

AMBIENT AIR MONITORING MONTHLY DATA REPORT
PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
THREE CREEKS 986B STATION

JOB #: 8449-2017-02-67-C

February 2017

Prepared for:

PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
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Attention: KARLA REESOR

DATE: **March 29, 2017**

Prepared by:



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SUMMARY

In February 2017, Maxxam Analytics was contracted to manage the ambient air quality monitoring and maintenance activities at the Three Creeks 986b Station, near Peace River Oil Sands Area 2, Alberta. The monitoring station provides continuous meteorological measurements and air quality data for 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.

A station audit was conducted by Maxxam on February 5. Audit report is included in the appendix section.

TRS: The as-found high point value obtained from the calibration on February 4 was 8.1% off the reference value. This was within the tolerance limits of +/-10%. However, as a precaution, an as-found response check was completed on February 5, using an alternate calibrator. The result was 1.2% off reference value. Two hours of downtime were recorded due to this additional quality check.

THC/CH₄/NMHC: One hour of downtime was recorded on February 22, at hour 13:00, as the analyzer was recovering from a brief power outage.

Wind System: The wind system was upgraded on February 15. The RM Young 05103VK (s/n: 43711) was removed following a successful shut-down calibration. Subsequently, an RM Young 05305VK (s/n: 129612) was installed and calibrated.

The summary of results is presented on the following pages.

Any deviations or modifications made to the sampling or analytical methods are outlined in Section 1.0, Discussion. On this basis, Maxxam Analytics is issuing this completed report to Peace River Area Monitoring Program Committee, Three Creeks 986b 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 986b Station						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDANCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (kph)	WIND DIRECTION (sector)	READING	DAY	
	1-hr	24-hr	1-hr	24-hr									
SO ₂ (ppb)	172	48	0	0	0.2	4.4	6	16	6.5	WNW	0.8	9	100.0
TRS (ppb)	-	-	-	-	0.3	1.2	10	7	2.1	ENE	0.5	16	99.7
THC (ppm)	-	-	-	-	1.91	2.11	2	2	2.2	SSE	2.07	2	99.9
CH ₄ (ppm)	-	-	-	-	1.91	2.11	2	2	2.2	SSE	2.07	2	99.9
NMHC (ppm)	-	-	-	-	0.00	0.08	16	20	0.5	SW	0.00	ALL	99.9
RELATIVE HUMIDITY (%)	-	-	-	-	73	98	17	VAR	VAR	VAR	96	17	100.0
BAROMETRIC PRESSURE (millibar)	-	-	-	-	938	961	1	VAR	VAR	VAR	960	1	100.0
AMBIENT TEMPERATURE (°C)	-	-	-	-	-9.2	9.6	15	16	8.8	SSW	5.1	14	100.0
STATION TEMPERATURE (°C)	-	-	-	-	21.7	23.0	16, 17	1, 4	6.3 6.0	SSE NW	22.1	11	100.0
VECTOR WS (kph)	-	-	-	-	1.9	20.1	12	11	-	WSW	14.7	12	100.0
VECTOR WD (sec)	-	-	-	-	254 (WSW)	-	-	-	-	-	-	-	100.0

VAR-VARIOUS

**SOUR GAS PROCESSING INDUSTRY
MONTHLY REPORT SUMMARY**

Three Creeks 986b Station

Plant Name / Location

Peace River Area Monitoring Program Committee

Company

Licence Number	Report Date	
	YEAR	MONTH
N/A	2017	February

CONTINUOUS AMBIENT MONITORING							
PARAMETER	STN No.	% TIME OPERATIONAL	ONE - HOUR AVERAGE		24 - HOUR AVERAGE		
			MAXIMUM VALUES		MAXIMUM VALUES		NO. READINGS > REGULATION
SO ₂	1	100.0	0.0044	ppm	0	0.0008	ppm
TRS	1	99.7	0.0012	ppm	-	0.0005	ppm
THC	1	99.9	2.11	ppm	-	2.07	ppm
CH ₄	1	99.9	2.11	ppm	-	2.07	ppm
NMHC	1	99.9	0.08	ppm	-	0.00	ppm
RH	1	100.0	98	%	-	96	%
BP	1	100.0	961	mb	-	960	mb
Ambient TPX	1	100.0	9.6	°C	-	5.1	°C
Station TPX	1	100.0	23.0	°C	-	22.1	°C
Wind Speed	1	100.0	20.1	kph	-	14.7	kph
Wind Direction	1	100.0	-		-	-	

SIGNATURE OF COMPANY REPRESENTATIVE

FOR ALBERTA ENVIRONMENT USE ONLY

Exceedance Summary Report

SO₂ 1-Hour Exceedances

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

SO₂ 24-Hour Exceedances

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

In accordance with EPEA and the Substance Release Regulation.

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

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1.0 Discussion

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

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)

- Following a successful shut-down calibration on February 4, the sample pump was rebuilt. A successful post-repair calibration was subsequently performed.
- There were no issues that impacted operational time this month.
- The instantaneous channel was impacted by station audit activities on February 5, causing the invalidation of two hours of maximum instantaneous data.
- Maximum instantaneous data collected on February 22 at hour 13:00 was invalidated due to a brief power outage.

TOTAL REDUCED SULPHUR (TRS)

- The routine monthly calibration was performed on February 4. The as-found high point value obtained from the calibration was 8.1% off the reference value. This was within the tolerance limits of +/-10%. However, as a precaution, an as-found response check was completed on February 5, using an alternate calibrator. The result was 1.2% off reference value. No further action was taken.
- The instantaneous channel was impacted by station audit activities on February 5, causing the invalidation of two hours of maximum instantaneous data.
- Maximum instantaneous data collected on February 22 at hour 13:00 was invalidated due to a brief power outage.

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

- The routine monthly calibration was performed on February 4.
- One hour of downtime was recorded on February 22, at hour 13:00, as the analyzer was recovering from a brief power outage.
- 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. One canister event was recorded on February 16 at 20:10, at a concentration of 0.31 ppm.

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.
- There were no issues that impacted operational time this month.
- The wind system was upgraded on February 15. The RM Young 05103VK (s/n: 43711) was removed following a successful shut-down calibration. Subsequently, an RM Young 05305VK (s/n: 129612) was installed and calibrated.
- Maximum instantaneous data collected on February 22 at hour 13:00 was invalidated due to a brief power outage.

RELATIVE HUMIDITY (RH)

- There were no issues that impacted operational time this month.

BAROMETRIC PRESSURE (BP)

- There were no issues that impacted operational time this month. The reporting unit for Barometric Pressure was changed from inHg to millibar, as per client request.

AMBIENT TEMPERATURE (AmbTPX)

- There were no issues that impacted operational time this month.

STATION TEMPERATURE (StnTPX)

- There were no issues that impacted operational time this month.

2.0 Project Personnel

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

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 - Thermo 43C UV Fluorescent Analyzer
Total Reduced Sulphur - Thermo 43i UV Fluorescent Analyzer
Methane, Non-Methane Hydrocarbon - Thermo 55i FID Analyzer
Wind System - RM Young Unit
Relative Humidity - Campbell Scientific Unit
Barometric Pressure - Met One Unit
Ambient Temperature - Campbell Scientific 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

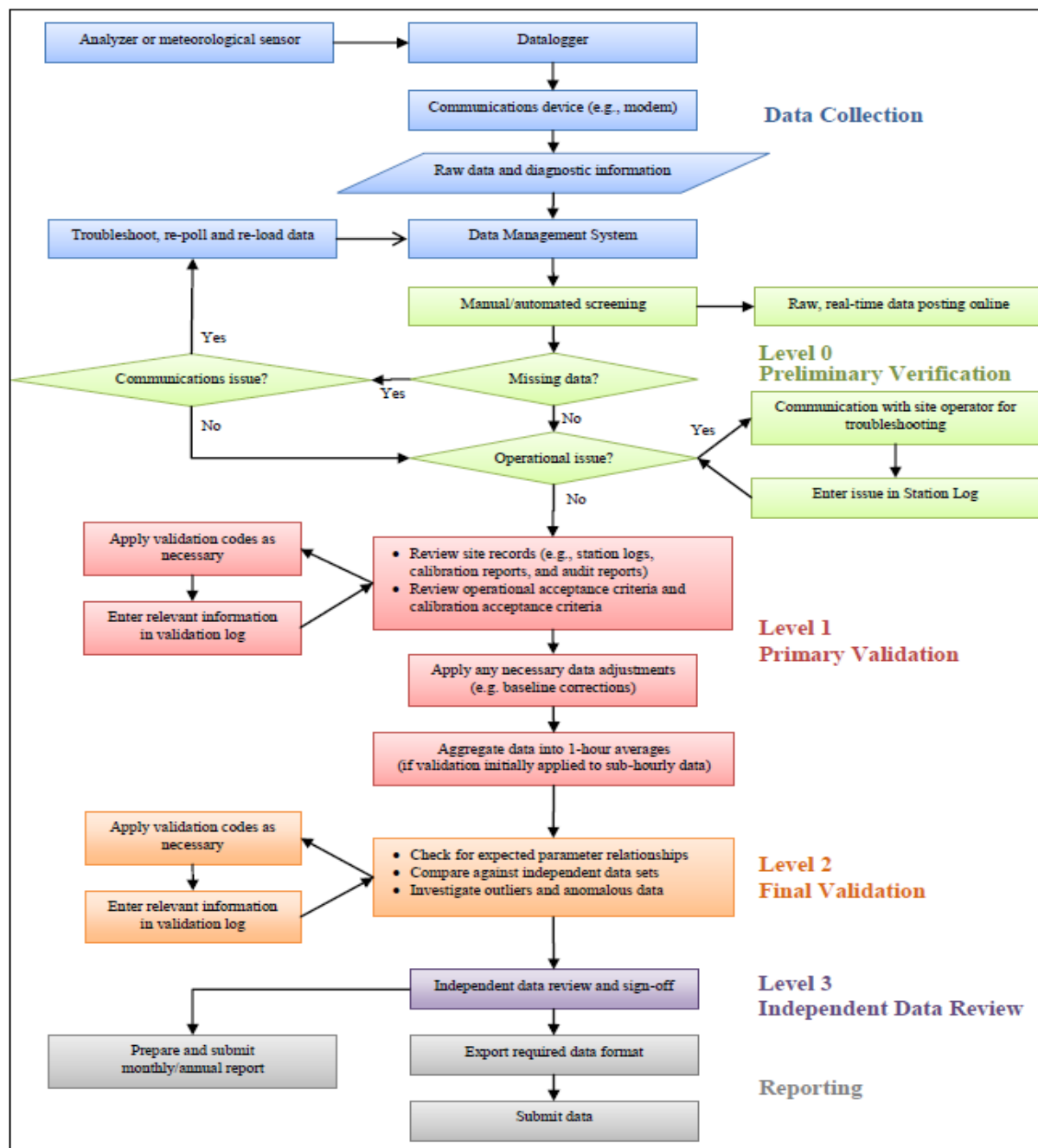
The purpose of Level 2 validation is to verify that there are no inconsistencies among related data, or among regional data measured at nearby sites.

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 MIN.	DAILY MAX.	24-HR AVG.	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59					
DAY																													
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.0	24	
2	0.2	0.0	0.2	0.2	0.3	0.1	S	0.0	0.1	0.2	0.2	0.0	0.1	0.3	0.2	0.2	0.0	0.2	0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.3	0.1	24
3	0.0	0.0	0.1	0.0	0.0	S	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.3	0.3	0.0	0.3	0.1	24	
4	0.3	0.2	0.6	0.4	S	0.2	0.1	0.2	0.1	0.0	0.1	0.1	0.0	0.2	0.0	C	C	C	C	C	C	0.1	0.0	0.0	0.0	0.6	0.2	24	
5	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	0.2	0.1	0.1	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.0	24	
6	0.1	0.2	S	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.2	0.3	0.0	0.0	0.0	1.7	4.4	0.4	0.4	0.1	0.0	0.0	0.0	0.0	0.0	4.4	0.4	24	
7	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	0.1	0.0	0.0	0.1	0.1	0.2	0.1	0.0	0.2	0.0	24	
8	S	0.0	0.0	0.2	0.1	0.1	0.2	0.3	0.3	0.4	0.6	0.7	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.4	S	0.0	0.7	0.4	24	
9	0.5	0.7	0.5	0.6	0.6	0.6	0.7	0.8	0.9	0.9	0.8	0.7	0.8	0.8	0.9	1.1	0.7	0.6	0.8	0.6	1.2	1.0	S	0.7	0.5	1.2	0.8	24	
10	0.7	0.6	0.7	0.4	0.5	0.5	0.6	0.9	0.8	0.8	0.7	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.8	S	0.7	0.9	0.4	0.9	0.7	24	
11	1.0	0.9	0.7	0.8	0.8	0.6	0.6	0.6	0.5	0.5	0.8	0.8	0.6	0.7	0.5	0.5	0.6	0.4	0.4	0.5	S	0.5	0.6	0.4	0.4	1.0	0.6	24	
12	0.4	0.7	0.5	0.4	0.5	0.5	0.5	0.4	0.6	0.5	0.5	0.3	0.4	0.4	0.5	0.4	0.4	0.4	0.3	S	0.2	0.3	0.4	0.2	0.2	0.7	0.4	24	
13	0.4	0.3	0.2	0.1	0.2	0.0	0.2	0.3	0.0	0.1	0.1	0.2	0.1	0.1	0.0	0.2	0.2	0.1	S	0.0	0.0	0.0	0.1	0.0	0.0	0.4	0.1	24	
14	0.1	0.0	0.0	0.2	0.0	0.1	0.1	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.1	0.0	0.2	0.3	0.0	0.3	0.1	24	
15	0.0	0.2	0.1	0.0	0.1	0.1	0.2	0.1	0.0	0.2	0.3	0.4	0.2	0.4	0.4	0.6	S	0.2	0.2	0.4	0.3	0.2	0.4	0.1	0.0	0.6	0.2	24	
16	0.1	0.3	0.2	0.4	0.3	0.3	0.7	0.5	0.3	0.4	0.3	0.5	1.0	0.5	0.4	S	0.2	0.7	0.3	0.0	0.1	0.0	0.0	0.1	0.0	1.0	0.3	24	
17	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	24	
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	S	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.2	0.0	24	
20	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	24	
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	
22	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	0.0	0.1	0.3	0.7	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.7	0.1	24	
23	0.0	0.0	0.0	0.1	0.3	0.2	0.3	0.2	S	0.4	0.1	0.5	0.5	0.5	0.6	0.5	0.6	0.6	0.5	0.4	0.4	0.2	0.5	0.2	0.0	0.6	0.3	24	
24	0.3	0.3	0.3	0.5	0.3	0.3	0.3	S	0.3	0.3	0.4	0.3	0.5	1.2	1.0	0.5	0.3	0.5	0.4	0.4	0.6	0.3	0.5	0.7	0.3	1.2	0.5	24	
25	0.5	0.5	0.5	0.5	0.5	0.7	S	0.7	0.7	0.7	0.6	0.6	0.9	0.7	0.4	0.4	0.3	0.2	0.3	0.2	0.2	0.1	0.3	0.3	0.1	0.9	0.5	24	
26	0.4	0.3	0.1	0.0	0.2	S	0.0	0.1	0.3	0.0	0.3	0.0	0.0	0.5	0.1	0.2	0.1	0.2	0.3	0.2	0.3	0.1	0.1	0.3	0.0	0.5	0.2	24	
27	0.1	0.1	0.4	0.2	S	0.2	0.1	0.2	0.4	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.1	24	
28	0.0	0.0	0.0	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	
HOURLY MAX	1.0	0.9	0.7	0.8	0.8	0.7	0.7	0.9	0.9	0.9	0.8	0.8	1.0	1.2	1.0	1.7	4.4	0.7	0.8	0.7	1.2	1.0	0.7	0.9					
HOURLY AVG	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.4	0.2	0.2	0.2	0.2	0.1	0.2	0.2					

STATUS FLAG CODES

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

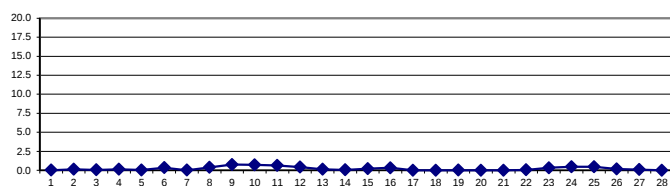
OBJECTIVE LIMIT:

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

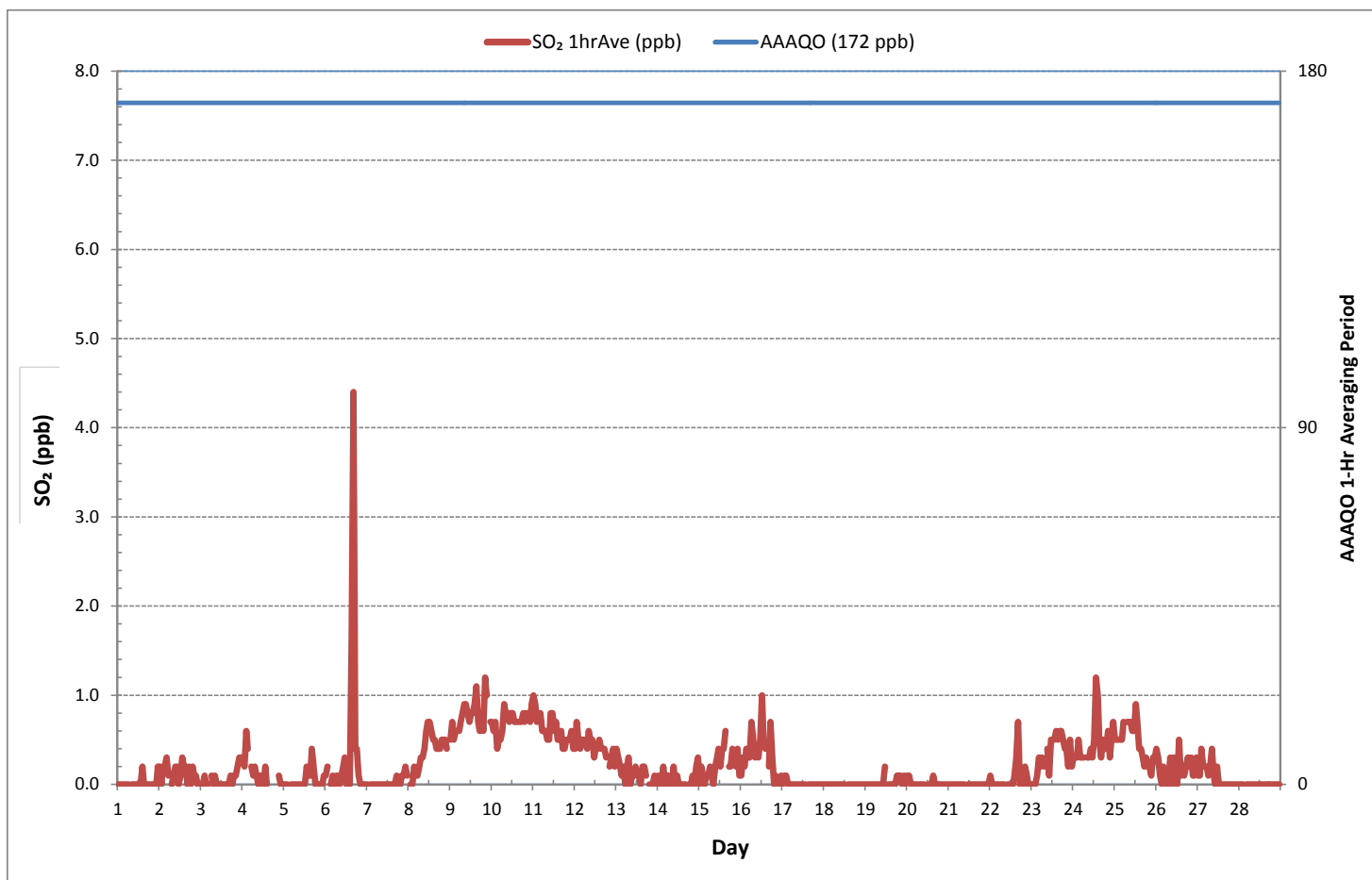
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDANCES:	0				
NUMBER OF 24-HR EXCEEDANCES:	0				
NUMBER OF NON-ZERO READINGS:	350				
MINIMUM 1-HR AVERAGE:	0.0	ppb @ HOUR(S)	VAR	ON DAY(S)	VAR
MAXIMUM 1-HR AVERAGE:	4.4	ppb @ HOUR(S)	16	ON DAY(S)	6
MAXIMUM 24-HR AVERAGE:	0.8	ppb		ON DAY(S)	9
				VAR-VARIOUS	
IZS CALIBRATION TIME:	29	hrs	OPERATIONAL TIME:	672	hrs
MONTHLY CALIBRATION TIME:	6	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	0.3		MONTHLY AVERAGE:	0.2	ppb

24 HR AVERAGES February 2017



SULPHUR DIOXIDE Hourly Averages (SO₂ ppb)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - February 2017

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	1.6	2.1	2.1	1.6	1.6	1.6	1.6	S	2.1	1.6	1.6	1.6	1.6	1.6	3.1	2.1	1.6	1.6	1.1	1.6	1.6	1.6	1.6	2.1	1.1	3.1	1.8	24	
2	2.6	1.6	2.1	2.1	2.1	1.6	S	1.6	1.1	1.6	2.1	1.6	1.6	2.1	1.6	2.0	2.1	1.6	2.1	2.1	1.6	1.6	1.6	1.6	1.1	2.6	1.8	24	
3	1.6	1.6	1.6	2.0	1.6	S	1.6	2.1	1.1	1.6	1.0	1.6	1.6	1.1	1.6	1.6	1.6	1.1	1.1	1.6	1.6	1.6	1.6	1.1	1.0	2.1	1.5	24	
4	2.1	1.1	2.1	1.6	S	1.6	1.6	1.6	2.6	1.6	1.1	1.6	1.1	1.6	1.1	C	C	C	C	C	C	1.6	1.6	2.1	1.1	2.6	1.6	24	
5	1.6	1.6	2.1	S	1.6	1.6	1.6	1.6	1.6	1.6	2.1	1.6	X	X	2.1	1.6	2.1	2.1	1.6	1.6	1.6	1.6	2.1	1.6	1.6	2.1	1.7	22	
6	1.6	1.6	S	1.6	1.6	1.6	1.6	1.6	1.6	2.1	2.1	2.1	1.6	2.1	1.6	5.1	6.6	4.6	2.1	2.0	1.6	1.6	1.6	1.6	1.6	6.6	2.2	24	
7	1.6	S	1.6	1.6	1.6	1.6	2.1	2.1	1.6	2.1	1.6	1.6	2.1	1.6	2.1	1.6	2.1	2.1	2.1	1.6	1.6	1.6	2.1	2.1	1.6	2.1	1.8	24	
8	S	2.1	1.6	1.6	2.1	2.1	1.6	2.1	2.1	2.1	2.1	2.6	2.1	2.1	2.1	2.1	2.1	1.6	2.1	2.1	1.6	1.6	1.6	S	1.6	2.6	2.0	24	
9	1.6	2.1	2.1	2.1	2.1	2.6	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.6	2.1	2.1	1.6	1.6	1.6	1.6	2.1	2.6	1.6	S	1.6	2.6	2.0	24	
10	1.6	1.6	2.1	1.6	1.6	1.1	1.6	2.1	2.1	2.6	1.6	2.1	2.0	1.6	1.6	2.1	2.1	1.6	2.1	2.6	1.6	S	2.1	2.1	1.1	2.6	1.9	24	
11	2.1	1.6	2.1	2.1	2.1	1.6	2.1	1.6	2.1	1.6	2.1	1.6	1.6	1.6	1.6	1.1	2.1	1.6	1.6	1.6	S	1.6	2.1	1.6	1.1	2.1	1.8	24	
12	1.6	2.1	2.1	2.1	1.6	1.6	2.0	1.6	2.1	1.6	1.6	1.6	1.6	1.6	2.1	2.0	2.1	1.6	2.1	1.6	S	1.6	1.6	1.6	2.1	1.6	2.1	1.8	24
13	2.1	2.1	2.1	2.6	2.1	1.6	1.6	2.1	2.1	2.1	1.6	2.1	2.6	2.1	2.1	2.1	2.1	2.6	S	2.1	2.1	2.1	2.6	2.1	1.6	2.6	2.1	24	
14	2.1	2.1	2.1	2.6	2.1	2.1	2.6	2.1	2.6	2.6	2.6	2.6	2.1	2.6	2.6	2.6	2.6	2.1	S	2.1	2.6	2.6	2.1	2.1	3.1	2.1	3.1	2.4	24
15	2.1	2.6	2.1	2.6	2.6	2.1	2.1	2.6	2.6	2.1	2.6	2.1	2.1	2.6	2.1	2.6	S	2.1	2.1	2.6	2.6	2.1	2.6	2.1	2.1	2.6	2.3	24	
16	2.1	2.6	2.1	2.6	2.6	2.6	2.6	2.1	2.6	2.1	2.1	2.6	3.6	2.6	2.1	S	2.1	3.1	2.6	2.1	2.1	2.1	2.6	2.6	2.1	3.6	2.4	24	
17	2.1	2.1	2.6	2.1	2.1	2.6	2.6	2.1	2.1	2.6	2.1	2.6	2.1	2.1	S	2.6	2.1	2.6	2.6	2.1	2.6	2.6	2.6	2.6	2.1	2.6	2.4	24	
18	2.6	2.1	2.1	2.1	2.1	2.6	2.6	2.6	2.6	2.6	2.1	2.1	2.6	S	2.6	2.6	2.6	2.1	2.1	2.6	2.6	2.1	2.1	2.1	2.1	2.6	2.4	24	
19	2.1	2.6	2.6	2.6	2.1	2.1	2.6	2.1	2.1	2.6	2.1	2.6	S	2.6	2.6	2.0	2.6	2.1	2.6	3.1	2.1	2.6	2.6	2.6	2.0	3.1	2.4	24	
20	2.6	2.6	2.1	2.6	2.1	2.1	2.1	2.1	2.1	2.1	2.1	S	2.6	2.6	2.6	3.1	2.6	2.6	3.1	2.6	2.6	2.6	2.1	2.6	2.1	3.1	2.4	24	
21	2.6	2.6	2.6	2.6	2.6	3.1	2.6	2.1	2.6	2.6	S	2.1	2.1	2.6	2.6	2.6	2.6	2.1	2.1	2.1	2.1	2.1	2.6	2.1	2.6	2.1	3.1	2.4	24
22	2.6	2.6	2.6	2.1	2.1	2.1	2.6	2.6	2.1	S	2.6	2.1	2.1	P	2.6	3.1	3.6	2.6	2.1	2.6	2.6	2.1	2.1	2.6	2.1	3.6	2.5	23	
23	2.1	2.1	2.1	3.1	2.1	2.1	2.1	2.1	S	2.6	2.1	3.1	2.6	2.6	2.6	2.6	2.1	2.6	2.6	2.6	2.6	1.6	2.1	2.1	1.6	3.1	2.4	24	
24	2.1	2.6	2.1	2.1	2.1	2.1	2.1	S	2.6	2.1	2.6	2.1	2.1	3.1	3.6	2.1	2.1	2.6	2.6	2.1	2.6	2.6	2.1	2.1	2.1	3.6	2.4	24	
25	2.6	2.1	2.1	2.1	2.6	2.6	S	2.1	2.6	2.6	2.1	2.6	2.6	2.6	2.1	2.1	2.1	2.6	2.6	2.1	2.1	2.1	2.6	2.1	2.1	2.6	2.3	24	
26	2.6	2.1	2.1	2.1	2.1	S	2.1	2.1	2.1	2.1	2.1	2.1	2.1	3.1	1.6	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.6	3.1	2.1	24	
27	2.1	1.6	2.1	2.1	S	2.1	2.1	2.1	2.1	2.6	2.1	2.6	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1	1.6	2.6	2.1	24	
28	2.0	2.0	2.1	S	2.1	2.1	2.1	1.6	2.1	2.0	2.1	2.1	2.1	2.6	2.1	2.1	2.6	2.0	2.0	2.0	2.1	2.0	2.0	2.0	1.6	2.6	2.1	24	
HOURLY MAX	2.6	2.6	2.6	3.1	2.6	3.1	2.6	2.6	2.6	2.6	2.6	3.1	3.6	3.1	3.6	5.1	6.6	4.6	3.1	3.1	2.6	2.6	2.6	3.1					
HOURLY AVG	2.1	2.1	2.1	2.2	2.0	2.0	2.1	2.0	2.1	2.1	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.2	2.1	2.2	2.1	2.0	2.1	2.1					

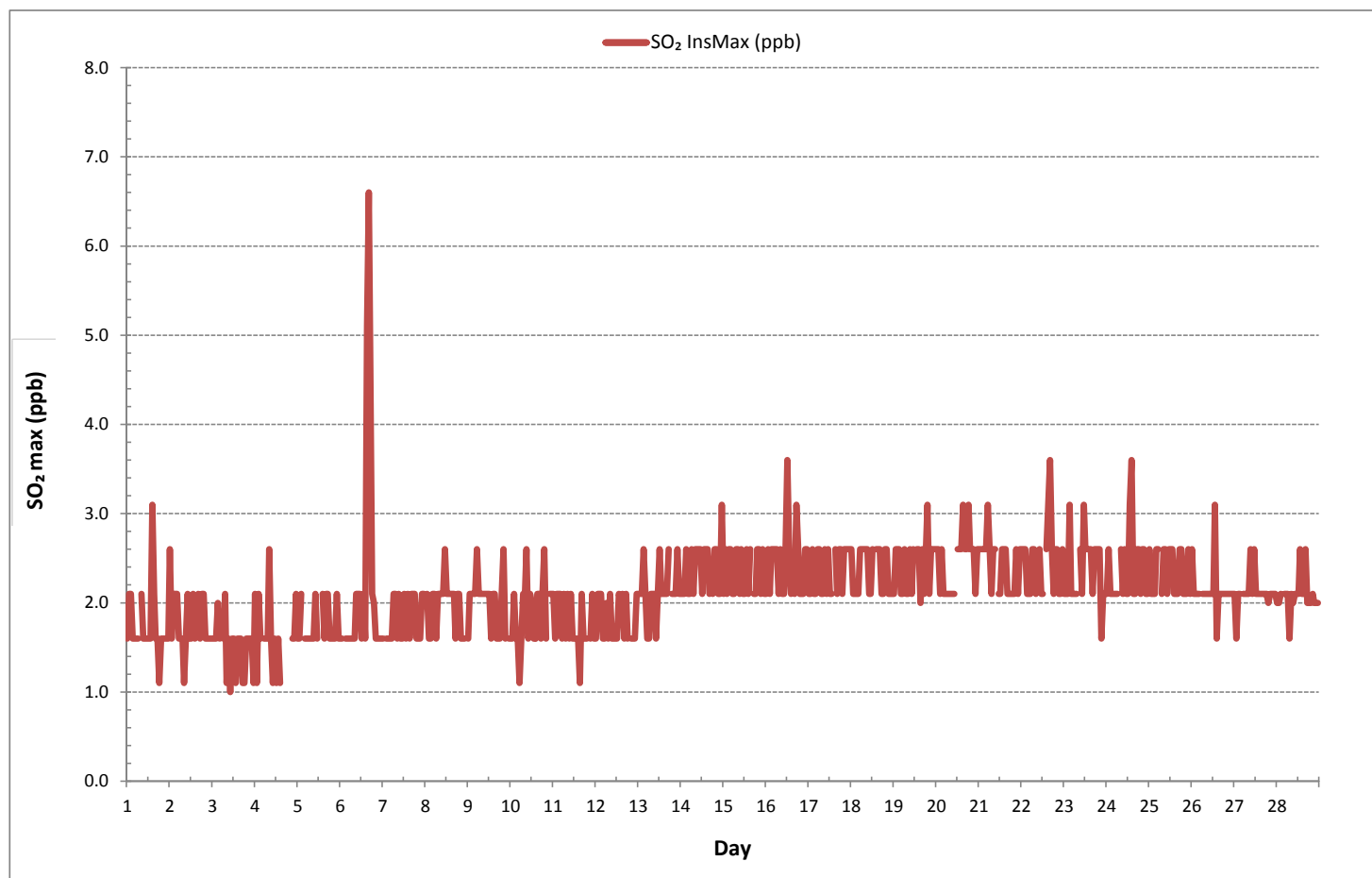
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	634				
MAXIMUM INSTANTANEOUS VALUE:	6.6	ppb	@ HOUR(S)	16	ON DAY(S) 6
				VAR-VARIOUS	
IZS CALIBRATION TIME:	29	hrs	OPERATIONAL TIME:	669	hrs
MONTHLY CALIBRATION TIME:	6	hrs			
STANDARD DEVIATION:	0.5				

SULPHUR DIOXIDE Instantaneous Maximum (SO₂ ppb)

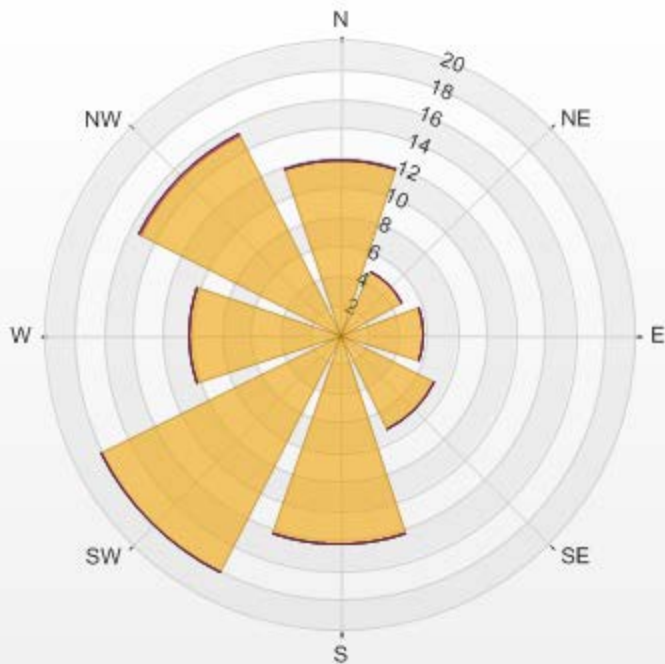


Wind: PRAMP_986 Poll.: PRAMP_986-SO2[ppb] Monthly: 02/2017 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 12.68% Valid Data: 93.90% Calm Avg: 0.21 [ppb]

Direction	0-3	3-10	10-85	85-170	>170.0	Total
N	11.89	0	0	0	0	11.89
NE	4.75	0	0	0	0	4.75
E	5.71	0	0	0	0	5.71
SE	7.13	0	0	0	0	7.13
S	14.26	0	0	0	0	14.26
SW	18.07	0	0	0	0	18.07
W	10.3	0	0	0	0	10.3
NW	15.06	0.16	0	0	0	15.22
Summary	87.17	0.16	0	0	0	87.33

%	Icon	Classes (ppb)
87		0-3
0		3-10
0		10-85
0		85-170
0		>170.0

PRAMP_986 Poll.: PRAMP_986-SO2[ppb] 01/02/2017 00:00 - 28/02/2017 23:00 Calm: 12.68% Calm Poll
Avg: 0.21[ppb]





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

TOTAL REDUCED SULPHUR

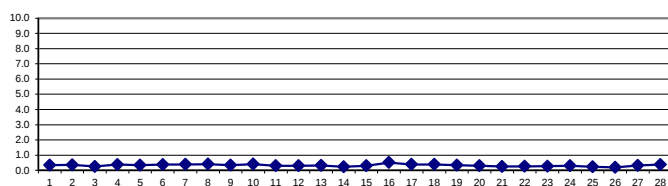
TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.		
DAY																													
1	0.5	0.4	0.3	0.3	0.3	0.3	0.3	S	0.4	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	0.4	0.3	0.5	0.3	24	
2	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	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	24
3	0.2	0.2	0.2	0.2	0.2	S	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.2	24
4	0.3	0.3	0.4	0.3	S	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	C	C	C	C	C	0.4	0.3	0.3	0.3	0.3	0.3	0.5	0.4	24
5	0.3	0.3	0.3	S	0.3	0.3	0.2	0.3	0.5	0.3	C1	C1	0.5	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.2	0.5	0.3	22
6	0.3	0.3	S	0.4	0.4	0.5	0.5	0.4	0.6	0.6	0.6	0.3	0.3	0.3	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.6	0.4	24
7	0.3	S	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.5	0.4	24	
8	S	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	S	0.3	0.6	0.4	24	
9	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.4	0.5	0.3	0.3	0.3	0.3	0.5	0.6	S	0.4	0.2	0.6	0.3	24	
10	0.4	0.3	0.3	0.3	0.3	0.6	0.4	1.2	0.8	0.7	0.4	0.6	0.4	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.2	S	0.3	0.3	0.2	1.2	0.4	24	
11	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	S	0.4	0.3	0.3	0.3	0.4	0.3	24	
12	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.4	0.2	S	0.4	0.3	0.3	0.3	0.2	0.4	0.3	24	
13	0.3	0.3	0.3	0.4	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	S	0.4	0.4	0.3	0.3	0.3	0.2	0.4	0.3	24	
14	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.2	S	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.3	0.2	24	
15	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5	0.9	0.3	0.2	0.2	0.3	0.3	0.3	S	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.2	0.9	0.3	24
16	0.3	0.4	0.3	0.3	0.3	0.4	0.3	0.4	0.6	0.7	1.1	1.0	1.0	0.5	0.4	S	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.3	1.1	0.5	24	
17	0.5	0.4	0.5	0.6	0.5	0.4	0.4	0.3	0.4	0.4	0.3	0.4	0.4	0.3	S	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.6	0.4	24	
18	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.7	0.7	0.6	0.6	0.4	S	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.7	0.4	24
19	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	S	0.4	0.4	0.5	0.4	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.5	0.3	24
20	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	S	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	24
21	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.3	S	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3	24
22	0.2	0.3	0.3	0.3	0.3	0.3	0.1	0.3	0.2	S	0.3	0.3	0.2	0.1	0.3	0.3	0.4	0.3	0.2	0.3	0.3	0.2	0.3	0.2	0.1	0.4	0.3	24	
23	0.2	0.3	0.2	0.2	0.2	0.2	0.2	S	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.4	0.3	24	
24	0.3	0.3	0.3	0.3	0.3	0.3	0.3	S	0.4	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.4	0.3	24	
25	0.3	0.2	0.3	0.2	0.3	0.3	S	0.3	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.3	0.2	24	
26	0.1	0.1	0.2	0.2	0.1	S	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	24	
27	0.2	0.2	0.2	0.3	S	0.3	0.3	0.3	0.5	0.5	0.5	0.4	0.3	0.3	0.3	0.4	0.2	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.5	0.3	24	
28	0.3	0.3	0.4	S	0.4	0.4	0.3	0.4	0.4	0.3	0.4	0.4	0.3	0.4	0.4	0.5	0.4	0.4	0.4	0.3	0.4	0.4	0.3	0.4	0.3	0.5	0.4	24	
HOURLY MAX	0.5	0.6	0.5	0.6	0.5	0.6	0.5	1.2	0.8	0.9	1.1	1.0	1.0	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5				
HOURLY AVG	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3				

STATUS FLAG CODES

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

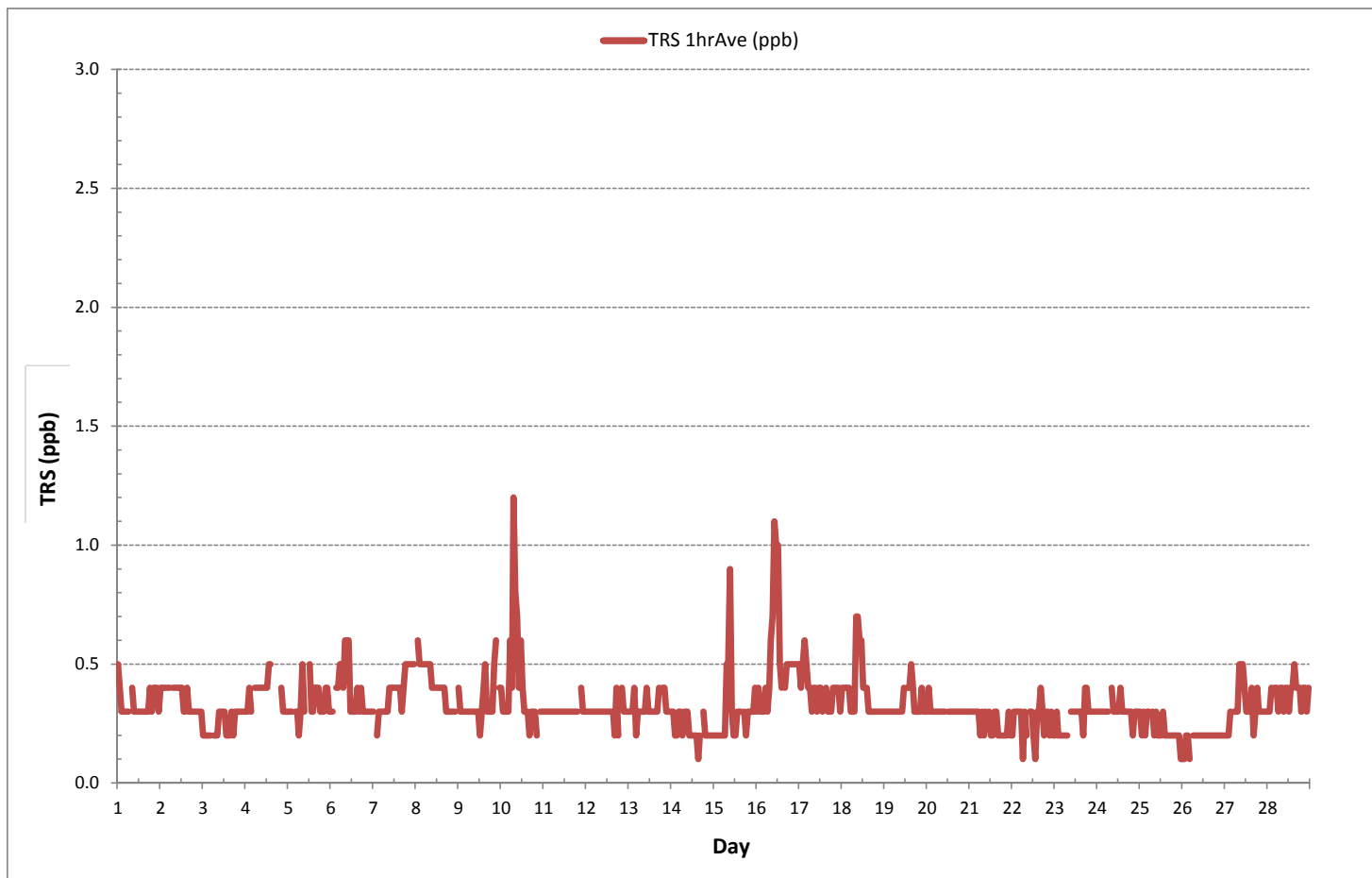
24 HR AVERAGES February 2017



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	636			
MINIMUM 1-HR AVERAGE:	0.1	ppb @ HOUR(S)	VAR	ON DAY(S)
MAXIMUM 1-HR AVERAGE:	1.2	ppb @ HOUR(S)	7	ON DAY(S)
MAXIMUM 24-HR AVERAGE:	0.5	ppb		ON DAY(S)
				VAR-VARIOUS
IZS CALIBRATION TIME:	29	hrs	OPERATIONAL TIME:	670
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	99.7
STANDARD DEVIATION:	0.1		MONTHLY AVERAGE:	0.3
				ppb

TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)



TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY 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	1.1	1.1	0.9	0.8	0.9	1.0	1.3	S	0.9	0.9	0.9	0.8	0.9	1.0	0.9	1.0	1.1	1.1	1.3	0.9	1.0	1.3	1.0	0.9	0.8	1.3	1.0	24	
2	0.9	0.8	1.0	1.1	0.9	1.2	S	1.1	0.9	1.0	0.9	0.9	0.8	0.8	0.9	1.4	0.9	0.9	1.0	0.9	0.9	0.9	0.9	0.9	0.8	1.4	1.0	24	
3	0.9	0.9	0.8	0.8	0.8	S	0.9	0.9	0.9	0.9	0.9	0.8	0.9	0.8	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.8	24	
4	0.8	0.8	0.9	1.0	S	1.0	1.0	0.7	0.8	0.9	0.7	0.8	0.8	1.0	1.0	C	C	C	C	C	C	0.7	0.7	0.6	0.6	0.6	1.0	0.8	24
5	0.5	0.5	0.6	S	0.8	0.6	0.6	0.6	1.2	0.7	C1	C1	X	X	0.9	1.1	0.7	0.9	0.7	0.7	0.7	1.3	0.8	0.7	0.5	1.3	0.8	20	
6	0.6	0.8	S	0.8	0.8	1.0	1.0	1.0	1.1	1.0	1.0	0.7	0.8	0.8	1.0	1.4	1.0	0.9	1.3	0.6	0.7	0.7	0.7	0.6	0.6	1.4	0.9	24	
7	0.7	S	0.6	0.7	0.8	1.0	0.9	0.9	0.7	1.0	0.8	0.8	0.7	0.8	1.1	0.7	1.0	0.8	0.9	0.7	0.7	0.8	0.8	0.7	0.6	1.1	0.8	24	
8	S	0.9	0.7	0.8	0.8	0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.9	0.9	0.7	0.8	0.6	0.6	0.6	S	0.6	0.6	0.9	0.8	24	
9	0.8	0.6	0.6	0.7	0.6	0.8	0.6	0.8	0.6	0.7	0.7	1.2	1.0	0.6	0.9	1.1	0.7	0.7	0.8	0.8	1.1	1.1	S	0.8	0.6	1.2	0.8	24	
10	0.8	0.8	0.6	0.6	0.7	1.1	1.0	2.1	1.5	1.4	0.8	1.6	1.1	0.6	1.1	0.7	0.7	0.7	0.7	0.7	0.7	S	0.7	0.7	0.6	2.1	0.9	24	
11	0.8	0.7	0.7	0.7	0.7	0.8	0.8	0.7	0.7	0.8	0.8	0.8	0.7	0.7	0.7	0.9	0.7	0.8	0.8	0.8	S	1.0	0.7	0.7	0.7	1.0	0.8	24	
12	0.6	0.8	0.8	0.7	0.8	0.7	0.9	0.8	0.8	0.7	0.8	0.8	0.7	0.7	0.8	0.9	0.9	1.2	1.1	S	1.0	0.8	0.9	0.9	0.6	1.2	0.8	24	
13	0.8	0.9	0.8	0.9	0.8	0.8	0.8	0.8	0.8	0.7	0.8	0.7	0.8	0.8	0.8	0.8	0.8	1.4	S	0.9	0.8	0.8	0.8	0.9	0.7	1.4	0.8	24	
14	0.8	0.9	0.9	0.9	0.9	1.1	0.9	0.8	0.9	0.8	0.8	0.9	0.9	1.0	0.8	0.8	0.8	S	0.9	0.8	0.8	1.0	0.8	0.8	0.8	1.1	0.9	24	
15	0.8	0.8	0.8	0.8	0.8	0.8	0.9	1.0	1.5	2.1	0.9	0.7	0.8	0.8	0.8	0.8	S	1.0	0.8	0.9	0.8	1.0	0.9	0.9	0.7	2.1	0.9	24	
16	0.8	0.9	0.8	1.0	0.8	1.2	0.8	1.4	1.1	1.3	1.9	1.8	2.5	1.0	0.8	S	0.9	1.0	1.0	1.1	1.0	0.9	0.9	0.9	0.8	2.5	1.1	24	
17	1.0	1.0	1.0	1.1	1.1	0.9	1.3	1.1	1.5	1.2	0.9	0.9	1.2	1.0	S	0.9	0.9	0.9	0.8	1.0	0.9	0.9	1.0	0.9	0.8	1.5	1.0	24	
18	1.0	0.9	1.0	1.0	1.0	0.9	0.8	0.8	1.4	1.5	1.3	1.3	1.0	S	1.1	1.0	0.9	1.1	0.9	0.9	0.9	0.9	0.9	0.8	0.8	1.5	1.0	24	
19	0.8	0.9	0.9	0.8	0.8	0.9	0.9	0.8	0.8	0.9	1.0	1.1	S	0.9	1.0	1.6	1.3	1.3	0.9	1.0	0.8	1.0	0.9	0.9	0.8	1.6	1.0	24	
20	0.9	1.0	0.9	1.0	0.9	0.8	0.8	1.0	0.8	0.8	0.8	S	0.9	0.9	1.2	1.3	0.9	1.1	1.0	0.9	0.9	0.9	0.8	0.9	0.8	1.3	0.9	24	
21	0.9	0.9	0.9	0.9	0.8	0.8	0.8	1.4	0.7	0.9	S	0.9	0.9	0.9	0.8	1.0	1.0	0.8	1.1	0.9	1.0	0.8	1.2	1.0	0.7	1.4	0.9	24	
22	0.8	0.9	1.2	1.1	1.3	0.9	1.1	1.2	0.8	S	0.9	0.9	0.9	P	0.9	1.3	0.9	1.1	1.1	1.0	0.8	0.9	0.8	0.9	0.8	1.3	1.0	23	
23	0.8	1.0	0.8	0.8	0.8	0.8	0.8	0.8	S	0.9	0.9	0.9	0.8	0.7	0.9	0.9	1.0	1.3	1.5	0.9	0.9	0.9	0.8	0.9	0.7	1.5	0.9	24	
24	0.8	0.9	0.9	0.9	0.9	0.9	0.9	S	0.9	0.8	0.8	0.8	0.8	0.9	0.8	0.8	0.8	0.8	1.3	0.8	0.7	0.8	0.8	0.9	0.7	1.3	0.9	24	
25	0.9	0.7	0.9	1.0	0.9	0.8	S	0.9	0.7	0.9	0.8	0.8	0.8	0.8	1.1	0.7	1.0	0.8	0.9	0.8	0.8	0.8	0.8	0.8	0.7	1.1	0.8	24	
26	0.7	0.8	0.9	0.8	0.8	S	0.9	0.8	0.8	0.8	0.8	0.7	0.8	0.8	0.8	0.8	0.8	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.9	0.8	24	
27	0.9	0.7	0.8	0.9	S	0.8	0.9	0.9	1.2	1.0	1.3	0.9	0.9	0.8	0.8	1.2	0.9	0.8	1.0	0.8	0.8	0.8	0.8	0.8	0.7	1.3	0.9	24	
28	0.7	1.0	0.8	S	0.9	0.9	1.0	1.2	0.8	0.8	1.0	1.1	0.9	0.8	0.9	0.9	0.9	1.2	1.5	0.9	0.9	0.8	0.7	0.8	0.7	1.5	0.9	24	
HOURLY MAX	1.1	1.1	1.2	1.1	1.3	1.2	1.3	2.1	1.5	2.1	1.9	1.8	2.5	1.0	1.2	1.6	1.3	1.4	1.5	1.1	1.1	1.3	1.2	1.0					
HOURLY AVG	0.8	0.8	0.8	0.9	0.9	0.9	0.9	1.0	0.9	1.0	0.9	0.9	0.9	0.8	0.9	1.0	0.9	1.0	1.0	0.8	0.8	0.9	0.8	0.8					

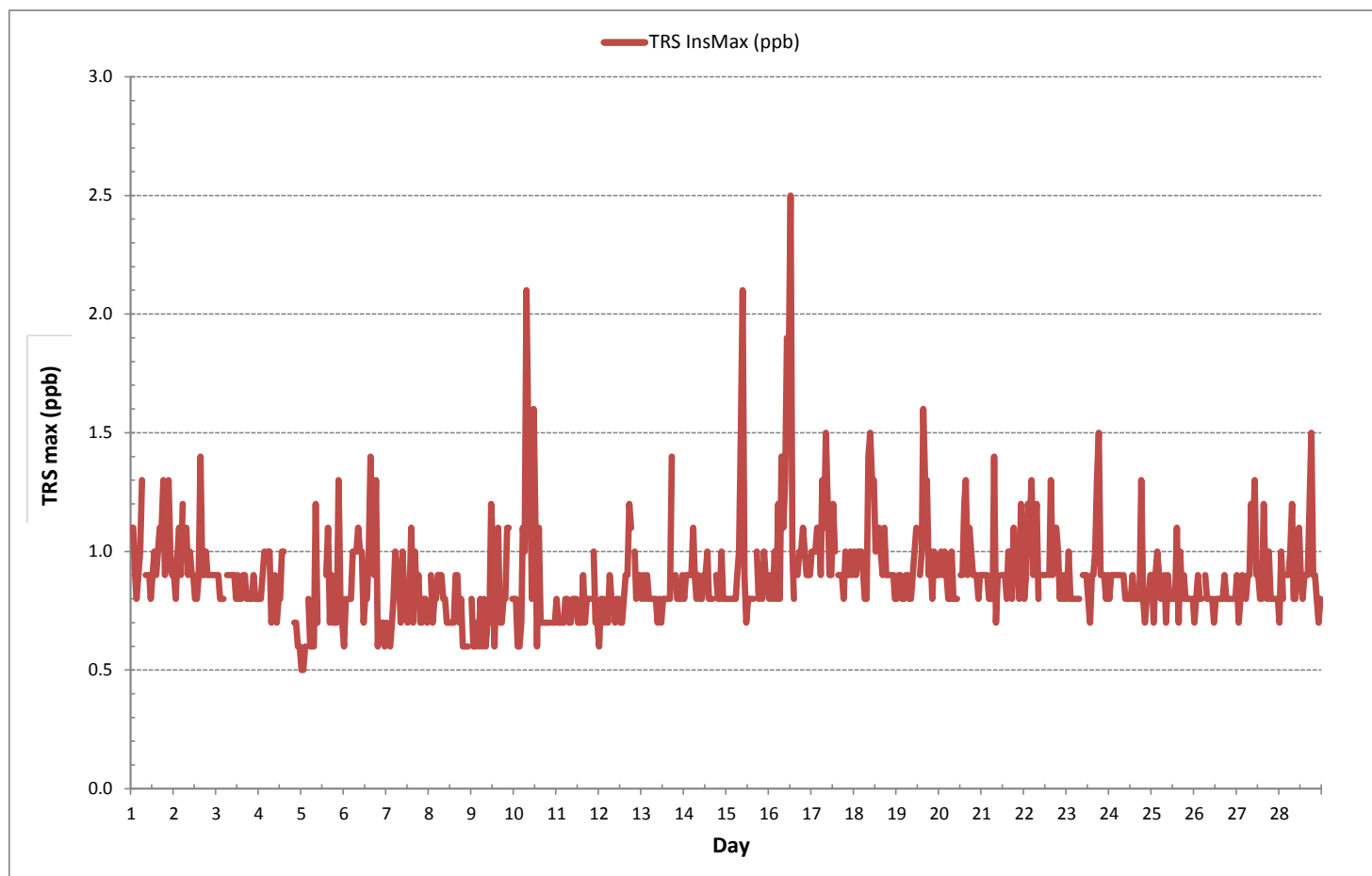
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	633				
MAXIMUM INSTANTANEOUS VALUE:	2.5	ppb	@ HOUR(S)	12	ON DAY(S) 16
				VAR-VARIOUS	
IZS CALIBRATION TIME:	29	hrs	OPERATIONAL TIME:	667	hrs
MONTHLY CALIBRATION TIME:	5	hrs			
STANDARD DEVIATION:	0.2				

TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS ppb)



Wind: PRAMP_986 Poll.: PRAMP_986-TRS[ppb] Monthly: 02/2017 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 12.70% Valid Data: 93.75% Calm Avg: 0.38 [ppb]

Direction	0-1	1-3	3-10	>10.0	Total
N	11.59	0	0	0	11.59
NE	4.76	0	0	0	4.76
E	5.56	0.16	0	0	5.72
SE	7.14	0	0	0	7.14
S	14.29	0	0	0	14.29
SW	18.1	0	0	0	18.1
W	10.32	0	0	0	10.32
NW	15.4	0	0	0	15.4
Summary	87.16	0.16	0	0	87.32

% Icon Classes (ppb)

87

0-1

0

1-3

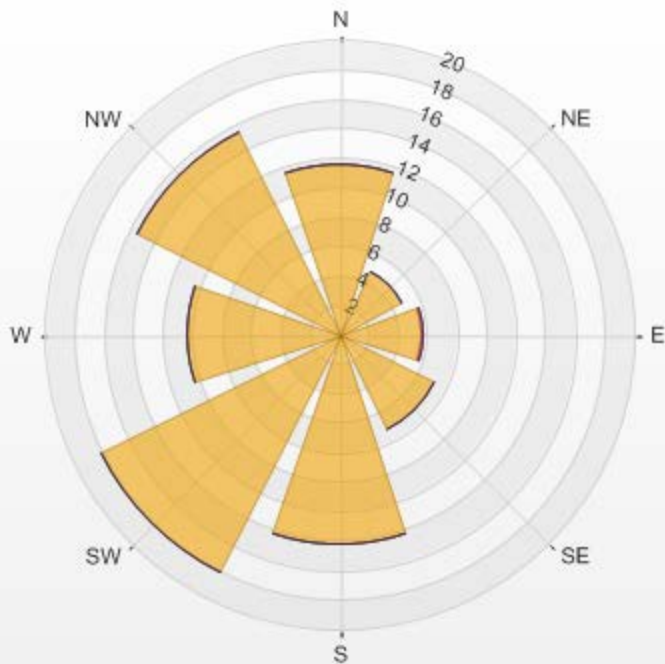
0

3-10

0

>10.0

PRAMP_986 Poll.: PRAMP_986-TRS[ppb] 01/02/2017 00:00 - 28/02/2017 23:00 Calm: 12.70% Calm Poll
Avg: 0.38[ppb]



TRS[ppb] Calibration: PRAMP_986 Monthly: 2017/02 Type: Span



Span Meas Span Ref Span Low Span High

TOTAL HYDROCARBON



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
Three Creeks 986b Station - February 2017

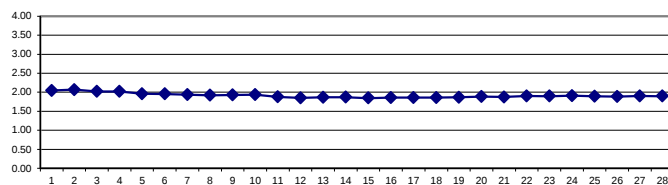
TOTAL HYDROCARBONS Hourly Averages (THC ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	2.05	2.04	2.03	2.03	2.03	2.03	2.03	S	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.04	2.04	2.04	2.04	2.05	2.06	2.08	2.09	2.08	2.03	2.09	2.04	24
2	2.08	2.10	2.11	2.08	2.08	2.08	S	2.09	2.09	2.08	2.07	2.06	2.06	2.05	2.05	2.04	2.06	2.06	2.07	2.07	2.06	2.07	2.06	2.02	2.02	2.11	2.07	24
3	2.03	2.02	2.02	2.01	2.01	S	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.03	2.04	2.04	2.04	2.03	2.01	2.04	2.02	24
4	2.02	2.02	2.03	2.02	S	2.02	2.02	2.01	2.01	2.01	2.02	2.03	2.02	2.02	2.02	2.02	2.02	2.03	2.03	2.04	2.03	2.01	2.01	2.01	2.01	2.04	2.02	24
5	2.01	2.02	2.01	S	2.02	2.01	2.02	2.02	2.02	2.02	C	C	C	C	C	1.89	1.90	1.90	1.90	1.90	1.90	1.90	1.91	1.91	1.89	2.02	1.96	24
6	1.91	1.91	S	1.99	1.99	1.99	2.03	2.08	2.09	2.07	2.05	1.97	1.93	1.91	1.91	1.91	1.91	1.91	1.91	1.90	1.90	1.92	1.92	1.91	1.90	2.09	1.96	24
7	1.91	S	1.91	1.91	1.93	1.95	1.94	1.95	1.97	1.97	1.98	1.98	1.97	1.95	1.94	1.93	1.92	1.93	1.93	1.93	1.92	1.92	1.92	1.92	1.91	1.98	1.94	24
8	S	1.92	1.93	1.93	1.93	1.92	1.93	1.92	1.92	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.91	1.92	1.93	1.92	1.92	S	1.91	1.93	1.92	24
9	1.92	1.93	1.93	1.93	1.94	1.95	1.98	1.96	1.96	1.96	1.98	1.97	1.92	1.91	1.92	1.91	1.90	1.90	1.90	1.90	1.90	1.90	S	1.92	1.90	1.98	1.93	24
10	1.93	1.93	1.94	1.93	1.94	1.99	1.93	1.96	1.94	1.94	1.92	1.93	1.93	1.92	1.92	1.93	1.93	1.93	1.94	1.94	1.95	S	1.95	1.96	1.92	1.99	1.94	24
11	1.95	1.94	1.92	1.90	1.89	1.89	1.88	1.88	1.88	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.86	1.86	1.86	S	1.86	1.86	1.86	1.86	1.95	1.88	24
12	1.86	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.86	1.85	1.86	1.85	1.85	1.85	1.85	1.85	1.85	1.85	S	1.85	1.85	1.85	1.85	1.85	1.86	1.85	24
13	1.86	1.86	1.86	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.86	1.86	1.87	1.87	S	1.87	1.87	1.87	1.87	1.87	1.86	1.87	24
14	1.87	1.86	1.87	1.87	1.86	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.88	1.87	1.87	1.87	S	1.88	1.88	1.86	1.86	1.86	1.88	1.86	1.88	1.87	24
15	1.85	1.84	1.84	1.85	1.84	1.85	1.87	1.89	1.89	1.91	1.87	1.85	1.85	1.84	1.86	1.86	S	1.83	1.82	1.81	1.81	1.82	1.83	1.82	1.81	1.91	1.85	24
16	1.82	1.87	1.83	1.83	1.82	1.84	1.86	1.86	1.87	1.88	1.90	1.89	1.88	1.83	1.82	S	1.83	1.86	1.88	1.87	1.94	1.85	1.86	1.87	1.82	1.94	1.86	24
17	1.87	1.87	1.88	1.88	1.86	1.85	1.85	1.84	1.85	1.84	1.86	1.87	1.87	1.87	S	1.85	1.84	1.85	1.85	1.85	1.85	1.86	1.86	1.86	1.84	1.88	1.86	24
18	1.86	1.86	1.87	1.87	1.86	1.86	1.87	1.86	1.87	1.87	1.87	1.86	1.86	S	1.86	1.85	1.85	1.85	1.86	1.85	1.85	1.85	1.85	1.85	1.85	1.87	1.86	24
19	1.85	1.85	1.86	1.86	1.86	1.85	1.86	1.86	1.86	1.87	1.88	1.88	S	1.87	1.87	1.87	1.87	1.87	1.88	1.88	1.88	1.88	1.88	1.88	1.85	1.88	1.87	24
20	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.88	1.89	1.89	S	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.88	1.88	1.88	1.89	1.89	24
21	1.88	1.87	1.87	1.86	1.87	1.87	1.87	1.87	1.87	1.88	S	1.88	1.87	1.87	1.87	1.87	1.87	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.86	1.89	1.87	24
22	1.89	1.89	1.89	1.90	1.90	1.91	1.89	1.89	1.90	S	1.91	1.91	1.91	R	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.91	1.91	1.91	1.89	1.91	1.90	23
23	1.91	1.91	1.92	1.92	1.91	1.91	1.90	1.90	S	1.90	1.90	1.90	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.88	1.88	1.89	1.90	1.90	1.88	1.92	1.90	24
24	1.91	1.91	1.90	1.90	1.90	1.90	1.90	S	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.92	1.91	1.91	1.91	1.90	1.92	1.91	24
25	1.90	1.91	1.91	1.91	1.91	1.91	S	1.92	1.93	1.92	1.91	1.90	1.89	1.89	1.89	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.93	1.90	24
26	1.88	1.88	1.88	1.88	1.89	S	1.90	1.90	1.90	1.90	1.89	1.89	1.89	1.89	1.89	1.88	1.88	1.88	1.88	1.89	1.89	1.89	1.89	1.89	1.88	1.90	1.89	24
27	1.90	1.90	1.90	1.89	S	1.92	1.94	1.93	1.91	1.90	1.91	1.90	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.90	1.90	1.89	1.89	1.94	1.90	24
28	1.89	1.89	1.89	S	1.89	1.89	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.91	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.89	1.91	1.90	24
HOURLY MAX	2.08	2.10	2.11	2.08	2.08	2.08	2.03	2.09	2.09	2.08	2.07	2.06	2.06	2.05	2.05	2.04	2.06	2.06	2.07	2.07	2.06	2.08	2.09	2.08				
HOURLY AVG	1.91	1.92	1.92	1.91	1.91	1.92	1.92	1.92	1.93	1.93	1.93	1.92	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91				

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

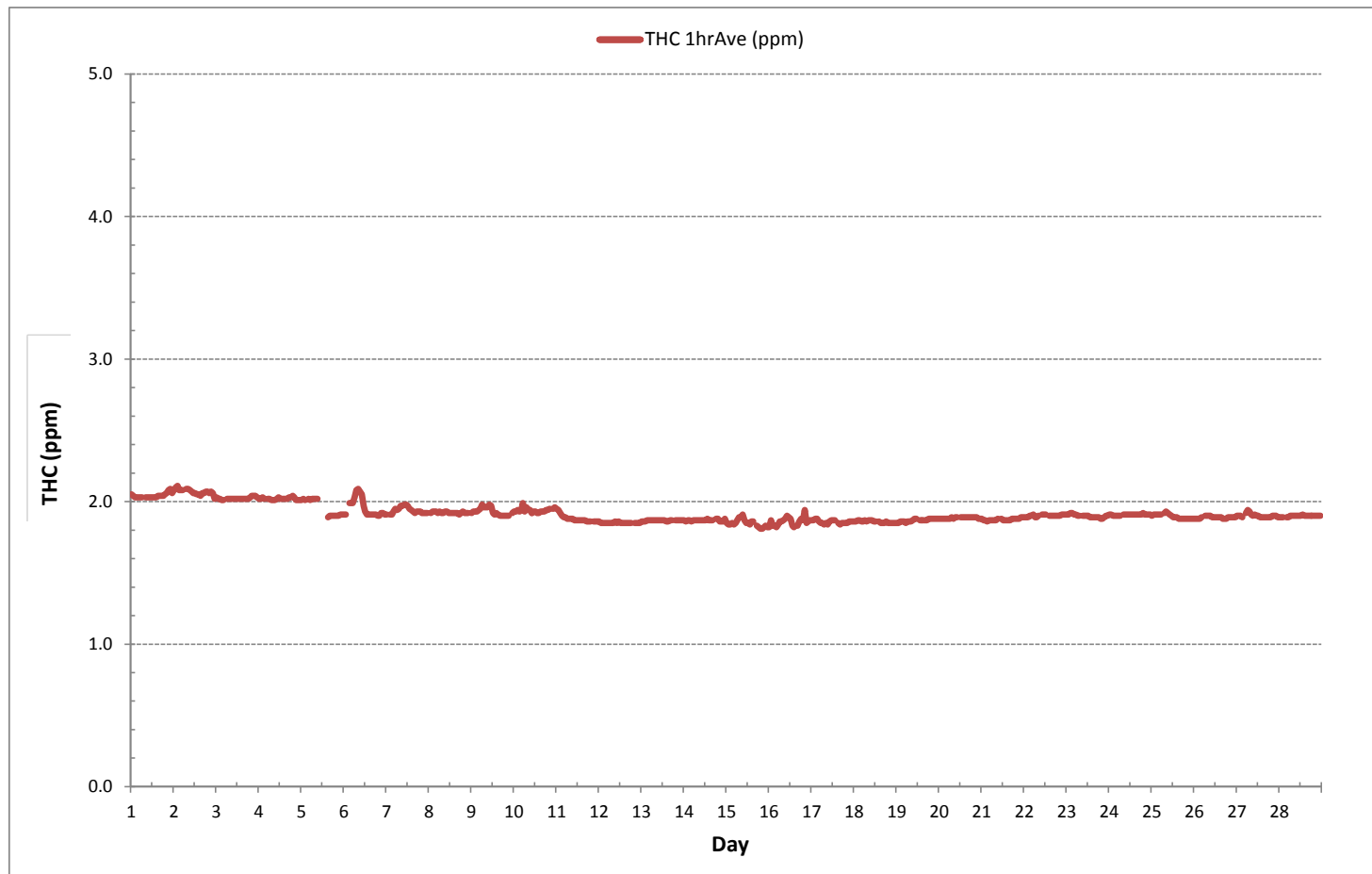
24 HR AVERAGES February 2017



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	637			
MINIMUM 1-HR AVERAGE:	1.81	ppm @ HOUR(S)	19 , 20	ON DAY(S) 15 , 15
MAXIMUM 1-HR AVERAGE:	2.11	ppm @ HOUR(S)	2	ON DAY(S) 2
MAXIMUM 24-HR AVERAGE:	2.07	ppm		ON DAY(S) 2
				VAR-VARIOUS
IZS CALIBRATION TIME:	29	hrs	OPERATIONAL TIME:	671 hrs
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	99.9 %
STANDARD DEVIATION:	0.06		MONTHLY AVERAGE:	1.91 ppm

TOTAL HYDROCARBONS Hourly Averages (THC ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
Three Creeks 986b Station - February 2017

TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.		
DAY																													
1	2.07	2.04	2.03	2.03	2.05	2.04	2.03	S	2.04	2.03	2.03	2.03	2.03	2.03	2.04	2.04	2.06	2.04	2.04	2.05	2.07	2.09	2.09	2.08	2.03	2.09	2.05	24	
2	2.09	2.10	2.12	2.09	2.08	2.08	S	2.09	2.09	2.08	2.08	2.06	2.06	2.05	2.05	2.05	2.08	2.07	2.11	2.10	2.06	2.08	2.07	2.04	2.04	2.12	2.08	24	
3	2.03	2.03	2.02	2.02	2.02	S	2.02	2.02	2.02	2.03	2.03	2.02	2.02	2.02	2.02	2.03	2.02	2.02	2.02	2.04	2.05	2.04	2.05	2.04	2.02	2.05	2.03	24	
4	2.03	2.06	2.03	2.03	S	2.04	2.02	2.02	2.01	2.02	2.03	2.04	2.04	2.03	2.02	2.03	2.02	2.04	2.04	2.04	2.04	2.04	2.02	2.01	2.01	2.01	2.06	2.03	24
5	2.02	2.02	2.02	S	2.03	2.02	2.02	2.03	2.03	2.04	C	C	C	C	C	1.89	1.90	1.90	1.90	1.90	1.90	1.90	1.91	1.92	1.89	2.04	1.96	24	
6	1.92	2.02	S	2.00	1.99	2.00	2.06	2.09	2.09	2.10	2.06	2.02	1.95	1.92	1.91	1.91	1.91	1.92	1.92	1.91	1.92	1.95	1.95	1.91	1.91	2.10	1.98	24	
7	1.93	S	1.91	1.91	1.94	1.94	1.94	1.95	1.96	2.00	1.98	1.97	1.97	1.96	1.94	1.94	1.92	1.93	1.92	1.93	1.93	1.92	1.92	1.92	1.91	2.00	1.94	24	
8	S	1.92	1.93	1.93	1.92	1.92	1.93	1.92	1.93	1.93	1.93	1.93	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.93	1.92	1.92	1.92	S	1.92	1.93	1.93	24	
9	1.93	1.93	1.94	1.95	1.95	1.96	2.01	1.97	1.97	1.97	2.01	2.01	1.93	1.91	1.92	1.92	1.90	1.91	1.90	1.89	1.90	1.91	S	1.92	1.89	2.01	1.94	24	
10	1.93	1.95	1.98	1.94	1.96	1.99	1.94	1.96	1.94	1.94	1.92	1.93	1.93	1.93	1.92	1.93	1.93	1.93	1.93	1.94	1.95	S	1.95	1.97	1.92	1.99	1.94	24	
11	1.95	1.95	1.93	1.91	1.89	1.89	1.88	1.88	1.88	1.88	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.86	1.86	1.86	S	1.87	1.86	1.86	1.86	1.95	1.88	24	
12	1.86	1.85	1.85	1.86	1.85	1.86	1.85	1.85	1.85	1.86	1.85	1.86	1.86	1.85	1.85	1.85	1.85	1.85	1.85	S	1.86	1.86	1.87	1.86	1.85	1.87	1.85	24	
13	1.86	1.87	1.86	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.88	1.87	1.87	1.87	1.87	1.86	1.87	1.88	S	1.87	1.87	1.87	1.87	1.87	1.86	1.88	1.87	24	
14	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.88	1.87	1.87	1.87	1.89	1.88	1.87	1.87	1.87	S	1.89	1.89	1.87	1.86	1.90	1.90	1.86	1.90	1.88	24
15	1.86	1.85	1.87	1.86	1.84	1.86	1.88	1.92	1.95	1.93	1.89	1.86	1.86	1.86	1.87	1.86	S	1.85	1.82	1.82	1.81	1.84	1.84	1.82	1.81	1.95	1.86	24	
16	1.85	1.88	1.84	1.83	1.83	1.86	1.86	1.92	1.89	1.93	1.92	1.91	1.92	1.84	1.83	S	1.85	1.88	1.89	1.88	2.37	1.86	1.87	1.87	1.83	2.37	1.89	24	
17	1.89	1.92	1.88	1.88	1.87	1.85	1.85	1.85	1.85	1.84	1.87	1.87	1.87	1.88	S	1.87	1.85	1.85	1.85	1.86	1.86	1.86	1.86	1.87	1.87	1.84	1.92	1.87	24
18	1.86	1.87	1.88	1.87	1.86	1.86	1.88	1.87	1.88	1.88	1.88	1.86	1.86	S	1.86	1.85	1.85	1.86	2.33	1.85	1.86	1.86	1.85	1.85	1.85	2.33	1.88	24	
19	1.85	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.87	1.88	1.88	S	1.88	1.87	1.87	1.87	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.85	1.88	1.87	24
20	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.89	S	1.89	1.89	1.89	1.88	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.88	1.89	1.88	1.89	1.88	24
21	1.88	1.88	1.87	1.87	1.87	1.87	1.86	1.87	1.87	1.87	S	1.88	1.88	1.87	1.87	1.87	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.89	1.86	1.89	1.88	24
22	1.89	1.89	1.89	1.90	1.90	1.91	1.90	1.89	1.90	S	1.91	1.91	1.91	R	1.91	1.90	1.90	1.90	1.92	1.90	1.91	1.91	1.90	1.92	1.89	1.92	1.90	23	
23	1.91	1.91	1.93	1.92	1.91	1.91	1.91	1.90	S	1.90	1.90	1.90	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.88	1.88	1.89	1.90	1.88	1.93	1.90	24	
24	1.91	1.91	1.91	1.90	1.91	1.90	1.90	S	1.91	1.91	1.90	1.91	1.91	1.91	1.90	1.91	1.93	1.90	1.93	1.93	1.91	1.91	1.91	1.90	1.90	1.93	1.91	24	
25	1.91	1.91	1.91	1.91	1.91	1.91	S	1.93	1.93	1.92	1.92	1.91	1.89	1.89	1.89	1.88	1.88	1.88	1.89	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.93	1.90	24
26	1.88	1.88	1.88	1.88	1.89	S	1.96	1.90	1.90	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.88	1.88	1.88	1.89	1.89	1.89	1.89	1.89	1.88	1.96	1.89	24	
27	1.89	1.89	1.90	1.90	S	1.94	1.95	1.94	1.92	1.90	1.91	1.90	1.90	1.89	1.89	1.88	1.88	1.89	1.89	1.89	1.90	1.89	1.90	1.89	1.89	1.88	1.95	1.90	24
28	1.89	1.89	1.89	S	1.89	1.89	1.90	1.90	1.90	1.90	1.90	1.89	1.90	1.91	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.89	1.91	1.90	24
HOURLY MAX	2.09	2.10	2.12	2.09	2.08	2.08	2.06	2.09	2.09	2.10	2.08	2.06	2.06	2.05	2.05	2.05	2.08	2.07	2.33	2.10	2.37	2.09	2.09	2.08					
HOURLY AVG	1.92	1.93	1.92	1.92	1.92	1.92	1.92	1.93	1.93	1.94	1.93	1.93	1.92	1.91	1.91	1.91	1.91	1.91	1.93	1.91	1.93	1.91	1.92	1.91					

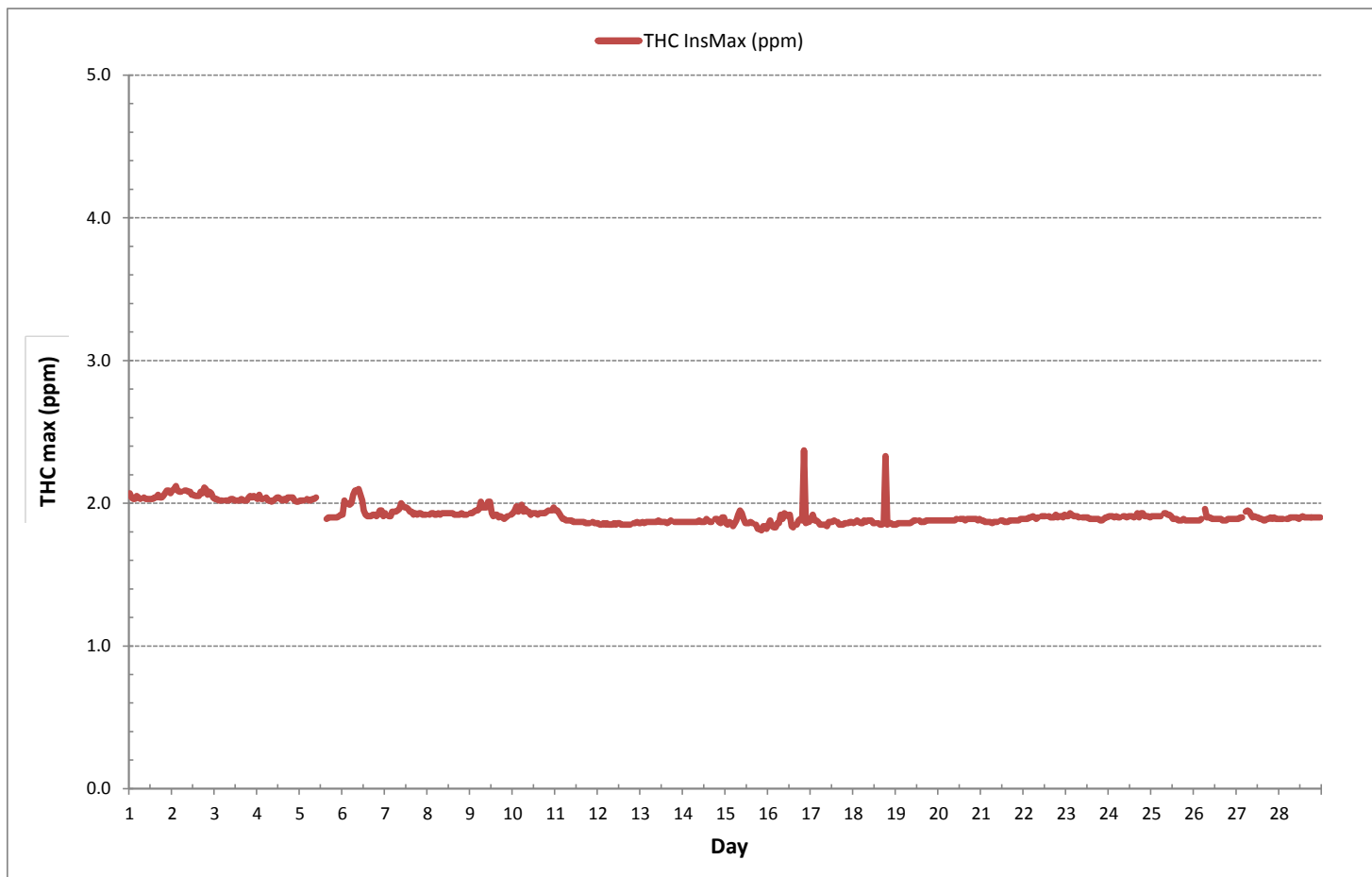
STATUS FLAG CODES

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:	637				
MAXIMUM INSTANTANEOUS VALUE:	2.37	ppm	@ HOUR(S)	20	ON DAY(S) 16
					VAR-VARIOUS
IZS CALIBRATION TIME:	29	hrs	OPERATIONAL TIME:	671	hrs
MONTHLY CALIBRATION TIME:	5	hrs			
STANDARD DEVIATION:	0.07				

TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)

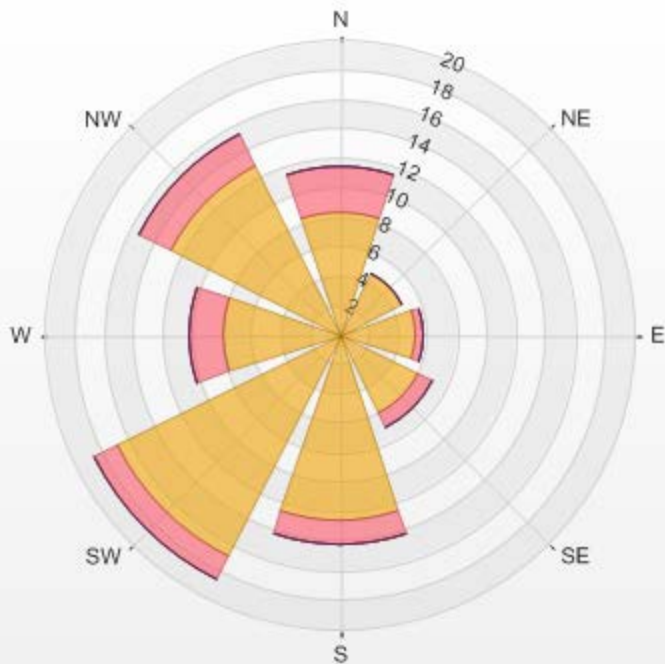


Wind: PRAMP_986 Poll.: PRAMP_986-THC55[ppm] Monthly: 02/2017 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 12.62% Valid Data: 94.35% Calm Avg: 1.94 [ppm]

Direction	0-2	2-3	3-5	5-10	>10.0	Total
N	8.36	3.15	0	0	0	11.51
NE	4.73	0	0	0	0	4.73
E	5.21	0.47	0	0	0	5.68
SE	5.99	1.1	0	0	0	7.09
S	12.62	1.58	0	0	0	14.2
SW	16.88	1.74	0	0	0	18.62
W	7.89	2.37	0	0	0	10.26
NW	12.78	2.52	0	0	0	15.3
Summary	74.46	12.93	0	0	0	87.39

%	Icon	Classes (ppm)
74		0-2
13		2-3
0		3-5
0		5-10
0		>10,0

PRAMP_986 Poll.: PRAMP_986-THC55[ppm] 01/02/2017 00:00 - 28/02/2017 23:00 Calm: 12.62% Calm Poll Avg: 1.94[ppm]



THC55[ppm] Calibration: PRAMP_986 Monthly: 2017/02 Type: Span



Span Meas Span Ref Span Low Span High

METHANE

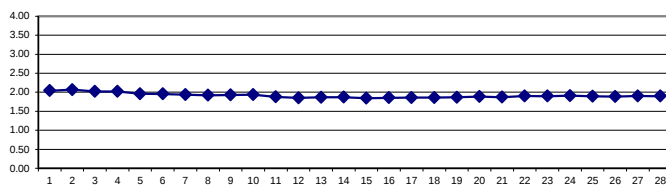
METHANE Hourly Averages (CH₄ ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	2.05	2.04	2.03	2.03	2.03	2.03	2.03	S	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.04	2.04	2.04	2.05	2.06	2.08	2.09	2.08	2.03	2.09	2.04	24
2	2.08	2.10	2.11	2.08	2.08	2.08	S	2.09	2.09	2.08	2.07	2.06	2.06	2.05	2.05	2.04	2.06	2.06	2.07	2.07	2.06	2.07	2.06	2.02	2.02	2.11	2.07	24
3	2.03	2.02	2.02	2.01	2.01	S	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.03	2.04	2.04	2.04	2.03	2.01	2.04	2.02	24
4	2.02	2.02	2.03	2.02	S	2.02	2.02	2.01	2.01	2.01	2.02	2.03	2.02	2.02	2.02	2.02	2.02	2.03	2.03	2.04	2.03	2.01	2.01	2.01	2.01	2.04	2.02	24
5	2.01	2.02	2.01	S	2.02	2.01	2.02	2.02	2.02	2.02	C	C	C	C	C	C	1.89	1.90	1.90	1.90	1.90	1.91	1.91	1.91	1.89	2.02	1.96	24
6	1.91	1.91	S	1.99	1.99	1.99	2.03	2.08	2.09	2.07	2.05	1.97	1.93	1.91	1.91	1.91	1.91	1.91	1.91	1.90	1.90	1.92	1.92	1.91	1.90	2.09	1.96	24
7	1.91	S	1.91	1.91	1.93	1.95	1.94	1.95	1.97	1.97	1.98	1.98	1.97	1.95	1.94	1.93	1.92	1.93	1.93	1.93	1.92	1.92	1.92	1.92	1.91	1.98	1.94	24
8	S	1.92	1.93	1.93	1.92	1.92	1.93	1.92	1.92	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.91	1.92	1.93	1.92	1.92	1.92	S	1.91	1.93	1.92	24
9	1.92	1.93	1.93	1.93	1.94	1.95	1.98	1.96	1.96	1.96	1.98	1.97	1.92	1.91	1.92	1.91	1.90	1.90	1.90	1.90	1.90	1.90	S	1.92	1.90	1.98	1.93	24
10	1.93	1.93	1.94	1.93	1.94	1.99	1.93	1.96	1.94	1.94	1.92	1.93	1.92	1.92	1.92	1.92	1.92	1.93	1.94	1.94	1.95	S	1.95	1.96	1.92	1.99	1.94	24
11	1.95	1.94	1.92	1.90	1.89	1.89	1.88	1.88	1.88	1.88	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.86	1.86	1.86	S	1.86	1.86	1.86	1.86	1.95	1.88	24
12	1.86	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.86	1.85	1.86	1.85	1.85	1.85	1.85	1.85	1.85	1.85	S	1.85	1.85	1.85	1.85	1.85	1.86	1.85	24
13	1.86	1.86	1.86	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.86	1.86	1.87	S	1.87	1.87	1.87	1.87	1.87	1.86	1.87	1.87	24
14	1.87	1.86	1.87	1.87	1.86	1.86	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.88	1.87	1.87	1.87	S	1.88	1.88	1.86	1.86	1.86	1.86	1.86	1.88	1.87	24
15	1.85	1.84	1.84	1.85	1.84	1.85	1.87	1.89	1.89	1.91	1.87	1.85	1.84	1.84	1.86	1.86	S	1.83	1.82	1.81	1.81	1.82	1.83	1.82	1.81	1.91	1.85	24
16	1.82	1.87	1.83	1.82	1.82	1.84	1.86	1.86	1.87	1.88	1.90	1.89	1.88	1.83	1.82	S	1.83	1.86	1.88	1.87	1.86	1.85	1.86	1.87	1.82	1.90	1.86	24
17	1.87	1.87	1.88	1.88	1.86	1.85	1.85	1.84	1.85	1.84	1.86	1.87	1.86	1.87	S	1.85	1.84	1.85	1.85	1.85	1.85	1.86	1.86	1.86	1.84	1.88	1.86	24
18	1.86	1.86	1.87	1.87	1.86	1.86	1.87	1.86	1.87	1.87	1.87	1.86	1.86	S	1.86	1.85	1.85	1.85	1.86	1.85	1.85	1.85	1.85	1.85	1.85	1.87	1.86	24
19	1.85	1.85	1.86	1.86	1.86	1.85	1.86	1.86	1.86	1.87	1.88	1.88	S	1.87	1.87	1.87	1.87	1.87	1.88	1.88	1.88	1.88	1.88	1.88	1.85	1.88	1.87	24
20	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.88	1.89	1.89	S	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.88	1.88	1.88	1.88	1.89	24
21	1.88	1.87	1.87	1.86	1.87	1.87	1.86	1.87	1.87	1.87	S	1.88	1.87	1.87	1.87	1.87	1.87	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.86	1.89	1.87	24
22	1.89	1.89	1.89	1.90	1.90	1.91	1.89	1.89	1.90	S	1.91	1.91	1.91	R	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.91	1.90	1.91	1.89	1.91	1.90	23
23	1.91	1.91	1.92	1.92	1.91	1.91	1.90	1.90	S	1.90	1.90	1.90	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.88	1.88	1.90	1.90	1.88	1.92	1.90	24
24	1.91	1.91	1.90	1.90	1.90	1.90	1.90	S	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.92	1.91	1.91	1.91	1.90	1.90	1.92	1.91	24
25	1.90	1.91	1.91	1.91	1.91	1.91	S	1.92	1.93	1.92	1.91	1.90	1.89	1.89	1.89	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.93	1.90	24
26	1.88	1.88	1.88	1.88	1.89	S	1.90	1.90	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.88	1.88	1.88	1.88	1.89	1.89	1.89	1.89	1.89	1.88	1.90	1.89	24
27	1.90	1.90	1.90	1.89	S	1.92	1.94	1.93	1.91	1.90	1.91	1.90	1.90	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.90	1.90	1.89	1.89	1.89	1.94	1.90	24
28	1.89	1.89	1.89	S	1.89	1.89	1.90	1.90	1.90	1.90	1.90	1.90	1.91	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.89	1.91	1.90	24
HOURLY MAX	2.08	2.10	2.11	2.08	2.08	2.08	2.03	2.09	2.09	2.08	2.07	2.06	2.06	2.05	2.05	2.04	2.06	2.06	2.07	2.07	2.07	2.06	2.08	2.09	2.08			
HOURLY AVG	1.91	1.92	1.92	1.91	1.91	1.92	1.92	1.92	1.93	1.93	1.93	1.92	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91			

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

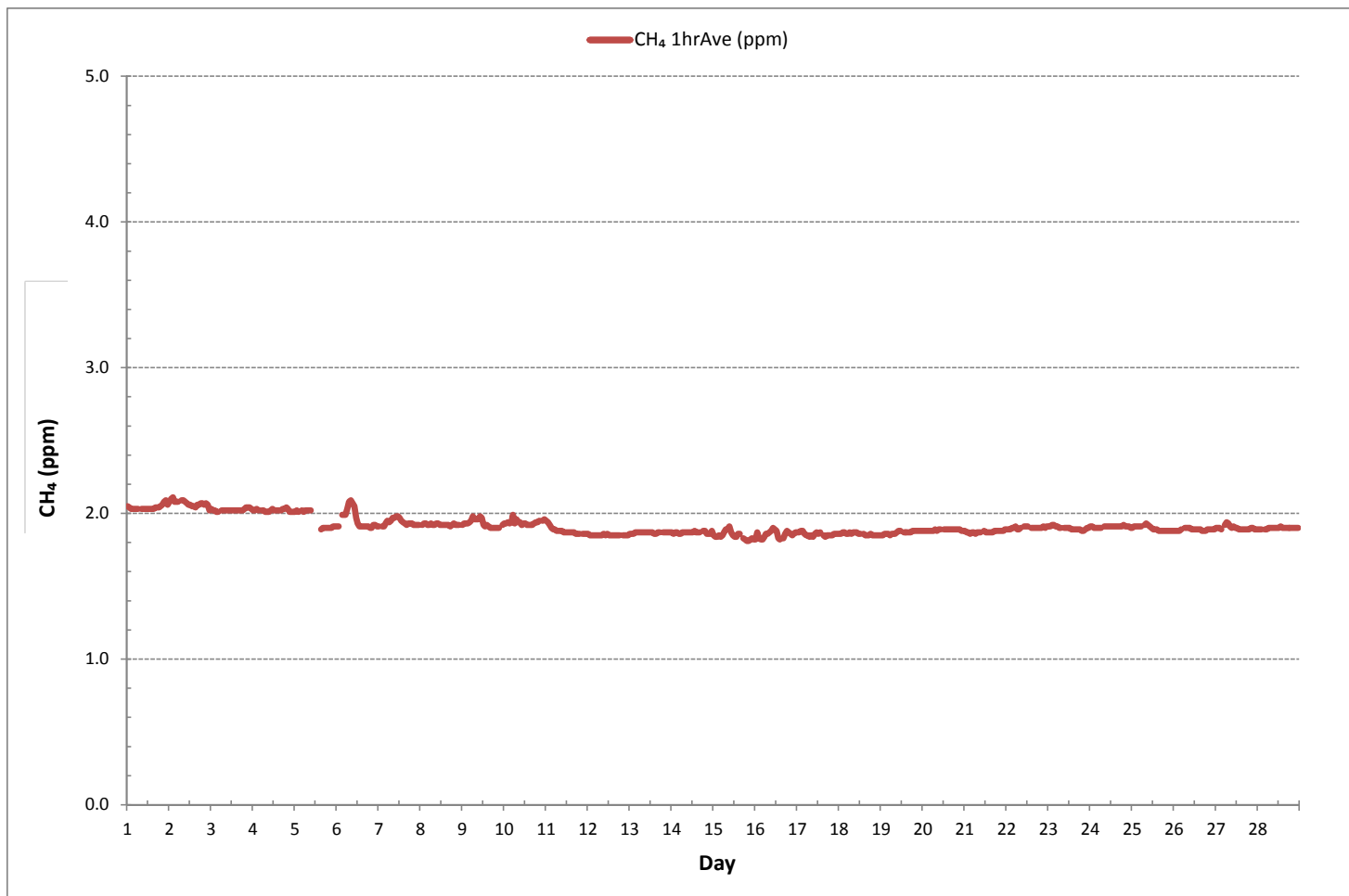
24 HR AVERAGES February 2017



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	637			
MINIMUM 1-HR AVERAGE:	1.81	ppm @ HOUR(S)	19 , 20	ON DAY(S) 15 , 15
MAXIMUM 1-HR AVERAGE:	2.11	ppm @ HOUR(S)	2	ON DAY(S) 2
MAXIMUM 24-HR AVERAGE:	2.07	ppm		ON DAY(S) 2
				VAR-VARIOUS
IZS CALIBRATION TIME:	29	hrs	OPERATIONAL TIME:	671 hrs
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	99.9 %
STANDARD DEVIATION:	0.06		MONTHLY AVERAGE:	1.91 ppm

METHANE Hourly Averages (CH₄ ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - February 2017

METHANE MAX Instantaneous Maximum (CH₄ ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.	
DAY	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59					
1	2.07	2.05	2.04	2.04	2.06	2.04	2.04	S	2.05	2.04	2.04	2.04	2.04	2.04	2.04	2.05	2.06	2.05	2.05	2.06	2.08	2.11	2.11	2.09	2.04	2.11	2.06	24	
2	2.09	2.12	2.14	2.10	2.09	2.09	S	2.10	2.10	2.09	2.08	2.07	2.06	2.06	2.06	2.06	2.09	2.08	2.13	2.12	2.07	2.09	2.07	2.04	2.04	2.14	2.09	24	
3	2.04	2.04	2.03	2.02	2.03	S	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.05	2.05	2.05	2.05	2.05	2.02	2.05	2.03	24	
4	2.04	2.07	2.04	2.04	S	2.05	2.03	2.03	2.02	2.03	2.04	2.05	2.04	2.03	2.03	2.04	2.03	2.04	2.04	2.05	2.04	2.03	2.02	2.02	2.02	2.07	2.04	24	
5	2.02	2.03	2.03	S	2.03	2.03	2.03	2.04	2.04	2.05	C	C	C	C	C	1.90	1.91	1.91	1.91	1.90	1.91	1.91	1.92	1.93	1.90	2.05	1.97	24	
6	1.93	2.03	S	2.02	2.01	2.02	2.06	2.10	2.11	2.12	2.07	2.02	1.96	1.93	1.92	1.92	1.92	1.93	1.93	1.93	1.93	1.96	1.96	1.92	1.92	2.12	1.99	24	
7	1.94	S	1.93	1.92	1.95	1.95	1.95	1.97	1.98	1.98	2.00	1.99	1.98	1.97	1.95	1.95	1.93	1.94	1.94	1.94	1.94	1.93	1.93	1.93	1.92	2.00	1.95	24	
8	S	1.93	1.94	1.94	1.93	1.93	1.94	1.93	1.94	1.95	1.94	1.94	1.94	1.93	1.94	1.93	1.93	1.93	1.93	1.94	1.93	1.93	1.93	S	1.93	1.95	1.94	24	
9	1.94	1.94	1.95	1.96	1.96	1.97	2.01	1.98	1.98	1.98	2.02	2.02	1.94	1.93	1.93	1.93	1.91	1.92	1.91	1.90	1.91	1.92	S	1.93	1.90	2.02	1.95	24	
10	1.94	1.96	2.00	1.95	1.98	2.01	1.95	1.97	1.96	1.95	1.94	1.94	1.95	1.94	1.93	1.93	1.93	1.94	1.94	1.95	1.96	S	1.96	1.97	1.93	2.01	1.95	24	
11	1.96	1.96	1.94	1.92	1.90	1.90	1.89	1.89	1.89	1.89	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.87	1.88	1.88	S	1.88	1.87	1.87	1.87	1.86	1.89	24	
12	1.87	1.87	1.86	1.87	1.86	1.87	1.86	1.86	1.87	1.87	1.86	1.87	1.87	1.86	1.86	1.86	1.86	1.86	1.86	S	1.86	1.87	1.88	1.87	1.86	1.88	1.87	24	
13	1.87	1.87	1.88	1.88	1.87	1.88	1.88	1.88	1.88	1.88	1.89	1.88	1.88	1.87	1.87	1.87	1.88	1.88	S	1.88	1.88	1.88	1.88	1.88	1.87	1.89	1.88	24	
14	1.88	1.87	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.89	1.89	1.88	1.88	1.90	1.88	1.88	1.88	S	1.90	1.90	1.87	1.87	1.91	1.91	1.87	1.91	1.88	24	
15	1.86	1.85	1.88	1.87	1.85	1.87	1.89	1.93	1.95	1.95	1.90	1.87	1.87	1.86	1.87	1.87	S	1.86	1.83	1.83	1.82	1.85	1.85	1.83	1.82	1.95	1.87	24	
16	1.86	1.90	1.85	1.84	1.84	1.88	1.87	1.92	1.90	1.93	1.93	1.92	1.93	1.85	1.84	S	1.85	1.89	1.90	1.89	1.89	1.86	1.88	1.88	1.84	1.93	1.88	24	
17	1.91	1.93	1.90	1.89	1.88	1.86	1.86	1.85	1.86	1.85	1.88	1.88	1.88	1.90	S	1.87	1.87	1.86	1.86	1.86	1.87	1.87	1.88	1.89	1.85	1.93	1.88	24	
18	1.87	1.88	1.89	1.89	1.88	1.87	1.89	1.88	1.89	1.89	1.89	1.87	1.87	S	1.87	1.86	1.86	1.87	2.33	1.86	1.86	1.86	1.86	1.86	1.86	2.33	1.89	24	
19	1.86	1.86	1.86	1.87	1.87	1.86	1.86	1.87	1.87	1.89	1.89	1.89	S	1.89	1.88	1.88	1.88	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.86	1.89	1.88	24	
20	1.89	1.89	1.89	1.90	1.89	1.90	1.90	1.90	1.89	1.90	1.90	S	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.89	1.90	1.90	24	
21	1.89	1.89	1.88	1.87	1.88	1.88	1.87	1.87	1.88	1.88	S	1.88	1.89	1.89	1.89	1.88	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.90	1.87	1.90	1.89	24	
22	1.90	1.90	1.90	1.91	1.91	1.92	1.91	1.90	1.91	S	1.92	1.92	1.92	R	1.91	1.91	1.91	1.91	1.93	1.91	1.92	1.92	1.91	1.93	1.90	1.93	1.91	23	
23	1.92	1.92	1.94	1.93	1.92	1.92	1.92	1.91	S	1.92	1.91	1.91	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.92	1.92	1.90	1.94	1.91	24	
24	1.92	1.92	1.92	1.92	1.92	1.91	1.91	S	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.94	1.92	1.94	1.94	1.92	1.92	1.92	1.92	1.91	1.94	1.92	24
25	1.92	1.92	1.92	1.92	1.92	1.92	S	1.94	1.94	1.93	1.93	1.92	1.90	1.90	1.90	1.90	1.90	1.89	1.89	1.90	1.90	1.90	1.89	1.89	1.89	1.89	1.94	1.91	24
26	1.89	1.89	1.89	1.90	1.90	S	1.97	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.89	1.89	1.90	1.90	1.90	1.90	1.90	1.90	1.89	1.97	1.90	24	
27	1.90	1.90	1.90	1.90	S	1.95	1.96	1.95	1.92	1.91	1.92	1.91	1.91	1.90	1.90	1.90	1.90	1.90	1.91	1.91	1.90	1.91	1.90	1.90	1.90	1.96	1.91	24	
28	1.90	1.90	1.90	S	1.90	1.90	1.92	1.91	1.91	1.91	1.91	1.91	1.90	1.91	1.92	1.91	1.91	1.91	1.91	1.91	1.91	1.92	1.91	1.91	1.91	1.90	1.92	1.91	24
HOURLY MAX	2.09	2.12	2.14	2.10	2.09	2.09	2.06	2.10	2.11	2.12	2.08	2.07	2.07	2.06	2.06	2.06	2.09	2.08	2.33	2.12	2.08	2.11	2.11	2.09					
HOURLY AVG	1.93	1.94	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.95	1.94	1.93	1.93	1.92	1.92	1.92	1.92	1.92	1.94	1.93	1.92	1.92	1.93	1.92					

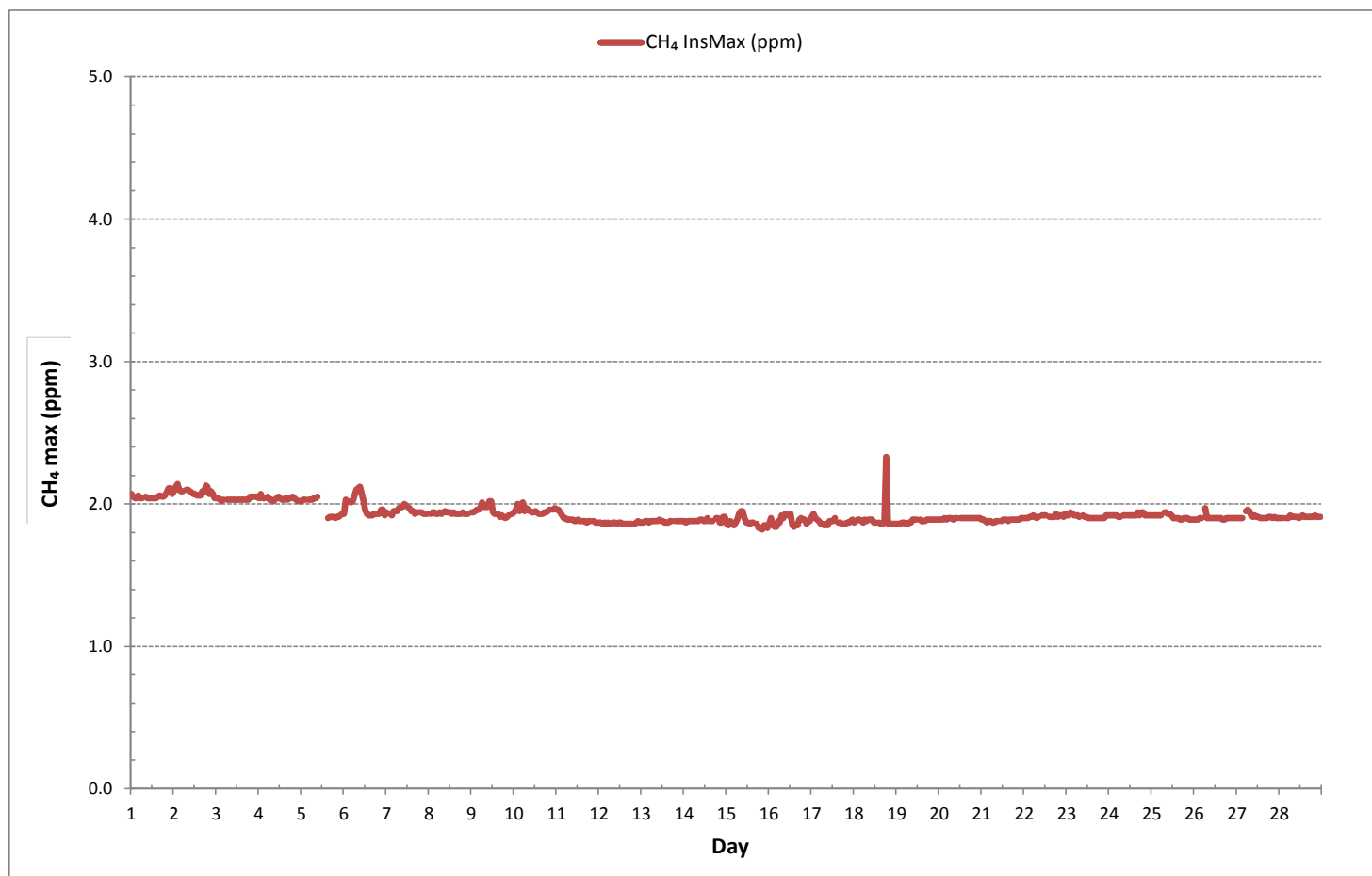
STATUS FLAG CODES

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:	637
MAXIMUM INSTANTANEOUS VALUE:	2.33 ppm @ HOUR(S) 18 ON DAY(S) 18
VAR-VARIOUS	
IZS CALIBRATION TIME:	29 hrs
MONTHLY CALIBRATION TIME:	5 hrs
STANDARD DEVIATION:	0.07
OPERATIONAL TIME:	671 hrs

METHANE MAX Instantaneous Maximum (CH₄ ppm)

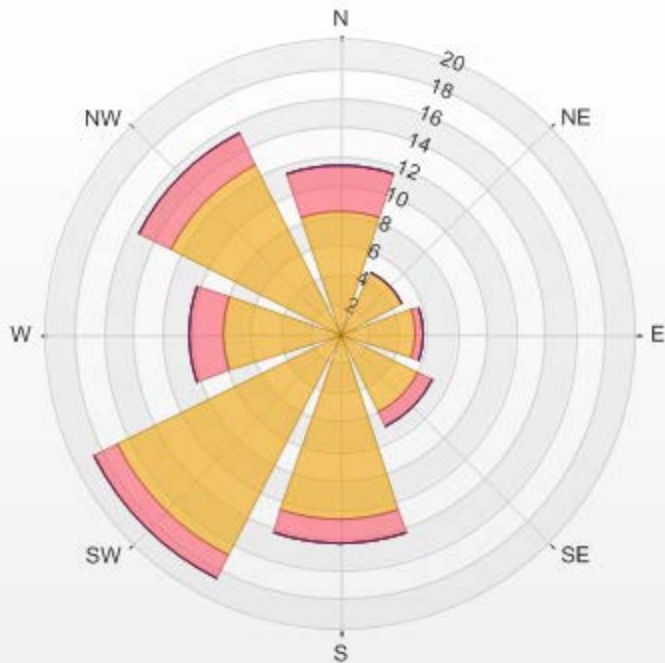


Wind: PRAMP_986 Poll.: PRAMP_986-CH4[ppm] Monthly: 02/2017 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 12.62% Valid Data: 94.35% Calm Avg: 1.94 [ppm]

Direction	0-2	2-3	3-5	5-10	>10.0	Total
N	8.36	3.15	0	0	0	11.51
NE	4.73	0	0	0	0	4.73
E	5.21	0.47	0	0	0	5.68
SE	5.99	1.1	0	0	0	7.09
S	12.62	1.58	0	0	0	14.2
SW	16.88	1.74	0	0	0	18.62
W	7.89	2.37	0	0	0	10.26
NW	12.78	2.52	0	0	0	15.3
Summary	74.46	12.93	0	0	0	87.39

%	Icon	Classes (ppm)
74		0-2
13		2-3
0		3-5
0		5-10
0		>10.0

PRAMP_986 Poll.: PRAMP_986-CH4[ppm] 01/02/2017 00:00 - 28/02/2017 23:00 Calm: 12.62% Calm Poll
Avg: 1.94[ppm]





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

NON-METHANE HYDROCARBON



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - February 2017

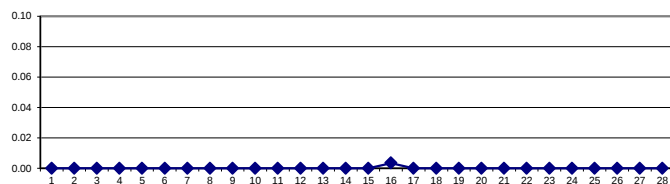
NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)

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

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

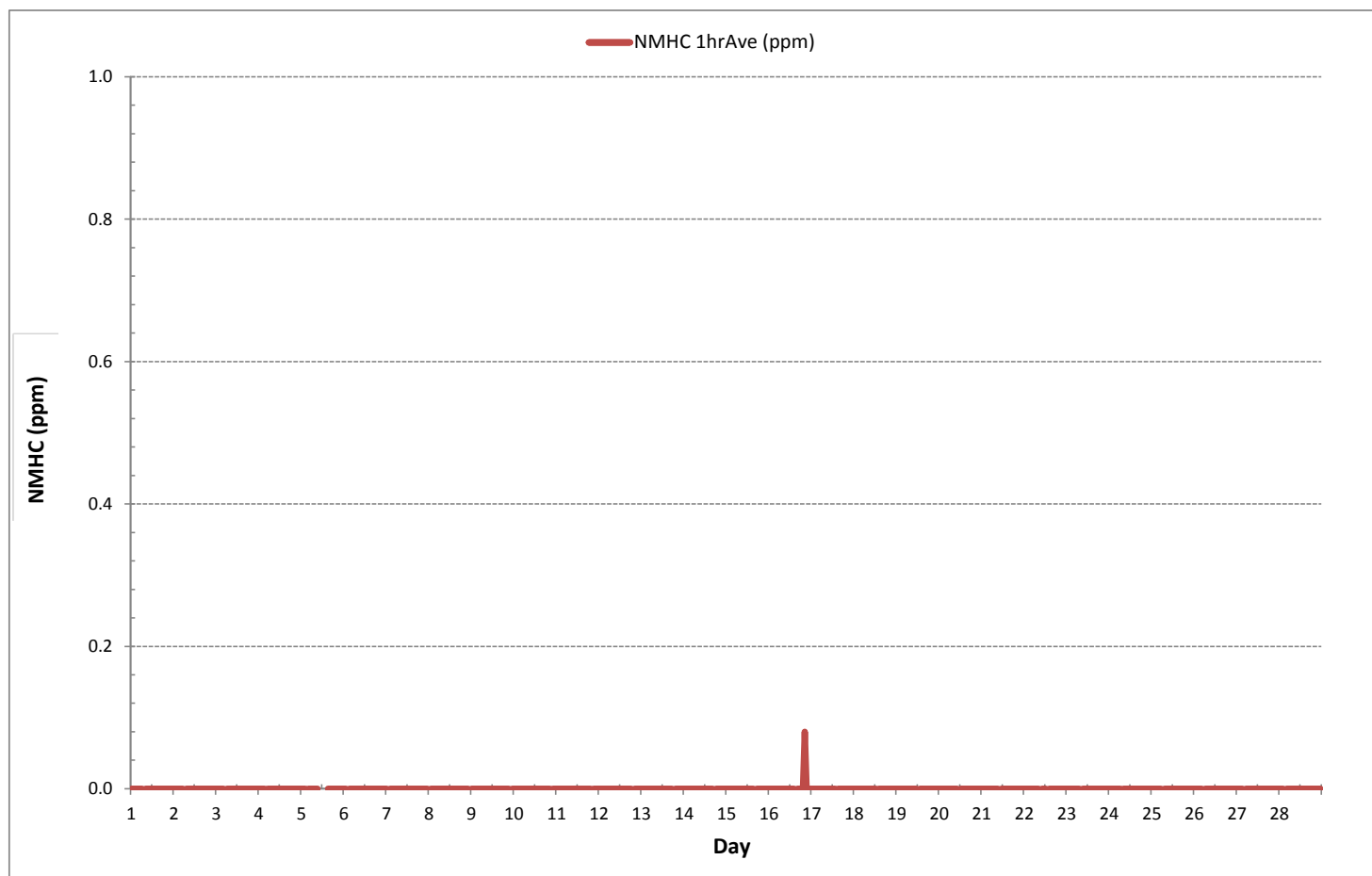
24 HR AVERAGES February 2017



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	1				
MINIMUM 1-HR AVERAGE:	0.00	ppm	@ HOUR(S)	VAR	ON DAY(S) ALL
MAXIMUM 1-HR AVERAGE:	0.08	ppm	@ HOUR(S)	20	ON DAY(S) 16
MAXIMUM 24-HR AVERAGE:	0.00	ppm			ON DAY(S) ALL
					VAR-VARIOUS
IZS CALIBRATION TIME:	29	hrs	OPERATIONAL TIME:	671	hrs
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	99.9	%
STANDARD DEVIATION:	0.00		MONTHLY AVERAGE:	0.00	ppm

NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - February 2017

NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59				
DAY																												
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
2	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
3	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
4	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
5	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
6	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
7	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	24
8	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
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	24
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	24
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	24
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
14	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
15	0.00	0.00	0.00	0.00	0.00	0.00	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
16	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	S	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.51	0.02	24
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
18	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
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
20	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
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
22	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	R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23
23	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	S	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	24
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
25	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
26	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
27	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	24
28	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
HOURLY MAX	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.00				
HOURLY AVG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00				

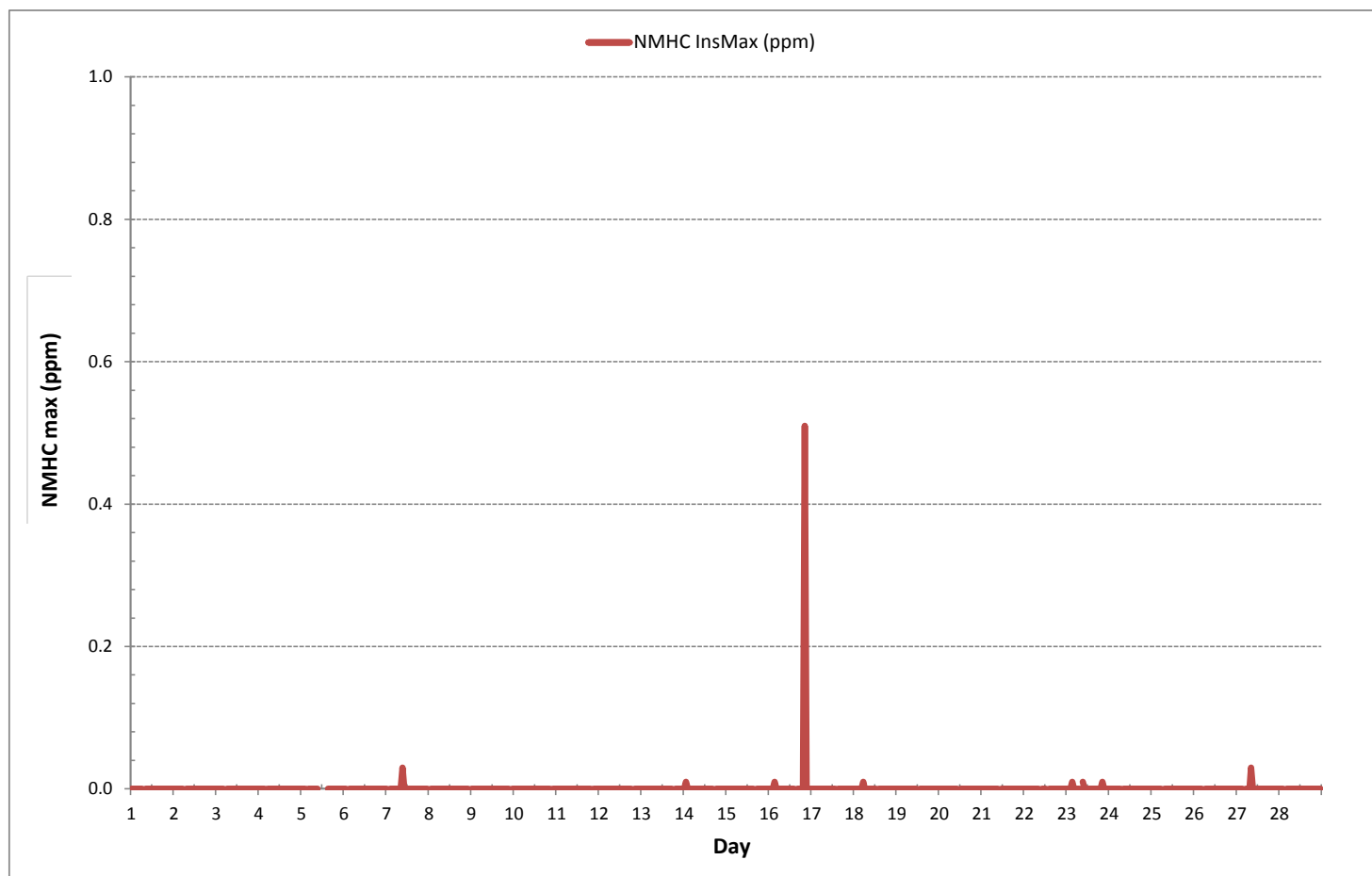
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	9				
MAXIMUM INSTANTANEOUS VALUE:	0.51	ppm	@ HOUR(S)	20	ON DAY(S) 16
					VAR-VARIOUS
IZS CALIBRATION TIME:	29	hrs	OPERATIONAL TIME:	671	hrs
MONTHLY CALIBRATION TIME:	5	hrs			
STANDARD DEVIATION:	0.02				

NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)

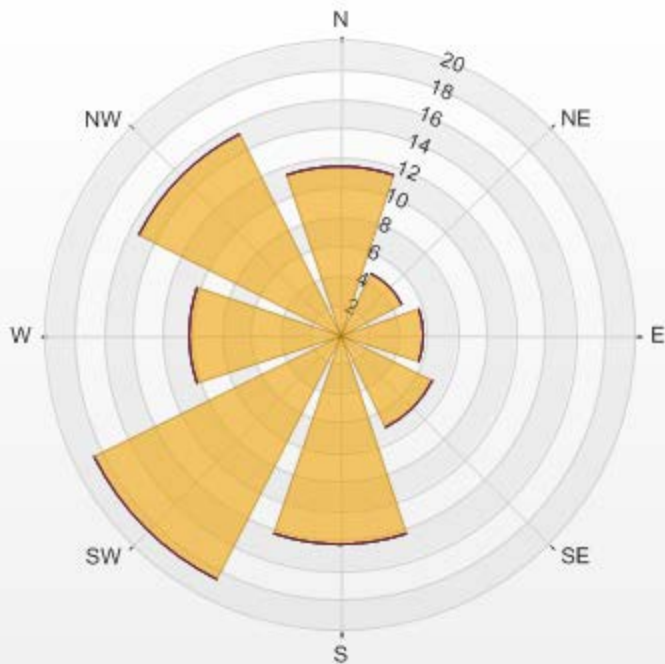


Wind: PRAMP_986 Poll.: PRAMP_986-NMHC[ppm] Monthly: 02/2017 Type: PollutionRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 12.62% Valid Data: 94.35% Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	11.51	0	0	0	0	11.51
NE	4.73	0	0	0	0	4.73
E	5.68	0	0	0	0	5.68
SE	7.1	0	0	0	0	7.1
S	14.2	0	0	0	0	14.2
SW	18.61	0	0	0	0	18.61
W	10.25	0	0	0	0	10.25
NW	15.3	0	0	0	0	15.3
Summary	87.38	0	0	0	0	87.38

%	Icon	Classes (ppm)
87		0-0.1
0		0.1-0.3
0		0.3-1
0		1-2
0		>2.0

PRAMP_986 Poll.: PRAMP_986-NMHC[ppm] 01/02/2017 00:00 - 28/02/2017 23:00 Calm: 12.62% Calm Poll Avg: 0.00[ppm]





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

WIND SPEED

WIND SPEED Hourly Averages (WS kph)

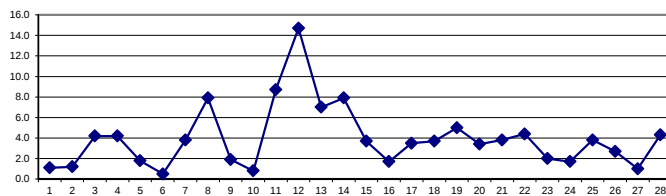
HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59				
DAY 1	1.7	7.3	5.6	5.1	3.2	2.7	0.7	0.4	1.2	1.2	0.9	2.1	5.9	1.1	1.4	1.8	3.0	3.8	3.3	3.1	3.0	3.7	3.4	1.8	0.4	7.3	1.1	24
2	2.4	3.3	2.2	3.2	2.5	2.4	2.5	3.2	1.8	1.8	1.2	3.1	4.0	4.0	3.9	4.1	3.7	2.1	0.4	0.2	0.3	0.5	2.6	4.9	0.2	4.9	1.2	24
3	4.1	5.2	4.6	5.1	6.4	5.1	7.7	8.7	7.5	5.6	6.0	5.9	9.1	7.8	5.5	5.6	4.6	0.6	1.0	1.4	0.4	0.0	1.0	2.0	0.0	9.1	4.2	24
4	4.7	2.7	1.7	3.3	3.2	2.3	8.7	6.4	4.7	5.8	5.4	7.0	7.3	7.4	7.2	6.8	7.3	7.5	5.8	3.4	6.0	9.2	8.5	9.3	1.7	9.3	4.2	24
5	8.2	9.8	10.3	8.6	4.6	4.3	1.8	2.0	1.5	0.5	5.3	4.6	2.3	4.0	6.3	4.4	3.0	4.6	4.9	4.0	4.4	4.6	2.5	4.3	0.5	10.3	1.8	24
6	3.1	4.2	3.4	3.2	4.0	4.3	2.8	2.6	1.8	0.7	0.7	1.4	4.3	7.0	8.1	6.7	6.5	4.0	0.3	0.2	0.2	1.7	2.2	3.8	0.2	8.1	0.5	24
7	2.6	1.9	1.5	0.9	3.5	4.5	4.0	5.1	4.7	5.6	6.0	7.2	6.4	8.9	8.6	6.7	6.5	3.3	1.6	1.9	1.3	0.5	1.5	3.6	0.5	8.9	3.8	24
8	4.9	5.5	5.5	5.6	6.9	4.5	5.1	6.2	9.3	9.7	11.2	11.5	11.8	12.5	11.4	10.4	11.4	12.4	10.2	8.5	6.1	6.8	4.7	4.9	4.5	12.5	7.9	24
9	4.9	4.0	4.2	3.7	6.3	6.6	6.0	5.3	5.0	5.6	3.9	1.4	1.4	1.1	3.6	2.4	1.6	1.8	5.3	2.3	1.3	1.6	2.5	3.9	1.1	6.6	1.9	24
10	1.1	1.7	0.1	0.4	1.1	2.3	3.8	2.1	1.9	3.9	3.4	3.7	4.7	3.7	1.7	3.4	2.5	3.2	2.5	4.2	1.8	3.6	4.6	7.6	0.1	7.6	0.8	24
11	7.1	5.3	5.6	6.4	5.9	5.3	5.5	7.6	7.8	6.7	9.3	11.5	12.3	12.9	12.6	12.7	15.7	17.6	10.7	9.7	10.1	9.3	10.9	12.8	5.3	17.6	8.7	24
12	15.4	18.0	16.5	14.5	15.4	11.7	13.9	12.5	14.5	13.9	18.9	20.1	13.6	13.1	13.4	14.3	16.2	17.5	16.0	16.4	12.8	11.3	12.1	14.1	11.3	20.1	14.7	24
13	12.6	6.4	6.8	7.9	9.7	7.3	7.0	6.0	5.0	4.3	4.7	6.4	9.0	8.9	9.6	8.9	7.8	8.2	9.7	9.3	7.4	7.3	6.6	7.8	4.3	12.6	7.0	24
14	7.8	8.5	9.6	9.8	8.7	7.7	8.9	8.5	7.9	9.9	9.6	11.2	9.4	8.7	7.8	7.2	6.8	5.2	4.3	8.2	9.1	7.0	8.4	8.8	4.3	11.2	7.9	24
15	9.0	5.6	4.1	1.8	4.4	4.1	3.1	2.4	1.8	0.9	2.0	2.9	4.4	6.7	7.1	7.0	8.8	10.7	C	C	6.8	4.0	4.6	4.5	0.9	10.7	3.7	24
16	5.6	6.3	10.5	7.1	2.8	4.2	4.1	2.6	1.6	0.9	1.3	0.6	1.3	1.5	3.0	4.5	4.6	4.0	3.2	2.9	0.5	1.4	1.2	2.1	0.5	10.5	1.7	24
17	1.1	2.5	3.2	4.6	6.0	8.6	8.4	6.4	1.9	3.1	4.4	3.5	3.3	3.5	4.6	4.6	3.0	2.5	3.1	0.8	4.0	4.0	4.5	4.9	0.8	8.6	3.5	24
18	1.8	1.9	1.5	0.9	1.6	1.5	1.7	2.2	2.2	3.4	4.5	3.4	3.9	4.3	5.0	5.4	5.8	5.2	6.0	7.4	7.8	7.9	8.4	8.3	0.9	8.4	3.7	24
19	8.7	10.4	9.4	10.2	7.5	5.9	5.6	4.8	4.2	4.1	4.5	2.5	3.1	5.6	8.2	10.0	8.4	11.2	11.8	9.7	8.9	9.3	9.1	5.4	2.5	11.8	5.0	24
20	6.0	4.6	5.5	3.6	3.7	4.3	6.0	5.2	4.8	4.1	4.1	3.6	3.4	4.5	4.0	3.0	3.4	3.3	3.2	3.8	2.3	2.3	3.4	3.7	2.3	6.0	3.4	24
21	4.6	6.5	7.9	5.9	6.6	5.5	7.1	6.8	6.9	6.3	6.3	5.0	6.9	6.3	6.1	3.1	2.8	2.8	1.8	2.3	2.6	2.7	1.7	2.8	1.7	7.9	3.8	24
22	4.6	4.4	3.4	1.1	1.7	4.3	6.9	6.9	7.9	9.8	8.4	10.6	11.0	5.4	6.4	7.1	6.3	3.9	2.3	0.3	0.3	1.3	0.7	0.3	0.3	11.0	4.4	24
23	0.5	1.9	1.5	1.1	2.9	2.3	2.4	3.8	2.9	3.0	5.2	5.3	6.4	5.8	4.5	5.7	2.0	5.5	5.1	4.3	7.0	8.2	9.5	9.4	0.5	9.5	2.0	24
24	7.7	7.6	7.8	5.8	7.9	7.6	6.5	7.7	6.6	4.2	4.9	5.4	4.6	6.1	4.8	4.4	7.1	6.9	6.4	5.9	6.3	5.9	6.2	4.6	4.2	7.9	1.7	24
25	5.8	5.1	7.0	8.4	7.9	6.4	5.8	4.7	3.7	3.1	4.4	4.6	5.9	5.6	8.1	8.1	7.8	7.3	6.9	9.9	13.4	13.4	13.1	13.9	3.1	13.9	3.8	24
26	14.0	11.4	10.2	12.1	8.8	5.0	3.3	2.3	2.8	4.5	6.8	6.6	5.8	6.7	7.9	6.8	9.9	10.4	8.5	8.7	5.8	2.0	5.1	6.5	2.0	14.0	2.7	24
27	6.7	5.0	4.5	4.2	1.5	2.4	0.8	1.9	5.1	3.2	4.1	3.2	3.8	3.8	5.2	4.9	5.7	5.3	3.8	1.1	2.1	0.9	3.2	4.2	0.8	6.7	1.0	24
28	4.1	6.5	5.3	4.2	3.7	2.2	2.0	1.6	2.4	2.8	3.5	3.9	4.5	6.1	5.4	8.6	8.2	7.1	6.2	7.4	7.9	8.4	8.3	8.7	1.6	8.7	4.3	24
HOURLY MAX	15.4	18.0	16.5	14.5	15.4	11.7	13.9	12.5	14.5	13.9	18.9	20.1	13.6	13.1	13.4	14.3	16.2	17.6	16.0	16.4	13.4	13.4	13.1	14.1				
HOURLY AVG	1.7	1.6	1.4	1.0	1.2	1.2	1.5	1.0	0.9	1.0	1.7	2.4	3.6	3.7	4.0	3.7	3.7	3.1	2.1	1.6	1.3	0.9	1.0	1.1				

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

LAST CALIBRATION: February 15, 2017
DECLINATION : MAGNETIC DECLINATION 15 DEGREE EAST

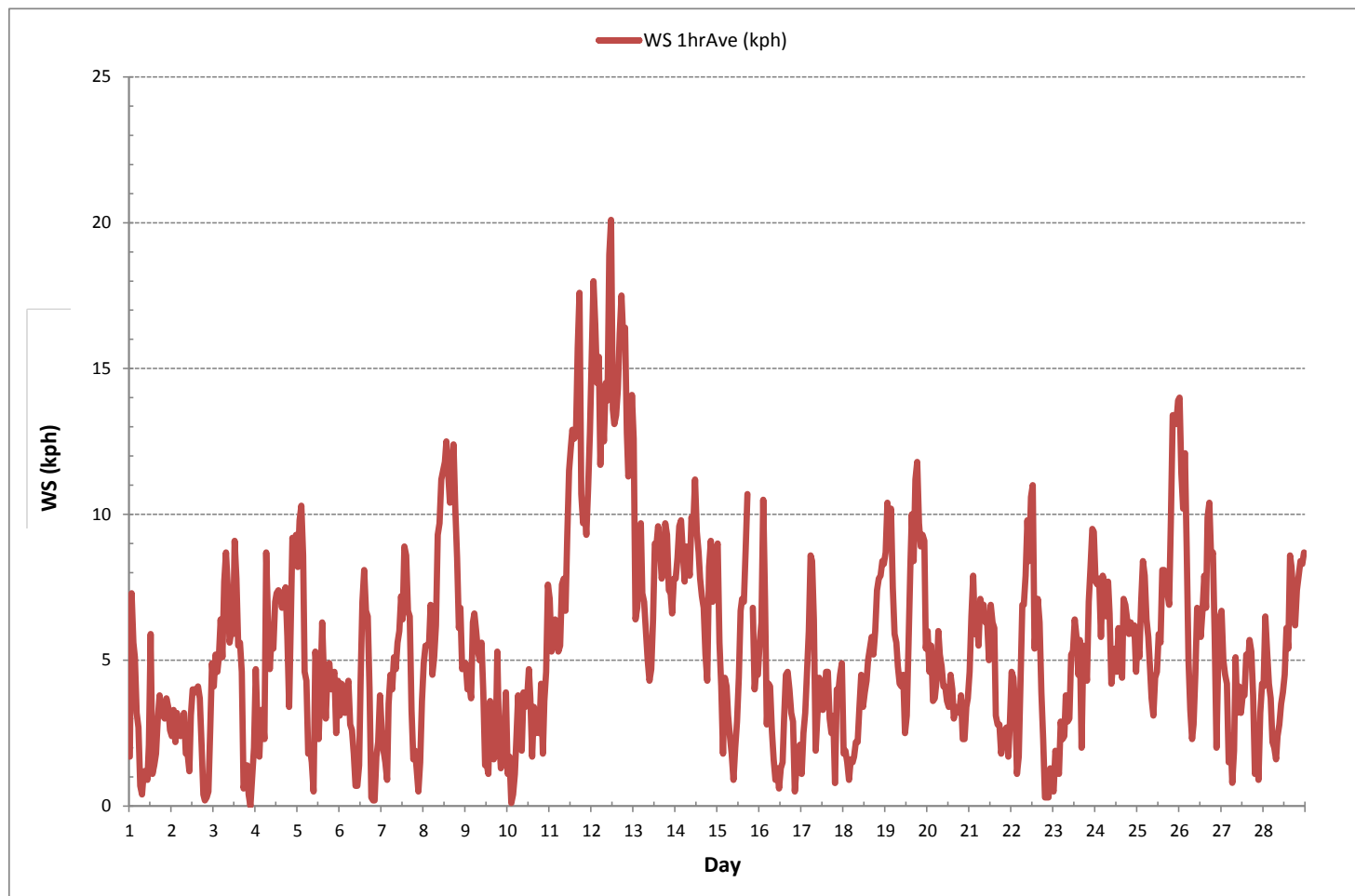
24 HR AVERAGES February 2017



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:		669				
MINIMUM 1-HR AVERAGE	0.0	kph	@ HOUR(S)	21	ON DAY(S)	3
MAXIMUM 1-HR AVERAGE:	20.1	kph	@ HOUR(S)	11	ON DAY(S)	12
MAXIMUM 24-HR AVERAGE:	14.7	kph			ON DAY(S)	12
VAR-VARIOUS						
MONTHLY CALIBRATION TIME:		2	hrs	OPERATIONAL TIME:	672	hrs
				AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	3.5			MONTHLY AVERAGE:	1.9	kph

WIND SPEED Hourly Averages (WS kph)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - February 2017

WIND SPEED Instantaneous Maximum (WS kph)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	8.3	12.5	10.2	11.0	7.6	6.9	3.5	2.5	4.0	3.7	2.9	11.4	14.8	7.3	6.1	6.7	9.2	9.5	5.8	5.1	5.4	6.2	6.5	4.1	2.5	14.8	7.1	24
2	5.3	6.0	5.0	4.9	4.3	5.4	5.5	6.5	5.2	5.0	5.2	7.7	8.0	7.7	7.4	8.3	8.7	5.8	3.0	3.2	2.8	5.2	8.1	15.0	2.8	15.0	6.2	24
3	9.8	12.2	16.2	14.7	18.1	15.7	21.0	24.3	18.2	13.9	17.0	17.1	23.2	20.3	18.9	14.5	13.3	3.5	4.5	4.3	3.4	2.4	4.2	6.3	2.4	24.3	13.2	24
4	14.8	10.1	6.6	7.8	7.0	8.0	18.5	16.3	14.1	14.7	18.6	21.2	21.3	23.1	20.5	20.4	18.6	19.8	15.8	12.3	18.0	24.8	25.8	23.1	6.6	25.8	16.7	24
5	21.7	25.0	26.3	26.3	15.8	8.1	6.9	6.4	9.2	9.4	13.8	13.6	8.5	11.8	12.1	10.6	10.3	11.2	9.0	7.0	7.4	7.7	6.5	6.8	6.4	26.3	12.1	24
6	5.2	7.8	6.8	7.6	7.7	7.4	6.1	7.2	4.5	4.6	3.5	4.4	9.9	10.4	12.6	11.2	10.7	10.5	3.4	3.6	2.8	6.1	5.5	7.8	2.8	12.6	7.0	24
7	9.5	5.6	3.9	7.3	12.0	11.0	8.4	13.1	10.2	15.8	16.1	18.7	17.2	20.3	23.5	21.1	17.8	13.4	9.4	6.6	6.8	6.3	6.8	12.2	3.9	23.5	12.2	24
8	16.8	16.5	17.9	17.8	19.9	15.0	16.1	16.0	21.9	22.7	26.8	27.8	31.3	31.8	29.8	30.0	24.0	26.0	27.3	20.3	17.2	14.0	11.0	8.7	8.7	31.8	21.1	24
9	9.0	7.5	7.4	9.2	11.2	10.7	10.2	9.9	9.1	9.1	8.3	4.4	5.4	6.0	9.8	8.1	4.3	4.8	12.8	8.2	6.3	4.5	7.1	8.2	4.3	12.8	8.0	24
10	4.2	4.5	2.6	3.0	3.3	8.7	10.5	8.5	9.5	8.9	8.7	9.2	14.3	18.1	8.2	10.6	11.6	10.8	7.5	7.5	7.0	7.4	15.5	24.1	2.6	24.1	9.3	24
11	25.3	17.3	15.8	19.4	18.6	13.3	15.7	15.7	15.2	26.1	34.7	31.1	31.8	31.9	35.3	34.7	42.9	43.7	36.3	23.4	27.1	32.3	37.3	41.2	13.3	43.7	27.8	24
12	53.9	54.5	52.1	37.9	40.9	35.8	45.5	50.2	51.6	47.1	65.3	53.3	36.9	38.4	41.2	41.3	50.9	54.0	50.0	49.8	36.1	34.1	35.1	42.5	34.1	65.3	45.8	24
13	33.7	24.6	17.3	14.7	17.4	20.3	19.0	16.0	13.8	9.8	14.4	18.3	22.2	22.9	27.7	24.8	20.8	20.9	20.4	22.5	25.1	21.8	12.7	13.8	9.8	33.7	19.8	24
14	16.1	21.5	20.4	21.6	19.3	19.1	18.7	13.4	12.6	19.6	19.7	19.7	27.7	22.2	18.4	15.7	16.2	10.6	12.2	13.0	14.5	13.8	11.6	17.3	10.6	27.7	17.3	24
15	15.2	12.4	10.4	6.3	8.8	9.1	7.5	6.1	5.1	8.9	6.0	10.5	18.1	17.1	19.1	22.5	24.5	C	C	C	16.9	14.3	12.9	9.4	5.1	24.5	12.4	24
16	11.3	10.1	26.0	13.8	8.8	9.2	9.6	7.2	6.0	3.5	8.2	5.3	4.9	5.5	5.9	11.8	12.3	8.6	8.1	11.8	10.5	6.5	7.3	8.4	3.5	26.0	9.2	24
17	6.9	6.5	8.2	8.6	10.2	17.2	17.8	16.9	5.1	10.2	15.5	11.3	8.9	10.4	11.3	11.5	8.7	6.9	8.1	4.4	16.1	8.0	8.4	7.5	4.4	17.8	10.2	24
18	6.3	4.0	5.3	3.0	4.9	5.2	9.5	6.2	6.1	12.3	11.8	11.3	11.0	10.7	15.9	14.0	16.1	14.9	17.7	19.1	23.6	25.3	21.9	20.5	3.0	25.3	12.4	24
19	23.7	25.8	20.9	25.4	22.9	19.9	19.4	12.6	11.1	13.0	13.9	10.6	8.6	15.3	16.2	17.8	15.3	19.9	19.7	19.8	18.1	19.1	14.8	15.5	8.6	25.8	17.5	24
20	12.6	10.8	13.1	9.5	7.3	8.3	11.9	12.7	10.0	9.1	9.8	9.7	9.0	12.8	9.1	8.2	8.4	8.8	8.3	9.2	7.7	6.0	8.9	10.0	6.0	13.1	9.6	24
21	9.3	14.7	14.8	14.4	16.2	14.0	15.7	16.1	15.8	15.7	14.9	12.3	16.9	15.4	14.8	8.4	7.0	8.2	6.0	5.0	5.4	5.3	5.6	10.7	5.0	16.9	11.8	24
22	11.5	7.8	7.8	3.6	4.7	14.7	13.4	11.0	20.2	20.7	19.7	25.6	19.5	P	14.8	19.5	13.2	10.8	11.7	3.4	2.4	3.4	4.1	3.6	2.4	25.6	11.6	23
23	3.7	4.2	4.7	4.7	6.9	6.3	7.5	9.6	8.0	11.2	13.8	13.1	14.7	16.2	13.3	13.8	4.0	14.3	13.6	10.2	20.3	26.6	27.9	21.5	3.7	27.9	12.1	24
24	18.9	21.0	19.7	16.2	21.3	21.3	24.2	20.6	17.5	14.1	12.6	13.2	13.4	14.0	12.1	14.5	15.4	13.9	9.7	13.2	12.0	12.4	11.0	8.5	8.5	24.2	15.4	24
25	13.6	12.6	17.9	18.4	22.0	14.1	12.0	10.5	8.6	10.2	9.4	10.0	13.8	14.8	16.6	15.5	14.6	11.9	17.3	22.9	34.0	33.8	38.6	40.4	8.6	40.4	18.1	24
26	41.9	29.7	27.7	33.4	30.1	11.4	9.8	6.1	5.4	13.6	20.2	18.8	15.4	16.7	20.7	18.5	20.5	22.1	18.2	19.4	13.9	7.8	17.4	15.6	5.4	41.9	18.9	24
27	18.1	15.2	9.7	10.8	10.6	5.9	3.3	10.2	14.2	10.2	11.9	9.4	14.7	11.1	15.0	13.4	14.5	13.0	7.6	3.9	10.3	9.6	8.3	10.8	3.3	18.1	10.9	24
28	12.0	15.8	14.4	10.7	8.7	6.3	5.9	5.5	6.9	9.0	9.4	12.8	12.6	13.0	17.6	21.1	21.3	20.0	19.6	17.1	18.7	18.0	18.3	26.4	5.5	26.4	14.2	24
HOURLY MAX	53.9	54.5	52.1	37.9	40.9	35.8	45.5	50.2	51.6	47.1	65.3	53.3	36.9	38.4	41.2	41.3	50.9	54.0	50.0	49.8	36.1	34.1	35.1	42.5				
HOURLY AVG	15.7	14.9	14.6	13.6	13.8	12.4	13.3	12.8	12.1	13.3	15.4	15.4	16.2	16.5	16.9	16.7	16.3	15.5	14.2	12.8	13.9	13.7	14.3	15.7				

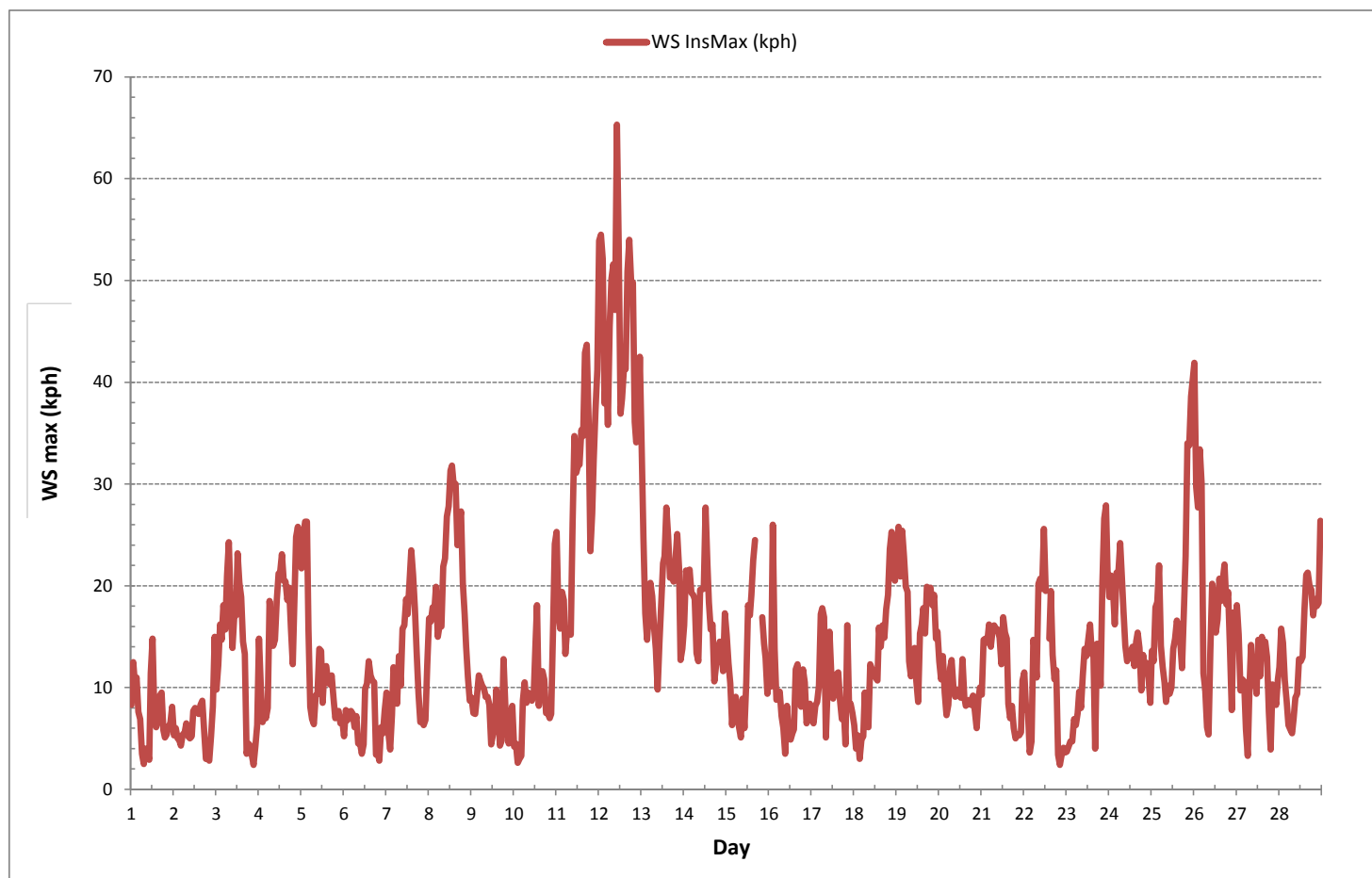
STATUS FLAG CODES

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

MAXIMUM INSTANTANEOUS VALUE:	65.3	kph	@ HOUR(S)	10	ON DAY(S)	12
VAR-VARIOUS						
OPERATIONAL TIME:						671 hrs

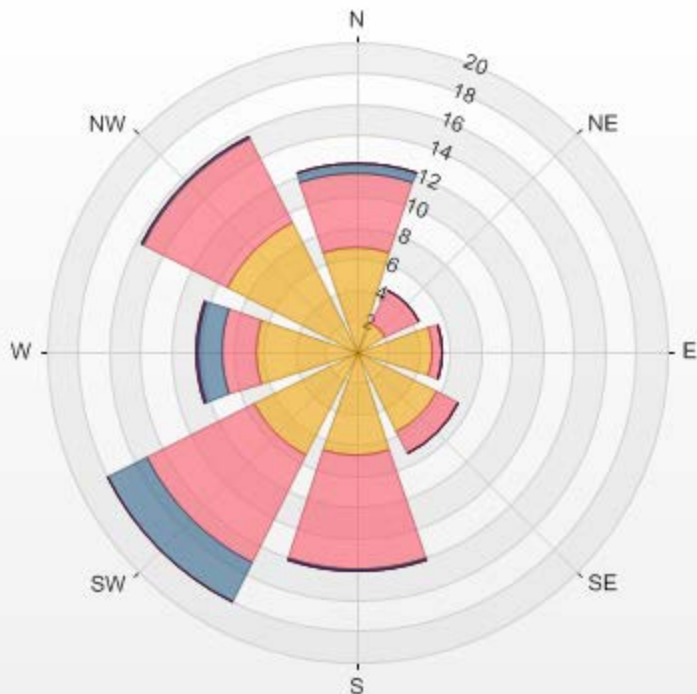
WIND SPEED Instantaneous Maximum (WS kph)



Wind: PRAMP_986 Monitor: WSP [kph] Monthly: 02/2017 Type: WindRose Direction: Blowing From (Wind Frequency) Based On 1 Hr.
 Calm: 12.24% Valid Data: 99.70%

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	6.72	4.78	0.75	0	0	0	12.25
NE	2.09	2.39	0	0	0	0	4.48
E	4.93	0.6	0	0	0	0	5.53
SE	5.82	1.49	0	0	0	0	7.31
S	6.72	7.31	0.15	0	0	0	14.18
SW	7.46	7.76	2.84	0	0	0	18.06
W	6.57	2.09	1.64	0.15	0	0	10.45
NW	9.4	5.97	0.15	0	0	0	15.52
Summary	49.71	32.39	5.53	0.15	0	0	87.78

PRAMP_986 01/02/2017 00:00 - 28/02/2017 23:00 Calm: 12.24% Calm Wind Avg Speed: 1.06(kph)



WIND DIRECTION



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - February 2017

WIND DIRECTION Hourly Averages (WD)

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

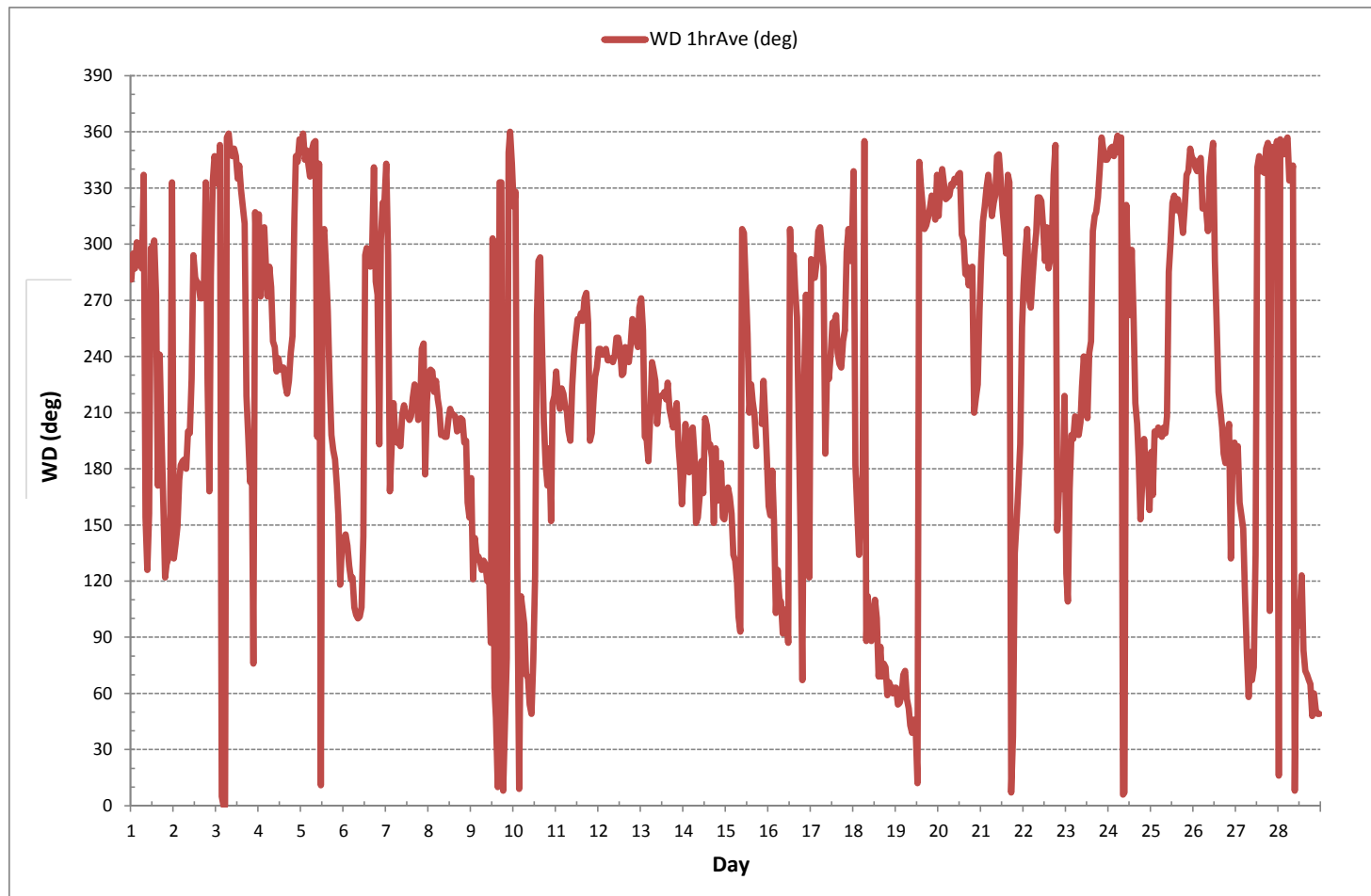
STATUS FLAG CODES

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:	February 15, 2017
DECLINATION :	MAGNETIC DECLINATION 15 DEGREE EAST

MONTHLY CALIBRATION TIME:	2	hrs	OPERATIONAL TIME:	672	hrs
STANDARD DEVIATION:	90		AMD OPERATION UPTIME:	100.0	%
			MONTHLY AVERAGE:	254 (WSW)	

WIND DIRECTION Hourly Averages (WD)



RELATIVE HUMIDITY

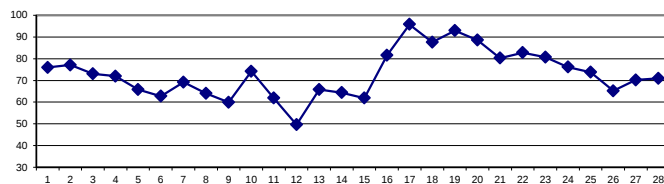
RELATIVE HUMIDITY Hourly Averages (RH %)

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	83	80	78	78	82	80	76	75	74	76	80	80	81	75	67	66	63	71	75	78	76	77	76	75	63	83	76	24
2	73	72	72	76	77	76	78	77	78	77	75	73	72	70	73	76	78	81	82	81	82	83	84	84	70	84	77	24
3	84	84	84	83	83	82	82	79	79	79	76	70	66	60	56	55	57	63	69	71	72	70	72	76	55	84	73	24
4	77	74	78	78	77	77	72	68	69	71	67	67	65	64	65	65	66	71	77	79	80	78	73	69	64	80	72	24
5	70	68	63	68	70	70	69	66	66	66	70	67	64	62	60	57	58	64	67	68	68	67	65	65	57	70	66	24
6	66	65	65	62	61	62	60	60	59	60	62	64	64	63	60	58	56	61	63	65	65	68	69	68	56	69	63	24
7	68	70	69	69	71	69	68	68	67	68	68	67	63	62	63	66	68	70	74	75	73	74	75	74	62	75	69	24
8	71	72	73	74	74	74	75	75	75	74	71	64	58	56	53	52	52	53	53	54	55	56	59	63	52	75	64	24
9	63	65	67	65	67	65	67	67	66	63	57	52	50	51	48	48	52	57	55	53	58	65	69	68	48	69	60	24
10	70	73	71	71	70	72	73	69	70	75	77	74	73	69	69	70	72	77	80	81	83	77	83	82	69	83	74	24
11	74	75	76	73	71	75	73	73	72	65	57	54	53	51	47	48	49	51	53	58	61	59	59	58	47	76	62	24
12	60	60	60	58	54	50	48	47	47	46	46	46	41	38	37	41	44	47	49	51	53	55	56	58	37	60	50	24
13	59	62	69	69	69	67	63	66	69	69	59	54	56	56	56	59	64	69	72	73	71	71	77	81	54	81	66	24
14	82	76	78	81	78	77	79	85	86	74	60	57	49	50	47	46	46	61	60	56	55	52	54	56	46	86	64	24
15	54	54	56	64	67	65	72	76	78	76	59	53	47	48	48	49	52	59	62	65	68	64	71	77	47	78	62	24
16	82	83	70	73	80	84	85	90	93	90	84	78	70	64	62	61	64	76	91	95	96	96	95	96	61	96	82	24
17	97	97	98	98	98	98	98	97	96	96	94	94	94	93	93	94	94	94	96	97	97	96	95	94	93	98	96	24
18	95	95	95	96	95	95	94	93	93	91	89	88	84	79	79	77	77	78	77	78	83	90	91	90	77	96	88	24
19	92	94	94	94	94	94	94	94	94	94	92	91	92	92	91	92	92	92	93	93	93	92	93	93	91	94	93	24
20	92	92	92	92	93	92	91	89	88	88	88	86	85	84	85	86	87	88	90	89	88	88	87	85	84	93	89	24
21	85	84	83	83	84	83	82	81	80	79	78	78	77	76	75	75	76	77	78	79	81	84	85	84	75	85	80	24
22	83	83	84	85	86	86	84	86	86	81	80	77	75	82	77	77	80	83	85	86	84	85	86	86	75	86	83	24
23	86	86	86	87	86	85	84	85	83	78	73	69	64	60	59	81	86	87	87	89	84	85	83	83	59	89	81	24
24	82	82	81	81	81	80	79	80	78	77	78	76	74	71	68	63	60	66	75	80	79	78	79	79	60	82	76	24
25	79	76	78	78	77	76	77	80	80	77	78	79	73	69	68	68	70	73	76	76	67	66	68	62	62	80	74	24
26	61	63	64	64	66	71	74	75	75	70	62	56	56	57	57	57	57	59	66	68	69	71	75	71	56	75	65	24
27	72	71	73	73	79	80	81	81	79	74	69	62	62	60	58	56	53	54	67	72	77	77	76	79	53	81	70	24
28	76	73	73	76	76	77	78	77	76	70	65	64	63	61	62	61	62	69	71	73	75	76	75	74	61	78	71	24
HOURLY MAX	97	97	98	98	98	98	98	97	96	96	94	94	94	93	93	94	94	94	96	97	97	96	95	96				
HOURLY AVG	76	76	76	77	77	77	77	77	77	75	72	69	67	65	64	64	66	70	73	74	75	75	76	76				

STATUS FLAG CODES

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

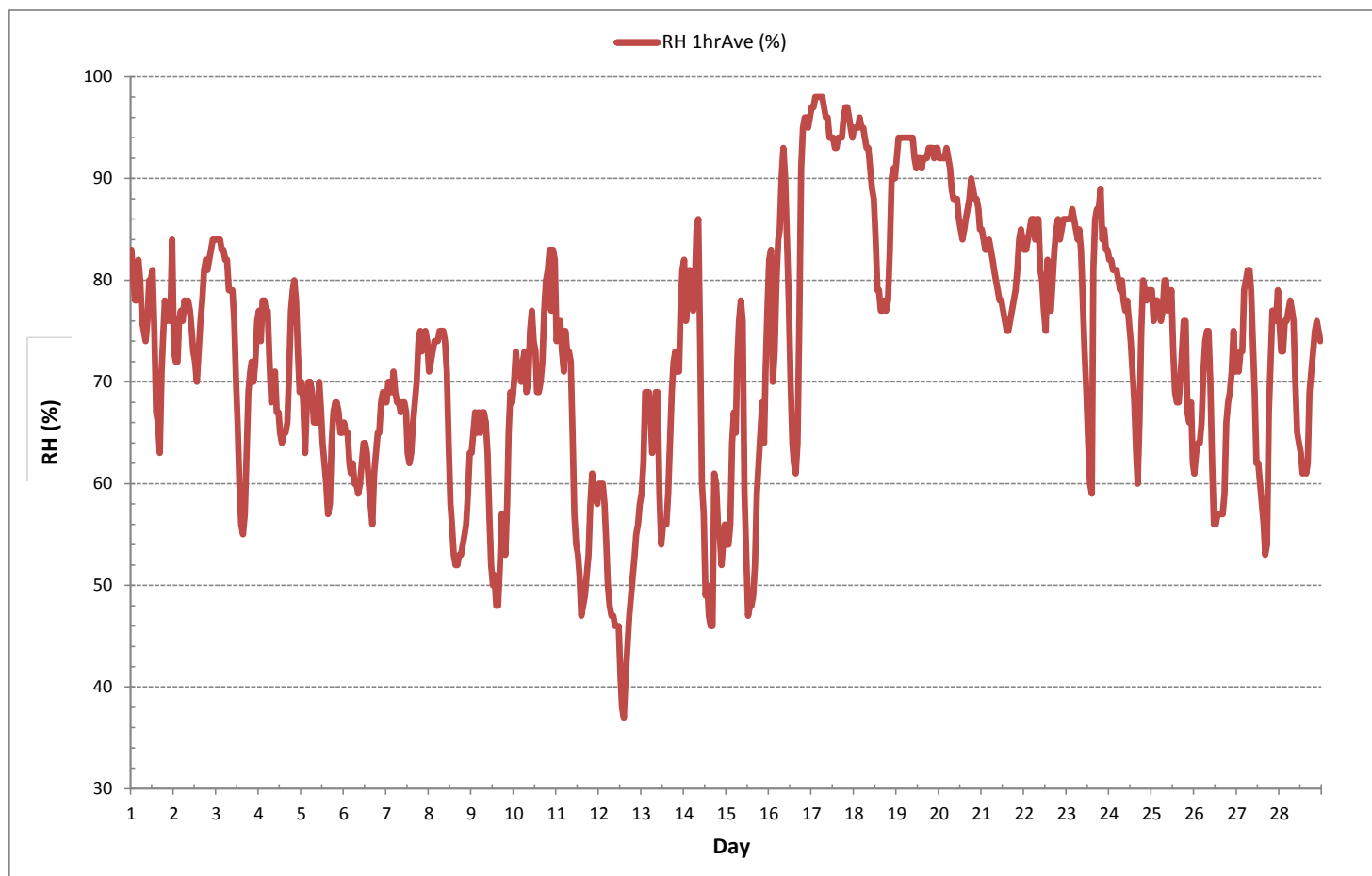
24 HR AVERAGES February 2017



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	37	%	@ HOUR(S)	14	ON DAY(S)	12
MAXIMUM 1-HR AVERAGE:	98	%	@ HOUR(S)	VAR	ON DAY(S)	17
MAXIMUM 24-HR AVERAGE:	96	%			ON DAY(S)	17
					VAR-VARIOUS	
OPERATIONAL TIME:					672	hrs
AMD OPERATION UPTIME:					100.0	%
STANDARD DEVIATION:	13		MONTHLY AVERAGE:		73	%

RELATIVE HUMIDITY Hourly Averages (RH %)



BAROMETRIC PRESSURE



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
Three Creeks 986b Station - February 2017

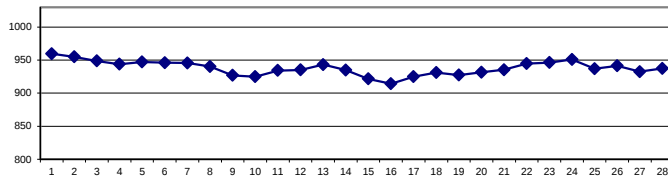
BAROMETRIC PRESSURE Hourly Averages (BP mbar)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.		
DAY																													
1	957	957	957	958	958	958	959	960	960	961	961	960	961	961	960	960	960	960	960	960	960	960	960	960	957	961	960	24	
2	960	959	959	959	958	957	957	956	956	955	955	955	955	954	954	953	953	953	952	952	952	951	951	951	951	951	960	955	24
3	950	950	950	950	949	949	949	949	949	950	950	950	949	949	948	948	947	947	947	948	948	948	948	948	947	947	950	949	24
4	948	947	947	947	947	946	946	945	945	944	944	944	943	942	942	941	941	941	941	941	942	942	943	944	941	948	944	24	
5	945	946	946	947	947	947	948	948	949	949	948	948	948	948	947	947	947	947	947	947	946	946	946	946	945	949	947	24	
6	946	946	945	945	945	945	946	946	946	946	946	945	945	945	945	945	946	946	947	948	948	948	948	948	945	948	946	24	
7	948	948	948	948	948	948	948	947	947	946	945	945	944	944	944	943	943	944	944	944	944	944	944	944	943	948	946	24	
8	944	944	945	945	944	944	944	944	943	943	942	941	940	939	938	938	937	937	936	936	936	935	935	934	934	934	945	940	24
9	934	933	933	932	932	931	930	929	928	927	926	925	925	924	923	923	923	923	923	923	923	923	924	924	925	923	934	927	24
10	925	925	926	926	926	926	925	925	925	925	924	924	923	923	924	924	924	924	924	925	925	925	926	926	923	926	925	24	
11	927	928	929	929	930	931	931	932	933	933	934	935	936	937	937	938	938	938	938	939	938	937	937	936	927	939	934	24	
12	936	935	935	935	934	935	935	935	934	934	934	935	935	935	934	934	934	934	934	934	935	936	937	938	938	934	938	935	24
13	939	941	942	942	942	943	943	944	944	944	945	945	945	945	944	944	944	944	943	943	942	942	942	942	939	945	943	24	
14	941	941	941	941	940	940	939	938	937	936	935	935	934	933	933	932	931	931	930	929	929	929	928	927	927	941	935	24	
15	926	925	925	925	924	923	922	921	920	920	920	920	920	920	921	921	921	921	921	920	920	920	920	919	919	926	921	24	
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17	917	918	918	919	920	921	922	923	924	925	925	926	926	927	927	927	928	928	928	929	929	929	930	930	917	930	925	24	
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20	931	931	931	931	931	932	932	932	932	931	931	931	932	932	932	932	932	932	932	932	932	932	932	932	931	932	932	24	
21	932	933	933	933	933	933	933	934	934	935	935	935	935	935	935	936	937	937	938	938	938	938	939	939	932	939	935	24	
22	940	941	941	942	942	942	943	943	944	944	945	945	945	946	946	946	946	947	947	947	947	947	947	947	940	947	945	24	
23	948	947	947	947	947	947	947	946	946	946	946	945	945	945	944	945	945	945	945	946	947	947	948	949	944	949	946	24	
24	950	951	951	952	953	953	953	954	954	954	954	954	953	953	952	951	950	949	949	949	948	947	945	944	944	954	951	24	
25	943	942	940	939	938	937	936	935	934	934	934	934	934	934	934	935	935	936	937	937	937	938	939	940	941	934	943	937	24
26	942	943	943	944	945	946	946	946	946	946	945	944	944	943	941	940	939	938	937	936	935	934	934	933	933	946	941	24	
27	932	931	931	931	931	931	931	931	931	932	932	932	933	933	932	933	933	933	934	934	935	935	935	935	931	935	933	24	
28	935	936	936	937	937	937	938	938	938	938	938	938	938	937	937	937	937	937	937	938	938	938	939	939	935	939	937	24	
HOURLY MAX	960	959	959	959	958	958	959	960	960	961	961	960	961	961	960	960	960	960	960	960	960	960	960	960					
HOURLY AVG	938	938	938	939	938	938	938	938	938	938	938	938	938	938	937	937	937	937	937	938	938	937	938	938					

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

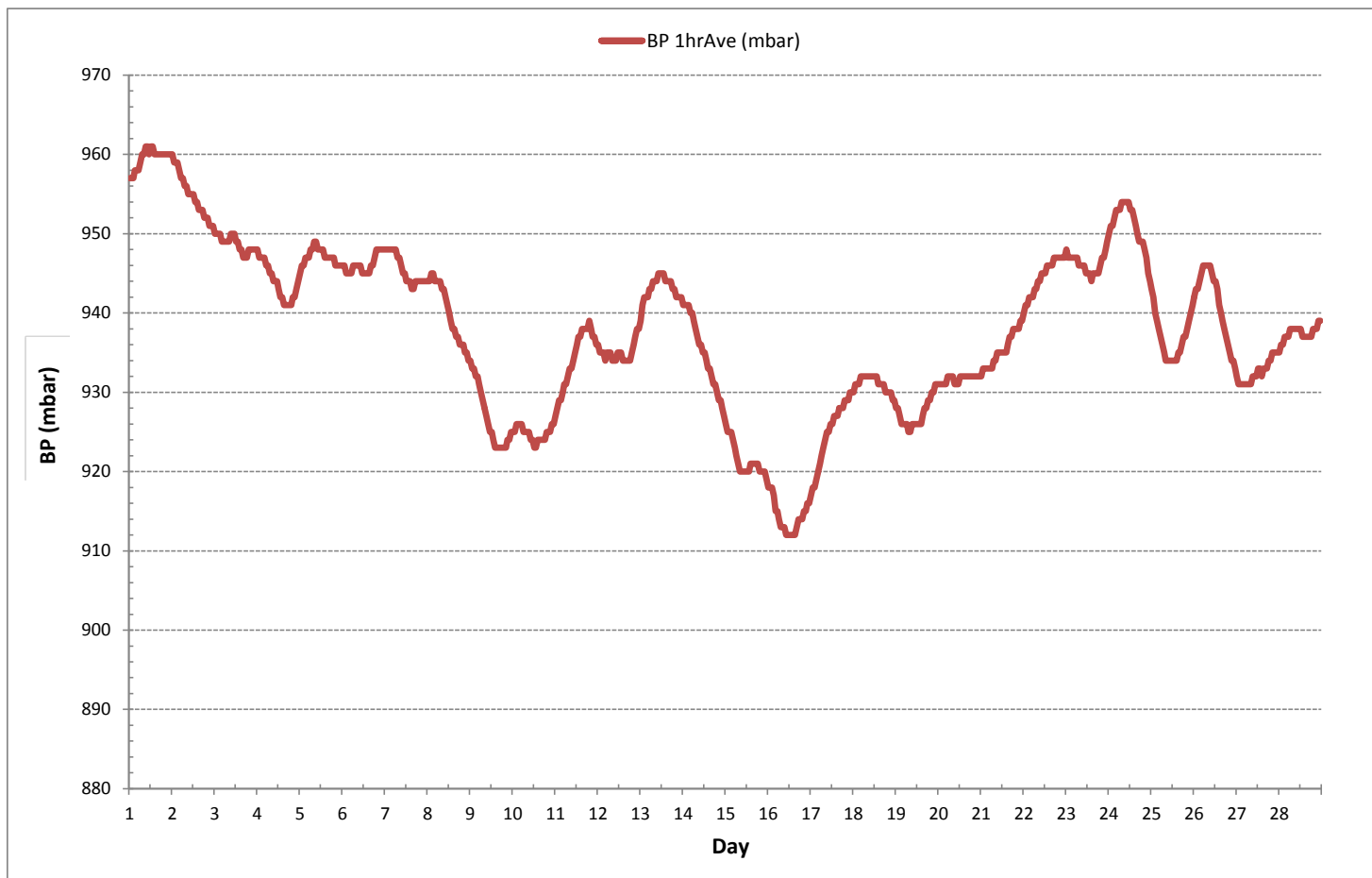
24 HR AVERAGES February 2017



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	912	mbar	@ HOUR(S)	VAR	ON DAY(S)	16
MAXIMUM 1-HR AVERAGE:	961	mbar	@ HOUR(S)	VAR	ON DAY(S)	1
MAXIMUM 24-HR AVERAGE:	960	mbar			ON DAY(S)	1
					VAR-VARIOUS	
				OPERATIONAL TIME:	672	hrs
				AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	11			MONTHLY AVERAGE:	938	mbar

BAROMETRIC PRESSURE Hourly Averages (BP mbar)



AMBIENT TEMPERATURE



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
Three Creeks 986b Station - February 2017

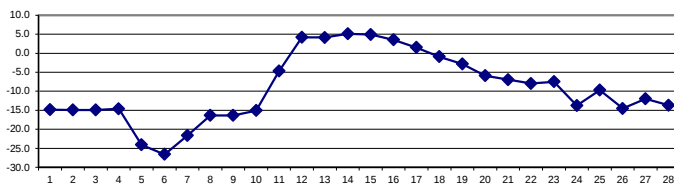
AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)

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	-14.1	-11.3	-11.7	-12.6	-14.6	-16.0	-18.1	-19.7	-21.0	-19.4	-14.4	-11.5	-11.1	-10.3	-9.3	-9.5	-9.4	-12.0	-15.5	-17.3	-18.8	-19.4	-19.9	-20.2	-21.0	-9.3	-14.9	24
2	-21.2	-22.1	-22.4	-20.1	-17.5	-17.7	-17.2	-16.0	-15.8	-14.7	-13.6	-12.8	-12.3	-11.1	-10.8	-10.5	-11.1	-12.0	-14.0	-15.0	-13.4	-12.8	-12.0	-11.3	-22.4	-10.5	-14.9	24
3	-11.5	-11.6	-11.6	-11.5	-11.5	-11.9	-12.3	-13.4	-14.9	-16.1	-14.7	-13.8	-13.4	-12.9	-12.8	-12.9	-13.5	-15.8	-16.6	-18.2	-21.0	-23.4	-22.7	-19.4	-23.4	-11.5	-14.9	24
4	-16.6	-15.5	-15.7	-15.3	-15.4	-15.3	-14.9	-14.9	-14.9	-14.9	-14.7	-14.5	-14.3	-13.9	-13.4	-13.1	-13.3	-13.5	-13.6	-13.5	-13.7	-13.7	-15.3	-16.9	-16.9	-13.1	-14.6	24
5	-18.7	-19.7	-20.7	-21.9	-23.5	-25.5	-26.6	-28.3	-29.4	-28.2	-23.7	-22.0	-21.4	-20.9	-20.4	-20.1	-20.4	-22.6	-25.1	-25.9	-26.6	-27.6	-29.4	-29.5	-29.5	-18.7	-24.1	24
6	-29.0	-29.4	-29.4	-31.1	-31.8	-31.2	-32.5	-32.9	-33.5	-32.0	-27.3	-21.9	-20.7	-20.8	-20.2	-19.9	-20.1	-22.0	-25.5	-28.5	-28.4	-25.1	-23.1	-22.3	-33.5	-19.9	-26.6	24
7	-22.8	-23.0	-22.5	-23.6	-25.2	-26.0	-26.2	-26.5	-25.2	-23.9	-22.5	-20.9	-19.8	-19.1	-18.5	-18.0	-18.6	-19.8	-18.6	-17.6	-18.1	-19.1	-17.9	-17.9	-26.5	-17.6	-21.7	24
8	-17.2	-17.6	-17.6	-17.5	-17.3	-17.9	-19.4	-20.1	-19.8	-19.1	-17.1	-15.0	-14.4	-14.0	-12.9	-12.6	-12.6	-13.6	-14.1	-14.3	-14.6	-15.2	-17.8	-19.9	-20.1	-12.6	-16.3	24
9	-19.3	-21.4	-22.2	-22.0	-22.4	-21.7	-22.0	-21.7	-21.0	-19.6	-16.7	-13.6	-11.7	-11.4	-10.3	-9.6	-10.2	-11.0	-11.7	-12.0	-13.4	-14.9	-15.7	-16.6	-22.4	-9.6	-16.3	24
10	-17.8	-19.9	-22.2	-23.2	-23.6	-22.2	-17.7	-16.3	-15.9	-14.8	-14.3	-12.5	-9.2	-9.9	-10.4	-9.5	-9.6	-10.9	-12.4	-14.0	-13.8	-17.0	-14.6	-10.6	-23.6	-9.2	-15.1	24
11	-10.1	-11.6	-11.6	-10.6	-10.3	-11.5	-10.8	-10.5	-10.2	-7.4	-4.3	-3.0	-2.0	-0.9	0.4	0.6	0.8	0.8	0.4	-0.9	-1.6	-0.5	0.6	1.4	-11.6	1.4	-4.7	24
12	1.5	1.9	2.2	2.5	2.9	3.4	3.6	3.5	3.4	3.5	3.7	3.9	5.0	6.4	6.9	6.4	6.1	5.6	5.3	5.0	4.4	4.2	4.2	3.9	1.5	6.9	4.1	24
13	3.8	3.1	1.4	1.8	1.6	2.3	3.4	2.8	2.2	2.0	4.9	6.8	7.0	7.4	7.5	6.9	5.8	4.8	4.3	4.1	4.6	4.7	3.5	2.5	1.4	7.5	4.1	24
14	2.6	4.1	3.4	2.6	3.4	3.6	2.8	0.8	0.7	3.1	6.1	7.1	8.9	8.6	9.4	9.4	9.1	5.5	4.6	5.5	5.6	5.9	5.2	4.6	0.7	9.4	5.1	24
15	5.4	5.2	4.6	2.8	2.0	2.4	1.0	0.9	0.4	0.7	4.6	6.1	8.0	7.9	8.1	8.8	9.6	8.5	7.4	6.2	5.1	5.6	3.8	2.2	0.4	9.6	4.9	24
16	0.8	0.9	4.3	4.4	2.9	2.3	2.6	0.3	-1.0	0.6	2.2	4.5	6.5	8.2	8.3	8.3	6.9	5.1	3.4	2.6	2.9	2.5	2.5	1.9	-1.0	8.3	3.5	24
17	1.6	2.0	1.8	1.5	1.4	1.6	1.6	1.1	0.9	1.3	2.2	2.3	2.3	2.6	2.6	2.3	2.0	1.9	1.4	1.2	1.0	0.2	0.0	-0.9	-0.9	2.6	1.5	24
18	-2.1	-3.0	-2.9	-2.1	-1.7	-1.4	-1.4	-1.3	-1.1	-0.7	-0.4	0.0	0.8	1.4	1.1	1.1	0.7	0.2	-0.4	-0.9	-1.5	-2.1	-2.2	-2.3	-3.0	1.4	-0.9	24
19	-2.4	-2.2	-1.9	-1.6	-1.7	-1.8	-1.9	-2.1	-2.1	-1.8	-1.4	-0.9	-0.4	-0.8	-1.9	-3.1	-3.8	-4.4	-4.8	-4.9	-5.1	-5.3	-5.5	-5.6	-5.6	-0.4	-2.8	24
20	-5.8	-5.9	-5.9	-6.0	-6.0	-6.1	-6.5	-6.9	-7.1	-6.8	-6.5	-6.0	-5.5	-5.5	-5.5	-5.3	-5.4	-5.5	-5.6	-5.6	-5.5	-5.6	-5.6	-5.6	-7.1	-5.3	-5.9	24
21	-5.7	-5.9	-6.2	-6.5	-6.8	-7.1	-7.4	-7.6	-7.9	-8.1	-8.2	-7.9	-7.5	-7.0	-6.7	-6.4	-6.5	-6.4	-6.8	-6.9	-6.9	-6.9	-6.9	-6.7	-8.2	-5.7	-7.0	24
22	-6.6	-6.7	-6.9	-7.0	-7.1	-7.4	-8.1	-8.7	-8.5	-8.4	-8.2	-7.5	-7.2	-7.2	-6.1	-5.8	-5.7	-6.1	-7.3	-9.9	-12.9	-12.1	-10.4	-9.6	-12.9	-5.7	-8.0	24
23	-9.7	-10.0	-10.0	-9.6	-9.5	-9.4	-9.4	-9.6	-9.0	-7.6	-6.7	-5.4	-4.0	-3.2	-2.6	-4.5	-4.5	-5.0	-6.6	-7.9	-7.4	-7.8	-9.5	-11.2	-11.2	-2.6	-7.5	24
24	-12.3	-12.4	-12.9	-14.0	-14.4	-14.1	-14.4	-14.8	-15.0	-14.6	-14.1	-13.7	-13.2	-12.6	-11.6	-10.4	-9.7	-11.5	-14.9	-16.3	-14.7	-15.9	-16.1	-17.3	-17.3	-9.7	-13.8	24
25	-16.3	-16.5	-13.7	-12.6	-12.1	-11.8	-11.4	-11.3	-10.6	-9.4	-9.2	-8.6	-7.7	-7.2	-7.1	-6.8	-6.7	-7.2	-7.3	-7.5	-6.9	-7.3	-8.1	-9.6	-16.5	-6.7	-9.7	24
26	-10.7	-11.6	-12.8	-14.0	-15.4	-17.9	-19.7	-20.9	-21.5	-18.0	-15.3	-13.6	-13.4	-12.8	-11.8	-11.2	-10.9	-11.6	-13.7	-13.6	-13.4	-16.4	-16.1	-12.5	-21.5	-10.7	-14.5	24
27	-12.6	-11.5	-11.3	-11.1	-11.6	-13.8	-14.6	-15.0	-13.3	-13.2	-12.3	-9.8	-9.0	-8.1	-7.5	-7.0	-7.0	-8.2	-12.2	-15.8	-18.1	-18.0	-13.6	-13.2	-18.1	-7.0	-12.0	24
28	-13.7	-14.4	-15.0	-15.9	-16.4	-18.5	-18.3	-17.1	-15.9	-14.9	-13.2	-11.8	-10.2	-8.7	-9.0	-9.7	-10.4	-11.5	-12.5	-13.3	-14.1	-14.7	-14.8	-14.9	-18.5	-8.7	-13.7	24
HOURLY MAX	5.4	5.2	4.6	4.4	3.4	3.6	3.6	3.5	3.4	3.5	6.1	7.1	8.9	8.6	9.4	9.4	9.6	8.5	7.4	6.2	5.6	5.9	5.2	4.6				
HOURLY AVG	-10.0	-10.2	-10.3	-10.5	-10.8	-11.1	-11.3	-11.6	-11.7	-10.8	-9.2	-7.8	-6.8	-6.3	-5.9	-5.8	-6.0	-7.0	-8.3	-9.2	-9.5	-9.9	-10.0	-9.9				

STATUS FLAG CODES

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

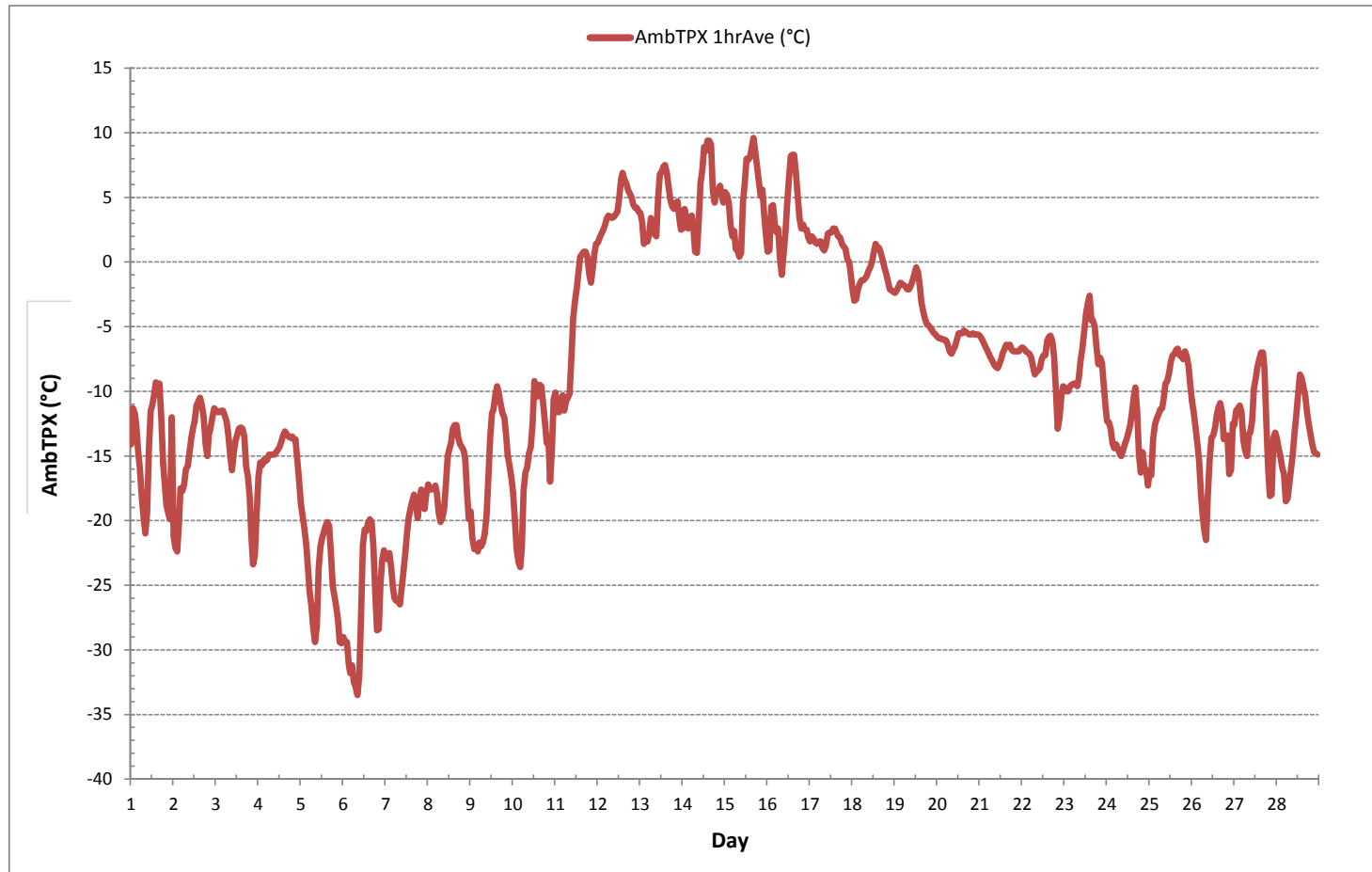
24 HR AVERAGES February 2017



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-33.5	°C	@ HOUR(S)	8	ON DAY(S)	6
MAXIMUM 1-HR AVERAGE:	9.6	°C	@ HOUR(S)	16	ON DAY(S)	15
MAXIMUM 24-HR AVERAGE:	5.1	°C			ON DAY(S)	14
					VAR-VARIOUS	
			OPERATIONAL TIME:		672	hrs
			AMD OPERATION UPTIME:		100.0	%
STANDARD DEVIATION:	9.3		MONTHLY AVERAGE:		-9.2	°C

AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)



STATION TEMPERATURE

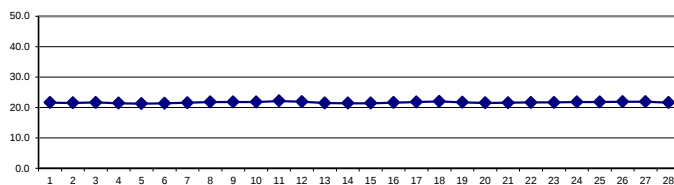
STATION TEMPERATURE Hourly Averages (StnTPX °C)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.	
DAY	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59					
1	21.7	21.7	21.7	21.6	21.6	21.7	21.5	21.6	21.5	21.6	21.7	21.7	21.6	21.5	21.5	21.7	21.4	21.7	21.5	21.4	21.6	21.4	21.5	21.4	21.4	21.7	21.6	21.6	24
2	21.5	21.4	21.5	21.4	21.5	21.5	21.5	21.4	21.5	21.6	21.5	21.5	21.5	21.6	21.4	21.6	21.6	21.5	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.4	21.6	21.5	24
3	21.7	21.6	21.5	21.7	21.5	21.7	21.5	21.5	21.6	21.6	21.6	21.7	21.9	21.7	21.7	21.7	21.6	21.7	21.7	21.7	21.6	21.5	21.5	21.7	21.5	21.9	21.6	24	
4	21.6	21.6	21.7	21.6	21.6	21.6	21.5	21.7	21.6	21.7	21.6	21.7	21.7	21.7	21.8	20.5	20.3	21.6	20.8	20.9	20.7	21.3	21.5	21.5	20.3	21.8	21.4	24	
5	21.5	21.5	21.7	21.7	21.6	21.8	21.7	21.6	21.8	21.7	21.4	20.5	20.1	20.1	20.5	20.7	21.1	21.2	21.4	21.2	21.5	21.4	21.4	21.4	20.1	21.8	21.3	24	
6	21.5	21.5	21.5	21.5	21.5	21.5	21.4	21.6	21.4	20.4	21.1	21.4	21.5	21.4	21.6	21.6	21.5	21.6	21.5	19.8	21.1	21.4	21.4	21.5	19.8	21.6	21.3	24	
7	21.5	21.5	21.4	21.4	21.4	21.5	21.4	21.5	21.0	21.1	21.5	21.6	21.7	21.7	21.8	21.7	21.6	21.8	21.7	21.7	21.8	21.8	21.7	21.8	21.0	21.8	21.6	24	
8	21.8	21.7	21.8	21.8	21.7	21.7	21.8	21.7	21.7	21.8	21.9	22.0	22.0	21.9	21.8	21.9	21.8	21.9	21.9	21.9	21.9	21.9	21.9	21.7	21.7	22.0	21.8	24	
9	21.9	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.7	21.9	21.8	21.8	21.9	21.7	21.7	21.8	21.7	21.6	21.9	21.7	21.9	21.8	21.9	21.6	21.9	21.8	24	
10	21.8	21.9	21.8	21.8	21.9	21.9	21.9	21.9	21.9	21.8	21.8	21.8	21.8	21.8	21.7	21.6	21.8	21.8	21.6	21.9	21.8	21.8	21.9	21.9	21.6	21.9	21.8	24	
11	21.9	21.8	21.8	21.8	22.0	21.8	21.9	21.9	21.8	22.0	21.9	21.8	21.8	21.9	22.1	22.4	22.5	22.5	22.5	22.7	22.7	22.6	22.6	22.6	21.8	22.7	22.1	24	
12	22.5	22.5	22.6	22.8	22.7	20.7	22.0	22.6	22.9	21.2	21.5	22.4	22.4	20.8	20.8	20.7	20.4	21.5	22.7	21.2	20.9	22.2	22.8	22.2	20.4	22.9	21.9	24	
13	21.0	22.2	22.8	21.9	21.1	22.3	22.7	22.5	20.9	22.3	22.3	20.7	20.6	20.7	20.6	20.6	20.5	20.5	20.0	21.9	22.2	20.3	21.3	22.5	20.0	22.8	21.4	24	
14	22.5	20.3	21.8	22.5	22.9	20.5	21.6	22.3	22.6	22.9	21.3	20.7	20.8	20.8	20.8	20.8	20.8	20.8	20.7	20.5	21.3	22.7	20.8	20.8	20.3	22.9	21.4	24	
15	22.5	22.2	20.5	21.6	22.7	22.0	21.1	22.5	22.9	22.3	20.4	21.3	22.2	20.8	20.7	20.8	20.8	20.9	20.3	18.9	21.1	21.0	21.5	22.5	18.9	22.9	21.4	24	
16	22.9	23.0	20.6	22.1	22.9	20.7	21.7	22.7	22.9	22.6	20.5	22.4	21.8	20.8	20.8	20.8	20.8	20.8	20.7	20.1	22.0	22.2	20.3	22.0	20.1	23.0	21.6	24	
17	22.9	20.9	21.4	22.5	23.0	21.1	21.3	22.3	22.9	22.8	20.5	21.7	22.6	20.5	20.5	22.2	21.1	21.0	22.3	21.7	20.9	22.1	22.4	22.6	20.5	23.0	21.8	24	
18	22.7	22.6	22.5	22.4	22.5	22.5	22.6	22.7	22.6	20.9	21.9	22.2	22.6	21.1	20.7	22.0	22.3	20.7	21.7	21.9	21.9	21.8	21.7	21.6	20.7	22.7	22.0	24	
19	21.4	21.2	21.1	21.2	21.8	21.8	21.7	21.7	21.8	21.9	22.0	22.2	22.6	22.2	20.8	21.8	21.9	21.8	21.6	21.5	21.2	21.8	21.3	21.9	20.8	22.6	21.7	24	
20	21.4	21.8	21.4	21.5	21.7	21.3	21.8	21.4	21.7	21.6	21.6	21.4	21.4	21.4	21.5	21.5	21.5	21.4	21.3	21.2	21.2	21.9	21.5	21.2	21.9	21.5	24		
21	21.6	21.5	21.7	21.4	21.7	21.6	21.6	21.5	21.6	21.9	21.7	21.5	21.7	21.6	21.4	21.5	21.4	21.4	21.3	21.7	21.6	21.5	21.7	21.4	21.3	21.9	21.6	24	
22	21.5	21.8	21.5	21.6	21.7	21.3	21.5	21.6	21.7	21.7	21.7	21.7	21.7	21.7	21.6	21.7	21.7	21.7	21.7	21.4	21.6	21.6	21.8	21.7	21.3	21.8	21.6	24	
23	21.7	21.7	21.7	21.7	21.6	21.6	21.6	21.6	21.7	21.6	21.7	21.3	21.3	21.7	22.2	22.5	22.6	20.8	21.5	21.4	21.4	21.6	21.7	21.6	20.8	22.6	21.7	24	
24	21.8	21.7	21.8	21.8	21.8	21.8	21.8	21.8	21.7	21.9	21.8	21.7	22.0	21.6	21.9	21.4	21.7	21.4	21.7	21.8	21.8	21.8	21.9	21.9	21.4	22.0	21.8	24	
25	21.7	22.0	21.8	22.1	22.0	21.9	21.8	21.7	21.9	21.8	21.8	21.7	21.7	21.3	21.7	21.7	21.4	21.8	21.7	21.7	21.7	21.7	21.9	21.9	21.3	22.1	21.8	24	
26	21.7	21.9	21.8	21.8	21.8	21.9	21.9	21.9	21.8	22.0	22.1	21.9	22.0	21.8	22.0	21.5	21.8	21.7	21.7	22.0	21.8	21.8	21.8	21.9	21.5	22.1	21.8	24	
27	22.0	21.9	21.9	21.9	21.8	21.8	21.9	21.7	21.7	21.7	21.5	21.7	22.0	21.7	22.0	22.2	22.5	22.7	22.4	21.7	21.6	21.7	21.8	21.8	21.5	22.7	21.9	24	
28	21.8	21.8	21.8	21.8	21.7	21.8	21.9	21.7	21.9	21.8	21.8	21.6	21.8	21.5	21.7	21.3	21.3	21.3	21.2	21.5	21.5	21.5	21.5	21.4	21.2	21.9	21.6	24	
HOURLY MAX	22.9	23.0	22.8	22.8	23.0	22.5	22.7	22.7	22.9	22.9	22.3	22.4	22.6	22.2	22.2	22.5	22.6	22.7	22.7	22.7	22.7	22.7	22.8	22.6					
HOURLY AVG	21.9	21.8	21.7	21.8	21.9	21.6	21.7	21.9	21.9	21.8	21.6	21.6	21.7	21.4	21.4	21.5	21.5	21.5	21.5	21.4	21.6	21.7	21.7	21.8					

STATUS FLAG CODES

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

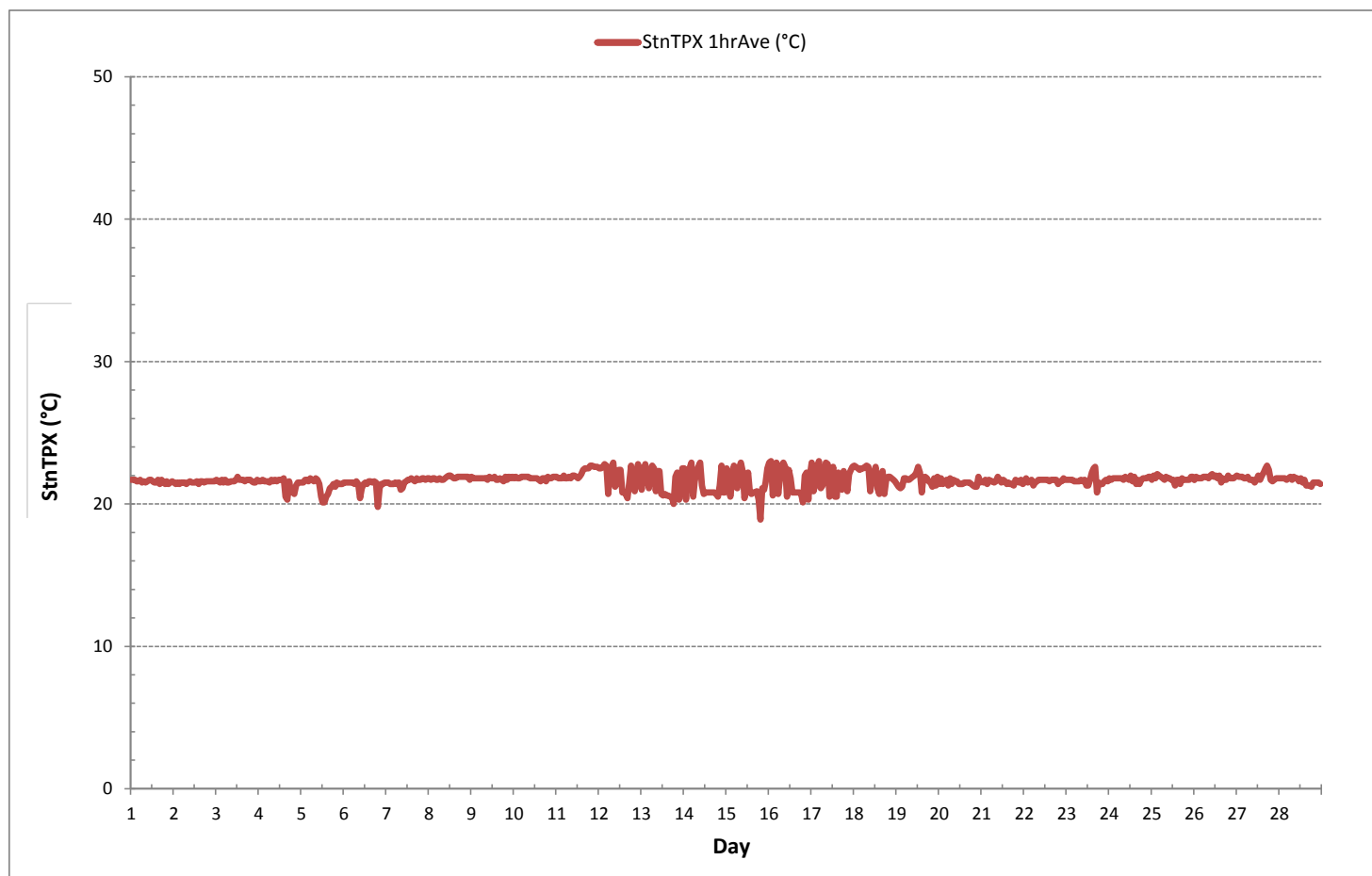
24 HR AVERAGES February 2017



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	18.9	°C	@ HOUR(S)	19	ON DAY(S)	15
MAXIMUM 1-HR AVERAGE:	23.0	°C	@ HOUR(S)	1 , 4	ON DAY(S)	16 , 17
MAXIMUM 24-HR AVERAGE:	22.1	°C			ON DAY(S)	11
					VAR-VARIOUS	
OPERATIONAL TIME:					672	hrs
AMD OPERATION UPTIME:					100.0	%
STANDARD DEVIATION:	0.5				MONTHLY AVERAGE:	21.7 °C

STATION TEMPERATURE Hourly Averages (StnTPX °C)



APPENDIX II
EQUIPMENT CALIBRATION RESULTS

SULPHUR DIOXIDE



Thermo 43C Sulphur Dioxide Analyzer Calibration

Date:	February 4, 2017	Barometric Pressure:	27.84 inHg
Company/Airshed:	PRAMP	Station Temperature °C:	21
Location/Station Name:	986b	Weather Conditions:	Sunny
Parameter:	Sulphur Dioxide	Calibration Purpose:	shut down
Start Time 24 hr. (mst):	15:20	Performed By/Reviewer:	Limin Li Trina Whitsitt
End Time 24 hr. (mst):	17:28	Cal Gas Expiry Date:	December 25, 2018
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	n/a

Analyzer:

ID# or Serial Number:	43C-62339-335	Range ppb:	500
Last Calibration Date:	January 10, 2017	As Found C.F.:	0.977
Previous C.F.:	0.999	New C.F.:	n/a

Calibrator:

Flow Meter ID's:	n/a
Make & Model:	Sabio 2010
Serial #:	17200415
Cal Gas Cylinder I.D. #:	BLM002756T
Cal Gas Conc. (ppm):	49.9

Standard Calibration Points for Ranges

Point	ppb
High	380
Mid	180
Low	90

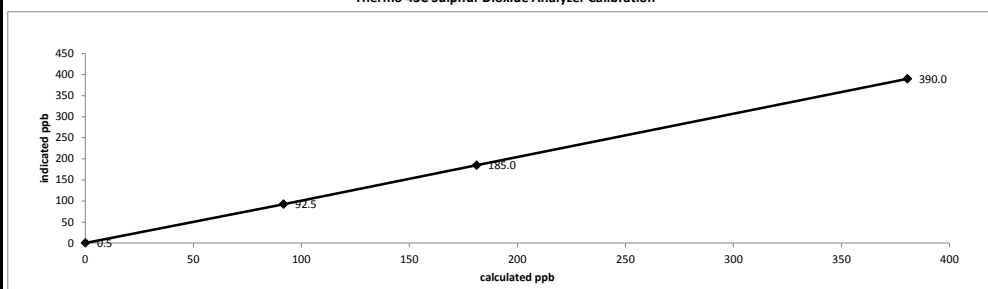
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration:		Indicated Concentration:	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)		
as found zero	6528	0.00	6528	0.0	0.5	n/a	
as found high	6481	49.80	6531	380.5	390.0	0.977	
mid	6507	23.70	6531	181.1	185.0	0.982	
low	6518	12.00	6530	91.7	92.5	0.997	
Average C.F. =							0.985

Linear Regression/Calibration Results:

Correlation Coefficient =	1.000	LIMITS	> or = 0.995
Slope =	0.975		0.90-1.10
b (Intercept as % of full scale) =	0.08%		± 3% F.S.
% change in C.F. from last cal =	2.21%		± 10%

Thermo 43C Sulphur Dioxide Analyzer Calibration



As found:	
BKG:	66.3
COEF:	0.907
PMT:	-654
LAMP:	839
BATTERY:	3.3
INTERNAL:	29.7
CHAMBER:	45.5
PRESSURE:	521.8
FLOW:	0.639
INTENSITY:	37802
Expected Value:	349.4

As left:	
BKG:	n/a
COEF:	n/a
PMT:	n/a
LAMP:	n/a
BATTERY:	n/a
INTERNAL:	n/a
CHAMBER:	n/a
PRESSURE:	n/a
FLOW:	n/a
INTENSITY:	n/a
Expected Value:	n/a

Comments:

The analyzer sample inlet filter was changed.

The analyzer cooling fan filter(s) were cleaned.

The pump was rebuilt after the shutdown calibration.



Thermo 43C Sulphur Dioxide Analyzer Calibration

Date:	February 4, 2017	Barometric Pressure:	27.84 inHg
Company/Airshed:	PRAMP	Station Temperature °C:	21
Location/Station Name:	986b	Weather Conditions:	Sunny
Parameter:	Sulphur Dioxide	Calibration Purpose:	post repair
Start Time 24 hr. (mst):	18:00	Performed By/Reviewer:	Limin Li Trina Whitsitt
End Time 24 hr. (mst):	20:30	Cal Gas Expiry Date:	December 25, 2018
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	n/a

Analyzer:

ID# or Serial Number:	43C-62339-335	Range ppb:	500
Last Calibration Date:	n/a	As Found C.F.:	n/a
Previous C.F.:	n/a	New C.F.:	0.999

Calibrator:

Flow Meter ID's:	n/a
Make & Model:	Sabio 2010
Serial #:	17200415
Cal Gas Cylinder I.D. #:	BLM002756T
Cal Gas Conc. (ppm):	49.9

Standard Calibration Points for Ranges

Point	ppb
High	380
Mid	180
Low	90

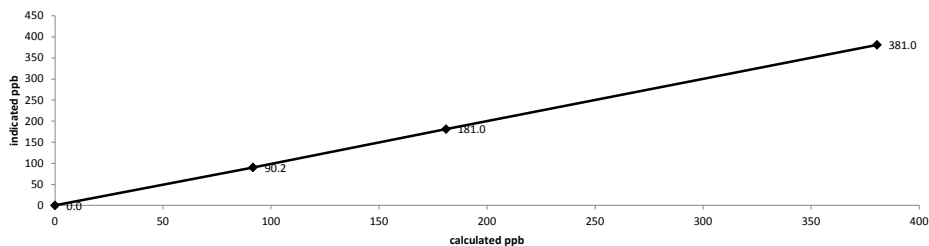
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
adjusted zero	6528	0.00	6528	0.0	0.0	n/a
adjusted high	6481	49.80	6531	380.5	381.0	0.999
mid	6508	23.70	6532	181.1	181.0	1.000
low	6520	12.00	6532	91.7	90.2	1.016
calibrator zero	6528	0.00	6528	0.0	0.3	n/a
Average C.F. =						1.005

Linear Regression/Calibration Results:

Correlation Coefficient =	1.000	LIMITS	> or = 0.995
Slope =	0.997		.95-1.05
b (Intercept as % of full scale) =	0.14%		± 3% F.S.
% change in C.F. from last cal =	n/a		± 10%

Thermo 43C Sulphur Dioxide Analyzer Calibration



As found:		As left:	
BKG:	n/a	BKG:	72.1
COEF:	n/a	COEF:	0.902
PMT:	n/a	PMT:	-654
LAMP:	n/a	LAMP:	838
BATTERY:	n/a	BATTERY:	3.3
INTERNAL:	n/a	INTERNAL:	29.9
CHAMBER:	n/a	CHAMBER:	45.4
PRESSURE:	n/a	PRESSURE:	452.1
FLOW:	n/a	FLOW:	0.814
INTENSITY:	n/a	INTENSITY:	38744
Expected Value:	n/a	Expected Value:	293.7

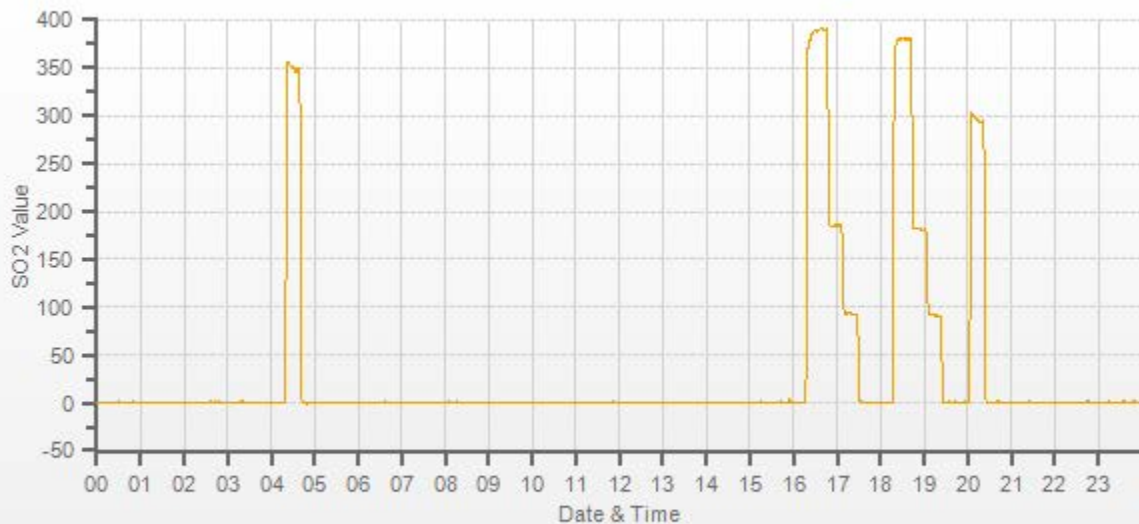
Comments:

The analyzer sample inlet filter was changed.

The analyzer cooling fan filter(s) were cleaned.

The pump was rebuilt after the shutdown calibration.

SO2[ppb] Station: THREE CREEKS #986 TRAILER Daily: 2017/02/04 Type: AVG 1 Min. [1 Min.]



— SO2[ppb]

TOTAL REDUCED SULPHUR



Thermo 43i Total Reduced Sulphur Analyzer Calibration

Date:	February 4, 2017	Barometric Pressure:	27.84 inHg
Company/Airshed:	PRAMP	Station Temperature °C:	21
Location/Station Name:	986b	Weather Conditions:	Sunny
Parameter:	Total Reduced Sulphur	Calibration Purpose:	routine monthly
Start Time 24 hr. (mst):	15:20	Performed By/Reviewer:	Limin Li Trina Whitsitt
End Time 24 hr. (mst):	19:35	Cal Gas Expiry Date:	January 6, 2018
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	CD NOVA CDN 101 s/n 516

Analyzer:

ID# or Serial Number:	1314057760	Range ppb:	100
Last Calibration Date:	January 10, 2017	As Found C.F.:	1.081
Previous C.F.:	1.000	New C.F.:	0.998

Calibrator:

Flow Meter ID's:	n/a
Make & Model:	Sabio 2010
Serial #:	17100415
Cal Gas Cylinder I.D. #:	BLM002508
Cal Gas Conc. (ppm):	10.2

Standard Calibration Points for Ranges	
Point	ppb
High	78
Mid	38
Low	19

SO₂ Scrubber Check (10 mins.)

Start/End Time 24 hr.:	16:30-16:40
Target Concentration (ppb):	780
Result (ppb):	0
Zero Corrected Result (ppb):	0

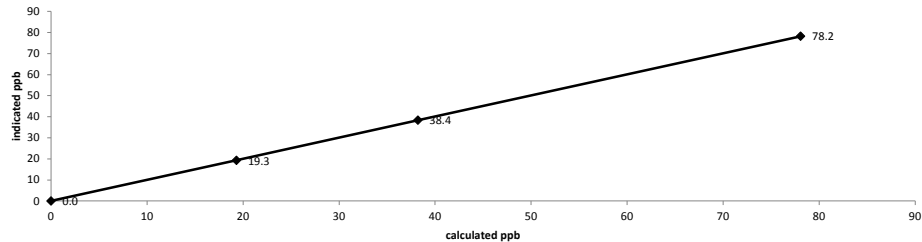
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	7500	0.00	7500	0.0	0.3	n/a
as found high	7442	57.40	7499	78.1	72.5	1.081
adjusted zero	7500	0.00	7500	0.0	0.0	n/a
adjusted high	7442	57.40	7499	78.1	78.2	0.998
mid	7473	28.10	7501	38.2	38.4	0.995
low	7485	14.20	7499	19.3	19.3	1.001
calibrator zero	7500	0.00	7500	0.0	0.1	n/a
Average C.F. =						0.998

Linear Regression/Calibration Results:

Correlation Coefficient =	1.000	LIMITS	> or = 0.995
Slope =	0.998		.95-1.05
b (Intercept as % of full scale) =	-0.01%		± 3% F.S.
% change in C.F. from last cal =	-8.13%		± 10%

Thermo 43i Total Reduced Sulphur Analyzer Calibration



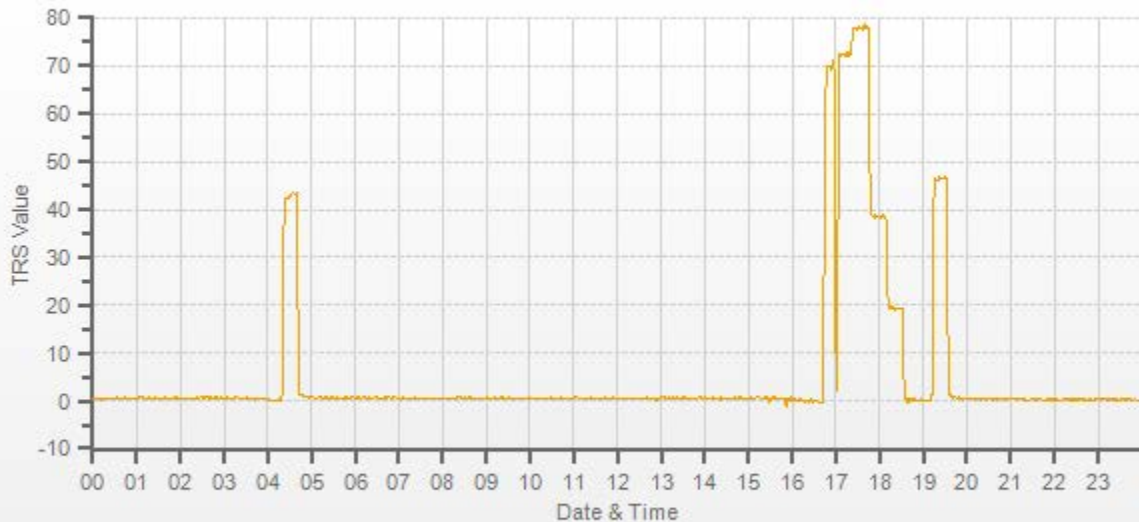
As found:		As left:	
BKG:	11.0	BKG:	12.1
COEF:	0.997	COEF:	1.062
PMT:	-609.8	PMT:	-609.8
FLASH:	929	FLASH:	929
INTERNAL:	30.3	INTERNAL:	28.6
CHAMBER:	45	CHAMBER:	44.9
PERM OVEN GAS:	45.00	PERM OVEN GAS:	45.00
PERM OVEN HEATER:	44.46	PERM OVEN HEATER:	44.46
PRESSURE:	662	PRESSURE:	666.5
SAMPLE FLOW:	0.420	SAMPLE FLOW:	0.422
LAMP INTENSITY:	86	LAMP INTENSITY:	86
CONVERTER:	820	CONVERTER:	820
CONVERTER SET:	820	CONVERTER SET:	820
Expected Value:	44.9	Expected Value:	46.7

Comments:

The analyzer sample inlet filter was changed.

The analyzer cooling fan filter(s) were cleaned.

As-found restarted after regulator was repurged.



— TRS[ppb]



Thermo 43i Total Reduced Sulphur Analyzer Calibration

Date:	February 5, 2017	Barometric Pressure:	28.01 inHg
Company/Airshed:	PRAMP	Station Temperature °C:	21
Location/Station Name:	986b	Weather Conditions:	Sunny
Parameter:	Total Reduced Sulphur	Calibration Purpose:	as found
Start Time 24 hr. (mst):	10:28	Performed By/Reviewer:	Limin Li Trina Whitsitt
End Time 24 hr. (mst):	11:17	Cal Gas Expiry Date:	January 6, 2018
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	CD NOVA CDN 101 s/n 516

Analyzer:		Range ppb:	100
ID# or Serial Number:	1314057760	As Found C.F.:	0.988
Last Calibration Date:	January 10, 2017	New C.F.:	n/a
Previous C.F.:	1.000		

Calibrator:		Standard Calibration Points for Ranges
Flow Meter ID's:	n/a	
Make & Model:	Sabio 2010	
Serial #:	17200415	
Cal Gas Cylinder I.D. #:	BLM002508	
Cal Gas Conc. (ppm):	10.2	

Point	ppb
High	78
Mid	38
Low	19

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

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	7531	0.00	7531	0.0	0.2	n/a
as found high	7470	57.60	7528	78.0	79.2	0.988
Average C.F.=						n/a

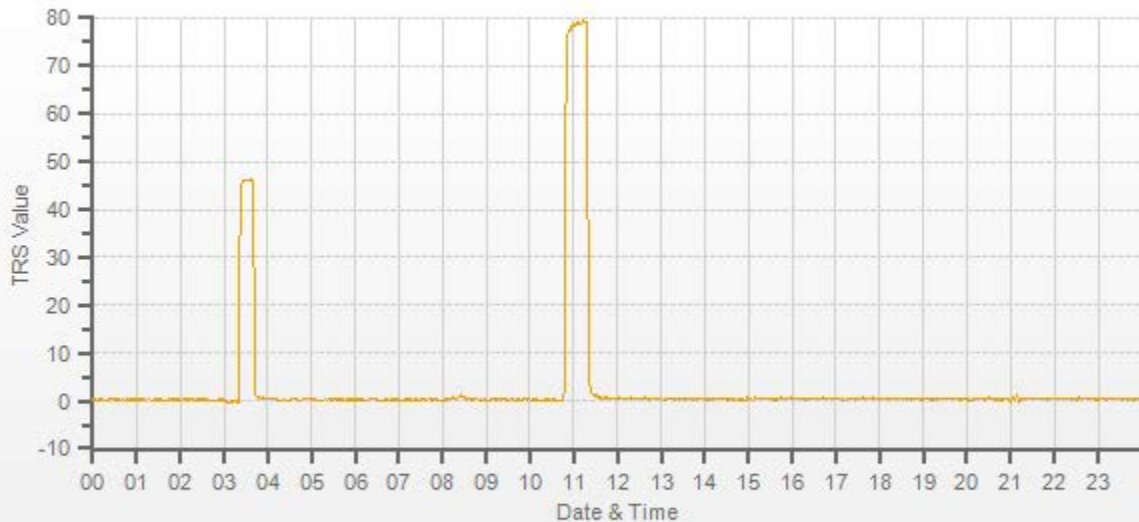
Linear Regression/Calibration Results:

Correlation Coefficient =	n/a	LIMITS
Slope =	n/a	> or = 0.995
b (Intercept as % of full scale)=	n/a	.95-1.05
% change in C.F. from last cal=	1.20%	± 3% F.S.
		± 10%

As found:	As left:
BKG: 12.1	BKG: 12.1
COEF: 1.062	COEF: 1.062
PMT: -609.8	PMT: -609.8
FLASH: 929	FLASH: 929
INTERNAL: 30.3	INTERNAL: 28.6
CHAMBER: 45	CHAMBER: 44.9
PERM OVEN GAS: 45.00	PERM OVEN GAS: 45.00
PERM OVEN HEATER: 44.46	PERM OVEN HEATER: 44.46
PRESSURE: 666.5	PRESSURE: 666.5
SAMPLE FLOW: 0.422	SAMPLE FLOW: 0.422
LAMP INTENSITY: 86	LAMP INTENSITY: 86
CONVERTER: 820	CONVERTER: 820
CONVERTER SET: 820	CONVERTER SET: 820
Expected Value: 46.7	Expected Value: 46.7

Comments:

As found done with Sabio sn:17200415 calibrator. Feb 4 as -found was 72.1/78.1, 8% drift with calibrator Sabio sn:17100415.



— TRS[ppb]

TOTAL HYDROCARBON



Thermo 55i Methane/Non-Methane Analyzer Calibration

☒ remove

Date:	February 5, 2017	Barometric Pressure:	27.84 inHg
Company/Airshed:	PRAMP	Station Temperature °C:	21
Location/Station Name:	986b	Weather Conditions:	Sunny
Parameter:	CH ₄ / NMHC / THC	Calibration Purpose:	routine monthly
Start/End Time 24 hr. (mst):	11:22/14:30	Performed By/Reviewer:	Limin Li Trina Whitsitt
Calibration Method:	Gas Dilution	Cal Gas Expiry Date:	July 7, 2022

Analyzer:		Correction Factors:			
ID# or Serial Number:	1022143392	Previous C.F.:	As Found C.F.:	New C.F.:	
Measured Flow:	1062 sccm	CH ₄ =	1.000	0.939	1.001
Last Calibration Date:	January 10, 2017	NMHC =	0.999	0.947	1.001
Range ppm:	20 CH ₄ /20 NMHC/40 THC	THC =	1.000	0.943	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:	Sabio 2010	High	13.00	13.00	26.00
Serial #:	17200415	Mid	7.00	7.00	14.00
Cal Gas Cylinder I.D. #:	LL83638	Low	3.00	3.00	6.00
CH ₄ Cylinder Conc. =	582.0	=C ₄ H ₄ Cylinder Conc.			
CH ₄ as C ₃ H ₈ =	558.3	=total CH ₄ equivalent			

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

Calibrator Flow Rates (cc/min)				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	2523	0.00	2523	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
as found high	2523	65.00	2588	14.62	14.02	28.64	15.56	14.81	30.37	0.939	0.947	0.943
adjusted zero	2523	0.00	2523	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
adjusted high	2523	65.00	2588	14.62	14.02	28.64	14.60	14.00	28.60	1.001	1.001	1.001
mid	2523	32.40	2555	7.38	7.08	14.46	7.41	7.10	14.51	0.996	0.997	0.996
low	2523	14.20	2537	3.26	3.12	6.38	3.29	3.12	6.41	0.990	1.001	0.996
calibrator zero	2523	0.00	2523	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
Average C.F. =										0.996	1.000	0.998

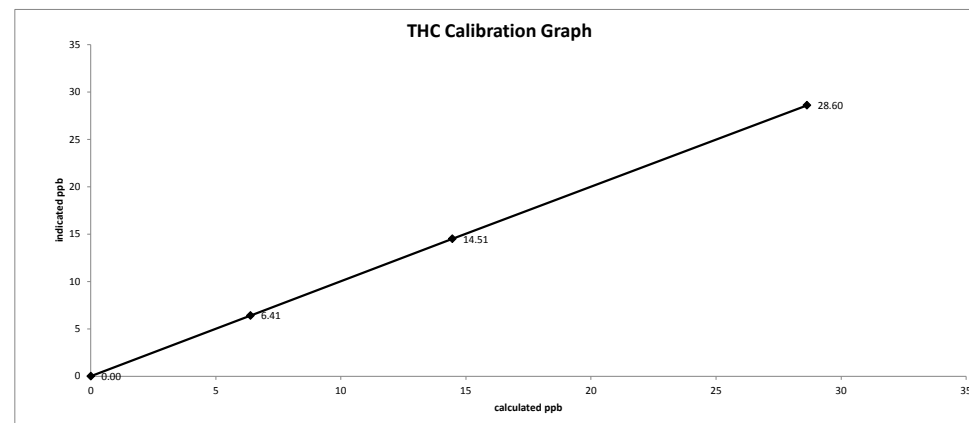
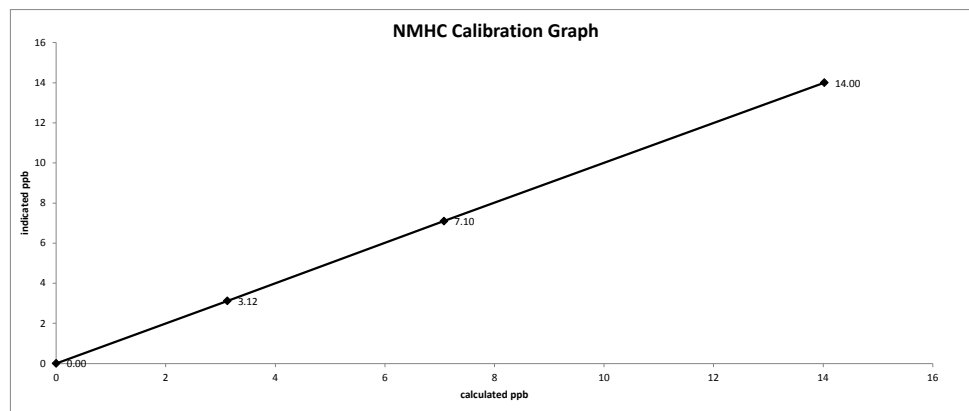
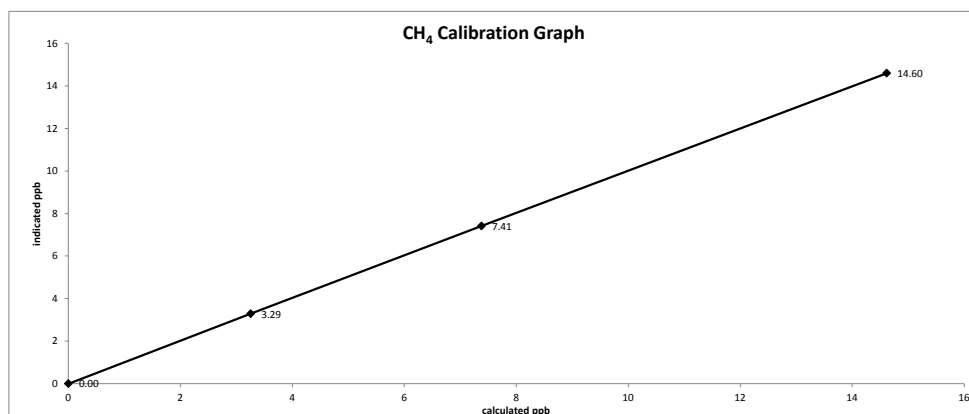
Linear Regression/Calibration Results:

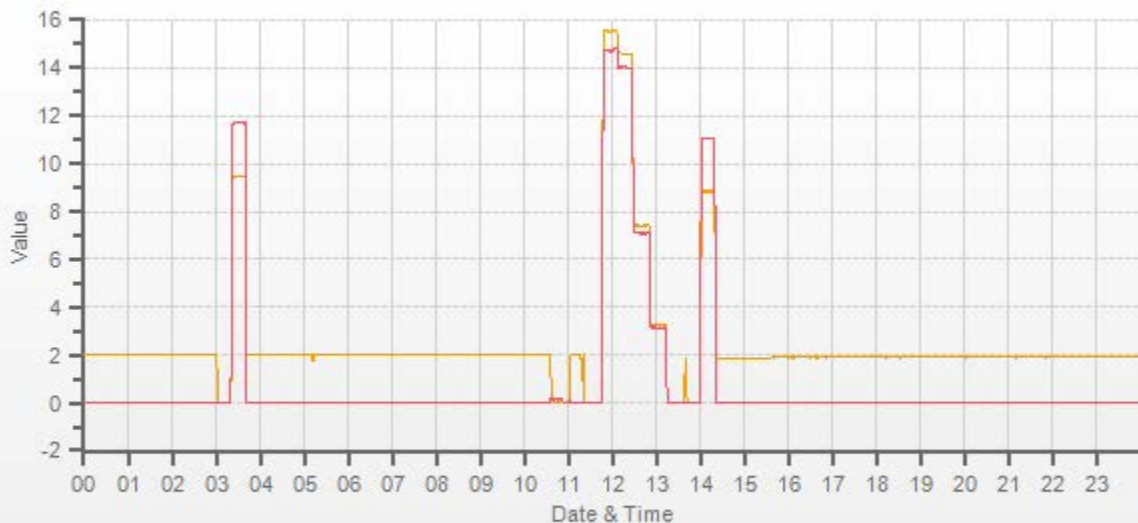
	CH ₄	NMHC	THC	LIMITS
Correlation Coefficient =	1.000	1.000	1.000	> or = 0.995
Slope =	0.998	0.999	0.999	.95-1.05
b (Intercept as % of full scale) =	0.11%	0.03%	0.07%	± 3% F.S.
% change in C.F. from last cal =	6.06%	5.23%	5.70%	± 10%

As found:				As left:			
Interface Board Voltages:	Bias Supply:	-310.9		Calibration History cnt'd:	NM Peak Area:	69100	
Temperatures:	Detector Oven:	175.0		Crucial Settings:	Methane Start:	8	
	Filter:	175.0			Methane End:	16	
	Column Oven:	75.0			Backflush:	18	
	Internal:	33.8			NMHV Start:	30	
Cylinder Pressures/reg.:	Carrier:	2500	50		NMHC End:	56	
	Fuel:	850	50	Run History>1:	Date:	05FEB17	
	Span Gas:	1550	28		Time:	11:21	
	Zero Air Generator:	45			CH ₄ PK HT:	2564	
Internal Pressures:	Carrier:	31.3			CH ₄ RT:	12.4	
	Fuel:	40.5			CH ₄ Baseline:	1573	
	Air:	32.4			CH ₄ LOD:	22	
FID Status:	Status:	LIT			CH ₄ SD:	7	
	Counts:	19864			CH ₄ CONC:	2.02	
	Flame:	319.9			NM PK HT:	0	
	Det Base:	175			NM Peak Area:	0	
Flame and Power Stats:	Last Power On:	05Jan2017@13:21			NM CONC:	0	
	Flameouts:	3			NM Base Start:	1587	
	Det Oven at Start:	32.8			NM Base End:	1579	
	Col Oven at Start:	29.9			NM LOD:	8	
Calibration History:	Time:	10JAN17 12:35			NM Start IDX:	4	
	Type:	SPAN			NM End IDX:	37	
	Status:	GOOD			NM Max Slope:	3.6e-01	
	Check/Adjust:	ADJUST			NM Min Slope:	-4.7e-01	
	CH ₄ Span Conc:	14.67		Expected Values:	NM PT Count:	0	
	CH ₄ SP Ratio:	0.000786			Previous CH ₄ :	9.198	
	CH ₄ RT:	12.6			Previous NMHC:	11.36	
	CH ₄ PK IDX:	23			Previous THC:	20.56	
	CH ₄ PK HT:	18658			New CH ₄ :	8.84	
	NM Span Conc:	13.94			New NMHC:	11.06	
	NM SP Ratio:	0.000202			New THC:	19.91	

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

Date:	February 5, 2017	Start/End Time 24 hr. (mst):	11:22/14:30
Company/Airshed:	PRAMP	Calibration Purpose:	routine monthly
Location/Station Name:	986b	Calibration Method:	Gas Dilution





CH4[ppm] NMHC[ppm]

WIND SYSTEM



Meteorological Sensor Audit

Station Information

Company:	Three Creeks	Performed By:	Chris Wesson
Location:	Three Creeks 986B	Reason:	Audit
Audit Date:	03-May-16	Start Time (mst):	08:33
Previous Audit Date:	NA	End Time (mst):	08:55

Wind Speed

Sensor make:	RM Young	Sensor height:	15
Sensor model:	5103VK	Serial Number:	43711
Calibrator:	RM Young	Variable speed motor:	CA 03309
Voltage range:	0-1	Output signal range:	0-200 kph

Wind Speed Audit Data

RPM	Wind Speed Actual	Indicated WS - CW	Indicated WS-CCW	Correction Factor
0	0.0	0.04	0.06	-
1000	17.6	17.76	17.67	0.99
2000	35.28	35.32	35.39	1.00
3000	52.92	52.98	53	1.00
4000	70.56	70.65	70.67	1.00
5000	88.2	88.32	88.34	1.00
6000	105.84	106	106	1.00
7000	123.48	123.6	123.6	1.00
8000	141.12	141.3	141.3	1.00
9000	158.76	158.9	159	1.00
10000	176.4	176.6	176.6	1.00
Average Correction Factor:				1.00

Wind Direction

Sensor make:	RM Young	Sensor height:	15
Sensor model:	5103VK	Serial Number:	43711
Calibrator:	RM Young	Variable speed motor:	NA
Voltage range:	0-1	Output signal range:	0-360 Deg

Wind Direction Audit Data

Wind Direction	Indicated	Correction Factor
0	0.1	NA
45	45.0	1.00
90	90.4	1.00
135	135.1	1.00
180	180.4	1.00
225	225.0	1.00
270	270.8	1.00
315	316.1	1.00
360	360.0	1.00
		NA
Average Correction Factor:		1.00

Remarks: The wind system was audited at Maxxam shop

Audit Performed by: Chris Wesson



Meteorological Sensor Audit/Calibration

Location Information

Company: PRAMP
Audit Location: 986b
Audit Date: February 15, 2017

Performed By: Chris Wesson
Reviewed By: Trina Whitsitt
Start /EndTime (mst): 18:22 / 18:39

Wind Sensor Information

Sensor ID Data:		Sensor Outputs:	
Sensor Make:	RM Young	Velocity Voltage Output Range:	0-1
Sensor Model:	05103VK	Velocity Unit Output Range:	0-200
Serial #:	43711	Direction Voltage Output Range:	0-1
Previous Cal/Audit Date:	May 3, 2016	Direction Unit Output Range:	0-360

Wind Calibrator Information

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

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.0	0.0	-
1000	17.6	17.7	17.7	0.998
2000	35.3	35.4	35.3	0.998
3000	52.9	52.9	53.0	0.999
4000	70.6	70.6	70.6	0.999
5000	88.2	88.3	88.3	0.999
6000	105.8	105.9	105.9	0.999
7000	123.5	123.5	123.5	1.000
8000	141.1	141.2	141.2	0.999
9000	158.8	158.9	158.9	0.999
10000	176.4	176.5	176.5	0.999
The audit meets AMD requirements.			Average Correction Factor=	0.999

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

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	0	354	0.0	1.0	0.5
30	330	30	329	0.5	1.0	0.8
60	300	60	299	0.0	1.0	0.5
90	270	90	269	-0.2	1.0	0.6
120	240	120	239	0.0	1.0	0.5
150	210	150	210	0.0	0.0	0.0
180	180	180	180	0.0	0.0	0.0
210	150	211	150	-0.9	0.0	0.5
240	120	240	119	0.4	1.0	0.7
270	90	269	89	1.0	1.0	1.0
300	60	299	58	1.0	1.6	1.3
330	30	329	28	1.1	2.1	1.6
355	0	354	0	1.0	0.3	0.7
The audit meets AMD requirements.			Average Absolute Degrees Difference=			0.7

Comments:

 Meteorological Sensor Audit/Calibration						
Location Information ☒ Check to remove						
Company: PRAMP Audit Location: 986b Audit Date: February 15, 2017	Performed By: Chris Wesson Reviewed By: Trina Whitsitt Start /EndTime (mst): 18:53/19:05					
Wind Sensor Information						
Sensor ID Data: Sensor Make: RM Young Sensor Model: 05305VK Serial #: 129612 Previous Cal/Audit Date: January 5, 2017	Sensor Outputs: Velocity Voltage Output Range: 0-1 Velocity Unit Output Range: 0-200 Direction Voltage Output Range: 0-1 Direction Unit Output Range: 0-360					
Wind Calibrator Information						
Calibrator Make/ Model: RM Young 18802 Maxxam Unit ID #: 13-3357	Serial #: CA 0309 Certification Date: October 6, 2016					
Wind Speed Audit Data **+/- 2% of the average correction factor is the limit**						
RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor		
0	0	0.1	0.1	-		
1000	17.6	17.7	17.7	0.995		
2000	35.3	35.3	35.3	0.999		
3000	52.9	52.9	52.9	1.000		
4000	70.6	70.6	70.6	1.000		
5000	88.2	88.2	88.2	1.000		
6000	105.8	105.9	105.9	0.999		
7000	123.5	123.6	123.6	0.999		
8000	141.1	141.3	141.3	0.999		
9000	158.8	159.0	159.1	0.998		
10000	176.4	176.8	176.8	0.998		
The audit meets AMD requirements.			Average Correction Factor=	0.999		
Wind Direction Audit Data **+/- 5° of the absolute average degrees difference for all points is the limit**						
Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	0	353	0.3	2.1	1.2
30	330	30	330	0.5	0.3	0.4
60	300	60	301	0.3	-0.9	0.6
90	270	90	272	0.1	-2.1	1.1
120	240	120	242	-0.1	-2.2	1.1
150	210	151	213	-1.0	-2.6	1.8
180	180	182	182	-2.0	-2.1	2.1
210	150	212	152	-2.0	-1.9	2.0
240	120	242	122	-2.0	-1.5	1.8
270	90	272	92	-1.5	-1.5	1.5
300	60	301	61	-1.0	-0.8	0.9
330	30	330	31	0.4	-1.4	0.9
355	0	353	0	2.1	0.4	1.3
The audit meets AMD requirements.			Average Absolute Degrees Difference=		1.3	
Comments: 						

CALIBRATORS

Company Maxxam **Operator:** Christopher Wesson

Calibrator:		Flow Measurement Device:	
Make/Model	<u>Sabio 2010</u>	Make/Model	<u>N/A</u>
Serial Number	<u>17100415</u>	Serial Number	<u>N/A</u>
Last Verification Date	<u>May 2015</u>	Temperature (°C)	<u>N/A</u>
NO Cylinder S/N	<u>LL42475</u>	Barometric Pressure	<u>N/A</u>
NO/NOx Concentration	<u>48.5/48.5</u>		

Dilution Flow (sccm)			
Pt. #1	<u>5000</u>	Pt. #2	<u>5000</u>
Pt. #3	<u>5000</u>		
Gas Flow (sccm)			
Pt. #1	<u>80</u>	Pt. #2	<u>40</u>
Pt. #3	<u>20</u>		

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO ₂	NOx	NO	NOx
5000	0.0	0.000	0.000	0.000	0.000	0.000	Limit ± 10%	
5001	80.7	0.783	0.783	0.810	-0.004	0.806	3%	3%
5001	39.4	0.382	0.382	0.395	-0.001	0.393	3%	3%
5000	19.8	0.192	0.192	0.198	0.000	0.198	3%	3%
Absolute Average Percent Difference							3%	3%

LINEAR REGRESSION ANALYSIS				$y=mx+b$ (where x=calculated concentration, y=indicated concentration)			
NO		LIMITS		NOx			
Correlation=	1.0000	≥ 0.990		Correlation=	1.0000		
m (Slope)=	1.0347	0.90-1.10		m (Slope)=	1.0292		
b (Intercept % of FS)=	-0.0283	± 3% F.S.		b (Intercept % of FS)=	0.0098		

Flow	O ₃ Conc	NO Decrease	NO	NO ₂	NOX	% Diff. Vs Audit gas	
5001	Lamp C.	0.000	0.808	-0.004	0.804	NO ₂	% Diff. Limit
5001	1.316	0.476	0.332	0.472	0.804	0%	± 10%
5001	0.696	0.234	0.574	0.231	0.805	0%	± 10%
5001	0.392	0.089	0.719	0.086	0.805	1%	± 10%
Absolute Average Percent Difference						1%	± 10%

LINEAR REGRESSION ANALYSIS				$y=mx+b$ (where x=calculated concentration, y=indicated concentration)			
NO ₂		LIMITS					
Correlation=	1.0000	≥ 0.995					
m (Slope)=	0.9994	0.90-1.10					
b (Intercept % of FS)=	-0.3382	± 3% F.S.					

AENV Standards		NO _x Analyzer	
Audit Calibrator			
Make/Model	<u>Teco 146i</u>	Make/Model	<u>Teco 42i</u>
Serial/AMU Number	<u>AMU 1809</u>	Serial/AMU Number	<u>AMU 1868</u>
		Last Calibration Date	<u>May 18, 2016</u>
		Full Scale (ppm)	<u>1.0</u>

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

Auditor: Al Clark Date: May 18, 2016
 Operator Signature: [Signature] Location: McIntyre Center Edmonton

Company Maxxam

Operator: Christopher Wesson
Calibrator:

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

Flow Measurement Device:

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

Dilution Flow (sccm)

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

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

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO ₂	NOx	NO	NOx
5029	0.0	0.000	0.000	0.000	0.000	0.000	Limit ± 10%	
5030	80.6	0.777	0.777	0.805	-0.005	0.800	4%	3%
5025	39.4	0.380	0.380	0.394	-0.002	0.392	4%	3%
5028	19.8	0.191	0.191	0.198	-0.001	0.197	4%	3%
Absolute Average Percent Difference							3.65%	3.09%

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

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

Flow	O ₂ Conc	NO Decrease	NO	NO ₂	NOx	% Diff. Vs Audit gas	
5030	Lamp C.	0.000	0.804	-0.004	0.800	NO ₂	% Diff. Limit
5030	1.388	0.495	0.309	0.491	0.800	0%	± 10%
5030	0.745	0.241	0.563	0.239	0.802	1%	± 10%
5030	0.367	0.091	0.713	0.089	0.801	2%	± 10%
Absolute Average Percent Difference							1% ± 10%

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

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

AENV Standards
Audit Calibrator

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

NO_x Analyzer

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

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

Auditor: Al Clark

Date: May 18, 2016

Operator Signature: *Christopher Wesson*

Location: McIntyre Center Edmonton

CALIBRATION GASES



Calibration Gas Audit

Single Component Cylinder Gas

File No. 2015-342CGA

Company: Maxxam Operator's Name: Limin Li
Cylinder #: BLM002756T Concentration PPM: 49.9 Tolerance(%) 2 Certified By: Air Liquide

Reference Calibrator and Gas:

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

Flow Measurement Device:

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

Reference Analyzer:

Make/Model: Teco 43C Serial/AMU Number: 1623
Instrument Settings: Zero: 7.9 Span: 1.028 Range: 1.0
Last Calibration: Date: Mar 31/15 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated Concentration (PPM)	Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration
Dilution	Gas				
5000	0.0	0.000			
4976	82.6	0.821	0.01660	60.242	49.5
4993	41.0	0.410	0.00821	121.780	49.9
4977	20.2	0.202	0.00406	246.386	49.8
Average Cylinder Concentration:					49.7

Previous Stated Concentration PPM: 49.9

Percent variance from Stated: 0.4

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

Auditor: Al Clark
Operator Signature: *Al Clark*

Date: March 31, 2015
Location: McIntyre Center Edmonton



Calibration Gas Audit

Single Component Cylinder Gas

File No. 2015-338CGA

Company: Maxxam Operator's Name: Limin Li
Cylinder #: BLM002508 Concentration PPM: 10.2 Tolerance(%) 2 Certified By: Air Liquide

Reference Calibrator and Gas:

Make/Model: R&R MFC 201
Serial Number: AMU1690
Last Verification Date: March 31, 2015
Gas Type: H2S Conc. 20.43
Cylinder Number: CAL015106

Flow Measurement Device:

Make/Model: Bios DC2
Serial Number: AMU 1659
Temp. °C: 23.0 C
B.P. 689 mmhg

Reference Analyzer:

Make/Model: Teco 450i Serial/AMU Number: 1980
Instrument Settings: Zero: 14.5 Span: 1.035 Range: 0.1
Last Calibration: Date: Mar 31/15 C.F. 1.000 Done By: Al Clark

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

Previous Stated Concentration PPM: 10.2

Percent variance from Stated: 6.0

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

Auditor: Al Clark
Operator Signature: *Al Clark*

Date: March 31, 2015
Location: McIntyre Center Edmonton



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

DocNumber: 000068924

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information:

MAXXAM ANALYTICS INC *NA*
9372 49TH ST
EDMONTON AB T6B 2L

Praxair Order Number: 21137117
Customer P. O. Number: 35-55963
Customer Reference Number:

Fill Date: 7/1/2014
Part Number: NI ME600P2E-AQ
Lot Number: 109418203
Cylinder Style & Outlet: AQ CGA 350
Cylinder Pressure & Volume: 2200 psig 78 cu. ft.

Certified Concentration:

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

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

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

Analytical Data:

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

1. Component: METHANE

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

First Analysis Data:		Date:	7/7/2014
Z:	0	R:	249.5
R:	249.5	Z:	0
Z:	0	C:	589.4
C:	589.4	R:	249.5
UOM:	ppm	Mean Test Assay:	581.93 ppm

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

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

2. Component: PROPANE

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

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

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

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

Analyzed by:

Jack Fu

Certified by:

Ying Yu

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

INTERNAL AUDIT RESULTS

Maxxam Analytics Ambient Air Audit

Station Summary

Company: PRAMP Plant: PRAMP Site: 986B

GENERAL

- Is site location changed from previous audit?
- Is site secure?
- Are station operating conditions adequate?

YES	NO	N/A
	X	
X		
X		

DATA ACQUISITION

- Are strip charts in use?
- Are digital charts in use?
- Is a telemetry system for data acquisition in use?

	X	
	X	
X		

TRAILER COMPONENTS

- Is a glass sampling manifold installed?
- Is sampling manifold clean?
- Is a trap in place?
- Are spare manifold ports capped?
- Is manifold pump properly installed and operative?
- Are manifold ports situated to prevent water entering monitors?
- Is manifold mounted at a slight downward angle?
- Do sample lines extend at least 3/4" into manifold?
- Are monitor sampling lines connected to manifold?
- Are sampling lines clean?
- Are monitors properly mounted and secure?
- Are monitors properly exhausted from room or scrubbed?
- Are zero and span systems operational?

X		
X		
X		
X		
X		
X		
		X
x		
X		
X		
X		
X		
X		

WIND EQUIPMENT

- Is wind equipment properly oriented?
- Does wind equipment appear to be functioning properly?

X		
X		

COMMENTS: Manifold mounted vertical. Can not be slight downward angle. Not available.

AUDITOR: Limin Li DATE: February 5, 2017

Maxxam Analytics Ambient Air Audit
Station Summary

Company: PRAMP **Plant:** PRAMP **Site:** 986B

Meteorological

- o Temperature
- o Barometric Pressure
- o Wind Speed (KPH)
- o Wind Direction (Deg)
- o Relative Humidity
- o Ambient Temperature
- o Solar Radiation
- o Precipitation

Indicated	Audit Value
20	19.85
28.00 inHg	28.00 inHg
2.8	0-5
66	NE
65.55	73.26
-21.59	-22.28
n/a	n/a
n/a	n/a

Location

- o Latitude
- o Longitude
- o Elevation
- o Status of Site Documentation

56°22'33.7" North
116°56'26.2" West
610m
On Site

Trailer Components

- o Manifold Material
- o Condition of Manifold

Glass
Good

COMMENTS:

AUDITOR: Limin Li **DATE:** February 5, 2017

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 986b 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

29-03-2017

Report Issued Date (dd-mm-yyyy)

APPENDIX IV
DATA VALIDATION CERTIFICATION FORM

Validation Certificate Form

Client: <u>Peace River Area Monitoring Program Committee</u>	Project #: <u>8449-2017-02-67-C</u>
Site: <u>Three Creeks 986b Station</u>	Contact: <u>Karla Reesor</u>

Level 0 Preliminary Verification



Date 16-March-17

Level 1 Primary Validation



Date 16-March-17

Level 2 Final Validation



Date 17-March-17

Level 3 Independent Data Review



Date 29-March-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.