

AMBIENT AIR MONITORING MONTHLY DATA REPORT
PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
THREE CREEKS 842B STATION

JOB #: 8449-2016-10-80-C

October 2016

Prepared for:

PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
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CALGARY, ALBERTA
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Attention: ANTHONY TRAVERSE

DATE: **November 29, 2016**

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SUMMARY

In October 2016, Maxxam Analytics was contracted to manage the ambient air quality monitoring and maintenance activities at the Three Creeks 842b Station, near Peace River Oil Sands Area 2, 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.

For all parameters, four hours of data are missing on October 25, from hours 07:00 to 10:00, due to a power failure. For gas parameters, data collected at hour 11:00 was also invalidated as the analyzers were in recovery mode.

TRS: A total of fifty-six hours of downtime was recorded this month. Three hours were attributed to a calibrator cross-check performed on October 12. The TRS converter malfunctioned following the power failure that occurred on October 25. Maintenance was completed on October 26 and data was invalidated back to the last valid daily span check obtained on October 24. A repeat span check was completed on October 27, to assess analyzer performance. Forty-nine hours of downtime were recorded due to this event.

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, Three Creeks 842b Station.

Should you have any questions concerning the results or if we can be of further assistance, please contact us at 403-219-3677 or toll-free at 1-800-386-7247.

Monthly Continuous Data Summary

Peace River Area Monitoring Program Committee						MAXIMUM VALUES							OPERATIONAL TIME (%)
Three Creeks 842b Station						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDANCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (kph)	WIND DIRECTION (sector)	READING	DAY	
	1-hr	24-hr	1-hr	24-hr									
SO ₂ (ppb)	172	48	0	0	0.0	0.7	16	6	6.6	E	0.2	13	99.3
TRS (ppb)	-	-	-	-	0.4	0.7	12, 17	7, 21	3.2 5.2	ENE WSW	0.6	17	92.5
THC (ppm)	-	-	-	-	1.93	2.20	12	5	3.1	ENE	2.03	3, 8	99.3
CH ₄ (ppm)	-	-	-	-	1.93	2.20	12	5	3.1	ENE	2.03	3, 8	99.3
NMHC (ppm)	-	-	-	-	0.00	0.04	22	1	4.3	E	0.00	ALL	99.3
RELATIVE HUMIDITY (%)	-	-	-	-	88	98	VAR	VAR	VAR	VAR	97	23	99.5
BAROMETRIC PRESSURE (inHg)	-	-	-	-	27.82	28.18	6, 6	11, 12	7.0 6.0	ESE ESE	28.14	6, 10	99.5
AMBIENT TEMPERATURE (°C)	-	-	-	-	-0.5	7.8	21	15	11.9	SW	2.9	20, 21	99.5
STATION TEMPERATURE (°C)	-	-	-	-	21.5	25.2	12	11	7.0	NE	22.3	20, 21	99.5
VECTOR WS (kph)	-	-	-	-	1.6	16.3	2	9	-	WSW	10.1	1	99.5
VECTOR WD (sec)	-	-	-	-	77 (ENE)	-	-	-	-	-	-	-	99.5

NA-NOT AVAILABLE VAR-VARIOUS

**SOUR GAS PROCESSING INDUSTRY
MONTHLY REPORT SUMMARY**

Three Creeks 842b Station

Plant Name / Location

Peace River Area Monitoring Program Committee

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 VALUES	NO. READINGS > REGULATION	MAXIMUM VALUES	NO. READINGS > REGULATION	
SO ₂	1	99.3	0.0007 ppm	0	0.0002 ppm	0	
TRS	1	92.5	0.0007 ppm	-	0.0006 ppm	-	
THC	1	99.3	2.20 ppm	-	2.03 ppm	-	
CH ₄	1	99.3	2.20 ppm	-	2.03 ppm	-	
NMHC	1	99.3	0.04 ppm	-	0.00 ppm	-	
RH	1	99.5	98 %	-	97 %	-	
BP	1	99.5	28.18 inHg	-	28.14 inHg	-	
Ambient TPX	1	99.5	7.8 °C	-	2.9 °C	-	
Station TPX	1	99.5	25.2 °C	-	22.3 °C	-	
Wind Speed	1	99.5	16.3 kph	-	10.1 kph	-	
Wind Direction	1	99.5	-	-	-	-	

SIGNATURE OF COMPANY REPRESENTATIVE

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Exceedance Summary Report

SO₂ 1-Hour Exceedances

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

SO₂ 24-Hour Exceedances

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

In accordance with EPEA and the Substance Release Regulation.

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

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	 9
 3.0 Plant Monthly Required AMD Summary	 9
 4.0 Calculations and Results	 9
 5.0 Methods and Procedures	 10
 Appendix I	 Continuous Monitoring Data Results 13
	Sulphur Dioxide 14
	Total Reduced Sulphur 22
	Total Hydrocarbon 30
	Methane 38
	Non-Methane Hydrocarbon 46
	Wind Speed 54
	Wind Direction 59
	Relative Humidity 62
	Barometric Pressure 65
	Ambient Temperature 68
	Station Temperature 71
 Appendix II	 Equipment Calibration Results 74
	Sulphur Dioxide 75
	Total Reduced Sulphur 78
	Total Hydrocarbon 82
	Wind System 86
	Calibrators 89
	Calibration Gases 92
 Appendix III	 Report Certification Form 97
 Appendix IV	 Data Validation Certification Form 99

1.0 Discussion

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

Sample filters for all continuous air monitors are changed before the calibration begins. The sample manifold is cleaned during the site visit each month.

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

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

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

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

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

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

Data contained in this monthly report has undergone the verification and validation based on the requirements of the AMD Chapter 6: Ambient Data Quality (August 3, 2016). The descriptions of the data verification and validation process can be found in Section 5 of this report. Instantaneous data, where applicable, is provided for reference purposes and has not undergone zero correction.

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

SULPHUR DIOXIDE (SO₂)

The routine monthly calibration was performed on October 12. Four hours of data are missing on October 25, from hours 07:00 to 10:00, due to a power failure. Data collected at hour 11:00 was also invalidated as the analyzer was recovering from the power failure.

TOTAL REDUCED SULPHUR (TRS)

The routine monthly calibration was performed on October 12. A total of fifty six hours of downtime were recorded this month. Immediately following calibration, the channel was left in "maintenance" mode for a calibrator gas cross-check, accounting for three hours of downtime. Four hours of data are missing on October 25, from hours 07:00 to 10:00, due to a power failure. The analyzer failed to span after the power outage. A technician was dispatched on October 26 and necessary maintenance was performed on the thermocouple and TRS converter. A successful zero/span check was completed afterwards, confirming functionality was restored. A repeat span check was initiated on October 27 to assess analyzer performance, following the repairs. Forty-nine hours of downtime were recorded due to this event and subsequently, data was discarded back to the last valid daily span check, obtained on October 24.

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

The routine monthly calibration was performed on October 12. Four hours of data are missing on October 25, from hours 07:00 to 10:00, due to a power failure. Data collected at hour 11:00 was also invalidated as the analyzer was recovering from the power failure.

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 upgraded from a 5103VK to a 5305VK series, following a removal audit on October 12. A successful installation audit was completed afterwards.

Four hours of data are missing on October 18, from hours 07:00 to 10:00, due to a power failure.

RELATIVE HUMIDITY (RH)

Four hours of data are missing on October 18, from hours 07:00 to 10:00, due to a power failure.

BAROMETRIC PRESSURE (BP)

Four hours of data are missing on October 18, from hours 07:00 to 10:00, due to a power failure.

AMBIENT TEMPERATURE (AmbTPX)

Four hours of data are missing on October 18, from hours 07:00 to 10:00, due to a power failure.

STATION TEMPERATURE (StnTPX)

Four hours of data are missing on October 18, from hours 07:00 to 10:00, due to a power failure.

2.0 Project Personnel

Anthony Traverse was the contact for Peace River Area Monitoring Program Committee and the Maxxam field technicians were Limin Li, Raja Ashraf and Russel Kirchner.

3.0 Plant Monthly Required AMD Summary

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

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

4.0 Calculations and Results

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

5.0 Methods and Procedures

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

Maxxam AIR SOP-00001 - Methane, Non-Methane Hydrocarbon Analyzer Monitoring
Maxxam AIR SOP-00208: RM Young Wind Monitor Calibration
Maxxam AIR SOP-00209: Ambient Sulphur Monitoring

There were no deviations from the prescribed methods.

The following instruments were used to perform the test program:

Sulphur Dioxide - API 100A UV Flourescent Analyzer
Total Reduced Sulphur - Thermo 43i UV Flourescent Analyzer
Methane, Non-Methane Hydrocarbon - Thermo 55i FID Analyzer
Wind System - RM Young Unit
Relative Humidity - RM Young Unit
Barometric Pressure - Met One Unit
Ambient Temperature - RM Young Unit
Datalogger - ESC 8832

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

Level 0 Preliminary Verification

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

Level 1 Primary Validation

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

Level 2 Final Validation

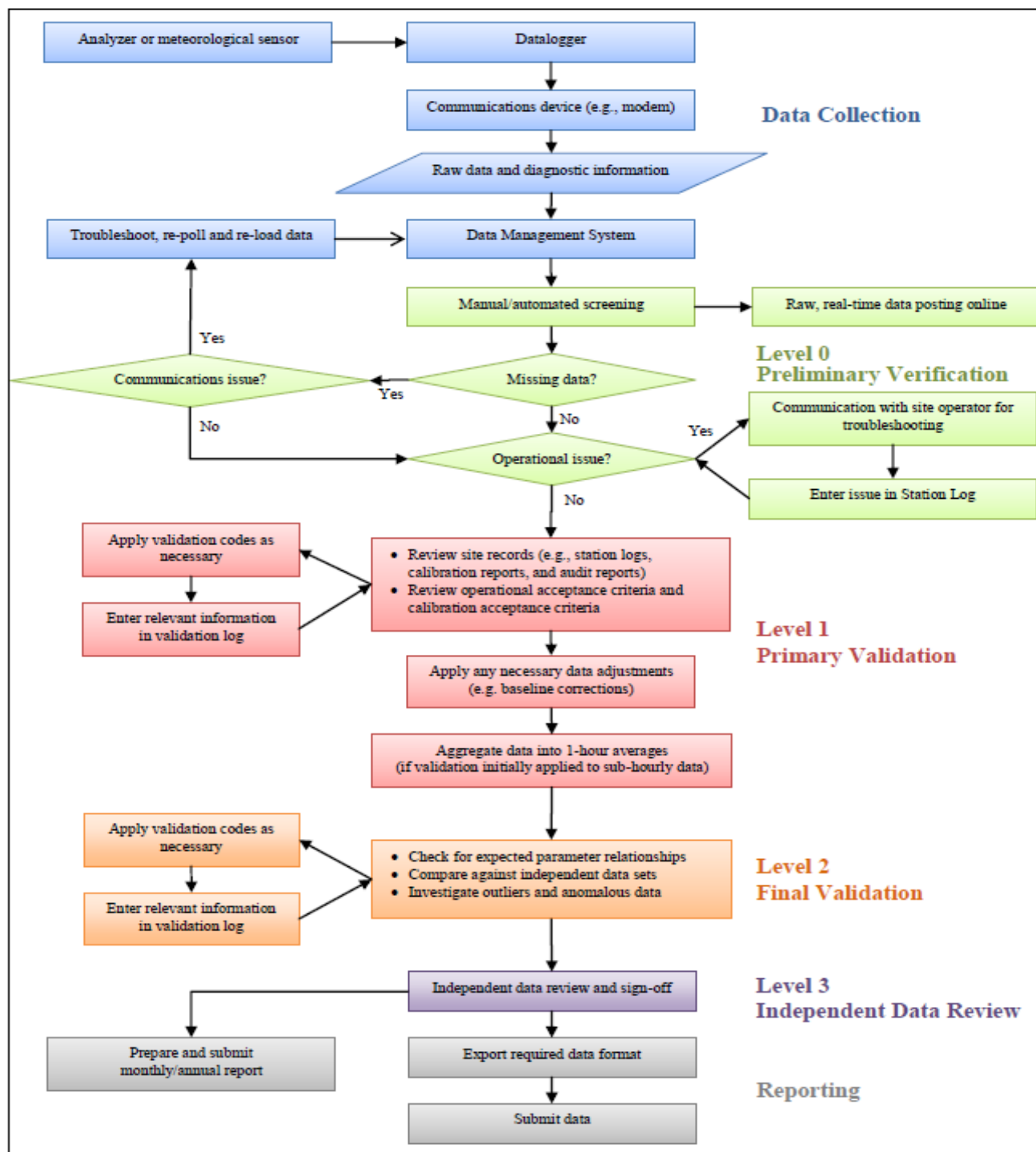
The purpose of Level 2 validation is to verify that there are no inconsistencies among related data, or among regional data measured at nearby sites.

Level 3 Independent Data Review

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

Post-Final Validation

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



Source: Air Monitoring Directive (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																										DAILY	DAILY	24-HOUR	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	
2	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	S	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	
3	0.1	0.2	0.1	0.3	0.2	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.4	S	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.1	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	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	
5	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.2	S	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.0	24	
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.0	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	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	0.1	0.0	0.1	0.0	0.0	24	
9	0.0	0.0	0.1	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	24	
10	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	0.0	0.0	0.0	24	
11	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.0	24	
12	0.1	0.1	0.0	0.3	S	0.1	0.0	0.0	0.0	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	24	
13	0.1	0.3	0.3	S	0.2	0.2	0.2	0.2	0.2	0.3	0.1	0.2	0.1	0.3	0.2	0.1	0.3	0.2	0.3	0.1	0.2	0.1	0.2	0.1	0.1	0.3	0.2	0.1	24	
14	0.2	0.0	S	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.2	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.1	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	0.0	24	
16	S	0.0	0.0	0.0	0.0	0.3	0.7	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.7	0.1	0.1	24	
17	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	S	0.0	0.0	0.1	0.0	0.0	24	
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	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	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	S	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	24
20	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	0.1	0.1	0.0	0.0	0.1	0.0	S	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	24	
21	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.1	0.1	0.0	S	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	24
22	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	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	24	
23	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.3	0.3	S	0.4	0.2	0.1	0.2	0.2	0.2	0.3	0.0	0.4	0.1	0.1	0.0	24
24	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	24	
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	P	P	P	P	R	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	19
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.1	0.0	0.1	0.0	0.0	S	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	24	
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	24
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	24	
HOURLY MAX	0.2	0.3	0.3	0.3	0.2	0.3	0.7	0.3	0.2	0.3	0.2	0.2	0.4	0.4	0.3	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.2	0.3						
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						

STATUS FLAG CODES

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

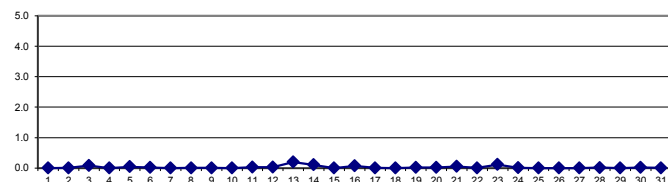
OBJECTIVE LIMIT:

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

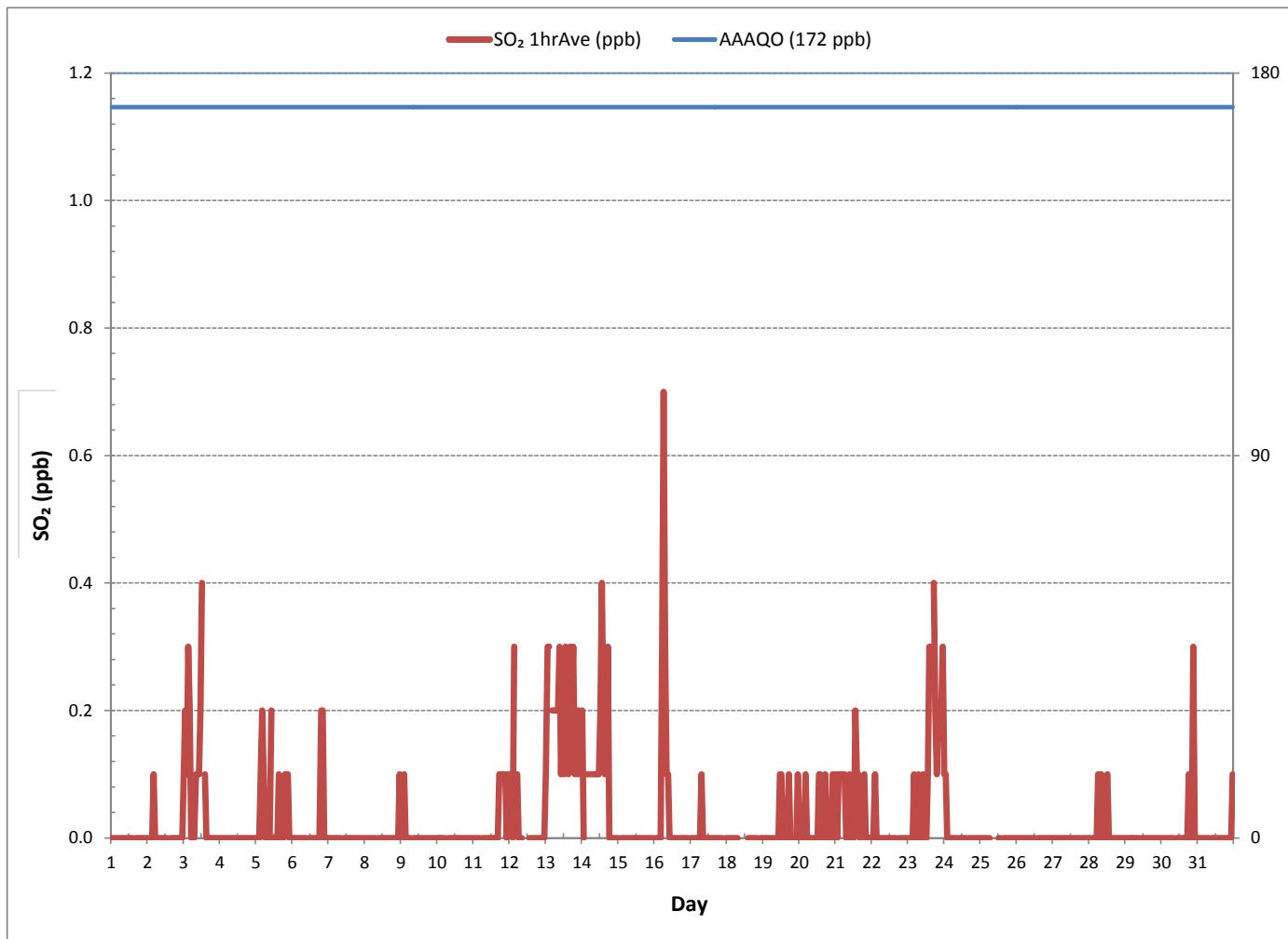
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDANCES:	0				
NUMBER OF 24-HR EXCEEDANCES:	0				
NUMBER OF NON-ZERO READINGS:	121				
MINIMUM 1-HR AVERAGE:	0.0	PPB @ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 1-HR AVERAGE:	0.7	PPB @ HOUR(S)	6	ON DAY(S)	16
MAXIMUM 24-HR AVERAGE:	0.2	PPB		ON DAY(S)	13
				VAR-VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	739	HRS
MONTHLY CALIBRATION TIME:	4	HRS	AMD OPERATION UPTIME:	99.3	%
STANDARD DEVIATION:	0.07		MONTHLY AVERAGE:	0.0	PPB

24 HOUR AVERAGES FOR October 2016



SULPHUR DIOXIDE Hourly Averages (SO_2 ppb)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
Three Creeks 842b Station - October 2016

SULPHUR DIOXIDE Instantaneous Maximum (SO₂ ppb)

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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	S	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.1	24		
2	0.2	0.0	0.2	0.5	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	S	0.2	0.2	0.2	0.2	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.5	0.1	24	
3	0.5	0.5	0.2	0.5	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.8	S	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.8	0.2	24		
4	0.0	0.0	0.0	0.2	0.0	0.0	0.2	0.2	0.0	0.0	0.2	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.2	0.1	24		
5	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.2	0.2	0.2	S	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.1	24		
6	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.2	0.2	0.0	0.2	0.0	0.2	0.1	24		
7	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.1	24		
8	0.2	0.0	0.0	0.0	0.2	0.0	0.2	0.2	S	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.2	0.0	0.2	0.2	0.0	0.2	0.1	24		
9	0.0	0.2	0.2	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	24		
10	0.0	0.2	0.0	0.0	0.2	0.0	S	0.0	0.2	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	0.2	0.0	24		
11	0.0	0.0	0.0	0.0	0.2	S	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.2	0.0	0.2	0.1	24		
12	0.0	0.2	0.2	0.2	S	0.2	0.2	0.2	0.1	C	C	C	C	C	C	0.5	0.5	0.5	0.8	0.2	0.5	0.5	0.5	0.5	0.0	0.8	0.4	24		
13	0.8	0.8	0.8	S	0.8	0.8	0.5	0.5	0.5	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.8	0.5	0.5	0.5	0.8	0.5	0.5	0.8	0.6	24		
14	0.8	0.5	S	0.8	0.8	0.8	0.5	0.5	0.8	0.5	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.5	0.5	0.8	0.5	0.5	0.8	0.5	0.8	0.7	24		
15	0.8	S	0.8	0.5	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.5	0.8	0.8	0.5	0.5	0.8	0.7	24		
16	S	0.5	0.8	1.1	1.1	1.4	1.7	1.1	1.1	0.8	0.8	0.5	0.8	0.5	0.5	0.5	0.8	0.8	0.5	0.5	0.5	0.5	0.5	S	0.5	1.7	0.8	24		
17	0.5	0.5	0.5	0.5	0.5	0.8	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	0.5	0.5	0.5	S	0.5	0.5	0.8	0.5	24		
18	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	0.2	0.5	0.5	0.2	0.5	0.2	S	0.5	0.2	0.2	0.8	0.5	24		
19	0.5	0.2	0.2	0.5	0.2	0.2	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	S	0.5	0.5	0.5	0.2	0.5	0.4	24		
20	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	0.8	0.8	0.5	0.8	0.8	0.5	S	0.5	0.8	0.8	0.5	0.5	0.8	0.6	24	
21	0.8	0.8	0.5	0.8	0.8	0.5	0.5	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.8	0.8	0.5	0.5	S	0.5	0.5	0.5	0.5	0.5	0.8	0.6	24		
22	0.5	1.1	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	0.5	S	0.5	0.5	0.5	0.5	0.5	0.2	0.5	0.2	1.1	0.5	24	
23	0.5	0.5	0.5	0.5	0.5	0.2	0.5	0.5	0.5	0.2	0.5	0.2	0.5	0.2	0.2	0.5	S	0.5	0.2	0.2	0.2	0.2	0.2	0.5	0.5	0.2	0.5	0.4	24	
24	0.5	0.2	0.5	0.5	0.2	0.5	0.2	0.2	0.5	0.2	0.2	0.2	0.2	0.2	0.2	S	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.5	0.4	24		
25	0.5	0.5	0.5	0.5	0.2	0.5	0.5	P	P	P	P	R	0.8	0.5	S	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.5	0.5	1.1	0.2	1.1	0.6	19	
26	0.5	0.5	0.5	0.5	0.5	0.2	0.5	0.5	0.5	0.5	0.2	0.5	0.5	S	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.5	0.5	0.5	0.2	0.8	0.5	24		
27	0.5	0.8	0.5	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	S	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.5	24		
28	0.5	0.5	0.5	0.2	0.5	0.5	0.5	0.5	0.8	0.5	0.5	S	0.5	0.5	0.5	0.2	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.8	0.5	24		
29	0.5	0.5	0.5	0.5	0.2	0.5	0.5	0.8	0.5	0.5	S	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.5	0.5	0.2	0.5	0.5	0.2	0.8	0.5	24		
30	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	S	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.8	0.8	0.8	1.1	0.5	0.8	0.5	1.1	0.6	24		
31	0.5	0.5	0.8	0.8	0.8	0.8	0.8	0.8	S	0.5	0.8	0.8	0.5	0.5	0.5	0.8	0.5	0.5	0.8	0.7	0.7	0.5	0.5	0.5	0.5	0.5	0.8	0.6	24	
Hourly Max	0.8	1.1	0.8	1.1	1.1	1.4	1.7	1.1	1.1	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.1	0.8	1.1						
Hourly Avg	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4						

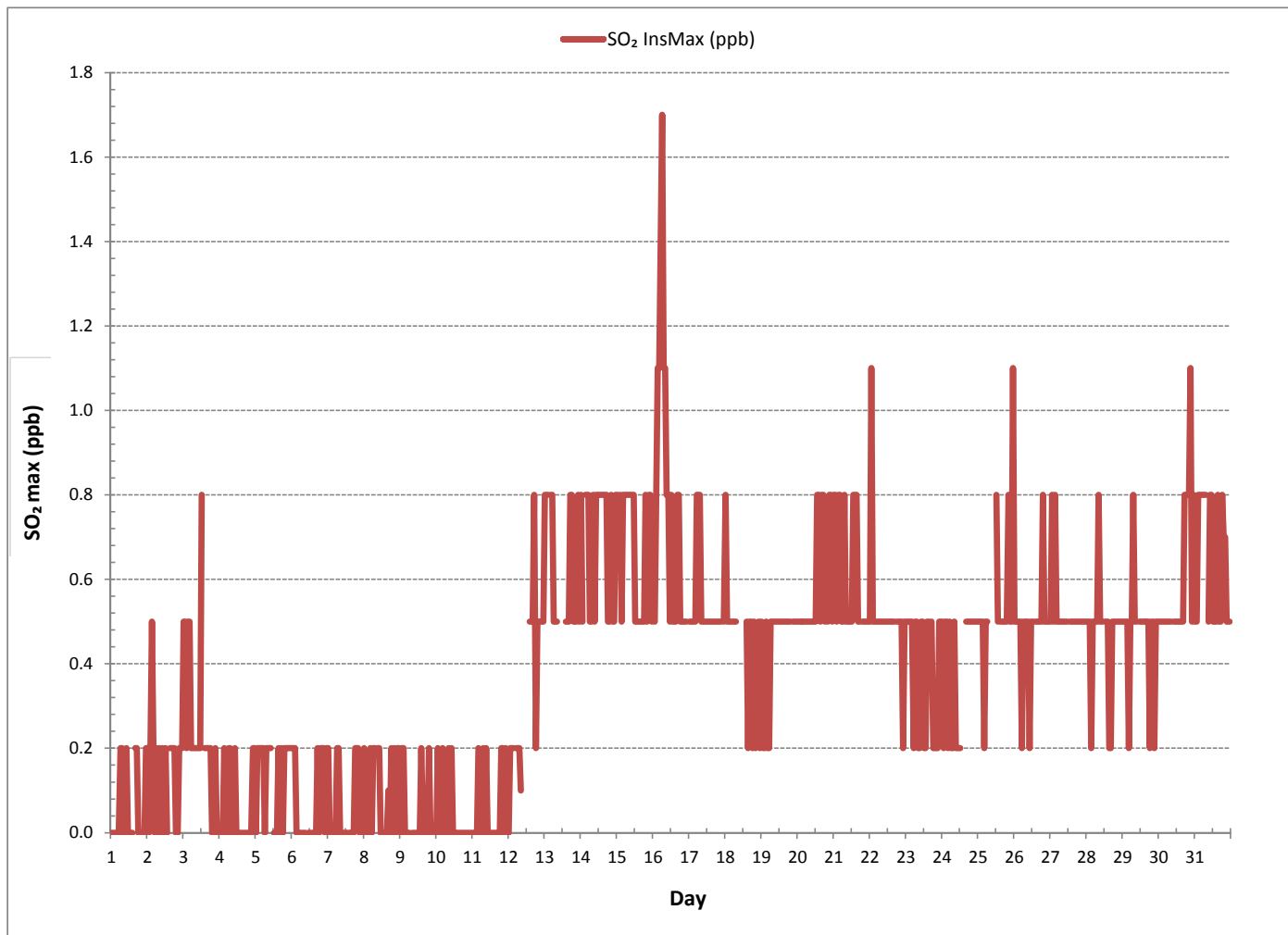
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	549				
MAXIMUM INSTANTANEOUS VALUE:	1.7	PPB	@ HOUR(S)	6	ON DAY(S) 16
				VAR-VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	739	HRS
MONTHLY CALIBRATION TIME:	5	HRS			
STANDARD DEVIATION:	0.27				

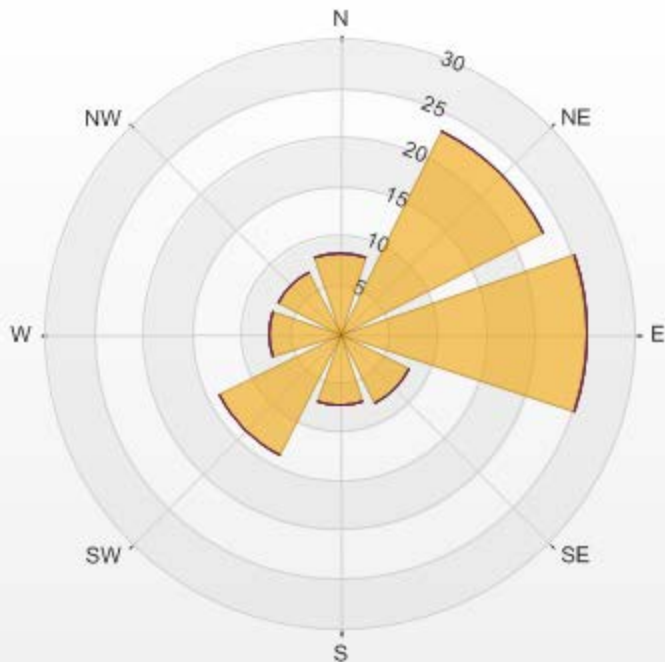
SULPHUR DIOXIDE Instantaneous Maximum (SO₂ ppb)



Wind: THREE CREEKS #842 TRAILER Poll.: THREE CREEKS #842 TRAILER-SO2[ppb] Monthly: 2016/10 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.20% Calm Avg: 0.00 [ppb]

Direction	0-3	3-10	10-85	85-170	>170.0	Total
N	8.3	0	0	0	0	8.3
NE	23.18	0	0	0	0	23.18
E	25.32	0	0	0	0	25.32
SE	7.87	0	0	0	0	7.87
S	7.3	0	0	0	0	7.3
SW	13.73	0	0	0	0	13.73
W	7.3	0	0	0	0	7.3
NW	7.01	0	0	0	0	7.01
Summary	100	0	0	0	0	100

THREE CREEKS #842 TRAILER Poll.: THREE CREEKS #842 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

SO₂[ppb] Calibration: THREE CREEKS #842 TRAILER Monthly: 2016/10 Type: Span



Span Meas Span Ref Span Low Span High

TOTAL REDUCED SULPHUR

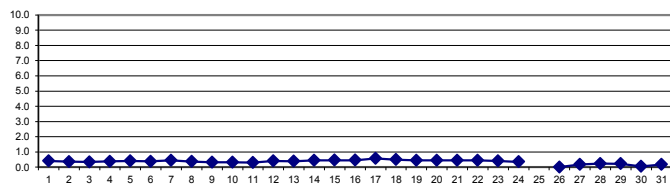
TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)

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	0.5	0.5	0.4	0.5	0.5	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	S	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.5	0.4	24
2	0.3	0.4	0.4	0.5	0.4	0.3	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.3	0.3	S	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.3	0.4	0.3	0.5	0.4	24
3	0.3	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.3	0.5	0.4	0.4	0.4	S	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.5	0.3	24	
4	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.4	0.4	0.4	0.4	0.4	S	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.3	0.5	0.4	24	
5	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.5	0.4	S	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.5	0.4	24	
6	0.4	0.4	0.3	0.4	0.3	0.4	0.3	0.3	0.4	0.4	S	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	24	
7	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.5	S	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.5	0.4	24	
8	0.4	0.4	0.5	0.4	0.4	0.4	0.4	S	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.4	24
9	0.4	0.3	0.3	0.3	0.3	0.3	0.3	S	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	24	
10	0.3	0.3	0.3	0.3	0.3	0.4	S	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	24	
11	0.3	0.3	0.3	0.2	0.2	S	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.4	0.3	24	
12	0.3	0.3	0.3	0.4	S	0.6	0.6	0.7	0.4	C	C	C	C	C	Y	Y	Y	0.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.7	0.4	21	
13	0.3	0.4	0.3	S	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.5	0.4	24	
14	0.4	0.4	S	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.5	0.4	0.5	0.5	0.4	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.4	0.5	0.4	24	
15	0.5	S	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	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	0.6	0.5	24	
16	S	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	S	0.4	0.5	0.5	24	
17	0.5	0.5	0.5	0.6	0.5	0.6	0.5	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.7	S	0.6	0.5	0.7	0.6	24	
18	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	S	0.4	0.4	0.4	0.6	0.5	24	
19	0.3	0.4	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.4	S	0.5	0.5	0.5	0.3	0.5	0.4	24	
20	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.4	S	0.6	0.5	0.5	0.5	0.4	0.6	0.5	24	
21	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	S	0.5	0.5	0.4	0.4	0.5	0.4	0.5	0.4	0.5	24	
22	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	S	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.6	0.4	24	
23	0.5	0.5	0.6	0.6	0.6	0.5	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.4	S	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.3	0.6	0.4	24	
24	0.3	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.4	0.3	S	X	X	X	X	X	X	X	X	X	0.3	0.4	0.3	16
25	X	X	X	X	X	X	X	P	P	P	P	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	0
26	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Y	S	S	0.0	0.0	0.0	0.0	0.0	0.0	4
27	0.0	0.0	0.0	0.2	0.4	0.4	0.5	0.4	S1	0.2	0.1	0.1	S	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.0	0.5	0.2	23	
28	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	S	0.4	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.4	0.2	24	
29	0.2	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	S	0.3	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	0.3	0.2	24	
30	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.2	0.1	0.1	0.0	0.2	0.1	24	
31	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	S	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	24	
HOURLY MAX	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.5	0.6					
HOURLY AVG	0.3	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.3	0.3					

STATUS FLAG CODES

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

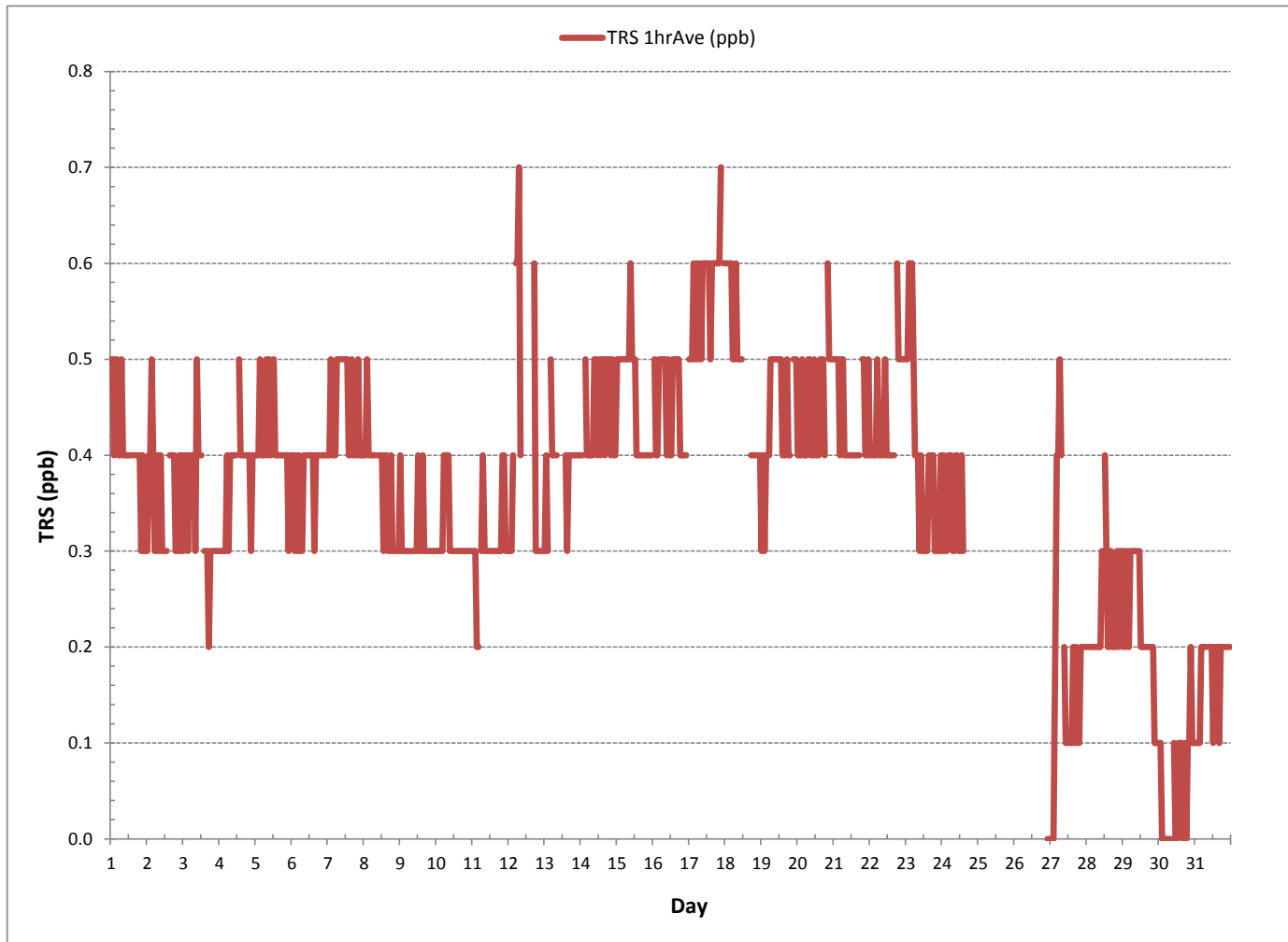
24 HOUR AVERAGES FOR October 2016



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	635			
MINIMUM 1-HR AVERAGE:	0.0	PPB @ HOUR(S)	VAR	ON DAY(S)
MAXIMUM 1-HR AVERAGE:	0.7	PPB @ HOUR(S)	7 , 21	ON DAY(S)
MAXIMUM 24-HR AVERAGE:	0.6	PPB		ON DAY(S)
				VAR-VARIOUS
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	688
MONTHLY CALIBRATION TIME:	5	HRS	AMD OPERATION UPTIME:	92.5
STANDARD DEVIATION:	0.13		MONTHLY AVERAGE:	0.4
				PPB

TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 842b Station - October 2016

TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS 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	DAILY	24-HOUR		
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	MIN.	MAX.	AVG.	RDGS.	
DAY																														
1		0.8	0.8	0.7	0.7	0.9	0.7	0.7	0.8	0.7	0.8	0.7	0.6	0.7	0.7	0.7	S	0.8	0.7	0.7	0.8	0.7	0.7	0.7	0.6	0.6	0.9	0.7	24	
2		0.6	0.9	0.7	1.0	0.9	0.7	0.7	0.8	0.8	0.7	0.9	1.0	0.7	0.7	S	0.8	0.8	0.8	0.8	0.8	1.2	0.7	0.7	0.8	0.6	1.2	0.8	24	
3		0.8	1.0	0.9	1.0	0.7	0.9	0.8	0.9	0.9	1.0	0.9	0.8	0.8	S	0.8	0.7	0.8	0.7	0.8	0.7	0.6	0.7	0.6	0.8	0.6	1.0	0.8	24	
4		0.7	0.6	0.7	0.7	0.6	0.7	0.7	0.9	0.7	0.9	0.8	0.7	S	0.9	0.8	0.7	0.8	0.9	0.8	0.7	0.7	0.7	0.7	0.7	0.6	0.9	0.7	24	
5		0.8	0.7	0.8	0.8	0.8	0.9	0.7	0.8	0.7	0.8	0.7	S	0.8	0.7	0.8	0.7	0.8	0.8	0.8	0.8	0.9	0.7	0.8	1.0	0.7	1.0	0.8	24	
6		0.8	0.8	0.7	0.8	0.7	0.8	0.8	0.8	0.9	0.8	S	0.8	0.8	0.8	0.9	0.7	0.8	0.9	0.9	0.9	0.8	0.8	0.9	0.9	0.7	0.9	0.8	24	
7		0.8	0.9	0.8	0.7	0.7	0.9	0.8	0.8	0.9	S	0.8	0.7	0.8	0.9	0.8	0.8	0.8	0.7	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.9	0.8	24	
8		0.9	0.8	0.8	0.7	0.7	0.7	0.8	0.7	S	0.8	0.7	0.8	0.9	0.8	0.9	0.8	0.7	0.8	0.8	0.7	0.8	0.8	0.7	0.7	0.7	0.9	0.8	24	
9		0.8	0.7	0.7	0.8	0.7	0.8	0.7	S	0.8	0.8	0.8	0.7	0.7	0.7	0.8	0.9	0.8	0.8	0.7	0.9	0.9	0.7	0.8	0.8	0.7	0.9	0.8	24	
10		0.8	0.8	0.7	0.7	0.7	0.8	S	0.8	0.9	0.8	0.9	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.8	0.9	0.7	0.8	0.8	0.8	0.7	0.9	0.8	24	
11		0.9	0.8	0.9	0.9	0.9	S	1.0	1.1	1.0	0.8	0.9	0.9	1.0	0.7	0.8	0.7	0.8	0.8	0.9	0.7	0.9	0.9	0.9	0.8	0.7	1.1	0.9	24	
12		0.8	0.8	0.7	1.0	S	1.1	1.4	1.5	0.9	C	C	C	C	C	Y	Y	Y	Y	0.9	0.8	0.8	0.6	0.7	0.7	0.6	1.5	0.9	20	
13		0.6	0.8	0.7	S	0.8	0.7	0.7	0.7	0.7	0.8	0.6	0.6	0.7	0.6	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.8	0.7	24	
14		0.6	0.7	S	0.7	0.7	0.7	0.7	0.6	0.7	0.7	0.6	0.6	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.7	0.6	0.7	0.6	0.7	0.7	24	
15		0.7	S	0.9	0.8	0.8	0.7	0.6	0.8	0.6	0.7	0.7	0.8	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.5	0.7	0.7	0.5	0.9	0.7	24	
16		S	0.8	0.7	0.6	0.7	0.7	0.8	0.7	0.8	0.6	0.7	0.6	0.5	0.6	0.7	0.7	0.6	0.7	0.6	0.6	0.6	0.6	0.5	S	0.5	0.8	0.7	24	
17		0.7	0.6	0.7	0.7	0.8	0.7	0.6	0.8	0.6	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.8	0.6	0.7	0.7	0.7	0.8	S	0.8	0.6	0.8	0.7	24	
18		0.8	0.7	0.7	0.6	0.7	0.7	0.7	0.8	0.6	0.7	0.7	0.7	0.6	0.7	0.6	0.8	0.7	0.7	0.8	0.7	0.7	S	0.8	0.8	0.6	0.8	0.7	24	
19		0.5	0.6	0.5	0.7	0.7	0.7	0.8	0.8	0.7	0.9	0.8	0.6	0.7	0.8	0.6	0.7	0.7	0.6	0.7	0.6	S	0.7	0.7	0.6	0.5	0.9	0.7	24	
20		0.7	0.7	0.7	0.6	0.5	0.5	0.6	0.8	0.7	0.7	0.6	0.9	0.6	0.6	0.8	0.7	0.8	0.6	0.6	S	0.7	0.8	0.7	0.6	0.5	0.9	0.7	24	
21		0.7	0.7	0.8	0.7	0.6	0.7	0.7	0.7	0.7	0.8	0.7	0.7	0.6	0.6	0.8	0.6	0.6	0.7	S	0.8	0.8	0.6	0.6	0.8	0.6	0.8	0.7	24	
22		0.6	0.7	0.6	0.6	0.6	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.9	0.7	0.7	S	0.7	1.0	0.7	0.7	0.7	0.7	0.6	1.0	0.7	24	
23		0.7	0.8	0.8	1.0	0.9	0.9	0.8	0.7	0.6	0.6	0.6	0.6	0.7	0.6	0.5	0.7	S	0.7	0.7	0.6	0.6	0.8	0.6	0.7	0.5	1.0	0.7	24	
24		0.5	0.7	0.6	0.7	0.7	0.6	0.7	0.6	0.6	0.7	0.6	0.6	0.7	0.8	0.6	S	X	X	X	X	X	X	X	X	0.5	0.8	0.6	16	
25		X	X	X	X	X	X	X	P	P	P	P	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	0
26		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Y	S	S	0.6	0.6	0.6	0.6	0.6	4	
27		0.6	0.5	0.6	0.8	0.8	0.8	0.8	0.6	S1	0.5	0.6	0.5	S	0.4	0.5	0.4	0.4	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.8	0.6	23	
28		0.5	0.4	0.4	0.3	0.4	0.7	0.4	0.4	0.5	0.4	0.4	S	0.6	0.4	0.5	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.5	0.6	0.3	0.7	0.5	24	
29		0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.6	0.5	0.5	S	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.4	0.5	0.4	0.6	0.5	24	
30		0.6	0.5	0.3	0.4	0.5	0.4	0.5	0.4	0.4	S	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.7	0.5	0.3	0.7	0.5	24	
31		0.4	0.4	0.5	0.4	0.5	0.6	0.4	0.5	S	0.4	0.5	0.6	0.5	0.6	0.5	0.4	0.4	0.5	0.5	0.4	0.5	0.5	0.5	0.4	0.4	0.6	0.5	24	
HOURLY MAX		0.9	1.0	0.9	1.0	0.9	1.1	1.4	1.5	1.0	1.0	0.9	1.0	1.0	0.9	0.9	0.9	0.8	0.9	0.9	1.0	1.2	0.9	0.9	1.0					
HOURLY AVG		0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7					

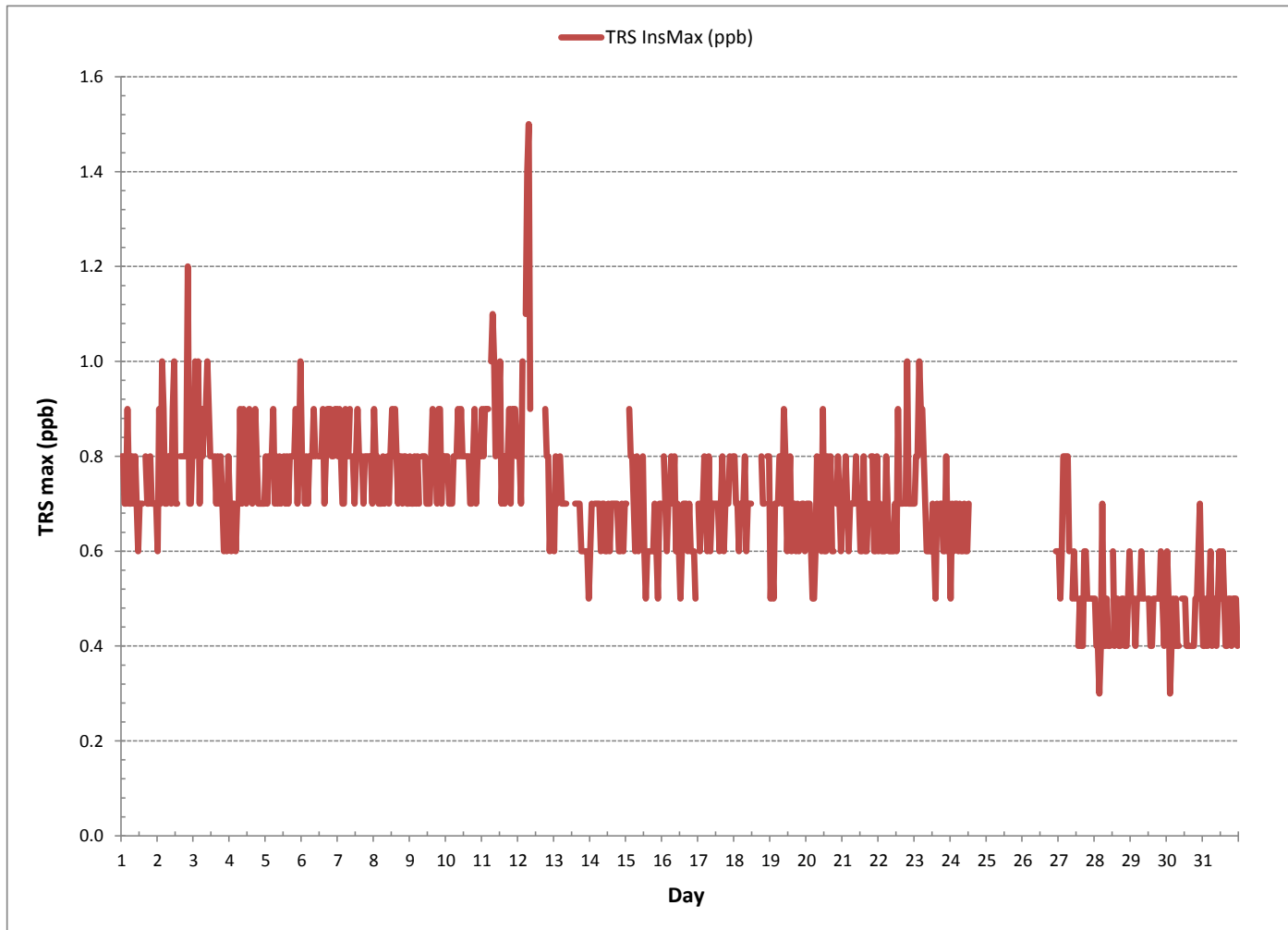
STATUS FLAG CODES

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:	650				
MAXIMUM INSTANTANEOUS VALUE:	1.5	PPB	@ HOUR(S)	7	ON DAY(S) 12
				VAR-VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	687	HRS
MONTHLY CALIBRATION TIME:	5	HRS			
STANDARD DEVIATION:	0.15				

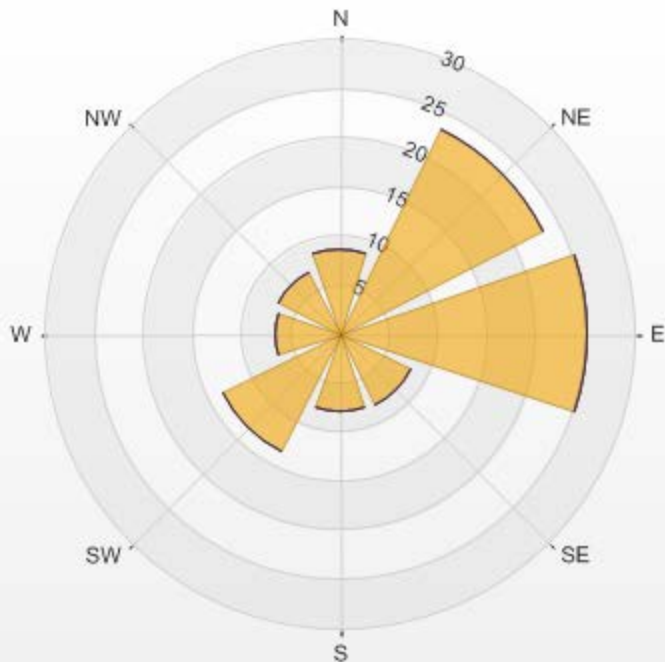
TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS ppb)



Wind: THREE CREEKS #842 TRAILER Poll.: THREE CREEKS #842 TRAILER-TRS[ppb] Monthly: 2016/10 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 87.37% Calm Avg: 0.00 [ppb]

Direction	0-1	1-3	3-10	>10.0	Total
N	8.62	0		0	8.62
NE	23.23	0		0	23.23
E	25.23	0		0	25.23
SE	8.15	0		0	8.15
S	7.85	0		0	7.85
SW	13.38	0		0	13.38
W	6.62	0		0	6.62
NW	6.92	0		0	6.92
Summary	100	0		0	100

THREE CREEKS #842 TRAILER Poll.: THREE CREEKS #842 TRAILER-TRS[ppb] 2016/10/01 00:00 - 2016/10/31 23:00 Calm: 0.00%



% Icon Classes (ppb)

100 0-1

0 1-3

0 3-10

0 >10.0

TRS[ppb] Calibration: THREE CREEKS #842 TRAILER Monthly: 2016/10 Type: Span



Span Meas Span Ref Span Low Span High

TOTAL HYDROCARBON

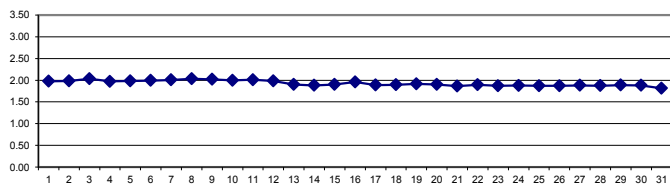
TOTAL HYDROCARBONS Hourly Averages (THC ppm)

MST																								DAILY	DAILY	24-HOUR	RDGS.		
HOURLY 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.	
HOURLY 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	1.97	1.98	1.98	1.98	1.99	1.98	1.98	1.98	1.99	1.98	1.98	1.97	1.97	1.98	1.97	S	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.99	1.99	1.98	24
2	1.97	1.97	1.97	1.97	1.97	1.97	1.97	2.00	1.97	1.97	1.97	1.97	1.97	1.97	S	1.98	1.99	1.99	2.01	1.98	2.00	1.99	2.00	2.04	1.97	2.04	1.98	24	
3	2.10	2.12	2.13	2.13	2.13	2.07	2.05	2.03	2.04	2.04	2.05	2.02	2.01	S	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.98	1.98	1.98	1.97	2.13	2.03	24	
4	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.97	1.97	S	1.97	S	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.99	1.99	1.97	1.99	1.97	24	
5	2.00	2.01	2.02	2.01	2.00	1.99	1.99	1.99	1.99	1.98	1.97	S	1.96	1.96	1.96	1.97	1.96	1.96	1.96	1.98	2.00	2.00	2.00	2.01	1.96	2.02	1.99	24	
6	2.02	2.02	2.01	2.01	2.00	1.99	1.99	1.99	1.99	1.98	S	1.98	1.97	1.98	1.98	1.97	1.97	1.98	1.98	1.99	2.01	2.01	2.00	2.00	1.97	2.02	1.99	24	
7	2.00	2.00	1.98	2.00	1.99	2.00	2.00	2.00	2.00	S	2.00	2.00	2.00	2.00	2.00	2.00	2.01	2.01	2.02	2.03	2.03	2.02	2.02	2.02	1.98	2.03	2.01	24	
8	2.03	2.03	2.02	2.02	2.02	2.03	2.02	2.02	S	2.02	2.03	2.03	2.03	2.03	2.00	2.04	2.04	2.05	2.05	2.05	2.05	2.05	2.05	2.04	2.00	2.05	2.03	24	
9	2.04	2.04	2.04	2.05	2.05	2.05	2.05	S	2.04	2.03	2.02	2.02	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.00	2.00	2.00	2.00	2.00	2.00	2.05	2.02	24	
10	2.00	2.00	2.00	2.00	2.00	2.00	S	2.00	2.00	1.99	2.01	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	2.01	1.99	24	
11	2.00	2.00	1.99	1.99	2.00	S	2.01	2.02	2.02	2.02	2.03	2.03	2.02	2.01	2.01	2.00	1.99	1.99	2.04	2.01	2.01	2.01	2.02	2.02	1.99	2.04	2.01	24	
12	2.02	2.04	2.07	2.14	S	2.20	2.09	2.02	1.97	1.97	C	C	C	C	C	C	C	1.88	1.88	1.90	1.89	1.89	1.88	1.89	1.88	2.20	1.98	24	
13	1.90	1.94	1.94	S	1.91	1.90	1.90	1.90	1.90	1.89	1.89	1.89	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.89	1.94	1.90	24	
14	1.89	1.89	S	1.90	1.89	1.89	1.89	1.88	1.89	1.89	1.89	1.89	1.89	1.88	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.90	1.88	24	
15	1.87	S	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.95	1.95	1.93	1.91	1.90	1.90	1.89	1.89	1.89	1.91	1.93	1.92	1.91	1.91	1.91	1.87	1.95	1.90	24	
16	S	1.90	1.90	1.92	1.93	1.94	1.92	1.93	1.94	1.96	1.96	1.95	1.98	1.99	2.00	1.99	2.01	2.02	2.00	1.99	1.97	1.94	1.95	S	1.90	2.02	1.96	24	
17	1.92	1.89	1.89	1.89	1.89	1.89	1.89	1.90	1.90	1.90	1.90	1.90	1.89	1.88	1.88	1.87	1.88	1.87	1.88	1.88	1.88	1.89	S	1.90	1.87	1.92	1.89	24	
18	1.89	1.90	1.90	1.95	2.00	1.96	1.90	1.88	1.87	1.87	1.87	1.87	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.89	S	1.91	1.92	1.87	2.00	1.90	24	
19	1.93	1.94	1.92	1.93	1.92	1.93	1.94	1.95	1.95	1.94	1.92	1.93	1.92	1.90	1.90	1.89	1.90	1.91	1.90	1.90	S	1.89	1.89	1.88	1.88	1.95	1.92	24	
20	1.87	1.88	1.89	1.88	1.88	1.88	1.89	1.90	1.90	1.90	1.91	1.91	1.92	1.91	1.90	1.91	1.91	1.90	1.91	S	1.94	1.93	1.92	1.92	1.87	1.94	1.90	24	
21	1.91	1.90	1.88	1.90	1.93	1.92	1.91	1.89	1.88	1.86	1.85	1.85	1.85	1.84	1.84	1.83	1.83	S	1.84	1.84	1.83	1.83	1.86	1.83	1.93	1.87	24		
22	1.94	2.11	2.00	1.93	1.93	1.93	1.92	1.95	1.91	1.88	1.84	1.84	1.84	1.84	1.84	1.86	S	1.86	1.86	1.85	1.85	1.85	1.85	1.84	2.11	1.89	24		
23	1.85	1.85	1.87	1.85	1.86	1.87	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.87	S	1.88	1.86	1.86	1.87	1.87	1.89	1.87	1.85	1.89	1.87	24		
24	1.86	1.86	1.88	1.87	1.87	1.86	1.87	1.87	1.87	1.87	1.86	1.86	1.87	1.87	1.88	S	1.90	1.89	1.90	1.90	1.89	1.89	1.91	1.86	1.91	1.88	24		
25	1.92	1.90	1.89	1.89	1.86	1.87	1.87	P	P	P	P	R	1.86	1.86	S	1.88	1.87	1.86	1.86	1.86	1.86	1.85	1.85	1.86	1.85	1.92	1.87	19	
26	1.85	1.86	1.86	1.87	1.87	1.85	1.86	1.87	1.93	1.89	1.87	1.87	1.88	S	1.87	1.86	1.86	1.86	1.87	1.89	1.89	1.87	1.87	1.87	1.85	1.93	1.87	24	
27	1.89	1.91	1.90	1.92	1.86	1.87	1.88	1.89	1.88	1.89	1.88	1.89	S	1.89	1.89	1.88	1.88	1.87	1.87	1.86	1.87	1.86	1.86	1.86	1.86	1.92	1.88	24	
28	1.86	1.87	1.87	1.87	1.86	1.87	1.87	1.88	1.87	1.87	1.87	S	1.87	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.88	1.88	1.89	1.88	1.86	1.89	1.88	24	
29	1.90	1.89	1.89	1.88	1.88	1.89	1.93	1.91	1.90	1.90	S	1.90	1.89	1.89	1.89	1.88	1.88	1.88	1.88	1.88	1.87	1.87	1.89	1.88	1.87	1.93	1.89	24	
30	1.89	1.88	1.89	1.88	1.89	1.88	1.89	1.88	1.90	S	1.89	1.89	1.87	1.88	1.87	1.86	1.87	1.87	1.87	1.87	1.88	1.88	1.88	1.87	1.86	1.90	1.88	24	
31	1.85	1.85	1.85	1.85	1.83	1.82	1.81	1.81	S	1.80	1.80	1.79	1.80	1.79	1.79	1.79	1.79	1.79	1.80	1.80	1.81	1.82	1.81	1.82	1.79	1.85	1.81	24	
HOURLY MAX	2.10	2.12	2.13	2.14	2.13	2.20	2.09	2.03	2.04	2.04	2.05	2.03	2.03	2.03	2.01	2.04	2.04	2.05	2.05	2.05	2.05	2.05	2.05	2.04					
HOURLY AVG	1.94	1.95	1.94	1.94	1.94	1.94	1.93	1.93	1.94	1.93	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.93	1.92	1.93	1.92	1.93	1.93					

STATUS FLAG CODES

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

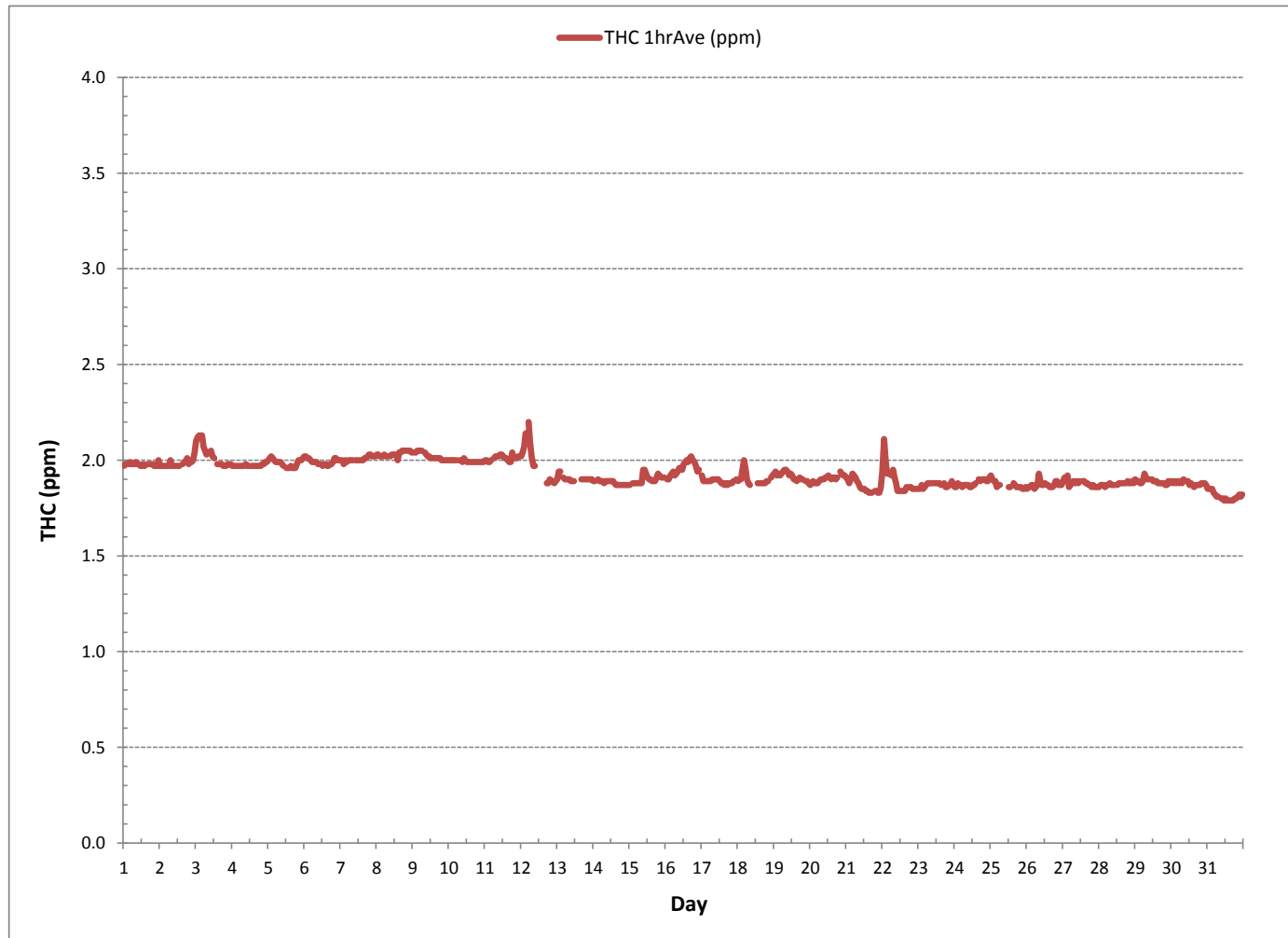
24 HOUR AVERAGES FOR October 2016



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	700				
MINIMUM 1-HR AVERAGE:	1.79	PPM	@ HOUR(S)	VAR	ON DAY(S) 31
MAXIMUM 1-HR AVERAGE:	2.20	PPM	@ HOUR(S)	5	ON DAY(S) 12
MAXIMUM 24-HR AVERAGE:	2.03	PPM			ON DAY(S) 3, 8
					VAR-VARIOUS
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	739	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	99.3	%
STANDARD DEVIATION:	0.07		MONTHLY AVERAGE:	1.93	PPM

TOTAL HYDROCARBONS Hourly Averages (THC ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 842b Station - October 2016

TOTAL HYDROCARBONS Instantaneous Maximum (THC 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	MIN.	MAX.	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	2.00	2.00	2.00	2.00	2.01	2.00	2.01	2.01	2.03	2.01	2.00	2.00	2.00	2.00	1.99	S	2.01	2.00	2.01	2.00	1.99	1.99	2.00	1.99	1.99	1.99	2.03	2.00	24
2	2.01	1.99	1.99	2.04	1.99	2.00	1.99	2.04	2.01	1.99	2.00	2.00	2.00	2.00	S	2.01	2.03	2.06	2.09	2.02	2.04	2.03	2.06	2.14	1.99	2.14	2.02	24	
3	2.18	2.19	2.19	2.20	2.19	2.15	2.09	2.08	2.07	2.08	2.16	2.05	2.04	S	2.02	2.01	2.01	2.01	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.20	2.07	24	
4	2.00	1.99	2.00	1.99	1.99	1.99	1.99	2.00	2.00	2.00	2.00	2.00	S	2.00	1.99	1.99	1.99	1.99	2.00	2.00	2.00	2.01	2.03	2.02	1.99	2.03	2.00	24	
5	2.02	2.03	2.07	2.06	2.02	2.02	2.02	2.02	2.01	2.01	2.00	S	1.99	1.99	2.01	2.00	1.98	2.00	1.99	2.03	2.03	2.02	2.03	2.04	1.98	2.07	2.02	24	
6	2.07	2.05	2.04	2.04	2.02	2.02	2.01	2.02	2.01	2.00	S	2.00	2.00	2.00	2.00	2.00	2.01	2.01	2.01	2.01	2.04	2.04	2.03	2.09	2.00	2.09	2.02	24	
7	2.03	2.05	2.02	2.02	2.02	2.02	2.02	2.02	2.02	S	2.02	2.05	2.02	2.02	2.02	2.03	2.05	2.04	2.04	2.05	2.07	2.04	2.04	2.05	2.02	2.07	2.03	24	
8	2.06	2.06	2.05	2.04	2.05	2.05	2.05	2.05	S	2.05	2.05	2.06	2.06	2.06	2.06	2.06	2.06	2.07	2.07	2.07	2.07	2.07	2.07	2.06	2.04	2.07	2.06	24	
9	2.07	2.07	2.09	2.07	2.08	2.07	2.07	S	2.06	2.05	2.05	2.04	2.04	2.03	2.04	2.03	2.03	2.03	2.03	2.02	2.02	2.02	2.02	2.02	2.02	2.09	2.05	24	
10	2.02	2.02	2.03	2.03	2.02	2.02	S	2.02	2.02	2.02	2.05	2.02	2.01	2.02	2.02	2.01	2.02	2.01	2.01	2.01	2.01	2.01	2.02	2.02	2.01	2.05	2.02	24	
11	2.02	2.02	2.03	2.03	2.03	S	2.04	2.04	2.04	2.05	2.05	2.06	2.07	2.04	2.05	2.03	2.01	2.02	2.15	2.07	2.03	2.04	2.05	2.10	2.01	2.15	2.05	24	
12	2.06	2.11	2.18	2.24	S	2.32	2.17	2.06	2.03	2.00	C	C	C	C	C	C	C	1.91	1.92	1.92	1.91	1.91	1.91	1.91	1.91	2.32	2.04	24	
13	1.93	1.98	1.97	S	1.94	1.93	1.92	1.92	1.92	1.92	1.91	1.91	1.92	1.92	1.93	1.92	1.92	1.92	1.93	1.92	1.92	1.92	1.92	1.92	1.91	1.98	1.93	24	
14	1.92	1.91	S	1.92	1.91	1.91	1.91	1.91	1.91	1.91	1.92	1.91	1.91	1.91	1.91	1.91	1.89	1.91	1.90	1.90	1.90	1.91	1.91	1.91	1.89	1.92	1.91	24	
15	1.91	S	1.91	1.91	1.91	1.91	1.91	1.91	1.91	2.02	2.03	1.97	1.94	1.93	1.93	1.92	1.91	1.92	1.95	1.98	1.94	1.94	1.96	1.95	1.91	2.03	1.94	24	
16	S	1.93	1.93	1.98	1.98	1.98	1.97	2.00	1.98	2.00	2.00	2.02	2.02	2.03	2.04	2.07	2.05	2.06	2.05	2.05	2.06	1.99	2.00	S	1.93	2.07	2.01	24	
17	1.98	1.94	1.92	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.94	1.93	1.93	1.93	1.93	1.91	1.92	1.91	1.93	1.92	1.92	1.93	S	1.94	1.91	1.98	1.93	24	
18	1.93	1.95	1.96	2.05	2.07	2.02	1.96	1.95	1.92	1.92	2.04	1.92	1.94	1.92	1.92	1.92	1.93	1.92	1.94	1.96	1.97	S	1.97	1.98	1.92	2.07	1.96	24	
19	2.03	2.22	2.03	1.99	1.99	1.98	1.99	2.01	2.01	2.01	1.97	2.02	1.98	1.95	1.96	1.95	1.96	1.96	1.95	1.95	S	1.93	1.93	1.97	1.93	2.22	1.99	24	
20	1.92	1.92	1.93	1.93	1.93	1.96	1.95	1.96	2.04	1.96	1.98	1.98	1.98	1.97	1.97	1.97	1.98	1.97	1.98	S	2.00	2.00	1.99	1.99	1.92	2.04	1.97	24	
21	1.99	1.97	2.04	1.98	2.00	2.00	1.98	2.05	1.96	1.93	1.93	1.92	1.93	1.92	1.91	1.90	1.90	1.93	S	1.92	1.92	1.96	1.91	1.96	1.90	2.05	1.95	24	
22	2.08	2.49	2.13	2.02	2.02	2.02	2.00	2.07	2.11	1.99	1.91	1.90	1.90	1.90	1.91	1.90	1.93	S	1.92	1.93	1.92	1.92	1.92	1.91	1.90	2.49	1.99	24	
23	1.93	1.92	2.05	1.91	1.92	1.93	1.93	1.94	1.93	1.93	1.93	1.93	1.93	1.93	1.92	1.93	S	1.92	1.91	1.91	1.92	1.92	1.95	1.94	1.91	2.05	1.93	24	
24	1.91	1.91	1.94	1.94	1.92	1.93	1.92	1.93	1.93	1.96	1.92	1.93	1.94	1.94	1.97	S	1.97	1.96	1.98	1.97	1.98	1.96	1.97	2.00	1.91	2.00	1.95	24	
25	1.99	1.98	1.96	1.99	1.93	1.93	1.94	P	P	P	P	R	1.94	1.93	S	1.97	1.93	1.93	1.94	1.92	1.92	1.92	1.92	1.92	1.92	1.99	1.94	19	
26	1.93	1.93	1.93	1.95	1.94	1.92	1.93	1.98	2.05	2.06	1.97	1.94	1.97	S	2.09	1.93	1.93	1.93	1.93	1.97	1.94	1.95	1.92	1.97	1.92	2.09	1.96	24	
27	1.96	1.99	1.99	2.14	1.93	1.91	1.94	1.93	1.94	2.05	2.06	1.92	S	1.93	1.92	1.93	1.92	1.92	1.91	1.91	1.91	1.91	1.91	1.91	1.91	2.14	1.95	24	
28	1.93	1.91	1.92	1.91	1.92	1.93	1.93	1.92	1.91	1.91	1.91	S	1.91	1.92	1.91	1.93	1.91	1.92	1.93	1.94	1.94	1.93	1.94	1.93	1.91	1.94	1.92	24	
29	1.94	1.93	1.97	1.93	1.94	1.97	2.01	2.00	1.96	1.97	S	2.01	1.94	1.96	1.94	1.94	1.94	1.93	1.92	1.92	1.92	1.92	2.06	1.94	1.92	2.06	1.95	24	
30	1.95	1.93	2.14	1.93	1.93	1.93	1.93	1.94	1.94	S	1.93	1.93	1.92	1.93	1.95	1.91	2.01	1.91	1.92	1.91	1.94	1.92	1.92	1.92	1.91	2.14	1.94	24	
31	1.90	1.91	1.90	1.91	1.91	1.88	1.87	1.87	S	1.87	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.87	1.87	1.88	1.89	1.88	1.99	1.86	1.99	1.88	24	
HOURLY MAX	2.18	2.49	2.19	2.24	2.19	2.32	2.17	2.08	2.11	2.08	2.16	2.06	2.07	2.06	2.09	2.07	2.06	2.07	2.15	2.07	2.07	2.07	2.07	2.14					
HOURLY AVG	1.99	2.01	2.01	2.00	1.98	1.99	1.98	1.99	1.99	1.99	1.98	1.97	1.96	1.97	1.96	1.97	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.98					

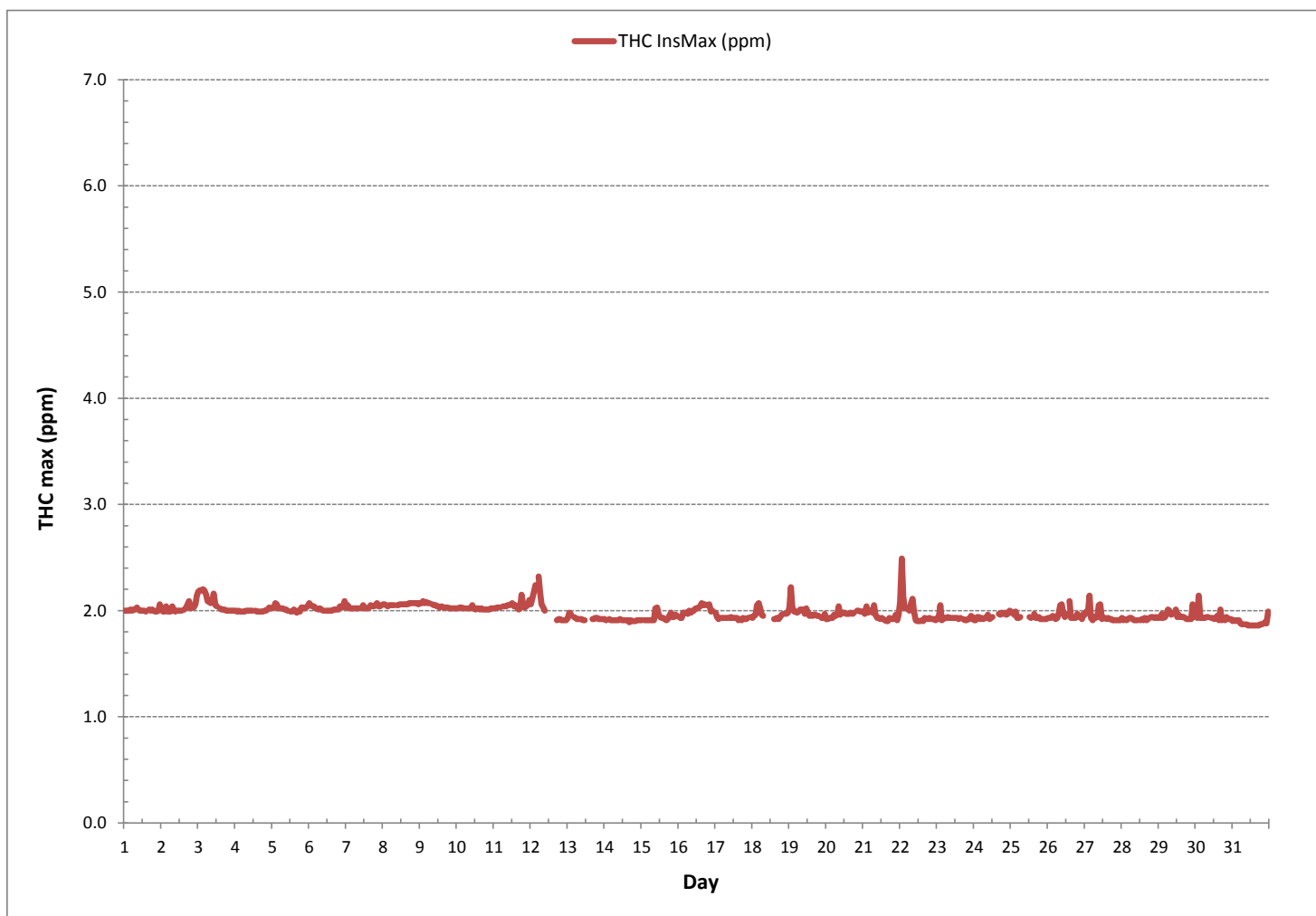
STATUS FLAG CODES

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:	700				
MAXIMUM INSTANTANEOUS VALUE:	2.49	PPM	@ HOUR(S)	1	ON DAY(S) 22
				VAR-VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	739	HRS
MONTHLY CALIBRATION TIME:	7	HRS			
STANDARD DEVIATION:	0.07				

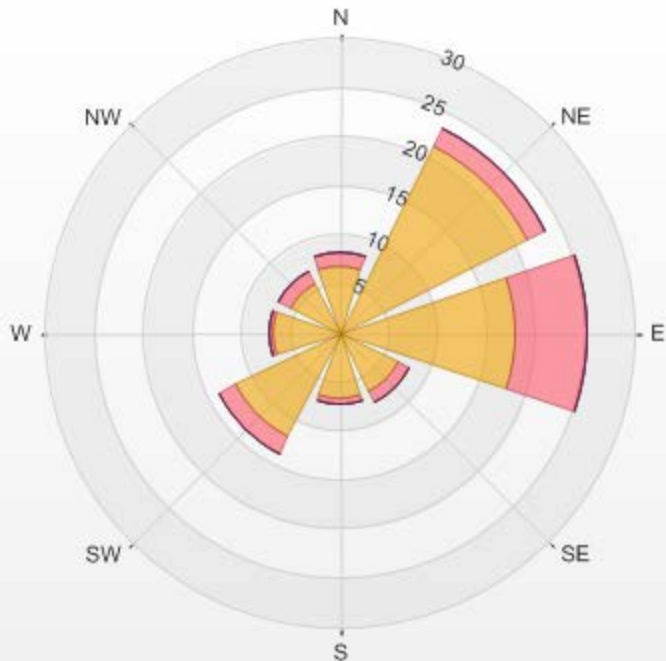
TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)



Wind: THREE CREEKS #842 TRAILER Poll.: THREE CREEKS #842 TRAILER-THC[ppm] Monthly: 2016/10 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.20% Calm Avg: 0.00 [ppm]

Direction	0-2	2-3	3-5	5-10	>10.0	Total
N	6.72	1.57	0	0	0	8.29
NE	21.32	2	0	0	0	23.32
E	17.88	7.3	0	0	0	25.18
SE	6.72	1.14	0	0	0	7.86
S	6.72	0.57	0	0	0	7.29
SW	11.87	1.86	0	0	0	13.73
W	6.87	0.43	0	0	0	7.3
NW	5.58	1.43	0	0	0	7.01
Summary	83.68	16.3	0	0	0	100

THREE CREEKS #842 TRAILER Poll.: THREE CREEKS #842 TRAILER-THC[ppm] 2016/10/01 00:00 - 2016/10/31 23:00 Calm: 0.00%



% Icon Classes (ppm)

84 0-2

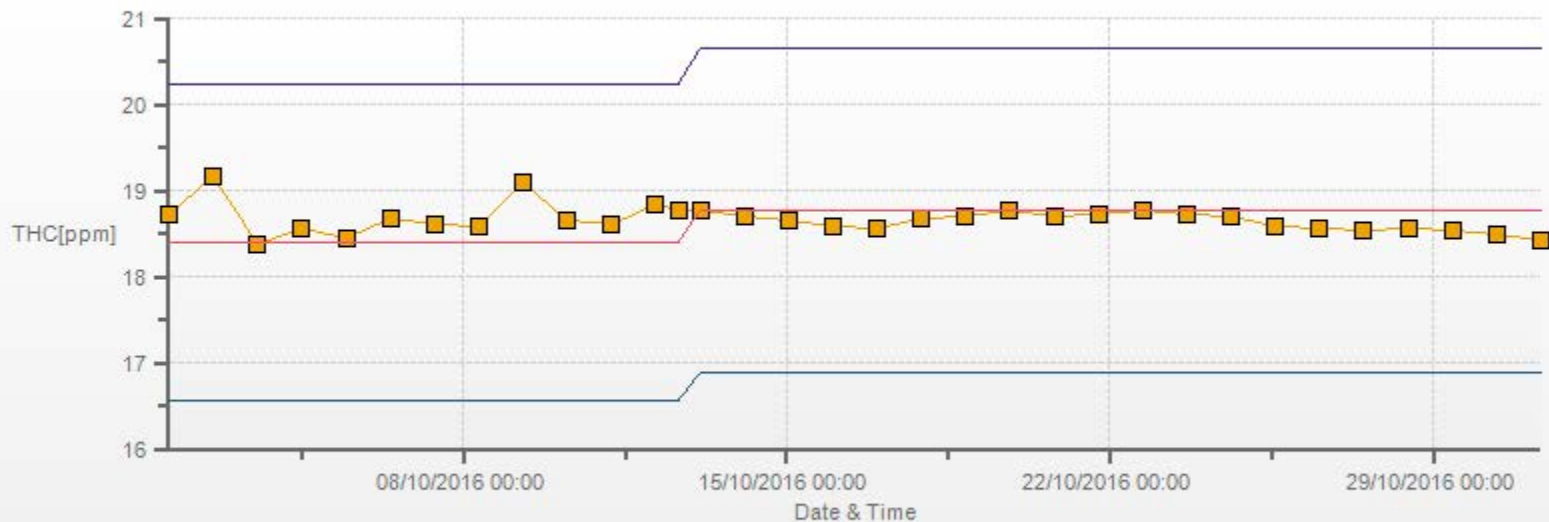
16 2-3

0 3-5

0 5-10

0 >10.0

THC[ppm] Calibration: THREE CREEKS #842 TRAILER Monthly: 2016/10 Type: Span

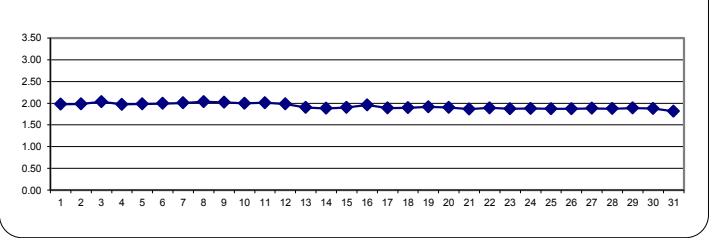


■ Span Meas
 — Span Ref
 — Span Low
 — Span High

METHANE

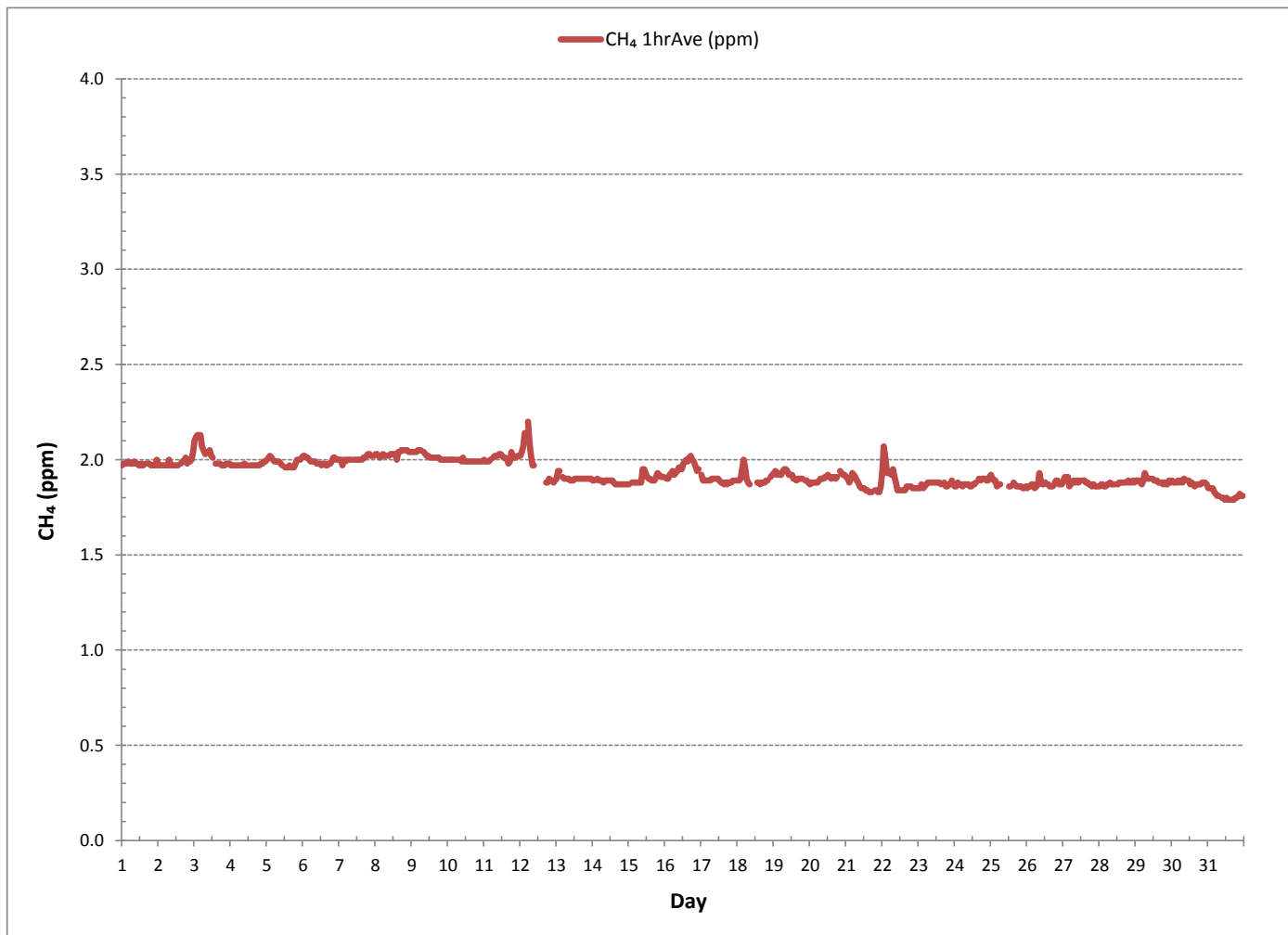
[illegible]

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



NUMBER OF NON-ZERO READINGS:	700				
MINIMUM 1-HR AVERAGE	1.79	PPM	@ HOUR(S)	VAR	ON DAY(S) 31
MAXIMUM 1-HR AVERAGE:	2.20	PPM	@ HOUR(S)	5	ON DAY(S) 12
MAXIMUM 24-HR AVERAGE:	2.03	PPM			ON DAY(S) 3, 8 VAR-VARIOUS
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:		739 HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:		99.3 %
STANDARD DEVIATION:	0.07		MONTHLY AVERAGE:		1.93 PPM

METHANE Hourly Averages (CH₄ ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 842b Station - October 2016

METHANE MAX Instantaneous Maximum (CH₄ 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	DAILY	24-HOUR		
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	MIN.	MAX.	AVG.	RDGS.	
DAY																														
1		1.98	1.99	1.99	1.99	1.99	1.99	1.99	2.00	2.02	1.99	1.99	1.98	1.98	1.98	1.98	S	2.00	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.98	2.02	1.99	24
2		1.98	1.98	1.98	1.99	1.98	1.98	1.98	2.03	1.99	1.98	1.99	1.98	1.99	1.99	S	2.00	2.01	2.05	2.07	2.00	2.03	2.02	2.04	2.12	1.98	2.12	2.01	24	
3		2.16	2.17	2.18	2.18	2.17	2.13	2.07	2.07	2.06	2.07	2.14	2.04	2.02	S	2.01	2.00	1.99	1.99	1.99	1.98	1.98	1.99	1.99	1.99	1.98	2.18	2.06	24	
4		1.99	1.98	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	1.99	S	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	2.00	2.01	2.01	1.98	2.01	1.99	24	
5		2.01	2.02	2.05	2.05	2.01	2.00	2.00	2.00	2.00	2.00	1.99	S	1.97	1.98	1.99	1.99	1.97	1.99	1.98	2.02	2.01	2.00	2.02	2.02	1.97	2.05	2.00	24	
6		2.05	2.03	2.03	2.02	2.01	2.00	2.00	2.00	2.00	1.99	S	1.99	1.98	1.99	1.99	1.99	2.00	1.99	2.00	2.00	2.03	2.03	2.02	2.01	1.98	2.05	2.01	24	
7		2.02	2.03	2.01	2.00	2.00	2.01	2.01	2.01	2.01	S	2.01	2.04	2.01	2.01	2.01	2.01	2.03	2.02	2.03	2.04	2.05	2.03	2.03	2.03	2.00	2.05	2.02	24	
8		2.04	2.04	2.03	2.02	2.04	2.04	2.03	2.03	S	2.03	2.04	2.04	2.04	2.04	2.04	2.05	2.05	2.06	2.06	2.06	2.06	2.06	2.06	2.05	2.02	2.06	2.04	24	
9		2.05	2.05	2.07	2.06	2.06	2.06	2.06	S	2.05	2.04	2.03	2.03	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.01	2.00	2.00	2.01	2.00	2.07	2.03	24	
10		2.01	2.01	2.01	2.01	2.01	2.01	S	2.01	2.00	2.00	2.04	2.01	2.00	2.00	2.00	2.00	2.00	2.00	1.99	2.00	2.00	2.00	2.01	2.00	1.99	2.04	2.01	24	
11		2.00	2.01	2.01	2.02	2.02	S	2.03	2.03	2.03	2.03	2.04	2.05	2.05	2.02	2.04	2.02	2.00	2.00	2.13	2.06	2.02	2.03	2.04	2.10	2.00	2.13	2.03	24	
12		2.04	2.09	2.16	2.23	S	2.32	2.15	2.05	2.02	1.98	C	C	C	C	C	C	C	1.89	1.90	1.91	1.90	1.90	1.89	1.90	1.89	2.32	2.02	24	
13		1.93	1.96	1.96	S	1.93	1.92	1.91	1.91	1.91	1.91	1.90	1.91	1.91	1.91	1.92	1.91	1.91	1.91	1.92	1.92	1.91	1.91	1.92	1.91	1.90	1.96	1.92	24	
14		1.90	1.90	S	1.91	1.90	1.91	1.90	1.90	1.90	1.90	1.91	1.91	1.91	1.90	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.91	1.90	24	
15		1.89	S	1.90	1.90	1.89	1.90	1.91	1.90	1.90	2.01	2.01	1.95	1.93	1.92	1.92	1.91	1.90	1.91	1.94	1.97	1.93	1.93	1.94	1.93	1.89	2.01	1.93	24	
16		S	1.92	1.92	1.96	1.96	1.97	1.95	1.99	1.97	1.99	1.99	2.01	2.00	2.02	2.02	2.05	2.03	2.05	2.04	2.04	2.05	1.98	1.98	S	1.92	2.05	2.00	24	
17		1.96	1.93	1.91	1.92	1.92	1.92	1.92	1.92	1.92	1.93	1.93	1.92	1.92	1.92	1.92	1.91	1.91	1.90	1.92	1.92	1.91	1.91	1.92	S	1.93	1.90	1.96	1.92	24
18		1.92	1.93	1.94	2.03	2.06	2.01	1.94	1.93	1.91	1.91	1.90	1.91	1.92	1.91	1.91	1.91	1.92	1.92	1.93	1.94	1.95	S	1.96	1.96	1.90	2.06	1.94	24	
19		1.99	2.20	2.02	1.97	1.98	1.97	1.98	1.99	2.00	2.00	1.96	1.97	1.97	1.94	1.94	1.93	1.94	1.94	1.93	1.93	S	1.92	1.92	1.95	1.92	2.20	1.97	24	
20		1.91	1.91	1.92	1.92	1.92	1.94	1.93	1.94	1.95	1.94	1.96	1.97	1.96	1.96	1.95	1.95	1.97	1.95	1.96	S	1.98	1.98	1.97	1.98	1.91	1.98	1.95	24	
21		1.98	1.95	1.94	1.96	1.98	1.98	1.97	1.96	1.94	1.92	1.92	1.91	1.92	1.91	1.90	1.89	1.89	1.92	S	1.91	1.91	1.89	1.90	1.94	1.89	1.98	1.93	24	
22		2.07	2.25	2.11	2.00	2.01	2.01	1.99	2.05	2.08	1.97	1.90	1.90	1.90	1.90	1.90	1.89	1.93	S	1.91	1.92	1.91	1.91	1.91	1.90	1.89	2.25	1.97	24	
23		1.92	1.91	1.93	1.90	1.91	1.92	1.92	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.91	1.92	S	1.91	1.91	1.90	1.91	1.91	1.93	1.92	1.90	1.93	1.92	24	
24		1.91	1.91	1.93	1.93	1.91	1.92	1.92	1.92	1.92	1.94	1.91	1.92	1.92	1.93	1.93	1.96	S	1.96	1.94	1.96	1.96	1.97	1.94	1.95	1.99	1.91	1.99	1.94	24
25		1.98	1.97	1.94	1.98	1.92	1.92	1.93	P	P	P	P	R	1.93	1.91	S	1.93	1.92	1.92	1.93	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.98	1.93	19
26		1.92	1.92	1.92	1.93	1.93	1.91	1.92	1.97	2.04	2.05	1.95	1.93	1.96	S	1.93	1.92	1.92	1.92	1.92	1.92	1.97	1.93	1.94	1.91	1.93	1.91	2.05	1.94	24
27		1.94	1.97	1.98	1.97	1.92	1.91	1.93	1.92	1.93	1.92	1.92	1.91	S	1.92	1.91	1.92	1.91	1.91	1.90	1.90	1.89	1.90	1.90	1.89	1.89	1.98	1.92	24	
28		1.92	1.90	1.91	1.89	1.91	1.92	1.92	1.91	1.90	1.90	1.89	S	1.90	1.92	1.90	1.92	1.91	1.91	1.92	1.93	1.93	1.92	1.93	1.92	1.89	1.93	1.91	24	
29		1.93	1.93	1.95	1.92	1.93	1.96	1.99	1.97	1.94	1.96	S	1.99	1.93	1.94	1.93	1.94	1.93	1.93	1.92	1.91	1.91	1.91	2.05	1.93	1.91	2.05	1.94	24	
30		1.94	1.92	1.91	1.92	1.92	1.92	1.92	1.93	1.93	S	1.92	1.93	1.91	1.92	1.91	1.90	1.91	1.90	1.91	1.90	1.93	1.91	1.91	1.91	1.90	1.94	1.92	24	
31		1.89	1.89	1.89	1.89	1.89	1.87	1.86	1.85	S	1.86	1.85	1.84	1.84	1.84	1.84	1.84	1.84	1.85	1.86	1.86	1.87	1.88	1.87	1.88	1.84	1.89	1.86	24	
HOURLY MAX		2.16	2.25	2.18	2.23	2.17	2.32	2.15	2.07	2.08	2.07	2.14	2.05	2.05	2.04	2.04	2.05	2.05	2.06	2.13	2.06	2.06	2.06	2.06	2.12					
HOURLY AVG		1.97	1.99	1.98	1.98	1.97	1.98	1.97	1.97	1.97	1.97	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.95	1.96	1.96				

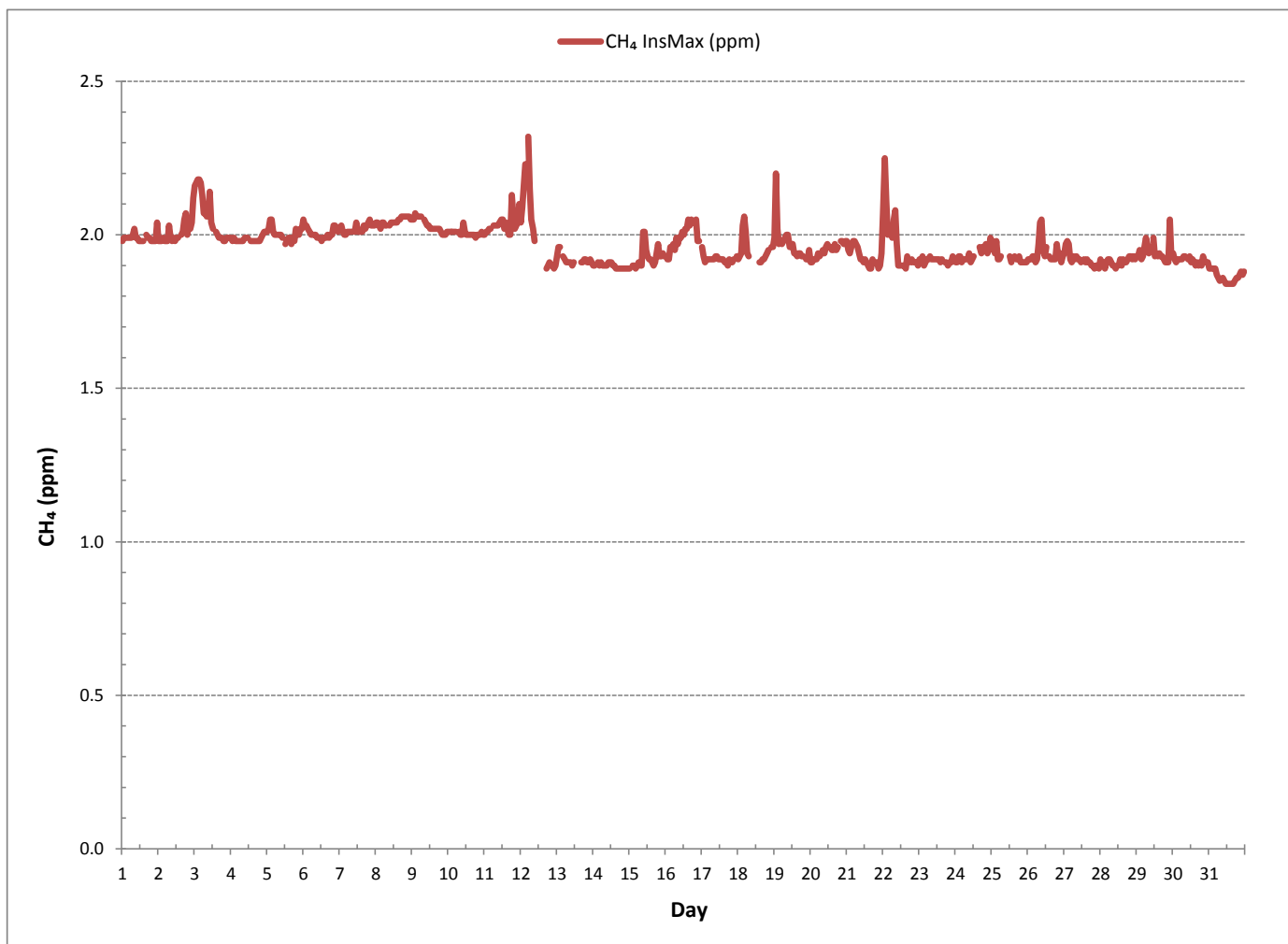
STATUS FLAG CODES

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:	700
MAXIMUM INSTANTANEOUS VALUE:	2.32 PPM @ HOUR(S) 5 ON DAY(S) 12
VAR-VARIOUS	
IZS CALIBRATION TIME:	32 HRS
MONTHLY CALIBRATION TIME:	7 HRS
STANDARD DEVIATION:	0.06
OPERATIONAL TIME:	739 HRS

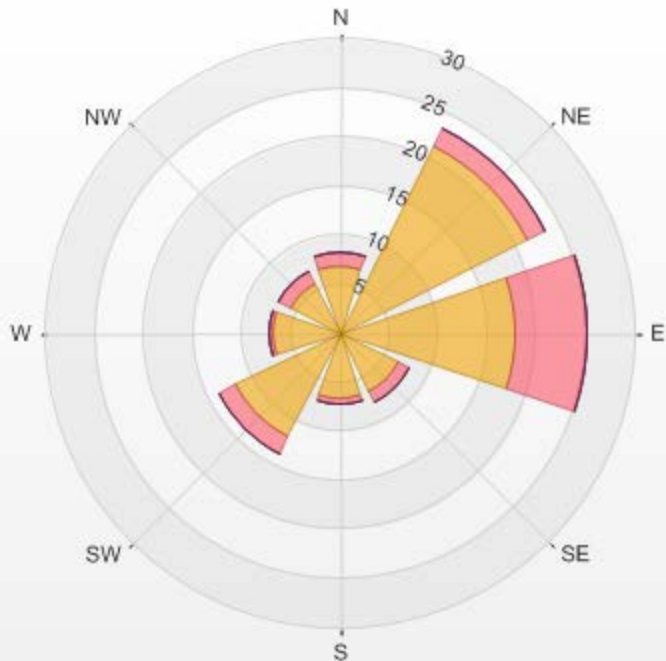
METHANE MAX Instantaneous Maximum (CH₄ ppm)



Wind: THREE CREEKS #842 TRAILER Poll.: THREE CREEKS #842 TRAILER-CH4[ppm] Monthly: 2016/10 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.20% Calm Avg: 0.00 [ppm]

Direction	0-2	2-3	3-5	5-10	>10.0	Total
N	6.72	1.57	0	0	0	8.29
NE	21.32	2	0	0	0	23.32
E	17.88	7.3	0	0	0	25.18
SE	6.72	1.14	0	0	0	7.86
S	6.72	0.57	0	0	0	7.29
SW	11.87	1.86	0	0	0	13.73
W	6.87	0.43	0	0	0	7.3
NW	5.58	1.43	0	0	0	7.01
Summary	83.68	16.3	0	0	0	100

THREE CREEKS #842 TRAILER Poll.: THREE CREEKS #842 TRAILER-CH4[ppm] 2016/10/01 00:00 - 2016/10/31 23:00 Calm: 0.00%



% Icon Classes (ppm)									
84	0-2	16	2-3	0	3-5	0	5-10	0	>10.0

CH4[ppm] Calibration: THREE CREEKS #842 TRAILER Monthly: 2016/10 Type: Span



Span Meas Span Ref Span Low Span High

NON-METHANE HYDROCARBON



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 842b Station - October 2016

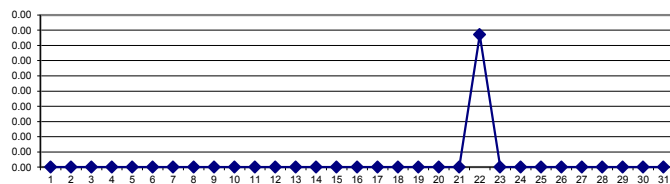
NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)

MST																									DAILY	DAILY	24-HOUR	
HOURLY 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	MIN.	MAX.	AVG.	RDGS.
HOURLY 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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	24
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
10	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
11	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
12	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	C	C	C	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
13	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
14	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
15	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	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	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	S	0.00	0.00	0.00	0.00	0.00	0.00	24
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
22	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
25	0.00	0.00	0.00	0.00	0.00	0.00		P	P	P	P	R	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	19
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	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
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00		S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
HOURLY MAX	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
HOURLY AVG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

STATUS FLAG CODES

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

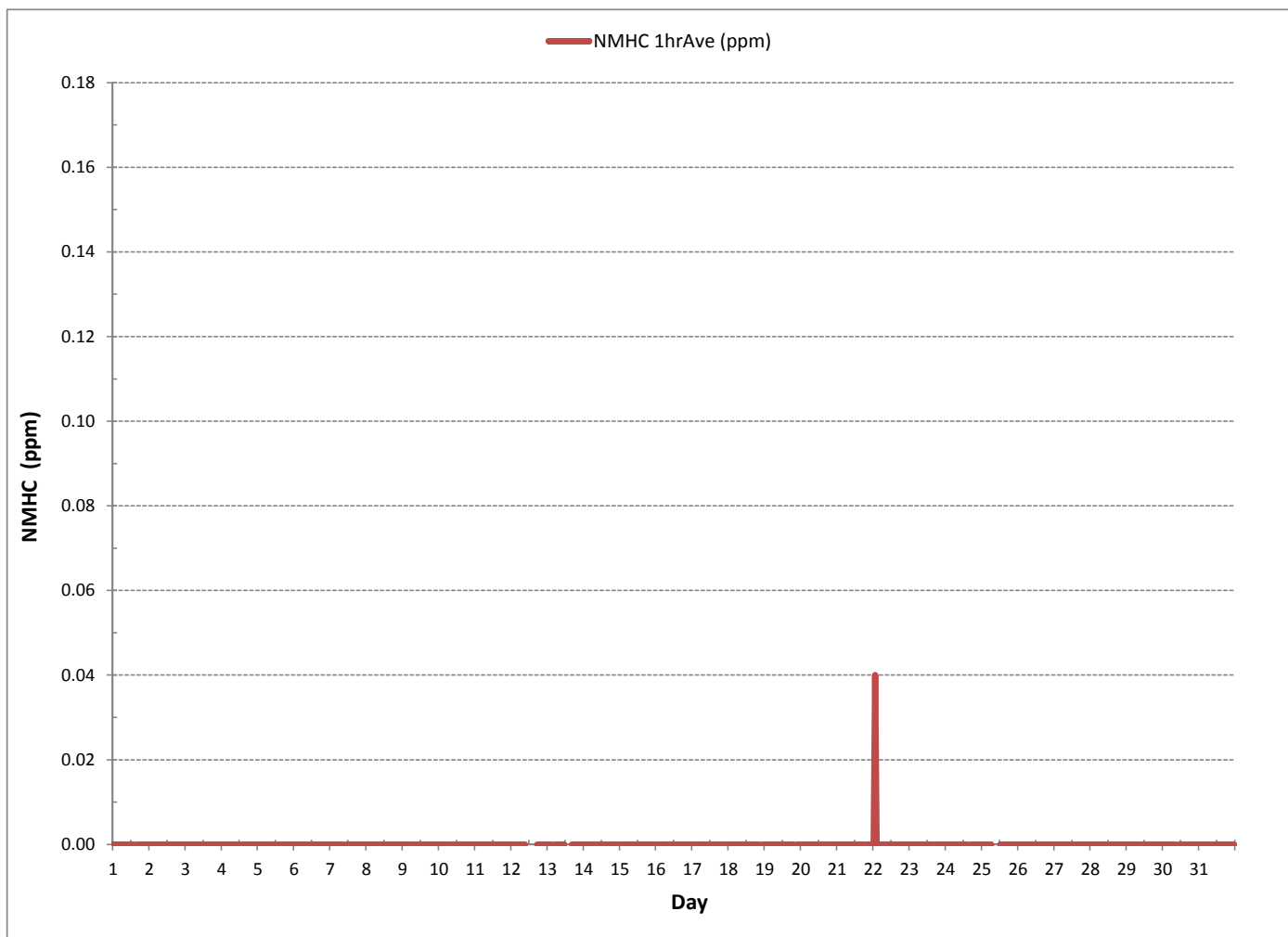
24 HOUR AVERAGES FOR October 2016



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	1				
MINIMUM 1-HR AVERAGE:	0.00	PPM	@ HOUR(S)	VAR	ON DAY(S)
MAXIMUM 1-HR AVERAGE:	0.04	PPM	@ HOUR(S)	1	22
MAXIMUM 24-HR AVERAGE:	0.00	PPM			ALL
					VAR-VARIOUS
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	739	HRS
MONTHLY CALIBRATION TIME:	7	HRS	AMD OPERATION UPTIME:	99.3	%
STANDARD DEVIATION:	0.00		MONTHLY AVERAGE:	0.00	PPM

NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 842b Station - October 2016

NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)

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	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	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	S	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
2	0.03	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.01	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	0.04	0.00	24
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	S	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02	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	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	0.01	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
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	0.01	0.00	0.00	0.00	0.00	0.08	0.00	0.08	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	0.00	0.00	24
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
9	0.00	0.00	0.00	0.00	0.01	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	0.01	0.00	24
10	0.00	0.01	0.00	0.01	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
11	0.00	0.00	0.02	0.00	0.01	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	24	
12	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	C	C	C	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
13	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	24
14	0.01	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	0.01	0.00	24
15	0.00	S	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	24
16	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	24
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	S	0.00	0.00	0.00	0.01	0.00	24	
18	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.13	0.01	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	0.13	0.01	24	
19	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.02	0.01	0.00	0.02	0.00	S	0.00	0.00	0.00	0.00	0.00	0.06	0.01	24	
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.01	0.01	0.00	0.00	0.11	0.01	24	
21	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.08	0.01	0.00	0.00	0.00	0.12	0.01	24	
22	0.00	0.24	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.02	0.01	0.01	0.00	0.00	0.24	0.01	24	
23	0.00	0.00	0.14	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.01	0.00	0.00	0.03	0.00	0.14	0.01	24	
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	24	
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	P	P	P	P	R	0.00	0.02	S	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	19	
26	0.00	0.00	0.00	0.04	0.00	0.00	0.01	0.00	0.00	0.09	0.00	0.00	0.00	S	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.16	0.02	24	
27	0.01	0.00	0.00	0.17	0.00	0.00	0.01	0.00	0.00	0.13	0.15	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.17	0.02	24	
28	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	S	0.00	0.03	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.03	0.00	24	
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	S	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	0.04	0.00	24	
30	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.01	S	0.00	0.00	0.02	0.00	0.06	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.02	24	
31	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.13	0.00	0.13	0.01	24	
Hourly Max	0.06	0.24	0.21	0.17	0.02	0.01	0.02	0.11	0.11	0.13	0.15	0.06	0.02	0.03	0.16	0.05	0.11	0.01	0.02	0.01	0.02	0.08	0.01	0.13					
Hourly Avg	0.00	0.01	0.02	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01					

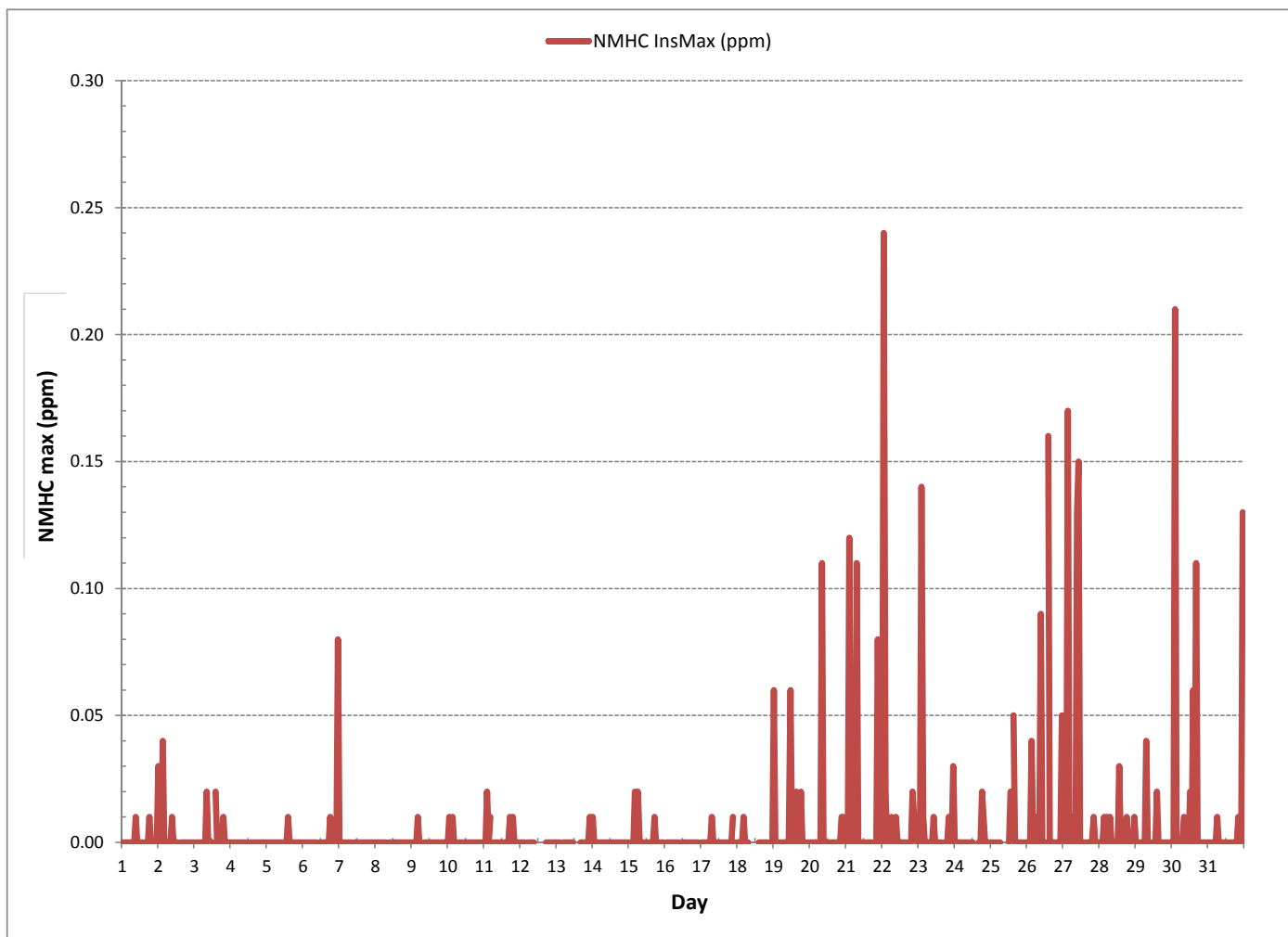
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	83				
MAXIMUM INSTANTANEOUS VALUE:	0.24	PPM	@ HOUR(S)	1	ON DAY(S) 22
				VAR-VARIOUS	
IZS CALIBRATION TIME:	32	HRS	OPERATIONAL TIME:	739	HRS
MONTHLY CALIBRATION TIME:	7	HRS			
STANDARD DEVIATION:	0.02				

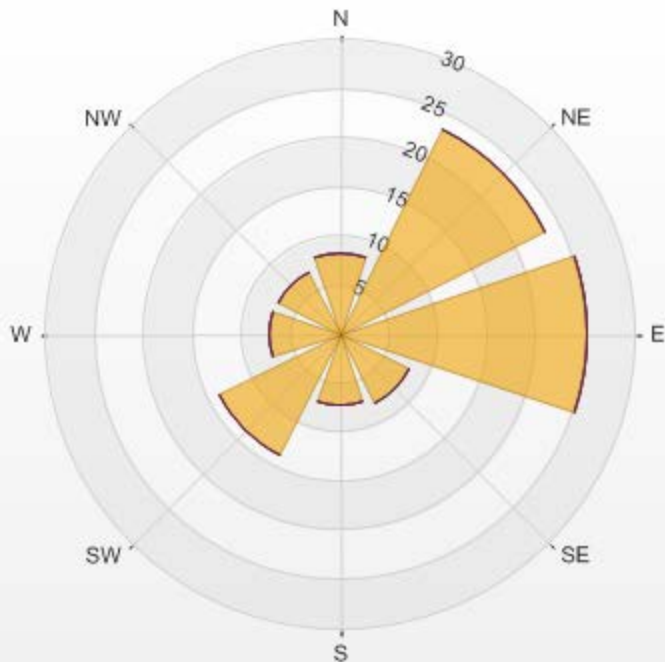
NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)



Wind: THREE CREEKS #842 TRAILER Poll.: THREE CREEKS #842 TRAILER-NMHC[ppm] Monthly: 2016/10 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 94.20% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	8.3	0	0	0	0	8.3
NE	23.32	0	0	0	0	23.32
E	25.18	0	0	0	0	25.18
SE	7.87	0	0	0	0	7.87
S	7.3	0	0	0	0	7.3
SW	13.73	0	0	0	0	13.73
W	7.3	0	0	0	0	7.3
NW	7.01	0	0	0	0	7.01
Summary	100	0	0	0	0	100

THREE CREEKS #842 TRAILER Poll.: THREE CREEKS #842 TRAILER-NMHC[ppm] 2016/10/01 00:00 - 2016/10/31 23:00 Calm: 0.00%



% Icon Classes (ppm)

100 0-0.1

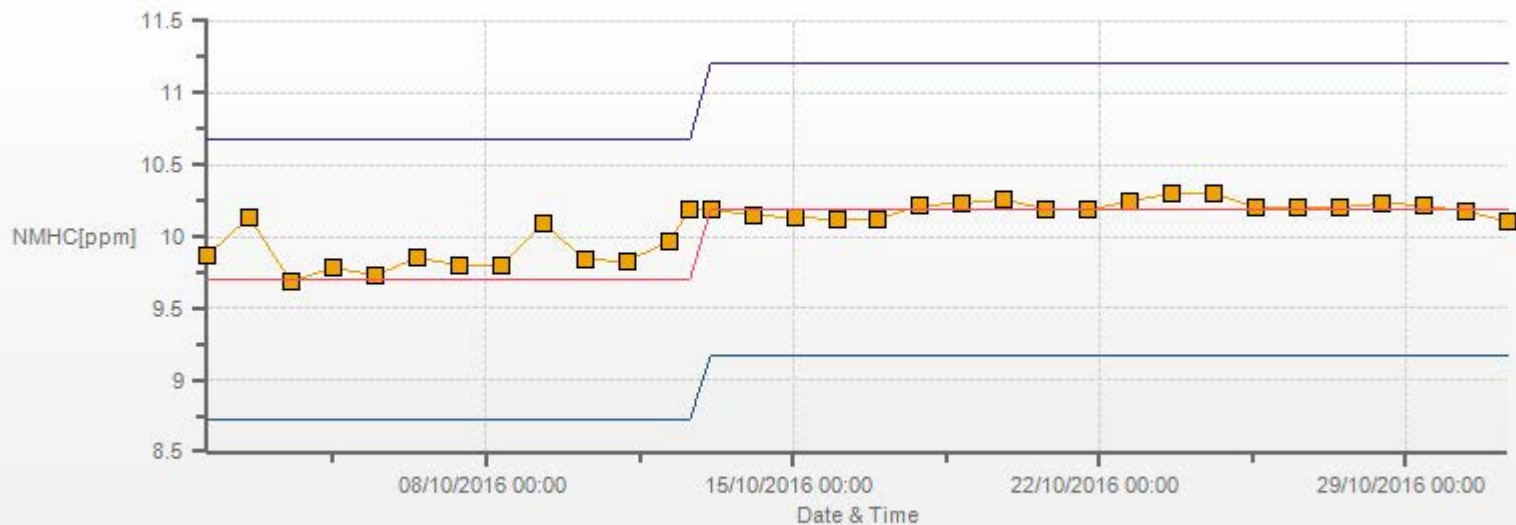
0 0.1-0.3

0 0.3-1

0 1-2

0 >2.0

NMHC[ppm] Calibration: THREE CREEKS #842 TRAILER Monthly: 2016/10 Type: Span



Span Meas Span Ref Span Low Span High

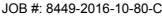
WIND SPEED



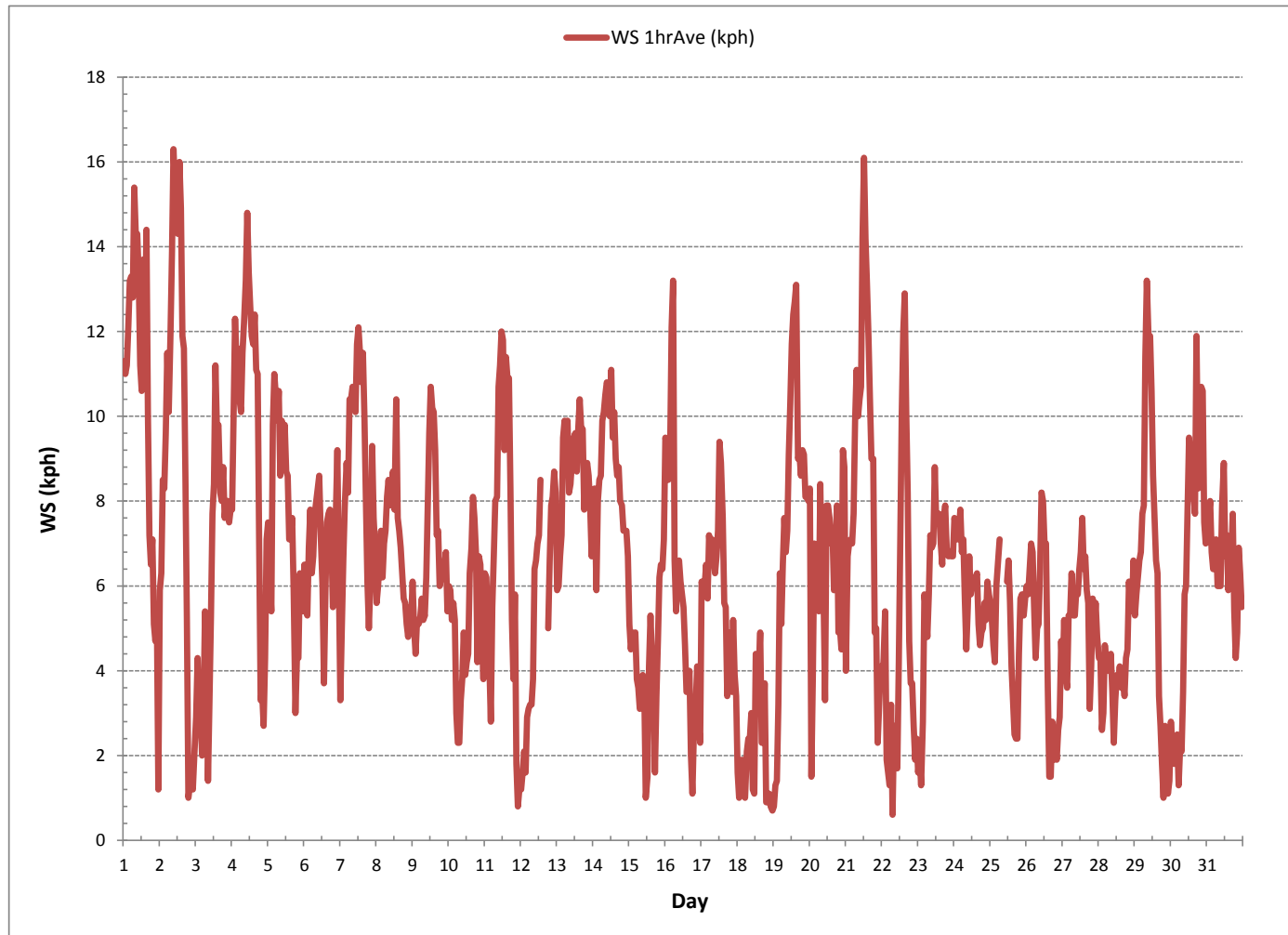
MST																													
	Hour Start	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Daily	Daily	24-Hour	
	Hour End	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	Min	Max	Avg	RDGS
Day	1	11.3	11.0	11.2	12.1	13.2	13.3	12.8	15.4	14.3	14.3	13.3	11.2	10.6	13.7	12.1	14.4	10.0	7.2	6.5	7.1	5.1	4.7	5.3	6.4	4.7	15.4	10.1	24
2	5.9	6.3	8.5	8.3	9.6	11.5	10.1	12.0	13.9	16.3	15.4	14.4	14.3	16.0	14.9	11.9	11.6	8.6	5.2	1.0	1.3	1.4	1.2	2.0	1.0	16.3	8.0	24	
3	2.9	4.3	2.7	3.0	2.0	3.2	5.4	4.6	1.4	3.3	5.3	7.7	8.4	11.2	9.7	9.8	8.2	8.0	8.8	7.6	8.0	8.0	7.5	7.8	1.4	11.2	2.6	24	
4	7.8	10.0	12.3	11.2	11.6	10.4	10.1	11.5	12.2	13.2	14.8	13.4	12.6	11.9	11.7	12.4	11.1	11.0	7.0	3.3	3.5	2.7	4.3	7.1	2.7	14.8	9.6	24	
5	7.5	6.3	5.4	9.8	11.0	10.5	9.9	10.6	8.6	9.9	9.5	9.8	8.7	8.6	7.1	7.2	7.6	5.9	3.0	4.3	4.3	6.3	5.5	5.4	3.0	11.0	7.4	24	
6	6.5	5.4	5.3	6.9	7.8	6.3	6.7	7.7	8.0	8.3	8.6	7.0	6.0	3.7	5.9	7.5	7.7	7.8	7.0	5.5	5.9	7.7	9.2	6.2	3.7	9.2	6.5	24	
7	3.3	5.0	6.6	7.9	8.9	8.2	10.4	10.4	10.7	10.4	10.1	11.7	12.1	11.5	10.8	11.5	10.0	8.0	6.1	5.0	6.3	9.3	7.6	6.9	3.3	12.1	8.5	24	
8	5.6	6.0	6.7	7.3	6.2	7.0	7.3	8.1	8.5	7.9	8.0	8.7	7.8	10.4	7.6	7.3	6.9	6.3	5.7	5.6	5.1	4.8	5.5	5.2	4.8	10.4	6.8	24	
9	6.1	5.0	4.4	5.2	5.1	5.2	5.7	5.2	5.3	6.2	7.9	9.6	10.7	10.2	10.1	9.2	7.2	7.3	6.0	6.2	6.5	6.4	6.8	5.4	4.4	10.7	6.1	24	
10	6.0	5.9	5.2	5.6	5.2	3.0	2.3	3.3	3.8	4.9	3.9	4.2	4.4	6.3	6.9	8.1	7.6	6.8	4.2	6.7	6.5	4.9	3.8	2.3	8.1	0.8	24		
11	6.3	6.2	5.0	4.2	2.8	5.5	6.7	8.0	8.1	10.7	11.2	12.0	11.8	9.2	11.4	10.9	10.9	8.3	5.2	3.8	5.8	1.8	0.8	1.2	0.8	12.0	6.0	24	
12	1.2	1.6	2.1	1.6	2.9	3.1	3.2	3.2	3.8	6.4	6.6	7.0	7.2	8.5	C	C	C	C	5.0	6.6	7.9	8.1	8.7	8.2	1.2	8.7	4.7	24	
13	5.9	6.0	6.7	7.2	9.5	9.9	9.2	9.9	8.2	8.4	9.1	9.5	9.6	8.7	9.7	10.4	9.7	9.7	7.8	8.6	8.9	8.6	7.9	6.7	5.9	10.4	8.3	24	
14	7.7	8.3	5.9	8.0	8.5	8.6	9.9	10.1	10.5	10.8	10.7	10.0	11.1	9.5	10.1	9.0	8.6	8.8	8.0	7.9	7.3	7.3	7.3	6.7	5.9	11.1	8.7	24	
15	5.1	4.5	4.9	4.6	4.9	3.8	3.6	3.1	3.2	3.9	3.6	1.0	1.5	4.1	5.3	4.3	4.2	1.6	3.4	4.7	6.2	6.5	6.4						

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:		736				77 (ENE)			
MINIMUM 1-HR AVERAGE		0.6	kph	@ HOUR(S)	7	ON DAY(S)		22	
MAXIMUM 1-HR AVERAGE:		16.3	kph	@ HOUR(S)	9	ON DAY(S)		2	
MAXIMUM 24-HR AVERAGE:		10.1	kph			ON DAY(S)		1	
VAR-VARIOUS									
MONTHLY CALIBRATION TIME:		4	HRS	OPERATIONAL TIME:		740		HRS	
				AMD OPERATION UPTIME:		99.5		%	
STANDARD DEVIATION:		3.10		MONTHLY AVERAGE:		1.6		kph	

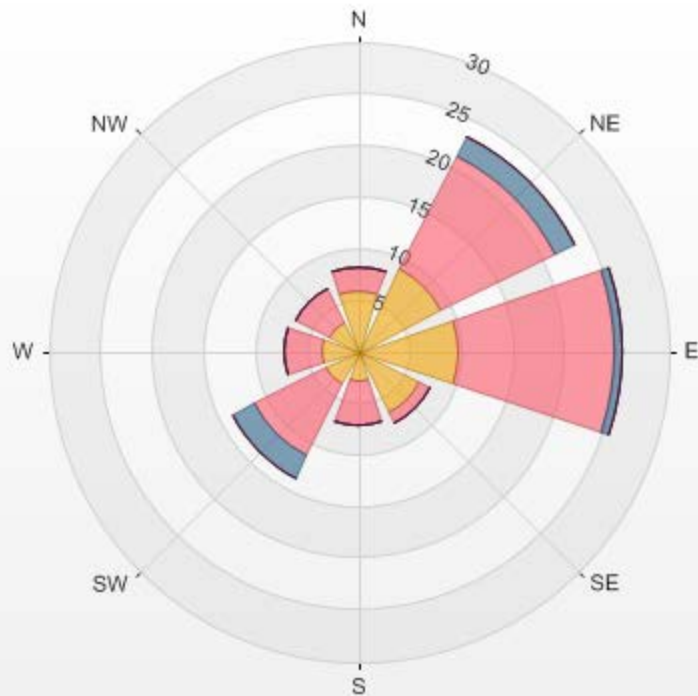


WIND SPEED Hourly Averages (WS kph)



Wind: THREE CREEKS #842 TRAILER Monitor: WSP [kph] Monthly: 2016/10 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 0.00% Valid Data: 99.19% 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	2.45	0	0	0	0	8.29
NE	8.97	12.23	2.17	0	0	0	23.37
E	9.65	15.22	0.68	0	0	0	25.55
SE	6.52	1.22	0	0	0	0	7.74
S	2.85	4.35	0	0	0	0	7.2
SW	3.53	7.74	2.45	0	0	0	13.72
W	3.53	3.67	0	0	0	0	7.2
NW	3.26	3.67	0	0	0	0	6.93
Summary	44.15	50.55	5.3	0	0	0	100



WIND DIRECTION



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 842b Station - October 2016

WIND DIRECTION Hourly Averages (WD)

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

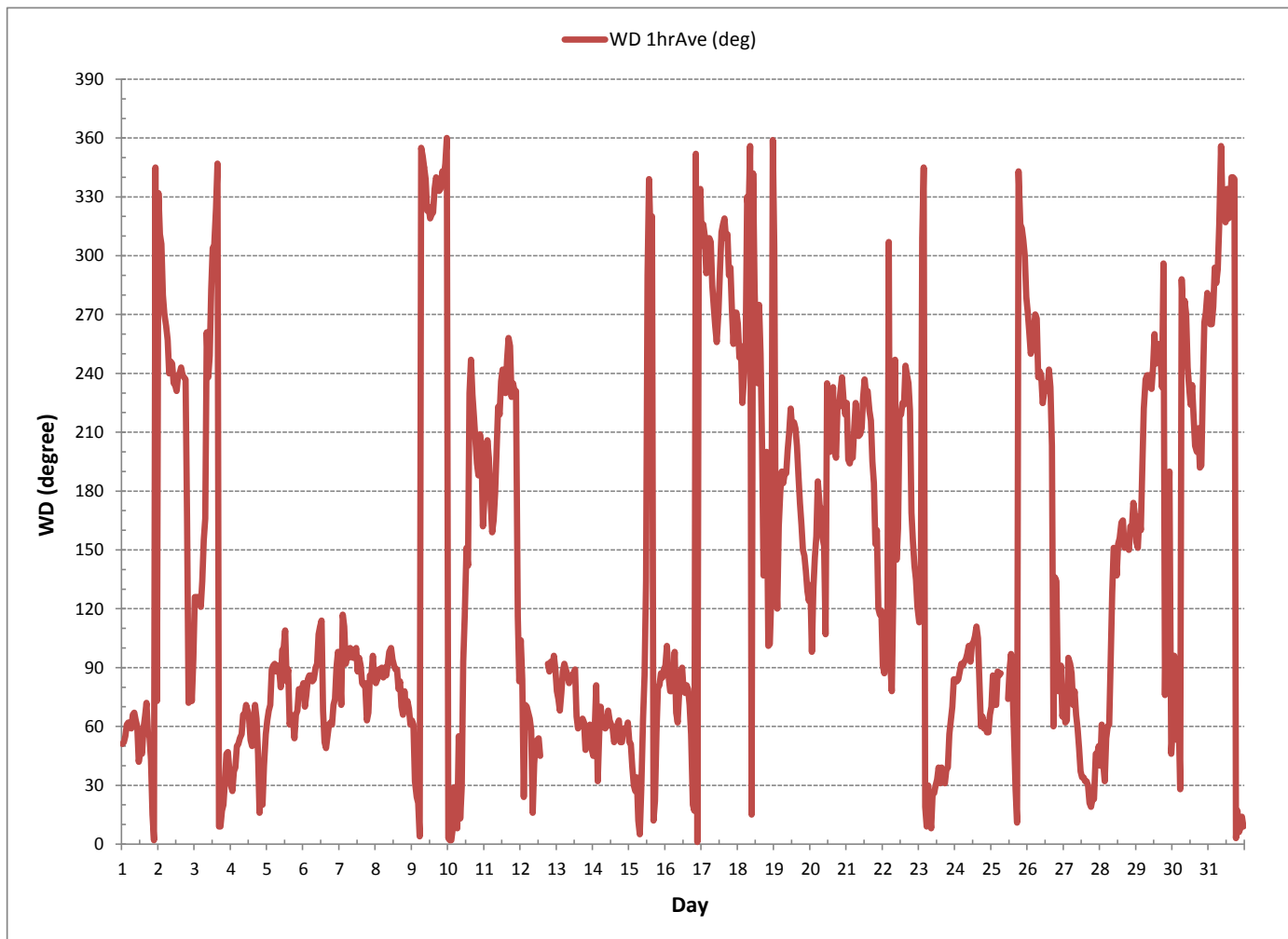
STATUS FLAG CODES

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

LAST CALIBRATION:	October 12, 2016
DECLINATION :	MAGNETIC DECLINATION 15 DEGREE EAST

MONTHLY CALIBRATION TIME:	4	HRS	OPERATIONAL TIME:	740	HRS
STANDARD DEVIATION:	96.82		AMD OPERATION UPTIME:	99.5	%
			MONTHLY AVERAGE	77 (ENE)	

WIND DIRECTION Hourly Averages (WD)



RELATIVE HUMIDITY

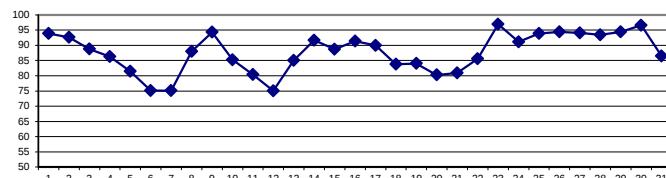
RELATIVE HUMIDITY Hourly Averages (RH %)

MST																								DAILY	DAILY	24-HOUR		
HOURLY 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	
HOURLY 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	95	94	93	93	93	92	93	92	92	91	91	94	93	94	94	95	94	94	95	96	96	96	96	96	91	96	94	24
2	97	97	97	98	98	98	97	97	96	95	95	93	87	80	79	81	85	89	91	92	94	96	96	96	79	98	93	24
3	97	96	96	96	96	96	95	95	85	84	81	76	70	71	70	76	87	92	94	95	96	96	95	95	70	97	89	24
4	95	95	95	95	94	94	93	90	89	85	77	77	77	73	72	73	74	77	82	87	92	94	95	96	72	96	86	24
5	96	96	96	96	94	93	92	91	90	84	73	69	65	60	59	61	60	70	80	85	85	85	87	88	59	96	81	24
6	88	90	92	92	91	91	90	91	84	83	83	74	61	48	43	40	44	50	68	78	80	80	80	82	40	92	75	24
7	85	91	91	88	86	84	83	82	81	79	74	68	61	57	58	60	62	65	70	74	73	75	76	79	57	91	75	24
8	81	83	81	80	80	81	82	89	91	90	87	86	90	89	90	89	89	91	92	93	94	95	94	94	80	95	88	24
9	93	93	94	95	95	95	95	95	95	95	95	95	94	93	93	93	93	94	95	95	95	95	95	95	93	95	94	24
10	95	95	95	95	95	94	95	95	94	91	85	77	73	77	75	74	75	77	79	80	79	78	85	87	73	95	85	24
11	85	82	80	80	86	88	92	93	87	85	81	75	69	67	66	62	59	66	80	85	86	89	93	94	59	94	80	24
12	94	94	94	93	93	95	94	93	88	83	71	61	51	44	48	46	47	60	69	72	74	77	79	81	44	95	75	24
13	84	89	90	91	87	86	86	86	85	83	80	75	71	73	74	76	79	86	92	94	94	94	93	93	71	94	85	24
14	93	93	92	93	93	93	92	92	92	91	91	89	91	90	90	91	91	91	92	92	92	92	92	92	89	93	92	24
15	92	92	92	92	92	92	92	93	92	89	84	77	78	80	82	85	85	87	91	92	92	92	92	93	77	93	89	24
16	90	89	90	90	91	92	94	96	95	94	92	89	88	88	88	87	88	90	92	93	94	94	94	94	87	96	91	24
17	96	96	96	95	95	95	95	93	90	88	86	81	76	81	85	87	87	89	90	93	93	93	90	89	76	96	90	24
18	88	89	91	89	90	90	89	87	85	79	75	74	75	73	74	75	77	82	85	84	89	91	90	90	73	91	84	24
19	92	93	93	95	96	95	96	96	94	89	83	77	73	69	68	66	67	76	82	84	85	84	83	80	66	96	84	24
20	77	81	85	81	80	82	85	84	85	83	80	80	77	72	69	68	74	76	79	83	85	87	85	88	68	88	80	24
21	92	93	93	94	94	93	93	91	89	83	77	72	66	62	60	58	60	67	72	83	82	88	89	91	58	94	81	24
22	91	89	81	81	82	87	90	91	83	77	65	72	79	79	79	83	87	90	91	92	95	96	97	97	65	97	86	24
23	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	96	96	97	97	24
24	96	96	96	95	94	94	93	94	93	91	89	88	87	86	86	85	85	89	91	91	92	92	92	92	85	96	91	24
25	91	90	90	93	94	95	95	P	P	P	P	93	91	91	94	95	94	94	95	96	96	97	97	97	90	97	94	20
26	97	98	98	98	98	97	96	96	96	97	95	94	92	90	88	87	89	93	94	95	94	94	95	95	87	98	94	24
27	96	96	96	96	95	95	95	95	94	94	94	93	93	92	91	92	92	93	93	94	94	95	95	95	91	96	94	24
28	95	96	95	95	95	95	95	95	95	94	92	90	89	89	88	90	92	94	94	95	95	95	95	95	88	96	93	24
29	95	95	96	95	94	94	96	95	95	95	95	93	92	92	92	92	93	94	94	94	96	97	97	97	92	97	94	24
30	97	97	97	96	96	96	96	97	97	98	98	98	98	98	96	95	95	96	97	97	97	96	96	94	94	98	97	24
31	90	91	91	93	90	87	87	87	88	86	85	83	82	81	83	84	84	86	85	84	85	85	87	90	81	93	86	24
HOURLY MAX	97	98	98	98	98	98	97	97	97	98	98	98	98	98	97	97	97	97	97	97	97	97	97	97	97	97	97	97
HOURLY AVG	91.9	92.5	92.4	92.3	92.1	92.1	92.4	92.3	90.6	88.4	85.0	82.5	80.2	78.6	78.4	78.8	80.1	83.7	87.1	89.2	90.0	90.8	91.2	91.6				

STATUS FLAG CODES

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

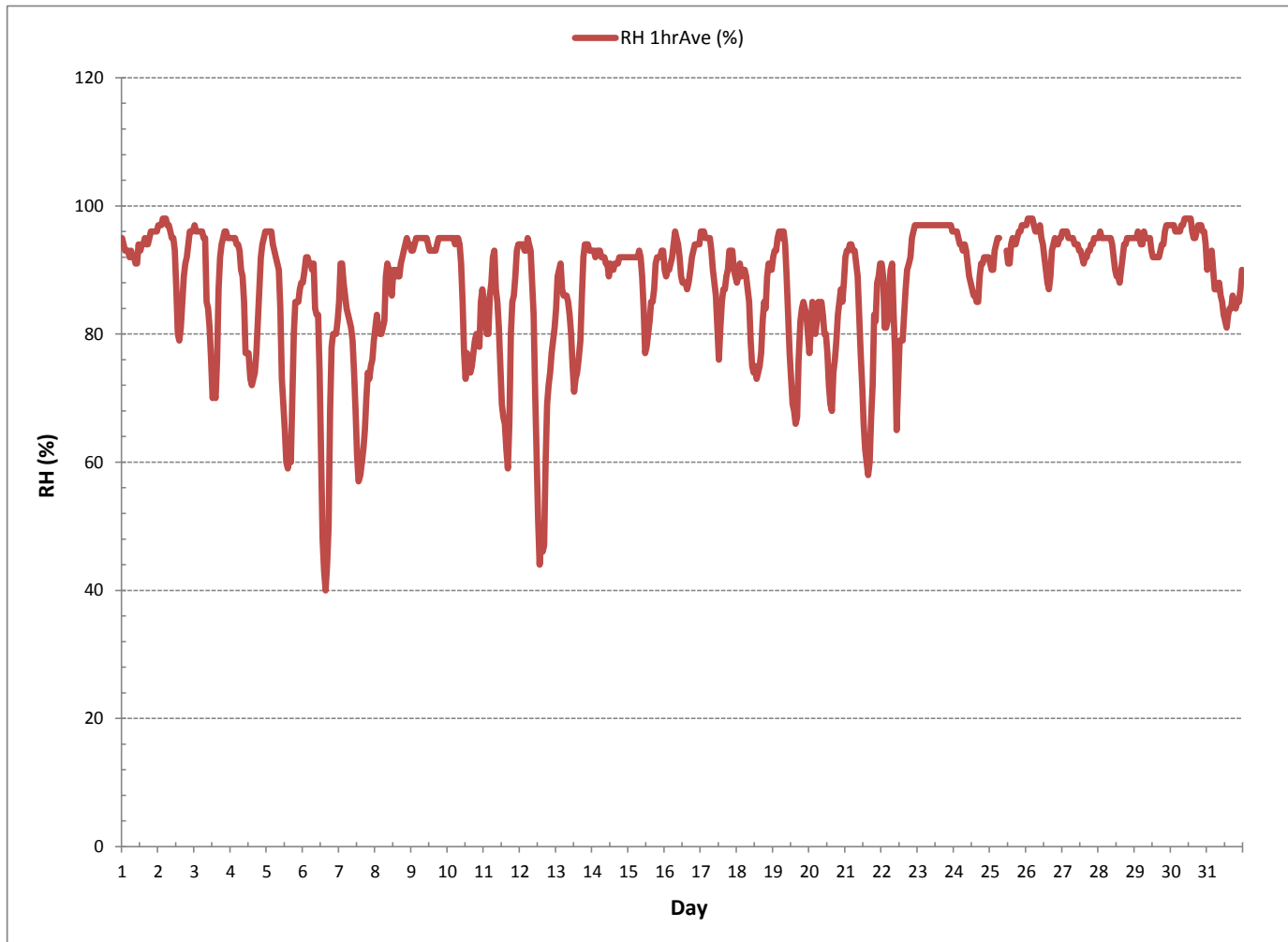
24 HOUR AVERAGES FOR October 2016



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	40	%	@ HOUR(S)	15	ON DAY(S)	6
MAXIMUM 1-HR AVERAGE:	98	%	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	97	%			ON DAY(S)	23, 30
					VAR-VARIOUS	
					OPERATIONAL TIME:	740 HRS
					AMD OPERATION UPTIME:	99.5 %
STANDARD DEVIATION:	9.97				MONTHLY AVERAGE:	88 %

RELATIVE HUMIDITY Hourly Averages (RH %)



BAROMETRIC PRESSURE

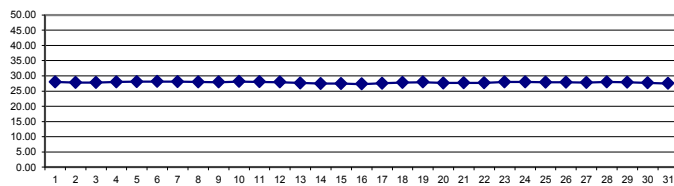
BAROMETRIC PRESSURE Hourly Averages (BP inHg)

MST																									DAILY	DAILY	24-HOUR		
HOURLY MAX	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	MIN.	MAX.	AVG.	RDGS.	
HOURLY 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	28.14	28.13	28.11	28.10	28.08	28.07	28.05	28.04	28.03	28.01	28.00	27.97	27.96	27.93	27.91	27.89	27.90	27.90	27.89	27.88	27.88	27.88	27.87	27.86	27.86	27.86	28.14	27.98	24
2	27.85	27.85	27.84	27.84	27.84	27.84	27.83	27.83	27.83	27.83	27.83	27.83	27.82	27.81	27.81	27.80	27.80	27.79	27.79	27.78	27.78	27.78	27.78	27.78	27.78	27.78	27.85	27.82	24
3	27.77	27.77	27.77	27.77	27.76	27.75	27.76	27.76	27.78	27.80	27.80	27.81	27.81	27.82	27.83	27.84	27.84	27.84	27.85	27.86	27.87	27.88	27.88	27.89	27.75	27.89	27.81	24	
4	27.89	27.91	27.91	27.94	27.95	27.95	27.95	27.96	27.97	27.97	27.98	27.99	28.00	28.01	28.01	28.01	28.01	28.01	28.02	28.03	28.04	28.04	28.04	28.04	28.04	27.89	28.04	27.98	24
5	28.04	28.05	28.05	28.05	28.06	28.06	28.06	28.07	28.08	28.08	28.08	28.07	28.07	28.07	28.06	28.06	28.06	28.06	28.07	28.07	28.08	28.08	28.09	28.09	28.04	28.09	28.07	24	
6	28.10	28.10	28.09	28.10	28.10	28.11	28.12	28.13	28.15	28.16	28.17	28.18	28.18	28.17	28.16	28.16	28.16	28.16	28.16	28.17	28.16	28.15	28.14	28.14	28.09	28.18	28.14	24	
7	28.13	28.13	28.13	28.12	28.09	28.08	28.08	28.07	28.07	28.06	28.05	28.05	28.04	28.04	28.03	28.02	28.02	28.03	28.04	28.04	28.04	28.04	28.04	28.05	28.02	28.13	28.06	24	
8	28.05	28.05	28.05	28.04	28.04	28.04	28.04	28.03	28.02	28.01	28.00	27.98	27.97	27.96	27.95	27.94	27.93	27.92	27.91	27.90	27.89	27.88	27.88	27.87	27.87	27.87	28.05	27.97	24
9	27.87	27.86	27.87	27.86	27.86	27.87	27.87	27.88	27.89	27.90	27.91	27.92	27.93	27.93	27.95	27.96	27.97	27.98	27.99	28.01	28.02	28.03	28.04	28.05	27.86	28.05	27.93	24	
10	28.06	28.07	28.08	28.09	28.10	28.10	28.12	28.13	28.14	28.16	28.17	28.17	28.17	28.17	28.16	28.17	28.16	28.17	28.16	28.15	28.15	28.15	28.14	28.13	28.06	28.17	28.14	24	
11	28.12	28.11	28.11	28.10	28.10	28.08	28.08	28.07	28.08	28.08	28.08	28.07	28.06	28.04	28.03	28.02	28.01	27.99	27.98	27.97	27.96	27.95	27.94	27.94	27.94	28.12	28.04	24	
12	27.93	27.93	27.93	27.92	27.92	27.92	27.93	27.93	27.93	27.94	27.96	27.96	27.96	27.95	27.95	27.95	27.95	27.94	27.93	27.92	27.92	27.91	27.90	27.89	27.87	27.87	27.96	27.93	24
13	27.86	27.85	27.82	27.79	27.76	27.74	27.72	27.69	27.68	27.66	27.65	27.65	27.63	27.61	27.59	27.58	27.56	27.55	27.54	27.54	27.53	27.53	27.53	27.52	27.52	27.86	27.64	24	
14	27.49	27.48	27.52	27.48	27.46	27.45	27.44	27.44	27.43	27.43	27.44	27.43	27.43	27.42	27.42	27.42	27.43	27.44	27.45	27.45	27.45	27.46	27.45	27.45	27.42	27.52	27.45	24	
15	27.46	27.47	27.46	27.46	27.46	27.47	27.48	27.49	27.49	27.50	27.50	27.51	27.50	27.48	27.49	27.48	27.47	27.47	27.46	27.45	27.43	27.41	27.39	27.37	27.37	27.51	27.46	24	
16	27.36	27.35	27.33	27.30	27.26	27.24	27.26	27.26	27.27	27.27	27.27	27.28	27.29	27.30	27.31	27.32	27.34	27.34	27.35	27.36	27.36	27.36	27.37	27.38	27.24	27.38	27.31	24	
17	27.39	27.40	27.41	27.42	27.43	27.45	27.47	27.48	27.50	27.52	27.53	27.55	27.57	27.59	27.61	27.63	27.64	27.66	27.67	27.68	27.70	27.71	27.71	27.73	27.39	27.73	27.56	24	
18	27.74	27.74	27.75	27.75	27.76	27.77	27.77	27.78	27.79	27.81	27.81	27.82	27.83	27.83	27.83	27.84	27.84	27.84	27.85	27.86	27.87	27.87	27.88	27.89	27.74	27.89	27.81	24	
19	27.89	27.90	27.91	27.92	27.93	27.93	27.94	27.95	27.96	27.97	27.98	27.98	27.99	27.98	27.97	27.97	27.96	27.95	27.94	27.91	27.89	27.87	27.84	27.81	27.81	27.99	27.93	24	
20	27.78	27.78	27.75	27.73	27.71	27.70	27.68	27.66	27.65	27.64	27.62	27.63	27.62	27.61	27.60	27.59	27.58	27.58	27.59	27.58	27.58	27.59	27.60	27.62	27.58	27.78	27.64	24	
21	27.63	27.63	27.64	27.65	27.65	27.65	27.66	27.67	27.68	27.69	27.70	27.69	27.69	27.69	27.69	27.68	27.67	27.67	27.66	27.66	27.65	27.64	27.64	27.64	27.63	27.70	27.66	24	
22	27.64	27.63	27.63	27.63	27.63	27.63	27.64	27.65	27.66	27.67	27.69	27.70	27.71	27.72	27.74	27.76	27.78	27.79	27.81	27.82	27.83	27.84	27.86	27.88	27.63	27.88	27.72	24	
23	27.89	27.91	27.91	27.93	27.94	27.96	27.97	27.98	27.99	28.00	28.01	28.01	28.02	28.02	28.02	28.02	28.03	28.03	28.03	28.03	28.03	28.04	28.04	27.89	28.04	27.99	24		
24	28.04	28.03	28.02	28.02	28.01	28.01	28.00	28.00	28.01	28.00	28.00	27.99	27.98	27.97	27.96	27.96	27.95	27.95	27.95	27.95	27.94	27.94	27.94	27.93	27.93	28.04	27.98	24	
25	27.93	27.92	27.92	27.91	27.90	27.89	27.88	P	P	P	P	27.86	27.85	27.85	27.84	27.85	27.85	27.85	27.85	27.85	27.86	27.86	27.87	27.87	27.84	27.93	27.87	20	
26	27.88	27.88	27.88	27.89	27.89	27.89	27.89	27.89	27.89	27.89	27.89	27.88	27.88	27.88	27.87	27.85	27.84	27.82	27.81	27.80	27.80	27.79	27.79	27.77	27.77	27.89	27.86	24	
27	27.76	27.75	27.73	27.73	27.71	27.71	27.71	27.72	27.72	27.72	27.72	27.72	27.72	27.73	27.74	27.75	27.77	27.78	27.79	27.81	27.82	27.83	27.84	27.85	27.71	27.85	27.76	24	
28	27.86	27.89	27.90	27.91	27.91	27.92	27.92	27.94	27.95	27.97	27.97	27.98	27.98	27.98	27.97	27.98	27.98	27.97	27.97	27.96	27.96	27.95	27.95	27.94	27.86	27.98	27.95	24	
29	27.94	27.93	27.93	27.92	27.92	27.91	27.89	27.89	27.89	27.89	27.89	27.90	27.89	27.88	27.88	27.87	27.87	27.86	27.85	27.84	27.83	27.83	27.82	27.81	27.81	27.94	27.88	24	
30	27.80	27.79	27.78	27.76	27.74	27.73	27.73	27.72	27.72	27.71	27.71	27.70	27.69	27.68	27.66	27.65	27.63	27.61	27.59	27.57	27.55	27.53	27.52	27.51	27.51	27.80	27.67	24	
31	27.51	27.50	27.49	27.49	27.49	27.49	27.49	27.49	27.48	27.50	27.50	27.51	27.51	27.51	27.51	27.52	27.53	27.54	27.55	27.55	27.56	27.56	27.58	27.59	27.48	27.59	27.52	24	
HOURLY MAX	28.14	28.13	28.13	28.12	28.10	28.11	28.12	28.13	28.15	28.16	28.17	28.18	28.18	28.17	28.16	28.17	28.17	28.16	28.16	28.17	28.16	28.15	28.14	28.14					
HOURLY AVG	27.83	27.83	27.83	27.83	27.82	27.82	27.82	27.82	27.82	27.83	27.83	27.83	27.83	27.83	27.82	27.82	27.82	27.82	27.82	27.82	27.82	27.82	27.82	27.82					

STATUS FLAG CODES

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

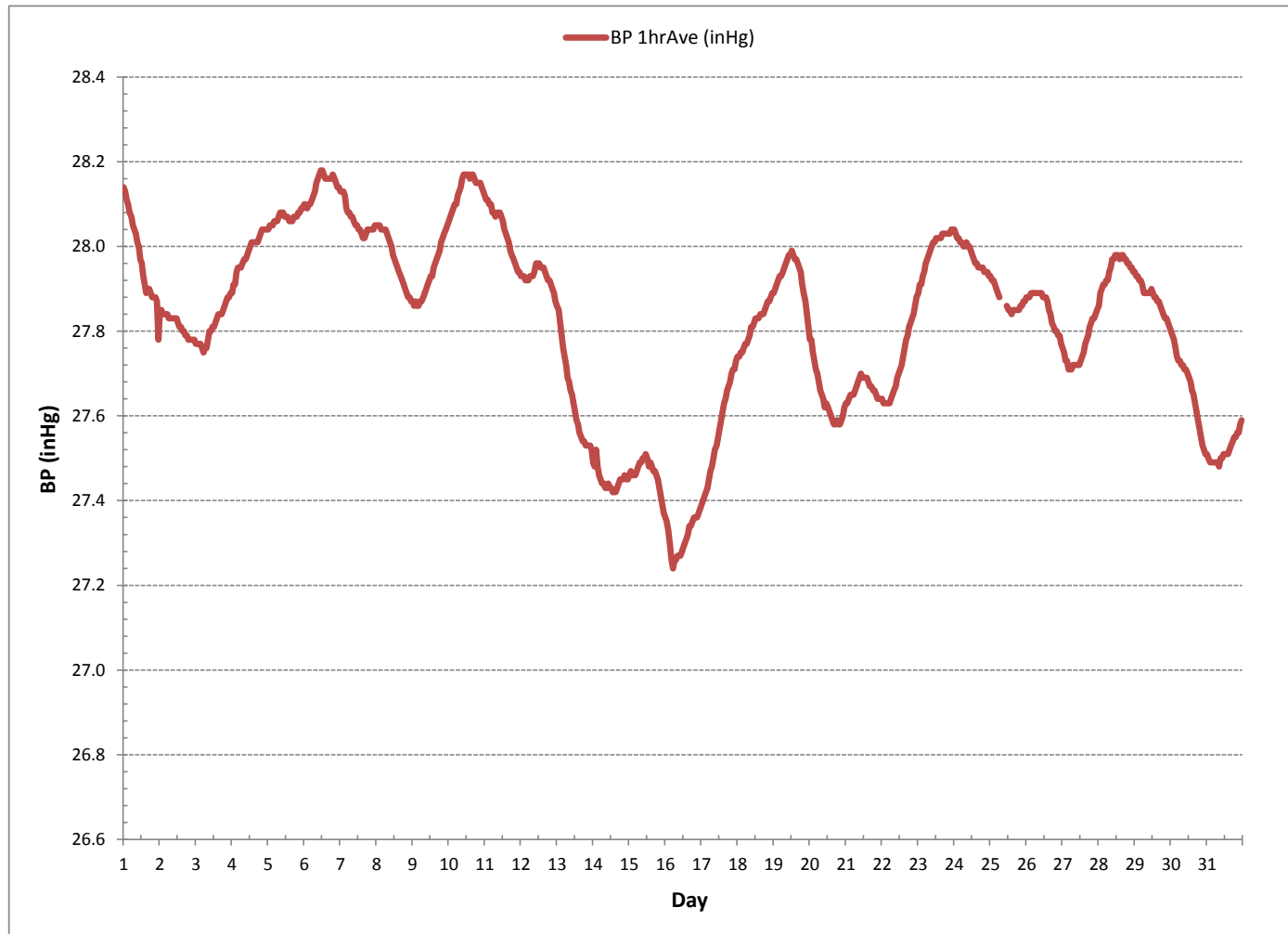
24 HOUR AVERAGES FOR October 2016



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	27.24	inHg	@ HOUR(S)	5	ON DAY(S)	16
MAXIMUM 1-HR AVERAGE:	28.18	inHg	@ HOUR(S)	11 , 12	ON DAY(S)	6 , 6
MAXIMUM 24-HR AVERAGE:	28.14	inHg			ON DAY(S)	6, 10
					VAR-VARIOUS	
					OPERATIONAL TIME:	740 HRS
					AMD OPERATION UPTIME:	99.5 %
STANDARD DEVIATION:	0.22				MONTHLY AVERAGE:	27.82 inHg

BAROMETRIC PRESSURE Hourly Averages (BP inHg)



AMBIENT TEMPERATURE

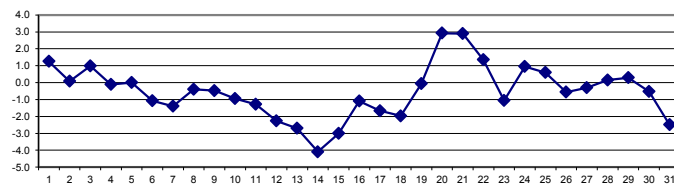
AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)

MST																									DAILY MIN.	DAILY MAX.	24-HOUR AVG.	RDGS.	
HOUR START HOUR END	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59					
DAY																													
1	2.0	2.1	2.1	1.8	1.6	1.4	1.1	1.1	1.1	1.3	1.1	1.1	1.7	1.5	1.5	1.6	1.5	1.3	1.1	0.8	0.7	0.3	0.2	0.0	0.0	2.1	1.3	24	
2	0.0	-0.1	-0.2	-0.4	-0.3	-0.3	-0.3	-0.2	-0.1	-0.2	-0.2	-0.3	0.9	2.2	2.5	2.3	2.1	1.8	1.5	0.8	-1.3	-2.3	-2.7	-3.2	-3.2	2.5	0.1	24	
3	-3.2	-3.7	-3.9	-4.2	-4.1	-2.2	-1.5	-1.2	2.1	3.4	5.1	6.1	7.6	7.2	7.2	4.8	1.8	0.7	0.1	0.1	0.3	0.5	0.7	0.0	-4.2	7.6	1.0	24	
4	-0.6	-0.7	-1.2	-1.2	-1.0	-1.1	-1.0	-0.8	-0.6	0.1	1.2	1.8	2.0	3.0	3.2	2.6	2.4	1.8	0.6	-0.8	-2.2	-3.5	-3.7	-3.0	-3.7	3.2	-0.1	24	
5	-2.9	-3.1	-3.1	-2.0	-1.3	-1.2	-1.4	-1.4	-1.1	0.3	2.1	2.7	3.7	5.1	5.1	4.4	4.1	1.4	-0.6	-1.6	-1.7	-2.0	-2.6	-3.0	-3.1	5.1	0.0	24	
6	-3.1	-3.9	-4.3	-4.2	-4.1	-4.4	-4.9	-4.9	-3.0	-2.4	-2.4	-0.9	1.8	5.2	6.4	7.6	6.1	3.9	-0.6	-2.7	-3.0	-2.6	-2.5	-3.0	-4.9	7.6	-1.1	24	
7	-3.8	-5.6	-4.2	-3.3	-3.2	-3.1	-3.1	-2.8	-2.3	-1.2	-0.3	1.3	2.0	2.0	2.0	1.3	1.1	0.5	-0.5	-1.2	-1.0	-1.0	-0.9	-1.3	-5.6	2.0	-1.4	24	
8	-1.6	-1.6	-1.3	-1.0	-1.0	-1.2	-1.2	-1.6	-1.5	-0.9	0.1	0.6	0.5	1.0	0.6	0.7	0.4	0.2	0.1	-0.1	-0.1	-0.2	-0.3	-0.3	-1.6	1.0	-0.4	24	
9	-0.3	-0.4	-0.4	-0.4	-0.5	-0.5	-0.6	-0.7	-0.6	-0.3	-0.2	0.0	0.5	0.3	0.0	-0.2	-0.3	-0.6	-0.9	-1.0	-1.0	-1.0	-1.1	-1.2	-1.2	0.5	-0.5	24	
10	-1.0	-1.1	-1.2	-1.2	-1.6	-3.2	-4.1	-3.0	-1.8	-0.4	-0.2	0.2	0.6	0.4	0.5	0.6	0.3	0.0	-0.4	-0.5	-0.5	-0.7	-2.1	-2.2	-4.1	0.6	-0.9	24	
11	-1.4	-1.0	-1.1	-2.1	-3.7	-4.6	-5.3	-5.3	-3.1	-1.8	-0.5	1.0	2.0	2.4	3.1	3.3	3.3	2.0	-0.7	-1.5	-2.0	-3.3	-5.0	-5.6	-5.6	3.3	-1.3	24	
12	-6.1	-6.6	-6.8	-7.4	-8.1	-7.6	-7.1	-7.3	-3.1	-1.8	0.5	2.1	4.0	5.6	4.4	5.0	4.3	0.4	-1.6	-2.5	-2.9	-3.5	-3.9	-4.5	-8.1	5.6	-2.3	24	
13	-5.6	-6.9	-7.1	-6.3	-4.2	-3.5	-3.1	-2.9	-2.5	-1.9	-1.0	0.3	0.9	0.5	0.1	-0.5	-1.1	-1.7	-2.2	-2.5	-2.9	-3.1	-3.4	-4.1	-7.1	0.9	-2.7	24	
14	-4.5	-4.5	-4.5	-4.3	-4.6	-4.7	-4.7	-4.6	-4.4	-4.1	-3.9	-3.4	-3.5	-3.1	-3.0	-3.0	-3.2	-3.5	-3.9	-4.2	-4.5	-4.6	-4.7	-4.9	-4.9	-4.9	-3.0	-4.1	24
15	-4.9	-5.0	-5.3	-5.3	-5.4	-5.7	-6.1	-6.3	-5.2	-4.3	-2.5	-0.7	-0.7	0.0	-0.5	-0.7	-0.6	-1.1	-1.5	-1.5	-1.6	-2.0	-2.7	-2.7	-6.3	0.0	-3.0	24	
16	-2.2	-2.0	-2.1	-2.0	-2.0	-1.8	-2.0	-2.1	-2.0	-1.6	-0.9	-0.5	0.2	0.3	0.2	0.4	0.2	-0.1	-0.4	-0.7	-0.9	-1.2	-1.3	-1.6	-2.2	0.4	-1.1	24	
17	-1.7	-1.8	-1.9	-2.1	-2.2	-2.2	-2.4	-2.5	-2.7	-2.4	-2.0	-1.0	0.3	-0.1	-0.6	-0.8	-0.9	-1.3	-1.6	-1.7	-1.9	-2.1	-2.1	-2.3	-2.7	0.3	-1.7	24	
18	-2.5	-2.8	-3.0	-3.1	-3.1	-3.1	-3.0	-3.1	-2.7	-1.5	-1.1	-0.9	-1.5	-1.3	-1.0	-1.2	-1.1	-1.3	-1.4	-1.5	-1.7	-1.9	-1.8	-1.7	-3.1	-0.9	-2.0	24	
19	-1.9	-2.3	-2.8	-4.9	-4.5	-4.2	-5.3	-5.7	-4.3	-1.9	0.2	1.6	2.7	3.9	4.6	5.0	5.2	3.3	1.9	1.3	1.4	1.4	1.6	2.1	-5.7	5.2	-0.1	24	
20	2.8	2.0	1.1	1.8	2.2	1.8	1.5	1.8	1.8	2.3	3.2	3.3	3.8	4.8	5.4	5.7	4.5	4.0	3.5	2.8	2.4	2.1	2.9	2.7	1.1	5.7	2.9	24	
21	2.6	2.5	2.7	2.2	1.6	1.5	1.3	1.3	1.8	3.1	4.4	5.3	6.1	7.0	7.6	7.8	7.1	4.7	3.4	0.4	0.3	-1.2	-1.7	-2.3	-2.3	7.8	2.9	24	
22	-1.6	-1.1	0.6	0.9	0.2	-0.4	-0.8	-0.9	0.8	2.1	5.1	4.6	4.8	5.4	5.2	4.6	3.8	2.9	2.5	0.9	-0.6	-1.7	-2.1	-2.7	-2.7	5.4	1.4	24	
23	-3.6	-3.4	-3.5	-2.5	-2.1	-1.8	-1.8	-1.5	-1.3	-1.1	-0.9	-0.9	-0.5	-0.4	-0.2	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.2	0.3	-3.6	0.3	-1.1	24	
24	0.3	0.4	0.5	0.7	0.6	0.6	0.6	0.6	0.7	0.9	1.0	1.2	1.4	1.6	1.7	1.8	1.7	1.3	1.0	0.9	0.8	0.8	0.8	0.9	0.3	1.8	1.0	24	
25	0.9	1.0	1.0	0.8	0.8	0.7	0.5	P	P	P	P	1.3	1.3	1.2	1.2	1.0	0.8	0.4	0.2	0.0	-0.1	-0.3	-0.4	-0.4	-0.4	1.3	0.6	20	
26	-0.5	-0.7	-0.8	-0.7	-0.8	-0.8	-1.0	-1.6	-2.1	-1.6	-1.0	-0.7	-0.2	0.0	0.4	0.4	0.1	0.0	-0.3	-0.3	-0.2	-0.3	-0.3	-0.4	-2.1	0.4	-0.6	24	
27	-0.4	-0.4	-0.7	-0.5	-0.4	-0.5	-0.6	-0.7	-0.5	-0.4	-0.1	0.0	0.1	0.2	0.2	0.1	-0.2	-0.4	-0.3	-0.3	-0.3	-0.4	-0.4	-0.3	-0.7	0.2	-0.3	24	
28	-0.3	-0.3	-0.2	-0.1	-0.3	-0.5	-0.6	-0.7	-0.7	-0.5	0.0	0.3	0.6	0.8	1.1	1.1	0.9	0.7	0.6	0.4	0.2	0.2	0.4	0.5	-0.7	1.1	0.2	24	
29	0.5	0.4	0.5	0.6	0.9	1.1	1.0	0.9	0.6	0.3	0.1	0.3	0.5	0.5	0.6	0.5	0.4	0.1	0.0	0.0	-0.4	-0.8	-0.9	-0.7	-0.9	1.1	0.3	24	
30	-0.8	-0.9	-0.8	-0.8	-1.0	-1.0	-1.1	-1.3	-1.2	-1.2	-1.3	-1.1	-0.9	-0.7	-0.4	-0.1	0.2	0.0	0.1	0.5	0.8	0.2	0.0	-0.1	-1.3	0.8	-0.5	24	
31	-0.3	-0.7	-1.1	-1.6	-1.6	-1.8	-2.0	-2.2	-2.3	-2.4	-2.5	-2.5	-2.3	-2.2	-2.3	-2.5	-2.8	-3.2	-3.4	-3.7	-3.7	-3.8	-4.4	-4.6	-4.6	-0.3	-2.5	24	
HOURLY MAX	2.8	2.5	2.7	2.2	2.2	1.8	1.5	1.8	2.1	3.4	5.1	6.1	7.6	7.2	7.6	7.8	7.1	4.7	3.5	2.8	2.4	2.1	2.9	2.7					
HOURLY AVG	-1.5	-1.7	-1.7	-1.7	-1.7	-1.8	-1.9	-2.0	-1.4	-0.7	0.1	0.7	1.3	1.8	1.8	1.7	1.4	0.6	-0.1	-0.6	-0.9	-1.2	-1.4	-1.6					

STATUS FLAG CODES

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

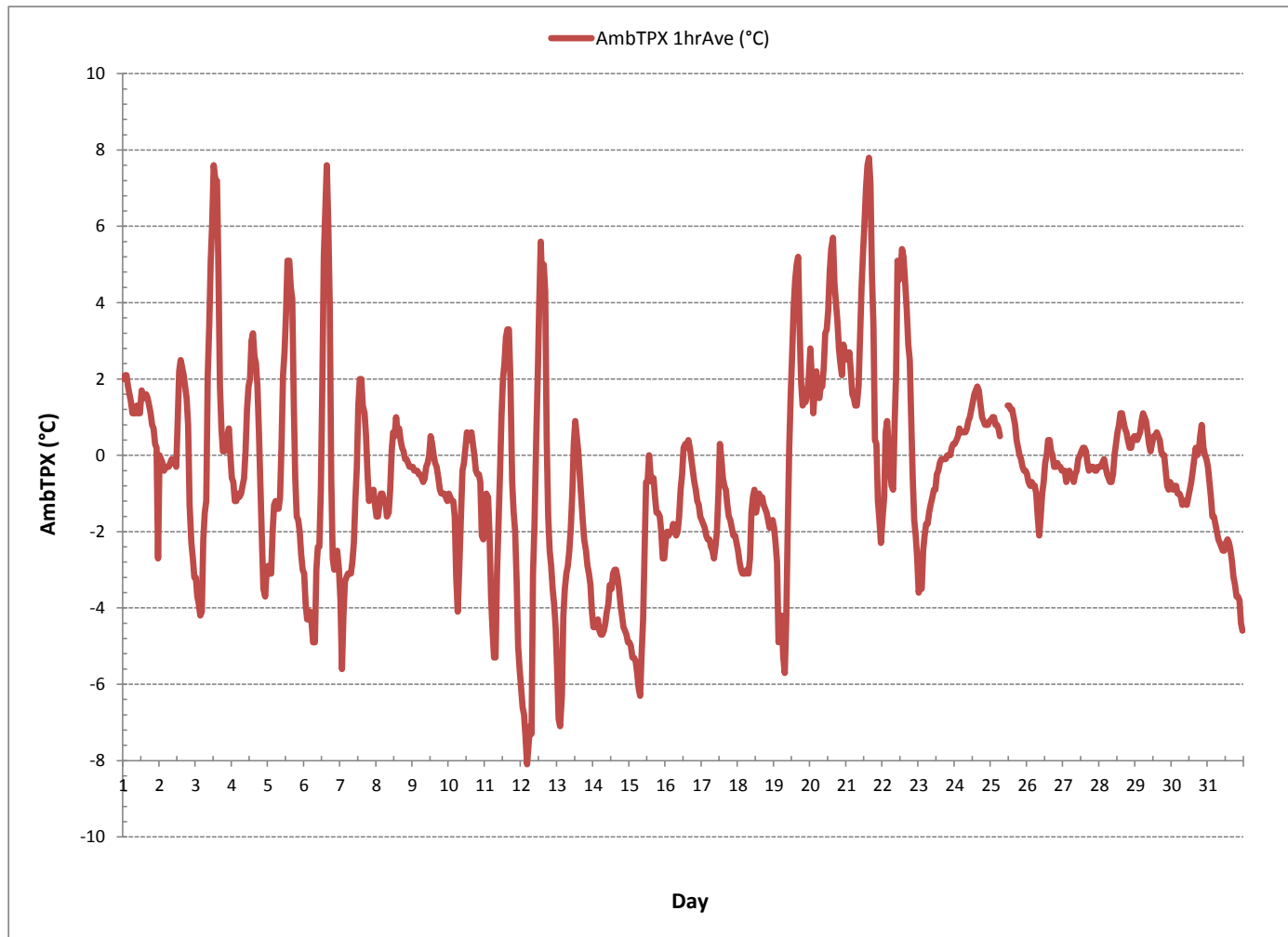
24 HOUR AVERAGES FOR October 2016



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-8.1	°C	@ HOUR(S)	4	ON DAY(S)	12
MAXIMUM 1-HR AVERAGE:	7.8	°C	@ HOUR(S)	15	ON DAY(S)	21
MAXIMUM 24-HR AVERAGE:	2.9	°C			ON DAY(S)	20, 21
					VAR-VARIOUS	
OPERATIONAL TIME:					740	HRS
AMD OPERATION UPTIME:					99.5	%
STANDARD DEVIATION:	2.52		MONTHLY AVERAGE:		-0.5	°C

AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)



STATION TEMPERATURE

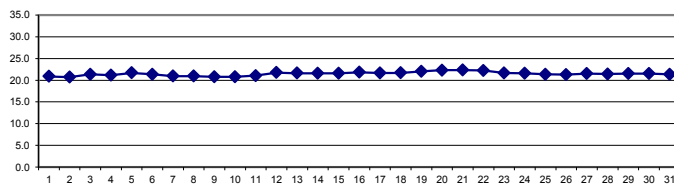
STATION TEMPERATURE Hourly Averages (StnTPX °C)

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	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	21.0	20.9	20.8	20.8	20.6	20.5	21.6	20.9	20.6	21.6	21.0	20.6	20.5	20.9	21.3	21.0	20.8	20.7	20.5	20.5	21.5	20.7	20.4	21.3	20.4	21.6	20.9	24
2	20.5	20.9	20.7	20.8	20.7	20.9	20.4	21.0	20.3	21.0	20.5	20.8	20.4	20.5	20.8	20.8	20.7	20.7	20.6	20.5	21.2	20.5	21.1	20.9	20.3	21.2	20.7	24
3	20.8	20.5	20.8	20.7	20.7	20.8	20.8	20.7	20.6	20.5	21.1	21.8	22.3	22.9	22.6	22.5	22.8	22.5	22.0	21.6	21.2	20.9	20.7	20.5	20.5	22.9	21.3	24
4	21.3	20.7	21.1	20.5	21.2	20.5	21.3	20.9	20.9	21.1	21.2	21.0	21.2	21.4	21.5	21.7	21.8	21.7	21.4	21.0	20.5	21.2	20.9	20.6	20.5	21.8	21.1	24
5	20.7	20.9	20.8	20.9	21.0	20.8	21.4	21.0	20.9	21.1	21.5	21.8	22.4	23.0	23.5	22.7	23.5	23.5	23.0	22.2	21.6	20.9	20.9	20.7	20.7	23.5	21.7	24
6	21.1	20.9	20.7	20.6	20.7	20.7	20.7	20.7	20.6	20.5	20.3	21.1	21.0	21.4	22.1	22.9	23.8	22.9	23.1	22.3	21.4	20.6	21.2	21.0	20.3	23.8	21.3	24
7	20.8	20.6	20.7	20.6	20.6	20.9	21.0	21.0	21.1	20.8	21.3	20.7	20.8	21.1	21.4	21.6	21.5	21.3	20.9	20.5	21.3	20.6	21.4	20.5	20.5	21.6	21.0	24
8	21.3	20.7	21.0	21.1	20.8	21.1	20.8	21.1	20.8	21.2	21.2	20.9	20.9	20.9	21.0	20.9	20.7	20.5	20.8	21.3	20.7	20.4	21.6	20.8	20.4	21.6	20.9	24
9	20.4	21.5	20.7	20.5	21.3	20.5	21.2	20.7	20.8	20.9	20.3	21.2	20.3	20.7	20.7	20.1	21.3	20.4	21.1	20.5	21.0	20.4	21.1	20.3	20.1	21.5	20.7	24
10	21.2	20.6	20.9	20.9	20.7	20.9	20.7	20.5	21.0	20.9	20.9	20.6	20.7	20.8	20.7	20.6	20.5	20.7	21.2	20.5	21.1	20.6	20.9	20.7	20.5	21.2	20.8	24
11	20.7	21.2	20.4	21.2	20.8	20.6	20.6	20.5	20.6	19.9	21.0	20.6	20.8	21.1	21.5	21.9	22.2	22.5	22.2	21.3	20.5	21.1	21.0	20.7	19.9	22.5	21.0	24
12	20.6	20.5	20.4	20.3	20.5	20.6	20.2	20.0	18.7	20.3	23.6	25.2	24.9	24.2	23.9	23.9	23.0	21.4	21.6	21.3	21.8	21.8	21.7	21.7	18.7	25.2	21.8	24
13	21.6	21.4	21.4	21.4	21.5	21.6	21.7	21.7	21.7	21.4	22.1	21.5	21.5	21.5	21.3	21.9	21.7	21.7	21.7	21.8	21.5	21.8	21.8	21.7	21.3	22.1	21.6	24
14	21.5	21.5	21.6	21.7	21.5	21.5	21.6	21.5	21.5	21.5	21.6	21.7	21.6	21.4	21.7	21.7	21.6	21.4	21.7	21.8	21.6	21.6	21.6	21.6	21.4	21.8	21.6	24
15	21.6	21.6	21.5	21.5	21.5	21.5	21.8	21.4	21.5	21.6	21.8	21.4	21.3	21.2	21.4	22.1	21.4	21.8	21.8	21.6	21.9	21.8	21.6	22.0	21.2	22.1	21.6	24
16	22.0	21.7	22.2	21.7	21.8	22.1	21.7	22.0	21.8	21.8	21.3	22.5	21.9	21.8	21.8	22.1	21.7	21.6	21.4	22.1	21.7	21.6	22.0	21.3	21.3	22.5	21.8	24
17	22.1	21.4	21.9	21.8	21.4	21.8	21.5	21.3	21.6	21.8	21.6	21.8	21.2	21.7	21.5	21.3	21.8	21.4	22.0	21.6	21.7	21.9	21.5	22.0	21.2	22.1	21.7	24
18	21.6	21.6	21.9	21.6	21.4	22.0	21.8	21.4	21.8	21.8	21.4	21.9	21.9	21.5	21.3	21.4	22.1	21.5	21.7	21.7	21.8	21.8	21.6	22.0	21.3	22.1	21.7	24
19	21.5	21.9	21.7	21.6	21.5	21.6	21.5	21.5	21.5	21.4	21.5	22.0	22.0	22.3	22.6	23.1	23.5	22.9	22.9	22.6	22.3	22.0	21.7	21.4	21.4	23.5	22.0	24
20	22.0	22.3	21.8	21.5	21.3	21.5	22.2	21.6	21.5	21.5	21.7	22.0	22.2	22.4	22.9	23.4	23.6	22.8	23.1	23.2	23.0	22.7	22.5	22.3	21.3	23.6	22.3	24
21	22.3	22.2	22.1	22.1	21.9	21.7	21.4	21.6	21.9	21.6	21.9	22.5	23.0	22.8	23.2	22.9	23.1	23.0	23.5	23.2	22.7	22.1	21.6	22.0	21.4	23.5	22.3	24
22	21.5	22.1	21.6	21.3	22.0	21.8	21.3	22.1	21.6	21.4	21.7	22.2	22.6	23.0	23.2	23.4	23.4	23.4	23.2	22.9	22.4	21.7	21.8	21.6	21.3	23.4	22.2	24
23	21.9	21.7	21.7	21.6	21.3	21.9	21.7	21.3	21.9	21.7	21.5	21.7	21.3	21.9	21.5	21.2	22.2	21.6	21.2	22.1	21.5	21.2	22.5	21.8	21.2	22.5	21.7	24
24	21.5	21.3	22.5	21.7	21.5	21.3	22.1	21.9	21.6	21.4	21.3	21.3	21.3	21.4	21.4	21.6	21.7	21.6	21.5	21.4	21.3	21.2	21.9	22.0	21.2	22.5	21.6	24
25	21.6	21.5	21.4	21.3	21.2	22.3	21.8	P	P	P	P	20.2	20.9	21.2	21.5	21.4	21.4	21.2	21.3	21.4	21.3	21.3	21.2	21.3	20.2	22.3	21.3	20
26	21.2	21.3	21.3	21.3	21.3	21.3	21.2	21.2	21.2	21.2	21.2	21.2	21.3	21.3	21.3	21.5	21.3	21.1	21.4	20.8	21.3	21.1	21.8	21.2	20.8	21.8	21.3	24
27	21.9	21.3	21.6	21.4	21.7	21.6	21.5	21.7	21.4	21.6	21.3	21.8	21.1	21.7	21.4	21.4	21.6	21.3	21.7	21.3	21.5	21.5	21.3	21.7	21.1	21.9	21.5	24
28	21.1	21.9	21.2	21.8	21.2	21.8	21.1	21.9	21.1	22.0	21.2	21.1	21.2	21.2	21.2	21.2	21.2	21.1	21.8	21.7	21.2	21.8	21.4	21.3	21.1	22.0	21.4	24
29	21.9	21.2	21.8	21.5	21.0	22.2	21.4	21.6	21.4	21.6	21.4	21.6	21.4	21.2	21.8	21.1	21.9	21.4	21.1	22.0	21.2	21.6	21.5	21.5	21.0	22.2	21.5	24
30	21.6	21.4	21.7	21.3	21.9	21.1	21.9	21.3	21.7	21.4	21.6	21.5	21.2	22.0	21.3	21.3	21.8	21.1	21.9	21.2	21.8	21.1	22.0	21.3	21.1	22.0	21.5	24
31	21.8	21.5	21.2	21.7	21.6	21.4	21.2	21.6	21.5	21.4	21.3	21.2	21.1	21.3	21.4	21.4	21.3	21.2	21.2	21.3	21.3	21.2	21.2	21.2	21.1	21.8	21.4	24
HOURLY MAX	22.3	22.3	22.5	22.1	22.0	22.3	22.2	22.1	21.9	22.0	23.6	25.2	24.9	24.2	23.9	23.8	23.5	23.5	23.2	23.0	22.7	22.5	22.3					
HOURLY AVG	21.4	21.3	21.3	21.2	21.2	21.3	21.3	21.3	21.2	21.3	21.4	21.5	21.5	21.7	21.8	21.8	22.0	21.7	21.8	21.6	21.5	21.3	21.5	21.3				

STATUS FLAG CODES

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

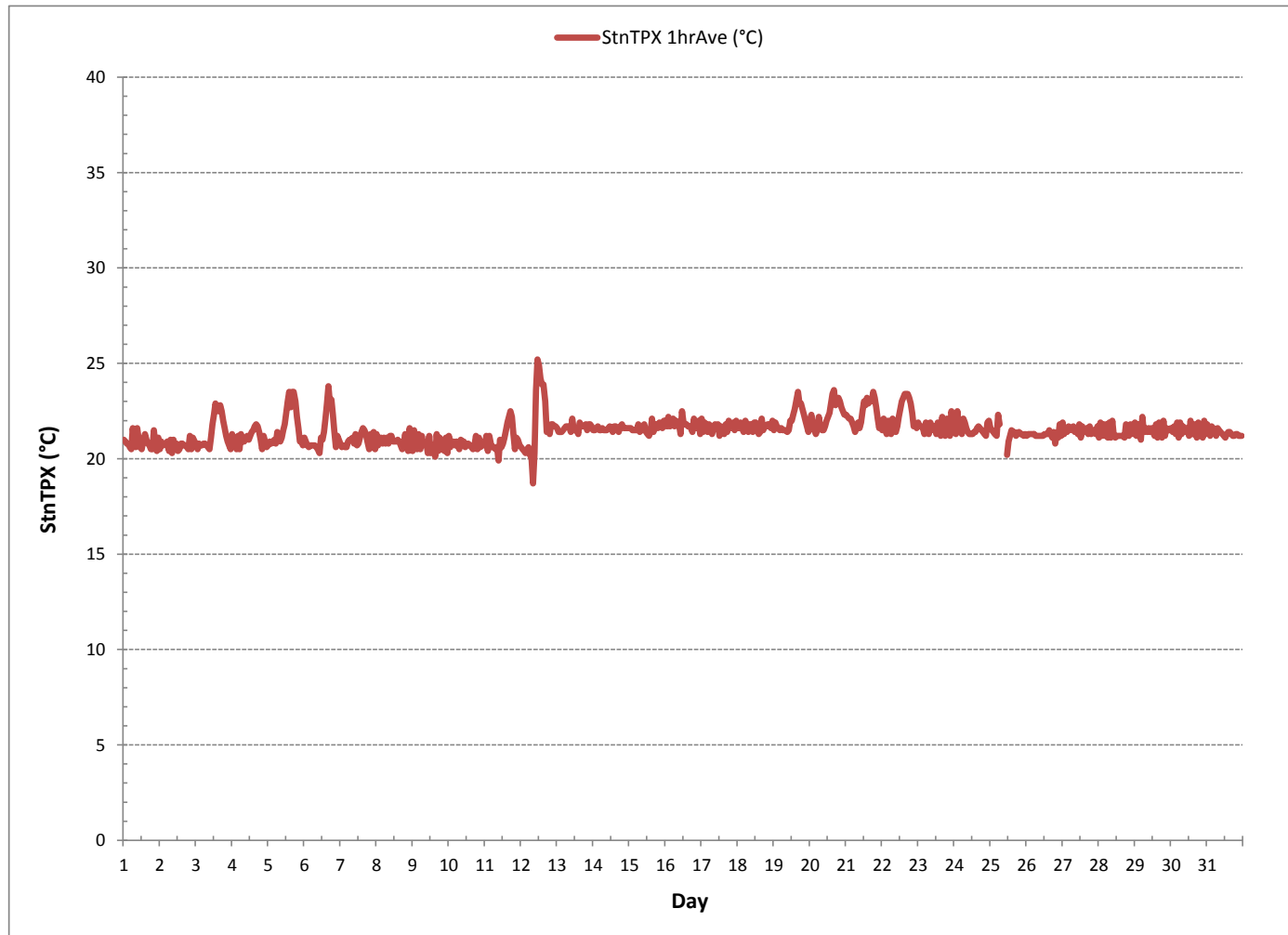
24 HOUR AVERAGES FOR October 2016



MONTHLY SUMMARY

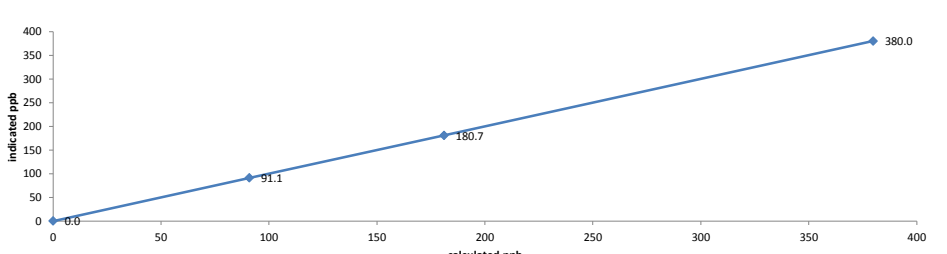
MINIMUM 1-HR AVERAGE:	18.7	°C	@ HOUR(S)	8	ON DAY(S)	12
MAXIMUM 1-HR AVERAGE:	25.2	°C	@ HOUR(S)	11	ON DAY(S)	12
MAXIMUM 24-HR AVERAGE:	22.3	°C			ON DAY(S)	20, 21
					VAR-VARIOUS	
					OPERATIONAL TIME:	740 HRS
					AMD OPERATION UPTIME:	99.5 %
STANDARD DEVIATION:	0.69				MONTHLY AVERAGE:	21.5 °C

STATION TEMPERATURE Hourly Averages (StnTPX °C)

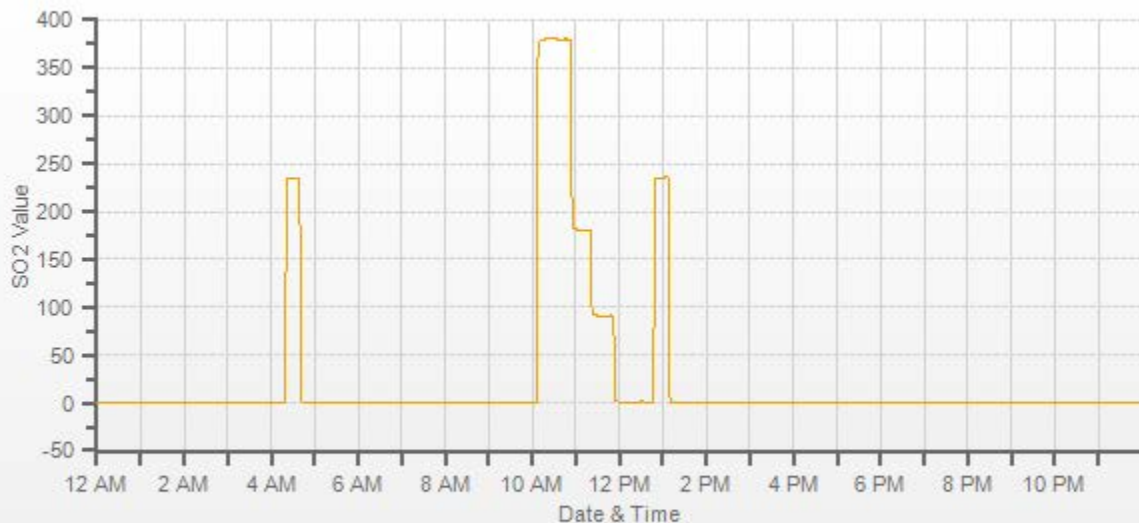


APPENDIX II
EQUIPMENT CALIBRATION RESULTS

SULPHUR DIOXIDE

 API 100A Sulphur Dioxide Analyzer Calibration																																																																									
Date: October 12, 2016 Company/Airshed: PRAMP Location/Station Name: 842b Parameter: Sulphur Dioxide Start Time 24 hr. (mst): 9:30 End Time 24 hr. (mst): 13:15 Calibration Method: Gas Dilution	Barometric Pressure: 27.93 inHg Station Temperature °C: 20 Weather Conditions: Mainly sunny Calibration Purpose: routine monthly Performed By/Reviewer: Limin Li Trina Whitsitt Cal Gas Expiry Date: December 25, 2018 Converter Model & s/n (if applicable): n/a																																																																								
Analyzer: ID# or Serial Number: 838 Last Calibration Date: September 15, 2016 Previous C.F.: 1.000																																																																									
Range ppb: 500 As Found C.F.: 0.993 New C.F.: 0.999																																																																									
Calibrator: Flow Meter ID's: n/a Make & Model: Sabio 2010 Serial #: 17200415 Cal Gas Cylinder I.D. #: BLM002756T Cal Gas Conc. (ppm): 49.9	Standard Calibration Points for Ranges <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Point</th> <th>ppb</th> </tr> <tr> <td>High</td> <td>380</td> </tr> <tr> <td>Mid</td> <td>180</td> </tr> <tr> <td>Low</td> <td>90</td> </tr> </table>	Point	ppb	High	380	Mid	180	Low	90																																																																
Point	ppb																																																																								
High	380																																																																								
Mid	180																																																																								
Low	90																																																																								
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="4">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> <th></th> </tr> </thead> <tbody> <tr> <td>as found zero</td> <td>6528</td> <td>0.00</td> <td>6528</td> <td>0.0</td> <td>-0.4</td> <td>n/a</td> </tr> <tr> <td>as found high</td> <td>6480</td> <td>49.70</td> <td>6530</td> <td>379.8</td> <td>382.0</td> <td>0.993</td> </tr> <tr> <td>adjusted zero</td> <td>6528</td> <td>0.00</td> <td>6528</td> <td>0.0</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>380.0</td> <td>0.999</td> </tr> <tr> <td>mid</td> <td>6507</td> <td>23.70</td> <td>6531</td> <td>181.1</td> <td>180.7</td> <td>1.002</td> </tr> <tr> <td>low</td> <td>6519</td> <td>11.90</td> <td>6531</td> <td>90.9</td> <td>91.1</td> <td>0.998</td> </tr> <tr> <td>calibrator zero</td> <td>6528</td> <td>0.00</td> <td>6528</td> <td>0.0</td> <td>0.0</td> <td>n/a</td> </tr> <tr> <td colspan="6" style="text-align: right;">Average C.F. =</td> <td>1.000</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	6528	0.00	6528	0.0	-0.4	n/a	as found high	6480	49.70	6530	379.8	382.0	0.993	adjusted zero	6528	0.00	6528	0.0	0.0	n/a	adjusted high	6480	49.70	6530	379.8	380.0	0.999	mid	6507	23.70	6531	181.1	180.7	1.002	low	6519	11.90	6531	90.9	91.1	0.998	calibrator zero	6528	0.00	6528	0.0	0.0	n/a	Average C.F. =						1.000		
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Linear Regression/Calibration Results:																																																																									
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SO2[ppb] Station: THREE CREEKS #842 TRAILER Daily: 2016/10/12 Type: AVG 1 Min. [1 Min.]



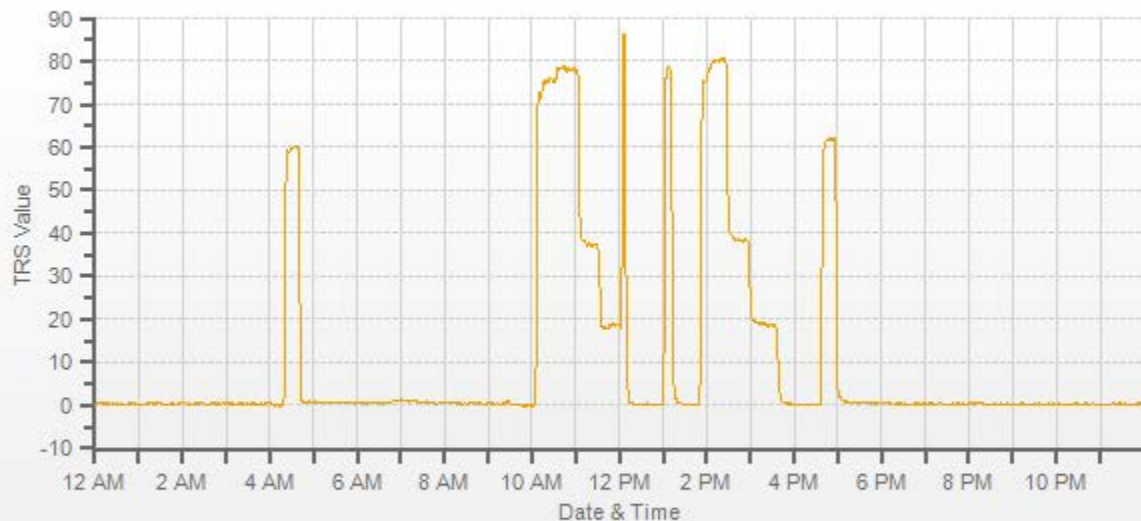
— SO2[ppb]

TOTAL REDUCED SULPHUR

Thermo 43i Total Reduced Sulphur Analyzer Calibration																																																																							
Date: October 12, 2016 Company/Airshed: PRAMP Location/Station Name: 842b Parameter: Total Reduced Sulphur Start Time 24 hr. (mst): 9:30 End Time 24 hr. (mst): 13:00 Calibration Method: Gas Dilution	Barometric Pressure: 27.93 inHg Station Temperature °C: 20 Weather Conditions: Mainly sunny Calibration Purpose: routine monthly Performed By/Reviewer: Limin Li Trina Whitsitt Cal Gas Expiry Date: January 6, 2018 Converter Model & s/n (if applicable): Watlow 05572																																																																						
☒ Skip																																																																							
Analyzer: ID# or Serial Number: 1226154720 Last Calibration Date: September 15, 2016 Previous C.F.: 1.000																																																																							
Range ppb: 100 As Found C.F.: 1.030 New C.F.: 1.000																																																																							
Calibrator: Flow Meter ID's: n/a Make & Model: Environics 2000 Serial #: 1991 Cal Gas Cylinder I.D. #: BLM2508 Cal Gas Conc. (ppm): 10.2																																																																							
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Date: October 12, 2016 Company/Airshed: Three Creek Location/Station Name: 842b Parameter: Total Reduced Sulphur Start Time 24 hr. (mst): 13:20 End Time 24 hr. (mst): 17:00 Calibration Method: Gas Dilution	Barometric Pressure: 27.93 inHg Station Temperature °C: 20 Weather Conditions: Mainly sunny Calibration Purpose: repeat Performed By/Reviewer: Limin Li not yet reviewed Cal Gas Expiry Date: December 1, 2018 Converter Model & s/n (if applicable): WATLOW 05572																																																																						
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TRS[ppb] Station: THREE CREEKS #842 TRAILER Daily: 2016/10/12 Type: AVG 1 Min. [1 Min.]



— TRS[ppb]

TOTAL HYDROCARBON



Thermo 55i Methane/Non-Methane Analyzer Calibration

Date:	October 12, 2016	Barometric Pressure:	27.93 inHg
Company/Airshed:	PRAMP	Station Temperature °C:	20
Location/Station Name:	842b	Weather Conditions:	Mainly sunny
Parameter:	CH ₄ / NMHC / THC	Calibration Purpose:	routine monthly
Start/End Time 24 hr. (mst):	12:50/16:25	Performed By/Reviewer:	Limin Li Trina Whitsitt
Calibration Method:	Gas Dilution	Cal Gas Expiry Date:	July 7, 2022

Analyzer:		Correction Factors:			
ID# or Serial Number:	1505664392	Previous C.F.:	As Found C.F.:	New C.F.:	
Measured Flow:	1.22 LPM	CH ₄ =	1.001	0.942	1.000
Last Calibration Date:	September 20, 2016	NMHC =	0.998	0.996	1.000
Range ppm:	20 CH ₄ /20 NMHC/40 THC	THC =	0.999	0.968	1.000

Calibrator:		Standard Calibration Points for Analyzer Range of 20/20/40 ppm			
Flow Meter ID's:	n/a	Point	CH ₄	NMHC	THC
Make & Model:	Sabio 2010	High	13.00	13.00	26.00
Serial #:	17200415	Mid	7.00	7.00	14.00
Cal Gas Cylinder I.D. #:	LL83638	Low	3.00	3.00	6.00
CH ₄ Cylinder Conc.:	582.0	=C ₃ H ₈ Cylinder Conc.			
CH ₄ as C ₃ H ₈ =	558.3	=total CH ₄ equivalent			

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

Calibrator Flow Rates (cc/min)				Calculated CH ₄ (ppm)	Calculated NMHC (ppm)	Calculated THC (ppm)	Indicated CH ₄ (ppm)	Indicated NMHC (ppm)	Indicated THC (ppm)	Correction Factors:		
Point	Diluent	Cal Gas	Total Flow	CH ₄	NMHC	THC	CH ₄	NMHC	THC	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	15.52	14.08	29.60	0.942	0.996	0.968
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	14.62	14.02	28.64	1.000	1.000	1.000
mid	2523	32.10	2555	7.31	7.01	14.33	7.36	7.06	14.42	0.993	0.993	0.993
low	2523	14.10	2537	3.23	3.10	6.34	3.26	3.14	6.40	0.992	0.988	0.990
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. = 0.995 0.994 0.995

Linear Regression/Calibration Results:

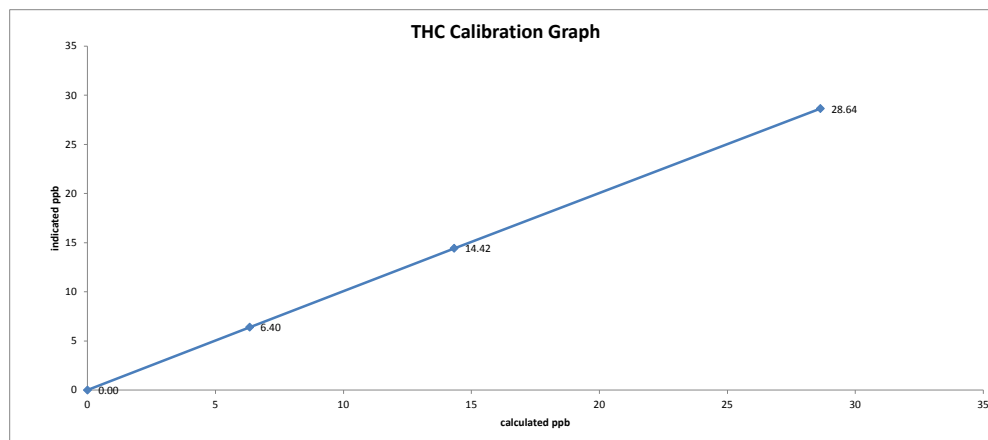
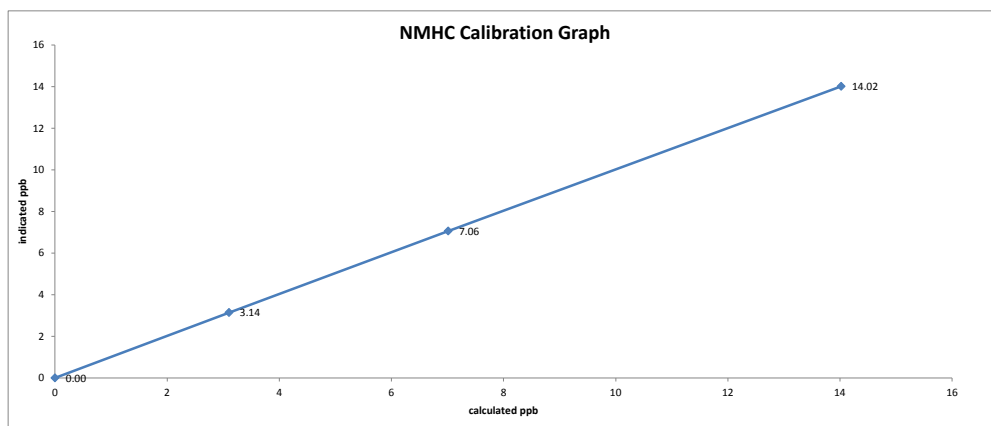
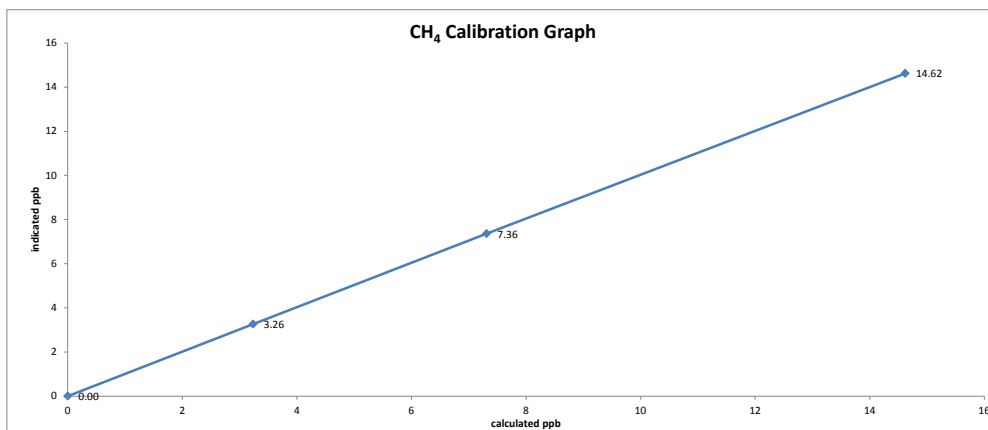
	CH ₄	NMHC	THC	LIMITS
Correlation Coefficient =	1.000	1.000	1.000	> or = 0.995
Slope =	1.000	0.999	1.000	.95-1.05
b (Intercept as % of full scale) =	0.10%	0.12%	0.11%	± 3% F.S.
% change in C.F. from last cal =	5.91%	0.22%	3.15%	± 10%

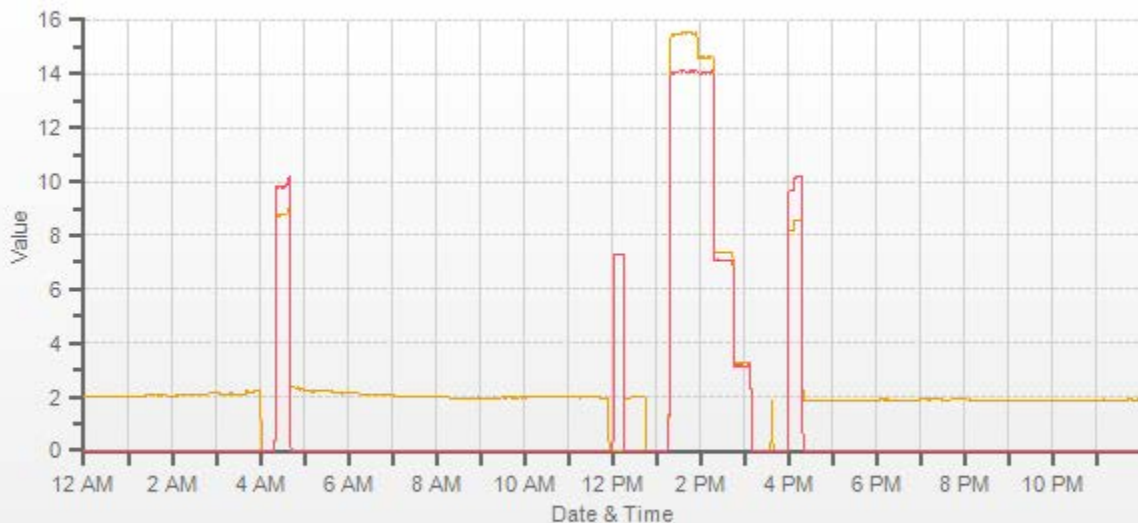
Interface Board Voltages:		Bias Supply:	-294.2	Calibration History cnt'd:	NM Peak Area:	89268
Temperatures:		Detector Oven:	175.2	Crucial Settings:	Methane Start:	8
		Filter:	175		Methane End:	16
		Column Oven:	75		Backflush:	18
		Internal:	34.8		NMHV Start:	25
Cylinder Pressures/reg.:		Carrier:	2500	Run History>1:	NMHC End:	54
		Fuel:	1900		Date:	12OCT16
		Span Gas:	1700		Time:	12:50
		Zero Air Generator:	45		CH ₄ PK HT:	0
Internal Pressures:		Carrier:	35.1		CH ₄ RT:	11.6
		Fuel:	47.3		CH ₄ Baseline:	2838
		Air:	23.7		CH ₄ LOD:	36
FID Status:		Status:	LIT		CH ₄ SD:	12
		Counts:	32162		CH ₄ CONC:	0.00
		Flame:	348.4		NM PK HT:	0
		Det Base:	175		NM Peak Area:	0
Flame and Power Stats:		Last Power On:	20SEPT2016 14:19:02		NM CONC:	0
		Flameouts:	13		NM Base Start:	2804
		Det Oven at Start:	132.5		NM Base End:	2802
		Col Oven at Start:	65.5		NM LOD:	19
Calibration History:		Time:	20SEPT2016 15:23		NM Start IDX:	8
		Type:	SPAN		NM End IDX:	55
		Status:	GOOD		NM Max Slope:	8.1e-01
		Check/Adjust:	ADJUST		NM Min Slope:	-5.7e-01
		CH ₄ Span Conc:	14.59		NM PT Count:	0
		CH ₄ SP Ratio:	0.00063	Expected Values:	Previous CH ₄ :	8.69
		CH ₄ RT:	12.4		Previous NMHC:	9.7
		CH ₄ PK IDX:	22		Previous THC:	18.83
		CH ₄ PK HT:	23150		New CH ₄ :	8.56
		NM Span Conc:	14.14		New NMHC:	10.19
		NM SP Ratio:	0.000158		New THC:	18.77

Comments:	
The analyzer sample inlet filter was changed.	A new nitrogen cylinder was installed.
A new hydrogen cylinder was installed.	No zero adjustment was required/made. As found zero values were copied to adjusted zero values for linearity calculation purposes.
The analyzer cooling fan filter(s) were cleaned.	

Date: October 12, 2016
Company/Airshed: PRAMP
Location/Station Name: 842b

Start/End Time 24 hr. (mst): 12:50/16:25
Calibration Purpose: routine monthly
Calibration Method: Gas Dilution





CH4[ppm] NMHC[ppm]

WIND SYSTEM



Meteorological Sensor Audit

Location Information

Company:	PRAMP	Performed By:	Limin Li
Audit Location:	842b	Reviewed By:	Trina Whitsitt
Audit Date:	October 12, 2016	Start Time (mst):	14:40
Previous Audit Date:	July 9, 2015	End Time (mst):	16:00

Wind Speed Sensor Information

Sensor make: RM Young
 Sensor model: 5103VK. SN:129612
 Calibrator: RM Young
 Voltage range: 0-1V/output single range: 0-200kph

Calibrator Information

Make: RM Young
 Model: 18802
 I.D.#/Serial#: 4309
 Certification Date: October 6, 2016

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.1	0.1	-
1000	17.6	17.8	17.8	0.987
2000	35.3	35.6	35.6	0.992
3000	52.9	53.3	53.3	0.993
4000	70.6	71.1	71.1	0.992
5000	88.2	88.9	88.9	0.992
6000	105.8	106.7	106.7	0.992
7000	123.5	124.5	124.5	0.992
8000	141.1	142.4	142.4	0.991
9000	158.8	160.3	160.3	0.990
10000	176.4	178.2	178.2	0.990
		The audit meets AMD requirements.	Average Correction Factor=	0.991

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

Generated Wind Direction	Indicated Wind Direction	Degrees Difference
0	354.9	5.1
45	43.3	1.7
90	89.0	1.0
135	134.1	0.9
180	179.8	0.2
225	224.3	0.7
270	269.5	0.5
315	313.6	1.4
355	352.1	2.9
The audit meets AMD requirements.		Average Degrees Difference= 1.6

Recommendations:

3 deg, reading 0.4 deg



Meteorological Sensor Audit

Location Information

Company:	PRAMP	Performed By:	Limin Li
Audit Location:	842b	Reviewed By:	Trina Whitsitt
Audit Date:	October 12, 2016	Start Time (mst):	16:30
Previous Audit Date:	n/a	End Time (mst):	17:30

Wind Speed Sensor Information

Sensor make:	RM Young
Sensor model:	5305VK
Serial#:	92411
Voltage range:	0-1V/output single range: 0-200kph

Calibrator Information

Make:	RM Young
Model:	18802
I.D.#/Serial#:	4309
Certification Date:	October 6, 2016

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.1	0.1	-
1000	17.6	17.6	17.5	1.003
2000	35.3	35.1	35.1	1.005
3000	52.9	52.6	52.6	1.007
4000	70.6	70.1	70.1	1.007
5000	88.2	87.6	87.6	1.007
6000	105.8	105.1	105.1	1.007
7000	123.5	122.6	122.6	1.007
8000	141.1	140.1	140.1	1.007
9000	158.8	157.6	157.6	1.007
10000	176.4	175.0	175.0	1.008
		The audit meets AMD requirements.	Average Correction Factor=	1.006

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

Generated Wind Direction	Indicated Wind Direction	Degrees Difference
0	0.4	-0.4
45	46.5	-1.5
90	91.0	-1.0
135	135.5	-0.5
180	180.2	-0.2
225	224.2	0.8
270	268.3	1.7
315	313.0	2.0
355	351.4	3.6
The audit meets AMD requirements.		Average Degrees Difference= 1.3

Recommendations: The wind calibrator is SIA property.

CALIBRATORS

Company Maxxam

Operator: Christopher Wesson
Calibrator:

Make/Model Sabio 2010
 Serial Number 17200415
 Last Verification Date May 2015
 NO Cylinder S/N LL42475
 NO/NOx Concentration 48.5/48.5

Flow Measurement Device:

Make/Model N/A
 Serial Number N/A
 Temperature (°C) N/A
 Barometric Pressure N/A

Dilution Flow (sccm)

Pt. #1 5000 Pt. #2 5000 Pt. #3 5000
Gas Flow (sccm)

Pt. #1 80 Pt. #2 40 Pt. #3 20

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO ₂	NOx	NO	NOx
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							3.65%	3.09%

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

<u>NO</u>		<u>LIMITS</u>	<u>NOx</u>	
Correlation=	1.0000	≥ 0.990	Correlation=	1.0000
m (Slope)=	1.0360	0.90-1.10	m (Slope)=	1.0295
b (Intercept % of FS)=	0.0110	± 3% F.S.	b (Intercept % of FS)=	0.0293

Flow	O ₂ Conc	NO Decrease	NO	NO ₂	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							1% ± 10%

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

<u>NO₂</u>		<u>LIMITS</u>
Correlation=	1.0000	≥ 0.995
m (Slope)=	0.9988	0.90-1.10
b (Intercept % of FS)=	-0.2760	± 3% F.S.

AENV Standards
Audit Calibrator

Make/Model Teco 146i
 Serial/AMU Number AMU 1809

NO_x Analyzer

Make/Model Teco 42i
 Serial/AMU Number AMU 1868
 Last Calibration Date May 18, 2016
 Full Scale (ppm) 1.0

COMMENTS: Contains 50.3 ppm SO₂. Flows not measured as per Chapter 7, Section 5 of AMD.

Auditor: Al Clark

Date: May 18, 2016

Operator Signature: *Christopher Wesson*

Location: McIntyre Center Edmonton

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2015-166

Company Maxxam Operator: Chris Wesson

Calibrator:		Flow Measurement Device:	
Make/Model	<u>EnviroNics 2000</u>	Make/Model	<u>None</u>
Serial Number	<u>1991</u>	Serial Number	<u>None</u>
Last Verification Date	<u>April 2, 2015</u>	Temperature (°C)	<u>23.5</u>
NO Cylinder S/N	<u>LL119317</u>	Barometric Pressure	<u>706 mmHg</u>
NO/NOx Concentration	<u>50.3ppm/50.3ppm</u>		

Dilution Flow (sccm)			
Pt. #1	<u>5000</u>	Pt. #2	<u>5000</u>
Pt. #3	<u>5001</u>		
Gas Flow (sccm)			
Pt. #1	<u>77.5</u>	Pt. #2	<u>37.7</u>
Pt. #3	<u>18.88</u>		

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO ₂	NOx	NO	NOx
5000	0.0	0.000	0.000	0.000	0.000	0.000	Limit ± 10%	
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 ₂ Conc	NO Decrease	NO	NO ₂	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 ₂		LIMITS	
Correlation=	1.0000	≥ 0.995	
m (Slope)=	0.9973	0.90-1.10	
b (Intercept % of FS)=	0.0603	± 3% F.S.	

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

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

Auditor: Shen Beaton
Operator Signature: [Signature]

Date: March 31, 2016
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	0.01660	60.242	49.5
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
Operator Signature: *Al Clark*

Date: March 31, 2015
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			
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 ☒
> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder ☐

Auditor: Al Clark
Operator Signature: *Al Clark*

Date: March 31, 2015
Location: McIntyre Center Edmonton



Calibration Gas Audit

Single Component Cylinder Gas

File No. 2015-112CGA

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

Reference Calibrator and Gas:

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

Flow Measurement Device:

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

Reference Analyzer:

Make/Model: Thermo 450i Serial/AMU Number: 1980
Instrument Settings: Zero: 15.3 Span: 1.126 Range: 0.1
Last Calibration: Date: 1-Feb-16 C.F. 1.000 Done By: SB

Calibrator Flows (sccm)		Indicated Concentration (PPM)	Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration
Dilution	Gas				
5017	0.0	0.000	0.00751	133.140	10.4
5054	37.96	0.078	0.00751	133.140	10.4
5055	17.78	0.037	0.00352	284.308	10.4
5029	9.07	0.019	0.00180	554.465	10.3
Average Cylinder Concentration:					10.3

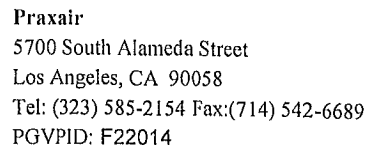
Previous Stated Concentration PPM: 10.3

Percent variance from Stated: 0.5

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

Auditor: Shea Beaton
Operator Signature: [Signature]

Date: February 2, 2016
Location: McIntyre Center Edmonton



DocNumber: 000068924

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:	7/7/2014
Z:	0	R: 249.5	C: 589.4	Conc: 581.21
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

Second Analysis Data:			Date:	
Z:	0	R:	0	
C:	0	Conc:	0	
R:	0	Z:	0	
C:	0	Conc:	0	
Z:	0	R:	0	
C:	0	Conc:	0	
UOM:	ppm	Mean Test Assay:	0 ppm	

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: 7/7/2014	
Z: 0	R: 273.6	C: 208.4	Conc: 202.43
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

Second Analysis Data:			Date:	
Z:	0	R:	0	
C:	0	Conc:	0	
R:	0	Z:	0	
C:	0	R:	0	
Conc:	0	Conc:	0	
UOM:	ppm	Mean Test Assay:		0 ppm

Analyzed by:

Jack Fu

Certified by:

Ying Yu

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	Three Creeks 842b Station
Name of the Representative of the Person Responsible (Last, First, Middle)	Position / Title of the Representative of the Person Responsible
Wunmi Adekanmbi	Project Manager, Customer Service, Air Services
Is an External Party Certifying the Report? (If 'Yes', fill in the fields below for the external person.)	
☐ Yes ☒ No	
Name of External Person Certifying the Report (Last, First, Middle)	Position / Title of External Person Certifying the Report
NA	NA
Company Name for the External Person Certifying the Report	Identification of Qualifications / Professional Designations of the External Person Certifying the Report
NA	NA

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

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

22-11-2016

Report Issued Date (dd-mm-yyyy)

APPENDIX IV
DATA VALIDATION CERTIFICATION FORM

Validation Certificate Form

Client: Peace River Area Monitoring Program Committee

Project #: 8449-2016-10-80-C

Site: Three Creeks 842b Station

Contact: Anthony Traverse

Level 0 Preliminary Verification

Chris Sinclair

Date 15-Nov-16

Level 1 Primary Validation

Chris Sinclair

Date 15-Nov-16

Level 2 Final Validation

Chris Sinclair

Date 22-Nov-16

Level 3 Independent Data Review

Chris Sinclair

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.