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

JOB #: 8449-2016-12-80-C

December 2016

Prepared for:

PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
4000, 520 - 3RD AVENUE SW
CALGARY, ALBERTA
T2P 3Y3

Attention: KARLA REESOR

DATE: **January 18, 2017**

Prepared by:

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SUMMARY

In December 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.

- **SO₂**: Eight hours of downtime were recorded between December 19 and 20. The analyzer exhibited a biased high span response prompting additional quality checks and a repeat calibration.
- **TRS**: Two hours of downtime were recorded on December 5 and 7, at hour 9:00 and hour 10:00 respectively. The analyzer exhibited a biased low span response prompting additional quality checks.

The summary of results is presented on the following pages.

Any deviations or modifications made to the sampling or analytical methods are outlined in Section 1.0, Discussion. On this basis, Maxxam Analytics is issuing this completed report to Peace River Area Monitoring Program Committee, 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	0.1	0.9	12	19	13	WNW	0.3	3, 14	98.9
TRS (ppb)	-	-	-	-	0.4	0.8	8, 23	11, 4	0.2 3.3	E NNE	0.6	VAR	99.7
THC (ppm)	-	-	-	-	1.96	2.23	17	6	2.4	ESE	2.07	16, 17	100.0
CH ₄ (ppm)	-	-	-	-	1.96	2.23	17	6	2.4	ESE	2.07	17	100.0
NMHC (ppm)	-	-	-	-	0.00	0.11	16	23	3	SE	0.01	16	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	77	95	VAR	VAR	VAR	VAR	87	31	100.0
BAROMETRIC PRESSURE (inHg)	-	-	-	-	27.84	28.65	7, 8	VAR, VAR	VAR	VAR	28.60	7	100.0
AMBIENT TEMPERATURE (°C)	-	-	-	-	-13.8	2.3	21	14	25.9	SW	-0.1	19	100.0
STATION TEMPERATURE (°C)	-	-	-	-	21.4	24.0	20	7	12.9	SSW	23.0	16	100.0
VECTOR WS (kph)	-	-	-	-	4.9	27.7	19	7	-	WSW	18.7	19	100.0
VECTOR WD (sec)	-	-	-	-	235 (SW)	-	-	-	-	-	-	-	100.0

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	December

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	98.9	0.0009 ppm	0	0.0003 ppm	0	
TRS	1	99.7	0.0008 ppm	-	0.0006 ppm	-	
THC	1	100.0	2.23 ppm	-	2.07 ppm	-	
CH ₄	1	100.0	2.23 ppm	-	2.07 ppm	-	
NMHC	1	100.0	0.11 ppm	-	0.01 ppm	-	
RH	1	100.0	95 %	-	87 %	-	
BP	1	100.0	28.65 inHg	-	28.60 inHg	-	
Ambient TPX	1	100.0	2.3 °C	-	-0.1 °C	-	
Station TPX	1	100.0	24.0 °C	-	23.0 °C	-	
Wind Speed	1	100.0	27.7 kph	-	18.7 kph	-	
Wind Direction	1	100.0	-	-	-	-	

SIGNATURE OF COMPANY REPRESENTATIVE

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Exceedance Summary Report

SO₂ 1-Hour Exceedances

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

SO₂ 24-Hour Exceedances

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

In accordance with EPEA and the Substance Release Regulation.

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

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1.0 Discussion

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

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

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

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

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

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

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

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

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

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

SULPHUR DIOXIDE (SO₂)

The routine monthly calibration was performed on December 8. The analyzer spanned towards the upper acceptance limit on December 19. A repeat span check, performed afterwards, confirmed the drift. A successful as-found response check was conducted the same day. A repeat full calibration was completed on December 20 and the expected span value was updated afterwards. Eight hours of downtime were recorded due to this event.

TOTAL REDUCED SULPHUR (TRS)

The daily span started drifting low on December 5, due to low station temperature. The routine monthly calibration was performed on December 8, during which the station temperature was adjusted. As the calibration met AMD requirements, no data was discarded. Two hours of downtime were, however, recorded due to additional zero/span checks conducted on December 5 and December 7 to assess analyzer performance.

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

The routine monthly calibration was performed on December 8. No operational issues were identified this month.

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)

Wind data is reported as vector wind speed and vector wind direction. Wind direction is defined as the direction from which the wind is blowing from and is measured in degrees from true north.

No operational issues were identified this month.

RELATIVE HUMIDITY (RH)

No operational issues were identified this month.

BAROMETRIC PRESSURE (BP)

No operational issues were identified this month.

AMBIENT TEMPERATURE (AmbTPX)

No operational issues were identified this month.

STATION TEMPERATURE (StnTPX)

The thermostat setting was adjusted on December 8, in response to winter conditions impacting station temperature.

2.0 Project Personnel

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

3.0 Plant Monthly Required AMD Summary

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

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

4.0 Calculations and Results

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

5.0 Methods and Procedures

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

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

There were no deviations from the prescribed methods.

The following instruments were used to perform the test program:

Sulphur Dioxide - API 100A UV Flourescent Analyzer
Total Reduced Sulphur - Thermo 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

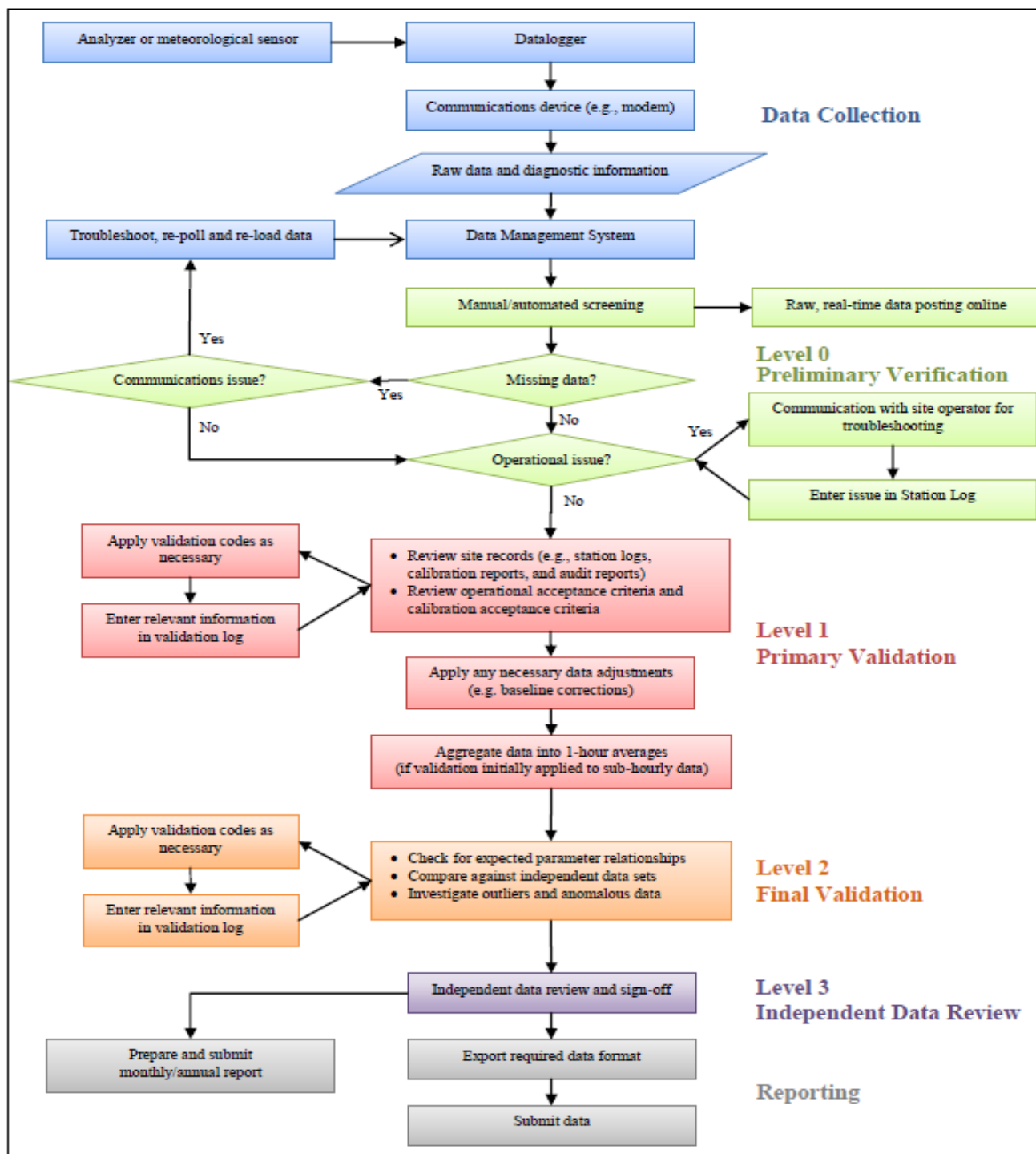
The purpose of Level 2 validation is to verify that there are no inconsistencies among related data, or among regional data measured at nearby sites.

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

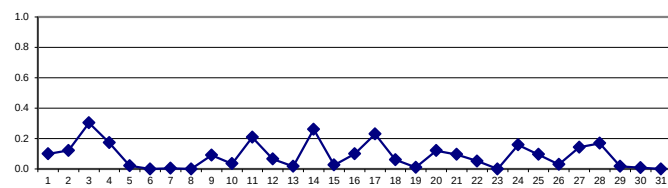
SULPHUR DIOXIDE Hourly Averages (SO₂ ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.		
DAY																													
1	S	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.2	0.7	0.1	0.0	0.1	0.0	0.2	0.1	0.3	0.2	S	0.0	0.7	0.1	24		
2	0.3	0.3	0.1	0.1	0.2	0.0	0.1	0.2	0.0	0.1	0.1	0.1	0.3	0.0	0.1	0.2	0.0	0.1	0.1	0.1	0.1	0.0	S	0.2	0.0	0.3	0.1	24	
3	0.2	0.2	0.0	0.1	0.1	0.2	0.3	0.3	0.2	0.4	0.4	0.4	0.3	0.3	0.3	0.5	0.3	0.4	0.5	0.4	0.4	S	0.4	0.4	0.0	0.5	0.3	24	
4	0.5	0.5	0.3	0.4	0.3	0.3	0.2	0.3	0.2	0.1	0.0	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.5	0.2	24
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.1	0.0	0.0	0.0	0.0	0.3	0.0	24
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
7	0.0	0.0	0.0	0.0	0.0	0.1	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	0.1	0.0	24
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	C	S	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.2	0.5	0.8	S	0.0	0.0	0.0	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.8	0.1	24
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.2	0.0	0.2	0.0	24
11	0.0	0.4	0.3	0.2	0.0	0.2	0.2	0.2	0.3	0.2	0.4	0.4	0.3	S	0.3	0.2	0.2	0.3	0.3	0.0	0.0	0.1	0.2	0.1	0.0	0.4	0.2	24	
12	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.1	0.1	0.1	0.0	0.1	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.1	24
13	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	24	
14	0.1	0.3	0.2	0.1	0.2	0.4	0.2	0.3	0.4	0.5	S	0.5	0.5	0.6	0.5	0.3	0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.5	0.0	0.6	0.3	24	
15	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.3	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	0.3	0.0	24	
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.1	0.2	0.2	0.1	0.1	0.3	0.3	0.2	0.3	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.3	0.1	24	
17	0.2	0.2	0.3	0.2	0.1	0.1	0.0	S	0.0	0.0	0.1	0.2	0.4	0.5	0.5	0.3	0.4	0.4	0.3	0.3	0.1	0.2	0.2	0.3	0.0	0.5	0.2	24	
18	0.2	0.4	0.3	0.1	0.1	0.0	S	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.4	0.1	24	
19	0.0	0.0	0.0	0.0	0.0	S	0.0	S1	S1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	C1	C1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	20	
20	0.0	0.1	0.0	0.1	S	0.0	0.0	0.0	0.0	C1	C1	C1	C1	0.0	0.0	0.0	0.0	0.1	0.3	0.4	0.6	0.3	0.3	0.1	0.0	0.6	0.1	20	
21	0.1	0.1	0.1	S	0.1	0.1	0.1	0.3	0.0	0.1	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.3	0.1	24	
22	0.1	0.1	S	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.1	24	
23	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	
24	S	0.0	0.0	0.0	0.1	0.3	0.3	0.5	0.0	0.0	0.3	0.3	0.3	0.5	0.3	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.5	0.2	24	
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.3	0.5	0.5	0.3	0.0	0.0	0.0	0.1	0.0	0.1	S	0.1	0.0	0.5	0.1	24	
26	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.1	0.0	24	
27	0.0	0.0	0.0	0.2	0.6	0.3	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.1	0.2	0.1	0.1	S	0.1	0.1	0.0	0.0	0.6	0.1	24	
28	0.1	0.2	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.4	0.4	0.1	0.5	0.3	S	0.2	0.1	0.1	0.2	0.0	0.5	0.2	24	
29	0.2	0.1	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	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	24	
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	24	
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	
HOURLY MAX	0.5	0.5	0.3	0.4	0.6	0.4	0.3	0.5	0.4	0.5	0.4	0.5	0.5	0.6	0.8	0.5	0.4	0.5	0.5	0.9	0.6	0.3	0.4	0.5					
HOURLY AVG	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1					

STATUS FLAG CODES

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

24 HR AVERAGES December 2016



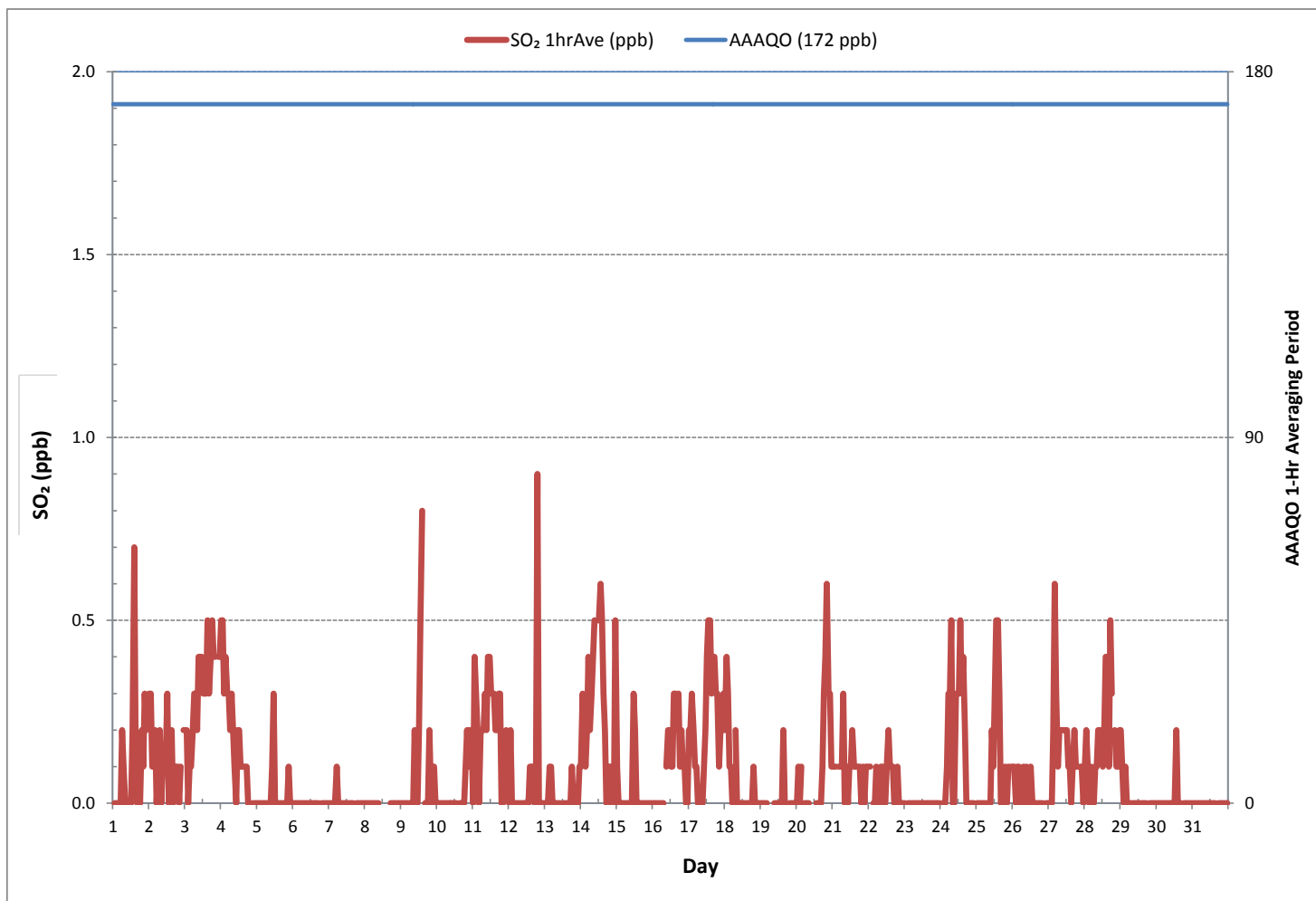
OBJECTIVE LIMIT:

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:	283				
MINIMUM 1-HR AVERAGE:	0.0 ppb	@ HOUR(S)	VAR	ON DAY(S)	ALL
MAXIMUM 1-HR AVERAGE:	0.9 ppb	@ HOUR(S)	19	ON DAY(S)	12
MAXIMUM 24-HR AVERAGE:	0.3 ppb			ON DAY(S)	3, 14
				VAR-VARIOUS	
IZS CALIBRATION TIME:	33 hrs	OPERATIONAL TIME:	736 hrs		
MONTHLY CALIBRATION TIME:	5 hrs	AMD OPERATION UPTIME:	98.9 %		
STANDARD DEVIATION:	0.1	MONTHLY AVERAGE:	0.1 ppb		

SULPHUR DIOXIDE Hourly Averages (SO₂ ppb)



SULPHUR DIOXIDE Instantaneous Maximum (SO₂ ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.		
DAY																													
1	S	0.1	0.4	0.4	0.4	0.4	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.7	1.0	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.4	0.4	S	0.1	1.0	0.3	24
2	0.4	0.4	0.1	0.4	0.4	0.1	0.4	0.4	0.1	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	S	0.5	0.1	0.5	0.4	24	
3	0.4	0.4	0.1	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	S	0.4	0.4	0.1	0.4	0.4	24	
4	0.4	0.4	0.1	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.1	0.1	0.1	0.1	0.1	0.1	S	0.1	0.1	0.1	0.1	0.1	0.4	0.2	24
5	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.4	0.1	0.0	0.1	0.1	0.1	0.1	S	0.1	0.1	0.1	0.0	0.0	0.0	0.4	0.1	24
6	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	0.1	0.1	0.1	0.0	0.1	0.0	24
7	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	S	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	24	
8	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.9	C	C	C	C	C	1.9	S	0.4	0.7	0.4	0.7	0.4	0.4	0.4	0.0	1.9	0.4	24	
9	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.3	1.0	0.7	0.7	1.3	1.6	S	0.7	0.4	0.7	1.0	0.7	0.7	0.7	0.7	0.4	1.6	0.7	24	
10	0.4	0.7	0.7	0.7	0.4	0.7	0.7	0.4	0.7	0.4	0.4	0.7	0.4	0.4	S	0.4	0.7	0.7	0.7	0.7	0.7	0.7	1.0	1.0	0.4	1.0	0.6	24	
11	0.7	1.0	1.0	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.0	1.0	1.0	S	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.0	0.8	24	
12	0.7	0.7	0.7	0.7	0.7	0.4	0.7	0.7	0.4	0.4	0.4	0.4	S	0.4	1.0	1.0	1.0	0.7	1.3	2.5	1.0	0.7	0.4	0.4	0.4	2.5	0.8	24	
13	0.7	0.4	0.4	0.7	1.0	0.7	0.7	0.4	0.4	0.7	0.7	S	0.7	0.7	0.7	0.4	0.4	0.7	0.7	0.7	0.7	0.4	0.7	0.7	0.4	1.0	0.6	24	
14	0.7	0.7	0.7	0.4	0.7	0.7	0.4	0.7	0.7	0.7	S	0.7	1.0	1.0	1.0	0.7	0.7	0.4	0.4	0.4	0.4	0.4	0.7	1.0	0.4	1.0	0.7	24	
15	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.7	S	0.4	1.9	1.0	0.4	0.4	0.7	0.7	0.4	0.4	0.4	0.4	0.7	0.4	0.4	0.4	1.9	0.6	24	
16	0.7	0.7	0.7	0.7	0.4	0.4	0.7	0.7	S	0.7	1.0	0.7	0.7	0.7	1.0	1.0	1.0	1.0	0.7	1.0	0.7	1.0	0.7	1.0	0.4	1.0	0.8	24	
17	1.0	1.0	1.0	1.0	1.0	1.0	0.7	S	0.7	0.7	1.0	1.0	1.3	1.3	1.3	1.0	1.0	1.3	1.0	1.0	1.0	1.0	1.0	1.0	0.7	1.3	1.0	24	
18	1.0	1.3	1.3	1.0	1.0	1.0	S	1.0	1.0	0.7	0.7	0.7	1.0	1.0	0.7	1.0	0.7	1.0	1.0	1.3	1.0	1.0	1.0	1.0	0.7	1.3	1.0	24	
19	1.0	1.0	1.0	1.1	1.3	S	1.3	S1	S1	1.3	1.0	0.7	0.7	1.0	1.0	1.6	1.3	C1	C1	1.1	1.1	1.1	1.1	1.0	0.7	1.6	1.1	20	
20	1.3	1.1	1.1	1.0	S	1.0	0.8	1.1	C1	C1	C1	C1	C1	1.0	1.0	1.0	1.0	1.3	1.3	1.3	1.6	1.3	1.0	0.7	0.7	1.6	1.1	19	
21	0.7	0.7	0.7	S	0.7	1.0	0.7	1.0	0.7	0.7	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7	1.0	0.9	24	
22	1.0	1.1	S	1.0	1.0	1.0	0.7	0.7	1.0	0.7	1.0	0.7	0.7	1.0	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.4	0.4	1.1	0.8	24	
23	0.4	S	0.4	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.4	0.7	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.7	0.7	0.7	0.4	0.4	0.4	0.7	0.5	24	
24	S	0.7	0.7	0.7	1.0	1.0	1.0	1.3	0.7	0.7	1.0	1.0	1.0	1.0	1.1	1.0	1.0	0.4	0.4	0.4	0.4	0.4	0.7	S	0.4	1.3	0.8	24	
25	0.4	0.4	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.7	0.7	0.7	1.0	1.3	1.3	1.0	0.7	0.7	0.7	0.7	0.7	1.0	S	1.0	0.4	1.3	0.7	24	
26	1.0	1.0	0.7	1.0	1.0	1.0	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7	0.7	0.7	1.0	0.7	0.7	1.0	S	0.7	0.7	1.0	0.9	24		
27	0.7	0.7	1.0	1.3	1.6	1.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7	1.0	1.0	1.0	1.0	S	1.0	1.0	0.7	0.7	1.6	1.0	24	
28	1.0	1.0	0.7	0.7	0.7	0.7	0.7	1.0	0.7	1.0	1.0	0.7	0.7	0.7	1.0	1.0	1.0	1.0	1.0	S	0.7	0.7	0.7	0.7	0.7	1.0	0.8	24	
29	0.7	0.7	0.7	0.7	0.7	0.4	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.4	0.4	0.7	0.7	1.0	S	0.7	0.7	0.7	0.4	0.7	0.4	1.0	0.6	24	
30	0.4	0.4	0.4	0.4	0.4	0.7	1.0	1.0	0.7	0.7	1.0	1.0	1.0	1.0	0.7	0.7	0.7	S	0.7	0.7	0.7	0.7	0.7	0.7	0.4	1.0	0.7	24	
31	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.4	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.4	S	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.7	0.5	24
HOURLY MAX	1.3	1.3	1.3	1.3	1.6	1.3	1.3	1.3	1.0	1.3	1.0	1.9	1.3	1.3	1.6	1.9	1.3	1.3	1.3	2.5	1.6	1.3	1.1	1.0					
HOURLY AVG	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.7	0.7	0.6	0.6	0.6					

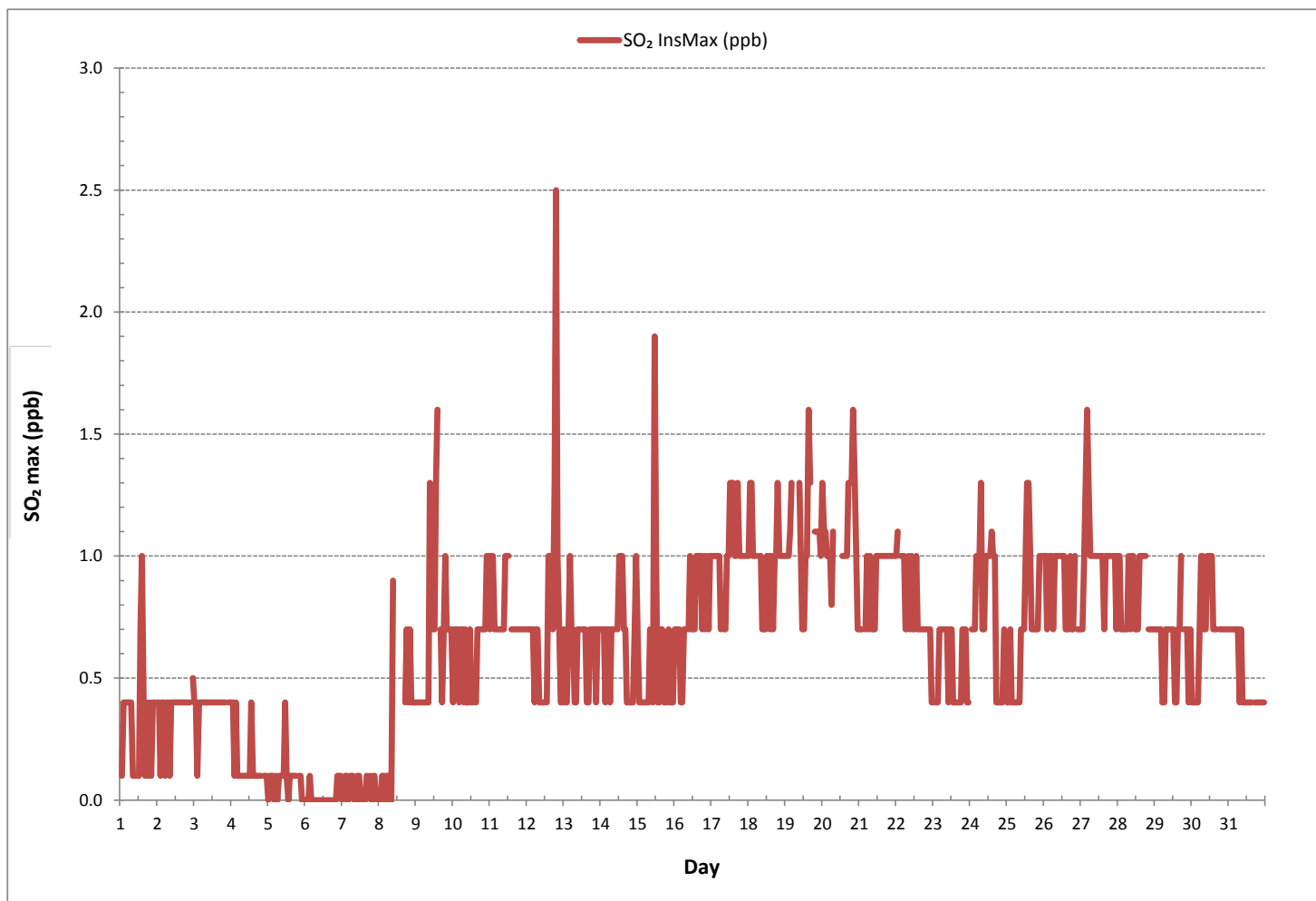
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	655
MAXIMUM INSTANTANEOUS VALUE:	2.5 ppb @ HOUR(S) 19 ON DAY(S) 12
	VAR-VARIOUS
IZS CALIBRATION TIME:	33 hrs
MONTHLY CALIBRATION TIME:	5 hrs
STANDARD DEVIATION:	0.4
OPERATIONAL TIME:	735 hrs

SULPHUR DIOXIDE Instantaneous Maximum (SO₂ ppb)

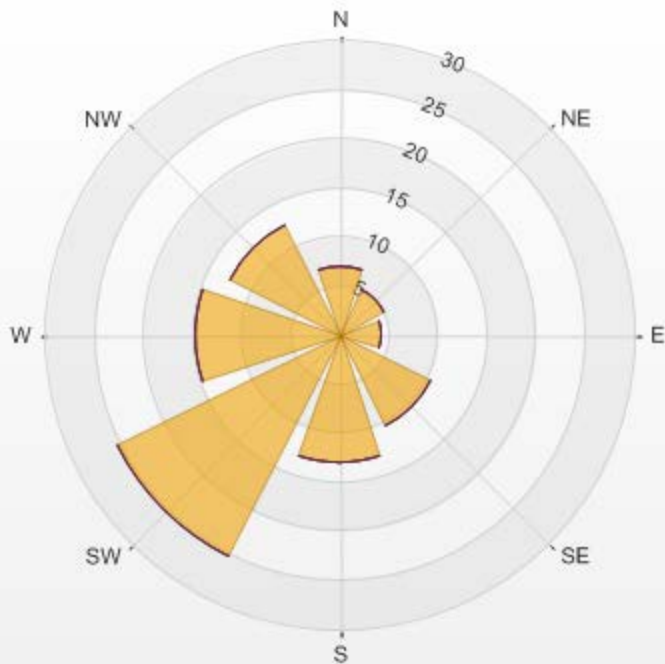


Wind: THREE CREEKS #842 TRAILER Poll.: THREE CREEKS #842 TRAILER-SO2[ppb] Monthly: 12/2016 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 7.60% Valid Data: 93.68% Calm Avg: 0.02 [ppb]

Direction	0-3	3-10	10-85	85-170	>170.0	Total
N	7.03	0	0	0	0	7.03
NE	5.16	0	0	0	0	5.16
E	4.3	0	0	0	0	4.3
SE	10.33	0	0	0	0	10.33
S	13.06	0	0	0	0	13.06
SW	25.25	0	0	0	0	25.25
W	14.78	0	0	0	0	14.78
NW	12.48	0	0	0	0	12.48
Summary	92.39	0	0	0	0	92.39

%	Icon	Classes (ppb)
92		0-3
0		3-10
0		10-85
0		85-170
0		>170.0

THREE CREEKS #842 TRAILER Poll.: THREE CREEKS #842 TRAILER-SO2[ppb] 01/12/2016 00:00 - 31/12/2016 23:00
 Calm: 7.60% Calm Poll Avg: 0.02[ppb]



SO₂[ppb] Calibration: THREE CREEKS #842 TRAILER Monthly: 2016/12 Type: Span



Span Meas Span Ref Span Low Span High

TOTAL REDUCED SULPHUR

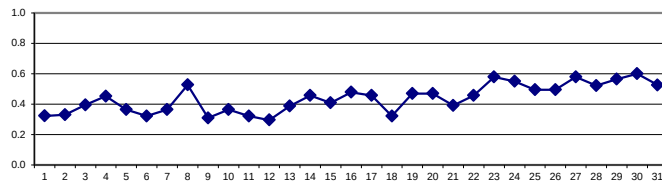
TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	S	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.5	S	0.1	0.5	0.3	24
2	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.4	0.4	0.4	S	0.5	0.2	0.5	0.3	24
3	0.3	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.2	0.3	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.6	0.4	0.3	0.5	S	0.5	0.4	0.2	0.6	0.4	24
4	0.6	0.5	0.5	0.5	0.3	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.5	0.4	0.5	0.5	0.4	0.4	S	0.5	0.5	0.5	0.2	0.6	0.5	24
5	0.5	0.4	0.4	0.6	0.5	0.5	0.5	0.5	0.5	S1	0.6	0.4	0.3	0.3	0.2	0.2	0.2	0.1	0.2	S	0.2	0.3	0.3	0.3	0.1	0.6	0.4	23
6	0.2	0.3	0.3	0.2	0.2	0.4	0.2	0.2	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	S	0.4	0.5	0.4	0.4	0.3	0.2	0.5	0.3	24
7	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.0	0.0	S1	0.4	0.5	0.6	0.5	0.5	0.6	S	0.7	0.7	0.7	0.6	0.4	0.4	0.0	0.7	0.4	23
8	0.4	0.4	0.3	0.5	0.6	0.6	0.6	0.7	0.5	0.5	0.7	0.8	0.7	0.6	C	C	C	C	C	C	0.6	0.4	0.4	0.4	0.3	0.8	0.5	24
9	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	S	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.4	0.3	24
10	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.3	0.4	0.4	0.5	0.4	S	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.3	0.5	0.4	24
11	0.4	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.4	0.3	0.2	0.2	0.4	S	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.4	0.3	0.2	0.4	0.3	24
12	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.3	0.2	0.1	0.1	S	0.4	0.4	0.3	0.3	0.3	0.3	0.5	0.2	0.3	0.3	0.4	0.1	0.5	0.3	24
13	0.4	0.5	0.5	0.5	0.5	0.3	0.2	0.4	0.3	0.3	0.4	0.5	S	0.4	0.4	0.4	0.2	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.2	0.5	0.4	24
14	0.4	0.5	0.5	0.5	0.4	0.4	0.5	0.4	0.4	0.5	S	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.6	0.5	24
15	0.4	0.4	0.4	0.3	0.4	0.4	0.3	0.4	0.4	S	0.5	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.5	0.3	0.5	0.4	24
16	0.4	0.4	0.5	0.4	0.5	0.5	0.5	0.6	S	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.6	0.5	24
17	0.5	0.4	0.4	0.4	0.4	0.4	0.5	S	0.4	0.4	0.5	0.4	0.5	0.5	0.3	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.3	0.6	0.5	24
18	0.5	0.5	0.5	0.5	0.4	0.3	S	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.2	0.3	0.4	0.4	0.2	0.5	0.3	24
19	0.4	0.5	0.5	0.4	0.4	S	0.5	0.5	0.4	0.4	0.2	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.2	0.6	0.5	24
20	0.5	0.5	0.4	0.5	S	0.5	0.4	0.4	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.5	24
21	0.4	0.4	0.4	S	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	0.4	0.4	0.3	0.4	0.4	24
22	0.4	0.4	S	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.4	0.6	0.5	24
23	0.5	S	0.6	0.6	0.8	0.7	0.7	0.6	0.6	0.7	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.8	0.6	24
24	S	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.6	S	0.5	0.6	0.6	24
25	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.4	S	0.5	0.4	0.6	0.5	24
26	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	S	0.5	0.5	0.4	0.6	0.5	24
27	0.5	0.5	0.6	0.5	0.6	0.6	0.5	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	S	0.6	0.6	0.6	0.5	0.6	0.6	24
28	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	S	0.5	0.5	0.5	0.5	0.4	0.6	0.5	24
29	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.5	0.6	0.5	0.6	0.6	0.6	0.6	S	0.7	0.7	0.6	0.6	0.6	0.5	0.7	0.6	24
30	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.5	0.5	S	0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.7	0.6	24
31	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	S	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	24
HOURLY MAX	0.6	0.6	0.6	0.6	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6
HOURLY AVG	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.4	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

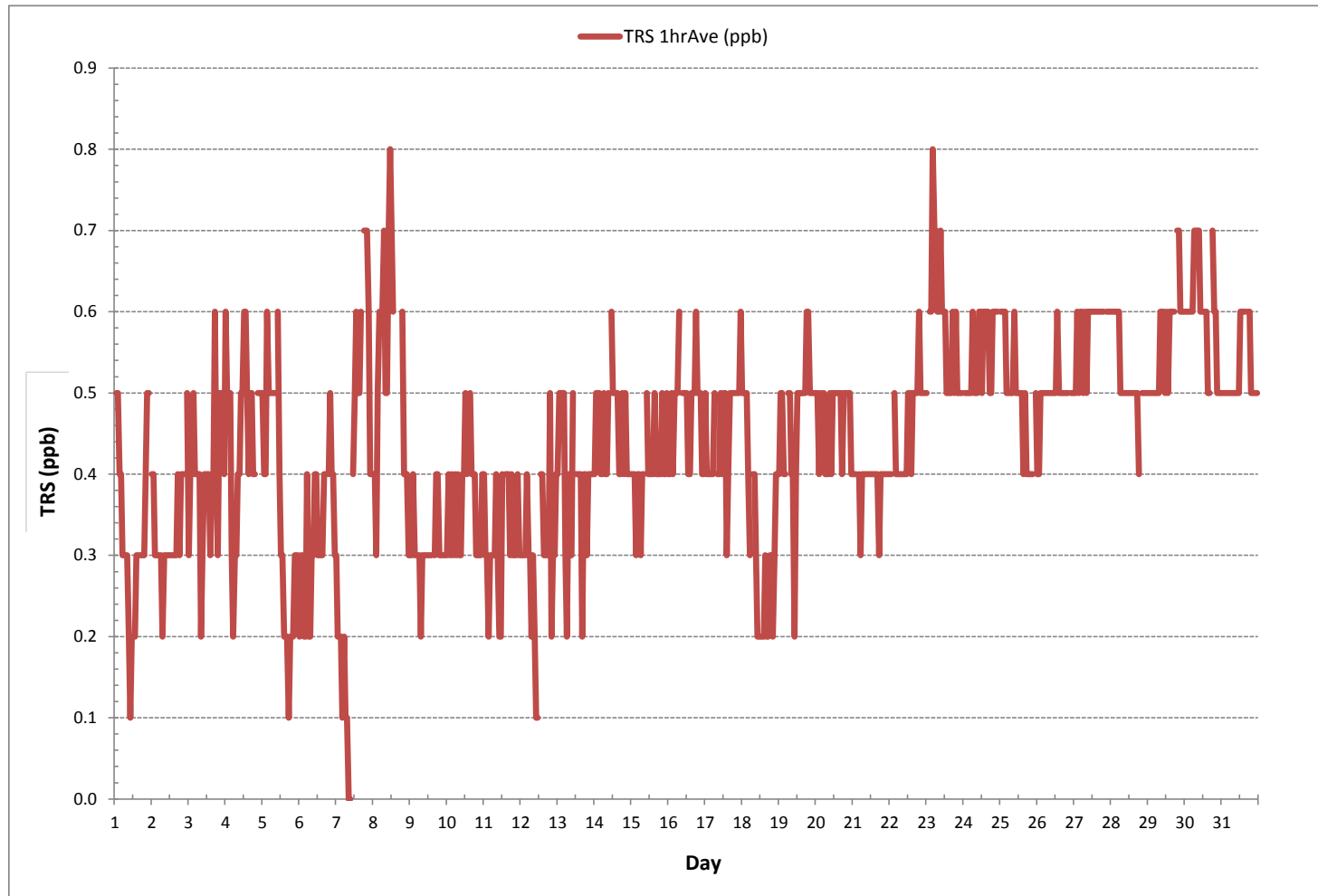
24 HR AVERAGES December 2016



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	703				
MINIMUM 1-HR AVERAGE:	0.0	ppb @ HOUR(S)	8 , 9	ON DAY(S)	7 , 7
MAXIMUM 1-HR AVERAGE:	0.8	ppb @ HOUR(S)	11 , 4	ON DAY(S)	8 , 23
MAXIMUM 24-HR AVERAGE:	0.6	ppb		ON DAY(S)	VAR
				VAR-VARIOUS	
IZS CALIBRATION TIME:	32	hrs	OPERATIONAL TIME:	742	hrs
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	99.7	%
STANDARD DEVIATION:	0.1		MONTHLY AVERAGE:	0.4	ppb

TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 842b Station - December 2016

TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59					
DAY 1																													
1	S	0.8	0.9	0.7	0.7	0.6	0.8	0.8	0.7	0.7	0.6	0.6	0.7	0.7	0.7	0.8	0.7	0.7	0.8	0.7	0.7	1.0	1.0	S	0.6	1.0	0.7	24	
2	1.1	0.8	0.8	0.8	0.8	0.8	0.6	0.7	0.6	0.6	0.6	0.7	0.8	0.6	0.8	0.8	0.7	0.8	0.6	0.6	0.6	0.6	S	0.7	0.6	1.1	0.7	24	
3	0.6	0.5	0.6	0.6	0.7	0.6	0.6	0.5	0.4	0.5	0.5	0.6	0.6	0.6	0.4	0.5	0.6	0.7	0.5	0.5	0.5	S	0.5	0.6	0.4	0.7	0.6	24	
4	0.6	0.6	0.5	0.5	0.5	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.4	0.5	0.6	0.5	0.3	S	0.5	0.5	0.7	0.2	0.7	0.5	24	
5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.7	0.6	S1	S1	0.5	0.4	0.5	0.4	0.5	0.6	0.5	0.6	S	0.6	0.5	0.5	0.6	0.4	0.7	0.5	22	
6	0.5	0.6	0.5	0.4	0.4	0.6	0.4	0.3	0.6	0.4	0.6	0.4	0.3	0.4	0.5	0.4	0.4	0.5	S	0.5	0.6	0.5	0.6	0.6	0.3	0.6	0.5	24	
7	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.4	0.3	0.4	S1	S1	0.7	0.7	0.5	0.4	0.4	S	0.6	0.6	0.7	0.6	0.3	0.4	0.3	0.7	0.5	22	
8	0.4	0.4	0.3	0.5	0.6	0.5	0.7	0.8	0.6	0.7	0.9	1.0	1.0	0.7	C	C	C	C	C	C	0.6	0.7	0.6	0.6	0.3	1.0	0.6	24	
9	0.6	0.6	0.7	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.7	0.6	S	0.8	0.7	0.9	0.6	0.6	0.6	0.5	0.5	0.9	0.7	24	
10	0.5	0.6	0.7	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.8	0.7	0.6	0.6	S	0.9	0.6	0.6	0.6	0.7	0.5	0.5	0.5	0.6	0.5	0.9	0.6	24
11	0.7	0.4	0.6	0.7	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.6	0.7	S	0.7	0.6	0.6	0.8	0.6	0.7	0.6	0.6	0.7	0.6	0.4	0.8	0.6	24	
12	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.4	0.5	S	0.7	0.8	0.6	0.7	0.6	0.7	1.0	0.6	0.6	0.7	0.8	0.4	1.0	0.6	24	
13	0.6	0.6	0.8	0.8	0.8	0.8	0.5	0.7	0.6	0.6	0.8	S	0.7	0.6	0.8	0.7	0.4	0.7	0.6	0.8	0.7	0.7	0.7	0.7	0.4	0.8	0.7	24	
14	0.8	0.7	0.7	0.8	0.7	0.8	0.7	0.8	0.8	0.8	S	1.0	0.8	0.8	0.7	0.8	0.8	0.7	0.8	0.7	0.9	0.7	0.8	0.7	0.7	1.0	0.8	24	
15	0.9	0.8	0.8	0.7	0.8	0.7	0.7	0.7	0.8	S	0.8	0.7	0.8	0.7	0.6	0.8	0.8	0.6	0.7	0.7	0.8	0.7	0.7	0.7	0.6	0.9	0.7	24	
16	0.7	0.6	0.8	0.7	0.8	0.8	1.0	0.8	S	0.9	0.8	0.8	0.7	0.8	0.7	0.7	0.7	0.8	0.9	0.8	0.8	0.8	0.8	0.6	0.6	1.0	0.8	24	
17	0.8	0.8	0.8	0.8	0.7	0.7	0.9	S	0.7	0.7	0.7	0.7	0.7	0.8	0.6	0.7	0.7	0.9	0.8	0.7	0.8	0.7	0.7	0.8	0.6	0.9	0.7	24	
18	0.7	0.8	0.7	0.8	0.6	0.6	S	0.6	0.6	0.6	0.3	0.4	0.4	0.4	0.6	0.5	0.5	0.4	0.4	0.5	0.4	0.5	0.6	0.6	0.3	0.8	0.5	24	
19	0.6	0.6	0.6	0.6	0.6	S	0.7	0.6	0.6	0.6	0.4	0.6	0.6	0.6	0.7	0.7	0.6	0.7	0.8	0.8	0.7	0.8	0.6	0.6	0.4	0.8	0.6	24	
20	0.8	0.7	0.6	0.7	S	0.6	0.5	0.7	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	0.8	0.9	0.6	0.5	0.9	0.7	24	
21	0.6	0.6	0.6	S	0.7	0.7	0.7	0.7	0.6	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.7	0.8	0.7	0.7	0.6	0.8	0.7	24
22	0.5	0.6	S	0.7	0.6	0.7	0.5	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.7	0.6	0.8	0.7	0.7	0.8	0.9	0.7	0.7	0.7	0.6	0.5	0.9	0.7	24
23	0.7	S	0.8	0.8	1.0	0.8	0.9	1.0	0.8	0.9	0.8	0.9	0.7	0.7	0.7	0.7	0.8	0.8	0.7	0.9	0.8	0.7	0.8	0.7	0.7	1.0	0.8	24	
24	S	0.8	0.9	0.8	0.9	0.8	0.9	0.8	0.8	0.7	0.9	0.8	0.7	0.8	0.8	0.8	0.7	0.8	0.7	0.8	0.9	0.8	0.8	S	0.7	0.9	0.8	24	
25	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.8	0.8	0.8	0.7	0.8	0.9	0.7	0.7	0.7	0.8	0.8	0.6	0.8	0.7	S	0.8	0.6	0.9	0.8	24	
26	0.7	0.8	0.9	0.7	0.7	0.9	0.8	0.7	0.8	0.7	0.7	0.8	0.7	0.8	0.7	0.7	0.6	0.6	0.6	0.7	0.7	S	0.9	0.7	0.6	0.9	0.7	24	
27	0.7	0.7	0.6	0.6	0.7	0.6	0.7	0.6	0.5	0.7	0.6	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	S	0.7	0.6	0.7	0.5	0.8	0.6	24	
28	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.6	0.7	0.8	0.7	0.8	0.6	S	0.7	0.7	0.7	0.7	0.6	0.8	0.7	24	
29	0.8	0.7	0.6	0.6	0.7	0.7	0.7	0.6	0.7	0.7	0.8	0.8	0.7	0.6	0.6	0.7	0.6	0.7	S	0.7	0.9	0.6	0.8	0.8	0.6	0.9	0.7	24	
30	0.7	0.8	0.7	0.7	0.9	0.7	0.8	0.9	0.8	0.8	0.7	0.8	0.7	0.7	0.7	0.7	0.7	S	0.8	0.7	0.7	0.6	0.8	0.8	0.6	0.9	0.7	24	
31	0.6	0.6	0.6	0.7	0.7	0.6	0.7	0.6	0.6	0.8	0.6	0.7	0.7	0.7	0.8	0.6	S	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.8	0.7	24	
HOURLY MAX	1.1	0.8	0.9	0.8	1.0	0.9	1.0	1.0	0.8	0.9	0.9	1.0	1.0	0.9	0.8	0.9	0.8	0.9	0.9	1.0	0.9	1.0	1.0	0.8					
HOURLY AVG	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7					

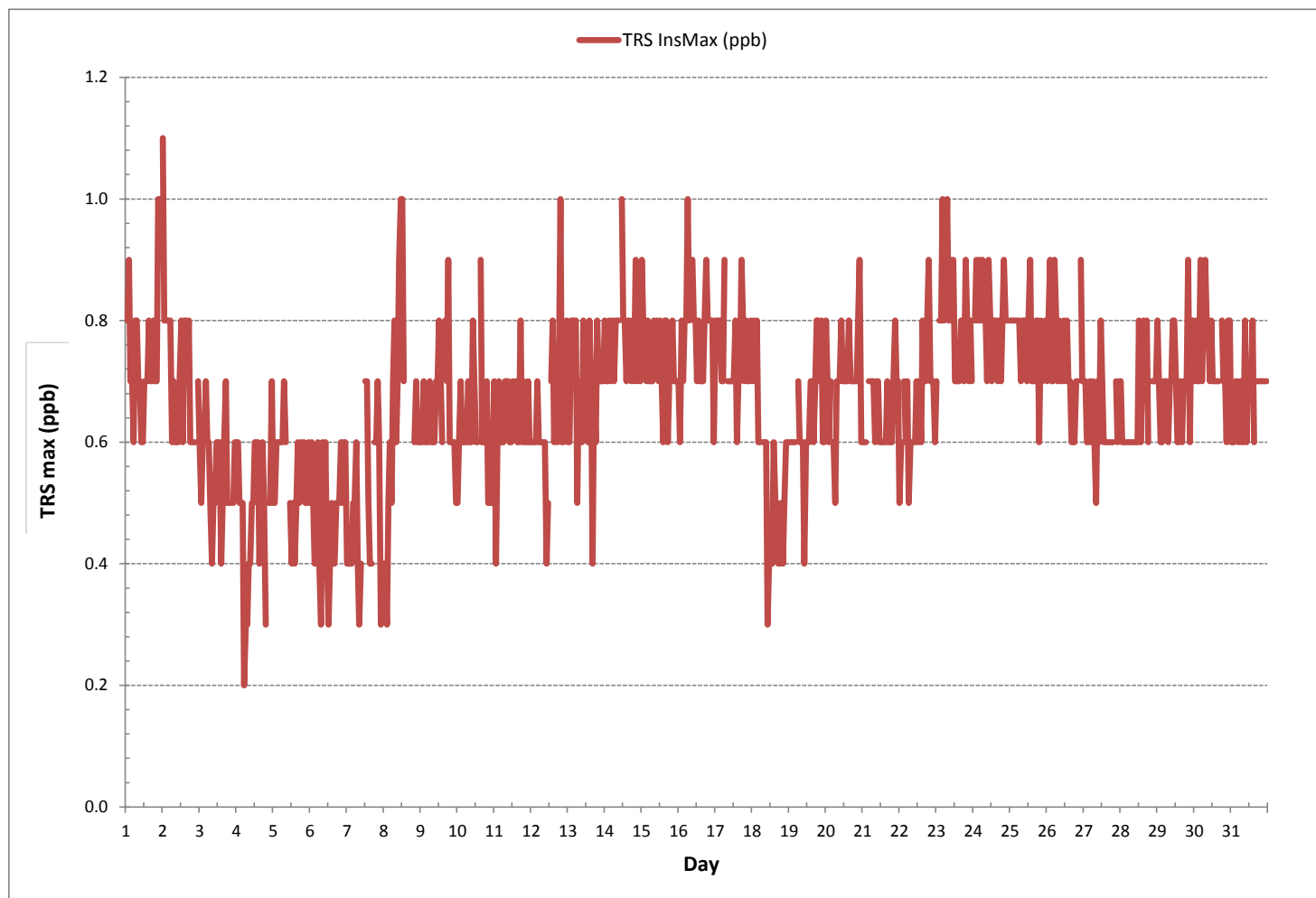
STATUS FLAG CODES

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:	702
MAXIMUM INSTANTANEOUS VALUE:	1.1 ppb @ HOUR(S) 0 ON DAY(S) 2
	VAR-VARIOUS
IZS CALIBRATION TIME:	32 hrs
MONTHLY CALIBRATION TIME:	6 hrs
STANDARD DEVIATION:	0.1
OPERATIONAL TIME:	740 hrs

TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS ppb)



Wind: THREE CREEKS #842 TRAILER Poll.: THREE CREEKS #842 TRAILER-TRS[ppb] Monthly: 12/2016 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 7.69% Valid Data: 94.35% Calm Avg: 0.50 [ppb]

Direction	0-1	1-3	3-10	>10.0	Total
N	6.84	0		0	6.84
NE	5.13	0		0	5.13
E	4.13	0		0	4.13
SE	10.26	0		0	10.26
S	13.53	0		0	13.53
SW	25.5	0		0	25.5
W	14.81	0		0	14.81
NW	12.11	0		0	12.11
Summary	92.31	0		0	92.31

% Icon Classes (ppb)

92

0-1

0

1-3

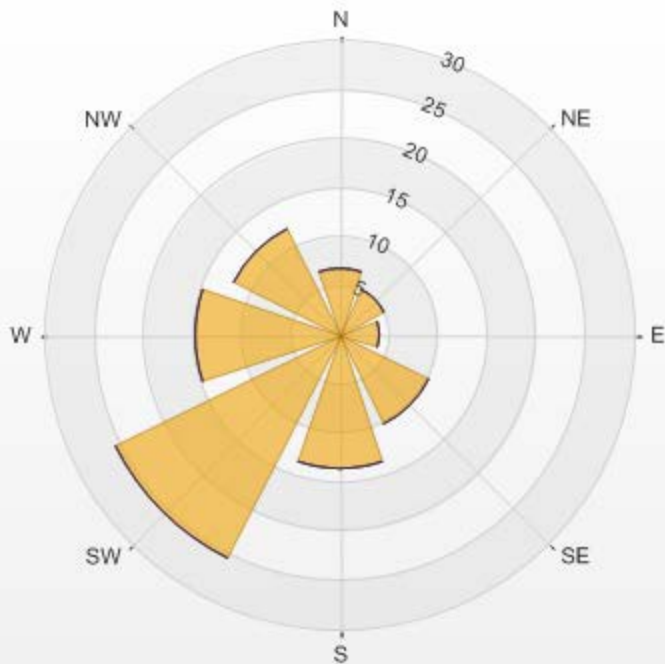
0

3-10

0

>10.0

THREE CREEKS #842 TRAILER Poll.: THREE CREEKS #842 TRAILER-TRS[ppb] 01/12/2016 00:00 - 31/12/2016
23:00 Calm: 7.69% Calm Poll Avg: 0.50[ppb]



TRS[ppb] Calibration: THREE CREEKS #842 TRAILER Monthly: 2016/12 Type: Span



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

TOTAL HYDROCARBON

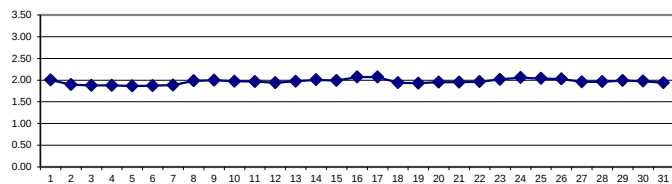
TOTAL HYDROCARBONS Hourly Averages (THC ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.		
DAY																													
1	S	2.07	2.07	2.06	2.05	2.03	2.03	2.03	2.02	2.00	2.00	1.99	1.97	1.97	1.95	2.01	1.99	1.95	1.96	1.97	1.96	1.97	1.97	S	1.95	2.07	2.00	24	
2	1.93	1.93	1.93	1.92	1.93	1.92	1.91	1.90	1.89	1.89	1.89	1.88	1.88	1.88	1.88	1.87	1.87	1.87	1.88	1.88	1.88	1.89	S	1.90	1.87	1.93	1.90	24	
3	1.91	1.90	1.88	1.88	1.88	1.88	1.88	1.88	1.87	1.87	1.87	1.88	1.88	1.88	1.88	1.88	1.89	1.88	1.87	1.87	1.87	1.87	S	1.87	1.87	1.91	1.88	24	
4	1.87	1.86	1.88	1.89	1.90	1.90	1.90	1.89	1.89	1.89	1.88	1.88	1.87	1.86	1.87	1.87	1.87	1.87	1.86	1.86	S	1.87	1.86	1.86	1.86	1.90	1.88	24	
5	1.86	1.87	1.86	1.87	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.85	1.86	1.86	1.87	1.87	1.87	S	1.87	1.87	1.86	1.86	1.85	1.87	1.86	24	
6	1.86	1.86	1.86	1.86	1.86	1.87	1.86	1.87	1.87	1.87	1.87	1.87	1.88	1.88	1.88	1.88	1.89	S	1.89	1.88	1.88	1.88	1.88	1.88	1.86	1.89	1.87	24	
7	1.87	1.89	1.89	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.88	1.88	1.88	1.88	1.88	S	1.89	1.89	1.89	1.89	1.89	1.89	1.87	1.89	1.88	24	
8	1.89	1.89	1.89	1.89	1.89	1.89	1.90	1.99	2.05	2.12	C	C	C	C	C	2.07	S	2.04	2.04	2.04	2.10	2.01	1.99	1.98	1.89	2.12	1.98	24	
9	1.98	1.98	1.98	1.99	2.00	1.99	1.99	2.00	2.00	2.00	1.99	2.00	2.00	2.01	2.03	S	1.99	1.99	1.99	2.01	2.10	2.02	2.00	2.00	1.98	2.03	2.00	24	
10	2.00	2.02	2.02	2.02	2.01	1.98	1.97	1.96	1.97	1.96	1.95	1.94	1.93	1.93	S	1.93	1.95	1.95	1.95	1.95	1.99	1.99	1.99	2.01	1.93	2.02	1.97	24	
11	2.04	1.99	1.99	1.97	1.96	1.95	1.96	1.95	1.95	1.97	2.00	1.97	1.98	S	1.98	1.95	1.94	1.94	1.94	1.94	1.95	1.97	1.99	1.95	1.94	1.94	1.97	24	
12	1.94	1.94	1.94	1.94	1.94	1.95	1.93	1.93	1.94	1.94	1.93	1.94	S	1.93	1.94	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.95	1.93	1.95	1.94	24	
13	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.96	1.96	1.98	2.04	S	1.99	1.99	1.97	1.97	1.99	1.99	1.97	1.97	1.98	1.98	1.98	1.98	1.95	2.04	1.97	24	
14	1.99	1.98	1.99	1.98	1.98	1.99	1.99	1.99	1.99	2.00	S	1.99	1.99	1.98	1.99	2.03	2.04	2.04	2.03	2.02	2.04	2.03	2.04	2.02	1.98	2.04	2.01	24	
15	1.98	1.98	1.97	1.96	1.97	1.97	1.97	1.96	1.97	S	2.00	1.98	1.96	1.96	1.96	2.03	2.05	1.99	2.00	2.00	2.00	2.02	2.01	2.02	1.96	2.05	1.99	24	
16	2.01	2.02	2.02	2.02	2.02	2.02	2.07	2.14	S	2.09	2.09	2.12	2.09	2.05	2.04	2.04	2.06	2.07	2.08	2.08	2.06	2.06	2.11	2.22	2.01	2.22	2.07	24	
17	2.10	2.11	2.09	2.12	2.10	2.17	2.23	S	2.06	2.04	2.07	2.07	2.06	2.06	2.04	2.03	2.04	2.03	2.04	2.04	2.03	2.02	2.02	1.99	1.99	2.23	2.07	24	
18	1.98	1.96	1.96	1.95	1.95	1.94	S	1.98	1.94	1.93	1.93	1.93	1.92	1.93	1.94	1.95	1.93	1.93	1.94	1.93	1.93	1.94	1.93	1.91	1.91	1.98	1.94	24	
19	1.91	1.93	1.91	1.91	1.91	S	1.90	1.91	1.91	1.91	1.92	1.92	1.92	1.92	1.93	1.94	1.93	1.93	1.95	1.97	1.96	1.95	1.95	1.95	1.90	1.97	1.93	24	
20	1.95	1.95	1.96	1.96	S	1.96	1.95	1.95	1.95	1.95	1.95	1.92	1.90	1.92	1.94	1.94	1.95	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.90	1.97	1.95	24	
21	1.96	1.95	1.95	S	1.95	1.95	1.95	1.95	1.96	1.97	1.96	1.96	1.95	1.97	1.96	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.97	1.95	24	
22	1.95	1.96	S	1.95	1.95	1.96	1.95	1.95	1.97	1.96	1.95	1.95	1.96	1.97	1.95	1.95	1.96	1.98	1.97	1.99	1.98	1.98	1.97	1.97	1.95	1.99	1.96	24	
23	1.97	S	1.98	2.05	2.20	2.06	2.05	2.02	2.02	2.04	2.01	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	2.00	2.00	2.01	2.01	2.01	1.97	2.20	2.02	24	
24	S	2.02	2.02	2.01	2.01	2.02	2.03	2.03	2.02	2.02	2.03	2.02	2.03	2.05	2.05	2.07	2.06	2.06	2.07	2.12	2.13	2.19	2.16	S	2.01	2.19	2.06	24	
25	2.07	2.08	2.10	2.05	2.01	2.01	2.01	2.02	2.02	2.02	2.04	2.03	2.03	2.03	2.05	2.05	2.05	2.03	2.04	2.04	2.03	2.02	S	2.02	2.01	2.10	2.04	24	
26	2.04	2.05	2.06	2.08	2.09	2.08	2.07	2.06	2.06	2.06	2.04	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.98	1.97	1.97	S	1.98	1.97	1.97	2.09	2.02	24	
27	1.98	1.98	1.98	1.97	1.97	1.96	1.97	1.97	1.96	1.95	1.95	1.94	1.93	1.95	1.96	1.96	1.93	1.96	1.97	1.97	S	1.95	1.93	1.96	1.93	1.98	1.96	24	
28	1.95	1.96	1.99	1.96	1.95	1.94	1.95	1.96	1.97	1.97	1.96	1.96	1.96	1.96	1.97	1.96	1.97	1.98	1.97	S	1.97	1.95	1.95	1.96	1.94	1.99	1.96	24	
29	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.96	1.96	1.96	1.95	1.95	1.95	1.98	1.99	1.98	2.06	S	2.09	2.08	2.10	2.01	1.99	1.95	2.10	1.99	24	
30	2.00	1.99	2.03	2.02	2.02	2.01	2.01	2.00	1.99	1.96	1.96	1.96	1.97	1.98	1.96	1.94	1.94	1.97	S	1.95	1.94	1.95	1.95	1.95	1.95	1.94	2.03	1.98	24
31	1.97	1.97	1.97	1.96	1.95	1.95	1.94	1.94	1.94	1.94	1.93	1.93	1.93	1.93	1.93	1.93	S	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.93	1.97	1.94	24	
HOURLY MAX	2.10	2.11	2.10	2.12	2.20	2.17	2.23	2.14	2.06	2.12	2.09	2.12	2.09	2.06	2.05	2.07	2.06	2.07	2.08	2.12	2.13	2.19	2.16	2.22					
HOURLY AVG	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.97	1.96	1.96	1.95	1.95	1.96	1.96	1.96	1.97	1.96	1.97	1.98	1.98	1.97	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

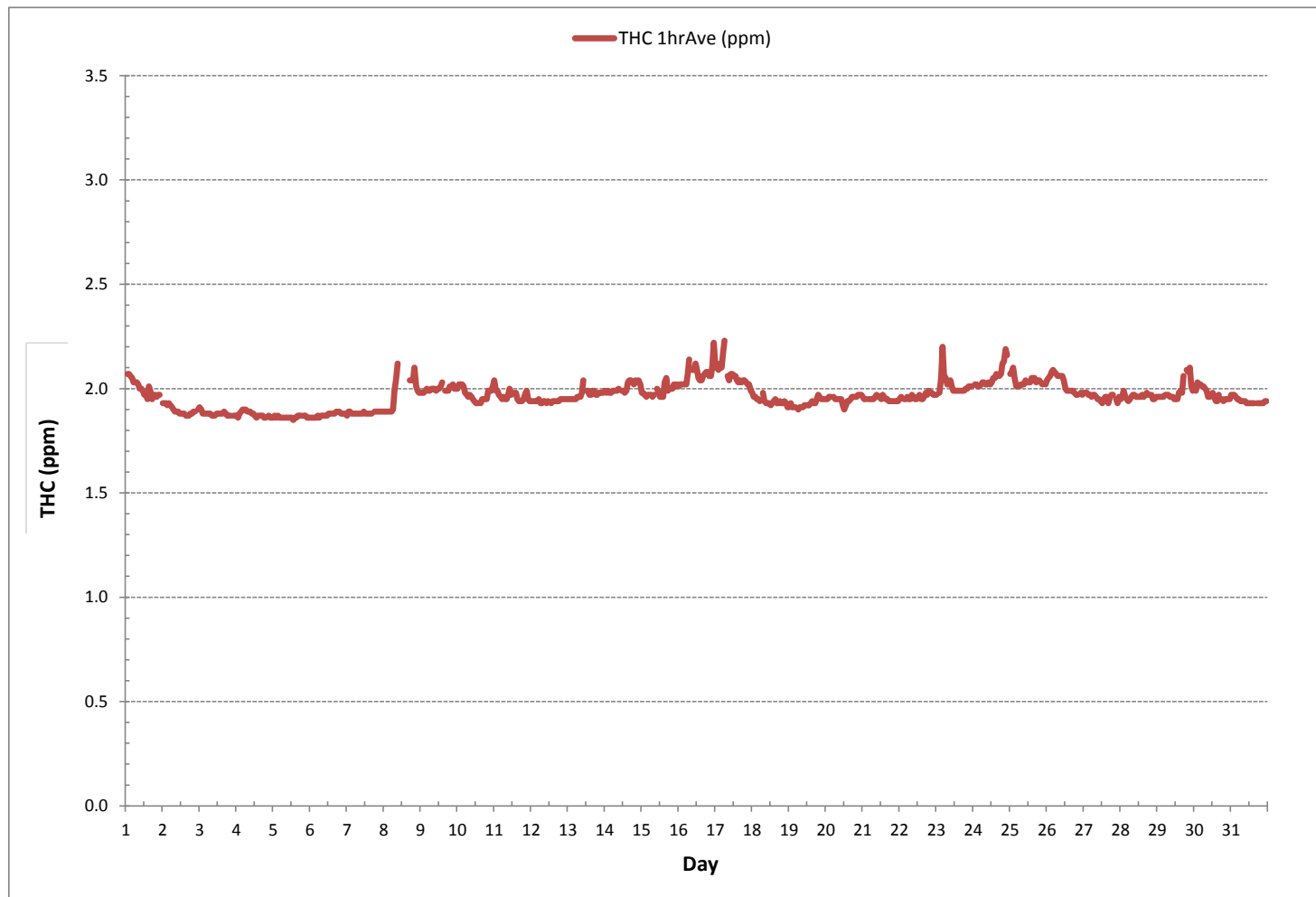
24 HR AVERAGES December 2016



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:		706			
MINIMUM 1-HR AVERAGE:	1.85	ppm	@ HOUR(S)	13	ON DAY(S) 5
MAXIMUM 1-HR AVERAGE:	2.23	ppm	@ HOUR(S)	6	ON DAY(S) 17
MAXIMUM 24-HR AVERAGE:	2.07	ppm			ON DAY(S) 16, 17
					VAR-VARIOUS
IZS CALIBRATION TIME:	33	hrs	OPERATIONAL TIME:	744	hrs
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	0.06		MONTHLY AVERAGE:	1.96	ppm

TOTAL HYDROCARBONS Hourly Averages (THC ppm)





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

TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	S	2.18	2.25	2.23	2.25	2.19	2.18	2.10	2.11	2.11	2.02	2.15	2.06	2.07	1.98	2.20	2.10	2.00	2.01	2.08	2.07	2.13	2.15	S	1.98	2.25	2.12	24
2	1.94	1.99	1.95	1.93	2.07	2.07	2.06	1.91	2.14	1.91	1.93	1.90	1.94	1.90	1.92	1.91	1.91	1.91	1.92	2.00	1.91	1.89	S	2.03	1.89	2.14	1.96	24
3	1.92	1.94	1.94	1.89	1.91	1.89	1.89	2.00	1.92	1.89	1.90	1.90	1.95	1.91	1.91	1.91	1.91	1.92	2.00	1.91	1.89	S	1.87	1.87	1.87	2.00	1.91	24
4	1.91	1.87	1.90	1.91	1.97	1.92	1.92	1.91	1.92	1.91	1.91	1.90	1.96	1.87	1.96	1.89	1.94	2.02	1.89	1.97	S	1.89	1.87	1.96	1.87	2.02	1.92	24
5	1.89	1.95	1.94	2.01	1.93	1.89	1.90	1.89	1.90	1.89	1.93	1.90	1.90	1.90	1.91	1.90	1.99	1.92	1.90	S	1.92	1.92	1.90	1.97	1.89	2.01	1.92	24
6	1.91	1.87	1.91	1.96	1.94	1.99	1.90	1.90	1.91	1.94	1.97	1.90	1.95	1.95	1.90	2.11	1.93	1.98	S	2.05	1.92	1.91	1.93	1.90	1.87	2.11	1.94	24
7	1.90	2.01	2.02	1.92	1.95	1.92	1.91	1.92	1.92	1.91	1.97	2.06	1.90	1.93	1.92	1.91	1.91	S	1.93	1.92	1.97	1.97	1.99	1.94	1.90	2.06	1.94	24
8	1.92	1.91	1.92	1.92	1.97	1.92	1.92	2.14	2.20	2.25	C	C	C	C	C	S	2.09	2.40	2.23	2.18	2.20	2.14	2.07	1.91	2.40	2.08	24	
9	2.36	2.18	2.04	2.08	2.16	2.44	2.23	2.17	2.11	2.19	2.10	2.11	2.08	2.05	2.08	S	2.05	2.11	2.09	2.34	2.06	2.17	2.17	2.04	2.04	2.44	2.15	24
10	2.08	2.08	2.08	2.11	2.21	2.08	2.37	2.05	2.10	2.07	2.12	2.14	2.02	1.97	S	2.01	1.99	1.98	1.99	1.99	2.10	2.07	2.06	2.15	1.97	2.37	2.08	24
11	2.14	2.07	2.16	2.02	2.00	2.01	2.01	2.00	2.01	2.11	2.13	2.11	2.03	S	2.06	1.97	2.03	1.97	2.00	2.00	2.11	2.07	1.97	1.96	1.96	2.16	2.04	24
12	2.00	1.96	2.06	1.99	2.01	2.05	1.95	1.98	1.96	1.99	1.99	2.09	S	1.93	1.96	2.09	1.96	1.98	1.96	1.99	2.03	2.08	2.03	2.05	1.93	2.09	2.00	24
13	1.99	1.96	2.00	2.00	2.08	2.01	2.01	2.06	1.98	2.04	2.07	S	2.08	2.05	1.98	2.02	2.03	2.03	1.99	2.03	2.00	2.00	2.00	2.03	1.96	2.08	2.02	24
14	2.10	2.14	2.05	2.01	2.01	2.00	2.07	2.09	2.00	2.15	S	2.02	2.07	2.01	2.05	2.10	2.08	2.20	2.11	2.16	2.09	2.05	2.13	2.08	2.00	2.20	2.08	24
15	2.01	2.00	1.99	1.99	2.08	2.07	2.02	1.98	1.99	S	2.09	2.02	1.98	1.97	1.97	2.16	2.16	2.07	2.05	2.02	2.03	2.10	2.02	2.09	1.97	2.16	2.04	24
16	2.03	2.04	2.04	2.04	2.07	2.05	2.17	2.21	S	2.15	2.12	2.15	2.14	2.13	2.08	2.06	2.10	2.11	2.09	2.19	2.09	2.11	2.37	2.39	2.03	2.39	2.13	24
17	2.23	2.16	2.12	2.31	2.15	2.38	2.40	S	2.09	2.07	2.10	2.14	2.09	2.08	2.08	2.11	2.06	2.06	2.15	2.07	2.07	2.12	2.05	2.02	2.02	2.40	2.14	24
18	2.00	1.99	1.97	1.97	1.97	1.98	S	2.04	1.99	1.95	1.94	1.95	2.02	1.99	1.98	2.00	1.95	1.96	2.06	1.94	1.93	2.00	1.97	1.93	1.93	2.06	1.98	24
19	1.92	1.96	1.92	1.91	1.92	S	1.94	1.92	1.92	1.92	1.92	1.92	1.92	1.93	1.95	2.00	1.98	2.05	2.07	2.06	2.01	1.96	1.98	1.97	1.91	2.07	1.96	24
20	1.99	1.98	1.98	1.98	S	1.96	1.97	2.06	1.98	1.97	1.96	2.12	1.96	1.97	1.96	1.96	1.97	2.05	1.97	2.01	1.98	2.02	1.99	1.99	1.96	2.12	1.99	24
21	1.97	1.97	1.96	S	1.96	1.96	1.96	2.04	1.98	1.99	1.98	1.97	2.03	2.00	1.98	1.96	1.96	1.96	1.99	1.95	1.95	1.96	1.97	1.96	1.95	2.04	1.97	24
22	1.96	2.00	S	1.97	2.02	2.00	1.97	1.97	1.98	1.97	1.98	1.97	2.01	1.99	1.96	1.97	2.02	2.07	1.97	2.00	2.07	1.99	2.02	2.01	1.96	2.07	1.99	24
23	1.98	S	2.00	2.41	2.51	2.19	2.08	2.05	2.12	2.07	2.06	2.00	2.02	2.00	2.01	2.02	2.00	2.01	2.04	2.04	2.10	2.06	2.03	1.98	2.51	2.08	24	
24	S	2.03	2.08	2.04	2.04	2.04	2.09	2.06	2.04	2.06	2.09	2.09	2.06	2.09	2.07	2.09	2.09	2.15	2.15	2.21	2.22	2.24	2.23	S	2.03	2.24	2.10	24
25	2.17	2.25	2.20	2.29	2.12	2.09	2.03	2.14	2.06	2.04	2.06	2.07	2.05	2.12	2.08	2.13	2.10	2.06	2.08	2.07	2.05	2.08	S	2.05	2.03	2.29	2.10	24
26	2.07	2.08	2.09	2.15	2.14	2.12	2.09	2.14	2.10	2.12	2.12	2.08	2.03	2.03	2.01	2.02	2.00	2.00	2.06	2.06	1.99	S	2.00	1.99	1.99	2.15	2.06	24
27	1.99	1.99	2.11	2.00	1.98	2.04	1.99	1.99	1.98	1.96	1.96	1.95	1.95	1.99	1.98	1.99	1.96	1.99	1.99	1.99	S	2.02	1.98	2.03	1.95	2.11	1.99	24
28	1.97	1.99	2.02	2.00	1.98	1.96	1.98	1.99	1.98	1.98	1.99	1.97	1.98	1.99	1.99	1.99	2.00	2.02	1.99	S	2.05	1.97	1.96	1.97	1.96	2.05	1.99	24
29	1.98	1.97	2.08	1.97	1.98	1.98	1.99	2.00	1.97	1.97	1.97	1.97	1.96	1.97	2.00	2.01	1.99	2.20	S	2.19	2.13	2.26	2.09	2.01	1.96	2.26	2.03	24
30	2.13	2.06	2.10	2.06	2.11	2.03	2.02	2.05	2.02	2.09	2.08	1.99	1.99	1.98	1.96	1.96	2.10	S	1.98	1.96	2.00	1.96	2.00	2.00	1.96	2.13	2.03	24
31	2.06	2.02	1.99	1.97	1.97	1.97	1.97	1.96	1.99	1.96	1.95	2.05	1.95	1.95	1.97	1.95	S	1.95	1.95	2.04	1.95	1.96	1.96	1.97	1.95	2.06	1.98	24
HOURLY MAX	2.36	2.25	2.25	2.41	2.51	2.44	2.40	2.21	2.20	2.25	2.13	2.15	2.14	2.13	2.08	2.20	2.16	2.20	2.40	2.34	2.22	2.26	2.37	2.39				
HOURLY AVG	2.02	2.02	2.03	2.03	2.05	2.04	2.03	2.02	2.01	2.02	2.01	2.02	2.00	1.99	1.99	2.01	2.01	2.03	2.03	2.05	2.03	2.04	2.03	2.02				

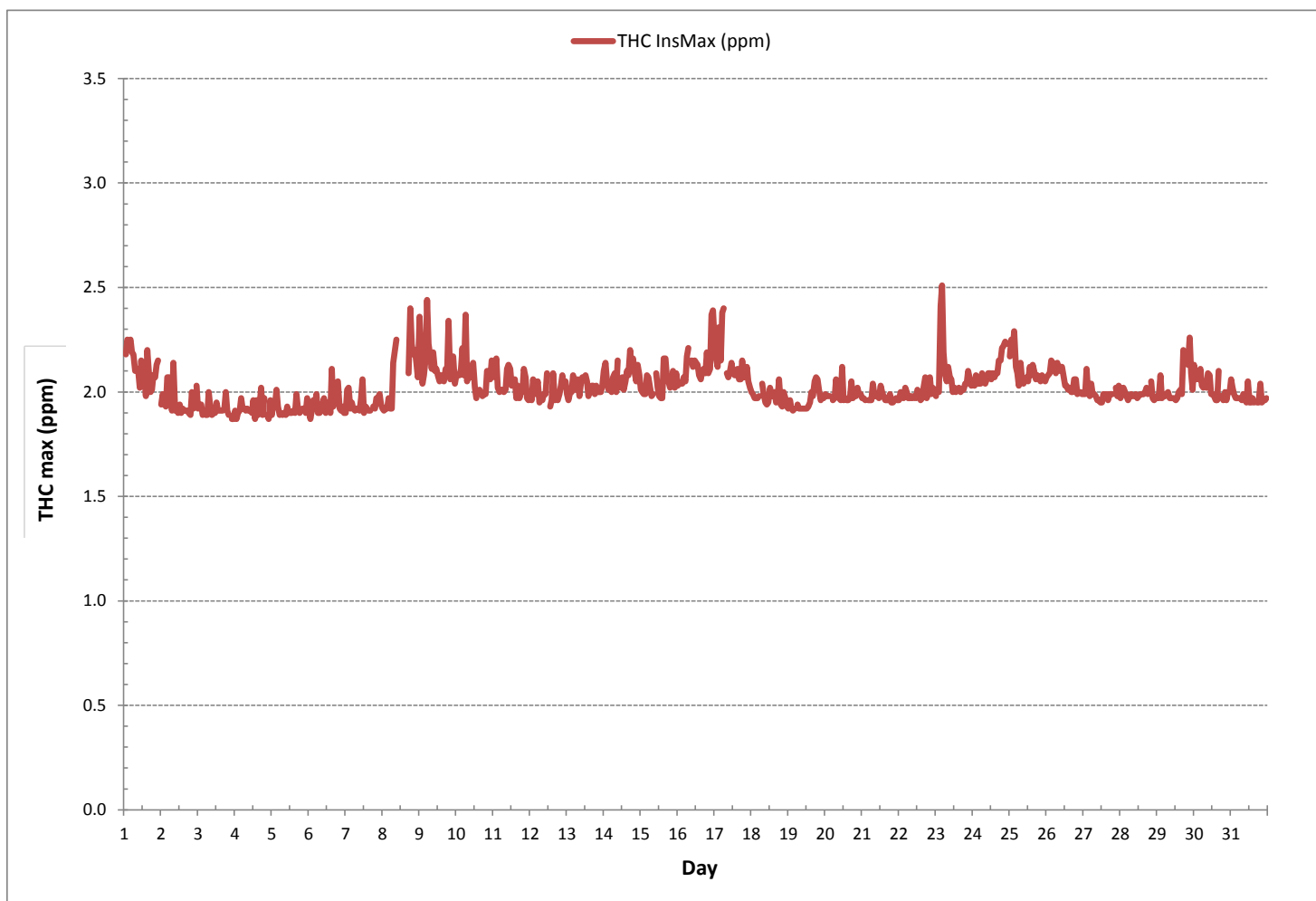
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	705
MAXIMUM INSTANTANEOUS VALUE:	2.51 ppm @ HOUR(S) 4 ON DAY(S) 23
	VAR-VARIOUS
IZS CALIBRATION TIME:	33 hrs
MONTHLY CALIBRATION TIME:	6 hrs
OPERATIONAL TIME:	744 hrs
STANDARD DEVIATION:	0.09

TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)

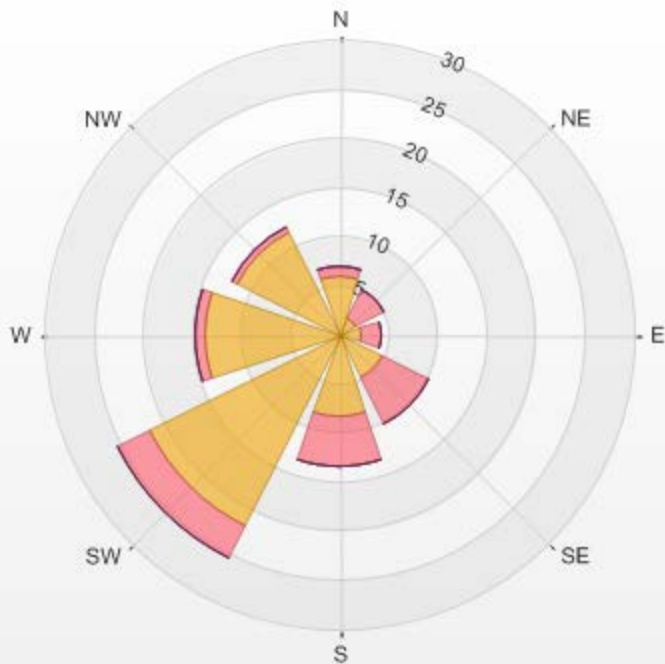


Wind: THREE CREEKS #842 TRAILER Poll.: THREE CREEKS #842 TRAILER-THC[ppm] Monthly: 12/2016 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr
 Calm: 7.52% Valid Data: 94.76% Calm Avg: 1.99 [ppm]

Direction	0-2	2-3	3-5	5-10	>10.0	Total
N	5.96	0.99	0	0	0	6.95
NE	1.84	3.26	0	0	0	5.1
E	2.27	1.99	0	0	0	4.26
SE	4.96	5.25	0	0	0	10.21
S	8.37	5.11	0	0	0	13.48
SW	21.7	3.69	0	0	0	25.39
W	13.76	0.99	0	0	0	14.75
NW	11.77	0.57	0	0	0	12.34
Summary	70.63	21.85	0	0	0	92.48

% Icon	Classes (ppm)	71	0-2	22	2-3	0	3-5	0	5-10	0	>10.0

THREE CREEKS #842 TRAILER Poll.: THREE CREEKS #842 TRAILER-THC[ppm] 01/12/2016 00:00 - 31/12/2016 23:00 Calm: 7.52% Calm Poll Avg: 1.99[ppm]



THC[ppm] Calibration: THREE CREEKS #842 TRAILER Monthly: 2016/12 Type: Span



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

METHANE

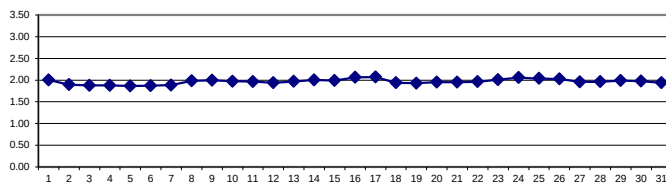
METHANE Hourly Averages (CH₄ ppm)

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.		
DAY																													
1	S	2.07	2.07	2.06	2.05	2.03	2.03	2.03	2.02	2.00	2.00	1.99	1.97	1.97	1.95	2.01	1.99	1.95	1.96	1.97	1.96	1.97	1.97	S	1.95	2.07	2.00	24	
2	1.93	1.92	1.93	1.92	1.93	1.92	1.93	1.92	1.91	1.90	1.88	1.89	1.88	1.88	1.88	1.87	1.86	1.87	1.88	1.88	1.88	1.89	S	1.90	1.86	1.93	1.89	24	
3	1.90	1.89	1.88	1.88	1.88	1.87	1.87	1.88	1.87	1.87	1.87	1.88	1.88	1.88	1.88	1.88	1.89	1.88	1.86	1.87	1.87	S	1.87	1.87	1.86	1.90	1.88	24	
4	1.87	1.86	1.88	1.89	1.90	1.90	1.90	1.89	1.89	1.89	1.88	1.88	1.87	1.86	1.87	1.87	1.87	1.87	1.86	1.86	S	1.87	1.86	1.86	1.86	1.90	1.88	24	
5	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.85	1.86	1.86	1.87	1.87	1.87	S	1.87	1.87	1.86	1.86	1.85	1.87	1.86	24	
6	1.86	1.86	1.86	1.86	1.86	1.87	1.86	1.87	1.87	1.87	1.87	1.87	1.88	1.88	1.88	1.88	1.89	S	1.89	1.88	1.88	1.88	1.88	1.86	1.86	1.89	1.87	24	
7	1.87	1.89	1.89	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.88	1.88	1.88	1.88	1.88	S	1.89	1.89	1.89	1.89	1.89	1.89	1.87	1.89	1.88	24	
8	1.89	1.89	1.89	1.89	1.89	1.89	1.90	1.99	2.05	2.11	C	C	C	C	C	2.07	S	2.04	2.04	2.04	2.10	2.01	1.99	1.98	1.89	2.11	1.98	24	
9	1.98	1.98	1.98	1.99	2.00	1.98	1.99	2.00	2.00	1.99	1.99	2.00	2.00	2.01	2.03	S	1.99	1.99	1.99	2.01	2.01	2.02	2.00	2.00	1.98	2.03	2.00	24	
10	2.00	2.02	2.02	2.02	2.01	1.98	1.97	1.96	1.97	1.96	1.95	1.94	1.93	1.93	S	1.93	1.95	1.95	1.95	1.95	1.99	1.99	1.99	2.01	1.93	2.02	1.97	24	
11	2.04	1.99	1.99	1.97	1.96	1.95	1.96	1.95	1.95	1.97	2.00	1.97	1.98	S	1.97	1.95	1.94	1.94	1.94	1.95	1.97	1.99	1.95	1.94	1.94	2.04	1.97	24	
12	1.94	1.94	1.94	1.94	1.94	1.95	1.93	1.93	1.94	1.94	1.93	1.94	S	1.93	1.94	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.95	1.93	1.95	1.94	24	
13	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.96	1.96	1.98	2.03	S	1.99	1.98	1.97	1.97	1.99	1.99	1.96	1.97	1.97	1.98	1.97	1.98	1.94	2.03	1.97	24	
14	1.98	1.98	1.98	1.98	1.98	1.99	1.99	1.99	1.99	1.99	S	S	1.99	1.99	1.98	1.99	2.03	2.04	2.03	2.03	2.02	2.04	2.03	2.04	2.02	1.98	2.04	2.00	24
15	1.98	1.98	1.97	1.96	1.97	1.96	1.97	1.96	1.97	1.99	2.00	1.98	1.96	1.96	1.96	2.03	2.05	1.99	2.00	2.00	2.00	2.02	2.01	2.02	1.96	2.05	1.99	24	
16	2.01	2.01	2.02	2.02	2.02	2.02	2.07	2.13	S	2.09	2.09	2.12	2.09	2.05	2.04	2.04	2.06	2.07	2.08	2.08	2.06	2.06	2.07	2.11	2.01	2.13	2.06	24	
17	2.10	2.11	2.09	2.12	2.10	2.16	2.23	S	2.06	2.04	2.07	2.07	2.06	2.06	2.04	2.03	2.04	2.03	2.04	2.04	2.04	2.03	2.02	2.02	1.99	1.99	2.23	2.07	24
18	1.98	1.96	1.96	1.95	1.95	1.94	S	1.98	1.94	1.93	1.93	1.93	1.92	1.92	1.94	1.95	1.93	1.93	1.94	1.93	1.93	1.94	1.93	1.91	1.91	1.98	1.94	24	
19	1.91	1.93	1.91	1.91	1.91	S	1.90	1.91	1.91	1.91	1.92	1.92	1.92	1.92	1.93	1.94	1.93	1.93	1.95	1.97	1.96	1.95	1.95	1.95	1.90	1.97	1.93	24	
20	1.95	1.95	1.96	1.96	S	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.92	1.90	1.92	1.94	1.94	1.95	1.96	1.96	1.96	1.96	1.97	1.97	1.90	1.97	1.95	24	
21	1.96	1.95	1.95	S	1.95	1.95	1.95	1.95	1.96	1.97	1.96	1.96	1.95	1.97	1.96	1.95	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.97	1.95	24	
22	1.95	1.96	S	1.95	1.95	1.96	1.95	1.95	1.95	1.97	1.96	1.95	1.95	1.96	1.97	1.95	1.95	1.96	1.98	1.97	1.99	1.98	1.98	1.97	1.97	1.95	1.99	1.96	24
23	1.97	S	1.98	2.03	2.12	2.06	2.05	2.02	2.02	2.04	2.01	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	2.00	2.00	2.01	2.00	2.01	1.97	2.12	2.01	24
24	S	2.02	2.02	2.01	2.01	2.02	2.03	2.03	2.02	2.02	2.03	2.02	2.03	2.05	2.05	2.07	2.06	2.06	2.07	2.12	2.13	2.19	2.16	S	2.01	2.19	2.06	24	
25	2.07	2.08	2.10	2.05	2.01	2.01	2.01	2.02	2.02	2.02	2.04	2.03	2.03	2.03	2.05	2.05	2.05	2.03	2.04	2.04	2.03	2.02	S	2.02	2.01	2.10	2.04	24	
26	2.04	2.05	2.06	2.08	2.09	2.08	2.07	2.06	2.06	2.06	2.05	2.04	2.00	1.99	1.99	1.99	1.99	1.99	1.98	1.97	1.97	S	1.98	1.97	1.97	2.09	2.02	24	
27	1.98	1.98	1.98	1.97	1.97	1.96	1.97	1.97	1.96	1.95	1.95	1.94	1.93	1.95	1.96	1.96	1.93	1.96	1.97	1.97	S	1.95	1.93	1.96	1.93	1.98	1.96	24	
28	1.95	1.96	1.99	1.96	1.95	1.94	1.95	1.96	1.97	1.97	1.96	1.96	1.96	1.96	1.97	1.96	1.97	1.98	1.96	S	1.97	1.95	1.95	1.96	1.94	1.99	1.96	24	
29	1.96	1.96	1.95	1.96	1.96	1.97	1.97	1.97	1.96	1.96	1.96	1.95	1.95	1.95	1.98	1.99	1.98	2.06	S	2.09	2.08	2.10	2.01	1.99	1.95	2.10	1.99	24	
30	2.00	1.99	2.03	2.02	2.02	2.01	2.01	2.00	1.99	1.96	1.96	1.97	1.98	1.96	1.94	1.94	1.97	S	1.95	1.94	1.95	1.95	1.95	1.95	1.94	2.03	1.98	24	
31	1.97	1.97	1.97	1.96	1.95	1.95	1.94	1.94	1.94	1.94	1.93	1.93	1.93	1.93	1.93	1.93	S	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.93	1.97	1.94	24	
HOURLY MAX	2.10	2.11	2.10	2.12	2.12	2.16	2.23	2.13	2.06	2.11	2.09	2.12	2.09	2.06	2.05	2.07	2.06	2.07	2.08	2.12	2.13	2.19	2.16	2.11					
HOURLY AVG	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.96	1.97	1.96	1.96	1.95	1.95	1.96	1.96	1.96	1.97	1.96	1.97	1.98	1.98	1.98	1.97	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

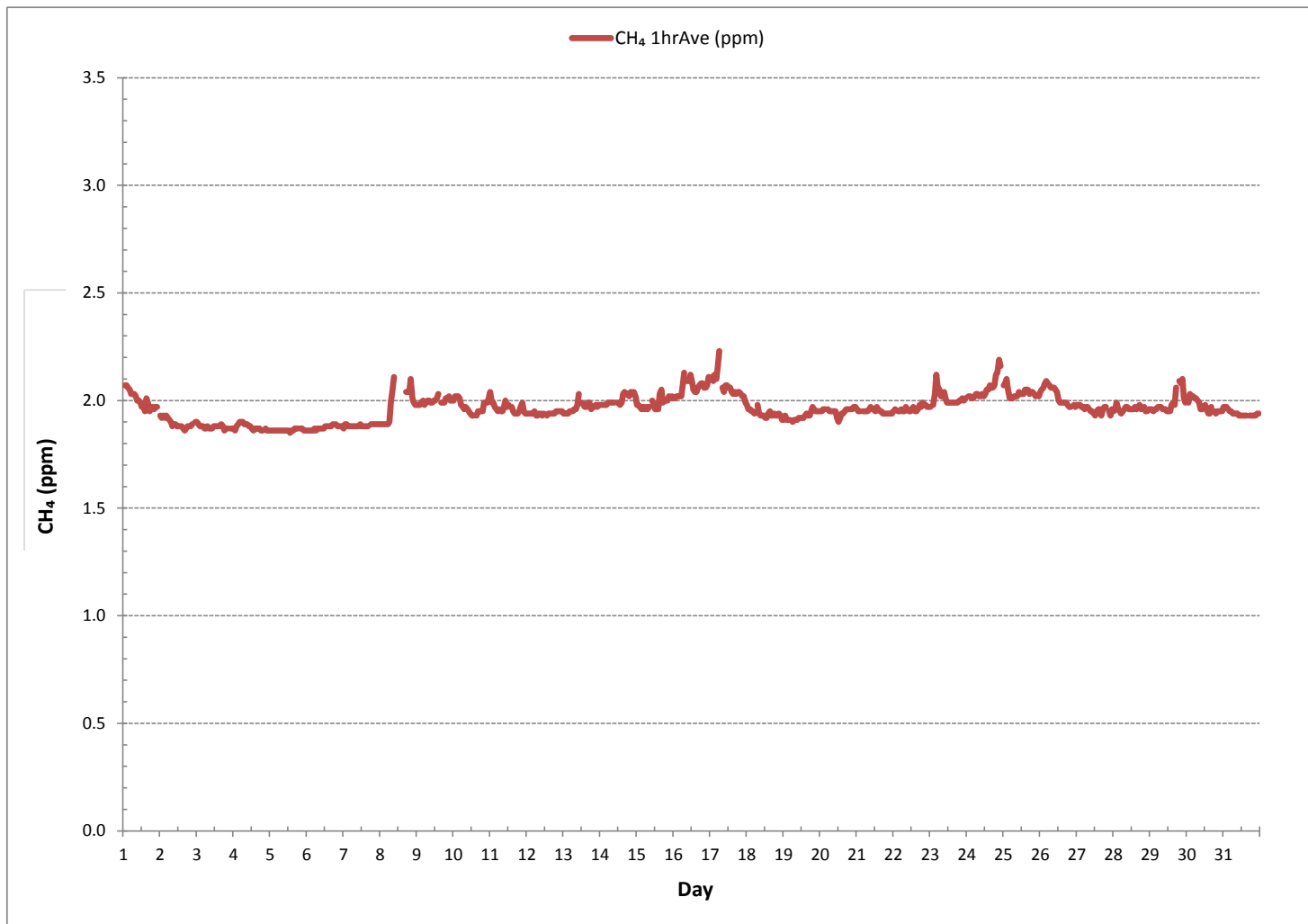
24 HR AVERAGES December 2016



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	706				
MINIMUM 1-HR AVERAGE:	1.85	ppm @ HOUR(S)	13	ON DAY(S)	5
MAXIMUM 1-HR AVERAGE:	2.23	ppm @ HOUR(S)	6	ON DAY(S)	17
MAXIMUM 24-HR AVERAGE:	2.07	ppm		ON DAY(S)	17
				VAR-VARIOUS	
IZS CALIBRATION TIME:	33	hrs	OPERATIONAL TIME:	744	hrs
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	0.06		MONTHLY AVERAGE:	1.96	ppm

METHANE Hourly Averages (CH₄ ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 842b Station - December 2016

METHANE MAX Instantaneous Maximum (CH₄ ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	S	2.17	2.16	2.10	2.09	2.06	2.08	2.07	2.04	2.02	2.02	2.01	2.00	2.03	1.96	2.07	2.01	1.99	1.98	1.98	2.00	2.00	1.99	S	1.96	2.17	2.04	24
2	1.94	1.94	1.95	1.94	2.01	1.93	1.93	1.91	1.91	1.91	1.93	1.90	1.95	1.89	1.91	1.88	1.88	1.88	1.89	1.89	1.90	1.92	S	1.91	1.88	2.01	1.92	24
3	1.92	1.91	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.88	1.90	1.89	1.89	1.90	1.89	1.91	1.91	1.91	1.88	1.91	1.89	S	1.88	1.88	1.88	1.92	1.90	24
4	1.89	1.88	1.89	1.91	1.96	1.93	1.92	1.91	1.91	1.91	1.90	1.89	1.89	1.88	1.90	1.88	1.94	2.03	1.88	1.96	S	1.89	1.88	1.96	1.88	2.03	1.91	24
5	1.88	1.89	1.88	1.88	1.93	1.88	1.89	1.89	1.89	1.88	1.89	1.88	1.90	1.89	1.91	1.89	1.98	1.92	1.89	S	1.92	1.92	1.88	1.95	1.88	1.98	1.90	24
6	1.89	1.88	1.91	1.96	1.89	1.98	1.90	1.90	1.89	1.94	1.90	1.89	1.94	1.92	1.89	2.10	1.93	1.93	S	1.91	1.91	1.92	1.94	1.89	1.88	2.10	1.92	24
7	1.89	1.97	2.03	1.89	1.91	1.90	1.91	1.91	1.89	1.90	1.96	2.05	1.89	1.94	1.90	1.91	1.91	S	1.93	1.90	1.93	1.92	1.98	1.95	1.89	2.05	1.93	24
8	1.93	1.92	1.93	1.92	1.90	1.92	1.92	2.13	2.20	2.17	C	C	C	C	C	C	S	2.08	2.10	2.16	2.17	2.08	2.14	2.07	1.90	2.20	2.04	24
9	2.02	2.02	2.07	2.05	2.13	2.07	2.04	2.09	2.09	2.06	2.09	2.06	2.08	2.03	2.07	S	2.04	2.04	2.08	2.05	2.05	2.07	2.12	2.04	2.02	2.13	2.06	24
10	2.08	2.07	2.06	2.10	2.21	2.03	2.03	1.99	2.01	2.02	2.06	2.13	1.97	1.97	S	1.97	1.98	1.99	1.99	1.99	2.09	2.06	2.05	2.15	1.97	2.21	2.04	24
11	2.13	2.04	2.16	2.02	2.00	2.00	2.02	2.00	1.99	2.10	2.05	2.10	2.03	S	2.05	1.96	2.04	1.96	2.00	2.00	2.10	2.07	1.97	1.96	1.96	2.16	2.03	24
12	2.00	1.96	2.05	1.99	1.96	1.97	1.95	1.95	1.96	1.96	1.95	2.07	S	1.94	1.95	1.95	1.95	1.95	1.96	2.03	2.08	1.98	2.05	1.94	2.08	1.98	24	
13	1.98	1.95	1.95	1.96	1.97	2.02	2.01	1.98	1.98	2.02	2.05	S	2.08	2.00	1.98	2.02	2.02	2.04	1.98	2.03	2.00	2.00	2.00	2.03	1.95	2.08	2.00	24
14	2.01	2.13	1.99	2.01	2.01	2.00	2.05	2.08	2.00	2.02	S	2.01	2.06	2.01	2.02	2.09	2.07	2.06	2.10	2.04	2.06	2.04	2.10	2.08	1.99	2.13	2.05	24
15	2.02	1.99	1.98	1.98	2.07	1.99	2.03	1.98	1.99	S	2.08	2.02	1.98	1.97	1.97	2.16	2.16	2.07	2.04	2.02	2.03	2.09	2.03	2.08	1.97	2.16	2.03	24
16	2.04	2.03	2.03	2.04	2.07	2.04	2.17	2.21	S	2.11	2.12	2.14	2.14	2.07	2.07	2.06	2.09	2.10	2.09	2.11	2.08	2.10	2.12	2.15	2.03	2.21	2.09	24
17	2.13	2.15	2.11	2.18	2.14	2.31	2.40	S	2.09	2.06	2.09	2.13	2.08	2.07	2.07	2.05	2.06	2.05	2.06	2.06	2.05	2.04	2.05	2.01	2.01	2.40	2.11	24
18	2.00	1.98	1.97	1.97	1.96	1.95	S	2.03	1.99	1.94	1.94	1.95	1.94	1.99	1.97	1.98	1.94	1.95	1.98	1.94	1.94	2.01	1.96	1.93	1.93	2.03	1.97	24
19	1.92	1.96	1.93	1.92	1.92	S	1.94	1.93	1.92	1.92	1.93	1.93	1.93	1.93	1.94	2.01	1.94	1.95	1.98	1.99	1.97	1.96	1.96	1.97	1.92	2.01	1.95	24
20	1.99	1.97	1.97	1.97	S	1.96	1.97	1.96	1.96	1.96	1.96	1.95	1.96	1.94	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.98	1.99	1.98	1.94	1.99	1.97	24
21	1.97	1.97	1.96	S	1.96	1.96	1.96	1.96	1.98	1.98	1.97	1.97	2.03	1.99	1.98	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.96	1.96	1.95	2.03	1.97	24
22	1.96	1.99	S	1.96	1.98	1.97	1.96	1.97	1.99	1.97	1.98	1.97	1.97	1.97	1.96	1.96	2.02	2.07	1.97	2.01	2.00	2.00	2.03	1.98	1.96	2.07	1.98	24
23	1.98	S	2.00	2.14	2.15	2.08	2.07	2.04	2.05	2.06	2.04	2.00	2.00	2.00	2.00	2.01	2.01	2.01	2.01	2.04	2.03	2.04	2.06	2.03	1.98	2.15	2.04	24
24	S	2.03	2.06	2.05	2.03	2.03	2.08	2.05	2.03	2.05	2.05	2.04	2.06	2.08	2.06	2.09	2.09	2.14	2.14	2.21	2.21	2.24	2.23	S	2.03	2.24	2.09	24
25	2.10	2.25	2.14	2.14	2.11	2.04	2.03	2.05	2.05	2.05	2.05	2.06	2.05	2.11	2.08	2.10	2.10	2.05	2.07	2.06	2.06	2.08	S	2.05	2.03	2.25	2.08	24
26	2.05	2.07	2.08	2.10	2.13	2.10	2.08	2.08	2.09	2.09	2.07	2.06	2.03	2.03	2.01	2.02	2.00	2.00	2.00	1.98	1.99	S	2.00	1.99	1.98	2.13	2.05	24
27	1.99	1.99	1.99	1.99	1.98	1.97	1.98	1.98	1.97	1.96	1.96	1.95	1.95	1.99	1.98	1.99	1.95	1.99	2.00	1.99	S	1.99	1.94	2.04	1.94	2.04	1.98	24
28	1.97	1.99	2.02	1.99	1.96	1.96	1.98	1.99	1.98	1.98	1.99	1.97	1.98	1.98	1.99	1.99	1.99	2.02	1.99	S	1.99	1.97	1.96	1.97	1.96	2.02	1.98	24
29	1.97	1.97	1.96	1.97	1.98	1.98	1.99	2.00	1.97	1.97	1.97	1.96	1.96	1.97	2.01	2.01	1.99	2.20	S	2.19	2.11	2.26	2.09	2.01	1.96	2.26	2.02	24
30	2.02	2.05	2.09	2.04	2.10	2.03	2.02	2.04	2.01	1.99	2.07	1.98	1.99	1.98	1.96	1.96	2.02	S	1.98	1.96	1.96	1.96	2.00	1.99	1.96	2.10	2.01	24
31	2.05	2.02	1.99	1.97	1.97	1.97	1.95	1.95	1.95	1.95	1.94	1.98	1.95	1.95	1.97	1.95	S	1.95	1.95	2.03	1.94	1.96	1.96	1.96	1.94	2.05	1.97	24
HOURLY MAX	2.13	2.25	2.16	2.18	2.21	2.31	2.40	2.21	2.20	2.17	2.12	2.14	2.14	2.11	2.08	2.16	2.16	2.20	2.14	2.21	2.21	2.26	2.23	2.15				
HOURLY AVG	1.99	2.00	2.01	2.00	2.01	2.00	2.01	2.00	1.99	1.99	2.00	2.00	1.99	1.98	1.98	2.00	2.00	2.01	1.99	2.01	2.01	2.02	2.01	2.00				

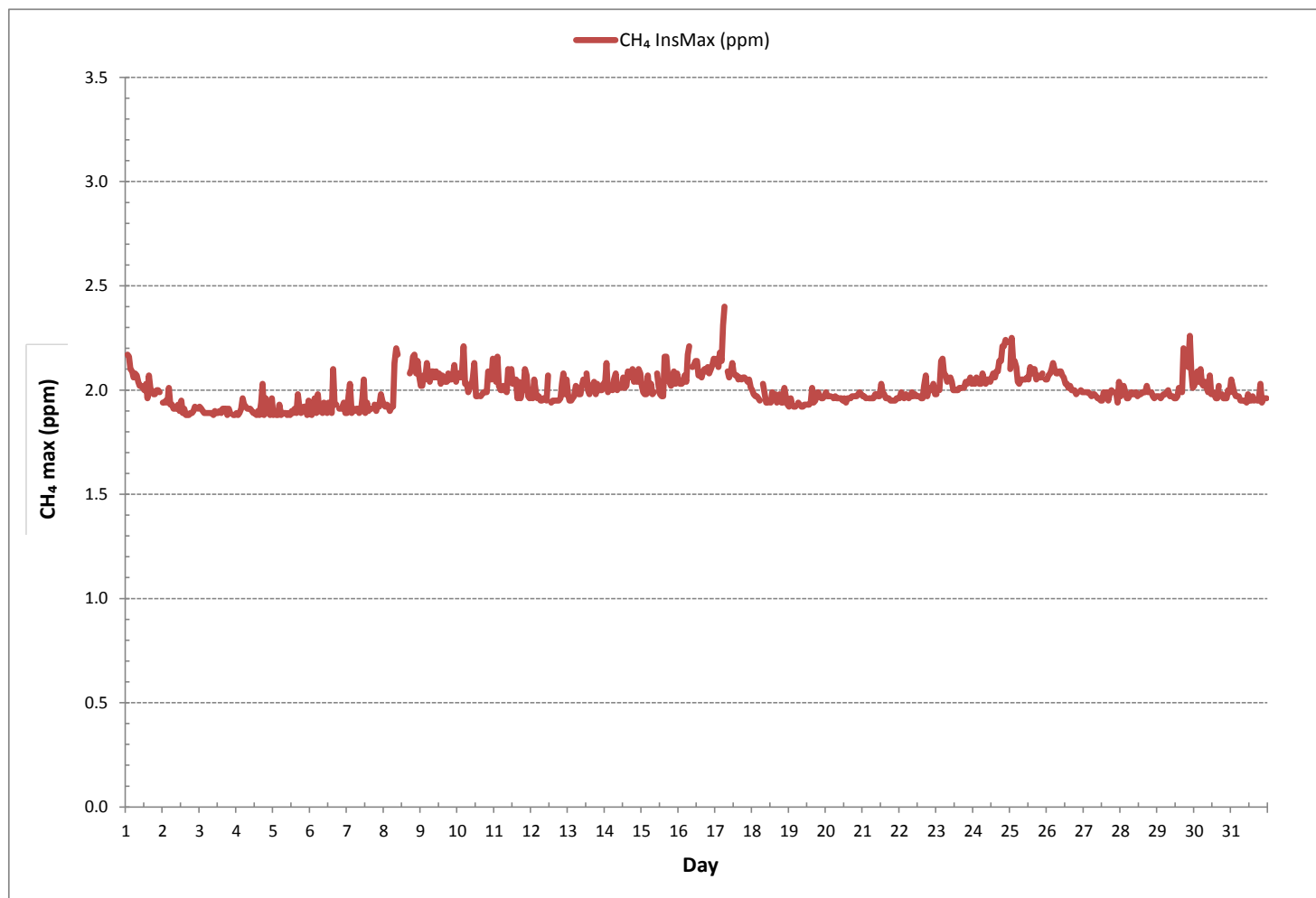
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	705
MAXIMUM INSTANTANEOUS VALUE:	2.40 ppm @ HOUR(S) 6 ON DAY(S) 17
VAR-VARIOUS	
IZS CALIBRATION TIME:	33 hrs
MONTHLY CALIBRATION TIME:	6 hrs
STANDARD DEVIATION:	0.08
OPERATIONAL TIME:	744 hrs

METHANE MAX Instantaneous Maximum (CH₄ ppm)

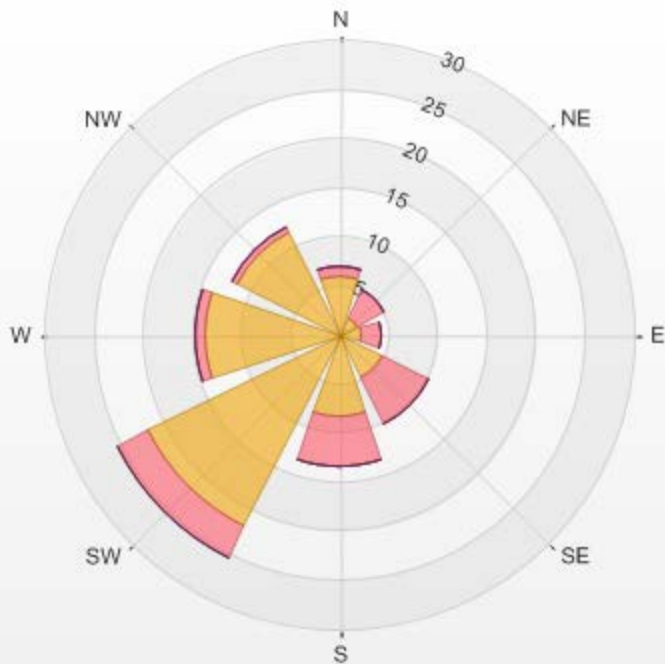


Wind: THREE CREEKS #842 TRAILER Poll.: THREE CREEKS #842 TRAILER-CH4[ppm] Monthly: 12/2016 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 7.52% Valid Data: 94.76% Calm Avg: 1.99 [ppm]

Direction	0-2	2-3	3-5	5-10	>10.0	Total
N	5.96	0.99	0	0	0	6.95
NE	1.99	3.12	0	0	0	5.11
E	2.27	1.99	0	0	0	4.26
SE	4.96	5.25	0	0	0	10.21
S	8.37	5.11	0	0	0	13.48
SW	21.84	3.55	0	0	0	25.39
W	13.76	0.99	0	0	0	14.75
NW	11.77	0.57	0	0	0	12.34
Summary	70.92	21.57	0	0	0	92.49

%	Icon	Classes (ppm)
71		0-2
22		2-3
0		3-5
0		5-10
0		>10.0

THREE CREEKS #842 TRAILER Poll.: THREE CREEKS #842 TRAILER-CH4[ppm] 01/12/2016 00:00 - 31/12/2016 23:00
Calm: 7.52% Calm Poll Avg: 1.99[ppm]



CH4[ppm] Calibration: THREE CREEKS #842 TRAILER Monthly: 2016/12 Type: Span



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

NON-METHANE HYDROCARBON



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 842b Station - December 2016

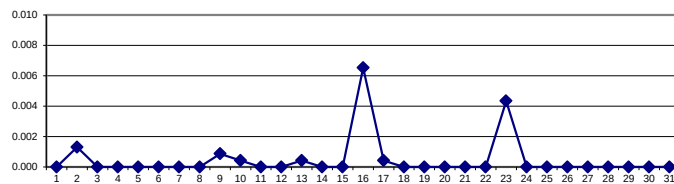
NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.		
DAY																													
1	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	
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.01	0.00	0.00	0.01	0.00	0.00	24
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	24
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	C	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
9	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	S	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
10	0.00	0.00	0.00	0.00	0.00	0.00	0.01	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	0.01	0.00	24
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
13	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
16	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	0.04	0.11	0.00	0.11	0.01	0.00	24
17	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	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	24
18	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
19	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
20	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
21	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
22	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
23	0.00	S	0.00	0.02	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	24
24	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
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	24
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	24
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
HOURLY MAX	0.00	0.00	0.00	0.02	0.08	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.04	0.11					
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					

STATUS FLAG CODES

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

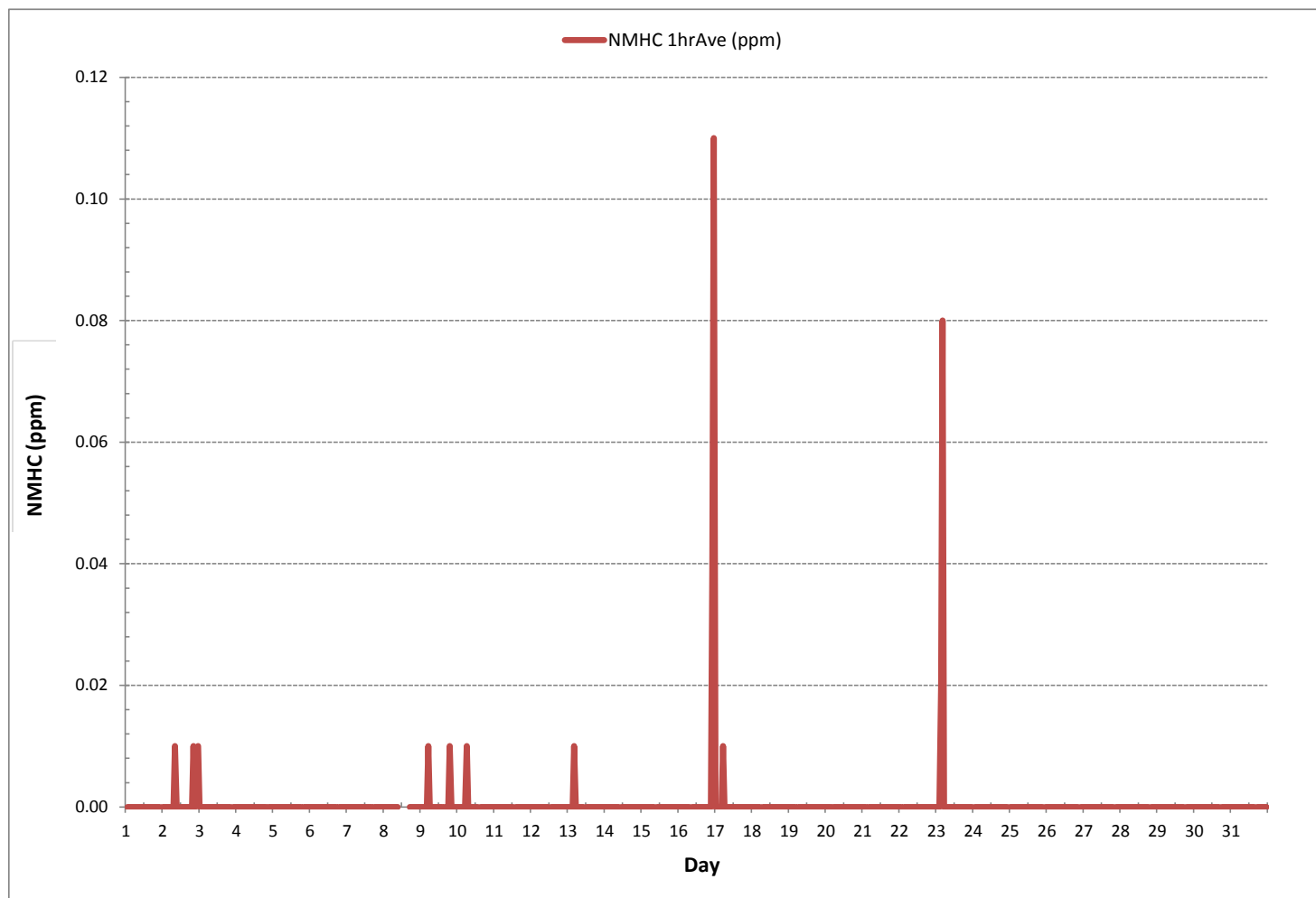
24 HR AVERAGES December 2016



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	12				
MINIMUM 1-HR AVERAGE:	0.00	ppm	@ HOUR(S)	VAR	ON DAY(S)
MAXIMUM 1-HR AVERAGE:	0.11	ppm	@ HOUR(S)	23	ON DAY(S)
MAXIMUM 24-HR AVERAGE:	0.01	ppm			ON DAY(S)
					VAR-VARIOUS
IZS CALIBRATION TIME:	33	hrs	OPERATIONAL TIME:	744	hrs
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	0.01		MONTHLY AVERAGE:	0.00	ppm

NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 842b Station - December 2016

NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59				
DAY																												
1	S	0.07	0.11	0.14	0.17	0.15	0.16	0.07	0.09	0.11	0.03	0.16	0.14	0.09	0.03	0.16	0.09	0.06	0.07	0.10	0.09	0.15	0.17	S	0.03	0.17	0.11	24
2	0.00	0.07	0.01	0.01	0.07	0.14	0.14	0.02	0.23	0.00	0.05	0.03	0.05	0.00	0.04	0.04	0.04	0.04	0.01	0.00	0.13	0.01	S	0.13	0.00	0.23	0.05	24
3	0.00	0.05	0.06	0.00	0.04	0.00	0.01	0.12	0.05	0.00	0.01	0.00	0.08	0.01	0.03	0.01	0.02	0.02	0.14	0.05	0.01	S	0.00	0.02	0.00	0.14	0.03	24
4	0.02	0.00	0.00	0.00	0.02	0.02	0.02	0.01	0.02	0.01	0.00	0.01	0.10	0.00	0.10	0.00	0.00	0.01	0.00	0.01	S	0.01	0.00	0.02	0.00	0.10	0.02	24
5	0.01	0.07	0.06	0.13	0.01	0.01	0.02	0.01	0.02	0.02	0.05	0.02	0.00	0.00	0.00	0.00	0.02	0.03	0.00	S	0.00	0.00	0.03	0.10	0.00	0.13	0.03	24
6	0.03	0.00	0.00	0.07	0.06	0.02	0.04	0.00	0.03	0.01	0.10	0.01	0.06	0.06	0.00	0.12	0.02	0.11	S	0.15	0.00	0.00	0.01	0.01	0.00	0.15	0.04	24
7	0.02	0.10	0.02	0.04	0.07	0.05	0.02	0.00	0.06	0.00	0.00	0.01	0.02	0.00	0.05	0.00	0.02	S	0.00	0.03	0.06	0.07	0.02	0.00	0.00	0.10	0.03	24
8	0.02	0.00	0.00	0.00	0.09	0.00	0.01	0.01	0.01	0.18	C	C	C	C	C	C	S	0.01	0.35	0.17	0.07	0.17	0.15	0.00	0.00	0.35	0.07	24
9	0.39	0.18	0.02	0.08	0.17	0.44	0.25	0.16	0.10	0.19	0.09	0.09	0.01	0.01	0.03	S	0.00	0.08	0.07	0.30	0.03	0.14	0.14	0.00	0.00	0.44	0.13	24
10	0.02	0.04	0.03	0.02	0.01	0.07	0.38	0.06	0.14	0.09	0.14	0.00	0.05	0.00	S	0.06	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.09	0.00	0.38	0.05	24
11	0.00	0.07	0.03	0.04	0.00	0.01	0.00	0.02	0.06	0.03	0.08	0.00	0.00	S	0.06	0.01	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.02	24
12	0.00	0.00	0.00	0.00	0.06	0.10	0.00	0.05	0.00	0.04	0.07	0.14	S	0.00	0.01	0.16	0.01	0.05	0.01	0.06	0.01	0.07	0.08	0.00	0.00	0.16	0.04	24
13	0.05	0.00	0.06	0.05	0.12	0.00	0.00	0.10	0.00	0.05	0.04	S	0.00	0.08	0.00	0.00	0.06	0.01	0.00	0.00	0.02	0.00	0.01	0.05	0.00	0.12	0.03	24
14	0.13	0.05	0.07	0.00	0.02	0.00	0.07	0.05	0.02	0.15	S	0.03	0.00	0.02	0.05	0.01	0.01	0.17	0.01	0.13	0.05	0.00	0.05	0.01	0.00	0.17	0.05	24
15	0.00	0.00	0.02	0.00	0.00	0.11	0.01	0.01	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.04	0.00	0.00	0.01	0.00	0.00	0.00	0.11	0.01	24
16	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.04	S	0.05	0.00	0.00	0.01	0.08	0.00	0.00	0.01	0.00	0.00	0.11	0.00	0.00	0.25	0.26	0.00	0.26	0.04	24
17	0.13	0.01	0.01	0.17	0.01	0.18	0.06	S	0.02	0.00	0.00	0.01	0.01	0.00	0.01	0.07	0.00	0.02	0.13	0.03	0.05	0.10	0.02	0.00	0.00	0.18	0.05	24
18	0.00	0.03	0.02	0.01	0.03	0.04	S	0.00	0.01	0.00	0.01	0.01	0.09	0.03	0.01	0.02	0.01	0.01	0.13	0.03	0.02	0.00	0.01	0.00	0.00	0.13	0.02	24
19	0.00	0.00	0.00	0.01	0.01	S	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.03	0.05	0.12	0.12	0.07	0.05	0.00	0.01	0.00	0.00	0.12	0.02	24
20	0.01	0.01	0.00	0.01	S	0.01	0.00	0.11	0.03	0.00	0.01	0.22	0.01	0.04	0.00	0.00	0.01	0.10	0.00	0.06	0.01	0.05	0.00	0.00	0.00	0.22	0.03	24
21	0.01	0.00	0.00	S	0.00	0.00	0.00	0.09	0.00	0.00	0.01	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.05	0.00	0.01	0.01	0.03	0.00	0.00	0.09	0.01	24
22	0.02	0.00	S	0.00	0.07	0.04	0.01	0.01	0.00	0.00	0.01	0.03	0.06	0.04	0.00	0.01	0.00	0.01	0.01	0.01	0.08	0.00	0.00	0.06	0.00	0.08	0.02	24
23	0.00	S	0.02	0.27	0.36	0.13	0.03	0.00	0.06	0.02	0.04	0.00	0.05	0.01	0.02	0.02	0.00	0.02	0.00	0.03	0.00	0.08	0.02	0.00	0.00	0.36	0.05	24
24	S	0.00	0.02	0.01	0.01	0.03	0.01	0.01	0.00	0.02	0.06	0.06	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	S	0.00	0.06	0.01	24
25	0.11	0.00	0.06	0.24	0.03	0.07	0.03	0.12	0.01	0.00	0.01	0.01	0.00	0.05	0.00	0.09	0.05	0.00	0.04	0.03	0.01	0.03	S	0.02	0.00	0.24	0.04	24
26	0.02	0.00	0.00	0.06	0.00	0.03	0.00	0.07	0.00	0.06	0.07	0.02	0.00	0.00	0.00	0.00	0.03	0.01	0.07	0.08	0.01	S	0.01	0.01	0.00	0.08	0.02	24
27	0.01	0.00	0.14	0.03	0.02	0.08	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	S	0.04	0.05	0.00	0.00	0.14	0.02	24
28	0.01	0.00	0.00	0.00	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.06	0.02	0.01	0.01	0.01	0.01	S	0.07	0.00	0.00	0.02	0.00	0.07	0.01	24
29	0.00	0.01	0.12	0.01	0.01	0.03	0.00	0.03	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.03	0.01	0.00	0.00	0.00	0.12	0.01	24
30	0.12	0.03	0.02	0.01	0.00	0.01	0.01	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.01	0.00	0.12	S	0.01	0.00	0.06	0.00	0.01	0.00	0.00	0.14	0.02	24
31	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.04	0.00	0.02	0.11	0.00	0.00	0.00	0.00	S	0.00	0.00	0.04	0.00	0.00	0.00	0.03	0.00	0.11	0.01	24
HOURLY MAX	0.39	0.18	0.14	0.27	0.36	0.44	0.38	0.16	0.23	0.19	0.14	0.22	0.14	0.09	0.10	0.16	0.12	0.17	0.35	0.30	0.13	0.17	0.25	0.26				
HOURLY AVG	0.04	0.03	0.03	0.05	0.05	0.06	0.04	0.04	0.03	0.04	0.03	0.03	0.03	0.02	0.02	0.03	0.02	0.03	0.04	0.05	0.03	0.03	0.04	0.03				

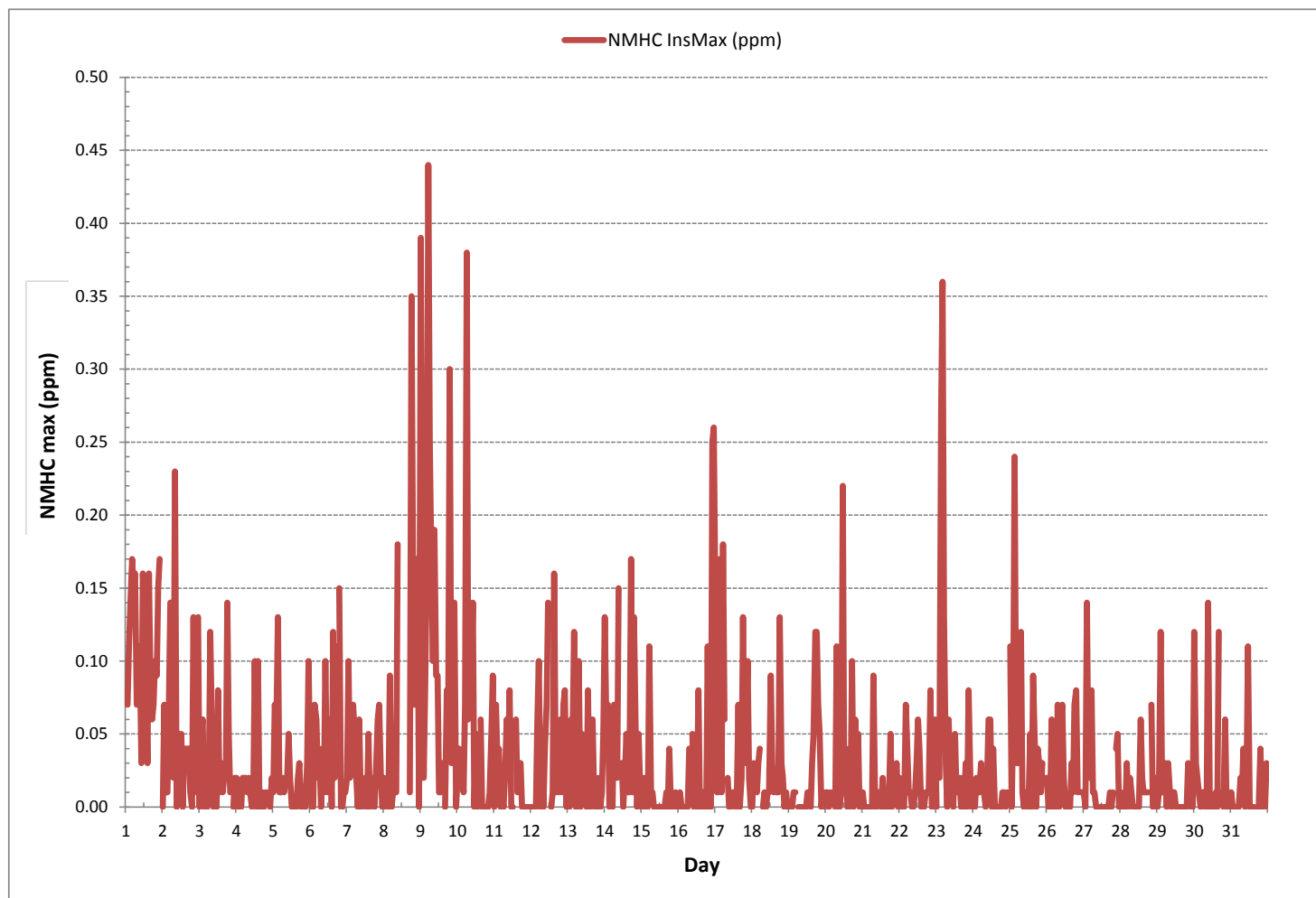
STATUS FLAG CODES

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:	446
MAXIMUM INSTANTANEOUS VALUE:	0.44 ppm @ HOUR(S) 5 ON DAY(S) 9
	VAR-VARIOUS
IZS CALIBRATION TIME:	33 hrs
MONTHLY CALIBRATION TIME:	6 hrs
STANDARD DEVIATION:	0.06
OPERATIONAL TIME:	744 hrs

NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)

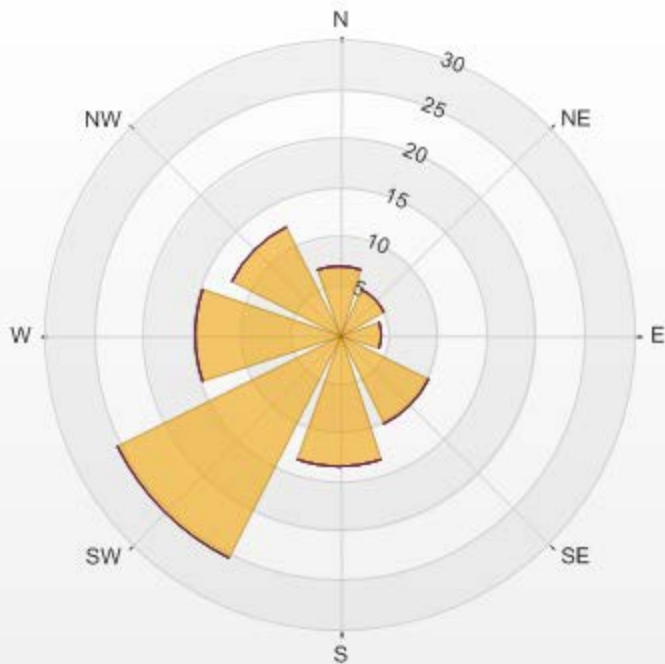


Wind: THREE CREEKS #842 TRAILER Poll.: THREE CREEKS #842 TRAILER-NMHC[ppm] Monthly: 12/2016 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 7.52% Valid Data: 94.76% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	6.95	0	0	0	0	6.95
NE	5.11	0	0	0	0	5.11
E	4.26	0	0	0	0	4.26
SE	10.07	0.14	0	0	0	10.21
S	13.48	0	0	0	0	13.48
SW	25.39	0	0	0	0	25.39
W	14.75	0	0	0	0	14.75
NW	12.34	0	0	0	0	12.34
Summary	92.35	0.14	0	0	0	92.49

%	Icon	Classes (ppm)
92		0-0.1
0		0.1-0.3
0		0.3-1
0		1-2
0		>2.0

THREE CREEKS #842 TRAILER Poll.: THREE CREEKS #842 TRAILER-NMHC[ppm] 01/12/2016 00:00 - 31/12/2016 23:00 Calm: 7.52% Calm Poll Avg: 0.00[ppm]



NMHC[ppm] Calibration: THREE CREEKS #842 TRAILER Monthly: 2016/12 Type: Span



Span Meas Span Ref Span Low Span High

WIND SPEED

WIND SPEED Hourly Averages (WS kph)

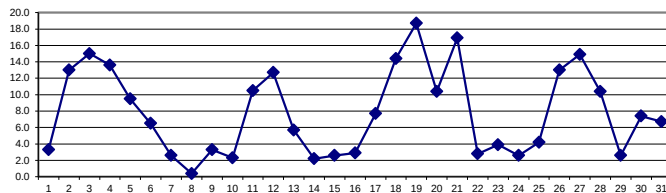
HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59				
DAY 1	8.3	5.0	5.5	5.5	5.7	4.8	4.4	3.3	4.8	2.3	2.6	1.0	2.6	2.4	2.1	3.0	1.6	5.3	4.8	4.8	5.3	5.8	7.9	13.2	1.0	13.2	3.3	24
2	14.0	11.6	13.1	13.9	12.8	9.3	9.9	10.9	9.1	8.3	6.5	14.0	17.9	15.5	18.7	21.3	18.5	17.3	17.0	15.2	13.3	13.3	10.4	9.4	6.5	21.3	13.0	24
3	8.1	12.0	11.7	12.2	15.9	16.8	15.7	15.9	17.5	19.8	20.9	20.6	20.0	17.1	15.9	16.0	14.2	14.7	20.1	18.6	16.5	16.3	17.4	19.9	8.1	20.9	15.0	24
4	14.8	10.8	7.9	10.5	13.5	14.4	14.8	13.6	15.2	15.0	14.4	16.6	17.1	16.3	17.5	14.6	15.2	14.8	15.5	15.7	15.3	14.7	14.5	13.8	7.9	17.5	13.6	24
5	13.7	10.9	12.9	13.2	14.0	14.0	12.8	8.6	9.4	9.0	11.2	13.1	13.2	12.1	9.9	5.3	5.4	5.0	4.2	4.6	4.5	7.7	10.4	11.5	4.2	14.0	9.5	24
6	10.2	8.4	6.9	8.8	8.3	9.5	9.5	7.6	5.5	4.1	5.6	8.7	9.8	9.5	10.4	7.6	4.8	3.7	1.8	1.8	2.4	4.1	4.7	4.0	1.8	10.4	6.5	24
7	2.0	1.7	2.6	5.5	5.6	5.8	4.5	4.1	3.5	1.8	2.6	4.2	4.7	5.4	4.4	2.8	2.1	1.0	0.9	1.4	0.1	0.4	0.2	0.5	0.1	5.8	2.6	24
8	0.5	0.1	0.2	0.2	0.4	0.4	0.6	1.3	1.4	1.4	1.5	0.2	1.0	3.4	4.6	3.1	1.3	0.5	1.5	2.8	1.8	2.7	3.2	4.1	0.1	4.6	0.4	24
9	4.3	2.9	4.1	5.4	4.9	4.9	5.2	4.5	3.9	3.2	4.7	3.6	4.1	4.2	4.9	2.9	1.9	2.6	3.3	2.0	1.7	0.8	1.6	1.9	0.8	5.4	3.3	24
10	3.6	4.1	1.5	2.4	2.9	3.2	2.5	3.8	2.9	3.4	6.1	7.0	6.8	5.7	4.8	4.1	7.3	7.3	9.4	8.1	7.1	6.8	5.8	5.0	1.5	9.4	2.3	24
11	5.4	5.6	7.0	6.8	6.4	8.2	10.7	10.8	8.9	9.7	11.2	10.6	9.7	11.9	13.6	14.3	15.9	14.4	15.3	12.6	10.7	11.3	11.8	11.9	5.4	15.9	10.5	24
12	13.2	11.9	11.6	12.6	12.1	11.1	10.6	10.4	9.5	11.2	13.0	12.8	14.4	17.2	16.3	14.9	14.4	13.7	15.9	13.0	12.5	12.8	13.3	14.7	9.5	17.2	12.7	24
13	15.5	12.7	11.6	12.6	10.9	8.3	11.0	8.5	8.8	4.4	2.2	4.5	5.5	7.0	5.9	5.1	6.3	3.5	3.2	3.0	2.5	1.5	3.2	4.7	1.5	15.5	5.7	24
14	4.8	5.2	6.8	4.6	6.5	5.4	5.1	5.2	3.5	4.3	2.3	4.6	2.9	4.1	4.5	3.6	1.5	0.8	1.9	2.8	2.4	0.1	3.6	3.6	0.1	6.8	2.2	24
15	5.1	4.1	5.6	6.0	4.0	2.7	2.0	1.8	2.9	1.6	4.1	4.1	7.1	8.3	7.6	4.0	3.5	0.4	2.2	3.0	3.0	2.4	2.3	5.5	0.4	8.3	2.6	24
16	5.3	3.1	3.5	3.7	2.1	2.4	2.3	2.3	3.7	3.8	4.6	2.8	3.5	2.9	6.8	4.9	5.1	4.6	4.4	5.2	3.5	3.6	4.0	3.0	2.1	6.8	2.9	24
17	5.7	3.3	3.6	3.2	4.3	3.2	2.4	4.3	3.8	3.1	7.6	8.3	9.4	9.3	10.9	9.8	13.5	15.2	13.9	16.1	13.4	13.4	12.0	14.4	2.4	16.1	7.7	24
18	11.6	14.1	11.7	15.5	13.6	11.9	11.4	14.6	17.5	17.7	13.8	16.4	25.2	23.9	17.9	16.2	15.3	12.5	12.0	12.6	11.7	19.0	20.4	16.5	11.4	25.2	14.4	24
19	16.3	22.8	20.1	20.9	20.7	20.6	20.8	27.7	26.8	26.2	20.8	19.5	19.1	18.5	18.8	19.1	14.1	15.0	15.6	17.2	18.7	18.6	18.3	15.4	14.1	27.7	18.7	24
20	13.1	17.6	16.0	12.2	11.2	11.5	9.2	12.9	10.5	6.7	6.7	4.3	7.0	9.7	9.9	9.4	10.2	8.8	11.3	7.5	9.8	12.6	15.9	17.3	4.3	17.6	10.4	24
21	15.7	10.3	11.9	12.4	11.0	9.1	19.0	21.3	26.4	26.1	23.0	19.2	23.7	24.0	25.9	16.2	13.9	16.7	18.6	18.0	16.3	16.1	18.0	19.4	9.1	26.4	16.9	24
22	14.0	10.5	10.9	9.6	7.3	8.4	8.6	8.9	3.9	1.0	1.8	1.3	1.4	0.2	4.8	5.0	3.0	2.8	1.9	5.5	4.7	1.8	3.0	3.5	0.2	14.0	2.8	24
23	5.0	3.3	2.4	3.3	3.3	4.1	2.5	2.5	3.0	2.7	3.0	4.3	4.7	5.9	5.0	5.1	4.6	4.9	6.2	6.0	6.0	4.5	3.7	5.0	2.4	6.2	3.9	24
24	5.1	5.2	3.2	3.3	4.2	4.0	3.7	5.0	4.2	3.9	3.1	2.1	2.1	2.3	2.7	2.5	1.8	1.2	1.1	1.1	0.3	1.8	1.7	2.1	0.3	5.2	2.6	24
25	1.0	1.8	3.9	3.5	3.5	2.5	2.6	2.6	0.2	3.6	4.1	3.3	6.0	7.1	8.2	5.9	1.7	5.5	5.1	6.8	7.3	7.3	8.6	11.4	0.2	11.4	4.2	24
26	10.2	9.9	13.2	12.6	9.3	7.0	10.7	13.4	13.0	9.3	7.4	13.7	15.8	14.8	11.3	12.3	19.5	19.5	14.1	16.0	15.7	15.3	15.5	19.1	7.0	19.5	13.0	24
27	18.1	16.6	15.0	19.2	20.3	19.9	21.0	21.3	16.9	9.8	10.5	16.0	18.0	21.0	21.7	18.8	15.1	13.4	13.7	13.4	9.8	10.4	12.2	11.0	9.8	21.7	14.9	24
28	9.1	5.5	4.6	7.3	12.4	14.5	12.4	12.2	14.0	13.5	11.6	12.4	12.0	11.1	11.3	8.2	6.4	13.2	10.9	13.0	10.1	11.2	9.2	9.3	4.6	14.5	10.4	24
29	8.2	10.5	11.8	10.7	7.7	7.2	5.9	5.1	4.3	5.2	4.6	3.0	3.0	2.6	2.4	0.8	2.2	4.3	1.8	3.6	2.2	2.0	2.9	0.5	0.5	11.8	2.6	24
30	0.2	1.4	2.6	2.8	1.9	1.4	3.5	5.4	2.6	9.8	11.2	12.5	12.2	12.8	12.8	15.1	13.2	15.5	13.2	10.5	14.2	10.4	9.4	6.9	0.2	15.5	7.4	24
31	5.9	4.6	1.5	4.3	4.2	4.2	4.4	4.8	7.0	9.2	8.3	8.0	8.4	7.2	11.6	10.8	13.1	7.2	8.2	8.3	9.4	11.3	9.8	9.3	1.5	13.1	6.7	24
HOURLY MAX	18.1	22.8	20.1	20.9	20.7	20.6	21.0	27.7	26.8	26.2	23.0	20.6	25.2	24.0	25.9	21.3	19.5	19.5	20.1	18.6	18.7	19.0	20.4	19.9				
HOURLY AVG	4.9	4.6	4.1	4.2	4.1	3.5	4.1	5.2	5.1	4.7	4.2	4.8	6.1	6.5	6.4	5.6	5.1	5.1	5.0	4.9	4.7	5.1	5.2	5.3				

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

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

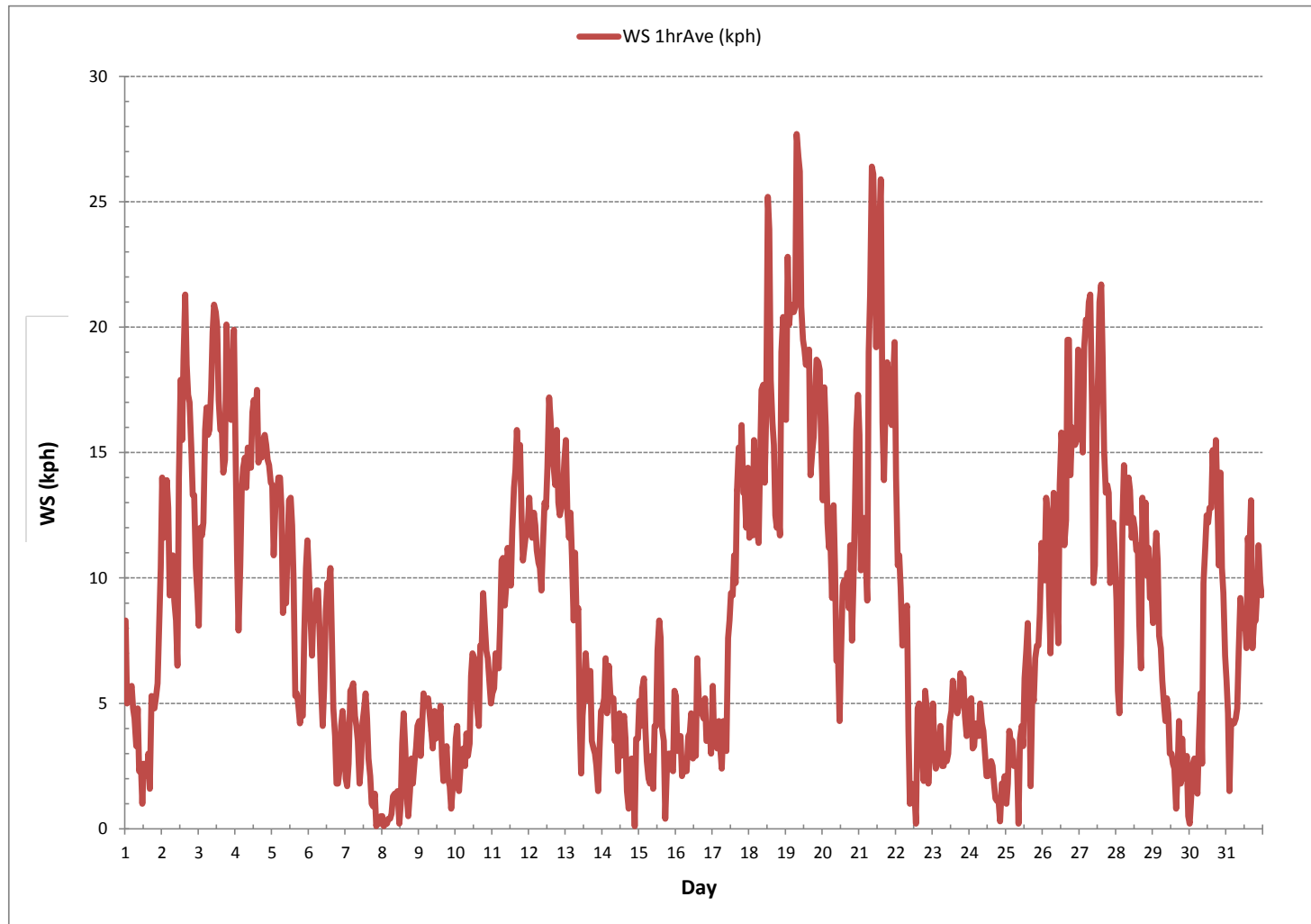
24 HR AVERAGES December 2016



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	744				
MINIMUM 1-HR AVERAGE:	0.1	kph	@ HOUR(S)	VAR	ON DAY(S)
MAXIMUM 1-HR AVERAGE:	27.7	kph	@ HOUR(S)	7	19
MAXIMUM 24-HR AVERAGE:	18.7	kph			19
					VAR-VARIOUS
MONTHLY CALIBRATION TIME:	0	hrs	OPERATIONAL TIME:	744	hrs
			AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	5.9		MONTHLY AVERAGE:	4.9	kph

WIND SPEED Hourly Averages (WS kph)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 842b Station - December 2016

WIND SPEED Instantaneous Maximum (WS kph)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	14.9	10.0	10.1	9.3	10.2	9.2	8.8	6.0	8.7	7.8	5.1	2.8	7.2	5.9	5.4	14.1	5.6	9.8	7.6	9.4	12.6	11.6	16.8	21.1	2.8	21.1	9.5	24
2	22.3	21.3	19.7	21.2	21.5	16.8	17.9	20.0	17.6	16.6	19.5	38.7	35.9	27.9	32.9	35.1	34.3	26.8	28.5	28.9	27.0	24.6	21.1	21.6	16.6	38.7	24.9	24
3	15.7	21.9	20.7	24.9	31.1	32.1	27.4	29.3	33.7	34.3	39.7	37.9	43.1	29.2	28.2	27.5	25.6	30.1	40.6	37.4	28.8	29.1	32.2	38.2	15.7	43.1	30.7	24
4	29.7	22.7	23.6	23.6	35.0	38.2	35.9	31.4	35.3	31.7	30.7	34.7	35.7	36.0	36.1	30.7	33.7	31.1	35.2	33.8	36.0	30.7	28.8	27.2	22.7	38.2	31.9	24
5	36.0	24.2	29.8	25.7	26.3	28.6	23.0	19.0	16.0	18.9	26.6	22.7	24.3	23.9	22.8	13.0	9.9	10.0	9.3	7.2	12.5	17.9	22.2	24.6	7.2	36.0	20.6	24
6	21.0	16.8	18.2	16.7	17.3	19.5	19.2	13.6	11.4	8.2	12.6	18.3	16.9	16.0	16.8	15.4	11.4	8.1	5.0	4.1	10.0	10.7	12.5	12.4	4.1	21.0	13.8	24
7	4.3	4.7	6.4	12.0	11.9	15.1	9.5	9.3	9.7	5.4	6.8	12.2	10.6	11.8	9.7	7.4	7.0	3.5	3.8	3.2	2.8	2.9	1.6	2.8	1.6	15.1	7.2	24
8	4.3	1.3	1.6	1.9	2.0	1.7	2.6	2.7	2.9	2.6	3.9	1.9	3.6	5.9	7.5	5.6	4.6	4.1	3.1	8.6	8.6	9.7	9.4	10.4	1.3	10.4	4.6	24
9	12.0	9.8	10.6	10.2	9.5	8.6	8.7	8.1	7.1	6.7	10.2	9.3	9.2	9.8	9.7	8.3	6.6	6.4	8.8	6.6	4.2	3.9	4.4	3.8	3.8	12.0	8.0	24
10	5.9	8.7	5.6	6.0	5.0	7.6	6.7	10.5	8.0	11.2	11.8	19.9	15.0	13.7	14.7	8.2	13.4	14.7	15.4	15.6	12.5	11.4	9.4	9.0	5.0	19.9	10.8	24
11	10.8	9.3	12.5	12.1	13.3	16.5	21.3	21.1	15.3	17.5	21.4	18.2	17.6	20.6	23.7	26.3	32.2	25.9	27.5	23.4	18.0	18.8	19.8	20.7	9.3	32.2	19.3	24
12	22.9	21.4	20.8	21.8	22.1	20.2	25.5	23.8	19.7	22.0	22.6	23.3	34.7	31.4	36.3	31.8	35.1	26.0	32.5	28.4	24.7	23.0	26.0	27.7	19.7	36.3	25.9	24
13	41.8	26.0	23.3	24.3	20.0	15.4	16.5	15.3	14.0	10.5	5.0	9.0	9.9	9.8	10.6	9.8	10.1	6.9	5.6	5.5	4.6	3.6	5.9	7.5	3.6	41.8	12.9	24
14	9.2	9.0	11.5	8.5	9.7	10.8	9.4	9.3	6.0	10.4	6.4	8.6	6.6	6.6	8.0	6.5	5.0	4.0	4.3	7.0	4.6	1.9	7.6	7.8	1.9	11.5	7.4	24
15	13.2	12.7	13.4	15.7	9.4	7.4	4.2	4.2	6.6	6.2	9.8	10.0	15.8	19.1	15.8	11.1	7.3	2.4	7.0	6.7	8.1	9.4	6.8	8.5	2.4	19.1	9.6	24
16	11.3	7.5	8.3	6.7	5.0	3.6	4.0	5.0	7.4	6.6	8.5	6.2	8.9	7.8	13.0	9.0	8.6	8.5	6.3	7.6	6.8	7.2	7.1	8.7	3.6	13.0	7.4	24
17	10.2	6.8	8.0	8.3	8.8	6.8	6.1	12.3	7.6	12.0	15.4	14.6	16.0	16.8	20.5	20.4	26.4	34.6	28.8	28.9	23.5	21.9	22.5	24.8	6.1	34.6	16.7	24
18	19.0	24.7	20.2	26.0	22.8	21.2	21.0	24.1	29.9	30.7	26.8	37.1	52.2	44.7	38.1	30.8	29.9	23.0	22.9	28.2	25.1	35.8	38.1	34.7	19.0	52.2	29.4	24
19	31.5	41.3	37.8	39.8	36.8	38.9	47.2	52.0	50.8	53.0	38.5	45.6	46.3	32.4	35.2	37.8	28.7	27.6	35.4	30.4	34.9	33.2	36.1	28.2	27.6	53.0	38.3	24
20	23.7	32.7	29.9	22.7	20.3	22.5	14.2	24.6	19.1	12.2	14.6	9.5	13.8	18.1	17.1	16.9	18.6	17.8	24.3	18.6	16.9	26.8	26.9	32.1	9.5	32.7	20.5	24
21	28.6	21.2	20.3	24.9	23.8	27.8	35.2	41.5	47.6	46.5	40.0	41.7	51.7	43.3	60.7	29.1	26.1	37.0	32.9	33.6	27.7	30.4	30.7	33.3	20.3	60.7	34.8	24
22	27.9	21.2	24.5	19.1	12.5	14.8	17.1	14.1	7.6	4.7	5.3	3.5	3.2	7.3	13.1	10.8	6.7	6.6	10.1	11.2	10.3	4.8	7.0	6.9	3.2	27.9	11.2	24
23	10.4	8.1	7.3	11.4	11.7	11.4	5.7	6.9	8.5	6.8	7.9	9.5	9.8	10.8	11.9	11.5	14.9	13.0	13.9	12.8	14.3	12.6	11.8	12.0	5.7	14.9	10.6	24
24	13.0	13.5	9.9	9.9	9.8	9.5	8.3	11.9	10.7	10.0	8.0	4.8	5.4	5.5	5.8	5.6	3.8	2.6	3.4	4.2	2.2	5.4	3.5	4.3	2.2	13.5	7.1	24
25	3.0	4.2	7.1	7.8	7.3	4.6	4.5	8.6	2.8	7.5	7.2	8.2	15.1	16.1	14.8	9.4	5.6	9.6	12.5	11.6	12.0	13.6	21.3	22.8	2.8	22.8	9.8	24
26	18.3	20.2	21.3	24.8	20.0	16.1	23.2	26.4	27.3	20.0	17.8	27.0	29.9	31.4	26.3	24.5	31.3	31.5	25.0	28.4	30.8	26.1	27.5	36.2	16.1	36.2	25.4	24
27	35.5	30.4	27.8	33.6	37.6	40.0	38.2	37.3	32.0	20.3	20.6	28.3	30.0	37.4	37.2	39.3	26.2	24.4	25.3	23.1	20.7	21.9	22.4	20.1	20.1	40.0	29.5	24
28	16.8	11.7	8.2	18.9	26.3	27.8	22.6	20.7	22.9	24.8	20.5	20.2	21.3	21.1	22.5	17.2	22.8	28.7	16.6	27.1	19.4	20.4	16.4	16.7	8.2	28.7	20.4	24
29	16.4	18.9	19.3	18.7	15.3	12.2	10.0	9.9	11.6	13.7	9.3	7.7	7.2	6.4	4.6	5.1	5.9	8.8	5.7	9.3	5.2	7.0	9.2	4.1	4.1	19.3	10.0	24
30	2.3	3.4	4.7	4.7	5.2	4.1	11.7	9.9	8.7	20.5	21.6	21.1	20.9	23.2	24.7	26.1	21.5	27.8	23.7	17.1	26.1	20.7	21.0	11.8	2.3	27.8	15.9	24
31	10.5	8.8	5.4	9.8	9.2	7.9	9.9	11.6	17.6	21.2	19.2	17.9	22.9	25.2	34.4	29.5	32.6	18.3	28.7	26.2	21.7	24.4	19.8	20.3	5.4	34.4	18.8	24
HOURLY MAX	41.8	41.3	37.8	39.8	37.6	40.0	47.2	52.0	50.8	53.0	40.0	45.6	52.2	44.7	60.7	39.3	35.1	37.0	40.6	37.4	36.0	35.8	38.1	38.2				
HOURLY AVG	17.4	15.9	15.7	16.8	16.6	16.6	16.6	17.4	16.9	16.7	16.5	18.4	20.6	19.8	21.2	18.5	17.7	17.0	17.7	17.5	16.5	16.8	17.6	18.0				

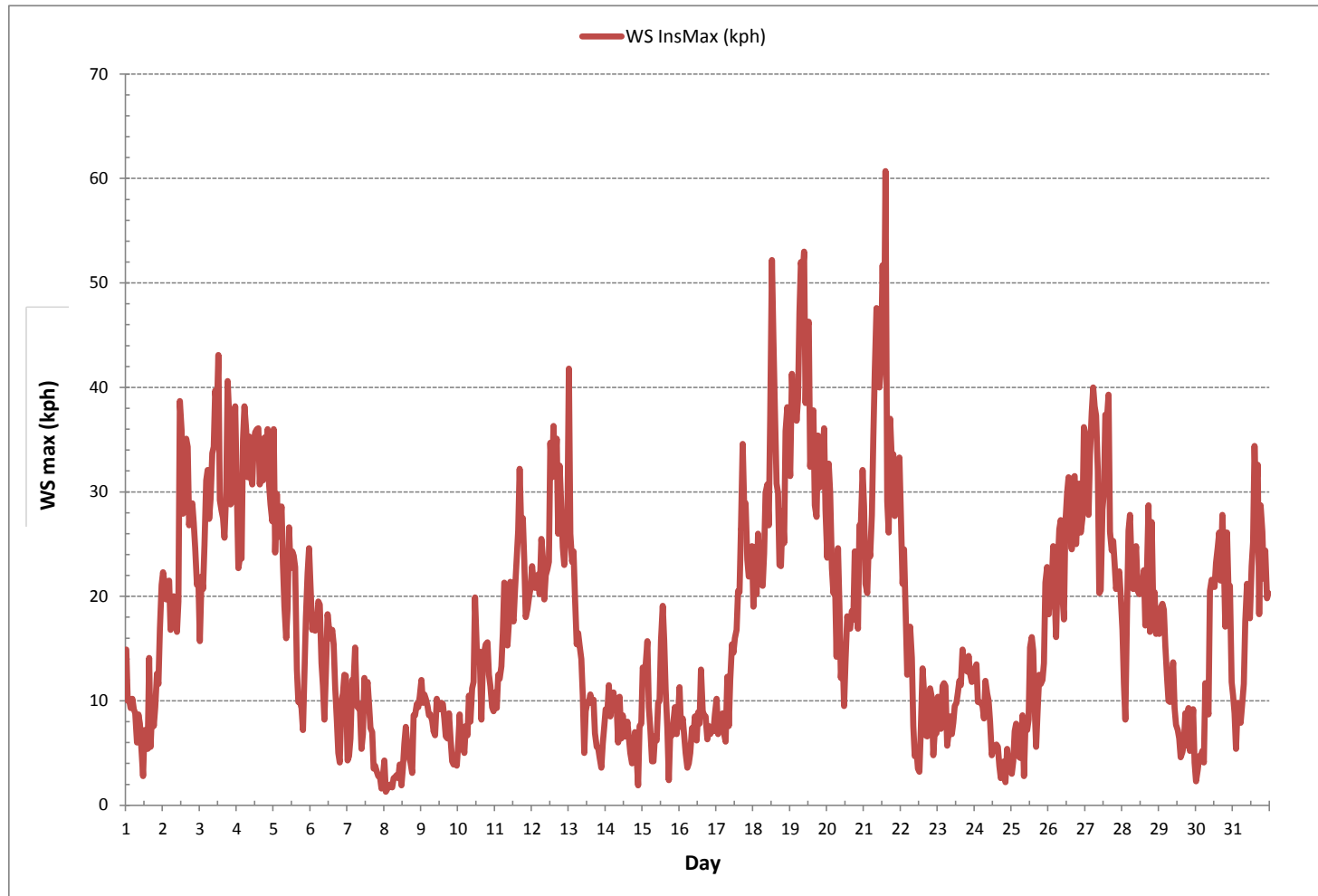
STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS VALUE:	60.7	kph	@ HOUR(S)	14	ON DAY(S)	21
					VAR-VARIOUS	
OPERATIONAL TIME:					744	hrs

WIND SPEED Instantaneous Maximum (WS kph)

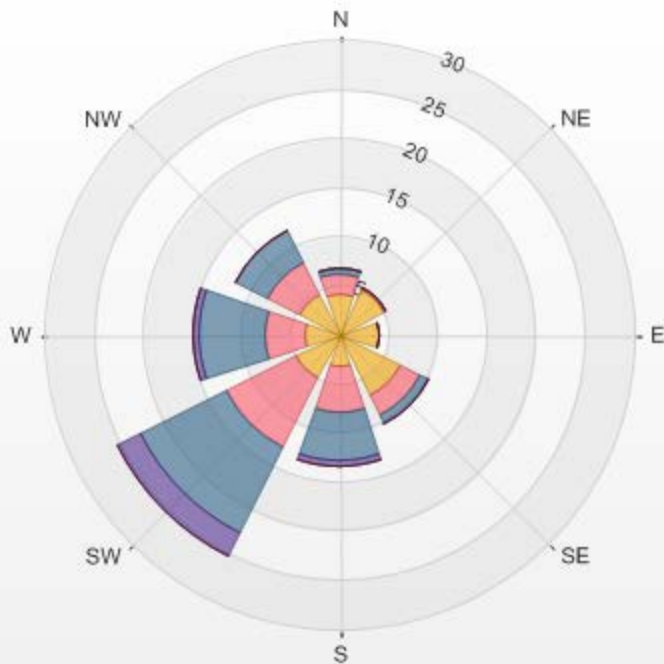


Wind: THREE CREEKS #842 TRAILER Monitor: WSP [kph] Monthly: 12/2016 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 8.06% Valid Data: 100.00%

Direction	1.8-6.0	6.0-12.0	12.0-20.0	20.0-29.0	29.0-39.0	>39.0	Total
N	4.17	2.02	0.67	0	0	0	6.86
NE	5.11	0.27	0	0	0	0	5.38
E	4.03	0	0	0	0	0	4.03
SE	6.85	2.28	1.08	0	0	0	10.21
S	3.23	4.7	4.97	0.54	0	0	13.44
SW	4.97	7.93	9.68	2.69	0	0	25.27
W	3.63	4.03	6.59	0.67	0	0	14.92
NW	4.57	3.63	3.63	0	0	0	11.83
Summary	36.56	24.86	26.62	3.9	0	0	91.94

%	Icon	Classes (kph)
37		1.8-6.0
25		6.0-12.0
27		12.0-20.0
4		20.0-29.0
0		29.0-39.0
0		>39.0

THREE CREEKS #842 TRAILER 01/12/2016 00:00 - 31/12/2016 23:00 Calm: 8.06% Calm Wind Avg Speed: 1.02 (kph)



WIND DIRECTION



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 842b Station - December 2016

WIND DIRECTION Hourly Averages (WD)

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

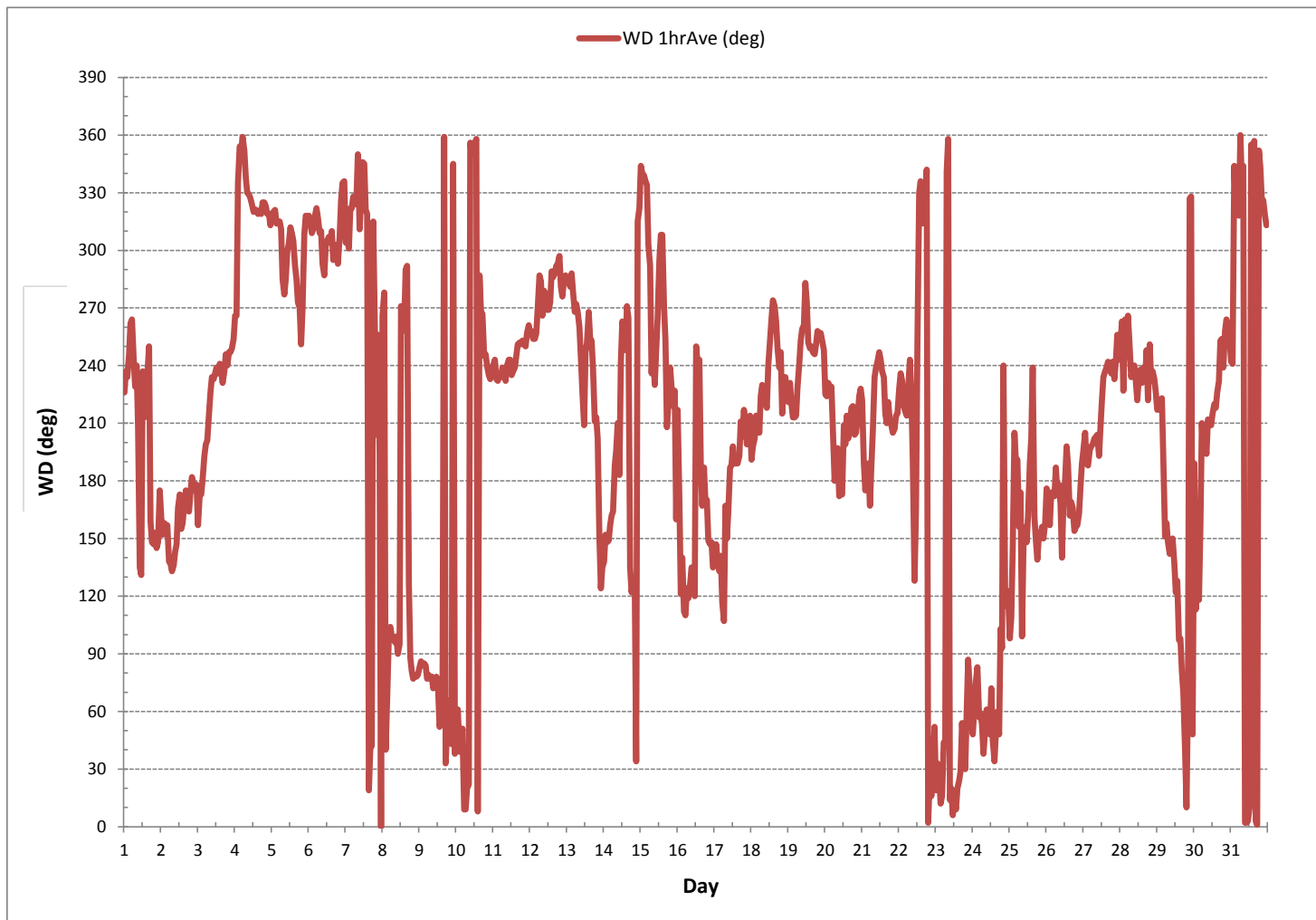
STATUS FLAG CODES

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

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

MONTHLY CALIBRATION TIME:	0	hrs	OPERATIONAL TIME:	744	hrs
STANDARD DEVIATION:	87		AMD OPERATION UPTIME:	100.0	%
			MONTHLY AVERAGE:	235 (SW)	

WIND DIRECTION Hourly Averages (WD)



RELATIVE HUMIDITY

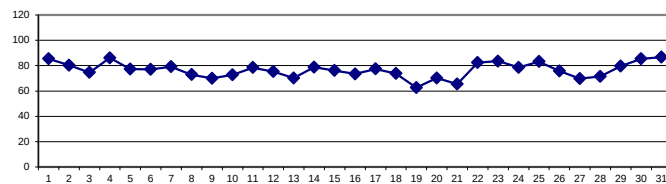
RELATIVE HUMIDITY Hourly Averages (RH %)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	90	92	93	92	92	93	93	94	95	94	91	73	64	62	59	71	83	90	86	89	89	91	89	85	59	95	85	24
2	81	83	84	84	83	84	80	75	70	70	69	66	74	89	89	88	87	85	84	79	78	80	81	82	66	89	80	24
3	87	86	85	86	83	81	79	77	75	73	69	66	65	66	64	65	69	69	66	67	68	70	88	87	64	88	75	24
4	90	95	95	93	92	91	90	89	87	87	85	84	84	83	82	82	83	83	83	82	82	82	81	81	81	95	86	24
5	80	81	79	79	79	78	77	78	78	78	77	75	73	70	71	74	79	77	78	79	79	79	79	78	70	81	77	24
6	77	77	79	78	78	77	78	79	78	79	78	76	73	69	69	72	76	78	79	80	81	81	80	78	69	81	77	24
7	80	78	80	81	80	80	80	80	79	78	79	78	78	77	79	78	81	80	80	80	78	77	78	78	77	81	79	24
8	79	79	77	77	76	74	73	72	71	71	70	63	63	71	73	70	73	74	72	72	75	74	75	75	63	79	73	24
9	76	76	75	75	74	73	73	72	73	73	68	61	61	58	59	58	67	72	73	74	73	73	70	71	58	76	70	24
10	70	70	68	69	69	69	69	70	69	72	73	73	74	72	71	73	76	76	77	77	78	77	76	75	68	78	73	24
11	75	75	75	75	76	77	78	78	78	78	78	79	78	80	78	79	79	81	81	80	80	81	81	82	75	82	78	24
12	83	81	82	84	82	82	81	82	86	82	79	77	75	72	66	65	68	69	70	71	69	70	67	65	65	86	75	24
13	64	65	65	66	67	69	71	71	75	75	66	58	57	58	58	62	76	82	82	82	79	77	78	81	57	82	70	24
14	81	81	82	81	82	81	81	81	81	80	79	77	72	72	73	74	78	80	79	79	79	77	78	81	72	82	79	24
15	84	82	81	81	80	80	79	78	77	81	78	74	68	61	58	62	75	76	77	80	78	78	78	79	58	84	76	24
16	79	77	74	74	72	71	70	70	71	73	73	68	68	70	74	74	78	79	78	78	74	73	71	73	68	79	73	24
17	77	76	76	75	76	73	72	77	76	77	78	78	79	80	81	81	81	79	79	78	76	76	78	77	72	81	77	24
18	79	77	78	77	77	77	76	76	75	74	71	69	67	66	64	66	67	69	72	71	74	81	88	79	64	88	74	24
19	68	68	67	66	65	66	66	68	65	65	62	64	63	56	52	53	58	62	63	61	61	60	61	63	52	68	63	24
20	68	66	65	65	66	66	74	74	72	77	76	69	64	65	63	68	72	73	73	73	71	74	77	74	63	77	70	24
21	73	72	71	69	69	73	66	63	60	60	61	62	62	61	61	65	64	62	63	65	67	68	67	68	60	73	66	24
22	72	76	80	82	85	85	82	83	86	87	90	82	80	82	71	73	79	85	90	89	83	85	85	84	71	90	82	24
23	84	85	81	85	87	84	85	84	83	83	82	81	80	80	81	82	83	83	83	82	83	89	88	86	80	89	84	24
24	85	85	86	85	83	83	82	83	83	83	81	76	74	65	59	64	72	75	80	79	80	79	79	82	59	86	78	24
25	81	83	85	85	84	83	82	82	80	80	84	86	86	84	79	80	82	85	85	84	84	84	84	83	79	86	83	24
26	82	82	83	83	83	83	83	82	81	81	79	76	70	65	67	71	71	72	72	72	71	71	70	68	65	83	76	24
27	69	73	75	75	71	71	73	74	74	75	73	73	71	67	65	64	63	65	65	64	67	68	68	71	63	75	70	24
28	72	75	79	76	75	83	89	80	73	69	70	69	67	63	61	60	65	65	71	67	70	71	73	73	60	89	72	24
29	72	71	72	71	75	83	87	86	86	85	83	78	75	72	71	73	80	81	80	83	86	87	88	86	71	88	80	24
30	86	83	84	83	86	84	90	90	88	93	94	92	90	86	83	79	77	71	68	72	87	94	94	95	68	95	85	24
31	95	95	94	93	92	92	90	90	90	87	87	84	83	80	83	82	82	82	82	79	82	84	85	88	79	95	87	24
HOURLY MAX	95	95	95	93	92	93	93	94	95	94	94	92	90	89	89	88	87	90	90	89	89	94	94	95				
HOURLY AVG	79	79	79	79	79	79	79	79	78	78	77	74	72	71	70	71	75	76	76	76	77	78	79	78				

STATUS FLAG CODES

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

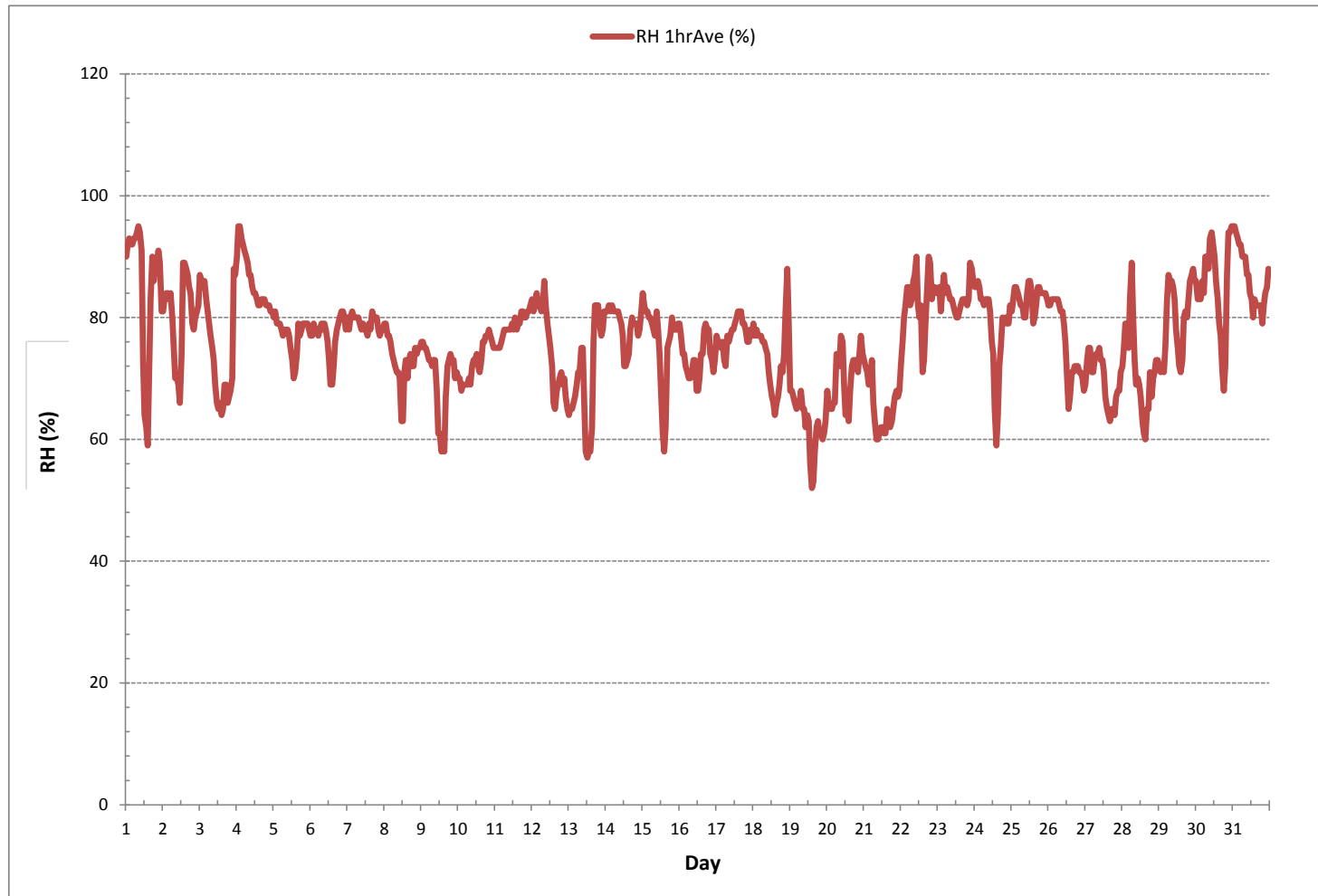
24 HR AVERAGES December 2016



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	52	%	@ HOUR(S)	14	ON DAY(S)	19
MAXIMUM 1-HR AVERAGE:	95	%	@ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 24-HR AVERAGE:	87	%			ON DAY(S)	31
					VAR-VARIOUS	
OPERATIONAL TIME:					744	hrs
AMD OPERATION UPTIME:					100.0	%
STANDARD DEVIATION:	8		MONTHLY AVERAGE:		77	%

RELATIVE HUMIDITY Hourly Averages (RH %)



BAROMETRIC PRESSURE



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 842b Station - December 2016

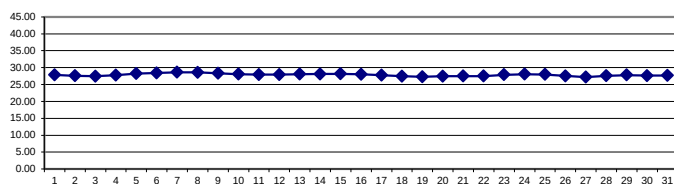
BAROMETRIC PRESSURE Hourly Averages (BP inHg)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	27.64	27.66	27.69	27.71	27.73	27.74	27.76	27.79	27.81	27.83	27.84	27.85	27.86	27.87	27.88	27.88	27.88	27.89	27.90	27.90	27.90	27.89	27.88	27.87	27.64	27.90	27.82	24
2	27.86	27.84	27.83	27.81	27.78	27.76	27.73	27.67	27.63	27.62	27.60	27.57	27.56	27.52	27.49	27.48	27.47	27.46	27.45	27.44	27.43	27.42	27.42	27.42	27.42	27.86	27.59	24
3	27.43	27.43	27.43	27.43	27.43	27.43	27.43	27.43	27.43	27.44	27.45	27.46	27.46	27.46	27.46	27.47	27.47	27.47	27.47	27.46	27.46	27.47	27.47	27.47	27.43	27.47	27.45	24
4	27.48	27.49	27.50	27.51	27.53	27.56	27.59	27.62	27.65	27.69	27.72	27.74	27.76	27.79	27.81	27.84	27.87	27.89	27.91	27.93	27.96	27.98	28.00	28.03	27.48	28.03	27.74	24
5	28.05	28.07	28.09	28.11	28.12	28.14	28.15	28.16	28.18	28.20	28.21	28.22	28.23	28.23	28.23	28.25	28.27	28.28	28.29	28.29	28.29	28.29	28.30	28.31	28.05	28.31	28.21	24
6	28.31	28.32	28.33	28.33	28.33	28.34	28.35	28.35	28.35	28.37	28.37	28.37	28.37	28.36	28.36	28.38	28.40	28.41	28.42	28.42	28.44	28.45	28.46	28.47	28.31	28.47	28.38	24
7	28.49	28.50	28.52	28.53	28.54	28.55	28.56	28.57	28.58	28.59	28.61	28.61	28.61	28.62	28.63	28.63	28.64	28.65	28.65	28.65	28.65	28.65	28.65	28.65	28.49	28.65	28.60	24
8	28.65	28.65	28.64	28.64	28.63	28.64	28.64	28.64	28.63	28.62	28.61	28.57	28.53	28.52	28.52	28.51	28.52	28.52	28.50	28.49	28.48	28.47	28.46	28.46	28.46	28.65	28.56	24
9	28.44	28.44	28.43	28.41	28.40	28.39	28.38	28.36	28.36	28.35	28.32	28.29	28.26	28.23	28.21	28.20	28.22	28.21	28.20	28.18	28.16	28.14	28.13	28.13	28.13	28.44	28.29	24
10	28.11	28.10	28.08	28.07	28.06	28.05	28.04	28.02	28.01	28.01	28.00	28.00	28.00	27.99	27.99	28.00	28.00	28.01	28.01	28.01	28.01	28.01	28.01	28.02	27.99	28.11	28.03	24
11	28.02	28.02	28.01	28.02	28.01	28.00	27.99	27.98	27.97	27.96	27.96	27.95	27.93	27.93	27.91	27.89	27.88	27.86	27.85	27.85	27.84	27.85	27.85	27.85	27.84	28.02	27.93	24
12	27.87	27.87	27.88	27.90	27.91	27.91	27.92	27.93	27.93	27.94	27.94	27.94	27.93	27.91	27.92	27.92	27.93	27.94	27.95	27.97	27.97	27.96	27.96	27.97	27.87	27.97	27.93	24
13	27.97	27.97	27.97	27.98	27.98	27.99	28.00	28.01	28.02	28.04	28.04	28.04	28.05	28.05	28.05	28.07	28.09	28.10	28.10	28.10	28.11	28.11	28.11	28.11	27.97	28.11	28.04	24
14	28.11	28.11	28.10	28.09	28.08	28.08	28.07	28.07	28.07	28.08	28.08	28.09	28.08	28.08	28.10	28.11	28.12	28.12	28.12	28.13	28.14	28.14	28.14	28.14	28.07	28.14	28.10	24
15	28.15	28.15	28.15	28.17	28.17	28.18	28.18	28.18	28.18	28.19	28.18	28.16	28.14	28.13	28.13	28.13	28.15	28.16	28.16	28.15	28.14	28.12	28.10	28.09	28.09	28.19	28.15	24
16	28.08	28.07	28.07	28.07	28.07	28.06	28.05	28.06	28.06	28.05	28.03	28.00	27.98	27.96	27.97	27.97	27.98	27.98	27.97	27.96	27.95	27.93	27.93	27.92	27.92	28.08	28.01	24
17	27.89	27.89	27.88	27.87	27.86	27.84	27.83	27.83	27.82	27.82	27.81	27.80	27.77	27.75	27.74	27.72	27.70	27.68	27.67	27.65	27.63	27.62	27.61	27.60	27.60	27.89	27.76	24
18	27.59	27.57	27.54	27.51	27.49	27.47	27.45	27.43	27.42	27.41	27.39	27.38	27.37	27.38	27.41	27.42	27.43	27.43	27.43	27.41	27.39	27.36	27.34	27.30	27.30	27.59	27.43	24
19	27.26	27.24	27.21	27.17	27.15	27.12	27.10	27.09	27.09	27.12	27.16	27.19	27.22	27.24	27.27	27.29	27.31	27.33	27.35	27.37	27.40	27.42	27.43	27.44	27.09	27.44	27.25	24
20	27.45	27.46	27.46	27.46	27.44	27.43	27.43	27.41	27.39	27.40	27.38	27.38	27.38	27.38	27.39	27.41	27.45	27.48	27.50	27.50	27.50	27.51	27.53	27.55	27.38	27.55	27.44	24
21	27.57	27.58	27.57	27.57	27.57	27.54	27.52	27.51	27.50	27.51	27.52	27.52	27.51	27.49	27.48	27.47	27.46	27.45	27.43	27.42	27.40	27.39	27.39	27.39	27.39	27.58	27.49	24
22	27.39	27.40	27.40	27.41	27.41	27.41	27.41	27.40	27.41	27.43	27.46	27.46	27.47	27.48	27.49	27.51	27.54	27.57	27.60	27.61	27.63	27.66	27.69	27.71	27.39	27.71	27.50	24
23	27.73	27.74	27.77	27.79	27.80	27.81	27.82	27.83	27.84	27.86	27.87	27.87	27.87	27.87	27.89	27.91	27.93	27.94	27.95	27.97	27.99	27.99	27.99	27.73	27.99	27.87	24	
24	28.00	28.00	28.02	28.04	28.05	28.06	28.06	28.07	28.07	28.09	28.10	28.10	28.07	28.05	28.04	28.04	28.06	28.08	28.08	28.08	28.09	28.09	28.09	28.08	28.00	28.10	28.06	24
25	28.09	28.08	28.07	28.07	28.06	28.05	28.04	28.03	28.03	28.03	28.02	27.99	27.96	27.93	27.92	27.91	27.92	27.91	27.89	27.87	27.85	27.84	27.83	27.81	27.81	28.09	27.97	24
26	27.79	27.78	27.76	27.74	27.72	27.70	27.68	27.65	27.64	27.62	27.60	27.56	27.52	27.51	27.49	27.46	27.44	27.42	27.39	27.35	27.32	27.29	27.27	27.27	27.27	27.79	27.54	24
27	27.26	27.25	27.24	27.22	27.21	27.20	27.18	27.17	27.16	27.17	27.18	27.17	27.16	27.16	27.17	27.18	27.19	27.20	27.21	27.22	27.24	27.25	27.27	27.29	27.16	27.29	27.21	24
28	27.33	27.35	27.39	27.42	27.44	27.47	27.50	27.52	27.54	27.56	27.58	27.60	27.62	27.65	27.67	27.69	27.71	27.73	27.74	27.76	27.78	27.80	27.82	27.84	27.33	27.84	27.60	24
29	27.86	27.86	27.88	27.88	27.89	27.89	27.88	27.87	27.85	27.83	27.81	27.79	27.76	27.74	27.72	27.71	27.70	27.69	27.68	27.69	27.70	27.71	27.72	27.72	27.68	27.89	27.78	24
30	27.73	27.74	27.74	27.74	27.74	27.74	27.73	27.72	27.69	27.66	27.64	27.62	27.59	27.57	27.56	27.54	27.54	27.52	27.52	27.51	27.51	27.51	27.51	27.50	27.50	27.74	27.62	24
31	27.50	27.50	27.50	27.51	27.51	27.52	27.52	27.53	27.55	27.57	27.60	27.62	27.64	27.66	27.69	27.72	27.75	27.77	27.79	27.81	27.84	27.87	27.90	27.91	27.50	27.91	27.66	24
HOURLY MAX	28.65	28.65	28.64	28.64	28.63	28.64	28.64	28.64	28.63	28.62	28.61	28.61	28.61	28.62	28.63	28.63	28.64	28.65	28.65	28.65	28.65	28.65	28.65	28.65	28.65	28.65	28.65	28.65
HOURLY AVG	27.84	27.84	27.84	27.84	27.84	27.84	27.84	27.84	27.83	27.84	27.84	27.84	27.83	27.82	27.82	27.83	27.84	27.84	27.84	27.84	27.84	27.84	27.84	27.85	27.85	27.84	27.85	27.85

STATUS FLAG CODES

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

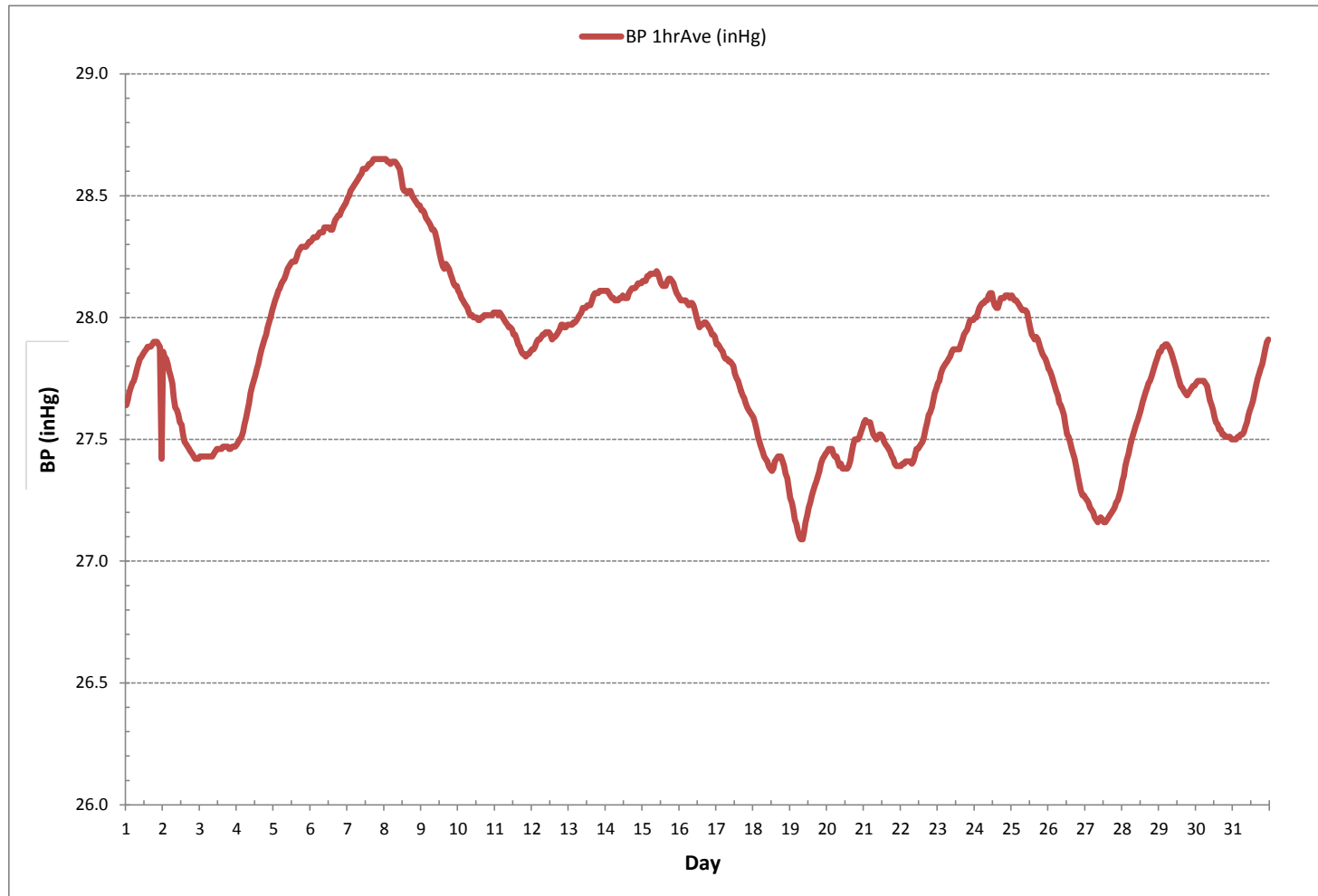
24 HR AVERAGES December 2016



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	27.09	inHg	@ HOUR(S)	7 , 8	ON DAY(S)	19 , 19
MAXIMUM 1-HR AVERAGE:	28.65	inHg	@ HOUR(S)	VAR , VAR	ON DAY(S)	7 , 8
MAXIMUM 24-HR AVERAGE:	28.60	inHg			ON DAY(S)	7
					VAR-VARIOUS	
					OPERATIONAL TIME:	744 hrs
					AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION:	0.36				MONTHLY AVERAGE:	27.84 inHg

BAROMETRIC PRESSURE Hourly Averages (BP inHg)



AMBIENT TEMPERATURE

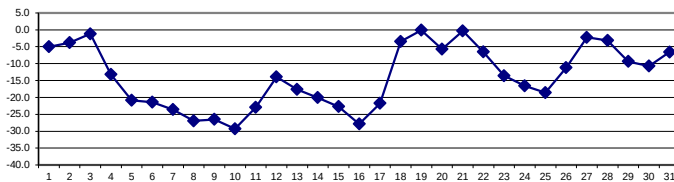
AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.		
DAY																													
1	-3.1	-3.9	-4.1	-3.9	-4.1	-4.4	-4.7	-5.7	-6.5	-6.9	-6.0	-2.1	0.2	0.1	0.8	-2.5	-6.2	-7.8	-7.6	-9.4	-9.2	-8.9	-8.1	-7.3	-9.4	0.8	-5.1	24	
2	-6.6	-7.0	-7.3	-7.3	-7.2	-8.0	-7.5	-6.7	-5.7	-4.7	-3.8	-2.6	-2.9	-3.2	-2.0	-0.6	-0.5	-1.1	-1.3	-0.7	-0.9	-1.5	-1.6	-1.6	-8.0	-0.5	-3.8	24	
3	-3.2	-3.0	-2.7	-2.7	-1.8	-1.5	-0.9	-0.6	-0.4	-0.1	0.2	0.5	0.5	0.6	0.7	0.4	-1.0	-1.4	-0.9	-1.5	-1.8	-2.2	-3.2	-3.1	-3.2	0.7	-1.2	24	
4	-3.4	-3.6	-3.8	-5.1	-6.6	-8.4	-9.7	-11.1	-13.1	-14.4	-15.2	-15.5	-15.8	-16.1	-16.3	-16.5	-16.9	-17.0	-17.4	-17.8	-18.1	-18.3	-18.6	-19.0	-19.0	-3.4	-13.2	24	
5	-18.9	-19.0	-19.4	-19.6	-19.9	-20.2	-20.4	-21.0	-21.5	-21.2	-20.4	-19.8	-19.5	-19.3	-19.6	-20.8	-22.3	-23.4	-25.4	-24.5	-22.5	-20.7	-20.3	-20.4	-25.4	-25.4	-18.9	-20.8	24
6	-20.6	-21.2	-21.7	-21.2	-21.1	-21.2	-21.8	-22.3	-22.8	-23.1	-22.0	-21.1	-20.3	-19.4	-19.3	-20.4	-21.2	-21.6	-21.6	-22.0	-22.2	-21.8	-22.0	-23.1	-23.1	-19.3	-21.5	24	
7	-23.8	-24.9	-24.7	-23.6	-23.7	-23.6	-23.7	-23.6	-23.7	-24.8	-24.0	-22.4	-22.1	-22.2	-22.6	-22.2	-22.5	-22.6	-22.8	-23.4	-24.8	-25.4	-25.4	-24.6	-25.4	-22.1	-23.6	24	
8	-24.1	-23.7	-24.6	-25.6	-26.2	-27.9	-29.6	-30.6	-31.4	-31.6	-28.5	-23.6	-21.0	-22.2	-23.6	-23.0	-26.6	-28.5	-30.0	-30.7	-29.1	-29.1	-27.9	-27.9	-31.6	-21.0	-27.0	24	
9	-27.4	-27.2	-27.3	-27.4	-27.0	-28.2	-28.8	-29.3	-29.2	-29.0	-25.2	-22.3	-20.9	-18.3	-17.9	-19.2	-25.4	-27.9	-27.7	-28.2	-29.1	-29.5	-31.4	-32.1	-32.1	-17.9	-26.5	24	
10	-32.0	-31.9	-32.5	-33.4	-33.4	-33.2	-33.6	-33.3	-33.4	-32.1	-29.7	-27.7	-26.5	-25.4	-25.4	-26.0	-26.3	-26.0	-25.8	-25.7	-25.8	-26.8	-28.1	-29.1	-33.6	-25.4	-29.3	24	
11	-29.7	-29.7	-28.3	-28.3	-27.9	-26.3	-25.3	-25.3	-26.1	-25.5	-24.6	-23.4	-22.3	-21.0	-20.0	-19.4	-18.8	-18.4	-18.2	-18.8	-19.3	-18.4	-18.1	-17.6	-29.7	-17.6	-22.9	24	
12	-17.2	-17.0	-16.8	-16.3	-16.0	-15.8	-14.8	-14.2	-14.5	-13.8	-13.3	-13.0	-12.2	-11.6	-11.4	-11.8	-12.3	-12.5	-12.6	-13.4	-13.6	-13.6	-13.6	-13.6	-17.2	-11.4	-14.0	24	
13	-13.3	-13.4	-13.5	-13.6	-14.3	-15.8	-16.5	-17.5	-19.1	-19.7	-17.7	-15.9	-15.2	-14.8	-14.5	-15.1	-18.3	-19.1	-19.4	-20.0	-23.3	-24.8	-25.2	-23.6	-25.2	-13.3	-17.7	24	
14	-21.5	-20.9	-21.1	-21.9	-21.7	-20.7	-20.1	-19.0	-18.2	-18.0	-17.7	-17.2	-15.6	-15.7	-15.8	-16.4	-18.4	-21.1	-22.8	-23.6	-23.7	-24.4	-24.0	-22.0	-24.4	-15.6	-20.1	24	
15	-19.9	-19.3	-19.5	-20.3	-21.3	-22.5	-25.0	-26.3	-27.1	-25.4	-23.0	-20.6	-19.2	-17.9	-17.7	-19.1	-23.2	-26.0	-27.3	-24.8	-24.9	-25.4	-25.5	-24.8	-27.3	-17.7	-22.8	24	
16	-24.2	-25.7	-28.2	-29.0	-29.8	-31.0	-31.6	-31.8	-32.1	-30.4	-28.0	-23.9	-22.7	-22.5	-23.2	-23.2	-25.2	-26.8	-27.6	-28.0	-29.8	-30.4	-31.7	-31.3	-32.1	-22.5	-27.8	24	
17	-28.2	-28.5	-28.4	-29.1	-28.3	-29.1	-30.4	-27.6	-27.4	-26.7	-24.6	-23.2	-21.5	-20.3	-18.9	-17.5	-16.9	-15.5	-14.8	-14.1	-13.9	-13.2	-12.9	-11.4	-30.4	-11.4	-21.8	24	
18	-11.0	-9.7	-9.6	-8.8	-8.1	-7.4	-6.3	-5.4	-4.7	-4.0	-3.1	-1.8	-0.5	-0.2	0.1	-0.2	-0.3	-0.5	-0.8	-0.2	-0.6	-0.1	0.0	0.2	-11.0	0.2	-3.5	24	
19	0.8	1.0	1.0	1.1	1.1	1.0	0.9	1.0	0.9	0.7	0.5	0.5	0.6	0.6	0.8	0.1	-1.3	-2.0	-2.2	-2.0	-2.1	-1.9	-2.1	-2.5	-2.5	1.1	-0.1	24	
20	-3.7	-3.3	-3.4	-3.8	-4.4	-4.6	-7.0	-6.8	-6.1	-8.1	-7.9	-6.9	-5.3	-5.3	-4.9	-6.2	-7.2	-7.3	-7.1	-7.1	-6.0	-5.0	-5.2	-4.5	-8.1	-3.3	-5.7	24	
21	-4.9	-5.2	-5.4	-4.5	-2.5	-2.8	-1.3	-0.6	0.6	0.8	0.9	1.2	1.8	2.0	2.3	1.7	1.6	2.0	1.8	1.4	0.9	0.3	0.1	-0.2	-5.4	2.3	-0.3	24	
22	-0.6	-1.1	-1.3	-2.0	-2.6	-3.1	-3.6	-5.0	-6.0	-8.4	-9.5	-6.6	-4.4	-4.5	-3.4	-4.8	-7.3	-10.2	-11.4	-9.2	-9.7	-13.4	-14.7	-14.8	-14.8	-0.6	-6.6	24	
23	-16.1	-15.4	-17.3	-17.6	-14.7	-14.9	-15.3	-13.9	-13.2	-12.7	-12.0	-10.9	-10.5	-10.5	-10.5	-10.7	-10.9	-11.4	-12.6	-14.6	-16.4	-15.7	-14.5	-13.9	-17.6	-10.5	-13.6	24	
24	-13.9	-14.7	-15.1	-15.0	-14.7	-14.9	-14.9	-15.3	-15.8	-16.2	-16.2	-15.5	-15.2	-12.6	-10.8	-12.2	-15.5	-18.6	-20.8	-20.6	-21.5	-22.5	-22.6	-22.5	-22.6	-10.8	-16.6	24	
25	-22.5	-20.3	-19.9	-19.2	-19.5	-20.2	-20.7	-21.5	-22.4	-22.9	-19.2	-16.8	-14.5	-13.5	-13.7	-15.6	-18.5	-18.6	-18.1	-18.2	-18.3	-18.0	-17.3	-16.5	-22.9	-13.5	-18.6	24	
26	-16.5	-17.3	-17.9	-17.5	-17.4	-17.5	-16.3	-15.1	-14.7	-15.1	-14.3	-11.8	-9.1	-7.4	-7.7	-8.2	-7.7	-7.2	-6.6	-5.9	-5.2	-5.2	-4.9	-3.4	-17.9	-3.4	-11.2	24	
27	-3.0	-3.7	-4.2	-3.7	-2.4	-2.5	-3.2	-3.4	-3.6	-4.1	-3.4	-2.6	-1.7	-1.0	-0.4	-0.3	-0.4	-0.6	-0.9	-1.1	-1.7	-2.1	-1.9	-2.2	-4.2	-0.3	-2.3	24	
28	-2.4	-3.6	-5.0	-3.1	-2.0	-2.0	-2.4	-2.2	-2.5	-2.7	-3.2	-2.7	-2.1	-1.3	-0.8	-0.7	-2.6	-2.8	-4.5	-3.8	-5.0	-5.6	-6.1	-6.3	-6.3	-0.7	-3.1	24	
29	-6.1	-6.0	-6.2	-6.2	-8.0	-11.0	-12.2	-12.4	-11.8	-11.0	-10.2	-8.9	-7.8	-6.7	-5.9	-6.1	-7.9	-8.2	-8.8	-9.9	-11.7	-13.9	-13.4	-14.7	-14.7	-5.9	-9.4	24	
30	-17.0	-18.3	-18.7	-17.9	-17.8	-18.9	-16.5	-14.9	-15.4	-11.2	-8.7	-8.5	-8.5	-8.2	-7.5	-7.1	-6.8	-5.6	-4.9	-5.0	-5.0	-5.0	-5.1	-18.9	-4.9	-10.7	24		
31	-5.2	-5.0	-4.1	-4.2	-4.4	-4.8	-4.6	-5.4	-5.8	-6.3	-6.6	-6.4	-6.4	-5.9	-6.8	-7.3	-7.5	-7.8	-7.5	-8.0	-8.7	-9.5	-10.0	-10.0	-10.0	-4.1	-6.6	24	
HOURLY MAX	0.8	1.0	1.0	1.1	1.1	1.0	0.9	1.0	0.9	0.8	0.9	1.2	1.8	2.0	2.3	1.7	1.6	2.0	1.8	1.4	0.9	0.3	0.1	0.2					
HOURLY AVG	-14.2	-14.3	-14.5	-14.5	-14.4	-14.9	-15.1	-15.1	-15.2	-15.1	-14.1	-12.6	-11.6	-11.1	-10.8	-11.3	-12.7	-13.4	-13.8	-13.9	-14.3	-14.6	-14.7	-14.5					

STATUS FLAG CODES

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

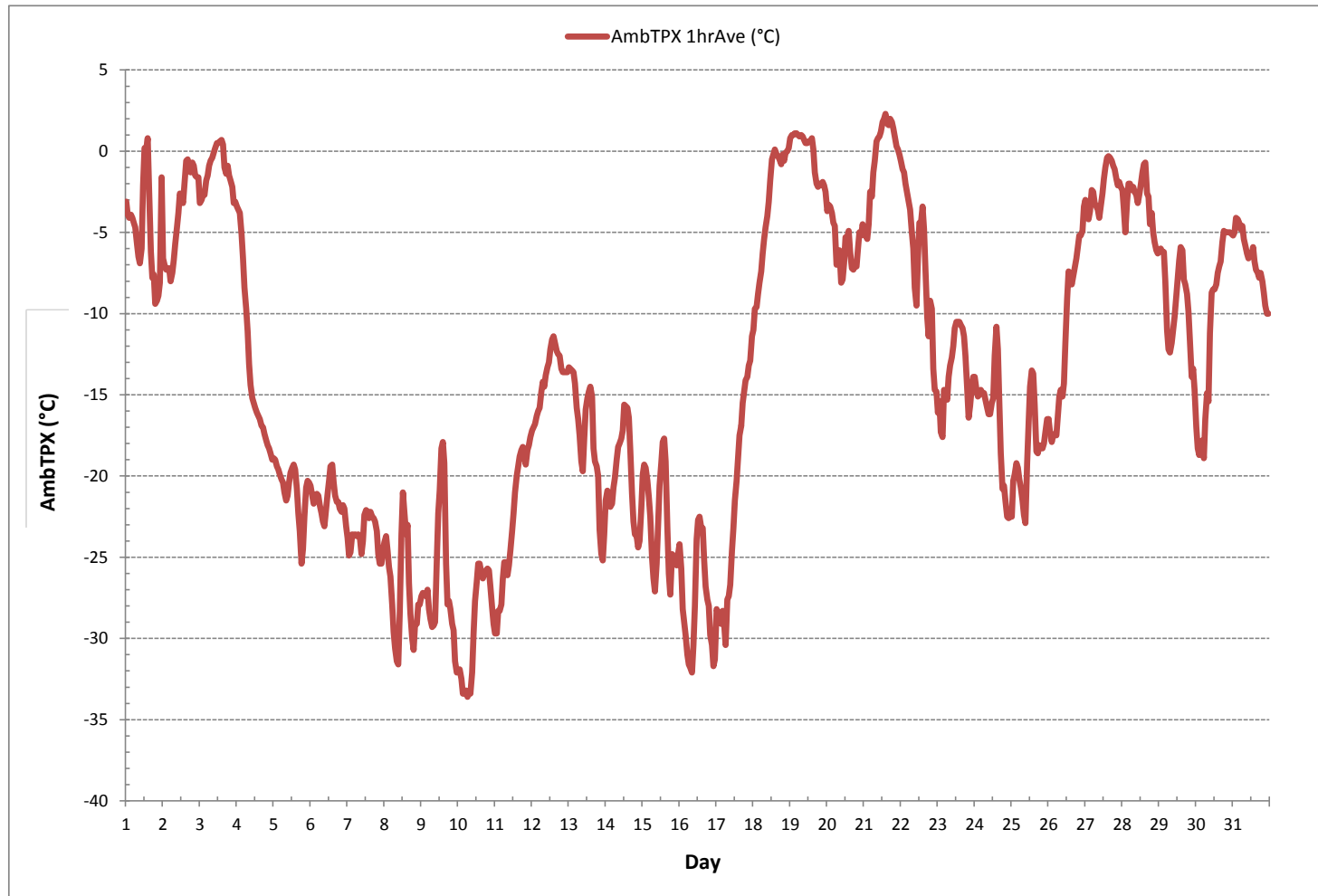
24 HR AVERAGES December 2016



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-33.6	°C	@ HOUR(S)	6	ON DAY(S)	10
MAXIMUM 1-HR AVERAGE:	2.3	°C	@ HOUR(S)	14	ON DAY(S)	21
MAXIMUM 24-HR AVERAGE:	-0.1	°C			ON DAY(S)	19
					VAR-VARIOUS	
OPERATIONAL TIME:					744	hrs
AMD OPERATION UPTIME:					100.0	%
STANDARD DEVIATION:	9.6		MONTHLY AVERAGE:		-13.8	°C

AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)



STATION TEMPERATURE

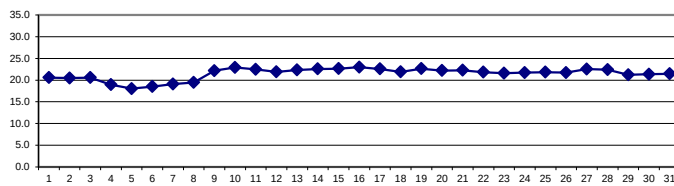
STATION TEMPERATURE Hourly Averages (StnTPX °C)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.		
DAY																													
1	20.9	20.7	20.7	20.7	20.6	20.6	20.6	20.6	20.6	20.4	20.3	20.6	20.9	20.8	21.1	20.7	21.0	20.5	20.5	20.2	20.1	20.2	20.1	20.1	20.1	20.1	21.1	20.6	24
2	20.5	20.4	20.2	20.6	20.5	20.1	20.5	20.3	20.4	20.5	20.6	20.7	20.4	20.6	20.5	20.8	20.6	20.6	20.4	20.7	20.4	20.2	20.6	20.4	20.1	20.8	20.5	24	
3	20.2	20.3	20.1	20.3	20.0	20.4	20.2	20.8	20.4	20.4	20.3	20.3	20.5	20.9	21.0	21.0	21.0	20.9	20.8	20.7	20.6	20.9	20.9	20.5	20.0	21.0	20.6	24	
4	20.2	20.6	20.6	20.5	20.7	20.2	20.1	19.8	19.5	18.8	18.9	18.5	18.3	18.0	18.0	18.0	18.1	18.1	17.9	18.0	18.0	17.8	17.8	17.7	17.7	20.7	18.9	24	
5	17.7	18.0	18.0	17.8	17.6	17.6	17.6	17.9	18.2	17.9	18.0	18.1	17.9	17.8	17.8	18.3	18.6	18.6	18.0	18.7	18.4	18.1	18.4	18.0	17.6	18.7	18.0	24	
6	17.7	18.0	18.2	17.9	18.2	18.0	17.9	18.4	18.1	18.4	18.3	17.9	18.3	18.1	18.0	18.2	19.0	19.6	19.1	19.9	19.2	19.3	19.6	18.7	17.7	19.9	18.5	24	
7	19.5	18.8	19.2	19.4	18.4	19.2	18.4	18.8	19.3	18.7	18.7	19.4	18.8	18.8	19.3	18.7	19.6	19.1	19.5	19.3	18.9	19.5	19.5	18.8	18.4	19.6	19.1	24	
8	19.3	19.4	18.7	19.5	18.4	18.6	18.8	18.6	18.5	13.5	17.1	21.0	19.6	20.5	19.7	18.4	19.3	18.8	20.4	21.7	21.7	21.8	21.6	21.9	13.5	21.9	19.5	24	
9	22.0	21.6	21.9	21.7	21.8	21.9	22.0	21.9	21.7	19.6	21.8	22.9	22.2	22.2	22.0	22.1	22.3	22.7	22.5	22.9	22.7	23.0	22.9	23.1	19.6	23.1	22.1	24	
10	23.2	22.8	23.2	23.2	23.2	22.8	23.1	23.1	23.1	23.3	23.0	22.6	22.8	22.6	22.7	23.0	22.6	22.5	22.9	22.6	22.7	22.9	23.2	23.0	22.5	23.3	22.9	24	
11	23.3	23.4	23.1	22.8	23.1	22.9	22.5	22.5	22.4	22.7	22.3	22.3	22.0	21.9	22.0	22.0	22.0	22.0	22.4	22.3	22.6	22.5	22.2	21.9	23.4	22.5	24		
12	22.2	22.4	22.3	22.3	22.2	22.2	22.1	21.9	22.2	22.0	21.9	21.7	21.7	21.5	21.5	21.5	21.5	21.5	21.6	21.5	21.8	21.8	21.8	21.6	21.5	22.4	21.9	24	
13	21.7	21.8	21.8	21.8	22.0	22.2	22.4	22.4	22.7	22.8	22.6	22.0	21.5	21.5	21.8	22.0	22.5	22.6	23.0	23.0	23.0	22.7	23.2	23.0	21.5	23.2	22.3	24	
14	23.0	23.0	23.1	22.8	23.1	23.0	22.8	22.6	22.4	22.3	22.3	22.1	21.7	21.7	21.8	21.8	22.2	22.5	22.7	22.9	23.0	22.8	23.0	23.0	21.7	23.1	22.6	24	
15	22.7	22.5	22.6	22.5	22.6	22.8	22.8	22.6	22.9	22.9	23.0	22.4	21.9	21.6	21.9	22.3	22.8	22.7	22.8	22.9	23.0	22.9	23.2	23.2	21.6	23.2	22.6	24	
16	23.0	23.0	22.9	22.9	22.9	23.3	23.0	23.3	23.3	23.4	23.2	22.9	22.3	22.4	22.5	22.6	22.9	22.7	23.0	23.3	23.3	22.9	23.3	22.9	22.3	23.4	23.0	24	
17	23.4	23.0	23.2	23.2	23.0	22.9	23.1	23.3	23.2	23.2	22.9	22.7	22.5	22.4	22.4	22.3	22.1	21.8	21.9	21.8	21.9	21.9	21.8	21.7	21.7	23.4	22.6	24	
18	22.0	21.4	21.6	21.2	21.3	21.3	21.1	20.8	20.6	20.9	21.2	21.5	22.4	21.7	22.3	22.3	22.7	22.8	23.1	22.7	22.8	22.8	22.6	22.7	20.6	23.1	21.9	24	
19	22.7	22.4	22.5	22.5	22.2	22.0	21.8	22.3	22.3	22.5	22.4	22.6	22.3	22.5	22.4	22.6	22.1	22.4	22.9	23.3	23.5	23.4	23.6	23.7	21.8	23.7	22.6	24	
20	23.9	23.5	23.8	23.5	23.7	23.7	23.9	24.0	23.4	23.0	22.8	20.4	20.0	20.6	20.5	21.2	21.3	21.7	21.5	21.7	21.4	21.1	20.9	21.0	20.0	24.0	22.2	24	
21	21.1	21.2	21.3	21.2	21.7	21.9	22.6	22.2	22.4	22.6	22.5	22.5	22.3	22.4	22.6	22.6	22.6	22.6	22.6	22.7	22.7	22.7	22.7	22.7	21.1	22.7	22.3	24	
22	22.7	22.6	22.8	22.7	22.4	22.6	22.4	22.5	22.2	21.5	21.2	21.0	20.9	21.3	21.8	21.8	21.3	21.1	21.5	21.3	21.2	21.3	21.7	21.9	20.9	22.8	21.8	24	
23	21.6	21.9	21.9	21.8	21.7	21.8	21.5	21.7	21.4	21.4	21.4	21.3	21.2	21.6	21.3	21.3	21.6	21.3	21.5	21.6	21.7	21.8	21.9	21.5	21.2	21.9	21.6	24	
24	21.7	21.6	21.8	21.4	21.7	21.6	21.7	21.7	21.6	21.6	21.6	21.6	21.6	21.4	21.4	21.3	21.6	21.8	21.9	22.0	22.1	22.2	22.2	22.1	21.3	22.2	21.7	24	
25	22.1	22.0	21.9	21.9	21.8	22.0	21.9	22.0	22.0	22.2	22.0	21.3	21.0	21.4	21.6	21.4	21.4	21.9	22.0	21.9	22.0	22.0	22.1	22.4	21.0	22.4	21.8	24	
26	22.1	22.0	22.3	22.4	22.0	21.8	22.1	21.9	22.1	22.0	21.7	21.7	21.0	21.1	21.0	21.4	21.6	21.2	21.7	21.5	21.3	21.5	21.7	22.3	21.0	22.4	21.7	24	
27	22.3	22.8	22.2	22.6	22.6	22.5	22.5	22.5	22.4	22.6	22.5	22.6	22.5	22.5	22.6	22.6	22.6	22.7	22.6	22.7	22.5	22.5	22.4	22.4	22.2	22.8	22.5	24	
28	22.4	22.4	22.2	22.3	22.5	22.2	22.4	22.6	22.6	22.7	22.8	22.8	22.6	22.5	22.6	22.6	22.4	22.6	22.7	22.4	22.3	22.1	21.7	21.3	21.3	22.8	22.4	24	
29	21.0	21.6	21.6	21.4	21.2	21.4	21.6	21.5	21.7	21.7	21.2	21.3	20.9	20.6	20.4	20.4	20.6	20.9	20.9	21.1	21.2	21.5	21.6	21.6	20.4	21.7	21.2	24	
30	21.8	21.8	22.0	21.9	21.9	22.0	21.9	21.8	21.9	22.0	21.5	20.9	21.1	20.7	20.8	20.7	21.3	20.5	20.7	20.9	20.8	20.8	21.1	21.4	20.5	22.0	21.3	24	
31	21.7	21.9	22.1	22.1	22.1	22.1	22.2	22.2	22.0	21.4	20.9	20.6	20.6	20.7	20.7	20.8	21.3	21.0	21.2	21.4	21.3	21.8	21.6	21.3	20.6	22.2	21.5	24	
HOURLY MAX	23.9	23.5	23.8	23.5	23.7	23.7	23.9	24.0	23.4	23.4	23.2	22.9	22.8	22.6	22.7	23.0	22.9	22.8	23.1	23.3	23.5	23.4	23.6	23.7					
HOURLY AVG	21.6	21.6	21.6	21.6	21.5	21.5	21.5	21.6	21.5	21.3	21.3	21.3	21.1	21.1	21.2	21.2	21.4	21.3	21.5	21.6	21.5	21.6	21.7	21.6					

STATUS FLAG CODES

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

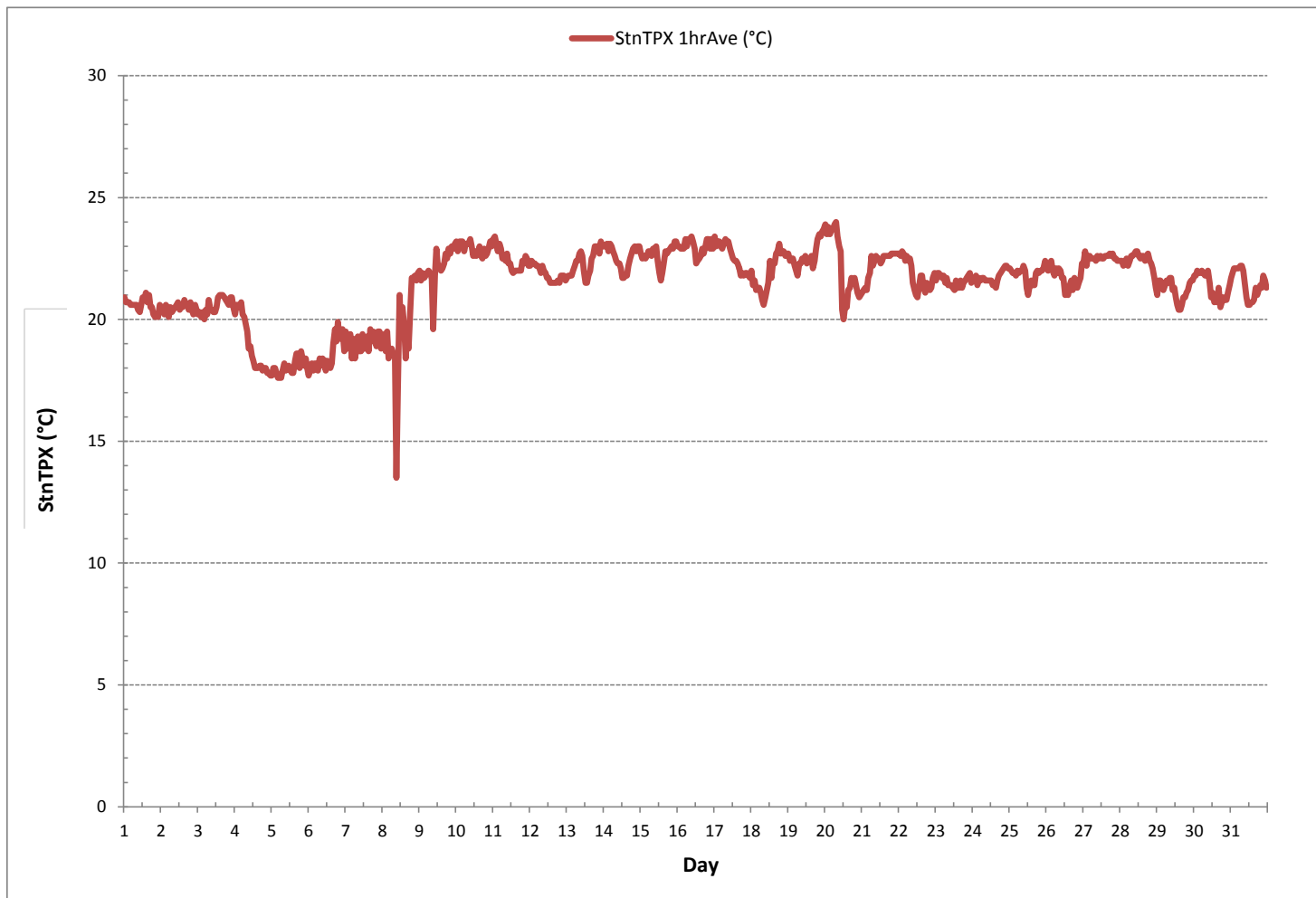
24 HR AVERAGES December 2016



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	13.5	°C	@ HOUR(S)	9	ON DAY(S)	8
MAXIMUM 1-HR AVERAGE:	24.0	°C	@ HOUR(S)	7	ON DAY(S)	20
MAXIMUM 24-HR AVERAGE:	23.0	°C			ON DAY(S)	16
					VAR-VARIOUS	
					OPERATIONAL TIME:	744 hrs
					AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION:	1.5				MONTHLY AVERAGE:	21.4 °C

STATION TEMPERATURE Hourly Averages (StnTPX °C)



APPENDIX II
EQUIPMENT CALIBRATION RESULTS

SULPHUR DIOXIDE



API 100A Sulphur Dioxide Analyzer Calibration

Date:	December 8, 2016	Barometric Pressure:	28.50 inHg
Company/Airshed:	PRAMP	Station Temperature °C:	20
Location/Station Name:	842b	Weather Conditions:	Mainly sunny
Parameter:	Sulphur Dioxide	Calibration Purpose:	routine monthly
Start Time 24 hr. (mst):	10:58	Performed By/Reviewer:	Raja Abid Trina Whitsitt
End Time 24 hr. (mst):	14:43	Cal Gas Expiry Date:	May 23, 2019
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	n/a

Analyzer:

ID# or Serial Number:	838	Range ppb:	500
Last Calibration Date:	November 15, 2016	As Found C.F.:	1.021
Previous C.F.:	1.000	New C.F.:	0.999

Calibrator:

Flow Meter ID's:	n/a
Make & Model:	API 700
Serial #:	830
Cal Gas Cylinder I.D. #:	LL 119513
Cal Gas Conc. (ppm):	50.6

Standard Calibration Points for Ranges

Point	ppb
High	380
Mid	180
Low	90

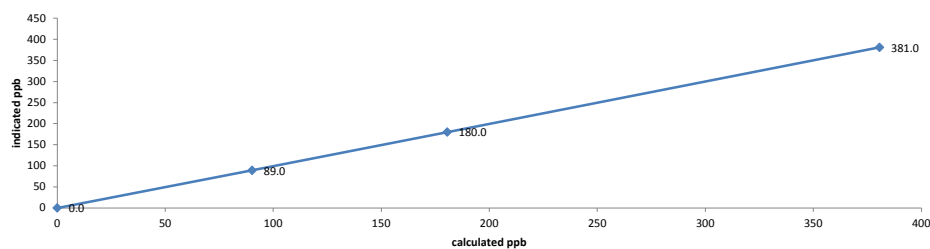
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	5997	0.00	5997	0.0	-1.0	n/a
as found high	5950	45.10	5995	380.7	372.0	1.021
adjusted zero	5997	0.00	5997	0.0	0.0	n/a
adjusted high	5950	45.10	5995	380.7	381.0	0.999
mid	5976	21.40	5997	180.6	180.0	1.003
low	5988	10.70	5999	90.3	89.0	1.014
calibrator zero	5997	0.00	5997	0.0	0.0	n/a
Average C.F. =						1.005

Linear Regression/Calibration Results:

Correlation Coefficient =	1.000	LIMITS	> or = 0.995
Slope =	0.998		.95-1.05
b (Intercept as % of full scale) =	0.14%		± 3% F.S.
% change in C.F. from last cal =	-2.05%		± 10%

API 100A Sulphur Dioxide Analyzer Calibration

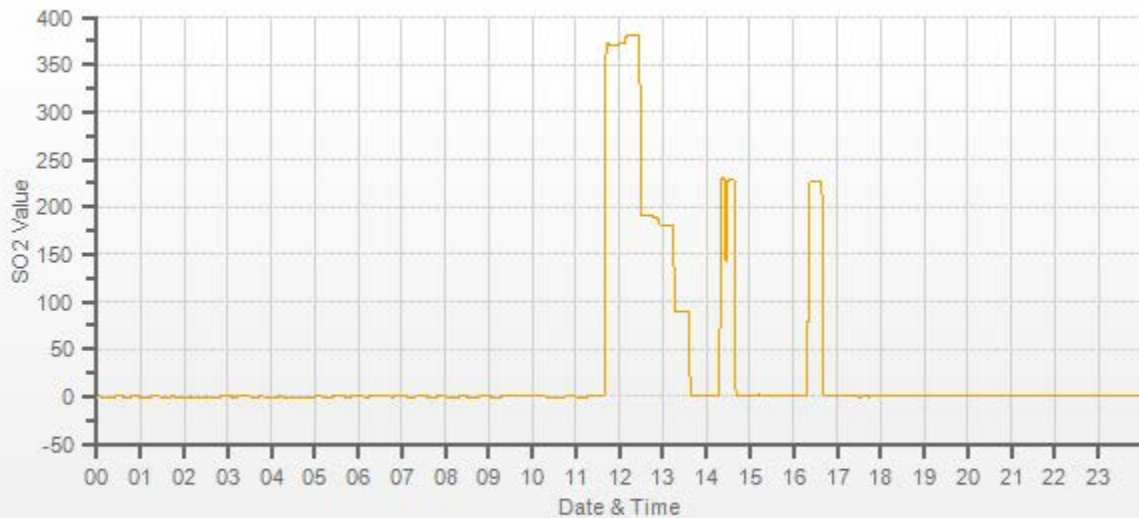


As found:		As left:	
SLOPE:	1.048	SLOPE:	1.056
OFFSET:	20.0	OFFSET:	19.1
HVPS:	685	HVPS:	685
DCPS:	2545	DCPS:	2546
RCELL TEMP:	49.2	RCELL TEMP:	50.8
BOX TEMP:	26.5	BOX TEMP:	27.5
PMT TEMP:	7.4	PMT TEMP:	7.3
IZS TEMP:	60.0	IZS TEMP:	60.2
Converter Temp:	n/a	Converter Temp:	n/a
PRES:	27.4	PRES:	27.4
SAMP FL:	670	SAMP FL:	667
PMT:	56.9	PMT:	59.4
UV LAMP:	2468	UV LAMP:	2433
LAMP RATIO:	98.9	LAMP RATIO:	97.0
STR. LGT	10.1	STR. LGT	10.1
DRK PMT:	34.2	DRK PMT:	34.3
DRK LMP:	-6.9	DRK LMP:	-6.9
Expected Value:	243.0	Expected Value:	227.0

Comments:

The analyzer sample inlet filter was changed.

SO2[ppb] Station: THREE CREEKS #842 TRAILER Daily: 2016/12/08 Type: AVG 1 Min. [1 Min.]



— SO2[ppb]



API 100A Sulphur Dioxide Analyzer Calibration

Date: December 19, 2016		Barometric Pressure: 27.24 inHg	
Company/Airshed: PRAMP		Station Temperature °C: 21	
Location/Station Name: 842b		Weather Conditions: Mainly clear	
Parameter: Sulphur Dioxide		Calibration Purpose: as found	
Start Time 24 hr. (mst): 17:30		Performed By/Reviewer: Raja Abid Trina Whitsitt	
End Time 24 hr. (mst): 18:23		Cal Gas Expiry Date: May 23, 2019	
Calibration Method: Gas Dilution		Converter Model & s/n (if applicable): n/a	

Analyzer:		Range ppb: 500		Station SO2 Analyzer Range?	
ID# or Serial Number: 838		As Found C.F.: 0.966		ppb	
Last Calibration Date: December 8, 2016		New C.F.: n/a			
Previous C.F.: 0.999					

Calibrator:		Standard Calibration Points for Ranges		SO2 Scrubber Check (10 mins.)									
Flow Meter ID's: n/a		<table border="1"><tr><td>Point</td><td>ppb</td></tr><tr><td>High</td><td>380</td></tr><tr><td>Mid</td><td>180</td></tr><tr><td>Low</td><td>90</td></tr></table>		Point	ppb	High	380	Mid	180	Low	90	Start/End Time 24 hr.:	
Point	ppb												
High	380												
Mid	180												
Low	90												
Make & Model: API 700				Target Concentration (ppb): 780									
Serial #: 830				Result (ppb):									
Cal Gas Cylinder I.D. #: LL 119513				Zero Corrected Result (ppb): 0									
Cal Gas Conc. (ppm): 50.6				**warning-initial zero must be done for corrected result, corrected result must not be greater than 2 ppb**									

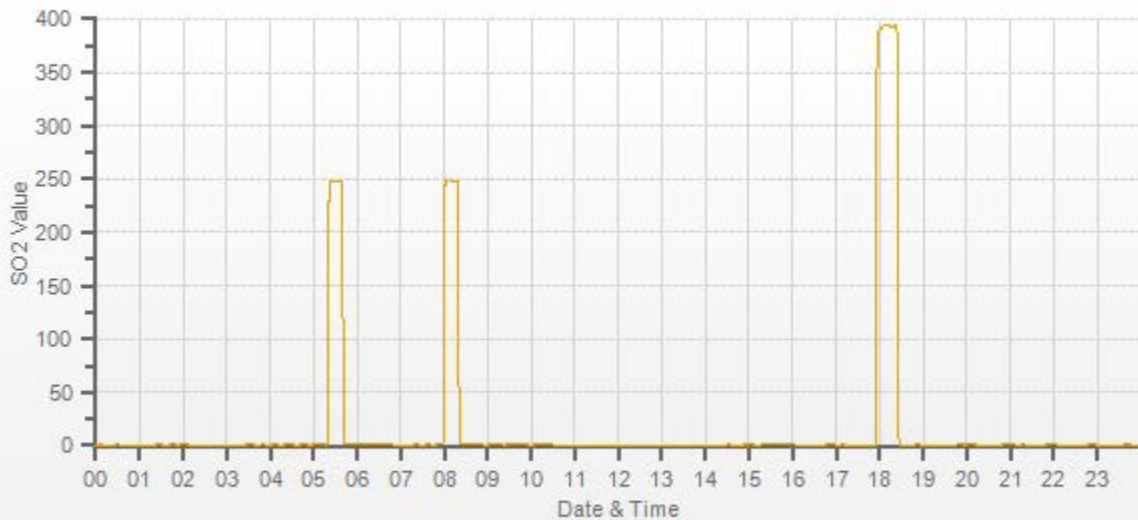
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015						
Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	5999	0.00	5999	0.0	0.0	n/a
as found high	5951	45.10	5996	380.6	394.0	0.966
Average C.F. =						n/a

Linear Regression/Calibration Results:		LIMITS	
Correlation Coefficient = n/a		> or = 0.995	
Slope = n/a		.95-1.05	
b (Intercept as % of full scale) = n/a		± 3% F.S.	
% change in C.F. from last cal = 3.31%		± 10%	

As found:		As left:	
SLOPE: 1.056		SLOPE: n/a	
OFFSET: 19.1		OFFSET: n/a	
HVPS: 686		HVPS: n/a	
DCPS: 2545		DCPS: n/a	
RCELL TEMP: 49.4		RCELL TEMP: n/a	
BOX TEMP: 30.3		BOX TEMP: n/a	
PMT TEMP: 7.2		PMT TEMP: n/a	
IZS TEMP: 60.2		IZS TEMP: n/a	
Converter Temp: n/a		Converter Temp: n/a	
PRES: 26.0		PRES: n/a	
SAMP FL: 637		SAMP FL: n/a	
PMT: 59.9		PMT: n/a	
UV LAMP: 2375.9		UV LAMP: n/a	
LAMP RATIO: 95.8		LAMP RATIO: n/a	
STR. LGT 10.1		STR. LGT n/a	
DRK PMT: 34.5		DRK PMT: n/a	
DRK LMP: -6.9		DRK LMP: n/a	
Expected Value: n/a		Expected Value: n/a	

Comments:
17:30-18:23 As Found performed due to drift in daily IZS

SO2[ppb] Station: THREE CREEKS #842 TRAILER Daily: 2016/12/19 Type: AVG 1 Min. [1 Min.]



— SO2[ppb]



API 100A Sulphur Dioxide Analyzer Calibration

Date:	December 20, 2016	Barometric Pressure:	27.30 inHg
Company/Airshed:	PRAMP	Station Temperature °C:	23
Location/Station Name:	842b	Weather Conditions:	Mainly clear
Parameter:	Sulphur Dioxide	Calibration Purpose:	repeat
Start Time 24 hr. (mst):	8:57	Performed By/Reviewer:	Raja Abid Trina Whitsitt
End Time 24 hr. (mst):	12:22	Cal Gas Expiry Date:	May 23, 2019
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	n/a

Analyzer:

ID# or Serial Number:	838	Range ppb:	500	Station SO ₂ Analyzer Range?	ppb
Last Calibration Date:	December 8, 2016	As Found C.F.:	0.996		
Previous C.F.:	0.999	New C.F.:	1.000		

Calibrator:

Flow Meter ID's:	n/a
Make & Model:	API 700
Serial #:	830
Cal Gas Cylinder I.D. #:	LL 119513
Cal Gas Conc. (ppm):	50.6

Standard Calibration Points for Ranges

Point	ppb
High	380
Mid	180
Low	90

SO₂ Scrubber Check (10 mins.)

Start/End Time 24 hr.:	
Target Concentration (ppb):	780
Result (ppb):	
Zero Corrected Result (ppb):	0
warning-initial zero must be done for corrected result, corrected result must not be greater than 2 ppb	

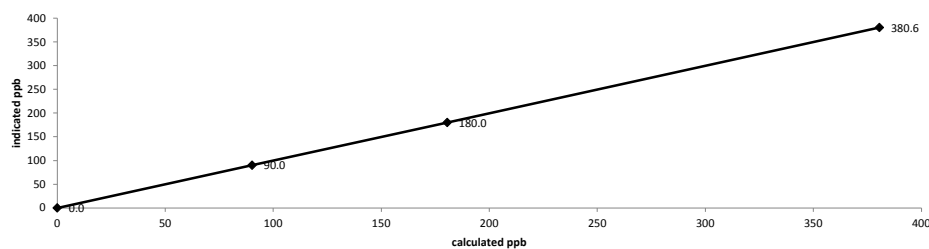
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	5998	0.00	5998	0.0	0.0	n/a
as found high	5951	45.10	5996	380.6	382.0	0.996
adjusted zero	5998	0.00	5998	0.0	0.0	n/a
adjusted high	5951	45.10	5996	380.6	380.6	1.000
mid	5976	21.40	5997	180.6	180.0	1.003
low	5988	10.70	5999	90.3	90.0	1.003
calibrator zero	5998	0.00	5998	0.0	1.0	n/a
Average C.F. =						1.002

Linear Regression/Calibration Results:

Correlation Coefficient =	1.000	LIMITS	> or = 0.995
Slope =	1.000		.95-1.05
b (Intercept as % of full scale) =	0.04%		± 3% F.S.
% change in C.F. from last cal =	0.27%		± 10%

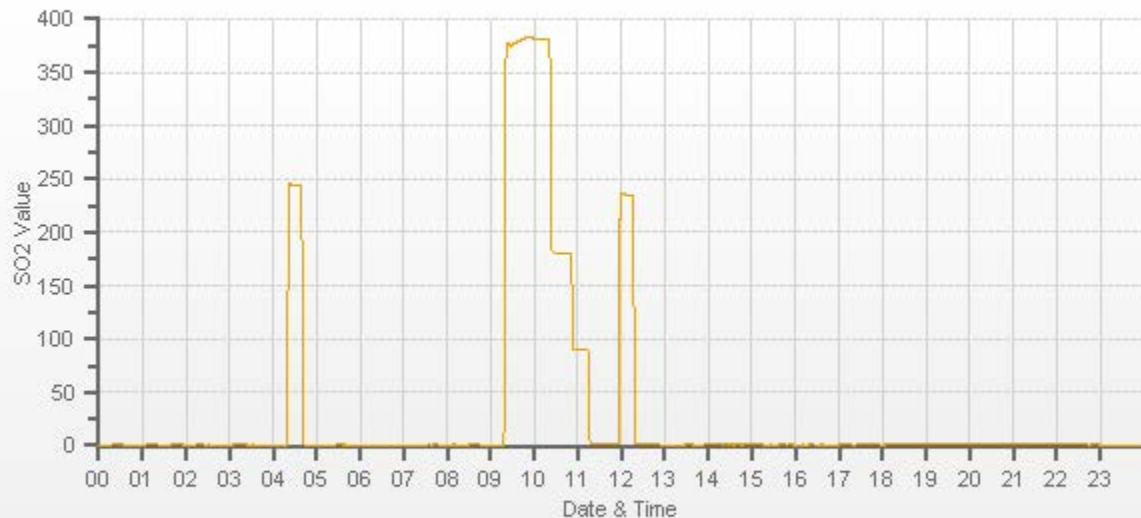
API 100A Sulphur Dioxide Analyzer Calibration



As found:		As left:	
SLOPE:	1.056	SLOPE:	1.028
OFFSET:	19.1	OFFSET:	19.1
HVPS:	686	HVPS:	685
DCPS:	2545	DCPS:	2546
RCELL TEMP:	51.1	RCELL TEMP:	49.4
BOX TEMP:	32.0	BOX TEMP:	27.5
PMT TEMP:	7.2	PMT TEMP:	7.3
IZS TEMP:	60.0	IZS TEMP:	60.1
Converter Temp:	n/a	Converter Temp:	n/a
PRES:	26.1	PRES:	26.2
SAMP FL:	631	SAMP FL:	637
PMT:	58.5	PMT:	59.7
UV LAMP:	2361.1	UV LAMP:	2377.1
LAMP RATIO:	97.0	LAMP RATIO:	95.4
STR. LGT	10.1	STR. LGT	9.8
DRK PMT:	34.4	DRK PMT:	34.3
DRK LMP:	-6.9	DRK LMP:	-6.9
Expected Value:	227.0	Expected Value:	235.2

Comments:

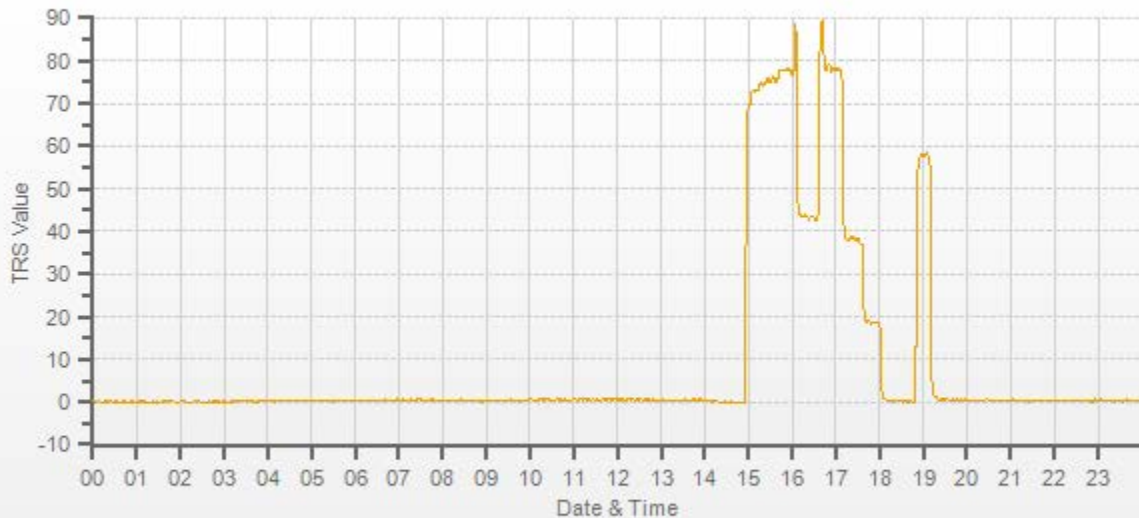
No zero adjustment was required/made. As found zero value copied to adjusted zero value for linearity calculation purposes.



— SO2[ppb]

TOTAL REDUCED SULPHUR

Thermo 43i Total Reduced Sulphur Analyzer Calibration																																																																							
Date: December 8, 2016 Company/Airshed: PRAMP Location/Station Name: 842b Parameter: Total Reduced Sulphur Start Time 24 hr. (mst): 14:04 End Time 24 hr. (mst): 19:14 Calibration Method: Gas Dilution	Barometric Pressure: 28.50 inHg Station Temperature °C: 20 Weather Conditions: Mainly sunny Calibration Purpose: routine monthly Performed By/Reviewer: Raja Abid / Trina Whitsitt Cal Gas Expiry Date: December 1, 2018 Converter Model & s/n (if applicable): WATLOW 05572																																																																						
Analyzer: ID# or Serial Number: 1226154720 Last Calibration Date: November 15, 2016 Previous C.F.: 1.000																																																																							
Range ppb: 100 As Found C.F.: 1.035 New C.F.: 1.001																																																																							
Station SO2 Analyzer Range? 500 ppb																																																																							
Calibrator: Flow Meter ID's: n/a Make & Model: API 700 Serial #: 830 Cal Gas Cylinder I.D. #: BLM 002197 Cal Gas Conc. (ppm): 10.3	Standard Calibration Points for Ranges <table border="1" style="margin: 5px;"> <thead> <tr> <th>Point</th> <th>ppb</th> </tr> </thead> <tbody> <tr> <td>High</td> <td>78</td> </tr> <tr> <td>Mid</td> <td>38</td> </tr> <tr> <td>Low</td> <td>19</td> </tr> </tbody> </table> SO₂ Scrubber Check (10 mins.) Start/End Time 24 hr.: 14:40-14:50 Target Concentration (ppb): 380 Result (ppb): -0.1 Zero Corrected Result (ppb): 0 **warning-initial zero must be done for corrected result, corrected result must not be greater than 2 ppb**	Point	ppb	High	78	Mid	38	Low	19																																																														
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Comments: The analyzer sample inlet filter was changed.																																																																							
The analyzer cooling fan filter(s) were cleaned.																																																																							
Calibration was interrupted by the scheduled daily zero/span check																																																																							



— TRS[ppb]

TOTAL HYDROCARBON



Thermo 55i Methane/Non-Methane Analyzer Calibration

☒ remove

Date:	December 8, 2016	Barometric Pressure:	28.50 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):	10:53-15:01	Performed By/Reviewer:	Raja Abid Trina Whitsitt
Calibration Method:	Gas Dilution	Cal Gas Expiry Date:	January 9, 2021

Analyzer:		Correction Factors:			
ID# or Serial Number:	1433563261	Previous C.F.:	As Found C.F.:	New C.F.:	
Measured Flow:	1247	CH ₄ =	0.998	1.041	1.000
Last Calibration Date:	November 24, 2016	NMHC =	1.003	0.996	1.000
Range ppm:	20 CH ₄ /20 NMHC/40 THC	THC =	1.000	1.018	1.001

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:	EnviroNics 6100	High	13.00	13.00	26.00
Serial #:	5212	Mid	7.00	7.00	14.00
Cal Gas Cylinder I.D. #:	LL 19638	Low	3.00	3.00	6.00
CH ₄ Cylinder Conc. =	880.0	=C ₄ H ₈ Cylinder Conc.			
CH ₄ as C ₃ H ₈ =	836.0	=total CH ₄ equivalent			

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

Calibrator Flow Rates (cc/min)				Correction Factors:								
Point	Diluent	Cal Gas	Total Flow	Calculated CH ₄ (ppm)	Calculated NMHC (ppm)	Calculated THC (ppm)	Indicated CH ₄ (ppm)	Indicated NMHC (ppm)	Indicated THC (ppm)	CH ₄	NMHC	THC
as found zero	2997	0.00	2997	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
as found high	2946	49.96	2996	14.67	13.94	28.62	14.09	13.99	28.10	1.041	0.996	1.018
adjusted zero	2997	0.00	2997	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
adjusted high	2946	49.96	2996	14.67	13.94	28.62	14.67	13.94	28.58	1.000	1.000	1.001
mid	2972	24.95	2997	7.33	6.96	14.29	7.32	6.99	14.31	1.001	0.996	0.998
low	2986	11.96	2998	3.51	3.34	6.85	3.49	3.38	6.87	1.006	0.987	0.996
calibrator zero	2997	0.00	2997	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
Average C.F. =										1.002	0.994	0.999

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	0.999	.95-1.05
b (Intercept as % of full scale) =	-0.04%	0.12%	0.05%	± 3% F.S.
% change in C.F. from last cal =	-4.36%	0.65%	-1.84%	± 10%

As found:		As left:	
Interface Board Voltages:	Bias Supply: -298.0	Calibration History cnt'd:	NM Peak Area: n/a
Temperatures:	Detector Oven: 175.0	Crucial Settings:	Methane Start: n/a
	Filter: 175.0		Methane End: n/a
	Column Oven: 75.0		Backflush: n/a
	Internal: 22.9		NMHV Start: n/a
Cylinder Pressures/reg.:	Carrier: 1800		NMHC End: n/a
	Fuel: 1600	Run History>1:	Date: 08Dec16
	Span Gas: 900		Time: 11:31
	Zero Air Generator: 45		CH ₄ PK HT: 0
Internal Pressures:	Carrier: 28.6		CH ₄ RT: 11.4
	Fuel: 37.6		CH ₄ Baseline: 1778
	Air: 34.3		CH ₄ LOD: 37
FID Status:	Status: LIT		CH ₄ SD: 12
	Counts: 21632		CH ₄ CONC: 0.00
	Flame: 343.2		NM PK HT: 0
	Det Base: 175.1		NM Peak Area: 0
Flame and Power Stats:	Last Power On: 08Dec2016@11:15		NM CONC: 0.00
	Flameouts: 1		NM Base Start: 1769
	Det Oven at Start: 173.9		NM Base End: 1792
	Col Oven at Start: 74.8		NM LOD: 18
Calibration History:	Time: n/a		NM Start IDX: 25
	Type: n/a		NM End IDX: 66
	Status: n/a		NM Max Slope: 7.7e-01
	Check/Adjust: n/a		NM Min Slope: -4.9e-.1
	CH ₄ Span Conc: n/a		NM PT Count: 0
	CH ₄ SP Ratio: n/a	Expected Values:	Previous CH ₄ : 8.47
	CH ₄ RT: n/a		Previous NMHC: 10
	CH ₄ PK IDX: n/a		Previous THC: 18.47
	CH ₄ PK HT: n/a		New CH ₄ : 8.82
	NM Span Conc: n/a		New NMHC: 10.13
	NM SP Ratio: n/a		New THC: 18.96

Comments:

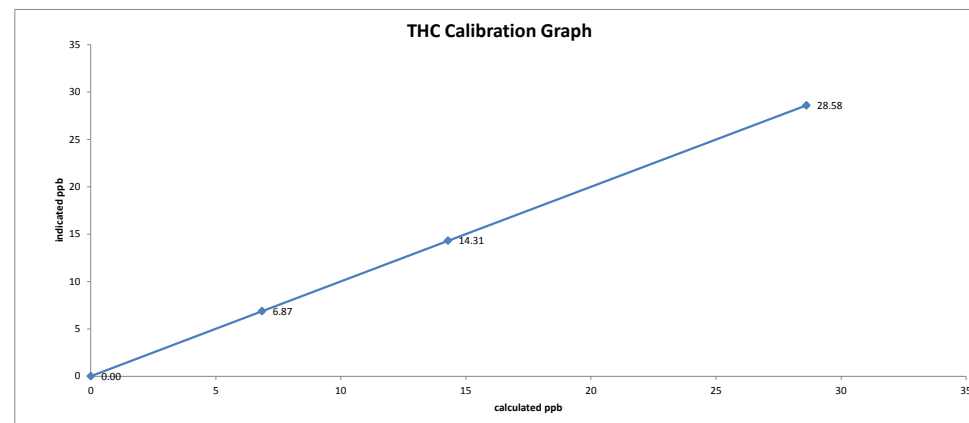
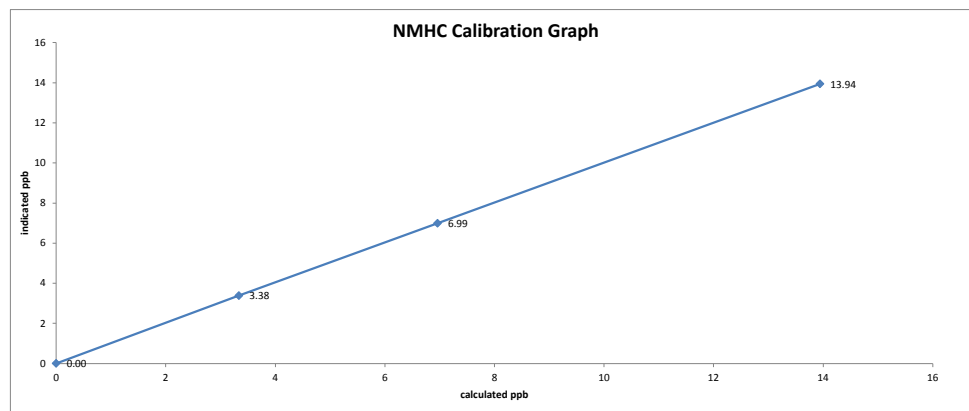
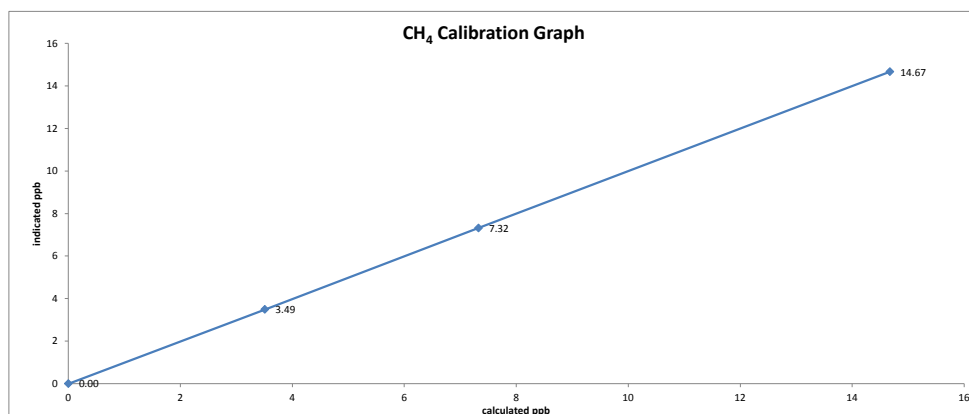
The analyzer sample inlet filter was changed.

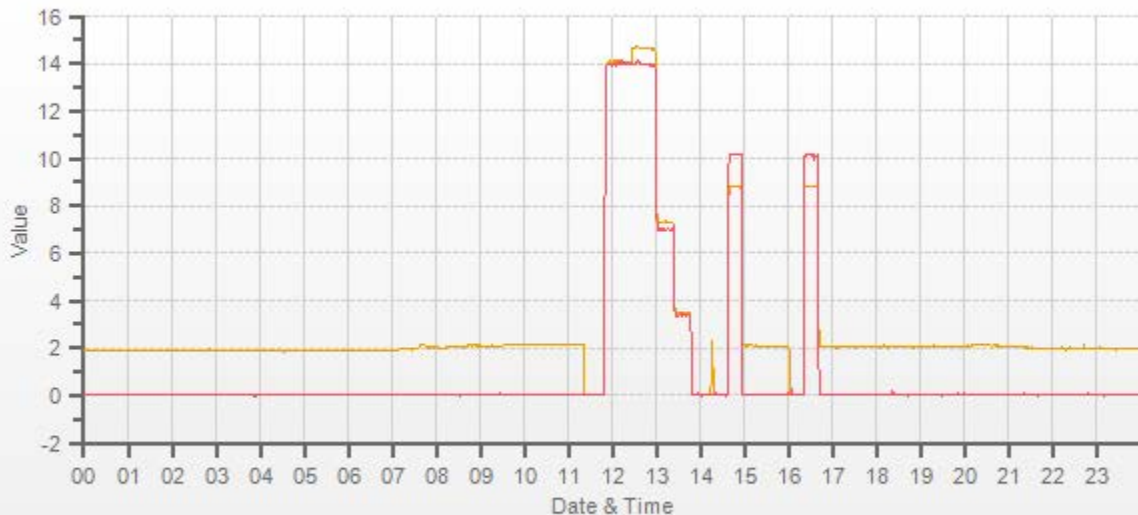
No zero adjustment was required/made. As found zero values were copied to adjusted zero values for linearity calculation purposes.

The analyzer cooling fan filter(s) were cleaned.

10:54-10:55: Flow check performed. 10:53-11:21 Alarm on Analyzer "Motherboard fail". Analyzer readings were CH₄=0 and NMHC=0 and Data logger readings CH₄=2.17, NMHC=0.01. Restarted the analyzer, alarm removed by itself and Analyzer readings were matching with the data logger. 12:47-14:14 Calibration. IZS started 14:16. 14:15-14:17 Drift in readings due to connecting the sample line.

Date:	December 8, 2016	Start/End Time 24 hr. (mst):	10:53-15:01
Company/Airshed:	PRAMP	Calibration Purpose:	routine monthly
Location/Station Name:	842b	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):	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

Calibrator Performance Audit

Sulphur Dioxide (by Cylinder Dilution)

File No. 2016-093A

Company: Maxxam

Operator: Christopher Wesson

Calibrator:

Make/Model API 700
 Serial Number 830
 Last Verification Date December 2014
 SO₂ Cylinder Conc. 50.3
 SO₂ Cylinder S/N LL42475

Flow Measurement Device:

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

Flow Measurements

Pt. No. 1 77.5 Pt. No. 2 37.8 Pt. No. 3 18.9

Calibrator Flow (scem)	Calculated Concentration (ppm)	Indicated Concentration (ppm)	% Difference	
			vs Audit Gas	% Diff. Limit
Zero Air	0.000	0.000		
4998	0.780	0.746	-4%	± 10%
5002	0.380	0.365	-4%	± 10%
4997	0.190	0.182	-4%	± 10%
Absolute Average Percent Difference			4%	± 10%

LINEAR REGRESSION ANALYSIS

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

SO₂ **LIMITS**
 Correlation= 1.0000 **≥ 0.995**
 m (Slope)= 0.9565 **0.90-1.10**
 b (Intercept % of FS)= 0.0436 **± 3% F.S.**

AENV Standards

Audit Calibrator

Make/Model R&R MFC 201
 Serial/AMU Number AMU 1690

SO₂ Analyzer

Make/Model Teco 43C
 Serial/AMU Number AMU 1623
 Last Calibration Date January 19, 2016
 Full Scale (ppm) 1.0

COMMENTS:

Gas was check for accuracy - 1% low from stated cylinder gas concentration.
 Flows are not measured at each pt - AMD not being followed as per section 5.0.
 Checked SO₂ high pt using a Sabio 2010 - found a significantly higher response.
 Both MFC's need to be re-calibrated.

Auditor: Al Clark

Date: January 19, 2016

Operator Signature: 

Location: McIntyre Center Edmonton

Company <u>Maxxam</u>		Operator: <u>Chris Wesson</u>	
Calibrator:		Flow Measurement Device:	
Make/Model	<u>EnviroNics 6100</u>	Make/Model	<u>Bios Definer 220</u>
Serial Number	<u>5212</u>	Serial Number	<u>High - 128686, Low 129069</u>
Last Verification Date	<u>December 18, 2014</u>	Temperature (°C)	<u>NA</u>
NO Cylinder S/N	<u>LL119317</u>	Barometric Pressure	<u>NA</u>
NO/NOx Concentration	<u>50.3/50.3</u>		

Dilution Flow (sccm)			
Pt. #1 <u>77.4</u>	Pt. #2 <u>37.7</u>	Pt. #3 <u>18.9</u>	
Gas Flow (sccm)			
Pt. #1 <u>5000</u>	Pt. #2 <u>5000</u>	Pt. #3 <u>5000</u>	

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO ₂	NOx	NO	NOx
4995	0.0	0.000	0.000	0.000	0.000	0.000	Limit ± 10%	
5000	77.4	0.780	0.780	0.785	0.001	0.786	1%	1%
4996	37.7	0.379	0.379	0.380	0.000	0.380	0%	0%
4991	18.9	0.190	0.190	0.190	0.000	0.190	0%	0%
Absolute Average Percent Difference							0%	0%

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)=	1.0068	0.90-1.10	m (Slope)=	1.0081
b (Intercept % of FS)=	-0.0783	± 3% F.S.	b (Intercept % of FS)=	-0.0981

Flow	O ₂ Conc	NO Decrease	NO	NO ₂	NOX	% Diff. Vs Audit gas	
5000	0	0.000	0.785	-0.001	0.784	NO ₂	% Diff. Limit
5000	0.5	0.500	0.285	0.499	0.784	0%	± 10%
5000	0.25	0.257	0.528	0.258	0.786	1%	± 10%
5000	0.1	0.101	0.684	0.104	0.788	4%	± 10%
Absolute Average Percent Difference						2%	± 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)=	0.9974	0.90-1.10
b (Intercept % of FS)=	0.1057	± 3% F.S.

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

COMMENTS: Flow values above were the calibrator displayed values; flows were also measured using certified flow meters (Maxxam-owned); the target concentrations were as follows: High 0.771ppm, Mid 0.377ppm, Low 0.189ppm; % Diff High 2%, Mid 1%, low 1%

Auditor: Shel Beaton
Operator Signature: [Signature]

Date: February 3, 2016
Location: McIntyre Center Edmonton

CALIBRATION GASES



Calibration Gas Audit

Single Component Cylinder Gas

File No. 2016-086CGA

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

Reference Calibrator and Gas:

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

Flow Measurement Device:

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

Reference Analyzer:

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

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

Previous Stated Concentration PPM: 50.6

Percent variance from Stated: 1.1

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

Auditor: Al Clark
Operator Signature: [Signature]

Date: June 17, 2016
Location: McIntyre Center Edmonton



Calibration Gas Audit

Single Component Cylinder Gas

File No. 2015-112CGA

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

Reference Calibrator and Gas:

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

Flow Measurement Device:

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

Reference Analyzer:

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

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

Previous Stated Concentration PPM: 10.3

Percent variance from Stated: 0.5

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

Auditor: Shea Beaton
Operator Signature: [Signature]

Date: February 2, 2016
Location: McIntyre Center Edmonton



Calibration Gas Audit

CH₄ / C₃H₈ Cylinder Gas

File No. 2013-298CGA

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

Reference Calibrator and Gas:

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

Flow Measurement Device:

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

Reference Analyzer:

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

Calibrator Flows (scm)		Indicated Conc. (ppm)		Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration	
Dilution	Gas	CH ₄	C ₃ H ₈			CH ₄	C ₃ H ₈
3500	0.0	0.04	0.00				
3505	51.9	13.16	12.58	0.01481	67.534	889	309
3487	22.2	5.64	5.43	0.00637	167.072	886	310
3458	10.8	2.80	2.73	0.00312	320.185	897	318
Average Cylinder Concentration:						890	312

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

C₃H₈
304
2.7

Cylinder gas tolerances based on CH₄ only

Meets Manufacturer Tolerance. Use manufacturers stated concentration ☒ COMMENTS: _____

< =5% Outside Manufacturer Tolerance, Use manufacturers concentration ☐

> 5% Outside Manufacturer Tolerance, **DO NOT USE** this cylinder ☐

Auditor: Al Clark Date: October 17, 2013
Operator Signature: [Signature] Location: McIntyre Center Edmonton

APPENDIX III
REPORT CERTIFICATION FORM

Report Certification Form

Alberta Airshed (if applicable)	EPA Approval or Code of Practice Registration # (if applicable)
NO	NA
Company Name (if applicable)	Industrial Operation Name (if applicable)
Peace River Area Monitoring Program Committee	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

17-Jan-17

Report Issued Date (dd-mm-yyyy)

APPENDIX IV
DATA VALIDATION CERTIFICATION FORM

Validation Certificate Form

Client: Peace River Area Monitoring Program Committee

Project #: 8449-2016-12-80-C

Site: Three Creeks 842b Station

Contact: Karla Reesor

Level 0 Preliminary Verification

Chris Sinclair

Date 11-Jan-17

Level 1 Primary Validation

Chris Sinclair

Date 17-Jan-17

Level 2 Final Validation

Chris Sinclair

Date 17-Jan-17

Level 3 Independent Data Review

Chris Sinclair

Date 18-Jan-17

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.