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AMBIENT AIR MONITORING MONTHLY DATA REPORT
PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
RENO STATION

JOB #: 196-2017-01-93-C

January 2017

Prepared for:

PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
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Attention: Karla Reesor

DATE: **March 03, 2017**

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SUMMARY

In January 2016, 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.

SO₂: Three hours of downtime were recorded this month. The analyzer exhibited a biased high span response, prompting additional quality checks.

TRS: Three hours of downtime were recorded this month. The analyzer exhibited a biased low response on January 2 and a biased high span response on January 19, prompting additional quality checks.

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 403-219-3677 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	0.0	0.9	2	8	1.7	N	0.3	2	99.6
TRS (ppb)	-	-	-	-	0.2	1.5	17	18	3.8	S	0.6	18	99.6
THC (ppm)	-	-	-	-	2.01	3.35	25	22	2.8	S	2.24	25	100.0
CH ₄ (ppm)	-	-	-	-	2.01	3.35	25	22	2.8	S	2.24	25	100.0
NMHC (ppm)	-	-	-	-	0.00	0.06	17	15	3.9	S	0.01	17	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	74	95	19, 20	VAR, VAR	VAR VAR	VAR VAR	90	19	100.0
BAROMETRIC PRESSURE (inHg)	-	-	-	-	27.65	28.21	7	11	8.8	N	28.14	7	100.0
AMBIENT TEMPERATURE (°C)	-	-	-	-	-8.7	8.6	28	15	10.8	SW	3.7	28	100.0
STATION TEMPERATURE (°C)	-	-	-	-	21.1	22.5	5	8	4.8	N	22.0	23	100.0
VECTOR WS (kph)	-	-	-	-	2.8	18.3	11	14	-	N	11.8	14	100.0
VECTOR WD (deg)	-	-	-	-	233 (SW)	-	-	-	-	-	-	-	100.0

VAR-VARIOUS

**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	2017	January

CONTINUOUS AMBIENT MONITORING								
			ONE - HOUR AVERAGE		24 - HOUR AVERAGE			
PARAMETER	STN No.	% TIME OPERATIONAL	MAXIMUM VALUES		NO. READINGS > REGULATION	MAXIMUM VALUES		NO. READINGS > REGULATION
SO ₂	1	99.6	0.0009	ppm	0	0.0003	ppm	0
TRS	1	99.6	0.0015	ppm	-	0.0006	ppm	-
THC	1	100.0	3.35	ppm	-	2.24	ppm	-
CH ₄	1	100.0	3.35	ppm	-	2.24	ppm	-
NMHC	1	100.0	0.06	ppm	-	0.01	ppm	-
RH	1	100.0	95	%	-	90	%	-
BP	1	100.0	28.21	inHg	-	28.14	inHg	-
Ambient TPX	1	100.0	8.6	°C	-	3.7	°C	-
Station TPX	1	100.0	22.5	°C	-	22.0	°C	-
Wind Speed	1	100.0	18.3	kph	-	11.8	kph	-
Wind Direction	1	100.0	-		-	-		-

SIGNATURE OF COMPANY REPRESENTATIVE

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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).

Sample filters for all continuous air monitors are changed 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 (August 3, 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.

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)

- The routine monthly calibration was performed on January 3.
- The analyzer spanned within 75% of the upper acceptance limit on January 17. An additional zero/span check, conducted on January 18, confirmed the drift. An as-found response check was completed on January 20 to assess analyzer performance; and the results met AMD, 2016 requirements. No data was discarded due to this event, however, three hours of downtime were recorded due to the additional quality checks.

TOTAL REDUCED SULPHUR (TRS)

- The analyzer spanned towards the lower acceptance limit on January 1. A repeat zero/span check was triggered on January 2 and the result was outside acceptance limits. This prompted a site visit on January 3, where a successful routine monthly calibration was performed.
- The analyzer spanned within 75% of the upper acceptance limit on January 19. An as-found response check was conducted on January 20 to assess analyzer performance; and the results met AMD, 2016 requirements.
- No data was discarded due to these events, however, three hours of downtime were recorded due to the additional quality checks.

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

- The routine monthly calibration was performed on January 3. The fuel gas cylinder was replaced during this visit.
- The channels were placed in "maintenance" mode for some minutes on January 20, while the fuel gas cylinder was being replaced. This caused the invalidation of maximum instantaneous data collected at hours 17:00 and 18:00. Hourly averages were not impacted.
- 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.

WIND SPEED (WS) AND WIND DIRECTION (WD)

- The wind system was working well throughout the month. 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.
- No operational issues were identified this month.

RELATIVE HUMIDITY (RH)

- No operational issues were identified this month.

BAROMETRIC PRESSURE (BP)

- No operational issues were identified this month.

AMBIENT TEMPERATURE (AmbTPX)

- No operational issues were identified this month.

STATION TEMPERATURE (StnTPX)

- No operational issues were identified this month.

2.0 Project Personnel

Karla Reesor was the contact for Peace River Area Monitoring Program Committee and the Maxxam field technician was Raja Ashraf.

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-00208: 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 Flourescent Analyzer
Total Reduced Sulphur - Thermo 450i UV Flourescent Analyzer
Methane, Non-Methane Hydrocarbon - Thermo 55i FID Analyzer
Wind System - RM Young Unit
Relative Humidity - Met One Unit
Barometric Pressure - Met One Unit
Ambient Temperature - Met One 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

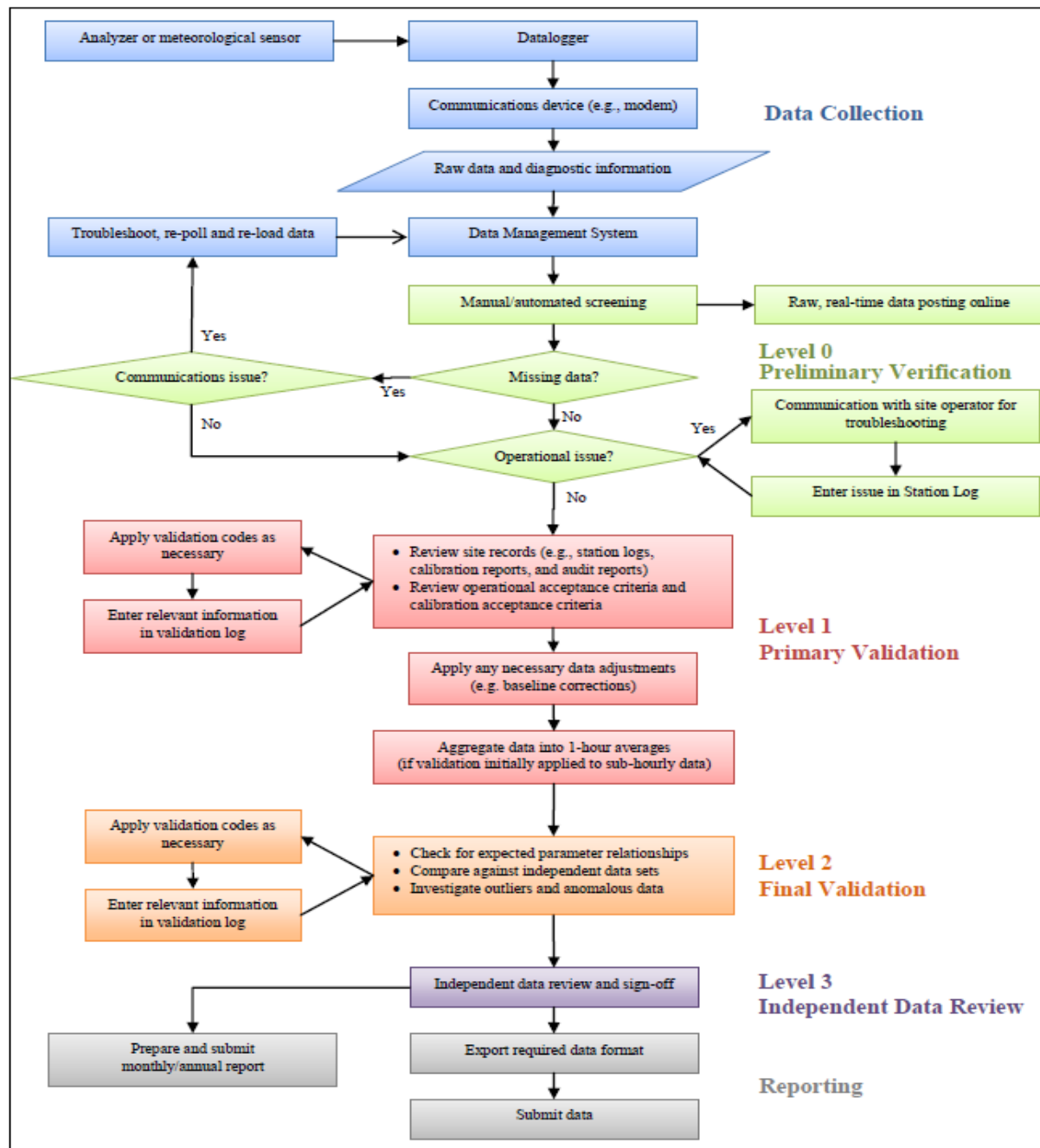
The purpose of Level 2 validation is to verify that there are no inconsistencies among related data, or among regional data measured at nearby sites.

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 (Aug 3, 2016), Chapter 6, Ambient Data Quality; Figure 1 Data Collection and Management Process Flow Chart

APPENDIX I
CONTINUOUS MONITORING DATA RESULTS

SULPHUR DIOXIDE

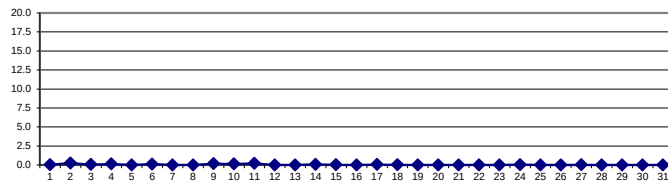
SULPHUR DIOXIDE Hourly Averages (SO₂ ppb)

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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.1	0.4	0.0	0.2	0.2	0.0	0.4	0.0	24
2	0.1	0.0	0.3	0.0	0.2	0.4	0.4	0.8	0.9	0.7	0.4	0.3	0.1	0.0	S	0.0	0.3	0.3	0.1	0.0	0.4	0.3	0.0	0.0	0.0	0.9	0.3	24
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.5	0.1	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.1	24
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.4	0.2	S	0.4	0.4	0.2	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.1	24
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
6	0.0	0.2	0.5	0.5	0.5	0.2	0.2	0.4	0.0	0.2	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.1	24
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	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
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	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
9	0.0	0.3	0.4	0.3	0.2	0.3	0.5	S	0.6	0.3	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.6	0.2	24
10	0.0	0.0	0.0	0.0	0.0	0.0	S	0.3	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.4	0.3	0.6	0.3	0.0	0.6	0.1	24
11	0.3	0.6	0.8	0.3	0.3	S	0.4	0.4	0.5	0.5	0.4	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.2	24
12	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
13	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
14	0.0	0.0	S	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.3	0.2	0.0	0.0	0.3	0.1	24
15	0.4	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	24
16	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	S	0.0	0.1	0.0	24
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.0	0.2	0.0	0.2	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.4	0.1	24
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S1	0.0	0.0	0.0	0.0	0.3	0.2	0.0	0.2	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.3	0.0	23
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.1	0.0	24
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C1	C1	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	S	0.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	24
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	24
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	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	0.2	0.0	24
28	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	0.0	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
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0	24
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	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
31	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	0.0	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
HOURLY MAX	0.4	0.6	0.8	0.5	0.5	0.4	0.5	0.8	0.9	0.7	0.4	0.5	0.1	0.4	0.4	0.3	0.5	0.5	0.3	0.5	0.4	0.3	0.6	0.3				
HOURLY AVG	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

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 January 2017



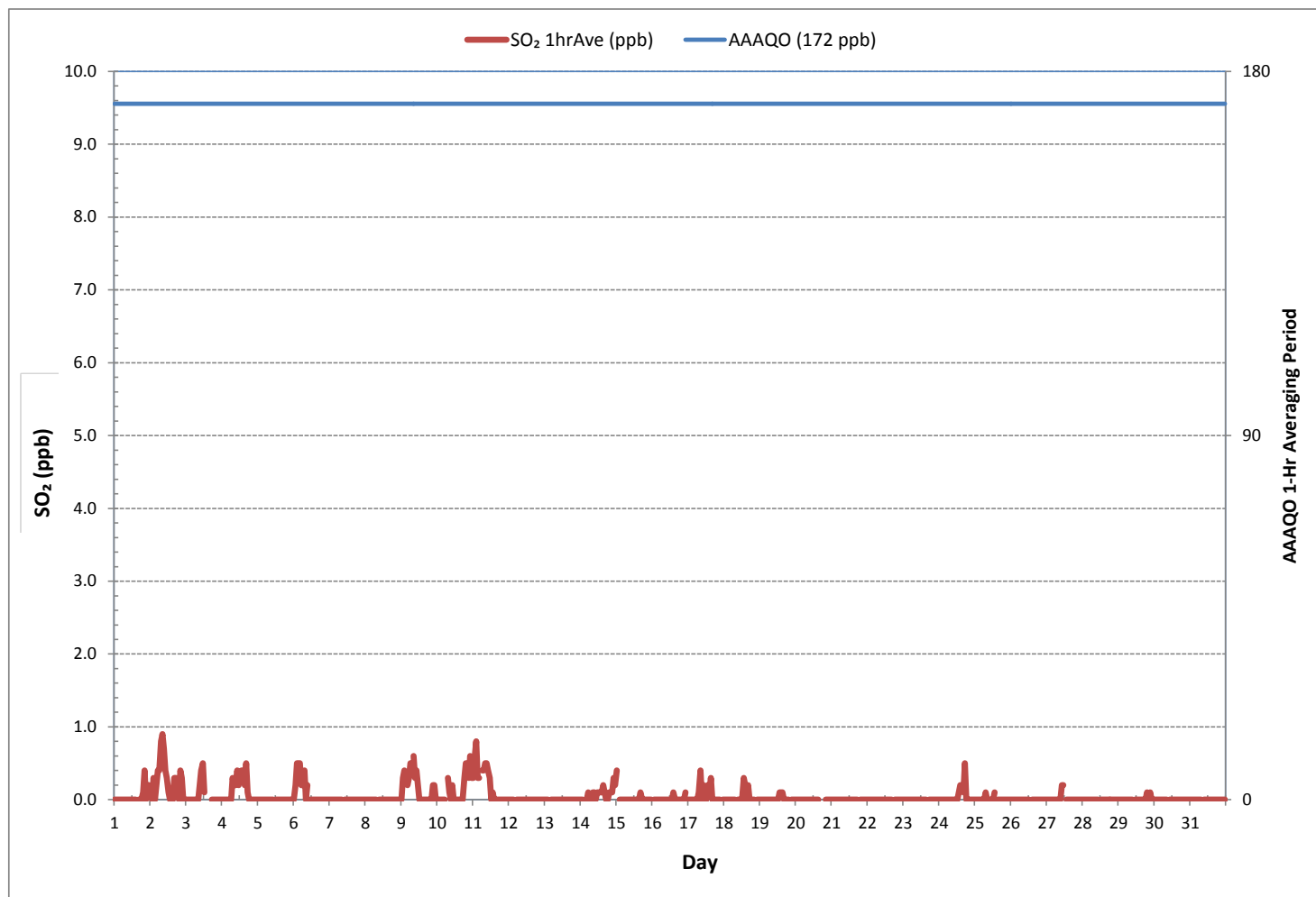
OBJECTIVE LIMIT:

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

NUMBER OF 1-HR EXCEEDANCES:		0				
NUMBER OF 24-HR EXCEEDANCES:		0				
NUMBER OF NON-ZERO READINGS:		115				
MINIMUM 1-HR AVERAGE	0.0	ppb @ HOUR(S)	VAR	ON DAY(S)	ALL	
MAXIMUM 1-HR AVERAGE:	0.9	ppb @ HOUR(S)	8	ON DAY(S)	2	
MAXIMUM 24-HR AVERAGE:	0.3	ppb		ON DAY(S)	2	
			VAR-VARIOUS			
IZS CALIBRATION TIME:		31	hrs	OPERATIONAL TIME:	741	hrs
MONTHLY CALIBRATION TIME:		4	hrs	AMD OPERATION UPTIME:	99.6	%
STANDARD DEVIATION:		0.1		MONTHLY AVERAGE:	0.0	ppb

SULPHUR DIOXIDE Hourly Averages (SO₂ ppb)



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 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	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.8	0.2	0.5	0.0	0.5	0.0	0.0	S	0.0	0.0	0.0	0.8	0.8	0.0	0.8	1.1	0.0	1.1	0.3	24
2	0.8	0.5	1.1	0.8	0.5	1.1	1.4	1.4	1.7	1.7	1.1	0.8	0.8	0.0	S	0.5	0.8	1.4	0.8	0.5	0.8	0.5	0.0	0.0	0.0	1.7	0.8	24
3	0.0	0.0	0.0	0.0	0.5	0.0	0.2	0.0	0.0	1.1	0.5	0.5	0.8	C	C	C	C	C	0.5	0.2	0.2	0.5	0.2	0.0	0.0	1.1	0.3	24
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.2	0.0	S	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.1	24
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.5	0.0	0.5	0.0	24
6	0.8	1.1	1.4	1.4	1.1	0.8	1.1	1.1	0.5	1.1	S	0.5	0.0	0.5	0.0	0.0	0.0	0.2	0.2	0.0	0.5	0.0	0.2	0.2	0.0	1.4	0.6	24
7	0.2	0.8	0.0	0.2	0.5	0.2	0.0	0.5	0.2	S	0.2	0.5	0.5	0.2	0.2	0.5	0.2	0.2	0.5	0.5	0.5	1.1	0.2	0.5	0.0	1.1	0.4	24
8	0.2	0.2	0.2	0.2	0.5	0.0	0.2	0.8	S	0.5	0.5	0.2	0.5	0.2	0.5	0.2	0.8	0.8	0.5	0.5	0.5	0.8	1.1	0.8	0.0	1.1	0.5	24
9	0.8	1.4	1.4	1.1	1.4	1.4	1.4	S	1.4	1.4	1.4	1.1	1.1	1.1	1.1	0.8	1.1	0.8	0.8	1.1	0.8	1.1	1.1	1.1	0.8	1.4	1.1	24
10	0.8	0.8	0.5	1.1	1.1	0.5	S	1.4	0.8	1.1	1.1	0.8	1.1	1.1	0.8	0.5	0.8	0.5	1.4	1.1	0.8	1.1	1.1	1.1	0.5	1.4	0.9	24
11	0.8	1.1	1.4	1.1	1.1	S	1.1	1.1	1.4	1.7	1.4	1.1	0.2	0.2	0.0	0.0	0.0	0.5	0.5	0.5	0.5	1.4	1.1	0.0	1.7	0.8	24	
12	0.8	0.5	0.8	0.8	S	0.8	0.8	0.8	1.1	0.8	1.1	1.1	1.4	0.8	0.2	1.1	0.8	0.8	1.1	1.1	1.1	0.8	0.8	0.5	0.2	1.4	0.9	24
13	0.5	0.8	0.2	S	0.8	0.8	0.8	0.0	1.1	0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.3	24
14	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.2	0.0	24
15	0.5	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	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	24
16	S	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.0	0.2	0.2	0.0	0.0	0.0	0.2	0.5	S	0.0	0.5	0.1	24
17	0.2	0.0	0.2	0.2	0.0	0.0	0.0	0.5	1.1	0.5	0.5	0.2	0.5	0.5	0.5	1.1	0.5	0.0	0.2	0.2	0.0	S	0.2	0.0	0.0	1.1	0.3	24
18	0.2	0.0	0.0	0.0	0.8	0.2	0.5	S1	S1	0.2	0.2	0.8	0.5	1.1	0.8	0.8	0.8	0.8	0.2	0.2	0.2	S	0.2	0.5	0.0	1.1	0.4	22
19	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.5	0.5	S	0.2	0.2	0.2	0.2	0.5	0.3	24
20	0.2	0.5	1.1	1.4	0.5	0.2	0.2	1.4	0.5	0.5	0.5	0.5	0.2	0.2	0.2	1.1	C1	C1	1.1	S	0.2	0.0	0.0	0.0	0.0	1.4	0.5	22
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.5	0.0	0.5	0.0	0.5	0.0	24
22	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	24
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	S	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.2	0.0	24
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	S	0.5	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.2	24
25	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.2	0.2	0.2	0.2	S	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.2	0.2	0.0	0.5	0.1	24
26	0.8	0.2	0.8	0.8	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	S	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.2	24
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	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	0.2	0.0	24
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	24
29	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.2	0.0	24
30	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	24
31	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	0.0	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
HOURLY MAX	0.8	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.7	1.7	1.4	1.1	1.4	1.1	1.1	1.1	1.1	1.4	1.4	1.1	1.1	1.1	1.4	1.1				
HOURLY AVG	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3				

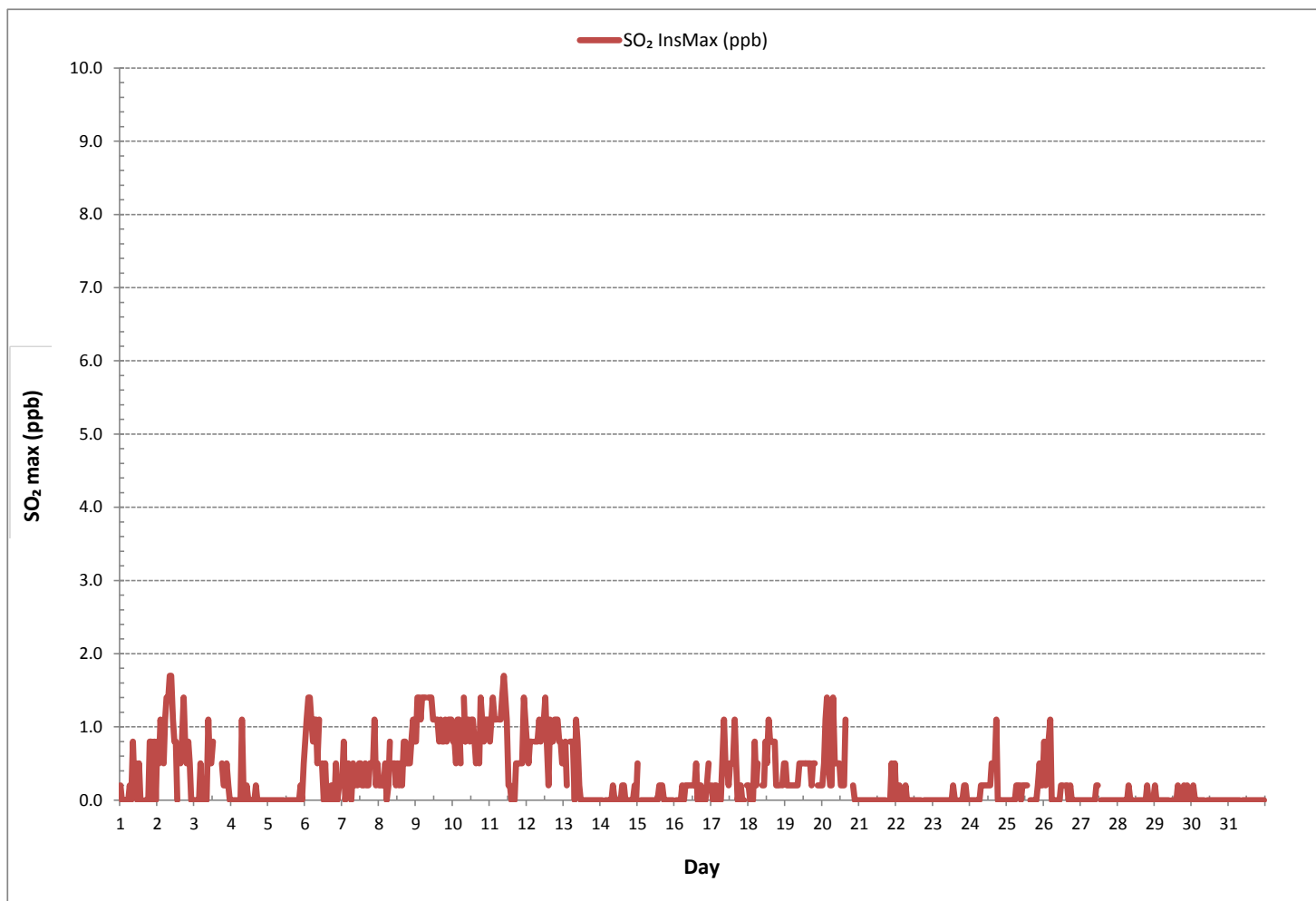
STATUS FLAG CODES

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:	347
MAXIMUM INSTANTANEOUS VALUE:	1.7 ppb @ HOUR(S) VAR, 9 ON DAY(S) 2, 11
	VAR-VARIOUS
IZS CALIBRATION TIME:	31 hrs
MONTHLY CALIBRATION TIME:	5 hrs
STANDARD DEVIATION:	0.4
OPERATIONAL TIME:	740 hrs

SULPHUR DIOXIDE Instantaneous Maximum (SO₂ ppb)

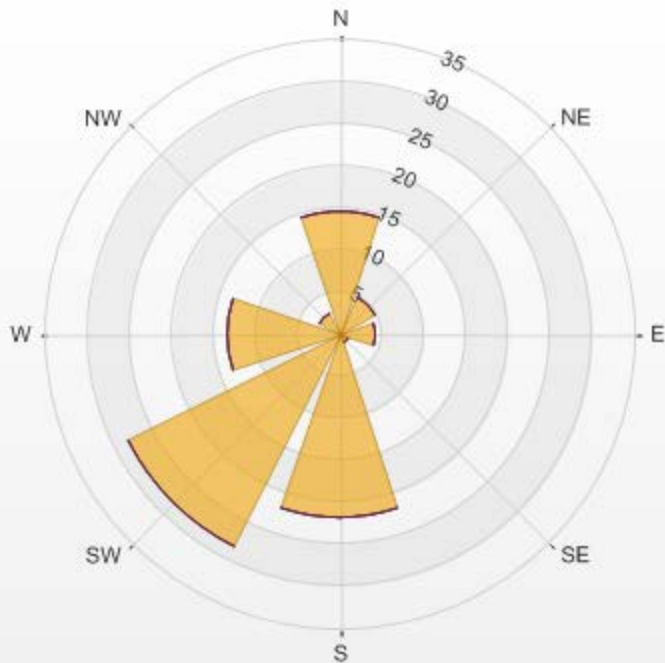


Wind: PRAMP RENO TRAILER Poll.: PRAMP RENO TRAILER-SO2[ppb] Monthly: 01/2017 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr
 Calm: 8.95% Valid Data: 94.62% Calm Avg: 0.08 [ppb]

Direction	0-3	3-10	10-85	85-170	>170.0	Total
N	14.63	0	0	0	0	14.63
NE	4.83	0	0	0	0	4.83
E	4.26	0	0	0	0	4.26
SE	1.14	0	0	0	0	1.14
S	21.88	0	0	0	0	21.88
SW	28.13	0	0	0	0	28.13
W	13.49	0	0	0	0	13.49
NW	2.7	0	0	0	0	2.7
Summary	91.06	0	0	0	0	91.06

%	Icon	Classes (ppb)
91		0-3
0		3-10
0		10-85
0		85-170
0		>170.0

PRAMP RENO TRAILER Poll.: PRAMP RENO TRAILER-SO2[ppb] 01/01/2017 00:00 - 31/01/2017 23:00
Calm: 8.95% Calm Poll Avg: 0.08[ppb]





Span Meas Span Ref Span Low Span High

TOTAL REDUCED SULPHUR

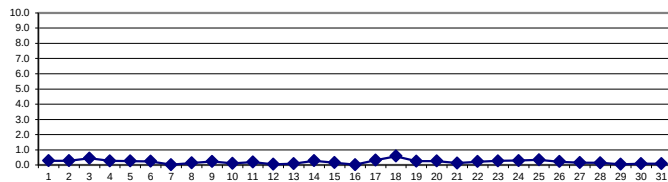
TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)

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	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.2	0.3	0.3	S	0.2	0.2	0.1	0.2	0.3	0.2	0.2	0.2	0.1	0.4	0.3	24
2	0.2	0.2	0.1	0.1	0.1	0.3	0.4	0.3	S1	0.3	0.2	0.2	0.3	0.3	S	0.3	0.3	0.3	0.4	0.3	0.4	0.4	0.4	0.3	0.1	0.4	0.3	23
3	0.6	0.7	0.7	0.3	0.4	0.3	0.5	0.7	0.7	0.7	C	C	C	C	C	C	0.4	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.2	0.7	0.4	24
4	0.2	0.2	0.1	0.3	0.3	0.3	0.4	0.4	0.3	0.2	0.3	0.2	S	0.3	0.2	0.2	0.3	0.3	0.4	0.3	0.3	0.3	0.2	0.2	0.1	0.4	0.3	24
5	0.3	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.3	0.3	S	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.3	24
6	0.2	0.2	0.2	0.4	0.4	0.4	0.3	0.3	0.3	0.3	S	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.4	0.2	24
7	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	24
8	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	S	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.2	0.1	0.0	0.2	0.2	0.1	0.3	0.0	0.3	0.1	24
9	0.3	0.3	0.3	0.4	0.4	0.4	0.4	S	0.4	0.3	0.3	0.3	0.2	0.2	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.4	0.2	24
10	0.0	0.0	0.0	0.0	0.1	0.1	S	0.0	0.0	0.1	0.2	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.0	0.2	0.1	24
11	0.3	0.4	0.3	0.2	0.2	S	0.2	0.1	0.2	0.2	0.2	0.3	0.2	0.1	0.2	0.3	0.2	0.2	0.2	0.0	0.1	0.1	0.2	0.1	0.0	0.4	0.2	24
12	0.1	0.0	0.0	0.0	S	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.0	24
13	0.0	0.0	0.0	S	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.1	0.3	0.2	0.2	0.2	0.0	0.3	0.1	24
14	0.1	0.1	S	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.4	0.4	0.3	0.4	0.3	0.3	0.4	0.3	0.3	0.1	0.5	0.3	24
15	0.2	S	0.2	0.2	0.2	0.3	0.4	0.4	0.3	0.2	0.2	0.2	0.1	0.3	0.2	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	24
16	S	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.1	0.0	24
17	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.6	0.4	0.1	0.2	0.3	0.2	0.3	0.2	0.9	1.5	0.4	0.2	0.3	S	0.9	0.0	1.5	0.3	24
18	0.8	0.9	0.9	1.0	0.9	0.9	0.8	0.6	0.6	0.8	1.0	0.7	0.4	0.2	0.3	0.5	0.4	0.6	0.4	0.2	0.2	S	0.1	0.2	0.1	1.0	0.6	24
19	0.2	0.3	0.1	0.2	0.2	0.2	0.5	0.4	0.3	0.4	0.6	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.3	S	0.3	0.1	0.1	0.1	0.6	0.3	24
20	0.1	0.1	0.2	0.2	0.2	0.3	0.4	0.5	0.3	0.3	0.4	0.3	0.3	0.3	0.2	0.3	0.2	C1	C1	0.2	S	0.2	0.2	0.2	0.1	0.5	0.3	22
21	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	S	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	24
22	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	S	0.3	0.2	0.3	0.2	0.2	0.3	0.1	0.3	0.2	24
23	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	S	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.2	0.4	0.3	24
24	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	S	0.2	0.4	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.4	0.3	24
25	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.4	0.4	S	0.3	0.2	0.3	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.5	0.3	24
26	0.4	0.3	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.3	0.2	S	0.5	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.5	0.2	24
27	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	S	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.2	24
28	0.1	0.2	0.3	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.2	S	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.3	0.1	24
29	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	S	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.1	24
30	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.1	S	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	24
31	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	S	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.1	24
HOURLY MAX	0.8	0.9	0.9	1.0	0.9	0.9	0.8	0.7	0.7	0.8	1.0	0.7	0.4	0.4	0.5	0.5	0.4	0.9	1.5	0.4	0.4	0.4	0.4	0.9				
HOURLY AVG	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2				

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

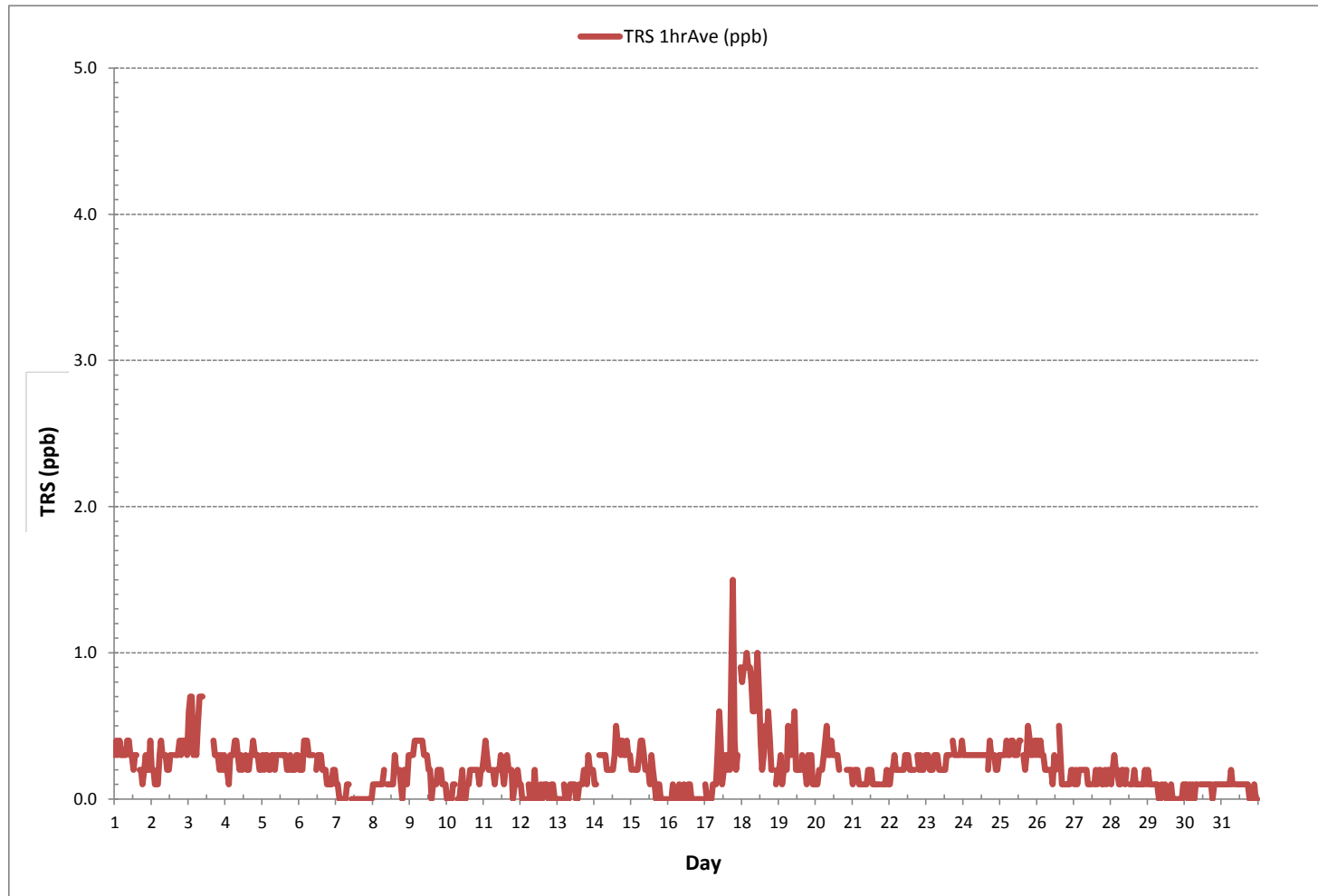
24 HR AVERAGES January 2017



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	604			
MINIMUM 1-HR AVERAGE:	0.0	ppb @ HOUR(S)	VAR	ON DAY(S)
MAXIMUM 1-HR AVERAGE:	1.5	ppb @ HOUR(S)	18	ON DAY(S)
MAXIMUM 24-HR AVERAGE:	0.6	ppb		ON DAY(S)
				VAR-VARIOUS
IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	741
MONTHLY CALIBRATION TIME:	6	hrs	AMD OPERATION UPTIME:	99.6
STANDARD DEVIATION:	0.2		MONTHLY AVERAGE:	0.2
				ppb

TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - January 2017

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	1.0	1.1	0.9	1.1	0.9	0.9	1.0	0.9	1.1	0.9	1.0	0.8	1.0	0.8	0.8	S	0.7	0.9	0.7	0.7	0.8	0.7	0.9	1.0	0.7	1.1	0.9	24
2	0.9	0.8	0.6	0.6	0.7	0.9	1.0	1.0	S1	S1	0.9	1.0	1.0	1.0	S	1.1	1.1	0.9	0.9	0.7	1.0	0.9	0.9	0.7	0.6	1.1	0.9	22
3	1.2	1.2	1.1	0.9	0.8	0.8	0.9	1.1	1.0	C	C	C	C	C	C	C	C	0.4	0.5	0.5	0.4	0.4	0.5	0.4	0.4	1.2	0.8	24
4	0.4	0.4	0.3	0.5	0.5	0.5	0.9	0.6	0.6	0.4	0.5	0.4	S	0.5	0.5	0.4	0.6	0.7	0.6	0.6	0.5	0.5	0.4	0.4	0.3	0.9	0.5	24
5	0.5	0.4	0.5	0.5	0.3	0.3	0.6	0.6	0.5	0.4	0.4	S	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.3	0.2	0.2	0.7	0.4	0.2	0.7	0.4	24
6	0.4	0.3	0.5	0.5	0.6	0.7	0.4	0.4	0.5	0.3	S	0.4	0.4	0.4	0.5	0.3	0.4	0.6	0.4	0.4	0.2	0.5	0.4	0.6	0.2	0.7	0.4	24
7	0.6	0.5	0.3	0.4	0.3	0.2	0.5	0.5	0.5	S	0.3	0.4	0.3	0.3	0.4	0.1	0.2	0.4	0.4	0.3	0.3	0.3	0.2	0.3	0.1	0.6	0.3	24
8	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	S	0.5	0.5	0.4	0.3	0.5	0.7	0.6	0.3	0.4	0.3	0.2	0.3	0.3	0.4	0.6	0.2	0.7	0.4	24
9	0.6	0.5	0.6	0.6	0.6	0.7	0.8	S	0.6	0.6	0.6	0.5	0.6	0.4	0.4	0.4	0.4	0.6	0.6	0.4	0.4	0.6	0.4	0.4	0.4	0.8	0.5	24
10	0.3	0.3	0.5	0.4	0.4	0.4	S	0.4	0.4	0.3	0.4	0.2	0.3	0.3	0.3	0.4	0.4	0.5	0.3	0.3	0.3	0.3	0.3	0.4	0.2	0.5	0.4	24
11	0.4	0.5	0.4	0.2	0.2	S	0.3	0.3	0.3	0.4	0.3	0.5	0.3	0.2	0.5	0.4	0.3	0.4	0.5	0.3	0.4	0.2	0.5	0.8	0.2	0.8	0.4	24
12	0.4	0.3	0.2	0.3	S	0.4	0.5	0.3	0.3	0.6	0.4	0.5	0.3	0.4	0.5	0.4	0.5	0.4	0.5	0.2	0.7	0.4	0.2	0.3	0.2	0.7	0.4	24
13	0.4	0.3	0.3	S	0.6	0.2	0.3	0.3	0.5	0.7	0.6	0.5	0.4	0.4	0.4	0.5	0.4	0.5	0.5	0.5	0.7	0.6	0.6	0.4	0.2	0.7	0.5	24
14	0.3	0.4	S	0.6	0.4	0.6	0.5	0.5	0.4	0.5	0.5	0.4	0.3	0.4	0.5	0.4	0.5	0.5	0.4	0.3	0.4	0.4	0.3	0.4	0.3	0.6	0.4	24
15	0.2	S	0.2	0.2	0.1	0.5	0.4	0.5	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.1	0.5	0.3	24
16	S	0.3	0.1	0.4	0.1	0.2	0.1	0.2	0.1	0.2	0.3	0.1	0.2	0.3	0.3	0.1	0.5	0.2	0.1	0.1	0.0	0.0	0.2	S	0.0	0.5	0.2	24
17	0.4	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.7	0.7	0.4	0.0	0.0	0.3	0.1	0.2	0.2	0.9	1.4	1.0	0.2	0.1	S	1.1	0.0	1.4	0.3	24
18	1.0	0.9	0.9	0.8	0.9	1.0	0.7	0.4	0.7	0.7	0.9	0.7	0.3	0.2	0.2	0.5	0.3	0.9	0.5	0.2	0.2	S	0.3	0.2	0.2	1.0	0.6	24
19	0.2	0.3	0.1	0.1	0.2	0.1	0.5	0.5	0.3	0.4	0.6	0.4	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	S	0.4	0.1	0.1	0.1	0.6	0.3	24
20	0.1	0.1	0.3	0.3	0.2	0.4	0.4	0.6	0.4	0.1	0.3	0.2	0.2	0.3	0.3	0.0	C1	C1	0.2	S	0.1	0.3	0.0	0.1	0.0	0.6	0.2	22
21	0.0	0.3	0.2	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.1	0.2	0.2	S	0.2	0.0	0.1	0.0	0.1	0.0	0.3	0.1	24
22	0.0	0.2	0.2	0.3	0.2	0.1	0.1	0.3	0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.1	S	0.1	0.1	0.0	0.1	0.1	0.3	0.0	0.3	0.1	24
23	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.0	0.2	0.1	0.0	0.1	0.2	0.3	0.2	S	0.2	0.1	0.5	0.3	0.5	0.3	0.2	0.0	0.5	0.2	24
24	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2	S	0.4	0.5	0.2	0.2	0.2	0.1	0.2	0.3	0.1	0.5	0.3	24
25	0.2	0.2	0.2	0.2	0.4	0.4	0.3	0.6	0.3	0.3	0.5	0.4	0.2	0.3	S	0.2	0.1	0.5	0.5	0.4	0.4	0.2	0.3	0.2	0.1	0.6	0.3	24
26	0.3	0.2	0.6	0.3	0.3	0.2	0.1	0.2	0.3	0.2	0.3	0.3	0.2	S	0.6	0.2	0.5	0.2	0.2	0.0	0.1	0.2	0.1	0.4	0.0	0.6	0.3	24
27	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.0	0.1	0.2	S	0.1	0.1	0.1	0.2	0.3	0.2	0.1	0.1	0.2	0.2	0.3	0.0	0.3	0.2	24
28	0.1	0.1	0.3	0.2	0.2	0.2	0.0	0.1	0.1	0.0	0.1	S	0.2	0.3	0.1	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.3	0.1	24
29	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	S	0.0	0.0	0.2	0.0	0.3	0.2	0.4	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.4	0.1	24
30	0.1	0.4	0.0	0.3	0.2	0.0	0.0	0.1	0.2	S	0.1	0.1	0.1	0.3	0.2	0.2	0.2	0.1	0.0	0.1	0.2	0.1	0.1	0.0	0.0	0.4	0.1	24
31	0.2	0.1	0.3	0.1	0.1	0.2	0.2	0.0	S	0.0	0.2	0.1	0.0	0.0	0.2	0.1	0.2	0.2	0.0	0.1	0.3	0.2	0.1	0.1	0.0	0.3	0.1	24
HOURLY MAX	1.2	1.2	1.1	1.1	0.9	1.0	1.0	1.1	1.1	0.9	1.0	1.0	1.0	1.0	0.8	1.1	1.1	0.9	1.4	1.0	1.0	0.9	0.9	1.1				
HOURLY AVG	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4				

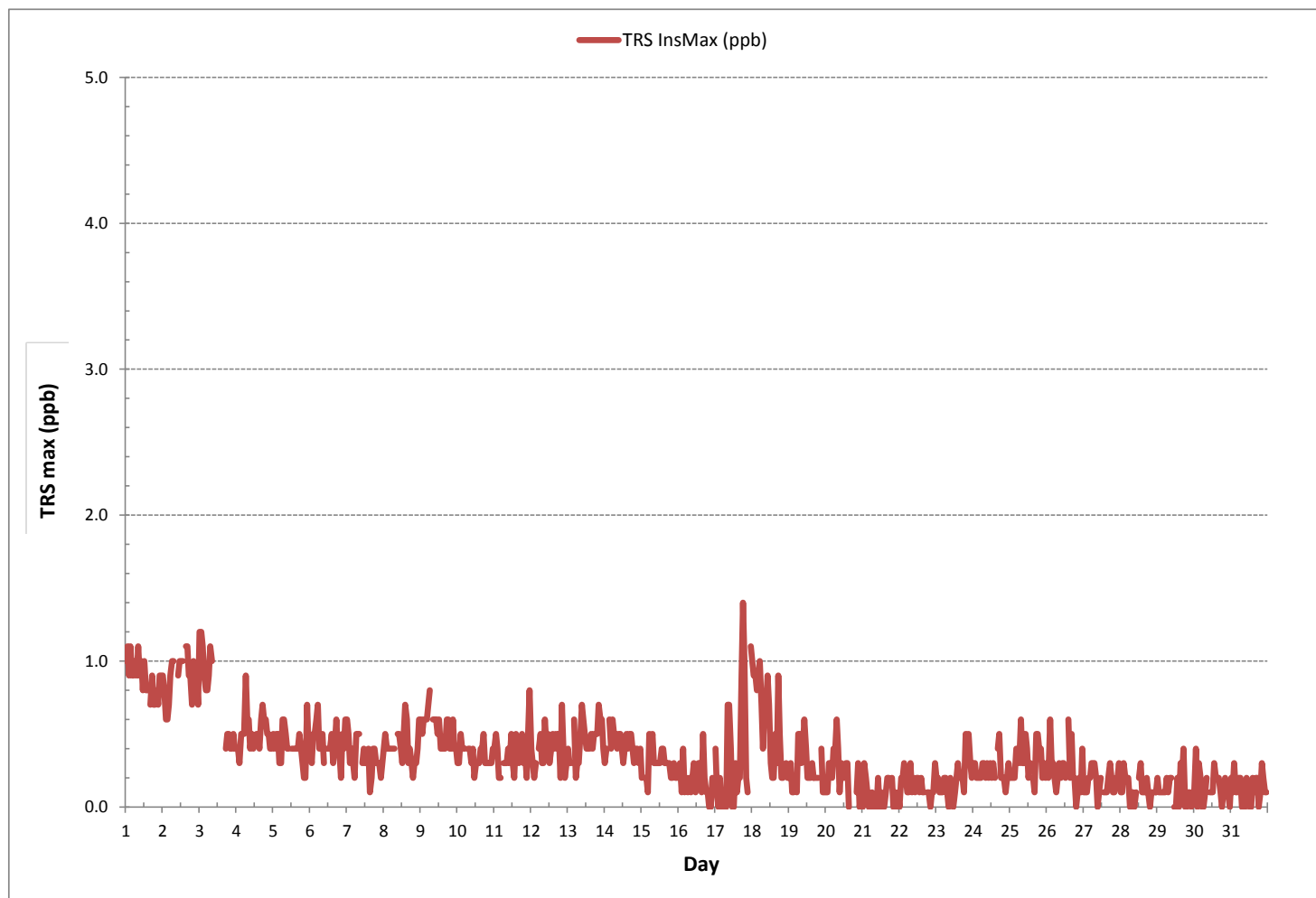
STATUS FLAG CODES

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:	654				
MAXIMUM INSTANTANEOUS VALUE:	1.4	ppb	@ HOUR(S)	18	ON DAY(S) 17
VAR-VARIOUS					
IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	740	hrs
MONTHLY CALIBRATION TIME:	8	hrs			
STANDARD DEVIATION:	0.3				

TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS ppb)



Wind: PRAMP RENO TRAILER Poll.: PRAMP RENO TRAILER-TRS[ppb] Monthly: 01/2017 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 8.70% Valid Data: 94.22% Calm Avg: 0.23 [ppb]

Direction	0-1	1-3	3-10	>10.0	Total
N	14.55	0	0	0	14.55
NE	4.85	0	0	0	4.85
E	4.28	0	0	0	4.28
SE	1.14	0	0	0	1.14
S	22.11	0.14	0	0	22.25
SW	27.96	0	0	0	27.96
W	13.55	0	0	0	13.55
NW	2.71	0	0	0	2.71
Summary	91.15	0.14	0	0	91.29

% Icon Classes (ppb)

91



0-1

0



1-3

0



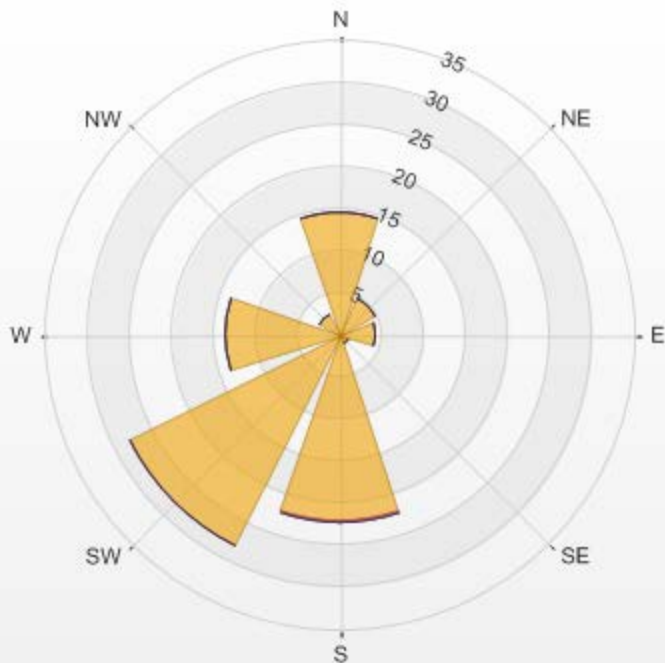
3-10

0



>10.0

PRAMP RENO TRAILER Poll.: PRAMP RENO TRAILER-TRS[ppb] 01/01/2017 00:00 - 31/01/2017 23:00 Calm: 8.70% Calm Poll Avg: 0.23[ppb]





Span Meas Span Ref Span Low Span High

TOTAL HYDROCARBON

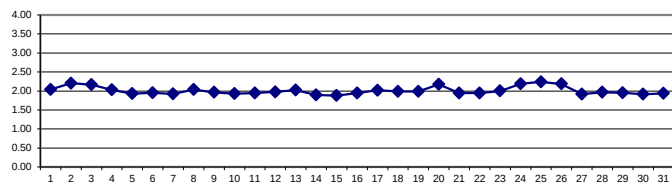
TOTAL HYDROCARBONS Hourly Averages (THC ppm)

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	1.97	1.96	1.96	1.98	1.93	1.95	1.94	1.94	1.94	1.96	1.93	1.93	1.93	1.93	1.93	S	1.93	1.98	2.01	2.33	2.34	2.24	2.48	2.41	1.93	2.48	2.04	24
2	2.27	2.35	2.39	2.14	2.14	1.96	1.94	1.94	1.95	1.95	2.20	2.52	2.39	2.01	S	2.42	2.14	2.19	2.71	2.36	2.29	2.30	2.05	2.09	1.94	2.71	2.20	24
3	2.05	2.19	2.69	2.32	2.48	2.19	2.58	2.19	2.00	2.01	C	C	C	C	2.02	2.02	2.04	2.09	2.12	2.10	2.06	2.08	2.07	2.06	2.00	2.69	2.17	24
4	2.04	2.02	2.02	2.01	2.01	2.11	2.41	2.21	2.01	2.04	2.12	2.01	S	1.99	1.99	1.99	1.99	1.99	1.98	1.97	1.96	1.95	1.91	1.92	1.91	2.41	2.03	24
5	1.93	1.93	1.94	1.94	1.93	1.94	1.94	1.95	1.94	1.94	1.94	S	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.92	1.91	1.91	1.92	1.92	1.91	1.95	1.93	24
6	1.92	1.92	1.95	1.96	1.98	1.99	1.97	1.96	1.97	1.97	S	1.95	1.97	1.94	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.96	1.95	1.96	1.92	1.99	1.95	24
7	1.94	1.93	1.93	1.92	1.92	1.92	1.93	1.93	1.93	S	1.93	1.92	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.94	1.92	24
8	1.92	1.92	1.93	1.94	1.94	1.98	2.62	2.44	S	2.28	2.17	2.02	1.96	2.00	2.02	2.05	1.93	1.93	1.93	1.93	1.95	1.96	1.97	2.02	1.92	2.62	2.04	24
9	1.98	1.99	2.00	1.99	2.00	2.00	2.00	S	1.99	1.98	1.98	1.98	1.97	1.91	1.91	1.94	1.92	1.92	1.95	1.96	1.96	1.95	1.95	1.95	1.91	2.00	1.96	24
10	1.96	1.94	1.94	1.94	1.94	1.94	S	1.92	1.92	1.92	1.94	1.91	1.94	1.94	1.92	1.92	1.92	1.92	1.92	1.92	1.93	1.94	1.94	1.93	1.91	1.96	1.93	24
11	1.92	1.92	1.90	1.89	1.89	S	1.88	1.88	1.88	1.88	1.89	1.89	1.88	1.88	1.89	1.89	1.89	1.89	1.90	1.90	1.91	1.96	2.60	2.37	1.88	2.60	1.95	24
12	2.37	1.93	1.92	1.95	S	1.91	1.92	1.93	1.96	1.93	1.93	1.97	1.93	1.97	1.95	2.02	2.09	2.09	1.96	1.96	1.94	1.94	1.94	1.92	1.91	2.37	1.98	24
13	1.92	1.92	1.92	S	1.93	1.90	1.89	1.89	2.04	2.33	2.16	2.04	1.92	1.88	1.89	1.90	2.18	1.97	1.90	2.09	1.99	2.23	2.69	1.89	1.88	2.69	2.02	24
14	1.88	1.88	S	1.89	1.90	1.90	1.89	1.89	1.89	1.88	1.88	1.87	1.87	1.87	1.88	1.88	1.89	2.14	1.92	1.88	1.88	1.88	1.88	1.87	1.87	2.14	1.90	24
15	1.87	S	1.87	1.87	1.87	1.87	1.87	1.87	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.87	1.88	1.88	24
16	S	1.89	1.89	1.89	1.90	1.91	1.91	1.90	2.00	1.94	1.91	1.90	1.96	2.01	1.99	2.00	1.97	2.00	1.92	2.00	1.91	1.93	2.09	S	1.89	2.09	1.95	24
17	2.23	2.10	1.91	1.90	1.90	1.89	2.03	2.04	2.07	2.02	2.07	2.02	2.13	2.13	1.99	2.27	2.22	1.91	2.00	1.94	1.88	1.89	S	1.88	1.88	2.27	2.02	24
18	1.94	1.89	1.94	1.92	1.92	1.94	2.01	1.99	1.93	1.92	1.97	1.95	1.96	1.96	1.89	1.89	2.08	2.24	2.03	2.18	2.07	S	2.14	2.02	1.89	2.24	1.99	24
19	1.92	1.95	1.97	1.95	1.95	1.94	1.94	1.95	1.95	2.26	1.97	1.94	1.94	2.16	2.05	1.95	1.95	1.99	2.09	S	2.07	2.07	1.91	1.93	1.91	2.26	1.99	24
20	2.03	2.25	2.28	2.19	2.18	2.21	2.16	2.44	2.13	2.11	2.10	2.11	2.13	1.98	2.07	2.07	2.18	2.84	2.28	S	2.25	1.99	1.98	1.96	1.96	2.84	2.17	24
21	1.95	1.95	1.96	1.96	1.96	1.97	1.98	1.97	1.96	1.95	1.95	1.94	1.94	1.94	1.93	1.93	1.93	1.93	S	1.93	1.92	1.93	1.92	1.93	1.92	1.98	1.94	24
22	1.93	1.93	1.93	1.94	1.93	1.93	1.93	1.93	1.93	1.94	1.95	1.95	1.95	1.96	1.96	1.96	S	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.93	1.96	1.95	24
23	1.96	1.96	1.96	1.97	1.96	1.96	1.97	1.97	1.97	1.98	2.07	2.00	1.98	2.02	2.05	1.99	S	2.00	2.02	2.06	2.01	2.03	2.07	2.00	1.96	2.07	2.00	24
24	2.04	2.03	2.10	2.05	2.10	2.13	2.10	2.11	2.04	2.07	2.17	2.16	2.11	2.15	2.19	S	2.21	3.00	2.56	2.30	2.25	2.21	2.13	2.11	2.03	3.00	2.19	24
25	2.13	2.17	2.10	2.09	2.09	2.17	2.12	2.18	2.12	2.10	2.12	2.04	2.07	2.26	S	2.16	2.21	2.05	1.99	2.16	2.40	2.58	3.35	2.77	1.99	3.35	2.24	24
26	3.02	2.99	2.97	2.71	3.26	2.56	1.94	1.94	1.94	1.94	1.93	1.93	S	1.93	1.92	1.92	1.91	1.91	1.91	1.91	1.91	1.92	1.92	1.92	1.91	3.26	2.18	24
27	1.93	1.92	1.92	1.92	1.92	1.92	1.93	1.93	1.93	1.93	1.92	1.92	S	1.92	1.92	1.91	1.90	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.90	1.93	1.92	24
28	1.91	1.92	1.92	1.91	1.91	1.91	1.91	1.92	1.96	2.11	2.14	S	2.02	1.96	1.90	1.91	1.90	1.90	1.90	1.90	1.90	1.95	2.06	2.33	1.90	2.33	1.96	24
29	2.52	1.95	1.90	1.89	1.89	1.90	1.90	1.90	1.90	1.91	S	1.90	1.90	1.90	1.99	2.07	2.11	1.90	1.90	1.90	1.90	1.90	1.91	1.91	1.89	2.52	1.95	24
30	1.91	1.90	1.91	1.92	1.92	1.91	1.92	1.92	1.92	S	1.92	1.91	1.91	1.91	1.91	1.91	1.91	1.92	1.92	1.91	1.92	1.92	1.92	1.92	1.90	1.92	1.91	24
31	1.92	1.92	1.92	1.93	1.93	1.93	1.93	1.94	S	1.95	1.95	1.95	1.94	1.95	1.95	1.95	1.96	1.94	1.95	1.95	1.95	1.94	1.94	1.94	1.92	1.96	1.94	24
HOURLY MAX	3.02	2.99	2.97	2.71	3.26	2.56	2.62	2.44	2.13	2.33	2.20	2.52	2.39	2.26	2.19	2.42	2.22	3.00	2.71	2.36	2.40	2.58	3.35	2.77				
HOURLY AVG	2.04	2.02	2.03	2.00	2.02	1.99	2.02	2.00	1.97	2.00	2.00	1.98	1.98	1.97	1.96	1.99	2.00	2.04	2.01	2.01	2.00	2.01	2.08	2.02				

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

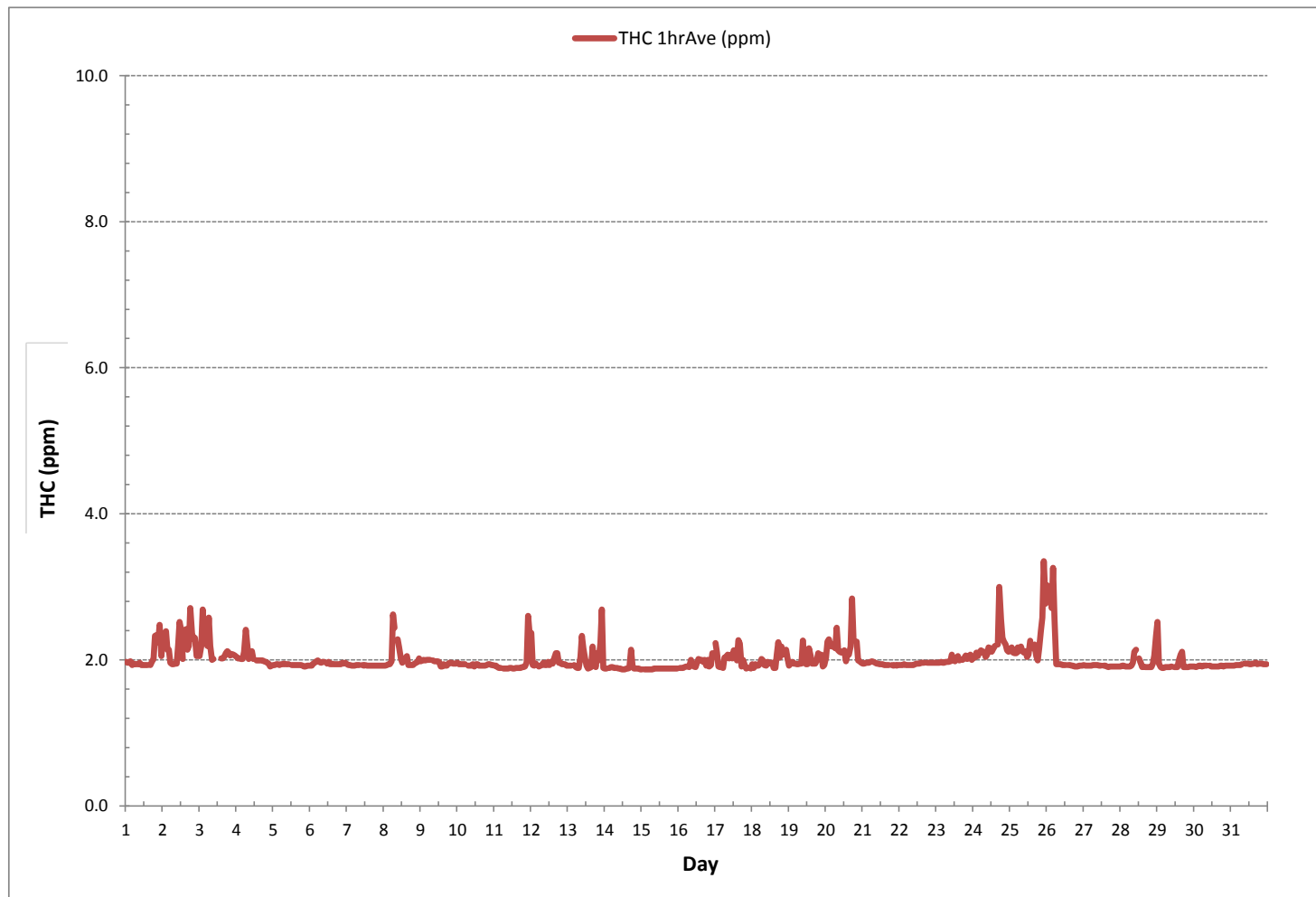
24 HR AVERAGES January 2017



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	709			
MINIMUM 1-HR AVERAGE:	1.87	ppm @ HOUR(S)	VAR , VAR	ON DAY(S) 14 , 15
MAXIMUM 1-HR AVERAGE:	3.35	ppm @ HOUR(S)	22	ON DAY(S) 25
MAXIMUM 24-HR AVERAGE:	2.24	ppm		ON DAY(S) 25
				VAR-VARIOUS
IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	744 hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION:	0.18		MONTHLY AVERAGE:	2.01 ppm

TOTAL HYDROCARBONS Hourly Averages (THC ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - January 2017

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.	
DAY	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					
1	2.00	2.00	2.02	2.03	1.96	1.99	2.00	1.99	1.96	2.01	1.96	1.96	1.96	1.95	1.97	S	1.95	2.80	2.53	3.32	2.84	2.67	3.21	3.70	1.95	3.70	2.29	24	
2	2.75	2.74	2.81	2.36	2.37	2.01	1.97	1.97	1.97	1.97	4.65	3.81	3.22	2.09	S	3.17	3.53	3.90	3.28	2.79	2.50	2.60	2.21	2.23	1.97	4.65	2.73	24	
3	2.28	2.32	3.68	3.57	3.15	2.48	3.38	3.20	2.01	C	C	C	C	C	C	2.04	2.07	2.27	2.27	2.22	2.10	2.10	2.17	2.17	2.01	3.68	2.53	24	
4	2.09	2.04	2.08	2.07	2.03	2.33	2.97	2.74	2.13	2.14	2.23	2.22	S	2.02	2.01	2.01	2.01	2.02	2.01	1.99	1.99	2.01	1.93	1.94	1.93	2.97	2.13	24	
5	1.95	1.96	1.96	1.96	1.95	1.96	1.96	1.97	1.96	1.96	1.96	S	1.95	1.95	1.96	1.95	1.95	1.95	1.96	1.94	1.95	1.95	1.95	1.95	1.94	1.97	1.95	24	
6	1.94	1.96	2.00	2.02	2.02	2.03	2.00	1.99	2.00	2.01	S	2.01	2.02	2.00	2.01	2.01	1.97	1.97	1.97	1.97	1.96	1.99	1.97	1.99	1.94	2.03	1.99	24	
7	1.97	1.96	1.94	1.96	1.96	1.94	1.96	1.94	1.96	S	1.96	1.94	1.96	1.94	1.96	1.95	1.94	1.95	1.94	1.95	1.94	1.95	1.94	1.95	1.94	1.97	1.95	24	
8	1.95	1.94	2.02	2.02	1.97	2.23	4.02	2.94	S	2.66	2.31	2.15	2.11	2.22	2.19	2.37	1.96	1.97	1.95	1.96	1.98	1.98	2.01	2.18	1.94	4.02	2.22	24	
9	2.01	2.01	2.03	2.01	2.03	2.02	2.03	S	2.00	2.02	1.99	2.01	2.01	1.95	1.93	2.00	1.99	1.96	1.99	1.98	1.99	1.97	1.99	2.03	1.93	2.03	2.00	24	
10	2.08	1.96	1.96	1.99	1.97	1.96	S	1.94	1.94	1.96	2.01	1.95	2.16	2.07	1.95	1.94	1.96	1.95	1.94	1.95	1.98	1.96	1.97	1.95	1.94	2.16	1.98	24	
11	1.96	1.95	1.92	1.94	1.91	S	1.90	1.90	1.91	1.91	1.92	1.92	1.92	1.91	1.92	1.91	1.91	1.92	1.93	1.92	2.02	2.14	2.95	3.42	1.90	3.42	2.04	24	
12	3.78	2.00	1.96	2.13	S	1.95	1.99	2.04	2.07	2.01	2.07	2.09	1.97	2.14	2.04	2.35	2.39	2.39	1.98	1.98	1.96	1.96	1.96	1.96	1.95	3.78	2.14	24	
13	1.95	1.95	1.94	S	2.18	1.92	1.92	1.91	2.48	2.86	2.46	2.32	1.96	1.92	1.91	1.92	2.88	2.37	1.93	2.33	2.39	2.75	4.54	1.92	1.91	4.54	2.29	24	
14	1.91	1.90	S	1.91	1.93	1.92	1.92	1.91	1.92	1.91	1.90	1.91	1.90	1.91	1.90	1.91	2.02	2.45	2.09	1.91	1.91	1.90	1.90	1.90	1.90	2.45	1.95	24	
15	1.90	S	1.90	1.92	1.90	1.90	1.91	1.90	1.90	1.90	1.90	1.90	1.90	1.91	1.90	1.91	1.90	1.90	1.91	1.90	1.91	1.90	1.90	1.90	1.90	1.92	1.90	24	
16	S	1.91	1.92	1.92	1.92	1.95	1.92	1.96	2.13	2.07	2.07	1.95	2.16	2.12	2.08	2.15	2.12	2.22	2.25	2.19	2.09	2.14	2.52	S	1.91	2.52	2.08	24	
17	2.88	2.59	2.05	1.92	1.92	1.93	2.67	2.39	2.41	2.34	2.28	2.62	2.34	2.64	2.14	3.12	3.02	2.08	2.21	2.14	1.93	1.93	S	2.06	1.92	3.12	2.33	24	
18	2.26	2.13	2.15	2.01	2.02	2.14	2.22	2.20	2.13	2.08	2.24	2.11	2.17	2.29	1.92	1.91	2.47	2.87	2.35	3.99	2.20	S	2.43	2.39	1.91	3.99	2.29	24	
19	1.95	2.01	2.03	1.97	1.97	1.96	1.96	1.96	1.99	2.84	1.99	1.98	1.96	2.35	2.53	1.99	1.99	1.97	2.64	2.65	S	2.40	1.96	2.00	1.95	2.84	2.13	24	
20	2.78	2.93	2.83	2.74	3.21	2.48	2.35	3.25	2.35	2.35	2.35	2.32	2.87	2.27	2.32	2.25	2.74	Y	Y	S	2.50	2.04	2.00	1.98	1.98	3.25	2.52	22	
21	1.97	1.97	1.98	1.98	1.98	1.99	1.99	1.99	1.98	1.97	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.95	S	1.95	1.95	1.95	1.95	1.95	1.95	1.99	1.96	24	
22	1.96	1.96	1.95	1.96	1.95	1.97	1.95	1.96	1.95	1.96	1.96	1.98	1.97	1.97	1.98	1.98	1.98	S	1.98	1.98	1.98	1.98	1.98	1.98	1.95	1.98	1.97	24	
23	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	1.99	2.01	2.19	2.06	2.01	2.09	2.14	2.07	S	2.08	2.15	2.29	2.07	2.28	2.18	2.05	1.98	2.29	2.07	24	
24	2.11	2.13	2.22	2.22	2.25	2.43	2.43	2.56	2.06	2.40	2.42	2.27	2.15	2.32	2.33	S	2.61	3.97	3.46	2.67	2.40	2.46	2.26	2.21	2.06	3.97	2.45	24	
25	2.38	2.34	2.33	2.34	2.46	2.40	2.30	2.43	2.38	2.31	2.31	2.15	2.26	2.39	S	2.39	2.70	2.25	2.01	2.35	3.27	3.80	4.37	3.28	2.01	4.37	2.57	24	
26	3.73	5.32	4.11	3.93	4.76	5.13	1.97	1.96	1.98	1.98	1.95	1.95	1.95	S	1.95	1.95	1.94	1.94	1.93	1.93	1.93	1.94	1.94	1.94	1.93	5.32	2.61	24	
27	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.94	1.94	S	1.94	1.94	1.93	1.92	1.93	1.94	1.93	1.93	1.93	1.93	1.93	1.92	1.95	1.94	24	
28	1.94	2.01	2.00	1.93	1.93	1.93	1.93	1.94	2.30	2.48	2.50	S	2.23	2.18	1.93	1.93	1.92	1.92	1.92	1.92	1.92	2.17	2.28	2.94	1.92	2.94	2.09	24	
29	3.72	2.11	1.92	1.91	1.91	1.92	1.92	1.92	1.92	1.93	S	1.92	1.92	2.11	2.34	2.37	2.71	1.93	1.92	1.92	1.92	1.92	1.93	1.93	1.93	1.91	3.72	2.09	24
30	1.93	1.93	1.93	1.94	1.95	1.93	1.95	1.94	1.95	S	1.94	1.94	1.93	1.93	1.93	1.93	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.93	1.95	1.94	24
31	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.96	S	1.98	1.98	1.97	1.96	1.96	1.97	1.97	2.00	1.96	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.94	2.00	1.96	24
HOURLY MAX	3.78	5.32	4.11	3.93	4.76	5.13	4.02	3.25	2.48	2.86	4.65	3.81	3.22	2.64	2.53	3.17	3.53	3.97	3.46	3.99	3.27	3.80	4.54	3.70					
HOURLY AVG	2.27	2.20	2.18	2.15	2.18	2.16	2.18	2.16	2.06	2.14	2.19	2.12	2.10	2.09	2.04	2.11	2.21	2.23	2.15	2.20	2.11	2.16	2.27	2.19					

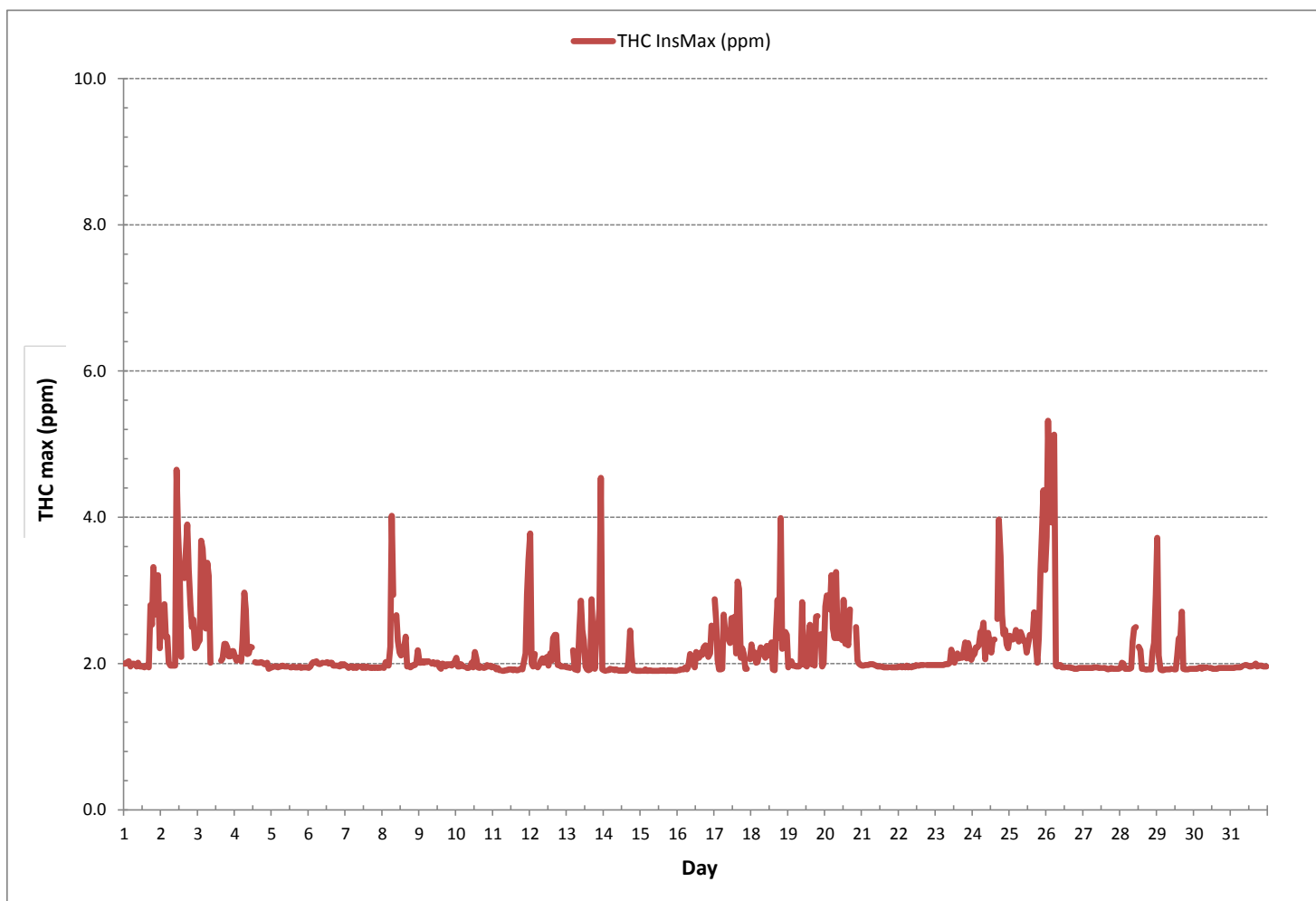
STATUS FLAG CODES

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:	705				
MAXIMUM INSTANTANEOUS VALUE:	5.32	ppm	@ HOUR(S)	1	ON DAY(S) 26
					VAR-VARIOUS
IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	742	hrs
MONTHLY CALIBRATION TIME:	6	hrs			
STANDARD DEVIATION:	0.45				

TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)

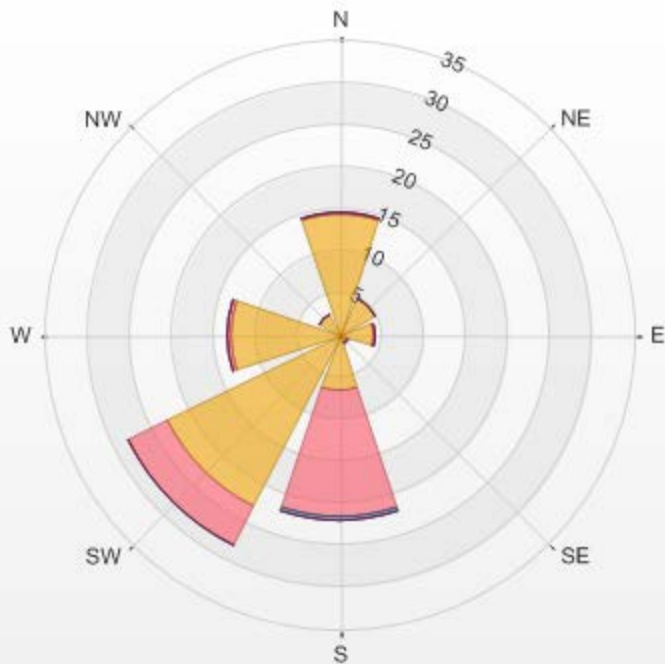


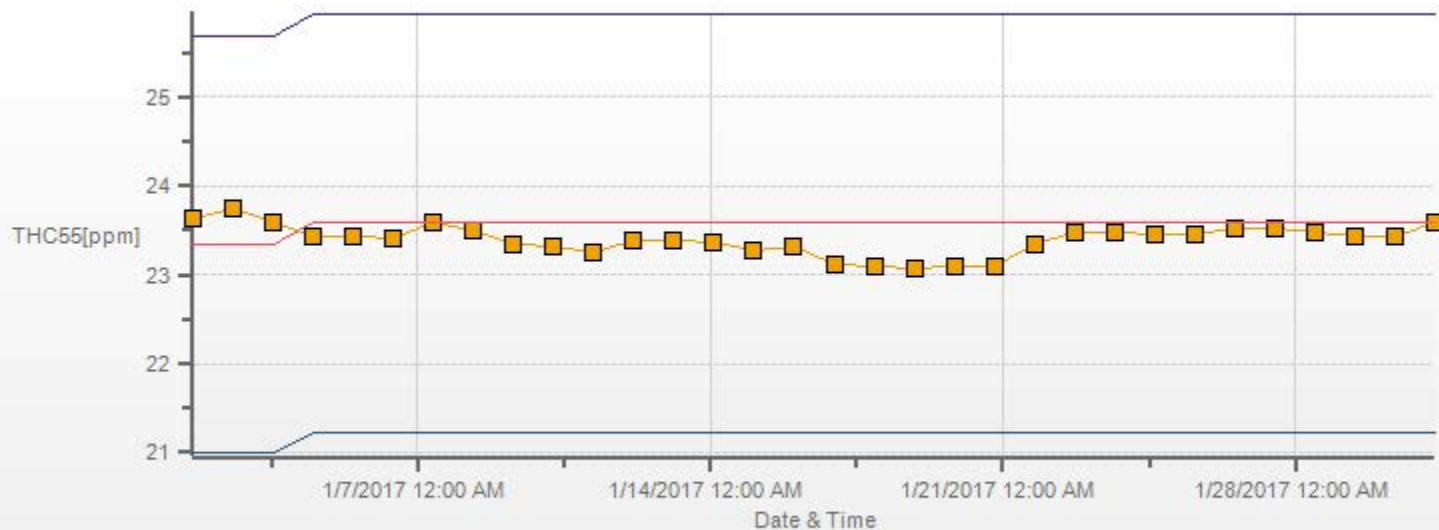
Wind: PRAMP RENO TRAILER Poll.: PRAMP RENO TRAILER-THC[ppm] Monthly: 01/2017 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 8.79% Valid Data: 94.76% Calm Avg: 2.16 [ppm]

Direction	0-2	2-3	3-5	5-10	>10.0	Total
N	14.47	0.14	0	0	0	14.61
NE	4.82	0	0	0	0	4.82
E	4.11	0.14	0	0	0	4.25
SE	0.99	0.14	0	0	0	1.13
S	6.67	15.04	0.43	0	0	22.14
SW	22.84	5.25	0	0	0	28.09
W	13.05	0.43	0	0	0	13.48
NW	2.7	0	0	0	0	2.7
Summary	69.65	21.14	0.43	0	0	91.22

% Icon	Classes (ppm)	70	0-2	21	2-3	0	3-5	0	5-10	0	>10.0

PRAMP RENO TRAILER Poll.: PRAMP RENO TRAILER-THC[ppm] 01/01/2017 00:00 - 31/01/2017 23:00 Calm: 8.79% Calm Poll Avg: 2.16[ppm]





METHANE

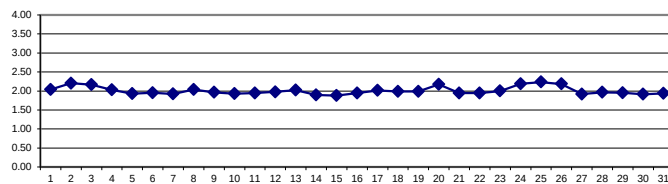
METHANE Hourly Averages (CH₄ ppm)

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	1.97	1.96	1.96	1.98	1.93	1.95	1.94	1.94	1.94	1.96	1.93	1.93	1.93	1.93	1.93	S	1.93	1.98	2.01	2.33	2.34	2.24	2.48	2.41	1.93	2.48	2.04	24
2	2.27	2.35	2.39	2.14	2.14	1.96	1.94	1.94	1.95	1.95	2.20	2.52	2.39	2.01	S	2.42	2.14	2.19	2.71	2.36	2.29	2.30	2.05	2.09	1.94	2.71	2.20	24
3	2.05	2.19	2.69	2.32	2.48	2.19	2.58	2.19	2.00	2.01	C	C	C	C	2.02	2.02	2.04	2.09	2.12	2.10	2.06	2.08	2.07	2.06	2.00	2.69	2.17	24
4	2.04	2.02	2.02	2.01	2.01	2.11	2.41	2.21	2.01	2.04	2.12	2.01	S	1.99	1.99	1.99	1.99	1.99	1.98	1.97	1.96	1.95	1.91	1.92	1.91	2.41	2.03	24
5	1.93	1.93	1.94	1.94	1.93	1.94	1.94	1.95	1.94	1.94	1.94	S	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.92	1.91	1.91	1.92	1.92	1.91	1.95	1.93	24
6	1.92	1.92	1.95	1.96	1.98	1.99	1.97	1.96	1.97	1.97	S	1.95	1.97	1.94	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.96	1.95	1.96	1.92	1.99	1.95	24
7	1.94	1.93	1.93	1.92	1.92	1.92	1.93	1.92	1.93	S	1.93	1.92	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.94	1.92	24
8	1.92	1.92	1.93	1.94	1.94	1.98	2.62	2.44	S	2.28	2.17	2.02	1.96	2.00	2.02	2.05	1.93	1.93	1.93	1.93	1.95	1.96	1.97	2.02	1.92	2.62	2.04	24
9	1.98	1.99	2.00	1.99	2.00	2.00	2.00	S	1.99	1.98	1.98	1.98	1.97	1.91	1.91	1.93	1.92	1.92	1.95	1.96	1.96	1.95	1.95	1.95	1.91	2.00	1.96	24
10	1.96	1.94	1.94	1.94	1.94	1.94	S	1.92	1.92	1.92	1.94	1.91	1.94	1.94	1.92	1.92	1.92	1.92	1.92	1.93	1.94	1.94	1.93	1.93	1.91	1.96	1.93	24
11	1.92	1.92	1.90	1.89	1.89	S	1.88	1.88	1.88	1.88	1.89	1.89	1.88	1.88	1.89	1.89	1.89	1.89	1.90	1.90	1.91	1.96	2.60	2.37	1.88	2.60	1.95	24
12	2.37	1.93	1.92	1.95	S	1.91	1.92	1.93	1.96	1.93	1.93	1.97	1.93	1.97	1.95	2.02	2.09	2.09	1.96	1.96	1.94	1.94	1.94	1.92	1.91	2.37	1.98	24
13	1.92	1.92	1.92	S	1.93	1.90	1.89	1.89	2.04	2.33	2.16	2.04	1.92	1.88	1.89	1.90	2.18	1.97	1.90	2.09	1.99	2.23	2.69	1.89	1.88	2.69	2.02	24
14	1.88	1.88	S	1.89	1.90	1.90	1.89	1.89	1.89	1.88	1.88	1.87	1.87	1.87	1.88	1.88	1.89	1.89	2.14	1.92	1.88	1.88	1.88	1.87	1.87	2.14	1.90	24
15	1.87	S	1.87	1.87	1.87	1.87	1.87	1.87	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.87	1.88	1.88	24
16	S	1.89	1.89	1.89	1.90	1.91	1.91	1.90	2.00	1.94	1.91	1.90	1.96	2.01	1.99	2.00	1.97	2.00	1.92	2.00	1.91	1.93	2.09	S	1.89	2.09	1.95	24
17	2.23	2.10	1.91	1.90	1.90	1.89	2.03	2.04	2.07	2.02	2.13	2.11	2.12	1.99	2.21	1.99	2.21	2.18	1.91	2.00	1.94	1.88	1.89	S	1.88	2.23	2.01	24
18	1.94	1.89	1.94	1.92	1.92	1.94	2.01	1.99	1.93	1.92	1.97	1.95	1.96	1.96	1.89	1.89	2.08	2.24	2.03	2.18	2.07	S	2.14	2.02	1.89	2.24	1.99	24
19	1.92	1.95	1.97	1.95	1.95	1.94	1.94	1.95	1.95	2.26	1.96	1.94	1.94	2.16	2.05	1.95	1.95	1.95	1.99	2.09	S	2.07	1.91	1.92	1.91	2.26	1.99	24
20	2.03	2.25	2.28	2.19	2.18	2.21	2.16	2.44	2.13	2.11	2.10	2.11	2.12	1.98	2.07	2.07	2.18	2.84	2.28	S	2.25	1.99	1.97	1.96	1.96	2.84	2.17	24
21	1.95	1.95	1.96	1.96	1.96	1.97	1.98	1.97	1.96	1.95	1.95	1.94	1.94	1.94	1.93	1.93	1.93	1.93	S	1.93	1.92	1.93	1.92	1.93	1.92	1.98	1.94	24
22	1.93	1.93	1.93	1.94	1.93	1.93	1.93	1.93	1.93	1.93	1.94	1.95	1.95	1.95	1.96	1.96	S	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.93	1.96	1.95	24
23	1.96	1.96	1.96	1.97	1.96	1.96	1.97	1.97	1.97	1.98	2.07	2.00	1.98	2.02	2.05	1.99	S	2.00	2.02	2.06	2.01	2.03	2.07	2.00	1.96	2.07	2.00	24
24	2.04	2.03	2.10	2.05	2.10	2.13	2.10	2.11	2.04	2.07	2.17	2.16	2.11	2.15	2.19	S	2.21	2.99	2.56	2.30	2.25	2.21	2.13	2.11	2.03	2.99	2.19	24
25	2.13	2.17	2.10	2.09	2.09	2.17	2.12	2.18	2.12	2.10	2.12	2.04	2.07	2.26	S	2.16	2.21	2.05	1.99	2.16	2.40	2.58	3.35	2.76	1.99	3.35	2.24	24
26	3.01	2.99	2.97	2.71	3.26	2.56	1.94	1.94	1.94	1.94	1.93	1.93	S	1.93	1.92	1.92	1.91	1.91	1.91	1.91	1.91	1.92	1.92	1.92	1.91	3.26	2.18	24
27	1.93	1.92	1.92	1.92	1.92	1.92	1.93	1.93	1.93	1.93	1.92	1.92	S	1.92	1.92	1.91	1.90	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.90	1.93	1.92	24
28	1.91	1.92	1.92	1.91	1.91	1.91	1.91	1.92	1.96	2.11	2.14	S	2.02	1.96	1.90	1.91	1.90	1.90	1.90	1.90	1.90	1.95	2.06	2.33	1.90	2.33	1.96	24
29	2.52	1.95	1.90	1.89	1.89	1.90	1.90	1.90	1.90	1.91	S	1.90	1.90	1.90	1.99	2.07	2.11	1.90	1.90	1.90	1.90	1.90	1.91	1.91	1.89	2.52	1.95	24
30	1.91	1.90	1.91	1.92	1.92	1.91	1.92	1.92	1.92	S	1.92	1.91	1.91	1.91	1.91	1.91	1.91	1.92	1.92	1.91	1.92	1.92	1.92	1.92	1.90	1.92	1.91	24
31	1.92	1.92	1.92	1.93	1.93	1.93	1.93	1.94	S	1.95	1.95	1.95	1.94	1.94	1.95	1.95	1.96	1.94	1.95	1.95	1.95	1.94	1.94	1.94	1.92	1.96	1.94	24
HOURLY MAX	3.01	2.99	2.97	2.71	3.26	2.56	2.62	2.44	2.13	2.33	2.20	2.52	2.39	2.26	2.19	2.42	2.21	2.99	2.71	2.36	2.40	2.58	3.35	2.76				
HOURLY AVG	2.04	2.02	2.03	2.00	2.02	1.99	2.02	2.00	1.97	2.00	2.00	1.98	1.98	1.97	1.96	1.98	2.00	2.04	2.01	2.01	2.00	2.01	2.08	2.02				

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

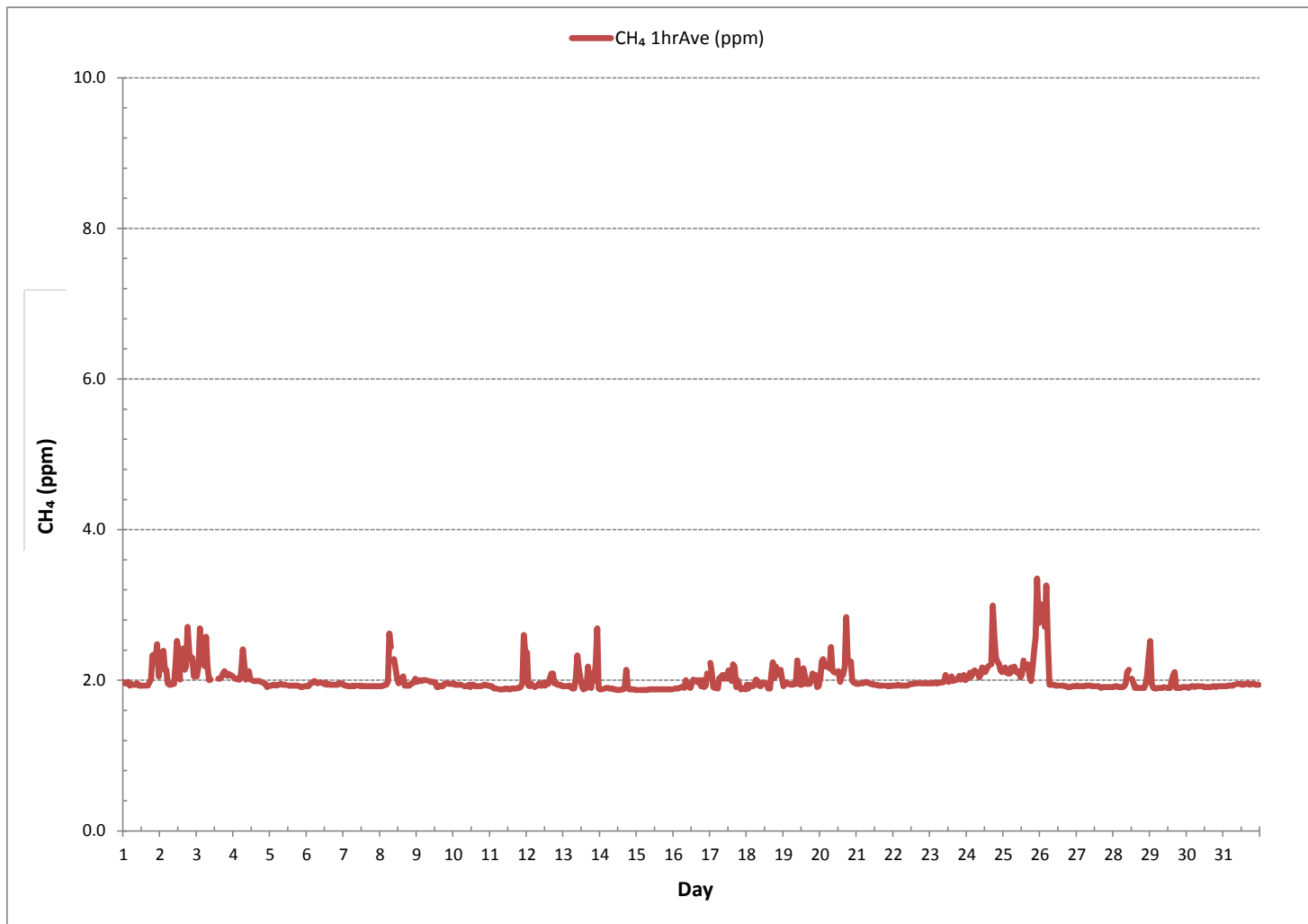
24 HR AVERAGES January 2017



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	709			
MINIMUM 1-HR AVERAGE:	1.87	ppm @ HOUR(S)	VAR , VAR	ON DAY(S) 14 , 15
MAXIMUM 1-HR AVERAGE:	3.35	ppm @ HOUR(S)	22	ON DAY(S) 25
MAXIMUM 24-HR AVERAGE:	2.24	ppm		ON DAY(S) 25
				VAR-VARIOUS
IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	744 hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION:	0.18		MONTHLY AVERAGE:	2.01 ppm

METHANE Hourly Averages (CH₄ ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - January 2017

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	1.99	2.00	2.01	2.02	1.95	1.98	1.99	1.98	1.96	2.00	1.96	1.95	1.95	1.95	1.96	S	1.95	2.78	2.52	3.31	2.82	2.66	3.21	3.71	1.95	3.71	2.29	24	
2	2.74	2.74	2.80	2.35	2.36	2.00	1.97	1.96	1.97	1.97	4.63	3.81	3.22	2.08	S	3.17	3.53	3.90	3.28	2.78	2.50	2.59	2.21	2.23	1.96	4.63	2.73	24	
3	2.27	2.32	3.68	3.58	3.14	2.47	3.37	3.19	2.01	C	C	C	C	C	C	2.04	2.05	2.27	2.27	2.22	2.09	2.09	2.09	2.16	2.01	3.68	2.52	24	
4	2.09	2.03	2.07	2.06	2.02	2.32	2.97	2.73	2.13	2.13	2.22	2.21	S	2.01	2.01	2.01	2.00	2.01	2.00	1.98	1.98	2.00	1.92	1.93	1.92	2.97	2.12	24	
5	1.94	1.96	1.95	1.95	1.94	1.96	1.96	1.96	1.95	1.95	1.95	S	1.95	1.94	1.95	1.94	1.94	1.95	1.95	1.93	1.94	1.94	1.94	1.95	1.93	1.96	1.95	24	
6	1.93	1.95	2.00	2.02	2.02	2.02	1.99	1.99	2.00	2.00	S	2.00	2.01	1.99	2.00	2.01	1.96	1.96	1.96	1.96	1.95	1.98	1.97	1.99	1.93	2.02	1.99	24	
7	1.97	1.96	1.93	1.95	1.95	1.93	1.95	1.93	1.96	S	1.95	1.93	1.95	1.93	1.95	1.95	1.93	1.95	1.93	1.95	1.93	1.95	1.93	1.95	1.93	1.97	1.94	24	
8	1.95	1.93	2.01	2.01	1.97	2.23	4.02	2.93	S	2.65	2.30	2.14	2.11	2.21	2.18	2.36	1.96	1.97	1.95	1.96	1.98	1.98	2.00	2.17	1.93	4.02	2.22	24	
9	2.01	2.00	2.02	2.00	2.02	2.01	2.03	S	2.00	2.01	1.99	2.01	2.00	1.94	1.92	1.99	1.98	1.96	1.98	1.98	1.98	1.96	1.98	2.02	1.92	2.03	1.99	24	
10	2.07	1.96	1.95	1.98	1.97	1.96	S	1.93	1.93	1.95	2.00	1.94	2.15	2.05	1.94	1.93	1.95	1.94	1.93	1.95	1.96	1.96	1.96	1.94	1.93	2.15	1.97	24	
11	1.96	1.94	1.91	1.93	1.90	S	1.89	1.89	1.89	1.90	1.91	1.90	1.91	1.90	1.91	1.90	1.91	1.91	1.92	1.91	2.02	2.13	2.95	3.41	1.89	3.41	2.03	24	
12	3.78	2.00	1.95	2.11	S	1.94	1.98	2.04	2.05	2.00	2.06	2.09	1.97	2.13	2.03	2.33	2.39	2.39	1.98	1.98	1.96	1.96	1.95	1.95	1.95	1.94	3.78	2.13	24
13	1.94	1.94	1.93	S	2.17	1.91	1.91	1.90	2.48	2.85	2.46	2.32	1.95	1.91	1.90	1.91	2.87	2.36	1.92	2.32	2.38	2.74	4.54	1.91	1.90	4.54	2.28	24	
14	1.90	1.89	S	1.90	1.92	1.91	1.91	1.90	1.91	1.90	1.89	1.90	1.89	1.90	1.89	1.90	2.01	2.44	2.09	1.90	1.90	1.89	1.89	1.89	1.89	2.44	1.94	24	
15	1.89	S	1.89	1.88	1.89	1.89	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.90	1.89	1.90	1.89	1.89	1.90	1.89	1.90	1.89	1.89	1.89	1.88	1.90	1.89	24	
16	S	1.90	1.91	1.91	1.91	1.94	1.91	1.95	2.12	2.06	2.05	1.94	2.15	2.11	2.08	2.14	2.12	2.21	2.25	2.19	2.09	2.13	2.51	S	1.90	2.51	2.07	24	
17	2.87	2.58	2.04	1.91	1.91	1.92	2.66	2.39	2.40	2.33	2.28	2.61	2.33	2.34	2.13	2.86	2.68	2.06	2.20	2.13	1.92	1.91	S	2.04	1.91	2.87	2.28	24	
18	2.25	2.11	2.14	2.01	2.02	2.13	2.22	2.20	2.11	2.07	2.23	2.11	2.16	2.27	1.91	1.90	2.47	2.86	2.34	3.99	2.19	S	2.43	2.39	1.90	3.99	2.28	24	
19	1.94	2.00	2.03	1.97	1.97	1.96	1.96	1.96	1.98	2.83	1.99	1.98	1.96	2.34	2.52	1.98	1.98	1.97	2.64	2.65	S	2.39	1.96	1.96	1.94	2.83	2.13	24	
20	2.76	2.92	2.82	2.74	3.21	2.48	2.34	3.24	2.34	2.34	2.34	2.31	2.67	2.27	2.31	2.25	2.73	Y	Y	S	2.49	2.03	1.99	1.98	1.98	3.24	2.50	22	
21	1.97	1.96	1.97	1.97	1.97	1.98	1.99	1.98	1.97	1.96	1.95	1.96	1.95	1.95	1.95	1.95	1.94	S	1.94	1.94	1.94	1.94	1.95	1.94	1.99	1.96	24		
22	1.95	1.95	1.95	1.96	1.95	1.96	1.95	1.96	1.94	1.96	1.95	1.98	1.97	1.97	1.97	1.97	1.97	S	1.97	1.98	1.97	1.98	1.98	1.98	1.94	1.98	1.96	24	
23	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.98	1.98	2.00	2.18	2.05	2.00	2.09	2.13	2.07	S	2.07	2.14	2.29	2.03	2.27	2.18	2.05	1.97	2.29	2.06	24	
24	2.11	2.12	2.21	2.21	2.24	2.42	2.43	2.56	2.06	2.40	2.41	2.26	2.14	2.24	2.32	S	2.60	3.98	3.46	2.66	2.39	2.45	2.26	2.20	2.06	3.98	2.44	24	
25	2.37	2.33	2.32	2.33	2.45	2.40	2.29	2.43	2.37	2.31	2.31	2.14	2.25	2.39	S	2.38	2.69	2.25	2.01	2.34	3.26	3.80	4.28	3.28	2.01	4.28	2.56	24	
26	3.73	5.31	4.11	3.93	4.75	5.13	1.96	1.95	1.98	1.98	1.95	1.95	1.94	S	1.95	1.94	1.93	1.92	1.92	1.92	1.92	1.93	1.93	1.93	1.92	5.31	2.61	24	
27	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.94	1.93	1.93	S	1.93	1.93	1.92	1.91	1.92	1.93	1.92	1.92	1.92	1.92	1.92	1.91	1.94	1.93	24	
28	1.93	2.00	1.99	1.92	1.92	1.92	1.92	1.93	2.29	2.47	2.49	S	2.23	2.18	1.92	1.92	1.91	1.91	1.91	1.91	1.91	2.16	2.28	2.93	1.91	2.93	2.08	24	
29	3.72	2.09	1.91	1.90	1.90	1.91	1.91	1.91	1.91	1.92	S	1.91	1.91	2.10	2.33	2.36	2.70	1.92	1.91	1.91	1.91	1.92	1.92	1.92	1.90	3.72	2.08	24	
30	1.92	1.92	1.92	1.93	1.94	1.92	1.94	1.93	1.94	S	1.93	1.93	1.92	1.92	1.92	1.92	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.92	1.94	1.93	24	
31	1.93	1.93	1.93	1.94	1.94	1.95	1.95	1.95	S	1.97	1.97	1.96	1.96	1.96	1.96	1.97	1.99	1.95	1.96	1.96	1.97	1.96	1.95	1.96	1.93	1.99	1.96	24	
HOURLY MAX	3.78	5.31	4.11	3.93	4.75	5.13	4.02	3.24	2.48	2.85	4.63	3.81	3.22	2.39	2.52	3.17	3.53	3.98	3.46	3.99	3.26	3.80	4.54	3.71					
HOURLY AVG	2.26	2.19	2.18	2.14	2.17	2.15	2.17	2.15	2.05	2.13	2.18	2.11	2.09	2.07	2.03	2.10	2.20	2.23	2.14	2.19	2.10	2.15	2.26	2.18					

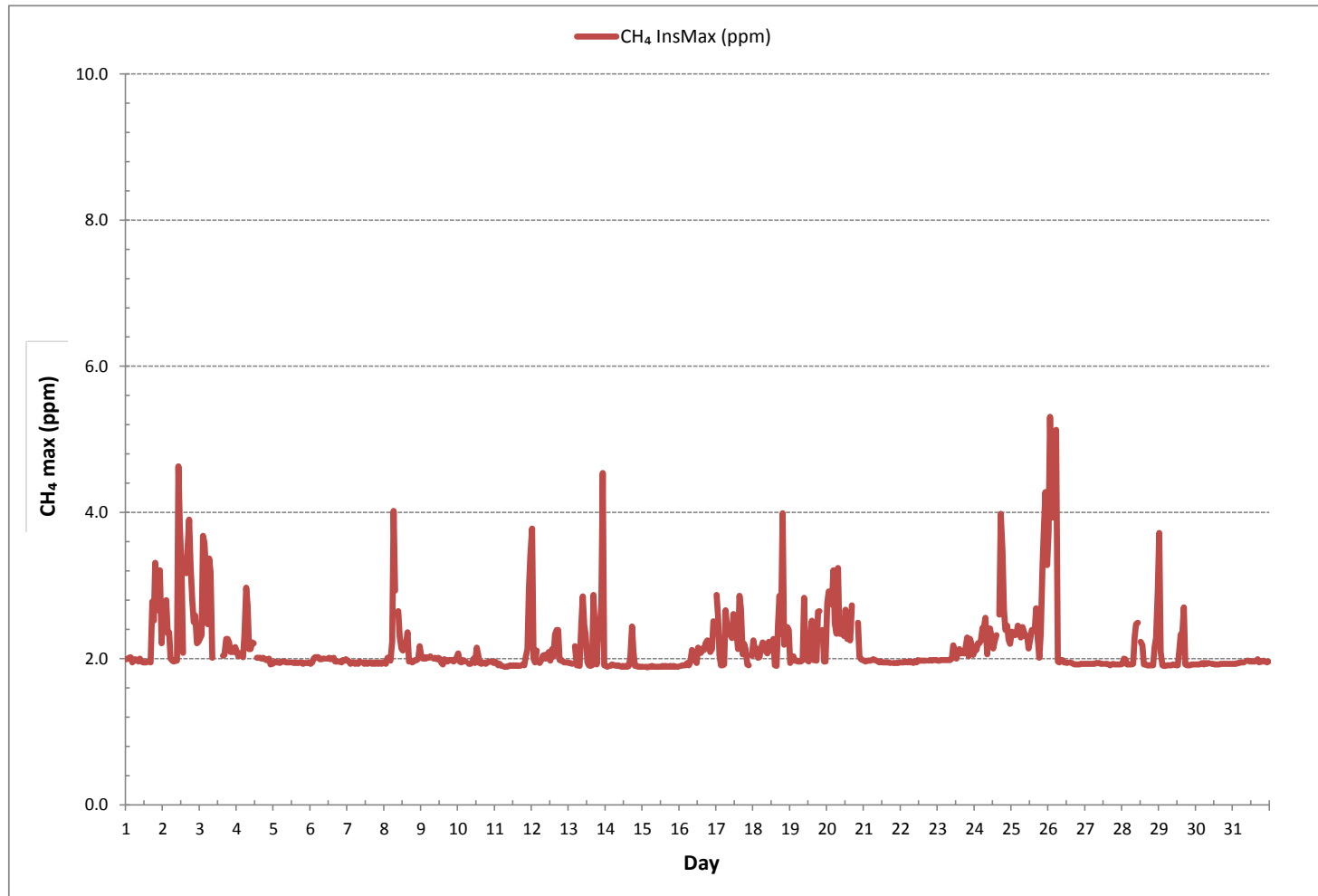
STATUS FLAG CODES

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:	705
MAXIMUM INSTANTANEOUS VALUE:	5.31 ppm @ HOUR(S) 1 ON DAY(S) 26
VAR-VARIOUS	
IZS CALIBRATION TIME:	31 hrs
MONTHLY CALIBRATION TIME:	6 hrs
STANDARD DEVIATION:	0.45
OPERATIONAL TIME:	742 hrs

METHANE MAX Instantaneous Maximum (CH₄ ppm)

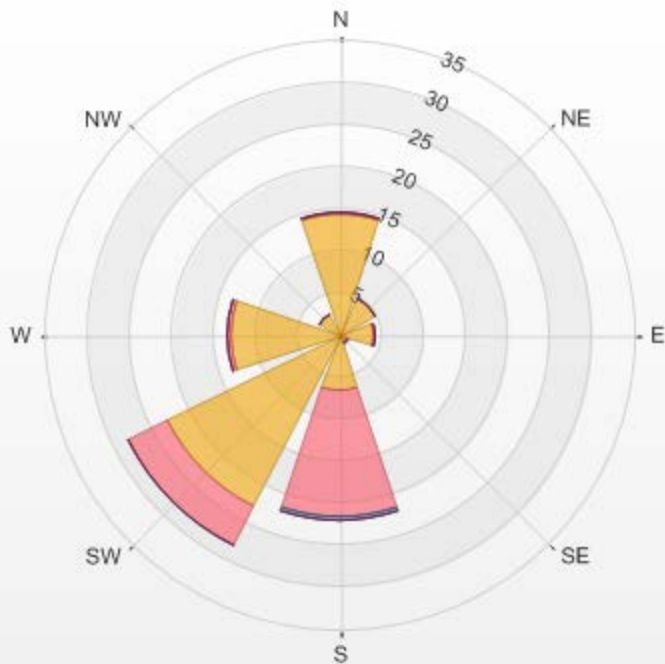


Wind: PRAMP RENO TRAILER Poll.: PRAMP RENO TRAILER-CH4[ppm] Monthly: 01/2017 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr
 Calm: 8.79% Valid Data: 94.76% Calm Avg: 2.16 [ppm]

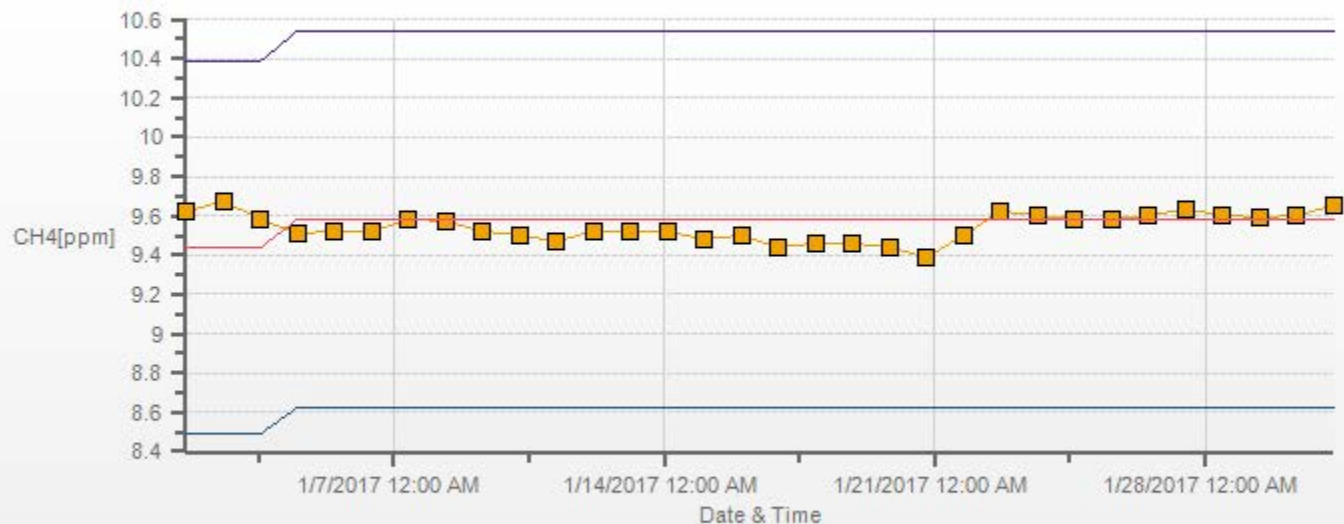
Direction	0-2	2-3	3-5	5-10	>10.0	Total
N	14.47	0.14	0	0	0	14.61
NE	4.82	0	0	0	0	4.82
E	4.11	0.14	0	0	0	4.25
SE	0.99	0.14	0	0	0	1.13
S	6.67	15.04	0.43	0	0	22.14
SW	22.84	5.25	0	0	0	28.09
W	13.05	0.43	0	0	0	13.48
NW	2.7	0	0	0	0	2.7
Summary	69.65	21.14	0.43	0	0	91.22

%	Icon	Classes (ppm)
70		0-2
21		2-3
0		3-5
0		5-10
0		>10.0

PRAMP RENO TRAILER Poll.: PRAMP RENO TRAILER-CH4[ppm] 01/01/2017 00:00 - 31/01/2017 23:00
Calm: 8.79% Calm Poll Avg: 2.16[ppm]



CH4[ppm] Calibration: PRAMP RENO TRAILER Monthly: 2017/01 Type: Span



Span Meas Span Ref Span Low Span High

NON-METHANE HYDROCARBON



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - January 2017

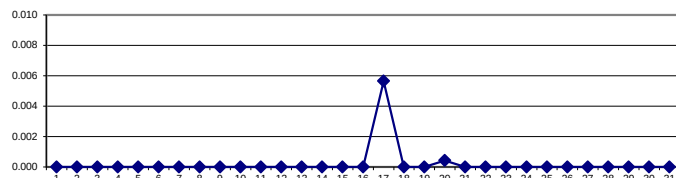
NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$	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
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	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	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
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	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	0.02	0.00	0.06	0.05	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.06	0.01	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	0.01	0.00	0.00	0.00	0.00	0.00	\$	0.00	\$	0.00	0.00	0.00	0.00	0.01	0.00	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	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
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.06	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	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

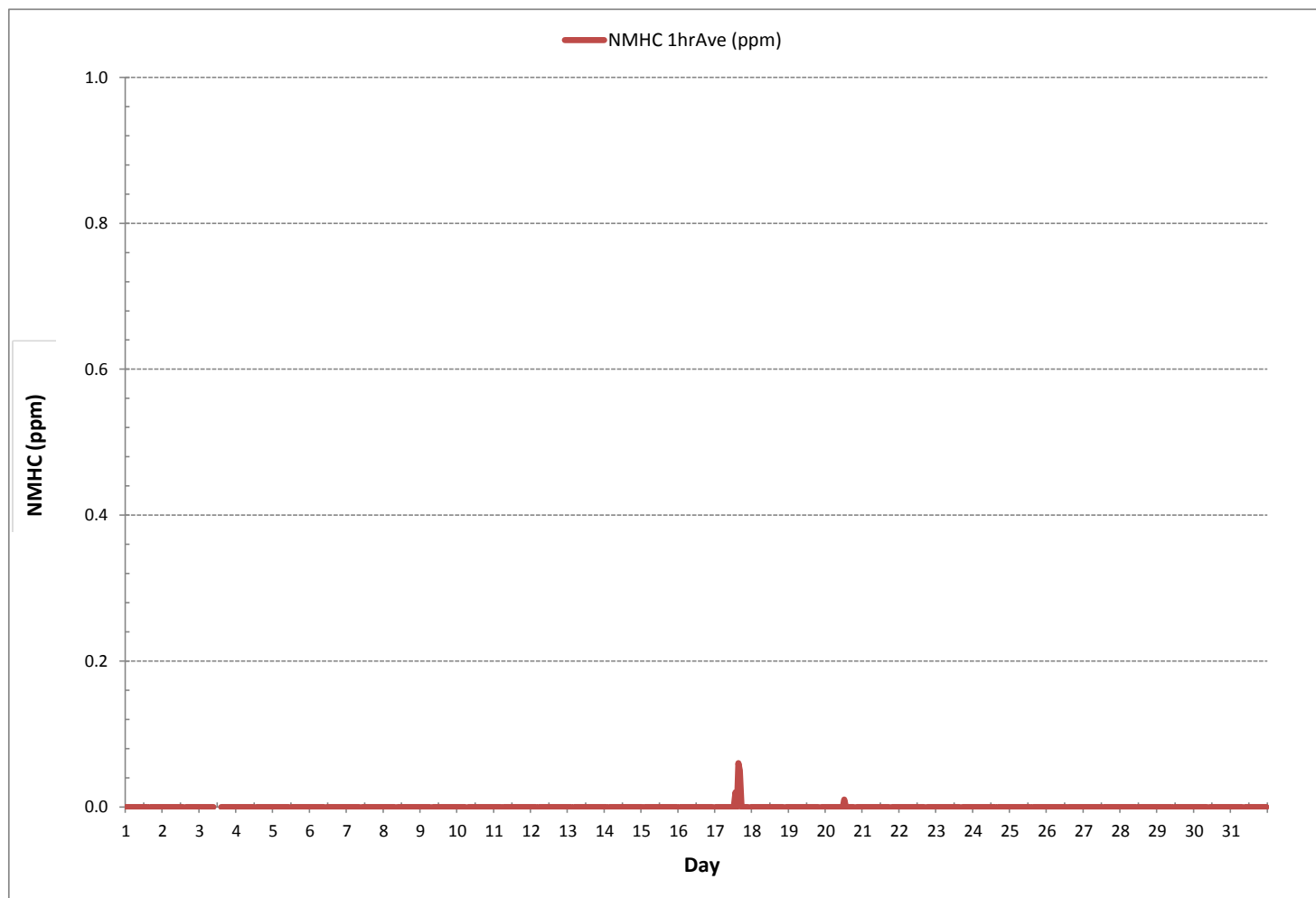
24 HR AVERAGES January 2017



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	4				
MINIMUM 1-HR AVERAGE:	0.00	ppm	@ HOUR(S)	VAR	ON DAY(S) ALL
MAXIMUM 1-HR AVERAGE:	0.06	ppm	@ HOUR(S)	15	ON DAY(S) 17
MAXIMUM 24-HR AVERAGE:	0.01	ppm			ON DAY(S) 17
					VAR-VARIOUS
IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:	744	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	0.00		MONTHLY AVERAGE:	0.00	ppm

NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - January 2017

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 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	0.00	0.00	0.00	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
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	S	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	C	C	C	C	C	C	0.00	0.00	0.09	0.00	0.09	0.00	0.00	0.08	0.08	0.00	0.09	0.02	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	S	0.00	0.00	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	S	0.00	0.00	0.00	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
6	0.00	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
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
9	0.00	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
10	0.00	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
11	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
12	0.00	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
13	0.00	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	0.08	0.00	0.00	0.00	0.00	0.00	0.08	0.00	24
14	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
15	0.00	S	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	0.00	0.00	0.00	0.00	0.00	0.04	0.00	24
16	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
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	0.30	0.00	0.51	0.34	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.51	0.05	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	S	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	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.07	0.00	0.07	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	0.19	0.00	0.00	0.00	0.00	Y	Y	S	0.00	0.00	0.00	0.00	0.00	0.19	0.01	22
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	S	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	S	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	S	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.06	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	0.05	0.00	0.11	0.00	S	0.04	0.06	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.11	0.01	24
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.03	0.00	0.00	0.00	S	0.00	0.00	0.15	0.00	0.00	0.00	0.11	0.09	0.06	0.00	0.15	0.02	24
26	0.08	0.00	0.10	0.00	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	0.10	0.01	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	S	0.00	0.00	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	S	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	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
31	0.00	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
HOURLY MAX	0.08	0.00	0.10	0.04	0.00	0.00	0.00	0.00	0.00	0.06	0.03	0.05	0.19	0.30	0.00	0.51	0.34	0.15	0.01	0.09	0.06	0.11	0.09	0.08				
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	0.01	0.01	0.00	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.01	0.01				

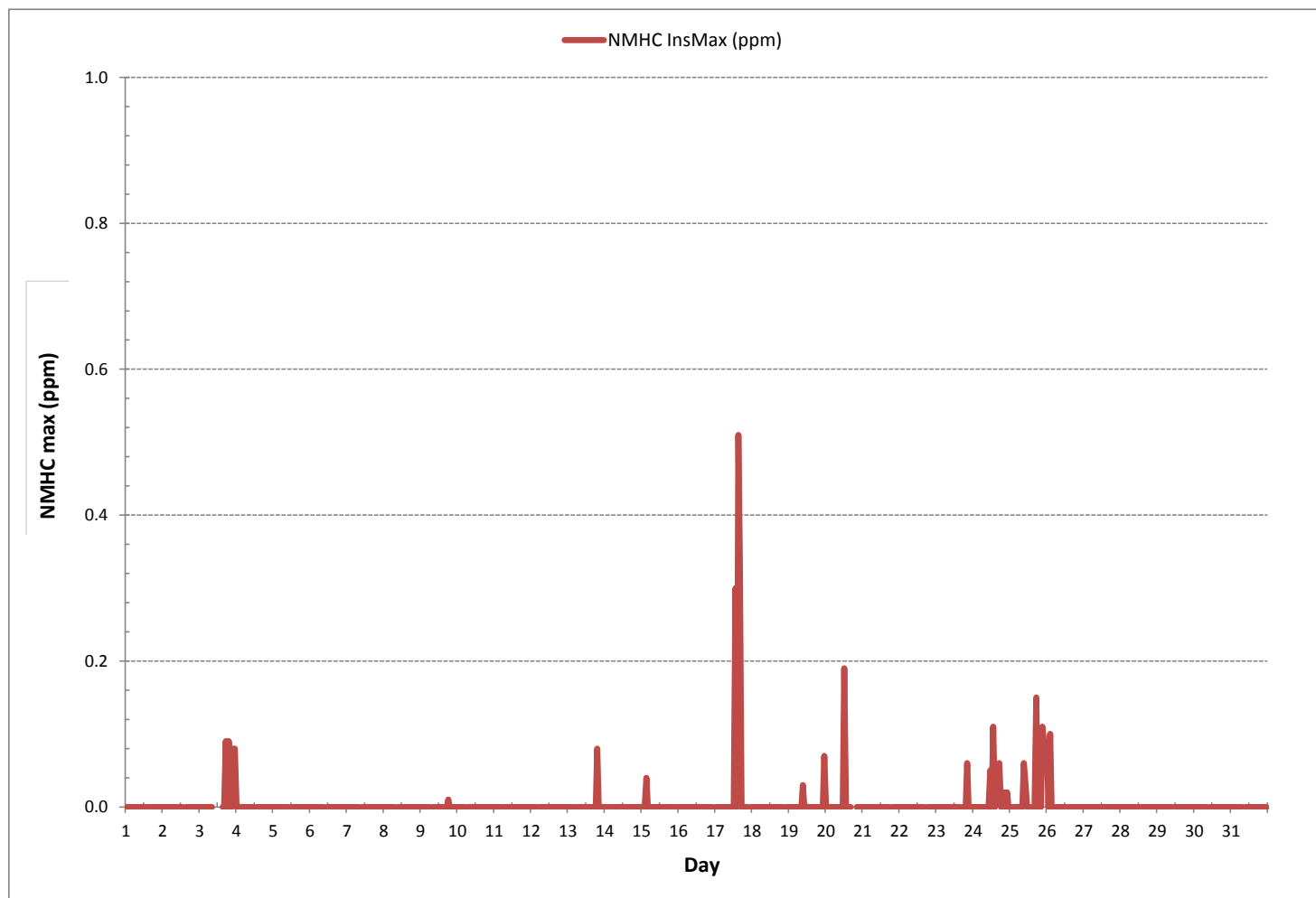
STATUS FLAG CODES

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:	28
MAXIMUM INSTANTANEOUS VALUE:	0.51 ppm @ HOUR(S) 15 ON DAY(S) 17
	VAR-VARIOUS
IZS CALIBRATION TIME:	31 hrs
MONTHLY CALIBRATION TIME:	6 hrs
OPERATIONAL TIME:	742 hrs
STANDARD DEVIATION:	0.03

NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)

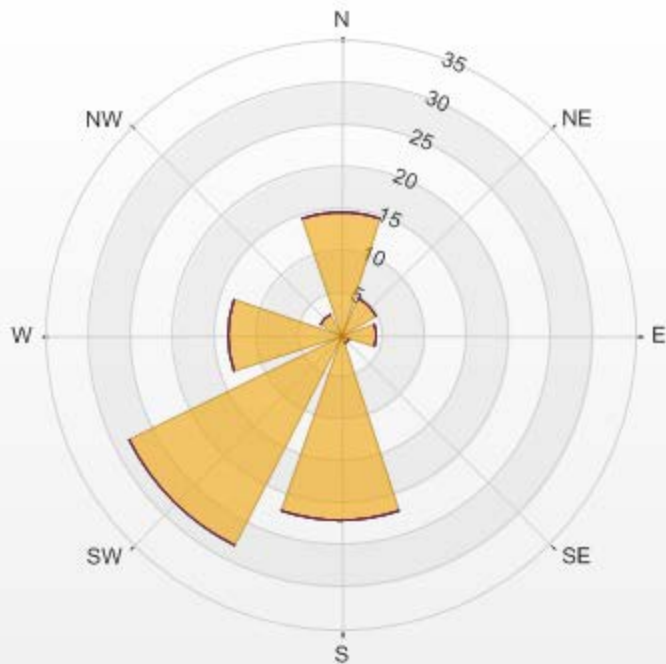


Wind: PRAMP RENO TRAILER Poll.: PRAMP RENO TRAILER-NMHC[ppm] Monthly: 01/2017 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 8.79% Valid Data: 94.76% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	14.61	0	0	0	0	14.61
NE	4.82	0	0	0	0	4.82
E	4.26	0	0	0	0	4.26
SE	1.13	0	0	0	0	1.13
S	22.13	0	0	0	0	22.13
SW	28.09	0	0	0	0	28.09
W	13.48	0	0	0	0	13.48
NW	2.7	0	0	0	0	2.7
Summary	91.22	0	0	0	0	91.22

%	Icon	Classes (ppm)
91		0-0.1
0		0.1-0.3
0		0.3-1
0		1-2
0		>2.0

PRAMP RENO TRAILER Poll.: PRAMP RENO TRAILER-NMHC[ppm] 01/01/2017 00:00 - 31/01/2017 23:00
Calm: 8.79% Calm Poll Avg: 0.00[ppm]





■ Span Meas
 — Span Ref
 — Span Low
 — Span High

WIND SPEED

WIND SPEED Hourly Averages (WS kph)

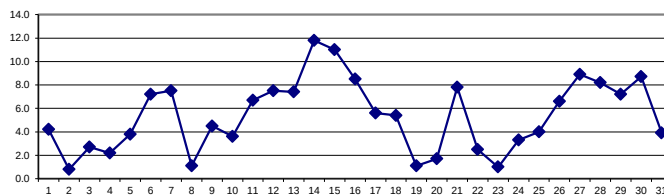
HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	3.8	5.5	6.1	5.1	7.0	5.8	6.4	5.4	7.0	5.4	6.9	6.7	7.9	6.5	6.2	4.5	3.0	2.4	2.3	1.4	1.1	1.2	1.6	2.4	1.1	7.9	4.2	24
2	0.1	0.5	1.6	2.8	2.9	3.6	3.6	1.0	1.7	2.5	0.8	0.7	1.2	0.8	2.1	2.7	3.2	3.5	2.5	2.5	2.5	2.7	2.4	1.9	0.1	3.6	0.8	24
3	2.3	2.6	2.8	2.7	3.0	3.3	2.7	3.0	3.6	2.9	1.8	1.8	2.6	2.6	3.2	3.6	3.0	2.5	2.5	2.3	3.4	3.5	3.5	3.0	1.8	3.6	2.7	24
4	3.3	3.2	2.7	2.5	2.4	0.7	2.2	0.9	0.8	0.9	1.7	3.1	4.4	5.1	4.3	4.6	4.3	4.8	4.1	3.9	4.2	2.0	5.0	4.2	0.7	5.1	2.2	24
5	3.7	2.5	2.6	3.7	4.1	4.6	4.9	5.6	4.8	4.6	5.1	4.5	5.9	6.3	7.5	4.3	2.6	3.2	4.5	2.7	2.7	3.7	6.0	9.0	2.5	9.0	3.8	24
6	10.6	10.3	9.7	10.0	9.6	9.5	10.4	10.3	9.0	9.1	10.3	9.6	10.9	9.2	8.8	7.4	9.5	8.6	5.7	2.8	3.7	7.2	6.5	6.7	2.8	10.9	7.2	24
7	8.3	10.1	9.7	8.3	7.8	8.4	9.3	8.4	7.5	7.6	8.5	8.8	7.8	8.2	8.4	7.3	6.7	7.1	6.0	6.0	5.8	5.9	6.0	4.1	4.1	10.1	7.5	24
8	2.7	1.0	0.0	0.1	0.4	0.4	0.1	0.1	0.1	0.2	0.8	1.6	1.5	0.9	0.6	0.6	1.9	2.0	3.2	3.6	4.7	7.6	3.6	3.7	0.0	7.6	1.1	24
9	5.6	7.7	5.9	6.6	5.1	2.2	3.6	4.7	4.7	5.7	6.1	6.1	3.6	7.4	4.6	2.5	3.8	4.6	5.8	5.1	7.7	5.7	5.8	5.1	2.2	7.7	4.5	24
10	4.6	7.9	9.1	7.7	15.4	14.1	13.4	11.1	9.3	5.8	2.9	3.4	3.6	5.7	6.8	6.2	5.1	6.1	6.0	6.6	6.4	7.0	8.6	9.2	2.9	15.4	3.6	24
11	10.0	11.5	14.7	12.5	15.3	14.9	15.3	11.5	13.8	13.5	11.7	11.7	12.1	15.8	18.3	14.0	8.1	7.4	6.6	5.8	2.4	2.8	0.9	4.1	0.9	18.3	6.7	24
12	5.7	7.6	8.5	8.2	8.4	10.1	10.2	10.0	8.9	9.9	9.5	10.3	9.3	9.1	7.1	6.9	6.5	7.9	9.8	10.8	9.1	6.1	7.3	5.9	5.7	10.8	7.5	24
13	7.4	6.6	4.4	5.1	10.3	11.0	9.8	8.9	6.4	6.0	6.1	6.7	8.0	9.3	8.0	7.8	5.1	8.7	10.4	7.4	5.4	6.0	7.7	11.1	4.4	11.1	7.4	24
14	11.0	10.1	10.9	10.5	13.5	13.8	15.4	15.0	14.1	13.7	13.0	11.8	11.2	15.2	13.2	14.6	4.0	3.0	11.2	13.9	11.9	9.1	12.5	17.7	3.0	17.7	11.8	24
15	16.1	13.1	13.7	11.0	11.8	11.4	15.0	12.3	10.8	9.9	9.2	9.5	10.3	13.2	8.9	9.4	9.2	9.4	8.2	9.0	10.3	11.1	12.8	13.4	8.2	16.1	11.0	24
16	12.9	10.8	15.1	12.9	10.3	9.2	11.0	11.4	8.0	10.9	11.0	11.4	9.4	7.9	9.3	8.1	9.4	6.3	4.4	4.9	4.7	4.7	3.4	2.7	2.7	15.1	8.5	24
17	3.0	6.9	9.6	11.3	11.6	8.4	5.0	4.8	5.4	5.6	6.5	6.3	5.4	5.9	3.8	3.9	4.4	3.7	3.8	6.1	6.9	6.0	7.2	7.2	3.0	11.6	5.6	24
18	6.0	6.3	5.9	5.4	5.8	5.2	3.9	5.0	6.2	6.1	6.4	6.3	8.1	5.9	5.5	4.4	3.9	4.4	4.8	4.6	5.0	4.9	5.8	5.6	3.9	8.1	5.4	24
19	5.0	3.6	4.7	4.7	5.7	5.7	5.4	4.7	0.1	2.2	2.3	7.3	3.9	1.6	4.0	4.1	4.9	2.7	3.3	4.8	5.2	5.0	6.7	5.5	0.1	7.3	1.1	24
20	5.6	5.0	5.5	5.7	4.7	5.1	5.4	4.6	4.7	5.1	4.6	4.9	4.1	4.6	2.9	1.7	0.9	2.3	1.4	0.9	4.7	10.7	10.5	11.3	0.9	11.3	1.7	24
21	12.3	13.2	13.0	11.4	11.3	10.2	10.1	8.0	8.0	8.7	8.0	8.5	7.9	8.1	7.2	6.0	7.0	6.2	5.5	4.6	3.6	3.5	3.5	3.2	3.2	13.2	7.8	24
22	3.1	2.7	2.7	2.1	2.1	1.7	2.5	2.2	2.4	2.6	1.3	1.3	1.9	2.4	2.1	3.8	4.3	3.6	2.5	3.1	3.6	4.6	3.5	3.7	1.3	4.6	2.5	24
23	3.1	3.5	3.5	2.1	2.0	2.2	2.0	2.1	0.6	1.3	0.9	1.1	1.1	0.8	0.9	1.0	0.9	0.3	0.7	0.6	1.4	1.4	0.7	1.5	0.3	3.5	1.0	24
24	2.1	2.5	2.8	3.3	2.5	2.2	3.0	2.8	3.8	3.5	3.3	4.2	5.4	4.0	3.5	2.8	3.1	3.2	3.6	3.9	3.7	3.9	4.0	4.2	2.1	5.4	3.3	24
25	3.9	4.0	4.0	4.2	4.3	4.2	4.2	4.0	4.4	3.9	4.4	4.0	2.7	4.5	5.8	6.6	6.6	6.2	4.6	1.2	1.9	1.8	2.8	2.8	1.2	6.6	4.0	24
26	2.8	1.8	1.5	1.2	2.2	4.3	5.0	5.6	5.1	5.7	5.3	6.8	8.7	9.0	8.8	8.1	7.0	8.2	9.1	9.8	9.9	13.2	14.0	14.1	1.2	14.1	6.6	24
27	12.3	10.9	8.7	7.8	7.2	7.7	6.7	10.7	10.2	10.6	11.1	13.1	11.7	11.0	9.1	9.4	6.9	8.8	6.2	7.9	7.1	8.0	8.1	7.3	6.2	13.1	8.9	24
28	8.1	6.1	6.3	10.5	10.1	9.4	8.4	8.0	8.5	6.5	6.4	7.5	7.4	8.4	10.6	10.8	13.4	13.3	15.3	12.7	8.5	3.2	2.0	1.9	1.9	15.3	8.2	24
29	4.0	6.8	8.2	9.5	10.1	12.2	13.6	13.7	10.5	8.3	9.5	7.6	7.0	4.8	1.1	1.0	3.5	6.4	5.9	4.9	6.2	7.7	8.8	8.8	1.0	13.7	7.2	24
30	11.2	11.8	9.5	7.3	7.0	6.3	7.2	6.5	6.8	8.0	9.0	11.2	14.6	15.3	14.5	12.7	11.2	8.9	10.2	9.8	9.4	12.1	12.7	11.9	6.3	15.3	8.7	24
31	9.1	7.6	8.3	6.6	5.2	5.1	3.8	2.5	3.0	4.1	3.9	5.7	8.6	6.6	6.7	5.4	2.8	3.6	4.2	4.5	4.6	5.2	5.8	5.1	2.5	9.1	3.9	24
HOURLY MAX	16.1	13.2	15.1	12.9	15.4	14.9	15.4	15.0	14.1	13.7	13.0	13.1	14.6	15.8	18.3	14.6	13.4	13.3	15.3	13.9	11.9	13.2	14.0	17.7				
HOURLY AVG	2.7	2.9	3.1	3.0	2.8	2.7	2.8	2.9	3.1	3.0	3.2	3.3	3.3	3.1	2.6	2.8	2.2	2.6	3.0	2.8	2.7	2.5	2.7	2.8				

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:	October 13, 2016
DECLINATION :	MAGNETIC DECLINATION 15 DEGREE EAST

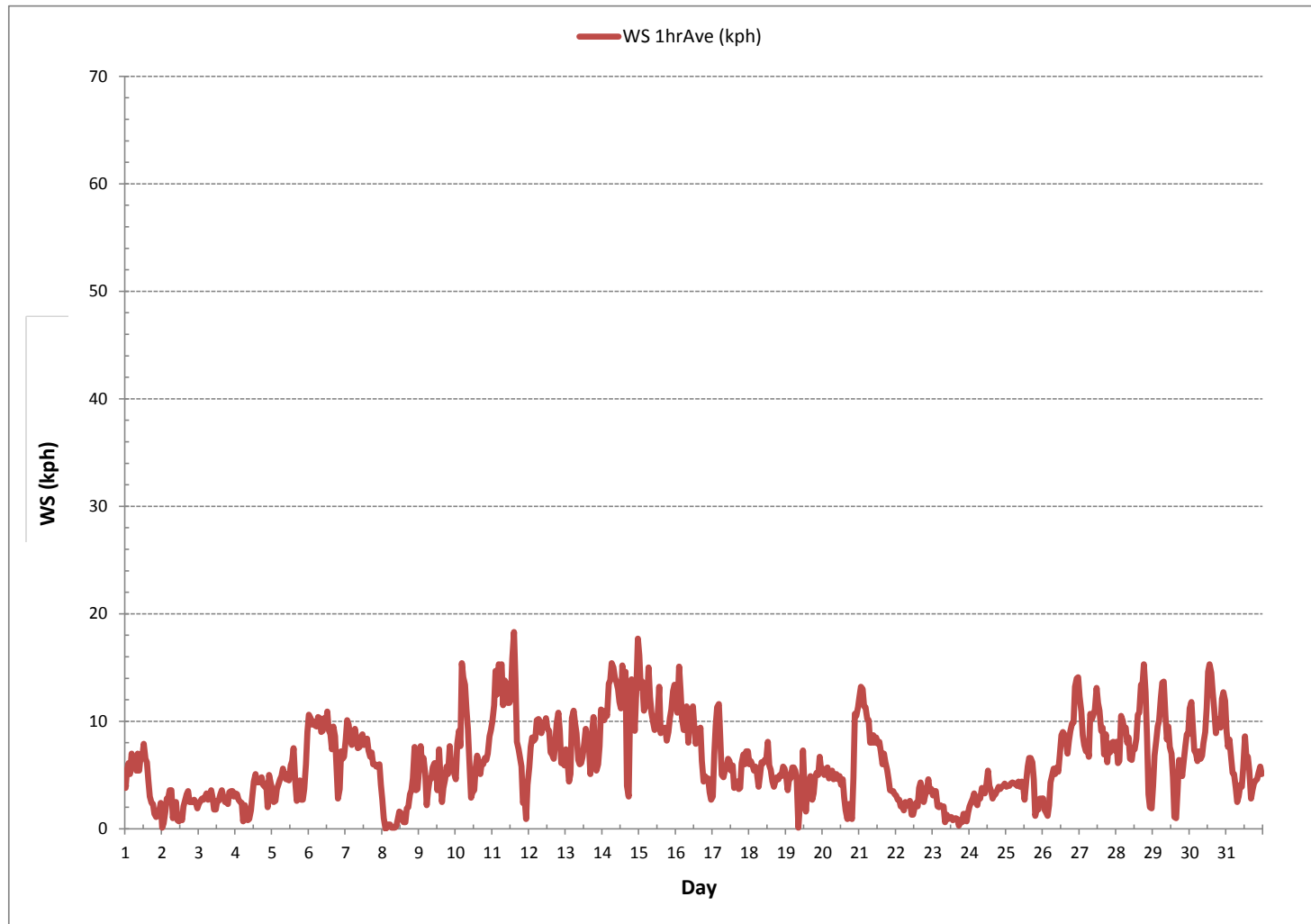
24 HR AVERAGES January 2017



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	743
MINIMUM 1-HR AVERAGE:	0.0 kph @ HOUR(S) 2 ON DAY(S) 8
MAXIMUM 1-HR AVERAGE:	18.3 kph @ HOUR(S) 14 ON DAY(S) 11
MAXIMUM 24-HR AVERAGE:	11.8 kph ON DAY(S) 14
	VAR-VARIOUS
MONTHLY CALIBRATION TIME:	0 hrs
OPERATIONAL TIME:	744 hrs
AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION:	3.7
MONTHLY AVERAGE:	2.8 kph

WIND SPEED Hourly Averages (WS kph)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - January 2017

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	12.7	13.9	16.5	17.3	21.2	21.9	22.5	19.0	16.5	14.9	15.5	16.8	17.2	17.1	12.9	11.0	6.9	7.5	7.6	4.2	2.9	4.6	4.2	5.3	2.9	22.5	12.9	24
2	3.7	4.3	7.1	10.4	7.3	9.5	6.9	8.2	4.8	7.5	5.9	5.1	5.8	4.3	5.2	5.2	6.6	6.5	4.8	3.9	3.8	5.3	4.5	3.5	3.5	10.4	5.8	24
3	4.6	4.0	6.2	6.9	7.9	7.9	6.4	6.1	7.9	6.7	5.0	5.1	6.1	6.2	8.2	7.3	7.0	6.7	6.3	6.1	7.8	7.5	8.0	8.9	4.0	8.9	6.7	24
4	9.7	7.9	8.1	7.4	6.3	4.3	5.6	3.9	4.7	5.0	7.3	9.0	13.2	12.9	12.6	12.8	10.2	11.7	8.9	10.2	8.4	9.5	13.5	14.1	3.9	14.1	9.1	24
5	9.3	7.6	7.7	9.1	10.9	11.1	11.5	13.3	11.2	12.2	13.1	11.7	15.2	14.1	17.4	11.5	8.0	9.3	9.8	8.0	8.1	10.7	17.4	22.8	7.6	22.8	11.7	24
6	24.3	24.5	26.1	25.6	23.8	23.4	30.3	28.0	26.5	21.9	25.9	23.2	22.2	19.9	20.2	14.0	18.7	17.4	16.3	7.1	10.5	15.5	16.2	18.1	7.1	30.3	20.8	24
7	26.3	25.1	24.9	24.9	22.1	21.5	22.9	22.0	18.8	19.8	22.8	23.4	20.5	22.3	21.0	18.0	17.3	17.4	15.4	13.7	14.9	13.7	14.6	12.1	12.1	26.3	19.8	24
8	8.7	3.9	0.0	3.6	2.8	3.7	1.5	1.6	1.4	2.1	4.0	4.4	6.1	4.8	3.8	5.2	5.8	5.3	8.4	11.9	15.1	15.9	12.2	10.9	0.0	15.9	6.0	24
9	14.8	17.5	15.0	16.9	11.5	6.1	9.6	11.2	10.0	12.7	13.3	13.4	13.1	20.5	14.4	10.9	8.4	11.3	14.5	12.3	15.9	15.2	13.9	14.9	6.1	20.5	13.2	24
10	13.6	24.5	26.9	21.3	44.8	36.0	33.8	25.5	22.1	18.2	8.9	9.0	13.8	14.6	16.2	17.7	13.5	14.0	14.2	13.8	19.0	19.4	18.5	19.9	8.9	44.8	20.0	24
11	26.9	33.3	34.3	33.4	37.8	37.8	37.0	32.1	32.6	30.3	39.9	45.5	37.4	44.3	48.2	36.9	21.7	19.7	13.0	12.0	11.8	8.5	3.7	11.0	3.7	48.2	28.7	24
12	15.4	22.6	21.7	22.4	20.8	22.8	24.0	24.0	19.6	25.7	24.5	20.1	19.1	19.5	15.6	11.4	9.7	22.7	22.4	26.8	24.5	16.6	16.0	13.3	9.7	26.8	20.1	24
13	20.2	14.5	9.9	10.2	24.9	20.9	18.5	16.4	12.4	12.6	16.9	18.2	20.7	19.8	17.8	12.6	17.8	21.6	26.2	20.2	12.1	12.0	19.5	24.2	9.9	26.2	17.6	24
14	25.1	24.3	29.3	24.5	30.6	30.7	40.2	35.0	33.3	34.4	31.1	27.2	32.4	34.6	35.6	44.4	20.1	12.2	27.7	35.4	25.3	22.2	35.7	45.0	12.2	45.0	30.7	24
15	43.4	37.3	33.3	29.3	31.1	31.8	34.5	33.2	31.1	25.0	22.3	26.0	24.8	32.6	26.8	25.1	28.3	19.6	19.2	19.5	22.4	26.4	31.9	31.5	19.2	43.4	28.6	24
16	32.1	28.8	33.9	29.8	24.2	18.6	23.7	26.5	21.0	27.8	25.4	27.9	22.2	19.0	21.7	16.8	19.7	17.3	11.0	11.4	11.8	11.1	6.9	10.3	6.9	33.9	20.8	24
17	7.9	17.0	24.4	26.0	25.1	20.5	12.4	7.3	12.4	11.7	14.9	14.1	13.3	14.1	6.5	10.3	10.8	12.6	13.6	15.8	16.5	13.3	18.1	19.9	6.5	26.0	14.9	24
18	14.8	15.2	15.7	18.5	19.3	12.2	14.0	11.4	13.6	12.2	12.0	16.7	18.0	13.3	16.1	13.2	7.2	10.4	10.9	11.3	11.5	10.9	10.7	15.0	7.2	19.3	13.5	24
19	13.6	11.0	12.8	11.5	12.5	12.3	12.8	10.2	4.8	6.8	17.0	16.7	8.5	6.6	14.2	12.0	12.3	8.5	10.8	12.4	10.5	12.8	14.3	12.5	4.8	17.0	11.6	24
20	11.2	11.2	16.9	13.3	9.8	7.0	7.3	6.9	9.7	8.5	9.3	11.3	9.3	11.6	8.1	6.6	4.6	4.5	5.2	3.4	24.0	22.8	21.5	25.4	3.4	25.4	11.2	24
21	29.0	29.9	30.9	30.4	28.6	25.6	24.1	24.3	21.6	26.0	19.6	20.8	21.1	20.1	18.5	16.1	16.4	18.3	13.2	12.0	9.5	8.6	8.9	6.8	6.8	30.9	20.0	24
22	6.3	6.5	5.8	5.1	5.3	4.7	5.5	4.7	5.0	6.1	5.1	4.3	5.2	5.4	5.9	7.7	8.8	7.7	6.5	6.7	7.0	8.5	6.5	7.2	4.3	8.8	6.1	24
23	6.2	7.1	8.0	5.1	4.2	4.4	5.9	4.4	2.6	3.7	5.0	4.8	3.9	5.1	3.7	4.4	3.8	2.9	3.3	3.7	4.9	4.0	4.0	4.7	2.6	8.0	4.6	24
24	6.8	5.4	6.8	6.7	4.9	5.5	7.1	6.1	8.7	8.5	8.9	9.7	17.1	12.4	9.6	5.8	4.5	4.6	4.9	5.4	6.4	5.6	9.3	7.9	4.5	17.1	7.4	24
25	6.9	9.6	7.6	9.0	10.3	8.5	7.1	8.1	6.7	6.2	7.2	7.8	5.4	11.4	12.5	14.2	12.6	14.9	13.7	4.9	5.1	6.3	6.6	4.9	4.9	14.9	8.6	24
26	5.2	6.7	5.8	3.7	6.5	10.7	11.4	17.5	10.8	12.2	12.6	16.2	18.4	23.3	24.1	17.8	15.6	21.7	24.6	25.9	25.9	31.5	32.9	33.7	3.7	33.7	17.3	24
27	28.9	29.2	21.0	22.7	14.6	17.5	16.0	27.1	24.6	21.3	25.6	33.3	31.2	30.2	26.0	23.4	19.4	20.6	19.7	21.1	17.2	18.0	18.9	23.4	14.6	33.3	23.0	24
28	21.7	13.6	15.3	25.0	25.7	24.5	24.4	17.8	21.4	12.9	13.4	20.1	16.3	24.2	24.8	29.3	36.0	32.8	38.6	37.6	27.4	10.7	6.4	6.9	6.4	38.6	22.0	24
29	8.0	13.9	16.5	22.0	21.6	26.7	28.4	33.4	22.5	18.7	19.8	19.0	18.3	14.5	5.9	5.3	11.3	14.8	18.0	12.1	17.4	19.7	20.4	20.7	5.3	33.4	17.9	24
30	27.3	31.3	26.9	25.7	22.0	19.3	23.2	33.7	20.9	25.8	27.6	32.6	38.9	40.3	41.7	39.0	37.8	31.7	34.1	28.3	27.1	32.8	33.4	30.9	19.3	41.7	30.5	24
31	24.0	18.2	19.8	17.8	14.4	12.0	11.3	7.2	8.8	11.7	12.8	20.8	25.0	17.8	19.7	15.6	11.1	9.5	9.9	9.4	9.8	10.9	12.0	14.5	7.2	25.0	14.3	24
HOURLY MAX	43.4	37.3	34.3	33.4	44.8	37.8	40.2	35.0	33.3	34.4	39.9	45.5	38.9	44.3	48.2	44.4	37.8	32.8	38.6	37.6	27.4	32.8	35.7	45.0				
HOURLY AVG	16.4	16.8	17.3	17.3	17.8	16.8	17.5	17.0	15.2	15.1	15.8	17.2	17.3	18.0	17.3	15.7	13.8	14.1	14.6	13.8	14.0	13.9	14.9	16.1				

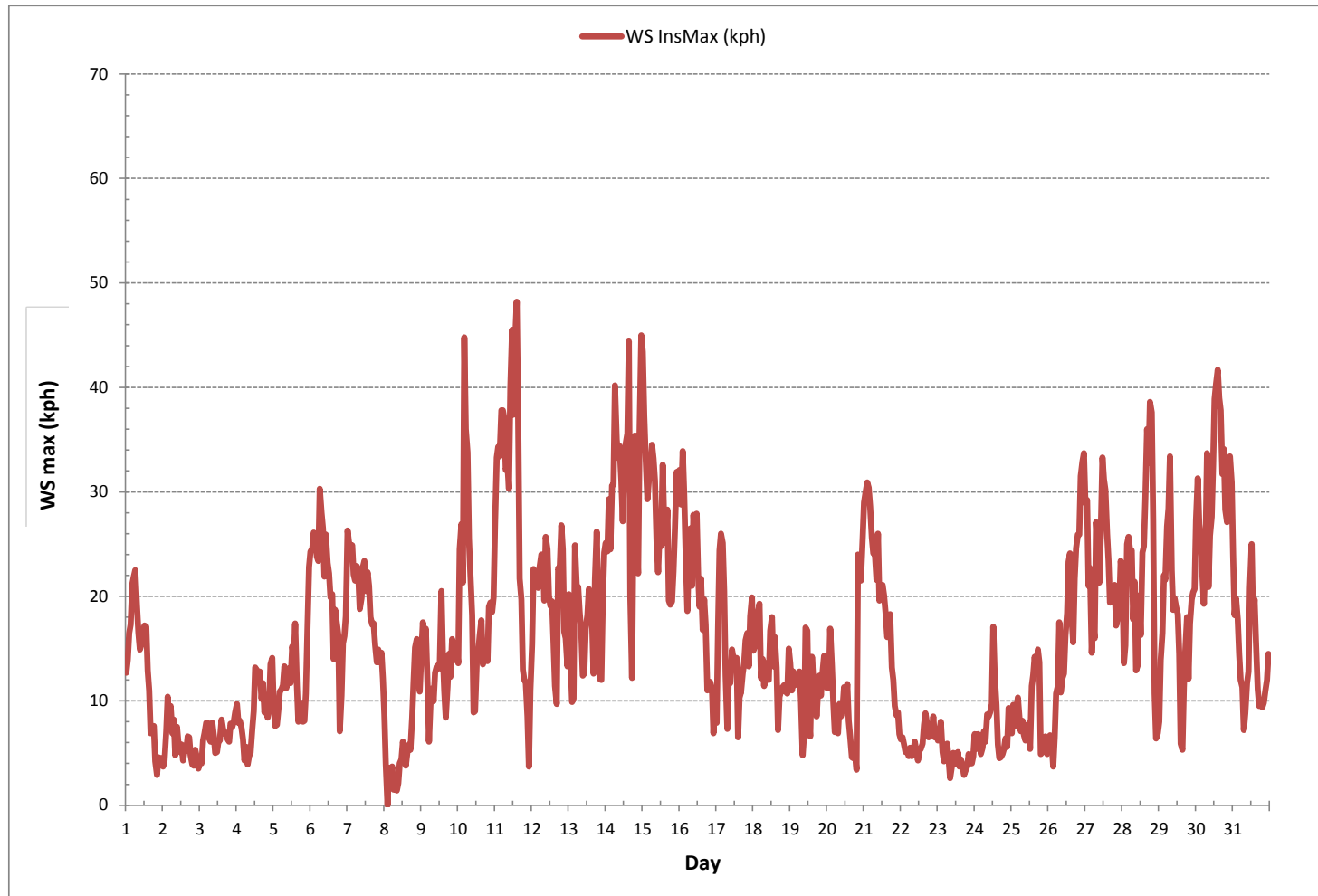
STATUS FLAG CODES

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:	48.2	kph	@ HOUR(S)	14	ON DAY(S)	11
VAR-VARIOUS						
OPERATIONAL TIME:						744 hrs

WIND SPEED Instantaneous Maximum (WS kph)

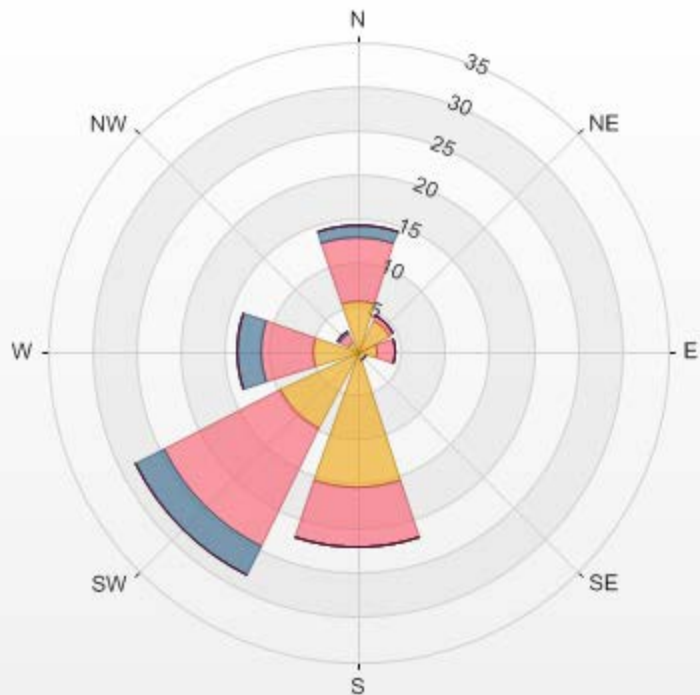


Wind: PRAMP RENO TRAILER Monitor: WSP [kph] Monthly: 01/2017 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 9.01% Valid Data: 100.00%

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	5.78	7.12	1.48	0	0	0	14.38
NE	4.03	0.54	0	0	0	0	4.57
E	2.28	2.02	0	0	0	0	4.3
SE	0.13	1.08	0	0	0	0	1.21
S	15.46	6.72	0	0	0	0	22.18
SW	9.81	14.78	3.63	0	0	0	28.22
W	5.11	5.78	2.69	0	0	0	13.58
NW	1.21	1.21	0.13	0	0	0	2.55
Summary	43.81	39.25	7.93	0	0	0	90.99

%	Icon	Classes (kph)	44	39	8	0	0	0
			1.8-6.0	6.0-12.0	12.0-20.0	20.0-29.0	29.0-39.0	>39.0

PRAMP RENO TRAILER 01/01/2017 00:00 - 31/01/2017 23:00 Calm: 9.01% Calm Wind Avg Speed: 0.98(kph)



WIND DIRECTION



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - January 2017

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	WNW	W	W	WNW	NW	WNW	WNW	WNW	W	W	W	W	W	W	W	W	WSW	WSW	WSW	S	S	S	SSW	SSW	W	24
2	SSE	ESE	E	ESE	E	E	ENE	NNE	N	NNE	NE	E	W	WSW	S	SSW	SSW	SW	SSW	SSW	SSW	SSW	S	S	SSE	24
3	S	S	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	SSW	SSW	SW	WSW	WSW	WSW	SW	SSW	SSW	SSW	SW	SW	SW	SSW	SW	24
4	SW	SW	SSW	SW	SW	SSW	SSW	S	SSE	S	S	SSW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	NNW	N	NNE	SW	24
5	NNE	NNE	N	N	N	N	N	N	N	N	N	NNE	NNE	NE	NE	NE	ENE	NE	NE	ENE	E	E	ESE	E	NE	24
6	E	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	E	E	E	E	E	E	NE	NNE	NNW	N	N	E	24
7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	NNE	NNE	N	NNE	NNE	NNE	NNE	N	24
8	NNE	NNE	ENE	ENE	NE	SSE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	WSW	WNW	SW	SW	SW	SW	WSW	WSW	SW	SW	24
9	SW	WSW	WSW	W	W	W	WSW	W	WSW	WSW	WSW	W	WNW	NNW	NNW	NNW	W	WSW	WSW	SW	WSW	SW	SW	SW	WSW	24
10	SSW	SSW	SW	W	N	N	N	N	N	NNW	W	W	SW	SSW	SW	SW	WSW	SW	SW	SW	SW	SW	SW	SW	W	24
11	SW	WSW	WSW	W	WSW	WSW	WSW	W	W	W	WNW	WNW	WNW	NNW	N	N	NNE	NNE	NNE	NE	NE	SW	S	SSE	WNW	24
12	S	SSE	SSE	SSE	S	S	S	S	S	SSE	SSE	S	S	S	S	S	S	SSW	SW	WSW	WSW	SW	SW	SW	S	24
13	WSW	SW	SW	SSW	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SW	SW	SW	SW	SSW	SW	SSW	S	S	S	SSW	SW	SSW	24
14	SW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	SW	SW	SW	SW	SW	WSW	SW	S	SSW	SSW	SW	SW	WSW	WSW	SW	24
15	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	WSW	WSW	WSW	WSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	24
16	SW	SSW	SW	SW	SSW	SSW	SSW	SSW	S	SSW	SSW	SSW	SSW	S	S	S	S	S	S	S	S	S	S	S	SSW	24
17	SSW	SSW	SW	SW	SW	SSW	S	S	S	S	SSW	SSW	S	S	S	S	S	S	S	SE	SE	SE	SSE	SSE	S	24
18	SSE	S	S	S	SSE	S	S	S	S	S	S	S	S	S	SSE	SSE	S	S	S	S	S	S	S	SSW	S	24
19	N	NNW	N	NNE	NNE	NNE	NNE	NE	ENE	SSW	NW	NNE	NE	ESE	WSW	WNW	N	NE	E	S	S	S	SSW	SSW	NNE	24
20	SSW	SSW	SSW	SSW	SSW	S	S	S	S	S	S	S	S	S	S	S	S	S	SW	WSW	N	N	NNE	NNE	S	24
21	NNE	NNE	NNE	N	N	N	NNE	N	N	N	N	N	N	NNE	N	N	N	N	NNE	NNE	N	N	NNE	NNE	N	24
22	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	N	N	NE	ENE	ENE	ENE	NE	NE	NE	NE	ENE	ENE	NE	24
23	ENE	ENE	E	E	ENE	ENE	ENE	ENE	ENE	E	ESE	SE	SSE	SE	S	SSW	SW	SSE	SSE	SSW	S	S	SSE	SSE	ESE	24
24	S	S	S	S	S	S	SSW	SSW	SSW	SSW	SSW	SSW	S	S	S	S	S	S	S	S	S	S	S	S	S	24
25	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	SSW	SSW	SSE	S	S	S	S	S	24
26	S	S	S	SSE	S	SW	SW	SW	SW	SSW	SW	SW	SW	SW	WSW	SW	SW	SW	WSW	SW	WSW	WSW	WSW	WSW	SW	24
27	WSW	WSW	WSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	SW	SW	WSW	WSW	WSW	W	SW	SW	SW	WSW	SW	24
28	SW	SSW	SW	SW	SW	SW	SW	SSW	SSW	SSW	S	SSW	SSW	SSW	SW	SW	SW	SW	SW	SW	SSW	S	S	SW	SW	24
29	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	WSW	SSE	S	SW	SSW	SW	SW	WSW	WSW	WSW	WSW	SW	24
30	WSW	W	W	WNW	W	W	WNW	WNW	WNW	WNW	W	W	W	W	W	W	WNW	WNW	WNW	NNW	N	N	N	N	WNW	24
31	N	N	N	NNE	N	NNE	N	NW	W	W	W	W	NW	NW	NW	NW	NNW	W	WSW	WSW	W	W	W	W	NW	24

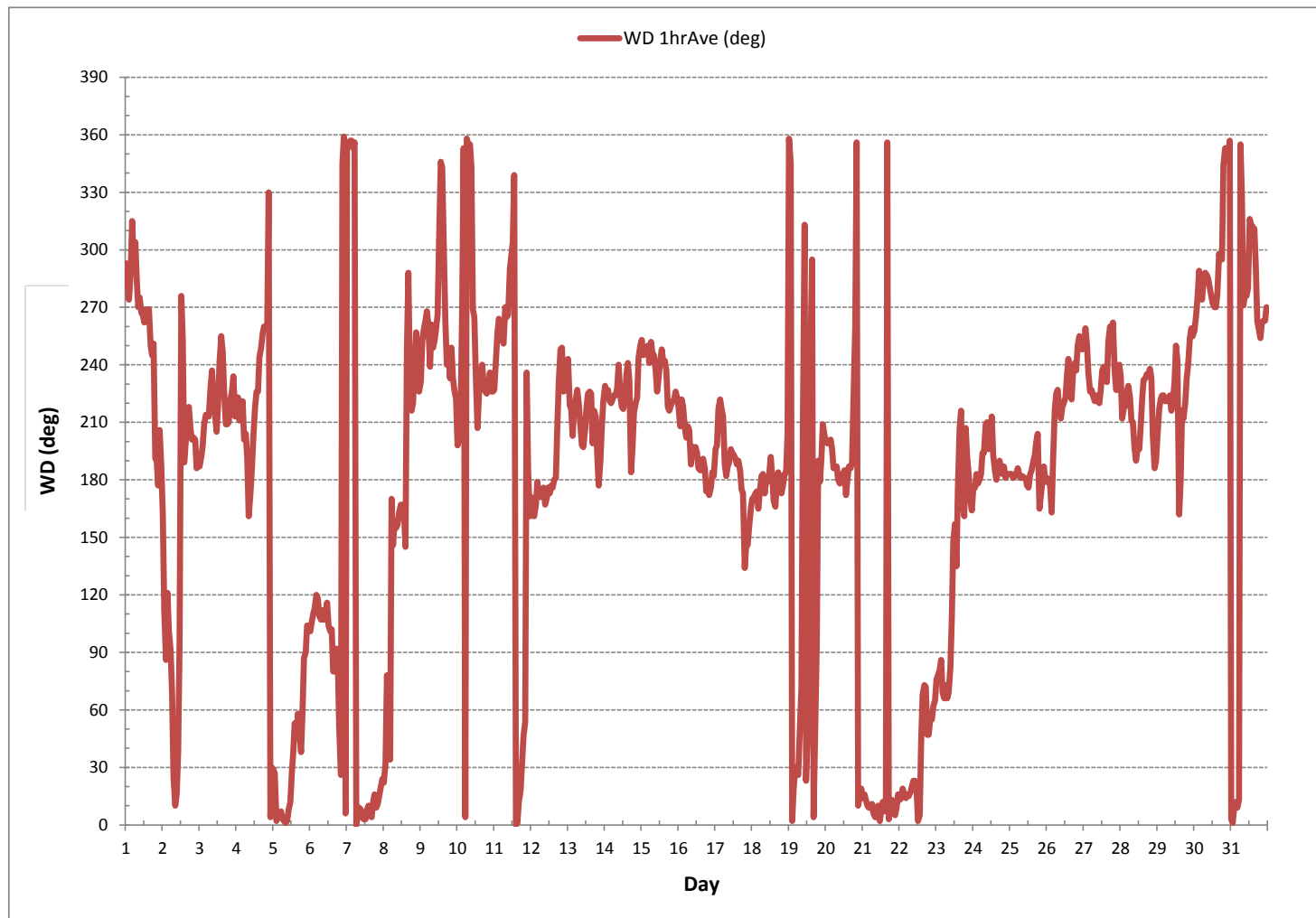
STATUS FLAG CODES

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:	October 13, 2016
DECLINATION :	MAGNETIC DECLINATION 15 DEGREE EAST

MONTHLY CALIBRATION TIME:	0	hrs	OPERATIONAL TIME:	744	hrs
STANDARD DEVIATION:	89		AMD OPERATION UPTIME:	100.0	%
			MONTHLY AVERAGE:	233 (SW)	

WIND DIRECTION Hourly Averages (WD)



RELATIVE HUMIDITY

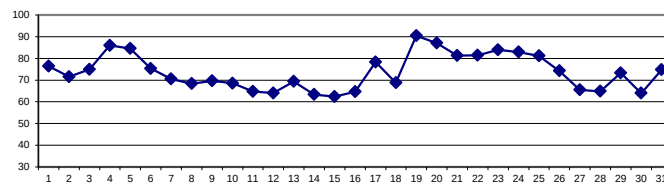
RELATIVE HUMIDITY Hourly Averages (RH %)

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	76	76	77	78	75	76	79	80	78	77	75	73	73	71	72	78	80	80	78	77	77	77	76	76	71	80	76	24
2	73	73	73	75	73	73	72	70	69	69	71	72	74	76	75	74	73	70	68	67	67	68	71	71	67	76	72	24
3	71	70	70	71	71	72	71	70	72	73	74	74	74	76	77	78	78	77	77	79	80	80	81	81	70	81	75	24
4	82	83	83	83	82	82	82	83	84	85	85	86	86	86	87	88	88	89	89	89	90	90	91	90	82	91	86	24
5	90	89	89	89	89	89	88	88	88	87	86	85	84	84	82	82	81	81	79	79	79	79	79	79	79	90	85	24
6	78	77	77	76	76	76	75	75	75	75	74	73	73	74	74	76	76	75	75	77	78	75	74	74	73	78	75	24
7	73	72	71	71	71	72	71	72	72	72	71	70	69	69	69	69	70	70	71	70	69	70	70	69	69	73	71	24
8	69	69	69	68	68	68	68	67	68	68	68	66	66	65	66	67	68	70	70	70	70	71	71	70	65	71	68	24
9	71	71	71	71	71	71	71	71	71	71	71	70	68	66	65	66	68	70	70	69	70	69	70	70	65	71	70	24
10	70	72	73	74	72	70	69	68	66	66	66	67	66	64	63	63	65	66	67	68	70	72	74	75	63	75	69	24
11	75	74	73	72	70	69	69	68	69	71	68	65	61	62	59	53	53	51	56	58	62	65	66	65	51	75	65	24
12	64	62	59	58	60	62	62	63	65	67	66	64	62	61	63	63	65	67	65	65	66	68	70	70	58	70	64	24
13	69	71	75	76	73	71	72	73	74	76	73	69	66	60	60	61	69	68	65	69	74	72	68	62	60	76	69	24
14	63	63	61	63	63	63	60	61	62	62	63	62	60	60	58	59	67	77	68	64	65	68	65	63	58	77	63	24
15	64	65	64	64	63	65	65	66	66	67	63	59	56	54	54	55	58	64	65	66	64	65	64	62	54	67	62	24
16	63	61	59	55	59	63	60	59	61	62	61	59	60	60	59	61	60	63	69	67	70	80	89	92	55	92	65	24
17	93	87	80	79	80	80	83	87	86	84	79	76	74	73	75	75	74	79	80	73	69	68	70	75	68	93	78	24
18	76	77	77	77	74	73	75	78	78	79	75	61	54	52	54	58	64	68	66	67	68	69	66	64	52	79	69	24
19	69	83	91	92	90	91	91	90	90	91	91	89	90	92	92	93	91	91	93	93	93	93	95	95	69	95	90	24
20	95	95	95	95	95	92	91	90	90	90	89	87	82	78	73	69	82	83	81	85	86	89	89	89	69	95	87	24
21	88	87	86	85	84	83	83	82	81	81	81	80	80	80	80	80	79	79	79	79	79	79	78	78	78	88	81	24
22	78	78	78	79	79	79	79	79	79	80	80	82	82	83	84	84	84	84	84	84	84	84	84	84	78	84	81	24
23	84	84	84	84	84	84	83	83	83	83	83	83	83	84	84	84	84	84	85	85	85	85	85	85	83	85	84	24
24	85	85	85	85	85	84	84	83	83	82	82	81	80	78	76	78	81	83	85	85	85	85	85	84	76	85	83	24
25	84	83	83	83	82	82	82	81	81	81	81	80	77	75	72	74	77	80	81	84	85	86	87	87	72	87	81	24
26	87	87	87	87	87	88	89	89	88	88	81	73	66	61	59	60	64	65	63	61	63	62	63	64	59	89	74	24
27	63	63	64	66	69	69	69	69	68	66	64	60	57	57	60	61	64	67	68	67	69	72	71	69	57	72	66	24
28	68	75	76	73	71	69	69	68	66	68	69	64	58	50	45	43	49	56	58	60	64	74	81	82	43	82	65	24
29	84	81	78	75	72	76	77	77	77	77	73	69	63	62	65	68	73	71	73	75	74	72	73	74	62	84	73	24
30	72	70	67	64	59	60	57	58	57	52	57	47	47	55	55	51	58	78	78	85	83	80	76	69	47	85	64	24
31	71	74	73	75	75	77	79	81	81	81	79	77	69	67	70	68	69	72	73	74	77	78	78	78	67	81	75	24
HOURLY MAX	95	95	95	95	95	92	91	90	90	91	91	89	90	92	92	93	91	91	93	93	93	93	93	95	95			
HOURLY AVG	76	76	76	76	75	75	75	75	75	75	74	72	70	69	69	69	71	73	74	74	75	76	76	76				

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

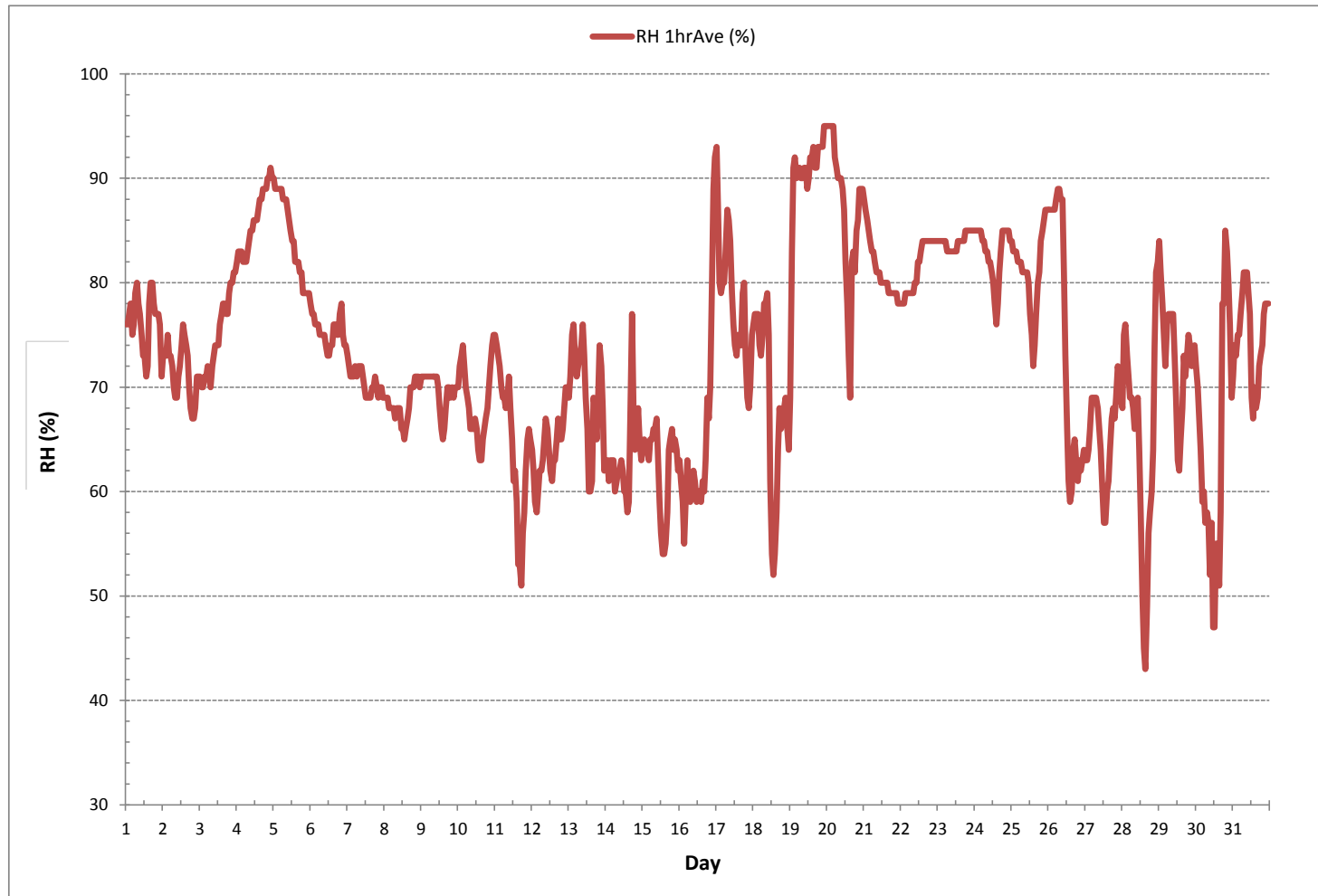
24 HR AVERAGES January 2017



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	43	%	@ HOUR(S)	15	ON DAY(S)	28
MAXIMUM 1-HR AVERAGE:	95	%	@ HOUR(S)	VAR , VAR	ON DAY(S)	19 , 20
MAXIMUM 24-HR AVERAGE:	90	%			ON DAY(S)	19
					VAR-VARIOUS	
OPERATIONAL TIME:					744	hrs
AMD OPERATION UPTIME:					100.0	%
STANDARD DEVIATION:	10		MONTHLY AVERAGE:		74	%

RELATIVE HUMIDITY Hourly Averages (RH %)



BAROMETRIC PRESSURE



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - January 2017

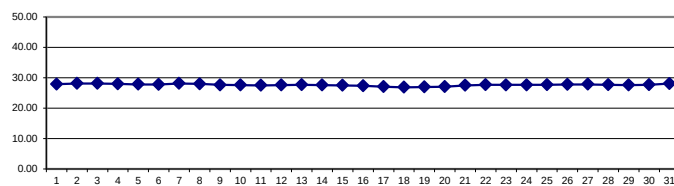
BAROMETRIC PRESSURE Hourly Averages (BP inHg)

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	27.80	27.81	27.83	27.84	27.86	27.87	27.88	27.89	27.90	27.91	27.91	27.92	27.91	27.91	27.90	27.90	27.91	27.92	27.92	27.91	27.91	27.92	27.93	27.93	27.80	27.93	27.89	24	
2	27.94	27.96	27.98	27.99	28.01	28.04	28.06	28.09	28.10	28.13	28.14	28.15	28.15	28.15	28.15	28.15	28.16	28.17	28.17	28.16	28.16	28.16	28.15	28.15	27.94	28.17	28.10	24	
3	28.14	28.14	28.14	28.15	28.14	28.13	28.13	28.14	28.13	28.13	28.14	28.15	28.15	28.15	28.15	28.14	28.14	28.14	28.14	28.13	28.12	28.10	28.09	28.08	28.08	28.15	28.13	24	
4	28.07	28.06	28.05	28.05	28.04	28.03	28.02	28.01	28.00	28.00	27.99	27.98	27.96	27.95	27.93	27.92	27.92	27.92	27.91	27.91	27.90	27.89	27.88	27.88	27.88	28.07	27.97	24	
5	27.87	27.86	27.86	27.85	27.84	27.83	27.83	27.83	27.83	27.83	27.84	27.84	27.84	27.83	27.84	27.85	27.85	27.85	27.85	27.83	27.82	27.81	27.80	27.78	27.78	27.87	27.84	24	
6	27.77	27.77	27.77	27.77	27.77	27.76	27.76	27.76	27.77	27.77	27.78	27.79	27.79	27.80	27.80	27.82	27.84	27.87	27.89	27.91	27.93	27.95	27.98	28.00	27.76	28.00	27.83	24	
7	28.03	28.05	28.08	28.10	28.12	28.13	28.14	28.16	28.16	28.19	28.20	28.21	28.20	28.19	28.18	28.17	28.17	28.16	28.15	28.15	28.15	28.13	28.12	28.11	28.03	28.21	28.14	24	
8	28.11	28.11	28.10	28.10	28.09	28.07	28.05	28.03	28.02	28.02	28.02	27.99	27.97	27.95	27.94	27.93	27.91	27.89	27.88	27.87	27.86	27.83	27.81	27.79	27.79	28.11	27.97	24	
9	27.77	27.74	27.74	27.73	27.70	27.68	27.67	27.65	27.65	27.65	27.64	27.63	27.62	27.60	27.60	27.60	27.60	27.60	27.59	27.58	27.57	27.55	27.53	27.51	27.51	27.77	27.63	24	
10	27.49	27.44	27.42	27.43	27.49	27.55	27.61	27.64	27.66	27.68	27.70	27.70	27.69	27.67	27.65	27.62	27.60	27.58	27.56	27.54	27.52	27.50	27.47	27.43	27.42	27.70	27.57	24	
11	27.40	27.36	27.33	27.33	27.32	27.32	27.32	27.32	27.32	27.32	27.33	27.35	27.38	27.41	27.49	27.57	27.63	27.66	27.69	27.71	27.72	27.72	27.72	27.72	27.32	27.72	27.48	24	
12	27.72	27.70	27.68	27.67	27.66	27.63	27.61	27.59	27.59	27.58	27.55	27.54	27.52	27.50	27.50	27.51	27.52	27.53	27.54	27.57	27.58	27.60	27.62	27.64	27.50	27.72	27.59	24	
13	27.65	27.66	27.67	27.68	27.68	27.69	27.69	27.70	27.72	27.74	27.75	27.75	27.75	27.75	27.75	27.75	27.76	27.76	27.74	27.73	27.72	27.72	27.71	27.69	27.65	27.76	27.72	24	
14	27.69	27.69	27.69	27.68	27.66	27.64	27.62	27.61	27.61	27.62	27.62	27.62	27.61	27.60	27.58	27.57	27.59	27.61	27.58	27.54	27.52	27.51	27.51	27.50	27.50	27.69	27.60	24	
15	27.49	27.48	27.49	27.50	27.50	27.50	27.50	27.50	27.50	27.51	27.53	27.53	27.53	27.53	27.53	27.54	27.55	27.55	27.56	27.56	27.55	27.55	27.55	27.55	27.48	27.56	27.52	24	
16	27.55	27.53	27.51	27.49	27.47	27.44	27.42	27.40	27.38	27.36	27.37	27.36	27.35	27.32	27.30	27.27	27.25	27.23	27.19	27.15	27.11	27.08	27.07	27.06	27.06	27.55	27.32	24	
17	27.04	27.04	27.04	27.05	27.05	27.06	27.06	27.06	27.06	27.05	27.05	27.07	27.07	27.06	27.05	27.05	27.05	27.04	27.02	27.01	27.00	26.99	26.96	26.95	26.95	26.95	27.04	24	
18	26.93	26.93	26.92	26.90	26.89	26.88	26.87	26.88	26.88	26.88	26.88	26.89	26.89	26.88	26.89	26.88	26.88	26.88	26.88	26.89	26.89	26.90	26.92	26.93	26.87	26.93	26.89	24	
19	26.94	26.96	26.97	26.97	26.98	26.97	26.97	26.97	26.98	27.00	26.99	26.97	26.97	26.97	26.97	26.97	26.98	27.00	26.99	26.99	26.99	26.99	26.99	26.99	26.94	27.00	26.98	24	
20	27.00	27.01	27.02	27.03	27.02	27.02	27.02	27.02	27.03	27.04	27.05	27.06	27.05	27.06	27.06	27.07	27.08	27.09	27.10	27.11	27.12	27.14	27.15	27.17	27.00	27.17	27.06	24	
21	27.19	27.21	27.24	27.27	27.31	27.34	27.37	27.40	27.43	27.46	27.49	27.51	27.53	27.55	27.57	27.60	27.62	27.64	27.65	27.67	27.69	27.70	27.71	27.72	27.19	27.72	27.49	24	
22	27.73	27.74	27.75	27.76	27.76	27.76	27.75	27.75	27.75	27.75	27.74	27.74	27.72	27.71	27.69	27.69	27.68	27.68	27.68	27.67	27.66	27.66	27.67	27.66	27.66	27.76	27.71	24	
23	27.66	27.65	27.65	27.65	27.65	27.65	27.65	27.65	27.65	27.66	27.66	27.66	27.66	27.64	27.64	27.62	27.62	27.63	27.63	27.63	27.63	27.62	27.62	27.61	27.61	27.66	27.64	24	
24	27.61	27.61	27.61	27.61	27.62	27.63	27.63	27.64	27.64	27.65	27.65	27.64	27.65	27.64	27.64	27.65	27.66	27.68	27.68	27.68	27.68	27.69	27.69	27.69	27.61	27.69	27.65	24	
25	27.69	27.68	27.69	27.69	27.69	27.69	27.69	27.69	27.69	27.70	27.70	27.70	27.69	27.69	27.70	27.70	27.70	27.71	27.71	27.71	27.72	27.73	27.74	27.76	27.68	27.76	27.70	24	
26	27.76	27.77	27.78	27.79	27.80	27.80	27.80	27.79	27.80	27.81	27.83	27.83	27.82	27.81	27.81	27.80	27.80	27.82	27.83	27.83	27.84	27.83	27.84	27.76	27.76	27.84	27.80	24	
27	27.86	27.86	27.86	27.87	27.87	27.88	27.88	27.85	27.84	27.84	27.83	27.82	27.81	27.80	27.80	27.80	27.82	27.83	27.83	27.83	27.84	27.83	27.83	27.84	27.80	27.88	27.84	24	
28	27.83	27.83	27.81	27.79	27.79	27.78	27.76	27.74	27.72	27.72	27.72	27.71	27.70	27.69	27.70	27.71	27.69	27.70	27.69	27.69	27.69	27.69	27.69	27.69	27.69	27.83	27.73	24	
29	27.69	27.67	27.66	27.65	27.64	27.63	27.62	27.61	27.60	27.60	27.59	27.59	27.57	27.55	27.53	27.52	27.50	27.49	27.48	27.48	27.48	27.48	27.49	27.50	27.52	27.48	27.69	27.57	24
30	27.53	27.55	27.57	27.59	27.62	27.64	27.66	27.67	27.69	27.71	27.73	27.74	27.75	27.76	27.77	27.78	27.79	27.81	27.82	27.84	27.85	27.86	27.89	27.92	27.53	27.92	27.73	24	
31	27.94	27.96	27.98	28.00	28.01	28.02	28.04	28.04	28.04	28.06	28.06	28.07	28.06	28.06	28.07	28.07	28.08	28.10	28.10	28.10	28.11	28.11	28.12	28.13	27.94	28.13	28.06	24	
HOURLY MAX	28.14	28.14	28.14	28.15	28.14	28.13	28.14	28.16	28.16	28.19	28.20	28.21	28.20	28.19	28.18	28.17	28.17	28.17	28.17	28.16	28.16	28.16	28.16	28.15					
HOURLY AVG	27.64	27.64	27.64	27.64	27.64	27.65	27.65	27.65	27.65	27.66	27.66	27.66	27.66	27.65	27.65	27.65	27.66	27.66	27.66	27.66	27.66	27.65	27.65	27.65					

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

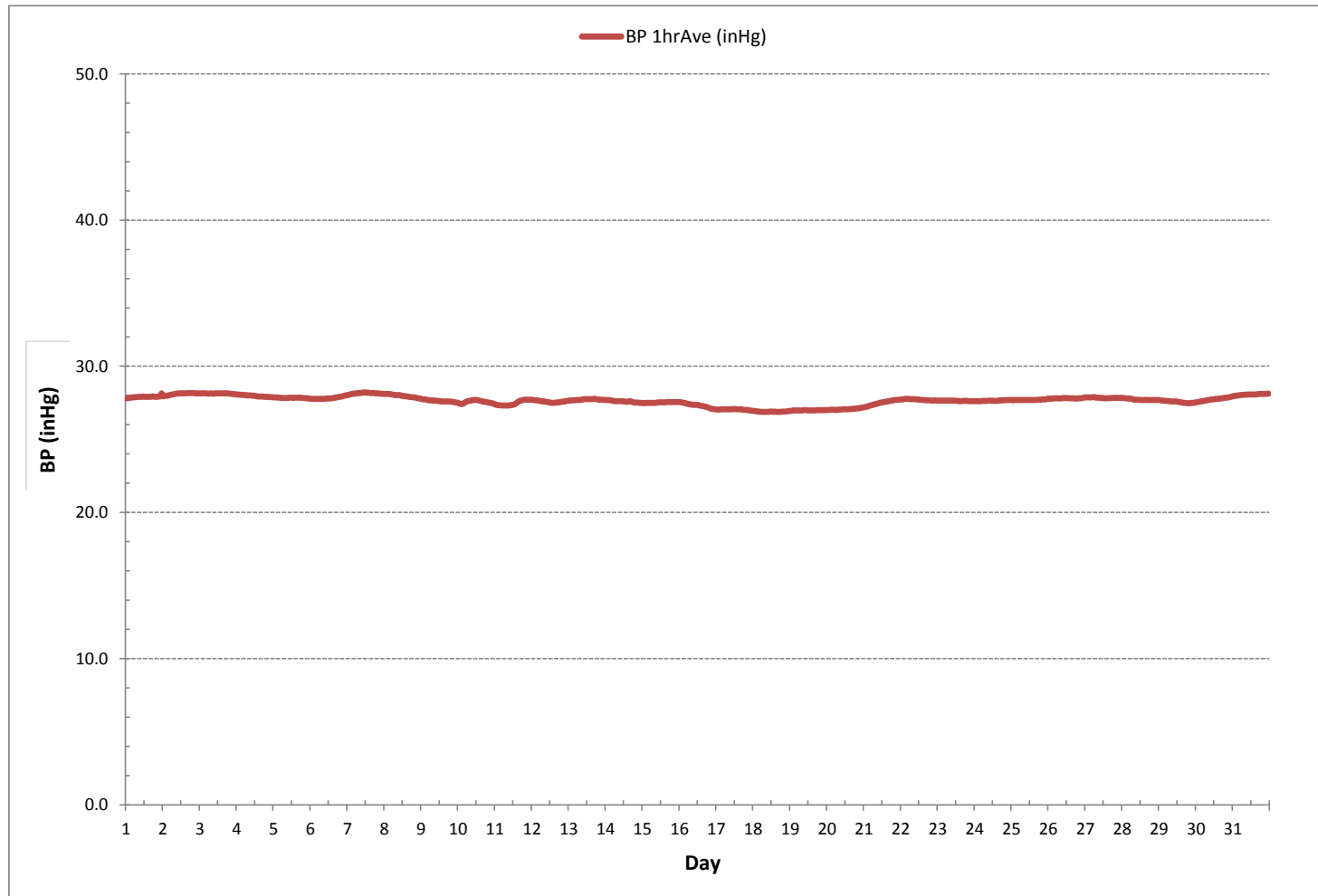
24 HR AVERAGES January 2017



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	26.87	inHg	@ HOUR(S)	6	ON DAY(S)	18
MAXIMUM 1-HR AVERAGE:	28.21	inHg	@ HOUR(S)	11	ON DAY(S)	7
MAXIMUM 24-HR AVERAGE:	28.14	inHg			ON DAY(S)	7
					VAR-VARIOUS	
					OPERATIONAL TIME:	744 hrs
					AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION:	0.33				MONTHLY AVERAGE:	27.65 inHg

BAROMETRIC PRESSURE Hourly Averages (BP inHg)



AMBIENT TEMPERATURE

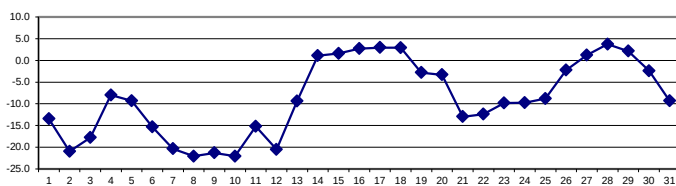
AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)

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	-11.3	-11.2	-12.0	-12.0	-11.2	-11.6	-11.1	-11.9	-13.6	-13.8	-14.0	-13.3	-12.2	-11.9	-12.1	-12.2	-13.1	-14.7	-15.3	-16.6	-16.3	-16.3	-16.5	-18.0	-18.0	-11.1	-13.4	24
2	-20.0	-20.6	-20.0	-17.7	-19.6	-20.2	-21.0	-22.5	-23.8	-24.0	-21.8	-19.6	-16.8	-14.4	-17.0	-17.9	-20.2	-22.7	-24.6	-25.7	-25.7	-24.3	-21.3	-20.9	-25.7	-14.4	-20.9	24
3	-21.6	-22.1	-21.8	-21.4	-21.7	-20.5	-21.6	-22.2	-20.7	-19.3	-18.4	-18.0	-17.4	-16.4	-15.4	-14.9	-15.2	-15.8	-15.8	-14.6	-13.4	-13.1	-12.6	-12.4	-22.2	-12.4	-17.8	24
4	-11.7	-11.1	-10.4	-10.6	-11.6	-12.2	-12.2	-11.1	-9.8	-9.1	-8.3	-7.6	-6.8	-6.5	-6.2	-6.1	-6.1	-5.9	-5.6	-5.2	-5.0	-4.5	-4.0	-4.4	-12.2	-4.0	-8.0	24
5	-4.8	-5.2	-5.4	-5.3	-5.5	-6.0	-6.5	-7.0	-7.1	-7.2	-7.4	-7.3	-7.2	-7.8	-8.7	-10.4	-11.7	-13.9	-14.9	-15.7	-15.0	-14.3	-14.4	-14.8	-15.7	-4.8	-9.3	24
6	-15.1	-15.3	-15.4	-15.7	-15.8	-15.9	-15.7	-15.6	-15.5	-15.5	-15.3	-15.1	-14.7	-14.0	-13.3	-13.4	-14.0	-14.7	-14.7	-14.7	-15.4	-17.0	-17.7	-18.1	-18.1	-13.3	-15.3	24
7	-19.3	-20.3	-20.5	-20.8	-20.6	-20.9	-20.8	-20.5	-20.2	-19.9	-19.7	-19.6	-19.4	-19.3	-19.6	-19.8	-20.1	-20.3	-20.5	-20.6	-21.1	-21.3	-21.5	-21.6	-21.6	-19.3	-20.3	24
8	-21.6	-21.7	-22.3	-23.2	-23.6	-23.4	-24.1	-24.9	-24.6	-24.2	-23.6	-22.3	-20.6	-20.2	-19.8	-19.3	-20.0	-21.0	-21.0	-21.1	-21.2	-20.9	-21.6	-22.8	-24.9	-19.3	-22.0	24
9	-22.2	-21.7	-21.4	-21.1	-21.0	-20.9	-20.8	-20.6	-20.6	-20.4	-20.1	-19.6	-18.7	-18.0	-18.8	-19.8	-21.8	-23.0	-22.9	-24.0	-23.8	-23.5	-23.2	-22.6	-24.0	-18.0	-21.3	24
10	-22.3	-20.6	-19.1	-18.3	-19.8	-22.3	-23.2	-24.4	-25.8	-25.9	-25.1	-23.1	-21.9	-22.9	-22.4	-22.3	-22.9	-22.8	-22.7	-22.5	-22.4	-20.2	-18.8	-18.0	-25.9	-18.0	-22.1	24
11	-16.4	-14.5	-12.5	-11.7	-10.9	-10.4	-10.3	-10.1	-10.6	-11.1	-10.2	-9.6	-9.1	-9.4	-12.5	-14.6	-16.6	-18.8	-21.0	-23.1	-23.8	-24.9	-25.6	-26.5	-26.5	-9.1	-15.2	24
12	-26.5	-25.1	-24.2	-23.9	-24.6	-25.0	-24.3	-24.2	-24.7	-24.2	-22.8	-21.7	-19.6	-18.2	-17.6	-17.2	-17.6	-16.6	-15.0	-15.7	-15.5	-16.2	-16.0	-15.1	-26.5	-15.0	-20.5	24
13	-13.6	-13.7	-14.8	-15.7	-13.3	-12.0	-11.7	-11.8	-12.6	-13.4	-11.5	-9.4	-7.3	-4.9	-4.5	-4.4	-7.7	-6.4	-4.6	-6.3	-8.7	-8.2	-5.5	-2.6	-15.7	-2.6	-9.4	24
14	-1.4	-0.9	-0.8	-1.2	-1.1	-0.4	0.3	0.6	0.6	1.9	1.5	1.6	2.1	2.8	3.4	3.3	1.5	-1.1	0.7	2.2	2.1	1.8	2.9	3.0	-1.4	3.4	1.1	24
15	2.6	2.2	2.0	1.8	2.1	1.7	1.7	1.4	1.0	0.3	0.9	1.7	2.8	3.6	3.9	3.5	2.4	0.7	0.1	-0.4	0.1	-0.1	0.6	0.9	-0.4	3.9	1.6	24
16	0.7	0.9	1.3	2.3	1.3	0.2	1.3	2.2	2.4	2.8	3.8	4.3	4.3	4.5	4.6	4.2	4.4	4.0	3.1	3.5	3.1	2.4	1.9	1.4	0.2	4.6	2.7	24
17	0.9	1.6	3.1	3.6	3.4	3.4	1.6	-0.1	0.3	1.0	2.6	3.5	3.9	4.0	3.6	3.6	3.7	2.7	2.7	4.2	4.7	4.9	4.3	3.2	-0.1	4.9	2.9	24
18	2.7	2.4	2.4	2.4	2.8	3.0	2.8	2.6	2.3	1.4	1.7	4.9	6.5	7.2	6.6	5.3	3.0	1.4	1.4	0.8	0.3	0.7	2.3	3.2	0.3	7.2	2.9	24
19	1.8	-1.8	-3.3	-4.5	-6.0	-5.2	-5.0	-5.4	-5.4	-4.0	-3.4	-5.6	-4.7	-1.6	0.3	-1.0	-2.9	-4.0	-2.2	-1.5	-1.6	-0.9	0.6	0.0	-6.0	1.8	-2.8	24
20	-0.4	-1.1	-1.2	-1.7	-2.4	-4.4	-5.2	-6.0	-5.9	-5.4	-4.6	-3.2	-1.3	0.5	0.7	1.1	-1.9	-2.9	-3.2	-4.3	-5.3	-7.7	-6.8	-6.9	-7.7	1.1	-3.3	24
21	-7.8	-8.8	-9.5	-10.4	-11.0	-11.4	-11.9	-12.3	-12.8	-13.3	-13.3	-13.5	-13.7	-13.8	-14.0	-14.0	-14.5	-14.7	-14.7	-14.7	-14.8	-15.1	-15.4	-15.5	-15.5	-7.8	-13.0	24
22	-15.4	-15.4	-15.3	-15.0	-14.8	-14.7	-14.7	-14.5	-14.5	-14.2	-13.3	-11.9	-11.2	-11.0	-10.2	-9.7	-9.9	-10.0	-10.1	-10.2	-10.2	-10.3	-10.4	-10.4	-15.4	-9.7	-12.4	24
23	-10.4	-10.5	-10.6	-10.6	-10.6	-10.7	-10.8	-10.9	-10.9	-10.9	-10.5	-10.0	-9.8	-9.4	-8.9	-8.7	-8.8	-9.1	-8.9	-8.7	-8.9	-8.9	-8.7	-8.9	-10.9	-8.7	-9.8	24
24	-9.0	-8.9	-8.9	-9.1	-9.5	-9.8	-10.4	-11.5	-12.1	-12.2	-11.3	-10.0	-8.5	-7.7	-6.7	-7.3	-8.7	-10.8	-10.8	-10.5	-10.1	-10.1	-10.1	-10.4	-12.2	-6.7	-9.8	24
25	-10.9	-11.2	-11.3	-11.4	-11.8	-12.3	-12.5	-12.7	-12.8	-12.6	-11.3	-9.5	-7.6	-5.5	-3.3	-3.3	-4.0	-4.4	-4.6	-6.2	-7.2	-7.8	-8.5	-8.1	-12.8	-3.3	-8.8	24
26	-8.4	-8.5	-8.5	-8.7	-8.6	-7.6	-5.4	-4.4	-5.6	-5.4	-2.6	-0.8	0.8	2.2	2.9	2.6	1.6	1.5	1.8	1.8	1.9	1.9	1.4	0.9	-8.7	2.9	-2.2	24
27	0.7	0.6	0.0	-0.7	-1.7	-1.9	-1.4	-1.0	-0.7	-0.2	0.6	2.0	3.2	3.8	3.7	4.1	3.5	3.1	2.6	2.5	2.0	1.2	1.5	2.0	-1.9	4.1	1.2	24
28	2.4	0.8	0.1	1.4	2.3	3.1	3.3	3.5	3.9	3.5	3.3	4.5	5.6	7.2	8.3	8.6	7.3	5.9	5.4	4.9	3.9	1.5	-0.6	-1.0	-1.0	8.6	3.7	24
29	-1.8	0.1	1.2	1.8	2.2	1.2	1.2	1.6	1.5	1.5	2.6	3.5	4.7	4.9	4.4	3.7	2.8	2.8	2.4	1.9	1.9	2.0	1.7	1.2	-1.8	4.9	2.1	24
30	1.2	1.1	1.2	0.7	0.2	-0.6	-0.7	-1.3	-2.1	-2.5	-2.1	-1.5	-1.2	-1.3	-1.5	-2.0	-3.0	-4.3	-4.5	-5.1	-6.3	-6.6	-7.1	-8.2	-8.2	1.2	-2.4	24
31	-8.9	-9.8	-10.6	-11.3	-10.9	-11.0	-11.1	-10.9	-11.0	-10.5	-9.6	-8.7	-8.4	-7.9	-7.8	-7.5	-7.9	-8.6	-8.4	-8.5	-8.5	-8.3	-8.2	-8.4	-11.3	-7.5	-9.3	24
HOURLY MAX	2.7	2.4	3.1	3.6	3.4	3.4	3.3	3.5	3.9	3.5	3.8	4.9	6.5	7.2	8.3	8.6	7.3	5.9	5.4	4.9	4.7	4.9	4.3	3.2				
HOURLY AVG	-9.3	-9.4	-9.3	-9.3	-9.5	-9.6	-9.7	-9.9	-10.0	-9.9	-9.1	-8.2	-7.2	-6.5	-6.4	-6.6	-7.7	-8.5	-8.6	-8.8	-9.0	-9.2	-8.9	-9.0				

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

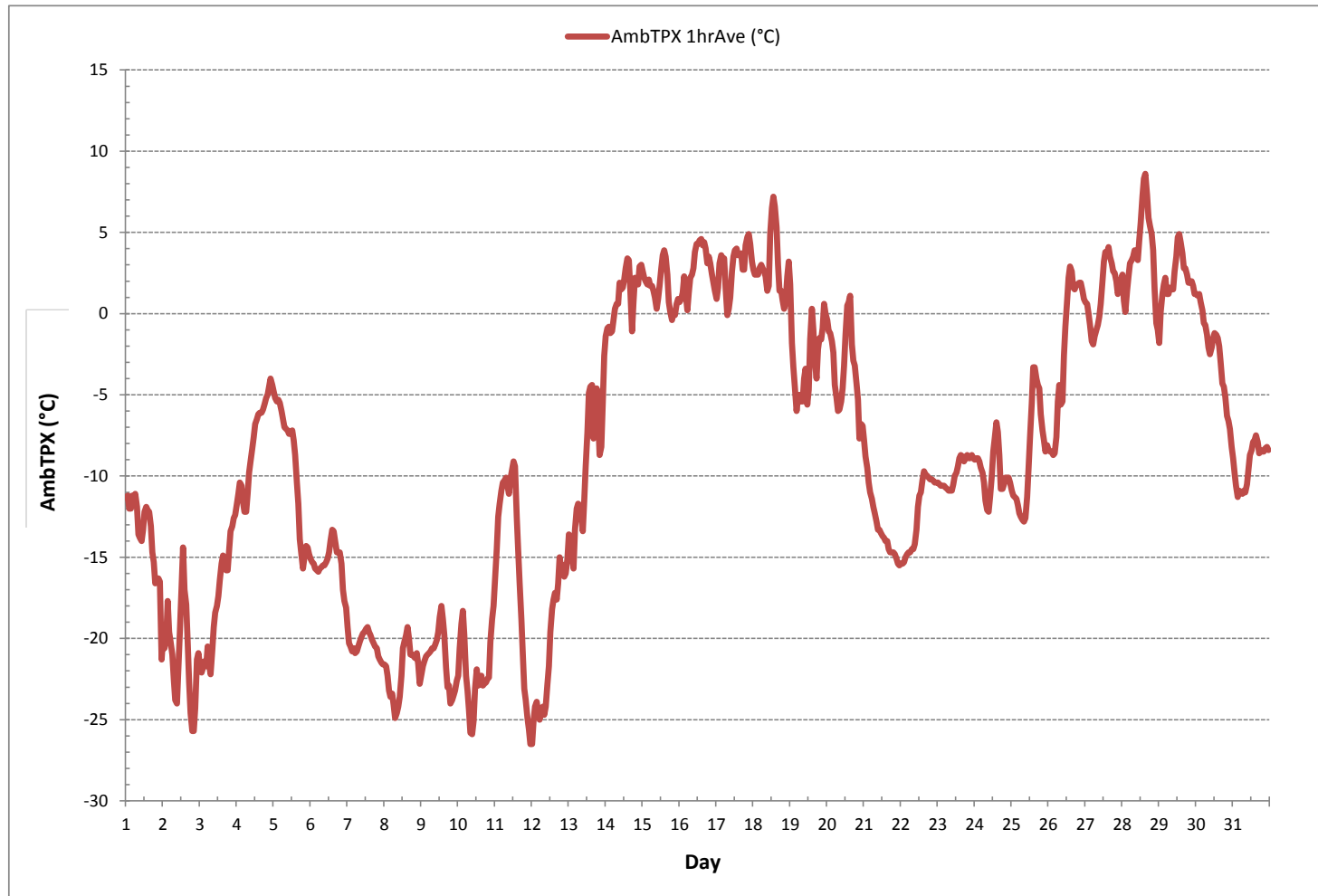
24 HR AVERAGES January 2017



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-26.5	°C	@ HOUR(S)	23 , 0	ON DAY(S)	11 , 12
MAXIMUM 1-HR AVERAGE:	8.6	°C	@ HOUR(S)	15	ON DAY(S)	28
MAXIMUM 24-HR AVERAGE:	3.7	°C			ON DAY(S)	28
					VAR-VARIOUS	
OPERATIONAL TIME:					744	hrs
AMD OPERATION UPTIME:					100.0	%
STANDARD DEVIATION:	9.0				MONTHLY AVERAGE:	-8.7 °C

AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)



STATION TEMPERATURE

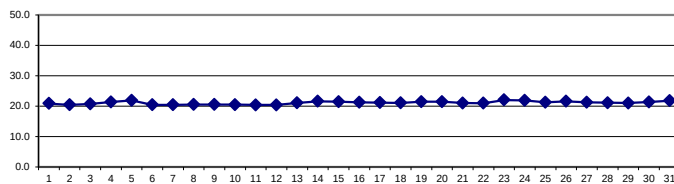
STATION TEMPERATURE Hourly Averages (StnTPX °C)

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	22.2	22.0	21.5	21.3	21.1	20.8	20.7	20.6	20.4	20.6	20.6	20.3	20.5	20.8	20.9	21.1	21.2	20.9	20.6	20.6	20.6	20.5	20.7	20.6	20.3	22.2	20.9	24
2	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.8	20.8	20.9	20.8	20.7	20.7	20.4	20.4	20.5	20.5	20.7	20.7	20.8	16.5	20.1	20.4	20.4	16.5	20.9	20.5	24
3	20.6	20.7	20.7	20.8	20.8	20.8	20.8	20.7	20.6	21.0	22.3	22.2	22.0	22.0	21.7	21.2	18.8	17.5	20.2	20.3	20.4	20.3	20.3	20.3	17.5	22.3	20.7	24
4	20.1	20.1	20.2	20.4	20.4	20.3	20.1	20.4	20.6	20.7	21.0	21.3	21.9	22.3	22.3	22.2	22.2	22.2	22.3	22.2	22.2	22.2	22.1	22.1	20.1	22.3	21.3	24
5	22.2	22.1	22.2	22.1	22.2	22.2	22.3	22.4	22.5	22.4	22.4	22.2	22.3	22.2	22.3	22.4	22.2	22.1	21.7	21.1	20.5	20.4	20.4	20.4	20.4	22.5	21.9	24
6	20.3	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.4	20.5	20.4	20.4	20.5	20.4	20.3	20.5	20.5	20.3	20.4	20.4	20.3	20.5	20.3	20.5	20.4	24
7	20.4	20.4	20.4	20.5	20.4	20.5	20.4	20.4	20.5	20.5	20.4	20.5	20.5	20.4	20.4	20.4	20.4	20.4	20.5	20.6	20.5	20.5	20.5	20.5	20.4	20.6	20.5	24
8	20.5	20.6	20.5	20.6	20.6	20.5	20.5	20.6	20.5	20.5	20.6	20.5	20.5	20.4	20.4	20.4	20.4	20.5	20.5	20.5	20.5	20.5	20.5	20.6	20.4	20.6	20.5	24
9	20.6	20.5	20.6	20.5	20.5	20.6	20.6	20.5	20.5	20.5	20.5	20.5	20.5	20.4	20.3	20.5	20.4	20.6	20.6	20.6	20.5	20.6	20.6	20.6	20.3	20.6	20.5	24
10	20.6	20.6	20.5	20.5	20.5	20.5	20.4	20.5	20.6	20.6	20.6	20.5	20.4	20.3	20.4	20.3	20.4	20.6	20.5	20.6	20.5	20.5	20.5	20.5	20.3	20.6	20.5	24
11	20.5	20.4	20.4	20.2	20.2	20.4	20.1	20.2	20.2	20.2	20.3	20.4	20.6	20.7	20.6	20.6	20.5	20.3	20.3	20.4	20.4	20.5	20.5	20.6	20.1	20.7	20.4	24
12	20.5	20.5	20.6	20.6	20.6	20.5	20.6	20.6	20.5	20.5	20.6	20.3	20.4	20.3	20.1	20.3	20.2	20.3	20.2	20.2	20.3	20.2	20.4	20.3	20.1	20.6	20.4	24
13	20.2	20.2	20.3	20.3	20.2	20.3	20.2	20.2	20.3	20.3	20.1	20.1	20.5	21.1	22.0	21.9	21.9	22.1	22.1	22.1	22.3	22.2	22.3	22.2	20.1	22.3	21.1	24
14	22.0	21.9	21.8	21.7	21.8	21.7	21.8	21.7	21.7	21.7	21.6	21.5	21.5	21.5	21.5	21.5	21.2	21.3	21.6	21.6	21.6	21.4	21.6	21.7	21.2	22.0	21.6	24
15	21.6	21.5	21.6	21.5	21.5	21.6	21.6	21.5	21.6	21.6	21.5	21.4	21.3	21.4	21.1	21.0	21.0	21.2	21.3	21.5	21.6	21.7	21.7	21.6	21.0	21.7	21.5	24
16	21.5	21.5	21.6	21.5	21.4	21.3	21.4	21.4	21.4	21.4	21.4	21.4	21.3	21.2	21.2	21.3	21.2	21.0	21.0	21.1	21.1	21.1	21.1	21.1	21.0	21.6	21.3	24
17	21.1	21.2	21.3	21.3	21.3	21.3	21.2	21.4	21.4	21.5	21.4	21.5	21.4	21.1	21.2	21.0	20.9	20.9	21.0	21.1	21.2	21.1	21.1	21.2	20.9	21.5	21.2	24
18	21.2	21.2	21.2	21.1	21.2	21.1	21.1	21.2	21.1	21.2	21.3	21.1	20.9	21.4	20.9	20.2	20.4	20.8	21.0	21.1	21.3	21.3	21.2	21.2	20.2	21.4	21.1	24
19	21.1	21.3	21.5	21.6	21.7	21.8	21.7	21.8	21.8	21.7	21.7	21.8	21.4	21.4	21.3	21.2	21.2	21.2	21.4	21.3	21.4	21.3	21.3	21.3	21.1	21.8	21.5	24
20	21.3	21.4	21.4	21.4	21.6	21.7	21.8	21.8	21.9	22.0	21.8	21.6	21.3	21.1	20.9	20.2	21.4	21.3	20.5	20.3	21.7	22.0	22.2	22.0	20.2	22.2	21.4	24
21	22.0	22.2	22.2	22.2	22.0	21.8	21.7	21.5	21.3	21.1	20.9	20.8	20.8	20.8	20.7	20.7	20.5	20.3	20.3	20.1	19.9	20.2	20.0	20.2	19.9	22.2	21.0	24
22	20.1	19.9	20.2	20.1	20.0	19.9	20.2	20.1	20.0	19.9	19.9	20.2	20.6	21.0	21.4	21.7	22.0	22.0	22.2	22.3	22.3	22.3	22.3	22.3	19.9	22.3	21.0	24
23	22.3	22.3	22.3	22.3	22.1	22.1	22.2	22.3	22.1	22.2	22.1	21.9	21.9	21.8	21.8	21.8	21.8	21.8	21.9	21.9	21.9	21.9	21.9	22.0	21.8	22.3	22.0	24
24	21.9	22.0	22.0	22.0	22.0	22.0	22.0	22.2	22.1	22.0	22.0	22.0	21.7	21.4	21.3	21.3	21.4	21.8	22.0	22.0	22.0	21.9	21.8	21.7	21.3	22.2	21.9	24
25	21.5	21.4	21.3	21.2	21.0	20.9	20.8	20.6	20.5	20.4	20.5	20.9	21.7	21.5	21.2	21.2	21.3	21.5	21.7	21.7	22.0	22.0	22.0	22.1	20.4	22.1	21.3	24
26	22.2	22.3	22.3	22.3	22.3	22.3	22.1	22.0	22.0	22.0	20.9	21.5	21.1	21.2	21.3	20.9	20.7	20.9	21.1	21.3	21.2	21.4	21.3	21.4	20.7	22.3	21.6	24
27	21.3	21.4	21.4	21.3	21.4	21.4	21.4	21.5	21.4	21.4	21.4	21.4	21.3	21.2	21.1	21.1	20.9	21.1	21.0	21.2	21.2	21.2	21.2	21.3	20.9	21.5	21.3	24
28	21.2	21.2	21.1	21.3	21.3	21.3	21.2	21.0	21.1	20.9	21.0	21.0	20.9	20.9	21.4	21.8	21.0	21.0	21.2	21.2	20.9	20.8	21.0	21.1	20.8	21.8	21.1	24
29	21.2	21.2	21.3	21.2	21.3	21.2	21.3	21.3	21.2	21.1	21.1	21.1	21.0	20.8	20.3	20.4	20.6	20.7	20.9	20.9	21.1	21.1	21.1	21.2	20.3	21.3	21.0	24
30	21.3	21.3	21.2	21.2	21.2	21.3	21.3	21.4	21.4	21.5	21.4	21.3	21.3	21.4	21.2	21.2	21.1	21.3	21.5	21.5	21.6	21.7	21.7	21.8	21.1	21.8	21.4	24
31	21.9	21.8	21.9	22.1	22.0	22.0	22.1	22.0	21.9	22.0	22.0	21.9	21.7	21.6	21.6	21.5	21.6	21.6	21.7	21.8	21.8	21.8	21.9	21.9	21.5	22.1	21.8	24
HOURLY MAX	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.4	22.5	22.4	22.4	22.2	22.3	22.3	22.3	22.4	22.2	22.2	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	
HOURLY AVG	21.2	21.2	21.2	21.2	21.2	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.0	21.0	21.0	21.1	21.1	21.0	21.1	21.2	21.2				

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

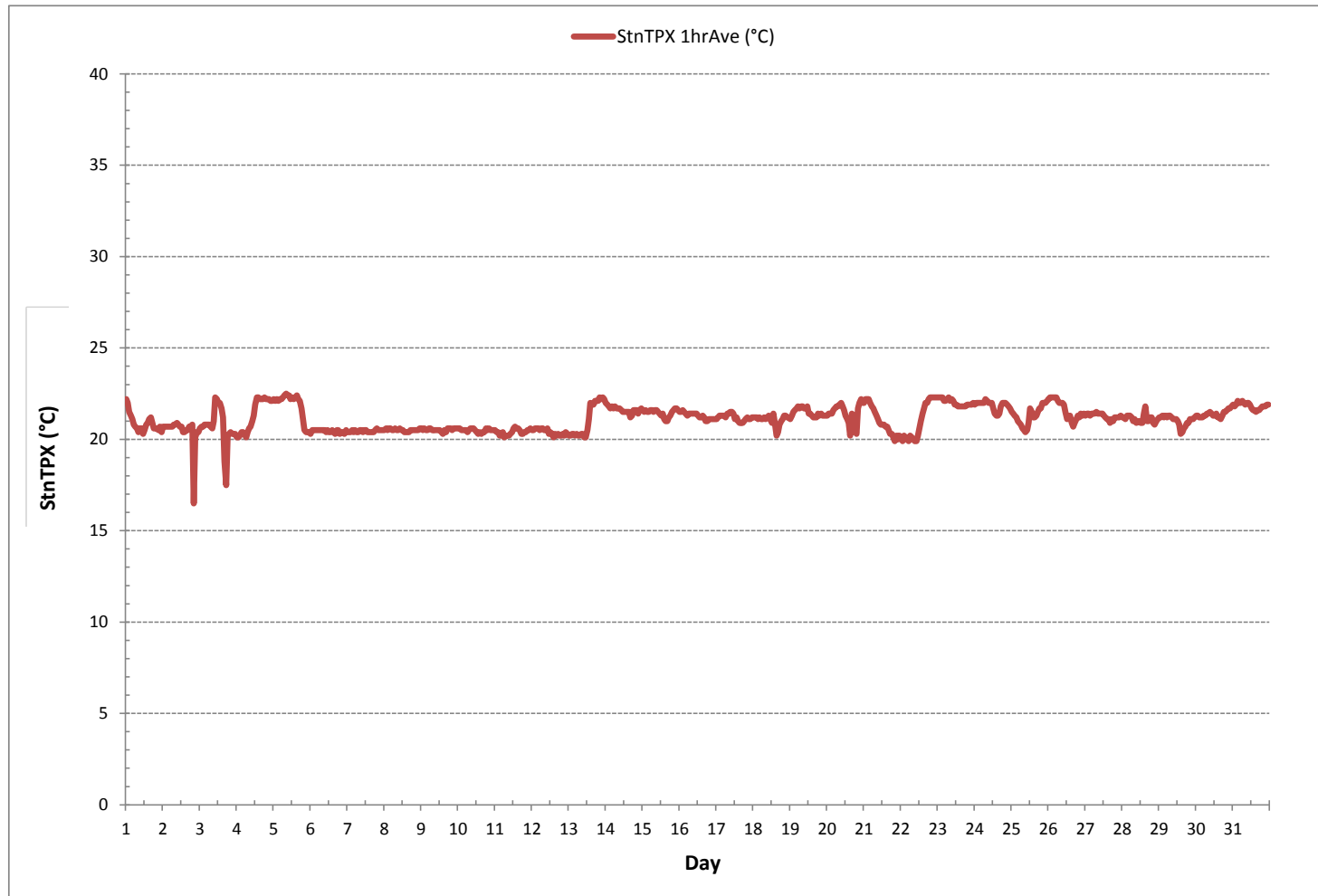
24 HR AVERAGES January 2017



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	16.5	°C	@ HOUR(S)	20	ON DAY(S)	2
MAXIMUM 1-HR AVERAGE:	22.5	°C	@ HOUR(S)	8	ON DAY(S)	5
MAXIMUM 24-HR AVERAGE:	22.0	°C			ON DAY(S)	23
					VAR-VARIOUS	
OPERATIONAL TIME:					744	hrs
AMD OPERATION UPTIME:					100.0	%
STANDARD DEVIATION:	0.7				MONTHLY AVERAGE:	21.1 °C

STATION TEMPERATURE Hourly Averages (StnTPX °C)



APPENDIX II
EQUIPMENT CALIBRATION RESULTS

SULPHUR DIOXIDE



API 100A Sulphur Dioxide Analyzer Calibration

Date: January 3, 2017	Barometric Pressure: 28.07 inHg
Company/Airshed: PRAMP	Station Temperature °C: 21
Location/Station Name: Reno	Weather Conditions: Mainly cloudy with light snow
Parameter: Sulphur Dioxide	Calibration Purpose: routine monthly
Start Time 24 hr. (mst): 13:29	Performed By/Reviewer: Raja Abid Trina Whitsitt
End Time 24 hr. (mst): 17:02	Cal Gas Expiry Date: May 23, 2019
Calibration Method: Gas Dilution	Converter Model & s/n (if applicable): n/a

Analyzer:

ID# or Serial Number: 841	Range ppb: 500
Last Calibration Date: December 1, 2016	As Found C.F.: 0.985
Previous C.F.: 1.000	New C.F.: 1.000

Calibrator:

Flow Meter ID's: n/a
Make & Model: EnviroNics 6100
Serial #: 5212
Cal Gas Cylinder I.D. #: LL119513
Cal Gas Conc. (ppm): 50.6

Standard Calibration Points for Ranges

Point	ppb
High	380
Mid	180
Low	90

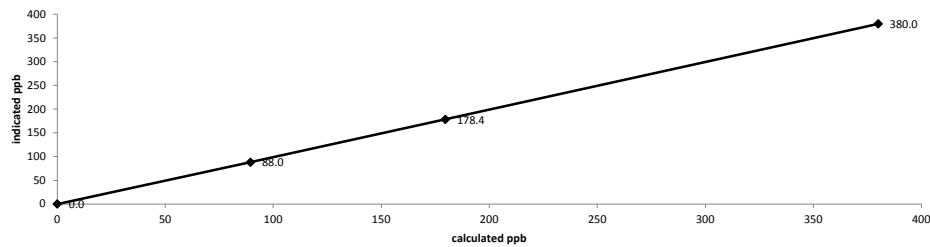
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	5995	0.00	5995	0.0	-0.1	n/a
as found high	5952	45.04	5997	380.0	385.6	0.985
adjusted zero	5995	0.00	5995	0.0	0.0	n/a
adjusted high	5952	45.04	5997	380.0	380.0	1.000
mid	5975	21.29	5996	179.7	178.4	1.007
low	5986	10.60	5997	89.4	88.0	1.016
calibrator zero	5995	0.00	5995	0.0	0.0	n/a
Average C.F. =						1.008

Linear Regression/Calibration Results:

Correlation Coefficient = 1.000	LIMITS
Slope = 0.999	> or = 0.995
b (Intercept as % of full scale) = 0.17%	.95-1.05
% change in C.F. from last cal = 1.47%	± 3% F.S.
	± 10%

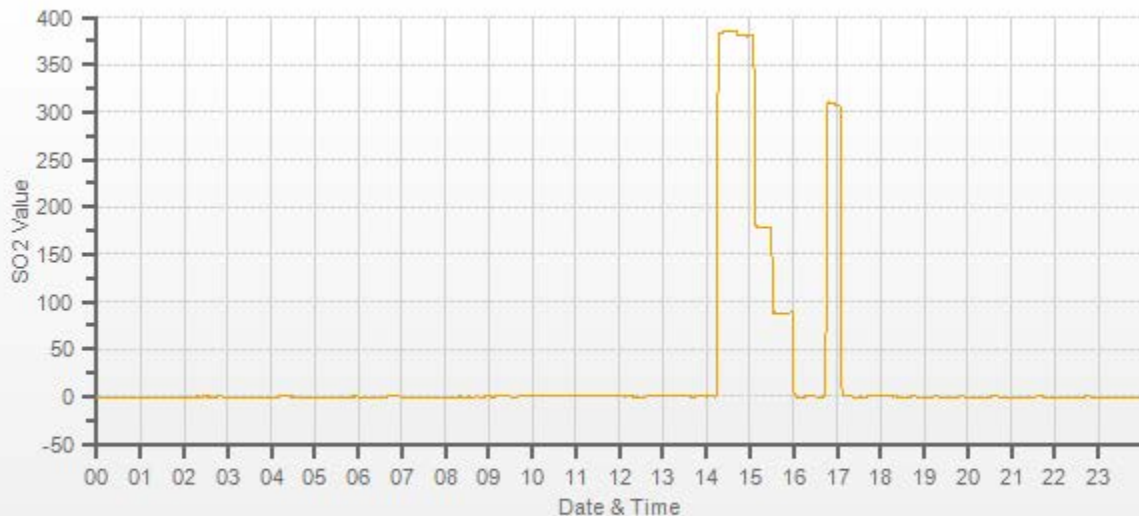
API 100A Sulphur Dioxide Analyzer Calibration



As found:	As left:
SLOPE: 1.000	SLOPE: 0.982
OFFSET: 43.9	OFFSET: 44.2
HVPS: 763	HVPS: 763
DCPS: 2562	DCPS: 2562
RCELL TEMP: 50.6	RCELL TEMP: 50.0
BOX TEMP: 28.8	BOX TEMP: 27.6
PMT TEMP: 7.2	PMT TEMP: 7.2
IZS TEMP: 45.2	IZS TEMP: 45.0
Converter Temp: n/a	Converter Temp: n/a
PRES: 25.4	PRES: 25.4
SAMP FL: 700	SAMP FL: 701
PMT: 61.1	PMT: 60.0
UV LAMP: 2079	UV LAMP: 2069
LAMP RATIO: 92.2	LAMP RATIO: 91.2
STR. LGT: 21.9	STR. LGT: 21.7
DRK PMT: 25.7	DRK PMT: 25.7
DRK LMP: -16.8	DRK LMP: -16.9
Expected Value: 326.7	Expected Value: 306.7

Comments:

The analyzer sample inlet filter was changed.



— SO2[ppb]



API 100A Sulphur Dioxide Analyzer Calibration

Date:	January 20, 2017	Barometric Pressure:	27.15 inHg
Company/Airshed:	PRAMP	Station Temperature °C:	22
Location/Station Name:	Reno	Weather Conditions:	Mainly sunny
Parameter:	Sulphur Dioxide	Calibration Purpose:	as found
Start Time 24 hr. (mst):	16:36	Performed By/Reviewer:	Raja Abid Trina Whitsitt
End Time 24 hr. (mst):	17:23	Cal Gas Expiry Date:	May 23, 2019
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	n/a

Analyzer:		Range ppb:	500	Station SO ₂ Analyzer Range?	
ID# or Serial Number:	841	As Found C.F.:	1.001		ppb
Last Calibration Date:	January 3, 2017	New C.F.:	n/a		
Previous C.F.:	1.000				

Calibrator:		Standard Calibration Points for Ranges								
Flow Meter ID's:	n/a	<table><thead><tr><th>Point</th><th>ppb</th></tr></thead><tbody><tr><td>High</td><td>380</td></tr><tr><td>Mid</td><td>180</td></tr><tr><td>Low</td><td>90</td></tr></tbody></table>	Point	ppb	High	380	Mid	180	Low	90
Point	ppb									
High	380									
Mid	180									
Low	90									
Make & Model:	API 700									
Serial #:	830									
Cal Gas Cylinder I.D. #:	LL 19513									
Cal Gas Conc. (ppm):	50.6									

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

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	5998	0.00	5998	0.0	0.1	n/a
as found high	5951	45.00	5996	380.0	379.8	1.001
Average C.F. =						n/a

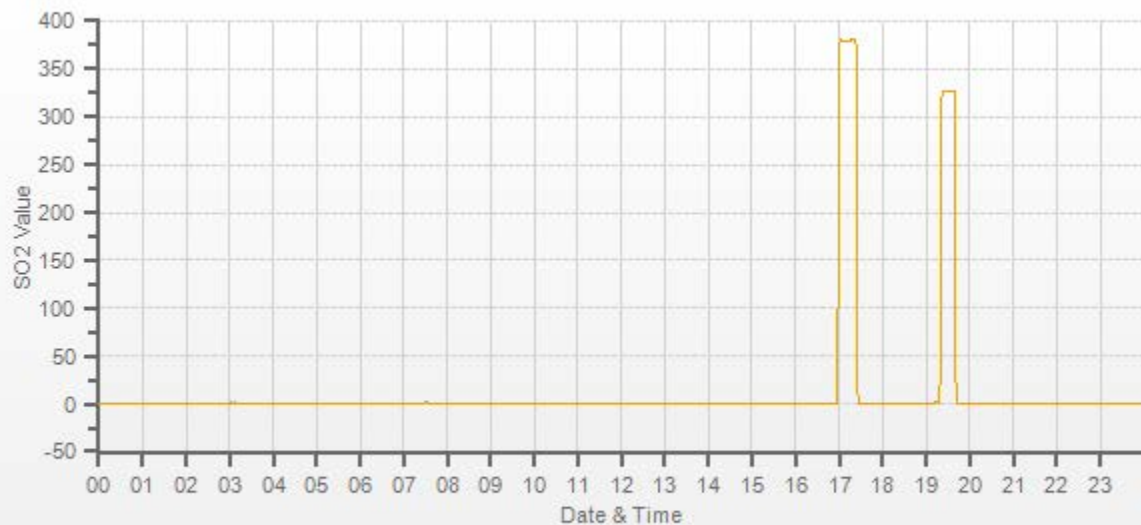
Linear Regression/Calibration Results:

Correlation Coefficient =	n/a	LIMITS	> or = 0.995
Slope =	n/a		.95-1.05
b (Intercept as % of full scale) =	n/a		± 3% F.S.
% change in C.F. from last cal =	-0.07%		± 10%

As found:	As left:
SLOPE: 0.982	SLOPE: n/a
OFFSET: 44.2	OFFSET: n/a
HVPS: 763	HVPS: n/a
DCPS: 2561	DCPS: n/a
RCELL TEMP: 49.6	RCELL TEMP: n/a
BOX TEMP: 29.3	BOX TEMP: n/a
PMT TEMP: 7.1	PMT TEMP: n/a
IZS TEMP: 45.2	IZS TEMP: n/a
Converter Temp: n/a	Converter Temp: n/a
PRES: 24.4	PRES: n/a
SAMP FL: 671	SAMP FL: n/a
PMT: 59.9	PMT: n/a
UV LAMP: 2130	UV LAMP: n/a
LAMP RATIO: 95.3	LAMP RATIO: n/a
STR. LGT: 21.7	STR. LGT: n/a
DRK PMT: 24.9	DRK PMT: n/a
DRK LMP: -16.9	DRK LMP: n/a
Expected Value: n/a	Expected Value: n/a

Comments:

At 17:44 Channel was taken out of M mode



— SO2[ppb]

TOTAL REDUCED SULPHUR



Thermo 450i Total Reduced Sulphur Analyzer Calibration

Date:	January 3, 2017	Barometric Pressure:	28.07 inHg
Company/Airshed:	PRAMP	Station Temperature °C:	21
Location/Station Name:	Reno	Weather Conditions:	Mainly cloudy with light snow
Parameter:	Total Reduced Sulphur	Calibration Purpose:	routine monthly
Start Time 24 hr. (mst):	10:03	Performed By/Reviewer:	Raja Abid Trina Whitsitt
End Time 24 hr. (mst):	16:00	Cal Gas Expiry Date:	December 1, 2018
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	CD NOVA-CDN 101 s/n 534

Analyzer:

ID# or Serial Number:	1226154721	Range ppb:	100
Last Calibration Date:	December 1, 2016	As Found C.F.:	1.000
Previous C.F.:	1.000	New C.F.:	1.000

Calibrator:

Flow Meter ID's:	n/a
Make & Model:	API 700
Serial #:	830
Cal Gas Cylinder I.D. #:	BLM 002197
Cal Gas Conc. (ppm):	10.3

Standard Calibration Points for Ranges

Point	ppb
High	78
Mid	38
Low	19

SO₂ Scrubber Check (10 mins.)

Start/End Time 24 hr.:	11:54-12:04
Target Concentration (ppb):	380
Result (ppb):	0
Zero Corrected Result (ppb):	0

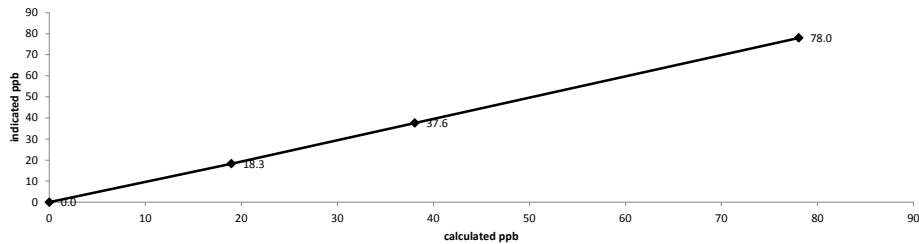
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	7497	0.00	7497	0.0	0.5	n/a
as found high	7441	56.80	7498	78.0	78.5	1.000
adjusted zero	7497	0.00	7497	0.0	0.0	n/a
adjusted high	7440	56.80	7497	78.0	78.0	1.000
mid	7470	27.70	7498	38.1	37.6	1.012
low	7481	13.80	7495	19.0	18.3	1.036
calibrator zero	7497	0.00	7497	0.0	0.1	n/a
Average C.F. =						1.016

Linear Regression/Calibration Results:

Correlation Coefficient =	1.000	LIMITS	> or = 0.995
Slope =	0.998		.95-1.05
b (Intercept as % of full scale) =	0.35%		± 3% F.S.
% change in C.F. from last cal =	-0.04%		± 10%

Thermo 450i Total Reduced Sulphur Analyzer Calibration



As found:

BKG:	16.2
COEF:	0.986
PMT:	-622.7
FLASH:	936
INTERNAL:	29.3
CHAMBER:	44.9
CONVERTER TEMP:	800
CONVERTER SET:	800
PERM OVEN GAS:	35.00
PERM OVEN HTR:	34.22
PRESSURE:	528.5
SAMPLE FLOW:	0.761
LAMP INTENSITY:	91
Expected Value:	41.0

As left:

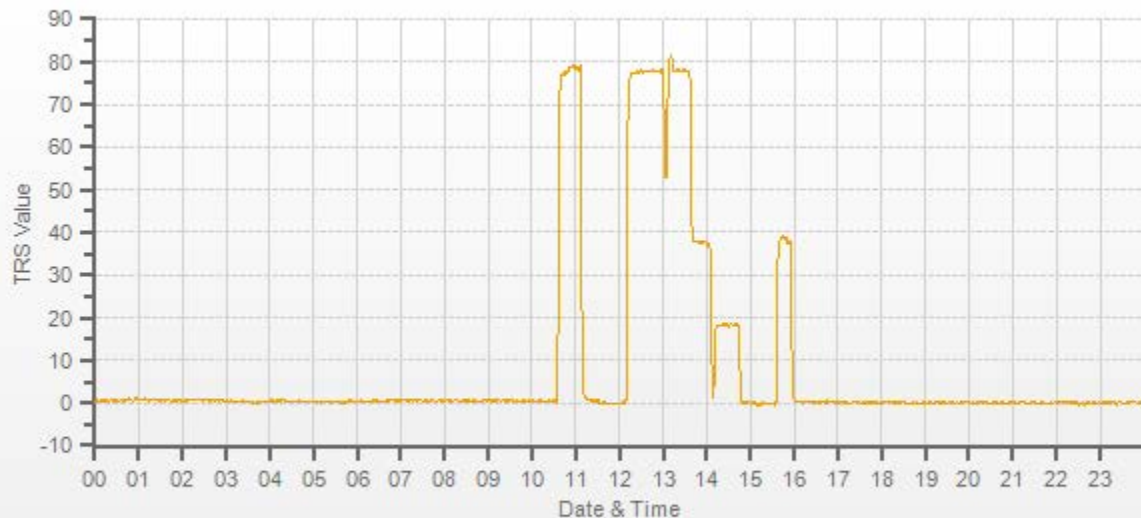
BKG:	16.6
COEF:	0.984
PMT:	-662.3
FLASH:	935
INTERNAL:	29.3
CHAMBER:	45.0
CONVERTER TEMP:	800
CONVERTER SET:	800
PERM OVEN GAS:	35.01
PERM OVEN HTR:	34.22
PRESSURE:	529.1
SAMPLE FLOW:	0.760
LAMP INTENSITY:	91
Expected Value:	37.8

Comments:

The analyzer sample inlet filter was changed.

The analyzer cooling fan filter(s) were cleaned.

10:12-11:06 As Found performed to confirm the efficiency of the analyzer as there was drift in IZS. Adjusted high point interrupted by daily span check, restarted at 13:12. Concentration drop at the start of low point was due to low gas pressure, issue fixed.



— TRS[ppb]



Thermo 450i Total Reduced Sulphur Analyzer Calibration

Date:	January 20, 2017	Barometric Pressure:	27.15 inHg
Company/Airshed:	PRAMP	Station Temperature °C:	22
Location/Station Name:	Reno	Weather Conditions:	Mainly sunny
Parameter:	Total Reduced Sulphur	Calibration Purpose:	as found
Start Time 24 hr. (mst):	16:36	Performed By/Reviewer:ip	Raja Abid Trina Whitsitt
End Time 24 hr. (mst):	17:35	Cal Gas Expiry Date:	December 1, 2018
Calibration Method:	Gas Dilution	& s/n (if applicable):	CD NOVA-CDN 101 s/n 534

Analyzer:

ID# or Serial Number:	1226154721	Range ppb:	100
Last Calibration Date:	January 3, 2017	As Found C.F.:	1.015
Previous C.F.:	1.000	New C.F.:	n/a

Calibrator:

Flow Meter ID's:	n/a
Make & Model:	EnviroNics 6100
Serial #:	5212
Cal Gas Cylinder I.D. #:	BLM 002197
Cal Gas Conc. (ppm):	10.3

Standard Calibration Points for Ranges

Point	ppb
High	78
Mid	38
Low	19

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

Calibrator Flow Rates (cc/min)				Calculated Concentration:		Indicated Concentration:	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	(ppb)	
as found zero	7495	0.00	7495	0.0	-0.6		n/a
as found high	7441	56.74	7498	77.9	76.2		1.015
Average C.F. =							n/a

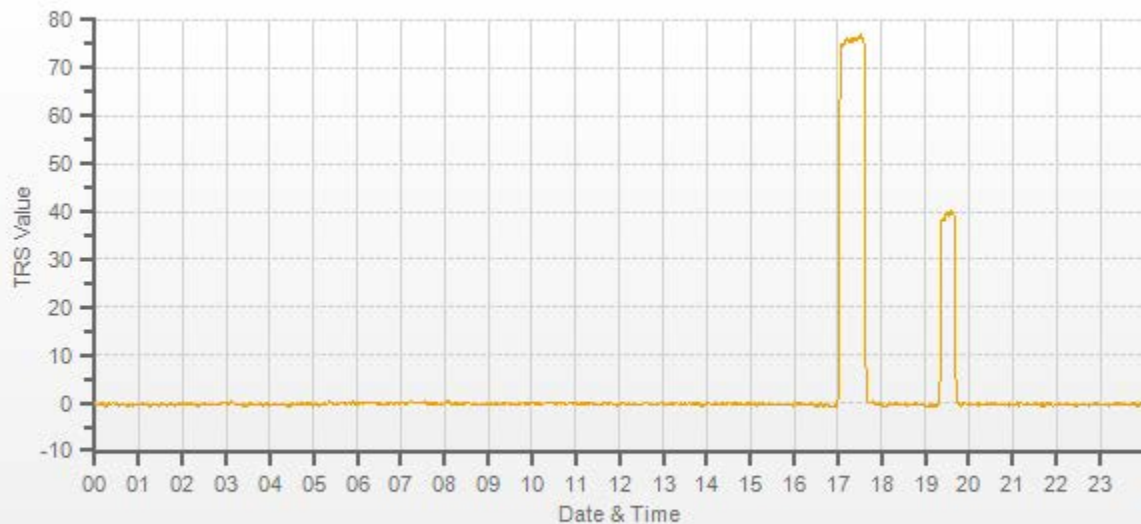
Linear Regression/Calibration Results:

Correlation Coefficient =	n/a	LIMITS	> or = 0.995
Slope =	n/a		.95-1.05
b (Intercept as % of full scale) =	n/a		± 3% F.S.
% change in C.F. from last cal =	-1.49%		± 10%

As found:		As left:	
BKG:	17.1	BKG:	n/a
COEF:	0.984	COEF:	n/a
PMT:	-662.7	PMT:	n/a
FLASH:	929	FLASH:	n/a
INTERNAL:	28.4	INTERNAL:	n/a
CHAMBER:	45.1	CHAMBER:	n/a
CONVERTER TEMP:	800	CONVERTER TEMP:	n/a
CONVERTER SET:	800	CONVERTER SET:	n/a
PERM OVEN GAS:	35.00	PERM OVEN GAS:	n/a
PERM OVEN HTR:	34.21	PERM OVEN HTR:	n/a
PRESSURE:	507.9	PRESSURE:	n/a
SAMPLE FLOW:	0.737	SAMPLE FLOW:	n/a
LAMP INTENSITY:	90	LAMP INTENSITY:	n/a

Comments:

At 17:44 Channel was taken out of M mode



— TRS[ppb]

TOTAL HYDROCARBON



Thermo 55i Methane/Non-Methane Analyzer Calibration

☒ remove

Date:	January 3, 2017	Barometric Pressure:	28.06 inHg
Company/Airshed:	PRAMP	Station Temperature °C:	22
Location/Station Name:	Reno	Weather Conditions:	Mainly cloudy with light snow
Parameter:	CH ₄ / NMHC / THC	Calibration Purpose:	routine monthly
Start/End Time 24 hr. (mst):	10:03/14:02	Performed By/Reviewer:	Raja Abid Trina Whitsitt
Calibration Method:	Gas Dilution	Cal Gas Expiry Date:	January 9, 2021

Analyzer:		Correction Factors:	
ID# or Serial Number:	1314057759	Previous C.F.:	As Found C.F.:
Measured Flow:	1329	CH ₄ =	1.000
Last Calibration Date:	December 1, 2016	NMHC =	1.000
Range ppm:	20 CH ₄ /20 NMHC/40 THC	THC =	1.000

Calibrator:		Standard Calibration Points for Analyzer Range of 20/20/40 ppm
Flow Meter ID's:	n/a	
Make & Model:	EnviroNics 6100	
Serial #:	5212	
Cal Gas Cylinder I.D. #:	LL 19638	
CH ₄ Cylinder Conc. =	880.0 304.0	=C ₃ H ₈ Cylinder Conc.
CH ₄ as C ₃ H ₈ =	836.0 1716.0	=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)				Correction Factors:								
Point	Diluent	Cal Gas	Total Flow	Calculated CH ₄ (ppm)	Calculated NMHC (ppm)	Calculated THC (ppm)	Indicated CH ₄ (ppm)	Indicated NMHC (ppm)	Indicated THC (ppm)	CH ₄	NMHC	THC
as found zero	2997	0.00	2997	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
as found high	2947	49.94	2997	14.66	13.93	28.59	14.82	13.95	28.79	0.989	0.999	0.993
adjusted zero	2997	0.00	2997	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
adjusted high	2947	49.94	2997	14.66	13.93	28.59	14.66	13.93	28.60	1.000	1.000	1.000
mid	2972	24.99	2997	7.34	6.97	14.31	7.31	6.97	14.31	1.004	1.000	1.000
low	2985	12.01	2997	3.53	3.35	6.88	3.50	3.33	6.84	1.008	1.006	1.005
calibrator zero	2997	0.00	2997	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
Average C.F. =										1.004	1.002	1.002

Linear Regression/Calibration Results:

	CH ₄	NMHC	THC	LIMITS
Correlation Coefficient =	1.000	1.000	1.000	> or = 0.995
Slope =	1.000	1.000	1.001	.95-1.05
b (Intercept as % of full scale) =	-0.08%	-0.04%	-0.04%	± 3% F.S.
% change in C.F. from last cal =	1.05%	0.14%	0.68%	± 10%

As found:				As left:			
Interface Board Voltages:	Bias Supply:	-288.1		Calibration History cnt'd:	NM Peak Area:	n/a	
Temperatures:	Detector Oven:	175.1		Crucial Settings:	Methane Start:	n/a	
	Filter:	175.0			Methane End:	n/a	
	Column Oven:	75.0			Backflush:	n/a	
	Internal:	29.1			NMHV Start:	n/a	
Cylinder Pressures/reg.:	Carrier:	1550	50		NMHC End:	n/a	
	Fuel:	750	50	Run History>1:	Date:	03Jan17	
	Span Gas:	1850	22		Time:	10:08	
	Zero Air Generator:	45			CH ₄ PK HT:	0	
Internal Pressures:	Carrier:	31.3			CH ₄ RT:	8.0	
	Fuel:	41.6			CH ₄ Baseline:	2035	
	Air:	25.9			CH ₄ LOD:	57	
FID Status:	Status:	LIT			CH ₄ SD:	19	
	Counts:	24558			CH ₄ CONC:	0.00	
	Flame:	405.0			NM PK HT:	0	
	Det Base:	175.1			NM Peak Area:	0	
Flame and Power Stats:	Last Power On:	26Dec2016@17:38			NM CONC:	0.00	
	Flameouts:	1			NM Base Start:	2023	
	Det Oven at Start:	168.8			NM Base End:	2025	
	Col Oven at Start:	74.4			NM LOD:	4	
Calibration History:	Time:	n/a			NM Start IDX:	57	
	Type:	n/a			NM End IDX:	34	
	Status:	n/a			NM Max Slope:	5.4e-01	
	Check/Adjust:	n/a			NM Min Slope:	-6.96e-01	
	CH ₄ Span Conc:	n/a		Expected Values:	NM PT Count:	0	
	CH ₄ SP Ratio:	n/a			Previous CH ₄ :	9.44	
	CH ₄ RT:	n/a			Previous NMHC:	13.88	
	CH ₄ PK IDX:	n/a			Previous THC:	23.34	
	CH ₄ PK HT:	n/a			New CH ₄ :	9.58	
	NM Span Conc:	n/a			New NMHC:	13.97	
	NM SP Ratio:	n/a			New THC:	23.58	

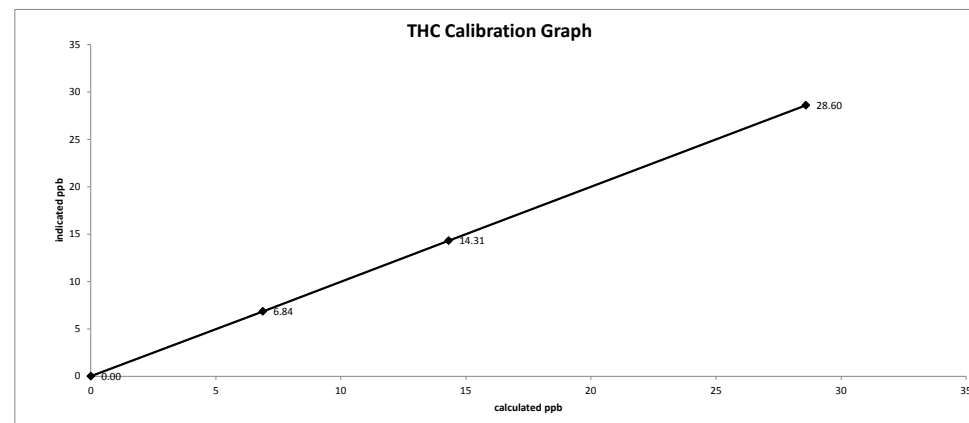
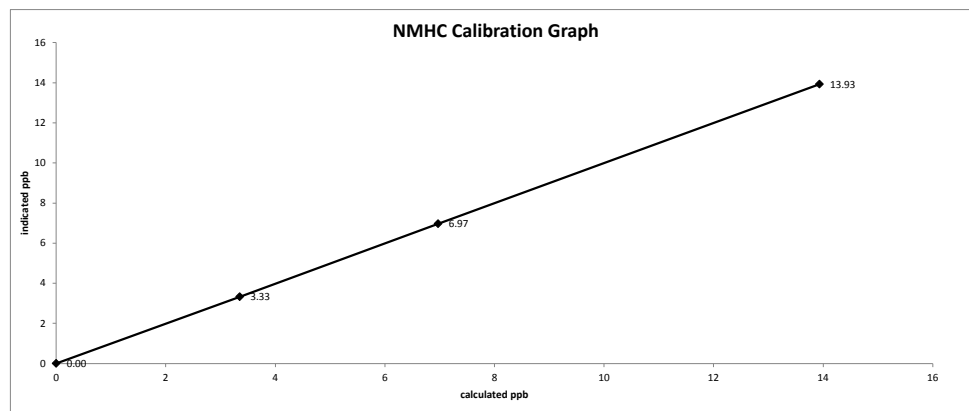
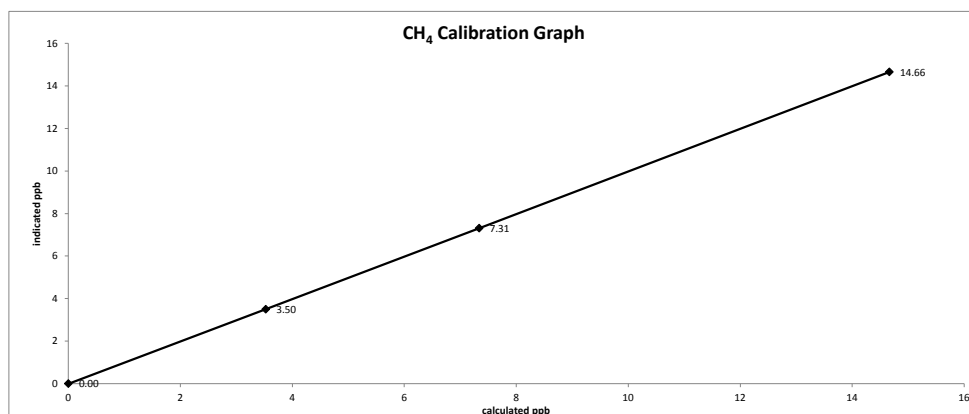
Comments:
The analyzer sample inlet filter was changed.

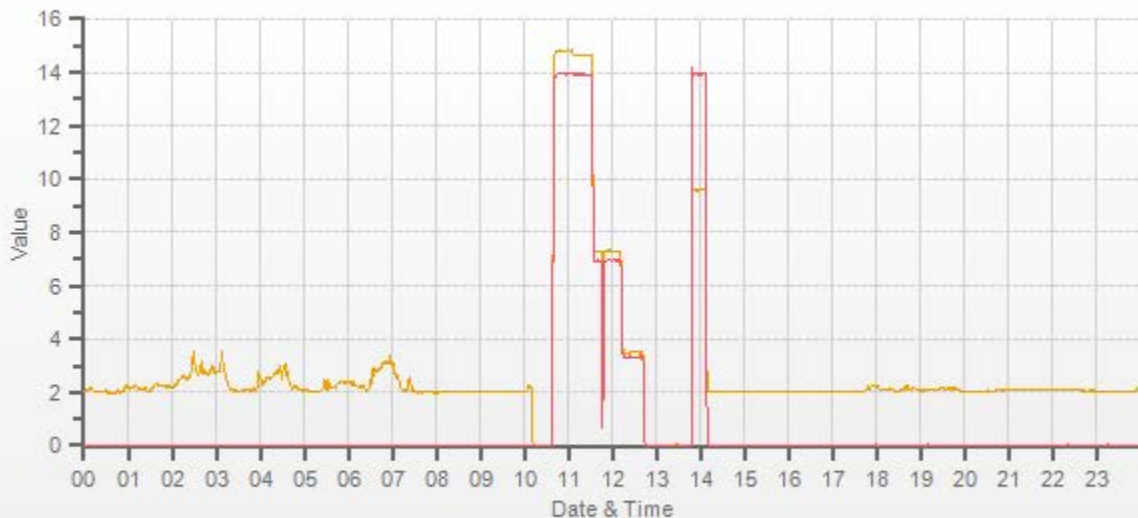
No zero adjustment was required/made. As found zero values were copied to adjusted zero values for linearity calculation purposes.

The analyzer cooling fan filter(s) were cleaned.

10:06-10:07: Flow check performed. Calibrator lost power at 11:46 during mid p0int, restarted at 11:48. Calibrator zero was interrupted by daily span check, restarted at 13:07.

Date:	January 3, 2017	Start/End Time 24 hr. (mst):	10:03/14:02
Company/Airshed:	PRAMP	Calibration Purpose:	routine monthly
Location/Station Name:	Reno	Calibration Method:	Gas Dilution





CH4[ppm] NMHC[ppm]

WIND SYSTEM



Meteorological Sensor Audit

Location Information

Company:	PRAMP	Performed By:	Limin Li
Audit Location:	RENO	Reviewed By:	Trina Whitsitt
Audit Date:	October 13, 2016	Start Time (mst):	11:30
Previous Audit Date:	July 9, 2015	End Time (mst):	11:55

Wind Speed Sensor Information

Sensor make: RM Young
 Sensor model: 5103VK
 Serial#: 110980
 Voltage range: 0-1V/output single range: 0-200kph

Calibrator Information

Make: RM Young
 Model: 18802
 I.D.#/Serial#: 4309
 Certification Date: October 9, 2013

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.0	0.0	-
1000	17.6	17.7	17.7	0.996
2000	35.3	35.2	35.2	1.001
3000	52.9	52.9	52.9	1.001
4000	70.6	70.5	70.5	1.001
5000	88.2	88.1	88.1	1.001
6000	105.8	105.7	105.7	1.001
7000	123.5	123.3	123.3	1.001
8000	141.1	140.9	140.9	1.002
9000	158.8	158.6	158.6	1.001
10000	176.4	176.1	176.1	1.002
		The audit meets AMD requirements.	Average Correction Factor=	1.001

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

Generated Wind Direction	Indicated Wind Direction	Degrees Difference
0	0.8	-0.8
45	46.2	-1.2
90	90.4	-0.4
135	134.8	0.2
180	179.9	0.1
225	225.0	0.0
270	270.5	-0.5
315	315.5	-0.5
360	355.2	4.8
The audit meets AMD requirements.		Average Degrees Difference= 0.9

Recommendations:

360 deg is 355 deg position. Reading is 355.2deg.
 Wind system is installed back due to new system audit fail.

CALIBRATORS

Company Maxxam		Operator: Mike	
Calibrator:		Flow Measurement Device:	
Make/Model	EnviroNics 6100	Make/Model	Bios Defender 530
Serial Number	5212	Serial Number	Hi148944 Lo 152019
Last Verification Date	February 3, 2016	Temperature (°C)	24.6
NO Cylinder S/N	EY0000597	Barometric Pressure	701.4mmHg
NO [PPM]	49.0	NOx [PPM]	49.0
Expiry Date	December 8, 2019		

Dilution Flow (sccm)			
Pt. #1	4919	Pt. #2	4934
Pt. #3	4960		
Gas Flow (sccm)			
Pt. #1	79.2	Pt. #2	38.3
Pt. #3	19.1		

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO ₂	NOx	NO	NOx
4987	0.0	0.0000	0.0000	0.0000	0.0002	0.0002	Limit ± 10%	
4998	79.2	0.7765	0.7765	0.7801	-0.0003	0.7798	0%	0%
4977	38.3	0.3775	0.3775	0.3790	0.0000	0.3790	0%	0%
4979	19.1	0.1880	0.1880	0.1888	-0.0001	0.1887	0%	0%
Absolute Average Percent Difference							0%	0%

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)=	1.0046	0.90-1.10		m (Slope)=	1.0041
b (Intercept % of FS)=	-0.0080	± 3% F.S.		b (Intercept % of FS)=	0.0057

Flow	O ₂ Conc	NO Decrease	NO	NO ₂	NOx	% Diff. Vs Audit gas	
4998	0.000	0.0000	0.7799	-0.0008	0.7790	NO ₂	% Diff. Limit
4998	0.500	0.4949	0.2850	0.4909	0.7776	-1%	± 10%
4998	0.275	0.2765	0.5034	0.2742	0.7776	-1%	± 10%
4998	0.100	0.1003	0.6796	0.0989	0.7786	-1%	± 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)=	0.9936	0.90-1.10
b (Intercept % of FS)=	-0.0733	± 3% F.S.

AENV Standards		NO_x Analyzer	
Audit Calibrator			
Make/Model	Thermo 146i	Make/Model	Thermo 42i
Serial/AMU Number	1809	Serial/AMU Number	1868
SRM Gas Cylinder No.	CAL018140	Last Calibration Date	February 13, 2017
Cylinder Conc. (ppm)	48.79	Full Scale (ppm)	1.0
		Cylinder Gas Expiry Date	March 28, 2019

COMMENTS: Gas has ~50ppm SO₂

Auditor: Shea Beaton
Operator Signature: [Signature]

Date: February 14, 2017
Location: McIntyre Center Edmonton

Company: Maxxam **Operator:** Mike

Calibrator: Make/Model <u>API 700</u> Serial Number <u>830</u> Last Verification Date <u>January 19, 2016</u> SO₂ Cylinder Conc. <u>50.5</u> SO₂ Cylinder S/N <u>EY0000769</u> Expiry Date <u>December 8, 2019</u>	Flow Measurement Device: Make/Model <u>Bios Defender 530+</u> Serial Number <u>Hi148944 Lo 152019</u> Temperature (°C) <u>24.6</u> Barometric Pressure <u>701.4mmHg</u>
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Flow Measurements

Pt. No. 1 78.0 **Pt. No. 2** 37.7 **Pt. No. 3** 18.6

Calibrator Flow (sccm)	Calculated Concentration (ppm)	Indicated Concentration (ppm)	% Difference	
			vs Audit Gas	% Diff. Limit
4978	0.0000	0.0000		
4974	0.7920	0.7912	0%	± 10%
4978	0.3825	0.3825	0%	± 10%
4975	0.1900	0.1908	0%	± 10%
Absolute Average Percent Difference			0%	± 10%

LINEAR REGRESSION ANALYSIS

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

SO₂	LIMITS	
Correlation=	1.0000	≥ 0.995
m (Slope)=	0.9986	0.90-1.10
b (Intercept % of FS)=	0.0477	± 3% F.S.

AENV Standards Audit Calibrator Make/Model <u>R&R MFC 201</u> Serial/AMU Number <u>1690</u> SO₂ <u></u> SRM Gas Cylinder No. <u>CAL016625</u> Cylinder Conc. (ppm) <u>98.07</u>	SO₂ Analyzer Make/Model <u>Themro 43i</u> Serial/AMU Number <u>1623</u> Last Calibration Date <u>January 31, 2017</u> Full Scale (ppm) <u>1.0</u> Expiry Date <u>January 5, 2019</u>
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COMMENTS: Analyzer verified prior to audit

Auditor: Shea Beaton Date: February 14, 2017

Operator Signature: [Signature] Location: McIntyre Center Edmonton

CALIBRATION GASES



Calibration Gas Audit

Single Component Cylinder Gas

File No. 2016-086CGA

Company: Maxxam Operator's Name: Chris Wesson
Cylinder #: LL119513 Concentration PPM: 50.6 Tolerance(%) 1 Certified By: Praxair

Reference Calibrator and Gas:

Make/Model: Teco 146i
Serial Number: AMU 1809
Last Verification Date: June 17, 2016
Gas Type: SO2 Conc. 98.07
Cylinder Number: CAL016625

Flow Measurement Device:

Make/Model: Bios DC2
Serial Number: AMU 1659
Temp. °C: 23.0 C
B.P. 700 mmhg

Reference Analyzer:

Make/Model: Teco 43C Serial/AMU Number: 1623
Instrument Settings: Zero: 8.7 Span: 1.027 Range: 1.0
Last Calibration: Date: June 17/16 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated Concentration (PPM)	Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration
Dilution	Gas				
5000	0.0	0.000			
4976	82.3	0.828	0.01654	60.462	50.1
4985	40.8	0.411	0.00818	122.181	50.2
4965	20.2	0.203	0.00407	245.792	49.9
Average Cylinder Concentration:					50.1

Previous Stated Concentration PPM: 50.6

Percent variance from Stated: 1.1

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: [Signature]

Date: June 17, 2016
Location: McIntyre Center Edmonton



Calibration Gas Audit

Single Component Cylinder Gas

File No. 2015-112CGA

Company: Maxxam Operator's Name: Chris Wesson
Cylinder #: BLM002197 Concentration PPM: 10.3 Tolerance(%): 2 Certified By: Air Liquide

Reference Calibrator and Gas:

Make/Model: R&R MFC 201
Serial Number: AMU 1690
Last Verification Date: February 2, 2016
Gas Type: H2S Conc. 20.43
Cylinder Number: CAL015584

Flow Measurement Device:

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

Reference Analyzer:

Make/Model: Thermo 450i Serial/AMU Number: 1980
Instrument Settings: Zero: 15.3 Span: 1.126 Range: 0.1
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				
5017	0.0	0.000	~~0.00751~~	~~133.140~~	~~10.4~~
5054	37.96	0.078	0.00751	133.140	10.4
5055	17.78	0.037	0.00352	284.308	10.4
5029	9.07	0.019	0.00180	554.465	10.3
Average Cylinder Concentration:					10.3

Previous Stated Concentration PPM: 10.3

Percent variance from Stated: 0.5

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

Auditor: Shea Beaton
Operator Signature: [Signature]

Date: February 2, 2016
Location: McIntyre Center Edmonton



Calibration Gas Audit

CH₄ / C₃H₈ Cylinder Gas

File No. 2013-298CGA

Company: Maxxam Operators name: Theo
Cylinder #: LL19638 Conc CH₄ (PPM) 880/304 Tolerance (%) 2 Certified By: Praxair

Reference Calibrator and Gas:

Make/Model R&R MFC 201
Serial Number AMU 1690
Last Verification Date October 17, 2013
Gas Type CH₄ Conc. 999.2
Cylinder Number D751932
Gas Type C₃H₈ Conc. 246.5
Cylinder Number XF0037998

Flow Measurement Device:

Make/Model Bios DC2
Serial Number AMU 1659
Temp. °C 21.0 C
B.P. 706 mmhg

Reference Analyzer:

Make/Model Teco 55C Serial/AMU Number: 1625
Instrument Settings Zero: N/A Span: N/A Range: 20
Last Calibration: Date: Oct 17/13 C.F. 1.000 Done By: Al Clark

Calibrator Flows (scm)		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	0.04	0.00				
3505	51.9	13.16	12.58	0.01481	67.534	889	309
3487	22.2	5.64	5.43	0.00637	157.072	886	310
3458	10.8	2.80	2.73	0.00312	320.185	897	318
Average Cylinder Concentration:						890	312

CH₄
Previous Stated Concentration PPM: 880
Percent variance from Stated: 1.2

C₃H₈
304
2.7

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: October 17, 2013
Operator Signature: [Signature] Location: McIntyre Center Edmonton

APPENDIX III
REPORT CERTIFICATION FORM

Report Certification Form

Alberta Airshed (if applicable)	EPA Approval or Code of Practice Registration # (if applicable)
NO	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 (Last, First, Middle)	Position / Title of the Representative of the Person Responsible
Wunmi Adekanmbi	Project Manager, Customer Service, Air Services
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 (Last, First, Middle)	Position / Title of External Person Certifying the Report
NA	NA
Company Name for the External Person Certifying the Report	Identification of Qualifications / Professional Designations of the External Person Certifying the Report
NA	NA

I certify that I have reviewed and verified the submitted report. I also certify that the report presented with this certification form is complete, accurate and representative of the monitoring results and timeframe.

Signature of the Representative of the Person
Responsible / External Person Certifying the Report

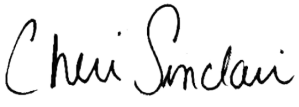
23-02-2017

Report Issued Date (dd-mm-yyyy)

APPENDIX IV
DATA VALIDATION CERTIFICATION FORM

Validation Certificate Form

Client: <u>Peace River Area Monitoring Program Committee</u>	Project #: <u>196-2017-01-93-C</u>
Site: <u>Reno Station</u>	Contact: <u>Mike Bisaga</u>

Level 0 Preliminary Verification	 	Date <u>16-Feb-17</u>
Level 1 Primary Validation	 	Date <u>16-Feb-17</u>
Level 2 Final Validation	 	Date <u>23-Feb-17</u>
Level 3 Independent Data Review	 	Date <u>23-Feb-17</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.