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

JOB #: 8449-2018-05-80-C

May 2018

Prepared for:

PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Attention: LILY LIN

DATE: **June 15, 2018**

Prepared by:

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

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

Reviewed by:

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

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

SUMMARY

In May 2018, Maxxam Analytics was contracted to manage the ambient air quality monitoring and maintenance activities at the Three Creeks 842b Station, near Peace River Oil Sands Area 2, Alberta. The monitoring station provides continuous meteorological measurements and air quality data for non-compliance parameters, as requested by the PRAMP Committee.

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

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

The summary of results is presented on the following pages.

Any deviations or modifications made to the sampling or analytical methods are outlined in Section 1.0, Discussion. On this basis, Maxxam Analytics is issuing this completed report to Peace River Area Monitoring Program Committee, Three Creeks 842b Station.

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

Monthly Continuous Data Summary

Peace River Area Monitoring Program Committee						MAXIMUM VALUES							OPERATIONAL TIME (%)
Three Creeks 842b Station						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDANCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (kph)	WIND DIRECTION (sector)	READING	DAY	
	1-hr	24-hr	1-hr	24-hr									
SO ₂ (ppb)	172	48	0	0	0	1	10	6	5.5	ESE	1	24	100.0
TRS (ppb)	-	-	-	-	0.17	0.70	7	9	12.8	E	0.23	22	100.0
THC (ppm)	-	-	-	-	1.96	2.18	18	5	3.5	ENE	2.02	23	100.0
CH ₄ (ppm)	-	-	-	-	1.96	2.18	18	5	3.5	ENE	2.02	23	100.0
NMHC (ppm)	-	-	-	-	0.00	0.00	1	0	2.6	W	0.00	1	100.0
RELATIVE HUMIDITY (%)	-	-	-	-	45	95	3	4	3.4	SE	61	17	100.0
BAROMETRIC PRESSURE (millibar)	-	-	-	-	942	953	17	8	2.3	WNW	952	17	100.0
AMBIENT TEMPERATURE (°C)	-	-	-	-	14.0	30.2	23	15	13.3	S	22.5	23	100.0
STATION TEMPERATURE (°C)	-	-	-	-	21.6	24.4	24	17	17.3	NW	22.8	23	100.0
VECTOR WS (kph)	-	-	-	-	4.4	30.2	28	12	-	WSW	17.1	27	100.0
VECTOR WD (sec)	-	-	-	-	240 (WSW)	-	-	-	-	-	-	-	100.0

SOUR GAS PROCESSING INDUSTRY
MONTHLY REPORT SUMMARY

Three Creeks 842b Station

Peace River Area Monitoring Program Committee

Plant Name / Location

Company

Licence Number	Report Date	
	YEAR	MONTH
N/A	2018	May

CONTINUOUS AMBIENT MONITORING						
PARAMETER	% TIME OPERATIONAL	ONE - HOUR AVERAGE			24 - HOUR AVERAGE	
		MAXIMUM VALUES		NO. READINGS > REGULATION	MAXIMUM VALUES	NO. READINGS > REGULATION
SO ₂	100.0	0.001 ppm		0	0.001 ppm	0
TRS	100.0	0.001 ppm		-	0.000 ppm	-
THC	100.0	2.18 ppm		-	2.02 ppm	-
CH ₄	100.0	2.18 ppm		-	2.02 ppm	-
NMHC	100.0	0.00 ppm		-	0.00 ppm	-
RH	100.0	95 %		-	61 %	-
BP	100.0	953 mb		-	952 mb	-
Ambient TPX	100.0	30.2 °C		-	22.5 °C	-
Station TPX	100.0	24.4 °C		-	22.8 °C	-
Wind Speed	100.0	30.2 kph		-	17.1 kph	-
Wind Direction	100.0	-		-	-	-

SIGNATURE OF COMPANY REPRESENTATIVE

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Exceedance Summary Report

SO₂ 1-Hour Exceedances

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

SO₂ 24-Hour Exceedances

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

In accordance with EPEA and the Substance Release Regulation.

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

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1.0 Discussion

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

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 May 8.

TOTAL REDUCED SULPHUR (TRS)

- Operational time for the monitoring period was 100%.
- The routine monthly calibration was performed on May 8.

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

- Operational time for the monitoring period was 100%.
- The routine monthly calibration was performed on May 8.
- During minute data review, data that were deemed anomalous, due to suspected poor injections, were discarded and the corresponding hourly average was re-calculated. The following minute data were impacted: May 3, 08:18 - 08:19; May 4, 05:03 - 05:04; May 8, 00:40 - 00:41; May 10, 10:23 - 10:24; May 18, 17:49 - 17:50; May 19, 02:27 - 02:28; May 21, 22:17 - 22:18; May 22, 00:37; and May 31, 00:22 - 00:23.
- 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 trigger test was performed during the routine monthly calibration on May 8 to assess the effectiveness of the canister system.

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%.

BAROMETRIC PRESSURE (BP)

- Operational time for the monitoring period was 100%.
- A pressure sensor audit was conducted on May 8. The result was satisfactory.

AMBIENT TEMPERATURE (AmbTPX)

- Operational time for the monitoring period was 100%.
- A temperature sensor audit was conducted on May 8. The result did not meet Maxxam's internal tolerance limits of $\pm 1^{\circ}\text{C}$. An attempt was made to correct the offset by adjusting the data-logger output to match the output from the reference instrument. This decision was, however, reversed as it was determined that the discrepancy resulted from the positioning of the sensor. On May 10, the sensor was repositioned higher than the trailer roof. The audit was subsequently repeated and 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 technicians was Limin Li.

3.0 Plant Monthly Required AMD Summary

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

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

4.0 Calculations and Results

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

5.0 Methods and Procedures

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

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

Maxxam AIR SOP-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 43i 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

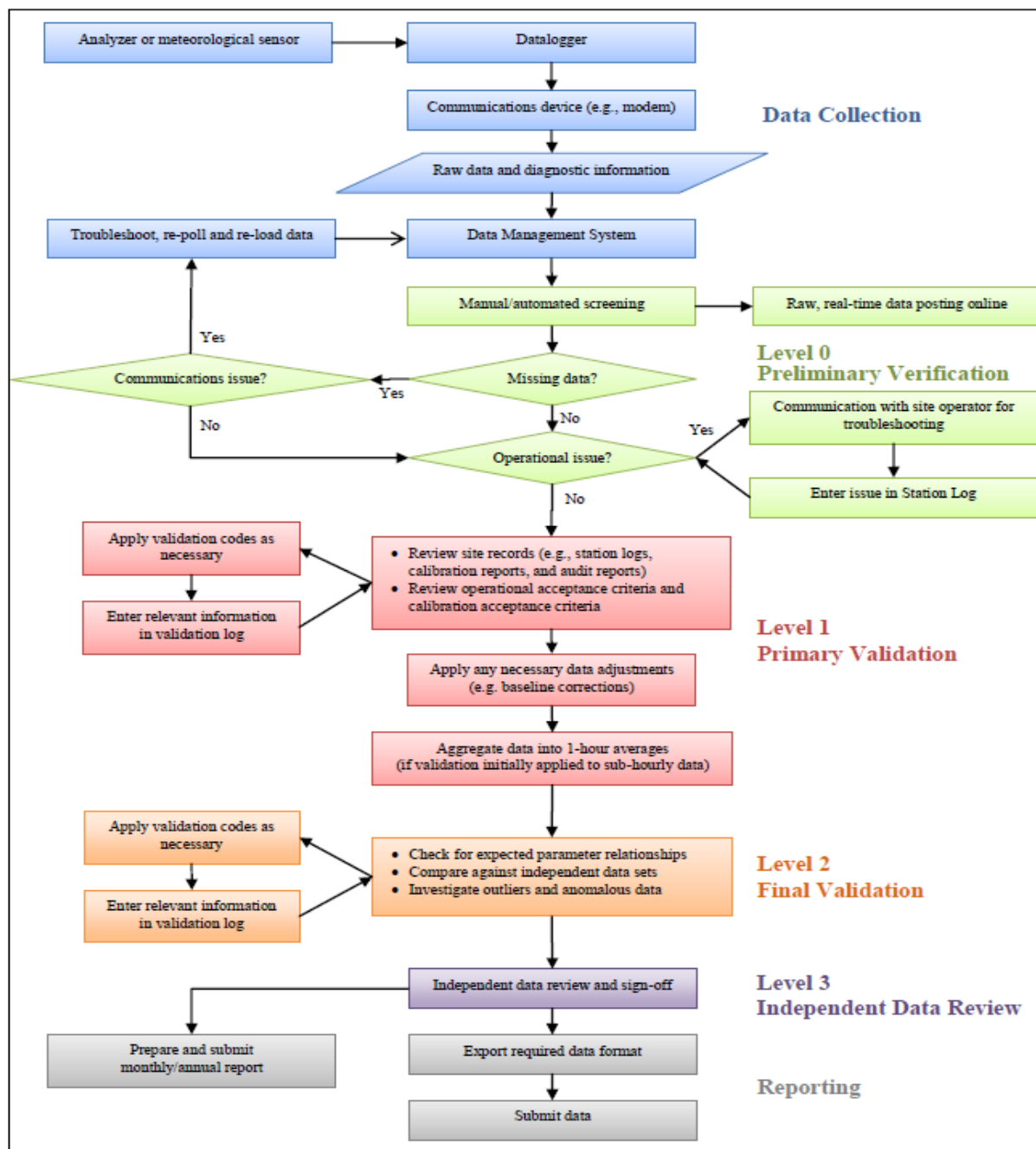
The purpose of Level 2 validation is to verify that there are no inconsistencies among related data, or among regional data measured at nearby sites.

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

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

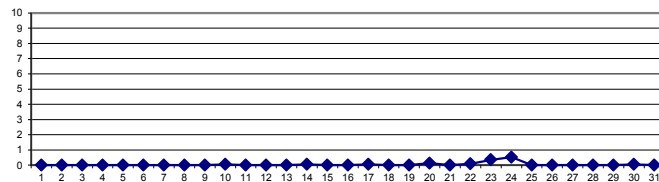
OBJECTIVE LIMIT:

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

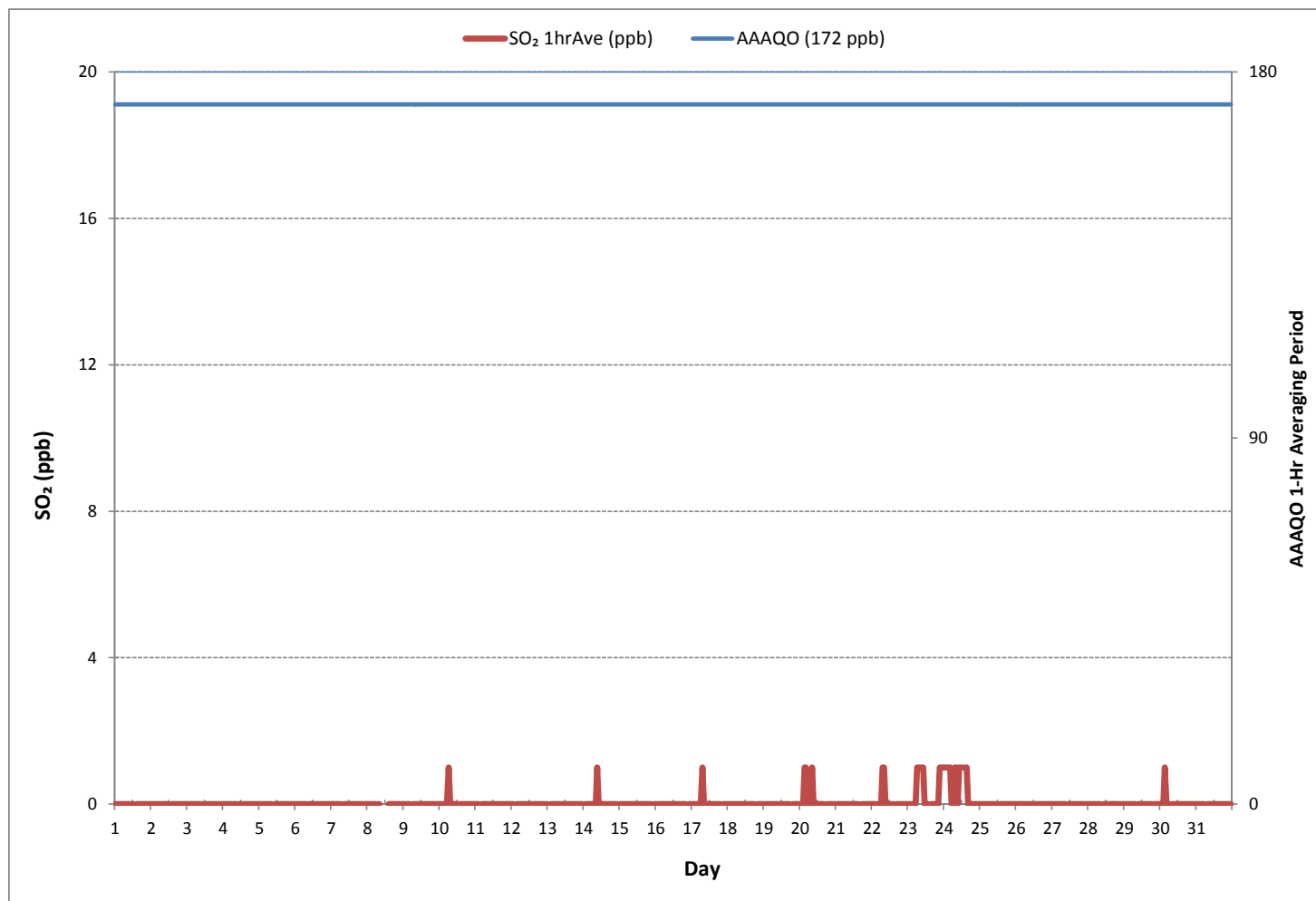
MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDANCES:	0
NUMBER OF 24-HR EXCEEDANCES:	0
NUMBER OF NON-ZERO READINGS:	29
MINIMUM 1-HR AVERAGE:	0 ppb @ HOUR 0 ON DAY 1
MAXIMUM 1-HR AVERAGE:	1 ppb @ HOUR 6 ON DAY 10
MAXIMUM 24-HR AVERAGE:	1 ppb ON DAY 24
IZS CALIBRATION TIME:	32 hrs
MONTHLY CALIBRATION TIME:	5 hrs
OPERATIONAL TIME:	744 hrs
AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION:	0
MONTHLY AVERAGE:	0 ppb

24 HR AVERAGES May 2018



SULPHUR DIOXIDE Hourly Averages (SO₂ ppb)



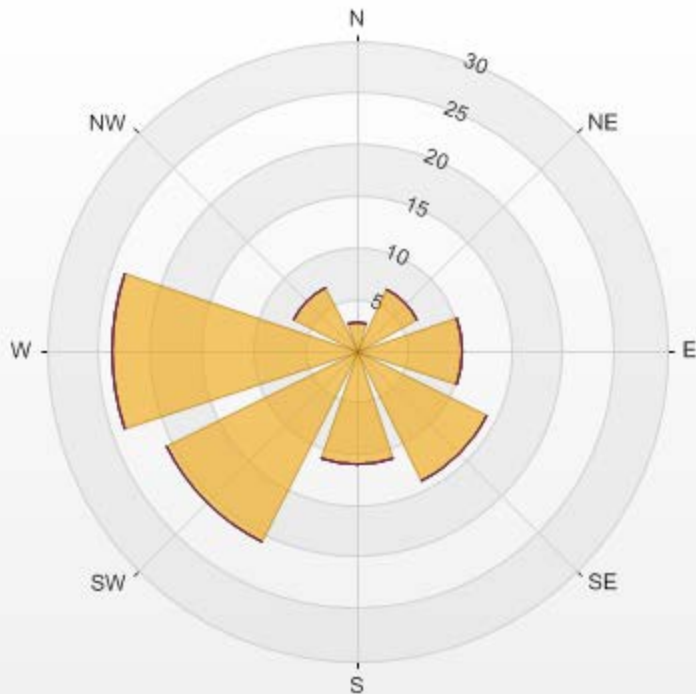
Wind: PRAMP_842
Poll.: PRAMP_842-SO₂[ppb]
Monthly: 18/05
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

Calm: 3.82%

Calm Avg: 0.15 [ppb]

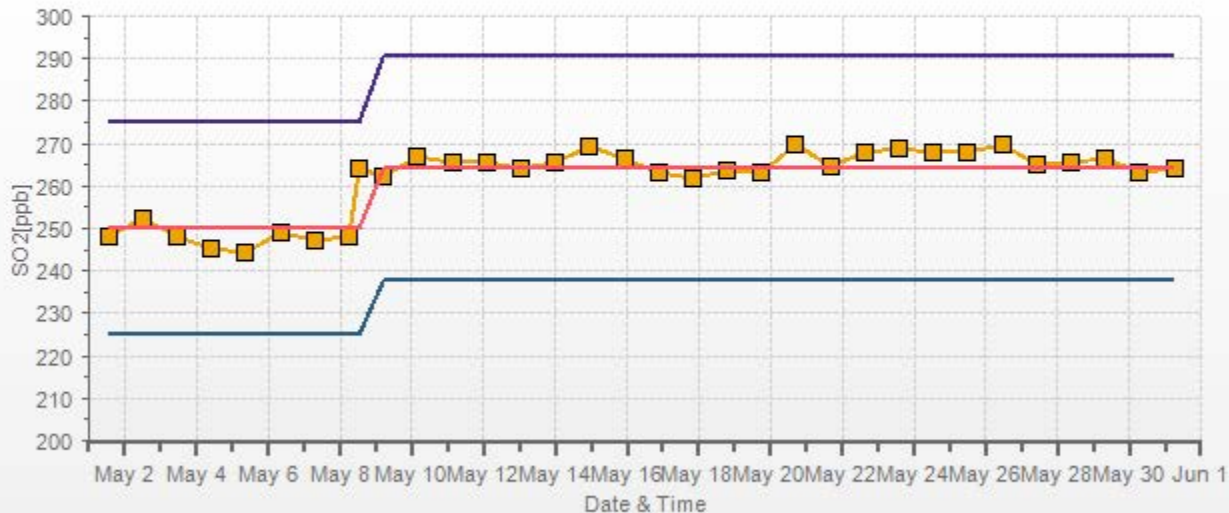
Direction	0-3	3-10	10-85	85-170	>170.0	Total
N	2.8	0.0	0.0	0.0	0.0	2.8
NE	6.7	0.0	0.0	0.0	0.0	6.7
E	10.2	0.0	0.0	0.0	0.0	10.2
SE	14.1	0.0	0.0	0.0	0.0	14.1
S	11.0	0.0	0.0	0.0	0.0	11.0
SW	20.7	0.0	0.0	0.0	0.0	20.7
W	23.8	0.0	0.0	0.0	0.0	23.8
NW	6.9	0.0	0.0	0.0	0.0	6.9
Summary	96.2	0.0	0.0	0.0	0.0	96.2

PRAMP_842 Poll.: PRAMP_842-SO2[ppb] 2018/05/01 00:00 - 2018/05/31 23:00 Calm: 3.82% Calm Poll Avg: 0.15[ppb]



SO₂[ppb] Calibration: PRAMP_842 Monthly: 18/05 Type: Span

Span Meas Span Ref Span Low Span High



TOTAL REDUCED SULPHUR

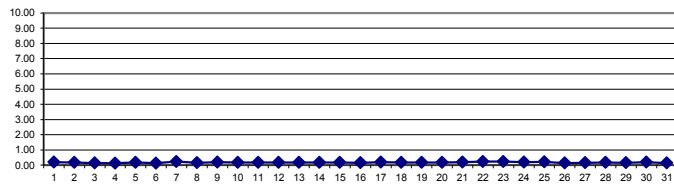
TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)

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	0.19	0.20	0.23	0.22	0.22	0.26	0.22	0.23	0.21	0.23	0.18	0.17	0.17	S	0.18	0.17	0.15	0.16	0.15	0.17	0.15	0.14	0.16	0.16	0.14	0.26	0.19	24
2	0.16	0.18	0.14	0.15	0.15	0.16	0.16	0.16	0.16	0.15	0.13	0.12	S	0.16	0.16	0.19	0.21	0.20	0.19	0.18	0.19	0.18	0.17	0.16	0.12	0.21	0.17	24
3	0.16	0.16	0.13	0.14	0.12	0.14	0.11	0.16	0.17	0.15	0.13	S	0.14	0.13	0.12	0.11	0.11	0.10	0.12	0.12	0.12	0.17	0.18	0.12	0.10	0.18	0.14	24
4	0.15	0.13	0.14	0.14	0.18	0.13	0.15	0.14	0.14	0.12	S	0.13	0.11	0.10	0.11	0.10	0.11	0.11	0.09	0.12	0.16	0.18	0.15	0.09	0.18	0.13	24	
5	0.20	0.19	0.22	0.23	0.22	0.27	0.26	0.17	0.22	S	0.22	0.17	0.11	0.11	0.12	0.13	0.13	0.12	0.11	0.10	0.13	0.12	0.15	0.18	0.10	0.27	0.17	24
6	0.20	0.13	0.12	0.14	0.11	0.13	0.15	0.17	S	0.16	0.13	0.11	0.11	0.12	0.10	0.10	0.10	0.11	0.10	0.10	0.13	0.17	0.15	0.14	0.10	0.20	0.13	24
7	0.14	0.15	0.16	0.18	0.22	0.38	0.37	S	0.68	0.70	0.24	0.22	0.21	0.16	0.15	0.14	0.16	0.12	0.13	0.13	0.13	0.13	0.16	0.17	0.12	0.70	0.23	24
8	0.18	0.21	0.20	0.21	0.21	0.21	S	0.12	0.05	C	C	C	C	C	0.12	0.11	0.11	0.16	0.15	0.16	0.16	0.17	0.18	0.17	0.05	0.21	0.16	24
9	0.19	0.21	0.23	0.25	0.30	S	0.38	0.34	0.31	0.26	0.20	0.16	0.14	0.13	0.14	0.12	0.12	0.12	0.11	0.12	0.11	0.12	0.13	0.12	0.11	0.38	0.19	24
10	0.13	0.13	0.14	0.14	S	0.16	0.14	0.15	0.19	0.17	0.20	0.16	0.18	0.17	0.17	0.16	0.16	0.15	0.15	0.14	0.16	0.18	0.21	0.27	0.13	0.27	0.17	24
11	0.27	0.22	0.22	S	0.19	0.19	0.21	0.25	0.27	0.22	0.20	0.17	0.13	0.12	0.12	0.11	0.12	0.11	0.12	0.12	0.14	0.15	0.15	0.17	0.11	0.27	0.17	24
12	0.20	0.15	S	0.24	0.21	0.25	0.25	0.26	0.18	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.16	0.15	0.15	0.16	0.16	0.17	0.18	0.16	0.15	0.26	0.18	24
13	0.16	S	0.18	0.23	0.32	0.18	0.18	0.18	0.15	0.14	0.14	0.15	0.14	0.14	0.12	0.13	0.13	0.14	0.13	0.13	0.17	0.20	0.18	0.24	0.12	0.32	0.17	24
14	S	0.21	0.17	0.23	0.23	0.20	0.16	0.17	0.20	0.21	0.20	0.18	0.15	0.12	0.13	0.14	0.13	0.12	0.13	0.13	0.16	0.22	0.14	S	0.12	0.23	0.17	24
15	0.19	0.24	0.27	0.21	0.28	0.25	0.22	0.21	0.18	0.17	0.16	0.15	0.13	0.14	0.14	0.14	0.13	0.13	0.12	0.13	0.14	0.15	S	0.18	0.12	0.28	0.18	24
16	0.20	0.19	0.21	0.19	0.18	0.18	0.18	0.18	0.15	0.15	0.13	0.13	0.12	0.11	0.11	0.11	0.11	0.14	0.15	0.15	0.17	S	0.17	0.21	0.11	0.21	0.16	24
17	0.23	0.25	0.25	0.27	0.23	0.24	0.29	0.24	0.19	0.15	0.14	0.12	0.13	0.11	0.13	0.13	0.13	0.13	0.13	0.15	S	0.23	0.21	0.20	0.11	0.29	0.19	24
18	0.22	0.22	0.24	0.21	0.26	0.35	0.30	0.18	0.15	0.14	0.13	0.14	0.12	0.13	0.10	0.12	0.10	0.12	0.12	S	0.17	0.15	0.13	0.14	0.10	0.35	0.17	24
19	0.14	0.16	0.15	0.17	0.18	0.24	0.20	0.17	0.16	0.16	0.16	0.14	0.14	0.14	0.14	0.14	0.14	0.15	S	0.15	0.18	0.21	0.21	0.18	0.14	0.24	0.17	24
20	0.18	0.19	0.17	0.18	0.19	0.21	0.20	0.19	0.19	0.16	0.16	0.16	0.14	0.13	0.13	0.14	0.13	S	0.16	0.18	0.15	0.16	0.15	0.19	0.13	0.21	0.17	24
21	0.22	0.25	0.25	0.26	0.25	0.24	0.23	0.23	0.22	0.21	0.18	0.17	0.17	0.14	0.14	0.12	S	0.14	0.13	0.14	0.17	0.18	0.15	0.19	0.12	0.26	0.19	24
22	0.19	0.20	0.30	0.40	0.54	0.48	0.35	0.25	0.22	0.16	0.17	0.17	0.14	0.16	0.15	S	0.15	0.14	0.13	0.13	0.15	0.22	0.22	0.24	0.13	0.54	0.23	24
23	0.33	0.23	0.28	0.32	0.38	0.60	0.46	0.34	0.27	0.21	0.17	0.15	0.14	0.15	S	0.14	0.13	0.13	0.13	0.13	0.13	0.14	0.13	0.15	0.13	0.60	0.23	24
24	0.15	0.16	0.17	0.17	0.20	0.26	0.22	0.19	0.18	0.22	0.20	0.13	0.10	S	0.13	0.11	0.13	0.15	0.18	0.23	0.22	0.27	0.35	0.24	0.10	0.35	0.19	24
25	0.22	0.25	0.28	0.35	0.36	0.40	0.41	0.30	0.24	0.24	0.18	0.16	S	0.17	0.14	0.14	0.15	0.14	0.13	0.12	0.15	0.17	0.17	0.14	0.12	0.41	0.22	24
26	0.19	0.22	0.26	0.28	0.23	0.16	0.13	0.13	0.12	0.10	0.08	S	0.09	0.09	0.09	0.09	0.10	0.09	0.09	0.08	0.12	0.15	0.15	0.12	0.08	0.28	0.14	24
27	0.17	0.22	0.14	0.16	0.15	0.15	0.17	0.17	0.19	0.15	S	0.14	0.13	0.13	0.13	0.14	0.13	0.13	0.14	0.18	0.15	0.15	0.14	0.15	0.13	0.22	0.15	24
28	0.19	0.20	0.23	0.23	0.24	0.23	0.27	0.28	0.28	S	0.23	0.16	0.13	0.11	0.11	0.10	0.11	0.10	0.10	0.10	0.11	0.11	0.12	0.11	0.10	0.28	0.17	24
29	0.13	0.13	0.16	0.14	0.17	0.31	0.22	0.14	S	0.17	0.13	0.12	0.11	0.12	0.12	0.12	0.11	0.12	0.14	0.15	0.13	0.15	0.15	0.16	0.11	0.31	0.15	24
30	0.21	0.27	0.31	0.52	0.31	0.23	0.22	S	0.18	0.16	0.15	0.14	0.16	0.16	0.15	0.13	0.14	0.12	0.13	0.13	0.13	0.16	0.17	0.15	0.12	0.52	0.19	24
31	0.21	0.21	0.20	0.20	0.18	0.24	S	0.16	0.14	0.12	0.13	0.12	0.12	0.13	0.11	0.10	0.11	0.10	0.10	0.10	0.10	0.11	0.12	0.12	0.10	0.24	0.14	24
HOURLY MAX	0.33	0.27	0.31	0.52	0.54	0.60	0.46	0.34	0.68	0.70	0.24	0.22	0.21	0.17	0.18	0.19	0.21	0.20	0.19	0.23	0.22	0.27	0.35	0.27				
HOURLY AVG	0.19	0.20	0.21	0.23	0.23	0.25	0.23	0.20	0.21	0.19	0.17	0.15	0.14	0.13	0.13	0.13	0.13	0.13	0.13	0.14	0.15	0.17	0.17	0.17				

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

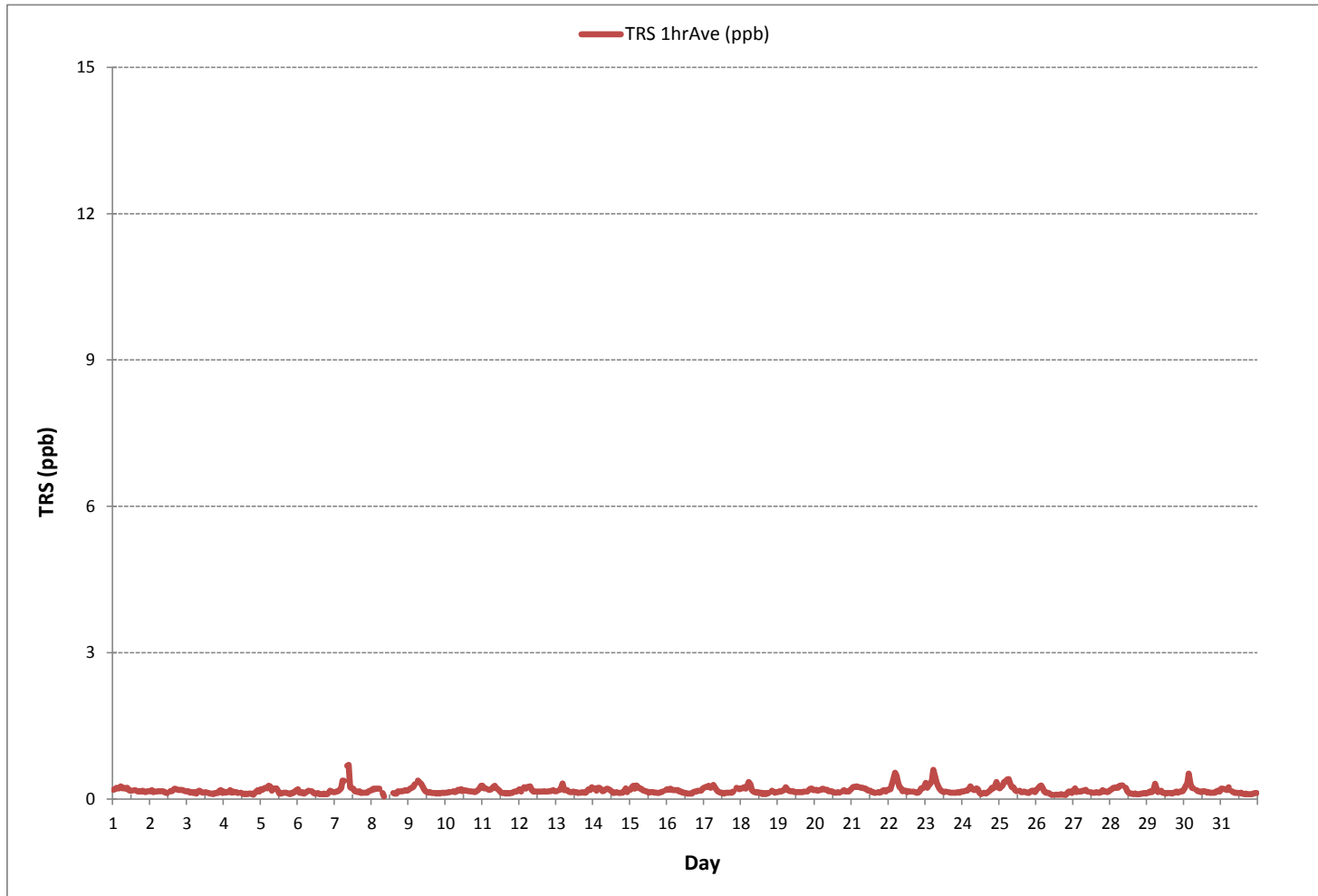
24 HR AVERAGES May 2018



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	707			
MINIMUM 1-HR AVERAGE:	0.05	ppb @ HOUR	8	ON DAY 8
MAXIMUM 1-HR AVERAGE:	0.70	ppb @ HOUR	9	ON DAY 7
MAXIMUM 24-HR AVERAGE:	0.23	ppb		ON DAY 7
IZS CALIBRATION TIME:	32	hrs	OPERATIONAL TIME:	744 hrs
MONTHLY CALIBRATION TIME:	5	hrs	AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION:	0.07		MONTHLY AVERAGE:	0.17 ppb

TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)



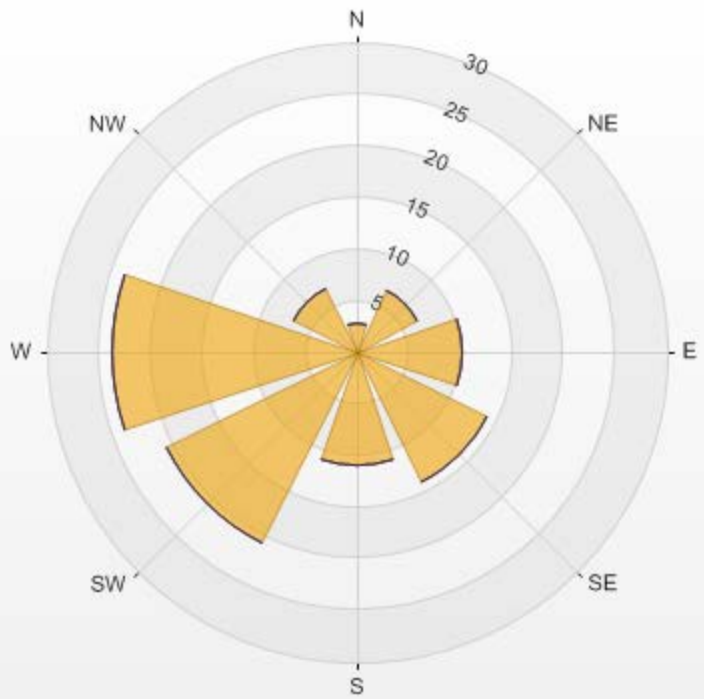
Wind: PRAMP_842
Poll.: PRAMP_842-TRS[ppb]
Monthly: 18/05
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

Calm: 3.82%

Calm Avg: 0.20 [ppb]

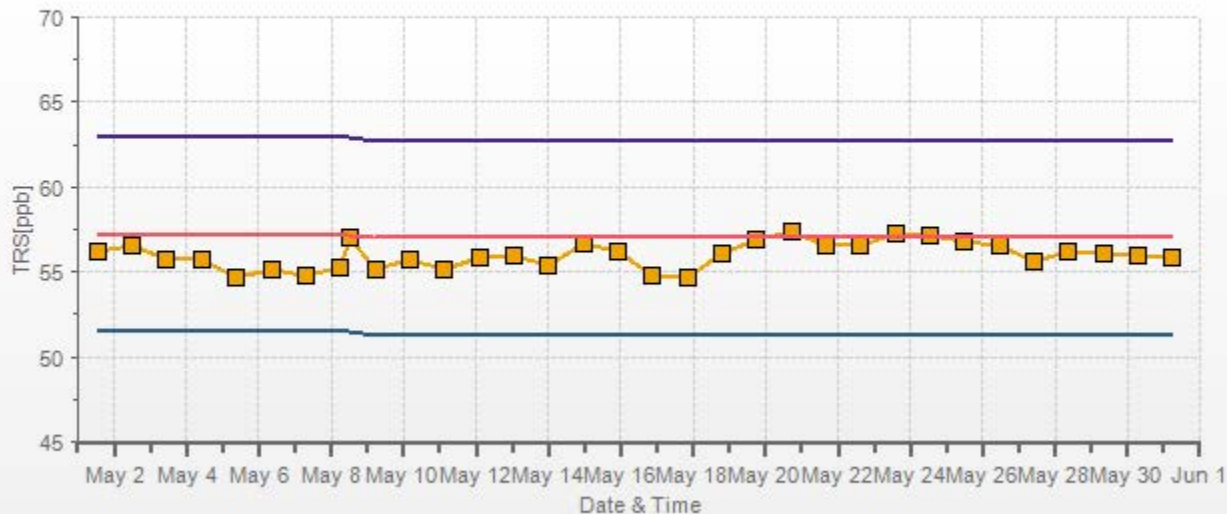
Direction	0-1	1-3	3-10	>10.0	Total
N	2.8	0.0	0.0	0.0	2.8
NE	6.7	0.0	0.0	0.0	6.7
E	10.2	0.0	0.0	0.0	10.2
SE	14.1	0.0	0.0	0.0	14.1
S	11.0	0.0	0.0	0.0	11.0
SW	20.7	0.0	0.0	0.0	20.7
W	23.8	0.0	0.0	0.0	23.8
NW	6.9	0.0	0.0	0.0	6.9
Summary	96.2	0.0	0.0	0.0	96.2

PRAMP_842 Poll.: PRAMP_842-TRS[ppb] 2018/05/01 00:00 - 2018/05/31 23:00 Calm: 3.82% Calm Poll Avg: 0.20[ppb]



TRS[ppb] Calibration: PRAMP_842 Monthly: 18/05 Type: Span

Span Meas Span Ref Span Low Span High



TOTAL HYDROCARBON



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 842b Station - May 2018

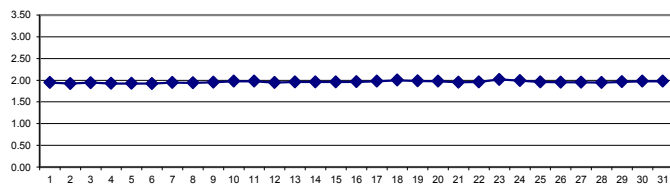
TOTAL HYDROCARBONS Hourly Averages (THC ppm)

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

STATUS FLAG CODES

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

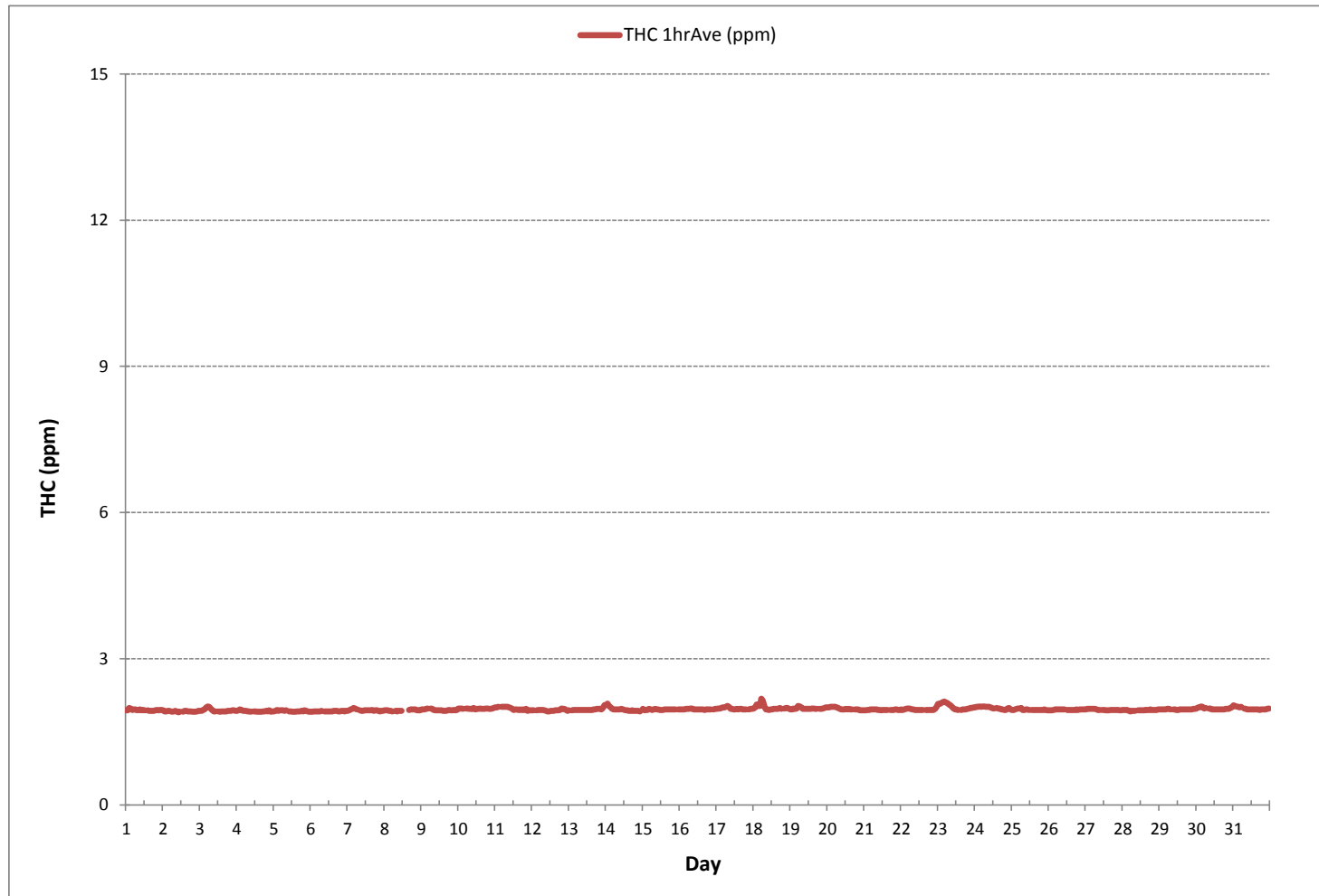
24 HR AVERAGES May 2018



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	708			
MINIMUM 1-HR AVERAGE:	1.90	ppm	@ HOUR	10 ON DAY 2
MAXIMUM 1-HR AVERAGE:	2.18	ppm	@ HOUR	5 ON DAY 18
MAXIMUM 24-HR AVERAGE:	2.02	ppm		ON DAY 23
IZS CALIBRATION TIME:	32	hrs	OPERATIONAL TIME:	744 hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION:	0.03		MONTHLY AVERAGE:	1.96 ppm

TOTAL HYDROCARBONS Hourly Averages (THC ppm)



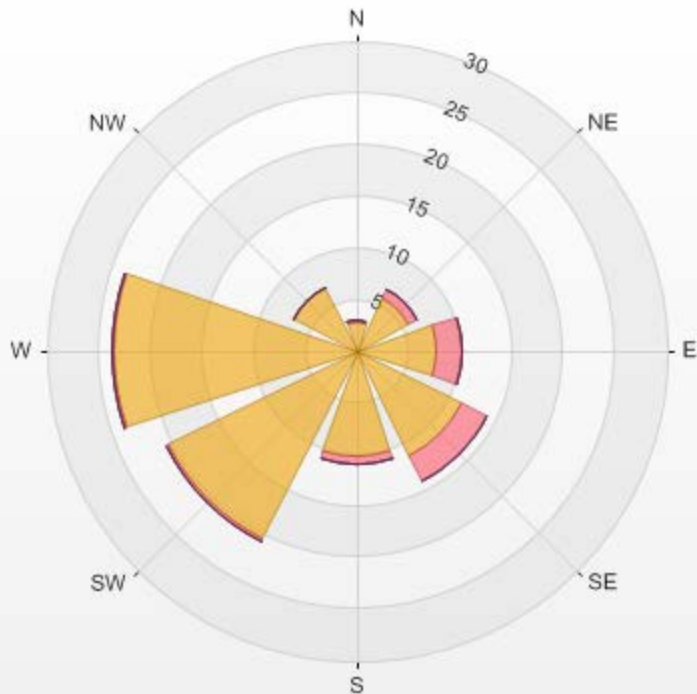
Wind: PRAMP_842
Poll.: PRAMP_842-THC55[ppm]
Monthly: 18/05
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

Calm: 3.81%

Calm Avg: 1.98 [ppm]

Direction	0-2	2-3	3-5	5-10	>10.0	Total
N	2.8	0.1	0.0	0.0	0.0	3.0
NE	5.7	1.0	0.0	0.0	0.0	6.6
E	7.8	2.4	0.0	0.0	0.0	10.2
SE	11.4	2.7	0.0	0.0	0.0	14.1
S	10.3	0.7	0.0	0.0	0.0	11.0
SW	20.3	0.3	0.0	0.0	0.0	20.6
W	23.5	0.3	0.0	0.0	0.0	23.7
NW	6.8	0.1	0.0	0.0	0.0	6.9
Summary	88.6	7.6	0.0	0.0	0.0	96.2

PRAMP_842 Poll.: PRAMP_842-THC55[ppm] 2018/05/01 00:00 - 2018/05/31 23:00 Calm: 3.81% Calm Poll Avg: 1.98[ppm]



THC55[ppm] Calibration: PRAMP_842 Monthly: 18/05 Type: Span

Span Meas Span Ref Span Low Span High



METHANE



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 842b Station - May 2018

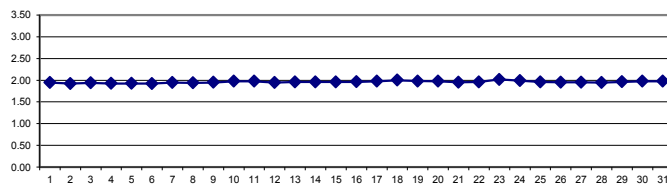
METHANE Hourly Averages (CH₄ ppm)

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	1.94	1.94	1.99	1.97	1.95	1.96	1.96	1.94	1.95	1.96	1.94	1.95	1.94	S	1.94	1.93	1.93	1.93	1.93	1.94	1.95	1.94	1.95	1.95	1.93	1.99	1.95	1.95	24
2	1.94	1.92	1.92	1.93	1.93	1.92	1.91	1.92	1.93	1.91	1.90	1.91	S	1.91	1.93	1.93	1.92	1.92	1.92	1.91	1.91	1.91	1.92	1.93	1.90	1.94	1.92	24	
3	1.93	1.93	1.95	1.96	2.00	2.02	2.01	1.97	1.93	1.92	1.92	S	1.92	1.91	1.92	1.92	1.92	1.92	1.93	1.93	1.93	1.94	1.94	1.93	1.91	2.02	1.94	24	
4	1.93	1.94	1.96	1.95	1.93	1.92	1.93	1.92	1.92	1.91	S	1.92	1.92	1.91	1.91	1.91	1.91	1.92	1.92	1.93	1.92	1.94	1.91	1.92	1.91	1.96	1.92	24	
5	1.92	1.93	1.95	1.93	1.94	1.94	1.94	1.93	1.94	S	1.92	1.92	1.91	1.91	1.91	1.92	1.92	1.92	1.93	1.92	1.94	1.93	1.92	1.91	1.91	1.95	1.93	24	
6	1.91	1.91	1.92	1.92	1.92	1.92	1.92	1.93	S	1.92	1.92	1.92	1.92	1.92	1.92	1.93	1.93	1.93	1.92	1.92	1.93	1.93	1.92	1.93	1.91	1.93	1.92	24	
7	1.93	1.94	1.96	1.97	1.99	1.97	1.96	S	1.94	1.93	1.93	1.94	1.94	1.94	1.94	1.94	1.95	1.93	1.94	1.94	1.93	1.92	1.93	1.93	1.92	1.99	1.94	24	
8	1.92	1.94	1.94	1.93	1.93	1.92	S	1.93	1.92	1.93	1.93	1.93	C	C	C	C	1.95	1.96	1.96	1.96	1.96	1.96	1.94	1.94	1.92	1.96	1.94	24	
9	1.96	1.96	1.96	1.97	1.98	S	1.98	1.97	1.95	1.94	1.94	1.94	1.94	1.94	1.94	1.93	1.93	1.93	1.94	1.94	1.94	1.94	1.95	1.94	1.95	1.93	1.98	1.95	24
10	1.98	1.98	1.98	1.97	S	1.98	1.98	1.97	1.97	1.97	1.97	1.96	1.97	1.97	1.98	1.97	1.97	1.97	1.98	1.98	1.97	1.97	1.98	1.99	1.96	1.99	1.97	24	
11	2.00	2.00	2.00	S	2.01	2.01	2.01	2.01	2.01	2.00	1.99	1.96	1.95	1.96	1.96	1.96	1.95	1.96	1.95	1.95	1.95	1.96	1.93	1.94	1.94	1.93	2.01	1.97	24
12	1.94	1.94	S	1.94	1.95	1.95	1.95	1.95	1.94	1.93	1.92	1.92	1.93	1.93	1.93	1.94	1.94	1.94	1.95	1.98	1.97	1.97	1.95	1.93	1.92	1.98	1.94	24	
13	1.94	S	1.94	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.96	1.97	1.97	1.97	1.96	1.99	2.05	1.94	2.05	1.96	24	
14	S	2.08	2.03	2.00	1.97	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.95	1.94	1.94	1.93	1.93	1.94	1.93	1.93	1.93	1.93	1.93	1.92	S	1.92	2.08	1.96	24
15	1.97	1.94	1.95	1.95	1.97	1.96	1.95	1.96	1.97	1.96	1.96	1.95	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	S	1.96	1.94	1.97	1.96	24
16	1.96	1.96	1.96	1.96	1.97	1.97	1.97	1.98	1.98	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.96	1.96	1.96	1.96	1.96	S	1.96	1.97	1.95	1.98	1.96	24
17	1.97	1.98	1.98	1.99	2.00	2.00	2.01	2.03	2.01	1.97	1.97	1.96	1.96	1.97	1.96	1.97	1.97	1.97	1.96	1.96	1.96	S	1.96	1.97	1.97	1.96	2.03	1.98	24
18	1.98	2.00	2.06	2.03	2.03	2.18	2.14	2.01	1.96	1.96	1.95	1.96	1.96	1.97	1.97	1.97	1.97	1.97	1.98	1.97	S	1.98	1.99	1.99	1.97	1.95	2.18	2.00	24
19	1.96	1.96	1.97	1.97	1.98	2.03	2.02	2.00	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.97	1.97	S	1.97	1.97	1.98	1.99	2.00	1.96	2.03	1.98	24	
20	2.00	2.00	2.01	2.01	2.01	2.01	2.00	1.99	1.97	1.96	1.96	1.96	1.97	1.96	1.97	1.96	1.96	S	1.96	1.96	1.96	1.94	1.94	1.94	1.94	2.01	1.97	24	
21	1.94	1.94	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.95	1.95	1.94	1.95	1.95	1.95	1.95	S	1.95	1.95	1.95	1.96	1.96	1.94	1.95	1.94	1.96	1.95	24	
22	1.95	1.95	1.96	1.97	1.98	1.98	1.97	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.95	S	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.97	2.01	1.95	2.01	1.96	24
23	2.07	2.07	2.09	2.11	2.12	2.10	2.09	2.06	2.04	2.01	1.98	1.96	1.96	1.95	S	1.95	1.96	1.96	1.96	1.97	1.98	1.99	1.99	2.00	1.95	2.12	2.02	24	
24	2.00	2.01	2.01	2.02	2.01	2.02	2.02	2.01	2.01	2.01	2.00	1.98	1.98	S	1.99	1.98	1.98	1.96	1.96	1.96	1.95	1.95	1.98	1.99	1.96	1.95	2.02	1.99	24
25	1.95	1.95	1.96	1.97	1.98	1.98	1.99	1.95	1.95	1.96	1.96	1.95	S	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.95	1.94	1.94	1.99	1.96	24	
26	1.94	1.94	1.94	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	S	1.95	1.95	1.95	1.95	1.95	1.95	1.96	1.95	1.96	1.96	1.96	1.96	1.94	1.96	1.95	24	
27	1.96	1.97	1.97	1.97	1.97	1.97	1.97	1.96	1.95	1.95	S	1.95	1.95	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.95	1.95	1.94	1.94	1.94	1.97	1.95	24
28	1.95	1.95	1.95	1.95	1.93	1.92	1.93	1.93	1.93	S	1.94	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.96	1.95	1.95	1.95	1.95	1.96	1.92	1.96	1.94	24	
29	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.96	S	1.96	1.96	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.95	1.97	1.96	24
30	1.98	2.00	2.00	2.02	2.01	1.98	1.99	S	1.98	1.98	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.99	2.00	1.96	2.02	1.98	24	
31	2.02	2.03	2.02	2.01	2.00	2.01	S	1.98	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.95	1.96	1.96	1.96	1.96	1.96	1.97	1.98	1.95	2.03	1.98	24
HOURLY MAX	2.07	2.08	2.09	2.11	2.12	2.18	2.14	2.06	2.04	2.01	2.00	1.98	1.98	1.97	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	2.05				
HOURLY AVG	1.96	1.97	1.97	1.97	1.98	1.98	1.98	1.97	1.96	1.96	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.96				

STATUS FLAG CODES

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

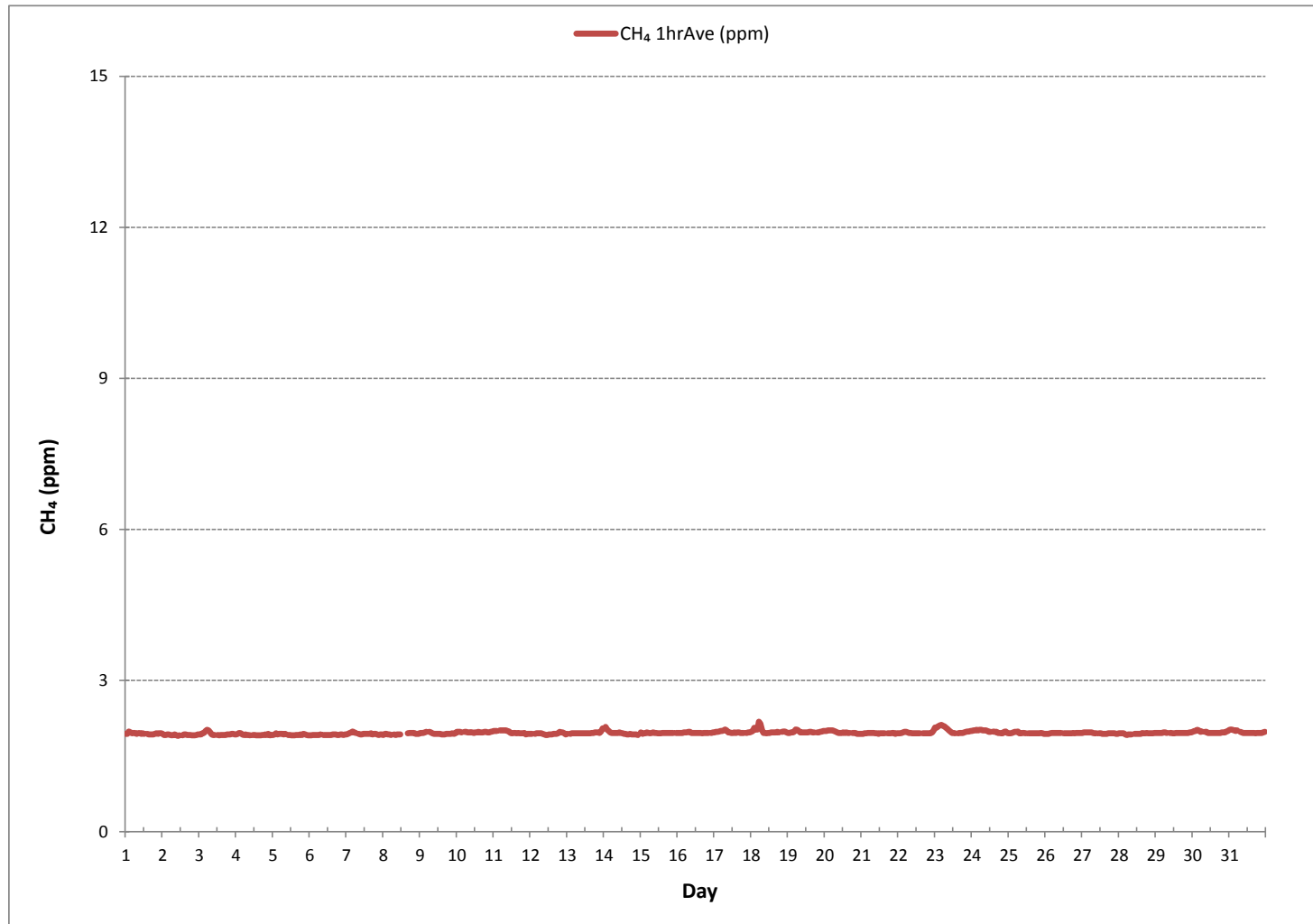
24 HR AVERAGES May 2018



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	708			
MINIMUM 1-HR AVERAGE:	1.90	ppm @ HOUR	10	ON DAY 2
MAXIMUM 1-HR AVERAGE:	2.18	ppm @ HOUR	5	ON DAY 18
MAXIMUM 24-HR AVERAGE:	2.02	ppm		ON DAY 23
IZS CALIBRATION TIME:	32	hrs	OPERATIONAL TIME:	744 hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:	100.0 %
STANDARD DEVIATION:	0.03		MONTHLY AVERAGE:	1.96 ppm

METHANE Hourly Averages (CH₄ ppm)



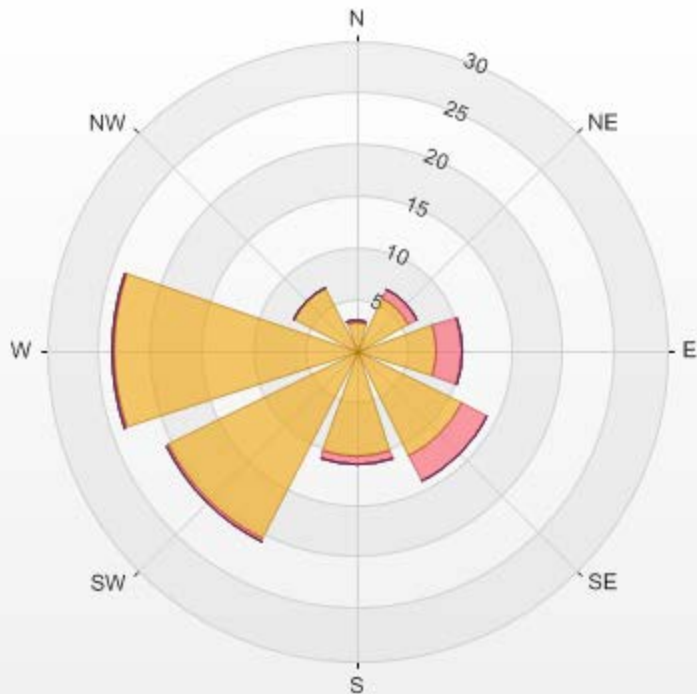
Wind: PRAMP_842
Poll.: PRAMP_842-CH₄[ppm]
Monthly: 18/05
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

Calm: 3.81%

Calm Avg: 1.98 [ppm]

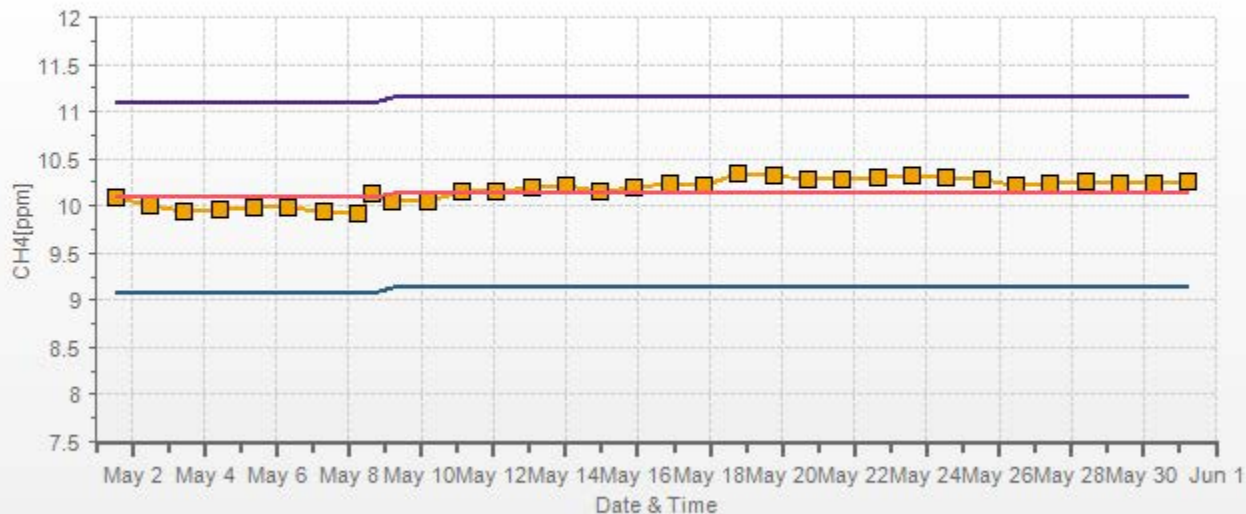
Direction	0-2	2-3	3-5	5-10	>10.0	Total
N	2.8	0.1	0.0	0.0	0.0	3.0
NE	5.7	1.0	0.0	0.0	0.0	6.6
E	7.8	2.4	0.0	0.0	0.0	10.2
SE	11.4	2.7	0.0	0.0	0.0	14.1
S	10.3	0.7	0.0	0.0	0.0	11.0
SW	20.3	0.3	0.0	0.0	0.0	20.6
W	23.5	0.3	0.0	0.0	0.0	23.7
NW	6.8	0.1	0.0	0.0	0.0	6.9
Summary	88.6	7.6	0.0	0.0	0.0	96.2

PRAMP_842 Poll.: PRAMP_842-CH4[ppm] 2018/05/01 00:00 - 2018/05/31 23:00 Calm: 3.81% Calm Poll Avg: 1.98[ppm]



CH₄[ppm] Calibration: PRAMP_842 Monthly: 18/05 Type: Span

Span Meas Span Ref Span Low Span High



NON-METHANE HYDROCARBON



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 842b Station - May 2018

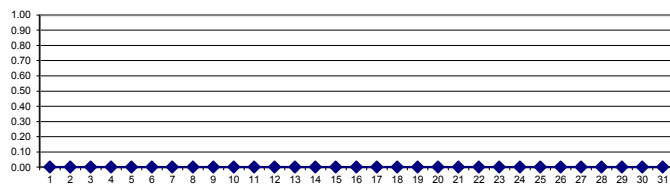
NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)

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	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
2	0.00	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
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
8	0.00	0.00	0.00	0.00	0.00	S	S	0.00	0.00	0.00	0.00	0.00	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
9	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
10	0.00	0.00	0.00	0.00	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
11	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
12	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
13	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
14	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	24
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	24
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	24
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
22	0.00	0.00	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
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	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	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	0.00	24
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
31	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
HOURLY AVG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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

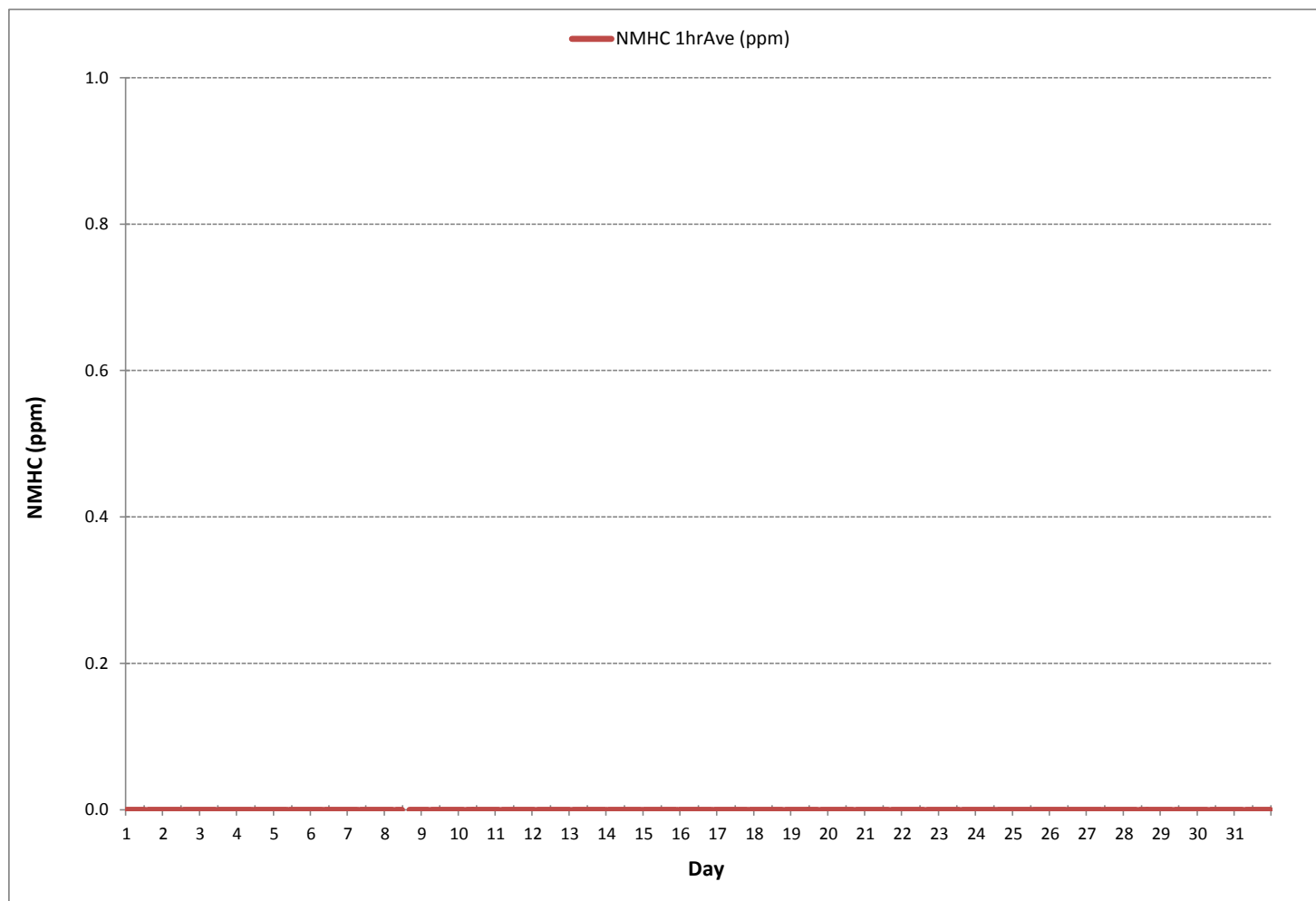
24 HR AVERAGES May 2018



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	0				
MINIMUM 1-HR AVERAGE:	0.00	ppm	@ HOUR	0	ON DAY 1
MAXIMUM 1-HR AVERAGE:	0.00	ppm	@ HOUR	0	ON DAY 1
MAXIMUM 24-HR AVERAGE:	0.00	ppm			ON DAY 1
IZS CALIBRATION TIME:	32	hrs	OPERATIONAL TIME:	744	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:	100.0	%
STANDARD DEVIATION:	0.00		MONTHLY AVERAGE:	0.00	ppm

NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)



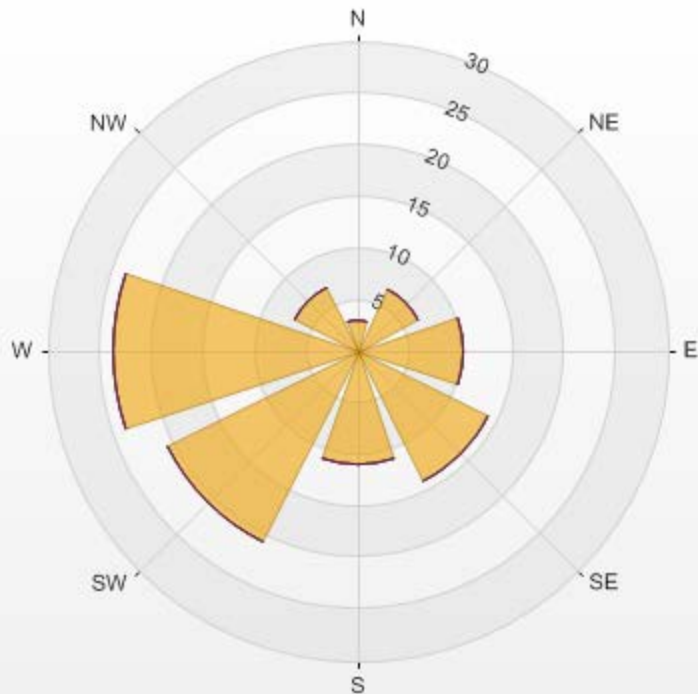
Wind: PRAMP_842
Poll.: PRAMP_842-NMHC[ppm]
Monthly: 18/05
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

Calm: 3.81%

Calm Avg: 0.00 [ppm]

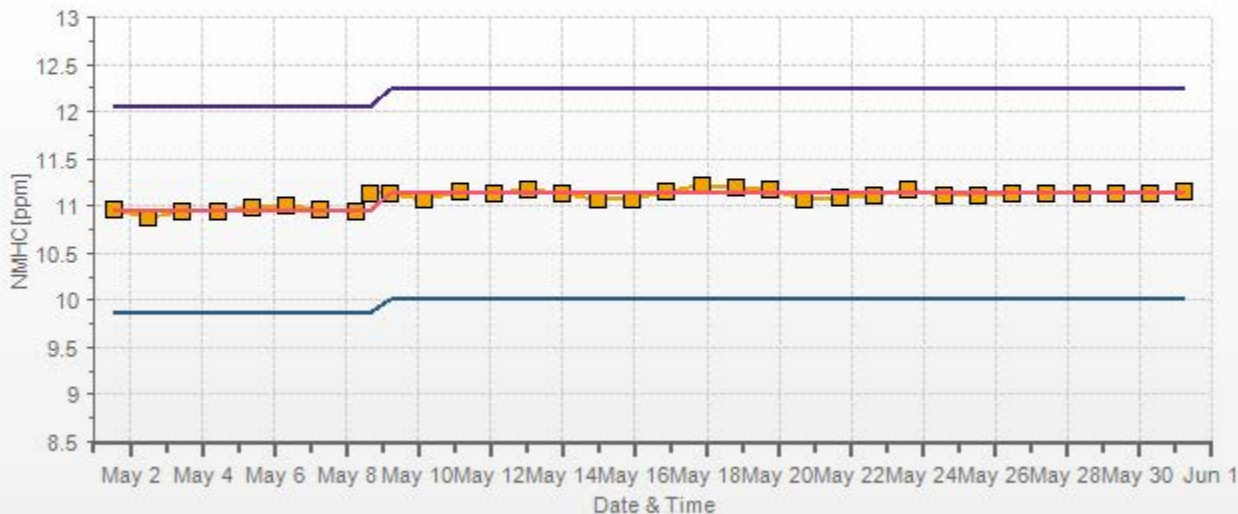
Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	3.0	0.0	0.0	0.0	0.0	3.0
NE	6.6	0.0	0.0	0.0	0.0	6.6
E	10.2	0.0	0.0	0.0	0.0	10.2
SE	14.1	0.0	0.0	0.0	0.0	14.1
S	11.0	0.0	0.0	0.0	0.0	11.0
SW	20.6	0.0	0.0	0.0	0.0	20.6
W	23.7	0.0	0.0	0.0	0.0	23.7
NW	6.9	0.0	0.0	0.0	0.0	6.9
Summary	96.2	0.0	0.0	0.0	0.0	96.2

PRAMP_842 Poll.: PRAMP_842-NMHC[ppm] 2018/05/01 00:00 - 2018/05/31 23:00 Calm: 3.81% Calm Poll Avg: 0.00[ppm]



NMHC[ppm] Calibration: PRAMP_842 Monthly: 18/05 Type: Span

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



WIND SPEED

WIND SPEED Hourly Averages (WS kph)

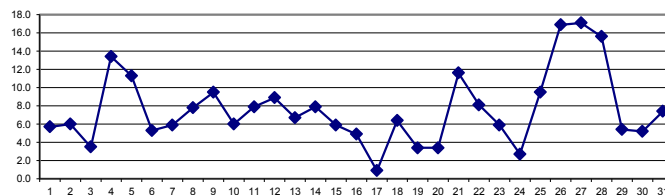
HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59				
DAY 1	2.6	2.6	4.1	3.6	3.7	2.1	0.9	6.4	8.3	8.3	8.0	8.5	8.5	13.7	14.4	15.1	13.3	10.9	15.5	7.4	1.5	5.0	8.5	10.4	0.9	15.5	5.7	24
2	11.3	11.0	11.5	10.0	12.1	12.7	11.2	13.9	14.5	14.4	19.5	17.2	15.5	14.6	12.2	3.6	8.7	11.3	2.0	7.1	2.1	6.0	6.0	3.2	2.0	19.5	6.0	24
3	3.5	2.8	3.2	2.6	3.4	2.8	0.8	0.6	6.4	8.5	12.3	7.0	7.2	9.5	11.7	11.4	13.4	12.6	11.7	5.4	2.0	2.6	5.1	6.6	0.6	13.4	3.5	24
4	9.5	8.6	9.6	11.8	10.9	9.1	10.1	13.6	12.2	9.4	12.4	14.3	14.1	17.4	18.6	17.7	20.6	21.1	18.9	16.3	9.7	13.8	17.5	12.5	8.6	21.1	13.4	24
5	10.0	6.6	6.8	4.8	2.4	4.8	7.1	11.0	14.3	17.0	18.0	19.7	19.6	20.7	19.5	18.6	18.1	18.7	13.9	7.5	3.7	5.8	10.3	10.6	2.4	20.7	11.3	24
6	10.7	11.0	8.9	8.8	9.1	9.4	9.2	10.4	8.5	4.8	4.2	7.5	7.5	8.6	6.9	8.0	6.8	7.5	8.8	5.2	2.1	1.7	5.9	5.5	1.7	11.0	5.3	24
7	4.8	2.9	5.0	6.1	7.8	10.8	12.6	14.5	14.9	12.8	11.4	10.3	9.2	6.9	6.1	6.7	8.3	3.0	2.4	14.6	8.3	9.0	4.2	3.9	2.4	14.9	5.9	24
8	10.8	10.4	10.5	11.2	9.6	7.6	7.1	12.1	15.5	18.5	21.9	21.9	21.9	19.2	20.5	17.6	17.1	16.5	14.1	12.7	11.5	10.3	7.3	5.8	5.8	21.9	7.8	24
9	8.1	8.6	7.1	7.9	9.0	8.9	11.5	12.4	14.2	12.5	15.0	13.5	12.6	11.6	10.5	11.6	10.3	11.0	9.4	8.3	9.0	5.5	5.3	6.2	5.3	15.0	9.5	24
10	6.6	6.2	5.0	6.2	6.8	4.2	5.5	7.6	10.4	6.8	6.3	5.9	6.2	6.8	7.7	7.1	7.4	11.6	10.0	12.6	11.2	10.3	10.9	8.8	4.2	12.6	6.0	24
11	9.5	9.5	8.5	9.0	8.0	6.5	7.8	9.9	9.3	8.9	8.0	5.5	7.4	10.3	10.5	14.1	15.2	10.0	12.2	13.4	5.4	8.6	9.9	10.8	5.4	15.2	7.9	24
12	12.1	10.9	9.2	4.1	3.3	1.8	3.4	8.3	6.7	6.7	11.3	16.0	15.8	14.9	16.5	15.2	16.6	16.1	19.1	18.8	11.4	6.7	6.5	9.0	1.8	19.1	8.9	24
13	10.0	8.5	1.7	1.3	3.6	4.1	7.6	12.7	14.3	15.5	15.9	14.8	12.6	12.3	14.8	14.3	11.0	10.7	7.0	2.2	2.1	2.8	3.8	4.5	1.3	15.9	6.7	24
14	4.7	4.0	2.6	2.4	3.0	9.9	8.9	13.4	13.8	13.1	9.3	12.9	17.2	17.2	17.6	14.7	13.4	12.3	16.1	15.1	9.3	5.3	10.5	6.7	2.4	17.6	7.9	24
15	7.3	7.5	8.1	6.5	0.7	1.7	2.2	7.0	6.8	7.8	2.5	4.4	11.9	9.3	9.7	18.2	22.9	22.3	18.5	10.2	7.8	4.7	5.2	5.5	0.7	22.9	5.9	24
16	4.9	5.2	5.2	6.5	6.8	6.2	6.4	9.6	10.4	11.3	12.4	11.6	11.0	8.8	4.9	6.4	5.5	10.6	6.2	4.5	2.4	2.0	4.4	1.5	1.5	12.4	4.9	24
17	1.2	1.4	1.9	4.3	3.5	3.9	3.3	1.7	2.3	6.3	2.9	3.7	5.5	3.5	4.9	3.4	5.6	3.7	4.7	4.2	6.0	0.2	2.0	1.8	0.2	6.3	0.9	24
18	2.4	3.2	3.8	3.7	2.4	3.5	3.0	4.5	6.7	10.2	9.2	10.8	9.2	10.7	12.7	9.1	11.6	12.3	11.2	8.5	3.5	3.9	5.5	7.9	2.4	12.7	6.4	24
19	10.5	11.3	5.2	2.6	3.1	5.1	3.9	6.5	5.0	3.5	3.0	5.1	3.0	3.1	1.1	1.4	4.6	3.2	6.8	5.0	2.3	1.4	1.8	2.2	1.1	11.3	3.4	24
20	2.9	5.4	7.2	4.9	7.0	5.3	5.7	5.1	4.0	3.6	4.9	0.7	1.7	3.2	2.6	6.9	4.5	6.2	7.7	22.0	16.5	10.1	8.7	8.3	0.7	22.0	3.4	24
21	9.7	8.3	9.7	11.5	10.6	10.4	10.2	13.6	14.3	15.1	16.9	18.7	20.9	18.3	16.6	16.7	19.6	18.2	15.0	13.2	2.8	4.3	4.7	1.8	1.8	20.9	11.6	24
22	4.8	2.4	3.7	5.2	4.3	6.8	6.1	10.0	13.7	19.1	17.9	16.9	16.9	14.5	14.4	14.2	13.4	14.1	8.8	9.7	3.5	2.2	3.2	3.8	2.2	19.1	8.1	24
23	4.5	5.3	4.4	0.8	2.6	5.8	6.5	2.5	0.9	2.3	6.0	13.0	12.1	13.1	12.7	13.3	12.3	11.7	11.4	7.3	7.4	6.0	6.8	6.2	0.8	13.3	5.9	24
24	6.2	6.0	5.4	5.1	5.7	5.8	6.7	6.7	2.7	5.1	3.8	10.9	10.3	11.5	15.8	13.7	12.5	17.3	8.3	5.9	5.8	4.0	3.9	4.5	2.7	17.3	2.7	24
25	3.6	5.1	6.0	3.3	2.3	2.2	4.8	6.5	11.0	10.4	13.1	14.7	17.2	19.8	20.3	21.5	16.4	11.2	8.9	6.2	0.5	3.9	11.3	19.3	0.5	21.5	9.5	24
26	14.1	12.3	14.6	12.5	12.9	14.6	19.5	22.7	21.5	24.6	26.0	25.8	24.9	23.0	21.2	20.8	21.5	21.6	23.6	20.1	13.4	9.5	16.1	14.3	9.5	26.0	16.9	24
27	15.1	16.1	15.1	13.4	11.7	13.8	16.8	18.9	22.5	22.9	23.0	24.7	22.3	23.0	23.2	22.3	20.4	19.7	19.2	15.0	10.9	9.5	10.0	5.7	5.7	24.7	17.1	24
28	6.8	3.6	4.1	8.0	5.2	2.8	5.5	9.1	9.5	20.5	27.1	29.9	30.2	29.8	28.4	23.8	24.6	26.0	25.4	24.1	20.5	13.6	15.7	11.7	2.8	30.2	15.6	24
29	8.8	8.9	8.9	4.9	2.8	2.0	8.3	10.3	11.6	9.8	9.3	10.3	8.1	8.8	9.5	8.1	8.6	8.5	5.1	4.1	4.3	3.0	4.0	5.4	2.0	11.6	5.4	24
30	5.1	4.0	4.1	3.8	4.1	5.7	7.2	5.9	7.0	7.4	7.6	6.4	9.5	8.6	7.5	8.6	8.3	9.6	9.1	6.5	7.6	4.8	1.5	3.5	1.5	9.6	5.2	24
31	4.9	2.4	1.5	2.5	3.0	2.9	6.9	9.9	12.3	13.6	13.5	12.3	11.3	13.5	15.6	14.2	10.9	8.1	7.9	8.9	8.8	6.2	6.5	6.0	1.5	15.6	7.4	24
HOURLY MAX	15.1	16.1	15.1	13.4	12.9	14.6	19.5	22.7	22.5	24.6	27.1	29.9	30.2	29.8	28.4	23.8	24.6	26.0	25.4	24.1	20.5	13.8	17.5	19.3				
HOURLY AVG	3.1	3.1	3.3	2.6	2.4	2.4	3.0	4.1	4.7	4.9	5.9	6.7	7.2	8.4	8.6	8.1	8.4	8.2	7.4	6.0	3.1	2.5	3.2	2.5				

STATUS FLAG CODES

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

LAST CALIBRATION:	August 30, 2017
DECLINATION :	MAGNETIC DECLINATION 15 DEGREE EAST

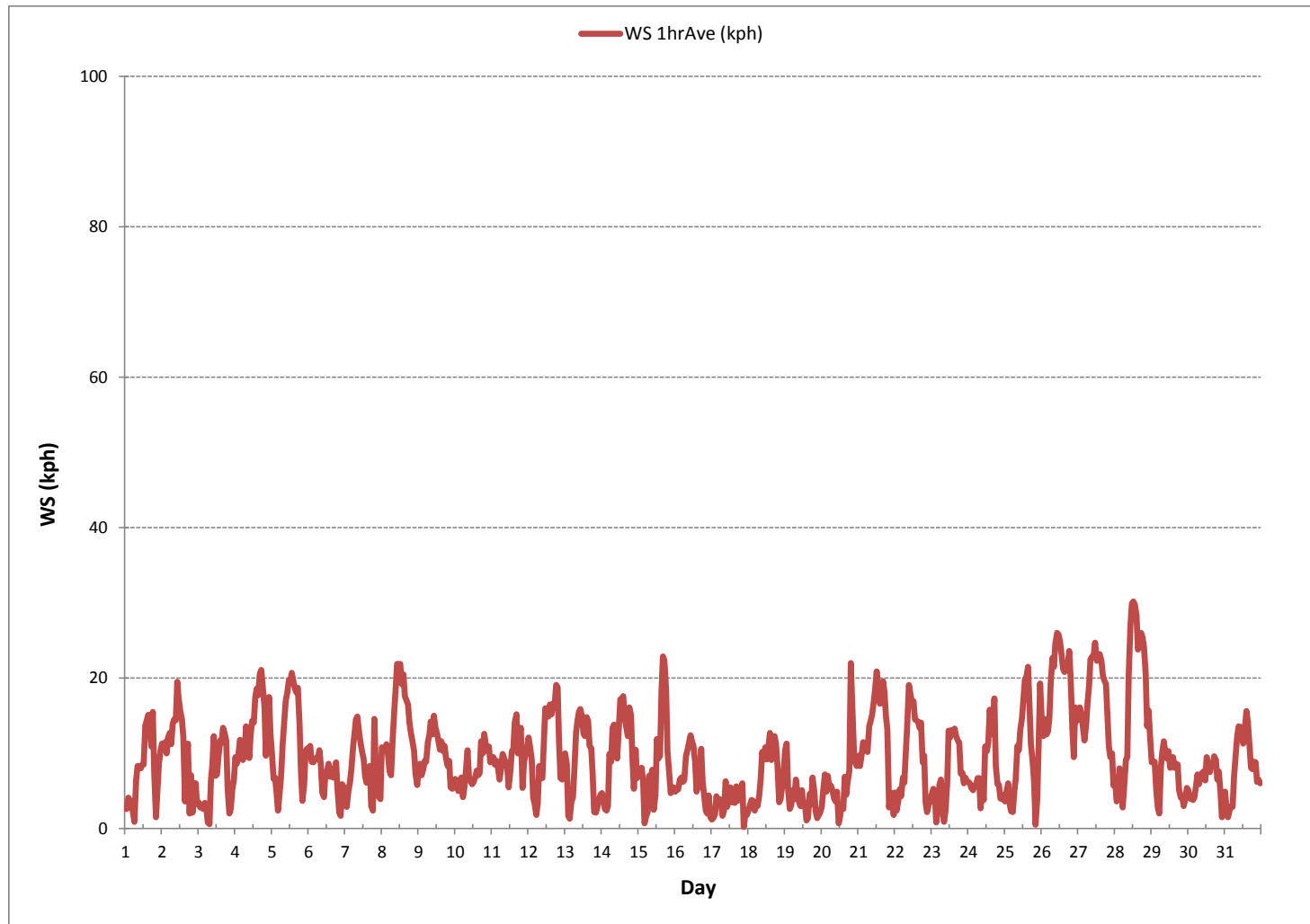
24 HR AVERAGES May 2018



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:		744				
MINIMUM 1-HR AVERAGE	0.2	kph	@ HOUR	21	ON DAY	17
MAXIMUM 1-HR AVERAGE:	30.2	kph	@ HOUR	12	ON DAY	28
MAXIMUM 24-HR AVERAGE:	17.1	kph			ON DAY	27
MONTHLY CALIBRATION TIME:		0	hrs	OPERATIONAL TIME:		744 hrs
				AMD OPERATION UPTIME:		100.0 %
STANDARD DEVIATION:	5.8	MONTHLY AVERAGE:		4.4	kph	

WIND SPEED Hourly Averages (WS kph)



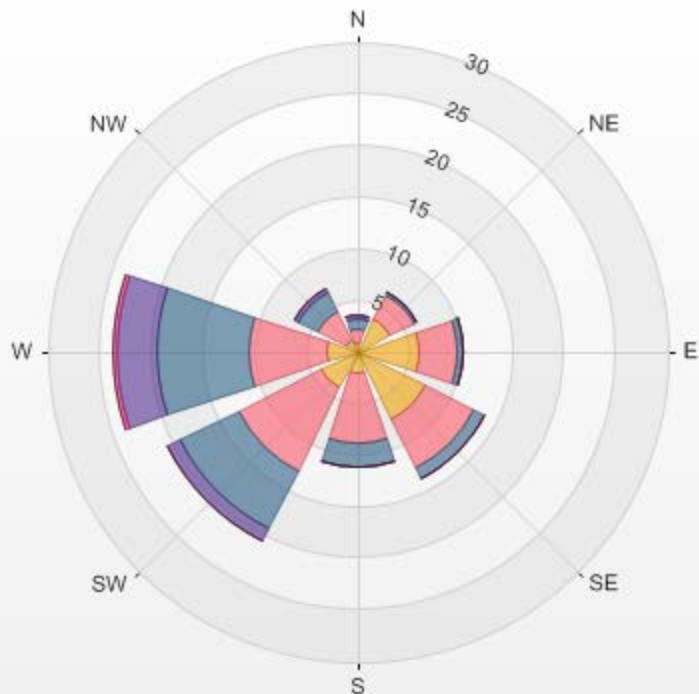
Wind: PRAMP_842
 Monitor: WSP [kph]
 Monthly: 18/05
 Type: WindRose
 Direction: Blowing From (Wind Frequency)
 Based On 1 Hr.

Calm: 3.63%

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	0.8	1.3	1.1	0.3	0.0	0.0	3.5
NE	3.5	2.7	0.3	0.0	0.0	0.0	6.5
E	5.9	3.8	0.7	0.0	0.0	0.0	10.3
SE	7.4	5.1	1.2	0.0	0.0	0.0	13.7
S	2.2	6.7	2.3	0.0	0.0	0.0	11.2
SW	3.9	9.0	6.3	1.3	0.0	0.0	20.6
W	3.0	7.7	8.7	4.0	0.4	0.0	23.8
NW	1.2	3.1	2.3	0.3	0.0	0.0	6.9
Summary	27.8	39.4	22.9	5.9	0.4	0.0	96.4

%	Icon	Classes (kph)	28		1.8-6.0	39		6.0-12.0	23		12.0-20.0	6		20.0-29.0	0		29.0-39.0	0		>39.0
---	------	---------------	----	--	---------	----	--	----------	----	--	-----------	---	--	-----------	---	--	-----------	---	--	-------

PRAMP_842 2018/05/01 00:00 - 2018/05/31 23:00 Calm: 3.63% Calm Wind Avg Speed: 1.26(kph)



WIND DIRECTION



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 842b Station - May 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	W	W	WSW	WNW	WNW	W	WSW	WNW	NW	NW	WNW	WNW	NW	WNW	W	W	W	W	W	W	S	SSE	SSE	SSE	W	24	
2	SSE	SSE	SSE	S	SSW	SSW	SW	WSW	WSW	WSW	WNW	WNW	W	NW	N	E	W	WNW	NNW	SSW	SSE	SW	SSW	SE	WSW	24	
3	SE	SE	ESE	ESE	SE	ESE	E	ESE	NW	N	NNW	NNW	WNW	WNW	W	W	W	WSW	W	W	SSW	SE	SW	SW	W	24	
4	WSW	SW	WSW	WSW	WSW	SW	WSW	WSW	WSW	WSW	W	W	W	WSW	WSW	W	W	WSW	W	WSW	WSW	WSW	WSW	WSW	WSW	24	
5	WSW	WSW	WSW	SW	SSW	SE	SSE	SSW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	SW	SW	SW	SW	WSW	24	
6	WSW	SW	SW	SW	SW	SSW	SSW	SW	WSW	W	W	WSW	W	WSW	W	WSW	WSW	NW	NW	N	NE	NNE	NNE	NE	WSW	24	
7	ENE	ENE	ENE	NE	ENE	ENE	E	E	E	E	E	E	ENE	ESE	ESE	SSE	S	W	ESE	S	S	SSE	SSW	S	ESE	24	
8	SSW	SSW	S	S	SSW	SW	WSW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNE	NNE	NNE	NE	ENE	ENE	ENE	NNW	24	
9	ENE	E	ENE	E	E	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	E	SE	ESE	ESE	SE	SE	SE	SE	SE	E	ESE	ESE	24	
10	SE	SE	ESE	ESE	ESE	ESE	ESE	SSE	S	SSE	S	SE	SSW	SW	SW	WSW	WSW	SW	SW	SSW	SSW	SSW	SSW	S	S	24	
11	S	S	S	SSE	S	S	S	SSW	SSW	SW	SW	WSW	WSW	WSW	SW	WSW	W	W	W	W	SW	SW	SW	WSW	SW	24	
12	SW	SW	SW	SSW	SE	ESE	SW	WSW	WSW	WNW	W	W	W	WNW	WNW	WNW	NW	NW	W	WSW	W	W	NW	NNE	W	24	
13	N	N	SSE	SSW	WNW	W	W	NW	NNW	NW	NW	NNW	NW	WNW	WNW	WNW	WNW	WSW	W	WSW	E	E	E	ENE	NW	24	
14	ENE	ESE	SE	SE	ESE	SSE	S	S	SSW	WSW	SW	WSW	WSW	W	WSW	WSW	WNW	W	W	W	WSW	WSW	W	WSW	WSW	24	
15	SW	WSW	WSW	WSW	SSW	WNW	WNW	NNW	NNW	NNE	NE	WSW	WSW	WSW	WSW	W	WSW	WSW	W	NW	N	NE	ENE	ENE	W	24	
16	ENE	NE	NNE	NE	ENE	NE	NE	ENE	ENE	NE	NE	ENE	ENE	ENE	ENE	NE	E	S	SSE	S	WSW	SSE	SSE	ENE	ENE	24	
17	NNE	NE	ENE	ENE	NE	ENE	ENE	ESE	WNW	NW	N	ESE	SE	SW	W	E	SSE	S	SSW	S	S	NNW	E	E	SE	24	
18	ESE	SE	SE	ESE	E	ENE	ESE	SE	SE	S	S	S	SSE	SSE	S	SSE	S	S	S	SSE	SE	SE	SE	SE	SSE	24	
19	SE	SSE	SSE	ENE	E	E	ESE	SSE	SSE	SE	E	E	ESE	E	NE	SSW	SSW	S	S	SSE	SE	ENE	E	E	SE	24	
20	E	ESE	SE	ESE	ESE	ESE	ESE	ESE	ENE	E	SW	S	NNE	SE	WSW	SW	WNW	WSW	WSW	SW	SW	SSW	SSW	S	SSW	24	
21	S	S	S	S	SSW	SSW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	W	WSW	WSW	SW	WSW	WSW	WSW	SW	SW	S	SW	24	
22	SW	SSE	SE	SSE	SE	S	S	SSW	SW	WSW	SW	WSW	SW	SW	SW	SW	SW	WSW	WSW	SSW	S	ESE	ESE	ESE	SW	24	
23	ESE	ESE	ESE	ENE	ENE	ENE	ENE	NNE	NE	ENE	ESE	SSE	SSE	SSE	S	S	S	S	SSE	SE	SE	SE	ESE	SE	SE	24	
24	SE	SE	ESE	ESE	ESE	ESE	ESE	ESE	SE	W	W	S	SSW	WSW	WSW	W	WNW	NW	NW	WNW	W	WSW	SW	WSW	WSW	24	
25	SW	WSW	WSW	W	SW	WSW	WSW	WSW	W	WSW	WSW	W	WSW	SW	SW	SW	WSW	WSW	W	WNW	WNW	NNE	NW	W	WSW	WSW	24
26	SSE	SSE	S	SW	SW	SW	SW	SW	WSW	W	W	W	W	W	W	W	W	W	W	W	WSW	SW	WSW	WSW	WSW	24	
27	WSW	WSW	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	SW	WSW	WSW	SW	WSW	SW	SSW	SSW	WSW	WSW	24	
28	SSE	SSE	SSW	WSW	WSW	WSW	S	S	SSW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	W	W	W	W	W	WSW	WSW	24	
29	W	WNW	WNW	WNW	SW	SW	WSW	W	W	W	NW	WNW	NW	W	NW	NNW	N	NNW	NNW	N	NNE	ENE	NE	NE	WNW	24	
30	ENE	NE	NE	NE	N	NNE	NE	ENE	E	ENE	ENE	NNE	NE	NW	E	E	NE	ENE	ENE	ENE	ESE	SE	E	E	ENE	24	
31	ENE	E	E	E	ESE	ENE	ESE	SSE	SSE	SE	SSE	S	SSE	S	SSE	SE	ESE	ESE	ESE	ESE	ESE	E	ESE	SE	SE	24	

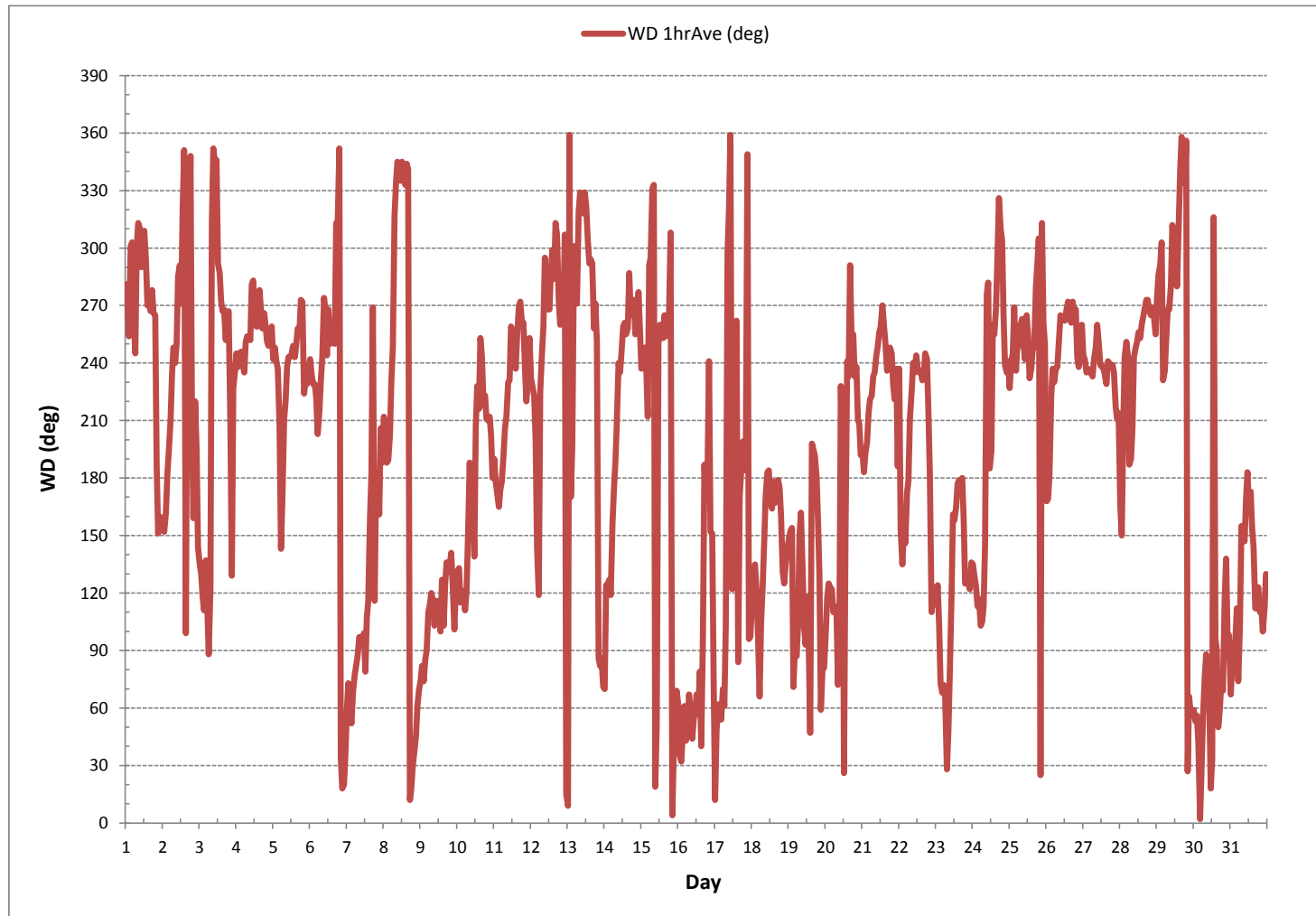
STATUS FLAG CODES

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: August 30, 2017
DECLINATION : MAGNETIC DECLINATION 15 DEGREE EAST

MONTHLY CALIBRATION TIME: 0 hrs
STANDARD DEVIATION: 83
OPERATIONAL TIME: 744 hrs
AMD OPERATION UPTIME: 100.0 %
MONTHLY AVERAGE: 240 (WSW)

WIND DIRECTION Hourly Averages (WD)



RELATIVE HUMIDITY

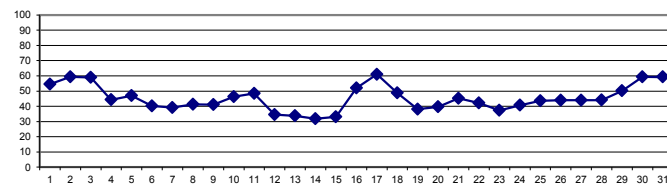
RELATIVE HUMIDITY Hourly Averages (RH %)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	89	93	93	94	89	91	83	62	48	41	39	40	30	32	28	28	29	29	28	31	43	62	53	54	28	94	55	24
2	51	47	47	52	55	55	57	52	46	38	34	30	30	59	91	85	66	64	74	70	80	79	77	84	30	91	59	24
3	90	92	93	94	95	95	95	92	71	50	35	31	31	32	31	30	31	33	34	38	51	68	55	50	30	95	59	24
4	54	59	64	68	72	74	69	61	54	45	32	28	28	29	27	28	27	26	26	29	34	37	43	49	26	74	44	24
5	59	63	71	75	77	83	81	66	56	47	39	32	31	29	27	25	24	24	25	28	38	41	41	44	24	83	47	24
6	48	52	55	59	61	63	58	54	46	36	30	28	25	24	22	21	20	19	19	23	41	59	58	45	19	63	40	24
7	50	65	70	63	62	57	49	43	38	33	30	28	25	22	21	21	22	23	23	29	33	36	44	53	21	70	39	24
8	55	63	69	74	72	71	66	46	31	23	22	23	22	21	20	20	19	21	24	29	38	48	54	59	19	74	41	24
9	60	59	66	70	71	70	63	55	48	40	33	28	26	25	23	20	20	23	24	26	30	32	36	38	20	71	41	24
10	42	45	49	49	48	56	45	44	49	45	43	40	41	42	41	37	36	37	38	41	48	56	66	73	36	73	46	24
11	78	83	87	89	88	89	84	76	65	53	44	30	25	23	21	21	22	22	22	22	26	29	31	30	21	89	48	24
12	32	40	46	53	61	66	56	41	34	31	30	27	26	25	25	24	22	21	21	23	27	31	33	33	21	66	35	24
13	32	29	40	60	62	43	40	32	28	24	21	20	22	23	22	21	21	21	21	21	37	51	55	63	20	63	34	24
14	63	57	48	52	50	46	41	39	36	32	30	27	23	18	18	18	17	16	17	19	22	25	24	25	16	63	32	24
15	30	32	36	43	55	62	61	51	45	35	32	28	25	24	23	15	14	15	15	19	26	33	35	40	14	62	33	24
16	44	47	50	50	57	58	58	54	46	42	37	35	36	34	33	42	38	63	59	62	69	76	75	85	33	85	52	24
17	90	91	91	87	84	81	78	71	67	56	49	40	38	37	32	32	34	36	46	50	46	69	78	80	32	91	61	24
18	84	86	86	87	91	90	78	66	52	42	38	31	28	26	24	22	23	23	24	24	30	38	36	41	22	91	49	24
19	45	47	51	70	77	67	54	47	40	33	28	25	22	20	18	18	16	15	16	17	31	53	56	47	15	77	38	24
20	53	53	51	55	57	61	55	48	40	34	33	28	24	24	22	22	22	20	21	33	41	47	51	56	20	61	40	24
21	61	64	66	65	67	67	66	63	58	52	44	36	32	30	28	26	23	22	23	25	32	43	39	54	22	67	45	24
22	47	53	61	63	67	64	58	49	40	34	32	29	28	26	24	24	24	23	23	25	35	56	62	64	23	67	42	24
23	66	55	68	74	79	70	57	45	37	32	25	21	20	19	19	18	18	19	19	21	24	29	30	32	18	79	37	24
24	34	37	39	43	49	53	49	44	37	39	33	24	23	25	22	21	31	43	49	53	54	56	61	57	21	61	41	24
25	60	68	70	73	80	74	69	67	56	43	30	24	23	24	22	21	20	20	20	22	39	49	28	46	20	80	44	24
26	75	83	85	77	60	59	58	52	45	40	36	34	31	29	27	25	24	24	25	27	30	34	35	40	24	85	44	24
27	45	50	54	60	63	61	58	55	50	45	42	39	37	34	32	32	31	31	32	33	36	41	44	51	31	63	44	24
28	60	63	62	60	73	86	90	84	75	59	47	35	28	22	14	15	17	18	18	21	24	25	29	32	14	90	44	24
29	38	47	57	67	76	73	67	60	56	51	45	39	38	34	35	34	34	32	32	40	43	64	73	70	32	76	50	24
30	75	80	86	86	88	82	72	67	51	47	42	39	45	57	38	35	38	37	42	45	52	62	77	80	35	88	59	24
31	85	86	87	90	90	88	75	67	56	49	48	47	41	46	39	38	40	40	41	42	49	56	60	62	38	90	59	24
HOURLY MAX	90	93	93	94	95	95	95	92	75	59	49	47	45	59	91	85	66	64	74	70	80	79	78	85				
HOURLY AVG	58	61	64	68	70	70	64	57	48	41	36	31	29	30	28	27	27	28	29	32	39	48	50	53				

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

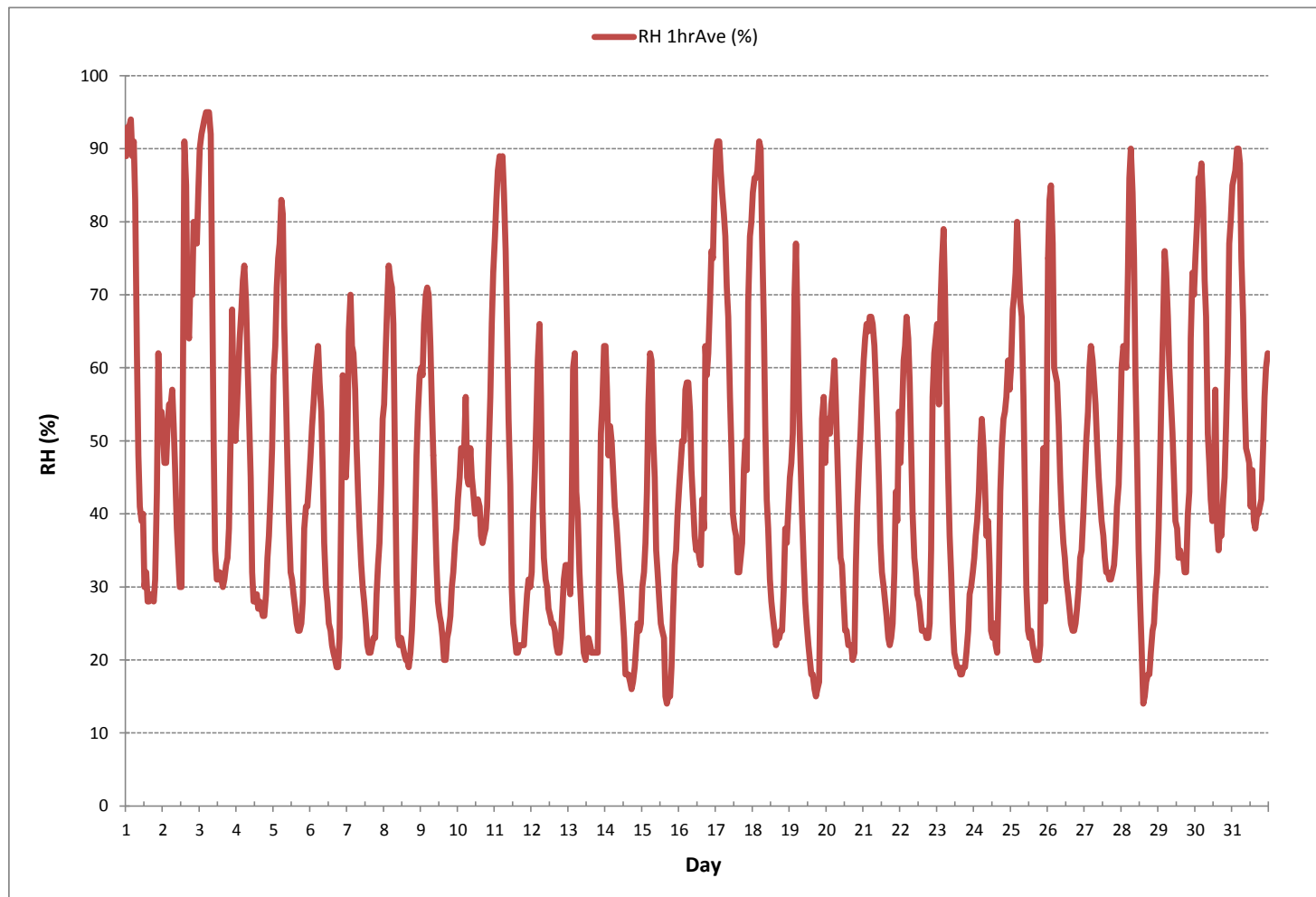
24 HR AVERAGES May 2018



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	14	%	@ HOUR	16	ON DAY	15
MAXIMUM 1-HR AVERAGE:	95	%	@ HOUR	4	ON DAY	3
MAXIMUM 24-HR AVERAGE:	61	%			ON DAY	17
OPERATIONAL TIME:					744	hrs
AMD OPERATION UPTIME:					100.0	%
STANDARD DEVIATION:	20				MONTHLY AVERAGE:	45 %

RELATIVE HUMIDITY Hourly Averages (RH %)



BAROMETRIC PRESSURE



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 842b Station - May 2018

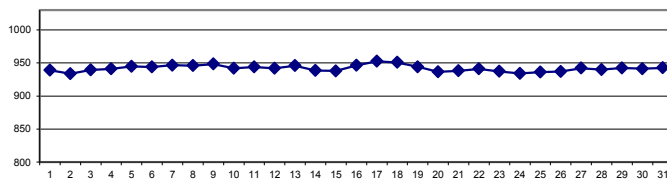
BAROMETRIC PRESSURE Hourly Averages (BP mbar)

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	938	938	938	939	939	940	940	941	941	941	941	941	940	940	940	939	939	939	938	938	938	937	937	936	936	936	941	939	24
2	936	935	934	933	933	933	932	932	932	932	932	931	931	932	935	934	934	935	935	935	935	935	936	935	931	936	936	934	24
3	936	936	936	936	937	937	938	939	940	940	941	941	941	941	941	941	941	941	941	940	940	940	940	940	936	941	939	24	
4	940	940	940	940	940	940	941	941	941	942	942	942	942	941	941	941	941	941	941	941	941	942	942	943	940	943	941	24	
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7	945	946	946	947	948	948	949	949	949	949	949	949	948	948	947	946	946	945	944	944	944	944	943	943	943	949	947	24	
8	943	943	942	942	942	942	943	943	944	944	945	945	946	946	947	947	947	948	948	949	950	950	950	951	942	951	946	24	
9	951	952	952	952	952	952	952	952	951	950	950	949	948	948	947	946	945	945	944	944	944	944	944	943	943	952	948	24	
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11	944	944	944	944	944	945	945	945	945	945	945	945	944	944	943	943	943	942	942	942	942	942	942	942	942	942	945	944	24
12	942	942	942	942	943	943	944	944	944	943	943	942	942	941	941	940	940	940	940	940	940	940	941	942	943	940	944	942	24
13	944	945	945	945	946	946	947	947	947	948	948	948	947	947	946	946	945	945	945	944	944	944	944	944	944	948	946	24	
14	944	943	943	943	942	942	941	941	940	940	940	939	939	938	937	937	936	935	934	934	934	935	935	935	934	944	939	24	
15	935	935	935	936	936	937	937	938	938	938	938	938	938	938	938	938	938	938	938	938	938	939	940	941	941	935	941	938	24
16	941	942	943	944	944	945	945	945	945	946	946	946	946	947	947	947	947	948	948	949	949	950	950	951	941	951	946	24	
17	951	951	951	951	951	952	952	952	953	953	953	953	953	953	953	953	952	952	952	953	953	953	953	953	951	953	952	24	
18	953	953	953	953	953	953	953	953	953	952	952	952	951	950	950	949	949	948	948	948	948	948	948	948	948	953	951	24	
19	948	948	947	947	947	947	947	947	946	946	945	945	944	944	943	942	942	941	941	940	940	940	940	940	940	948	944	24	
20	939	939	939	939	938	938	938	938	937	937	936	936	936	935	935	935	934	935	935	935	935	936	936	937	934	939	937	24	
21	937	937	937	937	938	938	938	938	938	938	938	938	938	938	938	938	938	938	938	939	939	939	940	940	937	940	938	24	
22	941	941	941	941	942	942	942	943	943	942	942	942	941	941	941	940	940	940	939	939	939	939	939	939	939	943	941	24	
23	939	940	940	940	940	940	939	939	939	938	938	937	937	937	936	936	936	935	935	934	935	935	935	934	934	940	937	24	
24	935	934	934	934	934	934	934	934	933	934	933	933	933	933	933	933	933	934	935	935	935	936	936	936	933	936	934	24	
25	936	937	937	937	938	938	938	938	938	938	937	937	937	936	936	935	935	934	934	933	933	933	934	936	933	938	936	24	
26	936	936	936	936	936	936	937	937	936	936	936	936	936	936	936	936	937	937	938	938	938	938	939	940	936	940	937	24	
27	940	941	941	942	942	942	943	943	943	943	943	943	942	942	942	942	942	942	942	942	942	942	942	941	940	943	942	24	
28	941	941	941	941	940	940	940	940	939	939	939	939	939	939	939	938	939	939	939	939	939	940	940	941	941	938	941	940	24
29	942	942	942	943	943	943	943	943	944	943	943	943	943	942	942	942	941	941	941	941	941	941	941	941	941	944	942	24	
30	941	941	941	942	942	942	942	942	942	941	941	941	941	941	940	940	940	940	940	941	941	941	942	942	940	942	941	24	
31	942	942	942	942	943	943	943	943	943	943	943	943	943	943	942	942	942	942	942	942	942	942	942	943	942	943	942	24	
HOURLY MAX	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	953	952	952	952	953	953	953	953	953	953	953	953	24	
HOURLY AVG	942	942	942	942	942	942	942	943	942	942	942	942	942	942	941	941	941	941	941	941	941	941	941	941	942	942	943	942	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

24 HR AVERAGES May 2018



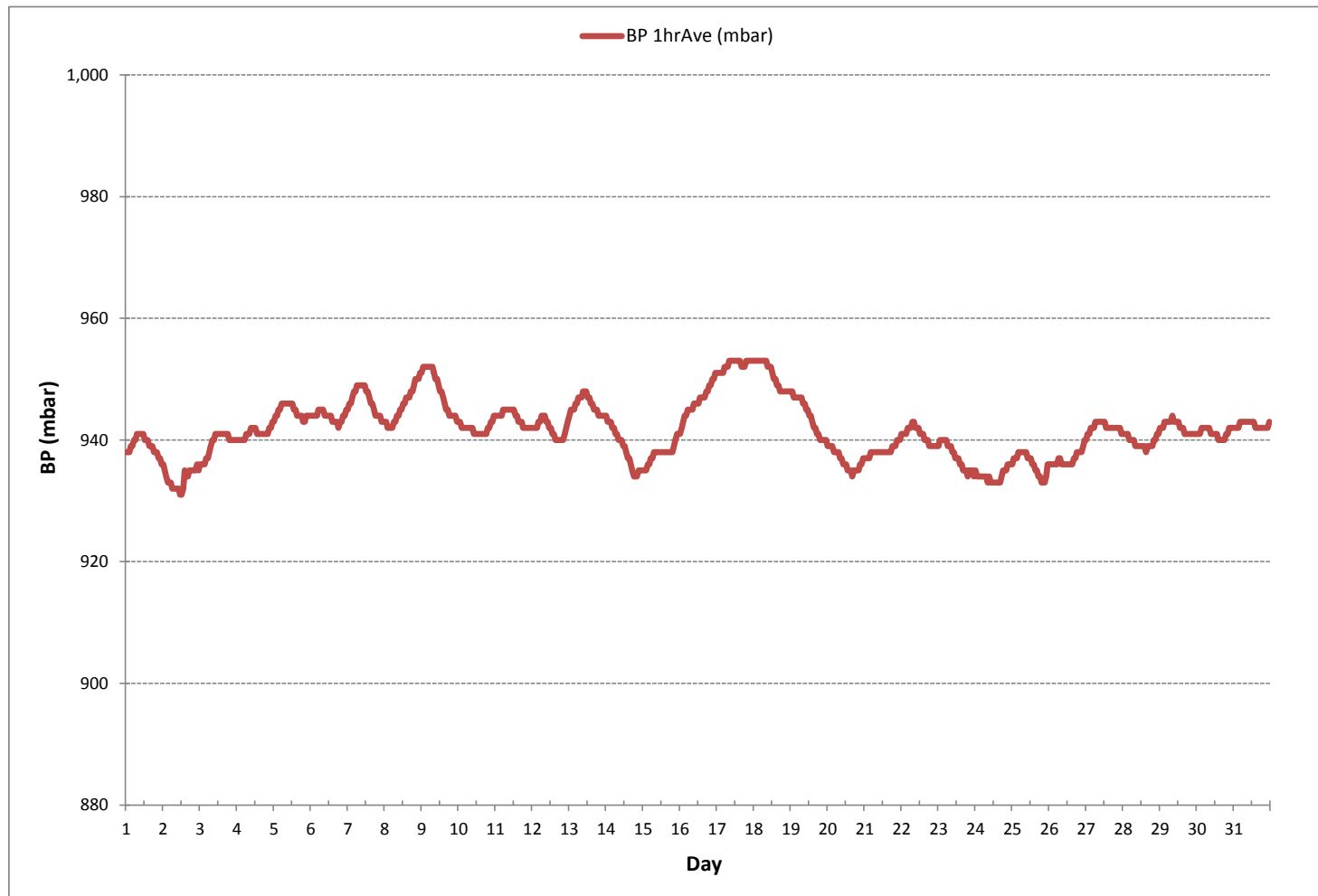
MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	931	mbar	@ HOUR	11	ON DAY	2
MAXIMUM 1-HR AVERAGE:	953	mbar	@ HOUR	8	ON DAY	17
MAXIMUM 24-HR AVERAGE:	952	mbar			ON DAY	17

OPERATIONAL TIME:	744	hrs
AMD OPERATION UPTIME:	100.0	%

STANDARD DEVIATION:	5		MONTHLY AVERAGE:	942	mbar
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BAROMETRIC PRESSURE Hourly Averages (BP mbar)



AMBIENT TEMPERATURE



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 842b Station - May 2018

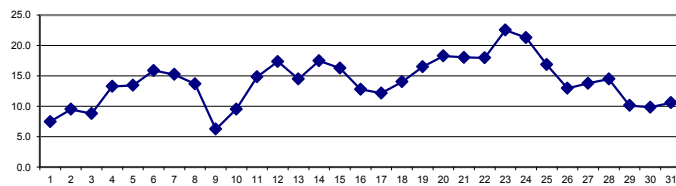
AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)

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	1.3	-0.2	-0.1	-1.0	0.0	-1.7	2.0	6.7	10.2	11.9	11.3	11.6	13.5	12.8	13.7	13.4	12.9	12.6	13.0	11.7	8.4	3.6	5.7	5.9	-1.7	13.7	7.5	24
2	6.6	7.3	7.4	7.2	7.4	7.8	7.8	9.1	11.4	14.4	15.2	17.2	16.9	11.8	5.6	8.8	11.5	11.1	9.0	8.8	7.1	6.9	6.6	4.9	4.9	17.2	9.5	24
3	4.0	3.6	2.4	0.9	0.2	-0.2	0.6	4.1	8.9	12.4	13.9	14.4	14.2	14.3	13.9	13.6	13.8	13.6	13.2	12.3	9.8	7.1	9.0	10.8	-0.2	14.4	8.8	24
4	10.4	9.4	8.5	7.4	6.3	5.7	7.2	9.2	11.0	13.1	15.7	16.8	17.1	16.7	17.8	17.9	18.2	18.5	18.3	17.2	15.1	14.8	14.1	12.5	5.7	18.5	13.3	24
5	9.9	8.7	6.7	5.8	5.1	3.2	4.8	8.8	11.0	13.2	15.4	17.1	17.8	18.6	19.3	20.0	20.6	20.7	20.4	18.9	15.3	13.8	14.1	13.2	3.2	20.7	13.4	24
6	12.2	11.2	10.1	9.0	8.6	8.1	10.0	11.6	13.6	16.5	19.1	19.5	21.0	21.4	22.8	23.1	23.2	24.4	23.9	21.5	16.3	11.5	10.5	11.8	8.1	24.4	15.9	24
7	10.1	7.5	6.0	6.8	7.0	8.5	10.5	12.0	13.1	14.7	16.8	18.4	21.0	21.9	22.6	22.1	21.8	21.0	21.0	19.5	18.1	17.0	15.0	12.7	6.0	22.6	15.2	24
8	13.4	12.8	11.2	10.0	10.0	9.9	11.0	15.2	18.5	20.2	20.3	18.8	19.2	19.1	18.7	17.9	17.7	16.5	14.8	12.4	8.7	5.9	3.9	2.4	2.4	20.3	13.7	24
9	1.8	1.4	-0.2	-1.1	-1.2	-0.7	0.8	2.8	4.4	6.3	7.2	8.8	10.0	11.3	11.8	12.7	12.8	12.6	11.7	10.7	9.2	7.1	5.2	4.2	-1.2	12.8	6.2	24
10	3.0	2.4	1.5	1.1	1.0	0.1	3.4	6.9	9.5	11.3	12.6	13.8	14.0	14.3	14.8	15.8	16.3	16.1	15.7	14.7	12.9	10.8	9.1	7.5	0.1	16.3	9.5	24
11	6.6	5.5	4.7	4.1	4.6	4.4	6.5	8.9	11.8	14.5	16.9	19.5	21.0	22.0	22.8	22.8	22.5	22.5	22.4	21.8	19.1	17.9	17.0	16.6	4.1	22.8	14.9	24
12	15.4	13.7	12.5	10.5	8.3	7.3	10.9	14.1	16.4	18.1	19.5	20.9	21.5	22.2	22.5	22.9	23.1	23.3	23.1	21.3	19.2	17.0	16.2	16.4	7.3	23.3	17.3	24
13	15.3	14.3	10.4	6.4	5.8	8.6	11.0	13.0	14.1	15.1	16.1	17.1	17.7	18.4	19.1	19.6	20.0	20.2	20.0	20.1	16.0	11.9	9.6	7.7	5.8	20.2	14.5	24
14	7.7	8.8	9.9	9.6	9.6	10.8	12.7	13.9	15.6	17.3	18.6	20.5	21.7	22.5	22.8	23.2	24.1	24.5	24.1	23.3	21.8	19.6	19.1	17.4	7.7	24.5	17.5	24
15	14.9	14.2	12.8	10.8	8.1	6.9	9.2	12.6	14.9	17.1	18.6	19.6	20.1	20.4	21.3	22.2	22.3	22.0	21.6	20.7	18.6	15.4	14.0	12.3	6.9	22.3	16.3	24
16	10.9	10.3	9.7	9.5	8.1	8.3	9.2	11.1	13.9	15.3	16.1	16.8	16.8	16.8	16.1	15.3	15.9	13.6	14.1	13.6	12.6	11.4	11.1	9.9	8.1	16.8	12.8	24
17	9.1	8.7	8.5	8.6	8.7	8.8	9.5	10.6	12.2	13.6	14.5	15.0	15.2	15.4	17.2	16.8	16.9	16.3	15.5	14.3	14.1	9.5	6.8	5.6	5.6	17.2	12.1	24
18	4.8	4.9	5.5	5.4	3.9	3.9	8.3	12.5	15.1	16.5	17.1	18.1	18.9	19.6	20.1	20.7	20.5	20.5	20.3	19.9	17.8	14.4	14.5	13.2	3.9	20.7	14.0	24
19	12.7	12.3	11.2	7.3	5.1	7.2	11.0	13.4	15.4	17.9	19.1	20.2	21.2	22.1	23.1	23.8	23.9	24.2	23.8	23.3	19.7	13.7	11.1	12.7	5.1	24.2	16.5	24
20	11.6	11.9	12.3	11.3	10.8	10.2	12.8	15.7	18.7	21.0	21.6	22.9	24.0	24.7	25.5	25.2	25.4	25.3	24.2	20.9	18.0	16.1	14.9	13.5	10.2	25.5	18.3	24
21	12.9	12.1	12.2	12.9	12.8	12.8	13.4	14.5	15.9	18.0	20.0	21.7	22.5	23.4	24.1	24.5	24.4	24.2	23.4	23.0	20.0	15.9	15.5	12.5	12.1	24.5	18.0	24
22	12.5	10.8	8.5	8.2	7.6	9.2	12.0	14.9	17.2	19.0	20.4	22.1	23.5	24.5	25.2	25.6	25.6	25.7	25.6	25.1	22.3	16.9	14.6	13.5	7.6	25.7	17.9	24
23	11.9	14.2	11.4	10.2	9.4	11.2	15.2	19.9	23.3	25.5	27.4	28.6	29.2	29.7	30.1	30.2	30.1	30.0	29.4	28.3	26.2	23.8	23.2	21.6	9.4	30.2	22.5	24
24	20.5	19.2	18.2	17.1	15.4	15.0	16.6	19.9	22.9	23.0	25.5	27.1	27.4	27.6	28.2	27.1	24.9	22.4	21.2	20.7	19.7	18.6	16.3	15.4	15.0	28.2	21.2	24
25	14.5	12.9	12.0	10.6	9.0	10.5	12.9	15.1	16.6	17.9	19.3	20.1	20.5	21.0	21.4	21.6	21.7	21.8	21.6	20.9	17.7	13.9	16.3	14.7	9.0	21.8	16.9	24
26	10.9	9.7	9.2	9.2	8.6	8.7	9.2	10.4	12.2	12.9	14.2	15.1	16.0	16.7	17.2	17.2	16.6	16.0	15.3	14.7	13.7	12.5	13.0	11.5	8.6	17.2	12.9	24
27	10.1	9.0	7.9	6.8	6.4	7.5	8.9	10.3	12.4	13.5	14.5	15.7	16.5	17.7	18.2	18.5	19.1	19.1	18.6	18.0	17.2	16.1	15.0	13.4	6.4	19.1	13.8	24
28	11.0	10.7	11.4	12.5	11.7	10.7	10.6	11.6	13.2	15.7	16.7	17.6	18.5	18.8	19.3	19.2	18.9	18.2	17.3	15.7	14.6	12.6	11.5	9.9	9.9	19.3	14.5	24
29	8.3	7.2	6.6	5.1	3.2	3.9	6.2	7.9	9.3	10.6	11.8	12.9	13.1	14.4	14.4	15.1	15.2	15.5	15.1	13.1	12.9	9.0	6.3	6.0	3.2	15.5	10.1	24
30	4.9	3.8	2.2	2.4	2.1	4.1	7.1	8.8	12.4	13.2	13.6	14.2	13.4	11.6	14.9	15.3	15.1	15.4	14.1	13.5	12.1	9.9	6.3	5.5	2.1	15.4	9.8	24
31	4.7	4.8	4.8	4.3	4.2	4.5	8.3	9.7	11.6	12.7	12.9	13.8	14.5	13.7	14.3	14.8	14.5	13.9	14.4	13.7	12.6	11.2	10.3	9.4	4.2	14.8	10.6	24
HOURLY MAX	20.5	19.2	18.2	17.1	15.4	15.0	16.6	19.9	23.3	25.5	27.4	28.6	29.2	29.7	30.1	30.2	30.1	30.0	29.4	28.3	26.2	23.8	23.2	21.6				
HOURLY AVG	9.8	9.1	8.2	7.4	6.7	6.9	9.0	11.5	13.8	15.6	16.8	17.9	18.6	18.9	19.3	19.6	19.7	19.4	18.9	17.9	15.7	13.1	12.1	11.1				

STATUS FLAG CODES

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

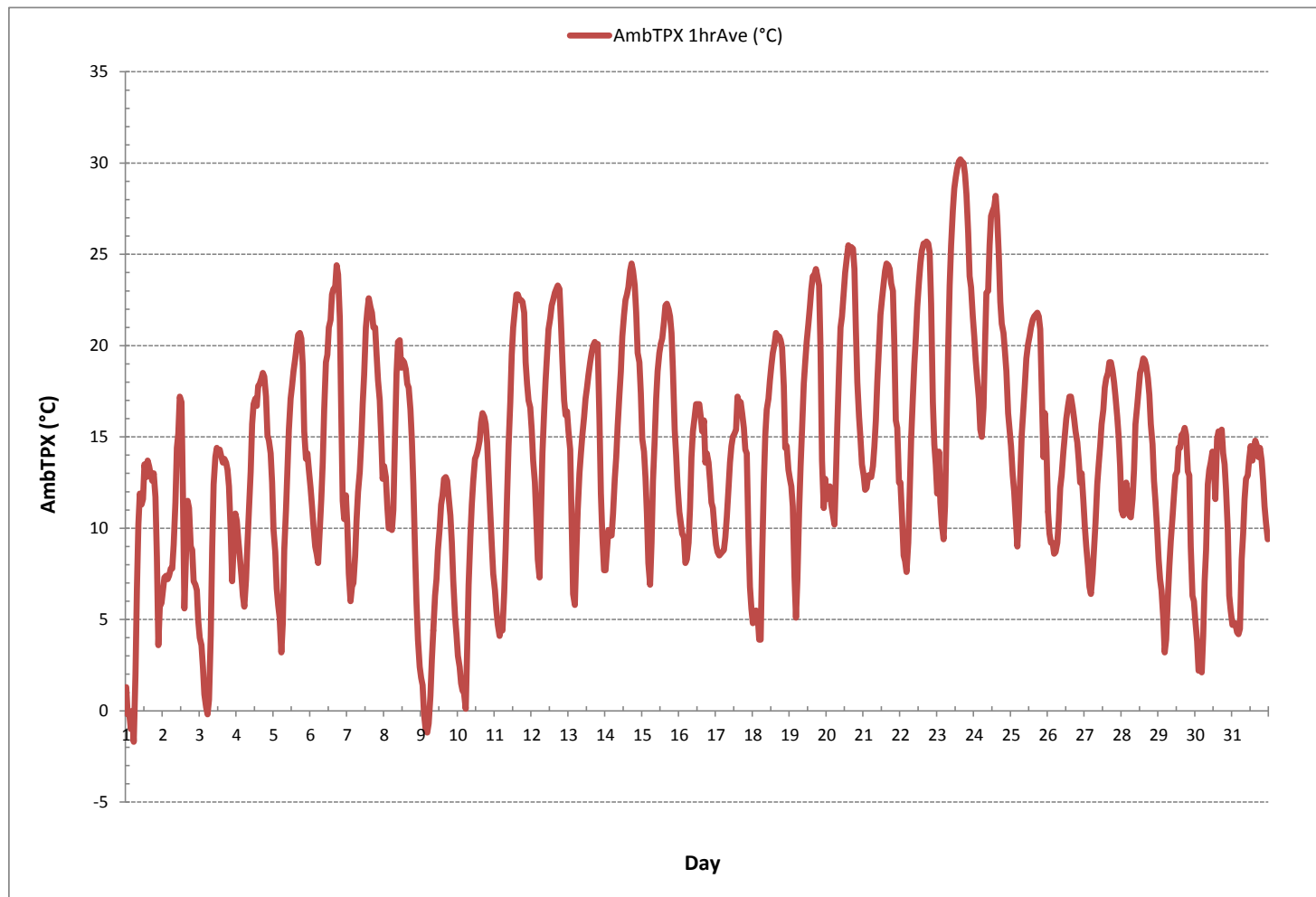
24 HR AVERAGES May 2018



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	-1.7 °C	@ HOUR	5	ON DAY	1
MAXIMUM 1-HR AVERAGE:	30.2 °C	@ HOUR	15	ON DAY	23
MAXIMUM 24-HR AVERAGE:	22.5 °C			ON DAY	23
OPERATIONAL TIME:				744	hrs
AMD OPERATION UPTIME:				100.0	%
STANDARD DEVIATION:	6.3	MONTHLY AVERAGE:		14.0	°C

AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)



STATION TEMPERATURE

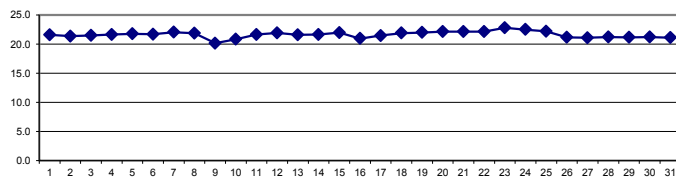
STATION TEMPERATURE Hourly Averages (StnTPX °C)

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	21.5	21.2	21.6	21.5	21.7	21.4	21.6	21.0	21.5	22.2	21.7	22.2	22.4	22.8	21.7	21.6	20.9	21.3	21.5	21.6	21.1	21.0	21.5	21.3	20.9	22.8	21.6	24
2	21.3	20.6	21.1	20.6	21.2	20.7	20.4	20.8	21.3	21.1	20.9	21.1	21.6	21.2	21.8	21.9	21.7	21.6	22.4	21.5	21.1	22.0	22.4	22.4	20.4	22.4	21.4	24
3	22.3	22.1	21.9	21.5	22.1	21.9	21.5	21.1	20.8	21.0	22.0	22.0	21.3	21.2	21.3	21.0	21.0	21.0	21.1	21.3	21.3	21.2	21.2	22.2	20.8	22.3	21.5	24
4	22.6	21.2	22.1	22.4	22.4	22.3	22.4	22.3	21.2	21.2	21.5	21.2	21.3	21.0	21.1	21.1	21.2	21.3	22.1	22.4	21.6	21.3	21.2	21.3	21.0	22.6	21.7	24
5	21.0	21.9	22.4	22.4	22.2	21.8	21.7	22.0	22.4	21.3	21.3	21.3	21.2	21.2	21.2	22.0	22.5	22.6	22.2	22.2	21.9	21.4	21.2	21.2	21.0	22.6	21.8	24
6	21.1	21.2	21.2	21.0	21.0	21.1	21.0	21.3	21.3	21.3	21.4	21.3	22.1	22.1	22.5	22.4	22.5	22.5	22.2	22.4	22.2	21.2	22.2	21.7	21.0	22.5	21.7	24
7	21.4	22.3	22.5	22.6	22.6	22.7	22.9	21.4	21.5	21.2	21.2	21.3	22.1	22.5	22.3	22.4	22.3	22.3	22.8	22.8	22.1	21.0	21.3	21.2	21.0	22.9	22.0	24
8	21.3	22.5	21.3	21.2	21.1	21.2	21.4	21.1	22.8	22.3	21.7	22.8	23.7	23.6	23.3	22.9	23.1	23.1	22.9	22.3	20.4	19.6	19.7	19.6	19.6	23.7	21.9	24
9	20.2	20.4	20.3	20.1	21.3	20.8	20.2	20.1	20.2	20.2	20.1	20.1	19.8	19.3	19.5	20.0	20.4	20.4	19.9	19.7	20.0	20.1	20.2	19.3	21.3	20.1	24	
10	20.4	20.3	20.3	20.1	20.2	20.1	20.2	20.6	21.3	21.5	21.1	20.6	20.8	20.7	20.8	20.6	21.1	21.6	21.8	21.3	20.7	21.0	21.2	21.3	20.1	21.8	20.8	24
11	21.3	21.4	21.3	21.5	21.5	21.5	21.4	21.4	21.1	21.3	21.1	21.0	21.5	22.0	23.1	23.2	23.2	22.6	22.3	22.1	21.2	20.6	21.1	20.8	20.6	23.2	21.6	24
12	20.9	20.9	21.0	21.3	21.5	21.3	21.3	21.2	21.1	20.9	21.0	21.3	21.8	22.2	22.8	23.4	24.0	23.5	23.7	24.3	23.4	21.5	21.0	21.0	20.9	24.3	21.9	24
13	21.1	20.9	21.0	21.3	21.3	21.4	21.3	21.4	21.3	21.0	21.1	21.1	21.3	21.1	21.2	21.6	22.1	23.0	24.2	23.8	22.4	21.1	21.1	21.3	20.9	24.2	21.6	24
14	21.2	21.3	21.3	21.4	21.2	21.3	21.2	21.1	21.1	20.9	21.0	21.0	21.4	21.8	22.2	22.4	23.0	23.3	23.1	23.5	22.2	21.2	20.7	20.7	20.7	23.5	21.6	24
15	20.9	21.2	21.0	21.1	21.3	21.3	21.3	21.4	21.3	20.9	21.3	21.4	21.8	22.1	22.9	24.0	23.7	23.9	23.7	24.3	23.2	21.2	20.9	20.9	20.9	24.3	22.0	24
16	21.1	21.3	21.3	21.3	21.3	21.4	21.1	21.2	21.1	20.8	20.3	20.7	20.5	20.3	20.6	20.9	20.7	20.9	20.9	20.8	21.1	21.1	21.1	21.1	20.3	21.4	21.0	24
17	21.4	21.4	21.5	21.5	21.8	23.6	23.7	24.3	22.2	21.2	21.0	21.0	20.8	20.7	20.6	21.0	21.0	20.7	20.3	20.8	20.6	21.1	21.4	21.5	20.3	24.3	21.5	24
18	21.4	21.4	21.4	21.4	21.4	21.4	21.5	21.2	21.1	20.8	20.9	20.9	21.2	21.7	22.1	22.9	23.6	24.0	23.9	23.9	23.7	22.2	20.5	21.0	20.5	24.0	21.9	24
19	20.9	21.1	21.1	21.1	21.3	21.3	21.2	21.1	20.9	21.1	21.0	21.5	22.1	23.5	23.5	23.7	23.7	23.8	23.7	23.2	23.3	21.8	21.0	21.1	20.9	23.8	22.0	24
20	21.2	21.3	21.4	21.2	21.3	21.4	21.2	21.1	21.1	21.5	21.9	22.9	23.7	23.5	23.5	23.9	23.7	23.7	23.7	23.5	22.3	21.1	20.8	21.1	20.8	23.9	22.2	24
21	21.1	21.2	21.2	21.0	21.2	21.0	21.1	20.9	21.1	21.6	21.6	22.1	23.7	24.1	23.9	23.9	23.7	23.7	23.4	23.3	23.1	21.4	20.8	21.0	20.8	24.1	22.1	24
22	21.3	21.3	21.4	21.4	21.4	21.3	21.2	21.1	21.2	21.3	21.0	21.6	22.6	23.5	23.4	23.7	23.6	23.7	23.7	23.3	23.3	22.2	21.1	21.4	21.0	23.7	22.1	24
23	21.4	21.4	21.5	21.4	21.5	21.5	21.4	21.2	21.7	22.9	24.2	23.6	23.7	23.7	23.9	24.1	24.1	24.2	24.2	24.1	23.6	23.5	22.7	21.9	21.2	24.2	22.8	24
24	21.0	20.8	21.2	21.1	21.0	21.0	21.1	20.8	21.1	21.9	23.4	24.3	23.7	23.9	24.0	23.9	23.6	24.4	24.2	24.2	23.2	21.8	22.0	22.1	20.8	24.4	22.5	24
25	21.8	21.7	21.6	21.6	21.7	21.3	21.6	21.5	21.7	21.5	21.7	21.7	22.1	23.1	23.6	23.8	24.0	23.7	23.8	23.5	22.6	21.2	21.1	21.2	21.1	24.0	22.2	24
26	21.1	21.2	21.1	21.1	21.4	21.4	21.3	21.4	21.4	21.4	21.4	21.3	21.1	21.1	20.8	20.9	20.8	21.2	21.1	21.0	20.5	21.0	21.2	21.2	20.5	21.4	21.1	24
27	21.2	21.3	21.3	21.4	21.2	21.4	21.2	21.1	21.3	21.2	21.4	21.0	21.0	20.7	20.8	20.8	20.8	21.1	20.9	20.9	21.0	21.0	21.1	21.0	20.7	21.4	21.1	24
28	21.2	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.5	21.5	21.3	21.1	20.8	20.9	21.1	21.3	21.7	21.9	21.8	21.0	20.9	21.1	21.2	21.3	20.8	21.9	21.2	24
29	21.4	21.4	21.4	21.3	21.3	21.5	21.4	21.4	21.6	21.4	21.3	21.4	21.0	21.0	20.9	20.7	20.7	21.1	21.1	20.6	20.7	21.1	21.3	21.3	20.6	21.6	21.2	24
30	21.5	21.6	21.3	21.4	21.5	21.5	21.3	21.5	21.2	21.2	21.1	21.0	21.0	21.2	21.0	21.0	21.1	20.9	20.7	20.9	20.9	21.3	21.3	21.3	20.7	21.6	21.2	24
31	21.6	21.5	21.4	21.5	21.4	21.3	21.5	21.2	21.3	21.2	20.9	21.1	20.9	21.0	21.0	20.5	20.4	21.0	20.9	21.0	21.0	21.0	21.2	21.3	20.4	21.6	21.1	24
HOURLY MAX	22.6	22.5	22.5	22.6	22.6	23.6	23.7	24.3	22.8	22.9	24.2	24.3	23.7	24.1	24.0	24.1	24.1	24.4	24.4	24.3	23.7	23.5	22.7	22.4				
HOURLY AVG	21.3	21.3	21.3	21.3	21.4	21.4	21.4	21.3	21.3	21.3	21.4	21.5	21.8	21.9	22.0	22.2	22.2	22.4	22.4	22.3	21.8	21.3	21.2	21.2				

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

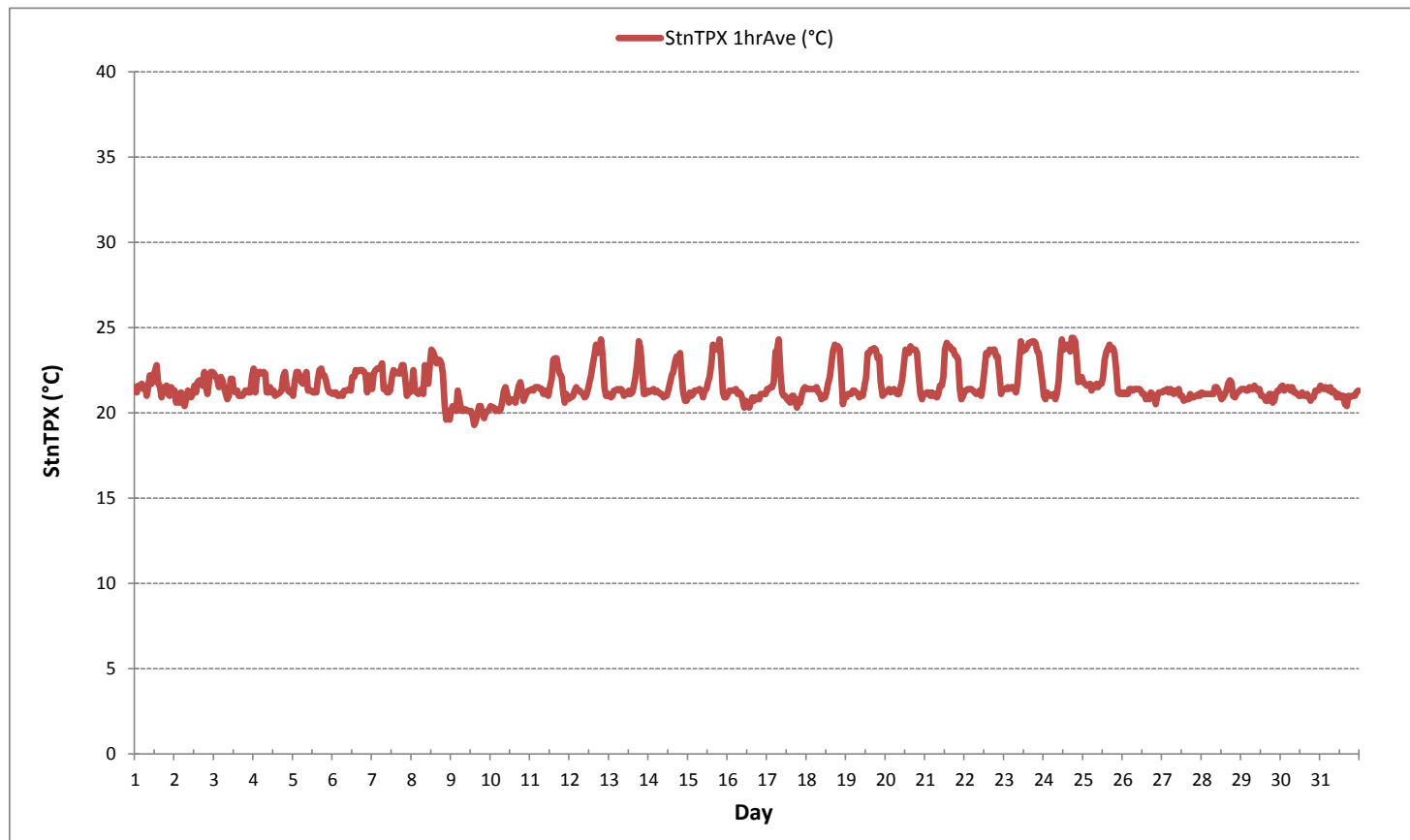
24 HR AVERAGES May 2018



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	19.3	°C	@ HOUR	14	ON DAY	9
MAXIMUM 1-HR AVERAGE:	24.4	°C	@ HOUR	17	ON DAY	24
MAXIMUM 24-HR AVERAGE:	22.8	°C			ON DAY	23
OPERATIONAL TIME:						744 hrs
AMD OPERATION UPTIME:						100.0 %
STANDARD DEVIATION:	1.0		MONTHLY AVERAGE:			21.6 °C

STATION TEMPERATURE Hourly Averages (StnTPX °C)



APPENDIX II
EQUIPMENT CALIBRATION RESULTS

SULPHUR DIOXIDE



Thermo 43i Sulphur Dioxide Analyzer Calibration

Date:	May 8, 2018	Barometer/B.P./units:	Brunton 05535 expires December 15, 2018	27.82	inHg
Company/Airshed:	PRAMP	Thermometer/Station Temp:	F.S. 160348895 expires March 29, 2019	22.8	°C
Location/Station Name:	842B	Weather Conditions:	Mainly sunny		
Parameter:	Sulphur Dioxide	Calibration Purpose:	routine monthly		
Start Time 24 hr. (mst):	9:01	Performed By/Reviewer:	Limin Li	Rob Fisher	
End Time 24 hr. (mst):	13:26	Cal Gas Expiry Date:	August 23, 2020		
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	n/a		
Analyzer:					
Serial Number/Owner:	835033373 Maxxam	Range ppb:	500		
Last Calibration Date:	April 11, 2018	As Found C.F.:	1.072		
Previous C.F.:	1.000	New C.F.:	1.000		

Calibration Standards:
Low Flow Meter ID/Expiry Date: Defender Low 156151 expires October 2, 2018
High Flow Meter ID/Expiry Date: Defender High 156312 expires December 13, 2018
Calibrator ID/Expiry Date: Sabio id# 17200415 expires May 16, 2018
Cal Gas Cylinder I.D. #: LL119329
Cal Gas Conc. (ppm): 50.1

Standard Calibration Points for Ranges	
Point	ppb
High	380
Mid	180
Low	90

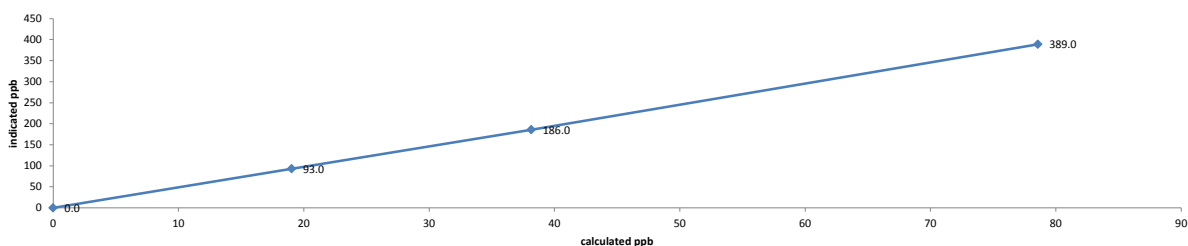
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration (ppb):	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total			
as found zero	5877	0.00	5877	0.0	0.0	n/a
as found high	5823	45.59	5869	389.2	363.0	1.072
adjusted zero	5877	0.00	5877	0.0	0.0	n/a
adjusted high	5823	45.59	5869	389.2	389.0	1.000
mid	5890	21.71	5912	184.0	186.0	0.989
low	5893	11.04	5904	93.7	93.0	1.007
calibrator zero	5904	0.00	5904	0.0	0.0	n/a
Average C.F. =						0.999

Linear Regression/Calibration Results:

Correlation Coefficient =	1.000	LIMITS	> or = 0.995
Slope =	0.999	0.95-1.05	
b (Intercept as % of full scale) =	-0.04%	± 3% F.S.	
% change in C.F. from last cal =	-7.21%	± 10%	

Thermo 43i Sulphur Dioxide Analyzer Calibration



As found:		As left:	
Bkg:	13.8	Bkg:	14.7
Coef:	1.001	Coef:	1.068
Pmt:	-621.6 V	Pmt:	-621.6 V
Flash:	883 V	Flash:	885 V
Internal:	27.5 °C	Internal:	27.4 °C
Chamber:	45.0 °C	Chamber:	45.1 °C
Perm Oven Gas:	45.0 °C	Perm Oven Gas:	45.0 °C
Perm Oven Heater:	44.09 °C	Perm Oven Heater:	44.09 °C
Pressure:	677.2 mmHg	Pressure:	677.2 mmHg
Sample Flow:	0.442 L/Min	Sample Flow:	0.442 L/Min
Lamp Intensity:	82 %	Lamp Intensity:	82 %
Averaging Time:	120 SEC	Averaging Time:	120 SEC
Expected Value:	250.0	Expected Value:	264.0

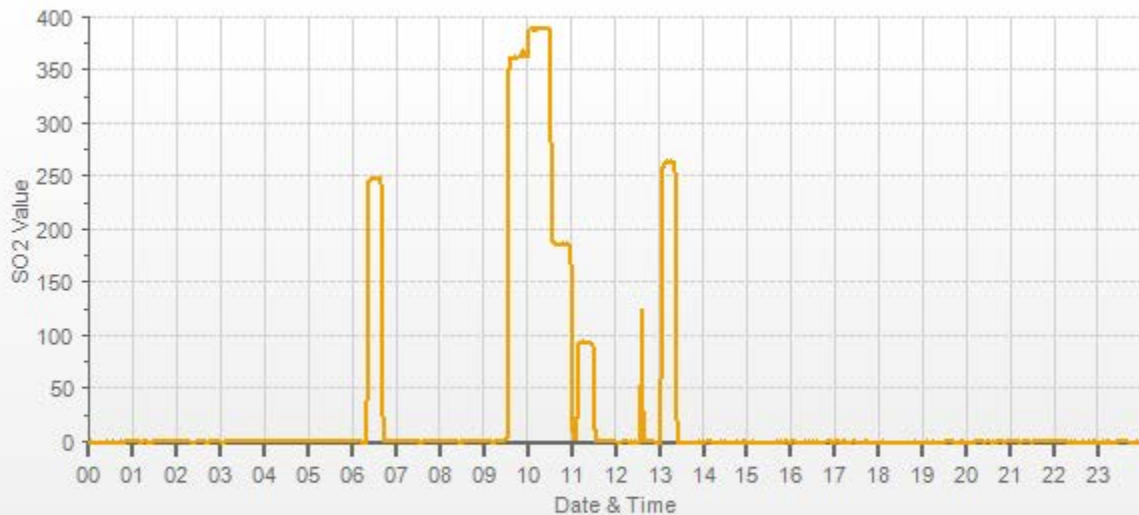
Comments:

The analyzer sample inlet filter was changed.

The analyzer cooling fan filter(s) were cleaned.

The manifold blower was found to be working normally.

SO2[ppb] Station: PRAMP_842 Daily: 18/05/08 Type: AVG 1 Min. [1 Min.]



— SO2[ppb]

TOTAL REDUCED SULPHUR



Thermo 431-TLE Total Reduced Sulphur Analyzer Calibration

Date:	May 8, 2018	Barometer/B.P./units:	Brunton 05535 expires December 15, 2018	27.82	inHg
Company/Airshed:	PRAMP	Thermometer/Station Temp:	F.S. 160348895 expires March 29, 2019	22.8	°C
Location/Station Name:	842B	Weather Conditions:	Mainly sunny		
Parameter:	Total Reduced Sulphur	Calibration Purpose:	routine monthly		
Start Time 24 hr. (mst):	9:02	Performed By/Reviewer:	Limin Li	Rob Fisher	
End Time 24 hr. (mst):	13:22	Cal Gas Expiry Date:	August 23, 2020		
Calibration Method:	Gas Dilution	Converter Model & s/n (if applicable):	CD-Nova CDN101#553		
Analyzer:					
Serial Number/Owner:	1162460023 Maxxam	Range ppb:	100		
Last Calibration Date:	April 11, 2018	As Found C.F.:	1.006		
Previous C.F.:	0.999	New C.F.:	1.000		

Calibration Standards:	Standard Calibration Points for Ranges	SO2 Scrubber Check (10 minutes):	
Low Flow Meter ID/Expiry Date:	Defender Low 156151 expires October 2, 2018	Start/End Time 24 hr.:	09:40/09:50
High Flow Meter ID/Expiry Date:	Defender High 156312 expires December 13, 2018	SO2 Analyzer Range:	500
Calibrator ID/Expiry Date:	Enviroconics id# 1991 expires March 15, 2019	Target Concentration (ppb):	380
Cal Gas Cylinder I.D. #:	LL119500	As Found Zero:	0.0
Cal Gas Conc. (ppm):	9.8	Analyzer Response (ppb):	0.0
		Zero Corrected Result (ppb):	0.0

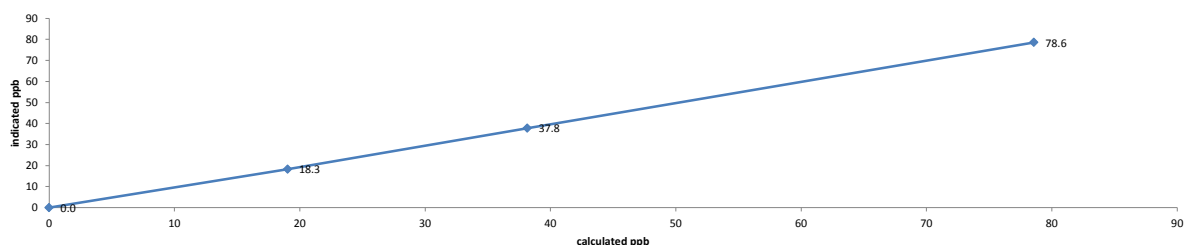
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated Concentration (ppb):	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	Diluent	Cal Gas	Total			
as found zero	7501	0.00	7501	0.0	-0.1	n/a
as found high	7444	60.16	7504	78.6	78.0	1.006
adjusted zero	7501	0.00	7501	0.0	0.0	n/a
adjusted high	7444	60.16	7504	78.6	78.6	1.000
mid	7488	29.26	7517	38.1	37.8	1.009
low	7501	14.60	7516	19.0	18.3	1.040
calibrator zero	7516	0.00	7516	0.0	0.0	n/a
Average C.F. =						1.016

Linear Regression/Calibration Results:

Correlation Coefficient =	1.000	LIMITS	> or = 0.995
Slope =	0.997		0.95-1.05
b (Intercept as % of full scale) =	0.38%		± 3% F.S.
% change in C.F. from last cal =	-0.66%		± 10%

Thermo 431-TLE Total Reduced Sulphur Analyzer Calibration



As found:	As left:
Bkg: 2.82	Bkg: 2.65
Coef: 0.883	Coef: 0.886
Pmt: -720.4 V	Pmt: -720.4 V
Flash: 974 V	Flash: 974 V
Internal: 30.9 °C	Internal: 31.7 °C
Chamber: 45.1 °C	Chamber: 45.1 °C
Perm Oven Gas: 45.0 °C	Perm Oven Gas: 45.0 °C
Perm Oven Heater: 44.12 °C	Perm Oven Heater: 44.12 °C
Pressure: 665.4 mmHg	Pressure: 665.4 mmHg
Sample Flow: 0.403 L/Min	Sample Flow: 0.403 L/Min
Lamp Intensity: 89 %	Lamp Intensity: 89 %
Converter: 850 °C	Converter: 850 °C
Converter Set: 850 °C	Converter Set: 850 °C
Averaging Time: 120 SEC	Averaging Time: 120 SEC
Expected Value: 57.2	Expected Value: 57.0

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.

TRS[ppb] Station: PRAMP_842 Daily: 18/05/08 Type: AVG 1 Min. [1 Min.]



— TRS[ppb]

TOTAL HYDROCARBON



Thermo 55i Methane/Non-Methane Analyzer Calibration

Date:	May 8, 2018	Barometer/B.P./units:	Brunton 05535 expires December 15, 2018	27.82	inHg
Company/Airshed:	PRAMP	Thermometer/Station Temp:	F.S. 160348895 expires March 29, 2019	22.8	°C
Location/Station Name:	842B	Weather Conditions:	Mainly sunny		
Parameter:	CH4 / NMHC / THC	Calibration Purpose:	routine monthly		
Start/End Time 24 hr. (mst):	12:03/15:49	Performed By/Reviewer:	Limin Li	Rob Fisher	
Calibration Method:	Gas Dilution	Cal Gas Expiry Date:	October 18, 2025		

Analyzer:		Correction Factors:			
Serial Number/Owner:	1505664392 Maxxam	Previous C.F.:	As Found C.F.:	New C.F.:	
Measured Flow:	1142 sccm	CH ₄ =	0.999	1.010	1.001
Last Calibration Date:	April 11, 2018	NMHC =	1.000	1.004	1.000
Range ppm:	20 CH ₄ /20 NMHC/40 THC	THC =	1.000	1.007	1.001

Calibration Standards:		Standard Calibration Points for Analyzer Range of 20/20/40 ppm			
Low Flow Meter ID/Expiry Date:	Defender Low 156151 expires October 2, 2018	Point	CH ₄	NMHC	THC
High Flow Meter ID/Expiry Date:	Defender High 148944 expires December 13, 2018	High	13.00	13.00	26.00
Calibrator ID/Expiry Date:	EnviroNics id# 1991 expires March 15, 2019	Mid	7.00	7.00	14.00
Cal Gas Cylinder I.D. #:	LL168404	Low	3.00	3.00	6.00
CH ₄ Cylinder Conc. =	597.0 206.0 =C ₃ H ₈ Cylinder Conc.				
CH ₄ expressed as C ₃ H ₈ =	566.5 1163.5 =total CH ₄ equivalent				

ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015												
Calibrator Flow Rates (cc/min)				Calculated CH ₄ (ppm)	Calculated NMHC (ppm)	Calculated THC (ppm)	Indicated CH ₄ (ppm)	Indicated NMHC (ppm)	Indicated THC (ppm)	Correction Factors:		
Point	Diluent	Cal Gas	Total Flow							CH ₄	NMHC	THC
as found zero	2458	0.00	2458	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
as found high	2406	59.86	2466	14.49	13.75	28.24	14.35	13.70	28.05	1.010	1.004	1.007
adjusted zero	2458	0.00	2458	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
adjusted high	2406	59.86	2466	14.49	13.75	28.24	14.47	13.75	28.22	1.001	1.000	1.001
mid	2436	30.10	2466	7.29	6.91	14.20	7.30	6.98	14.28	0.998	0.991	0.995
low	2446	15.17	2461	3.68	3.49	7.17	3.71	3.61	7.32	0.992	0.967	0.980
calibrator zero	2461	0.00	2461	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
Average C.F. =										0.997	0.986	0.992

Linear Regression/Calibration Results:				LIMITS	
Correlation Coefficient =	CH ₄	NMHC	THC	> or = 0.995	
Slope =	0.998	0.998	0.998	0.95-1.05	
b (Intercept as % of full scale) =	0.09%	0.30%	0.20%	± 3% F.S.	
% change in C.F. from last cal =	-1.09%	-0.37%	-0.69%	± 10%	

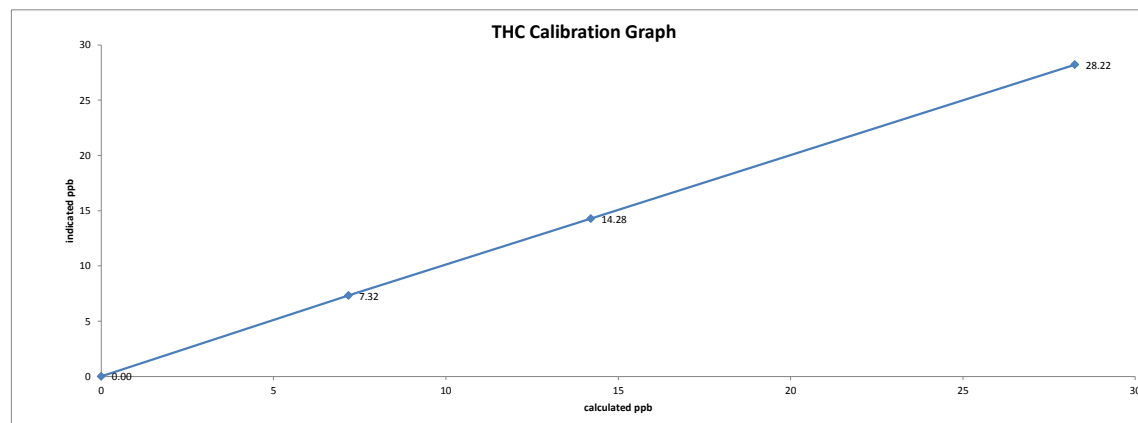
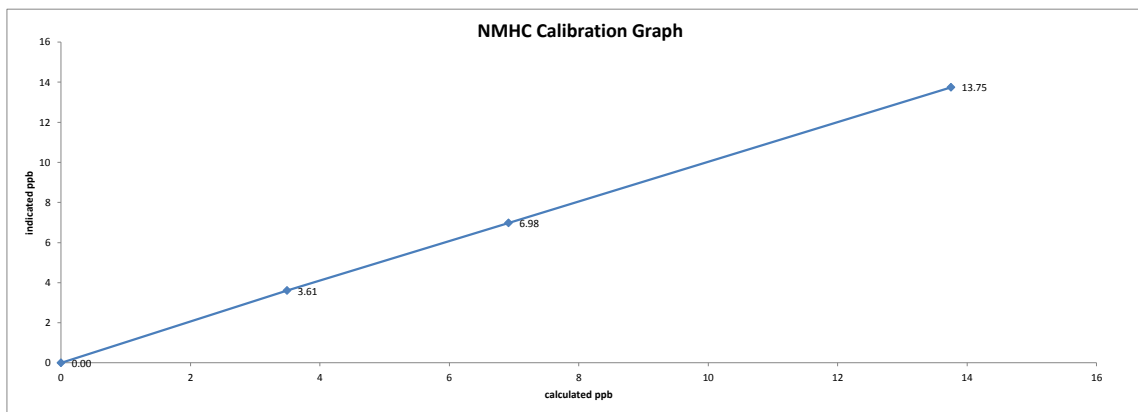
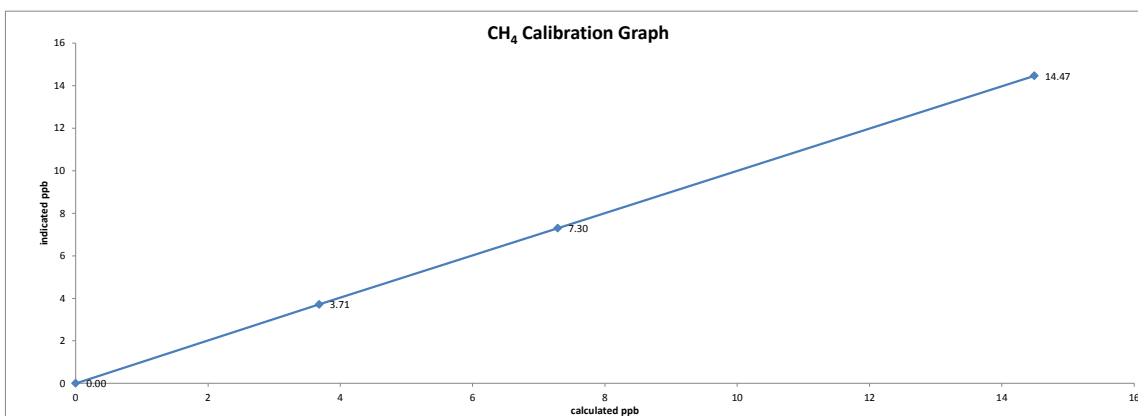
As Left Instrument Diagnostics:												
Interface Board Voltages:	Bias Supply:	-294.3 V	Calibration History cnt'd:	NM Peak Area:	81107							
Temperatures:	Detector Oven:	175.0	Crucial Settings:	Methane Start:	8							
	Filter:	175.0		Methane End:	16							
	Column Oven:	75.0		Backflush:	18							
	Internal:	32.5		NMHC Start:	25							
Cylinder Pressures/reg.:	Carrier:	2500 50	Run History>1:	NMHC End:	54							
	Fuel:	1000 50		Date:	08May18							
	Span Gas:	2000 15		Time:	11:30							
	Zero Air Generator:	50		CH ₄ PK HT:	2721							
Internal Pressures:	Carrier:	31.1		CH ₄ RT:	12.2							
	Fuel:	47.4		CH ₄ Baseline:	3369							
	Air:	23.7		CH ₄ LOD:	41							
FID Status:	Status:	LIT		CH ₄ SD:	13							
	Counts:	37692		CH ₄ CONC:	1.95							
	Flame:	388.7		NM PK HT:	0							
	Det Base:	175.0		NM Peak Area:	0							
Flame and Power Stats:	Last Power On:	02Mar2018 12:33		NM CONC:	0.00							
	Flameouts:	3		NM Base Start:	3369							
	Det Oven at Start:	165.9		NM Base End:	3408							
	Col Oven at Start:	74		NM LOD:	11							
Calibration History:	Time:	11Apr2018 13:43		NM Start IDX:	5							
	Type:	SPAN		NM End IDX:	67							
	Status:	GOOD		NM Max Slope:	1.6e+00							
	Check/Adjust:	ADJUST		NM Min Slope:	-3.0e-01							
	CH ₄ Span Conc:	14.51		NM PT Count:	0							
	CH ₄ SP Ratio:	0.000717		Previous CH ₄ :	10.08							
	CH ₄ RT:	12.2	Expected Values:	Previous NMHC:	10.95							
	CH ₄ PK IDX:	21		Previous THC:	21.04							
	CH ₄ PK HT:	20251		New CH ₄ :	10.08							
	NM Span Conc:	13.76		New NMHC:	10.95							
	NM SP Ratio:	0.00017		New THC:	21.04							

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

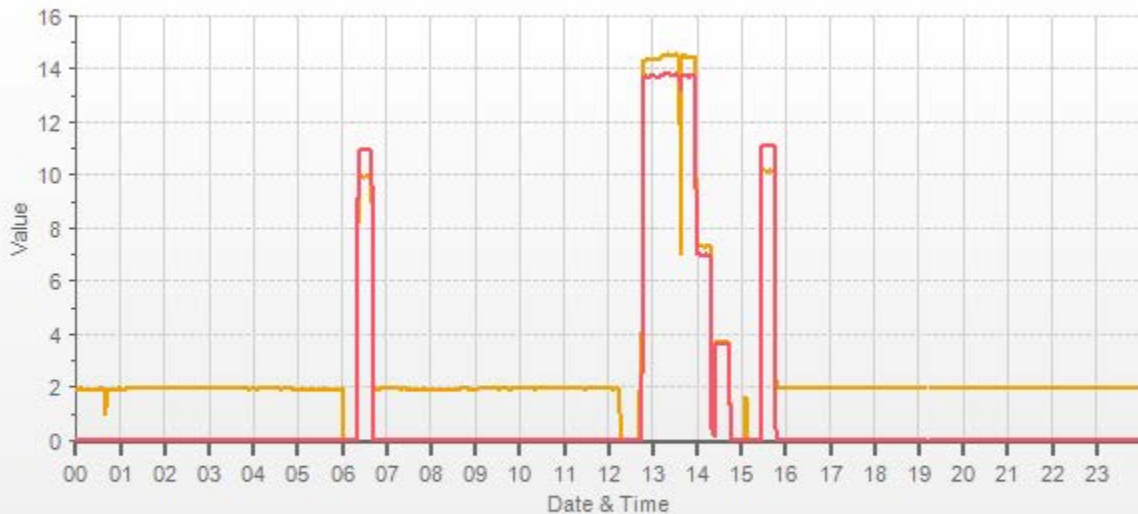
The THC and CH₄ showed a momentary drop in concentration at 13:38 which did not impact the calibration.

Date: May 8, 2018
Company/Airshed: PRAMP
Location/Station Name: 842B

Start/End Time 24 hr. (mst): 12:03/15:49
Calibration Purpose: routine monthly
Calibration Method: Gas Dilution



Station: PRAMP_842 Daily: 18/05/08 Type: AVG 1 Min. [1 Min.]



CH4[ppm] NMHC[ppm]

WIND SYSTEM



Meteorological Sensor Audit/Calibration

Location Information

Company:	PRAMP	Performed By:	Chris Wesson
Audit Location:	842b	Reviewed By:	Tom Bourque
Audit Date:	August 30, 2017	Start /EndTime (mst):	10:50 / 11:20
Calibration Purpose:	installation	Weather Conditions:	Cloudy/Overcast

Wind Sensor Information

Sensor ID Data:		Sensor Outputs:	
Sensor Make:	RM Young	Velocity Voltage Output Range:	0-1V
Sensor Model:	05305VK	Velocity Unit Output Range:	0-200kmh
Serial #:	124638	Direction Voltage Output Range:	0-1V
Previous Cal/Audit Date:	n/a or unknown	Direction Unit Output Range:	0-360°

Wind Calibrator Information

Calibrator Make/ Model:	RM Young	Serial #:	CA 4039
Maxxam Unit ID #:	n/a	Certification Date:	February 24, 2017

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	18.5	1.000
2000	36.9	36.7	36.7	1.004
3000	55.3	55.1	55.1	1.004
4000	73.7	73.4	73.4	1.004
5000	92.2	91.8	91.8	1.004
6000	110.6	110.2	110.2	1.003
7000	129.0	128.6	128.6	1.003
8000	147.4	147.1	147.0	1.003
9000	165.9	165.5	165.5	1.002
10000	184.3	184.2	184.1	1.001
The audit meets AMD requirements.			Average Correction Factor=	1.003

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	1	353	0.5	2.0	1.3
30	330	28	329	2.0	1.0	1.5
60	300	59	299	1.0	1.0	1.0
90	270	89	269	1.0	1.0	1.0
120	240	118	239	2.0	1.0	1.5
150	210	149	209	1.0	1.0	1.0
180	180	178	179	2.0	1.0	1.5
210	150	208	150	2.0	0.0	1.0
240	120	238	119	2.0	1.0	1.5
270	90	268	89	2.0	1.0	1.5
300	60	298	59	2.0	1.0	1.5
330	30	328	29	2.0	1.5	1.8
355	0	353	0	2.0	0.4	1.2
The audit meets AMD requirements.			Average Absolute Degrees Difference=		1.3	

Comments:

METEOROLOGICAL SYSTEMS CHECK



Meteorological System Checklist

Date:	May 8, 2018		
Technician:	Limin Li		
Reviewer:	Rob Fisher		
Station:	PRAMP 842B		
Unit:	Make:	Model:	Serial #:
Temperature Sensor:	Campbell Scientific	HMP45C	C2608
Barometric Pressure Sensor:	MetOne	92	K12864
Relative Humidity Sensor:	Campbell Scientific	HMP45C	C2608
AMBIENT TEMPERATURE SENSOR CHECK			
Previous check date:	January 8, 2018		
Parameter:	Temperature @ 2 metres (1 C tolerance)		
Reference Thermometer ID:	F.S. 160348895 expires March 29, 2019		
Reference Temperature (°C):	18.2		
Station - Ambient Temperature (°C):	20.2		
Temperature Difference (°C):	-2.0		
BAROMETRIC PRESSURE SENSOR CHECK			
Previous check date:	January 8, 2018		
Reference Barometer ID:	Brunton 05535 expires December 15, 2018		
Reference Pressure - Units/Reading:	inHg	27.87	
Station Pressure - Units/Reading:	inHg	27.82	
Pressure Tolerance +/- 15% of error:	23.69 - 32.05	0.18%	
RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK			
Previous check date:	January 8, 2018		
Reference Hygrometer ID:	F.S. id# 160348895 expires April 8, 2018		
Reference Hygrometer % RH- Reading:	26.30		
Station Hygrometer % RH- Reading:	23.00		
R/H Tolerance +/- 15% of error:	22.36 - 30.25	3.3%	



Meteorological System Checklist

Date:	May 10, 2018		
Technician:	Limin Li		
Reviewer:	Rob Fisher		
Station:	PRAMP 842B		
Unit:	Make:	Model:	Serial #:
Temperature Sensor:	Campbell Scientific	HMP45C	C2608
AMBIENT TEMPERATURE SENSOR CHECK			
Previous check date:	May 8, 2018		
Parameter:	Temperature @ 2 metres (1 C tolerance)		
Reference Thermometer ID:	F.S. 160348895 expires March 29, 2019		
Reference Temperature (°C):	9.3		
Station - Ambient Temperature (°C):	9.1		
Temperature Difference (°C):	0.2		

CALIBRATORS

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

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

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO ₂	NOx	NO	NOx
5028	0.0	0.000	0.000	0.000	0.000	0.000	Limit ± 10%	
4930	78.7	0.783	0.783	0.809	-0.012	0.797	3%	2%
4936	38.6	0.383	0.383	0.396	-0.006	0.390	3%	2%
4935	19.4	0.193	0.193	0.199	-0.003	0.196	3%	2%
Absolute Average Percent Difference							3%	2%

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

NO	LIMITS	NOx
Correlation= 1.0000	≥ 0.990	Correlation= 1.0000
m (Slope)= 1.0334	0.90-1.10	m (Slope)= 1.0181
b (Intercept % of FS)= -0.0105	± 3% F.S.	b (Intercept % of FS)= -0.0148

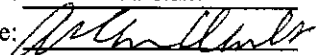
Flow	O ₂ Conc (LC)	NO Decrease	NO	NO ₂	NOX	% Diff. Vs Audit gas	
4930	0.000	0.000	0.806	-0.013	0.795	NO ₂	% Diff. Limit
4930	1.425	0.523	0.283	0.511	0.794	0%	± 10%
4930	0.825	0.278	0.528	0.266	0.795	0%	± 10%
4930	0.386	0.095	0.711	0.085	0.796	3%	± 10%
Absolute Average Percent Difference						1%	± 10%

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

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

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

COMMENTS: Contains 50.4 ppm SO₂.

Auditor: Al Clark
Operator Signature: 

Date: May 16, 2017
Location: McIntyre Center Edmonton

Company: Maxxam		Operator: Chris W	
Calibrator:		Flow Measurement Device:	
Make/Model	Envionics 2000	Make/Model	Mesa Defender 530
Serial Number	1991	Serial Number	L-153351 H-152571
Last Verification Date	March 2017	Temperature (°C)	25.0 C
NO Cylinder S/N	LL108015	Barometric Pressure	695 mmHg
NO [PPM]	52.2	NOx [PPM]	52.3
Expiry Date	Oct 2020		

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

Calibrator Flow (sccm)		Calculated Conc.(ppm)		Indicated Conc.(ppm)			% Difference vs Audit Gas	
Dilution	Gas	NO	NOx	NO	NO ₂	NOx	NO	NOx
5000	0.0	0.000	0.000	0.000	0.000	0.000	Limit ± 10%	
4988	75.1	0.786	0.787	0.785	-0.002	0.783	0%	-1%
4988	36.5	0.382	0.383	0.382	0.001	0.383	0%	0%
4988	18.3	0.192	0.192	0.190	0.000	0.190	-1%	-1%
Absolute Average Percent Difference							0%	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)= 0.9996	0.90-1.10	m (Slope)= 0.9956
b (Intercept % of FS)= -0.0599	± 3% F.S.	b (Intercept % of FS)= -0.0005

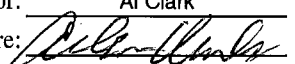
Flow	O ₃ Conc	NO Decrease	NO	NO ₂	NOx	% Diff. Vs Audit gas	
4988	0.000	0.000	0.788	-0.001	0.787	NO ₂	% Diff. Limit
4988	0.350	0.519	0.269	0.512	0.780	-1%	± 10%
4988	0.160	0.231	0.557	0.229	0.786	0%	± 10%
4988	0.070	0.099	0.689	0.097	0.787	-1%	± 10%
Absolute Average Percent Difference						1%	± 10%

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

NO₂	LIMITS	
Correlation= 1.0000	≥ 0.995	
m (Slope)= 0.9885	0.90-1.10	
b (Intercept % of FS)= -0.0567	± 3% F.S.	

AENV Standards	NO_x Analyzer	
Audit Calibrator		
Make/Model	Teco 146i	
Serial/AMU Number	AMU 1809	
SRM Gas Cylinder No.	APEX1170572	
Cylinder Conc. (ppm)	49.99	
	Make/Model	Teco 42i
	Serial/AMU Number	AMU 1868
	Last Calibration Date	March 14, 2018
	Full Scale (ppm)	1.0
	Cylinder Gas Expiry Date	November 2020

COMMENTS: Cylinder contains 47.9 ppm SO₂.

Auditor: Al Clark
Operator Signature: 

Date: March 15, 2018
Location: McIntyre Center Edmonton

CALIBRATION GASES



Calibration Gas Audit

Single Component Cylinder Gas

File No. 2015-111CGA

Company: Maxxam Operator's Name: Chris Wesson
Cylinder #: LL119329 Concentration PPM: 50.1 Tolerance(%) 2 Certified By: Air Liquide

Reference Calibrator and Gas:

Make/Model: Thermo146i
Serial Number: 1809
Last Verification Date: February 2, 2016
Gas Type: SO2 Conc. 98.07
Cylinder Number: CAL016625

Flow Measurement Device:

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

Reference Analyzer:

Make/Model: Thermo 43C Serial/AMU Number: 1623
Instrument Settings: Zero: 8.7 Span: 1.027 Range: 1.0
Last Calibration: Date: 1-Feb-16 C.F. 1.000 Done By: SB

Calibrator Flows (sccm)		Indicated Concentration (PPM)	Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration
Dilution	Gas				
4960	0.0	0.000			
4959	79.09	0.791	0.01595	62.701	49.6
4950	39.44	0.394	0.00797	125.507	49.4
4942	19.44	0.194	0.00393	254.218	49.3
Average Cylinder Concentration:					49.5

Previous Stated Concentration PPM: 50.1

Percent variance from Stated: 1.3

Meets Manufacturer Tolerance. Use manufacturers stated concentration ☒ COMMENTS: SO2/NO blend 50.3ppm NO
<=5% Outside Manufacturer Tolerance. Use manufacturers concentration ☐
> 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder ☐

Auditor: Shea Beaton
Operator Signature: [Signature]

Date: February 2, 2016
Location: McIntyre Center Edmonton



Calibration Gas Audit

Single Component Cylinder Gas

File No. 2017-213CGA

Company: Maxxam **Operator's Name:** C. Wesson
Cylinder #: LL119500 **Concentration PPM:** 9.8 **Tolerance(%)** 2 **Certified By:** Praxair
Expiry Date: August 2020

Reference Calibrator and Gas:

Make/Model: R&R MFC 201
Serial Number: AMU 1690
Last Verification Date: September 22, 2017
Gas Type: H2S **Conc.** 20.43
Cylinder Number: CAL015272
Expiry Date: January 2019

Flow Measurement Device:

Make/Model: Mesa Definer 220
Serial Number: H-133034 L-132702
Temp. °C: 23.5 C
B.P. 705 mmhg

Reference Analyzer:

Make/Model: Teco 450i **Serial/AMU Number:** 1980
Instrument Settings: **Zero:** 22.4 **Span:** 1.091 **Range:** 0.1
Last Calibration: **Date:** Sep 22/17 **C.F.** 1.000 **Done By:** Al Clark

Calibrator Flows (sccm)		Indicated Concentration (PPM)	Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration
Dilution	Gas				
5000	0.0	0.0000			
5114	39.5	0.0734	0.00772	129.468	9.5
5096	18.5	0.0345	0.00363	275.459	9.5
5089	9.5	0.0178	0.00187	535.684	9.5
Average Cylinder Concentration:					9.5

Previous Stated Concentration PPM: 9.8

Percent variance from Stated: 3

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

Auditor: Al Clark
Operator Signature: *Al Clark*

Date: September 22, 2017
Location: McIntyre Center Edmonton



Calibration Gas Audit

CH₄ / C₃H₈ Cylinder Gas

File No. 2017-488CGA

Company: Maxxam **Operators name:** Mike

Cylinder #: LL168404 Conc CH₄ (PPM) 597/206 Tolerance (%) 2 Certified By: Praxair

Expiry Date: October 2025

Reference Calibrator and Gas:				Flow Measurement Device:	
Make/Model	<u>R&R MFC 201</u>			Make/Model	<u>Mesa Definer 220</u>
Serial Number	<u>AMU 1690</u>			Serial Number	<u>H-133034 / L-132702</u>
Last Verification Date	<u>December 13, 2017</u>			Temp. °C	<u>23.1 C</u>
Gas Type	<u>CH₄</u>	Conc.	<u>990.4</u>	B.P.	<u>707 mmHg</u>
Cylinder Number	<u>5604875</u>	Expiry Date	<u>July 2021</u>		
Gas Type	<u>C₃H₈</u>	Conc.	<u>246.5</u>		
Cylinder Number	<u>XF003845B</u>	Expiry Date	<u>July 2022</u>		

Reference Analyzer:

Make/Model Teco 55i Serial/AMU Number: 2108

Instrument Settings Zero: N/A Span: N/A Range: 20.0

Last Calibration: Date: Dec 12/17 C.F. 1.000 Done By: Al Clark

Calibrator Flows (scm)		Indicated Conc. (ppm)		Gas Flow/ Dilution Flow	Concentration Factor	Cylinder Concentration	
Dilution	Gas	CH ₄	C ₃ H ₈			CH ₄	C ₃ H ₈
3500	0.0	0.00	0.00				
3618	80.4	13.22	12.69	0.02	45.00	595	208
3547	39.8	6.64	6.42	0.01	89.12	592	208
3560	19.8	3.33	3.23	0.01	179.80	599	211
Average Cylinder Concentration:						595	209

	<u>CH₄</u>	<u>C₃H₈</u>
Previous Stated Concentration PPM:	<u>597</u>	<u>206</u>
Percent variance from Stated:	<u>0</u>	<u>1</u>

Cylinder gas tolerances based on CH₄ only

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

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

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

Auditor: Al Clark Date: December 13, 2017

Operator Signature: [Signature] Location: McIntyre Center Edmonton

APPENDIX III
MAXIMUM INSTANTANEOUS DATA



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 842b Station - May 2018

SULPHUR DIOXIDE Instantaneous Maximum (SO₂ ppb)

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

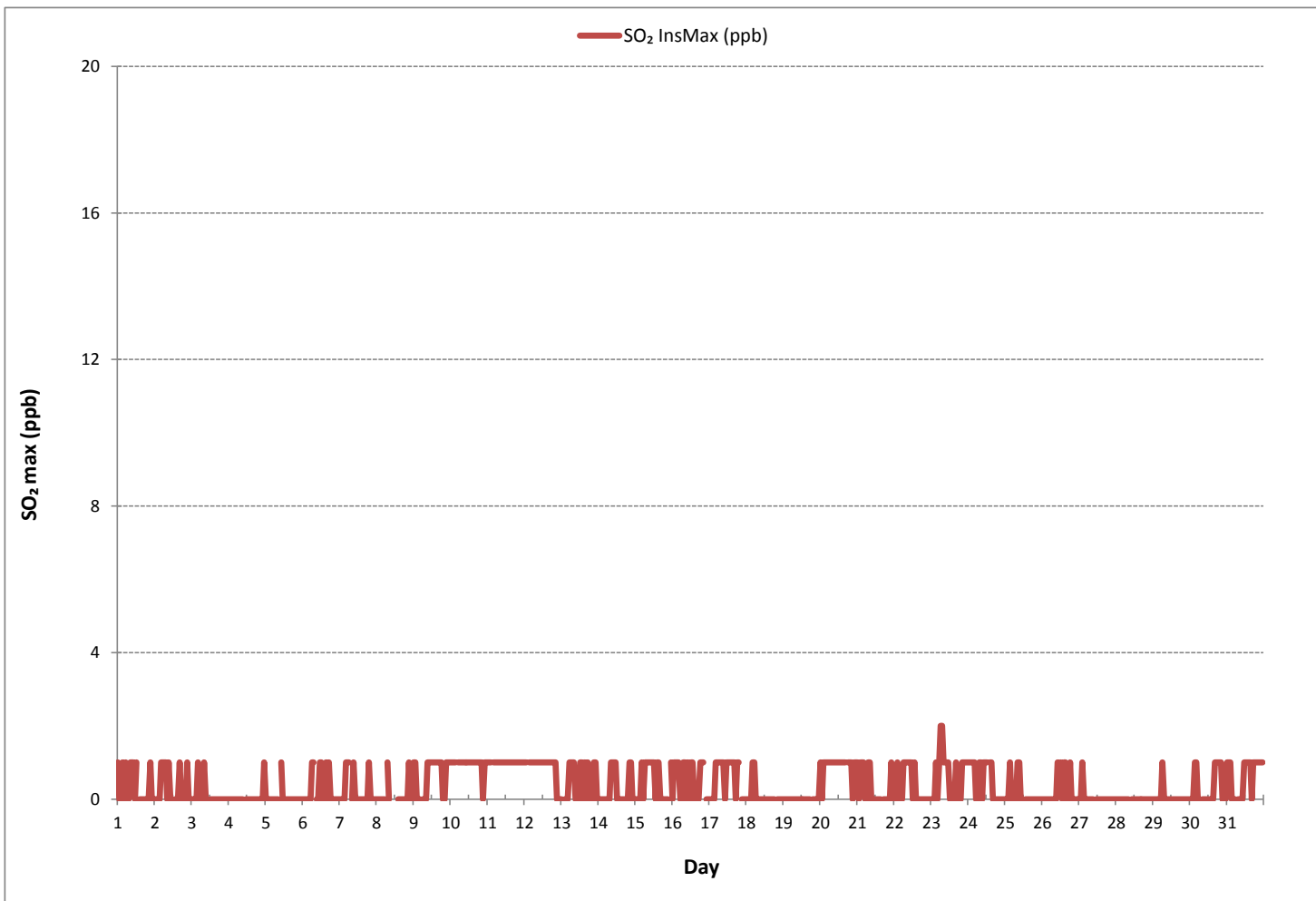
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	260
MAXIMUM INSTANTANEOUS VALUE:	2 ppb @ HOUR 6 ON DAY 23
IZS CALIBRATION TIME:	32 hrs
MONTHLY CALIBRATION TIME:	5 hrs
OPERATIONAL TIME:	744 hrs
STANDARD DEVIATION:	0

SULPHUR DIOXIDE Instantaneous Maximum (SO₂ ppb)



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
Three Creeks 842b Station - May 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		0.12	0.17	0.17	0.20	0.15	0.20	0.17	0.17	0.17	0.20	0.15	0.15	0.12	S	0.12	0.12	0.09	0.09	0.07	0.15	0.15	0.07	0.09	0.12	0.15	0.07	0.20	0.14	24
2		0.12	0.17	0.12	0.15	0.09	0.15	0.09	0.12	0.12	0.09	0.12	0.09	S	0.12	0.15	0.17	0.17	0.22	0.15	0.15	0.15	0.17	0.15	0.12	0.09	0.22	0.14	24	
3		0.12	0.15	0.07	0.12	0.12	0.09	0.09	0.15	0.12	0.12	0.09	S	0.12	0.07	0.09	0.07	0.09	0.07	0.09	0.07	0.07	0.07	0.22	0.17	0.07	0.07	0.22	0.11	24
4		0.12	0.09	0.12	0.12	0.17	0.09	0.12	0.09	0.09	0.09	S	0.09	0.05	0.09	0.07	0.09	0.07	0.09	0.07	0.07	0.12	0.15	0.15	0.15	0.05	0.17	0.10	24	
5		0.17	0.17	0.22	0.22	0.22	0.30	0.28	0.17	0.22	S	0.22	0.30	0.09	0.09	0.09	0.09	0.09	0.12	0.07	0.09	0.09	0.11	0.12	0.20	0.07	0.30	0.16	24	
6		0.25	0.09	0.12	0.15	0.07	0.12	0.15	0.15	S	0.15	0.12	0.09	0.09	0.09	0.07	0.05	0.05	0.09	0.07	0.07	0.09	0.38	0.17	0.12	0.05	0.38	0.12	24	
7		0.12	0.12	0.12	0.17	0.20	0.36	0.33	S	0.75	0.85	0.22	0.15	0.20	0.09	0.09	0.09	0.12	0.07	0.09	0.07	0.07	0.07	0.12	0.12	0.07	0.85	0.20	24	
8		0.17	0.12	0.20	0.17	0.17	0.15	S	0.15	0.09	C	0.36	C	C	C	0.23	0.22	0.22	0.28	0.28	0.30	0.30	0.28	0.28	0.09	0.30	0.22	24		
9		0.28	0.30	0.36	0.36	0.44	S	0.51	0.43	0.43	0.41	0.36	0.28	0.25	0.25	0.25	0.22	0.25	0.25	0.22	0.22	0.22	0.22	0.25	0.25	0.22	0.51	0.30	24	
10		0.22	0.28	0.25	0.25	S	0.28	0.25	0.25	0.33	0.28	0.33	0.30	0.30	0.28	0.30	0.30	0.30	0.28	0.30	0.28	0.31	0.33	0.33	0.51	0.22	0.51	0.30	24	
11		0.49	0.36	0.36	S	0.33	0.31	0.36	0.39	0.43	0.36	0.33	0.30	0.26	0.25	0.25	0.23	0.28	0.20	0.23	0.22	0.28	0.30	0.28	0.28	0.20	0.49	0.31	24	
12		0.36	0.25	S	0.38	0.33	0.41	0.33	0.36	0.30	0.23	0.25	0.23	0.28	0.22	0.20	0.22	0.25	0.23	0.20	0.23	0.20	0.22	0.28	0.22	0.20	0.41	0.27	24	
13		0.20	S	0.25	0.38	0.70	0.25	0.28	0.28	0.20	0.20	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.25	0.23	0.25	0.43	0.46	0.30	0.43	0.20	0.70	0.29	24	
14		S	0.41	0.33	0.36	0.36	0.30	0.30	0.30	0.33	0.33	0.28	0.25	0.25	0.25	0.25	0.28	0.25	0.25	0.23	0.25	0.30	0.33	0.25	S	0.23	0.41	0.30	24	
15		0.33	0.41	0.41	0.30	0.54	0.41	0.33	0.36	0.28	0.28	0.25	0.25	0.20	0.25	0.25	0.23	0.23	0.23	0.28	0.23	0.23	0.25	S	0.30	0.20	0.54	0.30	24	
16		0.36	0.30	0.30	0.30	0.33	0.28	0.28	0.28	0.28	0.28	0.22	0.22	0.22	0.22	0.25	0.22	0.22	0.25	0.25	0.30	0.30	S	0.30	0.33	0.22	0.36	0.27	24	
17		0.36	0.36	0.36	0.38	0.36	0.38	0.41	0.33	0.28	0.25	0.25	0.22	0.22	0.22	0.25	0.20	0.20	0.22	0.23	S	0.46	0.41	0.33	0.20	0.46	0.30	24		
18		0.36	0.36	0.33	0.33	0.38	0.46	0.43	0.28	0.22	0.20	0.20	0.25	0.20	0.30	0.17	0.20	0.20	0.20	0.20	S	0.22	0.22	0.20	0.17	0.46	0.27	24		
19		0.20	0.25	0.23	0.25	0.25	0.36	0.28	0.22	0.25	0.22	0.25	0.20	0.20	0.20	0.20	0.22	0.22	0.20	S	0.22	0.28	0.30	0.30	0.25	0.20	0.36	0.24	24	
20		0.23	0.28	0.28	0.25	0.23	0.28	0.25	0.25	0.28	0.20	0.25	0.22	0.20	0.23	0.23	0.20	0.18	S	0.22	0.28	0.22	0.25	0.22	0.28	0.18	0.28	0.24	24	
21		0.28	0.33	0.33	0.30	0.30	0.30	0.28	0.25	0.28	0.30	0.25	0.20	0.25	0.20	0.20	0.17	S	0.17	0.20	0.17	0.22	0.25	0.20	0.25	0.17	0.33	0.25	24	
22		0.22	0.28	0.38	0.49	0.62	0.59	0.46	0.30	0.28	0.22	0.20	0.22	0.17	0.20	0.20	S	0.20	0.17	0.17	0.17	0.22	0.30	0.30	0.33	0.17	0.62	0.29	24	
23		0.41	0.30	0.41	0.41	0.46	0.82	0.57	0.46	0.36	0.25	0.20	0.20	0.15	0.17	S	0.17	0.17	0.17	0.17	0.17	0.20	0.20	0.17	0.20	0.15	0.82	0.30	24	
24		0.20	0.20	0.25	0.22	0.22	0.36	0.30	0.28	0.30	0.30	0.28	0.22	0.20	S	0.20	0.15	0.17	0.22	0.25	0.28	0.25	0.43	0.41	0.30	0.15	0.43	0.26	24	
25		0.25	0.30	0.33	0.38	0.41	0.43	0.51	0.33	0.25	0.25	0.20	0.15	S	0.17	0.17	0.15	0.15	0.17	0.12	0.15	0.20	0.28	0.25	0.25	0.12	0.51	0.25	24	
26		0.25	0.33	0.36	0.36	0.36	0.30	0.22	0.22	0.17	0.17	0.17	S	0.22	0.17	0.20	0.17	0.20	0.17	0.17	0.20	0.30	0.25	0.33	0.20	0.17	0.36	0.24	24	
27		0.28	0.36	0.25	0.25	0.22	0.25	0.28	0.28	0.33	0.26	S	0.22	0.22	0.23	0.23	0.25	0.20	0.20	0.22	0.28	0.28	0.22	0.20	0.20	0.20	0.36	0.25	24	
28		0.28	0.25	0.36	0.30	0.30	0.30	0.36	0.36	0.33	S	0.33	0.25	0.20	0.17	0.15	0.17	0.17	0.15	0.15	0.20	0.18	0.20	0.23	0.20	0.15	0.36	0.24	24	
29		0.25	0.25	0.23	0.30	0.33	0.49	0.36	0.25	S	0.28	0.20	0.22	0.17	0.20	0.22	0.20	0.20	0.22	0.22	0.25	0.22	0.22	0.23	0.25	0.17	0.49	0.25	24	
30		0.28	0.36	0.49	0.75	0.49	0.28	0.28	S	0.28	0.22	0.22	0.17	0.25	0.22	0.17	0.17	0.22	0.17	0.22	0.17	0.20	0.20	0.25	0.22	0.22	0.17	0.75	0.27	24
31		0.33	0.33	0.25	0.28	0.28	0.30	S	0.25	0.25	0.17	0.20	0.22	0.20	0.20	0.17	0.15	0.15	0.17	0.17	0.17	0.17	0.22	0.20	0.20	0.15	0.33	0.22	24	
HOURLY MAX		0.49	0.41	0.49	0.75	0.70	0.82	0.57	0.46	0.75	0.85	0.36	0.30	0.30	0.30	0.30	0.30	0.30	0.28	0.30	0.30	0.43	0.46	0.41	0.51					
HOURLY AVG		0.25	0.26	0.27	0.30	0.31	0.32	0.31	0.27	0.27	0.26	0.23	0.21	0.20	0.19	0.19	0.18	0.18	0.19	0.18	0.20	0.22	0.26	0.24	0.24					

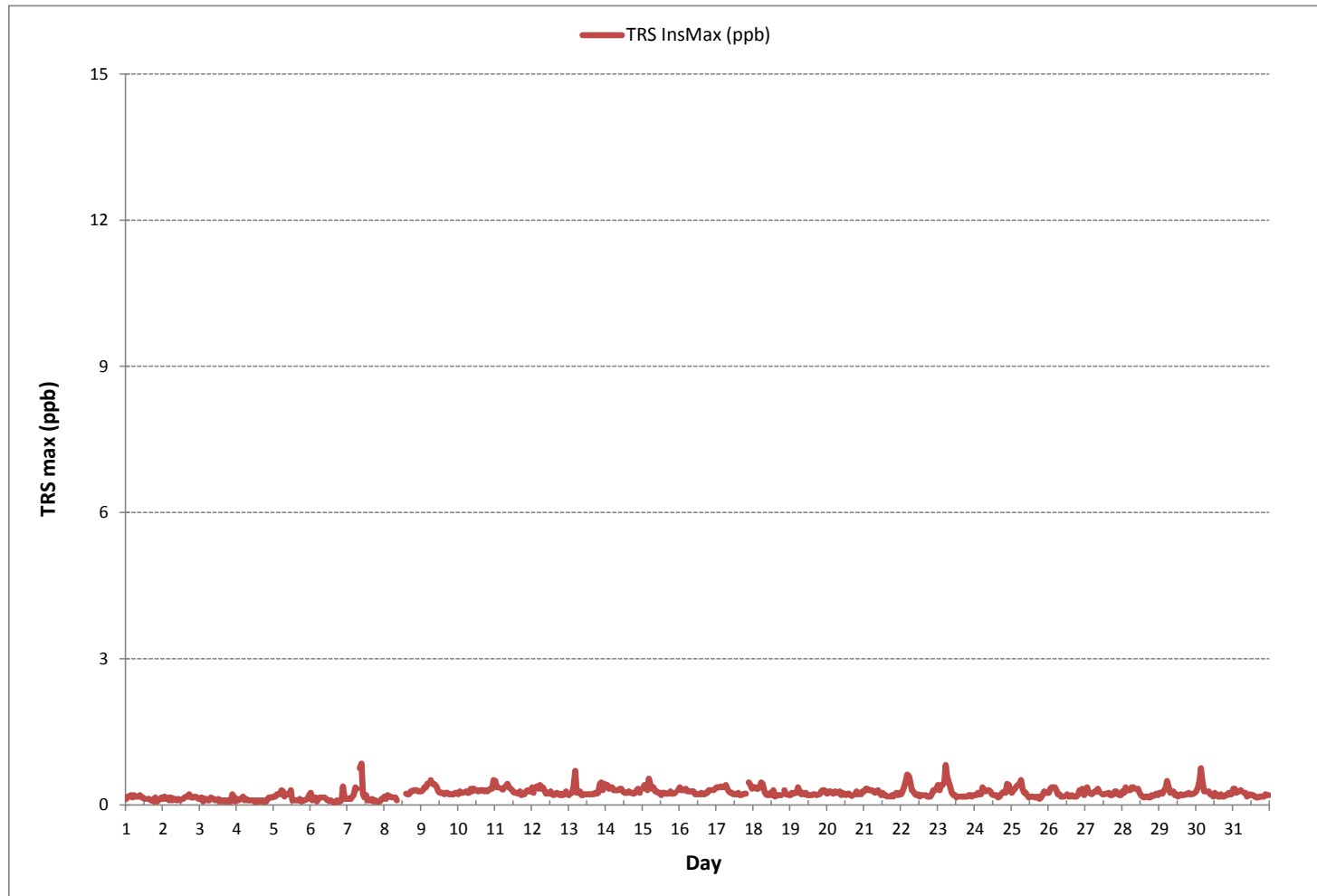
STATUS FLAG CODES

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

MONTHLY SUMMARY

MONTHLY SUMMARY						
NUMBER OF NON-ZERO READINGS:		707				
MAXIMUM INSTANTANEOUS VALUE:		0.85	ppb	@ HOUR	9	ON DAY 7
IZS CALIBRATION TIME:		32	hrs	OPERATIONAL TIME:		744 hrs
MONTHLY CALIBRATION TIME:		5	hrs			
STANDARD DEVIATION:		0.10				

TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS ppb)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
Three Creeks 842b Station - May 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	1.98	1.98	2.02	2.01	1.99	2.03	1.99	1.97	1.98	1.98	1.98	1.98	1.97	S	1.97	1.96	1.96	1.96	1.97	1.96	1.97	2.01	1.97	1.98	1.99	1.96	2.03	1.98	24
2	1.97	1.96	1.96	1.96	1.96	1.95	1.96	1.97	1.96	1.96	1.93	1.94	S	1.95	1.96	1.96	1.94	1.95	1.96	1.93	1.95	1.94	1.97	1.97	1.93	1.97	1.95	24	
3	1.97	1.98	2.01	2.02	2.07	2.06	2.06	2.03	1.97	1.96	1.95	S	1.94	1.94	1.96	1.95	1.96	1.95	1.97	1.95	2.00	2.03	2.03	1.96	1.94	2.07	1.99	24	
4	1.97	2.00	2.01	1.99	1.96	1.95	1.96	1.96	1.95	1.94	S	1.95	1.95	1.93	1.93	1.93	1.93	1.95	1.95	1.96	1.96	2.00	1.92	1.94	1.92	2.01	1.96	24	
5	1.97	1.98	1.99	1.96	1.98	1.97	1.97	1.96	1.97	S	1.96	1.94	1.94	1.92	1.93	1.95	1.95	1.95	1.95	1.95	2.00	1.97	1.95	1.95	1.92	2.00	1.96	24	
6	1.93	1.93	1.95	1.96	1.95	1.95	1.96	1.96	S	1.95	1.94	1.94	1.95	1.95	1.95	1.95	1.95	1.96	1.96	1.95	1.96	1.96	1.96	1.97	1.93	1.97	1.95	24	
7	1.97	1.99	2.01	2.01	2.02	2.01	1.99	S	1.98	1.96	1.96	1.97	1.97	1.98	1.97	1.98	1.98	1.97	1.97	1.98	1.96	1.96	1.97	1.97	1.96	2.02	1.98	24	
8	1.95	1.97	1.97	1.96	1.96	1.96	S	1.97	1.95	1.96	1.97	1.97	C	C	C	C	1.98	1.99	1.99	1.99	1.98	1.97	2.00	1.98	1.95	2.00	1.97	24	
9	1.99	1.99	2.01	2.02	2.01	S	2.02	2.01	1.99	1.99	1.99	1.99	1.99	1.97	1.99	1.96	1.99	1.97	1.98	1.97	2.00	1.98	2.00	2.00	1.96	2.02	1.99	24	
10	2.05	2.04	2.04	2.02	S	2.02	2.01	2.02	2.00	2.00	2.00	1.99	2.00	2.00	2.01	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.01	2.02	1.99	2.05	2.01	24	
11	2.03	2.03	2.03	S	2.03	2.04	2.04	2.04	2.04	2.03	2.02	2.01	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	2.04	1.97	2.00	1.98	1.97	2.04	2.01	24	
12	2.00	1.97	S	1.98	1.98	1.98	1.99	1.99	1.99	1.96	1.97	1.96	1.96	1.96	1.97	1.97	1.97	1.97	2.01	2.01	2.01	2.01	1.99	1.96	1.96	2.01	1.98	24	
13	1.97	S	1.99	1.99	1.99	1.97	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	2.00	2.00	1.99	2.00	2.03	2.16	1.97	2.16	1.99	24	
14	S	2.16	2.06	2.04	2.00	1.99	1.99	1.99	1.99	2.00	2.00	2.00	1.97	1.97	1.97	1.96	1.96	1.97	1.96	1.97	1.97	1.97	1.95	S	1.95	2.16	1.99	24	
15	2.03	2.00	1.98	2.00	2.00	1.99	1.99	1.99	1.99	1.98	1.99	1.98	1.98	1.98	1.98	1.99	1.99	1.99	1.99	1.99	1.99	1.99	S	1.99	1.98	2.03	1.99	24	
16	1.99	1.99	1.99	1.99	1.99	2.00	2.00	2.01	2.01	1.99	2.00	1.99	1.99	1.99	1.99	1.99	1.98	1.99	1.99	1.99	1.99	S	1.99	2.00	1.98	2.01	1.99	24	
17	2.00	2.01	2.01	2.02	2.02	2.03	2.04	2.08	2.09	2.00	2.00	1.99	1.99	2.00	1.99	2.00	1.99	1.99	1.98	1.99	S	1.99	1.99	2.00	1.98	2.09	2.01	24	
18	2.01	2.06	2.14	2.09	2.16	2.28	2.27	2.07	2.00	2.01	1.98	1.98	1.99	1.99	1.99	2.00	2.00	2.00	2.00	S	2.01	2.03	2.02	2.01	1.98	2.28	2.05	24	
19	1.99	1.99	2.00	2.01	2.01	2.09	2.06	2.04	2.00	2.00	1.99	2.00	2.00	2.00	2.01	2.00	2.00	2.00	S	2.00	2.02	2.02	2.04	2.03	1.99	2.09	2.01	24	
20	2.03	2.03	2.04	2.04	2.05	2.05	2.03	2.03	2.01	1.99	2.00	2.00	2.00	2.00	2.00	2.00	2.00	S	1.99	2.01	2.00	1.98	1.97	1.97	1.97	2.05	2.01	24	
21	1.98	1.98	1.98	1.99	1.99	2.00	1.99	1.99	2.00	1.99	1.98	1.97	1.98	1.98	1.98	1.98	S	1.98	1.98	1.98	2.00	1.99	1.97	1.97	1.97	2.00	1.98	24	
22	1.97	1.98	1.99	2.01	2.01	2.01	2.01	1.99	1.99	1.99	1.98	1.98	1.98	1.98	1.98	S	1.97	1.97	1.97	1.98	1.99	2.01	2.04	2.09	1.97	2.09	1.99	24	
23	2.14	2.12	2.15	2.25	2.17	2.17	2.14	2.11	2.07	2.05	2.02	2.00	1.98	1.98	S	1.98	1.98	1.99	1.99	2.00	2.01	2.03	2.02	2.03	1.98	2.25	2.06	24	
24	2.03	2.05	2.04	2.05	2.04	2.06	2.05	2.05	2.03	2.04	2.03	2.02	2.01	S	2.02	2.01	2.01	2.00	1.99	1.99	1.98	2.03	2.02	1.99	1.98	2.06	2.02	24	
25	1.98	2.01	1.99	2.00	2.02	2.01	2.02	1.99	1.98	1.99	1.99	1.98	S	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	2.03	1.98	1.97	1.97	2.03	1.99	24	
26	1.96	1.96	1.97	1.97	1.99	2.00	1.99	1.99	1.99	1.99	1.98	S	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.99	2.00	1.99	2.00	1.99	1.96	2.00	1.98	24	
27	1.99	2.00	1.99	1.99	2.00	1.99	1.99	1.99	1.98	1.98	S	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.99	1.98	1.97	1.97	1.97	2.00	1.98	24	
28	1.98	1.98	1.99	1.98	1.96	1.94	1.97	1.96	1.95	S	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.97	1.98	1.98	1.98	1.94	1.99	1.97	24	
29	1.98	1.99	1.99	1.99	1.98	2.00	2.00	1.99	S	1.99	1.98	1.98	1.98	1.99	1.98	1.98	1.98	1.98	1.99	1.99	1.99	1.98	2.00	2.01	2.00	1.98	2.01	1.99	24
30	2.01	2.03	2.04	2.05	2.05	2.01	2.03	S	2.03	2.01	2.00	1.99	1.98	1.99	1.99	1.99	1.99	1.99	1.99	1.99	2.00	1.99	2.01	2.03	2.03	1.98	2.05	2.01	24
31	2.07	2.07	2.04	2.04	2.04	2.04	S	2.01	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.98	1.99	1.99	1.99	1.99	1.99	2.00	2.01	1.98	2.07	2.01	24	
HOURLY MAX	2.14	2.16	2.15	2.25	2.17	2.28	2.27	2.11	2.09	2.05	2.03	2.02	2.01	2.00	2.02	2.01	2.01	2.00	2.01	2.01	2.04	2.03	2.04	2.16					
HOURLY AVG	2.00	2.01	2.01	2.01	2.01	2.02	2.02	2.00	2.00	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	1.99	2.00					

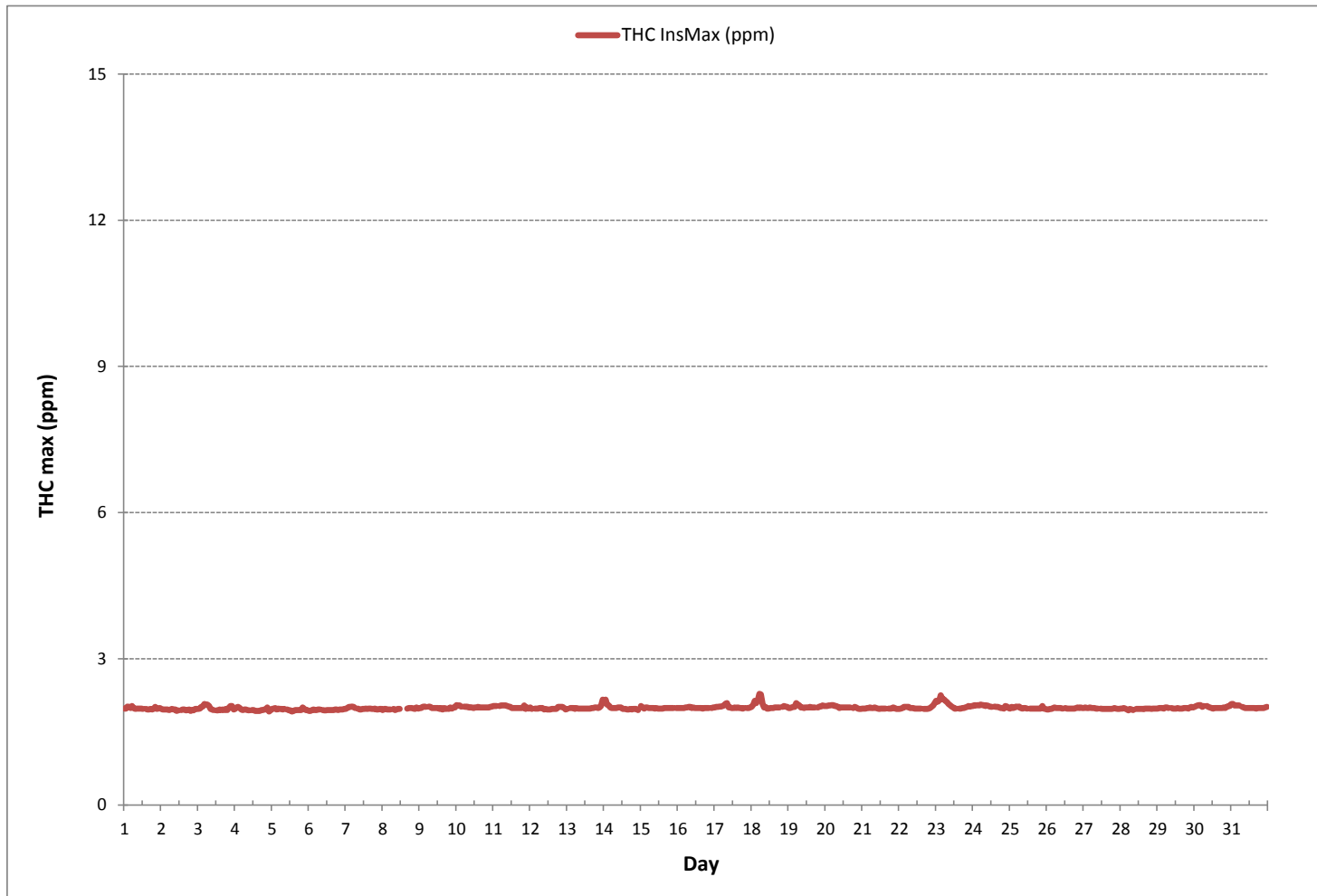
STATUS FLAG CODES

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

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:	708				
MAXIMUM INSTANTANEOUS VALUE:	2.28	ppm	@ HOUR	5	ON DAY 18
IZS CALIBRATION TIME:	32	hrs	OPERATIONAL TIME:	744	hrs
MONTHLY CALIBRATION TIME:	4	hrs			
STANDARD DEVIATION:	0.04				

TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 842b Station - May 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	1.97	1.97	2.00	1.99	1.97	2.02	1.97	1.96	1.97	1.97	1.96	1.96	S	1.96	1.96	1.95	1.94	1.95	1.95	1.96	1.99	1.96	1.97	1.97	1.94	2.02	1.97	24	
2	1.96	1.94	1.94	1.94	1.94	1.93	1.95	1.95	1.95	1.94	1.92	1.93	S	1.93	1.94	1.94	1.93	1.93	1.94	1.92	1.93	1.93	1.95	1.95	1.92	1.96	1.94	24	
3	1.95	1.96	2.00	2.00	2.06	2.05	2.04	2.01	1.96	1.94	1.93	S	1.93	1.92	1.94	1.93	1.94	1.93	1.95	1.93	1.98	2.01	2.01	1.94	1.92	2.06	1.97	24	
4	1.95	1.99	2.00	1.98	1.94	1.93	1.94	1.94	1.93	1.93	S	1.93	1.93	1.93	1.92	1.92	1.92	1.93	1.94	1.94	1.94	1.98	1.92	1.93	1.92	2.00	1.94	24	
5	1.95	1.97	1.98	1.94	1.96	1.96	1.95	1.94	1.96	S	1.94	1.93	1.93	1.92	1.92	1.93	1.93	1.93	1.94	1.93	1.98	1.95	1.93	1.93	1.92	1.98	1.94	24	
6	1.93	1.92	1.94	1.94	1.94	1.93	1.94	1.94	S	1.93	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.94	1.94	1.94	1.95	1.94	1.94	1.95	1.92	1.95	1.94	24	
7	1.95	1.98	1.99	1.99	2.00	1.99	1.98	S	1.96	1.94	1.94	1.95	1.96	1.96	1.96	1.96	1.97	1.95	1.95	1.96	1.94	1.94	1.95	1.96	1.94	2.00	1.96	24	
8	1.94	1.95	1.95	1.95	1.95	1.94	S	1.95	1.93	1.94	1.95	1.95	C	C	C	C	1.97	1.97	1.98	1.98	1.97	1.95	1.98	1.97	1.93	1.98	1.96	24	
9	1.97	1.97	1.99	2.00	1.99	S	2.00	2.00	1.97	1.98	1.98	1.98	1.97	1.95	1.98	1.94	1.98	1.95	1.96	1.96	1.99	1.97	1.99	1.99	1.94	2.00	1.98	24	
10	2.03	2.02	2.02	2.00	S	2.00	1.99	2.00	1.98	1.99	1.99	1.98	1.98	1.98	2.00	1.98	1.99	1.99	1.99	1.99	1.99	1.98	1.99	1.99	2.00	1.98	2.03	1.99	24
11	2.01	2.01	2.02	S	2.02	2.03	2.03	2.03	2.02	2.01	2.01	1.99	1.97	1.98	1.98	1.98	1.98	1.97	1.97	1.98	1.98	2.02	1.95	1.98	1.96	1.95	2.03	2.00	24
12	1.98	1.96	S	1.97	1.97	1.97	1.97	1.98	1.97	1.94	1.96	1.94	1.94	1.95	1.95	1.96	1.96	1.96	1.96	1.99	2.00	1.99	2.00	1.98	1.94	2.00	1.97	24	
13	1.95	S	1.98	1.98	1.98	1.96	1.97	1.96	1.97	1.97	1.96	1.96	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.98	2.02	2.14	1.95	2.14	1.98	24	
14	S	2.14	2.04	2.02	1.99	1.98	1.97	1.98	1.98	1.99	1.99	1.99	1.96	1.96	1.95	1.95	1.95	1.96	1.95	1.95	1.96	1.95	1.94	S	1.94	2.14	1.98	24	
15	2.02	1.99	1.97	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.96	1.97	1.97	1.98	1.97	1.98	1.98	1.98	1.98	1.97	S	1.98	1.96	2.02	1.98	24	
16	1.98	1.98	1.97	1.98	1.98	1.98	1.98	2.00	1.99	1.98	1.99	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.97	S	1.98	1.99	1.97	2.00	1.98	24	
17	1.98	1.99	2.00	2.00	2.01	2.02	2.03	2.06	2.08	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.97	1.98	S	1.98	1.98	1.98	1.97	2.08	2.00	24	
18	2.00	2.04	2.12	2.08	2.14	2.27	2.26	2.05	1.98	1.99	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.99	1.99	S	1.99	2.02	2.01	2.00	1.97	2.27	2.03	24	
19	1.97	1.98	1.98	1.99	1.99	2.08	2.04	2.02	1.98	1.98	1.98	1.98	1.99	1.99	1.99	1.99	1.98	1.98	S	1.98	2.00	2.01	2.02	2.01	1.97	2.08	2.00	24	
20	2.01	2.02	2.02	2.03	2.03	2.03	2.02	2.01	2.00	1.98	1.98	1.99	1.99	1.98	1.98	1.98	1.98	S	1.98	1.99	1.98	1.97	1.96	1.96	1.96	2.03	1.99	24	
21	1.96	1.97	1.97	1.97	1.98	1.98	1.97	1.98	1.98	1.98	1.96	1.96	1.97	1.97	1.97	1.97	S	1.97	1.96	1.97	1.98	1.98	1.96	1.96	1.96	1.98	1.97	24	
22	1.96	1.97	1.98	1.99	2.00	2.00	1.99	1.97	1.97	1.97	1.97	1.97	1.96	1.97	1.97	S	1.96	1.96	1.96	1.96	1.97	1.99	2.03	2.07	1.96	2.07	1.98	24	
23	2.12	2.10	2.14	2.24	2.15	2.15	2.12	2.09	2.06	2.03	2.00	1.98	1.97	1.96	S	1.97	1.97	1.97	1.97	1.98	1.98	2.00	2.02	2.01	2.01	1.96	2.24	2.04	24
24	2.01	2.03	2.03	2.03	2.03	2.05	2.03	2.03	2.02	2.02	2.02	2.00	1.99	S	2.00	2.00	1.99	1.99	1.97	1.97	1.97	2.01	2.01	1.98	1.97	2.05	2.01	24	
25	1.97	2.00	1.98	1.99	2.00	2.00	2.01	1.97	1.97	1.98	1.97	1.96	S	1.97	1.96	1.96	1.97	1.97	1.97	1.97	1.97	2.01	1.97	1.96	1.96	2.01	1.98	24	
26	1.95	1.95	1.96	1.96	1.98	1.98	1.98	1.97	1.97	1.97	1.97	S	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.99	1.98	1.99	1.98	1.95	1.99	1.97	24	
27	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.97	S	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.98	1.97	1.95	1.95	1.95	1.98	1.97	24	
28	1.97	1.97	1.97	1.97	1.94	1.93	1.95	1.94	1.94	S	1.95	1.95	1.95	1.95	1.95	1.96	1.96	1.97	1.97	1.97	1.97	1.96	1.96	1.97	1.93	1.97	1.96	24	
29	1.97	1.97	1.98	1.97	1.97	1.99	1.99	1.97	S	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.98	1.98	1.97	1.98	2.00	1.99	1.97	2.00	1.98	24	
30	2.00	2.02	2.02	2.04	2.03	1.99	2.02	S	2.02	2.00	1.99	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	2.01	2.01	1.97	2.04	2.00	24
31	2.06	2.05	2.03	2.02	2.03	2.02	S	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.99	2.00	1.97	2.06	1.99	24	
HOURLY MAX	2.12	2.14	2.14	2.24	2.15	2.27	2.26	2.09	2.08	2.03	2.02	2.00	1.99	1.99	2.00	2.00	1.99	1.99	1.99	2.00	2.02	2.02	2.03	2.14					
HOURLY AVG	1.98	1.99	2.00	2.00	2.00	2.00	2.00	1.99	1.98	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.97	1.98	1.98	1.98	1.98					

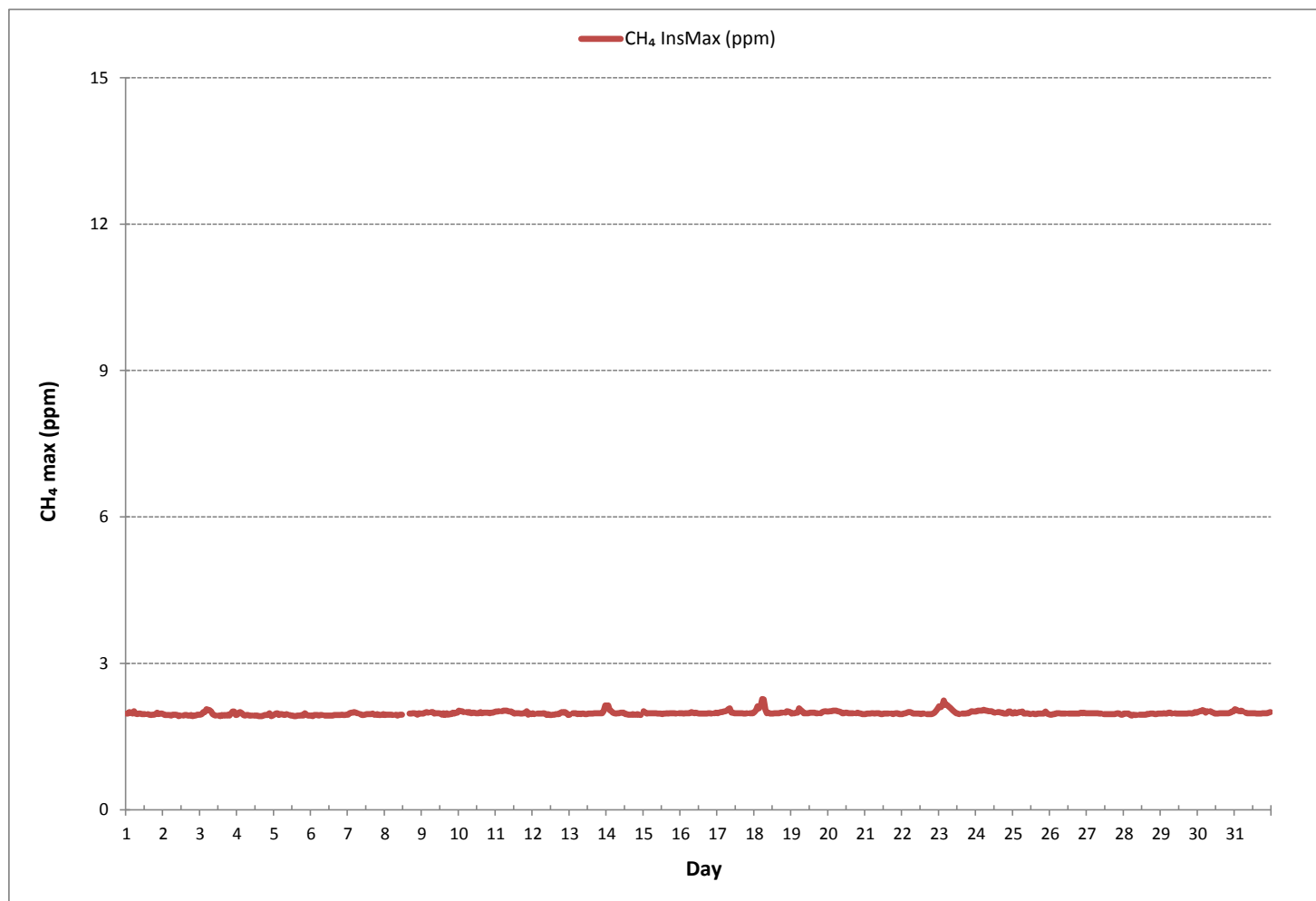
STATUS FLAG CODES

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:	708				
MAXIMUM INSTANTANEOUS VALUE:	2.27	ppm	@ HOUR	5	ON DAY 18
IZS CALIBRATION TIME:	32	hrs	OPERATIONAL TIME:	744	hrs
MONTHLY CALIBRATION TIME:	4	hrs			
STANDARD DEVIATION:	0.04				

METHANE MAX Instantaneous Maximum (CH₄ ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 842b Station - May 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	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
2	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
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
8	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	C	C	C	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
9	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
10	0.00	0.00	0.00	0.00	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
11	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
12	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
13	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
14	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	24
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	24
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	24
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	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	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
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
31	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
HOURLY MAX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
HOURLY AVG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

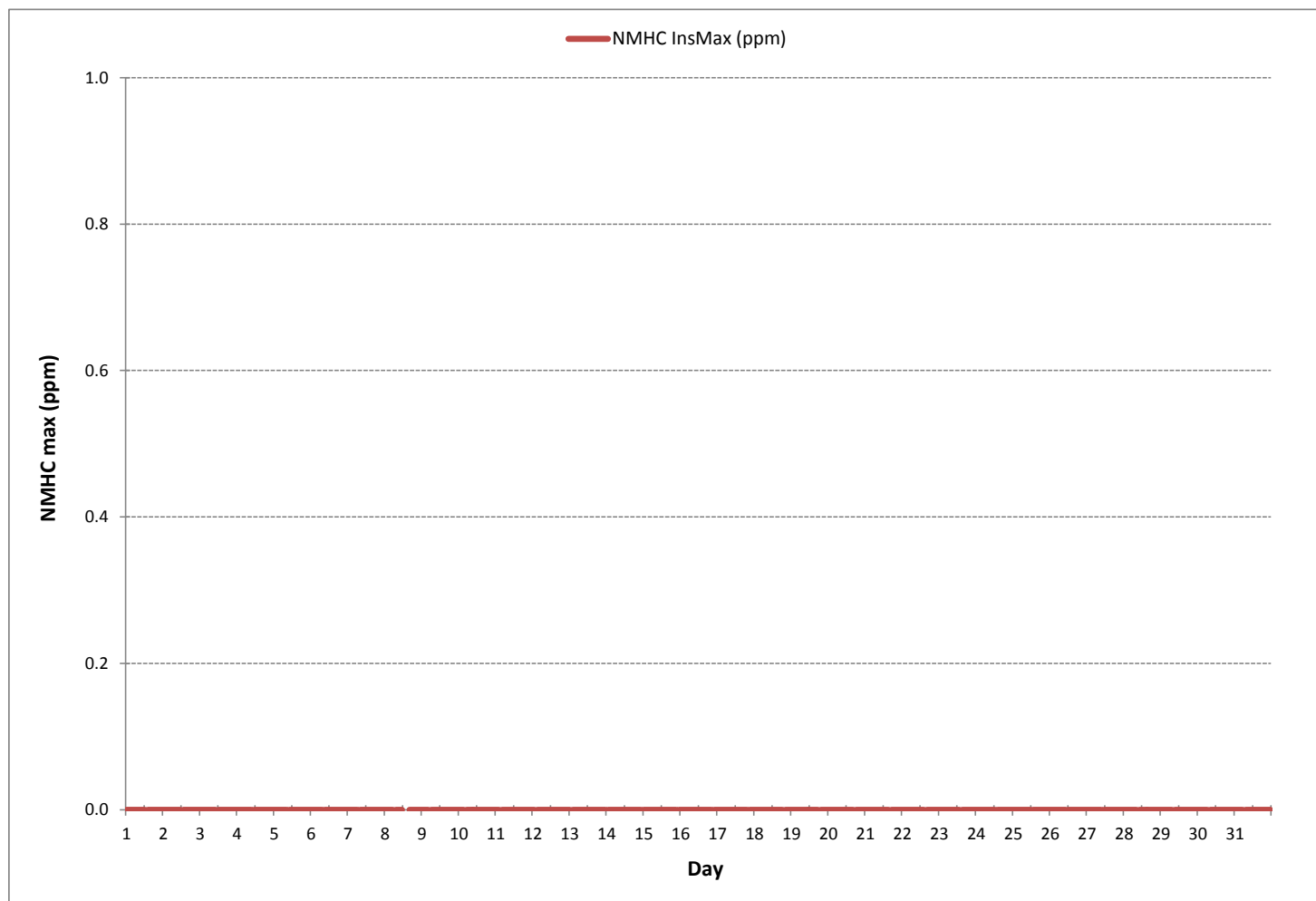
STATUS FLAG CODES

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:	0
MAXIMUM INSTANTANEOUS VALUE:	0.00 ppm @ HOUR 0 ON DAY 1
IZS CALIBRATION TIME:	32 hrs
MONTHLY CALIBRATION TIME:	4 hrs
OPERATIONAL TIME:	744 hrs
STANDARD DEVIATION:	0.00

NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
Three Creeks 842b Station - May 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	6.2	7.9	7.4	9.0	8.3	5.2	7.1	16.3	16.6	20.6	22.6	34.0	26.0	32.4	35.3	31.9	31.5	23.0	29.0	17.7	3.9	10.2	12.4	17.9	3.9	35.3	18.0	24
2	18.4	20.6	23.9	24.8	24.5	22.4	18.8	23.0	27.3	36.1	36.8	35.1	42.4	57.8	53.8	13.2	19.9	46.9	25.1	18.1	5.7	14.4	10.4	6.7	5.7	57.8	26.1	24
3	6.8	6.2	8.2	7.9	7.8	5.0	4.9	6.5	14.0	22.8	26.1	20.5	25.1	27.3	27.3	25.4	26.4	26.6	27.2	12.9	5.5	4.7	19.1	20.5	4.7	27.3	16.0	24
4	23.8	15.0	18.3	20.8	19.9	18.2	20.8	21.5	22.3	21.5	32.0	36.4	32.7	42.4	40.5	38.3	46.9	39.8	34.6	30.2	17.2	29.2	36.6	24.4	15.0	46.9	28.5	24
5	17.4	13.2	11.4	9.8	7.2	8.5	16.0	21.0	24.1	29.1	33.3	35.3	38.8	35.3	35.2	36.1	35.5	34.3	27.2	17.4	7.3	12.8	17.7	19.6	7.2	38.8	22.6	24
6	18.6	20.9	17.7	15.8	19.7	18.7	17.4	17.7	17.0	14.5	15.0	21.0	23.8	23.0	21.4	24.0	20.5	22.7	21.6	13.6	10.2	6.7	14.5	12.2	6.7	24.0	17.8	24
7	10.9	5.3	8.9	13.3	14.1	26.3	40.4	39.0	37.1	33.3	27.4	24.7	22.9	25.6	22.2	22.0	24.0	52.2	8.5	31.7	19.8	20.2	10.6	11.3	5.3	52.2	23.0	24
8	24.0	18.0	19.1	17.9	19.6	17.6	13.8	38.4	36.3	45.5	54.3	49.2	50.3	46.8	46.6	50.2	41.8	39.1	32.2	31.1	29.5	26.6	18.8	13.4	13.4	54.3	32.5	24
9	25.3	24.4	15.9	18.2	20.7	24.0	25.9	34.0	34.5	32.0	32.4	39.4	31.3	30.1	28.9	31.9	28.2	26.4	24.9	20.5	21.9	15.6	12.0	14.5	12.0	39.4	25.5	24
10	13.9	12.3	11.2	12.3	16.3	9.8	12.6	20.5	22.2	20.5	20.1	24.8	20.7	25.4	22.4	24.1	24.8	25.0	20.4	23.0	20.5	19.4	19.9	19.4	9.8	25.4	19.2	24
11	20.8	16.5	14.1	15.9	18.0	10.8	14.6	16.7	17.5	17.8	18.6	21.7	25.7	30.7	36.3	43.2	31.9	27.5	28.8	26.2	10.3	19.5	16.5	21.9	10.3	43.2	21.7	24
12	21.0	19.9	15.7	10.4	7.0	6.0	11.0	13.6	16.2	22.8	30.5	32.8	33.9	33.5	33.9	34.6	36.6	39.1	37.3	38.0	21.6	12.0	23.3	20.9	6.0	39.1	23.8	24
13	26.7	23.0	7.0	4.1	8.4	9.6	17.1	32.9	30.7	35.9	33.2	36.7	37.7	34.6	37.7	38.0	27.5	21.7	17.0	6.6	8.7	5.8	7.4	8.5	4.1	38.0	21.4	24
14	9.7	9.6	6.6	10.0	9.2	18.9	20.0	25.9	24.2	23.6	18.7	29.0	31.7	32.1	36.4	28.3	31.2	26.8	34.0	37.1	18.9	11.1	23.3	17.8	6.6	37.1	22.3	24
15	13.7	13.8	15.9	14.4	5.1	5.7	8.0	18.3	17.2	21.6	23.5	21.3	36.1	35.2	28.3	41.6	41.9	38.3	38.4	25.5	20.4	12.3	12.5	11.1	5.1	41.9	21.7	24
16	10.2	13.5	14.6	18.4	16.2	15.6	17.2	26.0	25.9	29.3	30.1	33.5	27.4	20.7	36.3	18.8	31.7	24.9	13.5	8.2	6.0	7.8	10.1	4.4	4.4	36.3	19.2	24
17	3.8	3.4	7.0	8.0	8.2	7.3	7.4	4.4	9.7	15.9	14.2	21.9	14.0	11.6	20.6	19.0	17.6	10.6	7.4	12.9	13.1	3.8	5.4	5.6	3.4	21.9	10.5	24
18	7.9	8.8	8.0	8.6	5.3	7.1	8.4	10.4	16.8	25.5	22.9	27.4	28.4	25.4	38.3	28.0	26.9	23.8	21.3	21.4	10.5	10.2	14.4	15.8	5.3	38.3	17.6	24
19	22.1	20.2	17.7	5.9	7.6	9.6	9.0	15.2	15.8	16.6	17.9	21.0	20.7	22.9	15.4	18.6	22.0	17.1	16.5	11.4	7.4	6.2	8.1	6.1	5.9	22.9	14.6	24
20	7.6	14.2	16.9	11.5	15.1	11.4	12.0	13.1	12.3	15.4	17.8	16.2	19.9	24.1	15.1	23.5	20.8	29.8	21.0	50.6	34.5	17.4	18.2	16.5	7.6	50.6	19.0	24
21	20.2	14.7	19.9	21.5	19.4	17.9	21.2	24.3	28.9	29.5	33.8	39.2	42.5	38.8	39.6	34.1	37.4	34.1	31.6	25.7	12.7	15.5	8.9	4.9	4.9	42.5	25.7	24
22	10.5	7.4	7.9	10.9	8.3	13.1	12.9	20.1	25.8	32.4	33.8	34.6	34.0	31.9	36.5	31.1	31.6	30.2	21.7	20.1	10.9	5.6	7.0	7.4	5.6	36.5	20.2	24
23	10.7	11.4	9.8	8.8	6.7	11.3	11.4	9.9	7.5	13.2	20.3	35.4	30.5	32.9	32.8	31.0	28.9	27.1	25.7	24.4	18.0	15.9	19.6	14.5	6.7	35.4	19.1	24
24	15.3	15.1	11.5	13.3	12.8	15.4	18.0	15.7	15.4	12.6	15.3	27.3	28.8	29.5	33.2	29.5	46.0	40.3	17.7	13.4	11.3	7.6	9.1	7.8	7.6	46.0	19.2	24
25	8.0	9.9	11.9	8.7	5.8	5.2	9.3	13.3	21.4	24.0	28.7	33.8	38.8	43.1	42.7	43.3	35.4	38.1	31.4	14.9	4.1	10.0	32.2	53.5	4.1	53.5	23.6	24
26	28.5	21.1	30.9	24.5	26.0	26.8	38.1	37.2	45.4	46.2	55.4	47.4	46.3	46.6	44.7	45.9	42.9	44.1	49.0	41.4	31.1	21.2	32.5	33.4	21.1	55.4	37.8	24
27	35.7	29.3	26.1	25.3	21.5	28.1	32.6	35.4	43.9	48.8	44.1	46.4	40.2	50.4	43.0	40.4	41.7	38.1	35.7	28.8	19.7	20.0	19.6	15.7	15.7	50.4	33.8	24
28	14.4	12.6	18.2	17.6	12.2	17.2	13.5	24.2	20.9	43.8	46.0	61.1	58.0	57.8	59.6	51.7	55.6	52.1	50.0	48.6	42.5	31.5	30.9	23.5	12.2	61.1	36.0	24
29	17.6	16.9	17.4	18.7	9.8	8.3	16.0	21.2	24.6	31.2	23.7	36.4	23.4	25.5	27.4	21.7	26.4	22.2	17.6	9.8	11.5	5.5	7.6	9.2	5.5	36.4	18.7	24
30	9.4	9.4	12.2	13.0	11.2	14.0	20.5	13.8	19.8	20.8	19.4	18.2	39.2	28.7	26.8	25.2	24.2	31.3	25.5	20.6	23.9	12.8	6.8	7.4	6.8	39.2	18.9	24
31	11.6	11.1	8.2	8.6	9.8	10.9	21.0	21.8	30.0	31.3	33.3	28.7	28.1	28.0	35.7	34.3	30.4	33.2	22.8	26.6	24.7	15.0	18.5	15.8	8.2	35.7	22.5	24
HOURLY MAX	35.7	29.3	30.9	25.3	26.0	28.1	40.4	39.0	45.4	48.8	55.4	61.1	58.0	57.8	59.6	51.7	55.6	52.2	50.0	50.6	42.5	31.5	36.6	53.5				
HOURLY AVG	15.8	14.4	14.2	13.8	13.0	13.7	16.7	21.0	23.3	26.9	28.4	31.9	32.2	33.2	33.9	31.6	31.9	31.8	26.3	23.5	16.2	13.8	16.3	15.5				

STATUS FLAG CODES

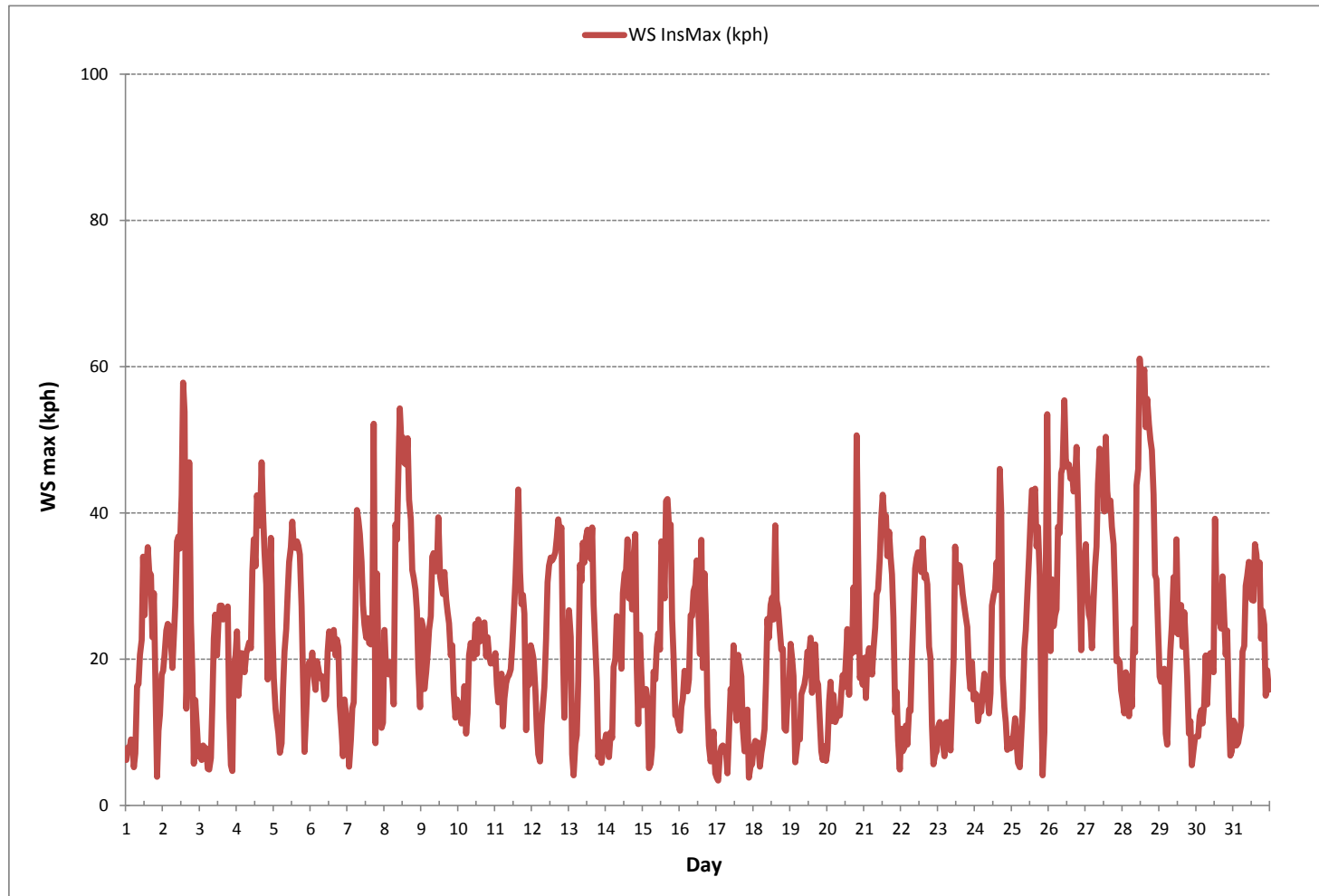
C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS VALUE: 61.1 kph @ HOUR 11 ON DAY 28

OPERATIONAL TIME: 744 hrs

WIND SPEED Instantaneous Maximum (WS kph)

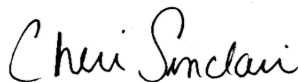


APPENDIX IV
REPORT CERTIFICATION FORM

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 842b Station
Name of the Representative of the Person Responsible	Position / Title of the Representative of the Person Responsible
Mike Bisaga / Lily Lin	Technical Program Managers
Is an External Party Certifying the Report? (If 'Yes', fill in the fields below for the external person.)	
☒ Yes ☐ No	
Name of External Person Certifying the Report	Position / Title of External Person Certifying the Report
Cheri Sinclair	Supervisor, Customer Service, Air Services
Company Name for the External Person Certifying the Report	Identification of Qualifications / Professional Designations of the External Person Certifying the Report
Maxxam Analytics, A Bureau Veritas Group Company	B.Sc.

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



Signature of the External Person Certifying the Report

15 - Jun - 2018

Report Issued Date (dd-mon-yyyy)

APPENDIX V
DATA VALIDATION CERTIFICATION FORM

Validation Certificate Form

Client: Peace River Area Monitoring Program Committee

Project #: 8449-2018-05-80-C

Site: Three Creeks 842b Station

Contact: Karla Reesor

Level 0 Preliminary Verification

Cheri Sinclair

Date 08 - Jun - 2018

Level 1 Primary Validation

Cheri Sinclair

Date 08 - Jun - 2018

Level 2 Final Validation

Cheri Sinclair

Date 15 - Jun - 2018

Level 3 Independent Data Review

Cheri Sinclair

Date 15 - Jun - 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.