



Peace River Area Monitoring Program Committee
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Alberta Environment and Parks (AEP)
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April 30, 2018

Subject: Monthly Report Submission for the PRAMP 986 AQM station

Peace River Area Monitoring Program Committee (PRAMP) is pleased to submit the ambient air monitoring monthly report for the PRAMP 986 AQM Station in the month of March 2018.

The air monitoring program consists of continuous air monitoring results for 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). All the air monitoring activities were conducted by Maxxam Analytics.

All data collected in March 2018 was compliant with the requirements outlined in the Air Monitoring Directive (Alberta Environment and Parks, 2016).

The operational time for all meteorological systems were above the 90% requirement.

As the PRAMP Technical Program Managers, we have reviewed and verified this report and that the information is complete, accurate and representative of the monitoring results, reporting timeframe and the specified analysis, summarization and reporting requirements. We also verify all air data that are required by the AMD to be electronically submitted to AEP and Alberta's Ambient Air Quality Data Warehouse have been submitted by the time of this report submission.

Should you have any questions, please don't hesitate to contact us.

Respectfully,

Two handwritten signatures in blue ink. The first signature is "Michael Bisaga" and the second is "Lily Lin".

Michael Bisaga / Lily Lin
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AMBIENT AIR MONITORING MONTHLY DATA REPORT
PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
THREE CREEKS 986B STATION

JOB #: 8449-2018-03-67-C

March 2018

Prepared for:

PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Attention: LILY LIN

DATE: **April 23, 2018**

Prepared by:

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

Wunmi Adekanmbi, M.Sc., EPT, PMP
Project Manager, 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 March 2018, Maxxam Analytics was contracted to manage the ambient air quality monitoring and maintenance activities at the Three Creeks 986b Station, near Peace River Oil Sands Area 2, Alberta. The monitoring station provides continuous meteorological measurements and air quality data for non-compliance parameters, as requested by the PRAMP Committee.

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

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

TRS: Six hours of downtime were recorded this month.

- Four hours of downtime were incurred on March 6, due to a maintenance event.
- The daily zero-span check did not execute correctly on March 14. A repeat zero-span check was successfully completed on March 15, after the communication program was reset. Two hours of downtime were incurred due to this event.

THC/CH₄/NMHC: One hour of downtime was incurred on March 15, at hour 09:00, due to a data-logger communication reset that impacted data quality.

The summary of results is presented on the following pages.

Any deviations or modifications made to the sampling or analytical methods are outlined in Section 1.0, Discussion. On this basis, Maxxam Analytics is issuing this completed report to Peace River Area Monitoring Program Committee, Three Creeks 986b Station.

Should you have any questions concerning the results or if we can be of further assistance, please contact us at 403-219-3661 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	3	1	4	9.9	E	1	1	100.0
TRS (ppb)	-	-	-	-	0.32	0.61	13	20	4.3	ESE	0.38	17	99.2
THC (ppm)	-	-	-	-	2.02	2.54	13	8	2.0	E	2.15	16	99.9
CH ₄ (ppm)	-	-	-	-	2.02	2.54	13	8	2.0	E	2.15	16	99.9
NMHC (ppm)	-	-	-	-	0.00	0.02	15	23	2.6	ESE	0.00	1	99.9
RELATIVE HUMIDITY (%)	-	-	-	-	66	95	20	5	2.9	N	82	23	100.0
BAROMETRIC PRESSURE (millibar)	-	-	-	-	943	962	30	22	1.9	ESE	958	30	100.0
AMBIENT TEMPERATURE (°C)	-	-	-	-	-6.8	12.9	13	16	2.0	E	4.1	20	100.0
STATION TEMPERATURE (°C)	-	-	-	-	23.3	24.8	8	12	7.9	ESE	23.9	27	100.0
VECTOR WS (kph)	-	-	-	-	1.3	15.8	30	16	-	NW	11.1	1	100.0
VECTOR WD (sec)	-	-	-	-	87 (E)	-	-	-	-	-	-	-	100.0

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	March

CONTINUOUS AMBIENT MONITORING							
		ONE - HOUR AVERAGE			24 - HOUR AVERAGE		
PARAMETER	% TIME OPERATIONAL	MAXIMUM VALUES		NO. READINGS > REGULATION	MAXIMUM VALUES		NO. READINGS > REGULATION
SO ₂	100.0	0.003	ppm	0	0.001	ppm	0
TRS	99.2	0.001	ppm	-	0.000	ppm	-
THC	99.9	2.54	ppm	-	2.15	ppm	-
CH ₄	99.9	2.54	ppm	-	2.15	ppm	-
NMHC	99.9	0.02	ppm	-	0.00	ppm	-
RH	100.0	95	%	-	82	%	-
BP	100.0	962	mb	-	958	mb	-
Ambient TPX	100.0	12.9	°C	-	4.1	°C	-
Station TPX	100.0	24.8	°C	-	23.9	°C	-
Wind Speed	100.0	15.8	kph	-	11.1	kph	-
Wind Direction	100.0	-		-	-		-

SIGNATURE OF COMPANY REPRESENTATIVE

FOR ALBERTA ENVIRONMENT USE ONLY

Exceedance Summary Report

SO₂ 1-Hour Exceedances

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

SO₂ 24-Hour Exceedances

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

In accordance with EPEA and the Substance Release Regulation.

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

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1.0 Discussion

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

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 100%.
- The routine monthly calibration was performed on March 6.

TOTAL REDUCED SULPHUR (TRS)

- Operational time for the monitoring period was 99.2%, equivalent to six hours of downtime.
- Following a successful shut-down calibration on March 6, maintenance activities were carried out on the sample pump and the converter. The internal sample pump was replaced with an external pump and the converter was re-peaked. A successful post-repair calibration was subsequently completed. Four hours of downtime were recorded due to this maintenance event.
- On March 14, the daily zero-span check did not execute correctly due to a communication error with the Ultimate data-logger, incurring one hour of downtime. The communication program was reset on May 15 and a repeat zero-span check was successfully completed at hour 09:00. One hour of downtime was recorded due to the additional quality check.
- One instance of maximum instantaneous data was discarded at hour 08:00 on May 15, due to an anomalous spike in concentration that was not supported by the recorded minute concentrations.

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

- Operational time for the monitoring period was 99.9%, equivalent to one hour of downtime. This was incurred on March 15, at hour 09:00, due to a data-logger communication reset that impacted data quality.
- The routine monthly calibration was performed on March 6.
- 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.
- A pressure sensor for the canister system was installed on March 7. A trigger test was performed afterwards to assess the effectiveness of the system. One instance of maximum instantaneous data was discarded at hour 12:00 as a result.

WIND SPEED (WS) and WIND DIRECTION (WD)

- Operational time for the monitoring period was 100%.
- 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 100%.
- A humidity sensor audit was conducted on March 6. The result was satisfactory.

BAROMETRIC PRESSURE (BP)

- Operational time for the monitoring period was 100%.
- A pressure sensor audit was conducted on March 6. The result was satisfactory.

AMBIENT TEMPERATURE (AmbTPX)

- Operational time for the monitoring period was 100%.
- A temperature sensor audit was conducted on March 6. The result was satisfactory.

STATION TEMPERATURE (StnTPX)

- Operational time for the monitoring period was 100%.

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).

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

4.0 Calculations and Results

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

5.0 Methods and Procedures

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

Maxxam AIR SOP-00001: Methane, Non-Methane Hydrocarbon Analyzer Monitoring

Maxxam AIR SOP-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 - ESC 8832

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

Level 0 Preliminary Verification

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

Level 1 Primary Validation

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

Level 2 Final Validation

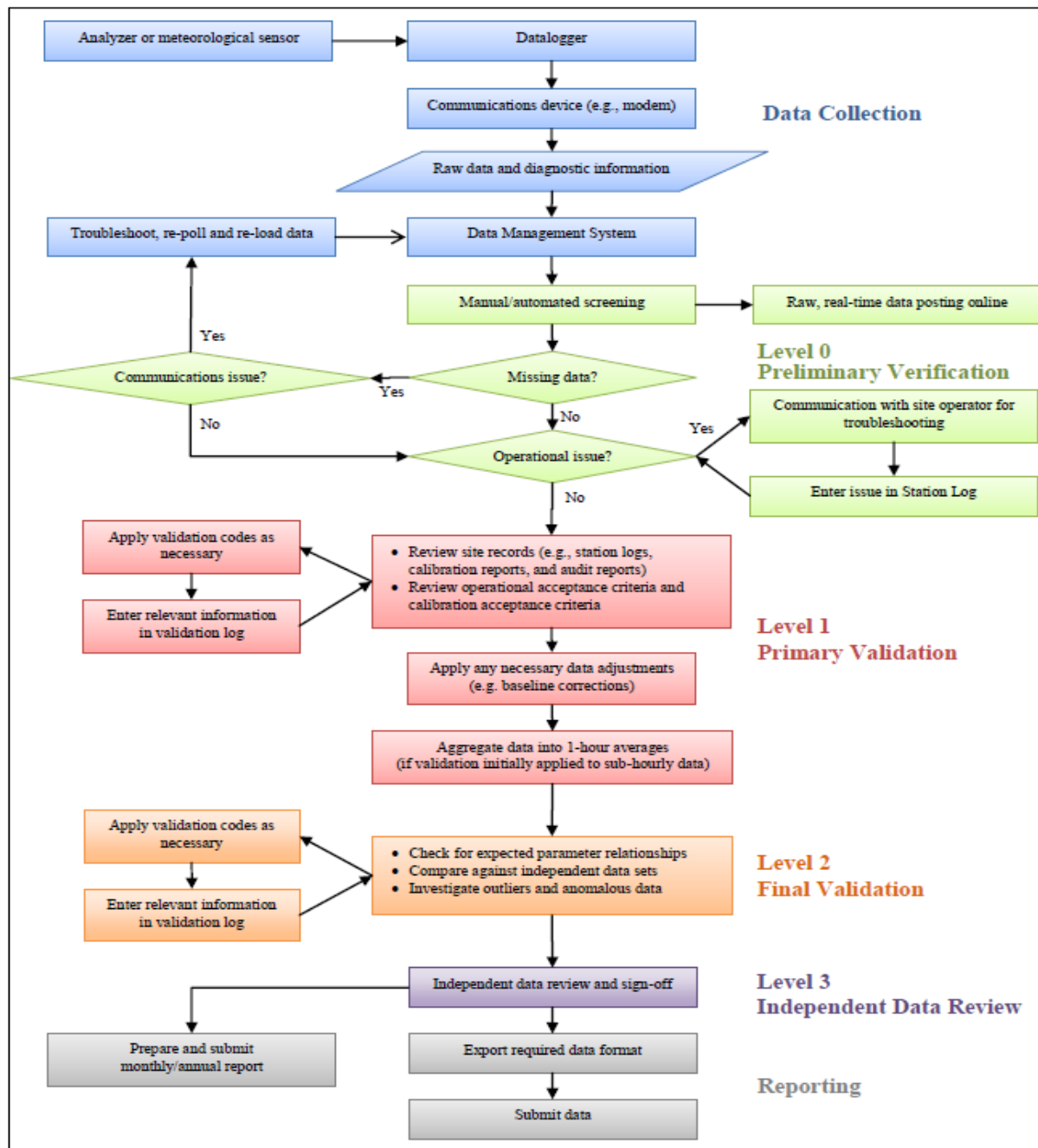
The purpose of Level 2 validation is to verify that there are no inconsistencies among related data, or among regional data measured at nearby sites.

Level 3 Independent Data Review

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

Post-Final Validation

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



Source: Air Monitoring Directive (December 2016), Chapter 6, Ambient Data Quality; Figure 1 Data Collection and Management Process Flow Chart

APPENDIX I
CONTINUOUS MONITORING DATA RESULTS

SULPHUR DIOXIDE

SULPHUR DIOXIDE Hourly Averages (SO₂ ppb)

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

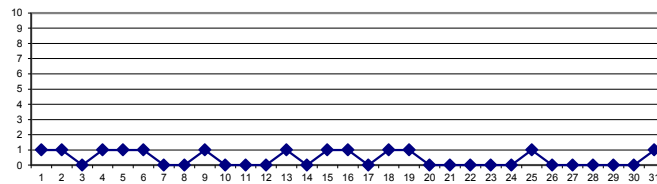
OBJECTIVE LIMIT:

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

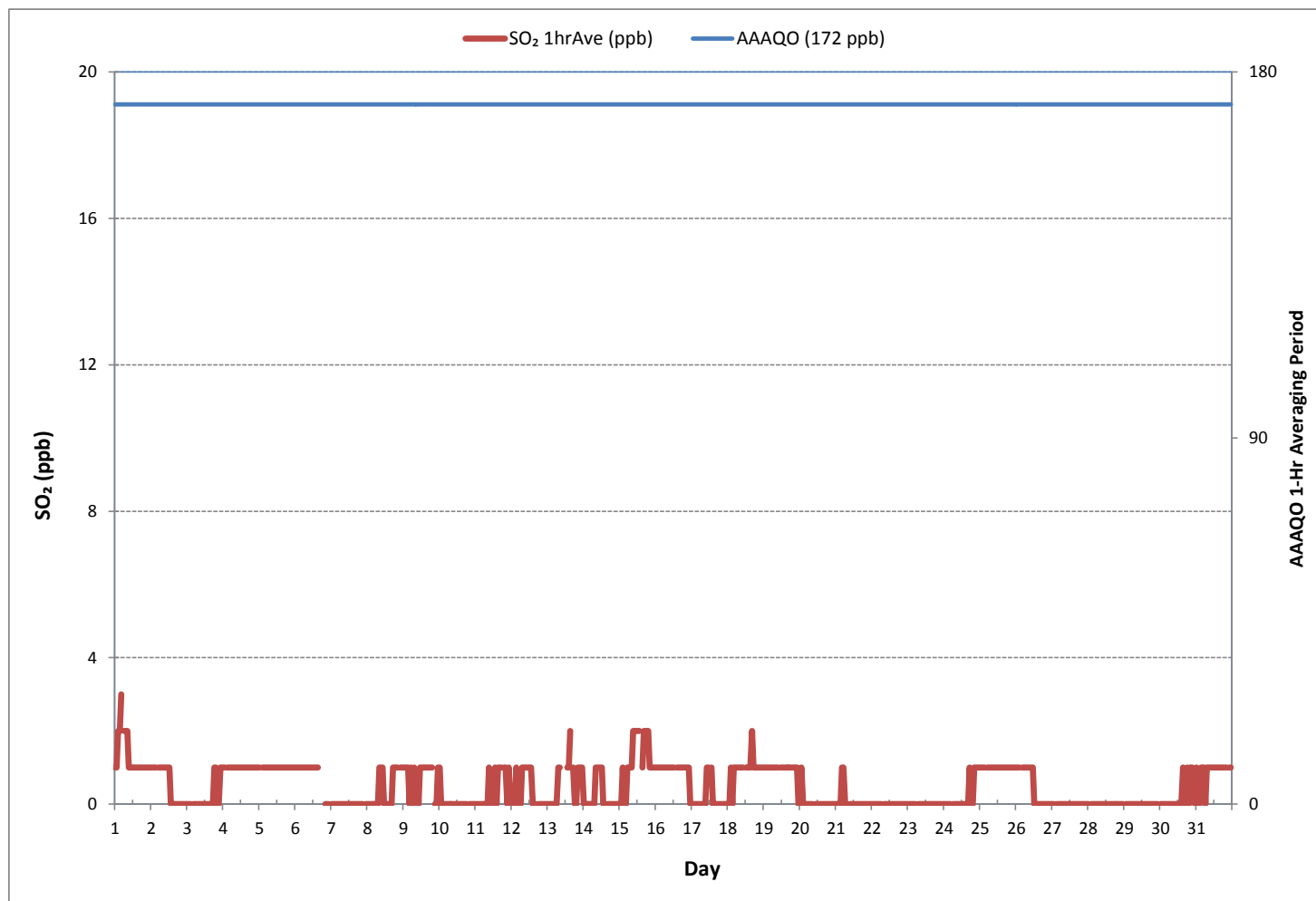
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDANCES:	0
NUMBER OF 24-HR EXCEEDANCES:	0
NUMBER OF NON-ZERO READINGS:	313
MINIMUM 1-HR AVERAGE:	0 ppb @ HOUR 13 ON DAY 2
MAXIMUM 1-HR AVERAGE:	3 ppb @ HOUR 4 ON DAY 1
MAXIMUM 24-HR AVERAGE:	1 ppb ON DAY 1
IZS CALIBRATION TIME:	33 hrs
MONTHLY CALIBRATION TIME:	4 hrs
OPERATIONAL TIME:	744 hrs
AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION:	1
MONTHLY AVERAGE:	0 ppb

24 HR AVERAGES March 2018



SULPHUR DIOXIDE Hourly Averages (SO₂ ppb)



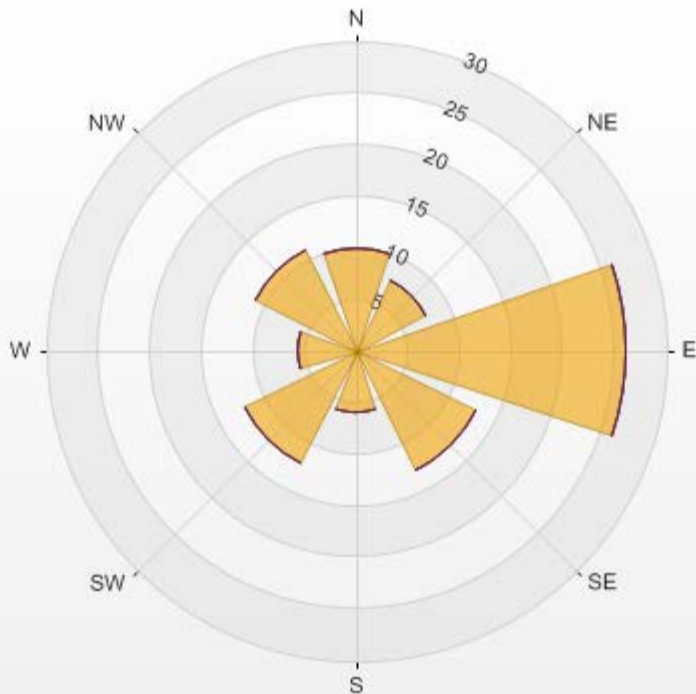
Wind: PRAMP_986
Poll.: PRAMP_986-SO₂[ppb]
Monthly: 18/03
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

Calm: 8.35%

Calm Avg: 0.51 [ppb]

Direction	0-3	3-10	10-85	85-170	>170.0	Total
N	10.0	0.0	0.0	0.0	0.0	10.0
NE	7.6	0.0	0.0	0.0	0.0	7.6
E	26.2	0.0	0.0	0.0	0.0	26.2
SE	13.0	0.0	0.0	0.0	0.0	13.0
S	6.1	0.0	0.0	0.0	0.0	6.1
SW	12.2	0.0	0.0	0.0	0.0	12.2
W	5.7	0.0	0.0	0.0	0.0	5.7
NW	10.9	0.0	0.0	0.0	0.0	10.9
Summary	91.7	0.0	0.0	0.0	0.0	91.7

PRAMP_986 Poll.: PRAMP_986-SO2[ppb] 2018/03/01 00:00 - 2018/03/31 23:00 Calm: 8.35% Calm Poll Avg: 0.51[ppb]



SO₂[ppb] Calibration: PRAMP_986 Monthly: 18/03 Type: Span



Span Meas Span Ref Span Low Span High

TOTAL REDUCED SULPHUR

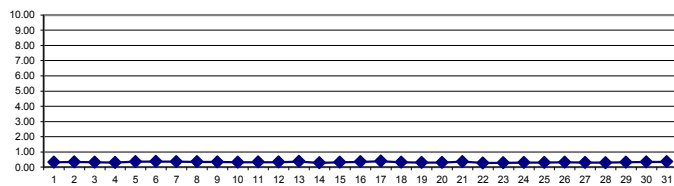
TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.	
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.		
DAY																													
1	0.28	0.30	0.34	0.37	0.38	S	0.39	0.30	0.29	0.30	0.30	0.29	0.32	0.32	0.30	0.30	0.30	0.30	0.32	0.31	0.32	0.32	0.33	0.28	0.39	0.32	24		
2	0.34	0.34	0.34	0.35	S	0.42	0.36	0.35	0.35	0.35	0.34	0.35	0.34	0.33	0.31	0.33	0.33	0.32	0.33	0.34	0.33	0.32	0.33	0.31	0.42	0.34	24		
3	0.33	0.31	0.31	S	0.37	0.34	0.34	0.34	0.34	0.35	0.33	0.31	0.32	0.34	0.32	0.32	0.33	0.30	0.32	0.31	0.31	0.31	0.32	0.33	0.30	0.37	0.33	24	
4	0.30	0.31	S	0.36	0.32	0.31	0.30	0.30	0.29	0.30	0.30	0.30	0.32	0.29	0.28	0.30	0.29	0.29	0.30	0.35	0.36	0.34	0.32	0.29	0.28	0.36	0.31	24	
5	0.29	S	0.34	0.34	0.37	0.37	0.38	0.35	0.46	0.47	0.36	0.31	0.32	0.31	0.33	0.33	0.32	0.34	0.35	0.37	0.36	0.38	0.38	0.38	0.29	0.47	0.36	24	
6	S	0.41	0.33	0.34	0.33	0.34	0.37	0.35	0.34	C	C	C	C	Y	Y	Y	Y	C	C	C	C	0.51	0.36	S	0.33	0.51	0.37	20	
7	0.42	0.32	0.30	0.32	0.36	0.40	0.42	0.37	0.45	0.42	0.31	0.29	0.30	0.28	0.30	0.34	0.34	0.32	0.32	0.36	0.33	0.36	S	0.49	0.28	0.49	0.35	24	
8	0.38	0.38	0.37	0.38	0.41	0.42	0.43	0.45	0.45	0.41	0.40	0.31	0.30	0.29	0.29	0.27	0.27	0.27	0.29	0.28	0.30	S	0.37	0.31	0.27	0.45	0.35	24	
9	0.29	0.30	0.31	0.35	0.31	0.34	0.37	0.34	0.34	0.34	0.33	0.33	0.31	0.31	0.34	0.37	0.37	0.34	0.33	0.34	S	0.40	0.36	0.34	0.29	0.40	0.34	24	
10	0.33	0.33	0.33	0.34	0.33	0.33	0.33	0.33	0.33	0.31	0.32	0.31	0.32	0.31	0.30	0.30	0.30	0.30	0.29	S	0.34	0.31	0.29	0.30	0.29	0.34	0.32	24	
11	0.29	0.31	0.30	0.31	0.33	0.32	0.33	0.38	0.42	0.39	0.33	0.30	0.30	0.31	0.30	0.31	0.31	0.31	S	0.36	0.33	0.32	0.36	0.35	0.29	0.42	0.33	24	
12	0.34	0.33	0.34	0.35	0.33	0.35	0.35	0.35	0.37	0.32	0.36	0.35	0.34	0.32	0.31	0.29	0.30	S	0.36	0.32	0.30	0.30	0.32	0.30	0.29	0.37	0.33	24	
13	0.30	0.33	0.34	0.38	0.38	0.37	0.38	0.48	0.53	0.56	0.39	0.31	0.30	0.30	0.34	0.35	S	0.32	0.28	0.34	0.61	0.30	0.27	0.25	0.25	0.61	0.37	24	
14	0.26	0.27	0.27	0.33	0.27	0.28	0.29	0.28	0.30	0.29	0.29	0.28	0.29	0.30	0.29	X	0.31	0.31	0.30	0.28	0.27	0.27	0.27	0.28	0.26	0.33	0.29	23	
15	0.29	0.31	0.31	0.32	0.30	0.31	0.31	0.33	0.30	S1	0.48	0.36	0.35	0.30	S	0.36	0.31	0.30	0.31	0.32	0.30	0.30	0.30	0.37	0.29	0.48	0.32	23	
16	0.36	0.39	0.42	0.40	0.39	0.40	0.40	0.43	0.39	0.34	0.31	0.30	0.31	S	0.35	0.32	0.31	0.30	0.31	0.31	0.34	0.32	0.33	0.36	0.30	0.43	0.35	24	
17	0.42	0.51	0.51	0.47	0.38	0.37	0.38	0.42	0.41	0.40	0.41	0.38	S	0.40	0.33	0.34	0.33	0.32	0.33	0.34	0.35	0.32	0.34	0.33	0.32	0.51	0.38	24	
18	0.34	0.34	0.35	0.33	0.34	0.35	0.34	0.33	0.32	0.33	0.32	S	0.37	0.32	0.29	0.30	0.35	0.31	0.30	0.29	0.29	0.32	0.31	0.30	0.29	0.37	0.32	24	
19	0.31	0.31	0.28	0.27	0.28	0.27	0.28	0.28	0.28	0.28	S	0.35	0.30	0.29	0.30	0.29	0.27	0.28	0.27	0.28	0.32	0.36	0.34	0.29	0.27	0.36	0.29	24	
20	0.29	0.29	0.29	0.30	0.30	0.33	0.33	0.32	0.30	S	0.35	0.31	0.31	0.31	0.30	0.28	0.28	0.28	0.31	0.29	0.29	0.29	0.30	0.36	0.28	0.36	0.30	24	
21	0.37	0.38	0.32	0.34	0.46	0.47	0.54	0.53	S	0.45	0.37	0.37	0.34	0.34	0.33	0.30	0.29	0.29	0.28	0.28	0.27	0.28	0.28	0.27	0.27	0.54	0.35	24	
22	0.26	0.26	0.26	0.27	0.26	0.25	0.24	S	0.33	0.27	0.26	0.26	0.25	0.26	0.27	0.28	0.28	0.28	0.29	0.27	0.31	0.31	0.29	0.29	0.24	0.33	0.27	24	
23	0.29	0.29	0.29	0.29	0.27	0.32	S	0.36	0.28	0.26	0.29	0.32	0.31	0.30	0.28	0.28	0.30	0.27	0.27	0.27	0.27	0.28	0.29	0.26	0.36	0.29	24		
24	0.28	0.32	0.30	0.28	0.29	S	0.37	0.32	0.32	0.30	0.31	0.30	0.31	0.30	0.31	0.32	0.31	0.29	0.27	0.27	0.28	0.29	0.26	0.27	0.26	0.37	0.30	24	
25	0.28	0.28	0.27	0.28	S	0.37	0.30	0.27	0.29	0.29	0.26	0.28	0.30	0.31	0.31	0.32	0.29	0.31	0.35	0.29	0.29	0.31	0.30	0.34	0.26	0.37	0.30	24	
26	0.29	0.28	0.28	S	0.36	0.30	0.30	0.29	0.29	0.28	0.29	0.29	0.30	0.32	0.29	0.31	0.32	0.31	0.31	0.31	0.31	0.31	0.33	0.53	0.28	0.53	0.31	24	
27	0.31	0.31	S	0.42	0.35	0.33	0.31	0.32	0.31	0.32	0.32	0.31	0.29	0.29	0.28	0.29	0.28	0.28	0.27	0.29	0.27	0.28	0.30	0.30	0.27	0.42	0.31	24	
28	0.30	S	0.41	0.34	0.35	0.34	0.34	0.35	0.30	0.27	0.27	0.27	0.27	0.26	0.27	0.25	0.26	0.26	0.26	0.25	0.27	0.27	0.28	0.27	0.25	0.41	0.29	24	
29	S	0.38	0.32	0.28	0.30	0.29	0.28	0.31	0.37	0.36	0.33	0.31	0.31	0.31	0.33	0.32	0.30	0.30	0.30	0.31	0.30	0.30	0.32	S	0.28	0.38	0.32	24	
30	0.41	0.35	0.33	0.33	0.34	0.34	0.33	0.32	0.32	0.34	0.34	0.32	0.32	0.32	0.33	0.32	0.33	0.31	0.32	0.33	0.32	0.35	0.32	S	0.43	0.31	0.43	0.34	24
31	0.33	0.36	0.35	0.39	0.37	0.40	0.42	0.40	0.38	0.35	0.37	0.37	0.33	0.34	0.32	0.32	0.32	0.33	0.31	0.31	0.31	S	0.40	0.32	0.31	0.42	0.35	24	
HOURLY MAX	0.42	0.51	0.51	0.47	0.46	0.47	0.54	0.53	0.53	0.56	0.48	0.38	0.37	0.40	0.35	0.37	0.37	0.34	0.36	0.37	0.61	0.51	0.40	0.53					
HOURLY AVG	0.32	0.33	0.33	0.34	0.34	0.35	0.35	0.35	0.35	0.35	0.33	0.32	0.31	0.31	0.31	0.31	0.31	0.30	0.31	0.31	0.32	0.32	0.32	0.33					

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

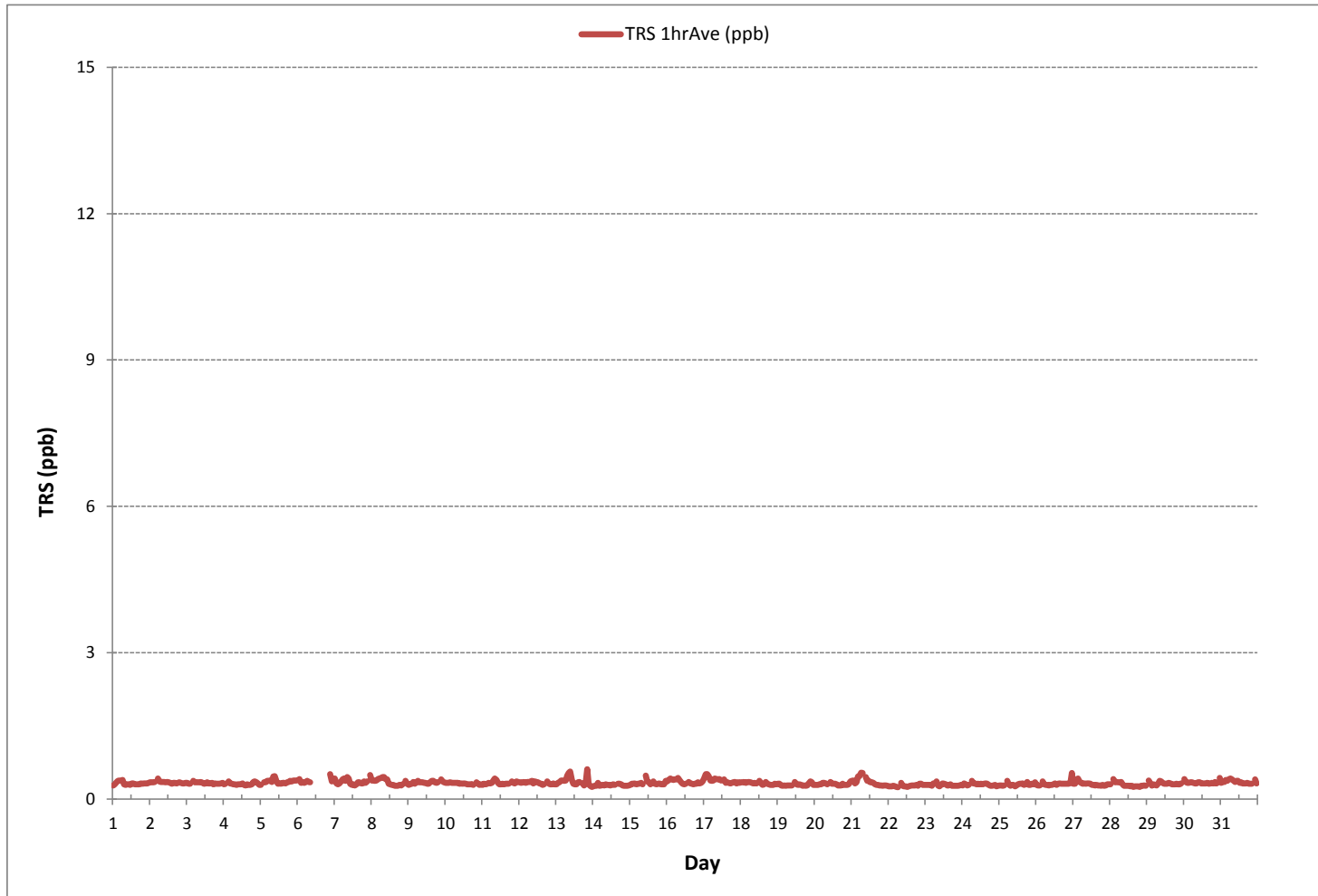
24 HR AVERAGES March 2018



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	698			
MINIMUM 1-HR AVERAGE:	0.24	ppb @ HOUR	6	ON DAY 22
MAXIMUM 1-HR AVERAGE:	0.61	ppb @ HOUR	20	ON DAY 13
MAXIMUM 24-HR AVERAGE:	0.38	ppb		ON DAY 17
IZS CALIBRATION TIME:	32	hrs	OPERATIONAL TIME:	738 hrs
MONTHLY CALIBRATION TIME:	8	hrs	AMD OPERATION UPTIME:	99.2 %
STANDARD DEVIATION:	0.05		MONTHLY AVERAGE:	0.32 ppb

TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)



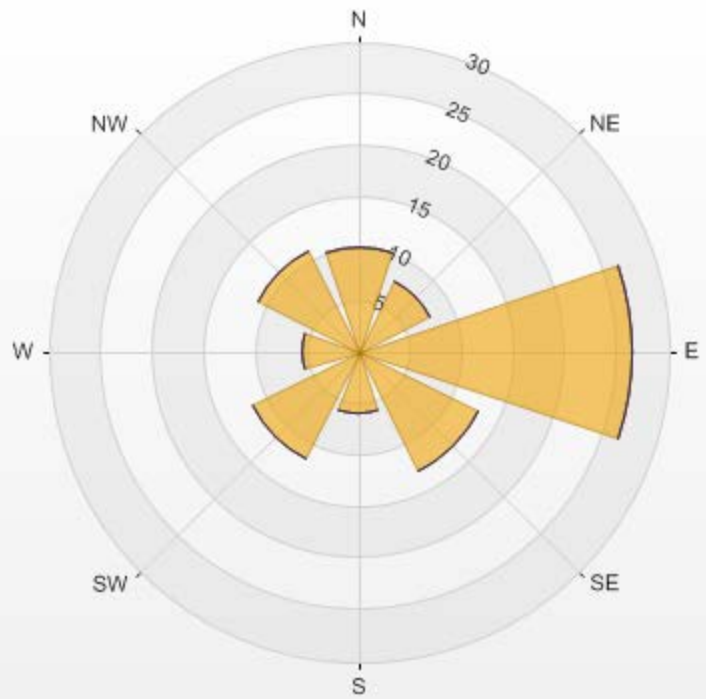
Wind: PRAMP_986
Poll.: PRAMP_986-TRS[ppb]
Monthly: 18/03
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

Calm: 8.45%

Calm Avg: 0.35 [ppb]

Direction	0-1	1-3	3-10	>10.0	Total
N	10.2	0.0	0.0	0.0	10.2
NE	7.7	0.0	0.0	0.0	7.7
E	26.5	0.0	0.0	0.0	26.5
SE	13.0	0.0	0.0	0.0	13.0
S	6.0	0.0	0.0	0.0	6.0
SW	11.6	0.0	0.0	0.0	11.6
W	5.4	0.0	0.0	0.0	5.4
NW	11.0	0.0	0.0	0.0	11.0
Summary	91.5	0.0	0.0	0.0	91.5

PRAMP_986 Poll.: PRAMP_986-TRS[ppb] 2018/03/01 00:00 - 2018/03/31 23:00 Calm: 8.45% Calm Poll Avg: 0.35[ppb]



TRS[ppb] Calibration: PRAMP_986 Monthly: 18/03 Type: Span

Span Meas Span Ref Span Low Span High



TOTAL HYDROCARBON

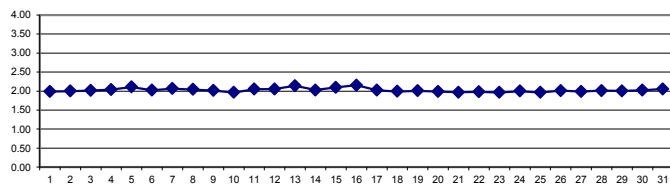
TOTAL HYDROCARBONS Hourly Averages (THC ppm)

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR START (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	1.99	1.99	2.00	2.01	2.00	S	1.99	1.98	1.98	1.98	1.99	1.98	1.99	1.99	1.98	1.98	1.98	1.99	1.98	2.00	1.99	1.99	1.99	1.99	1.98	2.01	1.99	24
2	1.99	1.99	1.99	1.99	S	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.99	1.99	1.99	1.99	1.99	2.00	2.00	2.00	2.00	2.01	2.02	2.02	1.99	2.02	2.00	24
3	2.02	2.01	2.00	S	2.00	2.00	2.01	2.02	2.02	2.02	2.01	2.01	2.02	2.05	2.02	2.03	2.01	2.01	2.01	2.03	2.02	2.00	2.01	2.00	2.00	2.05	2.01	24
4	2.00	2.00	S	2.06	2.05	2.04	2.10	2.02	2.07	2.04	2.02	2.03	2.01	2.06	2.08	2.09	2.04	2.00	2.00	2.01	2.02	2.02	2.03	2.03	2.00	2.10	2.04	24
5	2.03	S	2.05	2.11	2.11	2.10	2.11	2.13	2.21	2.21	2.20	2.11	2.16	2.09	2.07	2.15	2.07	2.07	2.08	2.08	2.07	2.08	2.09	2.13	2.03	2.21	2.11	24
6	S	2.21	2.15	2.06	2.05	2.03	2.01	2.01	2.00	C	C	C	C	C	1.98	1.98	1.99	1.99	2.00	1.99	1.99	2.00	1.99	S	1.98	2.21	2.03	24
7	2.00	2.01	2.02	2.04	2.09	2.12	2.13	2.13	2.12	2.21	2.12	2.09	2.09	2.07	2.02	2.00	2.08	2.02	2.02	2.02	2.02	2.04	S	2.05	2.00	2.21	2.07	24
8	2.05	2.07	2.06	2.10	2.18	2.21	2.22	2.20	2.15	2.10	2.05	1.96	1.95	1.95	1.96	1.95	1.95	1.95	1.96	1.98	1.99	S	1.98	1.99	1.95	2.22	2.04	24
9	2.16	2.03	2.01	2.08	2.04	2.12	2.02	2.02	2.02	2.05	2.02	2.00	2.01	1.99	2.00	2.00	1.98	1.97	1.97	1.97	S	1.96	1.96	1.96	1.96	2.16	2.01	24
10	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	S	1.96	1.97	1.99	1.98	1.96	1.99	1.96	24
11	1.98	2.00	2.03	2.05	2.07	2.07	2.10	2.09	2.13	2.15	2.19	2.16	1.98	1.99	1.99	2.01	2.01	S	2.03	2.01	2.00	2.01	2.03	2.05	1.98	2.19	2.05	24
12	2.06	2.06	2.07	2.08	2.09	2.10	2.08	2.05	2.08	2.04	2.05	2.05	2.04	2.02	2.01	1.98	2.01	S	2.03	2.05	2.05	2.05	2.12	2.06	1.98	2.12	2.05	24
13	2.07	2.13	2.18	2.29	2.30	2.31	2.23	2.38	2.54	2.44	2.26	2.11	2.06	2.05	2.09	2.07	S	1.93	1.93	1.94	1.96	1.97	1.99	1.98	1.93	2.54	2.14	24
14	1.98	1.97	1.97	1.98	2.01	2.01	2.02	2.02	2.04	2.08	2.09	2.09	2.08	2.10	2.07	S	2.01	2.00	2.00	2.01	2.03	2.01	2.01	2.02	1.97	2.10	2.03	24
15	2.04	2.05	2.06	2.07	2.06	2.08	2.07	2.07	2.09	X	2.14	2.16	2.14	2.11	S	2.11	2.16	2.07	2.08	2.09	2.10	2.09	2.12	2.16	2.04	2.16	2.10	23
16	2.13	2.13	2.21	2.29	2.26	2.30	2.21	2.23	2.25	2.29	2.07	2.08	2.13	S	2.04	2.05	2.06	2.18	2.08	2.29	2.04	2.05	2.05	2.07	2.04	2.30	2.15	24
17	2.09	2.12	2.16	2.14	2.05	2.01	2.00	2.01	1.99	2.00	2.02	2.01	S	1.97	1.97	1.97	1.97	1.96	2.08	2.09	2.00	1.98	1.97	1.98	1.96	2.16	2.02	24
18	1.98	1.98	1.99	1.99	1.99	1.99	2.00	1.99	1.99	1.99	1.98	S	1.97	1.97	1.98	1.97	1.98	1.98	1.99	2.00	1.98	2.00	2.04	2.07	1.97	2.07	1.99	24
19	2.08	2.10	2.01	2.00	2.00	2.02	2.03	2.03	2.04	2.04	S	2.03	2.02	2.01	2.00	1.99	1.97	1.97	1.97	1.98	2.00	1.95	1.96	1.95	1.95	2.10	2.01	24
20	1.95	1.95	1.96	1.96	2.22	2.25	1.94	1.94	1.97	S	2.00	1.99	1.97	1.97	1.97	1.98	1.94	1.95	1.96	1.94	1.95	1.95	1.96	1.96	1.94	2.25	1.98	24
21	1.96	1.96	1.96	1.96	1.98	1.98	1.98	1.98	S	1.98	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.98	1.97	24
22	1.97	1.97	1.98	1.98	1.98	1.98	1.97	S	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.98	1.99	2.00	1.99	1.98	1.99	1.98	1.97	1.97	1.97	2.00	1.98	24
23	1.97	1.97	1.97	1.97	1.96	1.97	S	1.96	1.96	1.97	1.99	1.97	1.96	1.96	1.97	1.95	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.96	1.95	1.99	1.97	24
24	1.97	2.09	2.03	2.04	2.04	S	2.01	2.02	1.99	1.97	1.98	2.03	1.98	1.96	1.96	1.96	1.96	1.94	1.95	1.96	1.96	1.97	2.12	2.07	1.94	2.12	2.00	24
25	2.10	1.96	1.96	1.96	S	1.96	1.96	1.97	1.96	1.96	1.96	1.96	1.97	1.97	1.94	1.96	1.96	1.95	1.96	1.96	1.95	1.95	1.96	1.96	1.94	2.10	1.97	24
26	1.95	1.95	1.95	S	1.95	1.96	1.95	2.00	1.95	1.95	1.99	2.01	2.05	2.03	2.06	2.07	2.07	2.11	2.27	2.14	1.96	1.96	1.97	1.96	1.95	2.27	2.01	24
27	1.96	1.96	S	1.96	1.95	1.95	1.95	1.95	1.95	1.96	1.96	1.97	2.02	1.99	2.02	2.03	2.02	2.01	2.13	2.02	1.97	1.99	1.99	1.99	1.95	2.13	1.99	24
28	1.99	S	2.01	2.01	2.00	2.04	2.09	2.17	2.10	2.04	1.98	1.98	1.99	1.99	2.02	2.01	1.97	1.97	2.07	1.97	1.96	1.97	1.97	1.96	1.96	2.17	2.01	24
29	S	1.97	2.04	2.07	1.98	1.97	1.97	1.98	1.99	1.99	1.98	1.97	1.98	1.99	1.99	1.98	2.03	1.96	2.13	2.01	1.97	2.12	1.97	S	1.96	2.13	2.00	24
30	1.97	1.98	1.98	1.98	1.97	2.02	1.99	1.98	1.99	2.01	2.06	2.05	2.03	2.04	2.04	2.03	2.06	2.07	2.09	2.12	2.08	1.99	S	1.98	1.97	2.12	2.02	24
31	2.01	2.06	2.11	2.22	2.23	2.23	2.13	2.14	2.04	2.01	2.01	2.01	2.01	2.01	2.00	1.99	2.00	1.99	1.99	2.00	2.00	S	2.00	2.01	1.99	2.23	2.05	24
HOURLY MAX	2.16	2.21	2.21	2.29	2.30	2.31	2.23	2.38	2.54	2.44	2.26	2.16	2.16	2.11	2.09	2.15	2.16	2.18	2.27	2.29	2.10	2.12	2.12	2.16				
HOURLY AVG	2.01	2.02	2.03	2.05	2.05	2.06	2.04	2.05	2.05	2.05	2.04	2.02	2.02	2.01	2.00	2.01	2.00	2.00	2.02	2.02	2.00	2.00	2.01	2.01				

STATUS FLAG CODES

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

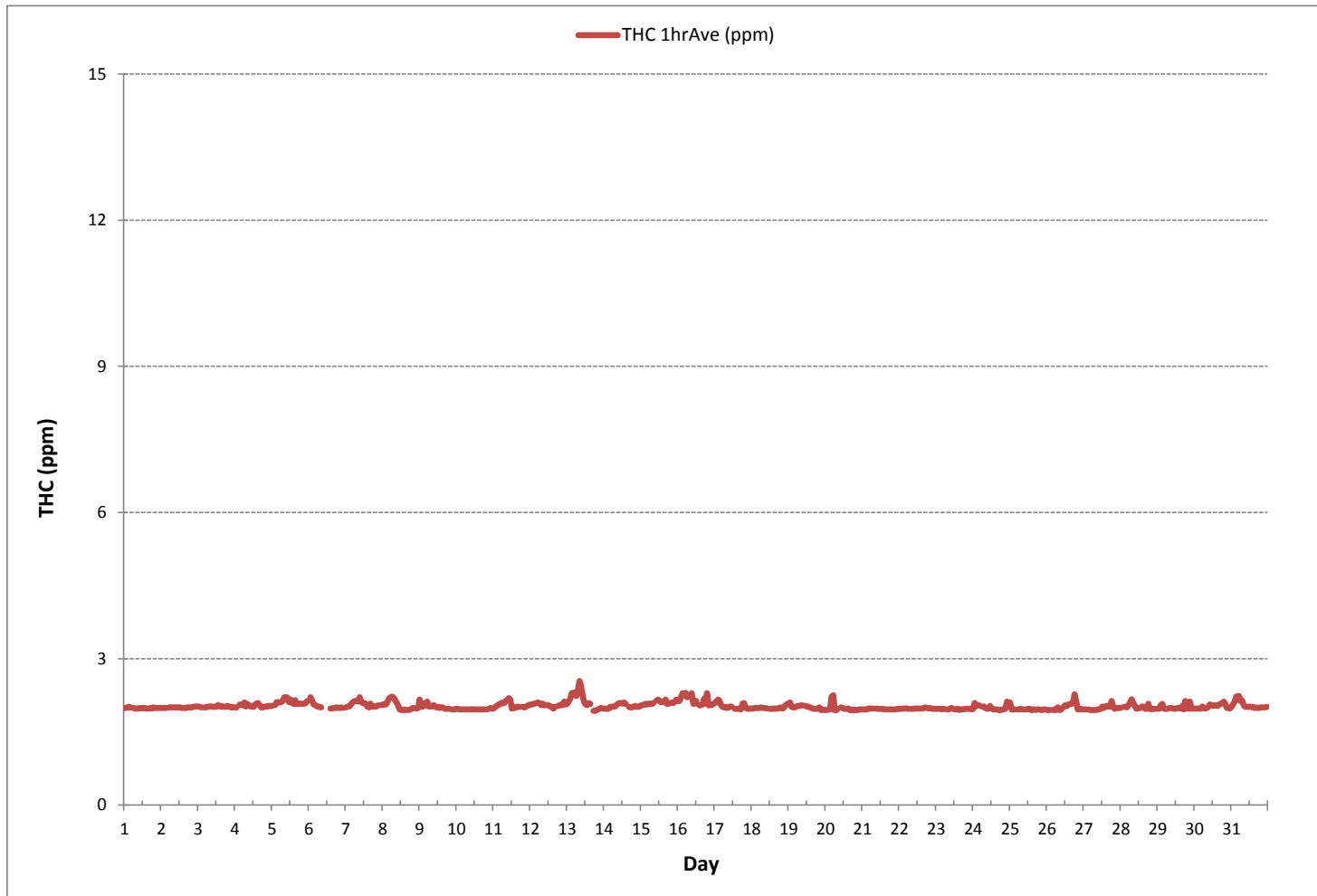
24 HR AVERAGES March 2018



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	705			
MINIMUM 1-HR AVERAGE:	1.93	ppm @ HOUR	17	ON DAY 13
MAXIMUM 1-HR AVERAGE:	2.54	ppm @ HOUR	8	ON DAY 13
MAXIMUM 24-HR AVERAGE:	2.15	ppm		ON DAY 16
IZS CALIBRATION TIME:	33	hrs	OPERATIONAL TIME:	743 hrs
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	99.9 %
STANDARD DEVIATION:	0.07		MONTHLY AVERAGE:	2.02 ppm

TOTAL HYDROCARBONS Hourly Averages (THC ppm)



Wind: PRAMP_986
Poll.: PRAMP_986-THC55[ppm]
Monthly: 18/03
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

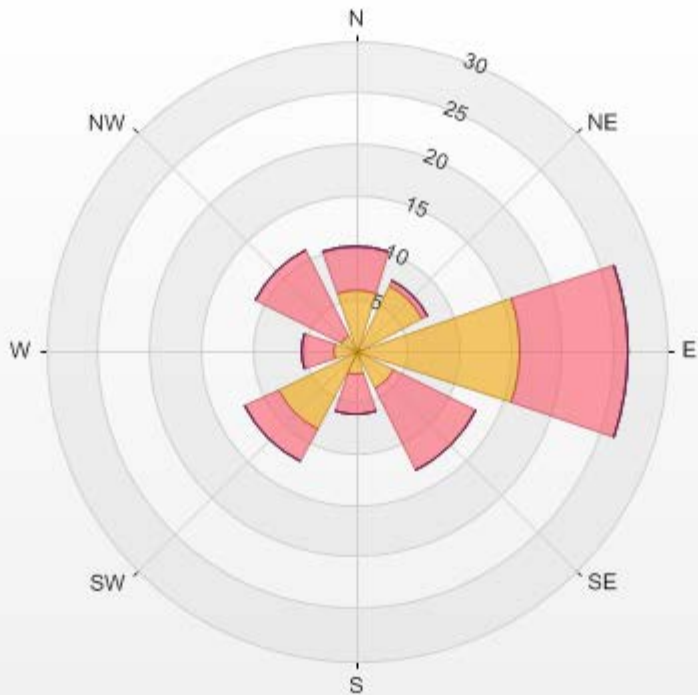
Calm: 8.37%

Calm Avg: 2.09 [ppm]

Direction	0-2	2-3	3-5	5-10	>10.0	Total
N	6.0	4.1	0.0	0.0	0.0	10.1
NE	7.1	0.6	0.0	0.0	0.0	7.7
E	15.9	10.4	0.0	0.0	0.0	26.2
SE	4.0	9.1	0.0	0.0	0.0	13.1
S	2.4	3.8	0.0	0.0	0.0	6.2
SW	8.5	3.6	0.0	0.0	0.0	12.1
W	2.3	3.1	0.0	0.0	0.0	5.4
NW	1.6	9.4	0.0	0.0	0.0	10.9
Summary	47.7	44.0	0.0	0.0	0.0	91.6

% Icon Classes (ppm)	48  0-2	44  2-3	0  3-5	0  5-10	0  >10.0
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PRAMP_986 Poll.: PRAMP_986-THC55[ppm] 2018/03/01 00:00 - 2018/03/31 23:00 Calm: 8.37% Calm Poll Avg: 2.09[ppm]



THC55[ppm] Calibration: PRAMP_986 Monthly: 18/03 Type: Span



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

METHANE

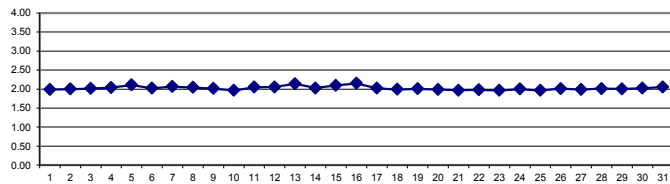
METHANE Hourly Averages (CH₄ ppm)

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	1.99	1.99	2.00	2.01	2.00	S	1.99	1.98	1.98	1.98	1.99	1.98	1.99	1.99	1.98	1.98	1.98	1.99	1.98	2.00	1.99	1.99	1.99	1.99	1.98	2.01	1.99	24	
2	1.99	1.99	1.99	1.99	S	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.99	1.99	1.99	1.99	1.99	2.00	2.00	2.00	2.00	2.01	2.02	2.02	1.99	2.02	2.00	24	
3	2.02	2.01	2.00	S	2.00	2.00	2.01	2.02	2.02	2.02	2.01	2.01	2.02	2.05	2.02	2.03	2.01	2.01	2.01	2.03	2.02	2.00	2.01	2.00	2.00	2.05	2.01	24	
4	2.00	2.00	S	2.06	2.05	2.04	2.10	2.02	2.07	2.04	2.02	2.03	2.01	2.06	2.08	2.09	2.04	2.00	2.00	2.01	2.02	2.02	2.03	2.03	2.00	2.10	2.04	24	
5	2.03	S	2.05	2.11	2.11	2.10	2.11	2.13	2.21	2.21	2.20	2.11	2.16	2.09	2.07	2.15	2.07	2.07	2.08	2.08	2.07	2.08	2.09	2.13	2.03	2.21	2.11	24	
6	S	2.21	2.15	2.06	2.05	2.03	2.01	2.01	2.00	C	C	C	C	C	C	1.98	1.98	1.99	1.99	2.00	1.99	1.99	2.00	1.99	S	1.98	2.21	2.03	24
7	2.00	2.01	2.02	2.04	2.09	2.12	2.13	2.13	2.12	2.21	2.12	2.09	2.09	2.07	2.02	2.00	2.08	2.02	2.02	2.02	2.02	2.04	S	2.05	2.00	2.21	2.07	24	
8	2.05	2.07	2.06	2.10	2.18	2.21	2.22	2.20	2.15	2.10	2.05	1.96	1.95	1.95	1.96	1.95	1.95	1.95	1.96	1.98	1.99	S	1.98	1.99	1.95	2.22	2.04	24	
9	2.16	2.03	2.01	2.08	2.04	2.12	2.02	2.02	2.02	2.05	2.02	2.00	2.01	1.99	2.00	2.00	1.98	1.97	1.97	1.97	S	1.96	1.96	1.96	1.96	2.16	2.01	24	
10	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	S	1.96	1.97	1.99	1.98	1.96	1.99	1.96	24	
11	1.98	2.00	2.03	2.05	2.07	2.07	2.10	2.09	2.13	2.15	2.19	2.16	1.98	1.99	1.99	2.01	2.01	S	2.03	2.01	2.00	2.01	2.03	2.05	1.98	2.19	2.05	24	
12	2.06	2.06	2.07	2.08	2.09	2.10	2.08	2.05	2.08	2.04	2.05	2.05	2.04	2.02	2.01	1.98	2.01	S	2.03	2.05	2.05	2.05	2.12	2.06	1.98	2.12	2.05	24	
13	2.07	2.13	2.18	2.29	2.30	2.31	2.23	2.38	2.54	2.44	2.25	2.11	2.06	2.05	2.09	2.06	S	1.93	1.93	1.94	1.96	1.97	1.99	1.98	1.93	2.54	2.14	24	
14	1.98	1.97	1.97	1.98	2.01	2.01	2.02	2.02	2.04	2.08	2.09	2.09	2.08	2.10	2.07	S	2.01	2.00	2.00	2.01	2.03	2.01	2.01	2.02	1.97	2.10	2.03	24	
15	2.04	2.05	2.06	2.07	2.06	2.08	2.07	2.07	2.09	X	2.14	2.16	2.14	2.11	S	2.11	2.16	2.07	2.08	2.09	2.10	2.09	2.12	2.14	2.04	2.16	2.10	23	
16	2.13	2.13	2.21	2.29	2.26	2.30	2.21	2.23	2.25	2.29	2.07	2.08	2.13	S	2.04	2.05	2.06	2.18	2.08	2.29	2.04	2.04	2.05	2.07	2.04	2.30	2.15	24	
17	2.09	2.12	2.16	2.14	2.05	2.01	2.00	2.01	1.99	2.00	2.02	2.01	S	1.97	1.97	1.97	1.97	1.96	2.08	2.09	2.00	1.98	1.97	1.98	1.96	2.16	2.02	24	
18	1.98	1.98	1.99	1.99	1.99	1.99	2.00	1.99	1.99	1.99	1.98	S	1.97	1.97	1.98	1.97	1.98	1.98	1.99	2.00	1.98	2.00	2.04	2.07	1.97	2.07	1.99	24	
19	2.08	2.10	2.01	2.00	2.00	2.02	2.03	2.03	2.04	2.04	S	2.03	2.02	2.01	2.00	1.99	1.97	1.97	1.97	1.98	2.00	1.95	1.96	1.95	1.95	2.10	2.01	24	
20	1.95	1.95	1.96	1.96	2.22	2.25	1.94	1.94	1.97	S	2.00	1.99	1.97	1.97	1.97	1.98	1.94	1.95	1.96	1.94	1.95	1.95	1.96	1.96	1.94	2.25	1.98	24	
21	1.96	1.96	1.96	1.96	1.98	1.98	1.98	1.98	S	1.98	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.98	1.97	24	
22	1.97	1.97	1.98	1.98	1.98	1.98	1.97	S	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.98	1.99	2.00	1.99	1.98	1.99	1.98	1.97	1.97	1.97	2.00	1.98	24	
23	1.97	1.97	1.97	1.97	1.96	1.97	S	1.96	1.96	1.97	1.99	1.97	1.96	1.96	1.97	1.95	1.96	1.96	1.96	1.97	1.97	1.97	1.97	1.96	1.95	1.99	1.97	24	
24	1.97	2.09	2.03	2.04	2.04	S	2.01	2.02	1.99	1.97	1.98	2.03	1.98	1.96	1.96	1.96	1.96	1.94	1.95	1.96	1.96	1.97	2.12	2.07	1.94	2.12	2.00	24	
25	2.10	1.96	1.96	1.96	S	1.96	1.96	1.97	1.96	1.96	1.96	1.96	1.97	1.97	1.94	1.96	1.96	1.95	1.96	1.96	1.95	1.95	1.96	1.96	1.94	2.10	1.97	24	
26	1.95	1.95	1.95	S	1.95	1.96	1.95	2.00	1.95	1.95	1.99	2.01	2.05	2.03	2.06	2.07	2.07	2.11	2.27	2.14	1.96	1.96	1.97	1.96	1.95	2.27	2.01	24	
27	1.96	1.96	S	1.96	1.95	1.95	1.95	1.95	1.95	1.96	1.96	1.97	2.02	1.99	2.02	2.03	2.02	2.01	2.13	2.02	1.97	1.99	1.99	1.99	1.95	2.13	1.99	24	
28	1.99	S	2.01	2.01	2.00	2.04	2.09	2.17	2.10	2.04	1.98	1.98	1.99	1.99	2.02	2.01	1.97	1.97	2.07	1.97	1.96	1.97	1.97	1.96	1.96	2.17	2.01	24	
29	S	1.97	2.04	2.07	1.98	1.97	1.97	1.98	1.99	1.99	1.98	1.97	1.98	1.99	1.99	1.98	2.03	1.96	2.13	2.01	1.97	2.12	1.97	S	1.96	2.13	2.00	24	
30	1.97	1.98	1.98	1.98	1.97	2.02	1.99	1.98	1.99	2.01	2.06	2.05	2.03	2.04	2.04	2.03	2.06	2.07	2.09	2.12	2.08	1.99	S	1.98	1.97	2.12	2.02	24	
31	2.01	2.06	2.11	2.22	2.23	2.23	2.13	2.14	2.04	2.01	2.01	2.01	2.01	2.00	2.00	1.99	2.00	1.99	1.99	2.00	2.00	S	2.00	2.01	1.99	2.23	2.05	24	
HOURLY MAX	2.16	2.21	2.21	2.29	2.30	2.31	2.23	2.38	2.54	2.44	2.25	2.16	2.16	2.11	2.09	2.15	2.16	2.18	2.27	2.29	2.10	2.12	2.12	2.14					
HOURLY AVG	2.01	2.02	2.03	2.05	2.05	2.06	2.04	2.05	2.05	2.05	2.04	2.02	2.02	2.01	2.00	2.01	2.00	2.00	2.02	2.02	2.00	2.00	2.01	2.01					

STATUS FLAG CODES

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

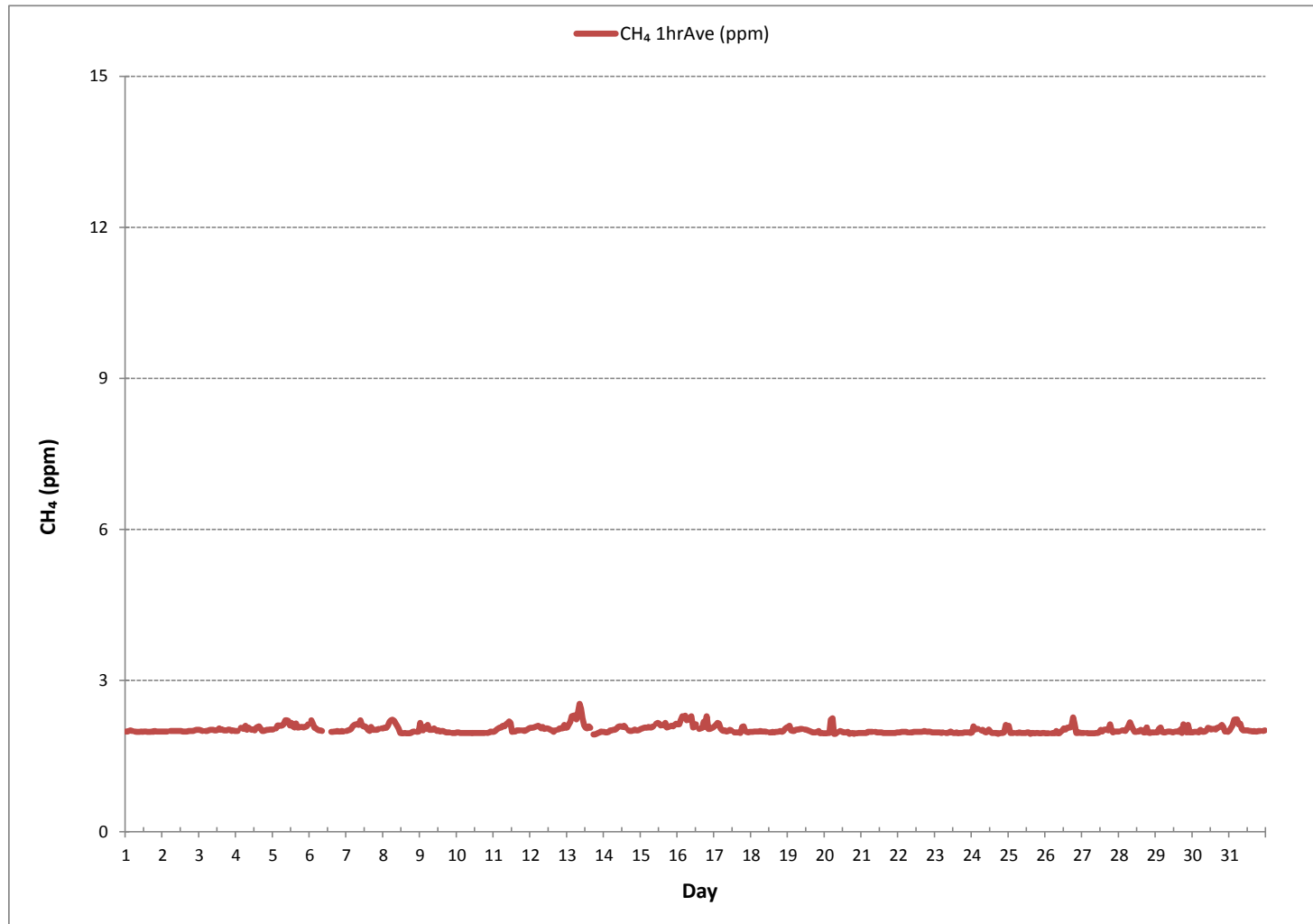
24 HR AVERAGES March 2018



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	705			
MINIMUM 1-HR AVERAGE:	1.93	ppm @ HOUR	17	ON DAY 13
MAXIMUM 1-HR AVERAGE:	2.54	ppm @ HOUR	8	ON DAY 13
MAXIMUM 24-HR AVERAGE:	2.15	ppm		ON DAY 16
IZS CALIBRATION TIME:	33	hrs	OPERATIONAL TIME:	743 hrs
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	99.9 %
STANDARD DEVIATION:	0.07		MONTHLY AVERAGE:	2.02 ppm

METHANE Hourly Averages (CH₄ ppm)



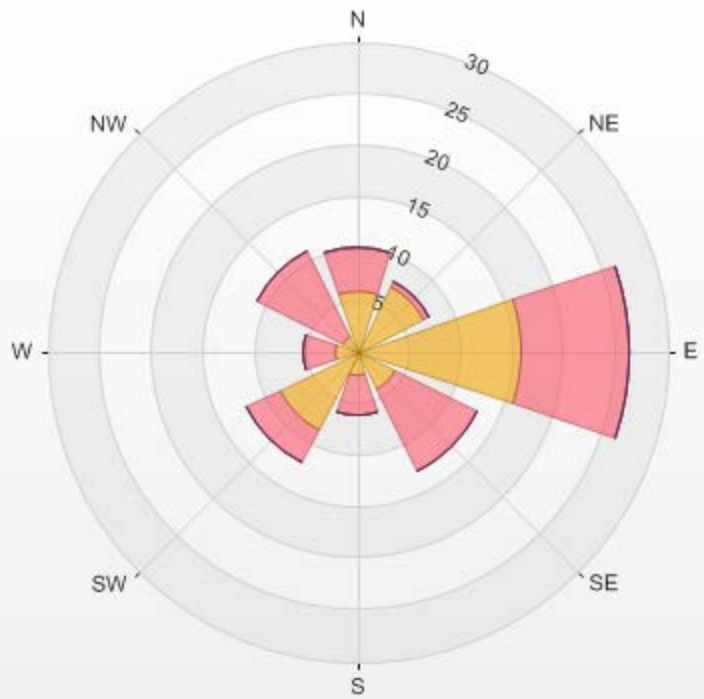
Wind: PRAMP_986
Poll.: PRAMP_986-CH₄[ppm]
Monthly: 18/03
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

Calm: 8.37%

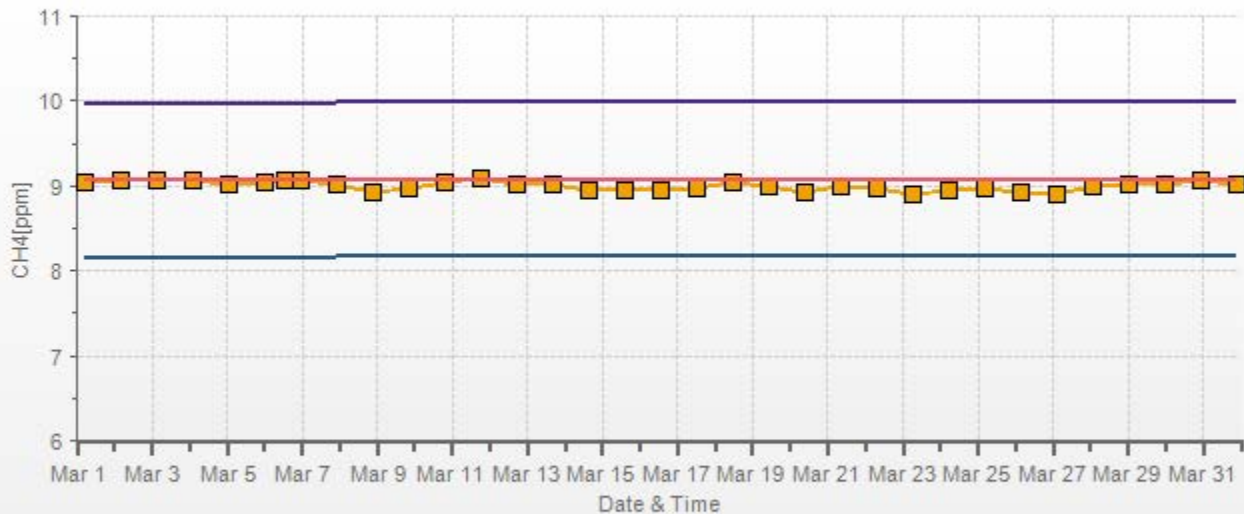
Calm Avg: 2.09 [ppm]

Direction	0-2	2-3	3-5	5-10	>10.0	Total
N	6.0	4.1	0.0	0.0	0.0	10.1
NE	7.1	0.6	0.0	0.0	0.0	7.7
E	15.9	10.4	0.0	0.0	0.0	26.2
SE	4.0	9.1	0.0	0.0	0.0	13.1
S	2.4	3.8	0.0	0.0	0.0	6.2
SW	8.5	3.6	0.0	0.0	0.0	12.1
W	2.3	3.1	0.0	0.0	0.0	5.4
NW	1.6	9.4	0.0	0.0	0.0	10.9
Summary	47.7	44.0	0.0	0.0	0.0	91.6

PRAMP_986 Poll.: PRAMP_986-CH4[ppm] 2018/03/01 00:00 - 2018/03/31 23:00 Calm: 8.37% Calm Poll Avg: 2.09[ppm]



CH₄[ppm] Calibration: PRAMP_986 Monthly: 18/03 Type: Span



Span Meas Span Ref Span Low Span High

NON-METHANE HYDROCARBON



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - March 2018

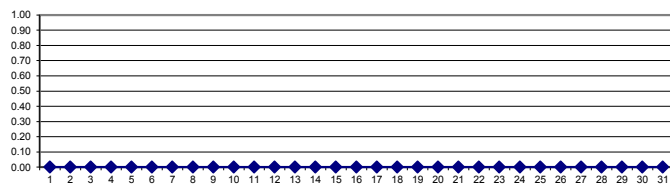
NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)

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	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
2	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
3	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
4	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
5	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
6	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	24
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	24
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	24
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
15	0.00	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	23
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	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
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	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
18	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
19	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
20	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
21	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
22	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
23	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
24	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
25	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
26	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
27	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
28	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
29	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	S	0.00	0.00	0.00	0.00	24
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	24
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	24
HOURLY MAX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
HOURLY AVG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

STATUS FLAG CODES

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

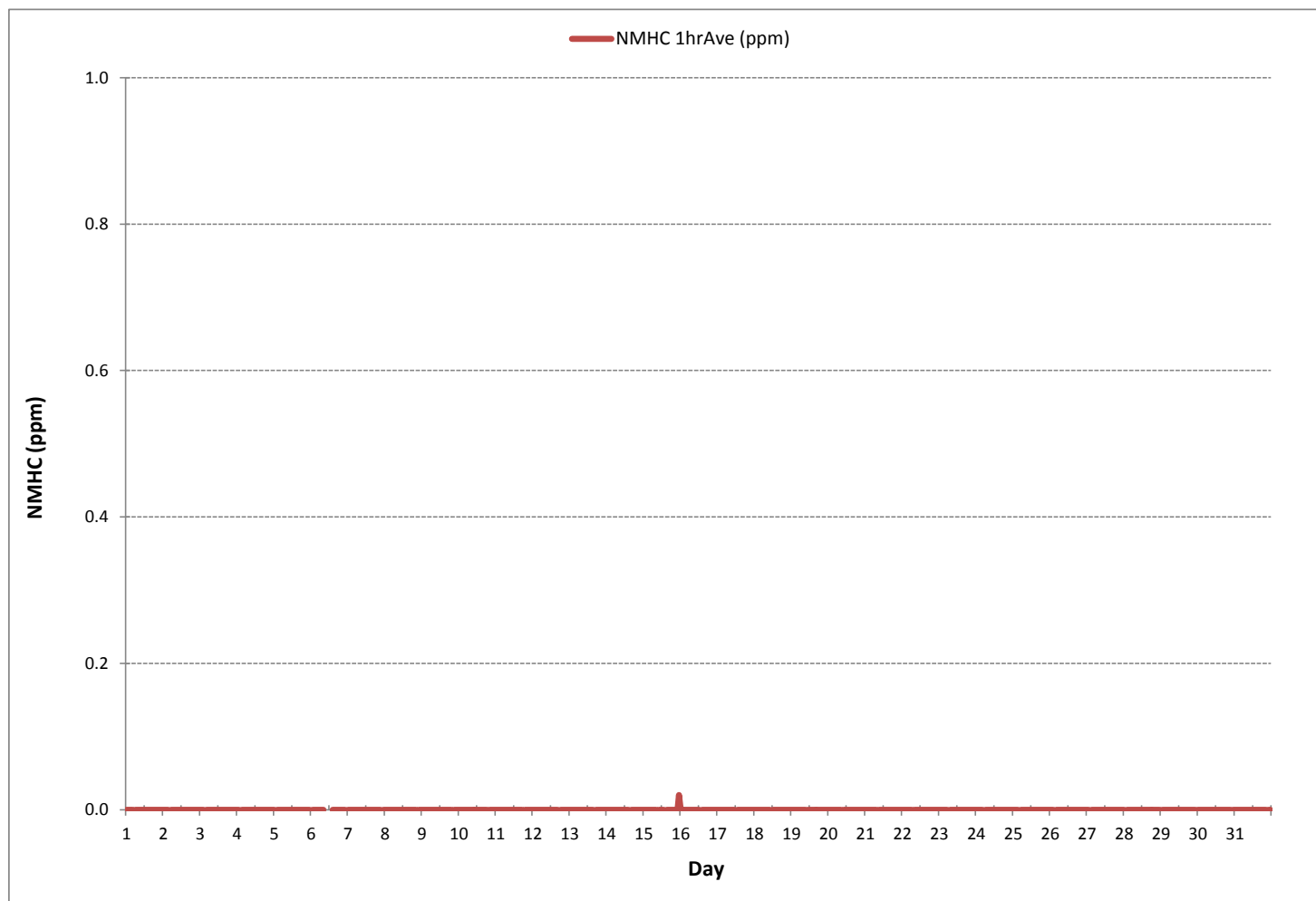
24 HR AVERAGES March 2018



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	1			
MINIMUM 1-HR AVERAGE:	0.00	ppm @ HOUR	0	ON DAY 1
MAXIMUM 1-HR AVERAGE:	0.02	ppm @ HOUR	23	ON DAY 15
MAXIMUM 24-HR AVERAGE:	0.00	ppm		ON DAY 1
IZS CALIBRATION TIME:	33	hrs	OPERATIONAL TIME:	743 hrs
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	99.9 %
STANDARD DEVIATION:	0.00		MONTHLY AVERAGE:	0.00 ppm

NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)



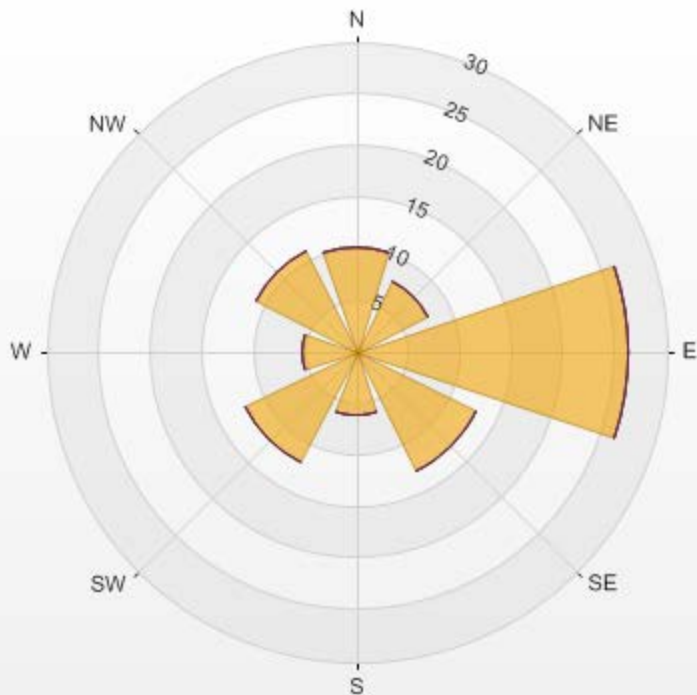
Wind: PRAMP_986
Poll.: PRAMP_986-NMHC[ppm]
Monthly: 18/03
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

Calm: 8.37%

Calm Avg: 0.00 [ppm]

Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	10.1	0.0	0.0	0.0	0.0	10.1
NE	7.7	0.0	0.0	0.0	0.0	7.7
E	26.2	0.0	0.0	0.0	0.0	26.2
SE	13.1	0.0	0.0	0.0	0.0	13.1
S	6.2	0.0	0.0	0.0	0.0	6.2
SW	12.1	0.0	0.0	0.0	0.0	12.1
W	5.4	0.0	0.0	0.0	0.0	5.4
NW	10.9	0.0	0.0	0.0	0.0	10.9
Summary	91.6	0.0	0.0	0.0	0.0	91.6

PRAMP_986 Poll.: PRAMP_986-NMHC[ppm] 2018/03/01 00:00 - 2018/03/31 23:00 Calm: 8.37% Calm Poll Avg: 0.00[ppm]



NMHC[ppm] Calibration: PRAMP_986 Monthly: 18/03 Type: Span



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

WIND SPEED

WIND SPEED Hourly Averages (WS kph)

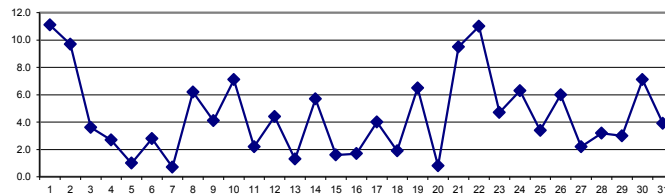
HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59				
DAY 1	6.7	8.4	9.6	9.5	9.9	11.0	10.7	10.1	11.5	11.5	9.4	11.2	11.7	12.1	11.3	12.0	12.9	11.7	11.8	12.4	12.2	12.8	13.4	13.3	6.7	13.4	11.1	24
2	13.4	14.1	13.7	12.8	12.1	10.3	10.2	12.2	12.5	10.2	9.3	9.9	9.6	9.3	9.3	8.3	8.4	7.8	7.2	7.7	8.2	7.7	6.1	5.3	5.3	14.1	9.7	24
3	5.6	5.8	5.6	5.4	5.7	5.5	4.0	4.6	4.3	5.2	4.5	7.2	7.3	9.5	9.3	6.0	4.5	5.4	4.4	3.9	4.5	5.1	5.3	5.0	3.9	9.5	3.6	24
4	5.1	3.6	4.8	5.5	4.8	4.6	4.4	2.9	5.2	4.4	2.3	4.0	4.7	5.2	4.2	5.5	5.3	3.8	1.8	3.3	1.1	2.3	3.3	1.9	1.1	5.5	2.7	24
5	2.4	1.9	1.1	2.6	2.9	2.7	1.5	1.7	0.7	1.1	1.1	4.3	6.8	7.6	6.8	4.6	6.7	3.9	4.0	4.6	3.3	2.3	0.5	2.7	0.5	7.6	1.0	24
6	6.6	10.7	9.3	3.7	3.9	4.6	1.6	0.9	2.5	4.0	5.7	6.7	5.9	6.4	6.6	5.8	5.9	7.0	5.1	4.5	4.3	4.7	3.4	3.7	0.9	10.7	2.8	24
7	2.9	4.1	5.4	2.9	2.8	3.2	2.6	1.6	1.5	1.6	3.9	6.0	3.3	3.6	5.3	5.3	5.2	3.8	4.3	3.0	5.9	5.2	3.3	2.3	1.5	6.0	0.7	24
8	2.8	3.4	5.5	3.9	3.8	3.6	3.0	5.2	4.8	5.2	4.6	6.6	7.9	7.1	8.9	9.8	9.4	8.5	9.9	10.4	8.8	8.3	6.4	4.0	2.8	10.4	6.2	24
9	1.2	1.2	3.5	3.7	0.9	0.5	2.4	3.2	2.8	2.9	3.9	6.2	5.2	6.4	8.7	10.8	10.5	8.9	6.9	5.6	7.0	3.5	5.1	7.8	0.5	10.8	4.1	24
10	8.8	7.3	6.4	5.7	7.3	8.2	8.5	7.5	7.5	9.5	9.9	9.8	10.2	9.7	10.5	9.2	10.7	8.3	6.5	4.3	3.9	3.4	4.1	4.4	3.4	10.7	7.1	24
11	4.4	5.4	2.7	2.5	2.9	4.8	4.9	4.3	3.9	1.2	1.0	8.3	6.2	7.4	7.0	7.7	6.3	6.1	2.0	4.8	2.8	5.3	4.9	4.0	1.0	8.3	2.2	24
12	4.4	8.0	8.4	7.2	5.4	5.1	6.0	6.7	4.0	6.8	7.9	8.0	8.0	4.8	5.8	7.3	6.7	7.1	5.4	4.6	5.9	4.7	1.7	1.9	1.7	8.4	4.4	24
13	1.7	2.2	2.0	3.3	3.3	2.9	2.7	3.5	2.0	0.2	1.9	1.6	9.2	8.0	6.5	7.1	2.0	7.7	4.6	3.5	4.3	5.3	8.1	7.1	0.2	9.2	1.3	24
14	4.8	5.1	4.4	4.8	4.1	4.6	5.6	5.8	4.9	4.1	4.8	4.3	3.6	5.5	6.6	6.6	7.0	8.0	7.2	5.9	6.2	9.8	9.7	7.2	3.6	9.8	5.7	24
15	5.2	4.3	4.5	6.5	5.4	5.3	2.8	5.2	4.4	4.5	5.3	1.6	2.5	6.1	6.3	6.7	4.9	3.2	3.9	2.4	1.1	2.3	2.2	2.6	1.1	6.7	1.6	24
16	1.9	1.5	0.8	2.2	1.2	0.5	1.1	1.6	1.7	2.1	4.9	6.0	6.4	6.3	6.6	7.6	9.9	5.7	1.0	2.0	2.9	2.7	2.8	4.1	0.5	9.9	1.7	24
17	4.8	3.1	1.4	2.6	3.5	3.7	4.6	3.9	5.1	4.9	4.9	5.0	6.1	5.9	6.7	6.6	5.7	4.6	1.6	3.2	3.7	5.7	4.5	4.4	1.4	6.7	4.0	24
18	1.6	3.6	3.1	2.7	3.7	2.7	3.2	2.4	3.1	4.2	2.9	4.7	5.3	2.7	0.3	6.4	6.7	5.4	3.7	4.1	4.5	4.8	4.2	6.1	0.3	6.7	1.9	24
19	5.8	4.1	8.4	9.0	9.9	11.0	12.5	12.7	10.6	11.3	14.3	10.7	10.7	9.6	8.7	7.2	6.9	5.1	5.0	4.0	3.0	2.3	2.9	4.6	2.3	14.3	6.5	24
20	2.0	3.1	2.5	0.3	1.8	2.9	2.9	2.2	2.9	3.9	2.6	3.4	2.2	5.3	4.4	4.5	4.2	1.3	3.2	3.4	1.7	7.0	6.0	6.1	0.3	7.0	0.8	24
21	7.6	6.8	7.1	7.2	7.3	9.0	10.1	7.6	7.5	8.9	10.1	10.1	11.3	10.8	9.0	10.6	12.3	12.3	10.9	11.3	10.1	12.7	12.8	10.2	6.8	12.8	9.5	24
22	9.3	8.9	8.7	10.5	8.1	11.2	10.8	10.1	10.2	11.1	10.7	10.4	12.0	12.9	12.1	11.7	11.3	10.9	12.0	11.4	12.8	12.2	11.6	14.5	8.1	14.5	11.0	24
23	12.3	10.3	9.3	9.4	9.5	9.8	8.9	9.1	6.9	7.1	11.5	13.6	13.1	12.7	15.7	12.9	10.7	9.6	9.2	7.2	6.1	7.2	6.9	3.8	3.8	15.7	4.7	24
24	4.0	8.4	10.7	12.3	10.8	11.1	12.9	12.8	11.4	13.3	15.2	10.9	9.4	5.4	4.8	4.9	4.6	2.7	3.9	2.4	2.6	1.0	1.3	0.3	0.3	15.2	6.3	24
25	2.0	3.5	4.0	4.6	4.3	5.4	5.4	4.3	4.5	5.4	3.5	4.1	4.4	4.0	2.9	3.3	4.7	5.5	5.2	5.9	5.0	6.5	7.2	5.6	2.0	7.2	3.4	24
26	5.6	5.8	5.5	4.2	6.3	6.3	4.5	6.5	7.1	9.9	9.4	8.9	9.6	11.2	11.6	8.8	10.4	9.1	8.0	4.1	2.4	3.1	3.8	4.6	2.4	11.6	6.0	24
27	5.7	6.3	5.8	6.7	8.4	8.0	7.5	6.4	6.2	7.1	6.2	6.4	8.5	10.2	10.3	9.2	9.7	8.3	4.0	1.4	3.6	4.3	4.7	5.5	1.4	10.3	2.2	24
28	5.1	3.5	1.6	1.5	0.9	1.0	1.0	1.7	4.3	4.5	4.1	3.2	5.0	4.4	7.3	8.2	8.1	7.9	7.8	5.9	5.4	6.5	6.5	5.3	0.9	8.2	3.2	24
29	6.7	5.6	2.6	3.5	0.3	0.6	0.9	1.6	3.0	2.4	2.7	1.3	0.1	4.8	4.4	6.2	8.7	9.0	7.1	5.9	5.1	3.9	6.5	5.7	0.1	9.0	3.0	24
30	4.8	4.2	5.3	5.6	6.5	6.0	6.7	7.4	9.1	9.0	9.1	10.4	10.6	12.9	14.2	13.0	15.8	13.6	9.7	6.3	0.8	1.4	1.9	2.4	0.8	15.8	7.1	24
31	2.3	2.4	2.5	3.3	3.3	3.6	4.8	4.3	4.4	5.0	7.4	9.4	8.4	10.6	10.4	9.3	7.5	7.3	6.2	4.8	4.8	4.0	3.6	4.3	2.3	10.6	3.9	24
HOURLY MAX	13.4	14.1	13.7	12.8	12.1	11.2	12.9	12.8	12.5	13.3	15.2	13.6	13.1	12.9	15.7	13.0	15.8	13.6	12.0	12.4	12.8	12.8	13.4	14.5				
HOURLY AVG	2.8	2.9	2.7	2.9	2.7	2.8	2.8	2.6	2.2	1.4	0.5	1.0	1.2	2.0	1.9	1.5	1.3	0.2	0.7	1.6	2.4	3.3	3.3	2.9				

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

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

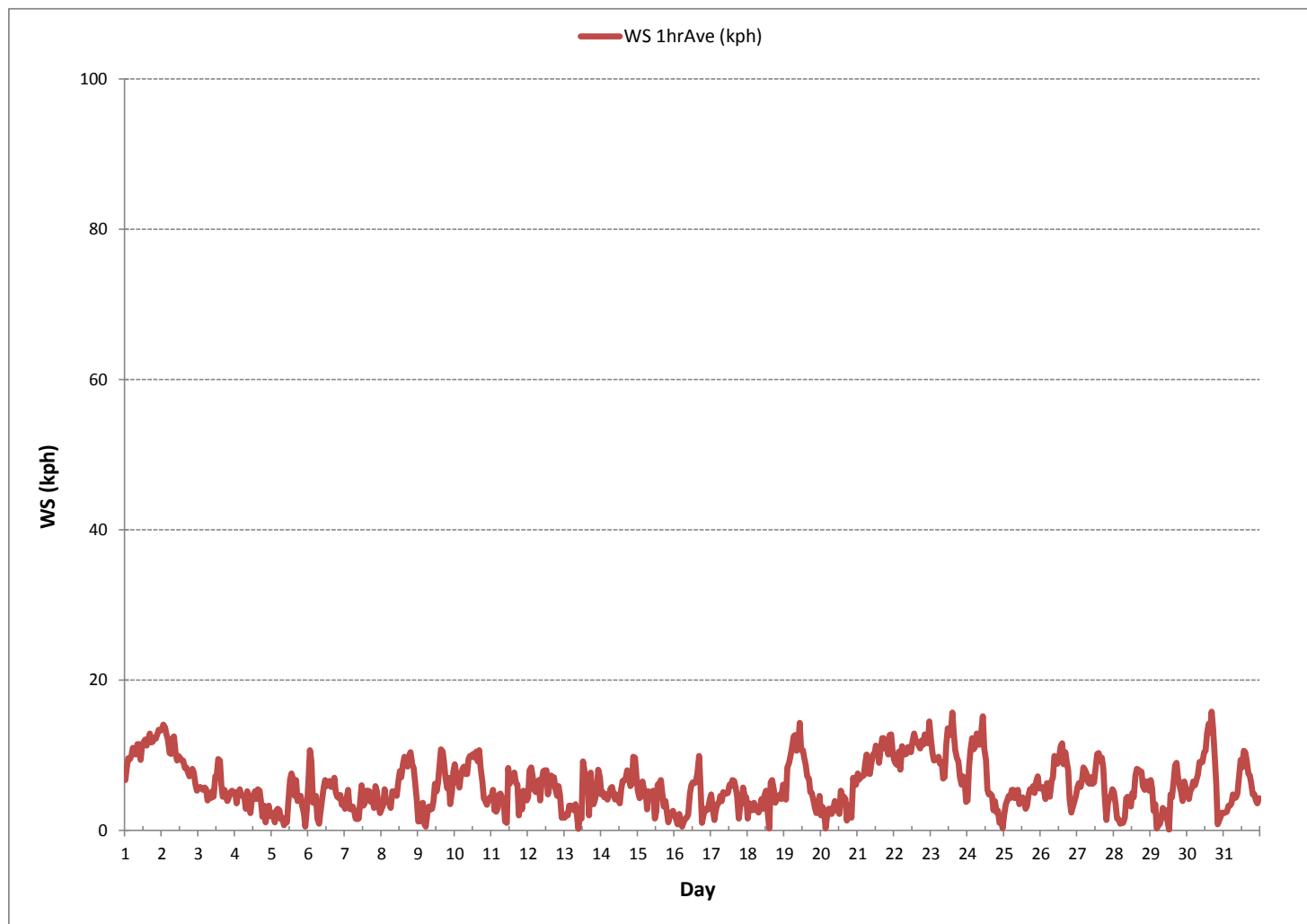
24 HR AVERAGES March 2018



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	744				
MINIMUM 1-HR AVERAGE	0.1	kph	@ HOUR	12	ON DAY 29
MAXIMUM 1-HR AVERAGE:	15.8	kph	@ HOUR	16	ON DAY 30
MAXIMUM 24-HR AVERAGE:	11.1	kph			ON DAY 1
MONTHLY CALIBRATION TIME:	0	hrs			
STANDARD DEVIATION:	3.3				
OPERATIONAL TIME:	744	hrs			
AMD OPERATION UPTIME:	100.0	%			
MONTHLY AVERAGE:	1.3	kph			

WIND SPEED Hourly Averages (WS kph)



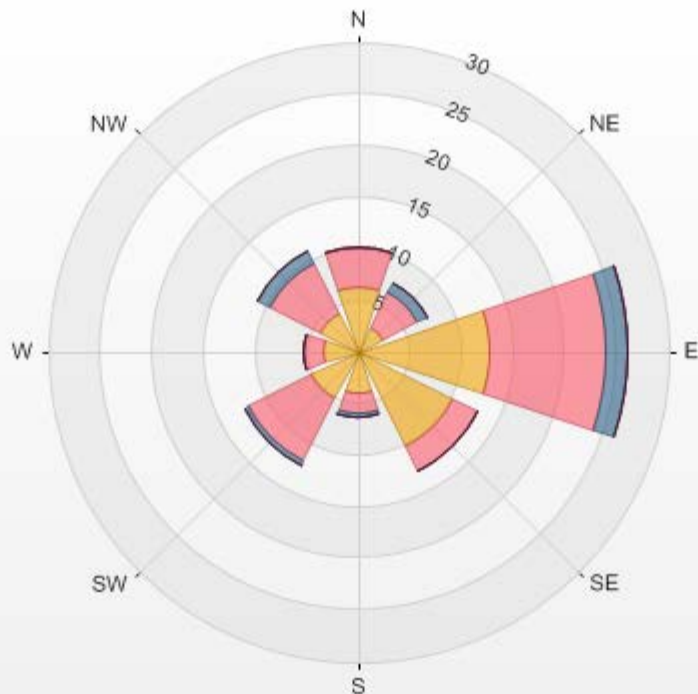
Wind: PRAMP_986
 Monitor: WSP [kph]
 Monthly: 18/03
 Type: WindRose
 Direction: Blowing From (Wind Frequency)
 Based On 1 Hr.

Calm: 7.93%

Direction	1.8-6.0	6.0-12.0	12.0-20.0	20.0-29.0	29.0-39.0	>39.0	Total
N	6.3	3.9	0.0	0.0	0.0	0.0	10.2
NE	2.7	3.8	1.1	0.0	0.0	0.0	7.5
E	12.8	11.2	2.3	0.0	0.0	0.0	26.2
SE	10.2	2.8	0.0	0.0	0.0	0.0	13.0
S	4.0	1.9	0.5	0.0	0.0	0.0	6.5
SW	5.1	6.7	0.5	0.0	0.0	0.0	12.4
W	3.4	2.0	0.0	0.0	0.0	0.0	5.4
NW	4.2	5.4	1.3	0.0	0.0	0.0	10.9
Summary	48.7	37.6	5.8	0.0	0.0	0.0	92.1

%	Icon	Classes (kph)	49		1.8-6.0	38		6.0-12.0	6		12.0-20.0	0		20.0-29.0	0		29.0-39.0	0		>39.0
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PRAMP_986 2018/03/01 00:00 - 2018/03/31 23:00 Calm: 7.93% Calm Wind Avg Speed: 1.16(kph)



WIND DIRECTION



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

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

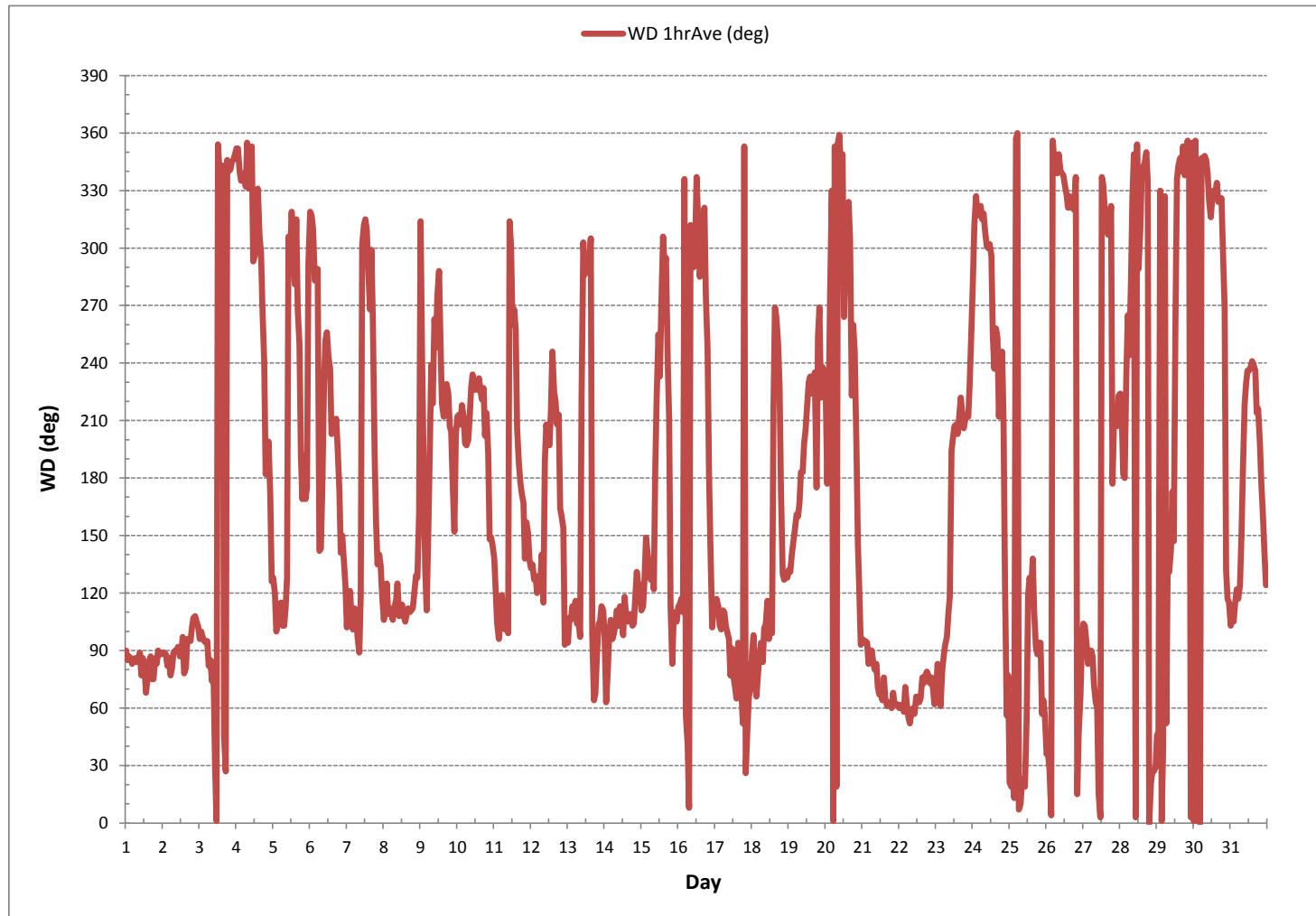
STATUS FLAG CODES

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 5, 2017
DECLINATION : MAGNETIC DECLINATION 15 DEGREE EAST

MONTHLY CALIBRATION TIME: 0 hrs
STANDARD DEVIATION: 99
OPERATIONAL TIME: 744 hrs
AMD OPERATION UPTIME: 100.0 %
MONTHLY AVERAGE: 87 (E)

WIND DIRECTION Hourly Averages (WD)



RELATIVE HUMIDITY

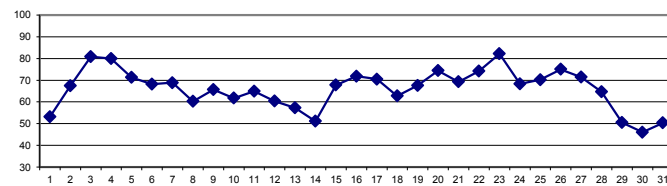
RELATIVE HUMIDITY Hourly Averages (RH %)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	78	75	73	70	66	64	63	62	59	55	52	48	46	42	38	35	36	37	41	43	43	46	50	53	35	78	53	24
2	55	57	59	62	65	67	68	69	69	67	63	60	55	53	62	67	70	70	76	81	81	81	81	81	53	81	67	24
3	81	81	80	82	82	81	83	82	80	79	77	73	75	78	78	80	79	80	84	85	85	85	85	85	73	85	81	24
4	84	84	84	85	84	84	84	83	83	81	77	77	76	75	75	74	72	74	78	82	83	82	82	75	72	85	80	24
5	75	73	72	70	71	71	68	68	70	74	78	75	71	68	64	63	61	68	71	73	73	74	78	81	61	81	71	24
6	83	83	82	82	79	76	73	71	73	76	67	59	56	54	53	51	47	51	62	65	70	74	75	74	47	83	68	24
7	73	74	75	72	70	71	71	71	70	74	78	73	68	62	59	54	53	54	62	68	75	76	76	73	53	78	69	24
8	73	73	75	73	72	71	70	72	74	76	65	48	46	43	42	42	45	50	51	51	56	57	59	62	42	76	60	24
9	65	70	75	77	79	81	81	76	71	66	64	63	61	57	53	53	48	49	56	63	62	66	73	67	48	81	66	24
10	60	62	66	66	65	69	71	74	67	60	56	55	53	51	50	48	48	49	57	61	67	71	78	78	48	78	62	24
11	79	80	81	82	83	85	83	83	78	65	52	51	45	43	42	40	38	40	53	64	70	71	75	76	38	85	65	24
12	79	79	78	78	79	81	81	75	71	56	50	47	43	38	36	35	35	39	46	54	62	63	72	73	35	81	60	24
13	76	78	79	80	79	79	79	80	72	58	48	40	39	37	38	33	27	25	31	49	64	60	61	62	25	80	57	24
14	54	55	56	63	70	71	71	71	67	55	50	43	39	36	33	34	35	40	39	38	43	48	54	62	33	71	51	24
15	69	69	74	77	79	81	82	83	78	68	62	60	53	51	55	49	47	47	52	70	78	79	81	83	47	83	68	24
16	84	84	86	85	85	86	86	86	83	75	65	57	54	55	53	53	54	53	60	68	68	79	82	83	53	86	72	24
17	86	87	88	88	88	87	87	82	76	72	65	62	57	55	54	53	52	52	57	69	75	69	64	66	52	88	70	24
18	71	78	74	77	74	76	78	80	77	66	56	47	43	39	34	37	41	42	49	62	74	74	77	79	34	80	63	24
19	77	76	69	64	65	71	73	74	72	68	62	59	59	56	55	52	52	54	65	65	73	84	89	87	52	89	68	24
20	88	91	90	89	93	95	95	93	85	71	60	57	55	51	48	46	46	56	69	76	83	82	72	46	95	74	24	
21	73	76	79	84	86	84	82	79	75	71	70	65	61	61	59	58	59	63	66	65	61	60	61	64	58	86	69	24
22	66	67	70	73	76	79	80	80	78	77	73	69	67	67	65	62	62	67	79	83	85	84	85	86	62	86	74	24
23	89	88	89	92	94	93	93	93	92	91	88	82	81	79	76	73	70	66	69	76	76	75	73	73	66	94	82	24
24	76	76	73	62	69	75	76	75	74	72	70	67	63	59	52	49	51	54	61	66	75	80	82	82	49	82	68	24
25	83	83	83	81	80	80	79	78	74	71	66	62	53	49	50	52	54	58	62	64	68	83	86	86	49	86	70	24
26	86	86	86	86	85	84	83	82	81	79	78	76	75	71	65	58	59	62	65	68	70	69	69	77	58	86	75	24
27	81	82	82	81	78	78	79	79	77	70	68	66	69	67	66	61	59	56	58	66	71	70	73	76	56	82	71	24
28	80	82	84	85	85	86	86	86	78	70	61	58	57	56	51	51	51	51	52	50	50	46	46	49	46	86	65	24
29	51	56	62	69	68	66	66	67	64	52	43	40	37	36	35	37	40	40	43	47	49	52	48	45	35	69	51	24
30	47	48	49	51	51	51	52	50	45	42	42	40	40	39	38	36	36	36	38	46	50	56	60	62	36	62	46	24
31	63	63	63	63	64	64	66	65	58	46	42	38	36	36	35	34	33	34	36	44	51	55	58	61	33	66	50	24
HOURLY MAX	89	91	90	92	94	95	95	95	93	91	88	82	81	79	78	80	79	80	84	85	85	85	89	87				
HOURLY AVG	74	75	75	76	76	77	77	76	74	68	63	59	56	54	52	51	50	52	57	63	67	69	71	72				

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

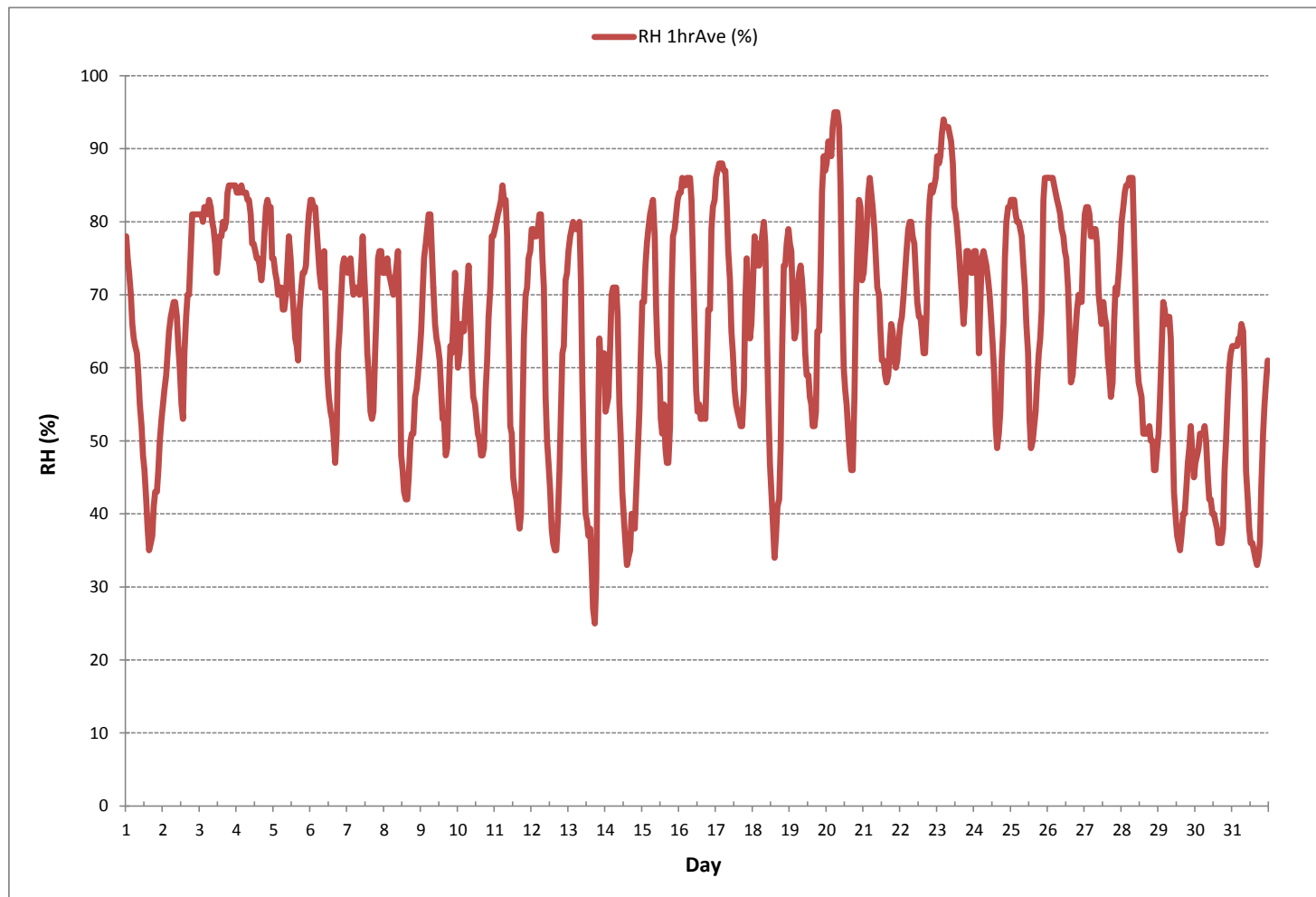
24 HR AVERAGES March 2018



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	25	%	@ HOUR	17	ON DAY	13
MAXIMUM 1-HR AVERAGE:	95	%	@ HOUR	5	ON DAY	20
MAXIMUM 24-HR AVERAGE:	82	%			ON DAY	23
OPERATIONAL TIME:					744	hrs
AMD OPERATION UPTIME:					100.0	%
STANDARD DEVIATION:	15				MONTHLY AVERAGE:	66 %

RELATIVE HUMIDITY Hourly Averages (RH %)



BAROMETRIC PRESSURE



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - March 2018

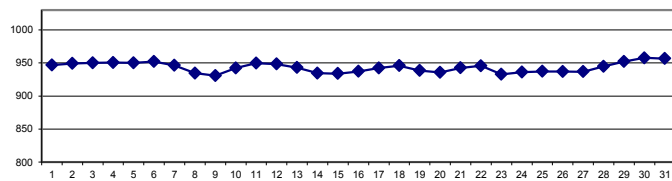
BAROMETRIC PRESSURE Hourly Averages (BP mbar)

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	940	941	942	942	943	944	945	945	946	947	947	948	948	948	948	949	949	949	949	950	950	951	951	951	940	951	947	24
2	951	950	950	950	950	950	950	950	950	950	950	949	948	948	948	948	948	948	948	949	949	949	949	949	948	951	949	24
3	949	949	949	949	949	949	949	950	950	950	950	950	950	950	950	950	950	950	951	951	951	951	951	951	949	951	950	24
4	951	951	951	951	951	951	951	951	951	951	951	950	950	950	950	950	950	950	950	950	950	950	950	950	950	951	950	24
5	950	950	950	950	950	951	951	951	951	951	950	950	950	949	949	949	949	950	950	950	950	951	951	951	949	951	950	24
6	952	952	952	953	953	953	954	955	954	954	953	953	953	952	952	951	951	950	951	950	950	950	950	950	950	955	952	24
7	950	950	949	949	949	948	948	947	947	946	946	946	946	945	945	945	945	945	945	945	945	944	944	944	944	950	946	24
8	944	944	943	942	942	941	941	940	939	937	936	935	934	933	932	930	929	928	927	927	926	925	925	925	925	944	935	24
9	926	926	926	926	926	926	927	928	928	929	930	931	932	932	932	933	934	934	935	935	935	936	936	936	926	936	931	24
10	937	937	938	938	939	940	941	941	941	942	942	943	943	944	944	944	944	944	945	945	945	946	946	947	937	947	942	24
11	947	948	948	948	949	949	949	949	949	950	950	950	950	950	950	950	950	950	950	950	950	951	951	951	947	951	950	24
12	951	951	951	950	950	950	950	950	949	949	949	949	949	949	948	948	947	947	946	946	945	945	945	945	945	951	948	24
13	945	945	945	945	945	944	945	944	944	944	944	944	944	943	943	942	942	941	941	941	940	940	940	939	939	945	943	24
14	939	938	937	937	937	936	936	935	935	935	935	935	934	934	933	932	932	932	932	932	932	932	932	932	932	939	934	24
15	932	932	932	933	933	933	933	933	933	934	934	934	935	935	934	934	934	934	935	935	935	935	935	935	932	935	934	24
16	935	935	935	935	936	936	936	936	936	936	937	937	937	937	937	938	938	938	939	939	939	940	940	940	935	940	937	24
17	940	940	940	940	941	941	941	941	941	942	942	942	943	943	943	943	943	943	944	944	944	944	944	945	940	945	942	24
18	945	945	945	945	946	946	946	946	946	947	947	947	947	947	946	946	946	946	946	946	945	945	945	944	944	947	946	24
19	943	943	942	942	941	940	940	939	939	939	938	938	938	937	937	937	937	937	937	937	937	937	937	936	936	943	939	24
20	936	936	936	935	935	935	935	935	935	936	936	936	936	935	935	935	935	935	936	936	936	936	937	937	935	937	936	24
21	938	938	938	938	939	939	940	940	941	941	942	942	943	943	944	944	944	945	945	946	947	947	948	948	938	948	943	24
22	949	949	950	950	950	949	949	949	949	949	948	948	947	946	945	944	943	942	942	941	940	939	938	937	937	950	946	24
23	935	935	934	934	932	931	931	931	930	930	931	931	932	932	933	933	933	933	933	933	934	934	934	934	930	935	933	24
24	934	934	935	935	935	935	936	936	936	936	936	936	937	937	937	936	936	936	936	937	937	937	937	937	934	937	936	24
25	937	937	938	938	938	939	939	939	939	939	939	939	938	938	938	937	937	936	936	935	935	935	934	933	933	939	937	24
26	933	933	933	933	934	934	935	935	936	936	937	938	938	939	939	940	940	940	940	940	940	939	939	938	933	940	937	24
27	937	936	935	934	933	933	932	932	932	933	934	935	936	937	938	939	939	940	940	941	941	942	942	941	932	942	937	24
28	941	942	942	942	942	943	943	943	943	944	944	944	945	945	945	945	946	946	946	947	948	948	949	950	941	950	945	24
29	951	952	952	953	954	954	955	955	954	953	953	953	952	952	951	951	951	950	951	950	950	951	951	952	950	955	952	24
30	952	952	952	953	954	955	956	957	957	958	958	959	959	959	959	959	959	959	959	960	961	961	962	962	952	962	958	24
31	962	962	962	962	962	962	961	960	959	958	957	957	956	956	955	954	953	952	952	951	951	950	950	950	950	962	956	24
HOURLY MAX	962	962	962	962	962	962	961	960	959	958	958	959	959	959	959	959	959	959	959	960	961	961	962	962				
HOURLY AVG	943	943	943	943	943	943	943	943	943	943	943	944	944	943	943	943	943	943	943	943	943	943	943	943				

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

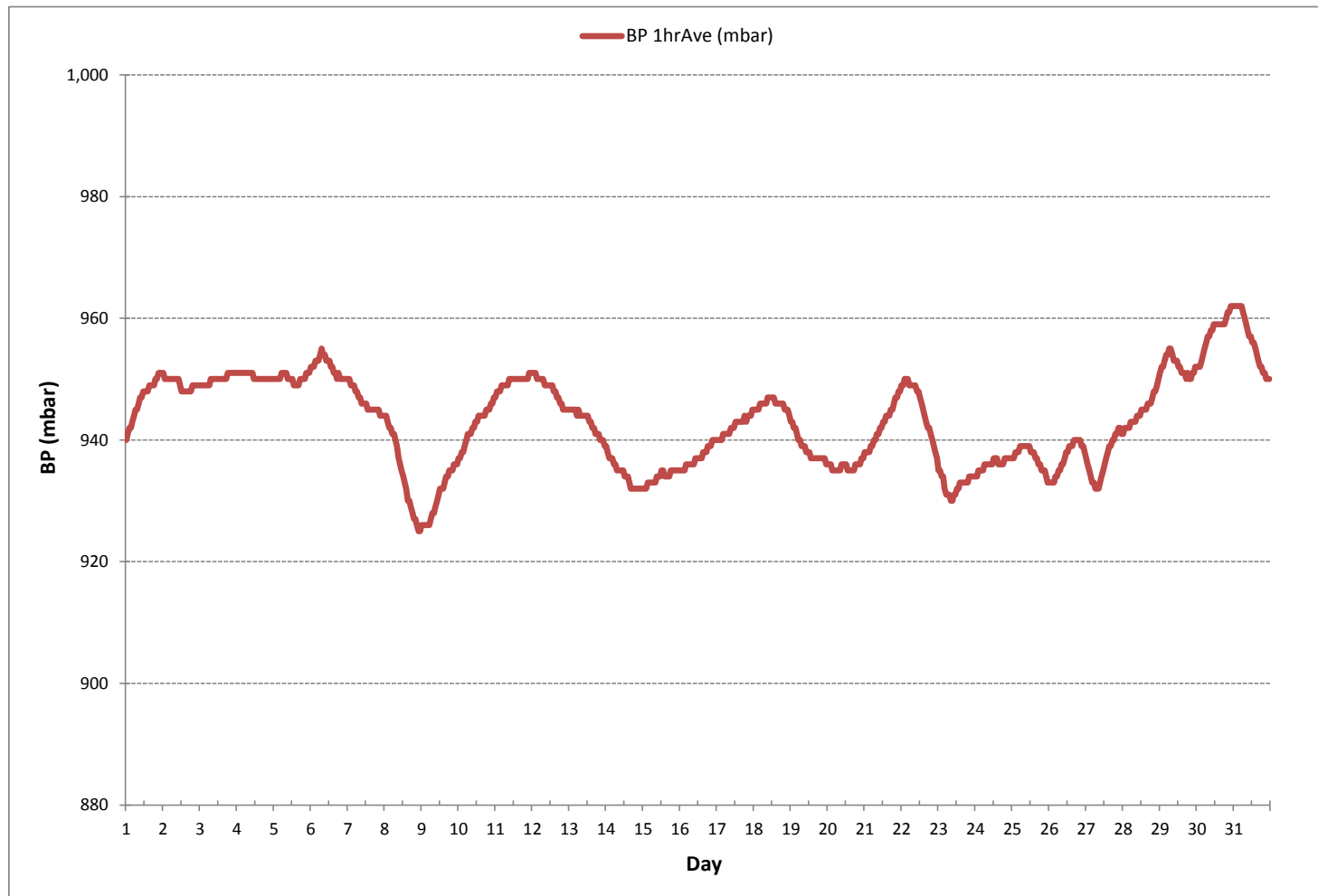
24 HR AVERAGES March 2018



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	925	mbar	@ HOUR	22	ON DAY	8
MAXIMUM 1-HR AVERAGE:	962	mbar	@ HOUR	22	ON DAY	30
MAXIMUM 24-HR AVERAGE:	958	mbar			ON DAY	30
OPERATIONAL TIME:					744	hrs
AMD OPERATION UPTIME:					100.0	%
STANDARD DEVIATION:	8				MONTHLY AVERAGE:	943 mbar

BAROMETRIC PRESSURE Hourly Averages (BP mbar)



AMBIENT TEMPERATURE



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - March 2018

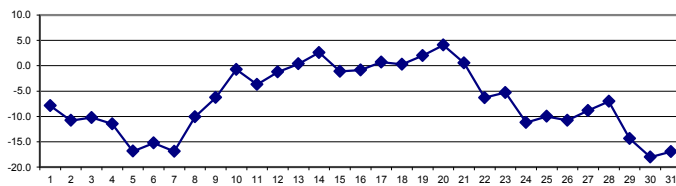
AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)

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	-6.0	-6.5	-7.3	-8.2	-9.1	-9.7	-10.1	-11.0	-11.2	-10.6	-9.7	-8.6	-7.7	-6.4	-5.3	-4.8	-4.8	-5.3	-6.0	-6.8	-7.6	-8.3	-9.0	-9.5	-11.2	-4.8	-7.9	24	
2	-10.1	-10.5	-11.0	-11.7	-12.1	-12.8	-13.1	-13.3	-13.4	-13.1	-12.2	-11.7	-10.5	-8.9	-8.8	-8.9	-9.1	-9.3	-9.8	-9.8	-9.8	-9.8	-9.9	-13.4	-8.8	-10.8	24		
3	-10.1	-10.3	-10.4	-10.4	-10.5	-10.5	-10.6	-10.8	-10.8	-10.6	-9.8	-9.0	-8.8	-9.6	-9.4	-9.4	-8.7	-9.3	-10.6	-10.9	-10.8	-10.8	-11.5	-11.8	-11.8	-8.7	-10.2	24	
4	-12.2	-12.7	-13.2	-13.3	-13.1	-13.0	-13.0	-13.0	-12.9	-12.3	-10.7	-9.9	-8.8	-8.2	-7.6	-7.6	-7.3	-7.9	-8.2	-9.0	-10.2	-14.7	-16.3	-20.2	-20.2	-20.2	-7.3	-11.5	24
5	-20.3	-22.1	-23.3	-24.7	-24.5	-24.6	-26.1	-26.2	-24.2	-18.9	-13.6	-11.8	-10.8	-10.1	-9.5	-9.1	-8.8	-11.6	-14.7	-14.4	-14.0	-14.2	-13.8	-13.5	-26.2	-8.8	-16.9	24	
6	-13.1	-12.8	-13.9	-15.2	-18.2	-18.4	-23.3	-25.2	-22.9	-16.2	-12.9	-11.5	-10.7	-10.2	-9.1	-8.7	-7.6	-9.0	-11.4	-13.3	-17.4	-20.7	-21.3	-22.4	-25.2	-7.6	-15.2	24	
7	-23.2	-22.6	-21.4	-23.5	-24.6	-23.5	-23.4	-23.7	-23.2	-18.9	-13.2	-11.4	-10.2	-7.9	-6.9	-6.4	-6.5	-7.1	-11.4	-16.7	-18.0	-19.5	-20.5	-21.9	-24.6	-6.4	-16.9	24	
8	-22.6	-22.6	-21.4	-22.3	-23.4	-23.9	-24.9	-23.3	-20.4	-14.3	-8.0	-3.3	-0.8	1.2	1.8	2.3	1.4	0.1	-0.9	-1.2	-2.7	-3.2	-3.5	-5.7	-24.9	2.3	-10.1	24	
9	-5.9	-7.6	-10.9	-12.1	-13.3	-12.5	-11.2	-8.4	-7.7	-6.1	-5.0	-3.8	-2.7	-1.2	-0.7	-0.6	0.0	-0.6	-3.1	-5.4	-5.9	-8.4	-11.2	-6.7	-13.3	0.0	-6.3	24	
10	-4.4	-4.8	-4.8	-3.7	-2.8	-3.8	-3.9	-5.2	-2.2	0.3	1.9	2.7	3.7	4.5	5.0	5.4	5.4	5.1	2.4	0.8	-2.0	-4.1	-6.7	-7.3	-7.3	5.4	-0.8	24	
11	-7.3	-7.6	-9.1	-10.4	-11.5	-10.9	-10.6	-10.7	-9.0	-3.4	1.4	2.4	4.1	4.7	5.0	5.6	6.5	5.4	0.2	-4.2	-5.8	-6.8	-8.0	-9.4	-11.5	6.5	-3.7	24	
12	-10.4	-9.1	-8.5	-7.5	-9.0	-10.1	-8.8	-8.1	-6.2	0.4	3.1	4.4	5.9	7.9	8.2	9.0	8.7	7.0	4.3	1.9	-1.1	-1.7	-4.4	-6.1	-10.4	9.0	-1.3	24	
13	-7.2	-7.2	-7.7	-8.1	-8.2	-8.8	-9.5	-9.4	-6.7	-1.7	2.5	6.0	6.8	8.1	8.3	10.3	12.9	12.3	9.8	5.1	1.1	0.6	-0.2	-0.7	-9.5	12.9	0.3	24	
14	1.4	0.9	0.6	-2.4	-4.3	-5.0	-4.5	-5.0	-3.6	1.0	3.0	5.2	6.8	8.3	8.9	9.5	10.1	7.9	6.7	5.7	4.5	3.7	2.3	0.4	-5.0	10.1	2.6	24	
15	-1.6	-2.2	-4.7	-6.0	-7.9	-8.5	-7.6	-8.3	-5.9	-1.3	1.6	1.9	4.1	4.8	4.3	5.7	6.1	5.6	4.3	1.5	-0.6	-1.9	-4.3	-5.7	-8.5	6.1	-1.1	24	
16	-6.1	-7.0	-7.3	-7.8	-8.8	-9.4	-9.7	-9.7	-6.9	-1.4	1.7	4.4	5.9	5.5	6.1	6.2	6.3	6.8	5.6	3.5	3.6	0.3	-0.3	-2.2	-9.7	6.8	-0.9	24	
17	-4.6	-5.7	-6.0	-6.6	-6.4	-6.0	-3.3	-2.2	0.4	2.8	2.4	3.7	4.6	5.9	6.3	6.9	6.6	6.3	4.9	2.1	0.8	1.2	1.6	1.0	-6.6	6.9	0.7	24	
18	-0.4	-0.7	0.7	0.0	0.4	-2.2	-5.2	-6.4	-6.7	-0.7	3.5	3.5	4.2	5.9	6.6	5.5	5.3	4.8	3.6	0.3	-0.5	-3.9	-5.9	-5.6	-6.7	6.6	0.3	24	
19	-5.9	-6.3	-5.5	-4.5	-3.2	-3.0	-2.6	-1.6	0.7	2.6	3.9	5.3	5.7	7.2	7.7	7.6	7.1	6.6	5.1	5.0	4.5	4.2	3.3	3.8	-6.3	7.7	2.0	24	
20	3.3	2.4	2.8	2.6	1.8	1.4	1.3	1.6	2.1	2.9	3.7	5.5	6.7	6.6	7.2	7.3	7.5	8.0	5.8	5.2	3.9	2.6	2.7	2.4	1.3	8.0	4.1	24	
21	1.4	0.6	0.1	-0.2	-0.2	0.1	-0.3	-0.1	0.7	1.4	1.4	2.3	2.9	3.0	3.5	3.3	3.0	1.6	0.5	0.1	-0.8	-2.4	-3.9	-5.1	-5.1	3.5	0.5	24	
22	-6.5	-7.2	-8.3	-9.3	-9.8	-10.5	-10.9	-10.9	-10.7	-10.7	-9.6	-8.0	-6.0	-5.0	-3.8	-1.9	-1.4	-1.6	-2.2	-2.7	-3.1	-3.4	-3.8	-4.4	-10.9	-1.4	-6.3	24	
23	-4.6	-4.1	-3.9	-4.1	-4.1	-3.8	-3.7	-3.3	-2.7	-1.4	-1.3	-3.3	-3.9	-3.9	-4.7	-5.3	-5.7	-5.4	-6.7	-9.1	-10.8	-10.5	-10.3	-10.6	-10.8	-1.3	-5.3	24	
24	-10.7	-10.1	-10.8	-11.9	-12.7	-13.1	-13.4	-13.9	-13.8	-13.3	-12.9	-12.3	-11.6	-10.4	-7.9	-7.5	-7.8	-7.9	-9.3	-10.4	-10.9	-11.7	-12.8	-12.5	-13.9	-7.5	-11.2	24	
25	-12.3	-11.8	-12.0	-13.1	-14.2	-14.6	-14.9	-14.8	-13.7	-12.3	-10.6	-9.1	-5.9	-5.5	-5.3	-5.4	-5.6	-6.5	-7.4	-8.1	-8.4	-9.1	-9.5	-9.6	-14.9	-5.3	-10.0	24	
26	-9.5	-9.4	-9.7	-10.2	-10.9	-12.0	-12.8	-13.5	-12.8	-12.6	-11.9	-10.4	-9.5	-8.6	-7.3	-7.6	-8.8	-10.1	-11.8	-12.1	-12.3	-11.5	-11.0	-13.5	-7.3	-10.8	24		
27	-10.6	-10.8	-10.9	-11.5	-11.6	-11.8	-12.0	-12.0	-11.4	-9.8	-8.4	-7.1	-6.8	-6.1	-5.9	-5.4	-5.0	-5.5	-6.8	-9.7	-10.2	-7.8	-7.6	-7.6	-12.0	-5.0	-8.8	24	
28	-9.2	-10.4	-12.9	-12.4	-12.2	-10.4	-10.2	-9.0	-7.7	-6.1	-5.1	-4.3	-3.6	-3.1	-2.7	-2.4	-3.0	-3.4	-4.4	-5.5	-6.3	-7.0	-8.1	-9.5	-12.9	-2.4	-7.0	24	
29	-11.3	-13.6	-17.4	-20.2	-24.4	-26.7	-27.7	-25.9	-19.1	-14.0	-10.8	-9.2	-7.8	-7.7	-6.5	-6.2	-7.0	-8.2	-9.6	-10.5	-12.7	-15.6	-16.0	-17.2	-27.7	-6.2	-14.4	24	
30	-18.5	-19.2	-19.7	-20.5	-20.8	-21.2	-22.5	-22.1	-20.5	-19.1	-18.0	-16.8	-15.4	-14.4	-13.5	-12.0	-11.1	-10.6	-11.2	-14.2	-17.6	-22.2	-25.2	-26.2	-26.2	-10.6	-18.0	24	
31	-27.2	-27.7	-28.1	-28.8	-28.8	-28.7	-27.8	-25.3	-18.4	-13.2	-11.4	-9.9	-8.4	-8.0	-7.2	-6.3	-5.4	-5.4	-7.5	-11.1	-14.6	-17.1	-19.2	-21.0	-28.8	-5.4	-16.9	24	
HOURLY MAX	3.3	2.4	2.8	2.6	1.8	1.4	1.3	1.6	2.1	2.9	3.9	6.0	6.8	8.3	8.9	10.3	12.9	12.3	9.8	5.7	4.5	4.2	3.3	3.8					
HOURLY AVG	-9.2	-9.6	-10.2	-10.9	-11.6	-11.9	-12.1	-12.0	-10.3	-7.4	-5.3	-4.1	-2.9	-2.0	-1.4	-1.0	-0.8	-1.5	-3.2	-5.0	-6.3	-7.6	-8.5	-9.2					

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

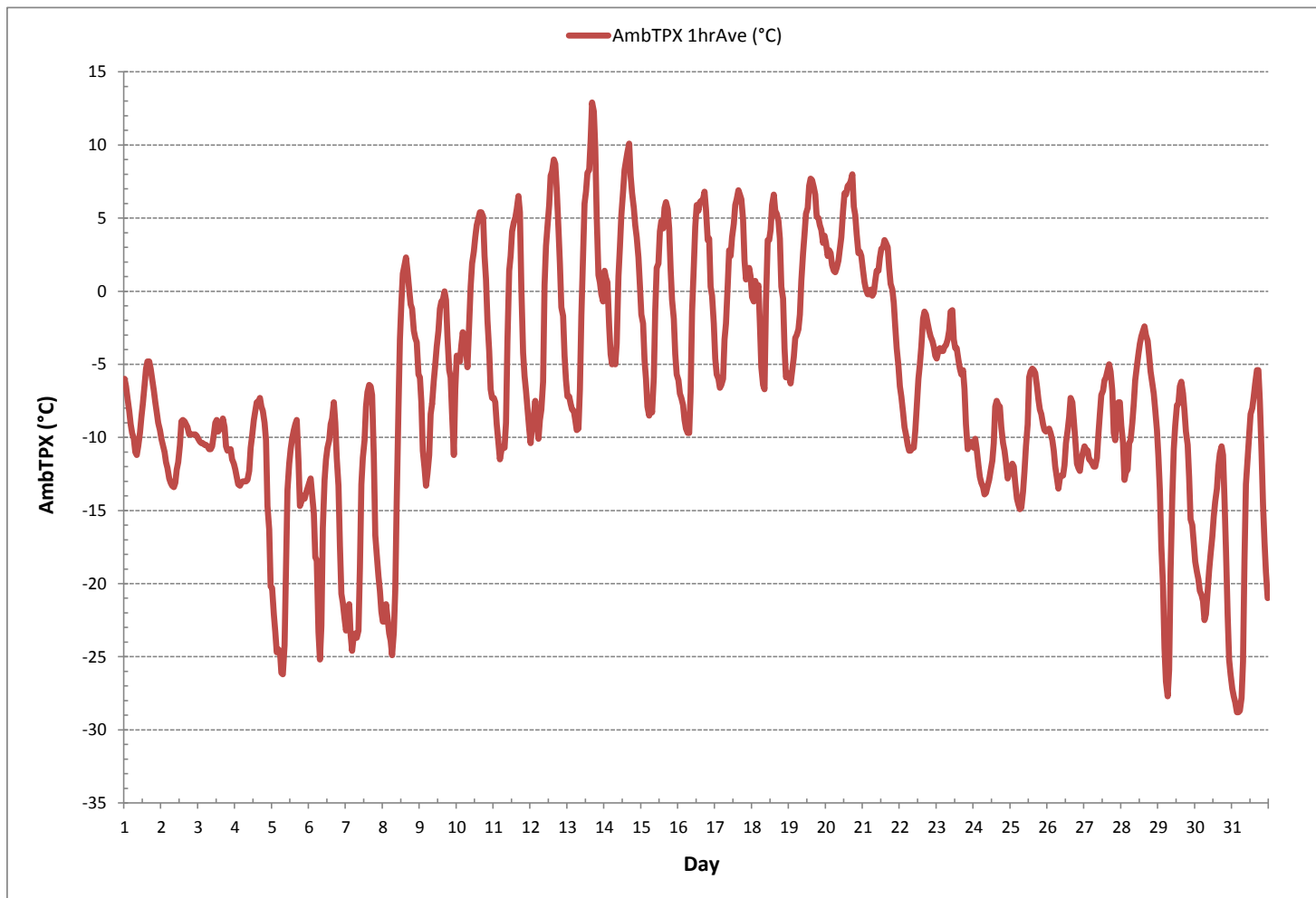
24 HR AVERAGES March 2018



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-28.8 °C	@ HOUR	3	ON DAY	31
MAXIMUM 1-HR AVERAGE:	12.9 °C	@ HOUR	16	ON DAY	13
MAXIMUM 24-HR AVERAGE:	4.1 °C			ON DAY	20
OPERATIONAL TIME:					744 hrs
AMD OPERATION UPTIME:					100.0 %
STANDARD DEVIATION:	8.2	MONTHLY AVERAGE:			-6.8 °C

AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)



STATION TEMPERATURE

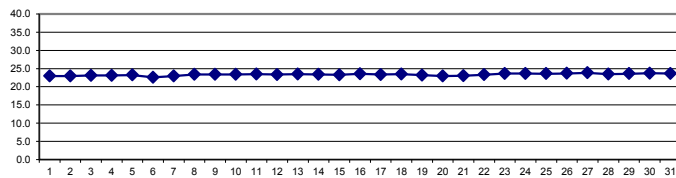
STATION TEMPERATURE Hourly Averages (StnTPX °C)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	23.3	23.1	23.2	23.2	23.0	23.1	23.0	23.2	23.1	23.1	23.1	23.0	22.9	22.7	22.9	22.5	22.9	22.4	22.6	22.7	22.8	23.0	22.7	22.7	22.4	23.3	22.9	24
2	22.8	22.7	22.8	22.7	22.8	22.9	22.9	22.9	22.9	23.0	23.0	23.0	23.1	23.0	22.9	22.9	23.0	23.0	23.0	23.0	23.1	23.2	23.2	23.1	22.7	23.2	23.0	24
3	23.1	23.1	23.1	23.2	23.1	23.2	23.2	23.1	23.1	23.1	23.2	22.8	23.4	23.1	22.9	22.9	22.8	23.3	22.9	23.2	23.0	23.1	23.0	23.1	22.8	23.4	23.1	24
4	23.1	23.1	23.0	23.0	23.2	23.1	23.0	23.3	23.1	23.0	23.3	22.8	23.3	23.2	23.2	23.2	23.3	23.4	23.3	23.0	22.8	23.0	23.2	23.0	22.8	23.4	23.1	24
5	23.1	23.3	23.1	23.4	23.3	23.3	23.3	23.3	23.3	23.2	23.5	23.1	22.7	23.5	23.6	23.8	24.0	24.1	23.6	22.8	21.8	22.7	22.7	23.0	21.8	24.1	23.2	24
6	22.9	23.1	23.2	23.1	23.2	23.1	23.1	23.1	22.5	22.9	22.6	22.2	21.8	21.2	22.4	21.3	22.1	23.2	23.2	22.3	21.5	22.2	22.5	22.8	21.2	23.2	22.6	24
7	22.9	22.9	23.0	22.9	22.9	23.0	22.9	22.9	22.9	22.8	22.3	22.9	22.4	21.6	22.5	23.7	23.4	22.6	23.6	23.7	23.2	23.3	23.1	23.1	21.6	23.7	22.9	24
8	23.1	23.1	23.3	23.3	23.2	23.1	23.2	23.1	23.1	23.5	23.9	24.3	24.8	23.2	22.9	22.4	22.0	22.9	24.3	22.7	23.3	24.2	24.7	24.4	22.0	24.8	23.4	24
9	22.9	23.8	24.0	23.9	23.7	23.5	23.4	23.7	23.8	23.9	24.2	24.1	22.6	22.1	23.1	23.1	22.5	21.9	23.4	24.2	22.4	23.3	23.6	23.6	21.9	24.2	23.4	24
10	23.7	23.8	23.9	24.1	24.3	24.4	24.6	24.6	24.8	23.3	22.6	22.5	22.5	22.7	22.4	22.4	22.5	22.5	22.6	22.8	22.4	23.8	24.4	24.6	22.4	24.8	23.4	24
11	24.7	24.7	24.6	24.4	24.2	24.0	23.7	23.5	23.5	24.1	24.2	22.7	22.7	22.6	22.4	22.6	22.8	22.8	22.6	22.7	22.5	23.7	24.1	24.1	22.4	24.7	23.5	24
12	23.9	23.7	23.4	23.3	23.6	23.3	23.6	23.3	23.9	24.4	23.9	22.7	22.7	22.5	23.0	23.2	23.1	23.3	23.2	22.6	22.9	22.5	23.9	24.5	22.5	24.5	23.4	24
13	24.6	24.6	24.6	24.4	24.3	24.1	24.0	23.8	23.8	24.5	23.0	22.7	22.8	23.2	23.0	23.0	22.9	23.0	23.1	23.2	22.6	22.9	22.4	23.6	22.4	24.6	23.5	24
14	24.3	22.5	23.3	24.1	24.4	24.5	24.5	24.5	24.5	23.3	22.9	22.7	22.6	22.7	23.3	23.1	23.0	23.3	23.4	22.9	22.6	22.9	22.6	23.0	22.5	24.5	23.4	24
15	24.3	22.9	23.1	23.8	24.0	24.0	23.9	23.8	23.6	22.0	23.8	23.1	22.8	22.7	22.6	22.8	23.1	23.2	23.0	22.8	22.8	22.4	23.8	24.3	22.0	24.3	23.3	24
16	24.4	24.4	24.4	24.4	24.3	24.0	23.7	23.4	24.0	24.0	24.5	24.0	22.8	22.7	22.7	22.7	22.7	22.7	22.7	22.6	22.2	23.0	24.1	24.5	22.2	24.5	23.5	24
17	24.7	24.7	24.6	24.5	24.3	24.1	24.0	24.1	24.3	24.8	23.2	22.3	21.9	21.9	22.0	22.0	22.0	21.9	21.7	23.2	23.8	22.4	23.6	24.5	21.7	24.8	23.4	24
18	22.7	23.1	23.7	24.1	24.3	24.5	24.5	24.4	24.3	24.7	23.6	22.8	22.7	22.6	22.5	23.0	23.3	23.2	22.7	22.7	22.2	23.3	23.9	24.0	22.2	24.7	23.5	24
19	24.1	24.1	24.0	23.9	23.8	23.9	23.8	23.7	23.9	24.2	24.3	22.7	22.6	22.4	22.4	22.3	22.4	22.4	22.4	22.5	22.2	22.0	23.7	22.6	22.0	24.3	23.2	24
20	21.9	23.1	23.7	22.5	22.1	23.7	22.6	22.5	23.7	22.7	22.6	22.5	22.5	23.1	23.5	23.2	23.3	23.3	23.7	23.4	22.8	22.7	22.8	22.2	21.9	23.7	22.9	24
21	23.4	23.6	22.5	23.8	24.5	22.9	23.0	23.9	24.4	22.8	22.2	23.8	22.7	22.4	22.4	22.3	22.1	21.7	22.9	23.9	22.4	22.8	22.7	23.3	21.7	24.5	23.0	24
22	23.2	23.6	23.5	23.4	23.5	23.5	23.3	23.3	23.5	23.3	23.3	23.3	23.1	23.4	23.3	23.5	24.0	24.4	22.7	22.9	23.1	22.9	22.9	23.1	22.7	24.4	23.3	24
23	23.3	23.2	23.2	23.2	23.3	23.5	23.8	24.0	24.2	24.4	24.4	22.5	23.2	24.1	24.2	22.4	23.3	23.8	24.2	24.2	23.9	23.4	23.7	23.6	22.4	24.4	23.6	24
24	23.6	23.7	23.4	23.4	23.5	23.6	23.6	23.6	23.5	23.7	23.6	23.8	23.8	23.8	24.1	24.7	23.2	22.7	23.7	23.8	23.6	23.3	23.7	23.6	22.7	24.7	23.6	24
25	23.7	23.6	23.6	23.6	23.7	23.7	23.8	23.7	23.7	23.8	23.7	24.0	24.5	23.7	22.1	23.6	24.0	22.4	23.4	23.6	23.4	23.5	23.5	23.8	22.1	24.5	23.6	24
26	23.5	23.4	23.8	23.9	23.6	23.5	23.6	23.7	23.7	23.5	23.7	23.7	23.7	24.0	24.2	24.5	22.9	23.0	23.5	23.7	23.8	23.7	23.7	23.8	22.9	24.5	23.7	24
27	23.5	23.7	23.7	23.7	23.6	23.7	23.7	23.7	23.8	24.0	24.3	24.8	23.0	22.8	24.0	24.4	22.8	23.1	24.2	24.6	24.5	24.3	24.3	24.3	22.8	24.8	23.9	24
28	24.2	24.0	23.6	23.5	23.6	23.7	23.7	23.5	23.6	23.9	24.4	24.1	22.4	23.7	23.5	22.4	22.3	24.0	23.3	22.5	23.4	23.5	23.5	23.4	22.3	24.4	23.5	24
29	23.8	23.8	23.7	23.8	23.7	23.7	23.7	23.5	23.7	24.0	23.8	23.1	24.2	24.1	22.3	22.6	23.5	22.6	23.7	24.0	23.8	23.6	23.7	23.9	22.3	24.2	23.6	24
30	23.8	23.8	23.8	23.9	23.7	23.8	23.7	23.6	23.4	23.7	23.6	23.7	23.8	23.6	23.9	23.9	23.9	23.7	23.6	23.6	23.9	23.7	23.7	23.7	23.4	23.9	23.7	24
31	23.5	23.5	23.5	23.4	23.5	23.4	23.4	23.5	23.6	24.0	24.1	23.9	24.2	24.7	23.6	22.9	24.2	22.3	23.4	24.0	23.7	23.5	23.6	23.7	22.3	24.7	23.6	24
HOURLY MAX	24.7	24.7	24.6	24.5	24.5	24.5	24.6	24.6	24.8	24.8	24.5	24.8	24.8	24.7	24.2	24.7	24.2	24.4	24.3	24.6	24.5	24.3	24.7	24.6				
HOURLY AVG	23.5	23.5	23.6	23.6	23.6	23.6	23.6	23.6	23.7	23.6	23.5	23.2	23.0	23.0	23.0	23.0	23.0	23.0	23.2	23.2	23.0	23.2	23.5	23.6				

STATUS FLAG CODES

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

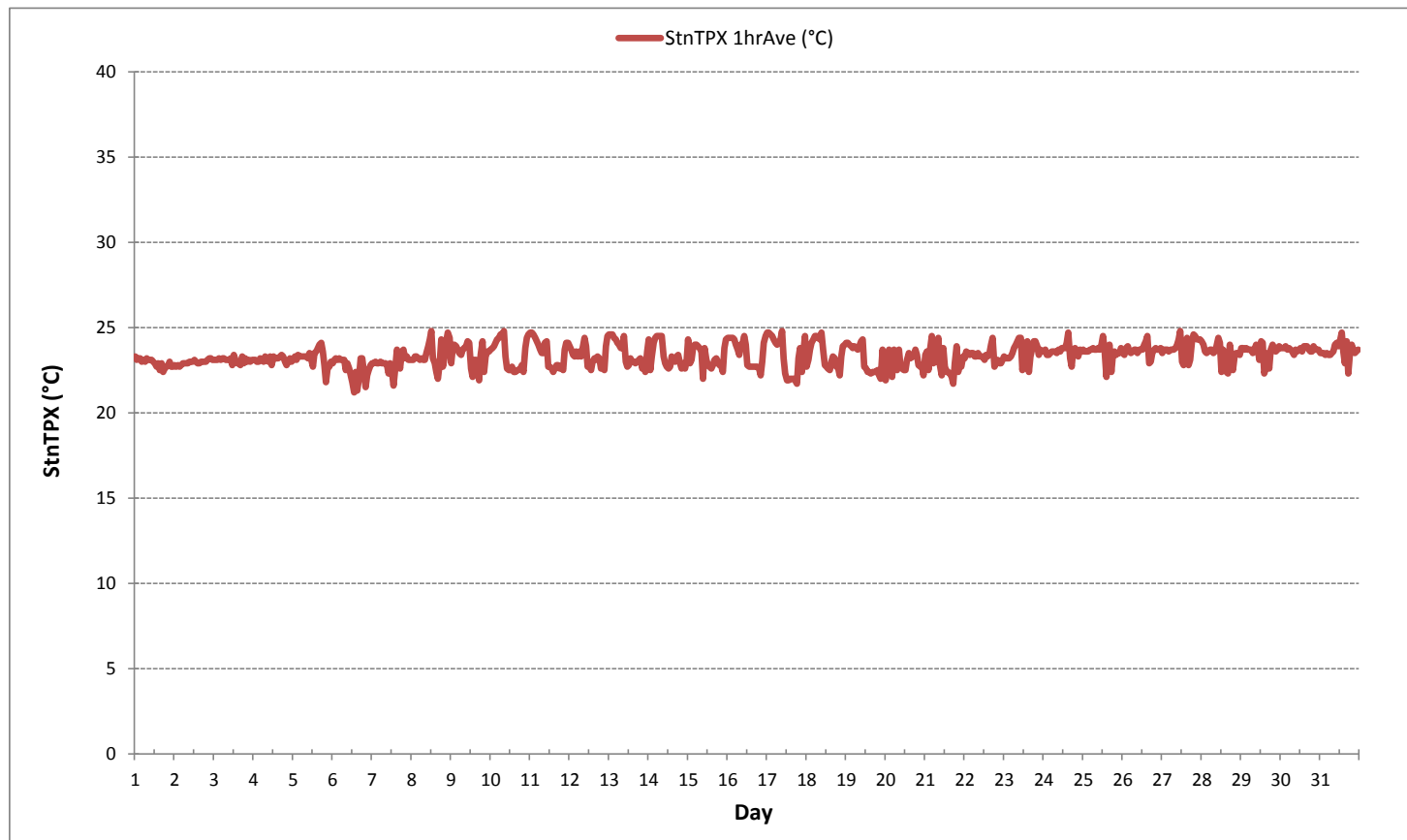
24 HR AVERAGES March 2018



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	21.2	°C	@ HOUR	13	ON DAY	6
MAXIMUM 1-HR AVERAGE:	24.8	°C	@ HOUR	12	ON DAY	8
MAXIMUM 24-HR AVERAGE:	23.9	°C			ON DAY	27
OPERATIONAL TIME:						744 hrs
AMD OPERATION UPTIME:						100.0 %
STANDARD DEVIATION:	0.7		MONTHLY AVERAGE:			23.3 °C

STATION TEMPERATURE Hourly Averages (StnTPX °C)



APPENDIX II
EQUIPMENT CALIBRATION RESULTS

SULPHUR DIOXIDE



Thermo 43C Sulphur Dioxide Analyzer Calibration

Date:	March 6, 2018	Barometer/B.P./units:	Brunton 05490 expires December 11, 2018	951	millibars
Company/Airshed:	PRAMP	Thermometer/Station Temp:	F.S. 160459244 expires May 18, 2018	23	°C
Location/Station Name:	986b	Weather Conditions:	Sunny		
Parameter:	Sulphur Dioxide	Calibration Purpose:	routine monthly		
Start Time 24 hr. (mst):	15:57	Performed By/Reviewer:	Chris Wesson	Rob Fisher	
End Time 24 hr. (mst):	19:14	Cal Gas Expiry Date:	October 24, 2020		
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	n/a		

Analyzer:

ID# or Serial Number:	43C-62339-335	Range ppb:	500
Last Calibration Date:	February 15, 2018	As Found C.F.:	1.001
Previous C.F.:	1.000	New C.F.:	0.999

Calibration Standards:

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: Sabio id# 17100415 expires May 16, 2018
Cal Gas Cylinder I.D. #: LL108015
Cal Gas Conc. (ppm): 47.9

Standard Calibration Points for Ranges

Point	ppb
High	380
Mid	180
Low	90

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

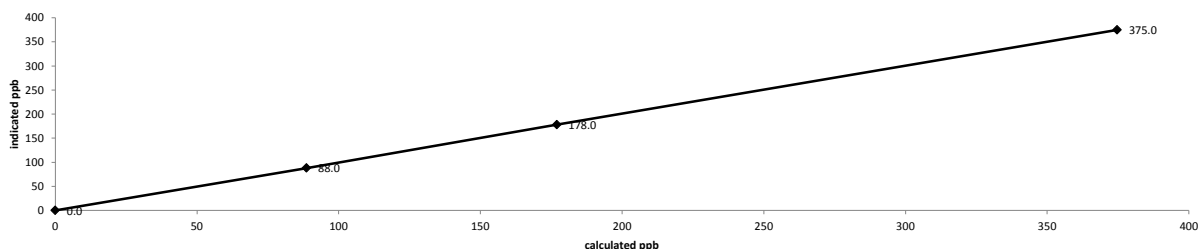
Calibrator Flow Rates (cc/min)				Calculated Concentration (ppb):	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total			
as found zero	6040	0.00	6040	0.0	0.6	n/a
as found high	5988	47.21	6035	374.7	375.0	1.001
adjusted zero	6040	0.00	6040	0.0	0.0	n/a
mid	6038	22.39	6060	177.0	178.0	0.994
low	6044	11.21	6055	88.6	88.0	1.007
calibrator zero	6040	0.00	6040	0.0	0.0	n/a

Average C.F.= 1.000

Linear Regression/Calibration Results:

LIMITS	
Correlation Coefficient =	1.000 > or = 0.995
Slope =	0.998 0.95-1.05
b (Intercept as % of full scale)=	0.02% ± 3% F.S.
% change in C.F. from last cal=	-0.08% ± 10%

Thermo 43C Sulphur Dioxide Analyzer Calibration



As found:		As left:	
Bkg:	76.9	Bkg:	77.5
Coef:	0.875	Coef:	0.875
Pmt:	-654	Pmt:	-654
0	lamp=844	0	lamp=844
Battery:	3.3	Battery:	3.3
Internal:	27.6	Internal:	28.6
Chamber:	45.3	Chamber:	45.3
Pressure:	429.0	Pressure:	428.8
Flow:	0.750	Flow:	0.750
Intensity:	~38000	Intensity:	~38000
Averaging Time:	120	Averaging Time:	120
Expected Value:	231.0	Expected Value:	231.0

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.
No high point adjustment was required/made. The "as found" high value was copied to the "adjusted high" value field for linearity calculation purposes.

SO2[ppb] Station: PRAMP_986 Periodically: 2018/03/06 09:00-2018/03/06 22:00 Type: AVG 1 Min. [1 Min.]



— SO2[ppb]

TOTAL REDUCED SULPHUR



Thermo 431-TLE Total Reduced Sulphur Analyzer Calibration

Date:	March 6, 2018	Barometer/B.P./units:	Brunton 05490 expires December 11, 2018	954	millibars
Company/Airshed:	PRAMP	Thermometer/Station Temp:	F.S. 160459244 expires May 18, 2018	22	°C
Location/Station Name:	986b	Weather Conditions:	Mainly sunny		
Parameter:	Total Reduced Sulphur	Calibration Purpose:	shut down		
Start Time 24 hr. (mst):	9:17	Performed By/Reviewer:	Chris Wesson	Rob Fisher	
End Time 24 hr. (mst):	12:00	Cal Gas Expiry Date:	November 7, 2020		
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	CD Nova CDN-101 #516		

Analyzer:	ID# or Serial Number:	1152940011	Range ppb:	100
	Last Calibration Date:	February 15, 2018	As Found C.F.:	0.991
	Previous C.F.:	0.999	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	Point	ppb
High Flow Meter ID/Expiry Date:	Defender High 148943 expires November 21, 2018	High	78
Calibrator ID/Expiry Date:	API 700 #829, expires January 31, 2019	Mid	38
Cal Gas Cylinder I.D. #:	LL119432	Low	19
Cal Gas Conc. (ppm):	10.3		

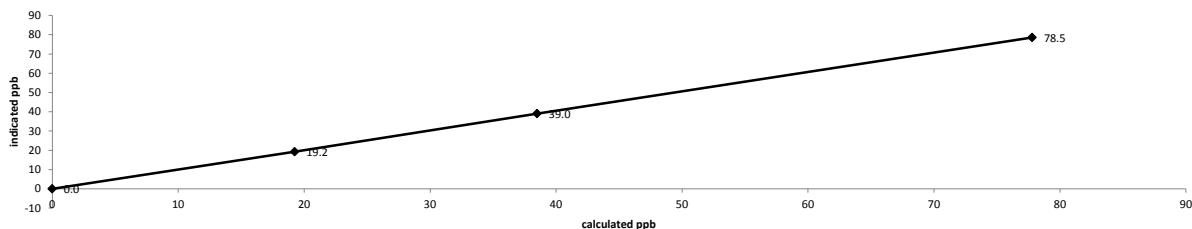
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration (ppb):	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total			
as found zero	7461	0.00	7461	0.0	0.0	n/a
as found high	7395	56.39	7451	77.8	78.5	0.991
mid	7448	28.00	7476	38.5	39.0	0.986
low	7466	14.01	7480	19.2	19.2	1.001
Average C.F.=						0.993

Linear Regression/Calibration Results:

Correlation Coefficient =	1.000	LIMITS	> or = 0.995
Slope =	0.990		0.90-1.10
b (Intercept as % of full scale)=	0.07%		± 3% F.S.
% change in C.F. from last cal=	0.83%		± 10%

Thermo 431-TLE Total Reduced Sulphur Analyzer Calibration



As found:		As left:	
Bkg:	2.18	Bkg:	n/a
Coef:	1.029	Coef:	n/a
Pmt:	-686.7	Pmt:	n/a
Flash:	969	Flash:	n/a
Internal:	33.5	Internal:	n/a
Chamber:	45.0	Chamber:	n/a
Perm Oven Gas:	45.00	Perm Oven Gas:	n/a
Perm Oven Heater:	44.25	Perm Oven Heater:	n/a
Pressure:	662.9	Pressure:	n/a
Sample Flow:	0.472	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.

A "Shut-Down" calibration was performed to conduct maintenance on the pump and converter.
The "As Found High" measurement was slow to stabilize. The regulator/calibrator was purged and the point was restarted.



Thermo 431-TLE Total Reduced Sulphur Analyzer Calibration

Date: March 6, 2018
Company/Airshed: PRAMP
Location/Station Name: 986b
Parameter: Total Reduced Sulphur
Start Time 24 hr. (mst): 17:35
End Time 24 hr. (mst): 20:44
Calibration Method: Gas Dilution

Barometer/B.P./units: Brunton 05490 expires December 11, 2018 952 millibars
Thermometer/Station Temp: F.S. 160459244 expires May 18, 2018 22 °C
Weather Conditions: Clear
Calibration Purpose: post repair
Performed By/Reviewer: Chris Wesson Rob Fisher
Cal Gas Expiry Date: November 7, 2020
Converter Model & s/n (if applicable): CD Nova CDN-101 #516

Analyzer:

ID# or Serial Number: 1152940011
Last Calibration Date: February 15, 2018
Previous C.F.: 0.999

Range ppb: 100
As Found C.F.: n/a
New C.F.: 1.000

Calibration Standards:

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: API700 #829, expires January 31, 2019
Cal Gas Cylinder I.D. #: LL119432
Cal Gas Conc. (ppm): 10.3

Standard Calibration Points for Ranges

Point	ppb
High	78
Mid	38
Low	19

SO2 Scrubber Check (10 minutes):

Start/End Time 24 hr.: 18:02 / 18:12
SO2 Analyzer Range: 500
Target Concentration (ppb): 380
As Found Zero: 0.0
Analyzer Response: (ppb): 0.0
Zero Corrected Result (ppb): 0.0

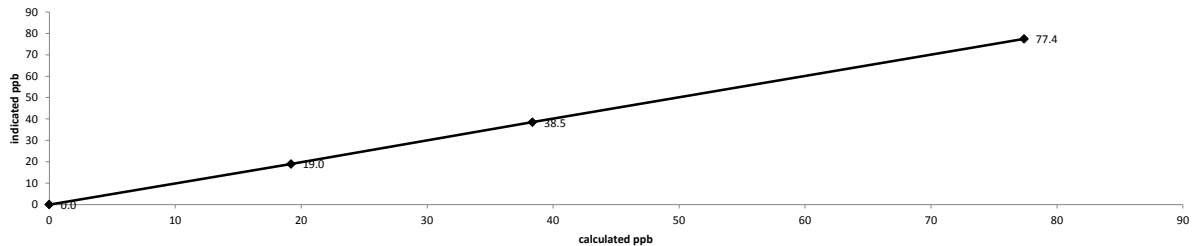
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration (ppb):	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total			
adjusted zero	7487	0.00	7487	0.0	0.0	n/a
adjusted high	7416	56.26	7472	77.4	77.4	1.000
mid	7459	27.94	7487	38.4	38.5	0.996
low	7477	13.99	7491	19.2	19.0	1.013
calibrator zero	7487	0.00	7487	0.0	0.1	n/a
Average C.F. =						1.003

Linear Regression/Calibration Results:

LIMITS
Correlation Coefficient = 1.000 > or = 0.995
Slope = 0.999 0.95-1.05
b (Intercept as % of full scale) = 0.07% ± 3% F.S.
% change in C.F. from last cal = n/a n/a

Thermo 431-TLE Total Reduced Sulphur Analyzer Calibration



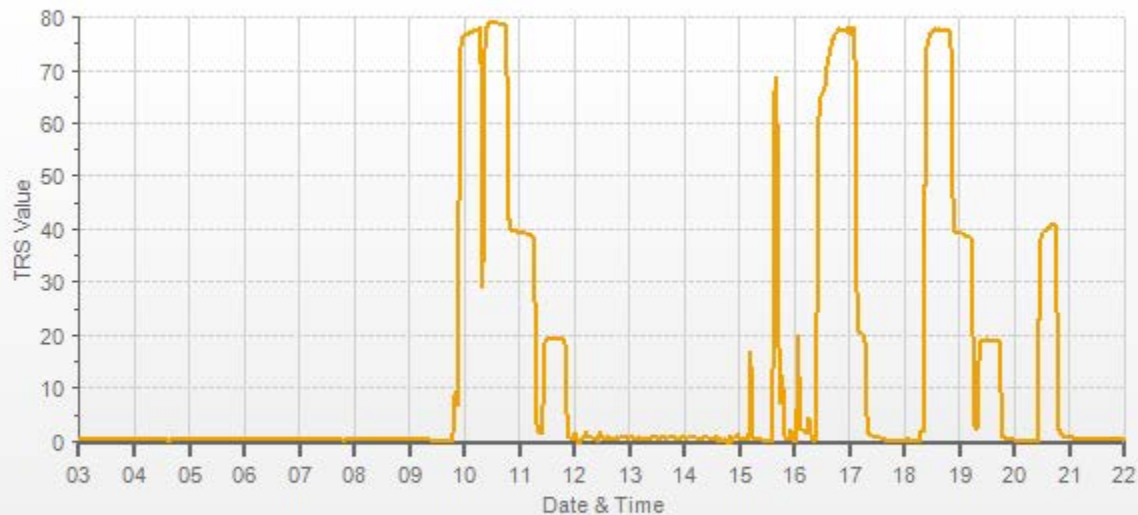
As found:		As left:	
Bkg:	2.10	Bkg:	2.36
Coef:	0.994	Coef:	0.985
Pmt:	-690.4	Pmt:	-690.4
Flash:	972	Flash:	969
Internal:	35.5	Internal:	34.5
Chamber:	45.3	Chamber:	45.3
Perm Oven Gas:	45.00	Perm Oven Gas:	45.00
Perm Oven Heater:	44.24	Perm Oven Heater:	44.24
Pressure:	661.1	Pressure:	661.1
Sample Flow:	0.482	Sample Flow:	0.482
Lamp Intensity:	91	Lamp Intensity:	92
Converter:	820	Converter:	820
Converter Set:	820	Converter Set:	820
Averaging Time:	120	Averaging Time:	120
Expected Value:	43.5	Expected Value:	40.8

Comments:

The analyzer cooling fan filter(s) were cleaned.

The manifold blower was found to be working normally.

A "Post-Repair" calibration was performed after replacing the sample pump.



— TRS[ppb]

TOTAL HYDROCARBON



Thermo 55i Methane/Non-Methane Analyzer Calibration

Date:	March 6, 2018	Barometer/B.P./units:	Brunton 05490 expires December 11, 2018	954	millibars
Company/Airshed:	PRAMP	Thermometer/Station Temp:	F.S. 160459244 expires May 18, 2018	22	°C
Location/Station Name:	986b	Weather Conditions:	Mainly sunny		
Parameter:	CH4 / NMHC / THC	Calibration Purpose:	routine monthly		
Start/End Time 24 hr. (mst):	09:17 / 13:08	Performed By/Reviewer:	Chris Wesson	Rob Fisher	
Calibration Method:	Gas Dilution	Cal Gas Expiry Date:	October 18, 2025		

Analyzer:		Correction Factors:			
ID# or Serial Number:	1022143392	Previous C.F.:	As Found C.F.:	New C.F.:	
Measured Flow:	1.0 L/min	CH ₄ =	0.999	1.001	0.999
Last Calibration Date:	February 15, 2018	NMHC =	1.002	1.050	1.006
Range ppm:	20 CH4/20 NMHC/40 THC	THC =	1.000	1.023	1.003

Calibration Standards:				
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:	Sabio id# 17100415 expires May 16, 2018			
Cal Gas Cylinder I.D. # :	LL107207			
CH4 Cylinder Conc.=	600.0	207.0	=C3H8 Cylinder Conc.	
CH4 expressed as C3H8=	569.3	1169.3	=total CH4 equivalent	

Standard Calibration Points for Analyzer Range of 20/20/40 ppm				
Point	CH4	NMHC	THC	
High	13.00	13.00	26.00	
Mid	7.00	7.00	14.00	
Low	3.00	3.00	6.00	

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
as found zero	2501	0.00	2501	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
as found high	2445	60.85	2506	14.57	13.82	28.39	14.56	13.17	27.74	1.001	1.050	1.023
adjusted zero	2501	0.00	2501	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
adjusted high	2445	60.85	2506	14.57	13.82	28.39	14.58	13.74	28.32	0.999	1.006	1.003
mid	2488	30.53	2519	7.27	6.90	14.17	7.33	6.91	14.24	0.992	0.998	0.995
low	2509	15.77	2525	3.75	3.55	7.30	3.82	3.61	7.43	0.981	0.985	0.983
calibrator zero	2501	0.00	2501	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
Average C.F.=									0.991	0.996	0.993	

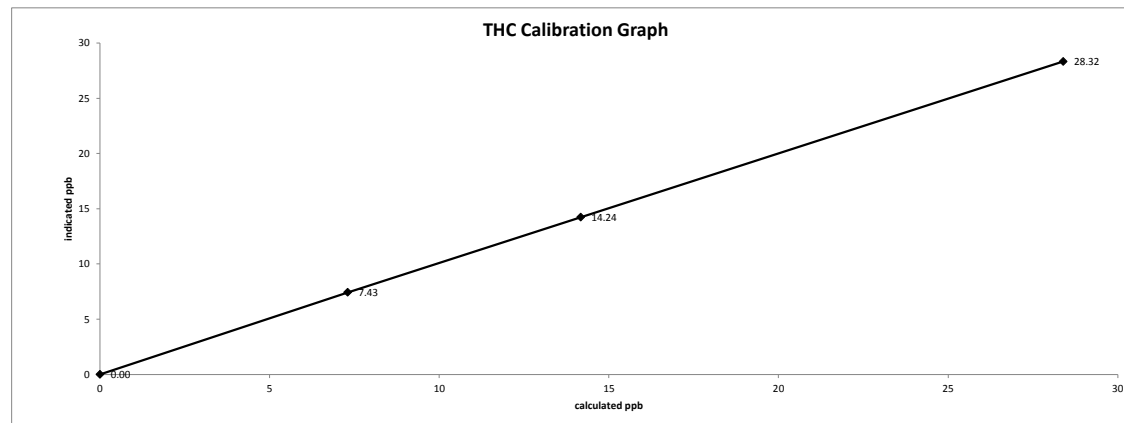
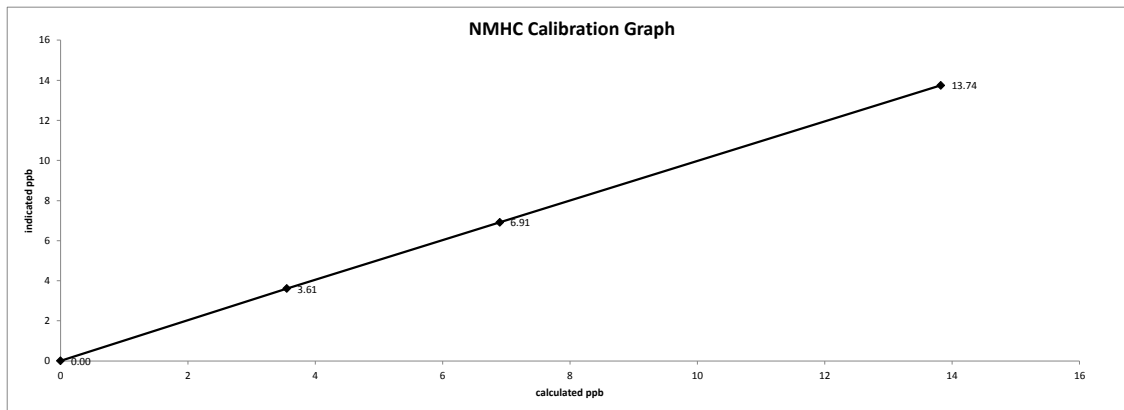
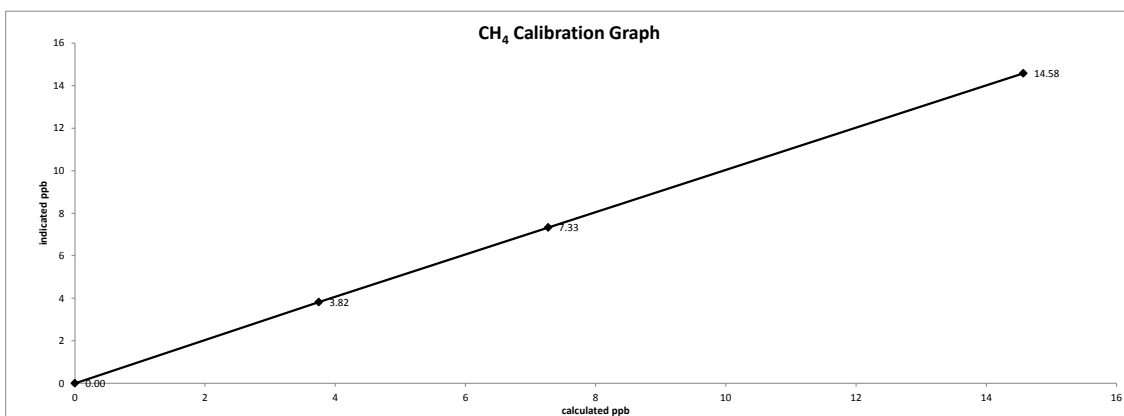
Linear Regression/Calibration Results:				LIMITS	
Correlation Coefficient =	CH ₄	NMHC	THC	> or = 0.995	
Slope =	1.000	0.993	0.996	0.95-1.05	
b (Intercept as % of full scale) =	0.19%	0.20%	0.20%	± 3% F.S.	
% change in C.F. from last cal =	-0.16%	-4.75%	-2.35%	± 10%	

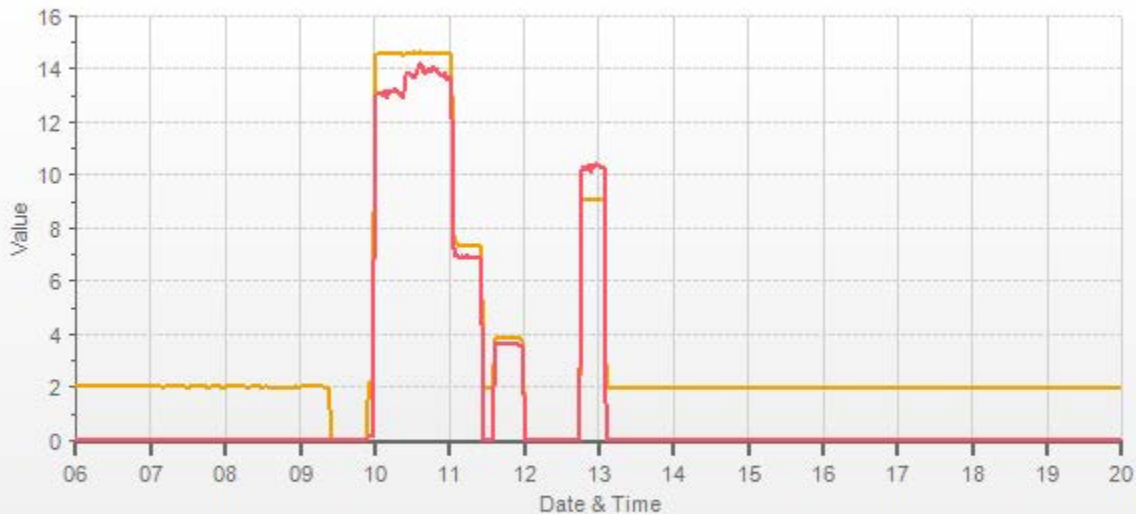
As Left Instrument Diagnostics:											
Interface Board Voltages:	Bias Supply:	-311.1	Calibration History cnt'd:	NM Peak Area:	66020						
Temperatures:	Detector Oven:	175.0	Crucial Settings:	Methane Start:	n/a						
	Filter:	175.2		Methane End:	n/a						
	Column Oven:	75.1		Backflush:	n/a						
	Internal:	34.3		NMHV Start:	n/a						
Cylinder Pressures/reg.:	Carrier:	1100	50	NMHC End:	n/a						
	Fuel:	1100	50	Date:	06Mar2018						
	Span Gas:	800	28	Time:	12:19						
	Zero Air Generator:	48		CH ₄ PK HT:	0						
Internal Pressures:	Carrier:	31.3		CH ₄ RT:	8.0						
	Fuel:	40.5		CH ₄ Baseline:	1647						
	Air:	32.4		CH ₄ LOD:	29						
FID Status:	Status:	LIT		CH ₄ SD:	9						
	Counts:	20473		CH ₄ CONC:	0.00						
	Flame:	320.3		NM PK HT:	0						
	Det Base:	175.0		NM Peak Area:	0						
Flame and Power Stats:	Last Power On:	07Oct2017@02:39		NM CONC:	0.00						
	Flameouts:	5		NM Base Start:	1784						
	Det Oven at Start:	37.4		NM Base End:	1789						
	Col Oven at Start:	34.9		NM LOD:	10						
Calibration History:	Time:	06Mar2018@10:49		NM Start IDX:	26						
	Type:	SPAN		NM End IDX:	47						
	Status:	GOOD		NM Max Slope:	2.5e-01						
	Check/Adjust:	ADJUST		NM Min Slope:	-3.9e01						
	CH ₄ Span Conc:	14.57		NM PT Count:	0						
	CH ₄ SP Ratio:	0.00076		Expected Values:	Previous CH ₄ :	9.06					
	CH ₄ RT:	12.4			Previous NMHC:	10.21					
	CH ₄ PK IDX:	22			Previous THC:	19.27					
	CH ₄ PK HT:	19175			New CH ₄ :	9.07					
	NM Span Conc:	13.82			New NMHC:	10.33					
	NM SP Ratio:	0.000209			New THC:	19.40					

Comments:											
The analyzer sample inlet filter was changed.											
No zero adjustment was required/made. As found zero values were copied to adjusted zero values for linearity calculation purposes.											
The analyzer cooling fan filter(s) were cleaned.											
The manifold blower was found to be working normally.											

Date: March 6, 2018
Company/Airshed: PRAMP
Location/Station Name: 986b

Start/End Time 24 hr. (mst): 09:17 / 13:08
Calibration Purpose: routine monthly
Calibration Method: Gas Dilution





CH4[ppm] NMHC[ppm]

WIND SYSTEM



Meteorological Sensor Audit/Calibration

Location Information

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

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

Wind Sensor Information

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

Wind Calibrator Information

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

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.1	0.1	-
1000	18.4	18.4	18.4	0.999
2000	36.9	36.8	36.8	1.003
3000	55.3	55.2	55.2	1.002
4000	73.7	73.6	73.6	1.002
5000	92.2	92.0	92.0	1.002
6000	110.6	110.5	110.5	1.001
7000	129.0	128.9	128.9	1.001
8000	147.4	147.4	147.4	1.000
9000	165.9	165.9	165.9	1.000
10000	184.3	184.5	184.5	0.999
The audit meets AMD requirements.			Average Correction Factor=	1.001

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

Generated Wind Direction 0-360 (Up)	Generated Wind Direction 360-0 (Down)	Indicated Wind Direction 0-360 (Up)	Indicated Wind Direction 360-0 (Down)	Degrees Difference 0-360 (Up)	Degrees Difference 360-0 (Down)	Average Absolute Degrees Difference
0	355	0	353	0.4	2.5	1.5
30	330	29	329	1.4	1.3	1.3
60	300	60	300	0.4	0.3	0.3
90	270	89	271	0.8	-1.2	1.0
120	240	120	242	0.5	-1.6	1.1
150	210	150	212	0.1	-1.8	1.0
180	180	181	181	-0.9	-1.1	1.0
210	150	212	151	-1.5	-0.8	1.2
240	120	241	120	-1.3	-0.2	0.8
270	90	271	90	-0.5	-0.1	0.3
300	60	300	60	0.2	0.5	0.3
330	30	329	29	1.4	0.7	1.1
355	0	353	0	2.5	0.3	1.4
The audit meets AMD requirements.			Average Absolute Degrees Difference=			0.9

Comments: Adjust wind speed gain before calibration.

METEOROLOGICAL SYSTEMS CHECK

		Meteorological System Checklist	
Date:	March 6, 2018		
Technician:	Chris Wesson		
Reviewer:	Rob Fisher		
Station:	PRAMP 986b		
Unit:	Make:	Model:	Serial #:
Temperature Sensor:	RM Young	43172VC	61012322
Barometric Pressure Sensor:	Met One	090D	3845
Relative Humidity Sensor:	RM Young	43172VC	61012322
Anemometer:	RM Young	05305VK	129612
AMBIENT TEMPERATURE SENSOR CHECK			
Previous check date:	February 15, 2018		
Parameter:	Temperature @ 2 metres (1 C tolerance)		
Reference Thermometer ID:	F.S. 160459244 expires May 18, 2018		
Reference Temperature (°C):	-10.6		
Station - Ambient Temperature (°C):	-10.1		
Temperature Difference (°C):	-0.5		
BAROMETRIC PRESSURE SENSOR CHECK			
Previous check date:	February 15, 2018		
Reference Barometer ID:	Brunton 05490 expires December 11, 2018		
Reference Pressure - Units/Reading:	kPa	95.2000	
Station Pressure - Units/Reading:	kPa	95.0000	
Pressure Tolerance +/- 15% of error:	80.9 - 109.5	0.21%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Previous check date:	February 15, 2018		
Reference Hygrometer ID:	F.S. id# 160459244 expires May 18, 2018		
Reference Hygrometer % RH- Reading:	62.70		
Station Hygrometer % RH- Reading:	57.70		
RH Tolerance +/- 15% of error:	53.30 - 72.11	5.0%	

CALIBRATORS

Company Maxxam **Operator:** Micheal Espiritu

Calibrator:				Flow Measurement Device:			
Make/Model	<u>Sabio 2010</u>			Make/Model	<u>Mesa Defender 530</u>		
Serial Number	<u>17100415</u>			Serial Number	<u>L-152019 H-148944</u>		
Last Verification Date	<u>May 2016</u>			Temperature (°C)	<u>25.0 C</u>		
NO Cylinder S/N	<u>EY0000597</u>			Barometric Pressure	<u>697 mmhg</u>		
NO [PPM]	<u>49.0</u>	NOx [PPM]	<u>49.0</u>				
Expiry Date	<u>December 2019</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
4996	0.0	0.000	0.000	0.000	0.000	0.000	Limit ± 10%	
5029	80.3	0.784	0.783	0.808	-0.013	0.794	3%	1%
5054	38.8	0.376	0.376	0.392	-0.006	0.386	4%	3%
5051	19.5	0.189	0.189	0.196	-0.003	0.193	4%	2%
Absolute Average Percent Difference							4%	2%

LINEAR REGRESSION ANALYSIS

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

NO		LIMITS		NOx	
Correlation=	1.0000	≥ 0.990		Correlation=	1.0000
m (Slope)=	1.0311	0.90-1.10		m (Slope)=	1.0140
b (Intercept % of FS)=	0.1350	± 3% F.S.		b (Intercept % of FS)=	0.1531

Flow	O ₂ Conc (LC)	NO Decrease	NO	NO ₂	NOx	% Diff. Vs Audit gas	
5029	0.000	0.000	0.803	-0.013	0.790	NO ₂	% Diff. Limit
5029	1.508	0.568	0.235	0.552	0.787	-1%	± 10%
5029	0.882	0.312	0.491	0.298	0.789	0%	± 10%
5029	0.390	0.108	0.695	0.095	0.789	0%	± 10%
Absolute Average Percent Difference						0%	± 10%

LINEAR REGRESSION ANALYSIS

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

NO₂		LIMITS	
Correlation=	1.0000	≥ 0.995	
m (Slope)=	0.9945	0.90-1.10	
b (Intercept % of FS)=	-1.2646	± 3% F.S.	

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

COMMENTS: Contains 50.4 ppm SO₂.

Auditor: Al Clark
Operator Signature: *[Signature]*

Date: May 16, 2017
Location: McIntyre Center Edmonton

Company Maxxam Operator: Christopher

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)

NO		LIMITS	NOx	
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)

NO ₂		LIMITS
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

CALIBRATION GASES



Praxair
 5700 South Alameda Street
 Los Angeles, CA 90058
 Tel:(323)585-2154 Fax:(714)542-6689
 PGVP ID: F22017

DocNumber: 000116114

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information:

PRAXAIR PKG EDMONTON PLT 80206
 9501 34TH ST
 EDMONTON AB T6B 2X6

Praxair Order Number: 45357200
 Customer PO Number: 582-280
 Customer Reference Number:

Fill Date: 10/12/2017
 Part Number: NI NO50MS2E-AO
 Lot Number: 70086728507
 Cylinder Style and Outlet: AO CGA 660
 Cylinder Pressure and Volume: 2000 psig 82 cu. ft.

Certified Concentration:

Expiration Date:	10/24/2020	NIST Traceable
Cylinder Number:	LL108015	Expanded Uncertainty:
52.2 ppm	NITRIC OXIDE	± 0.7 %
47.9 ppm	SULFUR DIOXIDE	± 1.0 %
Balance	NITROGEN	

NOx ppm = 52.3 ppm

NOX for Reference Only

Certification Information: Certification Date : 10/24/2017 Term : 36 Months Expiration Date : 10/24/2020

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

Analytical Data:

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

1. Component: NITRIC OXIDE

Requested Concentration: 50 ppm
 Certified Concentration: 52.2 ppm
 Instrument Used: Thermo Electron 42i-LS S/N 1030645077
 Analytical Method: Chemiluminescence
 Last Multipoint Calibration: 10/14/2017

First Analysis Data:				Date:	10/17/2017
Z:	0	R:	50.8	C:	52
R:	50.8	Z:	0	C:	52.1
Z:	0	C:	52.1	R:	50.8
UOM:	ppm	Mean Test Assay:	52.1	ppm	

Reference Standard Type: GMIS
 Ref. Std. Cylinder #: CC363145
 Ref. Std. Conc: 50.79 ppm
 Ref. Std. traceable to SRM #: vs. 1683b
 SRM Sample #: 45-V-42
 SRM Cylinder #: CAL017897

Second Analysis Data:				Date:	10/24/2017
Z:	0	R:	50.8	C:	52.4
R:	50.8	Z:	0	C:	52.3
Z:	0	C:	52.3	R:	50.8
UOM:	ppm	Mean Test Assay:	52.4	ppm	

2. Component: SULFUR DIOXIDE

Requested Concentration: 50 ppm
 Certified Concentration: 47.9 ppm
 Instrument Used: Ametek 921CE S/N AW-921-S321
 Analytical Method: Ultraviolet Absorption
 Last Multipoint Calibration: 10/13/2017

First Analysis Data:				Date:	10/17/2017
Z:	0	R:	48.2	C:	48.4
R:	48.2	Z:	0	C:	48.5
Z:	0	C:	48.5	R:	48.2
UOM:	ppm	Mean Test Assay:	48.8	ppm	

Reference Standard Type: NTRM
 Ref. Std. Cylinder #: CC72593
 Ref. Std. Conc: 48.58 ppm
 Ref. Std. traceable to SRM #: n/a
 SRM Sample #: 12070103
 SRM Cylinder #: N/A

Second Analysis Data:				Date:	10/24/2017
Z:	0	R:	48.2	C:	48
R:	48.2	Z:	0	C:	48.1
Z:	0	C:	48.1	R:	48.2
UOM:	ppm	Mean Test Assay:	48.4	ppm	

Analyzed by:

Henry Koung

Certified by:

Amalia Real

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



Praxair
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Los Angeles, CA 90058
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PGVP ID: F22017

DocNumber: 000109342

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information:

MAXXAM ANALYTICS INC *NA*

9372 49TH ST

EDMONTON

AB T6B 2L7

Praxair Order Number: 28946198

Customer PO Number: 35-68215

Customer Reference Number:

Fill Date: 4/27/2017

Part Number: NI HS10ME-AO

Lot Number: 70086711701

Cylinder Style and Outlet: AO CGA 330

Cylinder Pressure and Volume: 2000 psig 75 cu. ft.

Certified Concentration:

Expiration Date:	05/16/2020	NIST Traceable
Cylinder Number:	LL119432	Expanded Uncertainty:
10.3 ppm	HYDROGEN SULFIDE	± 1.3 %
Balance	NITROGEN	

Certification Information: Certification Date : 5/16/2017 Term : 36 Months Expiration Date : 05/16/2020

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1.

Do Not Use this Standard if Pressure is less than 100 PSIG.

Analytical Data:

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

1. Component:

HYDROGEN SULFIDE

Requested Concentration: 10 ppm
Certified Concentration: 10.3 ppm
Instrument Used: INTERSCAN RM-17 S/N 715726
Analytical Method: ELECTROLYTIC CELL
Last Multipoint Calibration: 04/25/2017

Reference Standard Type: GMIS
Ref. Std. Cylinder #: ND04683
Ref. Std. Conc: 20.19 PPM
Ref. Std. traceable to SRM #: 2730
SRM Sample #: 66-E-70
SRM Cylinder #: CAL015447

First Analysis Data:		Date: 05/08/2017	
Z:	0	R:	40.69
R:	40.7	Z:	0
Z:	0	C:	20.71
C:	20.71	R:	40.7
UOM:	mV	Mean Test Assay:	10.3 ppm

Second Analysis Data:		Date: 05/16/2017	
Z:	0	R:	40.64
R:	40.54	Z:	0
Z:	0	C:	20.68
C:	20.68	R:	40.54
UOM:	mV	Mean Test Assay:	10.3 ppm

Analyzed by:

Ying Yu

Certified by:

Nassim Haddad

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



Praxair
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Tel:(323)585-2154 Fax:(714)542-6689
PGVP ID: F22017

DocNumber: 000116091

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information:

MAXXAM ANALYTICS INC
500 1919 MINNESOTA CRT

MISSISSAUGA ON L5N 0C9

Praxair Order Number: 44723832
Customer PO Number: PO0000001677

Customer Reference Number:

Fill Date: 10/13/2017
Part Number: NI ME600P2E-AO
Lot Number: 70086728604
Cylinder Style and Outlet: AO CGA 350
Cylinder Pressure and Volume: 2200 psig 82 cu. ft.

Certified Concentration:

Expiration Date:	10/18/2025	NIST Traceable
Cylinder Number:	LL107207	Expanded Uncertainty:
207 ppm	PROPANE	± 0.6 %
600 ppm	METHANE	± 0.3 %
Balance	NITROGEN	

Certification Information: Certification Date : 10/18/2017 Term : 96 Months Expiration Date : 10/18/2025

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

Analytical Data:

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

1. Component: PROPANE

Requested Concentration: 200 ppm
Certified Concentration: 207 ppm
Instrument Used: MKS Multigas 2031 FTIR
Analytical Method: Fourier Transform Infrared
Last Multipoint Calibration: 10/15/2017

First Analysis Data:				Date:	10/17/2017
Z:	0	R:	146.853	C:	100.173
R:	146.886	Z:	0	C:	99.999
Z:	0	C:	99.999	R:	146.886
UOM:	ppm	Mean Test Assay:	207	ppm	

Reference Standard Type: GMIS
Ref. Std. Cylinder #: CC119142
Ref. Std. Conc: 255.6 ppm
Ref. Std. traceable to SRM #: 2644a
SRM Sample #: 101-C-45
SRM Cylinder #: XF003829B

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

2. Component: METHANE

Requested Concentration: 600 ppm
Certified Concentration: 600 ppm
Instrument Used: MKS Multigas 2031 FTIR
Analytical Method: Fourier Transform Infrared
Last Multipoint Calibration: 09/27/2017

First Analysis Data:				Date:	10/17/2017
Z:	0	R:	134.603	C:	165.923
R:	134.657	Z:	0	C:	166.718
Z:	0	C:	166.718	R:	134.657
UOM:	ppm	Mean Test Assay:	600	ppm	

Reference Standard Type: GMIS
Ref. Std. Cylinder #: DT0010335
Ref. Std. Conc: 990 ppm
Ref. Std. traceable to SRM #: RGM#DT0007710
SRM Sample #: N/A
SRM Cylinder #: DT0007710

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

Analyzed by:

Jenna Lockman

Certified by:

Jose Vasquez

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

APPENDIX III
MAXIMUM INSTANTANEOUS DATA

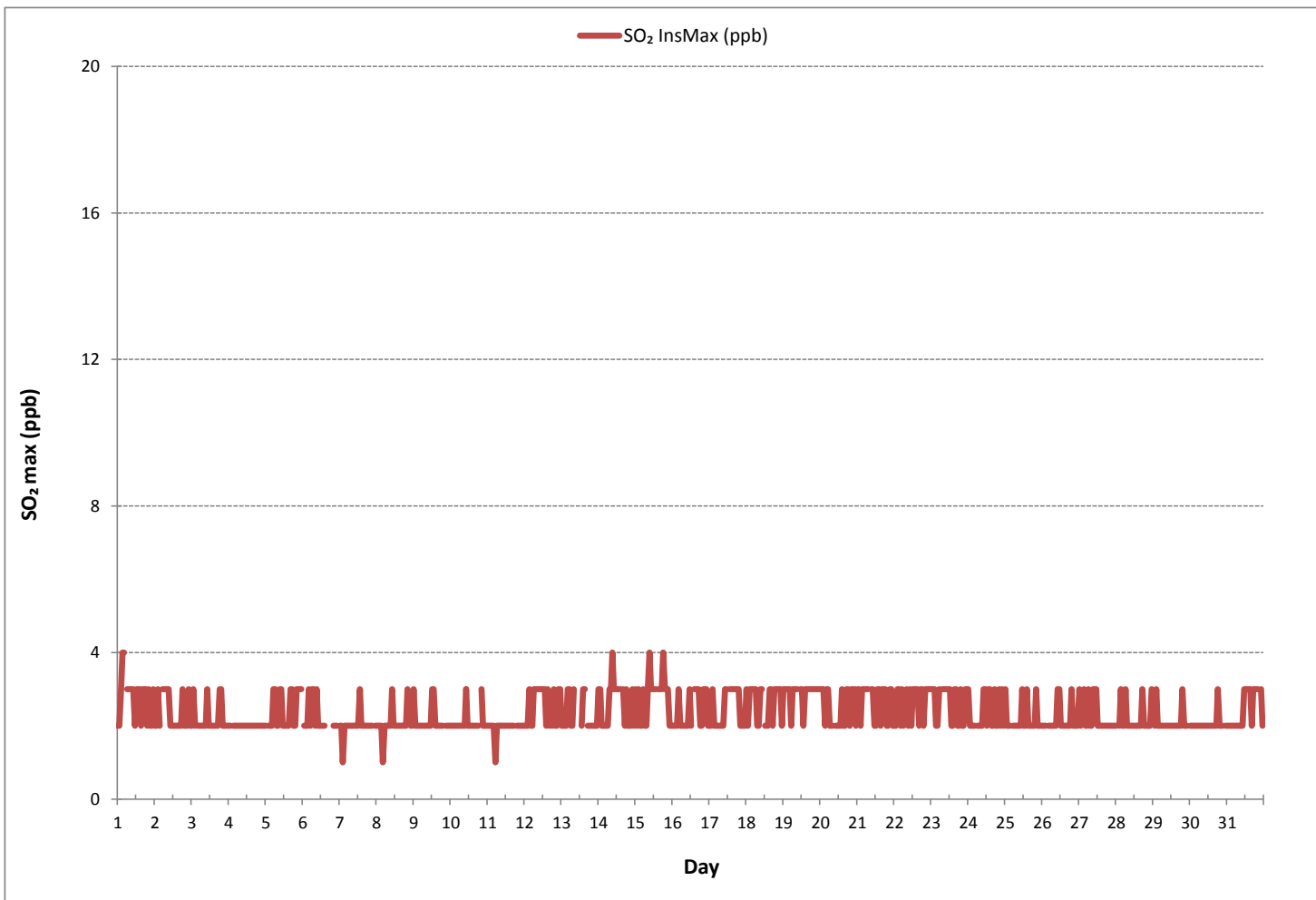


HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59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

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

MONTHLY SUMMARY										
NUMBER OF NON-ZERO READINGS:		706								
MAXIMUM INSTANTANEOUS VALUE:		4	ppb	@ HOUR	3	ON DAY	1			
IZS CALIBRATION TIME:		33	hrs	OPERATIONAL TIME:		744				hrs
MONTHLY CALIBRATION TIME:		5	hrs							
STANDARD DEVIATION:		1								

SULPHUR DIOXIDE Instantaneous Maximum (SO₂ ppb)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - March 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	0.29	0.32	0.40	0.43	0.37	S	0.45	0.29	0.29	0.32	0.29	0.32	0.30	0.35	0.32	0.30	0.29	0.32	0.32	0.29	0.35	0.32	0.30	0.32	0.29	0.45	0.33	24
2	0.32	0.33	0.29	0.29	S	0.43	0.35	0.32	0.30	0.32	0.35	0.33	0.32	0.29	0.29	0.29	0.30	0.32	0.32	0.34	0.30	0.30	0.35	0.35	0.29	0.43	0.32	24
3	0.32	0.30	0.30	S	0.38	0.35	0.34	0.35	0.35	0.35	0.35	0.30	0.35	0.35	0.32	0.32	0.34	0.32	0.35	0.35	0.34	0.37	0.35	0.35	0.30	0.38	0.34	24
4	0.29	0.34	S	0.43	0.35	0.35	0.32	0.34	0.32	0.32	0.32	0.35	0.37	0.29	0.29	0.35	0.32	0.35	0.32	0.40	0.40	0.53	0.45	0.40	0.29	0.53	0.36	24
5	0.33	S	0.45	0.40	0.40	0.48	0.69	0.40	0.71	0.71	0.45	0.32	0.38	0.37	0.37	0.38	0.37	0.35	0.40	0.42	0.42	0.44	0.43	0.43	0.32	0.71	0.44	24
6	S	0.48	0.35	0.40	0.37	0.43	0.53	0.53	0.48	C	C	C	C	Y	Y	Y	Y	C	C	C	C	0.73	0.29	S	0.29	0.73	0.46	20
7	0.58	0.27	0.22	0.24	0.45	0.53	0.37	0.29	0.50	0.50	0.21	0.14	0.18	0.14	0.14	0.19	0.27	0.14	0.24	0.32	0.19	0.27	S	0.56	0.14	0.58	0.30	24
8	0.29	0.40	0.27	0.27	0.24	0.35	0.37	0.34	0.43	0.34	0.29	0.14	0.11	0.11	0.11	0.09	0.11	0.06	0.14	0.09	0.11	S	0.24	0.11	0.06	0.43	0.22	24
9	0.09	0.11	0.11	0.40	0.11	0.19	0.27	0.11	0.16	0.14	0.13	0.14	0.14	0.09	0.11	0.16	0.16	0.13	0.14	0.14	S	0.32	0.17	0.14	0.09	0.40	0.16	24
10	0.16	0.11	0.14	0.16	0.14	0.16	0.14	0.14	0.16	0.14	0.14	0.14	0.14	0.14	0.11	0.09	0.14	0.14	0.11	S	0.19	0.14	0.13	0.11	0.09	0.19	0.14	24
11	0.11	0.14	0.11	0.14	0.16	0.16	0.22	0.32	0.37	0.27	0.22	0.16	0.13	0.14	0.11	0.11	0.11	0.19	S	0.19	0.19	0.14	0.43	0.24	0.11	0.43	0.19	24
12	0.19	0.14	0.16	0.14	0.14	0.24	0.19	0.16	0.19	0.16	0.16	0.19	0.14	0.16	0.11	0.11	0.11	S	0.22	0.14	0.09	0.11	0.14	0.14	0.09	0.24	0.15	24
13	0.11	0.16	0.32	0.27	0.27	0.22	0.34	0.32	0.51	0.48	0.32	0.14	0.14	0.11	0.19	0.16	S	0.16	0.09	0.27	0.56	0.16	0.05	0.03	0.03	0.56	0.23	24
14	0.08	0.06	0.14	0.19	0.08	0.09	0.13	0.11	0.11	0.09	0.09	0.08	0.11	0.11	0.06	X	0.11	0.11	0.11	0.06	0.03	0.06	0.08	0.04	0.03	0.19	0.09	23
15	0.08	0.09	0.11	0.14	0.11	0.08	0.11	0.70	X	S1	0.53	0.14	0.11	0.11	S	0.22	0.11	0.11	0.11	0.09	0.08	0.09	0.11	0.22	0.08	0.70	0.16	22
16	0.22	0.27	0.22	0.19	0.16	0.17	0.22	0.22	0.19	0.13	0.09	0.06	0.06	S	0.19	0.11	0.09	0.09	0.09	0.08	0.24	0.10	0.11	0.14	0.06	0.27	0.15	24
17	0.22	0.29	0.32	0.32	0.19	0.16	0.16	0.19	0.16	0.16	0.16	0.16	S	0.22	0.13	0.10	0.08	0.08	0.10	0.14	0.11	0.08	0.14	0.11	0.08	0.32	0.16	24
18	0.11	0.11	0.16	0.09	0.11	0.14	0.16	0.14	0.14	0.11	0.09	S	0.22	0.14	0.08	0.11	0.14	0.09	0.11	0.09	0.11	0.09	0.16	0.11	0.08	0.22	0.12	24
19	0.14	0.16	0.11	0.09	0.08	0.09	0.09	0.08	0.08	0.08	S	0.22	0.11	0.11	0.11	0.09	0.06	0.11	0.06	0.06	0.09	0.15	0.14	0.06	0.06	0.22	0.10	24
20	0.05	0.04	0.06	0.06	0.08	0.11	0.08	0.08	0.06	S	0.14	0.05	0.05	0.03	0.03	0.01	0.04	0.01	0.11	0.06	0.03	0.04	0.06	0.20	0.01	0.20	0.06	24
21	0.22	0.24	0.08	0.09	0.42	0.24	0.37	0.34	S	0.32	0.14	0.14	0.11	0.13	0.09	0.08	0.06	0.05	0.06	0.04	0.05	0.06	0.08	0.06	0.04	0.42	0.15	24
22	0.04	0.06	0.06	0.06	0.06	0.08	0.06	S	0.19	0.09	0.06	0.09	0.06	0.06	0.08	0.09	0.11	0.08	0.08	0.09	0.11	0.11	0.06	0.11	0.04	0.19	0.08	24
23	0.08	0.09	0.11	0.09	0.06	0.11	S	0.32	0.04	0.06	0.06	0.11	0.11	0.06	0.06	0.04	0.11	0.06	0.03	0.06	0.09	0.03	0.06	0.08	0.03	0.32	0.08	24
24	0.08	0.08	0.09	0.08	0.06	S	0.24	0.11	0.11	0.08	0.11	0.11	0.11	0.11	0.16	0.14	0.14	0.11	0.11	0.09	0.11	0.09	0.09	0.09	0.06	0.24	0.11	24
25	0.14	0.09	0.14	0.11	S	0.29	0.16	0.11	0.14	0.14	0.11	0.11	0.14	0.16	0.14	0.16	0.16	0.16	0.19	0.14	0.11	0.16	0.14	0.19	0.09	0.29	0.15	24
26	0.14	0.11	0.08	S	0.22	0.14	0.11	0.11	0.08	0.11	0.14	0.22	0.14	0.11	0.11	0.14	0.14	0.16	0.11	0.11	0.14	0.16	0.22	0.53	0.08	0.53	0.15	24
27	0.14	0.11	S	0.29	0.19	0.16	0.16	0.14	0.14	0.14	0.14	0.14	0.14	0.11	0.14	0.16	0.14	0.11	0.11	0.14	0.14	0.16	0.17	0.16	0.11	0.29	0.15	24
28	0.14	S	0.29	0.22	0.19	0.22	0.19	0.24	0.19	0.14	0.14	0.14	0.14	0.11	0.14	0.11	0.16	0.14	0.14	0.14	0.11	0.14	0.16	0.14	0.11	0.29	0.16	24
29	S	0.32	0.25	0.14	0.16	0.24	0.16	0.22	0.24	0.32	0.22	0.16	0.16	0.16	0.19	0.16	0.19	0.19	0.16	0.16	0.19	0.16	0.16	S	0.14	0.32	0.20	24
30	0.35	0.22	0.22	0.16	0.22	0.22	0.16	0.19	0.17	0.19	0.24	0.19	0.19	0.17	0.19	0.22	0.14	0.19	0.19	0.17	0.25	0.19	S	0.42	0.14	0.42	0.21	24
31	0.22	0.24	0.24	0.27	0.27	0.29	0.32	0.35	0.27	0.25	0.27	0.27	0.24	0.25	0.19	0.22	0.22	0.22	0.24	0.22	0.19	S	0.48	0.24	0.19	0.48	0.26	24
HOURLY MAX	0.58	0.48	0.45	0.43	0.45	0.53	0.69	0.70	0.71	0.71	0.53	0.35	0.38	0.37	0.37	0.38	0.37	0.35	0.40	0.42	0.56	0.73	0.48	0.56				
HOURLY AVG	0.19	0.20	0.20	0.21	0.21	0.23	0.25	0.25	0.24	0.23	0.21	0.17	0.17	0.16	0.16	0.16	0.16	0.16	0.16	0.17	0.18	0.20	0.20	0.21				

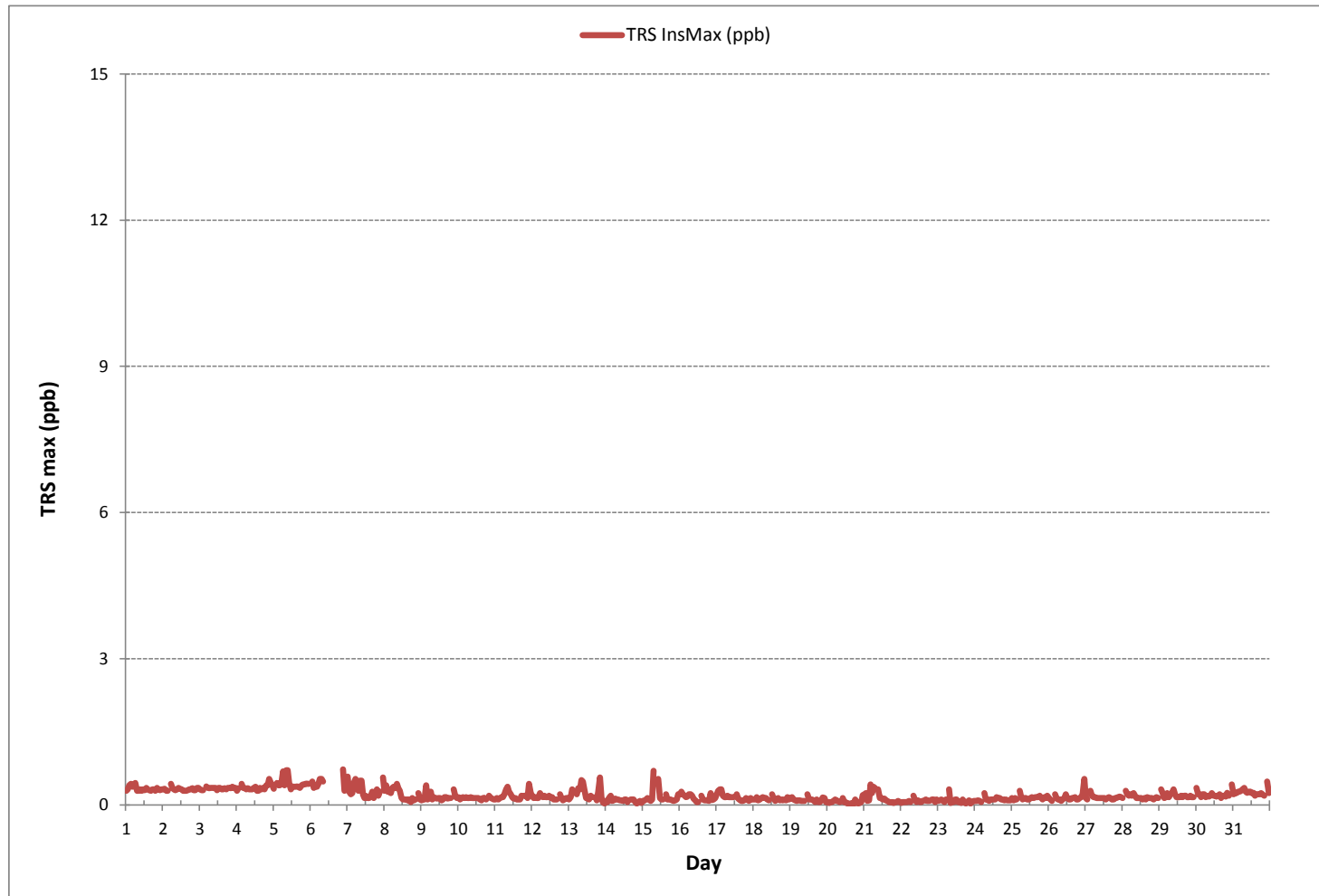
STATUS FLAG CODES

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:	697				
MAXIMUM INSTANTANEOUS VALUE:	0.73	ppb	@ HOUR	21	ON DAY 6
IZS CALIBRATION TIME:	32	hrs	OPERATIONAL TIME:	737	hrs
MONTHLY CALIBRATION TIME:	8	hrs			
STANDARD DEVIATION:	0.12				

TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS ppb)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
Three Creeks 986b Station - March 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																												
1	1.99	2.00	2.01	2.01	2.01	S	1.99	1.99	1.98	1.99	1.99	1.99	1.99	1.99	1.99	1.98	1.99	1.99	1.99	2.00	2.00	2.00	2.00	2.00	1.98	2.01	1.99	24
2	1.99	1.99	2.00	2.00	S	2.01	2.00	2.00	2.00	2.01	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.01	2.01	2.01	2.02	2.02	1.99	2.02	2.00	24
3	2.02	2.02	2.01	S	2.00	2.01	2.01	2.02	2.02	2.02	2.02	2.03	2.17	2.28	2.14	2.27	2.01	2.01	2.01	2.45	2.26	2.01	2.04	2.02	2.00	2.45	2.08	24
4	2.00	2.00	S	2.19	2.22	2.31	2.32	2.12	2.36	2.20	2.18	2.30	2.07	2.51	2.48	2.53	2.22	2.04	2.02	2.02	2.02	2.03	2.05	2.03	2.00	2.53	2.18	24
5	2.03	S	2.07	2.16	2.16	2.11	2.13	2.16	2.27	2.25	2.76	2.48	2.50	2.38	2.20	2.35	2.24	2.08	2.08	2.08	2.08	2.08	2.10	2.38	2.03	2.76	2.22	24
6	S	2.46	2.67	2.60	2.51	2.24	2.02	2.02	2.01	C	C	C	C	C	1.99	1.99	2.00	2.00	2.00	2.00	2.01	2.01	2.00	S	1.99	2.67	2.15	24
7	2.01	2.02	2.02	2.04	2.12	2.14	2.13	2.20	2.13	2.96	2.74	2.33	Y	2.26	2.12	2.02	2.33	2.08	2.03	2.02	2.03	2.06	S	2.05	2.01	2.96	2.17	23
8	2.07	2.08	2.07	2.11	2.23	2.22	2.22	2.21	2.20	2.14	2.14	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.99	2.00	S	1.99	2.00	1.96	2.23	2.06	24
9	3.65	2.23	2.04	3.84	2.61	3.38	2.06	2.03	2.03	2.36	2.02	2.02	1.99	2.01	2.01	2.01	1.99	1.97	1.97	1.98	S	1.97	1.96	1.97	1.96	3.84	2.27	24
10	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.97	1.97	1.97	1.96	1.97	S	1.97	1.98	1.99	1.99	1.96	1.99	1.97	24
11	1.99	2.02	2.04	2.07	2.08	2.08	2.11	2.11	2.13	2.44	3.18	3.01	2.00	2.00	2.00	2.02	2.02	2.01	S	2.02	2.01	2.02	2.04	2.06	1.99	3.18	2.15	24
12	2.06	2.06	2.08	2.09	2.10	2.12	2.10	2.08	2.10	2.06	2.06	2.06	2.04	2.13	2.13	2.00	2.04	S	2.06	2.05	2.06	2.06	2.77	2.07	2.00	2.77	2.10	24
13	2.08	2.19	2.29	2.33	2.32	2.58	2.28	2.51	3.77	2.61	2.67	2.62	2.23	2.22	2.23	2.36	S	1.94	1.95	1.95	1.97	1.99	1.99	1.99	1.94	3.77	2.31	24
14	1.99	1.99	1.98	1.99	2.03	2.02	2.03	2.03	2.07	2.09	2.09	2.09	2.09	2.11	2.10	S	2.03	2.01	2.01	2.02	2.04	2.02	2.02	2.03	1.98	2.11	2.04	24
15	2.05	2.05	2.07	2.07	2.07	2.12	2.08	2.08	2.09	X	2.14	2.32	2.33	2.16	S	2.24	2.41	2.10	2.09	2.10	2.12	2.11	2.39	2.39	2.05	2.41	2.16	23
16	2.14	2.15	2.79	5.37	4.06	3.06	3.23	3.75	4.48	3.19	2.12	2.49	2.47	S	2.06	2.22	2.36	2.86	3.75	4.11	2.05	2.11	2.06	2.08	2.05	5.37	2.91	24
17	2.11	2.37	2.43	2.16	2.13	2.02	2.02	2.01	2.00	2.01	2.02	2.02	S	1.98	1.96	1.97	1.97	1.96	3.78	3.27	2.03	2.00	1.98	1.99	1.96	3.78	2.18	24
18	1.99	1.99	2.00	2.00	2.01	2.01	2.01	2.00	2.00	1.99	1.99	S	1.98	1.98	2.11	2.00	2.00	2.00	2.00	2.01	1.99	2.03	2.06	2.11	1.98	2.11	2.01	24
19	2.11	2.59	2.02	2.02	2.01	2.03	2.04	2.04	2.04	2.04	S	2.03	2.03	2.02	2.00	2.00	1.98	1.98	2.02	2.24	2.26	2.09	2.07	1.96	1.96	2.59	2.07	24
20	2.12	1.99	1.97	1.97	4.12	4.20	1.95	1.95	2.20	S	2.24	2.34	2.11	2.13	2.21	2.26	2.12	2.25	2.30	1.97	2.02	1.97	1.97	1.97	1.95	4.20	2.28	24
21	1.96	1.97	1.96	1.97	2.00	1.99	1.98	1.99	S	1.99	1.98	1.97	1.98	1.98	1.97	1.97	1.97	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.96	2.00	1.97	24
22	1.98	1.98	1.98	1.98	1.99	1.99	1.98	S	1.98	1.98	1.98	1.99	1.99	1.99	1.99	1.99	2.00	2.00	2.00	1.99	1.99	1.99	1.98	1.98	1.98	2.00	1.99	24
23	1.98	1.97	1.98	1.98	1.98	1.98	S	1.97	1.97	1.98	2.00	1.98	1.97	1.97	1.97	1.96	1.98	1.97	1.97	1.98	1.98	1.98	1.97	2.01	1.96	2.01	1.98	24
24	2.00	2.36	2.22	2.27	2.17	S	2.14	2.14	2.26	2.08	2.15	2.59	2.23	2.05	1.97	1.99	1.97	1.97	1.96	2.00	1.97	1.98	3.00	2.50	1.96	3.00	2.17	24
25	2.56	1.98	1.97	1.97	S	1.97	1.97	1.98	1.97	1.97	1.99	1.99	1.97	1.97	1.96	2.03	1.97	1.96	1.97	1.97	1.96	1.96	1.96	1.97	1.96	2.56	2.00	24
26	1.96	1.96	1.96	S	1.97	2.06	2.02	2.33	2.01	2.00	2.19	2.21	2.31	2.22	2.25	2.36	2.54	2.59	2.78	3.52	1.97	1.98	1.98	1.98	1.96	3.52	2.22	24
27	1.97	1.97	S	1.97	1.96	1.96	1.96	1.96	1.96	1.97	2.02	2.03	2.25	2.29	2.22	2.31	2.33	2.36	2.64	2.52	1.98	2.00	2.00	2.00	1.96	2.64	2.11	24
28	2.00	S	2.02	2.02	2.01	2.36	3.93	2.61	2.47	2.40	2.01	2.02	2.12	2.15	2.34	2.34	2.18	2.11	2.43	2.50	1.97	1.98	1.98	1.98	1.97	3.93	2.26	24
29	S	1.98	2.60	2.78	2.01	1.98	1.98	1.99	2.00	2.00	1.99	1.99	2.04	2.10	2.19	2.22	2.30	2.06	2.83	2.49	1.98	3.34	1.98	S	1.98	3.34	2.22	24
30	2.08	2.15	2.02	1.99	1.98	2.43	2.24	2.00	2.12	2.17	2.34	2.35	2.20	2.18	2.28	2.21	2.23	2.31	2.35	2.72	2.92	2.00	S	1.99	1.98	2.92	2.23	24
31	2.07	2.11	2.15	2.27	2.24	2.26	2.17	2.22	2.07	2.01	2.02	2.01	2.01	2.01	2.01	2.00	2.01	2.01	2.00	2.00	2.01	S	2.01	2.02	2.00	2.27	2.07	24
HOURLY MAX	3.65	2.59	2.79	5.37	4.12	4.20	3.93	3.75	4.48	3.19	3.18	3.01	2.50	2.51	2.48	2.53	2.54	2.86	3.78	4.11	2.92	3.34	3.00	2.50				
HOURLY AVG	2.10	2.09	2.12	2.28	2.24	2.26	2.17	2.15	2.22	2.17	2.17	2.18	2.11	2.10	2.09	2.12	2.10	2.08	2.23	2.27	2.05	2.06	2.08	2.05				

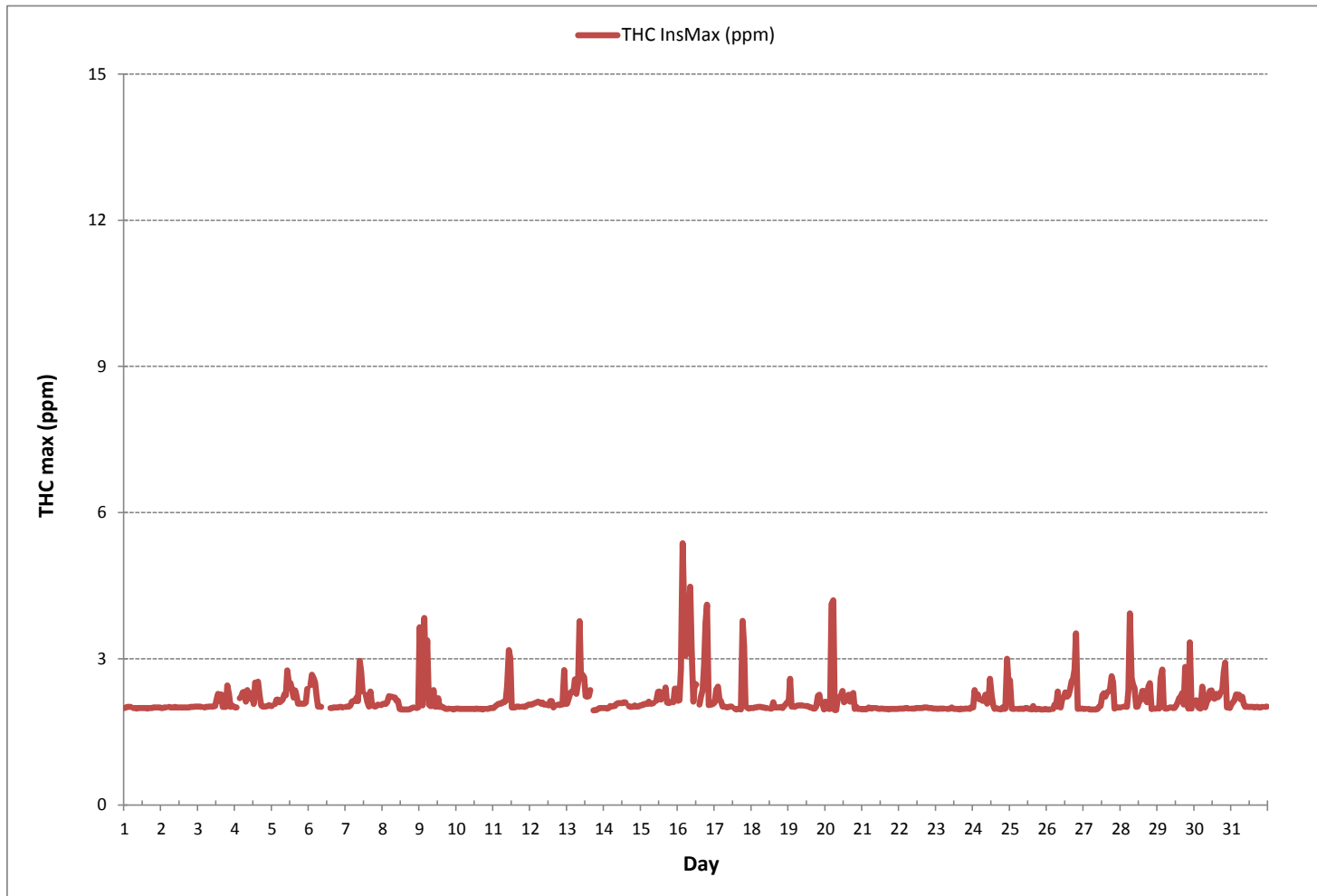
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	704
MAXIMUM INSTANTANEOUS VALUE:	5.37 ppm @ HOUR 3 ON DAY 16
IZS CALIBRATION TIME:	33 hrs
MONTHLY CALIBRATION TIME:	5 hrs
OPERATIONAL TIME:	742 hrs
STANDARD DEVIATION:	0.35

TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - March 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	2.00	2.00	2.01	2.01	2.01	S	2.00	2.00	1.99	2.00	2.00	2.00	2.00	2.00	1.99	1.99	2.00	2.00	2.00	2.01	2.01	2.01	2.01	2.00	1.99	2.01	2.00	2.00	24
2	2.00	2.00	2.01	2.01	S	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.00	2.01	2.00	2.01	2.01	2.01	2.02	2.02	2.03	2.02	2.00	2.03	2.01	24	
3	2.02	2.02	2.01	S	2.01	2.01	2.02	2.03	2.03	2.03	2.03	2.04	2.19	2.29	2.15	2.27	2.02	2.02	2.02	2.45	2.26	2.02	2.05	2.03	2.01	2.45	2.09	24	
4	2.01	2.01	S	2.20	2.23	2.32	2.33	2.13	2.37	2.22	2.19	2.31	2.07	2.51	2.49	2.53	2.23	2.05	2.02	2.03	2.03	2.04	2.06	2.04	2.01	2.53	2.19	24	
5	2.04	S	2.08	2.17	2.17	2.12	2.14	2.18	2.28	2.26	2.77	2.49	2.51	2.39	2.22	2.36	2.25	2.08	2.09	2.09	2.09	2.09	2.11	2.39	2.04	2.77	2.23	24	
6	S	2.47	2.68	2.61	2.52	2.25	2.02	2.02	2.01	C	C	C	C	C	1.99	1.99	2.00	2.00	2.01	2.01	2.01	2.02	2.01	S	1.99	2.68	2.15	24	
7	2.02	2.02	2.03	2.05	2.13	2.15	2.14	2.21	2.14	2.97	2.75	2.33	Y	2.28	2.13	2.03	2.33	2.09	2.04	2.03	2.03	2.06	S	2.06	2.02	2.97	2.18	23	
8	2.07	2.09	2.08	2.12	2.24	2.24	2.24	2.23	2.21	2.15	2.15	1.97	1.96	1.97	1.96	1.96	1.96	1.96	1.97	2.00	2.01	S	2.00	2.00	1.96	2.24	2.07	24	
9	3.68	2.25	2.04	3.86	2.62	3.40	2.07	2.04	2.04	2.37	2.03	2.02	2.20	2.01	2.01	2.02	2.00	1.98	1.97	1.99	S	1.97	1.96	1.97	1.96	3.86	2.28	24	
10	1.98	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.97	1.97	1.97	1.96	1.97	S	1.98	1.99	2.00	2.00	1.96	2.00	1.98	24	
11	2.00	2.02	2.05	2.07	2.09	2.09	2.11	2.12	2.14	2.46	3.20	3.02	2.01	2.00	2.01	2.03	2.02	2.02	S	2.02	2.02	2.03	2.04	2.07	2.00	3.20	2.16	24	
12	2.07	2.07	2.09	2.09	2.11	2.13	2.11	2.08	2.11	2.06	2.06	2.07	2.05	2.15	2.14	2.00	2.05	S	2.07	2.06	2.06	2.07	2.78	2.08	2.00	2.78	2.11	24	
13	2.09	2.20	2.30	2.33	2.33	2.60	2.29	2.51	3.79	2.62	2.68	2.63	2.24	2.23	2.25	2.37	S	1.94	1.95	1.96	1.97	2.00	2.00	2.00	1.94	3.79	2.32	24	
14	2.00	1.99	1.98	2.00	2.03	2.03	2.03	2.08	2.09	2.10	2.10	2.11	2.11	2.10	S	2.04	2.02	2.02	2.03	2.04	2.03	2.02	2.04	1.98	2.11	2.04	24		
15	2.06	2.06	2.07	2.08	2.08	2.13	2.09	2.08	2.10	X	2.15	2.33	2.34	2.17	S	2.26	2.43	2.11	2.10	2.11	2.14	2.12	2.14	2.17	2.06	2.43	2.15	23	
16	2.15	2.16	2.80	5.37	4.07	3.08	3.26	3.77	4.50	3.21	2.13	2.49	2.47	S	2.07	2.23	2.37	2.87	3.77	4.13	2.07	2.06	2.07	2.09	2.06	5.37	2.92	24	
17	2.11	2.39	2.45	2.17	2.14	2.03	2.02	2.02	2.01	2.02	2.03	2.03	S	1.99	1.98	1.98	1.98	1.97	3.80	3.30	2.04	2.01	1.99	2.00	1.97	3.80	2.19	24	
18	2.00	2.00	2.01	2.00	2.01	2.01	2.02	2.01	2.00	2.00	2.00	S	1.99	1.99	2.12	2.01	2.01	2.01	2.00	2.01	2.00	2.03	2.07	2.12	1.99	2.12	2.02	24	
19	2.12	2.60	2.03	2.02	2.01	2.04	2.05	2.06	2.05	2.05	S	2.04	2.04	2.03	2.01	2.00	1.98	1.99	2.02	2.25	2.28	2.10	2.08	1.96	1.96	2.60	2.08	24	
20	2.13	2.00	1.98	1.98	4.14	4.21	1.95	1.95	2.21	S	2.25	2.35	2.11	2.15	2.22	2.27	2.13	2.26	2.31	1.98	2.02	1.98	1.98	1.98	1.95	4.21	2.28	24	
21	1.96	1.97	1.96	1.98	1.99	2.00	1.99	2.00	S	2.00	1.98	1.98	1.98	1.99	1.97	1.97	1.98	1.97	1.97	1.98	1.97	1.98	1.98	1.98	1.96	2.00	1.98	24	
22	1.99	1.99	1.99	1.99	2.00	1.99	1.99	S	1.98	1.99	1.99	2.00	2.00	1.99	1.99	2.00	2.01	2.01	2.00	2.00	2.00	1.99	1.99	1.99	1.98	2.01	1.99	24	
23	1.98	1.98	1.98	1.98	1.98	1.99	S	1.97	1.98	1.99	2.00	1.99	1.97	1.97	1.98	1.97	1.98	1.97	1.98	1.98	1.99	1.99	1.98	2.02	1.97	2.02	1.98	24	
24	2.01	2.37	2.23	2.27	2.18	S	2.15	2.15	2.27	2.08	2.16	2.60	2.25	2.06	1.97	2.00	1.98	1.98	1.97	2.01	1.98	1.99	3.01	2.51	1.97	3.01	2.18	24	
25	2.57	1.98	1.98	1.98	S	1.97	1.98	1.98	1.98	1.97	2.00	2.00	1.98	1.98	1.97	2.04	1.97	1.96	1.98	1.97	1.96	1.96	1.97	1.98	1.96	2.57	2.00	24	
26	1.96	1.97	1.96	S	1.97	2.06	2.02	2.33	2.02	2.01	2.20	2.22	2.32	2.24	2.26	2.37	2.55	2.60	2.79	3.53	1.98	1.99	1.98	1.98	1.96	3.53	2.23	24	
27	1.98	1.98	S	1.97	1.96	1.96	1.96	1.96	1.96	1.97	2.03	2.04	2.25	2.30	2.24	2.32	2.34	2.37	2.65	2.52	1.99	2.01	2.00	2.00	1.96	2.65	2.12	24	
28	2.00	S	2.03	2.02	2.02	2.37	3.95	2.62	2.48	2.41	2.01	2.03	2.13	2.16	2.35	2.34	2.19	2.12	2.44	2.50	1.97	1.98	1.98	1.99	1.97	3.95	2.26	24	
29	S	1.99	2.61	2.79	2.01	1.99	1.99	2.00	2.01	2.00	2.00	2.00	2.04	2.11	2.21	2.24	2.31	2.07	2.84	2.49	1.99	3.36	1.99	S	1.99	3.36	2.23	24	
30	2.09	2.16	2.02	1.99	1.99	2.45	2.26	2.01	2.14	2.18	2.35	2.36	2.21	2.19	2.28	2.23	2.25	2.31	2.36	2.74	2.94	2.00	S	1.99	1.99	2.94	2.24	24	
31	2.07	2.12	2.16	2.28	2.26	2.27	2.18	2.24	2.07	2.02	2.02	2.02	2.02	2.02	2.02	2.01	2.01	2.01	2.00	2.01	2.01	S	2.01	2.02	2.00	2.28	2.08	24	
HOURLY MAX	3.68	2.60	2.80	5.37	4.14	4.21	3.95	3.77	4.50	3.21	3.20	3.02	2.51	2.51	2.49	2.53	2.55	2.87	3.80	4.13	2.94	3.36	3.01	2.51					
HOURLY AVG	2.11	2.10	2.12	2.29	2.25	2.27	2.18	2.16	2.23	2.18	2.18	2.19	2.12	2.11	2.10	2.13	2.11	2.09	2.24	2.27	2.06	2.07	2.08	2.05					

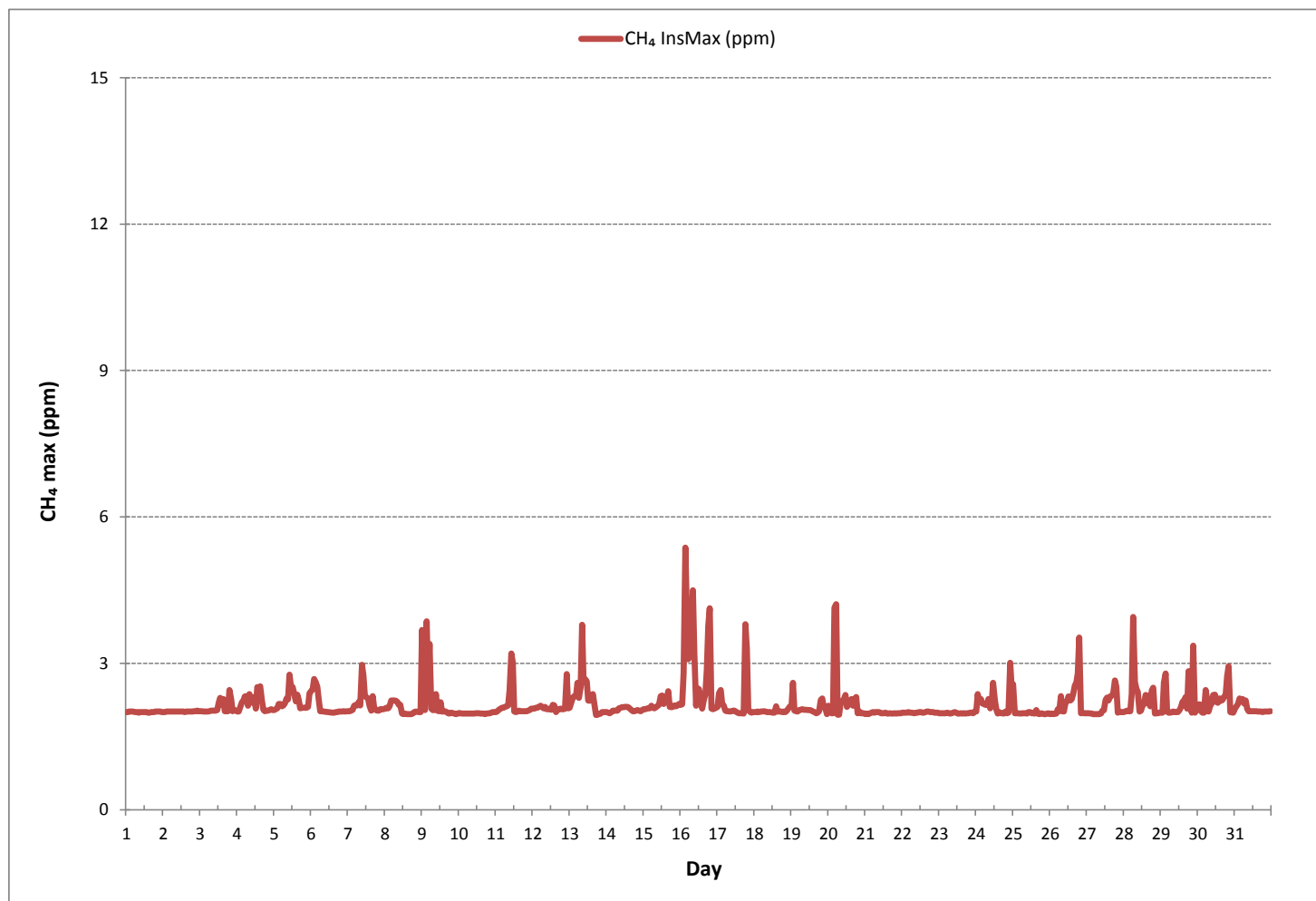
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	704				
MAXIMUM INSTANTANEOUS VALUE:	5.37	ppm	@ HOUR	3	ON DAY 16
IZS CALIBRATION TIME:	33	hrs	OPERATIONAL TIME:	742	hrs
MONTHLY CALIBRATION TIME:	5	hrs			
STANDARD DEVIATION:	0.35				

METHANE MAX Instantaneous Maximum (CH₄ ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - March 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	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
2	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
3	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
4	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
5	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.09	0.00	24
6	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C	C	C	C	C	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.01	0.00	24
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Y	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	23
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	24
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.02	0.00	24
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	24
13	0.00	0.00	0.07	0.00	0.00	0.03	0.00	0.06	0.06	0.03	0.10	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	0.10	0.02	24
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.28	0.00	0.28	0.03	23
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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.08	0.00	24
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
18	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
19	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	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
20	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
21	0.00	0.00	0.00	0.00	0.02	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	0.02	0.00	24
22	0.00	0.00	0.00	0.00	0.00	0.01	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
23	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
24	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
25	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
26	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
27	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
28	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
29	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	24
30	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.01	0.00	24
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	24
HOURLY MAX	0.00	0.00	0.07	0.01	0.02	0.03	0.00	0.06	0.06	0.03	0.10	0.00	0.02	0.02	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.08	0.28	0.28				
HOURLY AVG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01				

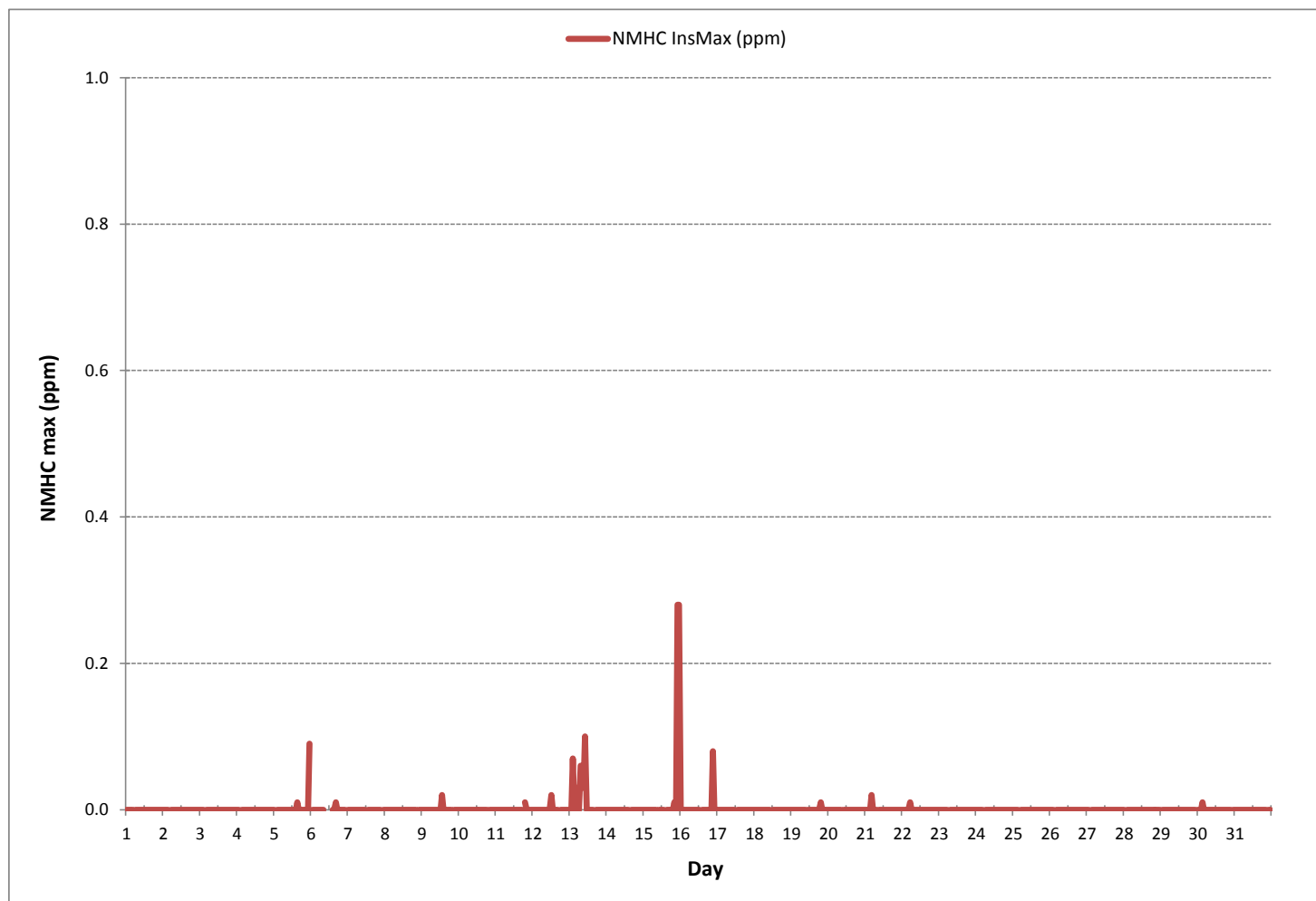
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	20
MAXIMUM INSTANTANEOUS VALUE:	0.28 ppm @ HOUR 22 ON DAY 15
IZS CALIBRATION TIME:	33 hrs
MONTHLY CALIBRATION TIME:	5 hrs
OPERATIONAL TIME:	742 hrs
STANDARD DEVIATION:	0.02

NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
Three Creeks 986b Station - March 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	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	23.8	26.2	28.6	29.9	33.4	31.4	32.7	30.8	35.6	37.8	30.8	38.9	34.1	35.5	33.7	34.7	42.0	41.5	38.1	36.9	35.6	36.5	45.0	39.5	23.8	45.0	34.7	24
2	38.8	44.2	40.2	39.4	36.0	35.3	30.1	36.4	39.8	33.2	28.8	27.1	28.0	31.2	29.8	27.2	26.5	26.1	22.3	25.0	24.1	20.7	17.6	14.8	14.8	44.2	30.1	24
3	14.2	17.3	15.4	15.8	19.7	15.3	15.0	15.4	14.2	14.4	13.2	22.1	21.4	25.4	23.0	19.3	18.3	16.6	13.6	12.0	10.6	13.0	12.9	12.9	10.6	25.4	16.3	24
4	14.7	9.6	11.6	12.5	14.4	12.3	9.4	9.6	11.2	12.3	9.2	6.7	7.6	10.9	11.2	11.0	8.8	8.5	4.6	6.5	3.6	9.0	7.0	4.3	3.6	14.7	9.4	24
5	5.2	4.6	3.7	6.6	6.7	6.6	4.5	4.9	3.8	3.1	9.7	9.5	13.4	13.9	14.6	10.2	15.1	11.2	7.9	9.8	9.3	6.2	2.6	6.9	2.6	15.1	7.9	24
6	16.9	18.1	18.1	10.1	13.9	14.1	4.3	4.1	4.7	13.3	16.3	17.3	14.8	16.6	13.3	12.9	12.3	15.6	11.3	9.1	7.3	8.7	7.2	7.0	4.1	18.1	12.0	24
7	6.0	7.9	8.7	7.2	7.3	6.8	6.1	4.2	4.6	5.4	9.6	12.6	6.1	10.2	10.0	10.2	10.5	12.1	8.5	7.3	9.3	8.7	7.7	5.7	4.2	12.6	8.0	24
8	7.3	7.5	8.4	7.7	8.0	7.4	6.6	9.9	10.6	9.3	12.9	14.9	19.7	19.8	25.5	28.3	23.4	21.6	24.2	30.8	21.8	17.4	16.3	9.2	6.6	30.8	15.4	24
9	4.5	4.4	7.2	8.3	3.8	4.3	8.7	11.4	11.2	12.2	12.5	15.0	11.5	15.3	32.9	24.0	28.8	23.6	18.6	11.2	16.0	11.2	9.7	18.9	3.8	32.9	13.6	24
10	20.5	22.0	21.9	21.0	23.3	17.4	16.8	17.5	21.2	24.5	29.9	26.1	27.6	25.2	31.6	25.4	32.5	23.4	18.6	11.8	10.3	7.2	7.1	8.1	7.1	32.5	20.5	24
11	7.5	9.7	5.8	5.6	7.0	8.2	9.8	8.1	7.8	4.1	6.4	13.8	15.6	17.3	17.8	17.7	12.8	12.7	9.4	9.9	6.1	8.0	8.3	6.3	4.1	17.8	9.8	24
12	7.4	11.4	12.4	11.8	9.1	7.8	10.9	10.3	9.1	18.4	20.4	18.7	17.7	12.2	15.6	16.1	17.7	19.2	13.7	11.1	10.5	12.2	4.9	4.5	4.5	20.4	12.6	24
13	3.2	5.0	4.8	7.4	6.2	5.8	6.0	7.2	7.8	3.6	4.5	5.7	14.8	12.6	10.6	12.6	17.1	21.8	15.1	10.9	11.7	15.3	15.8	20.4	3.2	21.8	10.2	24
14	15.4	13.5	15.0	13.8	12.7	13.5	14.7	14.7	13.4	13.3	11.6	12.1	11.5	12.8	17.6	20.4	18.7	26.0	23.5	21.2	23.0	28.6	20.9	16.7	11.5	28.6	16.9	24
15	13.8	10.0	9.0	9.7	8.5	10.5	8.8	10.6	10.0	12.4	15.1	11.3	14.4	14.2	12.8	12.3	10.0	10.8	13.0	5.9	4.3	6.6	8.0	8.1	4.3	15.1	10.4	24
16	5.0	3.9	3.7	5.1	8.3	8.7	6.4	7.1	8.2	8.8	7.9	12.4	14.8	12.5	12.7	11.6	17.1	17.0	5.5	9.3	6.7	4.3	11.6	8.7	3.7	17.1	9.1	24
17	7.9	7.8	7.5	7.7	10.2	10.1	10.9	11.5	16.4	13.7	14.0	16.7	16.3	21.1	21.9	17.7	19.1	15.6	9.6	9.0	10.7	15.3	12.6	14.4	7.5	21.9	13.2	24
18	6.7	10.0	10.8	9.6	12.2	9.7	9.7	7.7	9.7	10.5	9.7	14.1	14.2	13.6	7.6	15.9	16.1	14.1	10.6	8.1	6.8	10.0	7.6	9.7	6.7	16.1	10.6	24
19	11.0	9.7	11.6	12.9	14.5	16.2	20.0	21.5	21.5	23.5	32.1	24.4	26.4	30.3	23.8	23.3	19.8	17.6	8.9	12.8	8.6	8.3	10.2	11.5	8.3	32.1	17.5	24
20	6.8	7.3	9.6	3.9	3.8	8.5	7.7	8.3	9.8	13.7	11.8	13.8	11.9	14.4	15.2	13.8	11.5	13.4	10.1	11.3	10.4	13.4	15.1	16.5	3.8	16.5	10.9	24
21	20.9	23.1	22.9	24.5	26.5	26.6	29.6	26.3	24.5	28.3	30.3	30.7	28.4	30.3	26.5	29.0	33.4	30.8	28.7	29.7	29.9	33.7	31.6	25.9	20.9	33.7	28.0	24
22	25.6	26.1	28.1	25.4	25.8	33.2	30.1	26.5	34.2	35.6	29.0	33.7	34.0	36.4	32.4	38.3	32.7	36.5	36.8	44.9	36.5	36.3	37.3	42.8	25.4	44.9	33.3	24
23	38.5	29.9	29.0	28.5	28.9	28.6	27.4	23.6	21.4	18.0	28.3	27.9	30.2	31.0	30.3	27.8	30.0	21.8	19.5	17.4	14.7	17.1	17.7	13.5	13.5	38.5	25.0	24
24	9.7	16.5	21.5	25.1	21.8	23.3	27.3	26.7	21.7	23.2	26.5	24.0	20.1	17.2	15.9	15.4	13.3	10.5	10.7	7.0	7.3	4.0	5.1	3.0	3.0	27.3	16.5	24
25	6.2	9.2	13.4	12.5	12.7	17.5	14.7	13.0	13.7	15.5	11.9	16.2	12.5	11.6	11.4	11.0	13.1	20.1	14.2	16.3	13.0	15.9	18.9	14.9	6.2	20.1	13.7	24
26	14.7	18.0	15.4	12.9	17.9	15.2	11.1	21.2	18.5	25.3	22.4	22.5	25.1	24.0	25.9	21.6	24.1	19.5	17.0	7.6	6.2	8.0	10.8	16.5	6.2	25.9	17.6	24
27	17.9	17.3	17.8	23.8	28.3	25.5	23.2	19.1	19.6	18.6	19.9	18.1	20.7	21.9	23.5	21.7	21.8	22.2	12.5	5.2	9.7	11.2	11.4	14.2	5.2	28.3	18.5	24
28	14.7	11.1	6.5	7.0	4.9	6.2	3.9	4.6	12.6	13.6	12.1	13.1	13.6	14.9	21.0	24.2	22.8	20.4	18.7	17.0	20.5	17.9	20.2	15.1	3.9	24.2	14.0	24
29	17.0	12.0	9.0	8.4	4.1	3.7	7.6	4.5	6.2	7.3	6.3	15.5	10.5	16.0	15.6	18.7	21.0	21.0	18.5	16.0	16.6	7.7	15.5	15.2	3.7	21.0	12.2	24
30	15.0	12.1	15.7	12.9	17.9	14.9	17.7	22.0	25.7	22.3	21.4	24.8	22.5	35.5	32.4	30.3	35.4	29.8	21.9	15.8	6.1	4.5	4.4	4.5	4.4	35.5	19.4	24
31	4.6	4.9	5.2	5.3	5.3	6.8	7.2	8.1	8.7	13.7	19.6	21.3	22.0	26.4	24.4	22.9	18.6	17.9	17.4	12.4	8.5	7.9	8.1	6.4	4.6	26.4	12.7	24
HOURLY MAX	38.8	44.2	40.2	39.4	36.0	35.3	32.7	36.4	39.8	37.8	32.1	38.9	34.1	36.4	33.7	38.3	42.0	41.5	38.1	44.9	36.5	36.5	45.0	42.8				
HOURLY AVG	13.6	13.9	14.1	13.9	14.6	14.6	14.2	14.4	15.4	16.4	17.2	18.7	18.8	20.3	20.7	20.2	20.8	20.0	16.2	14.8	13.4	13.7	13.8	13.4				

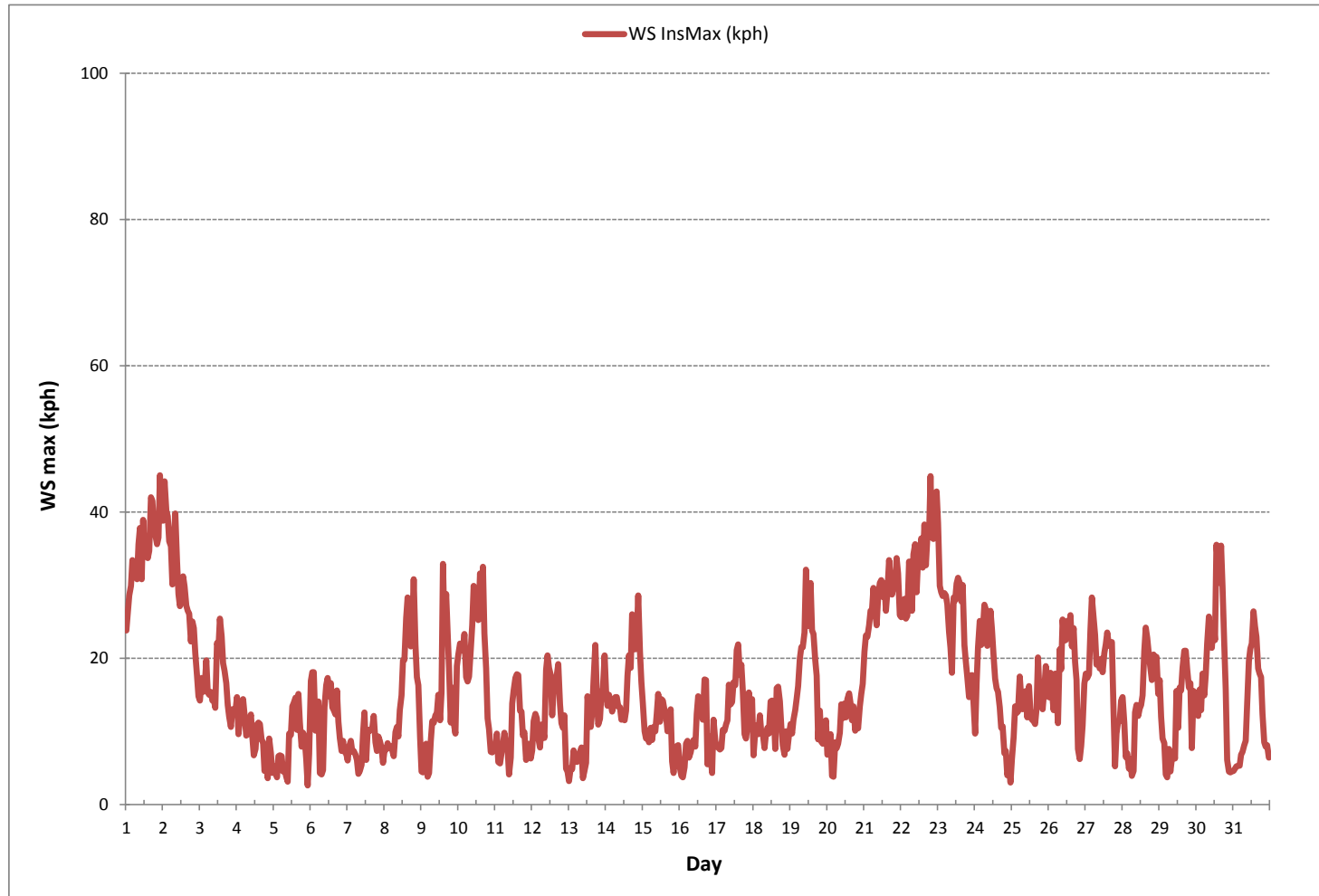
STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS VALUE:	45.0	kph	@ HOUR	22	ON DAY	1
OPERATIONAL TIME:	744	hrs				

WIND SPEED Instantaneous Maximum (WS kph)

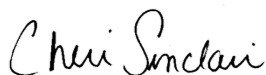


APPENDIX IV
REPORT CERTIFICATION FORM

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?	
☒ 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

23-Apr-2018

Report Issued Date (dd-mon-yyyy)

APPENDIX V
DATA VALIDATION CERTIFICATION FORM

Validation Certificate Form

Client: Peace River Area Monitoring Program Committee

Project #: 8449-2018-03-67-C

Site: Three Creeks 986b Station

Contact: Karla Reesor

Level 0 Preliminary Verification

Carla Reesor

Date 16-April-2018

Level 1 Primary Validation

Carla Reesor

Date 16-April-2018

Level 2 Final Validation

Carla Reesor

Date 23-April-2018

Level 3 Independent Data Review

Cheri Sinclair

Date 23-April-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.