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

JOB #: 8449-2018-06-67-C

June 2018

Prepared for:

PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Attention: LILY LIN

DATE: July 20, 2018

Prepared by:

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SUMMARY

In June 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.

The summary of results is presented on the following pages.

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

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

Monthly Continuous Data Summary

| Peace River Area Monitoring Program Committee | | | | | | MAXIMUM VALUES | | | | | | | OPERATIONAL TIME (%) |
|---|------------|-------|-------------|-------|-----------------|----------------|-----|------|------------------|-------------------------|---------|-----|----------------------|
| Three Creeks 986b Station | | | | | | 1-HOUR | | | | 24-HOUR | | | |
| PARAMETER | OBJECTIVES | | EXCEEDANCES | | MONTHLY AVERAGE | READING | DAY | HOUR | WIND SPEED (kph) | WIND DIRECTION (sector) | READING | DAY | |
| | 1-hr | 24-hr | 1-hr | 24-hr | | | | | | | | | |
| SO ₂ (ppb) | 172 | 48 | 0 | 0 | 0 | 2 | 27 | 21 | 7.5 | WNW | 1 | 21 | 100.0 |
| TRS (ppb) | - | - | - | - | 0.33 | 0.87 | 26 | 5 | 20 | S | 0.46 | 21 | 100.0 |
| THC (ppm) | - | - | - | - | 2.00 | 2.82 | 1 | 22 | 1.9 | ESE | 2.08 | 2 | 100.0 |
| CH ₄ (ppm) | - | - | - | - | 2.00 | 2.82 | 1 | 22 | 1.9 | ESE | 2.08 | 2 | 100.0 |
| NMHC (ppm) | - | - | - | - | 0.00 | 0.08 | 20 | 19 | 1.1 | NW | 0.01 | 20 | 100.0 |
| RELATIVE HUMIDITY (%) | - | - | - | - | 69 | 100 | 4 | 23 | 5.1 | WNW | 98 | 12 | 100.0 |
| BAROMETRIC PRESSURE (millibar) | - | - | - | - | 937 | 948 | 16 | 8 | 4.8 | W | 946 | 16 | 100.0 |
| AMBIENT TEMPERATURE (°C) | - | - | - | - | 14.9 | 33.9 | 20 | 16 | 0.8 | WNW | 25.6 | 20 | 100.0 |
| STATION TEMPERATURE (°C) | - | - | - | - | 22.4 | 25.0 | 3 | 6 | 3.3 | S | 23.6 | 3 | 100.0 |
| VECTOR WS (kph) | - | - | - | - | 2.6 | 33.0 | 11 | 12 | - | WNW | 20.5 | 11 | 100.0 |
| VECTOR WD (sec) | - | - | - | - | 264 (W) | - | - | - | - | - | - | - | 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 | June |

| CONTINUOUS AMBIENT MONITORING | | | | | | |
|-------------------------------|--------------------|--------------------|---------------------------|----------------|---------------------------|--|
| PARAMETER | % TIME OPERATIONAL | ONE - HOUR AVERAGE | | | 24 - HOUR AVERAGE | |
| | | MAXIMUM VALUES | NO. READINGS > REGULATION | MAXIMUM VALUES | NO. READINGS > REGULATION | |
| SO ₂ | 100.0 | 0.002 ppm | 0 | 0.001 ppm | 0 | |
| TRS | 100.0 | 0.001 ppm | - | 0.000 ppm | - | |
| THC | 100.0 | 2.82 ppm | - | 2.08 ppm | - | |
| CH ₄ | 100.0 | 2.82 ppm | - | 2.08 ppm | - | |
| NMHC | 100.0 | 0.08 ppm | - | 0.01 ppm | - | |
| RH | 100.0 | 100 % | - | 98 % | - | |
| BP | 100.0 | 948 mb | - | 946 mb | - | |
| Ambient TPX | 100.0 | 33.9 °C | - | 25.6 °C | - | |
| Station TPX | 100.0 | 25.0 °C | - | 23.6 °C | - | |
| Wind Speed | 100.0 | 33.0 kph | - | 20.5 kph | - | |
| Wind Direction | 100.0 | - | - | - | - | |

| |
|-------------------------------------|
| |
| SIGNATURE OF COMPANY REPRESENTATIVE |

| |
|----------------------------------|
| FOR ALBERTA ENVIRONMENT USE ONLY |
| |

Exceedance Summary Report

SO₂ 1-Hour Exceedances

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

SO₂ 24-Hour Exceedances

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

In accordance with EPEA and the Substance Release Regulation.

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

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1.0 Discussion

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

The sample inlet filter for all continuous air analyzers are replaced before the calibration begins. The sample manifold is cleaned during the site visit each month.

Control checks, consisting of a zero and span, are conducted daily on all continuous air monitors. In place of the air sample, zero air (from scrubbed air or gas cylinders) is used for zero checks, and a known concentration of the pollutant being analyzed is used for span checks. These checks are controlled by automatic timers and valves. The total zero span cycle is completed within an hour, the commencement of the zero span cycle is at the beginning of the hour.

Multipoint calibrations are done a minimum of once a month for each continuous air monitor. An additional calibration is required under the following conditions: 1) within three days after the initial start-up and stabilization of a newly installed instrument, 2) prior to shut-down or moving of an instrument which has been working to specification, and 3) when major repair has been done on the instrument.

Time during the first multi-point calibration is not considered downtime (Data is flagged as C). If more than one calibration is performed during the month, the time during the additional calibration is considered as downtime (Data is flagged as C1).

Only one zero/span check is run per day. Time during the zero/span check is not considered as downtime (Data is flagged as S). If an extra zero/span check is performed, the time during the additional check is considered as downtime (Data is flagged as S1).

The AMD requires each instrument and accompanying data recording system to be operational 90% of the time, at a minimum, for each monthly monitoring period.

All sampling, analysis, and QA/QC for this project was performed by Maxxam Analytics and complies with the Alberta Air Monitoring Directive.

Data contained in this monthly report has undergone the verification and validation based on the requirements of the AMD Chapter 6: Ambient Data Quality (December, 2016). The descriptions of the data verification and validation process can be found in Section 5 of this report. Instantaneous data, where applicable, is provided for reference purposes and has not undergone zero correction. The minimum and maximum statistics are highlighted in the data table and are for reference only. The highlighted cells are based on the software's interpretation of the exact position of the minimum or maximum value. The visual presentation of these statistics may not be the obvious choice in a data range due to rounding, truncating or analyzer specifications.

Hourly/minute data have been reviewed based on daily zero/span results and multi-point calibration results. Data may be considered invalid if a zero-corrected span check in excess of +/- 10% of the span concentration (established by the previous multi-point calibration) is encountered and/or significant differences in the calibration factor occurs (greater than 10%).

SULPHUR DIOXIDE (SO₂)

- Operational time for the monitoring period was 100%.
- The routine monthly calibration was performed on June 6.

TOTAL REDUCED SULPHUR (TRS)

- Operational time for the monitoring period was 100%.
- The routine monthly calibration was performed on June 6.

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

- Operational time for the monitoring period was 100%.
- On June 4, between 18:50 and 19:01, the fuel gas (H₂) cylinder was replaced. Minute data impacted by this activity were discarded and the corresponding hourly average was re-calculated. As such, the AMD's data completeness criteria were satisfied for hours 18:00 and 19:00 and the hourly data is considered valid. The corresponding maximum instantaneous data are, however, invalid.
- The routine monthly calibration was performed on June 6.
- The canister sampler is programmed to draw in a whole air sample when the 5-minute average concentration of NMHC is above 0.30 ppm. A representative sample of ambient air is collected over a one-hour period when the canister event is triggered. No canister event was recorded this month. A trigger test was performed during the routine monthly calibration on June 6 to assess the effectiveness of the canister system; no deficiencies were found.

WIND SPEED (WS) and WIND DIRECTION (WD)

- Operational time for the monitoring period was 100%.
- An anemometer sensor check was conducted on June 6. The result was satisfactory.
- Wind data is reported as vector wind speed and vector wind direction. Wind direction is defined as the direction from which the wind is blowing from and is measured in degrees from true north.

RELATIVE HUMIDITY (RH)

- Operational time for the monitoring period was 100%.

BAROMETRIC PRESSURE (BP)

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

AMBIENT TEMPERATURE (AmbTPX)

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

STATION TEMPERATURE (StnTPX)

- Operational time for the monitoring period was 100%.

2.0 Project Personnel

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

3.0 Plant Monthly Required AMD Summary

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

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

4.0 Calculations and Results

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

5.0 Methods and Procedures

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

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

Maxxam AIR SOP-00013: RM Young Wind Monitor Calibration

Maxxam AIR SOP-00209: Ambient Sulphur Monitoring

There were no deviations from the prescribed methods.

The following instruments were used to perform the test program:

Sulphur Dioxide - Thermo 43C UV Fluorescent Analyzer

Total Reduced Sulphur - Thermo 43i - TLE UV Fluorescent Analyzer

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

Wind System - RM Young Unit

Relative Humidity - RM Young Unit

Barometric Pressure - Met One Unit

Ambient Temperature - RM Young Unit

Datalogger - ESC 8832

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

Level 0 Preliminary Verification

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

Level 1 Primary Validation

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

Level 2 Final Validation

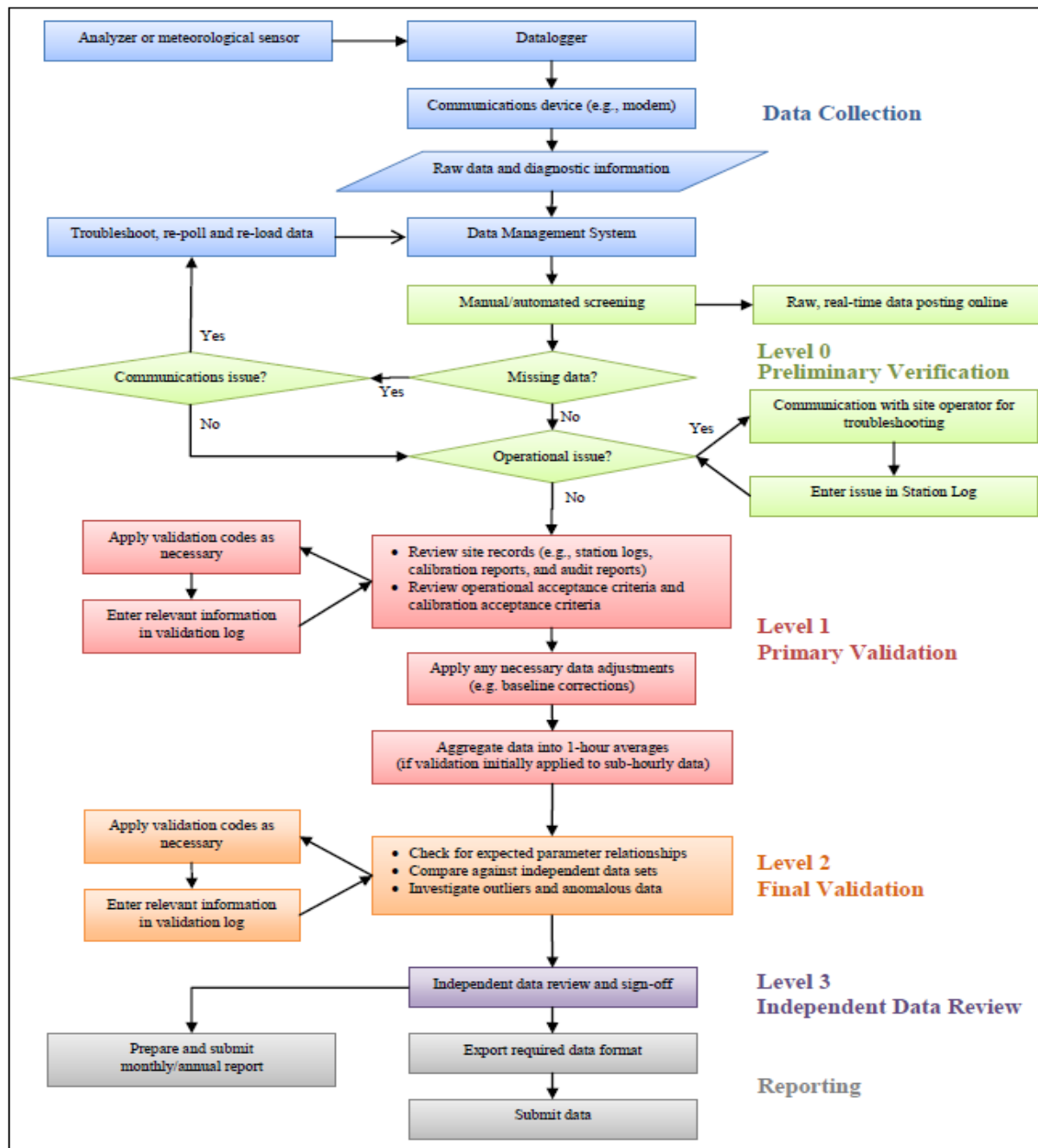
The purpose of Level 2 validation is to verify that there are no inconsistencies among related data, or among regional data measured at nearby sites.

Level 3 Independent Data Review

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

Post-Final Validation

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



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

APPENDIX I
CONTINUOUS MONITORING DATA RESULTS

SULPHUR DIOXIDE



SULPHUR DIOXIDE Hourly Averages (SO₂ ppb)

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

STATUS FLAG CODES

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

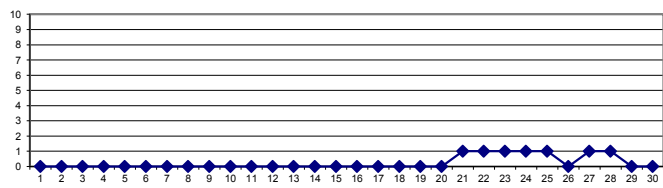
OBJECTIVE LIMIT:

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

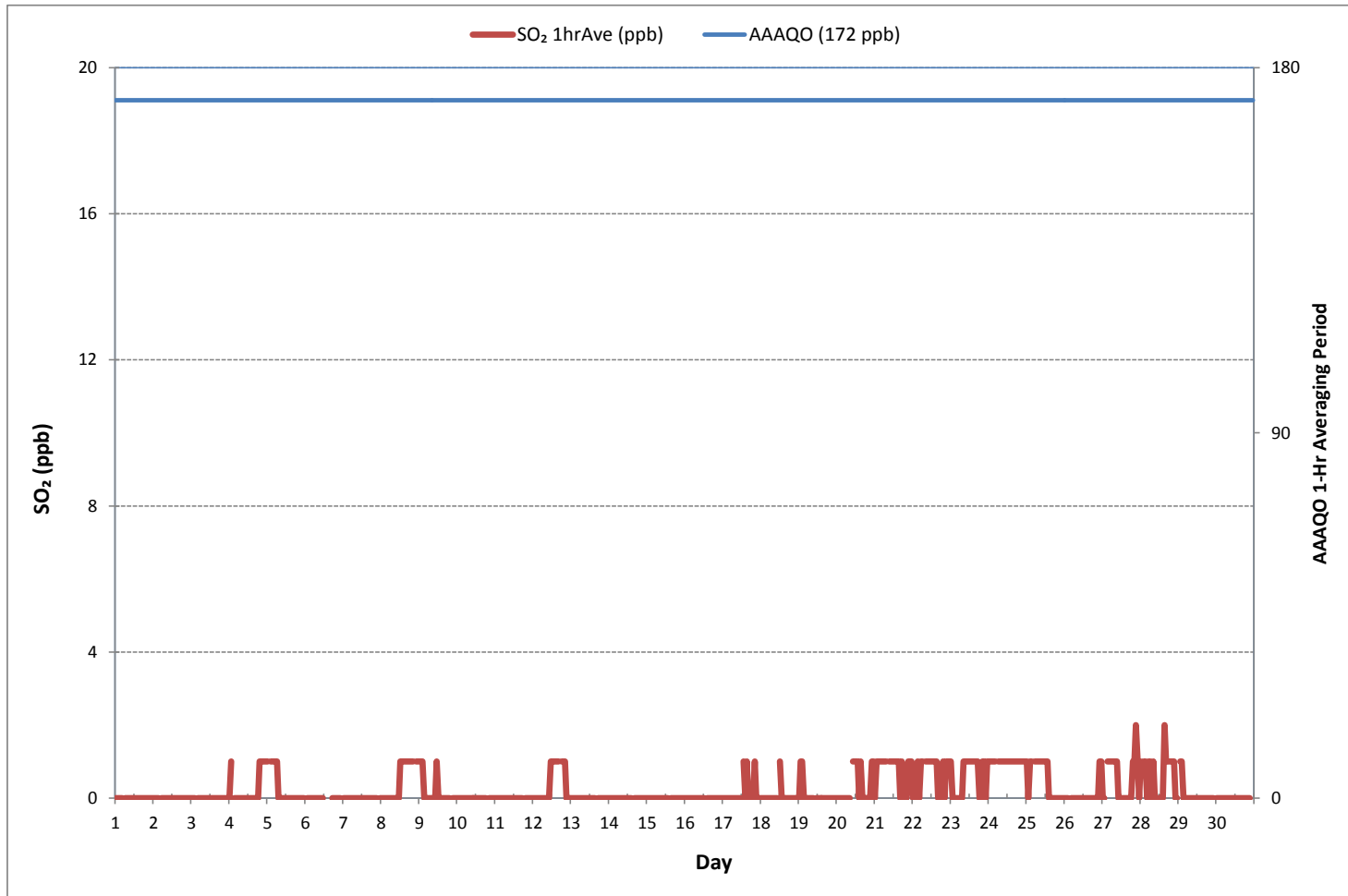
MONTHLY SUMMARY

| | | | |
|------------------------------|--------------|-----------------------|---------|
| NUMBER OF 1-HR EXCEEDANCES: | 0 | | |
| NUMBER OF 24-HR EXCEEDANCES: | 0 | | |
| NUMBER OF NON-ZERO READINGS: | 159 | | |
| MINIMUM 1-HR AVERAGE: | 0 ppb @ HOUR | 0 ON DAY | 1 |
| MAXIMUM 1-HR AVERAGE: | 2 ppb @ HOUR | 21 ON DAY | 27 |
| MAXIMUM 24-HR AVERAGE: | 1 ppb | ON DAY | 21 |
| IZS CALIBRATION TIME: | 32 hrs | OPERATIONAL TIME: | 720 hrs |
| MONTHLY CALIBRATION TIME: | 5 hrs | AMD OPERATION UPTIME: | 100.0 % |
| STANDARD DEVIATION: | 0 | MONTHLY AVERAGE: | 0 ppb |

24 HR AVERAGES June 2018



SULPHUR DIOXIDE Hourly Averages (SO₂ ppb)



Wind: PRAMP_986b
 Poll.: PRAMP_986b SO₂ [ppb]
 Monthly: 18/06
 Type: PollutionRose
 Direction: Blowing From (Wind Frequency)
 Based On 1 Hr.

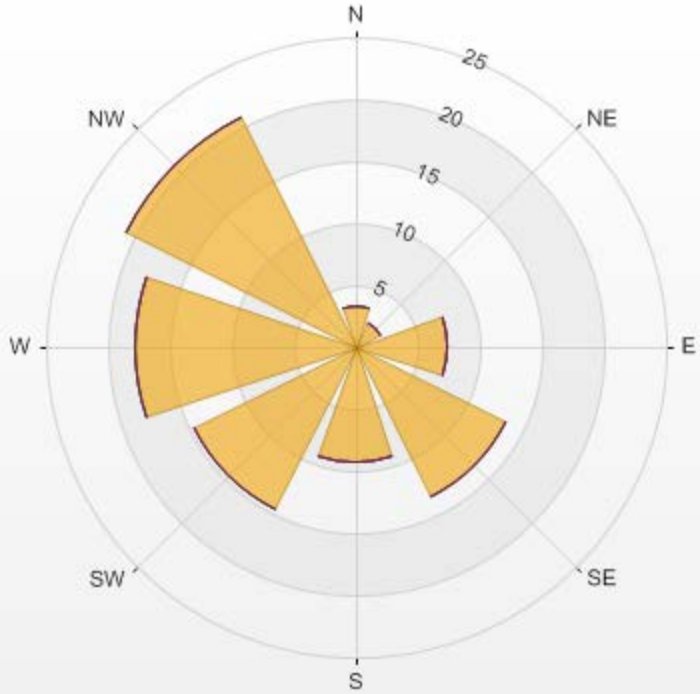
Calm: 10.83%

Calm Avg: 0.16 [ppb]

| Direction | 0-3 | 3-10 | 10-85 | 85-170 | >170.0 | Total |
|-----------|------|------|-------|--------|--------|-------|
| N | 3.4 | 0.0 | 0.0 | 0.0 | 0.0 | 3.4 |
| NE | 2.2 | 0.0 | 0.0 | 0.0 | 0.0 | 2.2 |
| E | 7.5 | 0.0 | 0.0 | 0.0 | 0.0 | 7.5 |
| SE | 13.5 | 0.0 | 0.0 | 0.0 | 0.0 | 13.5 |
| S | 9.4 | 0.0 | 0.0 | 0.0 | 0.0 | 9.4 |
| SW | 14.6 | 0.0 | 0.0 | 0.0 | 0.0 | 14.6 |
| W | 17.9 | 0.0 | 0.0 | 0.0 | 0.0 | 17.9 |
| NW | 20.8 | 0.0 | 0.0 | 0.0 | 0.0 | 20.8 |
| Summary | 89.2 | 0.0 | 0.0 | 0.0 | 0.0 | 89.2 |

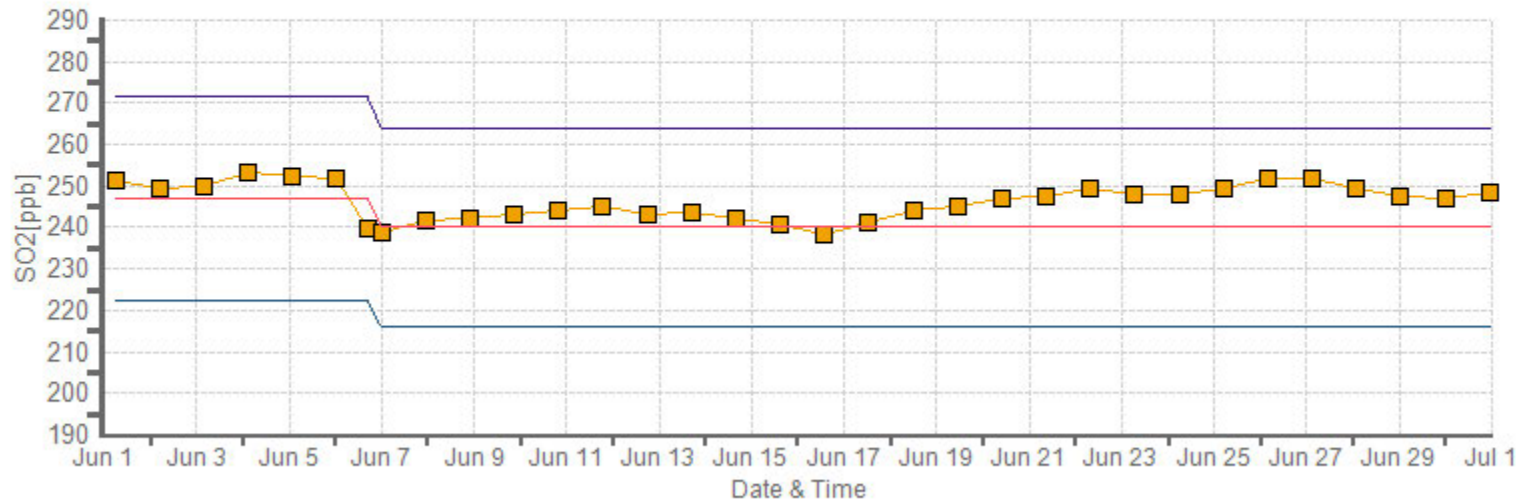
| | | | | | | | | | | |
|----------------------|----|-----|---|------|---|-------|---|--------|---|--------|
| % Icon Classes (ppb) | 89 | 0-3 | 0 | 3-10 | 0 | 10-85 | 0 | 85-170 | 0 | >170.0 |
|----------------------|----|-----|---|------|---|-------|---|--------|---|--------|

PRAMP_986b Poll.: PRAMP_986b SO2[ppb] 2018/06/01 00:00 - 2018/06/30 23:00 Calm: 10.83% Calm Poll Avg: 0.16[ppb]



SO2[ppb] Calibration: PRAMP_986b Monthly: 18/06 Type: Span

Span Meas Span Ref Span Low Span High



TOTAL REDUCED SULPHUR



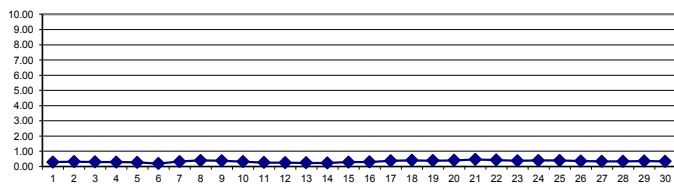
TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)

| HR START (MST) | 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | DAILY | DAILY | 24-HR | RDGS. | |
|----------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|
| HR END (MST) | 0:59 | 1:59 | 2:59 | 3:59 | 4:59 | 5:59 | 6:59 | 7:59 | 8:59 | 9:59 | 10:59 | 11:59 | 12:59 | 13:59 | 14:59 | 15:59 | 16:59 | 17:59 | 18:59 | 19:59 | 20:59 | 21:59 | 22:59 | 23:59 | MIN. | MAX. | AVG. | | |
| DAY 1 | 0.25 | 0.25 | 0.26 | 0.31 | 0.29 | S | 0.35 | 0.28 | 0.27 | 0.27 | 0.27 | 0.28 | 0.27 | 0.28 | 0.26 | 0.25 | 0.24 | 0.23 | 0.26 | 0.23 | 0.24 | 0.35 | 0.52 | 0.43 | 0.23 | 0.52 | 0.29 | 24 | |
| 2 | 0.46 | 0.48 | 0.39 | 0.48 | S | 0.40 | 0.37 | 0.35 | 0.31 | 0.31 | 0.30 | 0.28 | 0.27 | 0.26 | 0.26 | 0.24 | 0.26 | 0.25 | 0.24 | 0.24 | 0.24 | 0.34 | 0.35 | 0.35 | 0.24 | 0.48 | 0.32 | 24 | |
| 3 | 0.33 | 0.31 | 0.33 | S | 0.58 | 0.48 | 0.36 | 0.32 | 0.29 | 0.28 | 0.26 | 0.25 | 0.26 | 0.25 | 0.26 | 0.26 | 0.26 | 0.25 | 0.26 | 0.26 | 0.27 | 0.26 | 0.28 | 0.28 | 0.25 | 0.58 | 0.30 | 24 | |
| 4 | 0.27 | 0.30 | S | 0.39 | 0.35 | 0.35 | 0.33 | 0.34 | 0.36 | 0.27 | 0.26 | 0.24 | 0.25 | 0.27 | 0.28 | 0.27 | 0.26 | 0.26 | 0.27 | 0.27 | 0.28 | 0.28 | 0.26 | 0.25 | 0.24 | 0.39 | 0.29 | 24 | |
| 5 | 0.23 | S | 0.30 | 0.27 | 0.28 | 0.29 | 0.29 | 0.27 | 0.25 | 0.25 | 0.26 | 0.26 | 0.25 | 0.25 | 0.25 | 0.24 | 0.24 | 0.23 | 0.23 | 0.23 | 0.25 | 0.29 | 0.39 | 0.41 | 0.23 | 0.41 | 0.27 | 24 | |
| 6 | S | 0.28 | 0.22 | 0.17 | 0.20 | 0.17 | 0.17 | 0.11 | 0.18 | C | C | C | C | C | C | 0.30 | 0.13 | 0.12 | 0.11 | 0.14 | 0.17 | 0.21 | 0.32 | 0.29 | S | 0.11 | 0.32 | 0.19 | 24 |
| 7 | 0.43 | 0.38 | 0.40 | 0.36 | 0.44 | 0.36 | 0.32 | 0.29 | 0.28 | 0.28 | 0.29 | 0.30 | 0.27 | 0.28 | 0.28 | 0.28 | 0.27 | 0.28 | 0.32 | 0.31 | 0.31 | 0.32 | S | 0.50 | 0.27 | 0.50 | 0.33 | 24 | |
| 8 | 0.67 | 0.74 | 0.53 | 0.55 | 0.60 | 0.48 | 0.38 | 0.36 | 0.35 | 0.30 | 0.29 | 0.30 | 0.30 | 0.29 | 0.30 | 0.28 | 0.31 | 0.29 | 0.30 | 0.29 | 0.32 | S | 0.42 | 0.39 | 0.28 | 0.74 | 0.39 | 24 | |
| 9 | 0.38 | 0.36 | 0.42 | 0.57 | 0.38 | 0.44 | 0.40 | 0.36 | 0.37 | 0.34 | 0.34 | 0.34 | 0.31 | 0.31 | 0.29 | 0.32 | 0.30 | 0.27 | 0.27 | 0.31 | S | 0.42 | 0.39 | 0.58 | 0.27 | 0.58 | 0.37 | 24 | |
| 10 | 0.46 | 0.46 | 0.38 | 0.36 | 0.37 | 0.34 | 0.26 | 0.32 | 0.31 | 0.29 | 0.29 | 0.27 | 0.25 | 0.24 | 0.25 | 0.26 | 0.26 | 0.25 | 0.26 | S | 0.33 | 0.31 | 0.32 | 0.33 | 0.24 | 0.46 | 0.31 | 24 | |
| 11 | 0.30 | 0.29 | 0.28 | 0.28 | 0.25 | 0.27 | 0.27 | 0.28 | 0.27 | 0.25 | 0.25 | 0.24 | 0.23 | 0.24 | 0.24 | 0.23 | 0.24 | 0.24 | S | 0.28 | 0.26 | 0.26 | 0.26 | 0.25 | 0.23 | 0.30 | 0.26 | 24 | |
| 12 | 0.24 | 0.24 | 0.23 | 0.24 | 0.23 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.24 | 0.26 | 0.26 | 0.25 | 0.25 | 0.25 | S | 0.29 | 0.28 | 0.24 | 0.24 | 0.24 | 0.41 | 0.23 | 0.41 | 0.26 | 24 | | |
| 13 | 0.28 | 0.24 | 0.24 | 0.24 | 0.25 | 0.24 | 0.22 | 0.20 | 0.23 | 0.22 | 0.22 | 0.30 | 0.25 | 0.25 | 0.22 | 0.26 | S | 0.28 | 0.23 | 0.24 | 0.24 | 0.24 | 0.22 | 0.23 | 0.20 | 0.30 | 0.24 | 24 | |
| 14 | 0.24 | 0.22 | 0.20 | 0.22 | 0.23 | 0.21 | 0.21 | 0.25 | 0.23 | 0.21 | 0.22 | 0.23 | 0.22 | 0.20 | 0.22 | S | 0.28 | 0.23 | 0.24 | 0.24 | 0.24 | 0.31 | 0.33 | 0.30 | 0.20 | 0.33 | 0.24 | 24 | |
| 15 | 0.36 | 0.28 | 0.24 | 0.27 | 0.33 | 0.25 | 0.23 | 0.25 | 0.21 | 0.23 | 0.22 | 0.23 | 0.24 | 0.25 | S | 0.30 | 0.27 | 0.27 | 0.28 | 0.29 | 0.34 | 0.35 | 0.43 | 0.44 | 0.21 | 0.44 | 0.28 | 24 | |
| 16 | 0.46 | 0.43 | 0.38 | 0.34 | 0.34 | 0.25 | 0.27 | 0.28 | 0.29 | 0.28 | 0.27 | 0.24 | 0.26 | S | 0.31 | 0.26 | 0.26 | 0.25 | 0.26 | 0.25 | 0.28 | 0.33 | 0.32 | 0.33 | 0.24 | 0.46 | 0.30 | 24 | |
| 17 | 0.33 | 0.32 | 0.36 | 0.33 | 0.38 | 0.33 | 0.34 | 0.32 | 0.30 | 0.32 | 0.31 | 0.31 | S | 0.35 | 0.33 | 0.32 | 0.30 | 0.31 | 0.33 | 0.37 | 0.44 | 0.75 | 0.70 | 0.56 | 0.30 | 0.75 | 0.38 | 24 | |
| 18 | 0.50 | 0.46 | 0.52 | 0.43 | 0.59 | 0.45 | 0.39 | 0.35 | 0.33 | 0.33 | 0.33 | S | 0.36 | 0.31 | 0.29 | 0.33 | 0.31 | 0.30 | 0.28 | 0.30 | 0.48 | 0.66 | 0.56 | 0.55 | 0.28 | 0.66 | 0.41 | 24 | |
| 19 | 0.44 | 0.45 | 0.46 | 0.41 | 0.44 | 0.39 | 0.41 | 0.40 | 0.37 | 0.34 | S | 0.35 | 0.30 | 0.31 | 0.31 | 0.29 | 0.29 | 0.28 | 0.28 | 0.29 | 0.48 | 0.58 | 0.48 | 0.46 | 0.28 | 0.58 | 0.38 | 24 | |
| 20 | 0.42 | 0.39 | 0.41 | 0.45 | 0.43 | 0.42 | 0.41 | 0.37 | 0.36 | S | 0.44 | 0.38 | 0.36 | 0.34 | 0.33 | 0.31 | 0.29 | 0.28 | 0.32 | 0.39 | 0.53 | 0.42 | 0.44 | 0.73 | 0.28 | 0.73 | 0.40 | 24 | |
| 21 | 0.78 | 0.72 | 0.76 | 0.61 | 0.66 | 0.68 | 0.59 | 0.49 | S | 0.41 | 0.37 | 0.39 | 0.39 | 0.38 | 0.35 | 0.37 | 0.33 | 0.30 | 0.29 | 0.30 | 0.33 | 0.31 | 0.41 | 0.40 | 0.29 | 0.78 | 0.46 | 24 | |
| 22 | 0.41 | 0.46 | 0.50 | 0.58 | 0.78 | 0.67 | 0.58 | S | 0.53 | 0.49 | 0.44 | 0.38 | 0.35 | 0.33 | 0.33 | 0.33 | 0.31 | 0.29 | 0.31 | 0.34 | 0.34 | 0.39 | 0.39 | 0.36 | 0.29 | 0.78 | 0.43 | 24 | |
| 23 | 0.44 | 0.43 | 0.42 | 0.46 | 0.46 | 0.61 | S | 0.50 | 0.42 | 0.36 | 0.30 | 0.30 | 0.29 | 0.28 | 0.27 | 0.26 | 0.25 | 0.23 | 0.23 | 0.25 | 0.28 | 0.30 | 0.48 | 0.63 | 0.23 | 0.63 | 0.37 | 24 | |
| 24 | 0.53 | 0.49 | 0.74 | 0.62 | 0.48 | S | 0.51 | 0.48 | 0.47 | 0.40 | 0.33 | 0.29 | 0.27 | 0.26 | 0.27 | 0.25 | 0.25 | 0.26 | 0.31 | 0.35 | 0.36 | 0.40 | 0.43 | 0.38 | 0.25 | 0.74 | 0.40 | 24 | |
| 25 | 0.35 | 0.36 | 0.47 | 0.52 | S | 0.73 | 0.65 | 0.75 | 0.58 | 0.42 | 0.36 | 0.35 | 0.38 | 0.33 | 0.33 | 0.28 | 0.25 | 0.23 | 0.23 | 0.23 | 0.23 | 0.31 | 0.34 | 0.35 | 0.23 | 0.75 | 0.39 | 24 | |
| 26 | 0.35 | 0.36 | 0.58 | S | 0.83 | 0.87 | 0.40 | 0.33 | 0.29 | 0.32 | 0.30 | 0.30 | 0.29 | 0.28 | 0.26 | 0.25 | 0.27 | 0.25 | 0.26 | 0.27 | 0.29 | 0.28 | 0.27 | 0.30 | 0.25 | 0.87 | 0.36 | 24 | |
| 27 | 0.31 | 0.32 | S | 0.42 | 0.43 | 0.40 | 0.35 | 0.36 | 0.28 | 0.35 | 0.37 | 0.27 | 0.26 | 0.24 | 0.23 | 0.25 | 0.24 | 0.23 | 0.24 | 0.27 | 0.28 | 0.67 | 0.40 | 0.41 | 0.23 | 0.67 | 0.33 | 24 | |
| 28 | 0.54 | S | 0.45 | 0.41 | 0.47 | 0.47 | 0.42 | 0.37 | 0.29 | 0.26 | 0.25 | 0.25 | 0.25 | 0.23 | 0.22 | 0.29 | 0.26 | 0.28 | 0.27 | 0.25 | 0.32 | 0.41 | 0.40 | 0.44 | 0.22 | 0.54 | 0.34 | 24 | |
| 29 | S | 0.57 | 0.49 | 0.46 | 0.54 | 0.68 | 0.65 | 0.54 | 0.43 | 0.31 | 0.25 | 0.23 | 0.22 | 0.21 | 0.21 | 0.23 | 0.25 | 0.21 | 0.20 | 0.21 | 0.26 | 0.28 | 0.38 | S | 0.20 | 0.68 | 0.36 | 24 | |
| 30 | 0.50 | 0.43 | 0.39 | 0.48 | 0.55 | 0.56 | 0.45 | 0.34 | 0.31 | 0.32 | 0.26 | 0.26 | 0.24 | 0.24 | 0.24 | 0.24 | 0.23 | 0.23 | 0.25 | 0.28 | 0.30 | 0.39 | S | 0.33 | 0.23 | 0.56 | 0.34 | 24 | |
| HOURLY MAX | 0.78 | 0.74 | 0.76 | 0.62 | 0.83 | 0.87 | 0.65 | 0.75 | 0.58 | 0.49 | 0.44 | 0.39 | 0.39 | 0.38 | 0.35 | 0.37 | 0.33 | 0.31 | 0.33 | 0.39 | 0.53 | 0.75 | 0.70 | 0.73 | | | | | |
| HOURLY AVG | 0.40 | 0.39 | 0.41 | 0.40 | 0.43 | 0.43 | 0.37 | 0.35 | 0.32 | 0.31 | 0.30 | 0.29 | 0.28 | 0.28 | 0.27 | 0.27 | 0.26 | 0.25 | 0.26 | 0.28 | 0.31 | 0.37 | 0.38 | 0.41 | | | | | |

STATUS FLAG CODES

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

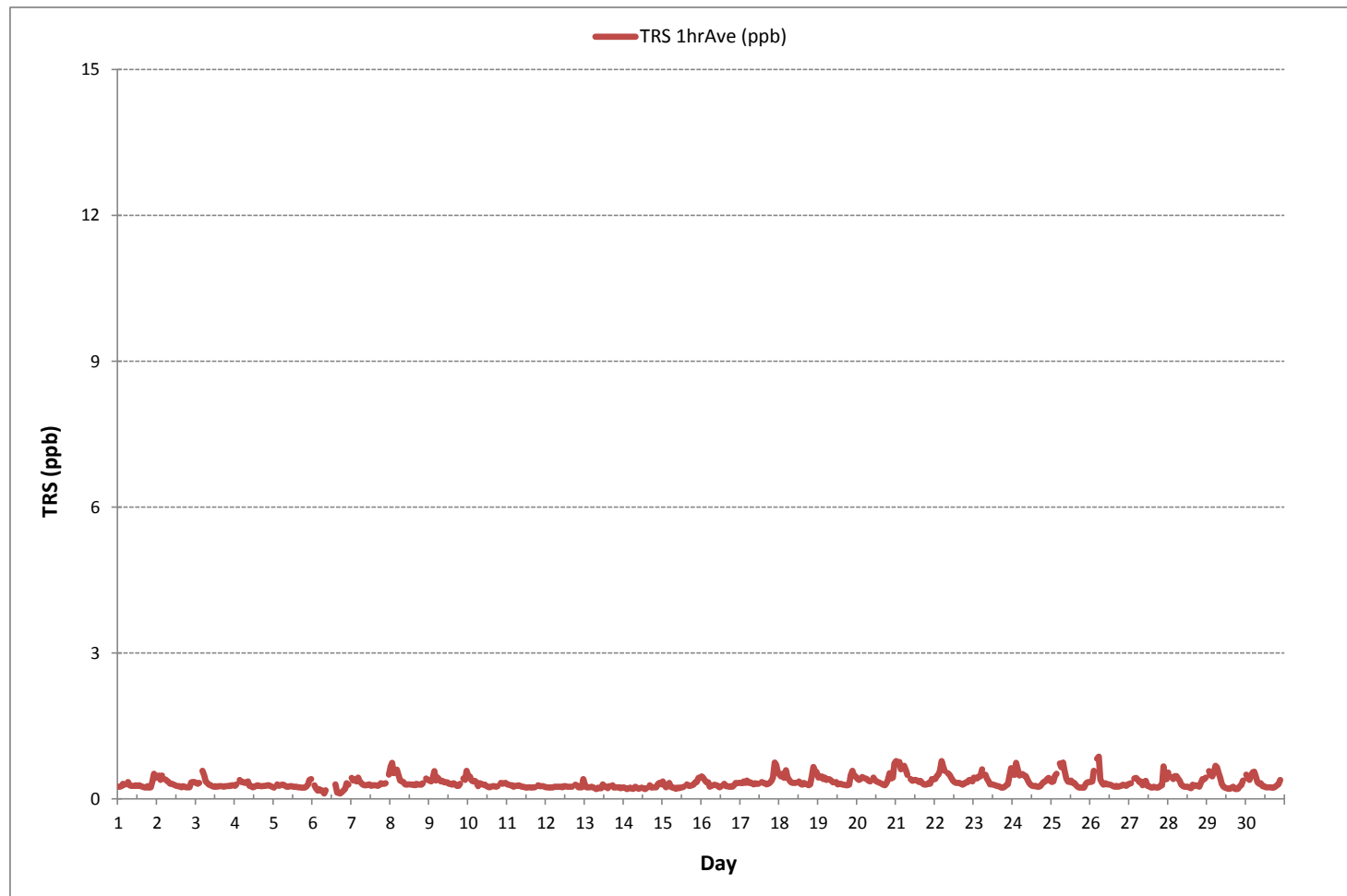
24 HR AVERAGES June 2018



MONTHLY SUMMARY

| | |
|------------------------------|-------------------------------------|
| NUMBER OF NON-ZERO READINGS: | 683 |
| MINIMUM 1-HR AVERAGE: | 0.11 ppb @ HOUR 7 ON DAY 6 |
| MAXIMUM 1-HR AVERAGE: | 0.87 ppb @ HOUR 5 ON DAY 26 |
| MAXIMUM 24-HR AVERAGE: | 0.46 ppb ON DAY 21 |
| IZS CALIBRATION TIME: | 32 hrs OPERATIONAL TIME: 720 hrs |
| MONTHLY CALIBRATION TIME: | 5 hrs AMD OPERATION UPTIME: 100.0 % |
| STANDARD DEVIATION: | 0.11 MONTHLY AVERAGE: 0.33 ppb |

TOTAL REDUCED SULPHUR Hourly Averages (TRS ppb)



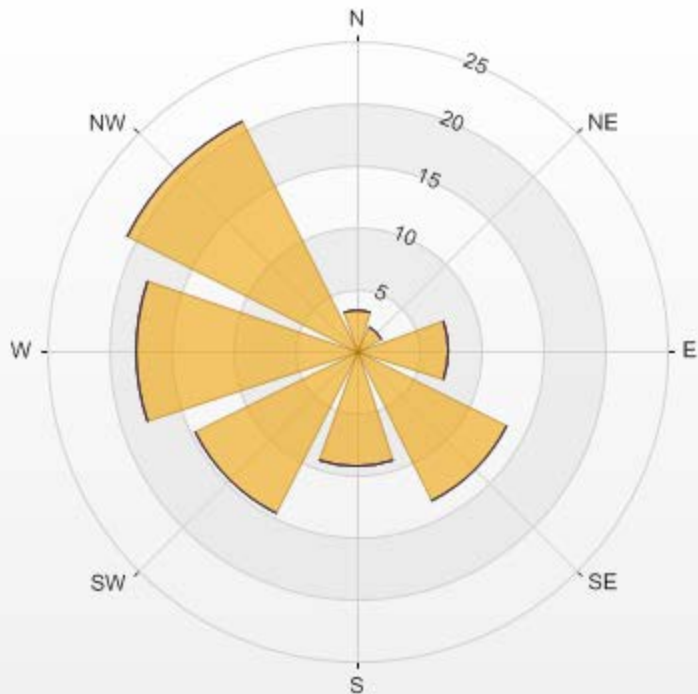
Wind: PRAMP_986b
 Poll.: PRAMP_986b TRS [ppb]
 Monthly: 18/06
 Type: PollutionRose
 Direction: Blowing From (Wind Frequency)
 Based On 1 Hr.

Calm: 10.83% Calm Avg: 0.43 [ppb]

| Direction | 0-1 | 1-3 | 3-10 | >10.0 | Total |
|----------------|------|-----|------|-------|-------|
| N | 3.4 | 0.0 | 0.0 | 0.0 | 3.4 |
| NE | 2.2 | 0.0 | 0.0 | 0.0 | 2.2 |
| E | 7.5 | 0.0 | 0.0 | 0.0 | 7.5 |
| SE | 13.5 | 0.0 | 0.0 | 0.0 | 13.5 |
| S | 9.4 | 0.0 | 0.0 | 0.0 | 9.4 |
| SW | 14.6 | 0.0 | 0.0 | 0.0 | 14.6 |
| W | 17.9 | 0.0 | 0.0 | 0.0 | 17.9 |
| NW | 20.8 | 0.0 | 0.0 | 0.0 | 20.8 |
| Summary | 89.2 | 0.0 | 0.0 | 0.0 | 89.2 |

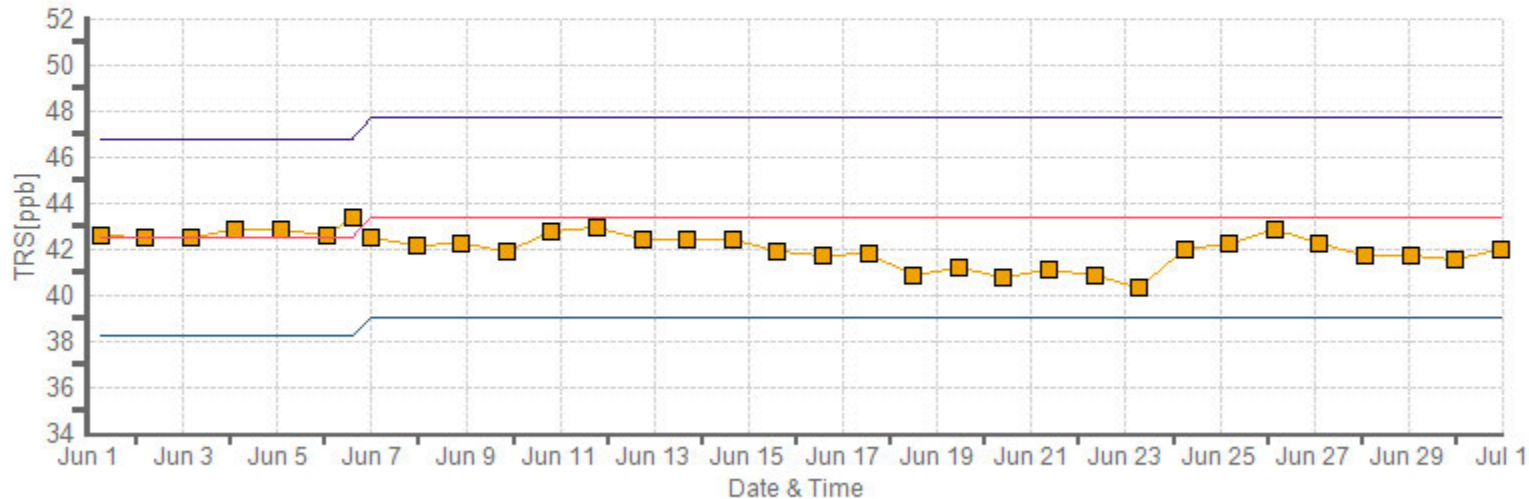
% Icon Classes (ppb) 89 0-1 0 1-3 0 3-10 0 >10.0

PRAMP_986b Poll.: PRAMP_986b TRS[ppb] 2018/06/01 00:00 - 2018/06/30 23:00 Calm: 10.83% Calm Poll Avg: 0.43[ppb]



TRS[ppb] Calibration: PRAMP_986b Monthly: 18/06 Type: Span

Span Meas Span Ref Span Low Span High



TOTAL HYDROCARBON



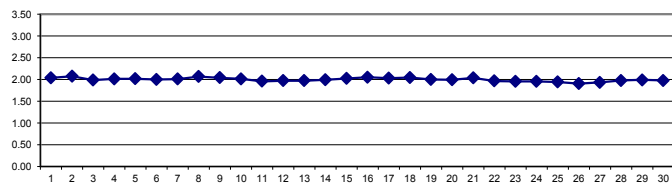
TOTAL HYDROCARBONS Hourly Averages (THC ppm)

| HR START (MST) | 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | DAILY | DAILY | 24-HR | RDGS. | |
|----------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|
| HR END (MST) | 0:59 | 1:59 | 2:59 | 3:59 | 4:59 | 5:59 | 6:59 | 7:59 | 8:59 | 9:59 | 10:59 | 11:59 | 12:59 | 13:59 | 14:59 | 15:59 | 16:59 | 17:59 | 18:59 | 19:59 | 20:59 | 21:59 | 22:59 | 23:59 | MIN. | MAX. | AVG. | | |
| DAY 1 | 1.99 | 1.99 | 2.00 | 2.02 | 2.03 | S | 2.02 | 2.01 | 2.00 | 1.99 | 1.99 | 2.00 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 1.98 | 1.99 | 2.04 | 2.82 | 2.17 | 1.98 | 2.82 | 2.04 | 24 | |
| 2 | 2.52 | 2.31 | 2.21 | 2.21 | S | 2.15 | 2.03 | 2.00 | 1.99 | 1.98 | 1.99 | 2.00 | 2.04 | 2.04 | 2.03 | 1.99 | 2.01 | 2.02 | 2.03 | 2.03 | 2.14 | 2.07 | 1.99 | 1.99 | 1.98 | 2.52 | 2.08 | 24 | |
| 3 | 2.02 | 1.99 | 1.98 | S | 2.06 | 2.02 | 2.00 | 2.03 | 1.98 | 1.97 | 1.97 | 1.98 | 1.98 | 1.99 | 1.97 | 1.97 | 1.97 | 1.98 | 1.99 | 1.97 | 1.99 | 2.00 | 1.97 | 2.00 | 1.97 | 2.06 | 1.99 | 24 | |
| 4 | 2.00 | 2.02 | S | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.02 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.01 | 2.02 | 2.02 | 2.04 | 2.02 | 2.03 | 2.07 | 2.05 | 2.06 | 2.04 | 1.99 | 2.07 | 2.01 | 24 | |
| 5 | 2.02 | S | 2.02 | 2.00 | 2.01 | 2.01 | 2.01 | 2.05 | 2.04 | 2.04 | 2.05 | 2.03 | 2.02 | 2.02 | 2.01 | 2.01 | 1.99 | 2.00 | 2.00 | 1.99 | 2.01 | 1.99 | 2.04 | 2.06 | 1.99 | 2.06 | 2.02 | 24 | |
| 6 | S | 2.03 | 2.02 | 2.02 | 2.04 | 2.04 | 2.05 | 2.03 | 2.00 | C | C | C | C | C | C | C | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 2.05 | 1.98 | S | 1.96 | 2.05 | 2.00 | 24 |
| 7 | 2.04 | 2.00 | 2.05 | 2.06 | 2.03 | 2.01 | 1.99 | 1.98 | 1.98 | 1.99 | 1.98 | 1.97 | 1.96 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 2.00 | 2.02 | 1.96 | 1.97 | S | 2.49 | 1.95 | 2.49 | 2.01 | 24 | |
| 8 | 2.19 | 2.65 | 2.31 | 2.25 | 2.03 | 2.14 | 2.02 | 2.02 | 1.99 | 1.96 | 1.95 | 1.95 | 1.96 | 1.96 | 1.95 | 1.97 | 1.96 | 2.02 | 1.98 | 1.97 | 2.09 | S | 2.10 | 2.14 | 1.95 | 2.65 | 2.07 | 24 | |
| 9 | 2.00 | 2.08 | 2.06 | 2.22 | 1.97 | 2.14 | 2.01 | 1.96 | 1.96 | 2.00 | 2.03 | 2.02 | 2.01 | 1.98 | 1.97 | 2.01 | 1.97 | 1.95 | 2.00 | 2.05 | S | 2.12 | 2.00 | 2.46 | 1.95 | 2.46 | 2.04 | 24 | |
| 10 | 2.07 | 2.25 | 2.03 | 2.01 | 2.12 | 2.01 | 1.98 | 2.03 | 2.06 | 2.04 | 2.02 | 2.02 | 1.99 | 1.96 | 1.96 | 2.01 | 1.99 | 1.96 | 1.95 | S | 1.94 | 1.94 | 1.98 | 2.01 | 1.94 | 2.25 | 2.01 | 24 | |
| 11 | 1.98 | 1.95 | 1.96 | 1.98 | 1.97 | 1.99 | 1.99 | 1.96 | 1.95 | 1.95 | 1.95 | 1.94 | 1.94 | 1.95 | 1.95 | 1.96 | 1.96 | 1.97 | S | 1.95 | 1.95 | 1.96 | 1.97 | 1.98 | 1.94 | 1.99 | 1.96 | 24 | |
| 12 | 1.98 | 1.96 | 1.97 | 1.97 | 1.98 | 1.98 | 1.99 | 1.98 | 1.97 | 1.97 | 1.96 | 1.97 | 1.99 | 1.97 | 1.97 | 1.97 | 2.00 | S | 1.96 | 1.98 | 1.98 | 1.98 | 1.97 | 1.97 | 1.96 | 2.00 | 1.97 | 24 | |
| 13 | 1.98 | 1.97 | 1.98 | 1.98 | 1.99 | 2.00 | 1.98 | 1.96 | 1.98 | 1.97 | 1.97 | 1.96 | 1.97 | 1.97 | 1.97 | 1.98 | S | 1.97 | 1.98 | 1.98 | 2.00 | 1.97 | 1.97 | 1.97 | 1.96 | 2.00 | 1.98 | 24 | |
| 14 | 2.00 | 2.04 | 2.04 | 2.01 | 2.14 | 2.03 | 1.98 | 1.98 | 1.97 | 1.97 | 1.98 | 1.99 | 1.98 | 1.98 | 1.97 | S | 1.97 | 1.96 | 1.97 | 1.97 | 1.97 | 1.98 | 2.01 | 2.04 | 1.98 | 1.97 | 2.14 | 2.00 | 24 |
| 15 | 2.17 | 2.02 | 2.03 | 2.05 | 1.99 | 2.00 | 2.02 | 2.00 | 1.99 | 2.00 | 1.99 | 1.98 | 1.97 | 1.98 | S | 1.98 | 1.98 | 1.99 | 1.98 | 1.98 | 2.00 | 2.06 | 2.14 | 2.32 | 1.97 | 2.32 | 2.03 | 24 | |
| 16 | 2.45 | 2.17 | 2.26 | 2.18 | 2.22 | 2.04 | 2.04 | 1.99 | 1.98 | 1.97 | 1.97 | 1.97 | 1.98 | S | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.98 | 2.08 | 2.06 | 2.08 | 1.96 | 2.45 | 2.05 | 24 | |
| 17 | 1.98 | 2.01 | 1.99 | 2.00 | 2.01 | 2.00 | 2.04 | 1.99 | 1.98 | 1.98 | 1.97 | 1.97 | S | 1.97 | 1.96 | 1.97 | 1.96 | 1.97 | 2.06 | 1.98 | 2.06 | 2.52 | 2.21 | 2.19 | 1.96 | 2.52 | 2.03 | 24 | |
| 18 | 2.09 | 2.11 | 2.28 | 2.20 | 2.58 | 2.12 | 2.06 | 2.00 | 1.99 | 1.98 | 1.96 | S | 1.95 | 1.95 | 1.93 | 1.93 | 1.94 | 1.93 | 1.93 | 2.03 | 1.95 | 2.05 | 2.00 | 2.12 | 1.93 | 2.58 | 2.05 | 24 | |
| 19 | 2.04 | 2.10 | 2.11 | 2.08 | 2.05 | 2.02 | 2.01 | 1.99 | 1.98 | 1.97 | S | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.96 | 1.96 | 2.11 | 1.98 | 1.96 | 2.00 | 1.96 | 2.11 | 2.00 | 24 | |
| 20 | 1.98 | 1.99 | 2.00 | 1.98 | 1.99 | 1.99 | 2.00 | 1.99 | 1.99 | S | 1.99 | 1.97 | 1.96 | 1.95 | 1.93 | 1.92 | 1.92 | 1.93 | 1.95 | 2.02 | 2.00 | 2.03 | 1.99 | 2.48 | 1.92 | 2.48 | 2.00 | 24 | |
| 21 | 2.38 | 2.14 | 2.09 | 2.07 | 2.06 | 2.07 | 2.07 | 2.08 | S | 2.02 | 2.01 | 2.03 | 2.04 | 2.01 | 1.99 | 2.00 | 1.96 | 1.97 | 1.97 | 1.98 | 1.98 | 1.98 | 1.97 | 1.98 | 1.96 | 2.38 | 2.04 | 24 | |
| 22 | 1.96 | 1.98 | 2.03 | 2.07 | 2.01 | 1.99 | 1.98 | S | 1.99 | 1.97 | 1.97 | 1.94 | 1.93 | 1.93 | 1.93 | 1.93 | 1.94 | 1.94 | 1.96 | 1.96 | 1.94 | 1.96 | 2.00 | 1.97 | 1.93 | 2.07 | 1.97 | 24 | |
| 23 | 2.00 | 2.04 | 1.98 | 2.01 | 2.00 | 2.01 | S | 1.95 | 1.93 | 1.92 | 1.92 | 1.93 | 1.93 | 1.91 | 1.92 | 1.92 | 1.92 | 1.92 | 1.91 | 1.92 | 1.92 | 1.93 | 2.12 | 2.07 | 1.91 | 2.12 | 1.96 | 24 | |
| 24 | 1.96 | 1.96 | 2.11 | 1.96 | 1.95 | S | 1.95 | 1.96 | 1.95 | 1.95 | 1.94 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.94 | 1.96 | 1.96 | 1.95 | 1.95 | 2.02 | 1.99 | 1.97 | 1.93 | 2.11 | 1.96 | 24 | |
| 25 | 1.96 | 1.96 | 1.97 | 1.97 | S | 1.97 | 1.98 | 2.00 | 2.00 | 1.98 | 1.97 | 1.97 | 1.96 | 1.92 | 1.90 | 1.91 | 1.91 | 1.91 | 1.91 | 1.91 | 1.92 | 1.92 | 1.91 | 1.92 | 1.91 | 1.92 | 1.91 | 24 | |
| 26 | 1.92 | 1.92 | 1.92 | S | 1.92 | 1.92 | 1.91 | 1.91 | 1.91 | 1.90 | 1.90 | 1.90 | 1.90 | 1.91 | 1.90 | 1.92 | 1.91 | 1.91 | 1.91 | 1.90 | 1.90 | 1.91 | 1.91 | 1.91 | 1.91 | 1.90 | 1.92 | 1.91 | 24 |
| 27 | 1.91 | 1.92 | S | 1.92 | 1.93 | 1.92 | 1.92 | 1.92 | 1.93 | 1.93 | 1.93 | 1.93 | 1.96 | 1.93 | 1.94 | 1.95 | 1.97 | 1.94 | 1.94 | 1.92 | 1.92 | 1.91 | 1.91 | 1.91 | 1.91 | 1.91 | 1.97 | 1.93 | 24 |
| 28 | 2.03 | S | 1.94 | 1.98 | 2.00 | 2.01 | 1.94 | 1.93 | 1.94 | 1.94 | 1.95 | 1.94 | 1.96 | 1.94 | 1.95 | 1.92 | 1.92 | 1.95 | 1.94 | 1.95 | 2.05 | 2.17 | 2.04 | 2.08 | 1.92 | 2.17 | 1.98 | 24 | |
| 29 | S | 2.12 | 2.00 | 2.01 | 2.03 | 2.03 | 2.01 | 2.00 | 2.01 | 1.98 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.96 | 1.95 | 1.95 | 1.95 | 1.96 | 2.07 | 2.09 | S | 1.94 | 1.94 | 2.12 | 1.99 | 24 |
| 30 | 2.19 | 2.13 | 1.99 | 2.00 | 2.02 | 2.01 | 1.96 | 1.96 | 1.96 | 1.96 | 1.95 | 1.95 | 1.94 | 1.94 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.97 | 1.96 | 1.96 | 1.95 | S | 1.94 | 1.93 | 2.19 | 1.98 | 24 |
| HOURLY MAX | 2.52 | 2.65 | 2.31 | 2.25 | 2.58 | 2.15 | 2.07 | 2.08 | 2.06 | 2.04 | 2.05 | 2.03 | 2.04 | 2.04 | 2.03 | 2.02 | 2.02 | 2.04 | 2.06 | 2.05 | 2.14 | 2.52 | 2.82 | 2.49 | | | | | |
| HOURLY AVG | 2.06 | 2.06 | 2.05 | 2.04 | 2.04 | 2.02 | 2.00 | 1.99 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.99 | 2.02 | 2.05 | 2.08 | | | | |

STATUS FLAG CODES

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

24 HR AVERAGES June 2018

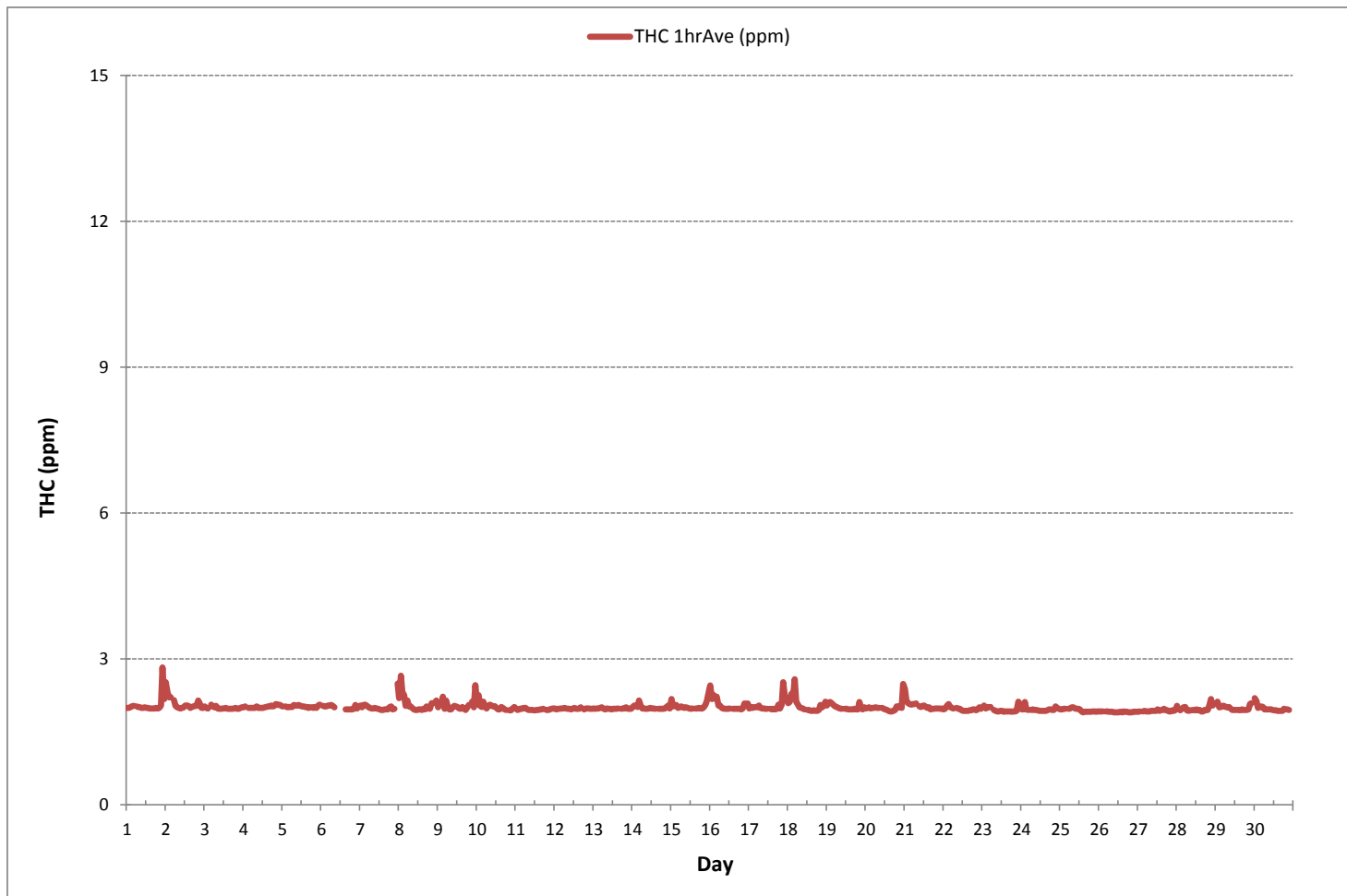


MONTHLY SUMMARY

| | | | | |
|------------------------------|----------|-----------------------|----------|-----------|
| NUMBER OF NON-ZERO READINGS: | 682 | | | |
| MINIMUM 1-HR AVERAGE: | 1.90 ppm | @ HOUR | 14 | ON DAY 25 |
| MAXIMUM 1-HR AVERAGE: | 2.82 ppm | @ HOUR | 22 | ON DAY 1 |
| MAXIMUM 24-HR AVERAGE: | 2.08 ppm | | | ON DAY 2 |
| IZS CALIBRATION TIME: | 32 hrs | OPERATIONAL TIME: | 720 hrs | |
| MONTHLY CALIBRATION TIME: | 6 hrs | AMD OPERATION UPTIME: | 100.0 % | |
| STANDARD DEVIATION: | 0.09 | MONTHLY AVERAGE: | 2.00 ppm | |



TOTAL HYDROCARBONS Hourly Averages (THC ppm)



Wind: PRAMP_986b
 Poll.: PRAMP_986b THC55 [ppm]
 Monthly: 18/06
 Type: PollutionRose
 Direction: Blowing From (Wind Frequency)
 Based On 1 Hr.

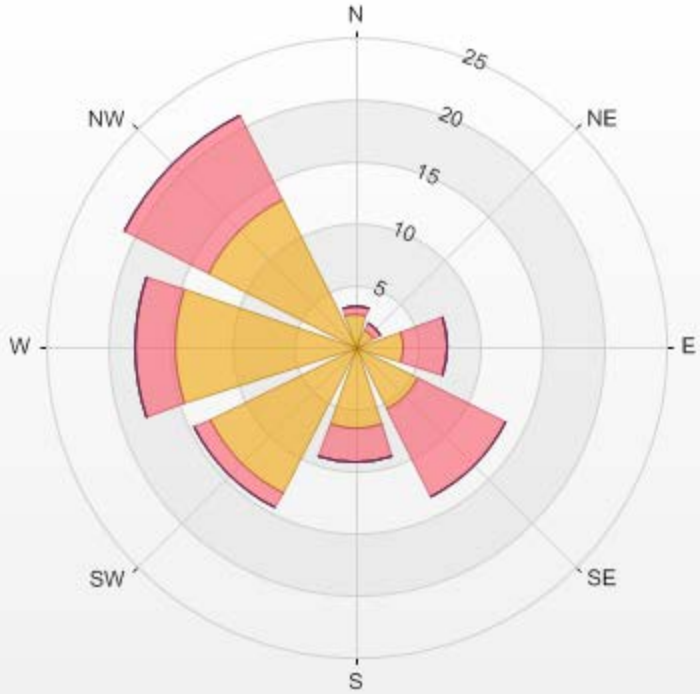
Calm: 10.85%

Calm Avg: 2.09 [ppm]

| Direction | 0-2 | 2-3 | 3-5 | 5-10 | >10.0 | Total |
|-----------|------|------|-----|------|-------|-------|
| N | 2.6 | 0.7 | 0.0 | 0.0 | 0.0 | 3.4 |
| NE | 1.6 | 0.6 | 0.0 | 0.0 | 0.0 | 2.2 |
| E | 3.8 | 3.7 | 0.0 | 0.0 | 0.0 | 7.5 |
| SE | 5.6 | 7.9 | 0.0 | 0.0 | 0.0 | 13.5 |
| S | 6.6 | 2.8 | 0.0 | 0.0 | 0.0 | 9.4 |
| SW | 13.2 | 1.3 | 0.0 | 0.0 | 0.0 | 14.5 |
| W | 14.5 | 3.4 | 0.0 | 0.0 | 0.0 | 17.9 |
| NW | 13.3 | 7.5 | 0.0 | 0.0 | 0.0 | 20.8 |
| Summary | 61.3 | 27.9 | 0.0 | 0.0 | 0.0 | 89.2 |

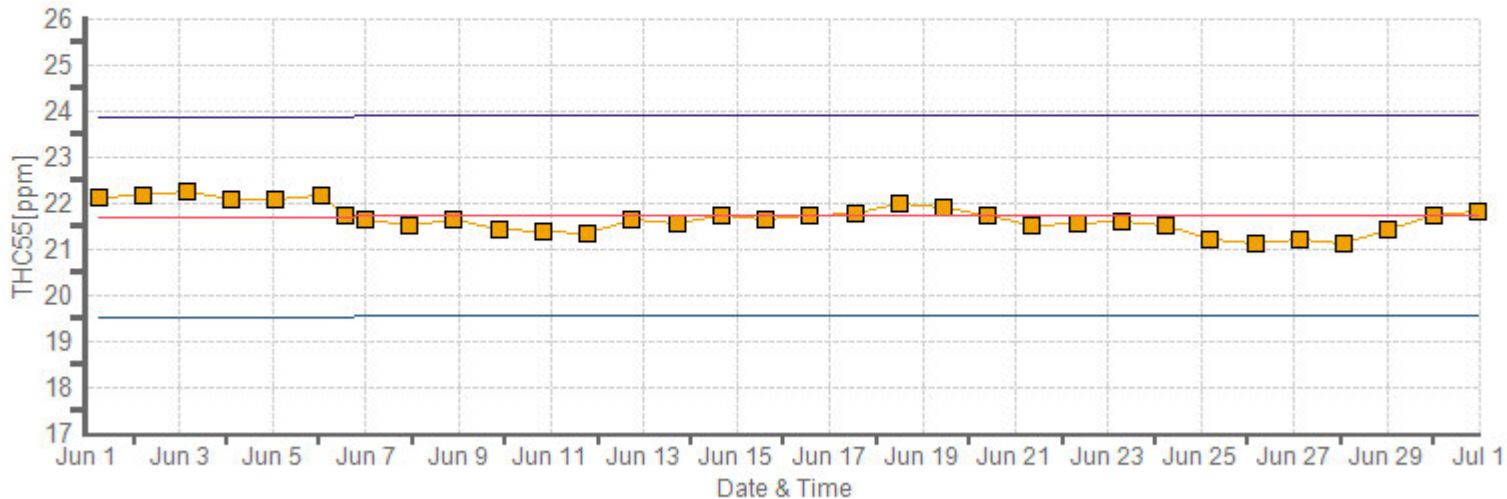
% Icon Classes (ppm) 61 0-2 28 2-3 0 3-5 0 5-10 0 >10.0

PRAMP_986b Poll.: PRAMP_986b THC55[ppm] 2018/06/01 00:00 - 2018/06/30 23:00 Calm: 10.85% Calm Poll Avg: 2.09[ppm]



THC55[ppm] Calibration: PRAMP_986b Monthly: 18/06 Type: Span

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



METHANE



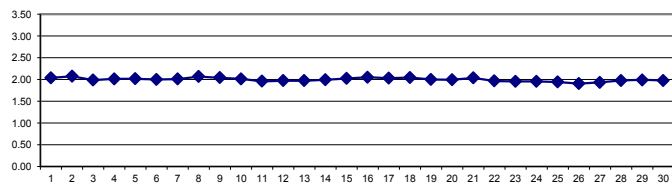
METHANE Hourly Averages (CH₄ ppm)

| HR START (MST) | 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | DAILY | DAILY | 24-HR | RDGS. | |
|----------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|
| HR END (MST) | 0:59 | 1:59 | 2:59 | 3:59 | 4:59 | 5:59 | 6:59 | 7:59 | 8:59 | 9:59 | 10:59 | 11:59 | 12:59 | 13:59 | 14:59 | 15:59 | 16:59 | 17:59 | 18:59 | 19:59 | 20:59 | 21:59 | 22:59 | 23:59 | MIN. | MAX. | AVG. | | |
| DAY 1 | 1.99 | 1.99 | 2.00 | 2.02 | 2.03 | S | 2.02 | 2.01 | 2.00 | 1.99 | 1.99 | 2.00 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 1.98 | 1.99 | 2.04 | 2.82 | 2.17 | 1.98 | 2.82 | 2.04 | 24 | |
| 2 | 2.52 | 2.31 | 2.21 | 2.21 | S | 2.15 | 2.03 | 2.00 | 1.99 | 1.98 | 1.99 | 2.00 | 2.04 | 2.04 | 2.03 | 1.99 | 2.01 | 2.02 | 2.03 | 2.03 | 2.14 | 2.07 | 1.99 | 1.99 | 1.98 | 2.52 | 2.08 | 24 | |
| 3 | 2.02 | 1.99 | 1.98 | S | 2.06 | 2.02 | 2.00 | 2.03 | 1.98 | 1.97 | 1.97 | 1.98 | 1.98 | 1.99 | 1.97 | 1.97 | 1.97 | 1.98 | 1.99 | 1.97 | 1.99 | 2.00 | 1.97 | 2.00 | 1.97 | 2.06 | 1.99 | 24 | |
| 4 | 2.00 | 2.02 | S | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.02 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.01 | 2.02 | 2.02 | 2.04 | 2.02 | 2.03 | 2.07 | 2.05 | 2.06 | 2.04 | 1.99 | 2.07 | 2.01 | 24 | |
| 5 | 2.02 | S | 2.02 | 2.00 | 2.01 | 2.01 | 2.01 | 2.05 | 2.04 | 2.04 | 2.05 | 2.03 | 2.02 | 2.02 | 2.01 | 2.01 | 1.99 | 2.00 | 2.00 | 1.99 | 2.01 | 1.99 | 2.04 | 2.06 | 1.99 | 2.06 | 2.02 | 24 | |
| 6 | S | 2.03 | 2.02 | 2.02 | 2.04 | 2.04 | 2.05 | 2.03 | 2.00 | C | C | C | C | C | C | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 2.05 | 1.98 | S | 1.96 | 2.05 | 2.00 | 24 | |
| 7 | 2.04 | 2.00 | 2.05 | 2.06 | 2.03 | 2.01 | 1.99 | 1.98 | 1.98 | 1.99 | 1.98 | 1.97 | 1.96 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 2.00 | 2.02 | 1.96 | 1.97 | S | 2.49 | 1.95 | 2.49 | 2.01 | 24 | |
| 8 | 2.19 | 2.65 | 2.31 | 2.25 | 2.03 | 2.14 | 2.02 | 2.02 | 1.99 | 1.96 | 1.95 | 1.95 | 1.96 | 1.96 | 1.95 | 1.97 | 1.96 | 2.02 | 1.98 | 1.97 | 2.09 | S | 2.10 | 2.14 | 1.95 | 2.65 | 2.07 | 24 | |
| 9 | 2.00 | 2.08 | 2.06 | 2.22 | 1.97 | 2.14 | 2.01 | 1.96 | 1.96 | 2.00 | 2.03 | 2.02 | 2.01 | 1.98 | 1.97 | 2.01 | 1.97 | 1.95 | 2.00 | 2.05 | S | 2.12 | 2.00 | 2.46 | 1.95 | 2.46 | 2.04 | 24 | |
| 10 | 2.07 | 2.25 | 2.03 | 2.01 | 2.12 | 2.01 | 1.98 | 2.03 | 2.06 | 2.04 | 2.02 | 2.02 | 1.99 | 1.96 | 1.96 | 2.01 | 1.99 | 1.96 | 1.95 | S | 1.94 | 1.94 | 1.98 | 2.01 | 1.94 | 2.25 | 2.01 | 24 | |
| 11 | 1.98 | 1.95 | 1.96 | 1.98 | 1.97 | 1.99 | 1.99 | 1.96 | 1.95 | 1.95 | 1.95 | 1.94 | 1.94 | 1.95 | 1.95 | 1.96 | 1.96 | 1.97 | S | 1.95 | 1.95 | 1.96 | 1.97 | 1.98 | 1.94 | 1.99 | 1.96 | 24 | |
| 12 | 1.98 | 1.96 | 1.97 | 1.97 | 1.98 | 1.98 | 1.99 | 1.98 | 1.97 | 1.97 | 1.96 | 1.97 | 1.99 | 1.97 | 1.97 | 1.97 | 2.00 | S | 1.96 | 1.98 | 1.98 | 1.98 | 1.97 | 1.97 | 1.96 | 2.00 | 1.97 | 24 | |
| 13 | 1.98 | 1.97 | 1.98 | 1.98 | 1.99 | 2.00 | 1.98 | 1.96 | 1.98 | 1.97 | 1.97 | 1.96 | 1.97 | 1.97 | 1.97 | 1.98 | S | 1.97 | 1.98 | 1.98 | 2.00 | 1.97 | 1.97 | 1.97 | 1.96 | 2.00 | 1.98 | 24 | |
| 14 | 2.00 | 2.04 | 2.04 | 2.01 | 2.14 | 2.03 | 1.98 | 1.98 | 1.97 | 1.97 | 1.98 | 1.99 | 1.98 | 1.98 | 1.97 | S | 1.97 | 1.96 | 1.97 | 1.97 | 1.97 | 1.98 | 2.01 | 2.04 | 1.98 | 1.97 | 2.14 | 2.00 | 24 |
| 15 | 2.17 | 2.02 | 2.03 | 2.05 | 1.99 | 2.00 | 2.02 | 2.00 | 1.99 | 1.98 | 1.98 | 1.97 | 1.98 | S | 1.98 | 1.98 | 1.98 | 1.99 | 1.98 | 1.98 | 2.00 | 2.06 | 2.14 | 2.32 | 1.97 | 2.32 | 2.03 | 24 | |
| 16 | 2.45 | 2.17 | 2.26 | 2.18 | 2.22 | 2.04 | 2.04 | 1.99 | 1.98 | 1.97 | 1.97 | 1.97 | 1.98 | S | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.98 | 2.08 | 2.06 | 2.08 | 1.96 | 2.45 | 2.05 | 24 | |
| 17 | 1.98 | 2.01 | 1.99 | 2.00 | 2.01 | 2.00 | 2.04 | 1.99 | 1.98 | 1.98 | 1.97 | 1.97 | S | 1.97 | 1.96 | 1.97 | 1.96 | 1.97 | 2.06 | 1.98 | 2.06 | 2.52 | 2.21 | 2.19 | 1.96 | 2.52 | 2.03 | 24 | |
| 18 | 2.09 | 2.11 | 2.28 | 2.20 | 2.58 | 2.12 | 2.06 | 2.00 | 1.99 | 1.98 | 1.96 | S | 1.95 | 1.95 | 1.93 | 1.93 | 1.94 | 1.93 | 1.93 | 2.03 | 1.95 | 2.04 | 2.00 | 2.12 | 1.93 | 2.58 | 2.05 | 24 | |
| 19 | 2.04 | 2.10 | 2.11 | 2.08 | 2.05 | 2.02 | 2.01 | 1.99 | 1.98 | 1.97 | S | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.96 | 1.96 | 2.09 | 1.97 | 1.96 | 2.00 | 1.96 | 2.11 | 2.00 | 24 | |
| 20 | 1.98 | 1.99 | 2.00 | 1.98 | 1.99 | 1.99 | 2.00 | 1.99 | 1.99 | S | 1.99 | 1.97 | 1.96 | 1.95 | 1.93 | 1.92 | 1.92 | 1.93 | 1.95 | 1.94 | 1.95 | 2.03 | 1.99 | 2.48 | 1.92 | 2.48 | 1.99 | 24 | |
| 21 | 2.38 | 2.14 | 2.09 | 2.07 | 2.06 | 2.07 | 2.07 | 2.08 | S | 2.02 | 2.01 | 2.03 | 2.04 | 2.01 | 1.99 | 2.00 | 1.96 | 1.97 | 1.97 | 1.98 | 1.98 | 1.98 | 1.97 | 1.98 | 1.96 | 2.38 | 2.04 | 24 | |
| 22 | 1.96 | 1.98 | 2.03 | 2.07 | 2.01 | 1.99 | 1.98 | S | 1.99 | 1.97 | 1.97 | 1.94 | 1.93 | 1.93 | 1.93 | 1.93 | 1.94 | 1.94 | 1.96 | 1.94 | 1.96 | 2.00 | 1.97 | 1.93 | 2.07 | 1.97 | 24 | | |
| 23 | 2.00 | 2.04 | 1.98 | 2.01 | 2.00 | 2.01 | S | 1.95 | 1.93 | 1.92 | 1.92 | 1.93 | 1.93 | 1.91 | 1.92 | 1.92 | 1.92 | 1.92 | 1.91 | 1.92 | 1.92 | 1.93 | 2.12 | 2.07 | 1.91 | 2.12 | 1.96 | 24 | |
| 24 | 1.96 | 1.96 | 2.11 | 1.96 | 1.95 | S | 1.95 | 1.96 | 1.95 | 1.95 | 1.94 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.94 | 1.96 | 1.96 | 1.95 | 1.95 | 2.02 | 1.99 | 1.97 | 1.93 | 2.11 | 1.96 | 24 | |
| 25 | 1.96 | 1.96 | 1.97 | 1.97 | S | 1.97 | 1.98 | 2.00 | 2.00 | 1.98 | 1.97 | 1.97 | 1.96 | 1.92 | 1.90 | 1.91 | 1.91 | 1.91 | 1.91 | 1.91 | 1.91 | 1.92 | 1.92 | 1.91 | 1.92 | 1.90 | 1.94 | 24 | |
| 26 | 1.92 | 1.92 | 1.92 | S | 1.92 | 1.92 | 1.91 | 1.91 | 1.91 | 1.90 | 1.90 | 1.90 | 1.90 | 1.91 | 1.90 | 1.92 | 1.91 | 1.91 | 1.91 | 1.90 | 1.90 | 1.91 | 1.91 | 1.91 | 1.91 | 1.92 | 1.91 | 24 | |
| 27 | 1.91 | 1.92 | S | 1.92 | 1.93 | 1.92 | 1.92 | 1.92 | 1.93 | 1.93 | 1.93 | 1.93 | 1.96 | 1.93 | 1.94 | 1.95 | 1.97 | 1.94 | 1.94 | 1.92 | 1.92 | 1.91 | 1.91 | 1.91 | 1.91 | 1.97 | 1.93 | 24 | |
| 28 | 2.03 | S | 1.94 | 1.98 | 2.00 | 2.01 | 1.94 | 1.93 | 1.94 | 1.94 | 1.95 | 1.94 | 1.96 | 1.94 | 1.95 | 1.92 | 1.92 | 1.95 | 1.94 | 1.95 | 2.05 | 2.17 | 2.04 | 2.08 | 1.92 | 2.17 | 1.98 | 24 | |
| 29 | S | 2.12 | 2.00 | 2.01 | 2.03 | 2.03 | 2.01 | 2.00 | 2.01 | 1.98 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.96 | 1.95 | 1.95 | 1.95 | 1.96 | 2.07 | 2.09 | S | 1.94 | 2.12 | 1.99 | 24 | |
| 30 | 2.19 | 2.13 | 1.99 | 2.00 | 2.02 | 2.01 | 1.96 | 1.96 | 1.96 | 1.96 | 1.95 | 1.95 | 1.94 | 1.94 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.97 | 1.96 | 1.96 | 1.95 | S | 1.94 | 1.93 | 2.19 | 1.98 | 24 |
| HOURLY MAX | 2.52 | 2.65 | 2.31 | 2.25 | 2.58 | 2.15 | 2.07 | 2.08 | 2.06 | 2.04 | 2.05 | 2.03 | 2.04 | 2.04 | 2.03 | 2.02 | 2.02 | 2.04 | 2.06 | 2.05 | 2.14 | 2.52 | 2.82 | 2.49 | | | | | |
| HOURLY AVG | 2.06 | 2.06 | 2.05 | 2.04 | 2.04 | 2.02 | 2.00 | 1.99 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.99 | 2.02 | 2.05 | 2.08 | | | | |

STATUS FLAG CODES

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

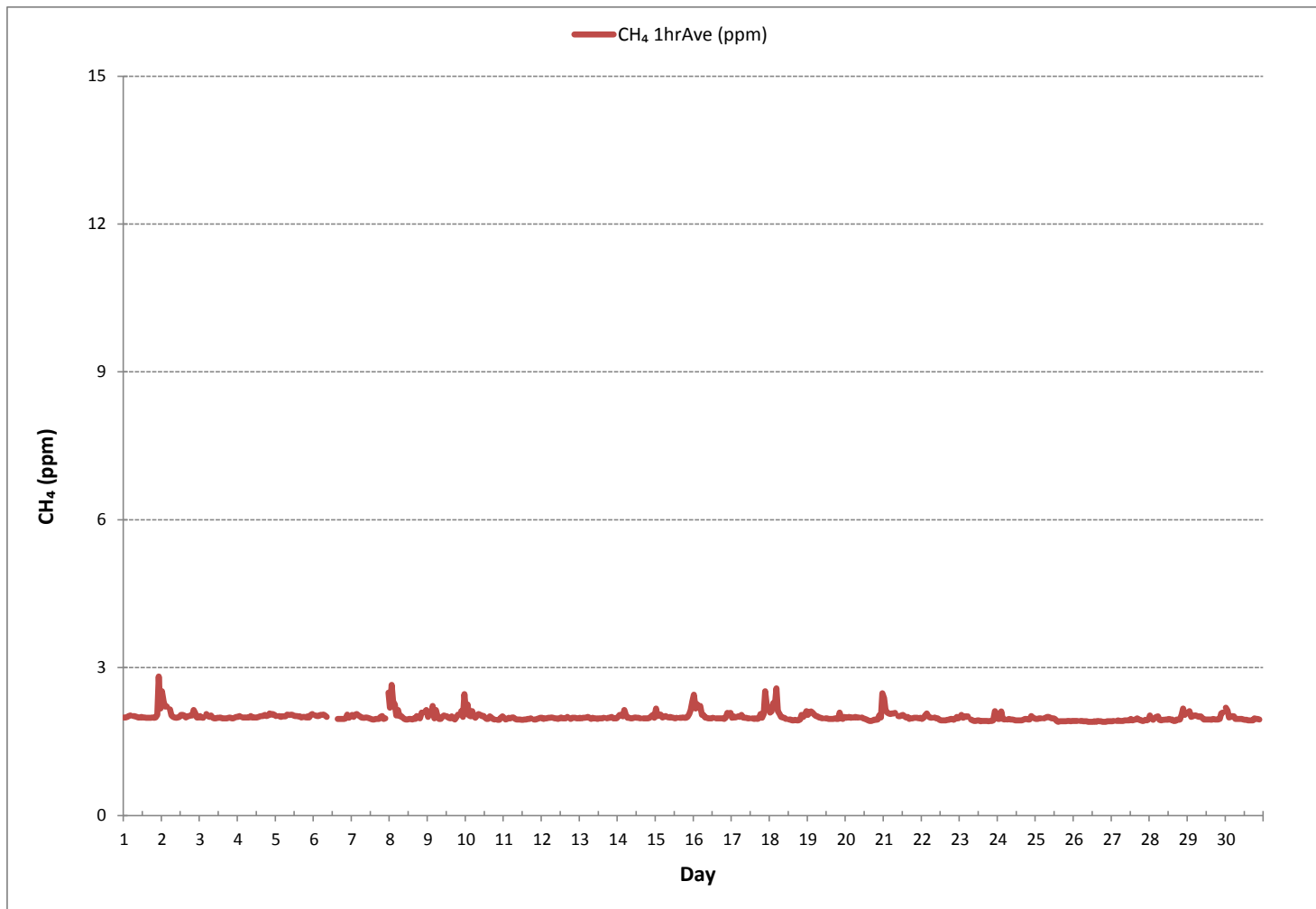
24 HR AVERAGES June 2018



MONTHLY SUMMARY

| | | | | |
|------------------------------|----------|-----------------------|----------|-----------|
| NUMBER OF NON-ZERO READINGS: | 682 | | | |
| MINIMUM 1-HR AVERAGE: | 1.90 ppm | @ HOUR | 14 | ON DAY 25 |
| MAXIMUM 1-HR AVERAGE: | 2.82 ppm | @ HOUR | 22 | ON DAY 1 |
| MAXIMUM 24-HR AVERAGE: | 2.08 ppm | | | ON DAY 2 |
| IZS CALIBRATION TIME: | 32 hrs | OPERATIONAL TIME: | 720 hrs | |
| MONTHLY CALIBRATION TIME: | 6 hrs | AMD OPERATION UPTIME: | 100.0 % | |
| STANDARD DEVIATION: | 0.09 | MONTHLY AVERAGE: | 2.00 ppm | |

METHANE Hourly Averages (CH₄ ppm)



Wind: PRAMP_986b
 Poll.: PRAMP_986b CH₄ [ppm]
 Monthly: 18/06
 Type: PollutionRose
 Direction: Blowing From (Wind Frequency)
 Based On 1 Hr.

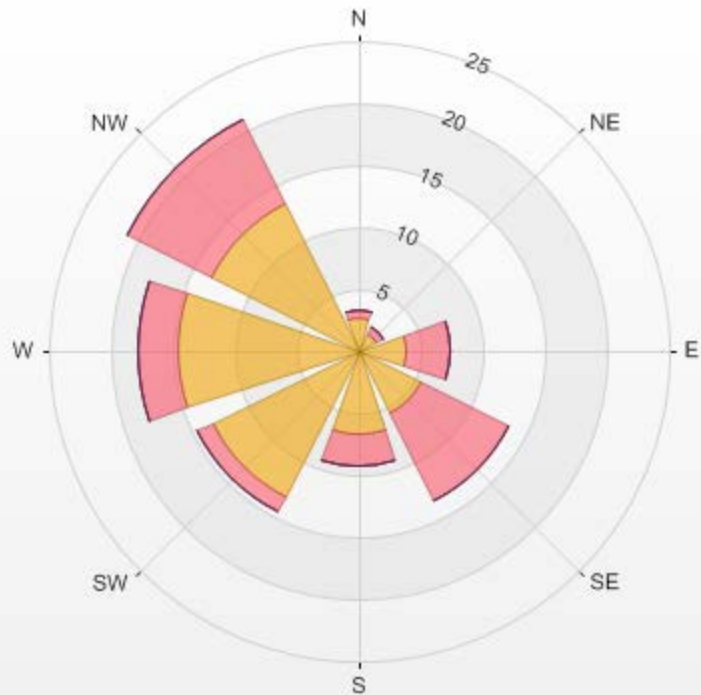
Calm: 10.85%

Calm Avg: 2.09 [ppm]

| Direction | 0-2 | 2-3 | 3-5 | 5-10 | >10.0 | Total |
|----------------|------|------|-----|------|-------|-------|
| N | 2.6 | 0.7 | 0.0 | 0.0 | 0.0 | 3.4 |
| NE | 1.6 | 0.6 | 0.0 | 0.0 | 0.0 | 2.2 |
| E | 3.8 | 3.7 | 0.0 | 0.0 | 0.0 | 7.5 |
| SE | 5.6 | 7.9 | 0.0 | 0.0 | 0.0 | 13.5 |
| S | 6.7 | 2.6 | 0.0 | 0.0 | 0.0 | 9.4 |
| SW | 13.2 | 1.3 | 0.0 | 0.0 | 0.0 | 14.5 |
| W | 14.5 | 3.4 | 0.0 | 0.0 | 0.0 | 17.9 |
| NW | 13.3 | 7.5 | 0.0 | 0.0 | 0.0 | 20.8 |
| Summary | 61.4 | 27.7 | 0.0 | 0.0 | 0.0 | 89.2 |

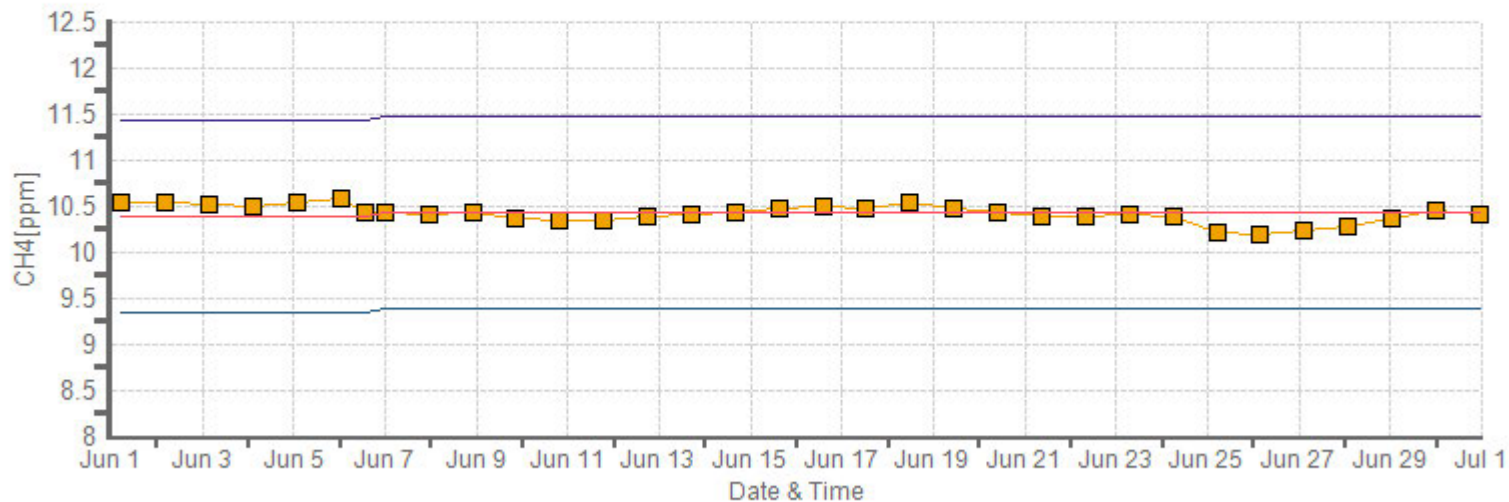
| | | | | | | | | | | | |
|--------|---------------|----|-----|----|-----|---|-----|---|------|---|-------|
| % Icon | Classes (ppm) | 61 | 0-2 | 28 | 2-3 | 0 | 3-5 | 0 | 5-10 | 0 | >10.0 |
|--------|---------------|----|-----|----|-----|---|-----|---|------|---|-------|

PRAMP_986b Poll.: PRAMP_986b CH4[ppm] 2018/06/01 00:00 - 2018/06/30 23:00 Calm: 10.85% Calm Poll Avg: 2.09[ppm]



CH4[ppm] Calibration: PRAMP_986b Monthly: 18/06 Type: Span

Span Meas Span Ref Span Low Span High



NON-METHANE HYDROCARBON



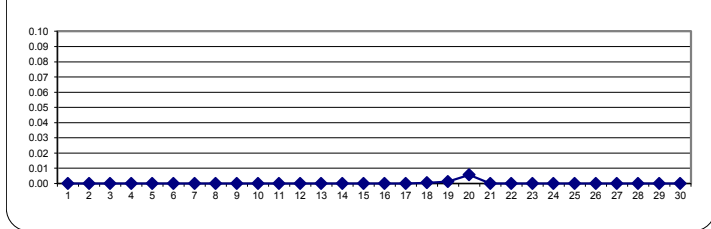
NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)

| HR START (MST) | 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | DAILY | DAILY | 24-HR | RDGS. |
|----------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| HR END (MST) | 0:59 | 1:59 | 2:59 | 3:59 | 4:59 | 5:59 | 6:59 | 7:59 | 8:59 | 9:59 | 10:59 | 11:59 | 12:59 | 13:59 | 14:59 | 15:59 | 16:59 | 17:59 | 18:59 | 19:59 | 20:59 | 21:59 | 22:59 | 23:59 | MIN. | MAX. | AVG. | |
| DAY 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 2 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 3 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 4 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 5 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 6 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | C | C | C | C | C | C | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 24 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 |
| 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 | 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 |
| 16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 24 |
| 19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 24 |
| 20 | 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 | 0.08 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.08 | 0.01 | 24 |
| 21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 |
| 23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 25 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 26 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 27 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 28 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 29 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| HOURLY MAX | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.08 | 0.05 | 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 |

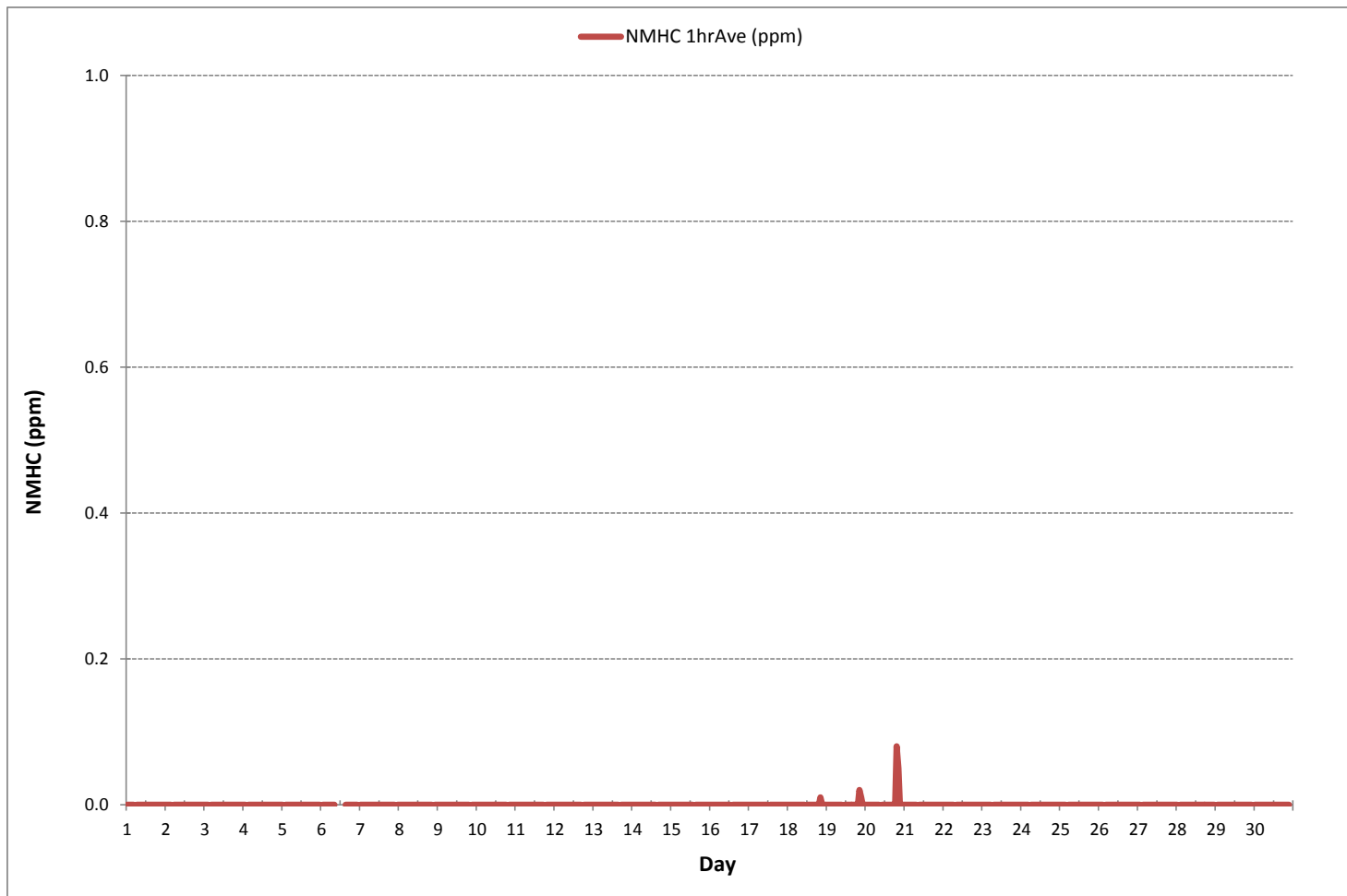
24 HR AVERAGES June 2018



MONTHLY SUMMARY

| | |
|------------------------------|------------------------------|
| NUMBER OF NON-ZERO READINGS: | 5 |
| MINIMUM 1-HR AVERAGE: | 0.00 ppm @ HOUR 0 ON DAY 1 |
| MAXIMUM 1-HR AVERAGE: | 0.08 ppm @ HOUR 19 ON DAY 20 |
| MAXIMUM 24-HR AVERAGE: | 0.01 ppm ON DAY 20 |
| IZS CALIBRATION TIME: | 32 hrs |
| MONTHLY CALIBRATION TIME: | 6 hrs |
| OPERATIONAL TIME: | 720 hrs |
| AMD OPERATION UPTIME: | 100.0 % |
| STANDARD DEVIATION: | 0.00 |
| MONTHLY AVERAGE: | 0.00 ppm |

NON-METHANE HYDROCARBONS Hourly Averages (NMHC ppm)



Wind: PRAMP_986b
 Poll.: PRAMP_986b NMHC [ppm]
 Monthly: 18/06
 Type: PollutionRose
 Direction: Blowing From (Wind
 Frequency) Based On 1 Hr.

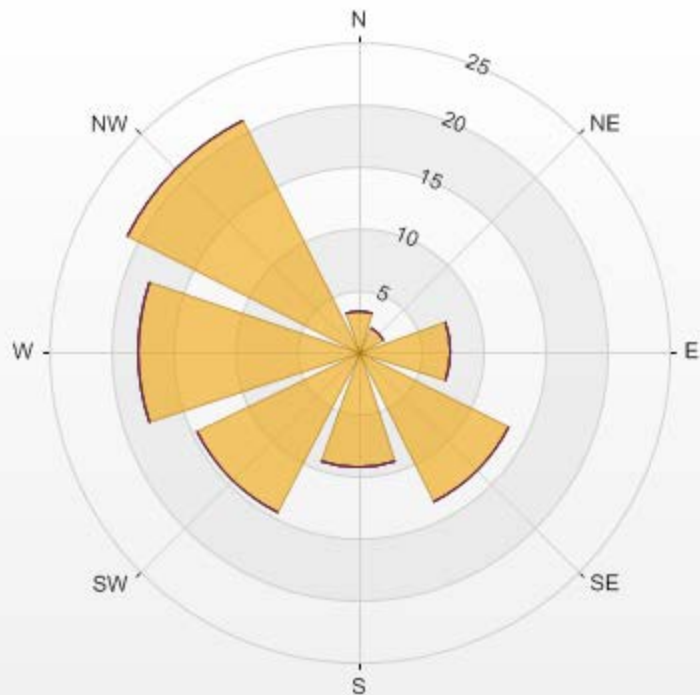
Calm: 10.85%

Calm Avg: 0.00 [ppm]

| Direction | 0-0.1 | 0.1-0.3 | 0.3-1 | 1-2 | >2.0 | Total |
|----------------|-------|---------|-------|-----|------|-------|
| N | 3.4 | 0.0 | 0.0 | 0.0 | 0.0 | 3.4 |
| NE | 2.2 | 0.0 | 0.0 | 0.0 | 0.0 | 2.2 |
| E | 7.5 | 0.0 | 0.0 | 0.0 | 0.0 | 7.5 |
| SE | 13.5 | 0.0 | 0.0 | 0.0 | 0.0 | 13.5 |
| S | 9.4 | 0.0 | 0.0 | 0.0 | 0.0 | 9.4 |
| SW | 14.5 | 0.0 | 0.0 | 0.0 | 0.0 | 14.5 |
| W | 17.9 | 0.0 | 0.0 | 0.0 | 0.0 | 17.9 |
| NW | 20.8 | 0.0 | 0.0 | 0.0 | 0.0 | 20.8 |
| Summary | 89.2 | 0.0 | 0.0 | 0.0 | 0.0 | 89.2 |

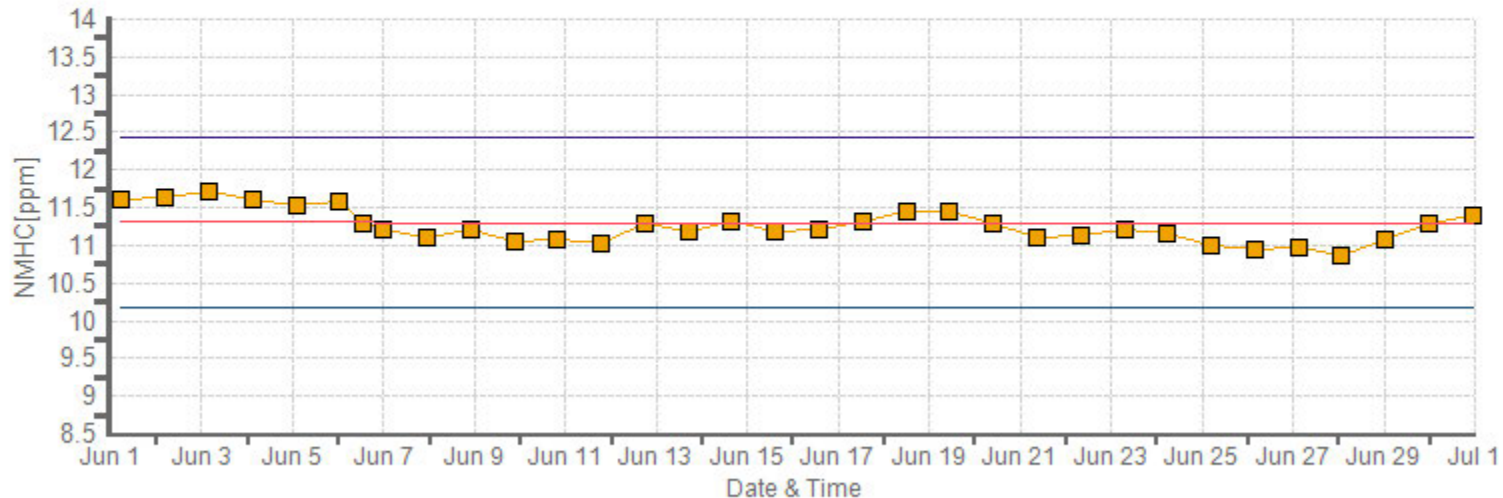
% Icon Classes (ppm) 89 0-0.1 0 0.1-0.3 0 0.3-1 0 1-2 0 >2.0

PRAMP_986b Poll.: PRAMP_986b NMHC[ppm] 2018/06/01 00:00 - 2018/06/30 23:00 Calm: 10.85% Calm Poll Avg: 0.00[ppm]



NMHC[ppm] Calibration: PRAMP_986b Monthly: 18/06 Type: Span

Span Meas Span Ref Span Low Span High



WIND SPEED



WIND SPEED Hourly Averages (WS kph)

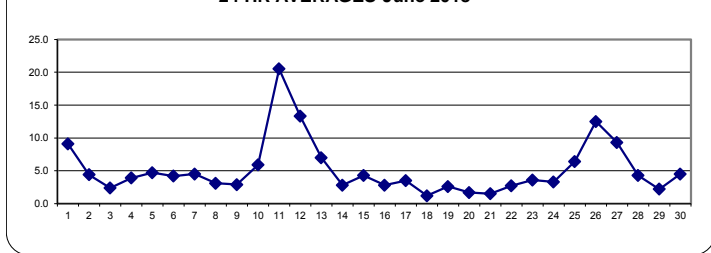
| HR START (MST) | 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | DAILY MIN. | DAILY MAX. | 24-HR AVG. | RDGS. |
|----------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------|------------|------------|-------|
| DAY 1 | 8.6 | 10.1 | 11.0 | 5.4 | 6.0 | 5.2 | 3.0 | 10.0 | 16.3 | 15.5 | 16.9 | 10.3 | 13.4 | 15.4 | 15.9 | 12.8 | 12.9 | 9.4 | 9.1 | 8.2 | 2.9 | 0.7 | 1.9 | 3.2 | 0.7 | 16.9 | 9.1 | 24 |
| 2 | 2.2 | 2.1 | 3.9 | 3.8 | 5.3 | 4.9 | 5.6 | 5.3 | 3.9 | 5.7 | 6.8 | 6.6 | 11.4 | 10.8 | 11.0 | 11.7 | 11.5 | 11.8 | 10.8 | 11.9 | 8.8 | 0.2 | 3.4 | 2.5 | 0.2 | 11.9 | 4.4 | 24 |
| 3 | 2.2 | 2.0 | 2.3 | 1.9 | 2.6 | 3.0 | 3.3 | 1.7 | 1.1 | 2.3 | 2.2 | 3.4 | 4.7 | 4.2 | 1.3 | 2.4 | 3.0 | 6.9 | 5.9 | 7.0 | 9.2 | 10.2 | 10.7 | 10.8 | 1.1 | 10.8 | 2.4 | 24 |
| 4 | 10.6 | 9.3 | 8.4 | 10.1 | 12.7 | 14.0 | 11.2 | 10.5 | 10.2 | 10.3 | 10.1 | 9.7 | 9.5 | 4.2 | 7.1 | 12.5 | 13.1 | 12.1 | 12.3 | 10.4 | 8.2 | 8.0 | 5.9 | 5.1 | 4.2 | 14.0 | 3.9 | 24 |
| 5 | 4.4 | 4.6 | 3.4 | 2.9 | 4.5 | 4.4 | 4.2 | 9.8 | 13.2 | 14.5 | 14.0 | 13.8 | 12.9 | 10.2 | 6.8 | 5.6 | 2.9 | 2.6 | 1.6 | 3.1 | 2.3 | 1.9 | 2.4 | 4.0 | 1.6 | 14.5 | 4.7 | 24 |
| 6 | 8.5 | 6.7 | 4.4 | 3.4 | 3.8 | 3.5 | 3.8 | 7.3 | 8.7 | 9.5 | 10.7 | 9.2 | 10.9 | 10.5 | 9.2 | 10.7 | 8.1 | 9.2 | 8.5 | 4.8 | 3.0 | 3.7 | 3.6 | 4.3 | 3.0 | 10.9 | 4.2 | 24 |
| 7 | 3.3 | 3.1 | 3.8 | 2.5 | 3.1 | 4.4 | 5.0 | 7.9 | 8.8 | 6.5 | 4.7 | 5.1 | 9.6 | 8.7 | 8.9 | 7.9 | 10.4 | 5.0 | 0.4 | 5.3 | 9.1 | 4.7 | 1.2 | 0.9 | 0.4 | 10.4 | 4.5 | 24 |
| 8 | 1.5 | 1.2 | 3.2 | 0.7 | 0.6 | 2.2 | 4.0 | 8.1 | 8.3 | 9.4 | 6.6 | 5.2 | 3.9 | 1.9 | 1.6 | 3.8 | 0.2 | 5.5 | 2.0 | 2.7 | 7.2 | 4.1 | 5.4 | 5.4 | 0.2 | 9.4 | 3.1 | 24 |
| 9 | 5.7 | 3.4 | 0.3 | 2.2 | 3.7 | 2.3 | 2.3 | 3.4 | 0.9 | 5.1 | 7.2 | 6.9 | 9.3 | 8.6 | 4.8 | 8.9 | 2.5 | 4.6 | 7.0 | 5.1 | 0.6 | 1.7 | 0.9 | 0.3 | 0.3 | 9.3 | 2.9 | 24 |
| 10 | 1.2 | 1.3 | 2.3 | 2.5 | 3.7 | 1.3 | 2.6 | 8.2 | 8.4 | 7.2 | 5.6 | 7.1 | 9.8 | 9.4 | 11.9 | 12.3 | 11.9 | 8.6 | 10.5 | 8.1 | 5.2 | 5.8 | 2.8 | 3.1 | 1.2 | 12.3 | 5.9 | 24 |
| 11 | 9.6 | 8.1 | 9.8 | 15.8 | 17.6 | 15.6 | 12.6 | 17.3 | 20.8 | 24.0 | 26.7 | 26.3 | 33.0 | 29.6 | 29.4 | 26.8 | 21.4 | 23.4 | 19.6 | 22.7 | 21.3 | 24.3 | 22.6 | 20.4 | 8.1 | 33.0 | 20.5 | 24 |
| 12 | 23.4 | 22.5 | 20.5 | 19.2 | 24.1 | 20.6 | 20.4 | 23.5 | 21.2 | 15.2 | 12.6 | 12.0 | 11.4 | 14.0 | 13.4 | 9.2 | 14.6 | 8.6 | 2.8 | 5.4 | 3.2 | 3.5 | 2.4 | 4.1 | 2.4 | 24.1 | 13.3 | 24 |
| 13 | 2.6 | 4.2 | 8.7 | 12.1 | 13.0 | 7.0 | 7.5 | 5.7 | 3.7 | 2.3 | 7.5 | 5.4 | 11.1 | 10.8 | 10.5 | 10.2 | 13.8 | 10.8 | 9.4 | 8.4 | 7.4 | 3.7 | 4.7 | 2.7 | 2.3 | 13.8 | 7.0 | 24 |
| 14 | 3.6 | 3.2 | 1.7 | 1.9 | 0.9 | 1.4 | 1.6 | 3.2 | 2.9 | 4.3 | 6.9 | 6.7 | 5.6 | 7.5 | 4.6 | 4.5 | 4.4 | 6.9 | 6.6 | 4.7 | 3.2 | 3.6 | 1.9 | 2.8 | 0.9 | 7.5 | 2.8 | 24 |
| 15 | 1.0 | 3.3 | 2.5 | 2.5 | 2.7 | 3.1 | 8.0 | 4.5 | 3.8 | 5.2 | 8.6 | 9.2 | 10.3 | 10.3 | 8.4 | 9.0 | 9.2 | 9.9 | 9.0 | 1.0 | 1.3 | 0.3 | 0.9 | 1.5 | 0.3 | 10.3 | 4.3 | 24 |
| 16 | 0.4 | 0.7 | 1.1 | 1.1 | 1.7 | 0.7 | 1.3 | 4.3 | 4.8 | 4.1 | 4.5 | 5.1 | 5.3 | 3.7 | 5.0 | 6.0 | 6.2 | 6.7 | 5.5 | 5.4 | 5.4 | 6.0 | 7.1 | 6.5 | 0.4 | 7.1 | 2.8 | 24 |
| 17 | 2.2 | 1.6 | 1.7 | 3.2 | 3.2 | 7.6 | 8.4 | 8.1 | 8.2 | 8.4 | 11.0 | 9.6 | 7.1 | 6.9 | 5.7 | 4.5 | 4.8 | 3.4 | 3.1 | 0.2 | 0.5 | 1.0 | 1.2 | 2.3 | 0.2 | 11.0 | 3.5 | 24 |
| 18 | 3.5 | 2.0 | 2.5 | 2.6 | 1.3 | 1.1 | 2.8 | 1.5 | 3.2 | 2.6 | 4.0 | 4.8 | 6.0 | 6.3 | 2.5 | 5.6 | 5.1 | 6.1 | 4.4 | 2.6 | 0.7 | 1.4 | 3.4 | 3.0 | 0.7 | 6.3 | 1.2 | 24 |
| 19 | 2.9 | 3.7 | 4.0 | 4.4 | 1.0 | 1.5 | 4.2 | 5.9 | 6.0 | 3.0 | 5.0 | 5.9 | 6.2 | 6.1 | 6.9 | 6.6 | 6.6 | 6.7 | 3.4 | 2.1 | 1.8 | 3.1 | 3.7 | 5.0 | 1.0 | 6.9 | 2.6 | 24 |
| 20 | 4.1 | 5.2 | 3.0 | 3.0 | 4.7 | 4.1 | 5.4 | 3.6 | 3.4 | 3.7 | 4.1 | 4.6 | 4.8 | 3.7 | 5.3 | 0.9 | 0.8 | 1.1 | 3.5 | 1.1 | 3.2 | 5.3 | 3.2 | 0.5 | 0.5 | 5.4 | 1.7 | 24 |
| 21 | 0.4 | 1.5 | 2.7 | 3.7 | 2.7 | 3.5 | 3.9 | 3.9 | 3.1 | 2.5 | 3.3 | 7.5 | 8.1 | 5.3 | 2.4 | 2.7 | 3.2 | 5.3 | 6.1 | 4.0 | 4.1 | 6.4 | 7.5 | 3.6 | 0.4 | 8.1 | 1.5 | 24 |
| 22 | 3.5 | 4.1 | 5.1 | 5.6 | 4.5 | 3.2 | 3.1 | 2.8 | 7.5 | 4.7 | 4.7 | 7.3 | 8.1 | 9.6 | 9.5 | 7.2 | 4.7 | 5.1 | 3.4 | 10.0 | 1.5 | 3.0 | 7.1 | 4.9 | 1.5 | 10.0 | 2.7 | 24 |
| 23 | 4.1 | 5.6 | 3.1 | 1.7 | 1.3 | 1.4 | 1.6 | 2.7 | 3.1 | 3.7 | 5.6 | 6.7 | 5.2 | 5.4 | 7.3 | 7.8 | 7.5 | 5.4 | 5.0 | 3.7 | 2.6 | 3.3 | 2.3 | 2.6 | 1.3 | 7.8 | 3.6 | 24 |
| 24 | 3.8 | 3.0 | 2.7 | 4.1 | 5.0 | 5.3 | 6.2 | 5.7 | 6.1 | 6.1 | 6.6 | 8.2 | 7.7 | 6.7 | 6.2 | 5.0 | 5.1 | 3.4 | 2.0 | 3.2 | 4.8 | 2.9 | 2.7 | 4.0 | 2.0 | 8.2 | 3.3 | 24 |
| 25 | 5.1 | 5.7 | 6.1 | 6.1 | 4.3 | 5.1 | 6.1 | 6.6 | 7.2 | 7.5 | 16.5 | 12.6 | 11.6 | 14.8 | 15.5 | 15.0 | 14.0 | 11.9 | 11.2 | 9.4 | 7.4 | 9.0 | 12.8 | 11.2 | 4.3 | 16.5 | 6.4 | 24 |
| 26 | 13.3 | 14.5 | 17.8 | 19.3 | 20.3 | 20.0 | 16.8 | 16.5 | 18.5 | 13.9 | 13.8 | 14.9 | 14.3 | 12.6 | 12.5 | 11.8 | 11.3 | 9.6 | 7.6 | 7.7 | 9.4 | 7.7 | 6.9 | 7.3 | 6.9 | 20.3 | 12.5 | 24 |
| 27 | 6.8 | 7.7 | 7.0 | 6.8 | 5.9 | 4.6 | 5.6 | 7.8 | 14.1 | 9.4 | 11.0 | 13.3 | 13.0 | 14.6 | 15.2 | 18.1 | 14.9 | 11.3 | 10.2 | 7.5 | 5.7 | 7.5 | 7.7 | 1.5 | 1.5 | 18.1 | 9.3 | 24 |
| 28 | 0.9 | 1.3 | 1.8 | 3.2 | 2.8 | 1.7 | 3.0 | 9.7 | 10.5 | 8.3 | 8.3 | 9.2 | 12.0 | 10.2 | 7.6 | 12.0 | 7.5 | 5.8 | 0.2 | 2.1 | 1.9 | 2.8 | 2.3 | 2.5 | 0.2 | 12.0 | 4.3 | 24 |
| 29 | 1.2 | 2.7 | 1.1 | 1.3 | 0.7 | 2.3 | 1.1 | 1.0 | 3.6 | 4.6 | 3.8 | 4.6 | 5.9 | 4.0 | 3.7 | 4.8 | 10.0 | 6.5 | 8.2 | 3.7 | 1.8 | 2.5 | 2.4 | 2.3 | 0.7 | 10.0 | 2.2 | 24 |
| 30 | 2.5 | 2.5 | 3.0 | 4.7 | 5.4 | 5.3 | 4.9 | 5.2 | 6.5 | 7.9 | 7.9 | 8.2 | 8.1 | 8.2 | 10.2 | 8.5 | 9.6 | 8.9 | 8.4 | 3.4 | 1.2 | 1.5 | 1.8 | 4.7 | 1.2 | 10.2 | 4.5 | 24 |
| HOURLY MAX | 23.4 | 22.5 | 20.5 | 19.3 | 24.1 | 20.6 | 20.4 | 23.5 | 21.2 | 24.0 | 26.7 | 26.3 | 33.0 | 29.6 | 29.4 | 26.8 | 21.4 | 23.4 | 19.6 | 22.7 | 21.3 | 24.3 | 22.6 | 20.4 | | | | |

STATUS FLAG CODES

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

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

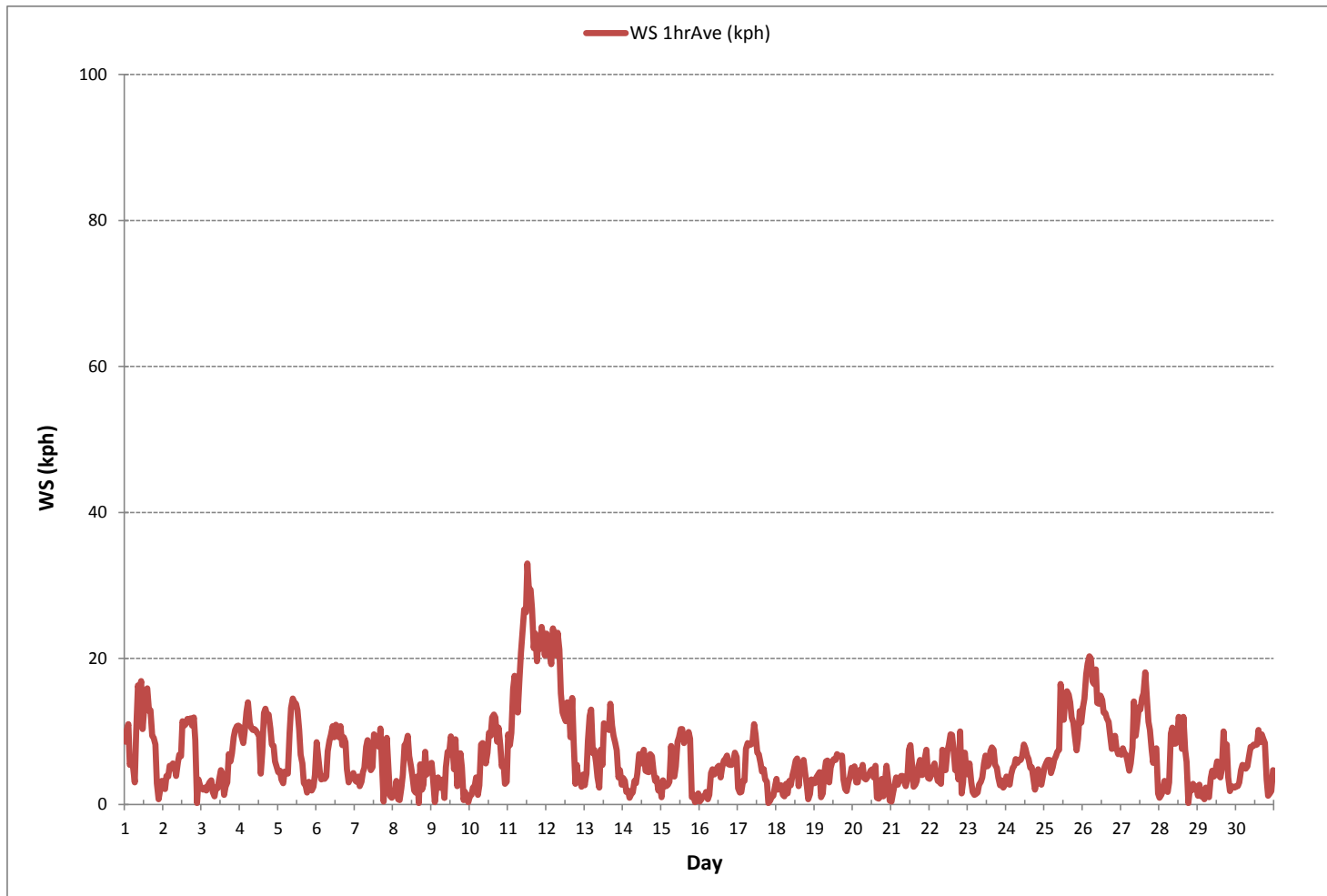
24 HR AVERAGES June 2018



MONTHLY SUMMARY

| | |
|------------------------------|------------------------------|
| NUMBER OF NON-ZERO READINGS: | 720 |
| MINIMUM 1-HR AVERAGE: | 0.2 kph @ HOUR 21 ON DAY 2 |
| MAXIMUM 1-HR AVERAGE: | 33.0 kph @ HOUR 12 ON DAY 11 |
| MAXIMUM 24-HR AVERAGE: | 20.5 kph ON DAY 11 |
| MONTHLY CALIBRATION TIME: | 0 hrs |
| OPERATIONAL TIME: | 720 hrs |
| AMT OPERATION UPTIME: | 100.0 % |
| STANDARD DEVIATION: | 5.1 |
| MONTHLY AVERAGE: | 2.6 kph |

WIND SPEED Hourly Averages (WS kph)



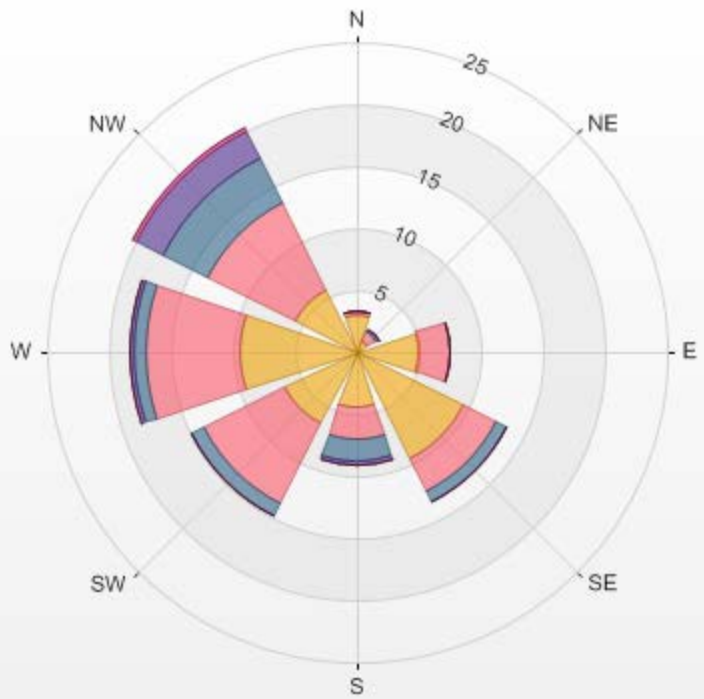
Wind: PRAMP_986b
 Monitor: WSV [kph]
 Monthly: 18/06
 Type: WindRose
 Direction: Blowing From (Wind Frequency)
 Based On 1 Hr.

Calm: 10.97%

| Direction | 1.8-6.0 | 6.0-12.0 | 12.0-20.0 | 20.0-29.0 | 29.0-39.0 | >39.0 | Total |
|----------------|---------|----------|-----------|-----------|-----------|-------|-------|
| N | 3.1 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 3.3 |
| NE | 1.0 | 0.8 | 0.3 | 0.0 | 0.0 | 0.0 | 2.1 |
| E | 5.0 | 2.5 | 0.0 | 0.0 | 0.0 | 0.0 | 7.5 |
| SE | 9.7 | 2.8 | 1.0 | 0.0 | 0.0 | 0.0 | 13.5 |
| S | 4.6 | 2.5 | 1.8 | 0.3 | 0.0 | 0.0 | 9.2 |
| SW | 6.5 | 7.2 | 1.1 | 0.0 | 0.0 | 0.0 | 14.9 |
| W | 9.4 | 7.6 | 0.8 | 0.4 | 0.0 | 0.0 | 18.3 |
| NW | 5.6 | 7.9 | 4.0 | 2.4 | 0.4 | 0.0 | 20.3 |
| Summary | 44.9 | 31.7 | 9.0 | 3.1 | 0.4 | 0.0 | 89.0 |

% Icon Classes (kph) 45 1.8-6.0 32 6.0-12.0 9 12.0-20.0 3 20.0-29.0 0 29.0-39.0 0 >39.0

PRAMP_986b 2018/06/01 00:00 - 2018/06/30 23:00 Calm: 10.97% Calm Wind Avg Speed: 1.08(kph)



WIND DIRECTION



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
Three Creeks 986b Station - June 2018

WIND DIRECTION Hourly Averages (WD)

| HR START (MST) | 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | 24-HOUR AVG | 24-HR | |
|----------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------|-------|----|
| HR END (MST) | 0:59 | 1:59 | 2:59 | 3:59 | 4:59 | 5:59 | 6:59 | 7:59 | 8:59 | 9:59 | 10:59 | 11:59 | 12:59 | 13:59 | 14:59 | 15:59 | 16:59 | 17:59 | 18:59 | 19:59 | 20:59 | 21:59 | 22:59 | 23:59 | QUADRANT | RDGS. | |
| DAY | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | SE | SE | SE | ESE | SE | SE | ESE | SE | SSE | SSE | SSE | SE | SE | SE | SE | SE | SE | SE | SE | SE | S | SE | ESE | ESE | SE | 24 | |
| 2 | ESE | E | ESE | ESE | ESE | SE | SSW | SW | SW | SSW | SSW | SW | W | W | WSW | SW | WSW | W | W | W | WNW | WSW | SE | SE | WSW | 24 | |
| 3 | S | SE | ESE | E | ESE | SE | S | WNW | ESE | N | NW | WNW | NW | NW | W | S | E | ENE | ENE | ENE | ENE | ENE | ENE | E | ENE | 24 | |
| 4 | E | ENE | ENE | ENE | ENE | NE | ENE | ENE | E | E | E | E | E | E | W | WNW | WNW | WNW | NW | NW | NW | NW | NW | WNW | NNE | 24 | |
| 5 | W | WNW | WSW | SW | SW | WSW | SW | WNW | WNW | WNW | NW | NW | NW | WNW | NW | WNW | WSW | W | NW | SSE | ESE | E | ESE | SE | WNW | 24 | |
| 6 | SE | SE | SE | SE | SE | ESE | ESE | SE | S | SSW | SW | WSW | WSW | W | WSW | WSW | SW | SW | SW | SW | S | NE | E | ESE | SSW | 24 | |
| 7 | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | SE | SE | SE | SSE | S | S | SSE | S | S | WSW | WSW | SE | ESE | E | N | SE | 24 | |
| 8 | ESE | NNE | NW | N | SSE | NW | NNW | WNW | NW | NNW | NNE | NNE | NNE | ESE | NE | W | SE | WNW | NNW | NNE | NW | N | NW | NW | NNW | 24 | |
| 9 | N | NNW | ENE | NNE | NE | NNE | ENE | ESE | SSW | W | NW | NW | WNW | NW | WNW | NW | NW | W | WNW | WNW | W | W | SSE | S | NW | 24 | |
| 10 | S | NW | W | WNW | WNW | W | W | WNW | NW | NW | NW | NW | NW | NW | NW | NW | NW | NW | NW | NNW | N | N | NW | NW | NW | 24 | |
| 11 | NW | NNW | NW | WNW | NW | NW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | 24 |
| 12 | WNW | WNW | WNW | WNW | NW | NW | NW | NW | NW | NNW | NW | NW | NW | NW | NW | NW | NW | NW | NNW | NW | WNW | W | W | SW | NW | 24 | |
| 13 | SW | WSW | WNW | WNW | WNW | WNW | NW | NNW | NNW | W | WNW | W | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | NW | NNW | NNE | N | WNW | 24 | |
| 14 | NW | WNW | W | WNW | SSE | SSW | WSW | W | WSW | WSW | W | WNW | W | W | WSW | W | SSW | S | SSW | SSW | SSW | SSE | SE | ESE | WSW | 24 | |
| 15 | E | SE | S | WNW | NNW | NW | WNW | NNW | N | NW | WNW | NW | NW | NW | NNW | NW | NW | NW | NW | WNW | WNW | ESE | SE | SE | NW | 24 | |
| 16 | ENE | ESE | ESE | ESE | ESE | ESE | SSE | W | W | WSW | WSW | W | WNW | W | SW | WSW | SW | SW | SSW | S | SSE | SSE | SSE | SSW | SW | 24 | |
| 17 | S | SE | E | ESE | ESE | SE | SSE | SSE | S | S | S | S | SW | SW | SW | SW | WSW | WSW | WNW | WNW | ESE | ESE | E | SE | S | 24 | |
| 18 | ESE | ESE | ESE | ESE | ESE | SE | SSE | WNW | WNW | WSW | W | WNW | WNW | WNW | WNW | NW | W | W | W | SSE | ESE | ESE | ESE | W | 24 | | |
| 19 | ESE | ESE | ESE | ESE | ENE | E | SE | SSE | S | SW | WSW | WSW | SW | SSW | SSW | WSW | WSW | W | SW | SSW | SSE | SE | SE | SSW | 24 | | |
| 20 | SE | SSE | SSE | ESE | SE | SE | SSE | SSW | SW | SW | WSW | WSW | WSW | W | W | WSW | WNW | W | WNW | NW | S | SSE | SE | NE | SSW | 24 | |
| 21 | E | ESE | ESE | ESE | ESE | ESE | ESE | ESE | SE | SE | WNW | WNW | NW | W | WSW | WSW | ESE | E | SE | ENE | E | ESE | NE | E | 24 | | |
| 22 | ESE | SE | SE | SSE | S | S | SSW | SW | WNW | WSW | WSW | SW | WSW | WSW | W | N | NNE | NW | W | E | NNW | NW | NW | WSW | 24 | | |
| 23 | NW | WNW | WNW | WNW | W | S | SW | WSW | WSW | W | W | WNW | W | WSW | WSW | W | W | WSW | WSW | SW | SW | SW | SSW | S | WSW | 24 | |
| 24 | SSW | SSW | S | SSW | SSW | S | SSW | SW | SW | SW | SSW | SW | SW | SW | SW | SW | WNW | WNW | NNE | NE | ENE | E | E | SSW | 24 | | |
| 25 | E | E | E | E | E | ESE | E | E | E | ESE | SE | S | SSW | SSW | SW | SW | SW | SW | SSW | S | S | S | S | S | 24 | | |
| 26 | S | S | S | S | S | S | S | S | S | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | 24 | |
| 27 | W | W | W | W | W | WSW | W | W | WNW | W | W | WNW | NW | WNW | WNW | WNW | WNW | WNW | WNW | W | W | WNW | WNW | WNW | 24 | | |
| 28 | SSW | SSW | WSW | WNW | WNW | NW | W | WNW | WNW | WNW | WNW | WNW | WNW | NW | WNW | WNW | W | W | WNW | SE | SSE | SSE | ESE | ESE | WNW | 24 | |
| 29 | ESE | SSW | ENE | SE | SSE | NNW | SSW | SSW | WNW | NNW | N | N | NW | NW | W | W | WNW | WNW | WNW | W | SW | SSE | SSW | SSW | WNW | 24 | |
| 30 | SE | SSE | SSW | SE | SE | SSE | S | SSW | SSW | SSW | SW | SW | SW | WSW | SW | WSW | SW | WSW | WNW | NNW | SW | SSW | SW | SW | SW | 24 | |

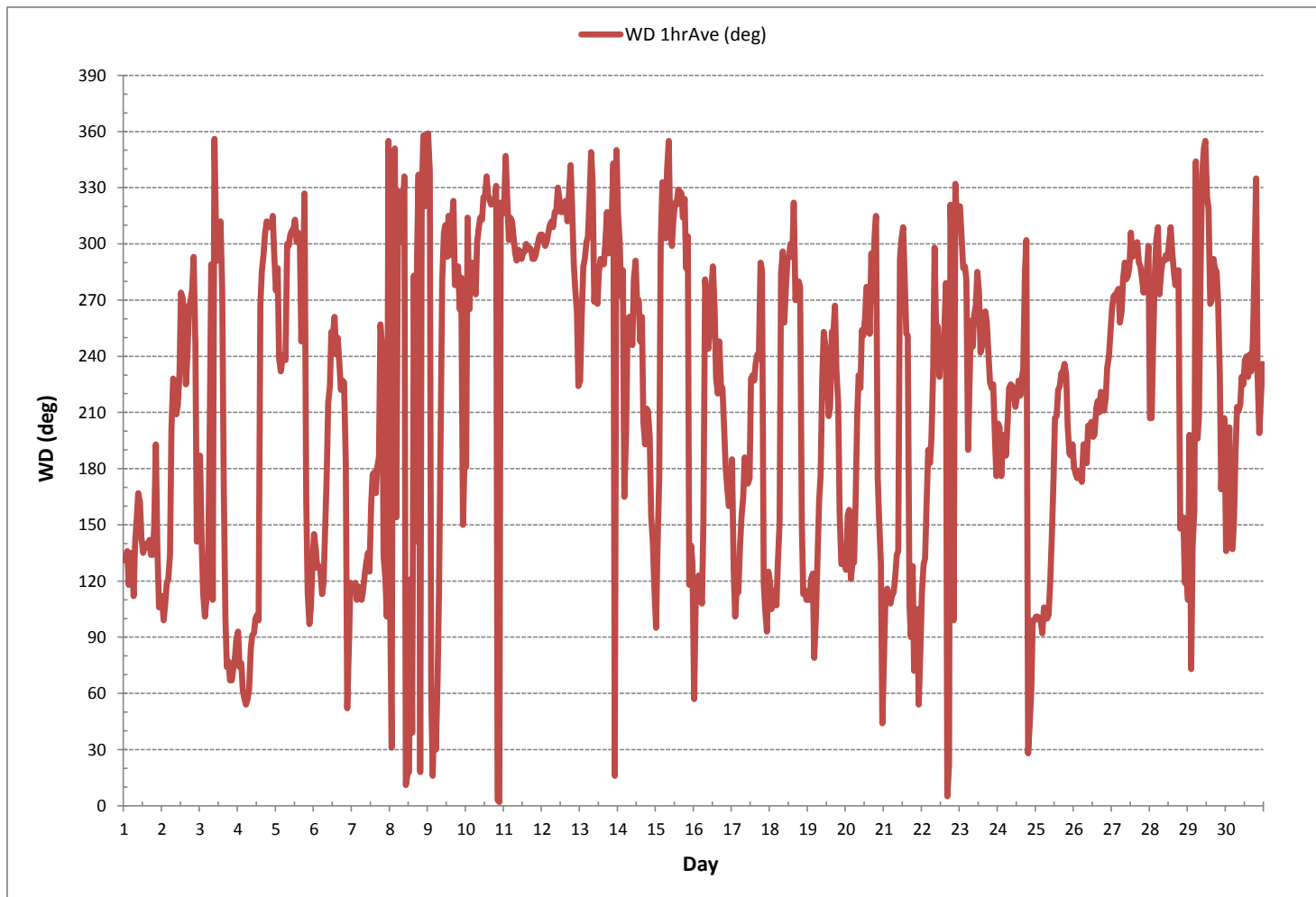
STATUS FLAG CODES

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

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

| | | | | | |
|---------------------------|----|-----|-----------------------|-------|-----|
| MONTHLY CALIBRATION TIME: | 0 | hrs | OPERATIONAL TIME: | 720 | hrs |
| STANDARD DEVIATION: | 84 | | AMD OPERATION UPTIME: | 100.0 | % |
| | | | MONTHLY AVERAGE: | 264 | (W) |

WIND DIRECTION Hourly Averages (WD)



RELATIVE HUMIDITY



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
 Three Creeks 986b Station - June 2018

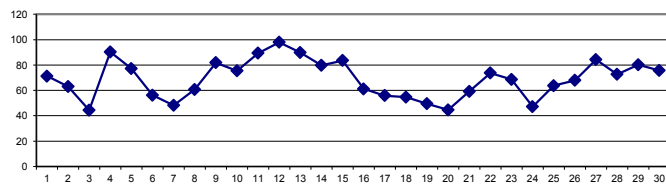
RELATIVE HUMIDITY Hourly Averages (RH %)

| 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 | 67 | 69 | 73 | 84 | 81 | 81 | 81 | 74 | 66 | 69 | 68 | 79 | 74 | 72 | 63 | 57 | 56 | 53 | 52 | 57 | 67 | 82 | 92 | 94 | 52 | 94 | 71 | 24 |
| 2 | 95 | 95 | 97 | 98 | 99 | 97 | 87 | 82 | 74 | 72 | 73 | 61 | 51 | 42 | 33 | 35 | 29 | 25 | 27 | 28 | 35 | 53 | 61 | 63 | 25 | 99 | 63 | 24 |
| 3 | 53 | 60 | 68 | 75 | 82 | 71 | 54 | 47 | 43 | 40 | 36 | 29 | 27 | 26 | 24 | 22 | 20 | 24 | 26 | 29 | 41 | 52 | 56 | 58 | 20 | 82 | 44 | 24 |
| 4 | 65 | 79 | 83 | 92 | 95 | 96 | 97 | 97 | 97 | 95 | 95 | 95 | 95 | 96 | 92 | 84 | 82 | 84 | 83 | 83 | 88 | 95 | 98 | 100 | 65 | 100 | 90 | 24 |
| 5 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 95 | 94 | 85 | 80 | 81 | 73 | 66 | 58 | 52 | 48 | 47 | 45 | 46 | 54 | 69 | 80 | 80 | 45 | 100 | 77 | 24 |
| 6 | 73 | 72 | 74 | 76 | 81 | 86 | 89 | 82 | 70 | 55 | 52 | 47 | 40 | 37 | 34 | 33 | 34 | 30 | 32 | 34 | 40 | 56 | 65 | 65 | 30 | 89 | 56 | 24 |
| 7 | 71 | 76 | 78 | 77 | 83 | 73 | 59 | 47 | 44 | 44 | 36 | 31 | 27 | 25 | 23 | 22 | 21 | 23 | 31 | 33 | 39 | 51 | 64 | 79 | 21 | 83 | 48 | 24 |
| 8 | 85 | 89 | 87 | 92 | 94 | 90 | 83 | 77 | 72 | 59 | 54 | 44 | 38 | 34 | 34 | 34 | 36 | 39 | 37 | 50 | 59 | 61 | 75 | 34 | 94 | 94 | 61 | 24 |
| 9 | 87 | 88 | 92 | 95 | 87 | 87 | 82 | 74 | 72 | 77 | 75 | 67 | 65 | 72 | 88 | 87 | 86 | 78 | 70 | 74 | 83 | 90 | 93 | 95 | 65 | 95 | 82 | 24 |
| 10 | 96 | 97 | 91 | 80 | 88 | 84 | 79 | 74 | 75 | 78 | 80 | 75 | 68 | 66 | 64 | 61 | 60 | 64 | 57 | 61 | 79 | 77 | 81 | 76 | 57 | 97 | 75 | 24 |
| 11 | 62 | 67 | 72 | 67 | 66 | 85 | 95 | 94 | 96 | 96 | 94 | 95 | 92 | 94 | 95 | 99 | 98 | 98 | 96 | 97 | 96 | 97 | 99 | 99 | 62 | 99 | 89 | 24 |
| 12 | 97 | 97 | 97 | 98 | 95 | 96 | 97 | 94 | 94 | 97 | 100 | 100 | 100 | 98 | 98 | 99 | 95 | 98 | 100 | 100 | 100 | 100 | 100 | 100 | 94 | 100 | 98 | 24 |
| 13 | 100 | 100 | 98 | 97 | 96 | 99 | 99 | 100 | 99 | 97 | 94 | 94 | 92 | 88 | 84 | 81 | 74 | 70 | 72 | 74 | 79 | 87 | 91 | 92 | 70 | 100 | 90 | 24 |
| 14 | 93 | 96 | 97 | 98 | 99 | 98 | 90 | 87 | 85 | 81 | 77 | 74 | 69 | 66 | 67 | 63 | 61 | 60 | 58 | 59 | 66 | 82 | 92 | 97 | 58 | 99 | 80 | 24 |
| 15 | 99 | 100 | 100 | 98 | 100 | 99 | 98 | 98 | 93 | 97 | 88 | 76 | 64 | 56 | 50 | 47 | 41 | 47 | 84 | 87 | 84 | 99 | 100 | 100 | 41 | 100 | 84 | 24 |
| 16 | 100 | 100 | 100 | 100 | 100 | 99 | 85 | 73 | 66 | 59 | 50 | 46 | 37 | 38 | 37 | 37 | 35 | 33 | 33 | 35 | 41 | 51 | 55 | 59 | 33 | 100 | 61 | 24 |
| 17 | 65 | 78 | 83 | 79 | 79 | 66 | 58 | 51 | 44 | 40 | 35 | 33 | 36 | 38 | 38 | 35 | 35 | 36 | 43 | 46 | 60 | 82 | 90 | 91 | 33 | 91 | 56 | 24 |
| 18 | 86 | 86 | 88 | 89 | 92 | 81 | 65 | 58 | 54 | 48 | 39 | 32 | 27 | 26 | 27 | 29 | 29 | 29 | 27 | 30 | 53 | 70 | 72 | 75 | 26 | 92 | 55 | 24 |
| 19 | 72 | 72 | 72 | 70 | 76 | 74 | 68 | 52 | 45 | 42 | 38 | 36 | 32 | 29 | 28 | 28 | 26 | 26 | 28 | 31 | 49 | 66 | 65 | 63 | 26 | 76 | 50 | 24 |
| 20 | 62 | 60 | 59 | 71 | 67 | 64 | 54 | 47 | 47 | 44 | 44 | 41 | 36 | 31 | 23 | 17 | 13 | 17 | 24 | 34 | 43 | 45 | 58 | 69 | 13 | 71 | 45 | 24 |
| 21 | 77 | 79 | 80 | 74 | 76 | 69 | 69 | 66 | 55 | 48 | 52 | 58 | 60 | 50 | 44 | 46 | 39 | 37 | 40 | 44 | 49 | 53 | 83 | 74 | 37 | 83 | 59 | 24 |
| 22 | 74 | 81 | 84 | 87 | 85 | 82 | 77 | 71 | 65 | 67 | 74 | 58 | 56 | 51 | 47 | 47 | 52 | 57 | 63 | 92 | 100 | 100 | 100 | 100 | 47 | 100 | 74 | 24 |
| 23 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 79 | 69 | 65 | 59 | 52 | 49 | 48 | 45 | 41 | 40 | 39 | 41 | 46 | 51 | 62 | 65 | 39 | 100 | 69 | 24 |
| 24 | 58 | 58 | 70 | 63 | 62 | 59 | 54 | 51 | 49 | 46 | 45 | 43 | 36 | 32 | 33 | 32 | 29 | 32 | 35 | 42 | 45 | 54 | 55 | 51 | 29 | 70 | 47 | 24 |
| 25 | 49 | 49 | 54 | 61 | 66 | 68 | 70 | 70 | 67 | 62 | 59 | 61 | 69 | 86 | 88 | 78 | 71 | 63 | 57 | 53 | 57 | 59 | 58 | 55 | 49 | 88 | 64 | 24 |
| 26 | 56 | 58 | 57 | 56 | 56 | 58 | 55 | 66 | 63 | 64 | 71 | 67 | 66 | 64 | 62 | 64 | 69 | 75 | 76 | 81 | 86 | 88 | 88 | 86 | 55 | 88 | 68 | 24 |
| 27 | 85 | 91 | 94 | 95 | 95 | 95 | 94 | 91 | 92 | 94 | 89 | 85 | 90 | 81 | 75 | 72 | 70 | 70 | 70 | 70 | 73 | 74 | 86 | 93 | 70 | 95 | 84 | 24 |
| 28 | 96 | 97 | 93 | 91 | 92 | 94 | 85 | 72 | 67 | 65 | 60 | 57 | 51 | 49 | 51 | 51 | 53 | 58 | 62 | 60 | 75 | 88 | 88 | 89 | 49 | 97 | 73 | 24 |
| 29 | 92 | 88 | 90 | 94 | 97 | 98 | 96 | 93 | 93 | 80 | 71 | 64 | 64 | 63 | 70 | 79 | 73 | 64 | 66 | 72 | 83 | 86 | 86 | 86 | 63 | 98 | 80 | 24 |
| 30 | 94 | 97 | 97 | 95 | 96 | 94 | 85 | 77 | 74 | 70 | 67 | 62 | 57 | 59 | 55 | 52 | 47 | 49 | 66 | 87 | 84 | 86 | 87 | 82 | 47 | 97 | 76 | 24 |
| HOURLY MAX | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 97 | 100 | 100 | 100 | 98 | 98 | 99 | 99 | 98 | 100 | 100 | 100 | 100 | 100 | 100 | | | | |
| HOURLY AVG | 80 | 83 | 84 | 85 | 86 | 85 | 80 | 75 | 71 | 68 | 65 | 62 | 58 | 56 | 54 | 53 | 51 | 51 | 53 | 57 | 65 | 73 | 79 | 80 | | | | |

STATUS FLAG CODES

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

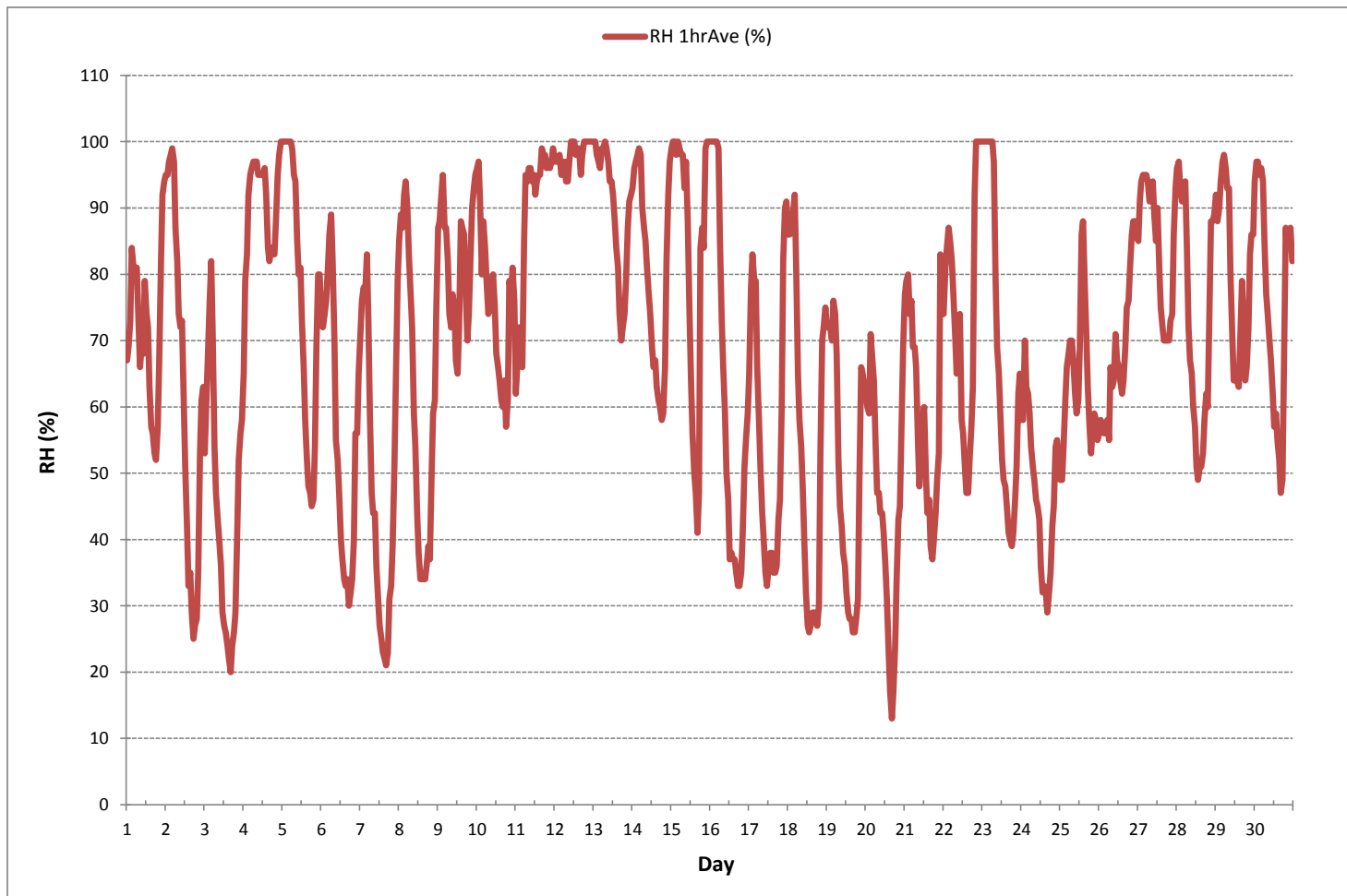
24 HR AVERAGES June 2018



MONTHLY SUMMARY

| | | | | | | |
|------------------------|-----|---|------------------|----|--------|---------|
| MINIMUM 1-HR AVERAGE: | 13 | % | @ HOUR | 16 | ON DAY | 20 |
| MAXIMUM 1-HR AVERAGE: | 100 | % | @ HOUR | 23 | ON DAY | 4 |
| MAXIMUM 24-HR AVERAGE: | 98 | % | | | ON DAY | 12 |
| OPERATIONAL TIME: | | | | | | 720 hrs |
| AMD OPERATION UPTIME: | | | | | | 100.0 % |
| STANDARD DEVIATION: | 22 | | MONTHLY AVERAGE: | 69 | % | |

RELATIVE HUMIDITY Hourly Averages (RH %)



BAROMETRIC PRESSURE



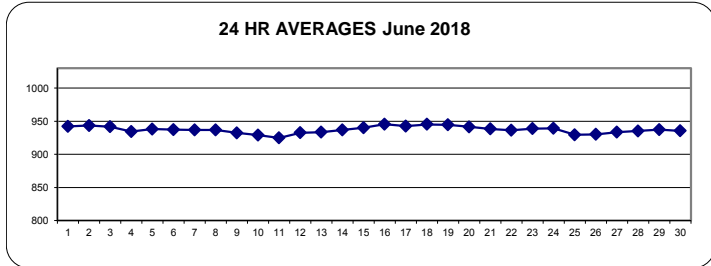
BAROMETRIC PRESSURE Hourly Averages (BP mbar)

| 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 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 943 | 943 | 943 | 943 | 943 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 943 | 942 | 942 | 942 | 942 | 943 | 942 | 24 |
| 2 | 942 | 942 | 942 | 942 | 943 | 943 | 944 | 944 | 944 | 944 | 945 | 944 | 944 | 944 | 943 | 943 | 943 | 943 | 943 | 944 | 944 | 944 | 944 | 944 | 944 | 942 | 945 | 943 | 24 |
| 3 | 944 | 944 | 944 | 944 | 944 | 944 | 945 | 945 | 944 | 944 | 944 | 943 | 943 | 942 | 941 | 940 | 940 | 939 | 939 | 938 | 938 | 938 | 937 | 937 | 937 | 937 | 945 | 942 | 24 |
| 4 | 937 | 936 | 936 | 935 | 935 | 934 | 933 | 933 | 932 | 932 | 932 | 932 | 932 | 933 | 934 | 935 | 935 | 936 | 936 | 936 | 936 | 936 | 936 | 937 | 937 | 932 | 937 | 934 | 24 |
| 5 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 938 | 938 | 939 | 939 | 939 | 940 | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 938 | 938 | 938 | 937 | 940 | 938 | 24 |
| 6 | 938 | 937 | 937 | 937 | 937 | 937 | 938 | 938 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 937 | 938 | 937 | 24 |
| 7 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 937 | 937 | 937 | 936 | 936 | 936 | 935 | 935 | 935 | 936 | 936 | 936 | 936 | 936 | 936 | 935 | 938 | 937 | 24 |
| 8 | 936 | 936 | 936 | 936 | 936 | 937 | 937 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 937 | 937 | 937 | 937 | 937 | 936 | 937 | 936 | 936 | 936 | 936 | 936 | 938 | 937 | 24 |
| 9 | 936 | 936 | 936 | 935 | 933 | 933 | 933 | 932 | 932 | 932 | 931 | 931 | 931 | 931 | 932 | 932 | 932 | 932 | 932 | 932 | 932 | 931 | 931 | 931 | 931 | 931 | 936 | 932 | 24 |
| 10 | 931 | 930 | 931 | 931 | 931 | 931 | 931 | 931 | 931 | 930 | 930 | 930 | 930 | 930 | 929 | 929 | 928 | 928 | 927 | 927 | 927 | 927 | 927 | 926 | 925 | 925 | 931 | 929 | 24 |
| 11 | 925 | 925 | 924 | 924 | 924 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 924 | 924 | 925 | 926 | 926 | 927 | 927 | 928 | 928 | 929 | 929 | 929 | 923 | 929 | 925 | 24 | |
| 12 | 930 | 930 | 930 | 930 | 931 | 931 | 932 | 932 | 932 | 932 | 933 | 933 | 933 | 934 | 934 | 934 | 935 | 934 | 934 | 934 | 934 | 934 | 934 | 933 | 933 | 930 | 935 | 933 | 24 |
| 13 | 933 | 932 | 932 | 932 | 932 | 932 | 932 | 933 | 933 | 933 | 933 | 933 | 934 | 934 | 934 | 934 | 934 | 934 | 934 | 934 | 935 | 935 | 935 | 936 | 936 | 932 | 936 | 934 | 24 |
| 14 | 936 | 936 | 936 | 937 | 937 | 937 | 937 | 937 | 937 | 938 | 938 | 937 | 937 | 937 | 937 | 936 | 936 | 936 | 936 | 936 | 937 | 937 | 936 | 936 | 936 | 936 | 938 | 937 | 24 |
| 15 | 936 | 936 | 937 | 937 | 938 | 938 | 938 | 939 | 939 | 939 | 940 | 940 | 940 | 940 | 941 | 941 | 941 | 942 | 943 | 943 | 943 | 944 | 944 | 945 | 945 | 936 | 945 | 940 | 24 |
| 16 | 945 | 945 | 946 | 946 | 946 | 947 | 947 | 947 | 948 | 948 | 947 | 947 | 947 | 946 | 946 | 945 | 945 | 944 | 944 | 944 | 944 | 944 | 944 | 944 | 944 | 944 | 948 | 946 | 24 |
| 17 | 944 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 943 | 943 | 943 | 943 | 943 | 942 | 944 | 943 | 24 |
| 18 | 943 | 944 | 944 | 944 | 945 | 946 | 946 | 946 | 946 | 947 | 946 | 947 | 946 | 946 | 946 | 946 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 943 | 947 | 945 | 24 |
| 19 | 945 | 945 | 945 | 945 | 945 | 946 | 946 | 946 | 946 | 946 | 946 | 946 | 946 | 945 | 945 | 944 | 944 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 946 | 945 | 24 |
| 20 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 942 | 942 | 941 | 940 | 940 | 939 | 939 | 939 | 939 | 940 | 940 | 940 | 940 | 939 | 943 | 942 | 24 |
| 21 | 940 | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 940 | 939 | 939 | 939 | 939 | 939 | 938 | 938 | 938 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 940 | 938 | 24 |
| 22 | 937 | 937 | 936 | 936 | 936 | 937 | 937 | 937 | 937 | 937 | 936 | 936 | 936 | 936 | 935 | 935 | 935 | 935 | 936 | 937 | 936 | 936 | 936 | 937 | 937 | 935 | 937 | 936 | 24 |
| 23 | 937 | 937 | 938 | 938 | 938 | 939 | 939 | 940 | 940 | 940 | 940 | 940 | 940 | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 937 | 940 | 939 | 24 |
| 24 | 940 | 940 | 940 | 940 | 940 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 940 | 940 | 939 | 939 | 938 | 938 | 937 | 937 | 937 | 936 | 935 | 935 | 941 | 940 | 24 |
| 25 | 934 | 934 | 933 | 932 | 931 | 930 | 930 | 929 | 928 | 927 | 927 | 926 | 926 | 926 | 928 | 929 | 930 | 930 | 930 | 930 | 930 | 930 | 930 | 930 | 930 | 926 | 934 | 930 | 24 |
| 26 | 929 | 929 | 929 | 929 | 929 | 929 | 929 | 930 | 929 | 930 | 930 | 930 | 930 | 930 | 931 | 931 | 931 | 931 | 931 | 931 | 931 | 931 | 931 | 931 | 931 | 929 | 931 | 930 | 24 |
| 27 | 931 | 931 | 932 | 932 | 932 | 932 | 932 | 932 | 933 | 933 | 933 | 933 | 934 | 934 | 934 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 931 | 935 | 933 | 24 |
| 28 | 935 | 935 | 934 | 934 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 934 | 936 | 935 | 24 | |
| 29 | 936 | 936 | 936 | 936 | 936 | 936 | 937 | 937 | 937 | 937 | 937 | 937 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 939 | 939 | 938 | 938 | 936 | 939 | 937 | 24 | |
| 30 | 938 | 938 | 938 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 936 | 936 | 935 | 935 | 934 | 934 | 934 | 934 | 934 | 934 | 934 | 934 | 934 | 934 | 934 | 934 | 938 | 936 | 24 |
| HOURLY MAX | 945 | 945 | 946 | 946 | 946 | 947 | 947 | 947 | 948 | 948 | 947 | 947 | 947 | 946 | 946 | 946 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | | | | |
| HOURLY AVG | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | | | | |

STATUS FLAG CODES

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

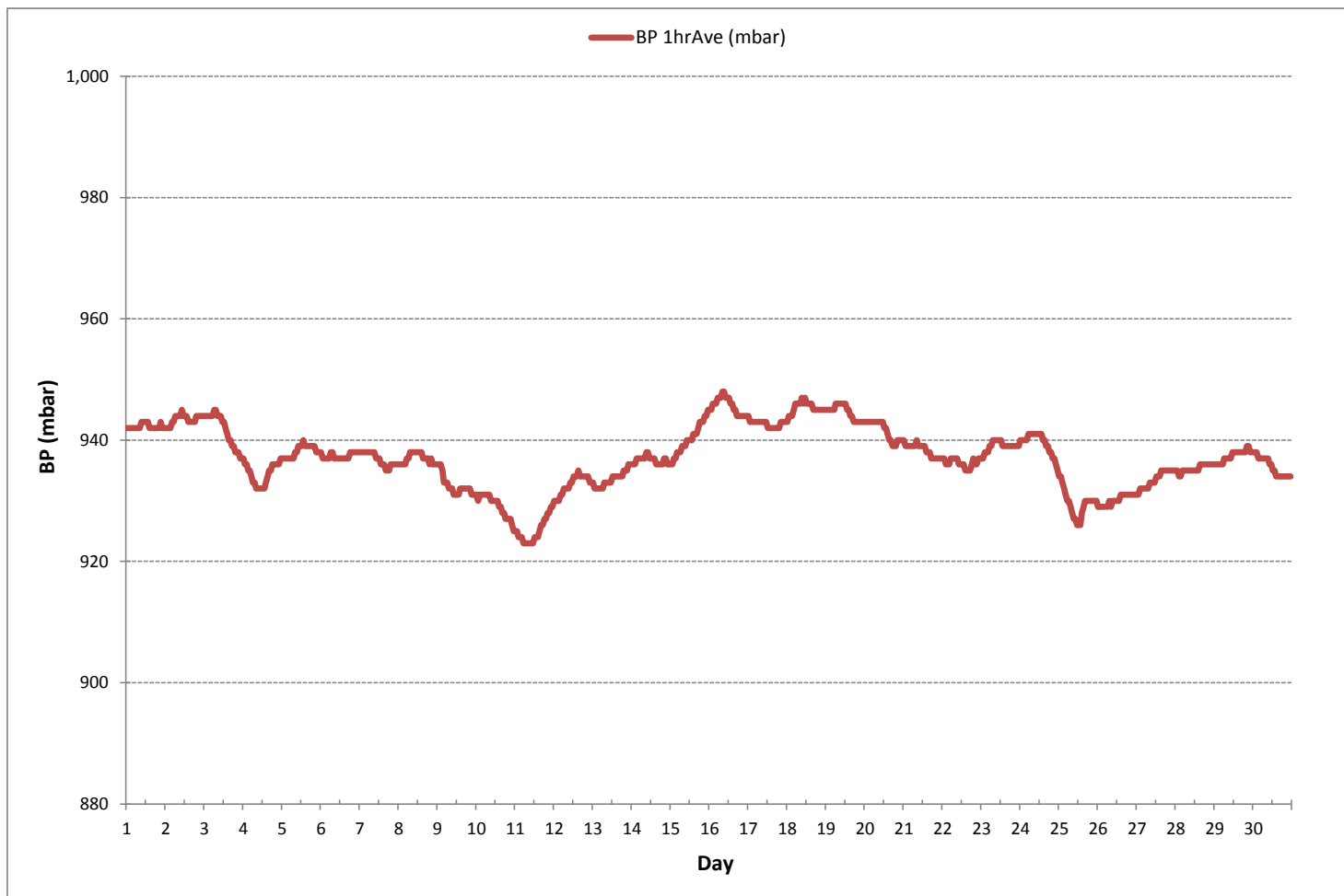
24 HR AVERAGES June 2018



MONTHLY SUMMARY

| | | | | | | |
|------------------------|-----|------|--------|---|--------|----------|
| MINIMUM 1-HR AVERAGE: | 923 | mbar | @ HOUR | 5 | ON DAY | 11 |
| MAXIMUM 1-HR AVERAGE: | 948 | mbar | @ HOUR | 8 | ON DAY | 16 |
| MAXIMUM 24-HR AVERAGE: | 946 | mbar | | | ON DAY | 16 |
| OPERATIONAL TIME: | | | | | | 720 hrs |
| AMD OPERATION UPTIME: | | | | | | 100.0 % |
| STANDARD DEVIATION: | 5 | | | | | |
| MONTHLY AVERAGE: | | | | | | 937 mbar |

BAROMETRIC PRESSURE Hourly Averages (BP mbar)



AMBIENT TEMPERATURE



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
Three Creeks 986b Station - June 2018

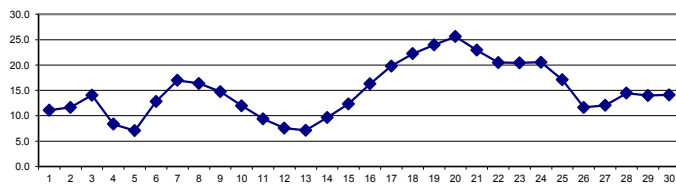
AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)

| HR START (MST) | 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | DAILY MIN. | DAILY MAX. | 24-HR AVG. | RDGS. |
|----------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------|------------|------------|-------|
| HR END (MST) | 0:59 | 1:59 | 2:59 | 3:59 | 4:59 | 5:59 | 6:59 | 7:59 | 8:59 | 9:59 | 10:59 | 11:59 | 12:59 | 13:59 | 14:59 | 15:59 | 16:59 | 17:59 | 18:59 | 19:59 | 20:59 | 21:59 | 22:59 | 23:59 | | | | |
| DAY 1 | 9.4 | 9.0 | 8.5 | 8.0 | 8.1 | 8.5 | 9.0 | 10.5 | 12.2 | 11.9 | 12.0 | 11.4 | 12.3 | 12.3 | 13.5 | 14.6 | 14.6 | 15.0 | 15.5 | 14.4 | 12.8 | 9.4 | 6.7 | 6.5 | 6.5 | 15.5 | 11.1 | 24 |
| 2 | 6.2 | 5.6 | 5.3 | 4.5 | 5.2 | 6.8 | 9.7 | 10.0 | 10.6 | 11.4 | 11.6 | 13.4 | 14.8 | 16.3 | 17.8 | 17.8 | 18.5 | 18.3 | 18.3 | 17.3 | 15.3 | 10.8 | 7.4 | 6.5 | 4.5 | 18.5 | 11.6 | 24 |
| 3 | 7.8 | 6.4 | 4.0 | 2.6 | 1.1 | 3.9 | 8.7 | 11.5 | 14.9 | 16.4 | 17.4 | 18.2 | 19.2 | 18.9 | 20.5 | 21.2 | 21.5 | 20.8 | 19.9 | 19.0 | 17.5 | 16.2 | 15.2 | 14.3 | 1.1 | 21.5 | 14.0 | 24 |
| 4 | 12.9 | 10.7 | 9.3 | 8.0 | 7.3 | 7.0 | 6.8 | 6.9 | 7.3 | 7.8 | 7.7 | 7.8 | 8.0 | 8.4 | 10.2 | 10.8 | 10.4 | 9.8 | 9.7 | 9.2 | 7.8 | 6.3 | 5.4 | 4.7 | 4.7 | 12.9 | 8.3 | 24 |
| 5 | 3.9 | 3.8 | 3.9 | 3.9 | 3.9 | 3.8 | 4.2 | 4.5 | 4.1 | 4.9 | 5.3 | 5.8 | 7.0 | 7.7 | 9.9 | 10.7 | 12.0 | 12.2 | 13.2 | 12.9 | 11.6 | 8.5 | 6.3 | 6.1 | 3.8 | 13.2 | 7.1 | 24 |
| 6 | 6.9 | 7.1 | 7.3 | 7.3 | 6.8 | 6.8 | 7.2 | 8.5 | 11.4 | 14.0 | 14.8 | 15.5 | 16.7 | 17.2 | 18.5 | 17.8 | 17.5 | 18.5 | 18.3 | 17.7 | 16.3 | 12.8 | 12.1 | 10.2 | 6.8 | 18.5 | 12.8 | 24 |
| 7 | 9.0 | 7.7 | 6.8 | 6.4 | 5.4 | 7.7 | 11.8 | 15.3 | 16.5 | 18.0 | 20.5 | 22.9 | 24.0 | 25.0 | 25.2 | 25.9 | 25.9 | 25.0 | 23.9 | 22.3 | 19.7 | 17.1 | 14.1 | 11.2 | 5.4 | 25.9 | 17.0 | 24 |
| 8 | 9.6 | 9.2 | 9.4 | 8.0 | 8.1 | 10.4 | 11.8 | 12.2 | 13.4 | 16.0 | 17.7 | 20.6 | 22.0 | 22.7 | 23.8 | 22.8 | 23.4 | 22.6 | 22.3 | 22.7 | 19.0 | 15.8 | 15.6 | 13.9 | 8.0 | 23.8 | 16.4 | 24 |
| 9 | 12.7 | 12.4 | 11.9 | 10.9 | 12.4 | 12.7 | 14.0 | 15.5 | 16.4 | 16.4 | 17.0 | 18.3 | 18.6 | 18.2 | 15.6 | 15.1 | 14.8 | 16.1 | 16.5 | 16.3 | 15.5 | 13.1 | 11.9 | 11.4 | 10.9 | 18.6 | 14.7 | 24 |
| 10 | 10.8 | 9.8 | 9.7 | 10.3 | 9.0 | 9.9 | 10.6 | 11.4 | 11.6 | 11.9 | 12.6 | 13.5 | 13.8 | 14.4 | 14.7 | 14.5 | 14.4 | 14.2 | 14.6 | 13.3 | 10.9 | 10.6 | 10.2 | 10.5 | 9.0 | 14.7 | 12.0 | 24 |
| 11 | 11.6 | 10.9 | 10.1 | 10.6 | 10.5 | 8.9 | 8.4 | 8.7 | 8.6 | 8.8 | 8.8 | 8.8 | 9.0 | 9.0 | 8.9 | 9.0 | 9.1 | 9.4 | 9.7 | 9.8 | 9.4 | 9.4 | 9.2 | 8.8 | 8.4 | 11.6 | 9.4 | 24 |
| 12 | 8.4 | 8.2 | 8.2 | 8.1 | 8.0 | 7.7 | 7.6 | 7.8 | 7.3 | 7.4 | 7.0 | 6.8 | 7.0 | 7.5 | 7.4 | 7.4 | 8.1 | 8.0 | 7.7 | 7.4 | 7.2 | 7.2 | 7.0 | 7.0 | 6.8 | 8.4 | 7.6 | 24 |
| 13 | 7.0 | 7.0 | 7.1 | 6.7 | 6.4 | 6.0 | 5.7 | 4.5 | 4.4 | 4.8 | 6.0 | 7.2 | 7.5 | 7.8 | 8.2 | 8.9 | 9.5 | 9.7 | 9.6 | 9.5 | 8.8 | 7.6 | 6.0 | 5.1 | 4.4 | 9.7 | 7.1 | 24 |
| 14 | 5.0 | 4.7 | 4.2 | 3.8 | 3.6 | 4.3 | 5.3 | 5.9 | 6.3 | 7.6 | 8.5 | 9.5 | 11.2 | 12.1 | 13.0 | 14.5 | 15.3 | 16.1 | 16.4 | 16.4 | 15.3 | 12.6 | 10.3 | 9.2 | 3.6 | 16.4 | 9.6 | 24 |
| 15 | 7.9 | 7.4 | 8.3 | 9.0 | 8.5 | 8.1 | 8.1 | 8.8 | 10.6 | 10.2 | 11.8 | 13.6 | 16.1 | 17.9 | 19.2 | 18.9 | 19.8 | 18.5 | 12.9 | 14.7 | 15.1 | 12.2 | 10.0 | 8.9 | 7.4 | 19.8 | 12.4 | 24 |
| 16 | 8.1 | 7.5 | 6.4 | 5.6 | 5.5 | 7.9 | 11.6 | 13.5 | 15.2 | 17.1 | 18.7 | 19.9 | 21.0 | 22.0 | 22.5 | 22.8 | 23.4 | 23.6 | 23.7 | 23.0 | 21.2 | 18.6 | 16.7 | 15.8 | 5.5 | 23.7 | 16.3 | 24 |
| 17 | 14.4 | 11.7 | 10.6 | 10.8 | 10.7 | 13.2 | 15.6 | 18.3 | 20.6 | 22.2 | 23.9 | 25.1 | 25.4 | 25.5 | 25.1 | 26.0 | 25.6 | 25.8 | 24.7 | 25.8 | 23.0 | 19.6 | 16.4 | 14.8 | 10.6 | 26.0 | 19.8 | 24 |
| 18 | 14.7 | 13.9 | 12.8 | 12.0 | 11.2 | 14.0 | 18.4 | 20.8 | 22.0 | 24.5 | 26.2 | 27.4 | 28.3 | 28.7 | 29.6 | 29.8 | 29.5 | 29.3 | 29.4 | 29.2 | 25.4 | 20.6 | 18.6 | 17.4 | 11.2 | 29.8 | 22.2 | 24 |
| 19 | 17.0 | 16.6 | 15.9 | 15.7 | 14.6 | 15.6 | 18.6 | 21.7 | 23.7 | 25.9 | 26.8 | 27.8 | 29.0 | 30.2 | 30.6 | 30.8 | 30.9 | 30.7 | 31.2 | 31.0 | 27.3 | 22.7 | 20.5 | 20.1 | 14.6 | 31.2 | 24.0 | 24 |
| 20 | 19.6 | 19.7 | 19.5 | 16.4 | 16.8 | 18.1 | 21.4 | 23.6 | 24.6 | 26.6 | 27.7 | 29.1 | 30.2 | 31.1 | 31.7 | 33.2 | 33.9 | 33.4 | 32.2 | 30.6 | 27.5 | 25.5 | 22.1 | 20.3 | 16.4 | 33.9 | 25.6 | 24 |
| 21 | 19.0 | 18.0 | 16.9 | 16.6 | 16.2 | 17.6 | 18.6 | 20.2 | 23.5 | 25.3 | 25.1 | 25.1 | 25.7 | 27.3 | 28.3 | 28.2 | 28.7 | 29.2 | 27.7 | 26.2 | 25.1 | 23.5 | 18.7 | 19.6 | 16.2 | 29.2 | 22.9 | 24 |
| 22 | 19.0 | 17.6 | 17.1 | 16.6 | 16.6 | 17.0 | 18.4 | 20.2 | 21.5 | 21.9 | 21.3 | 24.4 | 25.2 | 25.4 | 25.6 | 25.9 | 25.3 | 23.7 | 22.6 | 18.1 | 17.3 | 17.3 | 17.0 | 16.5 | 16.5 | 25.9 | 20.5 | 24 |
| 23 | 16.1 | 15.8 | 15.8 | 15.5 | 15.4 | 15.3 | 15.8 | 16.7 | 18.9 | 20.4 | 21.4 | 22.0 | 23.0 | 24.2 | 24.7 | 24.9 | 25.4 | 25.7 | 25.9 | 25.8 | 24.5 | 21.7 | 18.4 | 16.9 | 15.3 | 25.9 | 20.4 | 24 |
| 24 | 16.9 | 16.6 | 14.3 | 14.7 | 14.6 | 15.5 | 16.9 | 18.4 | 19.7 | 21.0 | 22.0 | 23.2 | 23.9 | 24.7 | 24.8 | 25.2 | 25.9 | 25.0 | 25.1 | 24.2 | 22.8 | 20.0 | 18.8 | 18.8 | 14.3 | 25.9 | 20.5 | 24 |
| 25 | 18.7 | 18.6 | 17.9 | 16.7 | 16.2 | 16.4 | 17.0 | 17.8 | 20.1 | 22.9 | 24.2 | 23.9 | 21.3 | 15.7 | 13.7 | 14.1 | 14.4 | 14.9 | 15.5 | 15.8 | 15.3 | 13.8 | 13.1 | 12.4 | 12.4 | 24.2 | 17.1 | 24 |
| 26 | 11.9 | 11.5 | 11.7 | 11.7 | 11.6 | 11.2 | 11.9 | 10.7 | 11.2 | 11.3 | 10.9 | 11.4 | 11.9 | 12.3 | 13.3 | 12.9 | 13.0 | 12.2 | 12.0 | 11.7 | 11.2 | 11.0 | 10.6 | 10.5 | 10.5 | 13.3 | 11.7 | 24 |
| 27 | 10.5 | 10.0 | 9.8 | 9.7 | 9.8 | 10.0 | 10.4 | 10.9 | 10.7 | 10.9 | 11.7 | 12.0 | 11.8 | 12.7 | 13.5 | 13.7 | 14.3 | 14.5 | 14.7 | 14.7 | 14.6 | 14.1 | 12.7 | 11.9 | 9.7 | 14.7 | 12.1 | 24 |
| 28 | 11.5 | 11.0 | 10.7 | 10.4 | 9.9 | 10.2 | 11.8 | 13.7 | 14.4 | 15.2 | 16.5 | 17.2 | 18.2 | 18.1 | 17.6 | 17.2 | 16.9 | 17.1 | 17.1 | 17.6 | 16.0 | 13.8 | 12.8 | 12.0 | 9.9 | 18.2 | 14.5 | 24 |
| 29 | 11.4 | 11.9 | 11.4 | 10.8 | 10.6 | 11.0 | 11.6 | 12.3 | 12.7 | 15.1 | 16.2 | 17.2 | 17.3 | 17.1 | 17.4 | 16.0 | 15.0 | 14.9 | 16.1 | 16.5 | 15.6 | 13.4 | 12.3 | 12.2 | 10.6 | 17.4 | 14.0 | 24 |
| 30 | 10.0 | 9.2 | 9.8 | 8.8 | 8.1 | 9.4 | 12.0 | 14.0 | 14.6 | 15.9 | 16.8 | 18.3 | 19.1 | 18.8 | 18.9 | 18.9 | 19.5 | 18.6 | 15.5 | 13.0 | 13.1 | 12.5 | 11.8 | 12.2 | 8.1 | 19.5 | 14.1 | 24 |
| HOURLY MAX | 19.6 | 19.7 | 19.5 | 16.7 | 16.8 | 18.1 | 21.4 | 23.6 | 24.6 | 26.6 | 27.7 | 29.1 | 30.2 | 31.1 | 31.7 | 33.2 | 33.9 | 33.4 | 32.2 | 31.0 | 27.5 | 25.5 | 22.1 | 20.3 | | | | |
| HOURLY AVG | 11.6 | 11.0 | 10.5 | 10.0 | 9.7 | 10.5 | 12.0 | 13.2 | 14.3 | 15.5 | 16.3 | 17.2 | 18.0 | 18.3 | 18.8 | 19.0 | 19.2 | 19.1 | 18.7 | 18.2 | 16.7 | 14.6 | 12.9 | 12.2 | | | | |

STATUS FLAG CODES

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

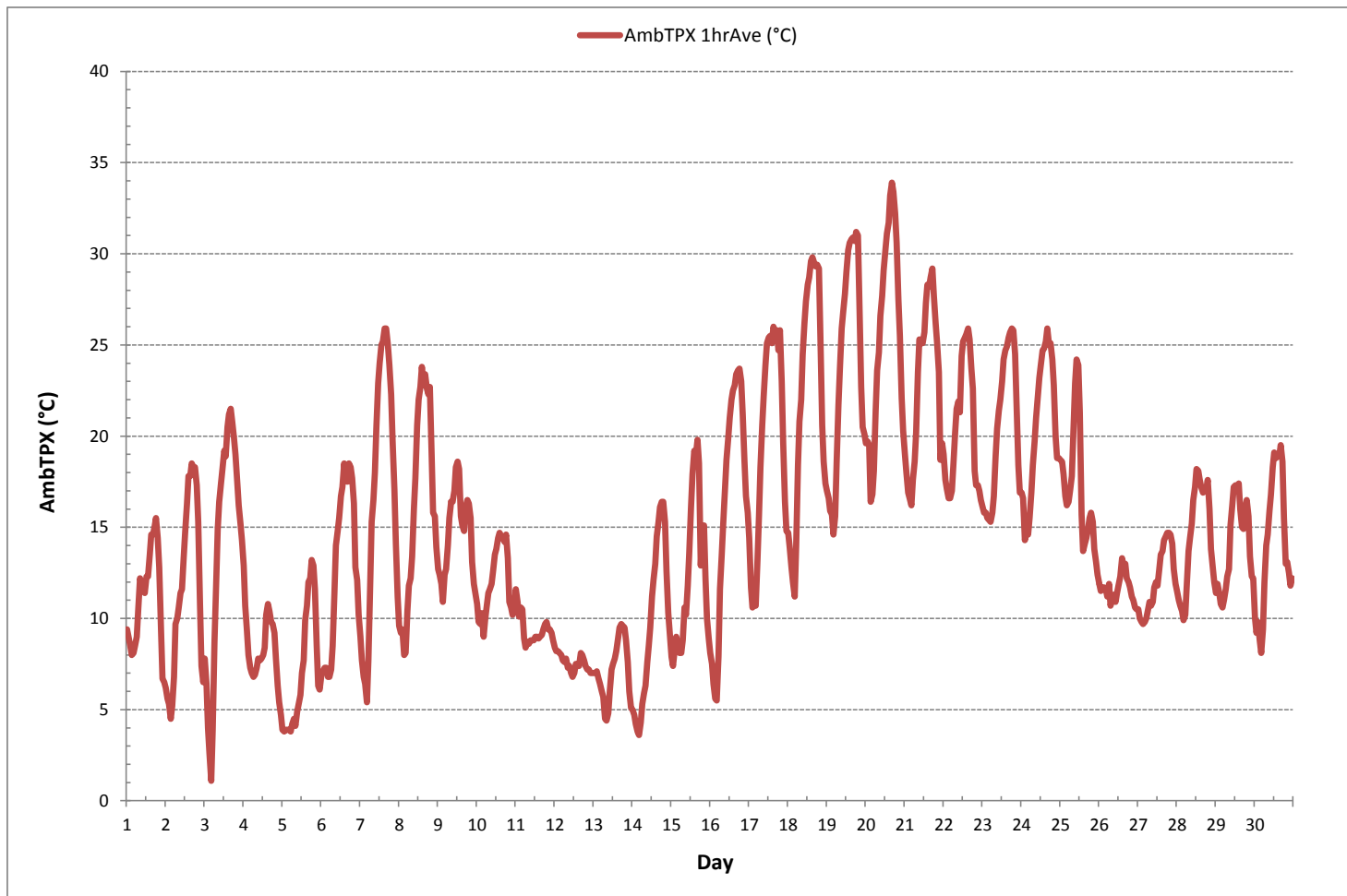
24 HR AVERAGES June 2018



MONTHLY SUMMARY

| | | | | | | |
|------------------------|------|----|--------|----|--------|--------------------------|
| MINIMUM 1-HR AVERAGE: | 1.1 | °C | @ HOUR | 4 | ON DAY | 3 |
| MAXIMUM 1-HR AVERAGE: | 33.9 | °C | @ HOUR | 16 | ON DAY | 20 |
| MAXIMUM 24-HR AVERAGE: | 25.6 | °C | | | ON DAY | 20 |
| OPERATIONAL TIME: | | | | | | 720 hrs |
| AMD OPERATION UPTIME: | | | | | | 100.0 % |
| STANDARD DEVIATION: | 6.6 | | | | | MONTHLY AVERAGE: 14.9 °C |

AMBIENT TEMPERATURE Hourly Averages (AmbTPX °C)



STATION TEMPERATURE



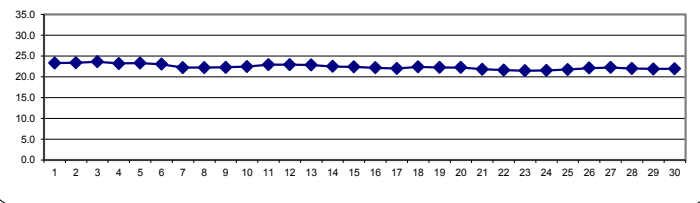
STATION TEMPERATURE Hourly Averages (StnTPX °C)

| HR START (MST) | 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | DAILY | DAILY | 24-HR | RDGS. | |
|----------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|
| HR END (MST) | 0:59 | 1:59 | 2:59 | 3:59 | 4:59 | 5:59 | 6:59 | 7:59 | 8:59 | 9:59 | 10:59 | 11:59 | 12:59 | 13:59 | 14:59 | 15:59 | 16:59 | 17:59 | 18:59 | 19:59 | 20:59 | 21:59 | 22:59 | 23:59 | MIN. | MAX. | AVG. | | |
| DAY 1 | 23.4 | 23.3 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.3 | 23.3 | 23.3 | 23.2 | 23.2 | 23.2 | 23.2 | 23.3 | 23.3 | 23.3 | 23.3 | 23.2 | 23.2 | 23.1 | 23.2 | 23.3 | 23.1 | 23.4 | 23.3 | 24 | |
| 2 | 23.4 | 23.4 | 23.3 | 23.5 | 23.6 | 23.5 | 23.3 | 23.3 | 23.3 | 23.3 | 23.2 | 23.3 | 23.4 | 23.4 | 23.6 | 23.5 | 23.6 | 23.5 | 23.5 | 23.4 | 23.3 | 23.1 | 23.1 | 23.3 | 23.1 | 23.6 | 23.4 | 24 | |
| 3 | 23.4 | 23.4 | 23.4 | 23.6 | 23.1 | 24.3 | 25.0 | 23.6 | 23.6 | 23.7 | 23.7 | 23.6 | 23.7 | 23.6 | 23.7 | 23.6 | 23.6 | 23.5 | 23.5 | 23.5 | 23.3 | 23.3 | 23.2 | 23.2 | 23.1 | 25.0 | 23.6 | 24 | |
| 4 | 23.2 | 23.2 | 23.2 | 23.2 | 23.2 | 23.1 | 23.1 | 23.1 | 23.2 | 23.2 | 23.2 | 23.2 | 23.2 | 23.2 | 23.3 | 23.2 | 23.3 | 23.3 | 23.0 | 23.1 | 23.1 | 23.1 | 23.2 | 23.3 | 23.0 | 23.3 | 23.2 | 24 | |
| 5 | 23.3 | 23.3 | 23.3 | 23.2 | 23.3 | 23.4 | 23.7 | 23.7 | 23.6 | 23.6 | 23.5 | 23.5 | 23.4 | 23.3 | 23.3 | 23.2 | 23.2 | 23.1 | 23.1 | 23.0 | 22.9 | 22.9 | 23.1 | 23.2 | 22.9 | 23.7 | 23.3 | 24 | |
| 6 | 23.3 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 22.7 | 23.8 | 24.1 | 24.0 | 23.4 | 23.7 | 23.4 | 23.3 | 23.1 | 22.9 | 21.9 | 21.8 | 21.9 | 21.9 | 21.9 | 22.2 | 22.4 | 21.8 | 24.1 | 23.0 | 24 | |
| 7 | 22.5 | 22.6 | 22.7 | 22.9 | 22.8 | 22.9 | 22.8 | 22.7 | 22.4 | 22.3 | 22.3 | 21.9 | 21.9 | 21.6 | 21.5 | 21.7 | 21.7 | 21.6 | 21.6 | 21.8 | 22.0 | 22.1 | 22.2 | 22.3 | 21.5 | 22.9 | 22.2 | 24 | |
| 8 | 22.5 | 22.6 | 22.6 | 22.6 | 22.8 | 22.7 | 22.7 | 22.7 | 22.5 | 22.4 | 22.5 | 22.2 | 22.0 | 21.8 | 21.7 | 21.5 | 21.7 | 21.7 | 21.7 | 21.7 | 21.7 | 22.0 | 22.2 | 22.3 | 21.5 | 22.8 | 22.2 | 24 | |
| 9 | 22.4 | 22.4 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.4 | 22.3 | 22.4 | 22.2 | 22.1 | 21.9 | 22.0 | 22.0 | 22.1 | 22.2 | 22.3 | 22.1 | 22.1 | 22.2 | 22.1 | 22.3 | 22.4 | 21.9 | 22.5 | 22.3 | 24 | |
| 10 | 22.4 | 22.4 | 22.5 | 22.5 | 22.6 | 22.6 | 22.6 | 22.7 | 22.5 | 22.4 | 22.5 | 22.5 | 22.4 | 22.3 | 22.2 | 22.3 | 22.4 | 22.3 | 22.3 | 22.4 | 22.4 | 22.5 | 22.5 | 22.5 | 22.2 | 22.7 | 22.4 | 24 | |
| 11 | 22.6 | 22.7 | 22.6 | 22.7 | 22.8 | 22.9 | 22.8 | 22.8 | 23.0 | 22.9 | 23.1 | 22.9 | 23.1 | 23.1 | 23.0 | 23.1 | 23.0 | 22.8 | 23.0 | 22.8 | 23.0 | 22.9 | 22.9 | 22.9 | 22.6 | 23.1 | 22.9 | 24 | |
| 12 | 23.0 | 22.9 | 23.0 | 22.9 | 23.0 | 23.0 | 22.9 | 23.1 | 23.0 | 23.0 | 22.9 | 22.8 | 22.9 | 22.9 | 22.8 | 22.9 | 22.8 | 22.8 | 22.7 | 22.7 | 22.8 | 22.7 | 22.8 | 22.7 | 22.7 | 22.7 | 23.1 | 22.9 | 24 |
| 13 | 22.7 | 22.8 | 22.9 | 23.0 | 23.1 | 23.0 | 22.9 | 22.8 | 22.9 | 22.7 | 22.9 | 22.9 | 22.8 | 23.0 | 22.8 | 22.8 | 22.7 | 22.7 | 22.7 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 23.1 | 22.8 | 24 | |
| 14 | 22.8 | 22.8 | 22.8 | 22.9 | 22.8 | 22.9 | 22.9 | 22.8 | 22.8 | 22.6 | 22.7 | 22.7 | 22.5 | 22.4 | 22.3 | 22.3 | 22.3 | 22.1 | 22.0 | 21.9 | 21.8 | 21.9 | 22.1 | 22.3 | 21.8 | 22.9 | 22.5 | 24 | |
| 15 | 22.5 | 22.6 | 22.7 | 22.7 | 22.6 | 22.6 | 22.8 | 22.7 | 22.6 | 22.5 | 22.6 | 22.4 | 22.3 | 22.1 | 22.0 | 22.1 | 21.9 | 22.1 | 22.2 | 22.1 | 22.2 | 22.1 | 22.3 | 22.4 | 21.9 | 22.8 | 22.4 | 24 | |
| 16 | 22.5 | 22.6 | 22.7 | 22.7 | 22.7 | 22.8 | 22.7 | 22.6 | 22.6 | 22.3 | 22.3 | 22.0 | 22.0 | 21.9 | 21.8 | 21.8 | 21.7 | 21.7 | 21.6 | 21.5 | 21.7 | 21.6 | 21.9 | 22.1 | 21.5 | 22.8 | 22.2 | 24 | |
| 17 | 22.2 | 22.3 | 22.4 | 22.5 | 22.5 | 22.6 | 22.5 | 22.5 | 22.2 | 22.2 | 21.9 | 21.7 | 21.6 | 21.4 | 21.6 | 21.3 | 21.3 | 21.6 | 21.6 | 21.5 | 21.6 | 21.7 | 21.9 | 22.1 | 21.3 | 22.6 | 21.9 | 24 | |
| 18 | 22.2 | 22.3 | 22.3 | 22.4 | 22.4 | 22.4 | 22.4 | 22.1 | 22.0 | 21.7 | 21.8 | 22.0 | 22.5 | 22.9 | 23.2 | 23.1 | 23.0 | 23.2 | 23.2 | 23.1 | 22.2 | 20.9 | 21.4 | 21.7 | 20.9 | 23.2 | 22.4 | 24 | |
| 19 | 21.8 | 21.9 | 22.0 | 22.0 | 22.0 | 22.1 | 22.1 | 22.0 | 21.8 | 21.4 | 21.6 | 21.9 | 22.2 | 22.7 | 23.1 | 22.8 | 23.0 | 23.1 | 23.3 | 23.2 | 22.7 | 21.6 | 21.2 | 21.7 | 21.2 | 23.3 | 22.2 | 24 | |
| 20 | 21.9 | 22.0 | 22.0 | 22.1 | 22.1 | 22.1 | 22.0 | 21.9 | 21.6 | 21.7 | 22.2 | 22.6 | 22.4 | 22.3 | 22.2 | 22.4 | 22.6 | 22.7 | 22.9 | 23.1 | 23.0 | 22.7 | 21.6 | 21.1 | 21.1 | 23.1 | 22.2 | 24 | |
| 21 | 21.6 | 21.6 | 21.8 | 21.8 | 21.9 | 21.9 | 22.0 | 21.7 | 21.6 | 21.3 | 21.2 | 21.0 | 21.2 | 21.6 | 22.0 | 22.4 | 22.6 | 22.8 | 22.8 | 22.5 | 21.7 | 21.2 | 21.5 | 21.6 | 21.0 | 22.8 | 21.8 | 24 | |
| 22 | 21.8 | 21.8 | 21.9 | 21.9 | 21.9 | 21.9 | 21.9 | 21.9 | 21.4 | 21.4 | 21.5 | 21.2 | 21.1 | 21.3 | 21.4 | 21.7 | 21.8 | 21.4 | 21.0 | 21.4 | 21.6 | 21.8 | 21.8 | 21.9 | 21.0 | 21.9 | 21.6 | 24 | |
| 23 | 21.9 | 21.8 | 22.0 | 22.0 | 21.9 | 22.0 | 21.9 | 21.9 | 21.9 | 21.5 | 21.5 | 21.4 | 21.2 | 21.2 | 21.0 | 21.1 | 21.0 | 20.9 | 21.0 | 20.9 | 21.0 | 21.2 | 21.3 | 21.7 | 20.9 | 22.0 | 21.5 | 24 | |
| 24 | 21.7 | 21.9 | 21.9 | 22.0 | 22.0 | 22.1 | 22.1 | 21.9 | 21.9 | 21.6 | 21.5 | 21.3 | 21.4 | 21.3 | 21.2 | 21.1 | 21.2 | 21.2 | 21.1 | 21.2 | 21.1 | 21.2 | 21.4 | 21.5 | 21.6 | 21.1 | 22.1 | 21.6 | 24 |
| 25 | 21.8 | 21.9 | 21.8 | 21.8 | 21.9 | 21.9 | 21.8 | 21.9 | 21.9 | 21.5 | 21.5 | 21.2 | 21.3 | 21.5 | 21.8 | 21.8 | 21.8 | 21.9 | 21.8 | 21.8 | 21.7 | 21.7 | 21.8 | 22.0 | 21.2 | 22.0 | 21.7 | 24 | |
| 26 | 22.1 | 22.1 | 22.2 | 22.1 | 22.1 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.1 | 22.0 | 22.0 | 22.0 | 22.0 | 21.9 | 21.9 | 21.9 | 22.0 | 22.0 | 22.1 | 22.1 | 22.3 | 22.3 | 21.9 | 22.3 | 22.1 | 24 | |
| 27 | 22.2 | 22.3 | 22.2 | 22.4 | 22.3 | 22.3 | 22.3 | 22.2 | 22.3 | 22.4 | 22.3 | 22.3 | 22.2 | 22.3 | 22.2 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.0 | 22.0 | 22.1 | 22.1 | 22.0 | 22.4 | 22.2 | 24 | |
| 28 | 22.2 | 22.2 | 22.1 | 22.2 | 22.2 | 22.2 | 22.2 | 22.3 | 22.0 | 22.1 | 21.9 | 21.8 | 21.7 | 21.8 | 21.6 | 21.7 | 21.7 | 21.8 | 21.7 | 21.7 | 21.7 | 21.8 | 22.0 | 22.1 | 21.6 | 22.3 | 21.9 | 24 | |
| 29 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.0 | 22.0 | 21.9 | 21.8 | 21.7 | 21.7 | 21.6 | 21.6 | 21.8 | 21.8 | 21.7 | 21.7 | 21.5 | 21.6 | 21.8 | 22.0 | 21.5 | 22.1 | 21.9 | 24 | |
| 30 | 22.0 | 22.1 | 22.2 | 22.3 | 22.2 | 22.3 | 22.2 | 22.2 | 22.0 | 21.9 | 21.8 | 21.8 | 21.8 | 21.6 | 21.6 | 21.7 | 21.7 | 21.5 | 21.7 | 21.8 | 21.9 | 21.9 | 22.0 | 22.1 | 21.5 | 22.3 | 21.9 | 24 | |
| HOURLY MAX | 23.4 | 23.4 | 23.4 | 23.6 | 23.6 | 24.3 | 25.0 | 23.7 | 23.8 | 24.1 | 24.0 | 23.6 | 23.7 | 23.6 | 23.7 | 23.6 | 23.6 | 23.5 | 23.5 | 23.5 | 23.3 | 23.3 | 23.2 | 23.3 | | | | | |
| HOURLY AVG | 22.4 | 22.5 | 22.5 | 22.6 | 22.6 | 22.6 | 22.6 | 22.5 | 22.5 | 22.4 | 22.4 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.2 | 22.1 | 22.2 | 22.3 | | | | | |

STATUS FLAG CODES

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

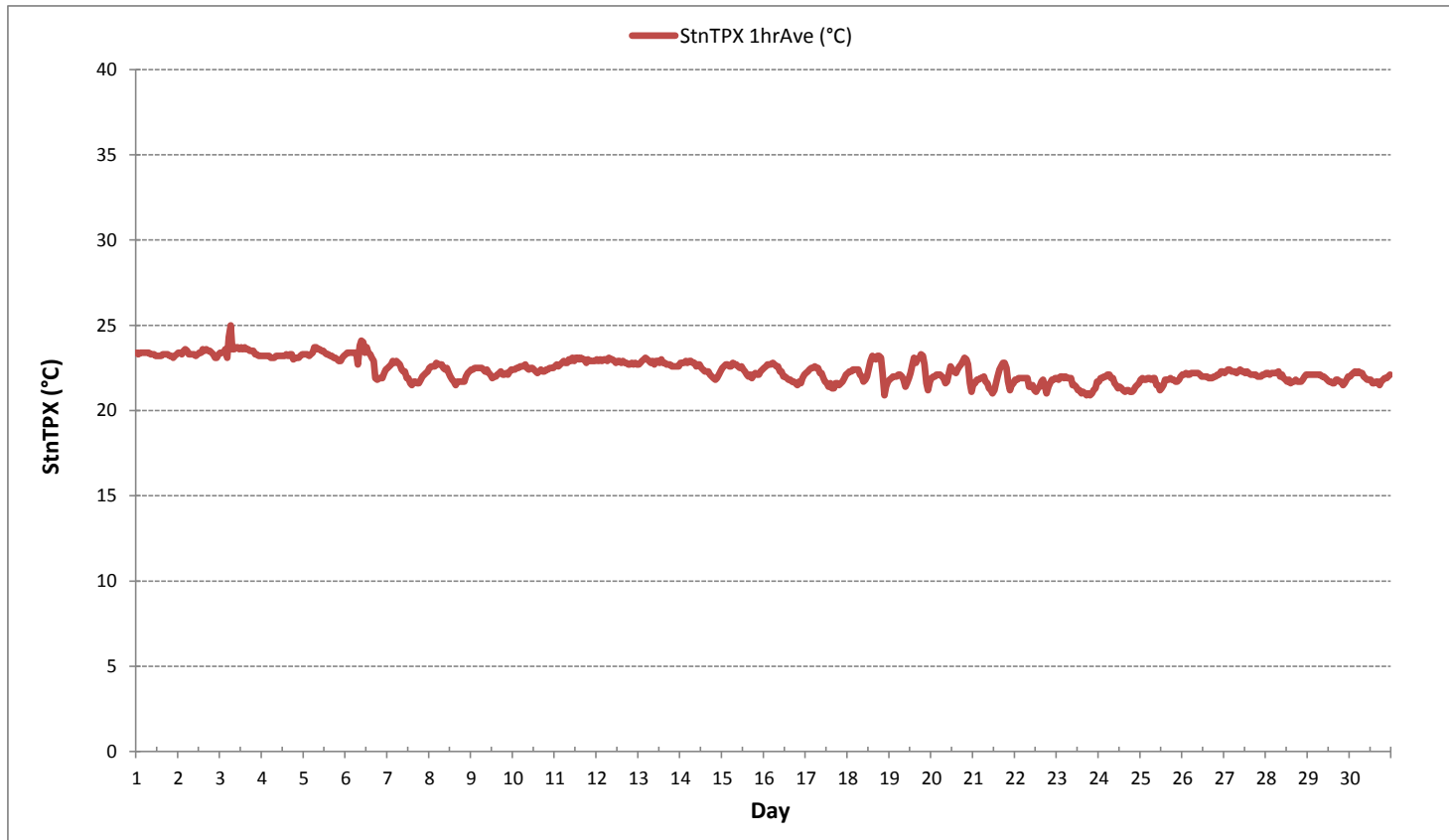
24 HR AVERAGES June 2018



MONTHLY SUMMARY

| | | | | | |
|------------------------|---------|------------------|------|--------|-----|
| MINIMUM 1-HR AVERAGE: | 20.9 °C | @ HOUR | 21 | ON DAY | 18 |
| MAXIMUM 1-HR AVERAGE: | 25.0 °C | @ HOUR | 6 | ON DAY | 3 |
| MAXIMUM 24-HR AVERAGE: | 23.6 °C | | | ON DAY | 3 |
| OPERATIONAL TIME: | | | | 720 | hrs |
| AMD OPERATION UPTIME: | | | | 100.0 | % |
| STANDARD DEVIATION: | 0.7 | MONTHLY AVERAGE: | 22.4 | °C | |

STATION TEMPERATURE Hourly Averages (StnTPX °C)



APPENDIX II
EQUIPMENT CALIBRATION RESULTS

SULPHUR DIOXIDE



Thermo 43C Sulphur Dioxide Analyzer Calibration

| | | | | | |
|---------------------------------|------------------------|---|---|------------|-----------|
| Date: | June 6, 2018 | Barometer/B.P./units: | Brunton 05490 expires December 11, 2018 | 937 | millibars |
| Company/Airshed: | PRAMP | Thermometer/Station Temp: | Brunton 05490 expires December 11, 2018 | 24 | °C |
| Location/Station Name: | 986b | Weather Conditions: | Mainly sunny | | |
| Parameter: | Sulphur Dioxide | Calibration Purpose: | routine monthly | | |
| Start Time 24 hr. (mst): | 12:34 | Performed By/Reviewer: | Chris Wesson | Rob Fisher | |
| End Time 24 hr. (mst): | 16:30 | Cal Gas Expiry Date: | October 24, 2020 | | |
| Calibration Method: | Gas Dilution | Converter Model & s/n (if applicable): | n/a | | |
| Analyzer: | | | | | |
| Serial Number/Owner: | 43C-62339-335 Maxxam | Range ppb: | 500 | | |
| Last Calibration Date: | May 1, 2018 | As Found C.F.: | 0.962 | | |
| Previous C.F.: | 1.000 | New C.F.: | 0.999 | | |

| Calibration Standards: | | Standard Calibration Points for Ranges | | | | | | | | |
|--|--|--|-------|-----|------|-----|-----|-----|-----|----|
| Low Flow Meter ID/Expiry Date: | Defender Low 152020 expires November 22, 2018 | <table border="1"><tr><th>Point</th><th>ppb</th></tr><tr><td>High</td><td>380</td></tr><tr><td>Mid</td><td>180</td></tr><tr><td>Low</td><td>90</td></tr></table> | Point | ppb | High | 380 | Mid | 180 | Low | 90 |
| Point | ppb | | | | | | | | | |
| High | 380 | | | | | | | | | |
| Mid | 180 | | | | | | | | | |
| Low | 90 | | | | | | | | | |
| High Flow Meter ID/Expiry Date: | Defender High 148943 expires November 21, 2018 | | | | | | | | | |
| Calibrator ID/Expiry Date: | API id# 829 expires January 31, 2019 | | | | | | | | | |
| Cal Gas Cylinder I.D. #: | LL108015 | | | | | | | | | |
| Cal Gas Conc. (ppm): | 47.9 | | | | | | | | | |

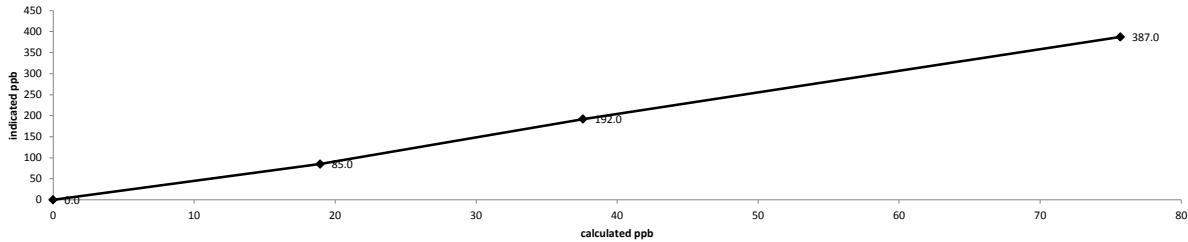
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

| Calibrator Flow Rates (cc/min) | | | | Calculated | Indicated Concentration (ppb): | Correction Factors (C.F.): |
|--------------------------------|---------|---------|-------|----------------------|--------------------------------|----------------------------|
| Point | Diluent | Cal Gas | Total | Concentration (ppb): | | |
| as found zero | 6005 | 0.00 | 6005 | 0.0 | 1.0 | n/a |
| as found high | 5944 | 48.39 | 5992 | 386.8 | 403.0 | 0.962 |
| adjusted zero | 6005 | 0.00 | 6005 | 0.0 | 0.0 | n/a |
| adjusted high | 5944 | 48.39 | 5992 | 386.8 | 387.0 | 0.999 |
| mid | 5979 | 24.14 | 6003 | 192.7 | 192.0 | 1.003 |
| low | 5983 | 10.93 | 5994 | 87.3 | 85.0 | 1.027 |
| calibrator zero | 6005 | 0.00 | 6005 | 0.0 | 0.0 | n/a |
| Average C.F. = | | | | | | 1.010 |

Linear Regression/Calibration Results:

| | | |
|---|-------|---------------|
| Correlation Coefficient = | 1.000 | LIMITS |
| Slope = | 0.997 | > or = 0.995 |
| b (Intercept as % of full scale) = | 0.22% | 0.95-1.05 |
| % change in C.F. from last cal = | 3.78% | ± 3% F.S. |
| | | ± 10% |

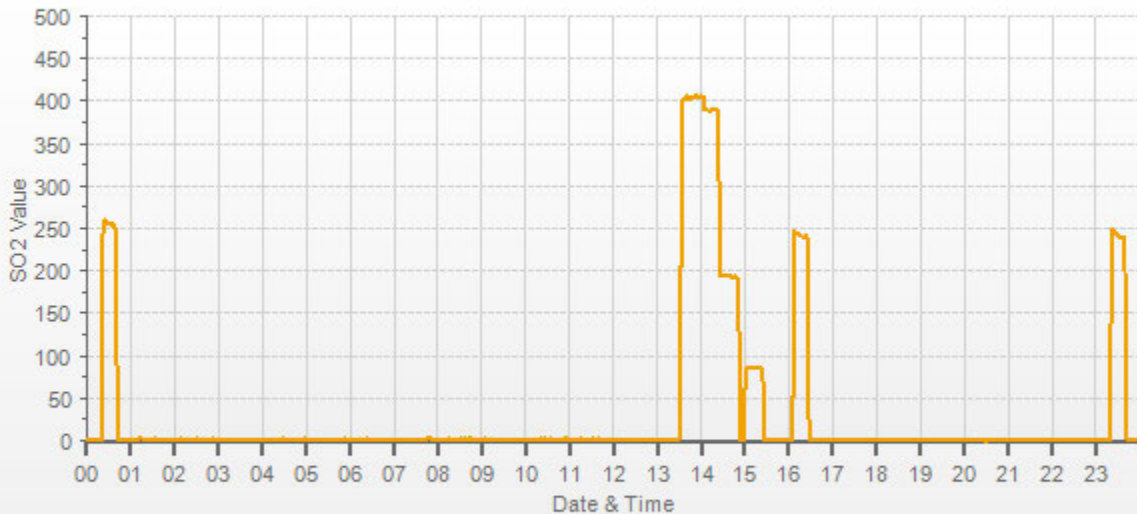
Thermo 43C Sulphur Dioxide Analyzer Calibration



| | | | |
|------------------|----------|-----------------|----------|
| As found: | | As left: | |
| Bkg: | 84.5 | Bkg: | 82.4 |
| Coef: | 0.914 | Coef: | 0.877 |
| Pmt: | -654 | Pmt: | -654 |
| | 0 | | 0 |
| | Lamp=856 | | Lamp=855 |
| Battery: | 3.3 | Battery: | 3.3 |
| Internal: | 29.8 | Internal: | 29.2 |
| Chamber: | 45.4 | Chamber: | 45.4 |
| Pressure: | 420.8 | Pressure: | 419.3 |
| Flow: | 0.733 | Flow: | 0.730 |
| Intensity: | ~38000 | Intensity: | ~38000 |
| Averaging Time: | 120 | Averaging Time: | 120 |
| Expected Value: | 247.0 | Expected Value: | 240.0 |

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

SO2[ppb] Station: PRAMP_986 Daily: 18/06/06 Type: AVG 1 Min. [1 Min.]



— SO2[ppb]

TOTAL REDUCED SULPHUR



Thermo 431-TLE Total Reduced Sulphur Analyzer Calibration

| | | | | | |
|--------------------------|-----------------------|--|---|------------|-----------|
| Date: | June 6, 2018 | Barometer/B.P./units: | Brunton 05490 expires December 11, 2018 | 937 | millibars |
| Company/Airshed: | PRAMP | Thermometer/Station Temp: | Brunton 05490 expires December 11, 2018 | 23 | °C |
| Location/Station Name: | 986b | Weather Conditions: | Mainly sunny | | |
| Parameter: | Total Reduced Sulphur | Calibration Purpose: | routine monthly | | |
| Start Time 24 hr. (mst): | 9:14 | Performed By/Reviewer: | Chris Wesson | Rob Fisher | |
| End Time 24 hr. (mst): | 13:56 | Cal Gas Expiry Date: | November 7, 2020 | | |
| Calibration Method: | Gas Dilution | Converter Model & s/n (if applicable): | CD-Nova CDN101 # | | |
| Analyzer: | | | | | |
| Serial Number/Owner: | 1152940011 Maxxam | Range ppb: | 100 | | |
| Last Calibration Date: | May 1, 2018 | As Found C.F.: | 1.010 | | |
| Previous C.F.: | 1.000 | New C.F.: | 1.000 | | |

| Calibration Standards: Low Flow Meter ID/Expiry Date: Defender Low 152020 expires November 22, 2018 High Flow Meter ID/Expiry Date: Defender High 148943 expires November 21, 2018 Calibrator ID/Expiry Date: API id# 830 expires January 31, 2019 Cal Gas Cylinder I.D. #: LL119432 Cal Gas Conc. (ppm): 10.3 | Standard Calibration Points for Ranges <table border="1"> <tr><th>Point</th><th>ppb</th></tr> <tr><td>High</td><td>78</td></tr> <tr><td>Mid</td><td>38</td></tr> <tr><td>Low</td><td>19</td></tr> </table> | Point | ppb | High | 78 | Mid | 38 | Low | 19 | SO2 Scrubber Check (10 minutes): Start/End Time 24 hr.: 10:36/10:46 SO2 Analyzer Range: 500 Target Concentration (ppb): 380 As Found Zero: 0.0 Analyzer Response (ppb): 0.0 Zero Corrected Result (ppb): 0.0 |
|--|--|-------|-----|------|----|-----|----|-----|----|---|
| Point | ppb | | | | | | | | | |
| High | 78 | | | | | | | | | |
| Mid | 38 | | | | | | | | | |
| Low | 19 | | | | | | | | | |

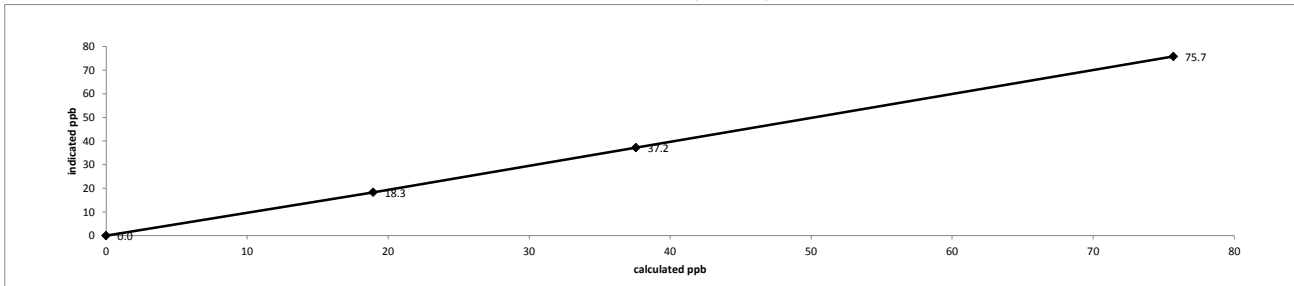
ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015

| Calibrator Flow Rates (cc/min) | | | | Calculated Concentration (ppb): | Indicated Concentration (ppb): | Correction Factors (C.F.): |
|--------------------------------|---------|---------|-------|---------------------------------|--------------------------------|----------------------------|
| Point | Diluent | Cal Gas | Total | | | |
| as found zero | 7543 | 0.00 | 7543 | 0.0 | -0.1 | n/a |
| as found high | 7489 | 55.56 | 7545 | 75.7 | 74.9 | 1.010 |
| adjusted zero | 7543 | 0.00 | 7543 | 0.0 | 0.0 | n/a |
| adjusted high | 7489 | 55.56 | 7545 | 75.7 | 75.7 | 1.000 |
| mid | 7528 | 27.62 | 7556 | 37.6 | 37.2 | 1.010 |
| low | 7528 | 13.90 | 7542 | 18.9 | 18.3 | 1.035 |
| calibrator zero | 7543 | 0.00 | 7543 | 0.0 | 0.3 | n/a |
| Average C.F. = | | | | | | 1.015 |

Linear Regression/Calibration Results:

| | | | |
|------------------------------------|--------|--------|--------------|
| Correlation Coefficient = | 1.000 | LIMITS | > or = 0.995 |
| Slope = | 0.997 | | 0.95-1.05 |
| b (Intercept as % of full scale) = | 0.34% | | ± 3% F.S. |
| % change in C.F. from last cal = | -0.98% | | ± 10% |

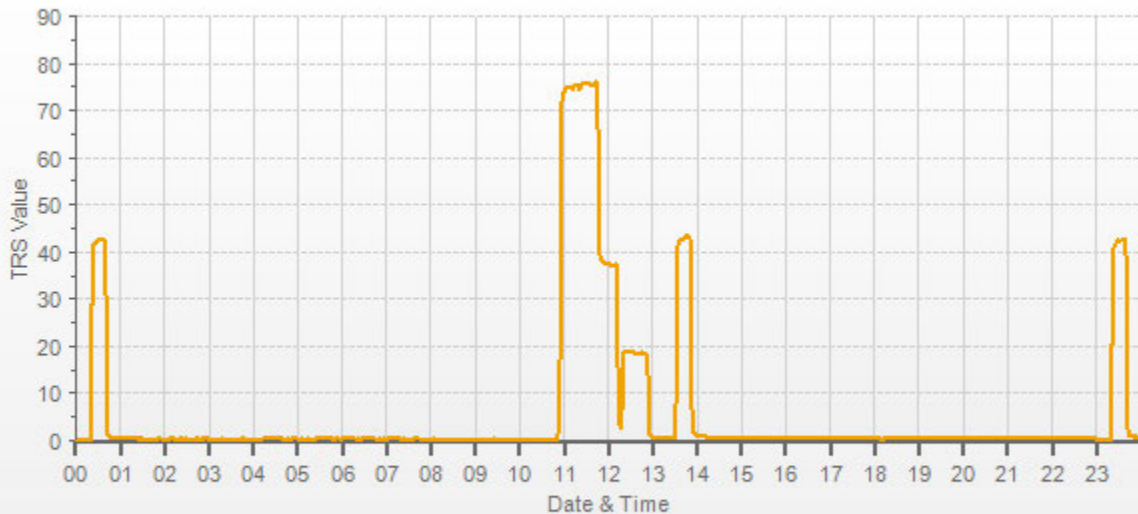
Thermo 431-TLE Total Reduced Sulphur Analyzer Calibration



| As found: | As left: | | |
|-------------------|----------|-------------------|--------|
| Bkg: | 1.95 | Bkg: | 1.87 |
| Coef: | 0.951 | Coef: | 0.962 |
| Pmt: | -689.7 | Pmt: | -690.8 |
| Flash: | 964 | Flash: | 965 |
| Internal: | 32.1 | Internal: | 31.8 |
| Chamber: | 45.0 | Chamber: | 44.9 |
| Perm Oven Gas: | 45.01 | Perm Oven Gas: | 45.00 |
| Perm Oven Heater: | 44.25 | Perm Oven Heater: | 44.25 |
| Pressure: | 652.0 | Pressure: | 651.7 |
| Sample Flow: | 0.477 | Sample Flow: | 0.477 |
| Lamp Intensity: | 91 | Lamp Intensity: | 91 |
| Converter: | 820 | Converter: | 820 |
| Converter Set: | 820 | Converter Set: | 820 |
| Averaging Time: | 120 | Averaging Time: | 120 |
| Expected Value: | 42.6 | Expected Value: | 43.4 |

Comments:

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



— TRS[ppb]

TOTAL HYDROCARBON



Thermo 55i Methane/Non-Methane Analyzer Calibration

| | | | | | |
|-------------------------------------|------------------|----------------------------------|---|------------|-----------|
| Date: | June 6, 2018 | Barometer/B.P./units: | Brunton 05490 expires December 11, 2018 | 937 | millibars |
| Company/Airshed: | PRAMP | Thermometer/Station Temp: | Brunton 05490 expires December 11, 2018 | 23 | °C |
| Location/Station Name: | 986b | Weather Conditions: | Mainly sunny | | |
| Parameter: | CH4 / NMHC / THC | Calibration Purpose: | routine monthly | | |
| Start/End Time 24 hr. (mst): | 09:14 / 14:38 | Performed By/Reviewer: | Chris Wesson | Rob Fisher | |
| Calibration Method: | Gas Dilution | Cal Gas Expiry Date: | October 18, 2025 | | |

| | | | | |
|---|---|-------------------------------|-----------------------|------------------|
| Analyzer: | Serial Number/Owner: 1022143392 Maxxam | Correction Factors: | | |
| Measured Flow: 0.94 L/min | | Previous C.F.: | As Found C.F.: | New C.F.: |
| Last Calibration Date: May 1, 2018 | | CH₄ = 0.999 | 0.987 | 0.999 |
| Range ppm: 20 CH4/20 NMHC/40 THC | | NMHC = 1.003 | 0.982 | 1.001 |
| | | THC = 1.001 | 0.984 | 1.000 |

| | | | | | |
|---|---|---|--------------|--------------|--------------|
| Calibration Standards: | Low Flow Meter ID/Expiry Date: Defender Low 152020 expires November 22, 2018 | Standard Calibration Points for Analyzer Range of 20/20/40 ppm | | | |
| High Flow Meter ID/Expiry Date: Defender High 148943 expires November 21, 2018 | | Point | CH4 | NMHC | THC |
| Calibrator ID/Expiry Date: API id# 829 expires January 31, 2019 | | High | 13.00 | 13.00 | 26.00 |
| Cal Gas Cylinder I.D. #: LL107207 | | Mid | 7.00 | 7.00 | 14.00 |
| CH4 Cylinder Conc.: 600.0 | 207.0 =C ₂ H ₆ Cylinder Conc. | Low | 3.00 | 3.00 | 6.00 |
| CH₄ expressed as C₂H₆: 569.3 | 1169.3 =total CH ₄ equivalent | | | | |

| ALL POINTS ARE 15 MINUTES OF STABILITY AS OF SEPTEMBER 23, 2015 | | | | | | | | | | Correction Factors: | | |
|--|----------------|----------------|-------------------|--|------------------------------|-----------------------------|---------------------------------------|-----------------------------|----------------------------|----------------------------|-------------|------------|
| Calibrator Flow Rates (cc/min) | | | | Calculated CH₄ (ppm) | Calculated NMHC (ppm) | Calculated THC (ppm) | Indicated CH₄ (ppm) | Indicated NMHC (ppm) | Indicated THC (ppm) | CH₄ | NMHC | THC |
| Point | Diluent | Cal Gas | Total Flow | | | | | | | | | |
| as found zero | 2502 | 0.00 | 2502 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | n/a | n/a | n/a |
| as found high | 2436 | 60.05 | 2496 | 14.43 | 13.70 | 28.13 | 14.62 | 13.95 | 28.58 | 0.987 | 0.982 | 0.984 |
| adjusted zero | 2502 | 0.00 | 2502 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | n/a | n/a | n/a |
| adjusted high | 2436 | 60.05 | 2496 | 14.43 | 13.70 | 28.13 | 14.45 | 13.68 | 28.14 | 0.999 | 1.001 | 1.000 |
| mid | 2474 | 29.90 | 2504 | 7.16 | 6.80 | 13.96 | 7.24 | 6.83 | 14.07 | 0.989 | 0.995 | 0.992 |
| low | 2487 | 15.43 | 2502 | 3.70 | 3.51 | 7.21 | 3.74 | 3.52 | 7.27 | 0.990 | 0.998 | 0.992 |
| calibrator zero | 2502 | 0.00 | 2502 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | n/a | n/a | n/a |
| | | | | | | | | | | Average C.F. = | | |
| | | | | | | | | | | 0.993 0.998 0.995 | | |

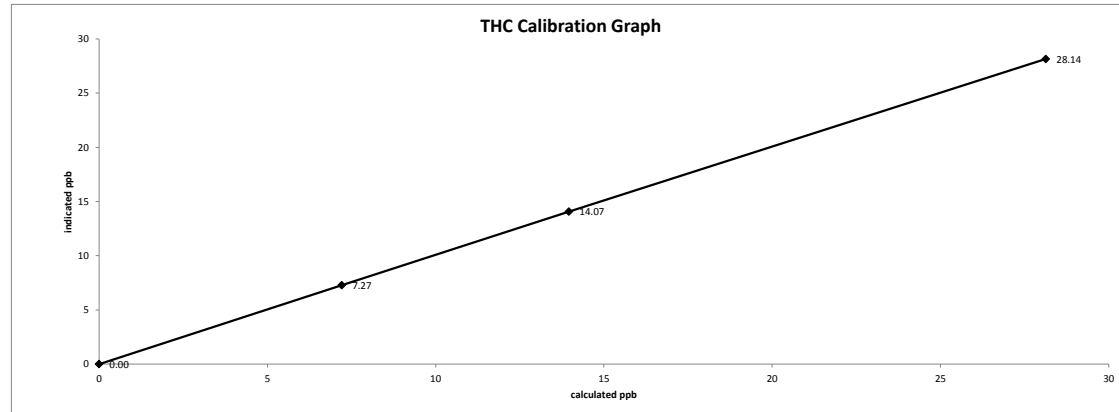
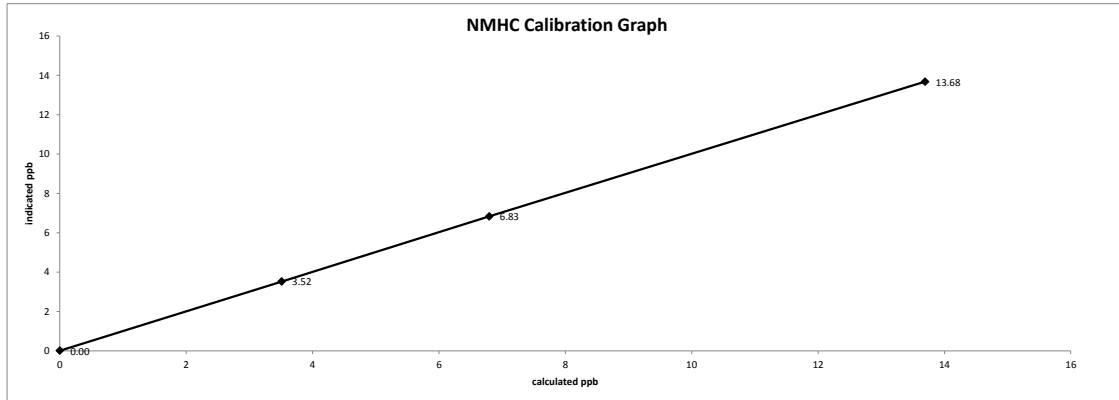
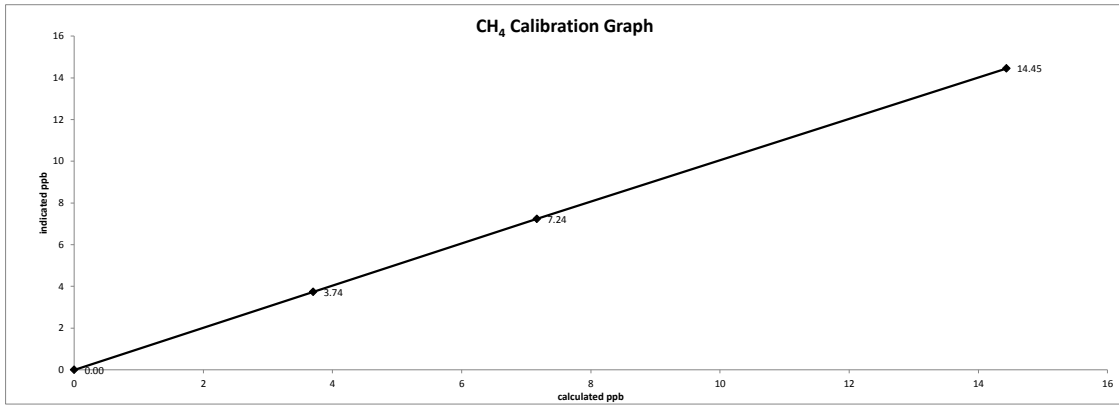
| | | | | | | |
|---|-----------------------------|-------------------|------------------|------------------------|--|--|
| Linear Regression/Calibration Results: | | | | LIMITS | | |
| Correlation Coefficient = | CH₄ 1.000 | NMHC 1.000 | THC 1.000 | > or = 0.995 | | |
| Slope = | 1.001 | 0.999 | 1.000 | 0.95-1.05 | | |
| b (Intercept as % of full scale) = | 0.14% | 0.07% | 0.11% | ± 3% F.S. | | |
| % change in C.F. from last cal = | 1.17% | 2.12% | 1.67% | ± 10% | | |

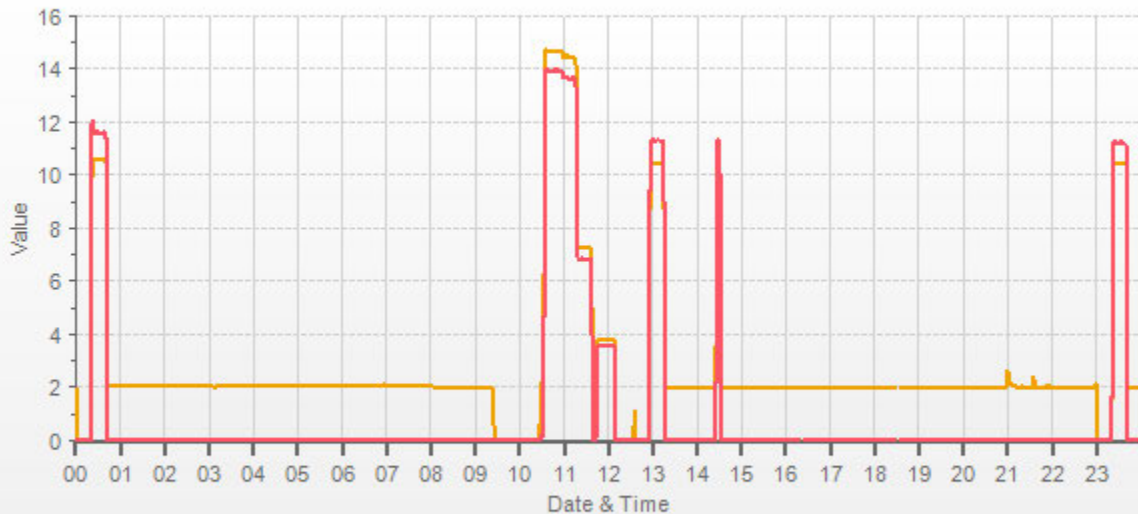
| As Left Instrument Diagnostics: | | | | | |
|--|--|-----------------------------------|---------------------------------------|--|--|
| Interface Board Voltages: | Bias Supply: -312.5 | Calibration History cnt'd: | NM Peak Area: 69338 | | |
| Temperatures: | Detector Oven: 175.0 | Crucial Settings: | Methane Start: n/a | | |
| | Filter: 175.0 | | Methane End: n/a | | |
| | Column Oven: 75.5 | | Backflush: n/a | | |
| | Internal: 40.1 | | NMHV Start: n/a | | |
| Cylinder Pressures/reg.: | Carrier: 1000 50 | Run History>1: | NMHC End: n/a | | |
| | Fuel: 2000 50 | | Date: 06Jun2018 | | |
| | Span Gas: 1100 28 | | Time: 13:41 | | |
| | Zero Air Generator: 45 | | CH₄ PK HT: 2555 | | |
| Internal Pressures: | Carrier: 31.4 | | CH₄ RT: 12.6 | | |
| | Fuel: 40.5 | | CH₄ Baseline: 1751 | | |
| | Air: 32.4 | | CH₄ LOD: 9 | | |
| FID Status: | Status: LIT | | CH₄ SD: 3 | | |
| | Counts: 21550 | | CH₄ CONC: 1.96 | | |
| | Flame: 322.3 | | NM PK HT: 0 | | |
| | Det Base: 175.0 | | NM Peak Area: 0 | | |
| Flame and Power Stats: | Last Power On: 15Mar2018@09:19 | | NM CONC: 0.00 | | |
| | Flameouts: 2 | | NM Base Start: 1745 | | |
| | Det Oven at Start: 169.3 | | NM Base End: 1735 | | |
| | Col Oven at Start: 5.1 | | NM LOD: 13 | | |
| Calibration History: | Time: 06Jun2018@10:58 | | NM Start IDX: 11 | | |
| | Type: SPAN | | NM End IDX: 33 | | |
| | Status: GOOD | | NM Max Slope: 3.1e01 | | |
| | Check/Adjust: ADJUST | | NM Min Slope: -6.8e01 | | |
| | CH₄ Span Conc: 14.43 | | NM PT Count: 0 | | |
| | CH₄ SP Ratio: 0.000768 | Expected Values: | Previous CH₄: 10.39 | | |
| | CH₄ RT: 12.6 | | Previous NMHC: 11.31 | | |
| | CH₄ PK IDX: 23 | | Previous THC: 21.71 | | |
| | CH₄ PK HT: 18797 | | New CH₄: 10.44 | | |
| | NM Span Conc: 13.7 | | New NMHC: 11.30 | | |
| | NM SP Ratio: 0.000198 | | New THC: 21.73 | | |

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

Start/End Time 24 hr. (mst): 09:14 / 13:20
Calibration Purpose: routine monthly
Calibration Method: Gas Dilution





— CH4[ppm] — NMHC[ppm]

WIND SYSTEM



Meteorological Sensor Audit/Calibration

Location Information

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

Wind Sensor Information

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

Wind Calibrator Information

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

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

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

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

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

Comments:

METEOROLOGICAL SYSTEMS CHECK



Meteorological System Checklist

| | | | |
|--|---|--------------------------------|------------------|
| Date: | June 6, 2018 | | |
| Technician: | Chris Wesson | | |
| Reviewer: | Rob Fisher | | |
| Station: | PRAMP 986b | | |
| Unit: | Make: | Model: | Serial #: |
| Temperature Sensor: | RM Young | 43172VC | 61012322 |
| Barometric Pressure Sensor: | MetOne | 090D | F3845 |
| Relative Humidity Sensor: | RM Young | 43172VC | 61012322 |
| Anemometer: | RM Young | 05305VK | 129612 |
| AMBIENT TEMPERATURE SENSOR CHECK | | | |
| Previous check date: | May 1, 2018 | | |
| Parameter: | Temperature @ 2 metres (1 C tolerance) | | |
| Reference Thermometer ID: | Brunton 05490 expires December 11, 2018 | | |
| Reference Temperature (°C): | 17.7 | | |
| Station - Ambient Temperature (°C): | 16.7 | | |
| Temperature Difference (°C): | 1.0 | | |
| BAROMETRIC PRESSURE SENSOR CHECK | | | |
| Previous check date: | May 1, 2018 | | |
| Reference Barometer ID: | Brunton 05490 expires December 11, 2018 | | |
| Reference Pressure - Units/Reading: | mbar | 938.4 | |
| Station Pressure - Units/Reading: | mbar | 937.7 | |
| Pressure Tolerance +/- 15% of error: | 798 - 1079 | 0.07% | |
| ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK | | | |
| WIND SPEED | | WIND DIRECTION | |
| Previous check date: | May 1, 2018 | Previous check date: | May 8, 2018 |
| Wind Speed Observed (kph): | 6 | Wind Direction Observed: | W |
| Wind speed on Data Logger (kph): | 6 | Wind Direction on Data Logger: | W |
| Correction Factor: Tolerance +/-2%: | 1.000 | Wind Direction Pass/Fail?: | Pass |

CALIBRATORS

Company Maxxam Operator: Christopher

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

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

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

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

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

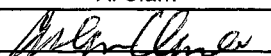
| Flow | O ₃ Conc | NO Decrease | NO | NO ₂ | NOX | % Diff. Vs Audit gas | |
|-------------------------------------|---------------------|-------------|-------|-----------------|-------|----------------------|---------------|
| 4950 | 0.000 | 0.000 | 0.776 | 0.000 | 0.776 | NO ₂ | % Diff. Limit |
| 4950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

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

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

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

COMMENTS:

Auditor: Al Clark
Operator Signature: 

Date: January 31, 2018
Location: McIntyre Center Edmonton

Company: Maxxam

Operator: Christopher

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

Flow Measurements

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

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

LINEAR REGRESSION ANALYSIS

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

| <u>SO₂</u> | | <u>LIMITS</u> |
|------------------------|---------|---------------|
| Correlation= | 1.0000 | ≥ 0.995 |
| m (Slope)= | 1.0175 | 0.90-1.10 |
| b (Intercept % of FS)= | -0.2528 | ± 3% F.S. |

AENV Standards

Audit Calibrator

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

SO₂ Analyzer

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

COMMENTS:

Auditor: Al Clark

Date: January 31, 2018

Operator Signature: 

Location: McIntyre Center Edmonton

CALIBRATION GASES



Calibration Gas Audit

Single Component Cylinder Gas

File No. 2017-486CGA

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

Reference Calibrator and Gas:

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

Flow Measurement Device:

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

Reference Analyzer:

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

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

Previous Stated Concentration PPM: 47.9

Percent variance from Stated: 2

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

Auditor: Al Clark
Operator Signature: *Al Clark*

Date: December 13, 2017
Location: McIntyre Center Edmonton



Calibration Gas Audit

Single Component Cylinder Gas

File No. 2017-137CGA

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

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

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

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

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

Previous Stated Concentration PPM: 10.3

Percent variance from Stated: 75

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

Auditor: Al Clark
Operator Signature: *Al Clark*

Date: July 27, 2017
Location: McIntyre Center Edmonton



Calibration Gas Audit

CH4 / C3H8 Cylinder Gas

File No. 2017-484CGA

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

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

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

| Calibrator Flows (sccm) | | Indicated Conc. (ppm) | | Gas Flow/ Dilution Flow | Concentration Factor | Cylinder Concentration | |
|---------------------------------|------|-----------------------|-------|----------------------------|-------------------------|------------------------|------------|
| Dilution | Gas | CH4 | C3H8 | | | CH4 | C3H8 |
| 3500 | 0.0 | 0.00 | 0.00 | | | | |
| 3618 | 80.4 | 13.28 | 12.77 | 0.02 | 45.00 | 598 | 209 |
| 3547 | 39.8 | 6.71 | 6.47 | 0.01 | 89.12 | 598 | 210 |
| 3560 | 19.8 | 3.35 | 3.26 | 0.01 | 179.80 | 602 | 213 |
| Average Cylinder Concentration: | | | | | | 599 | 211 |

| | | |
|------------------------------------|------------|-------------|
| | CH4 | C3H8 |
| Previous Stated Concentration PPM: | <u>600</u> | <u>207</u> |
| Percent variance from Stated: | <u>0</u> | <u>2</u> |

Cylinder gas tolerances based on CH4 only
 Meets Manufacturer Tolerance. Use manufacturers stated concentration **COMMENTS:**
 < =5% Outside Manufacturer Tolerance. Use manufacturers concentration
 > 5% Outside Manufacturer Tolerance. **DO NOT USE** this cylinder

Auditor: Al Clark **Date:** December 13, 2017
Operator Signature: **Location:** McIntyre Center Edmonton

APPENDIX III
MAXIMUM INSTANTANEOUS DATA



PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
Three Creeks 986b Station - June 2018

SULPHUR DIOXIDE Instantaneous Maximum (SO₂ ppb)

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

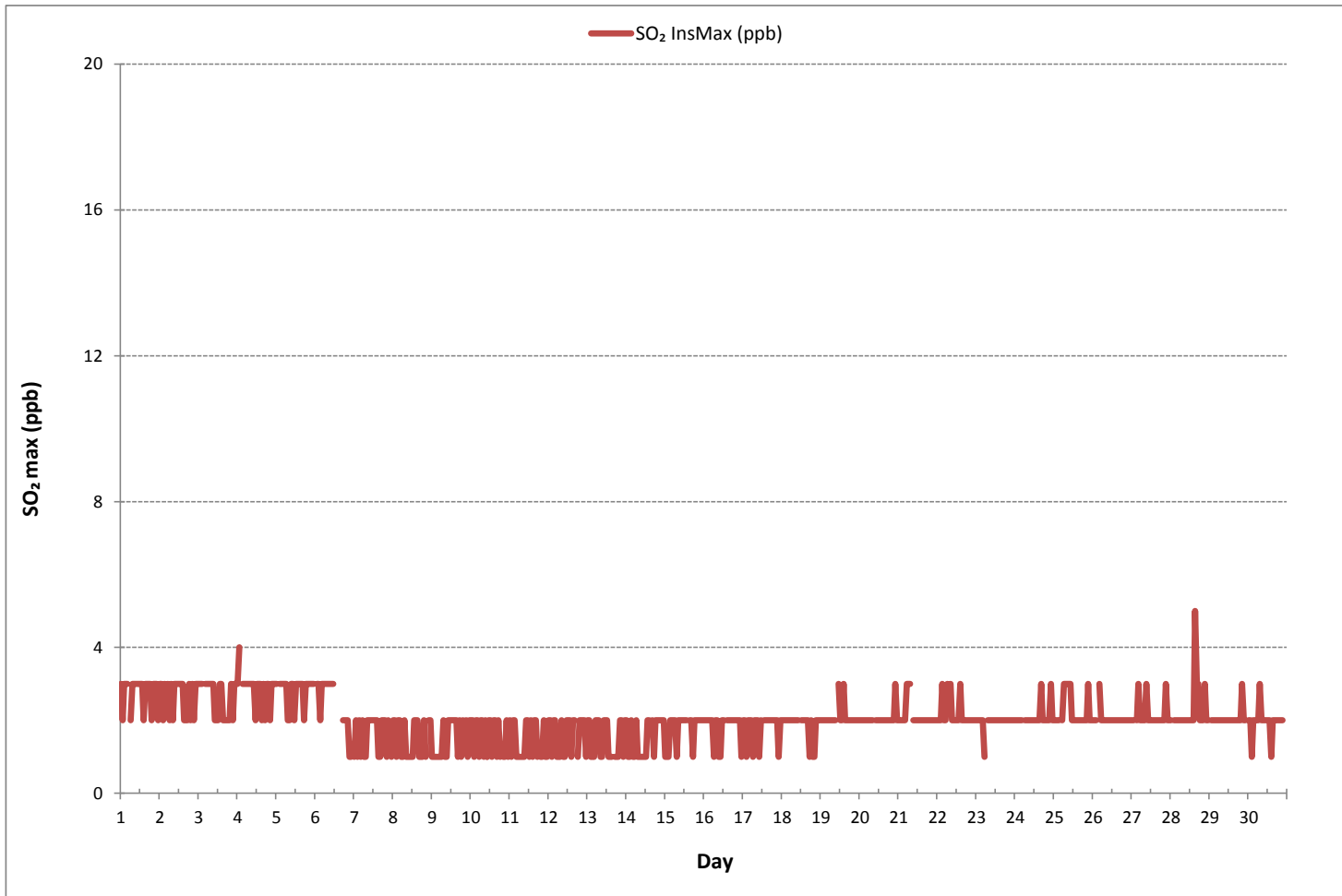
STATUS FLAG CODES

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

MONTHLY SUMMARY

| | |
|------------------------------|---------------------------|
| NUMBER OF NON-ZERO READINGS: | 683 |
| MAXIMUM INSTANTANEOUS VALUE: | 5 ppb @ HOUR 15 ON DAY 28 |
| IZS CALIBRATION TIME: | 32 hrs |
| MONTHLY CALIBRATION TIME: | 5 hrs |
| STANDARD DEVIATION: | 1 |
| OPERATIONAL TIME: | 720 hrs |

SULPHUR DIOXIDE Instantaneous Maximum (SO₂ ppb)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
Three Creeks 986b Station - June 2018

TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS ppb)

| HR START (MST) | 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | DAILY MIN. | DAILY MAX. | 24-HR AVG. | RDGS. | |
|----------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------|------------|------------|-------|----|
| HR END (MST) | 0:59 | 1:59 | 2:59 | 3:59 | 4:59 | 5:59 | 6:59 | 7:59 | 8:59 | 9:59 | 10:59 | 11:59 | 12:59 | 13:59 | 14:59 | 15:59 | 16:59 | 17:59 | 18:59 | 19:59 | 20:59 | 21:59 | 22:59 | 23:59 | | | | | |
| DAY 1 | 0.31 | 0.31 | 0.31 | 0.37 | 0.34 | S | 0.42 | 0.34 | 0.31 | 0.31 | 0.37 | 0.37 | 0.34 | 0.31 | 0.31 | 0.29 | 0.31 | 0.26 | 0.31 | 0.26 | 0.31 | 0.55 | 0.68 | 0.57 | 0.26 | 0.68 | 0.36 | 24 | |
| 2 | 0.57 | 0.70 | 0.45 | 0.58 | S | 0.44 | 0.39 | 0.37 | 0.31 | 0.31 | 0.31 | 0.29 | 0.29 | 0.29 | 0.27 | 0.24 | 0.29 | 0.29 | 0.24 | 0.28 | 0.29 | 0.58 | 0.42 | 0.52 | 0.24 | 0.70 | 0.38 | 24 | |
| 3 | 0.37 | 0.35 | 0.39 | S | 0.81 | 0.55 | 0.40 | 0.35 | 0.31 | 0.31 | 0.26 | 0.29 | 0.29 | 0.29 | 0.29 | 0.27 | 0.27 | 0.27 | 0.27 | 0.30 | 0.29 | 0.29 | 0.29 | 0.31 | 0.26 | 0.81 | 0.34 | 24 | |
| 4 | 0.29 | 0.34 | S | 0.44 | 0.39 | 0.39 | 0.39 | 0.34 | 0.39 | 0.29 | 0.26 | 0.29 | 0.29 | 0.36 | 0.31 | 0.31 | 0.29 | 0.29 | 0.31 | 0.31 | 0.31 | 0.29 | 0.26 | 0.26 | 0.26 | 0.44 | 0.32 | 24 | |
| 5 | 0.24 | S | 0.31 | 0.29 | 0.31 | 0.31 | 0.31 | 0.29 | 0.26 | 0.26 | 0.28 | 0.26 | 0.28 | 0.26 | 0.26 | 0.26 | 0.26 | 0.24 | 0.26 | 0.29 | 0.31 | 0.44 | 0.47 | 0.50 | 0.24 | 0.50 | 0.30 | 24 | |
| 6 | S | 0.39 | 0.31 | 0.34 | 0.42 | 0.37 | 0.39 | 0.31 | 0.26 | C | C | C | C | C | 1.07 | 0.44 | 0.44 | 0.39 | 0.42 | 0.39 | 0.52 | 0.89 | 0.42 | S | 0.26 | 1.07 | 0.46 | 24 | |
| 7 | 0.60 | 0.50 | 0.55 | 0.52 | 0.57 | 0.47 | 0.44 | 0.42 | 0.42 | 0.41 | 0.37 | 0.42 | 0.42 | 0.39 | 0.37 | 0.37 | 0.37 | 0.39 | 0.47 | 0.44 | 0.39 | 0.44 | S | 0.65 | 0.37 | 0.65 | 0.45 | 24 | |
| 8 | 0.94 | 1.05 | 0.79 | 0.73 | 0.73 | 0.63 | 0.50 | 0.44 | 0.42 | 0.42 | 0.37 | 0.39 | 0.39 | 0.37 | 0.37 | 0.39 | 0.44 | 0.36 | 0.42 | 0.39 | 0.47 | S | 0.81 | 0.55 | 0.36 | 1.05 | 0.54 | 24 | |
| 9 | 0.65 | 0.52 | 0.68 | 0.79 | 0.52 | 0.57 | 0.53 | 0.49 | 0.47 | 0.44 | 0.44 | 0.42 | 0.42 | 0.39 | 0.39 | 0.44 | 0.42 | 0.34 | 0.36 | 0.57 | S | 0.74 | 0.58 | 1.52 | 0.34 | 1.52 | 0.55 | 24 | |
| 10 | 0.71 | 0.91 | 0.57 | 0.55 | 0.49 | 0.50 | 0.34 | 0.42 | 0.39 | 0.37 | 0.34 | 0.32 | 0.33 | 0.29 | 0.36 | 0.36 | 0.32 | 0.29 | 0.32 | S | 0.42 | 0.37 | 0.50 | 0.47 | 0.29 | 0.91 | 0.43 | 24 | |
| 11 | 0.39 | 0.42 | 0.34 | 0.34 | 0.31 | 0.37 | 0.36 | 0.34 | 0.34 | 0.34 | 0.34 | 0.31 | 0.31 | 0.31 | 0.36 | 0.31 | 0.31 | 0.34 | S | 0.42 | 0.36 | 0.32 | 0.32 | 0.34 | 0.31 | 0.42 | 0.34 | 24 | |
| 12 | 0.31 | 0.34 | 0.34 | 0.32 | 0.32 | 0.34 | 0.32 | 0.32 | 0.34 | 0.32 | 0.34 | 0.36 | 0.36 | 0.32 | 0.37 | 0.32 | 0.34 | S | 0.39 | 0.37 | 0.32 | 0.34 | 0.34 | 0.58 | 0.31 | 0.58 | 0.35 | 24 | |
| 13 | 0.39 | 0.32 | 0.34 | 0.34 | 0.37 | 0.32 | 0.34 | 0.29 | 0.34 | 0.34 | 0.32 | 0.44 | 0.34 | 0.42 | 0.29 | 0.41 | S | 0.37 | 0.34 | 0.37 | 0.39 | 0.37 | 0.32 | 0.31 | 0.29 | 0.44 | 0.35 | 24 | |
| 14 | 0.34 | 0.32 | 0.34 | 0.47 | 0.42 | 0.31 | 0.31 | 0.42 | 0.34 | 0.29 | 0.31 | 0.34 | 0.32 | 0.32 | 0.32 | S | 0.39 | 0.31 | 0.37 | 0.34 | 0.37 | 0.42 | 0.50 | 0.42 | 0.29 | 0.50 | 0.36 | 24 | |
| 15 | 0.61 | 0.39 | 0.37 | 0.39 | 0.47 | 0.39 | 0.34 | 0.34 | 0.34 | 0.37 | 0.32 | 0.34 | 0.34 | 0.37 | S | 0.44 | 0.39 | 0.37 | 0.41 | 0.44 | 0.60 | 0.50 | 0.60 | 0.65 | 0.32 | 0.65 | 0.43 | 24 | |
| 16 | 0.76 | 0.55 | 0.50 | 0.58 | 0.47 | 0.34 | 0.39 | 0.42 | 0.39 | 0.39 | 0.34 | 0.34 | 0.37 | S | 0.42 | 0.34 | 0.34 | 0.36 | 0.32 | 0.34 | 0.34 | 0.39 | 0.42 | 0.39 | 0.32 | 0.76 | 0.41 | 24 | |
| 17 | 0.39 | 0.42 | 0.47 | 0.58 | 0.60 | 0.39 | 0.42 | 0.44 | 0.36 | 0.34 | 0.34 | 0.34 | S | 0.42 | 0.39 | 0.34 | 0.34 | 0.37 | 0.37 | 0.52 | 0.60 | 1.21 | 1.18 | 0.74 | 0.34 | 1.21 | 0.50 | 24 | |
| 18 | 0.68 | 0.57 | 0.87 | 0.63 | 0.76 | 0.65 | 0.47 | 0.44 | 0.42 | 0.39 | 0.39 | S | 0.42 | 0.39 | 0.37 | 0.39 | 0.39 | 0.39 | 0.34 | 0.37 | 0.71 | 0.81 | 0.92 | 0.87 | 0.34 | 0.92 | 0.55 | 24 | |
| 19 | 0.50 | 0.55 | 0.52 | 0.50 | 0.76 | 0.47 | 0.47 | 0.47 | 0.44 | 0.44 | S | 0.47 | 0.36 | 0.39 | 0.37 | 0.37 | 0.37 | 0.34 | 0.34 | 0.34 | 0.65 | 0.73 | 0.61 | 0.52 | 0.34 | 0.76 | 0.48 | 24 | |
| 20 | 0.47 | 0.50 | 0.44 | 0.52 | 0.52 | 0.55 | 0.44 | 0.39 | 0.39 | S | 0.47 | 0.42 | 0.39 | 0.36 | 0.37 | 0.34 | 0.31 | 0.36 | 0.39 | 0.55 | 0.71 | 0.52 | 0.52 | 1.36 | 0.31 | 1.36 | 0.49 | 24 | |
| 21 | 1.21 | 0.97 | 1.02 | 0.68 | 0.81 | 0.73 | 0.70 | 0.55 | S | 0.52 | 0.39 | 0.42 | 0.39 | 0.42 | 0.39 | 0.39 | 0.36 | 0.34 | 0.32 | 0.34 | 0.34 | 0.55 | 0.44 | 0.32 | 1.21 | 0.55 | 24 | | |
| 22 | 0.47 | 0.49 | 0.60 | 0.65 | 0.81 | 0.68 | 0.63 | S | 0.57 | 0.50 | 0.55 | 0.39 | 0.36 | 0.37 | 0.34 | 0.39 | 0.32 | 0.31 | 0.36 | 0.39 | 0.39 | 0.50 | 0.47 | 0.45 | 0.31 | 0.81 | 0.48 | 24 | |
| 23 | 0.57 | 0.52 | 0.50 | 0.63 | 0.68 | 0.89 | S | 0.70 | 0.52 | 0.41 | 0.36 | 0.39 | 0.36 | 0.31 | 0.31 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.31 | 0.34 | 0.68 | 0.76 | 0.28 | 0.89 | 0.46 | 24 | |
| 24 | 0.68 | 0.73 | 1.18 | 0.76 | 0.55 | S | 0.70 | 0.52 | 0.50 | 0.49 | 0.37 | 0.31 | 0.31 | 0.28 | 0.28 | 0.31 | 0.26 | 0.31 | 0.39 | 0.42 | 0.39 | 0.45 | 0.47 | 0.41 | 0.26 | 1.18 | 0.48 | 24 | |
| 25 | 0.36 | 0.39 | 0.50 | 0.55 | S | 0.78 | 0.78 | 0.79 | 0.68 | 0.44 | 0.39 | 0.36 | 0.47 | 0.34 | 0.34 | 0.31 | 0.26 | 0.23 | 0.28 | 0.23 | 0.26 | 0.36 | 0.36 | 0.42 | 0.23 | 0.79 | 0.43 | 24 | |
| 26 | 0.42 | 0.39 | 0.81 | S | 0.97 | 1.00 | 0.78 | 0.42 | 0.31 | 0.34 | 0.34 | 0.32 | 0.31 | 0.31 | 0.28 | 0.26 | 0.31 | 0.29 | 0.28 | 0.29 | 0.37 | 0.31 | 0.32 | 0.34 | 0.26 | 1.00 | 0.42 | 24 | |
| 27 | 0.37 | 0.39 | S | 0.44 | 0.49 | 0.50 | 0.42 | 0.42 | 0.34 | 0.44 | 0.44 | 0.31 | 0.32 | 0.26 | 0.26 | 0.29 | 0.26 | 0.26 | 0.28 | 0.29 | 0.31 | 1.05 | 0.50 | 0.55 | 0.26 | 1.05 | 0.40 | 24 | |
| 28 | 0.73 | S | 0.55 | 0.44 | 0.63 | 0.68 | 0.50 | 0.44 | 0.34 | 0.29 | 0.31 | 0.29 | 0.31 | 0.29 | 0.31 | 0.28 | 0.41 | 0.32 | 0.34 | 0.39 | 0.31 | 0.37 | 0.49 | 0.50 | 0.55 | 0.28 | 0.73 | 0.42 | 24 |
| 29 | S | 0.84 | 0.57 | 0.60 | 0.71 | 1.07 | 0.97 | 0.70 | 0.58 | 0.47 | 0.36 | 0.32 | 0.31 | 0.29 | 0.28 | 0.28 | 0.34 | 0.28 | 0.26 | 0.26 | 0.31 | 0.34 | 0.50 | S | 0.26 | 1.07 | 0.48 | 24 | |
| 30 | 0.65 | 0.65 | 0.47 | 0.68 | 0.89 | 0.94 | 0.55 | 0.39 | 0.36 | 0.37 | 0.28 | 0.29 | 0.26 | 0.29 | 0.26 | 0.26 | 0.23 | 0.26 | 0.34 | 0.31 | 0.34 | 0.52 | S | 0.39 | 0.23 | 0.94 | 0.43 | 24 | |
| HOURLY MAX | 1.21 | 1.05 | 1.18 | 0.79 | 0.97 | 1.07 | 0.97 | 0.79 | 0.68 | 0.52 | 0.55 | 0.47 | 0.47 | 0.42 | 1.07 | 0.44 | 0.44 | 0.39 | 0.47 | 0.57 | 0.71 | 1.21 | 1.18 | 1.52 | | | | | |
| HOURLY AVG | 0.54 | 0.53 | 0.54 | 0.53 | 0.58 | 0.56 | 0.48 | 0.43 | 0.39 | 0.38 | 0.36 | 0.35 | 0.34 | 0.34 | 0.35 | 0.34 | 0.33 | 0.32 | 0.34 | 0.36 | 0.41 | 0.51 | 0.52 | 0.57 | | | | | |

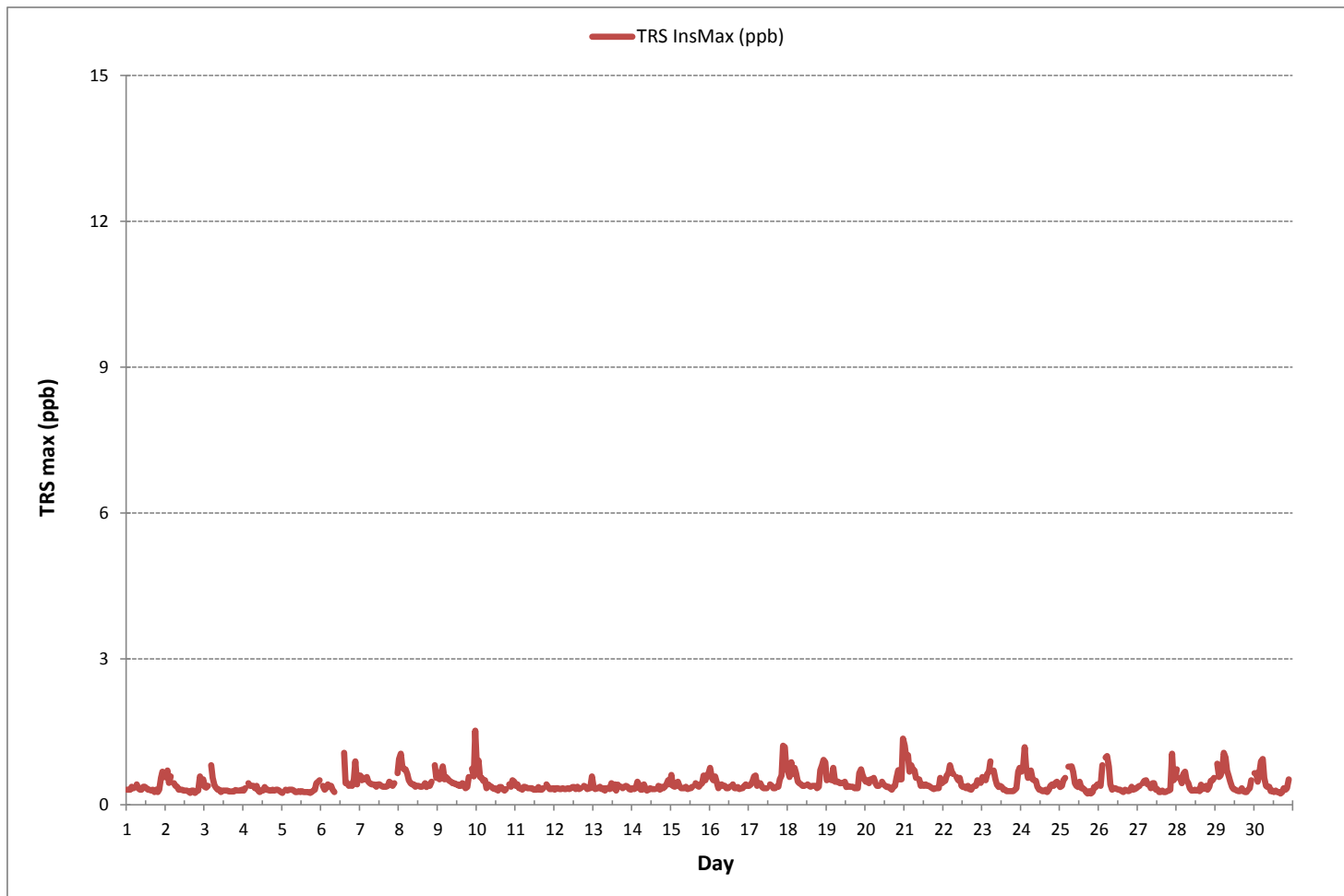
STATUS FLAG CODES

| | | | |
|----|--------------------------|---|-----------------------|
| 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: | 683 |
| MAXIMUM INSTANTANEOUS VALUE: | 1.52 ppb @ HOUR 23 ON DAY 9 |
| IZS CALIBRATION TIME: | 32 hrs |
| MONTHLY CALIBRATION TIME: | 5 hrs |
| STANDARD DEVIATION: | 0.17 |
| OPERATIONAL TIME: | 720 hrs |

TOTAL REDUCED SULPHUR Instantaneous Maximum (TRS ppb)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE

Three Creeks 986b Station - June 2018

TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)

| HR START (MST) | 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | DAILY | DAILY | 24-HR | RDGS. | |
|----------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|
| HR END (MST) | 0:59 | 1:59 | 2:59 | 3:59 | 4:59 | 5:59 | 6:59 | 7:59 | 8:59 | 9:59 | 10:59 | 11:59 | 12:59 | 13:59 | 14:59 | 15:59 | 16:59 | 17:59 | 18:59 | 19:59 | 20:59 | 21:59 | 22:59 | 23:59 | MIN. | MAX. | AVG. | | |
| DAY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2.00 | 2.00 | 2.01 | 2.05 | 2.03 | S | 2.15 | 2.01 | 2.01 | 1.99 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 2.14 | 1.99 | 2.14 | 3.89 | 14.02 | 3.48 | 1.99 | 14.02 | 2.69 | 24 | |
| 2 | 6.69 | 4.45 | 4.23 | 3.55 | S | 2.39 | 2.05 | 2.03 | 2.02 | 2.01 | 2.05 | 2.29 | 2.18 | 2.24 | 2.24 | 2.03 | 2.27 | 2.19 | 2.22 | 2.17 | 2.90 | 3.67 | 2.01 | 2.02 | 2.01 | 6.69 | 2.69 | 24 | |
| 3 | 3.57 | 2.03 | 2.05 | S | 2.72 | 2.05 | 2.01 | 2.37 | 2.07 | 1.99 | 1.99 | 2.04 | 2.02 | 2.07 | 1.99 | 1.99 | 2.00 | 1.98 | 2.00 | 2.00 | 2.00 | 1.97 | 2.00 | 2.02 | 1.97 | 3.57 | 2.13 | 24 | |
| 4 | 2.03 | 2.05 | S | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.03 | 2.01 | 2.00 | 2.00 | 2.00 | 2.00 | 2.07 | 2.09 | 2.15 | 2.15 | X | X | 2.22 | 2.29 | 2.39 | 2.27 | 1.99 | 2.39 | 2.08 | 22 | |
| 5 | 2.13 | S | 2.11 | 2.01 | 2.04 | 2.02 | 2.01 | 2.26 | 2.11 | 2.11 | 2.18 | 2.13 | 2.09 | 2.09 | 2.08 | 2.15 | 2.04 | 2.05 | 2.02 | 1.99 | 2.28 | 2.00 | 2.19 | 2.13 | 1.99 | 2.28 | 2.10 | 24 | |
| 6 | S | 2.03 | 2.03 | 2.08 | 2.15 | 2.07 | 2.11 | 2.07 | 2.01 | C | C | C | C | C | C | C | 1.99 | 1.97 | 1.95 | 1.96 | 1.97 | 2.46 | 2.73 | 2.13 | S | 1.95 | 2.73 | 2.11 | 24 |
| 7 | 2.74 | 2.08 | 2.09 | 2.16 | 2.09 | 2.03 | 2.02 | 1.99 | 2.01 | 1.99 | 1.99 | 1.98 | 1.96 | 1.95 | 1.95 | 2.00 | 1.95 | 2.00 | 2.26 | 2.43 | 2.12 | 2.12 | S | 5.05 | 1.95 | 5.05 | 2.22 | 24 | |
| 8 | 3.92 | 4.76 | 4.41 | 3.01 | 2.35 | 2.73 | 2.28 | 2.16 | 2.15 | 2.07 | 1.96 | 1.95 | 2.08 | 1.99 | 1.95 | 2.04 | 2.01 | 2.25 | 2.19 | 2.14 | 3.98 | S | 3.09 | 2.68 | 1.95 | 4.76 | 2.62 | 24 | |
| 9 | 2.98 | 2.79 | 2.96 | 3.14 | 2.10 | 3.24 | 2.20 | 2.00 | 1.99 | 2.25 | 2.24 | 2.23 | 2.39 | 2.27 | 2.26 | 2.31 | 2.30 | 2.06 | 2.20 | 2.55 | S | 2.83 | 2.23 | 7.46 | 1.99 | 7.46 | 2.65 | 24 | |
| 10 | 2.98 | 3.83 | 2.49 | 2.22 | 2.68 | 2.12 | 2.19 | 2.29 | 2.39 | 2.24 | 2.32 | 2.39 | 2.34 | 2.17 | 2.11 | 2.46 | 2.19 | 2.11 | 2.06 | S | 2.17 | 1.98 | 2.18 | 2.40 | 1.98 | 3.83 | 2.36 | 24 | |
| 11 | 2.25 | 2.06 | 2.11 | 2.11 | 2.07 | 2.11 | 2.07 | 1.99 | 2.02 | 2.05 | 1.97 | 1.99 | 2.01 | 2.02 | 1.99 | 2.02 | 2.08 | S | 1.98 | 2.00 | 2.02 | 2.04 | 2.06 | 1.97 | 2.25 | 2.05 | 2.04 | 24 | |
| 12 | 2.11 | 2.03 | 2.08 | 2.05 | 2.07 | 2.07 | 2.06 | 2.05 | 2.05 | 2.04 | 2.05 | 2.05 | 2.15 | 2.00 | 2.00 | 2.02 | 2.08 | S | 2.03 | 2.11 | 2.13 | 2.18 | 2.00 | 2.02 | 2.00 | 2.18 | 2.06 | 24 | |
| 13 | 2.00 | 2.05 | 2.05 | 2.05 | 2.06 | 2.19 | 2.04 | 1.97 | 2.12 | 2.04 | 2.01 | 2.03 | 1.99 | 1.99 | 2.00 | 2.00 | S | 1.99 | 2.02 | 2.05 | 2.03 | 2.12 | 2.03 | 1.97 | 2.07 | 1.97 | 2.19 | 2.04 | 24 |
| 14 | 2.07 | 2.18 | 2.22 | 2.11 | 2.93 | 2.23 | 2.02 | 2.00 | 2.01 | 1.99 | 2.04 | 2.04 | 2.01 | 1.99 | 1.98 | S | 1.99 | 1.97 | 1.97 | 1.97 | 2.23 | 2.18 | 3.06 | 2.10 | 1.97 | 3.06 | 2.14 | 24 | |
| 15 | 3.24 | 2.39 | 2.31 | 2.46 | 2.11 | 2.07 | 2.11 | 2.19 | 1.99 | 2.09 | 2.05 | 2.02 | 2.04 | 2.02 | S | 2.03 | 2.10 | 2.07 | 2.09 | 2.09 | 2.15 | 2.30 | 2.61 | 3.44 | 1.99 | 3.44 | 2.26 | 24 | |
| 16 | 3.13 | 3.07 | 3.52 | 2.72 | 2.76 | 2.05 | 2.09 | 2.05 | 2.01 | 1.99 | 2.01 | 2.05 | 2.05 | S | 1.99 | 1.97 | 2.01 | 1.99 | 2.00 | 1.97 | 2.18 | 2.30 | 2.34 | 2.26 | 1.97 | 3.52 | 2.28 | 24 | |
| 17 | 2.05 | 2.26 | 2.04 | 2.02 | 2.22 | 2.01 | 2.13 | 2.05 | 1.99 | 1.98 | 1.98 | 2.00 | S | 1.98 | 1.96 | 2.00 | 1.96 | 2.09 | 2.17 | 2.05 | 2.53 | 4.71 | 3.88 | 3.00 | 1.96 | 4.71 | 2.31 | 24 | |
| 18 | 2.47 | 2.25 | 3.10 | 2.60 | 3.22 | 2.26 | 2.35 | 2.06 | 2.05 | 2.01 | 2.03 | S | 1.99 | 2.01 | 2.00 | 1.99 | 2.02 | 2.01 | 2.00 | 2.06 | 2.49 | 2.18 | 2.91 | 2.72 | 1.99 | 3.22 | 2.29 | 24 | |
| 19 | 2.06 | 2.30 | 2.22 | 2.12 | 2.11 | 2.05 | 2.05 | 2.01 | 1.98 | 2.06 | S | 1.98 | 1.97 | 1.97 | 1.97 | 2.01 | 2.01 | 2.05 | 2.19 | 1.95 | 2.79 | 2.10 | 2.00 | 2.42 | 1.95 | 2.79 | 2.10 | 24 | |
| 20 | 2.04 | 2.21 | 2.12 | 1.99 | 2.01 | 2.02 | 2.02 | 2.01 | 2.01 | S | 2.00 | 1.99 | 1.98 | 2.00 | 1.98 | 1.96 | 2.01 | 2.02 | 2.13 | 2.15 | 2.26 | 2.27 | 2.20 | 4.77 | 1.96 | 4.77 | 2.18 | 24 | |
| 21 | 3.67 | 3.05 | 2.50 | 2.14 | 2.07 | 2.28 | 2.08 | 2.09 | S | 2.09 | 2.05 | 2.10 | 2.17 | 2.12 | 2.07 | 2.07 | 2.01 | 1.97 | 1.99 | 2.00 | 2.01 | 2.00 | 1.99 | 1.99 | 1.97 | 3.67 | 2.20 | 24 | |
| 22 | 1.98 | 2.00 | 2.23 | 2.59 | 2.08 | 2.02 | 2.00 | S | 2.08 | 2.09 | 2.07 | 1.94 | 1.95 | 1.93 | 1.96 | 2.00 | 1.96 | 1.94 | 2.14 | 2.02 | 1.94 | 2.10 | 2.16 | 2.08 | 1.93 | 2.59 | 2.05 | 24 | |
| 23 | 2.14 | 2.34 | 2.13 | 2.42 | 2.42 | 2.51 | S | 2.01 | 1.98 | 2.04 | 1.97 | 2.00 | 2.04 | 1.95 | 2.03 | 1.96 | 1.97 | 1.93 | 1.93 | 1.92 | 1.92 | 1.94 | 2.65 | 2.84 | 1.92 | 2.84 | 2.13 | 24 | |
| 24 | 2.11 | 2.06 | 3.27 | 2.11 | 1.98 | S | 1.95 | 1.98 | 1.95 | 1.95 | 1.94 | 1.94 | 1.93 | 1.95 | 1.92 | 1.93 | 2.01 | 2.24 | 2.10 | 1.99 | 1.98 | 2.46 | 2.16 | 1.98 | 1.92 | 3.27 | 2.08 | 24 | |
| 25 | 1.97 | 1.95 | 1.98 | 1.98 | S | 1.99 | 1.99 | 2.00 | 2.06 | 2.05 | 2.04 | 2.05 | 1.97 | 1.92 | 1.90 | 1.91 | 1.91 | 1.91 | 1.92 | 1.92 | 1.93 | 1.93 | 1.92 | 1.93 | 1.90 | 2.06 | 1.96 | 24 | |
| 26 | 1.93 | 1.93 | 1.92 | S | 1.93 | 1.94 | 1.92 | 1.92 | 1.91 | 1.92 | 1.90 | 1.92 | 1.91 | 1.92 | 1.93 | 1.93 | 1.92 | 1.91 | 1.92 | 1.91 | 1.92 | 1.91 | 1.93 | 1.92 | 1.90 | 1.94 | 1.92 | 24 | |
| 27 | 1.95 | 1.95 | S | 1.94 | 1.97 | 2.00 | 1.95 | 1.98 | 1.96 | 1.94 | 1.96 | 1.96 | 2.04 | 2.01 | 1.97 | 2.06 | 2.03 | 1.99 | 2.02 | 1.96 | 2.00 | 1.99 | 2.08 | 2.20 | 1.94 | 2.20 | 2.00 | 24 | |
| 28 | 2.19 | S | 1.97 | 2.11 | 2.22 | 2.18 | 2.03 | 1.96 | 1.99 | 2.02 | 2.16 | 2.14 | 2.06 | 2.06 | 2.05 | 1.94 | 2.03 | 2.19 | 2.19 | 2.09 | 2.19 | 2.92 | 2.40 | 2.41 | 1.94 | 2.92 | 2.15 | 24 | |
| 29 | S | 2.91 | 2.15 | 2.12 | 2.33 | 2.12 | 2.10 | 2.08 | 2.17 | 2.15 | 2.31 | 2.09 | 2.04 | 2.05 | 2.16 | 2.04 | 2.07 | 2.03 | 1.99 | 2.06 | 2.05 | 2.55 | 2.52 | S | 1.99 | 2.91 | 2.19 | 24 | |
| 30 | 2.77 | 2.88 | 2.23 | 2.20 | 2.44 | 2.10 | 1.97 | 1.96 | 1.95 | 1.96 | 1.96 | 1.94 | 1.95 | 1.98 | 1.93 | 1.93 | 1.93 | 1.93 | 2.15 | 2.07 | 2.33 | 2.05 | S | 1.94 | 1.93 | 2.88 | 2.11 | 24 | |
| HOURLY MAX | 6.69 | 4.76 | 4.41 | 3.55 | 3.22 | 3.24 | 2.35 | 2.37 | 2.39 | 2.25 | 2.32 | 2.39 | 2.39 | 2.27 | 2.26 | 2.46 | 2.30 | 2.25 | 2.26 | 2.55 | 3.98 | 4.71 | 14.02 | 7.46 | | | | | |
| HOURLY AVG | 2.61 | 2.50 | 2.45 | 2.29 | 2.26 | 2.17 | 2.07 | 2.06 | 2.04 | 2.04 | 2.05 | 2.04 | 2.05 | 2.02 | 2.02 | 2.03 | 2.03 | 2.04 | 2.07 | 2.06 | 2.26 | 2.40 | 2.75 | 2.70 | | | | | |

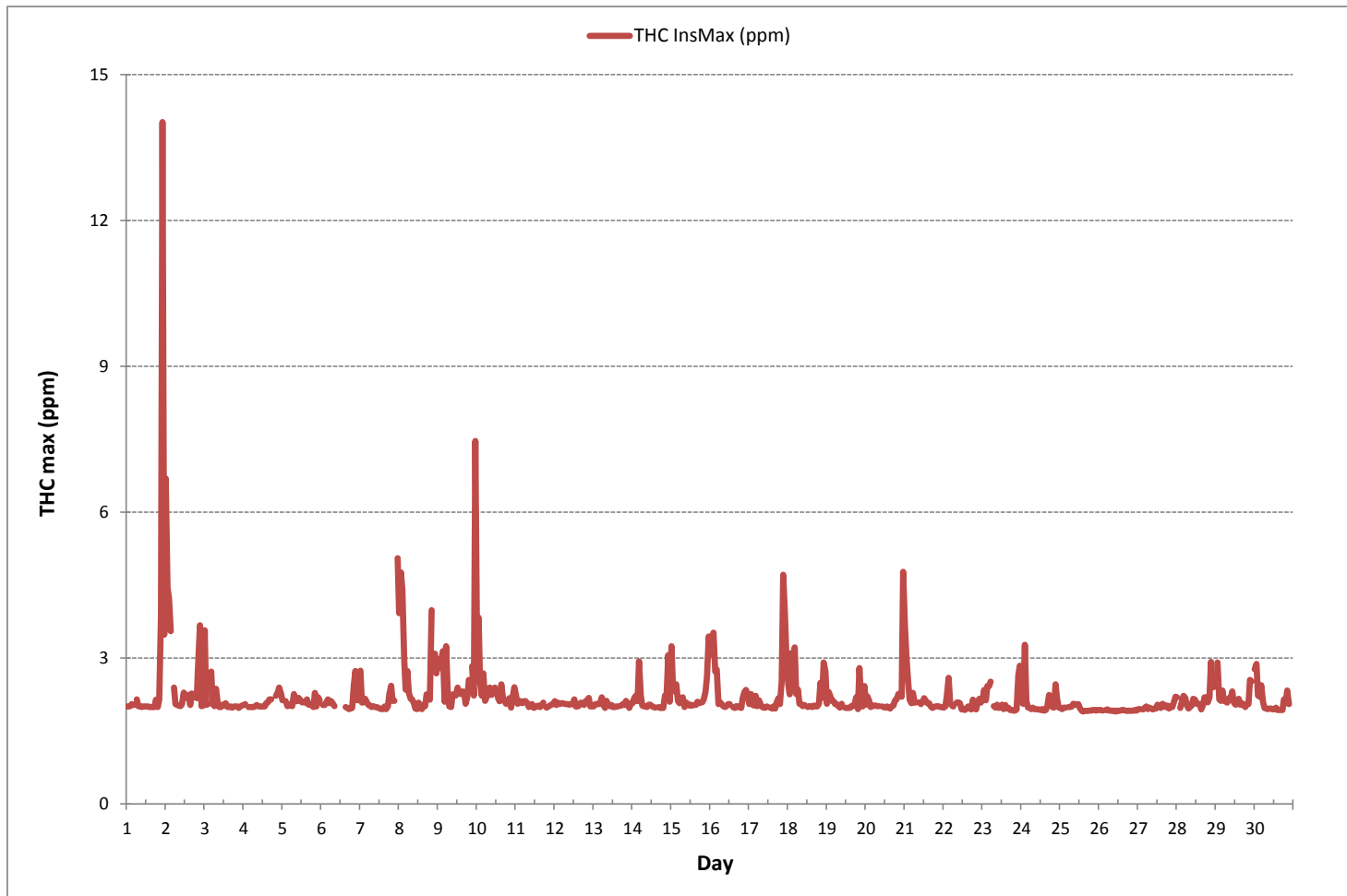
STATUS FLAG CODES

| | | | |
|----|--------------------------|---|-----------------------|
| 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: | 680 |
| MAXIMUM INSTANTANEOUS VALUE: | 14.02 ppm @ HOUR 22 ON DAY 1 |
| IZS CALIBRATION TIME: | 32 hrs |
| MONTHLY CALIBRATION TIME: | 6 hrs |
| OPERATIONAL TIME: | 718 hrs |
| STANDARD DEVIATION: | 0.66 |

TOTAL HYDROCARBONS Instantaneous Maximum (THC ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
Three Creeks 986b Station - June 2018

METHANE MAX Instantaneous Maximum (CH₄ ppm)

| HR START (MST) | 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | DAILY MIN. | DAILY MAX. | 24-HR AVG. | RDGS. |
|----------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------|------------|------------|-------|
| HR END (MST) | 0:59 | 1:59 | 2:59 | 3:59 | 4:59 | 5:59 | 6:59 | 7:59 | 8:59 | 9:59 | 10:59 | 11:59 | 12:59 | 13:59 | 14:59 | 15:59 | 16:59 | 17:59 | 18:59 | 19:59 | 20:59 | 21:59 | 22:59 | 23:59 | | | | |
| DAY 1 | 2.00 | 2.01 | 2.02 | 2.05 | 2.04 | S | 2.16 | 2.02 | 2.01 | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 2.00 | 2.00 | 1.99 | 2.00 | 2.15 | 1.99 | 2.14 | 3.91 | 14.01 | 3.51 | 1.99 | 14.01 | 2.70 | 24 |
| 2 | 6.70 | 4.47 | 4.24 | 3.56 | S | 2.41 | 2.06 | 2.04 | 2.02 | 2.02 | 2.05 | 2.30 | 2.19 | 2.26 | 2.26 | 2.04 | 2.29 | 2.20 | 2.23 | 2.18 | 2.91 | 3.69 | 2.02 | 2.02 | 2.02 | 6.70 | 2.70 | 24 |
| 3 | 3.59 | 2.03 | 2.06 | S | 2.74 | 2.06 | 2.02 | 2.38 | 2.08 | 2.00 | 2.00 | 2.04 | 2.02 | 2.08 | 2.00 | 2.00 | 2.01 | 1.99 | 2.01 | 2.01 | 2.00 | 1.99 | 2.01 | 2.02 | 1.99 | 3.59 | 2.14 | 24 |
| 4 | 2.03 | 2.06 | S | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.04 | 2.01 | 2.00 | 2.01 | 2.01 | 2.01 | 2.08 | 2.09 | 2.17 | 2.17 | X | X | 2.23 | 2.31 | 2.40 | 2.28 | 2.00 | 2.40 | 2.09 | 22 |
| 5 | 2.14 | S | 2.12 | 2.01 | 2.05 | 2.02 | 2.02 | 2.28 | 2.12 | 2.12 | 2.19 | 2.14 | 2.11 | 2.09 | 2.09 | 2.16 | 2.05 | 2.05 | 2.03 | 2.00 | 2.30 | 2.01 | 2.20 | 2.14 | 2.00 | 2.30 | 2.11 | 24 |
| 6 | S | 2.04 | 2.03 | 2.09 | 2.17 | 2.07 | 2.13 | 2.08 | 2.01 | C | C | C | C | C | C | 2.00 | 1.99 | 1.96 | 1.97 | 1.98 | 2.48 | 2.75 | 2.14 | S | 1.96 | 2.75 | 2.12 | 24 |
| 7 | 2.76 | 2.09 | 2.10 | 2.17 | 2.10 | 2.03 | 2.02 | 2.01 | 2.02 | 2.00 | 1.99 | 1.98 | 1.97 | 1.96 | 1.96 | 2.01 | 1.96 | 2.00 | 2.27 | 2.45 | 2.13 | 2.13 | S | 5.05 | 1.96 | 5.05 | 2.22 | 24 |
| 8 | 3.94 | 4.77 | 4.43 | 3.03 | 2.35 | 2.74 | 2.30 | 2.17 | 2.16 | 2.08 | 1.97 | 1.97 | 2.09 | 2.01 | 1.96 | 2.04 | 2.02 | 2.27 | 2.20 | 2.15 | 4.00 | S | 3.11 | 2.70 | 1.96 | 4.77 | 2.63 | 24 |
| 9 | 3.00 | 2.81 | 2.98 | 3.15 | 2.11 | 3.27 | 2.22 | 2.00 | 2.00 | 2.26 | 2.26 | 2.25 | 2.40 | 2.28 | 2.27 | 2.33 | 2.31 | 2.06 | 2.21 | 2.57 | S | 2.85 | 2.25 | 7.47 | 2.00 | 7.47 | 2.67 | 24 |
| 10 | 3.00 | 3.85 | 2.50 | 2.24 | 2.69 | 2.14 | 2.20 | 2.30 | 2.40 | 2.26 | 2.33 | 2.40 | 2.35 | 2.18 | 2.12 | 2.47 | 2.20 | 2.12 | 2.06 | S | 2.18 | 1.98 | 2.19 | 2.41 | 1.98 | 3.85 | 2.37 | 24 |
| 11 | 2.27 | 2.07 | 2.12 | 2.12 | 2.08 | 2.11 | 2.12 | 2.07 | 1.99 | 2.02 | 2.06 | 1.99 | 2.00 | 2.01 | 2.03 | 2.00 | 2.03 | 2.08 | S | 1.98 | 2.01 | 2.03 | 2.05 | 2.06 | 1.98 | 2.27 | 2.06 | 24 |
| 12 | 2.12 | 2.04 | 2.09 | 2.06 | 2.08 | 2.07 | 2.06 | 2.06 | 2.05 | 2.05 | 2.05 | 2.06 | 2.16 | 2.01 | 2.01 | 2.03 | 2.09 | S | 2.04 | 2.11 | 2.14 | 2.19 | 2.02 | 2.03 | 2.01 | 2.19 | 2.07 | 24 |
| 13 | 2.00 | 2.05 | 2.06 | 2.05 | 2.06 | 2.20 | 2.05 | 1.97 | 2.13 | 2.05 | 2.01 | 2.04 | 2.00 | 2.00 | 2.01 | S | 2.03 | 2.06 | 2.03 | 2.13 | 2.03 | 1.98 | 2.08 | 1.97 | 2.20 | 2.04 | 24 | |
| 14 | 2.08 | 2.19 | 2.24 | 2.11 | 2.94 | 2.24 | 2.03 | 2.01 | 2.02 | 2.00 | 2.04 | 2.05 | 2.01 | 2.00 | 1.98 | S | 2.00 | 1.98 | 1.98 | 1.97 | 2.25 | 2.19 | 3.08 | 2.10 | 1.97 | 3.08 | 2.15 | 24 |
| 15 | 3.26 | 2.40 | 2.32 | 2.48 | 2.11 | 2.08 | 2.12 | 2.20 | 2.00 | 2.10 | 2.05 | 2.02 | 2.05 | 2.03 | S | 2.03 | 2.11 | 2.08 | 2.10 | 2.10 | 2.16 | 2.31 | 2.62 | 3.46 | 2.00 | 3.46 | 2.27 | 24 |
| 16 | 3.14 | 3.09 | 3.55 | 2.74 | 2.78 | 2.05 | 2.10 | 2.06 | 2.02 | 1.99 | 2.02 | 2.05 | 2.05 | S | 1.99 | 1.98 | 2.01 | 2.00 | 2.01 | 1.97 | 2.19 | 2.31 | 2.36 | 2.28 | 1.97 | 3.55 | 2.29 | 24 |
| 17 | 2.06 | 2.28 | 2.05 | 2.03 | 2.23 | 2.02 | 2.13 | 2.06 | 1.99 | 1.99 | 1.99 | 2.00 | S | 1.98 | 1.97 | 2.01 | 1.97 | 2.10 | 2.18 | 2.06 | 2.53 | 4.73 | 3.90 | 3.02 | 1.97 | 4.73 | 2.32 | 24 |
| 18 | 2.48 | 2.26 | 3.12 | 2.61 | 3.24 | 2.27 | 2.36 | 2.07 | 2.05 | 2.01 | 2.04 | S | 2.00 | 2.01 | 2.01 | 1.99 | 2.02 | 2.02 | 2.01 | 2.07 | 2.42 | 2.19 | 2.93 | 2.74 | 1.99 | 3.24 | 2.30 | 24 |
| 19 | 2.07 | 2.30 | 2.23 | 2.13 | 2.12 | 2.06 | 2.06 | 2.02 | 1.99 | 2.06 | S | 1.98 | 1.97 | 1.97 | 1.97 | 2.02 | 2.02 | 2.06 | 2.20 | 1.96 | 2.81 | 2.11 | 2.01 | 2.44 | 1.96 | 2.81 | 2.11 | 24 |
| 20 | 2.01 | 2.22 | 2.13 | 2.00 | 2.02 | 2.02 | 2.03 | 2.02 | 2.02 | S | 2.01 | 2.00 | 1.98 | 2.00 | 1.98 | 1.97 | 2.01 | 2.03 | 2.14 | 2.08 | 2.20 | 2.28 | 2.21 | 4.79 | 1.97 | 4.79 | 2.18 | 24 |
| 21 | 3.69 | 3.07 | 2.52 | 2.15 | 2.08 | 2.29 | 2.09 | 2.10 | S | 2.11 | 2.06 | 2.10 | 2.18 | 2.14 | 2.08 | 2.08 | 2.00 | 1.98 | 2.00 | 2.01 | 2.02 | 2.01 | 2.00 | 2.00 | 1.98 | 3.69 | 2.21 | 24 |
| 22 | 1.98 | 2.01 | 2.25 | 2.60 | 2.09 | 2.03 | 2.01 | S | 2.08 | 2.10 | 2.07 | 1.95 | 1.96 | 1.94 | 1.98 | 2.01 | 1.97 | 1.95 | 2.15 | 2.03 | 1.95 | 2.11 | 2.17 | 2.09 | 1.94 | 2.60 | 2.06 | 24 |
| 23 | 2.15 | 2.35 | 2.14 | 2.43 | 2.43 | 2.51 | S | 2.02 | 1.98 | 2.05 | 1.97 | 2.01 | 2.05 | 1.96 | 2.04 | 1.97 | 1.98 | 1.95 | 1.94 | 1.93 | 1.93 | 1.95 | 2.67 | 2.85 | 1.93 | 2.85 | 2.14 | 24 |
| 24 | 2.12 | 2.07 | 3.29 | 2.10 | 1.99 | S | 1.97 | 1.98 | 1.96 | 1.96 | 1.95 | 1.95 | 1.94 | 1.96 | 1.94 | 1.94 | 2.02 | 2.26 | 2.11 | 2.00 | 1.98 | 2.48 | 2.17 | 1.98 | 1.94 | 3.29 | 2.09 | 24 |
| 25 | 1.98 | 1.97 | 1.98 | 1.99 | S | 1.99 | 2.00 | 2.01 | 2.08 | 2.05 | 2.04 | 2.06 | 1.98 | 1.94 | 1.92 | 1.92 | 1.92 | 1.92 | 1.93 | 1.93 | 1.95 | 1.95 | 1.93 | 1.94 | 1.92 | 2.08 | 1.97 | 24 |
| 26 | 1.94 | 1.94 | 1.94 | S | 1.94 | 1.95 | 1.94 | 1.94 | 1.92 | 1.93 | 1.91 | 1.93 | 1.92 | 1.93 | 1.94 | 1.94 | 1.94 | 1.93 | 1.93 | 1.92 | 1.93 | 1.92 | 1.94 | 1.93 | 1.91 | 1.95 | 1.93 | 24 |
| 27 | 1.96 | 1.96 | S | 1.96 | 1.99 | 2.00 | 1.96 | 1.99 | 1.98 | 1.95 | 1.97 | 1.97 | 2.05 | 2.01 | 1.98 | 2.07 | 2.04 | 1.99 | 2.03 | 1.98 | 2.01 | 2.00 | 2.10 | 2.22 | 1.95 | 2.22 | 2.01 | 24 |
| 28 | 2.21 | S | 1.98 | 2.12 | 2.24 | 2.19 | 2.04 | 1.97 | 1.99 | 2.03 | 2.17 | 2.15 | 2.06 | 2.07 | 2.06 | 1.95 | 2.04 | 2.20 | 2.10 | 2.20 | 2.93 | 2.41 | 2.42 | 1.95 | 2.93 | 2.16 | 24 | |
| 29 | S | 2.93 | 2.16 | 2.13 | 2.34 | 2.12 | 2.11 | 2.10 | 2.18 | 2.16 | 2.32 | 2.10 | 2.05 | 2.06 | 2.17 | 2.05 | 2.09 | 2.03 | 2.00 | 2.06 | 2.06 | 2.57 | 2.54 | S | 2.00 | 2.93 | 2.20 | 24 |
| 30 | 2.79 | 2.89 | 2.24 | 2.21 | 2.45 | 2.11 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.96 | 1.98 | 1.94 | 1.94 | 1.94 | 1.94 | 2.16 | 2.08 | 2.35 | 2.06 | S | 1.95 | 1.94 | 2.89 | 2.12 | 24 |
| HOURLY MAX | 6.70 | 4.77 | 4.43 | 3.56 | 3.24 | 3.27 | 2.36 | 2.38 | 2.40 | 2.26 | 2.33 | 2.40 | 2.40 | 2.28 | 2.27 | 2.47 | 2.31 | 2.27 | 2.27 | 2.57 | 4.00 | 4.73 | 14.01 | 7.47 | | | | |
| HOURLY AVG | 2.62 | 2.51 | 2.46 | 2.30 | 2.27 | 2.18 | 2.08 | 2.07 | 2.04 | 2.05 | 2.05 | 2.05 | 2.05 | 2.03 | 2.03 | 2.04 | 2.04 | 2.05 | 2.08 | 2.06 | 2.26 | 2.41 | 2.77 | 2.71 | | | | |

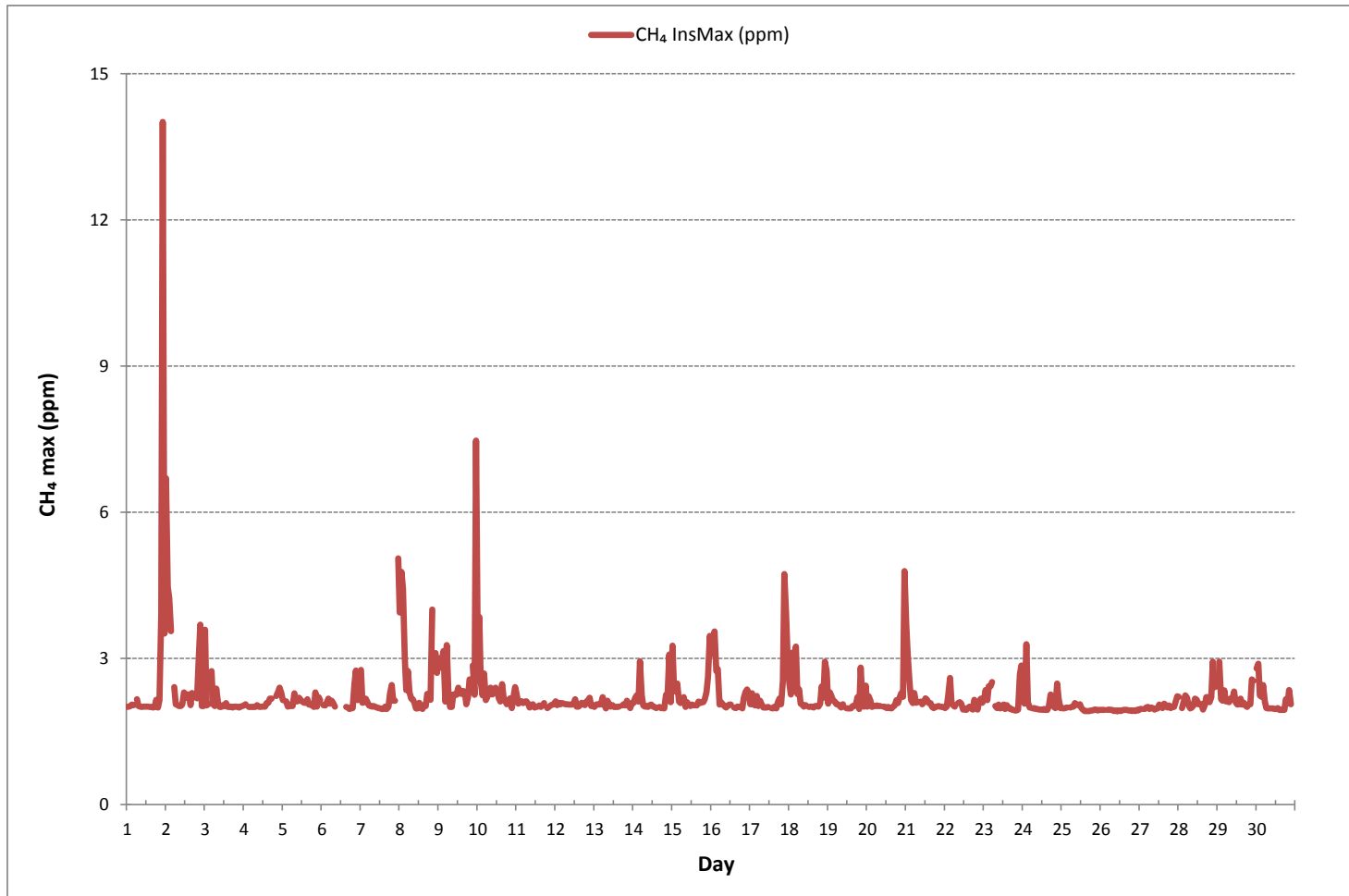
STATUS FLAG CODES

| | | | |
|----|--------------------------|---|-----------------------|
| 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: | 680 |
| MAXIMUM INSTANTANEOUS VALUE: | 14.01 ppm @ HOUR 22 ON DAY 1 |
| IZS CALIBRATION TIME: | 32 hrs |
| MONTHLY CALIBRATION TIME: | 6 hrs |
| STANDARD DEVIATION: | 0.66 |
| OPERATIONAL TIME: | 718 hrs |

METHANE MAX Instantaneous Maximum (CH₄ ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
Three Creeks 986b Station - June 2018

NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)

| HR START (MST) | 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | DAILY MIN. | DAILY MAX. | 24-HR AVG. | RDGS. | |
|----------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------|------------|------------|-------|----|
| HR END (MST) | 0:59 | 1:59 | 2:59 | 3:59 | 4:59 | 5:59 | 6:59 | 7:59 | 8:59 | 9:59 | 10:59 | 11:59 | 12:59 | 13:59 | 14:59 | 15:59 | 16:59 | 17:59 | 18:59 | 19:59 | 20:59 | 21:59 | 22:59 | 23:59 | | | | | |
| DAY 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 | |
| 2 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 | |
| 3 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 | |
| 4 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | X | X | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 22 | |
| 5 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 | |
| 6 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | C | C | C | C | C | C | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 24 | |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.01 | 0.00 | 0.01 | 24 | |
| 8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 24 | |
| 9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 24 | |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 | |
| 11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 | |
| 12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 | |
| 13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 | |
| 14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 | |
| 15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 | |
| 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 | 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 | |
| 17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 | |
| 18 | 0.00 | 0.00 | 0.07 | 0.00 | 0.00 | 0.03 | 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 | 0.09 | 0.06 | 0.05 | 0.00 | 0.00 | 0.09 | 0.01 | 24 |
| 19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.11 | 0.08 | 0.06 | 0.00 | 0.00 | 0.11 | 0.01 | 24 |
| 20 | 0.05 | 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 | 0.08 | 0.16 | 0.12 | 0.04 | 0.01 | 0.00 | 0.00 | 0.16 | 0.02 | 24 |
| 21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.07 | 0.06 | 0.05 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.01 | 24 |
| 22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 24 | 0.00 | 0.00 | 0.00 | 0.07 | 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 | 0.07 | 0.00 | 24 |
| 25 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 26 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 27 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| 28 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 24 |
| 29 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 24 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 24 |
| HOURLY MAX | 0.05 | 0.00 | 0.07 | 0.07 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.06 | 0.05 | 0.00 | 0.00 | 0.04 | 0.00 | 0.08 | 0.16 | 0.12 | 0.08 | 0.06 | 0.01 | | | | | |
| 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 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | | | | | |

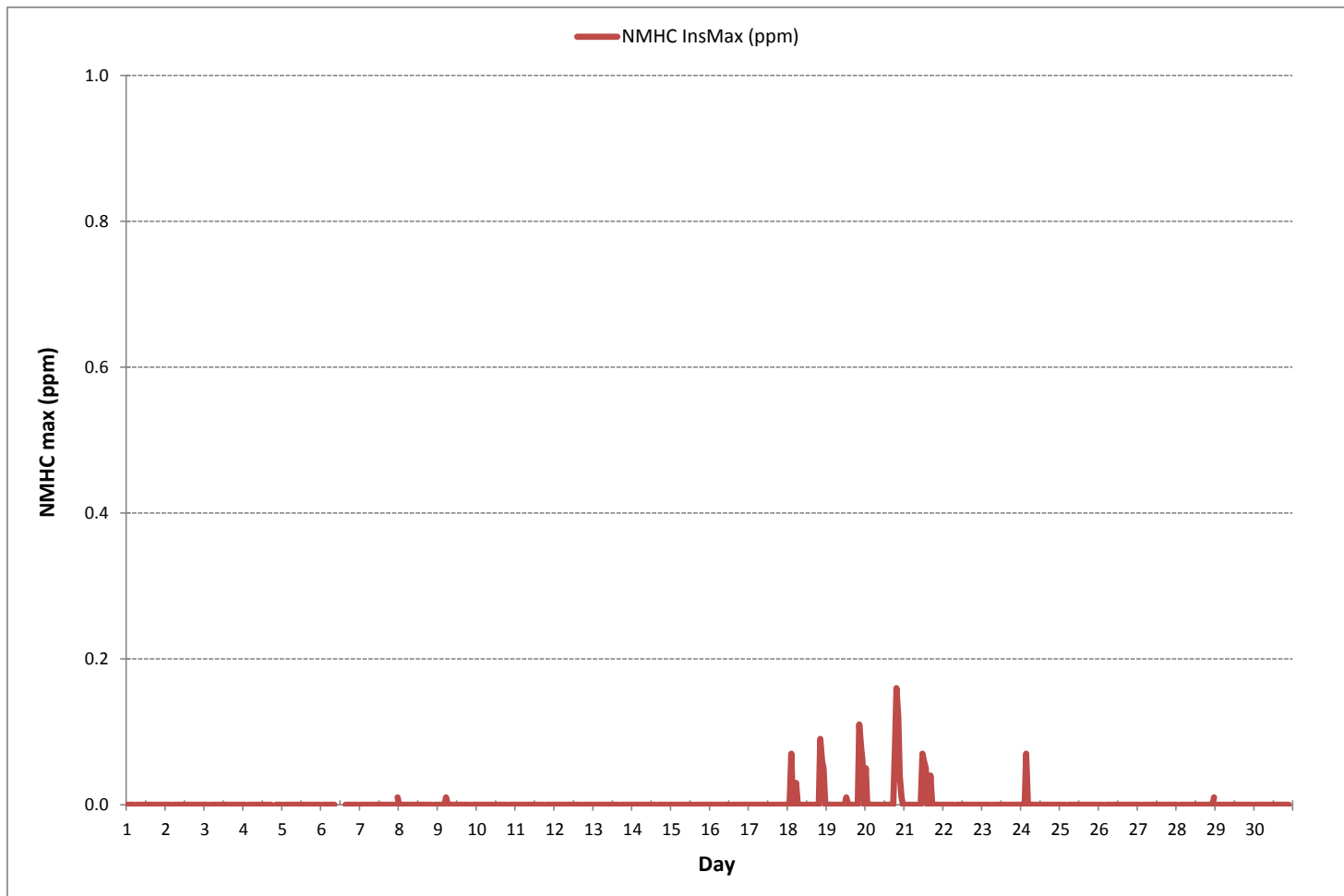
STATUS FLAG CODES

| | | | |
|----|--------------------------|---|-----------------------|
| 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: | 23 |
| MAXIMUM INSTANTANEOUS VALUE: | 0.16 ppm @ HOUR 19 ON DAY 20 |
| IZS CALIBRATION TIME: | 32 hrs |
| MONTHLY CALIBRATION TIME: | 6 hrs |
| STANDARD DEVIATION: | 0.01 |
| OPERATIONAL TIME: | 718 hrs |

NON-METHANE HYDROCARBONS Instantaneous Maximum (NMHC ppm)





PEACE RIVER AREA MONITORING PROGRAM COMMITTEE
 Three Creeks 986b Station - June 2018

WIND SPEED Instantaneous Maximum (WS kph)

| HR START (MST) | 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | DAILY | DAILY | 24-HR | RDGS. |
|----------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| HR END (MST) | 0:59 | 1:59 | 2:59 | 3:59 | 4:59 | 5:59 | 6:59 | 7:59 | 8:59 | 9:59 | 10:59 | 11:59 | 12:59 | 13:59 | 14:59 | 15:59 | 16:59 | 17:59 | 18:59 | 19:59 | 20:59 | 21:59 | 22:59 | 23:59 | MIN. | MAX. | AVG. | |
| DAY 1 | 19.0 | 22.7 | 22.0 | 13.4 | 15.0 | 12.0 | 12.0 | 20.0 | 27.1 | 28.3 | 29.1 | 27.6 | 29.0 | 34.0 | 31.6 | 29.7 | 25.1 | 20.3 | 23.0 | 17.6 | 10.6 | 2.5 | 6.6 | 8.6 | 2.5 | 34.0 | 20.3 | 24 |
| 2 | 8.2 | 5.7 | 8.1 | 7.9 | 9.3 | 9.9 | 18.7 | 22.0 | 15.1 | 17.8 | 21.0 | 21.0 | 31.7 | 37.3 | 37.4 | 41.3 | 34.9 | 39.2 | 35.7 | 35.4 | 27.6 | 5.5 | 5.8 | 6.2 | 5.5 | 41.3 | 20.9 | 24 |
| 3 | 8.4 | 4.6 | 5.5 | 5.7 | 7.2 | 7.4 | 8.4 | 8.1 | 6.4 | 10.3 | 13.4 | 15.9 | 16.8 | 18.4 | 15.2 | 21.2 | 21.5 | 28.7 | 25.1 | 29.4 | 34.1 | 32.2 | 37.2 | 40.2 | 4.6 | 40.2 | 17.6 | 24 |
| 4 | 36.4 | 28.8 | 26.4 | 34.9 | 37.1 | 39.6 | 38.3 | 33.9 | 32.0 | 31.3 | 37.5 | 30.6 | 30.3 | 20.7 | 24.4 | 28.0 | 28.5 | 22.8 | 21.9 | 18.6 | 17.9 | 15.3 | 14.8 | 14.1 | 14.1 | 39.6 | 27.7 | 24 |
| 5 | 11.9 | 11.7 | 10.8 | 9.5 | 15.2 | 17.4 | 17.9 | 21.4 | 27.2 | 28.8 | 28.3 | 32.6 | 30.6 | 24.1 | 25.8 | 16.0 | 18.1 | 12.6 | 10.3 | 10.8 | 10.1 | 7.6 | 8.4 | 12.6 | 7.6 | 32.6 | 17.5 | 24 |
| 6 | 15.4 | 16.1 | 17.2 | 12.3 | 10.9 | 8.7 | 8.9 | 14.5 | 20.8 | 27.1 | 32.0 | 33.3 | 34.1 | 33.6 | 32.2 | 37.0 | 30.5 | 32.3 | 25.0 | 18.5 | 9.4 | 14.6 | 11.5 | 10.6 | 8.7 | 37.0 | 21.1 | 24 |
| 7 | 8.6 | 10.8 | 9.4 | 8.3 | 9.6 | 13.7 | 14.5 | 21.1 | 22.2 | 18.9 | 15.2 | 19.6 | 25.6 | 32.3 | 27.6 | 27.1 | 32.5 | 17.5 | 11.8 | 34.8 | 39.8 | 17.3 | 9.4 | 6.2 | 6.2 | 39.8 | 18.9 | 24 |
| 8 | 5.5 | 6.1 | 9.1 | 6.3 | 4.5 | 8.4 | 12.0 | 18.7 | 28.4 | 30.5 | 19.3 | 21.5 | 19.7 | 17.7 | 11.2 | 13.1 | 7.5 | 17.0 | 18.2 | 7.1 | 27.2 | 13.1 | 16.0 | 14.1 | 4.5 | 30.5 | 14.7 | 24 |
| 9 | 21.1 | 12.3 | 16.0 | 9.4 | 13.5 | 13.0 | 13.6 | 12.3 | 13.3 | 11.9 | 14.8 | 14.8 | 23.4 | 26.9 | 19.7 | 25.7 | 10.9 | 15.8 | 19.3 | 11.8 | 3.9 | 7.5 | 4.5 | 2.9 | 2.9 | 26.9 | 14.1 | 24 |
| 10 | 4.5 | 7.9 | 12.3 | 12.1 | 8.0 | 8.6 | 10.8 | 17.5 | 17.3 | 18.7 | 14.6 | 21.6 | 26.8 | 23.9 | 34.1 | 27.7 | 30.7 | 19.6 | 23.9 | 24.2 | 28.2 | 29.3 | 12.9 | 11.0 | 4.5 | 34.1 | 18.6 | 24 |
| 11 | 50.6 | 48.6 | 31.3 | 33.0 | 34.9 | 32.2 | 27.5 | 46.3 | 38.9 | 52.4 | 50.5 | 48.3 | 64.1 | 57.7 | 65.1 | 54.5 | 43.6 | 59.9 | 51.1 | 43.8 | 40.6 | 54.5 | 48.7 | 43.8 | 27.5 | 65.1 | 46.7 | 24 |
| 12 | 48.1 | 41.6 | 38.9 | 40.9 | 42.9 | 46.4 | 40.4 | 48.7 | 49.7 | 33.6 | 31.1 | 31.7 | 30.0 | 38.7 | 41.4 | 26.0 | 31.2 | 21.2 | 13.2 | 14.2 | 10.2 | 9.3 | 9.8 | 13.0 | 9.3 | 49.7 | 31.3 | 24 |
| 13 | 10.9 | 21.6 | 23.2 | 25.5 | 33.8 | 20.1 | 19.0 | 16.2 | 13.9 | 6.9 | 18.1 | 16.4 | 25.5 | 24.8 | 21.2 | 20.8 | 30.2 | 23.8 | 19.4 | 18.0 | 16.6 | 13.7 | 17.6 | 10.6 | 6.9 | 33.8 | 19.5 | 24 |
| 14 | 9.1 | 9.3 | 6.6 | 9.2 | 4.4 | 4.8 | 4.8 | 10.9 | 9.3 | 13.7 | 17.8 | 18.0 | 16.6 | 26.0 | 16.5 | 18.2 | 16.9 | 20.1 | 20.9 | 15.4 | 9.9 | 6.8 | 5.4 | 7.6 | 4.4 | 26.0 | 12.4 | 24 |
| 15 | 5.0 | 7.2 | 11.2 | 9.3 | 6.7 | 7.4 | 14.7 | 13.1 | 11.9 | 11.9 | 18.5 | 20.4 | 22.8 | 25.7 | 23.9 | 29.0 | 22.2 | 31.9 | 34.9 | 5.8 | 5.1 | 2.0 | 2.7 | 3.3 | 2.0 | 34.9 | 14.4 | 24 |
| 16 | 3.0 | 3.6 | 4.2 | 3.7 | 4.1 | 3.0 | 7.0 | 10.9 | 12.2 | 12.3 | 17.8 | 16.6 | 15.9 | 17.8 | 18.9 | 20.5 | 20.1 | 23.4 | 19.1 | 15.1 | 11.1 | 9.1 | 12.2 | 13.1 | 3.0 | 23.4 | 12.3 | 24 |
| 17 | 11.2 | 5.7 | 7.3 | 7.6 | 8.6 | 13.3 | 14.0 | 14.2 | 20.6 | 16.3 | 23.2 | 23.3 | 22.8 | 21.2 | 18.8 | 15.2 | 14.4 | 14.6 | 7.4 | 3.4 | 3.8 | 3.7 | 4.8 | 6.4 | 3.4 | 23.3 | 12.6 | 24 |
| 18 | 7.9 | 5.0 | 6.6 | 6.4 | 4.8 | 4.4 | 6.0 | 7.2 | 7.4 | 9.4 | 11.5 | 12.6 | 15.5 | 17.8 | 12.2 | 18.6 | 19.2 | 17.8 | 13.0 | 8.2 | 3.8 | 3.6 | 7.2 | 7.1 | 3.6 | 19.2 | 9.7 | 24 |
| 19 | 6.4 | 7.3 | 8.7 | 9.8 | 3.8 | 5.1 | 8.2 | 10.6 | 10.7 | 12.5 | 16.3 | 17.0 | 20.9 | 29.8 | 21.4 | 25.4 | 23.3 | 21.2 | 12.9 | 11.1 | 4.7 | 7.0 | 6.7 | 9.8 | 3.8 | 29.8 | 12.9 | 24 |
| 20 | 6.7 | 13.5 | 13.6 | 8.4 | 8.4 | 9.3 | 9.6 | 12.2 | 13.0 | 10.1 | 11.4 | 16.5 | 17.8 | 13.3 | 16.0 | 14.2 | 6.7 | 7.8 | 10.7 | 8.7 | 12.4 | 9.8 | 5.8 | 3.0 | 3.0 | 17.8 | 10.8 | 24 |
| 21 | 2.9 | 6.3 | 10.2 | 8.7 | 7.8 | 8.9 | 10.3 | 9.4 | 8.6 | 8.5 | 10.3 | 19.4 | 20.0 | 14.7 | 16.2 | 13.9 | 21.6 | 25.8 | 16.5 | 14.6 | 14.6 | 44.9 | 25.9 | 12.5 | 2.9 | 44.9 | 14.7 | 24 |
| 22 | 12.1 | 9.3 | 10.9 | 15.5 | 12.8 | 11.0 | 9.5 | 11.1 | 17.8 | 19.6 | 20.3 | 21.9 | 24.2 | 26.1 | 26.5 | 21.0 | 20.7 | 16.5 | 17.8 | 33.2 | 16.4 | 10.4 | 12.5 | 10.2 | 9.3 | 33.2 | 17.0 | 24 |
| 23 | 8.6 | 11.0 | 9.3 | 6.1 | 5.8 | 4.6 | 5.1 | 6.4 | 10.9 | 12.6 | 16.9 | 17.6 | 16.1 | 20.7 | 22.3 | 23.4 | 24.7 | 17.9 | 19.9 | 10.4 | 11.4 | 10.4 | 8.3 | 6.3 | 4.6 | 24.7 | 12.8 | 24 |
| 24 | 11.4 | 13.2 | 6.4 | 14.0 | 12.3 | 14.2 | 19.9 | 18.4 | 17.4 | 17.4 | 22.1 | 24.0 | 22.2 | 22.1 | 21.0 | 17.6 | 17.3 | 12.7 | 6.5 | 7.5 | 10.3 | 10.2 | 11.7 | 18.7 | 6.4 | 24.0 | 15.4 | 24 |
| 25 | 16.9 | 21.0 | 20.2 | 21.4 | 17.6 | 15.5 | 27.4 | 18.6 | 29.9 | 22.3 | 37.3 | 36.0 | 32.5 | 51.6 | 46.7 | 49.6 | 46.3 | 44.9 | 38.8 | 32.7 | 23.9 | 28.8 | 34.9 | 36.2 | 15.5 | 51.6 | 31.3 | 24 |
| 26 | 27.2 | 29.6 | 36.8 | 42.5 | 39.2 | 39.3 | 42.2 | 41.8 | 47.3 | 39.8 | 42.7 | 42.8 | 41.5 | 39.1 | 36.7 | 35.8 | 37.3 | 34.7 | 24.8 | 24.9 | 29.5 | 26.4 | 18.5 | 22.6 | 18.5 | 47.3 | 35.1 | 24 |
| 27 | 22.4 | 22.6 | 21.4 | 19.8 | 17.6 | 16.5 | 17.3 | 20.9 | 30.5 | 26.3 | 27.2 | 34.2 | 26.4 | 30.2 | 33.1 | 38.9 | 32.6 | 25.3 | 22.4 | 19.8 | 15.3 | 20.8 | 23.5 | 7.1 | 7.1 | 38.9 | 23.8 | 24 |
| 28 | 5.6 | 8.6 | 7.1 | 8.9 | 10.5 | 8.0 | 14.4 | 24.9 | 21.2 | 19.8 | 17.8 | 22.4 | 27.8 | 28.1 | 20.1 | 34.3 | 18.7 | 17.2 | 6.5 | 4.9 | 4.4 | 6.1 | 5.3 | 5.5 | 4.4 | 34.3 | 14.5 | 24 |
| 29 | 4.1 | 14.3 | 9.1 | 6.9 | 5.0 | 7.0 | 7.0 | 7.1 | 9.9 | 15.3 | 13.8 | 16.0 | 20.1 | 16.4 | 12.5 | 13.8 | 27.9 | 17.8 | 20.9 | 9.7 | 6.6 | 6.1 | 8.4 | 9.9 | 4.1 | 27.9 | 11.9 | 24 |
| 30 | 4.8 | 9.2 | 9.4 | 10.0 | 11.7 | 9.5 | 13.4 | 18.4 | 19.3 | 24.8 | 22.8 | 24.1 | 31.1 | 28.1 | 30.8 | 30.6 | 28.5 | 28.8 | 31.0 | 24.5 | 10.6 | 6.0 | 8.4 | 16.2 | 4.8 | 31.1 | 18.8 | 24 |
| HOURLY MAX | 50.6 | 48.6 | 38.9 | 42.5 | 42.9 | 46.4 | 42.2 | 48.7 | 49.7 | 52.4 | 50.5 | 48.3 | 64.1 | 57.7 | 65.1 | 54.5 | 46.3 | 59.9 | 51.1 | 43.8 | 40.6 | 54.5 | 48.7 | 43.8 | | | | |
| HOURLY AVG | 13.8 | 14.5 | 14.3 | 14.2 | 14.1 | 14.0 | 15.8 | 18.6 | 20.3 | 20.3 | 22.4 | 23.9 | 26.1 | 27.3 | 26.0 | 26.3 | 24.8 | 23.6 | 20.7 | 17.8 | 15.7 | 14.5 | 13.5 | 13.0 | | | | |

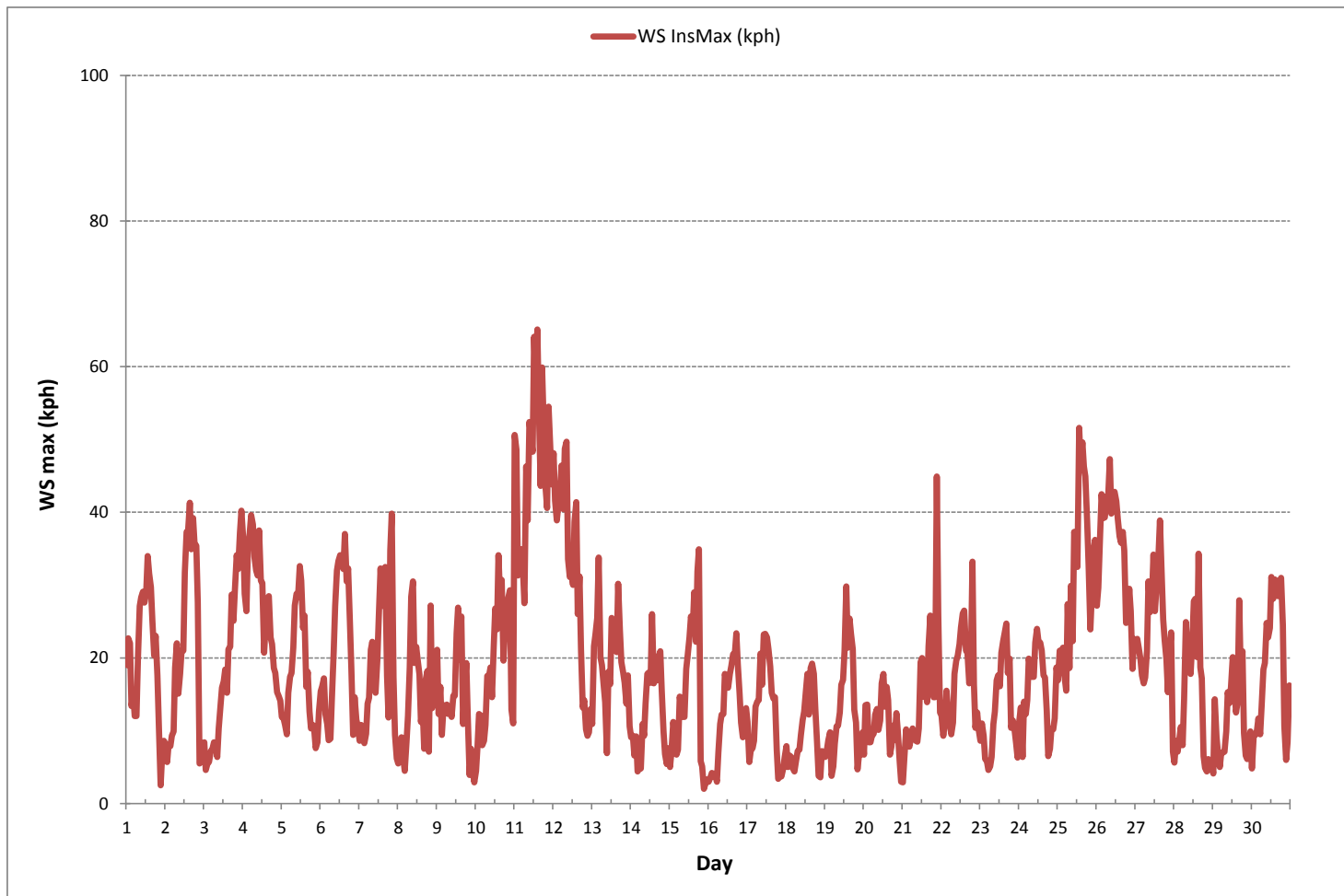
STATUS FLAG CODES

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

MONTHLY SUMMARY

| | | | | | | |
|------------------------------|------|-----|--------|----|--------|-----|
| MAXIMUM INSTANTANEOUS VALUE: | 65.1 | kph | @ HOUR | 14 | ON DAY | 11 |
| OPERATIONAL TIME: | | | | | 720 | 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.) | |
| <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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-Jul-2018




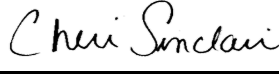
Report Issued Date (dd-mon-yyyy)

APPENDIX V
DATA VALIDATION CERTIFICATION FORM



Validation Certificate Form

| | |
|---|--|
| Client: <u>Peace River Area Monitoring Program Committee</u> | Project #: <u>8449-2018-06-67-C</u> |
| Site: <u>Three Creeks 986b Station</u> | Contact: <u>Karla Reesor</u> |

| | | |
|----------------------------------|---|-------------------------|
| Level 0 Preliminary Verification | <u></u> | Date <u>18-Jul-2018</u> |
| Level 1 Primary Validation | <u></u> | Date <u>18-Jul-2018</u> |
| Level 2 Final Validation | <u></u> | Date <u>20-Jul-2018</u> |
| Level 3 Independent Data Review | <u></u> | Date <u>20-Jul-2018</u> |
| Post-Final Validation | <u>NA</u> | Date <u>NA</u> |

| |
|--|
| 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. |
| |
| |
| |