

Alberta Environment and Parks (AEP)
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May 24, 2018

Subject: Monthly Report Submission for the PRAMP Reno AQM station

Peace River Area Monitoring Program Committee (PRAMP) is pleased to submit the ambient air monitoring monthly report for the PRAMP Reno AQM Station in the month of April 2018.

The air monitoring program consists of continuous air monitoring results for Sulphur Dioxide (SO₂), Total Reduced Sulphur (TRS), Total Hydrocarbon (THC), Methane (CH₄), Non-Methane Hydrocarbon (NMHC), Relative Humidity (RH), Barometric Pressure (BP), Ambient Temperature (AmbTPX), Station Temperature (StnTPX), Wind Speed (WS) and Wind Direction (WD). All the air monitoring activities were conducted by Maxxam Analytics.

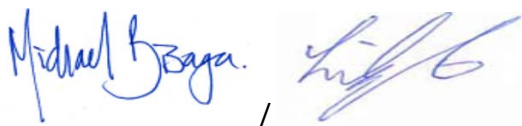
All data collected in April 2018 was compliant with the requirements outlined in the Air Monitoring Directive (Alberta Environment and Parks, 2016).

The operational time for all meteorological systems were above the 90% requirement.

As the PRAMP Technical Program Managers, we 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. We also verify all air data that are required by the AMD to be electronically submitted to AEP and Alberta's Ambient Air Quality Data Warehouse have been submitted by the time of this report submission.

Should you have any questions, please don't hesitate to contact us.

Respectfully,



Michael Bisaga / Lily Lin
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Peace River Area Monitoring Program
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AMBIENT AIR MONITORING MONTHLY DATA REPORT
PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
RENO STATION

JOB #: 196-2018-04-93-C

April 2018

Prepared for:

PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Attention: LILY LIN

DATE: **May 15, 2018**

Prepared by:

A handwritten signature in blue ink, appearing to read "Wunmi Adekanmbi".

Wunmi Adekanmbi, M.Sc., EPt, PMP
Project Team Lead, Customer Service, Air Services

Reviewed by:

A handwritten signature in black ink, appearing to read "Cheri Sinclair".

Cheri Sinclair, B.Sc.
Supervisor, Customer Service, Air Services

SUMMARY

In April 2018, Maxxam Analytics was contracted to manage the ambient air quality monitoring and maintenance activities at the Reno Station, near Peace River Oil Sands Area 1, Alberta. The monitoring station provides continuous meteorological measurements and air quality data for non-compliance parameters, as requested by the PRAMP Committee.

All data collected this month was compliant with the requirements outlined in the Air Monitoring Directive (Alberta Environment and Parks, 2016).

The operational time for all continuous ambient air analyzers, meteorological systems and data acquisition systems were above the 90% requirement.

TRS: One hour of downtime was incurred on April 29 due to an additional zero-span check performed to assess a biased high drift in span response.

The summary of results is presented on the following pages.

Any deviations or modifications made to the sampling or analytical methods are outlined in Section 1.0, Discussion. On this basis, Maxxam Analytics is issuing this completed report to Peace River Area Monitoring Program Committee, Reno Station.

Should you have any questions concerning the results or if we can be of further assistance, please contact us at 403-219-3661 or toll-free at 1-800-386-7247.

Monthly Continuous Data Summary

Peace River Area Monitoring Program Committee						MAXIMUM VALUES							OPERATIONAL TIME (%)
Reno Station						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDANCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (kph)	WIND DIRECTION (sector)	READING	DAY	
	1-hr	24-hr	1-hr	24-hr									
SO ₂ (ppb)	172	48	0	0	0	2	1	2	3.2	SW	1	1	100.0
TRS (ppb)	-	-	-	-	0.39	2.71	18	7	3.9	S	0.62	18	99.9
THC (ppm)	-	-	-	-	2.05	6.76	1	6	2.1	SSW	2.71	1	100.0
CH ₄ (ppm)	-	-	-	-	2.05	6.75	1	6	2.1	SSW	2.71	1	100.0
NMHC (ppm)	-	-	-	-	0.00	0.01	1	6	2.1	SSW	0.00	1	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	55	92	14	4	4.1	SSW	85	17	100.0
BAROMETRIC PRESSURE (millibar)	-	-	-	-	939	955	5	10	9.9	N	954	5	100.0
AMBIENT TEMPERATURE (°C)	-	-	-	-	-0.2	21.4	27	17	3.2	WSW	12.1	27	100.0
STATION TEMPERATURE (°C)	-	-	-	-	21.9	25.9	27	17	3.2	WSW	23.2	27	100.0
VECTOR WS (kph)	-	-	-	-	0.8	19.2	10	11	-	ENE	13.0	10	100.0
VECTOR WD (sec)	-	-	-	-	213 (SSW)	-	-	-	-	-	-	-	100.0

SOUR GAS PROCESSING INDUSTRY

MONTHLY REPORT SUMMARY

Reno Station

Peace River Area Monitoring Program Committee

Plant Name / Location

Company

Licence Number	Report Date	
	YEAR	MONTH
N/A	2018	April

CONTINUOUS AMBIENT MONITORING						
PARAMETER	% TIME OPERATIONAL	ONE - HOUR AVERAGE			24 - HOUR AVERAGE	
		MAXIMUM VALUES		NO. READINGS > REGULATION	MAXIMUM VALUES	NO. READINGS > REGULATION
SO ₂	100.0	0.002 ppm		0	0.001 ppm	0
TRS	99.9	0.003 ppm		-	0.001 ppm	-
THC	100.0	6.76 ppm		-	2.71 ppm	-
CH ₄	100.0	6.75 ppm		-	2.71 ppm	-
NMHC	100.0	0.01 ppm		-	0.00 ppm	-
RH	100.0	92 %		-	85 %	-
BP	100.0	955 mb		-	954 mb	-
Ambient TPX	100.0	21.4 °C		-	12.1 °C	-
Station TPX	100.0	25.9 °C		-	23.2 °C	-
Wind Speed	100.0	19.2 kph		-	13.0 kph	-
Wind Direction	100.0	-		-	-	-

SIGNATURE OF COMPANY REPRESENTATIVE

FOR ALBERTA ENVIRONMENT USE ONLY

Exceedance Summary Report

SO₂ 1-Hour Exceedances

Measured concentrations of sulphur dioxide were below the 1-hour AAAQO of 172 ppb.

SO₂ 24-Hour Exceedances

Measured concentrations of sulphur dioxide were below the 24-hour AAAQO of 48.0 ppb.

In accordance with EPEA and the Substance Release Regulation.

In accordance with A Guide to Release Reporting and the Alberta Ambient Air Quality Objectives and Guidelines Summary.

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1.0 Discussion

This monthly report consists of continuous monitoring results for the following parameters: Sulphur Dioxide (SO₂), Total Reduced Sulphur (TRS), Total Hydrocarbon (THC), Methane (CH₄), Non-Methane Hydrocarbon (NMHC), Relative Humidity (RH), Barometric Pressure (BP), Ambient Temperature (AmbTPX), Station Temperature (StnTPX), Wind Speed (WS) and Wind Direction (WD).

The sample inlet filter for all continuous air analyzers are replaced before the calibration begins. The sample manifold is cleaned during the site visit each month.

Control checks, consisting of a zero and span, are conducted daily on all continuous air monitors. In place of the air sample, zero air (from scrubbed air or gas cylinders) is used for zero checks, and a known concentration of the pollutant being analyzed is used for span checks. These checks are controlled by automatic timers and valves. The total zero span cycle is completed within an hour, the commencement of the zero span cycle is at the beginning of the hour.

Multipoint calibrations are done a minimum of once a month for each continuous air monitor. An additional calibration is required under the following conditions: 1) within three days after the initial start-up and stabilization of a newly installed instrument, 2) prior to shut-down or moving of an instrument which has been working to specification, and 3) when major repair has been done on the instrument.

Time during the first multi-point calibration is not considered downtime (Data is flagged as C). If more than one calibration is performed during the month, the time during the additional calibration is considered as downtime (Data is flagged as C1).

Only one zero/span check is run per day. Time during the zero/span check is not considered as downtime (Data is flagged as S). If an extra zero/span check is performed, the time during the additional check is considered as downtime (Data is flagged as S1).

The AMD requires each instrument and accompanying data recording system to be operational 90% of the time, at a minimum, for each monthly monitoring period.

All sampling, analysis, and QA/QC for this project was performed by Maxxam Analytics and complies with the Alberta Air Monitoring Directive.

Data contained in this monthly report has undergone the verification and validation based on the requirements of the AMD Chapter 6: Ambient Data Quality (December, 2016). The descriptions of the data verification and validation process can be found in Section 5 of this report. Instantaneous data, where applicable, is provided for reference purposes and has not undergone zero correction. The minimum and maximum statistics are highlighted in the data table and are for reference only. The highlighted cells are based on the software's interpretation of the exact position of the minimum or maximum value. The visual presentation of these statistics may not be the obvious choice in a data range due to rounding, truncating or analyzer specifications.

Hourly/minute data have been reviewed based on daily zero/span results and multi-point calibration results. Data may be considered invalid if a zero-corrected span check in excess of +/- 10% of the span concentration (established by the previous multi-point calibration) is encountered and/or significant differences in the calibration factor occurs (greater than 10%).

SULPHUR DIOXIDE (SO₂)

- Operational time for the monitoring period was 100%.
- The routine monthly calibration was performed on April 5.

TOTAL REDUCED SULPHUR (TRS)

- Operational time for the monitoring period was 99.9%, equivalent to one hour of downtime.
- The routine monthly calibration was performed on April 5.
- The analyzer spanned close to the upper acceptance limit on April 29. A repeat zero-span check was performed on April 29 as a quality check. The result was closer to the mean and showed no trending drift. One hour of downtime was recorded due to the additional quality check.

TOTAL HYDROCARBONS (THC), METHANE (CH₄) and NON-METHANE HYDROCARBONS (NMHC)

- Operational time for the monitoring period was 100%.
- The routine monthly calibration was performed on April 5. The carrier (N₂) gas cylinder was replaced during this site visit.
- The canister sampler is programmed to draw in a whole air sample when the 5-minute average concentration of NMHC is above 0.30 ppm. A representative sample of ambient air is collected over a one-hour period when the canister event is triggered. No canister event was recorded this month. A trigger test was performed at the start of the routine monthly calibration on April 5 to assess the effectiveness of the canister system.

WIND SPEED (WS) and WIND DIRECTION (WD)

- Operational time for the monitoring period was 100%.
- The routine annual wind system audit was performed on April 5.
- Wind data is reported as vector wind speed and vector wind direction. Wind direction is defined as the direction from which the wind is blowing from and is measured in degrees from true north.

RELATIVE HUMIDITY (RH)

- Operational time for the monitoring period was 100%.
- A humidity sensor audit was conducted on April 5. The result was satisfactory.

BAROMETRIC PRESSURE (BP)

- Operational time for the monitoring period was 100%.
- A pressure sensor audit was conducted on April 5. The result was satisfactory.

AMBIENT TEMPERATURE (AmbTPX)

- Operational time for the monitoring period was 100%.
- A temperature sensor audit was conducted on April 5. The result was satisfactory.

STATION TEMPERATURE (StnTPX)

- Operational time for the monitoring period was 100%.

2.0 Project Personnel

Karla Reesor was the contact for Peace River Area Monitoring Program Committee and the Maxxam field technicians were Christopher Wesson and Limin Li.

3.0 Plant Monthly Required AMD Summary

All data collected this month was compliant with the requirements outlined in the Air Monitoring Directive (Alberta Environment and Parks, 2016).

The operational time for all continuous ambient air analyzers, meteorological systems and data acquisition systems were above the 90% requirement.

4.0 Calculations and Results

All calculations and reporting of results follow the methods described in the AMD, 2016.

5.0 Methods and Procedures

The following methods and procedures were used to complete the monitoring program:

Maxxam AIR SOP-00001: Methane, Non-Methane Hydrocarbon Analyzer Monitoring

Maxxam AIR SOP-00013: RM Young Wind Monitor Calibration

Maxxam AIR SOP-00209: Ambient Sulphur Monitoring

There were no deviations from the prescribed methods.

The following instruments were used to perform the test program:

Sulphur Dioxide - API 100A UV Fluorescent Analyzer

Total Reduced Sulphur - Thermo 43i - TLE UV Fluorescent Analyzer

Methane, Non-Methane Hydrocarbon - Thermo 55i FID Analyzer

Wind System - RM Young Unit

Relative Humidity - RM Young Unit

Barometric Pressure - Met One Unit

Ambient Temperature - RM Young Unit

Datalogger - ESC 8832

The following steps were used to complete the data verification and validation process:

Level 0 Preliminary Verification

Level 0 data are raw data obtained directly from the data acquisition system (DAS). Under the step of Level 0, these data undergo a certain amount of manual or automated screening and flagging. It included a) identification of periods of missing data; b) verification of time stamps against reference time; c) verification that instrument diagnostics/datalogger flags indicate normal operation; d) comparison of data to upper and lower limits; e) rate of change flagging indicating that data changed too rapidly or not at all; and f) verification that zero, span and multipoint performance checks are within specifications. This level of verification is performed on a daily basis.

Level 1 Primary Validation

Validation actions under the step of Level 1 include a) review of all screening flags assigned during preliminary verification; b) review of all supporting site information and documentation; c) review of operational acceptance limits for each parameter/analyzer; d) review of daily zero/span and monthly calibration results for all gaseous parameters; and e) application of any necessary adjustments to data (e.g. baseline adjustments, below zero adjustments). This level of validation is performed on a monthly basis.

Level 2 Final Validation

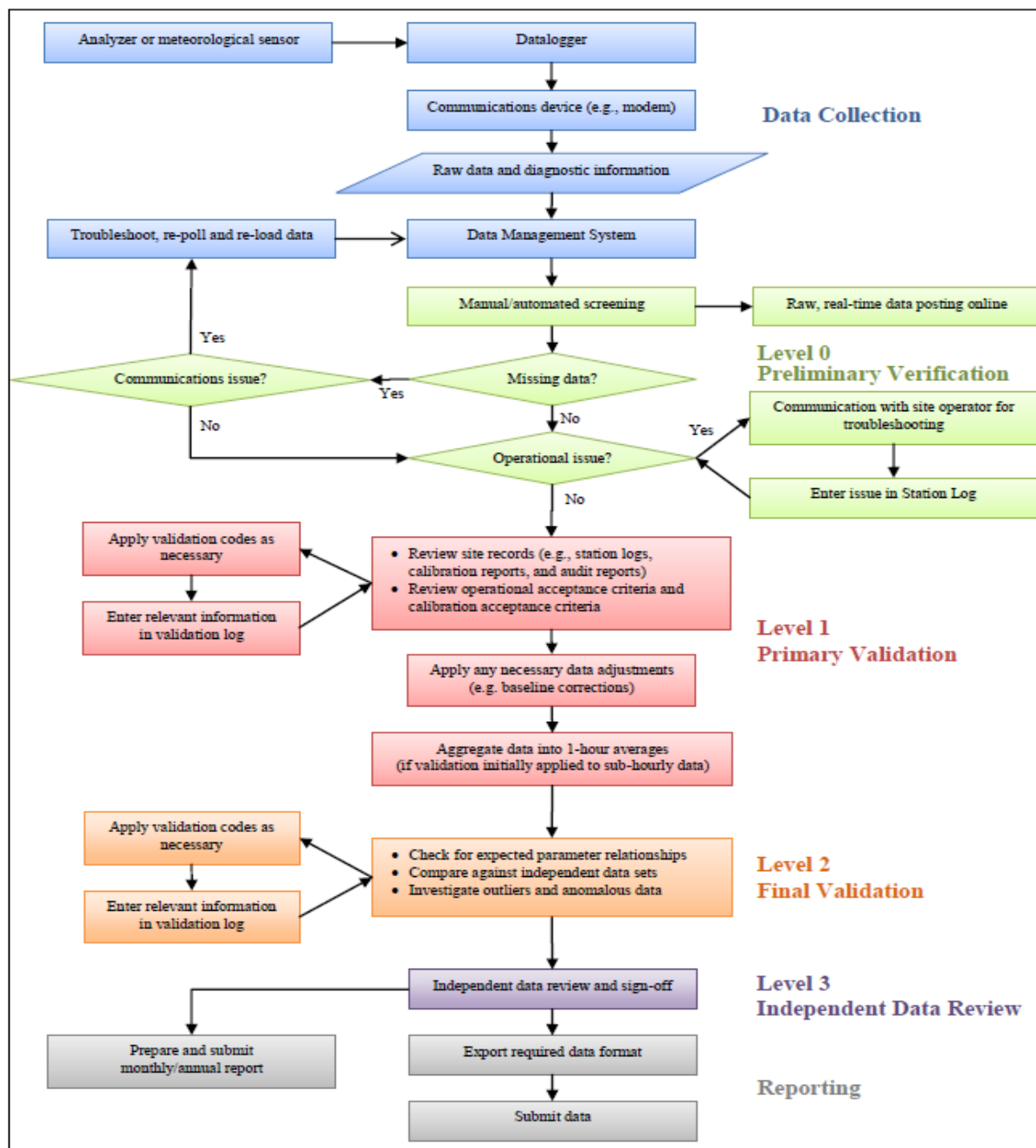
The purpose of Level 2 validation is to verify that there are no inconsistencies among related data, or among regional data measured at nearby sites.

Level 3 Independent Data Review

Level 3 validation is the last step of data review, and it is completed by an individual that is independent of both field operations and primary data validation. A final independent QA review and endorsement is performed during this step before data is submitted to Alberta Environment.

Post-Final Validation

The Post-Final Validation step serves to re-evaluate the data that errors or omissions are discovered and/or suspected after the initial submittal of data. Any data issues or patterns which were not clear on a monthly basis are highlighted during this step. This validation is performed on an annual basis.



Source: Air Monitoring Directive (December 2016), Chapter 6, Ambient Data Quality; Figure 1 Data Collection and Management Process Flow Chart

APPENDIX I
CONTINUOUS MONITORING DATA RESULTS

SULPHUR DIOXIDE

SULPHUR DIOXIDE Hourly Averages (SO₂ ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.		
DAY																													
1	1	1	2	1	1	1	1	2	1	1	1	1	0	0	0	0	0	0	0	0	S	0	0	0	0	0	2	1	24
2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	1	0	24
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	S	0	0	0	0	0	0	0	1	0	24
4	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	0	24
5	0	0	0	0	0	1	1	1	1	0	C	C	C	C	C	0	S	0	0	0	0	0	0	0	0	0	1	0	24
6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	S	0	0	0	1	0	0	0	1	0	0	1	0	24
7	1	1	1	1	1	1	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0	24
8	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	24
9	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	24
10	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	1	2	0	0	0	0	0	0	0	0	0	2	0	24
11	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	24
12	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	24
13	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	24
14	1	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	24
15	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	24
16	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	24
17	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	24
18	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	24
19	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	24
20	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	24
21	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	24
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	24
23	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	1	0	24
24	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	1	0	24
25	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	24
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	1	0	0	0	1	0	24
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	24
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	24
29	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	24
30	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	24
HOURLY MAX	1	1	2	1	1	1	1	2	1	1	1	1	0	0	0	1	2	0	0	1	0	0	1	1					
HOURLY AVG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

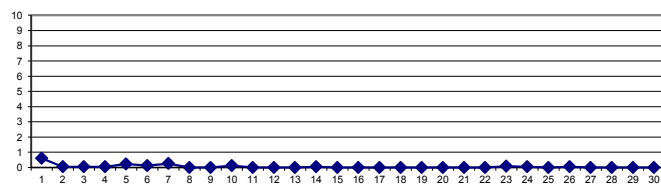
OBJECTIVE LIMIT:

ALBERTA ENVIRONMENT: 1-HR 172 ppb 24-HR 48 ppb

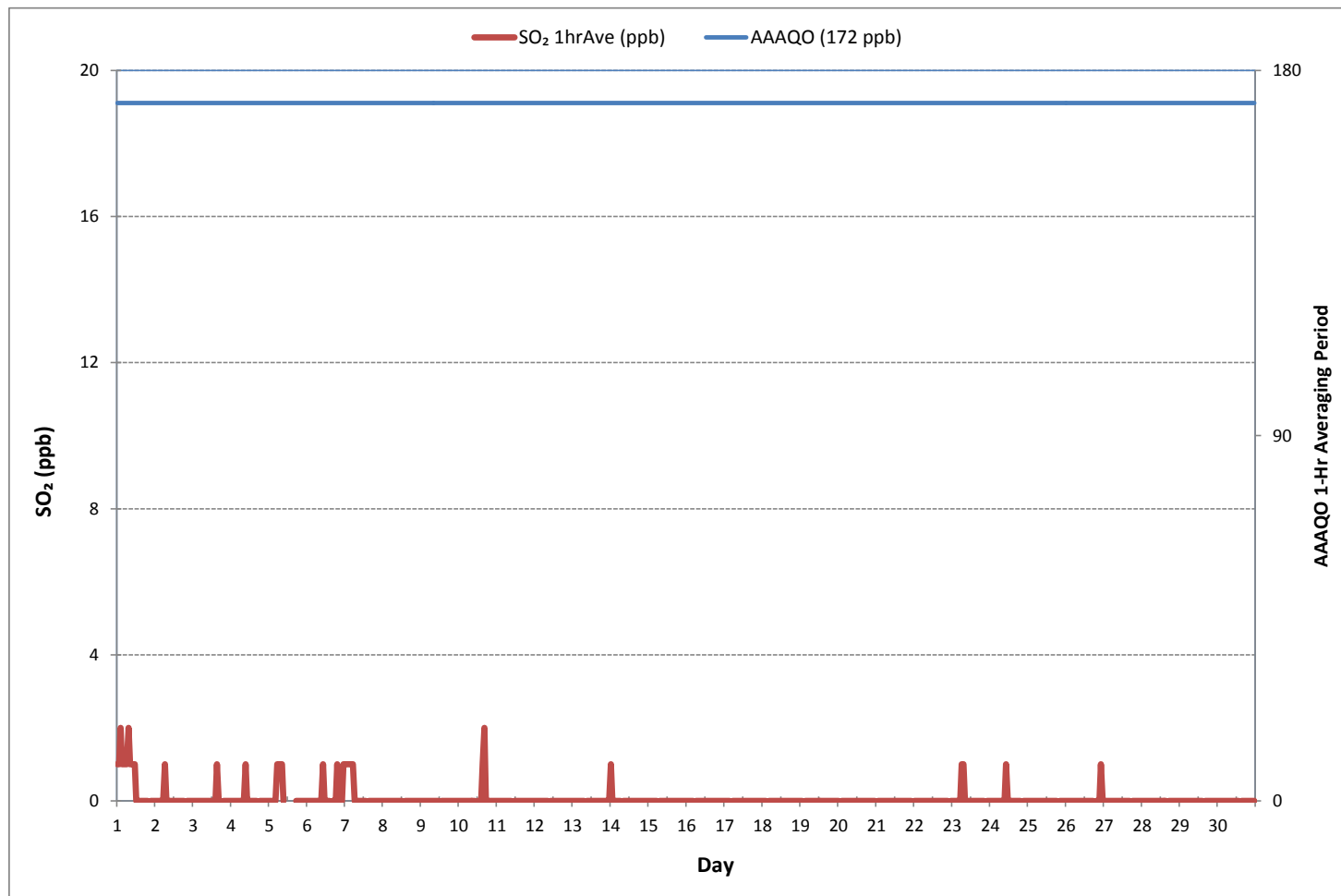
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDANCES:	0
NUMBER OF 24-HR EXCEEDANCES:	0
NUMBER OF NON-ZERO READINGS:	35
MINIMUM 1-HR AVERAGE:	0 ppb @ HOUR 12 ON DAY 1
MAXIMUM 1-HR AVERAGE:	2 ppb @ HOUR 2 ON DAY 1
MAXIMUM 24-HR AVERAGE:	1 ppb ON DAY 1
IZS CALIBRATION TIME:	31 hrs
MONTHLY CALIBRATION TIME:	5 hrs
OPERATIONAL TIME:	720 hrs
AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION:	0
MONTHLY AVERAGE:	0 ppb

24 HR AVERAGES April 2018



SULPHUR DIOXIDE Hourly Averages (SO₂ ppb)



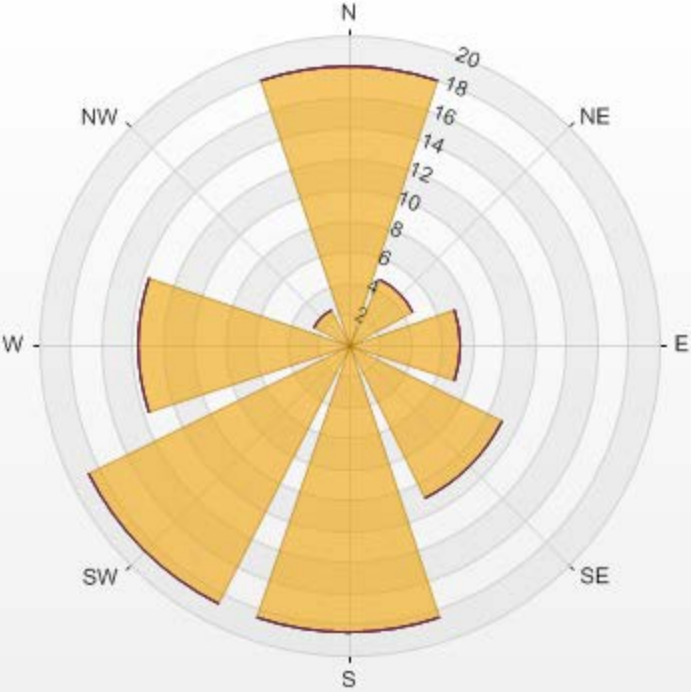
Wind: PRAMP_RENO
Poll.: PRAMP_RENO-SO₂[ppb]
Monthly: 18/04
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

Calm: 5.43%

Calm Avg: 0.09 [ppb]

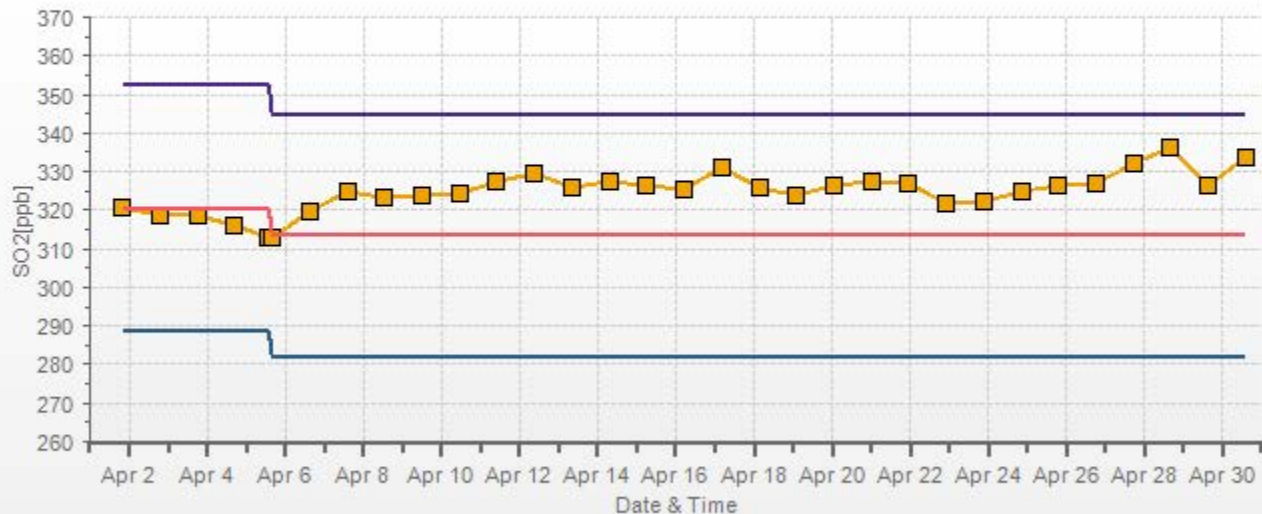
Direction	0-3	3-10	10-85	85-170	>170.0	Total
N	18.0	0.0	0.0	0.0	0.0	18.0
NE	4.7	0.0	0.0	0.0	0.0	4.7
E	7.2	0.0	0.0	0.0	0.0	7.2
SE	11.1	0.0	0.0	0.0	0.0	11.1
S	18.6	0.0	0.0	0.0	0.0	18.6
SW	18.8	0.0	0.0	0.0	0.0	18.8
W	13.6	0.0	0.0	0.0	0.0	13.6
NW	2.5	0.0	0.0	0.0	0.0	2.5
Summary	94.6	0.0	0.0	0.0	0.0	94.6

PRAMP_RENO Poll.: PRAMP_RENO-SO₂[ppb] 2018/04/01 00:00 - 2018/04/30 23:00 Calm: 5.43% Calm Poll Avg: 0.09[ppb]



SO2[ppb] Calibration: PRAMP_RENO Monthly: 18/04 Type: Span

Span Meas Span Ref Span Low Span High



TOTAL REDUCED SULPHUR

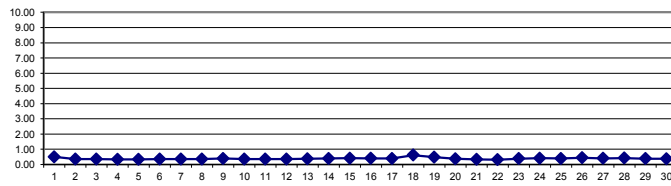
TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.		
DAY																													
1	0.57	0.45	1.04	0.61	0.66	0.49	0.71	0.91	0.55	0.52	0.60	0.43	0.36	0.34	0.34	0.33	0.35	0.35	0.36	0.34	S	0.42	0.40	0.38	0.33	1.04	0.50	24	
2	0.36	0.35	0.34	0.33	0.35	0.37	0.37	0.35	0.35	0.36	0.36	0.34	0.34	0.35	0.36	0.37	0.36	0.36	0.38	S	0.41	0.36	0.36	0.37	0.33	0.41	0.36	24	
3	0.33	0.34	0.36	0.37	0.35	0.35	0.36	0.35	0.37	0.38	0.35	0.35	0.35	0.35	0.35	0.34	0.35	0.36	S	0.41	0.39	0.36	0.34	0.35	0.33	0.41	0.36	24	
4	0.34	0.36	0.35	0.34	0.33	0.35	0.35	0.35	0.34	0.35	0.34	0.35	0.35	0.34	0.34	0.34	0.35	S	0.38	0.34	0.34	0.32	0.34	0.33	0.32	0.38	0.34	24	
5	0.31	0.31	0.29	0.29	0.32	0.34	0.33	0.30	0.29	0.31	C	C	C	C	0.35	0.37	S	0.40	0.37	0.37	0.36	0.39	0.37	0.35	0.29	0.40	0.34	24	
6	0.35	0.35	0.36	0.36	0.37	0.38	0.35	0.35	0.36	0.35	0.36	0.35	0.36	0.35	0.36	S	0.39	0.35	0.36	0.36	0.36	0.35	0.36	0.35	0.35	0.39	0.36	24	
7	0.36	0.37	0.36	0.36	0.37	0.36	0.36	0.36	0.36	0.36	0.36	0.34	0.35	0.35	S	0.38	0.35	0.33	0.33	0.34	0.32	0.33	0.32	0.32	0.32	0.38	0.35	24	
8	0.32	0.32	0.31	0.34	0.34	0.36	0.36	0.35	0.36	0.35	0.33	0.31	0.32	S	0.34	0.32	0.32	0.33	0.33	0.32	0.31	0.50	0.54	0.47	0.31	0.54	0.35	24	
9	0.50	0.49	0.48	0.47	0.41	0.39	0.39	0.37	0.38	0.37	0.34	0.33	S	0.37	0.35	0.36	0.36	0.35	0.35	0.39	0.38	0.38	0.48	0.47	0.33	0.50	0.40	24	
10	0.37	0.35	0.35	0.35	0.34	0.34	0.35	0.34	0.34	0.34	0.34	S	0.37	0.37	0.37	0.40	0.36	0.35	0.36	0.34	0.35	0.35	0.36	0.35	0.34	0.40	0.35	24	
11	0.35	0.37	0.37	0.36	0.37	0.35	0.36	0.37	0.35	0.36	S	0.38	0.34	0.36	0.37	0.36	0.36	0.36	0.36	0.36	0.36	0.37	0.35	0.37	0.34	0.38	0.36	24	
12	0.36	0.36	0.36	0.35	0.36	0.38	0.36	0.38	0.36	S	0.36	0.35	0.36	0.36	0.34	0.34	0.36	0.37	0.36	0.34	0.34	0.34	0.35	0.37	0.34	0.38	0.36	24	
13	0.37	0.36	0.35	0.37	0.38	0.41	0.36	0.36	S	0.39	0.37	0.40	0.36	0.36	0.36	0.36	0.36	0.37	0.36	0.37	0.37	0.40	0.46	0.46	0.35	0.46	0.38	24	
14	0.40	0.42	0.41	0.41	0.43	0.41	0.42	S	0.44	0.40	0.40	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.37	0.37	0.37	0.38	0.42	0.44	0.38	0.37	0.44	0.40	24
15	0.39	0.38	0.37	0.39	0.41	0.53	S	0.54	0.42	0.40	0.39	0.39	0.40	0.38	0.40	0.40	0.44	0.42	0.42	0.41	0.40	0.39	0.40	0.40	0.37	0.54	0.41	24	
16	0.41	0.41	0.40	0.41	0.40	S	0.43	0.41	0.41	0.43	0.43	0.43	0.42	0.41	0.40	0.40	0.40	0.41	0.39	0.39	0.38	0.40	0.40	0.38	0.38	0.43	0.41	24	
17	0.39	0.39	0.38	0.39	S	0.41	0.41	0.56	0.44	0.44	0.41	0.40	0.38	0.39	0.40	0.39	0.39	0.38	0.38	0.36	0.35	0.36	0.37	0.36	0.35	0.56	0.40	24	
18	0.36	0.36	0.36	S	0.48	0.55	2.29	2.71	1.46	0.38	0.37	0.37	0.37	0.35	0.34	0.34	0.32	0.34	0.33	0.34	0.42	0.41	0.41	0.42	0.46	0.32	2.71	0.62	24
19	0.63	0.61	S	0.45	0.41	0.38	0.86	1.18	1.15	0.39	0.38	0.37	0.37	0.39	0.36	0.38	0.38	0.35	0.36	0.36	0.34	0.35	0.39	0.38	0.34	1.18	0.49	24	
20	0.40	S	0.41	0.40	0.39	0.37	0.38	0.37	0.37	0.40	0.37	0.37	0.36	0.36	0.34	0.34	0.34	0.33	0.43	0.42	0.43	0.40	0.40	0.36	0.33	0.43	0.38	24	
21	S	0.37	0.34	0.34	0.34	0.34	0.33	0.37	0.39	0.39	0.39	0.34	0.34	0.34	0.35	0.34	0.33	0.32	0.33	0.32	0.32	0.32	0.32	S	0.32	0.39	0.34	24	
22	0.36	0.32	0.33	0.33	0.32	0.32	0.32	0.34	0.34	0.35	0.34	0.32	0.32	0.32	0.32	0.31	0.30	0.32	0.30	0.29	0.29	0.29	S	0.39	0.29	0.39	0.32	24	
23	0.40	0.37	0.38	0.38	0.37	0.38	0.38	0.37	0.37	0.37	0.39	0.39	0.38	0.37	0.37	0.37	0.36	0.39	0.50	0.42	0.40	S	0.41	0.40	0.36	0.50	0.39	24	
24	0.45	0.44	0.46	0.41	0.38	0.50	0.46	0.47	0.43	0.43	0.45	0.39	0.38	0.36	0.38	0.38	0.38	0.39	0.38	0.38	S	0.41	0.39	0.39	0.36	0.50	0.41	24	
25	0.39	0.41	0.39	0.39	0.38	0.38	0.39	0.39	0.43	0.40	0.40	0.42	0.43	0.39	0.34	0.35	0.35	0.36	0.36	S	0.38	0.36	0.42	0.49	0.34	0.49	0.39	24	
26	0.45	0.41	0.41	0.41	0.41	0.42	0.43	0.41	0.40	0.39	0.40	0.40	0.40	0.39	0.38	0.37	0.37	0.38	S	0.40	0.50	0.58	0.78	0.53	0.37	0.78	0.44	24	
27	0.47	0.42	0.42	0.41	0.38	0.37	0.34	0.36	0.35	0.38	0.36	0.39	0.38	0.37	0.37	0.36	0.34	S	0.37	0.44	0.45	0.49	0.61	0.55	0.34	0.61	0.41	24	
28	0.44	0.42	0.39	0.48	0.45	0.55	0.47	0.53	0.50	0.44	0.40	0.39	0.38	0.37	0.37	0.38	S	0.39	0.36	0.38	0.36	0.39	0.43	0.41	0.36	0.55	0.42	24	
29	0.44	0.42	0.41	0.39	0.42	0.44	S1	0.43	0.39	0.38	0.36	0.37	0.37	0.35	0.36	S	0.37	0.35	0.35	0.34	0.35	0.35	0.42	0.44	0.34	0.44	0.39	23	
30	0.41	0.45	0.40	0.37	0.39	0.36	0.36	0.35	0.38	0.38	0.37	0.37	0.36	0.36	S	0.36	0.34	0.35	0.36	0.35	0.34	0.38	0.36	0.38	0.34	0.45	0.37	24	
HOURLY MAX	0.63	0.61	1.04	0.61	0.66	0.55	2.29	2.71	1.46	0.52	0.60	0.43	0.43	0.41	0.40	0.40	0.44	0.42	0.50	0.44	0.50	0.58	0.78	0.55					
HOURLY AVG	0.40	0.39	0.40	0.39	0.39	0.40	0.47	0.51	0.45	0.39	0.38	0.37	0.37	0.36	0.36	0.36	0.36	0.36	0.37	0.37	0.37	0.39	0.41	0.40					

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

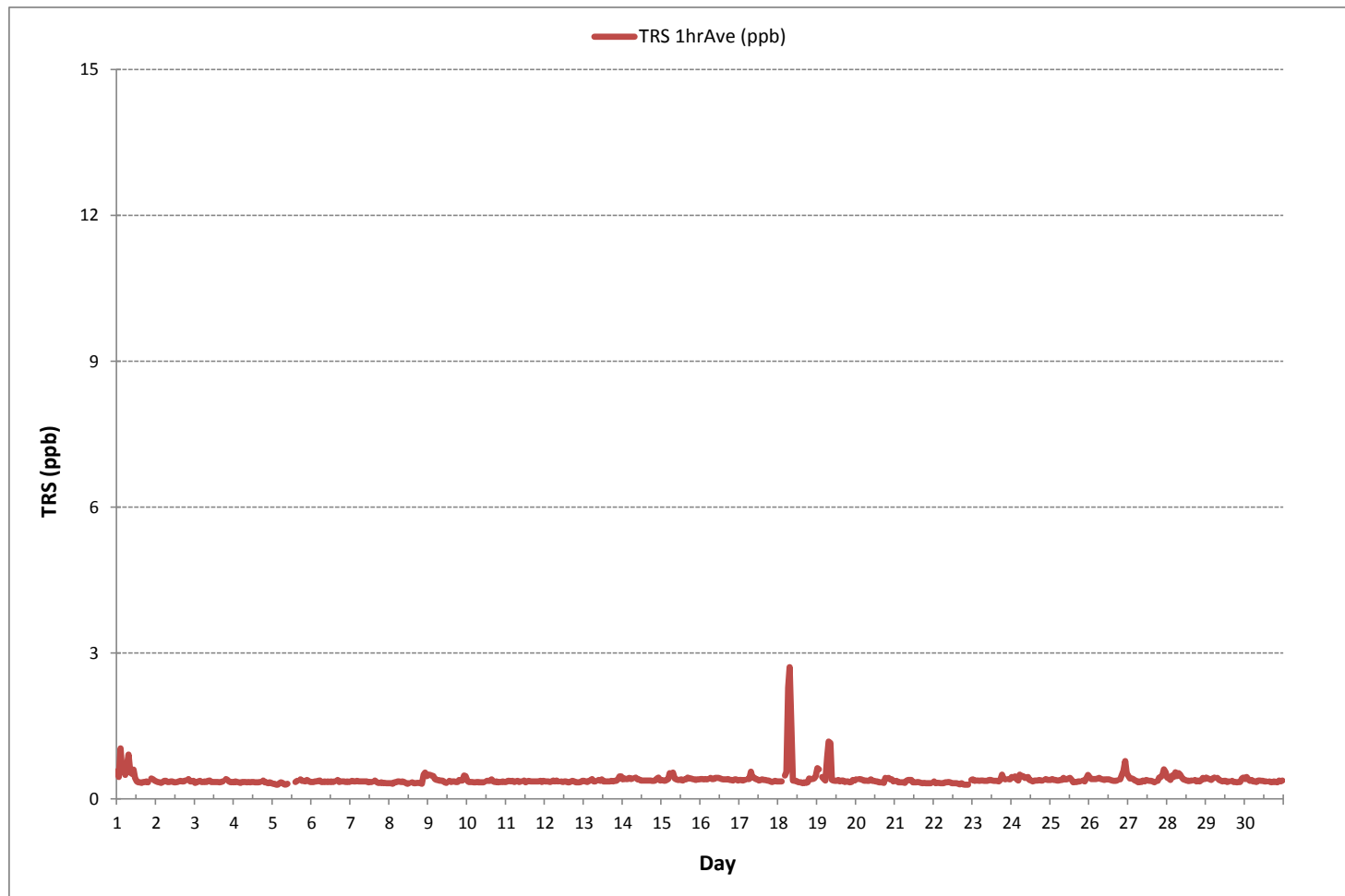
24 HR AVERAGES April 2018



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	684				
MINIMUM 1-HR AVERAGE:	0.29	ppb @ HOUR	2	ON DAY	5
MAXIMUM 1-HR AVERAGE:	2.71	ppb @ HOUR	7	ON DAY	18
MAXIMUM 24-HR AVERAGE:	0.62	ppb		ON DAY	18
IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	719	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	0.14		MONTHLY AVERAGE:	0.39	ppb

TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)



Wind: PRAMP_RENO
Poll.: PRAMP_RENO-TRS[ppb]
Monthly: 18/04
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

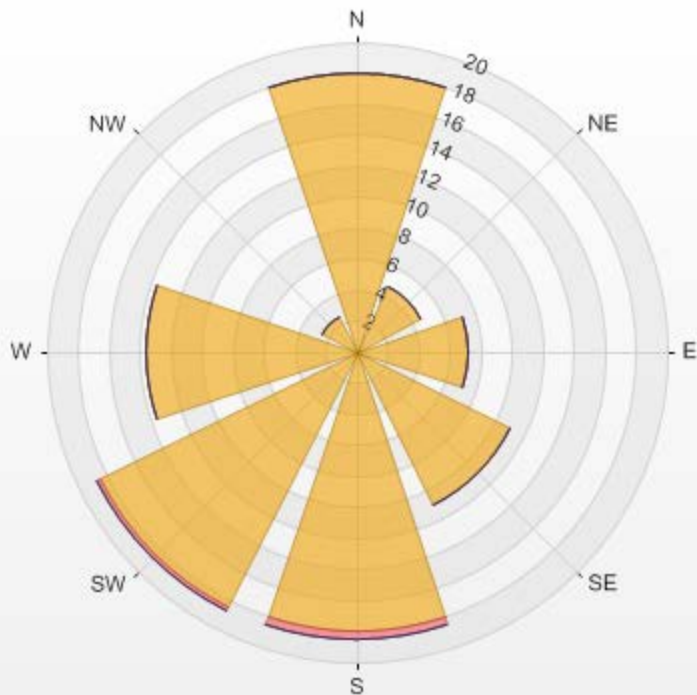
Calm: 5.43%

Calm Avg: 0.42 [ppb]

Direction	0-1	1-3	3-10	>10.0	Total
N	18.0	0.0	0.0	0.0	18.0
NE	4.7	0.0	0.0	0.0	4.7
E	7.2	0.0	0.0	0.0	7.2
SE	11.1	0.0	0.0	0.0	11.1
S	18.0	0.6	0.0	0.0	18.6
SW	18.5	0.3	0.0	0.0	18.8
W	13.6	0.0	0.0	0.0	13.6
NW	2.5	0.0	0.0	0.0	2.5
Summary	93.7	0.9	0.0	0.0	94.6

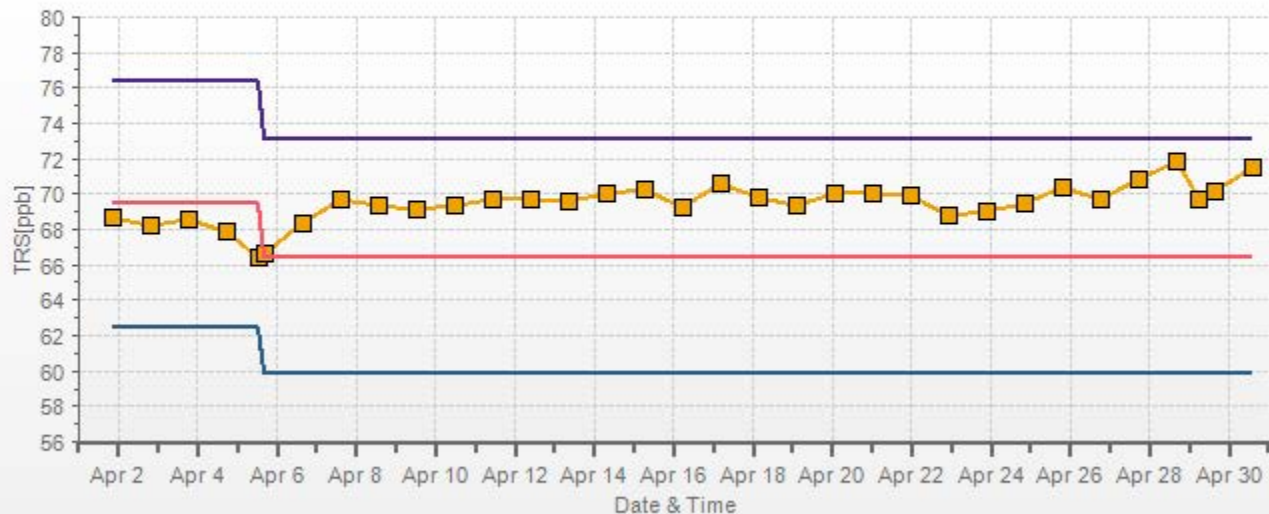
%	Icon	Classes (ppb)
94		0-1
1		1-3
0		3-10
0		>10.0

PRAMP_RENO Poll.: PRAMP_RENO-TRS[ppb] 2018/04/01 00:00 - 2018/04/30 23:00 Calm: 5.43% Calm Poll Avg: 0.42[ppb]



TRS[ppb] Calibration: PRAMP_RENO Monthly: 18/04 Type: Span

Span Meas Span Ref Span Low Span High



TOTAL HYDROCARBON



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - April 2018

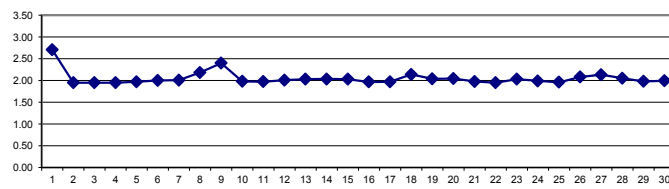
TOTAL HYDROCARBONS Hourly Averages (THC ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.		
DAY																													
1	2.52	2.91	3.51	4.14	3.92	3.58	6.76	4.39	2.52	2.23	2.24	1.99	1.97	1.96	1.94	1.93	1.95	1.96	1.97	1.98	S	2.02	2.00	1.97	1.93	6.76	2.71	24	
2	1.96	1.96	1.96	1.97	1.96	1.96	1.96	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	1.94	1.95	1.94	1.94	1.94	1.94	1.97	1.95	24
3	2.03	2.02	1.96	1.99	1.97	1.97	1.95	1.95	1.95	1.96	1.95	1.94	1.93	1.93	1.93	1.93	1.93	S	1.94	1.94	1.94	1.93	1.94	1.93	1.94	1.93	2.03	1.95	24
4	1.95	1.95	1.95	1.94	1.95	1.96	1.96	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.93	S	1.94	1.94	1.95	1.98	1.99	1.96	1.93	1.99	1.99	1.95	24	
5	1.96	1.96	1.96	1.96	1.98	2.02	1.97	1.96	1.96	1.94	1.95	1.94	C	C	C	C	C	1.96	1.97	1.97	1.97	2.03	1.99	1.98	1.94	2.03	1.97	24	
6	1.97	1.97	2.01	1.99	2.00	2.02	1.99	2.01	2.01	2.00	1.99	1.99	1.98	1.98	1.98	S	1.99	2.00	2.00	2.02	2.03	2.02	2.01	2.01	1.97	2.03	2.00	24	
7	2.01	2.01	2.01	2.03	2.05	2.02	2.04	2.04	2.04	2.04	2.02	2.00	2.00	S	2.00	1.98	1.98	1.99	1.99	1.99	2.00	1.99	1.98	1.98	1.98	2.05	2.01	24	
8	2.00	2.03	2.06	2.06	2.08	2.16	2.26	2.17	2.07	2.10	2.03	2.03	2.02	S	2.04	2.04	2.04	2.04	2.04	2.05	2.10	2.98	2.86	2.94	2.00	2.98	2.18	24	
9	3.68	2.98	3.09	2.77	2.33	2.24	2.18	2.11	2.07	2.04	2.02	2.01	S	2.03	2.05	2.06	2.09	2.10	2.08	2.37	2.67	2.32	3.10	2.80	2.01	3.68	2.40	24	
10	2.12	2.02	2.00	2.00	1.99	1.99	1.98	1.97	1.97	1.97	1.97	S	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.97	1.96	2.12	1.98	24	
11	1.97	1.98	1.97	1.99	1.98	1.97	1.97	1.97	1.97	1.97	S	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.99	1.98	1.97	1.99	1.98	24	
12	1.97	1.97	1.97	1.98	2.01	2.01	2.00	2.01	1.98	S	1.97	1.97	1.97	2.03	2.00	2.04	2.06	2.03	2.02	2.00	2.04	2.04	2.02	2.04	1.97	2.06	2.01	24	
13	2.05	2.05	2.05	2.05	2.05	2.05	2.03	2.05	S	2.05	2.06	2.10	2.03	2.02	2.00	2.01	2.00	2.00	1.99	2.02	2.03	2.02	2.01	2.01	1.99	2.10	2.03	24	
14	2.01	2.04	2.03	2.00	2.32	1.95	1.95	S	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.97	1.95	2.05	2.55	2.58	1.96	1.94	2.58	2.04	24	
15	1.95	1.96	1.96	1.96	2.23	3.01	S	2.14	1.98	1.97	1.96	1.96	1.96	1.97	1.98	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.95	3.01	2.03	24	
16	1.96	1.96	1.96	1.97	1.97	S	1.97	1.97	1.96	1.97	1.97	1.97	1.98	1.97	1.97	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.98	1.97	24	
17	1.97	1.97	1.97	1.97	S	1.97	1.97	1.98	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	1.97	1.97	2.00	1.96	2.00	1.97	24	
18	2.00	2.01	2.08	S	2.46	2.94	2.38	2.38	2.07	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.96	1.96	1.98	2.27	2.23	2.25	2.14	2.40	1.95	2.94	2.14	24	
19	2.43	2.58	S	2.02	1.99	2.02	2.08	1.97	1.97	1.98	1.99	2.00	2.02	2.06	2.03	2.06	2.06	1.98	1.96	1.95	1.94	1.94	1.96	1.96	1.94	2.58	2.04	24	
20	2.16	S	2.00	2.01	1.96	1.95	1.95	1.96	2.00	2.01	1.96	1.95	1.94	1.95	1.95	1.95	1.95	1.95	2.33	2.18	2.40	2.11	2.31	2.09	1.94	2.40	2.04	24	
21	S	2.02	1.95	2.00	2.00	1.96	1.97	2.31	2.03	1.96	1.96	1.95	1.93	1.93	1.93	1.95	1.95	1.95	1.96	1.96	1.94	1.94	1.94	S	1.93	2.31	1.98	24	
22	1.94	1.93	1.94	1.94	1.94	1.94	1.95	1.95	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.96	1.95	1.96	S	1.96	1.93	1.96	1.95	24	
23	1.97	1.97	1.97	1.98	1.99	2.00	2.00	2.00	1.99	1.99	2.06	2.08	2.04	2.05	2.00	2.02	2.01	2.05	2.41	2.17	2.02	S	2.00	1.97	1.97	2.41	2.03	24	
24	1.97	1.97	1.97	1.97	1.96	2.23	2.16	2.16	2.04	2.01	2.00	1.97	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	S	1.95	1.95	1.96	1.94	2.23	1.99	24	
25	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.97	1.97	1.96	1.99	2.04	2.01	1.98	1.94	1.94	1.94	1.94	1.94	1.94	S	1.94	1.94	1.95	1.97	1.94	2.04	1.96	24
26	1.96	1.96	1.96	1.96	1.97	2.04	1.96	1.97	1.95	1.94	1.94	1.94	1.94	1.95	1.94	1.95	S	1.98	2.40	2.47	3.35	2.46	1.94	3.35	2.08	24			
27	2.40	2.14	2.16	2.16	2.03	2.00	1.96	1.98	2.01	2.01	1.98	2.00	1.98	1.97	1.97	1.96	1.95	S	1.97	2.13	2.29	2.43	3.10	2.48	1.95	3.10	2.13	24	
28	2.31	2.14	2.13	2.22	2.29	2.35	2.19	2.26	2.15	2.01	1.96	1.95	1.94	1.92	1.91	S	1.92	1.93	1.94	1.95	1.94	1.94	1.95	1.94	1.91	2.35	2.05	24	
29	1.94	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	S	1.94	1.95	1.94	1.94	1.94	1.94	2.06	2.31	2.27	1.94	2.31	1.98	24	
30	2.13	2.27	2.12	2.00	2.11	2.00	1.96	1.98	2.03	2.00	1.98	1.97	1.94	1.95	S	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.94	1.93	1.93	2.27	1.99	24	
HOURLY MAX	3.68	2.98	3.51	4.14	3.92	3.58	6.76	4.39	2.52	2.23	2.24	2.10	2.04	2.06	2.05	2.06	2.09	2.10	2.41	2.37	2.67	2.98	3.35	2.94					
HOURLY AVG	2.11	2.09	2.09	2.10	2.12	2.15	2.19	2.12	2.01	1.99	1.99	1.98	1.97	1.97	1.97	1.97	1.97	1.97	2.00	2.02	2.05	2.09	2.18	2.10					

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

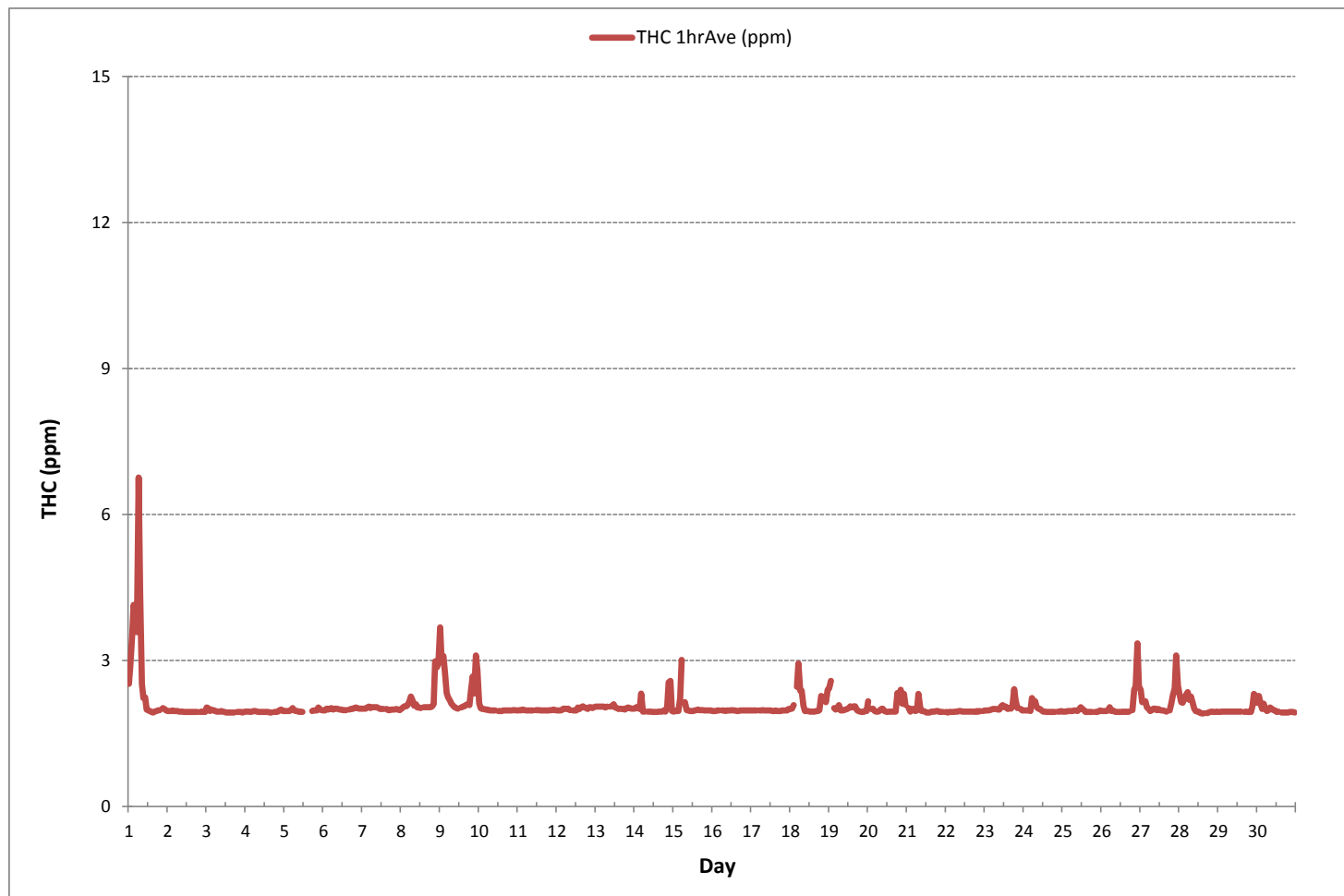
24 HR AVERAGES April 2018



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	685			
MINIMUM 1-HR AVERAGE:	1.91	ppm @ HOUR	14	ON DAY 28
MAXIMUM 1-HR AVERAGE:	6.76	ppm @ HOUR	6	ON DAY 1
MAXIMUM 24-HR AVERAGE:	2.71	ppm		ON DAY 1
IZS CALIBRATION TIME:	30	hrs	OPERATIONAL TIME:	720 hrs
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION:	0.30		MONTHLY AVERAGE:	2.05 ppm

TOTAL HYDROCARBONS Hourly Averages (THC ppm)



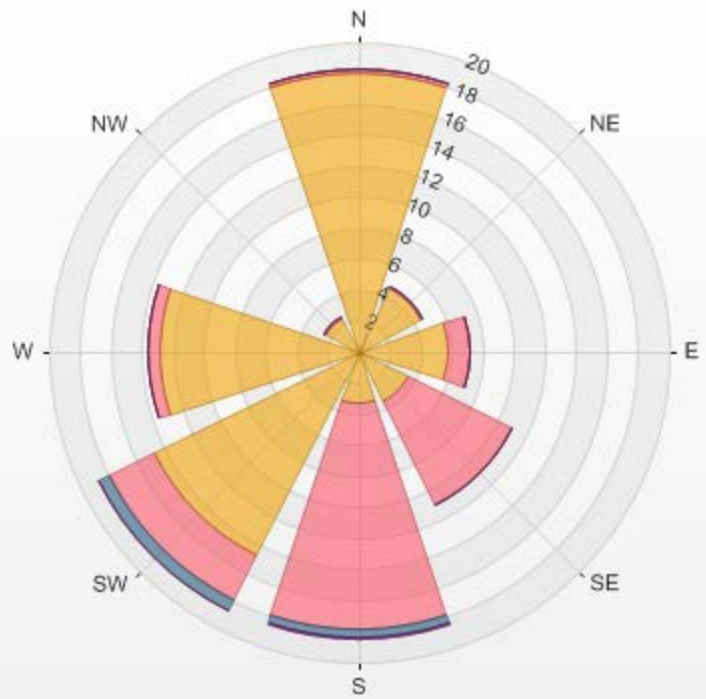
Wind: PRAMP_RENO
Poll.: PRAMP_RENO-THC55[ppm]
Monthly: 18/04
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

Calm: 5.41%

Calm Avg: 2.31 [ppm]

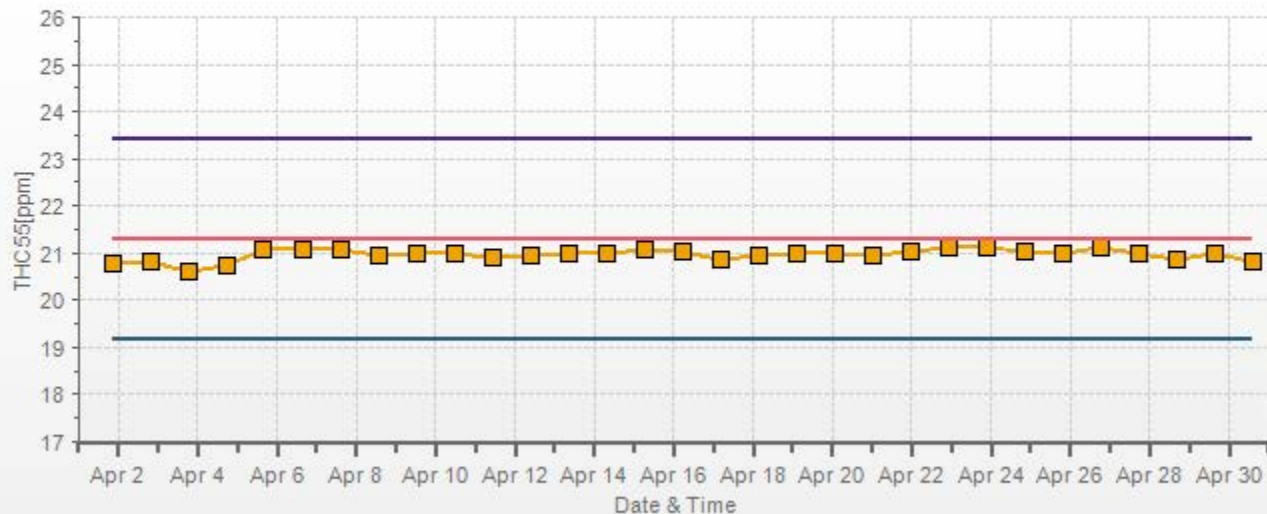
Direction	0-2	2-3	3-5	5-10	>10.0	Total
N	18.0	0.3	0.0	0.0	0.0	18.3
NE	4.5	0.2	0.0	0.0	0.0	4.7
E	5.9	1.3	0.0	0.0	0.0	7.2
SE	3.7	7.5	0.0	0.0	0.0	11.1
S	3.4	14.6	0.4	0.2	0.0	18.6
SW	14.8	3.2	0.7	0.0	0.0	18.7
W	12.9	0.7	0.0	0.0	0.0	13.6
NW	2.3	0.2	0.0	0.0	0.0	2.5
Summary	65.4	27.9	1.2	0.2	0.0	94.6

PRAMP_RENO Poll.: PRAMP_RENO-THC55[ppm] 2018/04/01 00:00 - 2018/04/30 23:00 Calm: 5.41% Calm Poll Avg: 2.31[ppm]



THC55[ppm] Calibration: PRAMP_RENO Monthly: 18/04 Type: Span

Span Meas Span Ref Span Low Span High



METHANE



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - April 2018

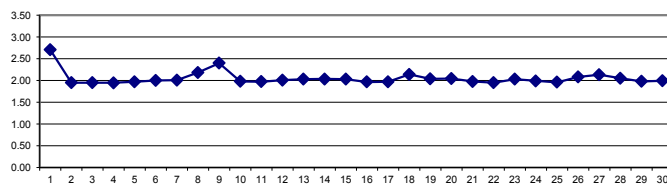
METHANE Hourly Averages (CH₄ ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	2.52	2.91	3.50	4.14	3.92	3.58	6.75	4.38	2.52	2.23	2.24	1.99	1.96	1.96	1.93	1.93	1.95	1.96	1.97	1.98	S	2.02	2.00	1.97	1.93	6.75	2.71	24
2	1.96	1.96	1.96	1.97	1.96	1.96	1.96	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	1.94	1.95	1.94	1.94	1.94	1.97	1.95	24
3	2.03	2.02	1.96	1.99	1.97	1.97	1.95	1.95	1.95	1.96	1.95	1.94	1.93	1.93	1.93	1.93	1.93	1.93	S	1.94	1.94	1.93	1.94	1.93	1.93	2.03	1.95	24
4	1.94	1.95	1.95	1.94	1.95	1.96	1.96	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.93	1.93	S	1.94	1.94	1.95	1.98	1.99	1.96	1.93	1.99	1.95	24	
5	1.96	1.96	1.96	1.96	1.98	2.02	1.97	1.96	1.96	1.94	1.95	1.94	C	C	C	C	C	1.96	1.97	1.97	1.97	2.03	1.99	1.98	1.94	2.03	1.97	24
6	1.97	1.97	2.01	1.99	2.00	2.02	1.99	2.01	2.01	2.00	1.99	1.99	1.98	1.98	1.98	S	1.99	2.00	2.00	2.02	2.03	2.02	2.01	2.01	1.97	2.03	2.00	24
7	2.01	2.01	2.01	2.03	2.05	2.02	2.04	2.04	2.04	2.04	2.02	2.00	2.00	2.00	S	2.00	1.98	1.98	1.99	1.99	1.99	2.00	1.99	1.98	1.98	2.05	2.01	24
8	2.00	2.03	2.06	2.06	2.08	2.16	2.26	2.17	2.07	2.10	2.03	2.03	2.02	S	2.04	2.04	2.04	2.04	2.04	2.05	2.10	2.98	2.86	2.94	2.00	2.98	2.18	24
9	3.68	2.98	3.09	2.77	2.33	2.24	2.18	2.11	2.07	2.04	2.02	2.01	S	2.03	2.05	2.06	2.09	2.10	2.08	2.37	2.67	2.32	3.10	2.80	2.01	3.68	2.40	24
10	2.12	2.02	2.00	2.00	1.99	1.99	1.98	1.97	1.97	1.97	1.97	S	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.97	1.96	2.12	1.98	24
11	1.97	1.98	1.97	1.98	1.98	1.97	1.97	1.97	1.97	1.97	S	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.99	1.98	1.97	1.99	1.97	24
12	1.97	1.97	1.97	1.98	2.01	2.01	2.00	2.01	1.98	S	1.97	1.97	1.97	2.03	2.00	2.04	2.06	2.03	2.02	2.00	2.04	2.04	2.02	2.04	1.97	2.06	2.01	24
13	2.05	2.05	2.05	2.05	2.05	2.05	2.03	2.05	S	2.05	2.06	2.10	2.03	2.02	1.99	2.01	2.00	2.00	1.99	2.02	2.03	2.02	2.01	2.01	1.99	2.10	2.03	24
14	2.01	2.04	2.03	2.00	2.32	1.95	1.95	S	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.97	1.95	2.05	2.55	2.58	1.96	1.94	2.58	2.04	24
15	1.95	1.96	1.96	1.96	2.23	3.01	S	2.14	1.98	1.97	1.96	1.96	1.96	1.97	1.98	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.95	3.01	2.03	24
16	1.96	1.96	1.96	1.97	1.97	S	1.97	1.97	1.96	1.97	1.97	1.97	1.98	1.97	1.97	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.98	1.97	24	
17	1.97	1.97	1.97	1.97	S	1.97	1.97	1.98	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.97	1.96	1.96	1.96	1.97	1.97	1.97	1.97	2.00	1.96	2.00	1.97	24
18	2.00	2.01	2.08	S	2.46	2.94	2.38	2.38	2.07	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.96	1.96	1.98	2.27	2.23	2.25	2.14	2.40	1.95	2.94	2.14	24
19	2.43	2.58	S	2.02	1.99	2.02	2.08	1.97	1.97	1.98	1.99	2.00	2.02	2.06	2.03	2.06	2.06	1.98	1.96	1.95	1.94	1.94	1.96	1.96	1.94	2.58	2.04	24
20	2.16	S	2.00	2.01	1.96	1.95	1.95	1.96	2.00	2.01	1.96	1.95	1.94	1.95	1.95	1.95	1.95	1.95	2.33	2.18	2.40	2.11	2.31	2.09	1.94	2.40	2.04	24
21	S	2.02	1.95	2.00	2.00	1.96	1.97	2.31	2.03	1.96	1.96	1.95	1.93	1.93	1.93	1.95	1.95	1.95	1.96	1.96	1.94	1.94	1.94	S	1.93	2.31	1.98	24
22	1.94	1.93	1.94	1.94	1.94	1.94	1.95	1.95	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.96	1.95	1.96	S	1.96	1.93	1.96	1.95	24
23	1.97	1.97	1.97	1.98	1.99	2.00	2.00	2.00	1.99	1.99	2.06	2.08	2.04	2.05	2.00	2.02	2.01	2.05	2.41	2.17	2.02	S	2.00	1.97	1.97	2.41	2.03	24
24	1.97	1.97	1.97	1.97	1.96	2.23	2.16	2.16	2.04	2.01	2.00	1.97	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	S	1.95	1.95	1.96	1.94	2.23	1.99	24
25	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.97	1.97	1.96	1.99	2.04	2.01	1.98	1.94	1.94	1.94	1.94	1.94	S	1.94	1.94	1.95	1.97	1.94	2.04	1.96	24
26	1.96	1.96	1.96	1.96	1.97	2.04	1.96	1.97	1.95	1.94	1.94	1.94	1.94	1.95	1.94	1.95	S	1.98	2.40	2.47	3.35	2.46	1.94	3.35	2.08	24		
27	2.40	2.14	2.16	2.16	2.03	2.00	1.96	1.98	2.01	2.01	1.98	2.00	1.98	1.97	1.97	1.96	1.95	S	1.97	2.13	2.29	2.43	3.10	2.48	1.95	3.10	2.13	24
28	2.31	2.14	2.13	2.22	2.29	2.35	2.19	2.26	2.15	2.01	1.96	1.95	1.94	1.92	1.91	S	1.92	1.93	1.94	1.95	1.94	1.94	1.95	1.94	1.91	2.35	2.05	24
29	1.94	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	S	1.94	1.95	1.94	1.94	1.94	2.06	2.31	2.27	1.94	2.31	1.98	24
30	2.13	2.27	2.12	2.00	2.11	2.00	1.96	1.98	2.03	2.00	1.98	1.97	1.94	1.95	S	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.94	1.93	1.93	2.27	1.99	24
HOURLY MAX	3.68	2.98	3.50	4.14	3.92	3.58	6.75	4.38	2.52	2.23	2.24	2.10	2.04	2.06	2.05	2.06	2.09	2.10	2.41	2.37	2.67	2.98	3.35	2.94				
HOURLY AVG	2.11	2.09	2.09	2.10	2.12	2.15	2.19	2.12	2.01	1.99	1.99	1.98	1.97	1.97	1.96	1.97	1.97	1.97	2.00	2.02	2.05	2.09	2.18	2.10				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

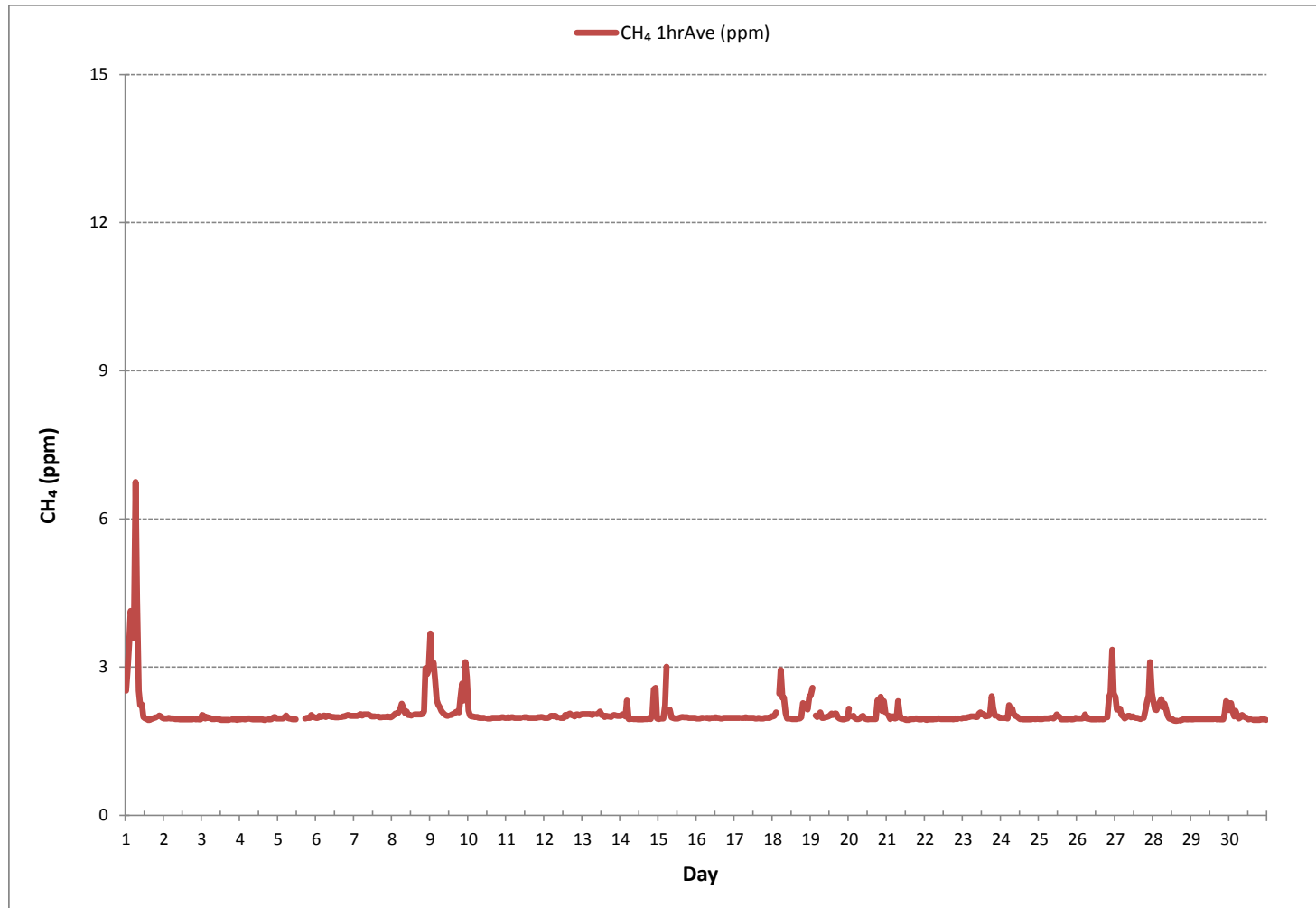
24 HR AVERAGES April 2018



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	685			
MINIMUM 1-HR AVERAGE:	1.91	ppm @ HOUR	14	ON DAY 28
MAXIMUM 1-HR AVERAGE:	6.75	ppm @ HOUR	6	ON DAY 1
MAXIMUM 24-HR AVERAGE:	2.71	ppm		ON DAY 1
IZS CALIBRATION TIME:	30	hrs	OPERATIONAL TIME:	720 hrs
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION:	0.30		MONTHLY AVERAGE:	2.05 ppm

METHANE Hourly Averages (CH₄ ppm)



Wind: PRAMP_RENO
Poll.: PRAMP_RENO-CH₄[ppm]
Monthly: 18/04
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

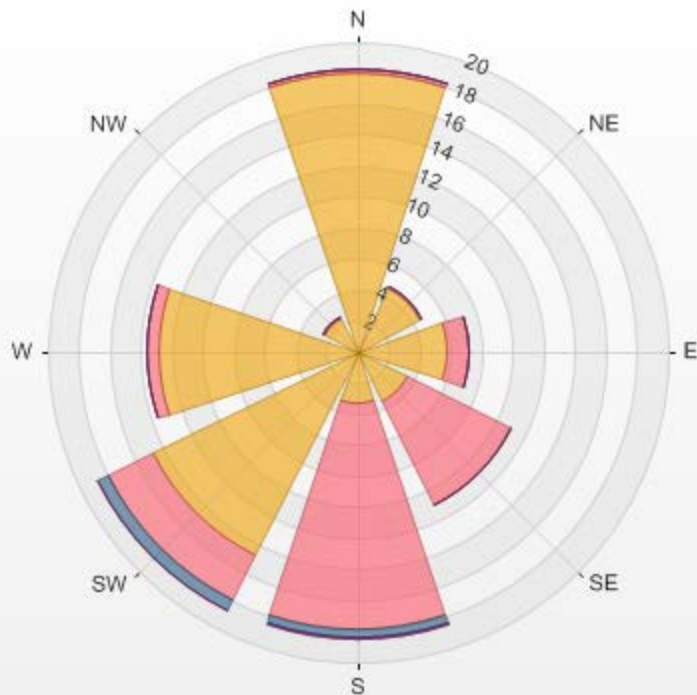
Calm: 5.41%

Calm Avg: 2.30 [ppm]

Direction	0-2	2-3	3-5	5-10	>10.0	Total
N	18.0	0.3	0.0	0.0	0.0	18.3
NE	4.5	0.2	0.0	0.0	0.0	4.7
E	5.9	1.3	0.0	0.0	0.0	7.2
SE	3.7	7.5	0.0	0.0	0.0	11.1
S	3.4	14.6	0.4	0.2	0.0	18.6
SW	14.8	3.2	0.7	0.0	0.0	18.7
W	12.9	0.7	0.0	0.0	0.0	13.6
NW	2.3	0.2	0.0	0.0	0.0	2.5
Summary	65.4	27.9	1.2	0.2	0.0	94.6

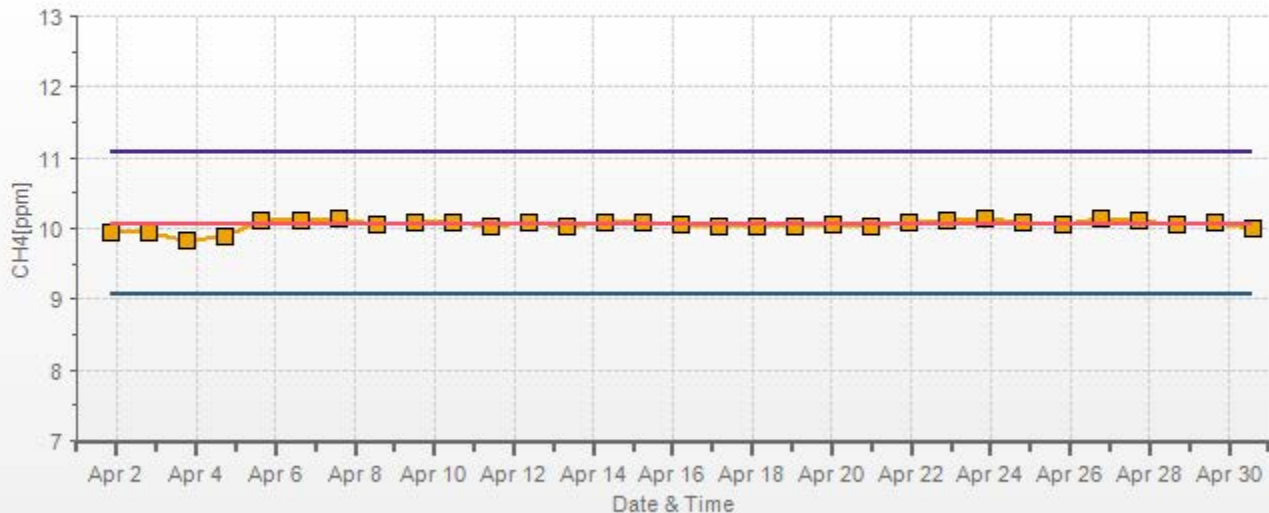
%	Icon	Classes (ppm)
65		0-2
28		2-3
1		3-5
0		5-10
0		>10.0

PRAMP_RENO Poll.: PRAMP_RENO-CH4[ppm] 2018/04/01 00:00 - 2018/04/30 23:00 Calm: 5.41% Calm Poll Avg: 2.30[ppm]



CH₄[ppm] Calibration: PRAMP_RENO Monthly: 18/04 Type: Span

Span Meas Span Ref Span Low Span High



NON-METHANE HYDROCARBON



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - April 2018

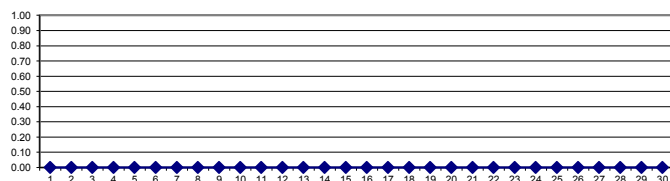
NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.		
DAY																													
1	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	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	24
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
15	0.00	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
16	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
17	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	24
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	24
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	0.00	0.00	0.00	24
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	\$	0.00	0.00	0.00	0.00	24
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	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	24
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	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	24
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
HOURLY MAX	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
HOURLY AVG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

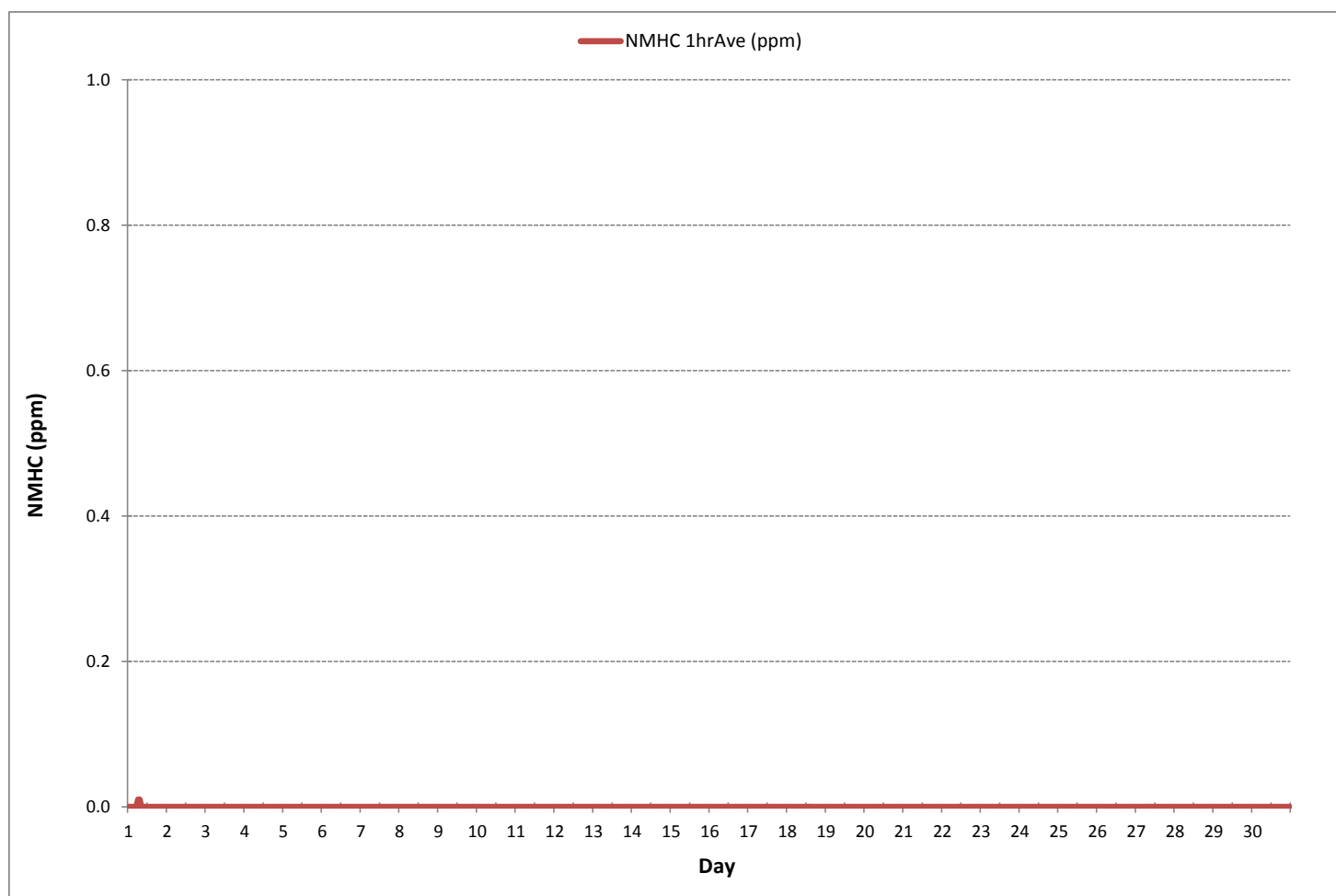
24 HR AVERAGES April 2018



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	2				
MINIMUM 1-HR AVERAGE:	0.00	ppm @ HOUR	0	ON DAY	1
MAXIMUM 1-HR AVERAGE:	0.01	ppm @ HOUR	6	ON DAY	1
MAXIMUM 24-HR AVERAGE:	0.00	ppm		ON DAY	1
IZS CALIBRATION TIME:	30	hrs	OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	0.00		MONTHLY AVERAGE:	0.00	ppm

NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)



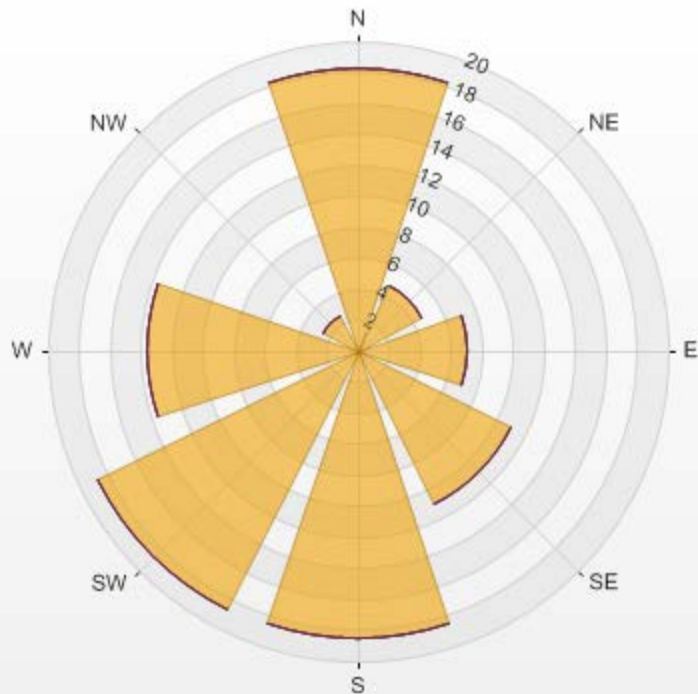
Wind: PRAMP_RENO
Poll.: PRAMP_RENO-NMHC[ppm]
Monthly: 18/04
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

Calm: 5.41%

Calm Avg: 0.00 [ppm]

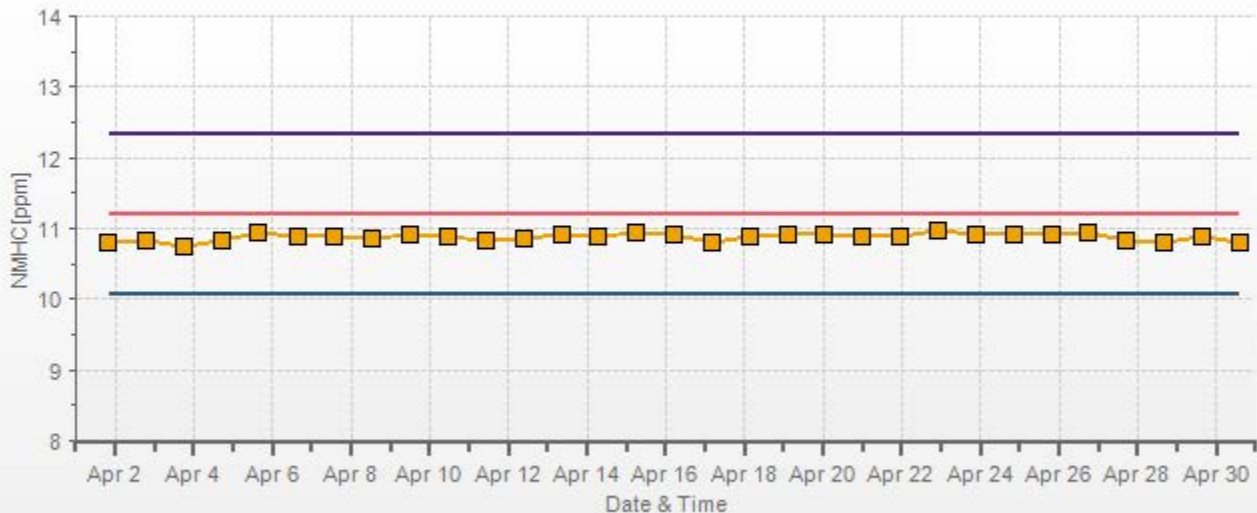
Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	18.3	0.0	0.0	0.0	0.0	18.3
NE	4.7	0.0	0.0	0.0	0.0	4.7
E	7.2	0.0	0.0	0.0	0.0	7.2
SE	11.1	0.0	0.0	0.0	0.0	11.1
S	18.6	0.0	0.0	0.0	0.0	18.6
SW	18.7	0.0	0.0	0.0	0.0	18.7
W	13.6	0.0	0.0	0.0	0.0	13.6
NW	2.5	0.0	0.0	0.0	0.0	2.5
Summary	94.6	0.0	0.0	0.0	0.0	94.6

PRAMP_RENO Poll.: PRAMP_RENO-NMHC[ppm] 2018/04/01 00:00 - 2018/04/30 23:00 Calm: 5.41% Calm Poll Avg: 0.00[ppm]



NMHC[ppm] Calibration: PRAMP_RENO Monthly: 18/04 Type: Span

Span Meas Span Ref Span Low Span High



WIND SPEED

WIND SPEED Hourly Averages (WS kph)

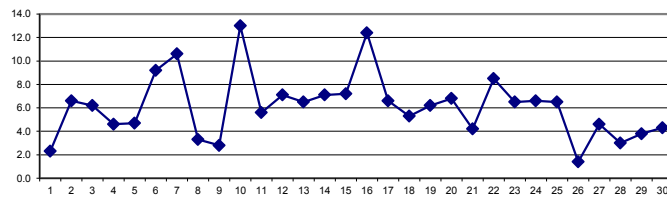
HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	4.1	3.4	3.2	3.5	3.6	3.1	2.1	1.8	3.3	4.4	3.7	6.1	8.7	9.2	10.9	9.2	9.2	6.8	3.9	3.1	3.2	1.2	2.3	3.2	1.2	10.9	2.3	24
2	2.9	2.7	4.8	4.5	4.7	7.7	7.2	9.6	7.9	8.8	9.5	9.0	11.2	10.7	10.7	10.9	10.6	9.0	6.5	4.4	4.9	2.3	0.7	1.5	0.7	11.2	6.6	24
3	1.0	2.3	2.8	1.0	2.4	3.1	3.0	3.8	5.6	6.9	8.8	9.6	9.6	11.6	12.1	10.6	9.5	9.3	8.6	7.2	6.6	6.0	6.4	7.1	1.0	12.1	6.2	24
4	4.5	5.7	4.8	4.6	5.5	3.6	6.7	7.2	9.3	9.4	10.5	9.8	10.6	8.3	8.7	8.8	8.0	8.8	5.5	3.9	4.5	1.9	3.7	5.3	1.9	10.6	4.6	24
5	4.9	1.5	1.0	0.5	2.2	2.9	5.8	6.5	6.7	10.6	9.9	10.0	10.7	10.4	11.4	C	C	C	7.7	3.9	2.7	6.3	5.6	6.7	0.5	11.4	4.7	24
6	6.0	6.5	6.1	7.0	6.2	6.8	5.0	8.5	10.2	10.2	13.0	12.6	10.5	12.3	11.5	12.1	11.9	12.9	11.8	11.1	8.8	7.9	7.8	9.6	5.0	13.0	9.2	24
7	8.6	8.1	7.8	8.3	8.9	8.7	10.0	10.4	11.9	12.4	11.9	11.8	11.0	13.7	13.7	12.9	12.3	12.3	13.3	12.8	11.4	9.7	7.8	6.9	6.9	13.7	10.6	24
8	6.9	6.3	6.2	6.6	7.5	4.2	5.0	5.6	4.7	5.8	6.3	5.2	4.8	4.2	3.4	6.2	5.8	4.6	4.2	2.1	2.7	0.9	2.0	3.1	0.9	7.5	3.3	24
9	3.7	3.4	3.1	3.3	3.2	3.2	3.6	3.7	4.2	3.9	4.8	4.4	4.4	3.7	3.9	4.7	3.5	1.6	1.4	0.7	0.4	0.8	1.0	1.3	0.4	4.8	2.8	24
10	3.6	4.8	5.7	8.5	8.3	8.6	12.2	13.5	14.5	15.7	17.7	19.2	18.5	16.7	15.1	14.6	17.2	18.6	17.3	16.4	14.4	14.3	13.2	12.6	3.6	19.2	13.0	24
11	13.1	12.0	12.6	9.2	7.6	7.5	5.3	6.0	7.1	7.9	5.7	8.9	9.0	8.2	7.3	7.2	7.2	4.4	3.4	7.0	8.2	6.8	8.2	8.0	3.4	13.1	5.6	24
12	7.5	8.5	7.9	6.5	7.4	7.5	9.4	9.7	10.4	9.4	9.3	10.1	7.2	8.1	8.5	6.3	6.7	7.4	7.9	6.3	7.1	7.5	7.8	7.0	6.3	10.4	7.1	24
13	7.6	7.2	6.4	6.2	6.6	6.4	6.4	6.6	6.8	5.8	6.2	7.9	6.6	5.9	6.8	4.4	4.0	5.8	6.8	10.0	10.4	8.9	7.9	6.7	4.0	10.4	6.5	24
14	7.1	8.0	7.2	1.7	4.1	7.9	7.6	8.6	7.9	9.9	10.7	12.5	13.3	12.6	12.6	10.3	8.5	7.7	6.4	4.5	3.0	2.4	3.8	5.8	1.7	13.3	7.1	24
15	5.5	3.6	4.7	4.9	3.4	1.5	2.5	1.1	5.3	6.5	8.5	9.4	11.0	12.1	13.4	15.4	14.7	15.0	14.9	13.8	12.7	14.1	13.4	12.6	1.1	15.4	7.2	24
16	12.7	13.6	12.9	12.7	11.8	13.8	13.9	13.8	14.0	13.2	12.5	12.7	13.2	13.9	13.2	12.9	13.0	12.7	11.2	10.8	11.2	11.1	10.3	11.1	10.3	14.0	12.4	24
17	11.5	10.2	9.3	7.4	7.1	7.7	7.1	5.8	5.9	7.9	8.4	13.2	16.5	15.6	13.5	14.1	14.0	12.0	10.9	8.9	6.5	5.7	6.2	6.6	5.7	16.5	6.6	24
18	5.8	3.4	3.8	3.0	1.7	2.4	2.9	3.9	7.4	9.3	8.7	9.7	7.4	9.1	11.9	7.2	6.4	6.9	5.4	3.7	3.7	5.0	5.4	4.8	1.7	11.9	5.3	24
19	4.4	5.5	5.8	8.0	7.5	7.2	5.1	5.4	5.2	5.0	6.1	8.0	10.4	7.7	7.5	6.7	5.0	4.9	5.5	6.8	6.5	8.8	7.4	7.0	4.4	10.4	6.2	24
20	5.9	7.7	6.8	7.4	8.4	11.3	11.7	10.2	7.8	8.8	8.9	8.8	9.7	8.9	10.0	9.5	8.8	7.0	3.7	1.7	1.7	2.5	2.3	5.7	1.7	11.7	6.8	24
21	6.1	7.3	8.0	6.9	6.3	1.3	0.4	1.3	5.6	8.9	7.4	2.2	6.7	5.7	7.5	8.5	6.9	7.1	4.6	5.9	9.8	13.1	11.1	13.4	0.4	13.4	4.2	24
22	12.5	13.1	11.5	10.4	9.2	8.7	8.4	8.7	9.6	10.2	9.2	9.5	9.9	10.6	12.0	10.6	9.1	7.7	7.0	4.9	3.4	3.3	5.2	5.8	3.3	13.1	8.5	24
23	5.1	4.9	5.6	6.3	5.9	6.7	7.3	7.7	7.7	7.7	6.2	7.6	8.3	7.6	8.1	7.9	7.2	6.5	4.4	6.0	7.1	6.7	6.2	8.2	4.4	8.3	6.5	24
24	8.0	7.2	6.6	6.3	6.7	6.4	6.3	7.8	8.5	9.5	9.6	10.3	9.7	9.4	5.8	6.0	5.8	4.6	5.4	4.3	5.5	6.7	7.3	9.9	4.3	10.3	6.6	24
25	6.6	6.4	5.7	6.7	6.8	7.0	6.9	9.7	9.0	7.1	5.8	6.1	7.0	8.4	10.6	10.5	9.3	10.2	6.5	4.1	3.2	4.5	4.9	6.6	3.2	10.6	6.5	24
26	7.4	6.1	6.7	4.6	3.2	3.4	6.1	5.2	4.5	5.3	5.9	5.6	4.9	1.3	4.6	2.2	5.3	1.9	1.4	0.9	0.9	1.0	2.0	2.4	0.9	7.4	1.4	24
27	3.4	4.0	3.8	5.3	5.5	6.0	6.5	6.7	6.9	6.6	7.4	6.6	7.7	8.8	7.3	9.1	7.5	3.2	1.0	1.1	1.7	1.0	2.0	4.0	1.0	9.1	4.6	24
28	5.0	5.6	4.8	3.5	3.7	3.7	3.6	3.7	4.7	6.5	9.7	12.2	8.7	7.6	6.5	9.3	12.0	7.5	9.3	9.7	10.2	12.1	12.5	8.3	3.5	12.5	3.0	24
29	8.9	9.9	12.0	8.6	8.7	8.9	8.4	7.5	8.2	6.5	6.8	3.8	3.1	4.8	8.2	7.1	7.6	6.7	6.7	6.1	2.1	1.4	0.9	1.4	0.9	12.0	3.8	24
30	2.1	3.0	3.1	4.4	4.1	5.0	5.9	6.2	7.5	9.2	10.6	11.6	11.8	11.9	11.0	10.8	10.2	7.1	8.8	8.2	9.9	10.9	8.5	4.9	2.1	11.9	4.3	24
HOURLY MAX	13.1	13.6	12.9	12.7	11.8	13.8	13.9	13.8	14.5	15.7	17.7	19.2	18.5	16.7	15.1	15.4	17.2	18.6	17.3	16.4	14.4	14.3	13.4	13.4				
HOURLY AVG	0.9	1.1	1.0	1.2	1.2	1.0	0.8	1.0	1.3	1.1	1.0	1.1	1.7	2.4	2.9	2.5	2.2	1.7	0.8	0.3	0.5	0.9	0.9	1.0				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

LAST CALIBRATION:	April 5, 2018
DECLINATION :	MAGNETIC DECLINATION 15 DEGREE EAST

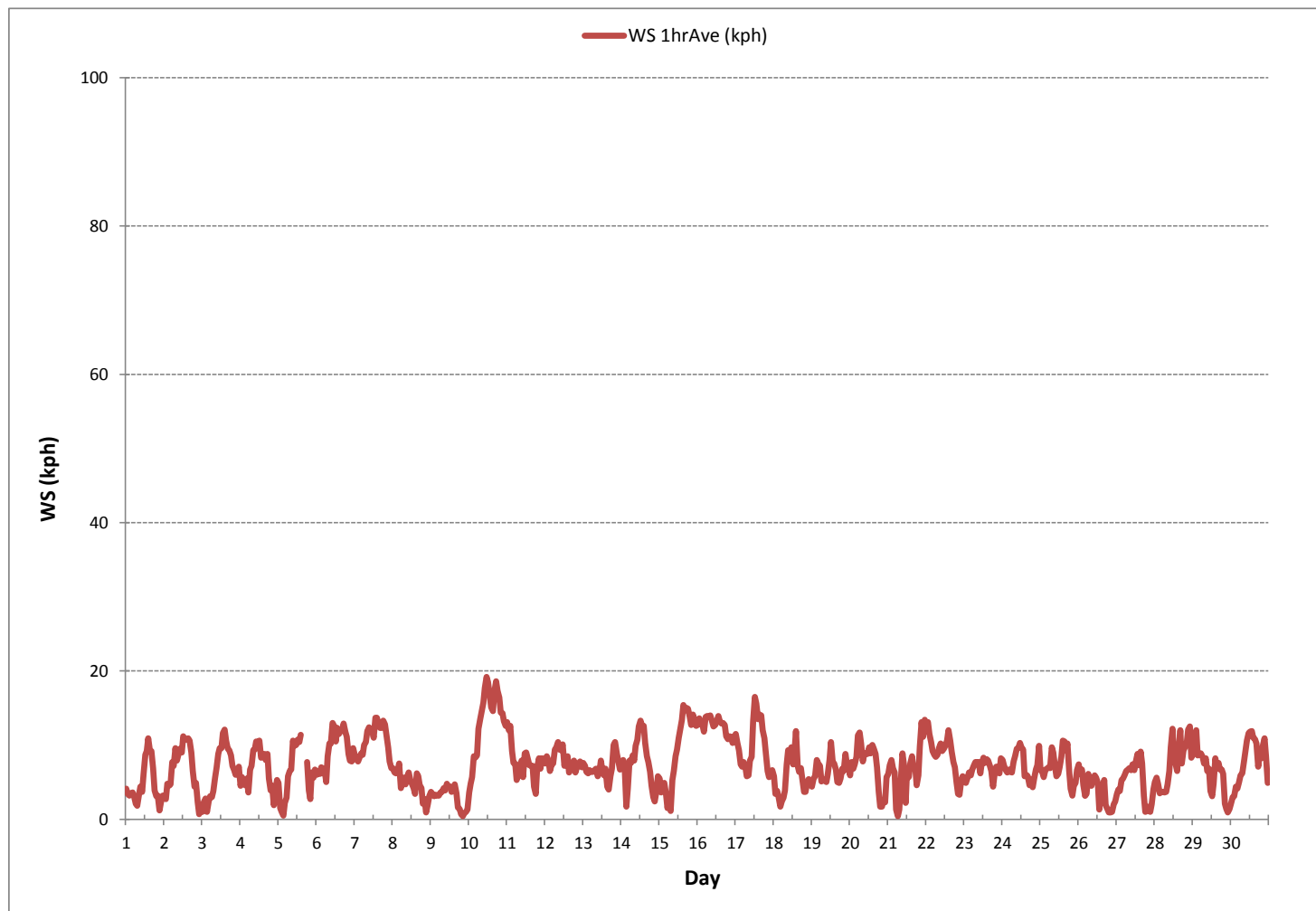
24 HR AVERAGES April 2018



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	717
MINIMUM 1-HR AVERAGE	0.4 kph @ HOUR 20 ON DAY 9
MAXIMUM 1-HR AVERAGE:	19.2 kph @ HOUR 11 ON DAY 10
MAXIMUM 24-HR AVERAGE:	13.0 kph ON DAY 10
MONTHLY CALIBRATION TIME:	3 hrs
MONTHLY CALIBRATION TIME:	720 hrs
STANDARD DEVIATION:	3.5
AMT OPERATION UPTIME:	100.0 %
MONTHLY AVERAGE:	0.8 kph

WIND SPEED Hourly Averages (WS kph)



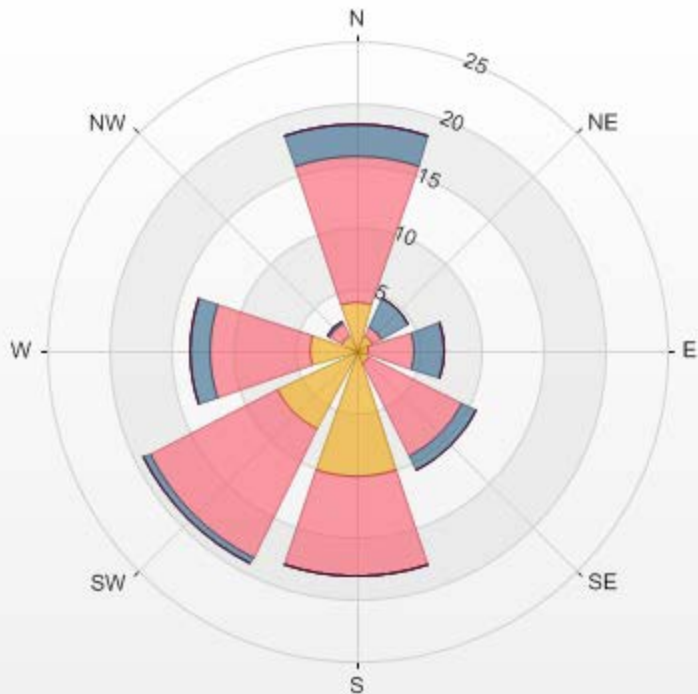
Wind: PRAMP_RENO
 Monitor: WSP [kph]
 Monthly: 18/04
 Type: WindRose
 Direction: Blowing From (Wind Frequency)
 Based On 1 Hr.

Calm: 5.30%

Direction	1.8-6.0	6.0-12.0	12.0-20.0	20.0-29.0	29.0-39.0	>39.0	Total
N	3.9	11.9	2.5	0.0	0.0	0.0	18.3
NE	1.4	0.8	2.5	0.0	0.0	0.0	4.7
E	1.0	3.6	2.5	0.0	0.0	0.0	7.1
SE	1.1	8.4	1.4	0.0	0.0	0.0	10.9
S	10.2	8.1	0.0	0.0	0.0	0.0	18.3
SW	7.1	11.6	0.6	0.0	0.0	0.0	19.3
W	3.8	8.1	1.7	0.0	0.0	0.0	13.5
NW	1.4	1.1	0.1	0.0	0.0	0.0	2.7
Summary	29.9	53.6	11.3	0.0	0.0	0.0	94.7

%	Icon	Classes (kph)
30		1.8-6.0
54		6.0-12.0
11		12.0-20.0
0		20.0-29.0
0		29.0-39.0
0		>39.0

PRAMP_RENO 2018/04/01 00:00 - 2018/04/30 23:00 Calm: 5.30% Calm Wind Avg Speed: 1.18(kph)



WIND DIRECTION



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
Reno Station - April 2018

WIND DIRECTION Hourly Averages (WD)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24-HOUR AVG	24-HR	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	QUADRANT	RDGS.	
DAY																											
1	SW	SW	SW	SW	SW	SW	SSW	SSW	S	S	SSE	N	NNW	NNW	NNW	NNW	NW	NW	W	WNW	N	NNE	NNE	NNE	NW	24	
2	N	NNW	NNW	NNW	N	N	N	N	N	N	N	NNW	NNW	NNW	NNW	N	NNW	NNW	NNW	NNW	N	NNE	NE	ENE	N	24	
3	NNE	N	NE	NE	NNE	ENE	N	NNE	N	NNW	NNW	N	N	N	N	N	N	NNW	NNW	N	N	NNE	N	NNE	N	24	
4	NNE	NNE	NNE	NNE	N	N	NNW	NNW	NNW	NNW	N	NNW	NNW	WNW	W	W	WSW	SW	SW	WSW	W	NW	N	NW	24		
5	N	NNW	WNW	WNW	W	NW	NNW	N	N	N	NNW	N	NNW	NNW	C	C	C	N	NNE	E	ESE	E	E	N	24		
6	ENE	E	ESE	SE	SE	ESE	E	ESE	ESE	ESE	ESE	ESE	SE	SE	SE	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	ESE	24		
7	ESE	SE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	SE	ESE	ESE	SE	ESE	ESE	SE	ESE	24	
8	SE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	SSE	S	SW	SW	SSW	WSW	W	W	W	W	W	SSW	SSW	SSW	S	24	
9	SSW	SSW	SSW	SSW	SSW	S	S	S	S	SSE	SSE	SSE	SSE	S	S	SSE	S	SSE	E	SSW	SSW	ENE	SSW	SSE	S	24	
10	NE	E	NE	NE	E	ENE	ENE	ENE	E	ENE	ENE	ENE	ENE	ENE	ENE	E	E	E	E	E	E	ESE	E	E	ENE	24	
11	E	ESE	ESE	ESE	E	E	NE	NNE	NNE	NNE	N	N	NNW	N	N	N	N	N	NNE	E	E	E	ENE	E	NE	24	
12	ENE	ENE	E	ESE	ESE	ESE	ESE	ESE	SE	SE	SE	ESE	S	SSE	S	S	SSE	ESE	ESE	ESE	ESE	SE	SSE	SE	ESE	24	
13	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	SSE	S	SSE	S	SSE	SSE	SSE	SSE	SSE	SSE	SE	ESE	ESE	SSE	SSE	SSE	SSE	24	
14	SE	SSE	SW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	WSW	SW	SW	SW	SW	SW	SW	SW	SSW	SSW	SW	SW	24	
15	SW	SW	WSW	WSW	SSW	SSW	SSW	SW	N	NNE	N	N	N	N	N	N	N	N	N	N	NNE	NNE	NNE	NNE	N	24	
16	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NE	NE	NE	NNE	NE	NNE	NNE	NE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	24	
17	N	N	N	N	N	NNW	NNW	NW	W	W	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SSW	SSW	SSW	W	24	
18	SW	SW	SW	SW	SSW	S	SSW	S	SSW	SW	SW	SW	WSW	WSW	WSW	W	W	WSW	SW	SSW	S	S	S	S	SW	24	
19	S	SSW	SSW	SSW	SSW	SSW	S	SSE	SSE	SSE	SSE	S	S	S	S	S	S	SSW	WSW	WSW	SW	SW	SSW	SSW	SSW	24	
20	SSW	SW	SSW	SSW	SSW	SW	SW	SSW	SSW	S	SSW	SSW	SW	SW	SW	SW	SW	SW	SSW	S	S	SE	SE	ESE	SSW	24	
21	ESE	ESE	ESE	SE	ESE	NNE	WNW	S	SSW	WSW	W	NW	WSW	W	WSW	WSW	SW	WSW	W	WSW	WSW	WSW	WSW	WSW	SW	24	
22	WSW	W	W	W	W	W	W	W	W	W	W	W	W	W	WSW	W	W	W	WSW	WSW	SW	SW	SW	SW	W	24	
23	SW	SW	SW	SW	SW	SW	SW	SW	SSW	SSW	S	S	S	S	S	S	S	S	SSW	SSW	SSW	SSW	SSW	SSW	SSW	24	
24	SW	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	WSW	W	W	W	W	WSW	SW	WSW	WSW	WSW	WSW	SW	24	
25	WSW	WSW	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SSW	S	S	SSW	SW	SW	WSW	WSW	WSW	WSW	SW	SW	SW	SSW	SSW	SW	24
26	SW	SW	WSW	W	WNW	SW	WSW	W	WNW	N	N	NE	NE	WSW	W	E	NE	SE	SSE	ENE	SSW	SW	SSW	SSW	W	24	
27	SSW	S	S	S	S	S	SSE	S	S	S	SSE	SSE	SSW	SSW	SW	SW	WSW	WSW	W	S	SSW	SSW	SSE	S	S	24	
28	S	S	S	SSW	SSW	S	SSW	S	S	SSW	SW	WSW	WSW	WSW	W	NW	NNW	NNW	NNW	N	N	N	N	N	WNW	24	
29	NNW	N	N	N	N	N	N	N	N	N	NNE	N	NW	W	WSW	WSW	WSW	WSW	SW	SW	SW	SSW	S	S	NW	24	
30	SSW	SSW	S	S	S	S	S	S	S	S	SSW	SSW	SW	SW	SW	WSW	WSW	WSW	W	W	WNW	NNW	N	N	NNW	SW	24

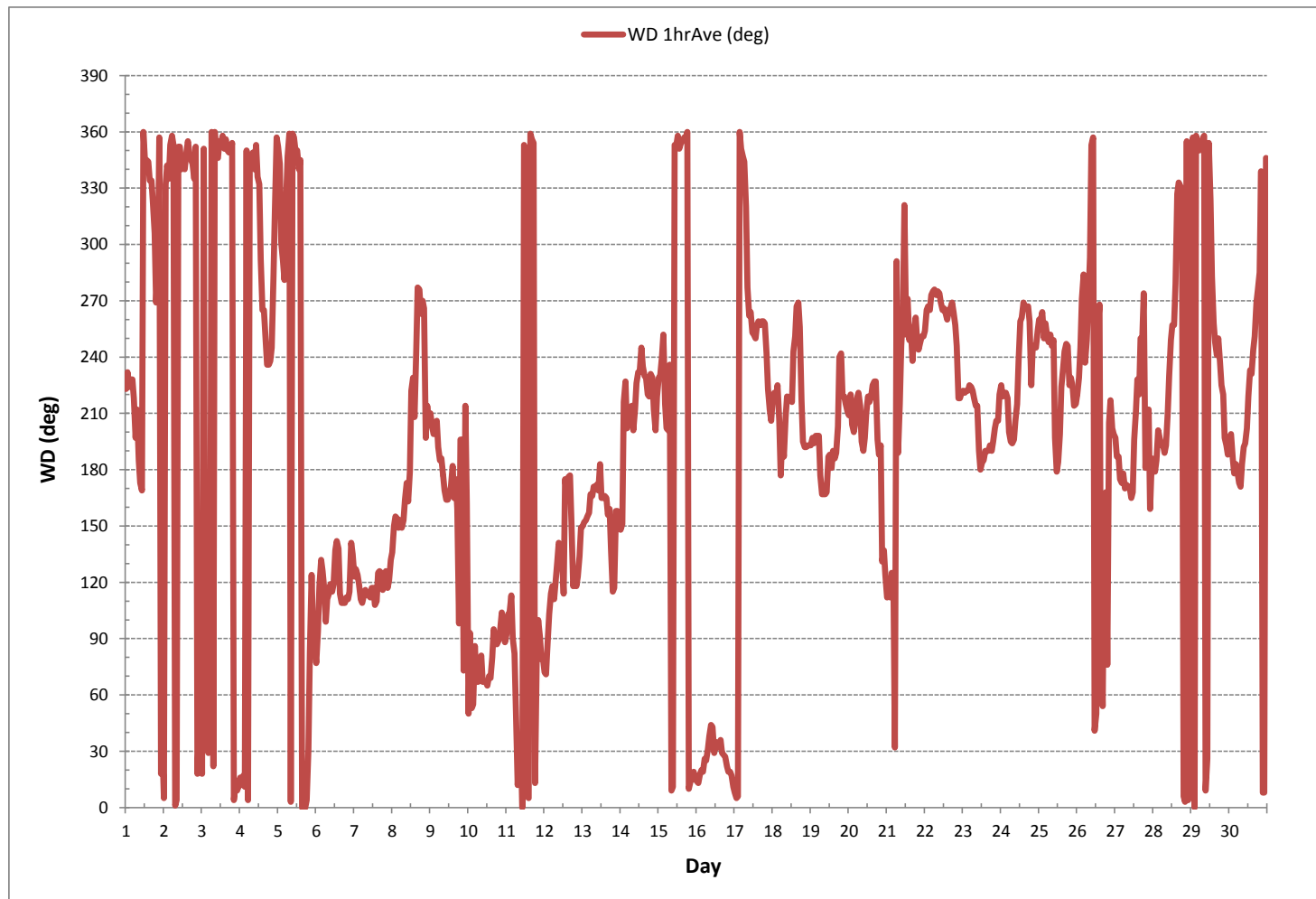
STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

LAST CALIBRATION:	April 5, 2018
DECLINATION :	MAGNETIC DECLINATION 15 DEGREE EAST

MONTHLY CALIBRATION TIME:	3	hrs	OPERATIONAL TIME:	720	hrs
STANDARD DEVIATION:	96		AMD OPERATION UPTIME:	100.0	%
			MONTHLY AVERAGE:	213 (SSW)	

WIND DIRECTION Hourly Averages (WD)



RELATIVE HUMIDITY

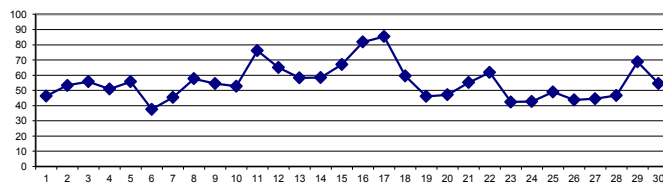
RELATIVE HUMIDITY Hourly Averages (RH %)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	55	57	61	62	63	64	67	60	44	39	37	38	37	36	31	26	27	28	29	37	45	51	56	59	26	67	46	24
2	59	63	60	63	63	60	62	61	57	54	51	46	43	41	38	40	41	40	43	48	53	63	66	65	38	66	53	24
3	65	67	75	72	71	70	69	66	59	58	53	48	44	44	44	44	42	42	45	49	51	53	54	54	42	75	56	24
4	55	58	59	58	58	57	55	56	56	54	49	47	44	41	40	40	39	40	44	49	52	60	59	53	39	60	51	24
5	60	67	67	67	66	61	58	59	61	60	55	54	52	48	46	45	46	47	49	54	58	48	53	56	45	67	56	24
6	56	56	51	49	49	48	51	46	43	37	32	29	27	27	26	25	25	25	27	29	31	33	38	42	25	56	38	24
7	46	49	52	54	56	58	59	56	53	48	44	42	39	39	37	36	33	31	32	35	41	47	51	53	31	59	45	24
8	55	58	62	64	67	70	73	66	58	53	52	49	50	49	45	43	45	46	50	55	62	67	71	74	43	74	58	24
9	76	74	75	76	77	76	73	68	60	50	42	39	37	31	27	28	31	32	36	47	56	61	61	73	27	77	54	24
10	75	72	74	71	65	59	52	41	39	41	40	42	42	40	40	38	36	40	41	42	45	62	81	87	36	87	53	24
11	86	84	83	83	83	82	85	85	80	73	67	69	70	68	69	69	70	71	71	74	74	76	77	78	67	86	76	24
12	78	77	78	79	79	78	77	75	70	65	57	52	47	50	49	47	50	54	57	61	66	69	72	74	47	79	65	24
13	74	73	73	81	85	85	85	83	76	70	60	54	47	41	35	28	25	27	31	40	47	54	61	61	25	85	58	24
14	60	63	73	90	92	92	90	82	76	60	49	42	40	38	36	35	35	36	39	44	53	59	63	55	35	92	58	24
15	55	62	62	63	69	75	70	59	59	62	61	64	66	64	65	66	67	70	74	74	74	74	76	77	55	77	67	24
16	82	82	82	83	83	84	84	83	78	77	72	69	69	68	72	84	87	88	88	90	90	90	90	90	68	90	82	24
17	90	91	91	91	91	90	89	87	85	83	81	81	79	81	79	80	82	84	85	87	88	89	84	81	79	91	85	24
18	81	84	84	86	88	87	85	80	68	59	53	48	44	38	34	33	33	31	36	51	57	55	50	61	31	88	59	24
19	66	66	66	59	58	59	61	58	52	45	42	38	34	32	31	29	29	29	31	36	41	44	48	52	29	66	46	24
20	59	56	63	64	61	57	53	53	54	46	43	39	38	35	33	34	33	31	40	46	48	49	52	43	31	64	47	24
21	41	38	40	41	45	56	58	54	52	53	65	78	65	63	59	55	56	54	55	55	55	56	62	67	38	78	55	24
22	75	77	80	82	82	83	83	76	68	63	57	55	50	49	52	49	46	43	44	49	52	60	57	54	43	83	62	24
23	57	60	58	57	59	58	54	46	42	40	38	35	31	30	27	28	28	34	39	39	38	38	44	38	27	60	42	24
24	38	40	43	42	44	44	48	50	47	39	37	33	30	31	34	37	40	42	41	48	49	53	58	57	30	58	43	24
25	63	65	67	71	72	74	70	65	59	47	42	41	38	37	30	29	27	28	29	34	42	43	48	53	27	74	49	24
26	54	55	54	58	61	67	60	52	42	35	37	39	37	29	23	23	26	25	28	37	45	54	54	54	23	67	44	24
27	52	54	53	60	61	62	57	55	50	44	39	39	37	37	32	28	24	21	25	40	45	48	53	53	21	62	45	24
28	49	50	54	58	63	66	65	59	54	48	36	31	31	29	28	29	30	31	26	43	52	56	63	68	26	68	47	24
29	73	75	75	80	81	84	85	83	81	76	72	75	65	62	55	47	46	46	46	51	63	71	78	80	46	85	69	24
30	82	82	84	84	84	82	76	72	63	53	49	41	28	26	24	24	27	32	30	30	41	57	67	71	24	84	55	24
HOURLY MAX	90	91	91	91	92	92	90	87	85	83	81	81	79	81	79	84	87	88	88	90	90	90	90	90				
HOURLY AVG	64	65	67	68	69	70	68	65	60	54	50	49	45	43	41	41	41	42	44	49	54	58	62	63				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

24 HR AVERAGES April 2018



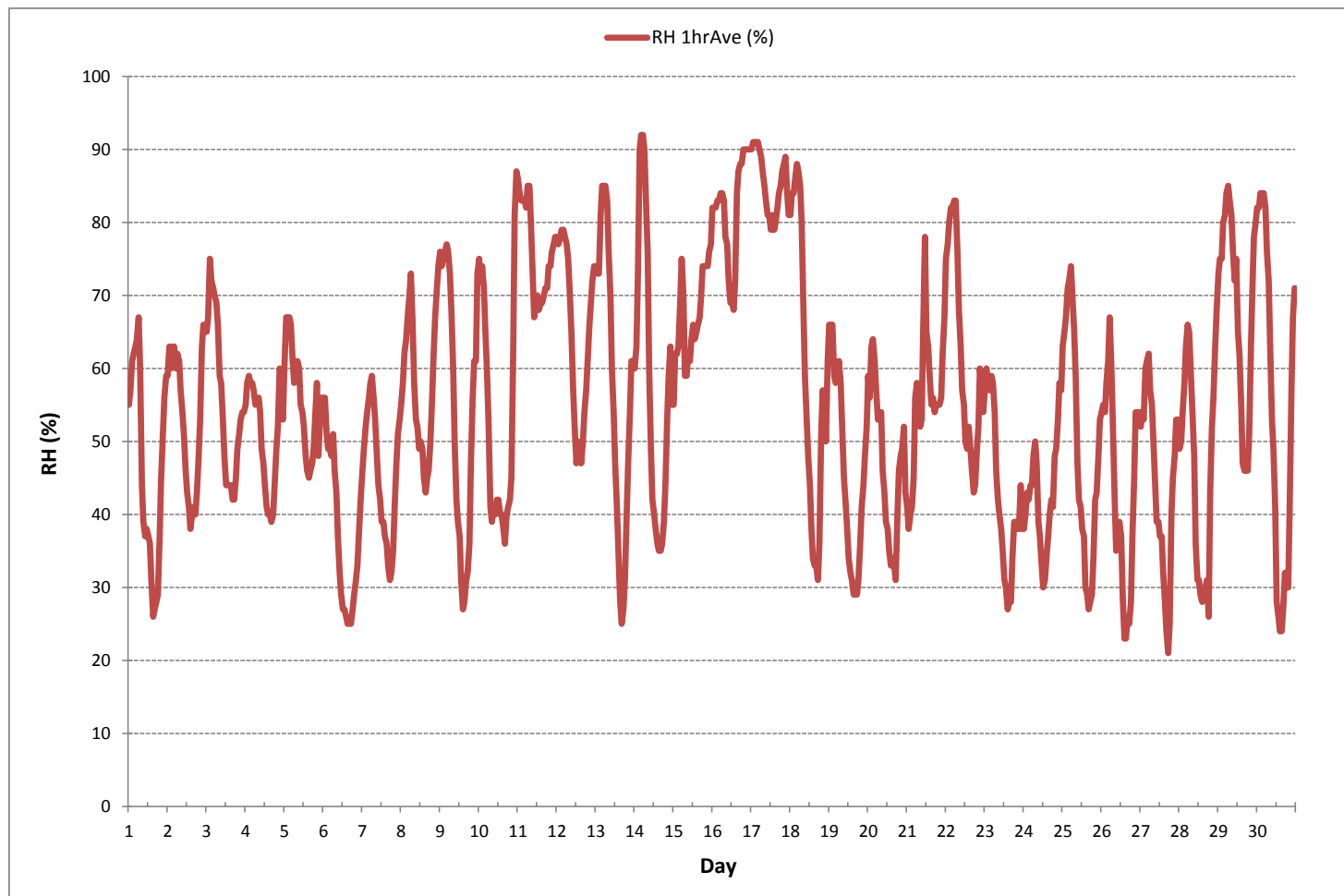
MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	21	%	@ HOUR	17	ON DAY	27
MAXIMUM 1-HR AVERAGE:	92	%	@ HOUR	4	ON DAY	14
MAXIMUM 24-HR AVERAGE:	85	%			ON DAY	17

OPERATIONAL TIME: 720 hrs
AMD OPERATION UPTIME: 100.0 %

STANDARD DEVIATION: 17 MONTHLY AVERAGE: 55 %

RELATIVE HUMIDITY Hourly Averages (RH %)



BAROMETRIC PRESSURE



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - April 2018

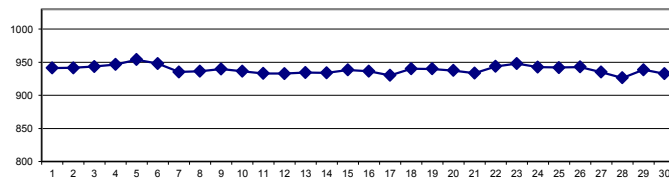
BAROMETRIC PRESSURE Hourly Averages (BP mbar)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	946	946	945	945	944	944	943	943	942	942	942	941	941	940	940	939	939	938	938	938	939	939	939	939	938	946	941	24
2	939	940	940	940	940	940	941	941	941	941	942	942	942	942	942	942	942	942	942	942	943	943	944	944	939	944	942	24
3	944	944	944	944	944	944	945	944	944	944	944	944	944	944	943	943	942	942	942	942	943	943	943	943	942	945	943	24
4	943	943	943	944	945	945	946	946	947	947	947	947	948	948	948	947	947	947	947	948	948	949	949	949	943	949	947	24
5	950	951	952	952	953	953	954	954	954	954	955	955	955	955	955	955	955	954	954	955	955	955	955	955	950	955	954	24
6	955	954	954	953	953	952	952	951	950	949	949	948	947	947	946	945	945	944	944	943	943	943	943	942	942	955	948	24
7	942	941	941	940	940	939	938	937	936	935	935	935	934	934	933	932	932	932	932	932	932	932	933	933	932	942	935	24
8	933	933	933	934	934	934	935	935	935	936	936	936	937	937	938	938	938	938	938	938	939	940	940	940	933	940	936	24
9	941	941	941	941	941	941	941	940	940	941	941	941	940	940	940	939	939	939	939	938	938	938	938	938	938	941	940	24
10	939	938	938	938	938	938	939	939	939	939	939	939	938	937	937	936	935	934	933	933	933	933	933	933	933	939	937	24
11	932	932	932	932	932	932	932	933	933	933	934	934	934	934	934	934	934	933	933	933	933	933	933	933	932	934	933	24
12	932	932	932	932	932	931	931	932	932	932	932	933	933	933	933	933	934	934	934	934	934	935	935	935	931	935	933	24
13	935	935	935	935	935	935	936	936	936	936	936	936	936	936	936	935	934	933	933	932	932	931	931	931	931	936	934	24
14	931	931	932	933	933	933	934	934	934	934	935	935	935	935	935	935	935	935	935	935	935	935	936	931	936	936	934	24
15	936	936	936	936	936	937	937	938	938	938	938	939	939	939	939	939	939	939	940	940	940	941	941	941	936	941	938	24
16	941	941	940	940	940	940	940	939	939	939	939	939	937	937	936	935	934	934	933	933	932	932	931	930	930	941	936	24
17	929	928	928	927	928	927	927	928	928	928	929	929	930	930	931	931	932	932	933	933	933	934	934	934	927	934	930	24
18	935	935	936	937	938	938	939	939	940	940	941	941	941	942	942	942	942	942	942	942	942	942	942	942	935	942	940	24
19	942	942	942	942	942	942	942	942	942	942	942	941	940	940	939	939	938	938	938	937	937	937	937	937	937	942	940	24
20	937	937	937	937	937	937	938	938	939	939	939	939	939	939	939	938	938	937	937	937	937	936	936	936	936	939	938	24
21	935	934	934	933	933	932	932	932	932	932	933	933	933	933	933	933	934	934	934	935	935	935	936	936	932	936	934	24
22	937	937	938	939	940	941	941	942	943	944	944	945	945	946	946	946	947	947	947	947	947	947	947	948	937	948	944	24
23	948	948	949	949	949	949	950	950	950	950	950	950	950	949	949	948	947	947	947	946	946	945	946	945	945	950	948	24
24	945	945	945	945	945	944	944	944	943	943	943	943	942	942	942	941	941	941	940	940	940	940	941	941	940	945	943	24
25	941	942	942	942	943	943	944	944	944	944	944	944	943	943	942	941	941	941	940	940	940	940	940	940	940	944	942	24
26	940	940	941	941	942	943	943	944	945	945	945	945	945	944	944	944	943	943	942	942	942	942	941	941	940	945	943	24
27	941	941	940	940	939	939	938	938	937	937	936	935	935	934	934	933	933	932	931	931	930	930	929	929	929	941	935	24
28	928	928	927	927	926	926	926	926	926	926	926	925	925	925	924	924	924	925	925	926	927	929	931	932	924	932	926	24
29	934	935	936	937	937	938	939	939	940	940	940	941	940	940	940	940	939	939	939	939	939	939	938	938	934	941	939	24
30	937	937	936	936	936	935	935	935	934	934	933	932	931	930	929	928	928	928	929	930	931	932	933	934	928	937	933	24
HOURLY MAX	955	954	954	953	953	953	954	954	954	954	955	955	955	955	955	955	955	954	954	955	955	955	955	955				
HOURLY AVG	939	939	939	939	939	939	939	939	939	939	940	939	939	939	939	939	938	938	938	938	938	938	938	939				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

24 HR AVERAGES April 2018



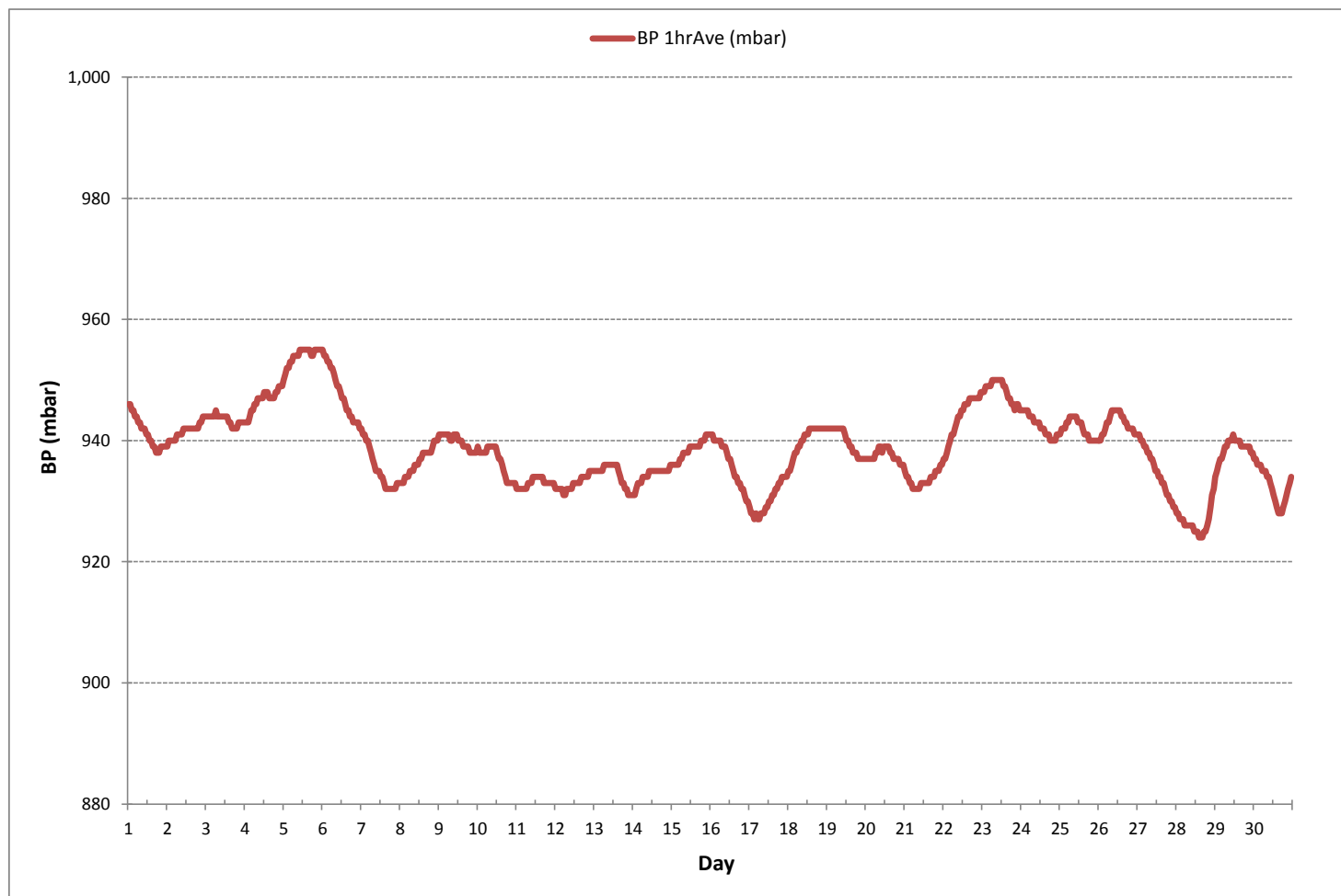
MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	924	mbar	@ HOUR	14	ON DAY	28
MAXIMUM 1-HR AVERAGE:	955	mbar	@ HOUR	10	ON DAY	5
MAXIMUM 24-HR AVERAGE:	954	mbar			ON DAY	5

OPERATIONAL TIME:	720	hrs
AMD OPERATION UPTIME:	100.0	%

STANDARD DEVIATION:	6		MONTHLY AVERAGE:	939	mbar
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BAROMETRIC PRESSURE Hourly Averages (BP mbar)



AMBIENT TEMPERATURE



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - April 2018

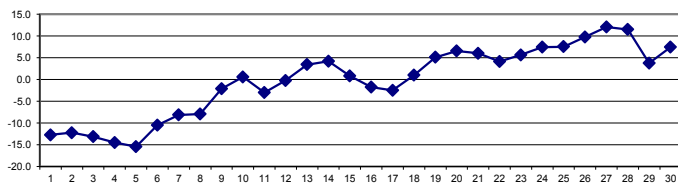
AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	-17.0	-17.7	-19.6	-19.6	-20.6	-21.2	-22.0	-19.7	-14.1	-11.8	-10.4	-9.6	-8.3	-6.7	-5.4	-4.6	-4.5	-4.6	-5.7	-8.4	-10.4	-13.2	-14.9	-15.5	-22.0	-4.5	-12.7	24
2	-15.9	-16.9	-16.1	-17.0	-16.7	-15.1	-15.9	-16.0	-15.6	-14.5	-11.9	-9.6	-8.0	-7.1	-6.3	-6.1	-6.3	-6.4	-7.6	-9.1	-11.0	-14.6	-15.1	-14.6	-17.0	-6.1	-12.2	24
3	-16.9	-17.9	-19.7	-19.2	-19.2	-17.3	-17.9	-15.9	-13.5	-12.6	-10.9	-9.5	-8.6	-8.0	-7.8	-7.5	-7.6	-8.1	-9.5	-11.2	-12.9	-13.9	-14.3	-15.1	-19.7	-7.5	-13.1	24
4	-17.8	-19.4	-20.6	-19.9	-19.1	-18.9	-18.3	-17.9	-17.1	-15.9	-14.0	-13.4	-12.0	-10.5	-9.6	-9.1	-8.6	-8.6	-9.3	-11.1	-12.2	-15.6	-14.4	-14.1	-20.6	-8.6	-14.5	24
5	-16.5	-18.7	-20.1	-20.6	-20.9	-19.2	-16.9	-17.2	-16.8	-15.7	-14.6	-13.9	-13.2	-12.3	-11.5	-10.8	-10.6	-10.8	-11.9	-14.3	-16.0	-13.8	-16.2	-17.9	-20.9	-10.6	-15.4	24
6	-18.6	-18.8	-16.5	-16.0	-16.3	-16.4	-17.9	-15.7	-13.5	-10.6	-8.3	-6.9	-5.7	-4.8	-4.2	-3.9	-4.0	-4.3	-5.5	-6.5	-7.6	-8.8	-10.4	-11.2	-18.8	-3.9	-10.5	24
7	-12.2	-13.2	-14.0	-14.5	-15.1	-15.8	-15.8	-14.5	-12.0	-9.4	-6.8	-5.0	-3.6	-2.9	-2.2	-2.2	-2.4	-2.7	-3.4	-4.0	-4.8	-5.7	-6.1	-7.1	-15.8	-2.2	-8.1	24
8	-8.5	-10.2	-11.8	-12.9	-13.4	-15.3	-15.7	-12.9	-9.5	-6.5	-5.0	-3.6	-3.7	-3.1	-2.1	-2.4	-2.9	-2.8	-3.9	-5.2	-7.4	-9.7	-10.5	-11.2	-15.7	-2.1	-7.9	24
9	-11.4	-10.3	-10.9	-12.3	-12.3	-10.9	-10.2	-8.3	-5.2	-2.0	0.6	2.2	3.9	5.8	6.8	6.6	7.3	6.2	4.6	2.2	-0.2	-1.6	-1.2	-0.1	-12.3	7.3	-2.1	24
10	0.4	0.3	-1.2	-1.7	-1.9	-1.6	-1.3	-1.0	-0.3	0.3	0.7	1.6	2.5	3.6	3.9	4.2	4.0	2.7	2.0	1.2	0.8	-0.4	-1.9	-2.9	-2.9	4.2	0.6	24
11	-3.1	-3.3	-3.8	-4.1	-4.4	-4.5	-4.8	-5.0	-4.7	-3.7	-2.5	-2.5	-2.8	-2.6	-2.3	-2.0	-1.7	-1.5	-1.4	-1.5	-1.8	-2.2	-2.4	-2.6	-5.0	-1.4	-3.0	24
12	-2.8	-2.9	-2.9	-2.6	-2.4	-2.3	-2.2	-1.8	-1.3	-0.7	0.1	1.4	2.9	3.3	3.2	4.0	4.0	2.8	1.7	0.4	-1.0	-1.8	-2.1	-2.2	-2.9	4.0	-0.2	24
13	-2.0	-1.7	-1.7	-2.1	-2.3	-2.1	-1.9	-1.3	-0.4	1.2	4.2	5.5	7.0	8.6	9.4	10.4	10.4	9.7	8.0	7.0	6.0	4.4	3.2	3.0	-2.3	10.4	3.4	24
14	2.9	2.7	1.9	0.5	0.5	1.2	1.2	2.1	2.9	5.1	6.2	7.1	7.4	8.1	8.3	8.4	8.3	7.9	6.7	4.8	2.5	1.4	0.7	1.7	0.5	8.4	4.2	24
15	1.6	0.0	0.0	-0.2	-2.1	-3.6	-2.7	0.9	2.4	2.5	3.2	3.8	4.0	4.4	4.1	3.3	2.7	1.6	0.3	-0.2	-0.5	-1.4	-1.9	-1.9	-3.6	4.4	0.8	24
16	-2.4	-2.5	-2.5	-2.5	-2.6	-2.9	-3.1	-2.7	-2.2	-2.1	-1.2	-0.1	0.3	0.2	0.0	-0.8	-1.0	-1.2	-1.5	-1.9	-2.1	-2.3	-2.4	-2.4	-3.1	0.3	-1.7	24
17	-2.4	-2.4	-2.4	-2.7	-3.0	-3.2	-3.3	-2.9	-2.6	-2.3	-1.9	-1.7	-2.0	-2.5	-2.2	-2.3	-2.6	-2.5	-2.4	-2.4	-2.4	-2.4	-2.3	-3.0	-3.3	-1.7	-2.5	24
18	-3.6	-4.4	-4.6	-4.6	-6.0	-7.3	-6.7	-4.3	-0.2	2.1	3.7	4.9	6.2	7.0	7.3	7.7	7.6	7.3	6.1	3.1	1.2	0.7	1.2	-0.5	-7.3	7.7	1.0	24
19	-1.2	-0.9	-1.0	0.5	0.2	-0.1	-0.8	0.3	3.0	6.1	7.5	8.6	9.3	10.4	10.1	10.8	11.3	10.3	9.2	8.1	6.7	5.9	4.9	3.9	-1.2	11.3	5.1	24
20	2.8	3.7	2.1	1.4	2.1	3.0	4.5	4.6	4.8	7.2	8.5	9.5	9.7	10.3	11.1	10.8	11.0	11.4	8.9	7.1	6.0	5.7	5.0	7.0	1.4	11.4	6.6	24
21	7.0	7.6	6.9	6.8	5.6	3.2	2.8	4.2	5.1	5.0	4.5	5.2	8.0	8.0	8.7	9.0	8.6	8.2	7.0	6.2	5.1	4.7	4.0	3.7	2.8	9.0	6.0	24
22	2.7	2.5	2.3	1.9	2.0	1.8	1.6	2.3	3.4	4.3	5.3	5.9	6.7	7.2	7.0	7.1	7.4	7.5	6.6	5.3	3.9	1.5	1.9	1.9	1.5	7.5	4.2	24
23	1.1	0.1	0.0	0.0	-0.3	-0.1	1.1	3.0	4.4	5.6	7.2	8.4	9.3	10.2	11.1	11.1	11.2	9.4	8.1	7.7	7.4	7.2	5.7	6.9	-0.3	11.2	5.7	24
24	6.6	5.4	4.3	4.2	3.6	3.9	4.3	4.6	5.5	7.4	8.5	10.3	11.5	12.4	12.3	12.1	11.0	10.0	9.4	7.4	6.7	5.9	5.5	5.9	3.6	12.4	7.4	24
25	4.5	4.1	3.3	2.5	2.1	1.7	2.7	3.7	4.8	7.1	8.8	9.4	10.5	11.2	12.2	12.6	13.4	12.9	12.9	10.8	8.5	8.3	7.3	6.2	1.7	13.4	7.6	24
26	6.2	5.9	6.1	5.4	4.4	2.6	5.0	7.5	9.9	11.5	11.9	12.0	13.0	14.8	15.1	15.6	15.2	16.1	15.6	12.8	9.4	6.7	6.0	6.1	2.6	16.1	9.8	24
27	5.8	5.3	5.1	4.1	3.9	3.7	5.1	6.4	8.9	11.8	14.1	16.0	18.0	19.0	20.1	20.7	20.3	21.4	20.3	16.4	13.6	11.3	9.7	8.7	3.7	21.4	12.1	24
28	8.5	7.9	6.8	5.7	4.4	4.0	4.5	7.5	9.4	11.5	15.4	16.8	18.0	19.0	19.9	19.6	17.9	17.0	17.0	13.3	10.6	8.6	7.1	6.0	4.0	19.9	11.5	24
29	5.2	4.5	3.1	1.5	1.5	1.3	1.4	1.7	2.0	2.9	3.5	3.6	5.1	5.3	6.6	7.5	7.9	7.9	7.5	6.2	3.5	1.3	0.3	-0.3	-0.3	7.9	3.8	24
30	-0.7	-0.8	-1.7	-1.5	-1.7	-1.2	0.9	3.0	5.7	8.5	10.5	12.3	13.9	14.9	15.9	16.0	15.5	13.6	12.8	12.2	10.5	8.0	6.4	5.4	-1.7	16.0	7.4	24
HOURLY MAX	8.5	7.9	6.9	6.8	5.6	4.0	5.1	7.5	9.9	11.8	15.4	16.8	18.0	19.0	20.1	20.7	20.3	21.4	20.3	16.4	13.6	11.3	9.7	8.7				
HOURLY AVG	-3.3	-3.7	-4.3	-4.7	-5.0	-5.1	-4.7	-3.5	-1.9	-0.3	1.2	2.3	3.3	4.1	4.7	4.9	4.8	4.3	3.4	1.9	0.4	-0.9	-1.6	-1.9				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

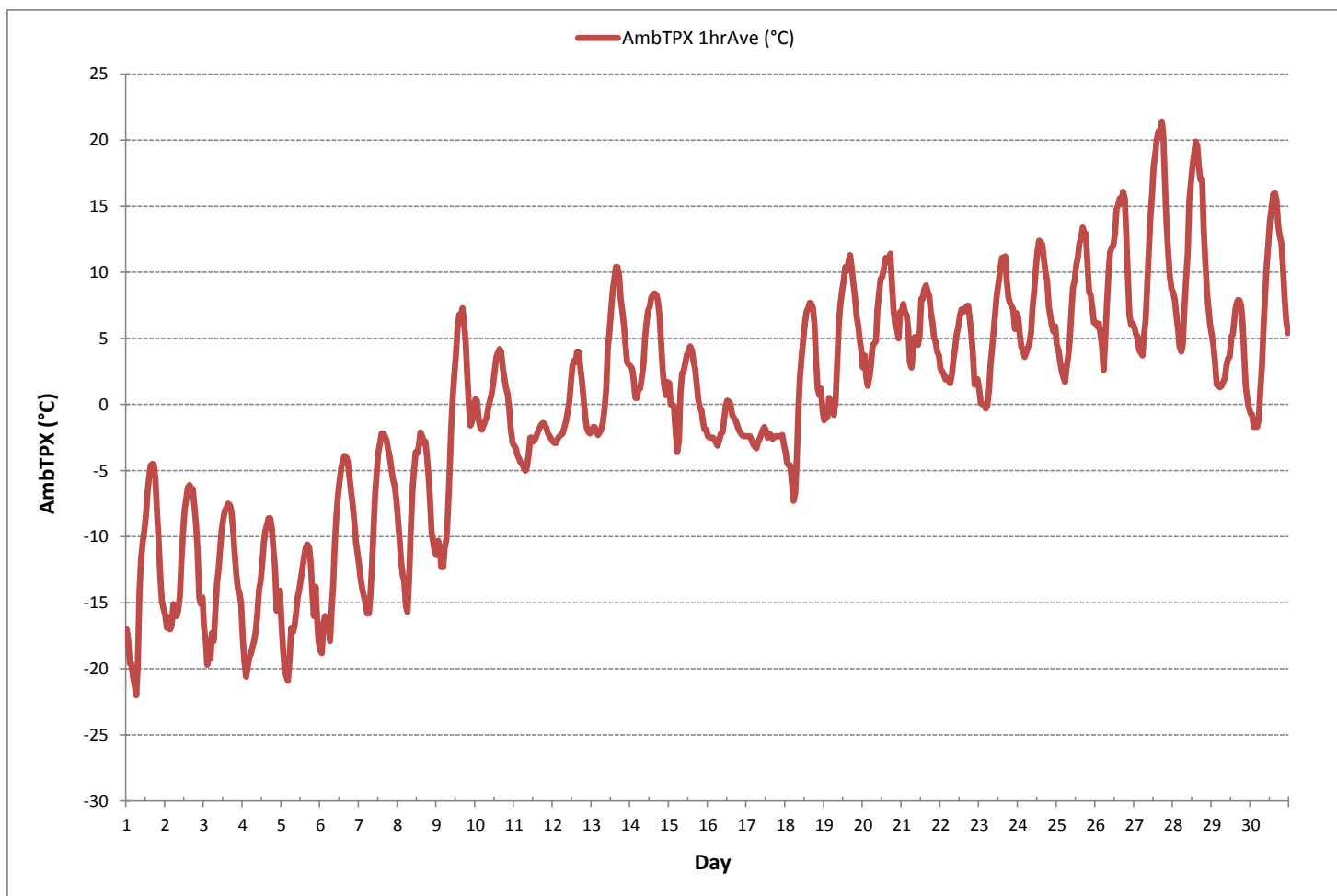
24 HR AVERAGES April 2018



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-22.0 °C	@ HOUR	6	ON DAY	1
MAXIMUM 1-HR AVERAGE:	21.4 °C	@ HOUR	17	ON DAY	27
MAXIMUM 24-HR AVERAGE:	12.1 °C			ON DAY	27
OPERATIONAL TIME:	720	hrs			
AMD OPERATION UPTIME:	100.0	%			
STANDARD DEVIATION:	9.0			MONTHLY AVERAGE:	-0.2 °C

AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)



STATION TEMPERATURE

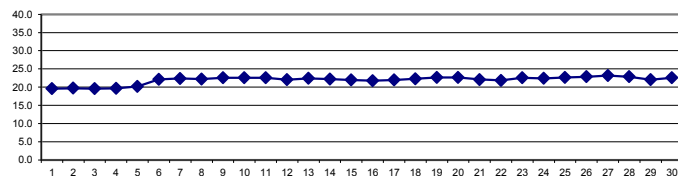
STATION TEMPERATURE Hourly Averages (StnTPX °C)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY 1	19.3	19.4	19.3	19.4	19.4	19.3	19.3	19.3	19.0	19.2	19.6	19.6	19.6	19.8	19.9	19.9	20.0	20.1	20.1	20.1	20.2	20.2	19.6	19.3	19.0	20.2	19.6	24
2	19.3	19.3	19.4	19.4	19.4	19.5	19.5	19.8	19.5	19.3	19.3	19.5	19.8	19.7	20.0	20.1	20.1	20.2	20.2	20.1	20.3	20.1	19.6	19.3	19.3	20.3	19.7	24
3	19.3	19.4	19.3	19.5	19.4	19.4	19.4	19.3	19.4	19.2	19.4	19.1	19.5	19.8	20.0	20.0	20.2	20.3	20.3	20.2	19.7	19.4	19.5	19.6	19.1	20.3	19.6	24
4	19.4	19.5	19.4	19.4	19.5	19.4	19.4	19.6	19.6	19.5	19.4	19.2	19.1	19.3	19.7	19.9	20.1	20.2	20.2	20.2	20.3	20.0	19.4	19.5	19.1	20.3	19.6	24
5	19.5	19.3	19.4	19.4	19.4	19.4	19.5	19.6	18.4	19.2	19.6	19.3	19.6	20.4	20.4	20.3	20.5	21.1	21.8	21.7	21.4	21.7	21.4	21.5	18.4	21.8	20.2	24
6	21.4	21.5	21.6	21.9	21.8	21.8	21.5	21.6	21.8	21.7	21.7	22.0	22.5	22.4	22.5	22.6	22.7	22.7	22.8	22.7	22.4	22.4	22.0	22.1	21.4	22.8	22.1	24
7	22.0	22.1	22.0	22.1	21.9	21.9	22.0	22.1	21.9	21.8	21.9	22.4	22.3	22.4	22.5	22.6	22.7	22.7	22.8	22.9	23.0	22.9	22.8	22.7	21.8	23.0	22.4	24
8	22.6	22.3	22.0	21.6	21.6	21.5	21.5	21.4	21.4	22.1	22.3	22.3	22.4	22.5	22.5	22.6	22.7	22.7	22.6	22.6	22.5	22.5	22.4	22.1	21.4	22.7	22.2	24
9	21.7	21.5	21.5	21.4	21.5	21.4	21.5	21.5	21.9	22.4	22.3	22.2	22.4	23.1	24.0	24.4	24.6	24.7	24.5	23.6	22.7	22.7	22.6	22.5	21.4	24.7	22.6	24
10	22.6	22.5	22.6	22.7	22.6	22.6	22.7	22.6	22.5	22.6	22.6	22.6	22.6	22.6	22.6	22.7	22.7	22.6	22.6	22.5	22.6	22.6	22.6	22.5	22.5	22.7	22.6	24
11	22.5	22.6	22.7	22.7	22.6	22.5	22.6	22.5	22.4	22.5	22.6	22.6	22.6	22.7	22.7	22.8	22.7	22.6	22.6	22.6	22.5	22.5	22.5	22.5	22.4	22.8	22.6	24
12	22.5	22.6	22.5	22.5	22.6	22.6	22.6	22.6	20.8	21.5	21.4	21.5	21.5	21.3	21.6	22.1	22.8	23.1	22.5	21.7	21.7	21.6	21.6	21.6	20.8	23.1	22.0	24
13	21.6	21.6	21.5	21.5	21.5	21.5	21.6	21.5	21.5	21.5	21.4	21.6	22.2	23.0	24.0	24.5	24.8	24.9	24.4	23.4	22.2	21.9	22.0	21.9	21.4	24.9	22.4	24
14	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.8	21.8	21.7	21.9	21.9	22.0	22.4	22.9	23.4	24.0	23.7	22.5	22.2	22.1	22.1	22.0	21.7	24.0	22.2	24
15	22.0	22.0	22.0	22.0	21.9	22.0	21.9	21.9	22.0	21.9	21.9	21.9	21.9	21.8	21.9	22.0	22.1	22.1	22.1	22.1	22.1	22.1	21.9	21.6	21.6	22.1	21.9	24
16	21.4	21.3	21.3	21.3	21.3	21.4	21.3	21.3	21.2	21.6	22.0	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	21.2	22.1	21.8	24
17	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	21.9	22.0	22.0	21.9	21.9	22.0	22.0	22.0	21.9	21.9	21.9	21.9	21.9	21.9	22.0	22.0	24
18	21.9	21.9	21.9	21.9	22.0	21.9	21.8	21.9	21.9	21.8	21.9	21.9	22.2	22.7	22.9	23.1	23.6	24.0	23.4	22.3	22.0	21.9	21.8	21.8	21.8	24.0	22.3	24
19	21.8	21.8	21.8	21.8	21.7	21.7	21.7	21.7	21.8	21.6	21.9	22.7	23.5	23.9	24.3	24.4	24.5	24.5	24.1	23.5	22.6	22.0	21.9	21.9	21.6	24.5	22.6	24
20	21.9	21.9	21.9	21.8	21.8	21.8	21.8	21.8	21.8	21.6	22.0	22.8	23.5	24.0	24.3	24.4	24.5	24.5	24.2	23.4	22.4	21.9	21.9	21.8	21.6	24.5	22.7	24
21	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.9	21.9	21.9	22.3	22.8	23.3	23.3	23.0	22.3	22.0	21.9	21.8	21.9	21.8	21.8	23.3	22.1	24
22	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.7	21.8	21.8	21.7	21.8	21.7	21.8	21.9	22.2	22.2	22.0	22.0	21.9	21.8	21.8	21.7	22.2	21.8	24
23	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.7	21.7	22.3	22.9	23.7	24.2	24.4	24.7	24.5	24.1	23.5	22.7	22.0	21.9	21.9	21.7	24.7	22.6	24
24	21.8	21.8	21.9	21.8	21.8	21.8	21.8	21.8	21.7	21.6	21.7	22.2	22.7	23.4	24.0	24.3	24.2	23.9	23.4	22.7	22.1	22.0	21.9	21.9	21.6	24.3	22.4	24
25	21.9	21.9	21.9	21.9	21.8	21.8	21.8	21.8	21.7	22.2	22.2	23.0	23.3	23.4	23.6	23.8	24.2	24.2	24.2	23.6	23.0	22.0	21.9	21.9	21.7	24.2	22.6	24
26	21.9	21.9	21.8	21.8	21.9	21.8	21.9	21.8	21.9	22.5	23.1	23.1	23.2	23.5	24.0	24.4	24.9	25.1	24.8	23.9	23.3	22.5	21.8	21.9	21.8	25.1	22.9	24
27	21.8	21.8	21.8	21.9	21.8	21.8	21.9	21.9	21.8	22.2	23.1	23.4	23.8	24.3	24.7	25.2	25.2	25.9	25.6	24.5	23.7	23.3	22.8	22.0	21.8	25.9	23.2	24
28	21.6	21.8	21.7	21.8	21.8	21.8	21.7	21.8	21.5	21.7	22.8	23.4	23.7	24.1	24.5	24.9	24.8	24.5	24.4	23.8	23.4	23.0	22.0	21.8	21.5	24.9	22.8	24
29	21.7	21.8	21.8	21.8	21.7	21.8	21.8	21.8	21.7	21.7	21.7	21.6	21.7	21.6	21.8	22.4	23.2	23.5	23.5	22.8	21.8	21.8	21.8	21.8	21.6	23.5	22.0	24
30	21.8	21.8	21.9	21.8	21.8	21.7	21.8	21.7	21.7	21.8	22.4	23.1	23.3	23.5	23.9	23.8	23.7	23.6	23.3	23.3	23.3	22.7	21.8	21.8	21.7	23.9	22.6	24
HOURLY MAX	22.6	22.6	22.7	22.7	22.6	22.6	22.7	22.6	22.5	22.6	23.1	23.4	23.8	24.3	24.7	25.2	25.2	25.9	25.6	24.5	23.7	23.3	22.8	22.7				
HOURLY AVG	21.5	21.5	21.5	21.5	21.5	21.4	21.5	21.5	21.3	21.5	21.6	21.8	22.0	22.3	22.6	22.8	23.0	23.1	22.9	22.5	22.1	21.9	21.7	21.6				

STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

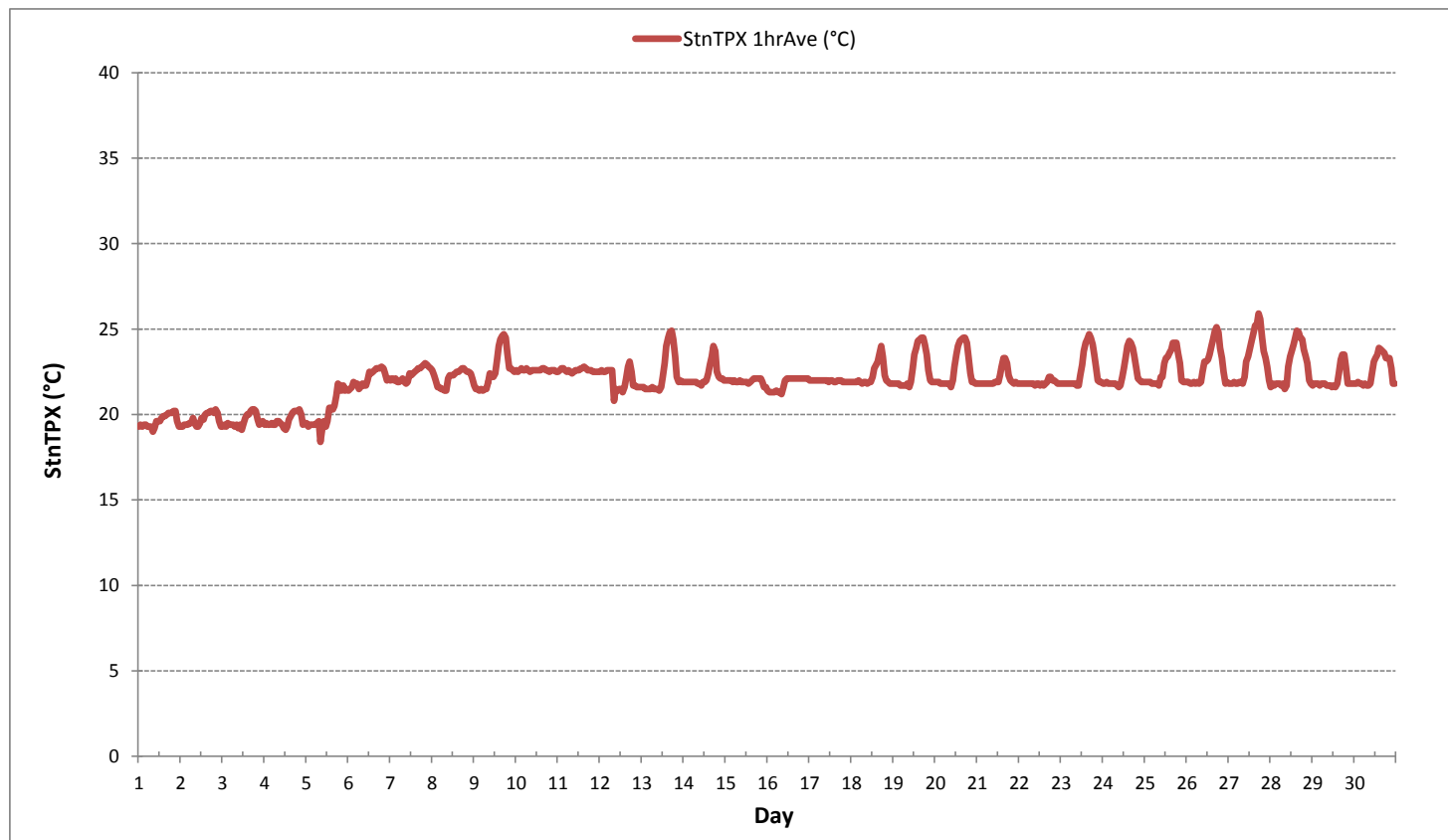
24 HR AVERAGES April 2018



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	18.4	°C	@ HOUR	8	ON DAY	5
MAXIMUM 1-HR AVERAGE:	25.9	°C	@ HOUR	17	ON DAY	27
MAXIMUM 24-HR AVERAGE:	23.2	°C			ON DAY	27
OPERATIONAL TIME:					720	hrs
AMD OPERATION UPTIME:					100.0	%
STANDARD DEVIATION:	1.3		MONTHLY AVERAGE:		21.9	°C

STATION TEMPERATURE Hourly Averages (StnTPX °C)



APPENDIX II
EQUIPMENT CALIBRATION RESULTS

SULPHUR DIOXIDE



API 100A Sulphur Dioxide Analyzer Calibration

Date:	April 5, 2018	Barometer/B.P./units:	Brunton 05535 expires December 15, 2018	28.2	inHg
Company/Airshed:	PRAMP	Thermometer/Station Temp:	F.S. 160348895 expires March 29, 2019	21	°C
Location/Station Name:	RENO	Weather Conditions:	Mainly sunny		
Parameter:	Sulphur Dioxide	Calibration Purpose:	routine monthly		
Start Time 24 hr. (mst):	10:00	Performed By/Reviewer:	Limin Li	Rob Fisher	
End Time 24 hr. (mst):	14:40	Cal Gas Expiry Date:	December 3, 2019		
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	n/a		
Analyzer:					
Serial Number/Owner:	841 Maxxam	Range ppb:	500		
Last Calibration Date:	March 13, 2018	As Found C.F.:	1.008		
Previous C.F.:	1.000	New C.F.:	1.000		

Calibration Standards:	Standard Calibration Points for Ranges								
Low Flow Meter ID/Expiry Date: Defender Low 156151 expires October 2, 2018	<table border="1"> <tr> <th>Point</th> <th>ppb</th> </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								
High Flow Meter ID/Expiry Date: Defender High 156312 expires December 13, 2018									
Calibrator ID/Expiry Date: Envionics id# 1991 expires March 15, 2019									
Cal Gas Cylinder I.D. #: LL119329									
Cal Gas Conc. (ppm): 50.1									

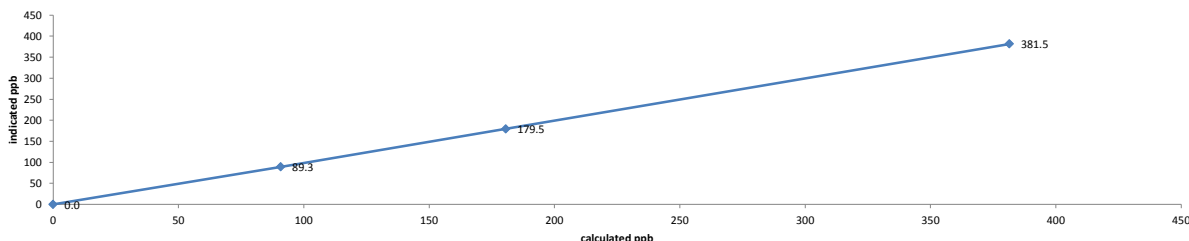
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration (ppb):	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total			
as found zero	5997	0.00	5997	0.0	0.5	n/a
as found high	5936	45.55	5982	381.5	378.8	1.008
adjusted zero	5997	0.00	5997	0.0	0.0	n/a
adjusted high	5936	45.55	5982	381.5	381.5	1.000
mid	5970	21.60	5992	180.6	179.5	1.006
low	5981	10.86	5992	90.8	89.3	1.017
0	5992	0.00	5992	0.0	0.5	n/a
Average C.F. =						1.008

Linear Regression/Calibration Results:

Correlation Coefficient =	1.000	LIMITS	> or = 0.995
Slope =	0.999		0.95-1.05
b (Intercept as % of full scale) =	0.17%		± 3% F.S.
% change in C.F. from last cal =	-0.84%		± 10%

API 100A Sulphur Dioxide Analyzer Calibration



As found:		As left:	
Slope:	1.211	Slope:	1.222
Offset:	41.4 MV	Offset:	42.6 MV
Hvps:	763 V	Hvps:	763 V
Dcps:	2560 MV	Dcps:	2555 MV
Rcell Temp:	50.2 °C	Rcell Temp:	50.0 °C
Box Temp:	29.4 °C	Box Temp:	30.5 °C
Pmt Temp:	7.1 °C	Pmt Temp:	7.1 °C
Izs Temp:	45.2 °C	Izs Temp:	45.2 °C
Pres:	25.3 IN-HG-A	Pres:	25.1 IN-HG-A
Samp Fl:	688 CC/M	Samp Fl:	688 CC/M
Pmt:	64.6 MV	Pmt:	63.7 MV
Uv Lamp:	1969 MV	Uv Lamp:	2050 MV
Lamp Ratio:	105.0 %	Lamp Ratio:	109.5 %
Str Lgt:	25.0 PPB	Str Lgt:	26.0 PPB
Drk Pmt:	25.1 MV	Drk Pmt:	24.7 MV
Drk Lmp:	-17.3 MV	Drk Lmp:	-17.1 MV
Expected Value:	320.4	Expected Value:	313.2

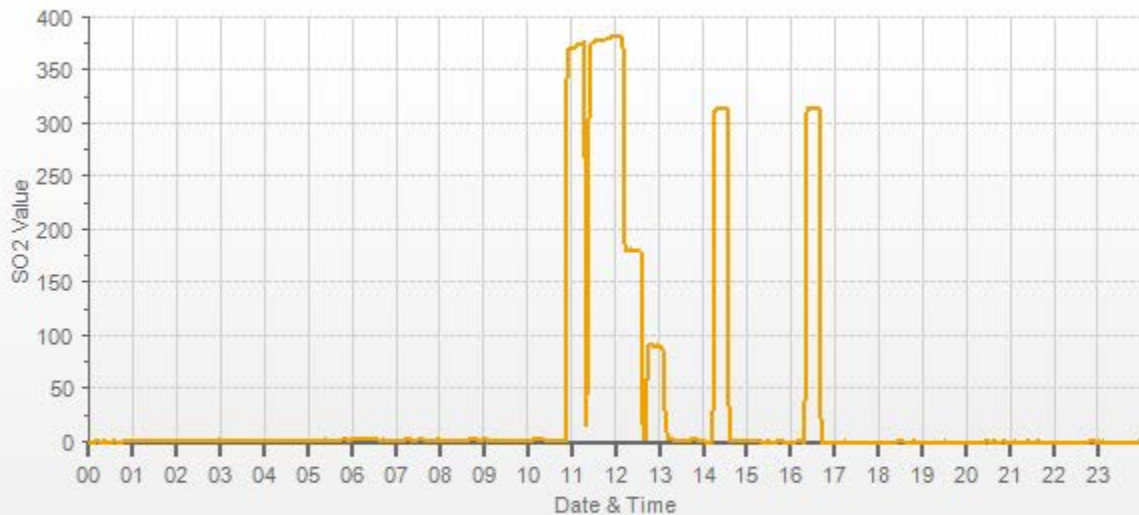
Comments:

The analyzer sample inlet filter was changed.

The manifold blower was found to be working normally.

The As-Found High Point was slow to stabilize. The calibration was stopped and the calibration gas was purged.

SO2[ppb] Station: PRAMP_RENO Daily: 18/04/05 Type: AVG 1 Min. [1 Min.]



— SO2[ppb]

TOTAL REDUCED SULPHUR



Thermo 431-TLE Total Reduced Sulphur Analyzer Calibration

Date:	April 5, 2018	Barometer/B.P./units:	Brunton 05535 expires December 15, 2018	28.2	inHg
Company/Airshed:	PRAMP	Thermometer/Station Temp:	F.S. 160348895 expires March 29, 2019	21	°C
Location/Station Name:	RENO	Weather Conditions:	Mainly sunny		
Parameter:	Total Reduced Sulphur	Calibration Purpose:	routine monthly		
Start Time 24 hr. (mst):	10:00	Performed By/Reviewer:	Limin Li	Rob Fisher	
End Time 24 hr. (mst):	13:06	Cal Gas Expiry Date:	August 23, 2020		
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	CD NOVA-CDN 101#534		
Analyzer:					
Serial Number/Owner:	1162460022 Maxxam	Range ppb:	100		
Last Calibration Date:	March 13, 2018	As Found C.F.:	1.000		
Previous C.F.:	1.000	New C.F.:	1.000		

Calibration Standards:	Standard Calibration Points for Ranges	SO2 Scrubber Check (10 minutes):	
Low Flow Meter ID/Expiry Date:	Defender Low 156151 expires October 2, 2018	Start/End Time 24 hr.:	10:21-10:31
High Flow Meter ID/Expiry Date:	Defender High 156312 expires December 13, 2018	SO2 Analyzer Range:	500
Calibrator ID/Expiry Date:	Sabio id# 17200415 expires May 16, 2018	Target Concentration (ppb):	380
Cal Gas Cylinder I.D. #:	LL119500	As Found Zero:	0.0
Cal Gas Conc. (ppm):	9.8	Analyzer Response (ppb):	0.0
		Zero Corrected Result (ppb):	0.0

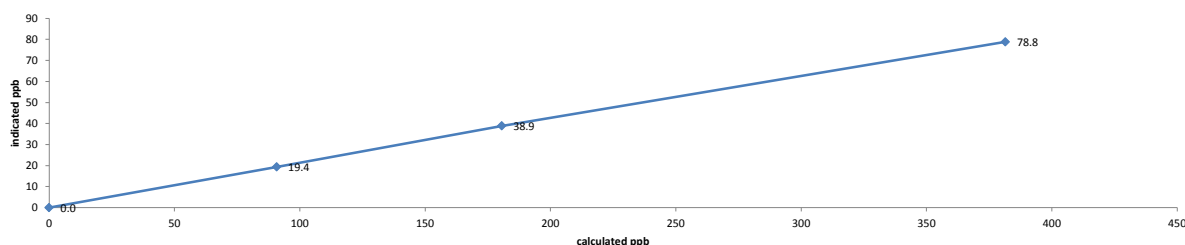
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration (ppb):	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total			
as found zero	7347	0.00	7347	0.0	0.0	n/a
as found high	7292	59.09	7351	78.8	78.8	1.000
adjusted zero	7347	0.00	7347	0.0	0.0	n/a
adjusted high	7292	59.09	7351	78.8	78.8	1.000
mid	7352	29.09	7381	38.6	38.9	0.993
low	7342	14.71	7357	19.6	19.4	1.010
0	7347	0.00	7347	0.0	0.0	n/a
Average C.F. =						1.001

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) =	0.03%		± 3% F.S.
% change in C.F. from last cal =	0.03%		± 10%

Thermo 431-TLE Total Reduced Sulphur Analyzer Calibration



As found:	As left:
Bkg: 2.26	Bkg: 2.25
Coef: 0.942	Coef: 0.942
Pmt: -706.3 V	Pmt: -706.7 V
Flash: 1017 V	Flash: 1017 V
Internal: 27.7 °C	Internal: 29.5 °C
Chamber: 44.3 °C	Chamber: 44.9 °C
Perm Oven Gas: 35.0 °C	Perm Oven Gas: 35.1 °C
Perm Oven Heater: 34.11 °C	Perm Oven Heater: 34.13 °C
Pressure: 650.1 mmHg	Pressure: 651.0 mmHg
Sample Flow: 0.415 L/Min	Sample Flow: 0.415 L/Min
Lamp Intensity: 82 %	Lamp Intensity: 82 %
Converter: 825 °C	Converter: 825 °C
Converter Set: 825 °C	Converter Set: 825 °C
Averaging Time: 120 Sec	Averaging Time: 120 Sec
Expected Value: 69.4	Expected Value: 66.4

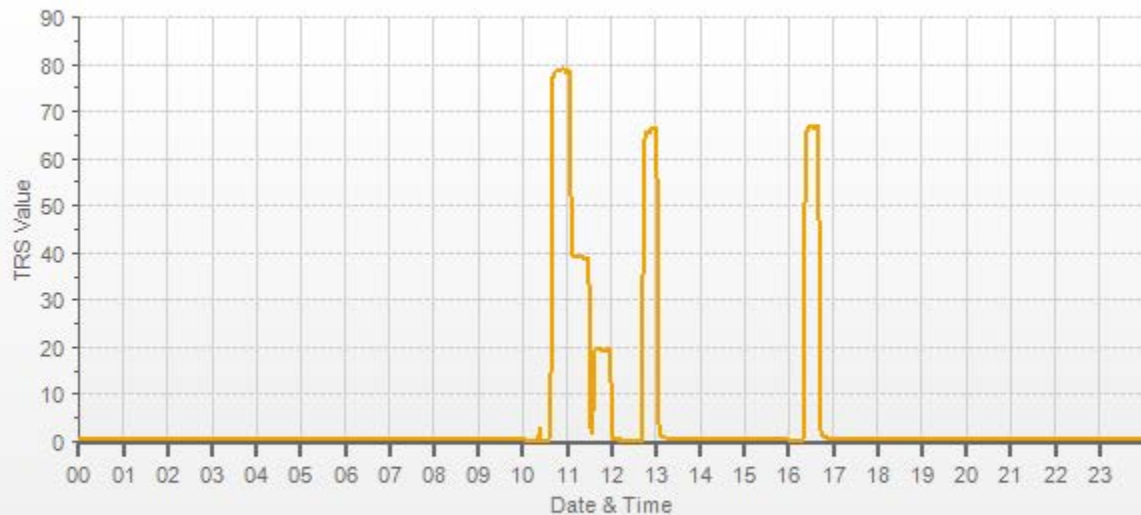
Comments:

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

No high point adjustment was required/made. The "as found" high value was copied to the "adjusted high" value field for linearity calculation purposes.

No zero adjustment was required/made. The "as found" zero value was copied to the adjusted zero value field for linearity calculation purposes.

TRS[ppb] Station: PRAMP_RENO Daily: 18/04/05 Type: AVG 1 Min. [1 Min.]



— TRS[ppb]

TOTAL HYDROCARBON



Thermo 55i Methane/Non-Methane Analyzer Calibration

Date:	April 5, 2018	Barometer/B.P./units:	Brunton 05535 expires December 15, 2018	28.2	inHg
Company/Airshed:	PRAMP	Thermometer/Station Temp:	F.S. 160348895 expires March 29, 2019	21	°C
Location/Station Name:	RENO	Weather Conditions:	Mainly sunny		
Parameter:	CH ₄ / NMHC / THC	Calibration Purpose:	routine monthly		
Start/End Time 24 hr. (mst):	12:21/16:25	Performed By/Reviewer:	Limin Li	Rob Fisher	
Calibration Method:	Gas Dilution	Cal Gas Expiry Date:	October 18, 2025		

Analyzer:

Serial Number/Owner:	1314057759	Maxxam
Measured Flow:	1283	
Last Calibration Date:	March 13, 2018	
Range ppm:	20 CH ₄ /20 NMHC/40 THC	

Previous C.F.:	As Found C.F.:	New C.F.:
CH ₄ = 0.997	1.008	1.001
NMHC = 0.996	1.007	1.004
THC = 0.996	1.008	1.002

Calibration Standards:

Low Flow Meter ID/Expiry Date:	Defender Low 156151 expires October 2, 2018
High Flow Meter ID/Expiry Date:	Defender High 156312 expires December 13, 2018
Calibrator ID/Expiry Date:	Sabio id# 17200415 expires May 16, 2018
Cal Gas Cylinder I.D. #:	LL168404
CH ₄ Cylinder Conc. =	597.0 206.0 =C ₃ H ₈ Cylinder Conc.
CH ₄ expressed as C ₃ H ₈ =	566.5 1163.5 =total CH ₄ equivalent

Point	CH ₄	NMHC	THC
High	13.00	13.00	26.00
Mid	7.00	7.00	14.00
Low	3.00	3.00	6.00

ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015												
Calibrator Flow Rates (cc/min)				Calculated CH ₄ (ppm)	Calculated NMHC (ppm)	Calculated THC (ppm)	Indicated CH ₄ (ppm)	Indicated NMHC (ppm)	Indicated THC (ppm)	Correction Factors:		
Point	Diluent	Cal Gas	Total Flow							CH ₄	NMHC	THC
as found zero	2451	0.00	2451	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
as found high	2397	57.38	2454	13.96	13.25	27.21	13.85	13.15	27.00	1.008	1.007	1.008
adjusted zero	2451	0.00	2451	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
adjusted high	2397	57.38	2454	13.96	13.25	27.21	13.95	13.19	27.14	1.001	1.004	1.002
mid	2420	30.02	2450	7.32	6.94	14.26	7.30	6.94	14.24	1.002	1.000	1.001
low	2436	15.15	2451	3.69	3.50	7.19	3.69	3.50	7.19	1.000	1.000	1.000
calibrator zero	2451	0.00	2451	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
Average C.F. =										1.001	1.002	1.001

Linear Regression/Calibration Results:				LIMITS
Correlation Coefficient =	CH ₄	NMHC	THC	> or = 0.995
Slope =	0.999	0.996	0.998	0.95-1.05
b (Intercept as % of full scale) =	-0.01%	0.05%	0.02%	± 3% F.S.
% change in C.F. from last cal =	-1.09%	-1.13%	-1.16%	± 10%

As Left Instrument Diagnostics:												
Interface Board Voltages:	Bias Supply:	-289.1 V	Calibration History cnt'd:	NM Peak Area:	81597							
Temperatures:	Detector Oven:	175.0 °C	Crucial Settings:	Methane Start:	8							
	Filter:	175.0 °C		Methane End:	16							
	Column Oven:	75.0 °C		Backflush:	18							
	Internal:	31.3 °C		NMHV Start:	26							
Cylinder Pressures/reg.:	Carrier:	2600 50	Run History>1:	NMHC End:	56							
	Fuel:	400 50		Date:	05Apr18							
	Span Gas:	1050 18		Time:	12:36							
	Zero Air Generator:	50		CH ₄ PK HT:	0							
Internal Pressures:	Carrier:	31.3		CH ₄ RT:	8.0							
	Fuel:	41.6		CH ₄ Baseline:	2193							
	Air:	25.9		CH ₄ LOD:	72							
FID Status:	Status:	LIT		CH ₄ SD:	24							
	Counts:	25514		CH ₄ CONC:	0.00							
	Flame:	405.0 °C		NM PK HT:	0							
	Det Base:	175.0 °C		NM Peak Area:	0							
Flame and Power Stats:	Last Power On:	20DEC2017 15:44		NM CONC:	0.00							
	Flameouts:	2		NM Base Start:	2153							
	Det Oven at Start:	106.8		NM Base End:	2141							
	Col Oven at Start:	59.7		NM LOD:	12							
Calibration History:	Time:	13Mar18 13:09		NM Start IDX:	38							
	Type:	SPAN		NM End IDX:	88							
	Status:	GOOD		NM Max Slope:	3.3e-01							
	Check/Adjust:	ADJUST		NM Min Slope:	-1.1e+00							
	CH ₄ Span Conc:	13.83		NM PT Count:	0							
	CH ₄ SP Ratio:	0.000777		Previous CH ₄ :	10.06							
	CH ₄ RT:	11.8	Expected Values:	Previous NMHC:	11.2							
	CH ₄ PK IDX:	19		Previous THC:	21.3							
	CH ₄ PK HT:	17789		New CH ₄ :	10.11							
	NM Span Conc:	13.13		New NMHC:	10.93							
	NM SP Ratio:	0.000161		New THC:	21.07							

Comments:

The analyzer sample inlet filter was changed.

A new nitrogen cylinder was installed.

No zero adjustment was required/made. As found zero values were copied to adjusted zero values for linearity calculation purposes.

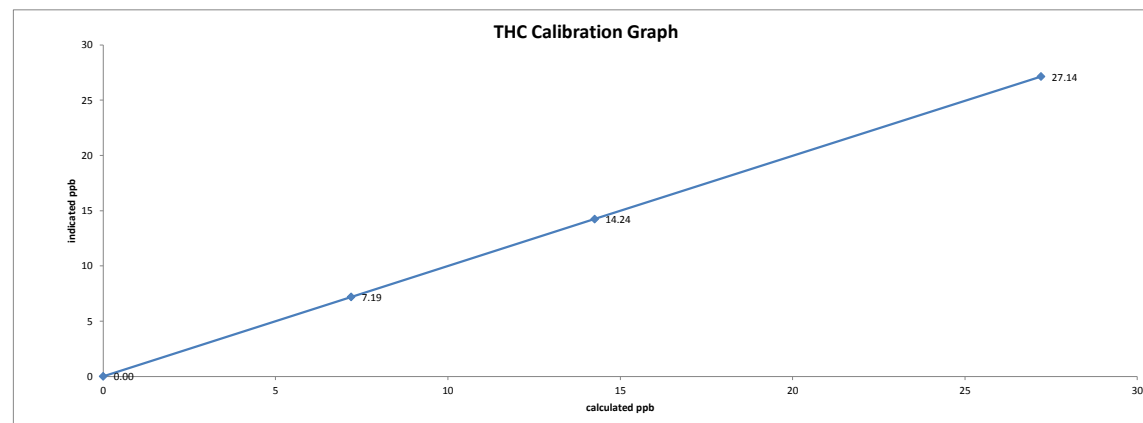
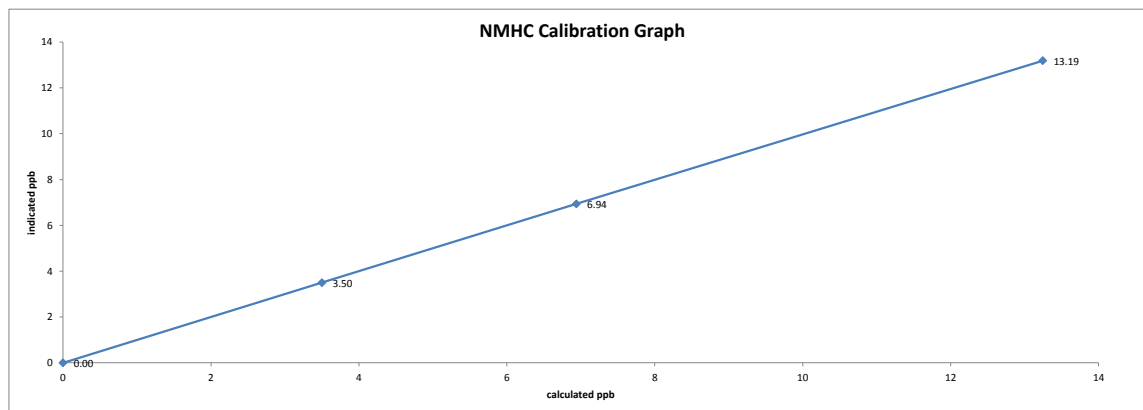
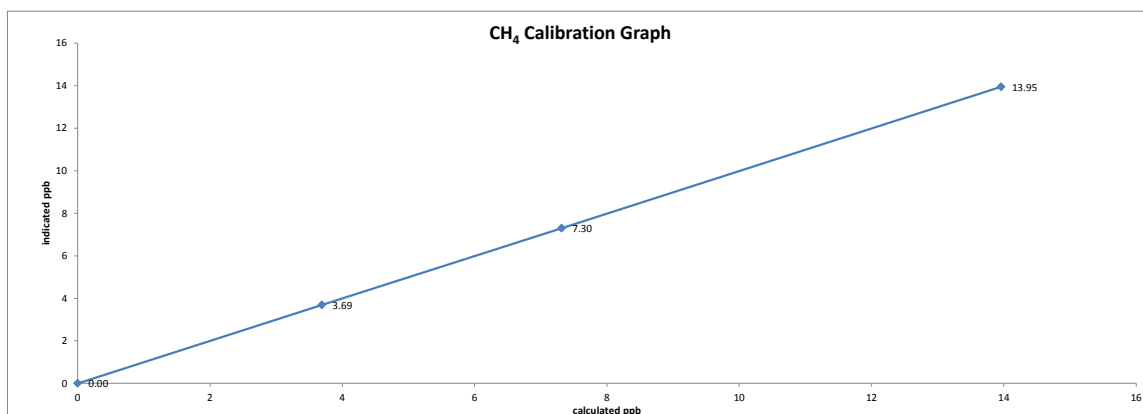
The analyzer cooling fan filter(s) were cleaned.

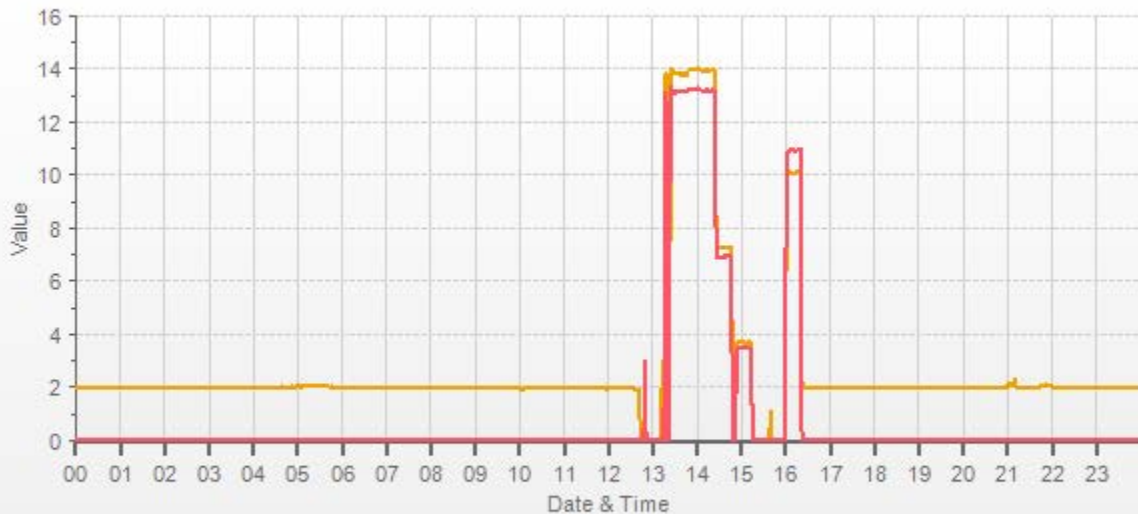
The manifold blower was found to be working normally.

The Nitrogen gas cylinder was changed during the "As Found High Point". The "As Found High Point" was restarted.

Date: April 5, 2018
Company/Airshed: PRAMP
Location/Station Name: RENO

Start/End Time 24 hr. (mst): 12:21/16:25
Calibration Purpose: routine monthly
Calibration Method: Gas Dilution





CH4[ppm] NMHC[ppm]

WIND SYSTEM



Meteorological Sensor Audit/Calibration

Location Information

Company: PRAMP
Audit Location: Reno
Audit Date: April 6, 2017

Performed By: Limin Li
Reviewed By: Trina Whitsitt
Start /EndTime (mst): 15:20/16:50

Wind Sensor Information

Sensor ID Data:		Sensor Outputs:	
Sensor Make:	RM Young	Velocity Voltage Output Range:	0-1 V
Sensor Model:	05305VK	Velocity Unit Output Range:	0-200 km/h
Serial #:	149769	Direction Voltage Output Range:	0-1 V
Previous Cal/Audit Date:	February 16, 2017	Direction Unit Output Range:	0-360 degrees

Wind Calibrator Information

Calibrator Make/ Model: RM Young 18802
Maxxam Unit ID #: 13-3357
Serial #: CA 0309
Certification Date: October 6, 2016

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.1	0.1	-
1000	18.4	18.4	18.4	0.999
2000	36.9	36.8	36.8	1.003
3000	55.3	55.1	55.1	1.003
4000	73.7	73.5	73.5	1.002
5000	92.2	92.0	92.0	1.003
6000	110.6	110.4	110.4	1.002
7000	129.0	128.9	128.9	1.001
8000	147.4	147.3	147.3	1.001
9000	165.9	165.9	165.9	1.000
10000	184.3	184.4	184.4	0.999
The audit meets AMD requirements.			Average Correction Factor=	1.001

Wind Direction Audit Data ****+/- 5° of the absolute average degrees difference for all points is the limit****

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	0	353	0.2	1.7	0.9
30	330	30	328	0.4	2.1	1.3
60	300	61	299	-0.8	1.2	1.0
90	270	91	269	-1.1	0.9	1.0
120	240	121	240	-1.3	0.2	0.7
150	210	151	211	-1.2	-0.7	0.9
180	180	181	181	-1.3	-1.2	1.3
210	150	211	151	-0.7	-1.4	1.1
240	120	240	121	0.0	-1.4	0.7
270	90	270	91	0.5	-1.1	0.8
300	60	299	61	1.3	-0.9	1.1
330	30	328	30	2.2	0.3	1.3
355	0	353	0	1.7	0.2	0.9
The audit meets AMD requirements.			Average Absolute Degrees Difference=			1.0

Comments: Wind speed gain adjusted before calibration.



Meteorological Sensor Audit/Calibration

Location Information

Company:	PRAMP	Performed By:	Limin Li
Audit Location:	RENO	Reviewed By:	Rob Fisher
Audit Date:	April 5, 2018	Start/End Time (mst):	16:00/16:30
Calibration Purpose:	routine annual	Weather Conditions:	Mainly sunny

Wind Sensor Information

Sensor ID Data:		Sensor Outputs:	
Sensor Make:	RM Young	Velocity Voltage Output Range:	0-1V
Sensor Model:	5305VK	Velocity Unit Output Range:	0-200 KPH
Serial #:	149769	Direction Voltage Output Range:	0-1 V
Previous Cal/Audit Date:	April 6, 2017	Direction Unit Output Range:	0-360 DEG

Wind Calibrator Information

Calibrator I.D. and Expiry Date: RM Young 18802 id# CA03309 expires September 25, 2018

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.1	0.1	-
1000	18.4	18.4	18.5	0.998
2000	36.9	36.9	36.8	1.001
3000	55.3	55.2	55.2	1.001
4000	73.7	73.7	73.7	1.000
5000	92.2	92.1	92.1	1.001
6000	110.6	110.6	110.6	1.000
7000	129.0	129.0	129.1	1.000
8000	147.4	147.6	147.6	0.999
9000	165.9	166.2	166.2	0.998
10000	184.3	184.7	184.7	0.998
The audit meets AMD requirements.			Average Correction Factor=	1.000

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

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	0	353	0.2	1.6	0.9
30	330	30	328	-0.5	2.4	1.4
60	300	61	299	-1.0	0.9	0.9
90	270	91	269	-1.1	1.4	1.2
120	240	120	239	0.4	0.9	0.7
150	210	150	210	-0.1	0.1	0.1
180	180	181	180	-0.6	-0.2	0.4
210	150	210	151	-0.4	-0.9	0.7
240	120	240	120	0.3	-0.4	0.4
270	90	269	91	1.4	-0.5	1.0
300	60	299	61	1.0	-0.8	0.9
330	30	328	30	2.3	0.2	1.3
355	0	353	0	2.5	0.2	1.4
The audit meets AMD requirements.			Average Absolute Degrees Difference=		0.9	

Comments:

METEOROLOGICAL SYSTEMS CHECK



Meteorological System Checklist

Date:	April 5, 2018		
Technician:	Limin Li		
Reviewer:	Rob Fisher		
Station:	PRAMP RENO		
Unit:	Make:	Model:	Serial #:
Temperature Sensor:	RM Young	43172VC	60837897
Barometric Pressure Sensor:	MetOne	92	R12877
Relative Humidity Sensor:	RM Young	43172VC	60837897
AMBIENT TEMPERATURE SENSOR CHECK			
Parameter:	Temperature @ 2 metres (1 C tolerance)		
Reference Thermometer ID:	F.S. 160348895 expires April 8, 2018		
Reference Temperature (°C):	-11.6		
Station - Ambient Temperature (°C):	-11.3		
Temperature Difference (°C):	-0.3		
BAROMETRIC PRESSURE SENSOR CHECK			
Reference Barometer ID:	Brunton 05535 expires December 15, 2018		
Reference Pressure - Units/Reading:	inHg	28.21	
Station Pressure - Units/Reading:	inHg	28.20	
Pressure Tolerance +/- 15% of error:	23.98 - 32.44	0.03%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Reference Hygrometer ID:	F.S. id# 160348895 expires April 8, 2018		
Reference Hygrometer % RH- Reading:	54.00		
Station Hygrometer % RH- Reading:	46.20		
RH Tolerance +/- 15% of error:	45.90 - 62.10	7.8%	

CALIBRATORS

Company: Maxxam Operator: Chris W

Calibrator:				Flow Measurement Device:			
Make/Model		EnviroNics 2000		Make/Model		Mesa Defender 530	
Serial Number		1991		Serial Number		L-153351 H-152571	
Last Verification Date		March 2017		Temperature (°C)		25.0 C	
NO Cylinder S/N		LL108015		Barometric Pressure		695 mmHg	
NO [PPM]		52.2	NOx [PPM]	52.3			
Expiry Date		Oct 2020					

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%	
4988	75.1	0.786	0.787	0.785	-0.002	0.783	0%	-1%
4988	36.5	0.382	0.383	0.382	0.001	0.383	0%	0%
4988	18.3	0.192	0.192	0.190	0.000	0.190	-1%	-1%
Absolute Average Percent Difference							0%	1%

LINEAR REGRESSION ANALYSIS

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

NO			LIMITS			NOx		
Correlation=	1.0000		≥ 0.990			Correlation=	1.0000	
m (Slope)=	0.9996		0.90-1.10			m (Slope)=	0.9956	
b (Intercept % of FS)=	-0.0599		± 3% F.S.			b (Intercept % of FS)=	-0.0005	

Flow	O ₃ Conc	NO Decrease	NO	NO ₂	NOX	% Diff. Vs Audit gas	
4988	0.000	0.000	0.788	-0.001	0.787	NO ₂	% Diff. Limit
4988	0.350	0.519	0.269	0.512	0.780	-1%	± 10%
4988	0.160	0.231	0.557	0.229	0.786	0%	± 10%
4988	0.070	0.099	0.689	0.097	0.787	-1%	± 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)=	0.9885		0.90-1.10		
b (Intercept % of FS)=	-0.0567		± 3% F.S.		

AENV Standards		NO _x Analyzer	
Audit Calibrator		Make/Model	Teco 42i
Make/Model	Teco 146i	Serial/AMU Number	AMU 1868
Serial/AMU Number	AMU 1809	Last Calibration Date	March 14, 2018
SRM Gas Cylinder No.	APEX1170572	Full Scale (ppm)	1.0
Cylinder Conc. (ppm)	49.99	Cylinder Gas Expiry Date	November 2020

COMMENTS: Cylinder contains 47.9 ppm SO₂.

Auditor: Al Clark
Operator Signature: [Signature]

Date: March 15, 2018
Location: McIntyre Center Edmonton

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2017-073A

Company Maxxam		Operator: Micheal Espiritu	
Calibrator:		Flow Measurement Device:	
Make/Model	Sabio 2010	Make/Model	Mesa Defender 530
Serial Number	17200415	Serial Number	L-152019 H-148944
Last Verification Date	May 2016	Temperature (°C)	25.0 C
NO Cylinder S/N	EY0000597	Barometric Pressure	697 mmhg
NO [PPM]	49.0	NOx [PPM]	49.0
Expiry Date	December 2019		

Dilution Flow (sccm)			
Pt. #1	5000	Pt. #2	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
5028	0.0	0.000	0.000	0.000	0.000	0.000	Limit ± 10%	
4930	78.7	0.783	0.783	0.809	-0.012	0.797	3%	2%
4936	38.6	0.383	0.383	0.396	-0.006	0.390	3%	2%
4935	19.4	0.193	0.193	0.199	-0.003	0.196	3%	2%
Absolute Average Percent Difference							3%	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)= 1.0334	0.90-1.10	m (Slope)= 1.0181
b (Intercept % of FS)= -0.0105	± 3% F.S.	b (Intercept % of FS)= -0.0148

Flow	O ₂ Conc (LC)	NO Decrease	NO	NO ₂	NOX	% Diff. Vs Audit gas	
4930	0.000	0.000	0.806	-0.013	0.795	NO ₂	% Diff. Limit
4930	1.425	0.523	0.283	0.511	0.794	0%	± 10%
4930	0.825	0.278	0.528	0.266	0.795	0%	± 10%
4930	0.386	0.095	0.711	0.085	0.796	3%	± 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)= 0.9998	0.90-1.10
b (Intercept % of FS)= -1.1702	± 3% F.S.

AENV Standards		NO_x Analyzer	
Audit Calibrator			
Make/Model	Teco 146i	Make/Model	Teco 42i
Serial/AMU Number	AMU 1809	Serial/AMU Number	AMU 1868
SRM Gas Cylinder No.	CAL018101	Last Calibration Date	May 16, 2017
Cylinder Conc. (ppm)	48.79	Full Scale (ppm)	1.0
		Cylinder Gas Expiry Date	March 2019

COMMENTS: Contains 50.4 ppm SO₂.

Auditor: Al Clark
Operator Signature: *[Signature]*

Date: May 16, 2017
Location: McIntyre Center Edmonton

CALIBRATION GASES



Calibration Gas Audit

Single Component Cylinder Gas

File No. 2015-111CGA

Company: Maxxam Operator's Name: Chris Wesson
Cylinder #: LL119329 Concentration PPM: 50.1 Tolerance(%) 2 Certified By: Air Liquide

Reference Calibrator and Gas:

Make/Model: Thermo146i
Serial Number: 1809
Last Verification Date: February 2, 2016
Gas Type: SO2 Conc. 98.07
Cylinder Number: CAL016625

Flow Measurement Device:

Make/Model: Bios DC-2
Serial Number: Bios D
Temp.°C: 24.5
B.P. 702mmHg

Reference Analyzer:

Make/Model: Thermo 43C Serial/AMU Number: 1623
Instrument Settings: Zero: 8.7 Span: 1.027 Range: 1.0
Last Calibration: Date: 1-Feb-16 C.F. 1.000 Done By: SB

Calibrator Flows (sccm)		Indicated Concentration (PPM)	Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration
Dilution	Gas				
4960	0.0	0.000			
4959	79.09	0.791	0.01595	62.701	49.6
4950	39.44	0.394	0.00797	125.507	49.4
4942	19.44	0.194	0.00393	254.218	49.3
Average Cylinder Concentration:					49.5

Previous Stated Concentration PPM: 50.1

Percent variance from Stated: 1.3

Meets Manufacturer Tolerance. Use manufacturers stated concentration ☒ COMMENTS: SO2/NO blend 50.3ppm NO
<=5% Outside Manufacturer Tolerance. Use manufacturers concentration ☐
> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder ☐

Auditor: Shea Beaton
Operator Signature: [Signature]

Date: February 2, 2016
Location: McIntyre Center Edmonton



Calibration Gas Audit

Single Component Cylinder Gas

File No. 2017-213CGA

Company: Maxxam **Operator's Name:** C. Wesson

Cylinder #: LL119500 **Concentration PPM:** 9.8 **Tolerance(%)** 2 **Certified By:** Praxair

Expiry Date: August 2020

Reference Calibrator and Gas:

Make/Model: R&R MFC 201

Serial Number: AMU 1690

Last Verification Date: September 22, 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: 23.5 C

B.P. 705 mmhg

Reference Analyzer:

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

Instrument Settings: **Zero:** 22.4 **Span:** 1.091 **Range:** 0.1

Last Calibration: **Date:** Sep 22/17 **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	~~0.00772~~	~~129.468~~	~~9.5~~
5114	39.5	0.0734	0.00772	129.468	9.5
5096	18.5	0.0345	0.00363	275.459	9.5
5089	9.5	0.0178	0.00187	535.684	9.5

Average Cylinder Concentration: **9.5**

Previous Stated Concentration PPM: 9.8

Percent variance from Stated: 3

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

Operator Signature: *Al Clark*

Date: September 22, 2017

Location: McIntyre Center Edmonton



Calibration Gas Audit

CH₄ / C₃H₈ Cylinder Gas

File No. 2017-488CGA

Company: Maxxam **Operators name:** Mike
Cylinder #: LL168404 **Conc CH₄ (PPM)** 597/206 **Tolerance (%)** 2 **Certified By:** Praxair
Expiry Date: October 2025

Reference Calibrator and Gas:

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

Flow Measurement Device:

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

Reference Analyzer:

Make/Model Teco 55i **Serial/AMU Number:** 2108
Instrument Settings **Zero:** N/A **Span:** N/A **Range:** 20.0
Last Calibration: **Date:** Dec 12/17 **C.F.** 1.000 **Done By:** Al Clark

Calibrator Flows (sccm)		Indicated Conc. (ppm)		Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration	
Dilution	Gas	CH ₄	C ₃ H ₈			CH ₄	C ₃ H ₈
3500	0.0	0.00	0.00				
3618	80.4	13.22	12.69	0.02	45.00	595	208
3547	39.8	6.64	6.42	0.01	89.12	592	208
3560	19.8	3.33	3.23	0.01	179.80	599	211
Average Cylinder Concentration:						595	209

CH₄ **C₃H₈**
Previous Stated Concentration PPM: 597 206
Percent variance from Stated: 0 1

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: [Signature] **Location:** McIntyre Center Edmonton

APPENDIX III
MAXIMUM INSTANTANEOUS DATA



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
Reno Station - April 2018

SULPHUR DIOXIDE Instantaneous Maximum (SO₂ ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	4	2	6	3	3	3	3	5	3	3	3	2	2	1	1	1	1	1	1	1	S	1	1	1	1	6	2	24
2	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	S	1	0	1	0	0	2	1	24
3	0	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	S	1	1	1	1	1	0	1	1	24
4	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	0	0	S	1	0	1	0	0	0	0	1	1	24
5	0	0	1	0	0	1	1	1	1	1	C	C	C	C	C	0	S	0	0	0	0	0	0	0	0	1	0	24
6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	S	0	0	0	0	1	0	0	1	1	0	1	24
7	1	1	1	1	1	1	1	0	0	0	0	0	1	1	S	0	0	0	0	0	0	0	0	0	0	1	0	24
8	0	0	0	0	0	0	0	0	0	0	0	0	1	S	1	1	1	1	0	0	0	1	1	1	0	1	0	24
9	0	1	0	0	0	1	1	0	0	1	1	0	S	1	1	1	1	1	1	0	0	0	0	0	0	1	0	24
10	0	0	0	0	0	1	1	1	0	0	0	S	0	0	1	3	3	1	0	0	0	1	1	0	0	3	1	24
11	0	1	1	0	0	0	0	1	1	1	S	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
12	0	0	0	0	0	1	1	1	1	S	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	24
13	0	0	0	0	0	0	1	1	S	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	24	
14	2	1	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	24
15	0	0	0	0	0	1	S	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
16	0	0	0	0	0	S	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	24
17	0	0	0	0	S	0	1	1	1	1	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	1	0	24
18	0	0	0	S	0	1	1	0	1	1	1	0	1	1	1	0	0	0	0	1	0	0	0	0	0	1	0	24
19	0	0	S	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	24
20	0	S	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	24
21	S	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	0	0	1	0	0	0	0	S	0	1	0	24
22	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	24
23	0	0	0	0	0	1	1	1	1	1	1	0	0	0	1	0	1	0	0	0	0	S	0	0	0	1	0	24
24	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	S	0	0	0	0	1	0	24
25	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	S	1	0	0	1	0	1	0	24
26	1	1	1	0	0	0	1	1	1	1	1	1	0	0	0	1	0	0	S	0	0	1	3	1	0	3	1	24
27	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	1	1	S	1	1	1	1	1	2	0	2	1	24
28	1	1	0	1	1	1	1	2	1	1	1	1	1	1	1	1	S	1	1	1	1	0	0	0	0	2	1	24
29	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	24
30	0	0	0	0	0	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	0	1	1	0	0	1	1	24
HOURLY MAX	4	2	6	3	3	3	3	5	3	3	3	2	2	1	1	3	3	1	1	1	1	1	3	2				
HOURLY AVG	0	0	0	0	0	1	1	1	1	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0				

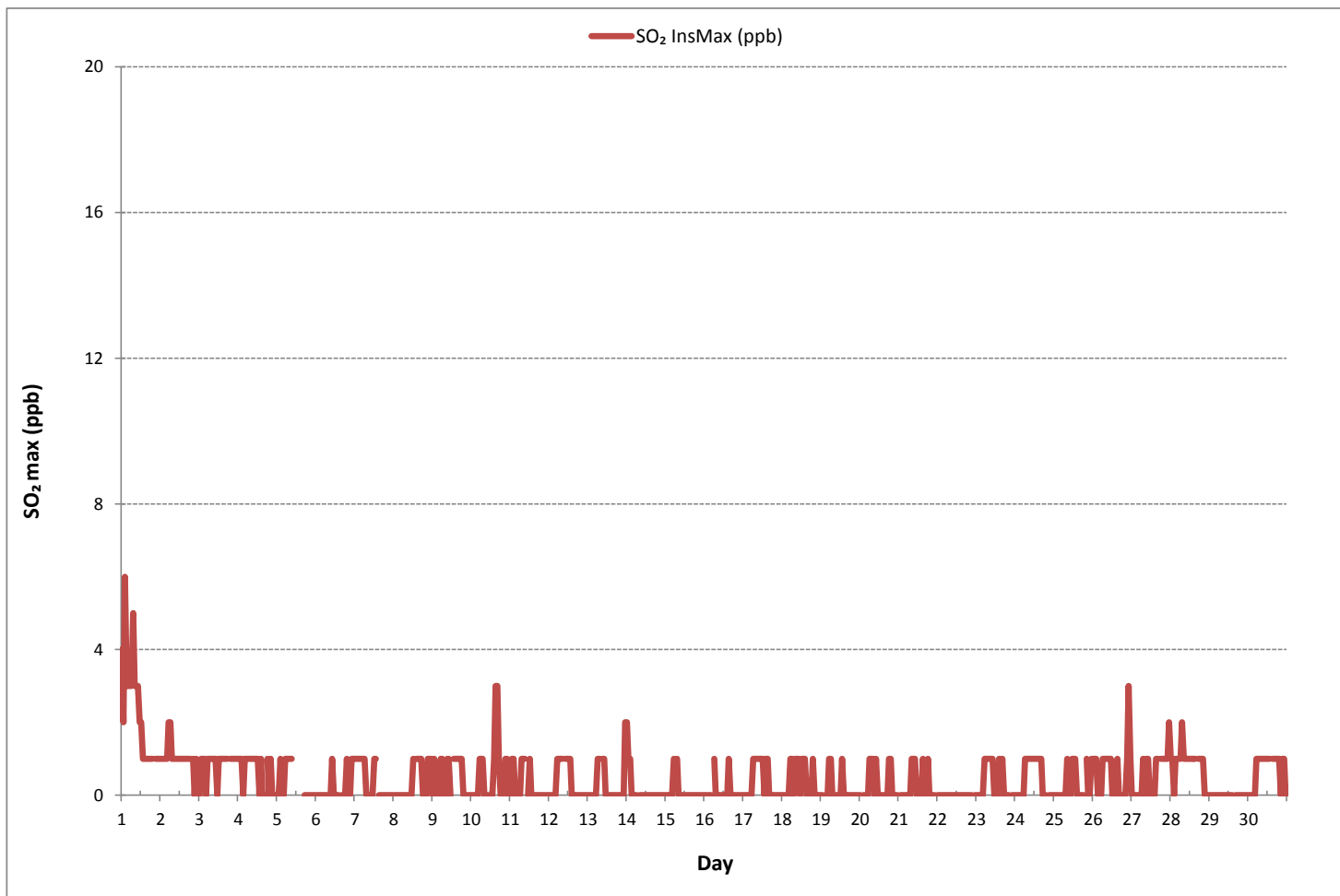
STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

INSTANT SUMMARY									
NUMBER OF NON-ZERO READINGS:		268							
MAXIMUM INSTANTANEOUS VALUE:		6	ppb	@ HOUR	2	ON DAY	1		
IZS CALIBRATION TIME:		31	hrs	OPERATIONAL TIME:		720		hrs	
MONTHLY CALIBRATION TIME:		5	hrs						
STANDARD DEVIATION:		1							

SULPHUR DIOXIDE Instantaneous Maximum (SO₂ ppb)



TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.		
DAY																													
1	1.10	0.65	2.01	1.10	1.33	1.21	1.07	1.68	0.78	0.71	0.78	0.60	0.50	0.45	0.45	0.45	0.50	0.45	0.53	0.48	\$	0.56	0.50	0.53	0.45	2.01	0.80	24	
2	0.50	0.50	0.45	0.43	0.48	0.48	0.50	0.48	0.48	0.45	0.45	0.48	0.50	0.45	0.45	0.45	0.43	0.45	0.48	\$	0.53	0.45	0.45	0.45	0.43	0.53	0.47	24	
3	0.42	0.43	0.45	0.45	0.42	0.45	0.45	0.45	0.48	0.48	0.45	0.45	0.48	0.45	0.45	0.45	0.48	0.48	\$	0.53	0.53	0.48	0.48	0.45	0.42	0.53	0.46	24	
4	0.45	0.48	0.45	0.45	0.45	0.48	0.48	0.48	0.45	0.45	0.43	0.45	0.45	0.45	0.45	0.45	0.48	\$	0.50	0.45	0.48	0.48	0.48	0.48	0.43	0.50	0.46	24	
5	0.45	0.48	0.45	0.48	0.48	0.50	0.53	0.50	0.45	0.53	C	C	C	C	0.56	0.51	\$	0.53	0.48	0.48	0.45	0.50	0.50	0.45	0.45	0.56	0.49	24	
6	0.45	0.45	0.45	0.45	0.45	0.50	0.45	0.45	0.48	0.50	0.45	0.43	0.50	0.50	0.48	\$	0.50	0.45	0.50	0.45	0.43	0.45	0.45	0.45	0.43	0.50	0.46	24	
7	0.45	0.48	0.45	0.48	0.48	0.45	0.48	0.45	0.45	0.48	0.45	0.45	0.45	0.43	\$	0.50	0.45	0.43	0.43	0.45	0.43	0.43	0.43	0.43	0.43	0.50	0.45	24	
8	0.40	0.43	0.40	0.52	0.48	0.50	0.48	0.48	0.50	0.50	0.45	0.45	0.45	\$	0.48	0.48	0.48	0.45	0.48	0.45	0.45	0.78	0.99	1.05	0.40	1.05	0.53	24	
9	0.91	0.71	0.68	0.68	0.55	0.53	0.50	0.53	0.55	0.50	0.43	0.48	\$	0.50	0.45	0.47	0.47	0.45	0.47	0.50	0.55	0.50	0.68	0.63	0.43	0.91	0.55	24	
10	0.50	0.43	0.43	0.45	0.43	0.42	0.45	0.45	0.40	0.40	0.43	\$	0.45	0.45	0.45	0.48	0.45	0.45	0.43	0.43	0.43	0.40	0.45	0.40	0.40	0.50	0.44	24	
11	0.43	0.45	0.43	0.43	0.43	0.40	0.43	0.43	0.40	0.40	\$	0.45	0.37	0.40	0.48	0.40	0.42	0.43	0.43	0.43	0.40	0.43	0.45	0.43	0.37	0.48	0.42	24	
12	0.40	0.43	0.40	0.40	0.43	0.43	0.43	0.40	0.45	\$	0.45	0.40	0.40	0.45	0.37	0.43	0.43	0.43	0.43	0.37	0.40	0.40	0.42	0.45	0.37	0.45	0.42	24	
13	0.45	0.43	0.43	0.45	0.48	0.52	0.40	0.43	\$	0.43	0.48	0.48	0.43	0.40	0.43	0.40	0.47	0.42	0.47	0.40	0.50	0.50	0.63	0.50	0.40	0.63	0.46	24	
14	0.43	0.43	0.43	0.43	0.43	0.43	0.43	\$	0.45	0.40	0.37	0.37	0.37	0.37	0.40	0.45	0.40	0.42	0.40	0.40	0.43	0.55	0.55	0.40	0.37	0.55	0.42	24	
15	0.40	0.43	0.45	0.40	0.48	0.73	\$	0.76	0.48	0.43	0.43	0.40	0.40	0.40	0.45	0.47	0.47	0.43	0.45	0.43	0.45	0.43	0.43	0.43	0.40	0.76	0.46	24	
16	0.43	0.42	0.42	0.42	0.42	\$	0.48	0.45	0.42	0.48	0.48	0.47	0.43	0.43	0.43	0.43	0.40	0.43	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.48	0.43	24
17	0.43	0.43	0.40	0.48	\$	0.45	0.45	0.63	0.45	0.45	0.40	0.40	0.37	0.45	0.40	0.37	0.43	0.40	0.40	0.37	0.40	0.40	0.43	0.40	0.37	0.63	0.43	24	
18	0.40	0.40	0.40	\$	0.71	0.78	4.11	4.01	2.66	0.43	0.40	0.40	0.43	0.40	0.37	0.37	0.37	0.42	0.37	0.68	0.48	0.48	0.55	0.60	0.37	4.11	0.88	24	
19	1.02	1.05	\$	0.55	0.45	0.45	1.39	1.42	1.60	0.63	0.40	0.43	0.40	0.43	0.40	0.40	0.45	0.37	0.37	0.40	0.40	0.40	0.43	0.43	0.37	1.60	0.62	24	
20	0.48	\$	0.43	0.43	0.48	0.43	0.40	0.37	0.40	0.42	0.40	0.37	0.37	0.37	0.37	0.37	0.35	0.37	0.60	0.47	0.45	0.43	0.43	0.37	0.35	0.60	0.42	24	
21	\$	0.43	0.37	0.37	0.37	0.40	0.35	0.43	0.43	0.48	0.48	0.37	0.40	0.37	0.37	0.37	0.37	0.37	0.37	0.35	0.35	0.35	0.35	\$	0.35	0.48	0.39	24	
22	0.42	0.40	0.35	0.37	0.34	0.40	0.37	0.40	0.40	0.42	0.40	0.40	0.40	0.37	0.37	0.37	0.40	0.40	0.35	0.37	0.35	0.40	\$	0.48	0.34	0.48	0.39	24	
23	0.48	0.42	0.45	0.50	0.48	0.45	0.45	0.45	0.40	0.45	0.45	0.45	0.45	0.40	0.43	0.43	0.40	0.50	0.65	0.44	0.43	\$	0.43	0.45	0.40	0.65	0.45	24	
24	0.50	0.45	0.48	0.42	0.45	0.55	0.52	0.58	0.45	0.48	0.48	0.45	0.40	0.37	0.43	0.40	0.43	0.43	0.37	0.40	\$	0.43	0.37	0.40	0.37	0.58	0.45	24	
25	0.42	0.42	0.45	0.40	0.40	0.40	0.40	0.40	0.48	0.45	0.45	0.48	0.45	0.43	0.37	0.35	0.37	0.40	0.40	\$	0.43	0.40	0.45	0.55	0.35	0.55	0.42	24	
26	0.50	0.45	0.43	0.48	0.45	0.48	0.48	0.45	0.45	0.40	0.40	0.43	0.40	0.40	0.37	0.37	0.40	0.37	\$	0.42	0.55	0.91	1.34	0.81	0.37	1.34	0.51	24	
27	0.55	0.43	0.43	0.40	0.40	0.42	0.35	0.40	0.37	0.40	0.37	0.45	0.40	0.44	0.40	0.40	0.37	\$	0.39	0.50	0.50	0.71	0.76	0.86	0.35	0.86	0.47	24	
28	0.48	0.43	0.40	0.68	0.52	0.60	0.50	0.58	0.52	0.45	0.40	0.37	0.40	0.35	0.33	0.35	\$	0.37	0.35	0.35	0.35	0.43	0.45	0.40	0.33	0.68	0.44	24	
29	0.48	0.42	0.42	0.40	0.40	0.40	\$1	0.48	0.40	0.37	0.40	0.37	0.40	0.40	0.40	\$	0.40	0.37	0.40	0.40	0.33	0.37	0.45	0.53	0.33	0.53	0.41	23	
30	0.42	0.47	0.42	0.42	0.40	0.37	0.35	0.35	0.41	0.40	0.35	0.35	0.37	0.35	\$	0.35	0.35	0.33	0.37	0.35	0.35	0.40	0.37	0.37	0.33	0.47	0.38	24	
HOURLY MAX	1.10	1.05	2.01	1.10	1.33	1.21	4.11	4.01	2.66	0.71	0.78	0.60	0.50	0.50	0.56	0.51	0.50	0.53	0.65	0.68	0.55	0.91	1.34	1.05					
HOURLY AVG	0.51	0.48	0.49	0.48	0.49	0.51	0.63	0.67	0.57	0.46	0.44	0.43	0.42	0.42	0.42	0.42	0.43	0.42	0.44	0.43	0.44	0.48	0.52	0.50					

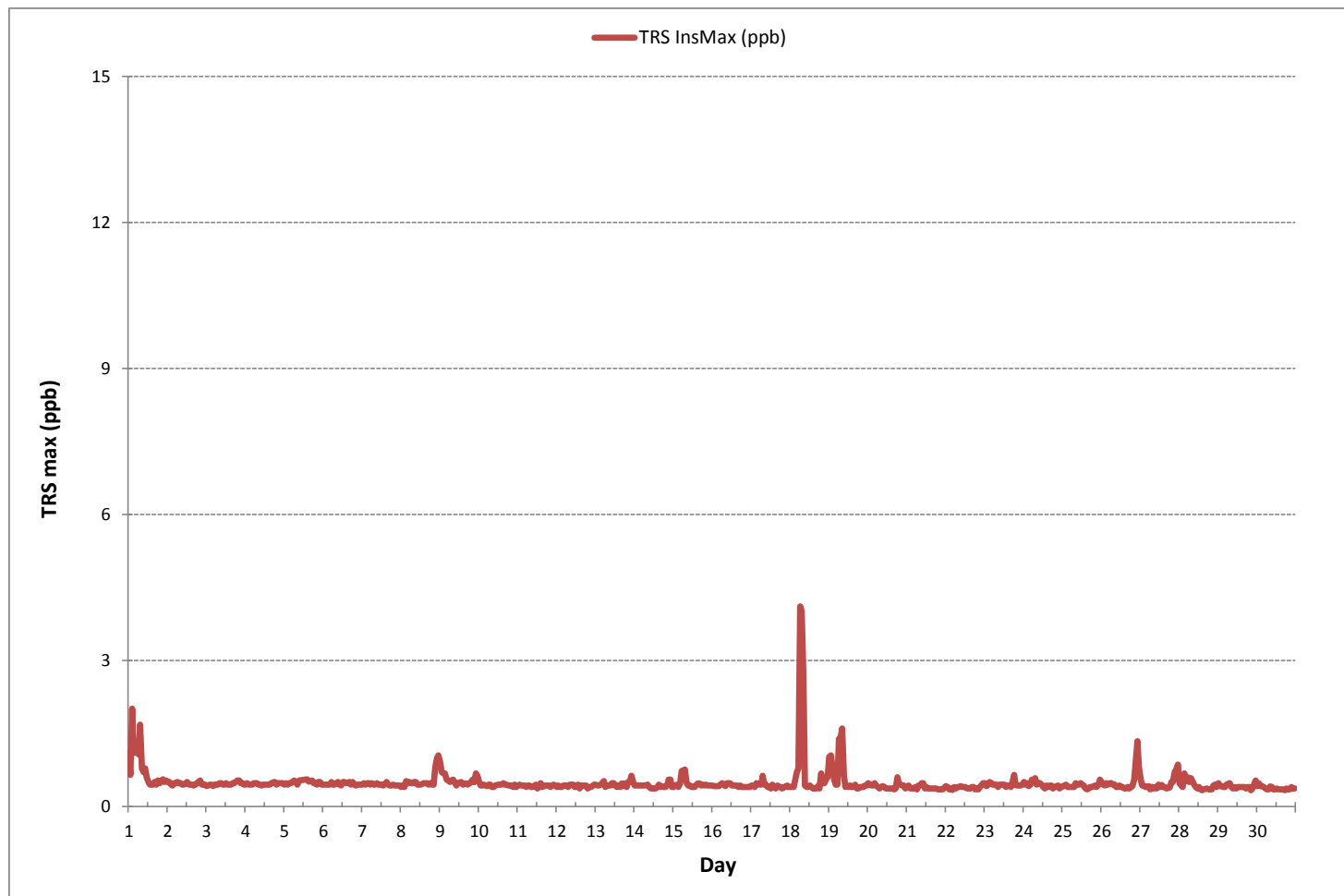
STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	684
MAXIMUM INSTANTANEOUS VALUE:	4.11 ppb @ HOUR 6 ON DAY 18
IZS CALIBRATION TIME:	31 hrs
MONTHLY CALIBRATION TIME:	4 hrs
STANDARD DEVIATION:	0.26
OPERATIONAL TIME:	719 hrs

TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS ppb)



TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59					
DAY																													
1	5.74	4.94	7.06	10.99	7.88	9.77	15.48	9.59	3.35	2.48	2.47	2.07	2.00	1.98	1.97	1.97	1.98	1.98	2.02	2.02	\$	2.06	2.03	2.00	1.97	15.48	4.51	24	
2	2.00	2.04	1.98	1.99	1.99	1.98	1.98	1.98	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	\$	1.96	1.97	1.96	1.96	1.96	1.96	2.04	1.97	24
3	2.18	2.20	1.98	2.48	2.11	2.02	1.98	1.97	1.97	1.99	1.98	1.96	1.96	1.96	1.96	1.96	1.96	1.96	\$	1.97	1.96	1.96	1.96	1.97	1.96	2.48	2.02	24	
4	1.97	1.97	1.97	1.97	1.98	1.98	1.99	1.97	1.97	1.96	1.96	1.97	1.96	1.96	1.96	1.96	1.97	\$	1.96	1.97	1.98	2.01	2.03	1.98	1.96	2.03	1.97	24	
5	1.97	2.02	1.98	1.98	2.17	2.17	2.03	1.98	1.98	1.96	1.97	1.96	C	C	C	C	C	1.98	1.99	1.99	2.04	2.33	2.02	1.99	1.96	2.33	2.03	24	
6	1.99	1.99	2.07	2.02	2.05	2.06	2.03	2.06	2.04	2.03	2.03	2.02	2.01	2.02	2.02	\$	2.03	2.03	2.03	2.04	2.09	2.07	2.05	2.06	1.99	2.09	2.04	24	
7	2.05	2.03	2.03	2.06	2.11	2.05	2.09	2.08	2.07	2.06	2.05	2.03	2.03	2.03	\$	2.03	2.03	2.02	2.03	2.03	2.02	2.03	2.02	2.02	2.02	2.11	2.04	24	
8	2.06	2.08	2.12	2.12	2.19	2.35	2.47	2.52	2.18	2.23	2.13	2.08	2.04	\$	2.08	2.06	2.06	2.06	2.06	2.07	2.54	4.15	5.34	5.29	2.04	5.34	2.53	24	
9	7.89	3.66	4.06	3.66	2.69	2.45	2.45	2.41	2.16	2.08	2.05	2.03	\$	2.14	2.21	2.29	2.26	2.22	2.37	2.99	3.61	2.78	4.89	3.41	2.03	7.89	2.99	24	
10	2.35	2.05	2.03	2.02	2.02	2.02	2.00	1.99	1.99	1.99	1.99	\$	1.99	1.98	1.98	2.00	2.00	2.00	2.00	2.00	2.01	2.02	2.00	1.99	1.98	2.35	2.02	24	
11	1.99	2.00	1.99	2.03	2.03	2.00	2.00	2.00	1.99	\$	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.02	2.01	1.99	2.03	2.00	24	
12	2.00	2.00	2.00	2.05	2.05	2.05	2.03	2.03	2.01	\$	2.00	2.00	2.04	2.13	2.10	2.15	2.22	2.20	2.05	2.06	2.10	2.10	2.05	2.11	2.00	2.22	2.07	24	
13	2.09	2.07	2.09	2.09	2.14	2.23	2.12	2.59	\$	2.26	2.25	2.19	2.12	2.15	2.03	2.11	2.14	2.11	2.06	2.07	2.07	2.11	2.05	2.04	2.03	2.59	2.14	24	
14	2.07	2.12	2.29	2.20	3.31	1.98	1.97	\$	2.02	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	2.22	1.98	2.95	3.65	4.26	2.02	1.97	4.26	2.30	24	
15	1.98	1.98	2.00	1.99	3.08	4.33	\$	2.60	2.07	2.00	1.99	2.00	2.00	2.00	2.02	2.03	2.01	2.01	2.01	2.00	1.99	2.00	1.99	2.00	1.98	4.33	2.18	24	
16	1.99	2.00	2.00	2.00	2.00	\$	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.02	2.02	2.00	2.00	2.00	1.99	2.00	2.00	1.99	2.00	1.99	1.99	2.02	2.00	24	
17	1.99	2.00	2.01	2.00	\$	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.99	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.05	1.99	2.05	2.00	24		
18	2.03	2.03	2.92	\$	3.41	5.46	2.57	3.14	2.59	2.00	1.99	1.98	1.98	1.97	1.98	1.98	1.98	1.98	2.19	2.98	3.38	2.48	2.62	3.18	1.97	5.46	2.56	24	
19	2.78	3.33	\$	2.27	2.26	2.19	2.54	2.02	2.00	2.22	2.18	2.11	2.07	2.18	2.12	2.18	2.27	2.07	1.98	1.98	1.97	1.97	2.19	2.11	1.97	3.33	2.22	24	
20	2.61	\$	2.23	2.23	2.01	1.98	1.99	1.99	2.21	2.13	2.02	2.00	1.97	1.99	1.99	1.97	1.97	1.97	3.20	2.67	2.58	2.28	2.57	3.11	1.97	3.20	2.25	24	
21	\$	2.12	2.04	2.22	2.19	2.01	2.03	2.80	2.47	2.00	2.00	1.98	1.97	1.96	1.96	1.98	1.98	1.98	2.00	1.99	1.97	1.97	1.98	\$	1.96	2.80	2.07	24	
22	1.97	1.96	1.97	1.97	1.97	1.97	1.98	1.98	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.99	1.98	1.98	1.97	1.98	1.99	1.98	\$	2.00	1.96	2.00	1.98	24	
23	2.00	2.00	2.00	2.01	2.02	2.03	2.03	2.03	2.06	2.02	2.16	2.20	2.16	2.14	2.08	2.14	2.11	2.58	2.74	2.63	2.26	\$	2.14	2.00	2.00	2.74	2.15	24	
24	2.00	2.00	1.99	2.00	1.99	3.21	2.48	2.51	2.20	2.13	2.03	2.03	1.98	1.98	1.97	1.98	1.97	1.97	1.97	1.98	\$	1.98	1.98	1.98	1.97	3.21	2.10	24	
25	1.99	1.98	1.98	1.99	1.98	1.99	2.00	2.00	1.99	2.00	2.17	2.18	2.12	2.07	1.97	1.97	1.96	1.97	1.97	1.97	\$	1.97	1.97	2.01	1.99	1.96	2.18	2.01	24
26	1.99	1.99	1.99	2.00	2.02	2.79	2.00	1.99	1.99	1.98	1.97	1.97	1.97	2.06	1.98	2.04	1.97	2.02	\$	2.14	3.22	3.09	7.12	3.04	1.97	7.12	2.41	24	
27	2.99	2.29	2.23	2.37	2.27	2.18	2.01	2.07	2.20	2.19	2.03	2.14	2.16	2.01	2.01	1.99	1.98	\$	2.15	2.32	2.45	3.55	4.52	3.43	1.98	4.52	2.41	24	
28	2.47	2.39	2.40	2.65	2.52	2.52	2.36	2.61	2.36	2.24	2.00	1.98	1.97	1.96	1.94	1.94	\$	1.95	1.95	1.97	1.97	1.97	1.97	1.97	1.94	2.65	2.18	24	
29	1.97	1.97	1.97	1.97	1.97	1.98	1.97	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	\$	1.97	1.97	1.97	1.97	1.97	2.82	2.45	2.72	1.97	2.82	2.06	24	
30	2.31	2.47	2.30	2.13	2.36	2.18	2.00	2.11	2.18	2.06	2.03	2.02	1.98	1.98	\$	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.96	1.96	1.96	2.47	2.08	24	
HOURLY MAX	7.89	4.94	7.06	10.99	7.88	9.77	15.48	9.59	3.35	2.48	2.47	2.20	2.16	2.18	2.21	2.29	2.27	2.58	3.20	2.99	3.61	4.15	7.12	5.29					
HOURLY AVG	2.46	2.26	2.33	2.46	2.44	2.62	2.57	2.45	2.14	2.07	2.05	2.03	2.01	2.02	2.01	2.02	2.03	2.03	2.10	2.13	2.25	2.32	2.63	2.36					

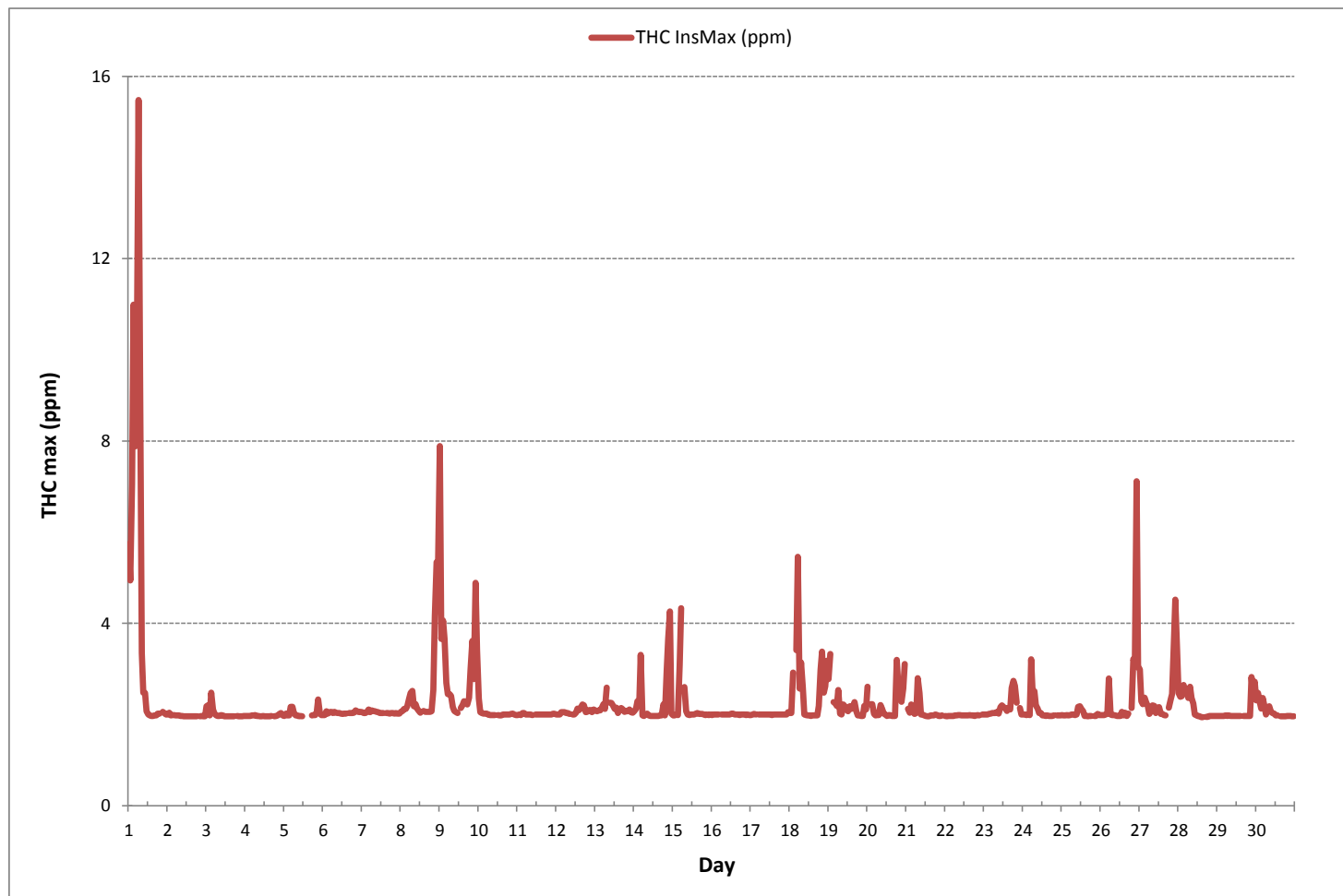
STATUS FLAG CODES

SHORTCUT KEYS			
C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

MONTHLY SUMMARY									
NUMBER OF NON-ZERO READINGS:		685							
MAXIMUM INSTANTANEOUS VALUE:		15.48	ppm	@ HOUR	6	ON DAY	1		
IZS CALIBRATION TIME:		30	hrs	OPERATIONAL TIME:		720 hrs			
MONTHLY CALIBRATION TIME:		5	hrs						
STANDARD DEVIATION:		0.95							

TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - April 2018

METHANE MAX Instantaneous Maximum (CH₄ ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.		
DAY																													
1	5.74	4.93	7.00	10.97	7.74	9.75	15.35	9.58	3.34	2.48	2.46	2.05	1.99	1.97	1.97	1.97	1.97	1.98	2.02	2.02	\$	2.05	2.03	1.99	1.97	15.35	4.49	24	
2	1.99	2.03	1.98	1.99	1.98	1.98	1.97	1.97	1.97	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	\$	1.96	1.96	1.96	1.95	1.96	1.95	2.03	1.97	24
3	2.17	2.19	1.97	2.48	2.10	2.02	1.98	1.97	1.96	1.99	1.97	1.96	1.95	1.95	1.95	1.95	1.95	1.95	\$	1.96	1.96	1.96	1.95	1.96	1.95	2.48	2.01	24	
4	1.96	1.97	1.96	1.96	1.98	1.98	1.99	1.97	1.96	1.96	1.96	1.96	1.95	1.96	1.96	1.95	1.96	\$	1.96	1.96	1.96	1.97	2.00	2.02	1.97	1.95	2.02	1.97	24
5	1.97	2.01	1.97	1.98	2.16	2.16	2.02	1.98	1.97	1.96	1.96	1.96	C	C	C	C	C	1.98	1.99	1.99	2.03	2.32	2.01	1.99	1.96	2.32	2.02	24	
6	1.99	1.99	2.07	2.00	2.05	2.06	2.02	2.06	2.03	2.02	2.01	2.01	2.00	2.00	2.01	\$	2.01	2.02	2.03	2.03	2.08	2.07	2.05	2.06	1.99	2.08	2.03	24	
7	2.05	2.02	2.02	2.06	2.10	2.05	2.08	2.07	2.07	2.06	2.03	2.03	2.02	2.01	\$	2.02	2.01	2.01	2.02	2.01	2.00	2.02	2.01	2.00	2.00	2.10	2.03	24	
8	2.06	2.08	2.11	2.11	2.18	2.35	2.46	2.52	2.18	2.22	2.12	2.08	2.04	\$	2.08	2.06	2.06	2.05	2.06	2.07	2.54	4.15	5.34	5.29	2.04	5.34	2.53	24	
9	7.88	3.65	4.05	3.66	2.68	2.45	2.45	2.40	2.15	2.08	2.05	2.03	\$	2.13	2.20	2.28	2.24	2.22	2.36	2.99	3.61	2.77	4.88	3.41	2.03	7.88	2.98	24	
10	2.34	2.05	2.01	2.01	2.00	2.00	1.99	1.98	1.98	1.98	1.98	\$	1.98	1.98	1.98	1.99	1.99	1.99	1.98	1.98	2.00	2.01	1.99	1.98	1.98	2.34	2.01	24	
11	1.98	1.99	1.99	2.01	2.01	1.98	1.98	1.99	1.99	1.99	\$	1.99	2.00	1.99	1.99	1.98	1.99	1.99	1.98	1.99	2.00	2.00	2.01	2.00	1.98	2.01	1.99	24	
12	1.99	1.99	1.99	2.02	2.03	2.03	2.02	2.03	2.00	\$	1.99	2.00	2.03	2.12	2.09	2.14	2.21	2.20	2.05	2.06	2.09	2.09	2.04	2.09	1.99	2.21	2.06	24	
13	2.08	2.07	2.08	2.08	2.13	2.22	2.10	2.58	\$	2.25	2.23	2.18	2.11	2.14	2.03	2.09	2.13	2.10	2.06	2.07	2.07	2.10	2.05	2.04	2.03	2.58	2.13	24	
14	2.07	2.11	2.27	2.19	3.30	1.97	1.97	\$	2.00	1.97	1.97	1.97	1.97	1.96	1.97	1.97	1.97	1.97	2.22	1.97	2.95	3.65	4.25	2.00	1.96	4.25	2.29	24	
15	1.98	1.98	1.98	1.98	3.07	4.33	\$	2.59	2.07	1.99	1.98	1.99	1.99	2.00	2.01	2.01	2.00	2.00	2.00	2.00	1.99	1.99	1.99	1.99	1.98	4.33	2.17	24	
16	1.98	1.99	1.98	1.99	1.99	\$	1.99	1.99	1.99	1.99	1.99	1.99	2.00	2.00	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.99	2.00	1.99	1.98	2.00	1.99	24	
17	1.99	1.99	1.99	1.99	\$	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.98	1.98	1.98	1.99	1.99	1.99	1.99	1.99	1.99	2.03	1.98	2.03	1.99	24		
18	2.02	2.02	2.91	\$	3.41	5.45	2.56	3.13	2.58	1.99	1.99	1.98	1.97	1.97	1.97	1.98	1.98	1.98	2.19	2.97	3.37	2.47	2.61	3.18	1.97	5.45	2.55	24	
19	2.77	3.32	\$	2.27	2.26	2.18	2.54	2.00	1.99	2.21	2.18	2.10	2.07	2.17	2.11	2.17	2.25	2.06	1.98	1.98	1.96	1.96	2.18	2.10	1.96	3.32	2.21	24	
20	2.61	\$	2.22	2.23	2.00	1.98	1.98	1.98	2.20	2.12	2.01	1.98	1.97	1.98	1.98	1.97	1.97	1.97	3.20	2.67	2.57	2.27	2.56	3.11	1.97	3.20	2.24	24	
21	\$	2.10	2.03	2.21	2.18	2.00	2.01	2.78	2.46	1.99	1.99	1.98	1.96	1.96	1.96	1.97	1.97	1.98	2.00	1.98	1.96	1.97	1.97	\$	1.96	2.78	2.06	24	
22	1.96	1.96	1.96	1.97	1.97	1.96	1.97	1.97	1.98	1.98	1.98	1.98	1.97	1.97	1.98	1.98	1.98	1.98	1.97	1.98	1.98	1.98	\$	2.00	1.96	2.00	1.97	24	
23	1.99	2.00	2.00	2.00	2.01	2.01	2.01	2.01	2.06	2.02	2.15	2.19	2.15	2.13	2.08	2.13	2.10	2.57	2.73	2.62	2.24	\$	2.13	2.00	1.99	2.73	2.14	24	
24	2.00	1.99	1.99	1.99	1.99	3.21	2.47	2.50	2.19	2.12	2.02	2.02	1.98	1.97	1.97	1.97	1.97	1.97	1.96	1.98	\$	1.97	1.98	1.98	1.96	3.21	2.10	24	
25	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	1.99	1.99	2.17	2.17	2.11	2.07	1.96	1.96	1.96	1.96	1.97	\$	1.97	1.97	2.01	1.99	1.96	2.17	2.00	24	
26	1.98	1.98	1.98	1.99	2.01	2.77	1.98	1.98	1.98	1.97	1.96	1.97	1.97	2.06	1.97	2.04	1.96	2.02	\$	2.13	3.21	3.08	7.12	3.04	1.96	7.12	2.40	24	
27	2.99	2.28	2.23	2.36	2.27	2.17	2.01	2.07	2.19	2.18	2.01	2.13	2.16	2.00	2.00	1.98	1.98	\$	2.14	2.31	2.44	3.56	4.52	3.42	1.98	4.52	2.41	24	
28	2.47	2.39	2.40	2.65	2.51	2.51	2.35	2.60	2.35	2.24	1.98	1.97	1.96	1.96	1.94	1.93	\$	1.94	1.95	1.97	1.97	1.96	1.97	1.96	1.93	2.65	2.17	24	
29	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.96	\$	1.97	1.97	1.96	1.96	1.96	1.96	2.81	2.44	2.72	1.96	2.81	2.06	24
30	2.30	2.47	2.29	2.12	2.35	2.17	1.99	2.10	2.17	2.06	2.02	2.00	1.97	1.97	\$	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	2.47	2.07	24	
HOURLY MAX	7.88	4.93	7.00	10.97	7.74	9.75	15.35	9.58	3.34	2.48	2.46	2.19	2.16	2.17	2.20	2.28	2.25	2.57	3.20	2.99	3.61	4.15	7.12	5.29					
HOURLY AVG	2.46	2.26	2.32	2.46	2.43	2.61	2.56	2.44	2.13	2.06	2.04	2.02	2.01	2.01	2.00	2.01	2.02	2.03	2.10	2.13	2.24	2.31	2.62	2.35					

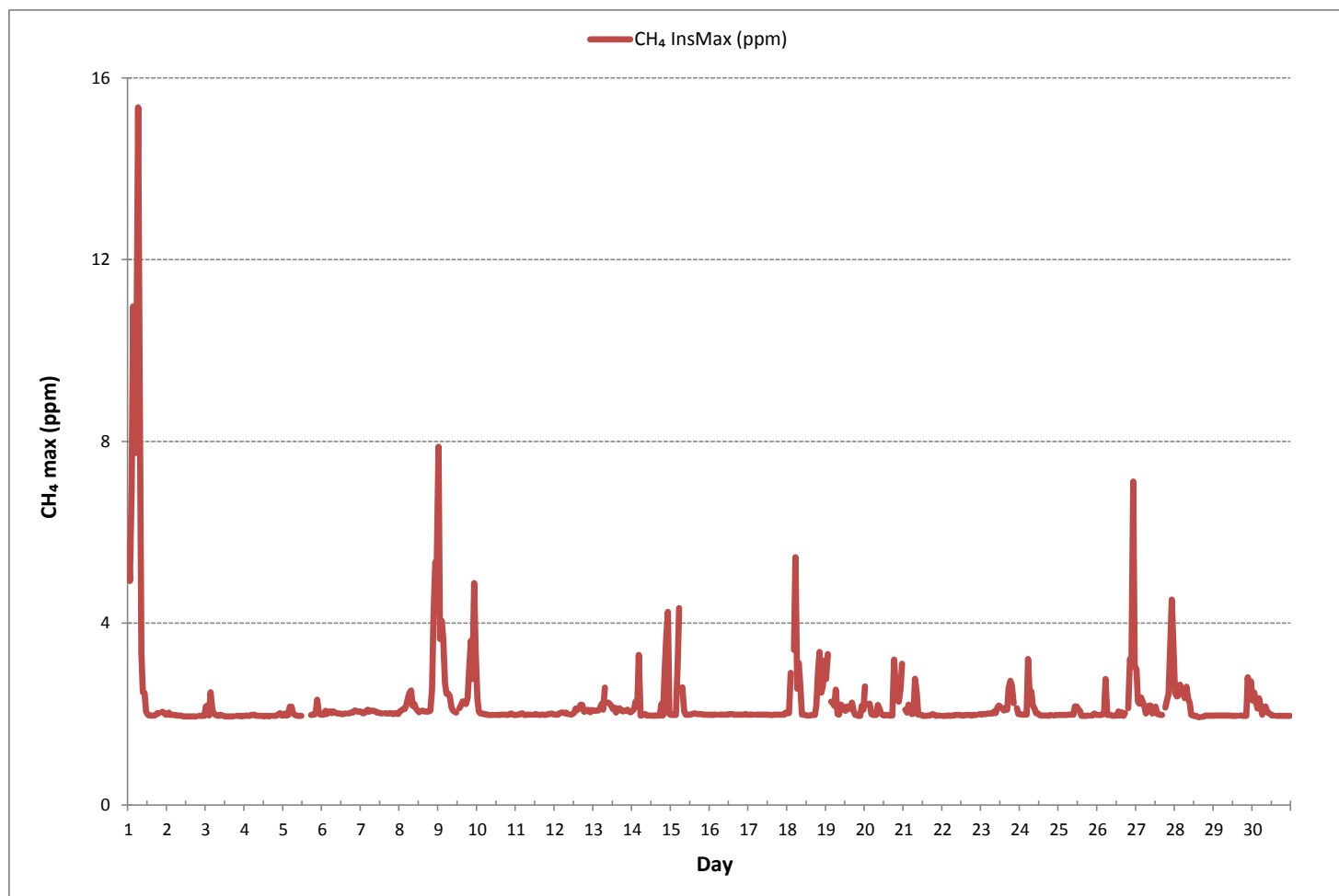
STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	685				
MAXIMUM INSTANTANEOUS VALUE:	15.35	ppm	@ HOUR	6	ON DAY 1
IZS CALIBRATION TIME:	30	hrs	OPERATIONAL TIME:	720	hrs
MONTHLY CALIBRATION TIME:	5	hrs			
STANDARD DEVIATION:	0.94				

METHANE MAX Instantaneous Maximum (CH₄ ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
Reno Station - April 2018

NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	0.00	0.00	0.06	0.00	0.14	0.00	0.21	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.21	0.02	24
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
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	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	24
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	24
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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
9	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.06	0.00	24
10	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	24
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
12	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	24
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
15	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
16	0.00	0.00	0.00	0.00	0.00	0.00	S	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	0.01	0.00	0.00	0.01	0.00	24
17	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
18	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	24
19	0.00	0.00	S	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	24
20	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	24
21	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	24
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	0.00	0.00	S	0.00	0.00	0.00	0.00	24
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	S	0.00	0.00	0.00	0.03	0.00	24
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.01	0.00	0.00	0.00	0.00	0.01	0.00	24
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	0.01	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
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	0.01	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
HOURLY MAX	0.01	0.06	0.06	0.04	0.14	0.06	0.21	0.14	0.04	0.03	0.00	0.00	0.01	0.00	0.02	0.01	0.00	0.00	0.02	0.00	0.01	0.01	0.03	0.00				
HOURLY AVG	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				

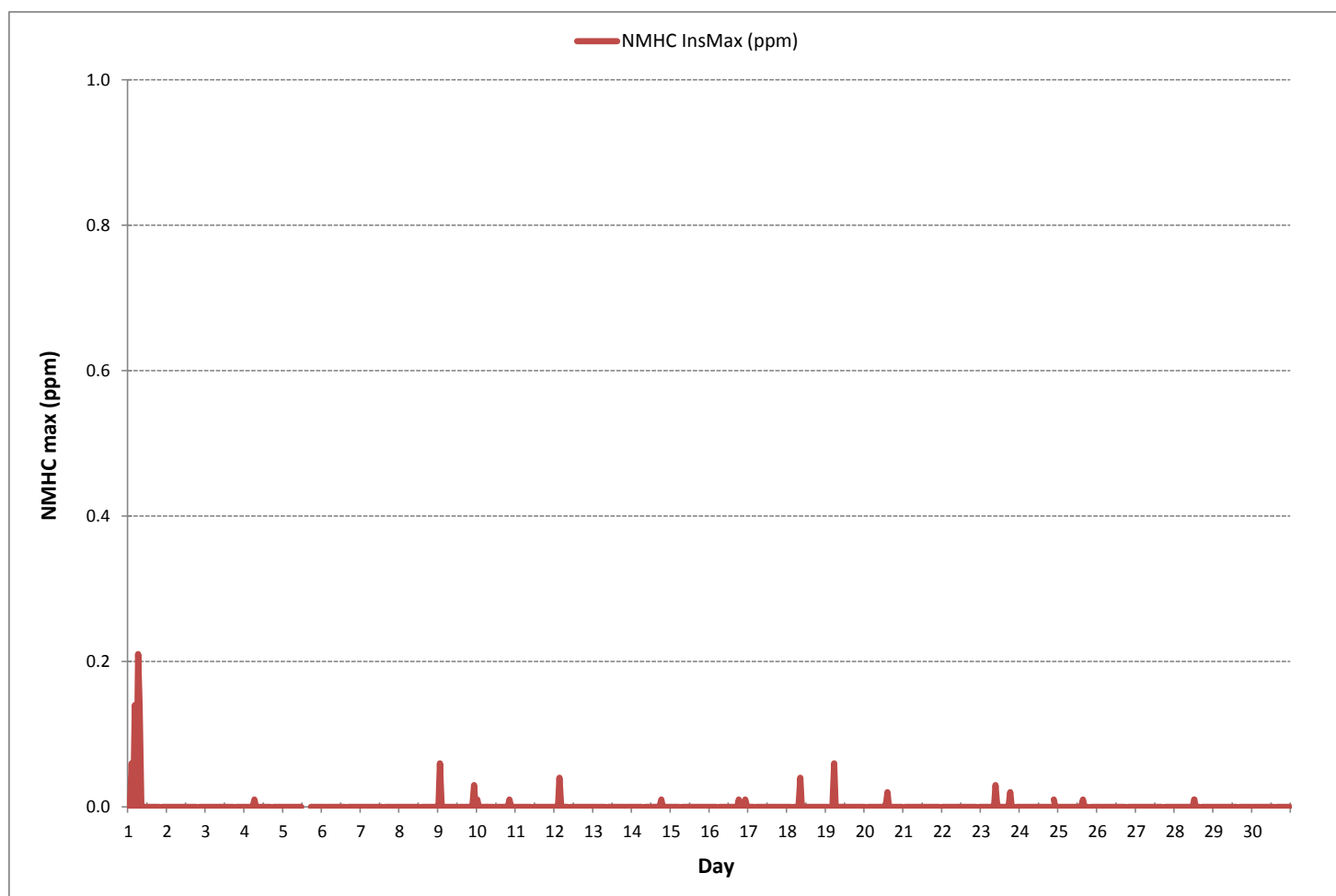
STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	21
MAXIMUM INSTANTANEOUS VALUE:	0.21 ppm @ HOUR 6 ON DAY 1
IZS CALIBRATION TIME:	30 hrs
MONTHLY CALIBRATION TIME:	5 hrs
STANDARD DEVIATION:	0.01
OPERATIONAL TIME:	720 hrs

NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - April 2018

WIND SPEED Instantaneous Maximum (WS kph)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	7.1	5.8	5.3	5.7	6.8	5.8	3.4	5.3	5.4	7.7	8.2	14.1	17.6	21.6	22.5	22.7	22.8	20.1	10.0	8.7	9.6	5.7	5.9	10.8	3.4	22.8	10.8	24
2	9.8	10.9	14.4	12.4	11.3	18.8	17.6	21.3	18.0	19.5	20.0	21.4	23.5	24.0	26.5	24.9	26.6	20.1	16.0	10.6	13.5	5.6	3.1	4.9	3.1	26.6	16.4	24
3	5.0	10.2	7.7	5.5	12.4	12.0	13.1	8.9	14.9	14.5	18.6	21.1	26.5	26.2	27.2	25.3	24.4	23.2	22.7	16.5	19.8	12.7	15.1	16.5	5.0	27.2	16.7	24
4	13.7	14.8	10.4	10.5	15.7	12.2	16.3	18.8	24.7	22.3	25.4	25.0	26.3	25.4	24.2	24.3	20.5	22.0	15.7	10.5	9.4	9.9	16.4	15.4	9.4	26.3	17.9	24
5	12.7	6.3	6.9	4.6	8.1	7.6	15.2	15.3	20.0	24.9	22.7	24.9	23.1	24.3	23.8	C	C	C	20.4	11.5	9.3	12.7	9.6	10.9	4.6	24.9	15.0	24
6	9.5	12.3	16.7	18.6	16.0	17.0	15.1	22.4	23.3	29.3	29.6	32.9	28.3	30.2	32.6	26.9	27.3	27.8	26.4	25.9	19.5	19.0	18.9	23.4	9.5	32.9	22.9	24
7	20.5	21.6	18.6	19.7	22.8	20.7	22.4	23.9	25.9	28.5	28.4	30.8	26.3	36.9	31.1	33.2	30.0	27.7	36.4	33.0	28.0	21.3	17.8	19.1	17.8	36.9	26.0	24
8	17.8	17.1	15.2	14.4	17.9	12.4	11.7	12.8	12.2	13.4	15.3	14.4	14.6	13.7	13.7	16.9	15.0	13.9	11.2	5.9	7.7	3.6	6.6	6.5	3.6	17.9	12.7	24
9	7.0	6.0	6.3	4.5	4.6	6.0	5.4	5.8	10.2	11.3	13.0	13.1	13.5	7.9	9.1	9.7	12.5	8.5	5.7	3.4	3.3	3.5	5.5	12.7	3.3	13.5	7.9	24
10	11.4	12.9	17.9	19.0	24.4	19.9	24.1	27.9	32.6	29.3	32.1	36.7	32.1	32.8	31.8	35.7	34.4	39.0	38.0	32.3	37.9	32.7	31.8	22.7	11.4	39.0	28.7	24
11	24.7	27.5	28.1	23.6	18.2	15.4	11.2	14.5	14.8	17.0	16.3	17.6	17.6	16.6	17.5	13.3	16.0	10.1	8.2	14.8	15.5	12.7	16.1	18.5	8.2	28.1	16.9	24
12	15.7	16.2	15.0	17.1	19.9	16.8	23.3	21.2	21.9	21.4	22.2	28.8	26.2	24.6	28.5	15.2	16.8	21.4	19.5	16.6	15.5	18.5	17.7	18.4	15.0	28.8	19.9	24
13	18.9	20.5	17.8	15.4	16.8	18.9	16.6	17.9	19.5	14.9	16.2	17.6	15.4	16.8	15.9	11.6	12.2	16.7	17.9	24.6	28.2	24.3	22.5	16.9	11.6	28.2	18.1	24
14	18.7	18.5	37.3	18.8	12.3	16.9	17.2	19.1	19.7	23.8	27.3	33.9	32.9	31.5	36.9	30.7	28.7	20.4	19.0	12.5	6.7	13.1	10.7	12.0	6.7	37.3	21.6	24
15	14.7	9.5	9.2	10.2	8.4	4.3	4.7	8.6	13.4	15.8	17.7	25.3	26.8	31.3	32.6	39.9	35.6	37.1	37.5	32.5	28.8	31.0	30.7	28.1	4.3	39.9	22.2	24
16	28.8	28.3	31.5	30.2	27.2	31.4	31.5	32.2	30.9	26.4	24.7	27.6	30.4	31.4	33.1	28.8	30.6	27.6	27.3	25.2	24.5	24.4	22.4	24.9	22.4	33.1	28.4	24
17	23.5	23.7	20.5	15.9	17.7	19.5	17.1	15.7	19.0	20.6	24.1	36.9	36.4	33.5	35.3	35.3	33.0	31.8	29.7	25.0	17.2	13.8	14.9	16.3	13.8	36.9	24.0	24
18	17.4	8.8	10.9	6.8	6.1	7.1	4.2	6.4	20.2	27.3	23.8	22.0	19.9	23.9	26.2	22.8	16.3	16.4	16.1	9.1	8.3	15.0	12.9	9.7	4.2	27.3	14.9	24
19	9.2	10.7	12.5	16.5	17.3	15.8	13.2	15.0	13.2	13.7	15.6	22.8	24.5	20.0	19.6	16.4	13.2	12.4	13.2	23.0	15.1	20.0	18.0	18.0	9.2	24.5	16.2	24
20	19.0	18.8	15.8	17.1	25.4	24.9	31.4	25.3	21.6	20.0	21.2	22.0	25.9	19.5	26.2	23.3	23.2	20.4	11.7	4.4	9.0	12.4	9.0	14.7	4.4	31.4	19.3	24
21	21.3	18.9	17.1	20.6	18.3	10.8	3.7	5.8	16.9	22.4	20.0	17.7	20.2	14.5	19.4	21.9	18.1	18.9	12.1	16.5	24.4	30.3	32.6	35.8	3.7	35.8	19.1	24
22	31.5	35.6	33.4	27.2	29.7	29.7	26.0	24.3	28.1	33.3	26.7	25.2	26.4	27.5	32.2	30.2	26.8	21.8	18.6	12.0	10.7	9.3	10.4	11.5	9.3	35.6	24.5	24
23	11.5	11.8	12.1	12.8	11.8	15.1	15.4	19.2	19.5	20.8	19.0	15.4	18.0	17.2	21.8	20.4	16.6	15.9	10.1	13.3	17.0	16.4	13.1	20.0	10.1	21.8	16.0	24
24	17.9	15.5	13.9	12.9	13.8	14.0	14.3	19.9	21.1	21.5	25.2	25.5	32.7	30.3	20.7	18.3	17.6	13.5	16.8	9.9	13.7	17.5	21.4	22.5	9.9	32.7	18.8	24
25	16.5	13.2	11.8	12.0	15.4	13.2	14.0	18.4	17.0	15.1	13.2	15.6	16.7	24.2	28.5	26.2	25.2	26.4	15.4	13.4	9.0	11.1	12.1	14.3	9.0	28.5	16.6	24
26	15.8	15.2	18.7	14.3	8.9	8.1	10.9	14.7	13.5	12.7	14.5	13.2	12.6	13.5	12.8	11.4	9.8	7.4	4.8	4.2	2.7	2.8	6.9	4.1	2.7	18.7	10.6	24
27	7.7	7.7	8.9	14.3	18.6	12.6	16.9	16.2	20.9	21.0	20.1	16.5	20.6	20.9	20.5	23.8	17.5	13.6	7.2	4.1	3.3	3.4	8.7	8.0	3.3	23.8	13.9	24
28	8.9	10.9	7.5	4.7	8.7	9.8	5.9	9.5	12.7	20.7	23.6	30.6	28.0	24.8	23.4	30.4	34.2	23.8	27.8	24.1	25.3	36.6	34.2	25.0	4.7	36.6	20.5	24
29	25.2	32.2	30.3	34.3	24.6	26.3	24.9	19.6	20.0	20.7	17.2	20.1	12.8	16.7	20.8	18.6	18.5	19.2	16.9	14.4	7.3	3.9	3.3	4.9	3.3	34.3	18.9	24
30	4.0	5.8	5.1	10.4	7.4	11.6	15.9	14.5	17.5	25.9	25.8	27.0	35.7	31.6	29.6	26.3	31.1	25.1	26.4	36.0	35.0	31.5	32.3	14.3	4.0	36.0	21.9	24
HOURLY MAX	31.5	35.6	37.3	34.3	29.7	31.4	31.5	32.2	32.6	33.3	32.1	36.9	36.4	36.9	36.9	39.9	35.6	39.0	38.0	36.0	37.9	36.6	34.2	35.8				
HOURLY AVG	15.5	15.6	15.9	15.0	15.6	15.2	15.4	16.7	19.0	20.5	20.9	23.2	23.7	23.8	24.8	23.6	22.6	20.8	18.6	16.5	15.8	15.8	16.0	16.0				

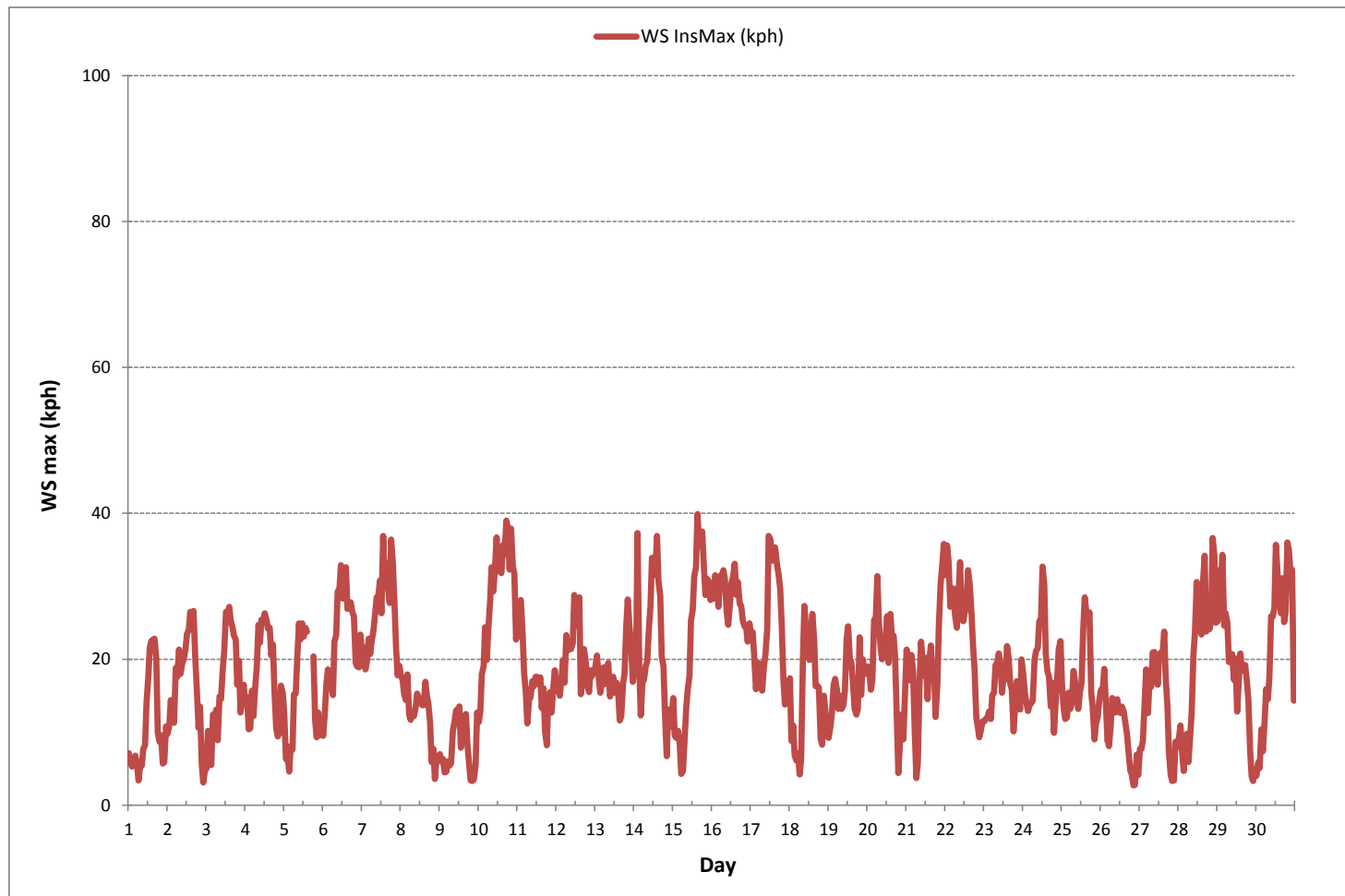
STATUS FLAG CODES

C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS VALUE:	39.9	kph	@ HOUR	15	ON DAY	15
OPERATIONAL TIME:	720	hrs				

WIND SPEED Instantaneous Maximum (WS kph)

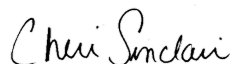


APPENDIX IV
REPORT CERTIFICATION FORM

Report Certification Form

Alberta Airshed (if applicable)	EPA Approval or Code of Practice Registration # (if applicable)
YES	NA
Company Name (if applicable)	Industrial Operation Name (if applicable)
Peace River Area Monitoring Program Committee	Reno Station
Name of the Representative of the Person Responsible	Position / Title of the Representative of the Person Responsible
Mike Bisaga / Lily Lin	Technical Program Managers
Is an External Party Certifying the Report? (If 'Yes', fill in the fields below for the external person.)	
☒ Yes ☐ No	
Name of External Person Certifying the Report	Position / Title of External Person Certifying the Report
Cheri Sinclair	Supervisor, Customer Service, Air Services
Company Name for the External Person Certifying the Report	Identification of Qualifications / Professional Designations of the External Person Certifying the Report
Maxxam Analytics, A Bureau Veritas Group Company	B.Sc.

Maxxam Analytics is the designated contractor conducting monitoring and reporting activities. I certify that the submitted data has been (a) reviewed and validated as per the AMD Chapter 6: Ambient Data Quality. I certify that the submitted report (b) accurately reflects the monitoring results and reporting timeframe and (c) meets the specified analysis, summarization and reporting requirements as per the AMD Chapter 9: Reporting.



Signature of the External Person Certifying the Report

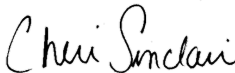
15-May-2018

Report Issued Date (dd-mon-yyyy)

APPENDIX V
DATA VALIDATION CERTIFICATION FORM

Validation Certificate Form

Client: <u>Peace River Area Monitoring Program Committee</u> Site: <u>Reno Station</u>	Project #: <u>196-2018-04-93-C</u> Contact: <u>Karla Reesor</u>
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Level 0 Preliminary Verification	 	Date <u>08-May-2018</u>
Level 1 Primary Validation	 	Date <u>08-May-2018</u>
Level 2 Final Validation	 	Date <u>15-May-2018</u>
Level 3 Independent Data Review	 	Date <u>15-May-2018</u>
Post-Final Validation	<u>NA</u> 	Date <u>NA</u>

Notes
The Post-Final Validation step serves to re-evaluate the data that errors or omissions are discovered and/or suspected after the initial submittal of data. This validation is performed on an annual basis.