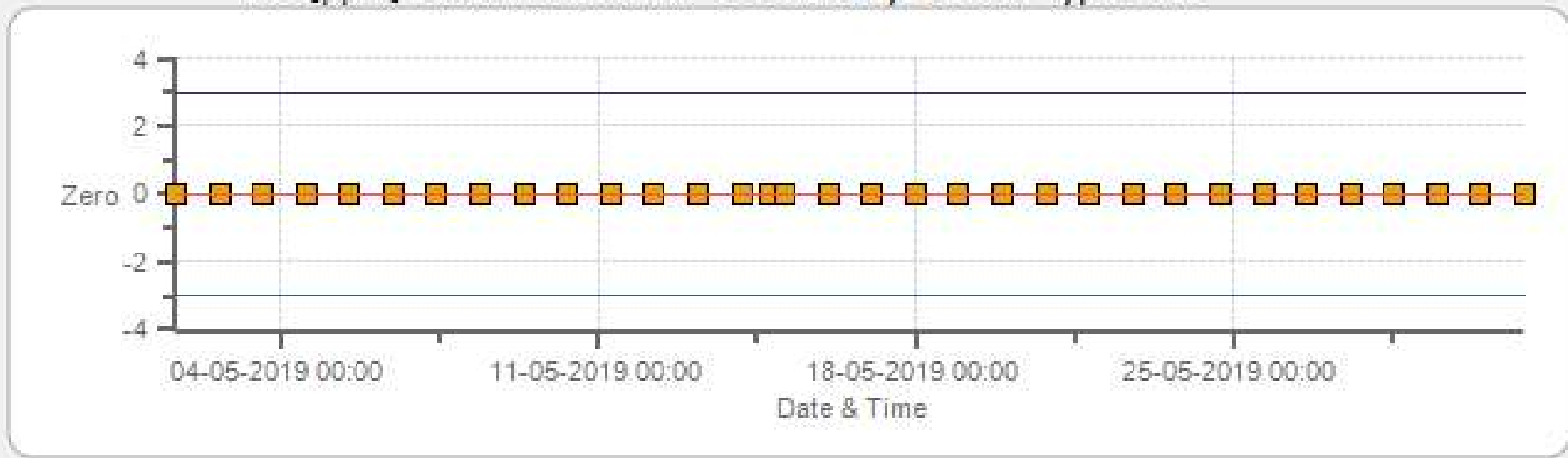
Zero Zero Ref Zero Low Zero High

TRS [ppb] Calibration: PRAMP 986 Monthly: 05-2019 Type: Span



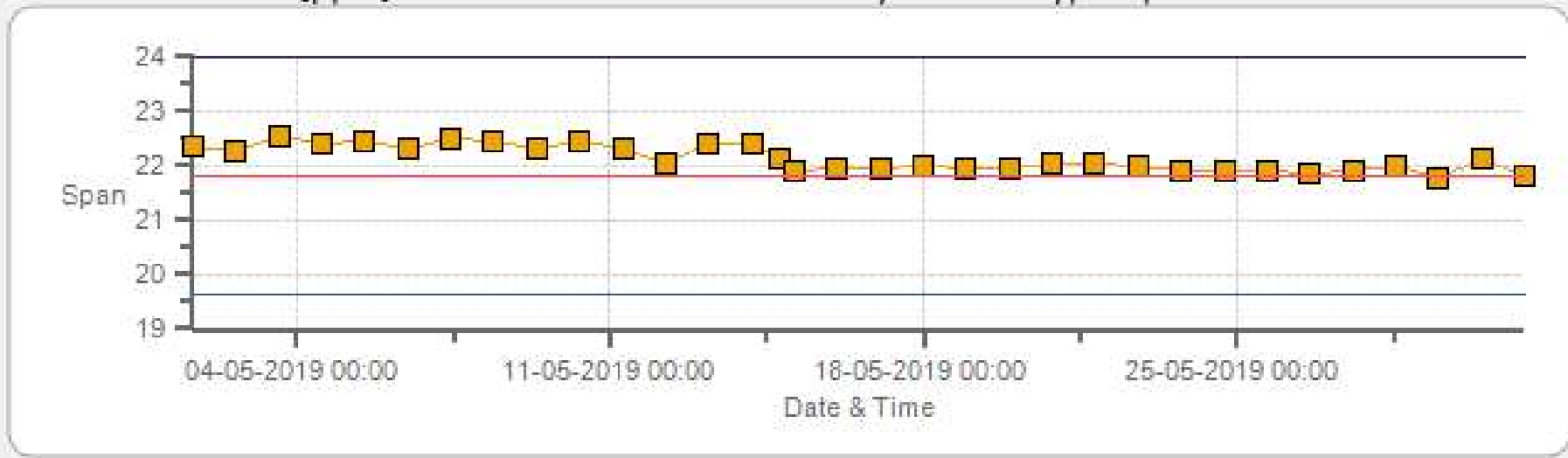
Span SpanRef Span Low Span High

THC [ppm] Calibration: PRAMP 986 Monthly: 05-2019 Type: Zero



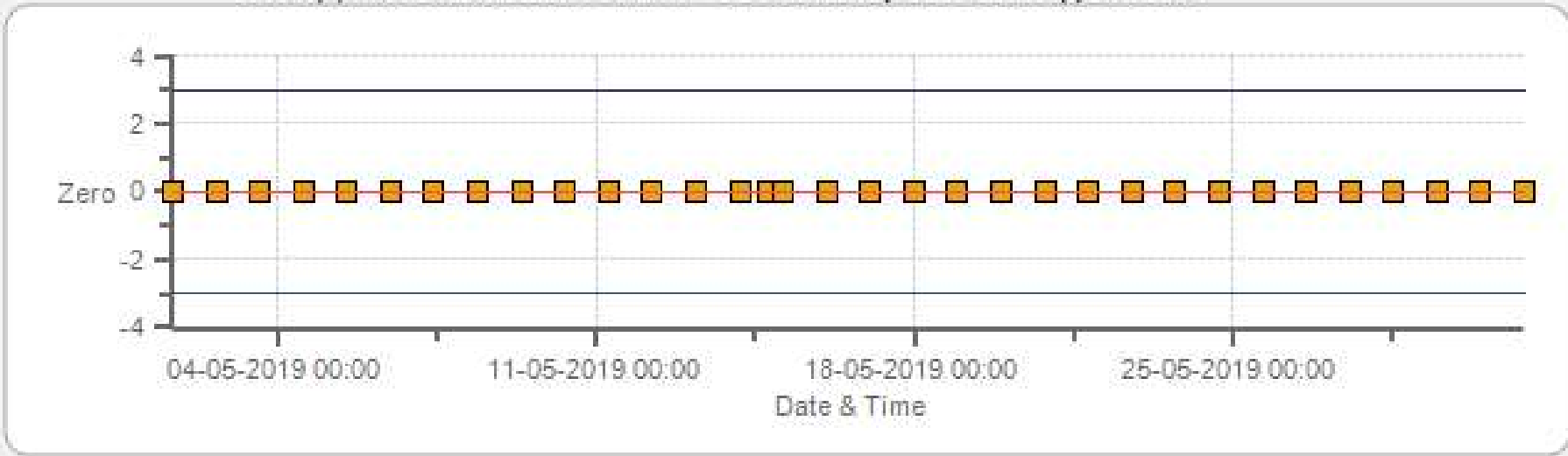
Zero Zero Ref Zero Low Zero High

THC [ppm] Calibration: PRAMP 986 Monthly: 05-2019 Type: Span



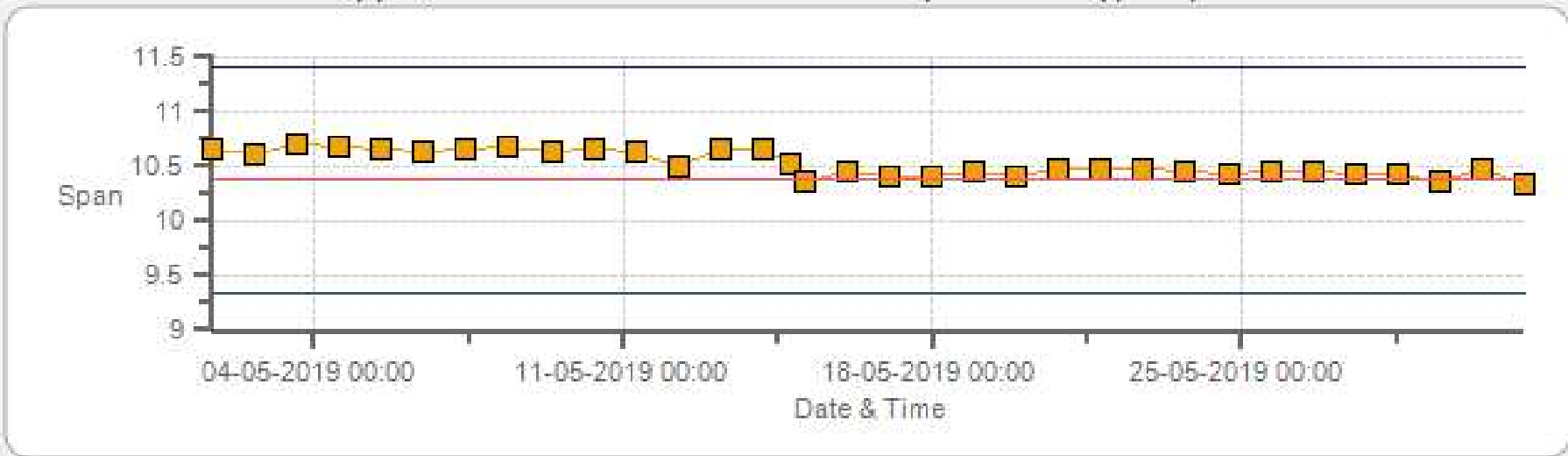
Span Span Ref Span Low Span High

CH4 [ppm] Calibration: PRAMP 986 Monthly: 05-2019 Type: Zero



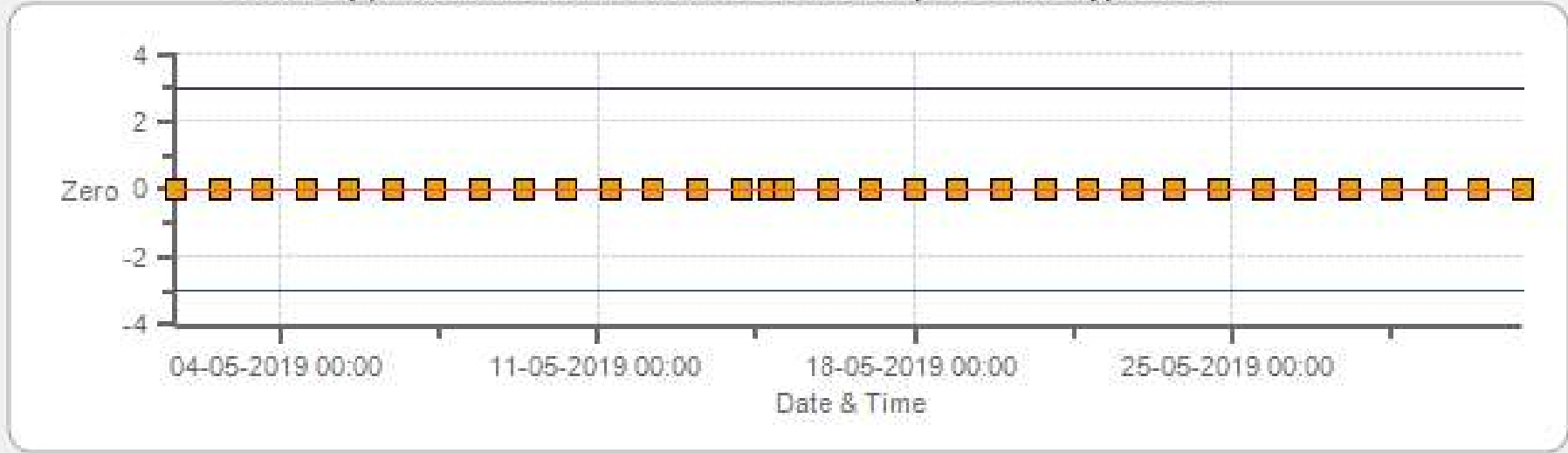
Zero Zero Ref Zero Low Zero High

CH4 [ppm] Calibration: PRAMP 986 Monthly: 05-2019 Type: Span



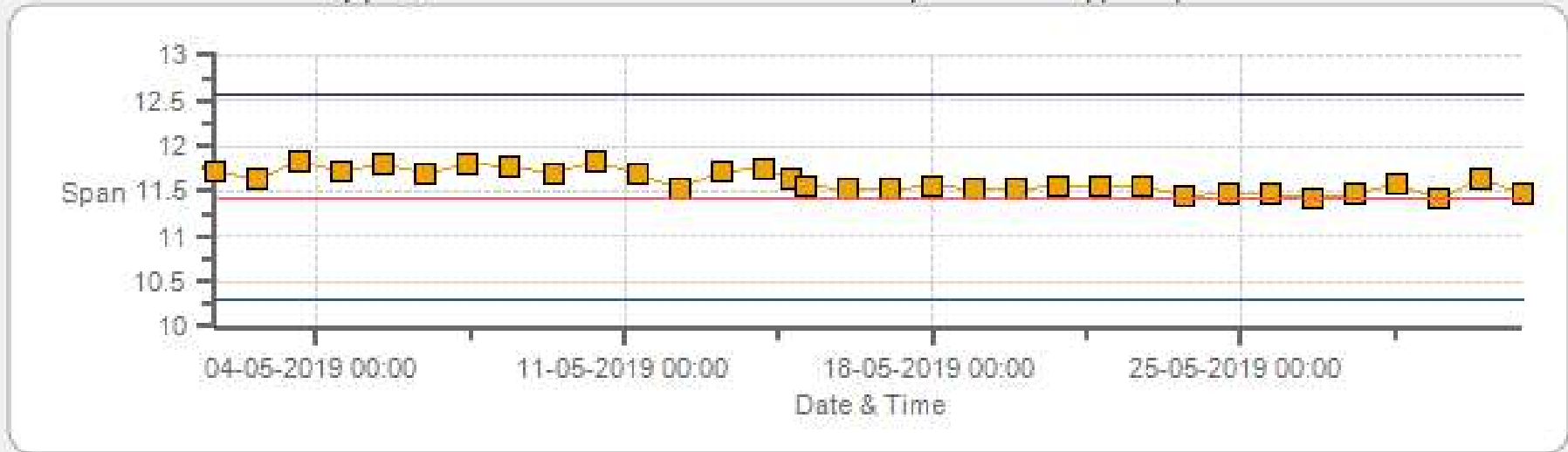
Span SpanRef Span Low Span High

NMHC [ppm] Calibration: PRAMP 986 Monthly: 05-2019 Type: Zero



Zero Zero Ref Zero Low Zero High

NMHC [ppm] Calibration: PRAMP 986 Monthly: 05-2019 Type: Span



Span SpanRef Span Low Span High

MULTI-POINT CALIBRATION RECORDS



Thermo 43C Sulphur Dioxide Analyzer Calibration

Date:	May 14, 2019	Barometer/B.P./units:	F.S. 10528 expires January 23, 2020	945	millibars
Company/Airshed:	PRAMP	Thermometer/Station Temp:	Datalogger Station Temp	22.7	°C
Location/Station Name:	986b	Weather Conditions:	Mix of sun and clouds		
Parameter:	Sulphur Dioxide	Calibration Purpose:	routine monthly		
Start Time 24 hr. (mst):	8:50	Performed By/Reviewer:	Ferdinand Roy	Rob Fisher	
End Time 24 hr. (mst):	14:37	Cal Gas Expiry Date:	December 8, 2019		
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	n/a		
Analyzer:					
Serial Number/Owner:	43C-62339-335 Maxxam	Range ppb:	500		
Last Calibration Date:	April 11, 2019	As Found C.F.:	0.995		
Previous C.F.:	1.000	New C.F.:	0.999		

Calibration Standards:		Standard Calibration Points for Ranges
Low Flow Meter ID/Expiry Date:	N/A	Point
High Flow Meter ID/Expiry Date:	N/A	High
Calibrator ID/Expiry Date:	Envionics id# 5212 expires February 13, 2020	Mid
Cal Gas Cylinder I.D. #:	EY0000597	Low
Cal Gas Conc. (ppm):	50.4	

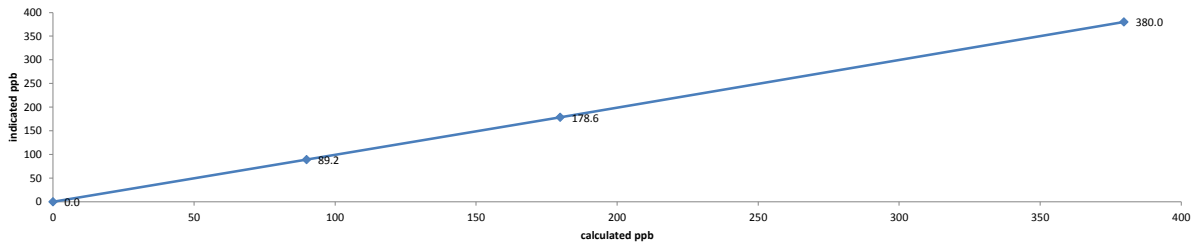
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total	Concentration (ppb):		
as found zero	5998	0.00	5998	0.0	1.2	n/a
as found high	5952	45.19	5997	379.8	382.8	0.995
adjusted zero	5999	0.00	5999	0.0	0	n/a
adjusted high	5952	45.19	5997	379.8	380	0.999
mid	5976	21.40	5998	179.8	178.6	1.007
low	5985	10.69	5996	89.9	89.2	1.008
calibrator zero	5999	0.00	5999	0.0	0.3	n/a
					Average C.F.=-	1.005

Linear Regression/Calibration Results:

Correlation Coefficient =	1.000	LIMITS
Slope =	0.999	> or = 0.995
b (Intercept as % of full scale)=	0.12%	0.95-1.05
% change in C.F. from last cal=	0.48%	± 3% F.S.
		± 10%

Thermo 43C Sulphur Dioxide Analyzer Calibration



Bkg:	As found: 90.2	Bkg:	As left: 91.2
Coef:	0.924	Coef:	0.920
Pmt:	-654	Pmt:	-654
	0 LAMP=854		0 LAMP=854
Battery:	3.3	Battery:	3.3
Internal:	29.6	Internal:	28.7
Chamber:	45.3	Chamber:	45.3
Pressure:	378.7	Pressure:	378.1
Flow:	0.671	Flow:	0.671
Intensity:	38024	Intensity:	37882
Averaging Time:	120	Averaging Time:	120
Expected Value:	281.0	Expected Value:	281.0

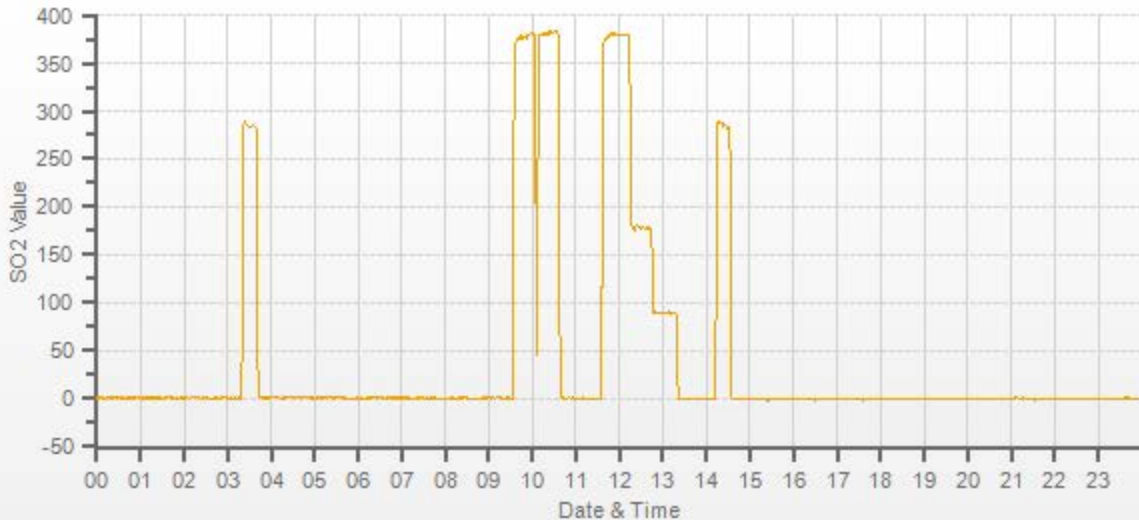
Comments:

The analyzer sample inlet filter was changed.

The analyzer cooling fan filter(s) were cleaned.

The manifold blower was found to be working normally.

As found high point stopped at 10:04 due to slow analyzer response. As found high point restarted at 10:06 after flushing regulator.





Thermo 431-TLE Total Reduced Sulphur Analyzer Calibration

Date:	May 14, 2019	Barometer/B.P./units:	F.S. 10528 expires January 23, 2020	945	millibars
Company/Airshed:	PRAMP	Thermometer/Station Temp:	Datalogger Station Temp	22.7	°C
Location/Station Name:	986b	Weather Conditions:	Mix of sun and clouds		
Parameter:	Total Reduced Sulphur	Calibration Purpose:	routine monthly		
Start Time 24 hr. (mst):	8:50	Performed By/Reviewer:	Ferdinand Roy	Rob Fisher	
End Time 24 hr. (mst):	14:38	Cal Gas Expiry Date:	May 16, 2020		
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	CDN-101 #516		
Analyzer:	Serial Number/Owner: 1152940011 Maxxam	Range ppb:	100		
	Last Calibration Date: April 11, 2019	As Found C.F.:	0.990		
	Previous C.F.:	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: Envionics id# 4760 expires February 14, 2020 Cal Gas Cylinder I.D. #: LL119420 Cal Gas Conc. (ppm): 10.2	Standard Calibration Points for Ranges <table border="1"> <tr><th>Point</th><th>ppb</th></tr> <tr><td>High</td><td>78</td></tr> <tr><td>Mid</td><td>38</td></tr> <tr><td>Low</td><td>19</td></tr> </table>	Point	ppb	High	78	Mid	38	Low	19	SO2 Scrubber Check (10 minutes): Start/End Time 24 hr.: 9:26/9:41 SO2 Analyzer Range: 500 Target Concentration (ppb): 380 As Found Zero: -0.1 Analyzer Response (ppb): -0.1 Zero Corrected Result (ppb): 0.0
Point	ppb									
High	78									
Mid	38									
Low	19									

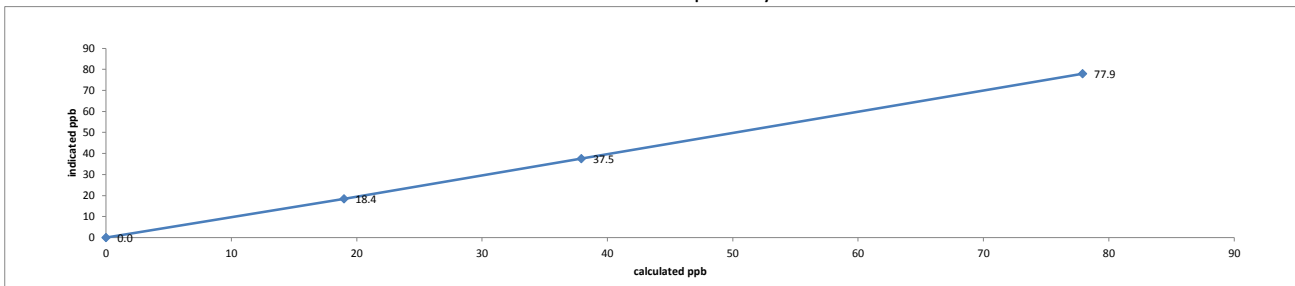
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total	Concentration (ppb):		
as found zero	7486	0.00	7486	0.0	-0.07	n/a
as found high	7429	57.19	7487	77.9	78.6	0.990
adjusted zero	7487	0.00	7487	0.0	0	n/a
adjusted high	7430	57.19	7487	77.9	77.9	1.000
mid	7460	27.84	7488	37.9	37.53	1.010
low	7474	13.93	7488	19.0	18.39	1.032
calibrator zero	7487	0.00	7487	0.0	0.2	n/a
Average C.F. =						1.014

Linear Regression/Calibration Results:

Correlation Coefficient =	1.000	LIMITS	> or = 0.995
Slope =	0.998		0.95-1.05
b (Intercept as % of full scale) =	0.32%		± 3% F.S.
% change in C.F. from last cal =	0.95%		± 10%

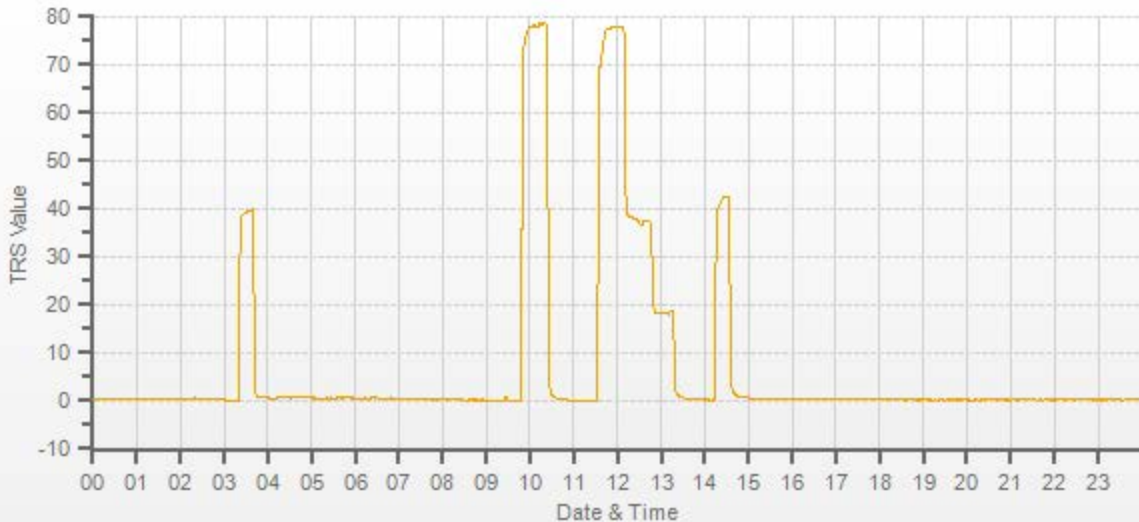
Thermo 431-TLE Total Reduced Sulphur Analyzer Calibration



As found:		As left:	
Bkg:	2.09	Bkg:	2.05
Coef:	0.958	Coef:	0.958
Pmt:	-690.8	Pmt:	-691.2
Flash:	967	Flash:	967
Internal:	31.9	Internal:	32.5
Chamber:	44.8	Chamber:	45.0
Perm Oven Gas:	45.00	Perm Oven Gas:	45.00
Perm Oven Heater:	44.25	Perm Oven Heater:	44.25
Pressure:	656.8	Pressure:	655.6
Sample Flow:	0.479	Sample Flow:	0.479
Lamp Intensity:	91	Lamp Intensity:	92
Converter:	820	Converter:	820
Converter Set:	820	Converter Set:	820
Averaging Time:	120	Averaging Time:	120
Expected Value:	42.3	Expected Value:	42.3

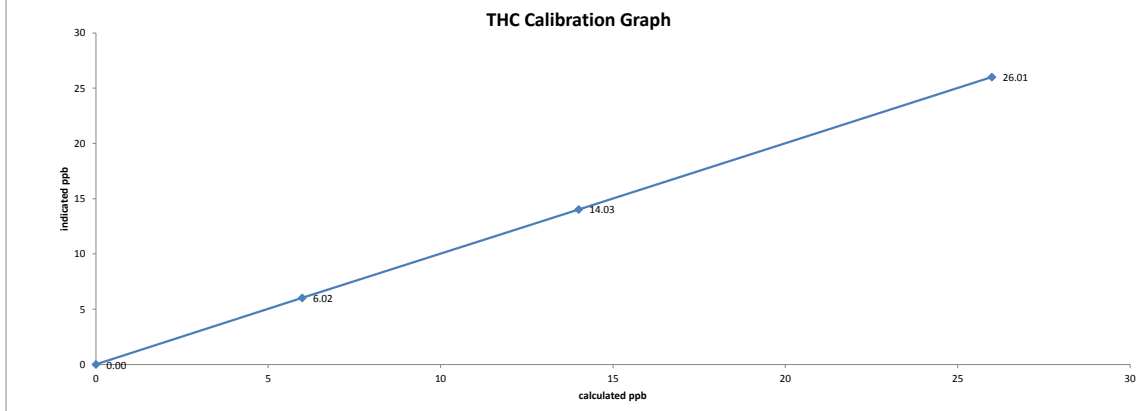
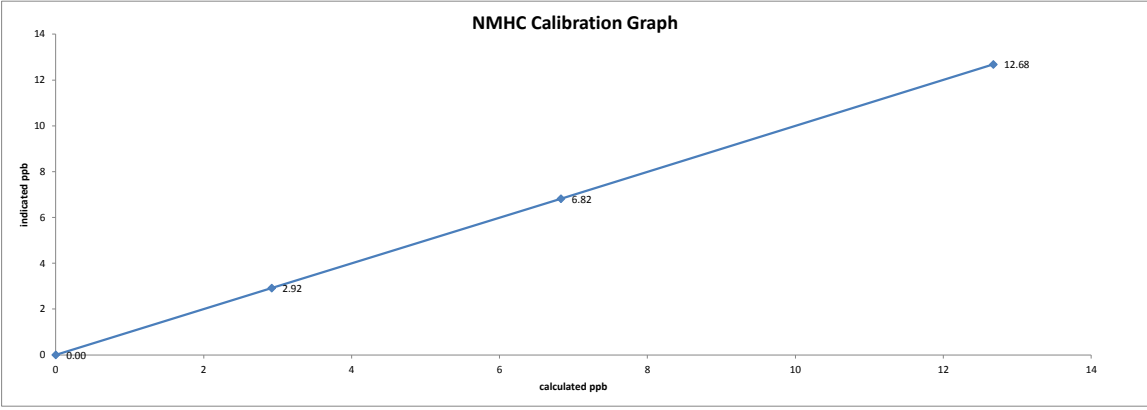
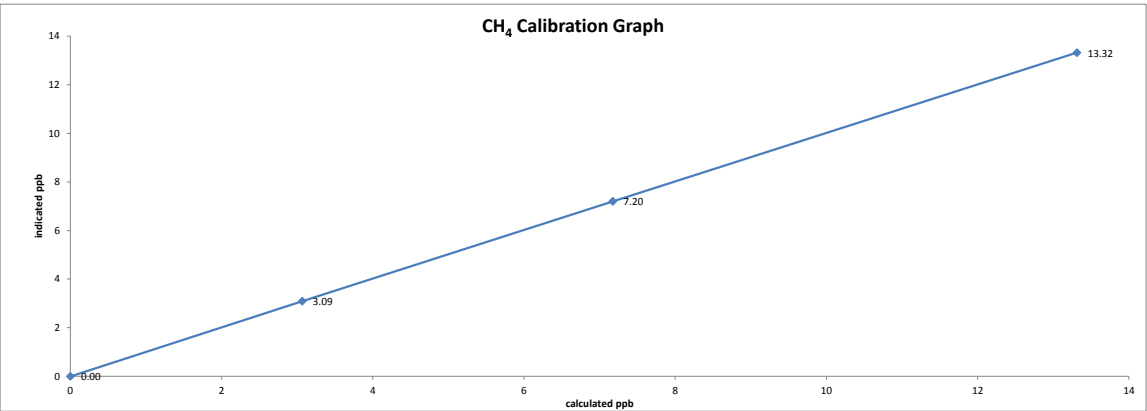
Comments:
 The analyzer sample inlet filter was changed.
 The analyzer cooling fan filter(s) were cleaned.
 The manifold blower was found to be working normally.

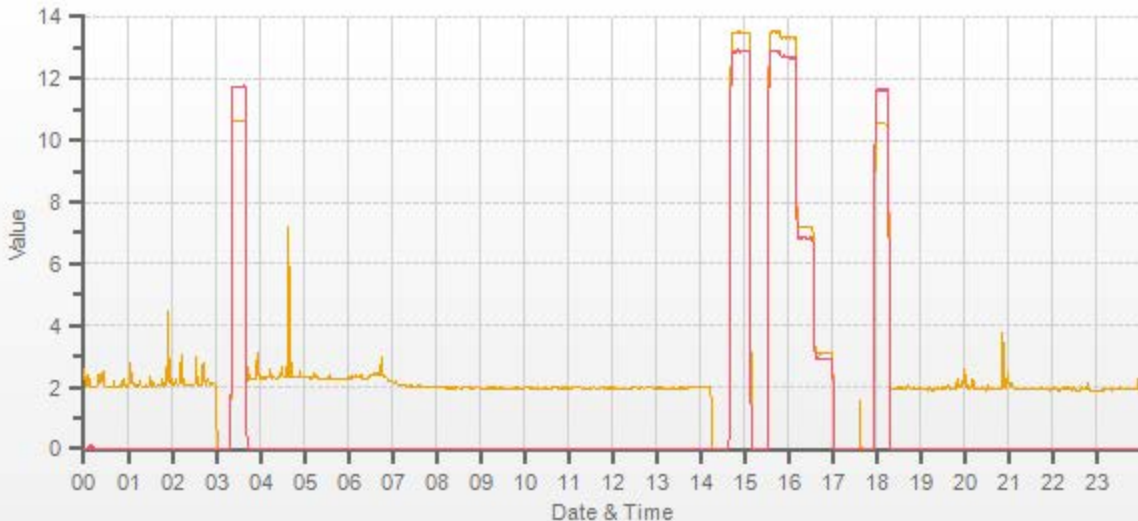
PRAMP Monthly Ambient Air Quality Monitoring Report for May 2019



Thermo 55i Methane/Non-Methane Analyzer Calibration																																																																																																																												
Date: May 14, 2019 Company/Airshed: PRAMP Location/Station Name: 986b Parameter: CH4 / NMHC / THC Start/End Time 24 hr. (mst): 13:42/18:21 Calibration Method: Gas Dilution	Barometer/B.P./units: F.S. 10528 expires January 23, 2020 943 millibars Thermometer/Station Temp: Datalogger Station Temp 25.4 °C Weather Conditions: Mix of sun and clouds Calibration Purpose: routine monthly Performed By/Reviewer: Ferdinand Roy Rob Fisher Cal Gas Expiry Date: October 18, 2025																																																																																																																											
Analyzer: Serial Number/Owner: 1022143392 Maxxam Measured Flow: 0.9736 l/mim Last Calibration Date: April 11, 2019 Range ppm: 20 CH4/20 NMHC/40 THC																																																																																																																												
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 ₂ H ₆ Cylinder Conc. CH ₄ expressed as C ₂ H ₆ : 566.5 1161.5 =total CH4 equivalent																																																																																																																												
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% change in C.F. from last cal =	1.05%	1.48%	1.40%	± 10%																																																																																																																								
As Left Instrument Diagnostics:																																																																																																																												
Interface Board Voltages: Bias Supply: -312.2 Temperatures: Detector Oven: 175.1 Filter: 175.1 Column Oven: 75.3 Internal: 39.5 Cylinder Pressures/reg.: Carrier: 1498 28 Fuel: 2400 50 Span Gas: 1100 50 Zero Air Generator: 50 Internal Pressures: Carrier: 31.3 Fuel: 40.5 Air: 31.7 FID Status: Status: LIT Counts: 21266 Flame: 322.6 Det Base: 175.0 Flame and Power Stats: Last Power On: 15Apr2019@02:15:46 Flameouts: 2 Det Oven at Start: 170.2 Col Oven at Start: 74.6 Calibration History: Time: 14May19@16:10 Type: SPAN Status: GOOD Check/Adjust: ADJUST CH ₄ Span Conc: 13.31 CH ₄ SP Ratio: 0.000759 CH ₄ RT: 12.2 CH ₄ PK IDX: 21 CH ₄ PK HT: 17536 NM Span Conc: 12.68 NM SP Ratio: 0.000186	Calibration History cnt'd: NM Peak Area: 68063 Crucial Settings: Methane Start: n/a Methane End: n/a Backflush: n/a NMHV Start: n/a NMHC End: n/a Run History>1: Date: 14May19 Time: 17:33 CH ₄ PK HT: 0 CH ₄ RT: 8.0 CH ₄ Baseline: 1704 CH ₄ LOD: 19 CH ₄ SD: 6 CH ₄ CONC: 0.00 NM PK HT: 0 NM Peak Area: 0 NM CONC: 0.00 NM Base Start: 1716 NM Base End: 1714 NM LOD: 8 NM Start IDX: 4 NM End IDX: 42 NM Max Slope: 5.5e-01 NM Min Slope: 5.9e-01 NM PT Count: 0 Expected Values: Previous CH ₄ : 10.38 Previous NMHC: 11.43 Previous THC: 21.81 New CH ₄ : 10.38 New NMHC: 11.43 New THC: 21.81																																																																																																																											
Comments: The analyzer sample inlet filter was changed. A new hydrogen cylinder was installed. The analyzer cooling fan filter(s) were cleaned. The manifold blower was found to be working normally.																																																																																																																												

Date:	<u>May 14, 2019</u>	Start/End Time 24 hr. (mst):	<u>13:42/18:21</u>
Company/Airshed:	<u>PRAMP</u>	Calibration Purpose:	<u>routine monthly</u>
Location/Station Name:	<u>986b</u>	Calibration Method:	<u>Gas Dilution</u>





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

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

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	NO ₂	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)*

NO₂	LIMITS
Correlation= 1.0000	≥ 0.995
m (Slope)= 0.9937	0.90-1.10
b (Intercept % of FS)= -0.1650	± 3% F.S.

<p>AENV Standards Audit Calibrator</p> <p>Make/Model <u>Sabio 2010</u></p> <p>Serial/AMU Number <u>AMU 2092</u></p> <p>SRM Gas Cylinder No. <u>APEX1236645</u></p> <p>Cylinder Conc. (ppm) <u>50.05</u></p>	<p>NO_x Analyzer</p> <p>Make/Model <u>Teco 42i</u></p> <p>Serial/AMU Number <u>AMU 1868</u></p> <p>Last Calibration Date <u>February 12, 2019</u></p> <p>Full Scale (ppm) <u>1.0</u></p> <p>Cylinder Gas Expiry Date <u>June 2021</u></p>
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COMMENTS: Contains 49.5 ppm SO₂.

Auditor: Al Clark

Operator Signature:

Date: February 13, 2019

Location: McIntyre Center Edmonton

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

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

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

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

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

Flow	O ₃ Conc	NO Decrease	NO	NO ₂	NOX	% Diff. Vs Audit gas	
4994	0.000	0.000	0.796	0.000	0.796	NO ₂	% Diff. Limit
4994	0.550	0.502	0.294	0.499	0.792	-1%	± 10%
4994	0.300	0.275	0.521	0.274	0.795	0%	± 10%
4994	0.100	0.062	0.734	0.061	0.796	-2%	± 10%
Absolute Average Percent Difference						1%	± 10%

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

NO ₂		LIMITS	
Correlation=	1.0000	≥ 0.995	
m (Slope)=	0.9949	0.90-1.10	
b (Intercept % of FS)=	-0.0179	± 3% F.S.	

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

COMMENTS: Contains 49.5 ppm SO₂.

Auditor: Al Clark
Operator Signature: *Al Clark*

Date: February 14, 2019
Location: McIntyre Center Edmonton



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	0.0020	5000.0	10.2
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 _____

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

Auditor: Al Clark Date: July 27, 2017

Operator Signature: *Al Clark* Location: McIntyre Center Edmonton



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 (scm)		Indicated Concentration (PPM)	Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration
Dilution	Gas				
4923	0.0	0.000	0.01642	60.917	50.8
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: 50.4Percent variance from Stated: 0.7

Meets Manufacturer Tolerance. Use manufacturers stated concentration COMMENTS: _____
 < =5% Outside Manufacturer Tolerance. Use manufacturers concentration _____
 > 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder _____

Auditor: Shea Beaton
 Operator Signature: _____

Date: January 26, 2017
 Location: McIntyre Center Edmonton



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:				Flow Measurement Device:	
Make/Model	<u>R&R MFC 201</u>			Make/Model	<u>Mesa Definer 220</u>
Serial Number	<u>AMU 1690</u>			Serial Number	<u>H-133034 / L-132702</u>
Last Verification Date	<u>December 13, 2017</u>			Temp. °C	<u>23.1 C</u>
Gas Type	<u>CH4</u>	Conc.	<u>990.4</u>	B.P.	<u>707 mmHg</u>
Cylinder Number	<u>5604875</u>	Expiry Date	<u>July 2021</u>		
Gas Type	<u>C3H8</u>	Conc.	<u>246.5</u>		
Cylinder Number	<u>XF003845B</u>	Expiry Date	<u>July 2022</u>		

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/ Dilution Flow	Concentration Factor	Cylinder Concentration	
Dilution	Gas	CH4	C3H8			CH4	C3H8
3500	0.0	0.00	0.00	0.02	45.00	595	208
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: <u>595</u>	<u>206</u>
Percent variance from Stated: <u>0</u>	<u>2</u>

Cylinder gas tolerances based on CH4 only

Meets Manufacturer Tolerance. Use manufacturers stated concentration **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: *Al Clark* Location: McIntyre Center Edmonton



Peace River Area Monitoring Program

MAY 2019

Ambient Air Monitoring Calibration Report

- RENO STATION-

CAL-PRAMP-201905-01563

Operation and Maintenance:

Maxxam Analytics

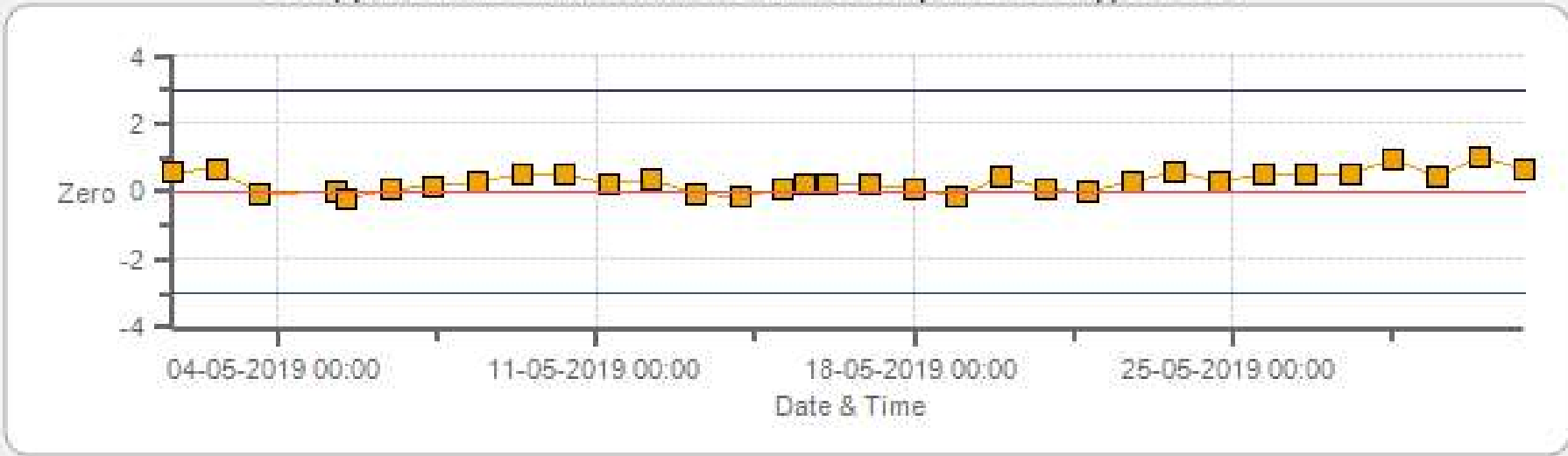
Data Validation and Report:

Maxxam Analytics

June 7, 2019

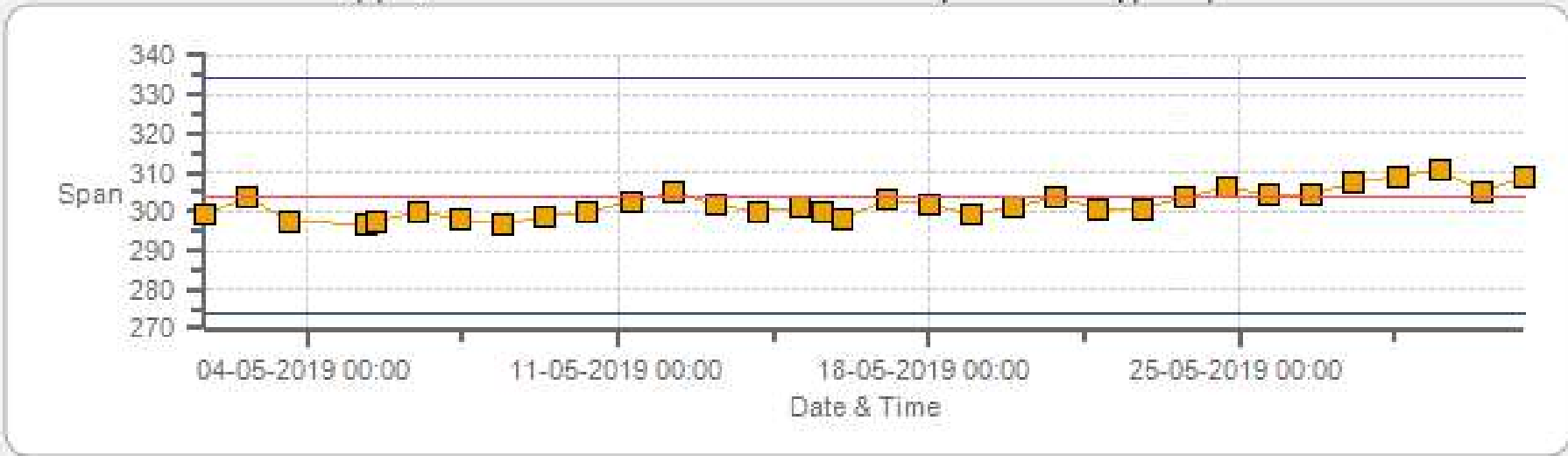
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2 [ppb] Calibration: PRAMP Reno Monthly: 05-2019 Type: Zero



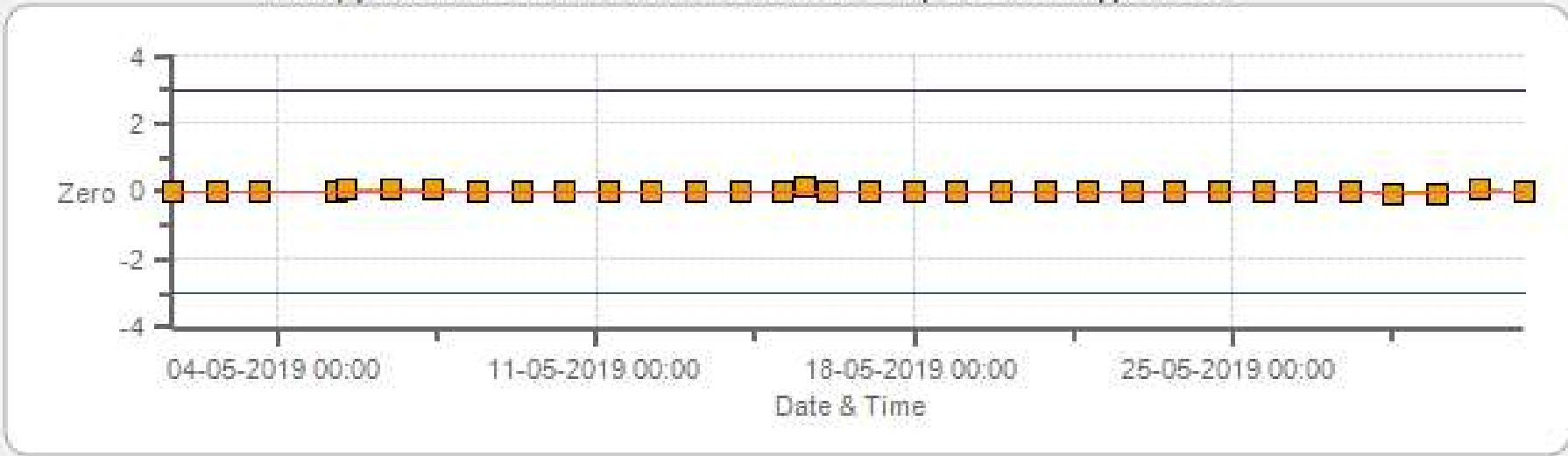
Zero Zero Ref Zero Low Zero High

SO2 [ppb] Calibration: PRAMP Reno Monthly: 05-2019 Type: Span



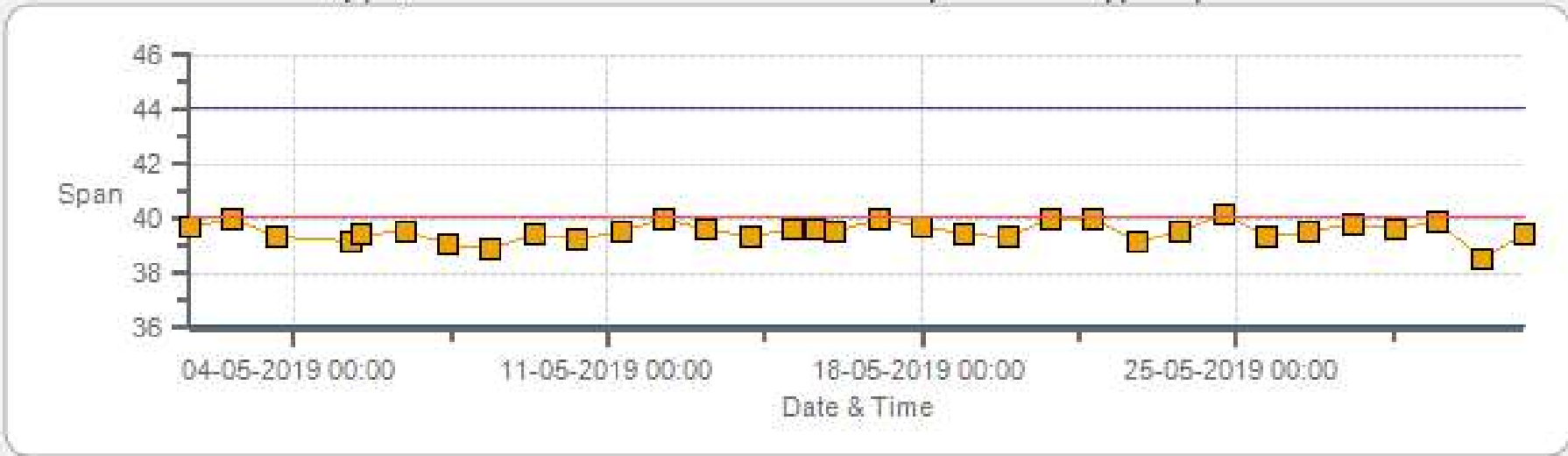
Span SpanRef Span Low Span High

TRS [ppb] Calibration: PRAMP Reno Monthly: 05-2019 Type: Zero



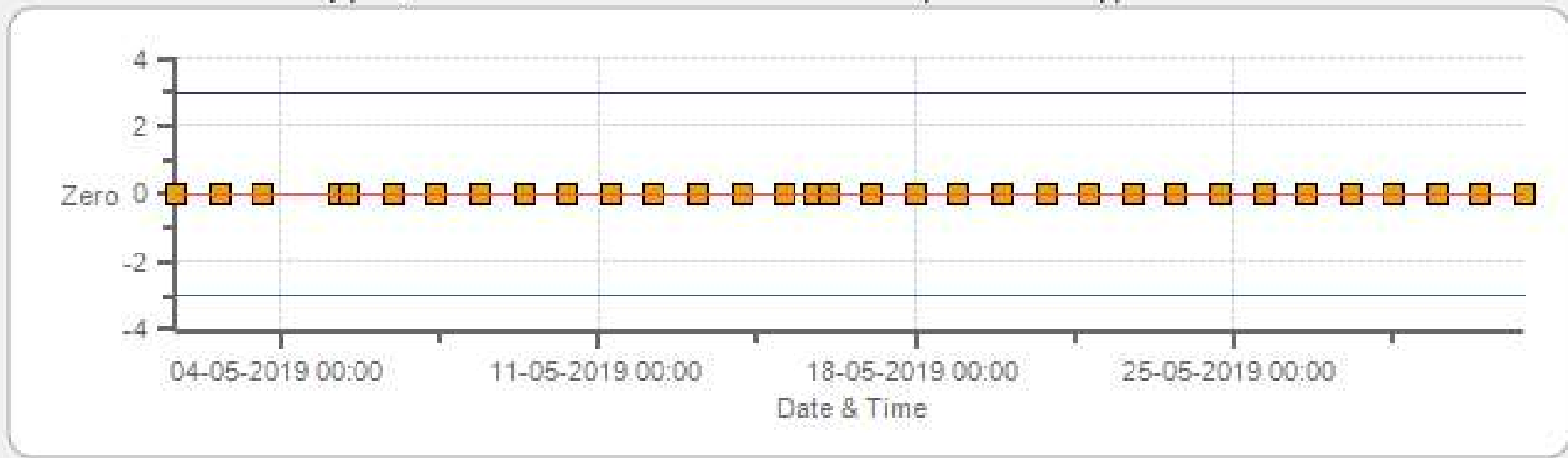
Zero Zero Ref Zero Low Zero High

TRS [ppb] Calibration: PRAMP Reno Monthly: 05-2019 Type: Span



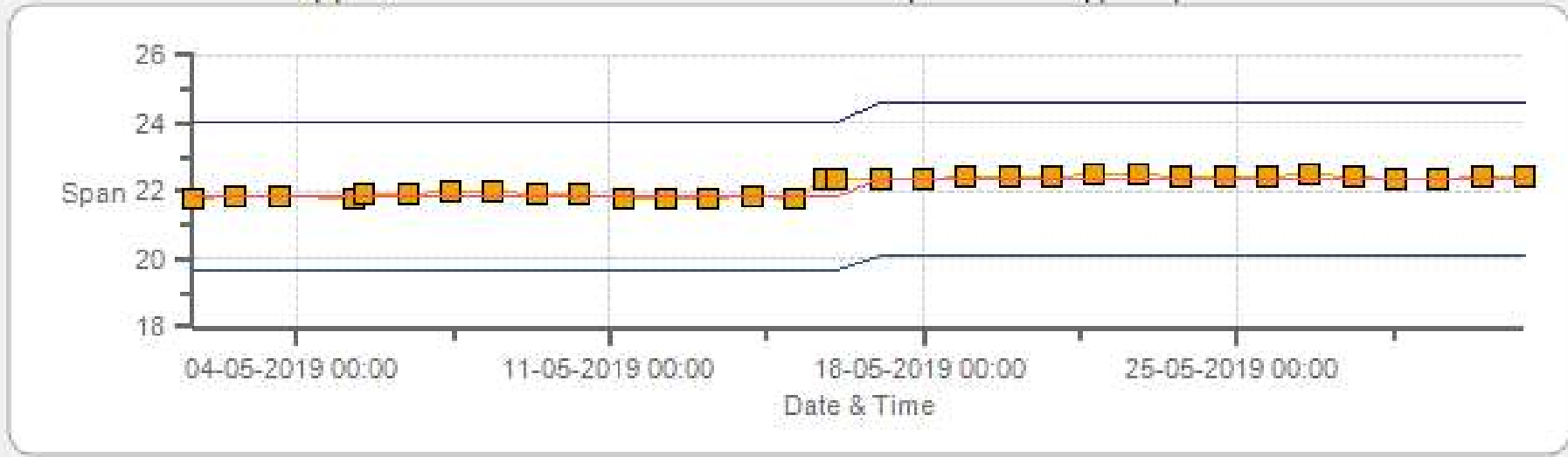
Span SpanRef Span Low Span High

THC [ppm] Calibration: PRAMP Reno Monthly: 05-2019 Type: Zero



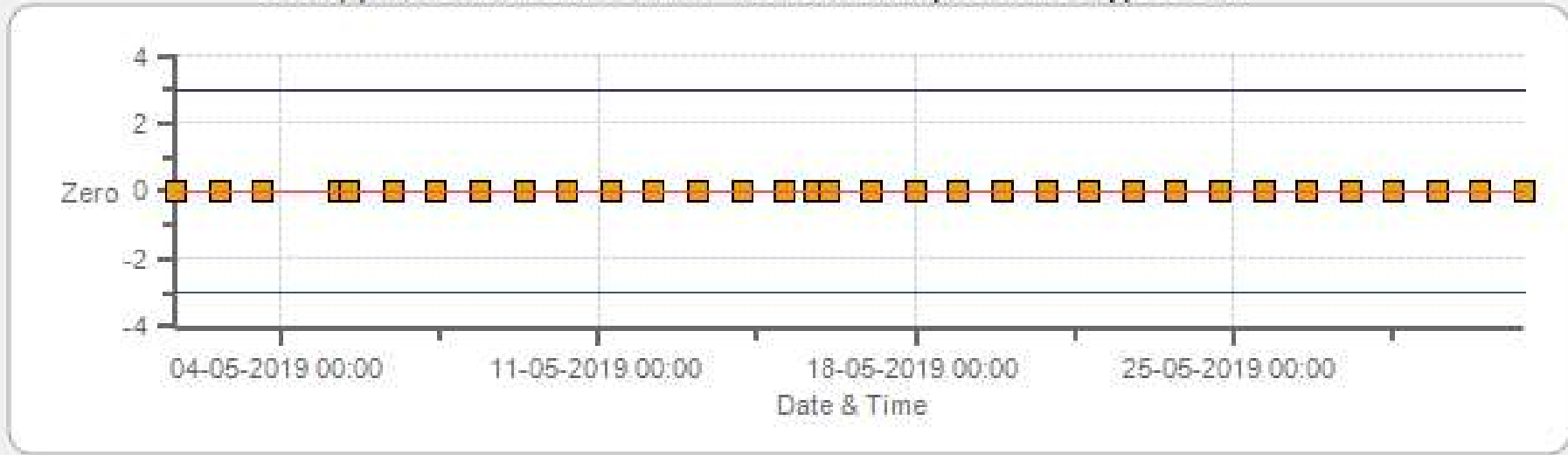
Zero Zero Ref Zero Low Zero High

THC [ppm] Calibration: PRAMP Reno Monthly: 05-2019 Type: Span



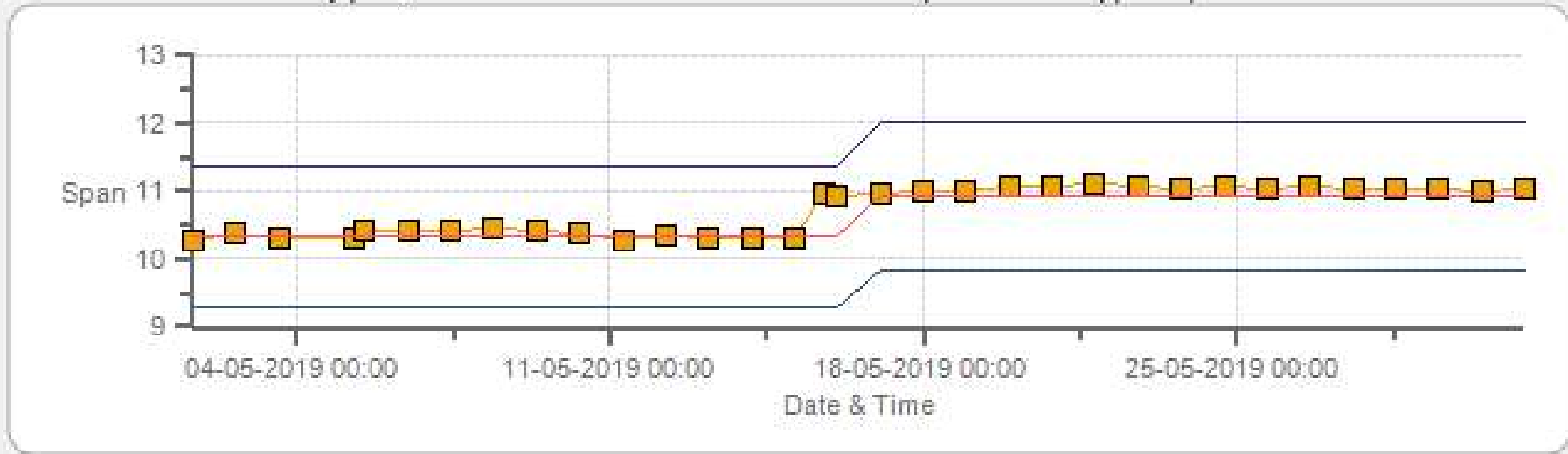
Span SpanRef Span Low Span High

CH4 [ppm] Calibration: PRAMP Reno Monthly: 05-2019 Type: Zero



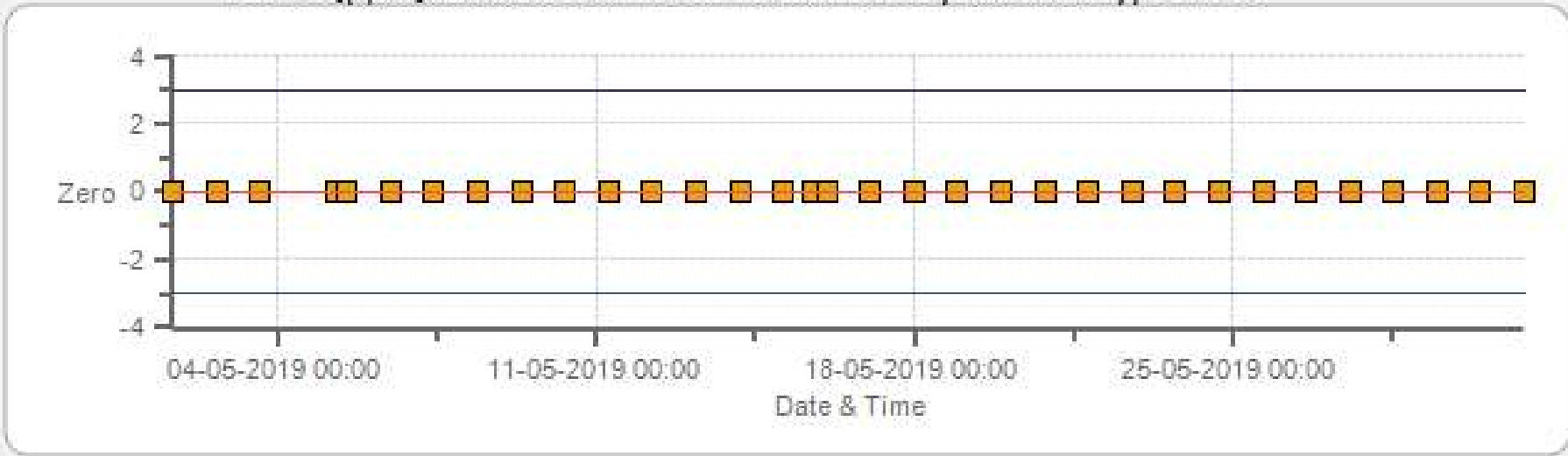
Zero Zero Ref Zero Low Zero High

CH4 [ppm] Calibration: PRAMP Reno Monthly: 05-2019 Type: Span



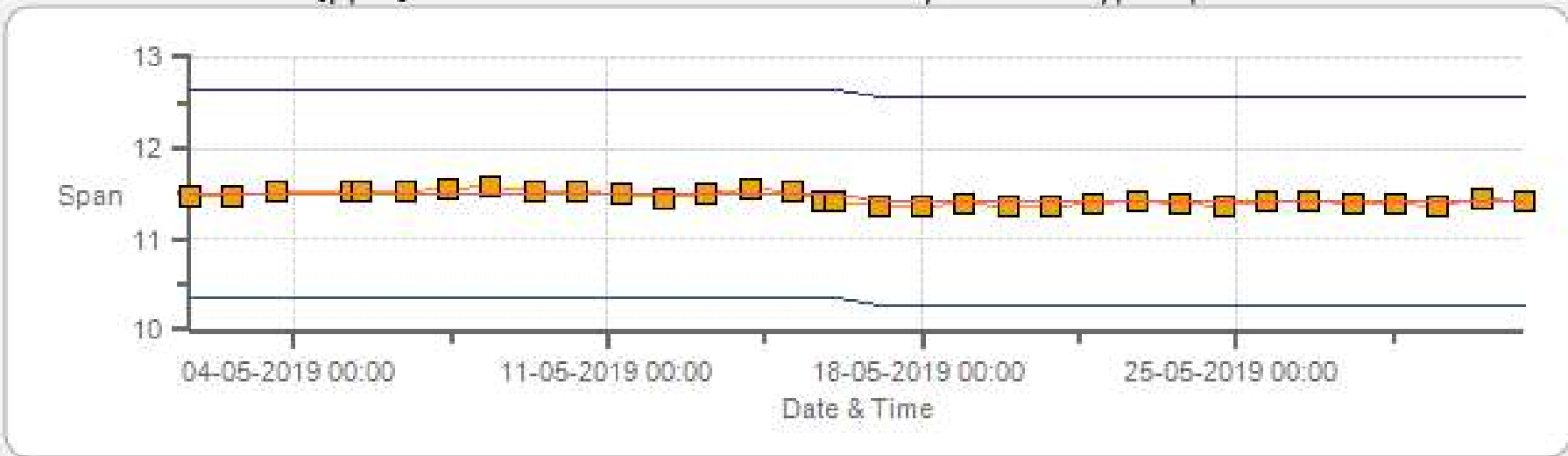
Span SpanRef Span Low Span High

NMHC [ppm] Calibration: PRAMP Reno Monthly: 05-2019 Type: Zero



Zero Zero Ref Zero Low Zero High

NMHC [ppm] Calibration: PRAMP Reno Monthly: 05-2019 Type: Span



Span Span Ref Span Low Span High

MULTI-POINT CALIBRATION RECORDS



API 100A Sulphur Dioxide Analyzer Calibration

Date:	May 15, 2019	Barometer/B.P./units:	F.S. 10528 expires January 23, 2020	939	millibars
Company/Airshed:	PRAMP	Thermometer/Station Temp:	Datalogger Station Temp	23	°C
Location/Station Name:	Reno	Weather Conditions:	Mainly cloudy with drizzle		
Parameter:	Sulphur Dioxide	Calibration Purpose:	routine monthly		
Start Time 24 hr. (mst):	9:09	Performed By/Reviewer:	Ferdinand Roy	Rob Fisher	
End Time 24 hr. (mst):	14:37	Cal Gas Expiry Date:	December 8, 2019		
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	n/a		
Analyzer:	Serial Number/Owner: 841 Maxxam	Range ppb:	500		
	Last Calibration Date: April 17, 2019	As Found C.F.:	1.001		
	Previous C.F.:	New C.F.:	1.000		

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

Point	ppb
High	380
Mid	180
Low	90

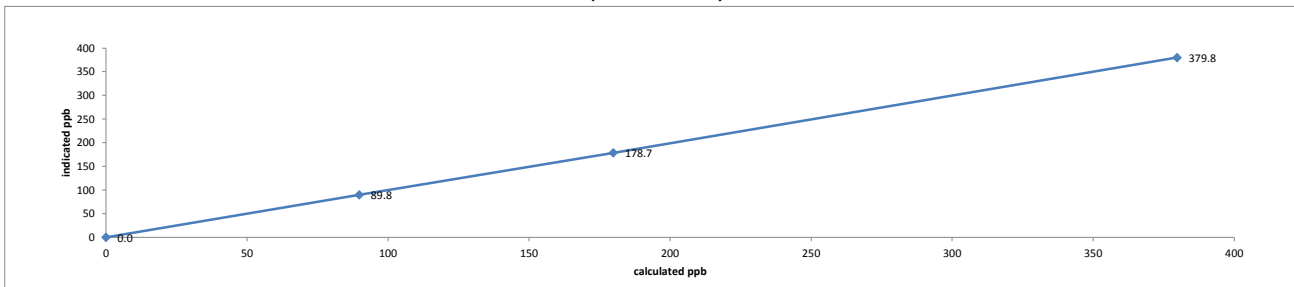
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Point	Calibrator Flow Rates (cc/min)			Calculated Concentration (ppb):	Indicated Concentration (ppb):	Correction Factors (C.F.):
	Diluent	Cal Gas	Total			
as found zero	5994	0.00	5994	0.0	0.5	n/a
as found high	5952	45.20	5997	379.8	379.8	1.001
adjusted zero	5998	0.00	5998	0.0	0	n/a
adjusted high	5952	45.19	5998	379.8	379.8	1.000
mid	5976	21.41	5998	179.9	178.7	1.007
low	5985	10.69	5996	89.8	89.8	1.000
calibrator zero	5999	0.00	5999	0.0	0.6	n/a
Average C.F. =						1.002

Linear Regression/Calibration Results:

Correlation Coefficient =	1.000	LIMITS	> or = 0.995
Slope =	1.000		0.95-1.05
b (Intercept as % of full scale) =	0.05%		± 3% F.S.
% change in C.F. from last cal =	-0.14%		± 10%

API 100A Sulphur Dioxide Analyzer Calibration



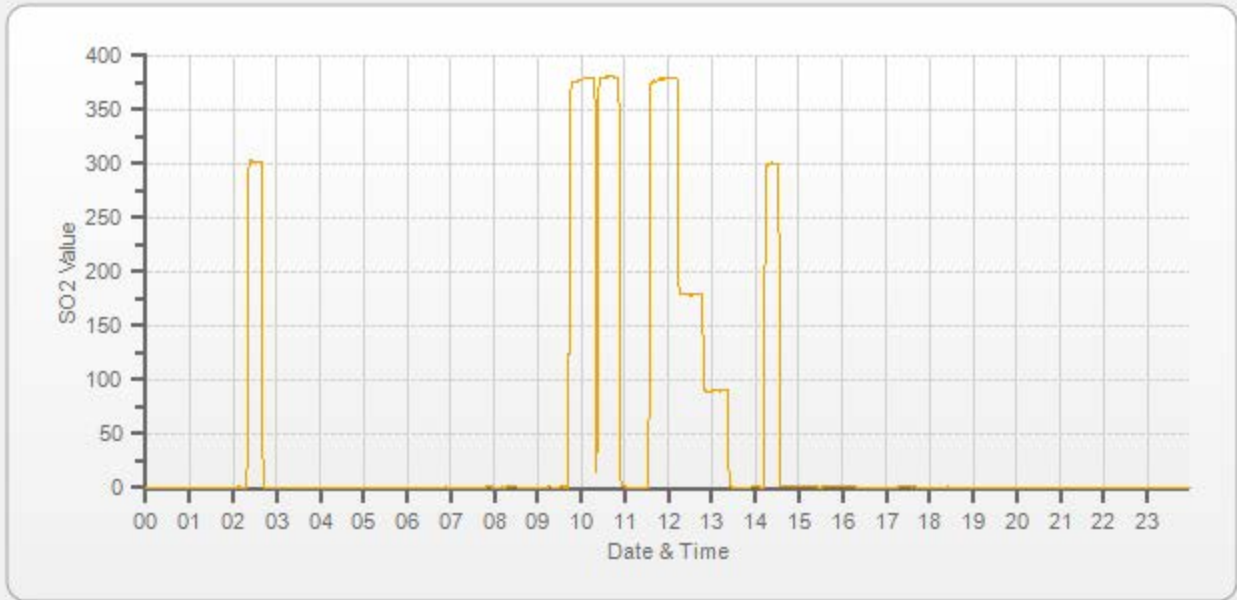
As found:		As left:	
Slope:	1.079	Slope:	1.077
Offset:	52.3	Offset:	52.2
Hvps:	763	Hvps:	763
Dcps:	2554	Dcps:	2553
Rcell Temp:	49.7	Rcell Temp:	50.7
Box Temp:	32.1	Box Temp:	33.3
Pmt Temp:	7.1	Pmt Temp:	7.0
Izs Temp:	35.0	Izs Temp:	35.1
Pres:	25.0	Pres:	25.1
Samp Fl:	645	Samp Fl:	647
Pmt:	68.1	Pmt:	66.3
Uv Lamp:	1788.8	Uv Lamp:	1790.4
Lamp Ratio:	88.2	Lamp Ratio:	88.7
Str Lgt:	28.2	Str Lgt:	28.1
Drk Pmt:	24.1	Drk Pmt:	24.3
Drk Lmp:	-17.4	Drk Lmp:	-17.3
Expected Value:	303.9	Expected Value:	303.9

Comments:

The analyzer sample inlet filter was changed.

The manifold blower was found to be working normally.

The As Found High point stopped at 10:19 due to a slow analyzer response. The As Found High point was restarted at 10:21 after flushing the regulator.





Thermo 431-TLE Total Reduced Sulphur Analyzer Calibration

Date:	May 15, 2019	Barometer/B.P./units:	F.S. 10528 expires January 23, 2020	939	millibars
Company/Airshed:	PRAMP	Thermometer/Station Temp:	Datalogger Station Temp	23	°C
Location/Station Name:	Reno	Weather Conditions:	Mainly cloudy with drizzle		
Parameter:	Total Reduced Sulphur	Calibration Purpose:	routine monthly		
Start Time 24 hr. (mst):	9:09	Performed By/Reviewer:	Ferdinand Roy	Rob Fisher	
End Time 24 hr. (mst):	14:42	Cal Gas Expiry Date:	May 16, 2020		
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	CDN-101 #534		
Analyzer:	Serial Number/Owner: 1162460022 Maxxam	Range ppb:	100		
	Last Calibration Date: April 17, 2019	As Found C.F.:	0.999		
	Previous C.F.:	New C.F.:	1.001		

Calibration Standards:	Standard Calibration Points for Ranges	SO2 Scrubber Check (10 minutes):
Low Flow Meter ID/Expiry Date:	N/A	Start/End Time 24 hr.:
High Flow Meter ID/Expiry Date:	N/A	SO2 Analyzer Range:
Calibrator ID/Expiry Date:	Environics id# 4760 expires February 14, 2020	Target Concentration (ppb):
Cal Gas Cylinder I.D. #:	LL119420	As Found Zero:
Cal Gas Conc. (ppm):	10.2	Analyzer Response (ppb):
		Zero Corrected Result (ppb):

Point	ppb
High	78
Mid	38
Low	19

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

Calibrator Flow Rates (cc/min)				Calculated	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total	Concentration (ppb):		
as found zero	7486	0.00	7486	0.0	0.03	n/a
as found high	7429	57.20	7486	77.9	78.02	0.999
adjusted zero	7488	0.00	7488	0.0	0	n/a
adjusted high	7430	57.19	7488	77.9	77.86	1.001
mid	7459	27.85	7487	37.9	37.76	1.005
low	7473	13.94	7487	19.0	18.73	1.014
calibrator zero	7489	0.00	7489	0.0	0.14	n/a
Average C.F. =						1.006

Linear Regression/Calibration Results:

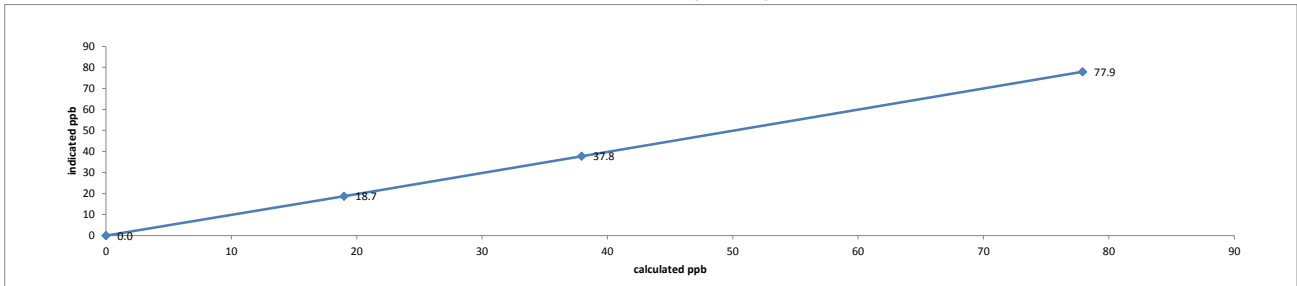
Correlation Coefficient = 1.000 LIMITS > or = 0.995

Slope = 1.000 0.95-1.05

b (Intercept as % of full scale) = 0.13% ± 3% F.S.

% change in C.F. from last cal = 0.07% ± 10%

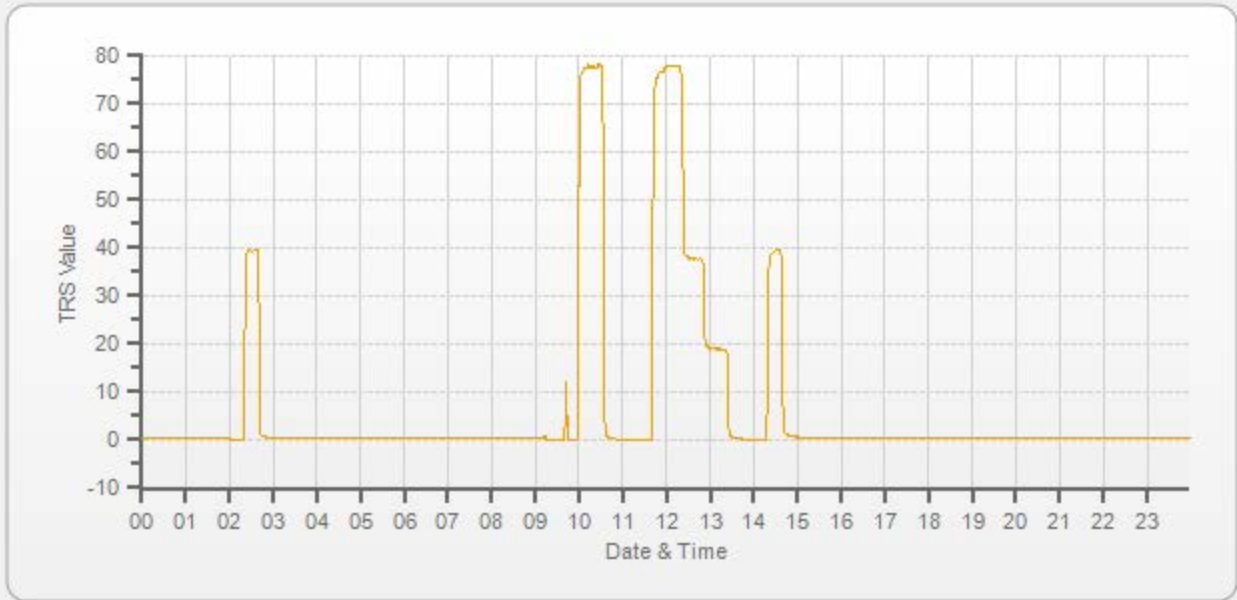
Thermo 431-TLE Total Reduced Sulphur Analyzer Calibration




As found:		As left:	
Bkg:	2.23	Bkg:	2.23
Coef:	0.939	Coef:	0.939
Pmt:	-706.7	Pmt:	-706.7
Flash:	997	Flash:	996
Internal:	32.3	Internal:	33.3
Chamber:	44.9	Chamber:	45.0
Perm Oven Gas:	35.00	Perm Oven Gas:	35.00
Perm Oven Heater:	34.15	Perm Oven Heater:	34.16
Pressure:	641.0	Pressure:	642.2
Sample Flow:	0.410	Sample Flow:	0.411
Lamp Intensity:	83	Lamp Intensity:	83
Converter:	825	Converter:	825
Converter Set:	825	Converter Set:	825
Averaging Time:	120	Averaging Time:	120
Expected Value:	40.1	Expected Value:	40.1

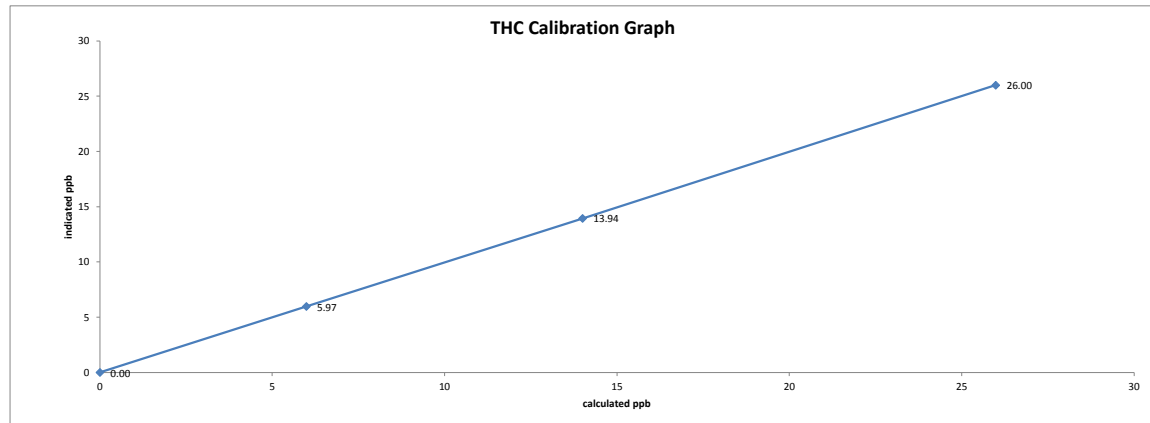
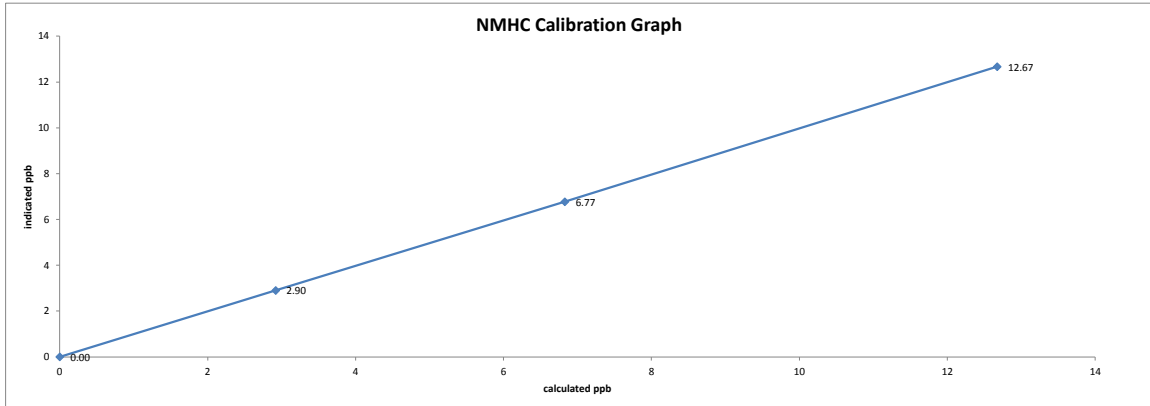
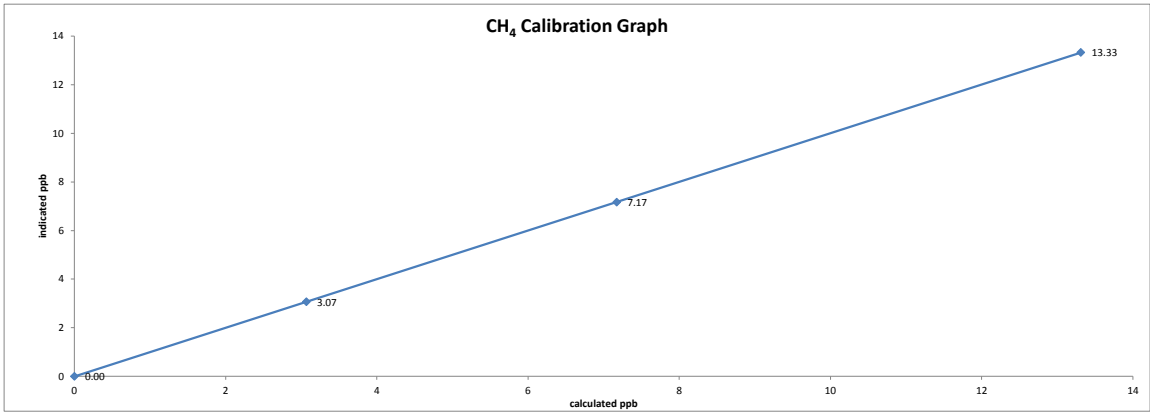
Comments:
 The analyzer sample inlet filter was changed.
 The analyzer cooling fan filter(s) were cleaned.
 The manifold blower was found to be working normally.

PRAMP Monthly Ambient Air Quality Monitoring Report for May 2019

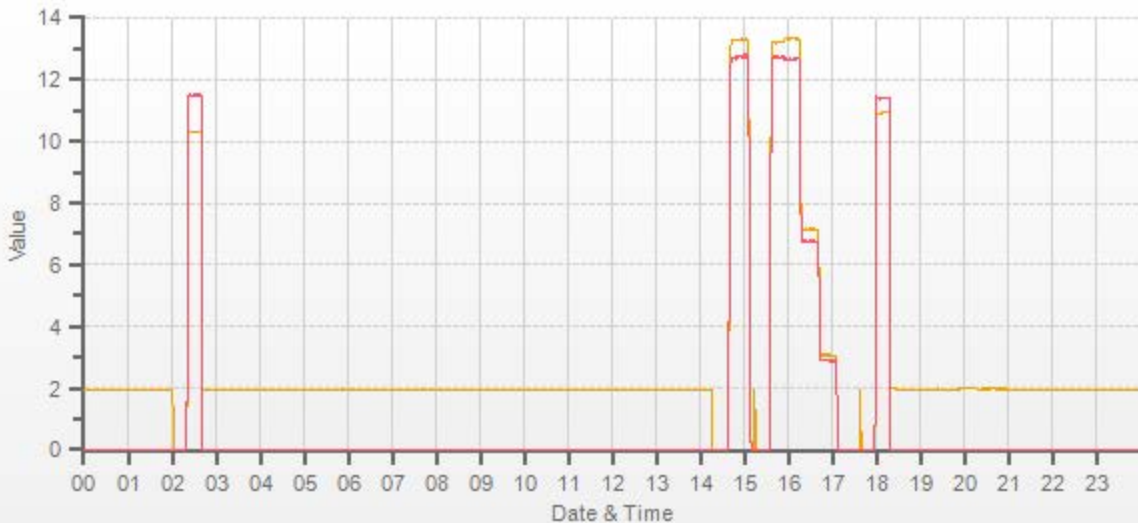


 Thermo 55i Methane/Non-Methane Analyzer Calibration																																																																																																																												
Date: May 15, 2020 Company/Airshed: PRAMP Location/Station Name: Reno Parameter: CH4 / NMHC / THC Start/End Time 24 hr. (mst): 13:38/18:21 Calibration Method: Gas Dilution	Barometer/B.P./units: F.S. 10528 expires January 23, 2020 940 millibars Thermometer/Station Temp: Datalogger Station Temp 26.6 °C Weather Conditions: Mainly cloudy with drizzle Calibration Purpose: routine monthly Performed By/Reviewer: Ferdinand Roy Rob Fisher Cal Gas Expiry Date: October 18, 2025																																																																																																																											
Analyzer: Serial Number/Owner: 1314057759 Maxxam Measured Flow: 1.1010 l/min Last Calibration Date: April 17, 2019 Range ppm: 20 CH4/20 NMHC/40 THC																																																																																																																												
Correction Factors: <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Previous C.F.:</th> <th>As Found C.F.:</th> <th>New C.F.:</th> </tr> </thead> <tbody> <tr> <td>CH₄ =</td> <td>1.000</td> <td>1.002</td> <td>0.999</td> </tr> <tr> <td>NMHC =</td> <td>1.000</td> <td>0.994</td> <td>1.000</td> </tr> <tr> <td>THC =</td> <td>1.000</td> <td>0.998</td> <td>1.000</td> </tr> </tbody> </table>			Previous C.F.:	As Found C.F.:	New C.F.:	CH ₄ =	1.000	1.002	0.999	NMHC =	1.000	0.994	1.000	THC =	1.000	0.998	1.000																																																																																																											
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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 CH ₄ Cylinder Conc.: 595.0 206.0 =C ₂ H ₆ Cylinder Conc. CH ₄ expressed as C ₂ H ₆ : 566.5 1161.5 =total CH ₄ equivalent																																																																																																																												
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Interface Board Voltages: Bias Supply: -290.0 Temperatures: Detector Oven: 175.0 Filter: 175.1 Column Oven: 75.0 Internal: 34.4 Cylinder Pressures/reg.: Carrier: 1200 50 Fuel: 900 50 Span Gas: 2000 24 Zero Air Generator: 50 Internal Pressures: Carrier: 31.3 Fuel: 41.6 Air: 25.9 FID Status: Status: LIT Counts: 26977 Flame: 405.0 Det Base: 175.0 Flame and Power Stats: Last Power On: 20Oct2018@16:42:34 Flameouts: 2 Det Oven at Start: 45.0 Col Oven at Start: 26.6 Calibration History: Time: 15May19@15:51 Type: SPAN Status: GOOD Check/Adjust: ADJUST CH ₄ Span Conc: 13.31 CH ₄ SP Ratio: 0.000768 CH ₄ RT: 11.6 CH ₄ PK IDX: 18 CH ₄ PK HT: 17322 NM Span Conc: 12.68 NM SP Ratio: 0.000159	Calibration History cnt'd: NM Peak Area: 79882 Crucial Settings: Methane Start: n/a Methane End: n/a Backflush: n/a NMHV Start: n/a NMHC End: n/a Run History>1: Date: 15May19 Time: 17:11 CH ₄ PK HT: 0 CH ₄ RT: 8.0 CH ₄ Baseline: 2274 CH ₄ LOD: 81 CH ₄ SD: 27 CH ₄ CONC: 0.00 NM PK HT: 0 NM Peak Area: 0 NM CONC: 0.00 NM Base Start: 2248 NM Base End: 2245 NM LOD: 9 NM Start IDX: 32 NM End IDX: 63 NM Max Slope: 3.4e-01 NM Min Slope: -6.8e-01 NM PT Count: 0 Expected Values: Previous CH ₄ : 10.34 Previous NMHC: 11.5 Previous THC: 21.84 New CH ₄ : 10.34 New NMHC: 11.50 New THC: 21.84																																																																																																																											
Comments: The analyzer sample inlet filter was changed. A new span gas cylinder was installed. The analyzer cooling fan filter(s) were cleaned. The manifold blower was found to be working normally.																																																																																																																												

Date:	<u>May 15, 2020</u>	Start/End Time 24 hr. (mst):	<u>13:38/18:21</u>
Company/Airshed:	<u>PRAMP</u>	Calibration Purpose:	<u>routine monthly</u>
Location/Station Name:	<u>Reno</u>	Calibration Method:	<u>Gas Dilution</u>



PRAMP Monthly Ambient Air Quality Monitoring Report for May 2019



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

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

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	NO ₂	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 Audit Calibrator	NO _x Analyzer
Make/Model <u>Sabio 2010</u>	Make/Model <u>Teco 42i</u>
Serial/AMU Number <u>AMU 2092</u>	Serial/AMU Number <u>AMU 1868</u>
SRM Gas Cylinder No. <u>APEX1236645</u>	Last Calibration Date <u>February 12, 2019</u>
Cylinder Conc. (ppm) <u>50.05</u>	Full Scale (ppm) <u>1.0</u>
	Cylinder Gas Expiry Date <u>June 2021</u>

COMMENTS: Contains 49.5 ppm SO₂.

Auditor: Al Clark
Operator Signature: *Al Clark*

Date: February 13, 2019
Location: McIntyre Center Edmonton

Company: Maxxam Operator: C. Wesson

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

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

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

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

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

Flow	O ₃ Conc	NO Decrease	NO	NO ₂	NOX	% Diff. Vs Audit gas	
4994	0.000	0.000	0.796	0.000	0.796	NO ₂	% Diff. Limit
4994	0.550	0.502	0.294	0.499	0.792	-1%	± 10%
4994	0.300	0.275	0.521	0.274	0.795	0%	± 10%
4994	0.100	0.062	0.734	0.061	0.796	-2%	± 10%
Absolute Average Percent Difference						1%	± 10%

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

NO₂	LIMITS
Correlation= 1.0000	≥ 0.995
m (Slope)= 0.9949	0.90-1.10
b (Intercept % of FS)= -0.0179	± 3% F.S.

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

COMMENTS: Contains 49.5 ppm SO2.

Auditor: Al Clark
Operator Signature: *Al Clark*

Date: February 14, 2019
Location: McIntyre Center Edmonton



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	0.00760	131.542	10.0
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 _____

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

Auditor: Al Clark Date: July 27, 2017

Operator Signature: *Al Clark* Location: McIntyre Center Edmonton



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 (scm)		Indicated Concentration (PPM)	Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration
Dilution	Gas				
4923	0.0	0.000	0.01642	60.917	50.8
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: 50.4Percent variance from Stated: 0.7

Meets Manufacturer Tolerance. Use manufacturers stated concentration COMMENTS: _____
 < =5% Outside Manufacturer Tolerance. Use manufacturers concentration _____
 > 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder _____

Auditor: Shea Beaton
 Operator Signature: _____

Date: January 26, 2017
 Location: McIntyre Center Edmonton



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:				Flow Measurement Device:	
Make/Model	<u>R&R MFC 201</u>			Make/Model	<u>Mesa Definer 220</u>
Serial Number	<u>AMU 1690</u>			Serial Number	<u>H-133034 / L-132702</u>
Last Verification Date	<u>December 13, 2017</u>			Temp. °C	<u>23.1 C</u>
Gas Type	<u>CH4</u>	Conc.	<u>990.4</u>	B.P.	<u>707 mmHg</u>
Cylinder Number	<u>5604875</u>	Expiry Date	<u>July 2021</u>		
Gas Type	<u>C3H8</u>	Conc.	<u>246.5</u>		
Cylinder Number	<u>XF003845B</u>	Expiry Date	<u>July 2022</u>		

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/ Dilution Flow	Concentration Factor	Cylinder Concentration	
Dilution	Gas	CH4	C3H8			CH4	C3H8
3500	0.0	0.00	0.00	0.02	45.00	595	208
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

	<u>CH4</u>	<u>C3H8</u>
Previous Stated Concentration PPM:	<u>595</u>	<u>206</u>
Percent variance from Stated:	<u>0</u>	<u>2</u>

Cylinder gas tolerances based on CH4 only

Meets Manufacturer Tolerance. Use manufacturers stated concentration **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: *Al Clark* Location: McIntyre Center Edmonton



Peace River Area Monitoring Program

MAY 2019

Ambient Air Monitoring

Certified Laboratory Analysis Report

LAB-PRAMP-201905

Operation and Maintenance:

Maxxam Analytics

Data Validation and Report:

InnoTech Alberta

June 27, 2019



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

Sample ID: 19060011-001

Customer ID: PRAMP
Cust Samp ID: PRAMP_986-20190530 (NMHC)


Date Received- Lab Use Only

RECEIVED
 JUN 04 2019

Client Contact Details:		RUSH (Surcharge) <input type="checkbox"/>	
Contact:	<u>Karla Ressor, Michael Bisaga/ Lily Lin</u>	Invoice Instructions:	
Company:	<u>PRAMP Airshed</u>	Send to:	<u>officemanager@prampairshed.ca, karla@prampairshed.ca,</u>
PO#:	<input type="checkbox"/> 842 Station <input type="checkbox"/> 986 Station <input type="checkbox"/> Reno Station		<u>pramptech@prampairshed.ca Attention: PRAMP Office Manager</u>
Address:	<input type="checkbox"/> 842 (Lat. 56.27406N, Long. 116.98129W)	Any correspondence related to canister analysis, send the information to <u>karla@prampairshed.ca</u>	
	<input type="checkbox"/> 986 (Lat. 56.376056N, Long. 116.940704W)		
	<input type="checkbox"/> Reno (Lat. 55.86936N, Long. 117.05739W)		
Telephone:	<u>403-8072995, 780-2667068/587-2252248</u>	InnoTech Contact:	<u>Graham Knox Phone: 780-6328403 Cell: 780-6321519</u>
Email:	<u>karla@prampairshed.ca, pramptech@prampairshed.ca</u>	Email:	<u>Graham.Knox@innotechalberta.ca</u>

Sample ID (PRAMP_stiom_YYYYMMDD)	Canister Number	Sample Description	Date/Time Sampled		Analysis Requested
			From/To		
			Date (dd/mm/yy)	Time (24 Hr) (MST)	
PRAMP_842- (Sample date: YYYYMMDD)		<input type="checkbox"/> Methane Trigger			* AIR C1C4, AIR VOC, AIR RSC * Unknown to be reported
PRAMP_986- <u>20190530 (NMHC)</u> (Sample date: YYYYMMDD)	<u>32192</u>	<input checked="" type="checkbox"/> NMHC Trigger	<u>30/05/19</u>	<u>05:55</u>	* Carbon Isotopic Analysis (if sample is collected from Methane trigger)
PRAMP_Reno- (Sample date: YYYYMMDD)	<u>27957</u>				
<u>PRAMP-9866-BLANK</u>	<u>31823</u>		<u>30/05/19</u>	<u>11:17</u>	


Sample Collection:
 Collect By Tye Barrett (Name) of CNRL (Company) on 30/05/2019 11:05 (Date/Time (MST)).

 <p>InnoTech ALBERTA</p> <p>This cleaned canister meets or exceeds TO-15 Method Specifications</p> <p>Canister ID: <u>32492</u></p> <p>Proofed by: <u>DOSY</u> on <u>MAY 22 2019</u></p> <p>Evacuated on: <u>APR 04 2019</u></p> <p>Laboratory Contact Number: 780-632-8403</p>	<p>Sample ID: <u>PRAMP_9866-20190530(NMHC)</u></p>	
	<p>Sampled By: <u>Tye Barrett</u></p>	
	<p>Starting Vacuum: <u>-27.4</u> "Hg</p>	<p>End Vacuum: <u>0</u> "Hg/psig</p> <p><i>-2" Hg IMP</i></p>

Sample ID: 19060011-001

Customer ID: PRAMP

Cust Samp ID: PRAMP_986-20190530 (NMHC)

 <p>InnoTech ALBERTA</p> <p>This cleaned canister meets or exceeds TO-15 Method Specifications</p> <p>Canister ID: <u>28957</u></p> <p>Proofed by: <u>DOSY</u> on <u>APR 09 2019</u></p> <p>Evacuated on: <u>APR 12 2019</u></p> <p>Laboratory Contact Number: 780-632-8403</p>	<p>Sample ID: <u>PRAMP_9866-BLANK</u></p>	
	<p>Sampled By: <u>Tye Barrett</u></p>	
	<p>Starting Vacuum: <u>-27.6</u> "Hg</p>	<p>End Vacuum: <u>27</u> "Hg/psig</p> <p><i>-27" Hg IMP</i></p>



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

ENVIRONMENTAL ANALYTICAL SERVICES Air Quality Monitoring Report for May 2019

TEST REPORT

<p>RESULTS: Karla Reesor 403 807 2995 Peace River Area Monitoring Program Committee</p> <p>INVOICE: Office Manager</p>	<table border="0" style="width: 100%;"> <tr> <td style="width: 30%;">CLIENT SAMPLE ID</td> <td style="width: 20%;">PRAMP_986-20190530 (NMHC)</td> <td style="width: 20%;">CANISTER ID</td> <td style="width: 20%;">32192</td> <td style="width: 10%;">Matrix</td> <td style="width: 10%;">Ambient Air</td> <td style="width: 10%;">Priority</td> <td style="width: 10%;">Normal</td> </tr> <tr> <td>DESCRIPTION:</td> <td colspan="7">NMHC Trigger</td> </tr> <tr> <td>DATE SAMPLED:</td> <td>30-May-19</td> <td></td> <td>5:55</td> <td>DATE RECEIVED:</td> <td colspan="3">04-Jun-19</td> </tr> <tr> <td>REPORT CREATED:</td> <td>25-Jun-19</td> <td></td> <td></td> <td>REPORT NUMBER:</td> <td colspan="3">19060011</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>VERSION:</td> <td colspan="3">Version 01</td> </tr> </table>	CLIENT SAMPLE ID	PRAMP_986-20190530 (NMHC)	CANISTER ID	32192	Matrix	Ambient Air	Priority	Normal	DESCRIPTION:	NMHC Trigger							DATE SAMPLED:	30-May-19		5:55	DATE RECEIVED:	04-Jun-19			REPORT CREATED:	25-Jun-19			REPORT NUMBER:	19060011							VERSION:	Version 01		
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REPORT CREATED:	25-Jun-19			REPORT NUMBER:	19060011																																				
				VERSION:	Version 01																																				

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19060011-001	1-Butene	K, T, U	< 0.13	ppmv	0.13	NA-025	05-Jun-19
19060011-001	Acetylene	K, T, U	< 0.10	ppmv	0.10	NA-025	05-Jun-19
19060011-001	n-Butane	K, T, U	< 0.3	ppmv	0.3	NA-025	05-Jun-19
19060011-001	cis-2-Butene	K, T, U	< 0.05	ppmv	0.05	NA-025	05-Jun-19
19060011-001	Ethane	K, T, U	< 0.1	ppmv	0.1	NA-025	05-Jun-19
19060011-001	Ethylacetylene	K, T, U	< 0.08	ppmv	0.08	NA-025	05-Jun-19
19060011-001	Ethylene	K, T, U	< 0.09	ppmv	0.09	NA-025	05-Jun-19
19060011-001	Isobutane	K, T, U	< 0.1	ppmv	0.1	NA-025	05-Jun-19
19060011-001	Isobutylene	K, T, U	< 0.1	ppmv	0.1	NA-025	05-Jun-19
19060011-001	Methane		2.2	ppmv	0.1	NA-025	05-Jun-19
19060011-001	n-Propane	K, T, U	< 0.09	ppmv	0.09	NA-025	05-Jun-19
19060011-001	Propylene	K, T, U	< 0.1	ppmv	0.1	NA-025	05-Jun-19
19060011-001	Propyne	K, T, U	< 0.1	ppmv	0.1	NA-025	05-Jun-19
19060011-001	trans-2-Butene	K, T, U	< 0.12	ppmv	0.12	NA-025	05-Jun-19
19060011-001	2,5-Dimethylthiophene	K, T, U	< 0.4	ppbv	0.4	NA-024	05-Jun-19
19060011-001	2-Ethylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19060011-001	2-Methylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19060011-001	3-Methylthiophene	K, T, U	< 0.4	ppbv	0.4	NA-024	05-Jun-19



PO Bag 4000
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ENVIRONMENTAL ANALYTICAL SERVICES

Environmental Monitoring and Air Quality Monitoring Report for May 2019

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_986-20190530 (NMHC)	32192	Ambient Air	30-May-19	5:55
DESCRIPTION:	NMHC Trigger			
REPORT NUMBER:	19060011	REPORT CREATED:	25-Jun-19	VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19060011-001	Butyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	05-Jun-19
19060011-001	Carbon disulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19060011-001	Carbonyl sulphide		1.7	ppbv	0.4	NA-024	05-Jun-19
19060011-001	Dimethyl disulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19060011-001	Dimethyl sulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19060011-001	Ethyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	05-Jun-19
19060011-001	Ethyl sulphide	K, T, U	< 0.4	ppbv	0.4	NA-024	05-Jun-19
19060011-001	Hydrogen sulphide		1.1	ppbv	0.1	NA-024	05-Jun-19
19060011-001	Isobutyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	05-Jun-19
19060011-001	Isopropyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	05-Jun-19
19060011-001	Methyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19060011-001	Pentyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	05-Jun-19
19060011-001	Propyl mercaptan	K, T, U	< 0.5	ppbv	0.5	NA-024	05-Jun-19
19060011-001	tert-Butyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	05-Jun-19
19060011-001	Thiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19060011-001	1,1,1-Trichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	05-Jun-19
19060011-001	1,1,2,2-Tetrachloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	05-Jun-19
19060011-001	1,1,2-Trichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	05-Jun-19
19060011-001	1,1-Dichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	05-Jun-19
19060011-001	1,1-Dichloroethylene	K, T, U	< 0.05	ppbv	0.05	AC-058	05-Jun-19
19060011-001	1,2,3-Trimethylbenzene	K, T, U	< 0.06	ppbv	0.06	AC-058	05-Jun-19
19060011-001	1,2,4-Trichlorobenzene	K, T, U	< 1.0	ppbv	1.0	AC-058	05-Jun-19
19060011-001	1,2,4-Trimethylbenzene	K, T, U	< 0.06	ppbv	0.06	AC-058	05-Jun-19
19060011-001	1,2-Dibromoethane	K, T, U	< 0.03	ppbv	0.03	AC-058	05-Jun-19
19060011-001	1,2-Dichlorobenzene	K, T, U	< 0.04	ppbv	0.04	AC-058	05-Jun-19

Report certified by: Rebecca Holgate, Account Coordinator

On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: June 25, 2019

Inquiries: (780) 632 8455

E-mail: EAS.Results@innotechalberta.ca

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_986-20190530 (NMHC)	32192	Ambient Air	30-May-19	5:55
DESCRIPTION:	NMHC Trigger			
REPORT NUMBER:	19060011	REPORT CREATED:	25-Jun-19	VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19060011-001	1,2-Dichloroethane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-001	1,2-Dichloropropane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-001	1,3,5-Trimethylbenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	05-Jun-19
19060011-001	1,3-Butadiene		4.48	ppbv	0.03	AC-058	05-Jun-19
19060011-001	1,3-Dichlorobenzene	K, T, U	< 0.4	ppbv	0.4	AC-058	05-Jun-19
19060011-001	1,4-Dichlorobenzene	K, T, U	< 0.5	ppbv	0.5	AC-058	05-Jun-19
19060011-001	1,4-Dioxane	K, T, U	< 0.5	ppbv	0.5	AC-058	05-Jun-19
19060011-001	1-Butene/Isobutylene		8.73	ppbv	0.03	AC-058	05-Jun-19
19060011-001	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	05-Jun-19
19060011-001	1-Pentene		1.35	ppbv	0.01	AC-058	05-Jun-19
19060011-001	2,2,4-Trimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-001	2,2-Dimethylbutane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-001	2,3,4-Trimethylpentane		0.09	ppbv	0.01	AC-058	05-Jun-19
19060011-001	2,3-Dimethylbutane		0.52	ppbv	0.03	AC-058	05-Jun-19
19060011-001	2,3-Dimethylpentane		0.12	ppbv	0.03	AC-058	05-Jun-19
19060011-001	2,4-Dimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-001	2-Methylheptane		0.10	ppbv	0.01	AC-058	05-Jun-19
19060011-001	2-Methylhexane		0.08	ppbv	0.01	AC-058	05-Jun-19
19060011-001	2-Methylpentane		0.23	ppbv	0.01	AC-058	05-Jun-19
19060011-001	3-Methylheptane		0.07	ppbv	0.03	AC-058	05-Jun-19
19060011-001	3-Methylhexane		0.05	ppbv	0.03	AC-058	05-Jun-19
19060011-001	3-Methylpentane		0.05	ppbv	0.01	AC-058	05-Jun-19
19060011-001	Acetone		27.3	ppbv	0.5	AC-058	05-Jun-19
19060011-001	Acrolein		12.1	ppbv	0.4	AC-058	05-Jun-19
19060011-001	Benzene		11.9	ppbv	0.01	AC-058	05-Jun-19

Report certified by: Rebecca Holgate, Account Coordinator

On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: June 25, 2019

Inquiries: (780) 632 8455

E-mail: EAS.Results@innotechalberta.ca

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_986-20190530 (NMHC)	32192	Ambient Air	30-May-19	5:55
DESCRIPTION:	NMHC Trigger			
REPORT NUMBER:	19060011	REPORT CREATED:	25-Jun-19	VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19060011-001	Benzyl chloride	K, T, U	< 0.5	ppbv	0.5	AC-058	05-Jun-19
19060011-001	Bromodichloromethane	K, T, U	< 0.03	ppbv	0.03	AC-058	05-Jun-19
19060011-001	Bromoform	K, T, U	< 0.03	ppbv	0.03	AC-058	05-Jun-19
19060011-001	Bromomethane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-001	Carbon disulfide	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-001	Carbon tetrachloride	I	0.06	ppbv	0.01	AC-058	05-Jun-19
19060011-001	Chlorobenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	05-Jun-19
19060011-001	Chloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	05-Jun-19
19060011-001	Chloroform	I	0.04	ppbv	0.03	AC-058	05-Jun-19
19060011-001	Chloromethane		1.62	ppbv	0.03	AC-058	05-Jun-19
19060011-001	cis-1,2-Dichloroethene	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-001	cis-1,3-Dichloropropene	K, T, U	< 0.05	ppbv	0.05	AC-058	05-Jun-19
19060011-001	cis-2-Butene		1.34	ppbv	0.03	AC-058	05-Jun-19
19060011-001	cis-2-Pentene		1.33	ppbv	0.03	AC-058	05-Jun-19
19060011-001	Cyclohexane		0.06	ppbv	0.03	AC-058	05-Jun-19
19060011-001	Cyclopentane		0.87	ppbv	0.01	AC-058	05-Jun-19
19060011-001	Dibromochloromethane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-001	Ethanol		7.2	ppbv	0.4	AC-058	05-Jun-19
19060011-001	Ethyl acetate	K, T, U	< 0.5	ppbv	0.5	AC-058	05-Jun-19
19060011-001	Ethylbenzene		0.53	ppbv	0.01	AC-058	05-Jun-19
19060011-001	Freon-11	I	0.24	ppbv	0.03	AC-058	05-Jun-19
19060011-001	Freon-113	I	0.06	ppbv	0.01	AC-058	05-Jun-19
19060011-001	Freon-114	K, T, U	< 0.03	ppbv	0.03	AC-058	05-Jun-19
19060011-001	Freon-12		0.49	ppbv	0.03	AC-058	05-Jun-19
19060011-001	Hexachloro-1,3-butadiene	K, T, U	< 0.64	ppbv	0.64	AC-058	05-Jun-19

Report certified by: Rebecca Holgate, Account Coordinator

On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: June 25, 2019

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TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_986-20190530 (NMHC)	32192	Ambient Air	30-May-19	5:55
DESCRIPTION:	NMHC Trigger			
REPORT NUMBER:	19060011	REPORT CREATED:	25-Jun-19	VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19060011-001	Isobutane		3.80	ppbv	0.03	AC-058	05-Jun-19
19060011-001	Isopentane		0.51	ppbv	0.04	AC-058	05-Jun-19
19060011-001	Isoprene		1.32	ppbv	0.01	AC-058	05-Jun-19
19060011-001	Isopropyl alcohol		0.9	ppbv	0.5	AC-058	05-Jun-19
19060011-001	Isopropylbenzene	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-001	m,p-Xylene		0.93	ppbv	0.04	AC-058	05-Jun-19
19060011-001	m-Diethylbenzene	I	0.09	ppbv	0.05	AC-058	05-Jun-19
19060011-001	m-Ethyltoluene	I	0.18	ppbv	0.10	AC-058	05-Jun-19
19060011-001	Methyl butyl ketone	K, T, U	< 0.64	ppbv	0.64	AC-058	05-Jun-19
19060011-001	Methyl ethyl ketone		4.7	ppbv	0.4	AC-058	05-Jun-19
19060011-001	Methyl isobutyl ketone		0.7	ppbv	0.5	AC-058	05-Jun-19
19060011-001	Methyl methacrylate	K, T, U	< 0.09	ppbv	0.09	AC-058	05-Jun-19
19060011-001	Methyl tert butyl ether	K, T, U	< 0.04	ppbv	0.04	AC-058	05-Jun-19
19060011-001	Methylcyclohexane		0.08	ppbv	0.01	AC-058	05-Jun-19
19060011-001	Methylcyclopentane		0.12	ppbv	0.03	AC-058	05-Jun-19
19060011-001	Methylene chloride	K, T, U	< 0.4	ppbv	0.4	AC-058	05-Jun-19
19060011-001	n-Butane		2.87	ppbv	0.04	AC-058	05-Jun-19
19060011-001	n-Decane		0.15	ppbv	0.08	AC-058	05-Jun-19
19060011-001	n-Dodecane	K, T, U	< 0.5	ppbv	0.5	AC-058	05-Jun-19
19060011-001	n-Heptane		0.50	ppbv	0.01	AC-058	05-Jun-19
19060011-001	n-Hexane		0.63	ppbv	0.01	AC-058	05-Jun-19
19060011-001	n-Octane		0.45	ppbv	0.03	AC-058	05-Jun-19
19060011-001	n-Pentane		1.1	ppbv	0.1	AC-058	05-Jun-19
19060011-001	n-Propylbenzene		0.09	ppbv	0.06	AC-058	05-Jun-19
19060011-001	n-Undecane	K, T, U	< 0.6	ppbv	0.6	AC-058	05-Jun-19

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ENVIRONMENTAL ANALYTICAL SERVICES

Environmental Air Quality Monitoring Report for May 2019

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_986-20190530 (NMHC)	32192	Ambient Air	30-May-19	5:55
DESCRIPTION:	NMHC Trigger			
REPORT NUMBER:	19060011	REPORT CREATED:	25-Jun-19	VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19060011-001	Naphthalene	K, T, U	< 0.6	ppbv	0.6	AC-058	05-Jun-19
19060011-001	n-Nonane		0.26	ppbv	0.01	AC-058	05-Jun-19
19060011-001	o-Ethyltoluene	I	0.04	ppbv	0.01	AC-058	05-Jun-19
19060011-001	o-Xylene		0.52	ppbv	0.01	AC-058	05-Jun-19
19060011-001	p-Diethylbenzene	I	0.06	ppbv	0.05	AC-058	05-Jun-19
19060011-001	p-Ethyltoluene	K, T, U	< 0.09	ppbv	0.09	AC-058	05-Jun-19
19060011-001	Styrene		0.82	ppbv	0.05	AC-058	05-Jun-19
19060011-001	Tetrachloroethylene	K, T, U	< 0.05	ppbv	0.05	AC-058	05-Jun-19
19060011-001	Tetrahydrofuran	K, T, U	< 0.5	ppbv	0.5	AC-058	05-Jun-19
19060011-001	Toluene		5.80	ppbv	0.01	AC-058	05-Jun-19
19060011-001	trans-1,2-Dichloroethylene	I	0.14	ppbv	0.01	AC-058	05-Jun-19
19060011-001	trans-1,3-Dichloropropylene	K, T, U	< 0.05	ppbv	0.05	AC-058	05-Jun-19
19060011-001	trans-2-Butene		1.78	ppbv	0.01	AC-058	05-Jun-19
19060011-001	trans-2-Pentene		0.47	ppbv	0.03	AC-058	05-Jun-19
19060011-001	Trichloroethylene	K, T, U	< 0.05	ppbv	0.05	AC-058	05-Jun-19
19060011-001	Vinyl acetate		2.2	ppbv	0.5	AC-058	05-Jun-19
19060011-001	Vinyl chloride	K, T, U	< 0.03	ppbv	0.03	AC-058	05-Jun-19

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TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_986b-Blank	28957	Ambient Air	30-May-19	11:17
DESCRIPTION:	NMHC Trigger (Blank)			
REPORT NUMBER:	19060011	REPORT CREATED:	25-Jun-19	VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19060011-002	1-Butene	K, T, U	< 1.30	ppmv	1.30	NA-025	05-Jun-19
19060011-002	Acetylene	K, T, U	< 1.04	ppmv	1.04	NA-025	05-Jun-19
19060011-002	n-Butane	K, T, U	< 2.6	ppmv	2.6	NA-025	05-Jun-19
19060011-002	cis-2-Butene	K, T, U	< 0.52	ppmv	0.52	NA-025	05-Jun-19
19060011-002	Ethane	K, T, U	< 1.3	ppmv	1.3	NA-025	05-Jun-19
19060011-002	Ethylacetylene	K, T, U	< 0.78	ppmv	0.78	NA-025	05-Jun-19
19060011-002	Ethylene	K, T, U	< 0.91	ppmv	0.91	NA-025	05-Jun-19
19060011-002	Isobutane	K, T, U	< 1.3	ppmv	1.3	NA-025	05-Jun-19
19060011-002	Isobutylene	K, T, U	< 1.3	ppmv	1.3	NA-025	05-Jun-19
19060011-002	Methane	K, T, U	< 1.3	ppmv	1.3	NA-025	05-Jun-19
19060011-002	n-Propane	K, T, U	< 0.91	ppmv	0.91	NA-025	05-Jun-19
19060011-002	Propylene	K, T, U	< 1.3	ppmv	1.3	NA-025	05-Jun-19
19060011-002	Propyne	K, T, U	< 1.3	ppmv	1.3	NA-025	05-Jun-19
19060011-002	trans-2-Butene	K, T, U	< 1.17	ppmv	1.17	NA-025	05-Jun-19
19060011-002	2,5-Dimethylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19060011-002	2-Ethylthiophene	K, T, U	< 0.2	ppbv	0.2	NA-024	05-Jun-19
19060011-002	2-Methylthiophene	K, T, U	< 0.2	ppbv	0.2	NA-024	05-Jun-19
19060011-002	3-Methylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19060011-002	Butyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19060011-002	Carbon disulphide	K, T, U	< 0.2	ppbv	0.2	NA-024	05-Jun-19
19060011-002	Carbonyl sulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19060011-002	Dimethyl disulphide	K, T, U	< 0.2	ppbv	0.2	NA-024	05-Jun-19
19060011-002	Dimethyl sulphide	K, T, U	< 0.2	ppbv	0.2	NA-024	05-Jun-19
19060011-002	Ethyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19060011-002	Ethyl sulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19

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CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_986b-Blank	28957	Ambient Air	30-May-19	11:17
DESCRIPTION:	NMHC Trigger (Blank)			
REPORT NUMBER:	19060011	REPORT CREATED:	25-Jun-19	VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19060011-002	Hydrogen sulphide	K, T, U	< 0.1	ppbv	0.1	NA-024	05-Jun-19
19060011-002	Isobutyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19060011-002	Isopropyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19060011-002	Methyl mercaptan	K, T, U	< 0.2	ppbv	0.2	NA-024	05-Jun-19
19060011-002	Pentyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	05-Jun-19
19060011-002	Propyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	05-Jun-19
19060011-002	tert-Butyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19060011-002	Thiophene	K, T, U	< 0.2	ppbv	0.2	NA-024	05-Jun-19
19060011-002	1,1,1-Trichloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	1,1,2,2-Tetrachloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	1,1,2-Trichloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	1,1-Dichloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	1,1-Dichloroethylene	K, T, U	< 0.04	ppbv	0.04	AC-058	05-Jun-19
19060011-002	1,2,3-Trimethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	05-Jun-19
19060011-002	1,2,4-Trichlorobenzene	K, T, U	< 0.8	ppbv	0.8	AC-058	05-Jun-19
19060011-002	1,2,4-Trimethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	05-Jun-19
19060011-002	1,2-Dibromoethane	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	1,2-Dichlorobenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	05-Jun-19
19060011-002	1,2-Dichloroethane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	1,2-Dichloropropane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	1,3,5-Trimethylbenzene	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	1,3-Butadiene	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	1,3-Dichlorobenzene	K, T, U	< 0.3	ppbv	0.3	AC-058	05-Jun-19
19060011-002	1,4-Dichlorobenzene	K, T, U	< 0.4	ppbv	0.4	AC-058	05-Jun-19
19060011-002	1,4-Dioxane	K, T, U	< 0.4	ppbv	0.4	AC-058	05-Jun-19

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ENVIRONMENTAL ANALYTICAL SERVICES Environmental and Air Quality Monitoring Report for May 2019

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_986b-Blank	28957	Ambient Air	30-May-19	11:17
DESCRIPTION:	NMHC Trigger (Blank)			
REPORT NUMBER:	19060011	REPORT CREATED:	25-Jun-19	VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19060011-002	1-Butene/Isobutylene	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	1-Pentene	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	2,2,4-Trimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	2,2-Dimethylbutane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	2,3,4-Trimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	2,3-Dimethylbutane	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	2,3-Dimethylpentane	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	2,4-Dimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	2-Methylheptane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	2-Methylhexane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	2-Methylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	3-Methylheptane	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	3-Methylhexane	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	3-Methylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	Acetone		0.8	ppbv	0.4	AC-058	05-Jun-19
19060011-002	Acrolein	K, T, U	< 0.3	ppbv	0.3	AC-058	05-Jun-19
19060011-002	Benzene	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	Benzyl chloride	K, T, U	< 0.4	ppbv	0.4	AC-058	05-Jun-19
19060011-002	Bromodichloromethane	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	Bromoform	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	Bromomethane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	Carbon disulfide	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	Carbon tetrachloride	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	Chlorobenzene	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19

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ENVIRONMENTAL ANALYTICAL SERVICES

Environmental Services Air Quality Monitoring Report for May 2019

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_986b-Blank	28957	Ambient Air	30-May-19	11:17
DESCRIPTION:	NMHC Trigger (Blank)			
REPORT NUMBER:	19060011	REPORT CREATED:	25-Jun-19	VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19060011-002	Chloroethane	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	Chloroform	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	Chloromethane	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	cis-1,2-Dichloroethene	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	cis-1,3-Dichloropropene	K, T, U	< 0.04	ppbv	0.04	AC-058	05-Jun-19
19060011-002	cis-2-Butene	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	cis-2-Pentene	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	Cyclohexane	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	Cyclopentane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	Dibromochloromethane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	Ethanol		0.6	ppbv	0.3	AC-058	05-Jun-19
19060011-002	Ethyl acetate	K, T, U	< 0.4	ppbv	0.4	AC-058	05-Jun-19
19060011-002	Ethylbenzene	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	Freon-11	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	Freon-113	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	Freon-114	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	Freon-12	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	Hexachloro-1,3-butadiene	K, T, U	< 0.50	ppbv	0.50	AC-058	05-Jun-19
19060011-002	Isobutane		0.16	ppbv	0.02	AC-058	05-Jun-19
19060011-002	Isopentane		0.10	ppbv	0.03	AC-058	05-Jun-19
19060011-002	Isoprene	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	Isopropyl alcohol		1.5	ppbv	0.4	AC-058	05-Jun-19
19060011-002	Isopropylbenzene	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	m,p-Xylene	K, T, U	< 0.03	ppbv	0.03	AC-058	05-Jun-19
19060011-002	m-Diethylbenzene	K, T, U	< 0.04	ppbv	0.04	AC-058	05-Jun-19

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CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_986b-Blank	28957	Ambient Air	30-May-19	11:17
DESCRIPTION:	NMHC Trigger (Blank)			
REPORT NUMBER:	19060011	REPORT CREATED:	25-Jun-19	VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19060011-002	m-Ethyltoluene	K, T, U	< 0.08	ppbv	0.08	AC-058	05-Jun-19
19060011-002	Methyl butyl ketone	K, T, U	< 0.50	ppbv	0.50	AC-058	05-Jun-19
19060011-002	Methyl ethyl ketone	K, T, U	< 0.3	ppbv	0.3	AC-058	05-Jun-19
19060011-002	Methyl isobutyl ketone	K, T, U	< 0.4	ppbv	0.4	AC-058	05-Jun-19
19060011-002	Methyl methacrylate	K, T, U	< 0.07	ppbv	0.07	AC-058	05-Jun-19
19060011-002	Methyl tert butyl ether	K, T, U	< 0.03	ppbv	0.03	AC-058	05-Jun-19
19060011-002	Methylcyclohexane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	Methylcyclopentane	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	Methylene chloride	K, T, U	< 0.3	ppbv	0.3	AC-058	05-Jun-19
19060011-002	n-Butane		0.11	ppbv	0.03	AC-058	05-Jun-19
19060011-002	n-Decane	K, T, U	< 0.06	ppbv	0.06	AC-058	05-Jun-19
19060011-002	n-Dodecane	K, T, U	< 0.4	ppbv	0.4	AC-058	05-Jun-19
19060011-002	n-Heptane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	n-Hexane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	n-Octane	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	n-Pentane	K, T, U	< 0.1	ppbv	0.1	AC-058	05-Jun-19
19060011-002	n-Propylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	05-Jun-19
19060011-002	n-Undecane	K, T, U	< 0.5	ppbv	0.5	AC-058	05-Jun-19
19060011-002	Naphthalene	K, T, U	< 0.5	ppbv	0.5	AC-058	05-Jun-19
19060011-002	n-Nonane	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	o-Ethyltoluene	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	o-Xylene	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	p-Diethylbenzene	K, T, U	< 0.04	ppbv	0.04	AC-058	05-Jun-19
19060011-002	p-Ethyltoluene	K, T, U	< 0.07	ppbv	0.07	AC-058	05-Jun-19
19060011-002	Styrene	K, T, U	< 0.04	ppbv	0.04	AC-058	05-Jun-19

Report certified by: Rebecca Holgate, Account Coordinator

On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: June 25, 2019

Inquiries: (780) 632 8455

E-mail: EAS.Results@innotechalberta.ca



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

ENVIRONMENTAL ANALYTICAL SERVICES

Environmental Air Quality Monitoring Report for May 2019

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_986b-Blank	28957	Ambient Air	30-May-19	11:17
DESCRIPTION:	NMHC Trigger (Blank)			
REPORT NUMBER:	19060011	REPORT CREATED:	25-Jun-19	VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19060011-002	Tetrachloroethylene	K, T, U	< 0.04	ppbv	0.04	AC-058	05-Jun-19
19060011-002	Tetrahydrofuran	K, T, U	< 0.4	ppbv	0.4	AC-058	05-Jun-19
19060011-002	Toluene	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	trans-1,2-Dichloroethylene	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	trans-1,3-Dichloropropylene	K, T, U	< 0.04	ppbv	0.04	AC-058	05-Jun-19
19060011-002	trans-2-Butene	K, T, U	< 0.01	ppbv	0.01	AC-058	05-Jun-19
19060011-002	trans-2-Pentene	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19
19060011-002	Trichloroethylene	K, T, U	< 0.04	ppbv	0.04	AC-058	05-Jun-19
19060011-002	Vinyl acetate	K, T, U	< 0.4	ppbv	0.4	AC-058	05-Jun-19
19060011-002	Vinyl chloride	K, T, U	< 0.02	ppbv	0.02	AC-058	05-Jun-19

Report certified by: Rebecca Holgate, Account Coordinator

On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: June 25, 2019

Inquiries: (780) 632 8455

E-mail: EAS.Results@innotechalberta.ca



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Revision History

Order ID	Ver	Date	Reason
19060011	01	25-Jun-19	Report created



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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



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Order Comments

19060011

Send results to pramptech@prampairshed.ca. Unknowns to be reported.



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TEST REPORT

Sample Comments



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TEST REPORT

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.*



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

FAS CANISTER
Sample ID: 19060006-001
 Customer ID: PRAMP
 Cust Samp ID: PRAMP_Reno-20190530
 Priority: Normal

Date Received - Lab Use Only
RECEIVED
JUN 04 2019
 3
 JR

Client Contact Details: Contact: <u>Karla Ressor, Michael Bisaga/ Lily Lin</u> Company: <u>PRAMP Airshed</u> PO#: <input type="checkbox"/> 842 Station <input type="checkbox"/> 986 Station <input type="checkbox"/> Reno Station Address: <input type="checkbox"/> 842 (Lat. 56.27406N, Long. 116.98129W) <input type="checkbox"/> 986 (Lat. 56.376056N, Long. 116.940704W) <input type="checkbox"/> Reno (Lat. 55.86936N, Long. 117.05739W) Telephone: <u>403-8072995, 780-2667068/587-2252248</u> Email: <u>karla@prampairshed.ca, pramptech@prampairshed.ca</u>	RUSH (Surcharge) <input type="checkbox"/> Invoice Instructions: Send to: officemanager@prampairshed.ca, karla@prampairshed.ca, pramptech@prampairshed.ca Attention: PRAMP Office Manager Any correspondence related to canister analysis, send the information to karla@prampairshed.ca and pramptech@prampairshed.ca <hr/> InnoTech Contact: <u>Graham Knox</u> Phone: <u>780-6328403</u> Cell: <u>780-6321519</u> Email: <u>Graham.Knox@innotechalberta.ca</u>
--	---

Sample ID (PRAMP_station_yyyymmdd)	Canister Number	Sample Description	Date/Time Sampled		Analysis Requested
			From/To		
			Date (dd/mm/yy)	Time (24 Hr) (MST)	
PRAMP_842-_____ (Sample date: yyyymmdd)	29021	<input type="checkbox"/> Methane Trigger	07:25 30/05/2019	07:25	* AIR C1C4, AIR VOC, AIR RSC
PRAMP_986-_____ (Sample date: yyyymmdd)		<input checked="" type="checkbox"/> NMHC Trigger			* Unknown to be reported
PRAMP_Reno-20190530 (Sample date: yyyymmdd)					* Carbon Isotopic Analysis (if sample is collected from Methane trigger)

Sample Collection:
 Collect By JOHN HUCKLEY (Name) of Bayer Energy (Company) on 30/05/2019 (Date/Time (MST)).



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


Sample ID: 19060006-002
Customer ID: PRAMP
Cust Samp ID: PRAMP_Reno-Blank
Priority: Normal


Date Received- Lab Use Only
RECEIVED
 JUN 01 2019
 3 IR

Client Contact Details: Contact: <u>Karla Ressor, Michael Bisaga/ Lily Lin</u> Company: <u>PRAMP Airshed</u> PO#: <input type="checkbox"/> 842 Station <input type="checkbox"/> 986 Station <input type="checkbox"/> Reno Station Address: <input type="checkbox"/> 842 (Lat. 56.27406N, Long. 116.98129W) <input type="checkbox"/> 986 (Lat. 56.376056N, Long. 116.940704W) <input type="checkbox"/> Reno (Lat. 55.86936N, Long. 117.05739W) Telephone: <u>403-8072995, 780-2667068/587-2252248</u> Email: <u>karla@prampairshed.ca, pramptech@prampairshed.ca</u>	RUSH (Surcharge) <input type="checkbox"/> Invoice Instructions: Send to: officemanager@prampairshed.ca, karla@prampairshed.ca, pramptech@prampairshed.ca Attention: PRAMP Office Manager Any correspondence related to canister analysis, send the information to karla@prampairshed.ca and pramptech@prampairshed.ca InnoTech Contact: <u>Graham Knox</u> Phone: <u>780-6328403</u> Cell: <u>780-6321519</u> Email: <u>Graham.Knox@innotechalberta.ca</u>
--	--

Sample ID (PRAMP_station_yyyymmdd)	Canister Number	Sample Description	Date/Time Sampled		Analysis Requested
			From/To		
			Date (dd/mm/yy)	Time (24 Hr) (MST)	
PRAMP_842-_____ (Sample date: yyyymmdd)	32220	<input type="checkbox"/> Methane Trigger			* AIR C1C4, AIR VOC, AIR RSC * Unknown to be reported
PRAMP_986-_____ (Sample date: yyyymmdd)		<input type="checkbox"/> NMHC Trigger			* Carbon Isotopic Analysis (if sample is collected from Methane trigger)
PRAMP_Reno- <u>BLANK</u> (Sample date: yyyymmdd)		<u>BLANK</u>			

Sample Collection:
 Collect By JOHN HICKLEY (Name) of Baytex Energy (Company) on 30-May-2019 (Date/Time (MST)).

 <p>Canister ID: <u>29021</u></p> <p>This cleaned canister meets or exceeds TO-15 Method Specifications</p> <p>Proofed by: <u>DOSY</u> on <u>APR 09 2019</u></p> <p>Evacuated on: <u>APR 12 2019</u></p> <p>Laboratory Contact Number: 780-632-8403</p>	<p>Sample ID: _____</p>	
	<p>Sampled By: _____</p>	
	<p>Starting Vacuum: <u>-27.6</u> "Hg</p>	<p>End Pressure: <u>-4" Hg IMP</u> _____ "Hg/psig</p>

 <p>Canister ID: <u>32220</u></p> <p>This cleaned canister meets or exceeds TO-15 Method Specifications</p> <p>Proofed by: <u>DOSY</u> on <u>MAR 08 2019</u></p> <p>Evacuated on: <u>MAR 13 2019</u></p> <p>Laboratory Contact Number: 780-632-8403</p>	<p>Sample ID: _____</p>	
	<p>Sampled By: _____</p>	
	<p>Starting Vacuum: <u>-27.7</u> "Hg</p>	<p>End Vacuum: <u>-28" Hg IMP</u> _____ "Hg/psig</p>

Sample ID: 19060006-001

Customer ID: PRAMP

Cust Samp ID: PRAMP_Reno-20190530

Priority: Normal



PO Bag 4000
 Vegreville, Alberta
 Canada T9C 1T4
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ENVIRONMENTAL ANALYTICAL SERVICES

Peace River Area Air Quality Monitoring Report for May 2019

TEST REPORT

<p>RESULTS: Karla Reesor 403 807 2995 Peace River Area Monitoring Program Committee</p> <p>INVOICE: Office Manager</p>	<table border="0" style="width: 100%;"> <tr> <td style="width: 33%;">CLIENT SAMPLE ID</td> <td style="width: 33%;">CANISTER ID</td> <td style="width: 33%;">Matrix</td> <td style="width: 15%;">Priority</td> </tr> <tr> <td>PRAMP_Reno-20190530</td> <td>29021</td> <td>Ambient Air</td> <td>Normal</td> </tr> <tr> <td colspan="4"> </td> </tr> <tr> <td colspan="4">DESCRIPTION: NMHC Trigger</td> </tr> <tr> <td>DATE SAMPLED:</td> <td>30-May-19 7:25</td> <td>DATE RECEIVED:</td> <td>03-Jun-19</td> </tr> <tr> <td>REPORT CREATED:</td> <td>21-Jun-19</td> <td>REPORT NUMBER:</td> <td>19060006</td> </tr> <tr> <td></td> <td></td> <td>VERSION:</td> <td>Version 01</td> </tr> </table>	CLIENT SAMPLE ID	CANISTER ID	Matrix	Priority	PRAMP_Reno-20190530	29021	Ambient Air	Normal	 				DESCRIPTION: NMHC Trigger				DATE SAMPLED:	30-May-19 7:25	DATE RECEIVED:	03-Jun-19	REPORT CREATED:	21-Jun-19	REPORT NUMBER:	19060006			VERSION:	Version 01
CLIENT SAMPLE ID	CANISTER ID	Matrix	Priority																										
PRAMP_Reno-20190530	29021	Ambient Air	Normal																										
DESCRIPTION: NMHC Trigger																													
DATE SAMPLED:	30-May-19 7:25	DATE RECEIVED:	03-Jun-19																										
REPORT CREATED:	21-Jun-19	REPORT NUMBER:	19060006																										
		VERSION:	Version 01																										

Lab ID	Parameter	Qualifier	Result	Units	RD L	Method	Analysis Date
19060006-001	1-Butene	K, T, U	< 0.14	ppmv	0.14	NA-025	04-Jun-19
19060006-001	Acetylene	K, T, U	< 0.12	ppmv	0.12	NA-025	04-Jun-19
19060006-001	n-Butane	K, T, U	< 0.3	ppmv	0.3	NA-025	04-Jun-19
19060006-001	cis-2-Butene	K, T, U	< 0.06	ppmv	0.06	NA-025	04-Jun-19
19060006-001	Ethane	K, T, U	< 0.1	ppmv	0.1	NA-025	04-Jun-19
19060006-001	Ethylacetylene	K, T, U	< 0.09	ppmv	0.09	NA-025	04-Jun-19
19060006-001	Ethylene	K, T, U	< 0.10	ppmv	0.10	NA-025	04-Jun-19
19060006-001	Isobutane	K, T, U	< 0.1	ppmv	0.1	NA-025	04-Jun-19
19060006-001	Isobutylene	K, T, U	< 0.1	ppmv	0.1	NA-025	04-Jun-19
19060006-001	Methane		2.1	ppmv	0.1	NA-025	04-Jun-19
19060006-001	n-Propane	K, T, U	< 0.10	ppmv	0.10	NA-025	04-Jun-19
19060006-001	Propylene	K, T, U	< 0.1	ppmv	0.1	NA-025	04-Jun-19
19060006-001	Propyne	K, T, U	< 0.1	ppmv	0.1	NA-025	04-Jun-19
19060006-001	trans-2-Butene	K, T, U	< 0.13	ppmv	0.13	NA-025	04-Jun-19
19060006-001	2,5-Dimethylthiophene	K, T, U	< 0.4	ppbv	0.4	NA-024	05-Jun-19
19060006-001	2-Ethylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19060006-001	2-Methylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19060006-001	3-Methylthiophene	K, T, U	< 0.4	ppbv	0.4	NA-024	05-Jun-19

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_Reno-20190530	29021	Ambient Air	30-May-19	7:25
DESCRIPTION:	NMHC Trigger			
REPORT NUMBER:	19060006	REPORT CREATED:	21-Jun-19	VERSION: Version 01

Lab ID	Parameter	Qualifier	Result Units	RDL	Method	Analysis Date
19060006-001	Butyl mercaptan	K, T, U	< 0.4 ppbv	0.4	NA-024	05-Jun-19
19060006-001	Carbon disulphide	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19
19060006-001	Carbonyl sulphide	K, T, U	< 0.4 ppbv	0.4	NA-024	05-Jun-19
19060006-001	Dimethyl disulphide	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19
19060006-001	Dimethyl sulphide	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19
19060006-001	Ethyl mercaptan	K, T, U	< 0.4 ppbv	0.4	NA-024	05-Jun-19
19060006-001	Ethyl sulphide	K, T, U	< 0.4 ppbv	0.4	NA-024	05-Jun-19
19060006-001	Hydrogen sulphide		1.0 ppbv	0.1	NA-024	05-Jun-19
19060006-001	Isobutyl mercaptan	K, T, U	< 0.4 ppbv	0.4	NA-024	05-Jun-19
19060006-001	Isopropyl mercaptan	K, T, U	< 0.4 ppbv	0.4	NA-024	05-Jun-19
19060006-001	Methyl mercaptan	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19
19060006-001	Pentyl mercaptan	K, T, U	< 0.6 ppbv	0.6	NA-024	05-Jun-19
19060006-001	Propyl mercaptan	K, T, U	< 0.6 ppbv	0.6	NA-024	05-Jun-19
19060006-001	tert-Butyl mercaptan	K, T, U	< 0.4 ppbv	0.4	NA-024	05-Jun-19
19060006-001	Thiophene	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19
19060006-001	1,1,1-Trichloroethane	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19060006-001	1,1,2,2-Tetrachloroethane	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19060006-001	1,1,2-Trichloroethane	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19060006-001	1,1-Dichloroethane	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19060006-001	1,1-Dichloroethylene	K, T, U	< 0.06 ppbv	0.06	AC-058	04-Jun-19
19060006-001	1,2,3-Trimethylbenzene	I	0.14 ppbv	0.07	AC-058	04-Jun-19
19060006-001	1,2,4-Trichlorobenzene	K, T, U	< 1.2 ppbv	1.2	AC-058	04-Jun-19
19060006-001	1,2,4-Trimethylbenzene		0.14 ppbv	0.07	AC-058	04-Jun-19
19060006-001	1,2-Dibromoethane	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19060006-001	1,2-Dichlorobenzene	K, T, U	< 0.04 ppbv	0.04	AC-058	04-Jun-19

Report certified by: Krista Gegolick, Account Coordinator

On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: June-21-19

Inquiries: (780) 632 8455

E-mail: EAS.Results@innotechalberta.ca

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-20190530	29021	Ambient Air	30-May-19 7:25
DESCRIPTION:	NMHC Trigger		
REPORT NUMBER:	19060006	REPORT CREATED:	21-Jun-19
			VERSION: Version 01

Lab ID	Parameter	Qualifier	Result Units	RDL	Method	Analysis Date
19060006-001	1,2-Dichloroethane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-001	1,2-Dichloropropane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-001	1,3,5-Trimethylbenzene	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19060006-001	1,3-Butadiene		2.97 ppbv	0.03	AC-058	04-Jun-19
19060006-001	1,3-Dichlorobenzene	K, T, U	< 0.4 ppbv	0.4	AC-058	04-Jun-19
19060006-001	1,4-Dichlorobenzene	K, T, U	< 0.6 ppbv	0.6	AC-058	04-Jun-19
19060006-001	1,4-Dioxane	K, T, U	< 0.6 ppbv	0.6	AC-058	04-Jun-19
19060006-001	1-Butene/Isobutylene		6.02 ppbv	0.03	AC-058	04-Jun-19
19060006-001	1-Hexene/2-Methyl-1-pentene		1.01 ppbv	0.03	AC-058	04-Jun-19
19060006-001	1-Pentene		1.60 ppbv	0.01	AC-058	04-Jun-19
19060006-001	2,2,4-Trimethylpentane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-001	2,2-Dimethylbutane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-001	2,3,4-Trimethylpentane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-001	2,3-Dimethylbutane	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19060006-001	2,3-Dimethylpentane	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19060006-001	2,4-Dimethylpentane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-001	2-Methylheptane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-001	2-Methylhexane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-001	2-Methylpentane		0.05 ppbv	0.01	AC-058	04-Jun-19
19060006-001	3-Methylheptane	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19060006-001	3-Methylhexane		0.20 ppbv	0.03	AC-058	04-Jun-19
19060006-001	3-Methylpentane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-001	Acetone		21.6 ppbv	0.6	AC-058	04-Jun-19
19060006-001	Acrolein		7.2 ppbv	0.4	AC-058	04-Jun-19
19060006-001	Benzene		8.29 ppbv	0.01	AC-058	04-Jun-19

Report certified by: Krista Gegolick, Account Coordinator

On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: June-21-19

Inquiries: (780) 632 8455

E-mail: EAS.Results@innotechalberta.ca

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_Reno-20190530	29021	Ambient Air	30-May-19	7:25
DESCRIPTION:	NMHC Trigger			
REPORT NUMBER:	19060006	REPORT CREATED:	21-Jun-19	VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19060006-001	Benzyl chloride	K, T, U	< 0.6	ppbv	0.6	AC-058	04-Jun-19
19060006-001	Bromodichloromethane	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Jun-19
19060006-001	Bromoform	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Jun-19
19060006-001	Bromomethane	K, T, U	< 0.01	ppbv	0.01	AC-058	04-Jun-19
19060006-001	Carbon disulfide	K, T, U	< 0.01	ppbv	0.01	AC-058	04-Jun-19
19060006-001	Carbon tetrachloride	K, T, U	< 0.01	ppbv	0.01	AC-058	04-Jun-19
19060006-001	Chlorobenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Jun-19
19060006-001	Chloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Jun-19
19060006-001	Chloroform	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Jun-19
19060006-001	Chloromethane		1.06	ppbv	0.03	AC-058	04-Jun-19
19060006-001	cis-1,2-Dichloroethene	K, T, U	< 0.01	ppbv	0.01	AC-058	04-Jun-19
19060006-001	cis-1,3-Dichloropropene	K, T, U	< 0.06	ppbv	0.06	AC-058	04-Jun-19
19060006-001	cis-2-Butene		0.91	ppbv	0.03	AC-058	04-Jun-19
19060006-001	cis-2-Pentene		0.18	ppbv	0.03	AC-058	04-Jun-19
19060006-001	Cyclohexane	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Jun-19
19060006-001	Cyclopentane	K, T, U	< 0.01	ppbv	0.01	AC-058	04-Jun-19
19060006-001	Dibromochloromethane	K, T, U	< 0.01	ppbv	0.01	AC-058	04-Jun-19
19060006-001	Ethanol		3.9	ppbv	0.4	AC-058	04-Jun-19
19060006-001	Ethyl acetate	K, T, U	< 0.6	ppbv	0.6	AC-058	04-Jun-19
19060006-001	Ethylbenzene		0.70	ppbv	0.01	AC-058	04-Jun-19
19060006-001	Freon-11	I	0.18	ppbv	0.03	AC-058	04-Jun-19
19060006-001	Freon-113	K, T, U	< 0.01	ppbv	0.01	AC-058	04-Jun-19
19060006-001	Freon-114	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Jun-19
19060006-001	Freon-12	I	0.34	ppbv	0.03	AC-058	04-Jun-19
19060006-001	Hexachloro-1,3-butadiene	K, T, U	< 0.72	ppbv	0.72	AC-058	04-Jun-19

Report certified by: Krista Gegolick, Account Coordinator

On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: June-21-19

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CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-20190530	29021	Ambient Air	30-May-19 7:25
DESCRIPTION:	NMHC Trigger		
REPORT NUMBER:	19060006	REPORT CREATED:	21-Jun-19
			VERSION: Version 01

Lab ID	Parameter	Qualifier	Result Units	RDL	Method	Analysis Date
19060006-001	Isobutane		0.74 ppbv	0.03	AC-058	04-Jun-19
19060006-001	Isopentane		0.30 ppbv	0.04	AC-058	04-Jun-19
19060006-001	Isoprene		0.83 ppbv	0.01	AC-058	04-Jun-19
19060006-001	Isopropyl alcohol	K, T, U	< 0.6 ppbv	0.6	AC-058	04-Jun-19
19060006-001	Isopropylbenzene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-001	m,p-Xylene		1.27 ppbv	0.04	AC-058	04-Jun-19
19060006-001	m-Diethylbenzene	K, T, U	< 0.06 ppbv	0.06	AC-058	04-Jun-19
19060006-001	m-Ethyltoluene	I	0.18 ppbv	0.12	AC-058	04-Jun-19
19060006-001	Methyl butyl ketone	K, T, U	< 0.72 ppbv	0.72	AC-058	04-Jun-19
19060006-001	Methyl ethyl ketone		3.4 ppbv	0.4	AC-058	04-Jun-19
19060006-001	Methyl isobutyl ketone	K, T, U	< 0.6 ppbv	0.6	AC-058	04-Jun-19
19060006-001	Methyl methacrylate	K, T, U	< 0.10 ppbv	0.10	AC-058	04-Jun-19
19060006-001	Methyl tert butyl ether	K, T, U	< 0.04 ppbv	0.04	AC-058	04-Jun-19
19060006-001	Methylcyclohexane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-001	Methylcyclopentane	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19060006-001	Methylene chloride	K, T, U	< 0.4 ppbv	0.4	AC-058	04-Jun-19
19060006-001	n-Butane		2.19 ppbv	0.04	AC-058	04-Jun-19
19060006-001	n-Decane		0.22 ppbv	0.09	AC-058	04-Jun-19
19060006-001	n-Dodecane	K, T, U	< 0.6 ppbv	0.6	AC-058	04-Jun-19
19060006-001	n-Heptane		0.40 ppbv	0.01	AC-058	04-Jun-19
19060006-001	n-Hexane		0.53 ppbv	0.01	AC-058	04-Jun-19
19060006-001	n-Octane		0.30 ppbv	0.03	AC-058	04-Jun-19
19060006-001	n-Pentane		0.9 ppbv	0.1	AC-058	04-Jun-19
19060006-001	n-Propylbenzene		0.12 ppbv	0.07	AC-058	04-Jun-19
19060006-001	n-Undecane	K, T, U	< 0.7 ppbv	0.7	AC-058	04-Jun-19

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On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: June-21-19

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ENVIRONMENTAL ANALYTICAL SERVICES

Environmental Monitoring Services Air Quality Monitoring Report for May 2019

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_Reno-20190530	29021	Ambient Air	30-May-19	7:25
DESCRIPTION:	NMHC Trigger			
REPORT NUMBER:	19060006	REPORT CREATED:	21-Jun-19	VERSION: Version 01

Lab ID	Parameter	Qualifier	Result Units	RDL	Method	Analysis Date
19060006-001	Naphthalene	K, T, U	< 0.7 ppbv	0.7	AC-058	04-Jun-19
19060006-001	n-Nonane		0.21 ppbv	0.01	AC-058	04-Jun-19
19060006-001	o-Ethyltoluene	I	0.15 ppbv	0.01	AC-058	04-Jun-19
19060006-001	o-Xylene		0.53 ppbv	0.01	AC-058	04-Jun-19
19060006-001	p-Diethylbenzene	K, T, U	< 0.06 ppbv	0.06	AC-058	04-Jun-19
19060006-001	p-Ethyltoluene	K, T, U	< 0.10 ppbv	0.10	AC-058	04-Jun-19
19060006-001	Styrene		1.07 ppbv	0.06	AC-058	04-Jun-19
19060006-001	Tetrachloroethylene	K, T, U	< 0.06 ppbv	0.06	AC-058	04-Jun-19
19060006-001	Tetrahydrofuran	K, T, U	< 0.6 ppbv	0.6	AC-058	04-Jun-19
19060006-001	Toluene		5.35 ppbv	0.01	AC-058	04-Jun-19
19060006-001	trans-1,2-Dichloroethylene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-001	trans-1,3-Dichloropropylene	K, T, U	< 0.06 ppbv	0.06	AC-058	04-Jun-19
19060006-001	trans-2-Butene		1.08 ppbv	0.01	AC-058	04-Jun-19
19060006-001	trans-2-Pentene		0.34 ppbv	0.03	AC-058	04-Jun-19
19060006-001	Trichloroethylene	K, T, U	< 0.06 ppbv	0.06	AC-058	04-Jun-19
19060006-001	Vinyl acetate	K, T, U	< 0.6 ppbv	0.6	AC-058	04-Jun-19
19060006-001	Vinyl chloride	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19

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Date: June-21-19

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CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-Blank	32220	Ambient Air	30-May-19
DESCRIPTION:	Blank		
REPORT NUMBER:	19060006	REPORT CREATED:	21-Jun-19
			VERSION: Version 01

Lab ID	Parameter	Qualifier	Result Units	RDL	Method	Analysis Date
19060006-002	1-Butene	K, T, U	< 1.66 ppmv	1.66	NA-025	04-Jun-19
19060006-002	Acetylene	K, T, U	< 1.33 ppmv	1.33	NA-025	04-Jun-19
19060006-002	n-Butane	K, T, U	< 3.3 ppmv	3.3	NA-025	04-Jun-19
19060006-002	cis-2-Butene	K, T, U	< 0.66 ppmv	0.66	NA-025	04-Jun-19
19060006-002	Ethane	K, T, U	< 1.7 ppmv	1.7	NA-025	04-Jun-19
19060006-002	Ethylacetylene	K, T, U	< 0.99 ppmv	0.99	NA-025	04-Jun-19
19060006-002	Ethylene	K, T, U	< 1.16 ppmv	1.16	NA-025	04-Jun-19
19060006-002	Isobutane	K, T, U	< 1.7 ppmv	1.7	NA-025	04-Jun-19
19060006-002	Isobutylene	K, T, U	< 1.7 ppmv	1.7	NA-025	04-Jun-19
19060006-002	Methane	K, T, U	< 1.7 ppmv	1.7	NA-025	04-Jun-19
19060006-002	n-Propane	K, T, U	< 1.16 ppmv	1.16	NA-025	04-Jun-19
19060006-002	Propylene	K, T, U	< 1.7 ppmv	1.7	NA-025	04-Jun-19
19060006-002	Propyne	K, T, U	< 1.7 ppmv	1.7	NA-025	04-Jun-19
19060006-002	trans-2-Butene	K, T, U	< 1.49 ppmv	1.49	NA-025	04-Jun-19
19060006-002	2,5-Dimethylthiophene	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19
19060006-002	2-Ethylthiophene	K, T, U	< 0.2 ppbv	0.2	NA-024	05-Jun-19
19060006-002	2-Methylthiophene	K, T, U	< 0.2 ppbv	0.2	NA-024	05-Jun-19
19060006-002	3-Methylthiophene	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19
19060006-002	Butyl mercaptan	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19
19060006-002	Carbon disulphide	K, T, U	< 0.2 ppbv	0.2	NA-024	05-Jun-19
19060006-002	Carbonyl sulphide	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19
19060006-002	Dimethyl disulphide	K, T, U	< 0.2 ppbv	0.2	NA-024	05-Jun-19
19060006-002	Dimethyl sulphide	K, T, U	< 0.2 ppbv	0.2	NA-024	05-Jun-19
19060006-002	Ethyl mercaptan	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19
19060006-002	Ethyl sulphide	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19

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CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-Blank	32220	Ambient Air	30-May-19
DESCRIPTION:	Blank		
REPORT NUMBER:	19060006	REPORT CREATED:	21-Jun-19
			VERSION: Version 01

Lab ID	Parameter	Qualifier	Result Units	RDL	Method	Analysis Date
19060006-002	Hydrogen sulphide	K, T, U	< 0.1 ppbv	0.1	NA-024	05-Jun-19
19060006-002	Isobutyl mercaptan	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19
19060006-002	Isopropyl mercaptan	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19
19060006-002	Methyl mercaptan	K, T, U	< 0.2 ppbv	0.2	NA-024	05-Jun-19
19060006-002	Pentyl mercaptan	K, T, U	< 0.4 ppbv	0.4	NA-024	05-Jun-19
19060006-002	Propyl mercaptan	K, T, U	< 0.4 ppbv	0.4	NA-024	05-Jun-19
19060006-002	tert-Butyl mercaptan	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19
19060006-002	Thiophene	K, T, U	< 0.2 ppbv	0.2	NA-024	05-Jun-19
19060006-002	1,1,1-Trichloroethane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	1,1,2,2-Tetrachloroethane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	1,1,2-Trichloroethane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	1,1-Dichloroethane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	1,1-Dichloroethylene	K, T, U	< 0.04 ppbv	0.04	AC-058	04-Jun-19
19060006-002	1,2,3-Trimethylbenzene	K, T, U	< 0.05 ppbv	0.05	AC-058	04-Jun-19
19060006-002	1,2,4-Trichlorobenzene	K, T, U	< 0.8 ppbv	0.8	AC-058	04-Jun-19
19060006-002	1,2,4-Trimethylbenzene	K, T, U	< 0.05 ppbv	0.05	AC-058	04-Jun-19
19060006-002	1,2-Dibromoethane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	1,2-Dichlorobenzene	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19060006-002	1,2-Dichloroethane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	1,2-Dichloropropane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	1,3,5-Trimethylbenzene	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	1,3-Butadiene	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	1,3-Dichlorobenzene	K, T, U	< 0.3 ppbv	0.3	AC-058	04-Jun-19
19060006-002	1,4-Dichlorobenzene	K, T, U	< 0.4 ppbv	0.4	AC-058	04-Jun-19
19060006-002	1,4-Dioxane	K, T, U	< 0.4 ppbv	0.4	AC-058	04-Jun-19

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ENVIRONMENTAL ANALYTICAL SERVICES

Environmental Monitoring and Air Quality Monitoring Report for May 2019

TEST REPORT

CLIENT SAMPLE ID PRAMP_Reno-Blank	CANISTER ID 32220	Matrix Ambient Air	DATE SAMPLED 30-May-19
DESCRIPTION: Blank			
REPORT NUMBER: 19060006	REPORT CREATED: 21-Jun-19		VERSION: Version 01

Lab ID	Parameter	Qualifier	Result Units	RDL	Method	Analysis Date
19060006-002	1-Butene/Isobutylene	U	0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	1-Pentene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	2,2,4-Trimethylpentane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	2,2-Dimethylbutane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	2,3,4-Trimethylpentane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	2,3-Dimethylbutane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	2,3-Dimethylpentane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	2,4-Dimethylpentane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	2-Methylheptane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	2-Methylhexane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	2-Methylpentane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	3-Methylheptane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	3-Methylhexane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	3-Methylpentane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	Acetone	K, T, U	< 0.4 ppbv	0.4	AC-058	04-Jun-19
19060006-002	Acrolein	K, T, U	< 0.3 ppbv	0.3	AC-058	04-Jun-19
19060006-002	Benzene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	Benzyl chloride	K, T, U	< 0.4 ppbv	0.4	AC-058	04-Jun-19
19060006-002	Bromodichloromethane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	Bromoform	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	Bromomethane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	Carbon disulfide	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	Carbon tetrachloride	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	Chlorobenzene	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19

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ENVIRONMENTAL ANALYTICAL SERVICES

Environmental Monitoring and Testing Services Air Quality Monitoring Report for May 2019

TEST REPORT

CLIENT SAMPLE ID PRAMP_Reno-Blank	CANISTER ID 32220	Matrix Ambient Air	DATE SAMPLED 30-May-19
DESCRIPTION: Blank			
REPORT NUMBER: 19060006	REPORT CREATED: 21-Jun-19		VERSION: Version 01

Lab ID	Parameter	Qualifier	Result Units	RDL	Method	Analysis Date
19060006-002	Chloroethane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	Chloroform	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	Chloromethane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	cis-1,2-Dichloroethene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	cis-1,3-Dichloropropene	K, T, U	< 0.04 ppbv	0.04	AC-058	04-Jun-19
19060006-002	cis-2-Butene	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	cis-2-Pentene	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	Cyclohexane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	Cyclopentane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	Dibromochloromethane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	Ethanol	K, T, U	< 0.3 ppbv	0.3	AC-058	04-Jun-19
19060006-002	Ethyl acetate	K, T, U	< 0.4 ppbv	0.4	AC-058	04-Jun-19
19060006-002	Ethylbenzene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	Freon-11	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	Freon-113	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	Freon-114	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	Freon-12	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	Hexachloro-1,3-butadiene	K, T, U	< 0.50 ppbv	0.50	AC-058	04-Jun-19
19060006-002	Isobutane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	Isopentane	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19060006-002	Isoprene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	Isopropyl alcohol	K, T, U	< 0.4 ppbv	0.4	AC-058	04-Jun-19
19060006-002	Isopropylbenzene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	m,p-Xylene	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19060006-002	m-Diethylbenzene	K, T, U	< 0.04 ppbv	0.04	AC-058	04-Jun-19

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Date: June-21-19

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CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-Blank	32220	Ambient Air	30-May-19
DESCRIPTION:	Blank		
REPORT NUMBER:	19060006	REPORT CREATED:	21-Jun-19
			VERSION: Version 01

Lab ID	Parameter	Qualifier	Result Units	RDL	Method	Analysis Date
19060006-002	m-Ethyltoluene	K, T, U	< 0.08 ppbv	0.08	AC-058	04-Jun-19
19060006-002	Methyl butyl ketone	K, T, U	< 0.50 ppbv	0.50	AC-058	04-Jun-19
19060006-002	Methyl ethyl ketone	K, T, U	< 0.3 ppbv	0.3	AC-058	04-Jun-19
19060006-002	Methyl isobutyl ketone	K, T, U	< 0.4 ppbv	0.4	AC-058	04-Jun-19
19060006-002	Methyl methacrylate	K, T, U	< 0.07 ppbv	0.07	AC-058	04-Jun-19
19060006-002	Methyl tert butyl ether	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19060006-002	Methylcyclohexane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	Methylcyclopentane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	Methylene chloride	K, T, U	< 0.3 ppbv	0.3	AC-058	04-Jun-19
19060006-002	n-Butane	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19060006-002	n-Decane	K, T, U	< 0.06 ppbv	0.06	AC-058	04-Jun-19
19060006-002	n-Dodecane	K, T, U	< 0.4 ppbv	0.4	AC-058	04-Jun-19
19060006-002	n-Heptane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	n-Hexane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	n-Octane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	n-Pentane	K, T, U	< 0.1 ppbv	0.1	AC-058	04-Jun-19
19060006-002	n-Propylbenzene	K, T, U	< 0.05 ppbv	0.05	AC-058	04-Jun-19
19060006-002	n-Undecane	K, T, U	< 0.5 ppbv	0.5	AC-058	04-Jun-19
19060006-002	Naphthalene	K, T, U	< 0.5 ppbv	0.5	AC-058	04-Jun-19
19060006-002	n-Nonane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	o-Ethyltoluene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	o-Xylene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	p-Diethylbenzene	K, T, U	< 0.04 ppbv	0.04	AC-058	04-Jun-19
19060006-002	p-Ethyltoluene	K, T, U	< 0.07 ppbv	0.07	AC-058	04-Jun-19
19060006-002	Styrene	K, T, U	< 0.04 ppbv	0.04	AC-058	04-Jun-19

Report certified by: Krista Gegolick, Account Coordinator

On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: June-21-19

Inquiries: (780) 632 8455

E-mail: EAS.Results@innotechalberta.ca



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ENVIRONMENTAL ANALYTICAL SERVICES

Environmental Monitoring Services Air Quality Monitoring Report for May 2019

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_Reno-Blank	32220	Ambient Air	30-May-19
DESCRIPTION:	Blank		
REPORT NUMBER:	19060006	REPORT CREATED:	21-Jun-19
			VERSION: Version 01

Lab ID	Parameter	Qualifier	Result Units	RDL	Method	Analysis Date
19060006-002	Tetrachloroethylene	K, T, U	< 0.04 ppbv	0.04	AC-058	04-Jun-19
19060006-002	Tetrahydrofuran	K, T, U	< 0.4 ppbv	0.4	AC-058	04-Jun-19
19060006-002	Toluene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	trans-1,2-Dichloroethylene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	trans-1,3-Dichloropropylene	K, T, U	< 0.04 ppbv	0.04	AC-058	04-Jun-19
19060006-002	trans-2-Butene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19060006-002	trans-2-Pentene	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19060006-002	Trichloroethylene	K, T, U	< 0.04 ppbv	0.04	AC-058	04-Jun-19
19060006-002	Vinyl acetate	K, T, U	< 0.4 ppbv	0.4	AC-058	04-Jun-19
19060006-002	Vinyl chloride	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19

Report certified by: Krista Gegolick, Account Coordinator

On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: June-21-19

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ENVIRONMENTAL ANALYTICAL SERVICES

19060006 Air Quality Monitoring Report for May 2019

TEST REPORT

Revision History

Order ID	Ver	Date	Reason
19060006	01	21-Jun-19	Report created



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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



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ENVIRONMENTAL ANALYTICAL SERVICES

Prampairshed Air Quality Monitoring Report for May 2019

TEST REPORT

Page 16 of 18

Order Comments

19060006

Send results to pramptech@prampairshed.ca. Unknowns to be reported.



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ENVIRONMENTAL ANALYTICAL SERVICES

Environmental Monitoring Centre Air Quality Monitoring Report for May 2019

TEST REPORT

Page 17 of 18

Sample Comments



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Canada T9C 1T4
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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.*



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

Sample ID: 19050361-001

Customer ID: PRAMP
 Cust Samp ID: PRAMP_842-2019/05/30

Priority: Normal

Date Received- Lab Use Only

RECEIVED

MAY 31 2019

<p>Client Contact Details:</p> <p>Contact: <u>Karla Ressor, Michael Bisaga/ Lily Lin</u></p> <p>Company: <u>PRAMP Airshed</u></p> <p>PO#: <input type="checkbox"/> 842 Station <input type="checkbox"/> 986 Station <input type="checkbox"/> Reno Station</p> <p>Address: <input type="checkbox"/> 842 (Lat. 56.27406N, Long. 116.98129W) <input type="checkbox"/> 986 (Lat. 56.376056N, Long. 116.940704W) <input type="checkbox"/> Reno (Lat. 55.86936N, Long. 117.05739W)</p> <p>Telephone: <u>403-8072995, 780-2667068/587-2252248</u></p> <p>Email: <u>karla@prampairshed.ca, pramptech@prampairshed.ca</u></p>	<p>RUSH (Surcharge) <input type="checkbox"/></p> <p>Invoice Instructions: Send to: officemanager@prampairshed.ca, karla@prampairshed.ca, pramptech@prampairshed.ca Attention: PRAMP Office Manager</p> <p>Any correspondence related to canister analysis, send the information to karla@prampairshed.ca and pramptech@prampairshed.ca</p> <hr/> <p>InnoTech Contact: <u>Graham Knox</u> Phone: <u>780-6328403</u> Cell: <u>780-6321519</u> Email: <u>Graham.Knox@innotechalberta.ca</u></p>
---	--

Sample ID (PRAMP_station_yyyymmdd)	Canister Number	Sample Description	Date/Time Sampled		Analysis Requested
			From/To		
			Date (dd/mm/yy)	Time (24 Hr) (MST)	
PRAMP_842- <u>2019/05/30</u> (Sample date: yyyymmdd)	<u>290 23</u>	<input type="checkbox"/> Methane Trigger	<u>Apr 2019</u>	<u>10:39 AM</u>	* AIR C1C4, AIR VOC, AIR RSC * Unknown to be reported * Carbon Isotopic Analysis (if sample is collected from Methane trigger)
PRAMP_986- _____ (Sample date: yyyymmdd)		<input checked="" type="checkbox"/> NMHC Trigger	<u>May 30/19</u>		
PRAMP_Reno- _____ (Sample date: yyyymmdd)					

Sample Collection:

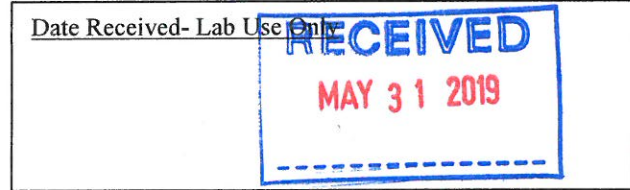
Collect By R. Lyons (Name) of QVSE (Company) on May 31/19 10:39 AM (Date/Time (MST)).



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

Sample ID: 19050361-002


Customer ID: PRAMP
Cust Samp ID: PRAMP_842-2019/05/30 - Blank



Client Contact Details:		RUSH (Surcharge) <input type="checkbox"/>	
Contact:	<u>Karla Ressor, Michael Bisaga/ Lily Lin</u>	Invoice Instructions:	
Company:	<u>PRAMP Airshed</u>	Send to: officemanager@prampairshed.ca, karla@prampairshed.ca,	
PO#:	<input type="checkbox"/> 842 Station <input type="checkbox"/> 986 Station <input type="checkbox"/> Reno Station	pramptech@prampairshed.ca Attention: PRAMP Office Manager	
Address:	<input type="checkbox"/> 842 (Lat. 56.27406N, Long. 116.98129W)	Any correspondence related to canister analysis, send the information to karla@prampairshed.ca	
	<input type="checkbox"/> 986 (Lat. 56.376056N, Long. 116.940704W)	and pramptech@prampairshed.ca	
	<input type="checkbox"/> Reno (Lat. 55.86936N, Long. 117.05739W)	InnoTech Contact: <u>Graham Knox</u> Phone: <u>780-6328403</u> Cell: <u>780-6321519</u>	
Telephone:	<u>403-8072995, 780-2667068/587-2252248</u>	Email: <u>Graham.Knox@innotechalberta.ca</u>	
Email:	<u>karla@prampairshed.ca, pramptech@prampairshed.ca</u>		

Sample ID (PRAMP_station_yyyymmdd)	Canister Number	Sample Description	Date/Time Sampled		Analysis Requested
			From/To		
			Date (dd/mm/yy)	Time (24 Hr) (MST)	
PRAMP_842- <u>2019/05/30</u> (Sample date: yyyymmdd)	<u>32191</u> <u>PRAMP_9125 - BLANK</u>	<input type="checkbox"/> Methane Trigger	<u>May 30/19</u>	<u>10:39 AM</u>	* AIR C1C4, AIR VOC, AIR RSC
PRAMP_986- _____ (Sample date: yyyymmdd)		<input type="checkbox"/> NMHC Trigger			* Unknown to be reported
PRAMP_Reno- _____ (Sample date: yyyymmdd)		<input checked="" type="checkbox"/> Blank			* Carbon Isotopic Analysis (if sample is collected from Methane trigger)

Sample Collection:
 Collect By Ridd (Name) of ORBE (Company) on May 30/19 10:39 AM (Date/Time (MST)).


 <p>InnoTech ALBERTA</p> <p>This cleaned canister meets or exceeds TO-15 Method Specifications</p>	Canister ID: <u>29023</u>		Sample ID: <u>PRAMP 842b 20190530(NMHC)</u> <u>NMHC TRIGGER</u>	
	Proofed by: <u>DOSY</u> on <u>APR 05 2019</u>		Sampled By: <u>Roland Young</u>	
Evacuated on: <u>APR 09 2019</u>		Starting Vacuum: <u>27.4</u> "Hg	End Pressure: <u>-2</u> "Hg/psig -2" Hg JSP	
Laboratory Contact Number: 780-632-8403				

Sample ID: 19050361-001

Customer ID: PRAMP

Cust Samp ID: PRAMP_842-2019/05/30

Priority: Normal

 <p>InnoTech ALBERTA</p> <p>This cleaned canister meets or exceeds TO-15 Method Specifications</p>	Canister ID: <u>32191</u>		Sample ID: <u>PRAMP 842b Blank</u>	
	Proofed by: <u>DOSY</u> on <u>MAY 22 2019</u>		Sampled By: <u>Roland Young</u>	
Evacuated on: <u>APR 04 2019</u>		Starting Vacuum: <u>27.4</u> "Hg	End Vacuum: <u>27.4</u> "Hg/psig -28" Hg JSP	
Laboratory Contact Number: 780-632-8403				



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ENVIRONMENTAL ANALYTICAL SERVICES

Peace River Area Air Quality Monitoring Report for May 2019

TEST REPORT

RESULTS: Karla Reesor Peace River Area Monitoring Program Committee INVOICE: Office Manager	403 807 2995 CLIENT SAMPLE ID PRAMP_842-2019/05/30	CANISTER ID 29023	Matrix Ambient Air	Priority Normal
	DESCRIPTION: NMHC Trigger			
DATE SAMPLED: 30-May-19		10:39	DATE RECEIVED: 31-May-19	
REPORT CREATED: 21-Jun-19		REPORT NUMBER: 19050361		
		VERSION: Version 01		

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19050361-001	1-Butene	K, T, U	< 0.15	ppmv	0.15	NA-025	03-Jun-19
19050361-001	Acetylene	K, T, U	< 0.12	ppmv	0.12	NA-025	03-Jun-19
19050361-001	n-Butane	K, T, U	< 0.3	ppmv	0.3	NA-025	03-Jun-19
19050361-001	cis-2-Butene	K, T, U	< 0.06	ppmv	0.06	NA-025	03-Jun-19
19050361-001	Ethane	K, T, U	< 0.1	ppmv	0.1	NA-025	03-Jun-19
19050361-001	Ethylacetylene	K, T, U	< 0.09	ppmv	0.09	NA-025	03-Jun-19
19050361-001	Ethylene	K, T, U	< 0.10	ppmv	0.10	NA-025	03-Jun-19
19050361-001	Isobutane	K, T, U	< 0.1	ppmv	0.1	NA-025	03-Jun-19
19050361-001	Isobutylene	K, T, U	< 0.1	ppmv	0.1	NA-025	03-Jun-19
19050361-001	Methane		2.0	ppmv	0.1	NA-025	03-Jun-19
19050361-001	n-Propane	K, T, U	< 0.10	ppmv	0.10	NA-025	03-Jun-19
19050361-001	Propylene	K, T, U	< 0.1	ppmv	0.1	NA-025	03-Jun-19
19050361-001	Propyne	K, T, U	< 0.1	ppmv	0.1	NA-025	03-Jun-19
19050361-001	trans-2-Butene	K, T, U	< 0.13	ppmv	0.13	NA-025	03-Jun-19
19050361-001	2,5-Dimethylthiophene	K, T, U	< 0.4	ppbv	0.4	NA-024	05-Jun-19
19050361-001	2-Ethylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19050361-001	2-Methylthiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19050361-001	3-Methylthiophene	K, T, U	< 0.4	ppbv	0.4	NA-024	05-Jun-19

Report certified by: Krista Gegolick, Account Coordinator

On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: June-21-19

Inquiries: (780) 632 8455

E-mail: EAS.Results@innotechalberta.ca

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_842-2019/05/30	29023	Ambient Air	30-May-19	10:39
DESCRIPTION:	NMHC Trigger			
REPORT NUMBER:	19050361	REPORT CREATED:	21-Jun-19	VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19050361-001	Butyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	05-Jun-19
19050361-001	Carbon disulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19050361-001	Carbonyl sulphide	K, T, U	< 0.4	ppbv	0.4	NA-024	05-Jun-19
19050361-001	Dimethyl disulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19050361-001	Dimethyl sulphide	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19050361-001	Ethyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	05-Jun-19
19050361-001	Ethyl sulphide	K, T, U	< 0.4	ppbv	0.4	NA-024	05-Jun-19
19050361-001	Hydrogen sulphide		1.5	ppbv	0.1	NA-024	05-Jun-19
19050361-001	Isobutyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	05-Jun-19
19050361-001	Isopropyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	05-Jun-19
19050361-001	Methyl mercaptan	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19050361-001	Pentyl mercaptan	K, T, U	< 0.6	ppbv	0.6	NA-024	05-Jun-19
19050361-001	Propyl mercaptan	K, T, U	< 0.6	ppbv	0.6	NA-024	05-Jun-19
19050361-001	tert-Butyl mercaptan	K, T, U	< 0.4	ppbv	0.4	NA-024	05-Jun-19
19050361-001	Thiophene	K, T, U	< 0.3	ppbv	0.3	NA-024	05-Jun-19
19050361-001	1,1,1-Trichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Jun-19
19050361-001	1,1,2,2-Tetrachloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Jun-19
19050361-001	1,1,2-Trichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Jun-19
19050361-001	1,1-Dichloroethane	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Jun-19
19050361-001	1,1-Dichloroethylene	K, T, U	< 0.06	ppbv	0.06	AC-058	04-Jun-19
19050361-001	1,2,3-Trimethylbenzene	I	0.15	ppbv	0.07	AC-058	04-Jun-19
19050361-001	1,2,4-Trichlorobenzene	K, T, U	< 1.2	ppbv	1.2	AC-058	04-Jun-19
19050361-001	1,2,4-Trimethylbenzene		0.18	ppbv	0.07	AC-058	04-Jun-19
19050361-001	1,2-Dibromoethane	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Jun-19
19050361-001	1,2-Dichlorobenzene	K, T, U	< 0.04	ppbv	0.04	AC-058	04-Jun-19

Report certified by: Krista Gegolick, Account Coordinator

On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: June-21-19

Inquiries: (780) 632 8455

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ENVIRONMENTAL ANALYTICAL SERVICES

Environmental Monitoring and Testing Services Air Quality Monitoring Report for May 2019

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_842-2019/05/30	29023	Ambient Air	30-May-19	10:39
DESCRIPTION:	NMHC Trigger			
REPORT NUMBER:	19050361	REPORT CREATED:	21-Jun-19	VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19050361-001	1,2-Dichloroethane	K, T, U	< 0.01	ppbv	0.01	AC-058	04-Jun-19
19050361-001	1,2-Dichloropropane	K, T, U	< 0.01	ppbv	0.01	AC-058	04-Jun-19
19050361-001	1,3,5-Trimethylbenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Jun-19
19050361-001	1,3-Butadiene		2.67	ppbv	0.03	AC-058	04-Jun-19
19050361-001	1,3-Dichlorobenzene	K, T, U	< 0.4	ppbv	0.4	AC-058	04-Jun-19
19050361-001	1,4-Dichlorobenzene	K, T, U	< 0.6	ppbv	0.6	AC-058	04-Jun-19
19050361-001	1,4-Dioxane	K, T, U	< 0.6	ppbv	0.6	AC-058	04-Jun-19
19050361-001	1-Butene/Isobutylene		7.93	ppbv	0.03	AC-058	04-Jun-19
19050361-001	1-Hexene/2-Methyl-1-pentene		0.92	ppbv	0.03	AC-058	04-Jun-19
19050361-001	1-Pentene		1.45	ppbv	0.01	AC-058	04-Jun-19
19050361-001	2,2,4-Trimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	04-Jun-19
19050361-001	2,2-Dimethylbutane	K, T, U	< 0.01	ppbv	0.01	AC-058	04-Jun-19
19050361-001	2,3,4-Trimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	04-Jun-19
19050361-001	2,3-Dimethylbutane	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Jun-19
19050361-001	2,3-Dimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Jun-19
19050361-001	2,4-Dimethylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	04-Jun-19
19050361-001	2-Methylheptane	K, T, U	< 0.01	ppbv	0.01	AC-058	04-Jun-19
19050361-001	2-Methylhexane	K, T, U	< 0.01	ppbv	0.01	AC-058	04-Jun-19
19050361-001	2-Methylpentane		0.05	ppbv	0.01	AC-058	04-Jun-19
19050361-001	3-Methylheptane	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Jun-19
19050361-001	3-Methylhexane		0.18	ppbv	0.03	AC-058	04-Jun-19
19050361-001	3-Methylpentane	K, T, U	< 0.01	ppbv	0.01	AC-058	04-Jun-19
19050361-001	Acetone		19.7	ppbv	0.6	AC-058	04-Jun-19
19050361-001	Acrolein		5.4	ppbv	0.4	AC-058	04-Jun-19
19050361-001	Benzene		6.43	ppbv	0.01	AC-058	04-Jun-19

Report certified by: Krista Gegolick, Account Coordinator

On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: June-21-19

Inquiries: (780) 632 8455

E-mail: EAS.Results@innotechalberta.ca

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_842-2019/05/30	29023	Ambient Air	30-May-19 10:39
DESCRIPTION:	NMHC Trigger		
REPORT NUMBER:	19050361	REPORT CREATED:	21-Jun-19
			VERSION: Version 01

Lab ID	Parameter	Qualifier	Result Units	RDL	Method	Analysis Date
19050361-001	Benzyl chloride	K, T, U	< 0.6 ppbv	0.6	AC-058	04-Jun-19
19050361-001	Bromodichloromethane	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19050361-001	Bromoform	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19050361-001	Bromomethane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-001	Carbon disulfide	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-001	Carbon tetrachloride	I	0.05 ppbv	0.01	AC-058	04-Jun-19
19050361-001	Chlorobenzene	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19050361-001	Chloroethane	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19050361-001	Chloroform	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19050361-001	Chloromethane		1.03 ppbv	0.03	AC-058	04-Jun-19
19050361-001	cis-1,2-Dichloroethene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-001	cis-1,3-Dichloropropene	K, T, U	< 0.06 ppbv	0.06	AC-058	04-Jun-19
19050361-001	cis-2-Butene		0.92 ppbv	0.03	AC-058	04-Jun-19
19050361-001	cis-2-Pentene		0.21 ppbv	0.03	AC-058	04-Jun-19
19050361-001	Cyclohexane	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19050361-001	Cyclopentane		1.76 ppbv	0.01	AC-058	04-Jun-19
19050361-001	Dibromochloromethane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-001	Ethanol		5.2 ppbv	0.4	AC-058	04-Jun-19
19050361-001	Ethyl acetate	K, T, U	< 0.6 ppbv	0.6	AC-058	04-Jun-19
19050361-001	Ethylbenzene		0.63 ppbv	0.01	AC-058	04-Jun-19
19050361-001	Freon-11	I	0.26 ppbv	0.03	AC-058	04-Jun-19
19050361-001	Freon-113	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-001	Freon-114	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19050361-001	Freon-12	I	0.39 ppbv	0.03	AC-058	04-Jun-19
19050361-001	Hexachloro-1,3-butadiene	K, T, U	< 0.74 ppbv	0.74	AC-058	04-Jun-19

Report certified by: Krista Gegolick, Account Coordinator

On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: June-21-19

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ENVIRONMENTAL ANALYTICAL SERVICES

Environmental Monitoring and Testing Services Air Quality Monitoring Report for May 2019

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED	
PRAMP_842-2019/05/30	29023	Ambient Air	30-May-19	10:39
DESCRIPTION:	NMHC Trigger			
REPORT NUMBER:	19050361	REPORT CREATED:	21-Jun-19	VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
19050361-001	Isobutane		2.58	ppbv	0.03	AC-058	04-Jun-19
19050361-001	Isopentane		0.35	ppbv	0.04	AC-058	04-Jun-19
19050361-001	Isoprene		0.88	ppbv	0.01	AC-058	04-Jun-19
19050361-001	Isopropyl alcohol	K, T, U	< 0.6	ppbv	0.6	AC-058	04-Jun-19
19050361-001	Isopropylbenzene	K, T, U	< 0.01	ppbv	0.01	AC-058	04-Jun-19
19050361-001	m,p-Xylene		1.23	ppbv	0.04	AC-058	04-Jun-19
19050361-001	m-Diethylbenzene	K, T, U	< 0.06	ppbv	0.06	AC-058	04-Jun-19
19050361-001	m-Ethyltoluene	I	0.20	ppbv	0.12	AC-058	04-Jun-19
19050361-001	Methyl butyl ketone	K, T, U	< 0.74	ppbv	0.74	AC-058	04-Jun-19
19050361-001	Methyl ethyl ketone		2.7	ppbv	0.4	AC-058	04-Jun-19
19050361-001	Methyl isobutyl ketone	K, T, U	< 0.6	ppbv	0.6	AC-058	04-Jun-19
19050361-001	Methyl methacrylate	K, T, U	< 0.10	ppbv	0.10	AC-058	04-Jun-19
19050361-001	Methyl tert butyl ether	K, T, U	< 0.04	ppbv	0.04	AC-058	04-Jun-19
19050361-001	Methylcyclohexane	K, T, U	< 0.01	ppbv	0.01	AC-058	04-Jun-19
19050361-001	Methylcyclopentane	K, T, U	< 0.03	ppbv	0.03	AC-058	04-Jun-19
19050361-001	Methylene chloride	K, T, U	< 0.4	ppbv	0.4	AC-058	04-Jun-19
19050361-001	n-Butane		1.94	ppbv	0.04	AC-058	04-Jun-19
19050361-001	n-Decane		0.15	ppbv	0.09	AC-058	04-Jun-19
19050361-001	n-Dodecane	K, T, U	< 0.6	ppbv	0.6	AC-058	04-Jun-19
19050361-001	n-Heptane		0.29	ppbv	0.01	AC-058	04-Jun-19
19050361-001	n-Hexane		0.45	ppbv	0.01	AC-058	04-Jun-19
19050361-001	n-Octane		0.24	ppbv	0.03	AC-058	04-Jun-19
19050361-001	n-Pentane		0.8	ppbv	0.1	AC-058	04-Jun-19
19050361-001	n-Propylbenzene		0.11	ppbv	0.07	AC-058	04-Jun-19
19050361-001	n-Undecane	K, T, U	< 0.7	ppbv	0.7	AC-058	04-Jun-19

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DESCRIPTION:	NMHC Trigger			
REPORT NUMBER:	19050361	REPORT CREATED:	21-Jun-19	VERSION: Version 01

Lab ID	Parameter	Qualifier	Result Units	RDL	Method	Analysis Date
19050361-001	Naphthalene	K, T, U	< 0.7 ppbv	0.7	AC-058	04-Jun-19
19050361-001	n-Nonane		0.18 ppbv	0.01	AC-058	04-Jun-19
19050361-001	o-Ethyltoluene	I	0.14 ppbv	0.01	AC-058	04-Jun-19
19050361-001	o-Xylene		0.54 ppbv	0.01	AC-058	04-Jun-19
19050361-001	p-Diethylbenzene	K, T, U	< 0.06 ppbv	0.06	AC-058	04-Jun-19
19050361-001	p-Ethyltoluene	K, T, U	< 0.10 ppbv	0.10	AC-058	04-Jun-19
19050361-001	Styrene		1.08 ppbv	0.06	AC-058	04-Jun-19
19050361-001	Tetrachloroethylene	K, T, U	< 0.06 ppbv	0.06	AC-058	04-Jun-19
19050361-001	Tetrahydrofuran	K, T, U	< 0.6 ppbv	0.6	AC-058	04-Jun-19
19050361-001	Toluene		4.85 ppbv	0.01	AC-058	04-Jun-19
19050361-001	trans-1,2-Dichloroethylene		3.40 ppbv	0.01	AC-058	04-Jun-19
19050361-001	trans-1,3-Dichloropropylene	K, T, U	< 0.06 ppbv	0.06	AC-058	04-Jun-19
19050361-001	trans-2-Butene		1.13 ppbv	0.01	AC-058	04-Jun-19
19050361-001	trans-2-Pentene		0.37 ppbv	0.03	AC-058	04-Jun-19
19050361-001	Trichloroethylene	K, T, U	< 0.06 ppbv	0.06	AC-058	04-Jun-19
19050361-001	Vinyl acetate	K, T, U	< 0.6 ppbv	0.6	AC-058	04-Jun-19
19050361-001	Vinyl chloride	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19

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DESCRIPTION:	Blank		
REPORT NUMBER:	19050361	REPORT CREATED:	21-Jun-19
		VERSION:	Version 01

Lab ID	Parameter	Qualifier	Result Units	RDL	Method	Analysis Date
19050361-002	1-Butene	K, T, U	< 1.22 ppmv	1.22	NA-025	03-Jun-19
19050361-002	Acetylene	K, T, U	< 0.98 ppmv	0.98	NA-025	03-Jun-19
19050361-002	n-Butane	K, T, U	< 2.4 ppmv	2.4	NA-025	03-Jun-19
19050361-002	cis-2-Butene	K, T, U	< 0.49 ppmv	0.49	NA-025	03-Jun-19
19050361-002	Ethane	K, T, U	< 1.2 ppmv	1.2	NA-025	03-Jun-19
19050361-002	Ethylacetylene	K, T, U	< 0.74 ppmv	0.74	NA-025	03-Jun-19
19050361-002	Ethylene	K, T, U	< 0.86 ppmv	0.86	NA-025	03-Jun-19
19050361-002	Isobutane	K, T, U	< 1.2 ppmv	1.2	NA-025	03-Jun-19
19050361-002	Isobutylene	K, T, U	< 1.2 ppmv	1.2	NA-025	03-Jun-19
19050361-002	Methane	K, T, U	< 1.2 ppmv	1.2	NA-025	03-Jun-19
19050361-002	n-Propane	K, T, U	< 0.86 ppmv	0.86	NA-025	03-Jun-19
19050361-002	Propylene	K, T, U	< 1.2 ppmv	1.2	NA-025	03-Jun-19
19050361-002	Propyne	K, T, U	< 1.2 ppmv	1.2	NA-025	03-Jun-19
19050361-002	trans-2-Butene	K, T, U	< 1.10 ppmv	1.10	NA-025	03-Jun-19
19050361-002	2,5-Dimethylthiophene	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19
19050361-002	2-Ethylthiophene	K, T, U	< 0.2 ppbv	0.2	NA-024	05-Jun-19
19050361-002	2-Methylthiophene	K, T, U	< 0.2 ppbv	0.2	NA-024	05-Jun-19
19050361-002	3-Methylthiophene	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19
19050361-002	Butyl mercaptan	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19
19050361-002	Carbon disulphide	K, T, U	< 0.2 ppbv	0.2	NA-024	05-Jun-19
19050361-002	Carbonyl sulphide	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19
19050361-002	Dimethyl disulphide	K, T, U	< 0.2 ppbv	0.2	NA-024	05-Jun-19
19050361-002	Dimethyl sulphide	K, T, U	< 0.2 ppbv	0.2	NA-024	05-Jun-19
19050361-002	Ethyl mercaptan	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19
19050361-002	Ethyl sulphide	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19

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REPORT NUMBER:	19050361	REPORT CREATED:	21-Jun-19
		VERSION:	Version 01

Lab ID	Parameter	Qualifier	Result Units	RDL	Method	Analysis Date
19050361-002	Hydrogen sulphide	K, T, U	< 0.1 ppbv	0.1	NA-024	05-Jun-19
19050361-002	Isobutyl mercaptan	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19
19050361-002	Isopropyl mercaptan	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19
19050361-002	Methyl mercaptan	K, T, U	< 0.2 ppbv	0.2	NA-024	05-Jun-19
19050361-002	Pentyl mercaptan	K, T, U	< 0.4 ppbv	0.4	NA-024	05-Jun-19
19050361-002	Propyl mercaptan	K, T, U	< 0.4 ppbv	0.4	NA-024	05-Jun-19
19050361-002	tert-Butyl mercaptan	K, T, U	< 0.3 ppbv	0.3	NA-024	05-Jun-19
19050361-002	Thiophene	K, T, U	< 0.2 ppbv	0.2	NA-024	05-Jun-19
19050361-002	1,1,1-Trichloroethane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	1,1,2,2-Tetrachloroethane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	1,1,2-Trichloroethane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	1,1-Dichloroethane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	1,1-Dichloroethylene	K, T, U	< 0.04 ppbv	0.04	AC-058	04-Jun-19
19050361-002	1,2,3-Trimethylbenzene	K, T, U	< 0.05 ppbv	0.05	AC-058	04-Jun-19
19050361-002	1,2,4-Trichlorobenzene	K, T, U	< 0.8 ppbv	0.8	AC-058	04-Jun-19
19050361-002	1,2,4-Trimethylbenzene	K, T, U	< 0.05 ppbv	0.05	AC-058	04-Jun-19
19050361-002	1,2-Dibromoethane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	1,2-Dichlorobenzene	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19050361-002	1,2-Dichloroethane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	1,2-Dichloropropane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	1,3,5-Trimethylbenzene	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	1,3-Butadiene	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	1,3-Dichlorobenzene	K, T, U	< 0.3 ppbv	0.3	AC-058	04-Jun-19
19050361-002	1,4-Dichlorobenzene	K, T, U	< 0.4 ppbv	0.4	AC-058	04-Jun-19
19050361-002	1,4-Dioxane	K, T, U	< 0.4 ppbv	0.4	AC-058	04-Jun-19

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DESCRIPTION:	Blank		
REPORT NUMBER:	19050361	REPORT CREATED:	21-Jun-19
		VERSION:	Version 01

Lab ID	Parameter	Qualifier	Result Units	RDL	Method	Analysis Date
19050361-002	1-Butene/Isobutylene		5.33 ppbv	0.02	AC-058	04-Jun-19
19050361-002	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	1-Pentene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	2,2,4-Trimethylpentane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	2,2-Dimethylbutane		0.88 ppbv	0.01	AC-058	04-Jun-19
19050361-002	2,3,4-Trimethylpentane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	2,3-Dimethylbutane		0.21 ppbv	0.02	AC-058	04-Jun-19
19050361-002	2,3-Dimethylpentane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	2,4-Dimethylpentane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	2-Methylheptane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	2-Methylhexane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	2-Methylpentane		0.93 ppbv	0.01	AC-058	04-Jun-19
19050361-002	3-Methylheptane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	3-Methylhexane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	3-Methylpentane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	Acetone		4.9 ppbv	0.4	AC-058	04-Jun-19
19050361-002	Acrolein	K, T, U	< 0.3 ppbv	0.3	AC-058	04-Jun-19
19050361-002	Benzene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	Benzyl chloride	K, T, U	< 0.4 ppbv	0.4	AC-058	04-Jun-19
19050361-002	Bromodichloromethane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	Bromoform	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	Bromomethane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	Carbon disulfide	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	Carbon tetrachloride	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	Chlorobenzene	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19

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19050361-002	Chloroethane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	Chloroform	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	Chloromethane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	cis-1,2-Dichloroethene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	cis-1,3-Dichloropropene	K, T, U	< 0.04 ppbv	0.04	AC-058	04-Jun-19
19050361-002	cis-2-Butene	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	cis-2-Pentene	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	Cyclohexane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	Cyclopentane		183 ppbv	0.12	AC-058	04-Jun-19
19050361-002	Dibromochloromethane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	Ethanol	K, T, U	< 0.3 ppbv	0.3	AC-058	04-Jun-19
19050361-002	Ethyl acetate	K, T, U	< 0.4 ppbv	0.4	AC-058	04-Jun-19
19050361-002	Ethylbenzene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	Freon-11	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	Freon-113	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	Freon-114	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	Freon-12	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	Hexachloro-1,3-butadiene	K, T, U	< 0.50 ppbv	0.50	AC-058	04-Jun-19
19050361-002	Isobutane		6.36 ppbv	0.02	AC-058	04-Jun-19
19050361-002	Isopentane		15.2 ppbv	0.03	AC-058	04-Jun-19
19050361-002	Isoprene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	Isopropyl alcohol	K, T, U	< 0.4 ppbv	0.4	AC-058	04-Jun-19
19050361-002	Isopropylbenzene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	m,p-Xylene	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19050361-002	m-Diethylbenzene	K, T, U	< 0.04 ppbv	0.04	AC-058	04-Jun-19

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19050361-002	m-Ethyltoluene	K, T, U	< 0.08 ppbv	0.08	AC-058	04-Jun-19
19050361-002	Methyl butyl ketone	K, T, U	< 0.50 ppbv	0.50	AC-058	04-Jun-19
19050361-002	Methyl ethyl ketone	K, T, U	< 0.3 ppbv	0.3	AC-058	04-Jun-19
19050361-002	Methyl isobutyl ketone	K, T, U	< 0.4 ppbv	0.4	AC-058	04-Jun-19
19050361-002	Methyl methacrylate	K, T, U	< 0.07 ppbv	0.07	AC-058	04-Jun-19
19050361-002	Methyl tert butyl ether	K, T, U	< 0.03 ppbv	0.03	AC-058	04-Jun-19
19050361-002	Methylcyclohexane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	Methylcyclopentane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	Methylene chloride	K, T, U	< 0.3 ppbv	0.3	AC-058	04-Jun-19
19050361-002	n-Butane		0.74 ppbv	0.03	AC-058	04-Jun-19
19050361-002	n-Decane	K, T, U	< 0.06 ppbv	0.06	AC-058	04-Jun-19
19050361-002	n-Dodecane	K, T, U	< 0.4 ppbv	0.4	AC-058	04-Jun-19
19050361-002	n-Heptane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	n-Hexane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	n-Octane	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	n-Pentane		4.1 ppbv	0.1	AC-058	04-Jun-19
19050361-002	n-Propylbenzene	K, T, U	< 0.05 ppbv	0.05	AC-058	04-Jun-19
19050361-002	n-Undecane	K, T, U	< 0.5 ppbv	0.5	AC-058	04-Jun-19
19050361-002	Naphthalene	K, T, U	< 0.5 ppbv	0.5	AC-058	04-Jun-19
19050361-002	n-Nonane	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	o-Ethyltoluene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	o-Xylene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	p-Diethylbenzene	K, T, U	< 0.04 ppbv	0.04	AC-058	04-Jun-19
19050361-002	p-Ethyltoluene	K, T, U	< 0.07 ppbv	0.07	AC-058	04-Jun-19
19050361-002	Styrene	K, T, U	< 0.04 ppbv	0.04	AC-058	04-Jun-19

Report certified by: Krista Gegolick, Account Coordinator

On behalf of: PJ Pretorius, Manager, Analysis and Testing Services

Date: June-21-19

Inquiries: (780) 632 8455

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ENVIRONMENTAL ANALYTICAL SERVICES

Environmental Monitoring Services Air Quality Monitoring Report for May 2019

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PRAMP_842-2019/05/30 - Blank		Ambient Air	30-May-19 10:39
DESCRIPTION:	Blank		
REPORT NUMBER:	19050361	REPORT CREATED:	21-Jun-19
		VERSION:	Version 01

Lab ID	Parameter	Qualifier	Result Units	RDL	Method	Analysis Date
19050361-002	Tetrachloroethylene	K, T, U	< 0.04 ppbv	0.04	AC-058	04-Jun-19
19050361-002	Tetrahydrofuran	K, T, U	< 0.4 ppbv	0.4	AC-058	04-Jun-19
19050361-002	Toluene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	trans-1,2-Dichloroethylene		0.78 ppbv	0.01	AC-058	04-Jun-19
19050361-002	trans-1,3-Dichloropropylene	K, T, U	< 0.04 ppbv	0.04	AC-058	04-Jun-19
19050361-002	trans-2-Butene	K, T, U	< 0.01 ppbv	0.01	AC-058	04-Jun-19
19050361-002	trans-2-Pentene	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-19
19050361-002	Trichloroethylene	K, T, U	< 0.04 ppbv	0.04	AC-058	04-Jun-19
19050361-002	Vinyl acetate	K, T, U	< 0.4 ppbv	0.4	AC-058	04-Jun-19
19050361-002	Vinyl chloride	K, T, U	< 0.02 ppbv	0.02	AC-058	04-Jun-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

19050361 - 01 - 21 Jun 2019 - Air Quality Monitoring Report for May 2019

TEST REPORT

Page 13 of 18

Revision History

Order ID	Ver	Date	Reason
19050361	01	21-Jun-19	Report created



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ENVIRONMENTAL ANALYTICAL SERVICES

Environmental Analytical Services Air Quality Monitoring Report for May 2019

TEST REPORT

Page 14 of 18

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



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Order Comments

19050361

Return sample to reception. Unknowns to be reported.



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Sample Comments



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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