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

JOB #: 8449-2018-08-67-C

August 2018

Prepared for:

PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Attention: LILY LIN

DATE: **September 22, 2018**

Prepared by:

A handwritten signature in blue ink, appearing to read "Wunmi Adekanmbi".

Wunmi Adekanmbi, M.Sc., EPT, PMP
Project Team Lead, Customer Service, Air Services

Reviewed by:

A handwritten signature in black ink, appearing to read "Cheri Sinclair".

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

SUMMARY

In August 2018, Maxxam Analytics was contracted to manage the ambient air quality monitoring and maintenance activities at the Three Creeks 986 Station, near Peace River Oil Sands Area 2, Alberta. The monitoring station provides continuous meteorological measurements and air quality data for non-compliance parameters, as requested by the PRAMP Committee.

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

With the exception of THC/CH₄/NMHC, the operational time for all continuous ambient air analyzers, meteorological systems and data acquisition systems were above the 90% requirement.

Station Upgrade: A station upgrade was implemented between July 30 and August 2. The trailer was replaced and the Ultimate data logger was installed to replace the resident ESC 8832. Downtime ranging from thirty-seven to forty hours were recorded across parameters, in the August monitoring period, due to activities surrounding the upgrade.

Non-Conformance: The 90% operational time requirement was not met for THC/CH₄/NMHC this month. This contravention was reported to AEP under reference number: 343452. Two events contributed to the downtime:

- The station upgrade contributed forty hours of downtime between August 1 and August 2.
- A calibration attempt on August 29 did not meet Maxxam's internal stability requirement due to poor sample injections. A successful post-repair calibration was completed on August 30. Data was invalidated back to the point of failed performance, determined as August 28 at 14:00. Forty-seven hours of downtime were incurred due to this event.

TRS: Three hours of downtime were incurred between August 4 and August 8 due to additional quality checks performed to address a biased low drift in span response.

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.

Should you have any questions concerning the results or if we can be of further assistance, please contact us at 403-219-3661 or toll-free at 1-800-386-7247.

Monthly Continuous Data Summary

Peace River Area Monitoring Program Committee						MAXIMUM VALUES							OPERATIONAL TIME (%)
Three Creeks 986b Station						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDANCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (kph)	WIND DIRECTION (sector)	READING	DAY	
	1-hr	24-hr	1-hr	24-hr									
SO ₂ (ppb)	172	48	0	0	0	2	10	21	2.6	NW	1	10	94.9
TRS (ppb)	-	-	-	-	0.53	2.63	11	7	1.6	N	0.84	15	94.5
THC (ppm)	-	-	-	-	2.02	2.66	20	0	2	E	2.19	20	88.3
CH ₄ (ppm)	-	-	-	-	2.02	2.66	20	0	2	E	2.19	20	88.3
NMHC (ppm)	-	-	-	-	0.00	0.07	10	9	5.1	SW	0.01	10	88.3
RELATIVE HUMIDITY (%)	-	-	-	-	72	101	23	21	7.1	NW	96	26	95.0
BAROMETRIC PRESSURE (millibar)	-	-	-	-	940	954	20	0	1.6	E	952	19	95.0
AMBIENT TEMPERATURE (°C)	-	-	-	-	15.2	28.5	22	16	7	SW	20.8	2	95.0
STATION TEMPERATURE (°C)	-	-	-	-	22.8	25.2	11	8	3.5	N	23.6	10	95.0
VECTOR WS (kph)	-	-	-	-	2.2	19.3	18	10	-	NW	9.6	13	95.0
VECTOR WD (sec)	-	-	-	-	227 (SW)	-	-	-	-	-	-	-	95.0

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	2018	August

CONTINUOUS AMBIENT MONITORING						
PARAMETER	% TIME OPERATIONAL	ONE - HOUR AVERAGE			24 - HOUR AVERAGE	
		MAXIMUM VALUES		NO. READINGS > REGULATION	MAXIMUM VALUES	NO. READINGS > REGULATION
SO ₂	94.9	0.002 ppm		0	0.001 ppm	0
TRS	94.5	0.003 ppm		-	0.001 ppm	-
THC	88.3	2.66 ppm		-	2.19 ppm	-
CH ₄	88.3	2.66 ppm		-	2.19 ppm	-
NMHC	88.3	0.07 ppm		-	0.01 ppm	-
RH	95.0	101 %		-	96 %	-
BP	95.0	954 mb		-	952 mb	-
Ambient TPX	95.0	28.5 °C		-	20.8 °C	-
Station TPX	95.0	25.2 °C		-	23.6 °C	-
Wind Speed	95.0	19.3 kph		-	9.6 kph	-
Wind Direction	95.0	-		-	-	-

SIGNATURE OF COMPANY REPRESENTATIVE

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Exceedance Summary Report

SO₂ 1-Hour Exceedances

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

SO₂ 24-Hour Exceedances

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

In accordance with EPEA and the Substance Release Regulation.

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

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1.0 Discussion

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

The sample inlet filter for all continuous air analyzers are replaced 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 94.9%, equivalent to thirty-eight hours of downtime.
- Following a successful shut-down calibration on July 30, a station upgrade was implemented. The trailer was replaced and the Ultimate data logger was installed to replace the resident ESC 8832. Monitoring activity resumed on August 2, following a successful installation calibration. Thirty-eight hours of data were lost in the August monitoring period as a result of activities surrounding this upgrade.

TOTAL REDUCED SULPHUR (TRS)

- Operational time for the monitoring period was 94.5%, equivalent to forty-one hours of downtime.
- Following a successful shut-down calibration on July 30, a station upgrade was implemented. The trailer was replaced and the Ultimate data logger was installed to replace the resident ESC 8832. Monitoring activity resumed on August 2, following a successful installation calibration. Thirty-eight hours of data were lost in the August monitoring period as a result of activities surrounding this upgrade.
- The analyzer spanned outside the lower acceptance limit on August 3. An additional span response check conducted on August 4 and subsequent scheduled zero-span checks were within acceptance limits and progressively closer to the mean. An As-Found response check was performed on August 8 as a proactive measure. As the As-Found results met AMD requirements, data quality was not impacted by this event. Three hours of downtime were, however, incurred due to the additional quality checks.

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

- Operational time for the monitoring period was 88.3%, equivalent to eighty-seven hours of downtime. The AMD's 90% operational time requirement was not met this month. This contravention was reported to AEP under reference number: 343452.
- Following a successful shut-down calibration on July 30, a station upgrade was implemented. The trailer was replaced and the Ultimate data logger was installed to replace the resident ESC 8832. Monitoring activity resumed on August 2, following a successful installation calibration. Forty hours of data were lost in the August monitoring period as a result of activities surrounding this upgrade.
- Beginning on August 28, frequent poor sample injections were observed. This prompted a site visit on August 29 where a shut-down calibration was attempted prior to maintenance. However, the As-Found High point did not meet requirements as there were poor sample injections that impacted the stability criteria. The rotor and actuator were replaced, an orifice in the zero-span system was tightened and secured, gas pressures were adjusted and column conditioning was run overnight. A successful post-repair calibration was completed on August 30. Data was invalidated back to the point of failed performance, determined as August 28 at 14:00. Forty-seven hours of downtime were incurred due to this event.
- Minute data for the month was reviewed. CH₄ minute concentrations recorded lower than 1.80 ppm, along with the corresponding THC and NMHC values, were excluded and the corresponding hourly average recalculated, due to poor injections. Impacted minute data include the following:

Date	Time	Conc. (ppm)
2018/08/24	18:28	1.58
2018/08/27	21:19	1.7
2018/08/27	22:02	1.79
2018/08/27	22:18	1.65
2018/08/28	05:06	1.78
2018/08/28	13:56	1.69

- One instance of maximum instantaneous data was discarded on August 26 at hour 20:00, as the data was considered invalid likely due to issues from the data-logger configuration.
- 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 95.0%, equivalent to thirty-seven hours of downtime.
- A station upgrade was implemented. The trailer was replaced and the Ultimate data logger was installed to replace the resident ESC 8832. Monitoring activity resumed on August 2. Thirty-seven hours of data were lost in the August monitoring period as a result of activities surrounding this upgrade.
- An anemometer sensor check was conducted on August 2. The result was satisfactory.
- 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 95.0%, equivalent to thirty-seven hours of downtime.
- A station upgrade was implemented. The trailer was replaced and the Ultimate data logger was installed to replace the resident ESC 8832. Monitoring activity resumed on August 2. Thirty-seven hours of data were lost in the August monitoring period as a result of activities surrounding this upgrade.
- A humidity sensor check was conducted on August 2. The result was satisfactory.

BAROMETRIC PRESSURE (BP)

- Operational time for the monitoring period was 95.0%, equivalent to thirty-seven hours of downtime.
- A station upgrade was implemented. The trailer was replaced and the Ultimate data logger was installed to replace the resident ESC 8832. Monitoring activity resumed on August 2. Thirty-seven hours of data were lost in the August monitoring period as a result of activities surrounding this upgrade.
- A pressure sensor check was conducted on August 2. The result was satisfactory.

AMBIENT TEMPERATURE (AmbTPX)

- Operational time for the monitoring period was 95.0%, equivalent to thirty-seven hours of downtime.
- A station upgrade was implemented. The trailer was replaced and the Ultimate data logger was installed to replace the resident ESC 8832. Monitoring activity resumed on August 2. Thirty-seven hours of data were lost in the August monitoring period as a result of activities surrounding this upgrade.
- A temperature sensor check was conducted on August 2. The result was satisfactory.

STATION TEMPERATURE (StnTPX)

- Operational time for the monitoring period was 95.0%, equivalent to thirty-seven hours of downtime.
- A station upgrade was implemented. The trailer was replaced and the Ultimate data logger was installed to replace the resident ESC 8832. Monitoring activity resumed on August 2. Thirty-seven hours of data were lost in the August monitoring period as a result of activities surrounding this upgrade.

2.0 Project Personnel

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

3.0 Plant Monthly Required AMD Summary

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

With the exception of THC/CH₄/NMHC, the operational time for all continuous ambient air analyzers, meteorological systems and data acquisition systems were above the 90% requirement.

Non-Conformance: The 90% operational time requirement was not met for THC/CH₄/NMHC this month. This contravention was reported to AEP under reference number: 343452.

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-00013: 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 - TLE UV Fluorescent Analyzer

Methane, Non-Methane Hydrocarbon - Thermo 55i FID Analyzer

Wind System - RM Young Unit

Relative Humidity - RM Young Unit

Barometric Pressure - Met One Unit

Ambient Temperature - RM Young Unit

Datalogger - Envidas Ultimate

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

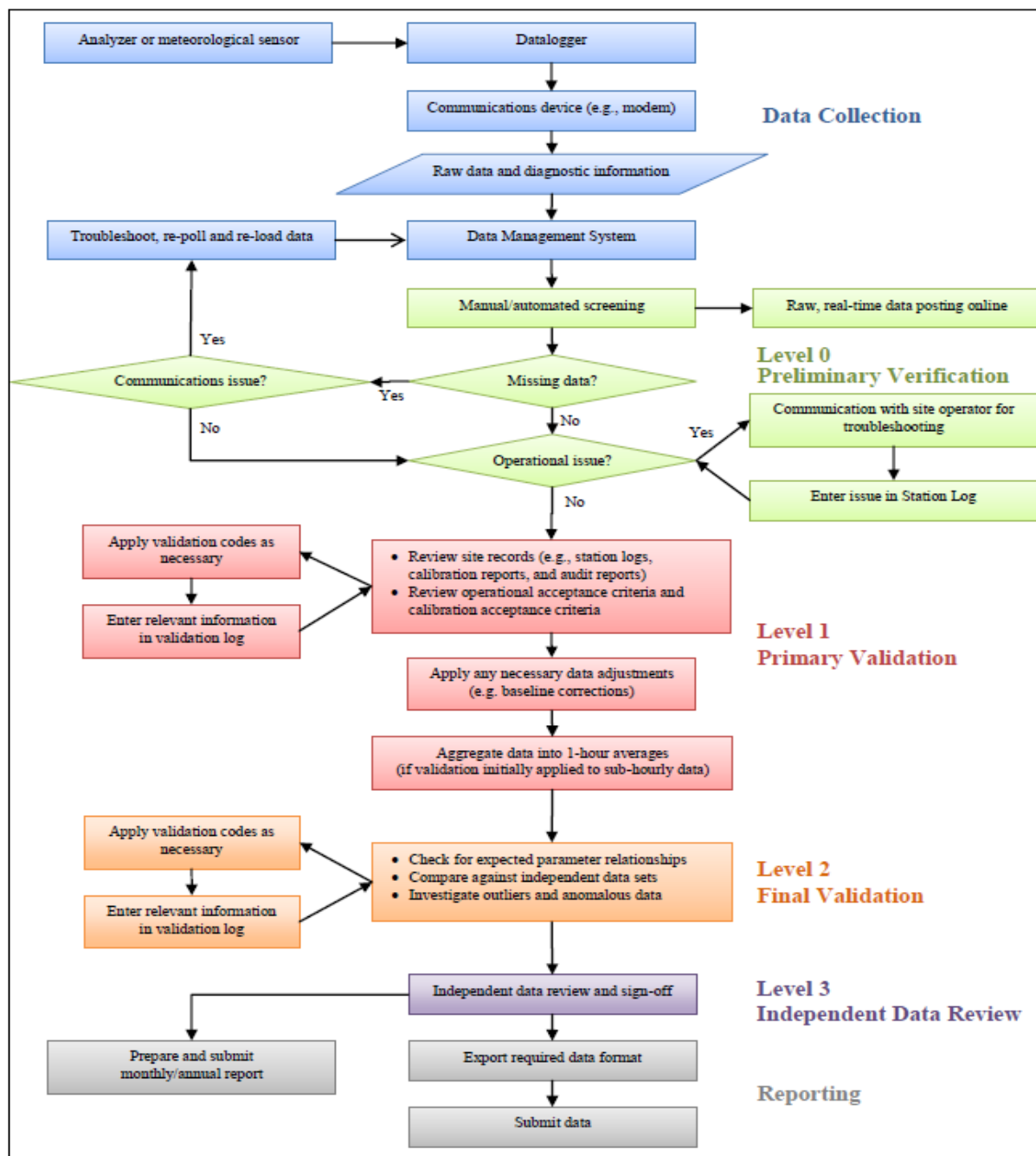
The purpose of Level 2 validation is to verify that there are no inconsistencies among related data, or among regional data measured at nearby sites.

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	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	0	
2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	0	0	0	0	0	0	0	0	0	0	10	
3	0	0	0	0	0	0	0	0	0	0	0	S	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
4	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
5	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
6	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
7	0	0	0	0	0	0	0	S	0	0	1	1	1	1	0	1	1	1	1	0	0	1	0	0	0	0	1	0	24
8	0	0	0	0	1	0	S	0	1	1	1	1	0	1	1	1	1	1	1	1	0	0	0	0	0	0	1	0	24
9	0	0	0	0	0	S	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	1	0	0	0	1	0	24	
10	0	1	0	0	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	0	0	0	2	1	24	
11	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
12	0	1	S	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
13	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
14	S	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
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	24
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	24
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	24
18	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	1	1	S	0	0	0	0	0	0	1	0	24
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	24
20	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	S	0	0	0	0	0	0	0	0	0	1	0	24
21	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	S	0	0	0	0	0	0	0	0	0	1	0	24
22	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	S	0	0	0	0	0	0	0	0	0	0	1	0	24
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	1	0	0	0	0	0	0	0	0	1	0	24
24	0	0	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
25	0	0	0	0	0	0	0	0	0	0	0	1	S	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
26	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
27	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
28	0	0	0	0	0	0	0	0	0	S	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
29	0	0	0	0	0	0	0	0	S	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24
30	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	1	0	24	
31	0	1	1	1	1	1	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	24	
HOURLY MAX	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	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					

STATUS FLAG CODES

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

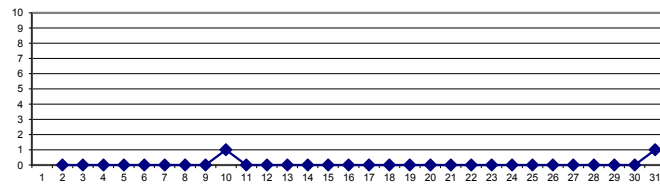
OBJECTIVE LIMIT:

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

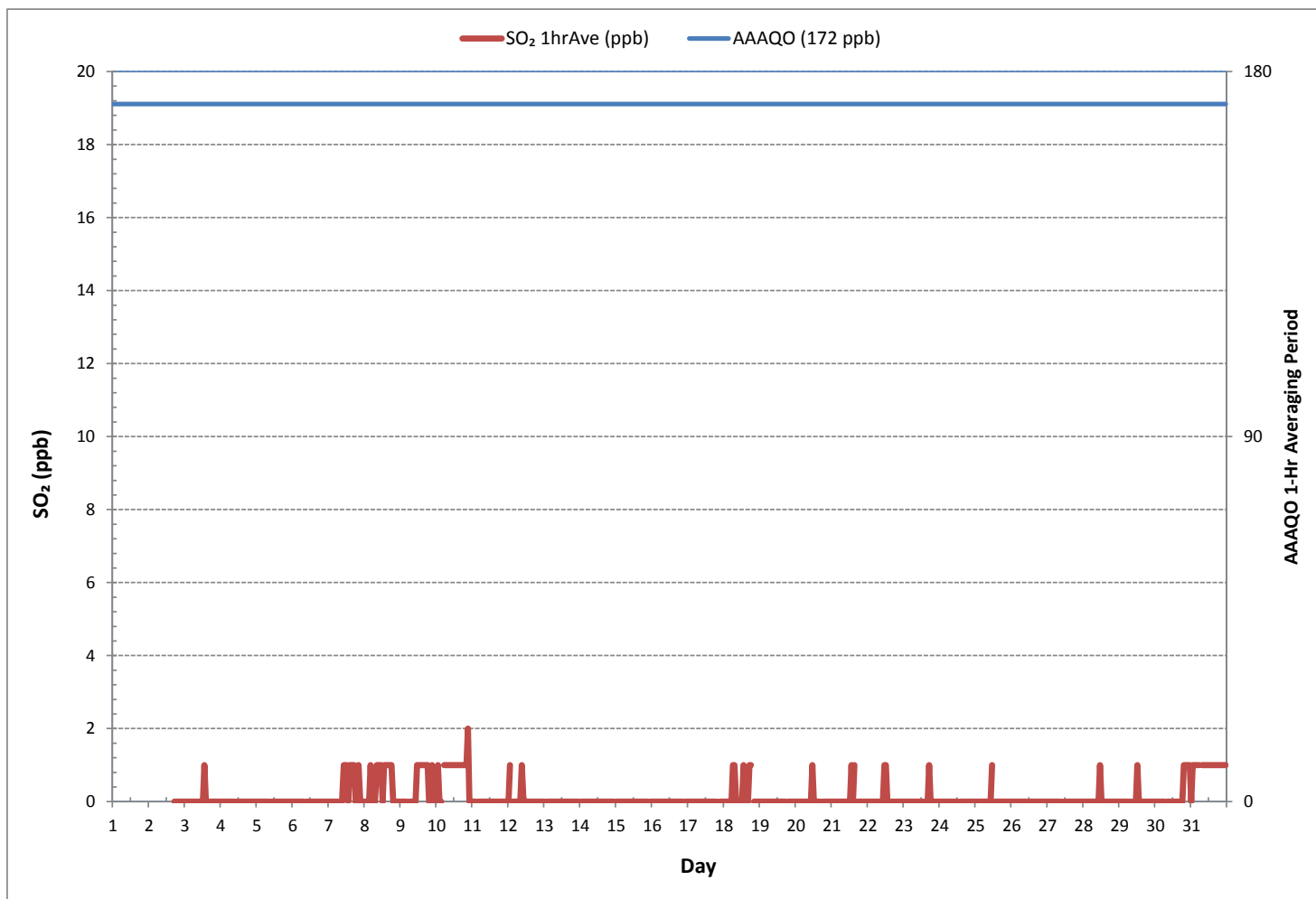
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDANCES:	0
NUMBER OF 24-HR EXCEEDANCES:	0
NUMBER OF NON-ZERO READINGS:	90
MINIMUM 1-HR AVERAGE:	0 ppb @ HOUR 17 ON DAY 2
MAXIMUM 1-HR AVERAGE:	2 ppb @ HOUR 21 ON DAY 10
MAXIMUM 24-HR AVERAGE:	1 ppb ON DAY 10
IZS CALIBRATION TIME:	30 hrs
MONTHLY CALIBRATION TIME:	3 hrs
OPERATIONAL TIME:	706 hrs
AMD OPERATION UPTIME:	94.9 %
STANDARD DEVIATION:	0
MONTHLY AVERAGE:	0 ppb

24 HR AVERAGES August 2018



SULPHUR DIOXIDE Hourly Averages (SO₂ ppb)



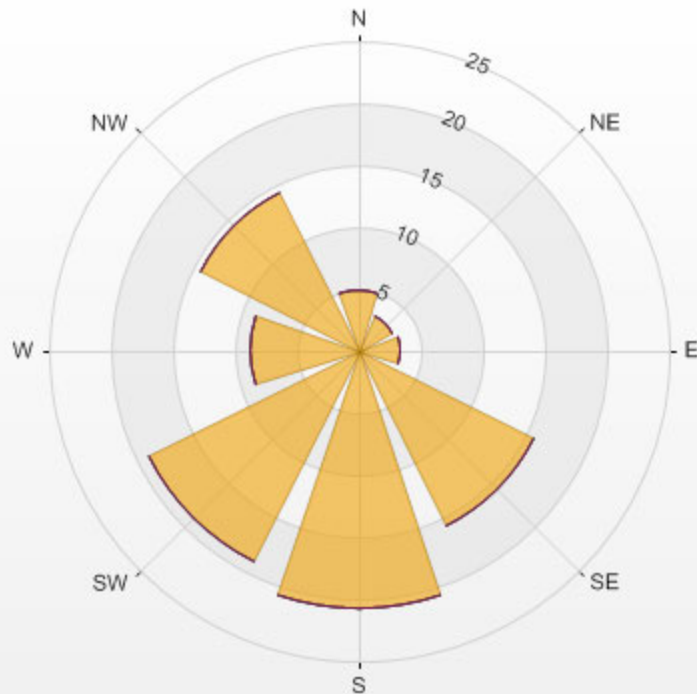
Wind: PRAMP_986
Poll.: PRAMP_986-SO₂[ppb]
Monthly: 18/08
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

Calm: 9.96%

Calm Avg: 0.16 [ppb]

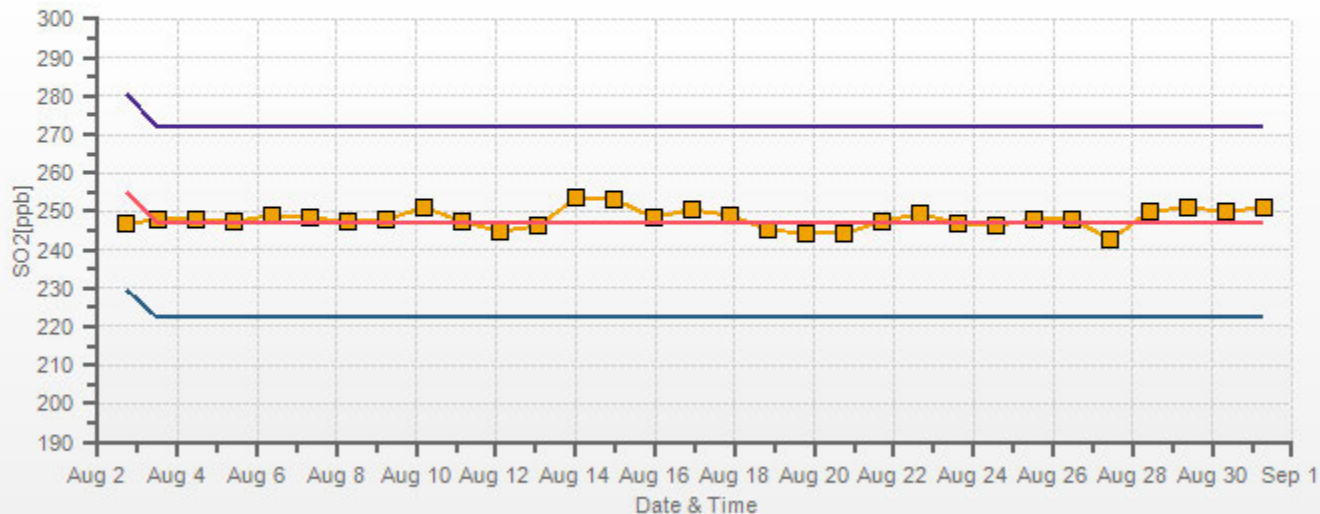
Direction	0-3	3-10	10-85	85-170	>170.0	Total
N	4.9	0.0	0.0	0.0	0.0	4.9
NE	3.1	0.0	0.0	0.0	0.0	3.1
E	3.4	0.0	0.0	0.0	0.0	3.4
SE	15.8	0.0	0.0	0.0	0.0	15.8
S	20.8	0.0	0.0	0.0	0.0	20.8
SW	19.0	0.0	0.0	0.0	0.0	19.0
W	8.8	0.0	0.0	0.0	0.0	8.8
NW	14.3	0.0	0.0	0.0	0.0	14.3
Summary	90.0	0.0	0.0	0.0	0.0	90.0

PRAMP_986 Poll.: PRAMP_986-SO2[ppb] 2018/08/01 00:00 - 2018/08/31 23:00 Calm: 9.96% Calm Poll Avg: 0.16[ppb]



SO2[ppb] Calibration: PRAMP_986 Monthly: 18/08 Type: Span

Span Meas Span Ref Span Low Span High



TOTAL REDUCED SULPHUR

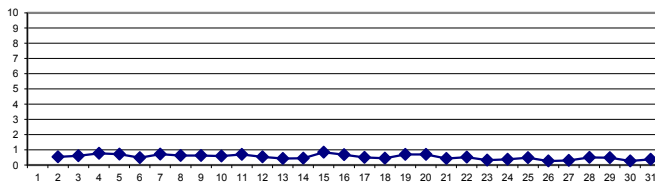
TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)

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	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	0	
2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	0.25	0.27	0.49	0.72	0.76	0.73	0.25	0.76	0.54	10
3	0.66	0.67	0.65	0.65	0.68	0.77	0.65	0.65	0.46	0.40	0.37	S	0.42	0.43	0.47	0.49	0.66	0.72	0.57	0.57	0.63	0.67	0.63	0.80	0.37	0.80	0.60	24	
4	1.11	1.03	1.33	1.49	1.25	1.60	1.17	S1	S1	0.45	S	0.45	0.44	0.40	0.38	0.36	0.33	0.33	0.34	0.46	0.53	0.80	0.93	1.01	0.33	1.60	0.77	22	
5	1.47	1.45	1.26	1.13	1.40	1.05	0.97	0.87	0.64	S	0.46	0.40	0.40	0.40	0.36	0.36	0.34	0.33	0.35	0.37	0.55	0.59	0.59	0.64	0.33	1.47	0.71	24	
6	0.63	0.65	0.61	0.86	0.78	0.79	0.65	0.59	S	0.50	0.39	0.36	0.33	0.33	0.33	0.31	0.31	0.33	0.33	0.31	0.32	0.33	0.38	0.60	0.31	0.86	0.48	24	
7	0.85	1.18	0.98	1.11	1.04	0.95	1.25	S	0.64	0.55	0.55	0.50	0.42	0.37	0.36	0.37	0.40	0.44	0.62	0.81	0.74	0.78	0.87	0.80	0.36	1.25	0.72	24	
8	0.83	0.89	0.83	0.75	0.79	1.12	S	0.83	0.52	0.43	0.45	0.46	0.43	0.44	0.44	0.43	0.40	C1	0.67	0.51	0.60	0.65	0.64	0.69	0.43	1.12	0.63	23	
9	0.81	0.74	0.75	0.69	0.76	S	0.80	0.76	0.75	0.56	0.52	0.52	0.54	0.54	0.49	0.48	0.45	0.45	0.50	0.64	0.70	0.70	0.72	0.64	0.45	0.81	0.63	24	
10	0.60	0.82	0.77	0.86	S	1.03	0.84	1.01	0.72	0.61	0.63	0.57	0.49	0.45	0.39	0.37	0.36	0.37	0.40	0.40	0.44	0.57	0.38	0.45	0.36	1.03	0.59	24	
11	0.56	1.25	1.67	S	1.64	0.88	1.34	2.63	0.69	0.34	0.26	0.28	0.29	0.27	0.25	0.24	0.24	0.23	0.24	0.26	0.35	0.69	0.77	0.67	0.23	2.63	0.70	24	
12	0.59	0.57	S	0.56	0.49	0.79	0.87	1.67	1.08	0.48	0.43	0.52	0.46	0.41	0.36	0.32	0.30	0.29	0.31	0.30	0.33	0.36	0.42	0.52	0.29	1.67	0.54	24	
13	0.57	S	0.65	0.55	0.49	0.48	0.51	0.60	0.60	0.44	0.28	0.26	0.26	0.28	0.28	0.30	0.30	0.32	0.36	0.40	0.47	0.49	0.49	0.52	0.26	0.65	0.43	24	
14	S	0.55	0.56	0.67	0.62	0.67	0.72	0.68	0.53	0.43	0.39	0.36	0.33	0.31	0.33	0.33	0.32	0.32	0.35	0.34	0.36	0.35	0.35	S	0.31	0.72	0.45	24	
15	0.70	1.15	1.71	1.37	1.05	1.72	2.15	2.06	0.69	0.54	0.48	0.40	0.35	0.35	0.34	0.33	0.34	0.34	0.38	0.55	0.65	0.72	S	0.99	0.33	2.15	0.84	24	
16	0.95	1.04	0.94	1.03	0.81	1.45	1.46	1.33	0.65	0.46	0.42	0.54	0.44	0.38	0.32	0.33	0.32	0.31	0.38	0.43	0.47	S	0.48	0.50	0.31	1.46	0.67	24	
17	0.54	0.47	0.50	0.66	0.63	0.77	0.75	0.69	0.62	0.53	0.44	0.40	0.37	0.35	0.34	0.29	0.27	0.27	0.30	0.31	S	0.48	0.64	0.78	0.27	0.78	0.50	24	
18	0.96	0.43	0.41	0.67	0.64	0.43	0.49	0.55	0.44	0.40	0.34	0.32	0.30	0.28	0.29	0.27	0.26	0.29	0.31	S	0.52	0.56	0.58	0.59	0.26	0.96	0.45	24	
19	0.81	0.84	0.86	1.00	1.15	1.41	1.07	1.00	0.59	0.44	0.38	0.35	0.33	0.29	0.27	0.26	0.27	0.29	S	0.50	0.94	0.73	1.17	0.89	0.26	1.41	0.69	24	
20	1.22	1.22	1.16	1.39	1.35	1.34	1.36	0.86	0.70	0.55	0.47	0.42	0.35	0.32	0.31	0.30	0.29	S	0.34	0.40	0.44	0.40	0.39	0.42	0.29	1.39	0.70	24	
21	0.43	0.43	0.45	0.55	0.73	0.70	0.59	0.55	0.44	0.40	0.36	0.34	0.35	0.34	0.35	0.33	S	0.38	0.35	0.38	0.39	0.37	0.36	0.37	0.33	0.73	0.43	24	
22	0.39	0.45	0.45	0.47	0.52	0.58	0.64	0.64	0.63	0.62	0.65	0.60	0.57	0.52	0.45	S	0.37	0.36	0.39	0.60	0.56	0.48	0.40	0.36	0.36	0.65	0.51	24	
23	0.33	0.30	0.29	0.32	0.34	0.32	0.39	0.34	0.33	0.33	0.34	0.32	0.31	0.31	S	0.35	0.32	0.29	0.28	0.31	0.30	0.33	0.34	0.36	0.28	0.39	0.32	24	
24	0.36	0.40	0.40	0.37	0.37	0.35	0.36	0.35	0.34	0.33	0.32	0.28	0.28	S	0.31	0.29	0.29	0.32	0.36	0.43	0.45	0.49	0.62	0.63	0.28	0.63	0.38	24	
25	0.54	0.63	0.91	0.58	0.45	0.48	0.47	0.43	0.36	0.33	0.34	0.35	S	0.42	0.41	0.42	0.41	0.42	0.36	0.52	0.70	0.55	0.41	0.50	0.33	0.91	0.48	24	
26	0.33	0.29	0.29	0.31	0.29	0.27	0.28	0.26	0.21	0.20	0.21	S	0.32	0.29	0.29	0.28	0.27	0.26	0.23	0.26	0.23	0.24	0.24	0.24	0.20	0.33	0.26	24	
27	0.23	0.23	0.25	0.25	0.24	0.24	0.29	0.26	0.26	0.28	S	0.34	0.31	0.32	0.32	0.30	0.32	0.33	0.33	0.34	0.36	0.34	0.34	0.37	0.23	0.37	0.30	24	
28	0.39	0.45	0.56	0.66	0.74	0.81	0.82	0.56	0.34	S	0.38	0.35	0.30	0.31	0.32	0.35	0.37	0.46	0.61	0.56	0.48	0.48	0.57	0.62	0.30	0.82	0.50	24	
29	0.64	0.80	0.61	0.59	0.60	0.55	0.52	0.46	S	0.49	0.39	0.39	0.36	0.36	0.37	0.37	0.44	0.43	0.40	0.38	0.40	0.42	0.57	0.48	0.36	0.80	0.48	24	
30	0.34	0.34	0.31	0.30	0.28	0.28	0.28	S	0.32	0.27	0.26	0.25	0.24	0.26	0.24	0.22	0.23	0.23	0.23	0.25	0.21	0.21	0.21	0.53	0.21	0.53	0.27	24	
31	0.69	0.48	0.43	0.53	0.55	0.47	S	0.68	0.38	0.31	0.30	0.28	0.30	0.29	0.27	0.27	0.28	0.31	0.35	0.36	0.31	0.29	0.32	0.30	0.27	0.69	0.38	24	
HOURLY MAX	1.47	1.45	1.71	1.49	1.64	1.72	2.15	2.63	1.08	0.62	0.65	0.60	0.57	0.54	0.49	0.49	0.66	0.72	0.67	0.81	0.94	0.80	1.17	1.01					
HOURLY AVG	0.66	0.71	0.74	0.73	0.74	0.80	0.80	0.82	0.54	0.43	0.40	0.39	0.37	0.36	0.34	0.33	0.34	0.35	0.38	0.42	0.48	0.51	0.54	0.59					

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

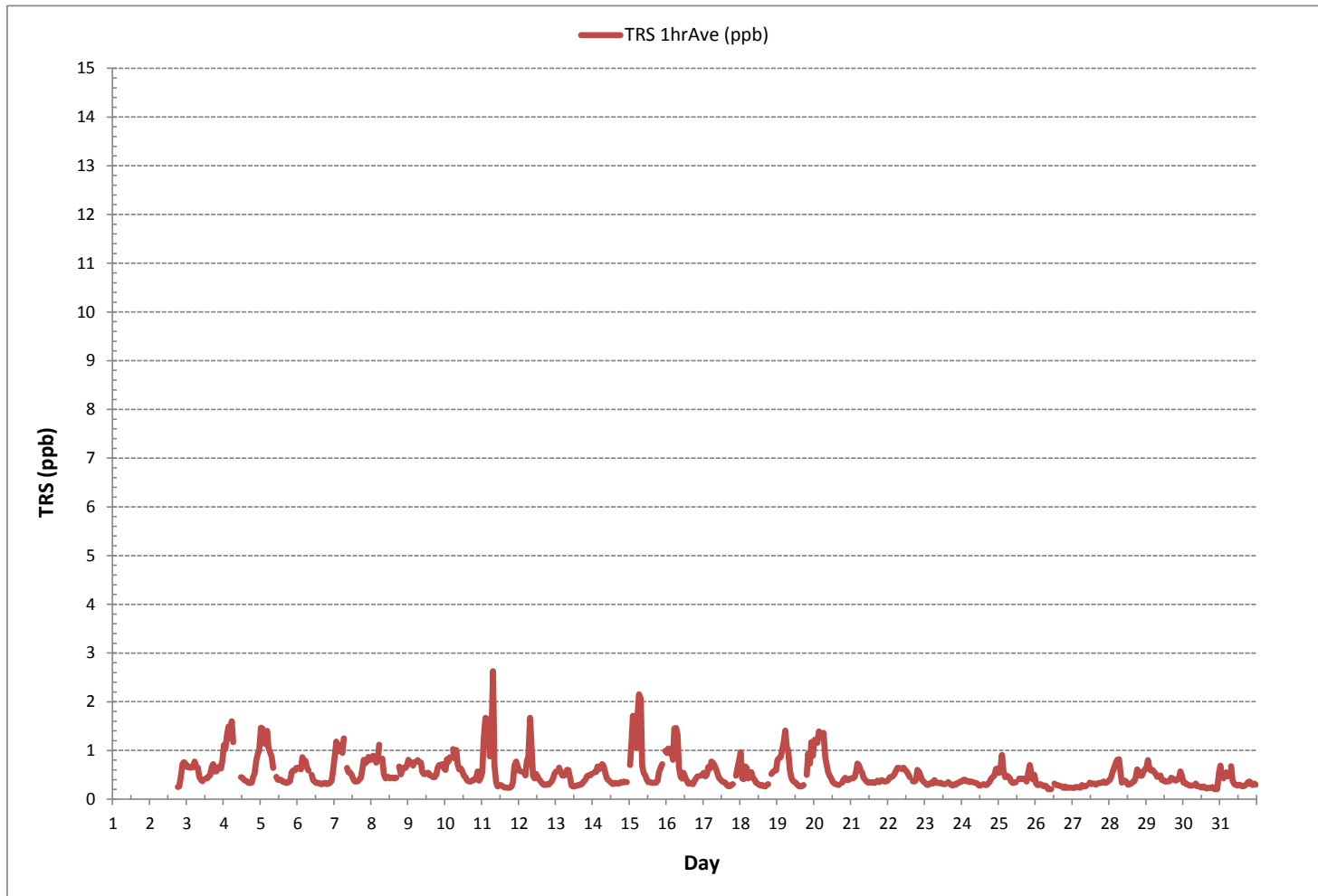
24 HR AVERAGES August 2018



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	669			
MINIMUM 1-HR AVERAGE:	0.20	ppb @ HOUR	9	ON DAY 26
MAXIMUM 1-HR AVERAGE:	2.63	ppb @ HOUR	7	ON DAY 11
MAXIMUM 24-HR AVERAGE:	0.84	ppb		ON DAY 15
IZS CALIBRATION TIME:	30	hrs	OPERATIONAL TIME:	703 hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:	94.5 %
STANDARD DEVIATION:	0.30		MONTHLY AVERAGE:	0.53 ppb

TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)



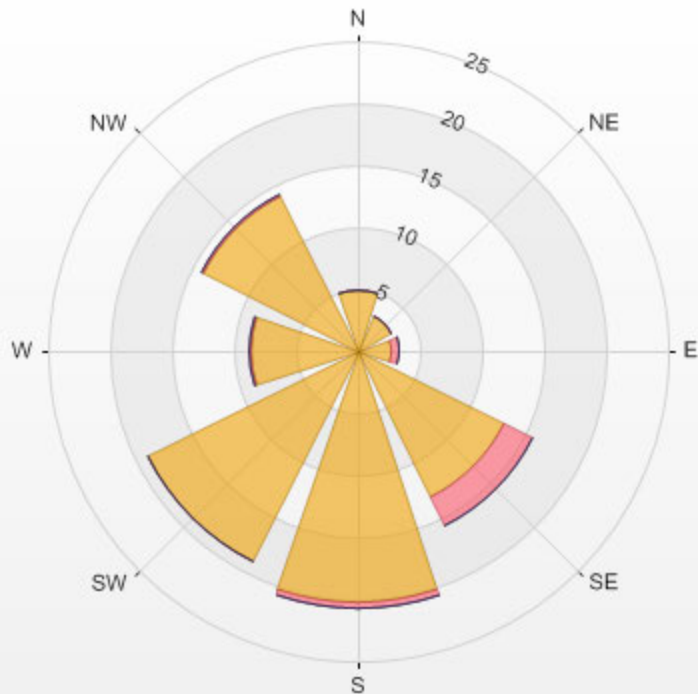
Wind: PRAMP_986
Poll.: PRAMP_986-TRS[ppb]
Monthly: 18/08
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

Calm: 10.01%

Calm Avg: 0.91 [ppb]

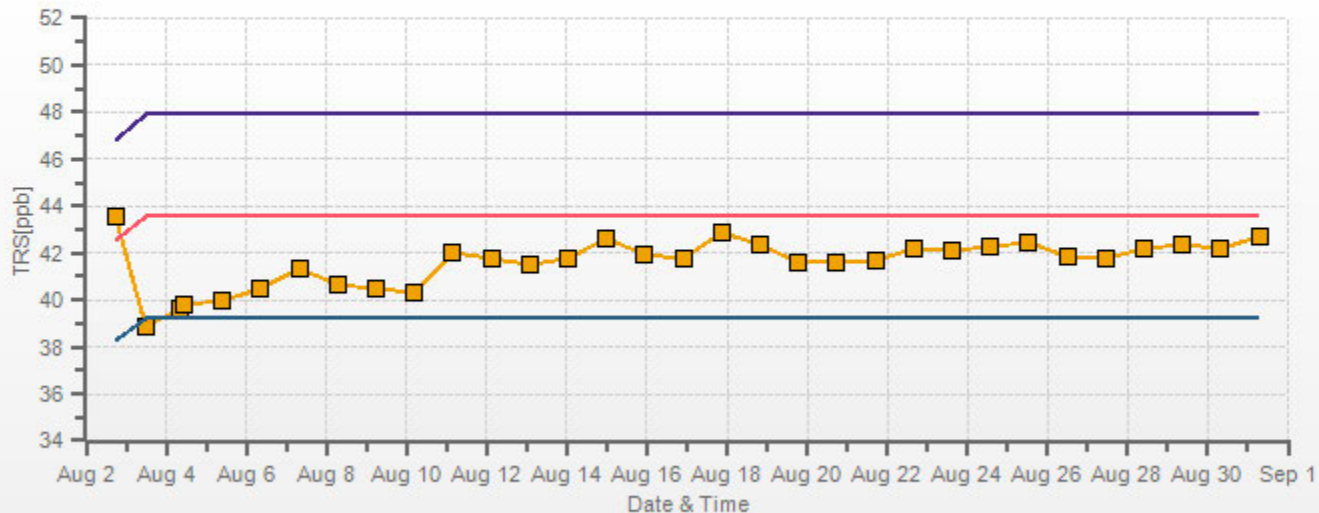
Direction	0-1	1-3	3-10	>10.0	Total
N	4.9	0.0	0.0	0.0	4.9
NE	3.1	0.0	0.0	0.0	3.1
E	2.7	0.8	0.0	0.0	3.4
SE	13.3	2.5	0.0	0.0	15.8
S	20.3	0.5	0.0	0.0	20.8
SW	19.0	0.0	0.0	0.0	19.0
W	8.7	0.2	0.0	0.0	8.8
NW	13.9	0.2	0.0	0.0	14.1
Summary	85.9	4.0	0.0	0.0	90.0

PRAMP_986 Poll.: PRAMP_986-TRS[ppb] 2018/08/01 00:00 - 2018/08/31 23:00 Calm: 10.01% Calm Poll Avg: 0.91[ppb]



TRS[ppb] Calibration: PRAMP_986 Monthly: 18/08 Type: Span

Span Meas Span Ref Span Low Span High



TOTAL HYDROCARBON

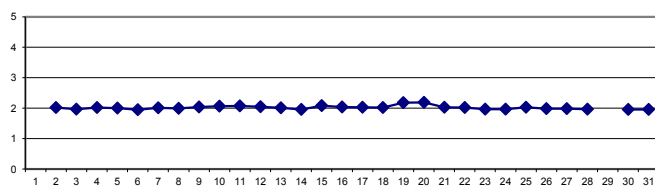
TOTAL HYDROCARBONS Hourly Averages (THC ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.		
DAY																													
1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	0	
2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	C	2.02	2.02	2.03	2.02	2.03	2.02	8	
3	2.05	2.02	2.01	2.02	2.05	2.06	2.01	1.97	1.97	1.96	1.94	S	1.91	1.92	1.94	1.92	1.91	1.93	1.95	1.94	1.96	1.97	1.95	1.97	1.91	2.06	1.97	24	
4	2.01	2.08	2.03	2.05	2.08	2.15	2.12	2.01	2.02	1.98	S	1.96	1.96	1.95	1.95	1.96	1.98	1.95	1.95	1.96	1.97	2.12	2.12	2.21	1.95	2.21	2.02	24	
5	2.13	2.13	2.10	2.09	2.13	2.15	2.10	2.02	2.01	S	1.96	1.94	1.94	1.93	1.92	1.92	1.92	1.92	1.91	1.94	1.96	1.98	1.95	1.96	1.91	2.15	2.00	24	
6	2.01	2.00	1.98	2.04	2.06	2.02	1.98	1.98	S	1.96	1.94	1.93	1.92	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.92	2.01	1.91	2.06	1.95	24	
7	2.01	1.99	2.02	2.03	2.01	2.07	2.07	S	1.94	1.94	1.94	1.94	1.93	1.93	1.93	1.93	1.98	1.97	1.98	2.03	2.14	2.17	2.21	2.05	1.93	2.21	2.01	24	
8	2.08	2.00	2.01	2.00	2.01	2.03	S	1.99	1.97	1.96	1.96	1.97	1.96	1.96	1.97	1.97	1.98	1.99	2.00	2.00	2.00	2.03	2.02	2.02	1.96	2.08	1.99	24	
9	2.10	2.11	2.12	2.10	2.12	S	2.08	2.05	2.02	2.00	1.98	1.98	1.99	2.00	1.98	1.97	1.96	1.95	2.00	2.06	2.09	2.08	2.14	2.07	1.95	2.14	2.04	24	
10	2.12	2.35	2.27	2.24	S	2.18	2.12	2.16	2.07	2.13	2.10	2.03	1.99	1.97	1.94	1.93	1.93	1.94	1.94	1.93	1.93	1.98	1.97	2.12	1.93	2.35	2.06	24	
11	2.26	2.32	2.19	S	2.17	2.19	2.14	2.08	2.00	1.98	1.97	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	2.02	2.14	2.05	2.18	1.97	2.32	2.07	24	
12	2.07	2.03	S	2.14	2.16	2.25	2.20	2.18	2.09	2.02	2.00	2.01	2.00	2.00	2.00	1.99	1.98	1.97	1.97	1.98	1.99	2.01	2.00	2.01	1.97	2.25	2.05	24	
13	2.01	S	2.02	2.02	2.02	2.02	2.04	2.04	2.03	2.00	2.00	2.00	2.00	2.00	2.00	1.98	1.99	1.99	2.00	2.01	2.01	1.99	1.99	1.98	1.98	2.04	2.01	24	
14	S	1.98	2.02	2.08	2.06	2.08	2.04	2.02	1.98	1.97	1.96	1.94	1.92	1.91	1.91	1.91	1.91	1.90	1.91	1.91	1.92	1.93	1.94	S	1.90	2.08	1.96	24	
15	2.04	2.07	2.12	2.34	2.30	2.18	2.28	2.47	2.03	1.98	1.98	1.97	1.97	1.96	1.95	1.95	1.95	1.95	1.99	2.01	2.04	2.10	S	2.15	1.95	2.47	2.08	24	
16	2.08	2.09	2.06	2.06	2.09	2.11	2.09	2.09	2.04	2.00	1.99	2.01	2.01	2.00	1.97	1.97	1.96	1.96	2.01	2.04	2.05	S	2.06	2.07	1.96	2.11	2.04	24	
17	2.06	2.06	2.06	2.08	2.09	2.14	2.11	2.12	2.09	2.07	2.04	2.02	2.02	2.00	1.98	1.95	1.94	1.94	1.94	1.96	S	2.02	2.04	2.06	1.94	2.14	2.03	24	
18	2.14	2.02	1.99	2.00	2.02	2.00	2.01	2.01	2.01	2.01	2.01	2.00	2.00	1.99	1.98	1.96	1.96	1.95	1.96	S	2.09	2.12	2.06	2.12	1.95	2.14	2.02	24	
19	2.25	2.16	2.24	2.36	2.43	2.46	2.43	2.22	2.07	2.02	2.02	2.01	1.99	1.97	1.96	1.96	1.96	1.97	S	2.15	2.20	2.14	2.61	2.55	1.96	2.61	2.18	24	
20	2.66	2.62	2.50	2.57	2.47	2.48	2.34	2.20	2.08	2.03	2.02	2.01	2.00	1.99	1.98	1.98	1.98	S	2.01	2.04	2.10	2.20	2.04	2.01	1.98	2.66	2.19	24	
21	2.03	2.03	2.05	2.07	2.12	2.14	2.12	2.12	2.08	2.05	2.03	2.01	2.00	2.00	1.99	1.98	S	1.97	1.96	2.00	1.99	1.98	1.97	1.97	1.96	2.14	2.03	24	
22	1.98	1.99	1.99	2.00	2.01	2.02	2.04	2.08	2.08	2.10	2.09	2.07	2.05	2.02	1.96	S	1.88	1.89	1.94	2.09	2.10	2.06	2.05	2.02	1.88	2.10	2.02	24	
23	2.00	1.99	1.98	1.98	1.98	1.97	1.97	1.96	1.95	1.95	1.96	1.96	1.96	S	1.96	1.97	1.97	1.96	1.98	1.97	1.98	1.97	1.97	1.95	2.00	1.97	24		
24	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.97	1.96	1.96	1.96	1.96	1.96	S	1.95	1.94	1.95	1.96	1.96	1.97	1.99	2.01	2.08	2.01	1.94	2.08	1.97	24	
25	2.03	2.02	2.03	2.03	2.04	2.06	2.03	2.02	2.02	2.01	2.01	2.00	S	1.99	1.99	1.99	1.99	2.00	2.01	2.04	2.04	2.09	2.07	2.08	1.99	2.09	2.03	24	
26	2.06	2.03	2.02	2.00	1.98	1.97	1.97	1.97	1.97	1.97	1.97	S	1.96	1.95	1.95	1.95	1.95	1.96	1.94	2.00	1.98	1.96	1.98	1.98	1.94	2.06	1.98	24	
27	2.00	2.00	2.01	2.08	2.01	1.99	1.99	1.98	1.99	1.98	S	1.96	1.97	1.97	1.98	1.97	1.97	1.98	1.99	1.98	1.98	1.96	1.95	1.96	1.95	2.08	1.98	24	
28	1.97	1.97	1.99	2.00	2.01	2.03	2.05	2.00	1.95	S	1.94	1.94	1.92	1.90	X	X	X	X	X	X	X	X	X	X	X	1.90	2.05	1.97	14
29	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Y	Y	X	X	X	X	X	X	X	X	-	-	-	0
30	X	X	X	X	X	X	X	X	X	X	C1	C1	C1	C1	1.95	1.96	1.94	1.94	1.95	1.94	1.94	1.95	1.99	1.96	1.99	1.94	1.99	1.96	11
31	2.00	1.99	2.00	2.02	2.02	2.02	S	1.98	1.98	1.98	1.97	1.96	1.96	1.94	1.92	1.92	1.92	1.92	1.92	1.93	1.93	1.93	1.92	1.93	1.93	1.92	2.02	1.96	24
HOURLY MAX	2.66	2.62	2.50	2.57	2.47	2.48	2.43	2.47	2.09	2.13	2.10	2.07	2.05	2.02	2.00	1.99	1.99	2.00	2.01	2.15	2.20	2.20	2.61	2.55					
HOURLY AVG	2.08	2.08	2.07	2.09	2.09	2.11	2.09	2.07	2.02	2.00	1.99	1.98	1.97	1.96	1.96	1.95	1.95	1.95	1.96	1.99	2.01	2.03	2.04	2.05					

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

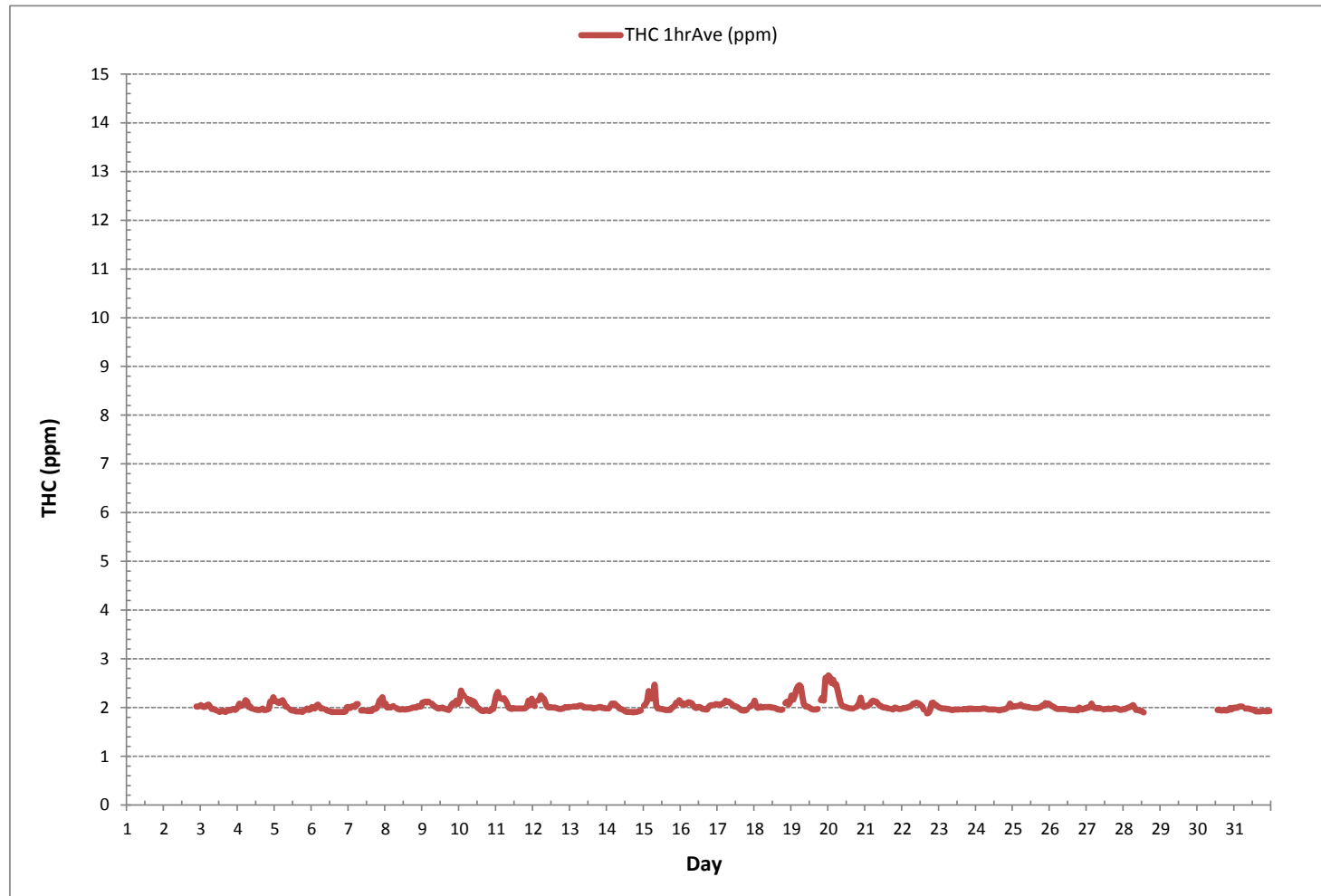
24 HR AVERAGES August 2018



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	624			
MINIMUM 1-HR AVERAGE:	1.88	ppm @ HOUR	16	ON DAY 22
MAXIMUM 1-HR AVERAGE:	2.66	ppm @ HOUR	0	ON DAY 20
MAXIMUM 24-HR AVERAGE:	2.19	ppm		ON DAY 20
IZS CALIBRATION TIME:	28	hrs	OPERATIONAL TIME:	657 hrs
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	88.3 %
STANDARD DEVIATION:	0.10		MONTHLY AVERAGE:	2.02 ppm

TOTAL HYDROCARBONS Hourly Averages (THC ppm)



Wind: PRAMP_986
Poll.: PRAMP_986-THC55[ppm]
Monthly: 18/08
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

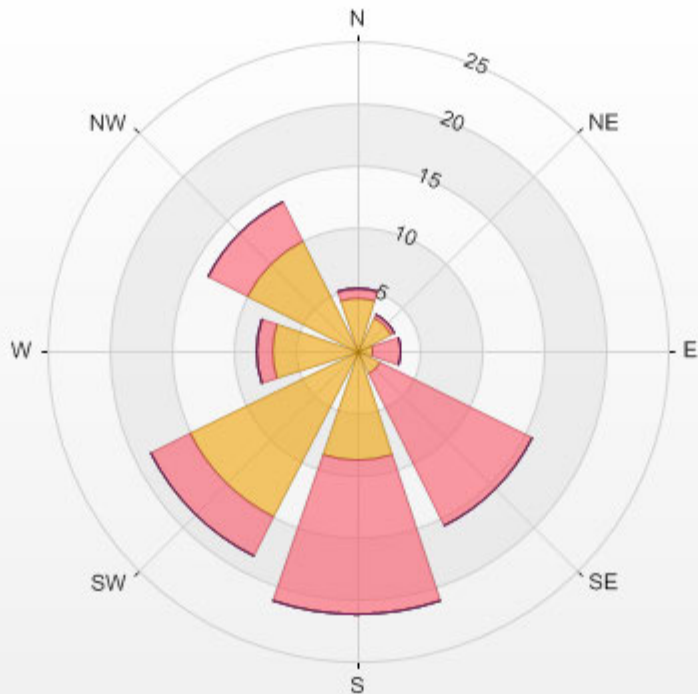
Calm: 10.58%

Calm Avg: 2.16 [ppm]

Direction	0-2	2-3	3-5	5-10	>10.0	Total
N	4.3	0.8	0.0	0.0	0.0	5.1
NE	3.0	0.3	0.0	0.0	0.0	3.4
E	1.3	2.2	0.0	0.0	0.0	3.5
SE	2.1	13.8	0.0	0.0	0.0	15.9
S	8.8	12.5	0.0	0.0	0.0	21.3
SW	15.1	3.5	0.0	0.0	0.0	18.6
W	6.9	1.3	0.0	0.0	0.0	8.2
NW	9.9	3.5	0.0	0.0	0.0	13.5
Summary	51.4	38.0	0.0	0.0	0.0	89.4

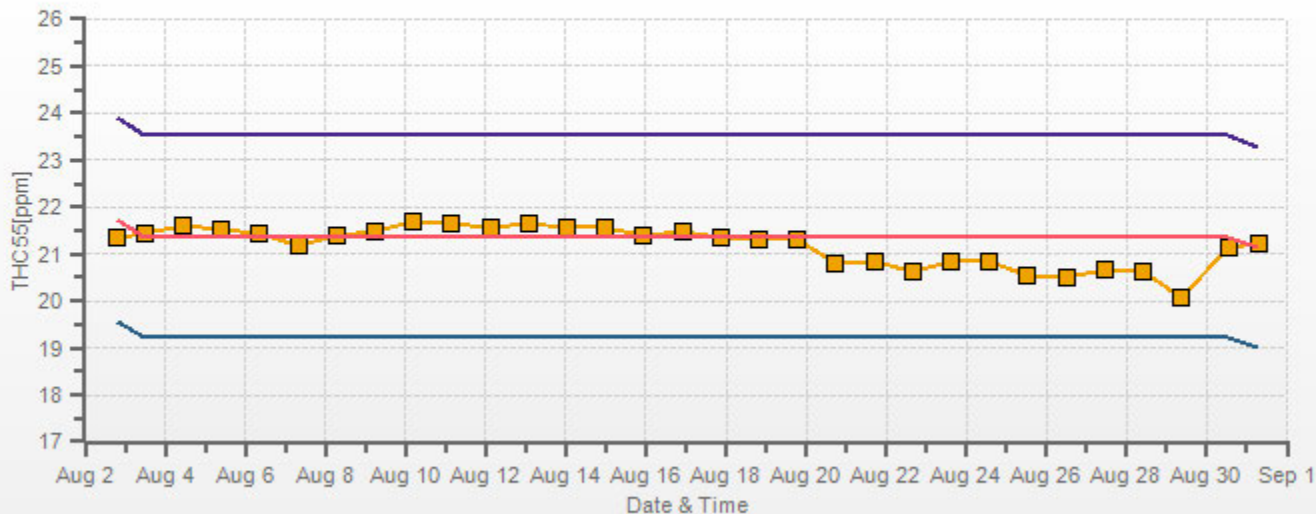
%	Icon	Classes (ppm)
51		0-2
38		2-3
0		3-5
0		5-10
0		>10.0

PRAMP_986 Poll.: PRAMP_986-THC55[ppm] 2018/08/01 00:00 - 2018/08/31 23:00 Calm: 10.58% Calm Poll Avg: 2.16[ppm]



THC55[ppm] Calibration: PRAMP_986 Monthly: 18/08 Type: Span

Span Meas Span Ref Span Low Span High



METHANE

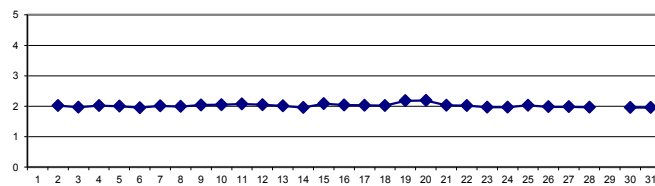
METHANE Hourly Averages (CH₄ ppm)

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	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	0	
2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	C	2.02	2.02	2.03	2.02	2.03	2.02	8
3	2.05	2.02	2.01	2.02	2.05	2.06	2.01	1.97	1.97	1.96	1.94	S	1.91	1.92	1.94	1.92	1.91	1.93	1.95	1.94	1.96	1.97	1.95	1.97	1.91	2.06	1.97	24	
4	2.01	2.08	2.03	2.05	2.08	2.15	2.12	2.01	2.02	1.98	S	1.96	1.96	1.95	1.95	1.96	1.98	1.95	1.95	1.96	1.97	2.12	2.12	2.21	1.95	2.21	2.02	24	
5	2.13	2.13	2.10	2.09	2.13	2.15	2.10	2.02	2.01	S	1.96	1.94	1.94	1.93	1.92	1.92	1.92	1.92	1.91	1.94	1.96	1.98	1.95	1.96	1.91	2.15	2.00	24	
6	2.01	2.00	1.98	2.04	2.06	2.02	1.98	1.98	S	1.96	1.94	1.93	1.92	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.92	2.01	1.91	2.06	1.95	24	
7	2.01	1.99	2.02	2.03	2.01	2.07	2.07	S	1.94	1.94	1.94	1.94	1.93	1.93	1.93	1.93	1.98	1.97	1.98	2.03	2.14	2.17	2.21	2.05	1.93	2.21	2.01	24	
8	2.08	2.00	2.01	2.00	2.01	2.03	S	1.99	1.97	1.96	1.96	1.97	1.96	1.96	1.97	1.97	1.98	1.99	2.00	2.00	2.00	2.03	2.02	2.02	1.96	2.08	1.99	24	
9	2.10	2.11	2.12	2.10	2.12	S	2.08	2.05	2.02	2.00	1.98	1.98	1.99	2.00	1.98	1.97	1.95	1.95	2.00	2.06	2.09	2.08	2.14	2.07	1.95	2.14	2.04	24	
10	2.12	2.35	2.27	2.24	S	2.18	2.12	2.16	2.06	2.06	2.04	2.01	1.98	1.97	1.94	1.93	1.93	1.94	1.94	1.93	1.93	1.98	1.97	2.12	1.93	2.35	2.05	24	
11	2.26	2.32	2.19	S	2.17	2.19	2.14	2.08	2.00	1.98	1.97	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	2.02	2.14	2.05	2.18	1.97	2.32	2.07	24	
12	2.07	2.03	S	2.14	2.16	2.25	2.20	2.18	2.09	2.02	2.00	2.01	2.00	2.00	2.00	1.99	1.98	1.97	1.97	1.98	1.99	2.01	2.00	2.01	1.97	2.25	2.05	24	
13	2.01	S	2.02	2.02	2.02	2.02	2.04	2.04	2.03	2.00	2.00	2.00	2.00	2.00	1.98	1.99	1.99	2.00	2.01	2.01	1.99	1.99	1.98	1.98	1.98	2.04	2.01	24	
14	S	1.98	2.02	2.08	2.06	2.08	2.04	2.02	1.98	1.97	1.96	1.94	1.92	1.91	1.91	1.91	1.91	1.90	1.91	1.91	1.92	1.93	1.94	S	1.90	2.08	1.96	24	
15	2.04	2.07	2.12	2.34	2.30	2.18	2.28	2.47	2.03	1.98	1.98	1.97	1.97	1.96	1.95	1.95	1.95	1.95	1.99	2.01	2.04	2.10	S	2.15	1.95	2.47	2.08	24	
16	2.08	2.09	2.06	2.06	2.09	2.11	2.09	2.09	2.04	2.00	1.99	2.01	2.01	2.00	1.97	1.97	1.96	1.96	2.01	2.04	2.05	S	2.06	2.07	1.96	2.11	2.04	24	
17	2.06	2.06	2.06	2.08	2.09	2.13	2.11	2.12	2.09	2.07	2.04	2.02	2.02	2.00	1.98	1.95	1.94	1.94	1.94	1.96	S	2.02	2.04	2.06	1.94	2.13	2.03	24	
18	2.14	2.02	1.99	2.00	2.02	2.00	2.01	2.01	2.01	2.01	2.01	2.00	2.00	1.99	1.98	1.96	1.96	1.95	1.96	S	2.09	2.12	2.06	2.12	1.95	2.14	2.02	24	
19	2.25	2.16	2.24	2.36	2.43	2.46	2.43	2.22	2.07	2.02	2.02	2.01	1.99	1.97	1.96	1.96	1.96	1.97	S	2.15	2.20	2.14	2.61	2.55	1.96	2.61	2.18	24	
20	2.66	2.62	2.50	2.57	2.47	2.48	2.34	2.20	2.08	2.03	2.02	2.01	2.00	1.99	1.98	1.98	1.98	S	2.01	2.04	2.10	2.20	2.04	2.01	1.98	2.66	2.19	24	
21	2.03	2.03	2.05	2.07	2.12	2.14	2.12	2.12	2.08	2.05	2.03	2.01	2.00	2.00	1.99	1.98	S	1.97	1.96	2.00	1.99	1.98	1.97	1.97	1.96	2.14	2.03	24	
22	1.98	1.99	1.99	2.00	2.01	2.02	2.04	2.08	2.07	2.08	2.07	2.05	2.03	2.00	1.96	S	1.88	1.89	1.94	2.07	2.10	2.06	2.05	2.02	1.88	2.10	2.02	24	
23	2.00	1.99	1.98	1.98	1.98	1.97	1.97	1.96	1.95	1.95	1.96	1.96	1.96	1.96	S	1.96	1.97	1.97	1.96	1.98	1.97	1.98	1.97	1.97	1.95	2.00	1.97	24	
24	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.97	1.96	1.96	1.96	1.96	1.96	S	1.95	1.94	1.95	1.96	1.96	1.97	1.99	2.01	2.08	2.01	1.94	2.08	1.97	24	
25	2.03	2.02	2.03	2.03	2.04	2.06	2.03	2.02	2.02	2.01	2.01	2.00	S	1.99	1.99	1.99	1.99	2.00	2.01	2.04	2.04	2.09	2.07	2.08	1.99	2.09	2.03	24	
26	2.06	2.03	2.02	2.00	1.98	1.97	1.97	1.97	1.97	1.97	1.97	S	1.96	1.95	1.95	1.95	1.95	1.96	1.94	2.00	1.98	1.96	1.98	1.98	1.94	2.06	1.98	24	
27	2.00	2.00	2.01	2.08	2.01	1.99	1.99	1.98	1.99	1.98	S	1.96	1.97	1.97	1.98	1.97	1.97	1.98	1.99	1.98	1.98	1.96	1.95	1.96	1.95	2.08	1.98	24	
28	1.97	1.97	1.99	2.00	2.01	2.03	2.05	2.00	1.95	S	1.94	1.94	1.92	1.90	X	X	X	X	X	X	X	X	X	X	1.90	2.05	1.97	14	
29	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Y	Y	Y	X	X	X	X	X	X	-	-	-	0	
30	X	X	X	X	X	X	X	X	X	C1	C1	C1	C1	1.95	1.96	1.94	1.94	1.95	1.94	1.94	1.95	1.99	1.96	1.99	1.94	1.99	1.96	11	
31	2.00	1.99	2.00	2.02	2.02	2.02	S	1.98	1.98	1.98	1.97	1.96	1.96	1.94	1.92	1.92	1.92	1.92	1.93	1.93	1.93	1.92	1.93	1.93	1.92	2.02	1.96	24	
HOURLY MAX	2.66	2.62	2.50	2.57	2.47	2.48	2.43	2.47	2.09	2.08	2.07	2.05	2.03	2.00	2.00	1.99	1.99	2.00	2.01	2.15	2.20	2.20	2.61	2.55					
HOURLY AVG	2.08	2.08	2.07	2.09	2.09	2.11	2.09	2.07	2.01	2.00	1.99	1.98	1.97	1.96	1.96	1.95	1.95	1.95	1.96	1.99	2.01	2.03	2.04	2.05					

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

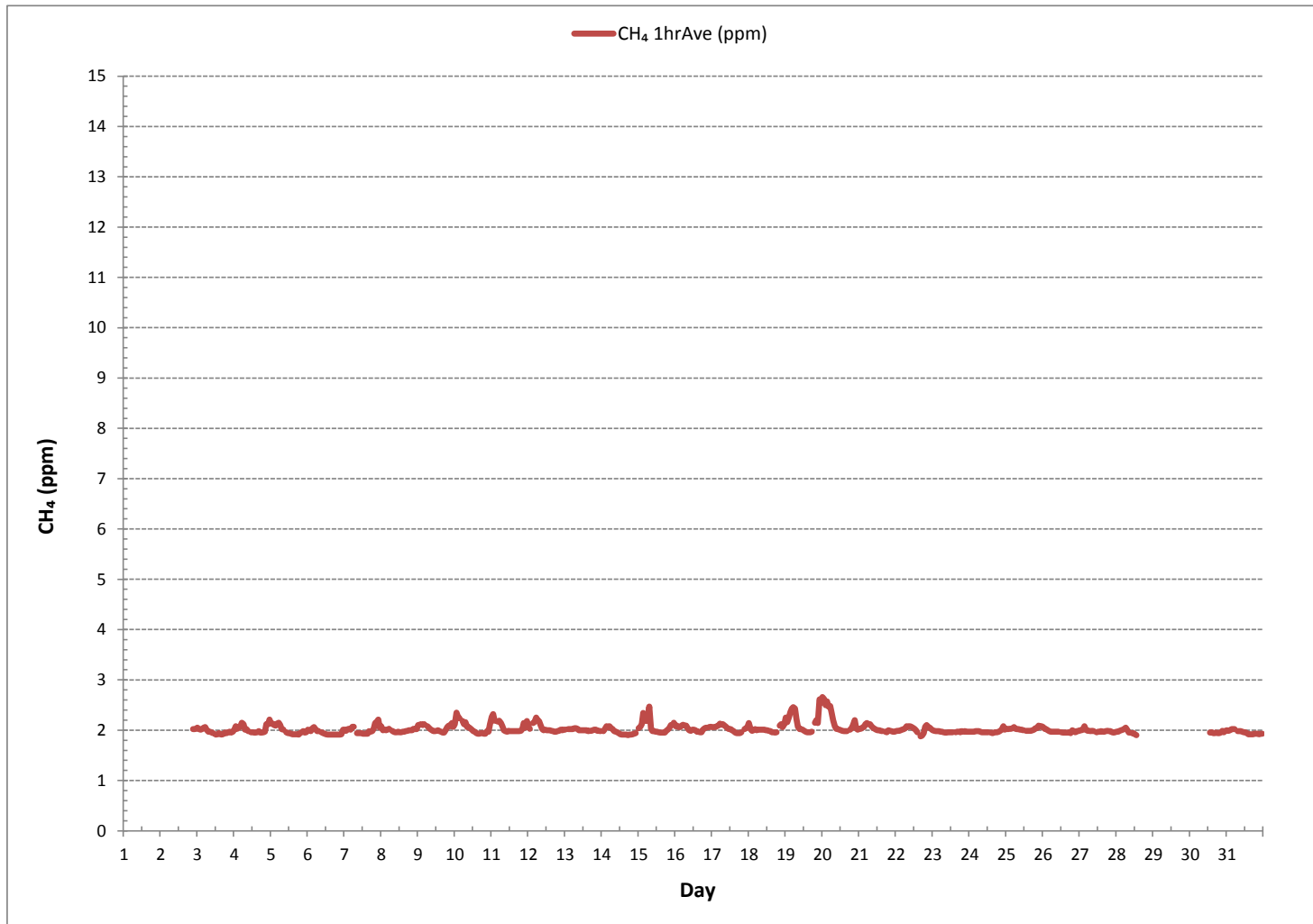
24 HR AVERAGES August 2018



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	624			
MINIMUM 1-HR AVERAGE:	1.88	ppm @ HOUR	16	ON DAY 22
MAXIMUM 1-HR AVERAGE:	2.66	ppm @ HOUR	0	ON DAY 20
MAXIMUM 24-HR AVERAGE:	2.19	ppm		ON DAY 20
IZS CALIBRATION TIME:	28	hrs	OPERATIONAL TIME:	657 hrs
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	88.3 %
STANDARD DEVIATION:	0.10		MONTHLY AVERAGE:	2.02 ppm

METHANE Hourly Averages (CH₄ ppm)



Wind: PRAMP_986
Poll.: PRAMP_986-CH₄[ppm]
Monthly: 18/08
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

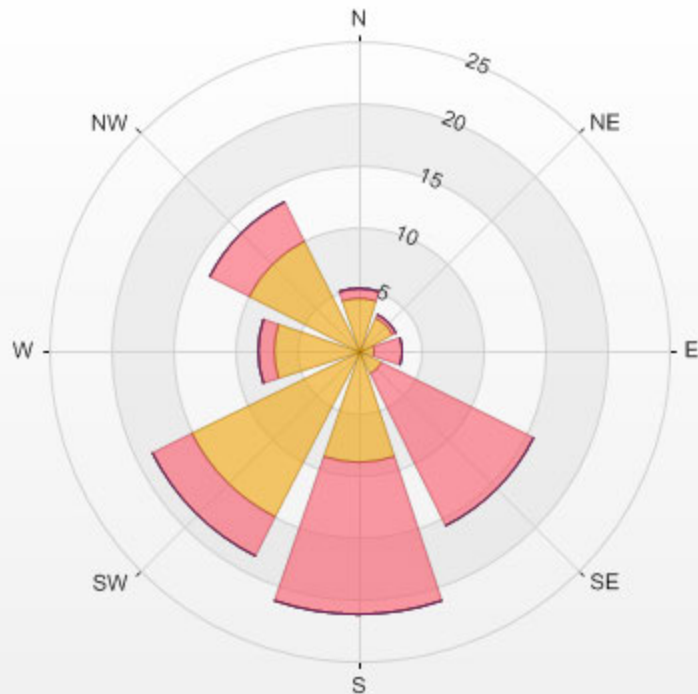
Calm: 10.58%

Calm Avg: 2.16 [ppm]

Direction	0-2	2-3	3-5	5-10	>10.0	Total
N	4.3	0.8	0.0	0.0	0.0	5.1
NE	3.0	0.3	0.0	0.0	0.0	3.4
E	1.3	2.2	0.0	0.0	0.0	3.5
SE	2.1	13.8	0.0	0.0	0.0	15.9
S	9.0	12.3	0.0	0.0	0.0	21.3
SW	15.1	3.5	0.0	0.0	0.0	18.6
W	6.9	1.3	0.0	0.0	0.0	8.2
NW	9.9	3.5	0.0	0.0	0.0	13.5
Summary	51.6	37.8	0.0	0.0	0.0	89.4

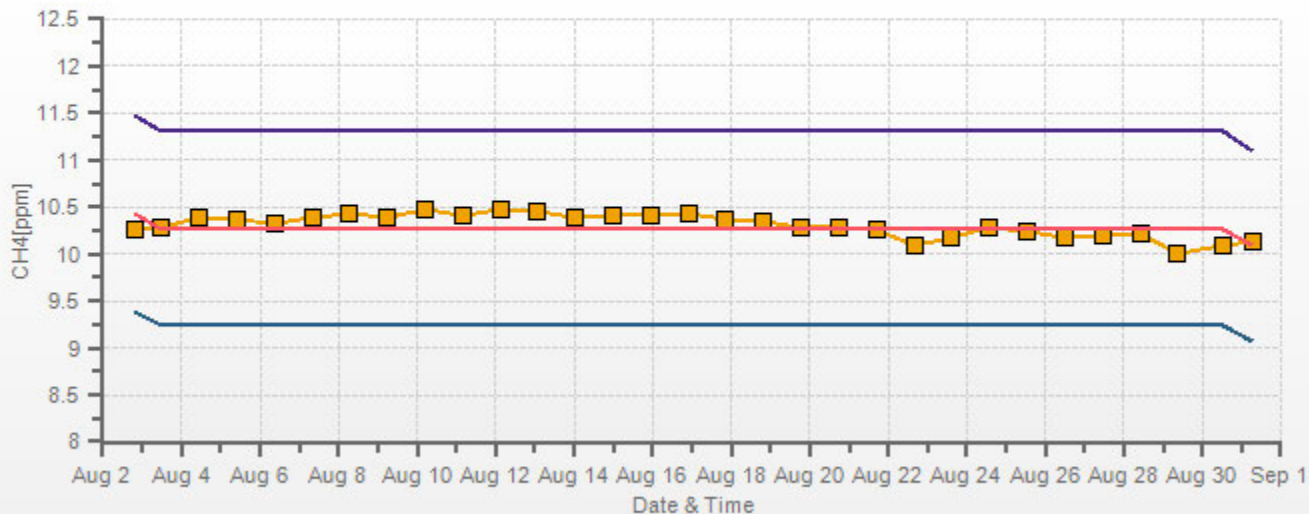
%	Icon	Classes (ppm)
52		0-2
38		2-3
0		3-5
0		5-10
0		>10.0

PRAMP_986 Poll.: PRAMP_986-CH4[ppm] 2018/08/01 00:00 - 2018/08/31 23:00 Calm: 10.58% Calm Poll Avg: 2.16[ppm]



CH4[ppm] Calibration: PRAMP_986 Monthly: 18/08 Type: Span

Span Meas Span Ref Span Low Span High



NON-METHANE HYDROCARBON



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - August 2018

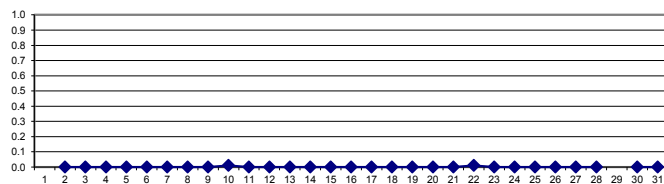
NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)

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	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	0
2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	8
3	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
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
6	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
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
8	0.00	0.00	0.00	0.00	0.00	0.00	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
9	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	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
10	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.01	0.07	0.06	0.02	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	0.07	0.01	24
11	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
12	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
13	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
14	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	S	0.00	24
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	24
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	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	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
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.02	0.02	0.01	0.00	S	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.01	24
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
26	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
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	X	X	X	X	X	X	X	X	X	X	0.00	0.00	0.00	14
29	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Y	Y	X	X	X	X	X	X	X	-	-	-	0
30	X	X	X	X	X	X	X	X	X	C1	C1	C1	C1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11
31	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
HOURLY MAX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.07	0.06	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.01	0.02	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				

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

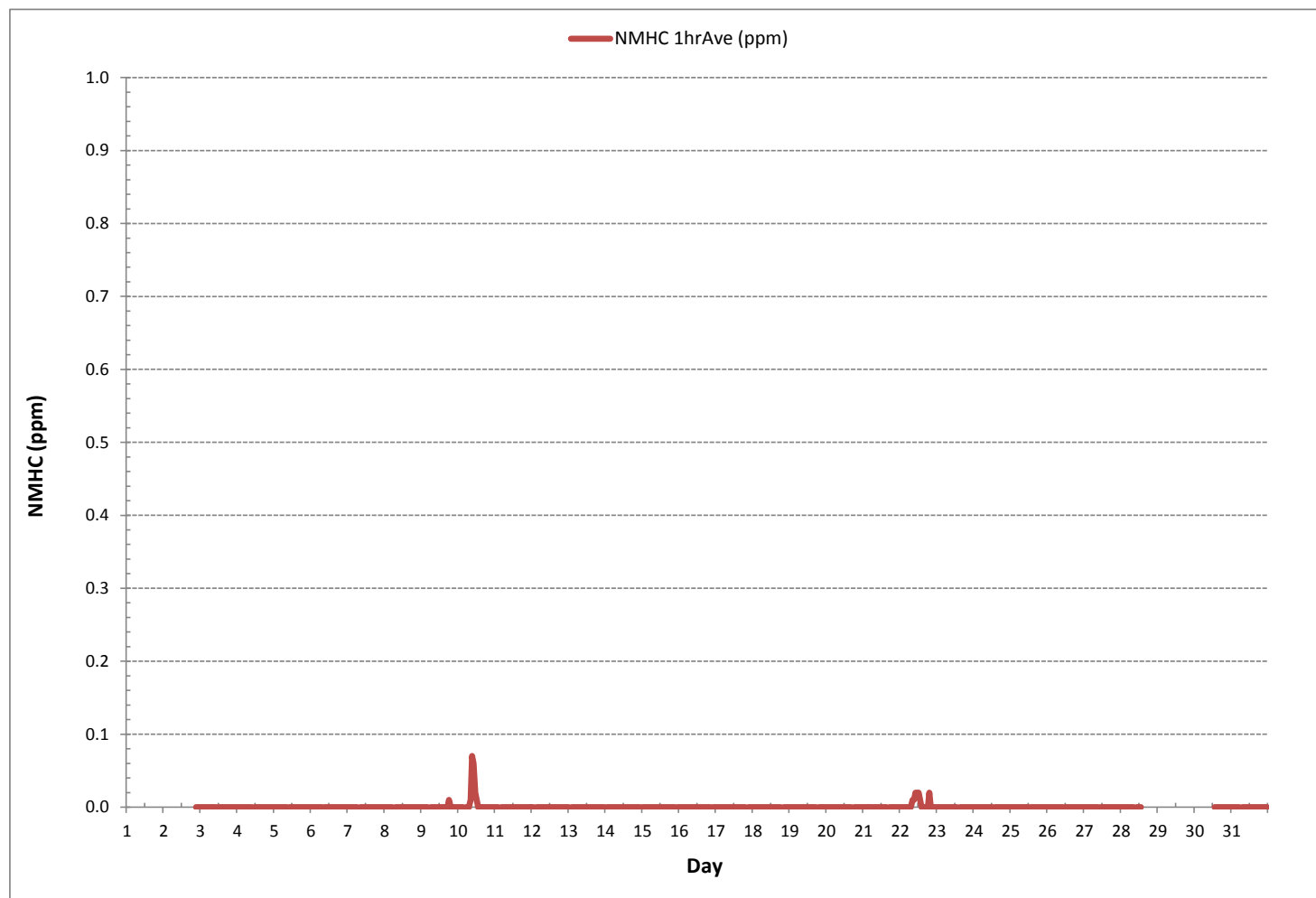
24 HR AVERAGES August 2018



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	13				
MINIMUM 1-HR AVERAGE:	0.00	ppm	@ HOUR	21	ON DAY 2
MAXIMUM 1-HR AVERAGE:	0.07	ppm	@ HOUR	9	ON DAY 10
MAXIMUM 24-HR AVERAGE:	0.01	ppm			ON DAY 10
IZS CALIBRATION TIME:	28	hrs	OPERATIONAL TIME:	657	hrs
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	88.3	%
STANDARD DEVIATION:	0.00		MONTHLY AVERAGE:	0.00	ppm

NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)



Wind: PRAMP_986
Poll.: PRAMP_986-NMHC[ppm]
Monthly: 18/08
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

Calm: 10.58%

Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	5.1	0.0	0.0	0.0	0.0	5.1
NE	3.4	0.0	0.0	0.0	0.0	3.4
E	3.5	0.0	0.0	0.0	0.0	3.5
SE	15.9	0.0	0.0	0.0	0.0	15.9
S	21.3	0.0	0.0	0.0	0.0	21.3
SW	18.6	0.0	0.0	0.0	0.0	18.6
W	8.2	0.0	0.0	0.0	0.0	8.2
NW	13.5	0.0	0.0	0.0	0.0	13.5
Summary	89.4	0.0	0.0	0.0	0.0	89.4

% Icon Classes (ppm)

89 0-0.1

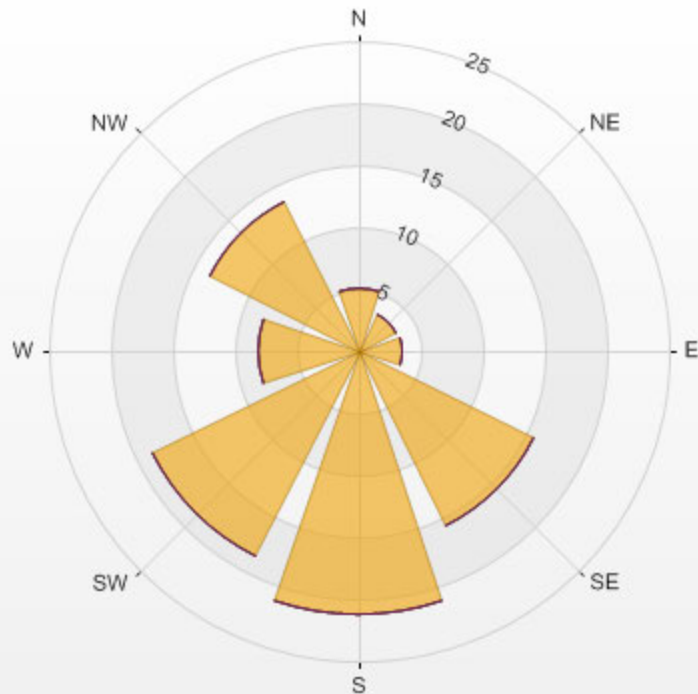
0 0.1-0.3

0 0.3-1

0 1-2

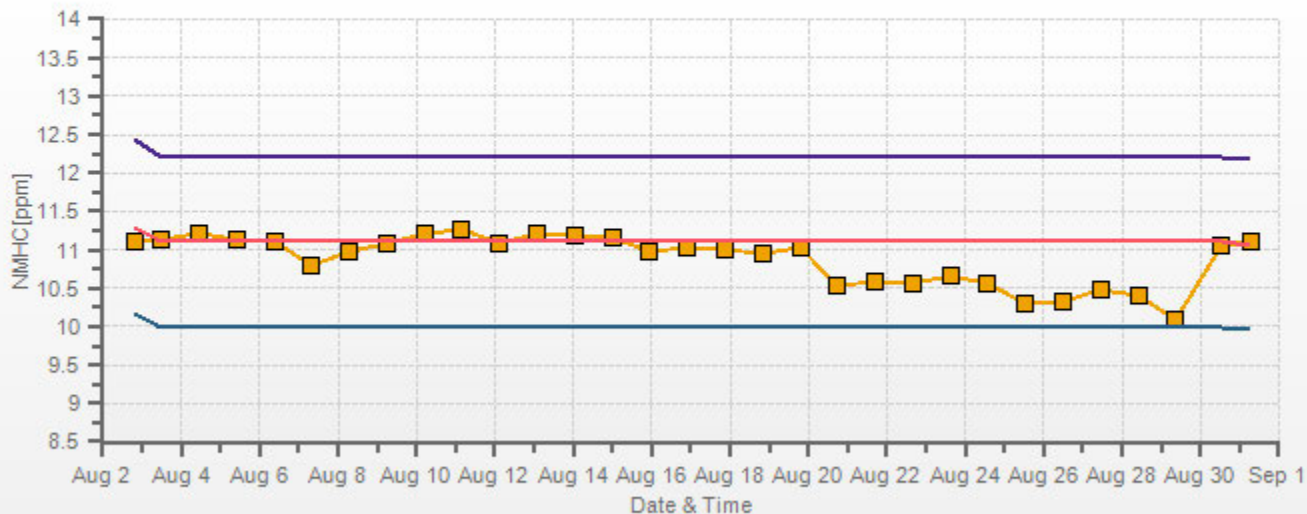
0 >2.0

PRAMP_986 Poll.: PRAMP_986-NMHC[ppm] 2018/08/01 00:00 - 2018/08/31 23:00 Calm: 10.58% Calm Poll Avg: 0.00[ppm]



NMHC[ppm] Calibration: PRAMP_986 Monthly: 18/08 Type: Span

Span Meas Span Ref Span Low Span High



WIND SPEED



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - August 2018

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	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	0
2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	3.5	6.8	4.2	11
3	2.9	3.2	4.4	5.4	3.6	4.5	4.6	5.0	5.2	5.0	5.9	6.4	6.7	7.1	9.3	12.3	16.2	6.6	8.4	3.2	3.5	4.6	2.3	1.3	1.3	16.2	3.9	24
4	1.4	0.8	2.2	1.7	0.6	0.9	1.0	3.5	4.1	1.7	5.6	7.2	12.1	11.5	10.4	10.5	9.3	3.7	3.0	2.7	3.2	0.8	0.5	2.8	0.5	12.1	2.4	24
5	3.1	3.2	4.5	5.2	4.6	2.5	3.9	5.3	5.4	4.8	5.9	7.2	6.6	6.1	8.0	8.0	9.0	6.1	5.5	3.9	4.2	4.8	5.8	4.9	2.5	9.0	4.2	24
6	3.9	3.9	3.5	4.8	4.3	4.9	4.7	6.1	7.0	7.2	9.4	9.1	9.3	8.4	7.8	7.0	7.7	6.1	5.4	4.2	4.6	4.4	2.4	2.3	2.3	9.4	5.0	24
7	3.8	3.6	2.9	3.9	3.9	3.3	1.3	2.7	3.3	3.6	4.0	2.8	2.6	4.7	4.7	3.8	5.1	1.6	1.6	2.6	3.7	0.4	2.8	2.5	0.4	5.1	2.0	24
8	2.9	4.5	2.6	3.2	2.6	4.6	5.2	5.7	6.7	7.5	8.0	8.3	7.6	8.2	9.9	10.0	11.2	9.7	9.1	6.8	6.6	4.5	4.5	5.0	2.6	11.2	5.8	24
9	4.2	5.6	4.5	3.3	4.2	4.8	3.6	4.5	4.3	5.7	6.0	6.0	6.1	7.0	9.6	8.1	4.5	3.5	2.7	4.8	5.0	6.6	6.7	10.4	2.7	10.4	4.9	24
10	8.0	0.4	4.4	3.7	4.0	3.6	2.8	2.3	4.1	5.1	5.6	5.2	6.4	7.2	9.3	8.3	5.8	4.1	3.0	2.5	4.8	2.6	5.1	2.2	0.4	9.3	3.3	24
11	1.2	1.5	2.8	0.7	0.4	1.8	1.0	1.6	3.5	3.2	4.1	5.4	4.9	5.3	4.5	4.2	5.0	5.7	6.9	4.5	1.9	1.2	1.8	1.6	0.4	6.9	2.5	24
12	3.0	3.4	3.0	1.4	0.1	1.2	0.7	1.4	1.8	6.9	5.3	4.6	4.7	2.2	3.6	3.6	5.9	6.9	6.8	6.0	3.6	4.8	4.7	5.0	0.1	6.9	2.0	24
13	5.2	4.5	5.2	7.2	5.2	7.6	7.8	9.0	11.2	13.1	14.8	16.8	15.1	14.0	17.7	13.7	10.6	7.8	8.2	9.4	8.2	8.4	8.0	5.7	4.5	17.7	9.6	24
14	5.7	4.9	3.0	4.0	3.3	4.2	3.5	4.1	4.2	4.3	5.6	7.7	8.7	9.2	6.7	9.5	11.8	9.0	5.7	4.3	5.0	5.8	5.2	6.8	3.0	11.8	4.8	24
15	1.2	0.9	1.5	0.7	1.3	1.9	0.6	0.8	6.5	7.7	7.9	8.5	8.7	6.8	6.7	5.3	6.9	3.1	1.5	1.7	1.7	2.4	1.8	2.1	0.6	8.7	2.5	24
16	4.3	4.5	5.3	5.8	5.4	4.9	5.5	6.3	7.3	7.9	13.2	13.8	11.1	9.3	7.9	5.7	6.3	5.9	6.7	7.8	5.3	5.7	6.1	5.2	4.3	13.8	6.0	24
17	6.1	5.8	4.7	4.5	2.2	4.0	3.9	3.6	4.2	4.2	4.7	6.5	8.5	7.6	8.8	9.2	9.3	8.4	7.1	5.8	5.2	1.3	2.0	1.7	1.3	9.3	3.9	24
18	3.8	11.3	8.1	1.3	2.6	4.4	5.1	12.0	17.3	18.1	19.3	19.2	17.5	16.9	16.0	12.3	8.8	5.7	5.8	2.9	2.4	2.0	1.2	1.8	1.2	19.3	7.8	24
19	2.5	2.9	0.9	1.2	1.3	1.8	1.7	1.9	3.1	6.5	5.1	7.5	8.3	10.2	7.2	5.8	4.4	5.7	2.6	0.6	1.7	1.1	1.3	1.4	0.6	10.2	1.9	24
20	1.6	1.9	1.8	2.0	1.9	1.8	2.3	2.9	3.9	4.8	5.8	6.5	8.1	8.0	10.2	8.3	7.6	7.0	5.6	4.8	4.7	4.4	3.1	3.8	1.6	10.2	3.6	24
21	4.0	4.1	3.9	3.4	2.6	3.5	2.7	2.6	3.3	6.2	6.2	6.7	8.0	8.0	8.3	9.9	12.7	11.0	10.7	8.6	8.6	7.5	8.1	8.9	2.6	12.7	6.1	24
22	7.3	5.5	6.1	6.2	5.4	5.1	6.1	5.3	6.7	6.3	6.2	7.0	8.1	7.5	8.8	7.8	7.3	6.0	4.6	12.8	9.2	5.1	4.4	5.1	4.4	12.8	3.9	24
23	5.7	5.2	5.5	4.2	3.8	6.4	5.3	6.5	5.7	3.8	3.8	4.2	3.7	4.6	3.7	3.5	7.3	7.2	6.7	4.4	10.4	7.1	7.9	6.8	3.5	10.4	4.5	24
24	9.9	10.4	8.4	8.4	7.6	8.4	8.8	7.9	6.5	7.9	10.6	9.7	8.0	8.7	1.5	0.4	2.0	2.9	3.1	3.8	3.2	4.0	4.2	4.1	0.4	10.6	4.0	24
25	4.4	4.1	4.4	4.5	3.3	3.9	5.6	4.4	5.6	5.9	6.6	8.3	5.6	2.3	1.9	4.3	3.5	2.3	2.6	1.9	3.6	0.5	1.9	0.6	0.5	8.3	3.6	24
26	2.7	5.0	7.3	9.3	11.6	8.7	7.0	8.9	8.7	6.0	5.6	5.7	5.9	5.2	5.3	6.5	5.9	5.9	3.9	2.4	3.3	3.0	3.0	4.5	2.4	11.6	4.9	24
27	4.7	4.0	2.6	0.5	1.1	1.1	2.7	4.6	7.1	7.6	7.7	7.7	7.4	12.2	10.2	11.2	10.7	9.1	9.3	6.6	2.3	7.0	5.2	4.8	0.5	12.2	5.0	24
28	4.2	3.4	2.2	2.0	3.6	0.8	0.9	1.3	6.8	7.9	7.7	3.0	5.7	5.2	4.9	5.0	3.3	3.8	5.0	3.7	4.8	1.9	6.3	3.3	0.8	7.9	1.8	24
29	4.3	2.7	2.9	3.8	2.8	3.0	4.1	4.3	4.1	4.3	5.2	5.9	4.7	6.8	6.0	9.1	2.5	2.3	4.5	3.2	2.0	1.4	3.9	5.5	1.4	9.1	2.7	24
30	5.8	7.8	9.2	9.7	5.2	6.5	8.1	10.3	9.9	13.4	13.5	13.7	11.6	9.6	9.1	11.1	13.0	4.4	2.0	5.5	8.1	3.7	2.5	2.1	2.0	13.7	7.8	24
31	3.1	3.1	3.6	4.6	7.1	7.0	9.4	10.6	8.8	9.7	9.0	9.3	7.6	8.2	9.2	9.6	8.1	7.9	8.0	6.8	7.2	2.6	2.7	2.3	2.3	10.6	5.1	24
HOURLY MAX	9.9	11.3	9.2	9.7	11.6	8.7	9.4	12.0	17.3	18.1	19.3	19.2	17.5	16.9	17.7	13.7	16.2	11.0	10.7	12.8	10.4	8.4	8.1	10.4				

STATUS FLAG CODES

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

LAST CALIBRATION:

April 4, 2018

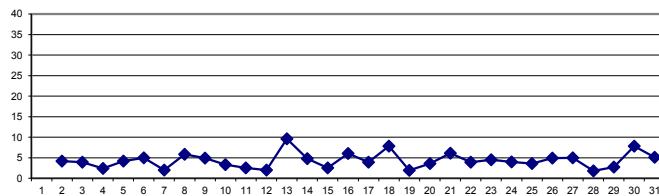
DECLINATION :

MAGNETIC DECLINATION 15 DEGREE EAST

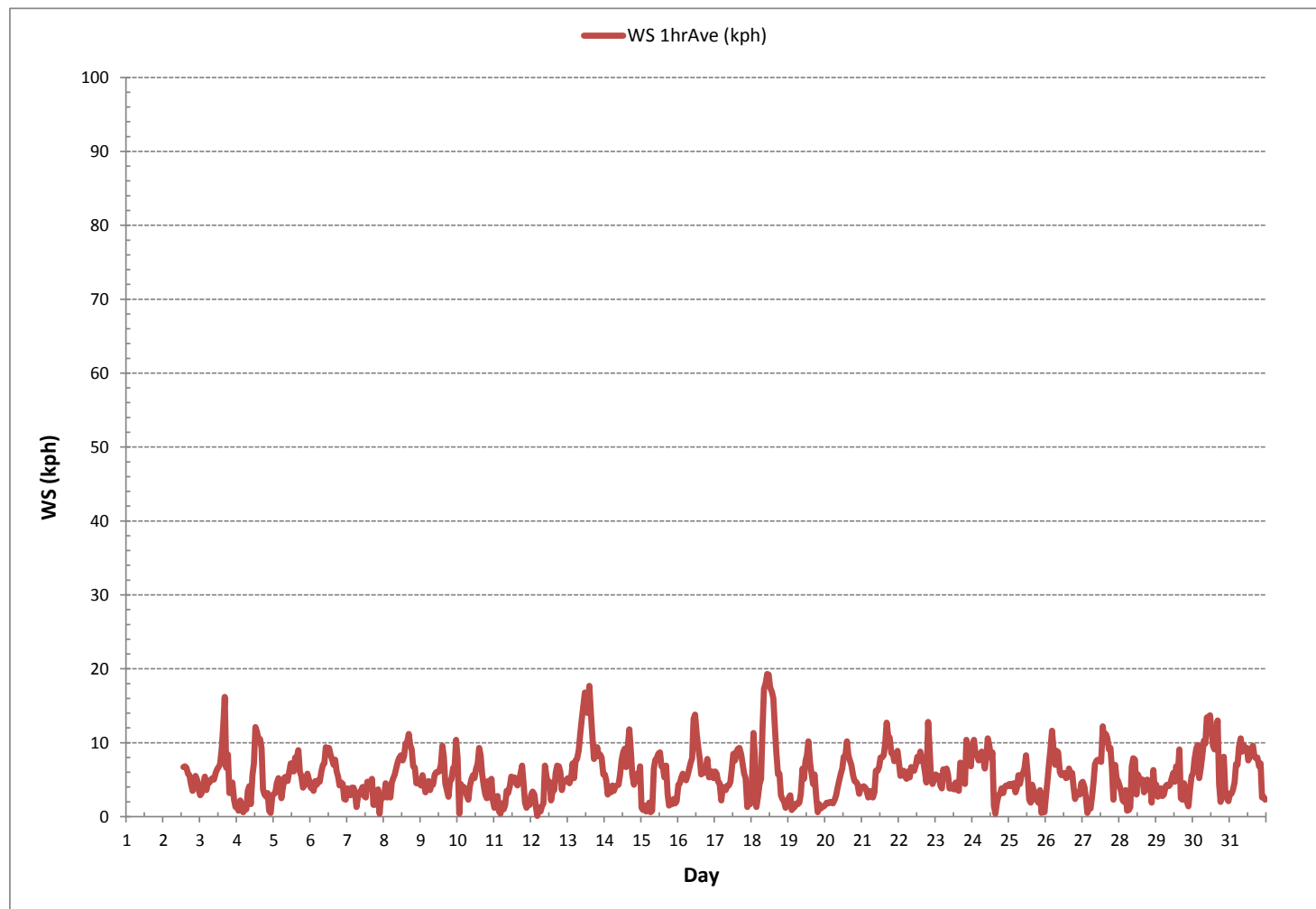
MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:		707				
MINIMUM 1-HR AVERAGE	0.1	kph	@ HOUR	4	ON DAY	12
MAXIMUM 1-HR AVERAGE:	19.3	kph	@ HOUR	10	ON DAY	18
MAXIMUM 24-HR AVERAGE:	9.6	kph			ON DAY	13
MONTHLY CALIBRATION TIME:	0	hrs	OPERATIONAL TIME:		707	hrs
			AMD OPERATION UPTIME:		95.0	%
STANDARD DEVIATION:	3.2		MONTHLY AVERAGE:		2.2	kph

24 HR AVERAGES August 2018



WIND SPEED Hourly Averages (WS kph)



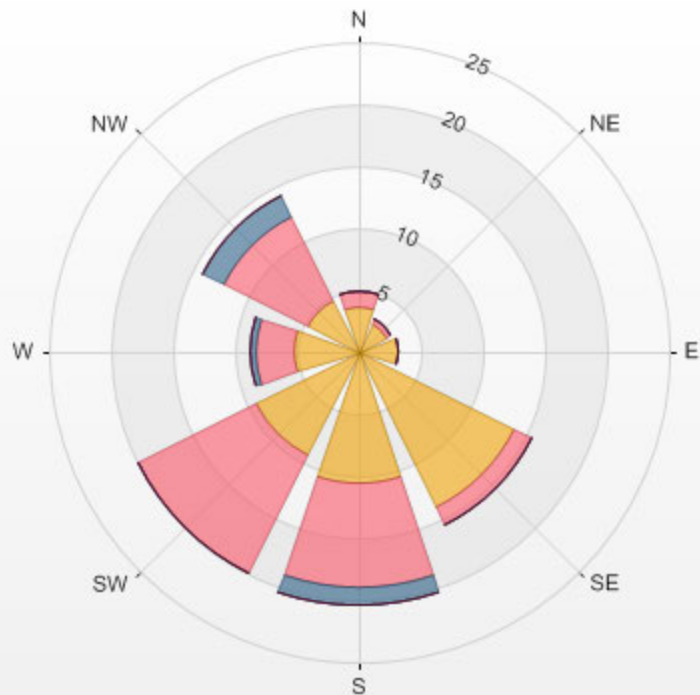
Wind: PRAMP_986
 Monitor: WSP [kph]
 Monthly: 18/08
 Type: WindRose
 Direction: Blowing From (Wind Frequency)
 Based On 1 Hr.

Calm: 9.76%

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	3.7	1.3	0.0	0.0	0.0	0.0	5.0
NE	2.6	0.4	0.0	0.0	0.0	0.0	3.0
E	3.3	0.0	0.0	0.0	0.0	0.0	3.3
SE	14.0	1.7	0.0	0.0	0.0	0.0	15.7
S	10.6	8.4	1.6	0.0	0.0	0.0	20.5
SW	9.3	10.6	0.0	0.0	0.0	0.0	20.0
W	5.2	3.1	0.4	0.0	0.0	0.0	8.8
NW	4.5	7.6	2.0	0.0	0.0	0.0	14.2
Summary	53.2	33.1	4.0	0.0	0.0	0.0	90.3

%	Icon	Classes (kph)	53		1.8-6.0	33		6.0-12.0	4		12.0-20.0	0		20.0-29.0	0		29.0-39.0	0		>39.0
---	------	---------------	----	---	---------	----	---	----------	---	---	-----------	---	---	-----------	---	---	-----------	---	---	-------

PRAMP_986 2018/08/01 00:00 - 2018/08/31 23:00 Calm: 9.76% Calm Wind Avg Speed: 1.17(kph)



WIND DIRECTION



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - August 2018

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	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	0
2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	SW	SW	SW	SW	SW	SW	SW	S	SE	SE	SE	SSW	11
3	S	SE	SE	S	S	SE	S	SW	SW	W	W	SW	W	W	W	W	W	W	W	W	W	W	W	S	W	24
4	S	SE	SE	S	SW	SE	W	NW	NW	NW	NW	W	NW	NW	NW	NW	NW	E	E	NE	SE	SE	E	SE	NW	24
5	SE	SE	SE	SE	SE	SE	S	S	S	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	S	S	S	S	S	24
6	S	S	SW	SE	SE	S	S	SW	SW	SW	SW	SW	SW	W	SW	SW	SW	SW	SW	W	SW	SW	SW	S	SW	24
7	SE	S	SE	SE	SE	SE	SE	S	SW	SW	W	SW	SW	SW	W	SW	NW	W	E	SE	S	S	S	S	S	24
8	SE	SE	SE	SE	E	SE	SE	S	S	S	SW	SW	SW	SW	S	S	S	S	S	S	S	S	S	S	S	24
9	S	SE	S	SE	SE	SE	SE	SE	S	S	S	S	S	S	SW	SW	SW	SW	S	S	S	S	S	S	S	24
10	S	S	S	S	S	S	SW	S	SW	SW	W	W	SW	SW	SW	SW	W	W	W	SW	W	NW	N	N	SW	24
11	N	N	NW	NE	E	SE	SE	N	N	NE	N	N	N	N	N	N	N	NE	NE	NE	E	E	E	E	N	24
12	E	E	SE	E	SE	E	SE	SE	W	NW	NW	NW	W	W	SW	W	SW	SW	SW	S	S	S	S	S	SW	24
13	S	S	S	S	S	S	SE	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	SW	24
14	SW	SW	S	S	S	SE	SE	S	SW	SW	SW	SW	SW	SW	SW	W	W	W	W	SW	SW	SW	W	W	SW	24
15	NW	SE	SE	E	SE	E	NE	NW	N	N	N	N	N	N	N	NW	NW	N	NE	E	E	E	E	SE	N	24
16	SE	SE	SE	SE	SE	SE	SE	SE	SE	S	S	S	S	S	SW	SW	SW	SW	S	S	S	SW	S	S	S	24
17	S	S	S	SE	E	SE	SE	S	SW	SW	SW	SW	SW	SW	W	W	W	W	SW	W	W	SW	SE	SE	SW	24
18	N	NW	N	NW	SW	W	W	W	NW	NW	NW	NW	NW	NW	NW	NW	NW	W	SW	SW	S	S	E	E	NW	24
19	SE	SE	E	SE	E	E	SE	SE	W	W	NW	NW	NW	NW	NW	NW	NW	NW	NW	SE	SE	SE	E	E	NW	24
20	E	E	E	E	E	E	SE	SE	S	SW	SW	SW	SW	SW	SW	SW	SW	SW	S	S	S	SE	SE	S	S	24
21	SE	SE	SE	SE	SE	SE	SE	SE	S	S	S	S	SW	SW	S	S	S	S	S	S	S	S	S	S	S	24
22	S	SW	SW	SW	SW	SE	SE	SE	S	SW	SW	SW	SW	SW	SW	SW	SW	SW	W	NW	NW	NW	N	N	SW	24
23	N	N	NE	NE	NE	N	N	NE	E	NE	NE	N	N	N	N	NE	NW	NW	NW	NW	NW	NW	NW	NW	N	24
24	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	SW	SE	SE	E	SE	SE	SE	SE	SE	NW	24
25	SE	SE	E	E	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	E	E	E	E	NE	E	SE	SW	NE	E	E	24
26	NW	NW	NW	NW	NW	NW	NW	NW	NW	N	N	NE	NE	N	NE	NE	NE	NE	NE	NW	N	N	NW	NW	N	24
27	NW	NW	NW	NW	N	SE	S	S	S	S	S	S	S	S	S	S	S	S	SE	SE	SE	S	S	S	S	24
28	S	S	S	SE	SE	SE	SE	W	W	W	W	W	W	NW	SW	S	E	SE	SE	S	S	S	SE	SE	SW	24
29	SE	SE	SW	SW	S	S	SW	SW	SW	SW	SW	SW	W	W	W	NW	SW	NW	NW	W	SE	W	W	W	W	24
30	W	W	NW	NW	N	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	W	NW	NW	NW	NW	SE	NW	24
31	SE	SE	SE	SE	SE	SE	SE	S	S	S	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	NW	SW	SW	SW	SW	24

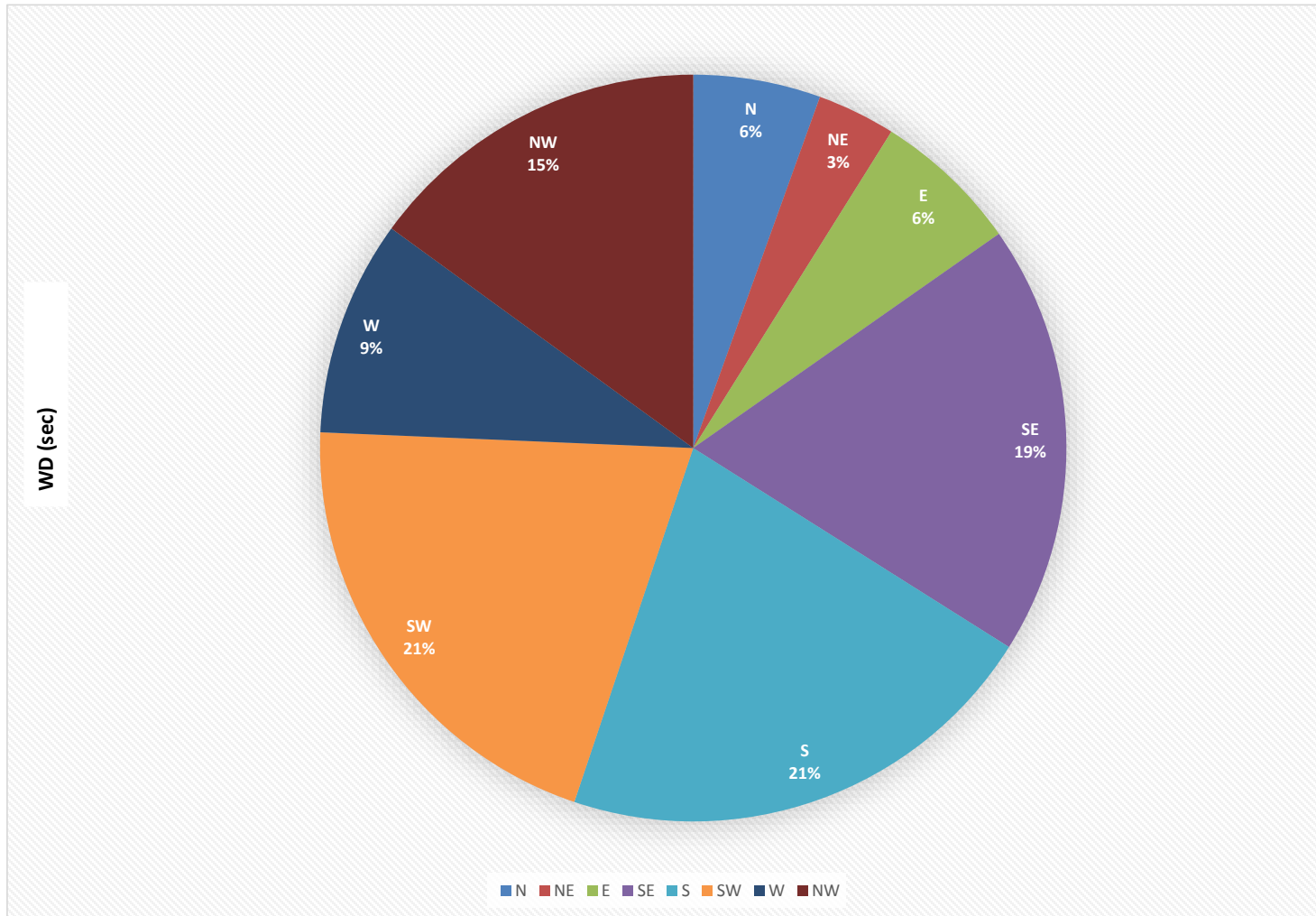
STATUS FLAG CODES

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

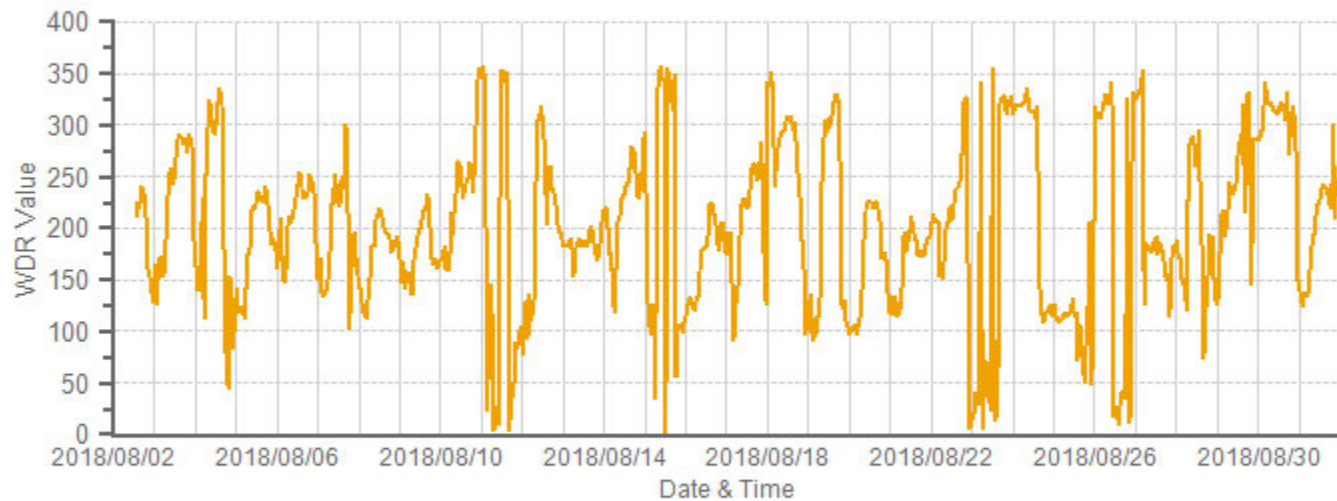
LAST CALIBRATION:	April 4, 2018
DECLINATION :	MAGNETIC DECLINATION 15 DEGREE EAST

MONTHLY CALIBRATION TIME:	0	hrs	OPERATIONAL TIME:	707	hrs
STANDARD DEVIATION:	83		AMD OPERATION UPTIME:	95.0	%
			MONTHLY AVERAGE:	227	227 (SW)

WIND DIRECTION Hourly Averages (WD)



WDR[degwdr] Station: PRAMP_986 Monthly: 18/08 Type: AVG 1 Hr. [1 Hr.]



— WDR[degwdr]

RELATIVE HUMIDITY

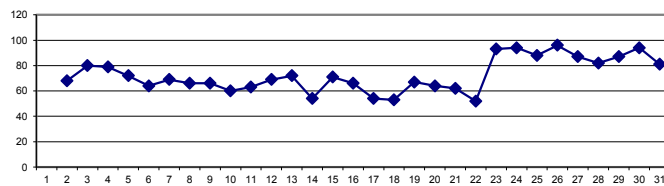
RELATIVE HUMIDITY Hourly Averages (RH %)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.		
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.			
DAY																														
1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	0		
2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	63	60	60	58	53	56	62	74	81	86	91	53	91	68	11
3	90	93	94	91	91	92	90	78	72	67	64	63	61	58	57	52	73	81	77	81	92	96	98	98	52	98	80	24		
4	99	100	100	100	100	100	99	94	89	75	71	66	56	55	52	48	52	59	60	71	75	85	94	97	48	100	79	24		
5	97	97	95	96	96	97	94	88	79	69	64	60	56	53	50	49	49	49	50	53	68	72	73	75	49	97	72	24		
6	79	80	79	85	88	86	77	71	69	66	57	55	52	49	48	50	50	54	55	52	53	53	58	69	48	88	64	24		
7	78	77	76	78	77	80	74	70	62	58	58	56	52	54	54	56	59	64	73	82	82	82	84	78	52	84	69	24		
8	80	82	86	86	91	88	85	72	63	56	51	47	46	47	47	48	49	52	56	60	67	73	77	79	46	91	66	24		
9	80	84	77	80	80	76	76	79	74	67	64	59	58	56	49	46	44	45	50	61	66	70	70	67	44	84	66	24		
10	64	71	73	76	76	77	65	68	58	55	56	56	51	48	43	43	43	48	56	60	55	59	61	67	43	77	60	24		
11	79	89	81	84	92	95	92	70	62	55	50	46	43	39	38	38	40	40	39	45	59	77	77	80	38	95	63	24		
12	69	73	82	83	89	92	93	90	80	68	65	62	59	54	49	46	47	51	54	60	68	73	78	83	46	93	69	24		
13	86	87	90	93	94	94	93	85	76	67	62	57	54	53	53	50	52	55	61	67	72	73	71	72	50	94	72	24		
14	71	68	72	76	73	80	83	72	60	55	50	45	39	38	39	36	34	35	40	43	47	48	47	48	34	83	54	24		
15	65	83	89	91	92	94	95	90	74	61	63	55	47	50	50	49	45	46	48	67	82	85	88	88	45	95	71	24		
16	84	85	84	84	85	88	87	83	74	66	59	57	58	54	39	40	38	38	49	60	62	67	69	73	38	88	66	24		
17	76	77	79	82	90	91	81	73	60	52	44	39	35	32	27	23	23	25	31	35	37	47	66	68	23	91	54	24		
18	74	56	58	74	78	72	67	59	52	47	43	38	36	33	31	31	31	33	39	44	59	62	75	84	31	84	53	24		
19	86	82	84	91	93	95	95	86	64	53	46	42	40	35	32	35	37	38	46	64	85	88	90	94	32	95	67	24		
20	94	95	95	95	95	95	95	84	74	60	52	47	44	39	34	34	35	35	38	51	57	60	63	74	34	95	64	24		
21	79	81	82	86	91	92	90	84	76	68	61	52	45	42	38	35	36	38	39	49	52	54	55	57	35	92	62	24		
22	58	60	58	51	50	60	66	63	52	47	43	38	35	33	30	28	26	29	36	61	73	79	83	83	26	83	52	24		
23	85	83	82	83	85	88	96	97	94	90	90	91	92	92	92	92	97	99	100	100	100	101	101	101	82	101	93	24		
24	101	101	101	101	101	101	101	101	101	101	101	101	101	94	88	83	78	75	75	80	86	92	95	97	97	75	101	94	24	
25	97	98	98	98	98	97	96	95	90	84	76	70	69	75	87	79	75	78	87	91	92	93	96	98	69	98	88	24		
26	99	100	100	100	100	100	100	100	100	100	100	100	94	90	91	88	89	86	82	90	94	96	98	99	82	100	96	24		
27	99	100	100	100	100	100	100	100	100	93	90	87	84	78	69	67	69	72	76	80	85	82	82	84	67	100	87	24		
28	86	88	91	94	97	98	99	94	81	76	71	62	56	51	50	52	63	77	92	95	94	97	97	98	50	99	82	24		
29	100	100	100	98	98	97	95	91	87	81	77	74	65	65	60	77	84	83	86	90	96	99	98	99	60	100	87	24		
30	100	100	100	100	100	100	100	100	100	97	96	92	88	89	85	73	78	92	93	93	95	97	95	98	73	100	94	24		
31	100	100	100	100	100	100	100	94	89	85	75	69	73	65	57	56	55	57	60	64	74	91	90	90	55	100	81	24		
HOURLY MAX	101	101	101	101	101	101	101	101	101	101	101	101	94	92	92	92	97	99	100	100	100	101	101	101	101	101	101	101		
HOURLY AVG	85	86	86	88	90	91	89	84	76	70	65	61	58	56	53	52	54	56	60	67	74	78	81	83						

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

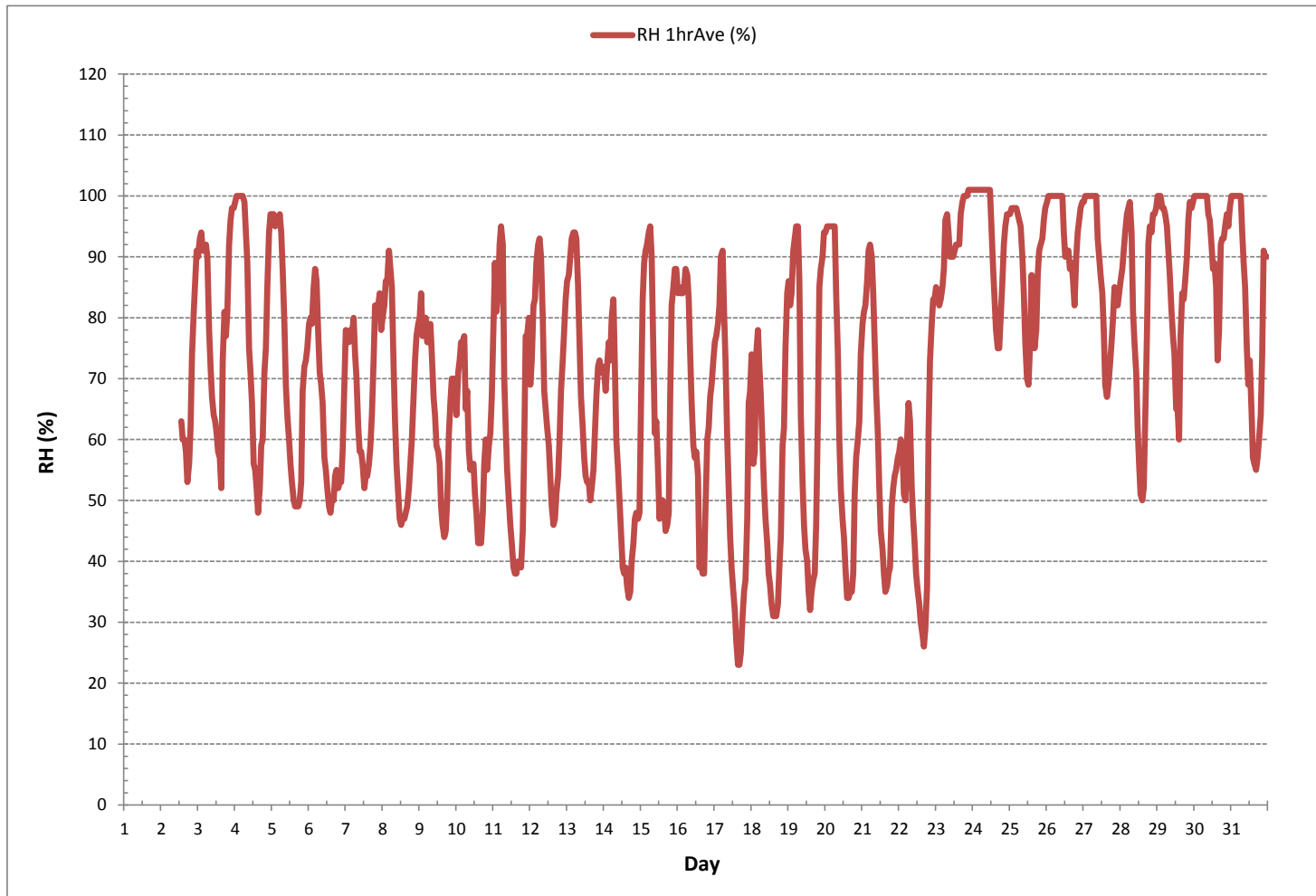
24 HR AVERAGES August 2018



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	23	%	@ HOUR	15	ON DAY	17
MAXIMUM 1-HR AVERAGE:	101	%	@ HOUR	21	ON DAY	23
MAXIMUM 24-HR AVERAGE:	96	%			ON DAY	26
OPERATIONAL TIME:						707 hrs
AMD OPERATION UPTIME:						95.0 %
STANDARD DEVIATION:	20		MONTHLY AVERAGE:			72 %

RELATIVE HUMIDITY Hourly Averages (RH %)



BAROMETRIC PRESSURE



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - August 2018

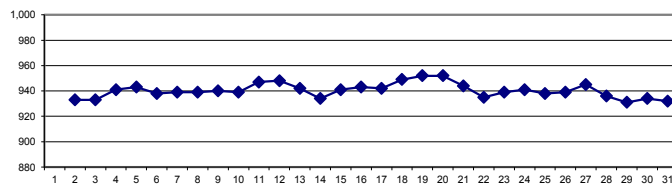
BAROMETRIC PRESSURE Hourly Averages (BP mbar)

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	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	0	
2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	932	934	933	11	
3	932	931	931	931	931	931	931	932	932	932	932	932	933	933	933	933	935	935	935	936	937	938	938	938	938	931	938	933	24
4	938	938	938	939	939	939	940	940	941	941	941	941	941	941	942	942	942	942	942	943	943	943	944	944	938	944	941	24	
5	944	944	944	944	944	944	944	944	944	944	944	944	944	943	943	943	942	942	942	942	941	941	941	941	941	941	944	943	24
6	940	940	940	940	939	939	939	938	938	938	938	937	937	937	937	937	937	937	937	937	937	937	937	937	937	937	940	938	24
7	937	937	937	937	937	938	938	938	939	939	939	939	939	939	939	939	939	939	939	939	939	940	940	940	937	940	939	24	
8	940	940	940	940	940	940	940	940	940	940	940	939	939	939	939	938	938	938	937	938	938	938	939	939	937	940	939	24	
9	939	940	940	940	940	940	940	940	941	941	941	941	940	940	940	940	940	940	939	939	939	939	939	939	939	939	941	940	24
10	938	938	938	938	938	938	938	938	939	939	939	939	939	939	939	939	939	939	939	939	940	941	942	943	938	943	939	24	
11	944	945	945	946	946	947	947	948	948	949	949	949	948	948	948	947	947	947	947	947	947	947	948	948	944	949	947	24	
12	948	948	948	948	948	948	949	949	949	949	950	949	949	949	949	949	948	948	948	948	948	948	948	948	948	948	950	948	24
13	948	947	947	947	946	946	946	946	945	945	944	943	942	941	941	940	939	939	938	937	936	936	935	935	935	948	942	24	
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15	935	935	936	936	937	938	938	939	940	940	941	942	942	943	943	944	944	944	944	944	944	944	944	944	935	944	941	24	
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18	944	945	946	947	948	948	949	950	950	951	951	951	951	951	951	951	950	950	950	950	950	950	950	950	944	951	949	24	
19	950	950	950	951	951	951	952	952	953	953	953	953	953	952	952	952	952	952	952	952	953	953	953	953	950	953	952	24	
20	954	954	954	954	954	954	954	954	954	954	954	953	952	952	951	951	950	949	949	948	948	948	948	948	948	954	952	24	
21	947	947	947	947	947	946	946	946	946	946	946	945	945	944	944	943	942	942	941	940	939	939	938	938	938	947	944	24	
22	937	937	936	936	935	935	935	935	935	935	935	935	934	934	934	933	933	933	934	935	935	936	937	937	933	937	935	24	
23	937	937	937	937	938	939	939	939	939	939	939	939	939	939	940	940	940	940	940	940	941	941	941	940	937	941	939	24	
24	940	940	940	941	941	941	941	941	942	942	942	942	942	942	942	942	942	942	941	941	941	941	940	940	940	942	941	24	
25	940	939	939	938	938	938	938	938	938	938	938	938	938	938	938	937	937	937	937	937	936	936	936	935	935	940	938	24	
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28	938	938	938	937	937	937	937	937	938	938	938	937	937	937	936	936	935	935	934	934	934	934	933	933	933	938	936	24	
29	932	932	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	932	932	932	932	932	931	932	931	24	
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31	936	936	935	935	934	933	933	932	932	932	932	931	931	931	931	930	930	930	929	929	930	930	930	931	929	936	932	24	
HOURLY MAX	954	954	954	954	954	954	954	954	954	954	954	953	953	952	952	952	952	952	952	952	953	953	953	953	953	953	953	953	
HOURLY AVG	940	940	940	940	941	941	941	941	941	941	941	941	941	940	940	940	940	940	940	940	940	940	940	940	940	940	940	940	

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

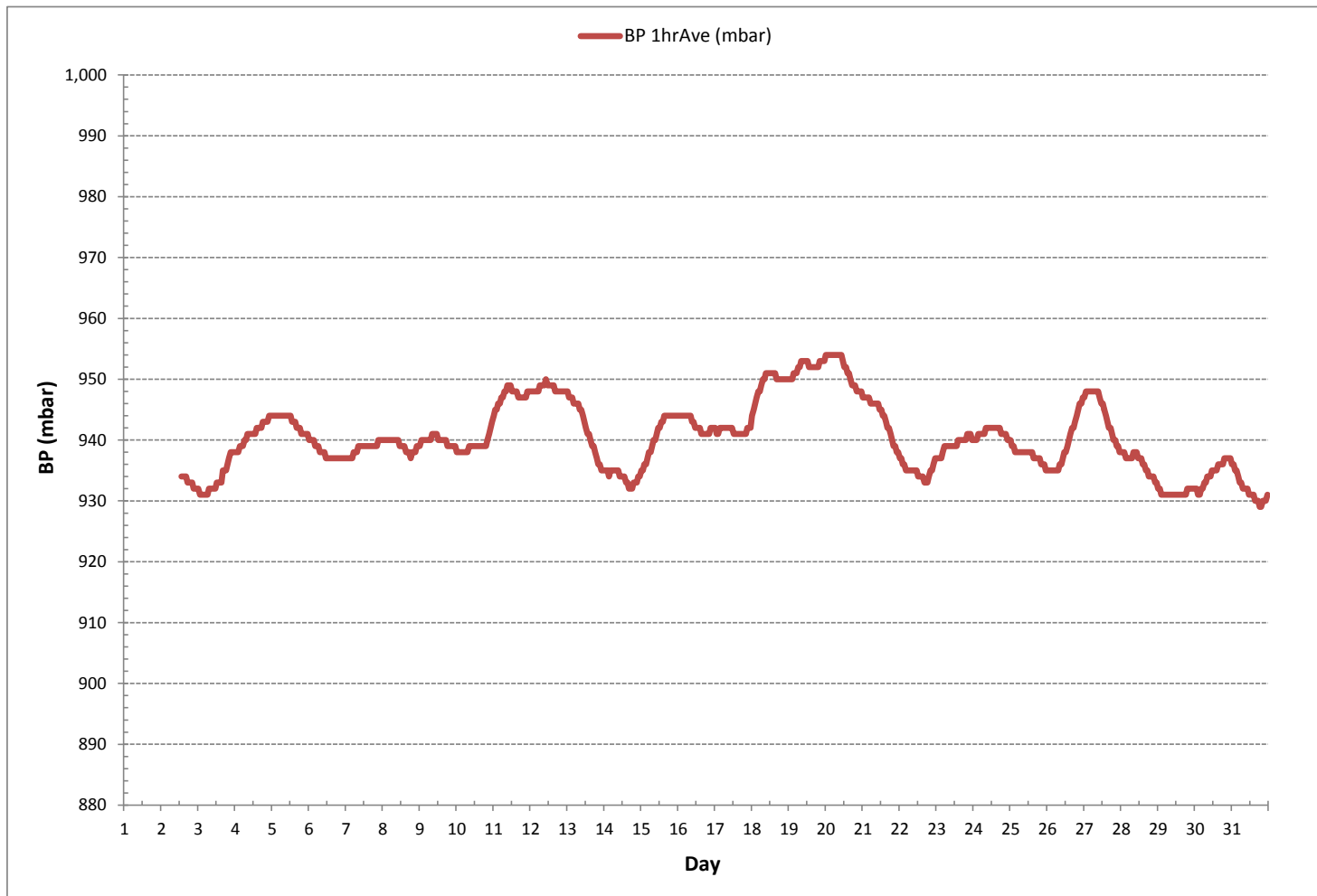
24 HR AVERAGES August 2018



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	929	mbar	@ HOUR	#####	ON DAY	31
MAXIMUM 1-HR AVERAGE:	954	mbar	@ HOUR	0	ON DAY	20
MAXIMUM 24-HR AVERAGE:	952	mbar			ON DAY	19
OPERATIONAL TIME:	707	hrs				
AMD OPERATION UPTIME:	95.0	%				
STANDARD DEVIATION:	6				MONTHLY AVERAGE:	940 mbar

BAROMETRIC PRESSURE Hourly Averages (BP mbar)



AMBIENT TEMPERATURE



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - August 2018

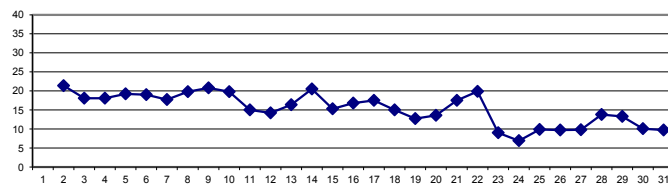
AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)

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	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	0
2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	15.9	24.1	21.4	11
3	15.9	14.5	14.3	14.4	13.6	13.1	14.3	16.8	18.5	19.9	21.2	22.3	23.4	24.3	24.6	24.2	18.0	17.9	18.9	18.7	17.1	16.5	16.1	16.0	13.1	24.6	18.1	24
4	15.4	15.3	15.0	14.9	14.8	14.4	15.0	16.4	16.9	18.8	19.7	21.1	22.1	22.7	22.6	23.0	22.9	22.7	22.0	19.3	17.4	15.7	13.9	12.4	12.4	23.0	18.1	24
5	12.5	12.2	12.3	12.2	11.8	11.4	13.4	15.6	18.0	20.3	21.8	22.8	23.7	24.3	24.7	25.1	25.2	25.5	25.2	24.0	21.1	20.1	19.4	18.6	11.4	25.5	19.2	24
6	17.4	16.9	16.9	15.2	14.0	14.1	15.8	16.9	17.9	19.2	21.2	22.7	23.1	22.4	21.7	21.3	22.0	21.4	21.4	20.7	19.8	19.3	18.1	16.1	14.0	23.1	19.0	24
7	14.1	13.6	13.3	12.8	12.8	12.2	13.8	15.4	17.3	18.4	19.2	20.5	21.9	21.8	22.6	22.9	22.3	22.0	21.2	20.1	18.8	17.5	15.6	15.6	12.2	22.9	17.7	24
8	15.0	14.3	12.8	12.4	11.1	11.4	13.0	16.7	19.2	21.4	22.6	23.9	24.9	25.6	25.8	25.7	25.6	25.3	24.5	23.1	21.5	20.6	19.7	18.7	11.1	25.8	19.8	24
9	17.6	16.2	16.3	14.8	14.6	15.2	15.4	15.4	17.1	19.8	21.0	22.4	23.6	25.1	26.6	27.2	27.9	27.6	26.7	24.1	22.1	21.3	20.8	20.7	14.6	27.9	20.8	24
10	20.4	18.7	18.0	17.3	17.3	17.1	18.4	17.5	19.1	20.0	20.2	21.1	22.1	23.3	23.5	23.7	23.8	22.9	22.4	20.7	19.8	17.7	16.5	14.6	14.6	23.8	19.8	24
11	12.1	10.2	10.3	9.3	6.7	5.6	8.2	14.0	15.8	17.0	18.4	19.6	20.6	20.9	21.1	21.0	20.7	20.3	19.6	18.1	15.4	12.3	12.0	10.9	5.6	21.1	15.0	24
12	12.4	11.7	10.3	10.4	9.5	9.2	9.4	10.7	13.3	15.1	15.7	16.5	17.0	17.9	18.4	19.3	18.9	18.8	18.3	16.7	14.5	13.2	12.1	11.3	9.2	19.3	14.2	24
13	10.7	10.2	9.8	9.7	9.7	9.8	9.7	11.8	14.1	15.6	17.1	18.8	20.1	21.1	21.6	22.4	22.0	22.0	21.4	20.2	19.2	19.1	19.0	18.1	9.7	22.4	16.4	24
14	17.6	17.5	16.3	15.0	14.9	13.1	12.7	15.8	18.6	20.3	22.1	23.6	24.7	24.9	25.5	26.4	26.8	26.2	24.1	23.1	21.6	20.9	20.6	19.4	12.7	26.8	20.5	24
15	15.8	12.5	11.2	10.8	11.2	10.4	10.5	13.1	16.0	16.9	16.0	18.3	19.3	19.2	19.7	20.2	20.3	20.5	19.7	17.9	14.9	12.5	11.1	10.3	10.3	20.5	15.3	24
16	10.9	10.2	10.0	9.8	9.4	9.0	10.0	13.2	16.7	18.4	19.9	20.5	20.8	21.8	22.9	23.3	23.6	23.6	22.0	19.5	17.9	17.2	16.8	15.8	9.0	23.6	16.8	24
17	14.9	14.7	13.9	12.4	9.6	8.4	10.3	12.9	16.0	18.0	20.0	21.5	22.6	23.4	23.9	24.1	24.2	23.6	22.4	20.9	19.4	16.8	12.9	12.4	8.4	24.2	17.5	24
18	11.4	14.5	13.4	11.5	10.2	10.6	11.2	12.5	14.2	15.5	16.7	17.9	18.8	19.5	19.9	20.2	20.7	20.4	19.0	17.1	13.9	12.5	9.8	7.8	7.8	20.7	15.0	24
19	7.5	8.7	8.7	7.1	5.4	4.0	4.5	8.3	12.8	14.1	16.5	17.8	19.3	20.4	21.2	20.8	20.8	20.3	19.0	15.8	11.6	8.8	7.0	5.6	4.0	21.2	12.7	24
20	5.0	4.1	4.2	3.7	3.6	3.2	4.4	8.4	12.3	15.3	17.7	19.4	20.7	21.8	22.0	22.6	22.6	22.3	21.3	18.4	15.7	14.3	13.3	10.7	3.2	22.6	13.6	24
21	9.7	9.3	9.6	8.5	7.3	7.6	8.7	11.6	14.6	16.7	19.0	21.7	23.3	24.6	25.2	25.4	25.4	25.0	24.1	21.7	20.5	20.2	19.8	19.2	7.3	25.4	17.5	24
22	18.9	17.5	16.4	16.4	15.9	13.6	12.4	14.4	17.4	20.0	22.8	24.7	25.8	27.0	27.7	28.4	28.5	27.6	26.1	20.3	16.6	14.2	13.5	12.6	12.4	28.5	19.9	24
23	11.6	11.1	11.0	11.0	11.1	10.1	8.9	9.1	9.0	9.4	9.5	9.5	9.4	9.2	9.4	9.2	8.1	7.7	7.5	7.4	7.0	6.6	6.2	6.0	6.0	11.6	9.0	24
24	5.9	5.6	5.6	5.5	5.6	5.6	5.5	5.6	5.8	5.8	6.0	6.2	7.1	7.5	8.4	9.0	10.0	10.6	10.3	9.4	7.5	6.0	5.2	5.0	5.0	10.6	6.9	24
25	4.2	4.0	4.1	4.3	4.1	4.6	5.5	6.6	8.6	10.1	11.7	12.7	13.4	13.5	13.2	14.0	14.5	14.5	13.6	13.0	12.4	11.9	11.6	11.6	4.0	14.5	9.9	24
26	11.0	10.7	10.2	10.2	10.0	9.8	9.6	9.6	9.3	9.4	9.9	10.2	10.2	10.2	10.3	9.9	9.6	10.0	10.3	9.7	9.1	8.2	7.6	7.3	7.3	11.0	9.7	24
27	6.7	6.8	6.8	6.7	6.7	6.4	6.0	5.9	6.8	7.9	8.8	9.8	10.5	11.8	13.3	13.7	13.5	13.6	13.0	12.4	11.4	11.9	12.1	12.0	5.9	13.7	9.8	24
28	11.8	11.4	10.9	9.9	9.0	7.4	7.3	10.1	12.8	14.0	15.5	17.4	18.5	19.8	20.5	20.1	18.5	16.7	15.3	14.4	13.5	12.7	12.3	12.2	7.3	20.5	13.8	24
29	11.7	11.2	12.3	12.4	12.0	11.4	11.2	11.7	12.7	14.3	15.3	15.9	16.9	17.2	17.8	15.0	14.2	15.5	14.8	12.5	11.3	10.3	11.0	11.0	10.3	17.8	13.3	24
30	10.6	10.6	10.5	10.3	9.7	9.4	9.5	9.5	9.4	9.7	10.0	10.5	11.2	10.8	12.1	13.4	12.4	10.7	10.7	10.3	9.2	8.7	7.7	5.5	5.5	13.4	10.1	24
31	4.0	3.9	3.5	3.4	3.9	4.4	5.5	7.2	9.1	10.5	12.0	12.8	12.9	14.5	15.3	15.1	15.1	14.9	14.2	13.5	11.5	9.1	8.8	8.4	3.4	15.3	9.7	24
HOURLY MAX	20.4	18.7	18.0	17.3	17.3	17.1	18.4	17.5	19.2	21.4	22.8	24.7	25.8	27.0	27.7	28.4	28.5	27.6	26.7	24.1	22.1	21.3	20.8	20.7				
HOURLY AVG	12.2	11.7	11.3	10.8	10.2	9.7	10.3	12.2	14.1	15.6	16.8	18.0	18.9	19.7	20.2	20.3	20.1	19.8	19.1	17.5	15.7	14.5	13.6	12.7				

STATUS FLAG CODES

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

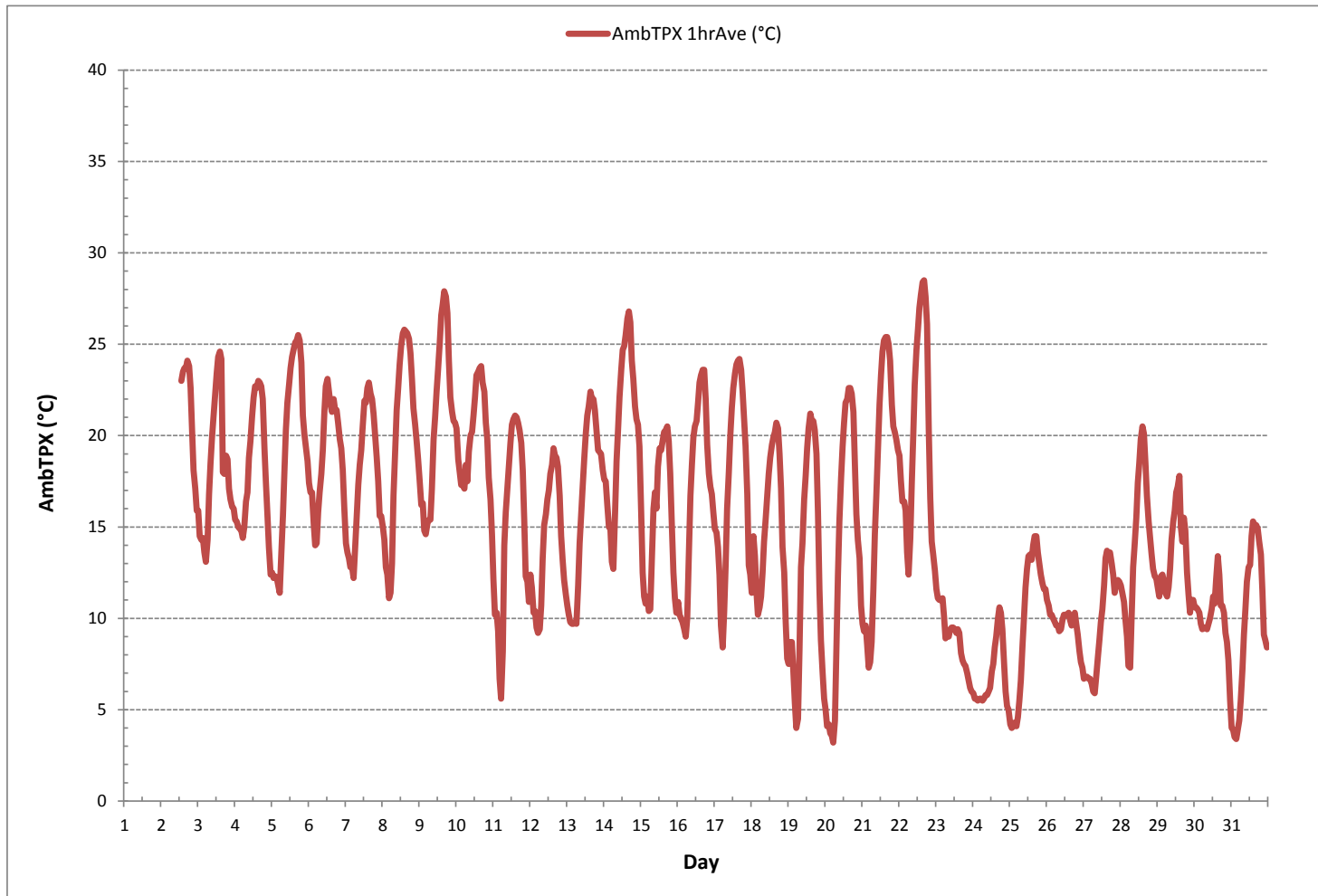
24 HR AVERAGES August 2018



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	3.2	°C	@ HOUR	5	ON DAY	20
MAXIMUM 1-HR AVERAGE:	28.5	°C	@ HOUR	16	ON DAY	22
MAXIMUM 24-HR AVERAGE:	20.8	°C			ON DAY	2
OPERATIONAL TIME:					707	hrs
AMD OPERATION UPTIME:					95.0	%
STANDARD DEVIATION:	5.8				MONTHLY AVERAGE:	15.2 °C

AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)



STATION TEMPERATURE



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - August 2018

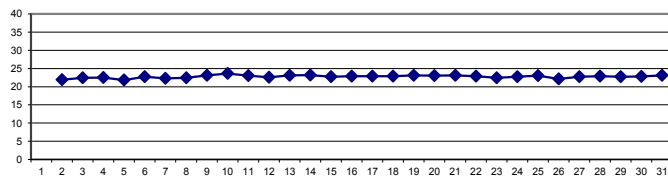
STATION TEMPERATURE Hourly Averages (StnTPX °C)

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	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	0
2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	20.7	23.9	21.9	11
3	23.5	23.3	22.8	22.6	22.2	21.9	21.8	23.4	22.9	22.4	22.0	21.6	21.3	21.0	20.7	20.6	21.7	22.9	22.5	22.4	22.9	23.3	23.4	23.5	20.6	23.5	22.4	24
4	23.7	23.6	23.6	24.1	24.1	24.1	24.0	23.2	23.0	22.5	21.9	21.7	21.3	21.1	20.8	20.6	20.4	20.5	20.4	21.5	22.7	24.0	23.9	23.3	20.4	24.1	22.5	24
5	22.8	22.3	22.0	21.8	21.9	22.1	22.2	23.6	23.0	22.2	21.9	21.6	21.3	21.0	20.8	20.6	20.5	20.2	20.2	20.1	21.3	23.0	23.3	23.4	20.1	23.6	21.8	24
6	23.7	24.2	24.3	24.2	23.8	23.4	23.4	23.7	22.9	22.4	21.8	21.5	21.2	21.2	21.4	21.7	21.4	21.6	21.8	22.1	22.7	23.3	23.6	23.8	21.2	24.3	22.7	24
7	23.9	23.3	22.8	22.3	22.1	21.9	22.0	23.4	22.8	22.2	21.8	21.6	21.2	20.9	20.9	20.7	21.1	21.5	21.7	22.1	22.7	23.8	24.2	24.0	20.7	24.2	22.3	24
8	23.9	23.5	23.0	22.3	22.0	22.2	21.9	23.5	22.8	22.2	21.7	21.5	21.4	21.1	20.9	20.8	21.0	21.3	21.8	22.0	23.1	24.3	24.4	24.4	20.8	24.4	22.4	24
9	24.6	24.4	24.0	23.7	23.1	23.0	23.1	23.4	24.2	23.7	23.3	23.0	22.6	22.5	22.1	21.9	21.6	21.4	21.7	22.1	23.4	23.9	23.8	24.0	21.4	24.6	23.1	24
10	23.7	24.4	24.7	24.8	24.7	24.7	24.7	24.7	24.4	23.7	23.5	23.2	22.8	22.6	22.1	22.1	21.7	21.9	22.2	23.1	24.1	24.6	24.2	23.6	21.7	24.8	23.6	24
11	22.6	22.8	23.0	23.1	23.3	23.4	23.4	23.8	25.2	23.8	23.3	23.1	22.9	22.3	22.0	21.8	22.1	22.3	21.9	23.5	23.9	23.1	22.3	22.6	21.8	25.2	23.0	24
12	22.7	22.4	22.7	22.6	22.7	22.6	22.6	22.5	22.8	24.1	23.4	23.6	23.0	22.6	22.1	21.6	21.6	21.5	21.6	22.8	23.6	22.8	22.2	22.6	21.5	24.1	22.6	24
13	22.5	22.8	22.9	22.8	22.7	22.6	22.4	22.4	24.1	24.0	23.7	23.4	23.0	22.6	22.3	22.2	21.9	22.4	22.5	23.3	23.9	24.3	24.1	24.7	21.9	24.7	23.1	24
14	24.9	24.5	24.4	24.0	23.6	22.9	23.2	23.1	24.5	23.5	23.2	22.9	22.5	22.2	22.0	21.8	21.6	21.5	21.9	22.8	23.4	24.0	24.0	24.4	21.5	24.9	23.2	24
15	24.6	23.7	22.7	22.4	22.1	22.5	22.7	22.5	23.6	23.8	23.7	23.7	22.9	22.3	22.0	21.6	21.3	21.5	21.6	22.9	23.4	22.7	22.5	22.8	21.3	24.6	22.7	24
16	23.0	23.0	22.9	22.9	22.9	23.1	22.9	22.4	24.2	23.9	23.4	23.2	23.0	22.4	22.1	21.6	21.4	21.3	21.5	22.9	24.0	24.1	24.2	24.0	21.3	24.2	22.9	24
17	23.6	23.2	22.6	22.2	22.9	23.0	23.1	22.9	24.6	24.3	23.5	23.1	22.7	22.2	22.1	21.7	21.3	21.5	21.7	23.5	23.8	23.9	23.1	22.5	21.3	24.6	22.9	24
18	22.6	22.7	22.2	22.4	22.8	22.8	22.8	22.7	23.9	25.1	23.9	23.7	23.4	22.6	22.2	22.0	21.7	21.7	23.0	23.4	23.3	22.6	23.0	23.3	21.7	25.1	22.9	24
19	23.3	23.1	23.1	23.0	23.5	23.5	23.6	23.3	23.5	24.9	24.0	23.4	23.1	22.4	22.1	22.1	22.1	22.3	22.7	23.6	22.9	23.0	23.2	23.5	22.1	24.9	23.1	24
20	23.5	23.5	23.7	23.6	23.6	23.7	23.5	23.5	23.5	24.7	23.4	23.2	22.8	22.3	22.2	21.7	21.5	21.5	21.8	23.2	23.6	22.9	22.4	22.9	21.5	24.7	23.0	24
21	23.1	23.3	23.2	23.3	23.3	23.2	23.2	22.6	23.3	24.1	23.6	23.2	22.7	22.5	22.0	21.9	22.0	21.8	21.9	22.9	24.1	24.1	24.3	24.4	21.8	24.4	23.1	24
22	24.6	24.5	24.1	23.7	23.3	22.8	22.1	22.5	24.2	23.7	23.2	22.8	22.6	22.3	21.8	21.6	21.4	21.4	21.5	23.0	24.3	23.7	22.9	22.4	21.4	24.6	22.9	24
23	22.5	22.4	22.2	22.2	22.2	22.2	22.5	22.0	21.9	21.8	22.1	21.9	22.2	22.1	22.1	22.3	22.5	22.6	22.8	22.8	22.7	23.0	22.8	23.0	21.8	23.0	22.4	24
24	22.9	22.9	23.0	23.0	22.9	23.0	23.1	22.9	22.9	22.8	22.8	22.7	22.4	22.4	22.0	22.0	22.3	22.5	22.1	21.9	23.0	23.3	23.4	23.5	21.9	23.5	22.7	24
25	23.4	23.7	23.4	23.5	23.3	23.2	22.7	22.7	22.2	21.5	21.9	22.8	23.4	23.5	23.2	23.4	24.1	24.3	24.0	23.5	22.9	22.3	21.9	21.8	21.5	24.3	23.0	24
26	22.3	22.2	22.5	22.5	22.4	22.4	22.5	22.2	22.4	22.5	22.2	21.7	21.5	21.3	21.3	21.3	21.9	21.7	21.3	22.0	22.6	22.5	22.8	22.9	21.3	22.9	22.1	24
27	23.1	23.1	23.1	23.0	22.9	22.8	22.7	22.7	22.5	21.9	21.7	21.9	22.0	22.5	23.4	23.6	24.0	23.8	23.4	22.8	22.2	21.9	22.1	22.1	21.7	24.0	22.7	24
28	22.1	22.1	22.4	22.6	22.9	23.2	23.4	22.7	23.6	24.9	24.2	23.8	22.9	22.2	21.6	21.9	22.4	23.5	23.8	23.7	23.2	22.7	22.2	21.9	21.6	24.9	22.9	24
29	21.9	22.2	21.9	21.8	21.8	22.2	23.3	22.4	23.2	24.4	23.7	23.6	23.2	23.3	23.2	22.2	23.5	22.9	23.6	23.9	23.1	22.3	22.1	21.9	21.8	24.4	22.7	24
30	22.1	22.0	22.0	22.1	22.2	22.3	22.3	22.2	23.4	25.1	24.3	24.5	23.1	23.8	23.2	22.1	22.7	22.7	22.0	21.9	22.3	22.4	22.8	23.2	21.9	25.1	22.8	24
31	23.3	23.3	23.5	23.6	23.2	23.0	22.4	22.4	22.3	22.8	23.4	23.8	23.5	23.2	23.0	23.0	23.1	23.8	23.9	23.5	22.9	22.4	22.5	22.8	22.3	23.9	23.1	24
HOURLY MAX	24.9	24.5	24.7	24.8	24.7	24.7	24.7	24.7	25.2	25.1	24.3	24.5	23.5	23.8	23.4	23.6	24.1	24.3	24.0	23.9	24.3	24.6	24.4	24.7				
HOURLY AVG	23.3	23.2	23.1	23.0	22.9	22.9	22.8	22.9	23.4	23.4	23.0	22.8	22.5	22.2	22.0	21.8	21.9	22.0	22.1	22.7	23.1	23.3	23.2	23.2				

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

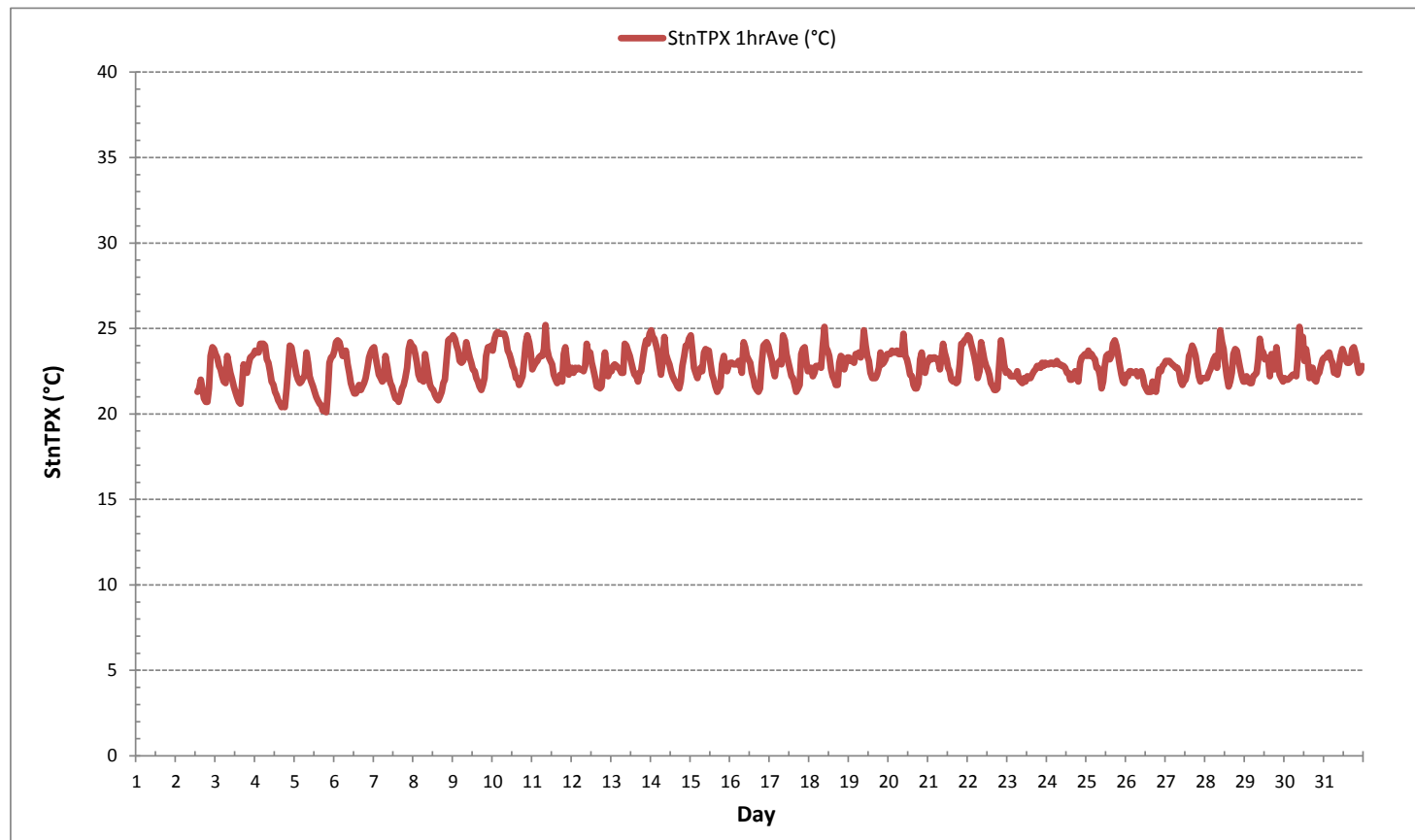
24 HR AVERAGES August 2018



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	20.1	°C	@ HOUR	19	ON DAY	5
MAXIMUM 1-HR AVERAGE:	25.2	°C	@ HOUR	8	ON DAY	11
MAXIMUM 24-HR AVERAGE:	23.6	°C			ON DAY	10
OPERATIONAL TIME:					707	hrs
AMD OPERATION UPTIME:					95.0	%
STANDARD DEVIATION:	0.9				MONTHLY AVERAGE:	22.8 °C

STATION TEMPERATURE Hourly Averages (StnTPX °C)



APPENDIX II
EQUIPMENT CALIBRATION RESULTS

SULPHUR DIOXIDE



Thermo 43C Sulphur Dioxide Analyzer Calibration

Date:	August 2, 2018	Barometer/B.P./units:	Brunton 05490 expires December 11, 2018	935	millibars
Company/Airshed:	PRAMP	Thermometer/Station Temp:	F.S. 160459244 expires June 19, 2020	21	°C
Location/Station Name:	986b	Weather Conditions:	Mainly sunny		
Parameter:	Sulphur Dioxide	Calibration Purpose:	installation		
Start Time 24 hr. (mst):	14:12	Performed By/Reviewer:	Chris Wesson	Rob Fisher	
End Time 24 hr. (mst):	17:09	Cal Gas Expiry Date:	October 24, 2020		
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	n/a		
Analyzer:	Serial Number/Owner:	43C-62339-335	Maxxam	Range ppb:	500
	Last Calibration Date:	n/a		As Found C.F.:	n/a
	Previous C.F.:	n/a		New C.F.:	1.000

Calibration Standards:	Standard Calibration Points for Ranges
Low Flow Meter ID/Expiry Date:	Defender Low 152020 expires November 22, 2018
High Flow Meter ID/Expiry Date:	Defender High 148943 expires November 21, 2018
Calibrator ID/Expiry Date:	API id# 830 expires January 31, 2019
Cal Gas Cylinder I.D. #:	LL108015
Cal Gas Conc. (ppm):	47.9

Point	ppb
High	380
Mid	180
Low	90

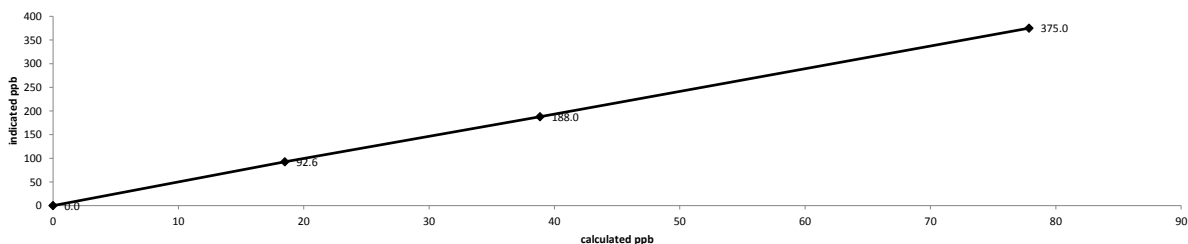
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration (ppb):	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total			
adjusted zero	6028	0.00	6028	0.0	0.0	n/a
adjusted high	5994	47.30	6041	375.0	375.0	1.000
mid	6013	24.10	6037	191.2	188.0	1.017
low	6032	12.01	6044	95.2	92.6	1.028
calibrator zero	6028	0.00	6028	0.0	0.0	n/a
Average C.F. =						1.015

Linear Regression/Calibration Results:

Correlation Coefficient =	1.000	LIMITS	> or = 0.995
Slope =	0.999		0.95-1.05
b (Intercept as % of full scale) =	0.33%		± 3% F.S.
% change in C.F. from last cal =	n/a		n/a

Thermo 43C Sulphur Dioxide Analyzer Calibration



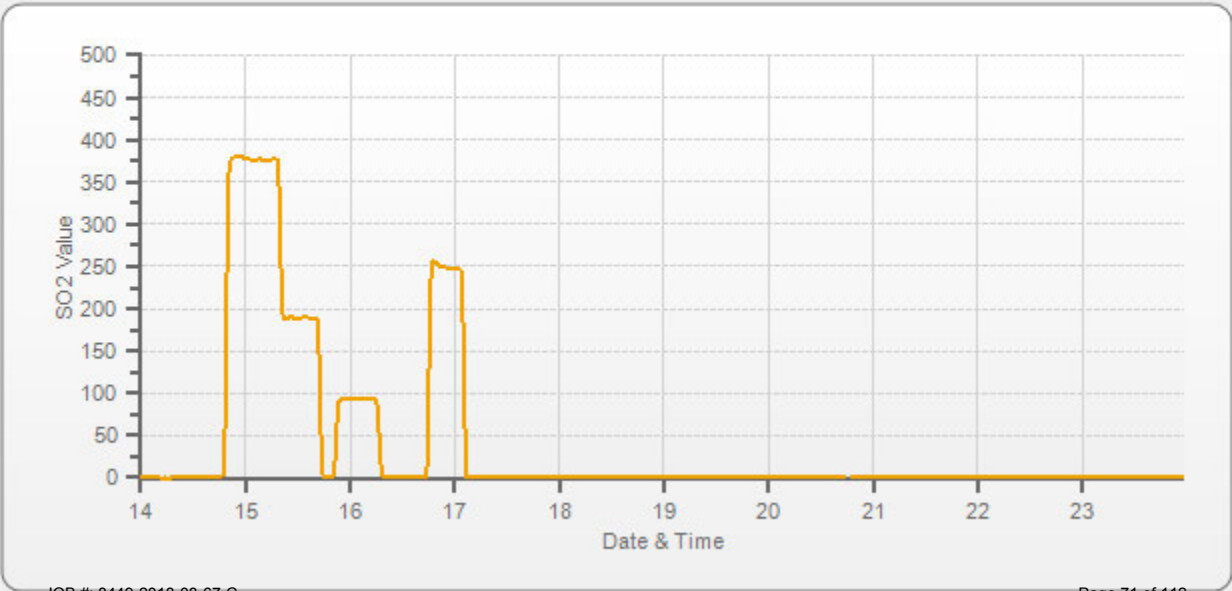
As found:		As left:	
Bkg:	87.9	Bkg:	84.7
Coef:	0.921	Coef:	0.900
Pmt:	-654	Pmt:	-654
0	Lamp=855	0	Lamp=855
Battery:	3.3	Battery:	3.3
Internal:	25.6	Internal:	25.7
Chamber:	45.2	Chamber:	45.2
Pressure:	415.6	Pressure:	415.8
Flow:	0.718	Flow:	0.718
Intensity:	~37500	Intensity:	~37500
Averaging Time:	120	Averaging Time:	120
Expected Value:	255.0	Expected Value:	247.0

Comments:

The analyzer sample inlet filter was changed. The analyzer cooling fan filter(s) were cleaned. The manifold blower was found to be working normally.

Installation calibration was performed following trailer upgrade..

SO2[ppb]



TOTAL REDUCED SULPHUR



Thermo 431-TLE Total Reduced Sulphur Analyzer Calibration

Date:	August 2, 2018	Barometer/B.P./units:	Brunton 05490 expires December 11, 2018	936	millibars
Company/Airshed:	PRAMP	Thermometer/Station Temp:	F.S. 160459244 expires June 19, 2020	21	°C
Location/Station Name:	986b	Weather Conditions:	Mainly sunny		
Parameter:	Total Reduced Sulphur	Calibration Purpose:	Installation		
Start Time 24 hr. (mst):	14:12	Performed By/Reviewer:	Chris Wesson	Rob Fisher	
End Time 24 hr. (mst):	17:38	Cal Gas Expiry Date:	November 7, 2020		
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	CD Nova CDN-101 #516		
Analyzer:					
Serial Number/Owner:	1152940011 Maxxam	Range ppb:	100		
Last Calibration Date:	n/a	As Found C.F.:	n/a		
Previous C.F.:	n/a	New C.F.:	1.000		

Calibration Standards:	Standard Calibration Points for Ranges	SO2 Scrubber Check (10 minutes):	
Low Flow Meter ID/Expiry Date:	Defender Low 152020 expires November 22, 2018	Start/End Time 24 hr.:	14:47 14:57
High Flow Meter ID/Expiry Date:	Defender High 148943 expires November 21, 2018	SO2 Analyzer Range:	500
Calibrator ID/Expiry Date:	API id# 829 expires January 31, 2019	Target Concentration (ppb):	380
Cal Gas Cylinder I.D. #:	LL119432	As Found Zero:	0.0
Cal Gas Conc. (ppm):	10.3	Analyzer Response: (ppb):	0.0
		Zero Corrected Result (ppb):	0.0

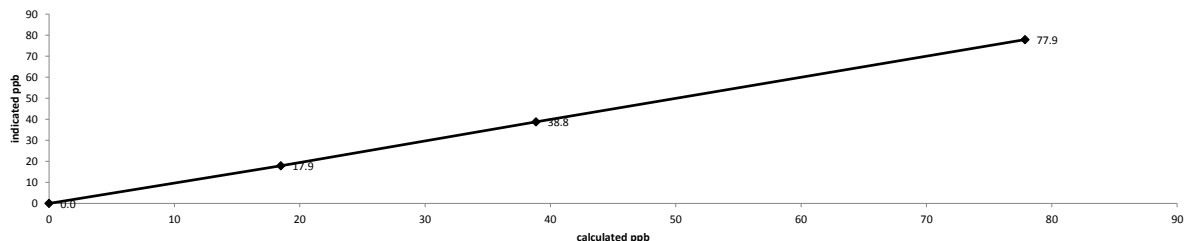
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration (ppb):	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total			
adjusted zero	7531	0.00	7531	0.0	0.0	n/a
adjusted high	7480	57.09	7537	77.9	77.9	1.000
mid	7506	28.48	7534	38.9	38.8	1.001
low	7506	13.53	7520	18.5	17.9	1.033
calibrator zero	7531	0.00	7531	0.0	0.1	n/a
Average C.F.:						1.011

Linear Regression/Calibration Results:

Correlation Coefficient =	1.000	LIMITS	> or = 0.995
Slope =	0.997	0.95-1.05	
b (Intercept as % of full scale)=	0.26%	± 3% F.S.	
% change in C.F. from last cal=	n/a	n/a	

Thermo 431-TLE Total Reduced Sulphur Analyzer Calibration



As found:		As left:	
Bkg:	1.82	Bkg:	1.84
Coef:	0.951	Coef:	0.961
Pmt:	-690.4	Pmt:	-691.2
Flash:	957	Flash:	961
Internal:	29.4	Internal:	28.9
Chamber:	44.9	Chamber:	45.1
Perm Oven Gas:	45.00	Perm Oven Gas:	45.00
Perm Oven Heater:	44.25	Perm Oven Heater:	44.24
Pressure:	649.2	Pressure:	648.3
Sample Flow:	0.475	Sample Flow:	0.475
Lamp Intensity:	92	Lamp Intensity:	91
Converter:	820	Converter:	820
Converter Set:	820	Converter Set:	820
Averaging Time:	120	Averaging Time:	120
Expected Value:	42.5	Expected Value:	43.6

Comments:

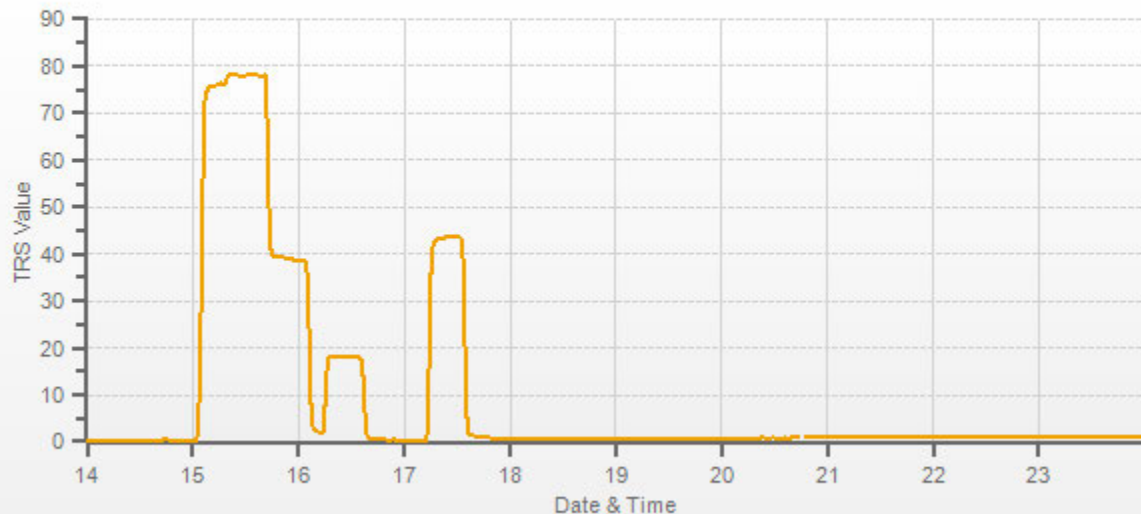
The analyzer sample inlet filter was changed.

The analyzer cooling fan filter(s) were cleaned.

The manifold blower was found to be working normally.

Installation calibration was performed following trailer upgrade.

— TRS[ppb]





Thermo 431-TLE Total Reduced Sulphur Analyzer Calibration

Date:	August 8, 2018	Barometer/B.P./units:	Brunton 05490 expires December 11, 2018	939	millibars
Company/Airshed:	PRAMP	Thermometer/Station Temp:	F.S. 160459244 expires June 19, 2020	22	°C
Location/Station Name:	986b	Weather Conditions:	Smoke		
Parameter:	Total Reduced Sulphur	Calibration Purpose:	as found		
Start Time 24 hr. (mst):	16:46	Performed By/Reviewer:	Chris Wesson	Rob Fisher	
End Time 24 hr. (mst):	18:06	Cal Gas Expiry Date:	November 7, 2020		
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	CD Nova CDN-101 #516		
Analyzer:					
Serial Number/Owner:	1152940011 PRAMP	Range ppb:	100		
Last Calibration Date:	August 2, 2018	As Found C.F.:	1.024		
Previous C.F.:	1.000	New C.F.:	n/a		

Calibration Standards:	Standard Calibration Points for Ranges
Low Flow Meter ID/Expiry Date: Defender Low 152020 expires November 22, 2018	
High Flow Meter ID/Expiry Date: Defender High 148943 expires November 21, 2018	
Calibrator ID/Expiry Date: API id# 830 expires January 31, 2019	
Cal Gas Cylinder I.D. #: LL119432	
Cal Gas Conc. (ppm): 10.3	

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	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total	Concentration (ppb):		
as found zero	7551	0.00	7551	0.0	0.0	n/a
as found high	7494	56.00	7550	76.3	74.5	1.024
Average C.F.=						n/a

Linear Regression/Calibration Results:

Correlation Coefficient =	n/a	LIMITS	n/a
Slope =	n/a		n/a
b (Intercept as % of full scale)=	n/a		n/a
% change in C.F. from last cal=	-2.37%		n/a

As found:		As left:	
Bkg:	1.83	Bkg:	n/a
Coef:	0.961	Coef:	n/a
Pmt:	-691.2	Pmt:	n/a
Flash:	960	Flash:	n/a
Internal:	29.4	Internal:	n/a
Chamber:	44.8	Chamber:	n/a
Perm Oven Gas:	45.01	Perm Oven Gas:	n/a
Perm Oven Heater:	44.24	Perm Oven Heater:	n/a
Pressure:	652.0	Pressure:	n/a
Sample Flow:	0.477	Sample Flow:	n/a
Lamp Intensity:	92	Lamp Intensity:	n/a
Converter:	820	Converter:	n/a
Converter Set:	820	Converter Set:	n/a
Averaging Time:	120	Averaging Time:	n/a
Expected Value:	n/a	Expected Value:	n/a

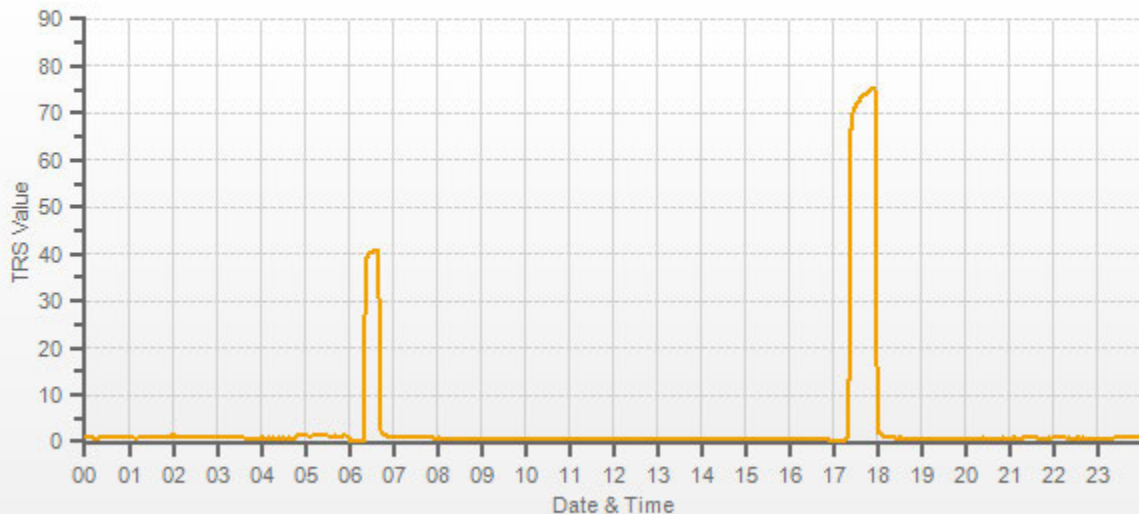
Comments:

The manifold blower was found to be working normally.

An As-found was performed due to an apparent span drift.

TRS[ppb] Station: PRAMP_986 Daily: 18/08/08 Type: AVG 1 Min. [1 Min.]

— TRS[ppb]



TOTAL HYDROCARBON



Thermo 55i Methane/Non-Methane Analyzer Calibration

Date:	August 2, 2018	Barometer/B.P./units:	Brunton 05490 expires December 11, 2018	22	millibars
Company/Airshed:	PRAMP	Thermometer/Station Temp:	F.S. 160459244 expires June 19, 2020	935	°C
Location/Station Name:	986b	Weather Conditions:	Mainly sunny		
Parameter:	CH4 / NMHC / THC	Calibration Purpose:	installation		
Start/End Time 24 hr. (mst):	16:29 / 21:05	Performed By/Reviewer:	Chris Wesson	Rob Fisher	
Calibration Method:	Gas Dilution	Cal Gas Expiry Date:	October 18, 2025		

Analyzer:		Correction Factors:			
Serial Number/Owner:	1022143392 Maxxam	Previous C.F.:	As Found C.F.:	New C.F.:	
Measured Flow:	0.93 L/min	CH ₄ =	n/a	n/a	1.000
Last Calibration Date:	n/a	NMHC =	n/a	n/a	1.001
Range ppm:	20 CH4/20 NMHC/40 THC	THC =	n/a	n/a	1.001

Calibration Standards:		Standard Calibration Points for Analyzer Range of 20/20/40 ppm			
Low Flow Meter ID/Expiry Date:	Defender Low 152020 expires November 22, 2018	Point	CH4	NMHC	THC
High Flow Meter ID/Expiry Date:	Defender High 148943 expires November 21, 2018	High	13.00	13.00	26.00
Calibrator ID/Expiry Date:	API idR 830 expires January 31, 2019	Mid	7.00	7.00	14.00
Cal Gas Cylinder I.D. # :	LL107207	Low	3.00	3.00	6.00
CH4 Cylinder Conc. =	600.0 207.0 =C ₂ H ₆ Cylinder Conc.				
CH ₄ expressed as C ₂ H ₆ =	569.3 1169.3 =total CH4 equivalent				

ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015												
Calibrator Flow Rates (cc/min)				Calculated CH ₄ (ppm)	Calculated NMHC (ppm)	Calculated THC (ppm)	Indicated CH ₄ (ppm)	Indicated NMHC (ppm)	Indicated THC (ppm)	Correction Factors:		
Point	Diluent	Cal Gas	Total Flow							CH ₄	NMHC	THC
adjusted zero	2520	0.00	2520	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
adjusted high	2461	57.82	2519	13.77	13.07	26.84	13.77	13.05	26.82	1.000	1.001	1.001
mid	2496	30.34	2526	7.21	6.84	14.04	7.24	6.84	14.09	0.995	1.000	0.997
low	2499	15.32	2514	3.66	3.47	7.13	3.68	3.47	7.16	0.994	1.000	0.995
calibrator zero	2520	0.00	2520	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
Average C.F. =									0.996	1.000	0.998	

Linear Regression/Calibration Results:				LIMITS	
Correlation Coefficient =	CH ₄	NMHC	THC	> or = 0.995	
Slope =	1.000	1.000	1.000	0.95-1.05	
b (Intercept as % of full scale)=	0.08%	0.02%	0.06%	± 3% F.S.	
% change in C.F. from last cal=	n/a	n/a	n/a	n/a	

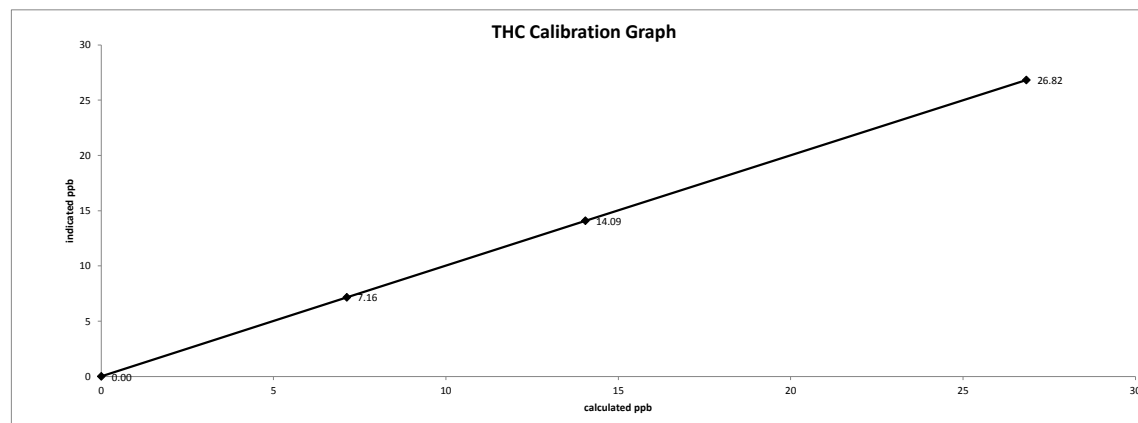
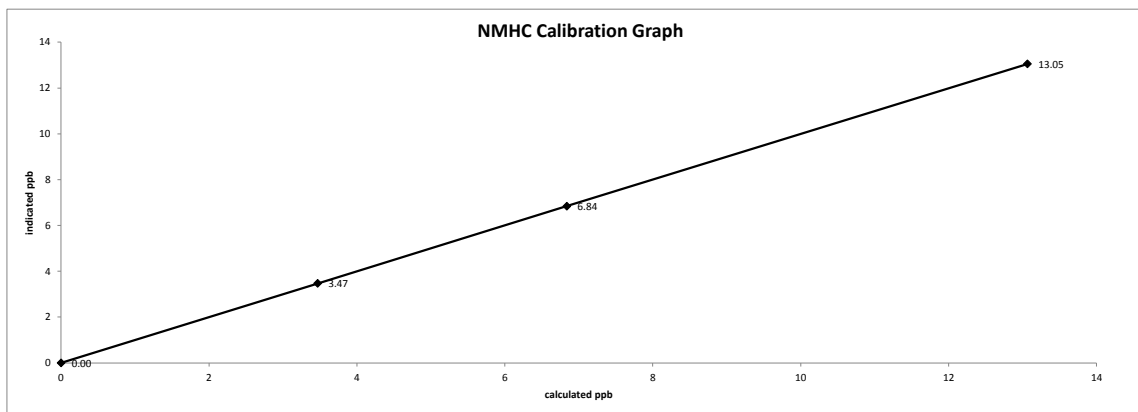
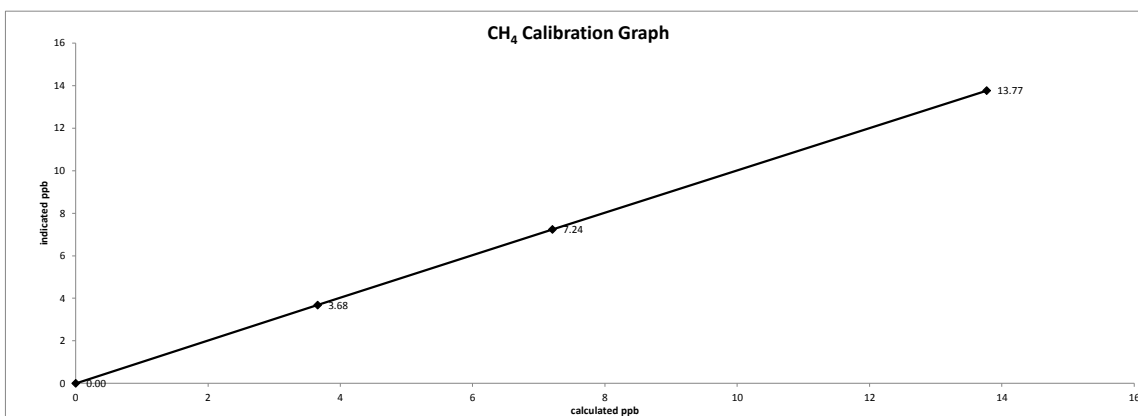
As Left Instrument Diagnostics:										
Interface Board Voltages:	Bias Supply:	-310.8	Calibration History cnt'd:	NM Peak Area:	63472					
Temperatures:	Detector Oven:	175.0	Crucial Settings:	Methane Start:	n/a					
	Filter:	175.0		Methane End:	n/a					
	Column Oven:	5.2		Backflush:	n/a					
	Internal:	32.5		NMHV Start:	n/a					
Cylinder Pressures/reg.:	Carrier:	1600 50	Run History>1:	NMHC End:	n/a					
	Fuel:	1900 50		Date:	02Aug2018					
	Span Gas:	1900 28		Time:	18:21					
	Zero Air Generator:	45		CH ₄ PK HT:	18					
Internal Pressures:	Carrier:	31.4		CH ₄ RT:	12.8					
	Fuel:	40.5		CH ₄ Baseline:	1603					
	Air:	32.1		CH ₄ LOD:	13					
FID Status:	Status:	LIT		CH ₄ SD:	4					
	Counts:	19415		CH ₄ CONC:	0.01					
	Flame:	319.6		NM PK HT:	0					
	Det Base:	175.0		NM Peak Area:	0					
Flame and Power Stats:	Last Power On:	02Aug2018@14:17		NM CONC:	0.00					
	Flameouts:	1		NM Base Start:	1541					
	Det Oven at Start:	120.0		NM Base End:	1535					
	Col Oven at Start:	63.1		NM LOD:	4					
Calibration History:	Time:	02Aug2018@17:06		NM Start IDX:	10					
	Type:	SPAN		NM End IDX:	46					
	Status:	GOOD		NM Max Slope:	1.9e-01					
	Check/Adjust:	ADJUST		NM Min Slope:	-5.7e-01					
	CH ₄ Span Conc:	13.77	Expected Values:	NM PT Count:	0					
	CH ₄ SP Ratio:	0.000789		Previous CH4:	10.44					
	CH ₄ RT:	13.0		Previous NMHC:	11.3					
	CH ₄ PK IDX:	25		Previous THC:	21.73					
	CH ₄ PK HT:	17446		New CH4:	10.27					
	NM Span Conc:	13.07		New NMHC:	11.10					
	NM SP Ratio:	0.000206		New THC:	21.37					

Comments:			
The analyzer sample inlet filter was changed.		A column conditioning was performed.	
A new hydrogen cylinder was installed.			
A new span gas cylinder was installed.			
The analyzer cooling fan filter(s) were cleaned.		The oxygen purifiers were replaced.	
The manifold blower was found to be working normally.			

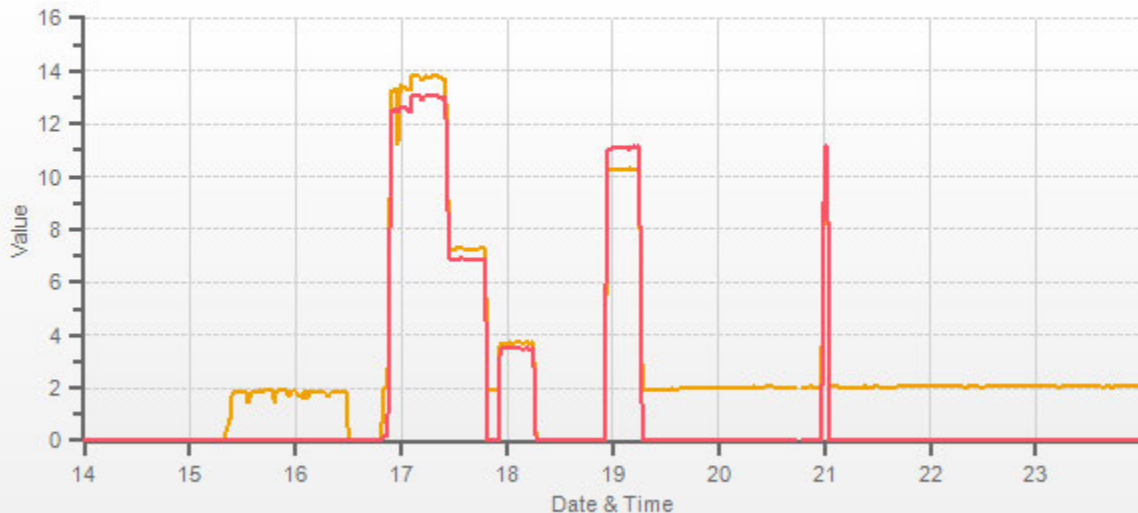
Installation calibration was performed following trailer upgrade.

Date: August 2, 2018
Company/Airshed: PRAMP
Location/Station Name: 986b

Start/End Time 24 hr. (mst): 16:29 /21:05
Calibration Purpose: installation
Calibration Method: Gas Dilution



CH4[ppm] NMHC[ppm]





Thermo 55i Methane/Non-Methane Analyzer Calibration

Date:	August 30, 2018	Barometer/B.P./units:	Brunton 05490 expires December 11, 2018	934	millibars
Company/Airshed:	PRAMP	Thermometer/Station Temp:	F.S. 160459244 expires June 19, 2020	22	°C
Location/Station Name:	986b	Weather Conditions:	Rain fall heavy at times		
Parameter:	CH4 / NMHC / THC	Calibration Purpose:	post repair		
Start/End Time 24 hr. (mst):	09:50 / 12:46	Performed By/Reviewer:	Chris Wesson	Rob Fisher	
Calibration Method:	Gas Dilution	Cal Gas Expiry Date:	October 18, 2025		

Analyzer:		Correction Factors:			
Serial Number/Owner:	1022143392 Maxxam	Previous C.F.:	As Found C.F.:	New C.F.:	
Measured Flow:	0.95 L/min	CH ₄ =	n/a	n/a	1.000
Last Calibration Date:	n/a	NMHC =	n/a	n/a	1.001
Range ppm:	20 CH4/20 NMHC/40 THC	THC =	n/a	n/a	1.000

Calibration Standards:		Standard Calibration Points for Analyzer Range of 20/20/40 ppm			
Low Flow Meter ID/Expiry Date:	Defender Low 152020 expires November 22, 2018	Point	CH4	NMHC	THC
High Flow Meter ID/Expiry Date:	Defender High 148943 expires November 21, 2018	High	13.00	13.00	26.00
Calibrator ID/Expiry Date:	Sabio id# 17100415 expires August 21, 2019	Mid	7.00	7.00	14.00
Cal Gas Cylinder I.D. # :	LL107207	Low	3.00	3.00	6.00
CH4 Cylinder Conc. =	600.0 207.0 =C ₂ H ₆ Cylinder Conc.				
CH ₄ expressed as C ₂ H ₆ =	569.3 1169.3 =total CH4 equivalent				

ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015										Correction Factors:		
Calibrator Flow Rates (cc/min)				Calculated CH ₄ (ppm)	Calculated NMHC (ppm)	Calculated THC (ppm)	Indicated CH ₄ (ppm)	Indicated NMHC (ppm)	Indicated THC (ppm)	CH ₄	NMHC	THC
Point	Diluent	Cal Gas	Total Flow									
adjusted zero	3039	0.00	3039	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
adjusted high	2963	73.17	3036	14.46	13.72	28.18	14.46	13.71	28.18	1.000	1.001	1.000
mid	3002	36.77	3039	7.26	6.89	14.15	7.28	6.84	14.13	0.997	1.007	1.001
low	3019	18.39	3037	3.63	3.45	7.08	3.65	3.42	7.07	0.996	1.008	1.002
calibrator zero	3039	0.00	3039	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
Average C.F. =										0.998	1.005	1.001

Linear Regression/Calibration Results:			
Correlation Coefficient =	CH ₄	NMHC	THC
Slope =	1.000	1.000	1.000
b (Intercept as % of full scale) =	0.05%	-0.09%	-0.02%
% change in C.F. from last cal =	n/a	n/a	n/a
LIMITS			
> or = 0.995			
0.95-1.05			
± 3% F.S.			
n/a			

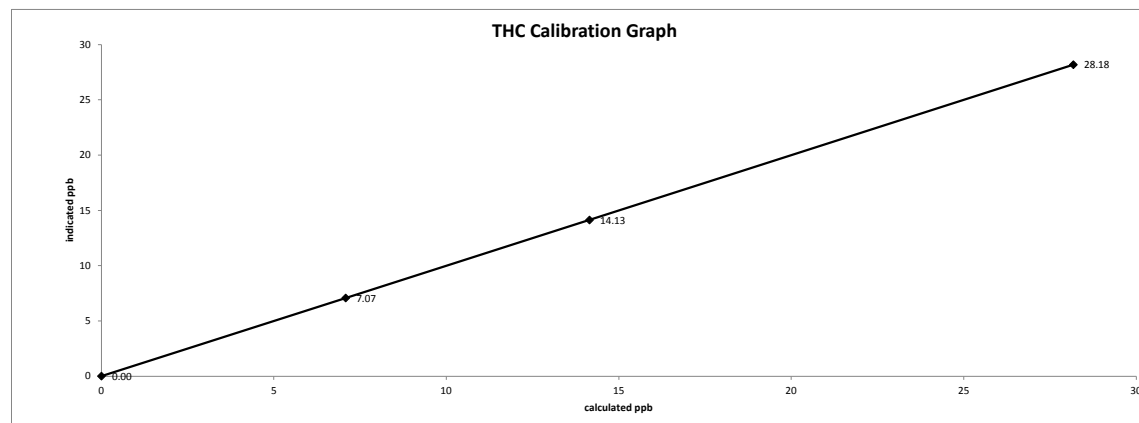
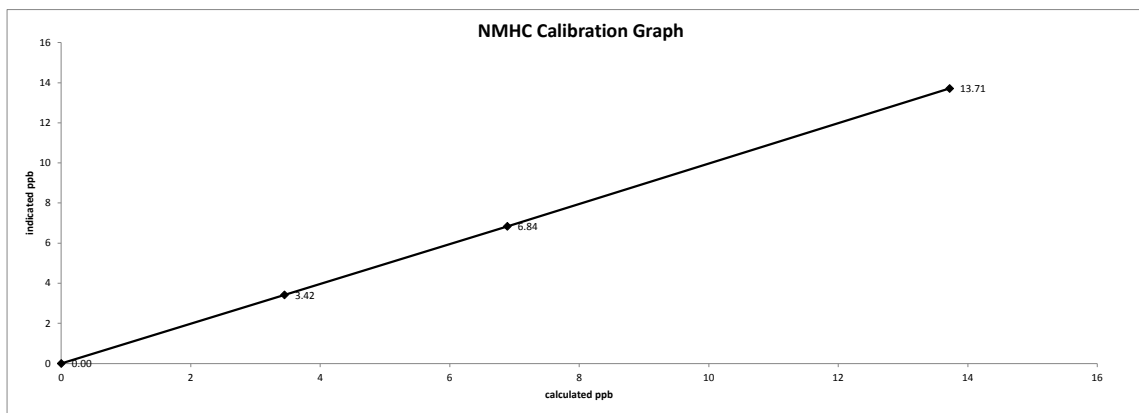
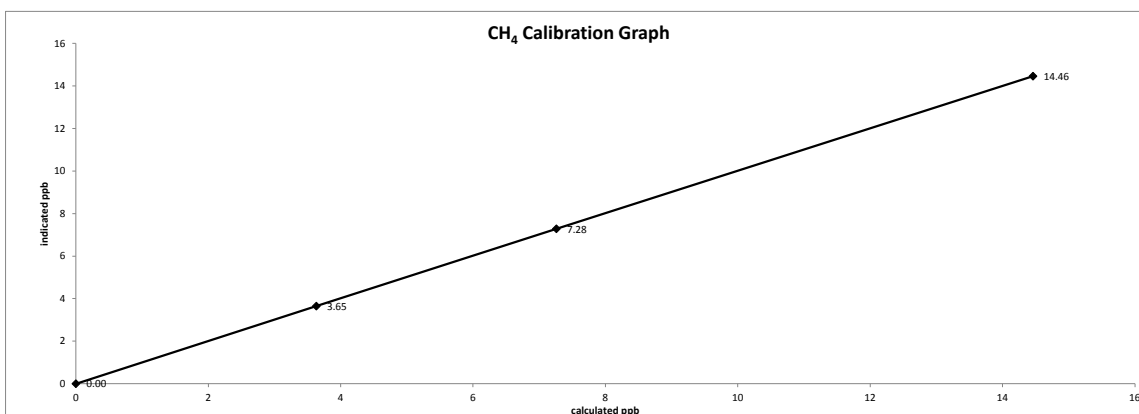
As Left Instrument Diagnostics:					
Interface Board Voltages:	Bias Supply:	-312.1	Calibration History cnt'd:	NM Peak Area:	72796
Temperatures:	Detector Oven:	175.0	Crucial Settings:	Methane Start:	n/a
	Filter:	175.1		Methane End:	n/a
	Column Oven:	75.4		Backflush:	n/a
	Internal:	38.4		NMHC Start:	n/a
Cylinder Pressures/reg.:	Carrier:	900 50	Run History>1:	NMHC End:	n/a
	Fuel:	1000 50		Date:	30Aug2018
	Span Gas:	1500 30		Time:	11:52
	Zero Air Generator:	48		CH ₄ PK HT:	0
Internal Pressures:	Carrier:	31.4		CH ₄ RT:	12.4
	Fuel:	40.5		CH ₄ Baseline:	1647
	Air:	30.9		CH ₄ LOD:	20
FID Status:	Status:	LIT		CH ₄ SD:	6
	Counts:	~20500		CH ₄ CONC:	0.00
	Flame:	321.2		NM PK HT:	0
	Det Base:	175.0		NM Peak Area:	0
Flame and Power Stats:	Last Power On:	30Aug2018@08:10		NM CONC:	0.00
	Flameouts:	1		NM Base Start:	1643
	Det Oven at Start:	108.3		NM Base End:	1635
	Col Oven at Start:	73.9		NM LOD:	10
Calibration History:	Time:	30Aug2018@10:42		NM Start IDX:	33
	Type:	SPAN		NM End IDX:	73
	Status:	GOOD		NM Max Slope:	1.0e01
	Check/Adjust:	ADJUST		NM Min Slope:	-3.8e-01
	CH ₄ Span Conc:	14.46	Expected Values:	NM PT Count:	0
	CH ₄ SP Ratio:	0.000742		Previous CH ₄ :	10.27
	CH ₄ RT:	12.2		Previous NMHC:	11.10
	CH ₄ PK IDX:	21		Previous THC:	21.37
	CH ₄ PK HT:	19492		New CH ₄ :	10.08
	NM Span Conc:	13.72		New NMHC:	11.06
	NM SP Ratio:	0.000188		New THC:	21.14

Comments:

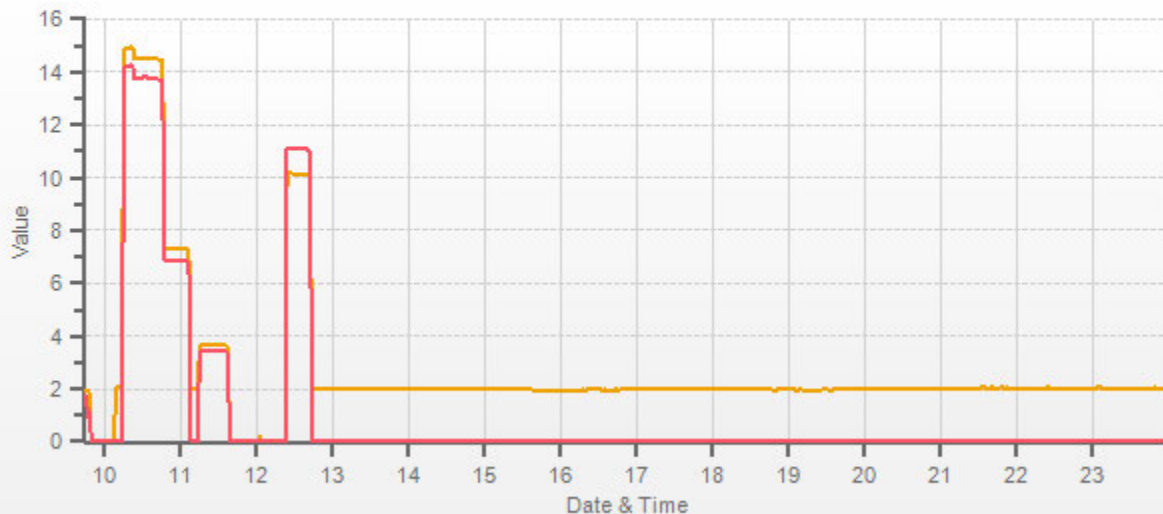
A Post-repair calibration was performed after replacing the valve and actuator as well as column conditioning.

Date: August 30, 2018
Company/Airshed: PRAMP
Location/Station Name: 986b

Start/End Time 24 hr. (mst): 09:50 / 12:46
Calibration Purpose: post repair
Calibration Method: Gas Dilution



CH4[ppm] NMHC[ppm]



WIND SYSTEM



Meteorological Sensor Audit/Calibration

Location Information

Company:	PRAMP	Performed By:	Limin Li
Audit Location:	986B	Reviewed By:	Tom Bourque
Audit Date:	April 4, 2018	Start/End Time (mst):	16:22/17:42
Calibration Purpose:	routine annual	Weather Conditions:	Mainly sunny

Wind Sensor Information

Sensor ID Data:		Sensor Outputs:	
Sensor Make:	RM Young	Velocity Voltage Output Range:	0-1V
Sensor Model:	5305VK	Velocity Unit Output Range:	0-200 KPH
Serial #:	129612	Direction Voltage Output Range:	0-1 V
Previous Cal/Audit Date:	April 5, 2017	Direction Unit Output Range:	0-360 DEG

Wind Calibrator Information

Calibrator I.D. and Expiry Date: RM Young 18802 id# CA03309 expires September 25, 2018

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	18.5	18.5	0.996
2000	36.9	36.9	36.9	1.001
3000	55.3	55.3	55.3	1.000
4000	73.7	73.7	73.7	1.000
5000	92.2	92.2	92.2	1.000
6000	110.6	110.7	110.7	0.999
7000	129.0	129.2	129.2	0.998
8000	147.4	147.7	147.7	0.998
9000	165.9	166.2	166.2	0.998
10000	184.3	184.8	184.8	0.997
The audit meets AMD requirements.			Average Correction Factor=	0.999

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

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	0	354	0.3	1.4	0.8
30	330	30	330	0.2	0.1	0.1
60	300	61	301	-0.7	-0.9	0.8
90	270	91	271	-1.1	-1.2	1.1
120	240	122	243	-1.7	-2.6	2.2
150	210	153	213	-2.5	-2.9	2.7
180	180	183	183	-2.6	-2.6	2.6
210	150	213	152	-2.6	-1.7	2.1
240	120	243	122	-2.8	-2.0	2.4
270	90	272	91	-2.3	-1.1	1.7
300	60	301	62	-0.8	-1.7	1.2
330	30	331	30	-0.5	-0.3	0.4
355	0	354	0	1.3	0.3	0.8
The audit meets AMD requirements.			Average Absolute Degrees Difference=			1.5

Comments:

METEOROLOGICAL SYSTEMS CHECK



Meteorological System Checklist

Date:	August 2, 2018		
Technician:	Chris Wesson		
Reviewer:	Rob Fisher		
Station:	PRAMP 986b		
Unit:	Make:	Model:	Serial #:
Temperature Sensor:	RM Young	43172VC	61012322
Barometric Pressure Sensor:	MetOne	090D	F3845
Relative Humidity Sensor:	RM Young	43172VC	61012322
Anemometer:	RM Young	05305VK	129612
AMBIENT TEMPERATURE SENSOR CHECK			
Previous check date:	July 5, 2018		
Parameter:	Temperature @ 2 metres (1 C tolerance)		
Reference Thermometer ID:	F.S. 160459244 expires June 19, 2020		
Reference Temperature (°C):	24.3		
Station - Ambient Temperature (°C):	24.1		
Temperature Difference (°C):	0.2		
BAROMETRIC PRESSURE SENSOR CHECK			
Previous check date:	July 5, 2018		
Reference Barometer ID:	Brunton 05490 expires December 11, 2018		
Reference Pressure - Units/Reading:	mbar	934.3	
Station Pressure - Units/Reading:	mbar	933.3	
Pressure Tolerance +/- 15% of error:	794 - 1074	0.11%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Previous check date:	July 5, 2018		
Reference Hygrometer ID:	F.S. id# 160459244 expires June 19, 2020		
Reference Hygrometer % RH- Reading:	52.90		
Station Hygrometer % RH- Reading:	52.80		
RH Tolerance +/- 15% of difference:	44.97 - 60.84	0.2%	
ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK			
WIND SPEED		WIND DIRECTION	
Previous check date:	July 5, 2018	Previous check date:	July 5, 2018
Wind Speed Observed (kph):	5-10	Wind Direction Observed:	W
Wind speed on Data Logger (kph):	9	Wind Direction on Data Logger:	W

CALIBRATORS

Calibrator Performance Audit

Sulphur Dioxide (by Cylinder Dilution)

File No. 2018-519A

Company: Maxxam

Operator: Christopher

Calibrator:		Flow Measurement Device:	
Make/Model	API 700	Make/Model	Mesa 530+
Serial Number	830	Serial Number	H-156312 L-156151
Last Verification Date	February 2017	Temperature (°C)	N/A
SO ₂ Cylinder Conc.	47.9	Barometric Pressure	N/A
SO ₂ Cylinder S/N	LL108015		
Expiry Date	October 2020		

Flow Measurements

Pt. No. 1 80.0 Pt. No. 2 38.1 Pt. No. 3 19.4

Calibrator Flow (sccm)	Calculated Concentration (ppm)	Indicated Concentration (ppm)	% Difference	
			vs Audit Gas	% Diff. Limit
Zero Air	0.000	0.000		
4998	0.767	0.779	2%	± 10%
\$4,999	0.365	0.368	1%	± 10%
\$5,003	0.186	0.184	-1%	± 10%
Absolute Average Percent Difference			0%	± 10%

LINEAR REGRESSION ANALYSIS

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

	SO ₂	LIMITS
Correlation=	1.0000	≥ 0.995
m (Slope)=	1.0175	0.90-1.10
b (Intercept % of FS)=	-0.2528	± 3% F.S.

AENV Standards

Audit Calibrator

Make/Model	Sabio 2010
Serial/AMU Number	AMU 2092
SO ₂	
SRM Gas Cylinder No.	CAL016625
Cylinder Conc. (ppm)	98.07

SO₂ Analyzer

Make/Model	Teco 43C
Serial/AMU Number	AMU 1623
Last Calibration Date	January 31, 2018
Full Scale (ppm)	1.0
Expiry Date	January 2019

COMMENTS:

Auditor: Al Clark

Operator Signature: 

Date: January 31, 2018

Location: McIntyre Center Edmonton

Company <u>Maxxam</u>		Operator: <u>Christopher</u>	
Calibrator:		Flow Measurement Device:	
Make/Model	<u>API 700</u>	Make/Model	<u>Mesa 530+</u>
Serial Number	<u>829</u>	Serial Number	<u>H-156312 L-156151</u>
Last Verification Date	<u>January 2017</u>	Temperature (°C)	<u>N/A</u>
NO Cylinder S/N	<u>EY0000715</u>	Barometric Pressure	<u>N/A</u>
NO [PPM]	<u>50.7</u>	NOx [PPM]	<u>50.8</u>
Expiry Date	<u>May 2020</u>		

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

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO ₂	NOx	NO	NOx
5000	0.0	0.000	0.000	0.000	0.000	0.000	Limit ± 10%	
4950	79.8	0.787	0.788	0.783	-0.001	0.781	-1%	-1%
4958	37.2	0.380	0.381	0.378	-0.001	0.377	-1%	-1%
4960	18.5	0.189	0.189	0.188	-0.001	0.187	-1%	-1%
Absolute Average Percent Difference							1%	1%

LINEAR REGRESSION ANALYSIS

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

<u>NO</u>		<u>LIMITS</u>	<u>NOx</u>	
Correlation=	1.0000	≥ 0.990	Correlation=	1.0000
m (Slope)=	0.9949	0.90-1.10	m (Slope)=	0.9912
b (Intercept % of FS)=	-0.0030	± 3% F.S.	b (Intercept % of FS)=	-0.0257

Flow	O ₃ Conc	NO Decrease	NO	NO ₂	NOX	% Diff. Vs Audit gas	
4950	0.000	0.000	0.776	0.000	0.776	NO ₂	% Diff. Limit
4950	0.500	0.476	0.300	0.474	0.775	0%	± 10%
4950	0.290	0.277	0.499	0.278	0.778	0%	± 10%
4950	0.095	0.090	0.686	0.093	0.779	3%	± 10%
Absolute Average Percent Difference						1%	± 10%

LINEAR REGRESSION ANALYSIS

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

<u>NO₂</u>		<u>LIMITS</u>
Correlation=	1.0000	≥ 0.995
m (Slope)=	0.9938	0.90-1.10
b (Intercept % of FS)=	0.1802	± 3% F.S.

AENV Standards		NO_x Analyzer	
Audit Calibrator			
Make/Model	<u>Teco 146i</u>	Make/Model	<u>Teco 42i</u>
Serial/AMU Number	<u>AMU 1809</u>	Serial/AMU Number	<u>AMU 1868</u>
SRM Gas Cylinder No.	<u>APEX1170572</u>	Last Calibration Date	<u>January 31, 2018</u>
Cylinder Conc. (ppm)	<u>49.99</u>	Full Scale (ppm)	<u>1.0</u>
		Cylinder Gas Expiry Date	<u>November 2020</u>

COMMENTS:

Auditor: Al Clark
Operator Signature: [Signature]

Date: January 31, 2018
Location: McIntyre Center Edmonton

Company Maxxam

Operator: Mike

Calibrator:			Flow Measurement Device:		
Make/Model	Sabio		Make/Model	Bios Definer 220	
Serial Number	17100415		Serial Number	H=128686; L=129069	
Last Verification Date	May 16, 2017		Temperature (°C)	22.2 C	
NO Cylinder S/N	LL104183		Barometric Pressure	706.1mmHg	
NO [PPM]	50.8	NOx [PPM] 50.9			
Expiry Date	October 24, 2020				

Dilution Flow (sccm)					
Pt. #1	<u>5120</u>	Pt. #2	<u>5121</u>	Pt. #3	<u>5128</u>
Gas Flow (sccm)					
Pt. #1	<u>77.4</u>	Pt. #2	<u>37.8</u>	Pt. #3	<u>19</u>

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO ₂	NOx	NO	NOx
5136	0.0	0.0000	0.0000	0.0001	-0.0002	0.0001	Limit ± 10%	
5120	77.4	0.7680	0.7695	0.7793	0.0003	0.7796	1%	1%
5121	37.8	0.3750	0.3757	0.3802	0.0000	0.3802	1%	1%
5128	19.0	0.1882	0.1885	0.1908	0.0005	0.1909	1%	1%
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)=	1.0146	0.90-1.10		m (Slope)=	1.0130
b (Intercept % of FS)=	-0.0074	± 3% F.S.		b (Intercept % of FS)=	-0.0059

Flow	O ₃ Conc	NO Decrease	NO	NO ₂	NOX	% Diff. Vs Audit gas	
5120	0.0	0.0000	0.7794	0.0005	0.7799	NO ₂	% Diff. Limit
5120	500.0	0.4827	0.2967	0.4854	0.7806	0%	± 10%
5120	275.0	0.2672	0.5122	0.2676	0.7798	0%	± 10%
5120	90.0	0.0896	0.6898	0.0890	0.7787	-1%	± 10%
Absolute Average Percent Difference						0%	± 10%

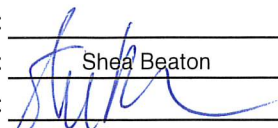
LINEAR REGRESSION ANALYSIS

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

NO ₂		LIMITS	
Correlation=	1.0000	≥ 0.995	
m (Slope)=	1.0053	0.90-1.10	
b (Intercept % of FS)=	-0.0370	± 3% F.S.	

AENV Standards		NO _x Analyzer	
Audit Calibrator			
Make/Model	<u>Thermo 146i</u>	Make/Model	<u>Thermo 42i</u>
Serial/AMU Number	<u>1809</u>	Serial/AMU Number	<u>1868</u>
SRM Gas Cylinder No.	<u>APEX1170572</u>	Last Calibration Date	<u>August 16, 2018</u>
Cylinder Conc. (ppm)	<u>49.99</u>	Full Scale (ppm)	<u>1.0</u>
		Cylinder Gas Expiry Date	<u>November 15, 2020</u>

COMMENTS:

Auditor: Shea Beaton
Operator Signature: 

Date: August 21, 2018
Location: McIntyre Center Edmonton

CALIBRATION GASES



Calibration Gas Audit

Single Component Cylinder Gas

File No. 2017-486CGA

Company: Maxxam Operator's Name: Mike
Cylinder #: LL108015 Concentration PPM: 47.9 Tolerance(%) 2 Certified By: Praxair
Expiry Date: October 2020

Reference Calibrator and Gas:

Make/Model: R&R MFC 201
Serial Number: AMU 1690
Last Verification Date: December 13, 2017
Gas Type: SO2 Conc. 98.07
Cylinder Number: CAL016625
Expiry Date: January 2019

Flow Measurement Device:

Make/Model: Mesa Definer 220
Serial Number: H-133034 / L-132702
Temp. °C: 23.4 C
B.P. 707 mmHg

Reference Analyzer:

Make/Model: Teco 43C Serial/AMU Number: 1623
Instrument Settings: Zero: 10.0 Span: 1.006 Range: 1.0
Last Calibration: Date: Dec12/17 C.F. 1.000 Done By: Al Clark

Calibrator Flows (sccm)		Indicated Concentration (PPM)	Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration
Dilution	Gas				
5000	0.0	0.000			
4989	79.5	0.760	0.01594	62.755	47.7
4995	39.6	0.374	0.00793	126.136	47.2
4992	19.6	0.183	0.00393	254.694	46.6
Average Cylinder Concentration:					47.2

Previous Stated Concentration PPM: 47.9

Percent variance from Stated: 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: Al Clark
Operator Signature: *Al Clark*

Date: December 13, 2017
Location: McIntyre Center Edmonton



Calibration Gas Audit

Single Component Cylinder Gas

File No. 2017-137CGA

Company: Maxxam Operator's Name: Raja Abid Ashraf
Cylinder #: LL119432 Concentration PPM: 10.3 Tolerance(%) 2 Certified By: Praxair
Expiry Date: May 16, 2020

Reference Calibrator and Gas:

Make/Model: R&R MFC 201
Serial Number: AMU 1690
Last Verification Date: July 27, 2017
Gas Type: H2S Conc. 20.43
Cylinder Number: CAL015272
Expiry Date: January 2019

Flow Measurement Device:

Make/Model: Mesa Definer 220
Serial Number: H-133034 L-132702
Temp. °C: 22.0 C
B.P. 700 mmhg

Reference Analyzer:

Make/Model: Teco 450i Serial/AMU Number: 1980
Instrument Settings: Zero: 21.9 Span: 1.069 Range: 0.1
Last Calibration: Date: July 27, 2017 C.F. 1.000 Done By: Al Clark

Calibrator Flows (scm)		Indicated Concentration (PPM)	Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration
Dilution	Gas				
5000	0.0	0.0000			
5117	38.9	0.0595	0.00760	131.542	7.8
5103	18.4		0.00361	277.337	0.0
5097	9.4		0.00184	542.234	0.0
Average Cylinder Concentration:					2.6

Previous Stated Concentration PPM: 10.3

Percent variance from Stated: 75

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

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration ☐ Do not use. _____

> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder ☒ _____

Auditor: Al Clark

Date: July 27, 2017

Operator Signature: *Al Clark*

Location: McIntyre Center Edmonton



Calibration Gas Audit

CH₄ / C₃H₈ Cylinder Gas

File No. 2017-484CGA

Company: Maxxam Operators name: Mike
Cylinder #: LL107207 Conc CH₄ (PPM) 600/207 Tolerance (%) 2 Certified By: Praxair
Expiry Date: October 2025

Reference Calibrator and Gas:

Make/Model R&R MFC 201
Serial Number AMU 1690
Last Verification Date December 13, 2017
Gas Type CH₄ Conc. 990.4
Cylinder Number 5604875 Expiry Date July 2021
Gas Type C₃H₈ Conc. 246.5
Cylinder Number XF003845B Expiry Date July 2022

Flow Measurement Device:

Make/Model Mesa Definer 220
Serial Number H-133034 / L-132702
Temp. °C 23.1 C
B.P. 707 mmHg

Reference Analyzer:

Make/Model Teco 55i Serial/AMU Number: 2108
Instrument Settings Zero: N/A Span: N/A Range: 20.0
Last Calibration: Date: Dec 12/17 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
3500	0.0	0.00	0.00				
3618	80.4	13.28	12.77	0.02	45.00	598	209
3547	39.8	6.71	6.47	0.01	89.12	598	210
3560	19.8	3.35	3.26	0.01	179.80	602	213
Average Cylinder Concentration:						599	211

CH₄ **C₃H₈**
Previous Stated Concentration PPM: 600 207
Percent variance from Stated: 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: December 13, 2017
Operator Signature: Location: McIntyre Center Edmonton

APPENDIX III
MAXIMUM INSTANTANEOUS DATA



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - August 2018

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	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	0	
2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	1	1	2	2	2	1	1	1	2	1	10	
3	1	1	1	1	1	1	1	1	1	1	1	S	1	2	1	1	1	1	1	1	1	1	1	1	1	2	1	24	
4	1	1	1	1	1	1	1	1	1	1	S	1	1	1	1	1	1	1	1	2	1	1	1	1	1	2	1	24	
5	1	1	1	1	1	1	1	1	1	S	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	2	1	24	
6	1	1	1	1	1	1	1	1	S	2	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	2	1	24	
7	1	1	1	1	1	1	1	S	1	1	2	2	1	1	1	1	2	1	2	1	1	1	1	1	1	2	1	24	
8	1	1	1	1	1	1	S	1	1	2	1	1	1	1	1	2	1	2	1	1	1	1	0	1	0	2	1	24	
9	1	1	1	1	1	S	1	1	1	1	1	2	2	1	1	2	2	2	1	1	1	1	1	1	1	2	1	24	
10	1	1	1	1	S	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	3	4	0	1	0	4	1	24	
11	1	1	1	S	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1	24	
12	1	2	S	1	0	1	1	1	1	3	1	1	1	1	1	1	1	1	1	0	0	1	1	0	0	3	1	24	
13	1	S	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	24	
14	S	1	0	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	0	0	0	S	0	1	1	24	
15	0	1	1	1	1	0	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	0	S	0	0	1	1	24	
16	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	S	1	1	0	1	1	24	
17	0	1	1	1	0	1	1	0	1	2	1	1	1	1	1	1	1	1	1	0	S	1	1	1	0	2	1	24	
18	1	0	1	1	1	1	1	1	0	0	1	0	0	0	1	0	1	0	1	S	1	0	0	0	0	1	1	24	
19	0	0	1	0	0	0	0	1	0	0	1	1	1	1	1	0	0	1	S	0	1	0	0	0	0	1	0	24	
20	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	S	0	1	1	0	0	0	0	1	0	24	
21	0	0	0	0	0	0	1	0	0	1	0	0	1	1	1	1	S	1	0	1	0	1	0	0	0	1	0	24	
22	0	1	1	1	1	1	0	0	1	1	1	1	1	1	S	1	1	1	1	0	0	0	0	0	0	1	1	24	
23	0	0	1	1	1	0	0	0	0	0	0	0	0	S	0	0	0	1	0	0	0	0	0	0	0	1	0	24	
24	0	0	0	1	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	0	0	0	1	0	24	
25	0	0	0	0	0	0	0	0	1	0	0	1	S	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	24
26	0	0	0	0	0	0	0	0	0	0	0	S	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	24	
27	0	0	1	0	0	1	0	0	0	0	S	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	24	
28	0	0	0	0	0	0	0	0	0	S	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	24	
29	0	0	0	0	0	0	0	0	S	0	1	1	1	0	0	0	0	1	0	0	0	0	0	1	0	1	0	24	
30	0	0	0	0	1	0	0	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24	
31	0	0	0	0	0	0	S	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	24	
HOURLY MAX	1	2	1	1	1	1	1	1	1	3	2	2	2	2	2	2	2	2	2	2	3	4	1	1					
HOURLY AVG	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1					

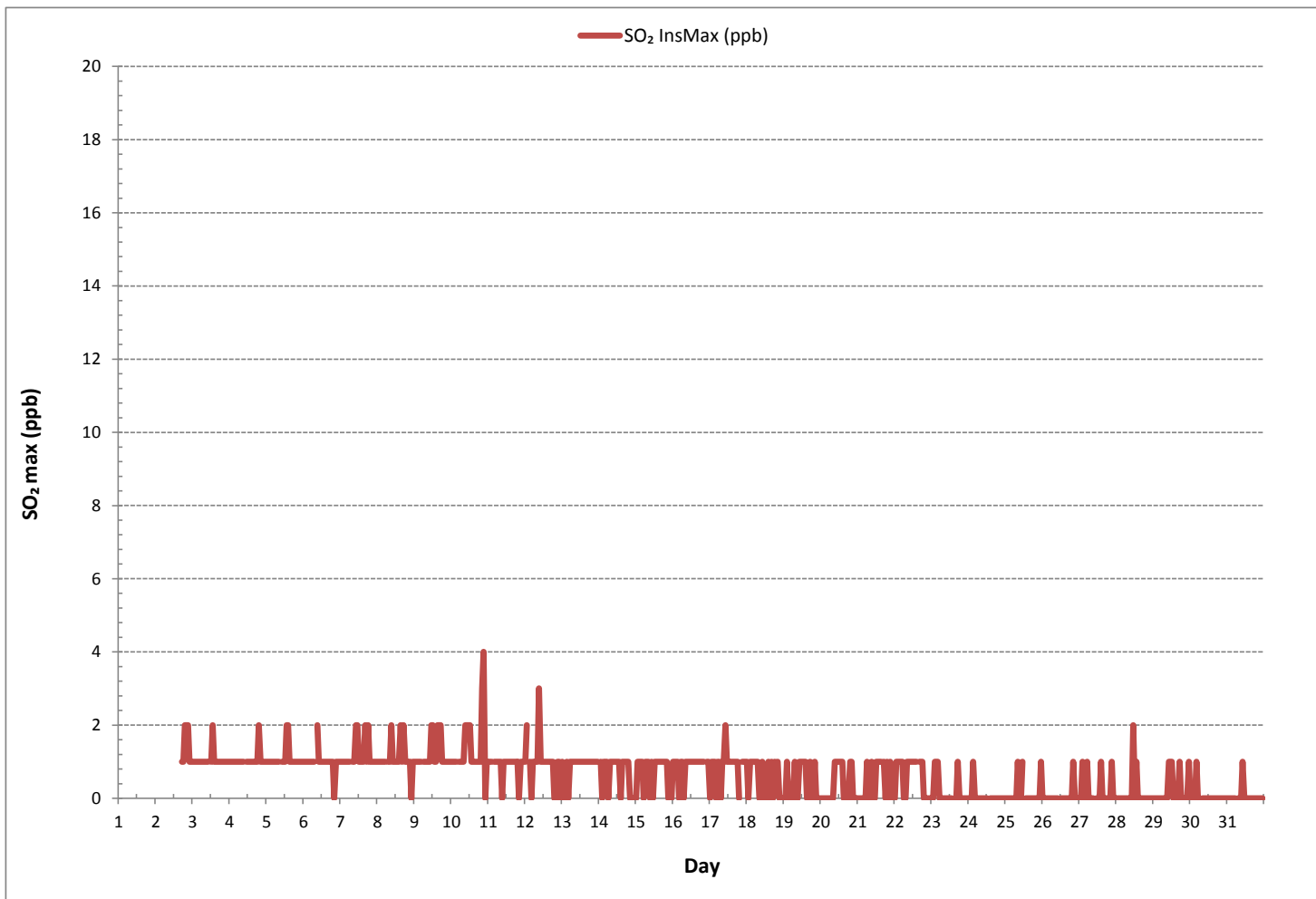
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	397
MAXIMUM INSTANTANEOUS VALUE:	4 ppb @ HOUR 21 ON DAY 10
IZS CALIBRATION TIME:	30 hrs
MONTHLY CALIBRATION TIME:	3 hrs
STANDARD DEVIATION:	1
OPERATIONAL TIME:	706 hrs

SULPHUR DIOXIDE Instantaneous Maximum (SO₂ ppb)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - August 2018

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	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	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	0
2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	0.53	0.54	0.92	1.13	1.03	1.02	0.53	1.13	0.86	10
3	0.99	1.27	0.97	0.94	1.11	1.35	1.05	1.02	0.80	0.70	0.72	S	0.77	0.76	0.76	0.82	1.05	1.07	0.92	0.89	1.04	1.03	0.96	1.31	0.70	1.35	0.97	24
4	1.61	1.53	1.90	1.94	1.80	2.50	2.50	S1	S1	0.70	S	0.73	0.68	0.61	0.60	0.53	0.54	0.57	0.53	0.68	0.88	1.15	1.32	1.40	0.53	2.50	1.18	22
5	2.38	2.10	1.70	1.52	1.65	1.48	1.29	1.06	0.91	S	0.65	0.51	0.52	0.52	0.47	0.48	0.48	0.45	0.50	0.49	0.74	0.77	0.71	0.82	0.45	2.38	0.96	24
6	0.74	0.93	0.95	1.23	1.02	1.02	0.91	0.79	S	0.62	0.55	0.46	0.45	0.42	0.42	0.39	0.40	0.44	0.44	0.39	0.41	0.43	0.51	0.83	0.39	1.23	0.64	24
7	1.40	1.58	1.51	1.64	1.62	1.33	3.85	S	0.89	0.68	0.70	0.63	0.52	0.44	0.48	0.45	0.50	0.60	0.93	0.94	0.87	1.15	1.13	1.04	0.44	3.85	1.08	24
8	1.06	1.22	1.17	1.02	1.58	1.30	S	0.95	0.66	0.51	0.52	0.54	0.52	0.52	0.52	0.50	C1	C1	C1	0.63	0.72	0.79	0.79	0.91	0.50	1.58	0.82	21
9	1.02	0.90	0.98	0.95	1.50	S	1.19	1.01	0.99	0.66	0.64	0.64	0.67	0.66	0.61	0.57	0.54	0.55	0.69	0.78	0.85	0.83	0.84	0.80	0.54	1.50	0.82	24
10	0.72	2.02	1.46	1.63	S	1.38	1.28	1.35	1.15	0.70	0.74	0.64	0.58	0.57	0.54	0.50	0.45	0.48	0.56	0.50	0.59	1.45	0.49	0.65	0.45	2.02	0.89	24
11	1.01	2.75	3.47	S	3.09	1.91	3.09	4.26	1.61	0.49	0.36	0.39	0.39	0.38	0.36	0.35	0.39	0.35	0.34	0.39	0.54	1.21	1.29	0.90	0.34	4.26	1.28	24
12	0.88	0.82	S	0.78	0.69	1.09	1.69	2.37	1.73	0.71	0.60	0.65	0.62	0.54	0.47	0.40	0.39	0.39	0.38	0.39	0.43	0.47	0.49	0.66	0.38	2.37	0.77	24
13	0.81	S	0.81	0.65	0.60	0.59	0.63	0.68	0.71	0.66	0.37	0.38	0.34	0.38	0.37	0.39	0.42	0.42	0.45	0.51	0.61	0.59	0.57	0.61	0.34	0.81	0.55	24
14	S	0.71	0.76	0.87	0.98	0.82	1.47	0.85	0.65	0.51	0.49	0.42	0.41	0.38	0.40	0.40	0.39	0.38	0.47	0.39	0.40	0.41	0.43	S	0.38	1.47	0.59	24
15	1.27	1.93	3.52	2.78	1.64	2.61	2.90	2.52	1.14	0.69	0.56	0.50	0.43	0.45	0.43	0.41	0.42	0.42	0.58	0.81	0.79	0.94	S	1.33	0.41	3.52	1.26	24
16	1.10	1.75	1.09	1.34	1.13	1.92	1.58	1.58	0.97	0.60	0.57	0.64	0.57	0.51	0.42	0.40	0.42	0.36	0.51	0.52	0.55	S	0.59	0.69	0.36	1.92	0.86	24
17	0.80	0.56	0.57	0.88	0.91	1.06	0.91	0.85	0.72	0.63	0.51	0.50	0.47	0.42	0.41	0.34	0.33	0.37	0.37	0.39	S	0.67	1.02	1.97	0.33	1.97	0.68	24
18	1.97	0.50	0.48	1.24	1.24	0.52	0.59	0.66	0.54	0.48	0.45	0.41	0.44	0.37	0.39	0.40	0.37	0.40	0.43	S	0.85	0.73	0.75	0.88	0.37	1.97	0.66	24
19	1.11	1.42	1.89	1.67	1.59	1.93	1.72	1.35	0.99	0.57	0.52	0.50	0.45	0.43	0.38	0.38	0.39	0.43	S	0.96	1.21	1.16	1.68	1.38	0.38	1.93	1.05	24
20	1.71	1.92	1.68	1.71	1.75	1.84	1.95	1.29	0.88	0.69	0.61	0.54	0.46	0.42	0.39	0.42	0.41	S	0.46	0.53	0.56	0.54	0.56	0.54	0.39	1.95	0.95	24
21	0.54	0.55	0.93	0.99	1.74	1.57	0.79	0.74	0.61	0.54	0.48	0.47	0.44	0.46	0.45	0.49	S	0.49	0.45	0.49	0.50	0.48	0.46	0.49	0.44	1.74	0.66	24
22	0.49	0.54	0.55	0.58	0.64	0.84	0.86	0.79	0.73	0.74	0.74	0.75	0.68	0.62	0.57	S	0.51	0.47	0.50	0.74	0.71	0.67	0.54	0.49	0.47	0.86	0.64	24
23	0.44	0.37	0.39	0.52	0.50	0.46	0.64	0.43	0.39	0.40	0.43	0.42	0.36	0.37	S	0.41	0.38	0.37	0.35	0.38	0.37	0.39	0.43	0.43	0.35	0.64	0.42	24
24	0.46	0.48	0.49	0.44	0.45	0.45	0.42	0.44	0.40	0.42	0.39	0.36	0.35	S	0.40	0.37	0.41	0.40	0.48	0.56	0.59	0.71	0.78	0.80	0.35	0.80	0.48	24
25	0.76	1.05	1.15	0.96	0.66	0.69	0.57	0.56	0.48	0.44	0.52	0.49	S	0.61	0.56	0.52	0.53	0.53	0.49	0.81	0.84	0.69	0.52	0.84	0.44	1.15	0.66	24
26	0.54	0.37	0.42	0.40	0.41	0.34	0.36	0.35	0.29	0.27	0.28	S	0.41	0.38	0.37	0.36	0.36	0.34	0.30	0.35	0.28	0.35	0.37	0.32	0.27	0.54	0.36	24
27	0.33	0.32	0.35	0.35	0.37	0.34	0.36	0.37	0.34	0.36	S	0.46	0.42	0.41	0.42	0.37	0.44	0.41	0.42	0.43	0.45	0.45	0.47	0.49	0.32	0.49	0.40	24
28	0.48	0.54	0.82	0.83	1.01	1.41	1.16	0.88	0.43	S	0.52	0.42	0.39	0.39	0.37	0.42	0.42	0.55	0.71	0.72	0.58	0.64	0.73	0.65	0.37	1.41	0.66	24
29	0.72	0.92	0.69	0.62	0.66	0.55	0.55	0.48	S	0.57	0.42	0.43	0.41	0.38	0.36	0.37	0.50	0.48	0.45	0.45	0.40	0.57	0.69	0.58	0.36	0.92	0.53	24
30	0.35	0.37	0.35	0.34	0.29	0.30	0.31	S	0.39	0.30	0.28	0.30	0.28	0.28	0.27	0.26	0.29	0.30	0.28	0.35	0.26	0.28	0.30	1.39	0.26	1.39	0.35	24
31	1.33	1.10	0.52	0.66	0.70	0.65	S	0.77	0.60	0.40	0.38	0.34	0.40	0.38	0.36	0.39	0.34	0.37	0.40	0.43	0.42	0.42	0.42	0.41	0.34	1.33	0.53	24
HOURLY MAX	2.38	2.75	3.52	2.78	3.09	2.61	3.85	4.26	1.73	0.74	0.74	0.75	0.77	0.76	0.76	0.82	1.05	1.07	0.93	0.96	1.21	1.45	1.68	1.97				
HOURLY AVG	0.97	1.09	1.13	1.05	1.12	1.15	1.28	1.09	0.77	0.56	0.52	0.50	0.48	0.47	0.45	0.43	0.45	0.46	0.50	0.57	0.63	0.73	0.72	0.85				

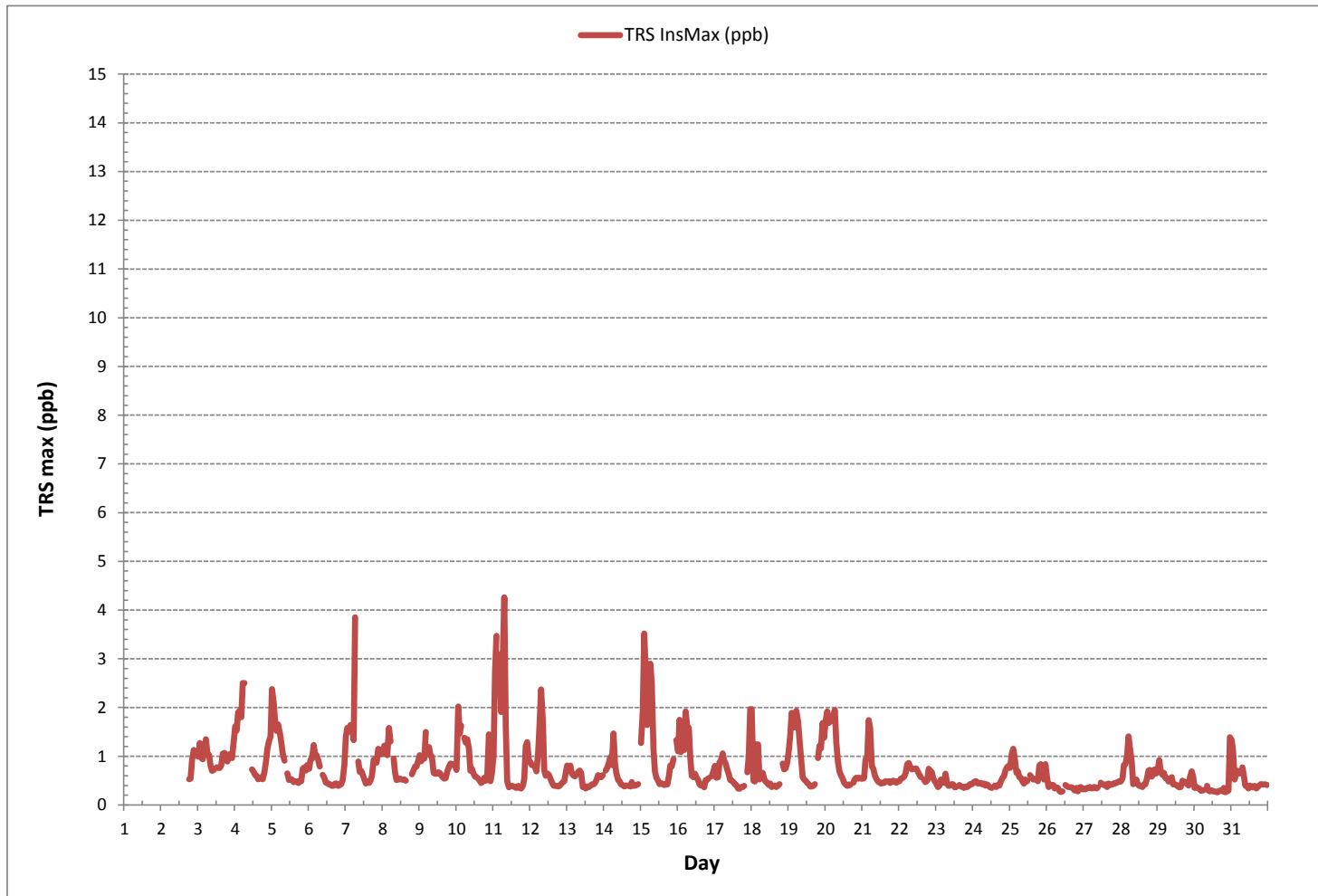
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	667				
MAXIMUM INSTANTANEOUS VALUE:	4.26	ppb	@ HOUR	7	ON DAY 11
IZS CALIBRATION TIME:	30	hrs	OPERATIONAL TIME:	701	hrs
MONTHLY CALIBRATION TIME:	4	hrs			
STANDARD DEVIATION:	0.52				

TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS ppb)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - August 2018

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	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	0	
1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	C	2.13	2.09	2.09	2.09	2.13	2.10	8
2	2.21	2.11	2.09	2.16	2.15	2.25	2.13	1.98	1.98	2.01	1.99	S	1.94	1.97	2.01	1.96	1.95	1.96	1.99	1.97	2.12	2.10	2.03	2.03	1.94	2.25	2.05	24	
3	2.11	2.36	2.15	2.10	2.27	2.61	2.39	2.13	2.14	2.05	S	2.00	2.03	2.01	2.00	2.01	2.09	2.02	1.99	2.04	2.12	2.54	2.47	2.71	1.99	2.71	2.19	24	
4	2.39	2.28	2.21	2.19	2.28	2.30	2.42	2.05	2.04	S	2.21	1.97	1.95	1.96	1.94	1.93	1.93	1.92	1.92	1.98	2.03	2.07	2.00	2.03	1.92	2.42	2.09	24	
5	2.85	2.36	2.06	2.54	2.83	2.14	2.00	2.00	S	1.99	1.95	1.96	1.94	1.92	1.93	1.92	1.92	1.92	1.93	1.94	1.93	1.92	1.94	2.23	1.92	2.85	2.09	24	
6	2.18	2.04	2.12	2.17	2.12	2.52	2.42	S	1.95	1.95	1.96	1.96	1.95	1.94	2.01	1.94	2.09	2.06	2.11	2.27	2.56	3.14	3.86	2.33	1.94	3.86	2.25	24	
7	2.38	2.16	2.43	2.28	2.31	2.30	S	2.01	2.00	1.97	1.97	1.98	1.98	1.99	1.98	1.99	2.00	2.00	2.01	2.07	2.10	2.09	2.09	2.05	1.97	2.43	2.09	24	
8	2.48	2.36	2.53	2.52	2.85	S	2.56	2.38	2.12	2.02	2.00	1.99	2.06	2.06	2.06	2.03	2.05	2.02	2.22	2.21	2.25	2.42	2.40	2.29	1.99	2.85	2.26	24	
9	2.47	4.60	3.30	2.96	S	2.38	2.25	2.34	2.14	2.20	2.18	2.14	2.07	2.07	1.95	1.95	1.94	1.97	2.05	1.96	1.96	2.28	2.06	2.80	1.94	4.60	2.35	24	
10	3.47	5.31	2.55	S	2.25	3.16	2.44	2.22	2.02	2.01	2.00	2.02	2.02	2.01	2.02	2.02	2.02	2.00	1.99	2.04	2.12	2.91	2.12	2.48	1.99	5.31	2.40	24	
11	2.28	2.07	S	3.17	2.85	2.69	3.21	2.53	2.17	2.06	2.04	2.04	2.04	2.03	2.01	2.01	2.02	2.00	1.98	1.99	2.01	2.05	2.01	2.02	1.98	3.21	2.23	24	
12	2.04	S	2.04	2.03	2.03	2.04	2.09	2.06	2.08	2.02	2.02	2.00	2.01	2.03	1.99	2.00	2.00	2.03	2.06	2.05	2.02	2.00	2.00	1.99	2.09	2.03	24		
13	S	2.05	2.25	2.47	2.44	2.53	2.28	2.09	2.00	1.98	1.97	1.95	1.93	1.92	1.92	1.92	1.92	1.91	1.94	1.92	1.94	1.94	1.97	S	1.91	2.53	2.06	24	
14	2.25	2.26	2.69	3.04	2.89	2.56	2.43	2.77	2.16	2.00	1.99	1.99	1.99	1.99	1.97	1.97	1.98	1.98	2.38	2.47	2.58	2.31	S	2.19	1.97	3.04	2.30	24	
15	2.15	2.19	2.09	2.08	2.11	2.13	2.12	2.26	2.15	2.03	2.01	2.02	2.03	2.03	2.00	1.99	1.98	1.98	2.07	2.09	2.09	S	2.08	2.10	1.98	2.26	2.08	24	
16	2.10	2.10	2.13	2.12	2.20	2.19	2.17	2.27	2.13	2.09	2.05	2.04	2.03	2.01	2.00	1.98	1.97	1.95	1.97	1.98	S	2.19	2.23	2.29	1.95	2.29	2.09	24	
17	2.40	2.06	2.00	2.02	2.18	2.04	2.04	2.02	2.03	2.04	2.04	2.03	2.02	2.01	2.00	1.98	1.99	1.97	1.98	S	2.34	2.35	2.22	2.71	1.97	2.71	2.11	24	
18	3.03	2.57	2.61	3.23	3.16	2.89	2.94	2.34	2.18	2.04	2.05	2.04	2.06	1.99	1.98	1.98	2.00	2.01	S	2.59	3.23	2.76	3.67	3.09	1.98	3.67	2.54	24	
19	3.09	3.01	2.89	2.86	2.84	2.80	2.44	2.29	2.20	2.05	2.04	2.02	2.02	2.01	1.99	1.99	1.99	S	2.03	2.12	2.32	2.53	2.16	2.04	1.99	3.09	2.34	24	
20	2.04	2.07	2.22	2.20	2.27	2.69	2.20	2.22	2.10	2.07	2.04	2.03	2.02	2.01	2.00	2.00	S	2.01	1.97	2.06	2.07	2.01	2.00	1.99	1.97	2.69	2.10	24	
21	2.01	2.01	2.01	2.01	2.03	2.10	2.12	2.22	2.17	2.18	2.18	2.12	2.13	2.10	2.00	S	1.91	1.91	2.05	2.18	2.20	2.27	2.13	2.04	1.91	2.27	2.09	24	
22	2.02	2.00	1.99	2.00	2.03	2.00	1.98	1.98	1.97	1.98	1.98	1.97	1.97	2.00	S	1.98	2.03	1.99	1.99	2.02	2.01	2.00	1.99	2.00	1.97	2.03	2.00	24	
23	2.01	2.00	1.99	2.00	2.00	2.00	2.00	1.98	1.99	1.98	1.97	1.99	S	1.97	1.97	1.96	1.97	1.97	2.02	1.98	2.01	2.06	2.57	2.04	1.96	2.57	2.02	24	
24	2.26	2.05	2.06	2.04	2.06	2.07	2.06	2.06	2.04	2.03	2.03	2.03	S	2.05	2.04	1.99	2.01	2.03	2.03	2.37	2.09	2.17	2.14	2.34	1.99	2.37	2.09	24	
25	2.14	2.06	2.06	2.02	1.99	1.99	1.98	1.98	1.98	1.99	1.99	S	1.98	1.97	1.97	1.97	1.97	1.97	1.96	2.08	X	1.98	2.02	1.99	1.96	2.14	2.00	23	
26	2.05	2.03	2.06	3.10	2.19	2.02	2.01	2.00	2.00	2.00	S	1.98	1.98	1.99	1.98	1.98	1.97	2.10	2.10	2.01	2.03	1.99	1.98	1.98	1.97	3.10	2.07	24	
27	1.99	2.01	2.04	2.11	2.08	2.10	2.29	2.12	1.96	S	1.96	1.95	1.94	1.92	X	X	X	X	X	X	X	X	X	X	1.92	2.29	2.04	14	
28	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Y	Y	Y	X	X	X	X	X	X	-	-	-	0	
29	X	X	X	X	X	X	X	X	X	X	C1	C1	C1	C1	1.97	1.97	1.97	1.95	1.97	1.97	2.05	1.97	2.08	2.02	2.07	1.95	2.08	2.00	11
30	2.03	2.04	2.02	2.03	2.05	2.05	S	2.00	1.98	1.98	1.98	1.97	1.97	1.96	1.93	1.93	1.93	1.94	1.94	1.94	1.95	1.97	1.97	1.96	1.93	2.05	1.98	24	
31	3.47	5.31	3.30	3.23	3.16	3.16	3.21	2.77	2.20	2.20	2.21	2.14	2.13	2.10	2.06	2.03	2.09	2.10	2.38	2.59	3.23	3.14	3.86	3.09					
HOURLY MAX	2.32	2.39	2.25	2.36	2.33	2.33	2.28	2.17	2.06	2.03	2.02	2.01	2.00	2.00	1.99	1.98	1.98	1.98	2.02	2.09	2.16	2.23	2.23	2.22					
HOURLY AVG																													

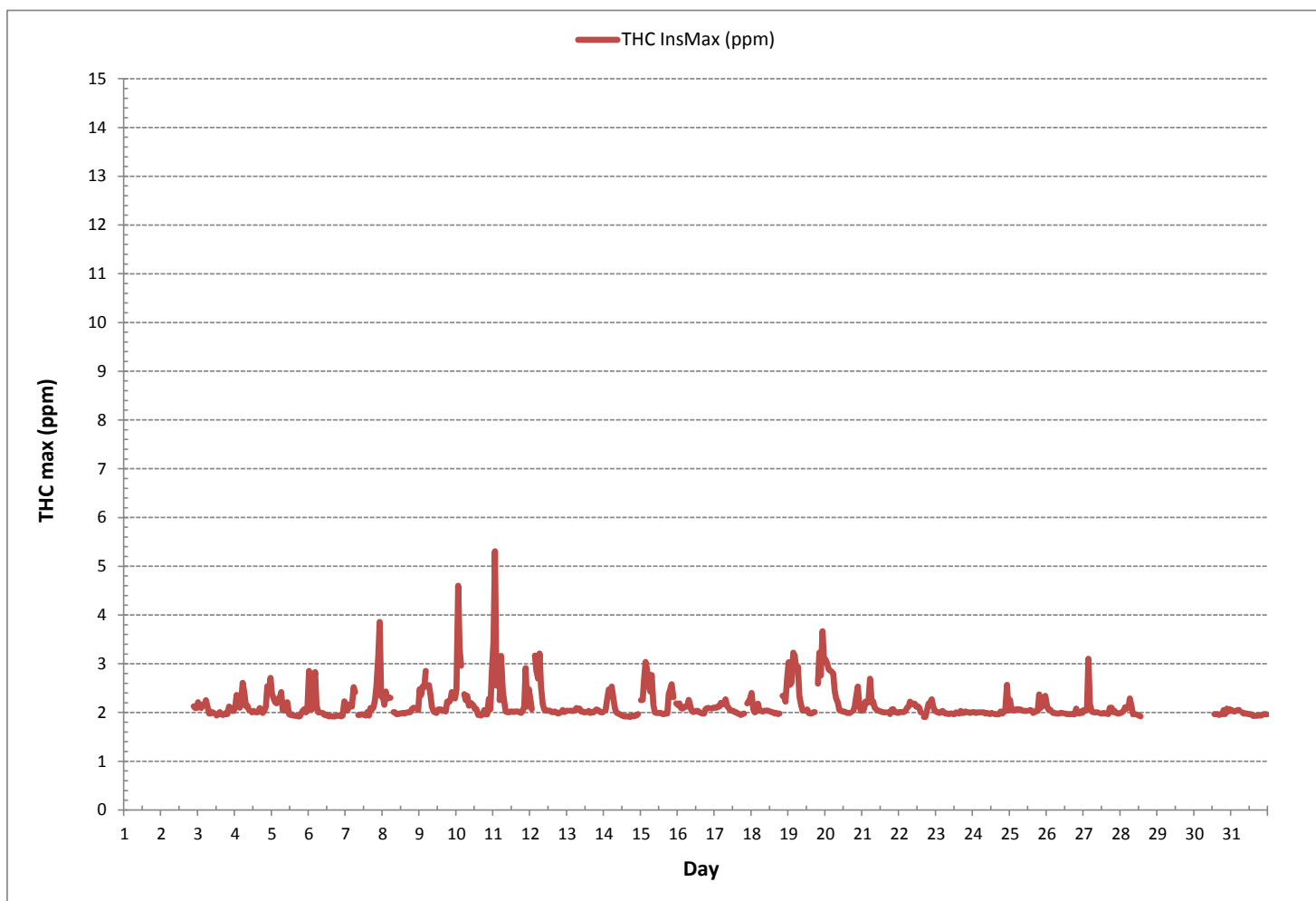
STATUS FLAG CODES

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:	623				
MAXIMUM INSTANTANEOUS VALUE:	5.31	ppm	@ HOUR	1	ON DAY 11
IZS CALIBRATION TIME:	28	hrs	OPERATIONAL TIME:	656	hrs
MONTHLY CALIBRATION TIME:	5	hrs			
STANDARD DEVIATION:	0.31				

TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - August 2018

METHANE MAX Instantaneous Maximum (CH₄ ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.		
DAY																													
1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	0	
2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	C	2.13	2.09	2.09	2.09	2.09	2.13	2.10	8
3	2.21	2.11	2.09	2.16	2.15	2.25	2.13	1.98	1.98	2.01	1.99	S	1.94	1.97	2.01	1.96	1.95	1.96	1.99	1.97	2.12	2.10	2.03	2.03	1.94	2.25	2.05	24	
4	2.11	2.36	2.15	2.10	2.27	2.61	2.39	2.13	2.14	2.05	S	2.00	2.03	2.01	2.00	2.01	2.09	2.02	1.99	2.04	2.12	2.54	2.47	2.71	1.99	2.71	2.19	24	
5	2.39	2.28	2.21	2.19	2.28	2.30	2.42	2.05	2.04	S	2.21	1.97	1.95	1.96	1.94	1.93	1.93	1.92	1.92	1.98	2.03	2.07	2.00	2.03	1.92	2.42	2.09	24	
6	2.85	2.36	2.06	2.54	2.83	2.14	2.00	2.00	S	1.99	1.95	1.96	1.94	1.92	1.93	1.92	1.92	1.92	1.93	1.94	1.93	1.92	1.94	2.23	1.92	2.85	2.09	24	
7	2.18	2.04	2.12	2.17	2.12	2.52	2.42	S	1.95	1.95	1.96	1.96	1.95	1.94	2.01	1.94	2.09	2.06	2.11	2.27	2.56	3.14	3.86	2.33	1.94	3.86	2.25	24	
8	2.38	2.16	2.43	2.28	2.31	2.30	S	2.01	2.00	1.97	1.97	1.98	1.98	1.99	1.98	1.99	2.00	2.00	2.01	2.07	2.10	2.09	2.08	2.05	1.97	2.43	2.09	24	
9	2.48	2.36	2.53	2.52	2.85	S	2.56	2.38	2.12	2.02	2.00	1.99	2.01	2.03	2.00	2.00	1.97	1.97	2.16	2.15	2.25	2.42	2.40	2.40	1.97	2.85	2.24	24	
10	2.47	4.60	3.30	2.96	S	2.38	2.25	2.33	2.08	2.08	2.07	2.04	2.00	2.00	1.95	1.95	1.94	1.97	2.05	1.96	1.96	2.28	2.06	2.80	1.94	4.60	2.32	24	
11	3.47	5.31	2.55	S	2.25	3.16	2.44	2.22	2.02	2.01	2.00	2.02	2.02	2.01	2.02	2.02	2.02	2.00	1.99	2.04	2.12	2.91	2.12	2.48	1.99	5.31	2.40	24	
12	2.28	2.07	S	3.17	2.85	2.69	3.21	2.53	2.17	2.06	2.04	2.04	2.04	2.03	2.01	2.01	2.02	2.00	1.98	1.99	2.01	2.05	2.01	2.02	1.98	3.21	2.23	24	
13	2.04	S	2.04	2.03	2.03	2.04	2.09	2.06	2.08	2.02	2.02	2.00	2.01	2.01	2.03	1.99	2.00	2.00	2.01	2.06	2.05	2.02	2.00	2.00	1.99	2.09	2.03	24	
14	S	2.00	2.25	2.47	2.44	2.53	2.28	2.09	2.00	1.98	1.97	1.95	1.93	1.92	1.92	1.92	1.92	1.91	1.94	1.92	1.94	1.94	1.97	S	1.91	2.53	2.05	24	
15	2.25	2.26	2.69	3.04	2.89	2.56	2.43	2.77	2.16	2.00	1.99	1.99	1.99	1.99	1.97	1.97	1.98	1.98	2.38	2.47	2.58	2.31	S	2.19	1.97	3.04	2.30	24	
16	2.15	2.19	2.09	2.08	2.11	2.13	2.12	2.26	2.15	2.03	2.01	2.02	2.03	2.03	2.00	1.99	1.98	1.98	2.07	2.09	2.09	S	2.08	2.10	1.98	2.26	2.08	24	
17	2.10	2.10	2.08	2.12	2.18	2.17	2.16	2.24	2.10	2.09	2.05	2.04	2.03	2.01	2.00	1.98	1.97	1.95	1.97	1.98	S	2.19	2.23	2.29	1.95	2.29	2.09	24	
18	2.40	2.06	2.00	2.02	2.18	2.04	2.04	2.02	2.03	2.04	2.04	2.03	2.02	2.01	2.00	1.98	1.99	1.97	1.98	S	2.34	2.35	2.22	2.71	1.97	2.71	2.11	24	
19	3.03	2.57	2.61	3.23	3.16	2.89	2.94	2.34	2.18	2.04	2.05	2.04	2.06	1.99	1.98	1.98	2.00	2.01	S	2.59	3.23	2.76	3.67	3.09	1.98	3.67	2.54	24	
20	3.09	3.01	2.89	2.86	2.84	2.80	2.44	2.29	2.20	2.05	2.04	2.02	2.02	2.01	1.99	1.99	1.99	S	2.03	2.12	2.32	2.53	2.16	2.04	1.99	3.09	2.34	24	
21	2.04	2.07	2.22	2.20	2.27	2.69	2.20	2.22	2.10	2.07	2.04	2.03	2.02	2.01	2.00	2.00	S	2.01	1.97	2.06	2.07	2.01	2.00	1.99	1.97	2.69	2.10	24	
22	2.01	2.01	2.01	2.01	2.03	2.10	2.12	2.22	2.09	2.09	2.09	2.06	2.05	2.04	1.98	S	1.91	1.91	2.05	2.14	2.20	2.27	2.13	2.04	1.91	2.27	2.07	24	
23	2.02	2.00	1.99	2.00	2.03	2.00	1.98	1.98	1.97	1.98	1.98	1.97	1.97	2.00	S	1.98	2.03	1.99	1.99	2.02	2.01	2.00	1.99	2.00	1.97	2.03	2.00	24	
24	2.01	2.00	1.99	2.00	2.00	2.00	2.00	2.00	1.98	1.99	1.98	1.97	1.99	S	1.97	1.97	1.96	1.97	2.02	1.98	2.01	2.06	2.57	2.04	1.96	2.57	2.02	24	
25	2.26	2.05	2.06	2.04	2.06	2.07	2.06	2.06	2.04	2.03	2.03	2.03	S	2.05	2.04	1.99	2.01	2.03	2.03	2.37	2.09	2.14	2.14	2.34	1.99	2.37	2.09	24	
26	2.14	2.06	2.06	2.02	1.99	1.99	1.98	1.98	1.98	1.99	1.99	S	1.98	1.97	1.97	1.97	1.97	1.97	1.96	2.08	X	1.98	2.02	1.99	1.96	2.14	2.00	23	
27	2.05	2.03	2.06	3.10	2.19	2.02	2.01	2.00	2.00	2.00	S	1.98	1.98	1.99	1.98	1.98	1.97	2.10	2.10	2.01	2.03	1.99	1.98	1.98	1.97	3.10	2.07	24	
28	1.99	2.01	2.04	2.11	2.08	2.10	2.29	2.12	1.96	S	1.96	1.95	1.94	1.92	X	X	X	X	X	X	X	X	X	X	1.92	2.29	2.04	14	
29	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Y	Y	Y	X	X	X	X	X	X	-	-	-	0	
30	X	X	X	X	X	X	X	X	X	C1	C1	C1	C1	1.97	1.97	1.97	1.95	1.97	1.97	2.05	1.97	2.08	2.02	2.07	1.95	2.08	2.00	11	
31	2.03	2.04	2.02	2.03	2.05	2.05	S	2.00	1.98	1.98	1.98	1.97	1.97	1.96	1.93	1.93	1.93	1.94	1.94	1.94	1.95	1.97	1.97	1.96	1.93	2.05	1.98	24	
HOURLY MAX	3.47	5.31	3.30	3.23	3.16	3.16	3.21	2.77	2.20	2.09	2.21	2.06	2.06	2.05	2.04	2.02	2.09	2.10	2.38	2.59	3.23	3.14	3.86	3.09					
HOURLY AVG	2.32	2.39	2.25	2.36	2.32	2.33	2.28	2.16	2.06	2.02	2.02	2.00	1.99	1.99	1.98	1.97	1.98	1.98	2.02	2.09	2.16	2.23	2.23	2.22					

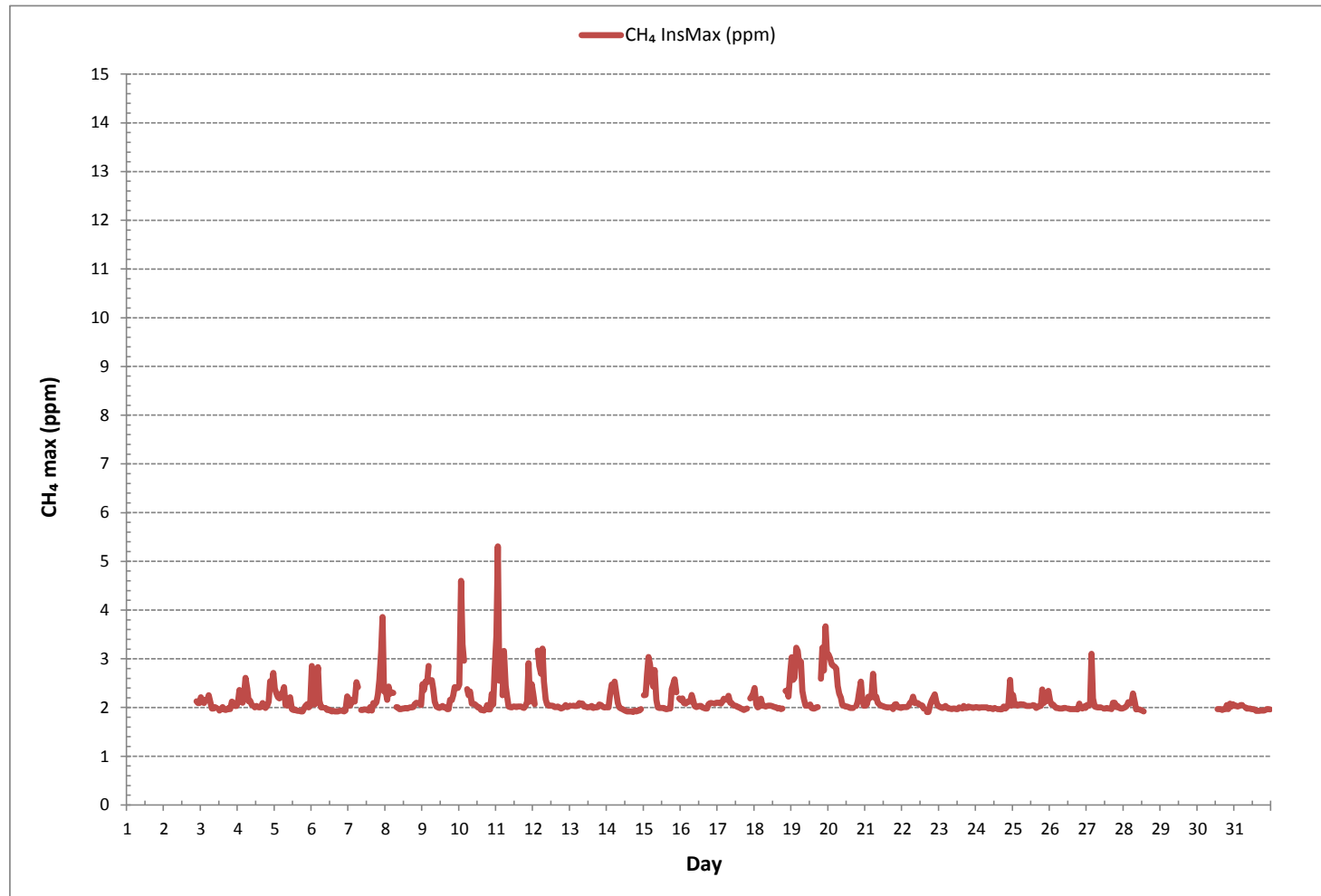
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	623
MAXIMUM INSTANTANEOUS VALUE:	5.31 ppm @ HOUR 1 ON DAY 11
IZS CALIBRATION TIME:	28 hrs
MONTHLY CALIBRATION TIME:	5 hrs
STANDARD DEVIATION:	0.32
OPERATIONAL TIME:	656 hrs

METHANE MAX Instantaneous Maximum (CH₄ ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - August 2018

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	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	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	0
2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	8
3	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
4	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
5	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
6	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
7	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	0.06	0.00	0.04	0.00	0.00	0.00	0.00	0.06	0.00	24
8	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	0.05	0.00	0.00	0.05	0.00	0.00	24
9	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06	0.06	0.06	0.10	0.07	0.09	0.16	0.00	0.00	0.03	0.00	0.16	0.03	0.00	24
10	0.00	0.00	0.00	0.00	S	0.00	0.00	0.08	0.10	0.14	0.13	0.11	0.08	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.03	24
11	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
12	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
13	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	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.03	0.00	24
14	S	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.06	0.00	0.00	24
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	24
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	24
17	0.00	0.00	0.07	0.00	0.06	0.08	0.03	0.06	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.08	0.01	24
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
21	0.00	0.00	0.00	0.00	0.00	0.05	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	0.05	0.00	24
22	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06	0.09	0.09	0.09	0.07	0.09	0.08	0.03	S	0.00	0.00	0.07	0.09	0.00	0.00	0.00	0.00	0.00	0.09	0.04	24
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.02	0.00	0.05	0.00	0.00	24
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	0.00	0.00	0.00	0.00	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	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
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	X	X	X	X	X	X	X	X	X	X	0.00	0.00	0.00	14
29	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Y	Y	X	X	X	X	X	X	X	-	-	-	0
30	X	X	X	X	X	X	X	X	X	C1	C1	C1	C1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11
31	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
HOURLY MAX	0.00	0.06	0.07	0.00	0.06	0.08	0.03	0.08	0.10	0.14	0.13	0.11	0.09	0.09	0.06	0.06	0.10	0.07	0.09	0.16	0.04	0.05	0.05	0.03				
HOURLY AVG	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00				

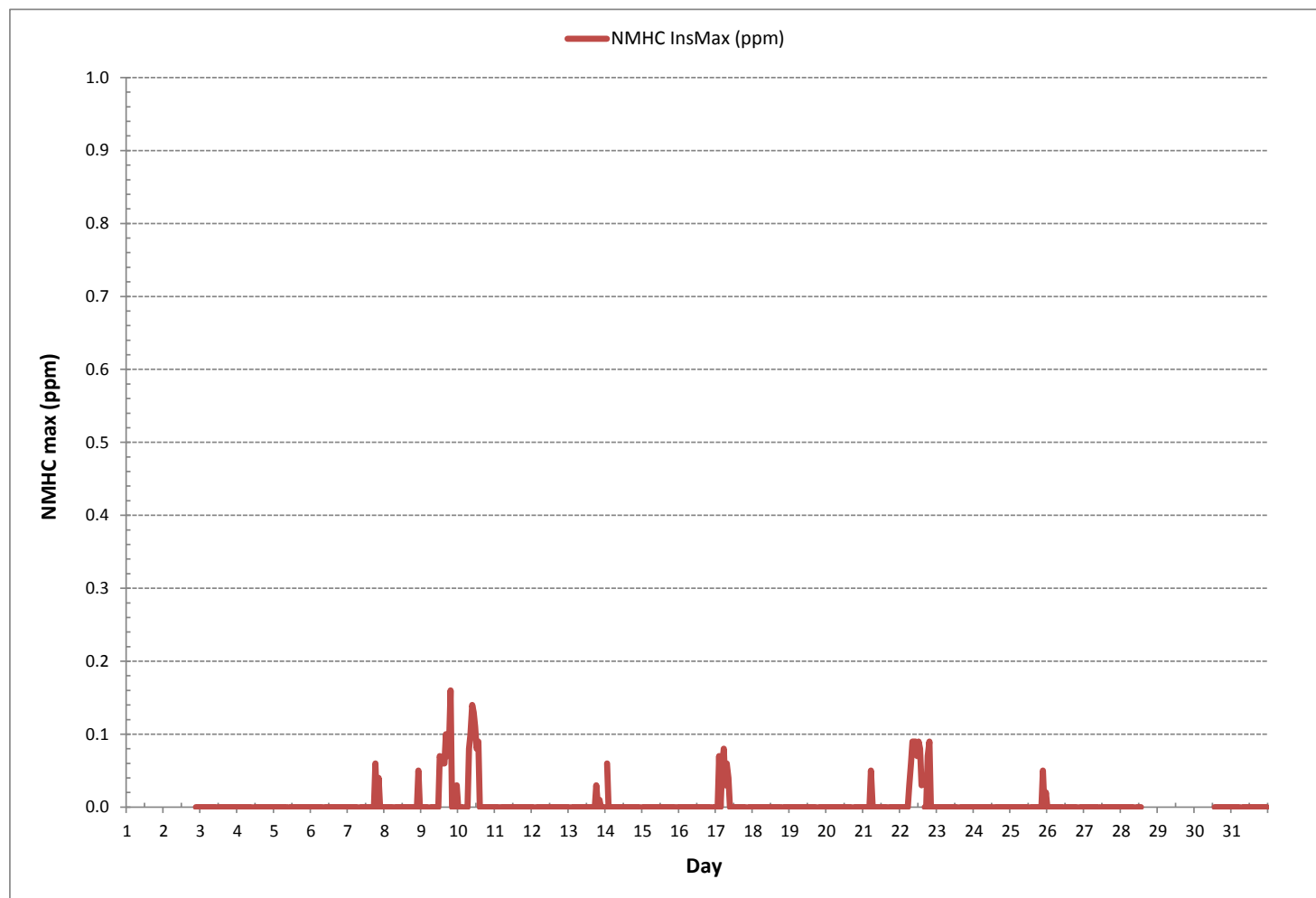
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	42				
MAXIMUM INSTANTANEOUS VALUE:	0.16	ppm	@ HOUR	19	ON DAY 9
IZS CALIBRATION TIME:	28	hrs	OPERATIONAL TIME:	656	hrs
MONTHLY CALIBRATION TIME:	5	hrs			
STANDARD DEVIATION:	0.02				

NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - August 2018

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 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	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	0
1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	6.1	23.3	14.5	11
2	8.8	7.2	10.9	12.1	7.1	7.9	12.0	16.2	16.7	14.8	18.8	22.7	20.6	21.4	24.8	52.6	48.0	18.6	18.1	15.4	16.3	14.0	8.8	8.0	7.1	52.6	17.6	24
3	7.1	6.8	5.6	4.7	3.6	3.7	5.7	11.7	11.6	9.6	13.5	18.5	26.1	28.2	28.9	23.1	22.0	14.5	18.0	12.9	11.0	6.0	3.5	6.6	3.5	28.9	12.6	24
4	8.0	9.1	8.8	9.6	9.6	5.6	10.6	12.5	11.5	14.1	17.6	26.4	22.8	21.3	24.4	23.2	26.7	23.7	17.9	12.5	9.1	11.9	13.2	10.2	5.6	26.7	15.0	24
5	9.2	12.5	11.5	9.0	8.8	11.0	13.1	19.3	20.2	24.5	28.9	30.9	36.7	29.4	28.0	22.0	24.9	21.4	18.1	15.3	14.0	15.2	9.9	7.1	7.1	36.7	18.4	24
6	6.7	6.6	7.2	6.2	6.6	6.5	5.2	7.3	12.4	10.3	13.3	9.3	14.8	14.7	18.1	12.5	10.9	7.5	5.6	5.5	8.7	5.9	8.3	7.0	5.2	18.1	9.0	24
7	6.7	7.7	5.1	6.6	6.1	9.5	8.5	13.0	15.7	16.8	23.5	25.3	23.9	27.2	28.9	27.9	28.5	25.5	24.1	15.6	16.2	10.1	9.8	9.2	5.1	28.9	16.3	24
8	8.9	9.0	12.0	9.2	10.9	10.9	7.7	8.2	10.5	12.3	19.1	15.7	21.2	21.3	26.9	29.3	21.2	15.8	10.7	12.4	10.4	11.0	12.3	17.3	7.7	29.3	14.3	24
9	19.3	4.1	11.4	10.1	11.0	6.3	21.2	14.4	15.4	18.5	16.8	18.2	20.6	31.0	34.3	28.5	19.3	16.5	10.7	9.8	15.6	19.9	18.6	7.8	4.1	34.3	16.6	24
10	3.9	6.9	7.1	5.4	3.4	5.2	4.7	9.2	12.7	11.1	16.4	19.1	17.4	19.0	17.4	14.9	17.8	22.0	17.6	12.4	8.9	4.3	7.8	7.5	3.4	22.0	11.3	24
11	11.4	12.1	10.0	13.7	2.1	4.6	5.4	5.6	15.9	15.9	15.1	19.5	14.2	11.9	15.0	14.7	20.3	22.1	21.2	22.4	13.5	11.9	12.0	11.2	2.1	22.4	13.4	24
12	10.7	11.8	12.4	18.4	13.1	19.1	18.2	22.1	26.8	33.0	33.4	36.6	39.0	36.2	38.1	37.8	33.8	22.5	18.6	18.3	16.1	18.9	19.7	20.7	10.7	39.0	24.0	24
13	21.9	17.9	9.9	12.1	11.7	8.4	7.9	10.4	13.5	11.8	18.0	21.3	31.6	37.7	23.9	31.8	32.7	29.0	17.8	15.9	17.0	20.4	17.3	19.6	7.9	37.7	19.1	24
14	8.7	3.7	3.7	3.9	6.0	5.0	5.4	6.7	22.4	27.3	26.2	30.8	27.5	21.2	20.7	19.2	19.7	9.6	7.8	5.9	5.1	7.6	5.9	8.3	3.7	30.8	12.9	24
15	8.0	11.8	10.7	11.3	10.2	10.1	10.2	11.6	15.6	22.9	29.3	30.6	25.3	22.8	24.2	21.4	20.3	20.7	17.6	17.3	13.3	17.7	17.1	12.4	8.0	30.6	17.2	24
16	16.6	17.8	13.3	8.4	5.7	8.3	7.3	10.2	14.1	14.4	15.8	25.4	28.5	23.2	29.8	29.0	37.0	28.5	21.0	21.6	18.1	12.0	7.4	5.8	5.7	37.0	17.5	24
17	20.8	33.7	28.8	12.6	11.0	17.3	17.4	25.7	36.8	33.5	37.5	37.6	42.6	37.0	36.3	26.1	22.0	17.7	19.8	9.8	6.1	5.9	2.9	5.0	2.9	42.6	22.7	24
18	5.4	6.3	3.9	3.5	3.4	4.6	4.9	3.9	9.7	14.5	15.3	17.7	18.5	24.7	23.3	17.3	15.5	15.6	10.1	3.1	3.2	3.9	3.9	3.5	3.1	24.7	9.8	24
19	3.8	5.0	4.1	5.0	6.0	4.6	5.6	6.4	9.8	13.0	16.4	19.4	21.9	28.7	29.1	29.3	25.9	20.1	20.1	8.6	10.3	7.4	7.0	7.2	3.8	29.3	13.1	24
20	7.0	7.3	6.6	7.1	5.7	6.0	5.3	7.2	9.4	12.6	13.4	15.3	21.2	22.6	21.2	23.3	21.7	18.7	20.9	15.6	18.2	16.9	17.8	20.9	5.3	23.3	14.2	24
21	20.8	18.4	19.7	21.1	16.2	12.1	10.7	10.2	15.9	15.5	19.8	20.2	24.6	25.7	23.6	23.6	24.8	24.1	30.0	30.7	22.2	13.0	18.4	16.0	10.2	30.7	19.9	24
22	16.7	16.5	16.5	13.5	14.2	22.7	19.7	20.0	22.1	14.7	13.5	12.7	11.1	13.7	12.4	12.9	14.3	16.2	15.8	14.6	19.6	16.6	17.0	15.8	11.1	22.7	16.0	24
23	17.3	25.0	19.7	20.6	18.9	17.1	19.4	18.9	18.5	19.6	20.7	19.7	15.9	18.3	7.5	6.3	7.7	9.2	9.2	8.8	7.6	10.6	10.5	9.7	6.3	25.0	14.9	24
24	10.4	8.5	11.0	11.5	9.5	12.8	13.4	11.7	15.8	13.8	17.8	19.8	15.4	9.6	7.8	15.6	14.3	7.8	5.9	6.7	10.0	9.2	4.4	5.5	4.4	19.8	11.2	24
25	7.5	9.9	14.2	20.5	21.9	19.1	18.0	19.0	19.8	15.5	18.0	16.0	17.7	14.9	17.7	19.0	17.1	20.5	12.3	5.4	16.6	16.2	7.3	10.8	5.4	21.9	15.6	24
26	10.4	9.4	10.2	4.3	6.6	9.9	6.7	11.1	15.2	14.1	17.6	22.9	19.3	27.2	24.3	23.7	21.8	19.5	16.1	12.2	9.0	14.7	12.8	10.3	4.3	27.2	14.6	24
27	9.5	9.4	5.4	5.5	7.2	4.7	3.1	8.9	16.7	13.9	19.2	14.8	20.4	17.1	17.8	16.7	13.6	22.9	12.0	16.8	11.9	7.7	10.2	7.2	3.1	22.9	12.2	24
28	8.3	7.5	11.1	13.8	9.9	10.1	14.4	14.1	14.1	13.5	21.8	20.4	18.9	17.5	18.9	35.9	12.0	7.8	14.9	20.2	13.0	9.7	12.1	14.4	7.5	35.9	14.8	24
29	12.8	19.2	16.8	17.0	16.9	15.0	20.3	22.8	22.1	28.2	24.3	24.0	30.0	22.8	21.0	24.7	24.8	16.7	9.9	22.8	19.9	9.6	9.7	4.8	4.8	30.0	19.0	24
30	5.5	5.7	9.8	8.4	11.7	12.1	16.1	20.0	23.4	24.6	30.1	28.6	23.6	33.2	37.0	33.2	27.8	26.0	27.3	24.9	43.7	10.5	11.2	9.7	5.5	43.7	21.0	24
HOURLY MAX	21.9	33.7	28.8	21.1	21.9	22.7	21.2	25.7	36.8	33.5	37.5	37.6	42.6	37.7	38.1	52.6	48.0	29.0	30.0	30.7	43.7	20.4	19.7	20.9				

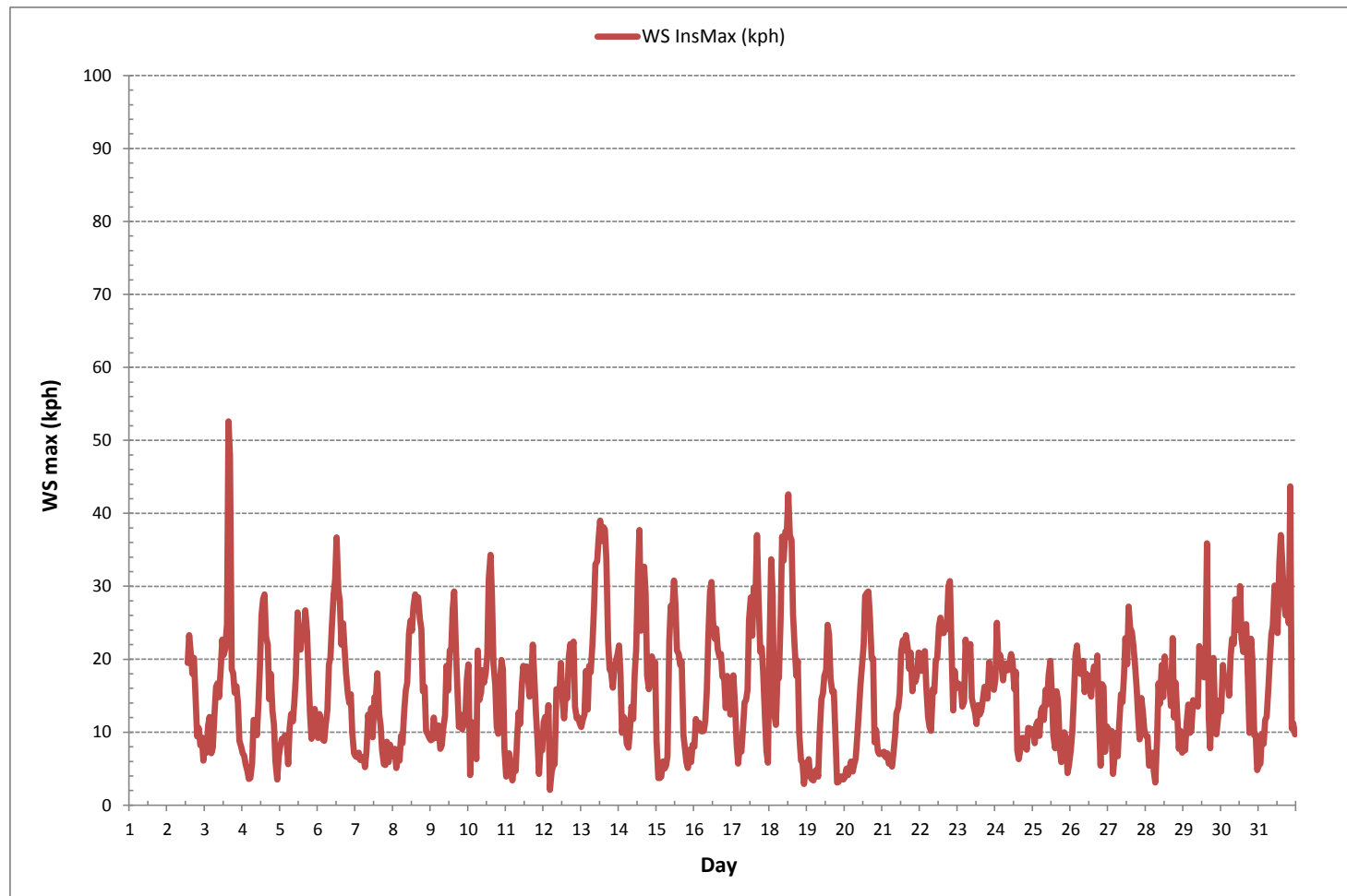
STATUS FLAG CODES

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:	52.6	kph	@ HOUR	15	ON DAY	3
OPERATIONAL TIME:	707	hrs				

WIND SPEED Instantaneous Maximum (WS kph)

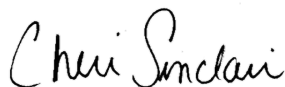


APPENDIX IV
REPORT CERTIFICATION FORM

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	Position / Title of the Representative of the Person Responsible
Mike Bisaga / Lily Lin	Technical Program Managers
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	Position / Title of External Person Certifying the Report
Cheri Sinclair	Supervisor, Customer Service, Air Services
Company Name for the External Person Certifying the Report	Identification of Qualifications / Professional Designations of the External Person Certifying the Report
Maxxam Analytics, A Bureau Veritas Group Company	B.Sc.

Maxxam Analytics is the designated contractor conducting monitoring and reporting activities. I certify that the submitted data has been (a) reviewed and validated as per the AMD Chapter 6: Ambient Data Quality. I certify that the submitted report (b) accurately reflects the monitoring results and reporting timeframe and (c) meets the specified analysis, summarization and reporting requirements as per the AMD Chapter 9: Reporting.



Signature of the External Person Certifying the Report

22 - Sep - 2018

Report Issued Date (dd-mon-yyyy)

APPENDIX V
DATA VALIDATION CERTIFICATION FORM

Validation Certificate Form

Client: Peace River Area Monitoring Program Committee

Project #: 8449-2018-08-67-C

Site: Three Creeks 986b Station

Contact: Karla Reesor

Level 0 Preliminary Verification

Carla Reesor

Date 20 - Sep - 2018

Level 1 Primary Validation

Carla Reesor

Date 20 - Sep - 2018

Level 2 Final Validation

Carla Reesor

Date 21 - Sep - 2018

Level 3 Independent Data Review

Cheri Sinclair

Date 22 - Sep - 2018

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.