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AMBIENT AIR MONITORING MONTHLY DATA REPORT

PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

THREE CREEKS 986B STATION

JOB #: 8449-2018-05-67-C

May 2018

Prepared for:

PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Attention: LILY LIN

DATE: **June 20, 2018**

Prepared by:

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

Reviewed by:

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 986b Station, near Peace River Oil Sands Area 2, Alberta. The monitoring station provides continuous meteorological measurements and air quality data for non-compliance parameters, as requested by the PRAMP Committee.

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

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

Gas Parameters: The automated daily zero-span check failed to execute on schedule on May 13. A valid zero-span check was manually triggered later in the day. One hour of downtime was incurred due to the failed execution.

Ambient Temperature: The temperature sensor was repositioned on May 10 to correct an offset observed during an audit on May 1. One hour of downtime was incurred as a result.

The summary of results is presented on the following pages.

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

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

Monthly Continuous Data Summary

Peace River Area Monitoring Program Committee Three Creeks 986b Station						MAXIMUM VALUES							OPERATIONAL TIME (%)
						1-HOUR					24-HOUR		
PARAMETER	OBJECTIVES		EXCEEDANCES		MONTHLY AVERAGE	READING	DAY	HOUR	WIND SPEED (kph)	WIND DIRECTION (sector)	READING	DAY	
	1-hr	24-hr	1-hr	24-hr									
SO_2 (ppb)	172	48	0	0	0	2	24	7	5.5	ESE	1	9	99.9
TRS (ppb)	-	-	-	-	0.34	2.51	7	10	9.5	ENE	0.55	7	99.9
THC (ppm)	-	-	-	-	2.00	2.58	30	22	0.9	ESE	2.08	30	99.9
CH_4 (ppm)	-	-	-	-	2.00	2.58	30	22	0.9	ESE	2.08	30	99.9
NMHC (ppm)	-	-	-	-	0.00	0.00	1	0	1.3	SW	0.00	1	99.9
RELATIVE HUMIDITY (%)	-	-	-	-	46	100	3	6	1.3	SE	65	30	100.0
BAROMETRIC PRESSURE (millibar)	-	-	-	-	941	952	17	8	4.5	NW	951	17	100.0
AMBIENT TEMPERATURE (°C)	-	-	-	-	15.0	31.6	23	15	12.4	SSE	23.1	23	99.9
STATION TEMPERATURE (°C)	-	-	-	-	23.3	25.5	30	5	3.4	NNE	23.5	11	100.0
VECTOR WS (kph)	-	-	-	-	2.1	21.9	8	10	-	NNW	9.7	9	100.0
VECTOR WD (sec)	-	-	-	-	244 (WSW)	-	-	-	-	-	-	-	100.0

SOUR GAS PROCESSING INDUSTRY

MONTHLY REPORT SUMMARY

Three Creeks 986b Station	Peace River Area Monitoring Program Committee
Plant Name / Location	Company

Licence Number	Report Date	
	YEAR	MONTH
N/A	2018	May

CONTINUOUS AMBIENT MONITORING

		ONE - HOUR AVERAGE		24 - HOUR AVERAGE	
PARAMETER	% TIME OPERATIONAL	MAXIMUM VALUES	NO. READINGS > REGULATION	MAXIMUM VALUES	NO. READINGS > REGULATION
SO_2	99.9	0.002 ppm	0	0.001 ppm	0
TRS	99.9	0.003 ppm	-	0.001 ppm	-
THC	99.9	2.58 ppm	-	2.08 ppm	-
CH_4	99.9	2.58 ppm	-	2.08 ppm	-
NMHC	99.9	0.00 ppm	-	0.00 ppm	-
RH	100.0	100 %	-	65 %	-
BP	100.0	952 mb	-	951 mb	-
Ambient TPX	99.9	31.6 °C	-	23.1 °C	-
Station TPX	100.0	25.5 °C	-	23.5 °C	-
Wind Speed	100.0	21.9 kph	-	9.7 kph	-
Wind Direction	100.0	-	-	-	-

	FOR ALBERTA ENVIRONMENT USE ONLY
SIGNATURE OF COMPANY REPRESENTATIVE	

Exceedance Summary Report

SO_2 1-Hour Exceedances

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

SO_2 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.

TABLE OF CONTENTS

1.0 Discussion

This monthly report consists of continuous monitoring results for the following parameters: Sulphur Dioxide (SO_2), Total Reduced Sulphur (TRS), Total Hydrocarbon (THC), Methane (CH_4), 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 (SO_2)

• Operational time for the monitoring period was 99.9%, equivalent to one hour of downtime.
• The routine monthly calibration was performed on May 1.
• The automated daily zero-span check failed to execute on schedule on May 13. A valid zero-span check was manually triggered later in the day. One hour of downtime was incurred due to the failed execution.

TOTAL REDUCED SULPHUR (TRS)

• Operational time for the monitoring period was 99.9%, equivalent to one hour of downtime.
• The routine monthly calibration was performed on May 1.
• The automated daily zero-span check failed to execute on schedule on May 13. A valid zero-span check was manually triggered later in the day. One hour of downtime was incurred due to the failed execution.

TOTAL HYDROCARBONS (THC), METHANE (CH_4) and NON-METHANE HYDROCARBONS (NMHC)

• Operational time for the monitoring period was 99.9%, equivalent to one hour of downtime.
• The routine monthly calibration was performed on May 1.
• The automated daily zero-span check failed to execute on schedule on May 13. A valid zero-span check was manually triggered later in the day. One hour of downtime was incurred due to the failed execution.
• 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 1 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 1. The result was satisfactory.

AMBIENT TEMPERATURE (AmbTPX)

• Operational time for the monitoring period was 99.9%, equivalent to one hour of downtime.
• A temperature sensor audit was conducted on May 1. The result barely met Maxxam's internal tolerance limits of +/- 1^0C. 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. One hour of downtime was recorded due to this event.

STATION TEMPERATURE (StnTPX)

• Operational time for the monitoring period was 100%.

2.0 Project Personnel

Karla Reesor was the contact for Peace River Area Monitoring Program Committee and the Maxxam field technician was 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 43C UV Fluorescent Analyzer
Total Reduced Sulphur - Thermo 43i - TLE UV Fluorescent Analyzer
Methane, Non-Methane Hydrocarbon - Thermo 55i FID Analyzer
Wind System - RM Young Unit
Relative Humidity - RM Young Unit
Barometric Pressure - Met One Unit
Ambient Temperature - RM Young Unit
Datalogger - ESC 8832

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

Level 0 Preliminary Verification

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

Level 1 Primary Validation

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

Level 2 Final Validation

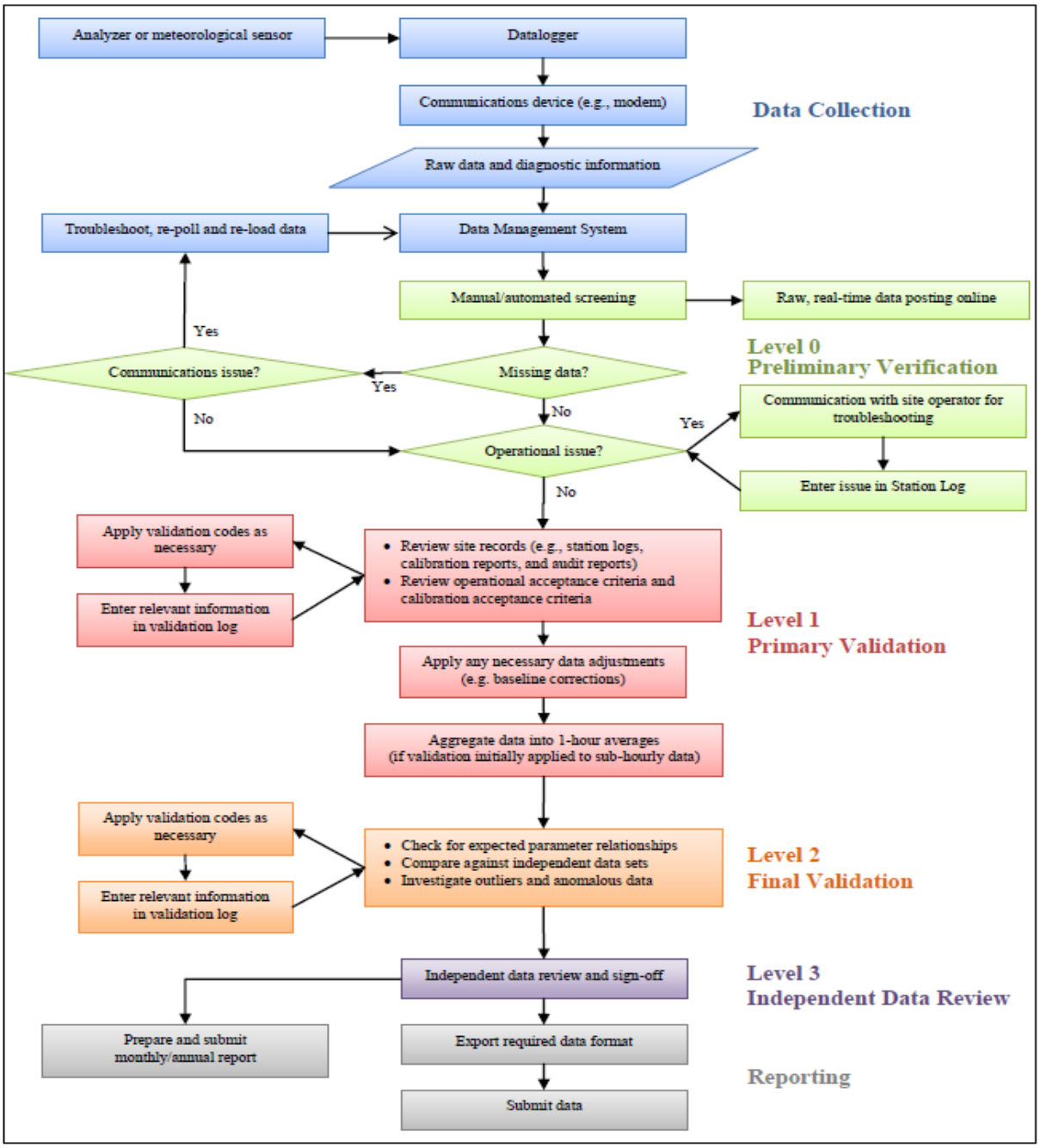
The purpose of Level 2 validation is to verify that there are no inconsistencies among related data, or among regional data measured at nearby sites.

Level 3 Independent Data Review

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

Post-Final Validation

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



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

APPENDIX I
CONTINUOUS MONITORING DATA RESULTS

SULPHUR DIOXIDE

SULPHUR DIOXIDE Hourly Averages (SO_2 ppb)

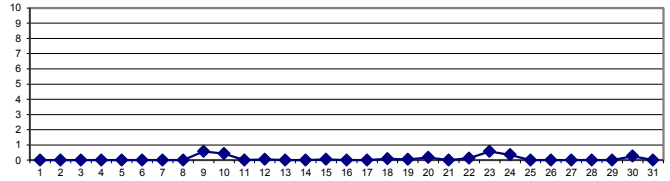
HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY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

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

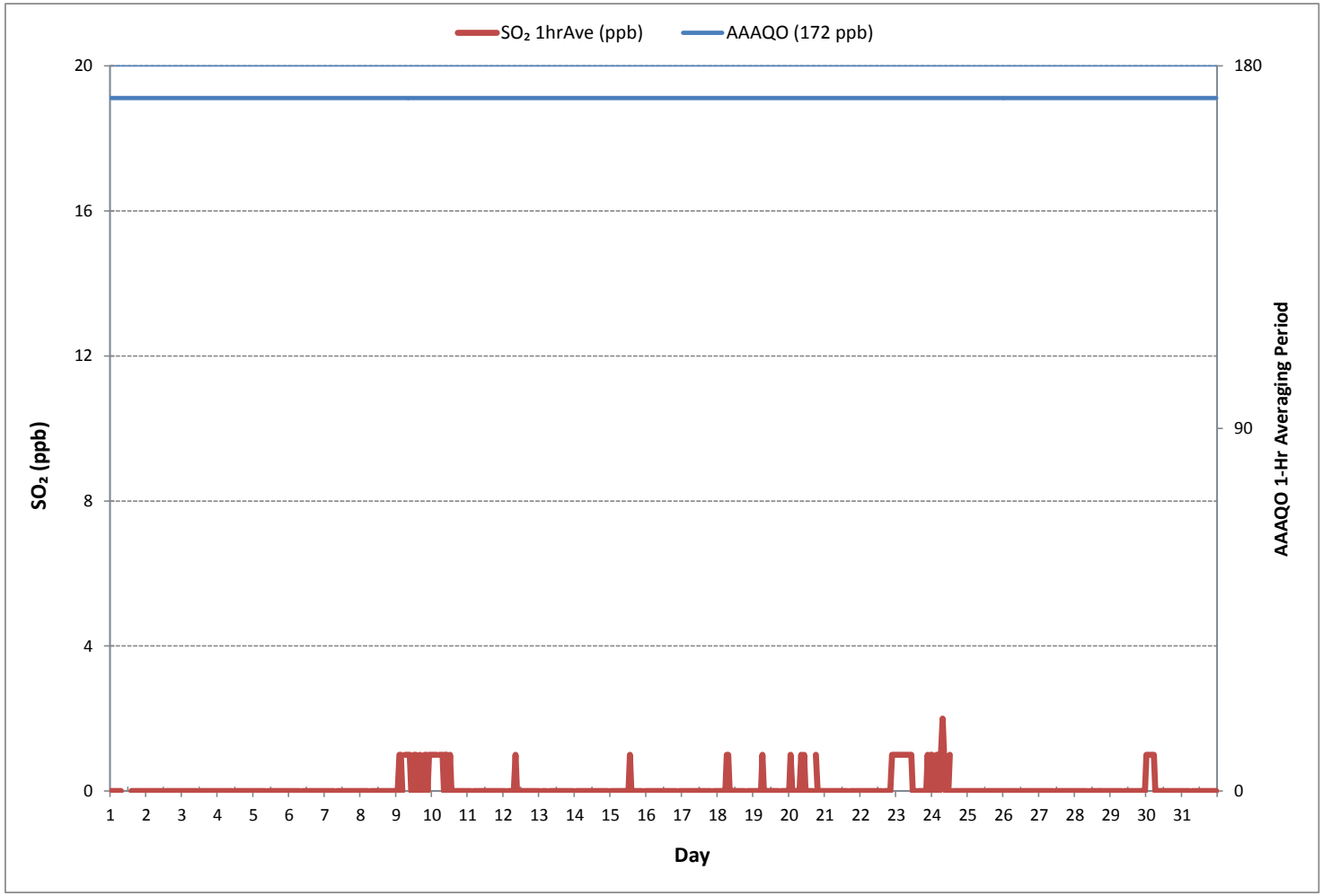
24 HR AVERAGES May 2018



MONTHLY SUMMARY

NUMBER OF 1-HR EXCEEDANCES:			0				
NUMBER OF 24-HR EXCEEDANCES:			0				
NUMBER OF NON-ZERO READINGS:			61				
MINIMUM 1-HR AVERAGE	0	ppb	@ HOUR	0	ON DAY	1	
MAXIMUM 1-HR AVERAGE:	2	ppb	@ HOUR	7	ON DAY	24	
MAXIMUM 24-HR AVERAGE:	1	ppb			ON DAY	9	
IZS CALIBRATION TIME:	32	hrs	OPERATIONAL TIME:			743	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:			99.9	%
STANDARD DEVIATION:	0		MONTHLY AVERAGE:			0	ppb

SULPHUR DIOXIDE Hourly Averages (SO_2 ppb)

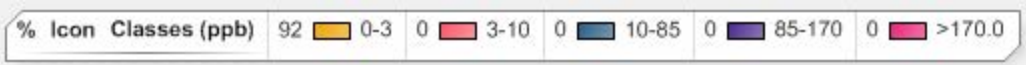


Wind: PRAMP_986
Poll.: PRAMP_986-SO_2[ppb]
Monthly: 18/05
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

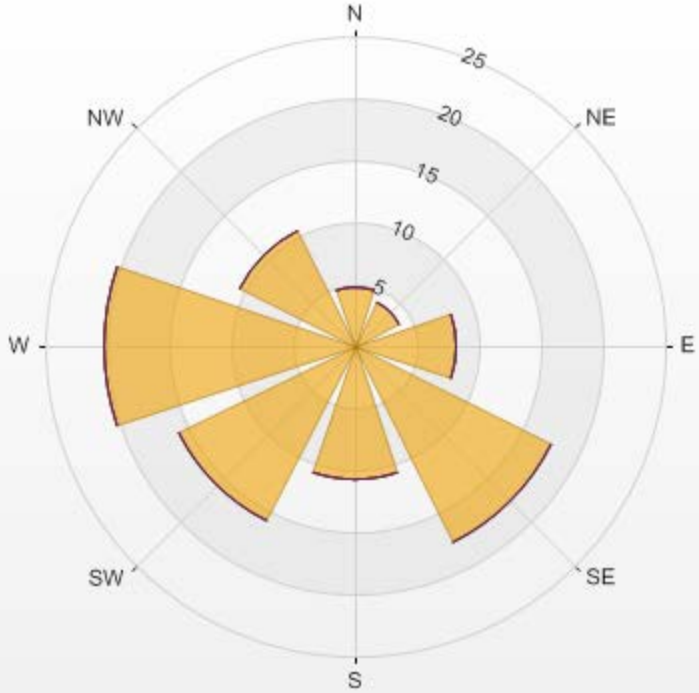
Calm: 7.93%

Calm Avg: 0.15 [ppb]

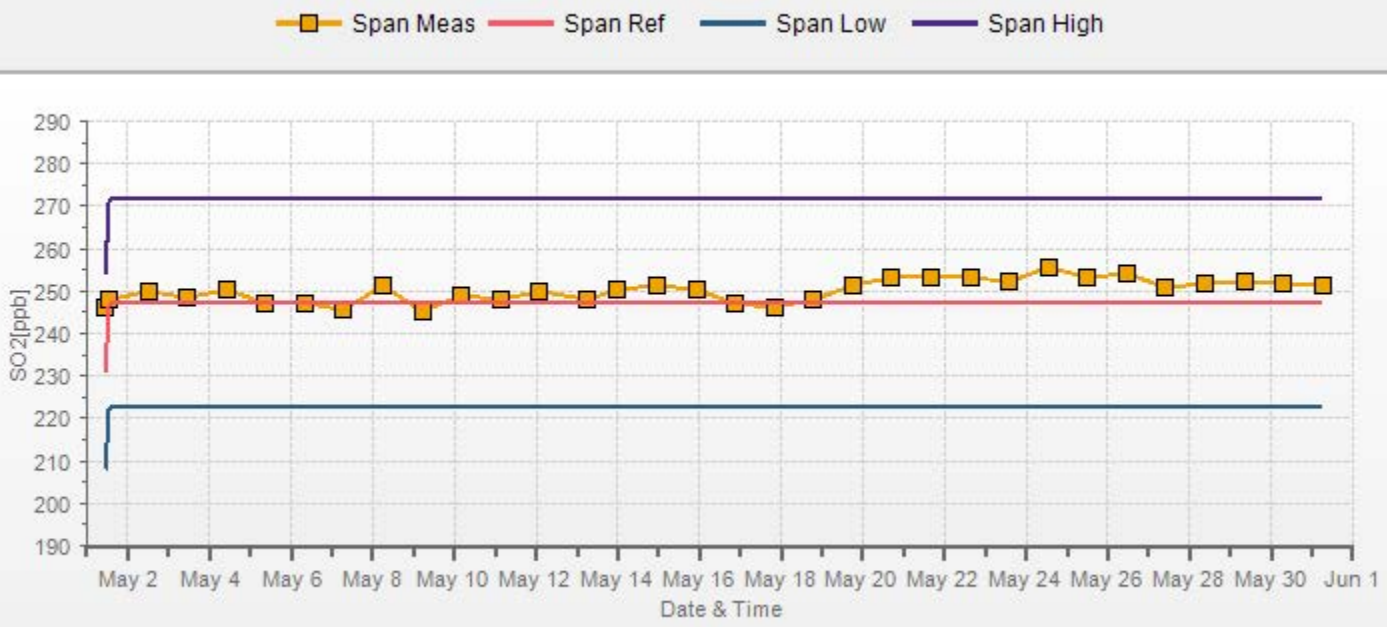
Direction	0-3	3-10	10-85	85-170	>170.0	Total
N	4.8	0.0	0.0	0.0	0.0	4.8
NE	4.0	0.0	0.0	0.0	0.0	4.0
E	8.2	0.0	0.0	0.0	0.0	8.2
SE	17.7	0.0	0.0	0.0	0.0	17.7
S	10.8	0.0	0.0	0.0	0.0	10.8
SW	15.9	0.0	0.0	0.0	0.0	15.9
W	20.3	0.0	0.0	0.0	0.0	20.3
NW	10.5	0.0	0.0	0.0	0.0	10.5
Summary	92.1	0.0	0.0	0.0	0.0	92.1



PRAMP_986 Poll.: PRAMP_986-SO2[ppb] 2018/05/01 00:00 - 2018/05/31 23:00 Calm: 7.93% Calm Poll Avg: 0.15[ppb]



SO2[ppb] Calibration: PRAMP_986 Monthly: 18/05 Type: Span



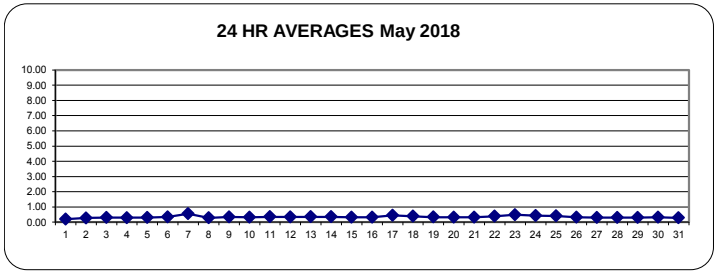
TOTAL REDUCED SULPHUR

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	0.10	0.09	0.06	0.06	0.04	0.02	**0.00**	0.00	C	C	C	C	0.33	S	0.35	0.31	0.28	0.26	0.27	0.27	0.26	0.24	0.30	0.29	**0.00**	0.35	0.19	24
2	0.28	0.24	0.26	0.25	0.27	0.27	0.26	0.25	0.25	0.27	0.25	0.26	S	0.33	0.30	0.29	0.29	0.32	0.27	0.27	0.30	0.29	0.27	0.25	0.24	0.33	0.27	24
3	0.25	0.29	0.28	0.31	0.31	0.30	0.32	0.35	0.34	0.31	0.28	S	0.33	0.29	0.29	0.29	0.31	0.28	0.27	0.28	0.28	0.32	0.33	0.28	0.25	0.35	0.30	24
4	0.30	0.28	0.28	0.28	0.29	0.29	0.29	0.34	0.32	0.29	S	0.33	0.30	0.29	0.28	0.29	0.31	0.28	0.29	0.28	0.28	0.26	0.25	0.28	0.25	0.34	0.29	24
5	0.28	0.28	0.28	0.29	0.30	0.35	0.37	0.35	0.31	S	0.34	0.27	0.28	0.29	0.26	0.27	0.26	0.26	0.27	0.27	0.27	0.28	0.31	0.29	0.26	0.37	0.29	24
6	0.31	0.34	0.37	0.35	0.36	0.37	0.36	0.35	S	0.39	0.34	0.32	0.31	0.31	0.31	0.30	0.29	0.28	0.28	0.28	0.31	0.50	0.49	0.41	0.28	0.50	0.34	24
7	0.38	0.39	0.63	0.43	0.46	0.54	0.59	S	0.52	1.25	**2.51**	1.17	0.41	0.47	0.32	0.30	0.30	0.29	0.28	0.29	0.30	0.30	0.29	0.33	0.28	**2.51**	**0.55**	24
8	0.33	0.33	0.34	0.33	0.32	0.32	S	0.34	0.29	0.25	0.24	0.25	0.25	0.23	0.24	0.23	0.26	0.29	0.29	0.31	0.29	0.27	0.26	0.30	0.23	0.34	0.29	24
9	0.29	0.34	0.40	0.44	0.58	S	0.58	0.48	0.46	0.42	0.32	0.27	0.28	0.27	0.26	0.26	0.26	0.25	0.24	0.24	0.25	0.26	0.27	0.27	0.24	0.58	0.33	24
10	0.28	0.28	0.28	0.30	S	0.37	0.34	0.32	0.33	0.34	0.32	0.32	0.32	0.31	0.33	0.32	0.30	0.30	0.31	0.31	0.32	0.35	0.37	0.36	0.28	0.37	0.32	24
11	0.46	0.43	0.41	S	0.42	0.39	0.40	0.41	0.42	0.38	0.35	0.31	0.30	0.30	0.28	0.29	0.30	0.30	0.29	0.29	0.30	0.31	0.32	0.31	0.28	0.46	0.35	24
12	0.30	0.34	S	0.46	0.45	0.47	0.42	0.35	0.34	0.33	0.32	0.32	0.31	0.31	0.31	0.30	0.31	0.29	0.29	0.28	0.36	0.34	0.35	0.33	0.28	0.47	0.34	24
13	0.31	X	0.33	0.32	0.34	0.33	S	0.41	0.32	0.30	0.30	0.28	0.28	0.28	0.29	0.28	0.29	0.29	0.28	0.28	0.33	0.46	0.68	0.69	0.28	0.69	0.35	23
14	S	0.46	0.42	0.40	0.49	0.54	0.43	0.34	0.35	0.37	0.35	0.36	0.31	0.29	0.27	0.28	0.29	0.29	0.31	0.28	0.27	0.28	0.29	S	0.27	0.54	0.35	24
15	0.34	0.31	0.32	0.33	0.41	0.46	0.47	0.33	0.31	0.30	0.28	0.29	0.28	0.31	0.29	0.27	0.27	0.27	0.28	0.27	0.29	0.31	S	0.31	0.27	0.47	0.32	24
16	0.41	0.42	0.51	0.33	0.30	0.39	0.34	0.28	0.30	0.30	0.26	0.25	0.24	0.23	0.23	0.22	0.23	0.24	0.26	0.29	0.31	S	0.46	0.36	0.22	0.51	0.31	24
17	0.53	0.68	0.52	0.56	0.66	0.77	1.04	0.54	0.34	0.31	0.31	0.28	0.28	0.29	0.27	0.28	0.29	0.29	0.29	0.28	S	0.37	0.40	0.56	0.27	1.04	0.44	24
18	0.66	0.51	0.58	0.52	0.70	0.63	0.54	0.41	0.34	0.30	0.29	0.27	0.27	0.26	0.24	0.26	0.25	0.25	0.25	S	0.32	0.40	0.37	0.33	0.24	0.70	0.39	24
19	0.30	0.30	0.35	0.46	0.48	0.40	0.36	0.33	0.30	0.31	0.28	0.28	0.28	0.27	0.27	0.27	0.27	0.26	S	0.31	0.30	0.32	0.41	0.48	0.26	0.48	0.33	24
20	0.58	0.47	0.40	0.36	0.36	0.40	0.35	0.33	0.31	0.30	0.28	0.27	0.26	0.25	0.24	0.23	0.25	S	0.32	0.26	0.29	0.28	0.28	0.29	0.23	0.58	0.32	24
21	0.30	0.32	0.32	0.35	0.37	0.34	0.33	0.35	0.34	0.33	0.29	0.30	0.28	0.28	0.27	0.26	S	0.30	0.26	0.27	0.31	0.52	0.34	0.49	0.26	0.52	0.33	24
22	0.48	0.37	0.50	0.47	0.47	0.45	0.40	0.39	0.35	0.32	0.32	0.30	0.29	0.27	0.26	S	0.30	0.27	0.28	0.28	0.32	0.60	0.72	0.55	0.26	0.72	0.39	24
23	0.74	0.65	0.90	0.87	1.19	1.11	0.69	0.46	0.39	0.31	0.30	0.27	0.26	0.26	S	0.31	0.27	0.27	0.27	0.25	0.27	0.31	0.35	0.33	0.25	1.19	0.48	24
24	0.35	0.41	0.45	0.45	0.48	0.48	0.42	0.38	0.36	0.37	0.37	0.33	0.29	S	0.34	0.32	0.37	0.35	0.36	0.40	0.44	0.58	0.89	0.67	0.29	0.89	0.43	24
25	0.39	0.45	0.53	0.52	0.57	0.73	0.53	0.43	0.41	0.39	0.37	0.33	S	0.35	0.33	0.29	0.29	0.28	0.28	0.32	0.34	0.41	0.35	0.31	0.28	0.73	0.40	24
26	0.33	0.34	0.37	0.48	0.45	0.35	0.32	0.32	0.30	0.29	0.27	S	0.35	0.30	0.28	0.28	0.27	0.26	0.27	0.27	0.26	0.28	0.29	0.27	0.26	0.48	0.31	24
27	0.28	0.30	0.33	0.31	0.34	0.32	0.32	0.33	0.32	0.33	S	0.33	0.33	0.31	0.31	0.30	0.30	0.29	0.27	0.29	0.28	0.28	0.29	0.32	0.27	0.34	0.31	24
28	0.36	0.33	0.31	0.31	0.32	0.43	0.45	0.43	0.40	S	0.36	0.29	0.25	0.24	0.22	0.24	0.22	0.22	0.23	0.22	0.22	0.22	0.23	0.23	0.22	0.45	0.29	24
29	0.26	0.28	0.27	0.27	0.29	0.30	0.29	0.30	S	0.34	0.28	0.27	0.28	0.28	0.27	0.25	0.26	0.27	0.26	0.27	0.29	0.33	0.47	0.49	0.25	0.49	0.30	24
30	0.63	0.50	0.38	0.39	0.38	0.41	0.33	S	0.35	0.27	0.27	0.25	0.26	0.27	0.27	0.25	0.23	0.24	0.22	0.24	0.28	0.26	0.38	0.43	0.22	0.63	0.33	24
31	0.43	0.35	0.38	0.41	0.37	0.36	S	0.30	0.27	0.32	0.25	0.25	0.25	0.24	0.23	0.24	0.24	0.24	0.23	0.22	0.22	0.24	0.24	0.24	0.22	0.43	0.28	24
HOURLY MAX	0.74	0.68	0.90	0.87	1.19	1.11	1.04	0.54	0.52	1.25	2.51	1.17	0.41	0.47	0.35	0.32	0.37	0.35	0.36	0.40	0.44	0.60	0.89	0.69				
HOURLY AVG	0.37	0.37	0.39	0.39	0.43	0.43	0.41	0.35	0.34	0.36	0.38	0.32	0.29	0.29	0.28	0.28	0.28	0.28	0.28	0.28	0.30	0.34	0.38	0.37				

STATUS FLAG CODES

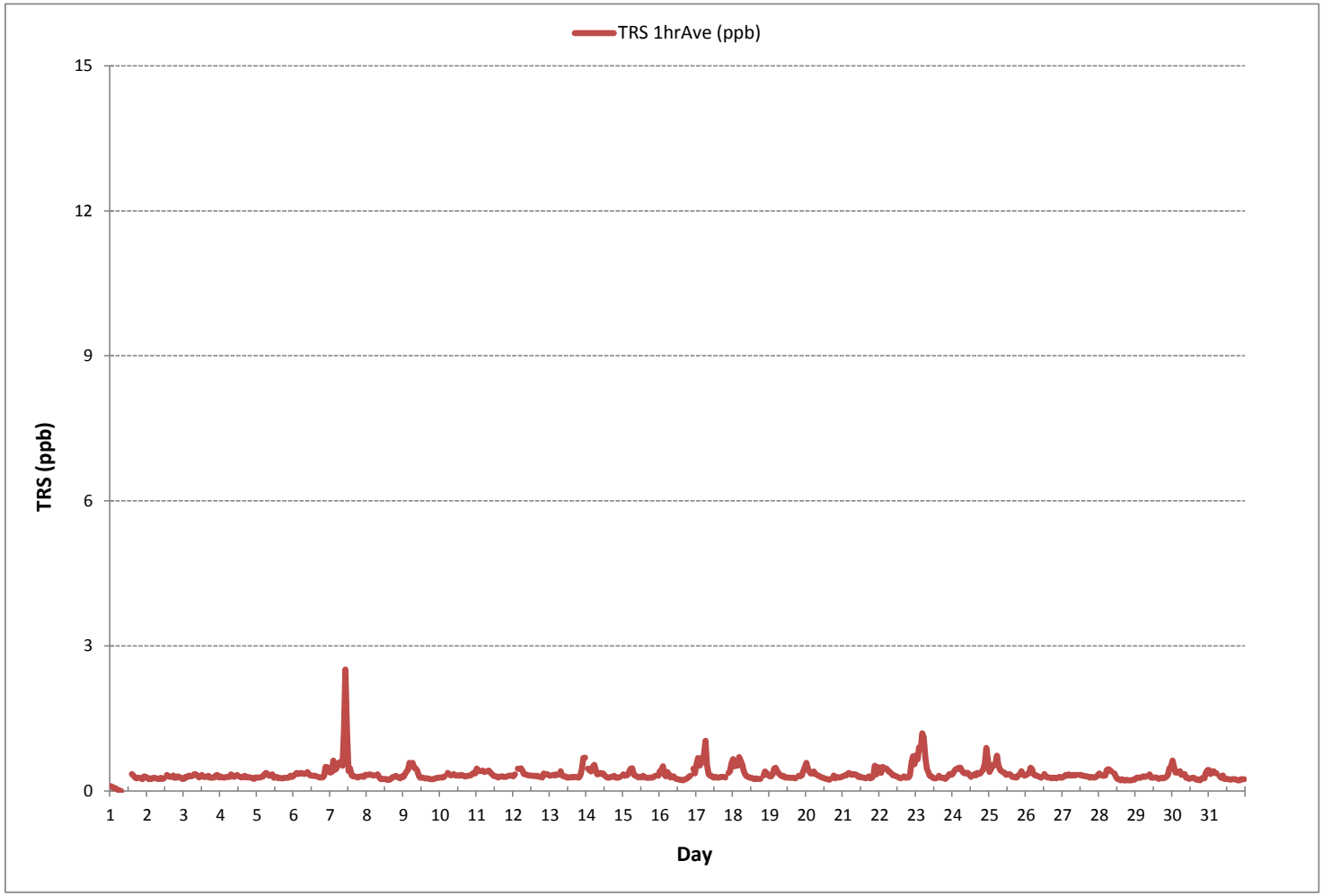
C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:			705				
MINIMUM 1-HR AVERAGE	0.00	ppb	@ HOUR	6	ON DAY	1	
MAXIMUM 1-HR AVERAGE:	2.51	ppb	@ HOUR	10	ON DAY	7	
MAXIMUM 24-HR AVERAGE:	0.55	ppb			ON DAY	7	
IZS CALIBRATION TIME:	32	hrs	OPERATIONAL TIME:			743	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:			99.9	%
STANDARD DEVIATION:	0.15		MONTHLY AVERAGE:			0.34	ppb

TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)



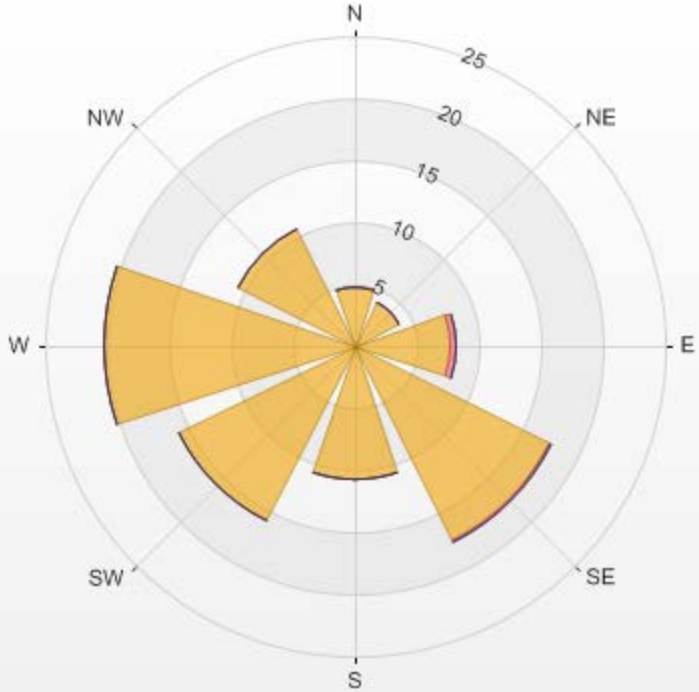
Wind: PRAMP_986
Poll.: PRAMP_986-TRS[ppb]
Monthly: 18/05
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

Calm: 7.92% Calm Avg: 0.47 [ppb]

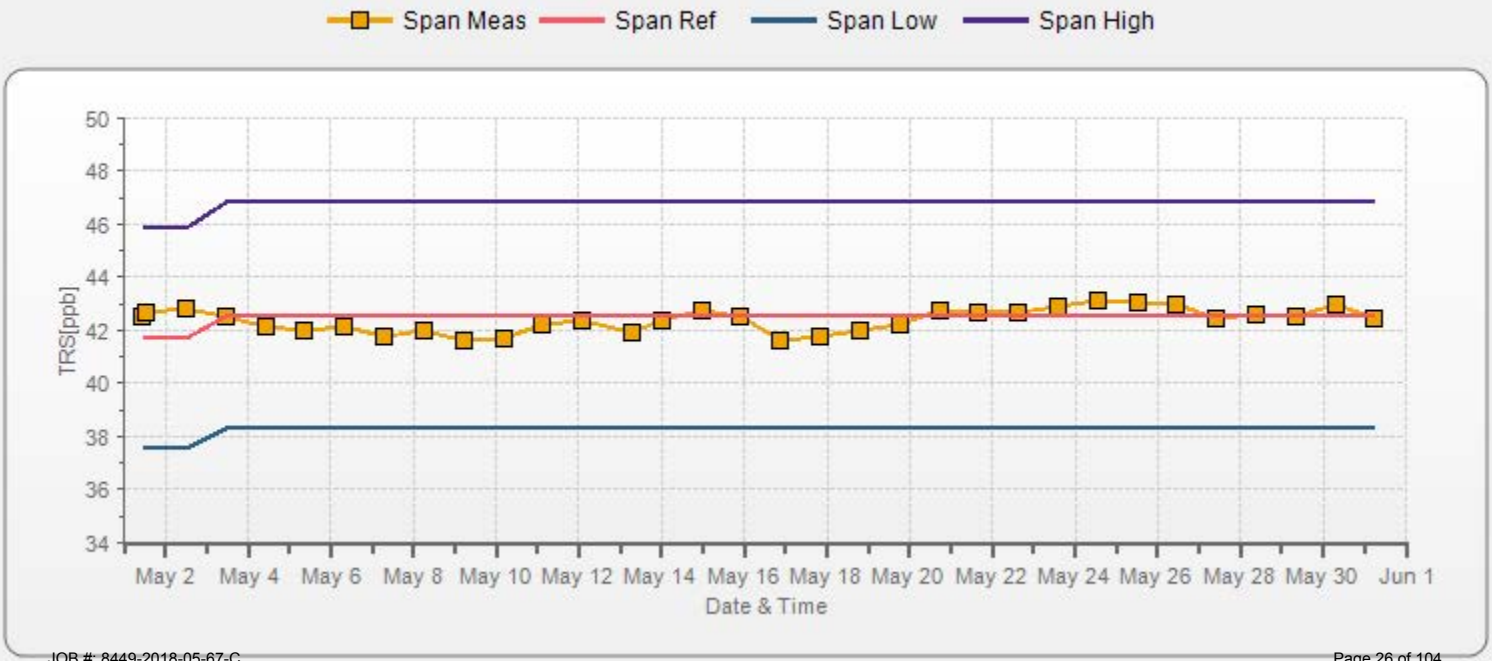
Direction	0-1	1-3	3-10	>10.0	Total
N	4.8	0.0	0.0	0.0	4.8
NE	4.0	0.0	0.0	0.0	4.0
E	7.8	0.4	0.0	0.0	8.2
SE	17.5	0.1	0.0	0.0	17.7
S	10.8	0.0	0.0	0.0	10.8
SW	15.8	0.0	0.0	0.0	15.8
W	20.2	0.0	0.0	0.0	20.2
NW	10.6	0.0	0.0	0.0	10.6
Summary	91.5	0.6	0.0	0.0	92.1

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

PRAMP_986 Poll.: PRAMP_986-TRS[ppb] 2018/05/01 00:00 - 2018/05/31 23:00 Calm: 7.92% Calm Poll Avg: 0.47[ppb]



TRS[ppb] Calibration: PRAMP_986 Monthly: 18/05 Type: Span



TOTAL HYDROCARBON

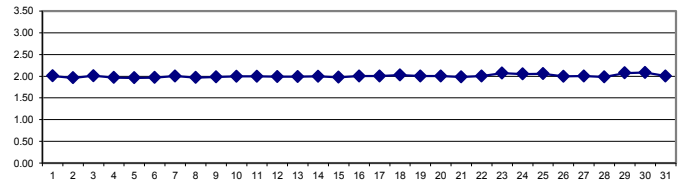
TOTAL HYDROCARBONS Hourly Averages (THC ppm)

HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																												
1	1.99	2.02	2.06	1.99	2.01	1.98	**1.93**	1.93	1.94	1.95	C	C	C	C	1.98	1.98	1.98	1.97	1.99	1.99	1.96	1.95	2.25	2.25	**1.93**	2.25	2.01	24
2	2.14	1.96	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.95	S	1.94	1.94	1.94	1.96	1.95	1.95	1.95	1.94	1.95	1.95	1.94	1.94	2.14	1.96	24
3	1.94	1.98	2.00	2.05	2.09	2.16	2.23	2.19	1.99	1.97	1.97	S	1.97	1.98	1.98	1.99	1.98	1.97	1.97	1.97	1.96	1.96	1.97	1.97	1.94	2.23	2.01	24
4	1.97	1.96	1.96	1.95	1.95	1.95	1.95	1.96	1.98	1.98	S	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	2.01	1.96	1.95	1.95	1.95	2.01	1.97	24
5	1.95	1.95	1.95	1.95	1.95	1.98	1.97	1.96	1.95	S	1.96	1.96	1.96	1.97	1.97	1.97	1.98	1.97	1.97	1.97	1.97	1.96	1.96	1.95	1.95	1.98	1.96	24
6	1.95	1.94	1.94	1.95	1.95	1.96	1.96	1.97	S	1.98	1.97	1.97	1.98	1.97	1.98	1.97	1.97	1.98	1.97	1.97	1.98	1.97	2.02	2.01	1.94	2.02	1.97	24
7	2.05	2.00	2.07	2.13	2.00	1.99	2.00	S	1.98	1.99	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.97	1.98	1.97	2.01	2.03	1.97	1.97	1.97	2.13	2.00	24
8	1.96	1.96	1.96	1.96	1.96	1.97	S	1.98	1.95	1.96	1.96	1.96	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.95	1.98	1.97	24
9	1.98	1.98	1.99	1.99	1.99	S	1.99	1.99	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.98	1.98	1.97	1.97	1.97	1.97	1.98	1.99	2.00	1.97	2.00	1.98	24
10	2.00	2.00	2.00	2.01	S	2.02	2.02	2.01	1.98	1.99	1.98	1.97	1.98	1.99	2.00	2.00	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.97	2.02	1.99	24
11	2.00	2.00	2.00	S	2.00	2.01	2.01	2.01	2.02	2.02	2.01	2.00	1.99	1.99	1.99	1.99	1.98	1.99	1.98	1.98	1.98	1.99	1.98	1.98	1.98	2.02	2.00	24
12	1.99	1.99	S	1.98	1.98	1.99	1.99	1.99	1.98	1.98	1.98	1.97	1.97	1.98	1.98	1.97	1.98	1.98	2.00	2.01	2.06	2.05	1.96	1.95	1.95	2.06	1.99	24
13	1.95	X	1.95	1.99	2.03	2.02	S	1.96	1.97	1.97	1.98	1.99	1.98	1.99	1.99	1.99	1.99	1.99	2.00	2.01	1.97	1.98	2.02	2.03	1.95	2.03	1.99	23
14	S	2.02	2.07	2.07	2.09	2.10	2.02	1.96	1.97	1.97	1.98	1.99	1.97	1.96	1.96	1.95	1.98	1.98	2.03	1.96	1.95	1.96	1.96	S	1.95	2.10	2.00	24
15	1.97	1.97	2.00	1.98	1.93	1.93	1.96	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	1.99	1.98	1.97	1.98	S	1.99	1.93	2.00	1.98	24
16	2.01	2.06	2.03	1.99	2.01	1.99	1.99	2.00	2.00	2.00	1.99	1.99	2.00	1.99	1.99	1.99	1.98	1.99	1.99	2.07	2.02	S	2.00	2.01	1.98	2.07	2.00	24
17	1.98	2.00	2.00	2.01	2.11	2.06	2.01	2.02	2.00	2.00	1.99	1.99	1.98	2.00	1.99	1.98	1.99	1.98	1.98	1.99	S	2.03	2.02	1.98	1.98	2.11	2.00	24
18	1.97	1.99	2.04	2.08	2.26	2.18	2.13	2.10	2.01	1.98	1.98	1.97	1.98	1.99	1.98	1.98	1.98	1.98	1.98	S	1.98	1.99	2.02	2.00	1.97	2.26	2.02	24
19	2.00	1.99	2.00	2.02	2.04	2.03	2.03	2.01	1.99	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	S	1.98	2.01	1.99	1.99	2.01	1.98	2.04	2.00	24
20	2.04	2.05	2.03	1.98	2.01	2.03	2.01	1.99	2.00	2.00	1.99	1.99	1.99	1.99	2.00	2.00	2.01	S	2.04	2.00	1.98	1.97	1.97	1.97	1.97	2.05	2.00	24
21	1.96	1.95	1.95	1.96	1.98	1.97	1.96	1.97	1.97	1.97	1.98	1.96	1.96	1.99	1.96	1.96	S	1.98	1.97	2.02	2.07	2.06	2.01	2.08	1.95	2.08	1.98	24
22	2.10	2.00	2.02	2.05	2.29	2.00	1.99	2.00	1.98	1.96	1.96	1.96	1.96	1.95	1.96	S	1.96	1.96	1.96	1.95	1.99	1.97	2.00	2.07	1.95	2.29	2.00	24
23	2.11	2.11	2.17	2.49	2.18	2.15	2.26	2.14	2.12	2.01	2.00	1.97	1.96	1.96	S	1.95	1.95	1.96	1.97	1.98	1.98	2.01	2.16	2.00	1.95	2.49	2.07	24
24	2.02	2.06	2.03	2.03	2.04	2.04	2.06	2.06	2.03	2.04	2.03	2.02	2.01	S	2.00	2.12	2.03	2.00	2.07	2.09	2.09	2.01	2.10	2.14	2.00	2.14	2.05	24
25	2.07	2.06	2.11	2.35	2.22	2.07	1.96	2.02	1.97	1.96	1.96	1.96	S	1.96	1.95	1.96	1.99	2.00	2.00	2.17	2.18	2.37	2.04	1.98	1.95	2.37	2.06	24
26	1.96	1.96	1.95	1.96	1.98	2.00	2.00	2.00	2.02	1.99	1.98	S	1.99	1.98	1.98	1.98	1.98	1.99	1.99	1.99	2.00	2.01	2.15	2.05	1.95	2.15	2.00	24
27	2.04	2.11	2.18	2.18	2.04	2.01	1.98	1.98	1.98	1.99	S	1.96	1.97	1.97	1.97	1.97	1.96	1.97	1.97	1.96	1.98	1.96	1.96	1.97	1.96	2.18	2.00	24
28	1.97	1.99	2.10	1.96	1.95	1.94	1.94	1.95	1.94	S	1.94	1.95	1.97	1.97	1.98	1.98	1.98	2.00	1.99	2.00	1.98	2.04	2.02	2.06	1.94	2.10	1.98	24
29	2.23	2.17	2.19	2.17	2.11	2.14	2.03	2.02	S	2.05	2.07	2.04	2.05	1.99	1.99	1.97	1.97	1.97	1.98	1.98	2.02	2.09	2.23	2.24	1.97	2.24	2.07	24
30	2.55	2.21	2.24	2.28	2.02	2.03	2.02	S	2.06	1.98	1.97	1.97	2.00	1.99	1.98	1.97	1.97	1.97	1.98	1.97	1.98	2.00	**2.58**	2.22	1.97	**2.58**	**2.08**	24
31	2.06	2.04	2.06	2.08	2.06	2.06	S	2.01	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.99	1.97	1.97	1.98	1.97	2.04	2.01	1.99	1.97	2.08	2.00	24
HOURLY MAX	2.55	2.21	2.24	2.49	2.29	2.18	2.26	2.19	2.12	2.05	2.07	2.04	2.05	2.00	2.00	2.12	2.03	2.00	2.07	2.17	2.18	2.37	2.58	2.25				
HOURLY AVG	2.03	2.02	2.03	2.05	2.04	2.02	2.01	2.00	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	2.00	2.01	2.04	2.02				

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

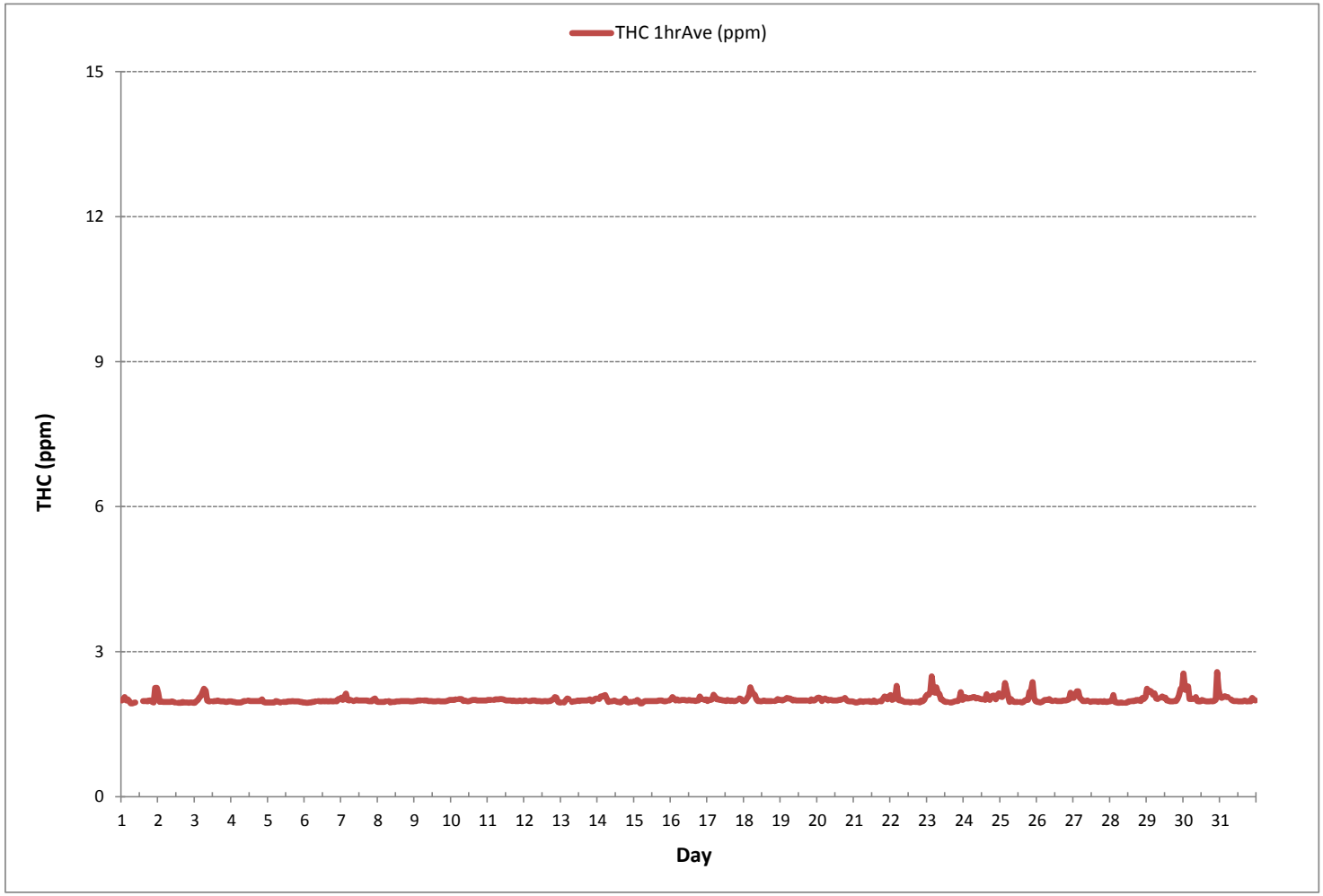
24 HR AVERAGES May 2018



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:			708				
MINIMUM 1-HR AVERAGE	1.93	ppm	@ HOUR	6	ON DAY	1	
MAXIMUM 1-HR AVERAGE:	2.58	ppm	@ HOUR	22	ON DAY	30	
MAXIMUM 24-HR AVERAGE:	2.08	ppm			ON DAY	30	
IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:			743	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:			99.9	%
STANDARD DEVIATION:	0.07		MONTHLY AVERAGE:			2.00	ppm

TOTAL HYDROCARBONS Hourly Averages (THC ppm)



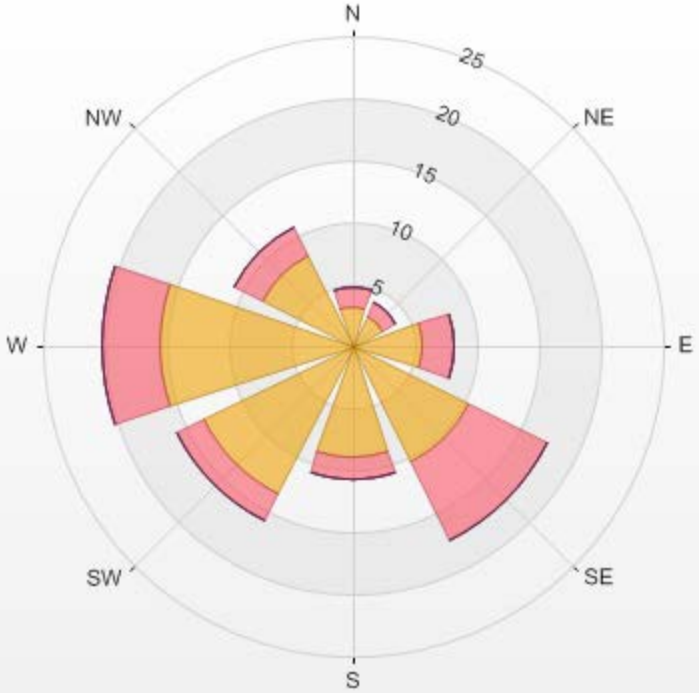
Wind: PRAMP_986
Poll.: PRAMP_986-THC55[ppm]
Monthly: 18/05
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

Calm: 7.91% Calm Avg: 2.08 [ppm]

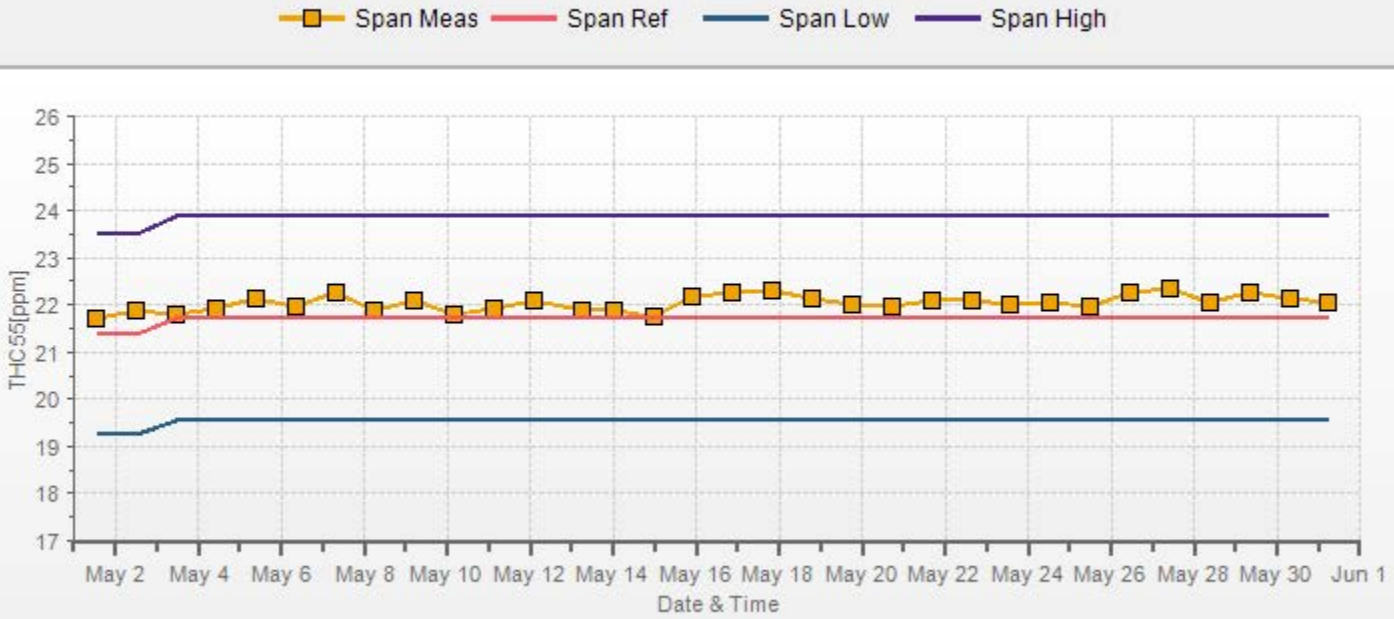
Direction	0-2	2-3	3-5	5-10	>10.0	Total
N	3.1	1.7	0.0	0.0	0.0	4.8
NE	2.7	1.3	0.0	0.0	0.0	4.0
E	5.7	2.5	0.0	0.0	0.0	8.2
SE	10.5	7.2	0.0	0.0	0.0	17.7
S	9.0	1.7	0.0	0.0	0.0	10.7
SW	13.4	2.4	0.0	0.0	0.0	15.8
W	15.5	4.7	0.0	0.0	0.0	20.2
NW	8.2	2.5	0.0	0.0	0.0	10.7
Summary	68.1	24.0	0.0	0.0	0.0	92.1

% Icon Classes (ppm)	68 0-2	24 2-3	0 3-5	0 5-10	0 >10.0

PRAMP_986 Poll.: PRAMP_986-THC55[ppm] 2018/05/01 00:00 - 2018/05/31 23:00 Calm: 7.91% Calm Poll Avg: 2.08[ppm]



THC55[ppm] Calibration: PRAMP_986 Monthly: 18/05 Type: Span



METHANE

Maxxam
A Bureau Veritas Group Company

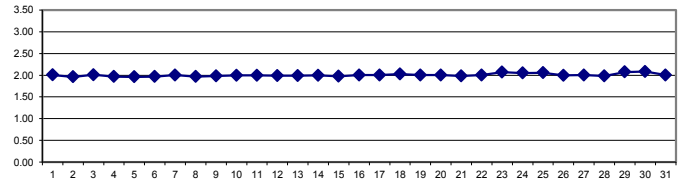
METHANE Hourly Averages (CH_4 ppm)

HR START (MST) / HR END (MST) / DAY	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
1	1.99	2.02	2.06	1.99	2.01	1.98	**1.93**	1.93	1.94	1.95	C	C	C	C	1.98	1.98	1.98	1.97	1.99	1.99	1.96	1.95	2.25	2.25	**1.93**	2.25	2.01	24
2	2.14	1.96	1.97	1.96	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.95	S	1.94	1.94	1.94	1.96	1.95	1.94	1.95	1.94	1.95	1.95	1.94	1.94	2.14	1.96	24
3	1.94	1.98	2.00	2.05	2.09	2.16	2.23	2.19	1.99	1.97	1.97	S	1.97	1.98	1.98	1.99	1.98	1.97	1.97	1.97	1.96	1.96	1.97	1.97	1.94	2.23	2.01	24
4	1.97	1.96	1.96	1.95	1.95	1.95	1.95	1.96	1.98	1.98	S	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	2.01	1.96	1.95	1.95	1.95	2.01	1.97	24
5	1.95	1.95	1.95	1.95	1.95	1.98	1.97	1.96	1.95	S	1.96	1.96	1.96	1.97	1.97	1.97	1.98	1.97	1.97	1.97	1.97	1.96	1.96	1.95	1.95	1.98	1.96	24
6	1.95	1.94	1.94	1.95	1.95	1.96	1.96	1.97	S	1.98	1.97	1.97	1.98	1.97	1.98	1.97	1.97	1.98	1.97	1.97	1.98	1.97	2.02	2.01	1.94	2.02	1.97	24
7	2.05	2.00	2.07	2.13	2.00	1.99	2.00	S	1.98	1.99	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.97	1.98	1.97	2.01	2.03	1.97	1.97	1.97	2.13	2.00	24
8	1.96	1.96	1.96	1.96	1.96	1.97	S	1.98	1.95	1.96	1.96	1.96	1.97	1.97	1.97	1.98	1.98	1.98	1.98	1.98	1.98	1.97	1.97	1.97	1.95	1.98	1.97	24
9	1.98	1.98	1.99	1.99	1.99	S	1.99	1.99	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.98	1.98	1.97	1.97	1.97	1.97	1.98	1.99	2.00	1.97	2.00	1.98	24
10	2.00	2.00	2.00	2.01	S	2.02	2.02	2.01	1.98	1.99	1.98	1.97	1.98	1.99	2.00	2.00	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.97	2.02	1.99	24
11	2.00	2.00	2.00	S	2.00	2.01	2.01	2.01	2.02	2.02	2.01	2.00	1.99	1.99	1.99	1.99	1.98	1.99	1.98	1.98	1.98	1.99	1.98	1.98	1.98	2.02	2.00	24
12	1.99	1.99	S	1.98	1.98	1.99	1.99	1.99	1.98	1.98	1.98	1.97	1.97	1.98	1.98	1.97	1.98	1.98	2.00	2.01	2.06	2.05	1.96	1.95	1.95	2.06	1.99	24
13	1.95	X	1.95	1.99	2.03	2.02	S	1.96	1.97	1.97	1.98	1.99	1.98	1.99	1.99	1.99	1.99	1.99	2.00	2.01	1.97	1.98	2.02	2.03	1.95	2.03	1.99	23
14	S	2.02	2.07	2.07	2.09	2.10	2.02	1.96	1.97	1.97	1.98	1.99	1.97	1.96	1.96	1.95	1.98	1.98	2.03	1.96	1.95	1.96	1.96	S	1.95	2.10	2.00	24
15	1.97	1.97	2.00	1.98	1.93	1.93	1.96	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	1.99	1.98	1.97	1.98	S	1.99	1.93	2.00	1.98	24
16	2.01	2.06	2.03	1.99	2.01	1.99	1.99	2.00	2.00	2.00	1.99	1.99	2.00	1.99	1.99	1.99	1.98	1.99	1.99	2.07	2.02	S	2.00	2.01	1.98	2.07	2.00	24
17	1.98	2.00	2.00	2.01	2.11	2.06	2.01	2.02	2.00	2.00	1.99	1.99	1.98	2.00	1.99	1.98	1.99	1.98	1.98	1.99	S	2.03	2.02	1.98	1.98	2.11	2.00	24
18	1.97	1.99	2.04	2.08	2.26	2.18	2.13	2.10	2.01	1.98	1.98	1.97	1.98	1.99	1.98	1.98	1.98	1.98	1.98	S	1.98	1.99	2.02	2.00	1.97	2.26	2.02	24
19	2.00	1.99	2.00	2.02	2.04	2.03	2.03	2.01	1.99	2.00	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	S	1.98	2.01	1.99	1.99	2.01	1.98	2.04	2.00	24
20	2.04	2.05	2.03	1.98	2.01	2.03	2.01	1.99	2.00	2.00	1.99	1.99	1.99	1.99	2.00	2.00	2.01	S	2.04	2.00	1.98	1.97	1.97	1.97	1.97	2.05	2.00	24
21	1.96	1.95	1.95	1.96	1.98	1.97	1.96	1.97	1.97	1.97	1.98	1.96	1.96	1.99	1.96	1.96	S	1.98	1.97	2.02	2.07	2.06	2.01	2.08	1.95	2.08	1.98	24
22	2.10	2.00	2.02	2.05	2.29	2.00	1.99	2.00	1.98	1.96	1.96	1.96	1.96	1.95	1.96	S	1.96	1.96	1.96	1.95	1.99	1.97	2.00	2.07	1.95	2.29	2.00	24
23	2.11	2.11	2.17	2.49	2.18	2.15	2.26	2.14	2.12	2.01	2.00	1.97	1.96	1.96	S	1.95	1.95	1.96	1.97	1.98	1.98	2.01	2.16	2.00	1.95	2.49	2.07	24
24	2.02	2.06	2.03	2.03	2.04	2.04	2.06	2.06	2.03	2.04	2.03	2.02	2.01	S	2.00	2.12	2.03	2.00	2.07	2.09	2.09	2.01	2.10	2.14	2.00	2.14	2.05	24
25	2.07	2.06	2.11	2.35	2.22	2.07	1.96	2.02	1.97	1.96	1.96	1.96	S	1.96	1.95	1.96	1.99	2.00	2.00	2.17	2.18	2.37	2.04	1.98	1.95	2.37	2.06	24
26	1.96	1.96	1.95	1.96	1.98	2.00	2.00	2.00	2.02	1.99	1.98	S	1.99	1.98	1.98	1.98	1.98	1.99	1.99	1.99	2.00	2.01	2.15	2.05	1.95	2.15	2.00	24
27	2.04	2.11	2.18	2.18	2.04	2.01	1.98	1.98	1.98	1.99	S	1.96	1.96	1.97	1.97	1.97	1.96	1.97	1.97	1.96	1.98	1.96	1.96	1.97	1.96	2.18	2.00	24
28	1.97	1.99	2.10	1.96	1.95	1.94	1.94	1.95	1.94	S	1.94	1.95	1.97	1.97	1.98	1.98	1.98	2.00	1.99	2.00	1.98	2.04	2.02	2.06	1.94	2.10	1.98	24
29	2.23	2.17	2.19	2.17	2.11	2.14	2.03	2.02	S	2.05	2.07	2.04	2.05	1.99	1.99	1.97	1.97	1.97	1.98	1.98	2.02	2.09	2.23	2.24	1.97	2.24	2.07	24
30	2.55	2.21	2.24	2.28	2.02	2.03	2.02	S	2.06	1.98	1.97	1.97	2.00	1.99	1.98	1.97	1.97	1.97	1.98	1.97	1.98	2.00	**2.58**	2.22	1.97	**2.58**	**2.08**	24
31	2.06	2.04	2.06	2.08	2.06	2.06	S	2.01	1.99	1.98	1.98	1.98	1.97	1.97	1.97	1.97	1.99	1.97	1.97	1.98	1.97	2.04	2.01	1.99	1.97	2.08	2.00	24
HOURLY MAX	2.55	2.21	2.24	2.49	2.29	2.18	2.26	2.19	2.12	2.05	2.07	2.04	2.05	2.00	2.00	2.12	2.03	2.00	2.07	2.17	2.18	2.37	2.58	2.25				
HOURLY AVG	2.03	2.02	2.03	2.05	2.04	2.02	2.01	2.00	1.99	1.99	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.99	1.99	2.00	2.01	2.04	2.02				

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

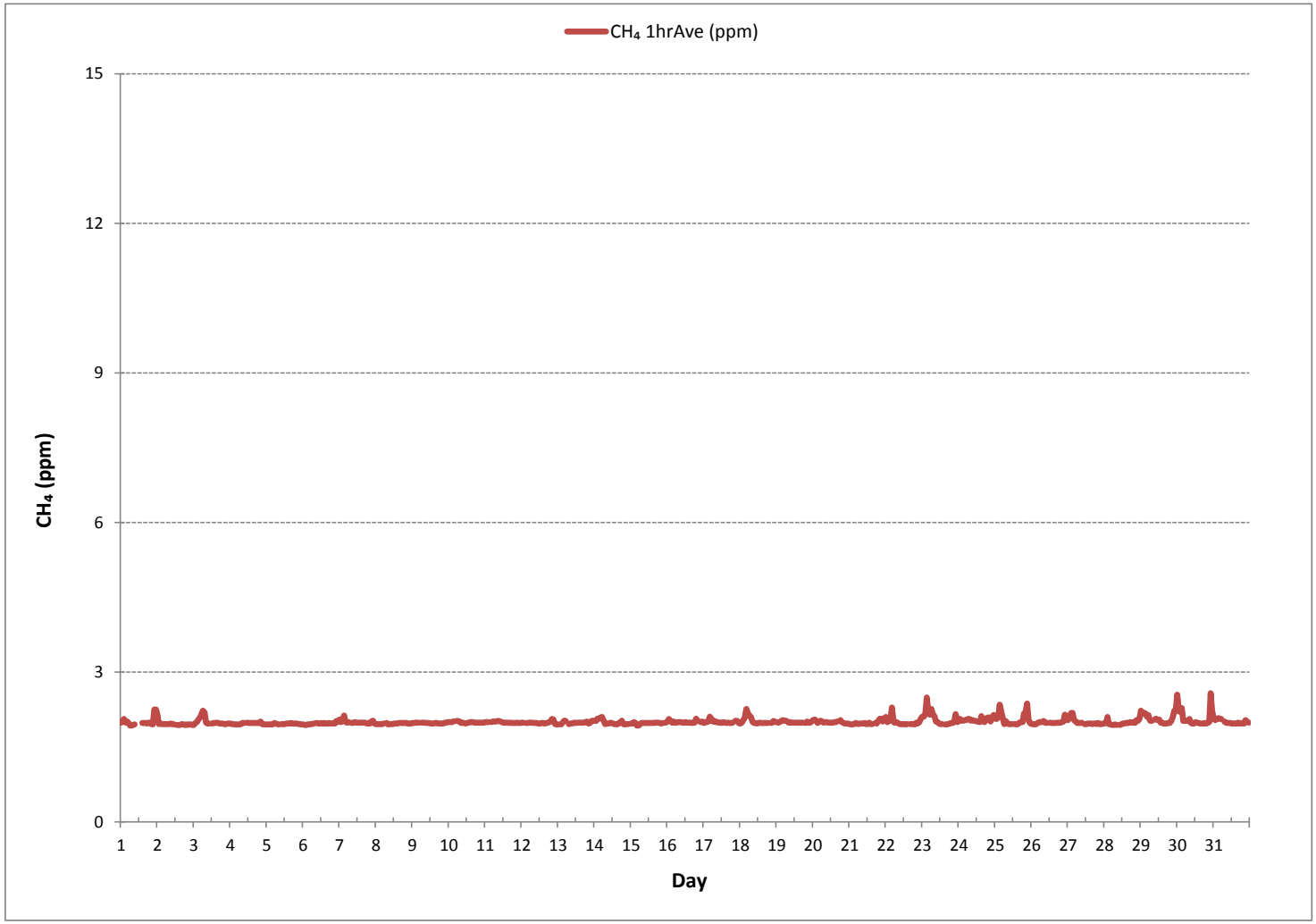
24 HR AVERAGES May 2018



MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:			708				
MINIMUM 1-HR AVERAGE	1.93	ppm	@ HOUR	6	ON DAY	1	
MAXIMUM 1-HR AVERAGE:	2.58	ppm	@ HOUR	22	ON DAY	30	
MAXIMUM 24-HR AVERAGE:	2.08	ppm			ON DAY	30	
IZS CALIBRATION TIME:	31	hrs	OPERATIONAL TIME:			743	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:			99.9	%
STANDARD DEVIATION:	0.07		MONTHLY AVERAGE:			2.00	ppm

METHANE Hourly Averages (CH_4 ppm)



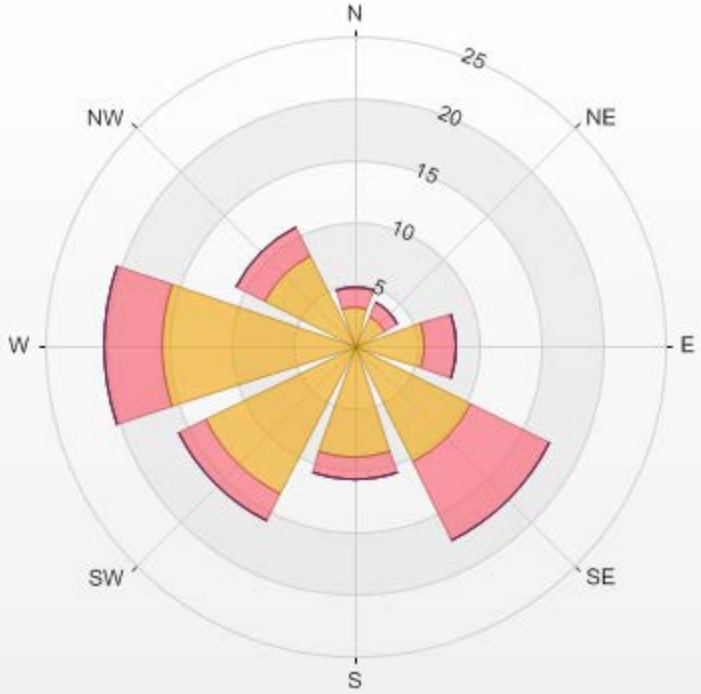
Wind: PRAMP_986
Poll.: PRAMP_986-CH_4[ppm]
Monthly: 18/05
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

Calm: 7.91% Calm Avg: 2.08 [ppm]

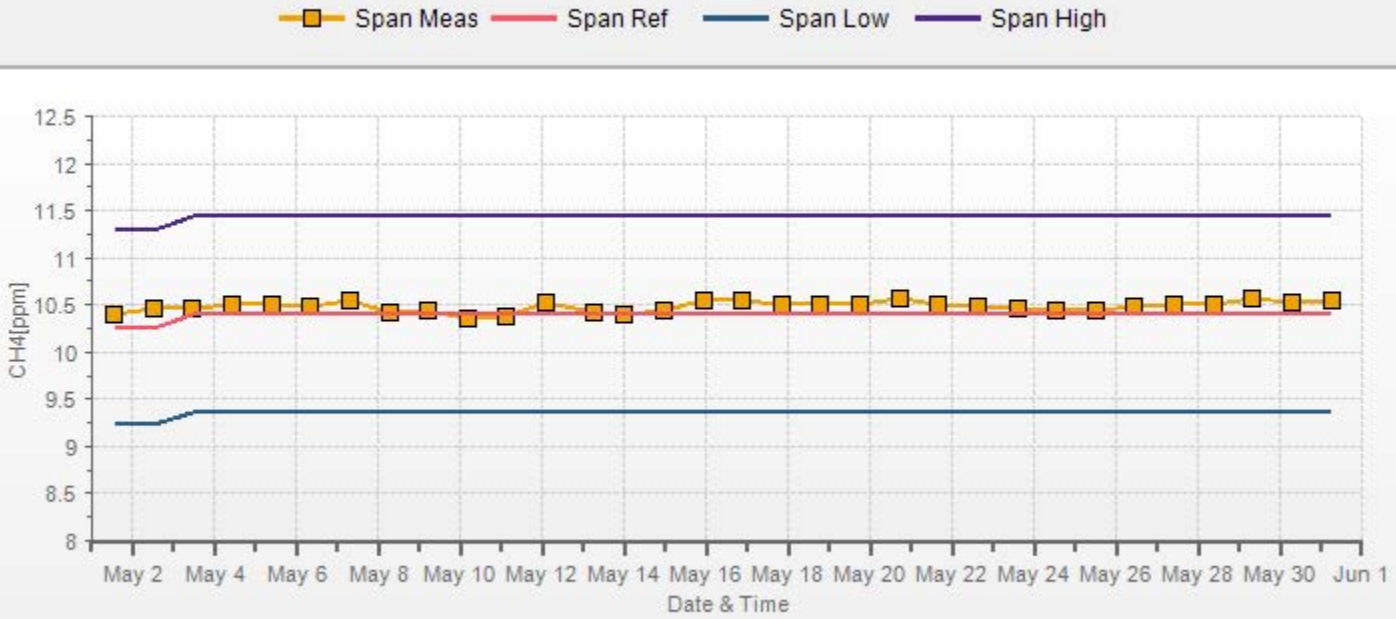
Direction	0-2	2-3	3-5	5-10	>10.0	Total
N	3.1	1.7	0.0	0.0	0.0	4.8
NE	2.7	1.3	0.0	0.0	0.0	4.0
E	5.7	2.5	0.0	0.0	0.0	8.2
SE	10.5	7.2	0.0	0.0	0.0	17.7
S	9.0	1.7	0.0	0.0	0.0	10.7
SW	13.4	2.4	0.0	0.0	0.0	15.8
W	15.5	4.7	0.0	0.0	0.0	20.2
NW	8.2	2.5	0.0	0.0	0.0	10.7
Summary	68.1	24.0	0.0	0.0	0.0	92.1

% Icon Classes (ppm)	68	0-2	24	2-3	0	3-5	0	5-10	0	>10.0

PRAMP_986 Poll.: PRAMP_986-CH4[ppm] 2018/05/01 00:00 - 2018/05/31 23:00 Calm: 7.91% Calm Poll Avg: 2.08[ppm]



CH4[ppm] Calibration: PRAMP_986 Monthly: 18/05 Type: Span



NON-METHANE HYDROCARBON

Maxxam
A Bureau Veritas Group Company

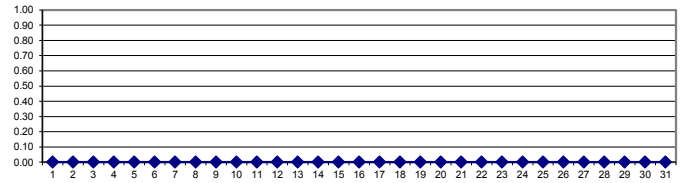
NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)

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

STATUS FLAG CODES

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

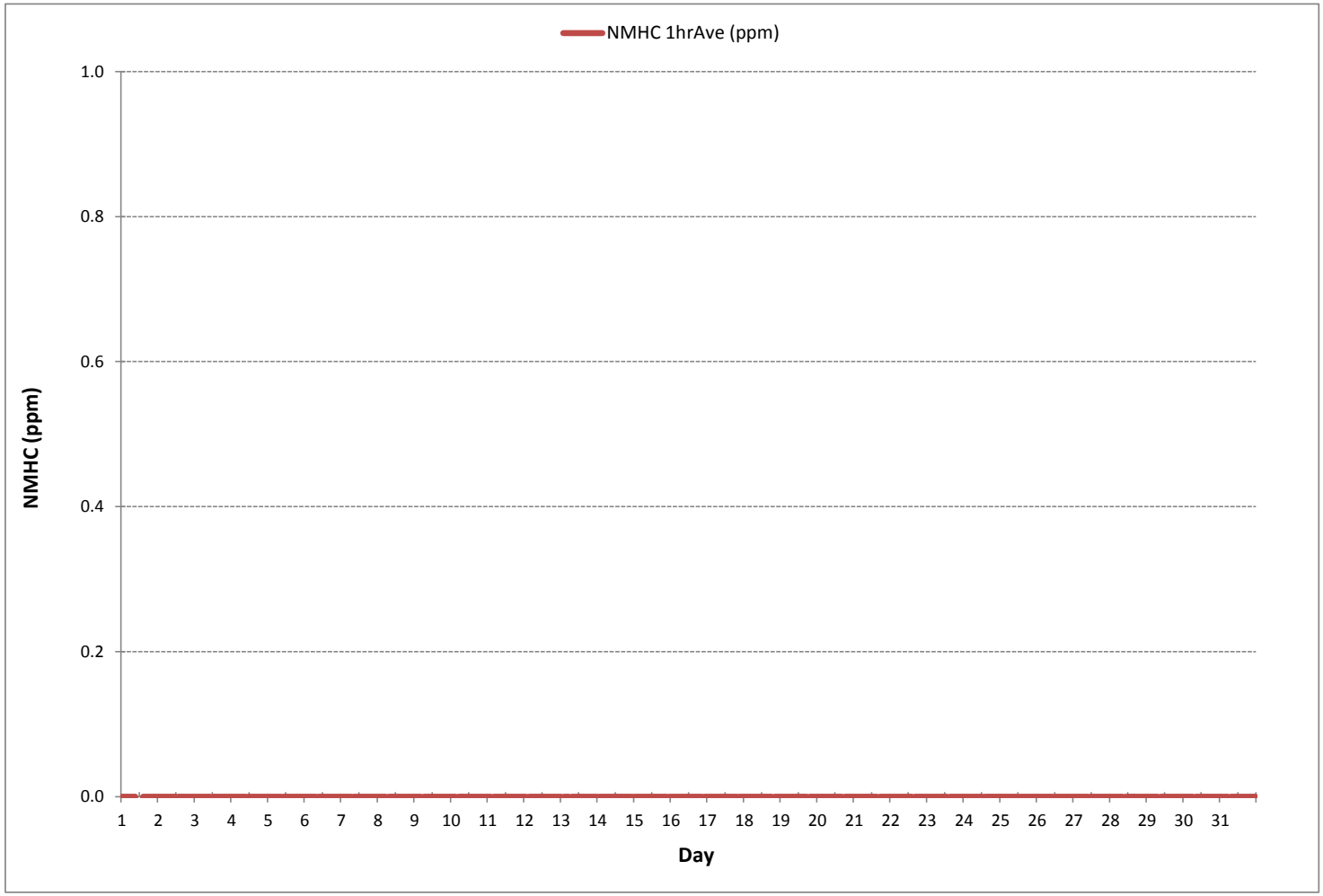
24 HR AVERAGES May 2018



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:	31	hrs	OPERATIONAL TIME:			743	hrs
MONTHLY CALIBRATION TIME:	4	hrs	AMD OPERATION UPTIME:			99.9	%
STANDARD DEVIATION:	0.00		MONTHLY AVERAGE:			0.00	ppm

NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)



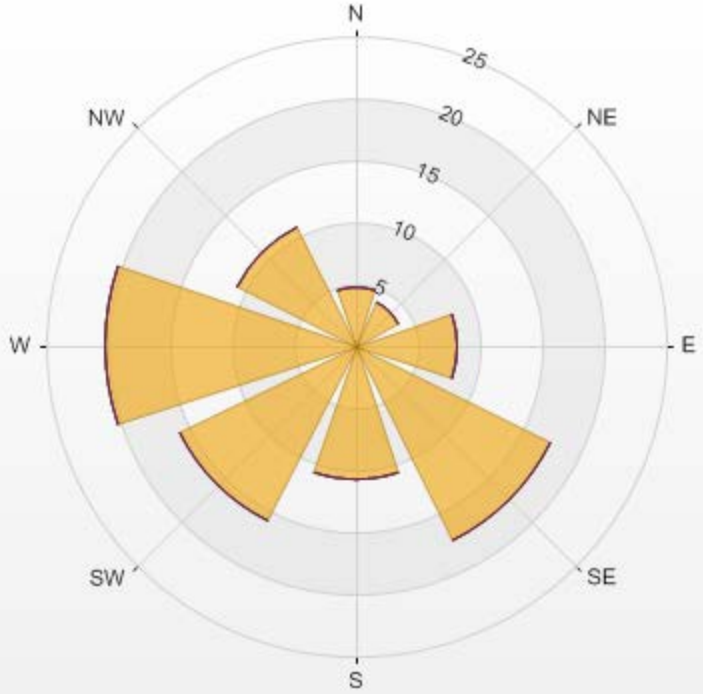
Wind: PRAMP_986
Poll.: PRAMP_986-NMHC[ppm]
Monthly: 18/05
Type: PollutionRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

Calm: 7.91% Calm Avg: 0.00 [ppm]

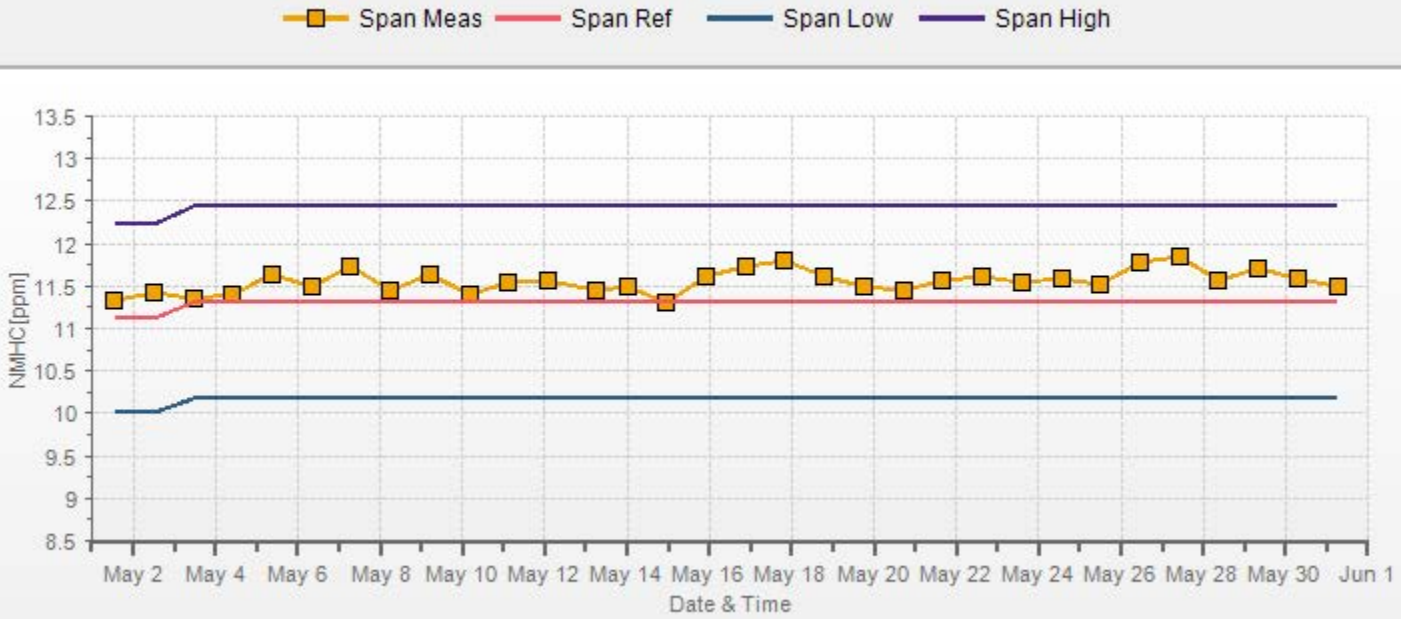
Direction	0-0.1	0.1-0.3	0.3-1	1-2	>2.0	Total
N	4.8	0.0	0.0	0.0	0.0	4.8
NE	4.0	0.0	0.0	0.0	0.0	4.0
E	8.2	0.0	0.0	0.0	0.0	8.2
SE	17.7	0.0	0.0	0.0	0.0	17.7
S	10.7	0.0	0.0	0.0	0.0	10.7
SW	15.8	0.0	0.0	0.0	0.0	15.8
W	20.2	0.0	0.0	0.0	0.0	20.2
NW	10.7	0.0	0.0	0.0	0.0	10.7
Summary	92.1	0.0	0.0	0.0	0.0	92.1

% Icon Classes (ppm)	92 0-0.1	0 0.1-0.3	0 0.3-1	0 1-2	0 >2.0

PRAMP_986 Poll.: PRAMP_986-NMHC[ppm] 2018/05/01 00:00 - 2018/05/31 23:00 Calm: 7.91% Calm Poll Avg: 0.00[ppm]



NMHC[ppm] Calibration: PRAMP_986 Monthly: 18/05 Type: Span



WIND SPEED

Maxxam
A Bureau Veritas Group Company

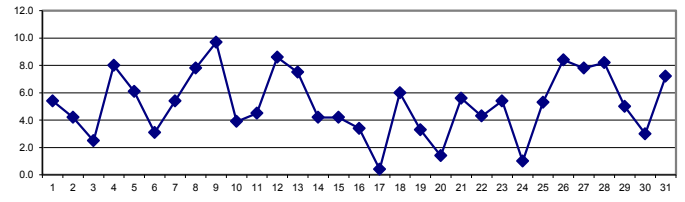
WIND SPEED Hourly Averages (WS kph)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	1.3	6.0	5.1	5.8	5.8	3.9	4.4	7.2	9.0	9.7	7.4	9.4	7.2	10.7	11.7	10.4	10.8	8.4	7.0	6.9	2.0	4.2	6.7	10.2	1.3	11.7	5.4	24
2	12.9	12.5	11.3	11.3	7.4	6.7	6.8	7.4	6.6	16.0	20.7	15.2	5.8	14.6	8.2	3.5	10.3	14.3	2.4	4.4	3.1	3.0	2.6	1.9	1.9	20.7	4.2	24
3	2.7	2.3	3.1	1.2	2.8	1.7	1.3	0.3	4.6	7.1	7.4	7.2	10.1	7.8	8.9	9.1	6.7	5.5	7.7	4.3	1.4	1.7	2.6	4.8	0.3	10.1	2.5	24
4	5.0	5.4	6.6	5.8	4.9	4.5	3.9	7.0	12.0	11.1	13.9	12.3	11.3	11.9	14.1	12.5	12.1	14.2	12.2	8.6	4.1	5.0	6.8	6.6	3.9	14.2	8.0	24
5	4.2	2.5	2.4	2.7	3.7	3.9	4.0	6.8	8.9	9.3	9.1	11.4	12.2	12.6	10.5	11.4	11.6	11.3	8.4	5.7	3.2	3.3	5.1	6.1	2.4	12.6	6.1	24
6	6.1	5.5	6.3	6.5	4.6	5.8	6.0	5.4	5.0	4.3	3.3	3.4	7.2	6.0	5.6	4.6	4.5	7.8	6.2	4.7	0.9	1.1	4.4	4.0	0.9	7.8	3.1	24
7	3.0	0.5	**0.1**	5.2	5.9	7.3	8.3	10.4	10.8	12.4	9.5	8.4	8.9	7.4	6.8	7.6	7.2	8.0	6.7	11.6	11.4	6.4	2.4	4.0	**0.1**	12.4	5.4	24
8	3.7	6.2	8.2	7.8	6.3	3.7	3.9	12.7	14.9	21.1	**21.9**	18.8	18.8	17.5	15.7	17.1	13.2	12.0	11.0	11.4	9.2	8.3	8.0	9.1	3.7	**21.9**	7.8	24
9	5.8	4.9	4.7	5.2	7.8	8.0	12.6	15.2	14.0	13.9	13.2	13.4	14.0	12.4	11.5	12.4	11.2	11.9	11.0	9.8	9.1	6.3	5.0	6.6	4.7	15.2	**9.7**	24
10	6.1	3.8	4.0	5.8	4.1	3.6	5.7	7.9	7.6	5.5	6.2	5.0	3.5	2.9	5.0	6.0	5.2	5.8	8.0	7.6	6.0	6.3	7.4	7.3	2.9	8.0	3.9	24
11	6.2	6.1	8.0	6.5	5.3	4.8	7.3	6.9	5.7	4.2	4.4	3.9	8.4	7.7	7.1	6.5	8.4	9.4	5.4	5.9	4.3	4.0	5.1	5.9	3.9	9.4	4.5	24
12	6.8	3.8	3.1	3.9	3.1	1.9	2.4	5.6	6.5	10.0	13.2	14.3	14.8	18.2	20.0	18.5	20.5	19.7	13.1	14.7	8.0	3.5	7.6	4.4	1.9	20.5	8.6	24
13	8.6	7.7	7.7	6.9	4.5	5.7	10.5	14.6	15.9	12.2	10.3	15.1	13.2	12.7	10.3	11.2	10.8	8.7	3.4	2.4	2.4	1.5	2.9	4.2	1.5	15.9	7.5	24
14	4.0	4.5	3.1	2.4	1.1	2.8	5.2	7.3	8.3	6.0	4.3	7.0	8.9	12.1	9.8	10.5	12.3	6.0	8.7	7.9	5.3	5.0	6.2	9.2	1.1	12.3	4.2	24
15	8.1	6.1	6.0	1.6	0.8	1.3	4.3	7.0	7.5	6.1	1.7	1.8	6.9	8.0	7.8	6.1	12.6	6.9	8.9	6.5	4.9	4.9	5.5	5.6	0.8	12.6	4.2	24
16	3.1	3.3	4.1	5.3	2.6	3.2	4.4	6.5	9.6	10.8	9.7	8.3	8.4	6.3	6.6	9.9	7.9	1.5	1.7	2.9	2.5	1.1	0.4	4.2	0.4	10.8	3.4	24
17	1.6	0.5	2.8	0.9	0.3	0.7	1.0	4.7	4.5	4.7	1.4	1.2	4.1	4.9	4.6	0.1	2.3	3.4	3.3	3.5	3.5	0.8	0.4	2.2	0.1	4.9	0.4	24
18	2.3	2.6	3.7	2.4	1.3	3.5	3.5	5.2	7.7	6.9	7.3	8.7	6.7	10.0	8.7	9.4	11.1	10.8	10.8	8.6	4.0	2.3	5.8	9.0	1.3	11.1	6.0	24
19	8.6	5.2	3.2	3.5	4.4	4.8	5.9	7.4	5.1	2.7	2.8	4.2	3.6	3.1	3.6	3.5	1.4	2.6	0.6	2.5	2.8	1.3	1.5	2.7	0.6	8.6	3.3	24
20	2.0	1.9	3.5	6.1	4.9	6.5	5.5	6.7	2.9	3.9	4.1	4.2	3.1	4.1	1.8	2.2	4.1	2.8	7.1	6.8	8.9	5.3	5.6	3.5	1.8	8.9	1.4	24
21	7.4	5.1	6.1	5.8	6.2	6.2	5.6	6.7	6.2	7.1	6.9	8.4	9.5	8.5	9.1	8.8	8.3	8.6	7.4	5.1	1.8	2.0	1.3	2.8	1.3	9.5	5.6	24
22	2.2	2.8	4.2	4.8	2.9	4.6	6.8	6.7	7.6	10.0	9.6	8.7	9.1	9.9	8.6	7.3	7.7	6.9	4.5	2.6	2.0	1.3	2.3	3.9	1.3	10.0	4.3	24
23	3.8	3.1	1.2	0.7	1.0	2.1	2.1	2.1	2.1	1.8	5.4	11.6	11.7	10.6	8.5	12.4	8.2	8.5	7.2	9.3	6.5	5.5	6.7	9.6	0.7	12.4	5.4	24
24	6.3	3.7	2.8	5.5	5.3	7.3	6.3	5.5	6.0	3.1	4.8	7.2	6.8	7.1	5.5	3.6	9.2	19.5	10.9	6.1	3.4	1.1	1.3	1.9	1.1	19.5	1.0	24
25	4.1	3.5	0.3	2.8	1.7	0.8	2.4	6.1	5.6	7.0	5.1	8.4	9.7	8.4	10.1	10.0	12.0	11.0	7.7	5.8	0.3	1.0	5.0	10.1	0.3	12.0	5.3	24
26	13.2	10.4	9.0	5.8	4.8	8.4	9.0	10.2	12.5	12.0	12.3	15.2	14.9	12.8	12.4	11.5	12.4	13.2	13.9	7.7	5.0	2.8	4.2	7.2	2.8	15.2	8.4	24
27	7.9	6.6	7.1	8.0	6.3	5.8	6.6	8.1	7.9	11.6	11.6	11.7	11.8	10.9	10.4	10.2	9.3	10.1	8.4	6.6	7.0	5.1	4.3	3.9	3.9	11.8	7.8	24
28	5.0	5.3	3.2	6.5	3.9	3.4	6.2	8.0	4.5	7.8	11.7	15.2	14.4	15.3	15.3	14.8	15.1	13.5	13.2	15.0	13.7	11.6	7.1	8.0	3.2	15.3	8.2	24
29	8.8	6.5	4.7	7.2	4.1	2.5	5.2	8.4	8.0	9.6	8.8	8.5	7.3	8.1	6.8	4.1	7.4	6.6	5.0	5.0	3.3	1.6	1.5	0.9	0.9	9.6	5.0	24
30	1.3	2.7	2.3	2.3	4.2	3.4	3.2	2.8	4.8	5.6	5.4	3.5	4.5	3.7	7.0	4.9	8.0	6.9	8.5	4.0	4.7	6.2	0.9	1.6	0.9	8.5	3.0	24
31	2.6	2.9	2.2	2.9	3.5	2.9	4.8	9.2	12.3	14.4	14.2	10.6	9.8	14.5	12.0	9.1	4.8	7.2	6.6	10.0	8.8	6.7	7.1	7.1	2.2	14.5	7.2	24
HOURLY MAX	13.2	12.5	11.3	11.3	7.8	8.4	12.6	15.2	15.9	21.1	21.9	18.8	18.8	18.2	20.0	18.5	20.5	19.7	13.9	15.0	13.7	11.6	8.0	10.2				
HOURLY AVG	2.3	2.0	1.8	1.6	1.6	1.9	2.0	1.8	1.8	2.7	3.0	3.6	4.3	4.9	4.3	4.2	5.1	4.7	3.7	2.8	1.5	1.4	1.2	2.0				

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

24 HR AVERAGES May 2018

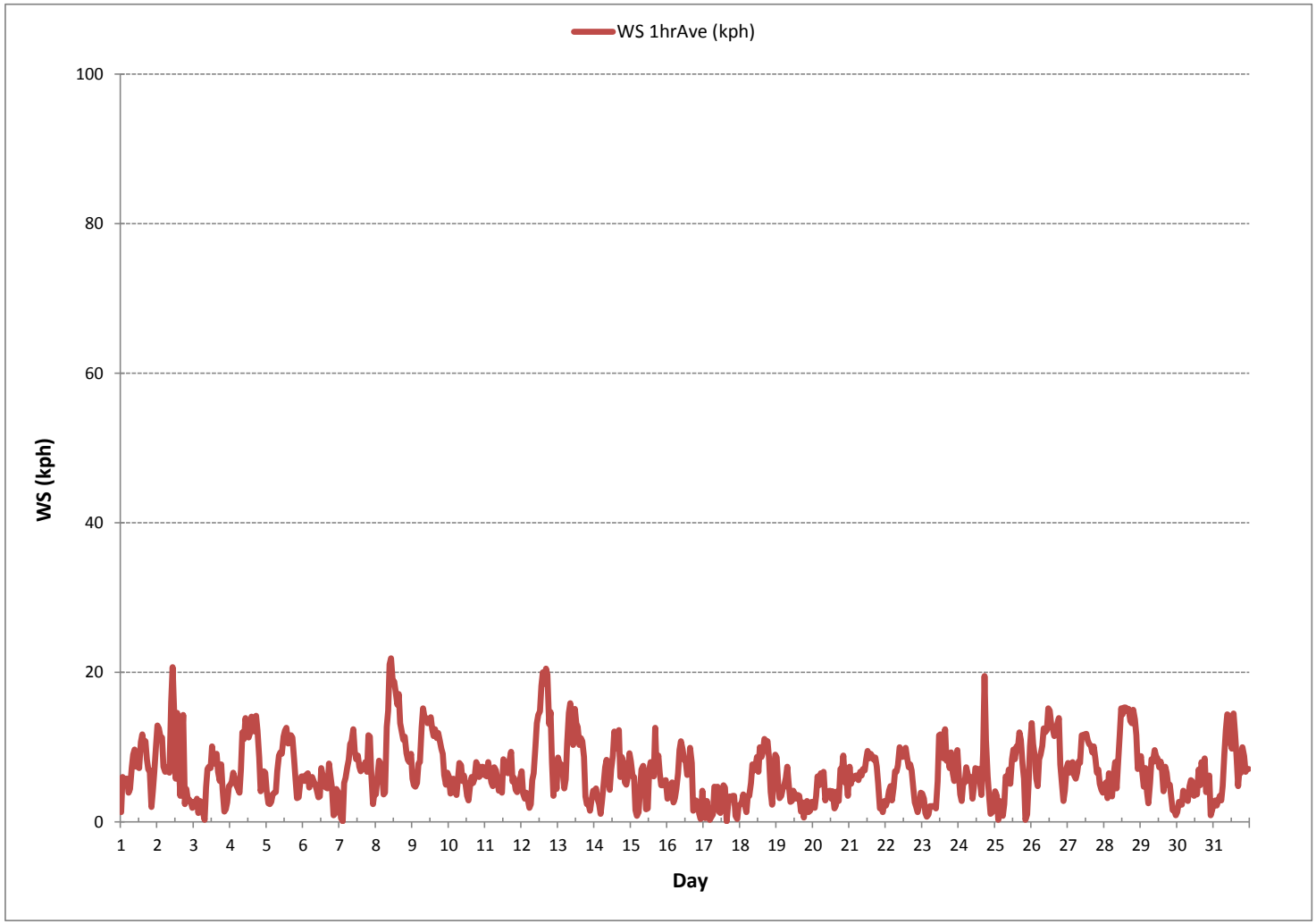


LAST CALIBRATION:	April 4, 2018
DECLINATION :	MAGNETIC DECLINATION 15 DEGREE EAST

MONTHLY SUMMARY

NUMBER OF NON-ZERO READINGS:		744					
MINIMUM 1-HR AVERAGE	0.1	kph	@ HOUR	2	ON DAY	7	
MAXIMUM 1-HR AVERAGE:	21.9	kph	@ HOUR	10	ON DAY	8	
MAXIMUM 24-HR AVERAGE:	9.7	kph			ON DAY	9	
			OPERATIONAL TIME:			744	hrs
MONTHLY CALIBRATION TIME:	0	hrs	AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	3.9		MONTHLY AVERAGE:			2.1	kph

WIND SPEED Hourly Averages (WS kph)



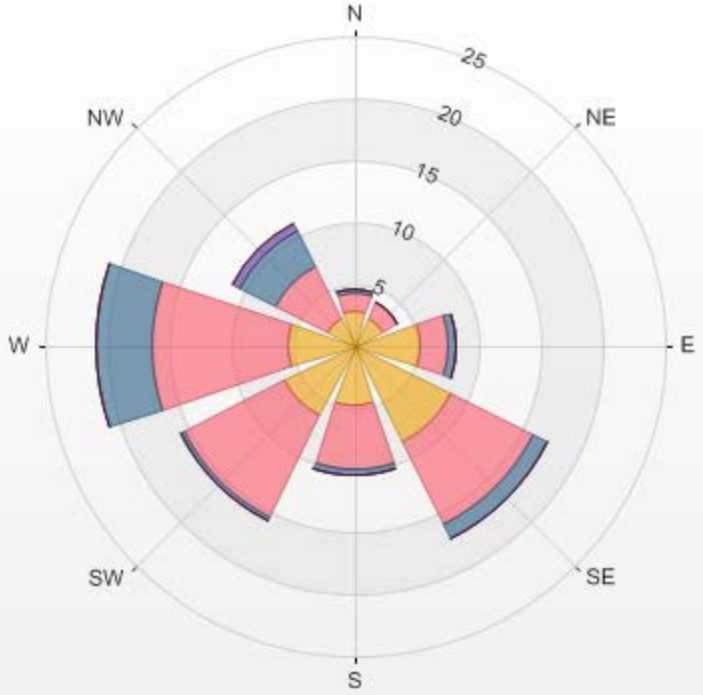
Wind: PRAMP_986
Monitor: WSP [kph]
Monthly: 18/05
Type: WindRose
Direction: Blowing From (Wind Frequency)
Based On 1 Hr.

Calm: 7.80%

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	2.8	1.5	0.3	0.0	0.0	0.0	4.6
NE	2.6	1.3	0.0	0.0	0.0	0.0	3.9
E	5.4	2.3	0.5	0.0	0.0	0.0	8.2
SE	8.7	7.4	1.3	0.0	0.0	0.0	17.5
S	4.8	5.1	0.5	0.0	0.0	0.0	10.5
SW	6.3	9.1	0.3	0.0	0.0	0.0	15.7
W	5.4	11.0	4.4	0.0	0.0	0.0	20.8
NW	2.6	4.7	3.2	0.5	0.0	0.0	11.0
Summary	38.6	42.5	10.6	0.5	0.0	0.0	92.2

%	Icon	Classes (kph)	39	1.8-6.0	42	6.0-12.0	11	12.0-20.0	1	20.0-29.0	0	29.0-39.0	0	>39.0

PRAMP_986 2018/05/01 00:00 - 2018/05/31 23:00 Calm: 7.80% Calm Wind Avg Speed: 1.12(kph)



WIND DIRECTION

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

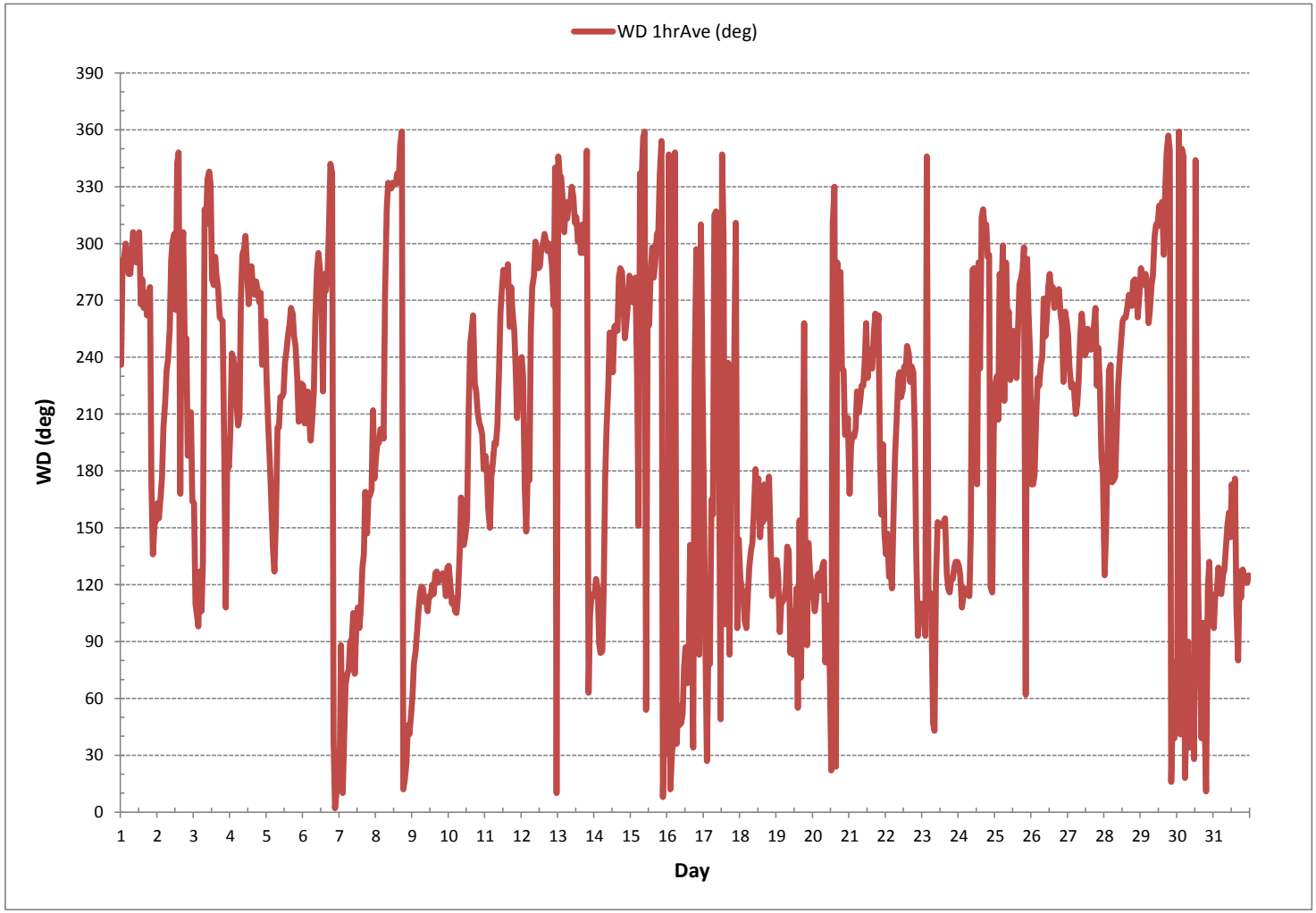
STATUS FLAG CODES

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

MONTHLY CALIBRATION TIME:	0	hrs	OPERATIONAL TIME:	744	hrs
STANDARD DEVIATION:	87		AMD OPERATION UPTIME:	100.0	%
			MONTHLY AVERAGE:	244 (WSW)	

WIND DIRECTION Hourly Averages (WD)



RELATIVE HUMIDITY

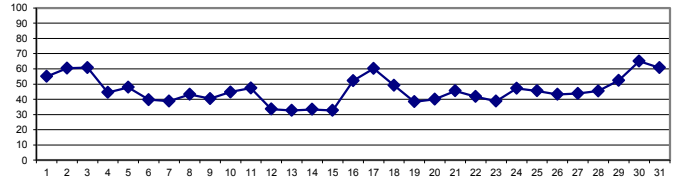
RELATIVE HUMIDITY Hourly Averages (RH %)

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	91	89	85	86	82	85	77	69	58	50	42	40	37	31	33	32	31	30	30	30	42	57	58	56	30	91	55	24
2	54	49	50	53	56	56	55	51	46	41	40	38	39	66	93	81	61	67	76	61	73	81	80	83	38	93	60	24
3	82	89	92	95	96	99	**100**	96	75	58	45	37	36	35	35	33	33	34	35	38	47	58	59	53	33	**100**	61	24
4	57	55	60	66	72	79	69	59	53	44	36	31	29	29	29	28	28	27	26	28	34	37	43	49	26	79	45	24
5	55	65	72	79	83	86	83	64	56	47	40	32	32	30	29	26	24	24	25	29	34	46	43	44	24	86	48	24
6	46	52	56	56	62	65	57	51	46	39	32	29	26	24	23	22	21	21	21	25	35	54	51	40	21	65	40	24
7	42	63	72	61	52	51	48	43	39	34	32	29	27	25	22	21	23	25	25	28	36	39	42	51	21	72	39	24
8	57	64	69	73	73	76	63	47	36	27	27	27	26	24	24	22	24	26	29	34	40	47	51	52	22	76	43	24
9	55	58	61	66	68	68	58	52	48	41	34	25	21	22	21	20	18	19	22	24	30	39	47	51	18	68	40	24
10	51	53	55	57	56	61	48	41	42	40	**13**	36	36	37	37	35	33	35	35	39	46	55	64	69	**13**	69	45	24
11	75	81	86	89	88	88	83	73	61	49	38	29	25	22	22	22	22	22	23	23	25	30	32	30	22	89	47	24
12	28	33	44	55	59	64	48	38	35	31	28	26	26	26	23	22	21	20	21	24	27	33	36	37	20	64	34	24
13	35	33	38	40	53	51	36	32	29	24	22	21	22	22	21	21	20	20	21	24	34	48	59	60	20	60	33	24
14	53	49	52	57	67	68	54	38	35	32	29	27	23	18	19	18	17	17	19	19	22	24	22	22	17	68	33	24
15	23	27	31	41	54	60	58	48	41	36	31	27	24	23	23	18	17	20	20	24	31	36	34	37	17	60	33	24
16	46	59	57	51	55	64	60	53	50	45	40	36	34	33	29	32	36	46	61	63	66	74	78	86	29	86	52	24
17	91	97	98	97	99	100	98	84	69	54	43	37	36	33	32	30	27	28	27	29	39	54	69	76	27	100	60	24
18	81	83	86	90	93	94	80	63	49	40	36	30	28	25	23	21	22	22	23	24	31	45	45	46	21	94	49	24
19	49	55	66	71	74	68	58	48	40	33	28	25	23	20	20	16	16	15	15	18	24	38	50	51	15	74	38	24
20	59	56	60	59	64	63	55	48	41	34	30	27	23	22	21	20	21	21	22	27	39	47	50	52	20	64	40	24
21	61	61	64	65	67	66	65	60	56	50	43	37	34	32	29	26	24	23	23	25	33	47	48	53	23	67	46	24
22	58	53	63	62	69	62	52	46	40	35	32	30	28	26	25	25	23	24	25	25	37	48	57	58	23	69	42	24
23	60	61	70	78	82	77	57	45	37	30	26	21	19	19	19	18	18	18	22	22	25	33	39	36	18	82	39	24
24	43	48	51	49	52	53	51	45	36	38	37	31	25	28	24	32	43	49	54	58	63	71	78	72	24	78	47	24
25	58	62	73	78	81	83	75	73	64	51	38	26	24	23	21	20	20	20	20	22	36	51	36	37	20	83	46	24
26	61	76	78	79	70	55	53	50	43	39	36	34	32	30	28	26	25	24	26	28	31	35	37	40	24	79	43	24
27	43	48	54	56	60	61	57	55	51	46	43	39	36	34	33	32	32	31	33	35	35	39	46	51	31	61	44	24
28	61	62	59	56	77	95	94	88	81	66	47	37	27	22	17	17	18	19	19	23	23	24	28	31	17	95	45	24
29	43	55	65	69	75	75	68	63	57	51	46	42	40	38	36	35	35	33	32	35	42	60	78	83	32	83	52	24
30	84	88	89	91	95	90	74	69	61	47	43	45	68	55	44	41	41	40	48	58	61	64	80	86	40	95	**65**	24
31	90	89	93	92	91	90	78	64	60	50	47	42	41	42	39	47	45	46	44	42	48	55	59	62	39	93	61	24
HOURLY MAX	91	97	98	97	99	100	100	96	81	66	47	45	68	66	93	81	61	67	76	63	73	81	80	86				
HOURLY AVG	58	62	66	68	72	73	65	57	50	42	36	32	31	30	29	28	27	28	30	32	38	47	52	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

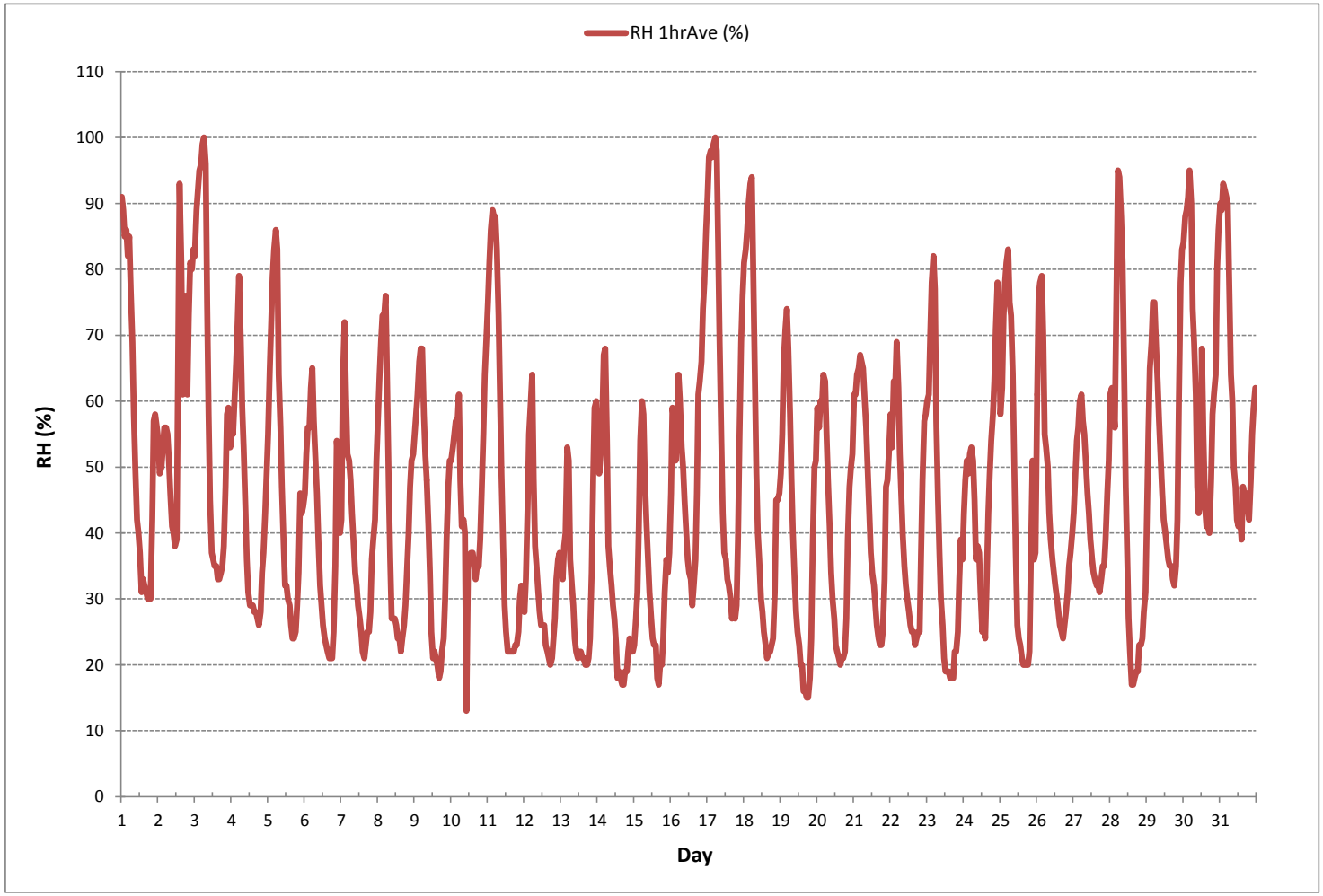
24 HR AVERAGES May 2018



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	13	%	@ HOUR	10	ON DAY	10	
MAXIMUM 1-HR AVERAGE:	100	%	@ HOUR	6	ON DAY	3	
MAXIMUM 24-HR AVERAGE:	65	%			ON DAY	30	
			OPERATIONAL TIME:			744	hrs
			AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	21		MONTHLY AVERAGE:			46	%

RELATIVE HUMIDITY Hourly Averages (RH %)



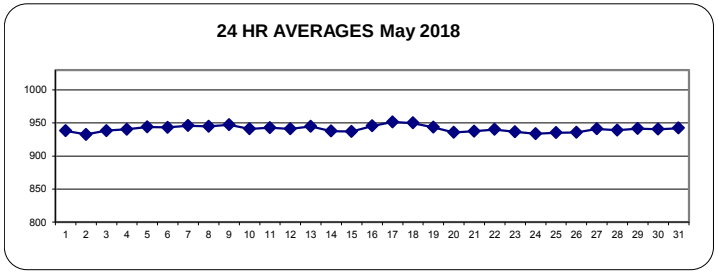
BAROMETRIC PRESSURE

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	937	937	937	938	938	939	939	940	940	940	940	940	939	939	939	939	938	938	937	937	937	936	936	935	935	940	938	24
2	935	934	933	932	932	931	931	931	931	931	931	931	**930**	931	933	933	933	934	934	934	934	934	934	934	**930**	935	933	24
3	935	935	935	935	935	936	937	938	938	939	940	940	940	940	940	940	940	940	940	939	939	939	939	939	935	940	938	24
4	939	939	939	939	939	939	940	940	940	941	941	941	941	941	941	941	940	940	940	940	941	941	941	942	939	942	940	24
5	942	943	943	944	944	944	944	945	945	945	945	945	945	945	944	944	944	943	943	943	943	942	943	943	942	945	944	24
6	943	943	943	943	943	943	944	944	944	944	944	944	943	943	943	943	942	942	942	942	942	943	943	944	942	944	943	24
7	944	945	945	946	947	947	948	949	949	949	949	948	948	947	947	946	945	944	944	943	943	943	942	942	942	949	946	24
8	941	941	941	940	940	941	941	942	943	944	944	945	945	946	946	946	947	947	948	948	949	949	949	950	940	950	945	24
9	950	950	951	951	951	951	951	950	950	949	949	948	947	947	946	945	944	944	944	943	943	943	942	942	942	951	947	24
10	942	941	941	941	941	941	941	941	941	941	941	940	940	940	940	940	940	940	940	941	941	941	942	942	940	942	941	24
11	943	943	943	943	943	943	944	944	944	944	944	944	944	943	943	943	942	942	942	942	941	941	941	941	941	944	943	24
12	941	941	941	941	941	942	942	943	943	942	942	942	941	941	940	940	940	939	939	939	939	940	941	942	939	943	941	24
13	943	943	944	944	944	945	946	946	947	947	947	947	947	946	946	945	945	944	944	944	943	943	943	943	943	947	945	24
14	942	942	942	942	941	940	940	940	939	939	939	938	938	937	937	936	935	934	934	933	933	934	934	934	933	942	938	24
15	934	934	934	935	935	935	936	937	937	938	938	938	938	938	938	937	937	937	937	938	938	939	940	940	934	940	937	24
16	940	941	942	943	943	944	944	944	945	945	945	945	946	946	946	946	947	947	947	948	948	949	949	949	940	949	945	24
17	949	950	950	950	950	951	951	951	**952**	952	952	952	952	952	952	952	952	952	952	952	952	952	952	952	949	**952**	**951**	24
18	952	952	952	952	952	952	952	952	952	952	951	951	950	950	949	948	948	947	947	947	947	947	947	947	947	952	950	24
19	947	947	946	946	946	946	946	946	946	945	945	945	944	944	943	942	941	941	940	940	940	940	939	939	939	947	944	24
20	938	938	938	937	937	937	937	937	937	936	936	936	935	935	935	934	934	934	934	934	934	935	935	935	934	938	936	24
21	936	936	936	936	936	937	937	937	937	938	938	938	938	938	938	937	937	938	938	938	938	938	939	939	936	939	937	24
22	939	940	940	940	940	941	942	942	942	942	942	941	941	941	940	940	939	939	939	939	939	939	938	938	938	942	940	24
23	938	938	939	938	939	938	939	939	938	938	938	937	937	936	936	935	934	934	934	934	934	934	934	934	934	939	936	24
24	934	934	933	933	933	933	933	933	933	933	933	933	933	933	932	933	933	934	934	934	935	935	935	935	932	935	934	24
25	935	935	936	936	936	937	937	937	937	937	937	937	936	936	935	935	934	934	933	933	933	932	933	934	932	937	935	24
26	935	934	934	935	935	935	935	935	935	935	935	935	935	935	935	935	936	936	937	937	937	937	938	939	934	939	936	24
27	939	939	940	940	941	941	942	942	942	942	942	942	942	942	942	942	941	941	941	941	941	941	941	940	939	942	941	24
28	940	940	940	940	939	939	939	939	938	938	938	938	938	938	938	938	938	938	938	938	939	939	940	940	938	940	939	24
29	941	941	941	942	942	942	942	942	943	943	942	942	942	942	942	941	941	941	941	941	941	941	941	941	941	943	942	24
30	941	941	941	941	941	941	941	941	941	941	941	940	940	940	940	940	939	939	940	940	941	941	941	941	939	941	941	24
31	941	941	941	942	942	942	942	943	943	943	943	943	942	942	942	942	942	942	941	941	942	942	942	942	941	943	942	24
HOURLY MAX	952	952	952	952	952	952	952	952	952	952	952	952	952	952	952	952	952	952	952	952	952	952	952	952				
HOURLY AVG	941	941	941	941	941	941	941	942	942	942	942	941	941	941	941	941	940	940	940	940	940	940	940	941				

STATUS FLAG CODES

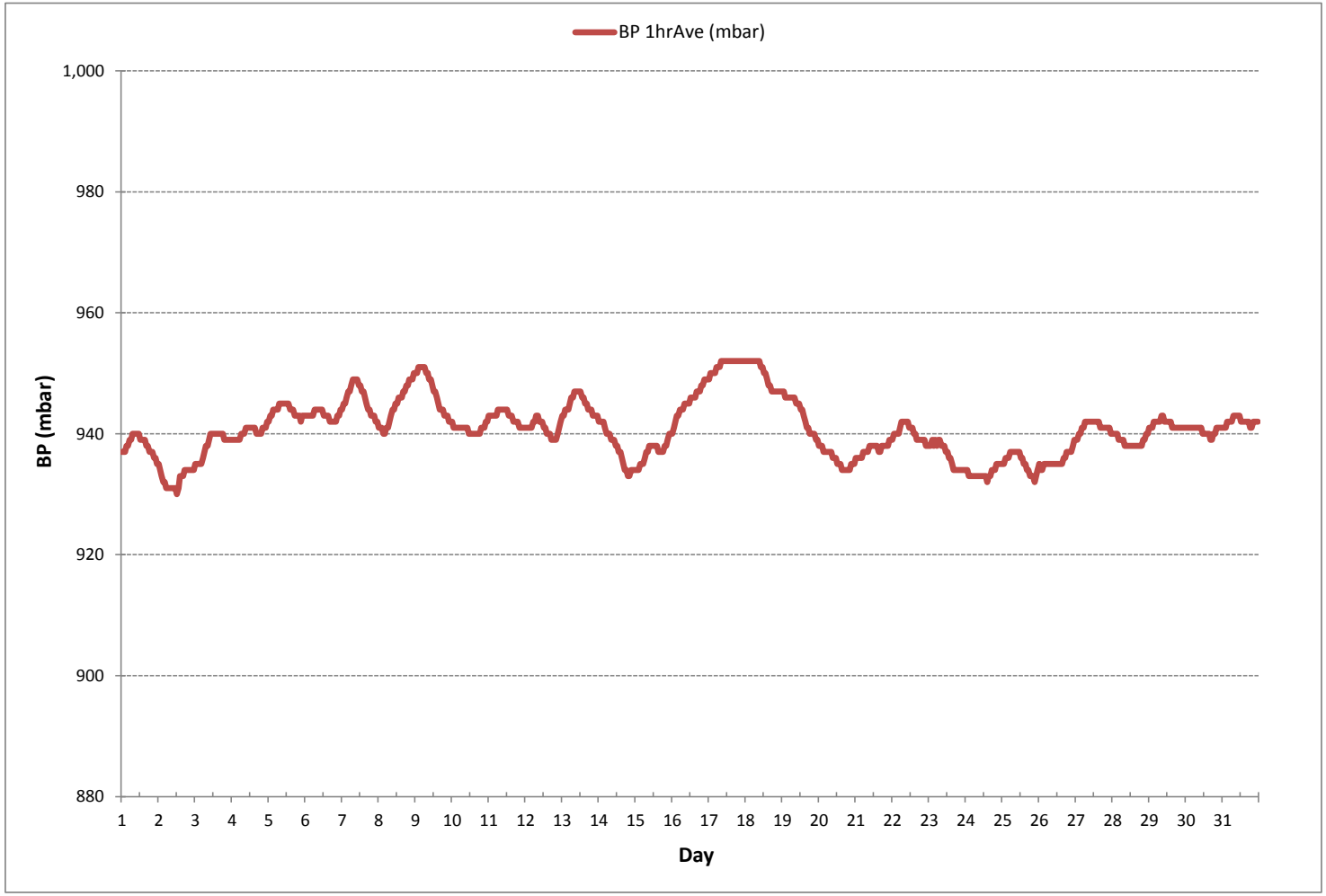
C	- MONTHLY CALIBRATION	Q	- QUALITY ASSURANCE
C1	- REPEAT CALIBRATION	R	- RECOVERY
Y	- MAINTENANCE	X	- MACHINE MALFUNCTION
S	- DAILY ZERO/SPAN CHECK	G	- OUT FOR REPAIR
S1	- REPEAT ZERO/SPAN CHECK	P	- POWER FAILURE



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	930	mbar	@ HOUR	12	ON DAY	2	
MAXIMUM 1-HR AVERAGE:	952	mbar	@ HOUR	8	ON DAY	17	
MAXIMUM 24-HR AVERAGE:	951	mbar			ON DAY	17	
			OPERATIONAL TIME:			744	hrs
			AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	5		MONTHLY AVERAGE:			941	mbar

BAROMETRIC PRESSURE Hourly Averages (BP mbar)



AMBIENT TEMPERATURE

Maxxam
A Bureau Veritas Group Company

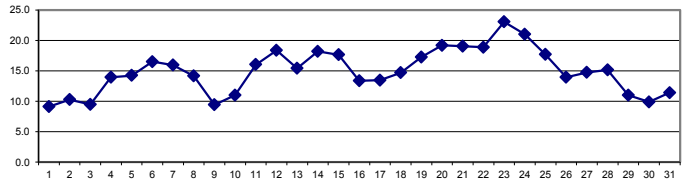
AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)

HR START (MST) / HR END (MST)	0:00 0:59	1:00 1:59	2:00 2:59	3:00 3:59	4:00 4:59	5:00 5:59	6:00 6:59	7:00 7:59	8:00 8:59	9:00 9:59	10:00 10:59	11:00 11:59	12:00 12:59	13:00 13:59	14:00 14:59	15:00 15:59	16:00 16:59	17:00 17:59	18:00 18:59	19:00 19:59	20:00 20:59	21:00 21:59	22:00 22:59	23:00 23:59	DAILY MIN.	DAILY MAX.	24-HR AVG.	RDGS.
DAY																											
1	4.9	5.6	5.0	4.0	3.9	3.1	5.3	7.3	8.4	9.9	11.4	12.0	12.4	13.7	13.6	14.1	14.0	13.9	13.8	13.4	9.7	6.1	6.2	6.9	3.1	14.1	9.1	24
2	7.8	8.5	8.4	8.4	8.5	8.9	9.5	10.6	12.1	13.9	14.9	15.6	15.7	10.9	7.3	10.6	12.6	10.9	9.6	11.0	8.7	7.5	7.5	7.1	7.1	15.7	10.3	24
3	6.7	4.9	4.3	3.2	2.1	2.5	3.8	5.4	8.7	10.1	11.7	13.2	13.4	13.6	13.4	14.1	14.4	14.0	14.0	13.1	11.2	9.6	9.7	10.6	2.1	14.4	9.5	24
4	10.1	10.9	10.0	8.5	7.1	5.9	8.7	10.5	11.8	13.6	15.4	16.4	17.4	17.3	17.7	18.9	18.9	19.2	19.2	18.2	16.1	15.4	14.4	13.0	5.9	19.2	13.9	24
5	10.9	8.8	7.0	5.4	4.6	4.3	6.5	10.6	12.6	14.9	16.9	19.0	19.1	19.6	20.4	20.9	21.2	21.5	21.1	19.6	16.7	12.7	13.7	13.6	4.3	21.5	14.2	24
6	13.2	11.7	11.0	10.9	9.2	8.4	11.1	13.1	14.4	16.3	18.7	20.4	20.8	22.5	22.9	23.6	24.1	23.9	23.6	21.2	17.3	12.4	12.0	13.4	8.4	24.1	16.5	24
7	12.3	7.6	6.6	8.7	10.4	10.4	11.0	12.3	13.2	14.8	16.2	18.6	20.2	21.6	22.7	24.2	22.7	21.5	21.6	20.8	18.2	17.1	16.2	13.8	6.6	24.2	15.9	24
8	12.1	11.8	11.8	11.0	10.4	9.5	12.1	14.8	16.9	18.3	18.8	19.2	19.4	19.2	19.1	19.1	18.1	17.0	15.3	13.1	10.7	8.7	7.1	6.3	6.3	19.4	14.2	24
9	5.1	4.2	3.3	2.2	2.1	2.4	4.4	6.3	7.4	9.1	10.3	12.3	13.5	14.4	15.6	16.8	17.0	16.9	16.5	15.3	12.3	8.6	5.9	4.7	2.1	17.0	9.4	24
10	4.3	3.4	2.8	2.3	2.2	2.0	6.0	10.0	12.1	13.7	Y	15.7	16.1	15.7	16.3	17.3	17.7	17.1	17.6	16.0	13.7	11.5	10.1	9.1	2.0	17.7	11.0	23
11	8.0	6.9	5.7	5.3	5.4	6.0	7.9	10.5	13.3	16.3	18.7	21.1	22.3	23.5	23.3	23.2	23.6	23.7	23.1	22.5	20.6	18.2	17.7	17.6	5.3	23.7	16.0	24
12	17.5	15.4	12.4	10.0	9.5	8.7	12.8	15.6	17.5	19.3	20.7	22.0	22.5	22.8	23.6	24.1	24.2	24.1	23.8	22.7	20.6	17.8	16.7	16.0	8.7	24.2	18.3	24
13	15.2	13.7	11.9	10.7	6.7	7.9	12.3	13.8	14.9	16.7	17.9	18.5	19.1	19.4	20.0	20.5	21.1	21.2	20.9	20.4	16.8	11.8	9.3	9.0	6.7	21.2	15.4	24
14	10.3	11.0	10.7	9.4	7.5	7.7	11.3	15.3	17.0	18.5	20.1	21.8	23.4	23.7	23.5	24.3	24.4	24.8	24.0	23.9	22.6	21.2	20.6	19.9	7.5	24.8	18.2	24
15	19.3	17.7	15.8	12.3	8.2	7.2	10.8	14.4	16.8	18.7	20.1	20.8	21.4	21.6	22.1	23.4	23.3	23.1	22.6	21.4	17.5	15.2	15.2	14.2	7.2	23.4	17.6	24
16	11.4	7.7	8.7	9.8	8.9	7.4	9.4	12.4	13.7	15.4	17.1	17.7	18.4	18.0	17.8	17.4	16.4	15.1	14.6	14.4	13.5	12.4	11.8	11.1	7.4	18.4	13.4	24
17	10.4	9.9	9.3	8.8	7.9	8.2	9.1	10.4	12.9	14.5	15.9	16.8	17.1	17.5	18.0	18.4	19.6	18.2	18.7	18.5	16.3	12.5	8.4	5.9	5.9	19.6	13.5	24
18	5.2	6.2	5.9	5.2	3.4	4.9	9.4	13.9	16.4	18.1	18.6	19.7	20.0	20.7	21.2	21.5	22.3	22.2	21.5	20.7	18.0	12.5	12.2	12.7	3.4	22.3	14.7	24
19	12.1	10.6	7.9	6.5	6.1	8.0	10.8	14.0	16.8	19.7	21.1	21.9	22.9	23.5	24.5	24.8	25.3	25.6	25.7	24.8	21.5	15.3	11.9	12.7	6.1	25.7	17.3	24
20	10.9	11.6	10.9	11.3	10.0	10.8	13.8	16.3	19.6	22.5	23.6	24.5	25.5	25.5	26.6	26.7	26.4	26.6	25.7	23.5	19.8	17.1	16.0	15.3	10.0	26.7	19.2	24
21	12.9	13.6	13.3	13.4	13.6	14.0	14.6	16.1	17.5	19.5	21.6	23.2	24.5	25.0	25.7	26.0	25.9	25.6	24.5	23.6	20.5	15.5	14.7	12.2	12.2	26.0	19.0	24
22	10.4	11.6	9.0	9.1	7.5	10.5	14.0	16.3	18.4	20.0	21.9	23.6	24.8	25.5	26.3	26.7	27.3	26.6	26.2	26.7	23.0	17.7	15.0	14.9	7.5	27.3	18.9	24
23	14.0	13.4	11.7	10.1	8.6	10.4	16.7	21.5	24.5	26.6	28.7	30.1	30.8	31.2	31.1	**31.6**	31.2	31.6	29.6	29.0	26.4	22.8	20.4	21.6	8.6	**31.6**	**23.1**	24
24	18.9	16.7	15.7	16.3	15.3	15.7	16.8	20.4	24.1	24.7	25.7	27.4	28.3	27.9	29.3	26.5	23.0	21.8	21.1	20.6	19.2	17.7	15.4	15.2	15.2	29.3	21.0	24
25	16.3	15.2	12.8	11.2	10.1	10.5	13.5	15.1	17.2	18.5	20.6	20.9	21.4	22.0	22.7	22.7	22.5	22.4	22.5	21.7	18.6	13.6	15.8	16.3	10.1	22.7	17.7	24
26	13.1	11.3	10.4	10.4	9.5	9.9	10.7	11.8	13.2	14.3	15.5	16.0	16.6	17.8	18.2	18.2	17.2	16.6	16.0	15.6	14.7	12.9	12.9	12.1	9.5	18.2	14.0	24
27	11.2	10.0	8.9	8.4	7.9	8.2	10.2	11.2	13.0	14.1	15.4	16.7	17.8	18.8	19.5	19.6	19.9	20.2	19.4	18.7	18.3	17.2	15.0	13.7	7.9	20.2	14.7	24
28	10.7	11.2	12.7	14.0	12.3	10.7	11.4	12.0	13.5	16.1	17.5	18.0	19.2	19.5	19.6	19.7	19.6	19.0	18.2	16.4	15.3	13.7	12.3	11.1	10.7	19.7	15.2	24
29	9.8	8.0	6.5	5.8	4.9	5.4	7.1	8.5	9.8	11.4	12.6	13.6	14.3	15.0	16.1	16.1	16.1	17.0	17.1	16.3	14.2	9.5	5.5	3.6	3.6	17.1	11.0	24
30	3.0	2.8	3.1	**1.7**	1.9	4.0	7.5	9.2	11.8	14.2	14.8	14.7	10.7	13.1	15.2	16.2	16.2	15.7	14.0	12.9	11.6	10.5	7.1	5.4	**1.7**	16.2	9.9	24
31	4.5	5.0	4.3	5.2	5.7	6.0	9.0	11.2	11.9	13.7	14.2	15.1	15.8	15.3	16.3	14.8	14.9	14.5	15.0	14.6	13.3	11.9	11.2	10.5	4.3	16.3	11.4	24
HOURLY MAX	19.3	17.7	15.8	16.3	15.3	15.7	16.8	21.5	24.5	26.6	28.7	30.1	30.8	31.2	31.1	31.6	31.2	31.6	29.6	29.0	26.4	22.8	20.6	21.6				
HOURLY AVG	10.7	9.9	9.0	8.4	7.5	7.7	10.2	12.6	14.6	16.4	17.9	18.9	19.5	19.9	20.3	20.7	20.7	20.4	19.9	19.1	16.7	13.8	12.5	11.9				

STATUS FLAG CODES

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

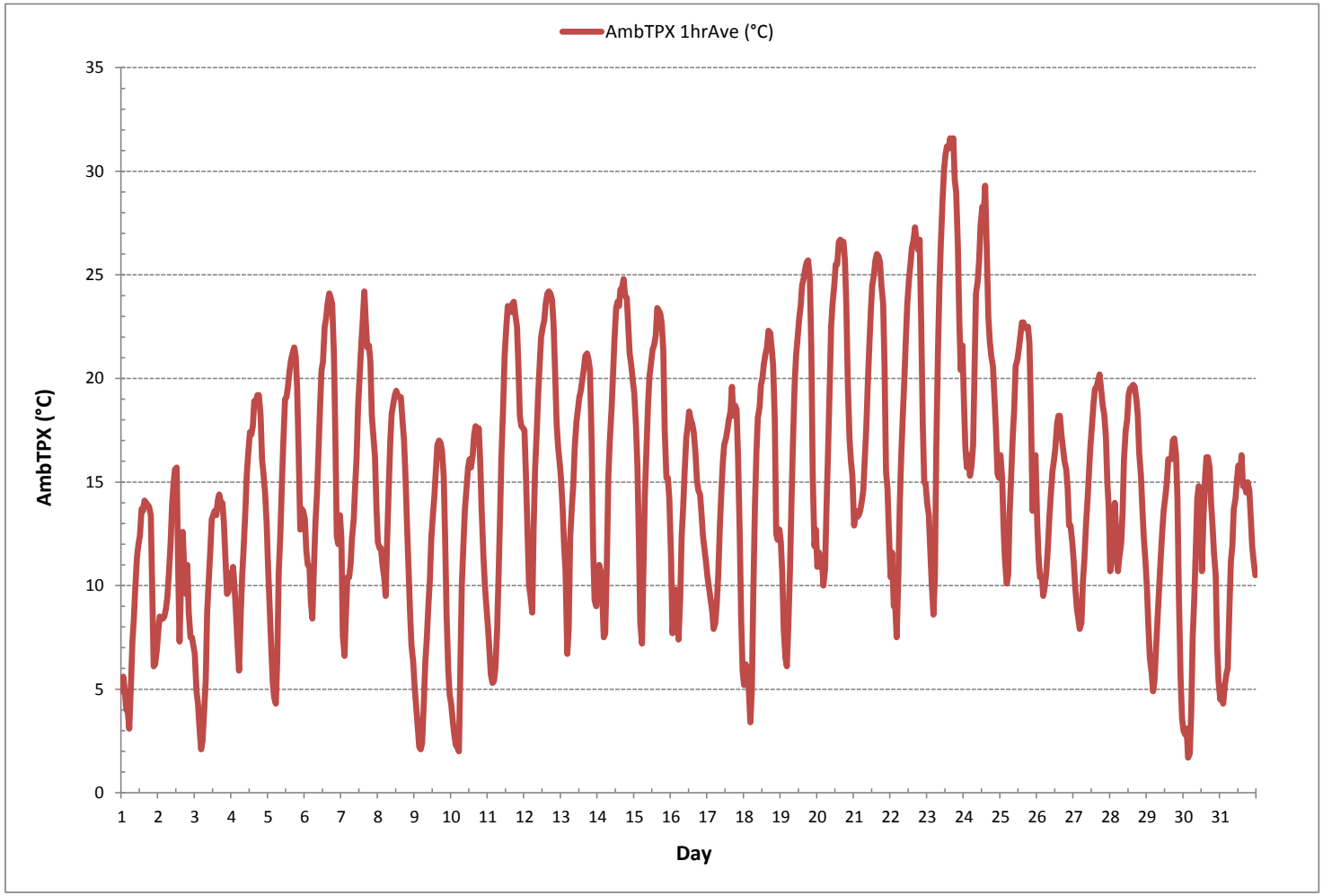
24 HR AVERAGES May 2018



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	1.7	°C	@ HOUR	3	ON DAY	30	
MAXIMUM 1-HR AVERAGE:	31.6	°C	@ HOUR	15	ON DAY	23	
MAXIMUM 24-HR AVERAGE:	23.1	°C			ON DAY	23	
			OPERATIONAL TIME:			743	hrs
			AMD OPERATION UPTIME:			99.9	%
STANDARD DEVIATION:	6.2		MONTHLY AVERAGE:			15.0	°C

AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)



STATION TEMPERATURE

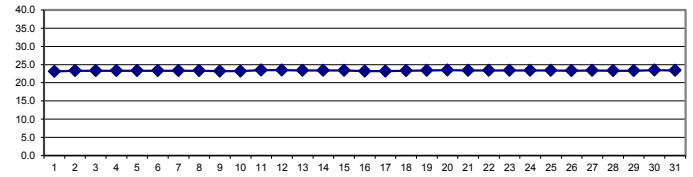
STATION TEMPERATURE Hourly Averages (StnTPX °C)

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	22.5	22.3	22.1	23.3	24.2	24.1	22.5	22.4	22.6	23.3	23.8	23.7	23.7	23.0	23.1	23.1	23.1	23.1	23.1	23.0	23.0	23.1	23.4	23.3	22.1	24.2	23.1	24
2	23.3	23.3	23.4	23.3	23.4	23.4	23.3	23.2	23.3	23.4	23.5	23.3	23.2	23.1	23.1	23.2	23.2	23.4	23.2	23.2	23.2	23.3	23.3	23.4	23.1	23.5	23.3	24
3	23.4	23.3	23.3	23.3	22.8	24.0	25.0	23.4	23.3	23.3	23.2	23.2	23.1	23.1	23.1	23.1	23.1	23.1	23.0	23.1	23.1	23.1	23.2	23.2	22.8	25.0	23.3	24
4	23.2	23.2	23.2	23.3	23.3	23.3	23.3	23.4	23.4	23.4	23.4	23.4	23.3	23.3	23.3	23.3	23.2	23.3	23.2	23.2	23.0	23.1	23.1	23.1	23.0	23.4	23.3	24
5	23.1	23.2	23.3	23.3	23.3	23.4	23.3	23.4	23.3	23.3	23.3	23.3	23.2	23.3	23.3	23.4	23.4	23.3	23.2	23.2	23.0	23.0	23.1	23.1	23.0	23.4	23.3	24
6	23.2	23.2	23.2	23.2	23.2	23.3	23.3	23.3	23.4	23.4	23.5	23.5	23.5	23.4	23.5	23.4	23.5	23.5	23.5	23.3	23.1	23.0	23.1	23.2	23.0	23.5	23.3	24
7	23.2	23.2	23.3	23.4	23.4	23.3	23.3	23.3	23.3	23.2	23.3	23.3	23.4	23.4	23.4	23.5	23.3	23.3	23.3	23.3	23.2	23.2	23.1	23.1	23.1	23.5	23.3	24
8	23.1	23.2	23.2	23.2	23.3	23.3	23.3	23.5	23.5	23.6	23.5	23.5	23.5	23.4	23.4	23.4	23.4	23.3	23.2	23.0	22.9	23.0	23.2	23.3	22.9	23.6	23.3	24
9	23.2	23.4	23.1	23.4	24.9	24.2	23.1	22.8	23.0	23.1	23.1	23.0	23.0	23.0	22.9	23.0	23.0	22.9	22.9	22.8	22.7	22.9	23.2	23.2	22.7	24.9	23.2	24
10	23.2	23.3	22.8	23.7	25.1	23.4	22.9	23.0	23.2	23.2	**21.8**	23.1	23.3	23.2	23.3	23.4	23.4	23.3	23.3	23.1	23.1	23.0	23.1	23.2	**21.8**	25.1	23.2	24
11	23.3	23.3	23.3	23.3	23.5	23.5	23.4	23.3	23.4	23.5	23.6	23.7	23.6	23.7	23.6	23.5	23.6	23.5	23.5	23.5	23.4	23.2	23.3	23.3	23.2	23.7	**23.5**	24
12	23.2	23.2	23.2	23.2	23.3	23.3	23.3	23.5	23.6	23.7	23.7	23.8	23.6	23.6	23.7	23.6	23.6	23.6	23.5	23.6	23.4	23.2	23.3	23.2	23.2	23.8	23.5	24
13	23.2	23.2	23.2	23.2	23.3	23.3	23.4	23.5	23.5	23.6	23.7	23.6	23.6	23.6	23.6	23.6	23.5	23.5	23.4	23.3	23.2	23.0	23.1	23.2	23.0	23.7	23.4	24
14	23.3	23.3	23.3	23.2	23.3	23.3	23.3	23.3	23.3	23.4	23.5	23.6	23.7	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.5	23.4	23.3	23.4	23.2	23.7	23.4	24
15	23.4	23.2	23.2	23.1	23.2	23.2	23.3	23.5	23.6	23.6	23.6	23.7	23.7	23.7	23.6	23.6	23.6	23.5	23.5	23.4	23.2	23.1	23.2	23.1	23.1	23.7	23.4	24
16	23.2	23.2	23.3	23.2	23.2	23.3	23.2	23.2	23.2	23.3	23.4	23.3	23.4	23.4	23.3	23.2	23.2	23.1	23.1	23.2	23.1	23.1	23.1	23.2	23.1	23.4	23.2	24
17	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.3	23.4	23.4	23.4	23.3	23.3	23.4	23.3	23.3	23.5	23.2	23.3	23.2	23.1	22.9	23.0	23.1	22.9	23.5	23.2	24
18	23.3	23.2	23.2	23.2	23.3	22.8	22.9	23.3	23.4	23.5	23.5	23.4	23.5	23.5	23.5	23.5	23.5	23.5	23.4	23.3	23.1	22.9	23.0	23.1	22.8	23.5	23.3	24
19	23.2	23.2	23.3	23.3	23.2	23.2	23.2	23.4	23.4	23.6	23.7	23.6	23.6	23.6	23.7	23.5	23.5	23.6	23.4	23.4	23.2	23.0	23.0	23.1	23.0	23.7	23.4	24
20	23.1	23.2	23.2	23.2	23.2	23.3	23.3	23.5	23.6	23.8	23.8	23.6	23.7	23.7	23.7	23.6	23.7	23.6	23.6	23.6	23.5	23.4	23.3	23.3	23.1	23.8	23.5	24
21	23.3	23.3	23.3	23.3	23.3	23.3	23.4	23.5	23.6	23.7	23.7	23.8	23.5	23.6	23.6	23.5	23.6	23.5	23.4	23.5	23.3	23.2	23.1	23.1	23.1	23.8	23.4	24
22	23.2	23.2	23.2	23.2	23.3	23.3	23.3	23.4	23.6	23.6	23.7	23.7	23.6	23.7	23.6	23.5	23.6	23.5	23.5	23.5	23.3	23.2	23.1	23.2	23.1	23.7	23.4	24
23	23.2	23.2	23.2	23.2	23.2	23.3	23.4	23.6	23.8	23.8	23.7	23.4	23.4	23.4	23.1	23.2	23.1	23.1	23.2	23.4	23.4	23.5	23.4	23.5	23.1	23.8	23.4	24
24	23.3	23.3	23.2	23.3	23.2	23.2	23.3	23.6	23.8	23.8	23.7	23.5	23.6	23.4	23.3	23.5	23.4	23.5	23.5	23.4	23.3	23.3	23.3	23.2	23.2	23.8	23.4	24
25	23.3	23.2	23.2	23.2	23.3	23.3	23.3	23.5	23.6	23.6	23.6	23.7	23.6	23.6	23.7	23.5	23.6	23.5	23.5	23.5	23.3	23.1	23.2	23.3	23.1	23.7	23.4	24
26	23.2	23.1	23.1	23.2	23.2	23.2	23.3	23.4	23.5	23.5	23.6	23.5	23.6	23.5	23.6	23.5	23.4	23.4	23.3	23.3	23.2	23.1	23.1	23.1	23.1	23.6	23.3	24
27	23.1	23.2	23.2	23.2	23.3	23.3	23.2	23.3	23.3	23.4	23.5	23.5	23.5	23.5	23.5	23.6	23.6	23.4	23.5	23.4	23.4	23.3	23.2	23.2	23.1	23.6	23.4	24
28	23.1	23.2	23.2	23.2	23.2	23.1	23.2	23.2	23.2	23.4	23.5	23.4	23.5	23.6	23.5	23.6	23.5	23.5	23.4	23.3	23.3	23.2	23.1	23.2	23.1	23.6	23.3	24
29	23.2	23.2	23.3	23.2	23.1	23.5	23.2	23.4	23.4	23.5	23.4	23.5	23.4	23.5	23.5	23.5	23.4	23.4	23.3	23.3	23.1	22.9	23.0	23.2	22.9	23.5	23.3	24
30	23.2	23.2	23.5	22.9	24.1	**25.5**	24.0	23.5	23.4	23.4	23.5	23.4	23.2	23.3	23.4	23.5	23.5	23.4	23.3	23.3	23.2	23.3	23.3	23.4	22.9	**25.5**	23.5	24
31	23.4	23.4	23.6	23.7	23.5	23.4	23.3	23.4	23.3	23.3	23.3	23.4	23.4	23.4	23.5	23.3	23.3	23.3	23.3	23.3	23.3	23.2	23.3	23.3	23.2	23.7	23.4	24
HOURLY MAX	23.4	23.4	23.6	23.7	25.1	25.5	25.0	23.6	23.8	23.8	23.8	23.8	23.7	23.7	23.7	23.6	23.7	23.6	23.6	23.6	23.5	23.5	23.4	23.5				
HOURLY AVG	23.2	23.2	23.2	23.3	23.4	23.4	23.3	23.3	23.4	23.5	23.5	23.5	23.5	23.4	23.4	23.4	23.4	23.4	23.3	23.3	23.2	23.1	23.2	23.2				

STATUS FLAG CODES

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

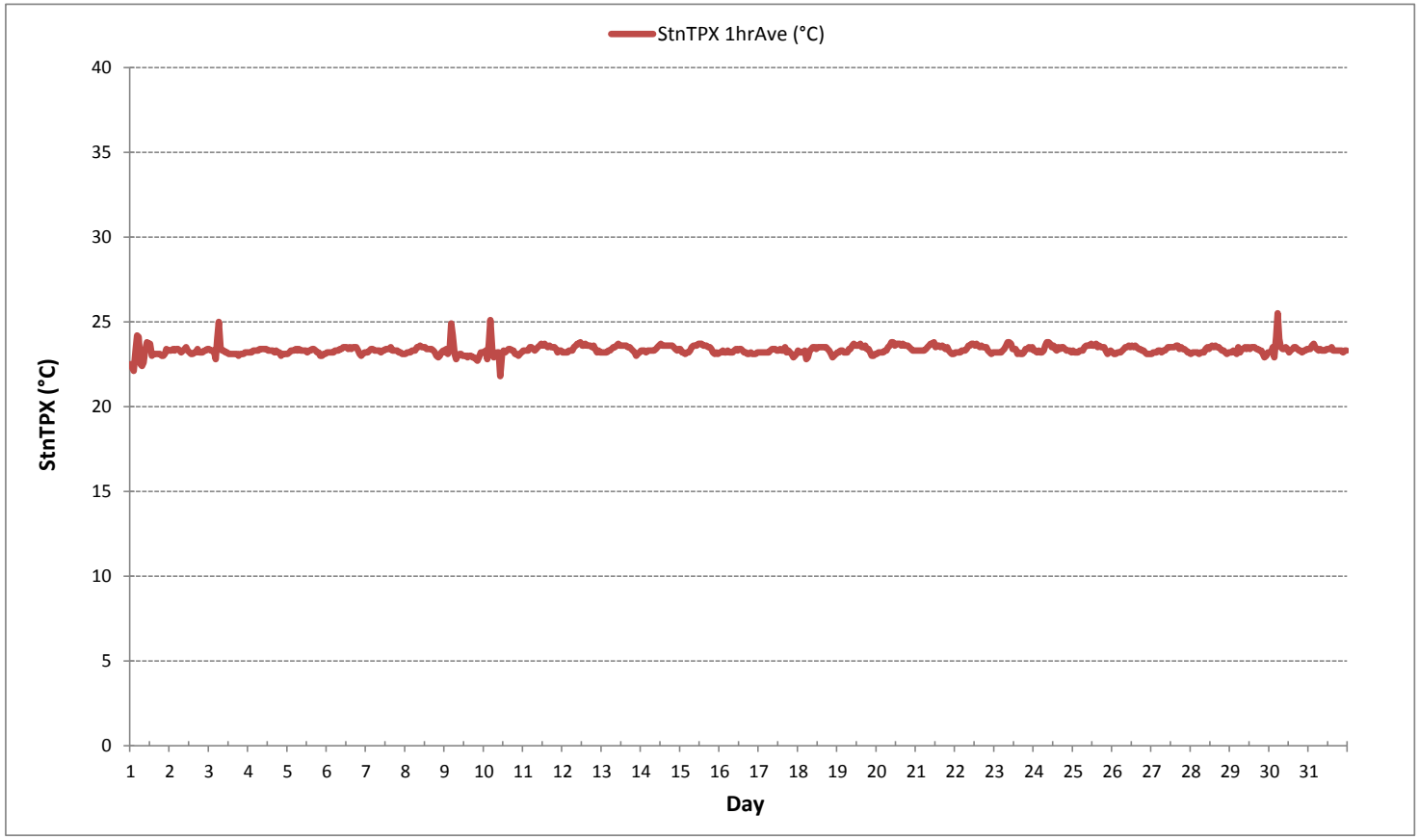
24 HR AVERAGES May 2018



MONTHLY SUMMARY

MINIMUM 1-HR AVERAGE:	21.8	°C	@ HOUR	10	ON DAY	10	
MAXIMUM 1-HR AVERAGE:	25.5	°C	@ HOUR	5	ON DAY	30	
MAXIMUM 24-HR AVERAGE:	23.5	°C			ON DAY	11	
			OPERATIONAL TIME:			744	hrs
			AMD OPERATION UPTIME:			100.0	%
STANDARD DEVIATION:	0.3		MONTHLY AVERAGE:			23.3	°C

STATION TEMPERATURE Hourly Averages (StnTPX °C)



APPENDIX II
EQUIPMENT CALIBRATION RESULTS

SULPHUR DIOXIDE

Thermo 43C Sulphur Dioxide Analyzer Calibration

Date:	May 1, 2018	**Barometer/B.P./units:**	Brunton 05535 expires December 15, 2018	27.80	inHg
Company/Airshed:	PRAMP	**Thermometer/Station Temp:**	F.S. 160348895 expires March 29, 2019	22.9	°C
Location/Station Name:	986B	**Weather Conditions:**	Mainly sunny		
Parameter:	Sulphur Dioxide	**Calibration Purpose:**	routine monthly		
Start Time 24 hr. (mst):	7:53	**Performed By/Reviewer:**	Limin Li	Rob Fisher	
End Time 24 hr. (mst):	11:30	**Cal Gas Expiry Date:**	December 3, 2019		
Calibration Method:	Gas Dilution	**Converter Model & s/n (if applicable):**	n/a		

Analyzer:

Serial Number/Owner:	43C-62339-335 Maxxam	**Range ppb:**	500
Last Calibration Date:	April 10, 2018	**As Found C.F.:**	1.056
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

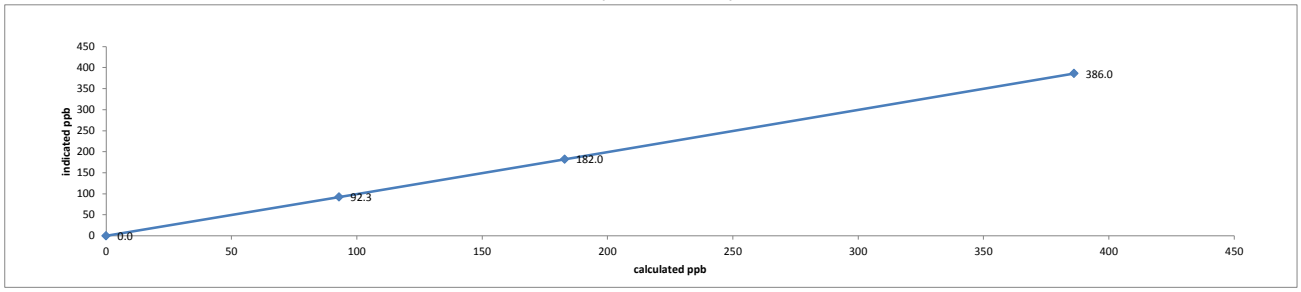
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	**Diluent**	**Cal Gas**	**Total**	**Concentration (ppb):**		
as found zero	5888	0.00	5888	0.0	2.2	n/a
as found high	5847	45.41	5892	386.1	368.0	1.056
adjusted zero	5888	0.00	5888	0.0	0.0	n/a
adjusted high	5847	45.41	5892	386.1	386.0	1.000
mid	5905	21.64	5927	182.9	182.0	1.005
low	5918	11.00	5929	92.9	92.3	1.007
calibrator zero	5929	0.00	5929	0.0	0.0	n/a
					Average C.F.=	1.004

Linear Regression/Calibration Results:

		LIMITS
Correlation Coefficient =	**1.000**	**> or = 0.995**
Slope =	**1.000**	**0.95-1.05**
b (Intercept as % of full scale)=	**0.09%**	**± 3% F.S.**
% change in C.F. from last cal=	**-5.56%**	**± 10%**

Thermo 43C Sulphur Dioxide Analyzer Calibration



As found:		**As left:**	
Bkg:	78.2	Bkg:	84.5
Coef:	0.867	Coef:	0.914
Pmt:	-654V	Pmt:	-654V
0	853 V	0	852 V
Battery:	3.3 V	Battery:	3.3 V
Internal:	28.5 °C	Internal:	29.6 °C
Chamber:	45.3 °C	Chamber:	45.3 °C
Pressure:	417.9 mmHg	Pressure:	420.1 mmHg
Flow:	0.737 LPM	Flow:	0.739 LPM
Intensity:	37814 Hz	Intensity:	38290 Hz
Averaging Time:	120 Sec	Averaging Time:	120 Sec
Expected Value:	231.0	Expected Value:	247.1

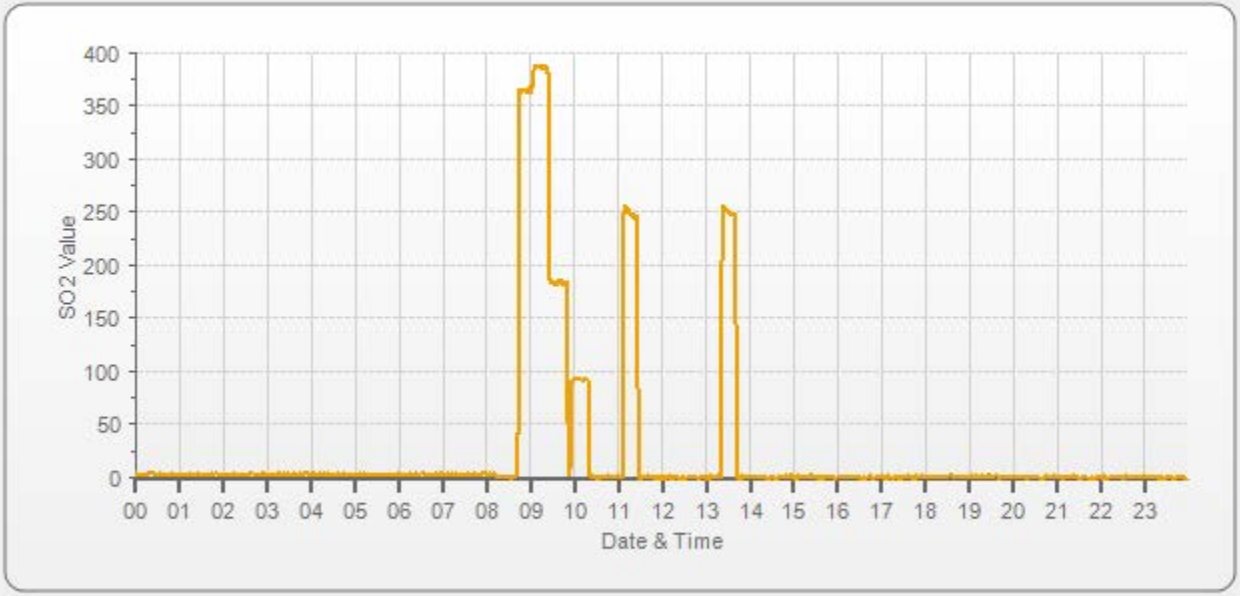
Comments:

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_986 Daily: 18/05/01 Type: AVG 1 Min. [1 Min.]



TOTAL REDUCED SULPHUR

Thermo 43I-TLE Total Reduced Sulphur Analyzer Calibration

Date:	May 1, 2018	**Barometer/B.P./units:**	Brunton 05535 expires December 15, 2018	27.80	inHg
Company/Airshed:	PRAMP	**Thermometer/Station Temp:**	F.S. 160348895 expires March 29, 2019	22.9	°C
Location/Station Name:	986B	**Weather Conditions:**	Mainly sunny		
Parameter:	Total Reduced Sulphur	**Calibration Purpose:**	routine monthly		
Start Time 24 hr. (mst):	7:53	**Performed By/Reviewer:**	Limin Li	Rob Fisher	
End Time 24 hr. (mst):	11:30	**Cal Gas Expiry Date:**	August 23, 2020		
Calibration Method:	Gas Dilution	**Converter Model & s/n (if applicable):**	CD-Nova CDN101#516		

Analyzer:

Serial Number/Owner:	1152940011	Maxxam	**Range ppb:**	100
Last Calibration Date:	April 10, 2018		**As Found C.F.:**	0.986
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:	Environics id# 1991 expires March 15, 2019
Cal Gas Cylinder I.D. # :	LL119500
Cal Gas Conc. (ppm):	9.8

Standard Calibration Points for Ranges

Point	ppb
High	78
Mid	38
Low	19

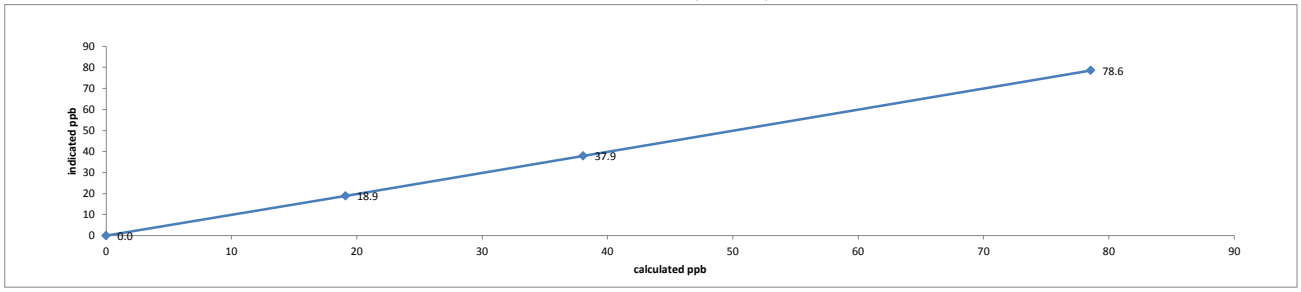
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

Calibrator Flow Rates (cc/min)				Calculated	Indicated Concentration (ppb):	Correction Factors (C.F.):
Point	**Diluent**	**Cal Gas**	**Total**	**Concentration (ppb):**		
as found zero	7498	0.00	7498	0.0	-0.1	n/a
as found high	7437	60.10	7497	78.6	79.5	0.986
adjusted zero	7498	0.00	7498	0.0	0.0	n/a
adjusted high	7437	60.10	7497	78.6	78.6	1.000
mid	7468	29.12	7497	38.1	37.9	1.004
low	7487	14.62	7502	19.1	18.9	1.010
calibrator zero	7497	0.00	7497	0.0	0.3	n/a
					Average C.F.=	1.005

Linear Regression/Calibration Results:

		LIMITS
Correlation Coefficient =	**1.000**	**> or = 0.995**
Slope =	**0.999**	**0.95-1.05**
b (Intercept as % of full scale)=	**0.12%**	**± 3% F.S.**
% change in C.F. from last cal=	**1.35%**	**± 10%**

Thermo 43I-TLE Total Reduced Sulphur Analyzer Calibration



	As found:		As left:
Bkg:	2.12	Bkg:	1.95
Coef:	0.964	Coef:	0.951
Pmt:	-690.4 V	Pmt:	-690.4 V
Flash:	965 V	Flash:	967 V
Internal:	34.1 °C	Internal:	34.8 °C
Chamber:	45.1 °C	Chamber:	45.1 °C
Perm Oven Gas:	45.0 °C	Perm Oven Gas:	45.0 °C
Perm Oven Heater:	44.24 °C	Perm Oven Heater:	44.24 °C
Pressure:	648.9 mmHg	Pressure:	652.3 mmHg
Sample Flow:	0.475 L/Min	Sample Flow:	0.477 L/Min
Lamp Intensity:	91 %	Lamp Intensity:	91 %
Converter:	820 °C	Converter:	820 °C
Converter Set:	820 °C	Converter Set:	820 °C
Averaging Time:	120 SEC	Averaging Time:	120 SEC
Expected Value:	40.8	Expected Value:	42.6

Comments:

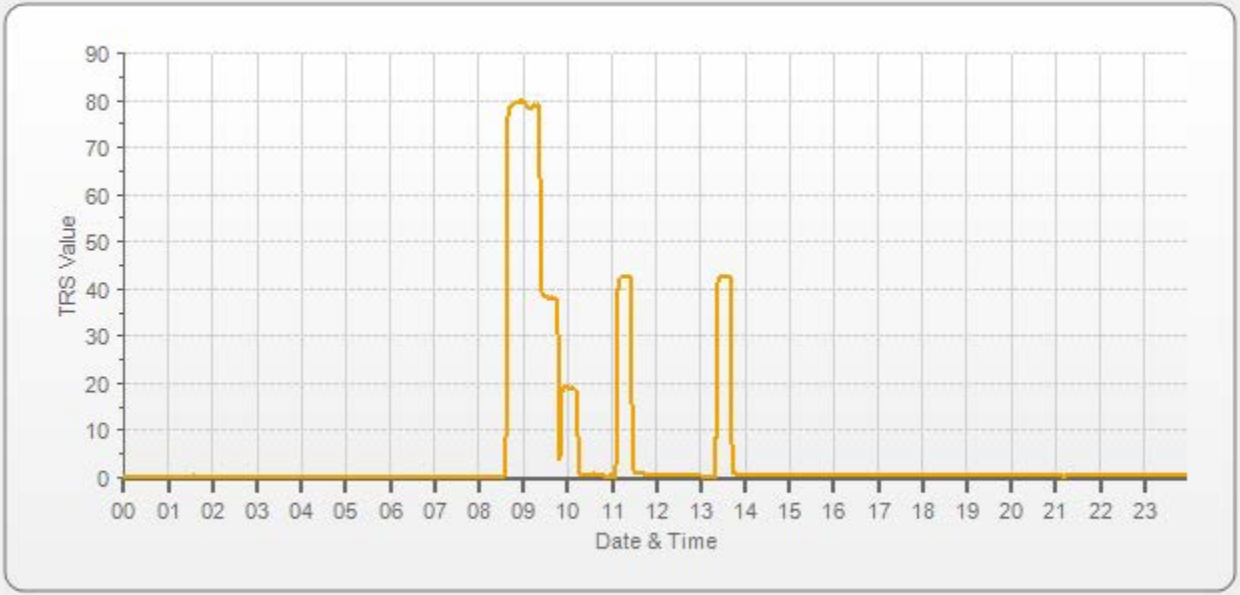
The analyzer sample inlet filter was changed.

The analyzer cooling fan filter(s) were cleaned.

The manifold blower was found to be working normally.

The scrubber check was performed on April 30th, 2018.

TRS[ppb] Station: PRAMP_986 Daily: 18/05/01 Type: AVG 1 Min. [1 Min.]



TOTAL HYDROCARBON

Thermo 55i Methane/Non-Methane Analyzer Calibration

Date:	May 1, 2017	**Barometer/B.P./units:**	Brunton 05535 expires December 15, 2018	27.81	inHg
Company/Airshed:	PRAMP	**Thermometer/Station Temp:**	F.S. 160348895 expires March 29, 2019	22.9	°C
Location/Station Name:	986B	**Weather Conditions:**	Mainly sunny		
Parameter:	CH4 / NMHC / THC	**Calibration Purpose:**	routine monthly		
Start/End Time 24 hr. (mst):	10:30/13:44	**Performed By/Reviewer:**	Limin Li	Rob Fisher	
Calibration Method:	Gas Dilution	**Cal Gas Expiry Date:**	October 18, 2025		

Analyzer:

Serial Number/Owner:	1022143392	Maxxam	**Correction Factors:**		
Measured Flow:	960 SCCM		**Previous C.F.:**	**As Found C.F.:**	**New C.F.:**
Last Calibration Date:	April 10, 2018	**CH_4 =**	0.999	1.016	0.999
Range ppm:	20 CH4/20 NMHC/40 THC	**NMHC =**	1.003	1.018	0.996
		THC =	1.001	1.017	0.998

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:	Environics id# 1991 expires March 15, 2019		
Cal Gas Cylinder I.D. # :	LL168404		
CH4 Cylinder Conc.=	597.0	206.0	**=C_3H_8 Cylinder Conc.**
CH_4 expressed as C_3H_8=	566.5	1163.5	**=total CH4 equivalent**

Standard Calibration Points for Analyzer Range of 20/20/40 ppm

Point	CH4	NMHC	THC
High	13.00	13.00	26.00
Mid	7.00	7.00	14.00
Low	3.00	3.00	6.00

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

Calibrator Flow Rates (cc/min)										Correction Factors:		
Point	**Diluent**	**Cal Gas**	**Total Flow**	**Calculated CH_4 (ppm)**	**Calculated NMHC (ppm)**	**Calculated THC (ppm)**	**Indicated CH_4 (ppm)**	**Indicated NMHC (ppm)**	**Indicated THC (ppm)**	**CH_4**	**NMHC**	**THC**
as found zero	2494	0.00	2494	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
as found high	2432	60.22	2492	14.43	13.69	28.12	14.20	13.45	27.65	1.016	1.018	1.017
adjusted zero	2494	0.00	2494	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
adjusted high	2432	60.22	2492	14.43	13.69	28.12	14.44	13.74	28.18	0.999	0.996	0.998
mid	2464	30.03	2494	7.19	6.82	14.01	7.25	6.86	14.11	0.992	0.994	0.993
low	2479	15.04	2494	3.60	3.42	7.02	3.64	3.43	7.04	0.989	0.996	0.997
calibrator zero	2494	0.00	2494	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a
									Average C.F.=	0.993	0.996	0.996

Linear Regression/Calibration Results:

	CH_4	NMHC	THC	LIMITS
Correlation Coefficient =	1.000	1.000	1.000	> or = 0.995
Slope =	1.000	1.004	1.002	0.95-1.05
b (Intercept as % of full scale)=	0.13%	0.02%	0.04%	± 3% F.S.
% change in C.F. from last cal=	-1.70%	-1.48%	-1.59%	± 10%

As Left Instrument Diagnostics:

Interface Board Voltages:	Bias Supply:	-311.8 V	Calibration History cnt'd:	NM Peak Area:	70049
Temperatures:	Detector Oven:	175.0 °C	Crucial Settings:	Methane Start:	n/a
	Filter:	175.0 °C		Methane End:	n/a
	Column Oven:	75.0 °C		Backflush:	n/a
	Internal:	37.3 °C		NMHV Start:	n/a
Cylinder Pressures/reg.:	Carrier:	2000 50		NMHC End:	n/a
	Fuel:	1350 50	Run History>1:	Date:	01MAY18
	Span Gas:	1650 28		Time:	10:00
	Zero Air Generator:	45 PSI		CH_4 PK HT:	2533
Internal Pressures:	Carrier:	31.4 PSI		CH_4 RT:	12.4
	Fuel:	40.5 PSI		CH_4 Baseline:	1712
	Air:	32.4 PSI		CH_4 LOD:	15
FID Status:	Status:	LIT		CH_4 SD:	5
	Counts:	19700		CH_4 CONC:	1.93
	Flame:	321.4 °C		NM PK HT:	0
	Det Base:	175.0 °C		NM Peak Area:	0
Flame and Power Stats:	Last Power On:	15Mar18 09:19		NM CONC:	0.00
	Flameouts:	1		NM Base Start:	1745
	Det Oven at Start:	169.3		NM Base End:	1738
	Col Oven at Start:	75.1		NM LOD:	9
Calibration History:	Time:	24Apr18 14:20		NM Start IDX:	12
	Type:	SPAN		NM End IDX:	40
	Status:	GOOD		NM Max Slope:	4.8e-01
	Check/Adjust:	ADJUST		NM Min Slope:	-4.8e-01
	CH_4 Span Conc:	14.57		NM PT Count:	0
	CH_4 SP Ratio:	0.000763	Expected Values:	Previous CH4:	10.26
	CH_4 RT:	12.4		Previous NMHC	11.11
	CH_4 PK IDX:	22		Previous THC:	21.37
	CH_4 PK HT:	19090		New CH4:	10.39
	NM Span Conc:	13.82		New NMHC	11.31
	NM SP Ratio:	0.000197		New THC:	21.71

Comments:

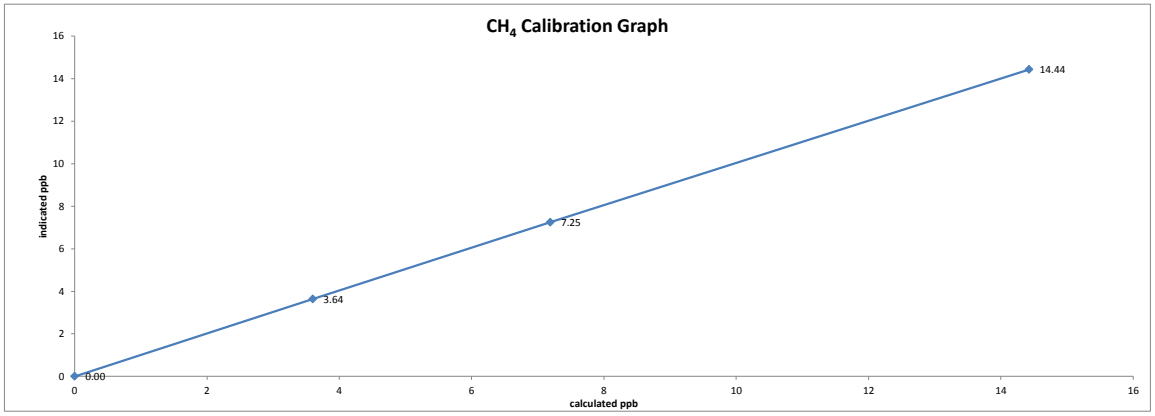
The analyzer sample inlet filter was changed.

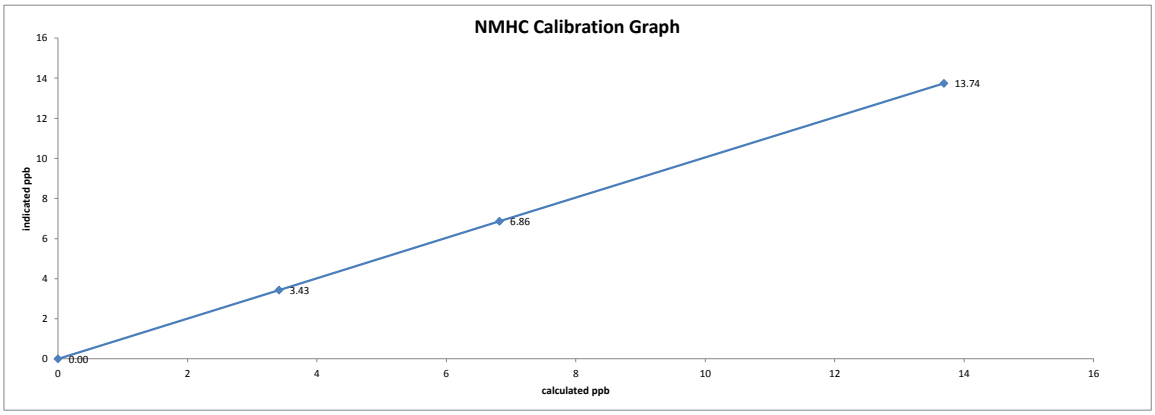
No zero adjustment was required/made. As found zero values were copied to adjusted zero values for linearity calculation purposes.

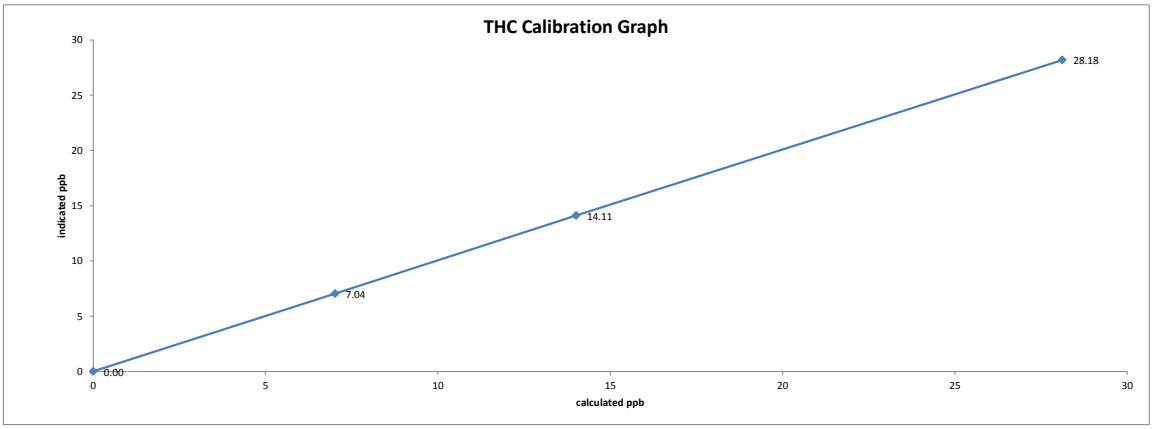
The analyzer cooling fan filter(s) were cleaned.

The manifold blower was found to be working normally.

Date:	May 1, 2017	Start/End Time 24 hr. (mst):	10:30/13:44
Company/Airshed:	PRAMP	Calibration Purpose:	routine monthly
Location/Station Name:	986B	Calibration Method:	Gas Dilution







Station: PRAMP_986 Daily: 18/05/01 Type: AVG 1 Min. [1 Min.]

WIND SYSTEM

Meteorological Sensor Audit/Calibration

Location Information

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

Wind Sensor Information

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

Wind Calibrator Information

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

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

RPM	Wind Speed Generated kph	Clockwise Wind Speed kph	Counter Clockwise Wind Speed kph	Correction Factor
0	0	0.1	0.1	-
1000	18.4	18.5	18.5	0.996
2000	36.9	36.9	36.9	1.001
3000	55.3	55.3	55.3	1.000
4000	73.7	73.7	73.7	1.000
5000	92.2	92.2	92.2	1.000
6000	110.6	110.7	110.7	0.999
7000	129.0	129.2	129.2	0.998
8000	147.4	147.7	147.7	0.998
9000	165.9	166.2	166.2	0.998
10000	184.3	184.8	184.8	0.997
		The audit meets AMD requirements.	**Average Correction Factor=**	**0.999**

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

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

Comments:

METEOROLOGICAL SYSTEMS CHECK

Meteorological System Checklist

Date:	May 1, 2018		
Technician:	Limin Li		
Reviewer:	Rob Fisher		
Station:	PRAMP 986B		
Unit:	**Make:**	**Model:**	**Serial #:**
Temperature Sensor:	RM Young	43172VC	61012322
Barometric Pressure Sensor:	MetOne	090D	F3845
AMBIENT TEMPERATURE SENSOR CHECK			
Previous check date:	April 10, 2018		
Parameter:	Temperature @ 2 metres (1 C tolerance)		
Reference Thermometer ID:	F.S. 160348895 expires April 8, 2018		
Reference Temperature (^{o}C):	8.6		
Station - Ambient Temperature (^{o}C):	9.5		
Temperature Difference (^{o}C):	-0.9		
BAROMETRIC PRESSURE SENSOR CHECK			
Previous check date:	April 10, 2018		
Reference Barometer ID:	Brunton 05535 expires December 15, 2018		
Reference Pressure - Units/Reading:	inHg	27.81	
Station Pressure - Units/Reading:	inHg	27.75	
Pressure Tolerance +/- 15% of error:	23.64 - 31.98	0.22%	

Meteorological System Checklist

Date:	May 10, 2018		
Technician:	Limin Li		
Reviewer:	Rob Fisher		
Station:	PRAMP 986B		
Unit:	**Make:**	**Model:**	**Serial #:**
Temperature Sensor:	RM Young	43172VC	61012322
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 (^{o}C):	14.5		
Station - Ambient Temperature (^{o}C):	14.2		
Temperature Difference (^{o}C):	0.3		

CALIBRATORS

Alberta Government

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2017-073A

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_3 Conc (LC)	NO Decrease	NO	NO2	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)*

NO_2		**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 Date: May 16, 2017

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

Calibrator Performance Audit

Oxides Of Nitrogen

File No. 2018-560A

Company: Maxxam **Operator:** Chris W

Calibrator:				**Flow Measurement Device:**	
Make/Model	Environics 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	NO2	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)*

NO_2		**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 **Audit Calibrator**		**NO_X Analyzer**	
Make/Model	Teco 146i	Make/Model	Teco 42i
Serial/AMU Number	AMU 1809	Serial/AMU Number	AMU 1868
SRM Gas Cylinder No.	APEX1170572	Last Calibration Date	March 14, 2018
Cylinder Conc. (ppm)	49.99	Full Scale (ppm)	1.0
		Cylinder Gas Expiry Date	November 2020

COMMENTS: Cylinder contains 47.9 ppm SO2.

Auditor: Al Clark Date: March 15, 2018

Operator Signature: Location: McIntyre Center Edmonton

CALIBRATION GASES

aemera.org

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	Gas Flow/	Concentration	Cylinder
Dilution	Gas	Concentration (PPM)	Dilution Flow	Factor	Concentration
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 [X] **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 Date: February 2, 2016

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

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	Gas Flow/	Concentration	Cylinder
Dilution	Gas	Concentration (PPM)	Dilution Flow	Factor	Concentration
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 [X]

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

Auditor: Al Clark Date: September 22, 2017

Operator Signature: Location: McIntyre Center Edmonton

Alberta Government

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:

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

Flow Measurement Device:

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

Reference Analyzer:

Make/Model	Teco 55i			Serial/AMU Number:	2108
Instrument Settings	Zero: N/A		Span: N/A	Range:	20.0
Last Calibration:	Date: Dec 12/17		C.F. 1.000	Done By:	Al Clark

Calibrator Flows (sccm)		Indicated Conc. (ppm)		Gas Flow/	Concentration	Cylinder Concentration	
Dilution	Gas	CH4	C3H8	Dilution Flow	Factor	CH4	C3H8
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**

	CH4	C3H8
Previous Stated Concentration PPM:	597	206
Percent variance from Stated:	**0**	**1**

Cylinder gas tolerances based on CH4 only

Meets Manufacturer Tolerance. Use manufacturers stated concentration [X] **COMMENTS:**

< =5% Outside Manufacturer Tolerance. Use manufacturers concentration [ ]

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

Auditor: Al Clark Date: December 13, 2017

Operator Signature: Location: McIntyre Center Edmonton

APPENDIX III
MAXIMUM INSTANTANEOUS DATA

Maxxam
A Bureau Veritas Group Company

SULPHUR DIOXIDE Instantaneous Maximum (SO_2 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	4	4	3	4	4	3	4	C	C	C	C	C	2	S	1	2	1	2	2	2	2	2	2	2	1	4	3	24
2	2	2	2	2	2	2	2	2	2	2	1	2	S	1	2	2	1	2	2	2	2	2	2	2	1	2	2	24
3	2	2	2	2	2	1	2	2	2	2	2	S	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	24
4	2	2	2	2	2	2	2	2	2	2	S	1	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	24
5	2	2	2	1	2	2	2	2	2	S	2	2	2	2	2	2	2	2	2	2	2	2	1	2	1	2	2	24
6	2	2	2	2	2	2	2	2	S	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	1	2	2	24
7	2	2	2	2	2	2	2	S	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	24
8	2	2	2	3	2	2	S	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	24
9	2	2	3	3	2	S	3	3	2	3	2	2	2	2	2	2	2	2	2	2	2	2	3	3	2	3	2	24
10	2	3	3	2	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	24
11	2	2	2	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	24
12	2	2	S	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	2	2	3	2	24
13	2	X	2	2	2	2	S	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	23
14	S	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	3	2	2	2	2	S	2	3	2	24
15	3	2	2	2	2	2	2	2	2	2	2	2	2	3	3	2	3	2	3	2	2	2	S	2	2	3	2	24
16	2	2	2	2	2	2	2	3	2	3	3	2	2	2	2	2	2	2	2	2	2	S	3	2	2	3	2	24
17	2	2	2	2	2	2	2	2	3	2	3	2	2	2	3	2	2	2	3	2	S	2	2	2	2	3	2	24
18	2	2	2	2	2	2	3	5	3	2	2	2	2	2	2	2	2	2	2	S	2	2	2	2	2	5	2	24
19	2	2	3	2	2	2	3	3	3	3	3	3	2	2	2	2	2	2	S	3	3	3	2	2	2	3	2	24
20	2	3	3	3	3	3	2	3	3	3	3	3	3	3	2	2	2	S	3	2	2	2	3	2	2	3	3	24
21	3	2	3	3	3	2	2	2	2	2	2	2	2	2	3	3	S	2	2	2	2	2	2	3	2	3	2	24
22	3	3	2	2	2	3	3	3	2	3	3	3	2	2	2	S	2	3	2	2	2	4	3	2	2	4	3	24
23	3	3	3	3	3	3	3	4	4	3	3	3	3	3	S	3	3	2	3	3	2	3	4	3	2	4	3	24
24	3	3	3	3	3	3	4	4	3	4	3	3	3	S	3	2	3	3	3	2	2	4	3	3	2	4	3	24
25	3	2	3	2	3	3	3	3	2	2	2	3	S	3	2	3	2	2	3	3	3	3	3	2	2	3	3	24
26	2	3	3	2	3	3	2	2	3	3	3	S	2	3	2	3	3	3	2	3	2	3	3	3	2	3	3	24
27	2	3	2	3	2	3	3	2	3	2	S	3	3	2	2	3	2	2	2	3	2	2	3	2	2	3	2	24
28	3	2	2	3	2	3	2	2	3	S	3	3	2	2	3	2	3	3	3	2	2	2	2	3	2	3	2	24
29	2	3	3	3	3	3	3	2	S	2	2	2	3	3	2	3	3	2	2	3	3	2	3	3	2	3	3	24
30	4	4	4	4	4	4	3	S	3	3	2	3	3	3	3	3	3	3	2	3	3	3	3	3	2	4	3	24
31	3	2	2	3	3	3	S	3	3	3	3	3	3	3	2	2	3	3	2	3	3	3	3	3	2	3	3	24
HOURLY MAX	4	4	4	4	4	4	4	5	4	4	3	3	3	3	3	3	3	3	3	3	3	4	4	3				
HOURLY AVG	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2				

STATUS FLAG CODES

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

MONTHLY SUMMARY

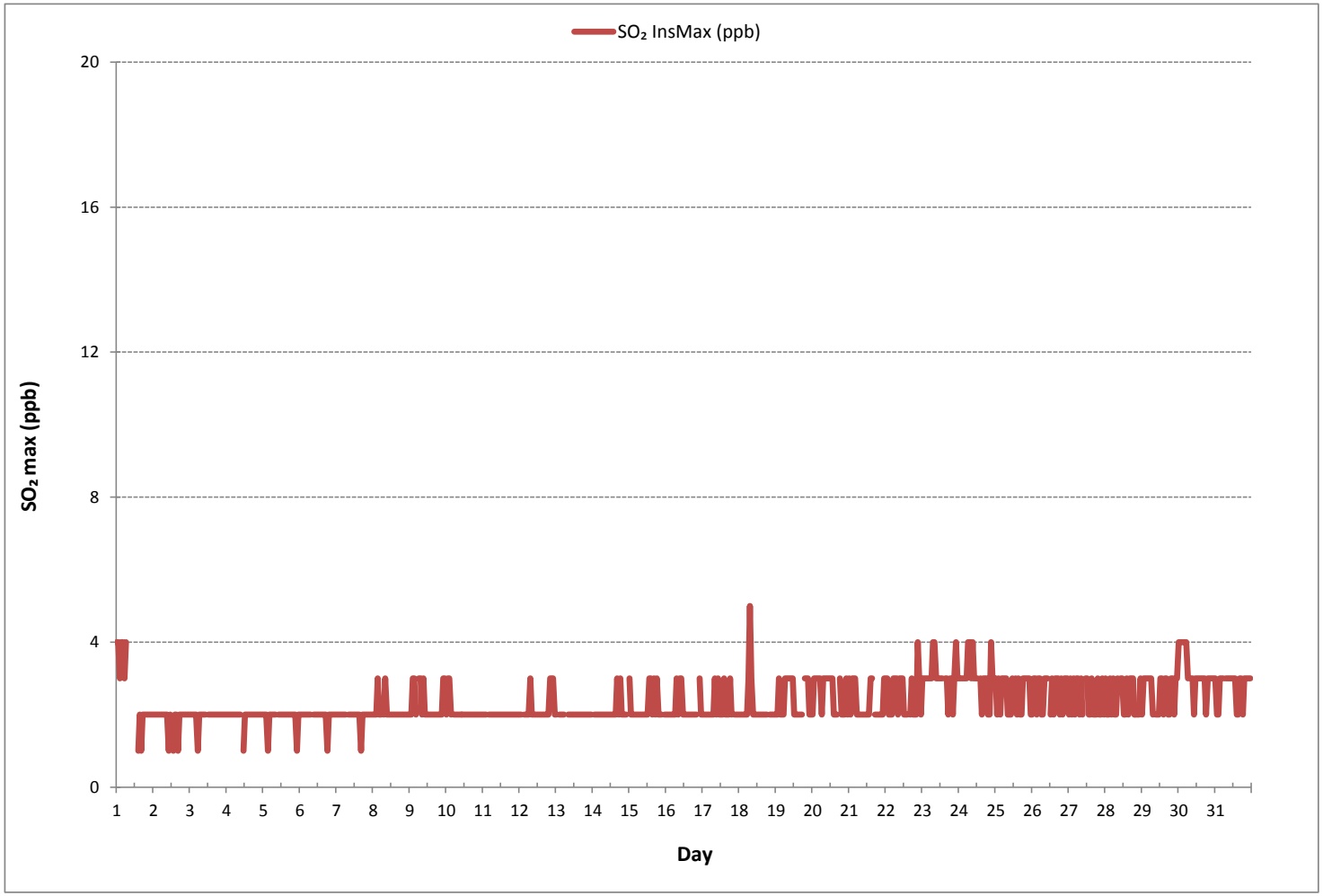
NUMBER OF NON-ZERO READINGS: 705

MAXIMUM INSTANTANEOUS VALUE: 5 ppb @ HOUR 7 ON DAY 18

IZS CALIBRATION TIME: 33 hrs
MONTHLY CALIBRATION TIME: 5 hrs
STANDARD DEVIATION: 1

OPERATIONAL TIME: 743 hrs

SULPHUR DIOXIDE Instantaneous Maximum (SO_2 ppb)



TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS ppb)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	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	0.27	0.26	0.23	0.24	0.27	0.24	0.27	C	C	C	C	C	0.53	S	0.58	0.48	0.43	0.37	0.42	0.40	0.40	0.37	0.45	0.45	0.23	0.58	0.37	24
2	0.42	0.37	0.37	0.40	0.40	0.40	0.40	0.40	0.37	0.45	0.37	0.40	S	0.50	0.40	0.41	0.41	0.45	0.37	0.36	0.42	0.42	0.37	0.34	0.34	0.50	0.40	24
3	0.34	0.39	0.39	0.39	0.41	0.40	0.42	0.42	0.42	0.39	0.37	S	0.42	0.39	0.41	0.37	0.40	0.34	0.33	0.34	0.41	0.44	0.44	0.36	0.33	0.44	0.39	24
4	0.39	0.36	0.36	0.31	0.34	0.34	0.39	0.37	0.39	0.35	S	0.45	0.35	0.37	0.37	0.37	0.40	0.35	0.37	0.37	0.40	0.37	0.36	0.39	0.31	0.45	0.37	24
5	0.39	0.37	0.42	0.39	0.42	0.44	0.47	0.50	0.41	S	0.47	0.40	0.37	0.37	0.37	0.37	0.37	0.35	0.35	0.35	0.37	0.37	0.39	0.39	0.35	0.50	0.40	24
6	0.37	0.44	0.44	0.42	0.44	0.39	0.42	0.39	S	0.48	0.40	0.42	0.35	0.35	0.37	0.37	0.37	0.35	0.38	0.35	0.47	0.65	0.65	0.50	0.35	0.65	0.42	24
7	0.44	0.52	0.99	0.55	0.55	0.65	0.68	S	0.65	1.99	**2.77**	2.34	0.50	0.69	0.47	0.37	0.40	0.37	0.34	0.37	0.37	0.37	0.37	0.44	0.34	**2.77**	0.75	24
8	0.42	0.44	0.44	0.42	0.42	0.39	S	0.50	0.40	0.40	0.34	0.37	0.37	0.32	0.34	0.34	0.37	0.40	0.37	0.45	0.39	0.37	0.37	0.42	0.32	0.50	0.39	24
9	0.42	0.44	0.55	0.52	0.77	S	0.79	0.66	0.57	0.57	0.47	0.37	0.39	0.37	0.39	0.37	0.37	0.37	0.34	0.36	0.39	0.39	0.39	0.37	0.34	0.79	0.46	24
10	0.39	0.42	0.39	0.39	S	0.50	0.44	0.42	0.42	0.44	0.44	0.44	0.42	0.42	0.42	0.42	0.40	0.40	0.38	0.40	0.42	0.47	0.47	0.44	0.38	0.50	0.42	24
11	0.60	0.50	0.52	S	0.57	0.47	0.50	0.47	0.50	0.52	0.42	0.37	0.37	0.37	0.32	0.35	0.40	0.37	0.37	0.32	0.35	0.36	0.37	0.37	0.32	0.60	0.42	24
12	0.34	0.37	S	0.63	0.76	0.76	0.50	0.39	0.40	0.35	0.35	0.33	0.35	0.37	0.35	0.35	0.33	0.32	0.35	0.35	0.43	0.44	0.45	0.39	0.32	0.76	0.42	24
13	0.34	X	0.39	0.37	0.42	0.44	S	S	0.35	0.37	0.37	0.32	0.33	0.32	0.35	0.33	0.35	0.35	0.33	0.35	0.45	0.63	0.91	0.87	0.32	0.91	0.43	23
14	S	0.52	0.50	0.50	0.58	0.68	0.55	0.44	0.39	0.44	0.42	0.43	0.38	0.34	0.32	0.32	0.35	0.35	0.42	0.33	0.35	0.35	0.35	S	0.32	0.68	0.42	24
15	0.45	0.35	0.40	0.39	0.60	0.60	0.65	0.37	0.37	0.37	0.34	0.37	0.33	0.40	0.32	0.37	0.32	0.33	0.32	0.35	0.35	0.37	S	0.42	0.32	0.65	0.40	24
16	0.73	0.57	0.66	0.44	0.44	0.50	0.44	0.37	0.37	0.39	0.31	0.34	0.37	0.29	0.31	0.31	0.34	0.39	0.37	0.42	0.39	S	0.65	0.68	0.29	0.73	0.44	24
17	0.68	1.15	0.92	0.79	0.97	0.94	1.42	0.94	0.39	0.37	0.37	0.31	0.31	0.34	0.34	0.31	0.31	0.31	0.34	0.31	S	0.42	0.47	0.76	0.31	1.42	0.59	24
18	0.84	0.70	0.71	0.55	0.89	0.78	0.63	0.47	0.39	0.34	0.34	0.29	0.31	0.31	0.29	0.31	0.31	0.32	0.32	S	0.37	0.52	0.44	0.42	0.29	0.89	0.47	24
19	0.37	0.37	0.44	0.58	0.55	0.52	0.42	0.37	0.34	0.39	0.31	0.34	0.31	0.31	0.35	0.35	0.30	0.32	S	0.37	0.36	0.37	0.57	0.81	0.30	0.81	0.41	24
20	0.70	0.58	0.57	0.44	0.44	0.47	0.39	0.39	0.39	0.37	0.37	0.31	0.31	0.31	0.32	0.31	0.32	S	0.38	0.32	0.37	0.34	0.34	0.31	0.31	0.70	0.39	24
21	0.37	0.39	0.39	0.39	0.42	0.42	0.39	0.39	0.39	0.37	0.34	0.37	0.31	0.31	0.31	0.31	S	0.37	0.31	0.31	0.50	0.81	0.47	0.65	0.31	0.81	0.40	24
22	0.79	0.44	0.61	0.55	0.52	0.52	0.47	0.44	0.42	0.39	0.34	0.39	0.34	0.31	0.37	S	0.34	0.29	0.31	0.34	0.39	1.07	0.92	0.70	0.29	1.07	0.49	24
23	1.02	0.81	1.13	1.29	1.52	1.24	1.02	0.52	0.44	0.34	0.34	0.29	0.31	0.29	S	0.37	0.29	0.31	0.37	0.31	0.31	0.36	0.42	0.37	0.29	1.52	0.59	24
24	0.42	0.47	0.58	0.50	0.52	0.50	0.44	0.45	0.39	0.39	0.37	0.34	0.31	S	0.39	0.34	0.42	0.34	0.39	0.42	0.76	0.96	2.49	0.87	0.31	2.49	0.57	24
25	0.42	0.44	0.87	0.74	0.68	0.97	0.65	0.42	0.39	0.37	0.37	0.29	S	0.39	0.29	0.26	0.28	0.26	0.24	0.29	0.39	0.50	0.39	0.29	0.24	0.97	0.44	24
26	0.31	0.34	0.36	0.52	0.55	0.37	0.29	0.31	0.31	0.29	0.26	S	0.37	0.29	0.26	0.29	0.37	0.26	0.26	0.29	0.26	0.29	0.29	0.28	0.26	0.55	0.32	24
27	0.34	0.34	0.36	0.37	0.34	0.37	0.37	0.37	0.37	0.37	S	0.40	0.37	0.34	0.34	0.34	0.34	0.31	0.31	0.31	0.31	0.31	0.34	0.37	0.31	0.40	0.35	24
28	0.47	0.39	0.39	0.37	0.37	0.47	0.65	0.50	0.47	S	0.44	0.34	0.34	0.29	0.31	0.31	0.29	0.26	0.26	0.26	0.26	0.26	0.29	0.29	0.26	0.65	0.36	24
29	0.34	0.34	0.37	0.34	0.39	0.37	0.34	0.37	S	0.42	0.31	0.31	0.34	0.31	0.31	0.31	0.31	0.34	0.31	0.49	0.39	0.47	0.71	0.68	0.31	0.71	0.39	24
30	0.81	0.68	0.47	0.50	0.50	0.53	0.38	S	0.50	0.34	0.31	0.34	0.34	0.34	0.37	0.31	0.29	0.31	0.31	0.31	0.42	0.31	0.52	0.65	0.29	0.81	0.43	24
31	0.55	0.47	0.44	0.45	0.42	0.42	S	0.37	0.31	0.50	0.31	0.31	0.29	0.29	0.26	0.31	0.31	0.31	0.31	0.31	0.26	0.31	0.34	0.31	0.26	0.55	0.35	24
HOURLY MAX	1.02	1.15	1.13	1.29	1.52	1.24	1.42	0.94	0.65	1.99	2.77	2.34	0.53	0.69	0.58	0.48	0.43	0.45	0.42	0.49	0.76	1.07	2.49	0.87				
HOURLY AVG	0.49	0.47	0.52	0.49	0.55	0.54	0.53	0.44	0.41	0.46	0.45	0.43	0.36	0.36	0.35	0.34	0.35	0.34	0.34	0.35	0.39	0.46	0.53	0.49				

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

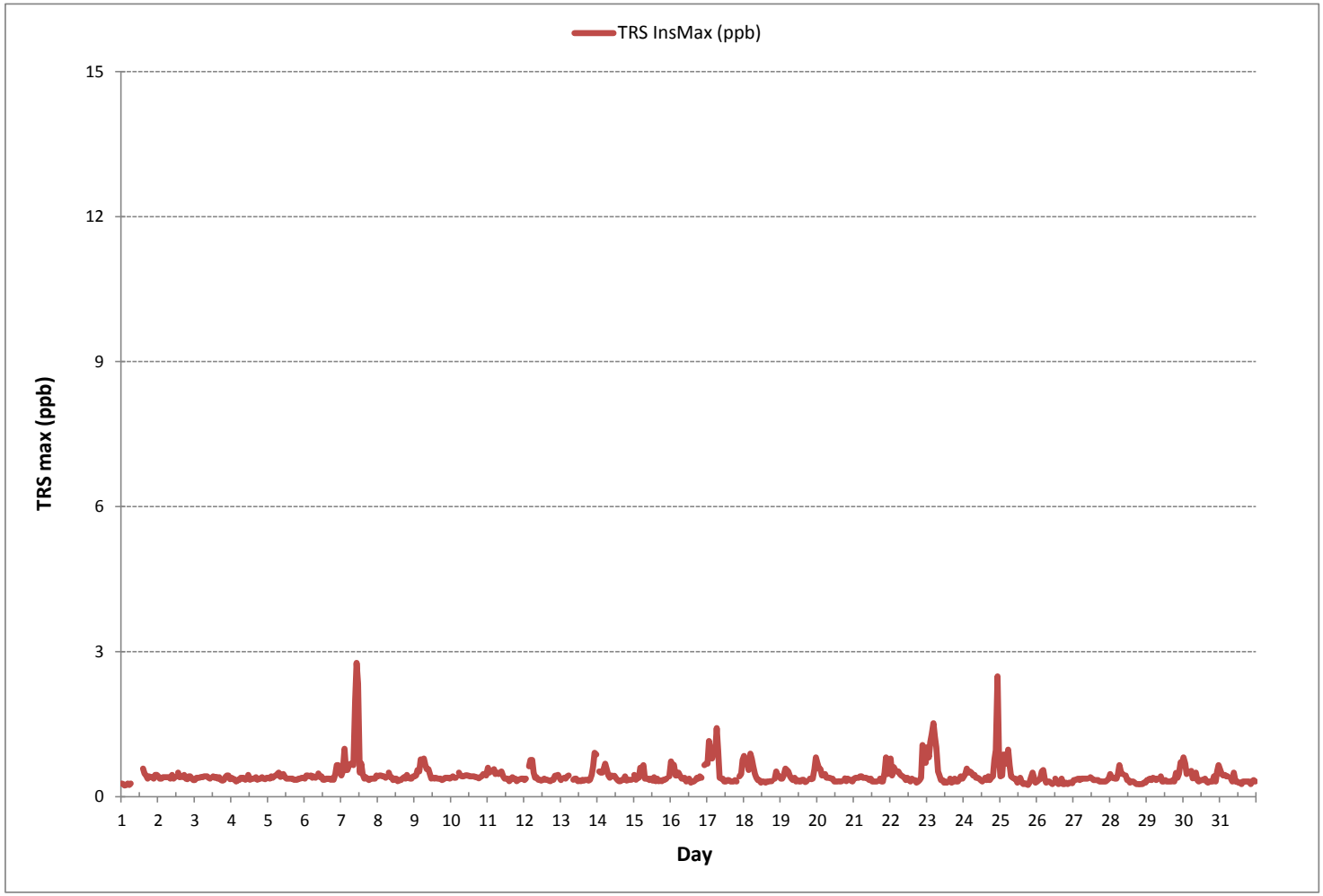
NUMBER OF NON-ZERO READINGS: 705

MAXIMUM INSTANTANEOUS VALUE: 2.77 ppb @ HOUR 10 ON DAY 7

IZS CALIBRATION TIME: 33 hrs
MONTHLY CALIBRATION TIME: 5 hrs
STANDARD DEVIATION: 0.22

OPERATIONAL TIME: 743 hrs

TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS ppb)



TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	2.80	2.21	2.20	2.18	2.17	2.09	1.98	1.98	2.02	2.02	C	C	C	C	2.10	2.07	2.05	2.04	2.16	2.14	1.99	1.97	2.72	2.49	1.97	2.80	2.17	24
2	2.39	1.98	2.01	1.97	2.10	1.99	1.98	1.98	2.05	2.03	2.00	2.01	S	2.06	1.95	1.97	2.02	2.01	1.99	2.09	1.99	1.96	1.96	1.95	1.95	2.39	2.02	24
3	1.97	2.05	2.04	2.15	2.16	2.21	2.45	2.45	2.07	1.99	2.00	S	2.00	2.03	2.06	2.05	2.05	2.02	2.03	2.04	1.99	1.97	2.01	1.97	1.97	2.45	2.08	24
4	1.98	1.96	1.96	1.95	1.95	1.95	1.98	2.05	2.06	2.05	S	2.05	2.02	2.04	2.04	2.02	2.03	2.03	2.08	2.06	2.52	2.00	1.96	1.96	1.95	2.52	2.03	24
5	1.96	2.01	1.96	1.96	1.97	2.01	1.99	1.97	1.95	S	1.97	1.97	1.97	2.01	2.06	2.03	2.06	2.05	1.98	2.03	2.02	1.97	1.96	1.95	1.95	2.06	1.99	24
6	1.98	1.98	1.95	1.96	1.96	1.98	1.96	1.99	S	2.06	2.02	1.98	2.02	1.98	2.02	2.00	2.04	2.03	2.01	2.00	2.00	1.98	2.34	2.19	1.95	2.34	2.02	24
7	2.45	2.25	2.48	2.83	2.00	1.99	2.01	S	1.99	2.00	2.01	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.98	1.99	1.98	2.35	2.52	1.98	1.98	2.83	2.12	24
8	1.97	1.98	1.97	1.98	1.96	1.97	S	2.09	1.97	1.98	1.98	1.97	1.99	2.01	1.98	2.03	1.98	1.99	1.99	2.00	1.98	2.00	1.98	2.00	1.96	2.09	1.99	24
9	1.99	1.99	2.00	2.00	2.00	S	2.00	2.00	2.00	1.99	2.01	2.01	1.98	2.00	1.98	2.00	1.99	1.99	1.98	1.99	1.98	1.99	2.01	2.01	1.98	2.01	2.00	24
10	2.02	2.01	2.01	2.02	S	2.03	2.03	2.02	2.02	2.01	1.99	2.00	2.01	2.05	2.16	2.10	2.10	2.00	2.00	2.00	2.01	2.00	2.05	2.00	1.99	2.16	2.03	24
11	2.02	2.01	2.01	S	2.02	2.03	2.02	2.04	2.03	2.08	2.04	2.03	2.06	2.06	2.10	2.10	2.05	2.12	2.07	2.08	2.01	1.99	1.99	1.99	1.99	2.12	2.04	24
12	2.00	1.99	S	1.99	1.99	2.02	2.03	2.06	2.03	2.02	2.03	2.00	2.01	2.09	2.07	2.01	2.05	2.08	2.14	2.11	2.26	2.56	2.33	1.95	1.95	2.56	2.08	24
13	1.95	X	1.95	2.58	2.57	2.20	S	S	2.04	2.01	2.03	2.06	2.01	2.05	2.04	2.09	2.04	2.05	2.15	2.17	1.98	2.01	2.06	2.05	1.95	2.58	2.10	23
14	S	2.07	2.09	2.09	2.17	2.22	2.07	1.95	1.99	2.04	2.06	2.07	2.05	1.99	2.08	2.00	2.06	2.13	2.20	2.07	2.29	2.28	2.06	S	1.95	2.29	2.09	24
15	2.09	2.14	2.20	2.33	1.94	1.94	1.99	2.02	2.01	1.98	1.99	2.00	2.01	2.00	2.09	2.03	2.02	2.05	2.07	2.04	2.02	1.99	S	1.99	1.94	2.33	2.04	24
16	2.28	2.38	2.25	2.00	2.28	2.05	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.99	1.99	1.99	2.25	2.08	2.42	2.28	S	2.20	2.65	1.99	2.65	2.13	24
17	1.99	2.09	2.21	2.19	3.11	2.45	2.22	2.20	2.06	2.04	2.03	2.01	2.02	2.06	1.99	1.99	2.02	1.99	2.07	2.07	S	2.16	2.36	1.99	1.99	3.11	2.14	24
18	2.01	2.04	2.06	2.12	3.89	2.22	2.14	2.12	2.09	2.00	1.99	1.98	2.09	1.99	1.99	1.99	1.99	1.99	1.99	S	2.00	2.04	2.03	2.02	1.98	3.89	2.12	24
19	2.00	2.01	2.01	2.04	2.06	2.05	2.05	2.05	2.02	2.01	2.02	2.01	2.01	1.99	2.00	2.03	2.14	2.05	S	1.99	2.03	2.02	2.02	2.06	1.99	2.14	2.03	24
20	2.06	2.08	2.06	2.02	2.03	2.04	2.04	2.00	2.03	2.09	1.99	1.99	2.02	2.02	2.02	2.02	2.11	S	2.26	2.13	2.00	1.98	1.97	1.98	1.97	2.26	2.04	24
21	1.98	1.96	1.97	1.96	2.27	1.98	1.99	2.09	2.03	2.00	2.60	2.08	2.03	3.53	2.02	2.07	S	2.08	2.05	2.61	3.18	3.49	3.09	2.76	1.96	3.53	2.34	24
22	3.62	2.31	2.45	2.47	5.23	2.22	2.03	2.17	2.15	1.99	1.97	1.99	1.99	1.99	2.00	S	1.98	1.95	1.97	1.96	2.14	2.04	2.04	2.09	1.95	5.23	2.29	24
23	2.14	2.20	3.72	4.45	2.97	2.19	2.44	2.25	2.86	2.09	2.01	2.00	1.96	1.96	S	1.95	1.95	1.96	1.99	1.99	2.00	2.22	5.04	2.04	1.95	5.04	2.45	24
24	2.06	3.50	2.81	2.06	2.05	2.06	2.07	2.09	2.04	2.13	2.10	2.09	2.30	S	2.13	3.52	2.42	2.28	2.52	2.40	3.27	2.60	3.85	6.63	2.04	6.63	2.65	24
25	3.22	2.82	3.83	6.49	4.41	2.98	2.07	3.31	2.26	2.16	1.99	1.97	S	2.03	2.01	2.11	2.11	2.13	2.22	3.40	3.59	3.83	2.34	2.07	1.97	6.49	2.84	24
26	1.97	1.96	1.95	1.96	2.17	2.34	2.09	2.24	2.23	2.26	2.01	S	2.03	2.01	2.10	2.05	2.01	2.28	2.13	2.08	2.21	2.32	3.70	2.52	1.95	3.70	2.20	24
27	2.92	2.97	3.37	4.28	2.42	2.84	2.04	1.99	2.14	2.22	S	1.99	2.00	2.02	2.09	2.09	1.98	2.00	2.02	1.99	2.27	2.00	1.98	1.99	1.98	4.28	2.33	24
28	2.00	2.00	4.26	2.09	2.19	1.95	1.94	1.95	1.94	S	2.03	2.01	2.14	2.06	2.14	2.04	2.09	2.15	2.13	2.15	2.02	2.36	2.34	2.47	1.94	4.26	2.19	24
29	2.77	2.67	2.64	2.75	2.69	3.23	2.44	2.28	S	2.55	2.77	2.58	3.22	2.08	2.20	1.99	2.02	2.02	2.11	2.05	2.17	2.42	4.45	3.90	1.99	4.45	2.61	24
30	**9.47**	4.18	4.93	8.35	2.16	2.11	2.53	S	3.16	1.99	2.00	1.98	2.19	2.20	1.99	1.98	1.99	1.99	1.99	1.99	2.00	2.02	6.35	5.87	1.98	**9.47**	3.28	24
31	3.39	2.06	2.09	2.38	2.08	2.07	S	2.02	2.01	1.99	1.98	1.98	1.98	1.96	1.99	2.00	2.01	2.00	1.99	1.99	1.98	3.19	3.48	2.01	1.96	3.48	2.20	24
HOURLY MAX	9.47	4.18	4.93	8.35	5.23	3.23	2.53	3.31	3.16	2.55	2.77	2.58	3.22	3.53	2.20	3.52	2.42	2.28	2.52	3.40	3.59	3.83	6.35	6.63				
HOURLY AVG	2.52	2.26	2.45	2.65	2.43	2.18	2.09	2.12	2.11	2.06	2.06	2.03	2.08	2.08	2.05	2.08	2.05	2.06	2.08	2.13	2.21	2.26	2.64	2.45				

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

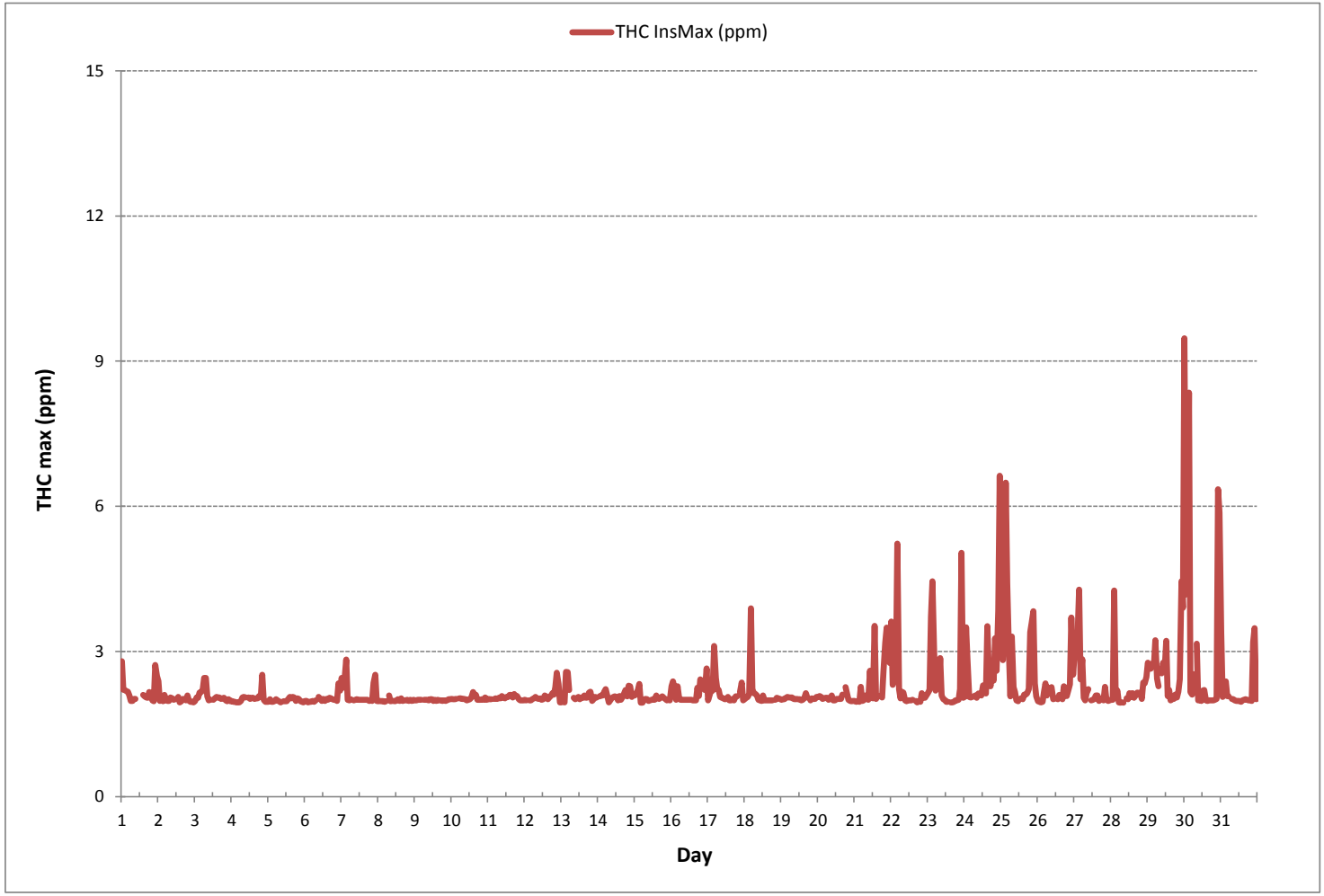
NUMBER OF NON-ZERO READINGS: 707

MAXIMUM INSTANTANEOUS VALUE: 9.47 ppm @ HOUR 0 ON DAY 30

IZS CALIBRATION TIME: 32 hrs
MONTHLY CALIBRATION TIME: 4 hrs
STANDARD DEVIATION: 0.64

OPERATIONAL TIME: 743 hrs

TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)



METHANE MAX Instantaneous Maximum (CH_4 ppm)

HR START (MST)	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	DAILY	DAILY	24-HR	RDGS.
HR END (MST)	0:59	1:59	2:59	3:59	4:59	5:59	6:59	7:59	8:59	9:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	MIN.	MAX.	AVG.	
DAY																												
1	2.81	2.22	2.22	2.19	2.18	2.10	1.99	1.99	2.02	2.02	C	C	C	C	2.11	2.07	2.06	2.05	2.17	2.15	2.00	1.97	2.74	2.50	1.97	2.81	2.18	24
2	2.40	1.98	2.02	1.98	2.11	2.00	1.99	1.98	2.06	2.03	2.01	2.02	S	2.07	1.95	1.98	2.03	2.01	2.00	2.10	2.00	1.97	1.97	1.96	1.95	2.40	2.03	24
3	1.98	2.06	2.05	2.17	2.17	2.23	2.46	2.45	2.08	2.01	2.00	S	2.00	2.03	2.07	2.07	2.06	2.03	2.04	2.05	1.99	1.98	2.02	1.98	1.98	2.46	2.09	24
4	1.98	1.97	1.97	1.96	1.96	1.97	1.98	2.06	2.07	2.06	S	2.06	2.03	2.05	2.05	2.03	2.04	2.04	2.09	2.07	2.52	2.01	1.97	1.97	1.96	2.52	2.04	24
5	1.97	2.02	1.97	1.97	1.98	2.02	2.00	1.98	1.97	S	1.98	1.97	1.98	2.02	2.07	2.03	2.07	2.06	1.98	2.04	2.03	1.97	1.97	1.96	1.96	2.07	2.00	24
6	1.98	1.98	1.96	1.98	1.97	1.98	1.97	2.00	S	2.07	2.03	1.99	2.03	1.99	2.03	2.01	2.05	2.04	2.02	2.01	2.01	1.99	2.36	2.20	1.96	2.36	2.03	24
7	2.47	2.26	2.49	2.85	2.01	2.00	2.02	S	2.00	2.01	2.01	2.01	2.00	2.01	2.01	2.01	2.00	2.01	1.99	1.99	1.99	2.37	2.53	1.98	1.98	2.85	2.13	24
8	1.97	1.98	1.98	1.98	1.97	1.98	S	2.11	1.97	1.99	1.99	1.98	2.00	2.02	1.99	2.04	1.99	2.00	2.00	2.01	1.98	2.00	1.98	2.00	1.97	2.11	2.00	24
9	2.00	2.01	2.01	2.01	2.01	S	2.01	2.01	2.01	1.99	2.02	2.02	1.99	2.01	1.98	2.01	1.99	2.00	1.99	2.00	1.99	2.00	2.02	2.01	1.98	2.02	2.00	24
10	2.02	2.02	2.02	2.03	S	2.04	2.04	2.03	2.02	2.02	2.00	2.01	2.02	2.06	2.17	2.11	2.11	2.01	2.01	2.00	2.01	2.01	2.05	2.01	2.00	2.17	2.04	24
11	2.02	2.01	2.02	S	2.03	2.04	2.03	2.05	2.03	2.09	2.04	2.04	2.07	2.07	2.11	2.11	2.06	2.13	2.07	2.08	2.02	2.00	2.00	2.00	2.00	2.13	2.05	24
12	2.01	2.00	S	1.99	2.00	2.03	2.03	2.07	2.04	2.03	2.04	2.01	2.02	2.11	2.08	2.02	2.06	2.08	2.15	2.11	2.27	2.57	2.34	1.97	1.97	2.57	2.09	24
13	1.96	X	1.96	2.58	2.58	2.21	S	S	2.05	2.02	2.03	2.07	2.02	2.06	2.05	2.11	2.04	2.06	2.16	2.18	1.99	2.02	2.07	2.06	1.96	2.58	2.11	23
14	S	2.08	2.11	2.10	2.18	2.23	2.08	1.97	2.00	2.05	2.07	2.08	2.05	2.00	2.09	2.01	2.07	2.14	2.21	2.08	2.30	2.28	2.07	S	1.97	2.30	2.10	24
15	2.10	2.15	2.21	2.33	1.96	1.95	1.99	2.03	2.02	1.99	2.00	2.01	2.02	2.01	2.09	2.03	2.03	2.07	2.07	2.05	2.03	2.00	S	2.00	1.95	2.33	2.05	24
16	2.30	2.39	2.27	2.00	2.30	2.05	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.00	2.00	2.00	2.27	2.08	2.44	2.30	S	2.21	2.67	2.00	2.67	2.15	24
17	2.00	2.10	2.22	2.20	3.13	2.46	2.23	2.21	2.06	2.05	2.04	2.02	2.03	2.07	2.01	2.00	2.03	2.00	2.07	2.08	S	2.18	2.37	2.00	2.00	3.13	2.15	24
18	2.01	2.04	2.07	2.13	3.91	2.23	2.16	2.13	2.10	2.01	2.00	1.98	2.09	2.00	2.00	1.99	2.00	2.00	2.00	S	2.01	2.05	2.04	2.03	1.98	3.91	2.13	24
19	2.01	2.02	2.01	2.04	2.06	2.05	2.06	2.06	2.02	2.02	2.02	2.01	2.01	2.00	2.01	2.03	2.15	2.07	S	2.00	2.04	2.03	2.03	2.06	2.00	2.15	2.04	24
20	2.07	2.09	2.06	2.03	2.04	2.04	2.04	2.01	2.03	2.09	2.00	2.01	2.03	2.03	2.03	2.03	2.12	S	2.27	2.14	2.01	1.99	1.98	1.98	1.98	2.27	2.05	24
21	1.98	1.97	1.98	1.97	2.29	2.00	2.00	2.10	2.04	2.01	2.61	2.08	2.04	3.55	2.03	2.07	S	2.09	2.06	2.62	3.20	3.52	3.11	2.78	1.97	3.55	2.35	24
22	3.63	2.32	2.46	2.49	5.24	2.24	2.04	2.18	2.16	2.00	1.97	2.00	2.01	1.99	2.01	S	1.98	1.97	1.98	1.96	2.15	2.05	2.05	2.11	1.96	5.24	2.30	24
23	2.15	2.22	3.74	4.46	2.99	2.20	2.46	2.26	2.87	2.09	2.02	2.01	1.97	1.97	S	1.96	1.97	1.97	2.00	2.00	2.01	2.23	5.05	2.04	1.96	5.05	2.46	24
24	2.06	3.53	2.83	2.06	2.05	2.07	2.08	2.09	2.05	2.14	2.12	2.09	2.30	S	2.14	3.54	2.44	2.30	2.54	2.41	3.30	2.61	3.87	6.64	2.05	6.64	2.66	24
25	3.24	2.84	3.85	6.50	4.43	3.00	2.08	3.33	2.28	2.18	1.99	1.98	S	2.03	2.01	2.12	2.13	2.14	2.23	3.42	3.60	3.85	2.35	2.07	1.98	6.50	2.85	24
26	1.97	1.97	1.97	1.97	2.18	2.34	2.11	2.26	2.25	2.27	2.02	S	2.04	2.02	2.12	2.06	2.02	2.30	2.15	2.09	2.23	2.32	3.72	2.54	1.97	3.72	2.21	24
27	2.94	2.99	3.39	4.30	2.44	2.86	2.04	2.01	2.15	2.23	S	1.99	2.01	2.03	2.09	2.10	1.98	2.00	2.03	1.99	2.28	2.00	1.98	1.99	1.98	4.30	2.34	24
28	2.00	2.01	4.28	2.11	2.21	1.96	1.96	1.97	1.95	S	2.04	2.01	2.15	2.06	2.15	2.05	2.10	2.16	2.14	2.16	2.03	2.38	2.34	2.48	1.95	4.28	2.20	24
29	2.79	2.69	2.65	2.77	2.70	3.25	2.46	2.30	S	2.57	2.79	2.59	3.24	2.08	2.21	1.99	2.03	2.03	2.13	2.06	2.18	2.43	4.46	3.93	1.99	4.46	2.62	24
30	**9.48**	4.20	4.94	8.34	2.17	2.12	2.54	S	3.18	1.99	2.01	1.98	2.20	2.21	2.00	1.99	2.00	1.99	1.99	1.99	2.01	2.03	6.36	5.87	1.98	**9.48**	**3.29**	24
31	3.41	2.07	2.10	2.39	2.09	2.08	S	2.02	2.02	1.99	1.99	1.99	1.99	1.98	1.99	2.01	2.01	2.01	1.99	2.00	1.98	3.21	3.50	2.02	1.98	3.50	2.21	24
HOURLY MAX	9.48	4.20	4.94	8.34	5.24	3.25	2.54	3.33	3.18	2.57	2.79	2.59	3.24	3.55	2.21	3.54	2.44	2.30	2.54	3.42	3.60	3.85	6.36	6.64				
HOURLY AVG	2.52	2.27	2.46	2.66	2.44	2.19	2.10	2.13	2.12	2.07	2.07	2.04	2.08	2.09	2.06	2.09	2.05	2.07	2.09	2.14	2.22	2.27	2.65	2.46				

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

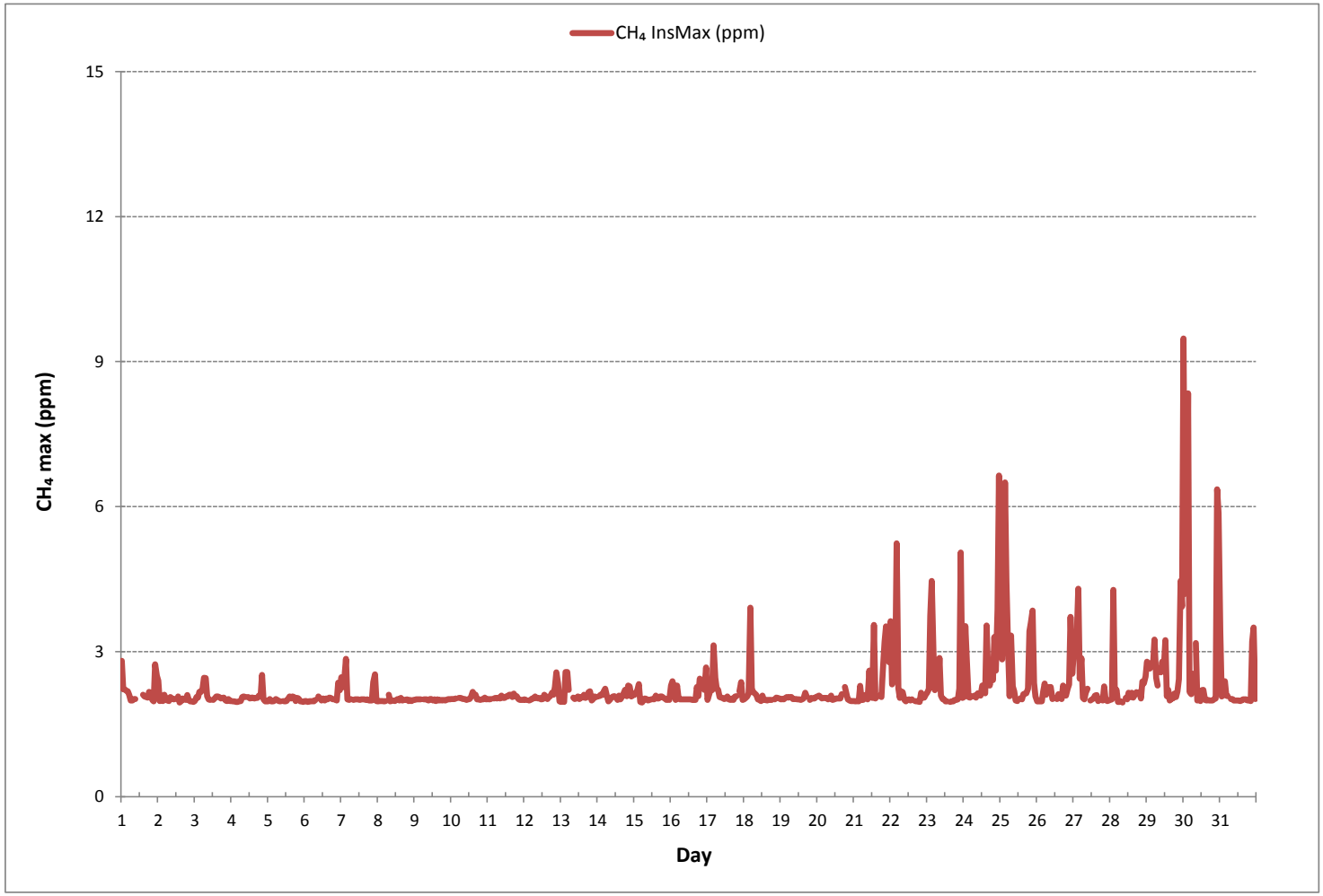
NUMBER OF NON-ZERO READINGS: 707

MAXIMUM INSTANTANEOUS VALUE: 9.48 ppm @ HOUR 0 ON DAY 30

IZS CALIBRATION TIME: 32 hrs
MONTHLY CALIBRATION TIME: 4 hrs
STANDARD DEVIATION: 0.64

OPERATIONAL TIME: 743 hrs

METHANE MAX Instantaneous Maximum (CH_4 ppm)



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	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	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	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
8	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
9	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
11	0.00	0.00	0.00	S	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	24
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	X	0.00	0.00	0.00	0.00	S	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	23
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	S	0.00	0.00	0.00	0.00	24
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	24
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	24
18	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.03	0.00	24
19	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	24
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	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
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	S	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	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	0.03	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00				
HOURLY AVG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				

STATUS FLAG CODES

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

MONTHLY SUMMARY

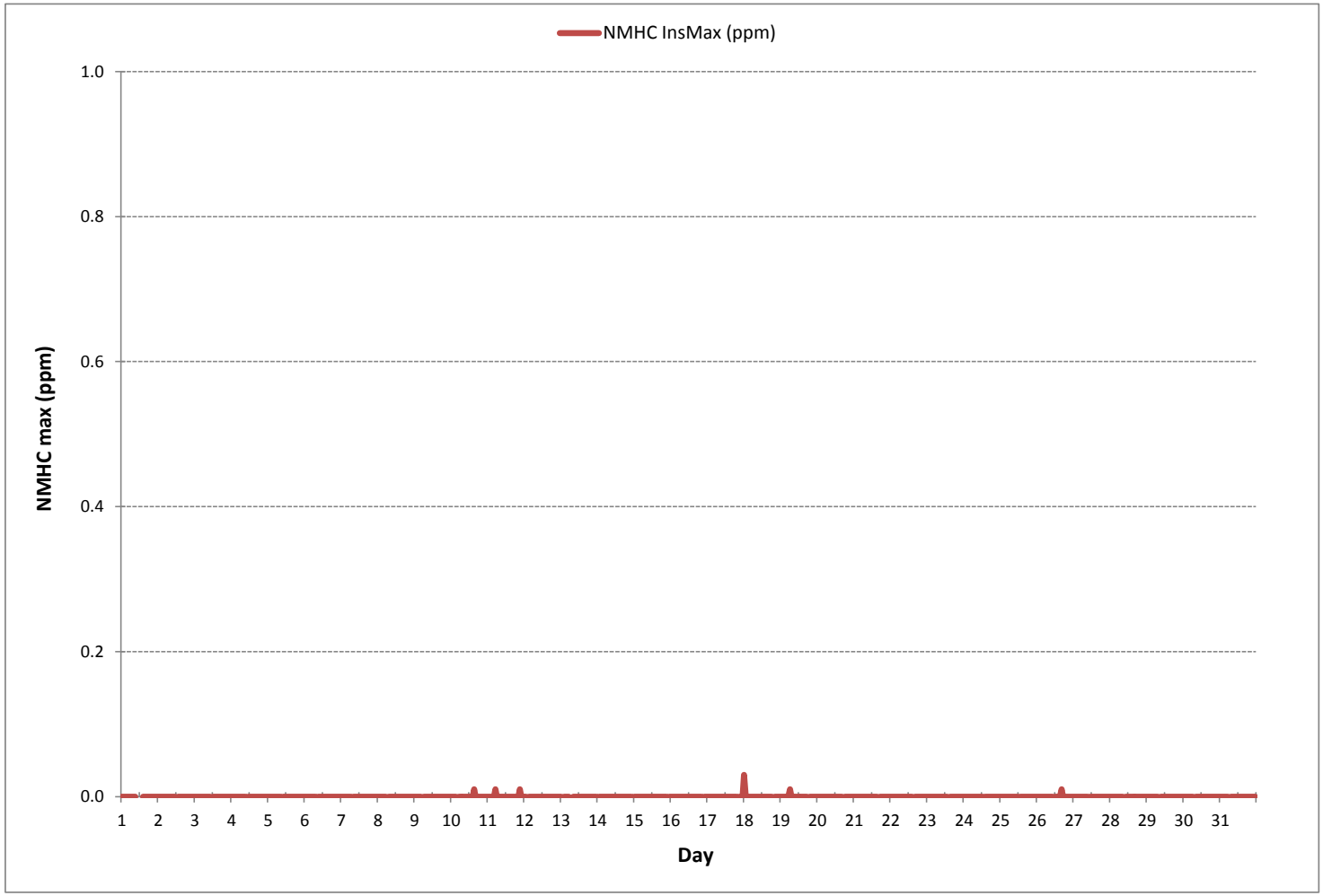
NUMBER OF NON-ZERO READINGS: 6

MAXIMUM INSTANTANEOUS VALUE: 0.03 ppm @ HOUR 0 ON DAY 18

IZS CALIBRATION TIME: 32 hrs
MONTHLY CALIBRATION TIME: 4 hrs
STANDARD DEVIATION: 0.00

OPERATIONAL TIME: 743 hrs

NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)



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	5.8	12.8	12.0	11.9	12.4	9.8	11.3	17.6	19.3	20.2	23.7	35.3	23.8	26.8	30.0	26.6	28.7	28.1	21.9	22.1	5.0	6.9	12.4	15.1	5.0	35.3	18.3	24
2	19.4	22.9	20.4	23.1	17.2	17.9	20.2	18.3	17.3	38.8	36.3	34.9	38.0	**72.6**	49.1	9.9	24.1	66.3	22.2	17.1	5.7	9.9	12.2	5.7	5.7	**72.6**	25.8	24
3	6.6	5.7	7.3	4.9	6.6	5.2	5.7	5.1	16.0	18.9	24.2	24.3	28.8	23.8	20.9	22.2	21.9	19.1	22.8	17.7	3.7	4.3	14.2	15.1	3.7	28.8	14.4	24
4	16.6	19.0	15.2	14.4	13.6	10.2	10.3	17.9	27.3	26.1	31.6	30.9	32.3	33.0	38.4	35.2	32.0	32.7	35.8	25.5	13.9	15.4	22.0	18.3	10.2	38.4	23.7	24
5	16.7	8.3	6.4	6.2	5.8	7.0	7.6	16.6	19.9	24.1	24.7	31.6	35.1	32.2	31.5	28.1	32.5	31.1	25.9	24.0	8.4	9.2	16.7	15.9	5.8	35.1	19.4	24
6	18.0	12.9	19.9	18.3	13.3	13.5	16.1	12.0	13.0	13.5	17.6	21.1	22.5	22.4	19.3	24.5	22.9	22.3	18.3	15.8	3.5	7.2	13.4	11.3	3.5	24.5	16.4	24
7	10.5	7.5	6.8	20.8	24.5	29.4	26.4	33.7	35.8	31.3	26.2	24.5	24.8	24.5	26.1	23.9	17.7	20.7	11.1	27.6	20.9	17.3	7.1	7.1	6.8	35.8	21.1	24
8	8.1	13.3	16.1	19.5	20.8	10.2	13.0	32.2	46.3	50.0	59.2	50.5	43.7	50.1	41.6	42.9	43.7	39.9	32.0	33.2	30.2	22.5	25.1	25.4	8.1	59.2	**32.1**	24
9	20.0	19.3	15.5	16.0	21.2	20.9	39.6	34.4	37.2	40.0	31.9	33.4	37.5	32.1	30.9	35.4	30.0	28.2	27.2	21.7	22.5	17.6	11.8	13.2	11.8	40.0	26.6	24
10	15.2	13.7	9.9	10.3	10.9	10.0	13.5	14.9	16.7	18.5	18.6	21.3	16.4	14.9	19.5	22.9	22.2	17.3	25.8	17.8	14.1	17.9	16.6	19.3	9.9	25.8	16.6	24
11	16.6	16.7	12.5	10.9	12.2	13.0	14.7	13.8	14.5	14.2	17.9	20.6	25.4	28.7	28.5	19.8	24.8	25.4	18.2	26.0	12.0	13.2	21.4	15.9	10.9	28.7	18.2	24
12	25.9	10.5	8.9	8.1	7.6	4.8	9.9	13.5	18.0	27.0	31.7	33.9	53.4	39.7	40.8	42.1	41.3	39.9	34.8	28.8	16.9	13.3	21.0	20.6	4.8	53.4	24.7	24
13	25.6	25.6	16.1	14.5	10.0	11.5	21.7	36.7	35.8	32.3	32.0	37.3	44.2	36.3	33.8	35.8	29.3	27.0	12.0	9.8	7.0	4.5	6.3	12.9	4.5	44.2	23.3	24
14	12.3	10.2	8.8	5.7	5.3	9.9	13.8	21.5	19.5	19.1	15.6	26.5	27.8	36.0	32.0	32.5	30.9	19.6	25.2	39.4	16.8	15.4	20.5	21.8	5.3	39.4	20.3	24
15	20.2	17.9	16.3	9.5	7.4	4.3	15.4	20.4	18.3	18.6	16.4	15.4	22.4	27.4	27.0	28.2	32.8	23.5	21.1	18.2	13.4	15.4	18.7	15.9	4.3	32.8	18.5	24
16	12.1	7.9	10.3	17.9	12.1	6.8	15.4	20.7	24.3	26.7	31.3	26.2	25.5	22.7	21.7	27.6	27.8	20.7	9.6	8.0	6.8	8.4	7.6	11.4	6.8	31.3	17.1	24
17	5.7	4.4	11.3	5.2	5.5	3.3	5.3	10.8	16.0	13.6	11.9	15.4	13.2	20.1	16.0	14.0	20.1	10.3	12.9	11.0	14.5	9.1	4.4	9.1	3.3	20.1	11.0	24
18	7.7	5.7	8.2	7.8	5.0	9.2	7.2	10.3	16.5	20.6	24.2	26.3	23.4	28.2	27.2	24.4	34.1	28.8	22.4	19.4	12.1	14.1	12.7	16.8	5.0	34.1	17.2	24
19	16.4	14.1	8.0	8.1	14.0	12.6	11.3	15.2	14.7	11.8	15.2	20.6	21.1	18.0	23.0	20.6	16.4	14.5	10.3	12.6	11.9	6.6	6.4	8.2	6.4	23.0	13.8	24
20	8.4	8.0	8.6	10.9	12.2	12.3	17.2	13.6	10.8	16.6	17.2	20.3	17.0	18.7	15.5	15.6	16.0	15.0	21.3	32.0	31.6	17.6	15.0	12.2	8.0	32.0	16.0	24
21	14.8	12.6	15.2	16.7	17.4	20.4	19.1	17.8	17.3	19.1	24.3	26.9	29.4	34.3	28.1	26.7	27.2	27.6	25.0	18.9	8.1	10.3	8.0	4.6	4.6	34.3	19.6	24
22	5.4	6.0	9.3	7.6	5.8	10.7	16.5	18.3	22.9	24.7	29.0	24.7	30.7	37.5	33.2	23.3	30.4	26.6	15.7	9.7	4.9	3.7	7.0	8.0	3.7	37.5	17.2	24
23	9.0	8.3	5.4	4.8	5.5	7.5	9.1	6.6	6.5	10.5	24.5	29.8	46.3	30.1	23.5	30.5	29.8	24.9	27.4	24.8	15.9	12.5	17.7	20.2	4.8	46.3	18.0	24
24	14.4	10.2	8.1	11.6	11.9	12.8	15.3	13.3	12.8	12.3	13.1	19.9	28.7	20.1	22.9	25.9	32.5	42.4	21.8	13.7	12.6	4.8	4.0	10.4	4.0	42.4	16.5	24
25	15.3	13.5	8.4	10.0	6.6	4.1	8.5	15.0	25.9	22.9	18.5	28.5	29.5	31.5	33.7	37.3	31.6	28.8	23.1	12.8	2.6	8.8	27.3	35.7	2.6	37.3	20.0	24
26	26.2	22.0	20.8	29.4	22.2	27.8	27.2	33.5	33.3	44.5	38.1	43.8	39.3	36.1	36.7	38.2	39.4	40.7	41.5	35.7	15.4	12.3	21.6	26.5	12.3	44.5	31.3	24
27	27.3	23.1	22.5	26.8	23.1	16.2	18.2	25.1	33.6	35.5	40.1	38.8	39.3	38.0	40.8	32.5	32.4	35.6	26.8	22.3	23.3	19.5	10.0	9.0	9.0	40.8	27.5	24
28	10.0	10.1	17.6	21.5	17.1	9.2	14.9	17.1	15.6	26.4	42.1	47.6	55.3	47.7	49.0	46.3	48.7	44.1	45.8	41.9	39.3	38.9	24.5	31.8	9.2	55.3	31.8	24
29	22.9	19.3	13.8	15.5	15.0	11.7	14.9	20.0	23.4	26.5	25.6	28.1	22.1	26.2	26.6	22.2	26.3	18.6	15.1	15.2	12.2	9.2	7.3	10.3	7.3	28.1	18.7	24
30	8.0	9.6	11.7	7.0	10.3	11.0	13.6	14.9	15.8	19.0	26.0	14.7	32.6	18.6	22.3	21.3	24.1	29.5	26.2	16.6	21.0	20.2	6.7	6.2	6.2	32.6	17.0	24
31	9.2	10.4	6.4	9.5	10.6	9.3	19.7	25.6	25.2	28.6	28.5	26.4	25.1	28.0	33.7	34.6	19.9	30.3	23.4	25.7	21.5	17.8	17.9	17.4	6.4	34.6	21.0	24
HOURLY MAX	27.3	25.6	22.5	29.4	24.5	29.4	39.6	36.7	46.3	50.0	59.2	50.5	55.3	72.6	49.1	46.3	48.7	66.3	45.8	41.9	39.3	38.9	27.3	35.7				
HOURLY AVG	14.5	13.0	12.2	13.0	12.4	11.7	15.2	18.9	21.6	24.3	26.4	28.4	30.8	30.8	29.8	28.1	28.8	28.4	23.3	21.5	14.4	13.0	14.1	15.2				

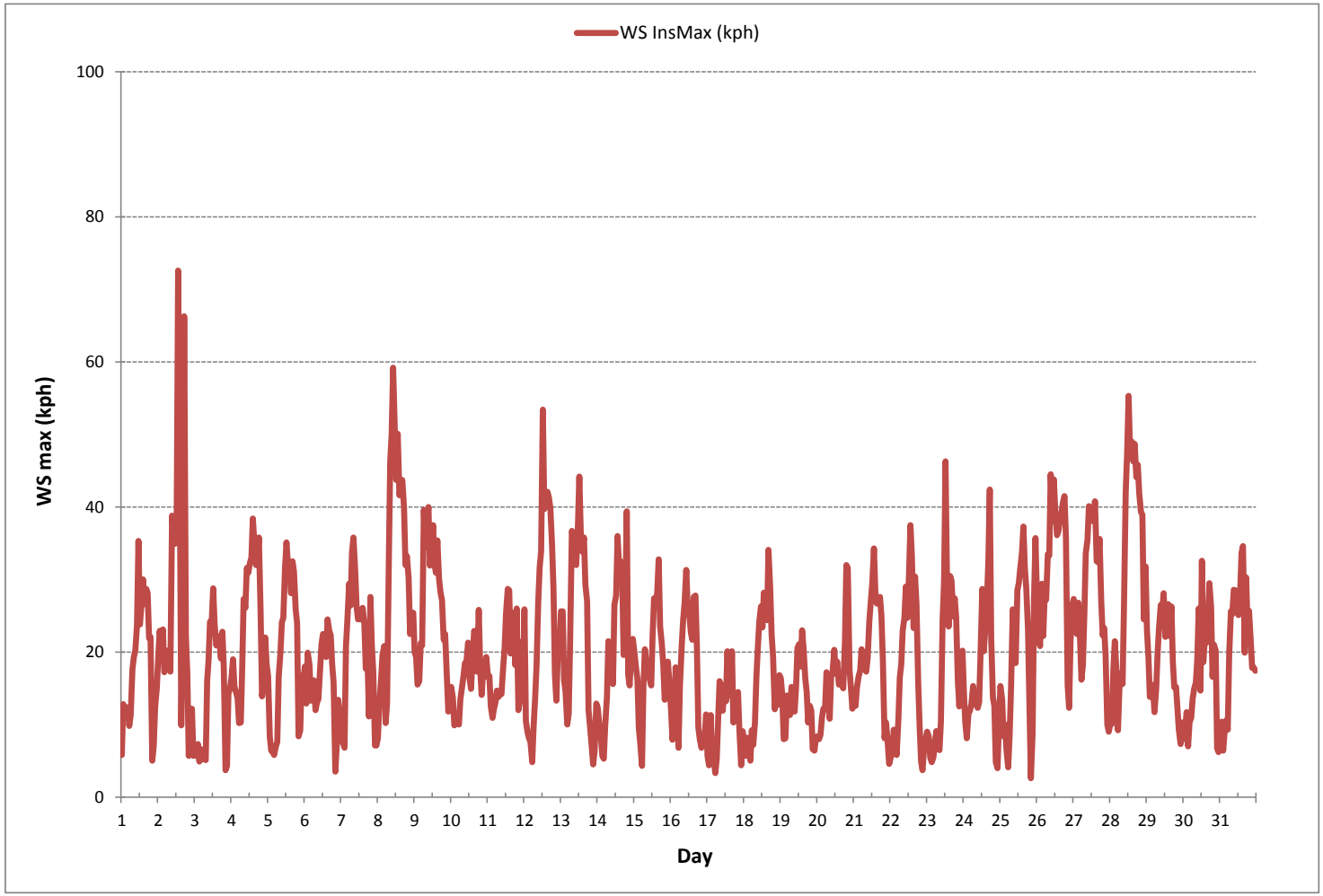
STATUS FLAG CODES

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

MONTHLY SUMMARY

MAXIMUM INSTANTANEOUS VALUE:	72.6	kph	@ HOUR	13	ON DAY	2
OPERATIONAL TIME:				744	hrs	

WIND SPEED Instantaneous Maximum (WS kph)



APPENDIX IV
REPORT CERTIFICATION FORM

Report Certification Form

Alberta Airshed (if applicable)	**EPA Approval or Code of Practice Registration #** (if applicable)
YES	**NA**
Company Name (if applicable)	**Industrial Operation Name** (if applicable)
Peace River Area Monitoring Program Committee	**Three Creeks 986b Station**
Name of the Representative of the Person Responsible	**Position / Title of the Representative of the Person Responsible**
Mike Bisaga / Lily Lin	**Technical Program Managers**
Is an External Party Certifying the Report? **(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.

Cheri Sinclair

Signature of the External Person Certifying the Report

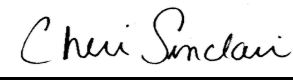
20-Jun-2018

Report Issued Date (dd-mon-yyyy)

APPENDIX V
DATA VALIDATION CERTIFICATION FORM

Validation Certificate Form

Client:	Peace River Area Monitoring Program Committee	**Project #:**	8449-2018-05-67-C
Site:	Three Creeks 986b Station	**Contact:**	Karla Reesor

Level 0 Preliminary Verification		**Date**	19-Jun-2018
Level 1 Primary Validation		**Date**	19-Jun-2018
Level 2 Final Validation		**Date**	20-Jun-2018
Level 3 Independent Data Review		**Date**	20-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.