

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

JOB #: 196-2016-10-93-C

October 2016

Prepared for:

PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
402 19 ST NW
CALGARY, ALBERTA
T2N 2J1

Attention: MIKE BISAGA

DATE: January 31, 2017

This report supersedes all previous reports with the same Maxxam project number.

Prepared by:

Wunmi Adekanmbi, M.Sc., EPt
Project Manager, Customer Service, Air Services

Reviewed by:

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

SUMMARY

In October 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.

THC/CH₄/NMHC: One hour of downtime was recorded on October 13, at hour 13:00, as the analyzer was in recovery mode following a brief power outage.

Wind System: Twenty-two hours of data, collected between October 25 and October 26, were invalidated due to an ice build-up that affected the functionality of the wind system.

Barometric Pressure: Two hours of downtime were recorded on October 13 due to anomalous data that was considered suspect.

Ambient Temperature: Two hours of downtime were recorded on October 13 due to an interference with the sensor while the wind system was being calibrated.

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 Reno Station					MAXIMUM VALUES							OPERATIONAL TIME (%)	
PARAMETER	OBJECTIVES		EXCEEDANCES		MONTHLY AVERAGE	1-HOUR			24-HOUR				
	1-hr	24-hr	1-hr	24-hr		READING	DAY	HOUR	WIND SPEED (kph)	WIND DIRECTION (sector)	READING	DAY	
SO ₂ (ppb)	172	48	0	0	0.0	1.1	24	13	7.2	SE	0.1	VAR	100.0
TRS (ppb)	-	-	-	-	0.2	0.7	2, 3	VAR	VAR	VAR	0.3	VAR	100.0
THC (ppm)	-	-	-	-	1.98	2.67	2	22	3.1	S	2.09	3	99.9
CH ₄ (ppm)	-	-	-	-	1.98	2.67	2	22	3.1	S	2.09	3	99.9
NMHC (ppm)	-	-	-	-	0.00	0.00	ALL	ALL	VAR	VAR	0.00	ALL	99.9
RELATIVE HUMIDITY (%)	-	-	-	-	85	96	VAR	VAR	VAR	VAR	95	23, 30	100.0
BAROMETRIC PRESSURE (inHg)	-	-	-	-	27.68	28.04	10	12	2.2	S	28.00	10	99.7
AMBIENT TEMPERATURE (°C)	-	-	-	-	-0.2	10.2	3, 3	13, 14	5.0 5.7	W NW	3.6	21	99.7
STATION TEMPERATURE (°C)	-	-	-	-	21.0	22.6	3	15	8.7	NNW	21.5	6	100.0
VECTOR WS (kph)	-	-	-	-	2.5	20.5	1	7	-	ENE	12.4	1	97.0
VECTOR WD (sec)	-	-	-	-	76 (ENE)	-	-	-	-	-	-	-	97.0

NA-NOT AVAILABLE 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	2016	October		

CONTINUOUS AMBIENT MONITORING						
PARAMETER	STN No.	% TIME OPERATIONAL	ONE - HOUR AVERAGE		24 - HOUR AVERAGE	
			MAXIMUM VALUE	NO. READINGS > REGULATION	MAXIMUM VALUE	NO. READINGS > REGULATION
SO ₂	1	100.0	0.0011 ppm	0	0.0001 ppm	0
TRS	1	100.0	0.0007 ppm	-	0.0003 ppm	-
THC	1	99.9	2.67 ppm	-	2.09 ppm	-
CH ₄	1	99.9	2.67 ppm	-	2.09 ppm	-
NMHC	1	99.9	0.00 ppm	-	0.00 ppm	-
RH	1	100.0	96 %	-	95 %	-
BP	1	99.7	28.04 inHg	-	28.00 inHg	-
Ambient TPX	1	99.7	10.2 °C	-	3.6 °C	-
Station TPX	1	100.0	22.6 °C	-	21.5 °C	-
Wind Speed	1	97.0	20.5 kph	-	12.4 kph	-
Wind Direction	1	97.0	-	-	-	-

		FOR ALBERTA ENVIRONMENT USE ONLY	
SIGNATURE OF COMPANY REPRESENTATIVE			

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.

TABLE OF CONTENTS

<u>Title</u>	<u>Page</u>
SUMMARY	1
MONTHLY CONTINUOUS DATA SUMMARY REPORT	2
SOUR GAS SUMMARY REPORT	3
EXCEEDANCE SUMMARY REPORT	4
TABLE OF CONTENTS	5
1.0 Discussion	6
2.0 Project Personnel	8
3.0 Plant Monthly Required AMD Summary	8
4.0 Calculations and Results	8
5.0 Methods and Procedures	9
 Appendix I	Continuous Monitoring Data Results
	12
	Sulphur Dioxide
	13
	Total Reduced Sulphur
	21
	Total Hydrocarbon
	29
	Methane
	37
	Non-Methane Hydrocarbon
	45
	Wind Speed
	53
	Wind Direction
	60
	Relative Humidity
	63
	Barometric Pressure
	66
	Ambient Temperature
	69
	Station Temperature
	72
 Appendix II	Equipment Calibration Results
	75
	Sulphur Dioxide
	76
	Total Reduced Sulphur
	79
	Total Hydrocarbon
	82
	Wind System
	86
	Calibrators
	88
	Calibration Gases
	91
 Appendix III	Report Certification Form
	95
 Appendix IV	Data Validation Certification Form
	97

1.0 Discussion

This monthly report consists of continuous monitoring results for the following parameters: Sulphur Dioxide (SO_2), Total Reduced Sulphur (TRS), Total Hydrocarbon (THC), Methane (CH_4), 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 October 13. No operational issues were identified this month. One hour of instantaneous maximum data was discarded on October 24, at hour 13:00, due to a brief power failure.

TOTAL REDUCED SULPHUR (TRS)

The routine monthly calibration was performed on October 13. No operational issues were identified this month. One hour of instantaneous maximum data was discarded on October 24, at hour 13:00, due to a brief power failure.

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

The routine monthly calibration was performed on October 13. One hour of instantaneous maximum data was discarded on October 24, at hour 13:00, due to a brief power failure. Consequently, one hour of downtime was recorded at this hour, as the analyzer was in recovery mode.

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 is reported as vector wind speed and vector wind direction. The wind direction data included in this report represents where the wind was blowing from.

The wind system was calibrated on October 13. Twenty-two hours of data, collected between October 25 and October 26, were invalidated due to an ice build-up that affected the functionality of the wind system. One hour of instantaneous maximum data was discarded on October 24, at hour 13:00, due to a brief power failure.

RELATIVE HUMIDITY (RH)

No operational issues were identified this month.

BAROMETRIC PRESSURE (BP)

Two hours of data, collected on October 13 at hour 12:00 and 13:00, were invalidated due to anomalous measurements. Data collected at hour 13:00 met the 75% data completeness criteria; however, there were similar, albeit fewer, suspect measurements that lowered the hourly average, prompting the need to invalidate data at this hour.

AMBIENT TEMPERATURE (AmbTPX)

Two hours of downtime were recorded on October 13 due to an interference with the sensor while the wind system was being calibrated.

STATION TEMPERATURE (StnTPX)

No operational issues were identified this month.

2.0 Project Personnel

Anthony Traverse was the contact for Peace River Area Monitoring Program Committee and the Maxxam field technician was Limin Li.

3.0 Plant Monthly Required AMD Summary

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

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

4.0 Calculations and Results

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

5.0 Methods and Procedures

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

- Maxxam AIR SOP-00001 - Methane, Non-Methane Hydrocarbon Analyzer Monitoring
- Maxxam AIR SOP-00208: RM Young Wind Monitor Calibration
- Maxxam AIR SOP-00210: 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 43i 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/analyser; 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

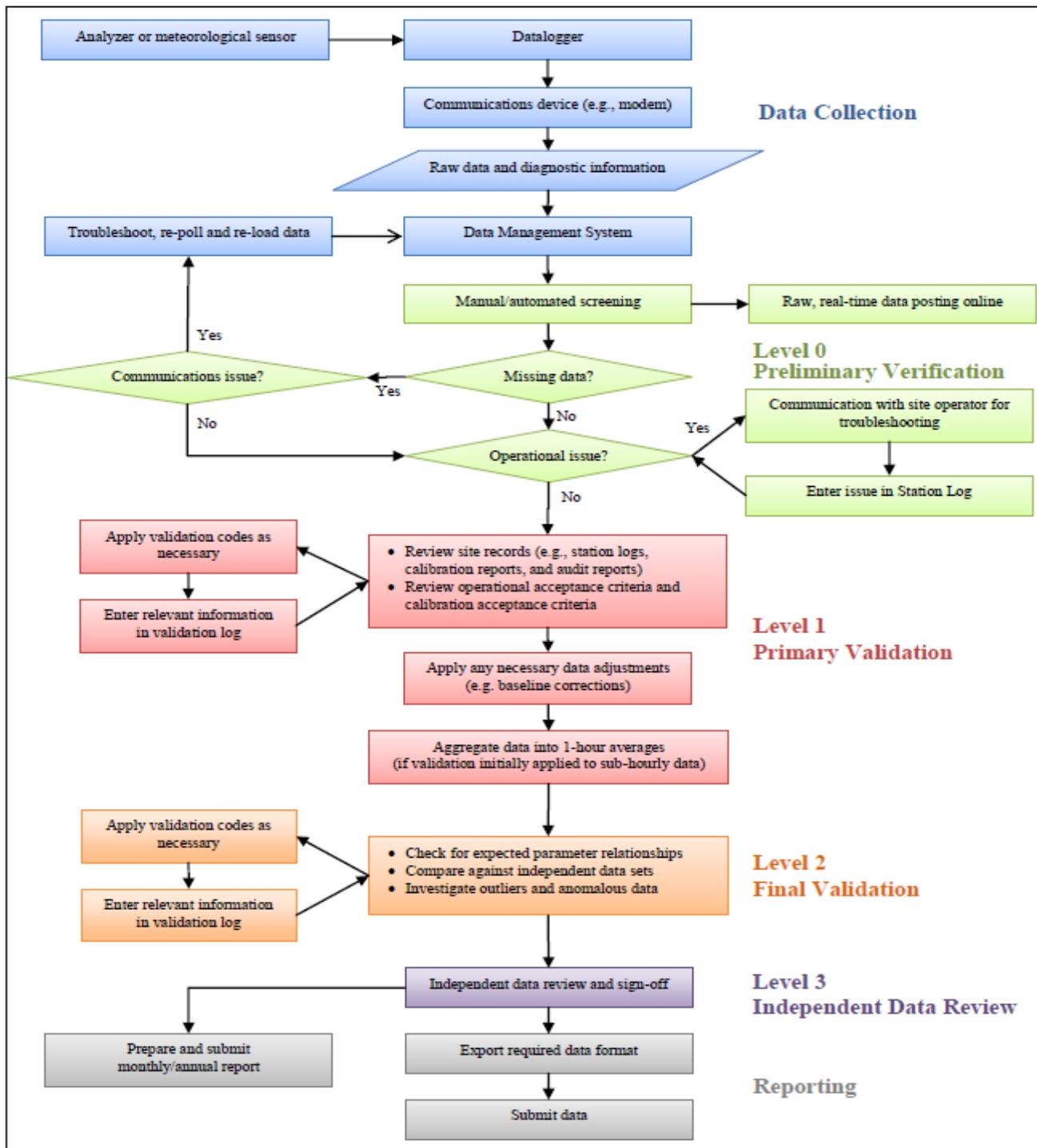
The purpose of Level 2 validation is to verify that there are no inconsistencies among related data, or among regional data measured at nearby sites.

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

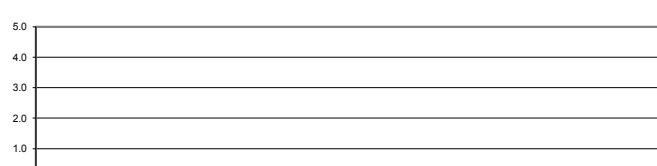
SULPHUR DIOXIDE

SULPHUR DIOXIDE Hourly Averages (SO₂ ppb)

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-HOUR AVG.	RDGS.
HOUR START	0:00	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				
HOUR END	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.2	0.3	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.1	0.0	0.0	0.3	0.1	24	
6	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.1	0.0	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	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	24	
9	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	
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	
11	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.2	0.3	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.1	24	
12	0.0	0.0	0.2	0.1	S	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	24	
13	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	C	C	C	C	0.3	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	24
14	0.0	0.1	S	0.1	0.2	0.0	0.2	0.3	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.4	0.1	24
15	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	0.0	0.0	24
16	S	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	24	
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	24	
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	0.0	0.2	0.2	0.1	0.0	S	0.0	0.0	0.0	0.0	0.0	0.2	0.0	24
20	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.0	0.1	0.2	0.0	0.0	0.1	0.1	0.1	0.0	0.2	0.0	S	0.0	0.0	0.0	0.0	0.0	0.3	0.1	24
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	S	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	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	0.0	1.1	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	24
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	
26	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	S	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	24
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	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
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	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	0.0	0.0	0.0	0.4	0.0	24	
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	0.1	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	
HOURLY MAX	0.0	0.1	0.2	0.1	0.3	0.3	0.4	0.3	0.2	0.0	0.2	1.1	0.2	0.3	0.4	0.4	0.2	0.1	0.1	0.0	0.1	0.0						
HOURLY AVG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

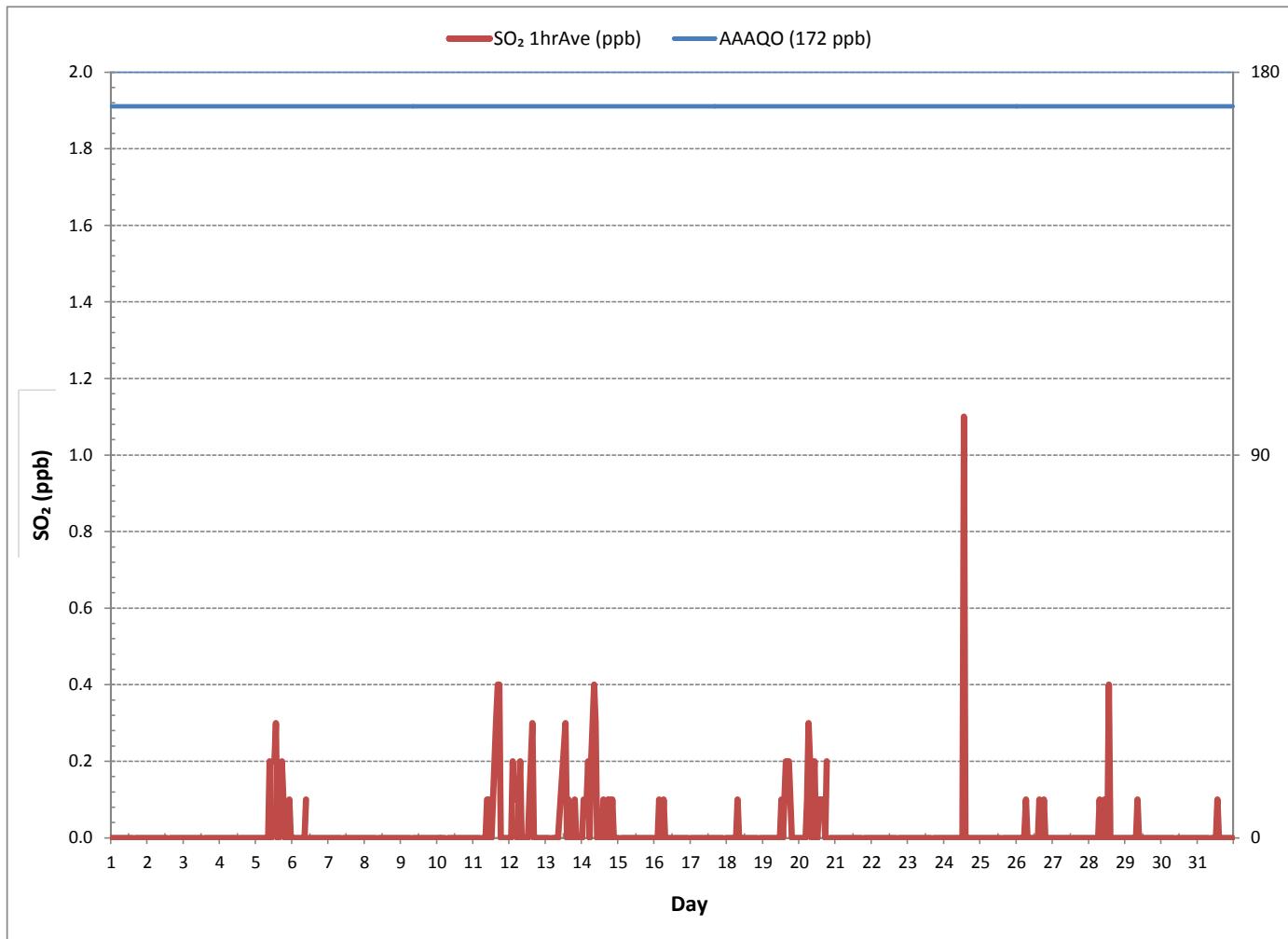
24 HOUR AVERAGES FOR October 2016



NUMBER OF 1-HR EXCEEDANCES:	64
MINIMUM 1-HR AVERAGE	0.0 PPB @ HOUR(S)
MAXIMUM 1-HR AVERAGE:	1.1 PPB @ HOUR(S)
MAXIMUM 24-HR AVERAGE:	0.1 PPB
IZS CALIBRATION TIME:	32 HRS
MONTHLY CALIBRATION TIME:	4 HRS
STANDARD DEVIATION:	0.07
OPERATIONAL TIME:	744 HRS
AMD OPERATION UPTIME:	100.0 %
MONTHLY AVERAGE:	0.0 PPB

ALBERTA ENVIRONMENT:	1-HR	172	PPB	24-HR	48	PPB
NUMBER OF 1-HR EXCEEDANCES:	0					
NUMBER OF 24-HR EXCEEDANCES:	0					
NUMBER OF NON-ZERO READINGS:	64					
MINIMUM 1-HR AVERAGE	0.0 PPB @ HOUR(S)					
MAXIMUM 1-HR AVERAGE:	1.1 PPB @ HOUR(S)					
MAXIMUM 24-HR AVERAGE:	0.1 PPB					
ON DAY(S)						
ON DAY(S)						
ON DAY(S)						
VAR-VARIOUS						
Izs Calibration Time:	32 Hrs					
Monthly Calibration Time:	4 Hrs					
Standard Deviation:	0.07					
Operational Time:	744 Hrs					
AMD Operation Uptime:	100.0 %					
Monthly Average:	0.0 PPB					

SULPHUR DIOXIDE Hourly Averages (SO_2 ppb)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - October 2016

SULPHUR DIOXIDE Instantaneous Maximum (SO₂ ppb)

MST		SULPHUR DIOXIDE Instantaneous Maximum (SO ₂ ppb)																								DAILY MAX.	DAILY MIN.	24-HOUR AVG.	RDGS.							
HOUR START	HOUR END	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											
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		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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							
2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24							
3		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24							
4		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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							
7		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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							
10		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24							
11		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	24							
12		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24							
13		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	24							
14		0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.5	1.1	0.5	0.0	0.2	0.0	0.2	0.5	0.2	0.0	0.2	0.5	0.2	0.2	0.0	0.2	0.0	0.2	0.0	1.1	0.2	24						
15		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.2	0.2	24							
16		S	0.2	0.2	0.5	0.5	0.5	0.8	0.5	0.0	0.2	0.2	0.2	0.5	0.2	0.2	0.2	0.5	0.2	0.2	0.5	0.5	0.2	0.2	S	0.0	0.8	0.3	24							
17		0.2	0.2	0.2	0.0	0.0	0.0	0.5	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.1	24							
18		0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.2	0.2	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	0.2	0.1	24						
19		0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.5	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.1	24					
20		0.0	0.0	0.0	0.0	0.2	0.2	0.5	0.2	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.2	24					
21		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	24						
22		0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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					
23		0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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					
24		0.0	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	P	0.5	0.5	S	0.5	0.5	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.2	24			
25		0.5	0.5	0.2	0.2	0.2	0.5	0.5	0.5	0.5	0.2	0.5	0.5	0.5	0.5	0.2	S	0.5	0.5	0.5	0.2	0.2	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	24		
26		0.2	0.5	0.5	0.2	0.2	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	S	0.5	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	24		
27		0.5	0.5	0.5	0.5	0.2	0.5	0.5	0.5	0.8	0.5	0.5	0.5	0.5	0.5	0.5	S	0.5	0.5	0.5	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.2	0.8	0.4	24			
28		0.5	0.5	0.2	0.2	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	S	0.8	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.8	0.5	24		
29		0.2	0.2	0.5	0.2	0.2	0.5	0.5	0.8	0.5	0.5	0.2	0.5	0.2	0.2	0.2	S	0.2	0.2	0.5	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	0.8	0.3	24
30		0.5	0.2	0.2	0.5	0.5	0.2	0.2	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	S	0.5	0.5	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2	1.1	0.5	24			
31		0.8	0.5	0.5	0.5	0.8	0.8	0.8	0.8	0.5	0.8	0.5	0.8	0.5	0.8	1.1	S	0.5	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2	1.1	0.6	24		
	HOURLY MAX	0.8	0.5	0.5	0.5	0.5	0.8	0.8	0.8	1.1	0.5	0.8	0.5	0.8	1.1	0.8	S	0.5	0.5	0.5	0.5	0.8	0.8	0.8	0.8	0.8	0.5	0.8								
	HOURLY AVG	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	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	0.1	0.1	0.1	0.1	0.1							

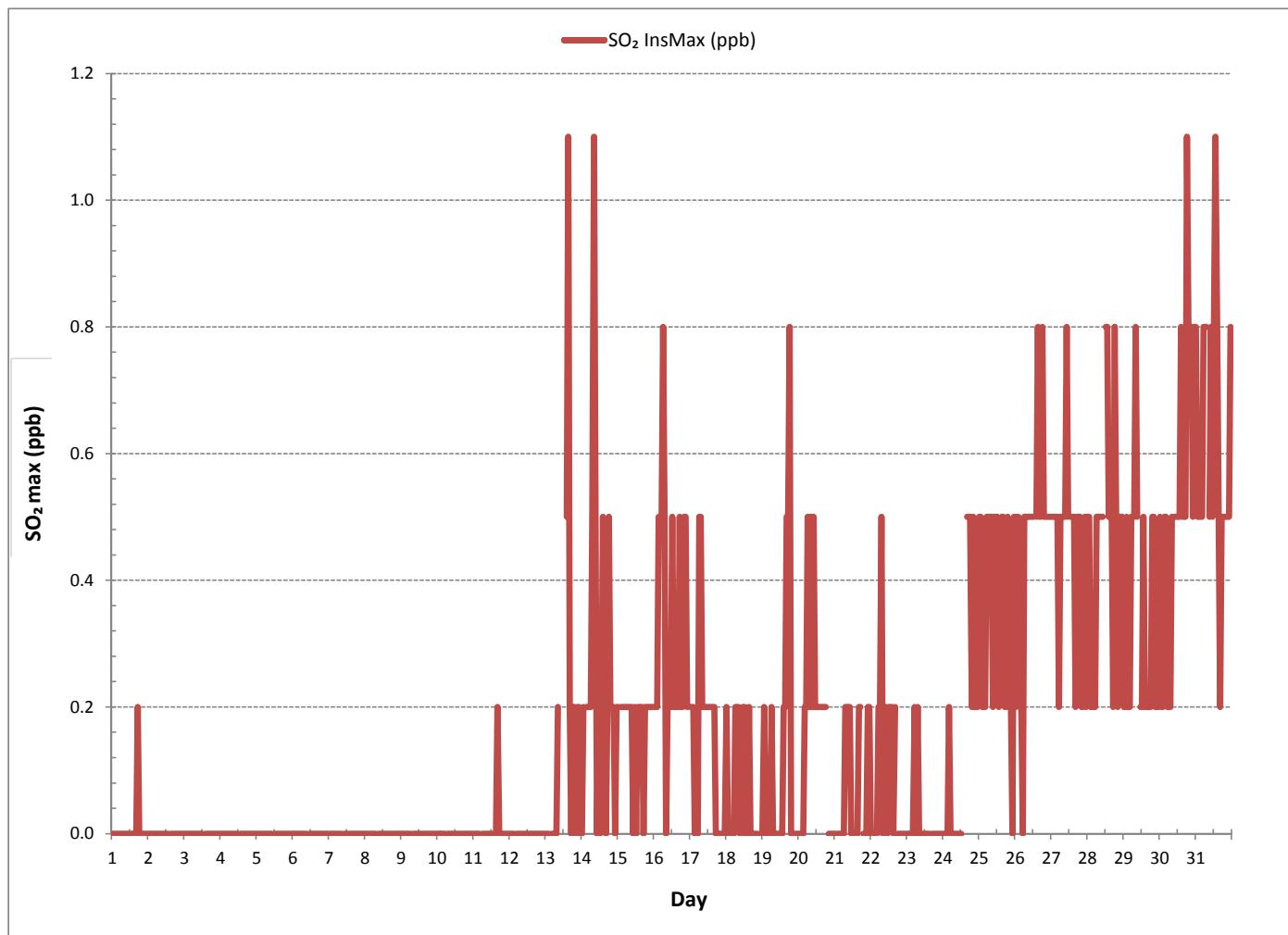
STATUS FLAG CODES

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

NUMBER OF NON-ZERO READINGS:	299			
MAXIMUM INSTANTANEOUS VALUE:	1.1	PPB	@ HOUR(S)	VAR
OPERATIONAL TIME:	743	HRS	ON DAY(S)	VAR
VAR-VARIOUS				
I2S CALIBRATION TIME:	32	HRS		
MONTHLY CALIBRATION TIME:	5	HRS		
STANDARD DEVIATION:	0.23			

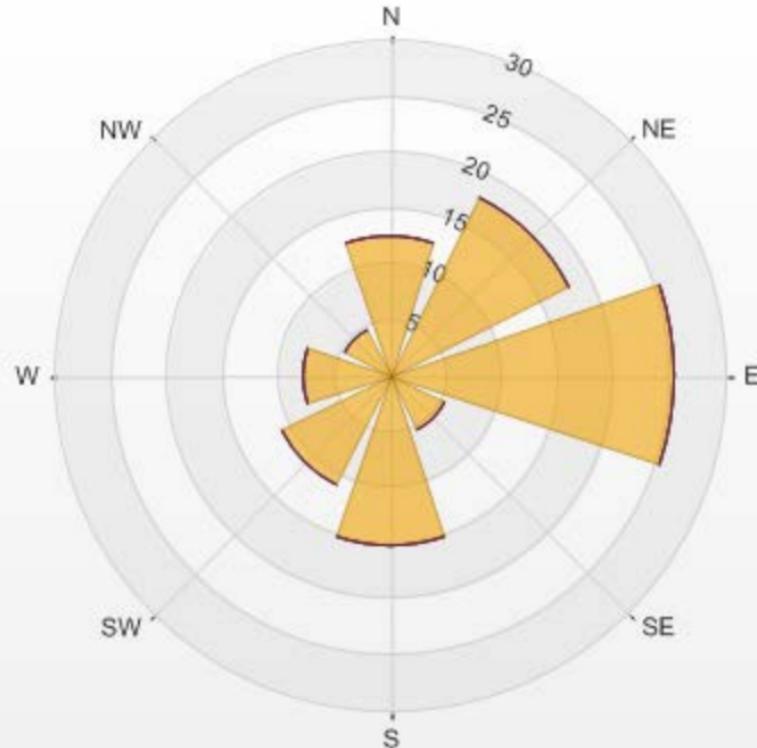
SULPHUR DIOXIDE Instantaneous Maximum (SO₂ ppb)



Wind: PRAMP RENO TRAILER Poll.: PRAMP RENO TRAILER-SO2[ppb] Monthly: 2016/10 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 91.80% Calm Avg: 0.00 ppb

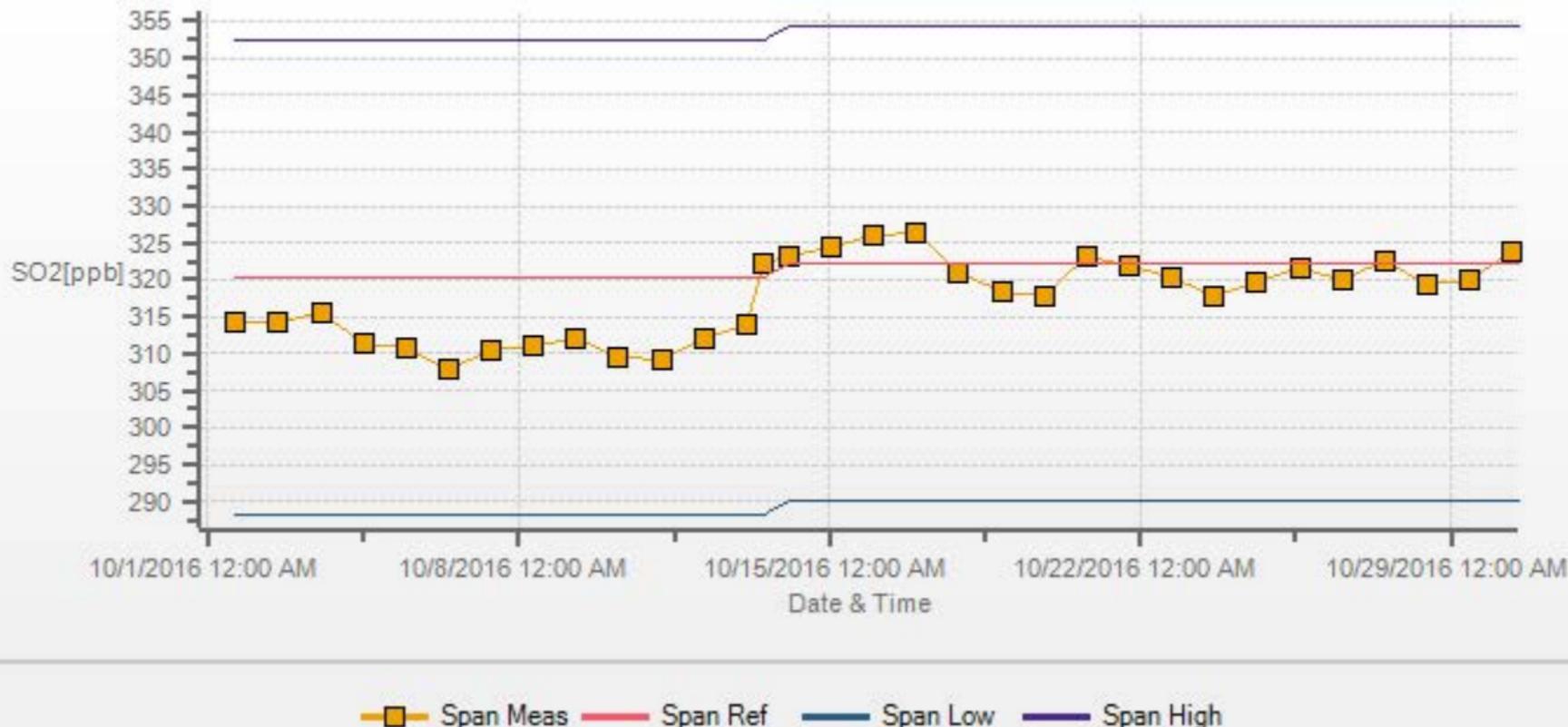
Direction	0-3	3-10	10-85	85-170	>170.0	Total
N	12.45	0	0	0	0	12.45
NE	17.86	0	0	0	0	17.86
E	25.48	0	0	0	0	25.48
SE	5.56	0	0	0	0	5.56
S	15.23	0	0	0	0	15.23
SW	10.98	0	0	0	0	10.98
W	7.91	0	0	0	0	7.91
NW	4.54	0	0	0	0	4.54
Summary	100	0	0	0	0	100

PRAMP RENO TRAILER Poll.: PRAMP RENO TRAILER-SO2[ppb] 2016/10/01 00:00 - 2016/10/31 23:00 Calm:
0.00%



% Icon Classes (ppb)	100	0-3	0	3-10	0	10-85	0	85-170	0	>170.0
JOB #:	196-2016-10-93-C									

SO2[ppb] Calibration: PRAMP RENO TRAILER Monthly: 2016/10 Type: Span



TOTAL REDUCED SULPHUR



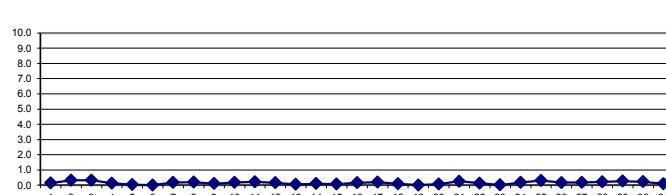
PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - October 2016

TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)

MST		TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)																								DAILY MIN.	DAILY MAX.	24-HOUR AVG.	RDGS.	
HOUR START	HOUR END	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					
DAY																														
1		0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.1	S	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.0	0.3	0.1	24		
2		0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	S	0.2	0.3	0.2	0.3	0.2	0.3	0.7	0.7	0.6	0.7	0.5	0.2	0.7	0.3	24	
3		0.4	0.7	0.7	0.6	0.6	0.7	0.5	0.4	0.5	0.4	0.1	0.1	0.1	S	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.7	0.3	24
4		0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	S	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.0	0.2	0.1	24	
5		0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	24	
6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	
7		0.0	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	S	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.0	0.3	0.2	24	
8		0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	S	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.0	0.3	0.2	24		
9		0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	S	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.0	0.2	0.1	24		
10		0.2	0.2	0.2	0.2	0.3	0.2	S	0.1	0.2	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.3	0.2	24	
11		0.2	0.2	0.1	0.2	0.3	S	0.4	0.4	0.2	0.1	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.3	0.2	0.1	0.4	0.2	24	
12		0.5	0.3	0.3	0.3	S	0.2	0.2	0.2	0.1	S	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.0	0.5	0.2	24	
13		0.1	0.1	0.1	S	0.0	0.0	0.0	0.0	C	C	C	C	C	C	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	24
14		0.1	0.1	S	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.2	0.1	24		
15		0.1	S	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	24		
16		S	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	S	0.1	0.2	24		
17		0.2	0.1	0.0	0.0	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	S	0.4	0.0	0.4	0.2		
18		0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.0	0.2	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	24		
19		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.1	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.2	S	0.1	0.1	0.1	0.1	0.0	0.2	0.1	24	
21		0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	S	0.4	0.4	0.2	0.4	0.1	0.4	0.3	24	
22		0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.0	0.0	0.1	0.1	S	0.1	0.0	0.0	0.0	0.0	0.3	0.1	24	
23		0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.1	0.0	24	
24		0.0	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	S	0.2	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.0	0.3	0.2	24
25		0.2	0.2	0.4	0.3	0.2	0.2	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	S	0.2	0.3	0.5	0.3	0.3	0.3	0.3	0.3	0.2	0.5	0.3	24		
26		0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	S	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.0	0.3	0.2	24		
27		0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2	S	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.1	0.3	0.2	24		
28		0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	S	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.1	0.3	0.2	24		
29		0.2	0.3	0.4	0.3	0.3	0.3	0.3	0.3	S	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.4	0.3	24			
30		0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	S	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.4	0.2	24			
31		0.3	0.2	0.2	0.1	0.2	0.2	0.2	S	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.3	0.1	24			
HOURLY MAX		0.5	0.7	0.7	0.6	0.6	0.7	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.5	0.3	0.7	0.7	0.6	0.7	0.5					
HOURLY AVG		0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.3	0.1	24		

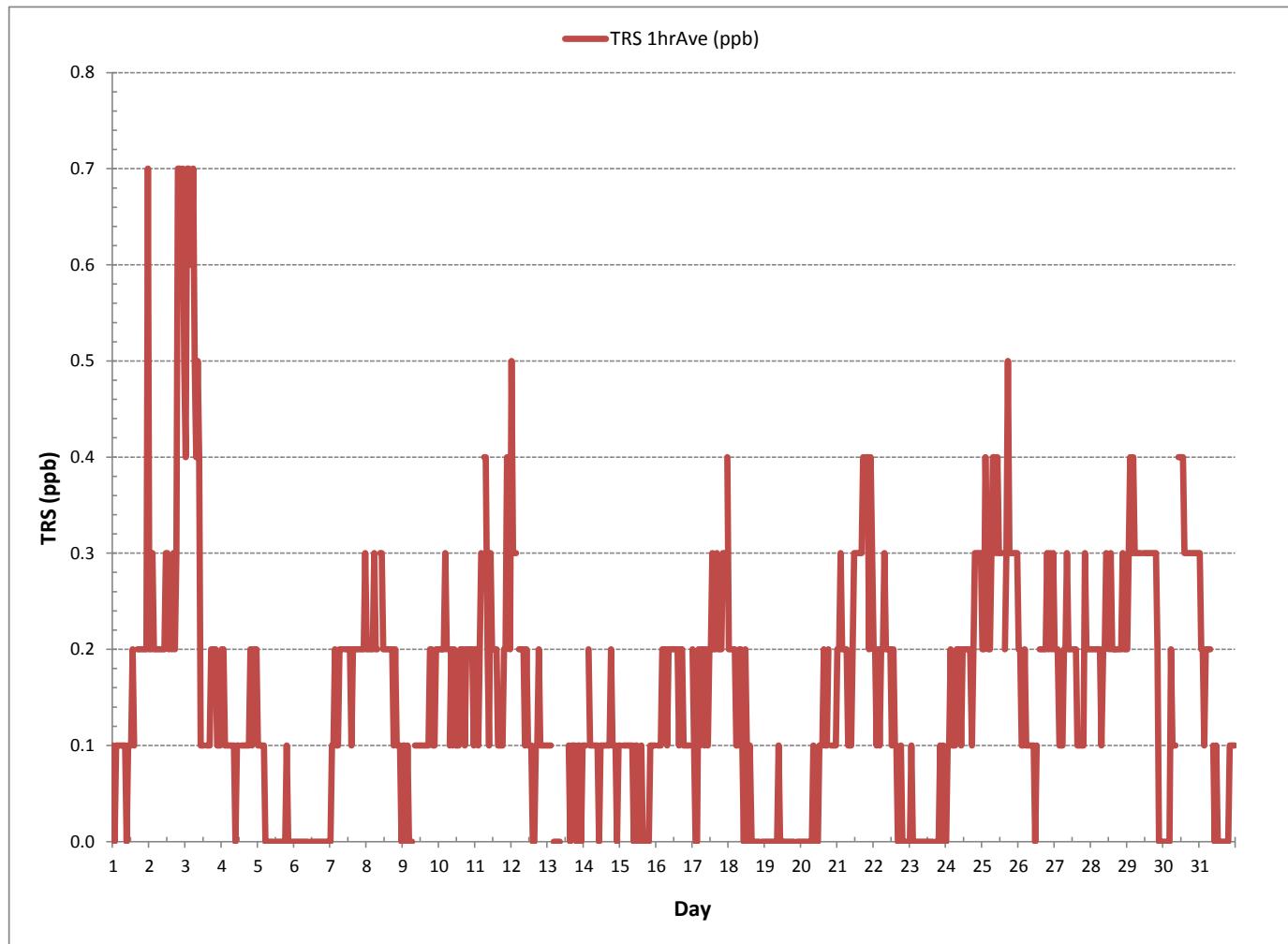
24 HOUR AVERAGES FOR October 2016



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	548		
MINIMUM 1-HR AVERAGE	0.0	PPB @ HOUR(S)	VAR
MAXIMUM 1-HR AVERAGE:	0.7	PPB @ HOUR(S)	ON DAY(S) 2 , 3
MAXIMUM 24-HR AVERAGE:	0.3	PPB	ON DAY(S) VAR
			VAR-VARIOUS
I2S CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME: 100.0 %
STANDARD DEVIATION:	0.12		MONTHLY AVERAGE: 0.2 PPB

TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - October 2016

TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS ppb)

MST		TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS ppb)																								DAILY MIN.	DAILY MAX.	24-HOUR AVG.	RDGS.
HOUR START	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					
HOUR END	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	0.3	0.1	0.3	0.2	0.2	0.3	0.4	0.3	0.2	0.1	0.1	0.3	0.3	0.4	0.3	0.3	0.4	0.2	0.2	0.3	0.3	0.3	0.4	0.1	0.4	0.3	24		
2	0.2	0.4	0.3	0.2	0.3	0.1	0.3	0.2	0.3	0.2	0.2	0.3	0.2	0.4	0.3	0.4	0.5	0.3	0.3	0.4	0.2	0.4	0.4	0.1	0.8	0.4	24		
3	0.5	0.9	0.9	0.8	0.6	0.8	0.7	0.5	0.5	0.5	0.5	0.3	0.2	0.1	S	0.4	0.4	0.3	0.3	0.3	0.4	0.2	0.4	0.1	0.9	0.5	24		
4	0.4	0.3	0.3	0.3	0.4	0.2	0.4	0.3	0.2	0.4	0.4	0.3	0.3	0.2	S	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.4	0.3	0.2	0.4	0.3	24	
5	0.4	0.2	0.3	0.4	0.6	0.2	0.4	0.4	0.2	0.2	0.2	S	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.4	0.3	0.3	0.3	0.4	0.1	0.6	0.3	24	
6	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.2	0.3	0.3	0.3	S	0.3	0.3	0.2	0.5	0.4	0.2	0.4	0.2	0.3	0.3	0.2	0.5	0.3	0.2	24		
7	0.4	0.4	0.3	0.3	0.4	0.4	0.3	0.4	S	0.4	0.3	0.4	0.3	0.2	0.2	0.3	0.3	0.4	0.3	0.3	0.3	0.5	0.2	0.5	0.3	24			
8	0.2	0.4	0.3	0.3	0.3	0.7	0.4	0.3	S	0.4	0.5	0.3	0.4	0.2	0.3	0.5	0.2	0.3	0.4	0.3	0.4	0.3	0.1	0.1	0.7	0.4	24		
9	0.3	0.3	0.2	0.3	0.2	0.2	0.2	S	0.4	0.3	0.3	0.4	0.2	0.3	0.5	0.2	0.3	0.3	0.4	0.3	0.4	0.3	0.2	0.5	0.3	24			
10	0.3	0.3	0.3	0.3	0.3	0.6	S	0.3	0.4	0.3	0.3	0.3	0.3	0.6	0.3	0.3	0.3	0.3	0.5	0.4	0.3	0.3	0.4	0.3	0.6	0.3	24		
11	0.3	0.3	0.2	0.3	0.4	S	0.6	0.6	0.5	0.3	0.3	0.3	0.3	0.5	0.2	0.3	0.4	0.3	0.4	0.3	0.4	0.5	0.6	0.3	0.2	0.6	0.4	24	
12	0.8	0.4	0.5	0.6	S	0.5	0.4	0.4	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.2	0.3	0.4	0.3	0.3	0.2	0.3	0.2	0.8	0.4	24			
13	0.5	0.2	0.3	S	0.3	0.4	0.4	0.2	0.3	C	C	C	C	C	0.5	0.4	0.4	0.6	0.4	0.5	0.6	0.6	0.4	0.4	0.2	0.6	0.4	24	
14	0.4	0.5	S	0.4	0.4	0.4	0.4	0.5	0.4	0.3	0.4	0.5	0.4	0.4	0.4	0.5	0.5	0.4	0.6	0.5	0.4	0.6	0.4	0.5	0.3	0.6	0.4	24	
15	0.4	S	0.5	0.4	0.4	0.6	0.5	0.6	0.4	0.5	0.4	0.5	0.6	0.3	0.4	0.3	0.4	0.5	0.3	0.4	0.4	0.4	0.3	0.6	0.4	0.6	0.4	24	
16	S	0.3	0.5	0.4	0.5	0.6	0.4	0.5	0.4	0.6	0.5	0.5	0.4	0.4	0.5	0.4	0.4	0.6	0.3	0.5	0.4	0.4	S	0.3	0.6	0.4	24		
17	0.5	0.3	0.3	0.2	0.5	0.4	0.4	0.7	0.4	0.5	0.4	0.4	0.7	0.5	0.4	0.5	0.5	0.5	0.4	0.6	0.5	0.5	S	0.7	0.2	0.7	0.5	24	
18	0.5	0.4	0.5	0.5	0.6	0.6	0.4	0.6	0.6	0.3	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	S	0.4	0.4	0.3	0.5	24	
19	0.4	0.4	0.5	0.6	0.3	0.6	0.5	0.5	0.4	0.7	0.6	0.5	0.5	0.5	0.5	0.6	0.6	0.7	0.4	0.4	0.5	0.6	0.6	0.4	0.3	0.7	0.5	24	
20	0.4	0.6	0.4	0.5	0.4	0.5	0.6	0.6	0.4	0.4	0.6	0.4	0.5	0.5	0.6	0.4	0.5	0.5	0.8	S	0.4	0.5	0.5	0.5	0.3	0.8	0.5	24	
21	0.5	0.4	0.5	0.5	0.4	0.5	0.6	0.2	0.3	0.3	0.4	0.4	0.5	0.3	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.2	0.6	0.4	24		
22	0.4	0.3	0.3	0.3	0.5	0.5	0.4	0.4	0.4	0.4	0.6	0.7	0.4	0.6	0.5	0.5	0.4	0.4	S	0.5	0.3	0.4	0.5	0.5	0.4	0.3	0.7	0.4	24
23	0.5	0.6	0.4	0.3	0.5	0.4	0.5	0.5	0.3	0.4	0.5	0.4	0.5	0.5	0.2	S	0.7	0.5	0.5	0.5	0.5	0.4	0.6	0.2	0.7	0.5	24		
24	0.4	0.4	0.5	0.6	0.6	0.4	0.5	0.6	0.4	0.4	0.4	0.4	P	0.4	S	0.5	0.2	0.4	0.5	0.4	0.5	0.5	0.3	0.2	0.6	0.4	23		
25	0.4	0.3	0.3	0.3	0.3	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.2	0.3	S	0.2	0.5	0.5	0.4	0.4	0.3	0.4	0.4	0.3	0.2	0.5	0.4	24	
26	0.4	0.3	0.2	0.3	0.5	0.2	0.3	0.4	0.4	0.3	0.4	0.3	0.3	0.5	S	0.5	0.4	0.6	0.4	0.5	0.5	0.6	0.4	0.5	0.2	0.6	0.4	24	
27	0.5	0.4	0.4	0.4	0.3	0.4	0.6	0.3	0.5	0.3	0.5	0.2	S	0.4	0.4	0.3	0.3	0.2	0.4	0.6	0.4	0.4	0.4	0.7	0.2	0.4	24		
28	0.5	0.4	0.4	0.4	0.6	0.4	0.5	0.5	0.5	0.7	S	0.6	0.5	0.5	0.7	0.4	0.6	0.6	0.5	0.5	0.5	0.6	0.4	0.7	0.5	24			
29	0.6	0.6	0.5	0.5	0.7	0.5	0.8	0.6	0.4	0.5	S	0.5	0.5	0.4	0.3	0.4	0.4	0.6	0.4	0.5	0.5	0.5	0.4	0.2	0.8	0.5	24		
30	0.0	0.2	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2	S	0.4	0.5	0.6	0.5	0.4	0.4	0.6	0.4	0.5	0.5	0.4	0.0	0.6	0.3	24			
31	0.5	0.3	0.4	0.4	0.4	0.3	0.5	0.3	S	0.4	0.3	0.4	0.3	0.3	0.2	0.1	0.0	0.3	0.5	0.5	0.6	0.5	0.0	0.6	0.4	24			
HOURLY MAX	0.8	0.9	0.9	0.8	0.7	0.8	0.8	0.7	0.7	0.6	0.7	0.7	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.7							
HOURLY AVG	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.4	24			

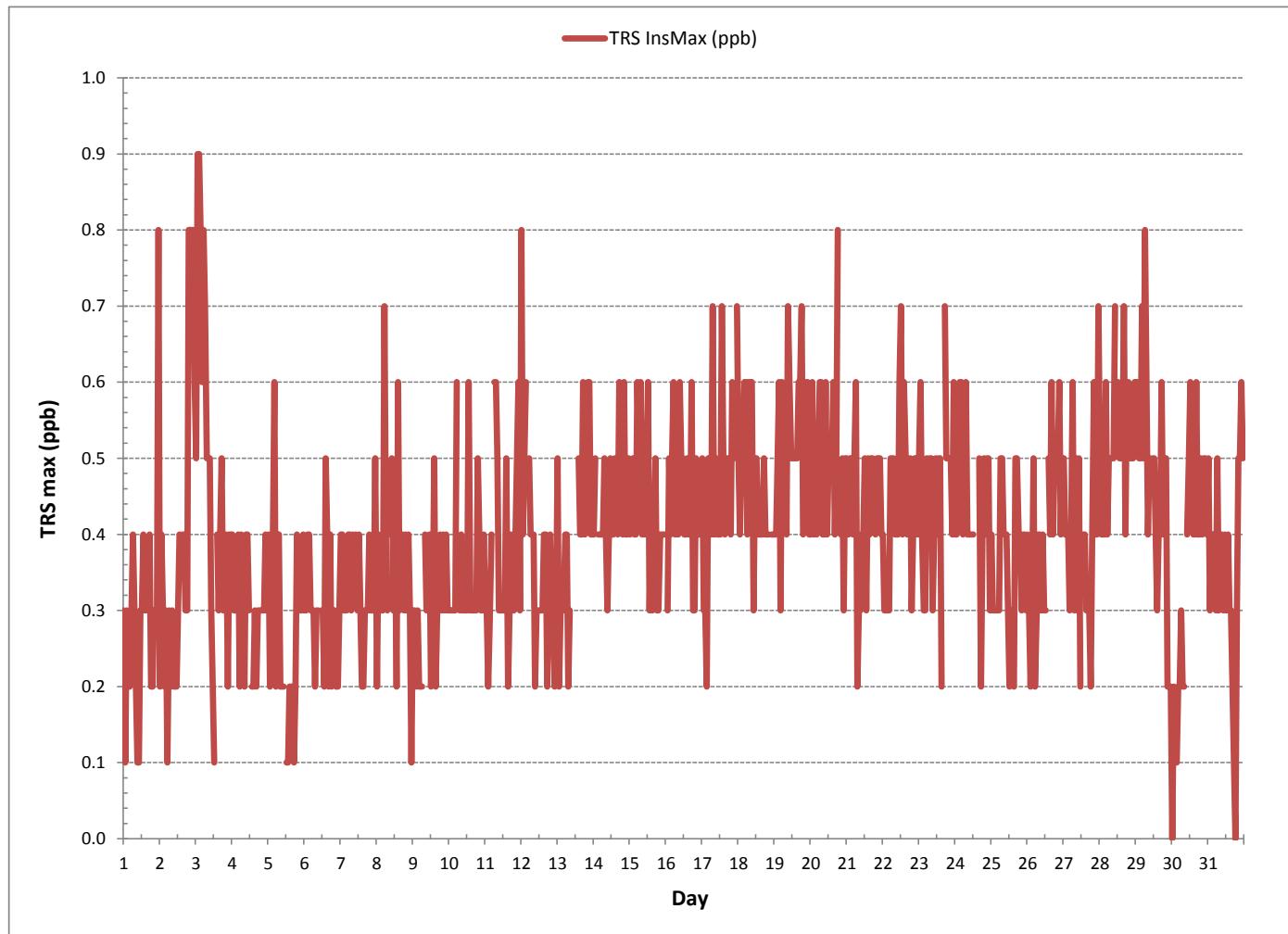
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	704
MAXIMUM INSTANTANEOUS VALUE:	0.9 PPB
@ HOUR(S)	1, 2
ON DAY(S)	3, 3
VAR-VARIOUS	
I2S CALIBRATION TIME:	32 HRS
MONTHLY CALIBRATION TIME:	5 HRS
STANDARD DEVIATION:	0.14
OPERATIONAL TIME:	743 HRS

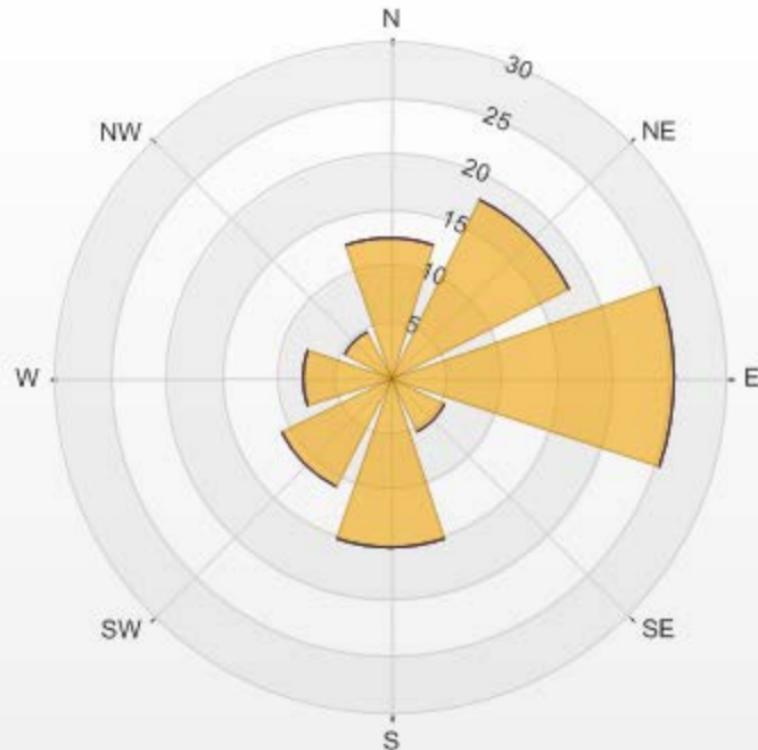
TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS ppb)



Wind: PRAMP RENO TRAILER Poll.: PRAMP RENO TRAILER-TRS[ppb] Monthly: 2016/10 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 91.80% Calm Avg: 0.00 ppb

Direction	0-1	1-3	3-10	>10.0	Total
N	12.45	0	0	0	12.45
NE	17.86	0	0	0	17.86
E	25.48	0	0	0	25.48
SE	5.56	0	0	0	5.56
S	15.23	0	0	0	15.23
SW	10.98	0	0	0	10.98
W	7.91	0	0	0	7.91
NW	4.54	0	0	0	4.54
Summary	100	0	0	0	100

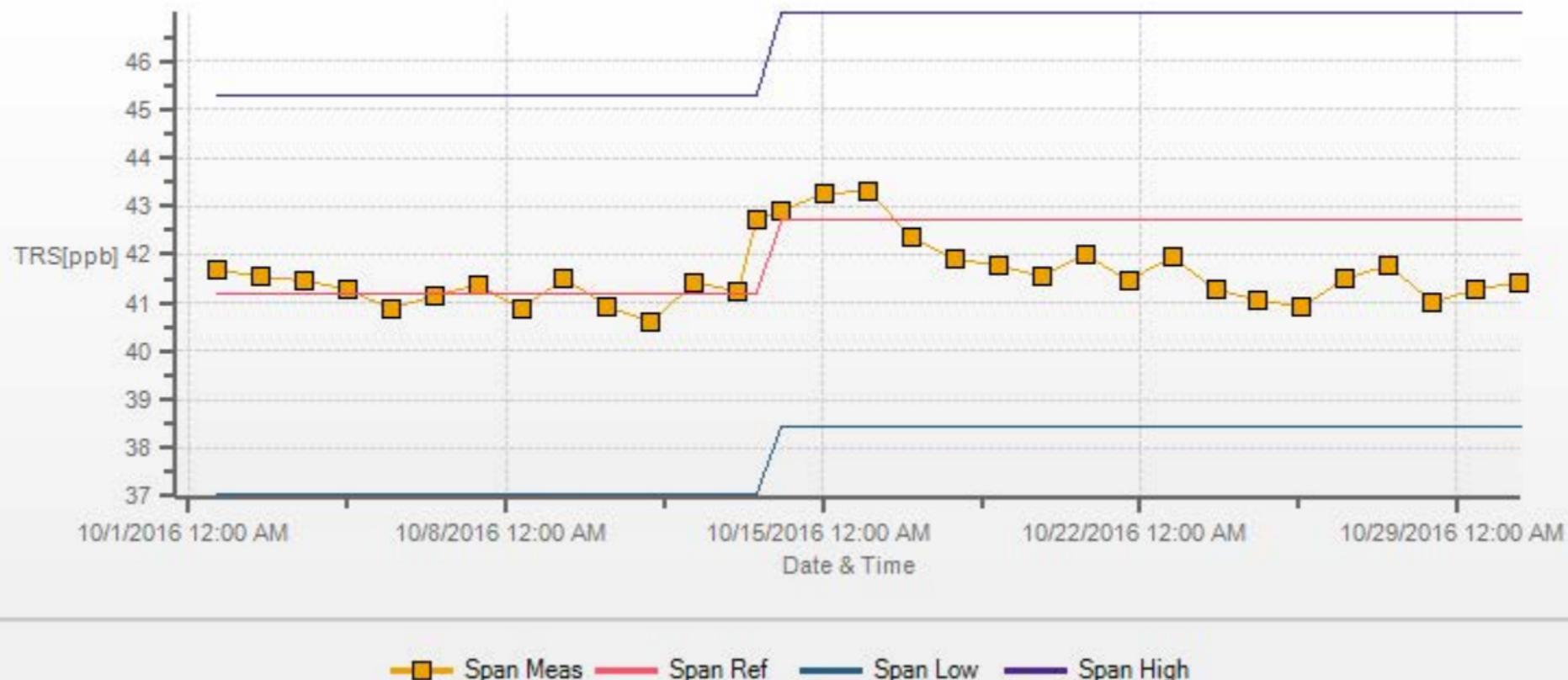
PRAMP RENO TRAILER Poll.: PRAMP RENO TRAILER-TRS[ppb] 2016/10/01 00:00 - 2016/10/31 23:00 Calm:
0.00%



JOB #: 196-2016-10-93-C

% Icon Classes (ppb) | 100 | 0-1 | 0 | 1-3 | 0 | 3-10 | 0 | >10.0 |

TRS[ppb] Calibration: PRAMP RENO TRAILER Monthly: 2016/10 Type: Span

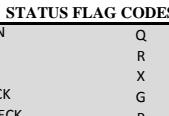


TOTAL HYDROCARBON

TOTAL HYDROCARBONS Hourly Averages (THC ppm)

MST

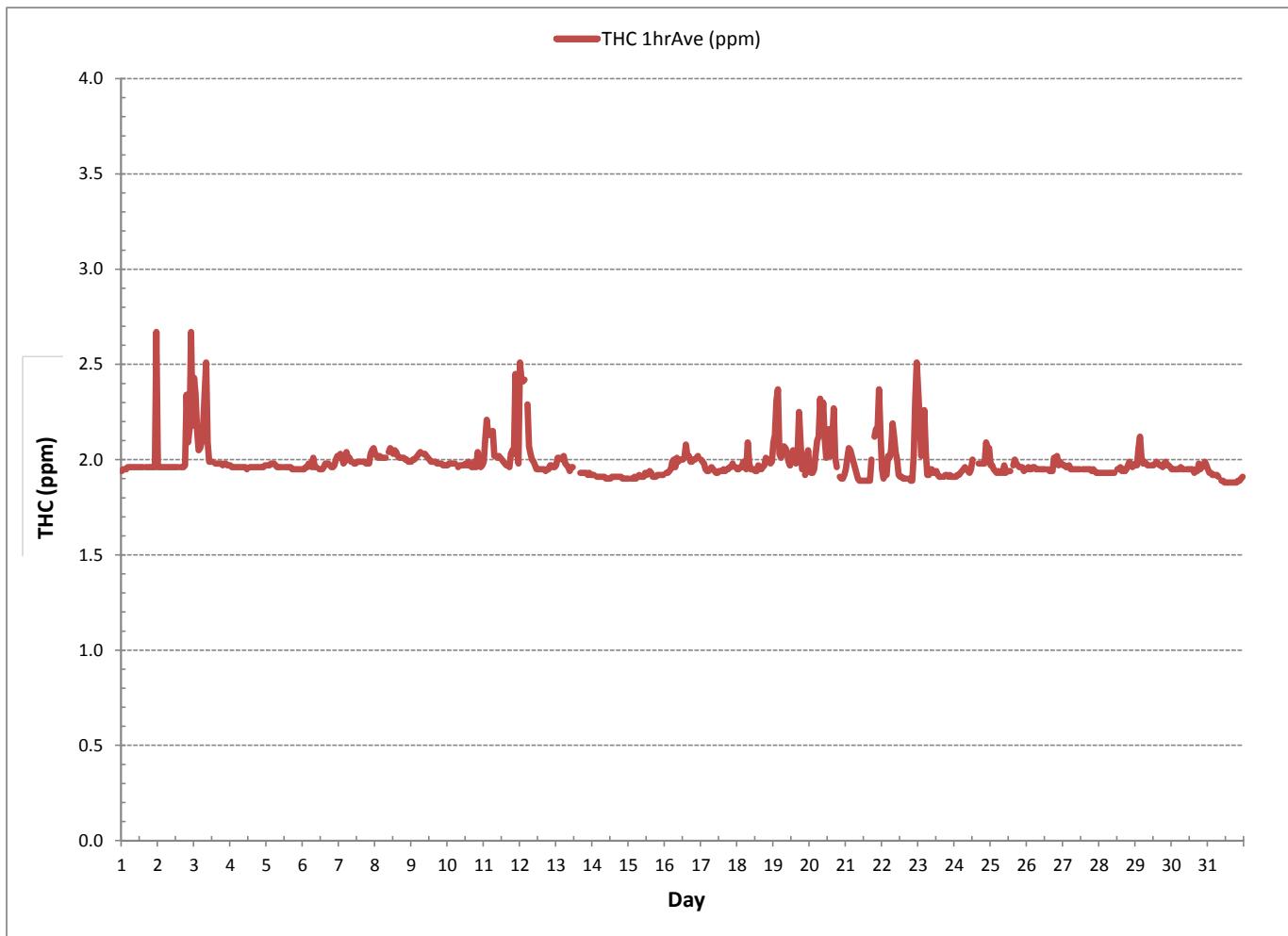
	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MIN.	DAILY MAX.	24-HOUR AVG.	RDGS.	
HOUR START	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00					
HOUR END	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	1.94	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.94	1.96	1.96	24	
2	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	2.34	2.09	2.16	2.67	2.18	1.96	2.67	2.03	24		
3	2.43	2.34	2.15	2.05	2.06	2.09	2.18	2.35	2.51	2.09	1.99	1.99	1.99	S	1.98	1.98	1.98	1.98	1.97	1.98	1.98	1.97	1.97	1.97	1.97	2.51	2.09	24	
4	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.95	S	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.96	24	
5	1.97	1.97	1.97	1.98	1.98	1.98	1.97	1.96	1.96	1.96	1.96	1.96	S	1.96	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.98	1.96	24	
6	1.95	1.95	1.96	1.96	1.98	1.97	1.96	2.01	1.96	1.96	S	1.95	1.95	1.95	1.96	1.98	1.98	1.98	1.97	1.96	1.96	1.97	2.00	2.02	1.97	24			
7	2.01	2.03	2.01	1.98	1.99	2.04	2.01	2.01	1.99	S	1.98	1.98	1.99	1.99	1.99	1.99	1.99	1.98	1.98	1.98	2.03	2.05	2.06	1.98	2.06	2.00	24		
8	2.03	2.02	2.01	2.02	2.01	2.01	2.01	2.01	S	2.04	2.06	2.05	2.03	2.05	2.04	2.02	2.01	2.01	2.01	2.00	2.00	1.99	1.99	2.06	2.02	24			
9	1.99	2.00	2.00	2.01	2.02	2.03	2.04	S	2.03	2.03	2.02	2.01	2.00	1.99	1.99	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	2.04	2.00	24			
10	1.97	1.98	1.98	1.98	1.98	S	1.96	1.97	1.97	1.97	1.97	1.98	1.97	1.99	1.97	1.96	1.96	1.99	2.04	1.97	1.96	1.96	2.04	1.98	24				
11	1.99	2.11	2.21	2.13	2.13	S	2.15	2.02	2.02	2.01	2.01	2.02	2.02	2.01	2.00	1.99	1.98	1.97	1.96	2.03	2.05	2.45	1.98	1.96	2.45	2.05	24		
12	2.51	2.42	2.41	2.42	S	2.29	2.07	2.03	2.00	1.99	1.97	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.94	2.51	2.07	24		
13	1.97	2.01	2.01	S	2.00	2.02	1.98	1.97	1.96	1.94	1.96	1.96	C	C	C	C	1.93	1.93	1.93	1.93	1.92	1.93	1.92	1.92	2.02	1.96	24		
14	1.92	1.92	S	1.91	1.91	1.91	1.91	1.91	1.91	1.90	1.90	1.90	1.90	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.90	1.90	1.90	1.92	1.91	24		
15	1.90	S	1.90	1.90	1.91	1.91	1.90	1.91	1.91	1.91	1.91	1.91	1.91	1.92	1.93	1.94	1.93	1.91	1.91	1.91	1.92	1.92	1.92	1.92	1.90	1.94	1.92	24	
16	S	1.93	1.93	1.94	1.95	1.99	2.00	1.96	2.01	1.99	2.00	2.00	2.00	2.01	2.08	2.02	2.02	1.99	1.99	2.00	2.00	2.01	2.02	S	1.93	2.08	1.99	24	
17	2.00	1.99	1.98	1.95	1.94	1.94	1.95	1.96	1.95	1.94	1.93	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.96	1.96	1.98	S	1.96	1.93	2.00	1.95	24		
18	1.95	1.95	1.96	1.96	1.99	1.96	1.95	2.09	1.98	1.95	1.95	1.95	1.94	1.94	1.94	1.95	1.96	1.96	1.97	2.01	2.00	S	1.98	1.99	1.94	2.09	1.97	24	
19	2.09	2.13	2.31	2.37	2.03	2.01	2.03	2.07	2.06	2.04	1.99	1.97	2.02	2.05	2.04	1.98	2.03	2.25	2.09	1.95	S	1.92	2.00	2.05	1.92	2.37	2.06	24	
20	1.94	1.93	1.93	1.95	2.03	2.10	2.12	2.32	2.16	2.30	2.11	2.01	2.16	2.02	2.10	2.27	2.01	1.96	1.95	1.91	1.90	1.90	1.92	1.90	2.32	2.05	24		
21	1.95	2.01	2.06	2.05	2.02	1.99	1.96	1.93	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	2.00	S	2.12	2.16	2.15	2.37	2.13	1.89	2.37	2.00	24	
22	1.95	1.90	1.93	1.92	2.02	2.01	2.05	2.19	2.12	2.04	2.00	1.92	1.91	1.91	1.90	1.90	1.90	S	1.90	1.89	2.02	2.31	2.51	1.89	2.51	2.00	24		
23	2.36	2.21	2.02	2.07	2.26	2.04	1.92	1.92	1.95	1.95	1.95	1.93	1.94	1.94	1.92	1.91	1.91	1.91	1.92	1.92	1.91	1.91	1.91	1.91	2.36	1.98	24		
24	1.91	1.91	1.92	1.92	1.93	1.94	1.95	1.96	1.95	1.94	1.93	1.95	2.00	R	2.01	S	1.98	1.98	1.98	1.98	1.98	2.09	2.06	1.91	2.09	1.97	23		
25	1.97	1.97	1.95	1.94	1.93	1.94	1.94	1.93	1.97	1.93	1.94	1.94	1.94	1.94	1.94	1.94	1.97	1.96	1.96	1.96	1.96	1.96	1.95	1.93	2.00	1.95	24		
26	1.95	1.96	1.95	1.95	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	S	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	2.02	1.96	24
27	1.97	1.97	1.96	1.96	1.97	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	S	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.97	1.95	24	
28	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	S	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.93	1.94	24			
29	1.98	1.97	2.06	2.12	2.01	1.98	1.99	1.98	1.97	S	1.97	1.97	1.98	1.99	1.98	1.97	1.97	1.96	1.98	1.99	1.97	1.97	1.96	1.96	2.12	1.99	24		
30	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.95	1.95	S	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.93	1.95	1.95	24		
31	1.95	1.93	1.93	1.92	1.92	1.92	1.91	1.91	S	1.89	1.89	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.89	1.89	1.90	1.91	1.88	1.95	1.90	24	
HOURLY MAX	2.51	2.42	2.41	2.42	2.26	2.29	2.18	2.35	2.51	2.30	2.11	2.05	2.06	2.16	2.08	2.10	2.27	2.25	2.09	2.34	2.16	2.45	2.67	2.51	2.51	2.00	24		
HOURLY AVG	2.01	2.01	2.01	2.00	1.99	1.99	1.99	2.00	2.00	1.98	1.96	1.96	1.96	1.96	1.97	1.96	1.97	1.97	1.96	1.96	1.97	2.02	2.00	1.96	2.00	2.00	24		



NUMBER OF NON-ZERO READINGS:	707

<tbl_r cells="2" ix="3" maxcspan

TOTAL HYDROCARBONS Hourly Averages (THC ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - October 2016

TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)

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-HOUR AVG.	RDGS.		
HOUR START	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	1.96	1.96	1.96	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.97	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.96	1.98	1.97	24		
2	1.98	1.98	1.98	1.97	1.98	1.97	1.98	1.98	1.97	1.97	1.97	1.98	1.98	1.97	1.97	1.98	1.97	1.98	1.98	2.04	2.60	2.24	2.38	3.67	2.90	1.97	3.67	2.15	24	
3	3.18	3.03	2.35	2.15	2.16	2.24	2.65	4.45	3.48	2.32	2.00	2.02	2.02	S	2.00	2.00	2.00	2.00	2.00	1.99	2.00	2.00	2.00	1.99	1.99	1.99	4.45	2.35	24	
4	1.99	1.98	1.98	1.98	1.98	1.99	1.97	1.97	1.98	1.97	1.97	1.97	1.97	S	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.99	1.99	1.97	1.99	1.98	24
5	1.99	1.98	2.00	2.00	2.05	1.99	1.98	1.98	1.97	1.97	S	1.98	1.98	1.97	1.98	1.98	1.97	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	2.05	1.98	24		
6	1.97	1.97	1.97	1.98	2.04	2.00	1.98	2.11	2.00	2.00	S	1.96	1.97	1.97	1.98	2.02	2.01	2.00	1.99	1.98	1.98	1.99	2.04	2.06	1.96	2.11	2.00	24		
7	2.08	2.09	2.09	2.02	2.05	2.14	2.07	2.05	2.04	S	2.02	2.02	2.01	2.02	2.02	2.02	2.02	2.02	2.02	2.00	1.99	2.00	2.10	2.11	1.99	2.14	2.05	24		
8	2.08	2.06	2.03	2.08	2.03	2.02	2.02	2.02	S	2.08	2.09	2.10	2.08	2.09	2.10	2.04	2.03	2.02	2.02	2.02	2.02	2.02	2.00	2.10	2.05	24				
9	2.00	2.02	2.02	2.03	2.05	2.05	2.07	S	2.06	2.05	2.04	2.02	2.02	2.01	2.00	2.00	2.00	2.00	2.00	1.99	1.99	1.98	1.98	2.07	2.02	24				
10	1.99	1.99	1.99	2.00	2.01	2.00	S	1.98	1.99	1.98	1.99	1.99	2.03	2.01	2.04	2.08	1.98	1.99	2.14	1.99	1.98	2.07	1.98	2.14	2.01	24				
11	2.20	2.26	2.45	2.24	2.20	S	2.28	2.11	2.03	2.03	2.03	2.03	2.02	2.02	1.99	1.99	1.98	1.98	2.29	2.34	3.22	3.14	2.01	1.98	3.22	2.23	24			
12	3.90	2.77	3.13	3.05	S	2.70	2.13	2.08	2.02	2.00	1.99	1.97	1.97	1.97	1.97	1.97	1.96	1.96	2.05	2.03	1.97	1.97	1.96	3.90	2.24	24				
13	2.02	2.05	2.04	S	2.05	2.07	2.02	2.02	1.99	1.98	2.02	1.98	C	C	C	C	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.94	2.07	1.99	24		
14	1.94	1.93	S	1.93	1.93	1.93	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.93	1.93	1.94	1.93	1.93	1.95	1.92	1.92	1.92	1.92	1.92	1.95	1.93	24			
15	1.92	S	1.92	1.92	1.93	1.97	1.97	1.96	1.94	2.04	1.93	1.96	1.97	1.99	2.00	1.97	1.93	1.93	1.94	1.94	1.94	1.94	1.94	1.94	1.92	2.04	1.95	24		
16	S	2.02	1.95	1.96	1.97	2.04	2.10	1.98	2.11	2.02	2.03	2.03	2.07	2.25	2.14	2.16	2.01	2.02	2.02	2.03	2.03	S	1.95	2.25	2.04	24				
17	2.02	2.01	2.00	1.98	1.96	1.95	1.97	1.99	1.98	1.96	1.95	1.95	1.96	1.95	1.97	1.97	1.96	1.96	1.97	2.01	S	1.98	1.95	2.02	1.97	24				
18	1.97	1.98	1.97	1.99	2.02	1.98	1.97	2.39	2.11	1.97	1.98	1.98	1.96	1.99	2.04	2.01	2.07	2.02	2.12	2.13	2.06	S	2.03	2.14	1.96	2.39	2.04	24		
19	2.26	2.38	3.10	2.89	2.18	2.02	2.07	2.17	2.11	2.10	2.02	1.99	2.16	2.18	2.21	2.16	2.23	2.59	2.43	2.10	S	1.95	2.25	1.95	3.10	2.25	24			
20	2.12	1.98	1.98	2.15	2.27	2.39	2.46	5.98	2.38	2.61	2.31	2.39	2.36	3.83	2.61	2.50	2.74	2.76	1.98	S	1.96	1.92	1.92	1.94	1.92	5.98	2.50	24		
21	1.99	2.06	2.17	2.07	2.05	2.02	1.99	1.96	1.93	1.92	1.91	1.90	1.91	1.91	1.91	1.91	1.91	1.91	2.52	S	2.36	2.29	2.37	4.24	2.57	1.90	4.24	2.17	24	
22	2.34	2.02	2.11	2.07	2.15	2.39	2.39	2.51	2.61	2.38	2.16	2.00	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.92	S	1.99	1.91	2.52	2.68	3.27	1.91	3.27	2.22	24
23	3.13	2.71	2.17	2.22	3.10	2.57	1.96	1.94	1.97	1.97	1.96	1.95	1.96	1.94	1.93	1.93	1.93	1.93	1.94	1.94	1.94	1.93	1.93	1.93	3.13	2.13	24			
24	1.93	1.93	1.94	1.94	1.97	1.96	1.96	2.07	1.98	1.96	1.95	2.02	2.06	P	2.09	S	2.02	2.02	2.00	2.00	2.00	2.00	2.21	2.17	2.19	1.93	2.21	2.02	23	
25	2.04	2.03	1.97	1.96	1.96	1.99	1.99	2.03	1.99	2.07	1.96	1.96	1.97	2.02	S	2.10	2.10	2.02	1.99	1.99	1.98	1.96	1.96	1.96	2.10	2.00	24			
26	1.97	1.97	1.97	1.97	1.98	1.98	1.97	1.97	1.97	1.96	1.97	1.97	1.97	S	1.97	1.96	1.97	1.96	1.97	1.96	2.29	2.18	2.19	2.00	2.04	1.96	2.29	2.01	24	
27	1.98	2.02	2.01	2.06	2.08	1.97	1.97	1.97	1.97	1.96	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.95	1.95	2.08	1.98	24			
28	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	S	2.01	1.99	2.03	1.97	2.00	1.96	1.96	1.96	2.10	2.09	2.01	1.99	2.02	1.95	2.10	1.98	24			
29	2.00	2.07	2.20	2.32	2.34	2.02	2.15	1.99	1.98	S	1.99	2.00	2.00	2.00	1.99	1.98	2.00	2.03	2.02	2.01	2.03	1.98	1.98	2.34	2.05	24				
30	1.97	1.97	1.97	1.96	1.96	1.97	1.98	1.97	1.97	S	1.97	1.97	1.97	1.96	1.96	2.06	2.00	2.13	2.03	1.99	2.00	2.02	1.99	1.96	2.13	1.99	24			
31	1.98	1.95	1.95	1.95	1.94	1.94	1.93	S	1.92	1.91	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.91	1.92	1.93	1.90	1.98	1.92	24				
HOURLY MAX	3.90	3.03	3.13	3.05	3.10	2.70	2.65	5.98	3.48	2.61	2.31	2.39	2.36	3.83	2.61	2.50	2.74	2.76	2.43	2.60	2.34	3.22	4.24	3.27						
HOURLY AVG	2.16	2.10	2.11	2.09	2.08	2.07	2.06	2.25	2.08	2.04	2.00	2.00	2.00	2.06	2.03	2.01	2.02	2.04	2.03	2.04	2.04	2.08	2.19	2.10						

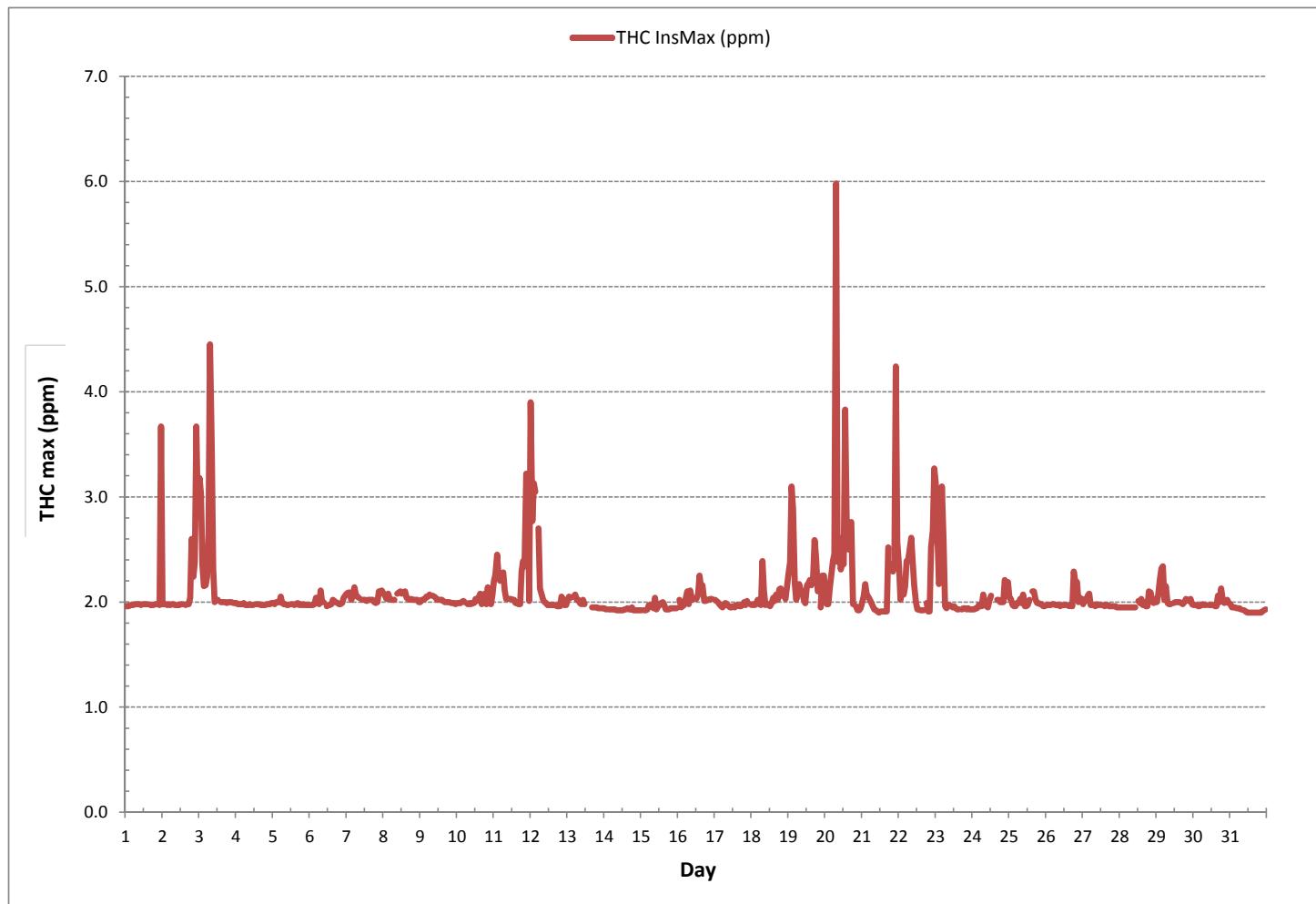
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	707
MAXIMUM INSTANTANEOUS VALUE:	5.98 PPM @ HOUR(S) 7 ON DAY(S) 20
VAR-VARIOUS	
I2S CALIBRATION TIME:	32 HRS
MONTHLY CALIBRATION TIME:	4 HRS
STANDARD DEVIATION:	0.30
OPERATIONAL TIME:	743 HRS

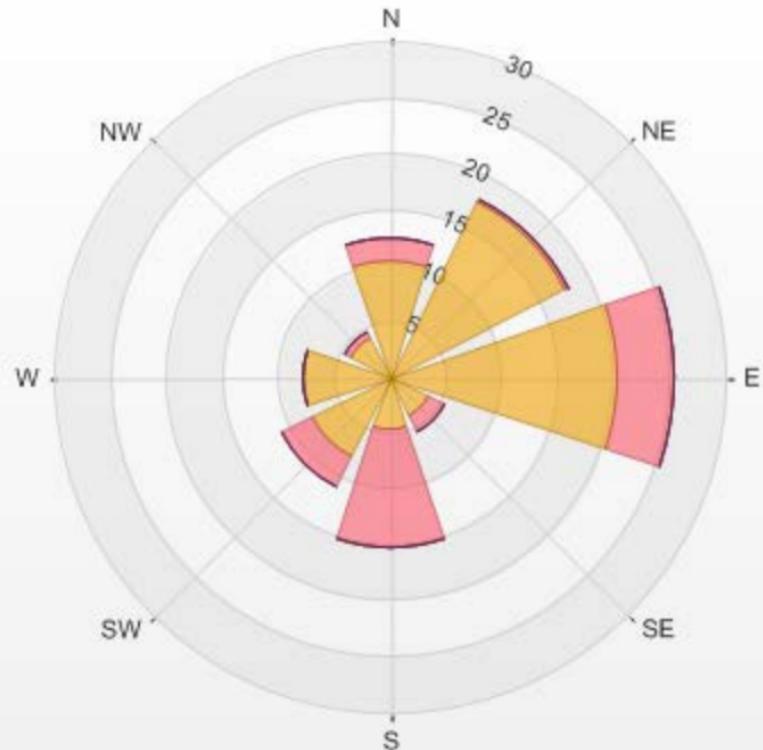
TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)



Wind: PRAMP RENO TRAILER Poll.: PRAMP RENO TRAILER-THC[ppm] Monthly: 2016/10 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 91.80% Calm Avg: 0.00 ppm

Direction	0-2	2-3	3-5	5-10	>10.0	Total
N	10.4	2.05	0	0	0	12.45
NE	17.57	0.29	0	0	0	17.86
E	20.35	5.12	0	0	0	25.47
SE	3.95	1.61	0	0	0	5.56
S	4.69	10.54	0	0	0	15.23
SW	7.91	3.07	0	0	0	10.98
W	7.91	0	0	0	0	7.91
NW	3.95	0.59	0	0	0	4.54
Summary	76.73	23.27	0	0	0	100

PRAMP RENO TRAILER Poll.: PRAMP RENO TRAILER-THC[ppm] 2016/10/01 00:00 - 2016/10/31 23:00 Calm:
0.00%

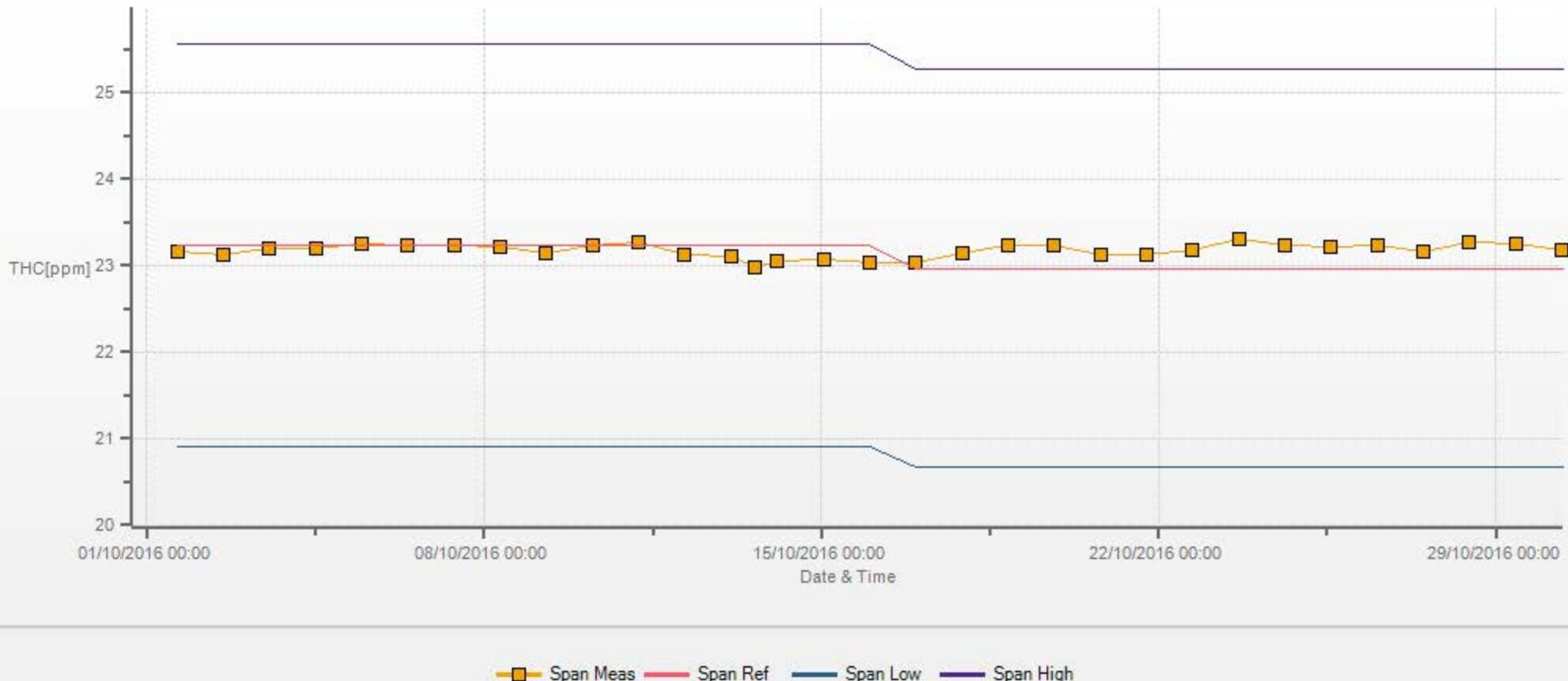


% Icon Classes (ppm)	77	0-2	23	2-3	0	3-5	0	5-10	0	>10.0
----------------------	----	-----	----	-----	---	-----	---	------	---	-------

JOB #: 196-2016-10-93-C

Page 35 of 98

THC[ppm] Calibration: PRAMP RENO TRAILER Monthly: 2016/10 Type: Span

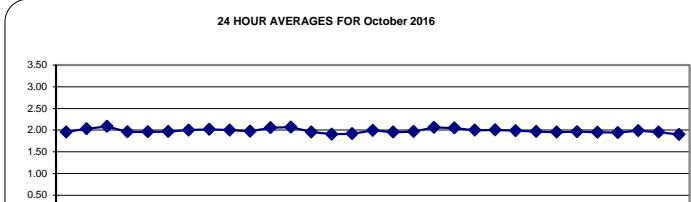


METHANE

METHANE Hourly Averages (CH₄ ppm)

MST		METHANE Hourly Averages (CH ₄ ppm)																																
HOUR START	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-HOUR AVG.	RDGS.						
HOUR END	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	1.94	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.94	1.96	1.96	24							
2	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	2.33	2.09	2.16	2.67	2.18	1.95	2.67	2.03	24						
3	2.43	2.34	2.15	2.05	2.06	2.09	2.18	2.35	2.51	2.09	1.99	1.99	1.99	1.99	S	1.98	1.98	1.98	1.98	1.97	1.98	1.98	1.97	1.97	1.97	1.97	2.51	2.09	24					
4	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.95	S	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	24					
5	1.97	1.97	1.97	1.98	1.98	1.98	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	S	1.96	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.98	1.96	24				
6	1.95	1.95	1.96	1.96	1.98	1.97	1.96	2.01	1.96	1.96	S	1.95	1.95	1.95	1.96	1.98	1.98	1.98	1.97	1.96	1.96	1.97	2.00	2.02	1.95	2.02	1.97	24						
7	2.01	2.03	2.01	1.98	1.99	2.04	2.01	2.01	1.99	S	1.98	1.98	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.98	1.98	1.98	2.03	2.05	2.06	1.98	2.00	24						
8	2.03	2.02	2.01	2.02	2.01	2.01	2.01	2.01	S	2.04	2.06	2.05	2.05	2.04	2.02	2.01	2.01	2.01	2.01	2.00	2.00	1.99	1.99	1.99	2.06	2.02	24							
9	1.99	2.00	2.00	2.01	2.02	2.03	2.04	S	2.03	2.03	2.02	2.01	2.00	1.99	1.99	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	2.04	2.00	24							
10	1.97	1.98	1.98	1.98	1.98	S	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.97	1.99	1.97	1.96	1.96	1.99	2.04	1.97	1.96	1.96	2.04	1.98	24							
11	1.99	2.11	2.21	2.13	2.13	S	2.15	2.02	2.02	2.01	2.02	2.01	2.00	1.99	1.98	1.97	1.97	1.96	2.03	2.05	2.45	2.05	1.98	1.96	2.45	2.05	24							
12	2.51	2.42	2.41	2.42	S	2.29	2.07	2.03	2.00	1.99	1.97	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.97	1.97	1.96	1.94	2.51	2.07	24						
13	1.97	2.01	2.01	S	2.00	2.02	1.98	1.97	1.96	1.94	1.96	1.96	C	C	C	C	1.93	1.93	1.93	1.93	1.93	1.92	1.93	1.92	1.92	1.92	1.96	24						
14	1.92	1.91	S	1.91	1.91	1.91	1.91	1.91	1.91	1.90	1.90	1.90	1.90	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.90	1.90	1.92	1.91	24						
15	1.90	S	1.90	1.90	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.92	1.93	1.94	1.93	1.91	1.91	1.91	1.92	1.92	1.92	1.90	1.94	1.91	24						
16	S	1.93	1.93	1.94	1.95	1.99	2.00	1.96	2.01	1.99	2.00	2.00	2.01	2.01	2.08	2.02	2.02	1.99	1.99	2.00	2.00	2.01	S	1.93	2.08	1.99	24							
17	2.00	1.99	1.98	1.95	1.94	1.94	1.95	1.96	1.94	1.93	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.96	1.96	1.98	S	1.96	1.93	2.00	1.95	24						
18	1.95	1.95	1.96	1.96	1.99	1.96	1.95	2.09	1.98	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.97	1.96	1.96	2.01	2.00	S	1.97	1.99	1.94	2.09	1.97	24						
19	2.09	2.13	2.31	2.37	2.03	2.01	2.03	2.07	2.06	2.04	1.99	1.97	2.02	2.05	2.04	1.98	2.03	2.25	2.09	1.95	S	1.92	2.00	2.05	1.92	2.37	2.06	24						
20	1.94	1.93	1.93	1.95	2.03	2.10	2.12	2.32	2.16	2.30	2.11	2.01	2.06	2.16	2.02	2.10	2.27	2.01	1.96	S	1.91	1.90	1.90	1.92	1.90	2.32	2.05	24						
21	1.95	2.01	2.05	2.02	1.99	1.96	1.93	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	2.00	1.99	2.00	2.01	S	1.93	2.12	2.16	2.15	2.37	2.13	1.89	2.37	2.00	24		
22	1.95	1.90	1.93	1.92	2.02	2.01	2.05	2.19	2.12	2.04	2.00	1.92	1.91	1.91	1.90	1.90	1.90	1.90	S	1.90	1.89	1.89	2.02	2.31	2.51	1.89	2.51	2.00	24					
23	2.36	2.21	2.02	2.07	2.26	2.04	1.92	1.92	1.95	1.95	1.93	1.93	1.94	1.92	1.91	1.91	1.91	1.91	S	1.91	1.92	1.92	1.91	1.91	1.91	1.91	2.36	1.98	24					
24	1.91	1.91	1.92	1.92	1.93	1.94	1.95	1.96	1.94	1.93	1.95	1.99	1.94	1.93	R	2.01	S	1.98	1.98	1.98	1.98	1.98	2.09	2.06	2.06	1.91	2.09	1.97	23					
25	1.97	1.97	1.95	1.94	1.93	1.94	1.93	1.94	1.93	1.97	1.93	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.97	1.97	1.96	1.96	1.96	1.96	1.95	1.93	2.00	1.95	24					
26	1.95	1.96	1.95	1.95	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	S	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	2.02	1.96	24		
27	1.97	1.97	1.96	1.96	1.97	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	S	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.94	1.93	1.93	1.93	1.93	1.93	1.97	1.95	24			
28	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	S	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.98	1.94	24				
29	1.98	1.97	2.06	2.12	2.01	1.98	1.99	1.98	1.97	1.97	S	1.97	1.97	1.98	1.99	1.98	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.96	2.12	1.99	24				
30	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	S	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	24		
31	1.95	1.93	1.93	1.92	1.92	1.92	1.92	1.91	S	1.89	1.89	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	1.88	1.88	1.88	1.88	1.88	1.88	24
HOURLY MAX		2.51	2.42	2.41	2.42	2.26	2.29	2.18	2.35	2.51	2.30	2.11	2.05	2.06	2.16	2.08	2.10	2.27	2.25	2.09	2.33	2.16	2.45	2.67	2.51	2.51	2.51	2.51	2.51	24				
HOURLY AVG		2.01	2.01	2.01	2.00	1.99	1.99	1.99	2.00	1.99	1.98	1.96	1.96	1.96	1.96	1.97	1.96	1.97	1.97	1.96	1.97	1.97	2.02	2.00	2.00	2.00	2.00	2.00	2.00	2.00	24			

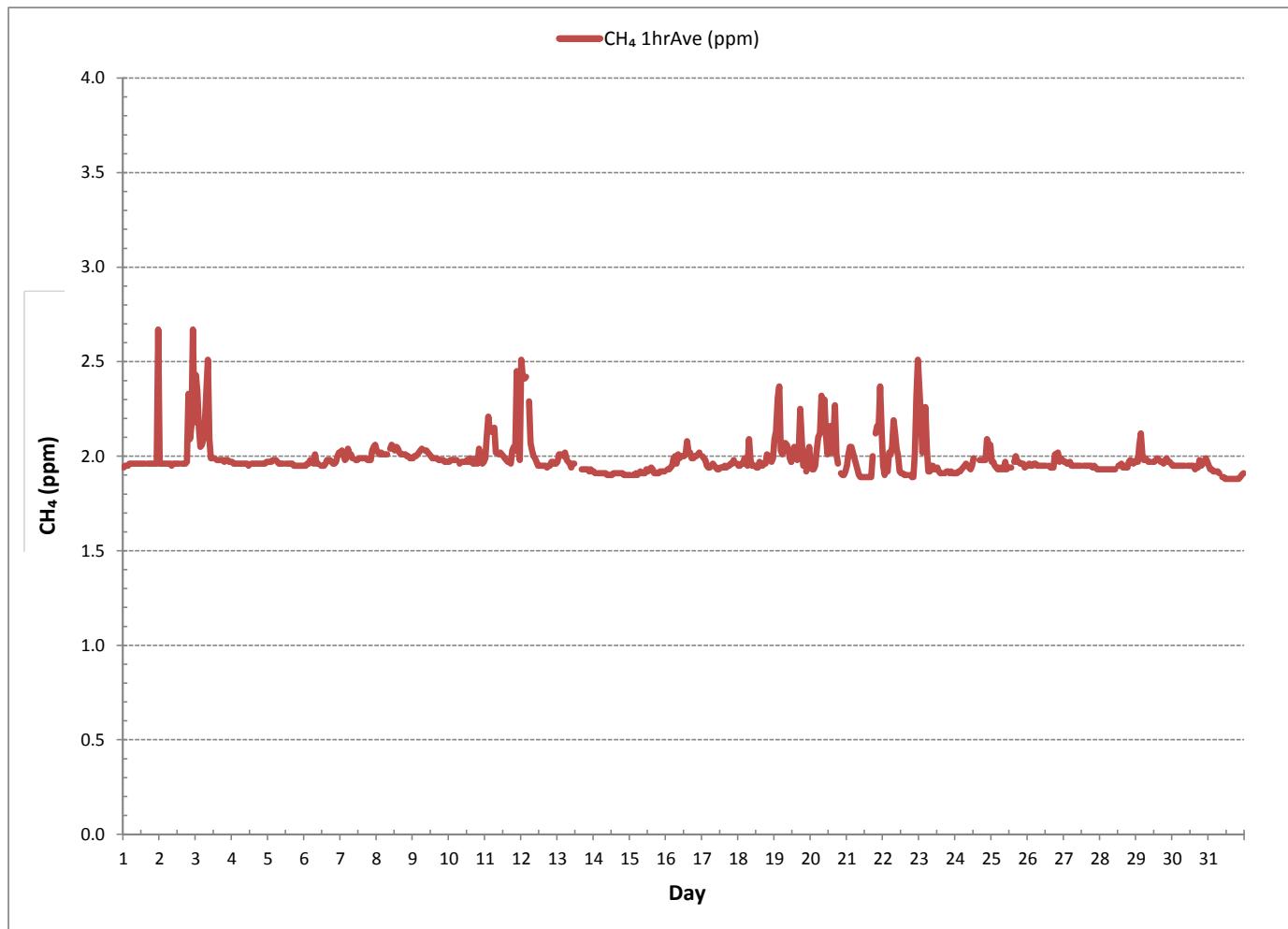
24 HOUR AVERAGES FOR October 2016



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	707		
MINIMUM 1-HR AVERAGE	1.88	PPM	@ HOUR(S)
MAXIMUM 1-HR AVERAGE:	2.67	PPM	@ HOUR(S)
MAXIMUM 24-HR AVERAGE:	2.09	PPM	
IZS CALIBRATION TIME:	32	HRS	
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:
STANDARD DEVIATION:	0.09		MONTHLY AVERAGE:
			1.98 PPM
ON DAY			

METHANE Hourly Averages (CH_4 ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - October 2016

METHANE MAX Instantaneous Maximum (CH_4 ppm)

MST																									DAILY	DAILY	24-HOUR			
HOUR START	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-HOUR			
HOUR END	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.	RDGS.		
DAY																														
1	1.95	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.95	1.97	1.97	24		
2	1.97	1.97	1.98	1.97	1.97	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	2.04	2.59	2.23	2.37	3.68	2.89	1.96	3.68	2.14	24	
3	3.18	3.02	2.34	2.14	2.15	2.23	2.64	4.43	3.48	2.31	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.98	1.98	4.43	2.34	24		
4	1.98	1.97	1.98	1.97	1.97	1.98	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.97	1.97	1.98	1.96	1.98	1.97	24		
5	1.98	1.98	1.98	1.98	1.99	1.99	1.98	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.99	1.97	24		
6	1.96	1.96	1.97	1.97	2.02	2.00	1.97	2.10	1.99	1.99	1.99	1.96	1.96	1.96	1.98	2.00	1.99	1.99	1.98	1.97	1.97	1.98	2.03	2.05	1.96	2.10	1.99	24		
7	2.06	2.08	2.08	2.00	2.03	2.13	2.06	2.04	2.02	1.97	2.01	2.00	2.01	2.00	2.00	2.00	2.01	2.01	1.99	1.99	1.99	2.09	2.10	1.99	2.13	2.03	24			
8	2.07	2.05	2.02	2.07	2.02	2.02	2.02	2.02	1.97	2.07	2.08	2.09	2.07	2.08	2.09	2.03	2.02	2.02	2.02	2.01	2.01	2.00	2.00	2.00	2.09	2.04	2.04	24		
9	2.00	2.00	2.00	2.03	2.03	2.04	2.06	1.97	2.05	2.04	2.03	2.02	2.01	2.00	2.00	2.00	2.00	1.99	1.99	1.99	1.99	1.98	1.99	1.98	1.98	2.06	2.01	24		
10	1.98	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.97	1.97	1.98	1.98	1.98	1.99	2.03	2.01	2.04	2.07	1.97	1.99	2.07	1.97	2.13	1.99	1.97	2.06	1.97	2.13	20.1	
11	2.19	2.25	2.45	2.24	2.19	1.97	2.27	2.05	2.03	2.02	2.02	2.01	2.01	1.99	1.98	1.98	1.97	2.28	2.39	2.33	3.21	3.13	2.00	1.97	3.21	2.22	24			
12	3.89	2.76	3.12	2.98	2.98	1.97	2.69	2.12	2.07	2.01	2.00	1.99	1.96	1.96	1.96	1.96	1.96	1.96	1.96	2.03	2.03	1.97	1.97	1.96	3.89	2.23	24			
13	2.02	2.04	2.03	1.97	2.04	2.05	2.01	2.01	1.99	1.98	2.02	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.94	1.95	1.94	1.94	1.93	1.93	1.93	1.93	2.05	1.98	
14	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.94	1.92	24		
15	1.91	1.91	1.91	1.91	1.92	1.97	1.97	1.96	1.93	2.03	1.92	1.95	1.97	1.99	2.00	1.96	1.92	1.92	1.93	1.93	1.93	1.93	1.93	1.93	1.91	2.03	1.94	24		
16	S	2.01	1.94	1.95	1.95	1.96	2.03	2.09	1.97	2.09	2.01	2.03	2.03	2.02	2.05	2.24	2.13	2.15	2.01	2.00	2.01	2.02	2.02	2.03	S	1.94	2.24	2.04		
17	2.02	2.00	2.00	1.97	1.96	1.95	1.97	1.98	1.97	1.95	1.95	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.97	1.97	2.00	S	1.98	1.95	2.02	1.97	24		
18	1.97	1.97	1.97	1.98	2.00	1.97	1.96	2.38	2.10	1.96	1.97	1.98	1.95	1.98	2.03	2.00	2.05	2.02	2.12	2.12	2.05	S	2.03	2.13	1.95	2.38	2.03	24		
19	2.25	2.38	3.09	2.88	2.88	2.18	2.02	2.06	2.10	2.08	2.08	2.02	1.98	2.15	2.17	2.21	2.15	2.23	2.58	2.42	2.09	S	1.95	2.24	2.25	1.95	3.09	2.24		
20	2.11	1.97	1.98	2.14	2.27	2.38	2.46	5.93	2.38	2.60	2.30	2.39	2.35	3.82	2.60	2.49	2.74	2.74	1.97	S	1.96	1.91	1.91	1.93	1.91	5.93	2.49	24		
21	1.98	2.05	2.07	2.06	2.04	2.01	1.98	1.95	1.92	1.90	1.90	1.89	1.90	1.90	1.90	1.90	2.51	S	2.35	2.27	2.37	4.23	2.56	1.89	4.23	2.15	24			
22	2.33	2.01	2.10	2.06	2.14	2.39	2.38	2.50	2.60	2.37	2.15	1.99	1.92	1.92	1.91	1.91	1.91	1.91	1.91	S	1.98	1.90	1.90	2.51	3.27	1.90	3.27	2.21	24	
23	3.12	2.71	2.17	2.21	3.09	2.56	1.95	1.94	1.97	1.96	1.95	1.94	1.96	1.93	1.92	1.92	1.92	1.92	1.92	1.93	1.93	1.93	1.92	1.92	1.92	3.12	2.12	24		
24	1.92	1.92	1.93	1.93	1.96	1.95	1.96	2.06	1.97	1.95	1.95	2.00	2.05	P	2.08	S	2.02	2.01	1.99	1.99	2.00	2.21	2.17	2.19	1.92	2.21	2.01	23		
25	2.03	2.02	1.96	1.96	1.96	1.99	1.98	2.02	1.99	2.06	1.95	1.95	1.96	2.01	S	2.09	2.09	2.01	1.99	1.98	1.98	1.98	1.96	1.96	1.95	2.09	1.99	24		
26	1.96	1.97	1.96	1.96	1.97	1.97	1.96	1.96	1.97	1.96	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	2.28	2.17	2.18	1.99	2.03	2.02	1.96	2.28	2.00		
27	1.98	2.02	2.00	2.05	2.07	1.96	1.96	1.96	1.96	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.94	1.94	2.07	24		
28	1.94	1.94	1.94	1.94	1.94	1.95	1.94	1.94	1.94	1.94	1.95	1.95	1.95	S	2.00	1.99	2.02	1.97	1.99	1.95	1.96	2.09	2.08	2.01	1.98	2.02	1.94	2.09	1.97	24
29	1.99	2.06	2.20	2.31	2.33	2.01	2.14	1.99	1.98	1.98	S	1.98	1.99	2.00	1.99	1.98	1.98	1.99	2.02	2.01	2.01	2.02	1.98	1.98	1.95	2.33	2.04	24		
30	1.96	1.96	1.96	1.96	1.96	1.96	1.98	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.95	2.05	2.00	2.12	2.02	1.98	1.99	2.01	1.99	1.95	2.12	1.98	24		
31	1.97	1.94	1.94	1.94	1.93	1.93	1.93	1.92	1.92	1.91	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.90	1.91	1.97	1.91	24			
HOURLY MAX		3.89	3.02	3.12	2.98	3.09	2.69	2.64	5.93	3.48	2.60	2.30	2.39	2.35	3.82	2.60	2.49	2.74	2.74	2.42	2.59	2.33	3.21	4.23	3.27					
HOURLY AVG		2.15	2.10	2.10	2.08	2.07	2.07	2.05	2.23	2.07	2.03	1.99	1.99	2.00	2.05	2.02	2.00	2.02	2.04	2.02	2.03	2.02	2.07	2.19	2.09					

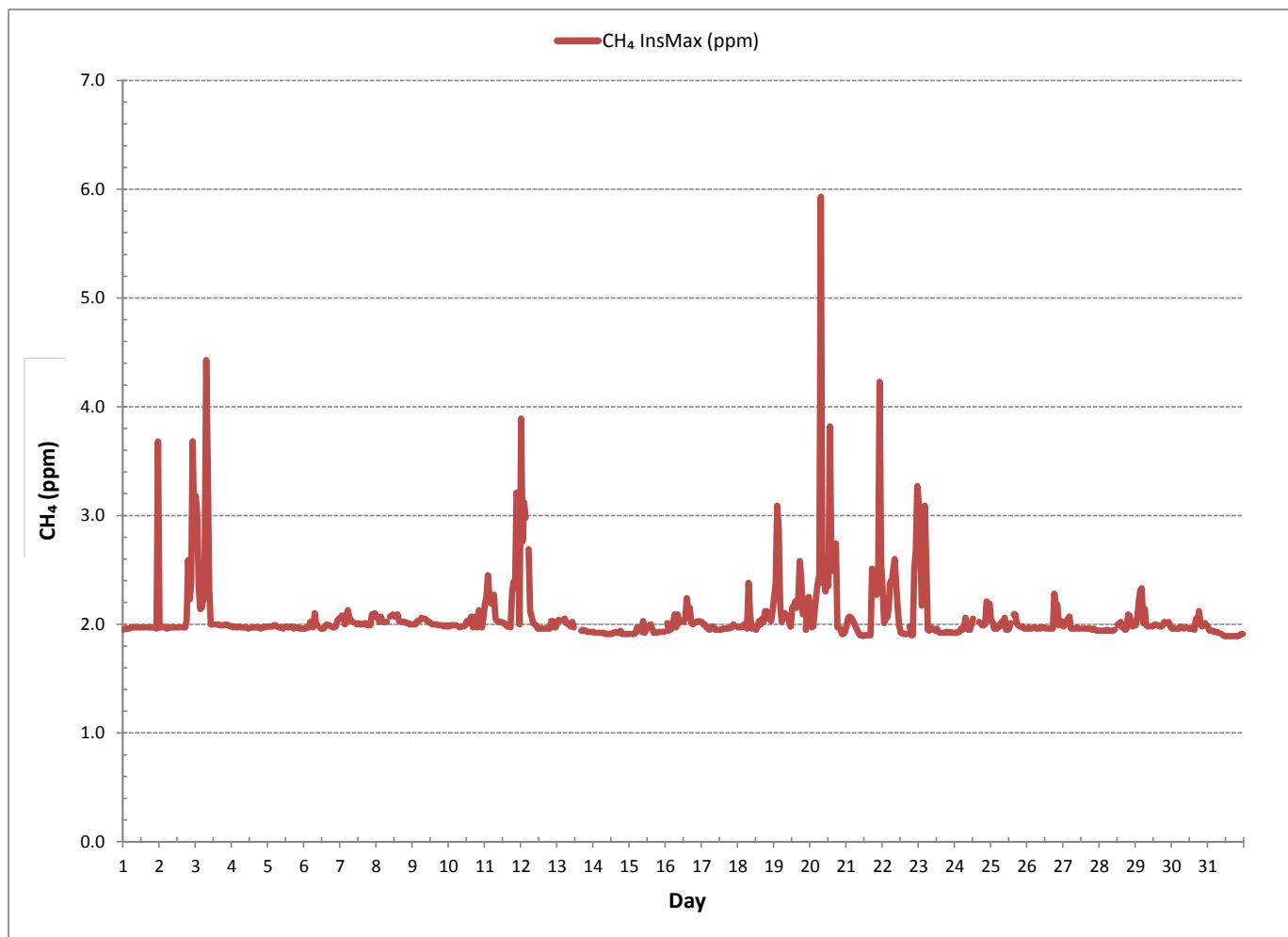
STATUS FLAG CODES

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:	707					
MAXIMUM INSTANTANEOUS VALUE:	5.93	PPM	@ HOUR(S)	7	ON DAY(S)	20
					VAR-VARIOUS	
I2S CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:			743 HRS
MONTHLY CALIBRATION TIME:	4	HRS				
STANDARD DEVIATION:	0.30					

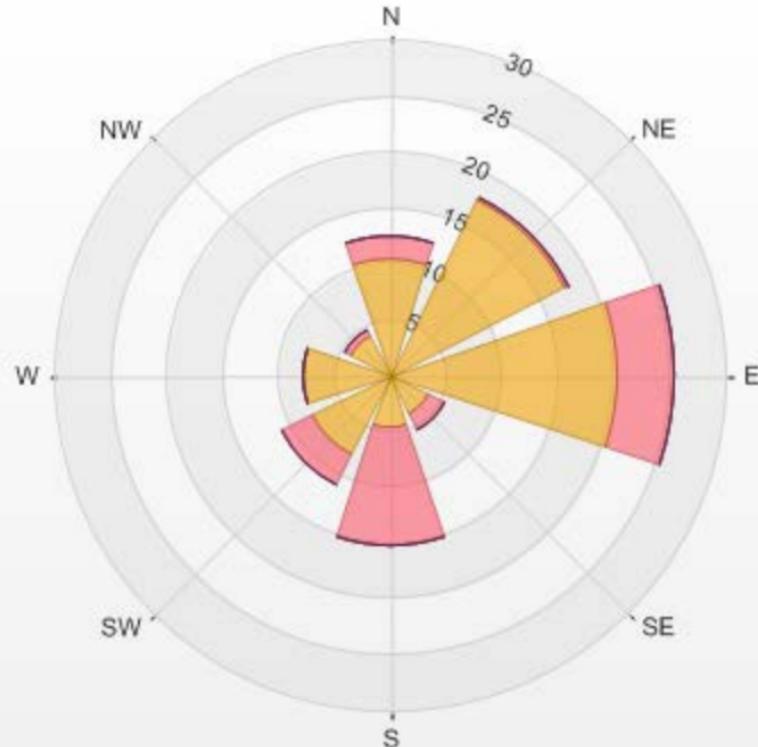
METHANE MAX Instantaneous Maximum (CH₄ ppm)



Wind: PRAMP RENO TRAILER Poll.: PRAMP RENO TRAILER-CH4[ppm] Monthly: 2016/10 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 91.80% Calm Avg: 0.00 ppm

Direction	0-2	2-3	3-5	5-10	>10.0	Total
N	10.4	2.05	0	0	0	12.45
NE	17.57	0.29	0	0	0	17.86
E	20.35	5.12	0	0	0	25.47
SE	3.95	1.61	0	0	0	5.56
S	4.69	10.54	0	0	0	15.23
SW	7.91	3.07	0	0	0	10.98
W	7.91	0	0	0	0	7.91
NW	3.95	0.59	0	0	0	4.54
Summary	76.73	23.27	0	0	0	100

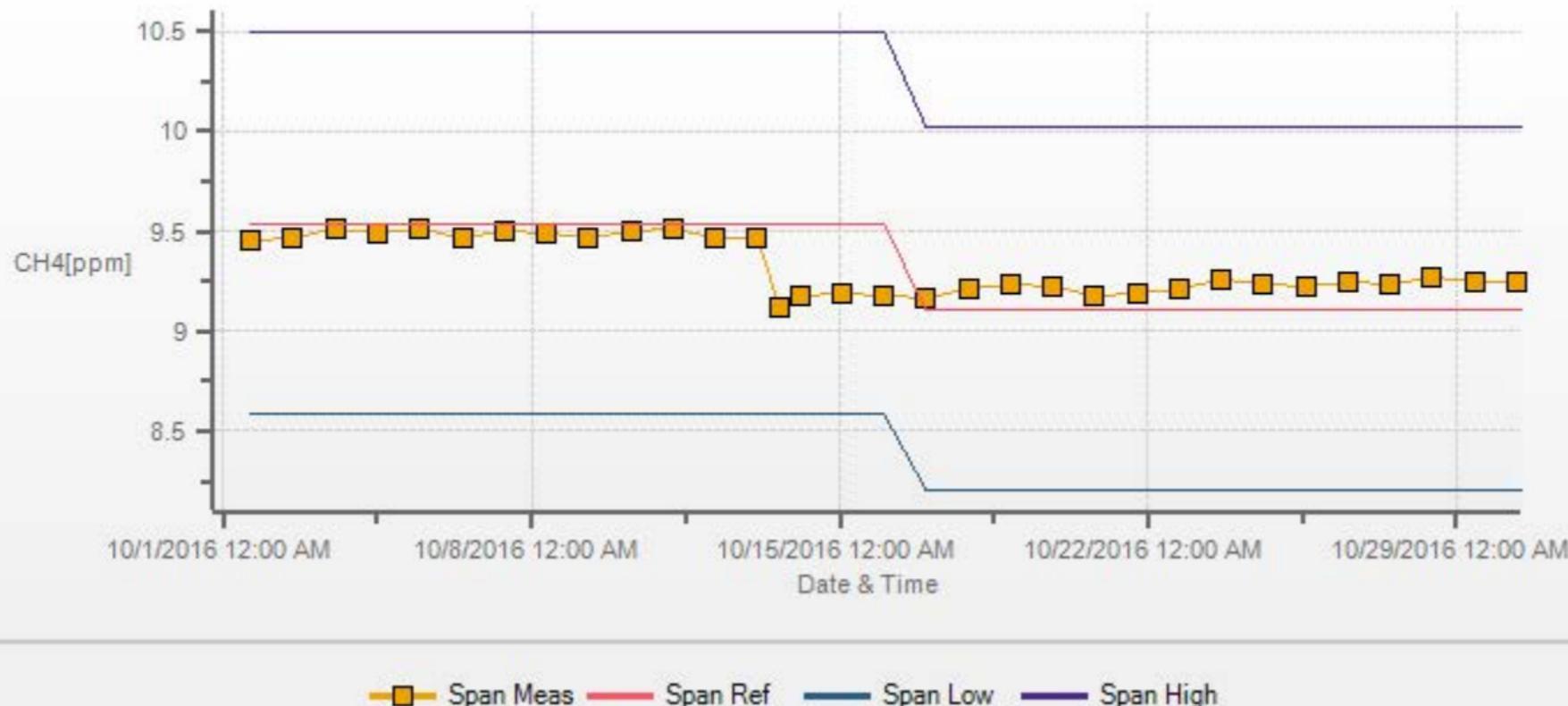
PRAMP RENO TRAILER Poll.: PRAMP RENO TRAILER-CH4[ppm] 2016/10/01 00:00 - 2016/10/31 23:00 Calm:
0.00%



JOB #: 196-2016-10-93-C

% Icon Classes (ppm)	77	0-2	23	2-3	0	3-5	0	5-10	0	>10.0
----------------------	----	-----	----	-----	---	-----	---	------	---	-------

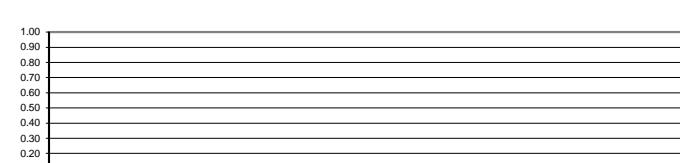
CH4[ppm] Calibration: PRAMP RENO TRAILER Monthly: 2016/10 Type: Span



NON-METHANE HYDROCARBON

MST		NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)																								DAILY MIN.	DAILY MAX.	24-HOUR AVG.	RDGS.	
HOUR START	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						
HOUR END	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	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24		
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	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	S	0.00	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	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	24			
7	0.00	0.00	0.00	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	24			
9	0.00	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			
10	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24		
13	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	24			
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	24			
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	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	24			
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	24			
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	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	S	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	R	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23			
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	S	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	I	ZS	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24				
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	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			

24 HOUR AVERAGES FOR October 2016



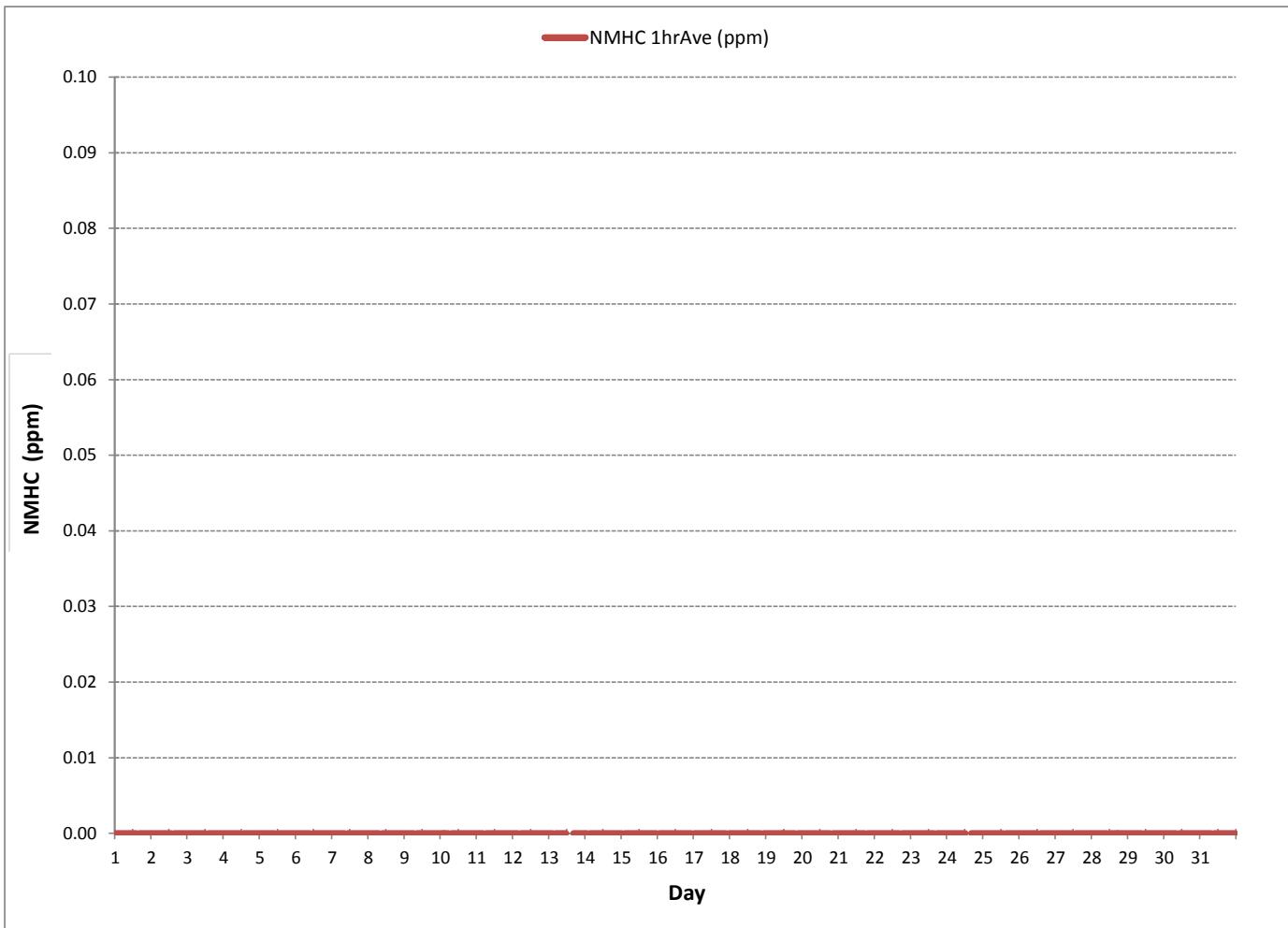
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	0			
MINIMUM 1-HR AVERAGE	0.00	PPM	@ HOUR(S)	ALL
MAXIMUM 1-HR AVERAGE:	0.00	PPM	@ HOUR(S)	ALL
MAXIMUM 24-HR AVERAGE:	0.			



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
Reno Station - October 2016

NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - October 2016

NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)

MST																										DAILY	DAILY	24-HOUR		
HOUR START	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-HOUR	RDGS.		
HOUR END	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	0.00	0.00	0.00	0.00	0.00	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	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	24		
6	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	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	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24		
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.07	0.00	24			
12	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	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	S	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	24		
15	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	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	24		
17	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	S	0.00	0.00	0.03	0.00	0.00	0.03	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	0.02	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	24		
19	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.07	0.01	0.00	24			
20	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.05	0.00	24			
21	0.00	0.00	0.10	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	S	0.00	0.00	0.00	0.00	0.00	0.10	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24		
23	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.02	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	P	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23		
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	S	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	S	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	S	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	S	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	S	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	S	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	0.02	0.02	0.10	0.07	0.01	0.06	0.01	0.07	0.05	0.04	0.00	0.02	0.00	0.00	0.01	0.01	0.00	0.00	0.02	0.03	0.00	0.01	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			

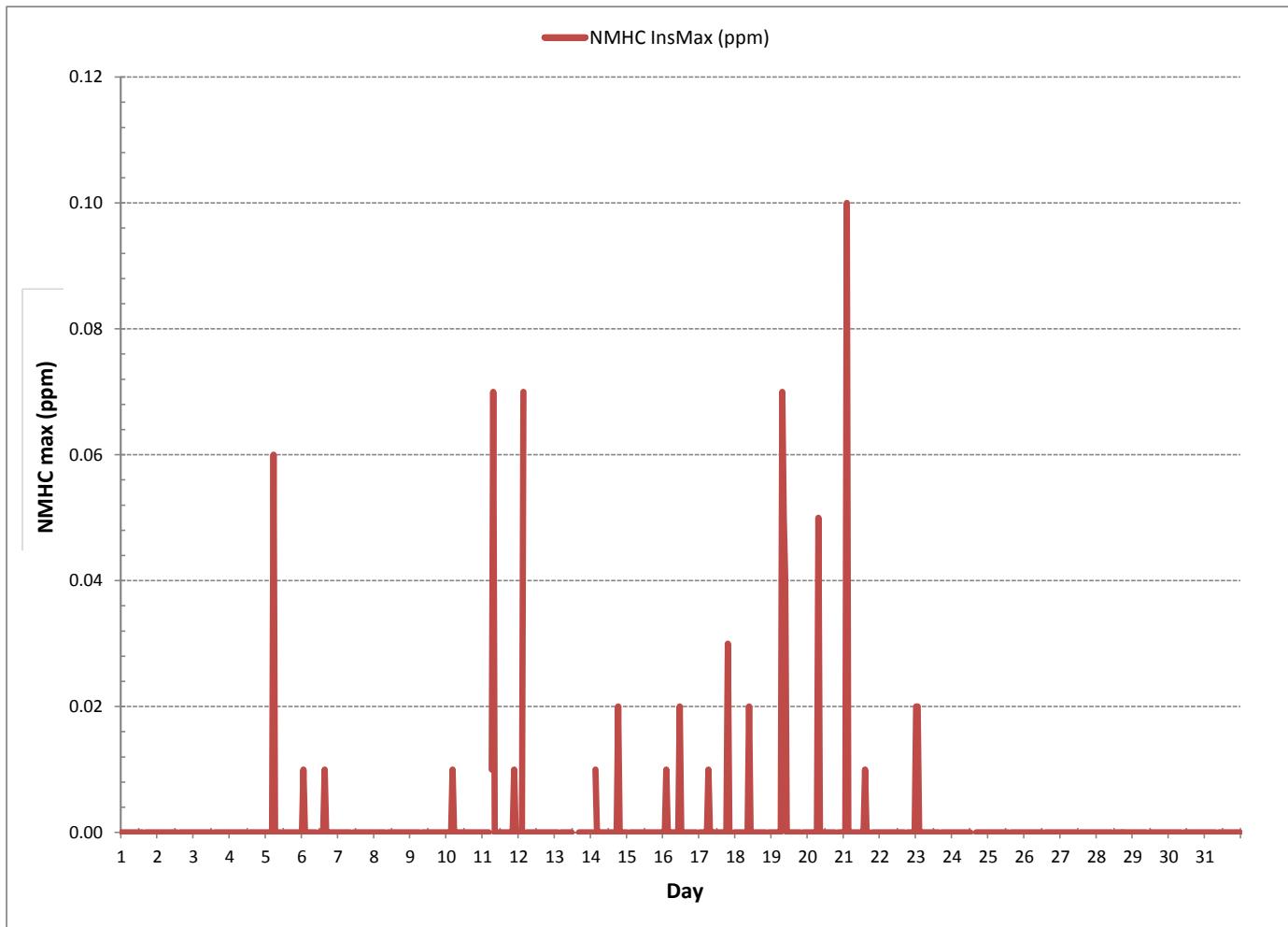
STATUS FLAG CODES

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:	23
MAXIMUM INSTANTANEOUS VALUE:	0.10 PPM @ HOUR(S) 2 ON DAY(S) 21
VAR-VARIOUS	
I2S CALIBRATION TIME:	32 HRS
MONTHLY CALIBRATION TIME:	4 HRS
STANDARD DEVIATION:	0.01
OPERATIONAL TIME:	743 HRS

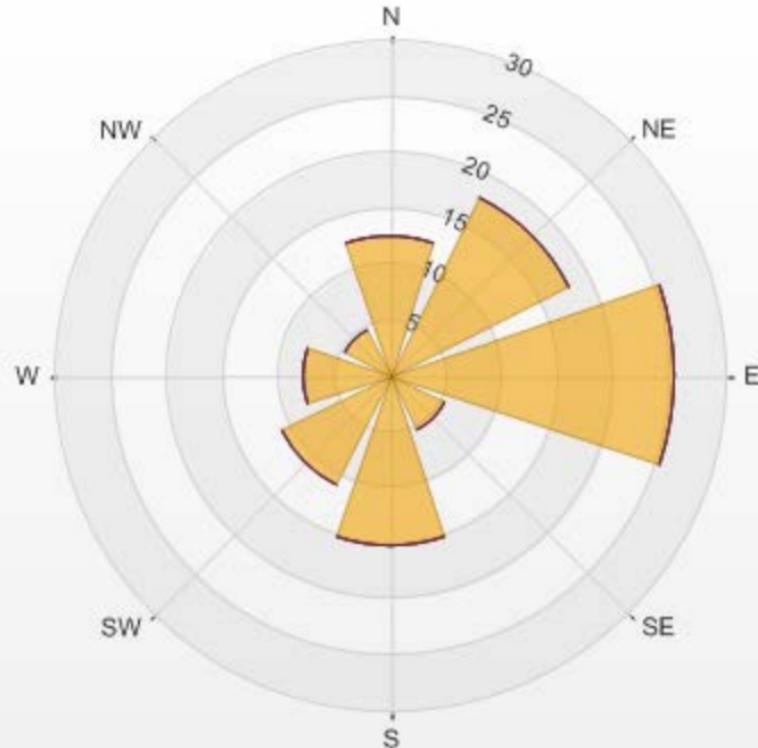
NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)



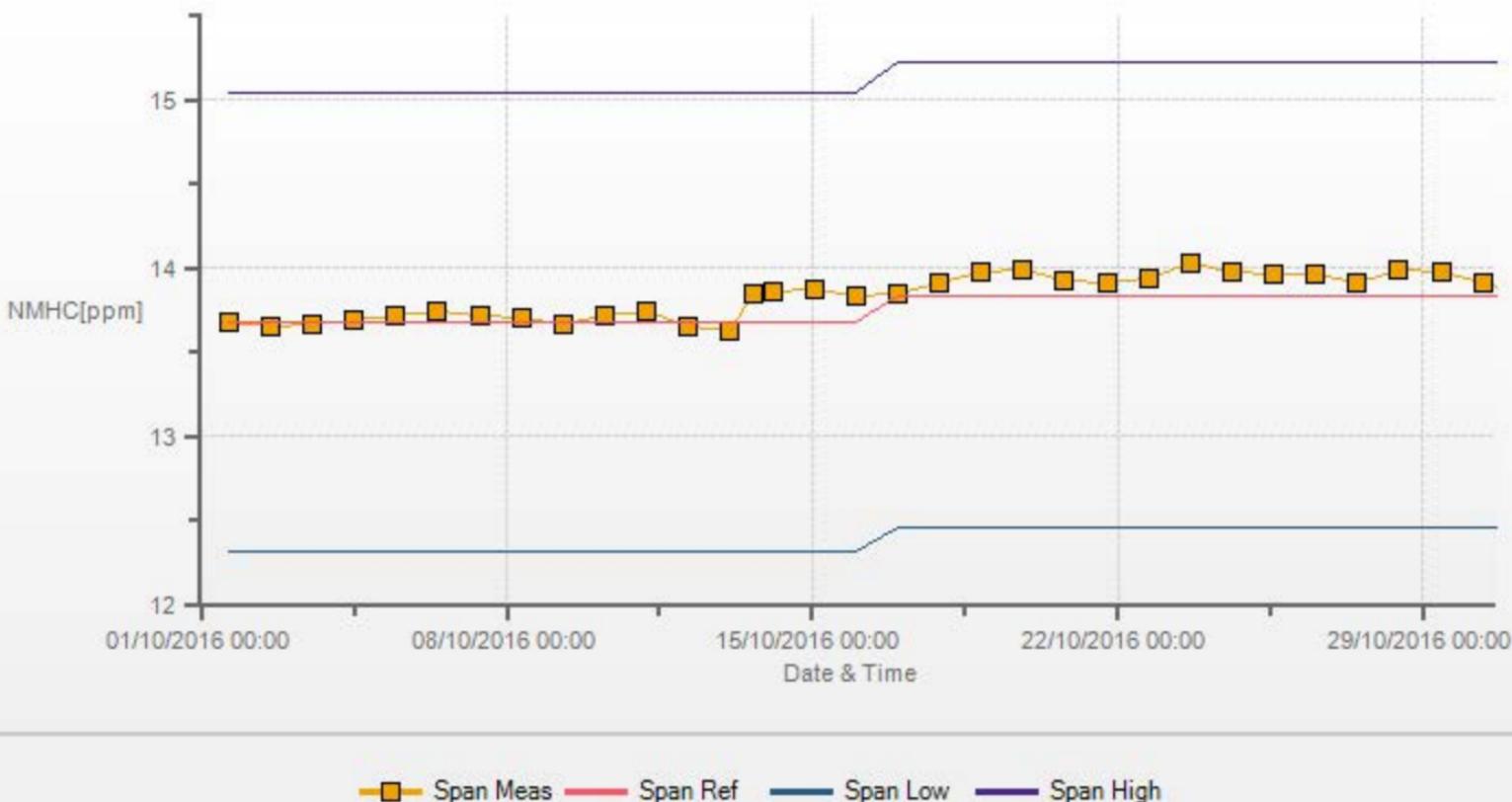
Wind: PRAMP RENO TRAILER Poll.: PRAMP RENO TRAILER-NMHC[ppm] Monthly: 2016/10 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 91.80% Calm Avg: 0.00 ppm

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	12.45	0	0	0	0	12.45
NE	17.86	0	0	0	0	17.86
E	25.48	0	0	0	0	25.48
SE	5.56	0	0	0	0	5.56
S	15.23	0	0	0	0	15.23
SW	10.98	0	0	0	0	10.98
W	7.91	0	0	0	0	7.91
NW	4.54	0	0	0	0	4.54
Summary	100	0	0	0	0	100

PRAMP RENO TRAILER Poll.: PRAMP RENO TRAILER-NMHC[ppm] 2016/10/01 00:00 - 2016/10/31 23:00 Calm:
0.00%



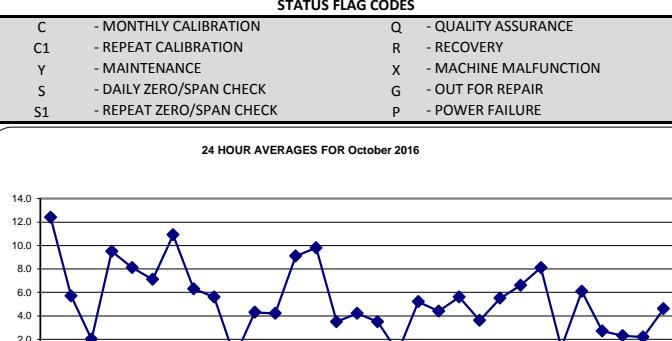
NMHC[ppm] Calibration: PRAMP RENO TRAILER Monthly: 2016/10 Type: Span



WIND SPEED

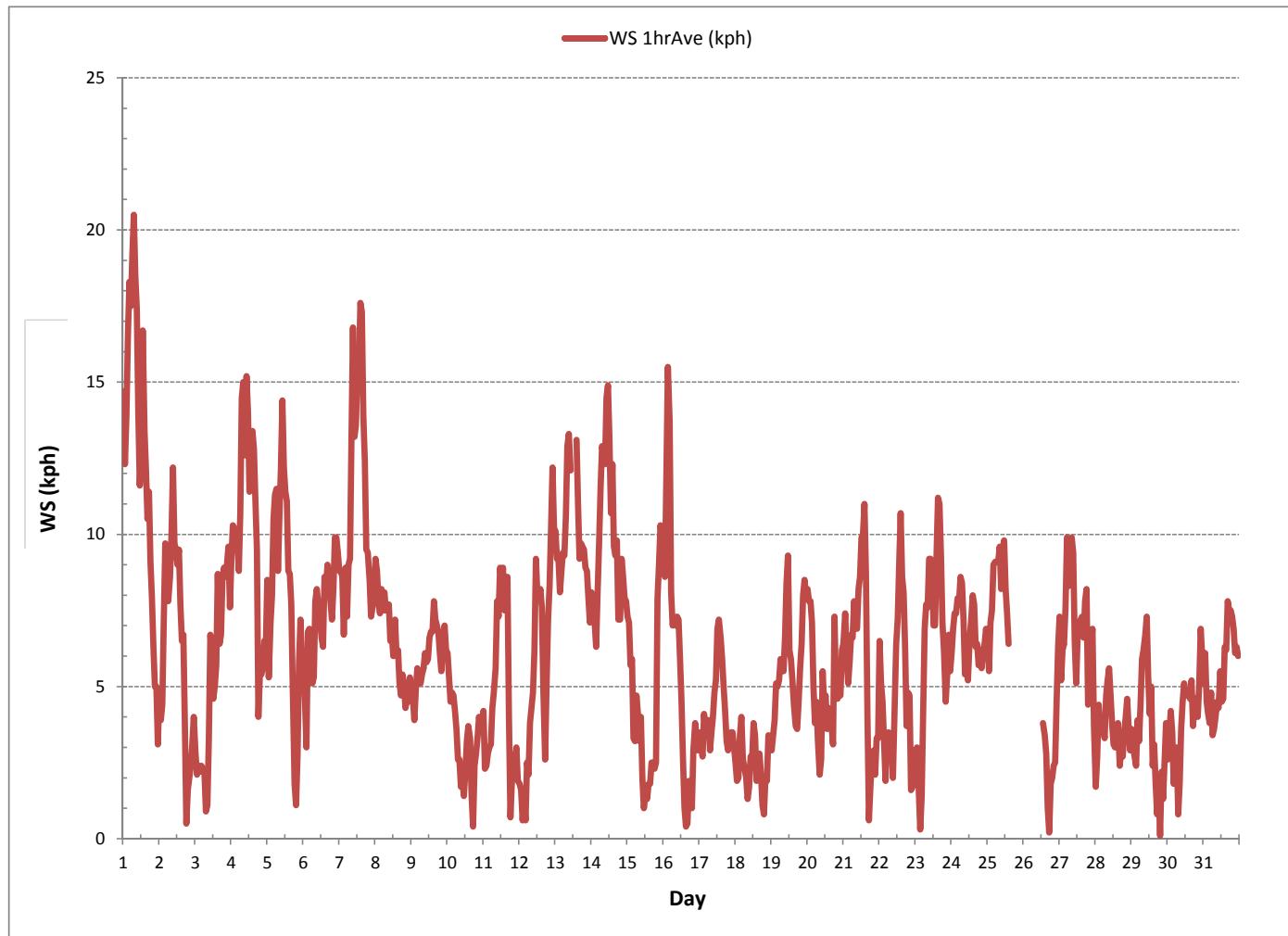
WIND SPEED Hourly Averages (WS kph)
MST

	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-HOUR AVG.	RDGS.	
HOUR START	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					
HOUR END	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																										20.5	12.4	24	
1	14.7	12.3	13.9	16.5	18.3	17.5	19.2	20.5	18.5	17.4	14.0	11.6	12.8	16.7	13.4	12.1	10.5	11.4	9.1	7.9	6.3	5.0	5.0	5.1	5.0	20.5	12.4	24	
2	4.8	3.9	4.4	7.2	9.7	9.0	7.8	8.6	10.0	12.2	9.7	9.5	9.0	9.5	7.7	6.5	6.7	3.8	0.5	1.6	2.0	2.4	3.1	4.0	0.5	12.2	5.7	24	
3	2.8	2.1	2.4	2.2	2.4	2.3	2.2	0.9	1.1	3.3	6.7	6.0	4.6	5.0	5.7	8.7	6.4	6.7	8.6	8.9	8.6	9.0	9.6	7.6	0.9	9.6	2.0	24	
4	9.2	10.3	10.2	9.8	9.8	8.8	10.7	14.5	15.0	12.6	15.2	14.0	11.4	12.0	13.4	12.8	11.1	9.5	4.0	5.4	5.4	5.6	6.5	6.3	4.0	15.2	9.5	24	
5	8.5	5.3	7.1	8.0	10.5	11.3	11.5	8.8	10.6	12.2	14.4	12.2	11.4	11.1	8.8	8.7	7.7	4.9	1.8	1.1	2.7	5.8	7.2	5.7	1.1	14.4	8.1	24	
6	5.7	4.6	3.0	6.8	6.9	6.1	5.1	5.3	7.8	8.2	7.7	7.2	6.6	6.3	8.6	8.2	9.0	8.6	7.8	7.2	8.2	9.9	9.9	9.4	3.0	9.9	7.1	24	
7	8.8	8.8	8.6	6.7	8.9	7.3	9.0	9.2	13.2	16.8	13.2	13.6	15.4	15.3	17.6	17.3	13.9	12.4	9.5	9.4	8.5	7.3	7.6	7.9	6.7	17.6	10.9	24	
8	9.2	8.8	7.8	7.4	8.2	7.5	8.1	7.5	7.7	6.5	6.7	6.0	7.2	6.0	6.2	5.1	4.7	5.4	5.1	4.3	4.6	4.5	5.3	4.3	9.2	6.3	24		
9	4.9	4.6	3.9	4.9	5.6	5.1	5.1	5.4	5.6	6.1	5.8	5.9	6.6	6.8	6.8	7.2	7.0	6.8	6.1	5.5	6.4	7.0	6.2	3.9	7.8	5.6	24		
10	6.1	5.3	4.5	4.8	4.7	4.2	3.6	2.6	2.6	1.7	2.0	1.4	2.2	3.2	3.7	3.3	1.4	0.4	2.4	2.8	3.3	4.0	3.7	3.8	0.4	6.1	0.5	24	
11	4.2	2.3	2.4	2.8	3.0	3.1	4.3	4.8	5.6	7.8	7.3	8.9	8.5	8.9	7.5	8.5	8.6	4.0	0.7	1.9	2.4	2.6	3.0	3.0	1.9	0.7	8.9	4.3	24
12	1.8	1.6	0.6	1.3	0.6	2.5	2.1	3.8	4.3	4.8	6.2	9.2	8.0	7.9	8.2	7.6	4.9	2.6	5.1	7.2	8.3	10.2	12.2	10.2	0.6	12.2	4.2	24	
13	10.1	9.2	9.2	8.1	8.8	9.4	9.3	10.6	12.9	13.3	C	C	C	13.1	11.0	9.2	9.7	9.6	9.5	8.9	8.8	7.9	7.1	7.1	13.3	9.1	24		
14	8.1	7.6	7.1	6.3	8.1	9.7	11.5	12.9	12.6	12.3	14.5	14.9	13.1	10.7	12.3	9.6	9.3	9.8	7.2	7.2	9.2	8.6	7.9	7.8	6.3	14.9	9.8	24	
15	7.3	7.1	5.7	5.9	3.3	3.2	4.7	4.1	3.2	4.0	2.0	1.0	1.5	1.3	1.8	2.5	2.5	2.3	2.5	7.9	9.0	10.3	9.9	1.0	10.3	3.5	24		
16	9.2	8.6	12.0	15.5	13.7	8.1	7.0	7.2	7.0	7.3	7.2	5.9	4.5	2.6	1.0	0.4	0.5	1.9	1.7	1.0	2.9	3.8	3.2	2.9	0.4	15.5	4.2	24	
17	3.5	3.0	2.7	4.1	3.5	3.9	3.9	2.9	3.5	4.0	4.8	5.2	6.9	7.2	6.6	5.9	5.0	4.2	3.2	2.9	3.2	3.5	3.5	3.0	2.7	7.2	3.5	24	
18	2.5	1.9	2.0	3.4	4.0	2.6	2.3	2.0	1.3	1.7	2.7	2.6	3.8	3.4	1.9	2.2	2.8	2.1	1.1	0.8	2.0	1.9	3.4	3.2	0.8	4.0	0.9	24	
19	2.9	3.4	3.9	5.1	5.0	5.2	5.9	5.6	5.5	6.6	8.4	9.3	6.2	5.9	5.2	4.4	3.7	3.6	4.5	5.6	6.4	8.0	8.5	7.9	2.9	9.3	5.2	24	
20	8.2	7.8	7.8	7.1	5.0	3.8	4.5	3.2	2.1	2.6	5.5	4.4	4.7	3.6	4.3	4.1	3.7	3.1	7.3	4.9	4.6	4.7	6.2	2.1	8.2	4.4	24		
21	6.4	7.4	6.0	5.1	5.8	6.7	6.6	7.8	7.0	6.9	8.2	8.6	9.9	10.0	11.0	8.7	4.1	0.6	1.9	2.6	2.9	2.1	3.3	3.3	0.6	11.0	5.6	24	
22	6.5	5.1	4.5	3.2	1.9	3.2	3.5	3.1	3.4	2.0	4.4	6.4	7.2	9.0	10.7	8.6	8.1	6.3	3.7	4.8	4.7	1.6	1.7	2.9	1.6	10.7	3.6	24	
23	1.9	3.0	1.9	0.3	1.4	4.2	6.9	7.7	7.6	9.2	9.2	8.9	7.0	7.0	9.3	11.2	11.0	9.3	7.1	6.2	4.5	5.4	6.7	5.5	0.3	11.2	5.5	24	
24	6.1	6.9	7.4	7.4	7.9	7.8	8.6	8.4	7.2	5.4	6.0	5.2	6.6	7.2	8.0	7.7	6.3	6.4	5.7	6.2	6.2	6.4	6.9	5.2	8.6	6.6	24		
25	6.4	5.5	7.1	7.5	9.0	9.1	9.1	9.1	9.6	8.2	9.5	9.8	8.2	7.4	6.4	X	X	X	X	X	X	X	X	X	5.5	9.8	8.1	15	
26	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	11									
27	7.3	5.2	6.2	6.4	7.6	9.9	8.3	9.2	9.9	9.4	6.5	5.1	6.7	6.8	7.2	7.3	6.6	7.8	8.2	4.4	4.5	6.3	6.9	3.7	9.9	6.1	24		
28	1.7	2.7	4.4	3.6	3.6	3.6	3.3	4.7	5.2	5.6	4.7	3.8	3.1	3.0	3.3	3.8	2.4	3.0	2.7	3.5	4.0	4.6	3.6	2.9	1.7	5.6	2.7	24	
29	3.6	3.0	2.7	2.4	3.9	3.2	4.4	5.9	6.2	6.7	7.3	5.3	4.1	5.0	2.4	3.1	1.8	0.8	1.8	0.1	2.2	1.3	2.5	3.8	0.1	7.3	2.3	24	
30	2.6	3.3	4.2	3.5	1.8	2.5	3.0	0.8	1.8	3.6	4.5	5.1	4.7	4.8	4.8	4.6	5.2	3.7	4.6	4.6	4.0	5.1	6.9	6.0	0.8	6.9	2.2	24	
31	5.1	6.1	4.5	4.1	3.8	4.8	3.4	3.6	4.0	4.5	4.3	5.5	4.5	4.6	6.3	6.2	7.8	7.5	7.5	7.3	6.9	6.1	6.3	6.0	3.4	7.8	4.6	24	
HOURLY MAX	14.7	12.3	13.9	16.5	18.3	17.5	19.2	20.5	18.5	17.4	15.2	14.9	15.4	16.7	17.6	17.3	13.9	12.4	9.6	9.5	9.2	10.2	12.2	10.2					
HOURLY AVG	3.1	2.7	2.7	2.8	2.9	2.8	3.2	3.2	3.4	3.1	2.9	1.9	1.6	1.4	2.0	2.2	2.2	2.5	2.2	2.1	2.2	2.5	2.7	2.4					

24 HOUR AVERAGES FOR October 2016


NUMBER OF NON-ZERO READINGS:		719		
MINIMUM 1-HR AVERAGE	0.1	kph	@ HOUR(S)	19
MAXIMUM 1-HR AVERAGE:	20.5	kph	@ HOUR(S)	7
MAXIMUM 24-HR AVERAGE:	12.4	kph		
VAR-VARIOUS				
MONTHLY CALIBRATION TIME:	3	HRS	OPERATIONAL TIME:	722 HRS
STANDARD DEVIATION:	3.46		MONTHLY AVERAGE:	2.5 kph

WIND SPEED Hourly Averages (WS kph)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - October 2016

WIND SPEED Instantaneous Maximum (WS kph)

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-HOUR AVG.	RDGS.		
HOUR START	HOUR END	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		30.3	31.2	31.3	37.5	39.6	45.8	42.3	42.6	36.0	36.3	28.8	30.8	27.5	33.4	35.0	26.5	30.7	25.3	20.5	18.2	14.4	11.2	13.1	13.9	11.2	45.8	29.3	24		
2		13.0	11.2	18.1	18.6	30.6	27.2	25.1	23.6	29.3	26.3	22.5	23.6	24.2	21.2	20.3	18.2	14.5	2.8	3.0	3.9	4.0	6.8	7.1	2.8	30.6	17.6	24			
3		6.8	4.4	4.0	4.7	4.9	4.6	4.0	3.1	4.0	14.7	16.9	18.0	14.1	16.6	20.4	19.0	18.9	16.2	18.1	19.4	20.2	20.7	20.5	18.1	3.1	20.7	13.0	24		
4		21.5	24.2	20.9	22.7	20.7	19.1	21.6	32.9	30.4	25.1	34.3	28.7	23.0	24.7	25.5	25.3	23.9	22.0	14.3	11.3	11.7	11.4	11.6	11.9	11.3	34.3	21.6	24		
5		17.1	11.3	11.9	19.1	22.9	22.8	25.7	22.3	26.3	23.7	29.4	25.9	30.9	21.7	19.2	18.7	17.2	10.9	4.6	5.2	5.1	10.8	12.6	12.3	4.6	30.9	17.8	24		
6		13.0	9.2	9.2	18.3	17.7	15.0	13.2	13.0	19.3	17.7	18.3	15.6	15.3	17.2	19.5	27.5	19.1	16.6	14.4	12.6	21.3	27.0	22.5	9.2	27.5	17.0	24			
7		20.0	22.8	22.1	15.8	20.9	25.0	22.3	23.5	28.0	37.2	31.0	30.4	36.2	32.0	35.7	37.9	30.1	35.9	18.9	20.2	17.3	17.5	16.8	17.7	15.8	37.9	25.6	24		
8		20.6	21.7	17.4	16.9	17.2	14.9	19.1	15.7	16.7	18.0	17.3	15.0	16.5	15.2	11.4	12.3	12.4	9.8	11.3	11.4	8.6	9.0	9.7	11.7	8.6	21.7	14.6	24		
9		10.4	9.9	9.7	12.0	13.2	12.2	13.8	14.1	13.1	13.0	16.8	18.4	16.0	17.0	19.5	21.1	18.5	17.2	16.2	15.2	14.9	15.2	14.8	9.7	21.1	15.0	24			
10		18.1	14.8	10.0	11.6	11.3	10.9	8.5	8.5	8.6	6.3	5.7	10.1	7.5	10.0	10.8	12.4	5.7	4.9	6.1	8.4	8.7	10.3	9.7	10.4	4.9	18.1	9.6	24		
11		9.7	5.5	4.7	4.8	4.0	5.0	8.5	10.1	14.6	18.9	18.9	19.3	20.8	19.4	20.9	24.6	23.3	13.0	3.1	5.0	5.2	4.6	6.8	5.6	3.1	24.6	11.5	24		
12		4.3	3.4	3.0	3.3	4.2	8.2	4.9	10.7	9.7	10.8	13.5	18.7	16.9	15.8	18.4	18.0	10.7	9.0	10.0	18.2	17.9	24.9	26.5	21.2	3.0	26.5	12.6	24		
13		22.9	21.4	21.9	19.5	19.9	20.3	24.8	25.4	29.9	29.6	C	C	C	C	24.8	17.9	20.4	19.4	18.6	17.6	17.9	16.3	14.8	14.8	29.9	21.2	24			
14		17.0	18.7	17.5	17.9	19.6	23.7	23.2	26.2	25.0	26.8	26.7	28.3	30.1	21.0	23.4	20.6	21.2	18.8	17.3	16.1	18.2	20.6	14.2	15.9	14.2	30.1	21.2	24		
15		14.0	15.4	12.3	12.0	7.2	7.7	9.4	9.1	10.9	9.0	6.5	7.7	7.2	8.7	6.3	7.6	8.5	5.9	6.0	6.8	17.5	19.5	21.0	30.5	5.9	30.5	11.1	24		
16		23.3	20.5	26.4	31.8	31.5	23.7	17.9	15.3	19.2	20.8	19.3	15.5	13.4	9.0	3.9	3.3	4.6	5.6	4.2	5.5	9.9	9.8	8.5	8.2	3.3	31.8	14.6	24		
17		11.4	9.5	7.9	10.4	9.5	10.6	13.1	9.6	11.7	10.6	11.8	14.7	17.2	16.1	16.9	12.4	13.6	9.3	7.8	7.0	8.6	8.5	7.4	7.1	7.0	17.2	10.9	24		
18		6.1	5.3	5.5	7.7	8.0	5.2	6.0	4.9	4.9	5.4	5.9	5.2	6.1	7.3	5.4	6.5	9.0	5.2	4.7	4.2	7.7	9.1	10.0	8.4	4.2	10.0	6.4	24		
19		6.1	5.9	7.6	9.9	10.8	12.9	14.5	12.6	14.0	15.3	21.0	20.4	17.3	13.4	14.4	12.3	9.2	6.6	7.9	14.1	15.9	21.4	22.2	5.9	22.2	13.6	24			
20		22.0	21.7	18.9	17.2	12.9	7.7	11.7	6.4	5.6	7.3	12.4	9.9	10.5	8.6	7.6	8.1	6.9	8.4	16.3	13.2	10.2	11.4	14.4	18.4	5.6	22.0	12.0	24		
21		15.4	15.5	13.9	12.6	18.6	15.7	13.8	18.5	19.0	19.8	21.2	22.7	25.6	24.5	23.3	21.0	15.4	3.6	3.9	4.8	7.6	6.6	10.5	13.5	3.6	25.6	15.3	24		
22		17.1	11.7	20.7	15.6	7.2	13.6	11.8	8.8	7.7	7.0	12.1	17.5	19.1	25.7	25.7	23.6	23.9	14.2	11.6	11.7	10.6	5.2	5.4	6.2	25.7	13.9	24			
23		5.5	5.0	6.6	7.9	7.5	12.2	15.8	16.5	18.5	18.4	18.8	19.2	15.2	14.9	20.7	24.7	25.9	21.7	17.7	13.4	14.2	15.9	18.9	13.4	5.0	25.9	15.4	24		
24		15.8	18.5	18.5	18.8	19.8	16.4	16.5	19.2	15.4	11.0	10.8	11.5	16.0	P	18.6	16.4	13.1	17.1	12.1	12.6	12.5	12.9	15.9	15.2	10.8	19.8	15.4	23		
25		13.0	12.6	14.8	17.2	18.9	19.0	19.5	20.9	25.1	22.0	23.7	23.0	17.5	16.0	12.7	X	X	X	X	X	X	X	X	X	12.6	25.1	18.4	15		
26		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	10.7	9.0	8.3	5.4	3.6	7.3	8.3	7.0	16.8	3.6	16.8	8.7	11
27		15.3	13.3	15.5	16.7	19.0	19.3	17.0	18.9	20.2	16.7	16.8	11.5	16.2	14.6	15.7	16.5	16.3	16.9	17.8	14.4	10.4	14.1	15.3	8.8	8.8	20.2	15.7	24		
28		5.4	6.2	8.4	8.0	8.5	8.4	10.8	9.0	10.5	10.8	10.4	7.9	8.3	7.7	7.3	9.3	7.1	7.9	7.1	7.9	9.6	11.5	10.9	8.6	5.4	11.5	8.6	24		
29		10.4	7.4	6.9	6.4	8.8	10.0	9.7	17.9	18.5	18.9	23.9	16.4	11.6	13.1	9.8	10.4	8.6	6.3	5.7	5.9	7.9	9.2	7.5	10.3	5.7	23.9	10.9	24		
30		8.3	8.6	10.7	6.8	5.6	6.2	7.6	4.2	5.4	8.8	13.4	11.3	14.3	12.5	11.8	13.4	15.2	10.5	11.5	11.4	14.3	17.4	18.9	4.2	18.9	10.8	24			
31		20.4	16.0	13.6	11.6	16.0	14.2	9.9	11.2	10.7	11.0	11.7	13.3	11.2	12.3	15.6	15.9	18.6	15.2	19.7	16.8	16.5	15.0	15.1	14.9	9.9	20.4	14.4	24		
	HOURLY MAX	30.3	31.2	31.3	37.5	39.6	45.8	42.3	42.6	36.0	37.2	34.3	30.8	36.2	33.4	35.7	37.9	30.7	35.9	20.5	20.2	20.2	24.9	27.0	30.5						
	HOURLY AVG	14.5	13.4	13.7	14.4	15.2	15.3	15.4	15.8	16.9	17.3	18.1	17.6	17.4	16.7	16.9	17.3	15.6	13.1	11.3	11.4	11.9	13.0	14.1	13.9						

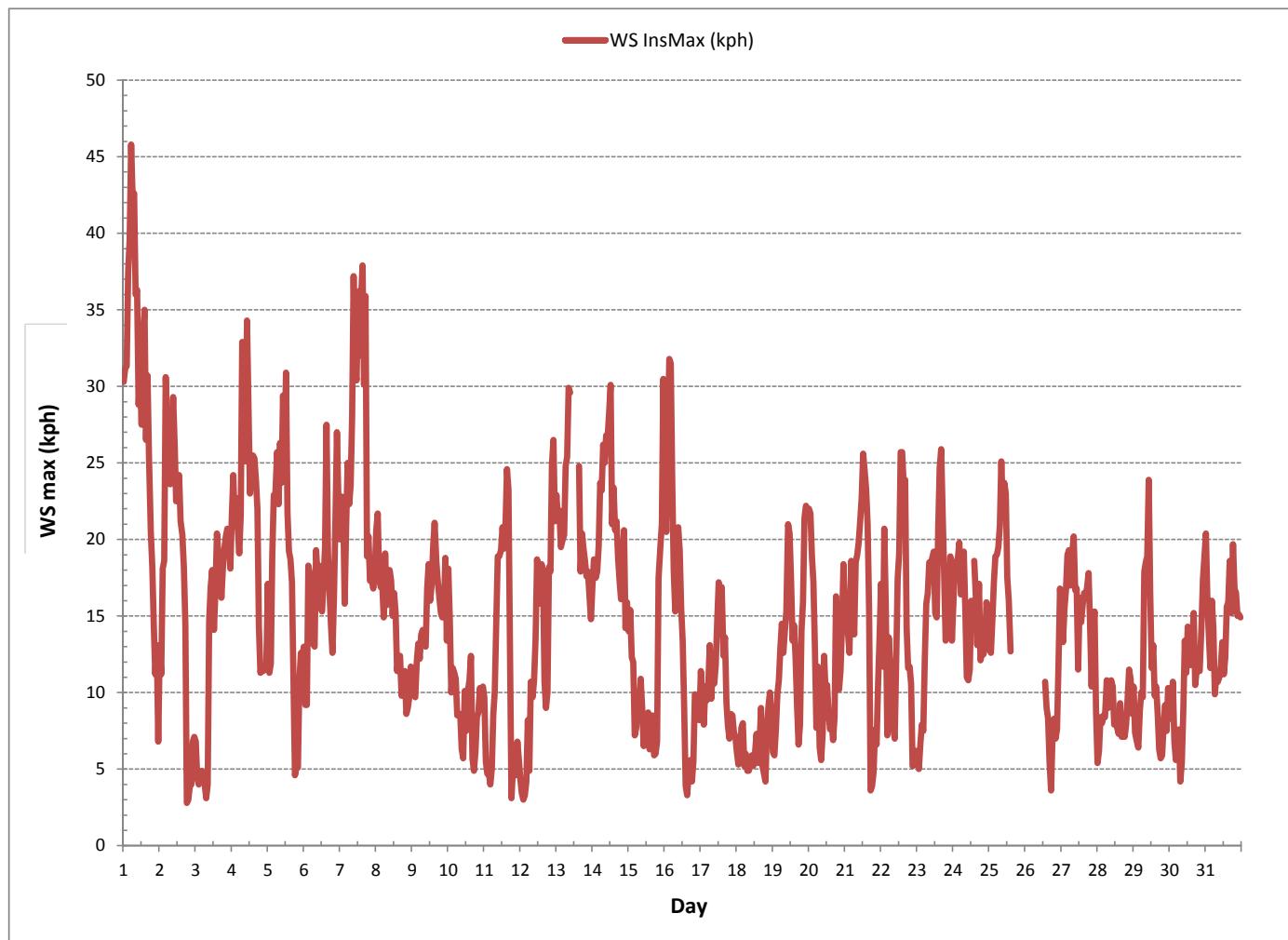
STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS VALUE:	45.8	kph	@ HOUR(S)	5	ON DAY(S)	1
VAR-VARIOUS						
OPERATIONAL TIME:						
721 HRS						

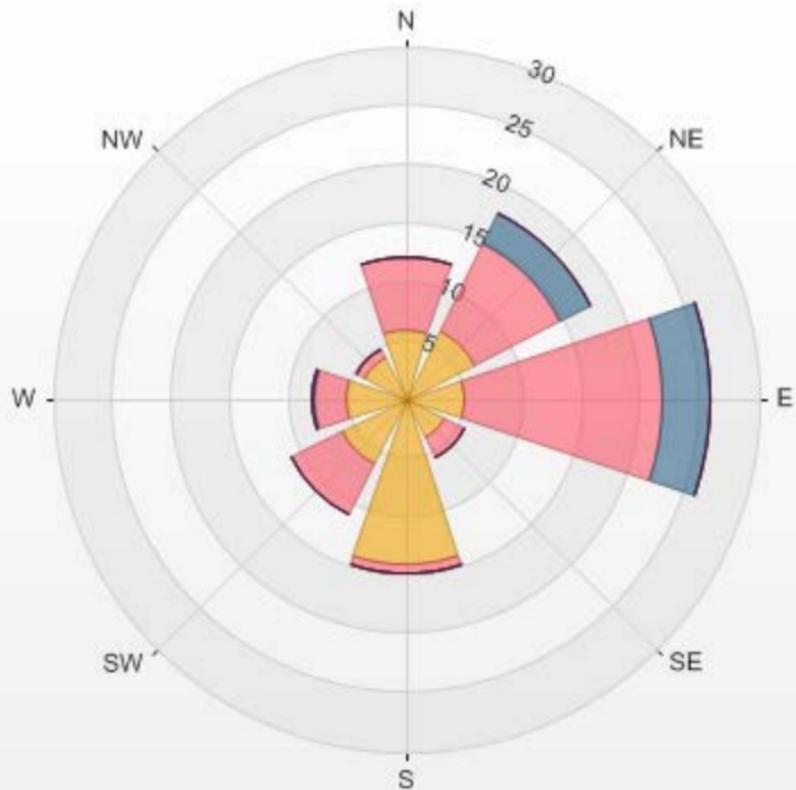
WIND SPEED Instantaneous Maximum (WS kph)



Wind: PRAMP RENO TRAILER Monitor: WSP [kph] Monthly: 2016/10 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
Calm: 0.00% Valid Data: 96.64% Calm Avg: 0.00

Direction	0.0-6.0	6.0-12.0	12.0-20.0	20.0-29.0	29.0-39.0	>39.0	Total
N	5.84	6.26	0	0	0	0	12.1
NE	6.54	8.21	2.92	0	0	0	17.67
E	5.01	16.83	4.03	0.14	0	0	26.01
SE	3.62	1.95	0	0	0	0	5.57
S	14.19	0.7	0	0	0	0	14.89
SW	6.12	4.87	0	0	0	0	10.99
W	5.15	2.78	0.14	0	0	0	8.07
NW	4.03	0.7	0	0	0	0	4.73
Summary	50.5	42.3	7.09	0.14	0	0	100

PRAMP RENO TRAILER 2016/10/01 00:00 - 2016/10/31 23:00 Calm: 0.00%



%	Icon	Classes (kph)	51	0.0-6.0	42	6.0-12.0	7	12.0-20.0	0	20.0-29.0	0	29.0-39.0	0	>39.0
JOB #:	196-2016-10-93-C													

WIND DIRECTION



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Reno Station - October 2016

WIND DIRECTION Hourly Averages (WD)

MST

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

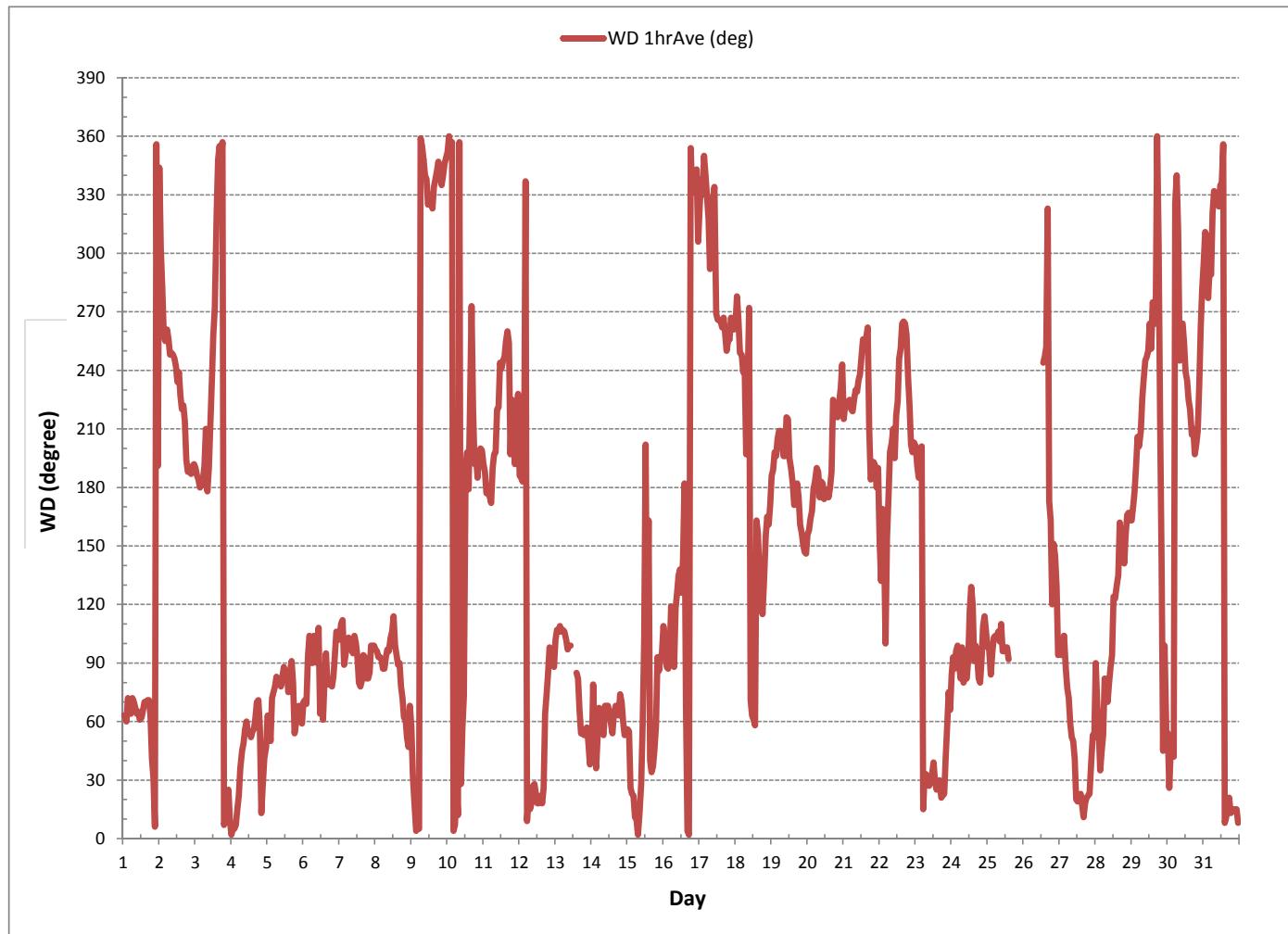
STATUS FLAG CODES

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:	3 HRS	OPERATIONAL TIME:	722 HRS
STANDARD DEVIATION:	96.66	AMD OPERATION UPTIME:	97.0 %
MONTHLY AVERAGE 76 (ENE)			

WIND DIRECTION Hourly Averages (WD)

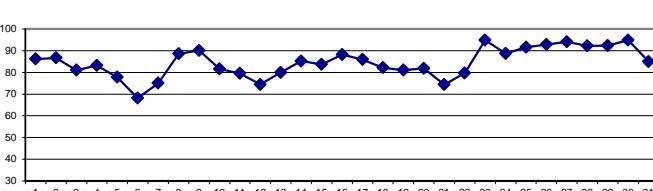


RELATIVE HUMIDITY

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-HOUR AVG.	RDGS.		
HOUR START	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	83	80	78	77	76	78	80	82	82	85	88	89	89	88	89	90	90	90	90	91	91	93	94	94	76	94	86	24		
2	94	94	94	94	95	93	92	90	89	87	85	78	74	70	71	76	77	79	87	91	92	93	93	91	70	95	87	24		
3	90	90	89	89	88	89	92	92	92	91	90	89	86	79	71	64	60	51	52	57	64	79	93	94	95	95	95	95	81	24
4	95	94	93	93	92	92	92	91	90	89	86	79	71	68	67	67	68	70	76	79	81	85	89	90	67	95	83	24		
5	89	89	89	89	90	89	88	87	82	79	75	71	67	62	61	58	60	67	74	79	81	79	80	81	58	90	78	24		
6	83	84	85	84	85	85	86	85	80	76	73	68	56	45	36	34	40	47	56	64	68	69	71	75	34	86	68	24		
7	79	82	85	86	84	83	79	77	74	68	63	57	55	56	55	55	58	75	88	89	88	88	88	88	55	89	75	24		
8	89	86	85	88	89	91	91	91	90	90	86	83	84	85	86	86	87	89	92	92	92	91	91	93	92	89	24			
9	90	91	93	93	92	92	93	93	92	91	90	88	85	86	87	88	88	91	92	91	91	91	91	93	90	24				
10	92	92	92	92	92	92	90	87	87	84	81	79	75	72	72	69	69	76	79	81	77	75	76	69	92	82	24			
11	74	79	83	87	89	90	89	89	84	81	80	73	67	67	64	57	59	69	84	89	88	89	88	88	57	90	80	24		
12	89	90	90	90	90	90	90	90	88	84	74	63	58	53	49	51	56	63	71	71	70	71	72	74	49	90	74	24		
13	76	79	79	80	80	80	81	80	79	76	71	32	60	74	83	91	92	92	91	90	90	89	32	92	80	24				
14	88	87	87	88	88	87	87	87	86	84	84	84	84	84	84	83	83	84	84	83	85	86	84	83	88	85	24			
15	85	86	87	87	88	89	89	88	87	84	83	77	71	73	73	77	80	83	86	87	86	86	88	87	71	89	84	24		
16	87	86	85	86	89	89	89	91	87	86	84	82	81	82	86	86	88	91	92	93	93	94	94	95	81	95	88	24		
17	94	93	93	93	94	92	90	88	86	83	83	78	76	76	77	76	78	83	85	87	86	87	88	88	76	94	86	24		
18	87	86	88	88	87	87	89	90	86	81	80	77	75	72	69	71	73	76	80	84	86	88	87	86	69	90	82	24		
19	89	88	90	91	92	93	92	92	90	86	80	75	68	65	62	62	70	82	84	84	81	79	76	74	62	93	81	24		
20	75	78	79	81	83	84	84	85	85	81	80	79	78	74	73	70	75	78	81	88	93	94	93	70	94	82	24			
21	94	93	93	93	91	92	91	88	82	74	67	60	55	51	49	47	50	54	75	77	77	76	74	72	47	94	74	24		
22	64	61	67	72	78	77	81	86	81	70	74	69	72	74	76	83	87	89	87	89	93	94	94	95	61	95	80	24		
23	95	94	94	93	93	94	94	94	94	94	93	94	94	94	95	95	96	96	96	96	96	96	96	95	96	95	95	24		
24	94	94	94	93	92	92	93	93	93	92	91	88	85	84	84	84	84	86	87	87	86	84	84	85	83	94	89	24		
25	87	88	91	91	90	90	91	92	91	90	90	89	87	89	90	92	94	94	95	95	96	96	96	87	96	92	24			
26	96	96	96	96	96	95	94	95	94	92	92	91	91	90	87	88	88	92	95	94	93	92	91	92	87	96	93	24		
27	94	95	96	95	95	95	95	95	95	94	94	94	94	94	94	94	94	93	94	94	94	93	92	92	96	94	24			
28	93	93	94	95	95	95	95	92	92	92	92	91	89	88	87	88	90	92	93	93	93	94	94	87	95	92	24			
29	94	94	94	92	92	93	94	94	92	91	91	90	90	91	91	91	90	90	91	91	93	94	95	96	90	96	92	24		
30	96	96	96	96	96	96	96	96	96	96	96	96	96	94	92	91	92	93	94	95	95	94	94	94	91	96	95	24		
31	93	89	89	88	88	88	89	90	87	84	82	81	78	78	79	79	79	84	88	88	85	84	84	84	78	93	85	24		
HOURLY MAX	96	96	96	96	96	96	96	96	96	96	96	95	96	96	96	96	96	96	96	96	96	96	96	96						
HOURLY AVG	88.0	88.0	88.6	89.0	89.3	89.4	89.4	87.4	84.7	82.6	79.3	75.5	74.7	74.5	75.2	77.5	81.7	85.6	87.4	87.5	87.7	87.9	87.9	78	93	85	24			

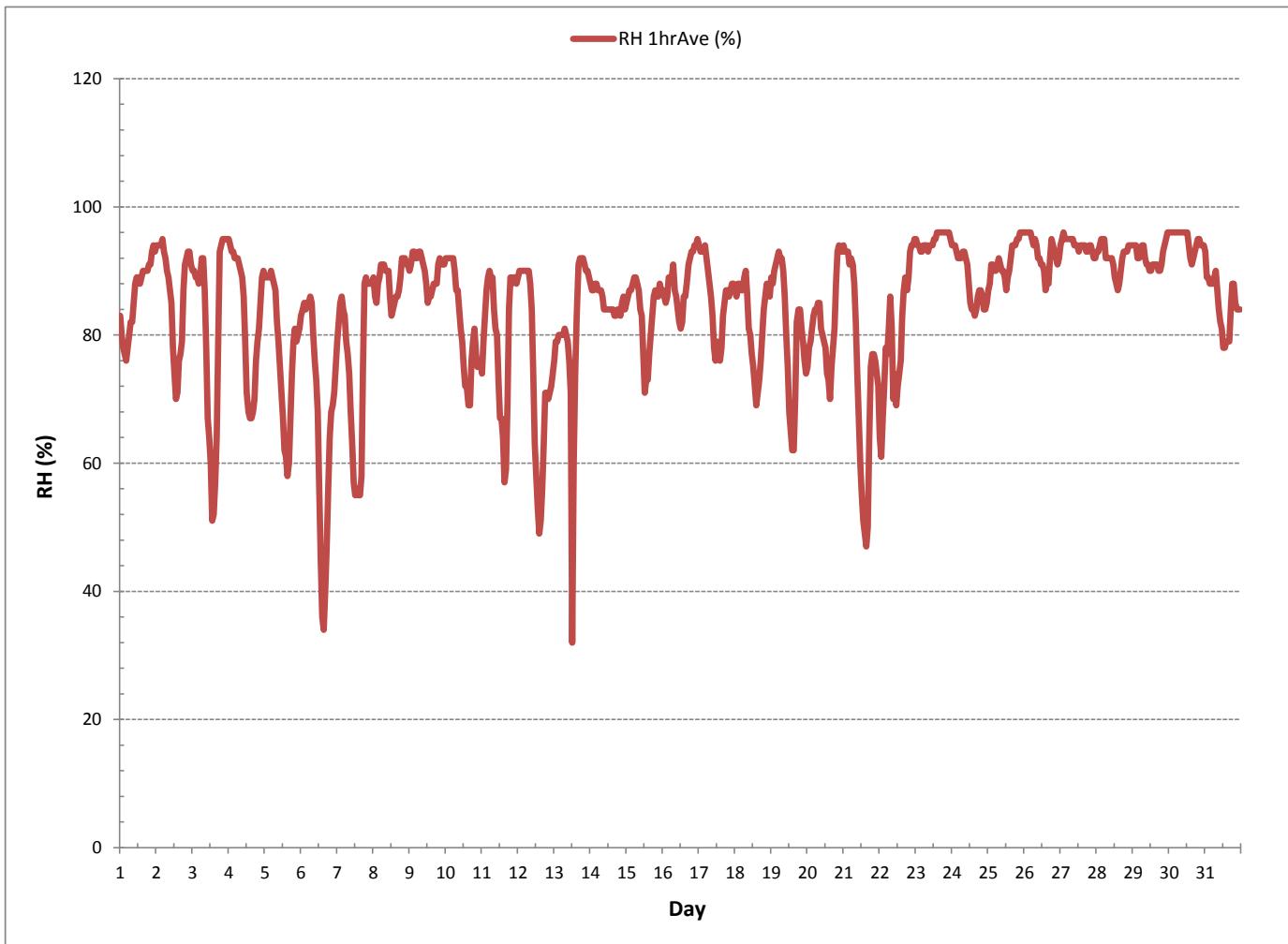
24 HOUR AVERAGES FOR October 2016



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	32	% @ HOUR(S)	12	ON DAY(S)	13
MAXIMUM 1-HR AVERAGE:	96	% @ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	95	%		ON DAY(S)	23, 30
				VAR-VARIOUS	
OPERATIONAL TIME:					
AMD OPERATION UPTIME:					
STANDARD DEVIATION:	10.65			MONTHLY AVERAGE:	85 %

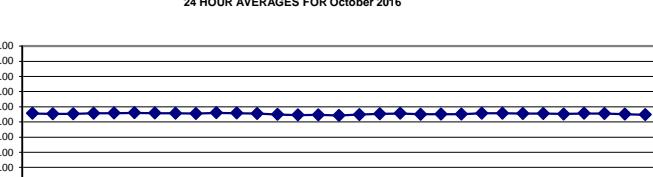
RELATIVE HUMIDITY Hourly Averages (RH %)



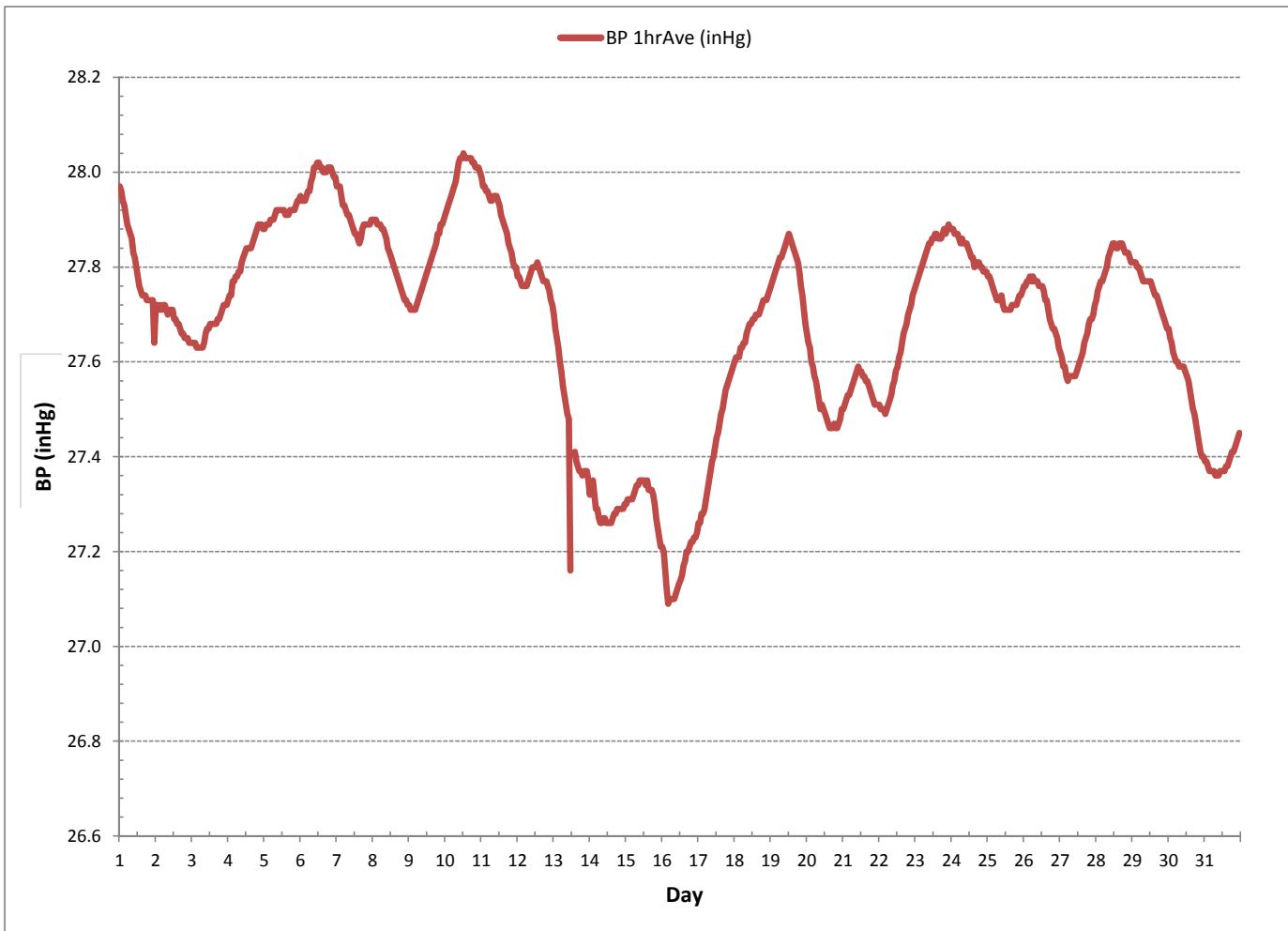
BAROMETRIC PRESSURE

MST		BAROMETRIC PRESSURE Hourly Averages (BP inHg)																								DAILY	DAILY	24-HOUR		
HOUR START	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-HOUR	RDGS.		
HOUR END	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	27.97	27.96	27.94	27.93	27.91	27.89	27.88	27.87	27.86	27.83	27.82	27.80	27.78	27.76	27.75	27.74	27.74	27.73	27.73	27.73	27.73	27.72	27.72	27.72	27.97	27.81	24			
2	27.72	27.72	27.71	27.72	27.71	27.72	27.72	27.71	27.70	27.71	27.71	27.71	27.69	27.69	27.68	27.68	27.67	27.66	27.66	27.65	27.65	27.65	27.64	27.64	27.72	27.69	24			
3	27.64	27.64	27.64	27.63	27.63	27.63	27.63	27.63	27.64	27.66	27.67	27.67	27.68	27.68	27.68	27.68	27.68	27.69	27.69	27.70	27.71	27.72	27.72	27.72	27.63	27.72	27.67	24		
4	27.73	27.74	27.74	27.77	27.77	27.78	27.78	27.79	27.81	27.82	27.83	27.84	27.84	27.84	27.84	27.85	27.86	27.87	27.88	27.89	27.89	27.88	27.88	27.73	27.89	27.82	24			
5	27.88	27.89	27.89	27.89	27.90	27.90	27.90	27.91	27.92	27.92	27.92	27.92	27.92	27.91	27.91	27.91	27.92	27.92	27.92	27.93	27.94	27.94	27.88	27.94	27.91	24				
6	27.95	27.94	27.94	27.94	27.95	27.96	27.96	27.98	27.99	28.01	28.01	28.02	28.02	28.01	28.01	28.00	28.00	28.00	28.01	28.01	28.00	27.99	27.99	27.94	28.02	27.99	24			
7	27.97	27.97	27.97	27.95	27.93	27.93	27.92	27.91	27.91	27.90	27.89	27.88	27.87	27.87	27.86	27.85	27.86	27.88	27.89	27.89	27.89	27.89	27.85	27.97	27.90	24				
8	27.90	27.90	27.89	27.89	27.89	27.88	27.88	27.87	27.86	27.84	27.83	27.82	27.81	27.80	27.79	27.78	27.77	27.76	27.75	27.74	27.73	27.73	27.72	27.72	27.90	27.82	24			
9	27.72	27.71	27.71	27.71	27.72	27.73	27.74	27.75	27.76	27.77	27.78	27.80	27.81	27.82	27.83	27.84	27.85	27.87	27.87	27.89	27.89	27.90	27.71	27.90	27.79	24				
10	27.91	27.92	27.93	27.94	27.95	27.96	27.97	27.98	28.00	28.02	28.03	28.03	28.03	28.03	28.03	28.03	28.03	28.03	28.03	28.02	28.01	28.00	27.91	28.04	28.00	24				
11	27.99	27.97	27.97	27.96	27.95	27.95	27.94	27.94	27.95	27.95	27.95	27.94	27.93	27.91	27.90	27.89	27.88	27.87	27.85	27.84	27.83	27.81	27.80	27.80	27.79	27.91	24			
12	27.78	27.78	27.77	27.76	27.76	27.76	27.76	27.77	27.78	27.79	27.80	27.80	27.80	27.81	27.80	27.79	27.78	27.77	27.77	27.76	27.75	27.73	27.72	27.72	27.81	27.77	24			
13	27.70	27.67	27.65	27.63	27.60	27.58	27.55	27.53	27.51	27.49	27.48	27.46	27.46	X	27.41	27.39	27.38	27.37	27.37	27.36	27.37	27.37	27.35	27.35	27.16	27.70	27.47	22		
14	27.32	27.34	27.35	27.32	27.29	27.29	27.27	27.26	27.26	27.27	27.27	27.26	27.26	27.26	27.26	27.26	27.27	27.27	27.28	27.28	27.29	27.29	27.30	27.26	27.35	27.29	24			
15	27.30	27.31	27.31	27.31	27.32	27.33	27.34	27.34	27.35	27.35	27.35	27.35	27.34	27.34	27.35	27.35	27.35	27.33	27.33	27.33	27.30	27.27	27.25	27.23	27.21	27.35	27.31	24		
16	27.21	27.20	27.16	27.12	27.09	27.10	27.10	27.10	27.11	27.12	27.13	27.14	27.15	27.17	27.18	27.20	27.20	27.21	27.22	27.23	27.23	27.24	27.24	27.24	27.16	24				
17	27.26	27.26	27.28	27.28	27.29	27.31	27.33	27.35	27.37	27.39	27.40	27.42	27.44	27.45	27.47	27.49	27.50	27.52	27.54	27.55	27.56	27.57	27.59	27.59	27.26	27.59	27.43	24		
18	27.60	27.61	27.61	27.63	27.63	27.64	27.64	27.66	27.67	27.68	27.68	27.69	27.69	27.70	27.70	27.70	27.70	27.71	27.72	27.73	27.73	27.74	27.75	27.75	27.60	27.75	27.68	24		
19	27.76	27.77	27.78	27.79	27.80	27.81	27.82	27.82	27.83	27.84	27.85	27.86	27.86	27.87	27.86	27.85	27.84	27.83	27.82	27.81	27.80	27.79	27.79	27.76	27.87	27.80	24			
20	27.66	27.64	27.63	27.60	27.59	27.57	27.56	27.54	27.52	27.50	27.50	27.49	27.48	27.47	27.46	27.46	27.46	27.46	27.47	27.47	27.48	27.50	27.46	27.66	27.52	24				
21	27.50	27.51	27.52	27.53	27.53	27.54	27.55	27.56	27.57	27.58	27.59	27.58	27.57	27.57	27.57	27.56	27.56	27.55	27.54	27.53	27.52	27.51	27.51	27.50	27.59	27.54	24			
22	27.51	27.50	27.50	27.49	27.50	27.51	27.52	27.53	27.55	27.55	27.56	27.58	27.59	27.61	27.62	27.64	27.66	27.67	27.68	27.70	27.71	27.72	27.74	27.75	27.75	27.60	27.75	27.60	24	
23	27.76	27.77	27.78	27.79	27.80	27.81	27.82	27.83	27.84	27.85	27.85	27.86	27.86	27.87	27.87	27.87	27.86	27.86	27.86	27.87	27.88	27.89	27.88	27.89	27.84	27.88	27.84	24		
24	27.88	27.88	27.87	27.87	27.87	27.86	27.85	27.86	27.85	27.85	27.85	27.84	27.82	27.82	27.82	27.80	27.81	27.81	27.80	27.80	27.79	27.79	27.79	27.79	27.88	27.83	24			
25	27.78	27.78	27.77	27.76	27.75	27.74	27.73	27.73	27.74	27.72	27.71	27.71	27.71	27.71	27.72	27.72	27.72	27.72	27.73	27.74	27.74	27.75	27.75	27.71	27.78	27.73	24			
26	27.76	27.76	27.77	27.77	27.78	27.77	27.77	27.77	27.77	27.76	27.76	27.75	27.75	27.73	27.73	27.73	27.71	27.69	27.68	27.67	27.67	27.65	27.63	27.63	27.78	27.73	24			
27	27.62	27.61	27.59	27.57	27.57	27.57	27.57	27.57	27.57	27.58	27.58	27.59	27.60	27.61	27.62	27.64	27.66	27.67	27.68	27.68	27.69	27.70	27.72	27.62	27.72	27.62	24			
28	27.73	27.75	27.76	27.77	27.78	27.80	27.82	27.83	27.84	27.85	27.85	27.84	27.84	27.84	27.84	27.85	27.85	27.85	27.84	27.84	27.83	27.83	27.83	27.82	27.81	27.81	24			
29	27.81	27.81	27.81	27.80	27.80	27.79	27.78	27.77	27.77	27.77	27.77	27.77	27.77	27.77	27.76	27.76	27.76	27.76	27.76	27.76	27.76	27.76	27.67	27.81	27.75	24				
30	27.67	27.65	27.64	27.62	27.61	27.60	27.60	27.59	27.59	27.59	27.58	27.58	27.57	27.56	27.55	27.55	27.55	27.55	27.54	27.54	27.54	27.54	27.40	27.67	27.54	24				
31	27.39	27.39	27.38	27.37	27.37	27.37	27.37	27.36	27.36	27.36	27.37	27.37	27.37	27.37	27.37	27.38	27.38	27.39	27.40	27.41	27.42	27.43	27.44	27.45	27.39	24				
HOURLY MAX		27.99	27.97	27.97	27.96	27.96	27.96	27.97	27.98	28.00	28.02	28.03	28.04	28.03	28.03	28.03	28.03	28.03	28.03	28.02	28.02	28.01	28.01	28.00						
HOURLY AVG		27.69	27.69	27.69	27.68	27.68	27.68	27.68	27.68	27.69	27.69	27.70	27.69	27.69	27.68	27.68	27.68	27.68	27.68	27.68	27.68	27.68	27.68	27.68	27.68	27.67				

24 HOUR AVERAGES FOR October 2016



BAROMETRIC PRESSURE Hourly Averages (BP inHg)

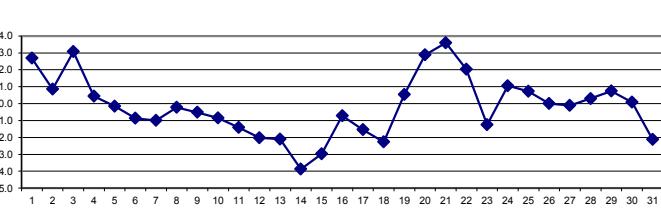


AMBIENT TEMPERATURE

AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)

MST		AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)																								DAILY MIN.	DAILY MAX.	24-HOUR AVG.	RDGS.	
HOUR START	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						
HOUR END	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	3.4	3.4	3.4	3.3	3.3	3.2	3.0	2.7	2.7	2.5	2.5	2.8	3.2	3.4	3.3	3.4	3.1	2.5	2.4	2.1	2.0	1.6	0.8	0.7	0.7	3.4	2.7	24		
2	0.5	0.4	0.3	0.4	0.3	0.1	0.0	-0.4	-0.4	0.0	1.7	2.7	3.0	3.1	3.5	3.5	3.2	1.7	-0.3	-0.7	-0.8	-1.0	0.1	-1.0	3.5	0.9	24			
3	0.7	0.8	0.9	1.3	1.5	0.9	-0.5	-0.8	1.4	4.2	6.7	7.6	8.9	10.2	10.2	9.0	7.0	3.6	0.1	-0.3	-0.4	0.0	0.7	-0.1	-0.8	10.2	3.1	24		
4	-0.9	-1.6	-2.0	-2.4	-2.4	-2.4	-2.1	-1.7	-0.9	-0.1	1.1	2.0	3.1	3.7	4.2	4.3	4.1	3.5	2.1	1.9	1.2	0.3	-1.5	-3.1	4.3	0.4	24			
5	-2.3	-2.4	-2.7	-2.0	-1.7	-1.4	-1.3	-0.2	0.8	1.2	1.8	2.4	3.2	3.3	3.5	3.0	1.6	-0.3	-1.4	-1.9	-1.7	-1.8	-2.2	-2.7	3.5	-0.2	24			
6	-2.9	-3.4	-3.7	-3.3	-3.4	-3.8	-4.5	-4.4	-4.4	-3.0	-1.6	-0.6	0.1	1.5	3.4	4.7	5.2	4.8	2.9	0.0	-1.9	-2.0	-1.4	-1.6	-2.0	-4.5	5.2	-0.9	24	
7	-2.7	-3.2	-3.5	-4.1	-4.0	-3.9	-3.2	-3.1	-2.4	-1.3	-0.3	1.1	1.4	1.9	2.5	2.6	2.1	0.4	-0.6	-0.7	-0.8	-0.7	-0.7	-0.7	-4.1	2.6	-1.0	24		
8	-0.8	-0.8	-0.9	-1.1	-1.2	-1.2	-1.3	-1.3	-1.0	-0.6	0.0	0.8	0.8	0.7	0.7	0.7	0.4	0.2	0.1	0.1	0.0	-0.1	-0.2	-1.3	0.8	-0.2	24			
9	-0.3	-0.4	-0.4	-0.5	-0.6	-0.6	-0.7	-0.7	-0.6	-0.4	-0.1	0.1	0.5	0.2	0.1	-0.2	-0.4	-0.7	-0.9	-1.1	-1.2	-1.2	-1.2	-1.2	0.5	-0.5	24			
10	-1.4	-1.4	-1.8	-1.8	-1.6	-1.8	-2.4	-2.4	-1.4	-1.1	-0.2	0.4	0.5	0.6	0.5	0.6	0.2	-0.2	-0.3	-0.5	-0.4	-0.5	-0.6	-3.5	0.6	-0.9	24			
11	-1.2	-2.7	-3.8	-4.3	-5.1	-5.4	-5.3	-4.8	-3.4	-2.0	-1.1	0.7	2.2	2.6	3.3	4.6	4.0	2.0	-1.3	-2.0	-2.0	-2.9	-3.0	-3.1	-5.4	4.6	-1.4	24		
12	-3.6	-4.1	-3.8	-4.5	-5.2	-5.7	-6.1	-5.3	-4.4	-2.8	-0.7	0.6	1.6	2.5	3.1	2.9	1.9	0.4	-1.8	-2.5	-2.2	-2.6	-3.0	-3.2	-6.1	3.1	-2.0	24		
13	-3.1	-2.9	-2.5	-2.4	-2.4	-2.7	-2.7	-2.2	-1.6	-0.8	-1.7	X	X	0.0	-0.6	-1.2	-1.5	-1.8	-2.0	-2.2	-2.4	-3.1	-3.8	-3.8	0.0	-2.1	22			
14	-4.5	-4.2	-4.0	-4.9	-4.3	-4.1	-4.1	-4.2	-4.2	-4.0	-3.7	-3.4	-3.2	-3.1	-3.1	-2.9	-3.0	-3.3	-3.7	-3.9	-4.0	-4.3	-4.5	-4.4	-4.9	-2.9	-3.9	24		
15	-4.5	-4.6	-4.9	-5.3	-6.3	-5.5	-5.2	-5.3	-5.0	-3.9	-3.3	-1.4	-0.1	-0.4	-0.1	-0.5	-0.9	-1.3	-2.0	-1.8	-1.6	-2.3	-2.8	-2.5	-6.3	-0.1	-3.0	24		
16	-1.7	-1.6	-1.6	-1.5	-1.1	-0.9	-1.0	-1.3	-1.0	-0.9	-0.6	-0.1	0.3	0.5	0.5	0.4	0.4	-0.2	-0.4	-0.6	-0.9	-1.3	-1.4	-1.7	0.5	-0.7	24			
17	-1.3	-1.5	-1.6	-1.8	-2.0	-2.1	-2.4	-2.6	-2.4	-1.8	-1.4	-0.9	-1.0	-0.8	-0.3	-0.4	-1.0	-1.2	-1.5	-1.6	-1.7	-1.9	-2.1	-2.6	-0.3	-1.6	24			
18	-2.2	-2.2	-3.2	-3.4	-3.5	-3.6	-4.5	-4.9	-3.5	-2.5	-2.5	-2.1	-1.7	-1.2	-0.1	-0.3	-0.6	-0.7	-1.2	-1.6	-1.9	-3.0	-1.9	-2.0	-4.9	-0.1	-2.3	24		
19	-3.7	-2.5	-3.0	-4.0	-4.0	-4.0	-3.8	-3.7	-2.8	-1.0	1.3	2.7	4.5	5.5	6.4	6.7	4.6	1.8	0.9	1.3	1.6	2.2	2.6	3.1	4.0	6.7	0.5	24		
20	2.9	2.2	2.4	2.1	1.6	1.0	1.5	1.3	1.5	2.3	2.5	3.0	3.2	4.4	4.7	5.4	4.2	4.1	3.9	3.2	2.5	3.0	3.2	2.9	1.0	5.4	2.9	24		
21	2.5	2.6	2.4	2.1	2.0	1.5	1.3	1.4	2.5	4.1	5.4	6.8	7.6	8.4	8.9	9.0	7.8	4.1	1.7	1.1	0.9	0.7	0.5	1.0	9.0	3.6	24			
22	2.9	3.4	2.5	1.6	-0.1	0.0	-0.6	-1.2	0.0	3.2	2.9	5.1	5.2	5.4	5.1	4.1	3.3	2.8	2.8	2.2	0.8	-0.3	-0.9	-1.5	5.4	2.0	24			
23	-1.3	-2.2	-2.1	-3.1	-3.4	-2.8	-2.5	-3.0	-3.0	-2.7	-2.1	-1.9	-1.3	-0.5	0.1	0.7	0.8	0.4	0.0	-0.1	-0.2	0.4	0.3	-3.4	0.8	-1.2	24			
24	-0.5	-0.1	0.0	0.7	0.8	0.7	0.8	0.8	0.8	0.9	1.1	1.5	1.9	1.9	2.0	2.1	1.9	1.5	1.2	1.1	1.0	1.1	1.1	1.1	0.5	2.1	1.1	24		
25	1.0	1.0	0.6	0.5	0.7	0.7	0.7	0.8	0.9	1.0	1.1	1.3	1.7	1.5	1.7	1.0	0.4	0.3	0.2	0.1	0.0	-0.1	-0.1	-0.1	1.7	0.7	24			
26	-0.1	-0.1	-0.3	-0.3	-0.5	-0.6	-0.5	-0.5	-0.4	-0.5	-0.4	-0.3	0.1	0.3	0.8	1.5	1.4	1.3	-0.4	-0.7	0.0	0.0	0.1	0.1	-0.3	-0.7	1.5	0.0	24	
27	-0.6	-0.6	-0.5	-0.3	-0.4	-0.4	-0.3	-0.3	-0.3	-0.2	-0.1	0.3	0.5	0.3	0.4	0.4	0.2	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	0.0	-0.6	0.5	-0.1	24		
28	0.0	0.0	-0.1	-0.1	-0.2	-0.3	-0.3	-0.4	-0.4	-0.3	-0.2	0.3	0.7	0.9	1.2	1.1	1.1	0.7	0.6	0.5	0.5	0.6	0.6	0.6	-0.4	1.2	0.3	24		
29	0.6	0.6	0.8	1.1	1.3	1.4	1.3	1.3	1.2	1.2	1.1	1.3	1.5	1.3	1.4	1.1	0.8	0.6	0.3	0.1	-0.2	-0.5	-0.8	-1.0	-1.0	1.5	0.7	24		
30	-0.8	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.6	-0.6	-0.6	-0.8	-0.8	-0.5	-0.1	0.6	1.1	1.0	1.1	1.2	1.1	1.2	1.3	1.1	0.5	-0.8	1.3	0.1	24		
31	0.3	-0.2	-0.8	-0.8	-1.1	-1.4	-2.1	-2.3	-2.3	-2.1	-1.9	-1.9	-1.6	-1.5	-1.8	-2.0	-2.4	-2.8	-3.2	-3.6	-3.6	-3.9	-4.0	-4.1	-4.1	0.3	-2.1	24		
HOURLY MAX	3.4	3.4	3.4	3.3	3.3	3.2	3.0	2.7	2.7	4.2	6.7	7.6	8.9	10.2	10.2	9.0	7.8	4.1	3.9	3.2	2.5	3.0	3.2	3.1						
HOURLY AVG	-0.8	-0.9	-1.1	-1.3	-1.4	-1.5	-1.6	-1.7	-1.2	-0.4	0.2	0.9	1.6	2.0	2.2	2.2	1.7	0.8	0.0	-0.4	-0.5	-0.7	-0.8	-1.0						

24 HOUR AVERAGES FOR October 2016



MINIMUM 1-HR AVERAGE:

-6.3 °C @ HOUR(S) 4 ON DAY(S) 15

MAXIMUM 1-HR AVERAGE:

10.2 °C @ HOUR(S) 13 , 14 ON DAY(S) 3 , 3

MAXIMUM 24-HR AVERAGE:

3.6 °C ON DAY(S) 21 VAR-VARIOUS

OPERATIONAL TIME:

742 HRS

AMD OPERATION UPTIME:

99.7 %

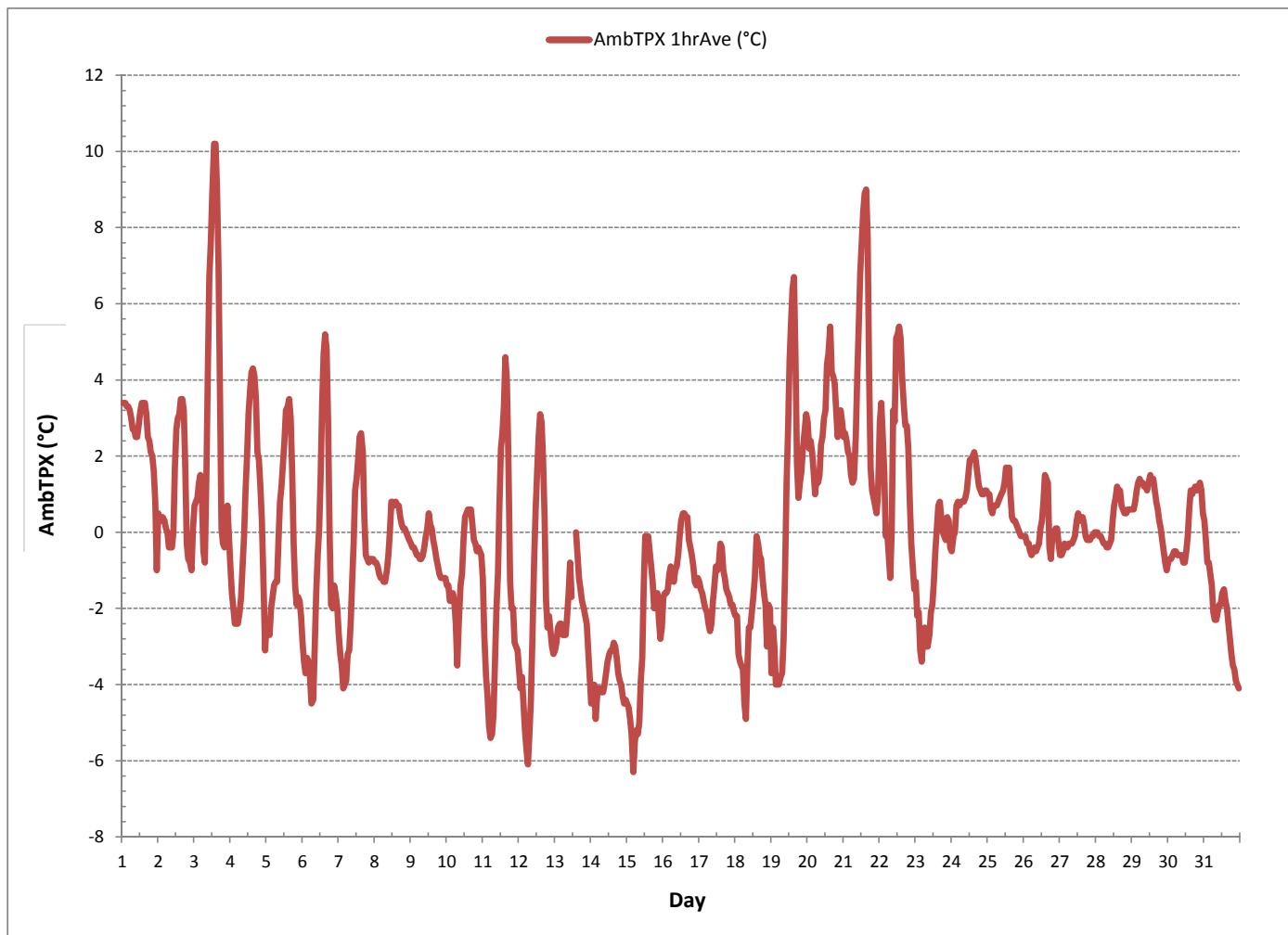
STANDARD DEVIATION:

2.51

MONTHLY AVERAGE:

-0.2 °C

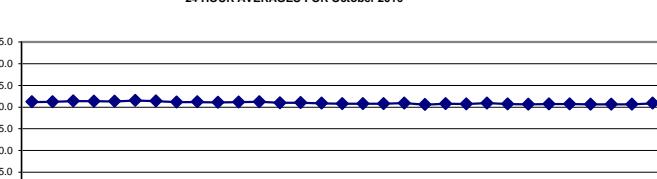
AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)



STATION TEMPERATURE

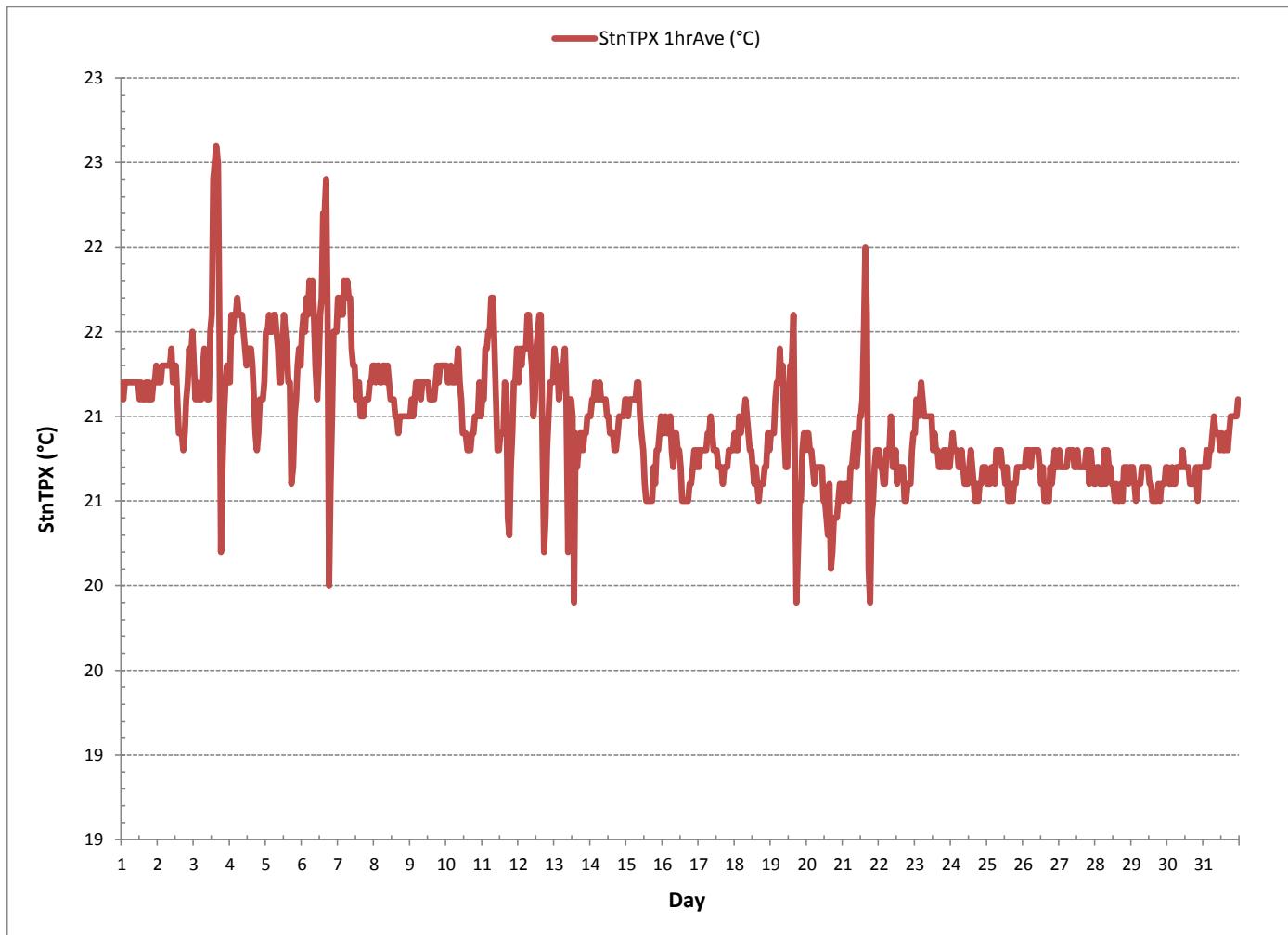
STATION TEMPERATURE Hourly Averages (StnTPX °C)

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-HOUR AVG.	RDGS.	
HOUR START	HOUR END	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	21.2	21.1	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.1	21.2	21.2	24		
2	21.2	21.2	21.2	21.3	21.3	21.3	21.3	21.3	21.4	21.2	21.3	21.3	21.1	20.9	20.9	20.9	20.9	20.9	20.8	20.9	21.1	21.2	21.4	21.3	21.5	20.8	21.5	21.2	24	
3	21.3	21.1	21.2	21.1	21.1	21.1	21.1	21.3	21.4	21.3	21.1	21.1	21.5	21.6	22.4	22.5	22.6	22.5	21.5	20.2	20.7	21.0	21.2	21.3	21.2	21.1	20.2	22.6	21.4	24
4	21.2	21.6	21.5	21.6	21.6	21.7	21.6	21.6	21.5	21.4	21.4	21.3	21.4	21.4	21.4	21.3	21.1	20.9	20.8	20.9	21.1	21.1	21.2	20.8	21.7	21.3	24			
5	21.5	21.5	21.6	21.5	21.5	21.6	21.6	21.5	21.4	21.2	21.2	21.4	21.6	21.5	21.4	21.2	21.2	20.6	20.7	21.0	21.1	21.3	21.4	21.3	20.6	21.6	21.3	24		
6	21.5	21.6	21.5	21.7	21.6	21.8	21.7	21.8	21.6	21.3	21.1	21.3	21.6	21.7	22.2	22.2	22.4	21.6	20.0	20.6	21.0	21.5	21.5	21.5	20.0	22.4	21.5	24		
7	21.7	21.6	21.7	21.6	21.8	21.7	21.8	21.7	21.4	21.3	21.3	21.1	21.1	21.2	21.2	21.0	21.0	21.0	21.1	21.1	21.2	21.2	21.3	21.0	21.8	21.4	24			
8	21.3	21.2	21.3	21.3	21.2	21.2	21.3	21.3	21.2	21.3	21.2	21.1	21.1	21.0	21.0	21.0	20.9	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.3	21.1	24			
9	21.0	21.1	21.0	21.1	21.2	21.2	21.2	21.1	21.2	21.2	21.2	21.1	21.1	21.1	21.1	21.1	21.1	21.2	21.3	21.3	21.3	21.3	21.0	21.3	21.2	21.0	21.2	24		
10	21.3	21.2	21.2	21.3	21.2	21.2	21.2	21.3	21.4	21.2	21.1	20.9	20.9	20.9	20.8	20.8	20.8	20.9	20.9	21.0	21.0	21.0	21.0	21.0	20.8	21.4	21.1	24		
11	21.1	21.1	21.4	21.4	21.5	21.5	21.7	21.7	21.4	21.1	20.8	20.8	20.9	20.9	20.9	20.9	21.2	21.1	20.4	20.3	20.7	20.9	21.2	21.2	21.4	20.3	21.7	21.1	24	
12	21.2	21.4	21.3	21.4	21.4	21.4	21.6	21.6	21.4	21.3	21.0	21.1	21.4	21.5	21.6	21.6	20.8	20.8	20.2	20.4	20.8	21.0	21.2	21.2	20.2	21.6	21.2	24		
13	21.4	21.3	21.3	21.1	21.2	21.3	21.3	21.4	21.1	20.2	21.1	21.1	21.0	19.9	19.9	20.7	20.8	20.9	20.9	20.8	20.9	20.9	21.0	21.0	19.9	21.4	21.0	24		
14	21.0	21.1	21.1	21.2	21.1	21.1	21.2	21.1	21.1	21.1	21.0	21.0	20.9	20.9	20.9	20.9	20.8	20.8	20.9	21.0	21.0	21.0	21.0	21.0	20.8	21.2	21.0	24		
15	21.1	21.0	21.1	21.1	21.1	21.1	21.2	21.2	21.0	20.9	20.8	20.8	20.6	20.5	20.5	20.5	20.5	20.5	20.5	20.7	20.6	20.8	20.9	21.0	20.5	21.2	20.9	24		
16	20.9	20.9	21.0	20.9	21.0	20.8	20.7	20.9	20.9	20.8	20.8	20.7	20.5	20.5	20.5	20.5	20.5	20.5	20.6	20.7	20.8	20.7	20.8	20.5	21.0	20.7	24			
17	20.7	20.8	20.8	20.8	20.8	20.9	20.9	21.0	20.9	20.8	20.8	20.7	20.7	20.7	20.6	20.7	20.7	20.7	20.7	20.8	20.8	20.8	20.8	20.6	21.0	20.8	24			
18	20.9	20.8	20.8	21.0	20.9	21.0	21.0	21.1	20.9	20.8	20.8	20.7	20.6	20.7	20.6	20.5	20.5	20.6	20.6	20.7	20.7	20.9	20.8	20.5	21.1	20.8	24			
19	20.9	20.9	20.9	21.1	21.2	21.2	21.4	21.2	21.3	20.9	20.7	20.7	21.1	21.3	21.3	21.6	20.7	19.9	20.2	20.5	20.5	20.5	20.8	20.9	19.9	21.6	20.9	24		
20	20.9	20.9	20.8	20.8	20.7	20.6	20.7	20.7	20.7	20.7	20.7	20.5	20.4	20.3	20.6	20.1	20.2	20.4	20.4	20.4	20.5	20.5	20.6	20.1	20.9	20.6	24			
21	20.5	20.6	20.6	20.5	20.7	20.7	20.8	20.9	20.7	20.8	21.0	21.0	21.1	21.5	22.0	21.6	20.1	19.9	20.4	20.5	20.7	20.8	20.8	19.9	22.0	20.8	24			
22	20.8	20.7	20.7	20.6	20.6	20.8	20.8	21.0	20.7	20.7	20.8	20.6	20.7	20.7	20.7	20.5	20.5	20.6	20.6	20.6	20.8	20.7	20.5	21.0	20.7	20.5	21.0	20.7	24	
23	20.9	21.1	21.0	21.1	21.2	21.1	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	20.8	20.9	20.8	20.8	20.7	20.7	20.8	20.7	20.7	21.2	20.9	24			
24	20.8	20.9	20.8	20.8	20.8	20.7	20.7	20.8	20.7	20.6	20.6	20.6	20.7	20.8	20.7	20.6	20.5	20.5	20.6	20.6	20.7	20.7	20.5	20.9	20.7	24				
25	20.6	20.6	20.6	20.7	20.6	20.6	20.8	20.8	20.8	20.7	20.7	20.6	20.5	20.5	20.6	20.6	20.5	20.6	20.6	20.7	20.7	20.7	20.5	20.8	20.7	24				
26	20.7	20.7	20.8	20.8	20.7	20.8	20.8	20.8	20.8	20.7	20.7	20.6	20.5	20.5	20.5	20.5	20.5	20.5	20.7	20.6	20.7	20.7	20.5	20.8	20.7	24				
27	20.8	20.7	20.7	20.7	20.7	20.7	20.8	20.8	20.8	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.8	20.8	20.8	20.7	20.7	20.6	20.6	20.8	20.7	24			
28	20.6	20.7	20.7	20.6	20.6	20.6	20.8	20.8	20.7	20.7	20.6	20.6	20.5	20.5	20.5	20.5	20.6	20.5	20.7	20.7	20.7	20.6	20.7	20.5	20.8	20.6	24			
29	20.7	20.7	20.6	20.5	20.6	20.6	20.7	20.7	20.7	20.7	20.7	20.6	20.6	20.5	20.5	20.5	20.5	20.6	20.6	20.6	20.7	20.7	20.5	20.7	20.6	24				
30	20.7	20.6	20.6	20.7	20.6	20.6	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.6	20.6	20.7	20.7	20.7	20.7	20.5	20.8	20.7	24				
31	20.7	20.7	20.8	20.7	20.8	20.8	20.9	21.0	20.9	20.9	20.8	20.8	20.8	20.8	20.9	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.1	20.7	21.1	20.9	24			
HOURLY MAX		21.7	21.6	21.7	21.7	21.8	21.8	21.8	21.7	21.5	21.4	21.5	21.6	22.4	22.5	22.6	22.5	21.6	21.3	21.2	21.3	21.5	21.5	21.5						
HOURLY AVG		21.0	21.0	21.0	21.0	21.1	21.1	21.1	21.0	20.9	20.9	21.0	20.9	20.9	21.0	20.9	20.9	20.7	20.8	20.8	20.9	21.0	21.0	21.0						

24 HOUR AVERAGES FOR October 2016

MONTHLY SUMMARY

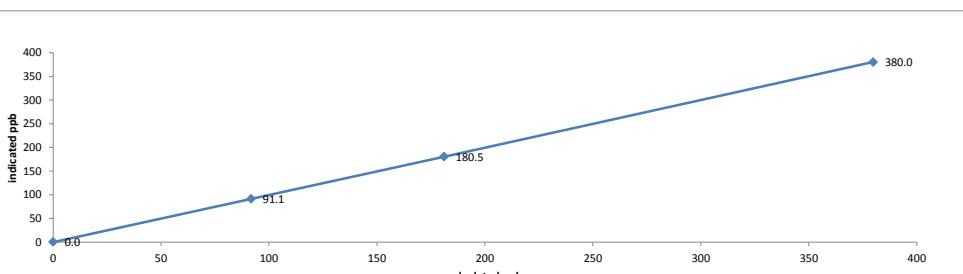
MINIMUM 1-HR AVERAGE:	19.9	°C	@ HOUR(S)	VAR	
MAXIMUM 1-HR AVERAGE:	22.6	°C	@ HOUR(S)	15	
MAXIMUM 24-HR AVERAGE:	21.5	°C			
			ON DAY(S)		VAR
			ON DAY(S)		3
			ON DAY(S)		6
			VAR-VARIOUS		
OPERATIONAL TIME:					
AMD OPERATION UPTIME:					
STANDARD DEVIATION:	0.36				
MONTHLY AVERAGE:					
			21.0	°C	

STATION TEMPERATURE Hourly Averages (StnTPX °C)



APPENDIX II
EQUIPMENT CALIBRATION RESULTS

SULPHUR DIOXIDE

 API 100A Sulphur Dioxide Analyzer Calibration																																																													
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Date: <u>October 13, 2016</u></td> <td style="width: 50%;">Barometric Pressure: <u>27.48 inHg</u></td> </tr> <tr> <td>Company/Airshed: <u>PRAMP</u></td> <td>Station Temperature °C: <u>21</u></td> </tr> <tr> <td>Location/Station Name: <u>RENO</u></td> <td>Weather Conditions: <u>Mainly cloudy with clear breaks</u></td> </tr> <tr> <td>Parameter: <u>Sulphur Dioxide</u></td> <td>Calibration Purpose: <u>routine monthly</u></td> </tr> <tr> <td>Start Time 24 hr. (mst): <u>9:30</u></td> <td>Performed By/Reviewer: <u>Limin Li Trina Whitsitt</u></td> </tr> <tr> <td>End Time 24 hr. (mst): <u>13:10</u></td> <td>Cal Gas Expiry Date: <u>December 25, 2018</u></td> </tr> <tr> <td>Calibration Method: <u>Gas Dilution</u></td> <td>Converter Model & s/n (if applicable): <u>n/a</u></td> </tr> </table>		Date: <u>October 13, 2016</u>	Barometric Pressure: <u>27.48 inHg</u>	Company/Airshed: <u>PRAMP</u>	Station Temperature °C: <u>21</u>	Location/Station Name: <u>RENO</u>	Weather Conditions: <u>Mainly cloudy with clear breaks</u>	Parameter: <u>Sulphur Dioxide</u>	Calibration Purpose: <u>routine monthly</u>	Start Time 24 hr. (mst): <u>9:30</u>	Performed By/Reviewer: <u>Limin Li Trina Whitsitt</u>	End Time 24 hr. (mst): <u>13:10</u>	Cal Gas Expiry Date: <u>December 25, 2018</u>	Calibration Method: <u>Gas Dilution</u>	Converter Model & s/n (if applicable): <u>n/a</u>																																														
Date: <u>October 13, 2016</u>	Barometric Pressure: <u>27.48 inHg</u>																																																												
Company/Airshed: <u>PRAMP</u>	Station Temperature °C: <u>21</u>																																																												
Location/Station Name: <u>RENO</u>	Weather Conditions: <u>Mainly cloudy with clear breaks</u>																																																												
Parameter: <u>Sulphur Dioxide</u>	Calibration Purpose: <u>routine monthly</u>																																																												
Start Time 24 hr. (mst): <u>9:30</u>	Performed By/Reviewer: <u>Limin Li Trina Whitsitt</u>																																																												
End Time 24 hr. (mst): <u>13:10</u>	Cal Gas Expiry Date: <u>December 25, 2018</u>																																																												
Calibration Method: <u>Gas Dilution</u>	Converter Model & s/n (if applicable): <u>n/a</u>																																																												
Analyzer: ID# or Serial Number: <u>841</u> Range ppb: <u>500</u> Last Calibration Date: <u>September 7, 2016</u> As Found C.F.: <u>1.013</u> Previous C.F.: <u>1.000</u> New C.F.: <u>0.999</u>																																																													
Calibrator: Flow Meter ID's: <u>n/a</u> Standard Calibration Points for Ranges Make & Model: <u>Sabio 2010</u> Serial #: <u>17200415</u> Cal Gas Cylinder I.D. #: <u>BLM002756T</u> Cal Gas Conc. (ppm): <u>49.9</u> <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;">Point</td> <td style="border: 1px solid black; padding: 2px;">ppb</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">High</td> <td style="border: 1px solid black; padding: 2px;">380</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">Mid</td> <td style="border: 1px solid black; padding: 2px;">180</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">Low</td> <td style="border: 1px solid black; padding: 2px;">90</td> </tr> </table>		Point	ppb	High	380	Mid	180	Low	90																																																				
Point	ppb																																																												
High	380																																																												
Mid	180																																																												
Low	90																																																												
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015																																																													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">Calibrator Flow Rates (cc/min)</th> <th>Calculated Concentration:</th> <th>Indicated Concentration:</th> <th>Correction Factors (C.F.):</th> </tr> <tr> <th>Point</th> <th>Diluent</th> <th>Cal Gas</th> <th>Total</th> <th>(ppb)</th> <th>(ppb)</th> </tr> </thead> <tbody> <tr> <td>as found zero</td> <td>6527</td> <td>0.00</td> <td>6527</td> <td>0.0</td> <td>-0.4</td> </tr> <tr> <td>as found high</td> <td>6480</td> <td>49.70</td> <td>6530</td> <td>379.8</td> <td>1.013</td> </tr> <tr> <td>adjusted zero</td> <td>6527</td> <td>0.00</td> <td>6527</td> <td>0.0</td> <td>n/a</td> </tr> <tr> <td>adjusted high</td> <td>6480</td> <td>49.70</td> <td>6530</td> <td>379.8</td> <td>0.999</td> </tr> <tr> <td>mid</td> <td>6506</td> <td>23.70</td> <td>6530</td> <td>181.1</td> <td>1.003</td> </tr> <tr> <td>low</td> <td>6518</td> <td>12.00</td> <td>6530</td> <td>91.7</td> <td>1.007</td> </tr> <tr> <td>calibrator zero</td> <td>6527</td> <td>0.00</td> <td>6527</td> <td>0.0</td> <td>n/a</td> </tr> <tr> <td colspan="5"></td> <td>Average C.F.= <u>1.003</u></td> </tr> </tbody> </table>		Calibrator Flow Rates (cc/min)			Calculated Concentration:	Indicated Concentration:	Correction Factors (C.F.):	Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	as found zero	6527	0.00	6527	0.0	-0.4	as found high	6480	49.70	6530	379.8	1.013	adjusted zero	6527	0.00	6527	0.0	n/a	adjusted high	6480	49.70	6530	379.8	0.999	mid	6506	23.70	6530	181.1	1.003	low	6518	12.00	6530	91.7	1.007	calibrator zero	6527	0.00	6527	0.0	n/a						Average C.F.= <u>1.003</u>
Calibrator Flow Rates (cc/min)			Calculated Concentration:	Indicated Concentration:	Correction Factors (C.F.):																																																								
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)																																																								
as found zero	6527	0.00	6527	0.0	-0.4																																																								
as found high	6480	49.70	6530	379.8	1.013																																																								
adjusted zero	6527	0.00	6527	0.0	n/a																																																								
adjusted high	6480	49.70	6530	379.8	0.999																																																								
mid	6506	23.70	6530	181.1	1.003																																																								
low	6518	12.00	6530	91.7	1.007																																																								
calibrator zero	6527	0.00	6527	0.0	n/a																																																								
					Average C.F.= <u>1.003</u>																																																								
Linear Regression/Calibration Results: Correlation Coefficient = <u>1.000</u> LIMITS Slope = <u>0.999</u> > or = <u>0.995</u> b (Intercept as % of full scale) = <u>0.08%</u> ± 3% F.S. % change in C.F. from last cal= <u>-1.26%</u> ± 10%																																																													
API 100A Sulphur Dioxide Analyzer Calibration																																																													
																																																													
SLOPE: <u>0.967</u> SLOPE: <u>0.983</u> OFFSET: <u>43.1</u> OFFSET: <u>42.7</u> HVPS: <u>763</u> HVPS: <u>763</u> DCPS: <u>2562</u> DCPS: <u>2562</u> RCELL TEMP: <u>50.2</u> RCELL TEMP: <u>50.2</u> BOX TEMP: <u>26.7</u> BOX TEMP: <u>28</u> PMT TEMP: <u>7.2</u> PMT TEMP: <u>7.2</u> IZS TEMP: <u>45</u> IZS TEMP: <u>45.1</u> Converter Temp: <u>n/a</u> Converter Temp: <u>n/a</u> PRES: <u>24.8</u> PRES: <u>24.6</u> SAMP FL: <u>688</u> SAMP FL: <u>680</u> PMT: <u>60.7</u> PMT: <u>60.7</u> UV LAMP: <u>2208</u> UV LAMP: <u>2140</u> LAMP RATIO: <u>98.3</u> LAMP RATIO: <u>95.5</u> STR. LGT: <u>20.8</u> STR. LGT: <u>21</u> DRK PMT: <u>27.3</u> DRK PMT: <u>27.2</u> DRK LMP: <u>-16.8</u> DRK LMP: <u>-16.9</u> Expected Value: <u>320.3</u> Expected Value: <u>322.2</u>																																																													
Comments: The analyzer sample inlet filter was changed.																																																													

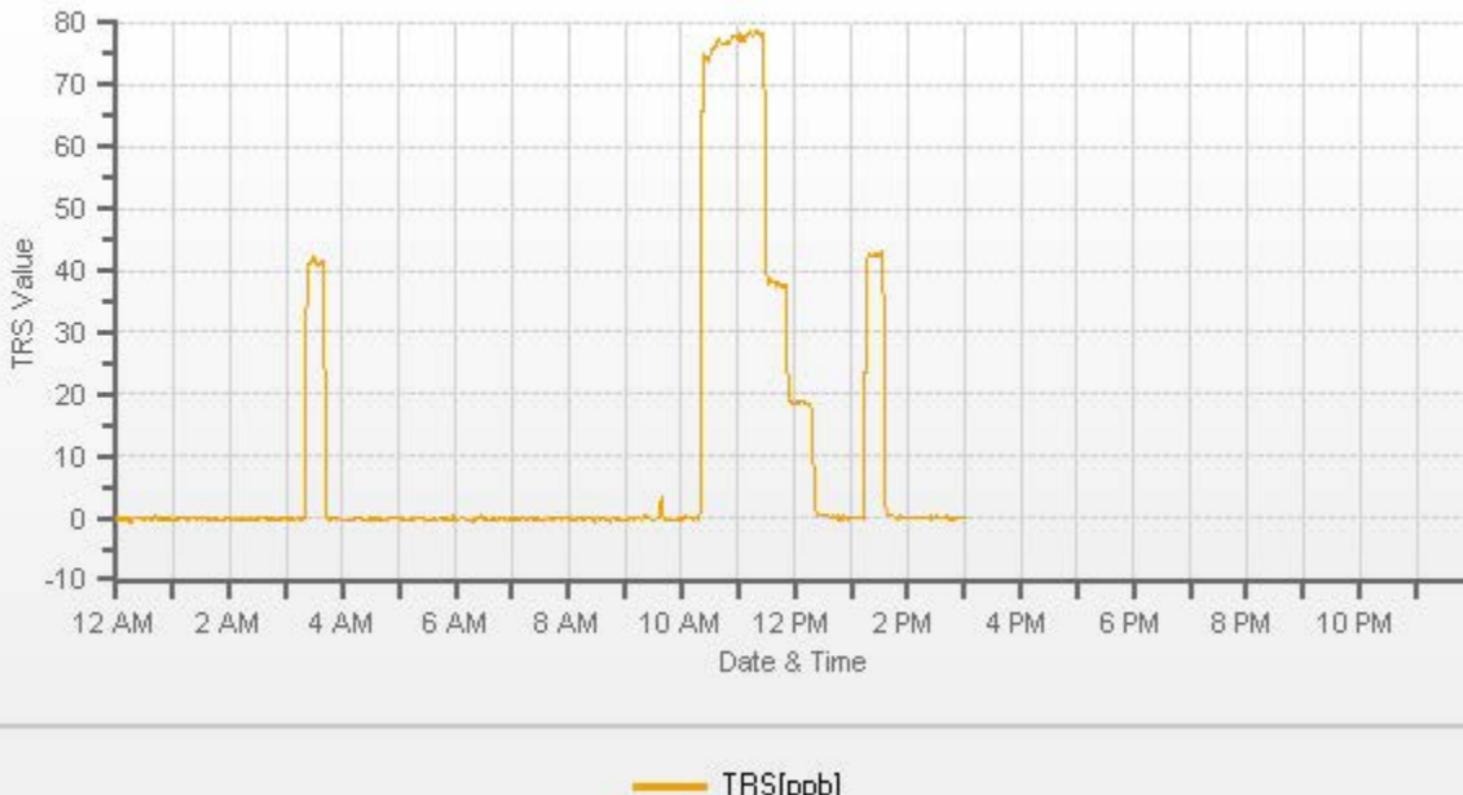
SO2[ppb] Station: PRAMP RENO TRAILER Daily: 2016/10/13 Type: AVG 1 Min. [1 Min.]



TOTAL REDUCED SULPHUR

Maxxam A Bureau Veritas Group Company		Thermo 43i Total Reduced Sulphur Analyzer Calibration			
Date:	October 13, 2016	Barometric Pressure:	27.48 inHg		
Company/Airshed:	PRAMP	Station Temperature °C:	21		
Location/Station Name:	RENO	Weather Conditions:	Mainly cloudy with clear breaks		
Parameter:	Total Reduced Sulphur	Calibration Purpose:	routine monthly		
Start Time 24 hr. (mst):	9:30	Performed By/Reviewer:	Limin Li Trina Whitsitt		
End Time 24 hr. (mst):	13:00	Cal Gas Expiry Date:	January 6, 2018		
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	WATLOW 05572		
Analyzer:					
ID# or Serial Number:	1226154721	Range ppb:	100		
Last Calibration Date:	September 7, 2016	As Found C.F.:	1.005		
Previous C.F.:	0.998	New C.F.:	0.999		
Calibrator:					
Flow Meter ID's:	n/a	Standard Calibration Points for Ranges			
Make & Model:	Envirionics 2000	Point	ppb		
Serial #:	1991	High	78		
Cal Gas Cylinder I.D. # :	BLM2508	Mid	38		
Cal Gas Conc. (ppm):	10.2	Low	19		
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015					
Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)
as found zero	7513	0.00	7513	0.0	-0.2
as found high	7454	57.43	7511	78.0	77.4
adjusted zero	7513	0.00	7513	0.0	0.0
adjusted high	7454	57.43	7511	78.0	78.1
mid	7486	27.96	7514	37.9	37.8
low	7501	13.96	7514	18.9	18.5
calibrator zero	7513	0.00	7513	0.0	0.2
				Average C.F. =	1.009
Linear Regression/Calibration Results:					
Correlation Coefficient =	1.000	> or = 0.995	LIMITS		
Slope =	0.997	.95-1.05			
b (Intercept as % of full scale)=	0.23%	± 3% F.S.			
% change in C.F. from last cal=	-0.70%	± 10%			
Thermo 43i Total Reduced Sulphur Analyzer Calibration					
BKG:	17.1	BKG:	17.1		
COEF:	0.986	COEF:	1.000		
PMT:	-662.3	PMT:	-662.3		
FLASH:	929	FLASH:	927		
INTERNAL:	26.9	INTERNAL:	28.4		
CHAMBER:	45.1	CHAMBER:	44.8		
PERM OVEN GAS:	34.99	PERM OVEN GAS:	35.01		
PERM OVEN HEATER:	34.18	PERM OVEN HEATER:	34.21		
PRESSURE:	512.4	PRESSURE:	511.8		
SAMPLE FLOW:	0.754	SAMPLE FLOW:	0.750		
LAMP INTENSITY:	91	LAMP INTENSITY:	91		
CONVERTER:	800	CONVERTER:	800		
CONVERTER SET:	800	CONVERTER SET:	800		
Expected Value:	41.1	Expected Value:	42.7		
Comments:					
The analyzer sample inlet filter was changed.			The analyzer cooling fan filter(s) were cleaned.		

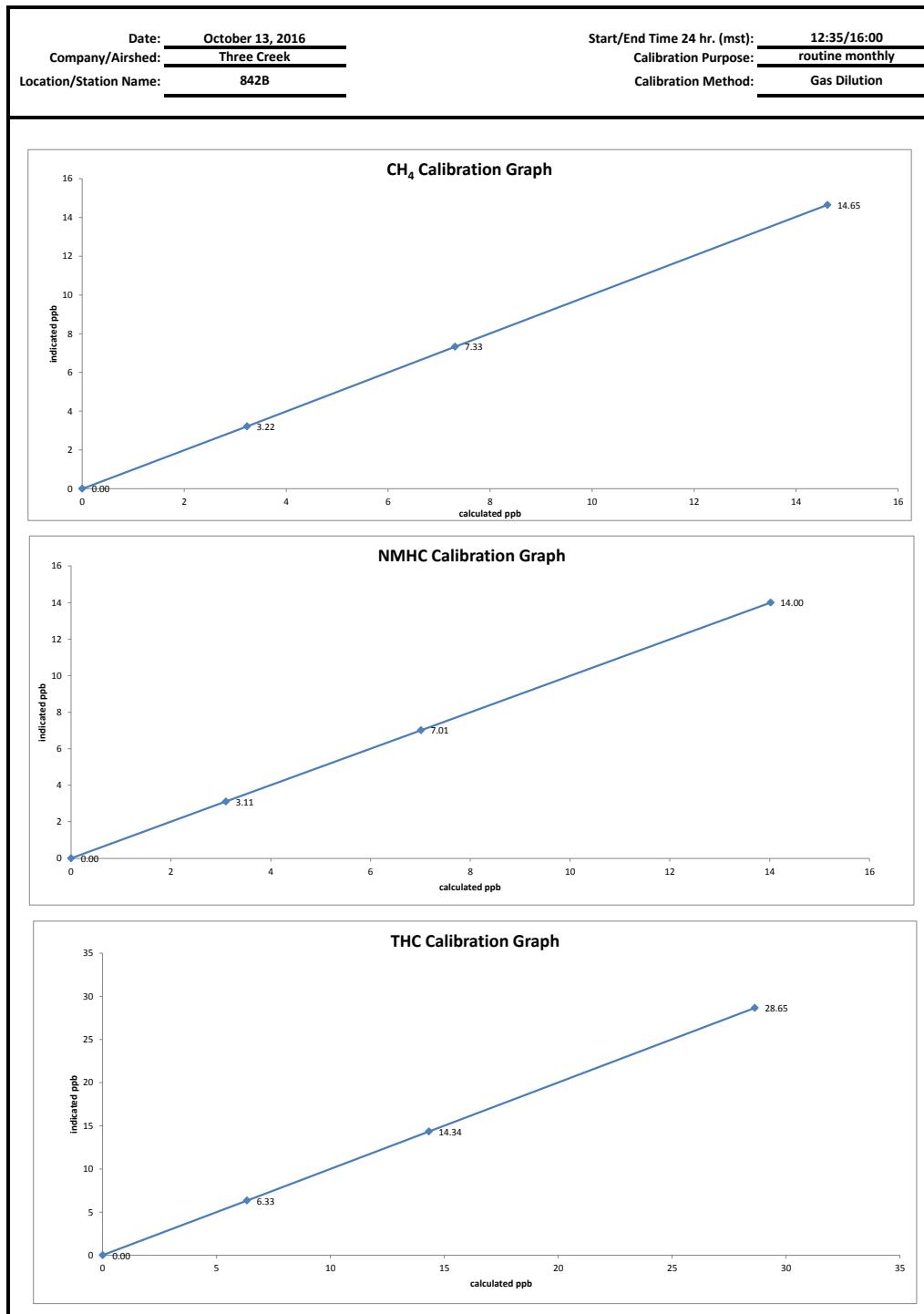
TRS[ppb] Station: PRAMP RENO TRAILER Daily: 2016/10/13 Type: AVG 1 Min. [1 Min.]



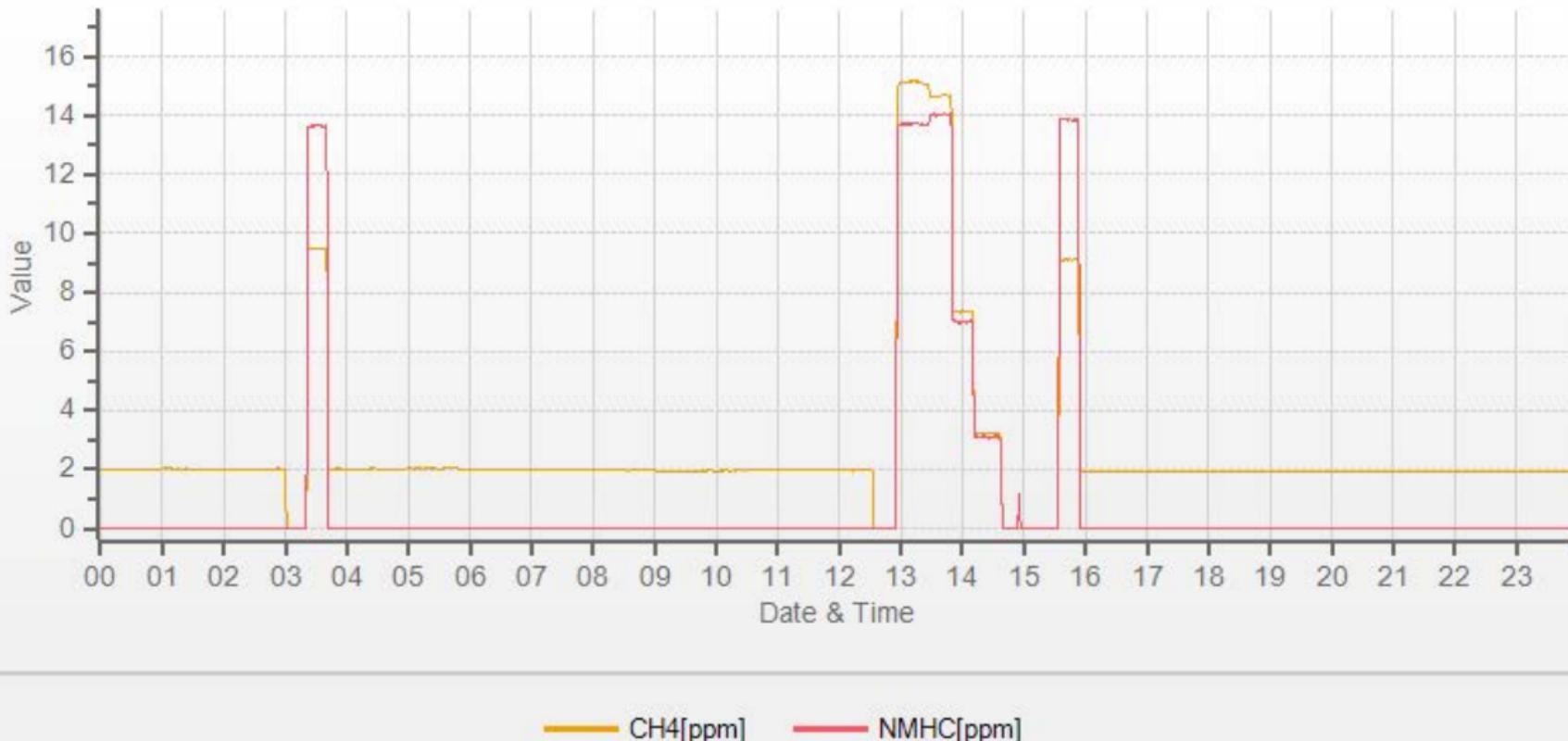
TRS[ppb]

TOTAL HYDROCARBON

Thermo 55i Methane/Non-Methane Analyzer Calibration														
Date:	October 13, 2016			Barometric Pressure:			27.48 inHg							
Company/Airshed:	Three Creek			Station Temperature °C:			20.5							
Location/Station Name:	842B			Weather Conditions:			Mainly cloudy with clear breaks							
Parameter:	CH ₄ / NMHC / THC			Calibration Purpose:			routine monthly							
Start/End Time 24 hr. (mst):	12:35/16:00			Performed By/Reviewer:			Limin Li	Trina Whitsitt						
Calibration Method:	Gas Dilution			Cal Gas Expiry Date:			July 7, 2022							
Analyzer:														
ID# or Serial Number:	131405759			Correction Factors:										
Measured Flow:	1.27LPM			Previous C.F.:	As Found C.F.:	New C.F.:								
Last Calibration Date:	September 9, 2016			CH ₄ =	0.999	0.965	0.998							
Range ppm:	20 CH ₄ /20 NMHC/40 THC			NMHC =	0.999	1.023	1.001							
				THC =	0.999	0.993	1.000							
Calibrator:														
Flow Meter ID's:	n/a			Standard Calibration Points for Analyzer Range of 20/20/40 ppm										
Make & Model:	Sabio 2010			Point	CH ₄	NMHC	THC							
Serial #:	17200415			High	13.00	13.00	26.00							
Cal Gas Cylinder I.D. # :	LL83638			Mid	7.00	7.00	14.00							
CH ₄ Cylinder Conc. =	582.0	203.0	=C ₃ H ₈ Cylinder Conc.	Low	3.00	3.00	6.00							
CH ₄ as C ₃ H ₈ =	558.3	1140.3	=total CH ₄ equivalent											
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015														
Calibrator Flow Rates (cc/min)														
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	2523	0.00	2523	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a		
as found high	2523	65.00	2588	14.62	14.02	28.64	15.14	13.70	28.84	0.965	1.023	0.993		
adjusted zero	2523	0.00	2523	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a		
adjusted high	2523	65.00	2588	14.62	14.02	28.64	14.65	14.00	28.65	0.998	1.001	1.000		
mid	2523	32.10	2555	7.31	7.01	14.33	7.33	7.01	14.34	0.998	1.000	0.999		
low	2523	14.10	2537	3.23	3.10	6.34	3.22	3.11	6.33	1.004	0.998	1.001		
calibrator zero	2523	0.00	2523	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a		
										Average C.F.=	1.000	1.000		
Linear Regression/Calibration Results:														
Correlation Coeffecient =	1.000	1.000	1.000	LIMITS										
Slope =	1.003	0.998	1.001	> or = 0.995										
b (Intercept as % of full scale)=	-0.04%	0.03%	-0.01%	.95-1.05										
% change in C.F. from last cal=	3.35%	-2.45%	0.60%	± 3% F.S.										
			± 10%											
As found:														
Interface Board Voltages:	Bias Supply: -288.3			Calibration History cnt'd: NM Peak Area: 89836			As left:							
Temperatures:	Detector Oven:	175			Crucial Settings: Methane Start: n/a									
	Filter:	175			Methane End: n/a									
	Column Oven:	75			Backflush: n/a									
	Internal:	29.7			NMHV Start: n/a									
Cylinder Pressures/reg.:	Carrier:	1050	50	NMHC End: n/a										
	Fuel:	650	50	Run History>1: Date: 13OCT16										
	Span Gas:	150	22	Time: 10:01										
	Zero Air Generator:	45			CH ₄ PK HT: 2471									
Internal Pressures:	Carrier:	31.3			CH ₄ RT: 11.6									
	Fuel:	41.6			CH ₄ Baseline: 1949									
	Air:	25.9			CH ₄ LOD: 64									
FID Status:	Status:	LT			CH ₄ SD: 21									
	Counts:	23479			CH ₄ CONC: 1.95									
	Flame:	405			NM PK HT: 0									
	Det Base:	175			NM Peak Area: 0									
Flame and Power Stats:	Last Power On:	09SEPT2016 08:14:30			NM CONC: 0.00									
	Flameouts:	1			NM Base Start: 1923									
	Det Oven at Start:	158.1			NM Base End: 1917									
	Col Oven at Start:	71.7			NM LOD: 13									
Calibration History:	Time:	09SEPT2016 09:19			NM Start IDX: 62									
	Type:	SPAN			NM End IDX: 63									
	Status:	GOOD			NM Max Slope: 4.3e-01									
	Check/Adjust:	ADJUST			NM Min Slope: -5.5e-01									
	CH ₄ Span Conc:	14.58			NM PT Count: 0									
	CH ₄ SP Ratio:	0.000788			Previous CH4: 9.54									
	CH ₄ RT:	11.6			Previous NMHC: 13.68									
	CH ₄ PK IDX:	18			Previous THC: 23.24									
	CH ₄ PK HT:	18496			New CH4: 9.54									
	NM Span Conc:	14.12			New NMHC: 13.68									
	NM SP Ratio:	0.000157			New THC: 23.24									
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.														



Station: PRAMP RENO TRAILER Daily: 16.10.13 Type: AVG 1 Min. [1 Min.]



WIND SYSTEM



Meteorological Sensor Audit

Location Information

Company: PRAMP
 Audit Location: RENO
 Audit Date: October 13, 2016
 Previous Audit Date: July 9, 2015

Performed By: Limin Li Check to remove
 Reviewed By: Trina Whitsitt
 Start Time (mst): 11:30
 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
 Ceritifcation 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

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2016-076A

Company	<u>Maxxam</u>		Operator:	<u>Christopher Wesson</u>																																																				
Calibrator: Make/Model <u>Sabio 2010</u> Serial Number <u>17200415</u> Last Verification Date <u>May 2015</u> NO Cylinder S/N <u>LL42475</u> NO/NOX Concentration <u>48.5/48.5</u>			Flow Measurement Device: Make/Model <u>N/A</u> Serial Number <u>N/A</u> Temperature (°C) <u>N/A</u> Barometric Pressure <u>N/A</u>																																																					
Dilution Flow (sccm) Pt. #1 <u>5000</u> Pt. #2 <u>5000</u> Pt. #3 <u>5000</u> Gas Flow (sccm) Pt. #1 <u>80</u> Pt. #2 <u>40</u> Pt. #3 <u>20</u>																																																								
Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)		% Difference vs Audit Gas																																																		
Dilution	Gas	NO	NOx	NO	NO ₂	NOx	NO	NOx																																																
5029	0.0	0.000	0.000	0.000	0.000	0.000	Limit ± 10%																																																	
5030	80.6	0.777	0.777	0.805	-0.005	0.800	4%	3%																																																
5025	39.4	0.380	0.380	0.394	-0.002	0.392	4%	3%																																																
5028	19.8	0.191	0.191	0.198	-0.001	0.197	4%	3%																																																
Absolute Average Percent Difference							<u>3.65%</u>	<u>3.09%</u>																																																
LINEAR REGRESSION ANALYSIS <i>y=mx+b</i> (where x=calculated concentration, y=indicated concentration)																																																								
NO Correlation= <u>1.0000</u> m (Slope)= <u>1.0360</u> b (Intercept % of FS)= <u>0.0110</u>			LIMITS <u>≥ 0.990</u> <u>0.90-1.10</u> <u>± 3% F.S.</u>			NOx Correlation= <u>1.0000</u> m (Slope)= <u>1.0295</u> b (Intercept % of FS)= <u>0.0293</u>																																																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Flow</th> <th>O₃ Conc</th> <th>NO Decrease</th> <th>NO</th> <th>NO2</th> <th>NOx</th> <th>% Diff. Vs Audit gas</th> </tr> </thead> <tbody> <tr> <td>5030</td> <td>Lamp C.</td> <td>0.000</td> <td>0.804</td> <td>-0.004</td> <td>0.800</td> <td>NO₂</td> <td>% Diff. Limit</td> </tr> <tr> <td>5030</td> <td>1.388</td> <td>0.495</td> <td>0.309</td> <td>0.491</td> <td>0.800</td> <td>0%</td> <td>± 10%</td> </tr> <tr> <td>5030</td> <td>0.745</td> <td>0.241</td> <td>0.563</td> <td>0.239</td> <td>0.802</td> <td>1%</td> <td>± 10%</td> </tr> <tr> <td>5030</td> <td>0.367</td> <td>0.091</td> <td>0.713</td> <td>0.089</td> <td>0.801</td> <td>2%</td> <td>± 10%</td> </tr> <tr> <td colspan="7" style="text-align: right;">Absolute Average Percent Difference</td> <td><u>1%</u></td> <td><u>± 10%</u></td> </tr> </tbody> </table>									Flow	O ₃ Conc	NO Decrease	NO	NO2	NOx	% Diff. Vs Audit gas	5030	Lamp C.	0.000	0.804	-0.004	0.800	NO ₂	% Diff. Limit	5030	1.388	0.495	0.309	0.491	0.800	0%	± 10%	5030	0.745	0.241	0.563	0.239	0.802	1%	± 10%	5030	0.367	0.091	0.713	0.089	0.801	2%	± 10%	Absolute Average Percent Difference							<u>1%</u>	<u>± 10%</u>
Flow	O ₃ Conc	NO Decrease	NO	NO2	NOx	% Diff. Vs Audit gas																																																		
5030	Lamp C.	0.000	0.804	-0.004	0.800	NO ₂	% Diff. Limit																																																	
5030	1.388	0.495	0.309	0.491	0.800	0%	± 10%																																																	
5030	0.745	0.241	0.563	0.239	0.802	1%	± 10%																																																	
5030	0.367	0.091	0.713	0.089	0.801	2%	± 10%																																																	
Absolute Average Percent Difference							<u>1%</u>	<u>± 10%</u>																																																
LINEAR REGRESSION ANALYSIS <i>y=mx+b</i> (where x=calculated concentration, y=indicated concentration)																																																								
NO_x Correlation= <u>1.0000</u> m (Slope)= <u>0.9988</u> b (Intercept % of FS)= <u>-0.2760</u>			LIMITS <u>≥ 0.995</u> <u>0.90-1.10</u> <u>± 3% F.S.</u>																																																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">AENV Standards</th> <th colspan="6">NO_x Analyzer</th> </tr> <tr> <th colspan="3">Audit Calibrator</th> <th colspan="6">Make/Model</th> </tr> <tr> <th>Make/Model</th> <td colspan="2"><u>Teco 146i</u></td> <th>Serial/AMU Number</th> <td colspan="5"><u>AMU 1868</u> </td></tr> </thead> <tbody> <tr> <td>Serial/AMU Number</td> <td colspan="2"><u>AMU 1809</u></td> <td>Last Calibration Date</td> <td colspan="5"><u>May 18, 2016</u></td> </tr> <tr> <td colspan="3"></td> <td>Full Scale (ppm)</td> <td colspan="5"><u>1.0</u></td> </tr> </tbody> </table>									AENV Standards			NO _x Analyzer						Audit Calibrator			Make/Model						Make/Model	<u>Teco 146i</u>		Serial/AMU Number	<u>AMU 1868</u>					Serial/AMU Number	<u>AMU 1809</u>		Last Calibration Date	<u>May 18, 2016</u>								Full Scale (ppm)	<u>1.0</u>							
AENV Standards			NO _x Analyzer																																																					
Audit Calibrator			Make/Model																																																					
Make/Model	<u>Teco 146i</u>		Serial/AMU Number	<u>AMU 1868</u>																																																				
Serial/AMU Number	<u>AMU 1809</u>		Last Calibration Date	<u>May 18, 2016</u>																																																				
			Full Scale (ppm)	<u>1.0</u>																																																				
COMMENTS: Contains 50.3 ppm SO ₂ . Flows not measured as per Chapter 7, Section 5 of AMD.																																																								
Auditor: <u>Al Clark</u>			Date: <u>May 18, 2016</u>																																																					
Operator Signature: <u>Christopher Wesson</u>			Location: <u>McIntyre Center Edmonton</u>																																																					

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2015-166

Company	Maxxam	Operator:	Chris Wesson
Calibrator:		Flow Measurement Device:	
Make/Model	Environics 2000	Make/Model	None
Serial Number	1991	Serial Number	None
Last Verification Date	April 2, 2015	Temperature (°C)	23.5
NO Cylinder S/N	LL119317	Barometric Pressure	706 mmHg
NO/NOX Concentration	50.3ppm/50.3ppm		
Dilution Flow (sccm)			
Pt. #1	5000	Pt. #2	5000
Gas Flow (sccm)			
Pt. #1	77.5	Pt. #2	37.7
Pt. #3	5001	Pt. #3	18.88

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO ₂	NOx	NO	NOx
5000	0.0	0.000	0.000	0.000	0.000	0.000	Limit ± 10%	
5000	77.5	0.780	0.780	0.795	0.000	0.795	2%	2%
5000	37.7	0.380	0.380	0.381	-0.001	0.381	0%	0%
5001	18.9	0.190	0.190	0.189	0.000	0.190	-1%	0%
Absolute Average Percent Difference							0.52%	0.73%

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)=	1.0204		0.90-1.10			m (Slope)=	1.0200	
b (Intercept % of FS)=	-0.3105		± 3% F.S.			b (Intercept % of FS)=	-0.2765	

Flow	O ₃ Conc	NO Decrease	NO	NO2	NOX	% Diff. Vs Audit gas
5000	0	0.000	0.796	0.000	0.796	NO ₂ % Diff. Limit
5000	485	0.521	0.275	0.520	0.795	0% ± 10%
5000	280	0.271	0.525	0.271	0.796	0% ± 10%
5000	120	0.104	0.692	0.105	0.797	1% ± 10%
Absolute Average Percent Difference						0.3% ± 10%

LINEAR REGRESSION ANALYSIS								
$y=mx+b$ (where x=calculated concentration, y=indicated concentration)								
NO_x			LIMITS			NO_x		
Correlation=	1.0000		≥ 0.995			Correlation=	1.0000	
m (Slope)=	0.9973		0.90-1.10			m (Slope)=	1.0200	
b (Intercept % of FS)=	0.0603		± 3% F.S.			b (Intercept % of FS)=	-0.2765	

AENV Standards	NO_x Analyzer
Audit Calibrator	
Make/Model	Thermo 146i
Serial/AMU Number	1809
Make/Model	Thermo 42i
Serial/AMU Number	1868
Last Calibration Date	March 28, 2016
Full Scale (ppm)	1

COMMENTS: NO Cyl has 49.9ppb SO₂ - Flows Not Manually Measured

Auditor: Shea Beaton Date: March 31, 2016
 Operator Signature: [Signature] Location: McIntyre Center Edmonton

CALIBRATION GASES



Calibration Gas Audit Single Component Cylinder Gas

File No. 2015-342CGA

Company: Maxxam

Operator's Name: Limin Li

Cylinder #: BLM002756T Concentration PPM: 49.9 Tolerance(%) 2 Certified By: Air Liquide

Reference Calibrator and Gas:

Make/Model: R&R MFC 201
Serial Number: AMU 1690
Last Verification Date: March 31, 2015
Gas Type: SO₂ Conc. 98.57
Cylinder Number: CAL016720

Flow Measurement Device:

Make/Model: Bios DC2
Serial Number: AMU 1659
Temp. °C: 22.5 C
B.P. 690 mmhg

Reference Analyzer:

Make/Model: Teco 43C Serial/AMU Number: 1623
Instrument Settings: Zero: 7.9 Span: 1.028 Range: 1.0
Last Calibration: Date: Mar 31/15 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	X	X	X
4976	82.6	0.821	0.01660	60.242	49.5
4993	41.0	0.410	0.00821	121.780	49.9
4977	20.2	0.202	0.00406	246.386	49.8
Average Cylinder Concentration:					49.7

Previous Stated Concentration PPM: 49.9

Percent variance from Stated: 0.4

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: March 31, 2015

Operator Signature:

Location: McIntyre Center Edmonton



Calibration Gas Audit

Single Component Cylinder Gas

File No. 2015-338CGA

Company: Maxxam

Operator's Name: Limin Li

Cylinder #: BLM002508 Concentration PPM: 10.2 Tolerance(%) 2 Certified By: Air Liquide

Reference Calibrator and Gas:

Make/Model: R&R MFC 201

Serial Number: AMU1690

Last Verification Date: March 31, 2015

Gas Type: H2S Conc. 20.43

Cylinder Number: CAL015106

Flow Measurement Device:

Make/Model: Bios DC2

Serial Number: AMU 1659

Temp. °C: 23.0 C

B.P. 689 mmhg

Reference Analyzer:

Make/Model: Teco 450i

Serial/AMU Number: 1980

Instrument Settings: Zero: 14.5

Span: 1.035 Range: 0.1

Last Calibration: Date: Mar 31/15

C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated Concentration (PPM)	Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration
Dilution	Gas				
5000	0.0	0.0000	X	X	X
5080	38.2	0.0725	0.00752	132.984	9.6
5078	17.9	0.0340	0.00353	283.687	9.6
5066	9.1	0.0170	0.00180	556.703	9.5
Average Cylinder Concentration:					9.6

Previous Stated Concentration PPM: 10.2

Percent variance from Stated: 6.0

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

Auditor: Al Clark

Date: March 31, 2015

Operator Signature:

Location: McIntyre Center Edmonton



DocNumber: 000068924

Praxair
 5700 South Alameda Street
 Los Angeles, CA 90058
 Tel: (323) 585-2154 Fax:(714) 542-6689
 PGVID: F22014

CERTIFICATE OF ANALYSIS/EPA PROTOCOL GAS

Customer & Order Information:

MAXXAM ANALYTICS INC *NA*

9372 49TH ST

EDMONTON

AB T6B 2L

Praxair Order Number: 21137117

Customer P. O. Number: 35-55963

Customer Reference Number:

Fill Date: 7/1/2014

Part Number: NI ME600P2E-AQ

Lot Number: 109418203

Cylinder Style & Outlet: AQ CGA 350

Cylinder Pressure & Volume: 2200 psig 78 cu. ft.

Certified Concentration:

Expiration Date:	7/7/2022	NIST Traceable
Cylinder Number:	LL83638	Analytical Uncertainty:
582 ppm	METHANE	± 1.5 %
203 ppm	PROPANE	± 0.9 %
Balance	NITROGEN	

Certification Information: Certification Date: 7/7/2014 Term: 96 Months Expiration Date: 7/7/2022

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1. Do Not Use this Standard if Pressure is less than 100 PSIG.

Analytical Data: (R=Reference Standard, Z=Zero Gas, C=Gas Candidate)

1. Component: METHANE

Requested Concentration: 600 ppm
 Certified Concentration: 582 ppm
 Instrument Used: MKS Multigas 2031 FTIR
 Analytical Method: Fourier Transform Infrared
 Last Multipoint Calibration: 6/24/2014

First Analysis Data:				Date:
Z: 0	R: 249.5	C: 589.4	Conc: 581.21	7/7/2014
R: 249.5	Z: 0	C: 589	Conc: 580.82	
Z: 0	C: 592	R: 249.4	Conc: 583.77	
UOM: ppm		Mean Test Assay:	581.93 ppm	

Reference Standard Type: GMIS
 Ref. Std. Cylinder #: CC139480
 Ref. Std. Conc: 246 ppm
 Ref. Std. Traceable to SRM #: 2751
 SRM Sample #: 212-09-AL
 SRM Cylinder #: SX-20000

2. Component: PROPANE

Requested Concentration: 200 ppm
 Certified Concentration: 203 ppm
 Instrument Used: MKS Multigas 2031 FTIR
 Analytical Method: Fourier Transform Infrared
 Last Multipoint Calibration: 6/24/2014

First Analysis Data:				Date:
Z: 0	R: 273.6	C: 208.4	Conc: 202.43	7/7/2014
R: 273.7	Z: 0	C: 208.6	Conc: 202.63	
Z: 0	C: 208.5	R: 273.6	Conc: 202.53	
UOM: ppm		Mean Test Assay:	202.53 ppm	

Reference Standard Type: GMIS
 Ref. Std. Cylinder #: CC 163442
 Ref. Std. Conc: 265.8 ppm
 Ref. Std. Traceable to SRM #: vs 2644a
 SRM Sample #: 101-C-45
 SRM Cylinder #: XF003829B

Analyzed by:

Certified by:

Information contained herein has been prepared at your request by qualified experts within Praxair Distribution, Inc. While we believe that the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability of Praxair Distribution, Inc., arising out of the use of the information contained herein exceed the fee established for providing such information.

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.)	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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

22-Nov-2016

Report Issued Date (dd-mm-yyyy)

APPENDIX IV
DATA VALIDATION CERTIFICATION FORM



Validation Certificate Form

Client: Peace River Area Monitoring Program Committee

Site: Reno Station

Project #: 196-2016-10-93-C

Contact: Anthony Traverse

Level 0 Preliminary Verification

Date 14-Nov-16

Level 1 Primary Validation

Date 14-Nov-16

Level 2 Final Validation

Date 22-Nov-16

Level 3 Independent Data Review

Date 28-Nov-16

Post-Final Validation

NA

Date NA

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.