

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

JOB #: 8449-2017-06-67-C

June 2017

Prepared for:

PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Attention: LILY LIN

DATE: **July 26, 2017**

Prepared by: *Maram Ghaleb*

Maram Ghaleb, B.Sc.
Project Manager, Customer Service, Air Services

Reviewed by: *Wunmi Adekanmbi*

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

SUMMARY

In June 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.

All Parameters: A power failure on June 30 resulted in two hours of downtime.

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 403-219-3678 or toll-free at 1-800-386-7247.

Monthly Continuous Data Summary

Peace River Area Monitoring Program Committee Three Creeks 986b Station						MAXIMUM VALUES							OPERATIONAL TIME (%)
						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	3	23	15	11.7	WNW	1	21	99.7
TRS (ppb)	-	-	-	-	0.33	1.20	2	22	1.0	SE	0.47	2	99.7
THC (ppm)	-	-	-	-	1.90	3.11	23	4	2.1	ESE	2.02	23	99.4
CH ₄ (ppm)	-	-	-	-	1.90	3.11	23	4	2.1	ESE	2.02	23	99.4
NMHC (ppm)	-	-	-	-	0.00	0.00	1	0	3.3	ESE	0.00	1	99.4
RELATIVE HUMIDITY (%)	-	-	-	-	62	99	28	4	6.3	NNW	86	28	99.7
BAROMETRIC PRESSURE (millibar)	-	-	-	-	939	954	24	6	2.7	NW	953	24	99.7
AMBIENT TEMPERATURE (°C)	-	-	-	-	15.8	29.0	25	15	16.2	SSE	22.3	8	99.7
STATION TEMPERATURE (°C)	-	-	-	-	21.0	23.1	19	4	4.9	ESE	21.5	11	99.7
VECTOR WS (kph)	-	-	-	-	0.9	24.7	21	13	-	WNW	12.2	21	99.7
VECTOR WD (sec)	-	-	-	-	258 (WSW)	-	-	-	-	-	-	-	99.7

SOUR GAS PROCESSING INDUSTRY
MONTHLY REPORT SUMMARY

Three Creeks 986b Station

Peace River Area Monitoring Program Committee

Plant Name / Location

Company

Licence Number	Report Date	
	YEAR	MONTH
N/A	2017	June

CONTINUOUS AMBIENT MONITORING								
			ONE - HOUR AVERAGE		24 - HOUR AVERAGE			
PARAMETER	STN No.	% TIME OPERATIONAL	MAXIMUM VALUES		NO. READINGS > REGULATION	MAXIMUM VALUES		NO. READINGS > REGULATION
SO ₂	1	99.7	0.003	ppm	0	0.001	ppm	0
TRS	1	99.7	0.001	ppm	-	0.000	ppm	-
THC	1	99.4	3.11	ppm	-	2.02	ppm	-
CH ₄	1	99.4	3.11	ppm	-	2.02	ppm	-
NMHC	1	99.4	0.00	ppm	-	0.00	ppm	-
RH	1	99.7	99	%	-	86	%	-
BP	1	99.7	954	mb	-	953	mb	-
Ambient TPX	1	99.7	29.0	°C	-	22.3	°C	-
Station TPX	1	99.7	23.1	°C	-	21.5	°C	-
Wind Speed	1	99.7	25	kph	-	12	kph	-
Wind Direction	1	99.7	-		-	-		-

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 (December, 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. The minimum and maximum statistics are highlighted in the data table and are for reference only. The highlighted cells are based on the software's interpretation of the exact position of the minimum or maximum value. The visual presentation of these statistics may not be the obvious choice in a data range due to rounding, truncating or analyzer specifications.

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)

- Operational time, for the monitoring period was 99.7%, equivalent to two hours of downtime. These were incurred due to a power failure that occurred on June 30, from hour 06:00 to 07:00.
- The routine monthly calibration was performed on June 7.
- Nine instances of maximum instantaneous data were discarded due to brief power outages that occurred during the month.

TOTAL REDUCED SULPHUR (TRS)

- Operational time, for the monitoring period was 99.7%, equivalent to two hours of downtime. These were incurred due to a power failure that occurred on June 30, from hour 06:00 to 07:00.
- The routine monthly calibration was performed on June 7.
- Nine instances of maximum instantaneous data were discarded due to brief power outages that occurred during the month.

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

- Operational time, for the monitoring period was 99.4%, equivalent to four hours of downtime.
- Two hours of downtime were incurred on June 30, from hour 06:00 to 07:00. Data collected on June 26 at hour 15:00 and on June 30 at hour 08:00, were discarded as the analyzer was recovering from power failures.
- The routine monthly calibration was performed on June 7.
- Seven instances of maximum instantaneous data were discarded due to brief power outages that occurred during the month.
- The canister sampler is programmed to draw in a whole air sample when the 5-minute average concentration of NMHC is above 0.30 ppm. A representative sample of ambient air is collected over a one-hour period when the canister event is triggered. No canister event was recorded this month.

WIND SPEED (WS) and WIND DIRECTION (WD)

- Operational time, for the monitoring period was 99.7%, equivalent to two hours of downtime. These were incurred due to a power failure that occurred on June 30, from hour 06:00 to 07:00.
- Nine instances of maximum instantaneous data were discarded due to brief power outages that occurred during the month.
- Wind data is reported as vector wind speed and vector wind direction. Wind direction is defined as the direction from which the wind is blowing from and is measured in degrees from true north.

RELATIVE HUMIDITY (RH)

- Operational time, for the monitoring period was 99.7%, equivalent to two hours of downtime. These were incurred due to a power failure that occurred on June 30, from hour 06:00 to 07:00.

BAROMETRIC PRESSURE (BP)

- Operational time, for the monitoring period was 99.7%, equivalent to two hours of downtime. These were incurred due to a power failure that occurred on June 30, from hour 06:00 to 07:00.

AMBIENT TEMPERATURE (AmbTPX)

- Operational time, for the monitoring period was 99.7%, equivalent to two hours of downtime. These were incurred due to a power failure that occurred on June 30, from hour 06:00 to 07:00.

STATION TEMPERATURE (StnTPX)

- Operational time, for the monitoring period was 99.7%, equivalent to two hours of downtime. These were incurred due to a power failure that occurred on June 30, from hour 06:00 to 07:00.

2.0 Project Personnel

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

3.0 Plant Monthly Required AMD Summary

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

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

4.0 Calculations and Results

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

5.0 Methods and Procedures

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

Maxxam AIR SOP-00001: Methane, Non-Methane Hydrocarbon Analyzer Monitoring
Maxxam AIR SOP-00208: RM Young Wind Monitor Calibration
Maxxam AIR SOP-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
Total Hydrocarbons - Thermo 55i FID 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

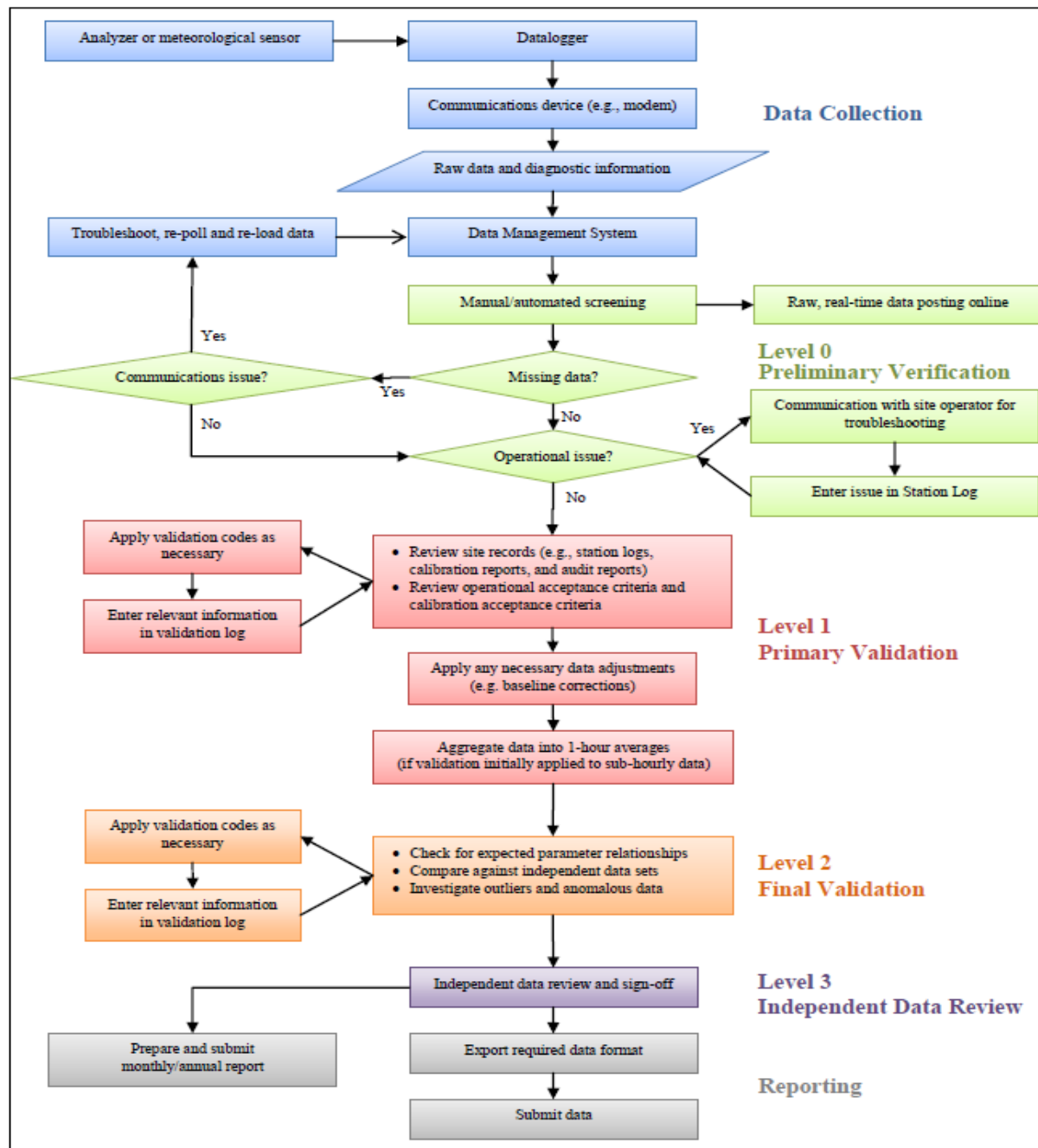
The purpose of Level 2 validation is to verify that there are no inconsistencies among related data, or among regional data measured at nearby sites.

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

APPENDIX I
CONTINUOUS MONITORING DATA RESULTS

SULPHUR DIOXIDE

SULPHUR DIOXIDE Hourly Averages (SO₂ ppb)

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

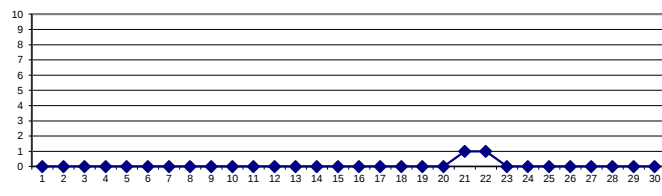
STATUS FLAG CODES

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
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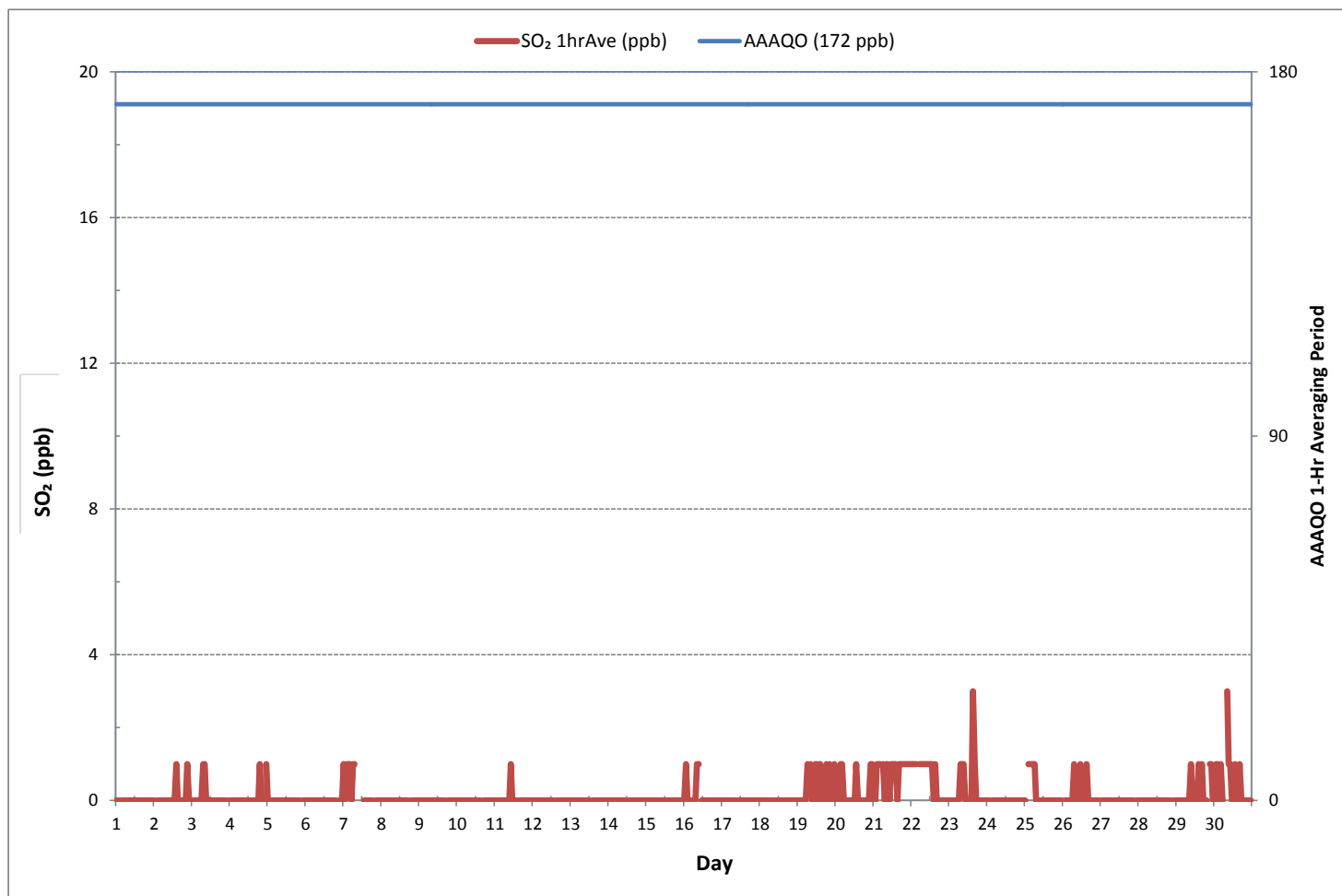
24 HR AVERAGES June 2017



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDANCES:		0			
NUMBER OF 24-HR EXCEEDANCES:		0			
NUMBER OF NON-ZERO READINGS:		87			
MINIMUM 1-HR AVERAGE:	0	ppb @ HOUR	0	ON DAY	1
MAXIMUM 1-HR AVERAGE:	3	ppb @ HOUR	15	ON DAY	23
MAXIMUM 24-HR AVERAGE:	1	ppb		ON DAY	21
IZS CALIBRATION TIME:	32	hrs	OPERATIONAL TIME:	718	hrs
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	99.7	%
STANDARD DEVIATION:	0		MONTHLY AVERAGE:	0	ppb

SULPHUR DIOXIDE Hourly Averages (SO₂ ppb)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
Three Creeks 986b Station - June 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	2	2	S	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	2	2	3	2	24	
2	2	S	2	3	2	2	2	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	3	2	24	
3	S	2	2	3	2	2	3	2	2	2	3	2	2	2	3	2	2	2	2	2	3	2	2	S	2	3	2	24	
4	2	2	2	2	2	2	2	2	2	2	2	3	3	2	2	2	2	2	2	2	2	2	S	2	2	3	2	24	
5	3	2	2	3	2	2	2	2	2	3	3	3	3	3	2	2	2	2	2	2	3	S	2	2	2	3	2	24	
6	2	2	2	2	2	3	3	2	3	2	2	2	2	2	2	2	2	2	2	3	S	2	3	2	2	3	2	24	
7	3	3	2	3	3	P	2	2	C	C	C	C	C	2	2	2	2	2	1	S	2	2	2	2	1	3	2	23	
8	2	2	2	1	2	1	1	2	2	2	2	1	2	1	1	2	1	1	S	1	2	2	2	2	2	1	2	2	24
9	1	1	2	2	1	2	1	1	2	2	2	2	1	2	1	2	1	S	2	2	1	1	1	2	1	2	2	24	
10	1	1	2	2	1	1	1	2	1	1	2	2	1	1	2	2	S	1	1	1	1	2	1	1	1	2	1	24	
11	2	1	2	2	1	2	1	1	1	2	2	2	2	1	2	S	1	2	1	2	2	1	1	1	1	2	2	24	
12	2	1	2	1	2	1	2	2	2	2	P	1	2	2	S	2	2	2	2	2	2	2	2	2	1	2	2	23	
13	1	2	2	2	2	2	2	2	1	P	2	2	2	S	2	2	2	2	2	2	2	1	2	2	1	2	2	23	
14	2	2	2	1	2	2	2	2	2	2	2	2	S	2	2	2	1	2	2	3	2	2	1	1	1	3	2	24	
15	2	2	2	2	2	1	P	2	2	2	2	S	2	2	2	2	1	2	2	2	2	2	1	2	1	2	2	23	
16	2	2	2	2	2	2	2	1	2	2	S	2	2	2	2	2	2	2	2	2	2	1	2	1	1	2	2	24	
17	2	1	2	2	2	1	2	1	2	S	2	2	2	2	2	2	2	1	1	2	2	1	2	2	1	2	2	24	
18	2	2	1	2	2	2	2	2	S	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	24	
19	2	2	2	2	2	1	2	S	2	1	2	2	1	1	2	2	1	2	2	2	2	2	2	2	1	2	2	24	
20	2	2	2	2	2	2	S	2	2	2	2	2	2	2	2	2	2	1	1	1	1	2	2	2	1	2	2	24	
21	2	2	2	2	2	S	2	1	1	2	2	P	2	2	1	1	2	2	2	2	2	1	2	2	1	2	2	23	
22	2	2	2	2	S	2	2	1	2	2	2	2	2	2	2	2	1	2	1	2	2	2	2	2	1	2	2	24	
23	2	2	2	S	2	2	2	2	3	2	2	2	2	2	3	8	3	2	2	2	2	2	2	2	2	8	2	24	
24	2	2	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	24	
25	2	S	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	3	3	2	2	2	2	2	2	3	2	24	
26	S	2	2	2	2	2	2	3	2	2	2	2	2	2	2	P	2	2	2	2	1	2	2	S	1	3	2	23	
27	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	S	2	1	2	2	24	
28	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	S	2	2	1	2	2	24	
29	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	S	2	2	2	1	2	2	24	
30	2	2	2	2	2	2	P	P	P	3	2	2	2	2	2	2	2	2	2	S	2	2	2	2	2	3	2	21	
HOURLY MAX	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	8	3	3	3	3	3	3	3	3	2				
HOURLY AVG	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2					

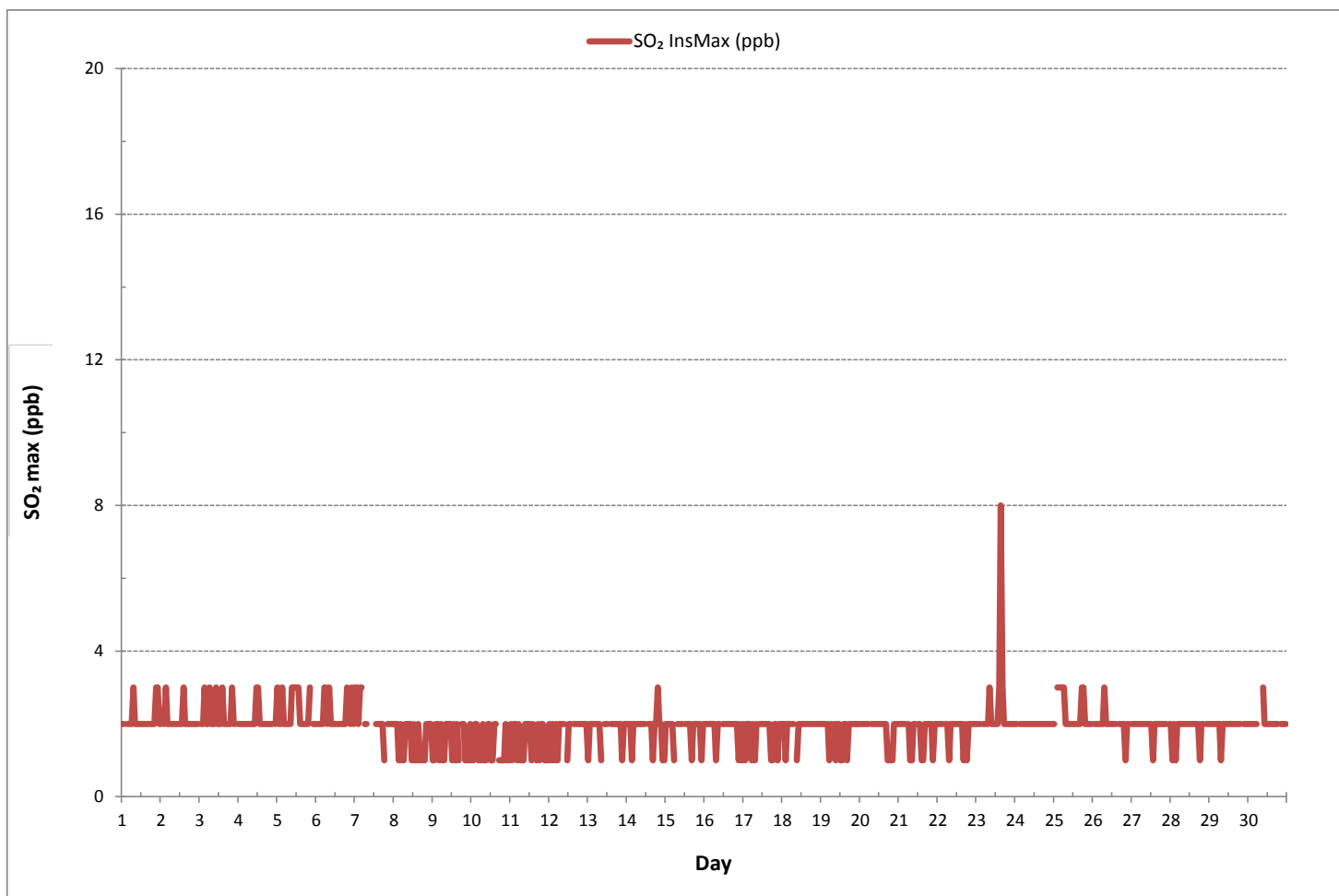
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	674
MAXIMUM INSTANTANEOUS VALUE:	8 ppb @ HOUR 15 ON DAY 23
IZS CALIBRATION TIME:	32 hrs
MONTHLY CALIBRATION TIME:	5 hrs
STANDARD DEVIATION:	1
OPERATIONAL TIME:	711 hrs

SULPHUR DIOXIDE Instantaneous Maximum (SO₂ ppb)



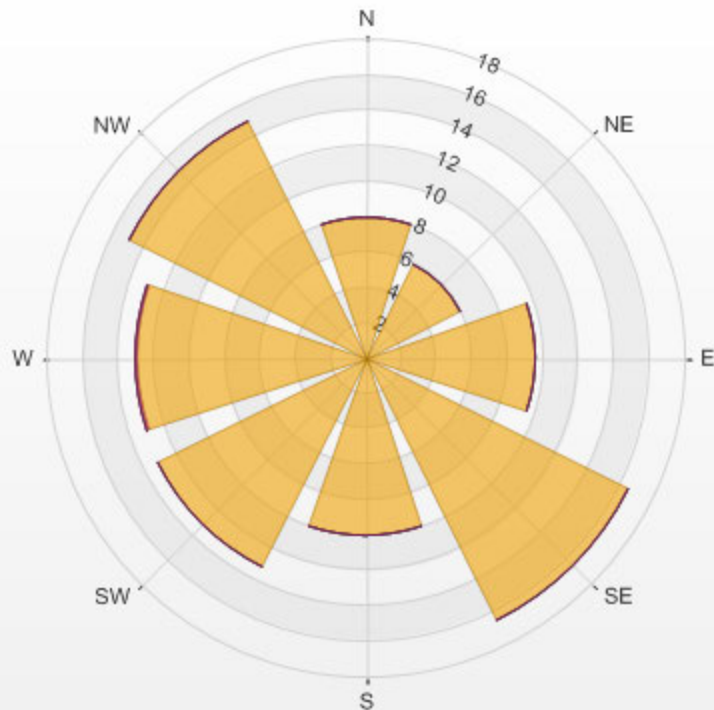
Wind: PRAMP_986
Poll.: PRAMP_986-SO2[ppb]
Monthly: 17/06
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

Calm: 8.46%

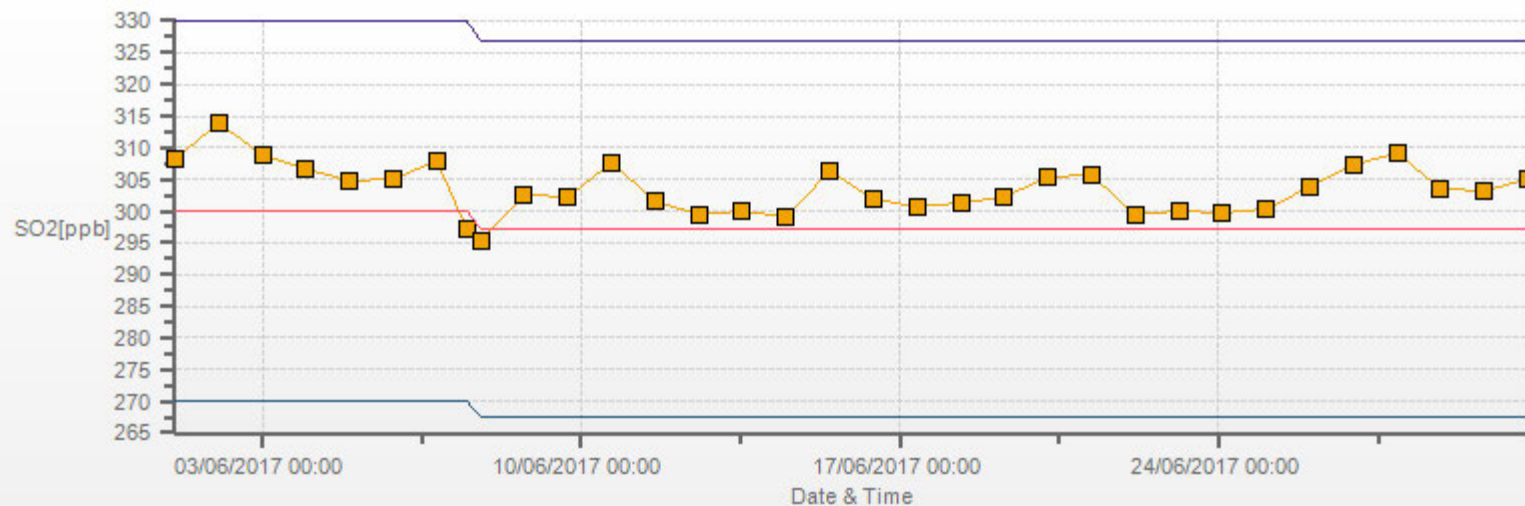
Calm Avg: 0.22 [ppb]

Direction	0-3	3-10	10-85	85-170	>170.0	Total
N	8.0	0.0	0.0	0.0	0.0	8.0
NE	5.9	0.0	0.0	0.0	0.0	5.9
E	9.6	0.0	0.0	0.0	0.0	9.6
SE	16.6	0.0	0.0	0.0	0.0	16.6
S	10.1	0.0	0.0	0.0	0.0	10.1
SW	13.2	0.0	0.0	0.0	0.0	13.2
W	12.9	0.2	0.0	0.0	0.0	13.1
NW	15.0	0.0	0.0	0.0	0.0	15.0
Summary	91.4	0.2	0.0	0.0	0.0	91.5

PRAMP_986 Poll.: PRAMP_986-SO₂[ppb] 2017/06/01 00:00 - 2017/06/30 23:00 Calm: 8.46% Calm Poll Avg: 0.22[ppb]



SO2[ppb] Calibration: PRAMP_986 Monthly: 17/06 Type: Span



Span Meas Span Ref Span Low Span High

TOTAL REDUCED SULPHUR

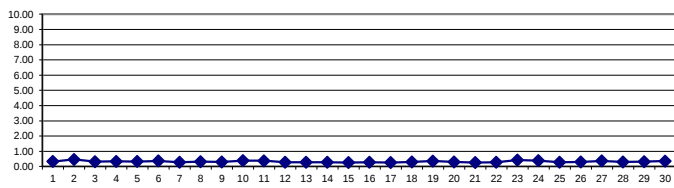
TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.		
DAY																													
1	0.35	0.35	S	0.40	0.45	0.49	0.51	0.47	0.41	0.34	0.31	0.28	0.27	0.26	0.26	0.24	0.24	0.24	0.24	0.23	0.25	0.29	0.37	0.40	0.23	0.51	0.33	24	
2	0.34	S	0.45	0.41	0.40	0.36	0.36	0.34	0.37	0.44	0.51	0.61	0.67	0.50	0.38	0.36	0.33	0.30	0.32	0.34	0.34	0.58	1.20	0.82	0.30	1.20	0.47	24	
3	S	0.46	0.57	0.57	0.48	0.34	0.37	0.39	0.35	0.32	0.27	0.27	0.25	0.22	0.21	0.21	0.21	0.22	0.22	0.22	0.24	0.27	0.31	S	0.21	0.57	0.32	24	
4	0.37	0.52	0.48	0.63	0.55	0.52	0.52	0.36	0.30	0.29	0.27	0.27	0.25	0.23	0.23	0.22	0.23	0.22	0.23	0.23	0.24	0.26	S	0.36	0.22	0.63	0.34	24	
5	0.37	0.35	0.41	0.49	0.45	0.47	0.55	0.38	0.32	0.28	0.28	0.26	0.25	0.23	0.24	0.24	0.22	0.22	0.24	0.24	0.24	S	0.44	0.51	0.22	0.55	0.33	24	
6	0.51	0.53	0.71	0.74	0.73	0.63	0.40	0.34	0.28	0.29	0.27	0.26	0.24	0.23	0.24	0.23	0.24	0.27	0.25	0.29	S	0.34	0.26	0.26	0.23	0.74	0.37	24	
7	0.28	0.29	0.28	0.41	0.31	0.36	0.28	0.16	C	C	C	C	C	C	0.23	0.20	0.23	0.24	0.25	0.26	S	0.30	0.31	0.34	0.34	0.16	0.41	0.28	24
8	0.31	0.29	0.35	0.42	0.31	0.32	0.34	0.34	0.32	0.32	0.31	0.29	0.28	0.29	0.28	0.28	0.32	0.32	S	0.37	0.34	0.33	0.32	0.34	0.28	0.42	0.32	24	
9	0.37	0.35	0.35	0.35	0.42	0.37	0.31	0.29	0.30	0.30	0.31	0.28	0.25	0.25	0.25	0.24	0.24	S	0.27	0.25	0.26	0.26	0.25	0.27	0.24	0.42	0.30	24	
10	0.33	0.42	0.59	0.44	0.57	0.94	0.67	0.42	0.34	0.28	0.25	0.27	0.25	0.25	0.25	0.25	S	0.37	0.29	0.32	0.36	0.34	0.33	0.35	0.25	0.94	0.39	24	
11	0.38	0.36	0.32	0.43	1.07	0.52	0.53	0.38	0.29	0.29	0.39	0.36	0.35	0.33	0.26	S	0.26	0.24	0.23	0.25	0.27	0.44	0.45	0.41	0.23	1.07	0.38	24	
12	0.34	0.34	0.31	0.29	0.30	0.31	0.36	0.34	0.31	0.32	0.26	0.23	0.22	0.22	S	0.25	0.27	0.34	0.29	0.20	0.22	0.23	0.23	0.24	0.20	0.36	0.28	24	
13	0.25	0.33	0.29	0.30	0.49	0.43	0.29	0.32	0.31	0.25	0.24	0.23	0.22	S	0.25	0.22	0.25	0.25	0.27	0.26	0.26	0.27	0.29	0.40	0.22	0.49	0.29	24	
14	0.34	0.37	0.35	0.39	0.46	0.33	0.28	0.28	0.26	0.25	0.24	0.23	S	0.26	0.22	0.21	0.20	0.20	0.25	0.29	0.27	0.26	0.28	0.27	0.20	0.46	0.28	24	
15	0.29	0.30	0.32	0.29	0.29	0.28	0.35	0.33	0.30	0.38	0.28	S	0.28	0.25	0.24	0.23	0.22	0.23	0.22	0.23	0.24	0.25	0.27	0.25	0.22	0.38	0.27	24	
16	0.25	0.26	0.26	0.26	0.29	0.35	0.36	0.34	0.32	0.28	S	0.34	0.31	0.29	0.28	0.26	0.27	0.24	0.26	0.23	0.24	0.24	0.30	0.35	0.23	0.36	0.29	24	
17	0.39	0.29	0.37	0.31	0.47	0.31	0.29	0.28	0.28	S	0.29	0.24	0.23	0.22	0.22	0.21	0.21	0.20	0.20	0.21	0.22	0.24	0.24	0.29	0.20	0.47	0.27	24	
18	0.30	0.29	0.34	0.38	0.39	0.39	0.46	0.44	S	0.37	0.30	0.27	0.25	0.25	0.26	0.26	0.27	0.25	0.23	0.22	0.23	0.25	0.36	0.37	0.22	0.46	0.31	24	
19	0.32	0.32	0.60	0.73	0.79	0.59	0.39	S	0.30	0.26	0.28	0.30	0.28	0.22	0.21	0.21	0.20	0.19	0.21	0.21	0.34	0.47	0.45	0.41	0.19	0.79	0.36	24	
20	0.34	0.37	0.34	0.32	0.55	0.48	S	0.42	0.40	0.38	0.35	0.31	0.27	0.25	0.23	0.23	0.24	0.23	0.24	0.25	0.23	0.22	0.23	0.21	0.21	0.55	0.31	24	
21	0.20	0.24	0.28	0.26	0.29	S	0.38	0.39	0.34	0.27	0.24	0.23	0.22	0.24	0.22	0.23	0.23	0.22	0.24	0.24	0.25	0.26	0.27	0.27	0.20	0.39	0.26	24	
22	0.26	0.24	0.26	0.22	S	0.28	0.28	0.27	0.26	0.25	0.24	0.25	0.24	0.24	0.24	0.23	0.22	0.23	0.22	0.21	0.47	0.43	0.47	0.57	0.21	0.57	0.29	24	
23	0.49	0.54	0.72	S	0.81	0.96	0.71	0.40	0.33	0.30	0.28	0.26	0.24	0.23	0.25	0.42	0.30	0.25	0.23	0.27	0.32	0.43	0.64	0.61	0.23	0.96	0.43	24	
24	0.49	0.47	S	0.88	0.86	0.60	0.61	0.34	0.30	0.26	0.26	0.28	0.24	0.24	0.23	0.21	0.23	0.24	0.23	0.32	0.27	0.39	0.50	0.54	0.21	0.88	0.39	24	
25	0.44	S	0.42	0.41	0.42	0.45	0.37	0.30	0.26	0.24	0.23	0.23	0.22	0.22	0.22	0.20	0.20	0.21	0.20	0.20	0.21	0.22	0.23	0.23	0.20	0.45	0.28	24	
26	S	0.27	0.29	0.27	0.34	0.43	0.32	0.31	0.43	0.38	0.32	0.32	0.30	0.29	0.27	0.18	0.22	0.24	0.21	0.24	0.30	0.32	0.34	S	0.18	0.43	0.30	24	
27	0.57	0.50	0.55	0.74	0.48	0.37	0.37	0.37	0.35	0.35	0.27	0.24	0.28	0.24	0.29	0.28	0.32	0.28	0.29	0.28	0.32	0.34	S	0.33	0.24	0.74	0.37	24	
28	0.30	0.31	0.31	0.30	0.33	0.29	0.30	0.31	0.28	0.28	0.28	0.27	0.27	0.29	0.28	0.28	0.26	0.28	0.26	0.27	0.36	S	0.39	0.30	0.26	0.39	0.30	24	
29	0.30	0.29	0.33	0.48	0.37	0.37	0.32	0.33	0.34	0.34	0.30	0.26	0.24	0.23	0.22	0.20	0.21	0.24	0.24	0.32	S	0.55	0.42	0.48	0.20	0.55	0.32	24	
30	0.52	0.66	0.59	0.63	0.49	0.39	P	P	0.37	0.35	0.30	0.28	0.27	0.27	0.26	0.24	0.25	0.24	0.22	S	0.28	0.35	0.34	0.30	0.22	0.66	0.36	22	
HOURLY MAX	0.57	0.66	0.72	0.88	1.07	0.96	0.71	0.47	0.43	0.44	0.51	0.61	0.67	0.50	0.38	0.42	0.33	0.37	0.32	0.37	0.47	0.58	1.20	0.82					
HOURLY AVG	0.36	0.37	0.41	0.44	0.49	0.45	0.40	0.34	0.32	0.31	0.29	0.28	0.27	0.26	0.25	0.24	0.24	0.25	0.24	0.26	0.28	0.33	0.38	0.37					

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

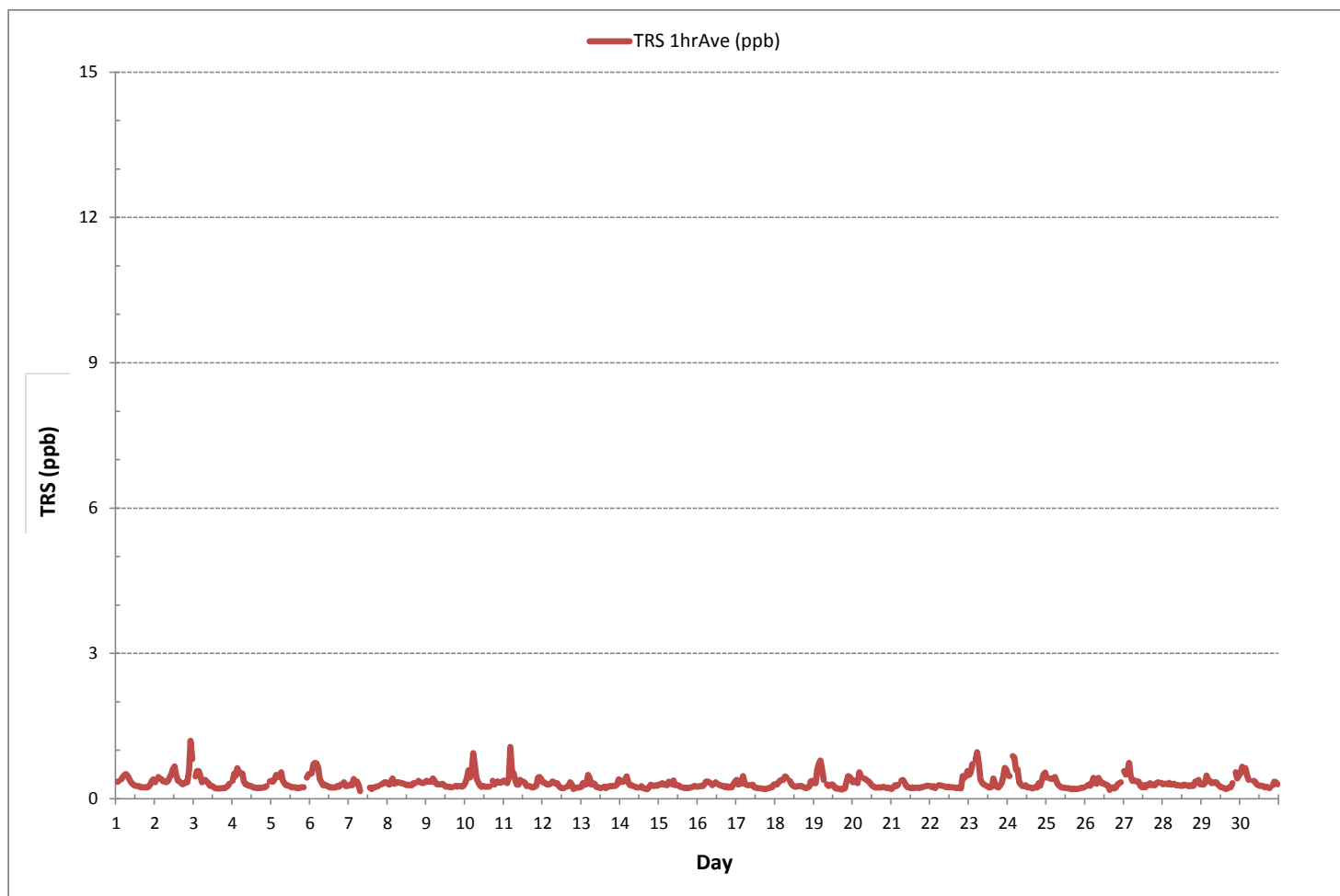
24 HR AVERAGES June 2017



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	681				
MINIMUM 1-HR AVERAGE:	0.16	ppb	@ HOUR	7	ON DAY
MAXIMUM 1-HR AVERAGE:	1.20	ppb	@ HOUR	22	ON DAY
MAXIMUM 24-HR AVERAGE:	0.47	ppb			ON DAY
IZS CALIBRATION TIME:	32	hrs	OPERATIONAL TIME:	718	hrs
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	99.7	%
STANDARD DEVIATION:	0.12		MONTHLY AVERAGE:	0.33	ppb

TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)





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

TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY 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	0.28	0.29	S	0.36	0.42	0.44	0.47	0.39	0.39	0.28	0.21	0.21	0.18	0.17	0.17	0.16	0.13	0.16	0.13	0.13	0.18	0.26	0.36	0.44	0.13	0.47	0.27	24	
2	0.26	S	0.42	0.33	0.34	0.26	0.29	0.26	0.28	0.36	0.44	0.60	0.60	0.47	0.28	0.33	0.28	0.23	0.28	0.26	0.28	0.78	2.04	1.64	0.23	2.04	0.49	24	
3	S	0.42	0.76	0.57	0.63	0.28	0.34	0.31	0.28	0.23	0.18	0.18	0.15	0.15	0.15	0.15	0.13	0.13	0.13	0.13	0.15	0.26	0.23	S	0.13	0.76	0.27	24	
4	0.42	0.55	0.44	0.78	0.55	0.50	0.47	0.39	0.23	0.21	0.18	0.18	0.15	0.15	0.14	0.13	0.14	0.15	0.13	0.14	0.15	0.18	S	0.31	0.13	0.78	0.29	24	
5	0.31	0.26	0.54	0.55	0.44	0.47	0.55	0.36	0.23	0.23	0.18	0.15	0.18	0.14	0.15	0.13	0.13	0.13	0.14	0.13	0.14	S	0.47	0.47	0.13	0.55	0.28	24	
6	0.52	0.57	0.73	0.76	0.86	0.65	0.41	0.26	0.21	0.23	0.18	0.18	0.15	0.15	0.15	0.18	0.18	0.23	0.18	0.33	S	0.33	0.28	0.28	0.15	0.86	0.35	24	
7	0.28	0.31	0.36	0.54	0.49	P	0.49	0.28	C	C	C	C	C	0.44	0.28	0.34	0.34	0.33	0.36	S	0.36	0.36	0.42	0.39	0.28	0.54	0.37	23	
8	0.36	0.34	0.42	0.50	0.36	0.36	0.36	0.39	0.36	0.36	0.36	0.31	0.31	0.31	0.31	0.28	0.34	0.36	S	0.41	0.36	0.36	0.34	0.44	0.28	0.50	0.36	24	
9	0.39	0.44	0.36	0.46	0.52	0.39	0.34	0.33	0.36	0.36	0.33	0.36	0.28	0.26	0.28	0.28	0.31	S	0.33	0.31	0.28	0.28	0.28	0.31	0.26	0.52	0.34	24	
10	0.39	0.63	0.83	0.57	0.94	1.21	0.76	0.49	0.36	0.31	0.23	0.26	0.23	0.23	0.23	0.28	S	0.57	0.31	0.39	0.36	0.37	0.33	0.36	0.23	1.21	0.46	24	
11	0.44	0.41	0.36	0.89	1.47	0.73	0.57	0.44	0.34	0.31	0.47	0.41	0.39	0.39	0.28	S	0.32	0.28	0.28	0.28	0.33	0.65	0.78	0.52	0.28	1.47	0.49	24	
12	0.39	0.39	0.39	0.33	0.33	0.36	0.44	0.41	0.36	0.41	P	0.28	0.26	0.28	S	0.31	0.33	0.73	0.73	0.23	0.26	0.33	0.31	0.31	0.23	0.73	0.37	23	
13	0.31	0.83	0.34	0.36	0.78	0.67	0.36	0.36	0.36	P	0.28	0.28	0.26	S	0.33	0.26	0.31	0.33	0.36	0.36	0.34	0.39	0.52	0.65	0.26	0.83	0.41	23	
14	0.47	0.47	0.47	0.52	0.62	0.49	0.41	0.47	0.31	0.33	0.28	0.31	S	0.33	0.28	0.26	0.34	0.28	0.44	0.46	0.34	0.34	0.41	0.41	0.26	0.62	0.39	24	
15	0.42	0.39	0.41	0.49	0.44	0.34	P	0.46	0.41	0.47	0.36	S	0.39	0.33	0.31	0.28	0.28	0.44	0.31	0.28	0.31	0.31	0.31	0.28	0.28	0.49	0.36	23	
16	0.28	0.28	0.31	0.31	0.34	0.39	0.42	0.36	0.31	0.28	S	0.36	0.31	0.31	0.28	0.28	0.28	0.26	0.28	0.23	0.28	0.28	0.44	0.39	0.23	0.44	0.32	24	
17	0.44	0.31	0.42	0.33	0.57	0.42	0.31	0.31	0.28	S	0.36	0.26	0.26	0.23	0.28	0.26	0.23	0.23	0.23	0.23	0.26	0.28	0.28	0.37	0.23	0.57	0.31	24	
18	0.34	0.33	0.36	0.39	0.44	0.41	0.52	0.49	S	0.46	0.33	0.39	0.31	0.28	0.31	0.31	0.33	0.28	0.28	0.28	0.28	0.34	0.44	0.49	0.28	0.52	0.36	24	
19	0.39	0.42	0.76	0.89	1.05	0.68	0.52	S	0.36	0.31	0.34	0.36	0.41	0.28	0.28	0.28	0.28	0.25	0.31	0.26	0.73	0.70	0.57	0.49	0.25	1.05	0.47	24	
20	0.42	0.42	0.54	0.41	0.68	0.63	S	0.47	0.46	0.46	0.44	0.34	0.33	0.34	0.29	0.26	0.28	0.28	0.28	0.28	0.29	0.31	0.26	0.26	0.26	0.68	0.38	24	
21	0.21	0.28	0.34	0.33	0.36	S	0.41	0.44	0.39	0.31	0.29	P	0.26	0.26	0.26	0.28	0.26	0.23	0.31	0.28	0.29	0.31	0.31	0.31	0.21	0.44	0.31	23	
22	0.28	0.28	0.31	0.24	S	0.34	0.31	0.29	0.28	0.31	0.26	0.29	0.29	0.26	0.26	0.28	0.26	0.26	0.24	0.31	0.99	0.76	0.86	1.77	0.24	1.77	0.42	24	
23	0.81	0.65	0.89	S	0.94	2.25	1.18	0.47	0.39	0.34	0.33	0.31	0.28	0.26	0.28	0.81	0.36	0.34	0.28	0.34	0.52	0.68	0.78	0.97	0.26	2.25	0.63	24	
24	1.02	0.73	S	1.31	1.78	0.76	2.43	0.42	0.39	0.34	0.31	0.34	0.31	0.28	0.28	0.28	0.31	0.29	0.39	0.47	0.39	0.47	0.86	0.81	0.28	2.43	0.65	24	
25	0.76	S	0.50	0.52	0.52	0.57	0.44	0.41	0.33	0.31	0.28	0.33	0.26	0.28	0.28	0.28	0.28	0.28	0.26	0.26	0.31	0.31	0.31	0.34	0.32	0.26	0.76	0.37	24
26	S	0.36	0.36	0.34	0.50	0.52	0.41	0.36	0.55	0.49	0.37	0.36	0.36	0.34	0.34	P	0.26	0.28	0.26	0.31	0.33	0.39	0.39	S	0.26	0.55	0.38	23	
27	0.97	0.55	0.65	1.23	0.78	0.41	0.39	0.41	0.41	0.44	0.34	0.23	0.34	0.28	0.31	0.28	0.52	0.36	0.31	0.31	0.36	0.36	S	0.39	0.23	1.23	0.46	24	
28	0.31	0.34	0.34	0.33	0.39	0.34	0.31	0.33	0.31	0.31	0.31	0.31	0.36	0.33	0.34	0.32	0.31	0.36	0.31	0.39	0.44	S	0.52	0.34	0.31	0.52	0.35	24	
29	0.36	0.34	0.39	0.73	0.42	0.42	0.39	0.37	0.42	0.39	0.33	0.31	0.26	0.29	0.26	0.26	0.23	0.28	0.29	0.42	S	0.79	0.52	0.55	0.23	0.79	0.39	24	
30	0.57	0.73	0.68	0.76	0.63	0.44	P	P	P	0.39	0.36	0.28	0.28	0.28	0.31	0.28	0.26	0.23	0.23	S	0.28	0.42	0.39	0.31	0.23	0.76	0.41	21	
HOURLY MAX	1.02	0.83	0.89	1.31	1.78	2.25	2.43	0.49	0.55	0.49	0.47	0.60	0.60	0.47	0.34	0.81	0.52	0.73	0.73	0.47	0.99	0.79	2.04	1.77					
HOURLY AVG	0.44	0.44	0.49	0.56	0.64	0.56	0.53	0.38	0.35	0.34	0.31	0.30	0.29	0.28	0.27	0.28	0.28	0.30	0.29	0.29	0.34	0.41	0.50	0.52					

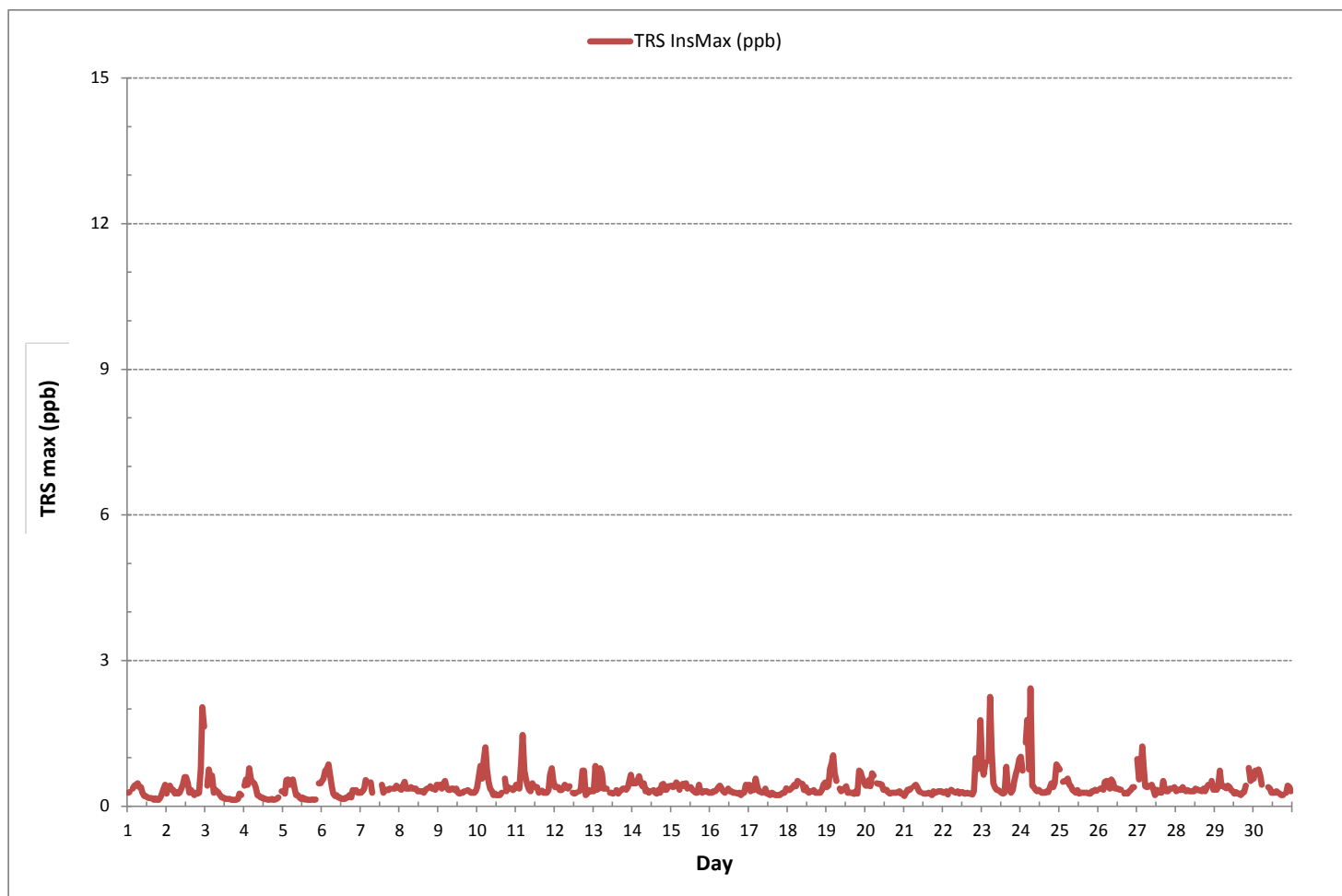
STATUS FLAG CODES

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:	674
MAXIMUM INSTANTANEOUS VALUE:	2.43 ppb @ HOUR 6 ON DAY 24
IZS CALIBRATION TIME:	32 hrs
MONTHLY CALIBRATION TIME:	5 hrs
STANDARD DEVIATION:	0.23
OPERATIONAL TIME:	711 hrs

TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS ppb)



Wind: PRAMP_986
Poll.: PRAMP_986-TRS[ppb]
Monthly: 17/06
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

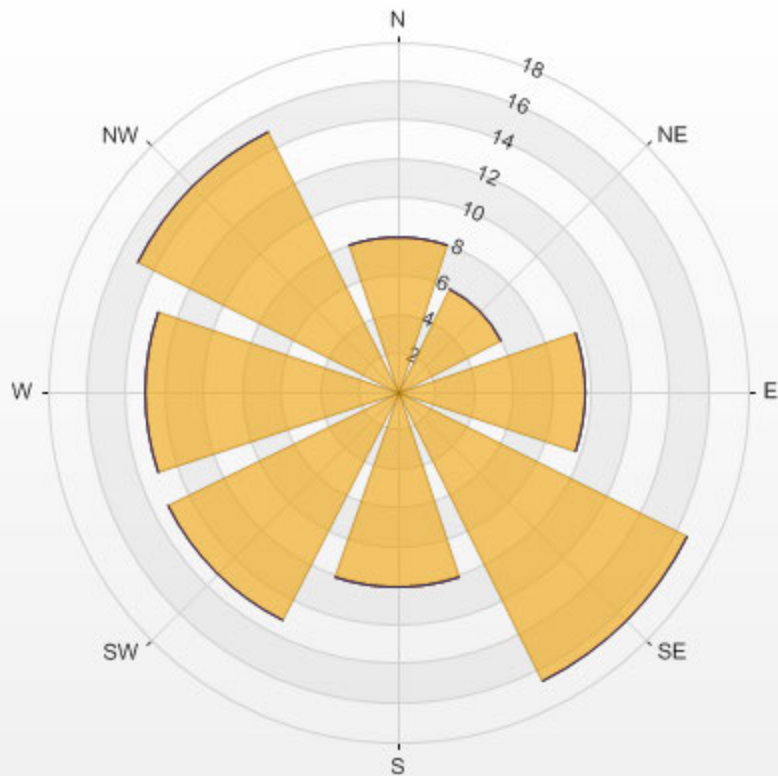
Calm: 8.46%

Calm Avg: 0.46 [ppb]

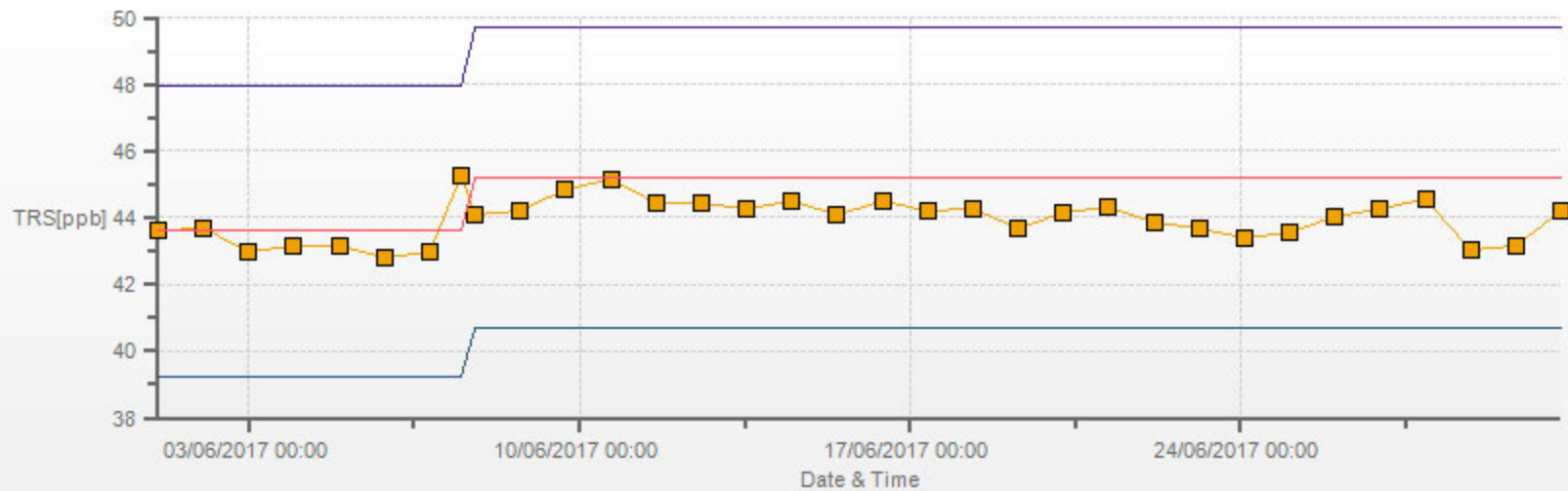
Direction	0-1	1-3	3-10	>10.0	Total
N	8.0	0.0	0.0	0.0	8.0
NE	5.9	0.0	0.0	0.0	5.9
E	9.6	0.0	0.0	0.0	9.6
SE	16.6	0.0	0.0	0.0	16.6
S	10.1	0.0	0.0	0.0	10.1
SW	13.2	0.0	0.0	0.0	13.2
W	13.1	0.0	0.0	0.0	13.1
NW	15.0	0.0	0.0	0.0	15.0
Summary	91.5	0.0	0.0	0.0	91.5

%	Icon	Classes (ppb)
92		0-1
0		1-3
0		3-10
0		>10.0

PRAMP_986 Poll.: PRAMP_986-TRS[ppb] 2017/06/01 00:00 - 2017/06/30 23:00 Calm: 8.46% Calm Poll Avg: 0.46[ppb]



TRS[ppb] Calibration: PRAMP_986 Monthly: 17/06 Type: Span



Span Meas Span Ref Span Low Span High

TOTAL HYDROCARBON



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - June 2017

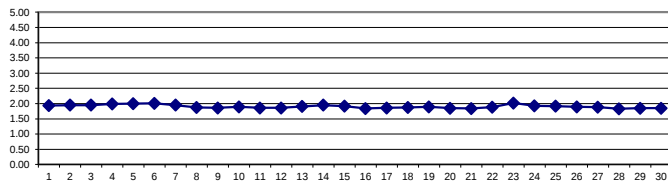
TOTAL HYDROCARBONS Hourly Averages (THC ppm)

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	2.00	1.99	S	1.95	1.96	1.97	1.96	1.97	1.96	1.94	1.93	1.92	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.93	1.94	1.96	1.96	1.92	2.00	1.94	24	
2	1.96	S	1.97	1.96	1.95	1.95	1.95	1.95	1.95	1.94	1.93	1.93	1.94	1.95	1.95	1.95	1.96	1.95	1.95	1.95	1.96	1.98	1.99	1.98	1.93	1.99	1.95	24	
3	S	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.96	1.95	1.95	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.96	1.95	1.94	1.95	1.96	S	1.94	1.97	1.95	24	
4	2.03	2.00	1.99	2.03	2.04	2.04	2.05	1.98	1.98	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.98	2.00	1.98	S	1.98	1.95	2.05	1.99	24	
5	1.97	2.00	2.12	2.10	2.05	2.05	2.02	2.02	2.00	1.98	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.95	1.96	1.97	S	1.99	2.00	1.95	2.12	2.00	24	
6	2.04	2.07	2.15	2.17	2.15	2.13	2.01	1.98	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.96	1.96	1.97	S	1.98	1.99	1.99	1.96	2.17	2.01	24	
7	2.01	2.00	2.02	2.04	2.01	2.02	2.02	2.01	1.99	1.98	1.96	C	C	C	C	1.85	1.85	1.85	1.86	S	1.87	1.88	1.88	1.88	1.85	2.04	1.95	24	
8	1.87	1.88	1.88	1.88	1.88	1.89	1.89	1.90	1.90	1.89	1.87	1.87	1.86	1.86	1.85	1.85	1.84	1.85	S	1.86	1.87	1.88	1.88	1.87	1.84	1.90	1.87	24	
9	1.88	1.88	1.88	1.88	1.90	1.90	1.88	1.87	1.87	1.86	1.86	1.85	1.85	1.84	1.84	1.84	1.84	S	1.83	1.83	1.83	1.84	1.84	1.84	1.83	1.90	1.86	24	
10	1.87	1.97	1.98	2.00	2.17	2.02	1.89	1.86	1.85	1.85	1.85	1.85	1.85	1.84	1.84	1.84	S	1.85	1.84	1.84	1.84	1.85	1.85	1.86	1.87	1.84	2.17	1.89	24
11	1.88	1.88	1.88	1.88	1.87	1.92	1.87	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	S	1.85	1.84	1.84	1.85	1.85	1.85	1.86	1.88	1.84	1.92	1.86	24	
12	1.90	1.89	1.86	1.86	1.86	1.86	1.87	1.87	1.86	1.86	1.85	1.85	1.84	1.84	S	1.85	1.85	1.85	1.84	1.83	1.83	1.84	1.89	1.84	1.83	1.90	1.86	24	
13	1.86	1.92	1.88	1.86	1.89	2.02	1.90	1.91	1.87	1.86	1.85	1.84	1.84	S	1.84	1.88	2.00	2.03	2.21	1.99	1.88	1.84	1.85	1.88	1.84	2.21	1.91	24	
14	2.21	1.88	1.90	2.24	1.91	1.97	2.06	2.05	1.85	1.85	1.85	1.84	S	1.84	1.85	1.84	1.84	1.85	1.93	2.19	1.90	2.00	2.13	1.98	1.84	2.24	1.95	24	
15	2.13	2.19	2.30	2.19	1.99	1.86	1.87	1.87	1.87	1.87	1.86	S	1.84	1.85	1.84	1.84	1.84	1.84	1.83	1.86	1.86	1.87	1.87	1.87	1.83	2.30	1.92	24	
16	1.87	1.87	1.87	1.87	1.87	1.88	1.86	1.86	1.84	1.83	S	1.81	1.81	1.81	1.81	1.81	1.81	1.82	1.82	1.82	1.84	1.83	1.86	1.90	1.81	1.90	1.84	24	
17	1.87	1.83	1.85	1.96	1.94	1.88	1.85	1.85	1.84	S	1.84	1.84	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.86	1.87	1.85	1.85	1.85	1.83	1.96	1.86	24	
18	1.86	1.85	1.86	1.88	1.88	1.89	1.87	1.88	S	1.85	1.84	1.85	1.85	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.86	2.12	1.85	1.86	1.84	2.12	1.87	24
19	1.86	1.89	1.96	2.04	2.03	2.00	1.89	S	1.85	1.84	1.84	1.85	1.84	1.85	1.85	1.84	1.84	1.84	1.84	1.85	1.95	1.92	1.88	1.86	1.84	2.04	1.89	24	
20	1.87	1.88	1.93	1.93	1.98	1.95	S	1.87	1.86	1.85	1.83	1.83	1.82	1.81	1.81	1.81	1.81	1.81	1.81	1.83	1.83	1.83	1.83	1.82	1.81	1.98	1.85	24	
21	1.83	1.83	1.84	1.83	1.84	S	1.84	1.85	1.85	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.85	1.85	1.85	1.85	1.83	1.85	1.84	24
22	1.85	1.85	1.88	1.87	S	1.87	1.87	1.87	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.85	1.85	1.85	1.86	2.05	2.13	1.87	1.90	1.85	2.13	1.88	24
23	1.92	2.04	2.29	S	3.11	2.93	2.35	1.93	1.89	1.87	1.86	1.85	1.85	1.86	1.86	1.86	1.86	1.86	1.85	1.86	1.86	1.86	2.00	1.89	1.88	1.85	3.11	2.02	24
24	2.01	1.87	S	1.90	1.97	2.02	1.96	1.88	1.87	1.87	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.87	1.95	1.94	2.30	2.28	1.86	2.30	1.93	24	
25	1.98	S	2.05	2.01	1.94	2.00	1.95	1.89	1.88	1.87	1.86	1.94	1.85	1.85	1.84	1.84	1.84	1.85	1.86	1.85	2.00	1.98	2.00	1.93	1.84	2.05	1.92	24	
26	S	1.91	1.89	1.88	2.02	1.91	1.89	1.88	1.90	1.95	1.89	1.88	1.87	1.89	1.85	R	1.91	1.82	1.82	1.80	1.85	1.93	2.02	S	1.80	2.02	1.89	23	
27	2.44	2.05	1.83	2.03	1.86	1.81	1.81	1.88	1.96	1.89	1.87	1.82	1.83	1.83	1.82	1.81	1.80	1.84	1.83	1.79	1.81	1.81	S	1.81	1.79	2.44	1.88	24	
28	1.81	1.81	1.82	1.81	1.82	1.81	1.82	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.84	1.83	1.83	1.85	S	1.86	1.85	1.81	1.86	1.83	24	
29	1.85	1.85	1.85	1.86	1.87	1.88	1.88	1.88	1.88	1.87	1.86	1.84	1.85	1.85	1.85	1.85	1.85	1.84	1.85	1.83	S	1.83	1.84	1.85	1.83	1.88	1.85	24	
30	1.84	1.88	1.88	1.98	1.95	1.93	P	P	R	1.85	1.84	1.83	1.83	1.82	1.82	1.82	1.82	1.82	1.82	S	1.84	1.84	1.83	1.83	1.82	1.98	1.85	21	
HOURLY MAX	2.44	2.19	2.30	2.24	3.11	2.93	2.35	2.05	2.00	1.98	1.97	1.97	1.97	1.96	1.96	1.97	2.00	2.03	2.21	2.19	2.05	2.13	2.30	2.28					
HOURLY AVG	1.95	1.93	1.95	1.96	1.99	1.98	1.93	1.91	1.89	1.89	1.88	1.87	1.87	1.86	1.87	1.86	1.87	1.87	1.88	1.88	1.89	1.91	1.92	1.90					

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

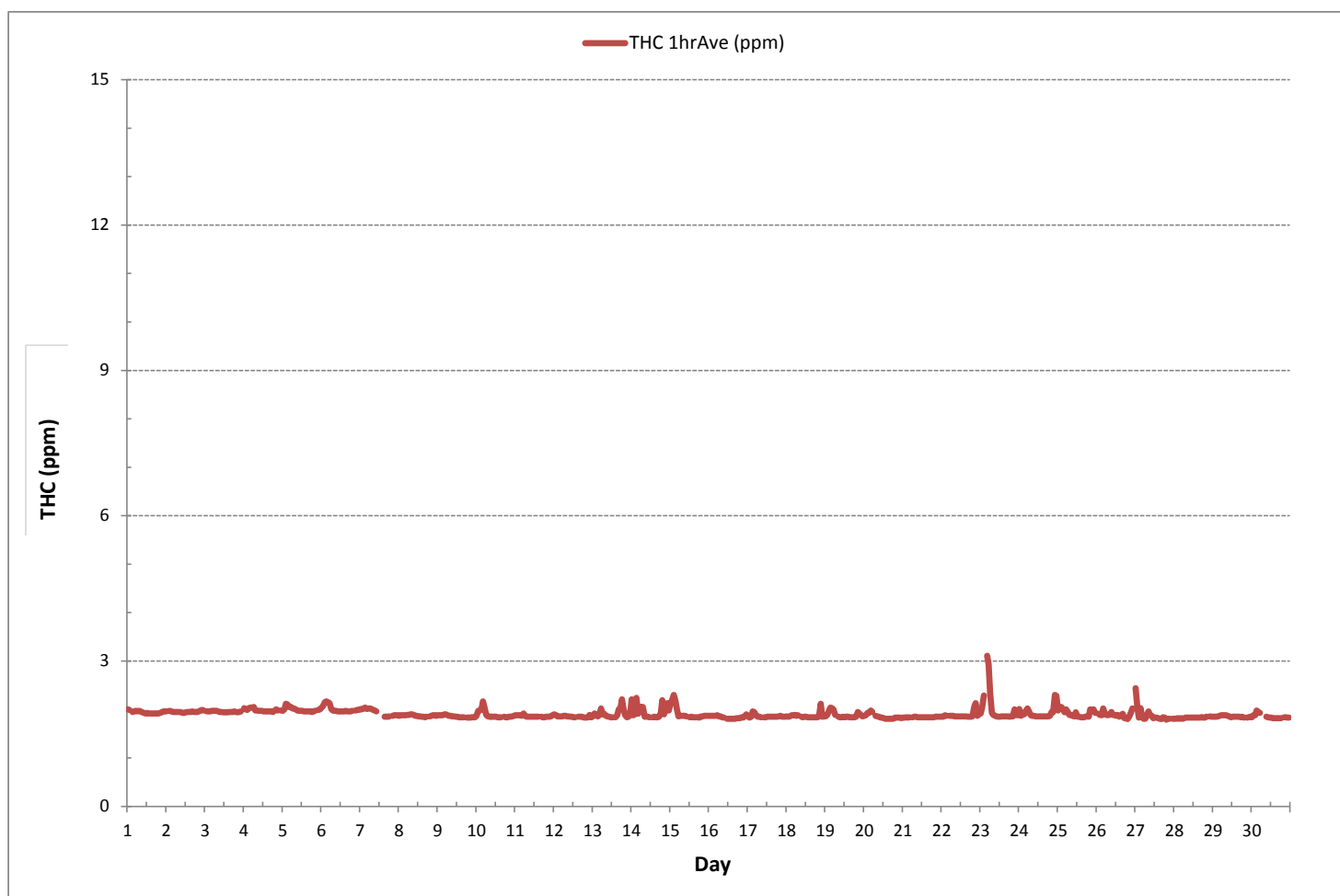
24 HR AVERAGES June 2017



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	680				
MINIMUM 1-HR AVERAGE:	1.79	ppm	@ HOUR	19	ON DAY
MAXIMUM 1-HR AVERAGE:	3.11	ppm	@ HOUR	4	ON DAY
MAXIMUM 24-HR AVERAGE:	2.02	ppm			ON DAY
IZS CALIBRATION TIME:	32	hrs	OPERATIONAL TIME:	716	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:	99.4	%
STANDARD DEVIATION:	0.10		MONTHLY AVERAGE:	1.90	ppm

TOTAL HYDROCARBONS Hourly Averages (THC ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - June 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	2.02	2.01	S	1.95	1.98	1.99	1.97	1.98	1.97	1.94	1.95	1.94	1.94	1.93	1.94	1.93	1.92	1.92	1.93	1.93	1.94	2.03	2.02	2.00	1.92	2.03	1.96	24
2	2.00	S	2.03	1.97	1.95	1.96	1.95	1.95	1.95	1.95	1.93	1.93	1.94	1.95	1.98	1.97	1.98	1.97	1.95	1.94	1.98	2.01	2.08	2.03	1.93	2.08	1.97	24
3	S	1.96	2.01	1.98	1.99	1.99	1.98	1.99	1.98	1.97	1.96	1.99	1.95	1.94	1.94	1.94	1.95	1.97	2.01	2.00	1.94	1.95	2.03	S	1.94	2.03	1.97	24
4	2.13	2.04	2.03	2.08	2.15	2.05	2.07	2.02	2.00	2.01	1.97	1.98	1.98	1.99	1.99	1.98	1.99	1.99	1.98	2.19	2.15	2.07	S	2.12	1.97	2.19	2.04	24
5	1.99	2.05	2.71	2.31	2.10	2.13	2.06	2.08	2.12	2.08	2.03	2.03	1.99	1.98	1.99	2.00	1.97	1.95	1.95	1.96	2.01	S	2.06	2.06	1.95	2.71	2.07	24
6	2.11	2.13	2.21	2.22	2.35	2.31	2.06	1.99	1.99	2.03	1.97	1.96	1.96	1.95	1.96	2.09	1.96	1.98	1.96	2.00	S	2.00	2.00	2.01	1.95	2.35	2.05	24
7	2.01	2.01	2.04	2.11	2.03	P	2.04	2.02	2.01	2.00	1.96	C	C	C	C	C	1.86	1.85	1.86	S	1.88	1.88	1.89	1.89	1.85	2.11	1.96	23
8	1.89	1.89	1.88	1.89	1.88	1.90	1.89	1.90	1.90	1.90	1.88	1.87	1.87	1.86	1.86	1.86	1.85	1.86	S	1.87	1.87	1.88	1.89	1.88	1.85	1.90	1.88	24
9	1.88	1.90	1.89	1.89	1.91	1.91	1.89	1.88	1.87	1.86	1.87	1.85	1.85	1.84	1.85	1.84	1.84	S	1.84	1.84	1.84	1.85	1.84	1.85	1.84	1.91	1.86	24
10	1.99	2.36	2.41	2.45	3.24	2.24	1.92	1.87	1.87	1.86	1.86	1.89	1.92	1.88	1.87	1.85	S	1.88	1.84	1.84	1.89	1.86	1.86	1.89	1.84	3.24	2.02	24
11	1.89	1.96	1.96	1.99	1.93	2.01	1.91	1.88	1.86	1.88	1.86	1.87	1.86	1.87	1.86	S	1.87	1.86	1.84	1.86	1.86	1.86	1.87	1.89	1.84	2.01	1.89	24
12	1.91	1.91	1.88	1.86	1.88	1.86	1.87	1.89	1.86	1.88	P	1.86	1.85	1.87	S	1.86	1.92	1.88	1.92	1.86	1.89	1.88	2.35	1.86	1.85	2.35	1.90	23
13	1.91	3.60	1.95	1.91	1.96	3.08	2.32	2.70	2.05	P	1.88	1.86	1.84	S	1.92	2.73	3.09	3.40	3.39	3.44	2.69	1.85	1.88	2.42	1.84	3.60	2.45	23
14	5.94	1.92	2.46	3.17	2.25	5.74	4.46	3.84	1.89	1.86	1.86	1.85	S	1.85	1.91	1.85	1.85	2.01	2.80	6.61	2.46	3.73	5.65	3.07	1.85	6.61	3.09	24
15	4.55	4.47	6.88	3.48	3.64	2.05	P	1.88	1.90	2.01	1.91	S	1.86	1.86	1.87	1.84	1.85	1.86	1.86	2.08	1.99	1.94	1.88	1.87	1.84	6.88	2.52	23
16	1.87	1.89	1.88	1.88	1.89	1.88	1.87	1.86	1.84	1.84	S	1.83	1.82	1.81	1.85	1.85	1.82	1.84	1.85	1.84	1.99	1.84	2.00	2.17	1.81	2.17	1.88	24
17	2.11	1.86	2.01	2.80	2.57	2.02	1.90	1.87	1.89	S	1.87	1.85	1.86	1.88	1.87	1.87	1.87	1.87	1.87	1.88	1.95	1.87	1.88	1.86	1.85	2.80	1.97	24
18	1.87	1.87	1.88	1.88	1.88	2.08	1.88	1.88	S	1.92	1.85	1.88	1.86	1.86	1.86	1.88	1.85	1.85	1.87	1.86	2.10	3.18	1.96	1.89	1.85	3.18	1.95	24
19	1.87	1.99	2.02	2.19	2.15	2.10	1.94	S	1.85	1.85	1.85	1.85	1.85	1.87	1.87	1.85	1.85	1.85	1.85	1.85	2.36	2.54	2.01	1.88	1.85	2.54	1.97	24
20	1.96	1.91	2.09	2.05	2.09	2.18	S	1.88	1.86	1.86	1.84	1.84	1.84	1.83	1.82	1.81	1.83	1.82	1.83	1.90	1.88	1.87	1.85	1.84	1.81	2.18	1.90	24
21	1.84	1.84	1.84	1.85	1.85	S	1.85	1.86	1.87	1.86	1.85	P	1.84	1.84	1.84	1.85	1.85	1.85	1.86	1.86	1.86	1.88	1.88	1.85	1.84	1.88	1.85	23
22	1.85	1.86	2.08	1.91	S	1.89	1.88	1.88	1.87	1.87	1.87	1.87	1.87	1.86	1.87	1.86	1.86	1.86	1.86	1.89	3.63	3.81	2.28	2.26	1.85	3.81	2.08	24
23	2.03	2.21	2.49	S	3.39	3.32	2.71	2.02	1.91	1.88	1.86	1.86	1.89	1.87	1.87	1.87	1.88	1.90	1.87	1.88	1.93	2.45	1.92	1.98	1.86	3.39	2.13	24
24	2.45	1.91	S	2.03	2.34	2.32	2.26	1.89	1.88	1.90	1.87	1.88	1.87	1.87	1.88	1.90	1.95	1.94	1.88	1.92	2.74	3.22	5.09	3.85	1.87	5.09	2.30	24
25	2.71	S	2.72	2.86	1.95	2.24	2.51	1.90	1.94	1.90	1.86	3.34	1.86	1.85	1.85	1.85	1.94	1.98	1.99	1.85	2.73	2.71	3.20	2.28	1.85	3.34	2.26	24
26	S	2.36	2.13	2.02	2.63	2.24	1.90	1.89	2.26	3.60	2.15	2.16	2.06	2.36	2.15	R	3.80	1.97	2.05	1.87	2.20	4.10	3.36	S	1.87	4.10	2.44	23
27	13.82	3.86	1.92	3.21	2.03	1.83	1.91	2.17	4.20	2.43	2.52	1.91	2.08	2.11	1.99	2.13	1.82	2.93	2.25	1.83	1.86	1.85	S	1.81	1.81	13.82	2.80	24
28	1.84	1.83	1.83	1.82	1.84	1.82	1.82	1.85	1.83	1.85	1.83	1.85	1.85	1.83	1.85	1.84	1.85	1.96	1.85	1.84	1.89	S	1.95	1.87	1.82	1.96	1.85	24
29	1.86	1.88	1.85	1.87	1.87	1.93	1.96	1.93	1.90	1.89	1.87	1.85	1.87	1.85	1.87	1.86	1.86	1.89	2.18	1.89	S	1.85	1.90	1.90	1.85	2.18	1.89	24
30	1.88	1.99	1.99	2.48	2.36	2.23	P	P	R	1.89	1.89	1.86	1.85	1.86	1.84	1.84	1.83	1.83	1.82	S	1.85	1.96	1.85	1.84	1.82	2.48	1.95	21
HOURLY MAX	13.82	4.47	6.88	3.48	3.64	5.74	4.46	3.84	4.20	3.60	2.52	3.34	2.08	2.36	2.15	2.73	3.80	3.40	3.39	6.61	3.63	4.10	5.65	3.85				
HOURLY AVG	2.65	2.20	2.25	2.21	2.21	2.26	2.10	2.03	2.01	1.99	1.92	1.95	1.90	1.90	1.90	1.93	1.99	1.99	2.00	2.13	2.12	2.28	2.30	2.08				

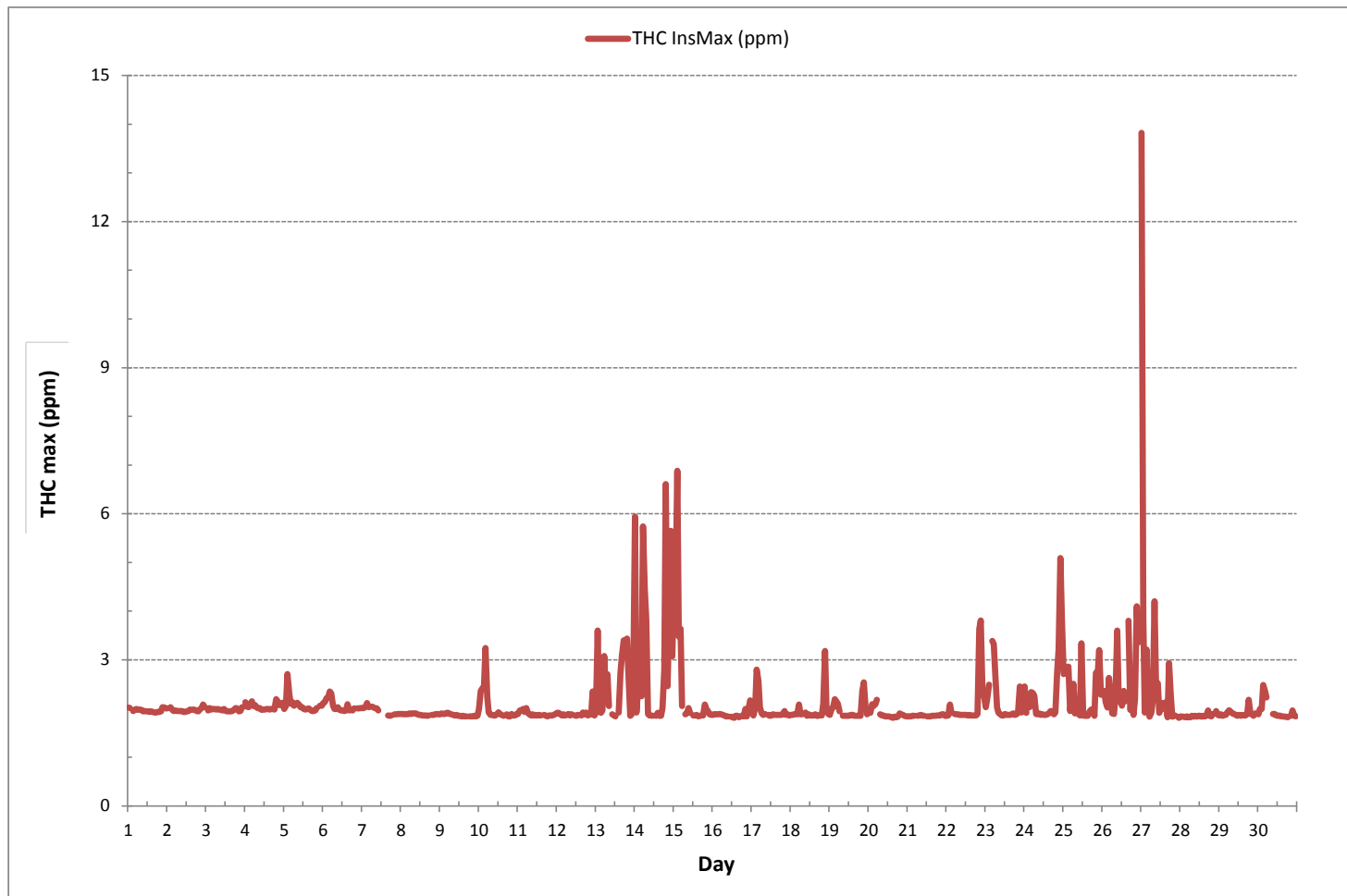
STATUS FLAG CODES

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:	674
MAXIMUM INSTANTANEOUS VALUE:	13.82 ppm @ HOUR 0 ON DAY 27
IZS CALIBRATION TIME:	32 hrs
MONTHLY CALIBRATION TIME:	5 hrs
STANDARD DEVIATION:	0.71
OPERATIONAL TIME:	711 hrs

TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)



Wind: PRAMP_986
Poll.: PRAMP_986-THC55[ppm]
Monthly: 17/06
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

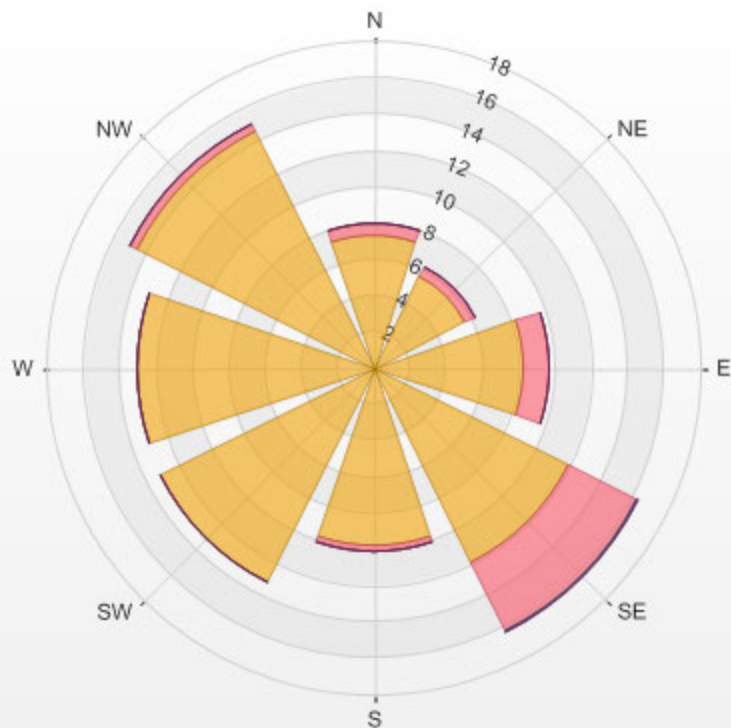
Calm: 8.46%

Calm Avg: 1.97 [ppm]

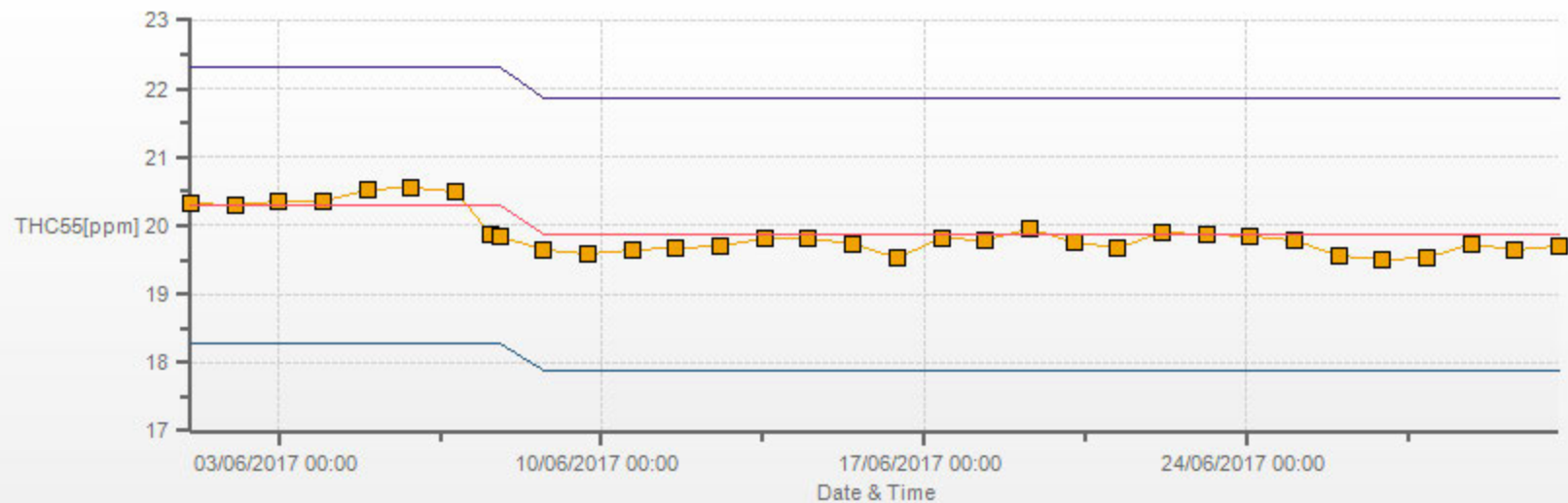
Direction	0-2	2-3	3-5	5-10	>10.0	Total
N	7.3	0.7	0.0	0.0	0.0	8.0
NE	5.6	0.6	0.0	0.0	0.0	6.2
E	8.3	1.3	0.0	0.0	0.0	9.7
SE	12.0	4.2	0.2	0.0	0.0	16.3
S	9.8	0.3	0.0	0.0	0.0	10.1
SW	13.2	0.0	0.0	0.0	0.0	13.2
W	13.1	0.0	0.0	0.0	0.0	13.1
NW	14.5	0.5	0.0	0.0	0.0	15.0
Summary	83.8	7.6	0.2	0.0	0.0	91.6

% Icon Classes (ppm) 84 0-2 8 2-3 0 3-5 0 5-10 0 >10.0

PRAMP_986 Poll.: PRAMP_986-THC55[ppm] 2017/06/01 00:00 - 2017/06/30 23:00 Calm: 8.46% Calm Poll Avg: 1.97[ppm]



THC55[ppm] Calibration: PRAMP_986 Monthly: 17/06 Type: Span



Span Meas Span Ref Span Low Span High

METHANE

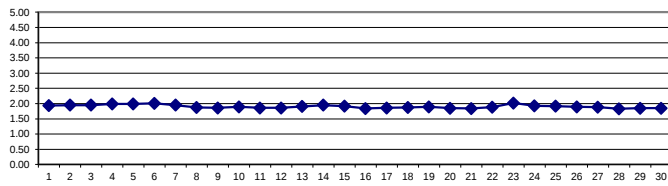
METHANE Hourly Averages (CH₄ ppm)

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	2.00	1.99	S	1.95	1.96	1.97	1.96	1.97	1.96	1.94	1.93	1.92	1.93	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.93	1.94	1.96	1.96	1.92	1.92	2.00	1.94	24
2	1.96	S	1.97	1.96	1.95	1.95	1.95	1.95	1.95	1.94	1.93	1.93	1.94	1.95	1.95	1.95	1.96	1.95	1.95	1.95	1.96	1.98	1.99	1.98	1.93	1.99	1.95	24	
3	S	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.96	1.95	1.95	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.96	1.95	1.94	1.95	1.96	S	1.94	1.97	1.95	24	
4	2.03	2.00	1.99	2.03	2.04	2.04	2.05	1.98	1.98	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.98	2.00	1.98	S	1.98	1.95	2.05	1.99	24	
5	1.97	2.00	2.12	2.09	2.05	2.05	2.02	2.02	2.00	1.98	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.95	1.96	1.97	S	1.99	2.00	1.95	2.12	1.99	24	
6	2.04	2.07	2.15	2.17	2.15	2.13	2.01	1.98	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.96	1.96	1.97	S	1.98	1.99	1.99	1.96	2.17	2.01	24	
7	2.01	2.00	2.02	2.04	2.01	2.02	2.02	2.01	1.99	1.98	1.96	C	C	C	C	1.85	1.85	1.85	1.86	S	1.87	1.88	1.88	1.88	1.85	2.04	1.95	24	
8	1.87	1.88	1.88	1.88	1.88	1.89	1.89	1.90	1.90	1.89	1.87	1.87	1.86	1.86	1.85	1.85	1.84	1.85	S	1.86	1.87	1.88	1.88	1.87	1.84	1.90	1.87	24	
9	1.88	1.88	1.88	1.88	1.90	1.90	1.88	1.87	1.87	1.86	1.86	1.85	1.85	1.84	1.84	1.84	1.84	S	1.83	1.83	1.83	1.84	1.84	1.84	1.83	1.90	1.86	24	
10	1.87	1.97	1.98	2.00	2.17	2.02	1.89	1.86	1.85	1.85	1.85	1.85	1.85	1.84	1.84	1.84	S	1.85	1.84	1.84	1.84	1.85	1.85	1.86	1.87	1.84	2.17	1.89	24
11	1.88	1.88	1.88	1.88	1.87	1.92	1.87	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	S	1.85	1.84	1.84	1.85	1.85	1.85	1.86	1.88	1.84	1.92	1.86	24	
12	1.90	1.89	1.86	1.86	1.86	1.86	1.87	1.87	1.86	1.86	1.85	1.85	1.84	1.84	S	1.85	1.85	1.85	1.84	1.83	1.83	1.84	1.88	1.84	1.83	1.90	1.86	24	
13	1.86	1.92	1.88	1.86	1.89	2.02	1.90	1.91	1.87	1.86	1.85	1.84	1.84	S	1.84	1.88	2.00	2.03	2.21	1.99	1.88	1.84	1.85	1.88	1.84	2.21	1.91	24	
14	2.21	1.88	1.90	2.24	1.91	1.97	2.06	2.05	1.85	1.85	1.85	1.84	S	1.84	1.85	1.84	1.84	1.85	1.93	2.19	1.90	2.00	2.13	1.98	1.84	2.24	1.95	24	
15	2.13	2.19	2.30	2.19	1.99	1.86	1.87	1.87	1.87	1.87	1.86	S	1.84	1.85	1.84	1.84	1.84	1.84	1.83	1.86	1.86	1.87	1.87	1.87	1.83	2.30	1.92	24	
16	1.87	1.87	1.87	1.87	1.87	1.88	1.86	1.86	1.84	1.83	S	1.81	1.81	1.81	1.81	1.81	1.81	1.82	1.82	1.82	1.84	1.83	1.86	1.90	1.81	1.90	1.84	24	
17	1.87	1.83	1.85	1.96	1.94	1.88	1.85	1.85	1.84	S	1.84	1.84	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.86	1.87	1.85	1.85	1.85	1.83	1.96	1.86	24	
18	1.86	1.85	1.86	1.88	1.88	1.89	1.87	1.88	S	1.85	1.84	1.85	1.85	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.86	2.12	1.85	1.86	1.84	2.12	1.87	24
19	1.86	1.89	1.96	2.04	2.03	2.00	1.89	S	1.85	1.84	1.84	1.85	1.84	1.85	1.85	1.84	1.84	1.84	1.84	1.85	1.95	1.92	1.88	1.86	1.84	2.04	1.89	24	
20	1.87	1.88	1.93	1.93	1.98	1.95	S	1.87	1.86	1.85	1.83	1.83	1.82	1.81	1.81	1.81	1.81	1.81	1.81	1.83	1.83	1.83	1.83	1.82	1.81	1.98	1.85	24	
21	1.83	1.83	1.84	1.83	1.84	S	1.84	1.85	1.85	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.85	1.85	1.85	1.83	1.85	1.84	24	
22	1.85	1.85	1.88	1.87	S	1.87	1.87	1.87	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.85	1.85	1.85	1.85	2.05	2.13	1.87	1.90	1.85	2.13	1.88	24
23	1.92	2.04	2.29	S	3.11	2.93	2.35	1.93	1.89	1.87	1.86	1.85	1.85	1.86	1.86	1.86	1.86	1.86	1.85	1.86	1.86	2.00	1.89	1.88	1.85	3.11	2.02	24	
24	2.01	1.87	S	1.90	1.97	2.02	1.96	1.88	1.87	1.87	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.87	1.95	1.94	2.30	2.28	1.86	2.30	1.93	24	
25	1.98	S	2.05	2.01	1.94	2.00	1.95	1.89	1.88	1.87	1.86	1.94	1.85	1.85	1.84	1.84	1.84	1.85	1.86	1.85	2.00	1.98	2.00	1.93	1.84	2.05	1.92	24	
26	S	1.91	1.89	1.88	2.02	1.91	1.89	1.88	1.90	1.95	1.89	1.88	1.87	1.89	1.85	R	1.91	1.82	1.82	1.80	1.85	1.93	2.02	S	1.80	2.02	1.89	23	
27	2.44	2.05	1.83	2.03	1.86	1.81	1.81	1.88	1.96	1.89	1.87	1.82	1.83	1.83	1.82	1.81	1.80	1.84	1.83	1.79	1.81	1.81	S	1.81	1.79	2.44	1.88	24	
28	1.81	1.81	1.82	1.81	1.82	1.80	1.82	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.84	1.83	1.83	1.85	S	1.86	1.85	1.80	1.86	1.83	24	
29	1.85	1.85	1.85	1.86	1.87	1.88	1.88	1.88	1.88	1.87	1.86	1.84	1.85	1.85	1.85	1.85	1.85	1.84	1.85	1.83	S	1.83	1.84	1.85	1.83	1.88	1.85	24	
30	1.84	1.88	1.88	1.98	1.95	1.93	P	P	R	1.85	1.84	1.83	1.83	1.82	1.82	1.82	1.82	1.82	1.82	S	1.84	1.84	1.83	1.83	1.82	1.98	1.85	21	
HOURLY MAX	2.44	2.19	2.30	2.24	3.11	2.93	2.35	2.05	2.00	1.98	1.97	1.97	1.97	1.96	1.96	1.97	2.00	2.03	2.21	2.19	2.05	2.13	2.30	2.28					
HOURLY AVG	1.95	1.93	1.95	1.96	1.99	1.98	1.93	1.91	1.89	1.89	1.88	1.87	1.87	1.86	1.87	1.86	1.87	1.87	1.88	1.88	1.89	1.91	1.92	1.90					

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

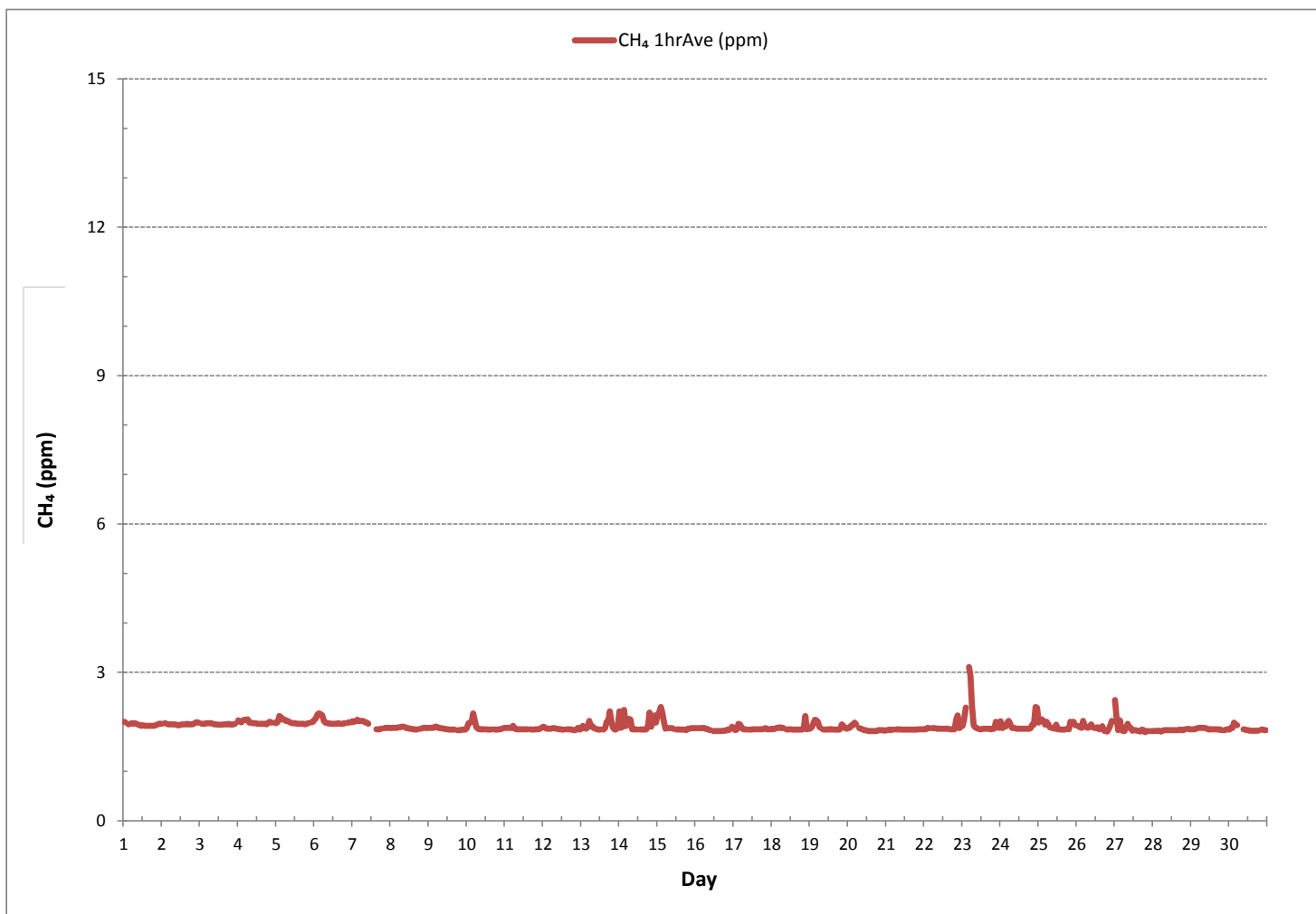
24 HR AVERAGES June 2017



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	680				
MINIMUM 1-HR AVERAGE:	1.79	ppm	@ HOUR	19	ON DAY 27
MAXIMUM 1-HR AVERAGE:	3.11	ppm	@ HOUR	4	ON DAY 23
MAXIMUM 24-HR AVERAGE:	2.02	ppm			ON DAY 23
IZS CALIBRATION TIME:	32	hrs	OPERATIONAL TIME:	716	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:	99.4	%
STANDARD DEVIATION:	0.10		MONTHLY AVERAGE:	1.90	ppm

METHANE Hourly Averages (CH₄ ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - June 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.	
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	2.03	2.01	S	1.96	1.98	2.00	1.97	1.98	1.98	1.95	1.96	1.95	1.95	1.94	1.95	1.93	1.94	1.93	1.94	1.94	1.95	2.04	2.03	2.01	1.93	2.04	1.97	24	
2	2.00	S	2.03	1.98	1.96	1.97	1.96	1.96	1.96	1.96	1.94	1.94	1.95	1.96	1.99	1.98	1.99	1.97	1.97	1.96	1.99	2.02	2.09	2.04	1.94	2.09	1.98	24	
3	S	1.98	2.02	1.98	1.99	1.99	1.98	2.00	1.98	1.97	1.97	2.00	1.97	1.95	1.95	1.96	1.96	1.97	2.01	2.00	1.95	1.97	2.04	S	1.95	2.04	1.98	24	
4	2.14	2.05	2.04	2.09	2.16	2.06	2.07	2.03	2.01	2.02	1.98	1.99	1.98	1.99	2.00	1.98	2.00	2.00	1.98	2.20	2.17	2.07	S	2.14	1.98	2.20	2.05	24	
5	1.99	2.05	2.73	2.32	2.11	2.14	2.06	2.09	2.13	2.09	2.03	2.03	2.00	1.98	2.00	2.00	1.99	1.97	1.97	1.97	2.01	S	2.07	2.07	1.97	2.73	2.08	24	
6	2.12	2.14	2.22	2.23	2.37	2.32	2.07	2.00	2.01	2.04	1.98	1.97	1.97	1.97	1.97	2.10	1.97	1.98	1.98	2.01	S	2.01	2.01	2.02	1.97	2.37	2.06	24	
7	2.02	2.02	2.04	2.12	2.03	P	2.04	2.02	2.01	2.01	1.97	C	C	C	C	C	1.87	1.86	1.87	S	1.89	1.89	1.90	1.90	1.86	2.12	1.97	23	
8	1.90	1.90	1.89	1.90	1.90	1.91	1.90	1.91	1.91	1.91	1.89	1.88	1.88	1.87	1.86	1.87	1.86	1.87	S	1.87	1.88	1.89	1.90	1.89	1.86	1.91	1.89	24	
9	1.90	1.90	1.90	1.90	1.92	1.92	1.90	1.90	1.88	1.87	1.88	1.86	1.86	1.85	1.86	1.84	1.85	S	1.84	1.85	1.85	1.85	1.85	1.86	1.84	1.92	1.87	24	
10	2.00	2.37	2.42	2.46	3.26	2.25	1.93	1.88	1.87	1.87	1.86	1.90	1.93	1.90	1.89	1.85	S	1.90	1.85	1.85	1.90	1.87	1.87	1.90	1.85	3.26	2.03	24	
11	1.91	1.97	1.97	2.01	1.95	2.01	1.92	1.89	1.86	1.89	1.87	1.87	1.86	1.88	1.87	S	1.87	1.87	1.85	1.87	1.87	1.87	1.87	1.88	1.90	1.85	2.01	1.90	24
12	1.93	1.92	1.89	1.87	1.89	1.87	1.88	1.89	1.87	1.90	P	1.86	1.86	1.87	S	1.87	1.94	1.89	1.93	1.87	1.90	1.89	2.36	1.87	1.86	2.36	1.91	23	
13	1.91	3.62	1.96	1.92	1.97	3.10	2.33	2.71	2.05	P	1.86	1.86	1.85	S	1.93	2.75	3.11	3.42	3.41	3.47	2.71	1.86	1.89	2.44	1.85	3.62	2.46	23	
14	5.95	1.93	2.48	3.19	2.27	5.75	4.48	3.86	1.90	1.87	1.87	1.85	S	1.85	1.92	1.85	1.86	2.02	2.83	6.62	2.47	3.76	5.66	3.08	1.85	6.62	3.10	24	
15	4.57	4.48	6.90	3.50	3.67	2.06	P	1.89	1.91	2.01	1.92	S	1.86	1.87	1.88	1.85	1.86	1.87	1.87	2.10	1.99	1.96	1.89	1.89	1.85	6.90	2.54	23	
16	1.88	1.90	1.89	1.89	1.90	1.89	1.89	1.86	1.85	1.84	S	1.84	1.83	1.82	1.86	1.85	1.83	1.85	1.85	1.85	2.01	1.84	2.01	2.18	1.82	2.18	1.89	24	
17	2.12	1.86	2.01	2.82	2.58	2.03	1.91	1.88	1.90	S	1.88	1.85	1.86	1.89	1.89	1.87	1.89	1.88	1.89	1.89	1.96	1.89	1.89	1.87	1.85	2.82	1.98	24	
18	1.88	1.89	1.89	1.90	1.90	2.09	1.89	1.89	S	1.93	1.86	1.90	1.87	1.87	1.86	1.89	1.86	1.85	1.88	1.87	2.11	3.20	1.98	1.90	1.85	3.20	1.96	24	
19	1.89	1.99	2.03	2.20	2.16	2.11	1.95	S	1.86	1.86	1.86	1.86	1.86	1.87	1.88	1.86	1.86	1.85	1.86	1.86	2.37	2.55	2.01	1.89	1.85	2.55	1.98	24	
20	1.97	1.92	2.10	2.06	2.10	2.19	S	1.89	1.87	1.87	1.85	1.85	1.84	1.84	1.83	1.82	1.83	1.82	1.84	1.91	1.88	1.88	1.86	1.85	1.82	2.19	1.91	24	
21	1.85	1.85	1.85	1.85	1.86	S	1.86	1.87	1.88	1.87	1.86	P	1.85	1.85	1.85	1.86	1.85	1.86	1.87	1.86	1.87	1.89	1.89	1.86	1.85	1.89	1.86	23	
22	1.86	1.87	2.09	1.92	S	1.90	1.90	1.89	1.87	1.88	1.88	1.87	1.89	1.87	1.87	1.87	1.87	1.87	1.87	1.90	3.65	3.82	2.29	2.28	1.86	3.82	2.09	24	
23	2.04	2.22	2.50	S	3.41	3.34	2.72	2.02	1.92	1.90	1.87	1.87	1.90	1.88	1.87	1.88	1.89	1.91	1.88	1.89	1.94	2.47	1.93	1.98	1.87	3.41	2.14	24	
24	2.47	1.93	S	2.03	2.35	2.33	2.28	1.90	1.90	1.91	1.89	1.89	1.89	1.88	1.89	1.90	1.96	1.95	1.90	1.93	2.76	3.24	5.10	3.87	1.88	5.10	2.31	24	
25	2.72	S	2.74	2.87	1.96	2.26	2.52	1.92	1.95	1.91	1.87	3.36	1.87	1.85	1.85	1.85	1.95	1.98	2.00	1.86	2.75	2.73	3.21	2.30	1.85	3.36	2.27	24	
26	S	2.37	2.14	2.03	2.64	2.25	1.91	1.90	2.28	3.62	2.16	2.18	2.07	2.37	2.16	R	3.82	1.99	2.05	1.88	2.22	4.12	3.38	S	1.88	4.12	2.45	23	
27	13.81	3.88	1.93	3.23	2.03	1.84	1.92	2.19	4.21	2.45	2.53	1.92	2.09	2.11	2.00	2.14	1.83	2.95	2.26	1.83	1.87	1.86	S	1.82	1.82	13.81	2.81	24	
28	1.84	1.84	1.84	1.83	1.84	1.83	1.83	1.86	1.83	1.86	1.84	1.86	1.86	1.84	1.86	1.84	1.86	1.97	1.85	1.85	1.91	S	1.87	1.87	1.83	1.97	1.86	24	
29	1.86	1.90	1.86	1.89	1.89	1.94	1.97	1.94	1.90	1.90	1.89	1.85	1.87	1.86	1.88	1.87	1.87	1.90	2.19	1.91	S	1.86	1.91	1.91	1.85	2.19	1.91	24	
30	1.89	2.01	1.99	2.49	2.37	2.25	P	P	R	1.90	1.90	1.86	1.86	1.87	1.85	1.85	1.84	1.84	1.83	S	1.86	1.98	1.86	1.84	1.83	2.49	1.96	21	
HOURLY MAX	13.81	4.48	6.90	3.50	3.67	5.75	4.48	3.86	4.21	3.62	2.53	3.36	2.09	2.37	2.16	2.75	3.82	3.42	3.41	6.62	3.65	4.12	5.66	3.87					
HOURLY AVG	2.66	2.21	2.26	2.22	2.22	2.27	2.11	2.04	2.02	2.00	1.93	1.96	1.90	1.91	1.91	1.93	2.00	2.00	2.01	2.14	2.13	2.30	2.31	2.09					

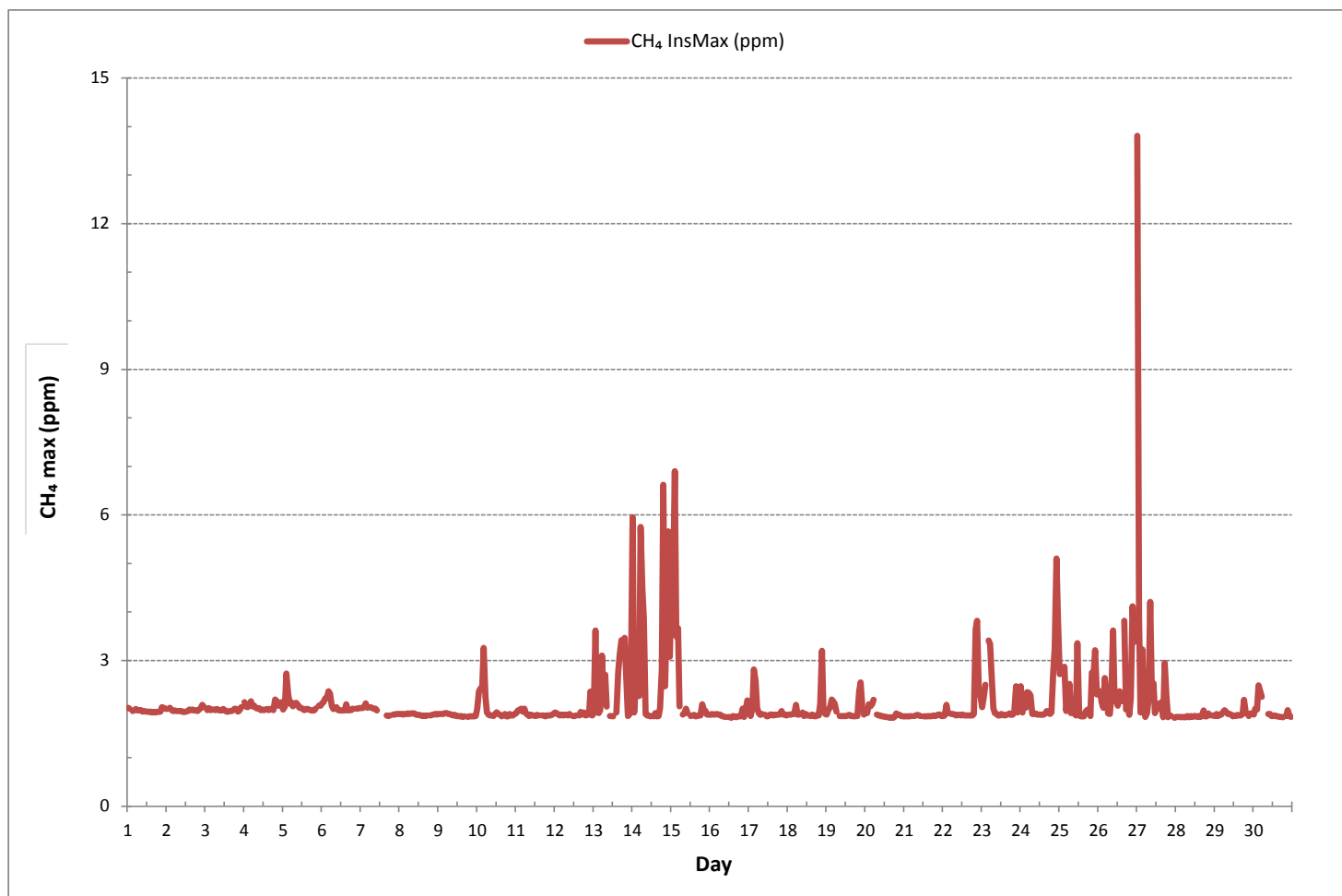
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	674				
MAXIMUM INSTANTANEOUS VALUE:	13.81	ppm	@ HOUR	0	ON DAY 27
IZS CALIBRATION TIME:	32	hrs	OPERATIONAL TIME:	711	hrs
MONTHLY CALIBRATION TIME:	5	hrs			
STANDARD DEVIATION:	0.71				

METHANE MAX Instantaneous Maximum (CH₄ ppm)



Wind: PRAMP_986
Poll.: PRAMP_986-CH4[ppm]
Monthly: 17/06
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

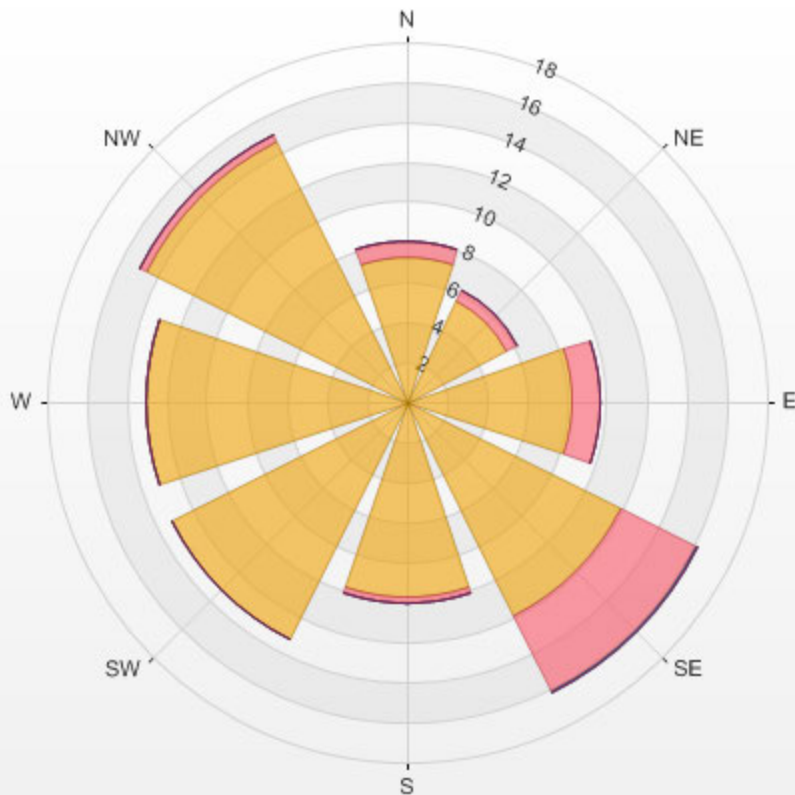
Calm: 8.46%

Calm Avg: 1.97 [ppm]

Direction	0-2	2-3	3-5	5-10	>10.0	Total
N	7.3	0.7	0.0	0.0	0.0	8.0
NE	5.6	0.6	0.0	0.0	0.0	6.2
E	8.3	1.3	0.0	0.0	0.0	9.7
SE	12.0	4.2	0.2	0.0	0.0	16.3
S	9.8	0.3	0.0	0.0	0.0	10.1
SW	13.2	0.0	0.0	0.0	0.0	13.2
W	13.1	0.0	0.0	0.0	0.0	13.1
NW	14.5	0.5	0.0	0.0	0.0	15.0
Summary	83.8	7.6	0.2	0.0	0.0	91.6

% Icon	Classes (ppm)	84	0-2	8	2-3	0	3-5	0	5-10	0	>10.0

PRAMP_986 Poll.: PRAMP_986-CH4[ppm] 2017/06/01 00:00 - 2017/06/30 23:00 Calm: 8.46% Calm Poll Avg: 1.97[ppm]



CH4[ppm] Calibration: PRAMP_986 Monthly: 17/06 Type: Span



Span Meas Span Ref Span Low Span High

NON-METHANE HYDROCARBON

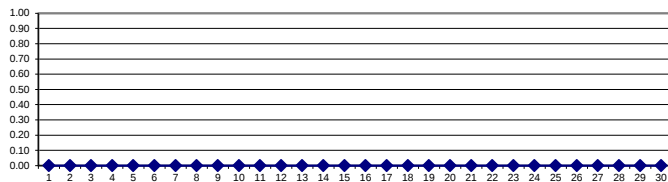
NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)

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	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
2	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
3	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
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	24
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	24
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	24
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
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	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
14	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
15	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
16	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
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
18	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
19	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
20	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
21	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
22	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
23	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
24	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
25	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
26	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	R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	23
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	24
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	24
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	24
30	0.00	0.00	0.00	0.00	0.00	P	P	R	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	21
HOURLY MAX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HOURLY AVG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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

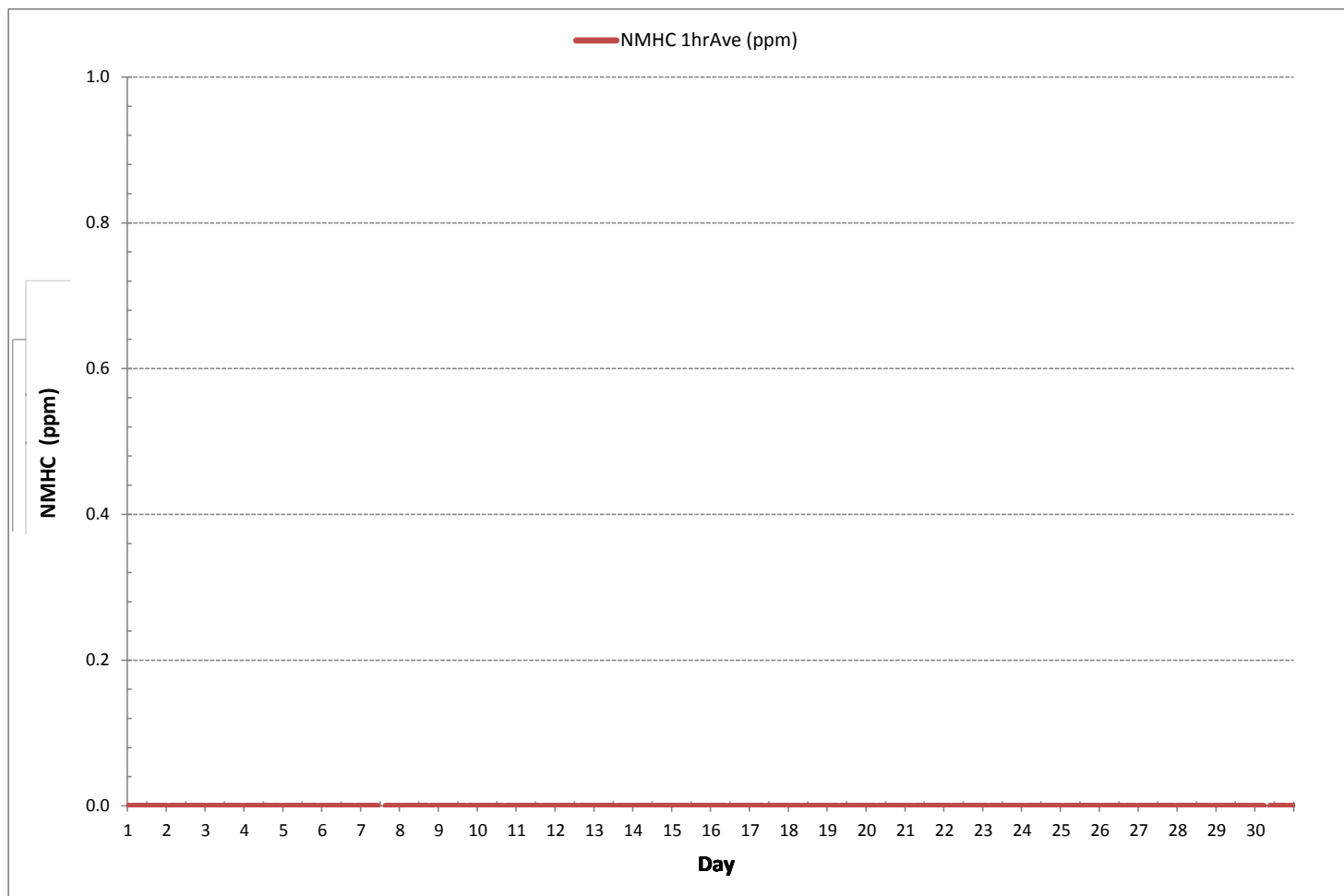
24 HR AVERAGES June 2017



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	0				
MINIMUM 1-HR AVERAGE:	0.00	ppm @ HOUR	0	ON DAY	1
MAXIMUM 1-HR AVERAGE:	0.00	ppm @ HOUR	0	ON DAY	1
MAXIMUM 24-HR AVERAGE:	0.00	ppm		ON DAY	1
IZS CALIBRATION TIME:	32	hrs	OPERATIONAL TIME:	716	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:	99.4	%
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 - June 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	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
2	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
3	S	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.01	0.00	24
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	24
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	24
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	24
7	0.00	0.00	0.00	0.00	0.00	P	0.00	0.00	0.00	0.00	0.00	C	C	C	C	C	0.00	0.00	0.00	S	0.02	0.01	0.00	0.00	0.00	0.02	0.00	23
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	P	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	0.02	0.00	23
13	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	P	0.03	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	0.06	0.00	23
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	S	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05	0.00	24
15	0.00	0.00	0.00	0.00	0.00	0.00	P	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	23
16	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
17	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	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
18	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
19	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	0.01	0.00	0.00	0.00	0.01	0.00	24
20	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
21	0.00	0.00	0.00	0.00	0.00	S	0.00	0.01	0.00	0.00	0.00	P	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	23
22	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
23	0.00	0.00	0.00	S	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	24
24	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	0.01	0.00	0.00	0.13	0.00	0.13	0.01	24
25	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	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	24
26	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	R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	23
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	24
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.10	0.00	0.00	0.10	0.00	0.00	24
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	24
30	0.00	0.00	0.00	0.00	0.00	0.00	P	P	R	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	21
HOURLY MAX	0.06	0.00	0.00	0.00	0.07	0.00	0.01	0.02	0.00	0.00	0.03	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.01	0.02	0.01	0.10	0.13				
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	0.01	0.00				

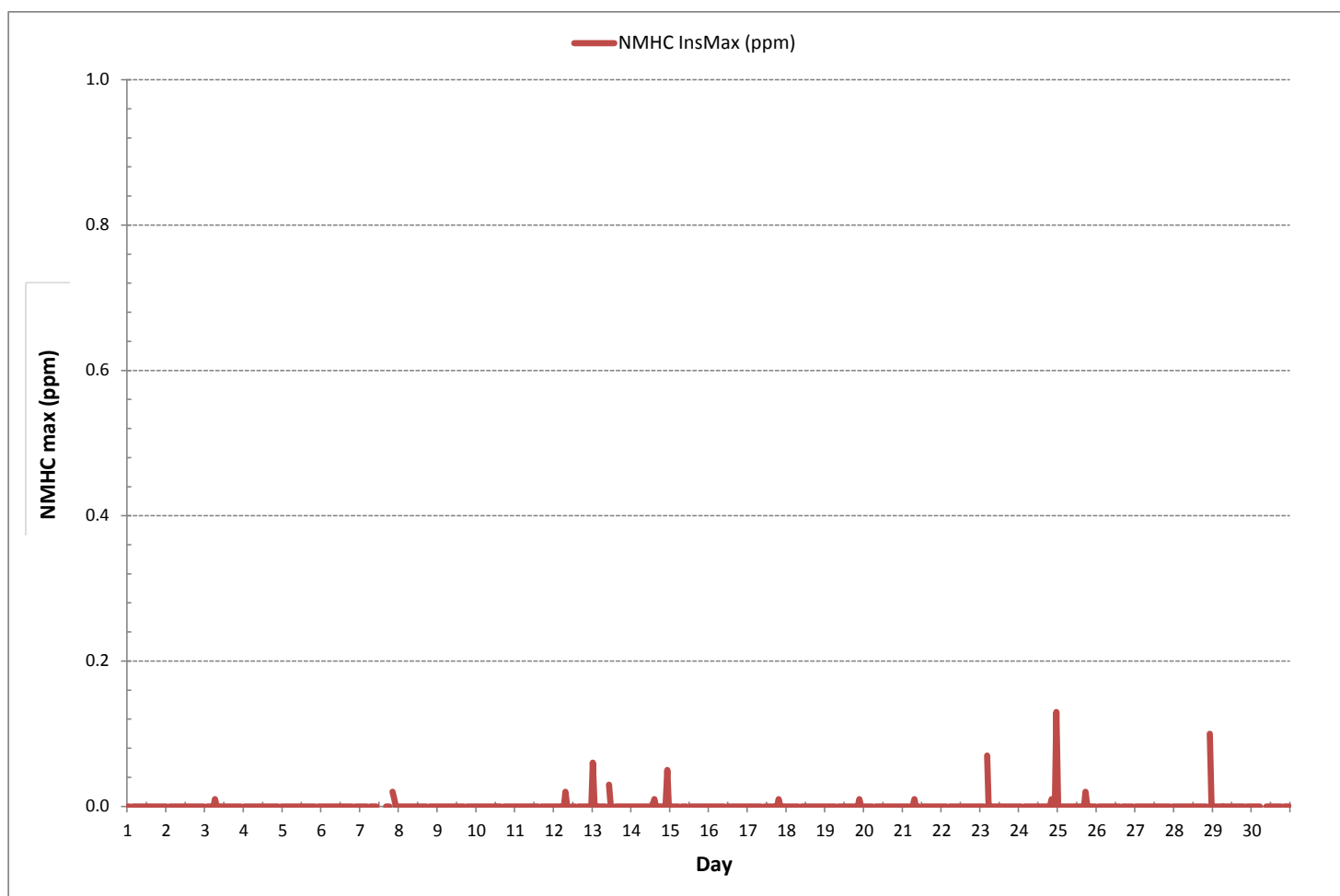
STATUS FLAG CODES

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:		16					
MAXIMUM INSTANTANEOUS VALUE:		0.13	ppm	@ HOUR	23	ON DAY 24	
IZS CALIBRATION TIME:		32	hrs	OPERATIONAL TIME:		711	hrs
MONTHLY CALIBRATION TIME:		5	hrs				
STANDARD DEVIATION:		0.01					

NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)



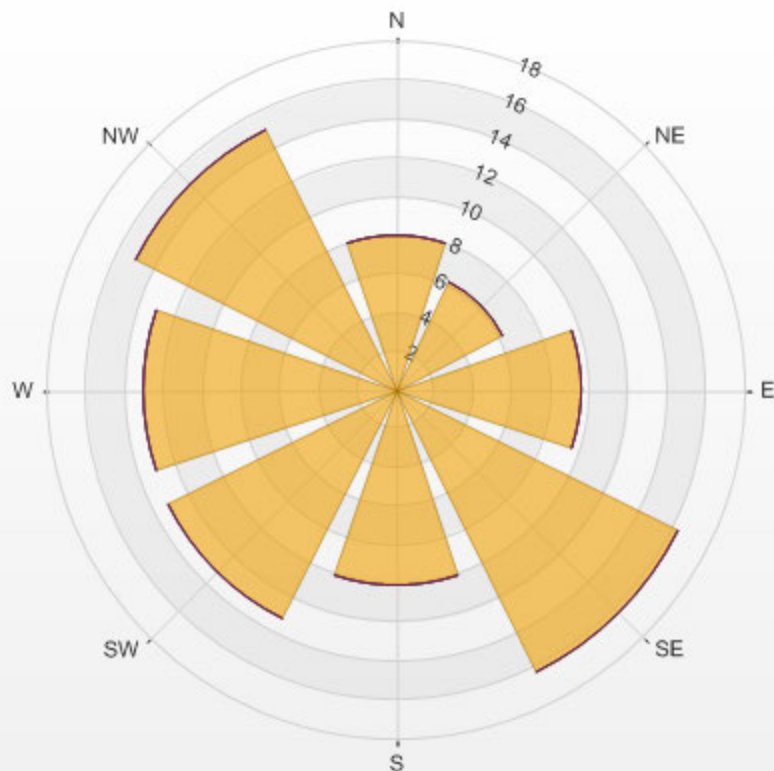
Wind: PRAMP_986
Poll.: PRAMP_986-NMHC[ppm]
Monthly: 17/06
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

Calm: 8.46%

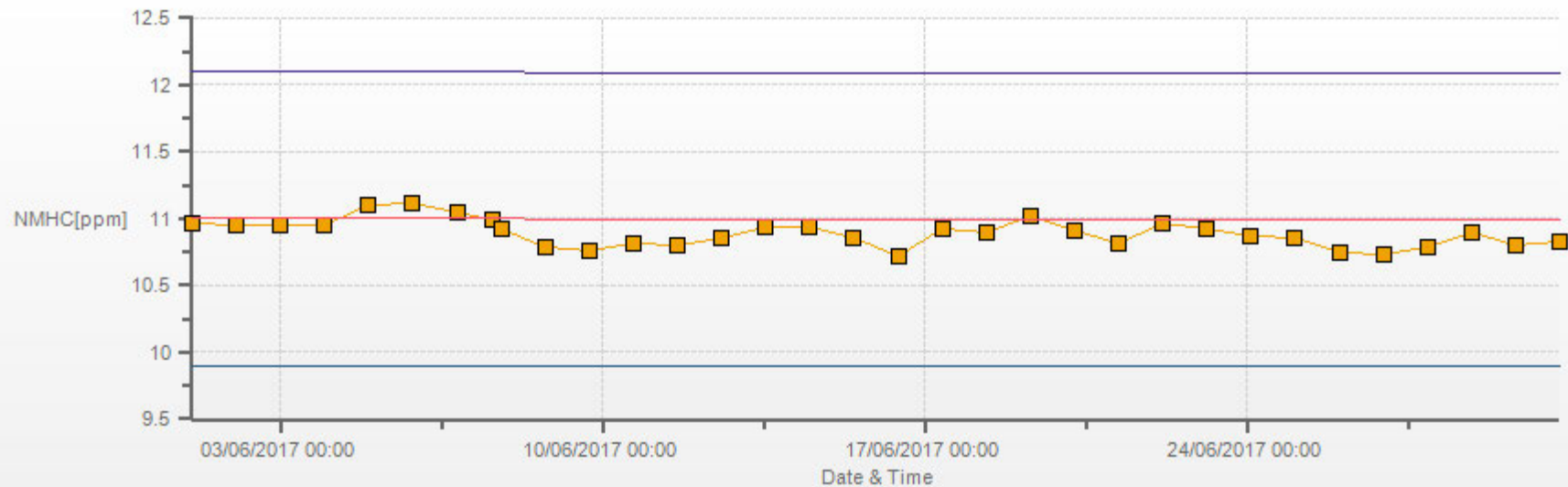
Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	8.0	0.0	0.0	0.0	0.0	8.0
NE	6.2	0.0	0.0	0.0	0.0	6.2
E	9.6	0.0	0.0	0.0	0.0	9.6
SE	16.3	0.0	0.0	0.0	0.0	16.3
S	10.1	0.0	0.0	0.0	0.0	10.1
SW	13.2	0.0	0.0	0.0	0.0	13.2
W	13.1	0.0	0.0	0.0	0.0	13.1
NW	15.0	0.0	0.0	0.0	0.0	15.0
Summary	91.5	0.0	0.0	0.0	0.0	91.5

PRAMP_986 Poll.: PRAMP_986-NMHC[ppm] 2017/06/01 00:00 - 2017/06/30 23:00 Calm: 8.46% Calm Poll Avg: 0.00[ppm]



NMHC[ppm] Calibration: PRAMP_986 Monthly: 17/06 Type: Span



Span Meas Span Ref Span Low Span High

WIND SPEED

WIND SPEED Hourly Averages (WS kph)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	3.3	3.7	2.5	3.5	4.4	2.6	4.9	3.4	4.3	5.5	6.7	8.7	7.5	7.3	7.3	7.6	6.8	8.0	7.2	5.6	5.0	2.4	1.3	2.0	1.3	8.7	3.7	24
2	1.7	2.2	1.5	3.6	7.4	7.3	5.3	6.0	5.0	4.4	4.2	3.3	2.2	3.7	5.9	12.8	15.0	11.5	5.4	1.9	1.1	1.6	1.0	0.9	0.9	15.0	2.9	24
3	2.0	3.0	3.7	3.4	4.2	4.1	3.2	2.8	3.1	5.7	6.3	7.8	10.3	16.7	15.7	13.2	7.4	8.8	10.9	6.2	3.7	5.3	4.3	2.2	2.0	16.7	5.2	24
4	0.8	1.0	1.5	3.1	2.9	4.2	1.9	3.5	6.8	8.1	6.5	6.6	7.2	6.3	5.4	4.8	4.9	3.6	3.4	6.4	3.6	2.2	3.4	0.9	0.8	8.1	2.6	24
5	2.4	2.7	1.2	2.2	1.1	1.0	2.2	8.5	9.0	6.7	5.8	6.9	8.0	8.7	8.6	8.5	7.3	7.8	7.5	6.2	2.7	2.0	2.6	3.7	1.0	9.0	3.5	24
6	3.8	2.3	2.2	2.6	3.2	4.3	3.2	2.6	2.8	1.8	1.2	3.2	5.7	5.7	6.2	3.9	3.7	3.9	5.7	6.0	7.2	4.9	2.7	3.4	1.2	7.2	2.1	24
7	3.0	3.3	3.1	3.8	3.7	4.1	4.1	4.0	5.4	6.6	9.3	8.5	7.0	7.5	11.5	8.1	7.8	8.3	9.3	9.1	6.8	5.4	5.7	6.6	3.0	11.5	6.0	24
8	6.5	6.8	7.3	7.6	7.8	7.8	8.2	8.7	9.4	11.2	12.0	13.8	15.4	14.9	13.4	15.0	11.6	9.1	8.6	6.5	6.8	5.5	5.4	5.4	5.4	15.4	9.1	24
9	5.1	5.1	4.8	6.9	9.2	9.5	12.1	12.3	13.4	13.6	11.8	10.2	14.0	11.5	13.9	14.7	12.7	13.0	11.7	10.6	8.5	7.3	7.0	6.1	4.8	14.7	9.9	24
10	3.7	4.2	4.6	1.1	2.8	3.8	3.3	3.3	2.4	6.3	7.1	6.9	9.7	8.9	6.8	2.8	2.0	2.4	11.3	12.0	8.8	10.8	10.0	7.2	1.1	12.0	5.2	24
11	5.9	4.8	4.8	0.5	0.8	2.0	4.2	2.8	2.6	3.6	3.2	3.8	3.9	5.6	7.0	5.8	5.1	5.5	4.4	3.7	1.8	3.3	5.6	5.0	0.5	7.0	2.5	24
12	9.9	8.6	9.7	10.8	9.8	9.6	8.2	8.4	7.7	8.6	9.1	12.5	9.4	11.5	12.0	12.3	12.9	10.2	6.3	3.3	2.2	2.9	2.7	1.6	1.6	12.9	5.2	24
13	1.3	1.6	1.9	1.3	2.2	2.3	2.4	4.3	3.9	0.4	1.6	2.5	3.3	3.3	4.9	2.3	7.4	10.0	8.3	7.6	4.6	5.0	3.3	2.4	0.4	10.0	1.2	24
14	3.5	5.1	3.1	1.5	3.5	3.3	6.5	7.2	6.6	7.0	7.9	7.8	8.6	9.0	9.3	8.2	7.4	4.9	2.5	1.8	3.3	3.2	4.1	3.9	1.5	9.3	4.5	24
15	3.4	2.9	2.8	1.8	1.5	2.0	4.7	3.4	3.1	2.9	2.1	3.3	3.4	2.4	1.3	3.4	2.9	3.7	6.6	3.8	3.9	4.5	5.9	7.9	1.3	7.9	2.3	24
16	8.2	7.9	8.9	8.7	6.4	8.7	6.8	4.5	5.5	6.2	7.5	6.8	8.0	7.6	10.3	9.2	10.4	10.9	11.8	16.8	5.8	2.4	6.6	3.5	2.4	16.8	4.3	24
17	3.2	6.1	4.0	1.2	1.1	6.0	6.9	9.5	7.3	4.8	6.0	10.1	9.7	10.3	11.3	11.8	11.6	10.4	11.2	8.2	4.5	2.9	2.9	2.9	1.1	11.8	6.0	24
18	3.4	3.2	2.9	2.6	2.3	4.4	3.0	3.5	1.6	4.4	5.2	8.9	6.9	7.4	5.2	4.4	8.6	7.6	4.2	9.6	4.4	0.8	2.7	3.2	0.8	9.6	1.2	24
19	2.1	2.9	1.6	2.8	4.9	2.5	3.4	4.4	7.2	6.9	4.7	5.0	6.4	3.7	4.1	5.6	6.4	5.4	6.5	3.6	0.3	2.1	1.4	2.8	0.3	7.2	3.3	24
20	2.8	2.7	2.6	2.6	3.4	3.4	4.4	6.1	8.6	7.0	6.5	6.7	7.0	8.9	8.7	10.1	11.9	9.0	6.9	4.2	5.6	6.8	14.2	19.7	2.6	19.7	4.9	24
21	17.0	14.0	10.6	6.8	5.4	4.7	5.5	6.1	10.0	15.6	13.1	18.8	22.2	24.7	22.9	19.2	17.7	16.4	11.5	9.2	8.4	9.4	6.6	7.8	4.7	24.7	12.2	24
22	7.4	8.6	5.6	7.3	5.9	6.4	9.7	9.9	11.7	11.6	11.8	9.2	7.9	8.9	6.9	10.5	8.0	7.6	5.7	4.1	0.3	1.1	1.9	0.6	0.3	11.8	6.6	24
23	2.2	1.5	1.7	2.1	2.1	2.0	2.9	1.9	1.3	4.2	4.6	2.0	4.9	9.6	11.2	11.7	7.8	13.1	10.4	6.4	1.5	0.8	1.8	1.3	0.8	13.1	2.4	24
24	0.5	1.0	1.0	1.8	1.1	1.3	2.7	5.5	4.4	6.5	7.5	5.3	6.2	8.6	8.7	8.4	5.8	4.5	3.2	2.4	2.6	2.3	2.5	3.5	0.5	8.7	2.6	24
25	4.6	4.6	3.4	3.5	4.8	5.5	5.2	5.9	11.7	12.8	13.7	15.8	15.4	14.0	17.1	16.2	19.4	20.2	17.4	17.7	17.8	11.4	10.7	13.2	3.4	20.2	11.5	24
26	13.9	11.2	4.9	2.2	0.4	4.1	8.4	5.5	5.4	4.5	6.5	4.5	3.0	4.9	5.2	3.6	5.4	10.4	10.2	6.9	8.1	5.0	7.2	2.8	0.4	13.9	4.3	24
27	6.0	2.6	3.3	2.2	10.2	12.9	9.8	10.2	10.5	10.5	14.6	10.2	6.8	10.4	7.6	6.8	13.3	6.4	5.9	6.8	3.6	2.9	6.4	6.6	2.2	14.6	5.7	24
28	7.0	7.8	9.1	8.3	6.3	8.4	7.7	7.0	8.5	9.4	7.5	6.9	3.3	7.5	8.8	8.0	7.3	0.7	2.4	1.0	6.5	4.6	5.9	3.1	0.7	9.4	4.7	24
29	3.0	3.5	3.5	3.3	3.5	3.5	5.2	5.4	6.5	4.2	5.8	6.2	7.0	7.3	6.2	7.7	7.6	16.6	3.5	4.0	4.0	0.4	2.2	1.8	0.4	16.6	3.0	24
30	2.1	2.0	2.0	0.6	1.7	1.7	P	P	9.4	9.9	10.5	11.7	14.0	13.1	8.5	6.8	4.8	3.4	4.4	2.2	2.6	2.0	4.1	5.2	0.6	14.0	3.0	22
HOURLY MAX	17.0	14.0	10.6	10.8	10.2	12.9	12.1	12.3	13.4	15.6	14.6	18.8	22.2	24.7	22.9	19.2	19.4	20.2	17.4	17.7	17.8	11.4	14.2	19.7				
HOURLY AVG	1.2	1.2	1.2	1.4	1.0	0.9	1.0	1.4	1.9	2.3	2.4	2.5	2.9	3.3	3.4	3.2	2.8	2.5	1.6	1.1	0.3	0.9	1.2	1.1				

STATUS FLAG CODES

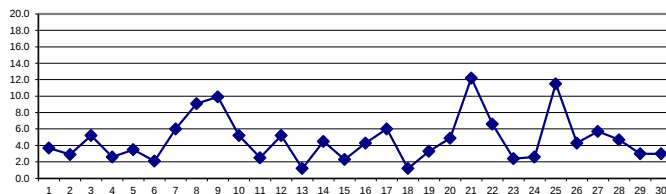
C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

LAST CALIBRATION: April 5, 2017
DECLINATION : MAGNETIC DECLINATION 15 DEGREE EAST

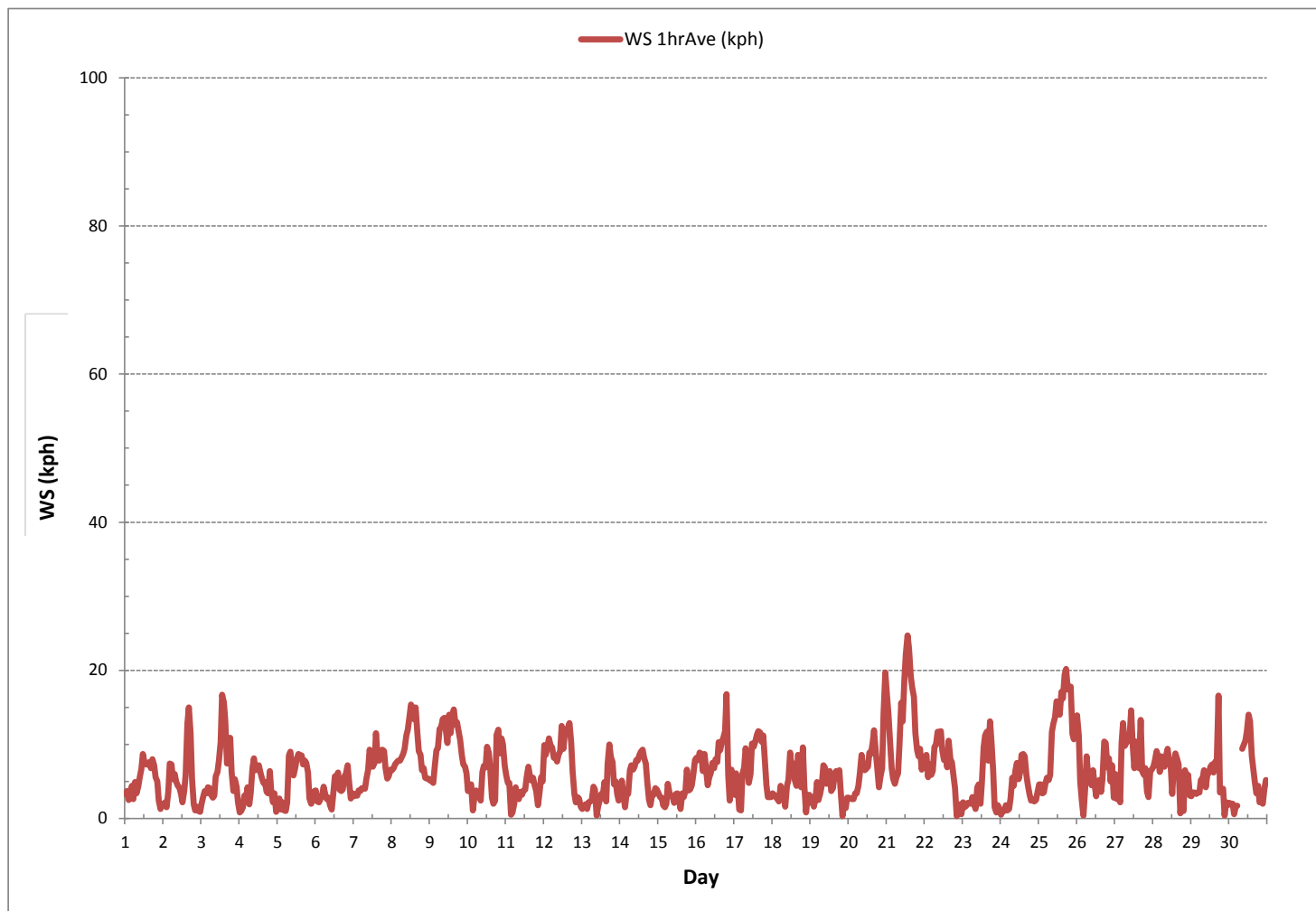
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	718				
MINIMUM 1-HR AVERAGE	0.3	kph	@ HOUR	20	ON DAY 19
MAXIMUM 1-HR AVERAGE:	24.7	kph	@ HOUR	13	ON DAY 21
MAXIMUM 24-HR AVERAGE:	12.2	kph			ON DAY 21
MONTHLY CALIBRATION TIME:	0	hrs	OPERATIONAL TIME:	718	hrs
STANDARD DEVIATION:	4.0		AMD OPERATION UPTIME:	99.7	%
			MONTHLY AVERAGE:	0.9	kph

24 HR AVERAGES June 2017



WIND SPEED Hourly Averages (WS kph)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - June 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	6.9	7.5	6.3	7.4	8.4	6.3	11.3	11.4	12.5	15.9	25.0	33.0	28.5	25.5	28.6	24.7	29.2	29.8	26.1	19.6	16.9	10.6	3.2	7.5	3.2	33.0	16.8	24
2	6.6	5.7	7.0	12.5	25.2	23.8	15.7	17.4	16.5	15.8	13.9	10.9	5.5	14.5	17.3	29.9	30.9	27.2	15.4	6.6	3.7	5.4	6.9	7.9	3.7	30.9	14.3	24
3	10.6	7.2	7.1	7.6	9.4	11.3	9.0	9.3	12.1	18.7	20.7	23.0	28.4	34.1	36.9	33.1	25.9	39.0	28.9	24.1	18.5	10.8	8.8	9.3	7.1	39.0	18.5	24
4	5.7	4.3	3.7	7.4	6.8	7.5	5.8	13.9	23.6	26.2	22.8	21.5	25.9	25.2	19.9	17.7	20.7	21.6	14.7	13.8	9.4	6.1	6.8	4.2	3.7	26.2	14.0	24
5	8.0	7.6	4.1	5.5	3.8	3.2	4.5	19.5	18.5	19.7	21.8	29.7	30.4	30.1	28.3	33.0	25.9	26.0	24.0	23.1	14.1	5.3	5.2	5.8	3.2	33.0	16.5	24
6	6.6	5.7	6.2	5.7	8.9	7.8	6.9	8.2	9.8	7.4	12.3	14.3	25.9	27.0	21.0	20.3	31.1	22.5	21.9	14.7	14.4	16.4	9.3	13.8	5.7	31.1	14.1	24
7	14.0	11.1	11.1	14.1	11.1	P	13.5	12.5	13.3	21.7	27.2	25.6	22.1	24.8	28.3	26.4	31.5	28.8	30.1	29.9	25.3	19.1	17.0	23.5	11.1	31.5	21.0	23
8	19.6	23.7	24.7	23.9	24.2	25.9	27.2	31.3	32.8	39.3	41.0	44.6	45.1	42.4	41.7	37.5	29.3	27.8	30.4	23.1	19.7	23.1	22.0	19.3	19.3	45.1	30.0	24
9	16.9	16.9	18.3	19.7	24.6	24.5	31.2	31.6	38.8	38.2	37.8	33.4	43.7	36.4	40.2	42.9	42.3	47.0	37.4	36.9	27.1	25.6	20.9	20.3	16.9	47.0	31.4	24
10	11.1	8.2	9.4	4.9	7.6	9.4	9.3	8.4	12.1	18.8	23.8	22.0	23.4	25.0	21.4	11.9	12.7	18.1	32.8	42.2	21.5	38.6	26.8	18.8	4.9	42.2	18.3	24
11	15.3	9.6	10.8	5.4	5.9	6.4	8.6	6.8	7.4	9.3	13.1	14.0	15.4	20.4	24.0	17.9	16.0	19.3	12.9	11.9	7.6	6.5	10.8	12.2	5.4	24.0	12.0	24
12	15.7	16.8	19.6	20.6	23.3	24.7	21.6	33.2	26.5	29.6	P	32.4	28.6	35.3	31.7	30.4	33.3	26.8	17.2	14.1	12.5	9.3	9.3	6.9	6.9	35.3	22.6	23
13	8.7	6.3	4.3	4.2	6.1	7.1	9.4	11.1	15.1	P	14.8	13.1	13.1	20.7	23.6	20.0	32.4	30.1	27.2	25.7	14.3	15.3	10.0	7.7	4.2	32.4	14.8	23
14	10.3	11.2	10.5	8.8	7.7	10.6	19.6	19.8	23.9	20.4	25.7	26.7	26.1	26.0	29.3	30.7	24.8	20.8	13.8	8.6	12.1	11.7	11.4	17.4	7.7	30.7	17.8	24
15	14.0	11.4	9.5	7.9	5.8	6.5	P	8.9	9.4	9.8	8.3	10.6	17.1	13.4	9.1	10.3	13.3	18.5	15.1	11.2	13.5	15.0	17.5	21.7	5.8	21.7	12.1	23
16	19.3	20.3	19.9	20.1	14.2	16.4	16.9	16.8	15.9	20.0	23.4	24.3	25.7	31.5	30.2	32.9	35.1	37.3	39.1	38.2	20.8	12.5	17.4	11.2	11.2	39.1	23.3	24
17	8.5	17.2	11.5	4.8	7.0	12.8	13.2	21.3	17.3	17.4	25.9	30.9	33.6	35.5	37.9	37.8	36.9	30.0	34.5	24.7	17.5	9.7	10.2	5.8	4.8	37.9	20.9	24
18	9.0	9.0	6.0	6.7	7.0	8.9	13.1	21.9	9.4	25.0	18.6	24.0	29.0	36.1	32.4	32.1	33.4	23.7	15.8	20.8	13.8	4.1	5.2	5.2	4.1	36.1	17.1	24
19	5.0	6.0	4.6	9.5	9.6	4.9	8.0	12.6	18.5	19.2	16.9	16.6	23.1	19.6	25.0	21.2	18.5	13.3	16.9	16.0	3.5	10.3	6.8	11.8	3.5	25.0	13.2	24
20	8.8	7.6	8.6	8.0	7.3	7.2	15.9	12.0	18.1	17.9	20.7	21.5	29.9	29.9	29.6	35.3	36.0	27.4	25.5	16.4	24.6	23.7	41.3	43.4	7.2	43.4	21.5	24
21	39.2	33.4	28.0	22.1	18.3	14.8	20.9	21.5	33.2	30.8	27.0	P	46.1	50.0	48.7	36.4	36.3	33.6	22.1	21.8	20.1	21.4	11.9	19.5	11.9	50.0	28.6	23
22	19.0	17.7	14.4	13.9	10.5	12.5	18.6	23.3	26.0	25.8	29.8	27.3	27.8	24.3	24.3	28.3	26.1	23.9	18.8	10.0	3.2	4.5	6.4	4.1	3.2	29.8	18.4	24
23	8.6	5.3	3.7	7.1	4.3	6.0	6.2	6.2	8.7	15.4	16.1	16.4	25.8	25.9	35.0	33.5	20.3	41.3	31.0	21.1	6.1	5.1	8.6	5.3	3.7	41.3	15.1	24
24	5.1	4.2	4.3	4.2	4.5	4.0	8.0	15.4	12.5	17.2	20.4	18.4	26.1	26.2	26.9	24.1	20.9	17.8	13.4	5.9	5.9	7.6	9.1	11.3	4.0	26.9	13.1	24
25	16.8	11.4	11.4	11.6	12.6	12.9	12.4	16.5	26.7	29.9	33.4	32.8	32.4	34.6	35.9	33.3	39.3	38.6	35.0	37.2	36.2	30.8	25.8	30.1	11.4	39.3	26.6	24
26	31.4	26.7	17.0	24.1	6.6	11.5	19.2	17.3	17.9	12.5	15.1	14.2	13.3	15.4	20.4	P	12.5	34.3	35.1	19.2	17.9	17.4	15.8	15.6	6.6	35.1	18.7	23
27	11.4	10.4	9.6	9.0	20.1	24.2	22.4	19.4	21.4	27.8	32.1	25.1	32.8	40.4	24.0	20.0	33.9	23.8	19.0	19.6	15.2	10.7	22.9	26.8	9.0	40.4	21.8	24
28	21.3	20.4	22.9	24.0	16.8	20.7	23.9	24.6	23.2	28.8	23.0	25.6	14.1	26.1	30.4	27.0	31.1	15.6	7.4	7.4	11.1	16.9	10.5	10.6	7.4	31.1	20.1	24
29	11.8	8.6	6.4	6.3	6.9	7.8	11.1	11.5	14.9	14.4	19.6	20.9	23.0	21.6	22.9	25.7	23.8	41.2	34.3	20.4	11.9	35.0	12.8	6.7	6.3	41.2	17.5	24
30	4.7	8.8	7.2	8.4	4.6	5.2	P	P	P	18.0	23.1	23.8	29.7	38.3	25.2	20.6	17.1	17.1	9.9	6.3	8.8	7.3	13.2	12.2	4.6	38.3	14.7	21
HOURLY MAX	39.2	33.4	28.0	24.1	25.2	25.9	31.2	33.2	38.8	39.3	41.0	44.6	46.1	50.0	48.7	42.9	42.3	47.0	39.1	42.2	36.2	38.6	41.3	43.4				
HOURLY AVG	13.0	12.0	10.9	11.0	11.9	14.4	16.7	18.5	21.1	22.5	23.3	26.4	28.5	28.3	27.4	27.4	27.4	23.5	19.7	14.9	14.5	13.5	13.9					

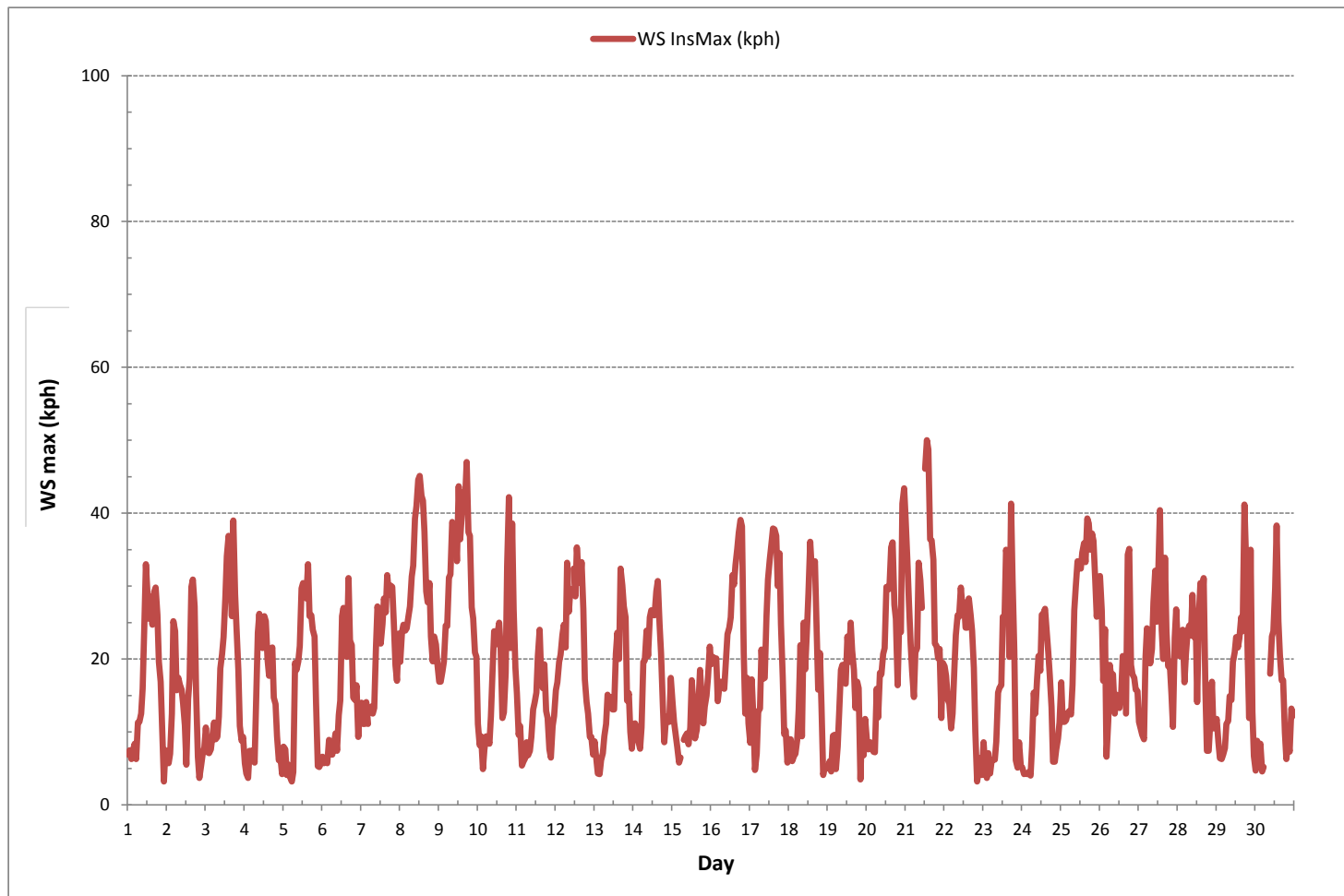
STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS VALUE:	50.0	kph	@ HOUR	13	ON DAY	21
OPERATIONAL TIME:	711	hrs				

WIND SPEED Instantaneous Maximum (WS kph)



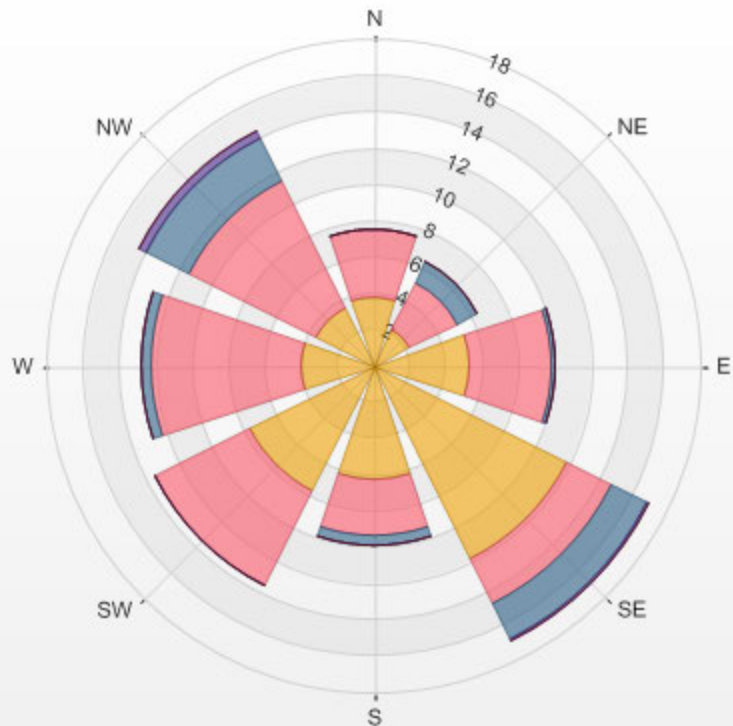
Wind: PRAMP_986
 Monitor: WSP [kph]
 Monthly: 17/06
 Type: WindRose
 Direction: Blowing From (Wind Frequency)
 Based On 1 Hr.

Calm: 8.36%

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	3.8	3.8	0.0	0.0	0.0	0.0	7.5
NE	2.2	2.9	1.3	0.0	0.0	0.0	6.4
E	5.3	4.5	0.3	0.0	0.0	0.0	10.0
SE	11.8	2.8	2.2	0.1	0.0	0.0	17.0
S	6.3	3.1	0.6	0.0	0.0	0.0	9.9
SW	7.7	5.9	0.0	0.0	0.0	0.0	13.5
W	4.0	8.2	0.6	0.0	0.0	0.0	12.8
NW	3.6	7.8	2.7	0.4	0.0	0.0	14.5
Summary	44.7	38.9	7.5	0.6	0.0	0.0	91.7

% Icon	Classes (kph)	45	39	8	1	0	0
		1.8-6.0	6.0-12.0	12.0-20.0	20.0-29.0	29.0-39.0	>39.0

PRAMP_986 2017/06/01 00:00 - 2017/06/30 23:00 Calm: 8.36% Calm Wind Avg Speed: 1.18(kph)



WIND DIRECTION



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
Three Creeks 986b Station - June 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	ESE	SE	ESE	SE	SE	SE	S	SSW	SW	WSW	WSW	WSW	WSW	WSW	W	WSW	WSW	WSW	WSW	WSW	WSW	SW	SSE	S	SW	24
2	S	SE	SSE	SW	SW	WSW	WSW	WSW	SW	SW	SSW	S	SSE	WSW	WNW	WNW	WNW	NW	NNW	NNE	E	ESE	SE	SW	W	24
3	SSW	SE	SSE	S	S	S	S	SW	SW	SSW	SSW	S	S	SSE	S	S	SW	WSW	W	W	SW	S	SSE	W	SSW	24
4	NW	SE	E	ESE	SE	SE	SSE	SW	W	W	SW	WSW	W	W	W	W	W	WSW	SW	WNW	WNW	S	SSE	ESE	WSW	24
5	ESE	ESE	ESE	SE	ESE	ESE	SE	WNW	WNW	WNW	WSW	WSW	W	W	W	WSW	SW	SW	WSW	WSW	WSW	S	SE	SE	WSW	24
6	SE	ESE	ESE	ESE	ESE	SE	SSE	SSW	SW	SW	N	NE	SSE	SSE	S	NNW	NE	ENE	ENE	NE	NE	ENE	E	E	E	24
7	ESE	ESE	E	ESE	ESE	ESE	ESE	ESE	NE	ENE	E	E	E	E	SE	SE	ENE	E	E	E	ENE	ENE	E	E	E	24
8	E	E	E	E	ESE	E	E	E	E	ESE	ESE	ESE	ESE	ESE	ESE	SE	ESE	ESE	ESE	E	E	E	E	ENE	ESE	24
9	E	E	E	NE	NE	NE	NE	NE	NE	NE	NE	ENE	ENE	NE	NE	NE	NNE	NNE	NNE	NNE	NNE	NNE	NE	NE	NE	24
10	N	NNW	N	NNW	NW	N	N	N	NNW	WNW	WNW	WNW	WNW	NW	NW	NNE	ENE	NE	N	N	N	NNW	N	N	NNW	24
11	NNW	NNW	NW	WSW	WSW	NW	WNW	NW	NW	W	W	W	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	SSW	SSE	SSE	SSE	WSW	24
12	SSE	SSE	SSE	SSE	SSE	S	S	SSW	SW	WSW	WSW	W	WSW	W	W	WNW	WNW	WNW	W	WSW	SW	SW	WSW	SSW	SW	24
13	SSW	E	SE	SE	SE	SSE	SW	W	W	SSW	SSE	S	S	SSW	WSW	W	NNW	NNE	NNE	NNE	N	N	NNE	NNE	NNW	24
14	N	N	NNE	NW	N	NNE	NE	NE	ENE	ENE	E	E	E	E	E	E	E	SE	NE	ENE	ENE	ENE	ESE	ENE	ENE	24
15	E	E	E	E	ENE	ESE	SE	S	W	NW	NW	SSE	S	S	N	ENE	ENE	E	SE	SE	ESE	ESE	ESE	ESE	ESE	24
16	SE	ESE	SE	SE	SE	SSE	S	SW	SW	SW	SW	SW	SW	SW	W	WSW	WSW	W	W	WNW	WNW	WSW	WNW	WNW	SW	24
17	NW	NW	NNW	NW	WNW	WNW	WNW	WNW	WSW	WSW	SSW	WSW	WSW	WSW	W	W	W	W	W	W	W	SW	SSW	S	W	24
18	S	SSE	SE	ESE	SE	SE	S	SW	SSE	S	SSW	W	WNW	NNW	N	NNW	N	NNW	NW	NW	NW	ENE	SSE	SE	WNW	24
19	SE	ESE	ESE	ESE	ESE	SE	SSE	SSW	SSW	S	S	SSW	SSW	SW	SSW	SSW	S	S	S	SW	E	ESE	SE	ESE	S	24
20	SE	SSE	ESE	ESE	ESE	SE	SSW	SSE	S	SSW	SW	WSW	WSW	W	WSW	SSW	SSW	SW	SW	SSW	WSW	WSW	WNW	WNW	SW	24
21	WNW	WNW	WNW	W	W	SW	SW	WSW	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	WNW	WNW	WNW	NW	NNW	WNW	24
22	NNW	NW	NW	NW	WNW	NW	WNW	NW	NW	NW	NNW	NNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	ESE	ESE	SE	E	24
23	SE	ESE	ESE	SE	ESE	ESE	SSE	SSW	WNW	W	SW	W	WSW	W	W	WNW	WNW	WNW	NW	NE	S	E	SSE	ESE	W	24
24	E	ESE	ESE	SE	E	SE	NW	N	N	NW	NW	NW	NW	NW	NW	WNW	NNW	NNW	NNW	NNE	NE	ESE	ESE	ESE	NNW	24
25	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	SE	SE	SE	SE	SSE	SE	SSE	SSE	SSE	SE	SE	SE	SE	SE	SE	SE	SE	24
26	SE	SE	E	SE	SSE	SE	SSE	SSW	SSW	WSW	W	W	SW	SSW	SW	SW	S	S	SSW	S	SSE	SSE	SE	SE	S	24
27	SSE	S	NW	NNW	WNW	NW	NW	WNW	WNW	WNW	WNW	WNW	WNW	W	WSW	WSW	NW	W	SW	SSW	WSW	N	NE	N	WNW	24
28	N	N	NNW	NNW	NNW	NNW	N	N	N	N	N	NNE	NNE	N	N	N	N	NW	N	NNE	SSE	SE	S	SSW	N	24
29	SSW	S	SE	SE	SE	SSE	S	S	SSW	SSW	SW	SW	SW	SW	SW	SSW	SW	NNW	N	W	SSE	E	SSE	SE	SSW	24
30	SE	SSE	E	E	WNW	NW	P	P	WNW	WNW	NW	WNW	WNW	NW	NW	NW	NW	NE	SE	ESE	ENE	E	ESE	SE	NW	22

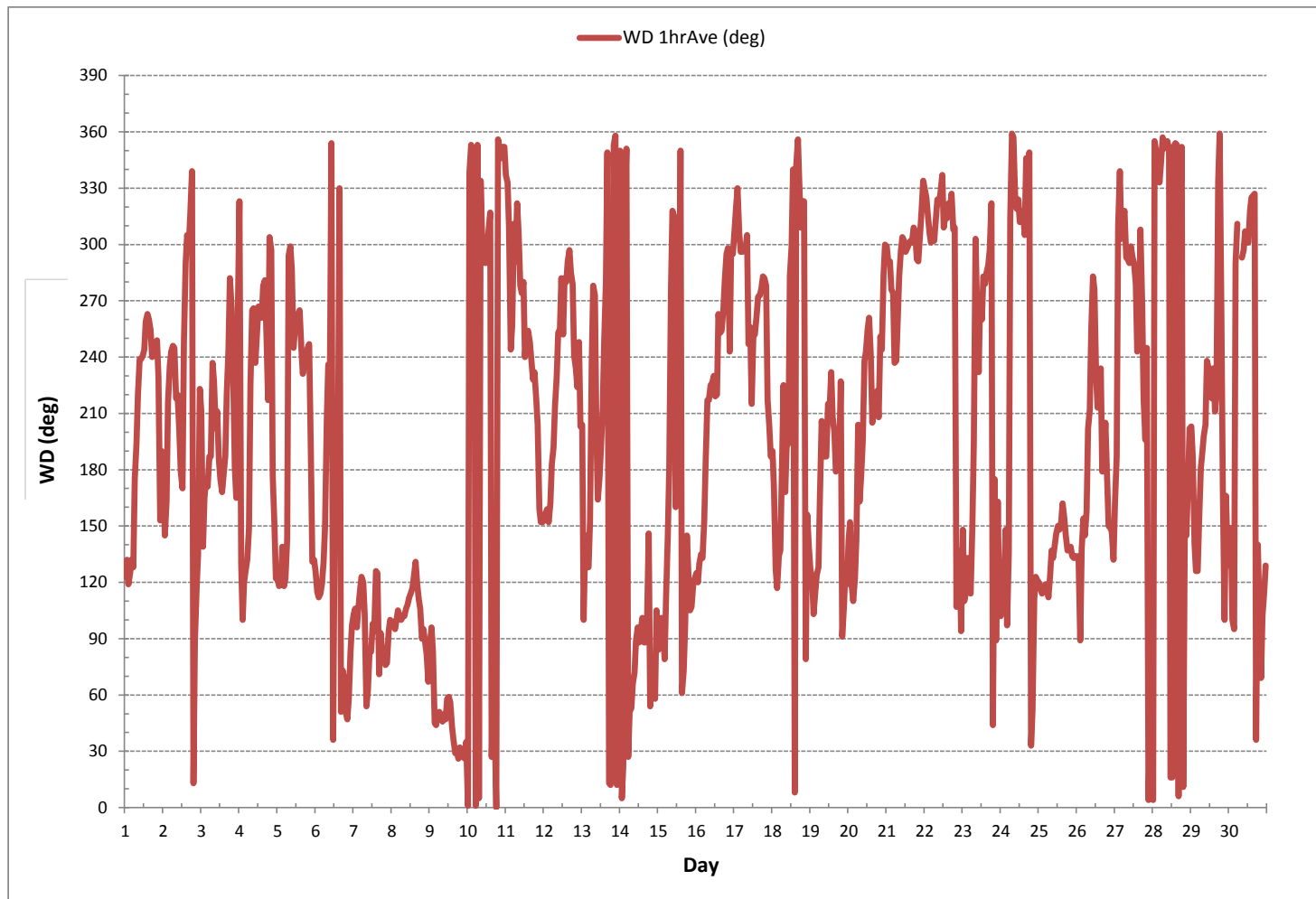
STATUS FLAG CODES

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:	April 5, 2017
DECLINATION :	MAGNETIC DECLINATION 15 DEGREE EAST

MONTHLY CALIBRATION TIME:	0	hrs	OPERATIONAL TIME:	718	hrs
STANDARD DEVIATION:	94		AMD OPERATION UPTIME:	99.7	%
			MONTHLY AVERAGE:	258 (WSW)	

WIND DIRECTION Hourly Averages (WD)



RELATIVE HUMIDITY



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - June 2017

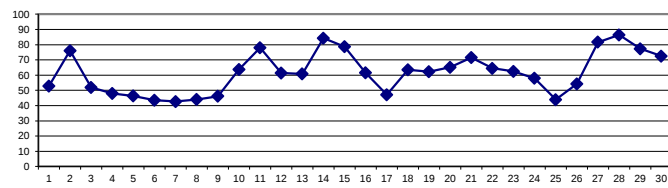
RELATIVE HUMIDITY Hourly Averages (RH %)

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	74	75	80	83	86	85	74	63	53	45	39	36	36	33	32	32	30	31	33	33	38	45	64	69	30	86	53	24
2	66	73	76	70	66	62	65	67	82	90	92	92	87	76	71	68	60	65	66	72	82	90	95	93	60	95	76	24
3	81	84	84	83	82	73	64	58	54	47	40	36	30	28	30	29	27	29	33	34	43	51	61	65	27	84	52	24
4	73	86	87	89	87	76	70	48	41	35	33	30	26	25	26	27	27	25	24	28	31	46	53	60	24	89	48	24
5	65	69	82	84	84	86	76	51	40	33	31	26	25	25	23	22	22	21	20	21	26	47	62	71	20	86	46	24
6	74	75	80	82	77	68	55	42	36	34	28	26	26	25	24	25	23	27	25	29	34	39	43	47	23	82	44	24
7	49	52	52	57	60	61	54	46	43	38	31	31	31	31	28	30	30	32	32	37	42	48	53	55	28	61	43	24
8	55	55	60	61	58	58	56	51	47	38	32	28	27	25	27	34	48	43	38	39	40	43	45	49	25	61	44	24
9	48	49	49	57	61	56	54	52	47	44	44	41	38	39	40	43	46	42	39	38	39	43	48	51	38	61	46	24
10	60	72	77	82	89	86	68	63	59	53	48	42	35	29	29	30	36	49	57	82	96	96	95	96	29	96	64	24
11	97	97	98	97	97	98	92	89	87	84	78	74	68	64	60	57	55	56	58	61	68	76	80	83	55	98	78	24
12	81	81	83	85	87	86	83	73	67	61	50	49	47	46	44	44	45	44	44	43	46	59	58	68	43	87	61	24
13	73	83	87	86	87	74	63	60	56	57	52	46	42	35	32	31	43	51	50	52	58	71	82	90	31	90	61	24
14	94	97	97	97	98	97	92	87	84	83	74	64	62	63	63	65	66	73	90	94	94	95	97	96	62	98	84	24
15	96	97	97	97	97	97	96	94	95	85	79	72	68	66	63	62	59	58	48	55	67	75	83	82	48	97	79	24
16	82	82	86	87	89	88	86	81	72	65	57	52	51	46	41	39	37	35	40	41	50	56	48	65	35	89	62	24
17	75	81	86	87	90	73	63	54	47	48	44	36	30	26	25	22	20	20	20	20	25	35	48	56	20	90	47	24
18	55	62	74	75	75	68	61	62	68	66	60	44	41	50	74	65	65	54	50	51	55	69	88	92	41	92	64	24
19	94	95	95	96	96	85	72	57	53	49	44	39	39	37	34	34	34	37	41	53	73	81	79	76	34	96	62	24
20	78	82	82	80	85	82	83	93	91	84	71	63	55	46	43	49	48	49	55	61	40	42	47	56	40	93	65	24
21	61	63	66	67	74	79	82	69	63	59	57	55	53	55	56	61	62	71	87	92	94	97	98	95	53	98	72	24
22	93	90	92	95	96	91	85	81	73	65	55	49	47	42	43	39	36	33	32	32	46	65	81	87	32	96	65	24
23	90	92	93	94	95	82	77	63	55	51	41	35	35	40	36	46	41	36	46	48	60	74	84	86	35	95	63	24
24	87	87	89	92	93	83	80	67	59	54	51	45	38	34	32	29	28	28	27	35	43	63	76	70	27	93	58	24
25	62	60	62	66	69	67	59	50	44	39	34	30	29	27	25	25	27	30	31	33	36	44	49	57	25	69	44	24
26	60	62	62	60	74	76	62	53	55	55	56	52	46	41	31	25	30	33	39	52	63	69	71	74	25	76	54	24
27	83	82	84	89	84	77	76	74	68	63	61	58	71	67	82	86	91	90	92	94	96	97	97	98	58	98	82	24
28	98	98	98	98	99	99	99	99	99	97	94	83	83	71	65	59	71	81	69	74	69	84	92	94	59	99	86	24
29	94	94	96	97	98	98	90	82	79	72	60	51	47	47	44	44	44	70	88	84	92	94	95	96	44	98	77	24
30	97	97	98	98	99	99	P	P	87	83	83	78	69	60	53	50	47	44	40	43	54	65	73	78	40	99	73	22
HOURLY MAX	98	98	98	98	99	99	99	99	99	97	94	92	87	76	82	86	91	90	92	94	96	97	98	98				
HOURLY AVG	77	79	82	83	84	80	74	67	63	59	54	49	46	43	43	42	43	45	47	51	57	65	72	75				

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

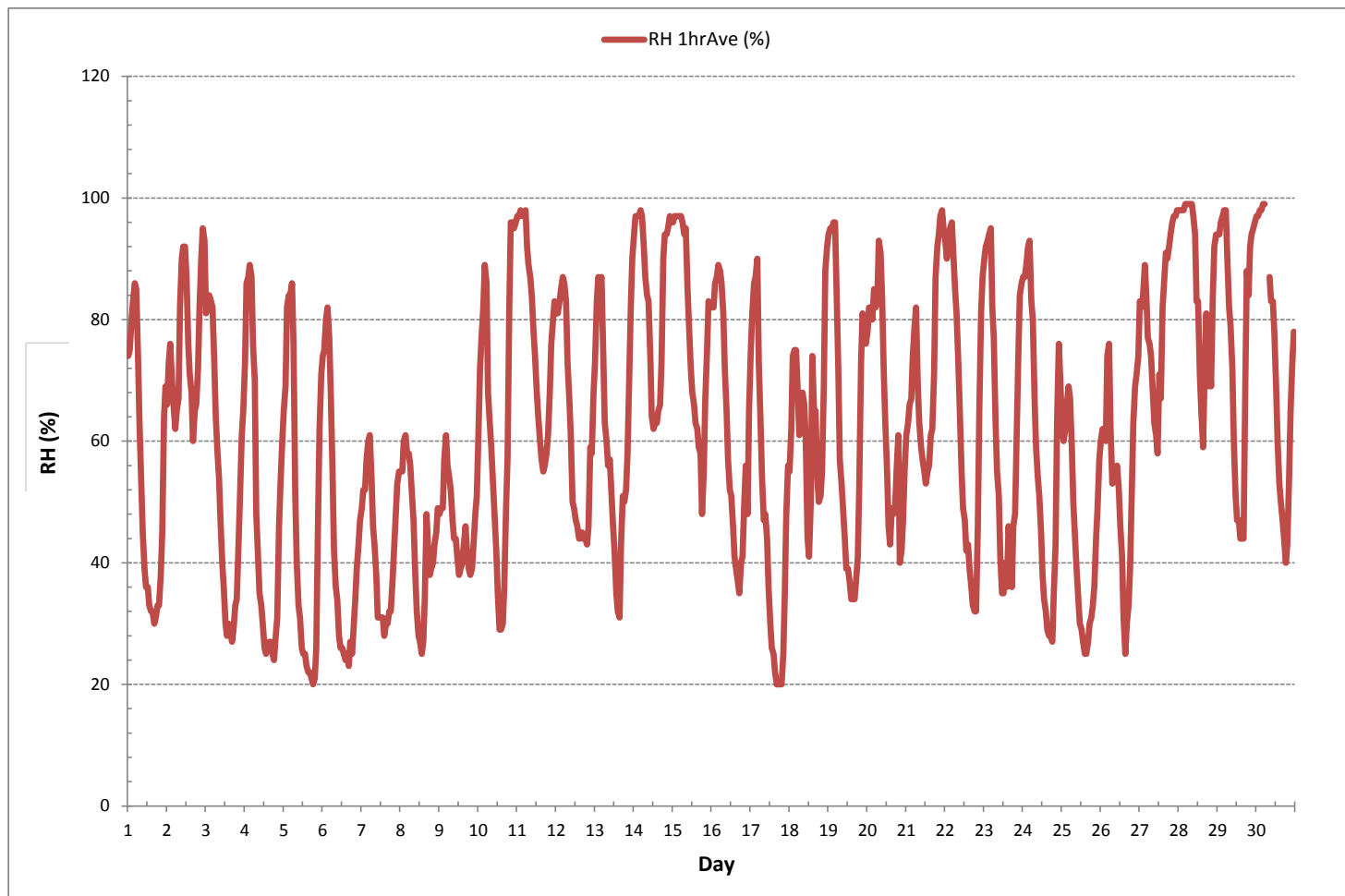
24 HR AVERAGES June 2017



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	20	%	@ HOUR	18	ON DAY	5
MAXIMUM 1-HR AVERAGE:	99	%	@ HOUR	4	ON DAY	28
MAXIMUM 24-HR AVERAGE:	86	%			ON DAY	28
OPERATIONAL TIME:						718 hrs
AMD OPERATION UPTIME:						99.7 %
STANDARD DEVIATION:	22		MONTHLY AVERAGE:	62	%	

RELATIVE HUMIDITY Hourly Averages (RH %)



BAROMETRIC PRESSURE



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - June 2017

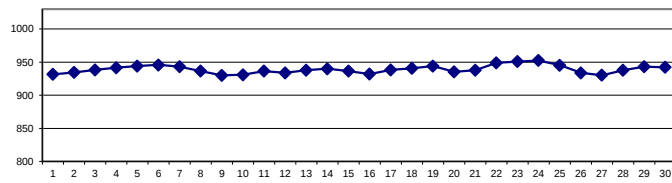
BAROMETRIC PRESSURE Hourly Averages (BP mbar)

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	932	932	932	932	932	932	932	932	932	932	932	932	932	932	932	931	931	931	931	931	932	932	932	932	931	932	932	24	
2	932	932	932	932	933	933	933	934	934	934	934	935	935	934	934	935	935	936	936	937	937	937	937	938	932	938	935	24	
3	938	938	938	938	939	939	940	939	939	939	939	938	938	937	937	937	937	937	938	939	939	940	940	940	937	940	938	24	
4	940	940	941	941	941	942	942	942	943	943	942	942	942	942	941	941	941	941	941	941	942	942	942	942	940	943	942	24	
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6	946	946	947	947	947	948	948	948	948	948	948	947	946	946	945	945	944	944	944	944	944	944	944	943	944	943	948	946	24
7	944	944	944	944	944	944	944	944	944	944	944	944	943	943	943	943	942	942	942	942	942	942	942	941	941	944	943	24	
8	941	941	940	940	940	939	939	939	939	938	938	937	936	936	935	935	934	934	934	933	933	933	932	932	932	941	937	24	
9	932	932	932	931	930	930	930	930	930	930	930	930	929	929	929	930	930	929	930	930	931	931	931	931	929	932	930	24	
10	931	931	931	931	931	931	932	932	931	931	930	930	930	929	929	929	929	929	929	930	932	932	933	934	934	929	934	931	24
11	935	935	936	936	936	937	937	937	937	937	937	937	937	937	937	937	937	937	937	937	937	937	937	936	936	935	937	937	24
12	935	935	934	934	933	933	933	933	933	933	933	933	933	934	934	934	934	934	934	934	934	934	934	935	935	933	935	934	24
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19	945	946	946	945	946	946	947	946	946	946	945	945	945	944	943	943	943	942	942	942	941	941	940	940	940	947	944	24	
20	939	938	938	937	937	937	937	937	936	936	936	935	935	934	934	934	934	934	934	934	934	934	934	935	934	939	935	24	
21	936	936	936	936	936	936	936	936	936	936	936	937	937	937	938	938	939	939	940	940	941	941	942	943	944	936	944	938	24
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23	950	950	950	950	950	951	952	952	952	952	952	951	951	951	951	951	951	951	951	952	952	952	951	951	950	952	951	24	
24	952	952	952	952	953	953	954	954	954	954	954	954	954	953	953	953	952	952	952	952	952	951	951	950	950	954	953	24	
25	950	950	950	950	950	950	950	949	949	948	948	947	946	946	944	943	943	942	941	940	940	939	939	938	938	950	946	24	
26	936	936	935	934	934	935	935	935	935	934	934	934	934	933	933	933	932	933	934	933	933	933	933	933	932	936	934	24	
27	932	932	931	932	932	932	932	931	931	931	931	931	931	931	931	930	930	930	929	928	927	927	928	929	927	932	930	24	
28	930	931	932	933	933	934	935	936	936	937	938	939	939	940	940	941	941	942	942	942	942	943	943	943	930	943	938	24	
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30	942	942	942	942	942	942	P	P	943	943	943	943	943	943	943	942	942	942	942	942	942	942	942	942	942	942	943	942	22
HOURLY MAX	952	952	952	952	953	953	954	954	954	954	954	954	954	953	953	953	952	952	952	952	952	952	951	951					
HOURLY AVG	939	939	939	939	939	940	940	940	940	940	940	940	939	939	939	939	939	939	939	939	939	939	939	939					

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

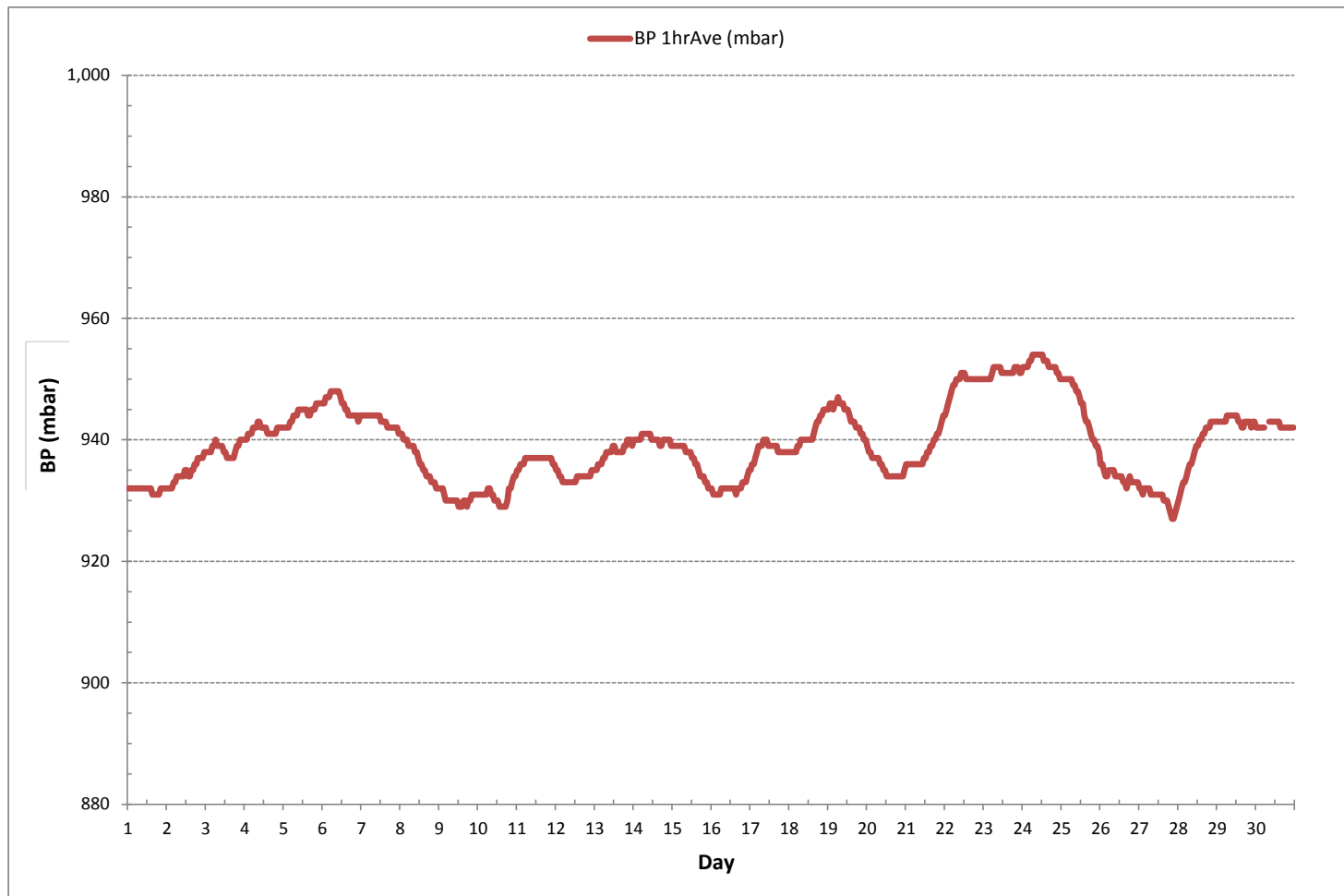
24 HR AVERAGES June 2017



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	927	mbar	@ HOUR	20	ON DAY	27
MAXIMUM 1-HR AVERAGE:	954	mbar	@ HOUR	6	ON DAY	24
MAXIMUM 24-HR AVERAGE:	953	mbar			ON DAY	24
OPERATIONAL TIME:					718	hrs
AMD OPERATION UPTIME:					99.7	%
STANDARD DEVIATION:	6				MONTHLY AVERAGE:	939 mbar

BAROMETRIC PRESSURE Hourly Averages (BP mbar)



AMBIENT TEMPERATURE

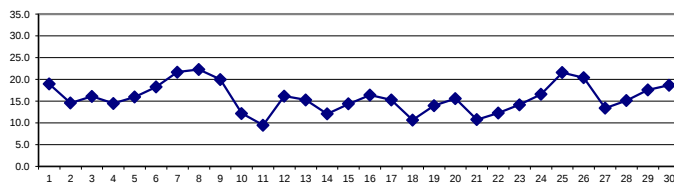
AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	12.3	12.3	11.2	10.3	9.7	10.6	15.3	17.6	19.7	21.8	23.4	23.9	24.4	24.8	25.6	25.4	25.9	25.1	24.4	24.3	21.9	19.2	14.7	13.1	9.7	25.9	19.0	24
2	13.7	12.2	12.3	13.9	15.0	15.6	15.1	14.7	13.5	12.9	13.1	13.7	15.2	16.9	17.7	18.1	18.2	17.6	17.8	16.5	15.0	12.9	10.5	9.3	9.3	18.2	14.6	24
3	9.6	7.9	7.0	6.6	6.7	9.3	13.2	14.9	16.5	18.3	20.0	22.1	23.4	23.5	22.7	22.7	22.7	22.1	20.3	19.2	17.5	16.0	13.2	11.2	6.6	23.5	16.1	24
4	8.5	5.0	3.5	2.2	2.3	5.3	8.9	13.5	14.3	16.4	17.3	18.4	19.6	20.2	20.6	20.3	21.4	22.3	22.6	21.0	20.6	17.0	14.1	12.5	2.2	22.6	14.5	24
5	11.4	10.3	8.3	7.2	6.9	6.9	10.4	14.6	16.4	18.2	19.7	20.8	21.3	21.9	22.5	22.9	23.1	22.8	22.7	22.1	20.9	14.8	10.5	8.4	6.9	23.1	16.0	24
6	7.4	6.7	5.2	4.7	6.1	9.7	15.4	18.5	19.7	21.4	22.6	23.2	24.3	25.3	26.4	25.2	25.9	24.3	24.8	24.0	22.0	20.1	18.3	17.1	4.7	26.4	18.3	24
7	16.5	16.0	16.0	15.1	13.8	14.5	17.4	20.4	22.3	24.2	25.4	26.0	26.8	26.5	28.1	26.9	26.3	25.7	26.1	24.9	23.3	20.9	19.7	18.8	13.8	28.1	21.7	24
8	18.3	17.7	16.7	16.2	16.9	17.4	18.8	20.1	21.7	24.1	25.9	27.3	28.0	28.7	27.4	25.3	23.2	24.5	25.1	24.1	23.3	22.3	21.6	20.7	16.2	28.7	22.3	24
9	20.5	20.0	19.8	18.4	16.8	17.2	18.4	19.6	21.4	21.9	22.5	23.6	24.0	24.1	23.6	22.2	20.8	21.7	21.4	20.2	18.7	16.0	13.9	12.4	12.4	24.1	20.0	24
10	9.8	6.7	5.8	4.1	2.6	4.6	9.9	11.9	13.3	14.7	15.6	16.9	18.2	19.7	19.8	19.9	19.6	17.8	15.9	12.3	10.1	9.2	7.9	6.5	2.6	19.9	12.2	24
11	5.6	4.4	4.1	2.6	2.8	4.2	6.3	7.5	8.0	9.3	10.5	11.3	12.6	13.4	14.0	14.2	14.4	14.0	13.2	12.9	12.2	11.4	10.1	9.5	2.6	14.4	9.5	24
12	10.5	10.8	11.1	11.3	11.1	11.8	12.6	15.1	16.3	17.1	18.6	18.3	19.1	18.9	20.0	20.4	20.6	20.5	20.0	21.2	20.0	16.5	15.3	11.9	10.5	21.2	16.2	24
13	10.0	7.6	6.6	7.0	6.3	9.2	13.0	14.0	15.6	17.4	19.3	20.8	21.4	22.6	22.6	22.7	22.1	19.6	19.8	18.6	17.6	14.0	11.4	9.1	6.3	22.7	15.3	24
14	7.2	7.4	7.5	5.9	7.4	9.9	11.2	11.8	12.1	11.8	13.6	16.1	16.6	16.1	16.1	15.6	15.4	14.7	13.2	12.9	12.4	11.8	11.5	11.2	5.9	16.6	12.1	24
15	10.8	10.6	10.5	10.5	10.5	10.7	11.4	11.7	11.8	13.5	13.8	16.0	16.8	17.0	17.3	17.7	18.4	18.3	20.6	18.2	16.3	15.0	13.6	13.5	10.5	20.6	14.4	24
16	13.5	13.4	13.0	13.0	12.6	12.8	13.3	14.0	15.7	16.6	17.8	19.0	19.8	20.2	20.7	21.2	21.1	20.4	18.9	18.6	16.5	13.9	14.7	12.4	12.4	21.2	16.4	24
17	10.8	10.7	10.2	9.9	9.3	11.8	13.0	13.9	14.8	16.0	16.6	18.6	18.3	19.1	19.3	19.7	19.9	20.2	19.9	19.4	18.5	15.6	12.0	9.8	9.3	20.2	15.3	24
18	9.1	7.6	4.9	4.3	4.6	7.1	10.0	10.2	10.9	11.5	13.5	14.6	15.3	15.0	12.4	13.5	12.8	14.3	15.1	14.7	13.9	11.1	6.0	4.1	4.1	15.3	10.7	24
19	2.8	2.6	2.2	1.6	2.6	6.1	11.4	14.6	15.6	16.5	17.5	18.9	20.0	20.9	22.4	21.9	21.7	21.0	19.7	17.3	15.4	14.7	14.3	14.0	1.6	22.4	14.0	24
20	13.0	12.3	11.2	11.1	11.0	12.4	13.3	13.1	14.6	16.2	17.9	19.2	19.9	20.7	20.3	19.8	18.3	17.4	16.9	16.0	16.3	15.9	15.0	13.6	11.0	20.7	15.6	24
21	12.2	11.6	11.0	10.4	9.7	9.2	8.9	9.7	10.8	11.7	13.1	13.3	13.5	13.0	13.0	12.1	12.0	11.0	9.6	9.1	9.1	9.1	8.8	7.9	7.9	13.5	10.8	24
22	6.4	5.7	4.9	3.2	3.2	5.2	7.5	9.1	10.7	12.3	13.5	15.3	15.6	16.7	17.2	19.0	19.2	20.0	19.9	19.9	17.6	14.4	10.2	7.9	3.2	20.0	12.3	24
23	6.0	4.8	3.8	2.9	3.2	7.5	12.0	16.1	17.3	18.6	20.3	20.9	21.4	19.9	21.4	18.9	20.0	21.6	19.5	18.1	15.5	12.5	9.7	8.5	2.9	21.6	14.2	24
24	8.6	9.4	9.2	7.8	6.6	9.5	12.4	15.4	16.9	18.1	19.4	20.7	21.8	22.5	23.1	23.0	23.7	23.9	24.1	21.6	19.7	15.9	12.1	12.3	6.6	24.1	16.6	24
25	12.8	12.9	12.4	11.6	11.4	12.4	16.1	20.0	22.1	23.6	25.0	26.2	27.2	27.8	28.6	29.0	28.9	27.7	27.8	26.8	25.1	22.1	20.4	19.4	11.4	29.0	21.6	24
26	18.9	18.4	18.3	18.4	14.9	15.0	19.6	22.2	22.1	22.3	22.4	23.4	25.0	26.2	26.9	26.1	24.9	22.5	20.8	18.4	16.9	16.0	15.2	14.5	14.5	26.9	20.4	24
27	13.0	13.3	13.0	11.9	12.4	12.7	13.1	13.3	13.7	14.8	16.0	16.9	16.1	15.7	14.6	14.3	12.9	12.4	12.4	12.0	12.0	12.1	11.5	11.1	11.1	16.9	13.4	24
28	10.9	10.6	10.2	10.4	10.7	11.5	12.0	12.4	12.8	13.9	14.7	16.9	17.0	19.6	20.0	21.0	18.7	16.7	19.5	18.9	19.4	16.4	15.2	14.4	10.2	21.0	15.2	24
29	13.7	12.8	11.7	10.5	10.3	11.5	15.2	17.1	18.0	19.7	21.7	22.9	23.8	24.6	25.4	25.8	25.6	18.6	16.3	17.3	16.0	15.4	15.0	14.6	10.3	25.8	17.6	24
30	14.6	14.5	14.4	14.1	13.8	14.0	P	P	16.3	17.2	17.4	18.2	19.8	21.2	22.2	22.6	23.4	23.9	26.0	25.0	21.6	19.2	16.7	15.4	13.8	26.0	18.7	22
HOURLY MAX	20.5	20.0	19.8	18.4	16.9	17.4	19.6	22.2	22.3	24.2	25.9	27.3	28.0	28.7	28.6	29.0	28.9	27.7	27.8	26.8	25.1	22.3	21.6	20.7				
HOURLY AVG	11.3	10.5	9.9	9.2	9.0	10.5	12.9	14.7	15.8	17.1	18.3	19.4	20.2	20.8	21.1	20.9	20.7	20.1	19.8	18.9	17.5	15.4	13.4	12.2				

STATUS FLAG CODES

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

24 HR AVERAGES June 2017



MONTHLY SUMMARY

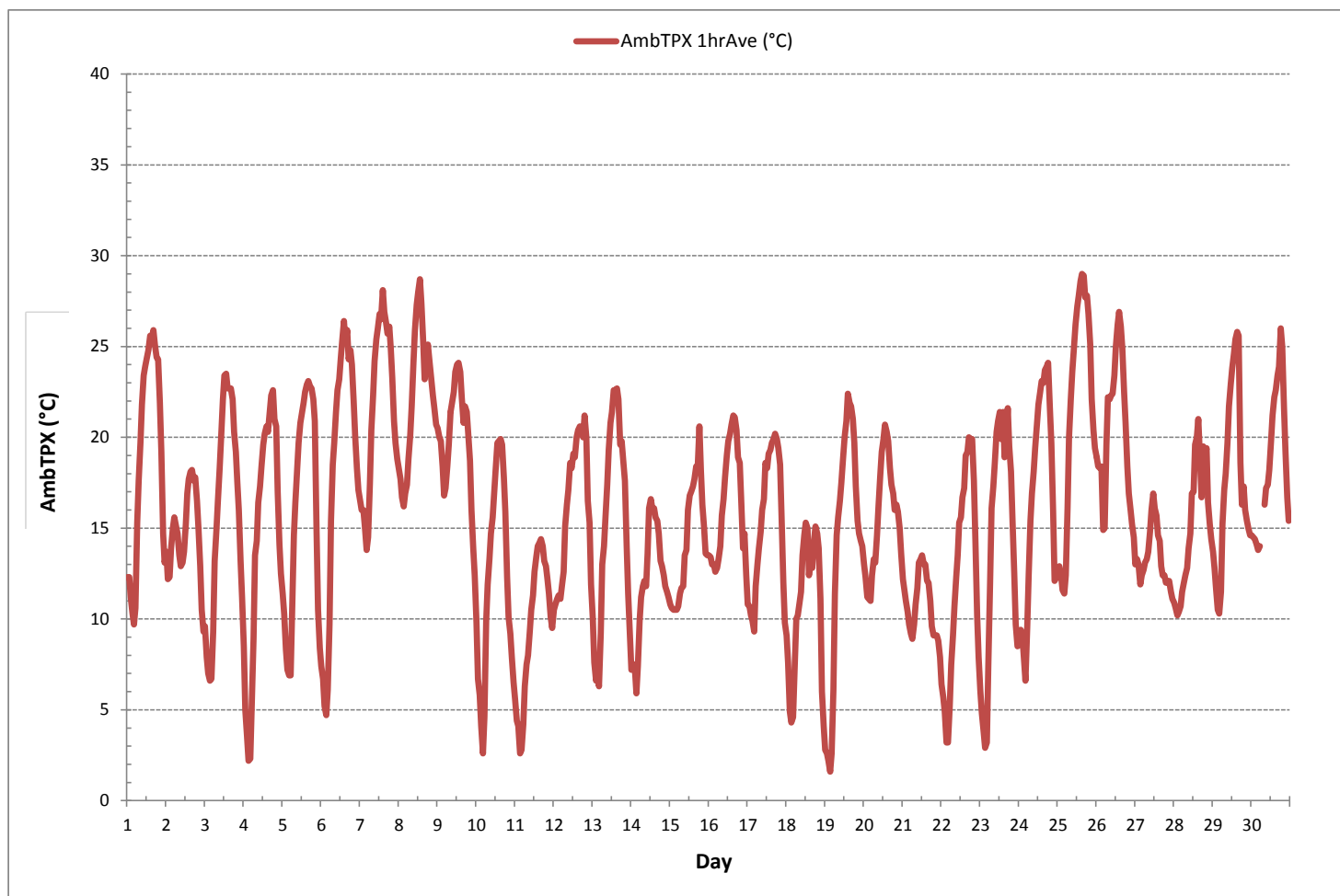
MINIMUM 1-HR AVERAGE:	1.6	°C	@ HOUR	3	ON DAY	19
MAXIMUM 1-HR AVERAGE:	29.0	°C	@ HOUR	15	ON DAY	25
MAXIMUM 24-HR AVERAGE:	22.3	°C			ON DAY	8

OPERATIONAL TIME: 718 hrs

AMD OPERATION UPTIME: 99.7 %

STANDARD DEVIATION: 5.8 MONTHLY AVERAGE: 15.8 °C

AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)



STATION TEMPERATURE

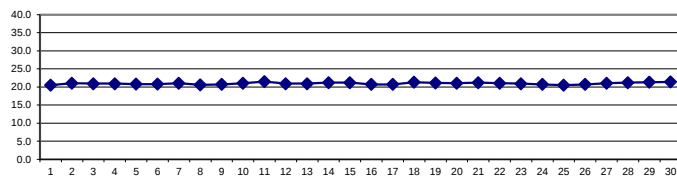
STATION TEMPERATURE Hourly Averages (StnTPX °C)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.		
DAY																													
1	20.9	21.2	20.8	21.6	21.7	21.2	21.1	21.1	20.3	20.2	20.2	20.0	20.0	20.0	20.0	19.9	19.9	19.9	19.9	19.9	19.9	21.0	21.1	21.1	19.9	21.7	20.5	24	
2	20.9	21.1	21.2	20.9	21.1	21.1	20.9	21.1	21.1	20.8	21.0	21.0	20.8	21.1	21.1	20.8	21.0	21.1	20.8	21.0	21.1	20.7	21.0	21.6	20.7	21.6	21.0	24	
3	21.3	21.4	21.8	21.9	21.9	21.5	21.3	21.2	21.2	20.8	20.3	20.3	20.2	20.2	20.1	20.1	20.2	20.1	20.1	20.5	21.1	21.2	21.4	20.9	20.1	21.9	20.9	24	
4	21.5	21.3	21.9	21.8	21.9	22.7	21.5	21.3	21.2	20.9	20.7	20.3	20.3	20.2	20.2	20.2	20.2	20.2	20.2	20.1	20.1	21.4	21.2	21.0	20.1	22.7	20.9	24	
5	21.1	21.2	21.1	21.5	21.8	21.2	21.4	21.2	20.9	20.4	20.5	20.4	20.4	20.3	20.2	20.2	20.2	20.2	20.2	20.2	20.2	21.5	21.2	20.9	20.2	21.8	20.8	24	
6	21.4	21.5	22.0	21.4	21.8	21.8	21.4	21.5	20.8	20.4	20.4	20.4	20.2	20.1	20.3	20.0	20.3	20.1	20.1	20.2	20.2	20.2	21.2	21.4	20.0	22.0	20.8	24	
7	21.2	21.3	21.5	21.2	21.2	21.3	21.5	20.7	20.7	21.1	21.4	21.7	21.9	22.1	21.6	19.6	20.1	20.0	20.1	20.2	20.1	20.6	21.1	21.2	19.6	22.1	21.0	24	
8	21.5	21.1	21.1	21.3	21.2	21.1	21.3	20.8	20.4	20.4	20.3	20.4	20.2	20.3	20.1	20.2	20.2	20.2	20.2	20.2	20.3	20.3	20.4	20.4	20.1	21.5	20.6	24	
9	21.3	21.2	21.4	21.3	21.0	21.2	21.4	20.5	20.4	20.4	20.4	20.3	20.2	20.2	20.3	20.2	20.1	20.3	20.3	20.3	21.2	21.3	21.4	21.1	20.1	21.4	20.7	24	
10	21.0	21.4	21.5	22.0	22.0	22.1	21.5	21.2	21.2	20.4	20.4	20.4	20.4	20.3	20.3	20.3	20.3	20.3	21.7	21.0	21.0	21.1	21.3	21.4	20.3	22.1	21.0	24	
11	21.5	21.9	22.0	22.8	22.0	22.1	21.7	21.4	21.4	21.4	21.1	21.1	21.3	21.5	21.1	21.2	21.3	21.5	21.2	21.1	21.2	21.3	21.3	21.6	21.1	22.8	21.5	24	
12	21.5	21.6	21.8	22.0	21.4	21.3	21.4	21.4	21.2	20.4	20.4	20.3	20.4	20.3	20.4	20.3	20.3	20.3	20.3	20.3	21.1	21.4	21.0	21.2	20.3	22.0	20.9	24	
13	21.3	21.0	21.7	21.9	21.4	21.5	21.6	21.3	20.8	20.5	20.5	20.4	20.3	20.2	20.1	20.2	20.2	20.7	20.5	21.6	20.9	21.2	21.3	20.9	20.1	21.9	20.9	24	
14	21.0	21.4	21.4	21.7	21.5	21.5	21.5	21.4	20.9	21.1	21.3	20.8	20.9	21.1	21.4	21.0	21.0	21.4	21.0	21.0	21.2	21.0	21.1	21.4	20.8	21.7	21.2	24	
15	21.9	21.3	21.4	21.5	21.9	21.2	21.3	21.4	21.2	20.9	21.1	21.4	21.0	21.0	21.3	21.1	20.9	20.9	21.2	20.9	20.8	21.1	20.7	20.9	20.7	21.9	21.2	24	
16	21.1	20.7	21.0	20.9	20.9	21.2	21.2	21.1	20.8	21.0	20.9	20.2	20.2	20.2	20.1	20.0	20.2	20.5	20.9	20.9	21.0	21.2	20.9	20.8	20.0	21.2	20.7	24	
17	21.0	21.0	20.8	21.2	21.7	20.8	20.9	21.3	20.6	20.5	20.4	20.2	20.1	20.2	20.1	20.1	20.1	20.2	20.1	20.5	21.1	21.2	21.3	20.9	20.1	21.7	20.7	24	
18	21.4	21.4	21.3	21.8	21.9	21.9	21.3	21.5	21.4	21.7	21.1	21.0	20.8	21.2	21.0	20.9	21.1	21.3	21.1	20.9	21.1	21.1	21.1	21.6	20.8	21.9	21.3	24	
19	22.0	21.9	21.9	22.8	23.1	21.9	21.4	21.2	21.5	20.9	20.7	20.2	20.2	20.2	20.2	20.1	20.1	20.1	20.2	21.5	21.0	21.2	21.4	21.0	20.1	23.1	21.1	24	
20	21.1	21.2	21.2	21.0	21.3	21.0	21.2	21.3	20.9	21.2	20.8	20.4	20.4	20.4	20.7	21.1	21.1	21.5	21.0	21.1	21.4	21.1	21.0	21.0	20.4	21.5	21.0	24	
21	21.1	20.9	21.2	20.9	21.8	21.3	21.8	21.4	20.8	21.3	20.9	21.0	21.2	20.9	20.9	21.2	20.9	20.9	21.1	21.3	21.3	21.3	21.5	21.6	20.8	21.8	21.2	24	
22	21.2	21.8	21.9	22.0	22.4	21.9	21.8	21.0	21.1	21.1	20.9	20.6	20.5	20.4	20.7	20.2	20.2	20.2	20.2	20.4	21.2	21.3	21.0	20.9	20.2	22.4	21.0	24	
23	21.4	21.6	21.8	22.0	22.0	22.0	21.5	21.2	20.6	20.3	20.3	20.2	20.1	20.1	20.2	20.1	20.2	20.2	20.2	20.7	21.3	21.1	21.2	21.3	20.9	20.1	22.0	20.9	24
24	21.4	21.5	20.9	21.7	21.6	21.4	21.4	21.1	20.6	20.3	20.2	20.2	20.3	20.2	20.1	20.2	20.1	20.1	20.1	20.1	20.5	21.5	20.9	21.1	20.1	21.7	20.7	24	
25	21.2	21.4	21.0	21.1	21.3	21.0	21.3	20.8	20.3	20.3	20.4	20.2	20.2	20.1	20.2	20.0	20.0	20.1	20.1	20.0	20.0	20.1	20.1	21.1	20.0	21.4	20.5	24	
26	21.3	21.3	21.0	21.2	21.3	20.9	21.2	20.4	20.3	20.3	20.3	20.3	20.2	20.2	20.1	20.0	20.1	20.1	20.1	21.1	21.1	21.3	21.3	20.9	21.2	20.0	21.3	20.7	24
27	21.2	20.9	21.1	21.2	20.9	21.2	20.8	21.2	20.9	21.0	20.9	20.6	21.0	20.9	21.1	21.3	20.7	21.0	21.2	20.9	21.2	20.8	21.2	20.9	20.6	21.3	21.0	24	
28	21.4	21.3	21.3	21.4	21.6	21.1	21.2	21.2	21.1	20.9	21.2	20.9	21.0	21.1	20.8	20.9	20.9	21.2	20.8	21.1	21.5	21.3	21.9	21.9	20.8	21.9	21.2	24	
29	21.0	21.8	20.6	21.1	21.6	21.5	20.8	21.2	20.9	21.0	21.1	21.5	21.5	21.3	21.2	21.3	21.6	21.7	21.3	21.2	21.7	21.3	21.8	21.4	20.6	21.8	21.3	24	
30	21.3	21.3	21.5	21.7	21.1	21.3	P	P	21.1	21.2	20.8	21.1	21.1	21.0	21.2	21.5	21.8	22.0	22.0	22.2	22.3	21.8	21.1	20.6	20.6	22.3	21.4	22	
HOURLY MAX	22.0	21.9	22.0	22.8	23.1	22.7	21.8	21.5	21.5	21.7	21.4	21.7	21.9	22.1	21.6	21.5	21.8	22.0	22.0	22.2	22.3	21.8	21.9	21.9					
HOURLY AVG	21.3	21.3	21.4	21.6	21.6	21.4	21.3	21.2	20.9	20.8	20.7	20.6	20.6	20.6	20.6	20.5	20.5	20.6	20.6	20.8	20.9	21.1	21.1	21.1					

STATUS FLAG CODES

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

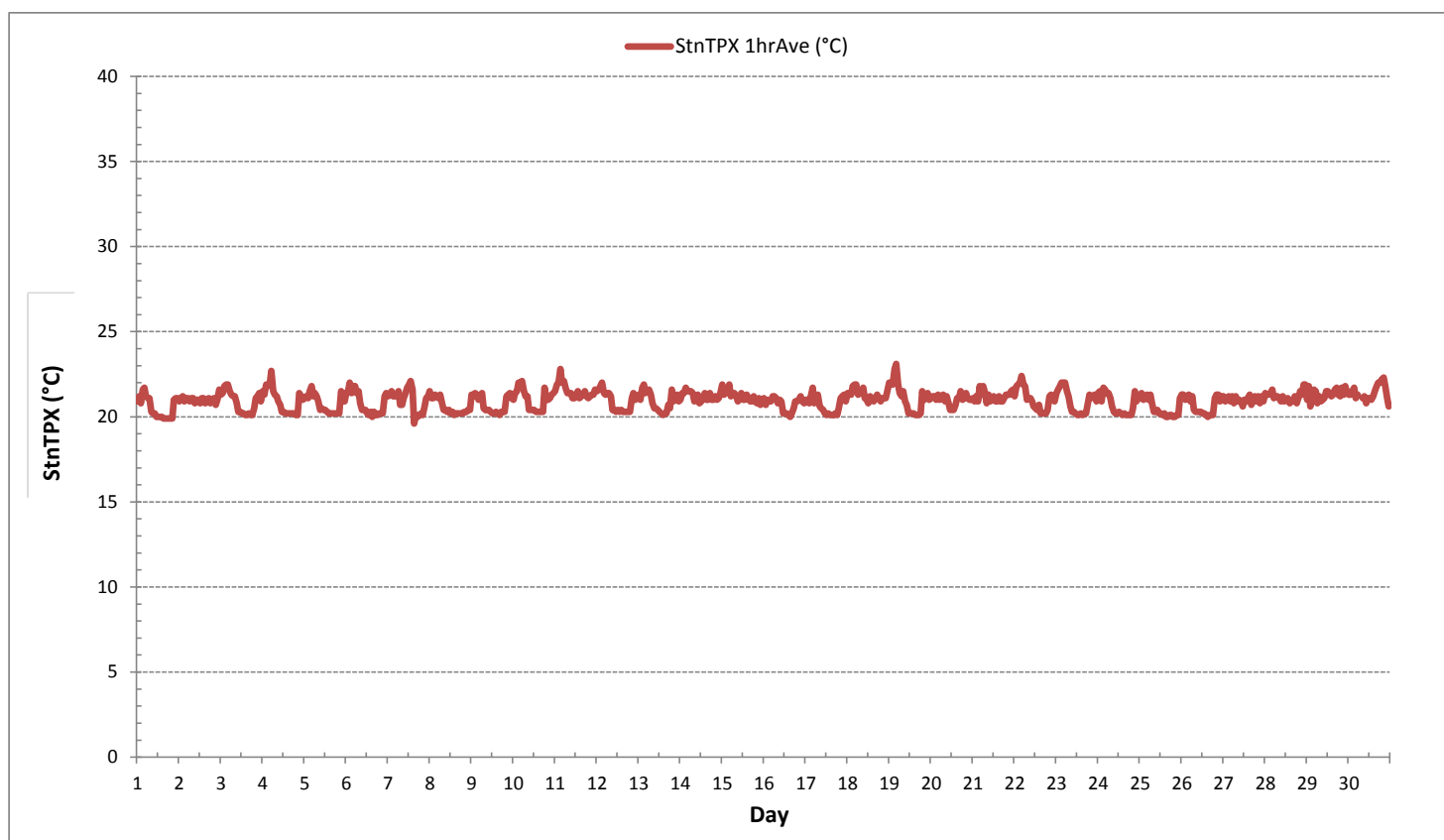
24 HR AVERAGES June 2017



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	19.6	°C	@ HOUR	15	ON DAY	7
MAXIMUM 1-HR AVERAGE:	23.1	°C	@ HOUR	4	ON DAY	19
MAXIMUM 24-HR AVERAGE:	21.5	°C			ON DAY	11
OPERATIONAL TIME:						718 hrs
AMD OPERATION UPTIME:						99.7 %
STANDARD DEVIATION:	0.6		MONTHLY AVERAGE:			21.0 °C

STATION TEMPERATURE Hourly Averages (StnTPX °C)



APPENDIX II
EQUIPMENT CALIBRATION RESULTS

SULPHUR DIOXIDE



Thermo 43C Sulphur Dioxide Analyzer Calibration

Date:	June 7, 2017	Barometer ID #/Last Cert. Date/B.P.:	Brunton 5490, December 4, 2016	27.9 inHg
Company/Airshed:	PRAMP	Thermometer ID #/Last Cert. Date/Temp:	fisher Scientific 160348895, April 8, 2017	20 degrees
Location/Station Name:	986B	Weather Conditions:	Mainly sunny	
Parameter:	Sulphur Dioxide	Calibration Purpose:	routine monthly	
Start Time 24 hr. (mst):	9:00	Performed By/Reviewer:	Limin Li	Trina Whitsitt
End Time 24 hr. (mst):	12:30	Cal Gas Expiry Date:	December 8, 2019	
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:	May 9, 2017	As Found C.F.:	0.985
Previous C.F.:	0.995	New C.F.:	1.000

Calibration Standards:

Low Flow Meter ID/Cert. Date: Defender 1 Low ID# 152019 November 21, 2016
High Flow Meter ID/Cert. Date: Defender 1 High ID# 148944 November 21, 2016
Calibrator ID/Cert. Date: Sabio 2010 17200415, May 16, 2017
Cal Gas Cylinder I.D. #: EY0000769
Cal Gas Conc. (ppm): 50.5

Standard Calibration Points for Ranges

Point	ppb
High	380
Mid	180
Low	90

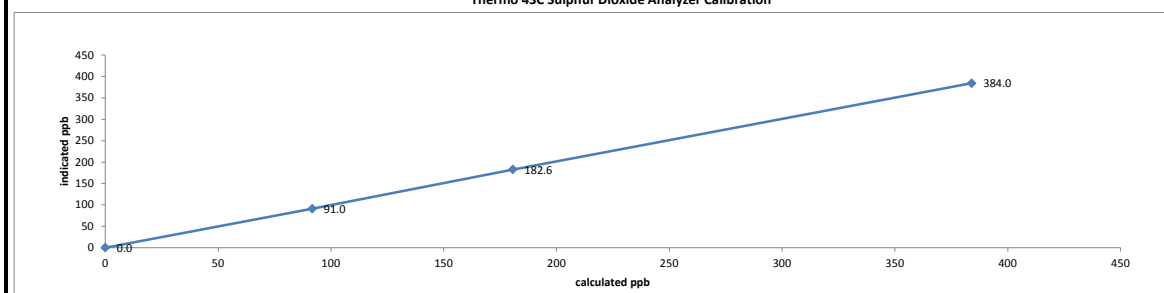
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	6452	0.00	6452	0.0	1.0	n/a
as found high	6391	48.98	6440	384.1	391.0	0.985
adjusted zero	6452	0.00	6452	0.0	0.0	n/a
adjusted high	6391	48.98	6440	384.1	384.0	1.000
mid	6458	23.19	6481	180.7	182.6	0.990
low	6468	11.77	6480	91.7	91.0	1.008
calibrator zero	6452	0.00	6452	0.0	0.0	n/a
Average C.F. =						0.999

Linear Regression/Calibration Results:

Correlation Coefficient =	1.000	LIMITS
Slope =	0.999	> or = 0.995
b (Intercept as % of full scale) =	-0.03%	.95-1.05
% change in C.F. from last cal =	1.02%	± 3% F.S.
		± 10%

Thermo 43C Sulphur Dioxide Analyzer Calibration



As found:		As left:	
Bkg:	75.5	Bkg:	74.7
Coef:	0.905	Coef:	0.886
Pmt:	-654	Pmt:	-654
0	UV Lamp: 847	0	UV Lamp: 847
Battery:	3.3	Battery:	3.3
Internal:	32.8	Internal:	33.7
Chamber:	45.7	Chamber:	45.6
Pressure:	448.7	Pressure:	448.3
Flow:	0.799	Flow:	0.798
Intensity:	38386	Intensity:	38386
Averaging Time:	120	Averaging Time:	120
Expected Value:	300.0	Expected Value:	297.2

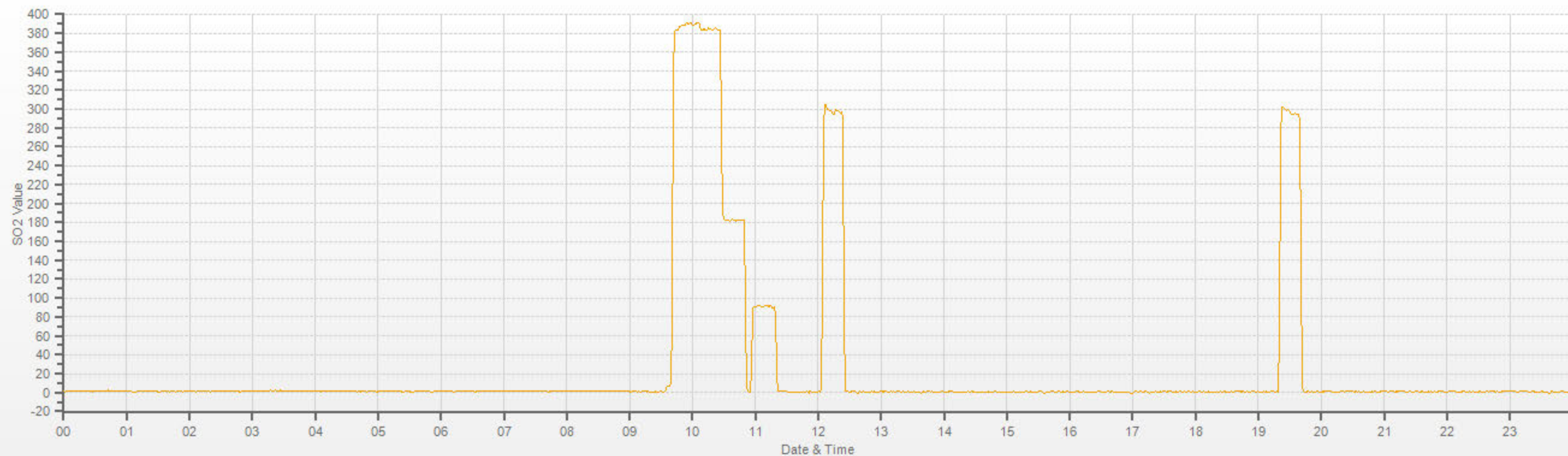
Comments:

The analyzer sample inlet filter was changed.

The analyzer cooling fan filter(s) were cleaned.

Flow measurements performed after mid-point.

SO2[ppb] Station: PRAMP_986 Daily: 17.06.07 Type: AVG 1 Min. [1 Min.]



— SO2[ppb]

TOTAL REDUCED SULPHUR



Thermo 43i Total Reduced Sulphur Analyzer Calibration

Date:	June 7, 2017	Barometer ID #/Last Cert. Date/B.P.:	Brunton 5490, December 4, 2016	27.9 inHg
Company/Airshed:	PRAMP	Thermometer ID #/Last Cert. Date/Temp:	fisher Scientific 160348895, April 8, 2017	20 degrees
Location/Station Name:	986B	Weather Conditions:	Mainly sunny	
Parameter:	Total Reduced Sulphur	Calibration Purpose:	routine monthly	
Start Time 24 hr. (mst):	9:00	Performed By/Reviewer:	Limin Li	Trina Whitsitt
End Time 24 hr. (mst):	12:45	Cal Gas Expiry Date:	January 6, 2018	
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	CDNOVA CDN-101 & s/n:516	

Analyzer:

ID# or Serial Number:	1152940011	Range ppb:	100
Last Calibration Date:	May 9, 2017	As Found C.F.:	1.021
Previous C.F.:	1.001	New C.F.:	0.993

Calibration Standards:

Low Flow Meter ID/Cert. Date: Defender 1 Low ID# 152019 November 21, 2016
High Flow Meter ID/Cert. Date: Defender 1 High ID# 148944 November 21, 2016
Calibrator ID/Cert. Date: Envirionics 2000 1991, March 16, 2017
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

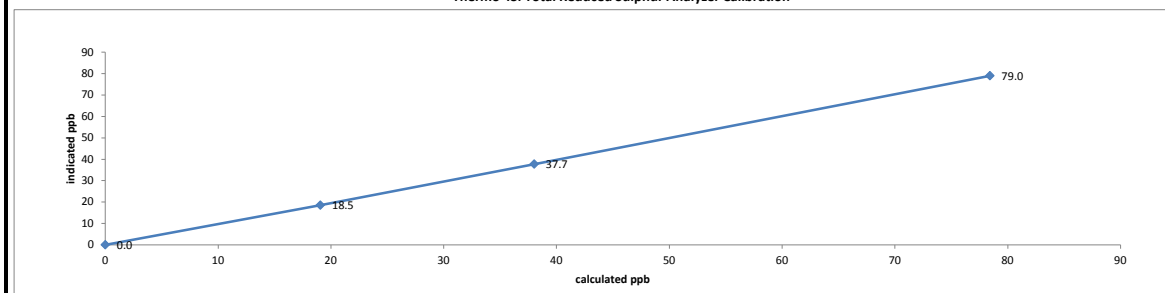
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration:	Indicated Concentration:	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total	(ppb)	(ppb)	
as found zero	7532	0.00	7532	0.0	-0.1	n/a
as found high	7476	57.93	7534	78.4	76.7	1.021
adjusted zero	7532	0.00	7532	0.0	0.0	n/a
adjusted high	7476	57.93	7534	78.4	79.0	0.993
mid	7514	28.12	7542	38.0	37.7	1.009
low	7510	14.07	7524	19.1	18.5	1.031
calibrator zero	7532	0.00	7532	0.0	0.1	n/a
Average C.F. =						1.011

Linear Regression/Calibration Results:

Correlation Coefficient =	1.000	LIMITS
Slope =	0.990	> or = 0.995
b (Intercept as % of full scale) =	0.41%	.95-1.05
% change in C.F. from last cal =	-2.02%	± 3% F.S.
		± 10%

Thermo 43i Total Reduced Sulphur Analyzer Calibration



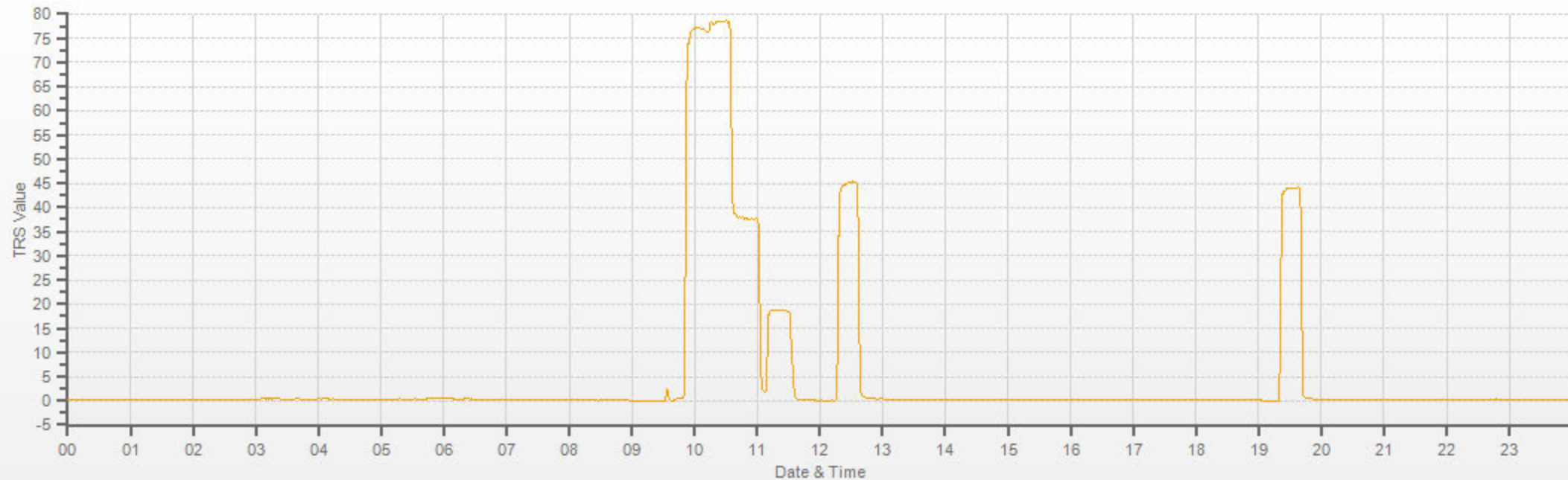
As found:		As left:	
Bkg:	1.98	Bkg:	1.88
Coef:	0.980	Coef:	1.002
Pmt:	-687.1	Pmt:	-687.1
Flash:	966	Flash:	965
Internal:	31.7	Internal:	32.4
Chamber:	45.3	Chamber:	45.1
Perm Oven Gas:	45.00	Perm Oven Gas:	45.00
Perm Oven Heater:	44.25	Perm Oven Heater:	44.25
Pressure:	655.0	Pressure:	653.5
Sample Flow:	0.468	Sample Flow:	0.466
Lamp Intensity:	91	Lamp Intensity:	91
Converter:	820	Converter:	820
Converter Set:	820	Converter Set:	820
Averaging Time:	120	Averaging Time:	120
Expected Value:	43.6	Expected Value:	45.2

Comments:

The analyzer sample inlet filter was changed. The analyzer cooling fan filter(s) were cleaned.

Flow measurements performed after mid-point.

TRS[ppb] Station: PRAMP_986 Daily: 17.06.07 Type: AVG 1 Min. [1 Min.]



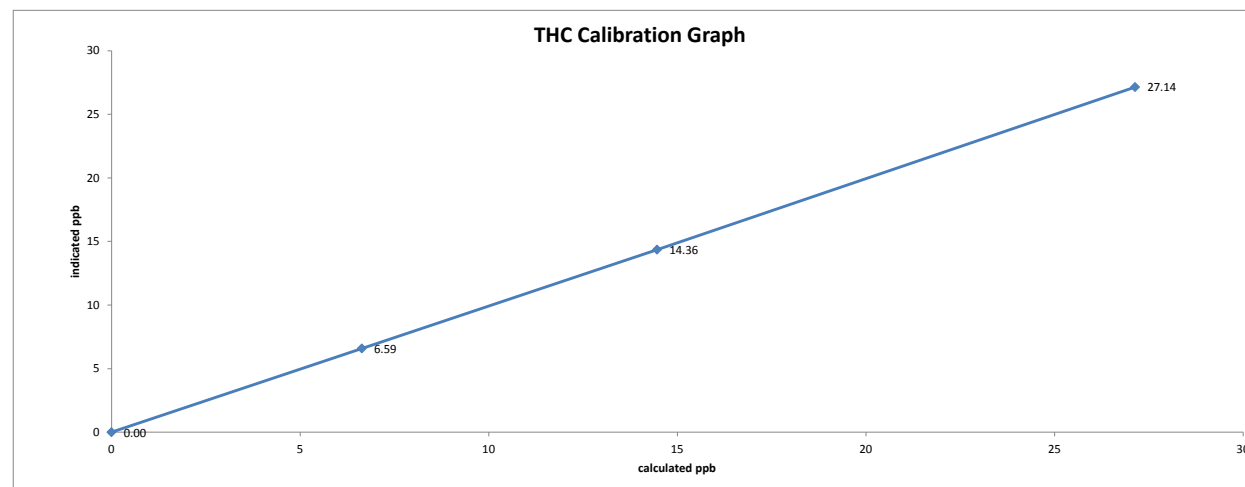
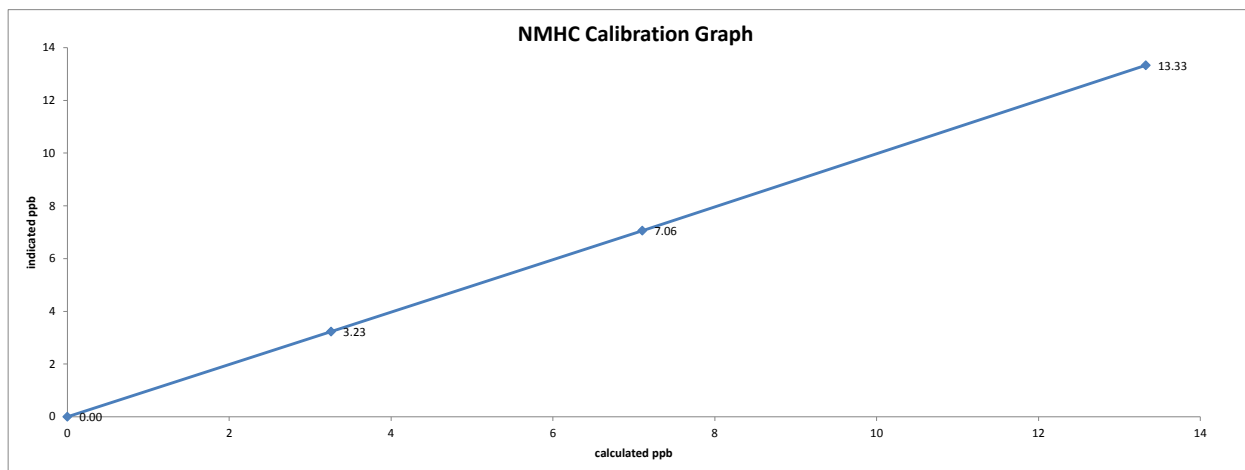
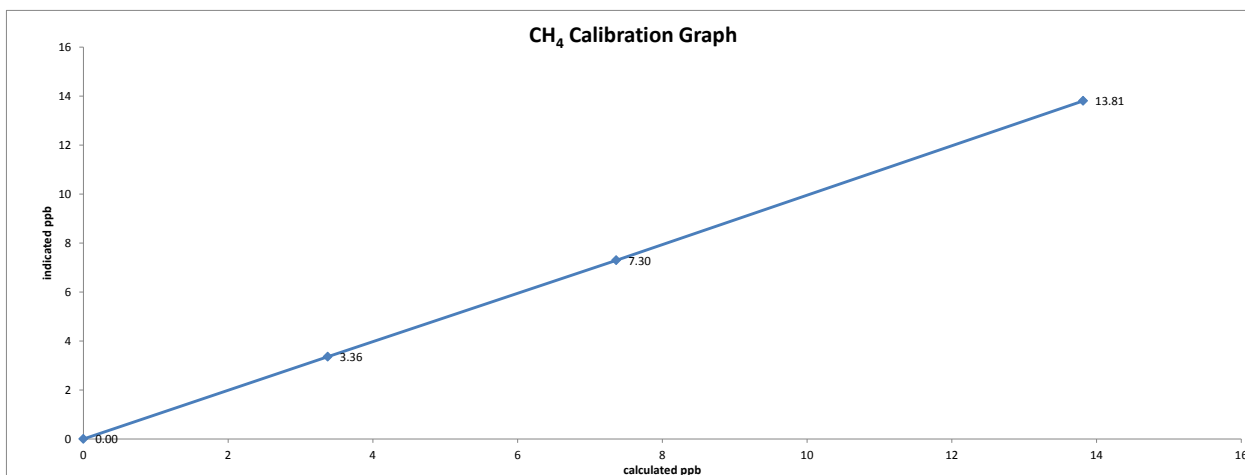
— TRS[ppb]

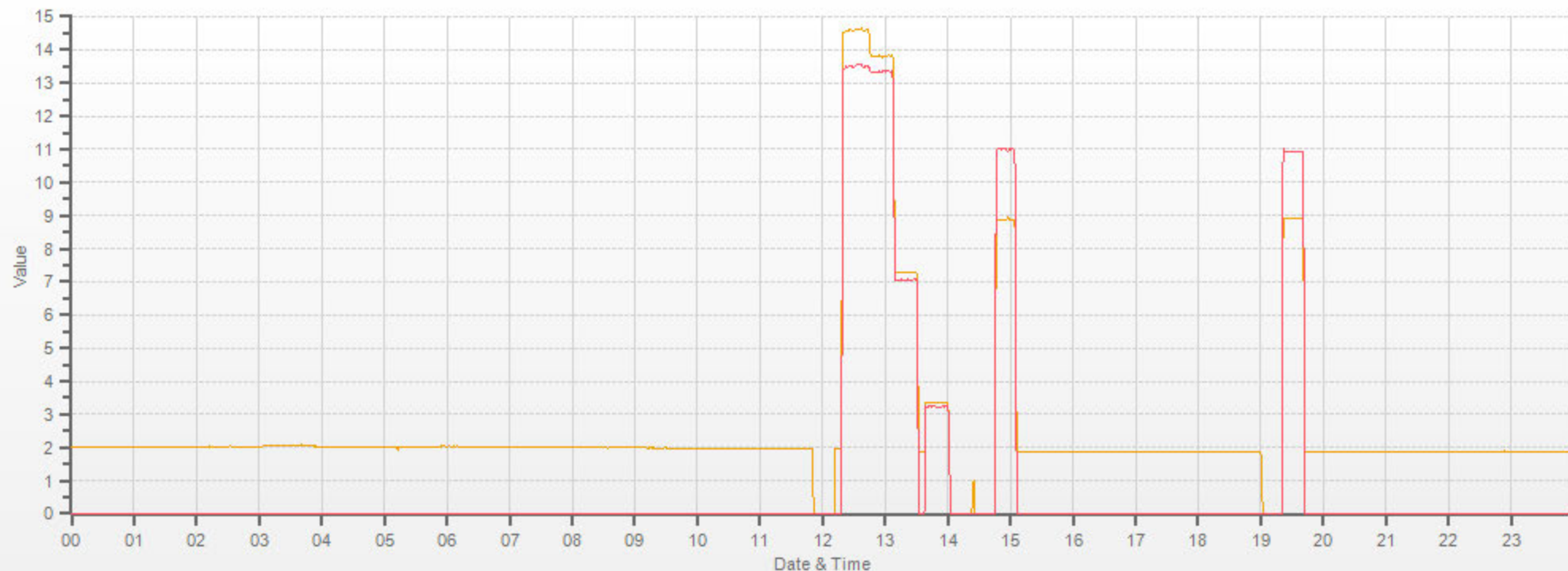
TOTAL HYDROCARBON

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Date: June 7, 2017
Company/Airshed: PRAMP
Location/Station Name: 986B

Start/End Time 24 hr. (mst): 11:52/15:10
Calibration Purpose: routine monthly
Calibration Method: Gas Dilution





— CH4[ppm] — NMHC[ppm]

WIND SYSTEM



Meteorological Sensor Audit/Calibration

Location Information

Company: PRAMP
 Audit Location: 986b
 Audit Date: April 5, 2017

Performed By: Limin Li
 Reviewed By: Trina Whitsitt
 Start /EndTime (mst): 13:30/15:30

Wind Sensor Information

Sensor ID Data:		Sensor Outputs:	
Sensor Make:	RM Young	Velocity Voltage Output Range:	0-1 V
Sensor Model:	05305VK	Velocity Unit Output Range:	0-200 km/h
Serial #:	129612	Direction Voltage Output Range:	0-1 V
Previous Cal/Audit Date:	February 15, 2017	Direction Unit Output Range:	0-360 degrees

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	18.4	18.4	18.4	0.999
2000	36.9	36.8	36.8	1.003
3000	55.3	55.2	55.2	1.002
4000	73.7	73.6	73.6	1.002
5000	92.2	92.0	92.0	1.002
6000	110.6	110.5	110.5	1.001
7000	129.0	128.9	128.9	1.001
8000	147.4	147.4	147.4	1.000
9000	165.9	165.9	165.9	1.000
10000	184.3	184.5	184.5	0.999
The audit meets AMD requirements.			Average Correction Factor=	1.001

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	0.4	2.5	1.5
30	330	29	329	1.4	1.3	1.3
60	300	60	300	0.4	0.3	0.3
90	270	89	271	0.8	-1.2	1.0
120	240	120	242	0.5	-1.6	1.1
150	210	150	212	0.1	-1.8	1.0
180	180	181	181	-0.9	-1.1	1.0
210	150	212	151	-1.5	-0.8	1.2
240	120	241	120	-1.3	-0.2	0.8
270	90	271	90	-0.5	-0.1	0.3
300	60	300	60	0.2	0.5	0.3
330	30	329	29	1.4	0.7	1.1
355	0	353	0	2.5	0.3	1.4
The audit meets AMD requirements.			Average Absolute Degrees Difference=			0.9

Comments: Adjust wind speed gain before calibration.

CALIBRATORS

Company Maxxam		Operator: Micheal Espiritu	
Calibrator:		Flow Measurement Device:	
Make/Model	Sabio 2010	Make/Model	Mesa Defender 530
Serial Number	17200415	Serial Number	L-152019 H-148944
Last Verification Date	May 2016	Temperature (°C)	25.0 C
NO Cylinder S/N	EY0000597	Barometric Pressure	697 mmhg
NO [PPM]	49.0	NOx [PPM]	49.0
Expiry Date	December 2019		

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
5028	0.0	0.000	0.000	0.000	0.000	0.000	Limit ± 10%	
4930	78.7	0.783	0.783	0.809	-0.012	0.797	3%	2%
4936	38.6	0.383	0.383	0.396	-0.006	0.390	3%	2%
4935	19.4	0.193	0.193	0.199	-0.003	0.196	3%	2%
Absolute Average Percent Difference							3%	2%

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)= 1.0334	0.90-1.10	m (Slope)= 1.0181
b (Intercept % of FS)= -0.0105	± 3% F.S.	b (Intercept % of FS)= -0.0148

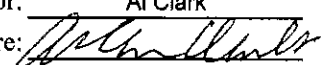
Flow	O ₂ Conc (LC)	NO Decrease	NO	NO ₂	NOX	% Diff. Vs Audit gas	
4930	0.000	0.000	0.806	-0.013	0.795	NO ₂	% Diff. Limit
4930	1.425	0.523	0.283	0.511	0.794	0%	± 10%
4930	0.825	0.278	0.528	0.266	0.795	0%	± 10%
4930	0.386	0.095	0.711	0.085	0.796	3%	± 10%
Absolute Average Percent Difference						1%	± 10%

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

NO₂	LIMITS
Correlation= 1.0000	≥ 0.995
m (Slope)= 0.9998	0.90-1.10
b (Intercept % of FS)= -1.1702	± 3% F.S.

AENV Standards		NO_x Analyzer	
Audit Calibrator			
Make/Model	Teco 146i	Make/Model	Teco 42i
Serial/AMU Number	AMU 1809	Serial/AMU Number	AMU 1868
SRM Gas Cylinder No.	CAL018101	Last Calibration Date	May 16, 2017
Cylinder Conc. (ppm)	48.79	Full Scale (ppm)	1.0
		Cylinder Gas Expiry Date	March 2019

COMMENTS: Contains 50.4 ppm SO₂.

Auditor: Al Clark
Operator Signature: 

Date: May 16, 2017
Location: McIntyre Center Edmonton

Company Maxxam		Operator: Mike	
Calibrator:		Flow Measurement Device:	
Make/Model	EnviroNics 2000	Make/Model	Bios Defender 530
Serial Number	1991	Serial Number	HI148944 Lo 152019
Last Verification Date	March 31, 2016	Temperature (°C)	24.5
NO Cylinder S/N	EY0000597	Barometric Pressure	699
NO [PPM]	49.0 NOx [PPM]		49.0
Expiry Date	December 8, 2019		

Dilution Flow (sccm)			
Pt. #1	4902	Pt. #2	4935
Pt. #3	4957		
Gas Flow (sccm)			
Pt. #1	79.3	Pt. #2	38.7
Pt. #3	19.4		

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO ₂	NOx	NO	NOx
4976	0.0	0.0000	0.0000	0.0001	0.0000	0.0001	Limit ± 10%	
4981	79.3	0.7801	0.7801	0.7898	0.0000	0.7898	1%	1%
4972	38.7	0.3814	0.3814	0.3841	0.0002	0.3843	1%	1%
4976	19.4	0.1910	0.1910	0.1913	0.0003	0.1916	0%	0%
Absolute Average Percent Difference							1%	1%

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)= 1.0130	0.90-1.10	m (Slope)= 1.0129
b (Intercept % of FS)= -0.1190	± 3% F.S.	b (Intercept % of FS)= -0.1029

Flow	O ₃ Conc	NO Decrease	NO	NO ₂	NOX	% Diff. Vs Audit gas	
4981	0.000	0.0000	0.7925	-0.0001	0.7924	NO ₂	% Diff. Limit
4981	0.400	0.5347	0.2578	0.5279	0.7857	-1%	± 10%
4981	0.200	0.2490	0.5435	0.2478	0.7913	0%	± 10%
4981	0.090	0.1090	0.6835	0.1095	0.7927	1%	± 10%
Absolute Average Percent Difference						0%	± 10%

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

NO₂	LIMITS	
Correlation= 1.0000	≥ 0.995	
m (Slope)= 0.9864	0.90-1.10	
b (Intercept % of FS)= 0.1136	± 3% F.S.	

AENV Standards		NO_x Analyzer	
Audit Calibrator		Make/Model Thermo 42i	
Make/Model	Thermo 146i	Serial/AMU Number	1868
Serial/AMU Number	1809	Last Calibration Date	March 15, 2017
SRM Gas Cylinder No.	CAL018140	Full Scale (ppm)	1.0
Cylinder Conc. (ppm)	48.79	Cylinder Gas Expiry Date	March 28, 2019

COMMENTS: Gas has ~50ppm SO₂

Auditor: Shea Beaton
Operator Signature: [Signature]

Date: March 16, 2017
Location: McIntyre Center Edmonton

CALIBRATION GASES



Calibration Gas Audit

Single Component Cylinder Gas

File No. 2016-436CGA

Company: Maxxam **Operator's Name:** Chris
Cylinder #: EY0000769 **Concentration PPM:** 50.5 **Tolerance(%)** 1.6 **Certified By:** Praxair
Expiry Date: December 8, 2019

Reference Calibrator and Gas:

Make/Model: Thermo 146i
Serial Number: AMU 1809
Last Verification Date: January 26, 2017
Gas Type: SO2 **Conc.** 98.07
Cylinder Number: CAL016625
Expiry Date: January 5, 2019

Flow Measurement Device:

Make/Model: Bios Befiner 220
Serial Number: AMU1941
Temp. °C: 24.4
B.P. 704.7

Reference Analyzer:

Make/Model: Themro 43C **Serial/AMU Number:** AMU 1623
Instrument Settings: **Zero:** 9.5 **Span:** 1.023 **Range:** 1.0
Last Calibration: **Date:** 25-Jan-17 **C.F.** 1.000 **Done By:** SB

Calibrator Flows (sccm)		Indicated Concentration (PPM)	Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration
Dilution	Gas				
4911	0.0	0.000			
4918	77.4	0.801	0.01574	63.540	50.9
4918	38.5	0.398	0.00783	127.740	50.9
4915	19.2	0.196	0.00391	255.990	50.0
Average Cylinder Concentration:					50.6

Previous Stated Concentration PPM: 50.5

Percent variance from Stated: 0.2

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

Auditor: Shea Beaton
Operator Signature: _____

Date: January 26, 2017
Location: McIntyre Center Edmonton



Calibration Gas Audit

Single Component Cylinder Gas

File No. 2015-338CGA

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

Reference Calibrator and Gas:

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

Flow Measurement Device:

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

Reference Analyzer:

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

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

Previous Stated Concentration PPM: 10.2

Percent variance from Stated: 6.0

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

Auditor: Al Clark
Operator Signature: *Al Clark*

Date: March 31, 2015
Location: McIntyre Center Edmonton



Calibration Gas Audit

CH₄ / C₃H₈ Cylinder Gas

File No. 2015-029CGA

Company: Maxxam **Operators name:** Limin Li
Cylinder #: LL165367 **Conc CH₄ (PPM)** 590/207 **Tolerance (%)** 2 **Certified By:** Praxair

Reference Calibrator and Gas:

Make/Model R&R MFC 201
Serial Number AMU 1691
Last Verification Date May 21, 2015
Gas Type CH₄ **Conc.** 999.2
Cylinder Number D751932
Gas Type C₃H₈ **Conc.** 246.5
Cylinder Number XF0037998

Flow Measurement Device:

Make/Model Bios DC2
Serial Number AMU 1650
Temp. °C 24.0 C
B.P. 703 mmhg

Reference Analyzer:

Make/Model Teco 55C **Serial/AMU Number:** 1643
Instrument Settings **Zero:** N/A **Span:** N/A **Range:** 20
Last Calibration: **Date:** May 21/15 **C.F.** 1.000 **Done By:** Al Clark

Calibrator Flows (sccm)		Indicated Conc. (ppm)		Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration	
Dilution	Gas	CH ₄	C ₃ H ₈			CH ₄	C ₃ H ₈
2600	0.0	0.00	0.00	0.02005	49.883	602	206
2569	51.5	12.06	11.37	0.02005	49.883	602	206
3549	22.3	3.77	3.57	0.00628	159.148	600	207
3523	10.4	1.77	1.70	0.00295	338.750	600	209
Average Cylinder Concentration:						600	207

CH₄ **C₃H₈**
Previous Stated Concentration PPM: 590 207
Percent variance from Stated: 1.8 0.2

Cylinder gas tolerances based on CH₄ only

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

Auditor: Al Clark **Date:** May 21, 2015
Operator Signature: _____ **Location:** McIntyre Center Edmonton

APPENDIX III
REPORT CERTIFICATION FORM

Report Certification Form

Alberta Airshed (if applicable)	EPA Approval or Code of Practice Registration # (if applicable)
YES	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
Maram Ghaleb	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.

Maram Ghaleb

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

July 26, 2017

Report Issued Date (dd-mm-yyyy)

APPENDIX IV
DATA VALIDATION CERTIFICATION FORM



Validation Certificate Form

Client: Peace River Area Monitoring Program Committee

Project #: 8449-2017-06-67-C

Site: Three Creeks 986b Station

Contact: Karla Reesor

Level 0 Preliminary Verification

Maram Ghaleb

Date June 26, 2017

Level 1 Primary Validation

Maram Ghaleb

Date June 30, 2017

Level 2 Final Validation

Maram Ghaleb

Date July 18, 2017

Level 3 Independent Data Review

Carla Reesor

Date July 20, 2017

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.