# Peace Airshed Zone Association

## Ambient Air Monitoring Network Summary

### Ambient Air Quality Monitoring Program
### Monthly Report
### October 2018

Peace Airshed Zone Association
Box 21135 Grande Prairie, AB, T8V 6W7
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November 30, 2018

**Alberta Environment and Parks**
11th Floor, Oxbridge Place
9820-106 Street
Edmonton Alberta T5K 2J6

**RE: Peace Airshed Zone Association (PAZA) – October 2018 Ambient Air Report**

Enclosed is the PAZA Ambient Monitoring Network Report for the month of October 2018.

The Person Responsible is Elizabeth Bell, Executive Director.

This report is submitted by PAZA on behalf of the industrial member companies to satisfy the requirements of the following facility Operating Approvals:

| Company | Facility | LSD | EPEA Approval Number |
|---|---|---|---|
| Advantage Oil & Gas Ltd. | Glacier | 05-02-076-13-W6 | 262479-00-00 |
| Alberta Power (2000) Ltd. (an ATCO company) | Sturgeon | SW-06-069-21-W5 | 10283-02-02 |
| ATCO Power Canada | Poplar Hill | 11-19-073-08-W6 | 67774-01-01 |
| ATCO Power Canada | Valleyview | SW-06-069-21-W5 | 147709-01-01 |
| AltaGas Ltd. | Pouce Coupe | 03-03-081-13-W6 | 247673-00-00 |
| | Ante Creek | 02-26-068-25-W5 | 266694-00-00 |
| | Gordondale | 16-31-78-11-W6M | 287474-00-00 |
| Apache Canada Ltd. | House Mountain | 01-08-070-10-W5 | 10137-02-02 |
| Birchcliff Energy Ltd. | Pouce Coupe | 03-22-078-12-W6 | 252529-00-00 |
| Canadian Natural Resources Limited | Bonanza | 11-25-081-11-W6 | 00000029-01-00 |
| | Progress/Gordondale | 01-01-077-10-W6 | 00010036-02-00 |
| | Gold Creek | 13-26-067-05-W6 | 00010446-02-00 |

| Company | Facility | LSD | EPEA Approval Number |
|---|---|---|---|
| | Teepee Creek | SE-2-074-04-W6 | 00001635-02-00 |
| | Sturgeon/Valleyview | 02-02-069-22-W5 | 1633-02-00 |
| Canfor Forest Products | Grande Prairie | SW-23-071-06-W6 | 152645-01-00 |
| Conocophillips Canada Energy Partnership | Wembley | 06-19-073-08-W6 | 00000212-01-00 |
| Devon Canada | NW Belloy (Dunvegan) | 16-36-079-03-W6 | 00009810-02-00 |
| | Eaglesham (South) | 02-14-077-25-W5 | 00047669-01-00 |
| | North Normanville | 03-36-079-23-W5 | 00047455-01-00 |
| | West Culp | 05-34-078-25-W6 | 00136284-00-00 |
| | Cecil | 08-15-084-08-W6 | 00010032-02-00 |
| Encana Corporation | Sexsmith | 04-08-075-07-W6 | 00010002-01-00 |
| Enerplus Resources | Pouce Coupe | SW-06-069-21-W5 | 1464-02-03 |
| Exshaw Oil Corporation | Spirit River | 03-10-077-07-W6 | 344521-00-00 |
| Grande Prairie Generation Inc. | Northern Prairie Power Project | 04-19-073-08-W6 | 00238762-00-00 |
| Long Run Exploration | Eaglesham | 01-25-076-01-W6 | 00241532-00-00 |
| | Kakut | 14-12-075-03-W6 | 00248469-00-00 |
| | Donnelly | 06-01-077-21-W5 | 00000087-02-00 |
| | Puskwaskau | 03-26-074-01-W6 | 00017524-01-00 |
| Longview Oil Corp. | Sunset House | 06-22-070-20-W5 | 138884-01-00 |
| Penn West Petroleum Ltd. | Tangent | 13-29-080-23-W5 | 00001746-02-00 |

| Company | Facility | LSD | EPEA Approval Number |
|---|---|---|---|
| | Pouce Coupe | 16-07-078-11-W6 | 00000614-01-00 |
| Petrus Resources | Rycroft | 08-25-077-06-W6 | 11351-02-00 |
| | Spirit River | 08-34-077-06-W6 | 11096-02-00 |
| Spectra Energy Midstream Corporation | Fourth Creek | 16-11-082-09-W6 | 00000263-01-00 |
| | Gordondale | 11-26-079-09-W6 | 00011495-01-01 |
| | Pouce Coupe/Bonanza | 3-23-080-13-W6 | 00070203-01-01 |
| Suncor Energy Inc. | Progress | 07-22-078-09-W6 | 00011428-02-00 |
| TAQA North Ltd. | Valhalla | 13-21-076-09-W6 | 00017620-01-00 |
| Veresen Energy | Hythe Brainard | 11-18-074-12-W6 | 00010910-02-00 |
| Weyerhaeuser Canada | Grande Prairie Pulp and Wood Plant | 01-14-070-05-W6 | 00000113-02-00 |

Included in this report is a summary of the monthly passive monitoring and continuous monitoring programs, detailed hourly average reports and multipoint calibration reports of all instruments. Operational summaries can be found on the "Monthly Continuous Data Summary" and "Continuous Network Equipment Summary" pages of the report.

**Continuous Monitoring:** **Six (6) Stations including Henry Pirker (Grande Prairie), Evergreen Park, Smoky Heights, Beaverlodge, Valleyview, and Rycroft-Portable.**

During the month of October, the following events were noted:

**Beaverlodge Station:**

- The measured ambient air quality was within the AAAQO for the Beaverlodge station.
- The RH sensor malfunctioned, returning an uptime of 35.4%. Faulty wiring is suspected and is under investigation. All other analyzers and meteorological sensors at the Beaverlodge station had an operational uptime greater than 90% for the month of October.

**Evergreen Park Station:**

- The measured ambient air quality was within the AAAQO for the Evergreen Park station.
- All analyzers and meteorological sensors at the Evergreen Park station had an operational uptime greater than 90% for the month of October.

**Henry Pirker Station:**

- The measured ambient air quality was within the AAAQO for the Henry Pirker station.
- One (1) 1-hour exceedance of the AAAQO for $PM_{2.5}$ was recorded in October.

| Station Name | Date | Start Time (MST) | End Time (MST) | $PM_{2.5}$ Concentration ($\mu g/m^3$) | Reference Number |
|---|---|---|---|---|---|
| Henry Pirker | 22-Oct-18 | 19:00 | 20:00 | 82.3 | 342093 |

**Smoky Heights Station:**

- The measured ambient air quality was within the AAAQO for the Smoky Heights station.
- All analyzers and meteorological sensors at the Smoky Heights station had an operational uptime greater than 90% for the month of October.

**Valleyview Station:**

- The measured ambient air quality was within the AAAQO for the Valleyview station.
- All analyzers and meteorological sensors at the Valleyview station had an operational uptime greater than 90% for the month of October.

**Donnelly Station:**

- The measured ambient air quality was within the AAAQO for the Donnelly station.
- All analyzers and meteorological sensors at the Donnelly station had an operational uptime greater than 90% for the month of October.

**Rycroft-Portable Station:**

- The measured ambient air quality was within the AAAQO for the Rycroft-Portable station.
- All analyzers and meteorological sensors at the Rycroft-Portable station had an operational uptime greater than 90% for the month of October.
- The station was removed from service on October 27th and relocated to the Wembley area. This report marks the end of monitoring at this site.

**Passive Monitoring - 27 Stations throughout the PAZA zone:**

There were five duplicate sites sampled in the month of October: Eaglesham and Little Smoky ($SO_2$), Bay Tree ($O_3$), Wanham and Little Smoky ($NO_2$), and Griouxville 3 ($H_2S$). The passive sample analyses were performed by MAXXAM Analytics Inc.

A summary of the passive data collected are reported as follows:

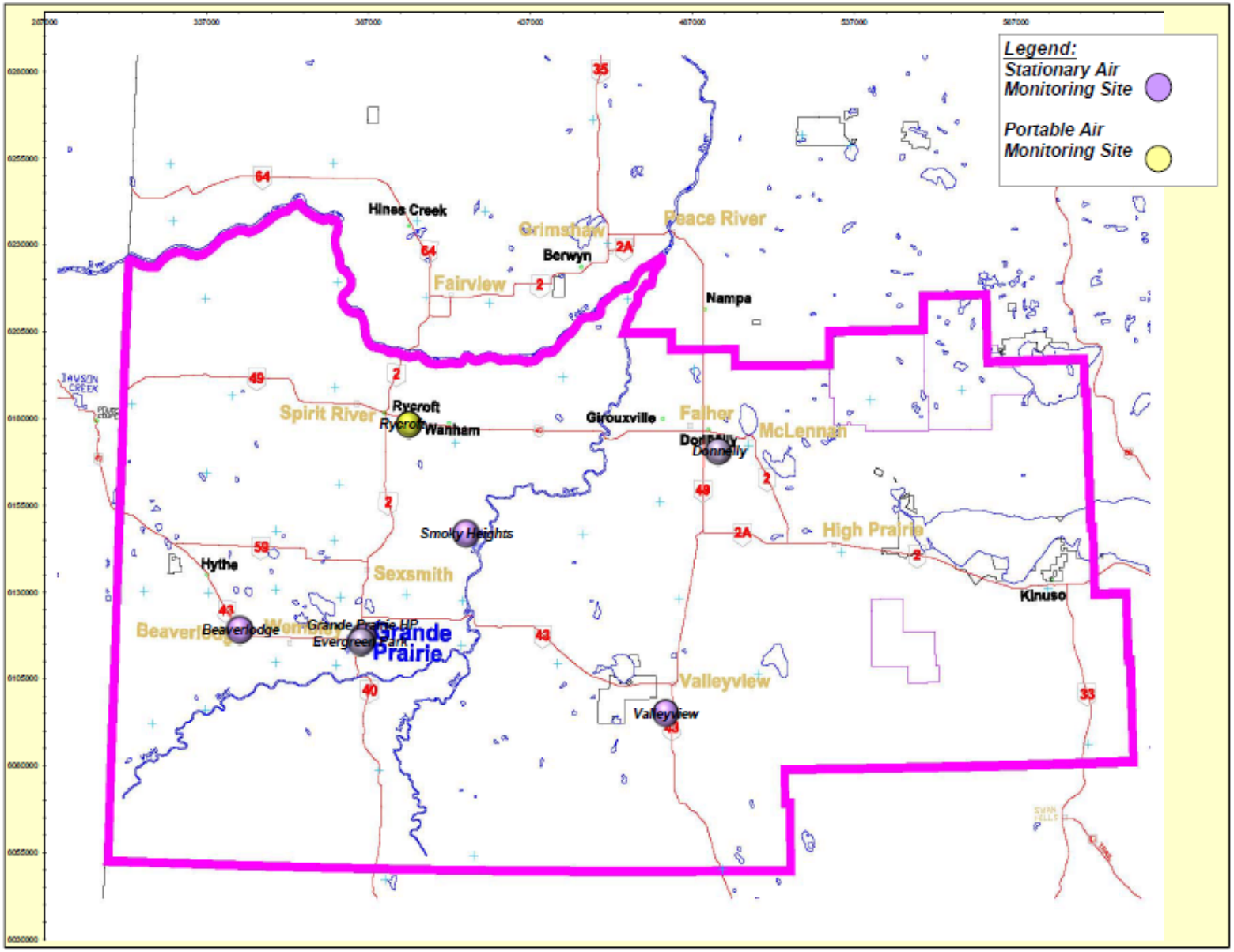
- Monthly average concentrations for $SO_2$ passives ranged from 0.1 ppb to 0.4 ppb, with a mean of 0.2 ppb.
- Monthly average concentrations for $NO_2$ passives ranged from 0.2 ppb to 8.3 ppb, with a mean of 1.9 ppb.
- Monthly average concentrations for $O_3$ passives ranged from 25.6 ppb to 41.2 ppb, with a mean of 30.9 ppb.
- Monthly average concentrations for $H_2S$ passives ranged from 0.1 to 0.2 ppb, with a mean of 0.2 ppb.

If you have any questions or concerns, please contact Mandeep Dhaliwal at 403.608.9697 or the PAZA office at 780.833.4343.

On Behalf of the Peace Airshed Zone Association

Mandeep Dhaliwal, B.Sc., P.Chem.
Technical Manager

## Location of PAZA Continuous Monitoring Stations



# PAZA Monthly Continuous Data Summary

| Oct-2018 | Peace Airshed Zone Assocation | | | | | | | | Maximum Recorded Values | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 1-hr | | 24-hr / 8-hr | | | |
| Parameter (units) | Objectives | | | Station | Monthly Average | Exceedence | | | Conc | Day | Conc | Day | Operational Time (%) | Calibration Date |
| | 1-hr | 24-hr | 30-day | | | 1-hr | 24-hr | 30-day | | | | | | |
| $SO_2$ (ppb) | 172 | 48 | 8 | Beaverlodge | 0.1 | 0 | 0 | 0 | 2.3 | Oct-03 13:00 | 0.4 | Oct-22 | 100.0 | Oct-14 |
| NO (ppb) | | | | Beaverlodge | 0.4 | 0 | 0 | - | 8.0 | Oct-31 10:00 | 1.5 | Oct-23 | 100.0 | Oct-13 |
| $NO_2$ (ppb) | 159 | 106 | | Beaverlodge | 4.0 | 0 | 0 | - | 22.9 | Oct-24 04:00 | 13.1 | Oct-23 | 100.0 | Oct-13 |
| $NO_X$ (ppb) | | | | Beaverlodge | 4.4 | 0 | 0 | - | 25.7 | Oct-23 09:00 | 14.6 | Oct-23 | 100.0 | Oct-13 |
| $O_3$ (ppb) | 82 | | | Beaverlodge | 24.6 | 0 | 0 | - | 52.4 | Oct-17 04:00 | 44.8 | Oct-17 | 100.0 | Oct-13 |
| $O_3$ (ppb) - 8-hr | | | | Beaverlodge | | 0 | | | | | 47.0 | Oct-17 | | - |
| $PM_{2.5}$ (µg/m3) | 80 | 30 | | Beaverlodge | 4.8 | 0 | 0 | - | 14.2 | Oct-24 00:00 | 9.3 | Oct-24 | 100.0 | Aug-08 |
| RH (%) | | | | Beaverlodge | 56.4 | - | - | - | 94.8 | Oct-06 20:00 | 67.6 | Oct-25 | 35.4 | - |
| Temp (°C) | | | | Beaverlodge | 4.0 | - | - | - | 20.7 | Oct-16 15:00 | 14.5 | Oct-17 | 100.0 | - |
| WSPD s (km/hr) | | | | Beaverlodge | 10.6 | - | - | - | 49.9 | Oct-20 12:00 | 26.5 | Oct-20 | 100.0 | 01/06/2017 |
| WSPD v (km/hr) | | | | Beaverlodge | 3.2 | - | - | - | 49.9 | Oct-20 12:00 | 25.6 | Oct-20 | 100.0 | 01/06/2017 |
| WDIR | | | | Beaverlodge | W | - | - | - | - | - | - | - | 100.0 | 01/06/2017 |

| Parameter | Analyzer | | Notes |
|---|---|---|---|
| | Make | Model | |
| $SO_2$ | TECO | 43I | |
| $NO/NO_2$/NOx | TECO | 42I | |
| $O_3$ | TECO | 49I | |
| $PM_{2.5}$ | SHARP | 5030 | |
| ET/RH | | | RH probe failed to return valid data, faulty wiring is suspected |
| WS/WD | MetOne | 50.5 | |

| Oct-2018 | Peace Airshed Zone Assocation | | | | | | | | Maximum Recorded Values | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 1-hr | | 24-hr / 8-hr | | | |
| Parameter | Objectives | | | Station | Monthly | Exceedence | | | Conc | Day | Conc | Day | Operational | Calibration |
| (units) | 1-hr | 24-hr | 30-day | | Average | 1-hr | 24-hr | 30-day | | | | | Time (%) | Date |
| $SO_2$ (ppb) | 172 | 48 | 8 | Evergreen Park | 0.2 | 0 | 0 | 0 | 5.2 | Oct-22 13:00 | 0.7 | Oct-22 | 100.0 | Oct-19 |
| TRS (ppb) | | | | Evergreen Park | 0.4 | - | - | - | 1.9 | Oct-11 17:00 | 0.7 | Oct-22 | 100.0 | Oct-19 |
| $PM_{2.5}$ (µg/m3) | 80 | 30 | | Evergreen Park | 5.0 | 0 | 0 | - | 56.5 | Oct-20 10:00 | 15.4 | Oct-20 | 100.0 | Oct-19 |
| RH (%) | | | | Evergreen Park | 68.4 | - | - | - | 98.8 | Oct-12 07:00 | 95.3 | Oct-07 | 100.0 | - |
| Temp (°C) | | | | Evergreen Park | 3.1 | - | - | - | 21.4 | Oct-16 15:00 | 12.0 | Oct-15 | 100.0 | - |
| WSPD s (km/hr) | | | | Evergreen Park | 9.6 | - | - | - | 55.0 | Oct-20 13:00 | 26.7 | Oct-20 | 100.0 | - |
| WSPD v (km/hr) | | | | Evergreen Park | 4.7 | - | - | - | 54.3 | Oct-20 13:00 | 26.0 | Oct-20 | 100.0 | - |
| WDIR | | | | Evergreen Park | WSW | - | - | - | - | - | - | - | 100.0 | - |

| Parameter | Analyzer | | Notes |
|---|---|---|---|
| | Make | Model | |
| $SO_2$ | TECO | 43I | |
| TRS | TECO | 43I | |
| $PM_{2.5}$ | SHARP | 5030 | |
| ET/RH | | | |
| WS/WD | Gil | MetPak | |

| Oct-2018 | Peace Airshed Zone Assocation | | | | | | | | Maximum Recorded Values | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 1-hr | | 24-hr / 8-hr | | | |
| Parameter (units) | Objectives | | | Station | Monthly Average | Exceedence | | | Conc | Day | Conc | Day | Operational Time (%) | Calibration Date |
| | 1-hr | 24-hr | 30-day | | | 1-hr | 24-hr | 30-day | | | | | | |
| $SO_2$ (ppb) | 172 | 48 | 8 | Henry Pirker | 0.3 | 0 | 0 | 0 | 2.4 | Oct-22 15:00 | 0.7 | Oct-22 | 100.0 | Oct-05 |
| TRS (ppb) | | | | Henry Pirker | 0.2 | - | - | - | 1.6 | Oct-17 10:00 | 0.6 | Oct-22 | 100.0 | Oct-09 |
| NO (ppb) | | | | Henry Pirker | 8.1 | 0 | 0 | - | 152.7 | Oct-17 09:00 | 34.5 | Oct-22 | 100.0 | Oct-05 |
| $NO_2$ (ppb) | 159 | 106 | | Henry Pirker | 10.9 | 0 | 0 | - | 60.1 | Oct-17 09:00 | 22.6 | Oct-22 | 100.0 | Oct-05 |
| $NO_X$ (ppb) | | | | Henry Pirker | 19.2 | 0 | 0 | - | 213.5 | Oct-17 09:00 | 57.5 | Oct-22 | 100.0 | Oct-05 |
| $O_3$ (ppb) | 82 | | | Henry Pirker | 17.5 | 0 | 0 | - | 49.1 | Oct-16 14:00 | 28.2 | Oct-18 | 100.0 | Oct-05 |
| $O_3$ (ppb) - 8-hr | | | | Henry Pirker | | 0 | | | | | 40.1 | Oct-15 | | - |
| CO (ppm) | 13 | | | Henry Pirker | 0.21 | 0 | 0 | - | 1.4 | Oct-17 09:00 | 0.4 | Oct-24 | 100.0 | Oct-09 |
| CO (ppm) - 8-hr | 5 | | | Henry Pirker | | 0 | | | | | 0.7 | Oct-17 | | - |
| THC (ppm) | | | | Henry Pirker | 2.0 | - | - | - | 3.1 | Oct-23 05:00 | 2.4 | Oct-23 | 100.0 | Oct-05 |
| $CH_4$ (ppm) | | | | Henry Pirker | 2.0 | - | - | - | 2.9 | Oct-22 05:00 | 2.3 | Oct-23 | 100.0 | Oct-05 |
| NMHC (ppm) | | | | Henry Pirker | 0.0 | - | - | - | 0.4 | Oct-23 04:00 | 0.1 | Oct-23 | 100.0 | Oct-05 |
| $PM_{2.5}$ (µg/m3) | 80 | 30 | | Henry Pirker | 6.6 | 1 | 0 | - | 82.3 | Oct-22 20:00 | 16.0 | Oct-22 | 100.0 | Jun-11 |
| RH (%) | | | | Henry Pirker | 62.3 | - | - | - | 89.3 | Oct-12 06:00 | 84.2 | Oct-12 | 100.0 | - |
| SR ($W/m^2$) | | | | Henry Pirker | 71.0 | - | - | - | 549.0 | Oct-02 13:00 | 132.9 | Oct-02 | 100.0 | - |
| Temp (°C) | | | | Henry Pirker | 3.8 | - | - | - | 21.3 | Oct-16 15:00 | 11.9 | Oct-17 | 100.0 | - |
| WSPD s (km/hr) | | | | Henry Pirker | 6.4 | - | - | - | 33.8 | Oct-20 13:00 | 17.5 | Oct-20 | 100.0 | 01/07/2017 |
| WSPD v (km/hr) | | | | Henry Pirker | 2.7 | - | - | - | 33.8 | Oct-20 13:00 | 17.0 | Oct-20 | 100.0 | 01/07/2017 |
| WDIR | | | | Henry Pirker | W | - | - | - | - | - | - | - | 100.0 | 01/07/2017 |

| Parameter | Analyzer | | Notes |
|---|---|---|---|
| | Make | Model | |
| $SO_2$ | TECO | 43I | |
| TRS | TECO | 450I | |
| $NO/NO_2$/NOx | TECO | 42I | |
| $O_3$ | TECO | 49I | |
| CO | TECO | 48I-TLE | |
| $THC/CH_4$/NMHC | TECO | 55I | |
| $PM_{2.5}$ | SHARP | 5030 | |
| ET/RH | | | |
| WS/WD | MetOne | 50.5 | |

| Oct-2018 | Peace Airshed Zone Assocation | | | | | | | | Maximum Recorded Values | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 1-hr | | 24-hr / 8-hr | | | |
| Parameter | Objectives | | | Station | Monthly | Exceedence | | | Conc | Day | Conc | Day | Operational | Calibration |
| (units) | 1-hr | 24-hr | 30-day | | Average | 1-hr | 24-hr | 30-day | | | | | Time (%) | Date |
| $SO_2$ (ppb) | 172 | 48 | 8 | Smoky Heights | 0.3 | 0 | 0 | 0 | 3.4 | Oct-03 00:00 | 0.9 | Oct-16 | 100.0 | Oct-19 |
| TRS (ppb) | | | | Smoky Heights | 0.5 | - | - | - | 2.3 | Oct-13 19:00 | 0.9 | Oct-29 | 100.0 | Oct-19 |
| $PM_{2.5}$ (µg/m3) | 80 | 30 | | Smoky Heights | 4.8 | 0 | 0 | - | 44.5 | Oct-22 20:00 | 11.3 | Oct-24 | 100.0 | Aug-29 |
| Temp (°C) | | | | Smoky Heights | 2.9 | - | - | - | 20.4 | Oct-16 16:00 | 11.7 | Oct-17 | 100.0 | - |
| WSPD s (km/hr) | | | | Smoky Heights | 11.8 | - | - | - | 50.6 | Oct-20 12:00 | 25.4 | Oct-20 | 100.0 | 01/04/2017 |
| WSPD v (km/hr) | | | | Smoky Heights | 5.9 | - | - | - | 50.6 | Oct-20 12:00 | 24.9 | Oct-20 | 100.0 | 01/04/2017 |
| WDIR | | | | Smoky Heights | WSW | - | - | - | - | - | - | - | 100.0 | 01/04/2017 |

| Parameter | Analyzer | | Notes |
|---|---|---|---|
| | Make | Model | |
| $SO_2$ | TECO | 43I | |
| TRS | TECO | 43I | |
| $PM_{2.5}$ | SHARP | 5030 | |
| ET/RH | | | |
| WS/WD | MetOne | 50.5 | |

| Oct-2018 | Peace Airshed Zone Assocation | | | | | | | | Maximum Recorded Values | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 1-hr | | 24-hr / 8-hr | | | |
| Parameter | Objectives | | | Station | Monthly | Exceedence | | | Conc | Day | Conc | Day | Operational | Calibration |
| (units) | 1-hr | 24-hr | 30-day | | Average | 1-hr | 24-hr | 30-day | | | | | Time (%) | Date |
| $SO_2$ (ppb) | 172 | 48 | 8 | Valleyview | 0.2 | 0 | 0 | 0 | 8.6 | Oct-30 11:00 | 1.4 | Oct-30 | 100.0 | Oct-25 |
| $H_2S$ (ppb) | 10 | 3 | | Valleyview | 0.1 | 0 | 0 | - | 1.3 | Oct-04 02:00 | 0.3 | Oct-04 | 100.0 | Oct-25 |
| RH (%) | | | | Valleyview | 73.7 | - | - | - | 100.0 | Oct-07 02:00 | 98.4 | Oct-29 | 100.0 | - |
| Temp (°C) | | | | Valleyview | 6.1 | - | - | - | 24.2 | Oct-17 15:00 | 13.5 | Oct-15 | 100.0 | - |
| WSPD s (km/hr) | | | | Valleyview | 4.1 | - | - | - | 24.5 | Oct-20 13:00 | 11.4 | Oct-20 | 100.0 | - |
| WSPD v (km/hr) | | | | Valleyview | 1.3 | - | - | - | 24.5 | Oct-20 13:00 | 9.8 | Oct-20 | 100.0 | - |
| WDIR | | | | Valleyview | W | - | - | - | - | - | - | - | 100.0 | - |

| Parameter | Analyzer | | Notes |
|---|---|---|---|
| | Make | Model | |
| $SO_2$ | TECO | 43I | |
| $H_2S$ | TECO | 450I | |
| ET/RH | | | |
| WS/WD | Gil | MetPak | |

| Oct-2018 | Peace Airshed Zone Assocation | | | | | | | | Maximum Recorded Values | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 1-hr | | 24-hr / 8-hr | | | |
| Parameter (units) | Objectives 1-hr | Objectives 24-hr | Objectives 30-day | Station | Monthly Average | Exceedence 1-hr | Exceedence 24-hr | Exceedence 30-day | Conc | Day | Conc | Day | Operational Time (%) | Calibration Date |
| $SO_2$ (ppb) | 172 | 48 | 8 | Donnelly | 0.1 | 0 | 0 | 0 | 1.5 | Oct-17 11:00 | 0.4 | Oct-16 | 100.0 | Oct-24 |
| $H_2S$ (ppb) | 10 | 3 | | Donnelly | 0.2 | 0 | 0 | - | 1.9 | Oct-12 06:00 | 0.5 | Oct-13 | 100.0 | Oct-24 |
| Temp (°C) | | | | Donnelly | 3.4 | - | - | - | 20.3 | Oct-17 14:00 | 13.0 | Oct-17 | 100.0 | - |
| WSPD s (km/hr) | | | | Donnelly | 11.1 | - | - | - | 45.0 | Oct-20 14:00 | 25.3 | Oct-20 | 100.0 | 01/06/2017 |
| WSPD v (km/hr) | | | | Donnelly | 10.9 | - | - | - | 44.3 | Oct-20 14:00 | 25.1 | Oct-20 | 100.0 | 01/06/2017 |
| WDIR | | | | Donnelly | SW | - | - | - | - | - | - | - | 100.0 | 01/06/2017 |

| Parameter | Analyzer Make | Analyzer Model | Notes |
|---|---|---|---|
| $SO_2$ | TECO | 43I | |
| $H_2S$ | TECO | 450I | |
| ET/RH | | | |
| WS/WD | RMYoung | | |

| Oct-2018 | Peace Airshed Zone Assocation | | | | | | | | Maximum Recorded Values | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 1-hr | | 24-hr / 8-hr | | | |
| Parameter (units) | Objectives 1-hr | Objectives 24-hr | Objectives 30-day | Station | Monthly Average | Exceedence 1-hr | Exceedence 24-hr | Exceedence 30-day | Conc | Day | Conc | Day | Operational Time (%) | Calibration Date |
| $SO_2$ (ppb) | 172 | 48 | 8 | Rycroft-Portable | 0.2 | 0 | 0 | 0 | 1.8 | Oct-04 11:00 | 0.5 | Oct-25 | 100.0 | Oct-23 |
| TRS (ppb) | | | | Rycroft-Portable | 0.2 | - | - | - | 3.7 | Oct-04 02:00 | 0.8 | Oct-13 | 100.0 | Oct-17 |
| NO (ppb) | | | | Rycroft-Portable | 0.5 | 0 | 0 | - | 22.7 | Oct-17 21:00 | 2.1 | Oct-23 | 100.0 | Oct-23 |
| $NO_2$ (ppb) | 159 | 106 | | Rycroft-Portable | 2.5 | 0 | 0 | - | 14.4 | Oct-17 21:00 | 8.0 | Oct-23 | 100.0 | Oct-23 |
| $NO_X$ (ppb) | | | | Rycroft-Portable | 3.0 | 0 | 0 | - | 37.2 | Oct-17 21:00 | 10.2 | Oct-23 | 100.0 | Oct-23 |
| $O_3$ (ppb) | 82 | | | Rycroft-Portable | 23.2 | 0 | 0 | - | 48.0 | Oct-16 14:00 | 41.4 | Oct-17 | 100.0 | Oct-23 |
| $O_3$ (ppb) - 8-hr | | | | Rycroft-Portable | | 0 | | | | | 45.5 | Oct-17 | | - |
| THC (ppm) | | | | Rycroft-Portable | 1.9 | - | - | - | 2.4 | Oct-01 07:00 | 2.1 | Oct-24 | 98.0 | Oct-23 |
| $CH_4$ (ppm) | | | | Rycroft-Portable | 1.9 | - | - | - | 2.4 | Oct-01 07:00 | 2.1 | Oct-24 | 98.0 | Oct-23 |
| NMHC (ppm) | | | | Rycroft-Portable | 0.0 | - | - | - | 0.0 | Oct-04 12:00 | 0.0 | Oct-04 | 98.0 | Oct-23 |
| $PM_{2.5}$ (µg/m3) | 80 | 30 | | Rycroft-Portable | 2.8 | 0 | 0 | - | 19.4 | Oct-23 21:00 | 7.8 | Oct-24 | 100.0 | Oct-23 |
| Temp (°C) | | | | Rycroft-Portable | 3.6 | - | - | - | 21.2 | Oct-16 15:00 | 14.5 | Oct-17 | 100.0 | - |
| WSPD s (km/hr) | | | | Rycroft-Portable | 9.6 | - | - | - | 42.9 | Oct-20 15:00 | 19.3 | Oct-20 | 99.5 | 01/03/2017 |
| WSPD v (km/hr) | | | | Rycroft-Portable | 9.4 | - | - | - | 42.9 | Oct-20 15:00 | 19.2 | Oct-20 | 99.5 | 01/03/2017 |
| WDIR | | | | Rycroft-Portable | S | - | - | - | - | - | - | - | 99.5 | 01/03/2017 |

| Parameter | Analyzer Make | Analyzer Model | Notes<br>Station was removed from service and relocated October 27 |
|---|---|---|---|
| $SO_2$ | TECO | 43I | |
| TRS | TECO | 43I | |
| $NO/NO_2$/NOx | TECO | 42I | |
| $O_3$ | TECO | 49I | |
| $THC/CH_4$/NMHC | TECO | 55I | Hydrogen tank expired Oct 16, replaced that day. Nitrogen tank expired Oct 23, replaced and analyzer calibrated |
| $PM_{2.5}$ | | TEOM | |
| ET/RH | | | |
| WS/WD | MetOne | 50.5 | Wind system returned invalid values Oct 12 |

# PAZA
# Beaverlodge Station
## Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

# Hourly Averages

## Sulphur Dioxide ($SO_2$) - ppb

## Beaverlodge - October 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0

Maximum Value: 2.3 ppb on Oct 3 13:00 Maximum Daily Average: 0.4 ppb on Oct 22

Minimum Value: 0 ppb on Oct 20 15:00 Minimum Daily Average: 0.0 ppb on Oct 31

Maximum Diurnal Average: 0.2 ppb at hour 13 Minimum Diurnal Average: 0.1 ppb at hour 8

Monthly Average: 0.14 ppb Percentiles: $P_1$ = 0.0 $P_{10}$ = 0.0 $Q_1$ = 0.0 Median = 0.1 $Q_3$ = 0.2 $P_{90}$ = 0.3 $P_{99}$ = 0.9

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 710 |
| Hours of Missing Data: | 34 |
| Hours of Calibration: | 34 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 2-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 3-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0.3 | 2.3 |
| 4-Oct | 1 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0.2 | 0.7 |
| 5-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.9 |
| 6-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.9 |
| 7-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 |
| 8-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 9-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 10-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 11-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.4 |
| 12-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 13-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 14-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | C | C | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 15-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0.2 | 1.1 |
| 16-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 |
| 17-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 |
| 18-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.5 |
| 19-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.5 |
| 20-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 21-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0.2 | 1.3 |
| 22-Oct | 1 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0.4 | 1.1 |
| 23-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.5 |
| 24-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.4 |
| 25-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 26-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.6 |
| 27-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 |
| 28-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 29-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 30-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 |
| 31-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 |
| Diurnal Average | 0.1 | 0.1 | 0.1 | 0.1 | -- | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | | |
| Diurnal Maximum | 0.8 | 0.5 | 0.3 | 0.3 | -- | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.5 | 0.7 | 2.3 | 0.5 | 0.6 | 0.9 | 0.9 | 0.5 | 0.7 | 1.1 | 1.1 | 0.9 | 1.2 | 1.3 | | |

C - Calibration A - Automated Daily Zero Span

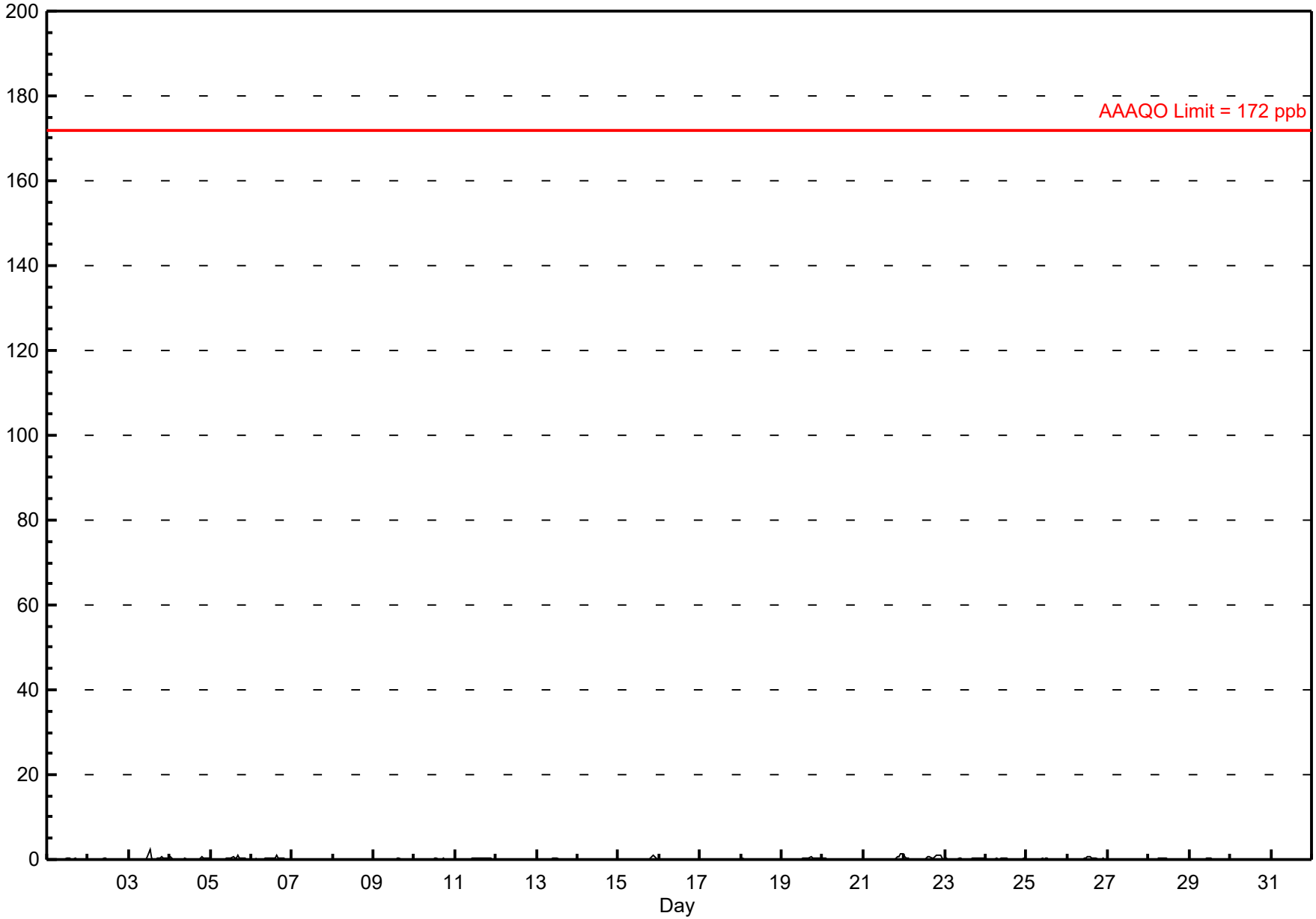
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

# Hourly Averages

**Sulphur Dioxide ($SO_2$) - ppb**

**Beaverlodge - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Sulphur Dioxide ($SO_2$) - ppb

## Beaverlodge - October 2018

Maximum Value: 6.6 ppb on Oct 3 13:00

Maximum Daily Average: 0.8 ppb on Oct 3

Minimum Value: 0 ppb on Oct 20 17:00

Minimum Daily Average: 0.1 ppb on Oct 31

Maximum Diurnal Average: 0.5 ppb at hour 13

Minimum Diurnal Average: 0.2 ppb at hour 7

Monthly Average: 0.28 ppb

Percentiles: $P_1 = 0.1$ $P_{10} = 0.1$ $Q_1 = 0.1$ Median = 0.2 $Q_3 = 0.3$ $P_{90} = 0.5$ $P_{99} = 1.4$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 710 |
| Hours of Missing Data: | 34 |
| Hours of Calibration: | 34 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.4 |
| 2-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.6 |
| 3-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 7 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0.8 | 6.6 |
| 4-Oct | 1 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0.4 | 1.3 |
| 5-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 3.6 |
| 6-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 1.4 |
| 7-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 8-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.2 |
| 9-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 10-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 11-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.5 |
| 12-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 13-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.4 |
| 14-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | C | C | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 15-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0.3 | 1.3 |
| 16-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 17-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 18-Oct | 1 | 1 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 1.0 |
| 19-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0.4 | 1.2 |
| 20-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.4 |
| 21-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 3 | 0.5 | 2.9 |
| 22-Oct | 2 | 1 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 2 | 1 | 0 | 0.7 | 2.1 |
| 23-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0.4 | 1.2 |
| 24-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.6 |
| 25-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.4 |
| 26-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 1.2 |
| 27-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.2 |
| 28-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.4 |
| 29-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 30-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 31-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| | 0.3 | 0.2 | 0.2 | 0.2 | -- | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 0.5 | 0.3 | 0.3 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.3 | Diurnal Average | |
| | 2.1 | 1.0 | 0.5 | 0.5 | -- | 0.3 | 0.4 | 0.4 | 0.4 | 0.6 | 0.6 | 4.0 | 6.6 | 0.7 | 1.1 | 1.4 | 3.6 | 1.2 | 0.9 | 1.3 | 1.3 | 1.7 | 2.8 | 2.9 | Diurnal Maximum | |

C - Calibration

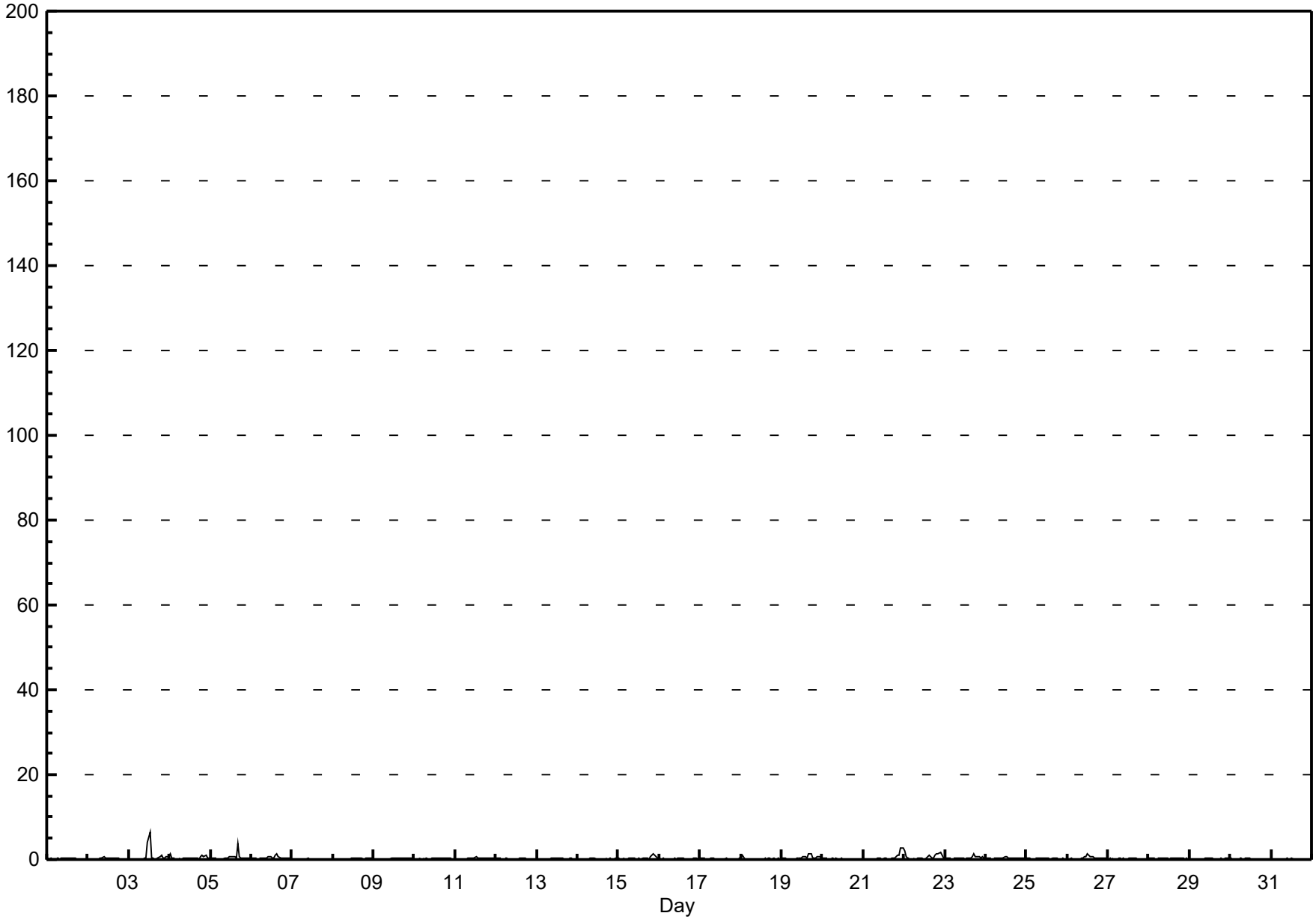
A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

**Sulphur Dioxide ($SO_2$) - ppb**

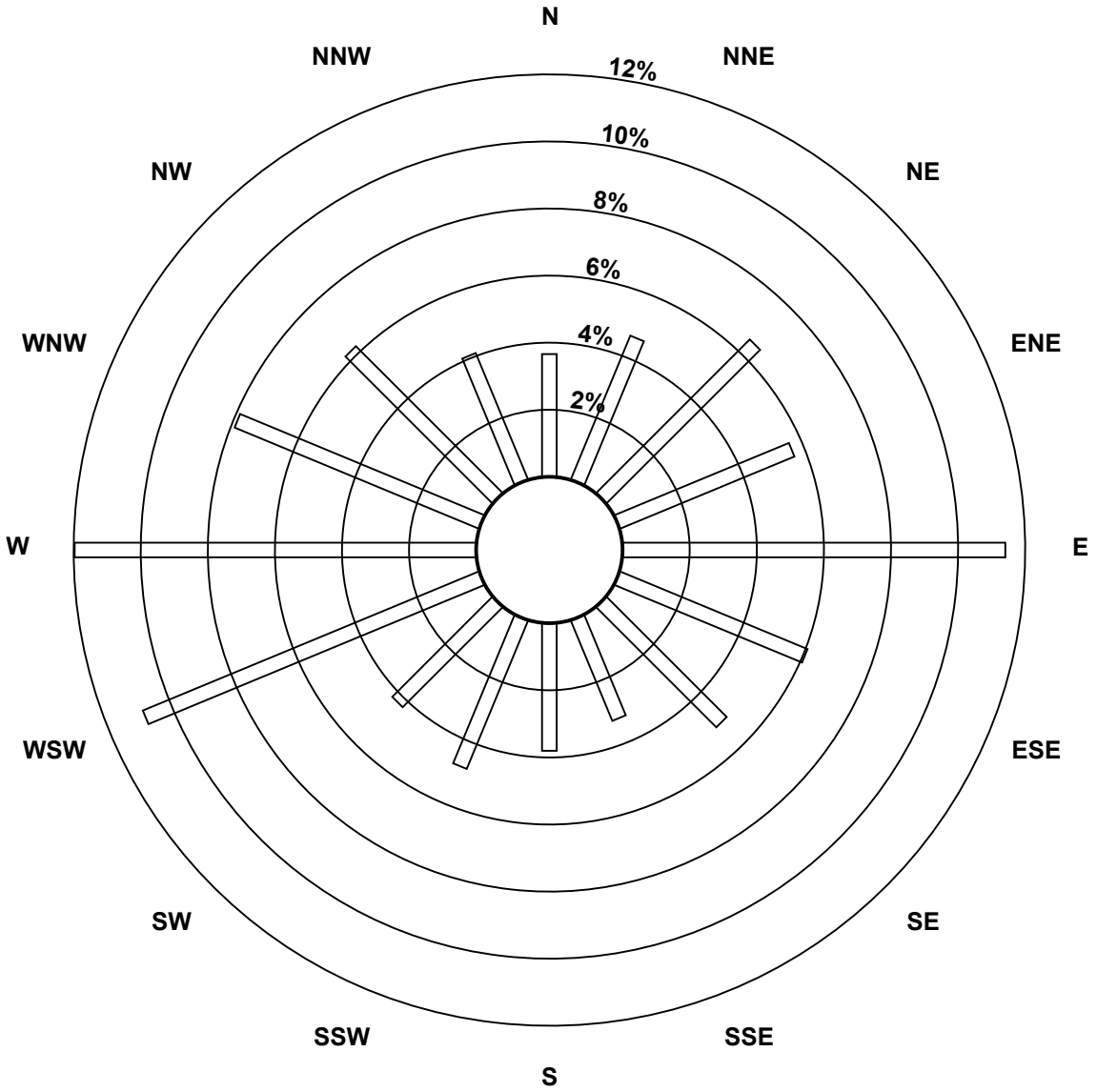
**Beaverlodge - October 2018**



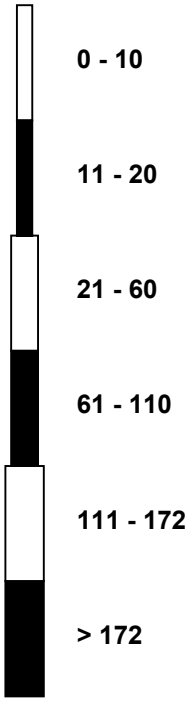
# Pollutant Rose

**Sulphur Dioxide ($SO_2$) - ppb**

**Beaverlodge - October 2018**




**Pollutant Classes (ppb)**

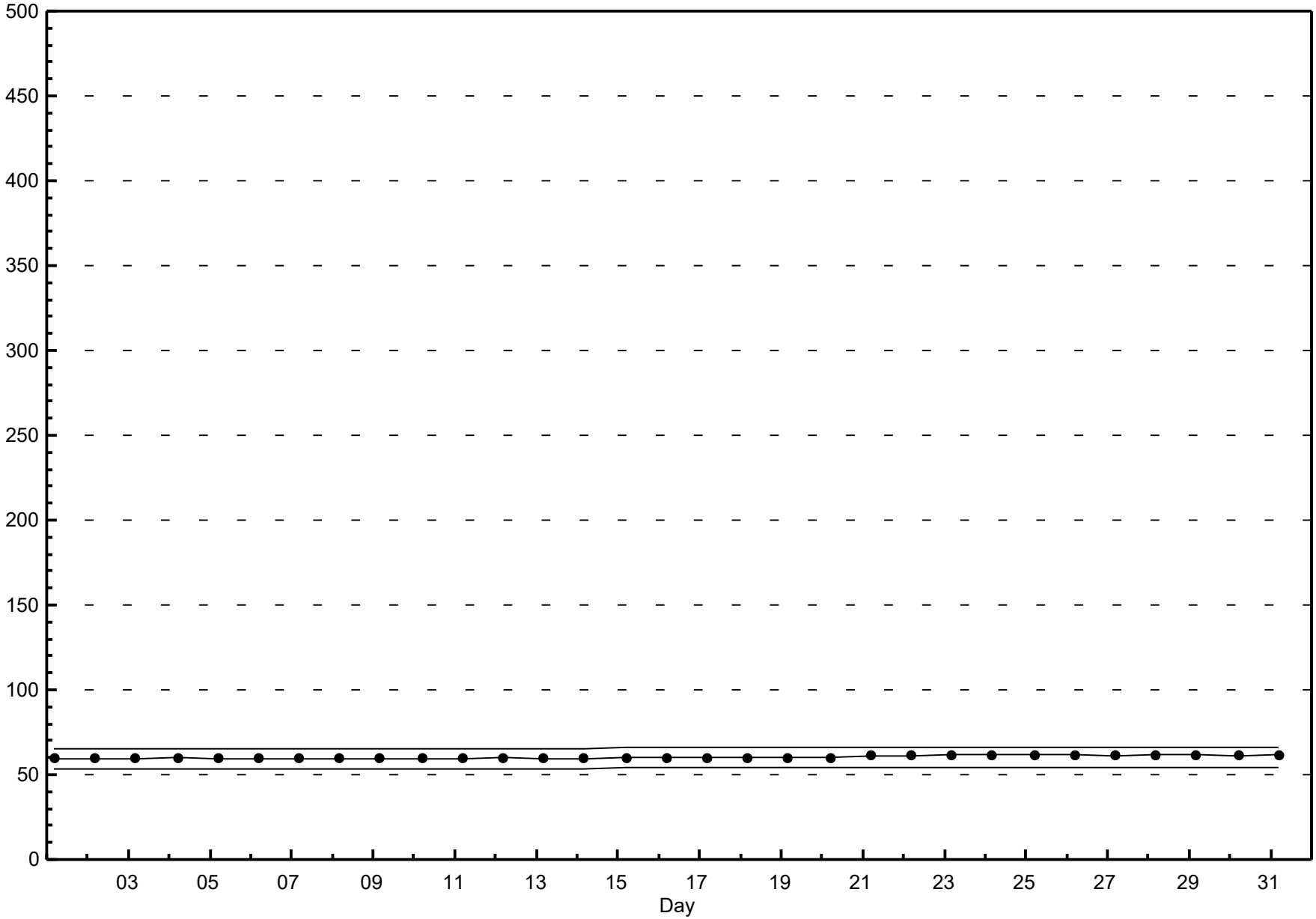


Peace Airshed Zone Association

# Span Responses

**Sulphur Dioxide ($SO_2$)**

**Beaverlodge - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Nitrogen Dioxide ($NO_2$) - ppb

## Beaverlodge - October 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 22.9 ppb on Oct 24 04:00
Maximum Daily Average: 13.1 ppb on Oct 23

Minimum Value: 0 ppb on Oct 15 01:00
Maximum Diurnal Average: 6.1 ppb at hour 6
Monthly Average: 4.02 ppb

Minimum Daily Average: 1.2 ppb on Oct 2
Minimum Diurnal Average: 2.3 ppb at hour 14
Percentiles: $P_1 = 0.4$ $P_{10} = 0.8$ $Q_1 = 1.5$ Median = 2.9 $Q_3 = 5.3$ $P_{90} = 8.4$ $P_{99} = 16.8$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 707 |
| Hours of Missing Data: | 37 |
| Hours of Calibration: | 37 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 2 | 2 | 2 | 3 | A | 7 | 7 | 6 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 2.2 | 6.6 |
| 2-Oct | 0 | 1 | 0 | 1 | A | 4 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1.2 | 3.9 |
| 3-Oct | 2 | 3 | 3 | 3 | A | 6 | 5 | 7 | 4 | 2 | 2 | 1 | 1 | 0 | 0 | 1 | 1 | 4 | 5 | 4 | 4 | 9 | 6 | 6 | 3.6 | 9.4 |
| 4-Oct | 6 | 9 | 7 | 5 | A | 8 | 7 | 7 | 6 | 5 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 4 | 7 | 4 | 4 | 4.1 | 8.7 |
| 5-Oct | 4 | 3 | 5 | 11 | A | 9 | 7 | 8 | 5 | 5 | 4 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 6 | 6 | 7 | 6 | 11 | 11 | 5.5 | 11.2 |
| 6-Oct | 9 | 8 | 5 | 4 | A | 7 | 6 | 6 | 7 | 6 | 3 | 2 | 1 | 0 | 3 | 2 | 3 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 4.3 | 9.5 |
| 7-Oct | 2 | 2 | 2 | 2 | A | 5 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 3 | 5 | 4 | 3 | 2 | 2 | 2 | 2.6 | 5.3 |
| 8-Oct | 2 | 2 | 2 | 2 | A | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1.8 | 3.7 |
| 9-Oct | 1 | 2 | 2 | 2 | A | 4 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3.0 | 4.3 |
| 10-Oct | 4 | 4 | 4 | 5 | A | 6 | 6 | 5 | 6 | 5 | 5 | 5 | 5 | 3 | 4 | 4 | 5 | 3 | 4 | 6 | 6 | 5 | 7 | 7 | 5.0 | 6.5 |
| 11-Oct | 6 | 6 | 6 | 7 | A | 7 | 8 | 7 | 5 | 4 | 4 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 4 | 3 | 1 | 1 | 3.5 | 7.8 |
| 12-Oct | 3 | 3 | 3 | 4 | A | 9 | 5 | 3 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 5 | 6 | 3 | 5 | 11 | 5 | 3.5 | 11.3 |
| 13-Oct | 5 | 2 | 1 | 1 | A | 3 | 3 | 4 | 3 | 2 | C | C | C | C | C | C | 1 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | -- | 5.5 |
| 14-Oct | 2 | 2 | 1 | 1 | A | 5 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1.4 | 5.0 |
| 15-Oct | 0 | 1 | 1 | 1 | A | 3 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 4 | 5 | 3 | 2 | 1.6 | 5.1 |
| 16-Oct | 1 | 1 | 1 | 1 | A | 4 | 3 | 4 | 3 | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 4 | 2 | 1 | 1.9 | 4.2 |
| 17-Oct | 2 | 1 | 1 | 1 | A | 4 | 5 | 5 | 3 | 2 | 3 | 2 | 1 | 2 | 2 | 3 | 1 | 2 | 2 | 3 | 2 | 2 | 1 | 1 | 2.2 | 5.1 |
| 18-Oct | 2 | 1 | 1 | 1 | A | 5 | 3 | 11 | 5 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 5 | 6 | 5 | 3 | 3 | 2.6 | 10.8 |
| 19-Oct | 2 | 3 | 2 | 1 | A | 7 | 4 | 12 | 10 | 9 | 8 | 6 | 3 | 3 | 4 | 4 | 6 | 5 | 4 | 4 | 3 | 4 | 5 | 6 | 5.0 | 12.0 |
| 20-Oct | 7 | 6 | 3 | 0 | A | 3 | 2 | 1 | 1 | 1 | 4 | 14 | 11 | 6 | 2 | 2 | 1 | 0 | 1 | 1 | 1 | 1 | 3 | 1 | 3.1 | 13.9 |
| 21-Oct | 1 | 1 | 2 | 2 | A | 4 | 4 | 3 | 3 | 5 | 4 | 3 | 1 | 1 | 1 | 1 | 2 | 3 | 5 | 4 | 5 | 5 | 6 | 7 | 3.2 | 6.8 |
| 22-Oct | 8 | 7 | 8 | 8 | A | 13 | 10 | 16 | 11 | 6 | 4 | 3 | 3 | 3 | 5 | 5 | 8 | 13 | 16 | 14 | 9 | 12 | 13 | 17 | 9.2 | 16.8 |
| 23-Oct | 18 | 13 | 14 | 12 | A | 16 | 16 | 14 | 19 | 11 | 8 | 8 | 7 | 6 | 7 | 5 | 8 | 15 | 17 | 14 | 16 | 15 | 20 | 23 | 13.1 | 22.8 |
| 24-Oct | 19 | 16 | 20 | 23 | A | 16 | 8 | 11 | 11 | 8 | 8 | 13 | 10 | 3 | 3 | 2 | 5 | 7 | 7 | 5 | 4 | 7 | 5 | 4 | 9.4 | 22.9 |
| 25-Oct | 3 | 4 | 5 | 3 | A | 6 | 8 | 11 | 11 | 9 | 5 | 4 | 3 | 3 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 3 | 2 | 2 | 3.9 | 10.9 |
| 26-Oct | 1 | 1 | 1 | 1 | A | 4 | 2 | 5 | 5 | 7 | 14 | 13 | 15 | 8 | 11 | 10 | 6 | 8 | 9 | 9 | 2 | 0 | 0 | 0 | 5.8 | 15.3 |
| 27-Oct | 0 | 0 | 0 | 0 | A | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 2 | 4 | 3 | 6 | 3 | 2 | 1 | 2 | 1.5 | 5.5 |
| 28-Oct | 2 | 2 | 4 | 4 | A | 4 | 4 | 3 | 5 | 6 | 6 | 6 | 6 | 6 | 5 | 6 | 6 | 7 | 7 | 7 | 10 | 10 | 8 | 6 | 5.7 | 10.2 |
| 29-Oct | 5 | 4 | 4 | 4 | A | 6 | 5 | 5 | 5 | 6 | 4 | 2 | 1 | 1 | 1 | 1 | 2 | 7 | 7 | 3 | 3 | 2 | 3 | 3 | 3.7 | 6.9 |
| 30-Oct | 3 | 4 | 3 | 3 | A | 3 | 2 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 5 | 4 | 3 | 4 | 2.2 | 5.1 |
| 31-Oct | 3 | 3 | 3 | 2 | A | 5 | 5 | 10 | 11 | 14 | 9 | 4 | 6 | 6 | 5 | 4 | 6 | 8 | 8 | 7 | 10 | 5 | 4 | 2 | 6.1 | 13.7 |
| | 4.1 | 3.7 | 3.7 | 3.9 | -- | 6.1 | 4.9 | 5.9 | 5.1 | 4.5 | 4.0 | 3.6 | 3.1 | 2.3 | 2.4 | 2.4 | 2.8 | 4.0 | 4.5 | 4.3 | 4.2 | 4.3 | 4.3 | 4.2 | Diurnal Average | |
| | 18.7 | 16.5 | 20.3 | 22.9 | -- | 16.4 | 16.4 | 15.7 | 19.0 | 13.7 | 14.4 | 13.9 | 15.3 | 7.8 | 11.3 | 10.3 | 8.3 | 14.9 | 16.7 | 13.8 | 15.7 | 14.7 | 19.5 | 22.8 | Diurnal Maximum | |

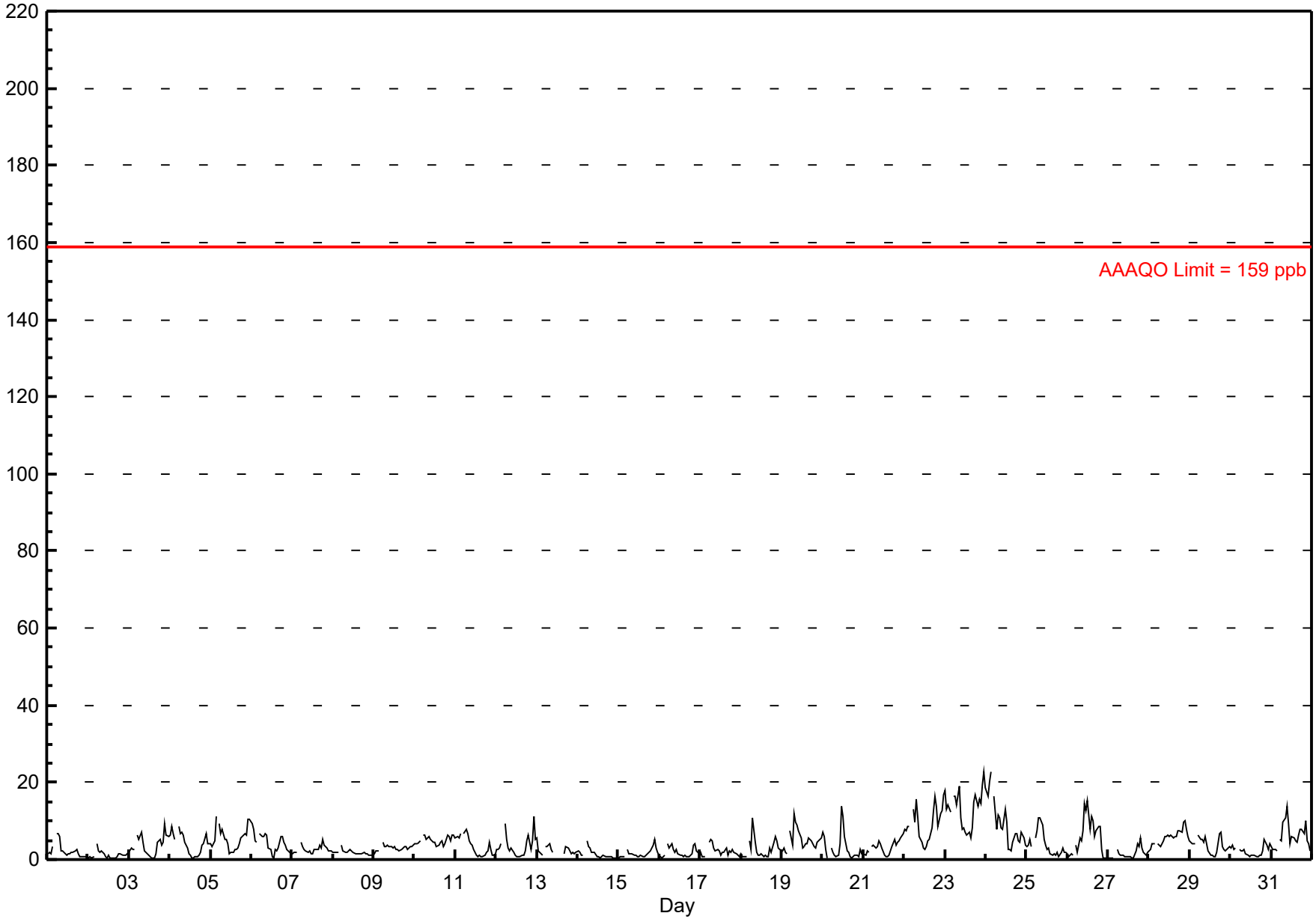
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb

Peace Airshed Zone Association

# Hourly Averages

## Nitrogen Dioxide ($NO_2$) - ppb

## Beaverlodge - October 2018



Peace Airshed Zone Association

# Hourly Maximums

## Nitrogen Dioxide ($NO_2$) - ppb

## Beaverlodge - October 2018

Maximum Value: 47.7 ppb on Oct 23 09:00

Maximum Daily Average: 19.4 ppb on Oct 23

Minimum Value: 1 ppb on Oct 15 01:00

Minimum Daily Average: 2.3 ppb on Oct 8

Maximum Diurnal Average: 9.6 ppb at hour 8

Minimum Diurnal Average: 4.9 ppb at hour 17

Monthly Average: 6.77 ppb

Percentiles: $P_1 = 0.8$ $P_{10} = 1.6$ $Q_1 = 2.6$ Median = 5.0 $Q_3 = 8.7$ $P_{90} = 14.7$ $P_{99} = 27.1$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 707 |
| Hours of Missing Data: | 37 |
| Hours of Calibration: | 37 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 2 | 3 | 2 | 4 | A | 8 | 10 | 8 | 4 | 5 | 4 | 2 | 2 | 6 | 17 | 3 | 3 | 4 | 2 | 1 | 1 | 1 | 1 | 1 | 4.1 | 17.1 |
| 2-Oct | 1 | 1 | 1 | 2 | A | 6 | 3 | 3 | 3 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 3 | 5 | 4 | 2 | 2 | 4 | 4 | 2.3 | 6.3 |
| 3-Oct | 4 | 4 | 4 | 4 | A | 8 | 6 | 11 | 11 | 4 | 3 | 2 | 2 | 1 | 1 | 1 | 4 | 9 | 7 | 5 | 8 | 15 | 8 | 8 | 5.7 | 15.4 |
| 4-Oct | 9 | 11 | 12 | 6 | A | 15 | 16 | 9 | 10 | 7 | 36 | 2 | 2 | 1 | 2 | 1 | 1 | 2 | 3 | 4 | 7 | 11 | 7 | 4 | 7.8 | 35.8 |
| 5-Oct | 5 | 4 | 8 | 24 | A | 18 | 13 | 14 | 11 | 9 | 8 | 3 | 2 | 4 | 3 | 4 | 4 | 5 | 10 | 9 | 9 | 14 | 13 | 12 | 8.9 | 23.9 |
| 6-Oct | 13 | 9 | 6 | 6 | A | 10 | 10 | 8 | 10 | 9 | 4 | 17 | 8 | 1 | 8 | 6 | 8 | 9 | 9 | 6 | 6 | 3 | 3 | 2 | 7.5 | 17.1 |
| 7-Oct | 2 | 3 | 3 | 3 | A | 8 | 4 | 3 | 3 | 3 | 4 | 2 | 2 | 3 | 4 | 4 | 6 | 4 | 7 | 5 | 4 | 2 | 2 | 3 | 3.6 | 7.7 |
| 8-Oct | 2 | 2 | 3 | 2 | A | 6 | 2 | 2 | 2 | 3 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2.3 | 6.1 |
| 9-Oct | 2 | 3 | 3 | 2 | A | 6 | 4 | 4 | 4 | 4 | 5 | 3 | 6 | 3 | 3 | 3 | 3 | 5 | 6 | 4 | 3 | 5 | 4 | 5 | 3.9 | 6.4 |
| 10-Oct | 5 | 5 | 5 | 6 | A | 8 | 8 | 6 | 9 | 6 | 6 | 5 | 13 | 4 | 4 | 5 | 8 | 5 | 9 | 10 | 7 | 6 | 9 | 9 | 6.9 | 13.5 |
| 11-Oct | 7 | 7 | 6 | 7 | A | 9 | 9 | 9 | 8 | 7 | 5 | 11 | 2 | 2 | 3 | 3 | 2 | 2 | 4 | 3 | 10 | 10 | 1 | 1 | 5.6 | 10.6 |
| 12-Oct | 4 | 4 | 6 | 6 | A | 12 | 8 | 5 | 3 | 5 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 3 | 9 | 12 | 4 | 12 | 14 | 8 | 5.5 | 14.4 |
| 13-Oct | 16 | 5 | 2 | 2 | A | 5 | 5 | 11 | 5 | 4 | C | C | C | C | C | C | 3 | 6 | 7 | 4 | 5 | 4 | 3 | 2 | -- | 15.5 |
| 14-Oct | 4 | 4 | 1 | 2 | A | 6 | 5 | 3 | 3 | 3 | 4 | 3 | 1 | 1 | 2 | 2 | 2 | 3 | 1 | 2 | 2 | 1 | 1 | 1 | 2.5 | 6.2 |
| 15-Oct | 1 | 1 | 2 | 2 | A | 5 | 2 | 3 | 3 | 2 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 4 | 5 | 7 | 10 | 6 | 6 | 3.3 | 9.5 |
| 16-Oct | 2 | 1 | 1 | 9 | A | 8 | 5 | 27 | 9 | 3 | 7 | 5 | 2 | 2 | 2 | 14 | 4 | 3 | 3 | 4 | 8 | 7 | 6 | 4 | 6.0 | 27.4 |
| 17-Oct | 4 | 2 | 1 | 1 | A | 12 | 11 | 12 | 6 | 3 | 11 | 6 | 2 | 6 | 6 | 27 | 5 | 4 | 5 | 6 | 4 | 4 | 5 | 2 | 6.4 | 27.1 |
| 18-Oct | 2 | 1 | 1 | 3 | A | 8 | 7 | 15 | 12 | 3 | 2 | 2 | 26 | 11 | 2 | 1 | 2 | 8 | 12 | 18 | 11 | 6 | 5 | 4 | 7.1 | 25.7 |
| 19-Oct | 5 | 5 | 2 | 2 | A | 17 | 6 | 18 | 20 | 12 | 10 | 8 | 7 | 5 | 6 | 6 | 9 | 8 | 6 | 4 | 3 | 7 | 7 | 7 | 7.8 | 20.2 |
| 20-Oct | 9 | 7 | 5 | 1 | A | 5 | 3 | 1 | 2 | 3 | 23 | 31 | 28 | 25 | 9 | 3 | 1 | 1 | 2 | 3 | 2 | 2 | 5 | 3 | 7.7 | 31.3 |
| 21-Oct | 2 | 3 | 4 | 3 | A | 7 | 7 | 5 | 6 | 10 | 6 | 5 | 3 | 1 | 1 | 2 | 5 | 5 | 7 | 5 | 6 | 6 | 7 | 9 | 5.0 | 10.3 |
| 22-Oct | 9 | 8 | 10 | 9 | A | 19 | 17 | 19 | 17 | 10 | 9 | 4 | 4 | 5 | 6 | 6 | 11 | 17 | 27 | 15 | 13 | 17 | 15 | 21 | 12.5 | 27.1 |
| 23-Oct | 24 | 16 | 20 | 16 | A | 21 | 21 | 25 | 48 | 15 | 11 | 9 | 8 | 8 | 11 | 7 | 15 | 20 | 26 | 23 | 22 | 31 | 24 | 27 | 19.4 | 47.7 |
| 24-Oct | 23 | 20 | 29 | 25 | A | 25 | 10 | 18 | 15 | 13 | 10 | 23 | 16 | 12 | 5 | 5 | 8 | 9 | 12 | 7 | 17 | 12 | 9 | 4 | 14.2 | 29.4 |
| 25-Oct | 4 | 6 | 6 | 6 | A | 8 | 17 | 17 | 20 | 14 | 8 | 5 | 6 | 10 | 2 | 2 | 3 | 3 | 8 | 2 | 8 | 6 | 3 | 3 | 7.3 | 20.2 |
| 26-Oct | 2 | 3 | 2 | 2 | A | 5 | 3 | 12 | 7 | 17 | 19 | 14 | 21 | 10 | 20 | 20 | 8 | 9 | 13 | 12 | 8 | 1 | 1 | 1 | 9.1 | 21.2 |
| 27-Oct | 1 | 1 | 1 | 2 | A | 4 | 2 | 2 | 2 | 3 | 1 | 1 | 1 | 2 | 1 | 2 | 6 | 7 | 6 | 14 | 8 | 2 | 2 | 2 | 3.2 | 14.5 |
| 28-Oct | 3 | 5 | 7 | 7 | A | 5 | 5 | 5 | 7 | 8 | 8 | 9 | 7 | 7 | 7 | 8 | 7 | 9 | 13 | 10 | 19 | 15 | 12 | 8 | 8.2 | 18.6 |
| 29-Oct | 6 | 5 | 4 | 5 | A | 9 | 6 | 7 | 6 | 11 | 5 | 4 | 2 | 26 | 2 | 2 | 5 | 11 | 13 | 7 | 4 | 3 | 4 | 4 | 6.6 | 26.4 |
| 30-Oct | 3 | 5 | 3 | 5 | A | 5 | 5 | 4 | 5 | 7 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 10 | 7 | 4 | 10 | 4.3 | 10.1 |
| 31-Oct | 7 | 3 | 3 | 5 | A | 8 | 8 | 14 | 14 | 20 | 15 | 7 | 11 | 8 | 11 | 9 | 10 | 10 | 10 | 10 | 15 | 10 | 5 | 4 | 9.5 | 20.2 |
| | 5.8 | 5.0 | 5.4 | 5.8 | -- | 9.6 | 7.6 | 9.6 | 9.2 | 7.3 | 7.9 | 6.4 | 6.5 | 5.7 | 4.9 | 5.2 | 4.9 | 6.2 | 8.1 | 7.1 | 7.6 | 7.5 | 6.2 | 5.9 | Diurnal Average | |
| | 24.1 | 20.1 | 29.4 | 24.8 | -- | 25.0 | 21.2 | 27.4 | 47.7 | 20.2 | 35.8 | 31.3 | 28.1 | 26.4 | 19.7 | 27.1 | 15.0 | 19.5 | 27.1 | 22.9 | 22.3 | 30.5 | 24.5 | 26.7 | Diurnal Maximum | |

C - Calibration

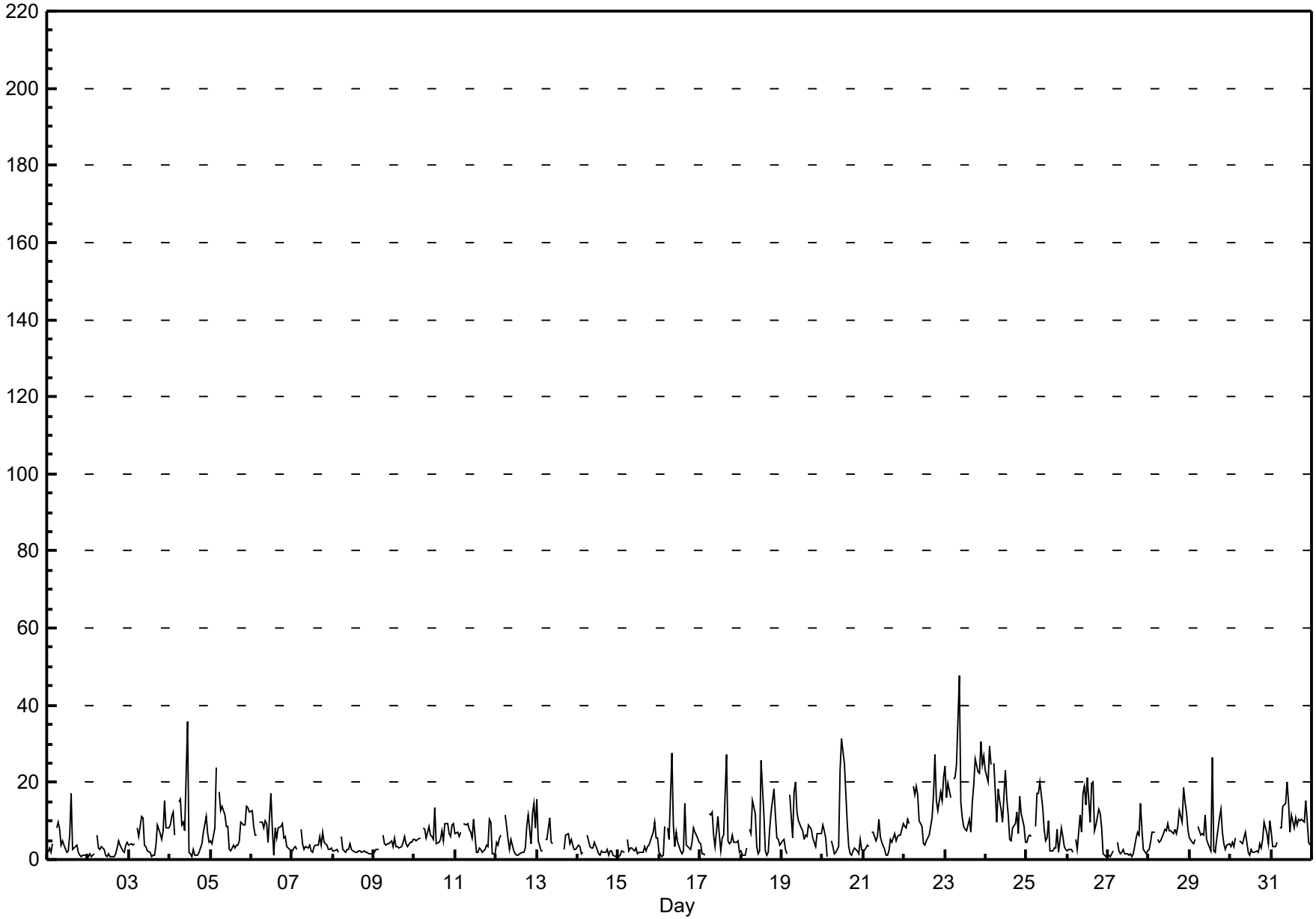
A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

**Nitrogen Dioxide ($NO_2$) - ppb**

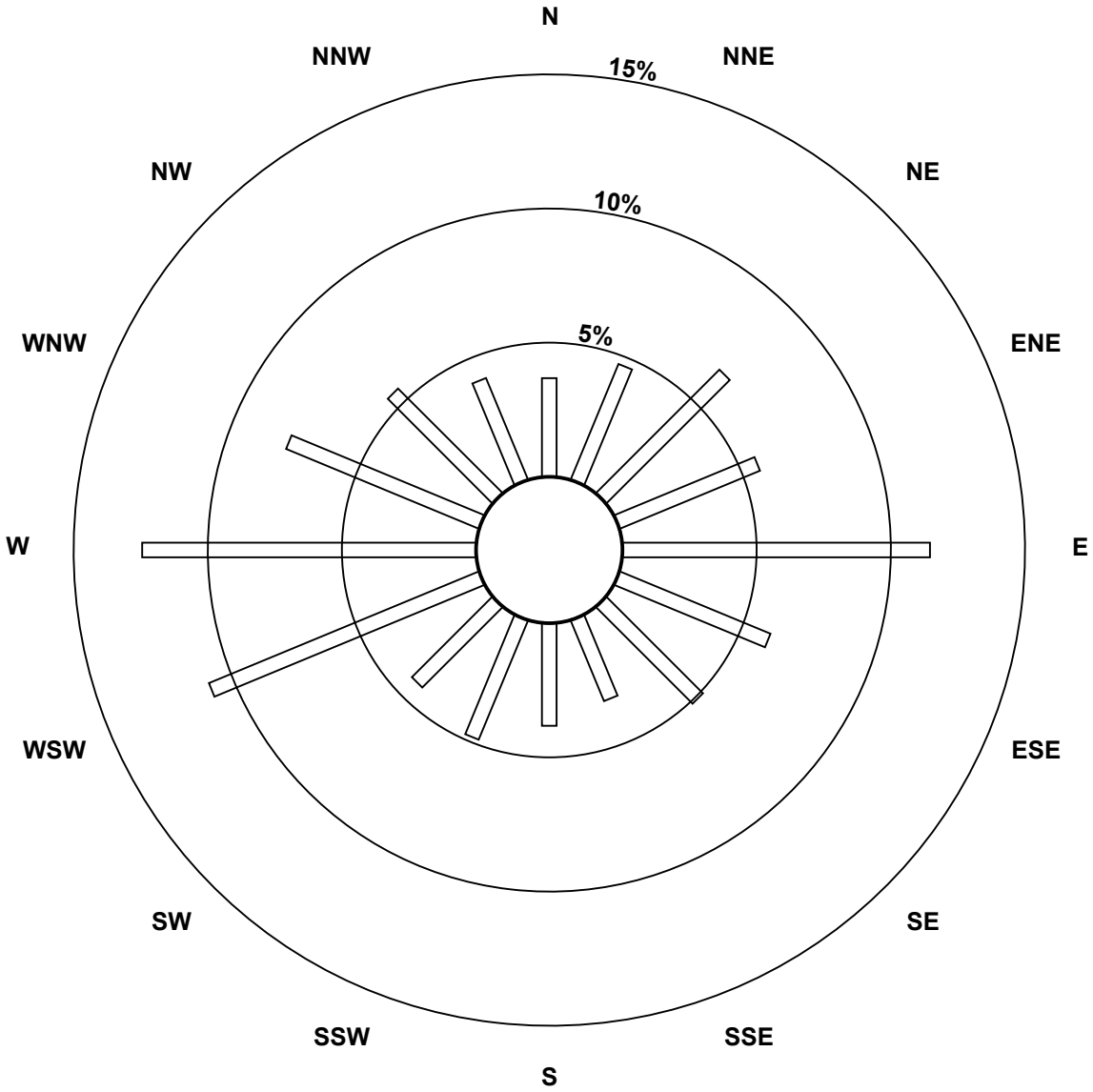
**Beaverlodge - October 2018**



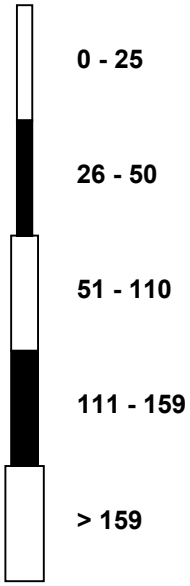
# Pollutant Rose

**Nitrogen Dioxide ($NO_2$) - ppb**

**Beaverlodge - October 2018**




**Pollutant Classes (ppb)**



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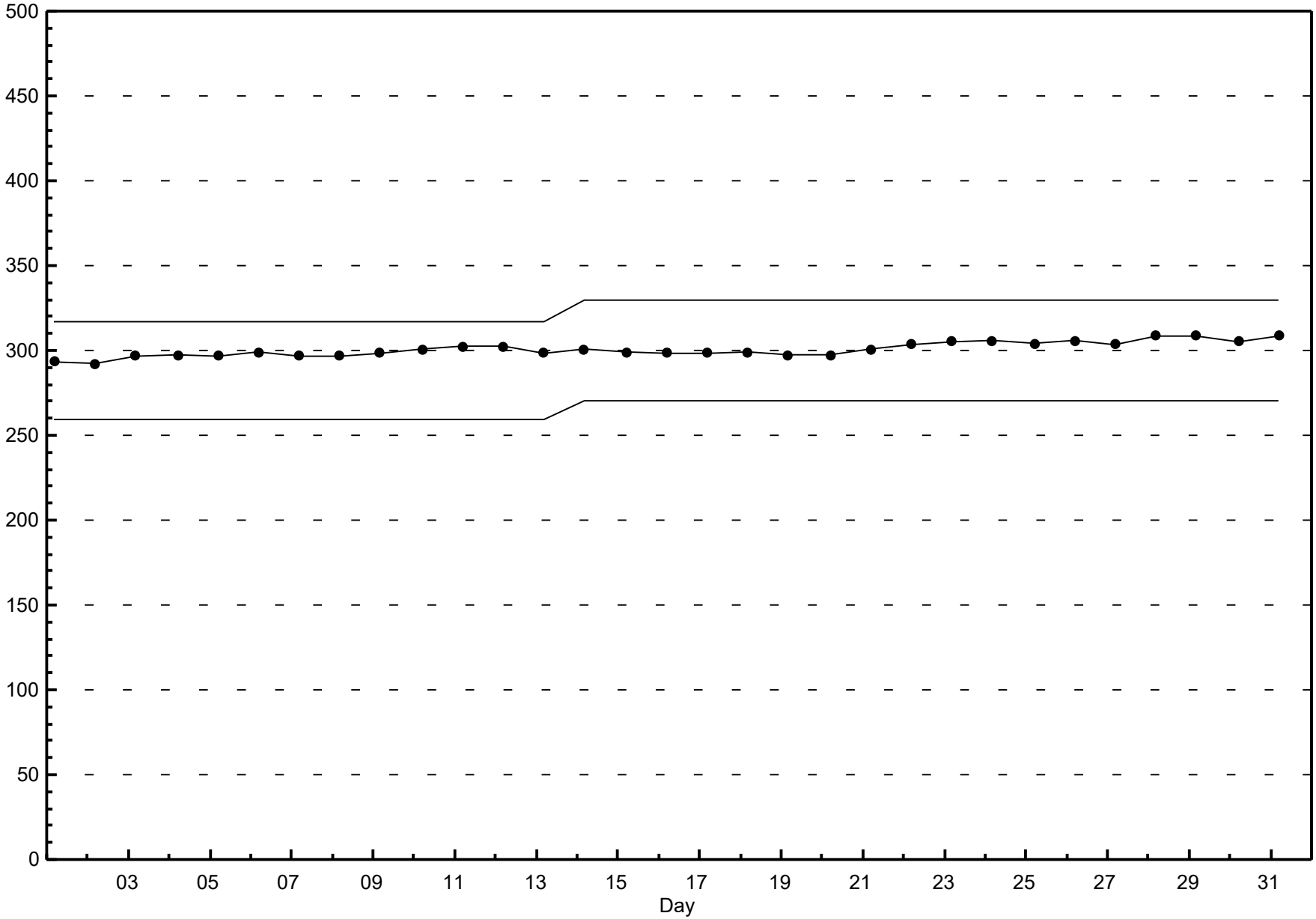
# Span Responses

**Nitrogen Dioxide ($NO_2$)**

**Beaverlodge - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Nitrogen Oxide (NO) - ppb

## Beaverlodge - October 2018

Maximum Value: 8.0 ppb on Oct 31 10:00

Maximum Daily Average: 1.5 ppb on Oct 23

Minimum Value: 0 ppb on Oct 7 01:00

Minimum Daily Average: 0.1 ppb on Oct 15

Maximum Diurnal Average: 1.8 ppb at hour 10

Minimum Diurnal Average: 0.0 ppb at hour 2

Monthly Average: 0.39 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.1 $Q_3 = 0.3$ $P_{90} = 1.0$ $P_{99} = 4.2$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 707 |
| Hours of Missing Data: | 37 |
| Hours of Calibration: | 37 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 2-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.6 |
| 3-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 1.2 |
| 4-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 1 | 4 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 4.0 |
| 5-Oct | 0 | 0 | 0 | 1 | A | 0 | 0 | 1 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.6 | 2.7 |
| 6-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 2.0 |
| 7-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 1.0 |
| 8-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 1.0 |
| 9-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.9 |
| 10-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 1.7 |
| 11-Oct | 0 | 0 | 0 | 0 | A | 0 | 2 | 1 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 2.2 |
| 12-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.2 | 0.8 |
| 13-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 1 | C | C | C | C | C | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -- | 0.7 |
| 14-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.5 |
| 15-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 |
| 16-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.9 |
| 17-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 18-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.4 |
| 19-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 3 | 4 | 6 | 4 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.1 | 5.6 |
| 20-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.9 |
| 21-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 1.6 |
| 22-Oct | 0 | 0 | 0 | 0 | A | 1 | 0 | 0 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0.8 | 2.6 |
| 23-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 7 | 8 | 4 | 4 | 3 | 2 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1.5 | 7.7 |
| 24-Oct | 1 | 1 | 1 | 1 | A | 0 | 0 | 0 | 2 | 3 | 3 | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.9 | 6.3 |
| 25-Oct | 0 | 0 | 0 | 0 | A | 0 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 2.7 |
| 26-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 2 | 4 | 3 | 4 | 1 | 2 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.9 | 4.3 |
| 27-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 28-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0.4 | 1.0 |
| 29-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 6 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 5.6 |
| 30-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 31-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 1 | 8 | 2 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.7 | 8.0 |
| | 0.1 | 0.0 | 0.0 | 0.1 | -- | 0.1 | 0.2 | 0.4 | 1.0 | 1.8 | 1.3 | 1.0 | 0.8 | 0.5 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | Diurnal Average | |
| | 0.6 | 0.6 | 0.6 | 1.2 | -- | 0.5 | 1.8 | 3.3 | 6.8 | 8.0 | 4.1 | 6.3 | 4.3 | 2.1 | 2.5 | 2.7 | 1.2 | 0.8 | 1.1 | 0.2 | 0.9 | 0.4 | 0.8 | 0.4 | Diurnal Maximum | |

C - Calibration

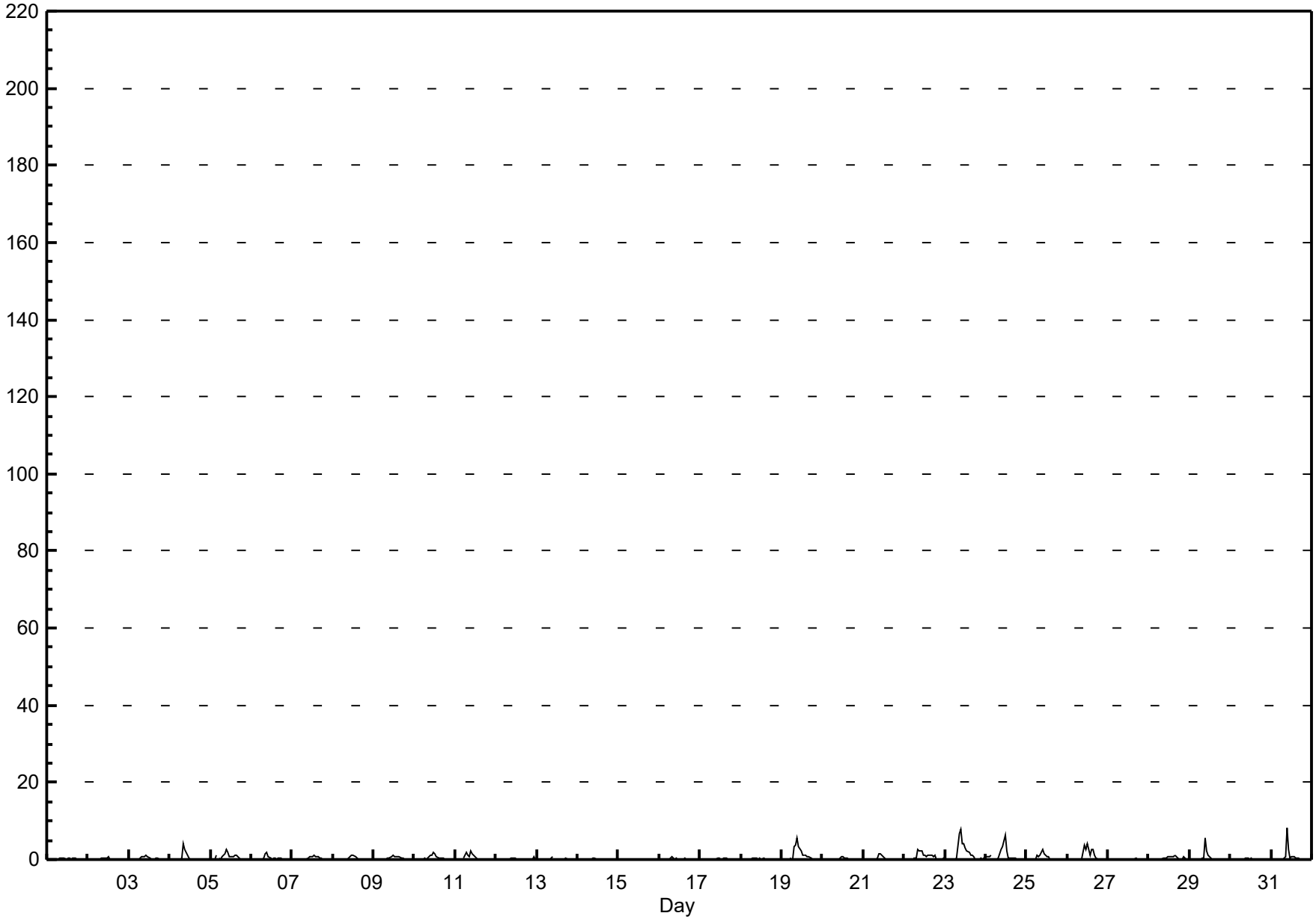
A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Averages

**Nitrogen Oxide (NO) - ppb**

**Beaverlodge - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Nitrogen Oxide (NO) - ppb

## Beaverlodge - October 2018

Maximum Value: 37.5 ppb on Oct 23 09:00

Maximum Daily Average: 4.6 ppb on Oct 23

Minimum Value: 0 ppb on Oct 8 23:00

Minimum Daily Average: 0.2 ppb on Oct 15

Maximum Diurnal Average: 5.4 ppb at hour 10

Minimum Diurnal Average: 0.3 ppb at hour 2

Monthly Average: 1.42 ppb

Percentiles: $P_1 = 0.1$ $P_{10} = 0.1$ $Q_1 = 0.1$ Median = 0.4 $Q_3 = 1.1$ $P_{90} = 3.1$ $P_{99} = 18.0$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 707 |
| Hours of Missing Data: | 37 |
| Hours of Calibration: | 37 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.8 |
| 2-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0.4 | 1.0 |
| 3-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 3 | 3 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.8 | 3.1 |
| 4-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 1 | 20 | 4 | 3 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1.5 | 20.2 |
| 5-Oct | 0 | 0 | 0 | 7 | A | 1 | 1 | 2 | 5 | 5 | 5 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1.7 | 7.1 |
| 6-Oct | 0 | 0 | 0 | 0 | A | 0 | 1 | 1 | 3 | 4 | 1 | 3 | 2 | 28 | 4 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 2.4 | 27.7 |
| 7-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.6 | 1.5 |
| 8-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 1 | 3 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 2.8 |
| 9-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.7 | 2.9 |
| 10-Oct | 0 | 0 | 0 | 0 | A | 0 | 1 | 0 | 2 | 2 | 2 | 14 | 4 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1.4 | 13.7 |
| 11-Oct | 0 | 0 | 0 | 0 | A | 1 | 4 | 3 | 2 | 4 | 3 | 4 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.1 | 4.3 |
| 12-Oct | 0 | 0 | 1 | 0 | A | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0.5 | 2.2 |
| 13-Oct | 3 | 0 | 0 | 0 | A | 0 | 0 | 0 | 1 | 2 | C | C | C | C | C | C | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | -- | 2.7 |
| 14-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 1.1 |
| 15-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.7 |
| 16-Oct | 0 | 0 | 0 | 1 | A | 1 | 0 | 17 | 1 | 1 | 2 | 1 | 0 | 1 | 0 | 13 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.7 | 17.0 |
| 17-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 4 | 1 | 11 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.0 | 10.8 |
| 18-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 1 | 1 | 1 | 0 | 4 | 0 | 13 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 1.1 | 13.2 |
| 19-Oct | 0 | 0 | 0 | 0 | A | 1 | 0 | 11 | 25 | 19 | 8 | 4 | 4 | 3 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3.5 | 25.3 |
| 20-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.6 | 2.6 |
| 21-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 1 | 6 | 2 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.6 | 5.8 |
| 22-Oct | 0 | 0 | 0 | 0 | A | 4 | 5 | 1 | 12 | 7 | 6 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 13 | 0 | 0 | 0 | 0 | 5 | 2.9 | 12.8 |
| 23-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 7 | 37 | 18 | 8 | 5 | 4 | 3 | 3 | 2 | 2 | 2 | 0 | 0 | 1 | 6 | 2 | 1 | 4.6 | 37.5 |
| 24-Oct | 3 | 5 | 4 | 12 | A | 0 | 0 | 3 | 6 | 8 | 6 | 16 | 6 | 3 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3.4 | 16.1 |
| 25-Oct | 0 | 0 | 0 | 0 | A | 0 | 18 | 7 | 4 | 8 | 3 | 2 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 8 | 1 | 0 | 0 | 0 | 2.4 | 18.0 |
| 26-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 2 | 1 | 10 | 13 | 5 | 11 | 2 | 10 | 10 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 3.0 | 12.6 |
| 27-Oct | 0 | 0 | 0 | 1 | A | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 1.0 |
| 28-Oct | 0 | 0 | 0 | 0 | A | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 7 | 2 | 0 | 0 | 1.1 | 7.2 |
| 29-Oct | 0 | 0 | 0 | 0 | A | 1 | 1 | 2 | 1 | 32 | 4 | 3 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.1 | 32.3 |
| 30-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 1 | 4 | 1 | 3 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.6 | 3.6 |
| 31-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 1 | 2 | 27 | 8 | 1 | 3 | 2 | 2 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 2.2 | 26.6 |
| | 0.3 | 0.3 | 0.3 | 0.8 | -- | 0.5 | 1.2 | 2.2 | 4.3 | 5.4 | 3.1 | 2.6 | 2.1 | 2.4 | 1.6 | 1.5 | 0.8 | 0.6 | 0.8 | 0.4 | 0.5 | 0.5 | 0.3 | 0.4 | Diurnal Average | |
| | 2.7 | 5.3 | 4.5 | 11.8 | -- | 3.7 | 18.0 | 17.0 | 37.5 | 32.3 | 12.6 | 16.1 | 10.9 | 27.7 | 10.8 | 13.4 | 2.0 | 2.3 | 12.8 | 7.6 | 7.2 | 6.0 | 2.3 | 4.7 | Diurnal Maximum | |

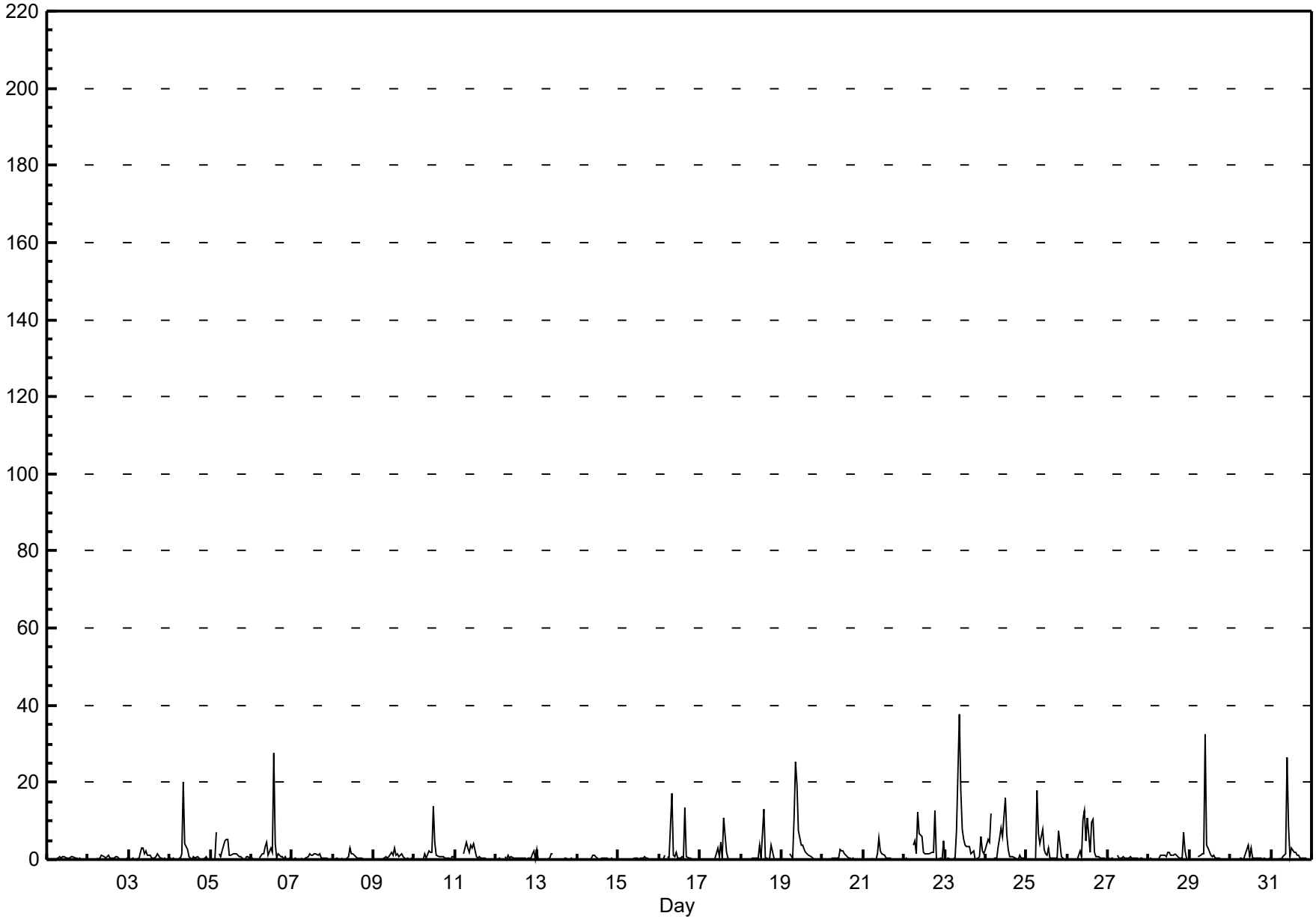
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

**Nitrogen Oxide (NO) - ppb**

**Beaverlodge - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Oxides of Nitrogen ($NO_X$) - ppb

## Beaverlodge - October 2018

Maximum Value: 25.7 ppb on Oct 23 09:00

Maximum Daily Average: 14.6 ppb on Oct 23

Minimum Value: 0 ppb on Oct 15 01:00

Minimum Daily Average: 1.3 ppb on Oct 2

Maximum Diurnal Average: 6.3 ppb at hour 10

Minimum Diurnal Average: 2.8 ppb at hour 16

Monthly Average: 4.41 ppb

Percentiles: $P_1 = 0.5$ $P_{10} = 0.9$ $Q_1 = 1.6$ Median = 3.2 $Q_3 = 5.9$ $P_{90} = 9.5$ $P_{99} = 19.4$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 707 |
| Hours of Missing Data: | 37 |
| Hours of Calibration: | 37 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 2 | 2 | 2 | 3 | A | 7 | 7 | 6 | 3 | 3 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 2.4 | 6.7 |
| 2-Oct | 0 | 1 | 0 | 1 | A | 4 | 2 | 2 | 3 | 2 | 1 | 1 | 2 | 1 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 1.3 | 4.0 |
| 3-Oct | 2 | 3 | 3 | 3 | A | 7 | 5 | 8 | 5 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 5 | 5 | 4 | 4 | 9 | 6 | 6 | 3.9 | 9.5 |
| 4-Oct | 6 | 9 | 7 | 5 | A | 9 | 7 | 8 | 10 | 7 | 4 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 4 | 7 | 4 | 4 | 4.5 | 10.4 |
| 5-Oct | 4 | 3 | 5 | 12 | A | 10 | 7 | 9 | 7 | 8 | 6 | 2 | 3 | 3 | 4 | 4 | 4 | 4 | 6 | 6 | 7 | 6 | 11 | 11 | 6.1 | 12.4 |
| 6-Oct | 10 | 8 | 5 | 4 | A | 7 | 6 | 6 | 8 | 8 | 4 | 3 | 1 | 1 | 3 | 2 | 3 | 6 | 6 | 4 | 4 | 3 | 2 | 1 | 4.6 | 9.5 |
| 7-Oct | 2 | 2 | 2 | 2 | A | 5 | 3 | 2 | 2 | 2 | 3 | 2 | 2 | 4 | 4 | 3 | 4 | 3 | 5 | 4 | 3 | 2 | 2 | 2 | 2.9 | 5.4 |
| 8-Oct | 2 | 2 | 2 | 2 | A | 4 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 2.1 | 3.8 |
| 9-Oct | 2 | 2 | 2 | 2 | A | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 4 | 3 | 3 | 3 | 4 | 4 | 3.3 | 4.4 |
| 10-Oct | 4 | 4 | 4 | 5 | A | 6 | 7 | 5 | 7 | 6 | 6 | 6 | 6 | 4 | 4 | 5 | 5 | 3 | 4 | 6 | 6 | 5 | 7 | 7 | 5.4 | 6.7 |
| 11-Oct | 6 | 6 | 6 | 7 | A | 7 | 10 | 8 | 6 | 6 | 5 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 4 | 3 | 1 | 1 | 3.9 | 9.7 |
| 12-Oct | 3 | 3 | 3 | 4 | A | 9 | 5 | 3 | 2 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 5 | 6 | 3 | 5 | 12 | 5 | 3.7 | 12.1 |
| 13-Oct | 6 | 2 | 2 | 1 | A | 3 | 3 | 4 | 3 | 3 | C | C | C | C | C | C | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | -- | 5.7 |
| 14-Oct | 2 | 2 | 1 | 1 | A | 5 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1.5 | 5.0 |
| 15-Oct | 0 | 1 | 1 | 1 | A | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 4 | 5 | 3 | 2 | 1.6 | 5.1 |
| 16-Oct | 1 | 1 | 1 | 1 | A | 4 | 3 | 5 | 3 | 2 | 3 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 4 | 4 | 2 | 1 | 2.0 | 5.0 |
| 17-Oct | 2 | 1 | 1 | 1 | A | 4 | 5 | 5 | 3 | 2 | 3 | 3 | 1 | 2 | 2 | 3 | 1 | 2 | 2 | 3 | 2 | 2 | 1 | 1 | 2.3 | 5.2 |
| 18-Oct | 2 | 1 | 1 | 1 | A | 5 | 3 | 11 | 5 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 5 | 6 | 5 | 3 | 3 | 2.7 | 10.9 |
| 19-Oct | 2 | 3 | 2 | 1 | A | 7 | 4 | 15 | 14 | 14 | 11 | 8 | 4 | 4 | 5 | 5 | 6 | 5 | 4 | 4 | 3 | 4 | 5 | 6 | 6.0 | 15.3 |
| 20-Oct | 7 | 6 | 3 | 1 | A | 3 | 2 | 1 | 1 | 1 | 5 | 15 | 12 | 6 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 3.3 | 14.7 |
| 21-Oct | 1 | 1 | 2 | 2 | A | 4 | 4 | 3 | 4 | 7 | 6 | 4 | 2 | 1 | 1 | 1 | 2 | 3 | 5 | 4 | 5 | 5 | 6 | 7 | 3.4 | 6.8 |
| 22-Oct | 8 | 7 | 8 | 8 | A | 14 | 10 | 16 | 14 | 8 | 7 | 4 | 4 | 4 | 6 | 6 | 9 | 13 | 17 | 14 | 9 | 12 | 13 | 17 | 10.0 | 17.3 |
| 23-Oct | 18 | 13 | 14 | 12 | A | 16 | 16 | 15 | 26 | 18 | 12 | 12 | 10 | 8 | 9 | 6 | 9 | 16 | 17 | 14 | 16 | 15 | 20 | 23 | 14.6 | 25.7 |
| 24-Oct | 19 | 17 | 21 | 24 | A | 16 | 8 | 12 | 12 | 11 | 11 | 19 | 12 | 3 | 3 | 3 | 5 | 7 | 7 | 5 | 5 | 7 | 6 | 4 | 10.3 | 24.0 |
| 25-Oct | 3 | 4 | 5 | 3 | A | 6 | 9 | 11 | 12 | 12 | 7 | 5 | 4 | 4 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 3 | 2 | 2 | 4.4 | 12.0 |
| 26-Oct | 1 | 1 | 2 | 1 | A | 4 | 2 | 6 | 5 | 9 | 18 | 15 | 20 | 9 | 14 | 13 | 7 | 8 | 9 | 9 | 3 | 1 | 1 | 0 | 6.8 | 19.5 |
| 27-Oct | 0 | 0 | 0 | 0 | A | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 4 | 6 | 3 | 2 | 1 | 2 | 1.6 | 5.6 |
| 28-Oct | 2 | 3 | 4 | 4 | A | 4 | 4 | 4 | 5 | 6 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 8 | 8 | 7 | 11 | 11 | 8 | 6 | 6.1 | 10.7 |
| 29-Oct | 5 | 4 | 4 | 4 | A | 6 | 5 | 5 | 5 | 12 | 6 | 3 | 1 | 1 | 1 | 1 | 2 | 7 | 7 | 3 | 3 | 2 | 3 | 3 | 4.2 | 11.7 |
| 30-Oct | 3 | 4 | 3 | 3 | A | 3 | 2 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 5 | 4 | 3 | 4 | 2.3 | 5.1 |
| 31-Oct | 3 | 3 | 3 | 2 | A | 5 | 5 | 10 | 11 | 22 | 12 | 5 | 7 | 7 | 5 | 5 | 7 | 8 | 8 | 7 | 10 | 5 | 4 | 3 | 6.8 | 21.7 |
| | 4.2 | 3.8 | 3.8 | 4.0 | -- | 6.2 | 5.0 | 6.2 | 6.1 | 6.3 | 5.2 | 4.7 | 3.9 | 2.8 | 2.9 | 2.8 | 3.1 | 4.2 | 4.6 | 4.3 | 4.3 | 4.4 | 4.4 | 4.3 | Diurnal Average | |
| | 19.3 | 17.1 | 20.8 | 24.0 | -- | 16.5 | 16.3 | 16.2 | 25.7 | 21.7 | 17.9 | 19.4 | 19.5 | 9.1 | 13.7 | 13.0 | 9.3 | 15.6 | 17.3 | 13.8 | 15.8 | 14.8 | 19.6 | 23.1 | Diurnal Maximum | |

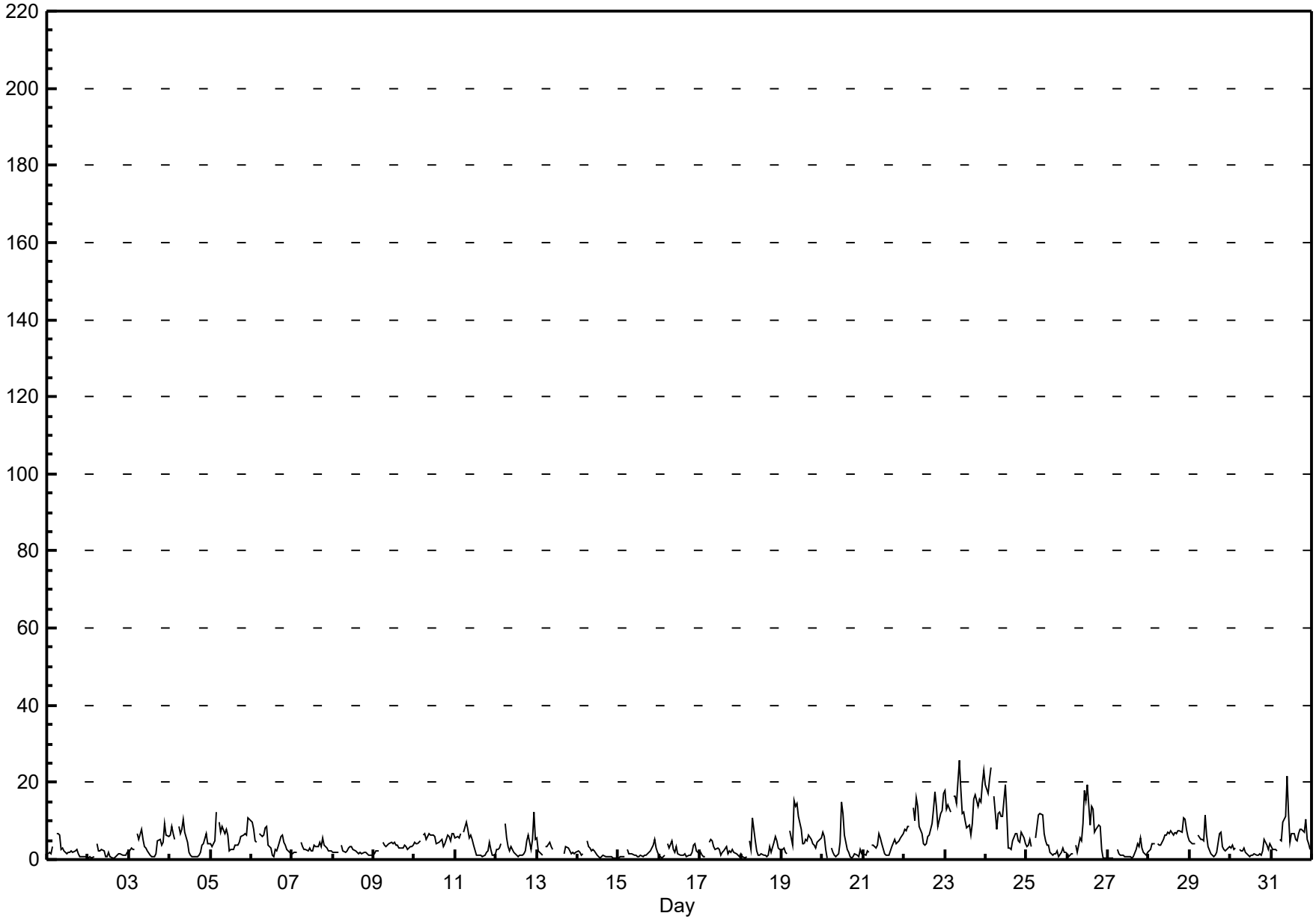
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Averages

## Oxides of Nitrogen ($NO_X$) - ppb

## Beaverlodge - October 2018



Peace Airshed Zone Association

# Hourly Maximums

## Oxides of Nitrogen ($NO_X$) - ppb

## Beaverlodge - October 2018

Maximum Value: 78.6 ppb on Oct 23 09:00

Maximum Daily Average: 23.2 ppb on Oct 23

Minimum Value: 1 ppb on Oct 15 01:00

Minimum Daily Average: 2.7 ppb on Oct 2

Maximum Diurnal Average: 13.1 ppb at hour 9

Minimum Diurnal Average: 5.1 ppb at hour 2

Monthly Average: 7.90 ppb

Percentiles: $P_1 = 0.9$ $P_{10} = 1.9$ $Q_1 = 2.9$ Median = 5.3 $Q_3 = 9.7$ $P_{90} = 16.9$ $P_{99} = 36.8$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 707 |
| Hours of Missing Data: | 37 |
| Hours of Calibration: | 37 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 2 | 3 | 2 | 4 | A | 8 | 10 | 8 | 4 | 6 | 4 | 2 | 3 | 6 | 17 | 3 | 4 | 4 | 2 | 1 | 1 | 1 | 1 | 1 | 4.3 | 17.1 |
| 2-Oct | 1 | 1 | 1 | 2 | A | 6 | 3 | 3 | 4 | 3 | 2 | 1 | 3 | 1 | 1 | 1 | 2 | 4 | 5 | 4 | 3 | 2 | 4 | 5 | 2.7 | 6.3 |
| 3-Oct | 4 | 4 | 4 | 4 | A | 9 | 6 | 14 | 14 | 5 | 5 | 3 | 3 | 1 | 1 | 1 | 4 | 10 | 7 | 5 | 8 | 15 | 8 | 8 | 6.3 | 15.5 |
| 4-Oct | 9 | 11 | 12 | 6 | A | 15 | 16 | 10 | 29 | 11 | 37 | 3 | 2 | 1 | 3 | 1 | 2 | 2 | 3 | 4 | 7 | 11 | 7 | 5 | 9.1 | 36.9 |
| 5-Oct | 5 | 4 | 8 | 31 | A | 19 | 14 | 16 | 16 | 14 | 14 | 4 | 3 | 5 | 4 | 5 | 4 | 5 | 10 | 9 | 9 | 14 | 14 | 13 | 10.4 | 31.0 |
| 6-Oct | 13 | 9 | 6 | 6 | A | 10 | 11 | 9 | 13 | 14 | 5 | 17 | 10 | 1 | 10 | 6 | 10 | 9 | 10 | 6 | 7 | 3 | 3 | 3 | 8.3 | 17.5 |
| 7-Oct | 3 | 3 | 3 | 3 | A | 8 | 4 | 3 | 4 | 3 | 5 | 3 | 3 | 5 | 5 | 5 | 7 | 4 | 8 | 5 | 4 | 2 | 3 | 3 | 4.1 | 7.8 |
| 8-Oct | 2 | 2 | 3 | 2 | A | 6 | 3 | 2 | 3 | 3 | 7 | 4 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2.8 | 6.8 |
| 9-Oct | 2 | 3 | 3 | 3 | A | 6 | 4 | 5 | 4 | 4 | 7 | 4 | 9 | 4 | 5 | 4 | 5 | 5 | 6 | 4 | 3 | 5 | 5 | 5 | 4.5 | 8.6 |
| 10-Oct | 5 | 5 | 5 | 6 | A | 8 | 9 | 6 | 11 | 8 | 8 | 14 | 18 | 5 | 5 | 6 | 9 | 5 | 10 | 10 | 7 | 6 | 9 | 10 | 8.0 | 17.8 |
| 11-Oct | 7 | 7 | 6 | 7 | A | 9 | 12 | 12 | 10 | 11 | 8 | 13 | 3 | 2 | 4 | 3 | 2 | 3 | 4 | 3 | 10 | 10 | 2 | 2 | 6.5 | 13.3 |
| 12-Oct | 4 | 4 | 6 | 6 | A | 13 | 9 | 5 | 3 | 6 | 3 | 2 | 1 | 1 | 2 | 2 | 2 | 3 | 9 | 12 | 5 | 13 | 16 | 8 | 5.9 | 16.4 |
| 13-Oct | 18 | 5 | 2 | 2 | A | 5 | 5 | 11 | 5 | 5 | C | C | C | C | C | C | 3 | 7 | 7 | 4 | 6 | 4 | 3 | 2 | -- | 18.2 |
| 14-Oct | 4 | 3 | 1 | 2 | A | 6 | 5 | 4 | 3 | 4 | 5 | 3 | 1 | 1 | 3 | 2 | 2 | 3 | 1 | 2 | 2 | 1 | 1 | 1 | 2.7 | 6.1 |
| 15-Oct | 1 | 1 | 2 | 2 | A | 5 | 2 | 3 | 3 | 2 | 3 | 2 | 2 | 2 | 2 | 4 | 2 | 3 | 4 | 5 | 7 | 10 | 6 | 6 | 3.4 | 9.6 |
| 16-Oct | 2 | 1 | 1 | 10 | A | 9 | 5 | 44 | 10 | 4 | 9 | 5 | 3 | 2 | 2 | 16 | 4 | 3 | 3 | 4 | 8 | 7 | 6 | 4 | 7.1 | 43.7 |
| 17-Oct | 4 | 2 | 1 | 1 | A | 12 | 11 | 12 | 6 | 3 | 13 | 7 | 2 | 6 | 7 | 29 | 5 | 4 | 5 | 6 | 4 | 4 | 5 | 2 | 6.7 | 28.8 |
| 18-Oct | 2 | 1 | 1 | 3 | A | 8 | 6 | 16 | 12 | 4 | 2 | 3 | 26 | 12 | 2 | 1 | 2 | 8 | 16 | 19 | 11 | 6 | 5 | 4 | 7.4 | 25.8 |
| 19-Oct | 5 | 5 | 3 | 2 | A | 17 | 6 | 27 | 44 | 29 | 17 | 11 | 11 | 7 | 8 | 7 | 10 | 9 | 6 | 4 | 3 | 7 | 7 | 7 | 10.9 | 44.2 |
| 20-Oct | 9 | 7 | 5 | 1 | A | 5 | 4 | 2 | 2 | 3 | 26 | 33 | 30 | 26 | 10 | 4 | 2 | 1 | 3 | 3 | 2 | 2 | 5 | 3 | 8.2 | 33.1 |
| 21-Oct | 2 | 3 | 4 | 3 | A | 7 | 7 | 5 | 8 | 16 | 8 | 6 | 4 | 1 | 1 | 3 | 6 | 5 | 7 | 5 | 6 | 6 | 7 | 9 | 5.6 | 16.1 |
| 22-Oct | 9 | 8 | 10 | 9 | A | 19 | 22 | 19 | 29 | 17 | 15 | 6 | 5 | 6 | 7 | 8 | 12 | 17 | 40 | 15 | 13 | 17 | 15 | 26 | 15.0 | 39.9 |
| 23-Oct | 24 | 16 | 20 | 16 | A | 21 | 21 | 28 | 79 | 31 | 19 | 14 | 12 | 11 | 14 | 9 | 17 | 21 | 26 | 23 | 23 | 36 | 27 | 27 | 23.2 | 78.6 |
| 24-Oct | 24 | 25 | 31 | 36 | A | 25 | 10 | 21 | 20 | 21 | 15 | 39 | 22 | 14 | 6 | 5 | 9 | 10 | 13 | 7 | 17 | 12 | 9 | 4 | 17.2 | 39.3 |
| 25-Oct | 4 | 6 | 6 | 6 | A | 9 | 34 | 24 | 24 | 19 | 10 | 6 | 7 | 12 | 3 | 2 | 3 | 3 | 8 | 2 | 9 | 6 | 3 | 3 | 9.1 | 34.3 |
| 26-Oct | 2 | 3 | 3 | 2 | A | 5 | 3 | 13 | 8 | 28 | 32 | 18 | 32 | 12 | 29 | 30 | 9 | 10 | 14 | 12 | 8 | 2 | 1 | 1 | 12.0 | 32.1 |
| 27-Oct | 1 | 1 | 2 | 3 | A | 5 | 2 | 2 | 2 | 3 | 2 | 2 | 1 | 2 | 1 | 2 | 6 | 7 | 6 | 15 | 8 | 3 | 2 | 2 | 3.5 | 14.5 |
| 28-Oct | 3 | 5 | 7 | 7 | A | 5 | 5 | 6 | 8 | 9 | 8 | 11 | 9 | 9 | 8 | 9 | 8 | 9 | 13 | 10 | 24 | 17 | 12 | 8 | 9.0 | 23.6 |
| 29-Oct | 6 | 5 | 4 | 5 | A | 9 | 7 | 8 | 7 | 43 | 9 | 7 | 3 | 27 | 3 | 2 | 5 | 11 | 13 | 7 | 4 | 3 | 4 | 4 | 8.6 | 43.1 |
| 30-Oct | 3 | 4 | 3 | 6 | A | 5 | 5 | 4 | 5 | 9 | 3 | 2 | 3 | 2 | 2 | 3 | 2 | 5 | 3 | 5 | 10 | 7 | 4 | 10 | 4.7 | 10.4 |
| 31-Oct | 7 | 3 | 3 | 4 | A | 8 | 8 | 14 | 16 | 41 | 23 | 8 | 14 | 10 | 13 | 10 | 12 | 10 | 10 | 10 | 15 | 10 | 5 | 4 | 11.3 | 41.4 |
| | 6.0 | 5.1 | 5.5 | 6.4 | -- | 9.8 | 8.7 | 11.5 | 13.1 | 12.3 | 10.8 | 8.5 | 8.3 | 6.7 | 6.1 | 6.2 | 5.6 | 6.6 | 8.8 | 7.2 | 8.0 | 7.9 | 6.4 | 6.1 | Diurnal Average | |
| | 24.4 | 24.9 | 30.6 | 35.5 | -- | 25.0 | 34.3 | 43.7 | 78.6 | 43.1 | 36.9 | 39.3 | 32.1 | 27.0 | 29.3 | 30.5 | 16.9 | 21.3 | 39.9 | 22.9 | 23.6 | 35.7 | 26.6 | 27.5 | Diurnal Maximum | |

C - Calibration

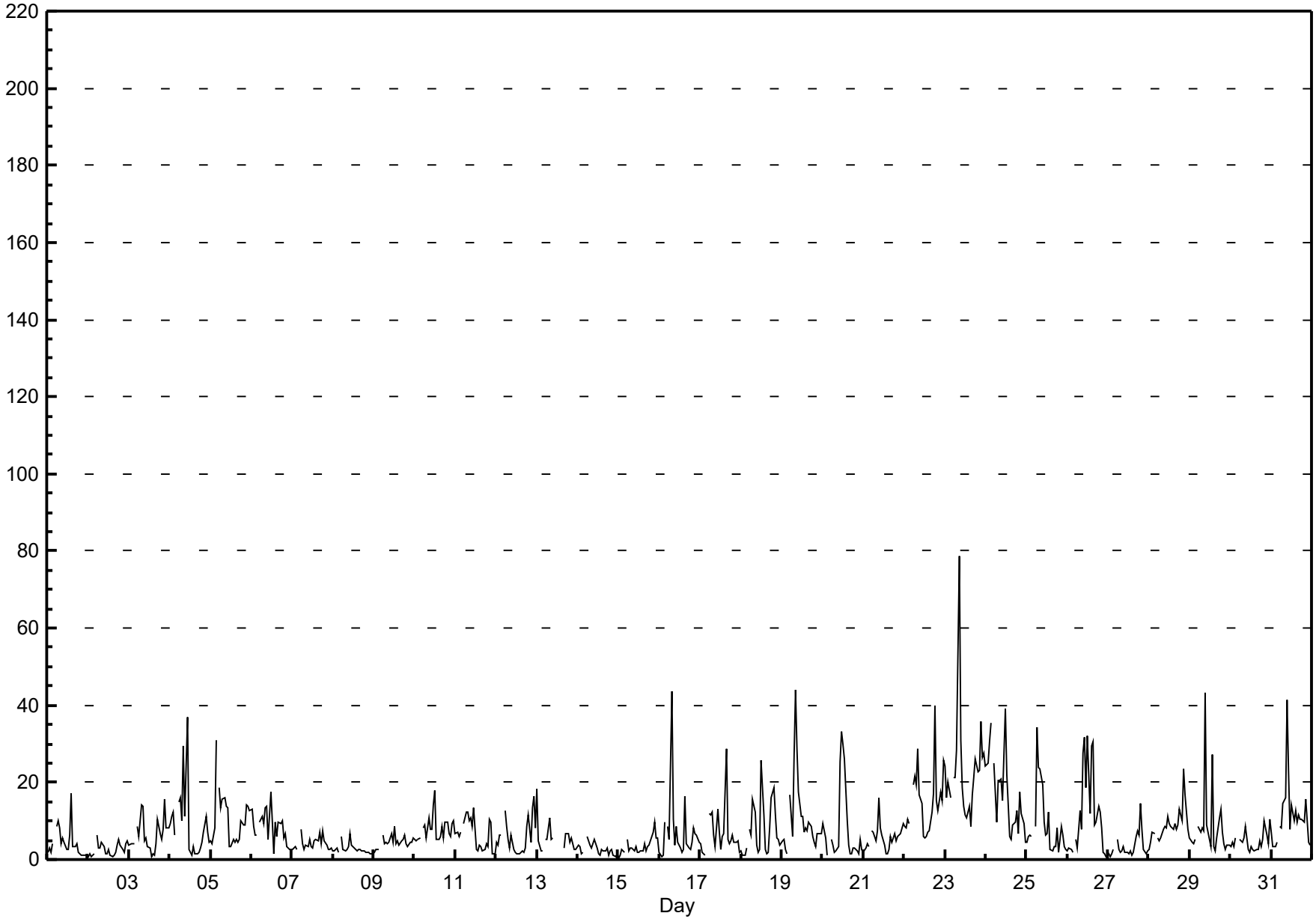
A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

## Oxides of Nitrogen ($NO_X$) - ppb

## Beaverlodge - October 2018

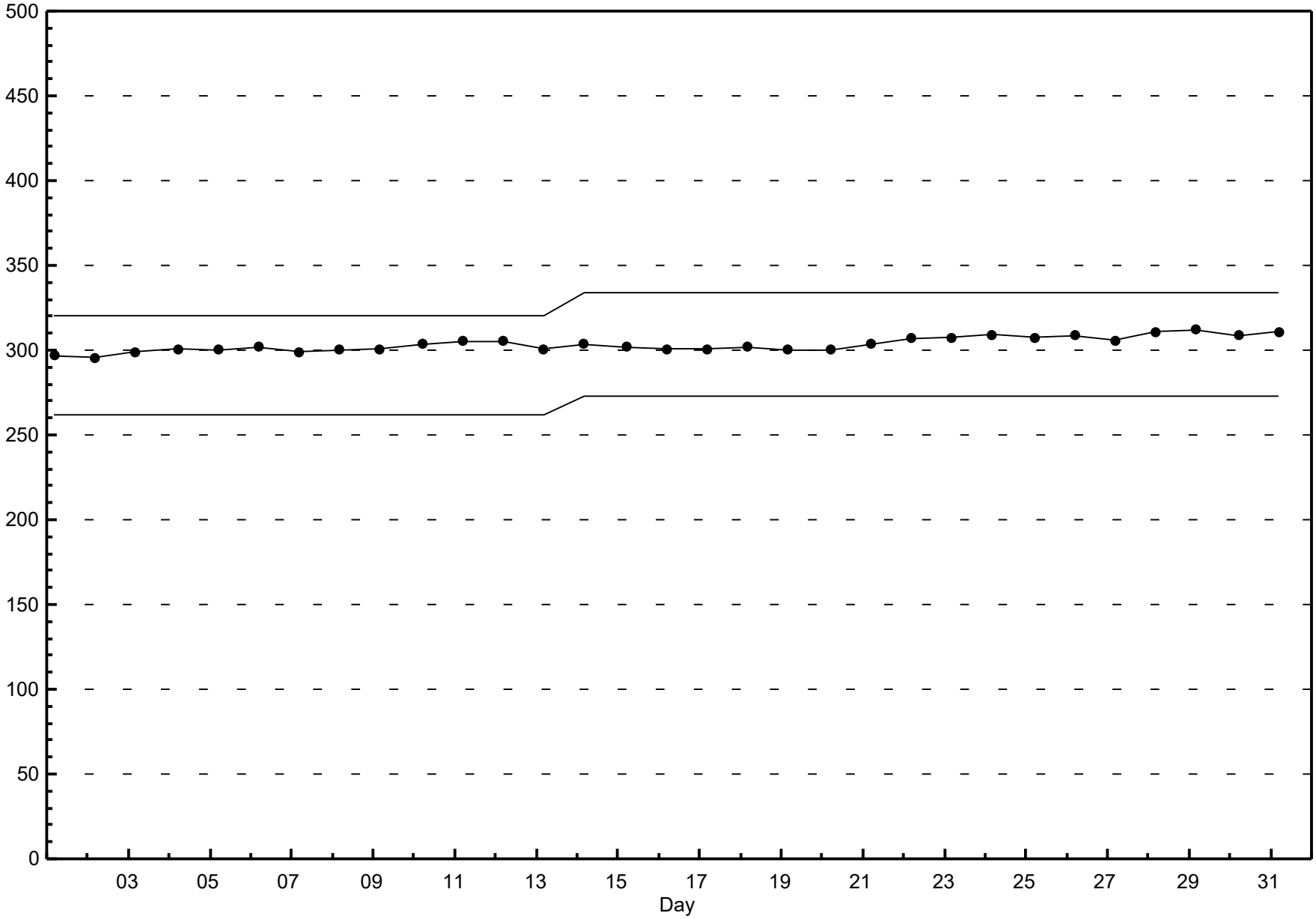


Peace Airshed Zone Association

# Span Responses

**Oxides of Nitrogen ($NO_X$)**

**Beaverlodge - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Ozone ($O_3$) - ppb

## Beaverlodge - October 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 52.4 ppb on Oct 17 04:00 Maximum Daily Average: 44.8 ppb on Oct 17

Minimum Value: 3 ppb on Oct 11 07:00 Minimum Daily Average: 12.1 ppb on Oct 7
Maximum Diurnal Average: 30.7 ppb at hour 15 Minimum Diurnal Average: 19.0 ppb at hour 8
Monthly Average: 24.63 ppb Percentiles: $P_1$ = 5.6 $P_{10}$ = 11.9 $Q_1$ = 16.3 Median = 25.0 $Q_3$ = 32.3 $P_{90}$ = 37.1 $P_{99}$ = 47.7

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 710 |
| Hours of Missing Data: | 34 |
| Hours of Calibration: | 34 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 27 | 25 | 24 | 20 | A | 17 | 14 | 16 | 25 | 26 | 28 | 30 | 30 | 31 | 31 | 30 | 30 | 27 | 27 | 30 | 29 | 27 | 27 | 26 | 25.9 | 31.2 |
| 2-Oct | 26 | 26 | 26 | 27 | A | 28 | 28 | 28 | 25 | 29 | 33 | 33 | 32 | 34 | 34 | 34 | 34 | 32 | 28 | 26 | 25 | 24 | 24 | 21 | 28.5 | 34.2 |
| 3-Oct | 21 | 20 | 19 | 19 | A | 16 | 15 | 12 | 17 | 20 | 22 | 26 | 32 | 34 | 36 | 37 | 37 | 30 | 27 | 30 | 30 | 24 | 27 | 26 | 25.0 | 37.2 |
| 4-Oct | 24 | 16 | 17 | 18 | A | 20 | 15 | 13 | 11 | 15 | 22 | 28 | 33 | 35 | 35 | 35 | 34 | 34 | 31 | 26 | 26 | 22 | 24 | 22 | 24.3 | 35.2 |
| 5-Oct | 20 | 20 | 18 | 12 | A | 13 | 14 | 11 | 13 | 16 | 20 | 25 | 25 | 26 | 27 | 27 | 27 | 26 | 22 | 21 | 20 | 19 | 14 | 13 | 19.6 | 27.2 |
| 6-Oct | 13 | 15 | 16 | 16 | A | 15 | 12 | 11 | 12 | 15 | 28 | 30 | 35 | 35 | 31 | 30 | 25 | 20 | 16 | 17 | 15 | 19 | 18 | 19 | 20.2 | 34.7 |
| 7-Oct | 17 | 15 | 13 | 12 | A | 11 | 10 | 10 | 10 | 10 | 10 | 11 | 11 | 11 | 12 | 12 | 11 | 11 | 10 | 11 | 13 | 15 | 15 | 16 | 12.1 | 17.0 |
| 8-Oct | 15 | 15 | 14 | 14 | A | 15 | 15 | 14 | 13 | 12 | 11 | 11 | 15 | 18 | 21 | 24 | 22 | 21 | 21 | 20 | 20 | 20 | 20 | 20 | 17.0 | 24.5 |
| 9-Oct | 19 | 17 | 17 | 17 | A | 16 | 16 | 16 | 16 | 16 | 17 | 17 | 17 | 18 | 19 | 19 | 19 | 18 | 17 | 16 | 17 | 17 | 16 | 16 | 17.1 | 18.8 |
| 10-Oct | 15 | 15 | 15 | 14 | A | 13 | 9 | 10 | 9 | 11 | 12 | 12 | 13 | 15 | 15 | 14 | 14 | 16 | 15 | 10 | 8 | 9 | 8 | 8 | 12.2 | 16.1 |
| 11-Oct | 8 | 8 | 8 | 5 | A | 6 | 3 | 5 | 9 | 10 | 15 | 19 | 31 | 31 | 32 | 33 | 32 | 31 | 27 | 27 | 25 | 25 | 23 | 22 | 18.9 | 32.6 |
| 12-Oct | 19 | 17 | 11 | 11 | A | 14 | 13 | 14 | 15 | 17 | 18 | 20 | 21 | 23 | 25 | 26 | 25 | 21 | 15 | 11 | 16 | 12 | 5 | 12 | 16.5 | 25.6 |
| 13-Oct | 12 | 18 | 20 | 22 | A | 23 | 21 | 19 | 18 | 19 | 23 | 24 | 28 | C | C | C | 28 | 26 | 22 | 21 | 20 | 19 | 20 | 19 | 21.1 | 28.4 |
| 14-Oct | 17 | 19 | 21 | 22 | A | 23 | 23 | 23 | 25 | 24 | 34 | 39 | 41 | 42 | 41 | 37 | 39 | 40 | 39 | 37 | 34 | 32 | 31 | 31 | 31.1 | 42.4 |
| 15-Oct | 32 | 31 | 30 | 31 | A | 38 | 35 | 38 | 40 | 42 | 41 | 41 | 41 | 40 | 40 | 39 | 38 | 36 | 34 | 32 | 32 | 30 | 32 | 33 | 35.9 | 41.7 |
| 16-Oct | 35 | 37 | 37 | 36 | A | 35 | 36 | 35 | 36 | 37 | 38 | 50 | 50 | 49 | 45 | 41 | 39 | 38 | 37 | 38 | 35 | 35 | 40 | 42 | 39.0 | 50.0 |
| 17-Oct | 44 | 48 | 50 | 52 | A | 48 | 45 | 42 | 44 | 46 | 45 | 46 | 48 | 46 | 44 | 43 | 46 | 45 | 45 | 42 | 42 | 41 | 41 | 40 | 44.8 | 52.4 |
| 18-Oct | 38 | 39 | 44 | 45 | A | 41 | 39 | 26 | 32 | 35 | 38 | 37 | 37 | 37 | 37 | 37 | 36 | 32 | 34 | 31 | 26 | 27 | 31 | 29 | 35.2 | 45.4 |
| 19-Oct | 29 | 25 | 28 | 28 | A | 18 | 23 | 8 | 13 | 11 | 17 | 25 | 30 | 32 | 32 | 34 | 33 | 31 | 33 | 33 | 34 | 33 | 30 | 27 | 26.4 | 34.4 |
| 20-Oct | 22 | 22 | 28 | 32 | A | 35 | 34 | 36 | 38 | 38 | 36 | 31 | 32 | 35 | 36 | 37 | 37 | 37 | 36 | 35 | 35 | 36 | 30 | 30 | 33.4 | 38.3 |
| 21-Oct | 32 | 31 | 31 | 33 | A | 33 | 27 | 28 | 26 | 23 | 24 | 30 | 37 | 39 | 39 | 38 | 35 | 33 | 33 | 34 | 32 | 32 | 30 | 27 | 31.6 | 38.7 |
| 22-Oct | 25 | 23 | 20 | 21 | A | 12 | 14 | 7 | 12 | 17 | 20 | 25 | 26 | 29 | 30 | 29 | 23 | 17 | 13 | 17 | 29 | 22 | 16 | 8 | 19.8 | 30.2 |
| 23-Oct | 9 | 16 | 13 | 14 | A | 12 | 10 | 12 | 10 | 11 | 18 | 20 | 24 | 28 | 30 | 29 | 25 | 17 | 15 | 20 | 16 | 15 | 11 | 5 | 16.6 | 30.2 |
| 24-Oct | 7 | 4 | 6 | 4 | A | 11 | 18 | 13 | 11 | 14 | 16 | 12 | 23 | 35 | 36 | 34 | 29 | 28 | 28 | 29 | 30 | 20 | 26 | 28 | 20.1 | 35.6 |
| 25-Oct | 26 | 26 | 23 | 24 | A | 22 | 17 | 12 | 14 | 19 | 25 | 27 | 29 | 29 | 35 | 36 | 35 | 35 | 34 | 35 | 32 | 30 | 30 | 30 | 27.2 | 35.7 |
| 26-Oct | 30 | 33 | 33 | 32 | A | 30 | 32 | 25 | 28 | 22 | 13 | 16 | 14 | 22 | 17 | 17 | 21 | 18 | 18 | 20 | 29 | 35 | 33 | 34 | 25.0 | 35.1 |
| 27-Oct | 35 | 35 | 35 | 35 | A | 35 | 34 | 35 | 34 | 33 | 34 | 35 | 35 | 34 | 35 | 34 | 32 | 29 | 29 | 27 | 29 | 29 | 30 | 29 | 32.6 | 34.9 |
| 28-Oct | 30 | 30 | 27 | 27 | A | 29 | 27 | 25 | 23 | 18 | 19 | 18 | 18 | 17 | 17 | 16 | 14 | 14 | 16 | 17 | 12 | 11 | 16 | 16 | 19.9 | 30.1 |
| 29-Oct | 17 | 16 | 14 | 10 | A | 8 | 7 | 8 | 10 | 10 | 14 | 18 | 28 | 33 | 33 | 33 | 32 | 27 | 25 | 27 | 28 | 28 | 25 | 23 | 20.7 | 33.4 |
| 30-Oct | 24 | 23 | 19 | 18 | A | 25 | 24 | 25 | 27 | 28 | 31 | 32 | 33 | 33 | 35 | 35 | 33 | 33 | 32 | 30 | 26 | 27 | 27 | 26 | 28.2 | 35.1 |
| 31-Oct | 24 | 24 | 22 | 24 | A | 23 | 19 | 13 | 12 | 8 | 15 | 19 | 18 | 17 | 22 | 24 | 16 | 13 | 14 | 15 | 9 | 14 | 14 | 14 | 17.2 | 24.3 |
| | 23.0 | 22.9 | 22.5 | 22.4 | -- | 22.0 | 21.0 | 19.0 | 20.3 | 21.1 | 23.7 | 26.1 | 28.6 | 30.3 | 30.7 | 30.5 | 29.1 | 26.9 | 25.6 | 25.4 | 24.9 | 24.1 | 23.7 | 23.0 | Diurnal Average | |
| | 43.7 | 48.0 | 49.7 | 52.4 | -- | 47.9 | 45.1 | 42.2 | 43.5 | 45.9 | 44.7 | 49.6 | 50.0 | 48.6 | 44.6 | 43.2 | 45.8 | 44.6 | 44.6 | 42.0 | 41.7 | 40.6 | 40.8 | 42.4 | Diurnal Maximum | |

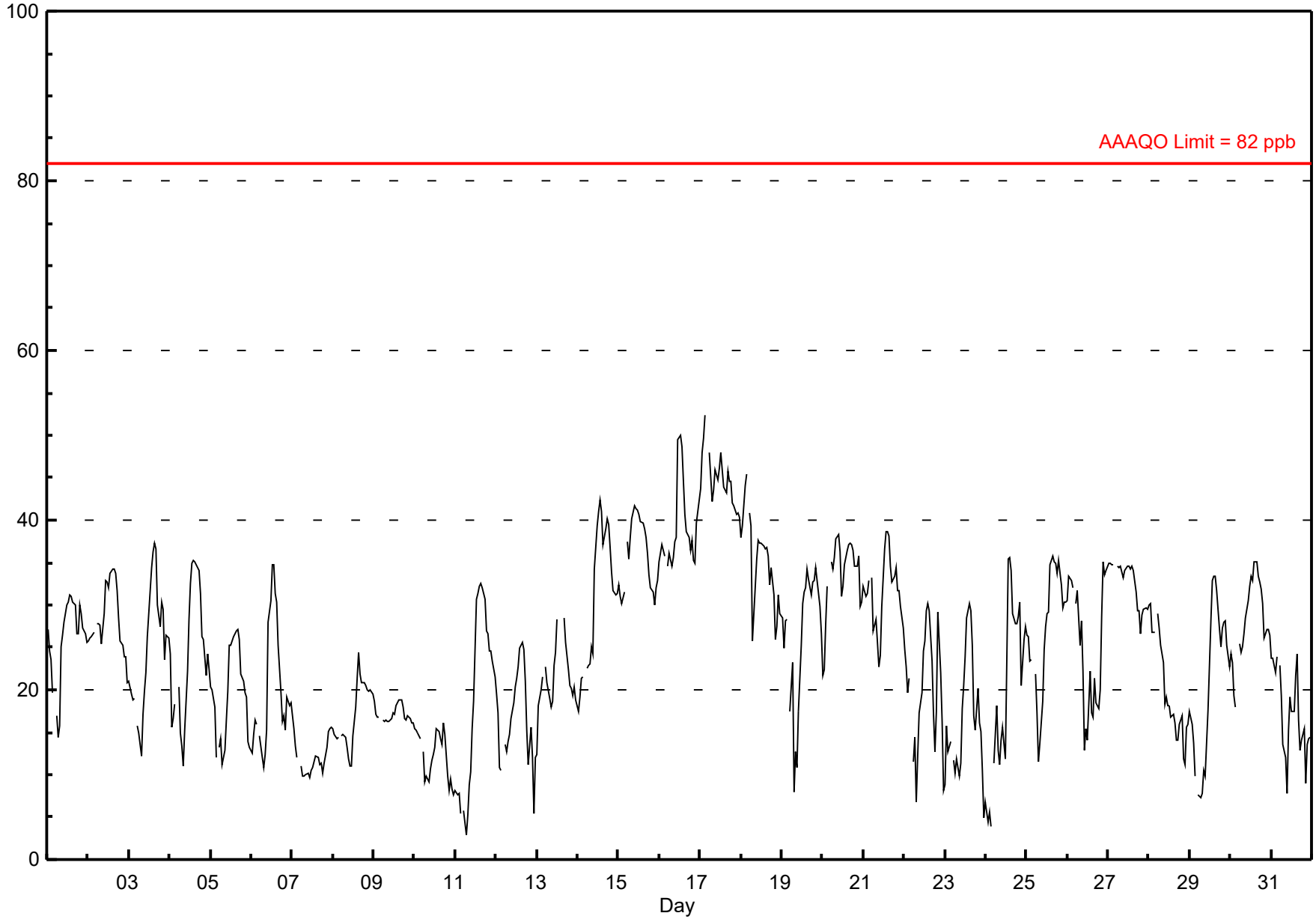
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na

Peace Airshed Zone Association

# Hourly Averages

**Ozone ($O_3$) - ppb**

**Beaverlodge - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Ozone ($O_3$) - ppb

## Beaverlodge - October 2018

Maximum Value: 54.3 ppb on Oct 17 04:00

Maximum Daily Average: 47.2 ppb on Oct 17

Minimum Value: 5 ppb on Oct 11 07:00

Minimum Daily Average: 13.3 ppb on Oct 7

Maximum Diurnal Average: 32.6 ppb at hour 15

Minimum Diurnal Average: 23.2 ppb at hour 8

Monthly Average: 27.19 ppb

Percentiles: $P_1$ = 8.7 $P_{10}$ = 15.3 $Q_1$ = 19.2 Median = 27.3 $Q_3$ = 34.5 $P_{90}$ = 38.9 $P_{99}$ = 49.3

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 710 |
| Hours of Missing Data: | 34 |
| Hours of Calibration: | 34 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 29 | 27 | 25 | 24 | A | 18 | 17 | 25 | 26 | 28 | 30 | 32 | 32 | 33 | 32 | 31 | 31 | 29 | 29 | 31 | 30 | 29 | 27 | 27 | 27.9 | 32.9 |
| 2-Oct | 27 | 27 | 27 | 29 | A | 29 | 29 | 29 | 27 | 32 | 34 | 33 | 33 | 35 | 35 | 35 | 35 | 33 | 31 | 27 | 27 | 26 | 26 | 23 | 30.0 | 35.2 |
| 3-Oct | 22 | 21 | 20 | 20 | A | 19 | 16 | 16 | 20 | 21 | 25 | 29 | 35 | 36 | 38 | 38 | 38 | 35 | 30 | 32 | 31 | 27 | 28 | 30 | 27.2 | 38.3 |
| 4-Oct | 29 | 20 | 22 | 20 | A | 23 | 19 | 15 | 14 | 19 | 27 | 31 | 36 | 36 | 36 | 36 | 35 | 35 | 34 | 28 | 27 | 25 | 26 | 24 | 26.8 | 36.2 |
| 5-Oct | 21 | 21 | 20 | 19 | A | 18 | 18 | 15 | 17 | 21 | 24 | 26 | 26 | 27 | 28 | 28 | 28 | 28 | 24 | 23 | 22 | 22 | 16 | 14 | 22.0 | 28.1 |
| 6-Oct | 14 | 17 | 19 | 19 | A | 24 | 24 | 16 | 24 | 29 | 30 | 35 | 36 | 36 | 35 | 32 | 29 | 25 | 18 | 18 | 17 | 20 | 19 | 20 | 24.2 | 35.9 |
| 7-Oct | 18 | 17 | 16 | 14 | A | 12 | 11 | 11 | 11 | 11 | 11 | 12 | 12 | 12 | 13 | 13 | 12 | 12 | 12 | 12 | 15 | 16 | 16 | 16 | 13.3 | 18.2 |
| 8-Oct | 16 | 16 | 15 | 15 | A | 15 | 15 | 15 | 14 | 13 | 12 | 12 | 17 | 19 | 25 | 26 | 23 | 22 | 22 | 22 | 21 | 20 | 21 | 21 | 18.2 | 26.1 |
| 9-Oct | 20 | 18 | 17 | 17 | A | 17 | 17 | 17 | 17 | 17 | 17 | 20 | 18 | 19 | 19 | 19 | 20 | 19 | 18 | 17 | 18 | 17 | 17 | 17 | 17.9 | 19.8 |
| 10-Oct | 17 | 16 | 16 | 15 | A | 14 | 12 | 12 | 12 | 13 | 13 | 13 | 15 | 16 | 16 | 15 | 16 | 17 | 18 | 11 | 11 | 11 | 10 | 10 | 13.8 | 17.7 |
| 11-Oct | 9 | 9 | 9 | 7 | A | 8 | 5 | 8 | 11 | 16 | 17 | 22 | 34 | 32 | 34 | 34 | 33 | 33 | 30 | 28 | 28 | 27 | 26 | 23 | 20.8 | 33.6 |
| 12-Oct | 23 | 19 | 17 | 12 | A | 18 | 18 | 15 | 18 | 18 | 20 | 21 | 22 | 25 | 27 | 27 | 27 | 22 | 19 | 15 | 18 | 18 | 11 | 15 | 19.4 | 27.2 |
| 13-Oct | 16 | 21 | 21 | 23 | A | 24 | 23 | 20 | 20 | 21 | 25 | 26 | 31 | C | C | C | 30 | 29 | 25 | 22 | 22 | 21 | 22 | 21 | 23.1 | 30.5 |
| 14-Oct | 19 | 21 | 23 | 23 | A | 23 | 24 | 25 | 28 | 28 | 39 | 40 | 43 | 44 | 42 | 41 | 41 | 41 | 40 | 38 | 36 | 33 | 32 | 33 | 32.9 | 43.5 |
| 15-Oct | 33 | 32 | 31 | 33 | A | 38 | 37 | 40 | 42 | 43 | 42 | 42 | 42 | 41 | 41 | 40 | 39 | 37 | 36 | 34 | 33 | 33 | 34 | 34 | 37.2 | 42.6 |
| 16-Oct | 37 | 38 | 38 | 41 | A | 36 | 38 | 40 | 40 | 41 | 42 | 52 | 52 | 51 | 47 | 44 | 40 | 39 | 38 | 39 | 38 | 38 | 45 | 45 | 41.6 | 52.1 |
| 17-Oct | 47 | 49 | 52 | 54 | A | 52 | 49 | 45 | 46 | 49 | 49 | 49 | 49 | 48 | 47 | 47 | 47 | 46 | 46 | 44 | 43 | 42 | 42 | 41 | 47.2 | 54.3 |
| 18-Oct | 39 | 43 | 46 | 46 | A | 44 | 40 | 40 | 37 | 38 | 39 | 39 | 39 | 38 | 38 | 38 | 37 | 35 | 36 | 35 | 33 | 31 | 34 | 33 | 38.0 | 46.4 |
| 19-Oct | 33 | 28 | 30 | 30 | A | 26 | 26 | 26 | 22 | 19 | 23 | 29 | 34 | 33 | 34 | 37 | 37 | 33 | 34 | 34 | 35 | 34 | 33 | 29 | 30.4 | 37.1 |
| 20-Oct | 25 | 26 | 33 | 34 | A | 36 | 36 | 37 | 40 | 39 | 38 | 38 | 38 | 38 | 37 | 38 | 38 | 38 | 38 | 36 | 36 | 37 | 36 | 35 | 35.9 | 39.5 |
| 21-Oct | 34 | 34 | 33 | 34 | A | 35 | 33 | 33 | 27 | 26 | 30 | 32 | 41 | 40 | 40 | 40 | 39 | 36 | 36 | 35 | 34 | 32 | 32 | 31 | 34.1 | 40.9 |
| 22-Oct | 27 | 24 | 22 | 23 | A | 18 | 19 | 13 | 18 | 20 | 25 | 26 | 28 | 31 | 32 | 32 | 29 | 21 | 17 | 22 | 33 | 33 | 30 | 17 | 24.4 | 33.5 |
| 23-Oct | 19 | 22 | 22 | 22 | A | 16 | 14 | 15 | 15 | 17 | 21 | 22 | 25 | 32 | 32 | 32 | 30 | 20 | 17 | 24 | 21 | 17 | 16 | 10 | 21.0 | 32.1 |
| 24-Oct | 16 | 10 | 10 | 9 | A | 20 | 20 | 19 | 15 | 16 | 19 | 16 | 29 | 39 | 37 | 36 | 36 | 32 | 31 | 31 | 38 | 26 | 30 | 32 | 24.6 | 38.6 |
| 25-Oct | 29 | 28 | 25 | 27 | A | 23 | 24 | 24 | 19 | 25 | 27 | 30 | 31 | 35 | 37 | 38 | 37 | 36 | 36 | 36 | 36 | 32 | 32 | 34 | 30.5 | 38.0 |
| 26-Oct | 35 | 36 | 36 | 34 | A | 33 | 32 | 30 | 30 | 29 | 18 | 21 | 23 | 25 | 24 | 23 | 25 | 23 | 23 | 23 | 35 | 36 | 35 | 35 | 28.9 | 36.2 |
| 27-Oct | 35 | 35 | 35 | 36 | A | 35 | 35 | 37 | 35 | 34 | 35 | 35 | 35 | 35 | 35 | 35 | 34 | 32 | 31 | 33 | 33 | 32 | 33 | 30 | 34.2 | 36.8 |
| 28-Oct | 31 | 32 | 29 | 30 | A | 31 | 28 | 28 | 25 | 20 | 20 | 20 | 19 | 18 | 19 | 18 | 17 | 17 | 19 | 19 | 19 | 16 | 19 | 19 | 22.4 | 31.7 |
| 29-Oct | 19 | 19 | 15 | 13 | A | 8 | 8 | 10 | 12 | 13 | 16 | 22 | 33 | 35 | 34 | 34 | 34 | 30 | 30 | 32 | 30 | 29 | 29 | 25 | 23.0 | 34.5 |
| 30-Oct | 25 | 25 | 25 | 21 | A | 27 | 26 | 26 | 29 | 30 | 32 | 34 | 34 | 34 | 36 | 36 | 35 | 34 | 33 | 47 | 31 | 29 | 30 | 30 | 30.8 | 47.0 |
| 31-Oct | 27 | 26 | 23 | 28 | A | 25 | 22 | 17 | 16 | 20 | 20 | 21 | 22 | 21 | 27 | 29 | 24 | 15 | 17 | 17 | 12 | 16 | 15 | 16 | 20.8 | 28.6 |
| | 25.5 | 25.1 | 24.8 | 24.8 | -- | 24.7 | 23.8 | 23.2 | 23.4 | 24.7 | 26.5 | 28.4 | 31.1 | 32.1 | 32.6 | 32.4 | 31.5 | 29.2 | 28.0 | 28.0 | 27.8 | 26.6 | 26.5 | 25.5 | Diurnal Average | |
| | 47.1 | 49.3 | 51.8 | 54.3 | -- | 52.0 | 49.3 | 45.3 | 46.2 | 49.0 | 48.5 | 52.1 | 51.7 | 50.6 | 46.7 | 47.1 | 47.5 | 46.2 | 46.1 | 47.0 | 43.2 | 42.0 | 44.9 | 44.8 | Diurnal Maximum | |

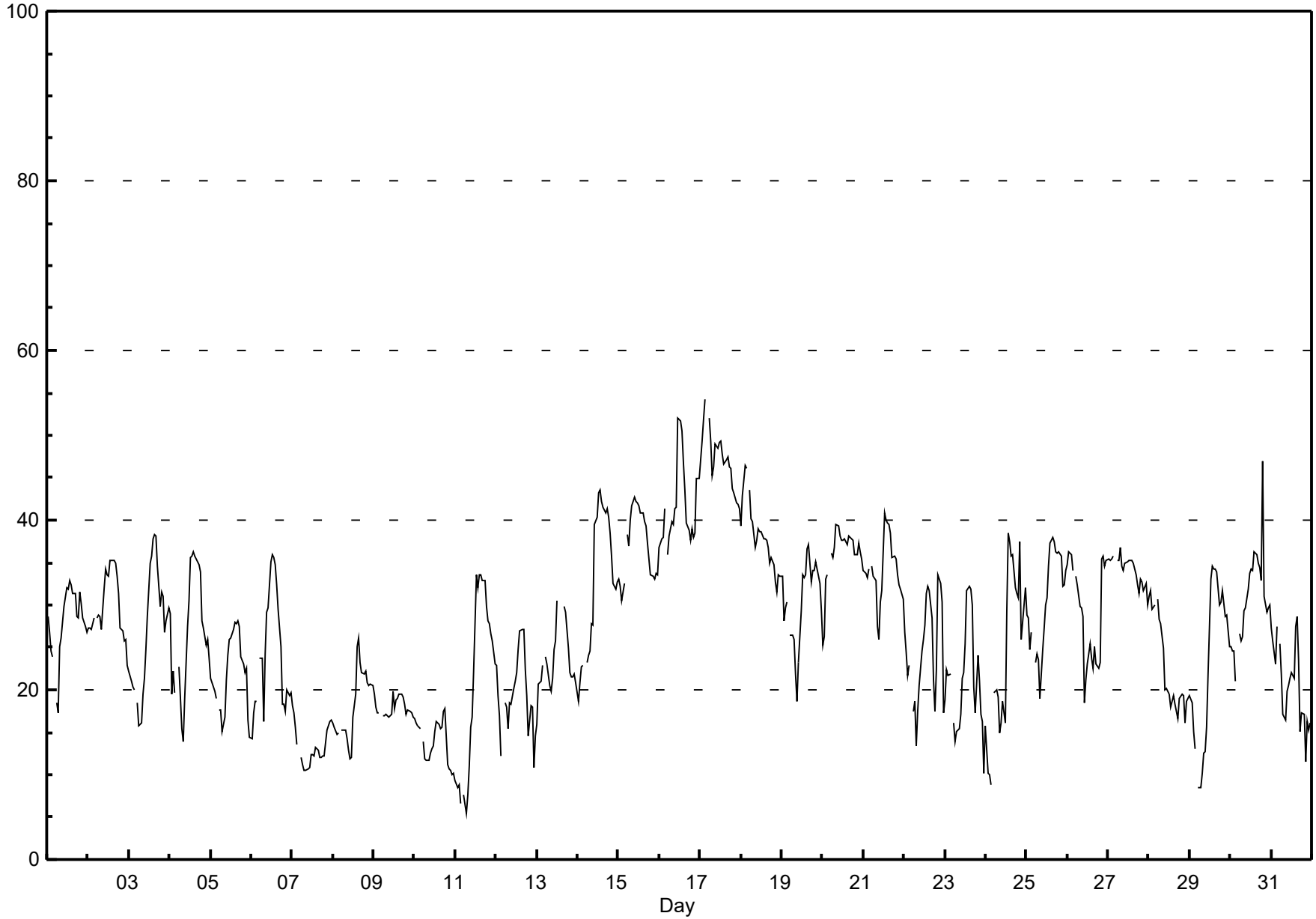
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

**Ozone ($O_3$) - ppb**

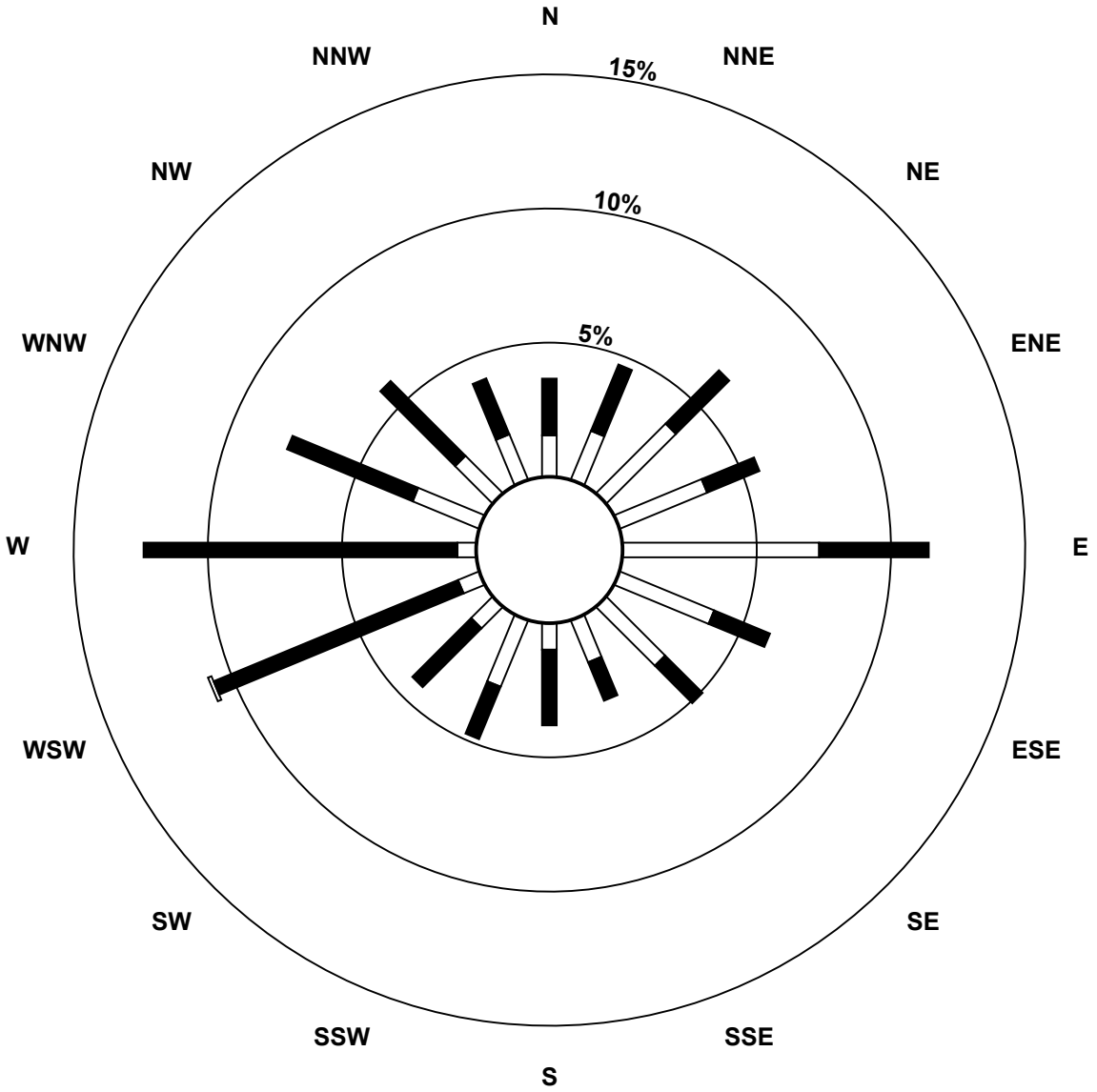
**Beaverlodge - October 2018**



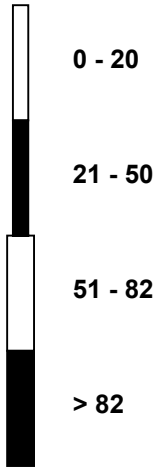
# Pollutant Rose

**Ozone ($O_3$) - ppb**

**Beaverlodge - October 2018**




**Pollutant Classes (ppb)**



Peace Airshed Zone Association

# Eight Hour Running Averages

## Ozone ($O_3$) - ppb

## Beaverlodge - October 2018

Maximum Value: 47.0 ppb on Oct 17 07:00

Minimum Value: 6.2 ppb on Oct 11 08:00

Percentiles: $P_1$ = 7.7 $P_{10}$ = 13.4 $Q_1$ = 16.9 Median = 24.0 $Q_3$ = 31.6 $P_{90}$ = 35.9 $P_{99}$ = 45.4

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 738 |
| Hours of Missing Data: | 6 |
| Hours of Calibration: | 6 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| 1-Oct | 28 | 27 | 27 | 26 | 25 | 24 | 22 | 20 | 20 | 20 | 21 | 22 | 23 | 25 | 27 | 29 | 30 | 30 | 30 | 30 | 29 | 29 | 28 | 28 | 29.7 |
| 2-Oct | 27 | 27 | 27 | 27 | 26 | 26 | 27 | 27 | 27 | 27 | 28 | 29 | 29 | 30 | 31 | 32 | 33 | 33 | 33 | 32 | 31 | 30 | 28 | 27 | 33.2 |
| 3-Oct | 25 | 24 | 22 | 22 | 21 | 20 | 19 | 17 | 17 | 17 | 17 | 18 | 20 | 22 | 25 | 28 | 31 | 32 | 32 | 33 | 33 | 31 | 30 | 29 | 33.0 |
| 4-Oct | 27 | 25 | 24 | 23 | 22 | 21 | 19 | 18 | 16 | 16 | 17 | 18 | 20 | 22 | 24 | 27 | 30 | 32 | 33 | 33 | 32 | 30 | 29 | 28 | 33.2 |
| 5-Oct | 26 | 24 | 22 | 21 | 20 | 19 | 17 | 16 | 15 | 14 | 14 | 16 | 17 | 19 | 20 | 22 | 24 | 25 | 26 | 25 | 24 | 24 | 22 | 20 | 25.8 |
| 6-Oct | 18 | 17 | 16 | 16 | 15 | 14 | 14 | 14 | 14 | 14 | 16 | 18 | 20 | 22 | 25 | 27 | 29 | 29 | 28 | 26 | 24 | 22 | 20 | 19 | 29.3 |
| 7-Oct | 18 | 17 | 17 | 16 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 10 | 10 | 10 | 11 | 11 | 11 | 11 | 11 | 11 | 12 | 12 | 12 | 13 | 17.6 |
| 8-Oct | 13 | 14 | 14 | 15 | 15 | 15 | 15 | 15 | 14 | 14 | 13 | 13 | 13 | 14 | 14 | 16 | 17 | 18 | 19 | 20 | 21 | 21 | 21 | 20 | 21.2 |
| 9-Oct | 20 | 20 | 19 | 19 | 18 | 18 | 17 | 17 | 17 | 16 | 16 | 16 | 17 | 17 | 17 | 17 | 18 | 18 | 18 | 18 | 18 | 18 | 17 | 17 | 20.0 |
| 10-Oct | 17 | 16 | 16 | 16 | 16 | 15 | 14 | 13 | 12 | 12 | 11 | 11 | 11 | 11 | 12 | 13 | 13 | 14 | 14 | 14 | 13 | 13 | 12 | 11 | 16.6 |
| 11-Oct | 10 | 9 | 8 | 8 | 8 | 7 | 6 | 6 | 6 | 7 | 8 | 10 | 12 | 15 | 19 | 23 | 25 | 28 | 29 | 30 | 30 | 29 | 28 | 26 | 30.4 |
| 12-Oct | 25 | 23 | 21 | 19 | 18 | 17 | 15 | 14 | 13 | 13 | 14 | 16 | 16 | 18 | 19 | 21 | 22 | 22 | 22 | 21 | 20 | 19 | 16 | 15 | 24.7 |
| 13-Oct | 13 | 13 | 13 | 15 | 15 | 16 | 18 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 22 | N | N | N | N | N | N | 23 | 22 | 22 | 22.8 |
| 14-Oct | 21 | 20 | 20 | 20 | 20 | 20 | 21 | 21 | 22 | 23 | 25 | 27 | 29 | 32 | 34 | 36 | 37 | 39 | 40 | 40 | 39 | 37 | 36 | 35 | 39.9 |
| 15-Oct | 35 | 33 | 32 | 32 | 31 | 32 | 33 | 34 | 35 | 36 | 38 | 39 | 40 | 40 | 40 | 40 | 40 | 39 | 38 | 37 | 36 | 35 | 34 | 33 | 40.5 |
| 16-Oct | 33 | 33 | 33 | 34 | 34 | 35 | 35 | 36 | 36 | 36 | 36 | 38 | 39 | 41 | 42 | 43 | 43 | 44 | 43 | 42 | 40 | 38 | 38 | 38 | 43.5 |
| 17-Oct | 38 | 40 | 41 | 43 | 44 | 46 | 47 | 47 | 47 | 47 | 46 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 44 | 43 | 43 | 43 | 47.0 |
| 18-Oct | 42 | 41 | 41 | 41 | 41 | 41 | 41 | 39 | 38 | 38 | 37 | 36 | 36 | 35 | 35 | 36 | 37 | 36 | 36 | 35 | 34 | 33 | 32 | 31 | 41.6 |
| 19-Oct | 30 | 29 | 28 | 28 | 28 | 27 | 26 | 23 | 20 | 18 | 17 | 16 | 18 | 20 | 21 | 24 | 27 | 29 | 31 | 32 | 33 | 33 | 33 | 32 | 32.9 |
| 20-Oct | 30 | 29 | 29 | 28 | 28 | 28 | 29 | 30 | 32 | 34 | 36 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 36 | 36 | 36 | 35 | 34 | 36.1 |
| 21-Oct | 34 | 33 | 32 | 32 | 32 | 32 | 31 | 31 | 30 | 29 | 28 | 27 | 28 | 29 | 31 | 32 | 33 | 34 | 35 | 36 | 35 | 34 | 33 | 32 | 35.9 |
| 22-Oct | 31 | 29 | 28 | 26 | 25 | 22 | 20 | 17 | 16 | 15 | 15 | 15 | 17 | 19 | 21 | 24 | 25 | 25 | 24 | 23 | 24 | 23 | 21 | 18 | 30.7 |
| 23-Oct | 16 | 16 | 16 | 16 | 14 | 12 | 12 | 12 | 12 | 12 | 12 | 13 | 15 | 17 | 19 | 21 | 23 | 24 | 24 | 24 | 23 | 21 | 19 | 16 | 24.1 |
| 24-Oct | 13 | 12 | 10 | 8 | 7 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 15 | 18 | 20 | 23 | 25 | 27 | 28 | 30 | 31 | 29 | 28 | 27 | 31.1 |
| 25-Oct | 27 | 27 | 26 | 25 | 25 | 25 | 24 | 21 | 20 | 19 | 19 | 19 | 21 | 21 | 24 | 27 | 29 | 31 | 32 | 33 | 34 | 34 | 33 | 33 | 33.9 |
| 26-Oct | 32 | 32 | 32 | 31 | 31 | 31 | 32 | 31 | 31 | 29 | 26 | 24 | 23 | 22 | 20 | 19 | 18 | 17 | 18 | 18 | 20 | 22 | 24 | 26 | 32.1 |
| 27-Oct | 28 | 30 | 32 | 34 | 35 | 34 | 35 | 35 | 35 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 33 | 33 | 32 | 31 | 30 | 30 | 29 | 34.7 |
| 28-Oct | 29 | 29 | 29 | 29 | 29 | 29 | 28 | 28 | 27 | 25 | 24 | 23 | 22 | 21 | 20 | 18 | 17 | 17 | 16 | 16 | 15 | 15 | 14 | 14 | 29.2 |
| 29-Oct | 15 | 15 | 15 | 14 | 14 | 14 | 13 | 11 | 10 | 10 | 10 | 11 | 13 | 16 | 19 | 22 | 25 | 27 | 29 | 30 | 30 | 29 | 28 | 27 | 29.9 |
| 30-Oct | 26 | 26 | 25 | 24 | 23 | 23 | 22 | 23 | 23 | 24 | 26 | 28 | 28 | 29 | 31 | 32 | 33 | 33 | 33 | 33 | 32 | 31 | 30 | 29 | 33.3 |
| 31-Oct | 28 | 27 | 26 | 25 | 25 | 24 | 23 | 21 | 20 | 17 | 16 | 16 | 16 | 15 | 16 | 17 | 17 | 18 | 18 | 17 | 16 | 16 | 15 | 14 | 28.1 |
| Diurnal Maximums | 41.6 | 40.9 | 41.4 | 43.3 | 44.4 | 46.3 | 47.0 | 47.0 | 47.0 | 46.7 | 46.0 | 45.1 | 45.4 | 45.2 | 45.0 | 45.2 | 45.4 | 45.3 | 45.3 | 44.8 | 44.0 | 43.3 | 42.9 | 42.6 | |

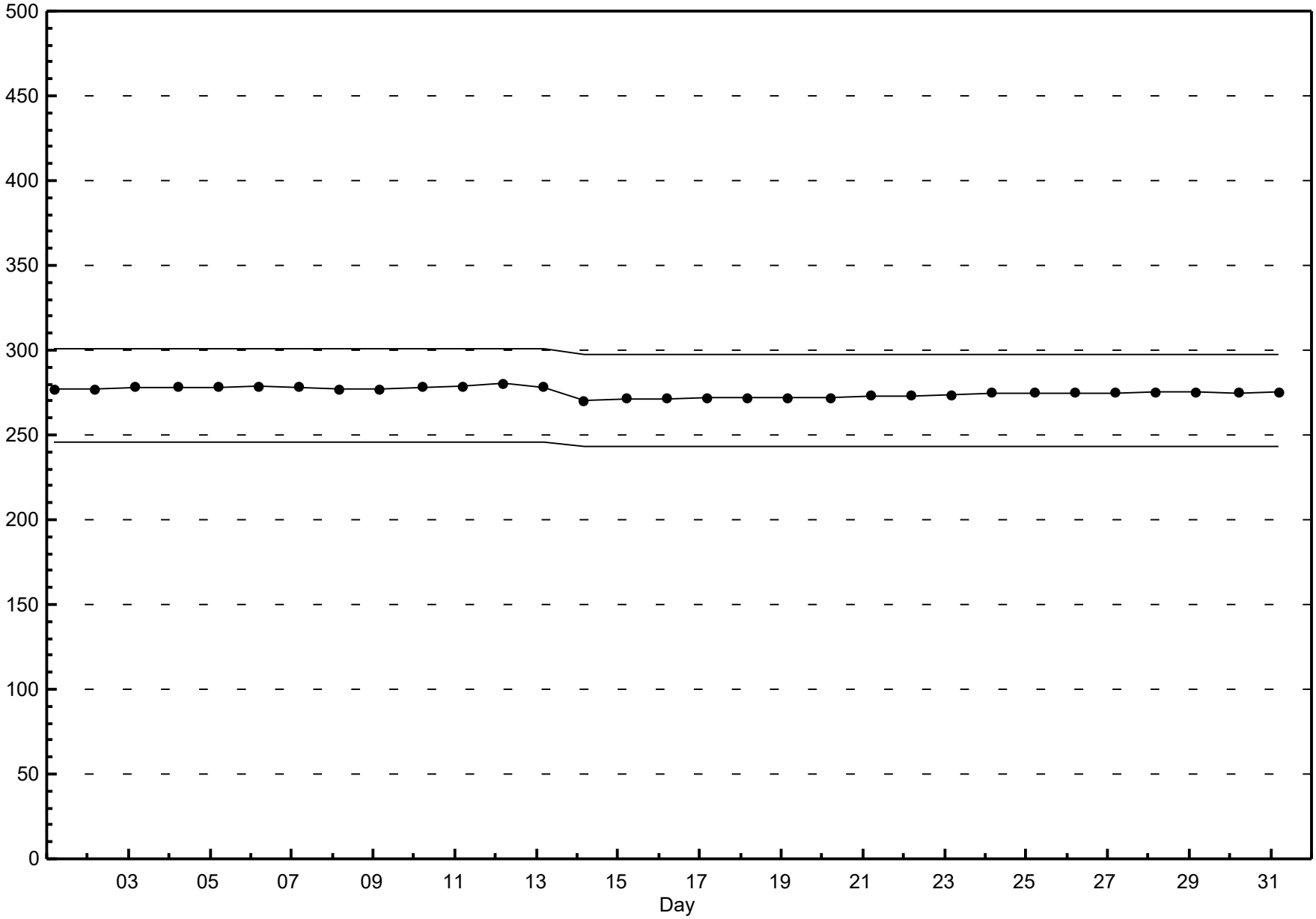
N - Not Valid

Peace Airshed Zone Association

# Span Responses

**Ozone ($O_3$)**

**Beaverlodge - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

## Beaverlodge - October 2018

Number of Exceedences: 1-hr: 0 24-hr: 0

Maximum Value: 14.2 $\mu g/m^3$ on Oct 24 00:00

Maximum Daily Average: 9.3 $\mu g/m^3$ on Oct 24

Minimum Value: 1 $\mu g/m^3$ on Oct 25 16:00

Maximum Diurnal Average: 6.8 $\mu g/m^3$ at hour 2

Monthly Average: 4.76 $\mu g/m^3$

Minimum Daily Average: 2.2 $\mu g/m^3$ on Oct 14

Minimum Diurnal Average: 2.5 $\mu g/m^3$ at hour 16

Percentiles: $P_1$ = 1.4 $P_{10}$ = 1.8 $Q_1$ = 2.5 Median = 4.2 $Q_3$ = 6.4 $P_{90}$ = 8.5 $P_{99}$ = 13.2

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Average | Maximum |
| 1-Oct | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 5 | 4 | 4 | 4 | 3.5 | 4.5 |
| 2-Oct | 4 | 4 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 2.4 | 3.8 |
| 3-Oct | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 5 | 6 | 6 | 6 | 2.7 | 5.8 |
| 4-Oct | 5 | 7 | 6 | 7 | 7 | 6 | 8 | 10 | 9 | 9 | 7 | 6 | 4 | 3 | 2 | 2 | 3 | 5 | 5 | 7 | 8 | 9 | 9 | 9 | 6.4 | 9.6 |
| 5-Oct | 8 | 8 | 8 | 7 | 7 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 5 | 6 | 7 | 8 | 8 | 5.1 | 8.4 |
| 6-Oct | 8 | 9 | 8 | 7 | 7 | 7 | 6 | 6 | 6 | 6 | 5 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 6 | 5.1 | 8.5 |
| 7-Oct | 7 | 8 | 9 | 9 | 9 | 8 | 8 | 7 | 8 | 7 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 6.2 | 9.1 |
| 8-Oct | 4 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 3.0 | 4.5 |
| 9-Oct | 6 | 8 | 9 | 9 | 9 | 9 | 8 | 8 | 9 | 9 | 9 | 8 | 7 | 6 | 5 | 5 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 6.6 | 9.4 |
| 10-Oct | 6 | 7 | 7 | 7 | 7 | 7 | 8 | 7 | 7 | 7 | 7 | 8 | 8 | 7 | 7 | 7 | 7 | 6 | 6 | 7 | 7 | 7 | 8 | 8 | 7.1 | 8.0 |
| 11-Oct | 9 | 10 | 9 | 9 | 8 | 7 | 6 | 6 | 5 | 5 | 4 | 4 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 4.5 | 9.5 |
| 12-Oct | 4 | 5 | 5 | 6 | 5 | 5 | 5 | 4 | 5 | 6 | 6 | 6 | 5 | 5 | 4 | 4 | 5 | 6 | 5 | 5 | 5 | 5 | 5 | 4 | 5.0 | 5.9 |
| 13-Oct | 6 | 6 | 6 | 5 | 4 | 4 | 4 | 3 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 5 | 5 | 5 | 3.5 | 6.1 |
| 14-Oct | 4 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2.2 | 3.8 |
| 15-Oct | 3 | 4 | 4 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 2 | 2 | 3 | 4 | 3 | 5 | 7 | 8 | 9 | 9 | 4.5 | 9.2 |
| 16-Oct | 9 | 10 | 10 | 9 | 10 | 9 | 8 | 8 | 7 | 5 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 6 | 8 | 9 | 9 | 5.9 | 9.6 |
| 17-Oct | 11 | 12 | 11 | 9 | 8 | 7 | 7 | 6 | 7 | 8 | 7 | 6 | 5 | 4 | 4 | 3 | 2 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 6.1 | 11.8 |
| 18-Oct | 8 | 8 | 8 | 7 | 7 | 7 | 7 | 8 | 7 | 6 | 4 | 4 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 4 | 5 | 5 | 6 | 6 | 5.2 | 8.4 |
| 19-Oct | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 6 | 5 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 5 | 5 | 6 | 6 | 4.5 | 6.7 |
| 20-Oct | 8 | 8 | 8 | 7 | 5 | 4 | 4 | 4 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 5 | 6 | 6 | 6 | 4.2 | 8.3 |
| 21-Oct | 6 | 6 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 5 | 5 | 5 | 5 | 3.6 | 6.0 |
| 22-Oct | 7 | 8 | 9 | 9 | 9 | 9 | 8 | 9 | 8 | 6 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 6 | 7 | 8 | 10 | 11 | 13 | 6.5 | 13.1 |
| 23-Oct | 14 | 13 | 13 | 13 | 13 | 12 | 12 | 10 | 10 | 8 | 5 | 4 | 3 | 2 | 2 | 2 | 2 | 4 | 7 | 9 | 11 | 12 | 14 | 14 | 8.7 | 14.2 |
| 24-Oct | 13 | 14 | 14 | 14 | 13 | 12 | 10 | 10 | 11 | 10 | 9 | 7 | 6 | 6 | 6 | 5 | 5 | 5 | 6 | 8 | 8 | 10 | 10 | 9 | 9.3 | 14.1 |
| 25-Oct | 9 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 6 | 5 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 4.7 | 8.8 |
| 26-Oct | 5 | 6 | 6 | 6 | 5 | 5 | 5 | 4 | 5 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 2 | 2 | 3 | 4 | 4 | 3 | 3 | 3 | 3.9 | 6.2 |
| 27-Oct | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 5 | 6 | 6 | 6 | 6 | 2.9 | 6.3 |
| 28-Oct | 5 | 4 | 4 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 3 | 3 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 4.1 | 6.3 |
| 29-Oct | 7 | 7 | 6 | 6 | 6 | 5 | 5 | 5 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 3 | 3 | 3.6 | 6.7 |
| 30-Oct | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 3.2 | 4.4 |
| 31-Oct | 4 | 4 | 3 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3.5 | 4.4 |
| | 6.4 | 6.8 | 6.7 | 6.4 | 6.1 | 5.8 | 5.5 | 5.4 | 5.3 | 4.9 | 4.2 | 3.5 | 3.0 | 2.7 | 2.6 | 2.5 | 2.6 | 3.0 | 3.6 | 4.5 | 5.2 | 5.7 | 5.9 | 6.0 | Diurnal Average | |
| | 13.7 | 14.1 | 14.0 | 13.7 | 13.1 | 12.3 | 11.7 | 10.5 | 10.9 | 10.0 | 8.7 | 8.0 | 7.8 | 7.0 | 7.0 | 6.6 | 6.8 | 6.4 | 7.2 | 9.2 | 11.3 | 12.5 | 13.8 | 14.2 | Diurnal Maximum | |

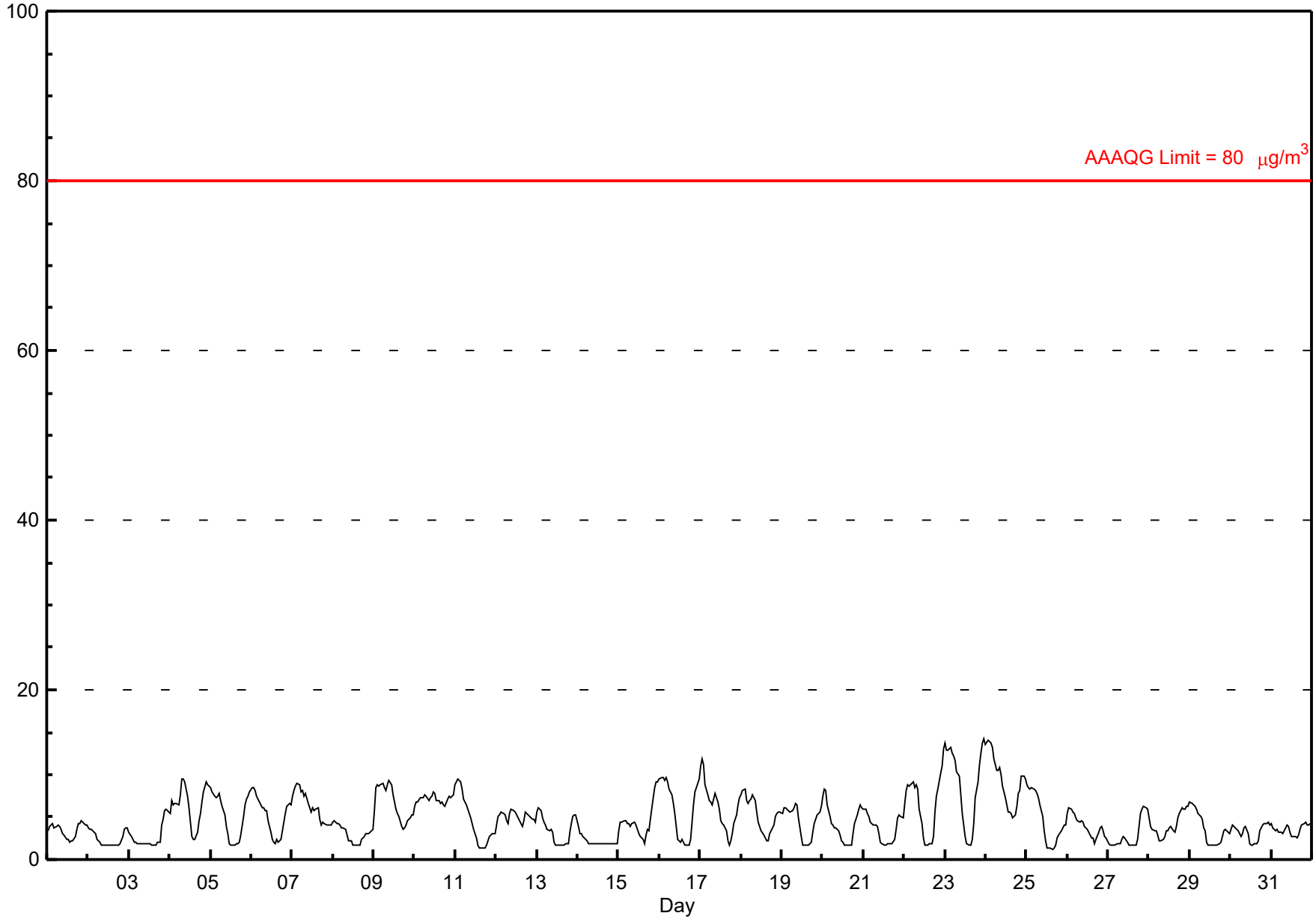
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

## Hourly Averages

**Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$**

**Beaverlodge - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

## Beaverlodge - October 2018

Maximum Value: 15.1 $\mu g/m^3$ on Oct 24 00:00

Maximum Daily Average: 10.0 $\mu g/m^3$ on Oct 24

Minimum Value: 1 $\mu g/m^3$ on Oct 25 16:00

Maximum Diurnal Average: 7.1 $\mu g/m^3$ at hour 1

Monthly Average: 5.21 $\mu g/m^3$

Minimum Daily Average: 2.3 $\mu g/m^3$ on Oct 14

Minimum Diurnal Average: 2.7 $\mu g/m^3$ at hour 16

Percentiles: $P_1$ = 1.6 $P_{10}$ = 1.9 $Q_1$ = 2.9 Median = 4.6 $Q_3$ = 7.0 $P_{90}$ = 9.0 $P_{99}$ = 14.1

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

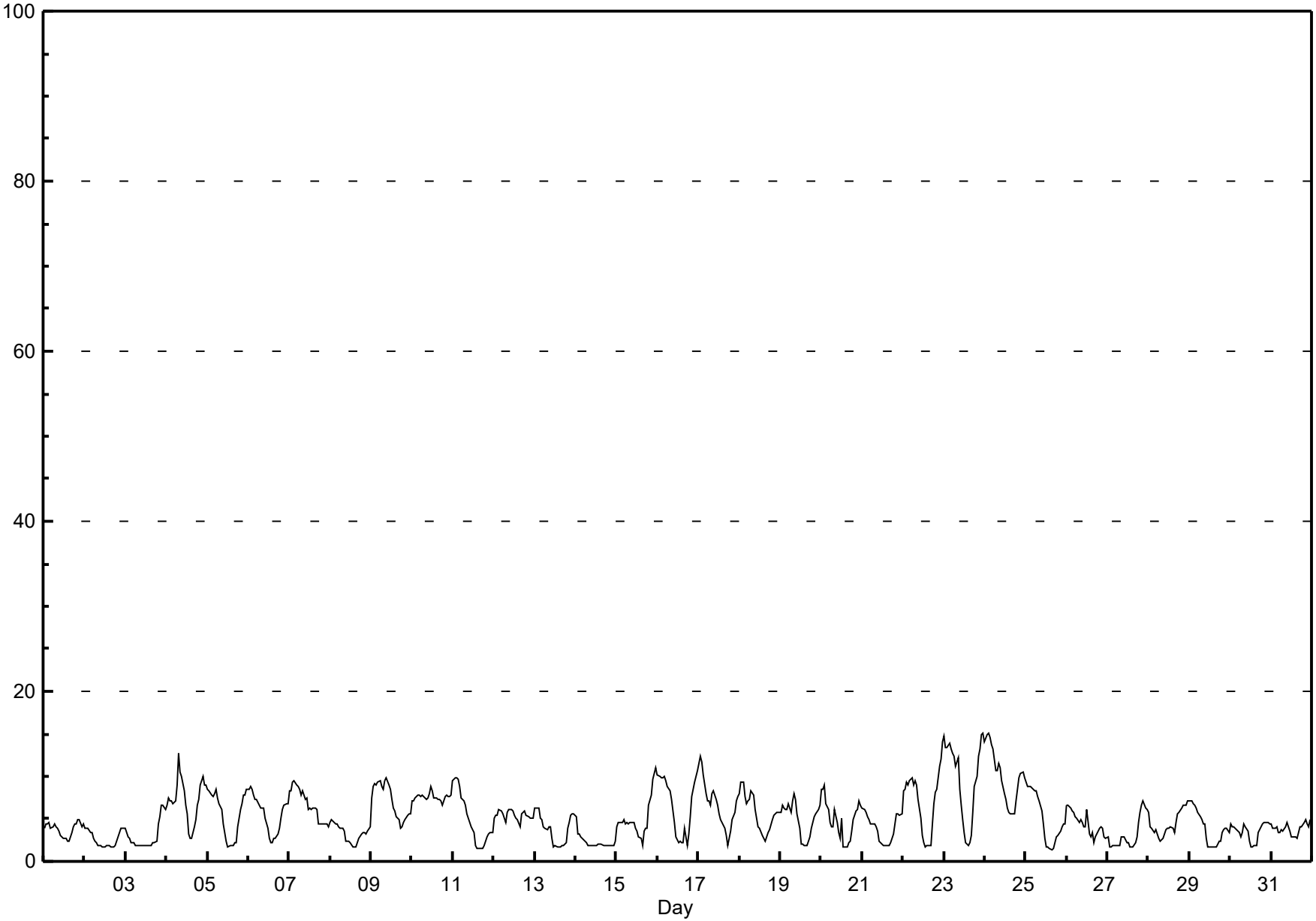
| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Average | Maximum |
| 1-Oct | 4 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 4 | 4 | 4 | 5 | 5 | 4 | 4 | 3.8 | 4.9 |
| 2-Oct | 4 | 4 | 4 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 2.6 | 3.9 |
| 3-Oct | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 5 | 7 | 7 | 6 | 3.0 | 6.6 |
| 4-Oct | 7 | 8 | 7 | 7 | 7 | 7 | 9 | 13 | 10 | 10 | 8 | 7 | 6 | 3 | 3 | 3 | 4 | 5 | 7 | 7 | 9 | 10 | 9 | 9 | 7.2 | 12.7 |
| 5-Oct | 9 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 6 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 6 | 7 | 8 | 8 | 9 | 5.5 | 8.5 |
| 6-Oct | 9 | 9 | 9 | 8 | 7 | 7 | 7 | 6 | 6 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 3 | 3 | 4 | 5 | 6 | 7 | 7 | 7 | 5.6 | 8.8 |
| 7-Oct | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 8 | 8 | 7 | 8 | 6 | 6 | 6 | 6 | 6 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 6.7 | 9.5 |
| 8-Oct | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 3.3 | 4.8 |
| 9-Oct | 8 | 9 | 9 | 9 | 9 | 10 | 9 | 9 | 10 | 10 | 9 | 8 | 7 | 6 | 6 | 5 | 5 | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 7.1 | 9.8 |
| 10-Oct | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 8 | 8 | 9 | 8 | 8 | 8 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 7.6 | 8.8 |
| 11-Oct | 10 | 10 | 10 | 10 | 9 | 8 | 7 | 7 | 6 | 5 | 5 | 4 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 4.8 | 9.8 |
| 12-Oct | 5 | 5 | 5 | 6 | 6 | 6 | 5 | 5 | 6 | 6 | 6 | 6 | 5 | 5 | 5 | 4 | 6 | 6 | 6 | 5 | 5 | 5 | 5 | 5 | 5.4 | 6.1 |
| 13-Oct | 6 | 6 | 6 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 5 | 5 | 6 | 6 | 3.8 | 6.3 |
| 14-Oct | 5 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2.3 | 5.3 |
| 15-Oct | 4 | 5 | 5 | 5 | 5 | 4 | 5 | 4 | 5 | 5 | 5 | 4 | 4 | 3 | 3 | 2 | 4 | 4 | 4 | 7 | 8 | 10 | 10 | 11 | 5.1 | 11.0 |
| 16-Oct | 10 | 10 | 10 | 10 | 10 | 10 | 9 | 8 | 7 | 6 | 5 | 3 | 2 | 2 | 2 | 2 | 4 | 2 | 3 | 5 | 8 | 9 | 9 | 11 | 6.5 | 10.7 |
| 17-Oct | 11 | 12 | 12 | 10 | 8 | 7 | 7 | 7 | 8 | 8 | 7 | 7 | 6 | 5 | 5 | 4 | 3 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 6.7 | 12.4 |
| 18-Oct | 8 | 9 | 9 | 8 | 7 | 7 | 7 | 8 | 8 | 6 | 5 | 4 | 4 | 3 | 3 | 2 | 3 | 3 | 4 | 5 | 5 | 6 | 6 | 6 | 5.7 | 9.3 |
| 19-Oct | 6 | 7 | 6 | 6 | 6 | 7 | 6 | 7 | 8 | 7 | 6 | 4 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 5 | 5 | 6 | 6 | 7 | 5.0 | 8.0 |
| 20-Oct | 8 | 9 | 9 | 7 | 6 | 5 | 4 | 4 | 6 | 5 | 3 | 3 | 5 | 2 | 2 | 2 | 2 | 2 | 4 | 5 | 6 | 6 | 7 | 7 | 4.9 | 9.0 |
| 21-Oct | 6 | 6 | 6 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 6 | 6 | 5 | 6 | 4.0 | 6.3 |
| 22-Oct | 8 | 9 | 9 | 9 | 9 | 10 | 9 | 10 | 9 | 7 | 5 | 3 | 2 | 2 | 2 | 2 | 2 | 4 | 7 | 8 | 9 | 11 | 12 | 14 | 7.2 | 14.2 |
| 23-Oct | 15 | 13 | 13 | 14 | 13 | 13 | 12 | 11 | 12 | 9 | 7 | 5 | 3 | 2 | 2 | 2 | 3 | 6 | 9 | 10 | 12 | 13 | 15 | 15 | 9.6 | 15.1 |
| 24-Oct | 14 | 15 | 15 | 15 | 14 | 13 | 11 | 11 | 11 | 11 | 9 | 8 | 7 | 6 | 6 | 6 | 6 | 6 | 7 | 8 | 10 | 10 | 11 | 10 | 10.0 | 15.1 |
| 25-Oct | 9 | 9 | 9 | 9 | 9 | 8 | 8 | 8 | 7 | 6 | 4 | 3 | 2 | 2 | 1 | 1 | 1 | 2 | 3 | 3 | 4 | 4 | 4 | 4 | 5.0 | 9.3 |
| 26-Oct | 7 | 7 | 6 | 6 | 6 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 6 | 3 | 3 | 3 | 2 | 3 | 4 | 4 | 4 | 4 | 3 | 3 | 4.4 | 6.6 |
| 27-Oct | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 5 | 6 | 7 | 7 | 6 | 6 | 3.1 | 7.0 |
| 28-Oct | 6 | 4 | 4 | 3 | 4 | 3 | 3 | 2 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 3 | 5 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 4.5 | 7.0 |
| 29-Oct | 7 | 7 | 7 | 7 | 6 | 6 | 5 | 5 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 3 | 3.9 | 7.1 |
| 30-Oct | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 4 | 3.6 | 4.6 |
| 31-Oct | 4 | 4 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 5 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 4 | 4 | 5 | 3.9 | 4.9 |
| | 7.1 | 7.1 | 7.1 | 6.8 | 6.5 | 6.2 | 5.9 | 5.9 | 6.0 | 5.5 | 4.7 | 3.9 | 3.5 | 3.0 | 2.8 | 2.7 | 3.1 | 3.4 | 4.1 | 5.0 | 5.7 | 6.2 | 6.3 | 6.5 | Diurnal Average | |
| | 14.7 | 14.9 | 15.1 | 14.6 | 13.7 | 13.2 | 12.4 | 12.7 | 12.2 | 11.0 | 9.5 | 8.8 | 8.3 | 7.5 | 7.5 | 7.3 | 7.3 | 7.1 | 8.8 | 10.0 | 12.4 | 13.2 | 14.9 | 15.1 | Diurnal Maximum | |

Peace Airshed Zone Association

# Hourly Maximums

**Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$**

**Beaverlodge - October 2018**

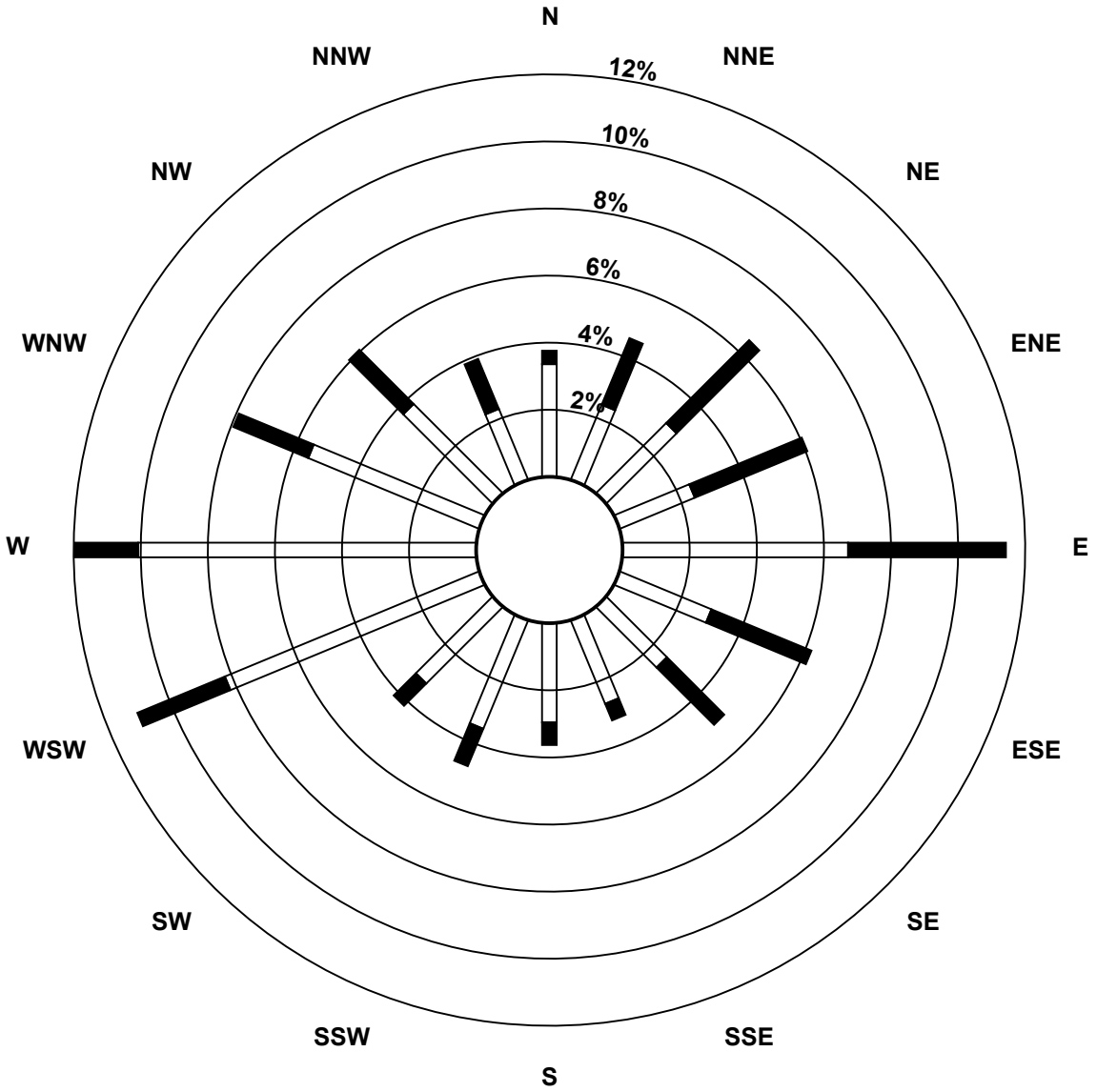


Peace Airshed Zone Association

# Pollutant Rose

## Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

## Beaverlodge - October 2018




**Pollutant Classes ($\mu g/m^3$)**

- 0 - 5
- 6 - 15
- 16 - 25
- 26 - 80
- > 80.0

Peace Airshed Zone Association

# Hourly Averages

## External Temperature (ET) - °C

## Beaverlodge - October 2018

Maximum Value: 20.7 °C on Oct 16 15:00

Maximum Daily Average: 14.5 °C on Oct 17

Minimum Value: -7 °C on Oct 3 07:00

Minimum Daily Average: -3.4 °C on Oct 2

Maximum Diurnal Average: 8.1 °C at hour 15

Minimum Diurnal Average: 0.9 °C at hour 8

Monthly Average: 3.99 °C

Percentiles: $P_1$ = -6.6 $P_{10}$ = -2.1 $Q_1$ = -0.2 Median = 2.7 $Q_3$ = 8.3 $P_{90}$ = 12.0 $P_{99}$ = 18.2

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

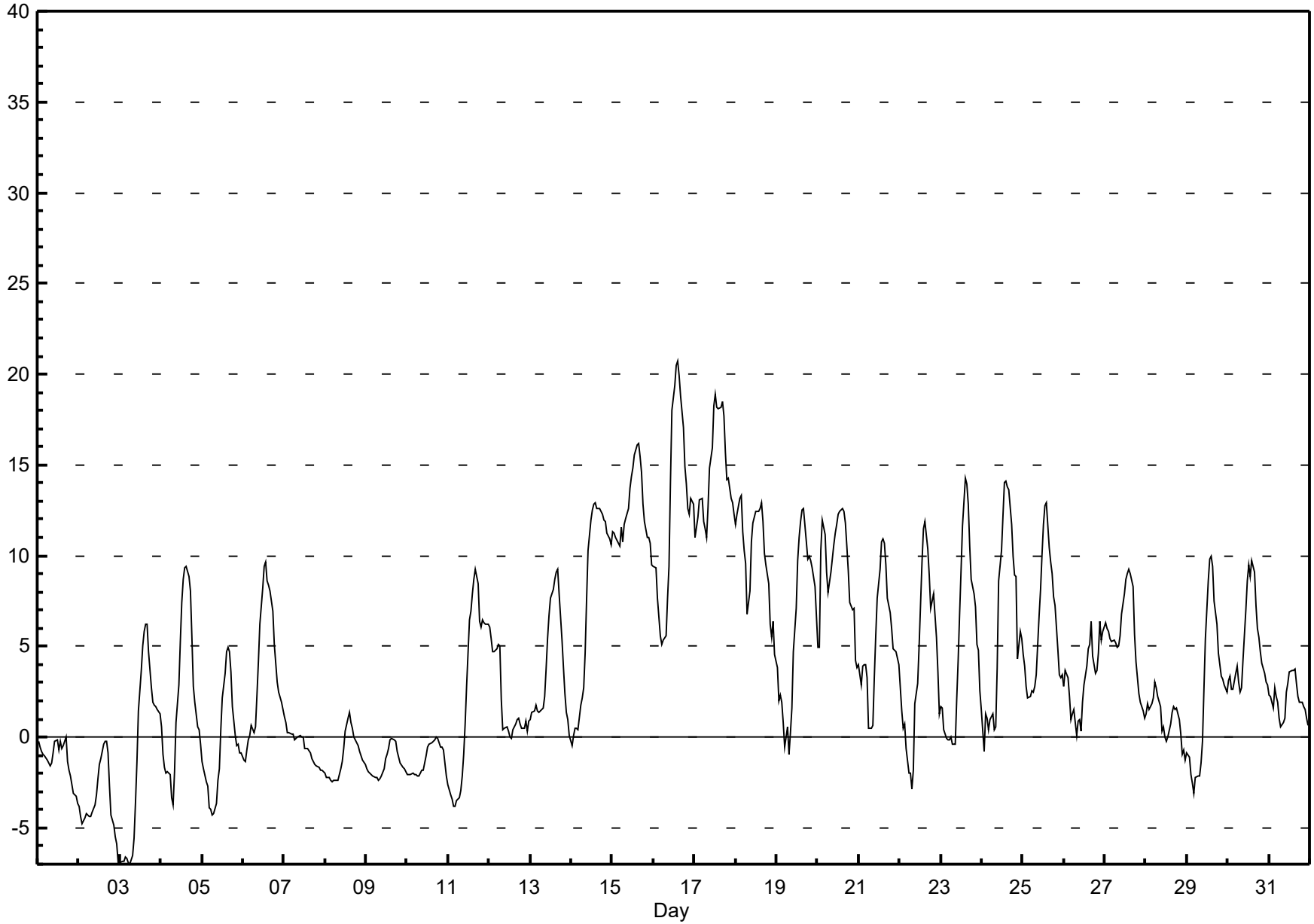
| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Average | Maximum |
| 1-Oct | 0 | -1 | -1 | -1 | -1 | -1 | -1 | -2 | -1 | -1 | 0 | 0 | -1 | 0 | -1 | 0 | 0 | -1 | -2 | -2 | -3 | -3 | -3 | -4 | -1.3 | 0.0 |
| 2-Oct | -4 | -4 | -5 | -4 | -4 | -4 | -4 | -4 | -4 | -4 | -3 | -2 | -2 | -1 | 0 | 0 | 0 | -1 | -3 | -4 | -5 | -5 | -6 | -7 | -3.4 | -0.2 |
| 3-Oct | -7 | -7 | -7 | -7 | -7 | -7 | -7 | -7 | -6 | -4 | -1 | 1 | 4 | 5 | 6 | 6 | 6 | 5 | 3 | 2 | 2 | 2 | 2 | 1 | -0.9 | 6.2 |
| 4-Oct | 1 | -1 | -2 | -2 | -2 | -2 | -3 | -4 | -2 | 1 | 3 | 5 | 7 | 9 | 9 | 9 | 9 | 8 | 6 | 3 | 2 | 1 | 0 | 0 | 2.3 | 9.4 |
| 5-Oct | -1 | -2 | -2 | -3 | -4 | -4 | -4 | -4 | -4 | -2 | -2 | 0 | 2 | 4 | 5 | 5 | 5 | 4 | 2 | 0 | 0 | 0 | -1 | -1 | -0.4 | 4.9 |
| 6-Oct | -1 | -1 | -1 | 0 | 0 | 1 | 0 | 1 | 2 | 4 | 6 | 8 | 9 | 10 | 9 | 8 | 8 | 7 | 5 | 4 | 3 | 2 | 2 | 2 | 3.7 | 9.6 |
| 7-Oct | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | -1 | -1 | -1 | -1 | -1 | -2 | -2 | -2 | -2 | -2 | -2 | -0.5 | 1.1 |
| 8-Oct | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -1 | -1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | -1 | -1 | -1 | -2 | -1.1 | 1.3 |
| 9-Oct | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -1 | -1 | -1 | 0 | 0 | 0 | 0 | -1 | -1 | -1 | -2 | -2 | -2 | -1.4 | 0.0 |
| 10-Oct | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -1 | -1 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | -1 | -1 | -1 | -2 | -1.2 | 0.0 |
| 11-Oct | -3 | -3 | -3 | -4 | -4 | -3 | -3 | -3 | -2 | -1 | 1 | 3 | 6 | 7 | 8 | 9 | 9 | 8 | 6 | 6 | 6 | 6 | 6 | 6 | 2.5 | 9.3 |
| 12-Oct | 6 | 5 | 5 | 5 | 5 | 5 | 5 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1.9 | 6.1 |
| 13-Oct | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 4 | 5 | 7 | 8 | 8 | 9 | 9 | 9 | 8 | 5 | 4 | 2 | 1 | 1 | 0 | 3.9 | 9.2 |
| 14-Oct | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 3 | 5 | 8 | 10 | 12 | 13 | 13 | 13 | 13 | 13 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 7.8 | 12.9 |
| 15-Oct | 11 | 11 | 11 | 11 | 11 | 12 | 11 | 12 | 12 | 13 | 14 | 14 | 15 | 16 | 16 | 16 | 15 | 15 | 13 | 12 | 11 | 11 | 11 | 9 | 12.6 | 16.2 |
| 16-Oct | 9 | 9 | 8 | 7 | 6 | 5 | 5 | 6 | 8 | 9 | 14 | 18 | 19 | 21 | 21 | 20 | 19 | 17 | 15 | 14 | 13 | 12 | 13 | 13 | 12.5 | 20.7 |
| 17-Oct | 11 | 12 | 12 | 13 | 13 | 12 | 11 | 11 | 13 | 15 | 16 | 18 | 19 | 18 | 18 | 18 | 18 | 18 | 16 | 14 | 14 | 13 | 13 | 12 | 14.5 | 18.9 |
| 18-Oct | 12 | 12 | 13 | 13 | 11 | 10 | 10 | 7 | 8 | 11 | 12 | 12 | 12 | 12 | 13 | 13 | 12 | 10 | 9 | 8 | 6 | 6 | 6 | 5 | 10.2 | 13.3 |
| 19-Oct | 4 | 2 | 2 | 2 | 1 | -1 | 1 | -1 | 0 | 2 | 5 | 7 | 10 | 11 | 12 | 13 | 13 | 11 | 10 | 10 | 10 | 9 | 8 | 7 | 6.1 | 12.6 |
| 20-Oct | 5 | 5 | 10 | 12 | 11 | 9 | 8 | 9 | 9 | 11 | 11 | 12 | 12 | 12 | 13 | 12 | 12 | 11 | 9 | 7 | 7 | 7 | 4 | 4 | 9.3 | 12.6 |
| 21-Oct | 4 | 3 | 4 | 4 | 4 | 3 | 0 | 0 | 1 | 3 | 6 | 8 | 9 | 11 | 11 | 11 | 9 | 8 | 7 | 6 | 5 | 5 | 5 | 4 | 5.4 | 10.9 |
| 22-Oct | 3 | 1 | 0 | 1 | -1 | -2 | -2 | -3 | -2 | 2 | 3 | 5 | 7 | 10 | 12 | 12 | 10 | 9 | 7 | 8 | 8 | 5 | 4 | 1 | 4.1 | 11.9 |
| 23-Oct | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 7 | 9 | 12 | 14 | 14 | 13 | 11 | 9 | 8 | 7 | 5 | 5 | 3 | 5.2 | 14.2 |
| 24-Oct | 2 | -1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 4 | 9 | 10 | 12 | 14 | 14 | 14 | 14 | 12 | 10 | 9 | 9 | 4 | 6 | 5 | 6.3 | 14.1 |
| 25-Oct | 5 | 4 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 7 | 8 | 10 | 12 | 13 | 13 | 10 | 10 | 9 | 8 | 7 | 5 | 3 | 3 | 3 | 6.2 | 12.9 |
| 26-Oct | 3 | 4 | 3 | 2 | 1 | 1 | 2 | 0 | 1 | 1 | 0 | 2 | 3 | 4 | 5 | 5 | 6 | 4 | 4 | 4 | 5 | 6 | 5 | 6 | 3.2 | 6.4 |
| 27-Oct | 6 | 6 | 6 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 7 | 8 | 9 | 9 | 9 | 9 | 8 | 6 | 4 | 3 | 2 | 2 | 1 | 1 | 5.6 | 9.2 |
| 28-Oct | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 2 | 1 | 0 | -1 | -1 | -1 | 1.0 | 3.0 |
| 29-Oct | -1 | -1 | -2 | -3 | -3 | -2 | -2 | -2 | -1 | 0 | 3 | 5 | 9 | 10 | 10 | 9 | 7 | 6 | 5 | 4 | 3 | 3 | 3 | 2 | 2.6 | 10.0 |
| 30-Oct | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 2 | 3 | 4 | 7 | 9 | 9 | 9 | 10 | 9 | 7 | 6 | 6 | 5 | 4 | 3 | 3 | 3 | 5.1 | 9.7 |
| 31-Oct | 2 | 2 | 2 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 3 | 4 | 4 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2.1 | 3.8 |
| | 2.2 | 1.9 | 1.9 | 1.9 | 1.6 | 1.5 | 1.2 | 0.9 | 1.5 | 2.9 | 4.4 | 5.8 | 7.0 | 7.6 | 8.1 | 8.1 | 7.7 | 6.6 | 5.4 | 4.6 | 4.1 | 3.5 | 3.1 | 2.6 | Diurnal Average | |
| | 11.7 | 12.3 | 13.2 | 13.3 | 13.2 | 11.9 | 11.5 | 11.8 | 12.7 | 14.8 | 15.9 | 18.3 | 19.3 | 20.5 | 20.7 | 20.0 | 18.8 | 17.7 | 15.7 | 14.2 | 14.3 | 13.2 | 13.2 | 12.8 | Diurnal Maximum | |

Peace Airshed Zone Association

# Hourly Averages

**External Temperature (ET) - $^{o}C$**

**Beaverlodge - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Relative Humidity (RH) - %

## Beaverlodge - October 2018

Maximum Value: 94.8 % on Oct 6 20:00

Maximum Daily Average: 67.6 % on Oct 25

Minimum Value: 27 % on Oct 23 15:00

Minimum Daily Average: 43.6 % on Oct 20

Maximum Diurnal Average: 67.8 % at hour 5

Minimum Diurnal Average: 41.1 % at hour 15

Monthly Average: 56.40 %

Percentiles: $P_1$ = 30.6 $P_{10}$ = 36.8 $Q_1$ = 45.5 Median = 56.4 $Q_3$ = 66.8 $P_{90}$ = 72.8 $P_{99}$ = 89.0

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 263 |
| Hours of Missing Data: | 481 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 35.4 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- | -- |
| 2-Oct | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- | -- |
| 3-Oct | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- | -- |
| 4-Oct | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- | -- |
| 5-Oct | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- | -- |
| 6-Oct | N | N | N | N | N | N | N | N | N | N | N | 56 | 49 | 49 | 57 | 58 | 64 | 73 | 94 | 95 | N | N | N | N | -- | 94.8 |
| 7-Oct | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- | -- |
| 8-Oct | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- | -- |
| 9-Oct | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- | -- |
| 10-Oct | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- | -- |
| 11-Oct | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- | -- |
| 12-Oct | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- | -- |
| 13-Oct | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- | -- |
| 14-Oct | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- | -- |
| 15-Oct | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- | -- |
| 16-Oct | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- | -- |
| 17-Oct | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- | -- |
| 18-Oct | N | N | N | N | N | N | N | N | 59 | 50 | 43 | 41 | 38 | 36 | 34 | 33 | 35 | 40 | 41 | 44 | 53 | 54 | 50 | 56 | -- | 58.6 |
| 19-Oct | 58 | 65 | 64 | 67 | 73 | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- | 72.8 |
| 20-Oct | N | N | N | N | N | 61 | 62 | 55 | 45 | 42 | 40 | 36 | 35 | 33 | 33 | 32 | 33 | 36 | 40 | 45 | 47 | 45 | 54 | 56 | 43.6 | 61.5 |
| 21-Oct | 55 | 58 | 54 | 51 | 50 | 51 | 63 | 62 | 62 | 58 | 54 | 45 | 35 | 31 | 30 | 32 | 37 | 40 | 37 | 39 | 43 | 45 | 45 | 47 | 46.8 | 62.6 |
| 22-Oct | 51 | 56 | 61 | 59 | 64 | 75 | 78 | 84 | 82 | 67 | 58 | 50 | 44 | 36 | 33 | 33 | 39 | 43 | 48 | 44 | 36 | 46 | 56 | 66 | 54.5 | 84.4 |
| 23-Oct | 65 | 62 | 67 | 68 | 67 | 70 | 70 | 69 | 69 | 63 | 52 | 44 | 38 | 31 | 27 | 30 | 33 | 39 | 43 | 42 | 46 | 52 | 54 | 63 | 52.6 | 69.9 |
| 24-Oct | 67 | 82 | 72 | 73 | 75 | 69 | 64 | 69 | 74 | 66 | 57 | 55 | 47 | 41 | 39 | 40 | 43 | 49 | 53 | 56 | 55 | 77 | 69 | 70 | 60.8 | 82.4 |
| 25-Oct | 74 | 79 | 85 | 89 | 85 | 83 | 87 | 89 | 86 | 67 | 57 | 52 | 48 | 46 | 45 | 53 | 52 | 54 | 56 | 58 | 67 | 70 | 72 | 69 | 67.6 | 89.0 |
| 26-Oct | 67 | 60 | 59 | 63 | 65 | 62 | 61 | 67 | 64 | 69 | 78 | 73 | 67 | 61 | 64 | 67 | 61 | 68 | 72 | 72 | 65 | 57 | 65 | 57 | 65.2 | 78.3 |
| 27-Oct | 52 | 51 | 51 | 50 | 51 | 48 | 48 | 50 | 51 | 50 | 45 | 40 | 38 | 36 | 35 | 36 | 38 | 45 | 50 | 53 | 56 | 58 | 61 | 63 | 48.2 | 62.8 |
| 28-Oct | 61 | 59 | 62 | 61 | 60 | 54 | 54 | 57 | 58 | 67 | 65 | 81 | N | N | N | N | N | N | N | N | N | N | N | N | -- | 81.2 |
| 29-Oct | N | N | N | N | N | N | N | N | N | N | N | N | 57 | 48 | 45 | 46 | 53 | 57 | 63 | 65 | 68 | 69 | 71 | 75 | -- | 75.4 |
| 30-Oct | 71 | 71 | 86 | N | N | N | N | N | N | N | 67 | 51 | 47 | 50 | 50 | 46 | 53 | 57 | 59 | 62 | 65 | 66 | 68 | 69 | -- | 85.6 |
| 31-Oct | 72 | 72 | 75 | 72 | 87 | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- | 87.1 |
| | 63.1 | 65.1 | 66.9 | 65.3 | 67.8 | 63.7 | 65.1 | 66.8 | 64.9 | 59.9 | 56.0 | 51.9 | 45.2 | 41.4 | 41.1 | 42.1 | 45.2 | 50.0 | 54.7 | 56.3 | 54.7 | 58.1 | 60.4 | 62.7 | Diurnal Average | |
| | 74.5 | 82.4 | 85.6 | 89.0 | 87.1 | 83.1 | 86.5 | 89.0 | 86.1 | 68.7 | 78.3 | 81.2 | 67.4 | 60.8 | 64.3 | 66.8 | 63.8 | 72.9 | 93.8 | 94.8 | 68.1 | 77.2 | 72.2 | 75.4 | Diurnal Maximum | |

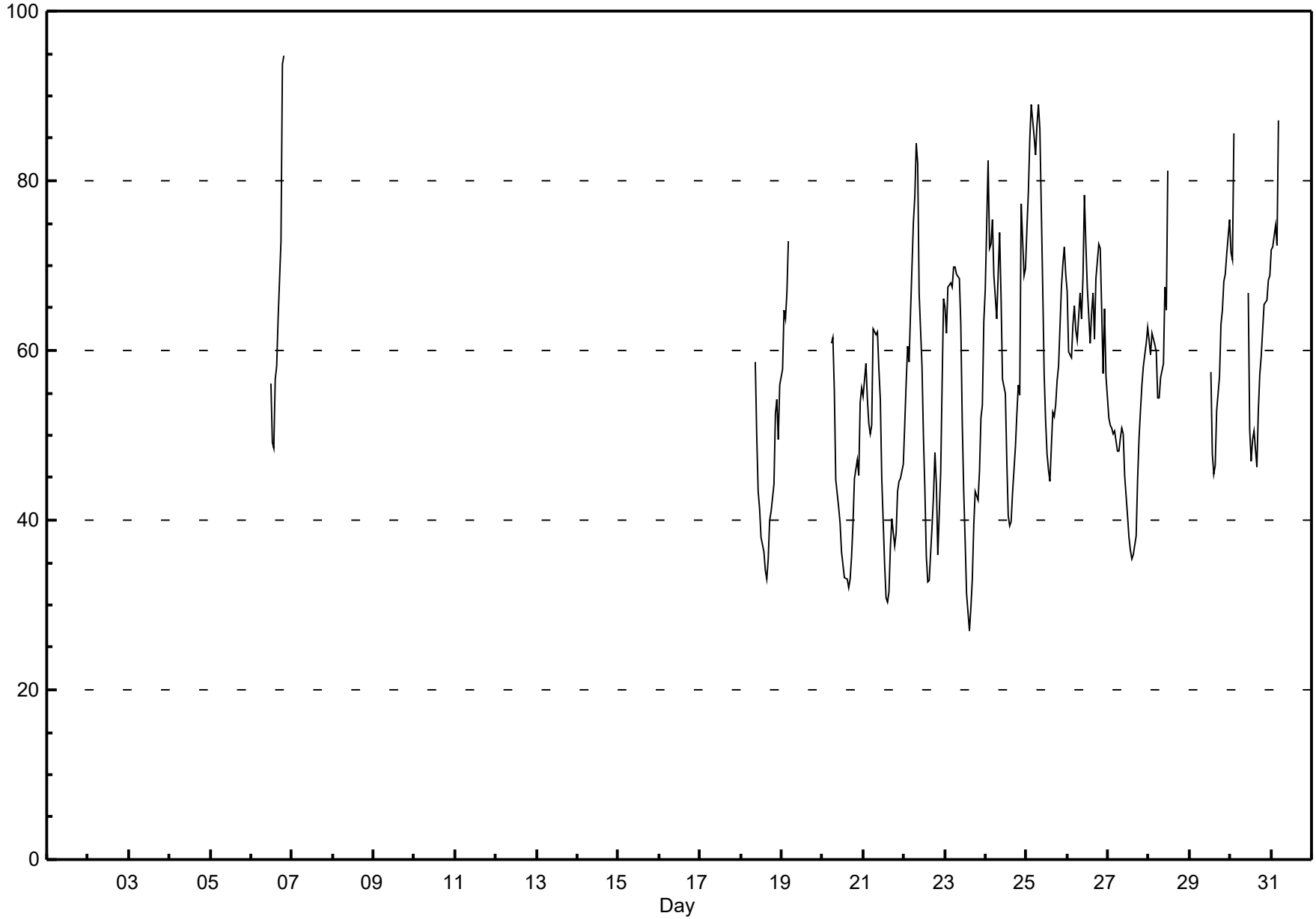
N - Not Valid

Peace Airshed Zone Association

# Hourly Averages

**Relative Humidity (RH) - %**

**Beaverlodge - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Wind Speed (km/h)
## Wind Direction (deg)
## Beaverlodge - October 2018

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Average | Maximum |
| 1 Spd | 11 | 9 | 7 | 2 | 6 | 6 | 5 | 7 | 7 | 9 | 8 | 8 | 6 | 5 | 2 | 5 | 2 | 8 | 15 | 18 | 15 | 11 | 10 | 7 | 7.2 | 18.3 |
| Dir | 31 | 21 | 21 | 343 | 359 | 4 | 357 | 359 | 9 | 359 | 2 | 1 | 335 | 297 | 286 | 45 | 338 | 19 | 32 | 32 | 31 | 32 | 29 | 40 | 17 | 32 |
| 2 Spd | 7 | 4 | 9 | 8 | 7 | 7 | 7 | 6 | 4 | 5 | 7 | 6 | 4 | 7 | 9 | 12 | 13 | 15 | 11 | 8 | 7 | 7 | 7 | 8 | 3.2 | 15.2 |
| Dir | 55 | 47 | 32 | 20 | 6 | 355 | 356 | 357 | 332 | 357 | 22 | 331 | 301 | 282 | 242 | 235 | 228 | 230 | 237 | 242 | 227 | 236 | 245 | 217 | 281 | 230 |
| 3 Spd | 9 | 8 | 7 | 5 | 6 | 4 | 1 | 1 | 3 | 2 | 6 | 5 | 8 | 7 | 7 | 7 | 6 | 6 | 7 | 8 | 7 | 4 | 2 | 3 | 3.8 | 8.8 |
| Dir | 212 | 211 | 211 | 198 | 214 | 204 | 189 | 113 | 193 | 164 | 200 | 166 | 163 | 164 | 181 | 179 | 145 | 107 | 88 | 84 | 99 | 170 | 257 | 78 | 168 | 212 |
| 4 Spd | 4 | 3 | 3 | 4 | 3 | 3 | 2 | 3 | 4 | 2 | 5 | 5 | 7 | 15 | 17 | 15 | 12 | 11 | 10 | 13 | 8 | 11 | 12 | 9 | 4.9 | 17.2 |
| Dir | 46 | 202 | 64 | 54 | 56 | 66 | 155 | 59 | 63 | 138 | 234 | 237 | 282 | 308 | 289 | 299 | 351 | 344 | 11 | 15 | 352 | 331 | 327 | 330 | 333 | 289 |
| 5 Spd | 8 | 13 | 11 | 11 | 4 | 6 | 5 | 5 | 1 | 1 | 2 | 3 | 2 | 2 | 5 | 7 | 10 | 10 | 8 | 9 | 8 | 7 | 8 | 6 | 2.8 | 12.8 |
| Dir | 325 | 325 | 332 | 343 | 82 | 127 | 134 | 132 | 272 | 264 | 153 | 133 | 130 | 167 | 140 | 122 | 127 | 110 | 102 | 80 | 85 | 122 | 126 | 120 | 97 | 325 |
| 6 Spd | 5 | 5 | 3 | 4 | 5 | 5 | 3 | 3 | 1 | 2 | 4 | 6 | 10 | 7 | 7 | 5 | 4 | 7 | 12 | 12 | 14 | 13 | 12 | 13 | 3.7 | 13.5 |
| Dir | 137 | 134 | 130 | 41 | 290 | 23 | 197 | 29 | 348 | 24 | 304 | 305 | 314 | 345 | 13 | 28 | 69 | 81 | 94 | 95 | 100 | 82 | 86 | 90 | 67 | 100 |
| 7 Spd | 6 | 3 | 5 | 2 | 10 | 9 | 11 | 8 | 8 | 4 | 6 | 9 | 13 | 11 | 11 | 11 | 13 | 10 | 8 | 7 | 11 | 12 | 9 | 9 | 7.4 | 12.8 |
| Dir | 98 | 116 | 112 | 79 | 110 | 105 | 96 | 89 | 80 | 68 | 14 | 29 | 34 | 39 | 34 | 35 | 27 | 37 | 29 | 19 | 37 | 41 | 56 | 66 | 55 | 34 |
| 8 Spd | 12 | 13 | 11 | 14 | 14 | 13 | 12 | 13 | 13 | 15 | 16 | 18 | 19 | 20 | 23 | 26 | 22 | 24 | 26 | 23 | 22 | 21 | 22 | 21 | 17.8 | 26.4 |
| Dir | 67 | 61 | 62 | 71 | 73 | 71 | 74 | 82 | 92 | 93 | 95 | 88 | 90 | 92 | 103 | 98 | 87 | 88 | 89 | 91 | 92 | 90 | 88 | 87 | 87 | 98 |
| 9 Spd | 18 | 20 | 19 | 17 | 15 | 15 | 19 | 19 | 18 | 18 | 18 | 19 | 18 | 19 | 19 | 20 | 19 | 16 | 17 | 16 | 17 | 17 | 14 | 12 | 17.2 | 19.9 |
| Dir | 83 | 86 | 86 | 83 | 84 | 85 | 89 | 90 | 90 | 90 | 90 | 89 | 94 | 97 | 97 | 101 | 106 | 107 | 111 | 103 | 103 | 108 | 110 | 112 | 95 | 86 |
| 10 Spd | 11 | 8 | 9 | 3 | 5 | 5 | 4 | 2 | 2 | 4 | 5 | 6 | 4 | 4 | 3 | 3 | 3 | 5 | 3 | 3 | 1 | 3 | 4 | 3 | 1.0 | 10.8 |
| Dir | 115 | 102 | 81 | 111 | 104 | 86 | 35 | 29 | 205 | 246 | 301 | 304 | 294 | 326 | 355 | 323 | 329 | 346 | 267 | 247 | 105 | 145 | 139 | 108 | 64 | 115 |
| 11 Spd | 3 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 3 | 4 | 8 | 7 | 16 | 19 | 20 | 21 | 21 | 15 | 9 | 5 | 5 | 4 | 8 | 8 | 5.1 | 21.3 |
| Dir | 123 | 108 | 107 | 122 | 59 | 149 | 143 | 136 | 160 | 148 | 175 | 201 | 240 | 244 | 258 | 264 | 261 | 269 | 246 | 259 | 251 | 292 | 332 | 352 | 246 | 261 |
| 12 Spd | 6 | 6 | 4 | 4 | 5 | 5 | 9 | 22 | 16 | 13 | 19 | 19 | 19 | 19 | 18 | 15 | 11 | 9 | 5 | 1 | 5 | 4 | 3 | 4 | 8.4 | 21.9 |
| Dir | 357 | 43 | 136 | 107 | 54 | 42 | 9 | 0 | 339 | 324 | 322 | 324 | 327 | 330 | 323 | 327 | 323 | 318 | 293 | 315 | 39 | 300 | 288 | 302 | 337 | 0 |
| 13 Spd | 8 | 10 | 10 | 12 | 12 | 9 | 4 | 5 | 8 | 9 | 11 | 12 | 12 | 11 | 12 | 11 | 9 | 9 | 10 | 10 | 11 | 7 | 7 | 4 | 8.3 | 12.3 |
| Dir | 292 | 291 | 294 | 308 | 305 | 306 | 277 | 299 | 302 | 300 | 324 | 309 | 324 | 320 | 304 | 288 | 283 | 283 | 264 | 267 | 246 | 223 | 219 | 200 | 291 | 309 |
| 14 Spd | 3 | 2 | 2 | 2 | 3 | 2 | 1 | 1 | 6 | 5 | 14 | 24 | 23 | 33 | 33 | 37 | 31 | 27 | 26 | 22 | 27 | 22 | 19 | 18 | 14.6 | 37.2 |
| Dir | 96 | 127 | 112 | 162 | 70 | 85 | 181 | 135 | 258 | 203 | 265 | 265 | 273 | 274 | 264 | 264 | 260 | 263 | 274 | 275 | 270 | 270 | 273 | 277 | 267 | 264 |
| 15 Spd | 24 | 20 | 17 | 17 | 12 | 20 | 17 | 25 | 28 | 31 | 34 | 31 | 27 | 26 | 28 | 29 | 24 | 21 | 14 | 10 | 14 | 9 | 5 | 1 | 19.7 | 33.5 |
| Dir | 280 | 284 | 276 | 275 | 288 | 275 | 271 | 260 | 262 | 259 | 264 | 269 | 282 | 288 | 292 | 291 | 292 | 287 | 292 | 286 | 271 | 272 | 287 | 253 | 277 | 264 |
| 16 Spd | 5 | 5 | 1 | 0 | 4 | 5 | 5 | 2 | 1 | 4 | 6 | 27 | 25 | 28 | 29 | 29 | 24 | 21 | 10 | 12 | 6 | 7 | 13 | 10 | 9.5 | 29.4 |
| Dir | 289 | 287 | 38 | 182 | 60 | 53 | 51 | 65 | 66 | 51 | 264 | 265 | 253 | 267 | 274 | 259 | 253 | 254 | 260 | 255 | 200 | 231 | 250 | 239 | 261 | 274 |
| 17 Spd | 4 | 13 | 11 | 16 | 10 | 6 | 8 | 4 | 8 | 6 | 7 | 17 | 20 | 16 | 14 | 13 | 22 | 10 | 13 | 12 | 20 | 11 | 9 | 8 | 10.6 | 21.9 |
| Dir | 216 | 244 | 257 | 242 | 239 | 215 | 211 | 190 | 241 | 252 | 226 | 245 | 247 | 251 | 248 | 228 | 263 | 280 | 286 | 269 | 271 | 278 | 325 | 311 | 254 | 263 |
| 18 Spd | 6 | 16 | 22 | 27 | 17 | 9 | 1 | 3 | 11 | 14 | 25 | 22 | 20 | 20 | 18 | 19 | 10 | 8 | 9 | 5 | 3 | 1 | 3 | 2 | 10.7 | 27.3 |
| Dir | 305 | 300 | 280 | 264 | 275 | 282 | 21 | 164 | 250 | 258 | 268 | 285 | 305 | 302 | 305 | 311 | 329 | 355 | 354 | 323 | 324 | 350 | 297 | 338 | 291 | 264 |
| 19 Spd | 1 | 5 | 6 | 2 | 1 | 2 | 7 | 3 | 4 | 3 | 4 | 4 | 11 | 14 | 19 | 20 | 17 | 12 | 12 | 14 | 12 | 5 | 0 | 2 | 6.3 | 19.7 |
| Dir | 270 | 54 | 51 | 81 | 30 | 39 | 35 | 283 | 54 | 75 | 81 | 153 | 136 | 121 | 113 | 114 | 114 | 99 | 97 | 105 | 104 | 103 | 64 | 307 | 102 | 114 |
| 20 Spd | 1 | 1 | 21 | 23 | 25 | 19 | 20 | 30 | 33 | 43 | 45 | 50 | 49 | 50 | 45 | 39 | 32 | 29 | 26 | 11 | 11 | 9 | 8 | 3 | 25.6 | 50.0 |
| Dir | 306 | 308 | 276 | 262 | 257 | 246 | 246 | 250 | 249 | 261 | 257 | 256 | 257 | 262 | 265 | 266 | 261 | 261 | 262 | 274 | 267 | 272 | 245 | 319 | 260 | 256 |
| 21 Spd | 2 | 2 | 7 | 6 | 6 | 6 | 2 | 2 | 2 | 2 | 2 | 5 | 4 | 2 | 3 | 5 | 7 | 7 | 7 | 7 | 9 | 9 | 8 | 5 | 1.2 | 8.8 |
| Dir | 263 | 240 | 295 | 308 | 304 | 315 | 252 | 57 | 130 | 141 | 187 | 285 | 314 | 160 | 220 | 130 | 101 | 95 | 73 | 82 | 89 | 90 | 90 | 160 | 86 | 90 |
| 22 Spd | 4 | 2 | 1 | 3 | 1 | 2 | 3 | 1 | 4 | 3 | 3 | 4 | 4 | 2 | 3 | 5 | 8 | 5 | 6 | 5 | 3 | 6 | 0 | 2 | 1.7 | 7.6 |
| Dir | 198 | 145 | 174 | 54 | 202 | 281 | 66 | 114 | 49 | 104 | 154 | 170 | 173 | 169 | 175 | 179 | 170 | 132 | 80 | 70 | 33 | 26 | 197 | 214 | 127 | 170 |

Peace Airshed Zone Association

# Hourly Averages

## Wind Speed (km/h)
## Wind Direction (deg)
## Beaverlodge - October 2018

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 Spd | 1 | 2 | 1 | 0 | 1 | 2 | 3 | 2 | 1 | 2 | 2 | 2 | 3 | 2 | 2 | 4 | 5 | 5 | 4 | 1 | 5 | 3 | 13 | 8 | 0.6 | 12.7 |
| Dir | 303 | 47 | 50 | 120 | 82 | 37 | 46 | 54 | 67 | 84 | 168 | 171 | 155 | 129 | 146 | 173 | 171 | 129 | 84 | 68 | 258 | 6 | 317 | 17 | 66 | 317 |
| 24 Spd | 2 | 3 | 4 | 1 | 0 | 2 | 3 | 4 | 5 | 4 | 1 | 1 | 6 | 13 | 10 | 9 | 6 | 4 | 3 | 3 | 2 | 3 | 6 | 2 | 1.1 | 13.5 |
| Dir | 337 | 28 | 21 | 253 | 107 | 58 | 72 | 63 | 46 | 57 | 131 | 142 | 282 | 269 | 274 | 270 | 239 | 209 | 227 | 40 | 337 | 166 | 54 | 119 | 299 | 269 |
| 25 Spd | 5 | 2 | 3 | 4 | 4 | 3 | 3 | 1 | 2 | 2 | 2 | 4 | 4 | 3 | 19 | 27 | 22 | 23 | 15 | 21 | 14 | 6 | 5 | 8 | 5.7 | 27.4 |
| Dir | 57 | 106 | 123 | 83 | 132 | 86 | 72 | 12 | 70 | 125 | 196 | 186 | 194 | 196 | 270 | 259 | 245 | 240 | 246 | 246 | 233 | 195 | 198 | 222 | 236 | 259 |
| 26 Spd | 7 | 10 | 4 | 2 | 13 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 6 | 6 | 1 | 5 | 5 | 6 | 2 | 6 | 23 | 35 | 27 | 30 | 6.4 | 35.3 |
| Dir | 226 | 242 | 216 | 182 | 243 | 22 | 69 | 95 | 85 | 50 | 224 | 2 | 289 | 322 | 158 | 159 | 176 | 200 | 141 | 210 | 236 | 247 | 245 | 246 | 238 | 247 |
| 27 Spd | 33 | 30 | 32 | 29 | 30 | 31 | 32 | 29 | 30 | 31 | 37 | 37 | 29 | 23 | 22 | 16 | 10 | 11 | 10 | 3 | 1 | 4 | 3 | 2 | 20.2 | 36.8 |
| Dir | 250 | 253 | 254 | 255 | 255 | 261 | 262 | 259 | 260 | 265 | 270 | 274 | 280 | 285 | 292 | 300 | 281 | 260 | 261 | 314 | 72 | 76 | 140 | 76 | 266 | 270 |
| 28 Spd | 5 | 8 | 7 | 6 | 13 | 27 | 24 | 21 | 17 | 8 | 1 | 5 | 7 | 4 | 3 | 4 | 3 | 2 | 5 | 6 | 4 | 9 | 7 | 2 | 3.2 | 26.8 |
| Dir | 51 | 43 | 77 | 82 | 82 | 86 | 87 | 96 | 95 | 193 | 229 | 221 | 229 | 185 | 235 | 284 | 246 | 314 | 338 | 326 | 315 | 265 | 289 | 293 | 85 | 86 |
| 29 Spd | 4 | 2 | 3 | 1 | 3 | 3 | 2 | 5 | 2 | 3 | 3 | 9 | 17 | 22 | 26 | 26 | 16 | 8 | 1 | 3 | 3 | 2 | 4 | 3 | 3.8 | 26.1 |
| Dir | 47 | 86 | 79 | 143 | 59 | 68 | 76 | 54 | 95 | 166 | 198 | 203 | 252 | 260 | 267 | 262 | 268 | 288 | 202 | 247 | 60 | 83 | 162 | 83 | 257 | 262 |
| 30 Spd | 3 | 2 | 2 | 7 | 13 | 18 | 14 | 12 | 12 | 14 | 28 | 32 | 35 | 31 | 38 | 32 | 22 | 21 | 15 | 8 | 9 | 6 | 4 | 6 | 15.4 | 38.0 |
| Dir | 62 | 236 | 196 | 229 | 252 | 253 | 250 | 255 | 252 | 246 | 261 | 260 | 260 | 262 | 261 | 261 | 254 | 259 | 248 | 240 | 225 | 230 | 218 | 216 | 254 | 261 |
| 31 Spd | 4 | 6 | 4 | 3 | 1 | 2 | 4 | 3 | 3 | 2 | 3 | 4 | 2 | 3 | 5 | 7 | 7 | 3 | 6 | 5 | 5 | 11 | 15 | 17 | 1.9 | 17.5 |
| Dir | 173 | 204 | 183 | 223 | 148 | 203 | 200 | 81 | 188 | 49 | 124 | 181 | 88 | 37 | 50 | 41 | 1 | 347 | 354 | 339 | 325 | 318 | 316 | 330 | 331 | 330 |
| Spd | 0.6 | 1.3 | 1.7 | 2.3 | 1.7 | 0.8 | 0.2 | 0.5 | 1.9 | 3.1 | 5.8 | 7.8 | 8.2 | 8.3 | 8.7 | 7.7 | 5.7 | 3.9 | 1.8 | 1.2 | 1.1 | 1.3 | 1.6 | 0.8 | Diurnal Average | |
| Dir | 321 | 297 | 294 | 276 | 276 | 318 | 69 | 339 | 266 | 263 | 266 | 267 | 271 | 276 | 274 | 268 | 261 | 268 | 293 | 318 | 259 | 268 | 291 | 297 | | |
| Spd | 33.4 | 29.9 | 32.0 | 28.7 | 30.0 | 31.2 | 32.0 | 29.8 | 33.5 | 43.0 | 45.0 | 50.0 | 48.9 | 49.6 | 44.9 | 38.7 | 31.6 | 29.0 | 26.2 | 23.1 | 27.1 | 35.3 | 26.5 | 30.3 | Diurnal Maximum | |
| Dir | 250 | 253 | 254 | 255 | 255 | 261 | 262 | 250 | 249 | 261 | 257 | 256 | 257 | 262 | 265 | 266 | 261 | 261 | 89 | 91 | 270 | 247 | 245 | 246 | | |

Maximum Speed Value: 50 km/h on Oct 20 12:00
Maximum Daily Speed Average: 25.6 km/h on Oct 20
Maximum Diurnal Speed Average: 8.7 km/h at hour 15

Minimum Speed Value: 0 km/h on Oct 23 04:00
Minimum Daily Speed Average: 0.6 km/h on Oct 23
Minimum Diurnal Speed Average: 0.2 km/h at hour 7

Monthly Average Velocity: 3.15 km/h 273.5 deg

Speed Percentiles: $P_1 = 0.7$ $P_{10} = 2.1$ $Q_1 = 3.5$ Median = 7.0 $Q_3 = 13.7$ $P_{90} = 22.9$ $P_{99} = 37.6$

All monthly, daily, and diurnal averages have been calculated using vector methods

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Percent Operational Time: | 100.0 |

Frequency Distribution

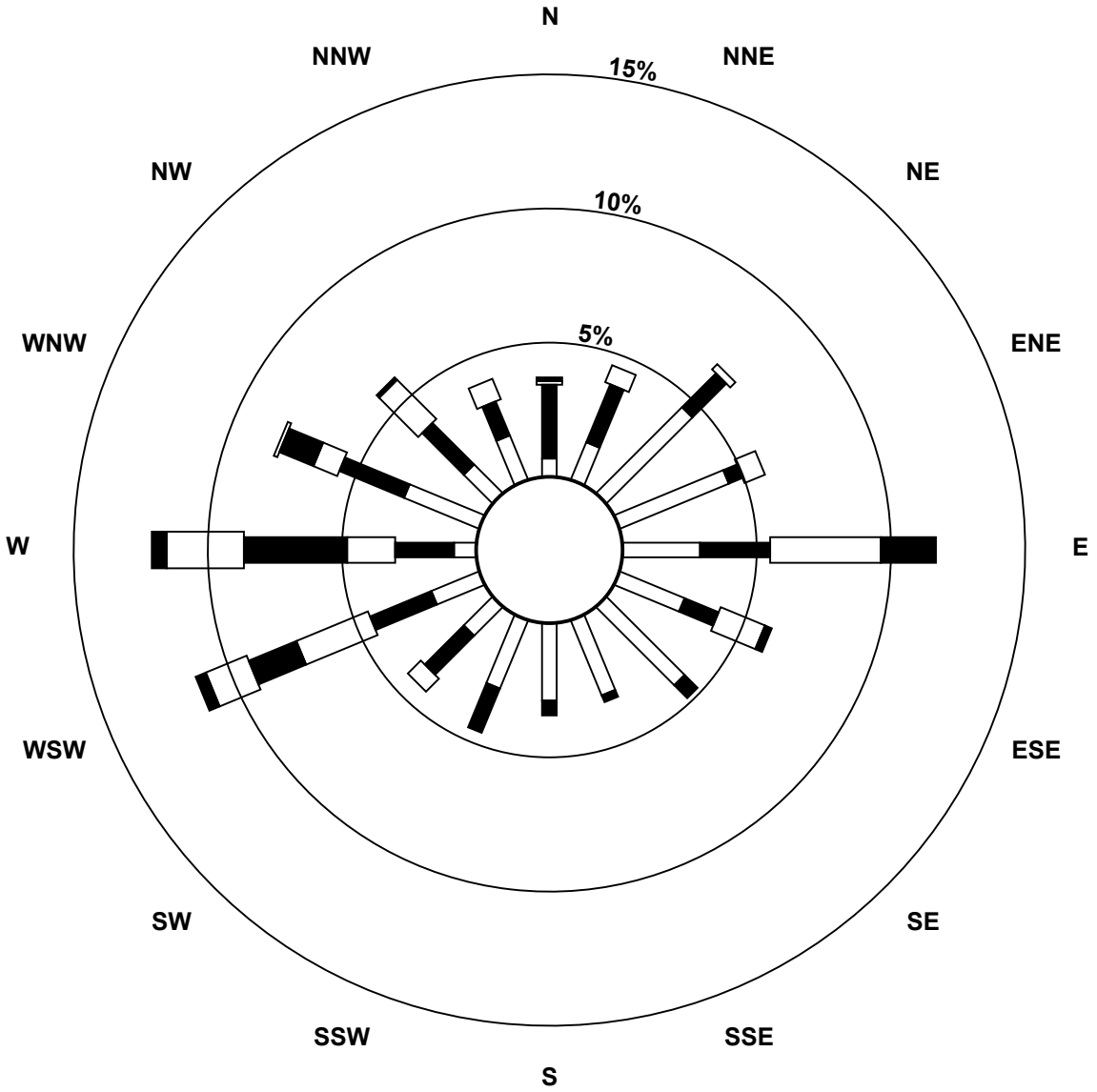
| Direction | Speed Range (km/h) 0 to 5 | 5 to 11 | 11 to 19 | 19 to 28 | 28 to 38 | > 38 | Total |
|---|---|---|---|---|---|---|---|
| North | 17 | 33 | 3 | 1 | 0 | 0 | 54 |
| NorthEast | 53 | 27 | 11 | 0 | 0 | 0 | 91 |
| East | 48 | 29 | 41 | 19 | 0 | 0 | 137 |
| SouthEast | 45 | 12 | 2 | 2 | 0 | 0 | 61 |
| South | 50 | 15 | 0 | 0 | 0 | 0 | 65 |
| SouthWest | 22 | 37 | 14 | 8 | 2 | 0 | 83 |
| West | 19 | 34 | 33 | 40 | 36 | 7 | 169 |
| NorthWest | 27 | 26 | 28 | 3 | 0 | 0 | 84 |
| Total | 281 | 213 | 132 | 73 | 38 | 7 | 744 |

Peace Airshed Zone Association

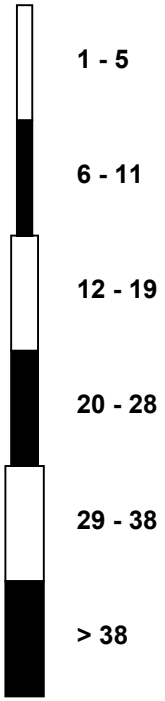
# Wind Rose

**Wind Speed (WS) (km/h)**

**Beaverlodge - October 2018**




**Wind Speed Classes (km/h)**



# Hourly Averages - Wind Speed (Scalar)

**Wind Speed (km/h)**

**Beaverlodge - October 2018**

Peace Airshed Zone Association

Maximum Speed: 50 km/h on Oct 20 12:00

Maximum Daily Speed Average: 26.5 km/h on Oct 20

Minimum Speed: 1 km/h on Oct 5 09:00

Minimum Daily Speed Average: 3.6 km/h on Oct 23

Maximum Diurnal Speed Average: 15.9 km/h at hour 16

Minimum Diurnal Speed Average: 7.8 km/h at hour 1

Monthly Average Speed: 10.56 km/h

Percentiles: $P_1$ = 1.8 $P_{10}$ = 2.9 $Q_1$ = 4.3 Median = 7.4 $Q_3$ = 13.9 $P_{90}$ = 23.0 $P_{99}$ = 37.8

Hours in Service: 744

Hours of Data: 744

Hours of Missing Data: 0

Percent Operational Time: 100.0

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | |
| 1-Oct | 11 | 9 | 7 | 3 | 6 | 6 | 5 | 7 | 7 | 9 | 8 | 8 | 7 | 6 | 5 | 5 | 4 | 10 | 15 | 18 | 15 | 11 | 10 | 7 | 8.3 | 18.4 |
| 2-Oct | 7 | 5 | 9 | 9 | 7 | 7 | 7 | 6 | 4 | 6 | 7 | 7 | 6 | 8 | 10 | 12 | 14 | 15 | 11 | 8 | 7 | 7 | 8 | 8 | 8.1 | 15.4 |
| 3-Oct | 9 | 8 | 7 | 5 | 6 | 4 | 2 | 2 | 3 | 2 | 6 | 6 | 9 | 8 | 8 | 8 | 7 | 7 | 7 | 8 | 7 | 4 | 2 | 3 | 5.8 | 8.8 |
| 4-Oct | 5 | 4 | 3 | 4 | 3 | 3 | 2 | 3 | 4 | 3 | 6 | 6 | 10 | 15 | 18 | 17 | 13 | 11 | 10 | 13 | 8 | 12 | 12 | 10 | 8.1 | 17.9 |
| 5-Oct | 9 | 13 | 12 | 11 | 5 | 6 | 5 | 5 | 1 | 2 | 4 | 4 | 4 | 4 | 6 | 8 | 11 | 10 | 8 | 9 | 8 | 7 | 8 | 6 | 6.9 | 12.8 |
| 6-Oct | 5 | 5 | 4 | 5 | 8 | 5 | 4 | 4 | 3 | 2 | 4 | 7 | 10 | 7 | 7 | 5 | 4 | 7 | 12 | 12 | 14 | 13 | 12 | 13 | 7.2 | 13.7 |
| 7-Oct | 7 | 4 | 5 | 3 | 10 | 10 | 11 | 8 | 8 | 5 | 8 | 10 | 13 | 12 | 11 | 11 | 13 | 10 | 8 | 7 | 11 | 12 | 9 | 9 | 9.0 | 12.9 |
| 8-Oct | 12 | 13 | 11 | 14 | 14 | 13 | 12 | 13 | 13 | 15 | 16 | 18 | 19 | 20 | 23 | 26 | 22 | 24 | 26 | 23 | 22 | 21 | 22 | 21 | 18.2 | 26.5 |
| 9-Oct | 18 | 20 | 19 | 17 | 15 | 16 | 19 | 19 | 18 | 18 | 18 | 19 | 18 | 19 | 19 | 20 | 19 | 16 | 17 | 16 | 17 | 17 | 14 | 12 | 17.5 | 20.0 |
| 10-Oct | 11 | 8 | 9 | 4 | 5 | 5 | 4 | 3 | 3 | 4 | 5 | 6 | 5 | 5 | 3 | 4 | 3 | 5 | 3 | 3 | 2 | 3 | 4 | 3 | 4.5 | 10.9 |
| 11-Oct | 3 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 8 | 8 | 16 | 19 | 20 | 21 | 22 | 16 | 9 | 5 | 6 | 4 | 8 | 8 | 8.5 | 21.6 |
| 12-Oct | 7 | 6 | 5 | 4 | 6 | 6 | 10 | 23 | 16 | 13 | 19 | 19 | 19 | 19 | 18 | 15 | 11 | 9 | 5 | 4 | 5 | 5 | 3 | 4 | 10.5 | 22.6 |
| 13-Oct | 8 | 10 | 10 | 12 | 12 | 9 | 5 | 5 | 8 | 9 | 11 | 13 | 13 | 12 | 12 | 12 | 10 | 9 | 11 | 11 | 11 | 7 | 7 | 5 | 9.7 | 13.0 |
| 14-Oct | 3 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 6 | 5 | 14 | 24 | 23 | 33 | 33 | 37 | 31 | 27 | 26 | 22 | 27 | 22 | 19 | 18 | 16.2 | 37.3 |
| 15-Oct | 24 | 20 | 17 | 17 | 12 | 20 | 17 | 26 | 28 | 31 | 34 | 31 | 27 | 27 | 29 | 29 | 24 | 21 | 14 | 10 | 14 | 9 | 5 | 2 | 20.3 | 33.6 |
| 16-Oct | 5 | 5 | 3 | 4 | 4 | 5 | 5 | 3 | 2 | 4 | 8 | 28 | 25 | 28 | 30 | 29 | 24 | 21 | 11 | 12 | 6 | 8 | 13 | 11 | 12.2 | 29.6 |
| 17-Oct | 5 | 13 | 12 | 16 | 10 | 7 | 8 | 4 | 9 | 8 | 9 | 18 | 21 | 16 | 15 | 14 | 22 | 10 | 13 | 12 | 20 | 11 | 9 | 8 | 12.1 | 22.0 |
| 18-Oct | 6 | 16 | 23 | 27 | 17 | 10 | 2 | 3 | 11 | 14 | 25 | 23 | 21 | 20 | 18 | 19 | 11 | 8 | 9 | 5 | 4 | 2 | 4 | 4 | 12.6 | 27.4 |
| 19-Oct | 4 | 5 | 6 | 2 | 2 | 5 | 7 | 4 | 5 | 4 | 4 | 5 | 11 | 14 | 19 | 20 | 17 | 12 | 12 | 14 | 12 | 5 | 2 | 3 | 8.1 | 19.8 |
| 20-Oct | 3 | 4 | 21 | 23 | 25 | 19 | 20 | 30 | 34 | 43 | 45 | 50 | 49 | 50 | 45 | 39 | 32 | 29 | 26 | 12 | 11 | 10 | 9 | 6 | 26.5 | 50.2 |
| 21-Oct | 3 | 4 | 7 | 7 | 6 | 6 | 5 | 4 | 3 | 2 | 2 | 5 | 5 | 4 | 4 | 5 | 7 | 7 | 7 | 8 | 9 | 9 | 9 | 5 | 5.5 | 8.9 |
| 22-Oct | 4 | 3 | 3 | 3 | 1 | 4 | 4 | 2 | 4 | 3 | 4 | 5 | 4 | 3 | 3 | 5 | 8 | 5 | 6 | 5 | 3 | 6 | 2 | 2 | 4.0 | 7.6 |
| 23-Oct | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 3 | 2 | 3 | 2 | 2 | 4 | 5 | 6 | 5 | 3 | 6 | 4 | 13 | 10 | 3.6 | 12.9 |
| 24-Oct | 5 | 4 | 5 | 2 | 1 | 2 | 3 | 4 | 6 | 4 | 2 | 2 | 6 | 14 | 10 | 9 | 7 | 4 | 3 | 3 | 5 | 4 | 6 | 3 | 4.8 | 13.8 |
| 25-Oct | 5 | 3 | 3 | 4 | 4 | 3 | 5 | 4 | 3 | 3 | 3 | 4 | 5 | 4 | 19 | 28 | 22 | 23 | 15 | 21 | 14 | 7 | 6 | 8 | 9.0 | 27.7 |
| 26-Oct | 7 | 12 | 6 | 5 | 13 | 7 | 3 | 4 | 4 | 7 | 4 | 3 | 8 | 6 | 4 | 5 | 5 | 6 | 4 | 7 | 24 | 35 | 27 | 30 | 9.9 | 35.4 |
| 27-Oct | 33 | 30 | 32 | 29 | 30 | 31 | 32 | 29 | 30 | 31 | 37 | 37 | 29 | 24 | 22 | 16 | 10 | 11 | 10 | 5 | 2 | 4 | 3 | 3 | 21.7 | 37.0 |
| 28-Oct | 5 | 9 | 8 | 6 | 13 | 27 | 24 | 21 | 18 | 8 | 4 | 7 | 8 | 4 | 4 | 4 | 4 | 3 | 5 | 7 | 7 | 9 | 7 | 5 | 9.0 | 26.9 |
| 29-Oct | 4 | 2 | 3 | 4 | 4 | 4 | 3 | 5 | 3 | 4 | 4 | 9 | 18 | 22 | 26 | 26 | 16 | 8 | 3 | 5 | 3 | 2 | 4 | 3 | 7.7 | 26.5 |
| 30-Oct | 3 | 3 | 3 | 7 | 13 | 18 | 14 | 12 | 12 | 14 | 28 | 33 | 36 | 31 | 38 | 32 | 22 | 21 | 15 | 8 | 9 | 6 | 5 | 6 | 16.2 | 38.2 |
| 31-Oct | 5 | 7 | 5 | 6 | 2 | 4 | 5 | 3 | 4 | 3 | 4 | 4 | 3 | 3 | 5 | 7 | 7 | 3 | 6 | 5 | 6 | 12 | 15 | 18 | 5.8 | 17.6 |
| | 7.8 | 8.1 | 8.5 | 8.5 | 8.5 | 8.6 | 8.2 | 8.6 | 8.8 | 9.2 | 11.4 | 13.5 | 14.5 | 14.8 | 15.8 | 15.9 | 13.7 | 12.1 | 10.8 | 9.7 | 10.2 | 9.3 | 8.9 | 8.2 | Diurnal Average | |
| | 33.5 | 30.0 | 32.1 | 28.8 | 30.1 | 31.2 | 32.0 | 30.0 | 33.6 | 43.4 | 45.2 | 50.2 | 49.2 | 49.9 | 45.1 | 38.9 | 31.8 | 29.1 | 26.2 | 23.2 | 27.2 | 35.4 | 26.6 | 30.4 | Diurnal Maximum | |

All monthly, daily, and diurnal averages have been calculated using scalar methods

Peace Airshed Zone Association

# Hourly Standard Deviations

## Wind Direction (WD) - deg

## Beaverlodge - October 2018

Maximum Value: 97.4 deg on Oct 25 08:00

Minimum Value: 2.4 deg on Oct 30 08:00

Percentiles: $P_1$ = 3.5 $P_{10}$ = 5.0 $Q_1$ = 6.8 Median = 14.8 $Q_3$ = 33.9 $P_{90}$ = 60.0 $P_{99}$ = 88.7

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| 1-Oct | 5 | 4 | 5 | 43 | 17 | 10 | 10 | 10 | 11 | 10 | 10 | 18 | 29 | 43 | 76 | 30 | 77 | 35 | 4 | 4 | 4 | 6 | 5 | 6 | 77.2 |
| 2-Oct | 11 | 28 | 6 | 7 | 7 | 6 | 5 | 7 | 18 | 35 | 17 | 22 | 51 | 43 | 28 | 14 | 18 | 7 | 4 | 6 | 7 | 8 | 18 | 6 | 50.7 |
| 3-Oct | 4 | 6 | 24 | 25 | 13 | 20 | 46 | 55 | 21 | 43 | 31 | 26 | 24 | 28 | 29 | 28 | 26 | 17 | 6 | 5 | 17 | 42 | 57 | 58 | 58.1 |
| 4-Oct | 64 | 49 | 58 | 11 | 16 | 27 | 30 | 35 | 15 | 42 | 23 | 29 | 59 | 17 | 17 | 24 | 14 | 12 | 10 | 4 | 18 | 16 | 5 | 28 | 63.9 |
| 5-Oct | 52 | 4 | 5 | 10 | 41 | 18 | 11 | 29 | 63 | 68 | 74 | 56 | 76 | 73 | 51 | 29 | 14 | 10 | 10 | 4 | 5 | 18 | 10 | 7 | 75.8 |
| 6-Oct | 5 | 9 | 41 | 52 | 49 | 29 | 38 | 66 | 69 | 37 | 17 | 22 | 15 | 21 | 10 | 15 | 28 | 15 | 10 | 13 | 8 | 8 | 9 | 9 | 68.8 |
| 7-Oct | 50 | 47 | 25 | 51 | 6 | 22 | 13 | 13 | 8 | 26 | 39 | 13 | 7 | 8 | 10 | 9 | 7 | 8 | 9 | 8 | 12 | 7 | 8 | 9 | 51.1 |
| 8-Oct | 7 | 8 | 10 | 6 | 4 | 4 | 6 | 6 | 8 | 6 | 6 | 7 | 7 | 7 | 8 | 5 | 7 | 6 | 4 | 5 | 6 | 6 | 5 | 5 | 9.8 |
| 9-Oct | 6 | 6 | 6 | 5 | 5 | 6 | 5 | 4 | 4 | 4 | 5 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 4 | 5 | 5 | 6 | 6 | 7.4 |
| 10-Oct | 6 | 9 | 12 | 59 | 11 | 10 | 26 | 30 | 57 | 25 | 24 | 18 | 36 | 24 | 32 | 28 | 29 | 15 | 51 | 27 | 70 | 23 | 9 | 22 | 69.8 |
| 11-Oct | 13 | 13 | 19 | 21 | 16 | 25 | 13 | 13 | 38 | 25 | 9 | 21 | 10 | 7 | 6 | 10 | 8 | 13 | 8 | 17 | 16 | 28 | 8 | 13 | 37.7 |
| 12-Oct | 27 | 16 | 39 | 24 | 34 | 35 | 29 | 15 | 6 | 9 | 7 | 7 | 8 | 9 | 7 | 11 | 8 | 8 | 10 | 79 | 11 | 28 | 8 | 18 | 79.4 |
| 13-Oct | 7 | 5 | 5 | 6 | 6 | 6 | 27 | 13 | 9 | 9 | 10 | 14 | 20 | 19 | 14 | 20 | 14 | 6 | 15 | 9 | 10 | 5 | 14 | 50 | 49.7 |
| 14-Oct | 42 | 23 | 39 | 59 | 32 | 53 | 74 | 58 | 32 | 16 | 11 | 7 | 9 | 6 | 5 | 5 | 6 | 8 | 7 | 8 | 5 | 4 | 5 | 4 | 74.0 |
| 15-Oct | 5 | 5 | 6 | 9 | 6 | 5 | 5 | 6 | 5 | 5 | 4 | 6 | 6 | 7 | 9 | 6 | 6 | 6 | 4 | 8 | 3 | 9 | 15 | 95 | 94.5 |
| 16-Oct | 19 | 9 | 74 | 84 | 25 | 6 | 43 | 49 | 66 | 15 | 83 | 7 | 11 | 11 | 7 | 5 | 7 | 5 | 19 | 6 | 30 | 18 | 23 | 23 | 84.1 |
| 17-Oct | 29 | 5 | 17 | 11 | 13 | 25 | 16 | 58 | 22 | 54 | 71 | 10 | 6 | 7 | 10 | 18 | 5 | 9 | 6 | 17 | 4 | 6 | 16 | 14 | 71.3 |
| 18-Oct | 22 | 12 | 8 | 5 | 9 | 24 | 86 | 48 | 16 | 15 | 8 | 8 | 9 | 9 | 8 | 10 | 10 | 7 | 8 | 33 | 56 | 69 | 45 | 55 | 85.8 |
| 19-Oct | 88 | 15 | 7 | 37 | 75 | 93 | 30 | 69 | 36 | 33 | 15 | 27 | 13 | 11 | 6 | 6 | 5 | 6 | 5 | 4 | 8 | 43 | 80 | 87 | 93.2 |
| 20-Oct | 92 | 77 | 11 | 7 | 8 | 4 | 15 | 6 | 5 | 7 | 5 | 6 | 6 | 7 | 7 | 7 | 5 | 4 | 5 | 10 | 7 | 13 | 45 | 60 | 92.2 |
| 21-Oct | 65 | 81 | 24 | 16 | 13 | 13 | 66 | 61 | 46 | 43 | 49 | 25 | 49 | 68 | 59 | 28 | 9 | 15 | 5 | 9 | 6 | 5 | 13 | 13 | 81.0 |
| 22-Oct | 34 | 53 | 64 | 43 | 66 | 81 | 71 | 65 | 40 | 32 | 21 | 22 | 30 | 37 | 23 | 18 | 7 | 23 | 6 | 11 | 18 | 18 | 79 | 56 | 81.1 |
| 23-Oct | 71 | 34 | 69 | 91 | 53 | 73 | 59 | 49 | 70 | 35 | 25 | 37 | 32 | 34 | 38 | 15 | 8 | 30 | 15 | 96 | 14 | 47 | 11 | 31 | 95.6 |
| 24-Oct | 76 | 44 | 60 | 77 | 81 | 73 | 45 | 26 | 13 | 20 | 59 | 54 | 41 | 12 | 11 | 6 | 18 | 15 | 47 | 22 | 63 | 55 | 8 | 35 | 80.8 |
| 25-Oct | 21 | 44 | 27 | 21 | 28 | 17 | 68 | 97 | 43 | 38 | 70 | 19 | 27 | 43 | 18 | 8 | 5 | 6 | 12 | 5 | 17 | 45 | 52 | 18 | 97.4 |
| 26-Oct | 42 | 45 | 51 | 69 | 12 | 67 | 24 | 30 | 32 | 76 | 64 | 70 | 68 | 30 | 81 | 17 | 18 | 13 | 55 | 18 | 10 | 4 | 3 | 4 | 80.5 |
| 27-Oct | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 5 | 6 | 8 | 8 | 12 | 8 | 6 | 5 | 12 | 50 | 92 | 26 | 28 | 39 | 91.7 |
| 28-Oct | 13 | 7 | 17 | 6 | 7 | 5 | 7 | 7 | 30 | 16 | 89 | 60 | 48 | 23 | 35 | 22 | 20 | 37 | 10 | 14 | 64 | 7 | 13 | 75 | 89.4 |
| 29-Oct | 12 | 38 | 24 | 71 | 49 | 39 | 26 | 30 | 35 | 39 | 59 | 16 | 20 | 12 | 10 | 8 | 12 | 6 | 70 | 75 | 38 | 29 | 32 | 45 | 74.9 |
| 30-Oct | 17 | 69 | 66 | 16 | 5 | 3 | 2 | 2 | 5 | 3 | 5 | 5 | 7 | 5 | 6 | 7 | 5 | 5 | 3 | 18 | 10 | 29 | 61 | 21 | 69.4 |
| 31-Oct | 23 | 22 | 25 | 67 | 49 | 77 | 30 | 20 | 38 | 57 | 42 | 23 | 53 | 21 | 16 | 12 | 20 | 22 | 5 | 20 | 20 | 8 | 6 | 8 | 76.9 |
| | 92.2 | 81.0 | 74.2 | 90.8 | 80.8 | 93.2 | 85.8 | 97.4 | 70.0 | 76.1 | 89.4 | 70.3 | 75.8 | 73.2 | 80.5 | 30.4 | 77.2 | 36.9 | 70.4 | 95.6 | 91.7 | 69.3 | 79.6 | 94.5 | |

# PAZA
# Evergreen Park Station
## Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

# Hourly Averages

## Sulphur Dioxide ($SO_2$) - ppb

## Evergreen Park - October 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0

Maximum Value: 5.2 ppb on Oct 22 13:00

Maximum Daily Average: 0.7 ppb on Oct 22

Minimum Value: 0 ppb on Oct 1 01:00

Minimum Daily Average: 0.0 ppb on Oct 7

Maximum Diurnal Average: 0.5 ppb at hour 13

Minimum Diurnal Average: 0.0 ppb at hour 4

Monthly Average: 0.21 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.1 $Q_3 = 0.2$ $P_{90} = 0.5$ $P_{99} = 2.2$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 710 |
| Hours of Missing Data: | 34 |
| Hours of Calibration: | 34 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 3-Oct | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | A | 1 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 1.7 |
| 4-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.9 |
| 5-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.2 |
| 6-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.7 |
| 7-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 |
| 8-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 |
| 9-Oct | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 10-Oct | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.6 |
| 11-Oct | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 1.7 |
| 12-Oct | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0.1 | 0.2 |
| 13-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0.1 | 0.4 |
| 14-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 1 | 0 | 1 | 2 | 1 | A | 0 | 0 | 0.5 | 2.5 |
| 15-Oct | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | 0 | 0 | 0 | 0.5 | 3.4 |
| 16-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 1 | 1 | 0 | A | 0 | 0 | 0 | 0 | 0.3 | 1.6 |
| 17-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.9 |
| 18-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.9 |
| 19-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | C | C | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.5 |
| 20-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | A | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 1.1 |
| 21-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.5 |
| 22-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 | A | 3 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.7 | 5.2 |
| 23-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | A | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 1.1 |
| 24-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 25-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.5 |
| 26-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.6 |
| 27-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.9 |
| 28-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 29-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 1.0 |
| 30-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 1.3 |
| 31-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.8 |
| | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 | 0.2 | 0.3 | 0.4 | 0.3 | 0.4 | 0.5 | 0.4 | 0.5 | 0.4 | 0.5 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | Diurnal Average | |
| | 0.6 | 1.6 | 1.0 | 0.2 | 0.2 | 0.2 | 0.5 | 0.5 | 2.6 | 3.4 | 2.2 | 1.9 | 5.2 | 2.5 | 2.6 | 2.2 | 2.2 | 1.0 | 1.4 | 1.8 | 1.2 | 0.3 | 0.3 | 0.3 | Diurnal Maximum | |

C - Calibration A - Automated Daily Zero Span

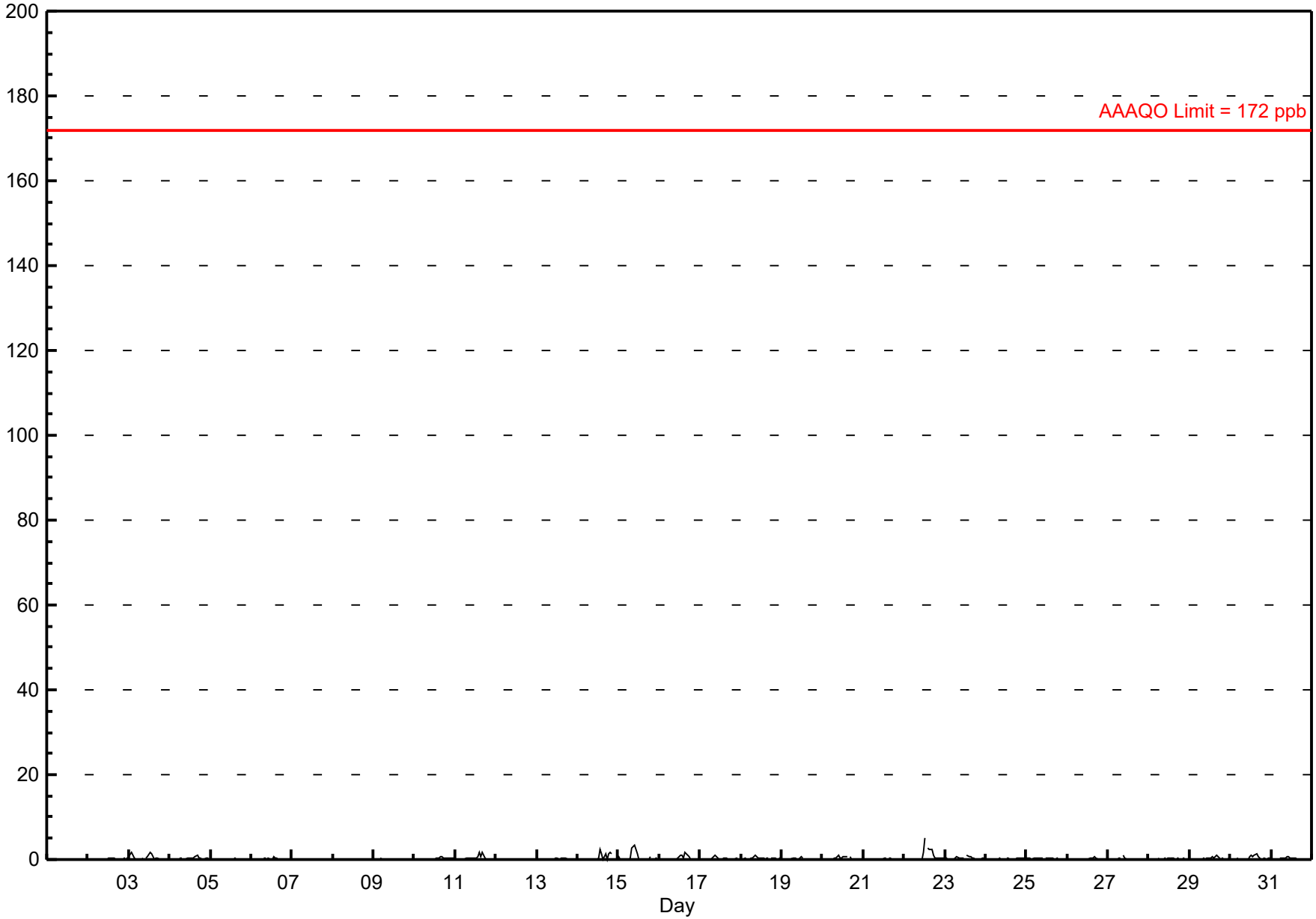
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

# Hourly Averages

## Sulphur Dioxide ($SO_2$) - ppb

## Evergreen Park - October 2018



Peace Airshed Zone Association

# Hourly Maximums

## Sulphur Dioxide ($SO_2$) - ppb

## Evergreen Park - October 2018

Maximum Value: 7.4 ppb on Oct 15 10:00

Maximum Daily Average: 2.1 ppb on Oct 14

Minimum Value: 0 ppb on Oct 14 06:00

Maximum Diurnal Average: 1.5 ppb at hour 15

Monthly Average: 0.94 ppb

Minimum Daily Average: 0.5 ppb on Oct 7

Minimum Diurnal Average: 0.6 ppb at hour 5

Percentiles: $P_1 = 0.3$ $P_{10} = 0.4$ $Q_1 = 0.5$ Median = 0.7 $Q_3 = 0.9$ $P_{90} = 1.7$ $P_{99} = 5.4$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 710 |
| Hours of Missing Data: | 34 |
| Hours of Calibration: | 34 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | A | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0.5 | 0.7 |
| 2-Oct | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 2 | 0.8 | 2.6 |
| 3-Oct | 3 | 5 | 4 | 1 | 0 | 1 | 1 | 1 | 1 | A | 1 | 1 | 4 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1.6 | 5.4 |
| 4-Oct | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.0 | 2.4 |
| 5-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0.6 | 0.8 |
| 6-Oct | 0 | 0 | 0 | 0 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0.6 | 1.9 |
| 7-Oct | 0 | 1 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0.5 | 0.7 |
| 8-Oct | 0 | 0 | 1 | 0 | A | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.5 | 0.8 |
| 9-Oct | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0.6 | 0.8 |
| 10-Oct | 1 | 1 | A | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.4 |
| 11-Oct | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 3 | 5 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1.4 | 5.3 |
| 12-Oct | A | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | A | 0.6 | 1.0 |
| 13-Oct | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | A | 1 | 0.7 | 1.0 |
| 14-Oct | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 3 | 5 | 6 | 1 | 5 | 1 | 6 | 7 | 6 | A | 1 | 2 | 2.1 | 7.0 |
| 15-Oct | 2 | 1 | 1 | 1 | 0 | 0 | 1 | 4 | 7 | 7 | 5 | 5 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 2 | A | 1 | 2 | 0 | 1.8 | 7.4 |
| 16-Oct | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 2 | 3 | 3 | 5 | 4 | 5 | 1 | A | 0 | 1 | 1 | 1 | 1.4 | 5.0 |
| 17-Oct | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 0.9 | 1.8 |
| 18-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 4 | 5 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1.2 | 4.8 |
| 19-Oct | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | C | C | 1 | A | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0.7 | 1.1 |
| 20-Oct | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 3 | 2 | 1 | 1 | 2 | 2 | A | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1.1 | 3.1 |
| 21-Oct | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0.6 | 1.5 |
| 22-Oct | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 4 | 7 | A | 3 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1.5 | 6.9 |
| 23-Oct | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | A | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.9 | 1.6 |
| 24-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 0.9 |
| 25-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.4 |
| 26-Oct | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0.7 | 1.4 |
| 27-Oct | 1 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | A | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.9 | 2.3 |
| 28-Oct | 0 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 0.9 |
| 29-Oct | 1 | 1 | 1 | 1 | 0 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1.0 | 2.6 |
| 30-Oct | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.1 | 2.9 |
| 31-Oct | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.8 |
| | 0.8 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | 0.8 | 1.0 | 1.1 | 1.3 | 1.0 | 1.2 | 1.3 | 1.4 | 1.5 | 1.3 | 1.4 | 1.0 | 0.8 | 0.9 | 0.8 | 0.6 | 0.7 | 0.7 | Diurnal Average | |
| | 2.8 | 5.4 | 4.1 | 1.5 | 0.8 | 1.7 | 2.3 | 4.3 | 6.6 | 7.4 | 5.2 | 4.7 | 6.9 | 5.1 | 5.6 | 4.7 | 5.3 | 5.0 | 5.8 | 7.0 | 5.6 | 1.0 | 1.7 | 2.5 | Diurnal Maximum | |

C - Calibration

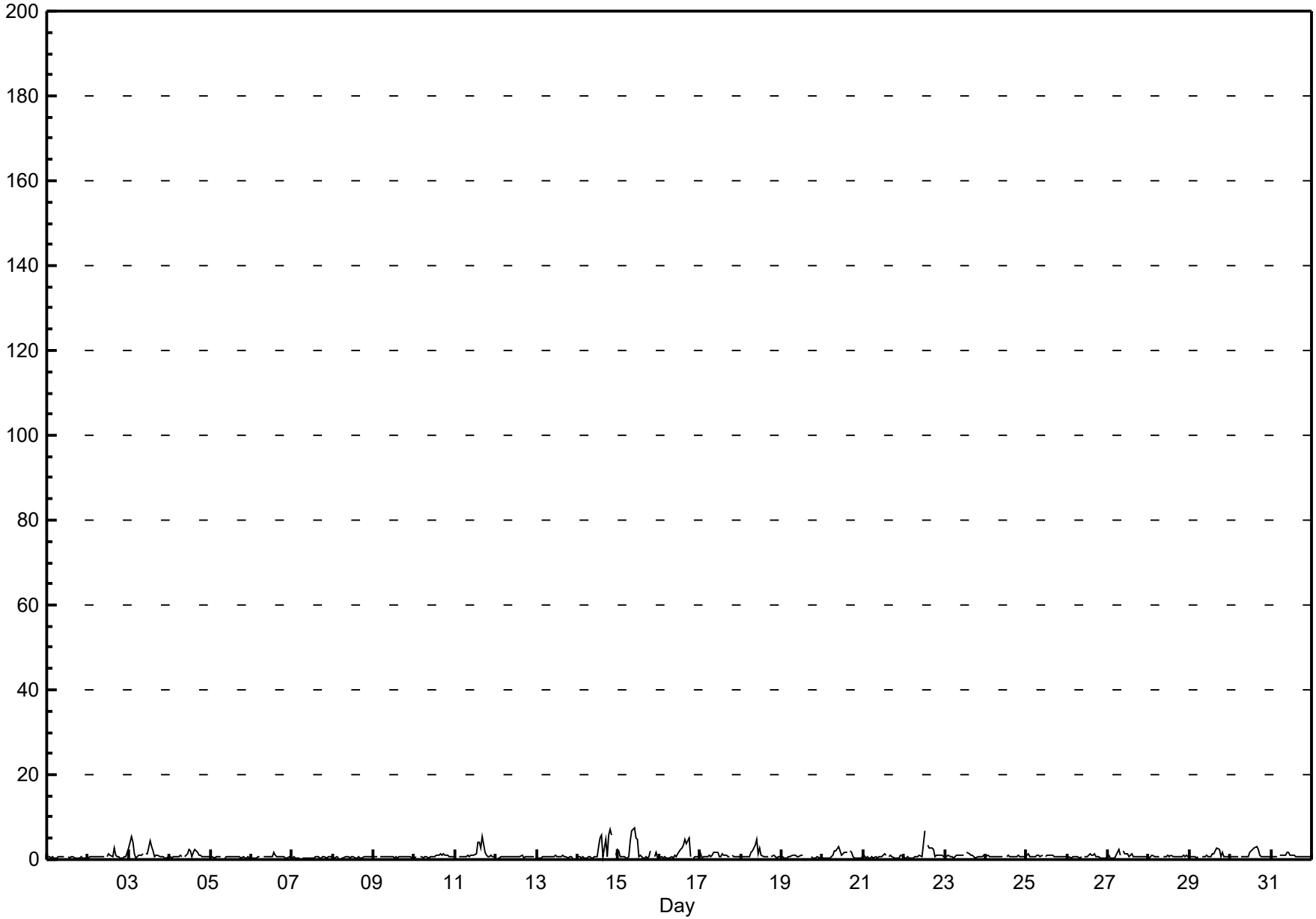
A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

## Sulphur Dioxide ($SO_2$) - ppb

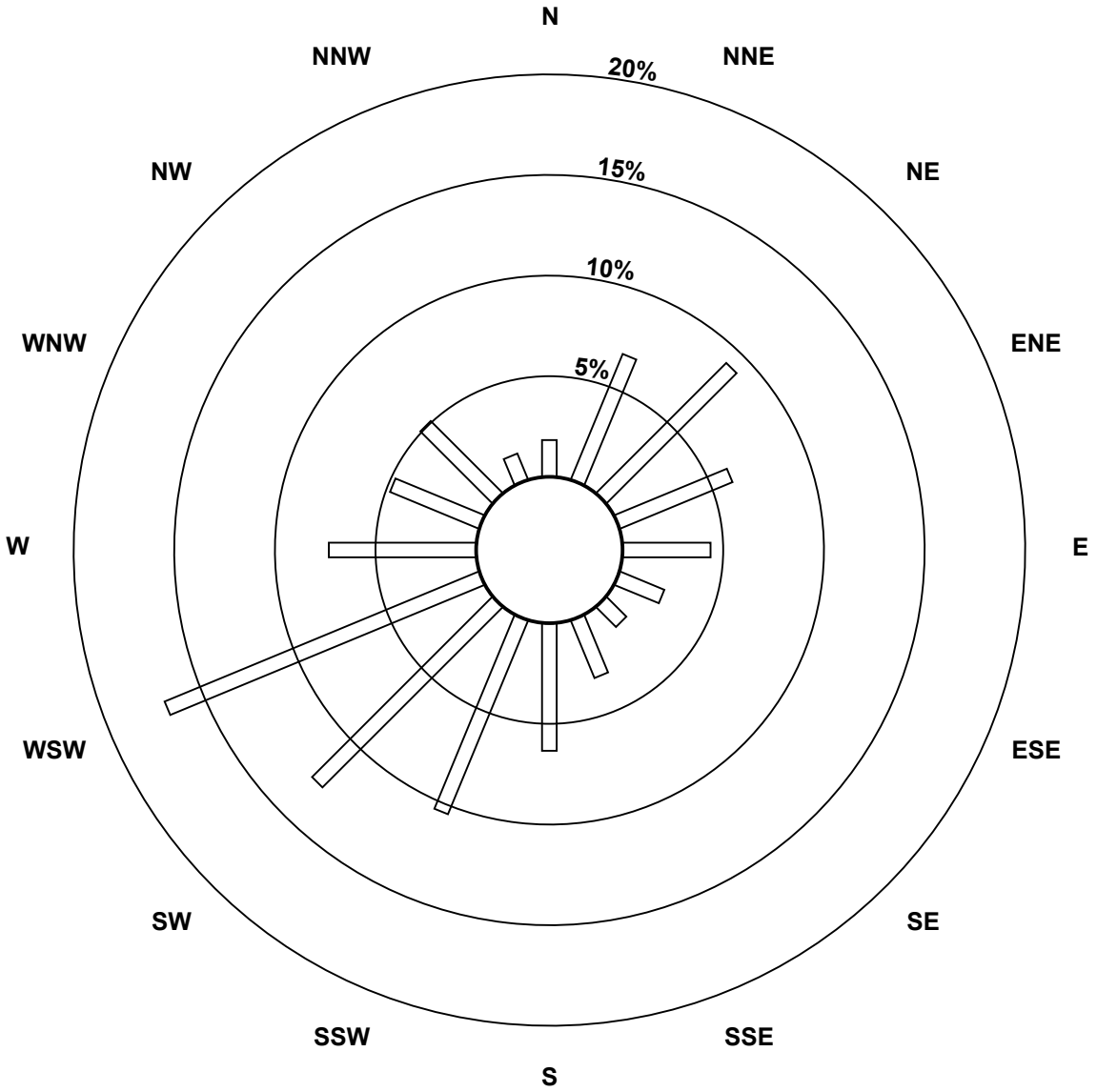
## Evergreen Park - October 2018



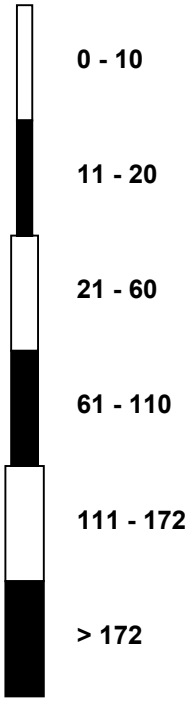
# Pollutant Rose

**Sulphur Dioxide ($SO_2$) - ppb**

**Evergreen Park - October 2018**




**Pollutant Classes (ppb)**

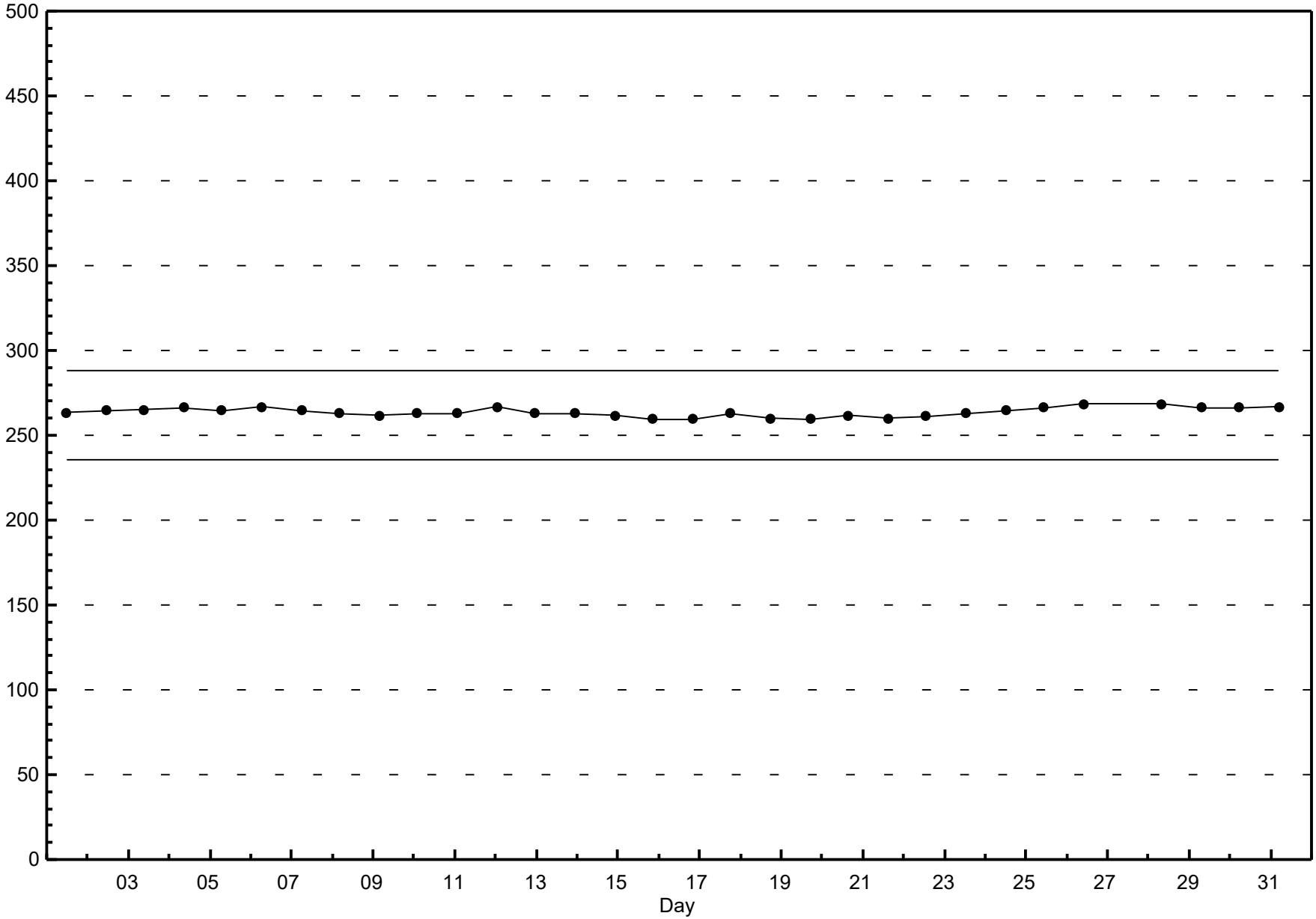


Peace Airshed Zone Association

# Span Responses

**Sulphur Dioxide ($SO_2$)**

**Evergreen Park - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Total Reduced Sulphur (TRS) - ppb

## Evergreen Park - October 2018

Maximum Value: 1.9 ppb on Oct 11 17:00

Maximum Daily Average: 0.7 ppb on Oct 22

Minimum Value: 0 ppb on Oct 19 05:00

Maximum Diurnal Average: 0.5 ppb at hour 18

Monthly Average: 0.44 ppb

Minimum Daily Average: 0.2 ppb on Oct 2

Minimum Diurnal Average: 0.3 ppb at hour 5

Percentiles: $P_1 = 0.1$ $P_{10} = 0.3$ $Q_1 = 0.3$ Median = 0.4 $Q_3 = 0.5$ $P_{90} = 0.6$ $P_{99} = 1.1$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 709 |
| Hours of Missing Data: | 35 |
| Hours of Calibration: | 35 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.6 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 3-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.5 |
| 4-Oct | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0.5 | 0.8 |
| 5-Oct | 1 | 1 | 1 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.6 |
| 6-Oct | 0 | 0 | 0 | 0 | 1 | 0 | A | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.5 |
| 7-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.4 |
| 8-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.4 |
| 9-Oct | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.5 |
| 10-Oct | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.9 |
| 11-Oct | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 1.9 |
| 12-Oct | A | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | A | 0.4 | 0.6 |
| 13-Oct | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0.5 | 0.8 |
| 14-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 0 | 1 | 0.5 | 1.3 |
| 15-Oct | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | 0 | 0 | 0 | 0.5 | 0.6 |
| 16-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0.4 | 0.8 |
| 17-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0.5 | 1.1 |
| 18-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.5 |
| 19-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | C | C | C | 1 | 1 | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.3 | 0.8 |
| 20-Oct | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 0.7 |
| 21-Oct | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0.5 | 0.7 |
| 22-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 1.3 |
| 23-Oct | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | A | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0.6 | 1.0 |
| 24-Oct | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0.5 | 0.9 |
| 25-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.7 |
| 26-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.7 |
| 27-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | A | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.7 |
| 28-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.7 |
| 29-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0.4 | 0.6 |
| 30-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 1.0 |
| 31-Oct | 0 | 0 | 0 | 0 | A | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0.5 | 0.6 |
| | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.4 | 0.5 | 0.5 | 0.4 | 0.5 | 0.5 | 0.5 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | Diurnal Average | |
| | 0.9 | 0.8 | 0.8 | 0.7 | 0.6 | 0.6 | 0.7 | 0.7 | 1.1 | 1.1 | 0.8 | 0.7 | 0.7 | 0.7 | 1.0 | 0.7 | 1.9 | 1.3 | 1.3 | 1.0 | 1.1 | 1.3 | 1.2 | 1.0 | Diurnal Maximum | |

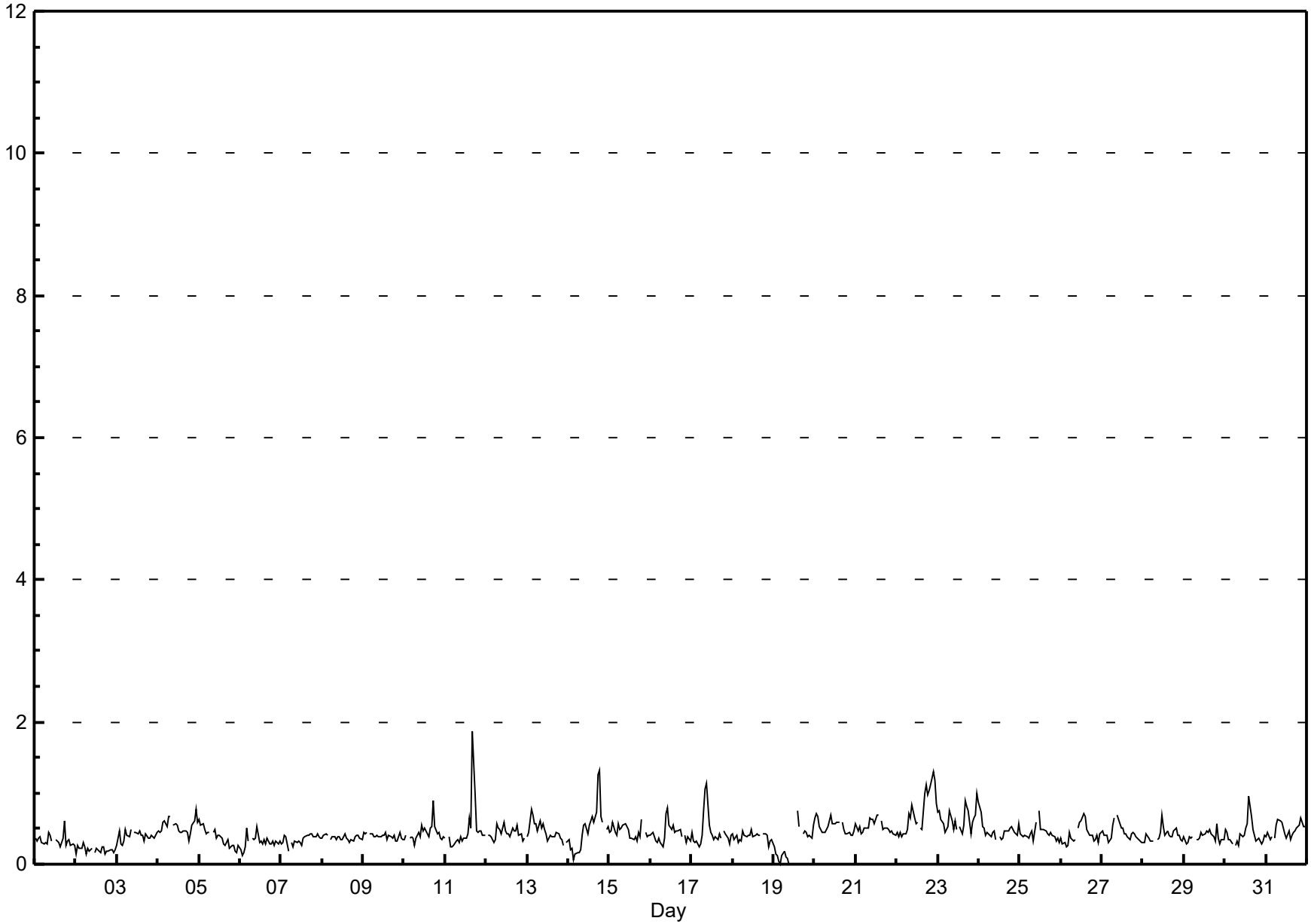
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

## Hourly Averages

**Total Reduced Sulphur (TRS) - ppb**

**Evergreen Park - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Total Reduced Sulphur (TRS) - ppb

## Evergreen Park - October 2018

Maximum Value: 5.1 ppb on Oct 10 18:00

Maximum Daily Average: 1.3 ppb on Oct 22

Minimum Value: 0 ppb on Oct 19 10:00

Maximum Diurnal Average: 1.4 ppb at hour 18

Monthly Average: 1.01 ppb

Minimum Daily Average: 0.8 ppb on Oct 2

Minimum Diurnal Average: 0.9 ppb at hour 5

Percentiles: $P_1 = 0.6$ $P_{10} = 0.8$ $Q_1 = 0.9$ Median = 1.0 $Q_3 = 1.1$ $P_{90} = 1.3$ $P_{99} = 2.0$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 709 |
| Hours of Missing Data: | 35 |
| Hours of Calibration: | 35 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1.0 | 4.0 |
| 2-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.8 |
| 3-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.0 | 1.3 |
| 4-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1.1 | 1.5 |
| 5-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.9 | 1.2 |
| 6-Oct | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.1 |
| 7-Oct | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.9 | 1.2 |
| 8-Oct | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.9 | 1.2 |
| 9-Oct | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.9 | 1.2 |
| 10-Oct | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 2 | 1 | 1 | 1 | 1 | 1 | 1.2 | 5.1 |
| 11-Oct | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1.2 | 4.3 |
| 12-Oct | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 0.9 | 1.2 |
| 13-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1.0 | 1.4 |
| 14-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 2 | A | 1 | 1 | 1.1 | 2.8 |
| 15-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1.0 | 1.5 |
| 16-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | A | 1 | 1 | 1 | 1 | 1.1 | 2.6 |
| 17-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1.1 | 1.9 |
| 18-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 0.9 | 1.1 |
| 19-Oct | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | C | C | C | 2 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.6 |
| 20-Oct | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.1 | 1.5 |
| 21-Oct | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.1 | 1.7 |
| 22-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1.3 | 2.0 |
| 23-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1.2 | 1.6 |
| 24-Oct | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.0 | 1.6 |
| 25-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.0 | 1.3 |
| 26-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.9 | 1.3 |
| 27-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.0 | 1.3 |
| 28-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.9 | 1.3 |
| 29-Oct | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.0 | 1.3 |
| 30-Oct | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.0 | 1.7 |
| 31-Oct | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1.1 | 1.5 |
| | 1.0 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 1.0 | 1.0 | 1.1 | 1.1 | 1.0 | 1.0 | 1.0 | 1.0 | 1.1 | 1.1 | 1.4 | 1.1 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | Diurnal Average | |
| | 1.6 | 1.3 | 1.5 | 1.3 | 1.1 | 1.2 | 1.3 | 1.5 | 1.9 | 1.8 | 1.7 | 1.3 | 1.3 | 1.6 | 1.7 | 1.8 | 4.3 | 5.1 | 2.8 | 1.7 | 1.9 | 2.0 | 1.7 | 1.7 | Diurnal Maximum | |

C - Calibration

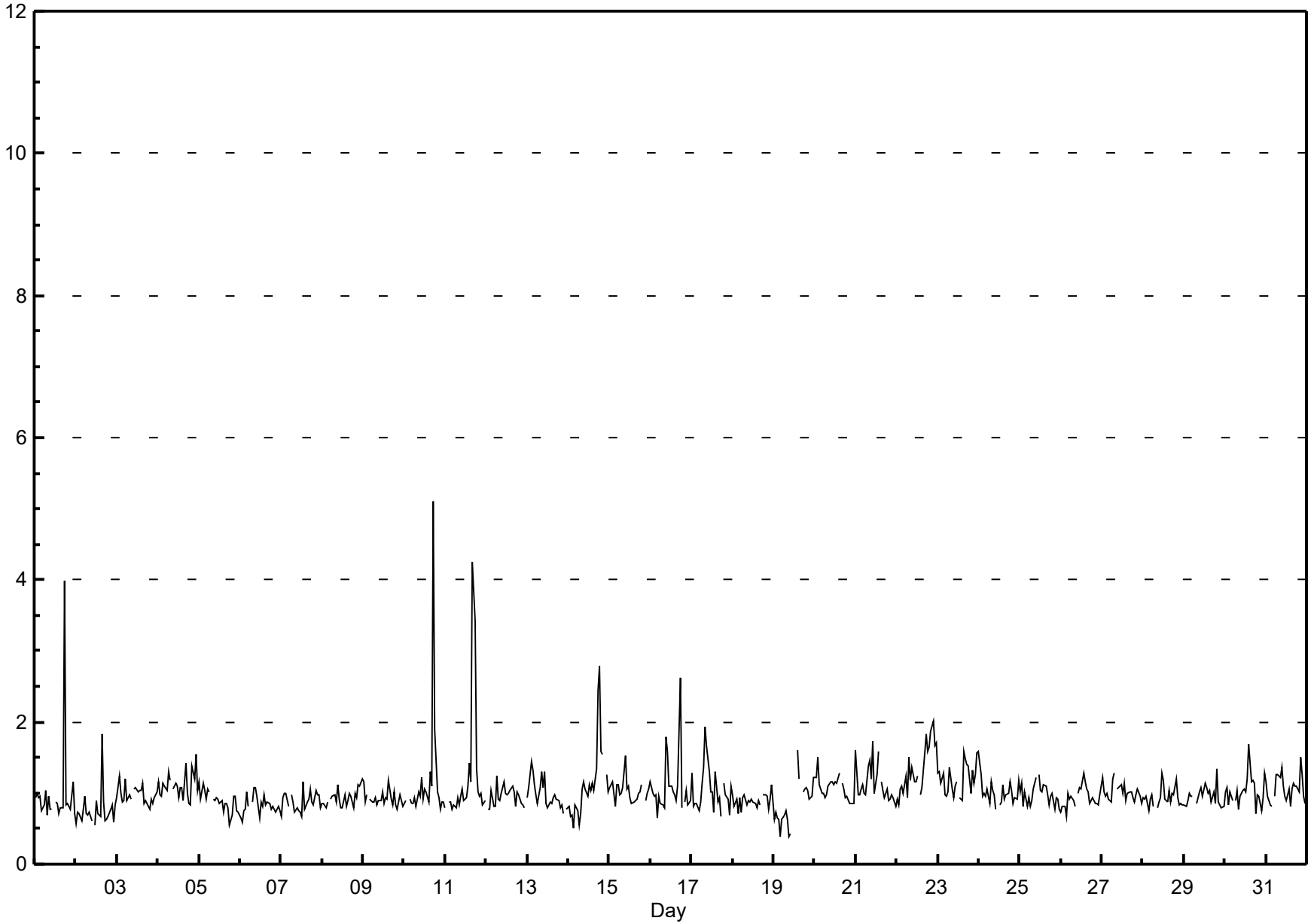
A - Automated Daily Zero Span

Peace Airshed Zone Association

## Hourly Maximums

**Total Reduced Sulphur (TRS) - ppb**

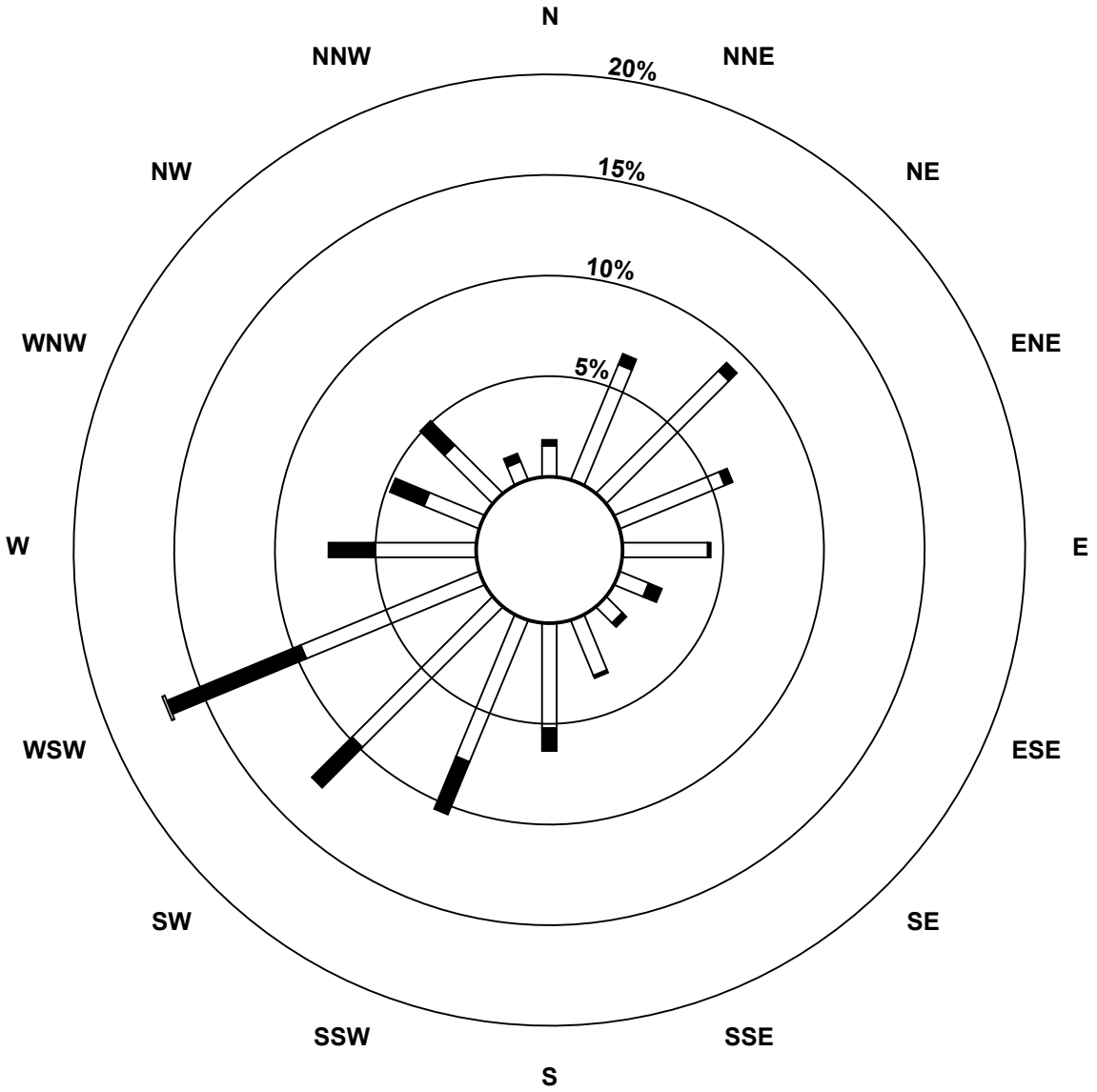
**Evergreen Park - October 2018**



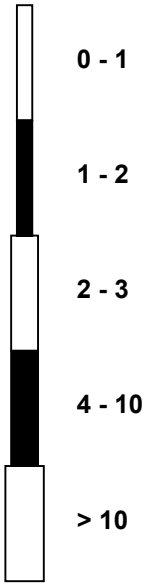
# Pollutant Rose

**Total Reduced Sulphur (TRS) - ppb**

**Evergreen Park - October 2018**




**Pollutant Classes (ppb)**

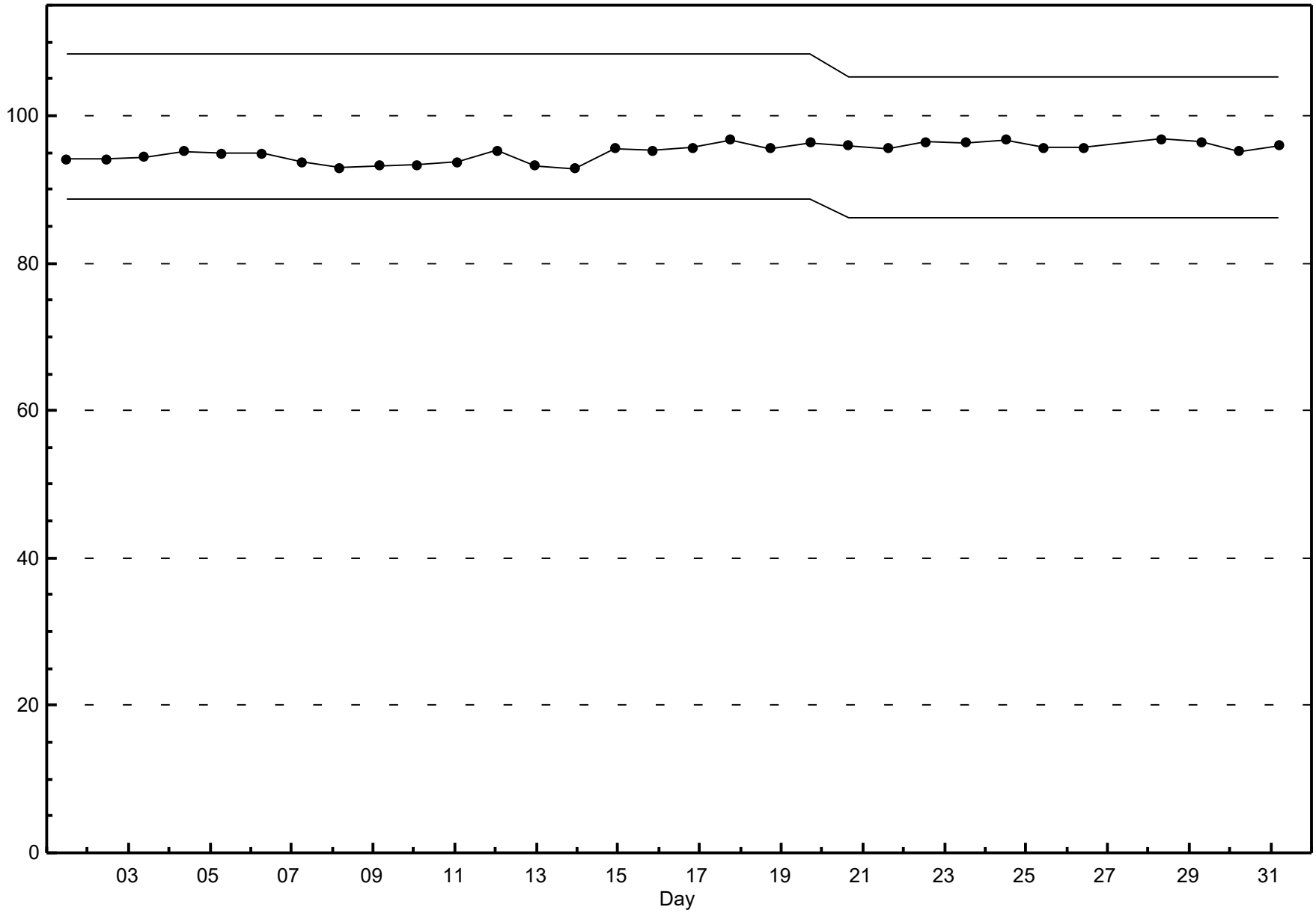


Peace Airshed Zone Association

# Span Responses

**Total Reduced Sulphur (TRS)**

**Evergreen Park - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

## Evergreen Park - October 2018

Number of Exceedences: 1-hr: 0 24-hr: 0

Maximum Value: 56.5 $\mu g/m^3$ on Oct 20 10:00

Maximum Daily Average: 15.4 $\mu g/m^3$ on Oct 20

Minimum Value: 0 $\mu g/m^3$ on Oct 1 02:00

Maximum Diurnal Average: 8.8 $\mu g/m^3$ at hour 10

Monthly Average: 4.97 $\mu g/m^3$

Minimum Daily Average: 0.5 $\mu g/m^3$ on Oct 2

Minimum Diurnal Average: 2.8 $\mu g/m^3$ at hour 4

Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.8$ Median = 2.9 $Q_3 = 6.8$ $P_{90} = 11.6$ $P_{99} = 30.4$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 741 |
| Hours of Missing Data: | 3 |
| Hours of Calibration: | 3 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 4 | 5 | 5 | 2 | 1 | 2 | 1 | 1 | 2 | 3 | 3 | 2 | 1 | 1 | 0 | 0 | 0 | 1.7 | 5.5 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 3 | 0.5 | 2.5 |
| 3-Oct | 4 | 10 | 4 | 0 | 0 | 0 | 1 | 3 | 5 | 2 | 8 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 2 | 1.9 | 9.8 |
| 4-Oct | 2 | 4 | 3 | 4 | 4 | 3 | 5 | 7 | 7 | 4 | 16 | 14 | 10 | 8 | 9 | 2 | 2 | 3 | 4 | 5 | 9 | 9 | 8 | 9 | 6.3 | 15.5 |
| 5-Oct | 6 | 6 | 5 | 3 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 3 | 4 | 1.9 | 6.4 |
| 6-Oct | 3 | 3 | 4 | 6 | 7 | 5 | 6 | 7 | 8 | 6 | 8 | 6 | 4 | 2 | 3 | 4 | 4 | 3 | 4 | 3 | 3 | 3 | 2 | 3 | 4.4 | 7.8 |
| 7-Oct | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 3 | 3 | 1 | 1 | 3 | 4 | 3 | 3 | 2 | 1 | 3 | 2 | 2 | 2 | 2.7 | 4.4 |
| 8-Oct | 2 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 5 | 1.0 | 5.1 |
| 9-Oct | 7 | 7 | 7 | 7 | 7 | 6 | 5 | 4 | 4 | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 4.0 | 7.3 |
| 10-Oct | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 6 | 5 | 11 | 12 | 7 | 6 | 5 | 7 | 8 | 7 | 5 | 8 | 7 | 5 | 3 | 3 | 5.8 | 11.8 |
| 11-Oct | 3 | 3 | 3 | 3 | 3 | 5 | 4 | 5 | 5 | 12 | 4 | 5 | 3 | 7 | 13 | 4 | 11 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 4.0 | 13.3 |
| 12-Oct | 1 | 1 | 1 | 1 | 2 | 5 | 5 | 5 | 4 | 3 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2.2 | 4.9 |
| 13-Oct | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 4 | 3 | 2 | 1 | 0 | 0.9 | 4.0 |
| 14-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 4 | 3 | 0 | 6 | 30 | 11 | 0 | 15 | 0 | 19 | 11 | 7 | 6 | 0 | 1 | 4.9 | 30.0 |
| 15-Oct | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 25 | 28 | 14 | 11 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 5 | 10 | 4 | 4.6 | 28.0 |
| 16-Oct | 7 | 6 | 7 | 7 | 6 | 7 | 5 | 4 | 10 | 11 | 6 | 7 | 25 | 24 | 11 | 43 | 33 | 2 | 0 | 0 | 2 | 2 | 4 | 2 | 9.6 | 43.1 |
| 17-Oct | 2 | 3 | 4 | 5 | 5 | 4 | 7 | 11 | 27 | 29 | 14 | 10 | 9 | 19 | 20 | 22 | 18 | 13 | 4 | 11 | 9 | 5 | 5 | 10 | 11.0 | 29.2 |
| 18-Oct | 6 | 5 | 5 | 7 | 9 | 7 | 9 | 10 | 15 | 9 | 3 | 7 | 0 | 0 | 0 | 0 | 1 | 4 | 8 | 13 | 16 | 8 | 9 | 9 | 6.7 | 16.3 |
| 19-Oct | 6 | 5 | 4 | 3 | 3 | 5 | 7 | 7 | 7 | 5 | 4 | C | C | C | 9 | 7 | 4 | 3 | 2 | 2 | 3 | 4 | 6 | 7 | 4.8 | 8.6 |
| 20-Oct | 9 | 8 | 9 | 7 | 7 | 3 | 9 | 20 | 27 | 56 | 43 | 37 | 39 | 30 | 24 | 25 | 12 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 15.4 | 56.5 |
| 21-Oct | 1 | 0 | 0 | 0 | 0 | 1 | 4 | 5 | 4 | 5 | 6 | 3 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 3 | 7 | 4 | 5 | 2.2 | 7.0 |
| 22-Oct | 5 | 3 | 4 | 3 | 3 | 4 | 6 | 9 | 8 | 10 | 20 | 21 | 37 | 12 | 4 | 2 | 8 | 15 | 31 | 25 | 30 | 23 | 16 | 15 | 13.0 | 37.0 |
| 23-Oct | 11 | 11 | 11 | 8 | 8 | 8 | 10 | 13 | 20 | 16 | 13 | 6 | 28 | 21 | 3 | 0 | 9 | 8 | 6 | 7 | 9 | 12 | 13 | 15 | 11.1 | 28.4 |
| 24-Oct | 10 | 12 | 10 | 8 | 7 | 6 | 7 | 7 | 7 | 8 | 8 | 8 | 12 | 16 | 16 | 17 | 13 | 12 | 9 | 10 | 10 | 10 | 10 | 9 | 10.0 | 17.0 |
| 25-Oct | 7 | 8 | 7 | 6 | 6 | 6 | 8 | 9 | 6 | 9 | 8 | 11 | 6 | 1 | 1 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4.3 | 10.5 |
| 26-Oct | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 2 | 2 | 3 | 2 | 2 | 1 | 8 | 7 | 3 | 2 | 3 | 2 | 1 | 3 | 0 | 0 | 0 | 1.9 | 7.6 |
| 27-Oct | 0 | 0 | 0 | 0 | 1 | 8 | 17 | 12 | 27 | 19 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 3 | 2 | 1 | 4 | 3 | 3 | 4.9 | 26.8 |
| 28-Oct | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 4 | 3 | 5 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 2 | 1.8 | 4.6 |
| 29-Oct | 2 | 2 | 2 | 1 | 1 | 2 | 3 | 2 | 3 | 5 | 12 | 5 | 4 | 12 | 7 | 14 | 18 | 0 | 0 | 3 | 1 | 0 | 1 | 1 | 4.2 | 18.1 |
| 30-Oct | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 13 | 20 | 12 | 20 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3.6 | 19.9 |
| 31-Oct | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 5 | 7 | 7 | 1 | 1 | 2 | 2 | 2 | 2 | 5 | 4 | 3 | 5 | 4 | 2 | 3 | 4 | 2.7 | 7.4 |
| | 3.5 | 3.4 | 3.2 | 2.8 | 2.9 | 3.2 | 4.4 | 5.4 | 8.0 | 8.8 | 7.3 | 6.5 | 7.6 | 7.4 | 5.8 | 6.2 | 5.8 | 3.3 | 3.8 | 4.0 | 4.4 | 4.0 | 3.9 | 4.0 | Diurnal Average | |
| | 11.4 | 11.8 | 10.6 | 8.4 | 8.7 | 8.3 | 16.9 | 20.1 | 27.5 | 56.5 | 42.8 | 36.9 | 39.4 | 30.0 | 23.7 | 43.1 | 33.2 | 15.2 | 30.5 | 25.5 | 30.1 | 22.9 | 15.5 | 14.9 | Diurnal Maximum | |

C - Calibration

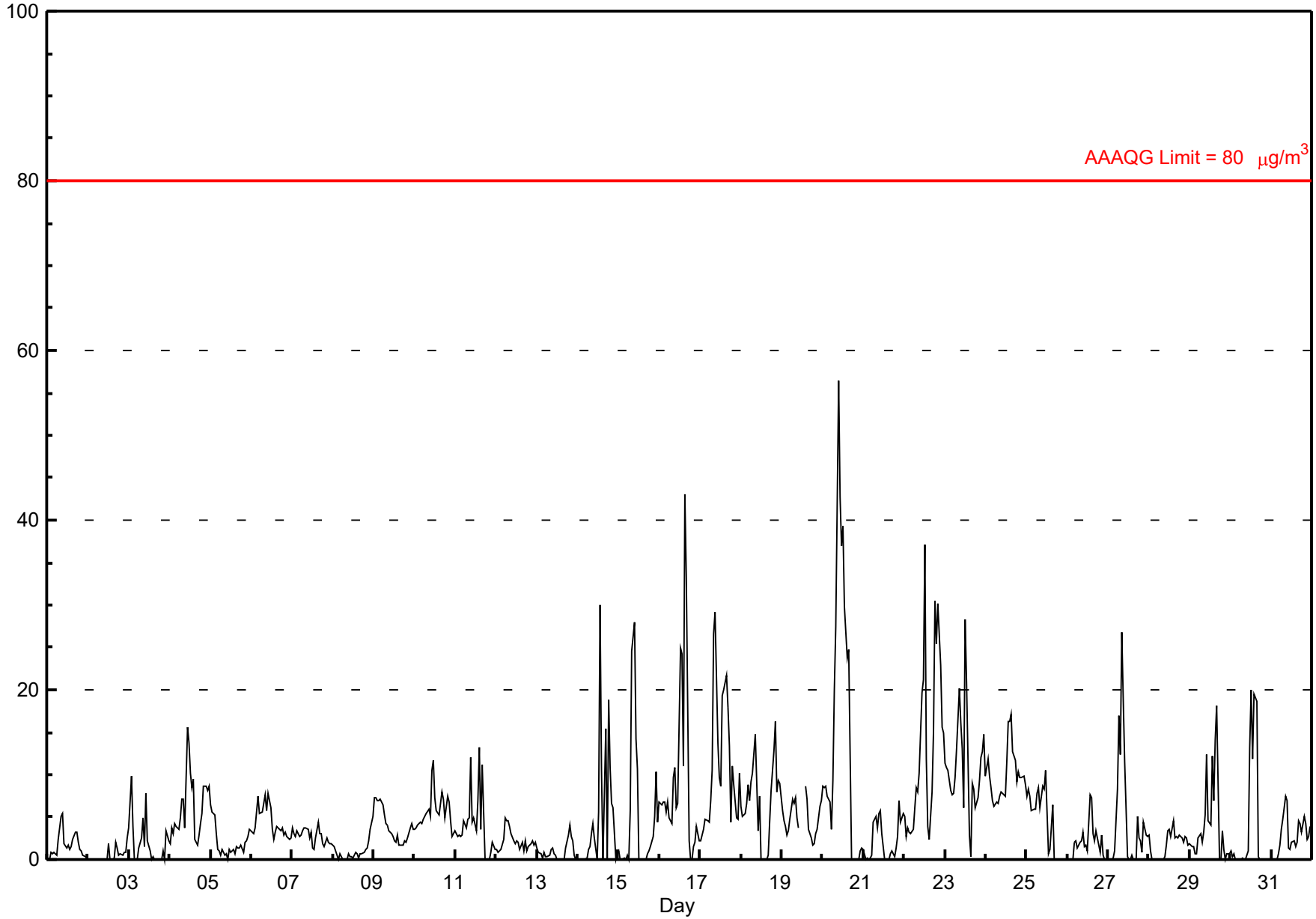
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

# Hourly Averages

**Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$**

**Evergreen Park - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

## Evergreen Park - October 2018

Maximum Value: 90.0 $\mu g/m^3$ on Oct 23 13:00

Maximum Daily Average: 29.1 $\mu g/m^3$ on Oct 20

Minimum Value: 0 $\mu g/m^3$ on Oct 3 19:00

Maximum Diurnal Average: 16.7 $\mu g/m^3$ at hour 13

Monthly Average: 9.56 $\mu g/m^3$

Minimum Daily Average: 3.5 $\mu g/m^3$ on Oct 13

Minimum Diurnal Average: 5.5 $\mu g/m^3$ at hour 4

Percentiles: $P_1$ = 0.0 $P_{10}$ = 1.8 $Q_1$ = 3.7 Median = 6.1 $Q_3$ = 10.4 $P_{90}$ = 21.3 $P_{99}$ = 61.6

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 741 |
| Hours of Missing Data: | 3 |
| Hours of Calibration: | 3 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | |
| 1-Oct | 5 | 6 | 5 | 3 | 6 | 4 | 6 | 10 | 8 | 9 | 6 | 5 | 4 | 4 | 5 | 5 | 7 | 8 | 6 | 5 | 5 | 5 | 4 | 4 | 5.6 | 9.8 |
| 2-Oct | 3 | 5 | 5 | 4 | 2 | 5 | 3 | 4 | 2 | 2 | 1 | 2 | 8 | 1 | 2 | 2 | 4 | 6 | 2 | 4 | 3 | 4 | 5 | 8 | 3.7 | 8.1 |
| 3-Oct | 11 | 21 | 12 | 2 | 4 | 5 | 5 | 6 | 14 | 4 | 21 | 5 | 3 | 1 | 3 | 2 | 1 | 1 | 0 | 1 | 4 | 2 | 6 | 6 | 5.9 | 21.4 |
| 4-Oct | 6 | 7 | 5 | 8 | 7 | 8 | 9 | 10 | 12 | 9 | 24 | 32 | 30 | 11 | 23 | 6 | 4 | 4 | 6 | 7 | 14 | 12 | 11 | 11 | 11.5 | 31.8 |
| 5-Oct | 12 | 8 | 9 | 5 | 3 | 4 | 4 | 4 | 2 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 6 | 6 | 6 | 4.6 | 11.8 |
| 6-Oct | 6 | 6 | 7 | 10 | 12 | 9 | 10 | 10 | 12 | 8 | 11 | 11 | 6 | 5 | 6 | 6 | 5 | 5 | 5 | 4 | 5 | 4 | 4 | 6 | 7.2 | 11.8 |
| 7-Oct | 7 | 5 | 6 | 7 | 5 | 6 | 7 | 6 | 8 | 5 | 5 | 6 | 4 | 4 | 5 | 8 | 6 | 7 | 4 | 4 | 6 | 4 | 4 | 5 | 5.7 | 7.6 |
| 8-Oct | 5 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 3 | 2 | 3 | 3 | 3 | 6 | 3 | 3 | 4 | 5 | 5 | 6 | 8 | 3.9 | 7.9 |
| 9-Oct | 11 | 10 | 10 | 9 | 9 | 9 | 7 | 7 | 6 | 6 | 6 | 6 | 5 | 5 | 6 | 4 | 3 | 4 | 4 | 5 | 6 | 6 | 7 | 6 | 6.6 | 10.8 |
| 10-Oct | 6 | 6 | 6 | 7 | 7 | 7 | 10 | 9 | 9 | 8 | 17 | 19 | 16 | 9 | 10 | 12 | 11 | 10 | 7 | 11 | 11 | 7 | 6 | 6 | 9.4 | 19.4 |
| 11-Oct | 7 | 6 | 5 | 5 | 6 | 8 | 7 | 8 | 8 | 19 | 8 | 7 | 8 | 23 | 22 | 9 | 19 | 2 | 0 | 1 | 1 | 3 | 4 | 4 | 7.9 | 23.2 |
| 12-Oct | 3 | 3 | 3 | 3 | 5 | 7 | 8 | 8 | 6 | 5 | 4 | 4 | 5 | 5 | 3 | 5 | 4 | 5 | 3 | 5 | 4 | 4 | 3 | 5 | 4.7 | 8.1 |
| 13-Oct | 4 | 4 | 4 | 2 | 3 | 2 | 3 | 6 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 5 | 4 | 7 | 4 | 6 | 4 | 2 | 3.5 | 7.2 |
| 14-Oct | 1 | 3 | 2 | 2 | 2 | 4 | 4 | 3 | 5 | 7 | 7 | 2 | 33 | 43 | 35 | 3 | 34 | 0 | 48 | 42 | 34 | 37 | 1 | 6 | 14.9 | 47.9 |
| 15-Oct | 6 | 0 | 0 | 3 | 3 | 2 | 1 | 27 | 38 | 53 | 23 | 30 | 0 | 0 | 1 | 1 | 2 | 2 | 2 | 5 | 5 | 11 | 17 | 8 | 10.0 | 52.6 |
| 16-Oct | 8 | 10 | 9 | 9 | 10 | 9 | 8 | 11 | 13 | 16 | 12 | 20 | 38 | 34 | 33 | 61 | 77 | 25 | 0 | 4 | 4 | 4 | 5 | 4 | 17.7 | 76.8 |
| 17-Oct | 5 | 4 | 5 | 7 | 6 | 7 | 10 | 16 | 43 | 34 | 33 | 17 | 17 | 41 | 35 | 32 | 28 | 20 | 10 | 21 | 13 | 7 | 9 | 16 | 18.1 | 43.3 |
| 18-Oct | 12 | 9 | 7 | 18 | 20 | 11 | 20 | 21 | 26 | 35 | 7 | 14 | 4 | 1 | 1 | 1 | 4 | 8 | 10 | 16 | 28 | 10 | 14 | 11 | 12.9 | 34.7 |
| 19-Oct | 8 | 7 | 7 | 6 | 6 | 7 | 14 | 9 | 11 | 9 | 7 | C | C | C | 12 | 11 | 5 | 5 | 4 | 4 | 5 | 9 | 10 | 9 | 7.8 | 13.6 |
| 20-Oct | 11 | 11 | 10 | 10 | 9 | 8 | 22 | 55 | 75 | 85 | 62 | 65 | 70 | 46 | 38 | 47 | 32 | 21 | 0 | 4 | 4 | 0 | 8 | 5 | 29.1 | 85.2 |
| 21-Oct | 7 | 3 | 5 | 2 | 2 | 3 | 8 | 12 | 9 | 11 | 18 | 9 | 0 | 3 | 1 | 1 | 4 | 3 | 2 | 3 | 7 | 10 | 8 | 8 | 5.8 | 17.8 |
| 22-Oct | 8 | 6 | 8 | 5 | 6 | 7 | 13 | 14 | 11 | 14 | 24 | 35 | 63 | 17 | 6 | 4 | 13 | 28 | 40 | 33 | 33 | 28 | 18 | 16 | 18.8 | 63.1 |
| 23-Oct | 14 | 13 | 14 | 10 | 10 | 10 | 12 | 19 | 31 | 23 | 21 | 10 | 90 | 35 | 9 | 9 | 13 | 14 | 7 | 10 | 11 | 15 | 16 | 20 | 18.2 | 90.0 |
| 24-Oct | 13 | 19 | 13 | 11 | 9 | 9 | 9 | 9 | 10 | 10 | 10 | 9 | 17 | 23 | 20 | 27 | 16 | 17 | 11 | 12 | 11 | 12 | 11 | 11 | 13.3 | 26.9 |
| 25-Oct | 9 | 13 | 9 | 7 | 9 | 8 | 10 | 11 | 9 | 12 | 10 | 17 | 7 | 3 | 2 | 17 | 5 | 3 | 2 | 0 | 0 | 1 | 0 | 0 | 6.9 | 17.2 |
| 26-Oct | 0 | 1 | 1 | 0 | 8 | 4 | 3 | 5 | 5 | 5 | 5 | 6 | 5 | 14 | 11 | 7 | 4 | 6 | 4 | 2 | 5 | 4 | 1 | 1 | 4.4 | 14.3 |
| 27-Oct | 2 | 1 | 1 | 2 | 2 | 41 | 38 | 19 | 40 | 34 | 21 | 9 | 5 | 8 | 12 | 5 | 2 | 11 | 4 | 5 | 3 | 7 | 5 | 5 | 11.8 | 40.9 |
| 28-Oct | 5 | 3 | 1 | 1 | 0 | 0 | 1 | 3 | 1 | 3 | 4 | 9 | 7 | 5 | 8 | 4 | 4 | 4 | 4 | 5 | 4 | 5 | 6 | 4 | 3.8 | 8.8 |
| 29-Oct | 4 | 4 | 3 | 2 | 2 | 7 | 6 | 4 | 5 | 10 | 18 | 9 | 10 | 21 | 16 | 26 | 34 | 22 | 0 | 19 | 13 | 1 | 2 | 3 | 10.1 | 34.2 |
| 30-Oct | 3 | 3 | 2 | 2 | 1 | 0 | 2 | 3 | 1 | 1 | 4 | 32 | 34 | 25 | 28 | 26 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7.8 | 34.0 |
| 31-Oct | 0 | 0 | 1 | 1 | 4 | 4 | 7 | 7 | 10 | 11 | 4 | 3 | 4 | 5 | 4 | 4 | 6 | 7 | 5 | 7 | 5 | 5 | 4 | 7 | 4.8 | 10.6 |
| | 6.6 | 6.5 | 5.8 | 5.5 | 5.9 | 7.0 | 8.7 | 10.9 | 14.1 | 14.8 | 13.0 | 13.4 | 16.7 | 13.4 | 11.7 | 11.4 | 12.2 | 8.4 | 6.5 | 8.1 | 8.4 | 7.6 | 6.7 | 6.8 | Diurnal Average | |
| | 14.2 | 21.4 | 13.5 | 18.4 | 19.8 | 40.9 | 38.1 | 54.5 | 75.2 | 85.2 | 62.1 | 65.5 | 90.0 | 45.8 | 37.7 | 60.9 | 76.8 | 27.6 | 47.9 | 42.3 | 34.0 | 36.6 | 18.4 | 19.6 | Diurnal Maximum | |

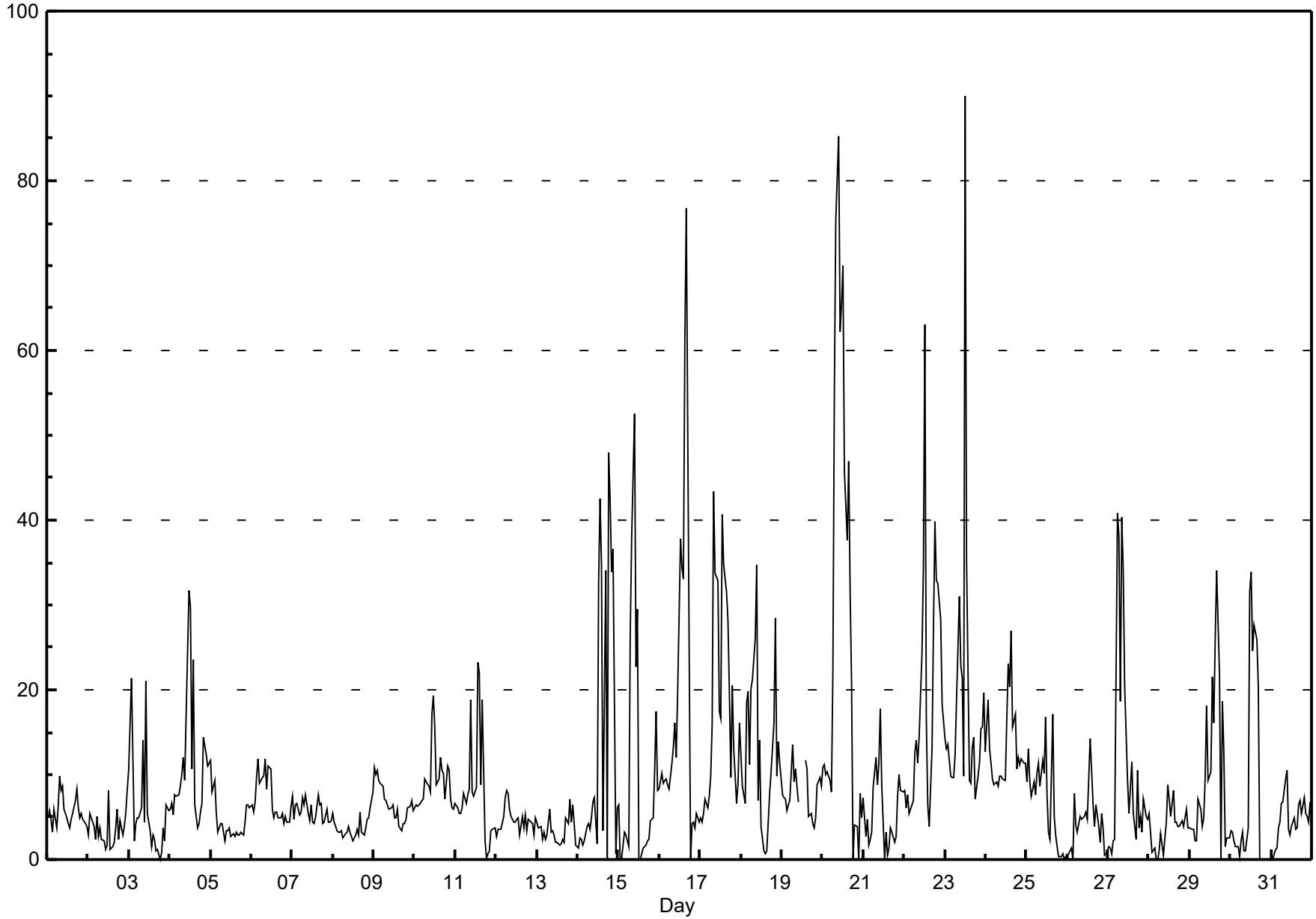
C - Calibration

Peace Airshed Zone Association

## Hourly Maximums

**Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$**

**Evergreen Park - October 2018**

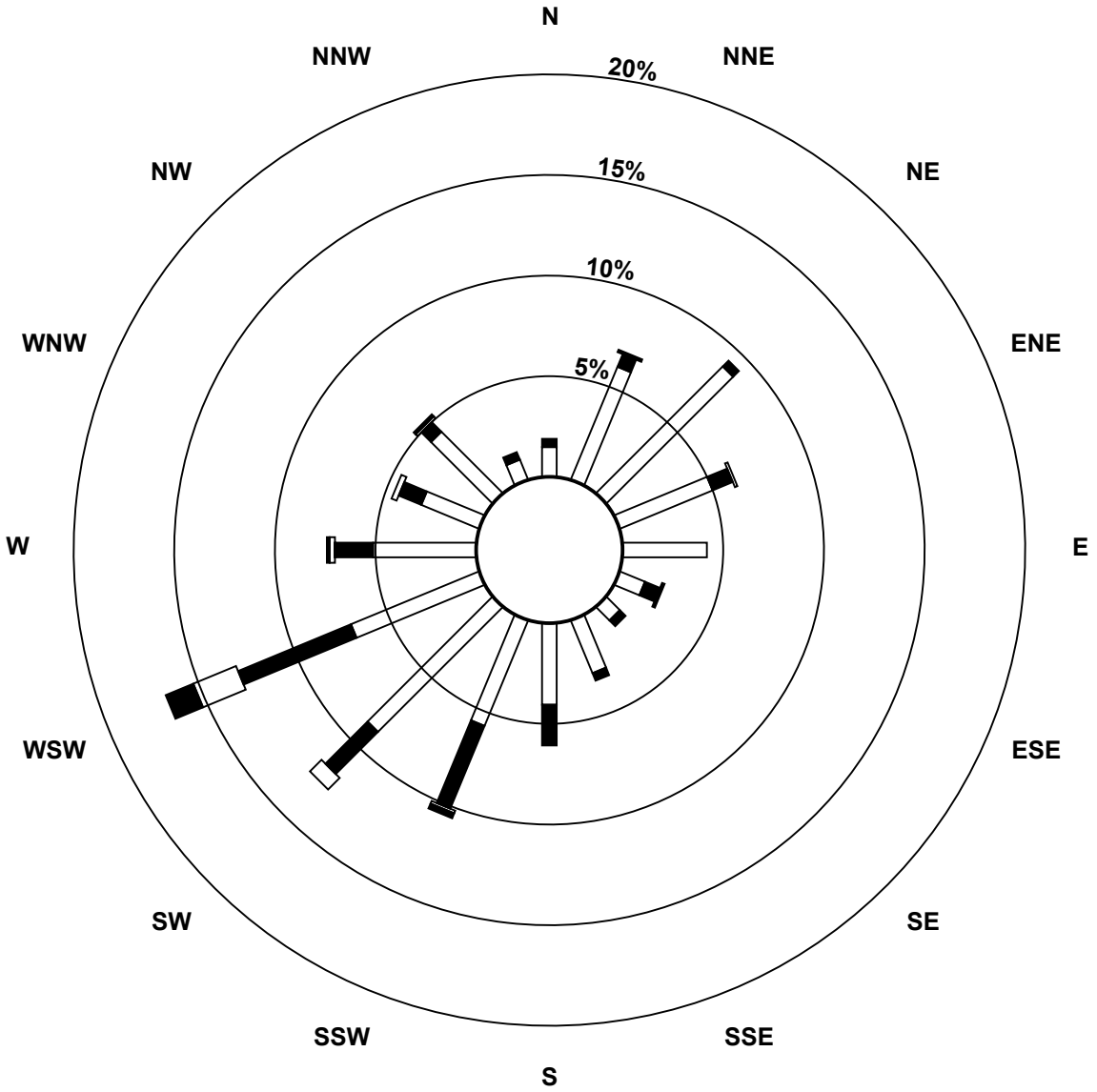


Peace Airshed Zone Association

# Pollutant Rose

## Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

## Evergreen Park - October 2018




**Pollutant Classes ($\mu g/m^3$)**

- 0 - 5
- 6 - 15
- 16 - 25
- 26 - 80
- > 80.0

Peace Airshed Zone Association

# Hourly Averages

## External Temperature (ET) - °C

## Evergreen Park - October 2018

Maximum Value: 21.4 °C on Oct 16 15:00

Maximum Daily Average: 12.0 °C on Oct 15

Minimum Value: -6 °C on Oct 23 08:00

Minimum Daily Average: -2.1 °C on Oct 2

Maximum Diurnal Average: 8.7 °C at hour 15

Minimum Diurnal Average: -0.5 °C at hour 7

Monthly Average: 3.09 °C

Percentiles: $P_1$ = -5.4 $P_{10}$ = -3.0 $Q_1$ = -1.5 Median = 1.1 $Q_3$ = 7.4 $P_{90}$ = 12.2 $P_{99}$ = 18.7

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

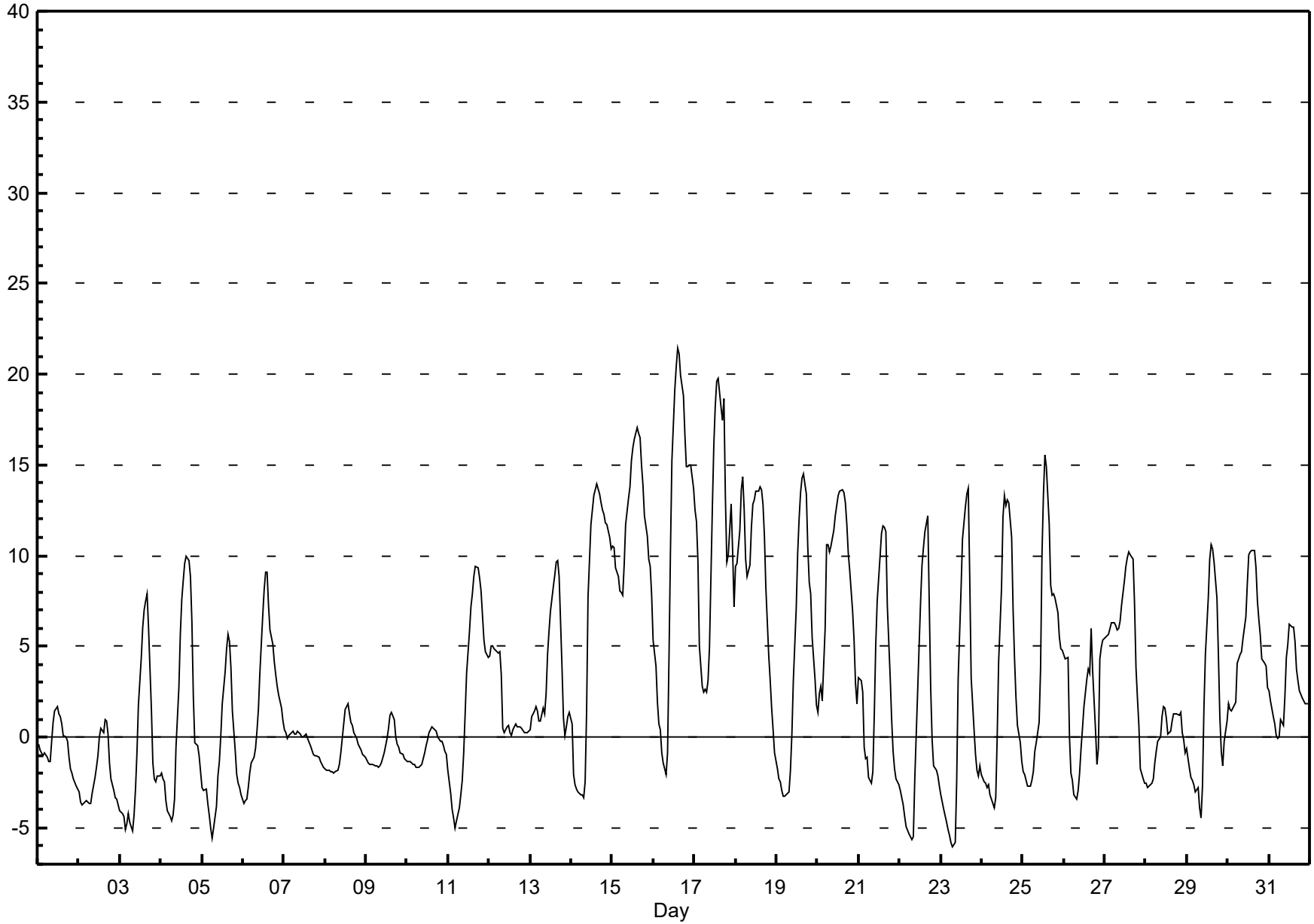
| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Average | Maximum |
| 1-Oct | 0 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | 1 | 1 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | -1 | -2 | -2 | -2 | -3 | -3 | -0.6 | 1.7 |
| 2-Oct | -3 | -4 | -4 | -4 | -3 | -4 | -4 | -4 | -3 | -2 | -2 | -1 | 0 | 0 | 0 | 1 | 1 | 0 | -1 | -2 | -3 | -3 | -3 | -4 | -2.1 | 1.0 |
| 3-Oct | -4 | -4 | -4 | -5 | -5 | -4 | -5 | -5 | -4 | -3 | -1 | 2 | 4 | 6 | 7 | 7 | 8 | 6 | 2 | -1 | -2 | -2 | -2 | -2 | -0.5 | 7.9 |
| 4-Oct | -2 | -2 | -2 | -3 | -4 | -4 | -5 | -4 | -3 | -1 | 3 | 6 | 8 | 9 | 10 | 10 | 10 | 9 | 6 | 2 | 0 | -1 | -1 | -2 | 1.5 | 10.0 |
| 5-Oct | -3 | -3 | -3 | -4 | -4 | -5 | -6 | -5 | -4 | -2 | -1 | 0 | 2 | 4 | 5 | 6 | 5 | 4 | 1 | -1 | -2 | -3 | -3 | -3 | -1.0 | 5.7 |
| 6-Oct | -4 | -4 | -3 | -3 | -2 | -1 | -1 | -1 | 0 | 2 | 3 | 7 | 8 | 9 | 9 | 7 | 6 | 5 | 4 | 3 | 3 | 2 | 2 | 1 | 2.2 | 9.1 |
| 7-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -2 | -0.3 | 0.4 |
| 8-Oct | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -1 | 0 | 1 | 1 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | -1 | -1 | -1 | -1 | -0.6 | 1.9 |
| 9-Oct | -1 | -1 | -1 | -2 | -2 | -2 | -2 | -2 | -2 | -1 | -1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | -1 | -1 | -1 | -1 | -1 | -0.7 | 1.4 |
| 10-Oct | -1 | -1 | -1 | -1 | -2 | -2 | -2 | -2 | -2 | -1 | -1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | -1 | -0.7 | 0.6 |
| 11-Oct | -2 | -3 | -4 | -4 | -5 | -5 | -4 | -3 | -2 | -1 | 1 | 4 | 6 | 7 | 8 | 9 | 9 | 9 | 9 | 8 | 7 | 5 | 5 | 4 | 2.4 | 9.4 |
| 12-Oct | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1.8 | 5.0 |
| 13-Oct | 0 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 2 | 5 | 6 | 7 | 8 | 9 | 10 | 10 | 9 | 4 | 1 | 0 | 1 | 1 | 1 | 3.5 | 9.7 |
| 14-Oct | 1 | -2 | -3 | -3 | -3 | -3 | -3 | -3 | -2 | 1 | 8 | 12 | 12 | 13 | 14 | 14 | 13 | 13 | 13 | 12 | 12 | 12 | 11 | 10 | 6.2 | 13.9 |
| 15-Oct | 11 | 10 | 9 | 9 | 8 | 8 | 8 | 10 | 12 | 13 | 14 | 15 | 16 | 16 | 17 | 17 | 17 | 15 | 14 | 12 | 11 | 10 | 9 | 8 | 12.0 | 17.1 |
| 16-Oct | 5 | 4 | 2 | 1 | 0 | -1 | -1 | -2 | -1 | 4 | 10 | 15 | 19 | 20 | 21 | 21 | 20 | 19 | 17 | 15 | 15 | 15 | 15 | 14 | 10.3 | 21.4 |
| 17-Oct | 13 | 12 | 10 | 5 | 3 | 2 | 3 | 3 | 3 | 5 | 13 | 16 | 18 | 20 | 20 | 18 | 17 | 19 | 13 | 10 | 10 | 13 | 10 | 7 | 10.9 | 19.8 |
| 18-Oct | 9 | 10 | 11 | 14 | 14 | 13 | 10 | 9 | 9 | 12 | 13 | 13 | 14 | 14 | 14 | 14 | 13 | 11 | 8 | 4 | 3 | 2 | 0 | -1 | 9.7 | 14.4 |
| 19-Oct | -2 | -2 | -2 | -3 | -3 | -3 | -3 | -3 | -2 | 0 | 3 | 7 | 10 | 12 | 13 | 14 | 15 | 13 | 10 | 9 | 8 | 6 | 3 | 2 | 4.2 | 14.5 |
| 20-Oct | 1 | 2 | 3 | 2 | 6 | 11 | 11 | 10 | 11 | 11 | 12 | 13 | 13 | 14 | 14 | 13 | 13 | 12 | 10 | 9 | 7 | 5 | 3 | 2 | 8.7 | 13.6 |
| 21-Oct | 3 | 3 | 2 | -1 | -1 | -1 | -2 | -3 | -2 | 1 | 5 | 7 | 10 | 11 | 12 | 12 | 11 | 7 | 3 | 1 | -1 | -2 | -2 | -3 | 3.0 | 11.7 |
| 22-Oct | -3 | -3 | -4 | -4 | -5 | -5 | -6 | -6 | -6 | -2 | 3 | 5 | 7 | 10 | 10 | 11 | 12 | 7 | 3 | 0 | -2 | -2 | -2 | -3 | 0.7 | 12.2 |
| 23-Oct | -3 | -4 | -4 | -5 | -5 | -5 | -6 | -6 | -6 | -2 | 3 | 6 | 8 | 11 | 13 | 13 | 14 | 9 | 3 | 0 | -1 | -2 | -2 | -2 | 1.2 | 13.7 |
| 24-Oct | -2 | -2 | -3 | -3 | -3 | -3 | -4 | -4 | -3 | 0 | 4 | 8 | 12 | 13 | 13 | 13 | 13 | 11 | 7 | 4 | 2 | 1 | 0 | -1 | 3.1 | 13.4 |
| 25-Oct | -2 | -2 | -2 | -3 | -3 | -2 | -2 | -1 | 0 | 1 | 4 | 10 | 13 | 16 | 15 | 12 | 8 | 8 | 8 | 8 | 7 | 6 | 5 | 5 | 4.5 | 15.5 |
| 26-Oct | 5 | 4 | 4 | 0 | -2 | -2 | -3 | -3 | -3 | -2 | -1 | 0 | 2 | 3 | 4 | 4 | 6 | 4 | 0 | -1 | -1 | 4 | 5 | 5 | 1.3 | 6.0 |
| 27-Oct | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 9 | 9 | 10 | 10 | 10 | 10 | 7 | 4 | 2 | 1 | -2 | -2 | -3 | 5.5 | 10.2 |
| 28-Oct | -3 | -3 | -3 | -3 | -2 | -1 | -1 | 0 | 0 | 1 | 2 | 2 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | -1 | -0.1 | 1.7 |
| 29-Oct | -1 | -2 | -2 | -2 | -3 | -3 | -3 | -4 | -4 | -3 | 2 | 5 | 8 | 10 | 11 | 10 | 10 | 8 | 5 | 1 | -1 | -2 | 0 | 1 | 1.6 | 10.6 |
| 30-Oct | 2 | 2 | 1 | 2 | 2 | 4 | 4 | 5 | 5 | 5 | 7 | 8 | 10 | 10 | 10 | 10 | 9 | 8 | 6 | 6 | 4 | 4 | 4 | 3 | 5.5 | 10.3 |
| 31-Oct | 3 | 2 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 2 | 4 | 5 | 6 | 6 | 6 | 5 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2.6 | 6.2 |
| | 0.8 | 0.5 | 0.2 | -0.3 | -0.4 | -0.4 | -0.5 | -0.5 | -0.1 | 1.6 | 3.9 | 5.8 | 7.3 | 8.3 | 8.7 | 8.6 | 8.3 | 7.0 | 4.9 | 3.3 | 2.4 | 2.1 | 1.6 | 1.1 | Diurnal Average | |
| | 12.5 | 11.9 | 11.4 | 13.6 | 14.4 | 12.6 | 10.6 | 10.2 | 11.7 | 13.2 | 13.8 | 16.1 | 19.1 | 20.4 | 21.4 | 21.1 | 19.9 | 18.8 | 16.6 | 14.9 | 14.9 | 15.0 | 15.0 | 13.7 | Diurnal Maximum | |

Peace Airshed Zone Association

# Hourly Averages

**External Temperature (ET) - $^{o}C$**

**Evergreen Park - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Relative Humidity (RH) - %

## Evergreen Park - October 2018

Maximum Value: 98.8 % on Oct 12 07:00

Maximum Daily Average: 95.3 % on Oct 7

Minimum Value: 14 % on Oct 16 15:00

Minimum Daily Average: 37.4 % on Oct 15

Maximum Diurnal Average: 81.7 % at hour 7

Minimum Diurnal Average: 48.1 % at hour 15

Monthly Average: 68.37 %

Percentiles: $P_1$ = 20.0 $P_{10}$ = 33.4 $Q_1$ = 49.7 Median = 74.6 $Q_3$ = 87.1 $P_{90}$ = 93.9 $P_{99}$ = 98.0

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

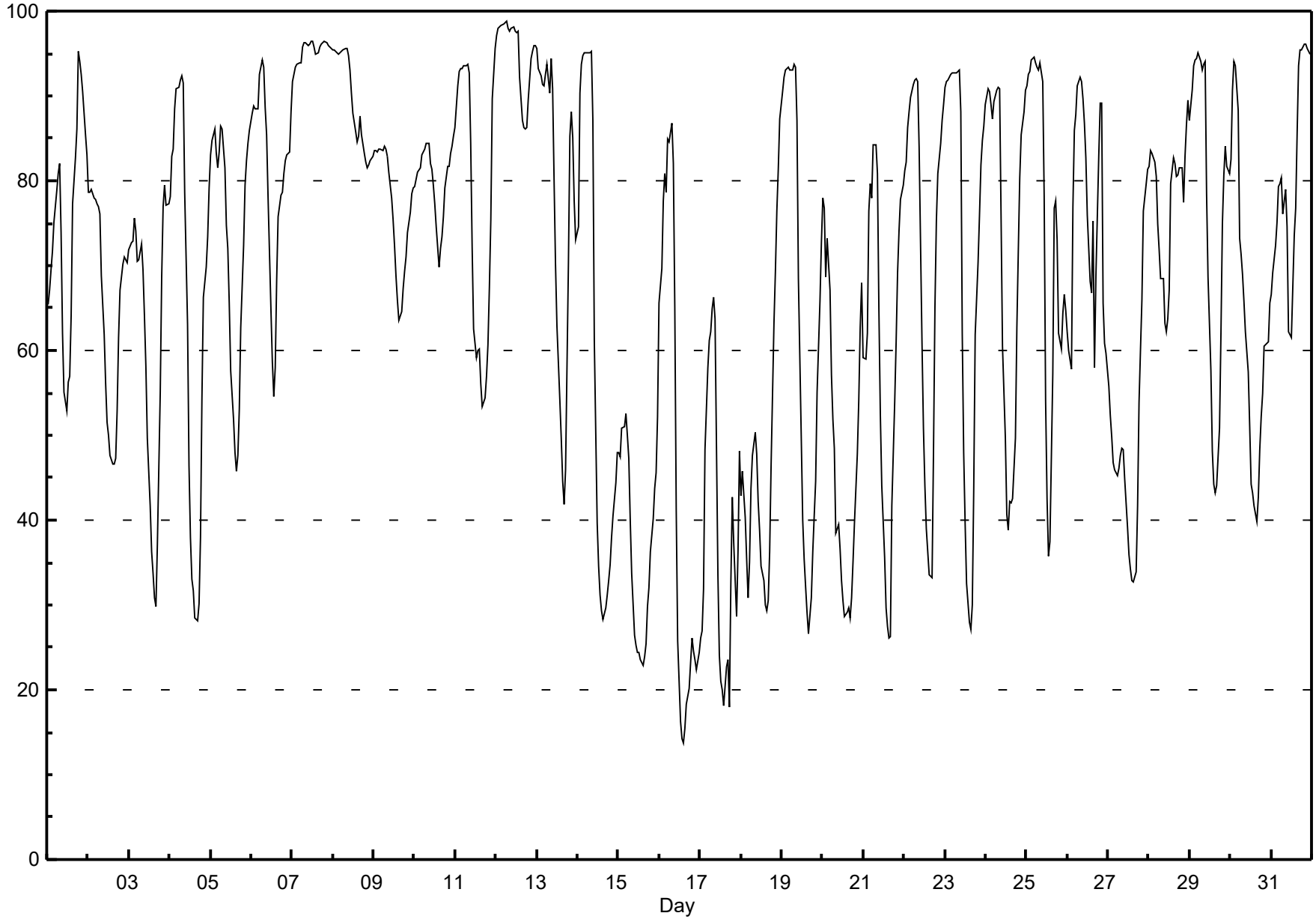
| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 65 | 67 | 70 | 72 | 75 | 79 | 81 | 82 | 74 | 62 | 55 | 53 | 56 | 57 | 64 | 77 | 83 | 86 | 95 | 94 | 93 | 90 | 85 | 83 | 74.9 | 95.3 |
| 2-Oct | 79 | 79 | 79 | 78 | 78 | 77 | 77 | 76 | 69 | 62 | 56 | 52 | 50 | 48 | 47 | 47 | 47 | 53 | 61 | 67 | 70 | 71 | 71 | 70 | 65.1 | 79.0 |
| 3-Oct | 72 | 73 | 73 | 76 | 74 | 71 | 71 | 73 | 70 | 64 | 58 | 50 | 42 | 36 | 34 | 31 | 30 | 37 | 55 | 69 | 77 | 80 | 77 | 77 | 61.1 | 79.6 |
| 4-Oct | 78 | 83 | 84 | 89 | 91 | 91 | 92 | 92 | 91 | 79 | 63 | 46 | 38 | 33 | 32 | 28 | 28 | 30 | 38 | 54 | 66 | 70 | 73 | 79 | 64.6 | 92.4 |
| 5-Oct | 83 | 85 | 86 | 83 | 81 | 83 | 86 | 86 | 82 | 75 | 72 | 66 | 58 | 52 | 48 | 46 | 48 | 53 | 63 | 72 | 79 | 82 | 84 | 86 | 72.5 | 86.4 |
| 6-Oct | 88 | 89 | 88 | 89 | 89 | 92 | 94 | 93 | 89 | 85 | 78 | 65 | 59 | 55 | 58 | 68 | 76 | 78 | 79 | 81 | 82 | 83 | 83 | 88 | 80.4 | 94.2 |
| 7-Oct | 92 | 93 | 93 | 94 | 94 | 94 | 96 | 96 | 96 | 96 | 96 | 96 | 97 | 96 | 95 | 95 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 95.3 | 96.5 |
| 8-Oct | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 96 | 96 | 95 | 93 | 90 | 88 | 86 | 85 | 85 | 88 | 85 | 83 | 82 | 82 | 82 | 82 | 83 | 89.4 | 95.6 |
| 9-Oct | 83 | 84 | 83 | 84 | 84 | 84 | 84 | 84 | 83 | 81 | 78 | 75 | 72 | 69 | 66 | 64 | 65 | 67 | 69 | 71 | 74 | 76 | 78 | 79 | 76.6 | 84.0 |
| 10-Oct | 79 | 80 | 81 | 82 | 83 | 83 | 84 | 84 | 84 | 82 | 81 | 79 | 77 | 75 | 70 | 72 | 73 | 76 | 79 | 82 | 82 | 83 | 84 | 85 | 80.1 | 85.3 |
| 11-Oct | 86 | 91 | 93 | 93 | 93 | 94 | 94 | 94 | 93 | 84 | 72 | 63 | 59 | 60 | 60 | 56 | 53 | 54 | 57 | 61 | 67 | 75 | 90 | 96 | 76.6 | 95.5 |
| 12-Oct | 97 | 98 | 98 | 98 | 98 | 99 | 99 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 92 | 87 | 86 | 86 | 86 | 89 | 94 | 95 | 96 | 96 | 95.0 | 98.8 |
| 13-Oct | 96 | 93 | 92 | 91 | 91 | 92 | 94 | 90 | 94 | 91 | 80 | 70 | 63 | 54 | 50 | 45 | 42 | 46 | 70 | 85 | 88 | 85 | 78 | 73 | 77.3 | 95.6 |
| 14-Oct | 75 | 90 | 94 | 95 | 95 | 95 | 95 | 95 | 95 | 87 | 61 | 40 | 35 | 31 | 29 | 28 | 30 | 31 | 33 | 35 | 38 | 40 | 44 | 48 | 60.0 | 95.3 |
| 15-Oct | 48 | 48 | 51 | 51 | 53 | 50 | 47 | 40 | 34 | 26 | 25 | 24 | 24 | 24 | 23 | 24 | 25 | 30 | 32 | 36 | 40 | 44 | 46 | 52 | 37.4 | 52.5 |
| 16-Oct | 66 | 70 | 78 | 81 | 79 | 85 | 85 | 87 | 82 | 65 | 41 | 26 | 16 | 14 | 14 | 16 | 18 | 20 | 23 | 26 | 25 | 24 | 22 | 24 | 45.2 | 86.8 |
| 17-Oct | 26 | 27 | 32 | 48 | 58 | 61 | 62 | 65 | 66 | 64 | 34 | 24 | 21 | 20 | 18 | 23 | 23 | 18 | 33 | 43 | 37 | 29 | 36 | 48 | 38.2 | 66.3 |
| 18-Oct | 43 | 46 | 40 | 35 | 31 | 35 | 44 | 48 | 50 | 48 | 42 | 39 | 35 | 33 | 30 | 29 | 31 | 36 | 46 | 63 | 69 | 76 | 81 | 87 | 46.6 | 87.3 |
| 19-Oct | 91 | 92 | 93 | 93 | 93 | 93 | 93 | 94 | 93 | 87 | 69 | 50 | 40 | 35 | 32 | 29 | 27 | 31 | 36 | 41 | 45 | 55 | 66 | 73 | 64.6 | 93.7 |
| 20-Oct | 78 | 77 | 69 | 73 | 67 | 57 | 52 | 48 | 39 | 39 | 37 | 33 | 31 | 29 | 29 | 30 | 29 | 31 | 35 | 40 | 48 | 54 | 63 | 68 | 48.0 | 77.9 |
| 21-Oct | 59 | 59 | 62 | 76 | 80 | 78 | 84 | 84 | 81 | 65 | 53 | 44 | 36 | 30 | 27 | 26 | 26 | 42 | 54 | 61 | 69 | 74 | 78 | 79 | 59.5 | 84.3 |
| 22-Oct | 81 | 82 | 86 | 88 | 90 | 91 | 92 | 92 | 92 | 84 | 61 | 51 | 44 | 39 | 36 | 34 | 33 | 48 | 65 | 75 | 81 | 84 | 87 | 89 | 71.1 | 92.0 |
| 23-Oct | 91 | 92 | 92 | 93 | 93 | 93 | 93 | 93 | 93 | 88 | 62 | 48 | 40 | 32 | 28 | 27 | 30 | 44 | 62 | 70 | 76 | 82 | 85 | 86 | 70.5 | 93.0 |
| 24-Oct | 89 | 91 | 91 | 89 | 87 | 89 | 91 | 91 | 91 | 76 | 61 | 50 | 41 | 39 | 42 | 42 | 43 | 50 | 63 | 72 | 80 | 85 | 88 | 91 | 72.1 | 91.1 |
| 25-Oct | 91 | 92 | 93 | 94 | 95 | 94 | 93 | 93 | 94 | 92 | 78 | 54 | 43 | 36 | 37 | 57 | 77 | 78 | 73 | 62 | 60 | 64 | 67 | 65 | 74.2 | 94.6 |
| 26-Oct | 62 | 60 | 58 | 77 | 86 | 88 | 91 | 92 | 92 | 90 | 87 | 83 | 76 | 68 | 67 | 75 | 58 | 69 | 83 | 89 | 89 | 66 | 61 | 60 | 76.1 | 92.2 |
| 27-Oct | 56 | 52 | 50 | 47 | 46 | 45 | 46 | 48 | 48 | 48 | 45 | 39 | 36 | 34 | 33 | 33 | 34 | 42 | 54 | 60 | 66 | 76 | 80 | 81 | 50.0 | 81.4 |
| 28-Oct | 82 | 84 | 83 | 82 | 80 | 75 | 72 | 69 | 68 | 63 | 62 | 64 | 67 | 80 | 83 | 82 | 80 | 81 | 82 | 81 | 77 | 83 | 87 | 89 | 77.4 | 89.4 |
| 29-Oct | 87 | 91 | 94 | 94 | 94 | 95 | 94 | 93 | 94 | 94 | 79 | 69 | 58 | 48 | 44 | 43 | 44 | 51 | 62 | 75 | 81 | 84 | 82 | 81 | 76.2 | 95.1 |
| 30-Oct | 83 | 91 | 94 | 94 | 88 | 73 | 71 | 69 | 66 | 62 | 57 | 51 | 44 | 43 | 42 | 40 | 43 | 48 | 52 | 55 | 60 | 61 | 61 | 66 | 63.1 | 94.1 |
| 31-Oct | 67 | 69 | 72 | 75 | 79 | 80 | 80 | 76 | 79 | 75 | 62 | 62 | 62 | 73 | 77 | 86 | 94 | 95 | 95 | 96 | 96 | 96 | 95 | 95 | 80.7 | 96.1 |
| | 76.3 | 78.1 | 78.9 | 80.9 | 81.3 | 81.0 | 81.7 | 81.3 | 79.8 | 74.4 | 64.4 | 56.5 | 51.7 | 49.2 | 48.1 | 49.2 | 50.3 | 54.6 | 61.8 | 67.3 | 70.6 | 72.5 | 74.4 | 76.6 | Diurnal Average | |
| | 97.2 | 97.9 | 98.1 | 98.3 | 98.4 | 98.6 | 98.8 | 98.0 | 97.6 | 98.0 | 98.1 | 97.7 | 97.5 | 97.6 | 94.9 | 95.2 | 95.8 | 96.1 | 96.3 | 96.5 | 96.2 | 96.0 | 95.9 | 95.9 | Diurnal Maximum | |

Peace Airshed Zone Association

# Hourly Averages

**Relative Humidity (RH) - %**

**Evergreen Park - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Wind Speed (km/h)
## Wind Direction (deg)
## Evergreen Park - October 2018

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Average | Maximum |
| 1 Spd | 6 | 3 | 2 | 1 | 0 | 0 | 1 | 0 | 2 | 3 | 4 | 7 | 7 | 4 | 7 | 6 | 2 | 2 | 8 | 12 | 12 | 12 | 12 | 12 | 4.6 | 12.2 |
| Dir | 36 | 35 | 22 | 0 | 322 | 209 | 12 | 220 | 311 | 321 | 357 | 28 | 2 | 5 | 330 | 339 | 223 | 313 | 37 | 38 | 28 | 26 | 32 | 31 | 17.5 | 31.5 |
| 2 Spd | 13 | 12 | 5 | 9 | 7 | 5 | 6 | 4 | 5 | 4 | 6 | 4 | 8 | 11 | 8 | 15 | 18 | 18 | 16 | 17 | 14 | 14 | 17 | 16 | 4.7 | 18.1 |
| Dir | 31 | 33 | 16 | 20 | 18 | 18 | 22 | 21 | 19 | 30 | 6 | 278 | 263 | 248 | 270 | 234 | 232 | 225 | 222 | 223 | 225 | 228 | 234 | 235 | 255.3 | 232.0 |
| 3 Spd | 19 | 17 | 10 | 9 | 12 | 13 | 9 | 6 | 10 | 8 | 7 | 6 | 6 | 7 | 8 | 7 | 4 | 2 | 2 | 1 | 0 | 1 | 2 | 1 | 5.0 | 18.8 |
| Dir | 236 | 239 | 260 | 261 | 259 | 249 | 251 | 271 | 246 | 241 | 238 | 198 | 161 | 148 | 173 | 160 | 156 | 134 | 55 | 33 | 218 | 53 | 33 | 28 | 231.0 | 236.1 |
| 4 Spd | 1 | 0 | 1 | 0 | 2 | 1 | 6 | 4 | 5 | 7 | 7 | 11 | 11 | 11 | 10 | 15 | 16 | 16 | 5 | 3 | 2 | 7 | 4 | 3 | 4.6 | 16.2 |
| Dir | 219 | 56 | 206 | 254 | 189 | 196 | 207 | 205 | 206 | 235 | 252 | 249 | 252 | 277 | 291 | 303 | 323 | 323 | 338 | 327 | 259 | 291 | 227 | 248 | 276.2 | 322.7 |
| 5 Spd | 2 | 1 | 1 | 3 | 3 | 2 | 3 | 3 | 5 | 7 | 6 | 4 | 5 | 6 | 7 | 7 | 8 | 7 | 4 | 2 | 3 | 1 | 1 | 1 | 3.6 | 7.9 |
| Dir | 350 | 315 | 57 | 54 | 68 | 40 | 30 | 40 | 53 | 60 | 51 | 50 | 26 | 23 | 36 | 47 | 48 | 48 | 56 | 58 | 63 | 31 | 40 | 103 | 45.1 | 47.7 |
| 6 Spd | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 4 | 2 | 1 | 1 | 2 | 6 | 4 | 8 | 4 | 7 | 7 | 6 | 4 | 8 | 9 | 9 | 2.6 | 9.0 |
| Dir | 17 | 125 | 33 | 196 | 227 | 116 | 166 | 297 | 207 | 179 | 204 | 357 | 324 | 9 | 55 | 82 | 86 | 63 | 64 | 78 | 57 | 53 | 56 | 53 | 62.7 | 52.5 |
| 7 Spd | 8 | 5 | 8 | 8 | 7 | 6 | 7 | 4 | 5 | 8 | 8 | 7 | 9 | 9 | 11 | 9 | 10 | 9 | 8 | 7 | 7 | 7 | 7 | 7 | 7.4 | 10.7 |
| Dir | 50 | 54 | 49 | 49 | 50 | 52 | 51 | 41 | 57 | 45 | 39 | 27 | 23 | 26 | 27 | 25 | 27 | 21 | 27 | 33 | 28 | 36 | 42 | 42 | 36.9 | 26.9 |
| 8 Spd | 5 | 7 | 6 | 6 | 6 | 7 | 6 | 7 | 6 | 5 | 8 | 9 | 8 | 13 | 12 | 14 | 11 | 13 | 13 | 13 | 12 | 12 | 14 | 12 | 9.0 | 14.0 |
| Dir | 47 | 44 | 50 | 54 | 53 | 55 | 49 | 58 | 64 | 66 | 81 | 77 | 77 | 89 | 99 | 95 | 65 | 75 | 80 | 81 | 81 | 80 | 80 | 77 | 74.4 | 95.0 |
| 9 Spd | 11 | 10 | 9 | 9 | 7 | 7 | 8 | 8 | 7 | 9 | 11 | 12 | 13 | 14 | 13 | 15 | 13 | 14 | 13 | 10 | 9 | 10 | 10 | 9 | 10.1 | 14.5 |
| Dir | 74 | 71 | 71 | 70 | 67 | 66 | 70 | 73 | 76 | 79 | 86 | 81 | 88 | 90 | 90 | 101 | 108 | 103 | 102 | 94 | 101 | 99 | 107 | 103 | 88.2 | 100.7 |
| 10 Spd | 7 | 5 | 4 | 2 | 3 | 4 | 2 | 2 | 2 | 2 | 4 | 5 | 8 | 7 | 7 | 6 | 3 | 2 | 0 | 3 | 3 | 1 | 1 | 2 | 1.0 | 8.2 |
| Dir | 93 | 79 | 76 | 64 | 52 | 54 | 54 | 11 | 32 | 24 | 322 | 329 | 301 | 281 | 296 | 301 | 282 | 300 | 360 | 201 | 197 | 178 | 144 | 165 | 342.7 | 300.6 |
| 11 Spd | 2 | 1 | 1 | 1 | 1 | 0 | 3 | 3 | 1 | 5 | 6 | 7 | 15 | 20 | 19 | 19 | 23 | 23 | 20 | 12 | 2 | 2 | 1 | 1 | 6.5 | 23.3 |
| Dir | 153 | 199 | 149 | 50 | 51 | 171 | 173 | 166 | 140 | 186 | 181 | 191 | 222 | 234 | 248 | 257 | 255 | 251 | 262 | 275 | 302 | 357 | 171 | 140 | 241.0 | 254.8 |
| 12 Spd | 2 | 3 | 3 | 3 | 0 | 2 | 5 | 21 | 15 | 14 | 15 | 18 | 11 | 14 | 19 | 17 | 15 | 15 | 7 | 1 | 3 | 2 | 3 | 3 | 6.4 | 20.9 |
| Dir | 169 | 171 | 158 | 186 | 352 | 31 | 14 | 18 | 7 | 316 | 305 | 317 | 331 | 322 | 315 | 306 | 305 | 302 | 296 | 263 | 191 | 185 | 191 | 215 | 319.4 | 18.2 |
| 13 Spd | 5 | 7 | 10 | 11 | 9 | 6 | 5 | 8 | 2 | 9 | 12 | 22 | 20 | 17 | 19 | 14 | 12 | 5 | 1 | 4 | 3 | 8 | 12 | 13 | 7.7 | 21.6 |
| Dir | 226 | 248 | 255 | 260 | 265 | 268 | 262 | 275 | 256 | 252 | 293 | 315 | 319 | 316 | 314 | 294 | 293 | 292 | 196 | 219 | 215 | 220 | 208 | 211 | 277.7 | 314.9 |
| 14 Spd | 8 | 2 | 2 | 1 | 3 | 1 | 1 | 0 | 1 | 0 | 7 | 20 | 24 | 32 | 40 | 50 | 47 | 33 | 30 | 27 | 24 | 22 | 19 | 18 | 16.0 | 50.3 |
| Dir | 195 | 104 | 74 | 98 | 41 | 65 | 54 | 91 | 66 | 203 | 238 | 242 | 245 | 252 | 247 | 246 | 247 | 247 | 250 | 258 | 256 | 260 | 265 | 261 | 249.4 | 246.0 |
| 15 Spd | 16 | 14 | 8 | 9 | 7 | 7 | 8 | 15 | 34 | 38 | 33 | 35 | 29 | 28 | 30 | 30 | 22 | 17 | 8 | 7 | 5 | 5 | 5 | 2 | 15.9 | 37.6 |
| Dir | 260 | 279 | 304 | 273 | 293 | 277 | 302 | 249 | 242 | 246 | 253 | 257 | 260 | 273 | 284 | 302 | 309 | 316 | 302 | 286 | 265 | 278 | 268 | 306 | 271.6 | 245.7 |
| 16 Spd | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 5 | 28 | 31 | 29 | 22 | 17 | 22 | 18 | 16 | 22 | 22 | 23 | 20 | 11.4 | 30.9 |
| Dir | 44 | 296 | 70 | 250 | 20 | 118 | 191 | 197 | 207 | 134 | 202 | 242 | 255 | 254 | 253 | 248 | 252 | 251 | 258 | 246 | 243 | 246 | 238 | 229 | 247.5 | 254.2 |
| 17 Spd | 15 | 11 | 3 | 1 | 0 | 3 | 1 | 2 | 1 | 2 | 9 | 8 | 14 | 8 | 12 | 4 | 11 | 11 | 4 | 2 | 9 | 12 | 2 | 2 | 5.6 | 14.7 |
| Dir | 227 | 238 | 277 | 150 | 148 | 189 | 183 | 200 | 207 | 198 | 215 | 239 | 232 | 229 | 240 | 235 | 237 | 251 | 339 | 268 | 235 | 248 | 259 | 280 | 236.9 | 227.4 |
| 18 Spd | 5 | 4 | 9 | 24 | 33 | 14 | 8 | 9 | 16 | 17 | 28 | 29 | 23 | 25 | 24 | 23 | 18 | 9 | 3 | 4 | 4 | 1 | 1 | 1 | 12.1 | 33.4 |
| Dir | 235 | 249 | 245 | 259 | 247 | 258 | 261 | 229 | 236 | 258 | 264 | 263 | 285 | 302 | 304 | 312 | 316 | 310 | 321 | 204 | 200 | 40 | 200 | 190 | 271.1 | 247.3 |
| 19 Spd | 0 | 1 | 0 | 2 | 3 | 2 | 1 | 2 | 3 | 3 | 4 | 5 | 6 | 10 | 11 | 11 | 11 | 7 | 7 | 6 | 5 | 3 | 1 | 1 | 3.4 | 11.1 |
| Dir | 128 | 185 | 174 | 191 | 194 | 201 | 215 | 194 | 191 | 163 | 165 | 112 | 123 | 109 | 108 | 106 | 108 | 88 | 80 | 95 | 85 | 40 | 348 | 255 | 113.6 | 105.7 |
| 20 Spd | 1 | 4 | 7 | 5 | 16 | 29 | 32 | 35 | 45 | 41 | 52 | 51 | 54 | 51 | 47 | 42 | 39 | 25 | 19 | 11 | 7 | 6 | 4 | 5 | 26.0 | 54.3 |
| Dir | 248 | 246 | 272 | 233 | 242 | 242 | 238 | 238 | 240 | 247 | 244 | 251 | 245 | 249 | 250 | 249 | 252 | 253 | 239 | 253 | 253 | 221 | 225 | 230 | 245.7 | 245.0 |
| 21 Spd | 10 | 9 | 7 | 4 | 3 | 3 | 3 | 2 | 4 | 8 | 7 | 8 | 3 | 3 | 3 | 3 | 0 | 1 | 0 | 0 | 1 | 2 | 2 | 0 | 2.9 | 10.5 |
| Dir | 236 | 235 | 233 | 199 | 220 | 230 | 236 | 283 | 277 | 245 | 244 | 244 | 286 | 225 | 307 | 201 | 71 | 42 | 42 | 35 | 46 | 37 | 40 | 119 | 242.5 | 236.0 |
| 22 Spd | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 2 | 1 | 4 | 5 | 3 | 2 | 0 | 0 | 1 | 0 | 2 | 1 | 2 | 0.4 | 5.3 |
| Dir | 151 | 207 | 89 | 59 | 167 | 200 | 190 | 176 | 57 | 117 | 294 | 292 | 311 | 313 | 337 | 30 | 195 | 209 | 13 | 214 | 102 | 276 | 218 | 216 | 287.2 | 337.5 |

Peace Airshed Zone Association

# Hourly Averages

## Wind Speed (km/h)
## Wind Direction (deg)
## Evergreen Park - October 2018

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 Spd | 1 | 1 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 3 | 7 | 3 | 2 | 4 | 3 | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 4 | 0.7 | 6.8 |
| Dir | 202 | 192 | 193 | 189 | 198 | 198 | 223 | 204 | 59 | 270 | 245 | 273 | 263 | 323 | 37 | 36 | 336 | 118 | 26 | 16 | 228 | 212 | 227 | 251 | 257.9 | 272.8 |
| 24 Spd | 1 | 4 | 3 | 4 | 4 | 1 | 1 | 3 | 3 | 7 | 7 | 9 | 12 | 15 | 10 | 8 | 7 | 1 | 3 | 3 | 1 | 0 | 1 | 2 | 4.4 | 14.9 |
| Dir | 260 | 220 | 223 | 244 | 210 | 205 | 180 | 188 | 190 | 215 | 204 | 206 | 239 | 245 | 227 | 227 | 221 | 218 | 190 | 203 | 211 | 209 | 203 | 191 | 220.8 | 244.9 |
| 25 Spd | 0 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 3 | 4 | 5 | 3 | 5 | 15 | 16 | 17 | 19 | 25 | 18 | 17 | 21 | 20 | 7.2 | 25.2 |
| Dir | 257 | 205 | 283 | 184 | 199 | 1 | 231 | 170 | 108 | 229 | 19 | 145 | 166 | 264 | 313 | 256 | 244 | 208 | 217 | 218 | 217 | 209 | 210 | 221 | 220.3 | 217.6 |
| 26 Spd | 19 | 18 | 12 | 3 | 4 | 2 | 2 | 1 | 1 | 2 | 1 | 2 | 3 | 3 | 4 | 3 | 3 | 6 | 2 | 3 | 11 | 18 | 21 | 22 | 5.5 | 22.3 |
| Dir | 225 | 220 | 230 | 55 | 176 | 165 | 50 | 127 | 44 | 51 | 80 | 56 | 333 | 277 | 179 | 219 | 245 | 187 | 179 | 159 | 206 | 214 | 226 | 225 | 217.1 | 225.5 |
| 27 Spd | 22 | 25 | 29 | 34 | 37 | 38 | 36 | 37 | 36 | 35 | 34 | 35 | 32 | 27 | 25 | 21 | 14 | 8 | 2 | 4 | 2 | 1 | 1 | 1 | 21.5 | 38.0 |
| Dir | 226 | 227 | 232 | 235 | 240 | 240 | 243 | 242 | 246 | 247 | 250 | 261 | 264 | 266 | 267 | 282 | 263 | 239 | 233 | 248 | 214 | 27 | 157 | 64 | 247.4 | 240.4 |
| 28 Spd | 0 | 4 | 4 | 4 | 7 | 9 | 8 | 8 | 11 | 7 | 2 | 7 | 13 | 16 | 12 | 12 | 9 | 6 | 6 | 8 | 5 | 4 | 3 | 2 | 1.6 | 15.6 |
| Dir | 68 | 40 | 57 | 51 | 50 | 59 | 61 | 66 | 61 | 66 | 186 | 270 | 236 | 242 | 241 | 241 | 245 | 253 | 253 | 240 | 262 | 206 | 213 | 222 | 246.2 | 242.1 |
| 29 Spd | 3 | 1 | 6 | 6 | 2 | 4 | 5 | 0 | 2 | 2 | 5 | 11 | 10 | 24 | 27 | 26 | 25 | 14 | 2 | 0 | 1 | 1 | 2 | 3 | 7.4 | 27.4 |
| Dir | 243 | 193 | 206 | 217 | 241 | 236 | 232 | 138 | 181 | 186 | 226 | 236 | 253 | 247 | 239 | 242 | 250 | 243 | 211 | 214 | 201 | 218 | 206 | 214 | 237.6 | 239.4 |
| 30 Spd | 3 | 1 | 2 | 5 | 12 | 20 | 18 | 17 | 19 | 24 | 30 | 38 | 41 | 42 | 38 | 37 | 27 | 23 | 14 | 10 | 10 | 15 | 12 | 4 | 18.4 | 42.3 |
| Dir | 292 | 169 | 195 | 182 | 196 | 228 | 232 | 230 | 228 | 231 | 236 | 244 | 247 | 245 | 245 | 249 | 255 | 254 | 236 | 208 | 221 | 211 | 203 | 201 | 236.8 | 245.1 |
| 31 Spd | 4 | 3 | 6 | 2 | 0 | 2 | 4 | 3 | 1 | 1 | 6 | 8 | 5 | 2 | 1 | 3 | 10 | 8 | 7 | 3 | 6 | 11 | 11 | 17 | 2.0 | 17.1 |
| Dir | 189 | 175 | 191 | 57 | 27 | 204 | 189 | 187 | 305 | 162 | 193 | 184 | 200 | 166 | 206 | 14 | 20 | 321 | 319 | 289 | 268 | 303 | 310 | 320 | 277.9 | 319.6 |
| Spd | 2.5 | 2.3 | 2.0 | 2.0 | 3.0 | 3.1 | 2.8 | 2.9 | 4.2 | 5.3 | 6.8 | 8.4 | 9.5 | 10.0 | 9.6 | 9.0 | 8.1 | 6.0 | 3.2 | 3.0 | 3.1 | 3.1 | 3.0 | 3.0 | Diurnal Average | |
| Dir | 229.4 | 233.8 | 240.9 | 248.7 | 244.1 | 242.9 | 244.3 | 245.6 | 242.5 | 245.9 | 250.1 | 257.6 | 258.3 | 261.7 | 265.1 | 264.1 | 263.8 | 261.4 | 253.4 | 236.7 | 230.6 | 238.4 | 226.2 | 233.9 | | |
| Spd | 22.2 | 24.9 | 29.3 | 33.6 | 36.5 | 38.0 | 35.7 | 36.9 | 45.5 | 40.9 | 51.7 | 51.1 | 54.3 | 50.6 | 47.3 | 50.3 | 47.0 | 32.8 | 30.5 | 26.5 | 23.6 | 22.4 | 22.6 | 22.3 | Diurnal Maximum | |
| Dir | 225.7 | 226.9 | 231.8 | 234.7 | 240.4 | 240.4 | 242.5 | 242.1 | 240.3 | 247.0 | 243.6 | 251.4 | 245.0 | 249.2 | 250.1 | 246.0 | 247.2 | 247.3 | 249.5 | 257.8 | 256.0 | 245.7 | 238.4 | 225.5 | | |

Maximum Speed Value: 54 km/h on Oct 20 13:00
Maximum Daily Speed Average: 26.0 km/h on Oct 20
Maximum Diurnal Speed Average: 10.0 km/h at hour 14

Minimum Speed Value: 0 km/h on Oct 22 21:00
Minimum Daily Speed Average: 0.4 km/h on Oct 22
Minimum Diurnal Speed Average: 2.0 km/h at hour 4

Monthly Average Velocity: 4.74 km/h 252.09 deg

Speed Percentiles: $P_1 = 0.2$ $P_{10} = 0.8$ $Q_1 = 2.2$ Median = 5.7 $Q_3 = 11.9$ $P_{90} = 22.2$ $P_{99} = 44.1$

All monthly, daily, and diurnal averages have been calculated using vector methods

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Percent Operational Time: | 100.0 |

Frequency Distribution

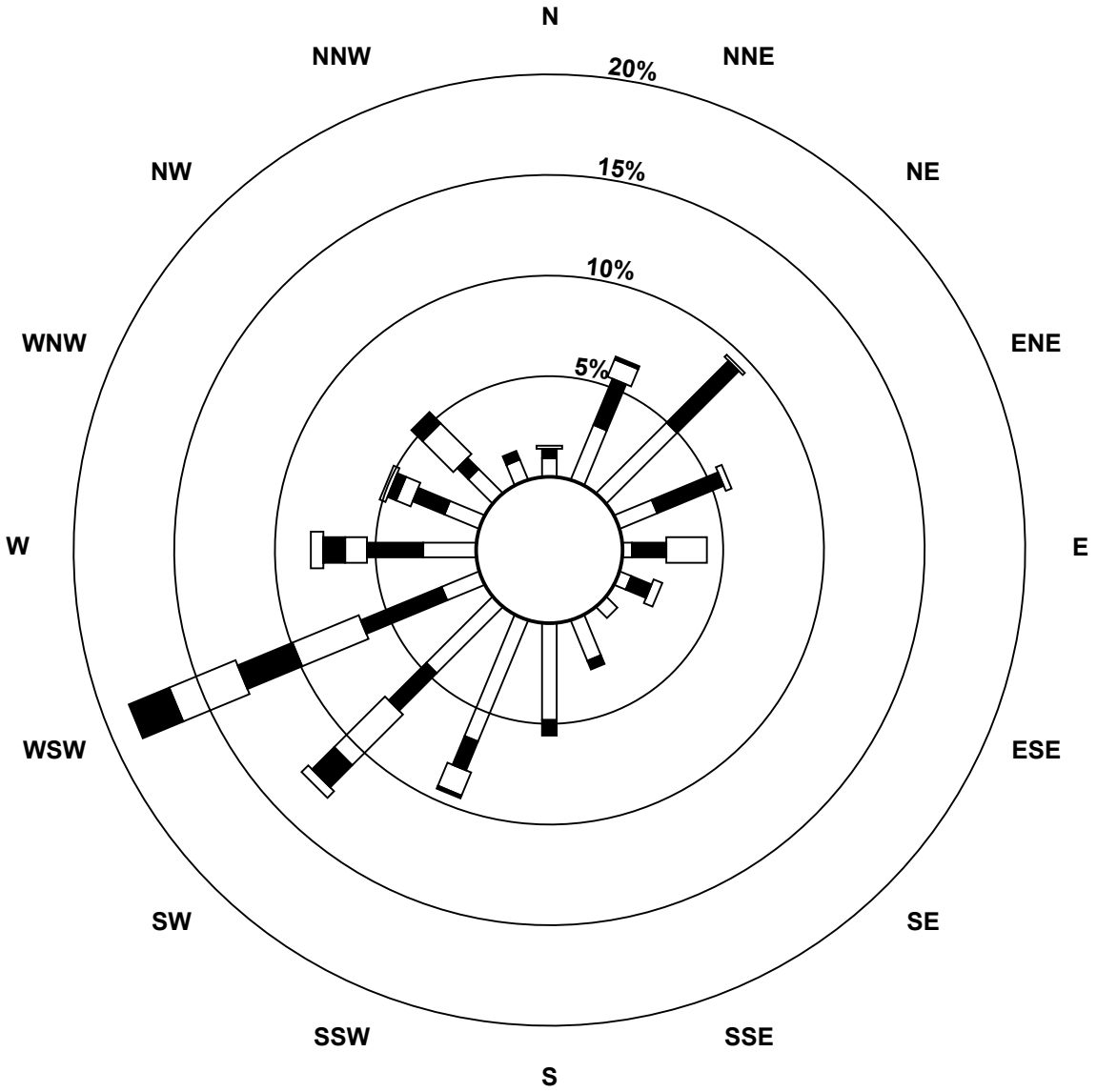
| Direction | Speed Range (km/h) 0 to 5 | 5 to 11 | 11 to 19 | 19 to 28 | 28 to 38 | > 38 | Total |
|---|---|---|---|---|---|---|---|
| North | 23 | 12 | 1 | 1 | 0 | 0 | 37 |
| NorthEast | 66 | 56 | 7 | 0 | 0 | 0 | 129 |
| East | 16 | 27 | 20 | 0 | 0 | 0 | 63 |
| SouthEast | 22 | 2 | 0 | 0 | 0 | 0 | 24 |
| South | 83 | 13 | 1 | 0 | 0 | 0 | 97 |
| SouthWest | 70 | 39 | 43 | 22 | 17 | 10 | 201 |
| West | 36 | 34 | 19 | 19 | 14 | 5 | 127 |
| NorthWest | 23 | 16 | 19 | 7 | 1 | 0 | 66 |
| Total | 339 | 199 | 110 | 49 | 32 | 15 | 744 |

Peace Airshed Zone Association

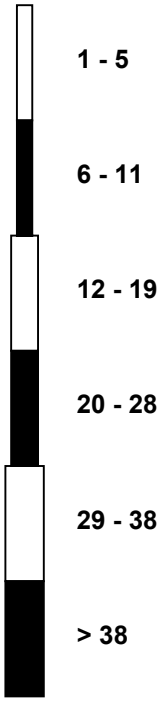
# Wind Rose

**Wind Speed (WS) (km/h)**

**Evergreen Park - October 2018**




**Wind Speed Classes (km/h)**



# Hourly Averages - Wind Speed (Scalar)

**Wind Speed (km/h)**

## Evergreen Park - October 2018

Maximum Speed: 55 km/h on Oct 20 13:00

Maximum Daily Speed Average: 26.7 km/h on Oct 20

Minimum Speed: 0 km/h on Oct 22 21:00

Minimum Daily Speed Average: 1.9 km/h on Oct 22

Maximum Diurnal Speed Average: 16.2 km/h at hour 15

Minimum Diurnal Speed Average: 5.8 km/h at hour 3

Monthly Average Speed: 9.57 km/h

Percentiles: $P_1 = 0.4$ $P_{10} = 1.4$ $Q_1 = 2.8$ Median = 6.4 $Q_3 = 12.4$ $P_{90} = 22.5$ $P_{99} = 44.5$

Hours in Service: 744

Hours of Data: 744

Hours of Missing Data: 0

Percent Operational Time: 100.0

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 6 | 3 | 2 | 1 | 0 | 0 | 2 | 0 | 2 | 3 | 5 | 8 | 9 | 6 | 8 | 6 | 4 | 6 | 8 | 12 | 12 | 12 | 12 | 13 | 6.0 | 12.5 |
| 2-Oct | 14 | 12 | 6 | 9 | 7 | 5 | 6 | 4 | 5 | 4 | 8 | 7 | 11 | 12 | 10 | 16 | 19 | 18 | 16 | 17 | 14 | 14 | 17 | 17 | 11.2 | 18.7 |
| 3-Oct | 19 | 17 | 10 | 9 | 12 | 13 | 10 | 6 | 11 | 9 | 8 | 7 | 8 | 10 | 11 | 9 | 6 | 3 | 2 | 1 | 0 | 1 | 2 | 1 | 7.7 | 18.9 |
| 4-Oct | 1 | 1 | 2 | 1 | 3 | 1 | 6 | 4 | 6 | 7 | 8 | 12 | 12 | 13 | 11 | 16 | 17 | 16 | 5 | 3 | 3 | 7 | 5 | 4 | 6.8 | 16.8 |
| 5-Oct | 3 | 1 | 1 | 3 | 3 | 2 | 3 | 3 | 6 | 8 | 7 | 6 | 7 | 8 | 9 | 8 | 8 | 7 | 4 | 2 | 3 | 2 | 2 | 3 | 4.5 | 8.8 |
| 6-Oct | 1 | 0 | 1 | 3 | 6 | 4 | 2 | 2 | 4 | 2 | 2 | 2 | 4 | 7 | 6 | 8 | 5 | 7 | 7 | 6 | 5 | 8 | 9 | 10 | 4.6 | 9.5 |
| 7-Oct | 8 | 6 | 9 | 8 | 8 | 6 | 7 | 5 | 5 | 9 | 9 | 8 | 10 | 9 | 11 | 10 | 10 | 9 | 9 | 7 | 7 | 7 | 7 | 8 | 7.9 | 11.0 |
| 8-Oct | 6 | 7 | 7 | 6 | 6 | 7 | 6 | 7 | 7 | 6 | 8 | 10 | 9 | 14 | 13 | 15 | 11 | 13 | 13 | 13 | 12 | 12 | 14 | 13 | 9.8 | 14.9 |
| 9-Oct | 11 | 11 | 10 | 9 | 8 | 8 | 8 | 8 | 8 | 9 | 11 | 12 | 14 | 15 | 14 | 16 | 14 | 14 | 14 | 11 | 10 | 10 | 11 | 9 | 11.0 | 15.7 |
| 10-Oct | 8 | 6 | 5 | 3 | 3 | 5 | 3 | 2 | 2 | 2 | 5 | 6 | 9 | 8 | 8 | 6 | 4 | 4 | 3 | 4 | 4 | 2 | 2 | 3 | 4.3 | 8.8 |
| 11-Oct | 2 | 1 | 1 | 1 | 1 | 0 | 4 | 4 | 2 | 6 | 7 | 7 | 16 | 21 | 19 | 19 | 24 | 23 | 21 | 12 | 3 | 2 | 1 | 2 | 8.2 | 23.7 |
| 12-Oct | 3 | 3 | 3 | 3 | 4 | 2 | 7 | 21 | 16 | 15 | 15 | 19 | 11 | 15 | 19 | 17 | 16 | 15 | 7 | 2 | 3 | 2 | 3 | 4 | 9.4 | 21.4 |
| 13-Oct | 5 | 7 | 11 | 11 | 9 | 6 | 5 | 9 | 6 | 9 | 13 | 22 | 21 | 18 | 20 | 16 | 12 | 5 | 1 | 4 | 3 | 8 | 12 | 13 | 10.3 | 22.1 |
| 14-Oct | 9 | 3 | 2 | 1 | 3 | 1 | 2 | 2 | 2 | 1 | 8 | 21 | 25 | 32 | 40 | 51 | 47 | 33 | 31 | 27 | 24 | 22 | 19 | 18 | 17.6 | 50.7 |
| 15-Oct | 17 | 15 | 8 | 10 | 8 | 8 | 8 | 16 | 34 | 38 | 34 | 36 | 30 | 29 | 32 | 31 | 23 | 17 | 8 | 8 | 5 | 5 | 5 | 3 | 17.8 | 38.0 |
| 16-Oct | 1 | 2 | 1 | 2 | 2 | 2 | 1 | 3 | 1 | 1 | 2 | 6 | 29 | 31 | 29 | 22 | 17 | 22 | 19 | 16 | 22 | 23 | 23 | 20 | 12.4 | 31.4 |
| 17-Oct | 15 | 11 | 4 | 4 | 1 | 4 | 1 | 2 | 2 | 2 | 9 | 9 | 14 | 8 | 12 | 4 | 12 | 13 | 4 | 3 | 10 | 12 | 4 | 4 | 6.8 | 14.8 |
| 18-Oct | 6 | 5 | 10 | 25 | 34 | 15 | 8 | 9 | 17 | 18 | 28 | 30 | 24 | 26 | 25 | 24 | 18 | 9 | 4 | 4 | 4 | 1 | 2 | 1 | 14.5 | 33.6 |
| 19-Oct | 1 | 2 | 2 | 2 | 3 | 2 | 1 | 3 | 3 | 4 | 4 | 5 | 7 | 11 | 12 | 12 | 11 | 7 | 7 | 6 | 5 | 4 | 3 | 2 | 4.9 | 11.9 |
| 20-Oct | 2 | 4 | 8 | 5 | 17 | 30 | 32 | 35 | 46 | 41 | 52 | 52 | 55 | 51 | 48 | 43 | 39 | 25 | 19 | 11 | 8 | 6 | 5 | 5 | 26.7 | 55.0 |
| 21-Oct | 11 | 9 | 7 | 4 | 4 | 4 | 4 | 4 | 5 | 9 | 8 | 9 | 6 | 4 | 5 | 6 | 2 | 1 | 1 | 0 | 1 | 2 | 2 | 1 | 4.4 | 10.7 |
| 22-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 3 | 3 | 5 | 6 | 4 | 3 | 0 | 0 | 1 | 0 | 2 | 1 | 3 | 1.9 | 6.1 |
| 23-Oct | 1 | 2 | 2 | 2 | 2 | 1 | 0 | 0 | 1 | 0 | 3 | 7 | 4 | 3 | 5 | 5 | 2 | 1 | 1 | 3 | 1 | 2 | 2 | 4 | 2.3 | 7.3 |
| 24-Oct | 2 | 4 | 3 | 4 | 4 | 2 | 1 | 3 | 4 | 7 | 8 | 10 | 12 | 15 | 11 | 9 | 7 | 2 | 3 | 3 | 1 | 1 | 1 | 2 | 4.9 | 15.3 |
| 25-Oct | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 4 | 3 | 4 | 3 | 5 | 6 | 5 | 6 | 18 | 17 | 17 | 19 | 25 | 18 | 17 | 21 | 21 | 9.1 | 25.4 |
| 26-Oct | 19 | 18 | 12 | 4 | 5 | 5 | 2 | 2 | 2 | 2 | 2 | 3 | 5 | 5 | 5 | 5 | 4 | 6 | 2 | 4 | 11 | 18 | 22 | 22 | 7.8 | 22.4 |
| 27-Oct | 22 | 25 | 30 | 34 | 37 | 38 | 36 | 37 | 36 | 35 | 34 | 36 | 33 | 29 | 25 | 22 | 14 | 9 | 3 | 6 | 3 | 2 | 2 | 1 | 22.9 | 38.2 |
| 28-Oct | 0 | 4 | 4 | 5 | 7 | 10 | 9 | 8 | 11 | 7 | 6 | 8 | 13 | 16 | 12 | 12 | 9 | 6 | 6 | 8 | 5 | 4 | 4 | 3 | 7.4 | 15.9 |
| 29-Oct | 3 | 2 | 6 | 6 | 2 | 4 | 5 | 1 | 3 | 3 | 5 | 11 | 11 | 24 | 28 | 26 | 25 | 14 | 2 | 1 | 1 | 2 | 3 | 5 | 8.1 | 27.6 |
| 30-Oct | 5 | 4 | 4 | 5 | 13 | 20 | 18 | 17 | 20 | 24 | 30 | 39 | 41 | 43 | 38 | 38 | 27 | 24 | 14 | 10 | 11 | 15 | 12 | 4 | 19.7 | 42.7 |
| 31-Oct | 4 | 3 | 7 | 3 | 1 | 2 | 4 | 3 | 1 | 2 | 6 | 8 | 5 | 3 | 2 | 3 | 10 | 9 | 7 | 5 | 7 | 11 | 12 | 17 | 5.7 | 17.4 |
| | 6.6 | 6.2 | 5.8 | 6.0 | 6.9 | 6.7 | 6.6 | 7.3 | 8.6 | 9.3 | 11.3 | 13.6 | 14.9 | 16.0 | 16.2 | 16.1 | 14.1 | 11.5 | 8.4 | 7.6 | 7.0 | 7.7 | 7.7 | 7.6 | Diurnal Average | |
| | 22.3 | 25.1 | 29.5 | 33.8 | 36.7 | 38.2 | 36.0 | 37.1 | 45.8 | 41.3 | 52.2 | 51.9 | 55.0 | 51.3 | 48.1 | 50.7 | 47.4 | 33.2 | 30.7 | 27.0 | 23.8 | 22.6 | 22.7 | 22.4 | Diurnal Maximum | |

All monthly, daily, and diurnal averages have been calculated using scalar methods

Peace Airshed Zone Association

# Hourly Standard Deviations

## Wind Direction (WD) - deg

## Evergreen Park - October 2018

Maximum Value: 99.0 deg on Oct 10 19:00

Minimum Value: 4.1 deg on Oct 13 23:00

Percentiles: $P_1$ = 5.4 $P_{10}$ = 9.0 $Q_1$ = 15.2 Median = 24.6 $Q_3$ = 54.3 $P_{90}$ = 79.1 $P_{99}$ = 94.2

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| 1-Oct | 16 | 22 | 18 | 34 | 73 | 75 | 39 | 95 | 38 | 33 | 39 | 27 | 48 | 53 | 37 | 33 | 69 | 71 | 21 | 15 | 14 | 15 | 15 | 14 | 95.3 |
| 2-Oct | 16 | 14 | 24 | 12 | 15 | 27 | 16 | 20 | 21 | 42 | 38 | 71 | 42 | 38 | 38 | 24 | 15 | 11 | 9 | 8 | 10 | 8 | 8 | 8 | 71.1 |
| 3-Oct | 7 | 8 | 20 | 17 | 18 | 11 | 16 | 28 | 19 | 18 | 31 | 45 | 56 | 47 | 46 | 37 | 54 | 49 | 25 | 40 | 79 | 39 | 31 | 42 | 78.6 |
| 4-Oct | 75 | 87 | 89 | 92 | 46 | 43 | 14 | 14 | 31 | 15 | 24 | 24 | 26 | 35 | 36 | 30 | 17 | 12 | 17 | 24 | 55 | 22 | 39 | 53 | 92.4 |
| 5-Oct | 35 | 59 | 84 | 19 | 24 | 36 | 20 | 17 | 24 | 38 | 36 | 55 | 60 | 48 | 55 | 33 | 23 | 19 | 14 | 25 | 23 | 59 | 78 | 90 | 90.2 |
| 6-Oct | 56 | 95 | 83 | 75 | 88 | 78 | 76 | 54 | 25 | 36 | 89 | 83 | 92 | 41 | 47 | 20 | 24 | 18 | 21 | 28 | 28 | 19 | 19 | 22 | 95.2 |
| 7-Oct | 30 | 27 | 20 | 20 | 24 | 29 | 35 | 29 | 24 | 18 | 19 | 20 | 15 | 16 | 21 | 16 | 16 | 16 | 17 | 19 | 18 | 21 | 31 | 24 | 34.6 |
| 8-Oct | 21 | 21 | 24 | 27 | 21 | 20 | 25 | 17 | 28 | 33 | 23 | 26 | 26 | 20 | 21 | 22 | 17 | 15 | 18 | 19 | 17 | 17 | 13 | 16 | 33.4 |
| 9-Oct | 17 | 22 | 20 | 20 | 19 | 24 | 16 | 16 | 19 | 19 | 20 | 22 | 20 | 24 | 25 | 24 | 20 | 16 | 19 | 22 | 24 | 19 | 20 | 19 | 25.3 |
| 10-Oct | 23 | 22 | 23 | 45 | 29 | 28 | 45 | 32 | 35 | 46 | 53 | 29 | 23 | 31 | 37 | 28 | 37 | 56 | 99 | 23 | 28 | 67 | 74 | 43 | 99.0 |
| 11-Oct | 36 | 69 | 72 | 50 | 70 | 68 | 21 | 47 | 61 | 27 | 23 | 30 | 17 | 11 | 13 | 13 | 11 | 11 | 12 | 21 | 78 | 37 | 50 | 52 | 78.2 |
| 12-Oct | 69 | 42 | 29 | 36 | 92 | 45 | 58 | 14 | 19 | 10 | 15 | 19 | 19 | 14 | 10 | 16 | 14 | 11 | 17 | 52 | 34 | 53 | 48 | 31 | 92.0 |
| 13-Oct | 38 | 27 | 19 | 13 | 15 | 26 | 16 | 29 | 87 | 11 | 23 | 12 | 14 | 20 | 18 | 25 | 18 | 32 | 58 | 26 | 19 | 12 | 4 | 5 | 87.0 |
| 14-Oct | 25 | 31 | 41 | 52 | 21 | 81 | 72 | 82 | 76 | 95 | 62 | 9 | 8 | 8 | 7 | 6 | 7 | 9 | 8 | 10 | 9 | 10 | 10 | 11 | 94.8 |
| 15-Oct | 12 | 16 | 13 | 26 | 19 | 23 | 16 | 21 | 6 | 7 | 9 | 11 | 13 | 14 | 22 | 15 | 20 | 10 | 13 | 23 | 18 | 23 | 27 | 66 | 65.6 |
| 16-Oct | 45 | 86 | 64 | 92 | 90 | 81 | 77 | 41 | 81 | 90 | 92 | 33 | 12 | 11 | 10 | 9 | 10 | 7 | 12 | 13 | 7 | 7 | 6 | 7 | 92.5 |
| 17-Oct | 7 | 22 | 81 | 82 | 95 | 54 | 91 | 78 | 65 | 54 | 16 | 32 | 11 | 23 | 17 | 38 | 35 | 41 | 27 | 54 | 14 | 8 | 47 | 50 | 95.4 |
| 18-Oct | 39 | 25 | 15 | 10 | 6 | 21 | 36 | 14 | 7 | 23 | 12 | 12 | 20 | 16 | 18 | 17 | 10 | 15 | 77 | 26 | 27 | 78 | 81 | 67 | 81.4 |
| 19-Oct | 84 | 69 | 84 | 60 | 35 | 45 | 73 | 52 | 32 | 36 | 44 | 44 | 46 | 28 | 25 | 23 | 16 | 14 | 10 | 13 | 21 | 39 | 78 | 78 | 84.5 |
| 20-Oct | 65 | 22 | 23 | 19 | 14 | 8 | 6 | 7 | 7 | 8 | 8 | 10 | 9 | 9 | 10 | 9 | 7 | 11 | 7 | 17 | 28 | 62 | 76 | 26 | 75.7 |
| 21-Oct | 10 | 11 | 13 | 23 | 59 | 69 | 64 | 56 | 41 | 16 | 17 | 21 | 81 | 53 | 64 | 91 | 97 | 22 | 90 | 98 | 64 | 27 | 63 | 83 | 97.7 |
| 22-Oct | 78 | 77 | 86 | 80 | 92 | 92 | 78 | 85 | 70 | 59 | 90 | 51 | 91 | 52 | 39 | 50 | 52 | 82 | 91 | 53 | 92 | 51 | 65 | 53 | 92.4 |
| 23-Oct | 71 | 92 | 29 | 65 | 80 | 77 | 85 | 61 | 69 | 65 | 67 | 24 | 48 | 69 | 27 | 57 | 83 | 91 | 89 | 74 | 96 | 39 | 93 | 33 | 96.1 |
| 24-Oct | 78 | 26 | 19 | 23 | 19 | 62 | 81 | 49 | 32 | 13 | 20 | 22 | 17 | 13 | 10 | 10 | 8 | 46 | 71 | 30 | 68 | 93 | 87 | 79 | 93.4 |
| 25-Oct | 89 | 74 | 71 | 66 | 59 | 75 | 92 | 81 | 81 | 91 | 34 | 54 | 41 | 62 | 46 | 58 | 20 | 5 | 7 | 7 | 7 | 6 | 5 | 7 | 91.8 |
| 26-Oct | 7 | 8 | 53 | 60 | 78 | 70 | 22 | 60 | 90 | 59 | 80 | 48 | 64 | 69 | 47 | 55 | 38 | 31 | 90 | 61 | 13 | 9 | 9 | 6 | 90.0 |
| 27-Oct | 5 | 7 | 6 | 7 | 5 | 6 | 7 | 6 | 6 | 8 | 9 | 10 | 13 | 16 | 15 | 19 | 13 | 16 | 63 | 43 | 76 | 61 | 86 | 71 | 86.1 |
| 28-Oct | 83 | 6 | 11 | 13 | 11 | 13 | 14 | 15 | 13 | 24 | 67 | 25 | 16 | 9 | 13 | 12 | 13 | 15 | 17 | 12 | 22 | 28 | 23 | 25 | 82.9 |
| 29-Oct | 41 | 54 | 21 | 18 | 47 | 43 | 17 | 89 | 53 | 73 | 31 | 15 | 20 | 11 | 8 | 10 | 11 | 10 | 70 | 88 | 74 | 60 | 71 | 64 | 88.7 |
| 30-Oct | 57 | 82 | 80 | 12 | 11 | 8 | 5 | 7 | 6 | 7 | 7 | 10 | 8 | 8 | 8 | 9 | 10 | 12 | 10 | 7 | 22 | 5 | 9 | 51 | 81.5 |
| 31-Oct | 15 | 52 | 16 | 68 | 79 | 68 | 18 | 34 | 47 | 46 | 20 | 15 | 16 | 36 | 76 | 24 | 9 | 24 | 16 | 55 | 22 | 16 | 25 | 10 | 79.3 |
| | 88.6 | 95.2 | 88.6 | 92.4 | 95.4 | 92.4 | 91.8 | 95.3 | 90.0 | 94.8 | 92.5 | 83.1 | 91.7 | 69.3 | 76.5 | 91.0 | 96.9 | 91.1 | 99.0 | 97.7 | 96.1 | 93.4 | 92.8 | 90.2 | |

# PAZA
# Henry Pirker Station
## Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

# Hourly Averages

## Sulphur Dioxide ($SO_2$) - ppb

## Henry Pirker - October 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0

Maximum Value: 2.4 ppb on Oct 22 15:00

Maximum Daily Average: 0.7 ppb on Oct 22

Minimum Value: 0 ppb on Oct 3 00:00

Minimum Daily Average: 0.1 ppb on Oct 20

Maximum Diurnal Average: 0.4 ppb at hour 13

Minimum Diurnal Average: 0.1 ppb at hour 3

Monthly Average: 0.26 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.1$ $Q_1 = 0.1$ Median = 0.2 $Q_3 = 0.3$ $P_{90} = 0.6$ $P_{99} = 1.5$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 708 |
| Hours of Missing Data: | 36 |
| Hours of Calibration: | 36 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.5 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 3-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 1 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 1.6 |
| 4-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0.4 | 1.7 |
| 5-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | C | C | C | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.5 |
| 6-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 2.0 |
| 7-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 8-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 9-Oct | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.4 |
| 10-Oct | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.4 | 0.9 |
| 11-Oct | 0 | A | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.7 |
| 12-Oct | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | A | 0.2 | 1.1 |
| 13-Oct | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0.4 | 1.0 |
| 14-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0.2 | 0.5 |
| 15-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 1 | 0 | 0.2 | 0.6 |
| 16-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0.2 | 0.8 |
| 17-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0.3 | 1.2 |
| 18-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.4 |
| 19-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.6 |
| 20-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 |
| 21-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 1.3 |
| 22-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | A | 2 | 2 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0.7 | 2.4 |
| 23-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | A | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.8 |
| 24-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0.3 | 0.7 |
| 25-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | A | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.6 |
| 26-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 1.4 |
| 27-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 28-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.5 |
| 29-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 1.4 |
| 30-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 31-Oct | 0 | 0 | 0 | 0 | A | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 1.8 |
| | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 0.3 | 0.3 | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | Diurnal Average | |
| | 0.5 | 0.4 | 0.3 | 0.7 | 0.7 | 0.7 | 1.0 | 1.0 | 1.2 | 1.0 | 1.1 | 1.8 | 2.0 | 1.5 | 2.4 | 1.7 | 2.3 | 1.7 | 1.2 | 1.0 | 0.7 | 1.1 | 0.7 | 0.6 | Diurnal Maximum | |

C - Calibration A - Automated Daily Zero Span

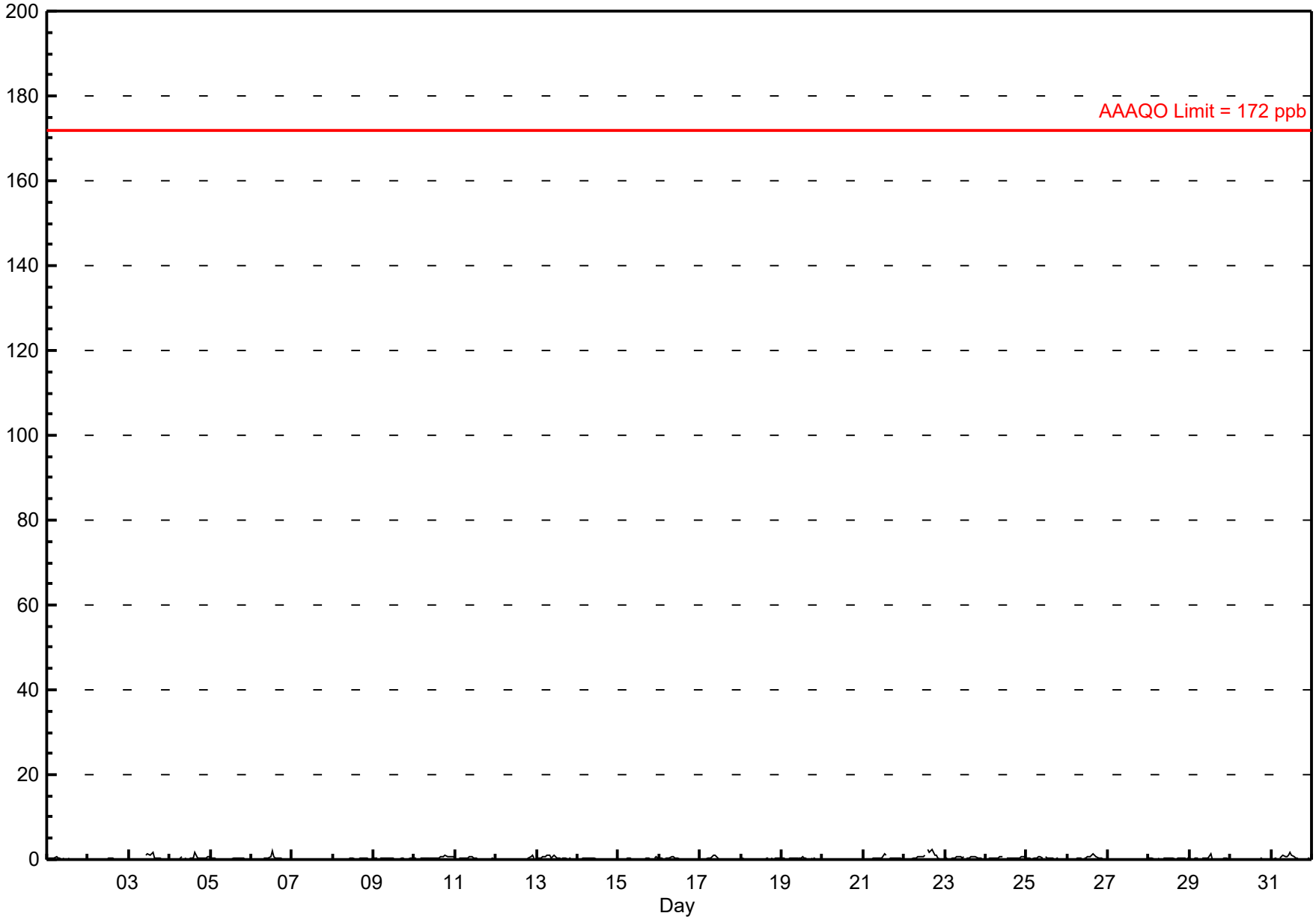
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

# Hourly Averages

**Sulphur Dioxide ($SO_2$) - ppb**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Sulphur Dioxide ($SO_2$) - ppb

## Henry Pirker - October 2018

Maximum Value: 4.0 ppb on Oct 4 16:00

Maximum Daily Average: 1.0 ppb on Oct 22

Minimum Value: 0 ppb on Oct 3 02:00

Minimum Daily Average: 0.2 ppb on Oct 20

Maximum Diurnal Average: 0.8 ppb at hour 13

Minimum Diurnal Average: 0.2 ppb at hour 3

Monthly Average: 0.43 ppb

Percentiles: $P_1 = 0.1$ $P_{10} = 0.1$ $Q_1 = 0.2$ Median = 0.3 $Q_3 = 0.5$ $P_{90} = 0.9$ $P_{99} = 2.4$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 708 |
| Hours of Missing Data: | 36 |
| Hours of Calibration: | 36 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.9 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.6 |
| 3-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 2 | 2 | 2 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.6 | 2.8 |
| 4-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | 1 | 0 | 0 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 4.0 |
| 5-Oct | 1 | 0 | 0 | 0 | 0 | 0 | 0 | A | C | C | C | C | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.7 |
| 6-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 1 | 4 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 3.7 |
| 7-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 8-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.4 |
| 9-Oct | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.5 |
| 10-Oct | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.6 | 1.3 |
| 11-Oct | 0 | A | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 1.1 |
| 12-Oct | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | A | 0.4 | 1.7 |
| 13-Oct | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0.7 | 1.5 |
| 14-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0.3 | 0.7 |
| 15-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | A | 1 | 1 | 1 | 0.3 | 0.9 |
| 16-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0.4 | 1.1 |
| 17-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0.4 | 1.9 |
| 18-Oct | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | A | 1 | 0 | 1 | 0 | 0 | 0 | 0.3 | 0.9 |
| 19-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.9 |
| 20-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 21-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 2 | 1 | A | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0.5 | 2.0 |
| 22-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | A | 3 | 2 | 3 | 2 | 1 | 2 | 1 | 0 | 0 | 0 | 1.0 | 3.4 |
| 23-Oct | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0.6 | 1.0 |
| 24-Oct | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0.5 | 0.9 |
| 25-Oct | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0.5 | 1.0 |
| 26-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | A | 1 | 1 | 1 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0.6 | 2.5 |
| 27-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.2 | 0.5 |
| 28-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0.3 | 0.7 |
| 29-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 1 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 3.5 |
| 30-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0.3 | 1.8 |
| 31-Oct | 0 | 0 | 0 | 0 | A | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.7 | 2.3 |
| | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.6 | 0.8 | 0.5 | 0.6 | 0.6 | 0.5 | 0.4 | 0.5 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | Diurnal Average | |
| | 0.7 | 0.9 | 0.6 | 1.1 | 0.9 | 1.3 | 1.5 | 1.9 | 1.9 | 1.3 | 1.6 | 2.4 | 3.7 | 2.4 | 3.4 | 4.0 | 2.7 | 2.2 | 1.8 | 1.6 | 1.4 | 1.7 | 1.0 | 0.9 | Diurnal Maximum | |

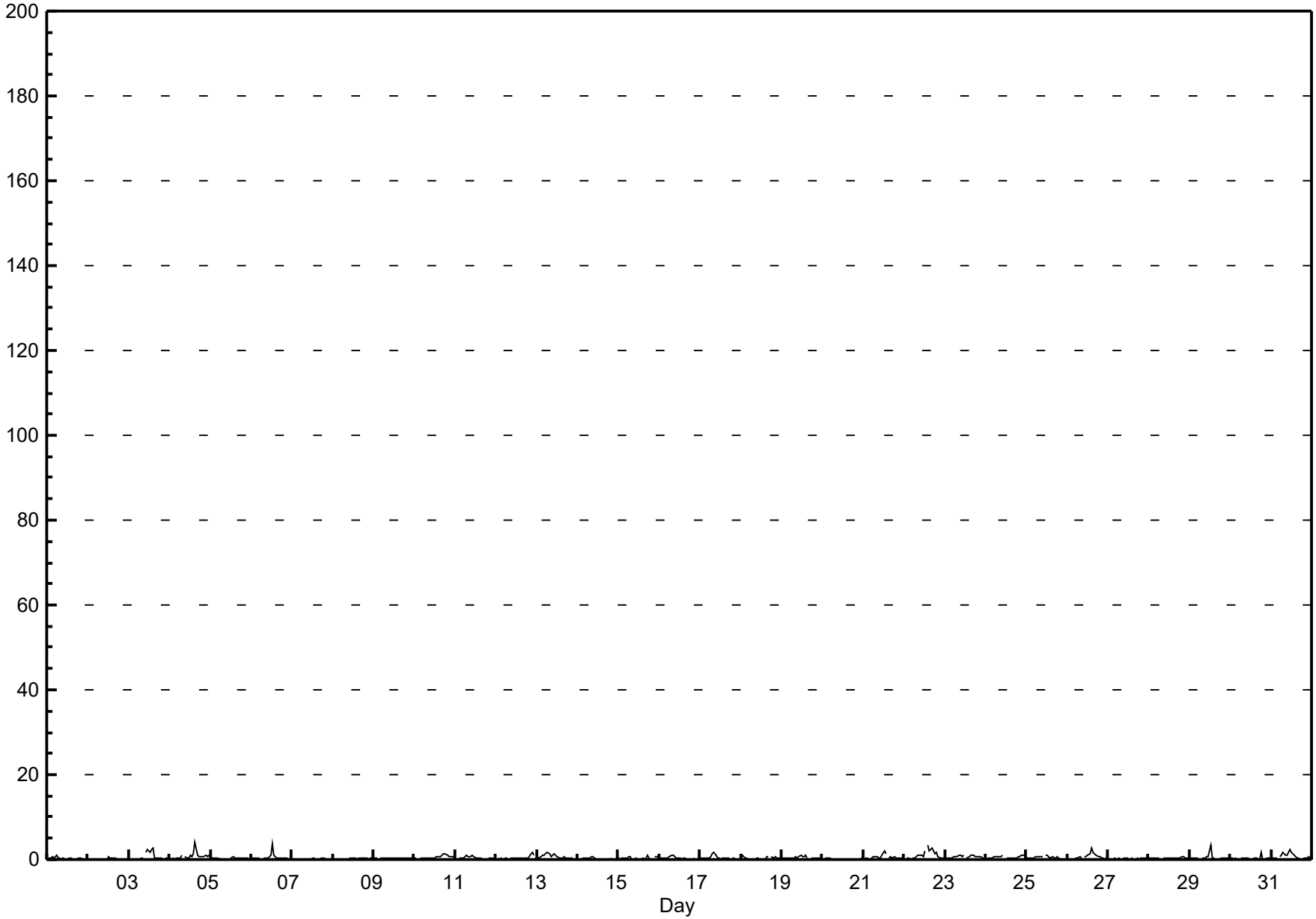
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

**Sulphur Dioxide ($SO_2$) - ppb**

**Henry Pirker - October 2018**



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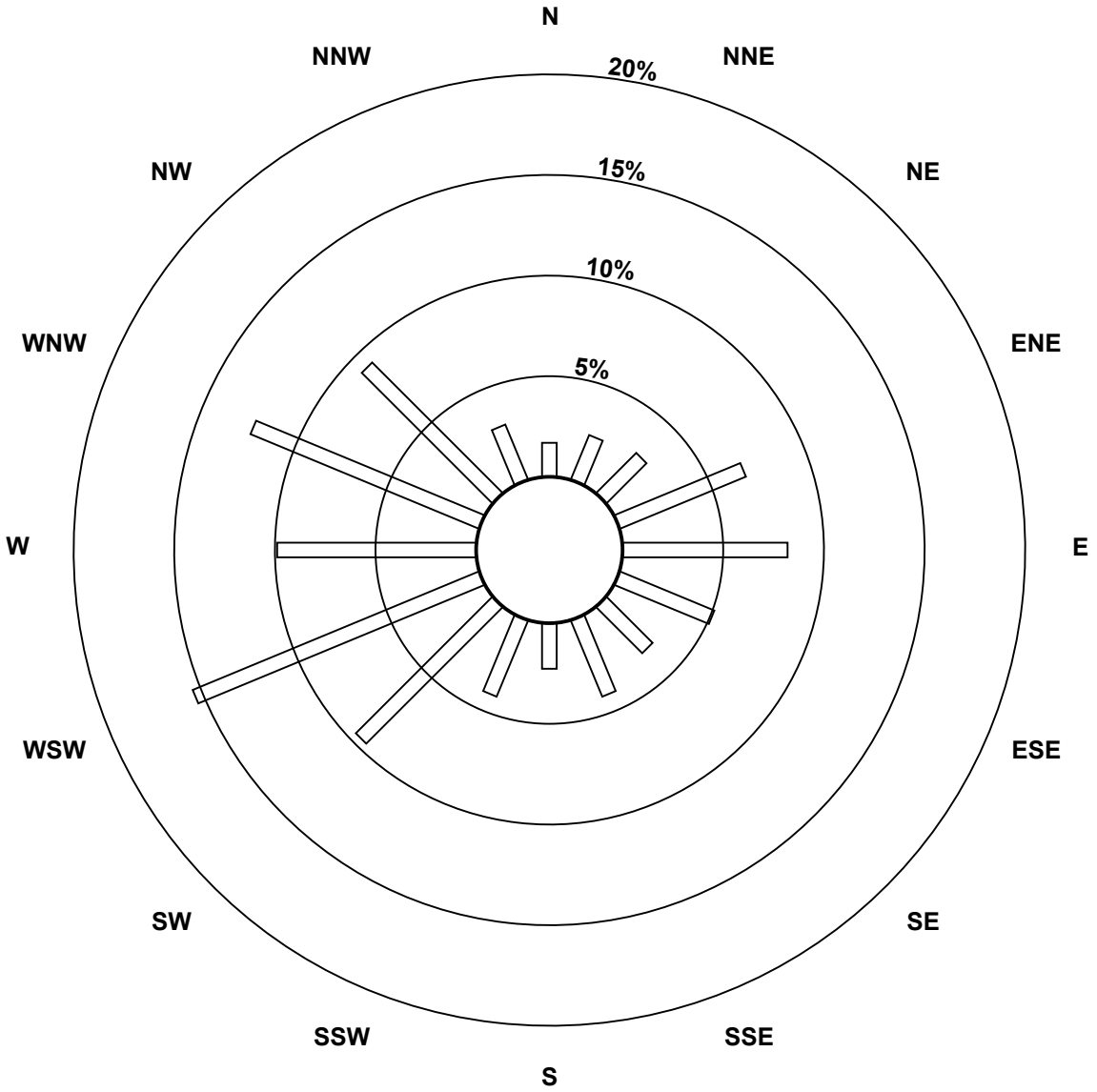
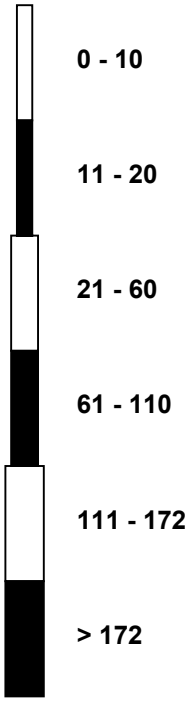
# Pollutant Rose

**Sulphur Dioxide ($SO_2$) - ppb**

**Henry Pirker - October 2018**




**Pollutant Classes (ppb)**



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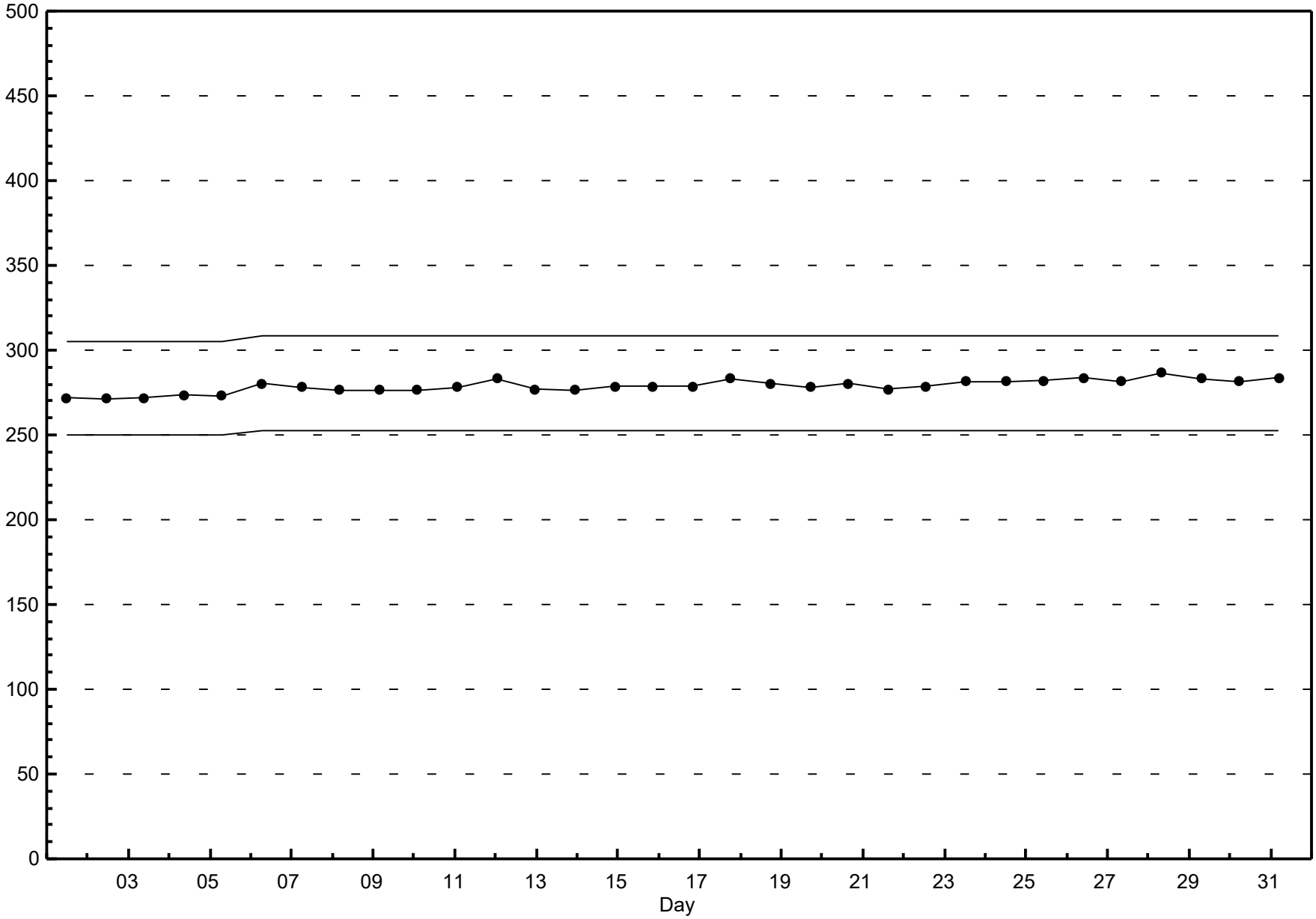
# Span Responses

**Sulphur Dioxide ($SO_2$)**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Total Reduced Sulphur (TRS) - ppb

## Henry Pirker - October 2018

Maximum Value: 1.6 ppb on Oct 17 10:00

Maximum Daily Average: 0.6 ppb on Oct 22

Minimum Value: 0 ppb on Oct 1 14:00

Maximum Diurnal Average: 0.5 ppb at hour 9

Monthly Average: 0.23 ppb

Minimum Daily Average: 0.0 ppb on Oct 2

Minimum Diurnal Average: 0.1 ppb at hour 17

Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.1$ Median = 0.2 $Q_3 = 0.3$ $P_{90} = 0.5$ $P_{99} = 1.0$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 708 |
| Hours of Missing Data: | 36 |
| Hours of Calibration: | 36 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.4 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.2 |
| 3-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 4-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.9 |
| 5-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 6-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.4 |
| 7-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 8-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 |
| 9-Oct | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | C | C | C | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 10-Oct | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 11-Oct | 0 | A | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.6 |
| 12-Oct | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0.1 | 0.3 |
| 13-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | A | 0 | 0.3 | 0.6 |
| 14-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0.2 | 0.6 |
| 15-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0.2 | 0.6 |
| 16-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0.3 | 1.0 |
| 17-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0.3 | 1.6 |
| 18-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.4 |
| 19-Oct | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.7 |
| 20-Oct | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.6 |
| 21-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.5 |
| 22-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0.6 | 1.3 |
| 23-Oct | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0.4 | 1.1 |
| 24-Oct | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0.5 | 1.0 |
| 25-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 1.0 |
| 26-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | A | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.7 |
| 27-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.4 |
| 28-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.5 |
| 29-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.7 |
| 30-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.7 |
| 31-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.8 |
| | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 0.5 | 0.4 | 0.3 | 0.2 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | Diurnal Average | |
| | 0.7 | 0.8 | 0.9 | 0.7 | 0.7 | 0.8 | 0.9 | 1.0 | 1.5 | 1.6 | 1.1 | 0.8 | 0.8 | 0.6 | 0.5 | 0.6 | 0.4 | 0.4 | 0.7 | 0.9 | 0.8 | 0.8 | 0.9 | 0.6 | Diurnal Maximum | |

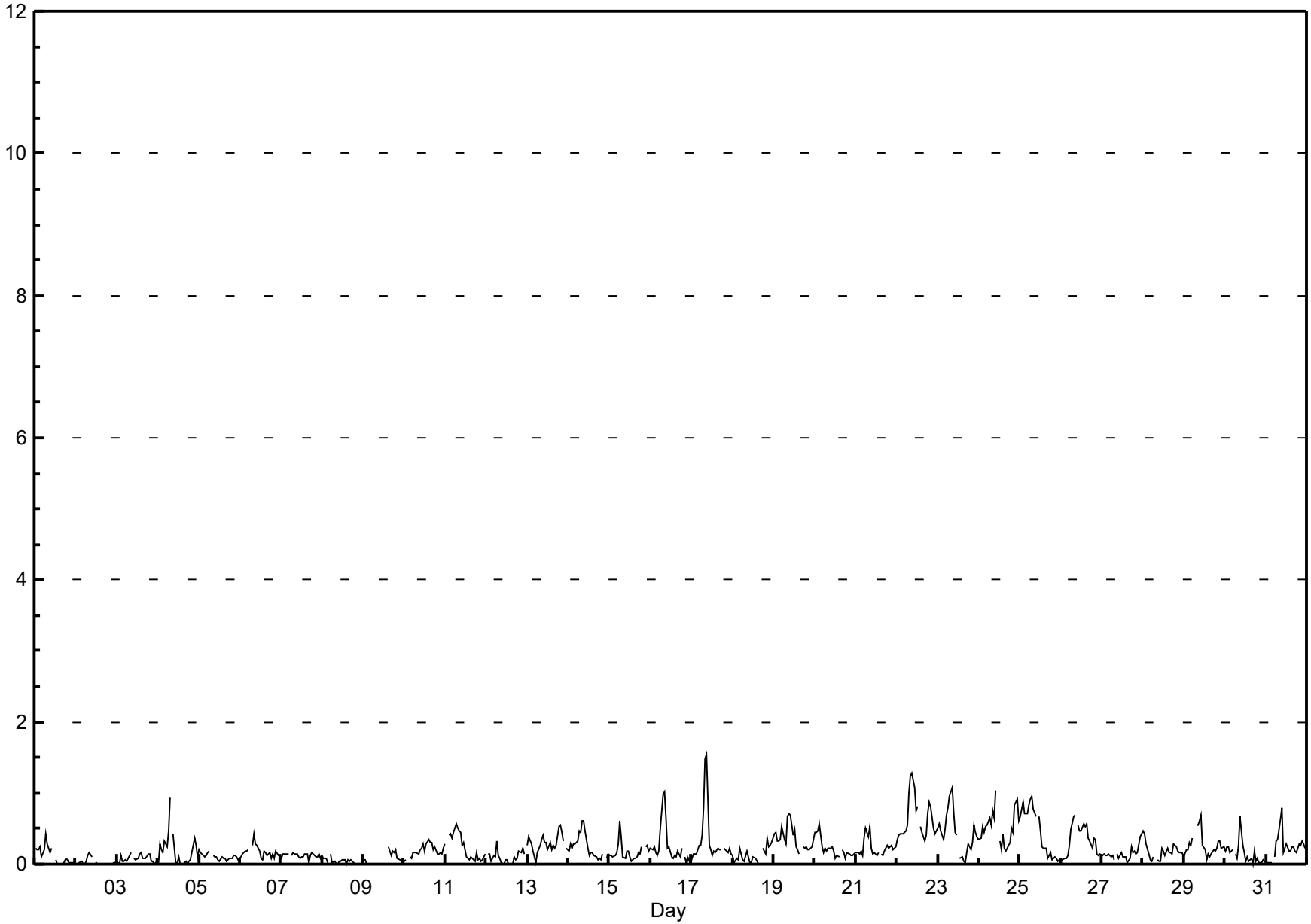
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Averages

**Total Reduced Sulphur (TRS) - ppb**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Total Reduced Sulphur (TRS) - ppb

## Henry Pirker - October 2018

Maximum Value: 2.8 ppb on Oct 17 10:00

Maximum Daily Average: 1.2 ppb on Oct 22

Minimum Value: 0 ppb on Oct 2 20:00

Maximum Diurnal Average: 1.0 ppb at hour 9

Monthly Average: 0.72 ppb

Minimum Daily Average: 0.5 ppb on Oct 2

Minimum Diurnal Average: 0.6 ppb at hour 17

Percentiles: $P_1 = 0.3$ $P_{10} = 0.5$ $Q_1 = 0.5$ Median = 0.6 $Q_3 = 0.8$ $P_{90} = 1.1$ $P_{99} = 1.7$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 708 |
| Hours of Missing Data: | 36 |
| Hours of Calibration: | 36 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0.6 | 1.1 |
| 2-Oct | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | A | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0.5 | 0.9 |
| 3-Oct | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0.5 | 0.8 |
| 4-Oct | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 1.4 |
| 5-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0.6 | 0.8 |
| 6-Oct | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 1.2 |
| 7-Oct | 0 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.6 | 0.8 |
| 8-Oct | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0.5 | 0.6 |
| 9-Oct | 0 | 1 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | C | C | C | C | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0.5 | 0.7 |
| 10-Oct | 0 | 0 | A | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.6 | 1.0 |
| 11-Oct | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0.7 | 1.0 |
| 12-Oct | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | A | 0.6 | 0.9 |
| 13-Oct | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 0.8 | 1.0 |
| 14-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | A | 0 | 1 | 0.7 | 1.1 |
| 15-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 0.6 | 1.1 |
| 16-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | A | 1 | 1 | 1 | 0 | 0.7 | 1.6 |
| 17-Oct | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 0.9 | 2.8 |
| 18-Oct | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | A | 1 | 1 | 1 | 1 | 1 | 1 | 0.6 | 0.8 |
| 19-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.9 | 1.3 |
| 20-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | A | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 1.1 |
| 21-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 1.1 |
| 22-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.2 | 2.0 |
| 23-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | A | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.0 | 1.7 |
| 24-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1.0 | 1.7 |
| 25-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0.9 | 1.6 |
| 26-Oct | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.3 |
| 27-Oct | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | A | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.6 | 1.0 |
| 28-Oct | 1 | 1 | 1 | 1 | 1 | 0 | 1 | A | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0.7 | 1.1 |
| 29-Oct | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.6 |
| 30-Oct | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0.7 | 2.5 |
| 31-Oct | 0 | 0 | 1 | 1 | A | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 2.4 |
| | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.8 | 0.8 | 0.9 | 1.0 | 1.0 | 0.8 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.7 | 0.6 | 0.7 | 0.7 | 0.7 | 0.6 | Diurnal Average | |
| | 1.3 | 1.2 | 1.4 | 1.3 | 1.2 | 1.3 | 1.6 | 1.7 | 2.5 | 2.8 | 1.7 | 1.4 | 1.3 | 1.2 | 1.4 | 1.1 | 1.0 | 0.9 | 1.2 | 1.3 | 1.5 | 1.4 | 1.5 | 1.0 | Diurnal Maximum | |

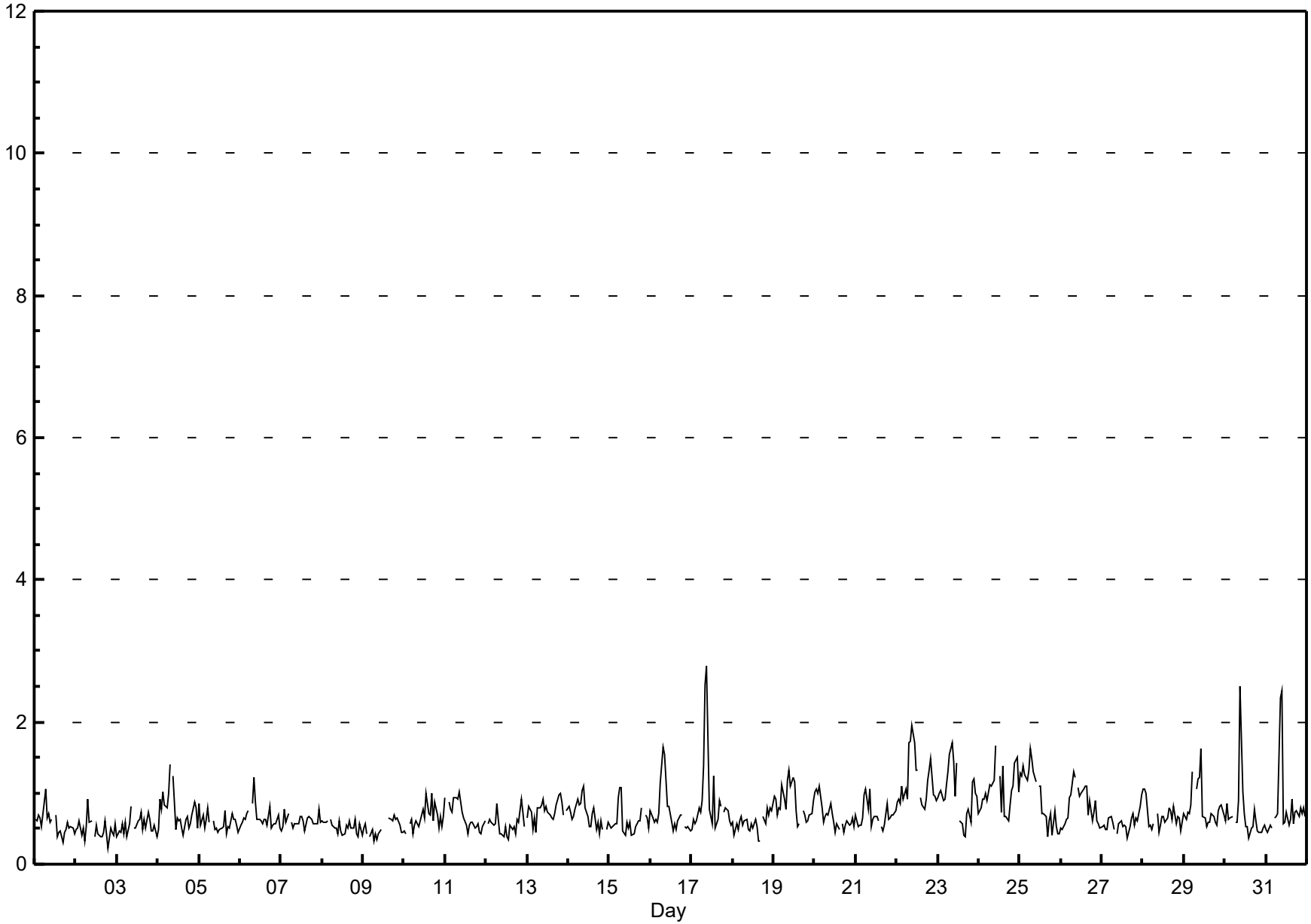
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

## Total Reduced Sulphur (TRS) - ppb

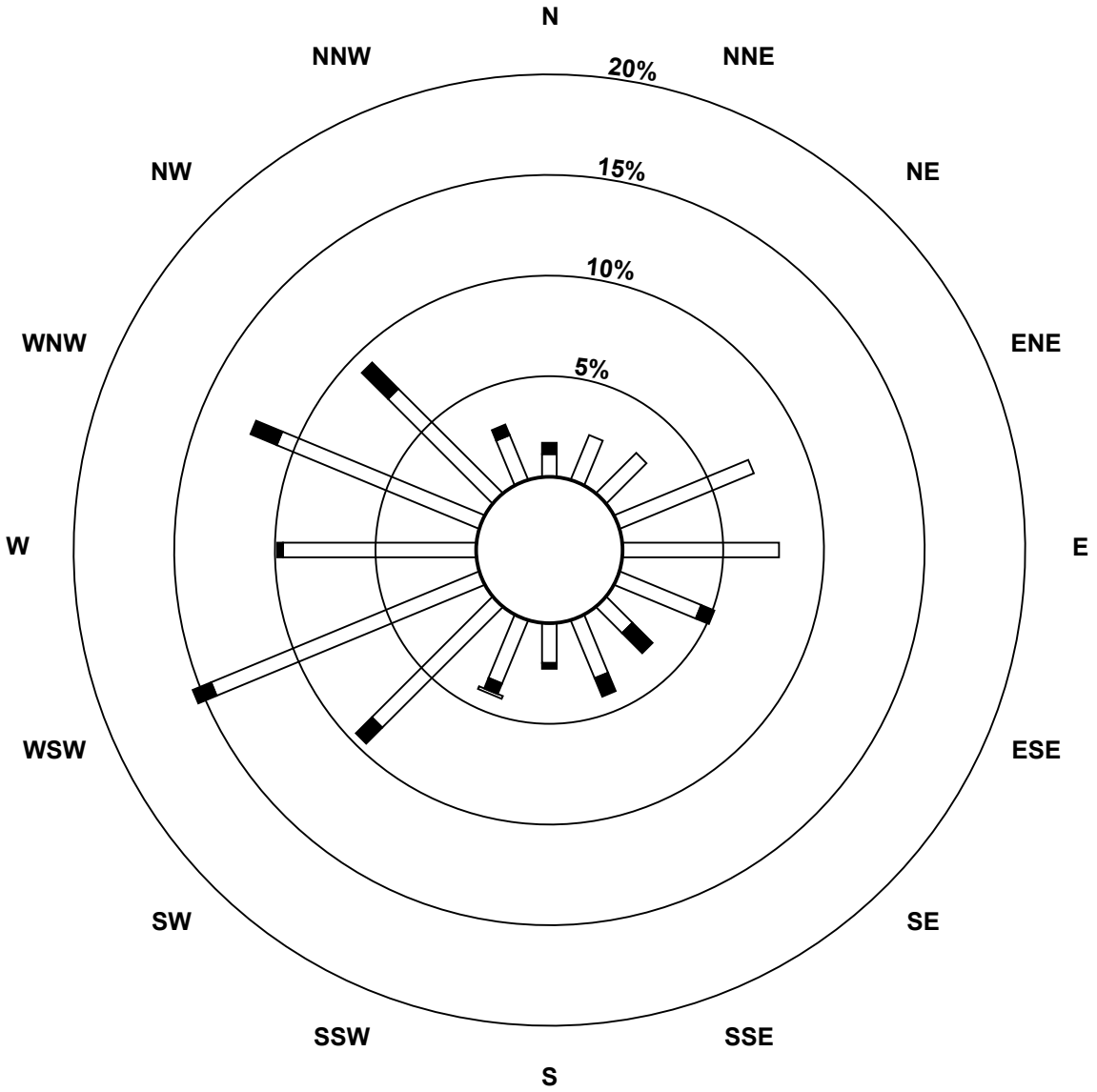
## Henry Pirker - October 2018



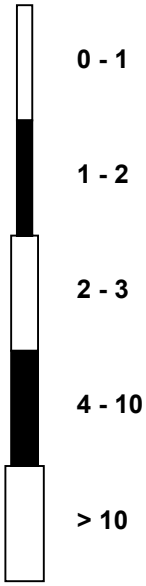
# Pollutant Rose

**Total Reduced Sulphur (TRS) - ppb**

**Henry Pirker - October 2018**




**Pollutant Classes (ppb)**

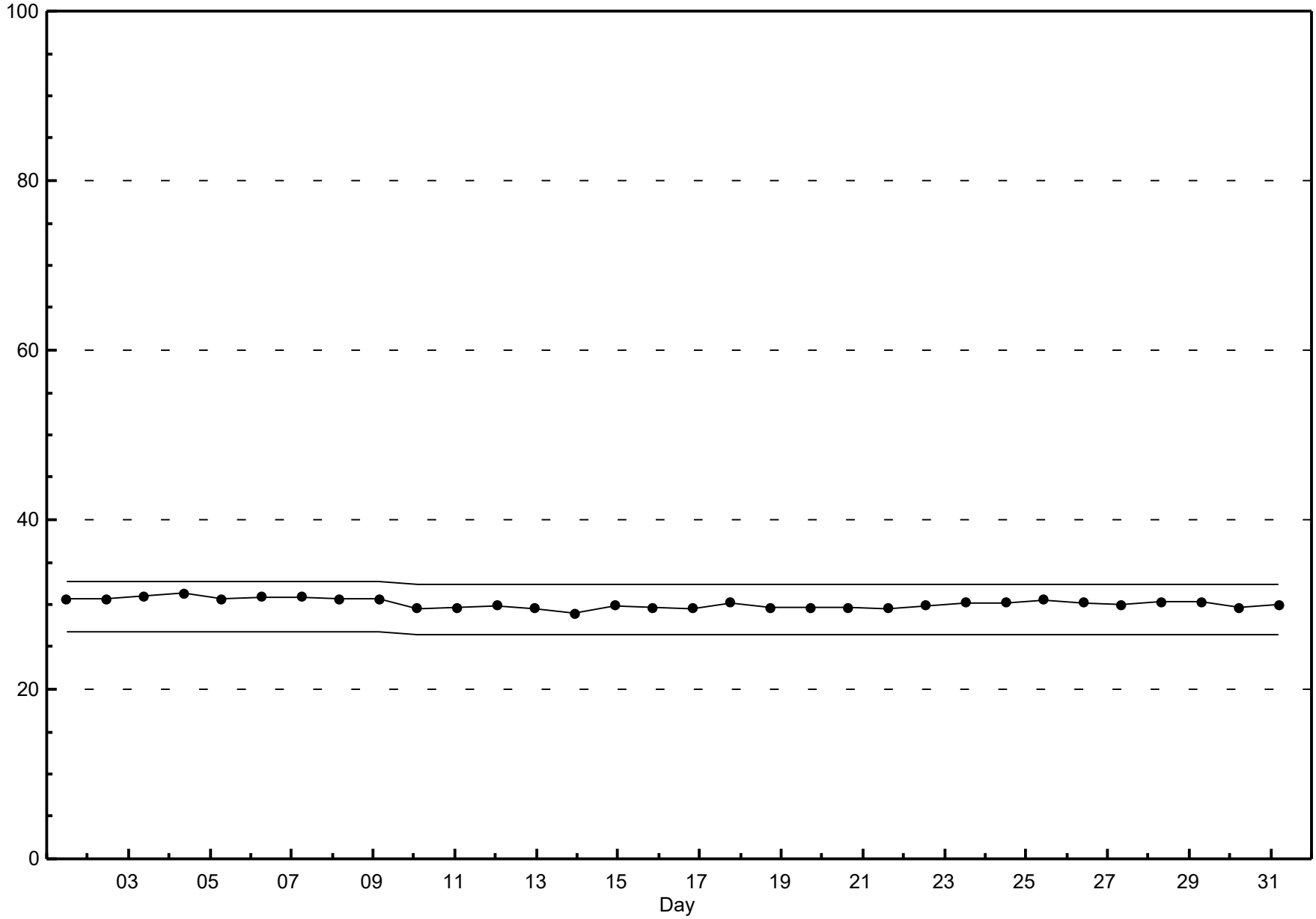


Peace Airshed Zone Association

# Span Responses

**Total Reduced Sulphur (TRS)**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Nitrogen Dioxide ($NO_2$) - ppb

## Henry Pirker - October 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 60.1 ppb on Oct 17 09:00 Maximum Daily Average: 22.6 ppb on Oct 22

Minimum Value: 1 ppb on Oct 13 15:00 Minimum Daily Average: 2.6 ppb on Oct 8
Maximum Diurnal Average: 17.8 ppb at hour 8 Minimum Diurnal Average: 5.6 ppb at hour 14
Monthly Average: 10.93 ppb Percentiles: $P_1$ = 1.2 $P_{10}$ = 2.5 $Q_1$ = 3.8 Median = 8.1 $Q_3$ = 16.1 $P_{90}$ = 23.7 $P_{99}$ = 34.8

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 706 |
| Hours of Missing Data: | 38 |
| Hours of Calibration: | 38 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 4 | 3 | 3 | 6 | 7 | 14 | 17 | 19 | 13 | 8 | 11 | A | 3 | 3 | 5 | 4 | 8 | 8 | 5 | 3 | 4 | 3 | 2 | 2 | 6.8 | 19.2 |
| 2-Oct | 2 | 3 | 3 | 2 | 3 | 7 | 10 | 15 | 12 | 4 | A | 2 | 1 | 2 | 2 | 2 | 2 | 4 | 4 | 6 | 7 | 6 | 5 | 4 | 4.6 | 14.6 |
| 3-Oct | 3 | 3 | 3 | 4 | 6 | 8 | 9 | 13 | 14 | A | 8 | 6 | 4 | 3 | 3 | 2 | 2 | 4 | 17 | 15 | 10 | 8 | 7 | 8 | 7.0 | 17.2 |
| 4-Oct | 8 | 15 | 18 | 14 | 17 | 18 | 20 | 25 | A | 18 | 9 | 5 | 3 | 2 | 2 | 2 | 3 | 4 | 8 | 14 | 17 | 15 | 13 | 11 | 11.4 | 25.3 |
| 5-Oct | 14 | 10 | 8 | 5 | 6 | 9 | 8 | A | C | C | C | C | C | C | 3 | 3 | 3 | 4 | 7 | 8 | 9 | 9 | 11 | 10 | -- | 13.6 |
| 6-Oct | 13 | 16 | 15 | 15 | 15 | 20 | A | 21 | 19 | 19 | 17 | 10 | 3 | 4 | 5 | 7 | 7 | 6 | 5 | 5 | 4 | 3 | 3 | 3 | 10.2 | 20.6 |
| 7-Oct | 3 | 3 | 3 | 2 | 2 | A | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 3 | 3 | 3.3 | 4.6 |
| 8-Oct | 3 | 3 | 3 | 3 | A | 3 | 3 | 3 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 3 | 2 | 2 | 2 | 3 | 2.6 | 3.3 |
| 9-Oct | 3 | 3 | 3 | A | 4 | 5 | 5 | 6 | 5 | 5 | 4 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 5 | 4 | 4 | 5 | 5 | 5 | 4.0 | 5.7 |
| 10-Oct | 5 | 5 | A | 6 | 7 | 8 | 10 | 12 | 10 | 9 | 12 | 9 | 5 | 10 | 4 | 5 | 6 | 7 | 8 | 10 | 11 | 9 | 8 | 12 | 8.2 | 12.0 |
| 11-Oct | 11 | A | 17 | 17 | 16 | 15 | 14 | 15 | 15 | 13 | 11 | 10 | 5 | 5 | 5 | 5 | 5 | 8 | 7 | 6 | 8 | 8 | 15 | 9 | 10.5 | 17.3 |
| 12-Oct | A | 8 | 8 | 7 | 10 | 18 | 15 | 6 | 7 | 4 | 3 | 3 | 4 | 3 | 2 | 2 | 3 | 2 | 4 | 7 | 8 | 10 | 15 | A | 6.7 | 18.4 |
| 13-Oct | 8 | 7 | 4 | 2 | 3 | 7 | 8 | 9 | 10 | 7 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 7 | 20 | 19 | 9 | 9 | A | 7 | 6.2 | 19.6 |
| 14-Oct | 4 | 5 | 10 | 15 | 17 | 19 | 19 | 17 | 18 | 20 | 15 | 6 | 5 | 5 | 4 | 3 | 3 | 3 | 2 | 3 | 2 | A | 3 | 3 | 8.7 | 20.5 |
| 15-Oct | 3 | 5 | 3 | 3 | 8 | 21 | 28 | 16 | 5 | 4 | 4 | 3 | 2 | 1 | 1 | 2 | 2 | 3 | 8 | 15 | A | 15 | 15 | 6 | 7.5 | 28.3 |
| 16-Oct | 4 | 9 | 8 | 7 | 13 | 27 | 36 | 40 | 41 | 33 | 16 | 14 | 4 | 4 | 5 | 5 | 6 | 9 | 13 | A | 11 | 5 | 5 | 6 | 14.0 | 41.2 |
| 17-Oct | 6 | 5 | 7 | 15 | 26 | 35 | 42 | 53 | 60 | 54 | 27 | 16 | 8 | 8 | 13 | 19 | 22 | 18 | A | 16 | 18 | 12 | 5 | 5 | 21.3 | 60.1 |
| 18-Oct | 5 | 3 | 2 | 1 | 3 | 6 | 5 | 6 | 8 | 5 | 3 | 2 | 2 | 1 | 1 | 2 | 5 | A | 24 | 25 | 29 | 26 | 25 | 26 | 9.3 | 28.8 |
| 19-Oct | 22 | 21 | 17 | 15 | 16 | 19 | 23 | 24 | 24 | 21 | 23 | 15 | 11 | 5 | 6 | 4 | A | 8 | 9 | 9 | 8 | 9 | 17 | 16 | 14.9 | 24.3 |
| 20-Oct | 14 | 15 | 13 | 15 | 7 | 3 | 3 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | A | 4 | 5 | 5 | 6 | 14 | 14 | 9 | 10 | 6.8 | 15.5 |
| 21-Oct | 6 | 8 | 4 | 4 | 7 | 18 | 27 | 28 | 25 | 16 | 9 | 8 | 2 | 3 | A | 5 | 3 | 13 | 22 | 27 | 23 | 16 | 13 | 15 | 13.2 | 28.2 |
| 22-Oct | 19 | 19 | 19 | 20 | 15 | 17 | 17 | 24 | 28 | 30 | 29 | 26 | 26 | A | 27 | 23 | 16 | 24 | 31 | 30 | 22 | 20 | 19 | 18 | 22.6 | 30.9 |
| 23-Oct | 17 | 17 | 15 | 14 | 15 | 19 | 18 | 20 | 27 | 25 | 21 | 15 | A | 13 | 18 | 12 | 11 | 25 | 30 | 29 | 27 | 22 | 19 | 17 | 19.5 | 29.5 |
| 24-Oct | 16 | 16 | 17 | 16 | 17 | 20 | 22 | 24 | 26 | 20 | 22 | A | 11 | 11 | 18 | 19 | 25 | 32 | 33 | 33 | 31 | 31 | 29 | 21 | 22.2 | 33.4 |
| 25-Oct | 17 | 15 | 17 | 13 | 13 | 18 | 19 | 23 | 25 | 23 | A | 20 | 14 | 10 | 14 | 13 | 8 | 9 | 6 | 6 | 5 | 5 | 4 | 3 | 13.1 | 25.2 |
| 26-Oct | 3 | 2 | 5 | 9 | 16 | 28 | 33 | 31 | 29 | A | 24 | 23 | 24 | 24 | 29 | 25 | 22 | 23 | 25 | 27 | 25 | 7 | 5 | 3 | 19.2 | 32.9 |
| 27-Oct | 2 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | A | 5 | 4 | 2 | 2 | 1 | 1 | 2 | 5 | 18 | 12 | 15 | 14 | 20 | 26 | 27 | 7.4 | 26.5 |
| 28-Oct | 26 | 23 | 14 | 13 | 8 | 6 | 5 | A | 5 | 4 | 5 | 12 | 10 | 9 | 10 | 11 | 13 | 15 | 17 | 12 | 11 | 14 | 9 | 13 | 11.5 | 25.7 |
| 29-Oct | 16 | 17 | 15 | 17 | 16 | 15 | A | 16 | 15 | 15 | 15 | 9 | 6 | 4 | 3 | 4 | 6 | 6 | 17 | 24 | 29 | 30 | 23 | 11 | 14.3 | 29.8 |
| 30-Oct | 17 | 15 | 5 | 8 | 7 | A | 10 | 9 | 12 | 12 | 6 | 3 | 3 | 3 | 3 | 3 | 4 | 5 | 9 | 10 | 13 | 9 | 10 | 8 | 7.9 | 16.7 |
| 31-Oct | 11 | 8 | 7 | 10 | A | 23 | 32 | 31 | 27 | 28 | 23 | 23 | 20 | 16 | 15 | 17 | 18 | 9 | 8 | 9 | 7 | 5 | 5 | 4 | 15.4 | 31.6 |
| | 9.4 | 9.5 | 8.9 | 9.4 | 10.5 | 14.8 | 16.0 | 17.8 | 17.4 | 14.7 | 11.9 | 9.2 | 6.5 | 5.6 | 7.0 | 7.0 | 7.4 | 9.6 | 12.3 | 13.3 | 12.9 | 11.6 | 10.9 | 9.6 | Diurnal Average | |
| | 25.7 | 23.4 | 19.2 | 20.2 | 26.3 | 34.9 | 41.5 | 52.7 | 60.1 | 53.7 | 29.0 | 25.6 | 26.4 | 23.8 | 29.2 | 25.0 | 25.4 | 31.8 | 33.3 | 33.4 | 31.3 | 30.9 | 28.9 | 26.5 | Diurnal Maximum | |

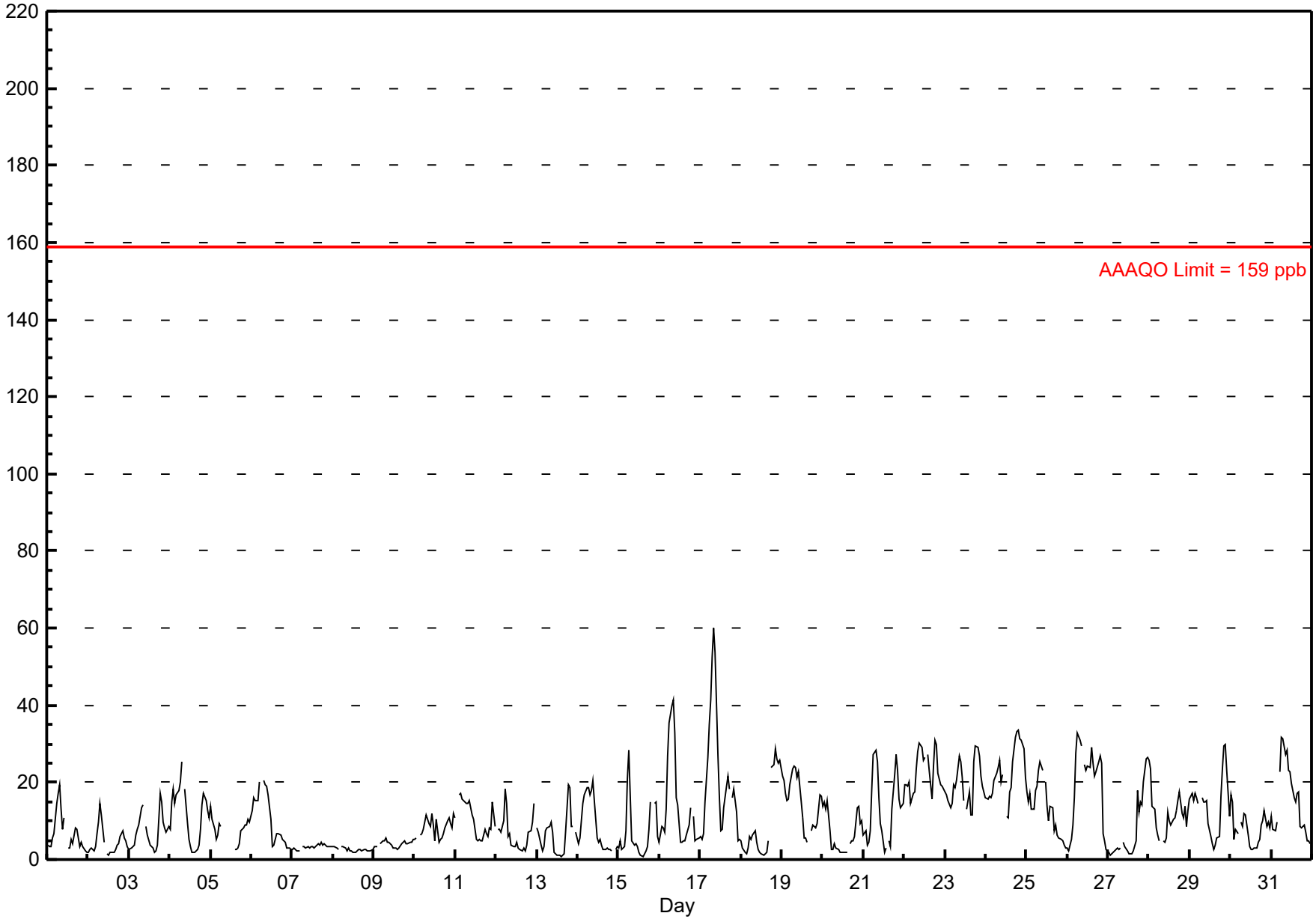
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb

Peace Airshed Zone Association

# Hourly Averages

**Nitrogen Dioxide ($NO_2$) - ppb**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Nitrogen Dioxide ($NO_2$) - ppb

## Henry Pirker - October 2018

Maximum Value: 79.0 ppb on Oct 17 09:00

Maximum Daily Average: 28.9 ppb on Oct 17

Minimum Value: 2 ppb on Oct 13 15:00

Minimum Daily Average: 4.3 ppb on Oct 8

Maximum Diurnal Average: 25.0 ppb at hour 8

Minimum Diurnal Average: 9.1 ppb at hour 13

Monthly Average: 14.80 ppb

Percentiles: $P_1$ = 2.1 $P_{10}$ = 4.0 $Q_1$ = 6.1 Median = 12.0 $Q_3$ = 20.5 $P_{90}$ = 29.2 $P_{99}$ = 50.0

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 706 |
| Hours of Missing Data: | 38 |
| Hours of Calibration: | 38 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 5 | 4 | 5 | 8 | 10 | 20 | 21 | 57 | 20 | 12 | 13 | A | 6 | 5 | 17 | 6 | 13 | 13 | 11 | 6 | 9 | 5 | 4 | 3 | 11.8 | 56.9 |
| 2-Oct | 3 | 4 | 5 | 4 | 7 | 11 | 25 | 19 | 17 | 9 | A | 2 | 2 | 4 | 3 | 3 | 4 | 7 | 6 | 8 | 10 | 8 | 7 | 5 | 7.5 | 24.9 |
| 3-Oct | 4 | 5 | 5 | 6 | 11 | 14 | 11 | 18 | 21 | A | 12 | 12 | 5 | 5 | 5 | 3 | 4 | 6 | 23 | 23 | 13 | 11 | 9 | 13 | 10.3 | 23.3 |
| 4-Oct | 11 | 19 | 20 | 17 | 20 | 20 | 25 | 32 | A | 27 | 11 | 7 | 6 | 3 | 4 | 3 | 5 | 6 | 12 | 22 | 21 | 22 | 17 | 16 | 15.0 | 31.6 |
| 5-Oct | 16 | 13 | 14 | 7 | 8 | 15 | 11 | A | C | C | C | C | C | C | 4 | 7 | 5 | 6 | 11 | 11 | 11 | 17 | 13 | 12 | -- | 17.0 |
| 6-Oct | 18 | 19 | 19 | 19 | 19 | 29 | A | 23 | 23 | 20 | 19 | 15 | 5 | 11 | 8 | 10 | 9 | 8 | 8 | 7 | 7 | 4 | 5 | 4 | 13.4 | 29.2 |
| 7-Oct | 4 | 4 | 4 | 3 | 3 | A | 5 | 7 | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 7 | 7 | 5 | 5 | 5 | 5 | 6 | 5.0 | 6.8 |
| 8-Oct | 5 | 4 | 4 | 4 | A | 5 | 7 | 6 | 4 | 10 | 3 | 4 | 3 | 3 | 3 | 4 | 5 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 4.3 | 9.7 |
| 9-Oct | 5 | 4 | 5 | A | 5 | 7 | 7 | 13 | 7 | 7 | 5 | 4 | 4 | 4 | 4 | 4 | 7 | 14 | 12 | 5 | 6 | 6 | 6 | 8 | 6.4 | 13.7 |
| 10-Oct | 7 | 9 | A | 8 | 10 | 12 | 13 | 14 | 13 | 13 | 14 | 12 | 6 | 68 | 6 | 7 | 7 | 12 | 11 | 13 | 14 | 12 | 10 | 18 | 13.3 | 68.1 |
| 11-Oct | 13 | A | 18 | 18 | 18 | 16 | 16 | 16 | 17 | 16 | 13 | 13 | 9 | 7 | 8 | 8 | 8 | 11 | 9 | 11 | 11 | 13 | 18 | 12 | 13.0 | 18.3 |
| 12-Oct | A | 11 | 9 | 9 | 16 | 21 | 20 | 12 | 10 | 7 | 6 | 5 | 13 | 5 | 5 | 3 | 6 | 3 | 7 | 11 | 11 | 17 | 19 | A | 10.1 | 20.7 |
| 13-Oct | 11 | 9 | 9 | 3 | 5 | 14 | 13 | 12 | 15 | 12 | 3 | 2 | 2 | 3 | 2 | 2 | 3 | 18 | 25 | 28 | 11 | 11 | A | 8 | 9.6 | 28.5 |
| 14-Oct | 7 | 9 | 16 | 18 | 19 | 21 | 20 | 20 | 20 | 24 | 19 | 9 | 6 | 11 | 7 | 4 | 4 | 5 | 5 | 5 | 5 | A | 5 | 7 | 11.5 | 24.3 |
| 15-Oct | 6 | 7 | 7 | 7 | 15 | 33 | 38 | 35 | 8 | 5 | 6 | 5 | 4 | 2 | 3 | 3 | 4 | 7 | 23 | 27 | A | 21 | 24 | 12 | 13.1 | 37.6 |
| 16-Oct | 6 | 16 | 11 | 9 | 33 | 34 | 42 | 56 | 46 | 38 | 21 | 21 | 8 | 6 | 8 | 8 | 9 | 14 | 22 | A | 17 | 8 | 10 | 16 | 19.9 | 55.7 |
| 17-Oct | 8 | 11 | 8 | 22 | 37 | 43 | 50 | 63 | 79 | 66 | 38 | 25 | 19 | 13 | 23 | 26 | 29 | 23 | A | 21 | 24 | 22 | 9 | 7 | 28.9 | 79.0 |
| 18-Oct | 8 | 5 | 6 | 2 | 5 | 10 | 11 | 11 | 13 | 8 | 4 | 4 | 4 | 2 | 3 | 3 | 8 | A | 28 | 30 | 31 | 32 | 28 | 28 | 12.4 | 31.6 |
| 19-Oct | 28 | 24 | 20 | 18 | 17 | 23 | 25 | 28 | 38 | 23 | 28 | 18 | 15 | 8 | 8 | 9 | A | 11 | 14 | 12 | 14 | 11 | 21 | 18 | 18.8 | 38.1 |
| 20-Oct | 18 | 19 | 19 | 18 | 18 | 5 | 4 | 8 | 4 | 4 | 3 | 3 | 3 | 4 | 4 | A | 5 | 7 | 8 | 9 | 21 | 20 | 16 | 15 | 10.1 | 20.5 |
| 21-Oct | 12 | 13 | 7 | 8 | 12 | 28 | 32 | 30 | 32 | 59 | 15 | 9 | 4 | 5 | A | 9 | 6 | 23 | 26 | 35 | 31 | 27 | 18 | 20 | 19.9 | 58.8 |
| 22-Oct | 21 | 22 | 25 | 25 | 20 | 20 | 20 | 28 | 34 | 34 | 33 | 28 | 28 | A | 30 | 31 | 20 | 31 | 35 | 36 | 27 | 20 | 20 | 19 | 26.5 | 36.3 |
| 23-Oct | 19 | 19 | 18 | 15 | 18 | 25 | 25 | 24 | 33 | 31 | 24 | 19 | A | 15 | 21 | 18 | 17 | 32 | 32 | 31 | 30 | 26 | 21 | 20 | 23.2 | 32.8 |
| 24-Oct | 17 | 17 | 19 | 19 | 20 | 24 | 28 | 29 | 31 | 27 | 24 | A | 14 | 14 | 23 | 26 | 31 | 35 | 36 | 37 | 33 | 34 | 35 | 28 | 26.2 | 37.3 |
| 25-Oct | 22 | 19 | 20 | 16 | 16 | 23 | 26 | 42 | 30 | 28 | A | 27 | 16 | 13 | 19 | 25 | 13 | 15 | 9 | 9 | 9 | 10 | 5 | 5 | 18.2 | 42.4 |
| 26-Oct | 6 | 3 | 9 | 16 | 26 | 32 | 38 | 34 | 33 | A | 27 | 26 | 27 | 27 | 32 | 29 | 24 | 26 | 28 | 30 | 28 | 11 | 7 | 3 | 22.7 | 38.2 |
| 27-Oct | 4 | 2 | 4 | 2 | 3 | 4 | 4 | 5 | A | 8 | 5 | 4 | 3 | 3 | 3 | 4 | 8 | 29 | 23 | 20 | 24 | 25 | 30 | 30 | 10.8 | 30.1 |
| 28-Oct | 28 | 29 | 20 | 16 | 11 | 8 | 6 | A | 7 | 6 | 10 | 15 | 16 | 11 | 12 | 13 | 16 | 18 | 20 | 14 | 15 | 17 | 10 | 20 | 14.6 | 28.7 |
| 29-Oct | 19 | 20 | 19 | 21 | 19 | 16 | A | 21 | 17 | 16 | 19 | 18 | 8 | 6 | 4 | 7 | 8 | 12 | 21 | 30 | 34 | 33 | 30 | 14 | 17.9 | 33.7 |
| 30-Oct | 19 | 20 | 17 | 12 | 9 | A | 18 | 25 | 16 | 16 | 9 | 6 | 5 | 4 | 6 | 6 | 7 | 8 | 13 | 15 | 18 | 11 | 17 | 14 | 12.6 | 24.8 |
| 31-Oct | 17 | 9 | 10 | 13 | A | 32 | 38 | 38 | 33 | 31 | 28 | 25 | 21 | 25 | 24 | 25 | 27 | 14 | 11 | 12 | 8 | 7 | 6 | 5 | 19.9 | 38.3 |
| | 12.2 | 12.3 | 12.4 | 12.1 | 14.8 | 19.4 | 20.6 | 25.0 | 22.3 | 20.1 | 14.9 | 12.3 | 9.1 | 10.0 | 10.1 | 10.4 | 10.6 | 14.0 | 16.6 | 17.6 | 16.7 | 15.7 | 14.2 | 13.0 | Diurnal Average | |
| | 28.5 | 28.7 | 24.8 | 25.3 | 36.7 | 42.7 | 50.2 | 62.5 | 79.0 | 65.7 | 38.2 | 28.2 | 27.8 | 68.1 | 32.1 | 31.2 | 31.4 | 34.8 | 36.2 | 37.3 | 33.7 | 34.3 | 35.3 | 30.1 | Diurnal Maximum | |

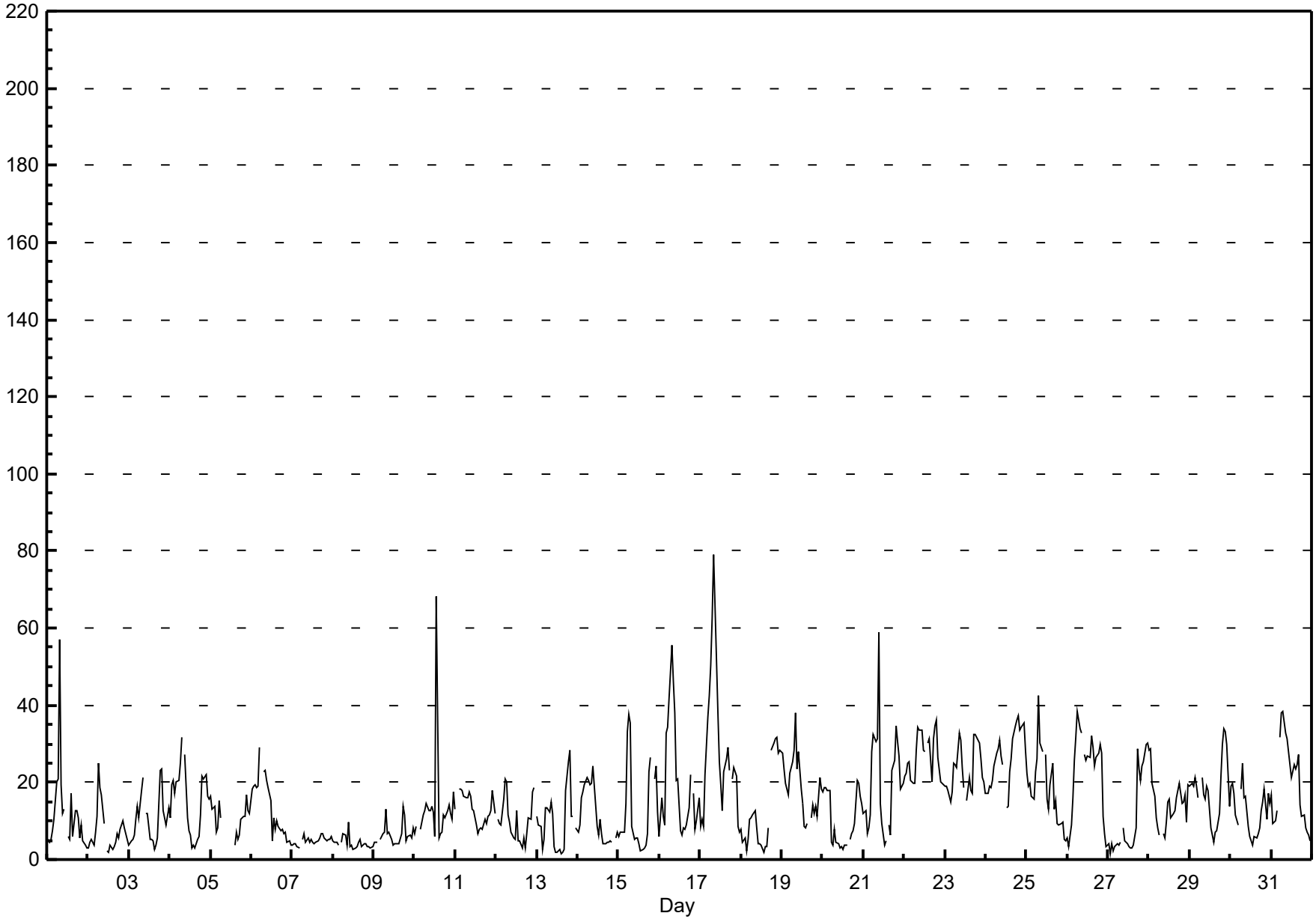
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

**Nitrogen Dioxide ($NO_2$) - ppb**

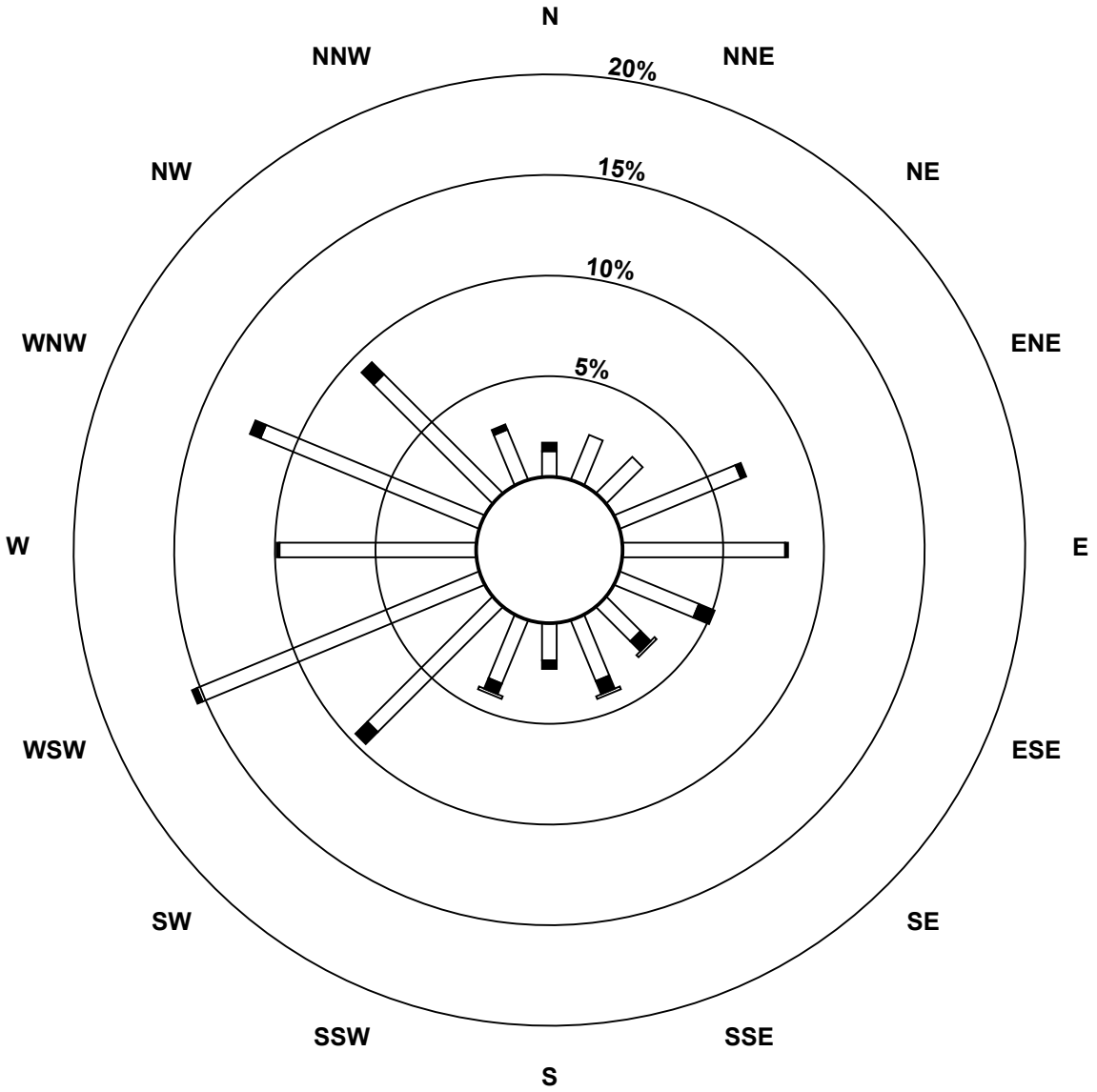
**Henry Pirker - October 2018**



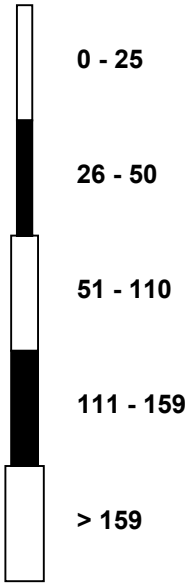
# Pollutant Rose

**Nitrogen Dioxide ($NO_2$) - ppb**

**Henry Pirker - October 2018**




**Pollutant Classes (ppb)**

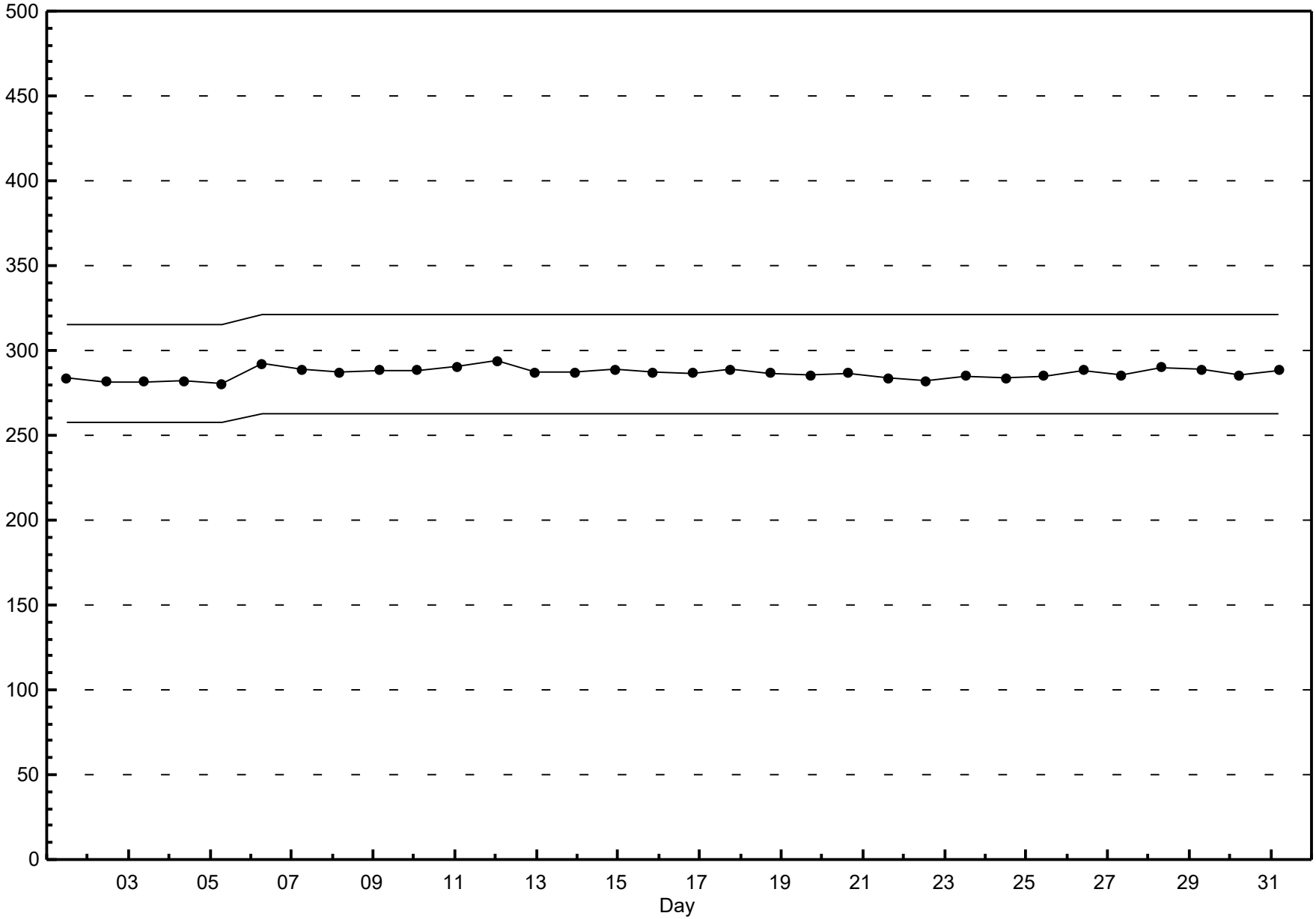


Peace Airshed Zone Association

# Span Responses

**Nitrogen Dioxide ($NO_2$)**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Nitrogen Oxide (NO) - ppb

## Henry Pirker - October 2018

Maximum Value: 152.7 ppb on Oct 17 09:00

Maximum Daily Average: 34.5 ppb on Oct 22

Minimum Value: 0 ppb on Oct 15 03:00

Minimum Daily Average: 0.4 ppb on Oct 2

Maximum Diurnal Average: 33.9 ppb at hour 9

Minimum Diurnal Average: 1.3 ppb at hour 18

Monthly Average: 8.09 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.2$ Median = 0.7 $Q_3 = 5.4$ $P_{90} = 26.3$ $P_{99} = 101.5$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 706 |
| Hours of Missing Data: | 38 |
| Hours of Calibration: | 38 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 6 | 4 | 2 | 3 | A | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1.1 | 6.4 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 1 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 2.4 |
| 3-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 6 | A | 4 | 4 | 2 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1.0 | 5.8 |
| 4-Oct | 0 | 2 | 3 | 4 | 11 | 18 | 39 | 99 | A | 44 | 10 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 10.2 | 98.6 |
| 5-Oct | 0 | 0 | 0 | 0 | 0 | 1 | 1 | A | C | C | C | C | C | C | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | -- | 1.3 |
| 6-Oct | 1 | 1 | 3 | 9 | 5 | 10 | A | 13 | 24 | 19 | 15 | 5 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 4.8 | 24.3 |
| 7-Oct | 0 | 0 | 0 | 0 | 0 | A | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1.0 | 2.3 |
| 8-Oct | 1 | 0 | 0 | 0 | A | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.7 | 2.0 |
| 9-Oct | 0 | 0 | 0 | A | 0 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0.8 | 1.8 |
| 10-Oct | 0 | 0 | A | 0 | 1 | 1 | 2 | 2 | 2 | 2 | 6 | 3 | 1 | 13 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1.7 | 13.4 |
| 11-Oct | 0 | A | 3 | 8 | 18 | 22 | 23 | 25 | 37 | 16 | 10 | 8 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7.6 | 36.8 |
| 12-Oct | A | 0 | 0 | 0 | 1 | 5 | 8 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | 1.0 | 7.8 |
| 13-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 4 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 8 | 0 | 0 | A | 0 | 0.9 | 7.6 |
| 14-Oct | 0 | 0 | 0 | 1 | 2 | 7 | 15 | 22 | 35 | 43 | 14 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 6.1 | 43.5 |
| 15-Oct | 0 | 0 | 0 | 0 | 0 | 6 | 38 | 11 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | 0 | 0 | 0 | 2.5 | 37.8 |
| 16-Oct | 0 | 0 | 0 | 0 | 1 | 4 | 38 | 102 | 107 | 43 | 6 | 7 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | A | 0 | 0 | 0 | 0 | 13.5 | 107.3 |
| 17-Oct | 0 | 0 | 0 | 0 | 1 | 3 | 21 | 80 | 153 | 120 | 10 | 4 | 1 | 1 | 1 | 2 | 1 | 0 | A | 0 | 0 | 0 | 0 | 0 | 17.3 | 152.7 |
| 18-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 2 | 3 | 10 | 4 | 8 | 13 | 1.8 | 12.9 |
| 19-Oct | 21 | 18 | 14 | 10 | 11 | 27 | 19 | 16 | 48 | 43 | 46 | 17 | 6 | 2 | 2 | 1 | A | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 13.2 | 48.2 |
| 20-Oct | 0 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 2.2 |
| 21-Oct | 0 | 0 | 0 | 0 | 0 | 1 | 17 | 18 | 36 | 9 | 5 | 4 | 0 | 1 | A | 1 | 0 | 0 | 0 | 3 | 1 | 1 | 0 | 2 | 4.3 | 35.9 |
| 22-Oct | 4 | 3 | 6 | 13 | 14 | 35 | 36 | 81 | 114 | 102 | 73 | 39 | 34 | A | 21 | 13 | 3 | 6 | 42 | 73 | 51 | 12 | 9 | 10 | 34.5 | 113.7 |
| 23-Oct | 9 | 18 | 10 | 10 | 25 | 54 | 65 | 86 | 114 | 80 | 40 | 18 | A | 7 | 9 | 3 | 2 | 6 | 10 | 12 | 28 | 35 | 17 | 6 | 28.8 | 113.7 |
| 24-Oct | 5 | 6 | 16 | 19 | 26 | 37 | 55 | 54 | 80 | 59 | 52 | A | 5 | 4 | 7 | 6 | 8 | 10 | 21 | 38 | 40 | 88 | 103 | 46 | 34.2 | 103.3 |
| 25-Oct | 32 | 22 | 28 | 18 | 25 | 47 | 62 | 86 | 76 | 58 | A | 22 | 11 | 4 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21.6 | 85.8 |
| 26-Oct | 0 | 0 | 0 | 0 | 0 | 9 | 29 | 38 | 37 | A | 19 | 18 | 21 | 31 | 30 | 27 | 15 | 6 | 3 | 9 | 5 | 0 | 0 | 0 | 13.0 | 38.1 |
| 27-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 13 | 29 | 2.1 | 28.7 |
| 28-Oct | 41 | 13 | 1 | 1 | 1 | 0 | 0 | A | 0 | 1 | 0 | 3 | 2 | 2 | 2 | 3 | 3 | 2 | 5 | 1 | 0 | 1 | 0 | 0 | 3.6 | 40.8 |
| 29-Oct | 1 | 3 | 6 | 19 | 24 | 31 | A | 36 | 42 | 39 | 28 | 11 | 4 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 10 | 17 | 4 | 0 | 12.2 | 42.2 |
| 30-Oct | 1 | 0 | 0 | 0 | 0 | A | 1 | 1 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.6 | 3.1 |
| 31-Oct | 0 | 0 | 0 | 0 | A | 1 | 20 | 36 | 22 | 27 | 14 | 13 | 10 | 6 | 5 | 4 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 7.1 | 35.6 |
| | 3.9 | 3.0 | 3.1 | 3.8 | 5.7 | 11.1 | 17.2 | 28.4 | 33.9 | 25.8 | 13.0 | 6.7 | 3.8 | 2.8 | 3.1 | 2.3 | 1.5 | 1.3 | 3.1 | 5.1 | 5.1 | 5.4 | 5.3 | 3.6 | Diurnal Average | |
| | 40.8 | 21.7 | 28.4 | 18.8 | 25.5 | 53.6 | 64.8 | 102.1 | 152.7 | 120.2 | 72.8 | 39.1 | 34.0 | 30.6 | 30.0 | 27.4 | 15.0 | 9.9 | 41.9 | 73.2 | 50.9 | 88.1 | 103.3 | 45.5 | Diurnal Maximum | |

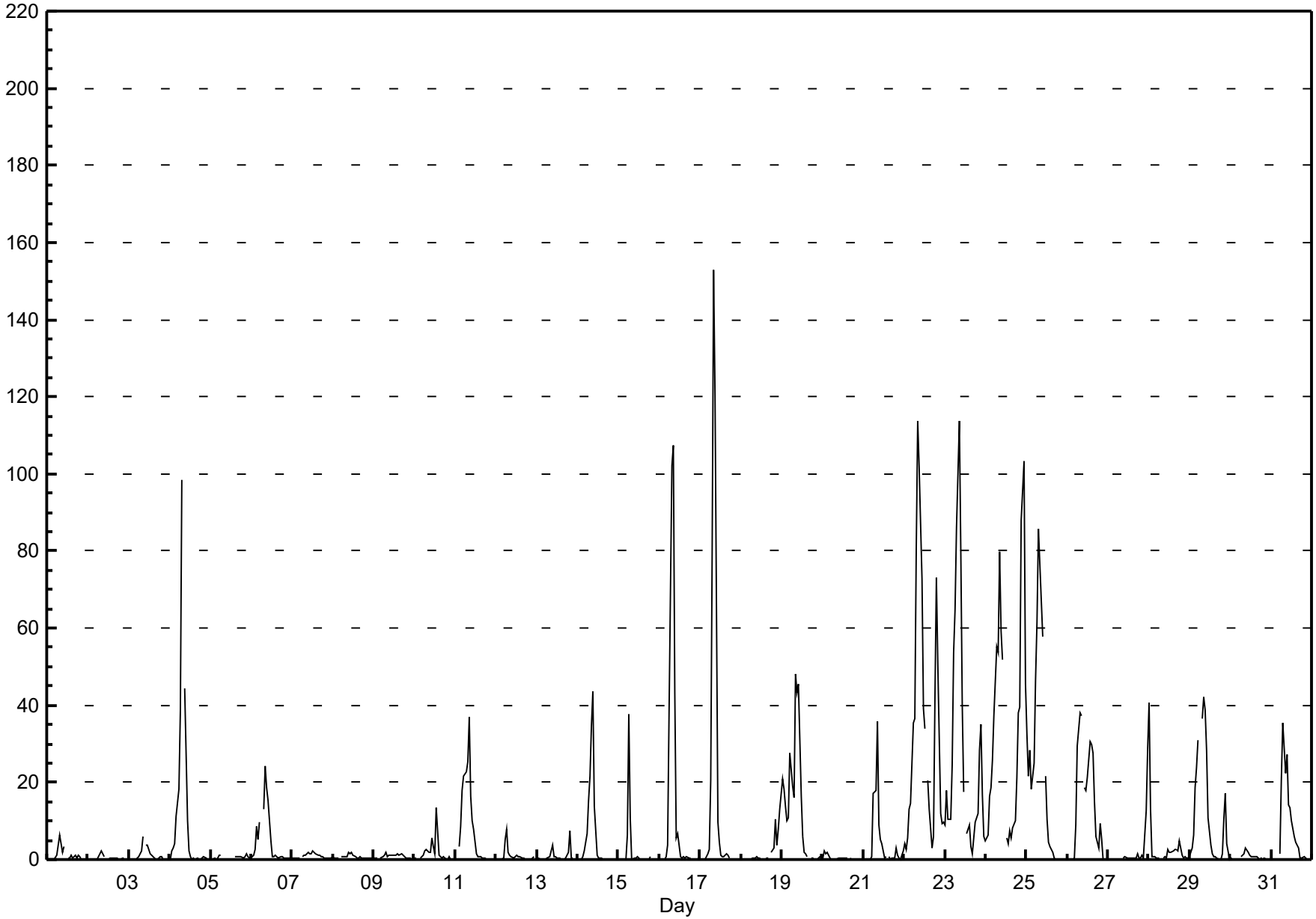
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Averages

**Nitrogen Oxide (NO) - ppb**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Nitrogen Oxide (NO) - ppb

## Henry Pirker - October 2018

Maximum Value: 283.5 ppb on Oct 17 09:00

Maximum Daily Average: 50.6 ppb on Oct 24

Minimum Value: 0 ppb on Oct 14 20:00

Minimum Daily Average: 1.6 ppb on Oct 2

Maximum Diurnal Average: 51.3 ppb at hour 9

Minimum Diurnal Average: 3.3 ppb at hour 17

Monthly Average: 14.41 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.3$ $Q_1 = 0.9$ Median = 2.5 $Q_3 = 13.6$ $P_{90} = 44.7$ $P_{99} = 131.3$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 706 |
| Hours of Missing Data: | 38 |
| Hours of Calibration: | 38 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 2 | 2 | 1 | 1 | 1 | 7 | 9 | 18 | 11 | 4 | 5 | A | 7 | 1 | 11 | 1 | 3 | 3 | 5 | 3 | 2 | 1 | 0 | 2 | 4.4 | 18.3 |
| 2-Oct | 1 | 0 | 0 | 0 | 1 | 1 | 14 | 4 | 4 | 2 | A | 0 | 0 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1.6 | 14.4 |
| 3-Oct | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 5 | 35 | A | 8 | 9 | 3 | 2 | 2 | 1 | 1 | 0 | 2 | 3 | 1 | 1 | 0 | 1 | 3.3 | 35.2 |
| 4-Oct | 0 | 14 | 4 | 7 | 23 | 29 | 77 | 143 | A | 88 | 14 | 4 | 5 | 1 | 5 | 1 | 1 | 1 | 0 | 7 | 3 | 3 | 2 | 1 | 18.8 | 142.6 |
| 5-Oct | 3 | 0 | 1 | 1 | 1 | 7 | 5 | A | C | C | C | C | C | C | 2 | 5 | 4 | 2 | 5 | 1 | 2 | 18 | 2 | 2 | -- | 17.7 |
| 6-Oct | 4 | 3 | 9 | 22 | 19 | 30 | A | 38 | 35 | 27 | 22 | 9 | 2 | 6 | 3 | 2 | 1 | 1 | 3 | 2 | 4 | 2 | 2 | 1 | 10.8 | 38.1 |
| 7-Oct | 1 | 2 | 3 | 3 | 3 | A | 5 | 7 | 3 | 7 | 7 | 4 | 5 | 4 | 4 | 3 | 3 | 4 | 7 | 2 | 3 | 2 | 4 | 3 | 3.9 | 7.2 |
| 8-Oct | 5 | 3 | 2 | 3 | A | 3 | 5 | 4 | 2 | 19 | 3 | 5 | 2 | 3 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 3.1 | 19.0 |
| 9-Oct | 1 | 1 | 1 | A | 1 | 2 | 2 | 36 | 2 | 2 | 2 | 2 | 4 | 2 | 3 | 2 | 3 | 6 | 5 | 1 | 1 | 1 | 0 | 1 | 3.6 | 36.4 |
| 10-Oct | 1 | 2 | A | 2 | 4 | 5 | 10 | 7 | 4 | 4 | 9 | 7 | 2 | 88 | 2 | 2 | 1 | 11 | 2 | 1 | 2 | 1 | 0 | 3 | 7.3 | 87.5 |
| 11-Oct | 0 | A | 10 | 21 | 26 | 25 | 29 | 34 | 55 | 32 | 15 | 11 | 4 | 2 | 1 | 2 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 11.9 | 54.6 |
| 12-Oct | A | 0 | 0 | 0 | 10 | 14 | 23 | 9 | 7 | 3 | 2 | 2 | 7 | 2 | 3 | 1 | 1 | 0 | 1 | 1 | 1 | 2 | 3 | A | 4.1 | 22.7 |
| 13-Oct | 1 | 1 | 1 | 0 | 0 | 1 | 3 | 7 | 6 | 8 | 2 | 1 | 1 | 2 | 0 | 1 | 0 | 2 | 10 | 31 | 1 | 1 | A | 0 | 3.4 | 31.0 |
| 14-Oct | 0 | 1 | 1 | 4 | 6 | 16 | 26 | 29 | 47 | 68 | 26 | 3 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 10.0 | 68.0 |
| 15-Oct | 0 | 0 | 0 | 0 | 0 | 53 | 64 | 81 | 3 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 3 | 6 | A | 2 | 1 | 0 | 9.5 | 80.5 |
| 16-Oct | 0 | 0 | 0 | 0 | 7 | 15 | 95 | 202 | 154 | 82 | 9 | 14 | 2 | 1 | 2 | 1 | 1 | 1 | 2 | A | 1 | 0 | 1 | 19 | 26.5 | 201.6 |
| 17-Oct | 0 | 0 | 0 | 1 | 13 | 16 | 48 | 127 | 284 | 178 | 23 | 11 | 6 | 1 | 2 | 3 | 2 | 1 | A | 0 | 1 | 0 | 0 | 0 | 31.2 | 283.5 |
| 18-Oct | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 3 | 13 | 22 | 15 | 20 | 21 | 4.8 | 22.4 |
| 19-Oct | 26 | 27 | 25 | 13 | 25 | 46 | 43 | 25 | 85 | 50 | 67 | 23 | 10 | 4 | 3 | 3 | A | 1 | 1 | 1 | 1 | 0 | 2 | 3 | 21.1 | 85.4 |
| 20-Oct | 2 | 9 | 5 | 5 | 2 | 0 | 0 | 0 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1.6 | 9.0 |
| 21-Oct | 0 | 0 | 0 | 1 | 0 | 6 | 35 | 34 | 54 | 28 | 11 | 6 | 1 | 1 | A | 2 | 0 | 2 | 2 | 22 | 8 | 6 | 1 | 12 | 10.2 | 54.3 |
| 22-Oct | 12 | 7 | 42 | 27 | 28 | 42 | 47 | 121 | 133 | 131 | 106 | 46 | 41 | A | 25 | 22 | 5 | 24 | 77 | 96 | 69 | 21 | 21 | 14 | 50.3 | 132.7 |
| 23-Oct | 16 | 25 | 18 | 13 | 36 | 85 | 83 | 112 | 142 | 108 | 59 | 23 | A | 9 | 13 | 7 | 2 | 13 | 20 | 29 | 66 | 64 | 27 | 12 | 42.7 | 141.8 |
| 24-Oct | 6 | 12 | 27 | 34 | 40 | 52 | 77 | 75 | 92 | 102 | 63 | A | 8 | 6 | 12 | 9 | 17 | 16 | 42 | 54 | 90 | 120 | 128 | 83 | 50.6 | 128.3 |
| 25-Oct | 44 | 29 | 34 | 26 | 34 | 62 | 102 | 118 | 99 | 69 | A | 27 | 14 | 8 | 7 | 12 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 29.8 | 118.4 |
| 26-Oct | 0 | 0 | 1 | 1 | 3 | 47 | 52 | 61 | 56 | A | 27 | 22 | 56 | 52 | 40 | 35 | 26 | 13 | 7 | 17 | 11 | 0 | 0 | 0 | 22.9 | 60.8 |
| 27-Oct | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | A | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 5 | 2 | 1 | 11 | 3 | 32 | 52 | 5.1 | 51.8 |
| 28-Oct | 55 | 41 | 3 | 2 | 2 | 1 | 1 | A | 1 | 1 | 2 | 4 | 5 | 4 | 3 | 3 | 4 | 4 | 10 | 4 | 2 | 5 | 1 | 3 | 7.0 | 54.6 |
| 29-Oct | 4 | 7 | 18 | 33 | 42 | 58 | A | 61 | 59 | 56 | 40 | 34 | 5 | 3 | 2 | 1 | 1 | 1 | 1 | 4 | 23 | 31 | 14 | 1 | 21.7 | 61.4 |
| 30-Oct | 4 | 1 | 1 | 0 | 1 | A | 3 | 24 | 3 | 5 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 2.6 | 24.4 |
| 31-Oct | 0 | 0 | 0 | 1 | A | 9 | 37 | 66 | 57 | 38 | 62 | 17 | 16 | 17 | 14 | 11 | 14 | 2 | 1 | 2 | 1 | 1 | 0 | 1 | 16.0 | 66.5 |
| | 6.3 | 6.2 | 6.9 | 7.3 | 11.4 | 21.8 | 31.0 | 50.2 | 51.3 | 40.0 | 21.1 | 10.4 | 7.4 | 7.8 | 5.6 | 4.5 | 3.3 | 3.9 | 7.2 | 10.1 | 11.0 | 10.1 | 8.8 | 7.9 | Diurnal Average | |
| | 54.6 | 40.9 | 41.6 | 34.5 | 41.9 | 84.6 | 101.9 | 201.6 | 283.5 | 178.4 | 105.6 | 45.7 | 55.6 | 87.5 | 40.3 | 34.7 | 26.4 | 24.1 | 77.3 | 96.0 | 89.9 | 120.3 | 128.3 | 82.8 | Diurnal Maximum | |

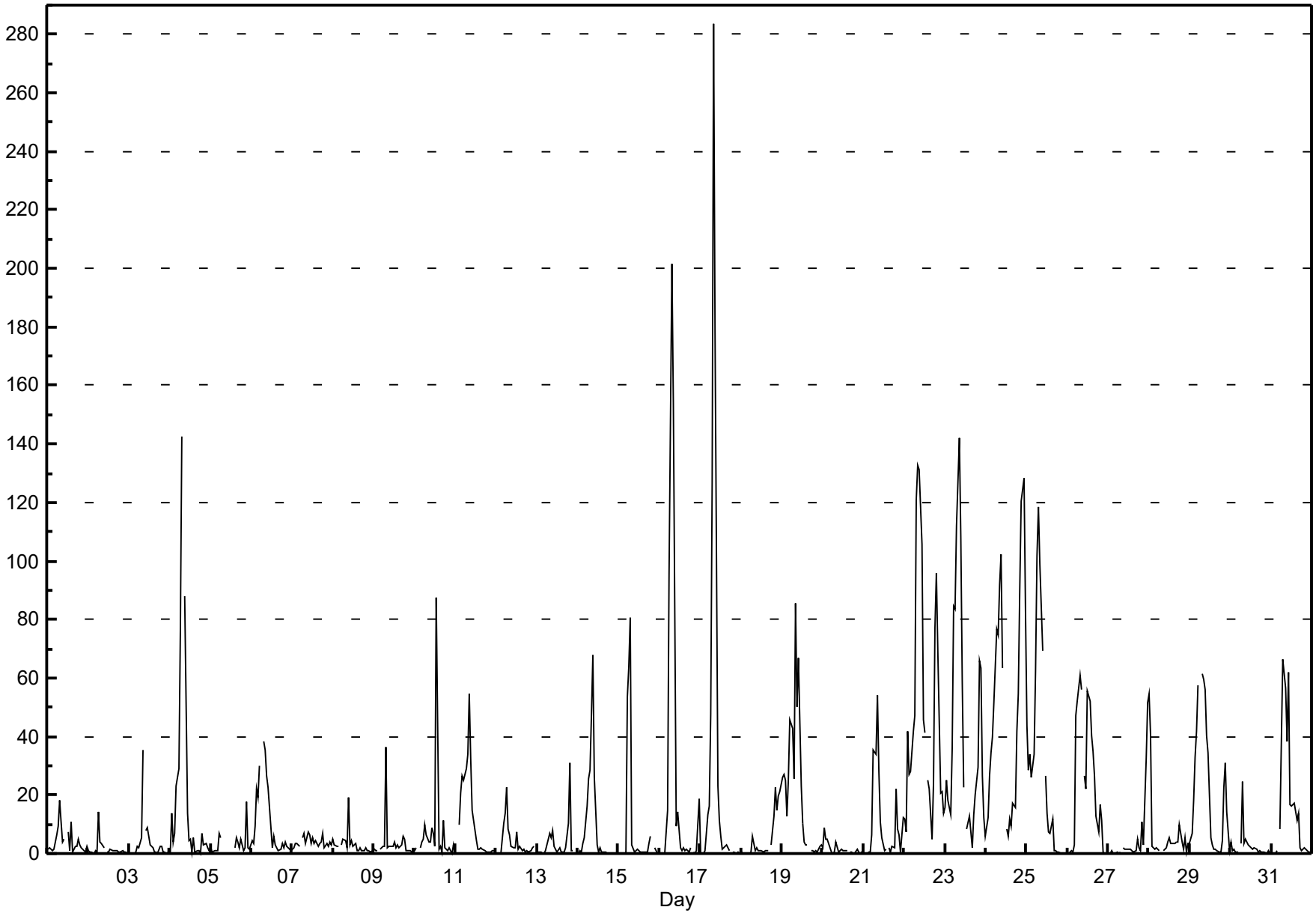
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

**Nitrogen Oxide (NO) - ppb**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Oxides of Nitrogen ($NO_X$) - ppb

## Henry Pirker - October 2018

Maximum Value: 213.5 ppb on Oct 17 09:00

Maximum Daily Average: 57.5 ppb on Oct 22

Minimum Value: 1 ppb on Oct 13 15:00

Minimum Daily Average: 3.4 ppb on Oct 8

Maximum Diurnal Average: 51.5 ppb at hour 9

Minimum Diurnal Average: 8.5 ppb at hour 14

Monthly Average: 19.18 ppb

Percentiles: $P_1$ = 1.3 $P_{10}$ = 2.8 $Q_1$ = 4.4 Median = 8.6 $Q_3$ = 23.5 $P_{90}$ = 49.0 $P_{99}$ = 132.7

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 706 |
| Hours of Missing Data: | 38 |
| Hours of Calibration: | 38 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 4 | 4 | 3 | 5 | 7 | 16 | 21 | 26 | 17 | 10 | 14 | A | 3 | 3 | 6 | 4 | 10 | 9 | 7 | 4 | 5 | 4 | 2 | 2 | 8.1 | 25.9 |
| 2-Oct | 2 | 3 | 3 | 2 | 3 | 7 | 11 | 16 | 14 | 5 | A | 2 | 1 | 2 | 2 | 2 | 3 | 4 | 4 | 6 | 8 | 6 | 5 | 3 | 5.1 | 16.5 |
| 3-Oct | 3 | 3 | 3 | 4 | 7 | 8 | 10 | 16 | 20 | A | 12 | 10 | 5 | 5 | 4 | 2 | 2 | 4 | 18 | 16 | 10 | 8 | 7 | 9 | 8.1 | 20.1 |
| 4-Oct | 8 | 17 | 21 | 19 | 28 | 36 | 59 | 124 | A | 63 | 20 | 7 | 4 | 2 | 2 | 2 | 3 | 4 | 8 | 15 | 18 | 16 | 13 | 11 | 21.8 | 124.4 |
| 5-Oct | 14 | 11 | 8 | 5 | 7 | 11 | 10 | A | C | C | C | C | C | C | 3 | 4 | 4 | 5 | 8 | 9 | 10 | 11 | 11 | 10 | -- | 14.2 |
| 6-Oct | 13 | 18 | 18 | 24 | 21 | 30 | A | 34 | 44 | 38 | 32 | 15 | 4 | 4 | 7 | 8 | 7 | 7 | 6 | 5 | 5 | 4 | 3 | 3 | 15.2 | 44.0 |
| 7-Oct | 3 | 3 | 3 | 3 | 3 | A | 4 | 5 | 4 | 5 | 4 | 5 | 6 | 5 | 5 | 5 | 5 | 6 | 5 | 4 | 4 | 4 | 4 | 4 | 4.3 | 5.6 |
| 8-Oct | 4 | 4 | 4 | 3 | A | 4 | 4 | 4 | 3 | 5 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3.4 | 5.0 |
| 9-Oct | 4 | 4 | 3 | A | 5 | 6 | 6 | 8 | 5 | 6 | 5 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 4 | 5 | 5 | 5 | 5 | 4.9 | 7.6 |
| 10-Oct | 5 | 6 | A | 7 | 7 | 9 | 12 | 14 | 12 | 11 | 18 | 13 | 6 | 24 | 5 | 6 | 6 | 8 | 9 | 10 | 12 | 10 | 8 | 12 | 10.0 | 23.8 |
| 11-Oct | 11 | A | 20 | 26 | 34 | 37 | 37 | 40 | 52 | 30 | 22 | 19 | 7 | 6 | 6 | 6 | 6 | 8 | 7 | 6 | 8 | 8 | 15 | 9 | 18.3 | 52.4 |
| 12-Oct | A | 8 | 8 | 7 | 10 | 24 | 23 | 8 | 8 | 5 | 4 | 4 | 6 | 4 | 3 | 2 | 3 | 2 | 4 | 7 | 8 | 10 | 16 | A | 7.9 | 24.0 |
| 13-Oct | 8 | 7 | 4 | 2 | 3 | 8 | 8 | 10 | 12 | 11 | 3 | 2 | 2 | 1 | 1 | 1 | 2 | 7 | 22 | 27 | 9 | 9 | A | 7 | 7.2 | 26.6 |
| 14-Oct | 4 | 5 | 10 | 16 | 19 | 26 | 34 | 39 | 53 | 64 | 29 | 7 | 5 | 6 | 4 | 3 | 3 | 3 | 2 | 3 | 2 | A | 3 | 3 | 14.9 | 64.3 |
| 15-Oct | 3 | 5 | 3 | 3 | 8 | 28 | 66 | 27 | 5 | 4 | 4 | 4 | 2 | 1 | 1 | 2 | 2 | 3 | 8 | 16 | A | 15 | 15 | 6 | 10.1 | 66.4 |
| 16-Oct | 4 | 9 | 8 | 7 | 14 | 31 | 74 | 142 | 149 | 76 | 22 | 21 | 5 | 5 | 5 | 5 | 7 | 9 | 14 | A | 11 | 5 | 5 | 6 | 27.6 | 149.0 |
| 17-Oct | 6 | 5 | 7 | 15 | 28 | 38 | 63 | 133 | 214 | 175 | 37 | 21 | 9 | 8 | 15 | 21 | 23 | 19 | A | 16 | 18 | 13 | 5 | 5 | 38.8 | 213.5 |
| 18-Oct | 5 | 3 | 2 | 1 | 3 | 6 | 5 | 6 | 8 | 5 | 3 | 2 | 2 | 1 | 2 | 2 | 5 | A | 26 | 28 | 40 | 30 | 33 | 39 | 11.2 | 39.5 |
| 19-Oct | 43 | 39 | 31 | 26 | 27 | 47 | 43 | 41 | 72 | 65 | 69 | 32 | 17 | 8 | 7 | 5 | A | 8 | 9 | 9 | 9 | 10 | 18 | 18 | 28.2 | 72.4 |
| 20-Oct | 14 | 17 | 15 | 18 | 8 | 3 | 3 | 4 | 3 | 3 | 2 | 3 | 2 | 2 | 2 | A | 4 | 5 | 5 | 6 | 14 | 14 | 10 | 10 | 7.3 | 17.6 |
| 21-Oct | 6 | 8 | 4 | 4 | 7 | 19 | 45 | 46 | 62 | 25 | 15 | 12 | 2 | 4 | A | 5 | 3 | 14 | 23 | 30 | 25 | 16 | 14 | 17 | 17.6 | 61.6 |
| 22-Oct | 24 | 22 | 25 | 33 | 29 | 53 | 54 | 105 | 142 | 132 | 102 | 65 | 61 | A | 48 | 37 | 19 | 31 | 73 | 104 | 74 | 32 | 28 | 28 | 57.5 | 142.1 |
| 23-Oct | 27 | 35 | 26 | 24 | 40 | 73 | 84 | 107 | 141 | 106 | 62 | 33 | A | 20 | 27 | 15 | 13 | 31 | 40 | 41 | 55 | 57 | 36 | 24 | 48.6 | 141.3 |
| 24-Oct | 21 | 22 | 33 | 35 | 43 | 58 | 78 | 78 | 106 | 80 | 74 | A | 17 | 15 | 25 | 25 | 34 | 42 | 55 | 72 | 71 | 120 | 133 | 67 | 56.7 | 132.7 |
| 25-Oct | 50 | 37 | 46 | 32 | 38 | 65 | 81 | 109 | 102 | 82 | A | 42 | 25 | 15 | 17 | 15 | 8 | 9 | 7 | 6 | 5 | 5 | 4 | 3 | 34.9 | 109.5 |
| 26-Oct | 3 | 2 | 5 | 9 | 17 | 37 | 63 | 69 | 67 | A | 43 | 41 | 46 | 55 | 60 | 53 | 37 | 29 | 29 | 37 | 31 | 7 | 5 | 3 | 32.4 | 69.4 |
| 27-Oct | 2 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | A | 5 | 4 | 3 | 2 | 2 | 2 | 3 | 5 | 20 | 13 | 15 | 15 | 21 | 39 | 56 | 9.6 | 55.5 |
| 28-Oct | 67 | 37 | 15 | 14 | 9 | 7 | 5 | A | 5 | 5 | 6 | 15 | 12 | 11 | 13 | 13 | 15 | 18 | 23 | 13 | 11 | 15 | 9 | 13 | 15.3 | 66.9 |
| 29-Oct | 17 | 21 | 22 | 36 | 40 | 46 | A | 53 | 57 | 54 | 44 | 20 | 10 | 5 | 3 | 5 | 6 | 6 | 17 | 25 | 40 | 47 | 28 | 11 | 26.7 | 57.2 |
| 30-Oct | 18 | 15 | 6 | 8 | 7 | A | 11 | 10 | 14 | 15 | 8 | 5 | 4 | 4 | 4 | 4 | 5 | 6 | 9 | 10 | 13 | 9 | 10 | 8 | 8.7 | 17.5 |
| 31-Oct | 11 | 8 | 7 | 10 | A | 25 | 52 | 67 | 50 | 56 | 37 | 36 | 30 | 22 | 20 | 21 | 21 | 9 | 9 | 10 | 7 | 5 | 5 | 4 | 22.7 | 67.2 |
| | 13.4 | 12.6 | 12.2 | 13.3 | 16.3 | 26.1 | 33.4 | 46.4 | 51.5 | 40.7 | 25.1 | 16.0 | 10.4 | 8.5 | 10.3 | 9.5 | 9.0 | 11.1 | 15.6 | 18.6 | 18.2 | 17.2 | 16.3 | 13.3 | Diurnal Average | |
| | 66.9 | 39.1 | 46.0 | 36.2 | 43.2 | 73.4 | 83.7 | 142.3 | 213.5 | 174.5 | 102.2 | 65.1 | 60.8 | 54.7 | 59.5 | 52.7 | 36.8 | 42.0 | 73.3 | 103.5 | 73.6 | 119.5 | 132.7 | 67.3 | Diurnal Maximum | |

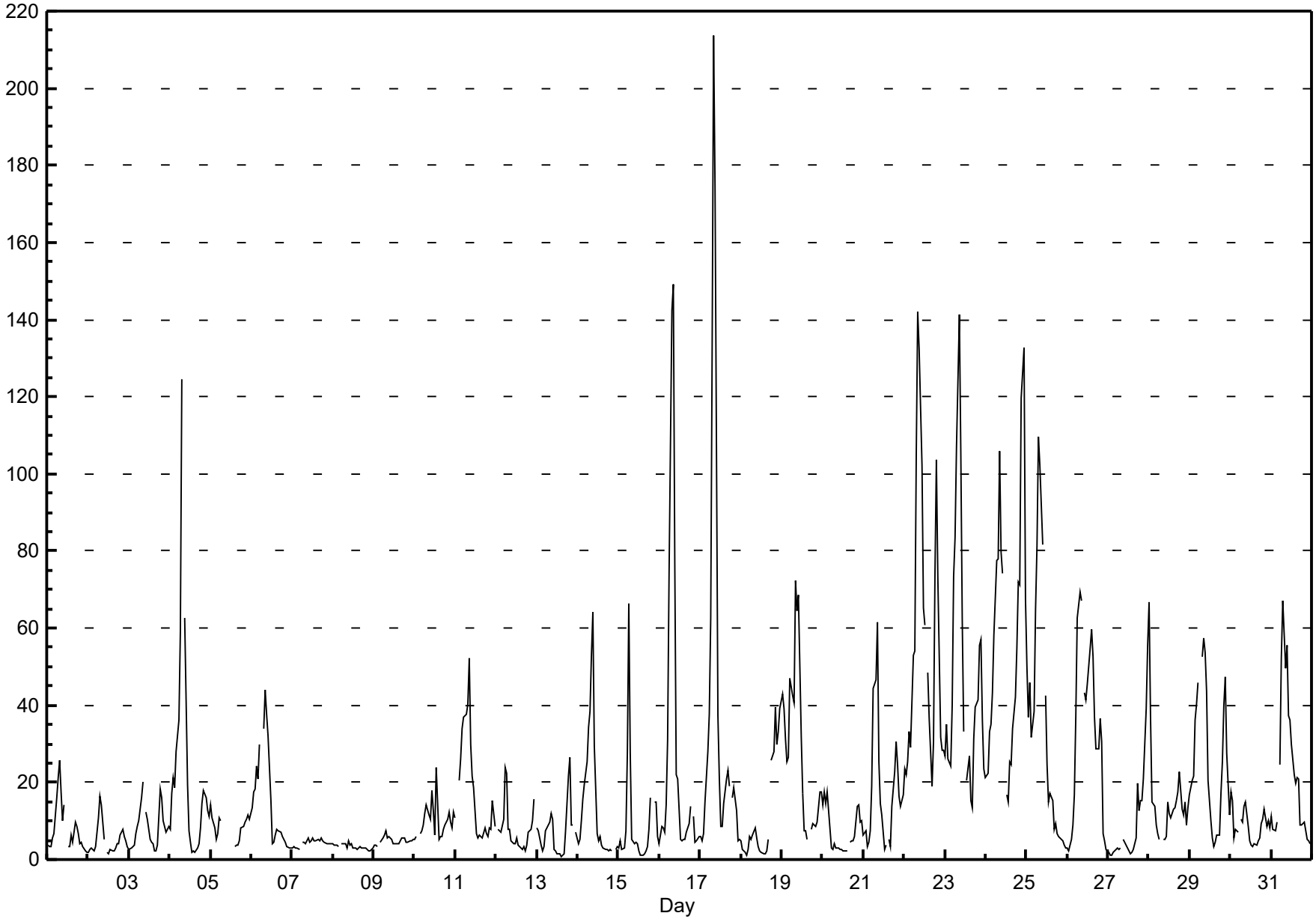
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Averages

**Oxides of Nitrogen ($NO_X$) - ppb**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Oxides of Nitrogen ($NO_X$) - ppb

## Henry Pirker - October 2018

Maximum Value: 362.0 ppb on Oct 17 09:00

Maximum Daily Average: 75.9 ppb on Oct 24

Minimum Value: 2 ppb on Oct 27 02:00

Minimum Daily Average: 7.2 ppb on Oct 8

Maximum Diurnal Average: 74.2 ppb at hour 8

Minimum Diurnal Average: 13.7 ppb at hour 17

Monthly Average: 28.61 ppb

Percentiles: $P_1 = 2.5$ $P_{10} = 5.0$ $Q_1 = 7.5$ Median = 14.0 $Q_3 = 35.4$ $P_{90} = 72.2$ $P_{99} = 164.9$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 706 |
| Hours of Missing Data: | 38 |
| Hours of Calibration: | 38 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 6 | 5 | 6 | 9 | 10 | 27 | 30 | 76 | 30 | 16 | 18 | A | 8 | 6 | 28 | 7 | 15 | 14 | 14 | 8 | 10 | 5 | 4 | 6 | 15.5 | 75.7 |
| 2-Oct | 4 | 5 | 5 | 4 | 8 | 11 | 40 | 22 | 21 | 11 | A | 3 | 2 | 5 | 4 | 4 | 5 | 8 | 6 | 8 | 11 | 9 | 7 | 5 | 9.1 | 39.5 |
| 3-Oct | 4 | 5 | 5 | 6 | 11 | 16 | 13 | 23 | 51 | A | 20 | 21 | 8 | 7 | 6 | 3 | 4 | 5 | 24 | 24 | 13 | 12 | 9 | 14 | 13.3 | 51.1 |
| 4-Oct | 11 | 33 | 25 | 22 | 43 | 47 | 102 | 175 | A | 116 | 25 | 12 | 11 | 4 | 9 | 4 | 6 | 7 | 12 | 28 | 22 | 26 | 19 | 17 | 33.7 | 174.8 |
| 5-Oct | 19 | 14 | 15 | 8 | 9 | 22 | 14 | A | C | C | C | C | C | C | 5 | 13 | 8 | 7 | 12 | 12 | 13 | 35 | 14 | 14 | -- | 35.0 |
| 6-Oct | 22 | 22 | 24 | 38 | 34 | 59 | A | 57 | 58 | 47 | 41 | 24 | 7 | 17 | 11 | 12 | 10 | 9 | 10 | 8 | 11 | 7 | 6 | 5 | 23.4 | 59.2 |
| 7-Oct | 5 | 6 | 7 | 7 | 6 | A | 10 | 14 | 7 | 11 | 9 | 8 | 10 | 8 | 8 | 7 | 8 | 9 | 13 | 7 | 7 | 7 | 9 | 9 | 8.3 | 13.7 |
| 8-Oct | 10 | 7 | 6 | 6 | A | 7 | 11 | 10 | 6 | 29 | 6 | 8 | 5 | 6 | 4 | 5 | 7 | 4 | 5 | 6 | 4 | 4 | 4 | 4 | 7.2 | 28.9 |
| 9-Oct | 6 | 5 | 5 | A | 7 | 9 | 9 | 50 | 8 | 9 | 8 | 6 | 6 | 6 | 7 | 6 | 10 | 20 | 17 | 6 | 6 | 7 | 6 | 9 | 9.9 | 49.5 |
| 10-Oct | 8 | 11 | A | 10 | 14 | 17 | 22 | 20 | 16 | 17 | 23 | 19 | 8 | 100 | 7 | 9 | 8 | 21 | 12 | 14 | 16 | 13 | 10 | 21 | 18.0 | 100.1 |
| 11-Oct | 13 | A | 28 | 38 | 45 | 41 | 45 | 49 | 72 | 49 | 26 | 23 | 14 | 9 | 9 | 10 | 8 | 11 | 9 | 11 | 12 | 13 | 19 | 12 | 24.7 | 72.4 |
| 12-Oct | A | 11 | 9 | 9 | 23 | 34 | 42 | 20 | 15 | 10 | 7 | 7 | 15 | 6 | 7 | 4 | 7 | 3 | 7 | 11 | 11 | 20 | 21 | A | 13.6 | 42.2 |
| 13-Oct | 12 | 10 | 9 | 3 | 5 | 14 | 16 | 19 | 21 | 20 | 6 | 3 | 2 | 4 | 2 | 3 | 3 | 20 | 34 | 60 | 12 | 12 | A | 8 | 13.0 | 59.8 |
| 14-Oct | 7 | 10 | 17 | 20 | 23 | 37 | 46 | 46 | 67 | 92 | 45 | 12 | 7 | 12 | 7 | 4 | 4 | 5 | 5 | 5 | 4 | A | 6 | 7 | 21.3 | 92.2 |
| 15-Oct | 6 | 7 | 7 | 7 | 15 | 87 | 91 | 116 | 9 | 6 | 7 | 7 | 5 | 2 | 3 | 3 | 4 | 7 | 27 | 31 | A | 22 | 25 | 12 | 22.0 | 116.0 |
| 16-Oct | 6 | 16 | 11 | 9 | 41 | 50 | 131 | 258 | 199 | 118 | 30 | 35 | 9 | 8 | 10 | 9 | 10 | 14 | 25 | A | 17 | 8 | 11 | 35 | 46.1 | 257.9 |
| 17-Oct | 8 | 11 | 8 | 23 | 43 | 55 | 98 | 180 | 362 | 236 | 62 | 37 | 26 | 14 | 25 | 29 | 31 | 24 | A | 21 | 25 | 22 | 9 | 7 | 59.0 | 362.0 |
| 18-Oct | 8 | 4 | 5 | 2 | 5 | 11 | 11 | 12 | 14 | 10 | 5 | 5 | 5 | 3 | 5 | 4 | 9 | A | 31 | 42 | 52 | 46 | 47 | 50 | 16.8 | 52.3 |
| 19-Oct | 50 | 49 | 44 | 28 | 41 | 68 | 64 | 49 | 112 | 74 | 95 | 41 | 25 | 13 | 11 | 12 | A | 11 | 15 | 13 | 15 | 11 | 23 | 21 | 38.5 | 111.9 |
| 20-Oct | 20 | 28 | 24 | 22 | 20 | 5 | 4 | 8 | 6 | 5 | 4 | 5 | 4 | 5 | 5 | A | 6 | 7 | 8 | 10 | 22 | 20 | 17 | 15 | 11.6 | 27.5 |
| 21-Oct | 12 | 13 | 7 | 8 | 12 | 34 | 67 | 64 | 83 | 86 | 25 | 15 | 5 | 6 | A | 11 | 7 | 25 | 27 | 56 | 38 | 33 | 19 | 32 | 29.8 | 86.3 |
| 22-Oct | 31 | 26 | 63 | 52 | 44 | 59 | 67 | 150 | 165 | 163 | 139 | 73 | 69 | A | 55 | 54 | 24 | 55 | 108 | 126 | 94 | 40 | 40 | 32 | 75.2 | 165.0 |
| 23-Oct | 34 | 45 | 35 | 27 | 53 | 105 | 107 | 136 | 176 | 139 | 81 | 41 | A | 23 | 34 | 25 | 20 | 46 | 53 | 59 | 92 | 89 | 48 | 31 | 65.1 | 175.5 |
| 24-Oct | 23 | 28 | 46 | 53 | 60 | 76 | 104 | 104 | 121 | 128 | 87 | A | 22 | 19 | 35 | 36 | 49 | 51 | 76 | 88 | 121 | 152 | 161 | 109 | 75.9 | 160.5 |
| 25-Oct | 64 | 46 | 52 | 42 | 49 | 81 | 127 | 161 | 127 | 96 | A | 52 | 30 | 21 | 25 | 37 | 14 | 17 | 10 | 9 | 10 | 10 | 5 | 5 | 47.3 | 161.3 |
| 26-Oct | 6 | 3 | 9 | 17 | 28 | 79 | 89 | 95 | 87 | A | 53 | 48 | 83 | 79 | 73 | 61 | 49 | 39 | 34 | 46 | 37 | 12 | 7 | 4 | 45.1 | 95.3 |
| 27-Oct | 4 | 2 | 5 | 2 | 3 | 4 | 4 | 5 | A | 10 | 6 | 5 | 5 | 4 | 4 | 4 | 9 | 34 | 26 | 21 | 35 | 28 | 60 | 82 | 15.8 | 81.8 |
| 28-Oct | 81 | 69 | 22 | 17 | 12 | 9 | 7 | A | 7 | 7 | 12 | 19 | 19 | 15 | 15 | 16 | 20 | 22 | 30 | 19 | 17 | 22 | 10 | 23 | 21.4 | 80.9 |
| 29-Oct | 23 | 26 | 38 | 51 | 58 | 73 | A | 83 | 76 | 72 | 58 | 53 | 14 | 9 | 6 | 8 | 9 | 13 | 22 | 34 | 55 | 65 | 42 | 15 | 39.2 | 82.9 |
| 30-Oct | 21 | 20 | 19 | 12 | 10 | A | 22 | 50 | 20 | 21 | 12 | 8 | 7 | 6 | 8 | 7 | 7 | 8 | 13 | 15 | 19 | 11 | 19 | 14 | 15.2 | 49.5 |
| 31-Oct | 17 | 9 | 10 | 14 | A | 40 | 75 | 101 | 82 | 69 | 61 | 41 | 37 | 40 | 38 | 34 | 37 | 16 | 12 | 14 | 10 | 8 | 6 | 5 | 33.8 | 101.0 |
| | 18.0 | 18.2 | 18.9 | 18.9 | 25.3 | 40.6 | 50.6 | 74.2 | 72.1 | 59.5 | 34.6 | 22.5 | 16.0 | 15.7 | 15.6 | 14.7 | 13.7 | 17.7 | 23.2 | 27.1 | 27.1 | 25.6 | 22.8 | 20.8 | Diurnal Average | |
| | 80.9 | 68.7 | 62.6 | 52.8 | 59.8 | 104.9 | 131.2 | 257.9 | 362.0 | 235.5 | 138.5 | 72.9 | 82.8 | 100.1 | 72.6 | 61.0 | 49.1 | 55.2 | 108.4 | 125.5 | 120.5 | 151.9 | 160.5 | 109.4 | Diurnal Maximum | |

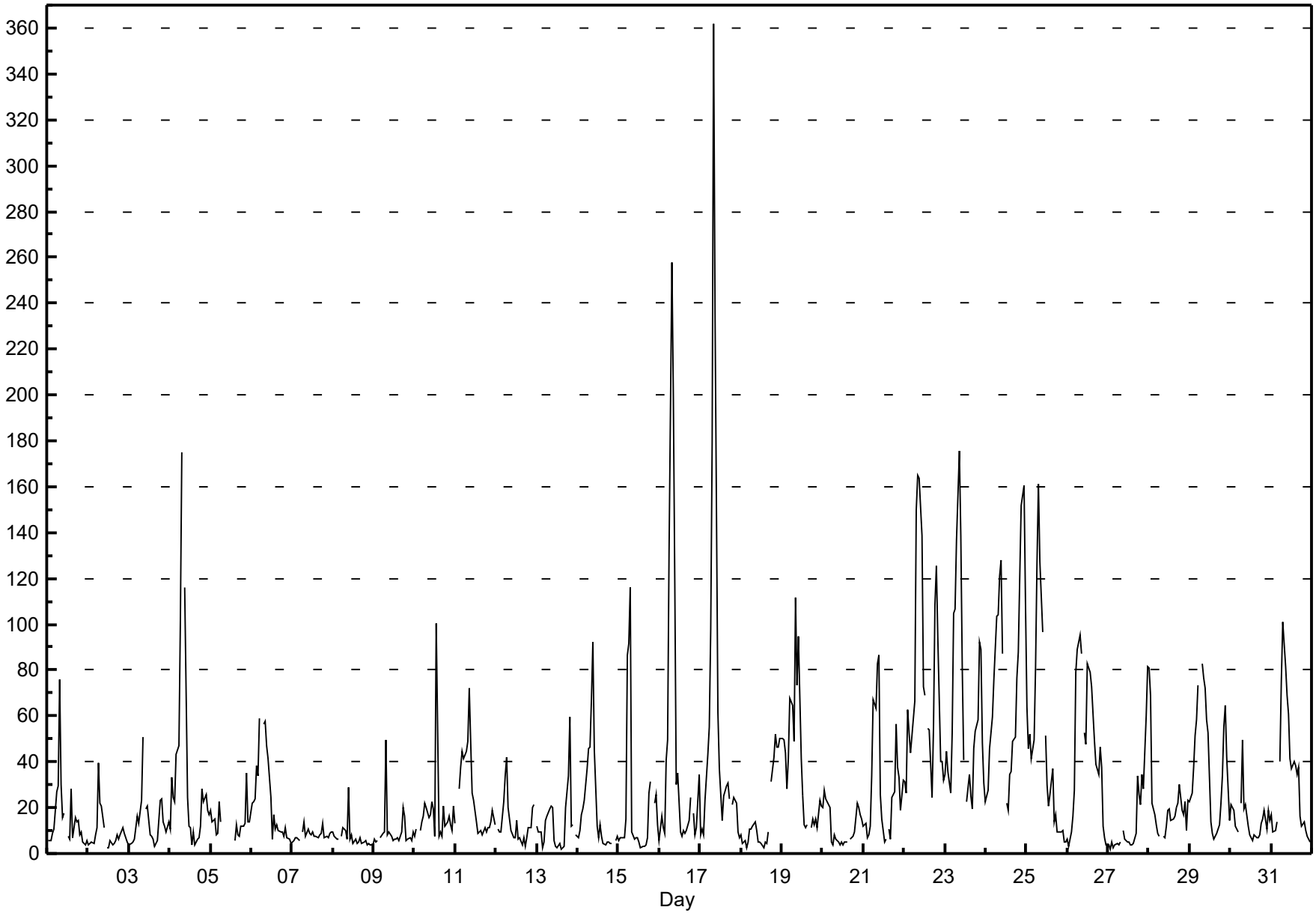
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

**Oxides of Nitrogen ($NO_X$) - ppb**

**Henry Pirker - October 2018**

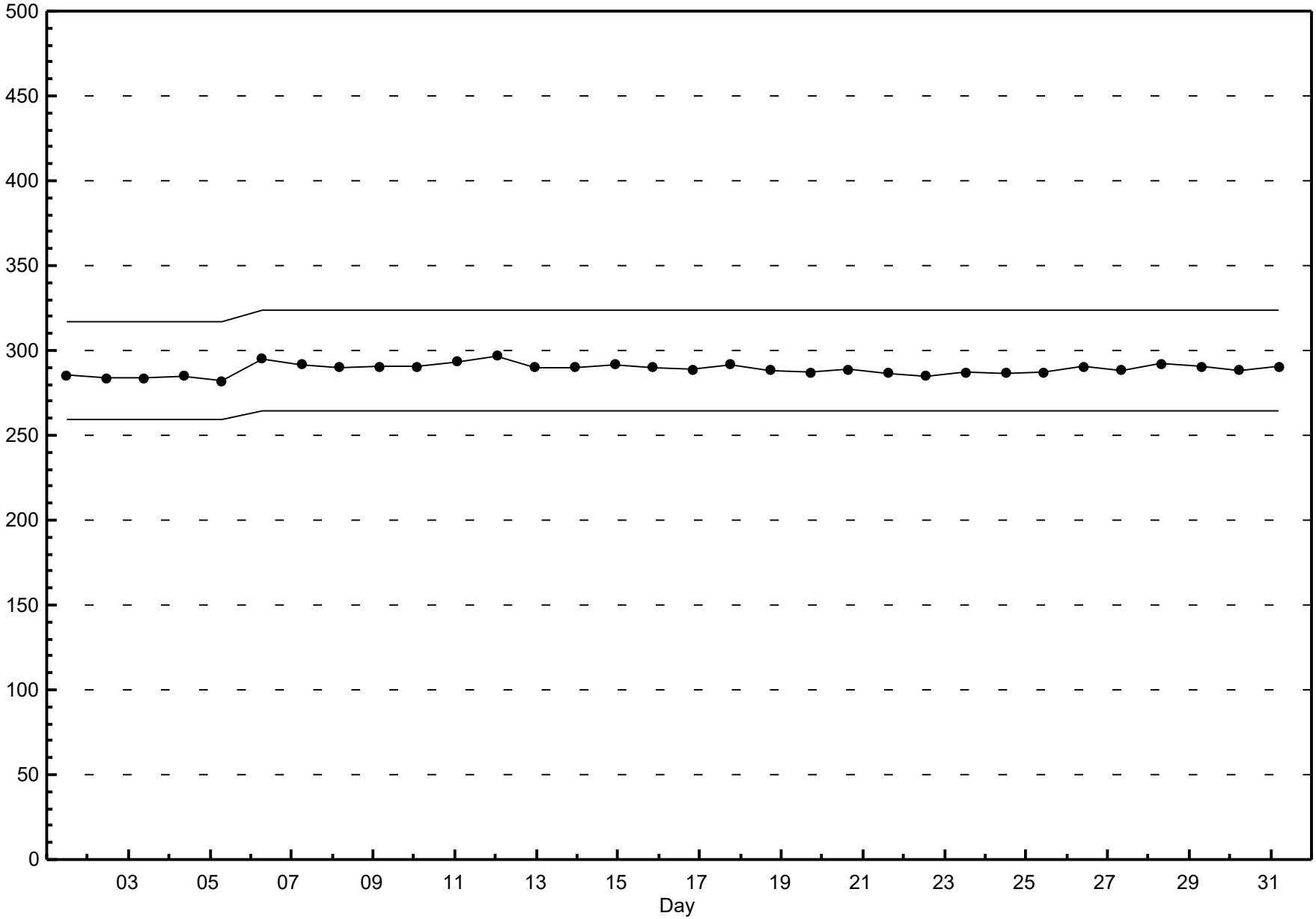


Peace Airshed Zone Association

# Span Responses

**Oxides of Nitrogen ($NO_X$)**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Ozone ($O_3$) - ppb

## Henry Pirker - October 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0

Maximum Value: 49.1 ppb on Oct 16 14:00

Maximum Daily Average: 28.2 ppb on Oct 18

Minimum Value: 0 ppb on Oct 19 06:00

Minimum Daily Average: 4.3 ppb on Oct 22

Maximum Diurnal Average: 28.2 ppb at hour 14

Minimum Diurnal Average: 9.0 ppb at hour 8

Monthly Average: 17.53 ppb

Percentiles: $P_1$ = 0.4 $P_{10}$ = 1.1 $Q_1$ = 7.2 Median = 17.2 $Q_3$ = 26.8 $P_{90}$ = 34.2 $P_{99}$ = 41.5

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 708 |
| Hours of Missing Data: | 36 |
| Hours of Calibration: | 36 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 25 | 25 | 25 | 23 | 22 | 11 | 4 | 5 | 10 | 18 | 17 | A | 31 | 31 | 28 | 29 | 25 | 24 | 24 | 26 | 24 | 25 | 27 | 26 | 22.0 | 31.0 |
| 2-Oct | 26 | 26 | 26 | 27 | 28 | 25 | 22 | 17 | 19 | 27 | A | 33 | 33 | 32 | 33 | 33 | 33 | 31 | 28 | 25 | 23 | 23 | 22 | 23 | 26.8 | 33.2 |
| 3-Oct | 23 | 22 | 22 | 22 | 19 | 17 | 15 | 12 | 12 | A | 20 | 23 | 29 | 32 | 33 | 35 | 37 | 35 | 21 | 22 | 26 | 26 | 28 | 25 | 24.2 | 36.8 |
| 4-Oct | 24 | 5 | 2 | 2 | 2 | 1 | 1 | 2 | A | 6 | 13 | 25 | 31 | 35 | 35 | 35 | 34 | 32 | 26 | 17 | 9 | 9 | 11 | 13 | 16.1 | 35.3 |
| 5-Oct | 9 | 11 | 13 | 18 | 17 | 15 | 16 | A | 19 | 22 | 22 | C | C | C | C | 29 | 28 | 26 | 22 | 20 | 16 | 15 | 12 | 13 | 18.1 | 28.9 |
| 6-Oct | 9 | 5 | 4 | 1 | 3 | 1 | A | 1 | 2 | 4 | 8 | 19 | 29 | 31 | 28 | 19 | 19 | 17 | 17 | 16 | 19 | 17 | 18 | 17 | 13.3 | 30.7 |
| 7-Oct | 15 | 13 | 13 | 12 | 12 | A | 11 | 10 | 10 | 10 | 12 | 12 | 12 | 13 | 13 | 13 | 13 | 13 | 14 | 15 | 16 | 16 | 16 | 15 | 13.0 | 16.1 |
| 8-Oct | 15 | 15 | 15 | 15 | A | 15 | 15 | 14 | 14 | 13 | 13 | 15 | 17 | 21 | 24 | 21 | 21 | 22 | 21 | 20 | 20 | 21 | 21 | 19 | 17.7 | 24.1 |
| 9-Oct | 18 | 18 | 17 | A | 17 | 16 | 16 | 16 | 17 | 17 | 18 | 19 | 20 | 20 | 20 | 21 | 19 | 18 | 17 | 19 | 19 | 18 | 18 | 17 | 18.0 | 20.6 |
| 10-Oct | 17 | 16 | A | 14 | 14 | 12 | 10 | 8 | 10 | 11 | 7 | 9 | 14 | 15 | 15 | 14 | 13 | 12 | 10 | 9 | 7 | 9 | 13 | 8 | 11.6 | 16.8 |
| 11-Oct | 8 | A | 2 | 1 | 1 | 0 | 0 | 1 | 2 | 5 | 9 | 13 | 26 | 28 | 28 | 29 | 29 | 25 | 24 | 24 | 20 | 19 | 12 | 15 | 14.0 | 29.3 |
| 12-Oct | A | 13 | 12 | 13 | 9 | 2 | 5 | 15 | 14 | 15 | 20 | 20 | 19 | 20 | 22 | 23 | 21 | 22 | 18 | 13 | 12 | 10 | 4 | A | 14.7 | 22.6 |
| 13-Oct | 9 | 7 | 14 | 20 | 18 | 12 | 11 | 9 | 10 | 12 | 19 | 21 | 24 | 27 | 29 | 30 | 30 | 22 | 7 | 7 | 14 | 13 | A | 17 | 16.6 | 30.2 |
| 14-Oct | 21 | 18 | 13 | 9 | 4 | 1 | 0 | 0 | 2 | 4 | 11 | 32 | 36 | 37 | 40 | 40 | 40 | 40 | 40 | 37 | 35 | A | 27 | 26 | 22.3 | 40.3 |
| 15-Oct | 27 | 25 | 27 | 25 | 19 | 6 | 1 | 17 | 35 | 39 | 40 | 40 | 41 | 41 | 41 | 40 | 38 | 35 | 27 | 18 | A | 17 | 17 | 25 | 28.0 | 41.5 |
| 16-Oct | 27 | 23 | 26 | 27 | 23 | 10 | 1 | 1 | 2 | 8 | 27 | 29 | 47 | 49 | 47 | 40 | 34 | 30 | 24 | A | 28 | 36 | 35 | 35 | 26.5 | 49.1 |
| 17-Oct | 37 | 41 | 38 | 28 | 12 | 7 | 1 | 1 | 2 | 3 | 20 | 30 | 44 | 43 | 36 | 30 | 26 | 29 | A | 30 | 24 | 29 | 34 | 30 | 25.0 | 44.5 |
| 18-Oct | 29 | 36 | 39 | 45 | 43 | 36 | 35 | 35 | 34 | 34 | 36 | 38 | 38 | 38 | 38 | 37 | 32 | A | 10 | 5 | 2 | 5 | 3 | 1 | 28.2 | 45.4 |
| 19-Oct | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 2 | 5 | 12 | 23 | 31 | 32 | 35 | A | 31 | 27 | 28 | 28 | 26 | 11 | 4 | 13.1 | 35.2 |
| 20-Oct | 5 | 3 | 4 | 2 | 23 | 36 | 36 | 34 | 37 | 38 | 38 | 38 | 39 | 38 | 37 | A | 36 | 34 | 34 | 31 | 22 | 21 | 25 | 24 | 27.7 | 38.9 |
| 21-Oct | 27 | 25 | 28 | 27 | 22 | 10 | 1 | 0 | 2 | 13 | 19 | 23 | 36 | 38 | A | 37 | 38 | 27 | 19 | 11 | 13 | 20 | 21 | 13 | 20.4 | 38.1 |
| 22-Oct | 1 | 3 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 5 | 9 | 11 | A | 14 | 16 | 19 | 8 | 1 | 2 | 1 | 0 | 1 | 1 | 4.3 | 18.9 |
| 23-Oct | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 7 | 11 | A | 22 | 20 | 26 | 24 | 9 | 3 | 2 | 1 | 1 | 0 | 1 | 5.9 | 26.3 |
| 24-Oct | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 4 | A | 19 | 22 | 15 | 16 | 10 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 4.5 | 22.1 |
| 25-Oct | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | A | 10 | 16 | 25 | 23 | 22 | 30 | 26 | 24 | 26 | 32 | 31 | 32 | 32 | 14.6 | 31.9 |
| 26-Oct | 31 | 31 | 27 | 22 | 11 | 5 | 1 | 1 | 1 | A | 4 | 6 | 6 | 5 | 3 | 4 | 6 | 5 | 2 | 1 | 4 | 24 | 28 | 31 | 11.3 | 31.4 |
| 27-Oct | 33 | 34 | 34 | 34 | 33 | 33 | 32 | 32 | A | 31 | 32 | 34 | 34 | 35 | 34 | 33 | 29 | 15 | 21 | 16 | 15 | 9 | 1 | 1 | 26.4 | 34.7 |
| 28-Oct | 1 | 5 | 14 | 11 | 17 | 22 | 22 | A | 23 | 24 | 23 | 14 | 14 | 14 | 13 | 11 | 9 | 6 | 3 | 8 | 11 | 6 | 10 | 9 | 12.6 | 23.5 |
| 29-Oct | 4 | 2 | 2 | 1 | 0 | 1 | A | 1 | 2 | 3 | 6 | 13 | 21 | 28 | 33 | 32 | 30 | 30 | 17 | 8 | 1 | 1 | 6 | 16 | 11.1 | 32.9 |
| 30-Oct | 9 | 10 | 24 | 20 | 19 | A | 19 | 21 | 18 | 18 | 26 | 30 | 33 | 32 | 32 | 34 | 33 | 31 | 25 | 24 | 20 | 24 | 22 | 24 | 23.8 | 34.2 |
| 31-Oct | 20 | 22 | 22 | 18 | A | 5 | 1 | 1 | 1 | 2 | 6 | 6 | 9 | 13 | 14 | 12 | 12 | 19 | 16 | 14 | 13 | 12 | 13 | 14 | 11.6 | 22.1 |
| | 15.7 | 15.2 | 15.5 | 14.7 | 13.4 | 10.4 | 9.7 | 9.0 | 10.5 | 13.5 | 16.8 | 20.9 | 25.9 | 28.2 | 26.9 | 26.5 | 25.7 | 22.6 | 18.2 | 16.5 | 15.8 | 16.2 | 16.3 | 16.6 | Diurnal Average | |
| | 37.0 | 41.4 | 38.7 | 45.4 | 43.1 | 36.3 | 35.9 | 35.0 | 37.3 | 39.5 | 39.8 | 40.2 | 47.4 | 49.1 | 47.2 | 40.2 | 40.3 | 39.6 | 39.8 | 37.5 | 35.1 | 36.3 | 34.6 | 35.2 | Diurnal Maximum | |

C - Calibration A - Automated Daily Zero Span

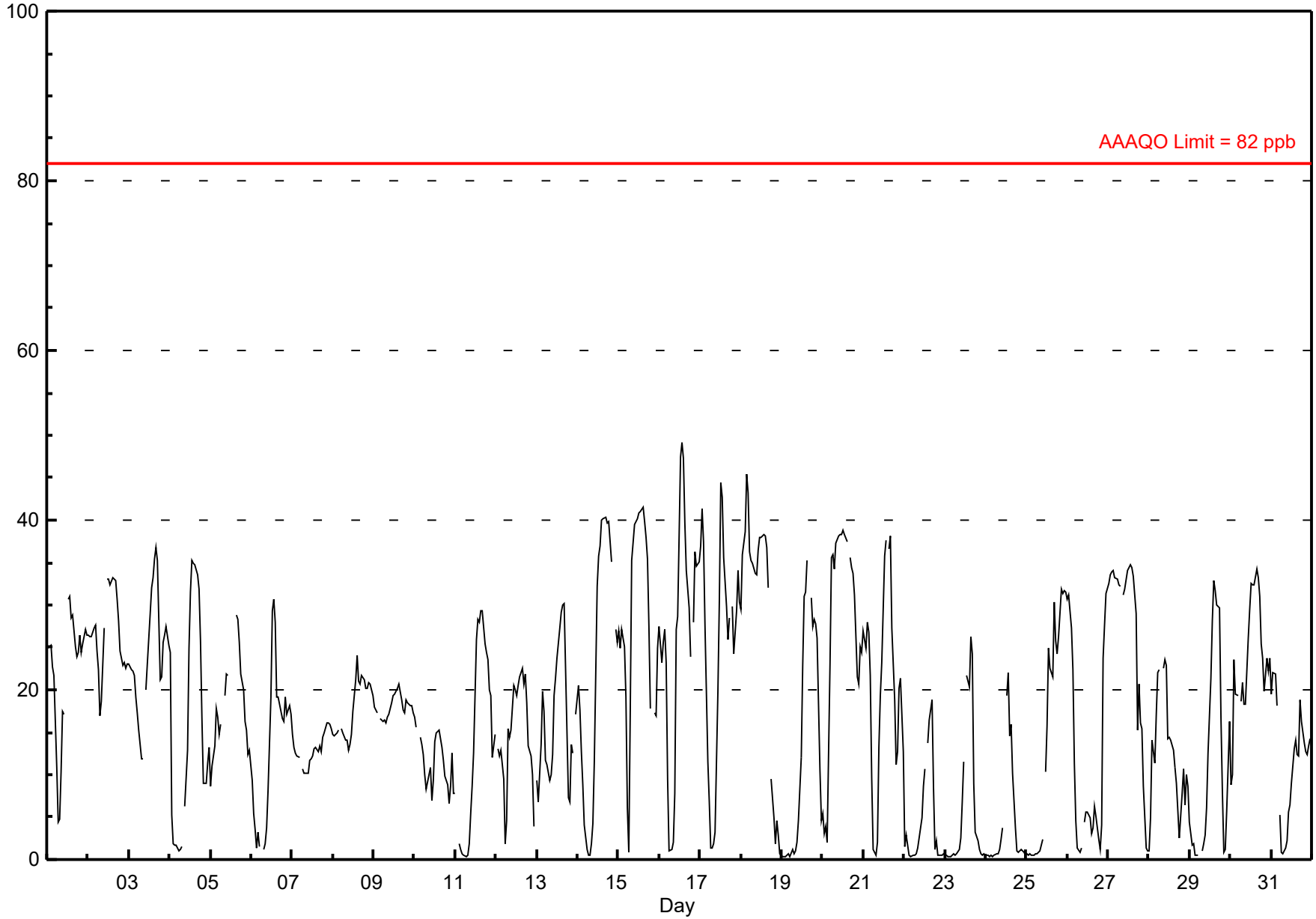
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na

Peace Airshed Zone Association

# Hourly Averages

**Ozone ($O_3$) - ppb**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Ozone ($O_3$) - ppb

## Henry Pirker - October 2018

Maximum Value: 52.2 ppb on Oct 16 13:00

Maximum Daily Average: 32.0 ppb on Oct 15

Minimum Value: 1 ppb on Oct 19 06:00

Minimum Daily Average: 6.0 ppb on Oct 24

Maximum Diurnal Average: 30.8 ppb at hour 14

Minimum Diurnal Average: 11.1 ppb at hour 8

Monthly Average: 20.46 ppb

Percentiles: $P_1$ = 0.7 $P_{10}$ = 2.3 $Q_1$ = 11.7 Median = 20.3 $Q_3$ = 29.9 $P_{90}$ = 36.4 $P_{99}$ = 44.4

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 708 |
| Hours of Missing Data: | 36 |
| Hours of Calibration: | 36 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 26 | 27 | 27 | 25 | 23 | 18 | 9 | 8 | 15 | 20 | 20 | A | 33 | 33 | 31 | 31 | 28 | 27 | 28 | 28 | 27 | 27 | 29 | 28 | 24.7 | 33.1 |
| 2-Oct | 28 | 27 | 29 | 29 | 29 | 28 | 27 | 25 | 24 | 32 | A | 34 | 34 | 34 | 34 | 34 | 35 | 33 | 30 | 27 | 26 | 25 | 24 | 25 | 29.2 | 35.1 |
| 3-Oct | 24 | 24 | 24 | 23 | 22 | 20 | 17 | 15 | 16 | A | 23 | 27 | 32 | 34 | 36 | 37 | 38 | 37 | 32 | 27 | 28 | 30 | 31 | 27 | 27.0 | 37.8 |
| 4-Oct | 27 | 13 | 3 | 3 | 4 | 2 | 2 | 3 | A | 11 | 22 | 29 | 36 | 36 | 36 | 36 | 36 | 35 | 30 | 23 | 12 | 13 | 18 | 19 | 19.6 | 36.4 |
| 5-Oct | 12 | 14 | 21 | 20 | 18 | 17 | 18 | A | 21 | 23 | 23 | C | C | C | C | 30 | 30 | 27 | 25 | 23 | 18 | 17 | 15 | 15 | 20.3 | 30.0 |
| 6-Oct | 13 | 11 | 9 | 3 | 11 | 3 | A | 2 | 3 | 5 | 17 | 27 | 31 | 33 | 30 | 26 | 21 | 19 | 18 | 19 | 21 | 19 | 20 | 19 | 16.5 | 33.4 |
| 7-Oct | 16 | 14 | 13 | 13 | 13 | A | 12 | 11 | 11 | 11 | 13 | 13 | 13 | 14 | 14 | 14 | 14 | 15 | 16 | 17 | 17 | 17 | 16 | 16 | 14.0 | 16.8 |
| 8-Oct | 15 | 15 | 16 | 16 | A | 16 | 16 | 15 | 15 | 14 | 15 | 16 | 19 | 25 | 25 | 24 | 23 | 23 | 23 | 21 | 21 | 22 | 22 | 20 | 19.1 | 25.3 |
| 9-Oct | 19 | 19 | 18 | A | 17 | 18 | 18 | 18 | 18 | 19 | 20 | 20 | 20 | 21 | 21 | 22 | 21 | 20 | 20 | 20 | 20 | 19 | 19 | 18 | 19.3 | 21.9 |
| 10-Oct | 18 | 17 | A | 16 | 15 | 14 | 13 | 11 | 13 | 13 | 11 | 14 | 16 | 17 | 16 | 16 | 15 | 15 | 12 | 12 | 9 | 15 | 18 | 11 | 14.1 | 17.8 |
| 11-Oct | 9 | A | 3 | 2 | 1 | 1 | 1 | 1 | 3 | 7 | 10 | 18 | 29 | 31 | 30 | 32 | 32 | 29 | 27 | 27 | 24 | 22 | 17 | 20 | 16.4 | 32.3 |
| 12-Oct | A | 18 | 13 | 14 | 12 | 5 | 13 | 18 | 17 | 21 | 23 | 22 | 22 | 22 | 23 | 24 | 22 | 23 | 21 | 16 | 15 | 15 | 6 | A | 17.5 | 23.9 |
| 13-Oct | 12 | 8 | 20 | 21 | 20 | 15 | 15 | 13 | 13 | 17 | 22 | 23 | 26 | 29 | 30 | 31 | 32 | 30 | 13 | 16 | 16 | 15 | A | 19 | 19.8 | 31.7 |
| 14-Oct | 22 | 22 | 20 | 13 | 8 | 3 | 1 | 1 | 3 | 7 | 24 | 36 | 37 | 42 | 42 | 41 | 41 | 40 | 41 | 39 | 37 | A | 29 | 27 | 25.2 | 42.1 |
| 15-Oct | 30 | 30 | 29 | 27 | 24 | 13 | 2 | 31 | 38 | 41 | 42 | 43 | 42 | 42 | 42 | 42 | 39 | 38 | 32 | 29 | A | 22 | 27 | 29 | 32.0 | 42.9 |
| 16-Oct | 29 | 28 | 29 | 30 | 31 | 19 | 4 | 2 | 3 | 23 | 31 | 40 | 52 | 51 | 50 | 44 | 36 | 34 | 32 | A | 39 | 38 | 39 | 37 | 31.4 | 52.2 |
| 17-Oct | 42 | 44 | 42 | 37 | 20 | 18 | 3 | 2 | 3 | 9 | 23 | 36 | 47 | 50 | 40 | 36 | 31 | 36 | A | 35 | 28 | 40 | 38 | 32 | 30.2 | 49.5 |
| 18-Oct | 32 | 38 | 42 | 47 | 45 | 40 | 39 | 38 | 36 | 36 | 39 | 39 | 39 | 39 | 39 | 39 | 36 | A | 15 | 10 | 7 | 9 | 12 | 1 | 31.2 | 47.0 |
| 19-Oct | 1 | 1 | 3 | 2 | 3 | 1 | 3 | 2 | 2 | 3 | 9 | 19 | 27 | 34 | 34 | 37 | A | 34 | 30 | 31 | 29 | 28 | 26 | 7 | 15.9 | 37.0 |
| 20-Oct | 8 | 9 | 7 | 4 | 36 | 37 | 37 | 36 | 38 | 39 | 39 | 39 | 40 | 40 | 39 | A | 37 | 36 | 36 | 34 | 28 | 26 | 32 | 29 | 30.7 | 40.0 |
| 21-Oct | 30 | 29 | 30 | 31 | 28 | 19 | 7 | 1 | 7 | 16 | 22 | 32 | 38 | 39 | A | 39 | 41 | 36 | 24 | 18 | 18 | 28 | 26 | 24 | 25.4 | 40.7 |
| 22-Oct | 3 | 6 | 6 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 7 | 9 | 12 | A | 16 | 24 | 24 | 15 | 2 | 20 | 1 | 1 | 1 | 2 | 7.0 | 24.5 |
| 23-Oct | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 2 | 2 | 4 | 13 | 13 | A | 24 | 24 | 30 | 29 | 18 | 5 | 4 | 3 | 3 | 1 | 2 | 8.1 | 29.9 |
| 24-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 6 | A | 23 | 25 | 19 | 19 | 14 | 8 | 4 | 1 | 2 | 2 | 1 | 1 | 6.0 | 24.9 |
| 25-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 5 | A | 13 | 20 | 28 | 28 | 33 | 36 | 30 | 27 | 35 | 35 | 34 | 33 | 33 | 17.4 | 36.2 |
| 26-Oct | 32 | 33 | 31 | 28 | 17 | 12 | 2 | 1 | 2 | A | 7 | 8 | 8 | 9 | 8 | 6 | 8 | 8 | 5 | 2 | 19 | 27 | 31 | 32 | 14.6 | 32.7 |
| 27-Oct | 34 | 35 | 35 | 35 | 34 | 34 | 33 | 33 | A | 32 | 34 | 36 | 35 | 36 | 35 | 35 | 33 | 27 | 26 | 26 | 21 | 15 | 6 | 2 | 29.2 | 35.6 |
| 28-Oct | 2 | 12 | 17 | 14 | 21 | 25 | 24 | A | 23 | 26 | 25 | 17 | 18 | 16 | 15 | 12 | 12 | 9 | 5 | 12 | 13 | 9 | 11 | 12 | 15.2 | 25.8 |
| 29-Oct | 8 | 5 | 6 | 1 | 1 | 1 | A | 4 | 3 | 5 | 8 | 19 | 28 | 32 | 35 | 35 | 33 | 33 | 29 | 14 | 3 | 4 | 16 | 19 | 14.8 | 35.2 |
| 30-Oct | 14 | 17 | 29 | 27 | 21 | A | 22 | 23 | 22 | 23 | 28 | 32 | 34 | 34 | 35 | 36 | 36 | 34 | 29 | 28 | 24 | 27 | 27 | 26 | 27.2 | 35.8 |
| 31-Oct | 24 | 24 | 25 | 21 | A | 10 | 4 | 2 | 3 | 3 | 10 | 8 | 14 | 26 | 21 | 20 | 19 | 21 | 19 | 17 | 14 | 14 | 15 | 17 | 15.3 | 25.7 |
| | 17.8 | 18.0 | 18.3 | 16.8 | 16.5 | 13.5 | 12.0 | 11.1 | 12.4 | 16.3 | 20.2 | 24.4 | 28.5 | 30.8 | 29.3 | 29.6 | 28.5 | 26.3 | 21.9 | 21.0 | 19.3 | 19.4 | 20.2 | 18.9 | Diurnal Average | |
| | 42.5 | 43.7 | 42.4 | 47.0 | 45.4 | 39.9 | 38.8 | 37.5 | 38.5 | 41.1 | 41.8 | 42.9 | 52.2 | 51.5 | 49.9 | 44.4 | 41.4 | 40.5 | 41.1 | 39.3 | 38.6 | 40.2 | 38.7 | 37.5 | Diurnal Maximum | |

C - Calibration

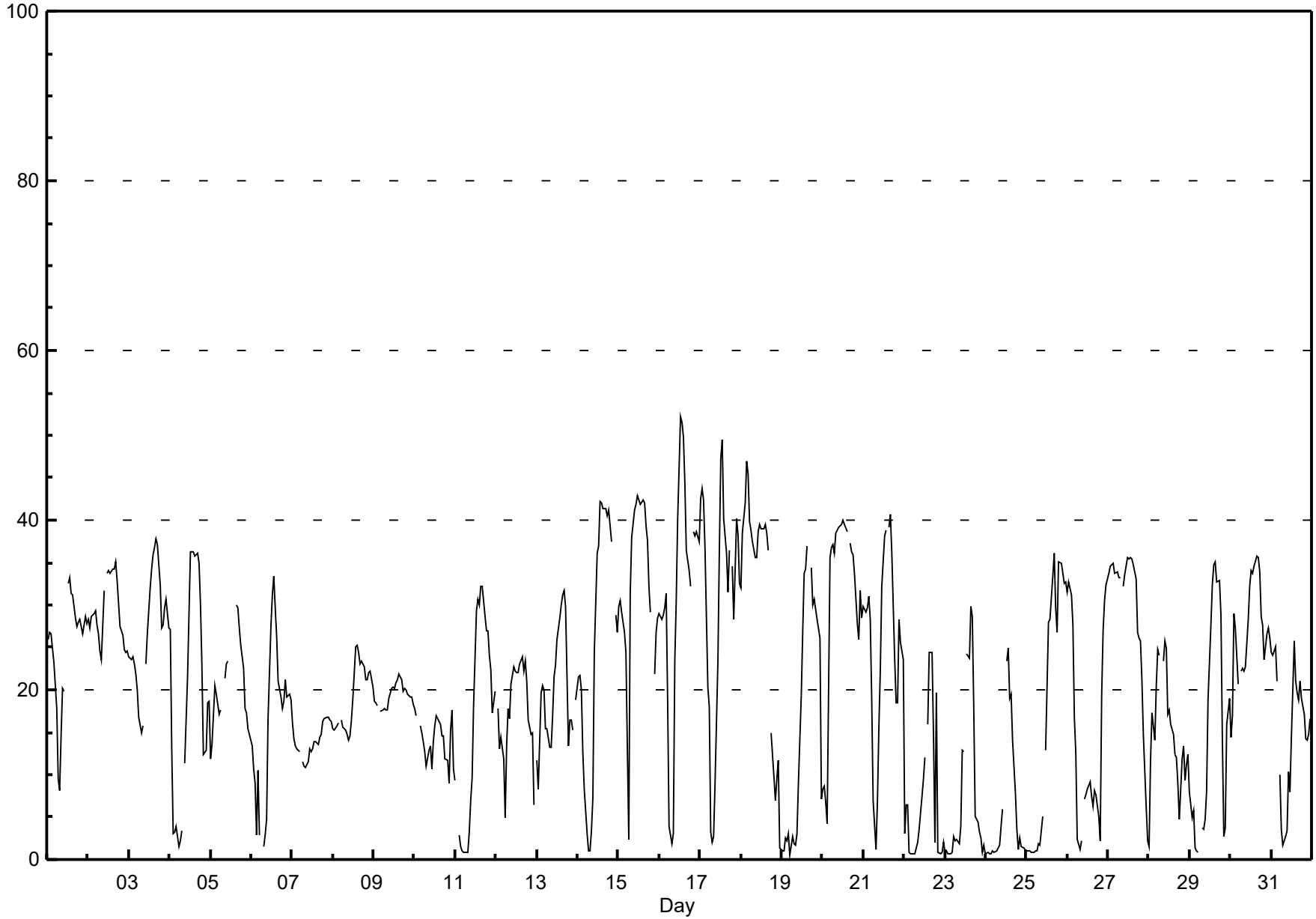
A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

**Ozone ($O_3$) - ppb**

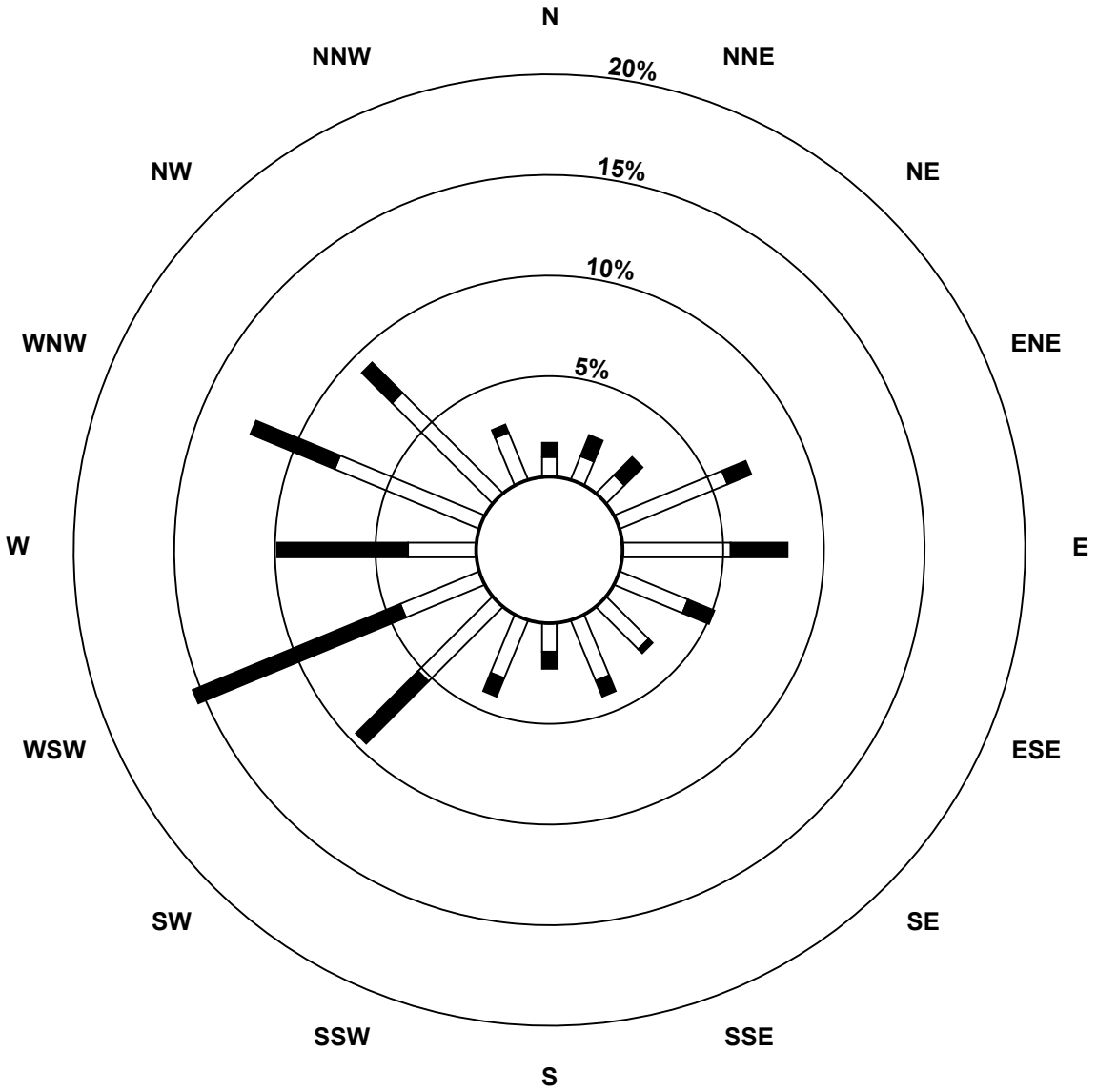
**Henry Pirker - October 2018**



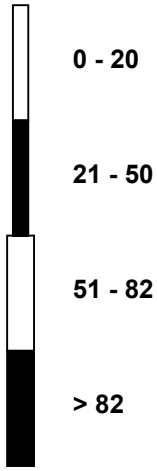
# Pollutant Rose

**Ozone ($O_3$) - ppb**

**Henry Pirker - October 2018**




**Pollutant Classes (ppb)**



Peace Airshed Zone Association

# Eight Hour Running Averages

## Ozone ($O_3$) - ppb

## Henry Pirker - October 2018

Maximum Value: 40.1 ppb on Oct 15 17:00

Minimum Value: 0.5 ppb on Oct 24 06:00

Percentiles: $P_1$ = 0.5 $P_{10}$ = 3.5 $Q_1$ = 10.7 Median = 17.0 $Q_3$ = 25.2 $P_{90}$ = 31.5 $P_{99}$ = 38.1

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 736 |
| Hours of Missing Data: | 8 |
| Hours of Calibration: | 8 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| 1-Oct | 26 | 25 | 25 | 25 | 25 | 23 | 20 | 17 | 16 | 15 | 14 | 12 | 14 | 17 | 20 | 23 | 26 | 26 | 27 | 27 | 27 | 26 | 26 | 25 | 27.4 |
| 2-Oct | 26 | 26 | 26 | 26 | 27 | 26 | 26 | 25 | 24 | 24 | 24 | 24 | 25 | 26 | 28 | 30 | 32 | 33 | 32 | 31 | 30 | 29 | 27 | 26 | 32.6 |
| 3-Oct | 25 | 24 | 23 | 23 | 22 | 21 | 21 | 19 | 18 | 17 | 17 | 17 | 18 | 20 | 23 | 26 | 30 | 31 | 31 | 31 | 30 | 29 | 29 | 27 | 30.8 |
| 4-Oct | 26 | 22 | 20 | 17 | 14 | 11 | 8 | 5 | 2 | 2 | 4 | 7 | 11 | 16 | 21 | 26 | 27 | 30 | 32 | 31 | 28 | 24 | 21 | 19 | 31.6 |
| 5-Oct | 16 | 13 | 12 | 12 | 13 | 13 | 14 | 14 | 16 | 17 | 18 | 18 | N | N | N | N | N | N | N | N | 24 | 22 | 21 | 19 | 23.5 |
| 6-Oct | 17 | 14 | 12 | 10 | 8 | 6 | 5 | 4 | 3 | 2 | 3 | 6 | 9 | 13 | 15 | 17 | 20 | 21 | 22 | 22 | 21 | 19 | 18 | 18 | 22.4 |
| 7-Oct | 17 | 17 | 16 | 16 | 15 | 14 | 13 | 12 | 12 | 11 | 11 | 11 | 11 | 11 | 12 | 12 | 12 | 13 | 13 | 13 | 14 | 14 | 15 | 15 | 17.1 |
| 8-Oct | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 14 | 14 | 15 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 21 | 21 | 21 | 21 | 21.3 |
| 9-Oct | 20 | 20 | 19 | 19 | 19 | 18 | 17 | 17 | 17 | 17 | 17 | 17 | 18 | 18 | 18 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 18 | 18 | 20.3 |
| 10-Oct | 18 | 18 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 11 | 10 | 10 | 11 | 11 | 12 | 12 | 12 | 13 | 13 | 12 | 11 | 11 | 10 | 17.8 |
| 11-Oct | 9 | 9 | 8 | 7 | 6 | 5 | 3 | 2 | 1 | 2 | 2 | 4 | 7 | 10 | 14 | 17 | 21 | 23 | 25 | 27 | 26 | 25 | 23 | 21 | 26.7 |
| 12-Oct | 20 | 18 | 16 | 15 | 13 | 11 | 10 | 10 | 11 | 11 | 12 | 13 | 14 | 16 | 18 | 19 | 20 | 21 | 21 | 20 | 19 | 18 | 15 | 14 | 20.9 |
| 13-Oct | 13 | 11 | 10 | 11 | 12 | 12 | 13 | 12 | 12 | 13 | 14 | 14 | 15 | 17 | 19 | 22 | 24 | 25 | 24 | 22 | 21 | 19 | 18 | 16 | 25.4 |
| 14-Oct | 14 | 14 | 14 | 15 | 13 | 12 | 10 | 8 | 6 | 4 | 4 | 7 | 11 | 15 | 20 | 25 | 30 | 35 | 38 | 39 | 39 | 39 | 37 | 35 | 38.9 |
| 15-Oct | 33 | 31 | 29 | 27 | 25 | 23 | 19 | 18 | 19 | 21 | 23 | 25 | 27 | 32 | 37 | 40 | 40 | 40 | 38 | 35 | 34 | 31 | 28 | 25 | 40.1 |
| 16-Oct | 24 | 22 | 22 | 23 | 23 | 22 | 20 | 17 | 14 | 12 | 12 | 13 | 16 | 21 | 26 | 31 | 35 | 38 | 37 | 39 | 36 | 34 | 32 | 32 | 38.7 |
| 17-Oct | 32 | 34 | 36 | 35 | 33 | 29 | 25 | 21 | 16 | 11 | 9 | 10 | 14 | 18 | 22 | 26 | 29 | 32 | 34 | 34 | 31 | 29 | 29 | 29 | 35.7 |
| 18-Oct | 29 | 30 | 31 | 33 | 36 | 37 | 37 | 37 | 38 | 38 | 37 | 36 | 36 | 36 | 36 | 37 | 36 | 37 | 33 | 28 | 23 | 18 | 13 | 8 | 37.9 |
| 19-Oct | 4 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 6 | 9 | 13 | 18 | 20 | 24 | 27 | 30 | 30 | 30 | 27 | 22 | 30.3 |
| 20-Oct | 20 | 17 | 14 | 10 | 10 | 11 | 14 | 18 | 22 | 26 | 31 | 35 | 37 | 37 | 38 | 38 | 38 | 37 | 37 | 36 | 33 | 31 | 29 | 28 | 38.1 |
| 21-Oct | 27 | 26 | 25 | 25 | 25 | 23 | 20 | 17 | 14 | 13 | 12 | 11 | 13 | 17 | 19 | 24 | 29 | 31 | 31 | 29 | 26 | 24 | 23 | 20 | 31.2 |
| 22-Oct | 16 | 13 | 11 | 9 | 8 | 5 | 3 | 1 | 1 | 1 | 1 | 2 | 4 | 4 | 6 | 8 | 11 | 12 | 11 | 10 | 9 | 8 | 6 | 4 | 15.7 |
| 23-Oct | 2 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 3 | 6 | 9 | 13 | 16 | 17 | 17 | 15 | 14 | 11 | 8 | 5 | 17.1 |
| 24-Oct | 2 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 4 | 7 | 9 | 11 | 13 | 13 | 12 | 11 | 9 | 6 | 4 | 2 | 12.8 |
| 25-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 8 | 11 | 14 | 18 | 22 | 22 | 24 | 26 | 27 | 28 | 29 | 29.1 |
| 26-Oct | 29 | 30 | 30 | 30 | 27 | 24 | 20 | 16 | 13 | 10 | 7 | 4 | 3 | 3 | 4 | 4 | 5 | 5 | 5 | 4 | 4 | 6 | 9 | 13 | 30.2 |
| 27-Oct | 16 | 20 | 24 | 28 | 31 | 32 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 31 | 29 | 27 | 25 | 22 | 17 | 13 | 33.4 |
| 28-Oct | 10 | 9 | 8 | 7 | 7 | 9 | 12 | 13 | 16 | 19 | 20 | 21 | 20 | 19 | 18 | 17 | 15 | 13 | 10 | 10 | 9 | 8 | 8 | 8 | 20.6 |
| 29-Oct | 7 | 7 | 6 | 6 | 4 | 4 | 3 | 1 | 1 | 1 | 2 | 4 | 7 | 11 | 13 | 17 | 21 | 24 | 25 | 25 | 22 | 19 | 16 | 14 | 25.4 |
| 30-Oct | 11 | 8 | 9 | 11 | 13 | 15 | 17 | 17 | 19 | 20 | 20 | 22 | 23 | 25 | 26 | 28 | 30 | 31 | 31 | 31 | 29 | 28 | 27 | 25 | 31.4 |
| 31-Oct | 24 | 23 | 22 | 21 | 22 | 19 | 16 | 13 | 10 | 7 | 5 | 3 | 4 | 5 | 7 | 8 | 9 | 11 | 13 | 14 | 14 | 14 | 14 | 14 | 23.7 |
| Diurnal Maximums | 33.1 | 33.7 | 35.7 | 34.7 | 35.8 | 36.7 | 36.8 | 37.4 | 37.9 | 37.6 | 37.4 | 36.4 | 37.1 | 37.4 | 37.6 | 39.8 | 40.1 | 39.6 | 38.1 | 38.8 | 38.7 | 38.9 | 37.1 | 35.0 | |

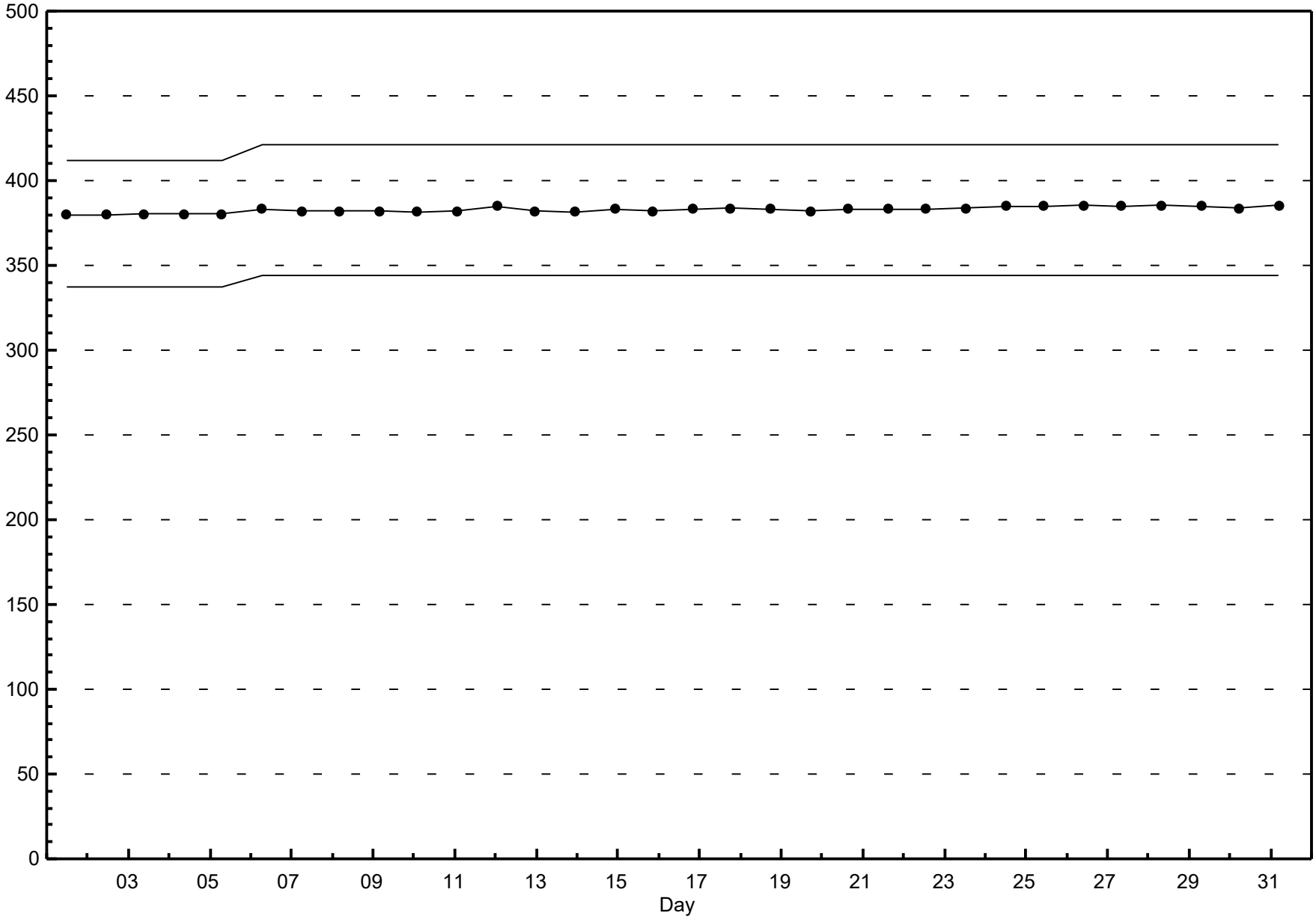
N - Not Valid

Peace Airshed Zone Association

# Span Responses

**Ozone ($O_3$)**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Carbon Monoxide (CO) - ppm

## Henry Pirker - October 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.43 ppm on Oct 17 09:00
Maximum Daily Average: 0.39 ppm on Oct 24

Minimum Value: 0.1 ppm on Oct 9 18:00
Maximum Diurnal Average: 0.36 ppm at hour 9
Monthly Average: 0.214 ppm

Minimum Daily Average: 0.14 ppm on Oct 2
Minimum Diurnal Average: 0.16 ppm at hour 14
Percentiles: $P_1$ = 0.11 $P_{10}$ = 0.13 $Q_1$ = 0.14 Median = 0.17 $Q_3$ = 0.23 $P_{90}$ = 0.35 $P_{99}$ = 0.81

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 708 |
| Hours of Missing Data: | 36 |
| Hours of Calibration: | 36 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | A | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.14 | 0.22 |
| 2-Oct | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | A | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.14 | 0.19 |
| 3-Oct | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | A | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.15 | 0.26 |
| 4-Oct | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | 0.3 | 0.4 | A | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.19 | 0.41 |
| 5-Oct | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | A | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.16 | 0.19 |
| 6-Oct | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | A | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.19 | 0.29 |
| 7-Oct | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | A | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.14 | 0.17 |
| 8-Oct | 0.1 | 0.1 | 0.1 | 0.1 | A | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.14 | 0.16 |
| 9-Oct | 0.1 | 0.1 | 0.1 | A | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | C | C | C | C | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.16 | 0.25 |
| 10-Oct | 0.1 | 0.1 | A | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.17 | 0.26 |
| 11-Oct | 0.2 | A | 0.3 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | 0.4 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | 0.22 | 0.35 |
| 12-Oct | A | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | A | 0.17 | 0.30 |
| 13-Oct | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | 0.3 | 0.2 | 0.2 | A | 0.1 | 0.16 | 0.32 |
| 14-Oct | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 0.3 | 0.4 | 0.4 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | A | 0.1 | 0.1 | 0.21 | 0.42 |
| 15-Oct | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0.6 | 0.3 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | A | 0.2 | 0.2 | 0.2 | 0.18 | 0.59 |
| 16-Oct | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.6 | 1.0 | 1.2 | 0.6 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | A | 0.2 | 0.1 | 0.1 | 0.2 | 0.29 | 1.18 |
| 17-Oct | 0.2 | 0.2 | 0.2 | 0.2 | 0.4 | 0.4 | 0.4 | 1.0 | 1.4 | 1.1 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | A | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.35 | 1.43 |
| 18-Oct | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | A | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.18 | 0.34 |
| 19-Oct | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.4 | 0.3 | 0.4 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | A | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.23 | 0.39 |
| 20-Oct | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | A | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.15 | 0.21 |
| 21-Oct | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | A | 0.1 | 0.1 | 0.2 | 0.5 | 0.4 | 0.3 | 0.2 | 0.2 | 0.2 | 0.22 | 0.46 |
| 22-Oct | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.5 | 0.6 | 0.7 | 0.5 | 0.4 | 0.4 | A | 0.4 | 0.3 | 0.2 | 0.3 | 0.8 | 0.8 | 0.3 | 0.2 | 0.2 | 0.2 | 0.36 | 0.81 |
| 23-Oct | 0.2 | 0.3 | 0.2 | 0.2 | 0.3 | 0.6 | 0.4 | 0.5 | 0.6 | 0.5 | 0.3 | 0.2 | A | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 0.4 | 0.4 | 0.3 | 0.2 | 0.2 | 0.31 | 0.59 |
| 24-Oct | 0.2 | 0.2 | 0.3 | 0.2 | 0.3 | 0.4 | 0.5 | 0.4 | 0.5 | 0.4 | 0.4 | A | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 0.5 | 0.6 | 1.0 | 1.0 | 0.4 | 0.39 | 0.98 |
| 25-Oct | 0.3 | 0.4 | 0.4 | 0.3 | 0.3 | 0.5 | 0.6 | 0.5 | 0.6 | 0.5 | A | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.29 | 0.63 |
| 26-Oct | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.7 | 0.6 | 0.5 | A | 0.3 | 0.4 | 0.4 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 | 0.1 | 0.1 | 0.1 | 0.30 | 0.70 |
| 27-Oct | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | A | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.5 | 0.6 | 0.19 | 0.60 |
| 28-Oct | 0.6 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | A | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.21 | 0.65 |
| 29-Oct | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | A | 0.3 | 0.4 | 0.4 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 0.4 | 0.3 | 0.2 | 0.27 | 0.40 |
| 30-Oct | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | A | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.16 | 0.24 |
| 31-Oct | 0.2 | 0.2 | 0.2 | 0.2 | A | 0.3 | 0.3 | 0.5 | 0.4 | 0.4 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | 0.21 | 0.51 |
| | 0.18 | 0.18 | 0.17 | 0.17 | 0.20 | 0.25 | 0.29 | 0.34 | 0.36 | 0.30 | 0.23 | 0.19 | 0.18 | 0.16 | 0.17 | 0.17 | 0.16 | 0.18 | 0.22 | 0.23 | 0.21 | 0.21 | 0.21 | 0.19 | Diurnal Average | |
| | 0.65 | 0.35 | 0.37 | 0.31 | 0.39 | 0.56 | 0.70 | 1.05 | 1.43 | 1.06 | 0.53 | 0.41 | 0.42 | 0.32 | 0.37 | 0.33 | 0.28 | 0.34 | 0.81 | 0.78 | 0.60 | 0.98 | 0.96 | 0.60 | Diurnal Maximum | |

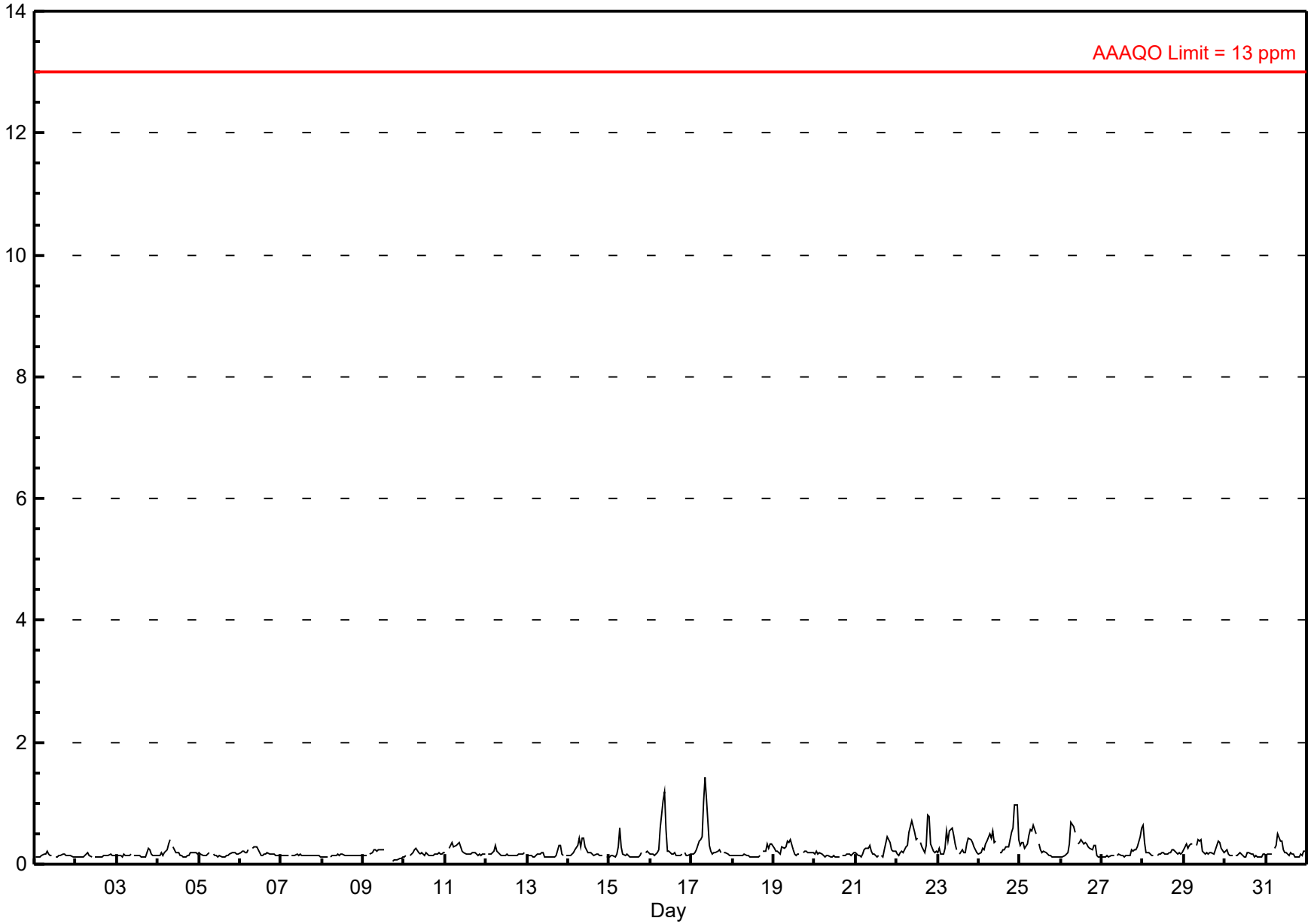
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 13 ppm 24-hr na

Peace Airshed Zone Association

# Hourly Averages

**Carbon Monoxide (CO) - ppm**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Carbon Monoxide (CO) - ppm

## Henry Pirker - October 2018

Maximum Value: 2.80 ppm on Oct 23 06:00

Maximum Daily Average: 0.61 ppm on Oct 24

Minimum Value: 0.1 ppm on Oct 9 18:00

Minimum Daily Average: 0.17 ppm on Oct 2

Maximum Diurnal Average: 0.60 ppm at hour 8

Minimum Diurnal Average: 0.19 ppm at hour 14

Monthly Average: 0.303 ppm

Percentiles: $P_1 = 0.12$ $P_{10} = 0.15$ $Q_1 = 0.17$ Median = 0.21 $Q_3 = 0.32$ $P_{90} = 0.52$ $P_{99} = 1.69$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 708 |
| Hours of Missing Data: | 36 |
| Hours of Calibration: | 36 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.2 | 0.2 | A | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.18 | 0.28 |
| 2-Oct | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.4 | 0.2 | 0.2 | A | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.17 | 0.44 |
| 3-Oct | 0.1 | 0.2 | 0.2 | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | A | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.4 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.19 | 0.40 |
| 4-Oct | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 0.6 | 0.8 | A | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.2 | 0.3 | 0.3 | 0.2 | 0.27 | 0.77 |
| 5-Oct | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | A | 0.2 | 0.2 | 0.1 | 0.2 | 0.4 | 0.1 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.21 | 0.37 |
| 6-Oct | 0.2 | 0.2 | 0.4 | 0.2 | 0.2 | 0.4 | A | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.25 | 0.42 |
| 7-Oct | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | A | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.18 | 0.30 |
| 8-Oct | 0.1 | 0.1 | 0.1 | 0.1 | A | 0.1 | 0.2 | 0.3 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.19 | 0.36 |
| 9-Oct | 0.2 | 0.2 | 0.2 | A | 0.3 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | C | C | C | C | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.21 | 0.38 |
| 10-Oct | 0.1 | 0.1 | A | 0.2 | 0.3 | 0.3 | 0.3 | 0.5 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.4 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.23 | 0.54 |
| 11-Oct | 0.2 | A | 0.3 | 0.5 | 0.5 | 0.3 | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.27 | 0.50 |
| 12-Oct | A | 0.2 | 0.2 | 0.2 | 0.6 | 0.4 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | A | 0.22 | 0.57 |
| 13-Oct | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.7 | 0.6 | 0.2 | 0.2 | A | 0.2 | 0.22 | 0.73 |
| 14-Oct | 0.2 | 0.2 | 0.2 | 0.3 | 0.5 | 0.4 | 0.8 | 0.3 | 0.7 | 0.5 | 0.4 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | A | 0.1 | 0.1 | 0.29 | 0.80 |
| 15-Oct | 0.2 | 0.2 | 0.3 | 0.1 | 0.3 | 0.5 | 1.1 | 1.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | A | 0.2 | 0.3 | 0.3 | 0.29 | 1.09 |
| 16-Oct | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 1.2 | 1.9 | 1.8 | 0.8 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | A | 0.3 | 0.2 | 0.2 | 0.2 | 0.43 | 1.88 |
| 17-Oct | 0.2 | 0.2 | 0.2 | 0.3 | 0.8 | 0.8 | 1.2 | 1.7 | 1.9 | 1.4 | 0.4 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | A | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.51 | 1.88 |
| 18-Oct | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | A | 0.3 | 0.3 | 0.5 | 0.4 | 0.5 | 0.5 | 0.23 | 0.52 |
| 19-Oct | 0.3 | 0.4 | 0.3 | 0.2 | 0.3 | 0.4 | 0.3 | 0.4 | 1.0 | 0.5 | 0.5 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | A | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | 0.32 | 1.01 |
| 20-Oct | 0.2 | 0.3 | 0.2 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | A | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.19 | 0.29 |
| 21-Oct | 0.2 | 0.3 | 0.2 | 0.2 | 0.4 | 0.3 | 0.4 | 0.5 | 0.5 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | A | 0.2 | 0.1 | 0.4 | 0.6 | 0.5 | 0.5 | 0.4 | 0.3 | 0.3 | 0.31 | 0.64 |
| 22-Oct | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.4 | 0.5 | 0.8 | 0.8 | 0.9 | 0.8 | 0.5 | 0.5 | A | 0.4 | 0.4 | 0.2 | 0.5 | 2.4 | 1.6 | 0.4 | 0.3 | 0.3 | 0.3 | 0.57 | 2.40 |
| 23-Oct | 0.4 | 0.5 | 0.2 | 0.2 | 0.6 | 2.8 | 1.0 | 2.0 | 0.8 | 0.6 | 0.4 | 0.3 | A | 0.2 | 0.3 | 0.3 | 0.2 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.3 | 0.2 | 0.60 | 2.80 |
| 24-Oct | 0.2 | 0.3 | 0.3 | 0.3 | 1.5 | 0.5 | 0.7 | 0.7 | 0.7 | 0.5 | 0.4 | A | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.5 | 0.7 | 1.1 | 1.8 | 1.3 | 0.7 | 0.61 | 1.84 |
| 25-Oct | 0.4 | 0.4 | 0.5 | 0.4 | 0.8 | 0.8 | 0.7 | 0.8 | 0.8 | 0.7 | A | 0.4 | 0.3 | 0.2 | 0.4 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.39 | 0.79 |
| 26-Oct | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.7 | 1.5 | 0.8 | 0.6 | A | 0.4 | 0.5 | 0.5 | 0.4 | 0.4 | 0.4 | 0.3 | 0.8 | 0.3 | 0.4 | 0.3 | 0.2 | 0.2 | 0.1 | 0.42 | 1.46 |
| 27-Oct | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | A | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 | 0.8 | 0.8 | 0.25 | 0.80 |
| 28-Oct | 0.8 | 0.6 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | A | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.26 | 0.83 |
| 29-Oct | 0.3 | 0.4 | 0.4 | 0.4 | 0.6 | 0.4 | A | 0.4 | 0.6 | 0.5 | 0.9 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 0.5 | 0.5 | 0.3 | 0.2 | 0.38 | 0.90 |
| 30-Oct | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | A | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.21 | 0.33 |
| 31-Oct | 0.2 | 0.2 | 0.2 | 0.2 | A | 0.3 | 0.4 | 1.0 | 1.0 | 0.5 | 0.3 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.31 | 1.03 |
| | 0.23 | 0.24 | 0.23 | 0.23 | 0.37 | 0.43 | 0.49 | 0.60 | 0.53 | 0.39 | 0.30 | 0.24 | 0.22 | 0.19 | 0.22 | 0.20 | 0.20 | 0.25 | 0.35 | 0.31 | 0.28 | 0.28 | 0.28 | 0.24 | Diurnal Average | |
| | 0.83 | 0.55 | 0.49 | 0.47 | 1.52 | 2.80 | 1.46 | 2.01 | 1.88 | 1.36 | 0.90 | 0.49 | 0.48 | 0.45 | 0.43 | 0.38 | 0.33 | 0.81 | 2.40 | 1.56 | 1.05 | 1.84 | 1.32 | 0.80 | Diurnal Maximum | |

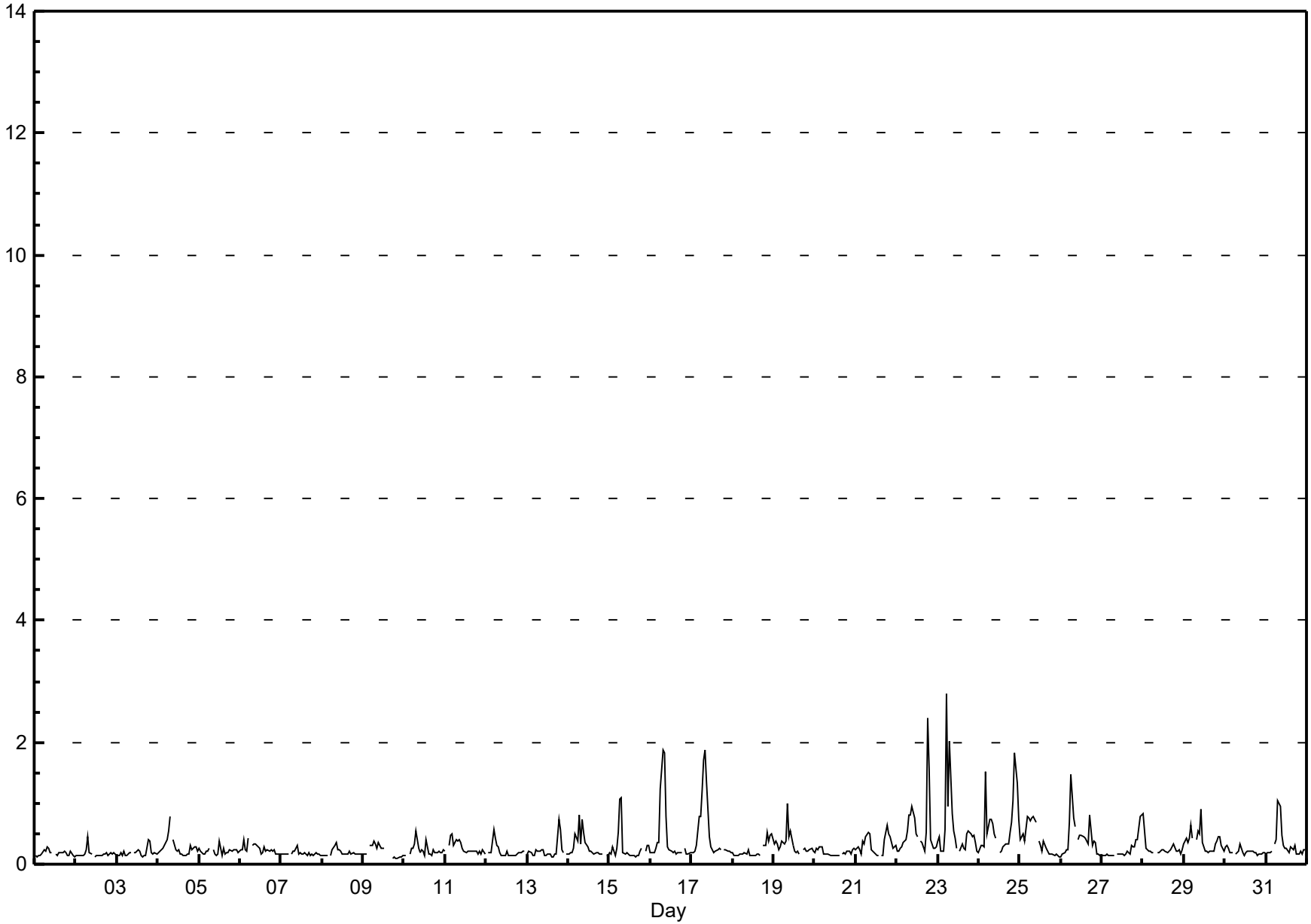
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

**Carbon Monoxide (CO) - ppm**

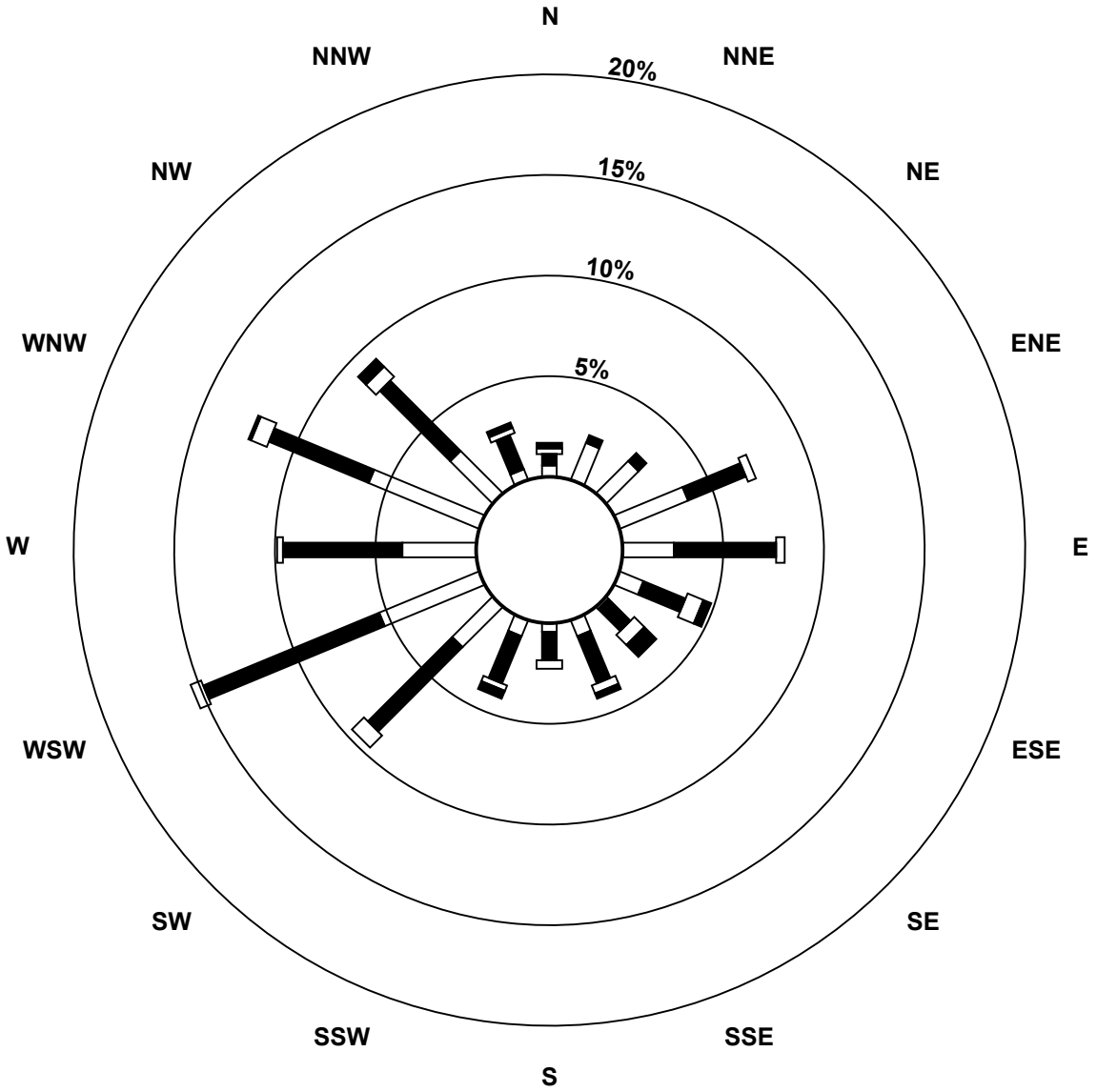
**Henry Pirker - October 2018**



# Pollutant Rose

**Carbon Monoxide (CO) - ppm**

**Henry Pirker - October 2018**




**Pollutant Classes (ppm)**

- 0 - 0.1
- 0.1 - 0.3
- 0.3 - 0.5
- 0.5 - 1
- 1 - 10
- > 10

Peace Airshed Zone Association

# Eight Hour Running Averages

## Carbon Monoxide (CO) - ppm

## Henry Pirker - October 2018

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 0.66 ppm on Oct 17 11:00

Minimum Value: 0.08 ppm on Oct 9 23:00

Percentiles: $P_1$ = 0.12 $P_{10}$ = 0.14 $Q_1$ = 0.15 Median = 0.17 $Q_3$ = 0.25 $P_{90}$ = 0.36 $P_{99}$ = 0.56

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 737 |
| Hours of Missing Data: | 7 |
| Hours of Calibration: | 7 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| 1-Oct | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.16 |
| 2-Oct | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.15 |
| 3-Oct | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.17 |
| 4-Oct | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.26 |
| 5-Oct | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.18 |
| 6-Oct | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.25 |
| 7-Oct | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.16 |
| 8-Oct | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.15 |
| 9-Oct | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | N | N | N | N | N | N | N | 0.1 | 0.1 | 0.23 |
| 10-Oct | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.19 |
| 11-Oct | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.32 |
| 12-Oct | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.20 |
| 13-Oct | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.19 |
| 14-Oct | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.32 |
| 15-Oct | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.24 |
| 16-Oct | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.53 |
| 17-Oct | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | 0.5 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.66 |
| 18-Oct | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.26 |
| 19-Oct | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.30 |
| 20-Oct | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.19 |
| 21-Oct | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.28 |
| 22-Oct | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.51 |
| 23-Oct | 0.4 | 0.4 | 0.3 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.44 |
| 24-Oct | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.5 | 0.6 | 0.55 |
| 25-Oct | 0.6 | 0.6 | 0.6 | 0.5 | 0.5 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.4 | 0.4 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.57 |
| 26-Oct | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.5 | 0.5 | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.46 |
| 27-Oct | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.30 |
| 28-Oct | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.38 |
| 29-Oct | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.35 |
| 30-Oct | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.27 |
| 31-Oct | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.32 |
| Diurnal Maximums | 0.56 | 0.57 | 0.56 | 0.53 | 0.50 | 0.43 | 0.38 | 0.40 | 0.54 | 0.65 | 0.66 | 0.66 | 0.63 | 0.60 | 0.57 | 0.48 | 0.41 | 0.36 | 0.40 | 0.45 | 0.44 | 0.44 | 0.53 | 0.55 | |

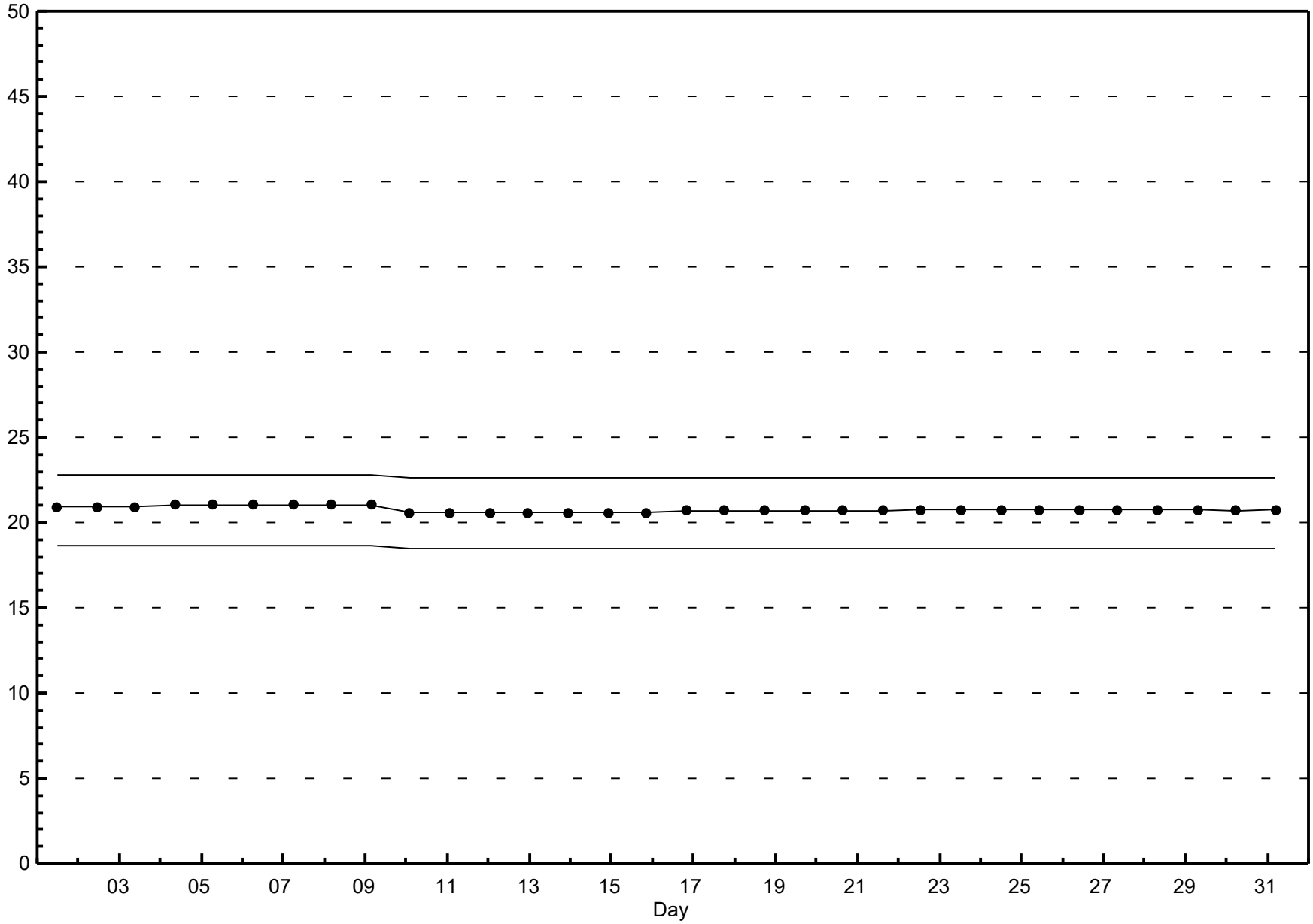
N - Not Valid
Alberta Ambient Air Quality Objectives (AAAQO): 8-hr 5 ppm

Peace Airshed Zone Association

# Span Responses

**Carbon Monoxide (CO)**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Total Hydrocarbons (THC) - ppm

## Henry Pirker - October 2018

Maximum Value: 3.05 ppm on Oct 23 05:00

Maximum Daily Average: 2.44 ppm on Oct 23

Minimum Value: 1.8 ppm on Oct 15 15:00

Minimum Daily Average: 1.89 ppm on Oct 15

Maximum Diurnal Average: 2.17 ppm at hour 7

Minimum Diurnal Average: 1.92 ppm at hour 17

Monthly Average: 2.038 ppm

Percentiles: $P_1$ = 1.85 $P_{10}$ = 1.88 $Q_1$ = 1.92 Median = 1.96 $Q_3$ = 2.08 $P_{90}$ = 2.31 $P_{99}$ = 2.78

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 708 |
| Hours of Missing Data: | 36 |
| Hours of Calibration: | 36 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.96 | 2.12 |
| 2-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 1.94 | 1.96 |
| 3-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 1.9 | 2.0 | 1.9 | 1.9 | 2.0 | 2.0 | 1.95 | 2.01 |
| 4-Oct | 2.0 | 2.1 | 2.1 | 2.1 | 2.4 | 2.5 | 2.5 | 2.3 | A | 2.1 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.1 | 2.2 | 2.1 | 2.08 | 2.49 |
| 5-Oct | 2.1 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | C | C | C | C | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 1.97 | 2.09 |
| 6-Oct | 2.0 | 2.0 | 2.2 | 2.2 | 2.1 | 2.1 | A | 2.5 | 2.5 | 2.1 | 2.1 | 2.1 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.05 | 2.48 |
| 7-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.98 | 1.99 |
| 8-Oct | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.97 | 1.99 |
| 9-Oct | 2.0 | 2.0 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.99 | 2.00 |
| 10-Oct | 2.0 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.03 | 2.13 |
| 11-Oct | 2.3 | A | 2.2 | 2.2 | 2.3 | 2.3 | 2.7 | 2.4 | 2.3 | 2.3 | 2.2 | 2.2 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.12 | 2.74 |
| 12-Oct | A | 2.3 | 2.3 | 2.1 | 2.4 | 2.3 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | A | 2.01 | 2.39 |
| 13-Oct | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 1.9 | 1.9 | A | 1.9 | 1.95 | 2.02 |
| 14-Oct | 1.9 | 1.9 | 2.0 | 2.1 | 2.1 | 2.1 | 2.2 | 2.2 | 2.2 | 2.2 | 2.1 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.97 | 2.20 |
| 15-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.2 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.8 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.89 | 2.20 |
| 16-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.1 | 2.2 | 2.3 | 2.6 | 2.1 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.98 | 2.60 |
| 17-Oct | 1.9 | 1.9 | 2.0 | 2.0 | 2.1 | 2.1 | 2.2 | 2.2 | 2.4 | 2.4 | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 2.0 | 1.9 | 1.9 | 1.9 | 2.02 | 2.43 |
| 18-Oct | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 2.1 | 2.2 | 2.1 | 2.2 | 2.2 | 1.95 | 2.18 |
| 19-Oct | 2.2 | 2.2 | 2.3 | 2.6 | 2.7 | 2.7 | 2.3 | 2.1 | 2.2 | 2.2 | 2.3 | 2.1 | 2.0 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.3 | 2.2 | 2.16 | 2.75 |
| 20-Oct | 2.2 | 2.4 | 2.3 | 2.4 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 1.97 | 2.39 |
| 21-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.1 | 2.1 | 2.1 | 2.3 | 2.1 | 2.0 | 2.0 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.1 | 2.1 | 2.4 | 2.02 | 2.37 |
| 22-Oct | 2.4 | 2.3 | 2.3 | 2.4 | 2.9 | 2.3 | 2.5 | 2.6 | 2.5 | 2.5 | 2.5 | 2.3 | 2.3 | A | 2.1 | 2.1 | 2.0 | 2.0 | 2.1 | 2.1 | 2.2 | 2.2 | 2.4 | 2.7 | 2.34 | 2.87 |
| 23-Oct | 2.7 | 2.7 | 2.8 | 3.0 | 3.0 | 3.0 | 2.8 | 2.7 | 2.7 | 2.6 | 2.4 | 2.1 | A | 2.0 | 2.0 | 1.9 | 1.9 | 2.0 | 2.1 | 2.1 | 2.1 | 2.4 | 2.4 | 2.6 | 2.44 | 3.05 |
| 24-Oct | 2.6 | 2.8 | 2.6 | 2.4 | 2.4 | 2.5 | 2.5 | 2.4 | 2.4 | 2.6 | 2.4 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.1 | 2.2 | 2.0 | 2.22 | 2.83 |
| 25-Oct | 2.3 | 2.6 | 2.7 | 2.7 | 2.8 | 2.7 | 2.7 | 2.5 | 2.4 | 2.4 | A | 2.2 | 2.1 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.22 | 2.80 |
| 26-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 2.1 | 2.2 | 2.1 | 2.1 | 2.1 | A | 2.1 | 2.1 | 2.1 | 2.1 | 2.2 | 2.3 | 2.1 | 2.1 | 2.1 | 2.3 | 2.3 | 1.9 | 1.9 | 1.9 | 2.08 | 2.33 |
| 27-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.1 | 2.2 | 1.92 | 2.19 |
| 28-Oct | 2.2 | 2.1 | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 1.99 | 2.20 |
| 29-Oct | 2.1 | 2.1 | 2.2 | 2.2 | 2.2 | 2.2 | A | 2.3 | 2.6 | 2.4 | 2.1 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.1 | 2.0 | 2.0 | 2.07 | 2.59 |
| 30-Oct | 2.0 | 2.0 | 1.9 | 2.0 | 2.0 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 1.92 | 2.04 |
| 31-Oct | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.2 | 2.5 | 2.3 | 2.1 | 2.1 | 2.1 | 2.1 | 2.0 | 2.0 | 1.9 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 2.1 | 2.0 | 1.9 | 1.9 | 2.04 | 2.47 |
| | 2.07 | 2.09 | 2.10 | 2.11 | 2.17 | 2.16 | 2.17 | 2.14 | 2.14 | 2.13 | 2.05 | 2.00 | 1.96 | 1.93 | 1.94 | 1.94 | 1.92 | 1.93 | 1.94 | 1.97 | 1.99 | 2.00 | 2.02 | 2.05 | Diurnal Average | |
| | 2.72 | 2.83 | 2.78 | 3.03 | 3.05 | 3.02 | 2.82 | 2.73 | 2.69 | 2.60 | 2.49 | 2.32 | 2.30 | 2.15 | 2.19 | 2.33 | 2.06 | 2.08 | 2.10 | 2.33 | 2.28 | 2.36 | 2.44 | 2.66 | Diurnal Maximum | |

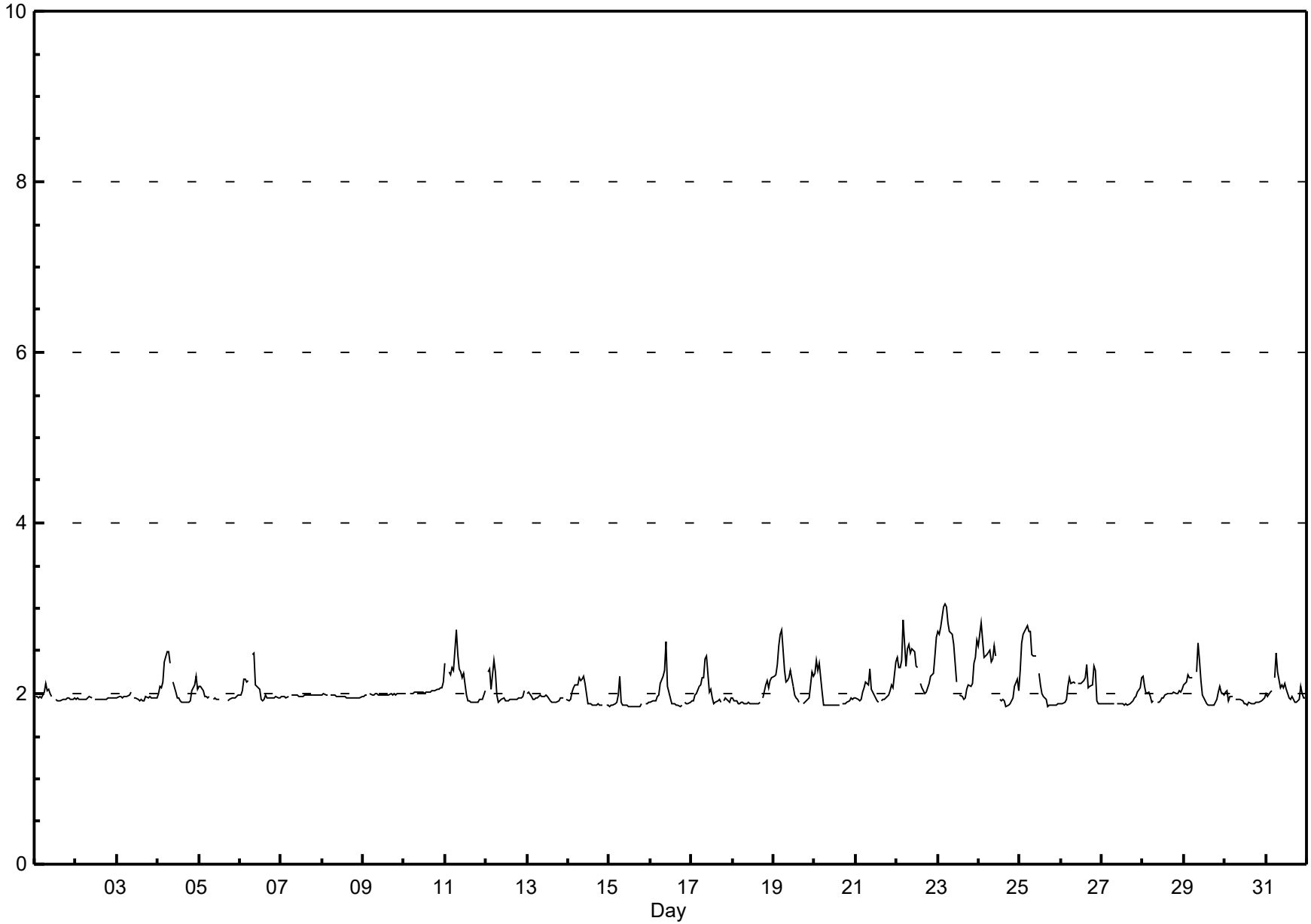
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Averages

**Total Hydrocarbons (THC) - ppm**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Total Hydrocarbons (THC) - ppm

## Henry Pirker - October 2018

Maximum Value: 3.84 ppm on Oct 19 23:00

Maximum Daily Average: 2.70 ppm on Oct 23

Minimum Value: 1.9 ppm on Oct 15 16:00

Minimum Daily Average: 2.00 ppm on Oct 15

Maximum Diurnal Average: 2.42 ppm at hour 5

Minimum Diurnal Average: 2.01 ppm at hour 17

Monthly Average: 2.203 ppm

Percentiles: $P_1$ = 1.88 $P_{10}$ = 1.93 $Q_1$ = 2.00 Median = 2.08 $Q_3$ = 2.30 $P_{90}$ = 2.65 $P_{99}$ = 3.32

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 708 |
| Hours of Missing Data: | 36 |
| Hours of Calibration: | 36 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.2 | 2.2 | 2.2 | 2.3 | 2.1 | 2.2 | A | 2.1 | 2.0 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.2 | 2.0 | 2.0 | 2.0 | 2.0 | 2.06 | 2.34 |
| 2-Oct | 2.0 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | A | 1.9 | 2.1 | 2.0 | 2.0 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.2 | 2.0 | 2.03 | 2.19 |
| 3-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.4 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | 2.1 | 2.1 | 2.1 | 2.1 | 2.0 | 2.0 | 2.1 | 2.04 | 2.37 |
| 4-Oct | 2.3 | 2.2 | 2.2 | 2.5 | 2.7 | 3.0 | 2.8 | 2.7 | A | 2.5 | 2.1 | 2.0 | 2.1 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 2.1 | 2.5 | 2.6 | 3.0 | 2.5 | 2.32 | 3.04 |
| 5-Oct | 2.3 | 2.4 | 2.3 | 2.2 | 2.0 | 2.0 | 2.2 | A | 2.0 | 2.1 | 2.0 | 2.0 | 2.0 | C | C | C | C | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.3 | 2.0 | 2.09 | 2.42 |
| 6-Oct | 2.0 | 2.2 | 2.4 | 2.4 | 2.5 | 2.2 | A | 2.8 | 3.3 | 2.2 | 2.2 | 2.3 | 2.0 | 2.0 | 2.0 | 2.2 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.0 | 2.2 | 2.1 | 2.22 | 3.25 |
| 7-Oct | 2.1 | 2.1 | 2.0 | 2.0 | 2.0 | A | 2.2 | 2.1 | 2.1 | 2.1 | 2.1 | 2.0 | 2.0 | 2.1 | 2.1 | 2.2 | 2.0 | 2.1 | 2.1 | 2.2 | 2.1 | 2.1 | 2.1 | 2.2 | 2.09 | 2.22 |
| 8-Oct | 2.0 | 2.1 | 2.0 | 2.1 | A | 2.1 | 2.1 | 2.0 | 2.1 | 2.1 | 2.0 | 2.1 | 2.0 | 2.0 | 2.0 | 2.1 | 2.0 | 2.1 | 2.0 | 2.0 | 2.1 | 2.1 | 2.0 | 2.0 | 2.05 | 2.14 |
| 9-Oct | 2.1 | 2.1 | 2.1 | A | 2.2 | 2.0 | 2.0 | 2.2 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.2 | 2.0 | 2.1 | 2.0 | 2.1 | 2.1 | 2.1 | 2.0 | 2.0 | 2.06 | 2.20 |
| 10-Oct | 2.0 | 2.1 | A | 2.2 | 2.1 | 2.1 | 2.2 | 2.1 | 2.2 | 2.1 | 2.1 | 2.1 | 2.0 | 2.2 | 2.1 | 2.1 | 2.1 | 2.1 | 2.3 | 2.2 | 2.1 | 2.2 | 2.3 | 2.5 | 2.15 | 2.46 |
| 11-Oct | 2.6 | A | 2.5 | 2.4 | 2.5 | 2.6 | 3.7 | 2.8 | 2.5 | 2.5 | 2.5 | 2.4 | 2.1 | 2.0 | 2.1 | 2.0 | 2.0 | 2.0 | 1.9 | 2.0 | 2.0 | 2.0 | 2.1 | 2.4 | 2.32 | 3.66 |
| 12-Oct | A | 2.8 | 2.6 | 2.3 | 2.8 | 2.6 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.2 | 2.0 | 2.1 | 2.1 | 2.1 | 2.3 | A | 2.20 | 2.83 |
| 13-Oct | 2.2 | 2.0 | 2.0 | 2.2 | 2.1 | 2.0 | 2.0 | 2.2 | 2.0 | 2.0 | 2.1 | 2.1 | 2.0 | 2.0 | 2.0 | 2.1 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.1 | A | 2.1 | 2.05 | 2.18 |
| 14-Oct | 1.9 | 2.0 | 2.4 | 2.3 | 2.3 | 2.3 | 2.4 | 2.4 | 2.4 | 2.4 | 2.2 | 2.0 | 1.9 | 1.9 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | A | 1.9 | 1.9 | 2.11 | 2.43 |
| 15-Oct | 1.9 | 1.9 | 2.1 | 2.0 | 2.1 | 2.2 | 2.5 | 2.1 | 2.0 | 1.9 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.1 | 1.9 | 1.9 | 2.2 | A | 1.9 | 1.9 | 1.9 | 2.00 | 2.54 |
| 16-Oct | 1.9 | 2.0 | 2.0 | 1.9 | 2.2 | 2.5 | 2.3 | 2.5 | 2.7 | 3.2 | 2.2 | 2.3 | 1.9 | 1.9 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | A | 2.0 | 2.0 | 2.0 | 1.9 | 2.13 | 3.19 |
| 17-Oct | 1.9 | 2.1 | 2.2 | 2.1 | 2.2 | 2.3 | 2.5 | 2.3 | 2.6 | 2.9 | 2.2 | 2.2 | 2.3 | 2.0 | 2.0 | 2.2 | 2.1 | 1.9 | A | 2.0 | 2.2 | 2.0 | 1.9 | 2.0 | 2.19 | 2.87 |
| 18-Oct | 2.0 | 2.1 | 2.0 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 1.9 | 2.0 | 2.0 | 1.9 | 2.0 | 1.9 | 2.1 | 1.9 | 1.9 | A | 2.0 | 2.4 | 2.5 | 2.8 | 3.7 | 2.5 | 2.15 | 3.66 |
| 19-Oct | 2.9 | 2.5 | 2.6 | 2.8 | 3.6 | 3.5 | 2.7 | 2.3 | 2.4 | 2.4 | 2.5 | 2.3 | 2.1 | 2.1 | 2.1 | 1.9 | A | 2.0 | 2.0 | 2.1 | 2.1 | 2.1 | 3.8 | 2.7 | 2.51 | 3.84 |
| 20-Oct | 2.5 | 2.6 | 2.5 | 2.6 | 3.1 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 2.0 | 2.1 | 1.9 | 1.9 | 1.9 | A | 2.1 | 1.9 | 2.0 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.12 | 3.15 |
| 21-Oct | 2.1 | 2.0 | 2.0 | 2.0 | 2.3 | 2.3 | 2.4 | 2.3 | 2.6 | 2.2 | 2.1 | 2.0 | 2.0 | 2.0 | A | 2.1 | 2.2 | 2.0 | 2.0 | 2.0 | 2.1 | 2.8 | 2.3 | 3.1 | 2.21 | 3.09 |
| 22-Oct | 3.0 | 2.7 | 3.1 | 2.9 | 3.2 | 2.6 | 3.1 | 3.1 | 2.8 | 2.8 | 2.9 | 2.5 | 2.5 | A | 2.3 | 2.3 | 2.2 | 2.2 | 2.3 | 2.4 | 2.5 | 2.5 | 2.8 | 3.1 | 2.69 | 3.23 |
| 23-Oct | 3.0 | 3.0 | 3.0 | 3.3 | 3.3 | 3.5 | 3.2 | 3.3 | 3.0 | 2.8 | 2.6 | 2.4 | A | 2.1 | 2.1 | 2.1 | 2.0 | 2.2 | 2.3 | 2.3 | 2.3 | 2.6 | 2.6 | 3.1 | 2.70 | 3.45 |
| 24-Oct | 2.9 | 3.0 | 2.9 | 2.7 | 2.7 | 2.8 | 2.9 | 2.7 | 2.7 | 2.9 | 2.7 | A | 2.0 | 2.1 | 2.1 | 2.1 | 1.9 | 2.1 | 2.0 | 2.0 | 2.2 | 2.3 | 2.4 | 2.2 | 2.44 | 3.05 |
| 25-Oct | 2.6 | 2.9 | 3.0 | 3.0 | 3.1 | 3.1 | 3.2 | 2.8 | 2.8 | 2.7 | A | 2.6 | 2.2 | 2.1 | 2.1 | 2.1 | 2.1 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 1.9 | 2.42 | 3.22 |
| 26-Oct | 2.0 | 2.1 | 2.0 | 2.0 | 2.5 | 2.3 | 2.3 | 2.4 | 2.3 | A | 2.5 | 2.3 | 2.3 | 2.3 | 2.3 | 2.6 | 2.2 | 2.3 | 2.5 | 2.5 | 2.5 | 2.1 | 1.9 | 1.9 | 2.27 | 2.65 |
| 27-Oct | 2.0 | 1.9 | 2.2 | 1.9 | 2.0 | 1.9 | 1.9 | 1.9 | A | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.3 | 2.1 | 2.3 | 2.2 | 2.7 | 2.02 | 2.72 |
| 28-Oct | 2.4 | 2.3 | 2.1 | 2.1 | 2.2 | 2.1 | 2.0 | A | 2.0 | 1.9 | 2.0 | 2.1 | 2.0 | 2.3 | 2.2 | 2.1 | 2.1 | 2.2 | 2.2 | 2.1 | 2.2 | 2.1 | 2.1 | 2.2 | 2.13 | 2.38 |
| 29-Oct | 2.4 | 2.4 | 2.5 | 2.4 | 2.5 | 2.4 | A | 2.5 | 2.8 | 2.7 | 2.5 | 2.1 | 2.0 | 1.9 | 1.9 | 2.1 | 1.9 | 1.9 | 1.9 | 2.0 | 2.1 | 2.2 | 2.1 | 2.3 | 2.24 | 2.82 |
| 30-Oct | 2.2 | 2.4 | 2.1 | 2.1 | 2.0 | A | 2.0 | 1.9 | 2.1 | 2.0 | 2.3 | 2.0 | 1.9 | 1.9 | 2.4 | 1.9 | 1.9 | 2.0 | 1.9 | 2.0 | 1.9 | 2.1 | 2.0 | 2.0 | 2.04 | 2.38 |
| 31-Oct | 2.2 | 2.2 | 2.2 | 2.2 | A | 2.4 | 2.7 | 2.6 | 2.2 | 2.4 | 2.2 | 2.3 | 2.2 | 2.2 | 2.1 | 2.1 | 2.0 | 1.9 | 2.0 | 2.2 | 2.3 | 2.1 | 2.0 | 2.2 | 2.21 | 2.73 |
| | 2.25 | 2.27 | 2.30 | 2.29 | 2.42 | 2.37 | 2.40 | 2.35 | 2.36 | 2.31 | 2.21 | 2.14 | 2.05 | 2.02 | 2.05 | 2.08 | 2.01 | 2.04 | 2.04 | 2.10 | 2.13 | 2.18 | 2.27 | 2.24 | Diurnal Average | |
| | 3.02 | 3.05 | 3.05 | 3.27 | 3.59 | 3.47 | 3.66 | 3.32 | 3.25 | 3.19 | 2.90 | 2.63 | 2.55 | 2.31 | 2.38 | 2.65 | 2.19 | 2.29 | 2.48 | 2.54 | 2.50 | 2.84 | 3.84 | 3.12 | Diurnal Maximum | |

C - Calibration

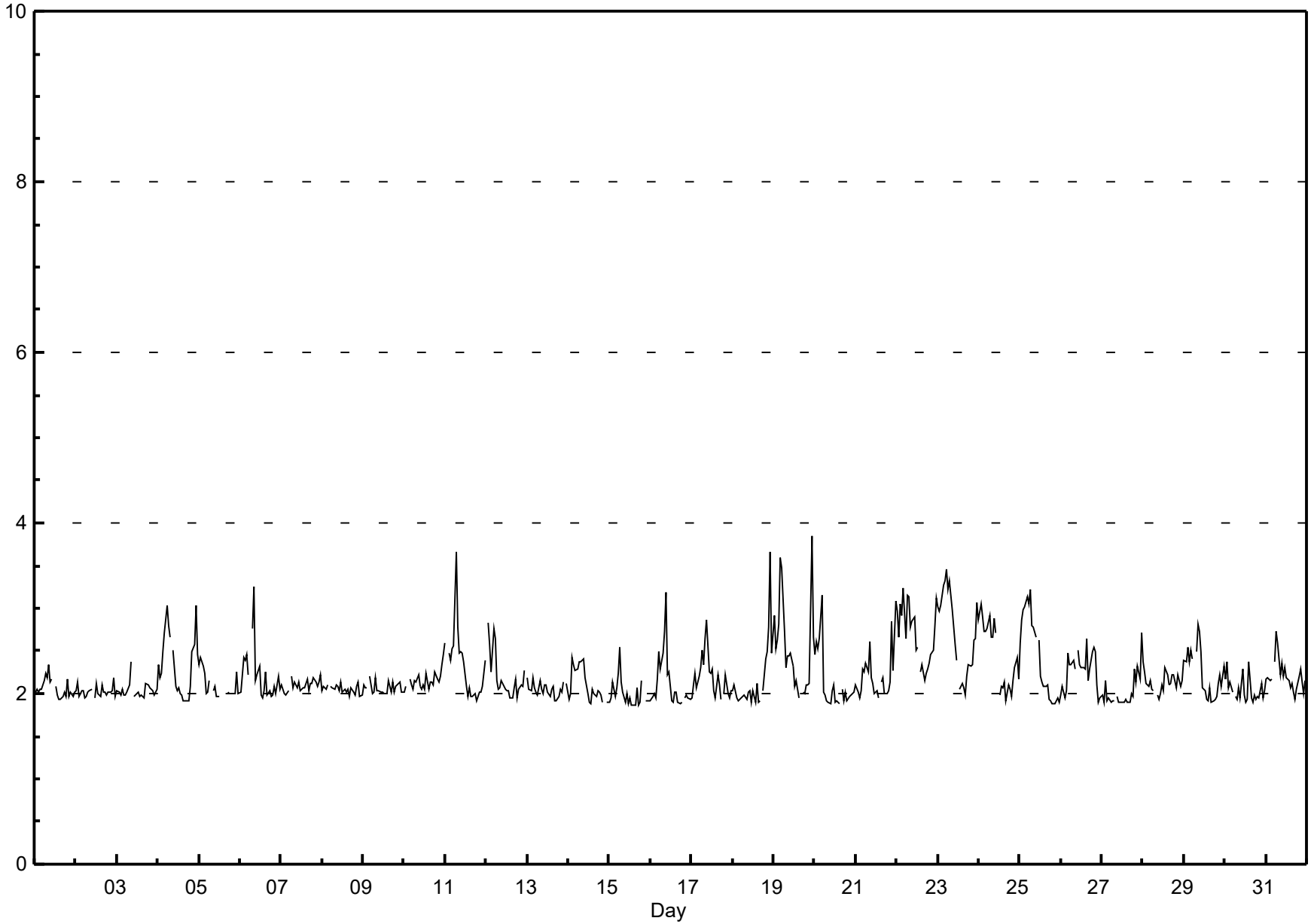
A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

**Total Hydrocarbons (THC) - ppm**

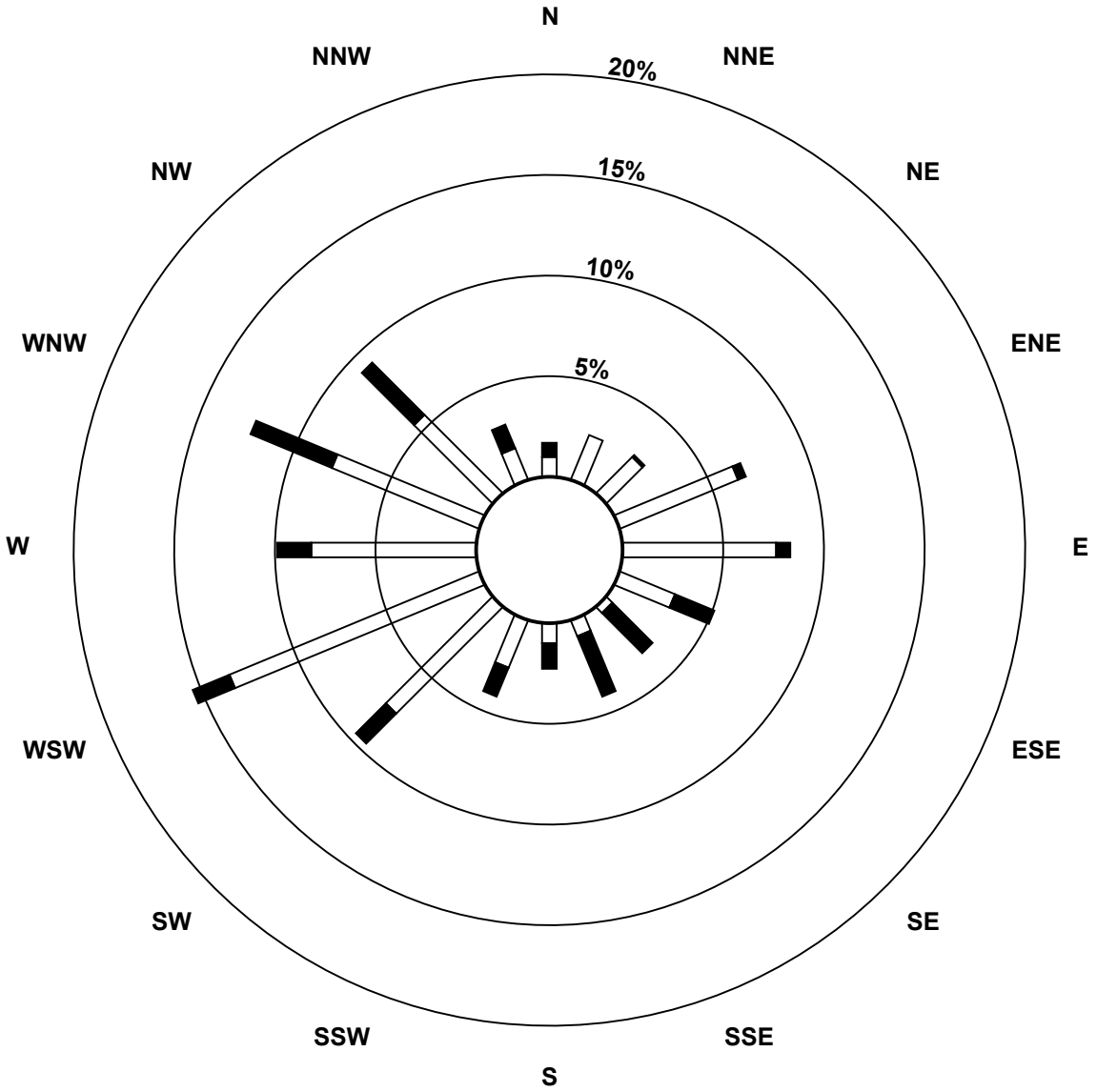
**Henry Pirker - October 2018**



# Pollutant Rose

**Total Hydrocarbons (THC) - ppm**

**Henry Pirker - October 2018**




**Pollutant Classes (ppm)**

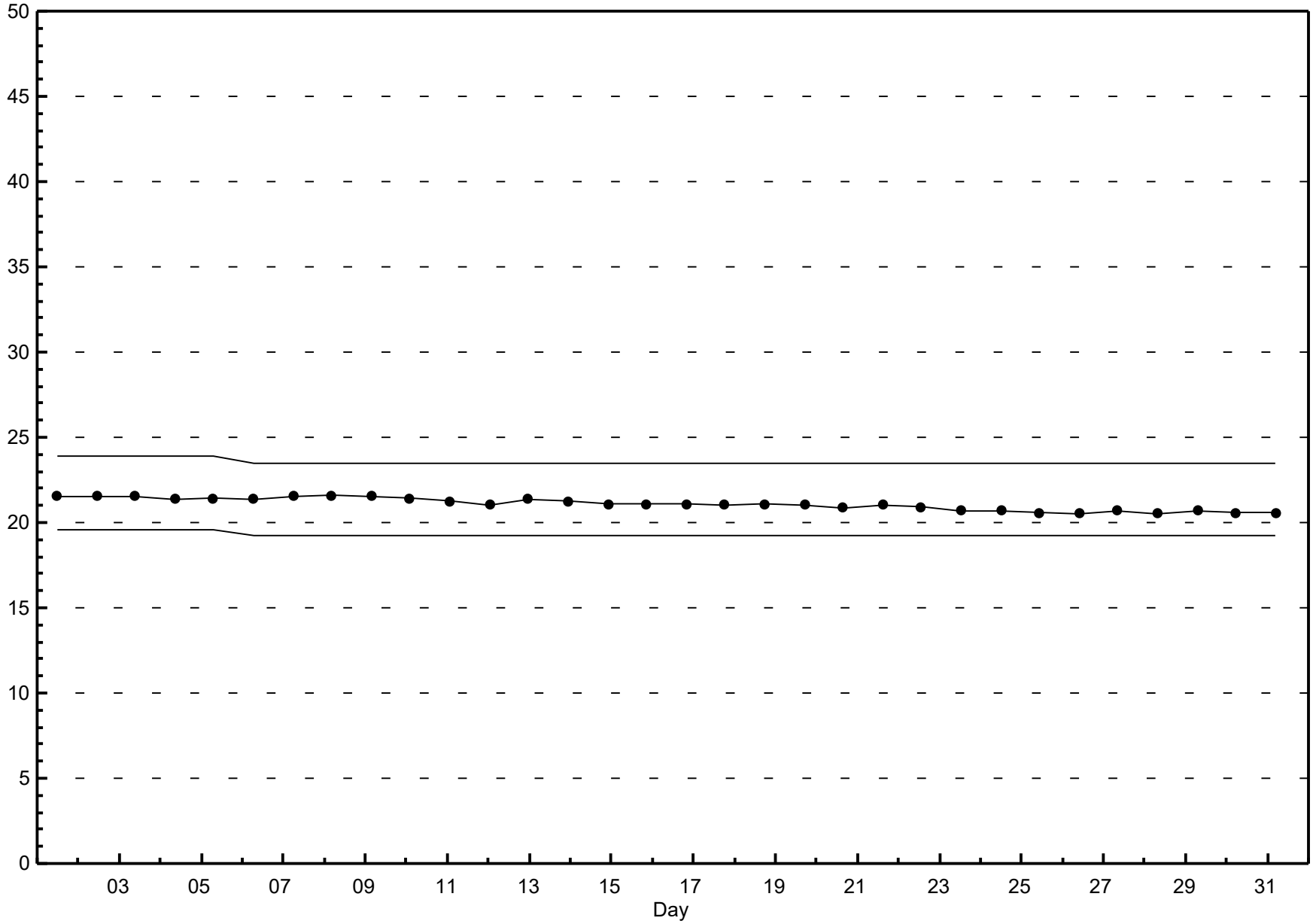
- 1.5 - 2.0
- 2.1 - 3.0
- 3.1 - 10.0
- > 10.0

Peace Airshed Zone Association

# Span Responses

**Total Hydrocarbons (THC)**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Methane ($CH_4$) - ppm

## Henry Pirker - October 2018

Maximum Value: 2.87 ppm on Oct 22 05:00

Maximum Daily Average: 2.31 ppm on Oct 23

Minimum Value: 1.8 ppm on Oct 15 15:00

Minimum Daily Average: 1.88 ppm on Oct 15

Maximum Diurnal Average: 2.14 ppm at hour 7

Minimum Diurnal Average: 1.92 ppm at hour 17

Monthly Average: 2.025 ppm

Percentiles: $P_1$ = 1.85 $P_{10}$ = 1.88 $Q_1$ = 1.92 Median = 1.96 $Q_3$ = 2.06 $P_{90}$ = 2.29 $P_{99}$ = 2.60

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 708 |
| Hours of Missing Data: | 36 |
| Hours of Calibration: | 36 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.96 | 2.11 |
| 2-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 1.94 | 1.96 |
| 3-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 1.9 | 2.0 | 1.9 | 1.9 | 2.0 | 1.9 | 1.95 | 1.98 |
| 4-Oct | 2.0 | 2.1 | 2.1 | 2.1 | 2.3 | 2.5 | 2.4 | 2.3 | A | 2.1 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.1 | 2.2 | 2.1 | 2.07 | 2.46 |
| 5-Oct | 2.1 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | C | C | C | C | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 1.97 | 2.08 |
| 6-Oct | 2.0 | 2.0 | 2.2 | 2.2 | 2.1 | 2.1 | A | 2.5 | 2.5 | 2.1 | 2.1 | 2.1 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.05 | 2.48 |
| 7-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.97 | 1.99 |
| 8-Oct | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.97 | 1.99 |
| 9-Oct | 2.0 | 2.0 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.98 | 2.00 |
| 10-Oct | 2.0 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.0 | 2.1 | 2.1 | 2.1 | 2.02 | 2.12 |
| 11-Oct | 2.3 | A | 2.2 | 2.2 | 2.3 | 2.3 | 2.7 | 2.4 | 2.2 | 2.2 | 2.2 | 2.2 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.11 | 2.73 |
| 12-Oct | A | 2.2 | 2.3 | 2.0 | 2.4 | 2.2 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | A | 2.01 | 2.38 |
| 13-Oct | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 1.9 | 1.9 | A | 1.9 | 1.95 | 2.02 |
| 14-Oct | 1.9 | 1.9 | 2.0 | 2.1 | 2.1 | 2.1 | 2.2 | 2.2 | 2.1 | 2.2 | 2.1 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.97 | 2.19 |
| 15-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.88 | 2.04 |
| 16-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.1 | 2.2 | 2.2 | 2.6 | 2.1 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.97 | 2.60 |
| 17-Oct | 1.9 | 1.9 | 2.0 | 2.0 | 2.1 | 2.1 | 2.2 | 2.2 | 2.3 | 2.4 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 2.0 | 1.9 | 1.9 | 1.9 | 2.01 | 2.42 |
| 18-Oct | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 2.1 | 2.1 | 2.1 | 2.2 | 2.2 | 1.95 | 2.17 |
| 19-Oct | 2.2 | 2.2 | 2.3 | 2.5 | 2.5 | 2.6 | 2.2 | 2.1 | 2.1 | 2.2 | 2.3 | 2.1 | 2.0 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.2 | 2.2 | 2.13 | 2.57 |
| 20-Oct | 2.2 | 2.4 | 2.2 | 2.3 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 1.96 | 2.36 |
| 21-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.1 | 2.1 | 2.1 | 2.3 | 2.1 | 2.0 | 2.0 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.1 | 2.1 | 2.4 | 2.02 | 2.37 |
| 22-Oct | 2.4 | 2.3 | 2.3 | 2.4 | 2.9 | 2.3 | 2.5 | 2.5 | 2.4 | 2.4 | 2.5 | 2.3 | 2.3 | A | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.2 | 2.2 | 2.3 | 2.4 | 2.30 | 2.87 |
| 23-Oct | 2.5 | 2.5 | 2.4 | 2.6 | 2.7 | 2.6 | 2.6 | 2.6 | 2.6 | 2.5 | 2.3 | 2.1 | A | 2.0 | 2.0 | 1.9 | 2.0 | 2.0 | 2.1 | 2.1 | 2.1 | 2.4 | 2.4 | 2.4 | 2.31 | 2.66 |
| 24-Oct | 2.4 | 2.5 | 2.5 | 2.4 | 2.4 | 2.4 | 2.4 | 2.3 | 2.4 | 2.4 | 2.3 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.1 | 2.0 | 2.16 | 2.49 |
| 25-Oct | 2.3 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.4 | 2.4 | 2.4 | A | 2.2 | 2.1 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.18 | 2.63 |
| 26-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 2.1 | 2.2 | 2.1 | 2.1 | 2.1 | A | 2.1 | 2.1 | 2.1 | 2.1 | 2.2 | 2.3 | 2.1 | 2.1 | 2.1 | 2.3 | 2.3 | 1.9 | 1.9 | 1.9 | 2.07 | 2.32 |
| 27-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.1 | 2.2 | 1.92 | 2.16 |
| 28-Oct | 2.2 | 2.1 | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.99 | 2.18 |
| 29-Oct | 2.1 | 2.1 | 2.2 | 2.2 | 2.2 | 2.2 | A | 2.2 | 2.4 | 2.3 | 2.1 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.1 | 2.0 | 2.0 | 2.05 | 2.42 |
| 30-Oct | 2.0 | 2.0 | 1.9 | 2.0 | 2.0 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 1.92 | 2.03 |
| 31-Oct | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.2 | 2.5 | 2.2 | 2.0 | 2.1 | 2.0 | 2.1 | 2.0 | 1.9 | 1.9 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 2.1 | 2.0 | 1.9 | 1.9 | 2.03 | 2.46 |
| | 2.05 | 2.07 | 2.08 | 2.09 | 2.13 | 2.13 | 2.14 | 2.12 | 2.12 | 2.11 | 2.04 | 2.00 | 1.95 | 1.93 | 1.94 | 1.94 | 1.92 | 1.93 | 1.94 | 1.96 | 1.99 | 1.99 | 2.01 | 2.03 | Diurnal Average | |
| | 2.45 | 2.58 | 2.63 | 2.60 | 2.87 | 2.63 | 2.73 | 2.58 | 2.60 | 2.60 | 2.45 | 2.31 | 2.28 | 2.14 | 2.17 | 2.31 | 2.06 | 2.07 | 2.09 | 2.32 | 2.27 | 2.35 | 2.39 | 2.40 | Diurnal Maximum | |

C - Calibration

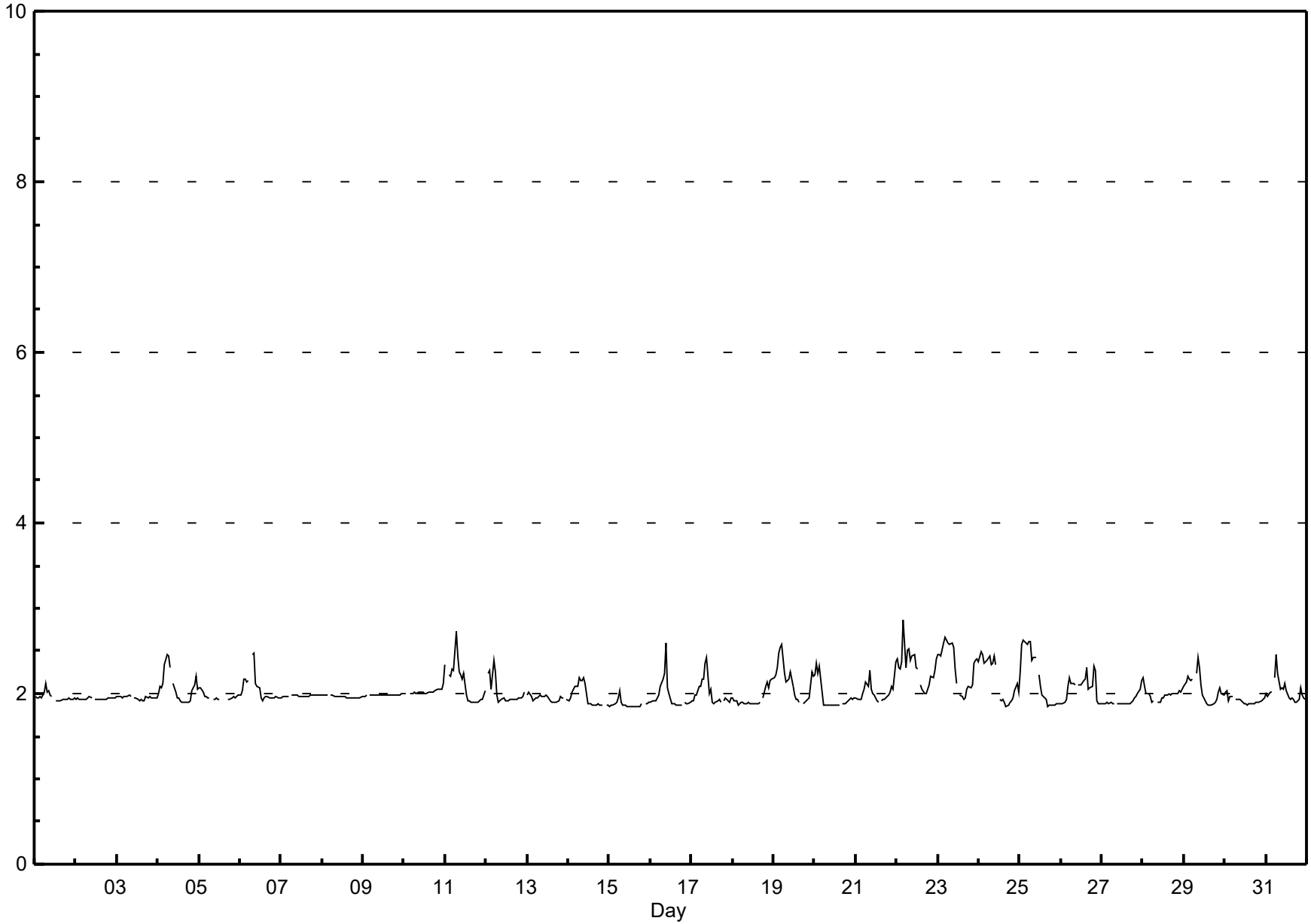
A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Averages

**Methane ($CH_4$) - ppm**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Methane ($CH_4$) - ppm

## Henry Pirker - October 2018

Maximum Value: 3.85 ppm on Oct 19 23:00

Maximum Daily Average: 2.55 ppm on Oct 22

Minimum Value: 1.9 ppm on Oct 15 16:00

Minimum Daily Average: 1.92 ppm on Oct 15

Maximum Diurnal Average: 2.31 ppm at hour 5

Minimum Diurnal Average: 1.96 ppm at hour 17

Monthly Average: 2.127 ppm

Percentiles: $P_1$ = 1.88 $P_{10}$ = 1.90 $Q_1$ = 1.95 Median = 2.01 $Q_3$ = 2.20 $P_{90}$ = 2.53 $P_{99}$ = 3.18

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 708 |
| Hours of Missing Data: | 36 |
| Hours of Calibration: | 36 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.2 | 2.1 | 2.2 | 2.1 | 2.0 | A | 2.0 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.01 | 2.18 |
| 2-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | A | 1.9 | 1.9 | 1.9 | 2.0 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.96 | 2.00 |
| 3-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.99 | 2.12 |
| 4-Oct | 2.3 | 2.2 | 2.2 | 2.5 | 2.5 | 3.0 | 2.5 | 2.4 | A | 2.3 | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.5 | 2.6 | 3.0 | 2.4 | 2.27 | 3.04 |
| 5-Oct | 2.2 | 2.2 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.0 | 2.1 | 2.0 | 2.0 | 2.0 | C | C | C | C | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.3 | 2.0 | 2.03 | 2.26 |
| 6-Oct | 2.0 | 2.2 | 2.4 | 2.4 | 2.4 | 2.2 | A | 2.8 | 3.2 | 2.1 | 2.1 | 2.2 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.0 | 2.2 | 2.0 | 2.19 | 3.25 |
| 7-Oct | 2.1 | 2.1 | 2.0 | 2.0 | 2.0 | A | 2.1 | 2.1 | 2.0 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.0 | 2.0 | 2.0 | 2.1 | 2.2 | 2.03 | 2.19 |
| 8-Oct | 2.0 | 2.1 | 2.0 | 2.0 | A | 2.0 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.99 | 2.08 |
| 9-Oct | 2.0 | 2.0 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.00 | 2.02 |
| 10-Oct | 2.0 | 2.0 | A | 2.0 | 2.1 | 2.0 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.0 | 2.0 | 2.0 | 2.1 | 2.0 | 2.0 | 2.2 | 2.1 | 2.1 | 2.2 | 2.3 | 2.5 | 2.09 | 2.45 |
| 11-Oct | 2.6 | A | 2.5 | 2.3 | 2.5 | 2.5 | 3.7 | 2.8 | 2.4 | 2.3 | 2.3 | 2.4 | 2.1 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 1.9 | 2.4 | 2.26 | 3.66 |
| 12-Oct | A | 2.7 | 2.6 | 2.2 | 2.7 | 2.6 | 2.1 | 1.9 | 1.9 | 2.0 | 2.0 | 1.9 | 2.0 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | 2.0 | 2.0 | 2.0 | 2.2 | A | 2.11 | 2.73 |
| 13-Oct | 2.0 | 2.0 | 2.0 | 1.9 | 2.0 | 2.0 | 2.0 | 2.2 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.0 | 1.99 | 2.16 |
| 14-Oct | 1.9 | 2.0 | 2.4 | 2.2 | 2.3 | 2.2 | 2.4 | 2.4 | 2.2 | 2.4 | 2.2 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 2.06 | 2.43 |
| 15-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.1 | 2.1 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.2 | A | 1.9 | 1.9 | 1.9 | 1.92 | 2.15 |
| 16-Oct | 1.9 | 2.0 | 1.9 | 1.9 | 2.2 | 2.1 | 2.1 | 2.3 | 2.7 | 3.2 | 2.2 | 2.2 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 2.0 | 1.9 | 2.07 | 3.19 |
| 17-Oct | 1.9 | 2.1 | 2.2 | 2.0 | 2.1 | 2.3 | 2.4 | 2.3 | 2.6 | 2.9 | 2.3 | 2.2 | 2.1 | 1.9 | 2.0 | 2.0 | 2.0 | 1.9 | A | 2.0 | 2.2 | 2.0 | 1.9 | 2.0 | 2.14 | 2.86 |
| 18-Oct | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 1.9 | 1.9 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 2.0 | 2.3 | 2.5 | 2.8 | 3.7 | 2.5 | 2.11 | 3.65 |
| 19-Oct | 2.9 | 2.5 | 2.5 | 2.6 | 3.3 | 3.2 | 2.5 | 2.3 | 2.4 | 2.3 | 2.4 | 2.2 | 2.0 | 2.0 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 2.0 | 2.1 | 3.8 | 2.7 | 2.41 | 3.85 |
| 20-Oct | 2.4 | 2.6 | 2.5 | 2.5 | 3.2 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.07 | 3.15 |
| 21-Oct | 2.1 | 2.0 | 2.0 | 2.0 | 2.3 | 2.3 | 2.4 | 2.3 | 2.6 | 2.1 | 2.0 | 2.0 | 1.9 | 1.9 | A | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.8 | 2.3 | 3.1 | 2.19 | 3.09 |
| 22-Oct | 3.0 | 2.7 | 3.1 | 2.9 | 3.2 | 2.6 | 3.1 | 2.9 | 2.6 | 2.6 | 2.7 | 2.4 | 2.3 | A | 2.2 | 2.1 | 2.1 | 2.1 | 2.2 | 2.3 | 2.5 | 2.2 | 2.4 | 2.6 | 2.55 | 3.23 |
| 23-Oct | 2.6 | 2.6 | 2.5 | 2.7 | 2.8 | 2.8 | 2.9 | 3.1 | 2.7 | 2.6 | 2.5 | 2.2 | A | 2.0 | 2.0 | 2.1 | 2.0 | 2.1 | 2.1 | 2.1 | 2.1 | 2.5 | 2.5 | 2.6 | 2.44 | 3.06 |
| 24-Oct | 2.5 | 2.5 | 2.5 | 2.5 | 2.6 | 2.5 | 2.8 | 2.7 | 2.4 | 2.5 | 2.5 | A | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.2 | 2.3 | 2.2 | 2.27 | 2.78 |
| 25-Oct | 2.6 | 2.9 | 2.8 | 2.8 | 2.6 | 2.9 | 2.8 | 2.6 | 2.5 | 2.6 | A | 2.3 | 2.1 | 2.1 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 1.9 | 2.30 | 2.86 |
| 26-Oct | 1.9 | 1.9 | 1.9 | 2.0 | 2.5 | 2.3 | 2.3 | 2.4 | 2.2 | A | 2.2 | 2.1 | 2.2 | 2.2 | 2.3 | 2.6 | 2.1 | 2.2 | 2.5 | 2.5 | 2.4 | 1.9 | 1.9 | 1.9 | 2.20 | 2.63 |
| 27-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.3 | 2.1 | 2.3 | 2.2 | 2.4 | 1.98 | 2.43 |
| 28-Oct | 2.4 | 2.2 | 2.1 | 2.1 | 2.0 | 1.9 | 1.9 | A | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.2 | 2.0 | 2.1 | 2.03 | 2.38 |
| 29-Oct | 2.1 | 2.3 | 2.4 | 2.3 | 2.3 | 2.4 | A | 2.3 | 2.5 | 2.4 | 2.2 | 2.1 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.1 | 2.1 | 2.1 | 2.3 | 2.14 | 2.51 |
| 30-Oct | 2.2 | 2.4 | 2.0 | 2.1 | 2.0 | A | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.4 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 1.99 | 2.38 |
| 31-Oct | 2.2 | 2.1 | 2.2 | 2.1 | A | 2.3 | 2.7 | 2.4 | 2.1 | 2.3 | 2.2 | 2.2 | 2.2 | 2.0 | 1.9 | 2.0 | 2.0 | 1.9 | 2.0 | 2.0 | 2.1 | 2.1 | 2.0 | 2.0 | 2.13 | 2.66 |
| | 2.18 | 2.20 | 2.22 | 2.19 | 2.31 | 2.27 | 2.30 | 2.27 | 2.24 | 2.22 | 2.11 | 2.06 | 2.00 | 1.96 | 1.98 | 1.99 | 1.96 | 1.97 | 1.99 | 2.04 | 2.08 | 2.12 | 2.22 | 2.18 | Diurnal Average | |
| | 2.97 | 2.86 | 3.06 | 2.92 | 3.28 | 3.18 | 3.66 | 3.06 | 3.25 | 3.19 | 2.67 | 2.38 | 2.35 | 2.17 | 2.38 | 2.63 | 2.15 | 2.20 | 2.46 | 2.54 | 2.49 | 2.84 | 3.85 | 3.09 | Diurnal Maximum | |

C - Calibration

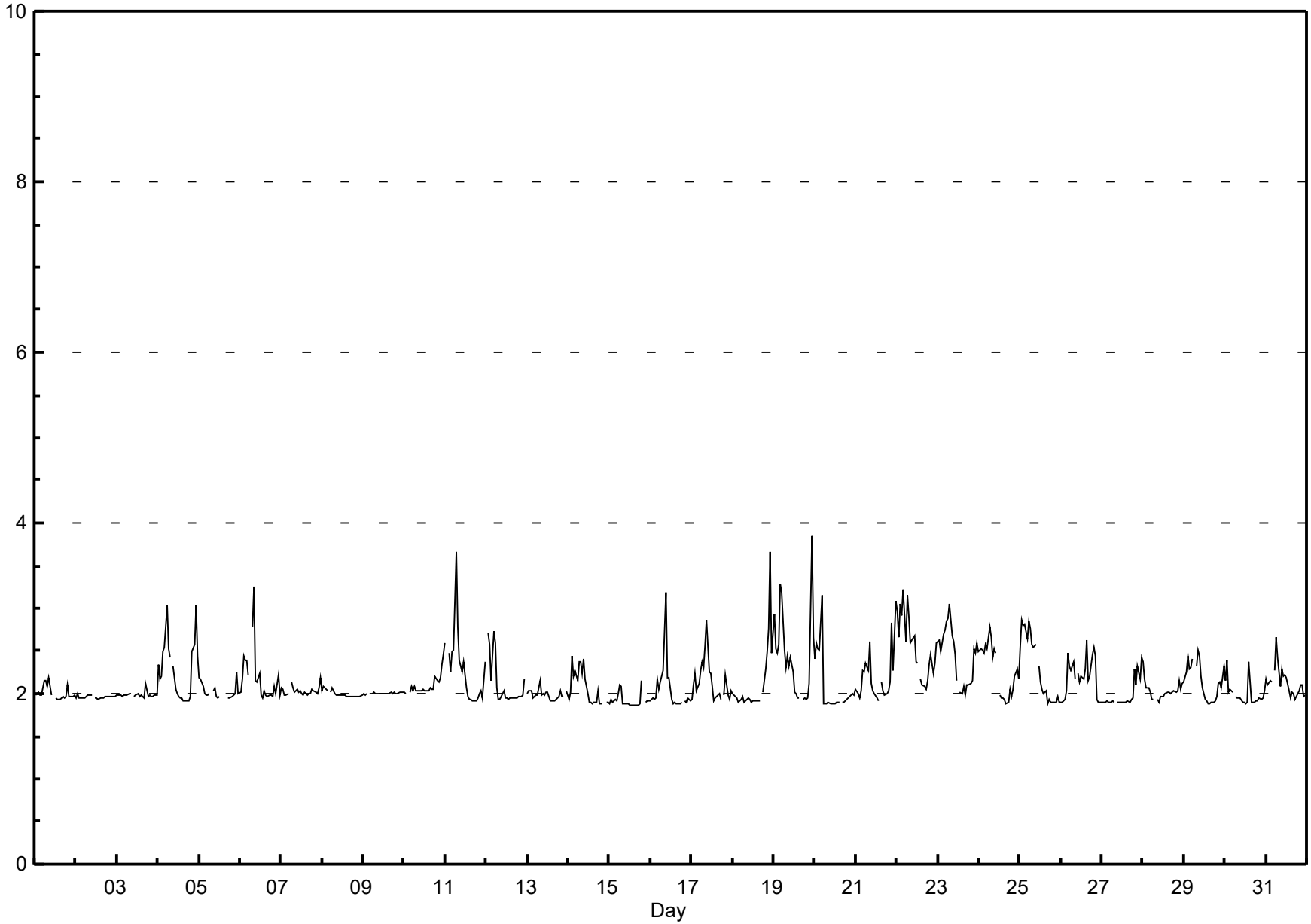
A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

**Methane ($CH_4$) - ppm**

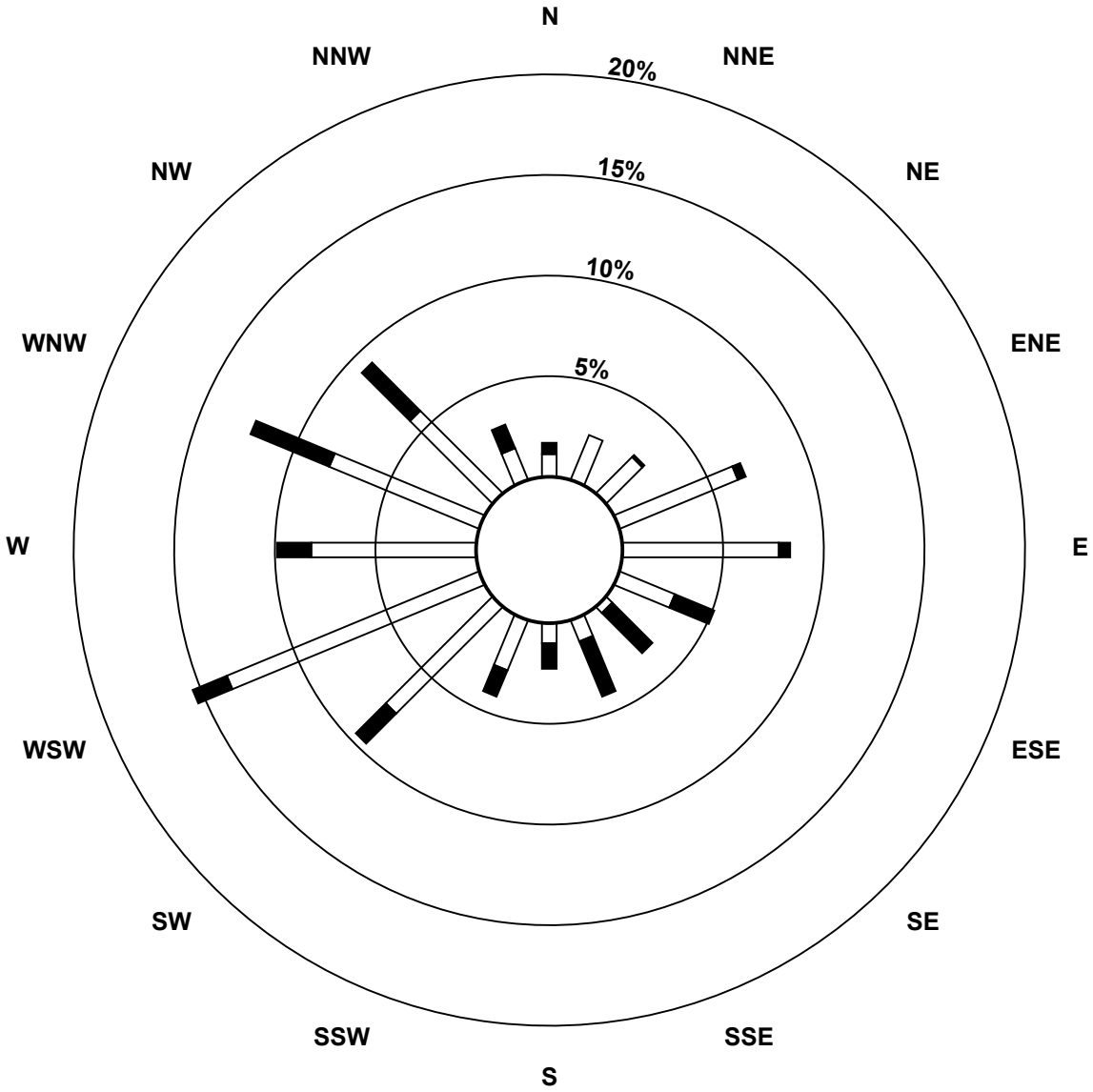
**Henry Pirker - October 2018**



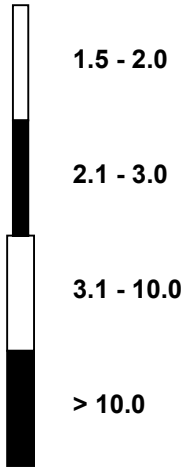
# Pollutant Rose

**Methane ($CH_4$) - ppm**

**Henry Pirker - October 2018**




**Pollutant Classes (ppm)**



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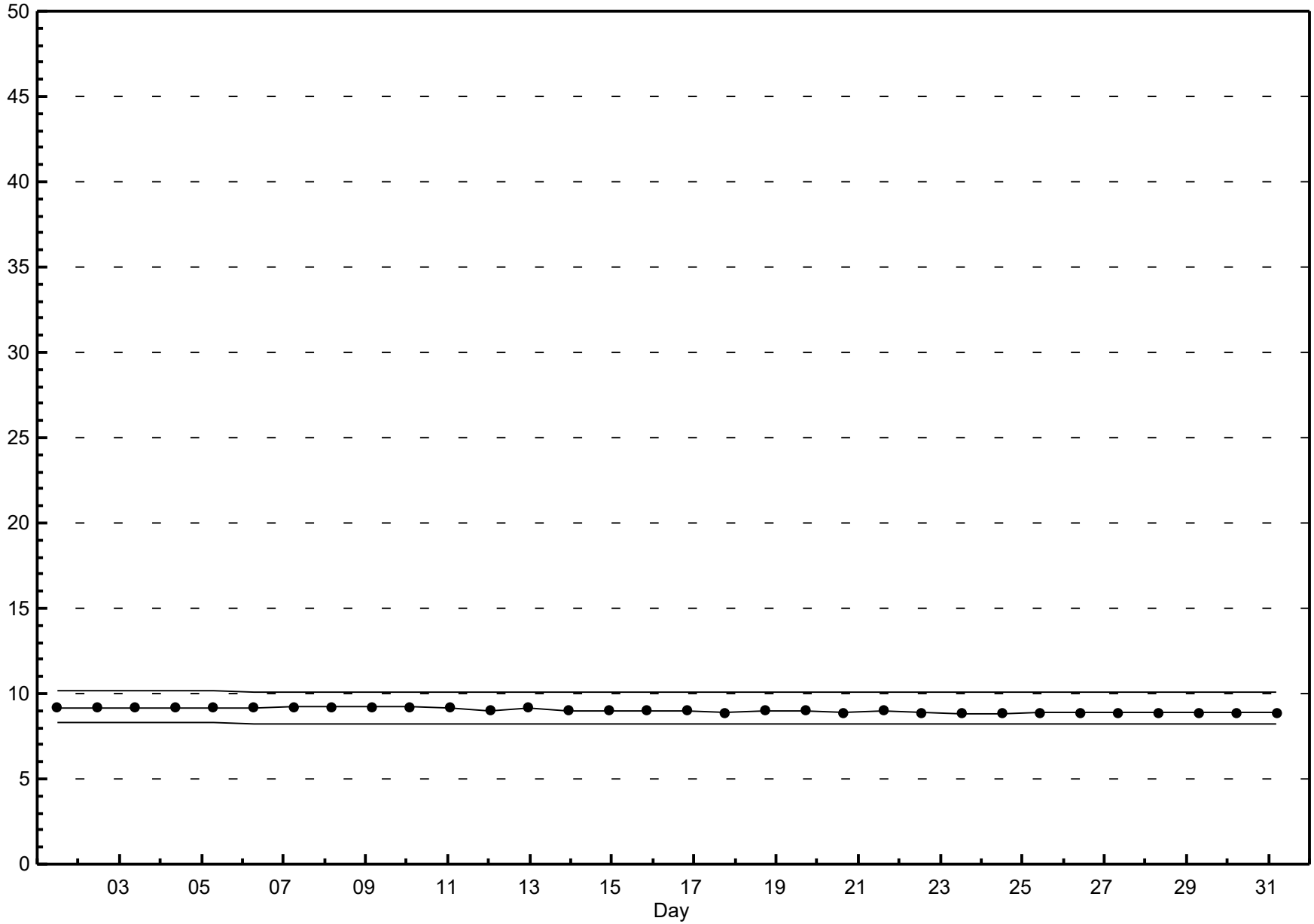
# Span Responses

**Methane ($CH_4$)**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Non Methane Hydrocarbon (NMHC) - ppm

## Henry Pirker - October 2018

Maximum Value: 0.43 ppm on Oct 23 04:00

Maximum Daily Average: 0.13 ppm on Oct 23

Minimum Value: 0.0 ppm on Oct 1 03:00

Minimum Daily Average: 0.00 ppm on Oct 6

Maximum Diurnal Average: 0.03 ppm at hour 5

Minimum Diurnal Average: 0.00 ppm at hour 17

Monthly Average: 0.013 ppm

Percentiles: $P_1 = 0.00$ $P_{10} = 0.00$ $Q_1 = 0.00$ Median = 0.00 $Q_3 = 0.01$ $P_{90} = 0.02$ $P_{99} = 0.24$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 708 |
| Hours of Missing Data: | 36 |
| Hours of Calibration: | 36 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.01 |
| 2-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 3-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.04 |
| 4-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.01 | 0.04 |
| 5-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | C | C | C | C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.02 |
| 6-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 7-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.01 |
| 8-Oct | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.01 |
| 9-Oct | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.01 |
| 10-Oct | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.01 |
| 11-Oct | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.01 | 0.03 |
| 12-Oct | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.00 | 0.01 |
| 13-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.00 | 0.01 |
| 14-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.00 | 0.02 |
| 15-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.01 | 0.16 |
| 16-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.01 | 0.04 |
| 17-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.01 | 0.06 |
| 18-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.01 |
| 19-Oct | 0.0 | 0.0 | 0.0 | 0.1 | 0.2 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.03 | 0.17 |
| 20-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.01 | 0.03 |
| 21-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.01 |
| 22-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.2 | 0.3 | 0.04 | 0.26 |
| 23-Oct | 0.3 | 0.2 | 0.3 | 0.4 | 0.4 | 0.4 | 0.2 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.13 | 0.43 |
| 24-Oct | 0.2 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.06 | 0.34 |
| 25-Oct | 0.0 | 0.0 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.04 | 0.22 |
| 26-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.01 | 0.02 |
| 27-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.03 |
| 28-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.02 |
| 29-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.02 | 0.17 |
| 30-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.03 |
| 31-Oct | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.01 | 0.02 |
| Diurnal Average | 0.02 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 | | |
| Diurnal Maximum | 0.27 | 0.34 | 0.32 | 0.43 | 0.39 | 0.38 | 0.23 | 0.15 | 0.17 | 0.11 | 0.11 | 0.02 | 0.05 | 0.01 | 0.01 | 0.02 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.05 | 0.16 | 0.26 | | |

C - Calibration

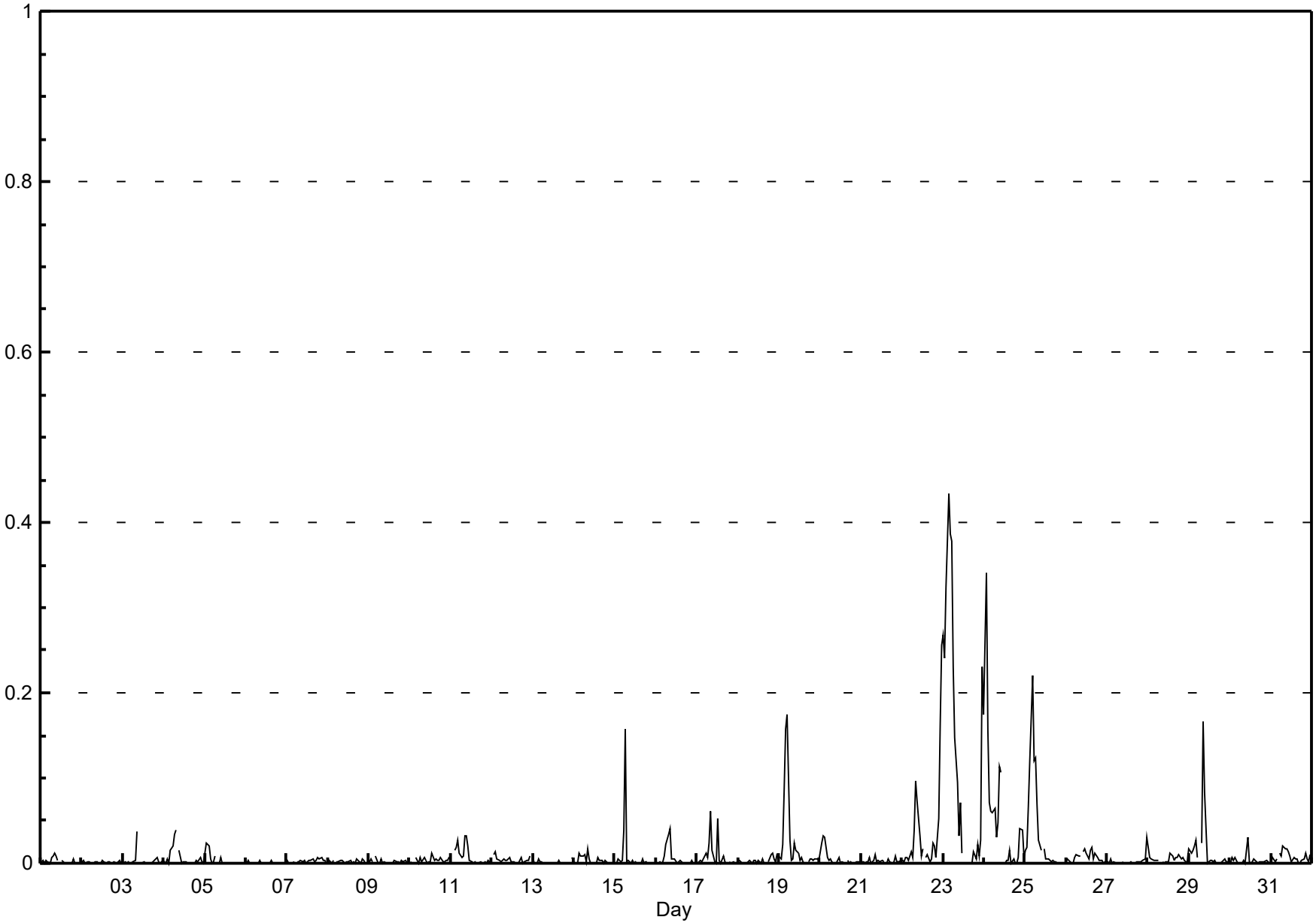
A - Automated Daily Zero Span

Peace Airshed Zone Association

## Hourly Averages

**Non Methane Hydrocarbon (NMHC) - ppm**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Non Methane Hydrocarbon (NMHC) - ppm

## Henry Pirker - October 2018

Maximum Value: 0.64 ppm on Oct 23 04:00

Maximum Daily Average: 0.33 ppm on Oct 23

Minimum Value: 0.0 ppm on Oct 2 12:00

Minimum Daily Average: 0.07 ppm on Oct 27

Maximum Diurnal Average: 0.18 ppm at hour 9

Minimum Diurnal Average: 0.08 ppm at hour 17

Monthly Average: 0.124 ppm

Percentiles: $P_1 = 0.00$ $P_{10} = 0.01$ $Q_1 = 0.04$ Median = 0.10 $Q_3 = 0.18$ $P_{90} = 0.26$ $P_{99} = 0.51$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 708 |
| Hours of Missing Data: | 36 |
| Hours of Calibration: | 36 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | A | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.2 | 0.0 | 0.1 | 0.0 | 0.1 | 0.08 | 0.22 |
| 2-Oct | 0.1 | 0.2 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | A | 0.0 | 0.2 | 0.1 | 0.0 | 0.2 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.0 | 0.08 | 0.24 |
| 3-Oct | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 | 0.4 | A | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 0.07 | 0.38 |
| 4-Oct | 0.1 | 0.1 | 0.2 | 0.0 | 0.2 | 0.3 | 0.3 | 0.3 | A | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 0.11 | 0.33 |
| 5-Oct | 0.2 | 0.3 | 0.3 | 0.2 | 0.0 | 0.1 | 0.2 | A | 0.0 | 0.2 | 0.0 | 0.0 | 0.1 | C | C | C | C | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.10 | 0.34 |
| 6-Oct | 0.0 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | A | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.09 | 0.27 |
| 7-Oct | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | A | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.0 | 0.10 | 0.20 |
| 8-Oct | 0.1 | 0.1 | 0.0 | 0.1 | A | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.2 | 0.0 | 0.0 | 0.08 | 0.17 |
| 9-Oct | 0.1 | 0.1 | 0.1 | A | 0.2 | 0.0 | 0.0 | 0.2 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.07 | 0.20 |
| 10-Oct | 0.0 | 0.1 | A | 0.2 | 0.1 | 0.0 | 0.2 | 0.1 | 0.2 | 0.1 | 0.0 | 0.1 | 0.0 | 0.2 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.11 | 0.24 |
| 11-Oct | 0.2 | A | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | 0.1 | 0.0 | 0.2 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 | 0.13 | 0.27 |
| 12-Oct | A | 0.2 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.2 | 0.0 | 0.1 | 0.2 | 0.1 | 0.2 | A | 0.13 | 0.27 |
| 13-Oct | 0.2 | 0.0 | 0.1 | 0.3 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.2 | A | 0.2 | 0.09 | 0.25 |
| 14-Oct | 0.0 | 0.0 | 0.0 | 0.3 | 0.2 | 0.2 | 0.2 | 0.1 | 0.3 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | A | 0.0 | 0.0 | 0.10 | 0.32 |
| 15-Oct | 0.0 | 0.0 | 0.3 | 0.1 | 0.2 | 0.3 | 0.5 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.1 | 0.1 | A | 0.0 | 0.0 | 0.0 | 0.10 | 0.49 |
| 16-Oct | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.4 | 0.2 | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.2 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.1 | 0.0 | 0.0 | 0.11 | 0.44 |
| 17-Oct | 0.0 | 0.1 | 0.2 | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.0 | 0.4 | 0.1 | 0.0 | 0.2 | 0.1 | 0.0 | A | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 0.11 | 0.37 |
| 18-Oct | 0.1 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.2 | 0.0 | 0.2 | 0.0 | 0.2 | 0.0 | 0.0 | A | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.09 | 0.23 |
| 19-Oct | 0.2 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.3 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.1 | 0.0 | A | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.19 | 0.45 |
| 20-Oct | 0.2 | 0.2 | 0.2 | 0.3 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.2 | 0.2 | 0.0 | 0.0 | 0.0 | A | 0.2 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.10 | 0.29 |
| 21-Oct | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | A | 0.0 | 0.3 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.1 | 0.08 | 0.27 |
| 22-Oct | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.2 | 0.1 | 0.3 | 0.3 | 0.3 | 0.3 | 0.1 | 0.2 | A | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.5 | 0.5 | 0.23 | 0.54 |
| 23-Oct | 0.4 | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.4 | 0.4 | 0.3 | 0.2 | 0.4 | 0.3 | A | 0.1 | 0.2 | 0.0 | 0.0 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.5 | 0.33 | 0.64 |
| 24-Oct | 0.4 | 0.5 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.3 | 0.4 | 0.3 | A | 0.1 | 0.2 | 0.1 | 0.3 | 0.1 | 0.2 | 0.0 | 0.0 | 0.2 | 0.3 | 0.2 | 0.2 | 0.24 | 0.54 |
| 25-Oct | 0.2 | 0.2 | 0.3 | 0.3 | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | 0.2 | A | 0.3 | 0.1 | 0.1 | 0.1 | 0.0 | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.19 | 0.51 |
| 26-Oct | 0.1 | 0.2 | 0.1 | 0.0 | 0.0 | 0.2 | 0.2 | 0.2 | 0.2 | A | 0.3 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.0 | 0.1 | 0.14 | 0.29 |
| 27-Oct | 0.1 | 0.0 | 0.3 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | A | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | 0.07 | 0.29 |
| 28-Oct | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | A | 0.1 | 0.0 | 0.1 | 0.2 | 0.1 | 0.3 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.14 | 0.31 |
| 29-Oct | 0.3 | 0.2 | 0.2 | 0.2 | 0.3 | 0.1 | A | 0.2 | 0.4 | 0.3 | 0.3 | 0.0 | 0.1 | 0.0 | 0.1 | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 | 0.2 | 0.1 | 0.1 | 0.2 | 0.16 | 0.36 |
| 30-Oct | 0.0 | 0.2 | 0.2 | 0.1 | 0.0 | A | 0.0 | 0.0 | 0.1 | 0.0 | 0.4 | 0.1 | 0.0 | 0.1 | 0.2 | 0.1 | 0.0 | 0.1 | 0.0 | 0.1 | 0.1 | 0.2 | 0.0 | 0.0 | 0.08 | 0.38 |
| 31-Oct | 0.0 | 0.2 | 0.1 | 0.1 | A | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.14 | 0.24 |
| | 0.12 | 0.15 | 0.16 | 0.16 | 0.16 | 0.17 | 0.16 | 0.15 | 0.18 | 0.14 | 0.16 | 0.11 | 0.09 | 0.09 | 0.09 | 0.11 | 0.08 | 0.09 | 0.08 | 0.10 | 0.10 | 0.12 | 0.09 | 0.11 | Diurnal Average | |
| | 0.44 | 0.54 | 0.53 | 0.64 | 0.57 | 0.62 | 0.49 | 0.36 | 0.38 | 0.36 | 0.44 | 0.33 | 0.37 | 0.31 | 0.23 | 0.27 | 0.27 | 0.23 | 0.24 | 0.25 | 0.23 | 0.31 | 0.49 | 0.55 | Diurnal Maximum | |

C - Calibration A - Automated Daily Zero Span

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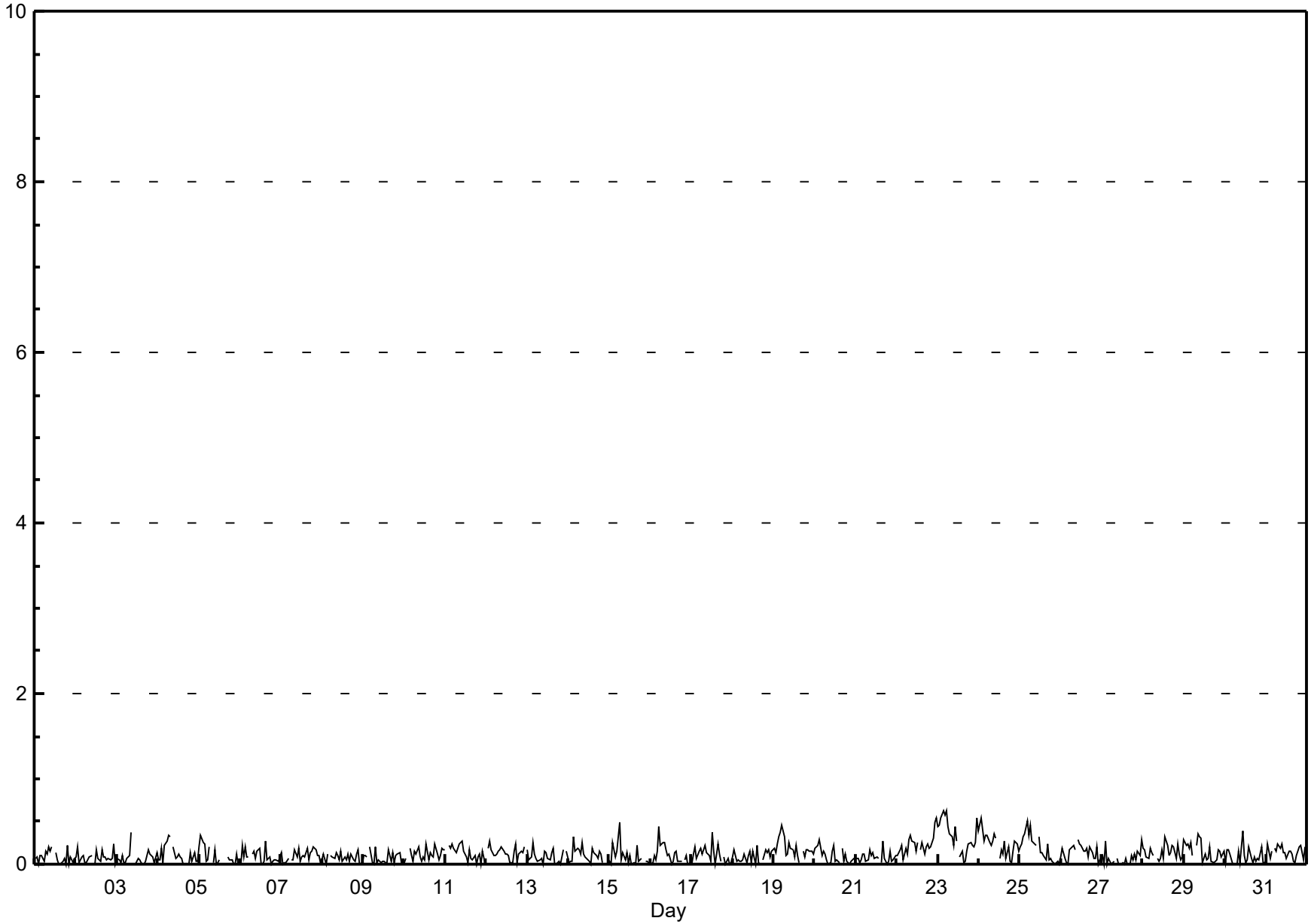
## Hourly Maximums

**Non Methane Hydrocarbon (NMHC) - ppm**

**Henry Pirker - October 2018**



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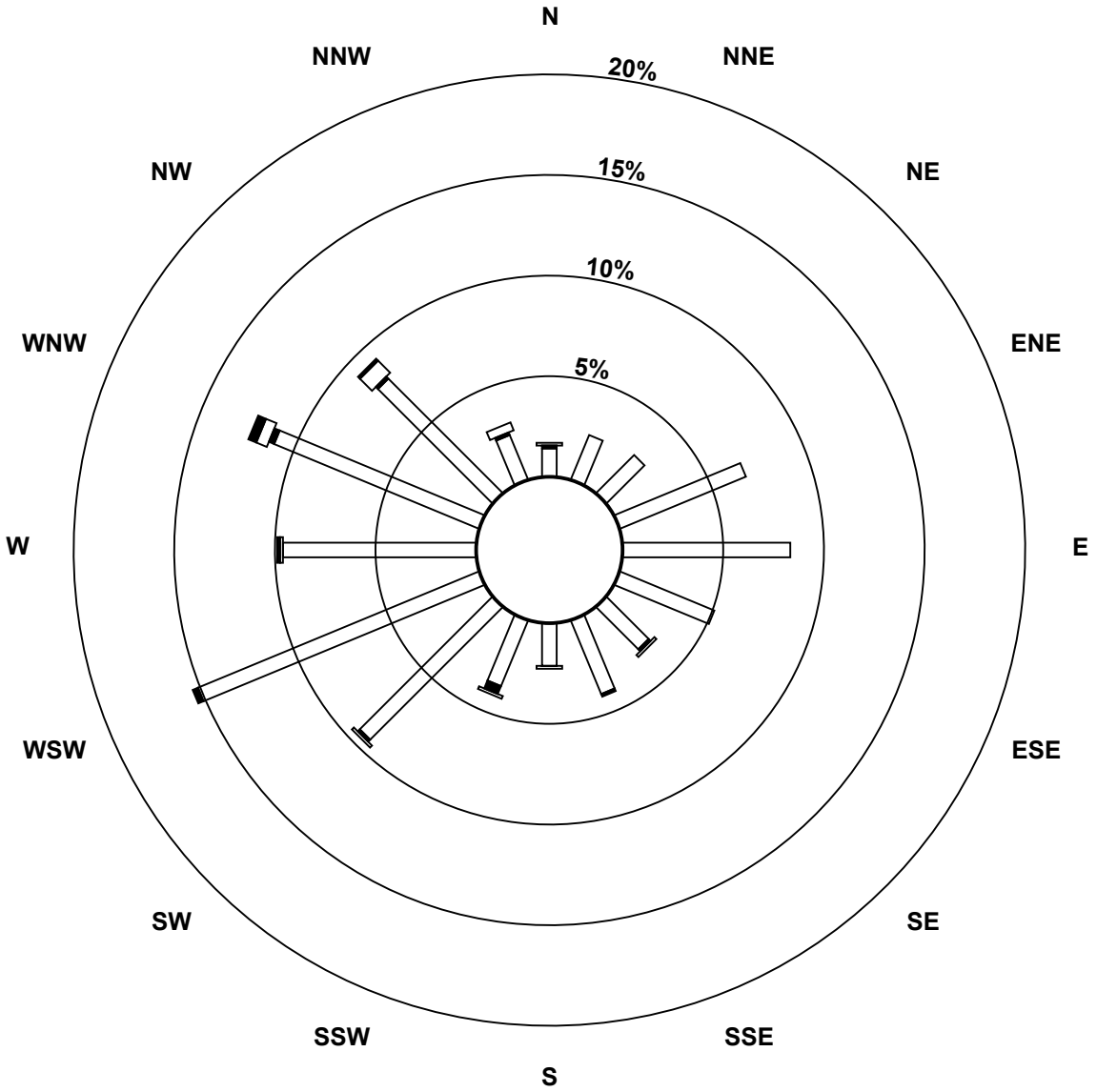
# Pollutant Rose

## Non Methane Hydrocarbon (NMHC) - ppm

## Henry Pirker - October 2018




**Pollutant Classes (ppm)**

- 0 - 0.05
- 0.06 - 0.1
- 0.11 - 0.30
- > 0.30

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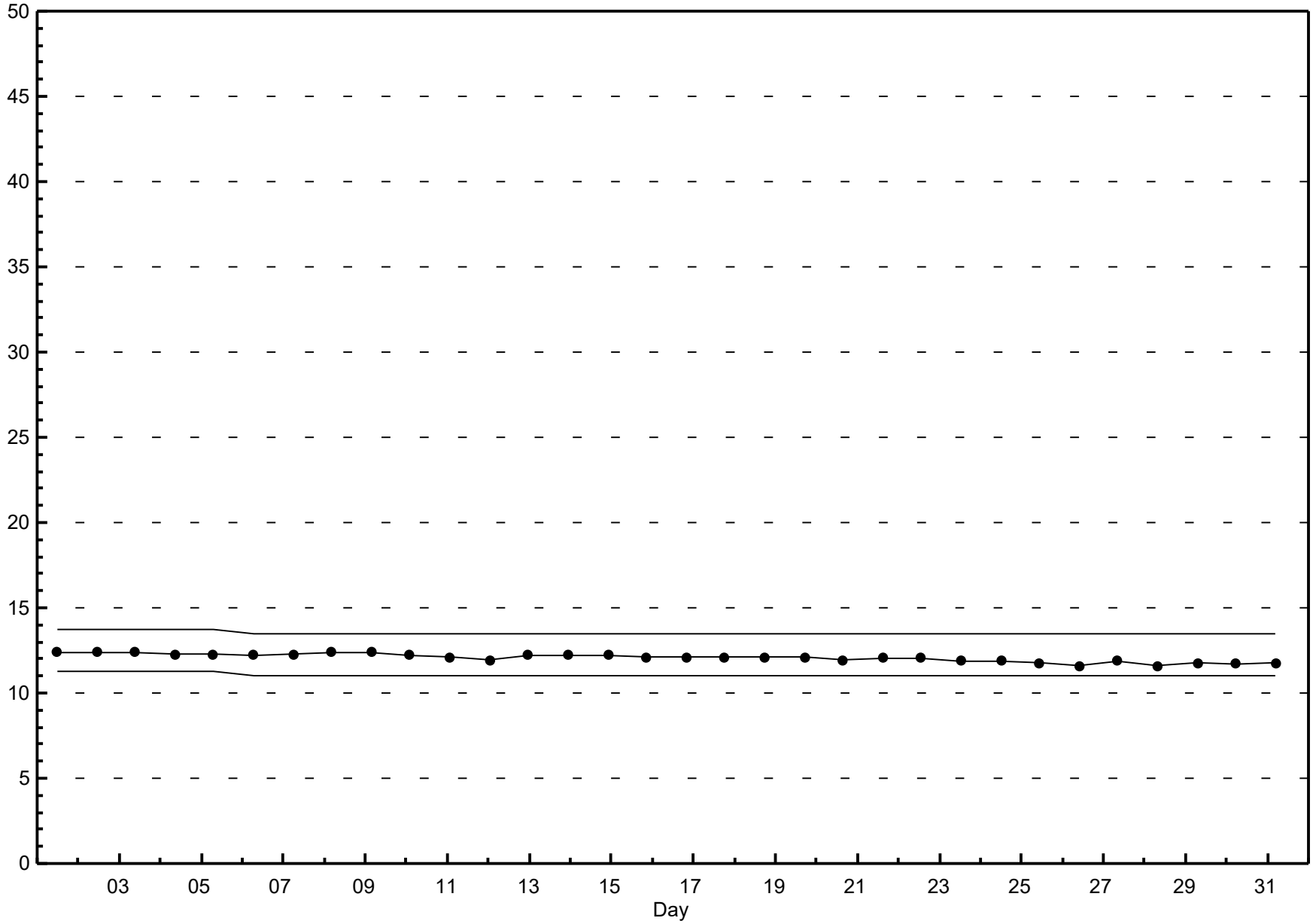
# Span Responses

## Non Methane Hydrocarbon (NMHC)

## Henry Pirker - October 2018



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# Hourly Averages

## Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

## Henry Pirker - October 2018

Number of Exceedences: 1-hr: 1 24-hr: 0

Maximum Value: 82.3 $\mu g/m^3$ on Oct 22 20:00

Maximum Daily Average: 16.0 $\mu g/m^3$ on Oct 22

Minimum Value: 1 $\mu g/m^3$ on Oct 29 15:00

Maximum Diurnal Average: 9.8 $\mu g/m^3$ at hour 9

Monthly Average: 6.57 $\mu g/m^3$

Minimum Daily Average: 1.8 $\mu g/m^3$ on Oct 30

Minimum Diurnal Average: 3.4 $\mu g/m^3$ at hour 17

Percentiles: $P_1$ = 1.0 $P_{10}$ = 1.6 $Q_1$ = 2.4 Median = 4.9 $Q_3$ = 8.9 $P_{90}$ = 13.5 $P_{99}$ = 24.7

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | |
| 1-Oct | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 2 | 3 | 2 | 2 | 2 | 2.3 | 3.5 |
| 2-Oct | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 8 | 9 | 5 | 3 | 2.6 | 8.6 |
| 3-Oct | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 9 | 8 | 3 | 2 | 3 | 4 | 2.9 | 8.6 |
| 4-Oct | 6 | 5 | 5 | 5 | 5 | 5 | 6 | 11 | 10 | 10 | 10 | 11 | 11 | 7 | 4 | 2 | 3 | 3 | 4 | 7 | 10 | 9 | 7 | 6 | 6.7 | 11.4 |
| 5-Oct | 9 | 7 | 6 | 4 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 5 | 5 | 9 | 6 | 8 | 4.1 | 9.2 |
| 6-Oct | 9 | 12 | 9 | 10 | 9 | 11 | 10 | 10 | 9 | 8 | 8 | 5 | 3 | 2 | 3 | 6 | 5 | 6 | 6 | 6 | 6 | 5 | 6 | 6 | 7.1 | 11.9 |
| 7-Oct | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 5 | 5 | 4 | 2 | 3 | 5 | 5 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 5.1 | 7.4 |
| 8-Oct | 4 | 5 | 4 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 8 | 2.9 | 7.6 |
| 9-Oct | 13 | 13 | 13 | 13 | 12 | 10 | 8 | 8 | 7 | 6 | 5 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 7 | 6.8 | 12.8 |
| 10-Oct | 8 | 8 | 9 | 10 | 10 | 10 | 10 | 10 | 9 | 8 | 10 | 9 | 8 | 8 | 9 | 11 | 10 | 9 | 8 | 7 | 10 | 9 | 6 | 8 | 8.9 | 10.6 |
| 11-Oct | 9 | 11 | 15 | 20 | 14 | 10 | 9 | 7 | 18 | 22 | 6 | 5 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 7.0 | 22.3 |
| 12-Oct | 2 | 3 | 5 | 7 | 8 | 9 | 5 | 3 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 5 | 3.3 | 9.4 |
| 13-Oct | 5 | 5 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 5 | 10 | 3 | 3 | 3 | 3 | 3.0 | 9.9 |
| 14-Oct | 2 | 6 | 5 | 5 | 10 | 8 | 8 | 7 | 7 | 7 | 5 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 4.0 | 9.8 |
| 15-Oct | 3 | 3 | 3 | 3 | 4 | 6 | 8 | 6 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 8 | 7 | 7 | 10 | 9 | 4.0 | 9.8 |
| 16-Oct | 9 | 9 | 8 | 8 | 7 | 8 | 11 | 19 | 21 | 14 | 8 | 6 | 4 | 6 | 8 | 4 | 3 | 3 | 6 | 6 | 9 | 9 | 11 | 11 | 8.7 | 21.5 |
| 17-Oct | 13 | 14 | 13 | 14 | 17 | 17 | 18 | 20 | 31 | 27 | 11 | 8 | 4 | 5 | 5 | 6 | 7 | 7 | 7 | 11 | 9 | 8 | 8 | 10 | 11.9 | 30.6 |
| 18-Oct | 11 | 12 | 13 | 10 | 7 | 8 | 8 | 8 | 5 | 4 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 8 | 12 | 14 | 15 | 11 | 12 | 11 | 7.5 | 15.0 |
| 19-Oct | 12 | 12 | 11 | 10 | 9 | 9 | 7 | 6 | 9 | 9 | 10 | 17 | 8 | 3 | 2 | 2 | 1 | 2 | 3 | 7 | 5 | 5 | 7 | 24 | 7.9 | 23.9 |
| 20-Oct | 18 | 14 | 10 | 10 | 7 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 3 | 5 | 5 | 4 | 4 | 4.6 | 17.8 |
| 21-Oct | 4 | 4 | 4 | 4 | 6 | 5 | 7 | 7 | 8 | 5 | 3 | 3 | 2 | 1 | 1 | 1 | 2 | 5 | 21 | 13 | 8 | 5 | 6 | 8 | 5.5 | 21.0 |
| 22-Oct | 15 | 13 | 9 | 9 | 9 | 9 | 8 | 11 | 14 | 18 | 16 | 12 | 13 | 11 | 10 | 10 | 7 | 19 | 14 | 82 | 24 | 20 | 14 | 15 | 16.0 | 82.3 |
| 23-Oct | 13 | 13 | 12 | 11 | 11 | 11 | 12 | 13 | 15 | 13 | 10 | 8 | 6 | 6 | 6 | 4 | 6 | 12 | 20 | 17 | 25 | 37 | 28 | 21 | 13.8 | 37.0 |
| 24-Oct | 15 | 14 | 14 | 14 | 12 | 13 | 13 | 11 | 18 | 15 | 17 | 11 | 9 | 9 | 10 | 10 | 12 | 12 | 15 | 17 | 18 | 22 | 23 | 21 | 14.4 | 22.5 |
| 25-Oct | 25 | 25 | 24 | 21 | 20 | 20 | 19 | 19 | 16 | 15 | 19 | 20 | 11 | 5 | 4 | 4 | 2 | 3 | 1 | 1 | 1 | 1 | 2 | 2 | 11.7 | 25.3 |
| 26-Oct | 2 | 2 | 3 | 3 | 6 | 5 | 9 | 11 | 19 | 13 | 14 | 13 | 17 | 12 | 10 | 10 | 4 | 4 | 5 | 7 | 6 | 2 | 1 | 1 | 7.4 | 18.9 |
| 27-Oct | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 3 | 2 | 2 | 2 | 1 | 2 | 2 | 4 | 5 | 7 | 7 | 8 | 12 | 19 | 4.1 | 19.0 |
| 28-Oct | 22 | 14 | 5 | 5 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 5 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 5 | 6 | 5.5 | 21.9 |
| 29-Oct | 7 | 8 | 9 | 8 | 6 | 6 | 9 | 18 | 42 | 17 | 7 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 6 | 5 | 3 | 2 | 6.9 | 42.2 |
| 30-Oct | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 2 | 2 | 5 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1.8 | 4.7 |
| 31-Oct | 4 | 3 | 5 | 4 | 6 | 6 | 7 | 8 | 8 | 8 | 6 | 5 | 5 | 4 | 4 | 5 | 6 | 4 | 5 | 5 | 6 | 4 | 4 | 6 | 5.4 | 8.4 |
| | 8.3 | 8.1 | 7.5 | 7.4 | 7.2 | 7.1 | 7.1 | 7.9 | 9.8 | 8.2 | 6.4 | 5.5 | 4.5 | 3.6 | 3.6 | 3.5 | 3.4 | 4.5 | 6.0 | 8.9 | 7.3 | 7.3 | 6.8 | 7.8 | Diurnal Average | |
| | 24.5 | 25.3 | 23.9 | 21.0 | 19.7 | 20.2 | 18.9 | 20.3 | 42.2 | 26.6 | 18.8 | 20.3 | 16.9 | 11.8 | 10.5 | 10.6 | 11.6 | 19.4 | 21.0 | 82.3 | 24.9 | 37.0 | 27.6 | 23.9 | Diurnal Maximum | |

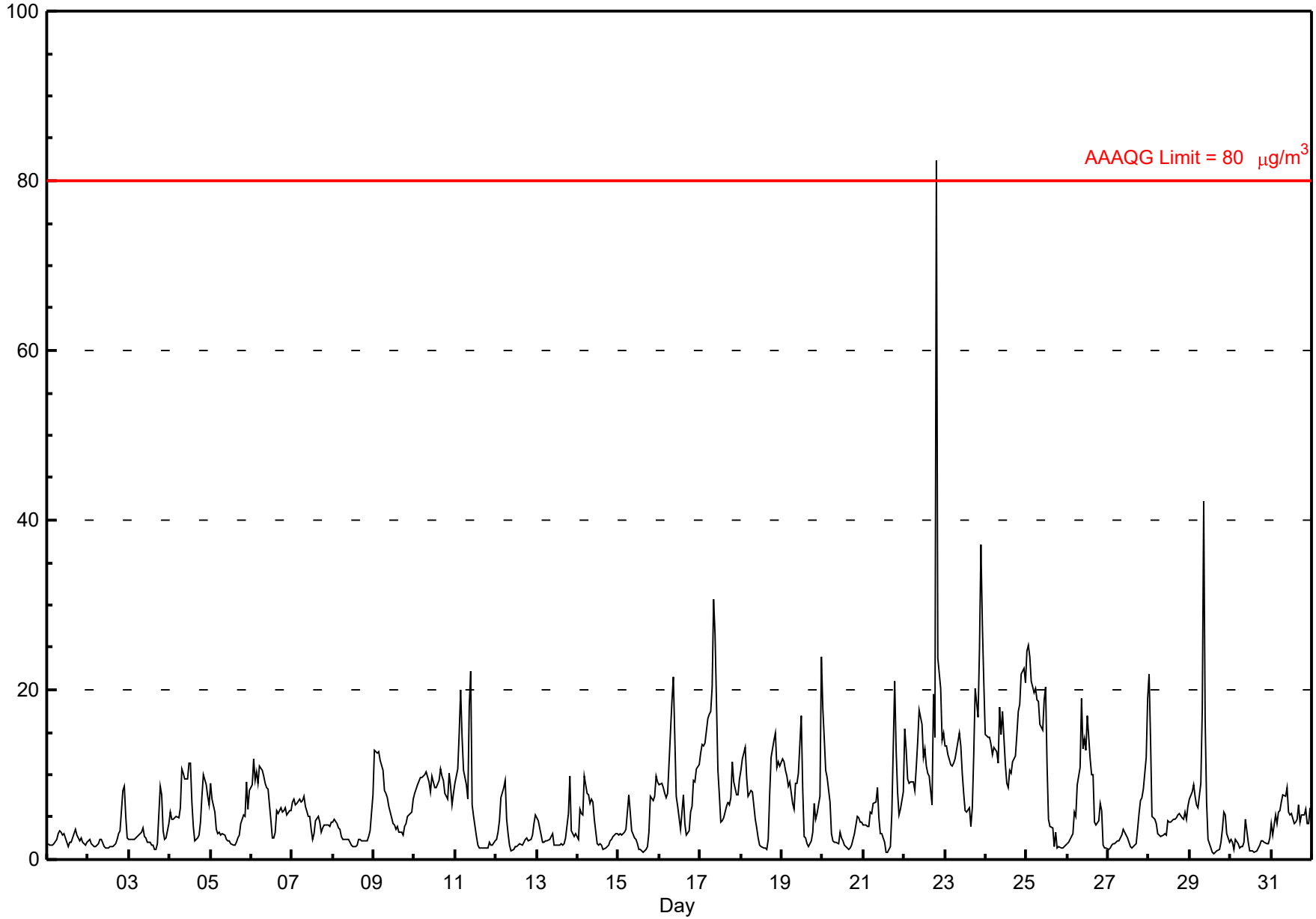
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

# Hourly Averages

**Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

## Henry Pirker - October 2018

Maximum Value: 450.0 $\mu g/m^3$ on Oct 22 20:00

Maximum Daily Average: 39.1 $\mu g/m^3$ on Oct 22

Minimum Value: 1 $\mu g/m^3$ on Oct 29 15:00

Maximum Diurnal Average: 25.6 $\mu g/m^3$ at hour 20

Monthly Average: 9.59 $\mu g/m^3$

Minimum Daily Average: 2.9 $\mu g/m^3$ on Oct 30

Minimum Diurnal Average: 4.3 $\mu g/m^3$ at hour 17

Percentiles: $P_1$ = 1.2 $P_{10}$ = 2.0 $Q_1$ = 2.9 Median = 6.5 $Q_3$ = 11.5 $P_{90}$ = 17.8 $P_{99}$ = 43.9

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

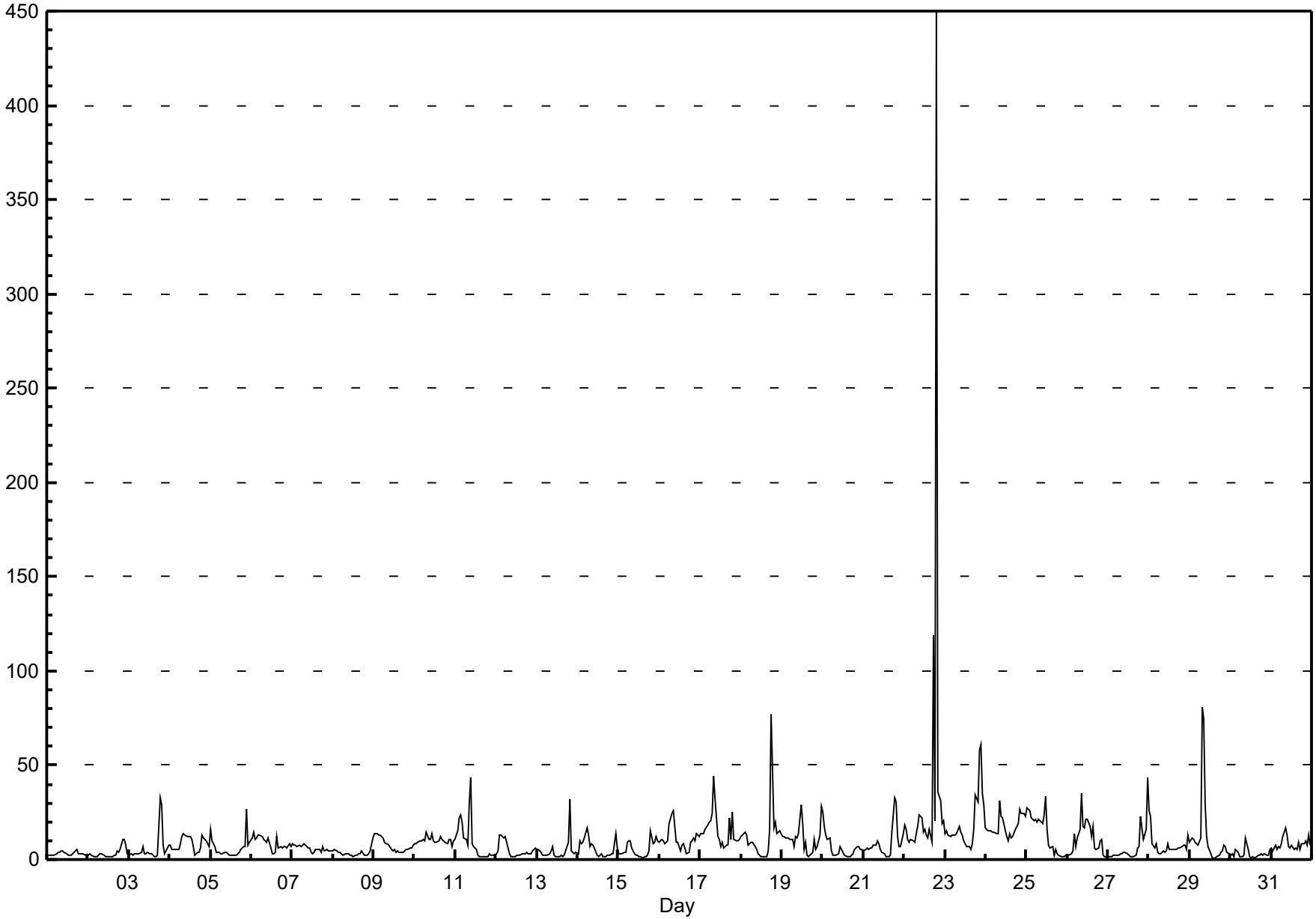
| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | |
| 1-Oct | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 3 | 2 | 3 | 2 | 3 | 5 | 5 | 3 | 3 | 3 | 3 | 2 | 2 | 3.1 | 5.4 |
| 2-Oct | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 5 | 4 | 5 | 11 | 11 | 8 | 3 | 3.4 | 10.6 |
| 3-Oct | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 7 | 3 | 3 | 4 | 3 | 3 | 2 | 2 | 1 | 2 | 32 | 29 | 7 | 3 | 5 | 8 | 5.7 | 32.5 |
| 4-Oct | 8 | 6 | 5 | 6 | 6 | 6 | 8 | 12 | 14 | 13 | 12 | 12 | 12 | 11 | 7 | 2 | 4 | 4 | 6 | 13 | 11 | 10 | 9 | 7 | 8.5 | 13.8 |
| 5-Oct | 16 | 10 | 7 | 4 | 4 | 4 | 3 | 3 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 5 | 7 | 7 | 27 | 8 | 10 | 5.9 | 26.6 |
| 6-Oct | 11 | 15 | 11 | 12 | 13 | 13 | 12 | 11 | 10 | 9 | 11 | 6 | 3 | 3 | 4 | 12 | 6 | 7 | 6 | 7 | 7 | 6 | 8 | 7 | 8.8 | 14.8 |
| 7-Oct | 8 | 8 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 6 | 6 | 4 | 3 | 4 | 6 | 5 | 5 | 4 | 7 | 5 | 5 | 4 | 4 | 5 | 5.9 | 8.4 |
| 8-Oct | 5 | 5 | 5 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 2 | 2 | 2 | 3 | 5 | 12 | 3.5 | 11.6 |
| 9-Oct | 14 | 14 | 14 | 13 | 13 | 11 | 9 | 8 | 8 | 7 | 5 | 5 | 5 | 4 | 5 | 3 | 4 | 4 | 5 | 5 | 6 | 6 | 6 | 8 | 7.5 | 14.0 |
| 10-Oct | 8 | 9 | 9 | 10 | 10 | 11 | 10 | 15 | 10 | 11 | 14 | 10 | 9 | 9 | 10 | 12 | 11 | 10 | 9 | 8 | 11 | 11 | 7 | 10 | 10.1 | 14.5 |
| 11-Oct | 11 | 15 | 22 | 23 | 20 | 11 | 11 | 8 | 30 | 44 | 8 | 7 | 5 | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 3 | 2 | 2 | 3 | 9.9 | 43.7 |
| 12-Oct | 3 | 4 | 13 | 13 | 12 | 12 | 9 | 6 | 3 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 5 | 5 | 6 | 5.0 | 13.2 |
| 13-Oct | 6 | 5 | 4 | 2 | 2 | 2 | 2 | 3 | 4 | 7 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 5 | 9 | 32 | 5 | 4 | 3 | 4 | 4.7 | 32.4 |
| 14-Oct | 3 | 10 | 9 | 9 | 11 | 17 | 13 | 7 | 8 | 8 | 6 | 2 | 2 | 2 | 3 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 14 | 6 | 6.1 | 16.5 |
| 15-Oct | 3 | 3 | 3 | 4 | 4 | 9 | 10 | 10 | 6 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 5 | 15 | 8 | 9 | 12 | 10 | 5.3 | 15.4 |
| 16-Oct | 9 | 11 | 10 | 8 | 9 | 10 | 19 | 25 | 26 | 18 | 9 | 9 | 5 | 7 | 8 | 6 | 3 | 4 | 10 | 10 | 12 | 10 | 13 | 12 | 10.9 | 26.0 |
| 17-Oct | 13 | 14 | 14 | 16 | 18 | 20 | 21 | 25 | 44 | 32 | 12 | 11 | 7 | 9 | 6 | 8 | 8 | 22 | 11 | 25 | 11 | 10 | 10 | 11 | 15.7 | 44.1 |
| 18-Oct | 12 | 13 | 14 | 13 | 8 | 9 | 9 | 9 | 7 | 5 | 3 | 2 | 2 | 2 | 2 | 2 | 4 | 16 | 77 | 17 | 20 | 14 | 15 | 15 | 12.0 | 77.2 |
| 19-Oct | 12 | 13 | 11 | 12 | 11 | 11 | 11 | 7 | 12 | 12 | 13 | 29 | 19 | 5 | 9 | 2 | 2 | 3 | 4 | 11 | 6 | 7 | 13 | 29 | 10.9 | 29.0 |
| 20-Oct | 25 | 18 | 13 | 11 | 11 | 5 | 3 | 3 | 2 | 3 | 7 | 6 | 4 | 2 | 2 | 1 | 2 | 2 | 3 | 5 | 7 | 7 | 5 | 5 | 6.3 | 24.8 |
| 21-Oct | 5 | 5 | 6 | 5 | 6 | 6 | 8 | 7 | 10 | 8 | 6 | 4 | 3 | 2 | 1 | 1 | 2 | 15 | 33 | 30 | 12 | 7 | 7 | 14 | 8.5 | 32.6 |
| 22-Oct | 18 | 16 | 10 | 9 | 10 | 10 | 9 | 14 | 18 | 24 | 22 | 14 | 16 | 13 | 11 | 16 | 9 | 119 | 21 | 450 | 36 | 31 | 19 | 21 | 39.1 | 450.0 |
| 23-Oct | 14 | 16 | 13 | 12 | 13 | 13 | 13 | 14 | 17 | 14 | 13 | 10 | 8 | 7 | 7 | 5 | 9 | 16 | 34 | 31 | 58 | 61 | 35 | 29 | 19.2 | 61.2 |
| 24-Oct | 17 | 15 | 15 | 15 | 15 | 15 | 14 | 14 | 31 | 23 | 22 | 15 | 12 | 10 | 14 | 11 | 13 | 16 | 18 | 19 | 27 | 25 | 25 | 23 | 17.5 | 30.9 |
| 25-Oct | 27 | 26 | 26 | 22 | 20 | 22 | 20 | 21 | 21 | 19 | 23 | 34 | 16 | 8 | 6 | 7 | 2 | 6 | 3 | 2 | 2 | 2 | 2 | 2 | 14.1 | 33.6 |
| 26-Oct | 2 | 2 | 3 | 5 | 13 | 7 | 11 | 16 | 35 | 18 | 17 | 22 | 21 | 17 | 12 | 18 | 6 | 6 | 6 | 10 | 11 | 2 | 2 | 1 | 11.0 | 35.3 |
| 27-Oct | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 6 | 7 | 23 | 17 | 11 | 16 | 43 | 6.8 | 43.4 |
| 28-Oct | 26 | 23 | 8 | 6 | 8 | 3 | 3 | 3 | 5 | 4 | 4 | 8 | 6 | 5 | 5 | 5 | 6 | 6 | 6 | 7 | 8 | 7 | 5 | 13 | 7.6 | 26.3 |
| 29-Oct | 9 | 11 | 10 | 9 | 8 | 7 | 11 | 81 | 74 | 30 | 12 | 7 | 3 | 1 | 1 | 1 | 1 | 2 | 4 | 4 | 8 | 7 | 4 | 3 | 12.9 | 80.9 |
| 30-Oct | 3 | 3 | 2 | 6 | 4 | 2 | 2 | 2 | 2 | 11 | 5 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 2 | 3 | 2 | 2 | 6 | 2.9 | 11.2 |
| 31-Oct | 6 | 5 | 8 | 5 | 6 | 6 | 8 | 12 | 17 | 13 | 7 | 6 | 8 | 5 | 6 | 6 | 9 | 6 | 8 | 9 | 10 | 7 | 13 | 8 | 8.1 | 16.8 |
| | 9.8 | 9.8 | 9.1 | 8.7 | 8.9 | 8.4 | 8.8 | 11.6 | 14.4 | 11.7 | 8.5 | 7.9 | 6.1 | 4.9 | 4.7 | 4.8 | 4.3 | 10.0 | 11.2 | 25.6 | 10.8 | 10.2 | 9.2 | 10.8 | Diurnal Average | |
| | 27.2 | 26.4 | 25.7 | 23.5 | 20.4 | 21.6 | 20.9 | 80.9 | 74.4 | 43.7 | 23.5 | 33.6 | 21.4 | 17.5 | 14.1 | 17.6 | 12.6 | 119.0 | 77.2 | 450.0 | 57.8 | 61.2 | 34.9 | 43.4 | Diurnal Maximum | |

Peace Airshed Zone Association

# Hourly Maximums

**Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$**

**Henry Pirker - October 2018**

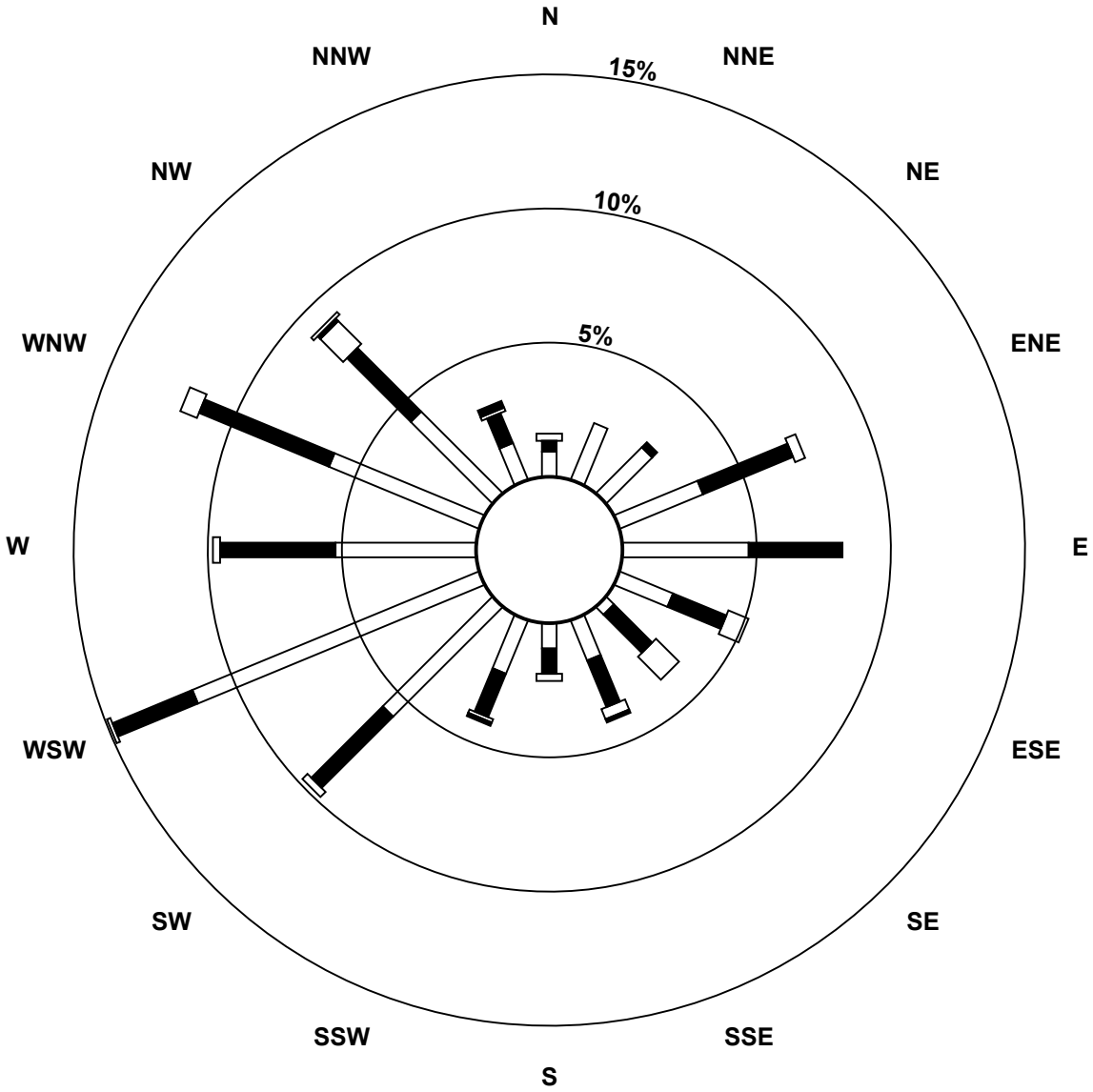


Peace Airshed Zone Association

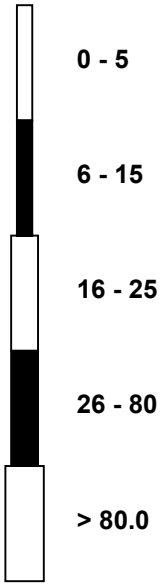
# Pollutant Rose

**Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$**

**Henry Pirker - October 2018**




**Pollutant Classes ($\mu g/m^3$)**



Peace Airshed Zone Association

# Hourly Averages

## External Temperature (ET) - °C

## Henry Pirker - October 2018

Maximum Value: 21.3 °C on Oct 16 15:00

Maximum Daily Average: 11.9 °C on Oct 17

Minimum Value: -5 °C on Oct 3 07:00

Minimum Daily Average: -1.4 °C on Oct 2

Maximum Diurnal Average: 9.4 °C at hour 15

Minimum Diurnal Average: 0.0 °C at hour 7

Monthly Average: 3.81 °C

Percentiles: $P_1$ = -4.8 $P_{10}$ = -2.3 $Q_1$ = -0.5 Median = 2.2 $Q_3$ = 7.9 $P_{90}$ = 12.2 $P_{99}$ = 18.5

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

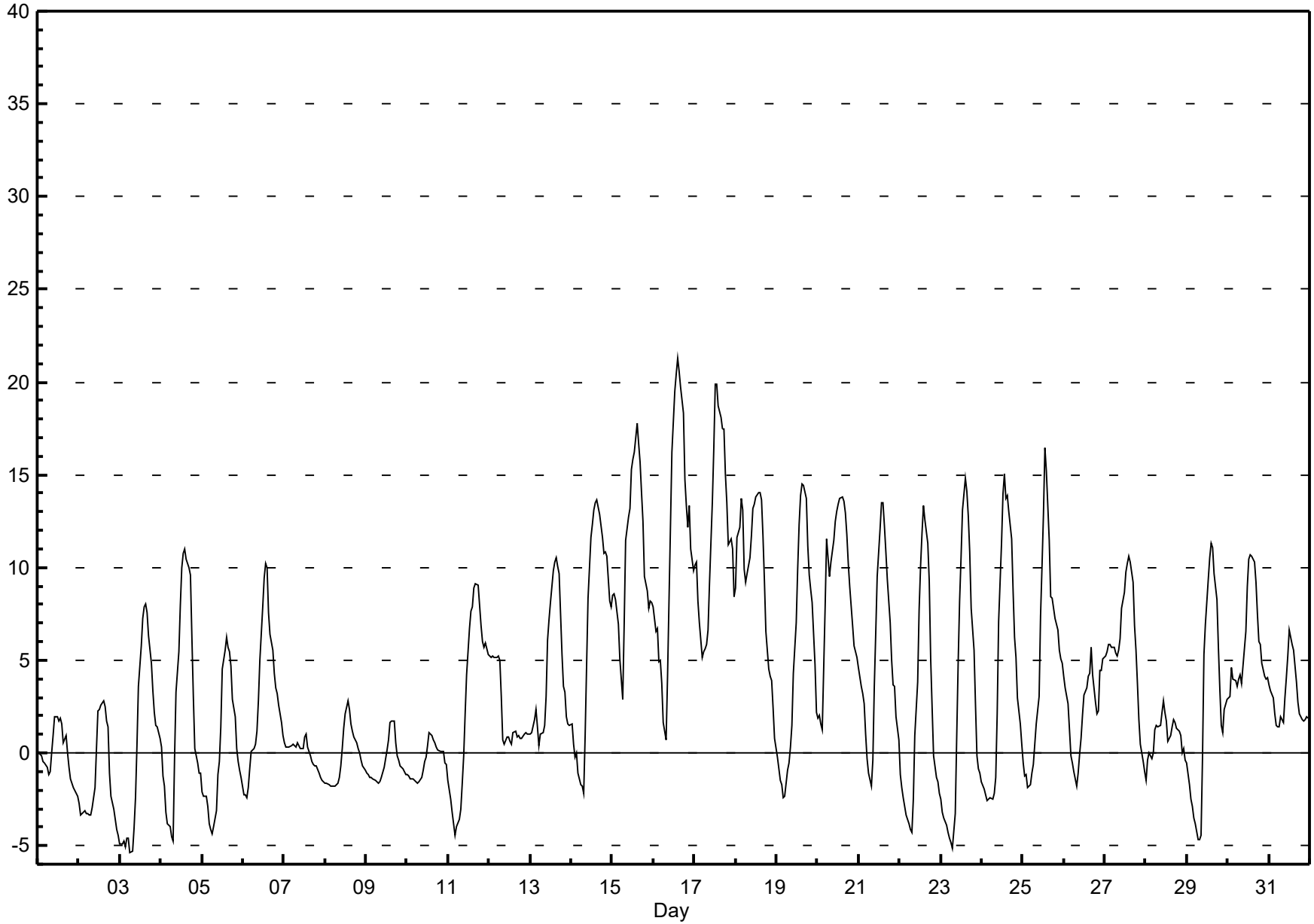
| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Average | Maximum |
| 1-Oct | 0 | 0 | 0 | 0 | -1 | -1 | -1 | -1 | 0 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 0 | -1 | -1 | -2 | -2 | -2 | -2 | -0.1 | 2.0 |
| 2-Oct | -3 | -3 | -3 | -3 | -3 | -3 | -3 | -3 | -3 | -2 | 0 | 2 | 2 | 3 | 3 | 2 | 2 | 1 | -1 | -2 | -3 | -4 | -4 | -4 | -1.4 | 2.8 |
| 3-Oct | -5 | -5 | -5 | -5 | -5 | -5 | -5 | -5 | -4 | -2 | 0 | 4 | 6 | 7 | 8 | 8 | 8 | 6 | 5 | 3 | 2 | 2 | 1 | 1 | 0.6 | 8.0 |
| 4-Oct | 0 | -1 | -2 | -3 | -4 | -4 | -5 | -5 | 0 | 3 | 5 | 8 | 10 | 11 | 11 | 10 | 10 | 10 | 6 | 3 | 0 | -1 | -1 | -1 | 2.6 | 11.0 |
| 5-Oct | -2 | -2 | -2 | -3 | -4 | -4 | -4 | -4 | -3 | -1 | 0 | 1 | 5 | 6 | 6 | 6 | 5 | 5 | 3 | 2 | 0 | 0 | -1 | -1 | 0.2 | 6.3 |
| 6-Oct | -2 | -2 | -2 | -2 | -1 | 0 | 0 | 0 | 1 | 3 | 5 | 8 | 9 | 10 | 10 | 8 | 6 | 6 | 4 | 3 | 3 | 3 | 2 | 1 | 3.1 | 10.2 |
| 7-Oct | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | -1 | -1 | -1 | -1 | -1 | -1 | -2 | -0.1 | 1.0 |
| 8-Oct | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -1 | -1 | 0 | 1 | 2 | 3 | 2 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | -1 | -1 | -0.2 | 2.8 |
| 9-Oct | -1 | -1 | -1 | -1 | -1 | -1 | -2 | -2 | -2 | -1 | -1 | 0 | 0 | 1 | 2 | 2 | 2 | 1 | 0 | 0 | -1 | -1 | -1 | -1 | -0.5 | 1.8 |
| 10-Oct | -1 | -1 | -1 | -1 | -1 | -2 | -2 | -2 | -1 | -1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | -1 | -1 | -0.5 | 1.1 |
| 11-Oct | -2 | -3 | -3 | -4 | -4 | -4 | -4 | -3 | -2 | 0 | 2 | 4 | 7 | 8 | 8 | 9 | 9 | 9 | 8 | 7 | 6 | 6 | 6 | 5 | 2.7 | 9.2 |
| 12-Oct | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2.2 | 5.2 |
| 13-Oct | 1 | 1 | 2 | 2 | 1 | 0 | 1 | 1 | 1 | 3 | 6 | 7 | 8 | 10 | 10 | 10 | 10 | 10 | 5 | 4 | 3 | 2 | 2 | 1 | 4.3 | 10.5 |
| 14-Oct | 2 | 0 | 0 | 0 | -1 | -2 | -2 | -2 | 1 | 5 | 8 | 12 | 12 | 13 | 13 | 14 | 13 | 12 | 12 | 11 | 11 | 11 | 8 | 8 | 6.6 | 13.6 |
| 15-Oct | 9 | 9 | 8 | 7 | 5 | 4 | 3 | 7 | 11 | 13 | 13 | 15 | 16 | 16 | 18 | 17 | 16 | 14 | 12 | 9 | 9 | 8 | 8 | 8 | 10.6 | 17.8 |
| 16-Oct | 8 | 7 | 7 | 5 | 5 | 4 | 2 | 1 | 4 | 8 | 12 | 16 | 20 | 20 | 21 | 21 | 20 | 18 | 15 | 13 | 12 | 13 | 11 | 10 | 11.3 | 21.3 |
| 17-Oct | 10 | 10 | 8 | 7 | 5 | 5 | 6 | 6 | 7 | 9 | 14 | 16 | 20 | 20 | 19 | 18 | 17 | 17 | 15 | 13 | 11 | 12 | 11 | 8 | 11.9 | 19.9 |
| 18-Oct | 9 | 12 | 12 | 14 | 13 | 10 | 9 | 10 | 11 | 12 | 13 | 13 | 14 | 14 | 14 | 14 | 12 | 9 | 7 | 5 | 4 | 4 | 2 | 1 | 9.8 | 14.1 |
| 19-Oct | 0 | -1 | -1 | -2 | -2 | -2 | -1 | -1 | 0 | 1 | 4 | 7 | 10 | 12 | 14 | 14 | 14 | 14 | 11 | 10 | 9 | 8 | 5 | 2 | 5.3 | 14.5 |
| 20-Oct | 2 | 2 | 2 | 1 | 8 | 12 | 11 | 10 | 10 | 11 | 12 | 13 | 13 | 14 | 14 | 14 | 13 | 12 | 10 | 9 | 7 | 6 | 5 | 5 | 9.0 | 13.8 |
| 21-Oct | 5 | 4 | 3 | 3 | 1 | 0 | -1 | -2 | 0 | 4 | 6 | 10 | 12 | 13 | 13 | 12 | 11 | 9 | 7 | 5 | 4 | 4 | 2 | 1 | 5.2 | 13.5 |
| 22-Oct | -1 | -2 | -2 | -3 | -3 | -4 | -4 | -4 | -3 | 1 | 4 | 8 | 10 | 12 | 13 | 13 | 11 | 9 | 5 | 2 | 0 | -1 | -2 | -2 | 2.4 | 13.4 |
| 23-Oct | -3 | -3 | -3 | -4 | -4 | -5 | -5 | -5 | -3 | 1 | 5 | 8 | 11 | 13 | 15 | 14 | 13 | 11 | 8 | 6 | 3 | 0 | -1 | -1 | 2.9 | 14.8 |
| 24-Oct | -2 | -2 | -2 | -3 | -3 | -2 | -3 | -2 | -1 | 2 | 7 | 11 | 14 | 15 | 14 | 14 | 13 | 12 | 9 | 6 | 5 | 3 | 2 | 0 | 4.5 | 15.1 |
| 25-Oct | -1 | -1 | -1 | -2 | -2 | -1 | -1 | 0 | 2 | 3 | 7 | 10 | 13 | 16 | 15 | 11 | 8 | 8 | 8 | 7 | 7 | 6 | 5 | 5 | 5.2 | 16.5 |
| 26-Oct | 4 | 4 | 3 | 1 | 0 | -1 | -1 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | 4 | 4 | 6 | 4 | 3 | 2 | 2 | 4 | 4 | 5 | 2.3 | 5.7 |
| 27-Oct | 5 | 5 | 6 | 6 | 6 | 6 | 5 | 5 | 6 | 6 | 8 | 9 | 10 | 10 | 11 | 10 | 9 | 7 | 6 | 4 | 2 | 0 | 0 | -1 | 5.8 | 10.6 |
| 28-Oct | -2 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0.9 | 2.8 |
| 29-Oct | -1 | -2 | -3 | -3 | -4 | -4 | -5 | -5 | -4 | 0 | 5 | 7 | 9 | 11 | 11 | 11 | 10 | 8 | 6 | 3 | 1 | 1 | 2 | 3 | 2.5 | 11.3 |
| 30-Oct | 3 | 3 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 7 | 9 | 10 | 11 | 11 | 10 | 9 | 7 | 6 | 6 | 5 | 4 | 4 | 4 | 5.9 | 10.7 |
| 31-Oct | 4 | 3 | 3 | 2 | 2 | 1 | 1 | 2 | 2 | 3 | 4 | 5 | 7 | 6 | 6 | 5 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3.0 | 6.6 |
| | 1.3 | 1.1 | 0.9 | 0.5 | 0.3 | 0.2 | 0.0 | 0.1 | 1.1 | 2.8 | 5.0 | 6.8 | 8.3 | 9.1 | 9.4 | 8.9 | 8.2 | 7.3 | 5.5 | 4.3 | 3.3 | 2.8 | 2.2 | 1.7 | Diurnal Average | |
| | 10.1 | 11.6 | 12.2 | 13.8 | 13.1 | 11.5 | 10.6 | 9.6 | 11.5 | 12.7 | 13.5 | 16.5 | 19.9 | 20.4 | 21.3 | 20.6 | 19.7 | 18.3 | 15.1 | 13.5 | 12.2 | 13.3 | 11.0 | 9.8 | Diurnal Maximum | |

Peace Airshed Zone Association

# Hourly Averages

**External Temperature (ET) - $^{o}C$**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Relative Humidity (RH) - %

## Henry Pirker - October 2018

Maximum Value: 89.3 % on Oct 12 06:00

Maximum Daily Average: 84.2 % on Oct 12

Minimum Value: 15 % on Oct 16 14:00

Minimum Daily Average: 34.8 % on Oct 17

Maximum Diurnal Average: 73.8 % at hour 7

Minimum Diurnal Average: 46.5 % at hour 15

Monthly Average: 62.26 %

Percentiles: $P_1$ = 22.4 $P_{10}$ = 35.6 $Q_1$ = 49.4 Median = 66.6 $Q_3$ = 75.6 $P_{90}$ = 83.0 $P_{99}$ = 87.2

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

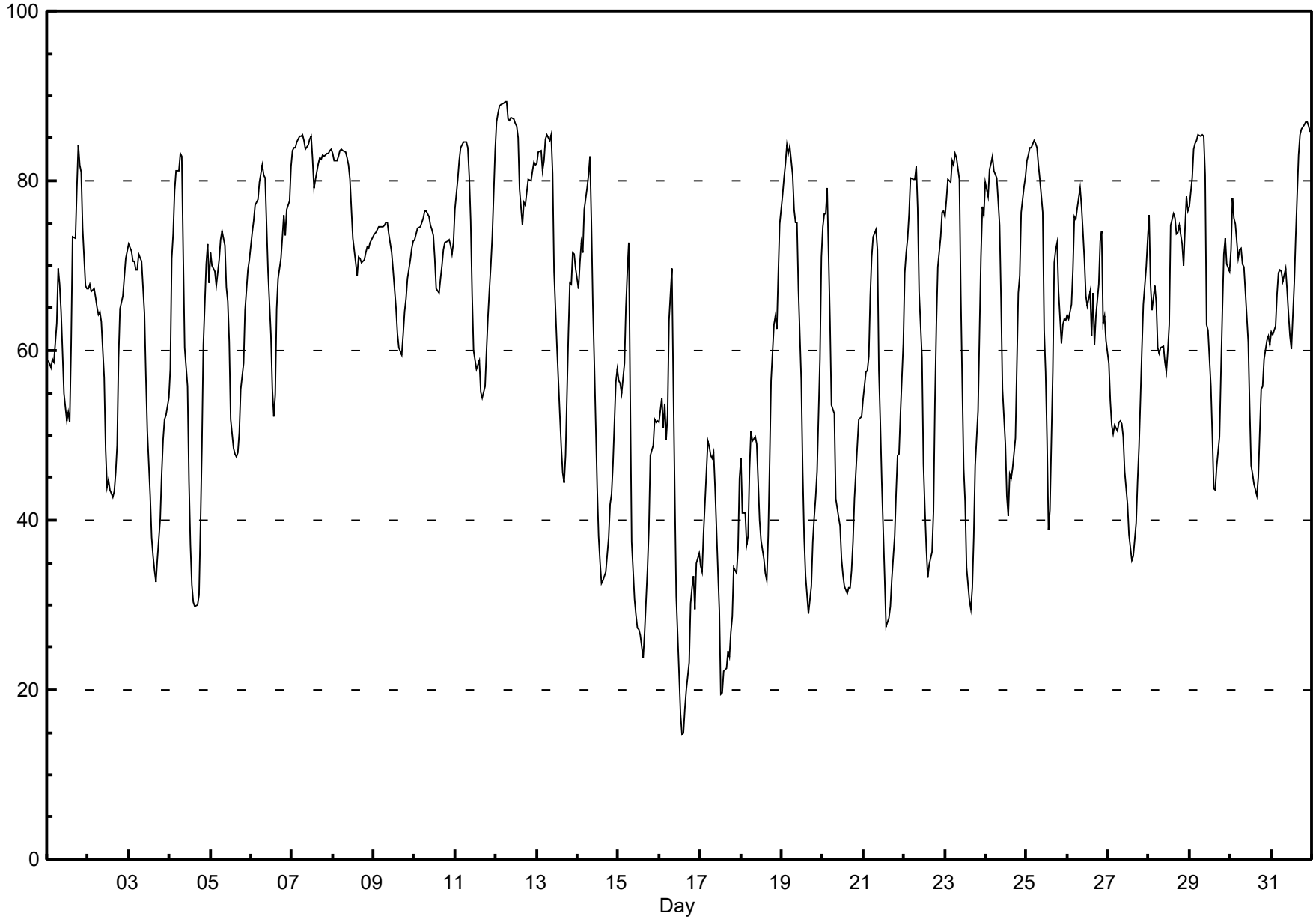
| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 59 | 58 | 58 | 59 | 59 | 63 | 70 | 68 | 65 | 60 | 55 | 52 | 53 | 52 | 61 | 73 | 73 | 79 | 84 | 82 | 81 | 74 | 68 | 67 | 65.5 | 84.2 |
| 2-Oct | 67 | 68 | 67 | 67 | 66 | 65 | 64 | 65 | 63 | 57 | 48 | 44 | 45 | 44 | 43 | 43 | 46 | 49 | 59 | 65 | 67 | 69 | 71 | 72 | 58.9 | 71.7 |
| 3-Oct | 73 | 72 | 71 | 70 | 70 | 70 | 71 | 70 | 67 | 64 | 57 | 51 | 43 | 38 | 36 | 34 | 33 | 35 | 40 | 45 | 49 | 52 | 52 | 54 | 54.9 | 72.6 |
| 4-Oct | 58 | 71 | 74 | 79 | 81 | 81 | 83 | 83 | 71 | 60 | 56 | 45 | 37 | 32 | 30 | 30 | 30 | 31 | 39 | 49 | 61 | 70 | 73 | 68 | 58.0 | 83.2 |
| 5-Oct | 72 | 70 | 69 | 68 | 69 | 71 | 73 | 74 | 72 | 67 | 66 | 61 | 52 | 49 | 48 | 48 | 48 | 50 | 55 | 59 | 65 | 67 | 70 | 71 | 63.0 | 74.1 |
| 6-Oct | 74 | 75 | 77 | 77 | 78 | 80 | 82 | 81 | 80 | 75 | 69 | 62 | 55 | 52 | 55 | 65 | 68 | 71 | 73 | 76 | 74 | 77 | 78 | 82 | 72.3 | 81.9 |
| 7-Oct | 84 | 84 | 84 | 85 | 85 | 85 | 85 | 85 | 84 | 84 | 85 | 85 | 83 | 79 | 80 | 82 | 83 | 83 | 83 | 83 | 83 | 83 | 84 | 84 | 83.5 | 85.4 |
| 8-Oct | 83 | 82 | 82 | 83 | 83 | 84 | 84 | 83 | 83 | 82 | 80 | 77 | 73 | 70 | 69 | 71 | 71 | 70 | 71 | 72 | 72 | 72 | 73 | 73 | 76.8 | 83.7 |
| 9-Oct | 74 | 74 | 74 | 74 | 75 | 75 | 75 | 75 | 75 | 74 | 71 | 69 | 67 | 65 | 62 | 60 | 59 | 62 | 65 | 66 | 69 | 71 | 72 | 73 | 69.8 | 75.1 |
| 10-Oct | 73 | 74 | 74 | 75 | 75 | 76 | 77 | 76 | 76 | 75 | 74 | 74 | 71 | 67 | 67 | 68 | 70 | 72 | 73 | 73 | 73 | 72 | 71 | 73 | 72.8 | 76.5 |
| 11-Oct | 77 | 80 | 82 | 84 | 84 | 85 | 85 | 84 | 80 | 75 | 67 | 60 | 58 | 58 | 59 | 55 | 54 | 56 | 60 | 64 | 67 | 70 | 73 | 84 | 70.9 | 84.6 |
| 12-Oct | 87 | 88 | 89 | 89 | 89 | 89 | 89 | 87 | 87 | 88 | 87 | 87 | 86 | 85 | 79 | 75 | 77 | 77 | 79 | 80 | 80 | 81 | 82 | 82 | 84.2 | 89.3 |
| 13-Oct | 82 | 83 | 84 | 81 | 82 | 85 | 85 | 85 | 85 | 81 | 69 | 65 | 61 | 53 | 49 | 46 | 44 | 48 | 62 | 68 | 68 | 72 | 71 | 70 | 69.9 | 85.4 |
| 14-Oct | 67 | 70 | 73 | 71 | 77 | 79 | 81 | 83 | 75 | 65 | 59 | 44 | 38 | 35 | 33 | 33 | 34 | 36 | 38 | 42 | 43 | 47 | 56 | 58 | 55.7 | 82.8 |
| 15-Oct | 56 | 56 | 55 | 59 | 65 | 69 | 73 | 55 | 37 | 31 | 29 | 27 | 27 | 26 | 24 | 27 | 31 | 34 | 39 | 48 | 49 | 52 | 51 | 52 | 44.6 | 72.7 |
| 16-Oct | 52 | 54 | 51 | 54 | 50 | 52 | 63 | 70 | 56 | 43 | 31 | 26 | 17 | 15 | 15 | 18 | 20 | 23 | 30 | 32 | 33 | 29 | 35 | 36 | 37.7 | 69.6 |
| 17-Oct | 35 | 34 | 39 | 42 | 49 | 49 | 48 | 47 | 48 | 44 | 34 | 29 | 20 | 20 | 22 | 23 | 25 | 24 | 27 | 29 | 34 | 34 | 37 | 45 | 34.8 | 49.4 |
| 18-Oct | 47 | 41 | 41 | 37 | 38 | 46 | 51 | 49 | 50 | 49 | 45 | 40 | 38 | 35 | 34 | 33 | 38 | 47 | 56 | 63 | 64 | 63 | 69 | 75 | 47.8 | 74.8 |
| 19-Oct | 78 | 80 | 82 | 84 | 83 | 84 | 81 | 77 | 75 | 75 | 67 | 56 | 46 | 38 | 33 | 31 | 29 | 32 | 38 | 40 | 43 | 46 | 59 | 71 | 59.6 | 84.2 |
| 20-Oct | 75 | 76 | 76 | 79 | 63 | 54 | 53 | 52 | 43 | 40 | 39 | 35 | 34 | 32 | 31 | 32 | 32 | 34 | 38 | 43 | 49 | 52 | 52 | 52 | 48.6 | 79.2 |
| 21-Oct | 54 | 57 | 58 | 59 | 66 | 71 | 73 | 74 | 72 | 58 | 51 | 45 | 33 | 27 | 28 | 28 | 30 | 33 | 38 | 43 | 48 | 48 | 52 | 61 | 50.4 | 74.2 |
| 22-Oct | 69 | 71 | 73 | 76 | 80 | 80 | 80 | 82 | 77 | 67 | 59 | 47 | 41 | 37 | 33 | 35 | 36 | 41 | 54 | 63 | 70 | 73 | 76 | 76 | 62.4 | 81.7 |
| 23-Oct | 76 | 78 | 80 | 80 | 82 | 82 | 83 | 83 | 80 | 67 | 56 | 46 | 42 | 34 | 30 | 29 | 32 | 38 | 47 | 53 | 62 | 71 | 77 | 76 | 61.9 | 83.2 |
| 24-Oct | 80 | 78 | 81 | 82 | 83 | 81 | 80 | 78 | 75 | 66 | 55 | 49 | 43 | 41 | 45 | 45 | 46 | 50 | 58 | 67 | 69 | 76 | 79 | 81 | 66.2 | 82.9 |
| 25-Oct | 82 | 83 | 84 | 84 | 85 | 84 | 84 | 82 | 80 | 76 | 62 | 57 | 49 | 39 | 41 | 58 | 70 | 72 | 73 | 67 | 61 | 63 | 64 | 64 | 69.4 | 84.8 |
| 26-Oct | 64 | 64 | 65 | 70 | 76 | 76 | 77 | 79 | 77 | 74 | 71 | 66 | 65 | 67 | 62 | 67 | 61 | 64 | 68 | 73 | 74 | 63 | 64 | 61 | 68.6 | 79.2 |
| 27-Oct | 58 | 54 | 51 | 50 | 51 | 50 | 52 | 52 | 51 | 50 | 46 | 42 | 38 | 37 | 35 | 36 | 40 | 45 | 49 | 54 | 60 | 65 | 70 | 73 | 50.4 | 73.0 |
| 28-Oct | 76 | 68 | 65 | 68 | 66 | 60 | 60 | 60 | 61 | 59 | 58 | 60 | 63 | 75 | 76 | 76 | 74 | 74 | 75 | 73 | 70 | 74 | 78 | 77 | 68.4 | 78.1 |
| 29-Oct | 77 | 80 | 84 | 84 | 85 | 85 | 85 | 85 | 85 | 81 | 63 | 62 | 56 | 50 | 44 | 44 | 46 | 50 | 58 | 65 | 71 | 73 | 70 | 69 | 68.9 | 85.5 |
| 30-Oct | 72 | 78 | 76 | 75 | 71 | 72 | 72 | 70 | 70 | 67 | 61 | 53 | 46 | 45 | 44 | 43 | 45 | 50 | 55 | 56 | 59 | 61 | 62 | 61 | 61.0 | 77.9 |
| 31-Oct | 62 | 62 | 63 | 67 | 69 | 69 | 69 | 68 | 70 | 67 | 64 | 62 | 60 | 68 | 73 | 78 | 83 | 85 | 86 | 87 | 87 | 87 | 86 | 86 | 73.3 | 87.0 |
| | 69.1 | 69.9 | 70.4 | 71.3 | 72.1 | 72.7 | 73.8 | 73.0 | 70.0 | 65.1 | 59.2 | 54.1 | 49.7 | 47.3 | 46.5 | 47.9 | 49.3 | 52.1 | 57.1 | 60.5 | 63.0 | 64.8 | 67.0 | 68.5 | Diurnal Average | |
| | 86.9 | 88.0 | 88.7 | 89.0 | 89.2 | 89.3 | 89.2 | 87.3 | 87.1 | 87.5 | 87.2 | 86.7 | 86.4 | 85.0 | 80.1 | 82.1 | 83.0 | 85.4 | 86.2 | 86.6 | 87.0 | 87.0 | 86.5 | 85.7 | Diurnal Maximum | |

Peace Airshed Zone Association

# Hourly Averages

**Relative Humidity (RH) - %**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Solar Radiation (SR) - W/m$^2$

## Henry Pirker - October 2018

Maximum Value: 549.0 W/m$^2$ on Oct 2 13:00

Maximum Daily Average: 132.9 W/m$^2$ on Oct 2

Minimum Value: 0 W/m$^2$ on Oct 1 01:00

Minimum Daily Average: 15.7 W/m$^2$ on Oct 28

Maximum Diurnal Average: 288.0 W/m$^2$ at hour 13

Minimum Diurnal Average: 0.0 W/m$^2$ at hour 21

Monthly Average: 71.04 W/m$^2$

Percentiles: $P_1$ = 0.0 $P_{10}$ = 0.0 $Q_1$ = 0.0 Median = 0.1 $Q_3$ = 92.0 $P_{90}$ = 290.0 $P_{99}$ = 469.0

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

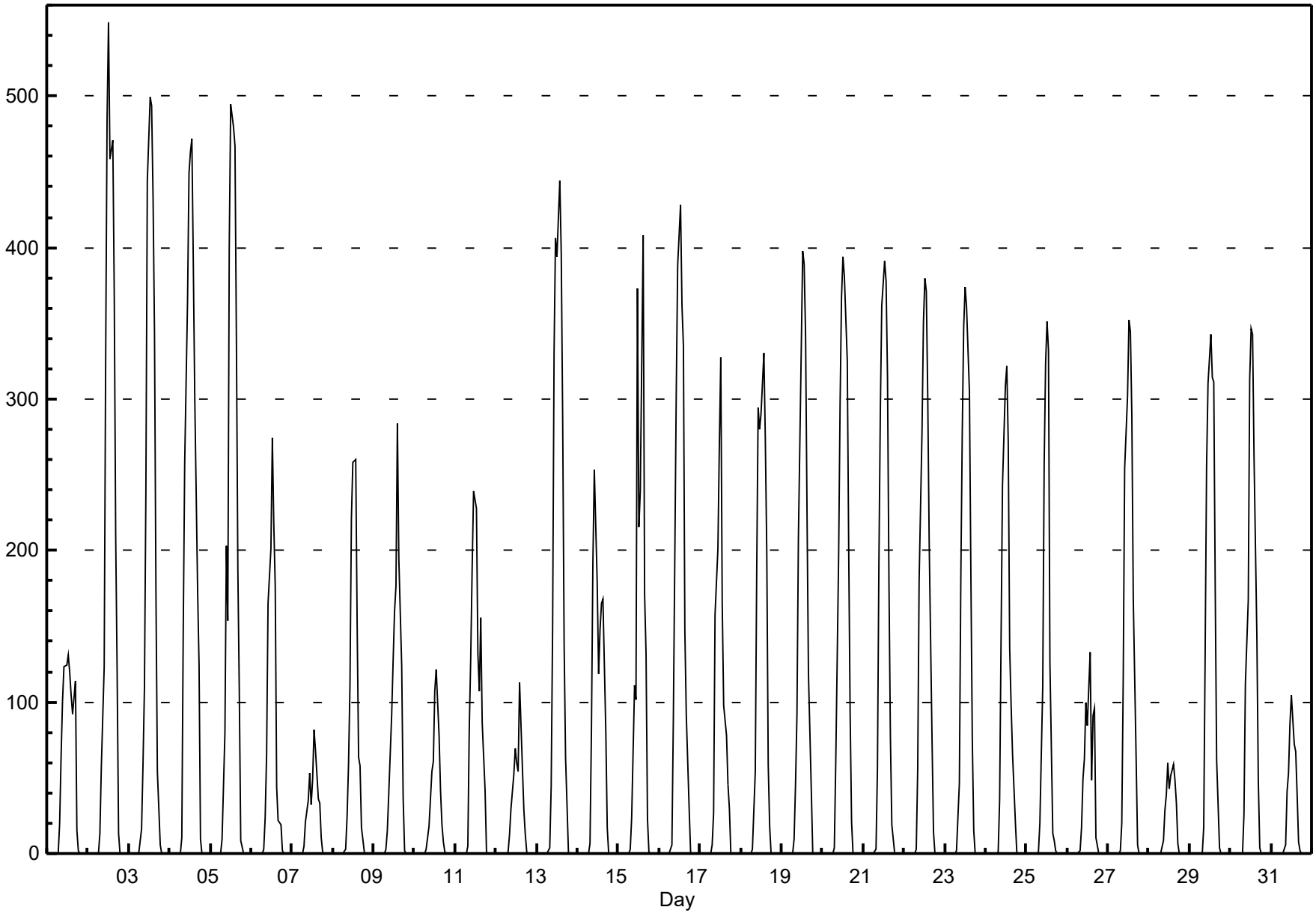
| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Average | Maximum |
| 1-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 63 | 101 | 123 | 124 | 131 | 120 | 105 | 92 | 114 | 16 | 1 | 0 | 0 | 0 | 0 | 0 | 42.1 | 130.6 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 57 | 124 | 323 | 485 | 549 | 459 | 471 | 368 | 208 | 120 | 13 | 0 | 0 | 0 | 0 | 0 | 132.9 | 549.0 |
| 3-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 59 | 109 | 238 | 444 | 500 | 493 | 433 | 343 | 173 | 54 | 6 | 0 | 0 | 0 | 0 | 0 | 119.5 | 499.6 |
| 4-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 148 | 257 | 365 | 449 | 463 | 472 | 389 | 302 | 174 | 124 | 10 | 0 | 0 | 0 | 0 | 0 | 131.8 | 471.5 |
| 5-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 80 | 204 | 154 | 400 | 494 | 479 | 467 | 337 | 187 | 106 | 8 | 0 | 0 | 0 | 0 | 0 | 121.9 | 494.1 |
| 6-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 24 | 65 | 165 | 201 | 274 | 217 | 177 | 44 | 21 | 19 | 1 | 0 | 0 | 0 | 0 | 0 | 50.5 | 273.8 |
| 7-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 20 | 35 | 53 | 32 | 48 | 81 | 69 | 36 | 33 | 10 | 1 | 0 | 0 | 0 | 0 | 0 | 17.7 | 81.4 |
| 8-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 25 | 59 | 111 | 222 | 258 | 260 | 151 | 64 | 58 | 17 | 1 | 0 | 0 | 0 | 0 | 0 | 51.2 | 260.4 |
| 9-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 15 | 40 | 91 | 127 | 160 | 176 | 284 | 194 | 123 | 37 | 2 | 0 | 0 | 0 | 0 | 0 | 52.1 | 283.7 |
| 10-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 18 | 36 | 54 | 61 | 107 | 122 | 78 | 42 | 19 | 7 | 1 | 0 | 0 | 0 | 0 | 0 | 22.9 | 121.6 |
| 11-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 82 | 128 | 188 | 239 | 228 | 132 | 107 | 156 | 86 | 42 | 1 | 0 | 0 | 0 | 0 | 0 | 58.1 | 238.8 |
| 12-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 12 | 30 | 52 | 69 | 60 | 54 | 113 | 56 | 28 | 12 | 1 | 0 | 0 | 0 | 0 | 0 | 20.4 | 112.9 |
| 13-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 45 | 150 | 331 | 406 | 394 | 445 | 396 | 286 | 139 | 64 | 1 | 0 | 0 | 0 | 0 | 0 | 110.8 | 444.6 |
| 14-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 81 | 191 | 253 | 180 | 119 | 148 | 165 | 168 | 80 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 58.7 | 253.0 |
| 15-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 24 | 111 | 101 | 373 | 215 | 239 | 408 | 171 | 132 | 22 | 1 | 0 | 0 | 0 | 0 | 0 | 75.0 | 407.9 |
| 16-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 89 | 194 | 303 | 388 | 428 | 362 | 335 | 148 | 91 | 30 | 1 | 0 | 0 | 0 | 0 | 0 | 99.0 | 427.9 |
| 17-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 27 | 157 | 202 | 269 | 327 | 165 | 98 | 78 | 46 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 58.5 | 327.1 |
| 18-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 54 | 187 | 294 | 280 | 291 | 330 | 272 | 198 | 59 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 82.8 | 329.9 |
| 19-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 46 | 92 | 208 | 333 | 398 | 389 | 342 | 225 | 118 | 41 | 0 | 0 | 0 | 0 | 0 | 0 | 91.7 | 397.9 |
| 20-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 60 | 196 | 296 | 368 | 393 | 380 | 326 | 201 | 92 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 97.4 | 393.5 |
| 21-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 56 | 190 | 292 | 362 | 391 | 378 | 314 | 180 | 78 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 94.3 | 391.2 |
| 22-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 55 | 181 | 278 | 350 | 379 | 371 | 301 | 205 | 74 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 92.2 | 379.2 |
| 23-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 47 | 181 | 277 | 347 | 374 | 361 | 304 | 185 | 75 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 90.3 | 373.8 |
| 24-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 35 | 141 | 243 | 309 | 322 | 271 | 136 | 98 | 66 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 68.4 | 322.0 |
| 25-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 20 | 110 | 257 | 324 | 352 | 332 | 126 | 13 | 8 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 64.4 | 351.6 |
| 26-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 17 | 49 | 63 | 100 | 84 | 133 | 48 | 91 | 96 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 28.9 | 132.9 |
| 27-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 20 | 115 | 254 | 302 | 352 | 345 | 288 | 168 | 62 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 79.7 | 352.2 |
| 28-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 28 | 39 | 59 | 43 | 51 | 59 | 49 | 33 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 15.7 | 59.5 |
| 29-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 132 | 255 | 310 | 342 | 314 | 311 | 177 | 62 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 80.2 | 342.3 |
| 30-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 112 | 167 | 313 | 347 | 342 | 262 | 142 | 48 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 73.5 | 346.9 |
| 31-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 41 | 53 | 86 | 105 | 72 | 67 | 39 | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 19.9 | 104.6 |
| | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.7 | 43.1 | 120.8 | 196.2 | 268.1 | 288.0 | 274.0 | 238.7 | 156.6 | 83.6 | 29.4 | 1.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | Diurnal Average | |
| | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.2 | 20.2 | 148.3 | 256.9 | 365.3 | 485.1 | 549.0 | 493.2 | 470.9 | 367.8 | 208.4 | 124.3 | 12.9 | 0.0 | 0.1 | 0.1 | 0.1 | 0.3 | Diurnal Maximum | |

Peace Airshed Zone Association

# Hourly Averages

**Solar Radiation (SR) - W/m$^2$**

**Henry Pirker - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Wind Speed (km/h)
## Wind Direction (deg)
## Henry Pirker - October 2018

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Average | Maximum |
| 1 Spd | 4 | 4 | 2 | 2 | 1 | 1 | 3 | 2 | 3 | 3 | 2 | 6 | 7 | 4 | 3 | 3 | 2 | 2 | 4 | 5 | 5 | 6 | 7 | 5 | 2.8 | 7.2 |
| Dir | 35 | 34 | 39 | 35 | 23 | 329 | 323 | 318 | 306 | 316 | 316 | 319 | 331 | 337 | 358 | 307 | 212 | 3 | 37 | 40 | 25 | 28 | 29 | 34 | 3.0 | 28.7 |
| 2 Spd | 5 | 4 | 4 | 6 | 6 | 4 | 2 | 3 | 3 | 4 | 4 | 3 | 5 | 6 | 6 | 8 | 9 | 10 | 10 | 9 | 8 | 10 | 8 | 9 | 3.3 | 10.1 |
| Dir | 29 | 28 | 16 | 5 | 2 | 7 | 18 | 341 | 310 | 320 | 334 | 278 | 274 | 261 | 240 | 235 | 238 | 227 | 212 | 218 | 219 | 230 | 234 | 235 | 258.0 | 230.1 |
| 3 Spd | 9 | 8 | 9 | 10 | 8 | 9 | 8 | 6 | 6 | 5 | 4 | 4 | 5 | 5 | 6 | 5 | 4 | 3 | 3 | 5 | 4 | 5 | 2 | 2 | 3.1 | 10.2 |
| Dir | 239 | 255 | 254 | 249 | 246 | 246 | 244 | 249 | 238 | 219 | 239 | 189 | 148 | 133 | 161 | 155 | 159 | 156 | 93 | 88 | 103 | 101 | 75 | 67 | 213.1 | 249.1 |
| 4 Spd | 1 | 2 | 1 | 1 | 2 | 0 | 1 | 2 | 0 | 2 | 3 | 5 | 4 | 8 | 11 | 12 | 11 | 11 | 6 | 4 | 2 | 2 | 3 | 3 | 3.6 | 12.0 |
| Dir | 48 | 292 | 285 | 280 | 289 | 255 | 270 | 296 | 332 | 231 | 232 | 228 | 245 | 288 | 288 | 309 | 309 | 315 | 326 | 325 | 308 | 300 | 277 | 286 | 293.5 | 308.9 |
| 5 Spd | 2 | 3 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 3 | 3 | 2 | 3 | 3 | 5 | 4 | 6 | 5 | 5 | 4 | 2 | 3 | 3 | 3.0 | 5.7 |
| Dir | 343 | 325 | 57 | 75 | 89 | 73 | 64 | 64 | 69 | 70 | 74 | 85 | 45 | 40 | 78 | 67 | 71 | 80 | 81 | 79 | 82 | 70 | 97 | 107 | 70.6 | 80.1 |
| 6 Spd | 1 | 1 | 0 | 1 | 1 | 1 | 2 | 0 | 1 | 0 | 1 | 3 | 6 | 3 | 3 | 7 | 6 | 7 | 7 | 5 | 4 | 6 | 6 | 6 | 2.0 | 7.1 |
| Dir | 82 | 81 | 277 | 249 | 249 | 125 | 145 | 295 | 231 | 215 | 195 | 305 | 314 | 335 | 51 | 96 | 88 | 85 | 85 | 85 | 65 | 68 | 69 | 65 | 70.7 | 84.7 |
| 7 Spd | 5 | 4 | 5 | 5 | 5 | 6 | 5 | 4 | 3 | 4 | 4 | 5 | 6 | 5 | 7 | 7 | 7 | 5 | 5 | 5 | 6 | 5 | 5 | 5 | 4.9 | 7.3 |
| Dir | 64 | 65 | 60 | 60 | 61 | 71 | 63 | 61 | 59 | 47 | 44 | 31 | 25 | 22 | 30 | 21 | 28 | 22 | 36 | 32 | 32 | 41 | 47 | 56 | 43.2 | 28.4 |
| 8 Spd | 5 | 5 | 5 | 6 | 5 | 5 | 5 | 6 | 9 | 8 | 9 | 9 | 9 | 11 | 11 | 12 | 12 | 14 | 11 | 11 | 12 | 11 | 11 | 11 | 8.7 | 13.5 |
| Dir | 57 | 53 | 55 | 59 | 61 | 58 | 57 | 67 | 76 | 79 | 87 | 86 | 79 | 98 | 108 | 92 | 85 | 87 | 87 | 88 | 84 | 82 | 82 | 82 | 81.3 | 87.1 |
| 9 Spd | 11 | 9 | 8 | 8 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 10 | 10 | 10 | 11 | 12 | 12 | 13 | 11 | 11 | 10 | 9 | 11 | 8 | 9.3 | 12.6 |
| Dir | 84 | 83 | 78 | 79 | 77 | 76 | 78 | 81 | 82 | 88 | 92 | 95 | 93 | 94 | 95 | 111 | 116 | 111 | 107 | 105 | 107 | 109 | 110 | 111 | 95.9 | 111.2 |
| 10 Spd | 6 | 6 | 5 | 2 | 3 | 5 | 3 | 2 | 2 | 1 | 3 | 4 | 4 | 5 | 6 | 5 | 2 | 2 | 3 | 2 | 3 | 2 | 1 | 2 | 0.6 | 6.2 |
| Dir | 100 | 100 | 98 | 80 | 67 | 75 | 75 | 69 | 67 | 57 | 323 | 322 | 300 | 293 | 301 | 303 | 284 | 299 | 313 | 254 | 206 | 201 | 153 | 146 | 20.5 | 99.8 |
| 11 Spd | 3 | 2 | 2 | 1 | 2 | 2 | 4 | 3 | 3 | 5 | 5 | 5 | 10 | 14 | 14 | 16 | 16 | 12 | 9 | 7 | 4 | 4 | 3 | 2 | 4.2 | 16.3 |
| Dir | 153 | 145 | 149 | 144 | 120 | 143 | 149 | 151 | 141 | 155 | 148 | 171 | 230 | 239 | 246 | 255 | 255 | 254 | 266 | 284 | 301 | 286 | 279 | 310 | 236.1 | 254.8 |
| 12 Spd | 1 | 2 | 4 | 3 | 1 | 1 | 5 | 12 | 11 | 10 | 10 | 11 | 7 | 12 | 14 | 14 | 12 | 11 | 5 | 3 | 3 | 2 | 1 | 3 | 5.1 | 14.1 |
| Dir | 285 | 159 | 151 | 150 | 128 | 9 | 8 | 9 | 340 | 305 | 304 | 315 | 328 | 315 | 310 | 312 | 302 | 297 | 295 | 273 | 278 | 268 | 201 | 220 | 312.7 | 311.6 |
| 13 Spd | 3 | 3 | 7 | 13 | 8 | 2 | 4 | 2 | 2 | 5 | 10 | 11 | 10 | 10 | 12 | 10 | 8 | 3 | 1 | 5 | 7 | 6 | 6 | 5 | 5.7 | 12.8 |
| Dir | 232 | 246 | 283 | 287 | 285 | 294 | 282 | 288 | 300 | 279 | 293 | 295 | 294 | 300 | 297 | 299 | 291 | 284 | 256 | 233 | 230 | 225 | 217 | 206 | 278.2 | 286.7 |
| 14 Spd | 4 | 1 | 2 | 3 | 2 | 1 | 2 | 3 | 1 | 2 | 1 | 11 | 14 | 16 | 23 | 25 | 24 | 19 | 20 | 13 | 16 | 15 | 10 | 10 | 8.7 | 24.8 |
| Dir | 222 | 188 | 177 | 118 | 107 | 91 | 119 | 143 | 107 | 140 | 201 | 248 | 252 | 248 | 247 | 244 | 250 | 256 | 264 | 270 | 265 | 272 | 274 | 276 | 252.6 | 244.3 |
| 15 Spd | 8 | 5 | 5 | 4 | 1 | 0 | 1 | 6 | 21 | 24 | 22 | 24 | 22 | 23 | 28 | 20 | 16 | 12 | 7 | 3 | 4 | 3 | 3 | 5 | 10.5 | 27.6 |
| Dir | 269 | 248 | 275 | 288 | 290 | 347 | 351 | 276 | 251 | 247 | 258 | 267 | 279 | 287 | 291 | 292 | 301 | 300 | 302 | 309 | 282 | 269 | 270 | 259 | 276.2 | 291.2 |
| 16 Spd | 3 | 5 | 3 | 2 | 4 | 3 | 1 | 1 | 1 | 2 | 3 | 5 | 18 | 18 | 19 | 18 | 19 | 16 | 10 | 10 | 8 | 12 | 8 | 3 | 7.4 | 19.0 |
| Dir | 268 | 240 | 265 | 263 | 290 | 297 | 339 | 144 | 137 | 141 | 174 | 239 | 259 | 258 | 262 | 265 | 260 | 250 | 266 | 281 | 241 | 251 | 254 | 281 | 258.2 | 260.2 |
| 17 Spd | 8 | 5 | 3 | 1 | 2 | 1 | 3 | 0 | 1 | 3 | 3 | 7 | 12 | 8 | 7 | 6 | 4 | 9 | 7 | 5 | 6 | 6 | 6 | 2 | 4.0 | 12.2 |
| Dir | 250 | 250 | 220 | 122 | 118 | 235 | 174 | 143 | 147 | 207 | 192 | 187 | 242 | 240 | 264 | 270 | 263 | 267 | 275 | 240 | 229 | 262 | 300 | 310 | 245.9 | 242.2 |
| 18 Spd | 6 | 10 | 11 | 20 | 14 | 8 | 11 | 11 | 17 | 10 | 17 | 21 | 19 | 17 | 16 | 13 | 9 | 6 | 4 | 2 | 2 | 1 | 1 | 1 | 9.9 | 20.6 |
| Dir | 309 | 288 | 281 | 276 | 260 | 285 | 285 | 275 | 262 | 289 | 272 | 277 | 286 | 286 | 285 | 302 | 305 | 316 | 319 | 237 | 235 | 227 | 266 | 288 | 282.1 | 277.3 |
| 19 Spd | 1 | 2 | 1 | 2 | 2 | 1 | 3 | 1 | 1 | 0 | 3 | 4 | 4 | 8 | 9 | 11 | 9 | 7 | 7 | 7 | 6 | 3 | 3 | 2 | 2.6 | 11.2 |
| Dir | 300 | 312 | 320 | 283 | 272 | 204 | 218 | 236 | 294 | 140 | 127 | 125 | 113 | 115 | 116 | 109 | 109 | 100 | 91 | 101 | 96 | 96 | 301 | 311 | 109.4 | 108.7 |
| 20 Spd | 2 | 2 | 3 | 0 | 16 | 24 | 21 | 17 | 21 | 23 | 29 | 32 | 34 | 32 | 33 | 28 | 23 | 19 | 16 | 11 | 7 | 6 | 6 | 8 | 17.0 | 33.8 |
| Dir | 300 | 271 | 303 | 231 | 252 | 251 | 243 | 241 | 245 | 249 | 253 | 259 | 247 | 250 | 260 | 257 | 256 | 256 | 249 | 251 | 234 | 232 | 244 | 251 | 251.8 | 247.0 |
| 21 Spd | 6 | 5 | 8 | 6 | 2 | 1 | 2 | 1 | 1 | 2 | 3 | 3 | 3 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 1 | 0 | 1.2 | 7.7 |
| Dir | 255 | 256 | 272 | 293 | 283 | 246 | 272 | 249 | 250 | 222 | 226 | 241 | 271 | 238 | 164 | 177 | 160 | 83 | 76 | 97 | 99 | 99 | 69 | 50 | 247.4 | 271.6 |
| 22 Spd | 1 | 2 | 1 | 1 | 0 | 2 | 1 | 1 | 0 | 2 | 2 | 1 | 1 | 2 | 1 | 3 | 2 | 1 | 1 | 2 | 3 | 3 | 2 | 2 | 0.5 | 3.1 |
| Dir | 280 | 287 | 343 | 299 | 328 | 300 | 285 | 160 | 342 | 132 | 155 | 255 | 224 | 235 | 2 | 95 | 123 | 103 | 318 | 319 | 305 | 320 | 313 | 308 | 296.2 | 320.5 |

Peace Airshed Zone Association

# Hourly Averages

## Wind Speed (km/h)
## Wind Direction (deg)
## Henry Pirker - October 2018

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 Spd | 2 | 2 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 2 | 2 | 1 | 1 | 3 | 4 | 2 | 3 | 2 | 2 | 4 | 3 | 4 | 0.4 | 3.8 |
| Dir | 316 | 335 | 294 | 303 | 281 | 304 | 308 | 218 | 212 | 140 | 198 | 232 | 207 | 217 | 201 | 92 | 105 | 70 | 70 | 63 | 311 | 304 | 329 | 305 | 322.5 | 304.5 |
| 24 Spd | 2 | 2 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 3 | 4 | 5 | 4 | 5 | 4 | 2 | 1 | 1 | 1 | 0 | 1 | 0 | 1.5 | 5.2 |
| Dir | 324 | 291 | 303 | 289 | 243 | 222 | 203 | 235 | 317 | 299 | 343 | 203 | 217 | 229 | 231 | 221 | 217 | 224 | 294 | 222 | 209 | 326 | 355 | 280 | 236.9 | 228.7 |
| 25 Spd | 1 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 2 | 3 | 4 | 0 | 4 | 10 | 10 | 11 | 10 | 9 | 7 | 7 | 8 | 10 | 3.2 | 11.2 |
| Dir | 299 | 286 | 311 | 286 | 172 | 136 | 282 | 357 | 115 | 254 | 122 | 110 | 112 | 202 | 321 | 274 | 234 | 196 | 215 | 219 | 215 | 207 | 212 | 221 | 218.3 | 196.1 |
| 26 Spd | 10 | 7 | 3 | 3 | 3 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 4 | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 10 | 10 | 13 | 2.7 | 12.7 |
| Dir | 225 | 241 | 306 | 317 | 179 | 116 | 111 | 121 | 112 | 132 | 166 | 99 | 279 | 307 | 155 | 192 | 192 | 153 | 151 | 161 | 187 | 228 | 224 | 219 | 210.2 | 219.3 |
| 27 Spd | 13 | 14 | 18 | 21 | 20 | 21 | 21 | 21 | 21 | 20 | 19 | 27 | 23 | 22 | 20 | 14 | 9 | 5 | 8 | 4 | 2 | 1 | 1 | 1 | 13.7 | 26.8 |
| Dir | 224 | 235 | 243 | 245 | 245 | 245 | 244 | 245 | 246 | 250 | 252 | 267 | 278 | 276 | 286 | 280 | 276 | 258 | 244 | 242 | 275 | 269 | 114 | 136 | 254.9 | 267.5 |
| 28 Spd | 1 | 2 | 2 | 2 | 5 | 10 | 13 | 11 | 12 | 10 | 5 | 4 | 6 | 8 | 7 | 6 | 4 | 3 | 5 | 6 | 6 | 2 | 4 | 1 | 0.8 | 12.7 |
| Dir | 153 | 84 | 55 | 66 | 68 | 76 | 81 | 87 | 78 | 84 | 127 | 256 | 226 | 232 | 236 | 234 | 242 | 248 | 277 | 282 | 288 | 237 | 229 | 245 | 128.6 | 80.8 |
| 29 Spd | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 3 | 1 | 0 | 1 | 4 | 9 | 12 | 17 | 16 | 16 | 13 | 3 | 2 | 3 | 1 | 1 | 1 | 4.2 | 17.0 |
| Dir | 112 | 137 | 190 | 321 | 261 | 283 | 304 | 308 | 328 | 252 | 246 | 234 | 237 | 254 | 258 | 251 | 255 | 262 | 228 | 209 | 194 | 190 | 228 | 222 | 251.4 | 258.3 |
| 30 Spd | 1 | 1 | 8 | 6 | 8 | 9 | 12 | 13 | 10 | 10 | 14 | 21 | 23 | 24 | 21 | 23 | 21 | 19 | 11 | 8 | 6 | 6 | 5 | 5 | 11.4 | 24.1 |
| Dir | 313 | 311 | 265 | 202 | 211 | 230 | 244 | 244 | 238 | 232 | 233 | 246 | 254 | 244 | 251 | 246 | 255 | 257 | 242 | 233 | 213 | 224 | 219 | 198 | 242.3 | 244.1 |
| 31 Spd | 4 | 3 | 3 | 0 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 4 | 6 | 5 | 6 | 6 | 6 | 6 | 9 | 13 | 2.2 | 12.5 |
| Dir | 193 | 184 | 188 | 139 | 133 | 154 | 159 | 315 | 286 | 172 | 161 | 150 | 291 | 314 | 340 | 339 | 345 | 326 | 314 | 319 | 300 | 301 | 312 | 308 | 303.1 | 307.7 |
| Spd | 1.2 | 1.3 | 1.6 | 1.7 | 1.5 | 1.2 | 1.3 | 1.3 | 2.0 | 2.3 | 3.2 | 5.0 | 6.0 | 6.3 | 6.5 | 5.7 | 4.9 | 3.6 | 2.1 | 1.4 | 1.3 | 1.6 | 1.2 | 1.4 | Diurnal Average | |
| Dir | 248.0 | 257.6 | 271.9 | 276.4 | 253.3 | 252.9 | 248.1 | 263.5 | 256.8 | 246.0 | 249.2 | 259.6 | 264.0 | 264.8 | 269.3 | 266.4 | 262.1 | 260.9 | 260.6 | 249.1 | 234.4 | 242.7 | 250.8 | 249.3 | | |
| Spd | 13.4 | 14.3 | 17.9 | 20.7 | 20.2 | 23.6 | 20.8 | 21.2 | 21.0 | 23.8 | 29.5 | 32.0 | 33.8 | 32.4 | 33.3 | 27.7 | 24.2 | 19.1 | 19.7 | 13.0 | 15.7 | 14.7 | 11.2 | 12.7 | Diurnal Maximum | |
| Dir | 223.5 | 235.1 | 243.3 | 244.9 | 244.5 | 250.9 | 242.6 | 245.1 | 245.8 | 246.6 | 253.2 | 258.7 | 247.0 | 250.4 | 260.3 | 256.6 | 249.8 | 255.7 | 263.8 | 269.9 | 264.5 | 272.1 | 82.4 | 219.3 | | |

Maximum Speed Value: 34 km/h on Oct 20 13:00
Maximum Daily Speed Average: 17.0 km/h on Oct 20
Maximum Diurnal Speed Average: 6.5 km/h at hour 15

Minimum Speed Value: 0 km/h on Oct 22 05:00
Minimum Daily Speed Average: 0.4 km/h on Oct 22
Minimum Diurnal Speed Average: 1.2 km/h at hour 6

Monthly Average Velocity: 2.70 km/h 259.85 deg

Speed Percentiles: $P_1 = 0.2$ $P_{10} = 0.9$ $Q_1 = 1.9$ Median = 4.4 $Q_3 = 8.5$ $P_{90} = 14.0$ $P_{99} = 25.9$

All monthly, daily, and diurnal averages have been calculated using vector methods

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Percent Operational Time: | 100.0 |

Frequency Distribution

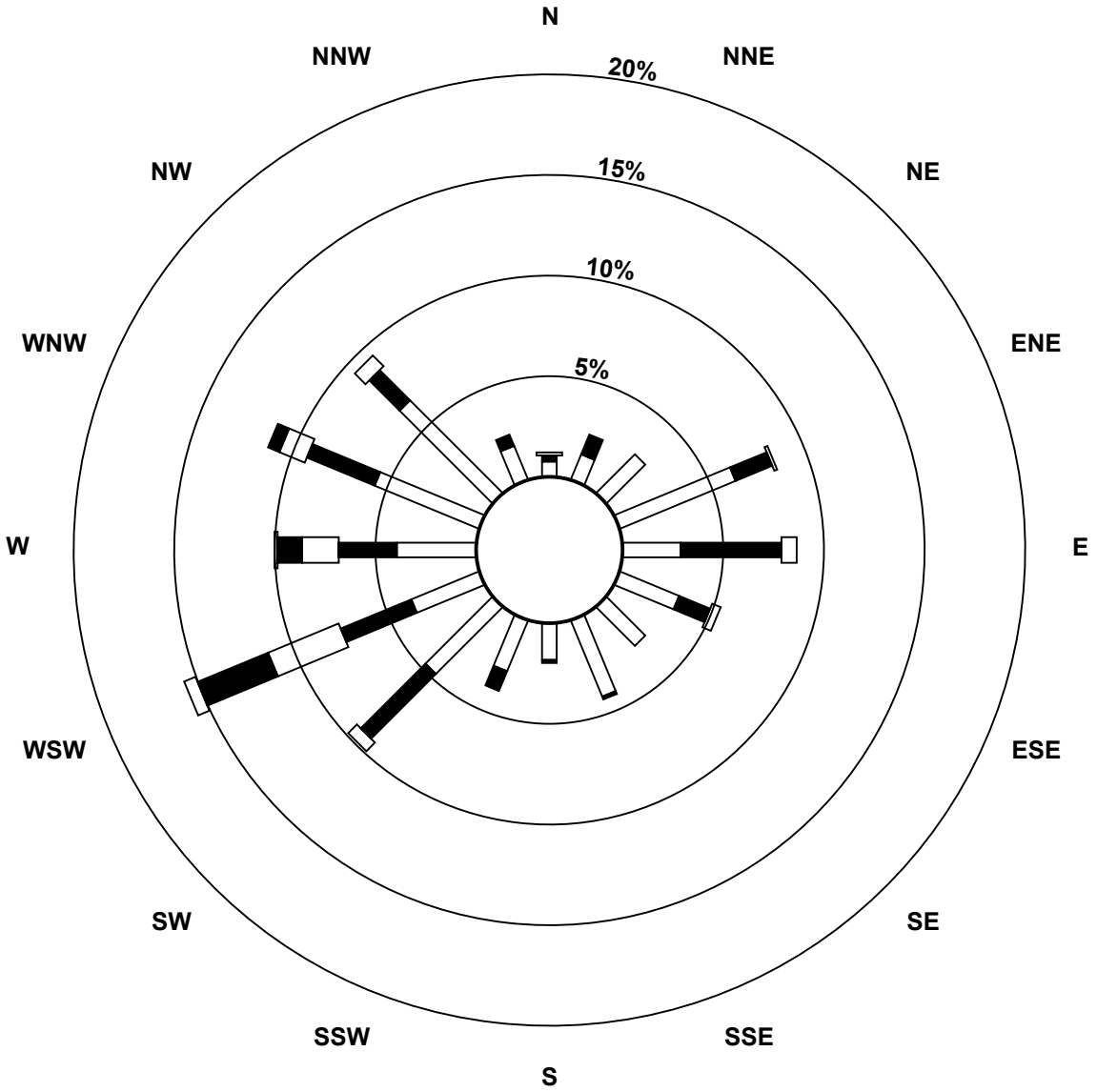
| Direction | Speed Range (km/h) 0 to 5 | 5 to 11 | 11 to 19 | 19 to 28 | 28 to 38 | > 38 | Total |
|---|---|---|---|---|---|---|---|
| North | 21 | 6 | 1 | 0 | 0 | 0 | 28 |
| NorthEast | 40 | 19 | 0 | 0 | 0 | 0 | 59 |
| East | 49 | 45 | 18 | 0 | 0 | 0 | 112 |
| SouthEast | 55 | 6 | 1 | 0 | 0 | 0 | 62 |
| South | 37 | 3 | 1 | 0 | 0 | 0 | 41 |
| SouthWest | 60 | 56 | 11 | 14 | 1 | 0 | 142 |
| West | 71 | 42 | 36 | 25 | 4 | 0 | 178 |
| NorthWest | 81 | 30 | 11 | 0 | 0 | 0 | 122 |
| Total | 414 | 207 | 79 | 39 | 5 | 0 | 744 |

Peace Airshed Zone Association

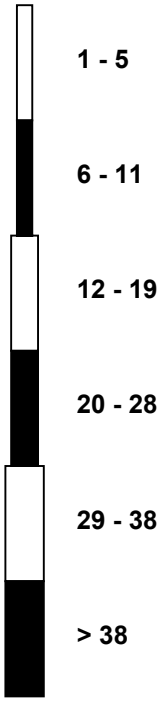
# Wind Rose

**Wind Speed (WS) (km/h)**

**Henry Pirker - October 2018**




**Wind Speed Classes (km/h)**



Peace Airshed Zone Association

# Hourly Averages - Wind Speed (Scalar)

**Wind Speed (km/h)**

## Henry Pirker - October 2018

Maximum Speed: 34 km/h on Oct 20 13:00

Maximum Daily Speed Average: 17.5 km/h on Oct 20

Minimum Speed: 0 km/h on Oct 24 22:00

Minimum Daily Speed Average: 1.7 km/h on Oct 22

Maximum Diurnal Speed Average: 10.7 km/h at hour 16

Minimum Diurnal Speed Average: 4.2 km/h at hour 2

Monthly Average Speed: 6.44 km/h

Percentiles: $P_1 = 0.3$ $P_{10} = 1.2$ $Q_1 = 2.2$ Median = 4.6 $Q_3 = 8.7$ $P_{90} = 14.1$ $P_{99} = 26.1$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 4 | 4 | 2 | 2 | 1 | 2 | 3 | 2 | 3 | 3 | 2 | 6 | 8 | 4 | 3 | 3 | 2 | 4 | 5 | 5 | 5 | 6 | 7 | 6 | 3.8 | 7.5 |
| 2-Oct | 5 | 4 | 4 | 6 | 6 | 4 | 2 | 3 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 8 | 10 | 10 | 10 | 9 | 8 | 10 | 8 | 9 | 6.2 | 10.2 |
| 3-Oct | 9 | 9 | 9 | 10 | 8 | 9 | 9 | 6 | 6 | 5 | 4 | 4 | 5 | 5 | 7 | 6 | 5 | 3 | 3 | 5 | 4 | 5 | 2 | 2 | 5.8 | 10.2 |
| 4-Oct | 1 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 0 | 2 | 3 | 6 | 5 | 9 | 12 | 12 | 12 | 11 | 6 | 4 | 2 | 3 | 3 | 3 | 4.3 | 12.2 |
| 5-Oct | 2 | 3 | 3 | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 4 | 3 | 3 | 4 | 4 | 6 | 4 | 6 | 5 | 5 | 4 | 2 | 3 | 3 | 3.6 | 5.9 |
| 6-Oct | 1 | 1 | 0 | 2 | 4 | 2 | 2 | 1 | 1 | 0 | 1 | 3 | 6 | 4 | 4 | 7 | 6 | 7 | 7 | 5 | 4 | 6 | 6 | 6 | 3.5 | 7.2 |
| 7-Oct | 5 | 4 | 5 | 5 | 5 | 6 | 5 | 4 | 3 | 4 | 5 | 5 | 6 | 6 | 7 | 7 | 7 | 5 | 5 | 6 | 6 | 5 | 5 | 5 | 5.2 | 7.5 |
| 8-Oct | 5 | 5 | 5 | 6 | 5 | 5 | 5 | 6 | 9 | 8 | 9 | 9 | 10 | 12 | 11 | 12 | 12 | 14 | 11 | 11 | 12 | 11 | 11 | 11 | 9.0 | 13.6 |
| 9-Oct | 11 | 9 | 8 | 8 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 10 | 11 | 10 | 11 | 12 | 12 | 13 | 11 | 11 | 10 | 9 | 11 | 9 | 9.7 | 12.7 |
| 10-Oct | 6 | 6 | 6 | 2 | 3 | 5 | 3 | 2 | 2 | 2 | 4 | 4 | 4 | 5 | 6 | 5 | 2 | 2 | 3 | 2 | 3 | 2 | 2 | 2 | 3.5 | 6.3 |
| 11-Oct | 3 | 2 | 2 | 1 | 2 | 2 | 4 | 3 | 3 | 5 | 6 | 5 | 10 | 14 | 14 | 16 | 16 | 12 | 9 | 7 | 4 | 4 | 3 | 2 | 6.3 | 16.5 |
| 12-Oct | 3 | 3 | 4 | 3 | 1 | 2 | 5 | 12 | 11 | 10 | 11 | 11 | 7 | 13 | 14 | 14 | 12 | 11 | 5 | 3 | 4 | 2 | 1 | 3 | 6.8 | 14.3 |
| 13-Oct | 3 | 3 | 7 | 13 | 8 | 2 | 5 | 3 | 3 | 5 | 10 | 11 | 10 | 10 | 12 | 10 | 9 | 3 | 1 | 5 | 7 | 6 | 6 | 5 | 6.6 | 12.8 |
| 14-Oct | 4 | 1 | 3 | 3 | 2 | 1 | 2 | 3 | 1 | 2 | 2 | 11 | 15 | 16 | 23 | 25 | 24 | 19 | 20 | 13 | 16 | 15 | 10 | 10 | 10.0 | 24.9 |
| 15-Oct | 8 | 5 | 6 | 5 | 1 | 1 | 1 | 6 | 21 | 24 | 22 | 24 | 22 | 23 | 28 | 20 | 16 | 12 | 7 | 3 | 4 | 3 | 3 | 5 | 11.3 | 27.8 |
| 16-Oct | 3 | 5 | 3 | 3 | 4 | 3 | 1 | 1 | 1 | 2 | 3 | 6 | 18 | 18 | 19 | 18 | 19 | 16 | 10 | 10 | 8 | 12 | 8 | 4 | 8.2 | 19.1 |
| 17-Oct | 8 | 6 | 3 | 2 | 2 | 2 | 3 | 0 | 1 | 3 | 3 | 8 | 12 | 9 | 8 | 6 | 5 | 9 | 7 | 6 | 6 | 6 | 6 | 3 | 5.1 | 12.4 |
| 18-Oct | 6 | 10 | 11 | 21 | 14 | 9 | 11 | 11 | 17 | 11 | 18 | 21 | 19 | 17 | 17 | 13 | 9 | 6 | 4 | 2 | 2 | 1 | 1 | 1 | 10.5 | 20.8 |
| 19-Oct | 1 | 2 | 1 | 2 | 2 | 1 | 3 | 1 | 2 | 1 | 3 | 4 | 5 | 8 | 9 | 11 | 9 | 7 | 7 | 7 | 6 | 3 | 3 | 2 | 4.1 | 11.3 |
| 20-Oct | 2 | 2 | 4 | 2 | 16 | 24 | 21 | 17 | 21 | 24 | 30 | 32 | 34 | 33 | 34 | 28 | 23 | 19 | 16 | 11 | 7 | 6 | 6 | 8 | 17.5 | 34.0 |
| 21-Oct | 6 | 6 | 8 | 6 | 2 | 1 | 3 | 1 | 1 | 2 | 3 | 3 | 3 | 2 | 3 | 2 | 2 | 3 | 3 | 2 | 3 | 3 | 1 | 1 | 2.9 | 7.7 |
| 22-Oct | 1 | 3 | 1 | 1 | 0 | 2 | 1 | 2 | 0 | 2 | 2 | 1 | 1 | 2 | 1 | 3 | 2 | 1 | 1 | 2 | 3 | 3 | 2 | 2 | 1.7 | 3.2 |
| 23-Oct | 3 | 2 | 2 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 2 | 2 | 3 | 2 | 2 | 3 | 4 | 2 | 3 | 2 | 2 | 4 | 3 | 4 | 2.0 | 4.0 |
| 24-Oct | 2 | 3 | 0 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 3 | 4 | 5 | 4 | 5 | 4 | 3 | 1 | 1 | 1 | 0 | 0 | 1 | 1.9 | 5.4 |
| 25-Oct | 1 | 2 | 2 | 0 | 0 | 1 | 1 | 1 | 3 | 2 | 3 | 3 | 4 | 2 | 4 | 12 | 11 | 11 | 10 | 9 | 7 | 7 | 9 | 11 | 4.8 | 11.8 |
| 26-Oct | 10 | 7 | 4 | 3 | 4 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 3 | 5 | 3 | 3 | 2 | 3 | 4 | 4 | 4 | 10 | 11 | 13 | 4.3 | 12.8 |
| 27-Oct | 13 | 14 | 18 | 21 | 20 | 21 | 21 | 21 | 21 | 20 | 19 | 27 | 23 | 22 | 20 | 15 | 9 | 6 | 8 | 5 | 3 | 1 | 1 | 1 | 14.6 | 26.9 |
| 28-Oct | 1 | 2 | 2 | 2 | 6 | 10 | 13 | 11 | 13 | 10 | 7 | 5 | 6 | 8 | 7 | 6 | 5 | 3 | 5 | 6 | 6 | 2 | 4 | 1 | 5.8 | 12.8 |
| 29-Oct | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 3 | 1 | 0 | 1 | 4 | 9 | 13 | 17 | 16 | 16 | 13 | 3 | 2 | 3 | 1 | 1 | 2 | 4.7 | 17.3 |
| 30-Oct | 1 | 1 | 8 | 7 | 9 | 9 | 12 | 13 | 10 | 10 | 14 | 21 | 23 | 24 | 21 | 23 | 21 | 19 | 11 | 8 | 6 | 6 | 5 | 5 | 12.0 | 24.2 |
| 31-Oct | 4 | 4 | 4 | 1 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 2 | 2 | 3 | 4 | 6 | 5 | 6 | 6 | 6 | 6 | 9 | 13 | 3.9 | 12.6 |
| | 4.3 | 4.2 | 4.4 | 4.6 | 4.5 | 4.6 | 5.1 | 5.0 | 5.6 | 5.8 | 6.6 | 8.4 | 9.6 | 10.1 | 10.7 | 10.7 | 9.6 | 8.3 | 6.7 | 5.7 | 5.4 | 5.2 | 4.9 | 4.7 | Diurnal Average | |
| | 13.5 | 14.4 | 18.0 | 20.8 | 20.3 | 23.8 | 20.9 | 21.3 | 21.1 | 23.9 | 29.8 | 32.3 | 34.0 | 32.8 | 33.6 | 28.0 | 24.4 | 19.2 | 19.8 | 13.1 | 15.8 | 14.7 | 11.3 | 12.8 | Diurnal Maximum | |

All monthly, daily, and diurnal averages have been calculated using scalar methods

Peace Airshed Zone Association

# Hourly Standard Deviations

## Wind Direction (WD) - deg

## Henry Pirker - October 2018

Maximum Value: 94.3 deg on Oct 30 02:00

Minimum Value: 3.7 deg on Oct 15 00:00

Percentiles: $P_1$ = 4.3 $P_{10}$ = 6.7 $Q_1$ = 9.1 Median = 15.3 $Q_3$ = 33.5 $P_{90}$ = 56.5 $P_{99}$ = 84.9

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| 1-Oct | 14 | 14 | 17 | 20 | 35 | 37 | 6 | 7 | 11 | 22 | 66 | 16 | 21 | 38 | 30 | 26 | 34 | 69 | 19 | 14 | 14 | 14 | 12 | 13 | 69.3 |
| 2-Oct | 18 | 18 | 21 | 14 | 14 | 17 | 30 | 23 | 9 | 19 | 28 | 38 | 35 | 30 | 30 | 18 | 16 | 11 | 7 | 8 | 8 | 6 | 11 | 10 | 37.9 |
| 3-Oct | 9 | 11 | 10 | 7 | 8 | 8 | 9 | 12 | 14 | 12 | 18 | 28 | 32 | 29 | 27 | 34 | 37 | 19 | 7 | 13 | 7 | 10 | 20 | 15 | 36.8 |
| 4-Oct | 77 | 41 | 51 | 47 | 17 | 81 | 50 | 12 | 78 | 29 | 19 | 28 | 33 | 20 | 21 | 11 | 12 | 8 | 6 | 10 | 34 | 63 | 27 | 31 | 81.1 |
| 5-Oct | 22 | 9 | 53 | 16 | 18 | 11 | 16 | 15 | 14 | 21 | 33 | 47 | 65 | 47 | 45 | 22 | 25 | 17 | 9 | 7 | 7 | 29 | 20 | 33 | 65.5 |
| 6-Oct | 47 | 43 | 74 | 70 | 94 | 61 | 48 | 55 | 40 | 50 | 51 | 38 | 20 | 31 | 28 | 11 | 10 | 8 | 10 | 20 | 17 | 10 | 11 | 11 | 93.8 |
| 7-Oct | 11 | 14 | 16 | 13 | 11 | 15 | 18 | 16 | 15 | 14 | 16 | 15 | 13 | 15 | 12 | 16 | 15 | 21 | 14 | 14 | 11 | 13 | 14 | 11 | 20.6 |
| 8-Oct | 12 | 10 | 11 | 11 | 10 | 11 | 11 | 11 | 8 | 7 | 9 | 10 | 10 | 12 | 12 | 11 | 12 | 7 | 7 | 9 | 8 | 8 | 7 | 7 | 12.4 |
| 9-Oct | 6 | 9 | 9 | 7 | 10 | 9 | 9 | 7 | 9 | 11 | 13 | 12 | 12 | 14 | 14 | 12 | 12 | 7 | 8 | 8 | 9 | 9 | 8 | 9 | 13.9 |
| 10-Oct | 10 | 10 | 13 | 28 | 18 | 13 | 23 | 16 | 23 | 46 | 19 | 21 | 21 | 13 | 14 | 21 | 19 | 29 | 59 | 47 | 14 | 21 | 43 | 18 | 58.6 |
| 11-Oct | 11 | 8 | 10 | 26 | 12 | 15 | 15 | 9 | 13 | 16 | 11 | 16 | 12 | 11 | 8 | 8 | 6 | 8 | 8 | 10 | 23 | 18 | 12 | 55 | 55.3 |
| 12-Oct | 67 | 36 | 14 | 35 | 78 | 67 | 39 | 14 | 13 | 4 | 8 | 12 | 10 | 12 | 9 | 9 | 9 | 6 | 10 | 14 | 8 | 30 | 27 | 16 | 77.7 |
| 13-Oct | 14 | 25 | 9 | 4 | 7 | 22 | 22 | 59 | 35 | 8 | 10 | 9 | 11 | 17 | 11 | 10 | 13 | 12 | 43 | 12 | 6 | 6 | 15 | 11 | 59.0 |
| 14-Oct | 18 | 56 | 61 | 29 | 38 | 54 | 29 | 13 | 45 | 17 | 53 | 8 | 7 | 9 | 5 | 5 | 6 | 6 | 5 | 7 | 7 | 4 | 4 | 4 | 61.0 |
| 15-Oct | 13 | 19 | 19 | 22 | 68 | 80 | 67 | 20 | 10 | 5 | 7 | 7 | 8 | 6 | 6 | 6 | 5 | 6 | 12 | 24 | 22 | 9 | 12 | 7 | 79.9 |
| 16-Oct | 14 | 12 | 39 | 27 | 15 | 25 | 54 | 64 | 23 | 17 | 18 | 24 | 9 | 7 | 6 | 10 | 6 | 5 | 6 | 12 | 18 | 22 | 23 | 35 | 63.5 |
| 17-Oct | 13 | 43 | 22 | 71 | 42 | 55 | 22 | 37 | 83 | 39 | 20 | 15 | 10 | 16 | 12 | 14 | 21 | 13 | 8 | 17 | 8 | 18 | 23 | 85 | 84.7 |
| 18-Oct | 13 | 6 | 6 | 12 | 8 | 23 | 17 | 11 | 5 | 20 | 8 | 8 | 8 | 9 | 14 | 7 | 6 | 7 | 7 | 33 | 60 | 80 | 53 | 52 | 80.1 |
| 19-Oct | 60 | 34 | 44 | 35 | 34 | 20 | 15 | 58 | 56 | 84 | 19 | 21 | 21 | 17 | 12 | 8 | 8 | 7 | 10 | 7 | 8 | 35 | 41 | 38 | 84.3 |
| 20-Oct | 23 | 31 | 15 | 83 | 46 | 6 | 6 | 9 | 5 | 8 | 9 | 8 | 8 | 8 | 8 | 8 | 6 | 6 | 7 | 7 | 14 | 9 | 14 | 10 | 82.5 |
| 21-Oct | 15 | 19 | 5 | 18 | 72 | 52 | 41 | 39 | 40 | 13 | 13 | 28 | 44 | 56 | 74 | 57 | 24 | 22 | 13 | 8 | 7 | 18 | 18 | 74 | 74.5 |
| 22-Oct | 81 | 60 | 37 | 48 | 78 | 26 | 93 | 65 | 62 | 34 | 35 | 38 | 63 | 21 | 75 | 42 | 17 | 19 | 38 | 12 | 10 | 10 | 13 | 28 | 93.4 |
| 23-Oct | 25 | 31 | 21 | 66 | 54 | 35 | 40 | 72 | 56 | 21 | 43 | 23 | 25 | 45 | 60 | 32 | 16 | 11 | 7 | 13 | 26 | 15 | 19 | 19 | 72.3 |
| 24-Oct | 19 | 24 | 72 | 24 | 37 | 68 | 44 | 43 | 62 | 41 | 78 | 44 | 17 | 16 | 12 | 9 | 10 | 39 | 34 | 51 | 43 | 85 | 51 | 66 | 85.1 |
| 25-Oct | 55 | 75 | 31 | 74 | 64 | 63 | 40 | 64 | 52 | 76 | 31 | 18 | 24 | 85 | 36 | 33 | 23 | 8 | 11 | 7 | 7 | 8 | 9 | 6 | 85.1 |
| 26-Oct | 6 | 14 | 34 | 33 | 43 | 20 | 18 | 21 | 33 | 51 | 37 | 70 | 81 | 55 | 38 | 45 | 15 | 15 | 11 | 17 | 33 | 7 | 9 | 5 | 81.1 |
| 27-Oct | 6 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 7 | 7 | 8 | 7 | 7 | 12 | 5 | 17 | 11 | 30 | 64 | 58 | 40 | 32 | 63.8 |
| 28-Oct | 45 | 18 | 15 | 31 | 12 | 10 | 5 | 6 | 6 | 8 | 46 | 20 | 22 | 12 | 12 | 11 | 14 | 12 | 8 | 8 | 13 | 64 | 11 | 77 | 77.4 |
| 29-Oct | 94 | 86 | 78 | 46 | 34 | 57 | 25 | 22 | 69 | 73 | 33 | 20 | 12 | 9 | 10 | 11 | 7 | 7 | 32 | 19 | 19 | 42 | 24 | 48 | 94.2 |
| 30-Oct | 82 | 94 | 14 | 29 | 12 | 6 | 6 | 5 | 7 | 6 | 6 | 8 | 9 | 7 | 7 | 6 | 6 | 6 | 7 | 10 | 11 | 12 | 10 | 14 | 94.3 |
| 31-Oct | 7 | 22 | 53 | 89 | 30 | 48 | 20 | 40 | 54 | 45 | 38 | 25 | 61 | 62 | 19 | 13 | 6 | 12 | 8 | 10 | 7 | 8 | 9 | 5 | 89.3 |
| | 94.2 | 94.3 | 78.0 | 89.3 | 93.8 | 81.1 | 93.4 | 72.3 | 82.9 | 84.3 | 78.2 | 70.3 | 81.1 | 85.1 | 75.5 | 56.7 | 36.8 | 69.3 | 58.6 | 51.1 | 63.8 | 85.1 | 53.2 | 84.7 | |

# PAZA
# Smoky Heights Station
## Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

# Hourly Averages

## Sulphur Dioxide ($SO_2$) - ppb

## Smoky Heights - October 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0

Maximum Value: 3.4 ppb on Oct 3 00:00 Maximum Daily Average: 0.9 ppb on Oct 16

Minimum Value: 0 ppb on Oct 1 18:00 Minimum Daily Average: 0.1 ppb on Oct 8

Maximum Diurnal Average: 0.3 ppb at hour 23 Minimum Diurnal Average: 0.2 ppb at hour 20

Monthly Average: 0.25 ppb Percentiles: $P_1$ = 0.0 $P_{10}$ = 0.0 $Q_1$ = 0.1 Median = 0.1 $Q_3$ = 0.3 $P_{90}$ = 0.6 $P_{99}$ = 2.1

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 709 |
| Hours of Missing Data: | 35 |
| Hours of Calibration: | 35 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.8 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0.2 | 3.4 |
| 3-Oct | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 3.1 |
| 4-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.4 | 1.1 |
| 5-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.7 |
| 6-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 7-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 |
| 8-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 |
| 9-Oct | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.2 | 0.7 |
| 10-Oct | 1 | 1 | A | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.8 |
| 11-Oct | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0.3 | 0.8 |
| 12-Oct | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0.1 | 0.4 |
| 13-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0.1 | 0.7 |
| 14-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | A | 0 | 0 | 0.3 | 1.0 |
| 15-Oct | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0.3 | 1.3 |
| 16-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 1 | 2 | 0 | 0 | 3 | 0 | 0 | A | 1 | 1 | 3 | 1 | 0.9 | 2.9 |
| 17-Oct | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | A | 1 | 1 | 0 | 0 | 0 | 0.6 | 2.3 |
| 18-Oct | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 1 | 1 | 0.4 | 1.5 |
| 19-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | C | C | C | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 1.1 |
| 20-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0.3 | 2.5 |
| 21-Oct | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 1.6 |
| 22-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.5 |
| 23-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.5 |
| 24-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 25-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 26-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.4 |
| 27-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.9 |
| 28-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.6 |
| 29-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.7 |
| 30-Oct | 0 | 0 | 0 | 0 | 1 | A | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.3 | 1.0 |
| 31-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| | 0.3 | 0.3 | 0.3 | 0.2 | 0.3 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | Diurnal Average | |
| | 3.1 | 1.6 | 1.6 | 0.9 | 1.3 | 0.9 | 0.9 | 1.5 | 1.1 | 0.8 | 1.7 | 1.3 | 1.2 | 2.1 | 2.3 | 0.7 | 2.7 | 0.8 | 0.8 | 0.8 | 1.2 | 2.5 | 2.9 | 3.4 | Diurnal Maximum | |

C - Calibration A - Automated Daily Zero Span

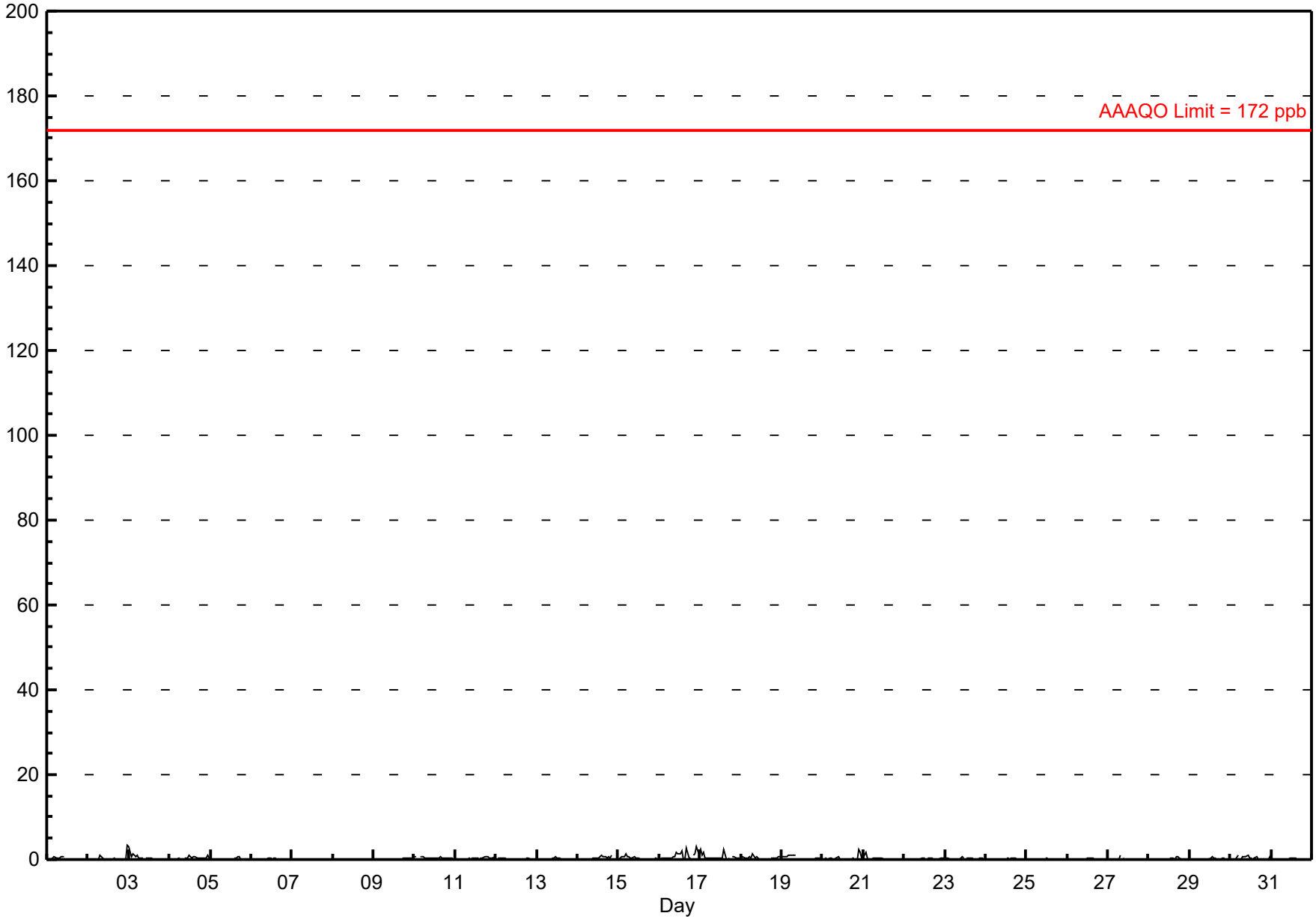
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

# Hourly Averages

## Sulphur Dioxide ($SO_2$) - ppb

## Smoky Heights - October 2018



Peace Airshed Zone Association

# Hourly Maximums

## Sulphur Dioxide ($SO_2$) - ppb

## Smoky Heights - October 2018

Maximum Value: 7.5 ppb on Oct 3 01:00

Maximum Daily Average: 2.0 ppb on Oct 16

Minimum Value: 0 ppb on Oct 27 02:00

Minimum Daily Average: 0.5 ppb on Oct 25

Maximum Diurnal Average: 1.1 ppb at hour 24

Minimum Diurnal Average: 0.6 ppb at hour 20

Monthly Average: 0.82 ppb

Percentiles: $P_1 = 0.2$ $P_{10} = 0.4$ $Q_1 = 0.4$ Median = 0.6 $Q_3 = 0.8$ $P_{90} = 1.4$ $P_{99} = 4.9$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 709 |
| Hours of Missing Data: | 35 |
| Hours of Calibration: | 35 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | A | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0.7 | 1.5 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 4 | 0 | A | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 1.1 | 7.2 |
| 3-Oct | 8 | 2 | 2 | 3 | 2 | 2 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1.4 | 7.5 |
| 4-Oct | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | A | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 1.0 | 2.8 |
| 5-Oct | 0 | 0 | 0 | 0 | 1 | 0 | 0 | A | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0.6 | 1.2 |
| 6-Oct | 0 | 1 | 1 | 0 | 0 | 0 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0.6 | 1.0 |
| 7-Oct | 1 | 0 | 1 | 0 | 0 | A | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0.5 | 0.7 |
| 8-Oct | 1 | 0 | 1 | 1 | A | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0.5 | 0.7 |
| 9-Oct | 0 | 0 | 0 | A | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.6 | 1.1 |
| 10-Oct | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.9 | 1.4 |
| 11-Oct | 1 | A | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 0.9 | 2.7 |
| 12-Oct | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | A | 0.6 | 1.0 |
| 13-Oct | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | A | 1 | 0.6 | 1.7 |
| 14-Oct | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 2 | A | 1 | 1 | 1.0 | 2.3 |
| 15-Oct | 1 | 1 | 1 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | A | 1 | 1 | 1 | 1.0 | 3.3 |
| 16-Oct | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 3 | 3 | 6 | 1 | 0 | 5 | 1 | 1 | A | 2 | 2 | 5 | 5 | 2.0 | 5.6 |
| 17-Oct | 4 | 3 | 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 5 | 1 | 0 | 2 | A | 2 | 2 | 1 | 1 | 1 | 1.5 | 5.0 |
| 18-Oct | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 6 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1.1 | 6.0 |
| 19-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | C | C | C | 0 | 1 | 1 | 1 | A | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0.9 | 1.5 |
| 20-Oct | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 3 | 1 | 1 | 1 | 0 | 0 | A | 0 | 0 | 2 | 0 | 0 | 4 | 7 | 1 | 1.2 | 7.5 |
| 21-Oct | 1 | 4 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.7 | 3.5 |
| 22-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0.5 | 1.0 |
| 23-Oct | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | A | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0.7 | 1.5 |
| 24-Oct | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 1.4 |
| 25-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 0.8 |
| 26-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | A | 0 | 0 | 1 | 4 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.6 | 3.6 |
| 27-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | A | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0.5 | 2.2 |
| 28-Oct | 1 | 0 | 1 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 0 | 0 | 1 | 0.6 | 1.6 |
| 29-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0.6 | 1.7 |
| 30-Oct | 1 | 0 | 1 | 0 | 3 | A | 1 | 2 | 1 | 2 | 4 | 1 | 1 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1.1 | 3.8 |
| 31-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.5 | 0.8 |
| | 0.9 | 0.8 | 0.9 | 0.7 | 0.8 | 0.7 | 0.7 | 1.0 | 0.8 | 0.8 | 0.9 | 0.8 | 0.7 | 1.0 | 0.8 | 0.8 | 0.8 | 0.7 | 0.6 | 0.6 | 0.7 | 0.7 | 1.1 | 1.1 | Diurnal Average | |
| | 7.5 | 3.5 | 5.0 | 3.0 | 3.3 | 2.0 | 1.5 | 6.0 | 4.0 | 3.2 | 4.3 | 2.7 | 2.5 | 5.6 | 4.8 | 2.2 | 4.7 | 1.7 | 1.7 | 2.1 | 2.1 | 3.8 | 7.5 | 7.2 | Diurnal Maximum | |

C - Calibration

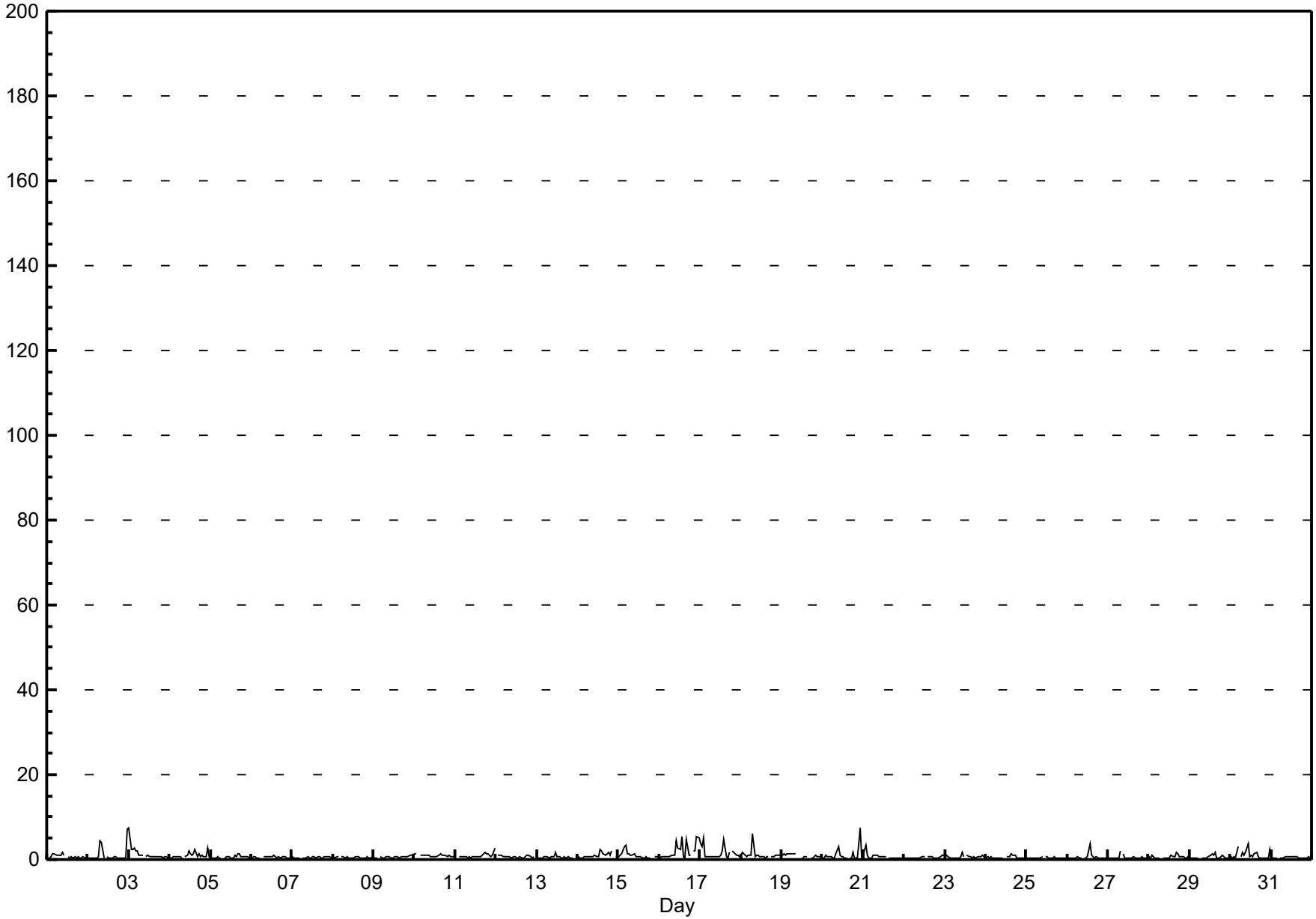
A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

**Sulphur Dioxide ($SO_2$) - ppb**

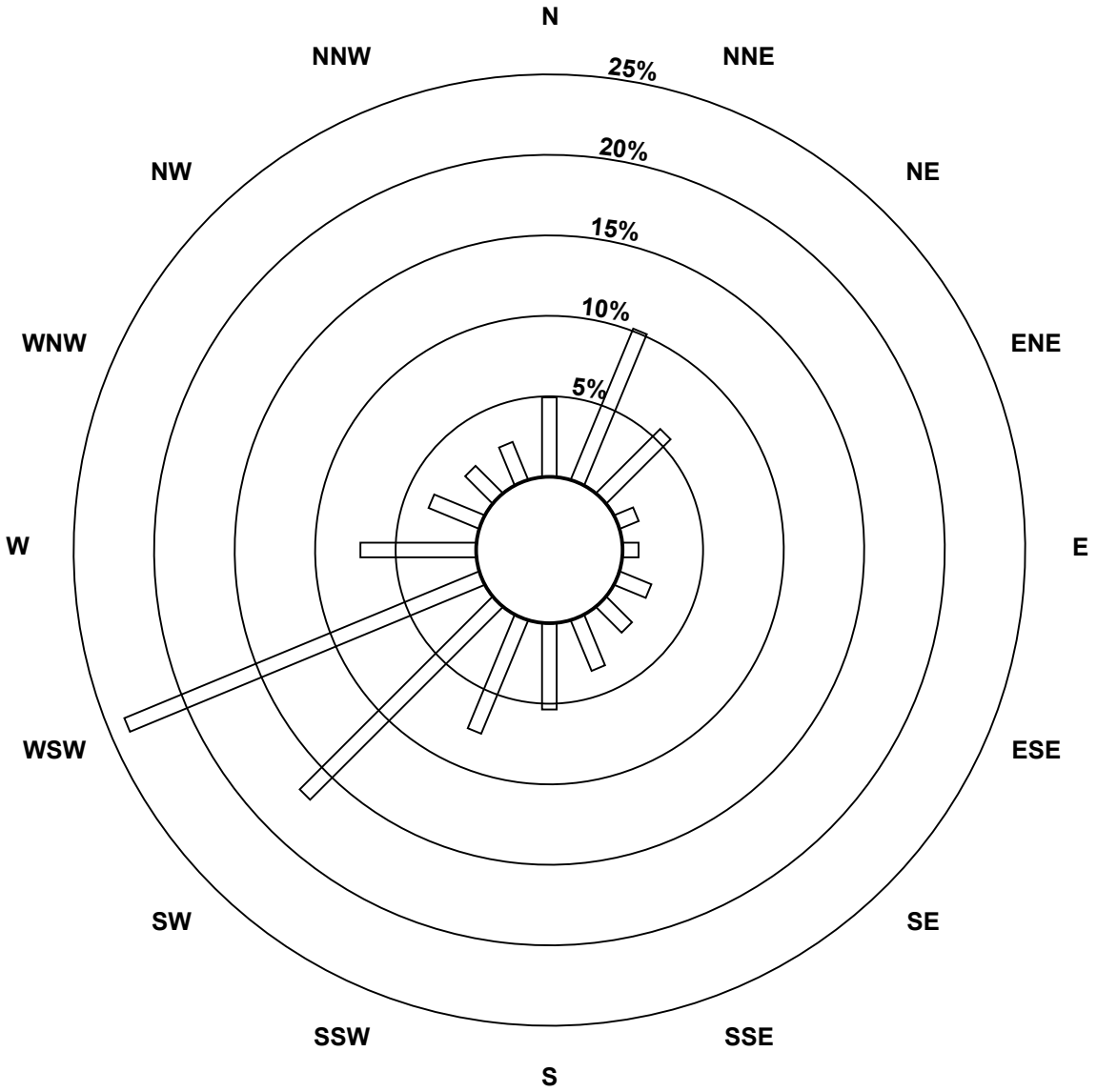
**Smoky Heights - October 2018**



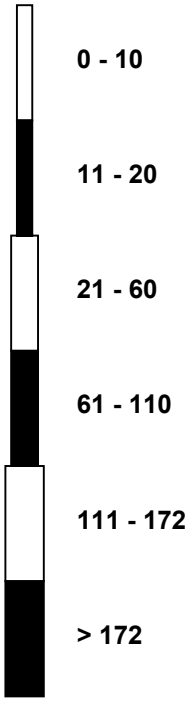
# Pollutant Rose

**Sulphur Dioxide ($SO_2$) - ppb**

**Smoky Heights - October 2018**




**Pollutant Classes (ppb)**

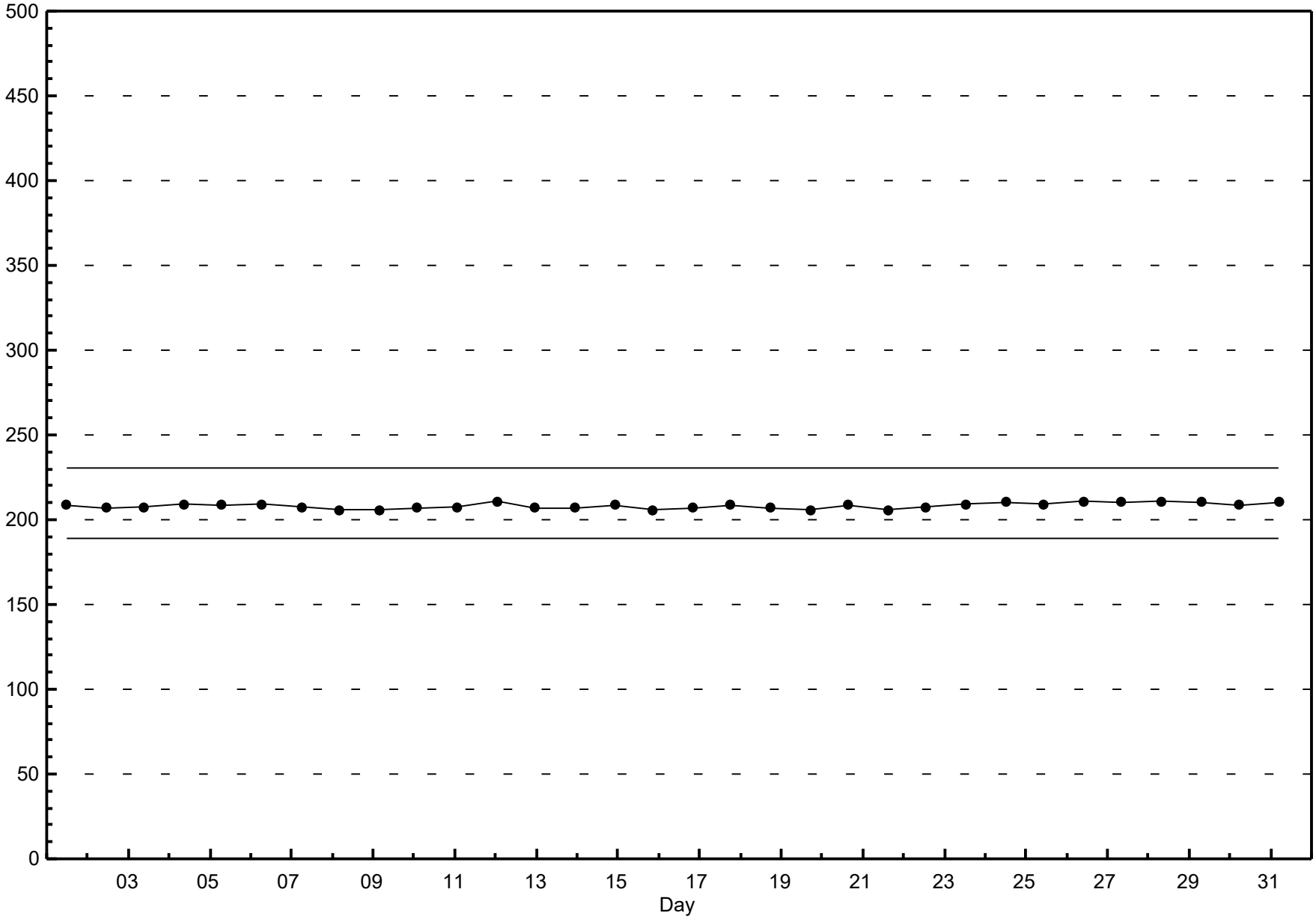


Peace Airshed Zone Association

# Span Responses

**Sulphur Dioxide ($SO_2$)**

**Smoky Heights - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Total Reduced Sulphur (TRS) - ppb

## Smoky Heights - October 2018

Maximum Value: 2.3 ppb on Oct 13 19:00

Maximum Daily Average: 0.9 ppb on Oct 29

Minimum Value: 0 ppb on Oct 1 13:00

Minimum Daily Average: 0.3 ppb on Oct 1

Maximum Diurnal Average: 0.7 ppb at hour 21

Minimum Diurnal Average: 0.4 ppb at hour 13

Monthly Average: 0.53 ppb

Percentiles: $P_1 = 0.2$ $P_{10} = 0.3$ $Q_1 = 0.3$ Median = 0.4 $Q_3 = 0.6$ $P_{90} = 0.9$ $P_{99} = 1.6$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 709 |
| Hours of Missing Data: | 35 |
| Hours of Calibration: | 35 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.4 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.4 |
| 3-Oct | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.5 |
| 4-Oct | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.6 |
| 5-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.4 |
| 6-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.5 |
| 7-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.4 |
| 8-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.3 | 0.6 |
| 9-Oct | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.4 |
| 10-Oct | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0.4 | 0.6 |
| 11-Oct | 0 | A | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.7 |
| 12-Oct | A | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | A | 0.5 | 1.3 |
| 13-Oct | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 1 | 1 | A | 1 | 0.8 | 2.3 |
| 14-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | A | 0 | 0 | 0.6 | 1.3 |
| 15-Oct | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | A | 1 | 1 | 1 | 0.6 | 0.9 |
| 16-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 0.6 | 1.3 |
| 17-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | A | 1 | 1 | 1 | 0 | 0 | 0.5 | 0.6 |
| 18-Oct | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 1 | 0 | 0 | 0 | 1 | 1 | 0.5 | 0.8 |
| 19-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | C | C | C | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 0.9 |
| 20-Oct | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.4 | 1.0 |
| 21-Oct | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.6 |
| 22-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 0.5 | 1.6 |
| 23-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 1.0 |
| 24-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 0.8 | 1.6 |
| 25-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0.8 | 1.4 |
| 26-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0.6 | 1.2 |
| 27-Oct | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.6 | 1.2 |
| 28-Oct | 2 | 2 | 1 | 1 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 0.8 | 2.0 |
| 29-Oct | 1 | 2 | 1 | 1 | 2 | 1 | A | 2 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.9 | 1.5 |
| 30-Oct | 1 | 1 | 0 | 0 | 1 | A | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.5 | 1.0 |
| 31-Oct | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.5 |
| | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 | 0.6 | 0.6 | 0.7 | 0.6 | 0.6 | 0.6 | Diurnal Average | |
| | 1.6 | 1.7 | 1.1 | 1.3 | 1.5 | 1.3 | 1.4 | 1.5 | 1.2 | 1.0 | 0.9 | 0.8 | 0.7 | 0.6 | 0.6 | 0.6 | 0.8 | 1.1 | 2.3 | 1.5 | 1.6 | 2.0 | 1.7 | 1.4 | Diurnal Maximum | |

C - Calibration

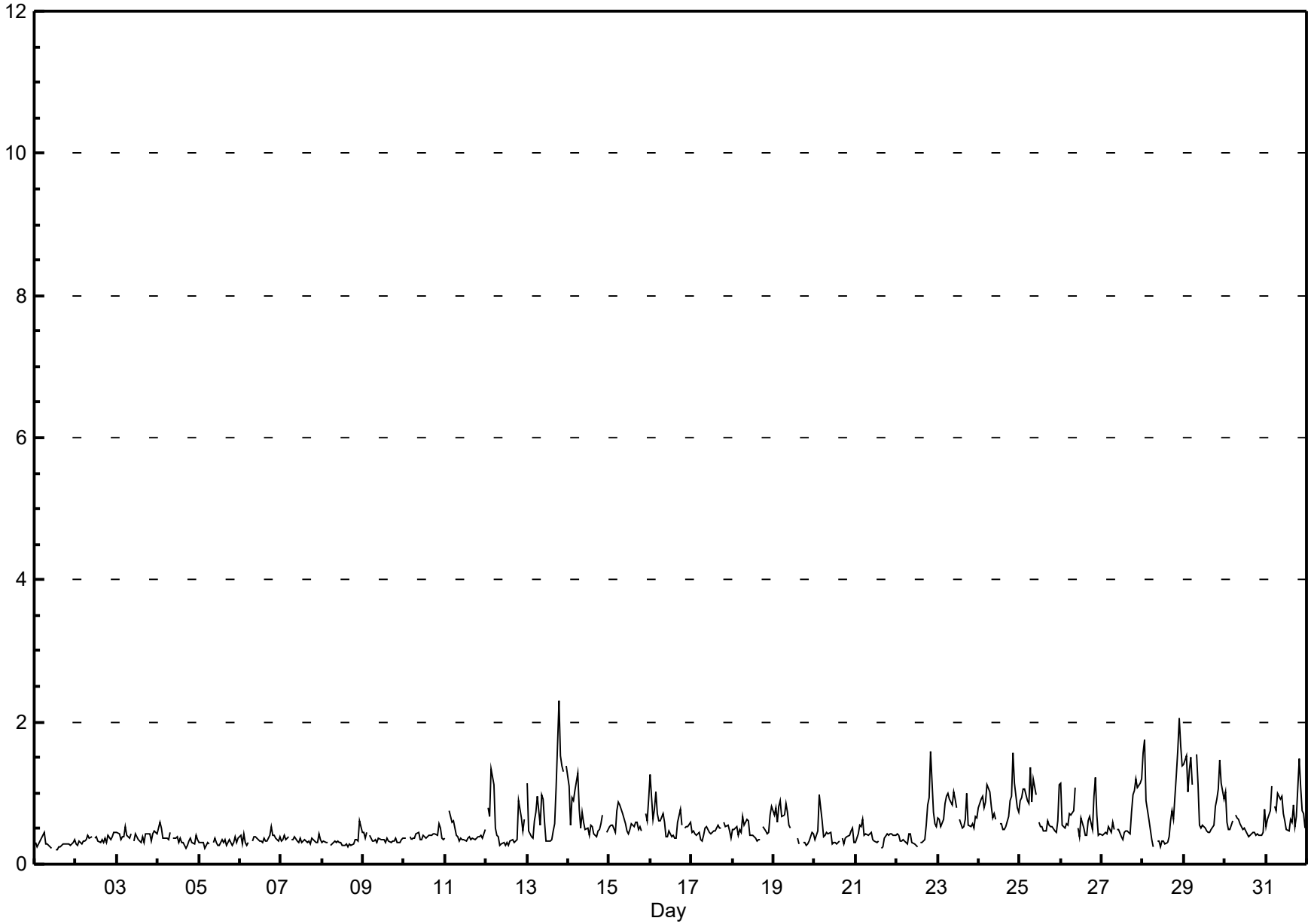
A - Automated Daily Zero Span

Peace Airshed Zone Association

## Hourly Averages

**Total Reduced Sulphur (TRS) - ppb**

**Smoky Heights - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Total Reduced Sulphur (TRS) - ppb

## Smoky Heights - October 2018

Maximum Value: 3.9 ppb on Oct 13 19:00

Maximum Daily Average: 1.7 ppb on Oct 28

Minimum Value: 1 ppb on Oct 1 13:00

Maximum Diurnal Average: 1.3 ppb at hour 21

Monthly Average: 1.07 ppb

Minimum Daily Average: 0.7 ppb on Oct 1

Minimum Diurnal Average: 0.8 ppb at hour 15

Percentiles: $P_1 = 0.6$ $P_{10} = 0.7$ $Q_1 = 0.8$ Median = 0.9 $Q_3 = 1.2$ $P_{90} = 1.7$ $P_{99} = 3.0$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 709 |
| Hours of Missing Data: | 35 |
| Hours of Calibration: | 35 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 1.2 |
| 2-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.0 |
| 3-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.0 |
| 4-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 0.9 | 2.2 |
| 5-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.0 |
| 6-Oct | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.2 |
| 7-Oct | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.2 |
| 8-Oct | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 0.9 | 2.1 |
| 9-Oct | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.1 |
| 10-Oct | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.9 | 1.1 |
| 11-Oct | 1 | A | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.9 | 1.5 |
| 12-Oct | A | 2 | 1 | 4 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | A | 1.2 | 3.6 |
| 13-Oct | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 3 | 2 | 2 | A | 2 | 1.5 | 3.9 |
| 14-Oct | 2 | 1 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1.1 | 2.0 |
| 15-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 2 | 1 | 1 | 1.1 | 1.5 |
| 16-Oct | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1.1 | 1.9 |
| 17-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 0.9 | 1.2 |
| 18-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1.0 | 1.3 |
| 19-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | C | C | C | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.0 | 1.4 |
| 20-Oct | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.9 | 1.7 |
| 21-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.9 | 1.2 |
| 22-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1.1 | 2.3 |
| 23-Oct | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | A | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1.3 | 2.7 |
| 24-Oct | 1 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 1 | 1 | 1.5 | 2.6 |
| 25-Oct | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1.3 | 1.9 |
| 26-Oct | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1.3 | 2.5 |
| 27-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 1.2 | 2.1 |
| 28-Oct | 4 | 3 | 2 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 3 | 3 | 4 | 3 | 1.7 | 3.5 |
| 29-Oct | 2 | 2 | 2 | 2 | 2 | 2 | A | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 1 | 1.6 | 2.7 |
| 30-Oct | 2 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.0 | 2.1 |
| 31-Oct | 1 | 1 | 1 | 2 | A | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 3 | 3 | 2 | 1 | 1 | 1.5 | 3.1 |
| | 1.2 | 1.2 | 1.1 | 1.2 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.0 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.9 | 0.9 | 1.1 | 1.1 | 1.2 | 1.3 | 1.2 | 1.2 | 1.1 | Diurnal Average | |
| | 3.5 | 3.2 | 2.4 | 3.6 | 2.4 | 2.0 | 1.9 | 2.2 | 2.7 | 1.8 | 1.5 | 1.4 | 1.5 | 1.1 | 1.2 | 1.2 | 1.7 | 2.7 | 3.9 | 3.1 | 2.9 | 3.3 | 3.5 | 3.0 | Diurnal Maximum | |

C - Calibration

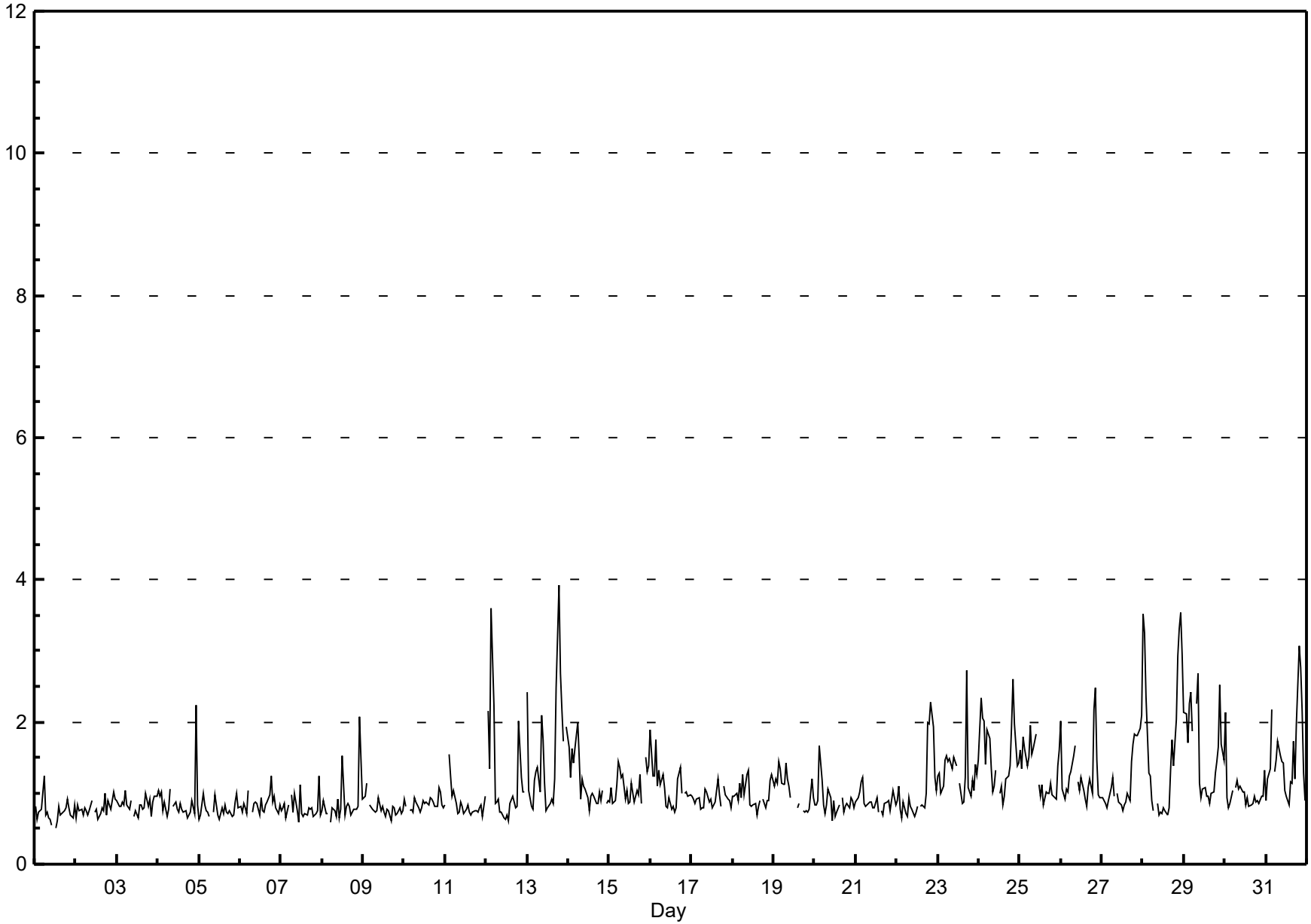
A - Automated Daily Zero Span

Peace Airshed Zone Association

## Hourly Maximums

**Total Reduced Sulphur (TRS) - ppb**

**Smoky Heights - October 2018**

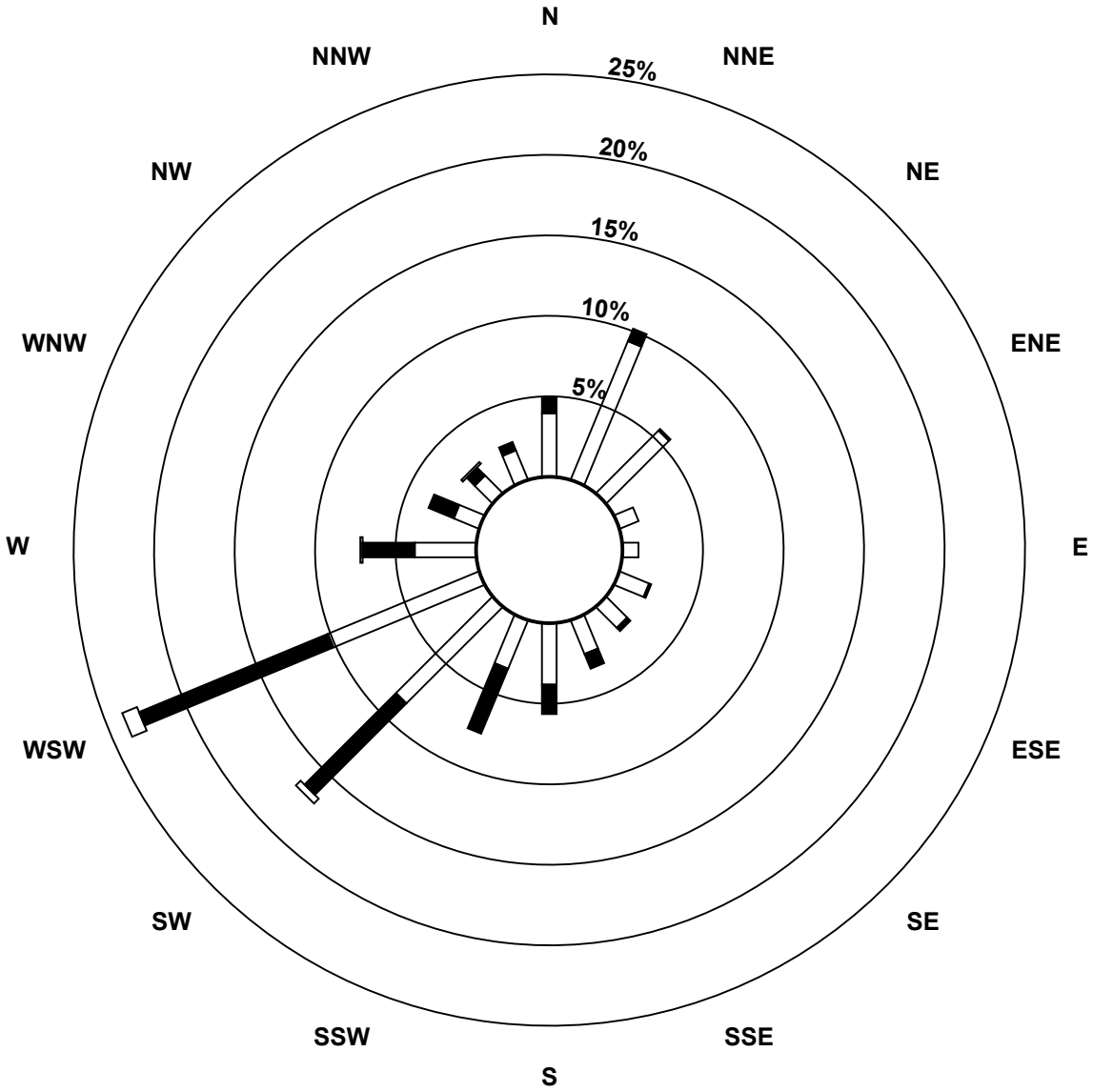


Peace Airshed Zone Association

# Pollutant Rose

## Total Reduced Sulphur (TRS) - ppb

## Smoky Heights - October 2018




### Pollutant Classes (ppb)

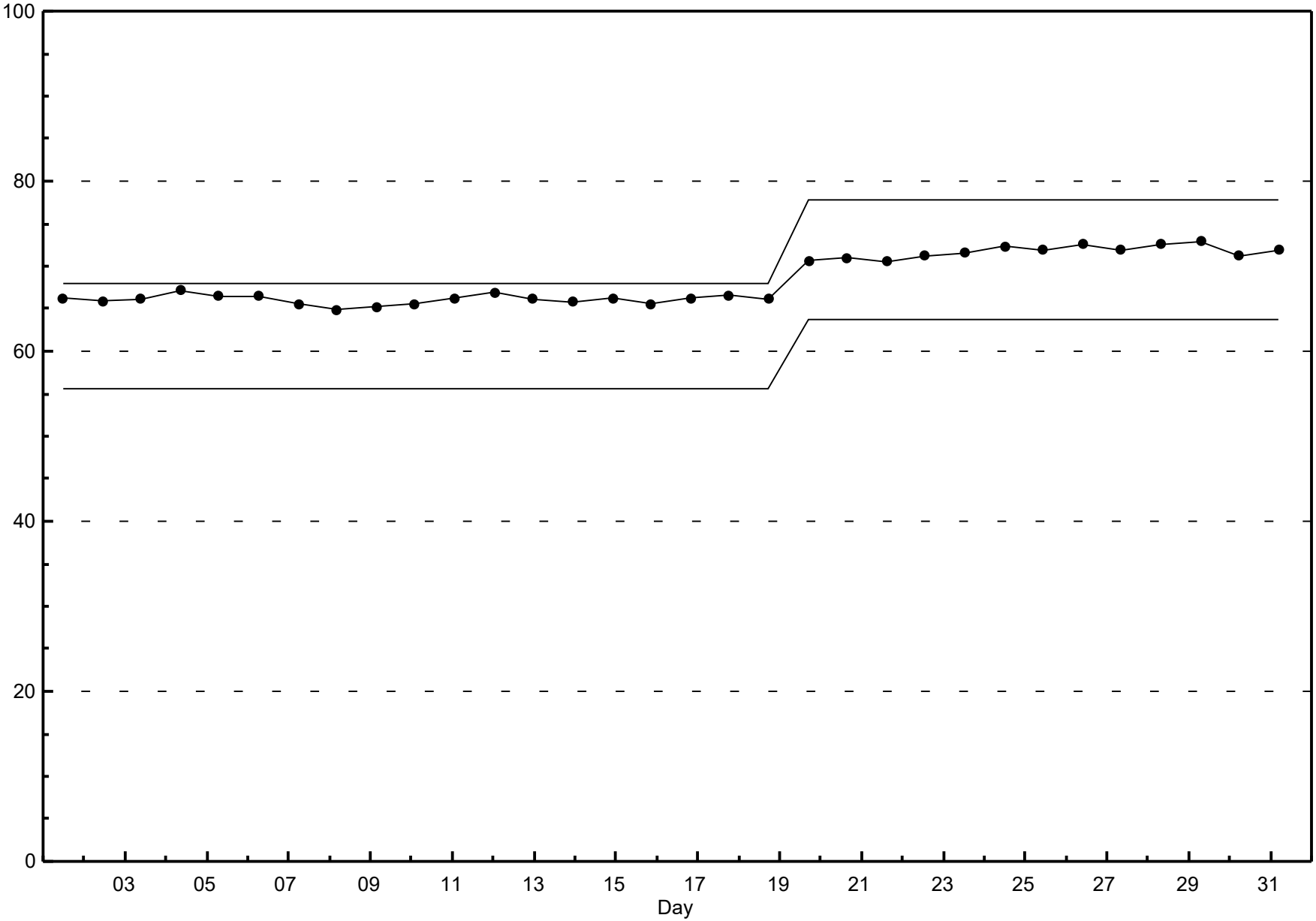
- 0 - 1
- 1 - 2
- 2 - 3
- 4 - 10
- > 10

Peace Airshed Zone Association

# Span Responses

**Total Reduced Sulphur (TRS)**

**Smoky Heights - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

## Smoky Heights - October 2018

Number of Exceedences: 1-hr: 0 24-hr: 0

Maximum Value: 44.5 $\mu g/m^3$ on Oct 22 20:00

Maximum Daily Average: 11.3 $\mu g/m^3$ on Oct 24

Minimum Value: 0 $\mu g/m^3$ on Oct 2 07:00

Maximum Diurnal Average: 6.9 $\mu g/m^3$ at hour 20

Monthly Average: 4.79 $\mu g/m^3$

Minimum Daily Average: 0.2 $\mu g/m^3$ on Oct 2

Minimum Diurnal Average: 3.3 $\mu g/m^3$ at hour 14

Percentiles: $P_1$ = 0.1 $P_{10}$ = 0.9 $Q_1$ = 1.9 Median = 3.9 $Q_3$ = 6.2 $P_{90}$ = 9.1 $P_{99}$ = 25.4

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Average | Maximum |
| 1-Oct | 2 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 3 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.3 | 4.1 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0.2 | 1.0 |
| 3-Oct | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 3 | 1 | 1 | 5 | 2 | 1 | 0.9 | 4.6 |
| 4-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 3 | 10 | 16 | 10 | 4 | 6 | 4 | 4 | 5 | 6 | 4 | 4 | 3 | 3 | 5 | 4.1 | 15.7 |
| 5-Oct | 5 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 5 | 8 | 8 | 7 | 6 | 6 | 6 | 3.7 | 8.3 |
| 6-Oct | 4 | 7 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 4 | 5 | 5 | 5 | 4.9 | 7.4 |
| 7-Oct | 6 | 7 | 7 | 7 | 7 | 6 | 6 | 4 | 4 | 3 | 3 | 2 | 3 | 4 | 4 | 3 | 2 | 3 | 4 | 3 | 4 | 3 | 3 | 3 | 4.1 | 7.2 |
| 8-Oct | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 7 | 2 | 1 | 1 | 14 | 4 | 1 | 7 | 24 | 3.5 | 24.4 |
| 9-Oct | 32 | 9 | 12 | 13 | 14 | 2 | 3 | 5 | 5 | 5 | 11 | 4 | 6 | 5 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 5 | 6 | 6.9 | 32.2 |
| 10-Oct | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 6 | 6 | 4 | 5 | 5 | 6 | 7 | 9 | 8 | 8 | 7 | 7 | 7 | 6.6 | 8.9 |
| 11-Oct | 7 | 8 | 9 | 9 | 12 | 12 | 12 | 7 | 7 | 6 | 5 | 5 | 5 | 4 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 5.0 | 12.0 |
| 12-Oct | 1 | 1 | 2 | 3 | 3 | 3 | 4 | 1 | 0 | 1 | 2 | 1 | 1 | 3 | 3 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 1.7 | 4.0 |
| 13-Oct | 1 | 1 | 1 | 2 | 5 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 3 | 1 | 1 | 2 | 2 | 1.5 | 4.8 |
| 14-Oct | 1 | 1 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1.6 | 2.9 |
| 15-Oct | 2 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 3 | 3 | 5 | 3 | 4 | 5 | 8 | 6 | 6 | 5 | 5 | 6 | 8 | 4.6 | 8.1 |
| 16-Oct | 8 | 9 | 9 | 8 | 7 | 6 | 5 | 5 | 6 | 5 | 4 | 3 | 4 | 4 | 7 | 11 | 17 | 11 | 7 | 7 | 7 | 7 | 7 | 6 | 7.1 | 17.2 |
| 17-Oct | 5 | 5 | 4 | 6 | 12 | 10 | 6 | 6 | 7 | 7 | 5 | 5 | 6 | 5 | 5 | 11 | 7 | 9 | 7 | 8 | 13 | 9 | 8 | 12 | 7.4 | 12.6 |
| 18-Oct | 12 | 8 | 10 | 13 | 12 | 13 | 10 | 9 | 8 | 31 | 2 | 2 | 2 | 1 | 2 | 4 | 6 | 3 | 3 | 4 | 2 | 2 | 5 | 6 | 7.2 | 31.1 |
| 19-Oct | 4 | 4 | 5 | 4 | 3 | 5 | 6 | 4 | 5 | 7 | 6 | 4 | 5 | 4 | 4 | 3 | 2 | 3 | 4 | 4 | 6 | 5 | 8 | 6 | 4.7 | 8.1 |
| 20-Oct | 5 | 5 | 5 | 7 | 6 | 4 | 4 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 2 | 3 | 4 | 5 | 7 | 7 | 7 | 10 | 6 | 4.7 | 10.2 |
| 21-Oct | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 4 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 8 | 23 | 5 | 5 | 5 | 9 | 5 | 3 | 4.4 | 23.3 |
| 22-Oct | 4 | 2 | 2 | 3 | 3 | 3 | 3 | 5 | 3 | 3 | 3 | 3 | 4 | 2 | 2 | 3 | 3 | 29 | 42 | 45 | 9 | 6 | 7 | 5 | 8.0 | 44.5 |
| 23-Oct | 6 | 5 | 5 | 5 | 6 | 6 | 7 | 9 | 11 | 10 | 10 | 10 | 8 | 6 | 7 | 6 | 10 | 14 | 9 | 7 | 6 | 7 | 7 | 6 | 7.5 | 13.8 |
| 24-Oct | 6 | 6 | 6 | 5 | 6 | 7 | 9 | 10 | 11 | 11 | 10 | 10 | 9 | 8 | 10 | 7 | 7 | 17 | 29 | 27 | 18 | 15 | 14 | 14 | 11.3 | 28.7 |
| 25-Oct | 12 | 13 | 13 | 13 | 13 | 14 | 14 | 13 | 12 | 15 | 13 | 11 | 7 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 7.8 | 14.9 |
| 26-Oct | 2 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 5 | 7 | 6 | 4 | 5 | 4 | 3 | 3 | 5 | 9 | 7 | 7 | 5 | 7 | 3 | 2 | 4.6 | 9.2 |
| 27-Oct | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 3 | 3 | 4 | 4 | 3 | 2 | 3 | 2 | 4 | 7 | 6 | 8 | 7 | 7 | 7 | 7 | 4.3 | 7.8 |
| 28-Oct | 8 | 7 | 6 | 5 | 5 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 3 | 3 | 4 | 4 | 5 | 5 | 5 | 7 | 7 | 6 | 5 | 5 | 4.8 | 7.7 |
| 29-Oct | 4 | 3 | 4 | 4 | 4 | 5 | 5 | 6 | 7 | 7 | 6 | 5 | 4 | 2 | 2 | 1 | 2 | 3 | 3 | 8 | 5 | 5 | 5 | 5 | 4.4 | 8.1 |
| 30-Oct | 4 | 3 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 2 | 1 | 1 | 4 | 4 | 5 | 4 | 3 | 3 | 3 | 3 | 2.7 | 4.7 |
| 31-Oct | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 5 | 4 | 7 | 6 | 9 | 7 | 4 | 4 | 5 | 7 | 10 | 7 | 6 | 16 | 18 | 26 | 8 | 7.0 | 26.1 |
| | 5.2 | 4.3 | 4.4 | 4.6 | 5.0 | 4.6 | 4.5 | 4.4 | 4.4 | 5.4 | 4.5 | 4.2 | 3.9 | 3.3 | 3.3 | 3.5 | 4.2 | 6.4 | 6.3 | 6.9 | 5.3 | 5.2 | 5.6 | 5.4 | Diurnal Average | |
| | 32.2 | 12.5 | 12.8 | 13.4 | 14.4 | 13.6 | 14.2 | 13.2 | 12.4 | 31.1 | 13.3 | 15.7 | 10.1 | 8.0 | 9.7 | 11.2 | 17.2 | 29.2 | 42.1 | 44.5 | 18.0 | 18.2 | 26.1 | 24.4 | Diurnal Maximum | |

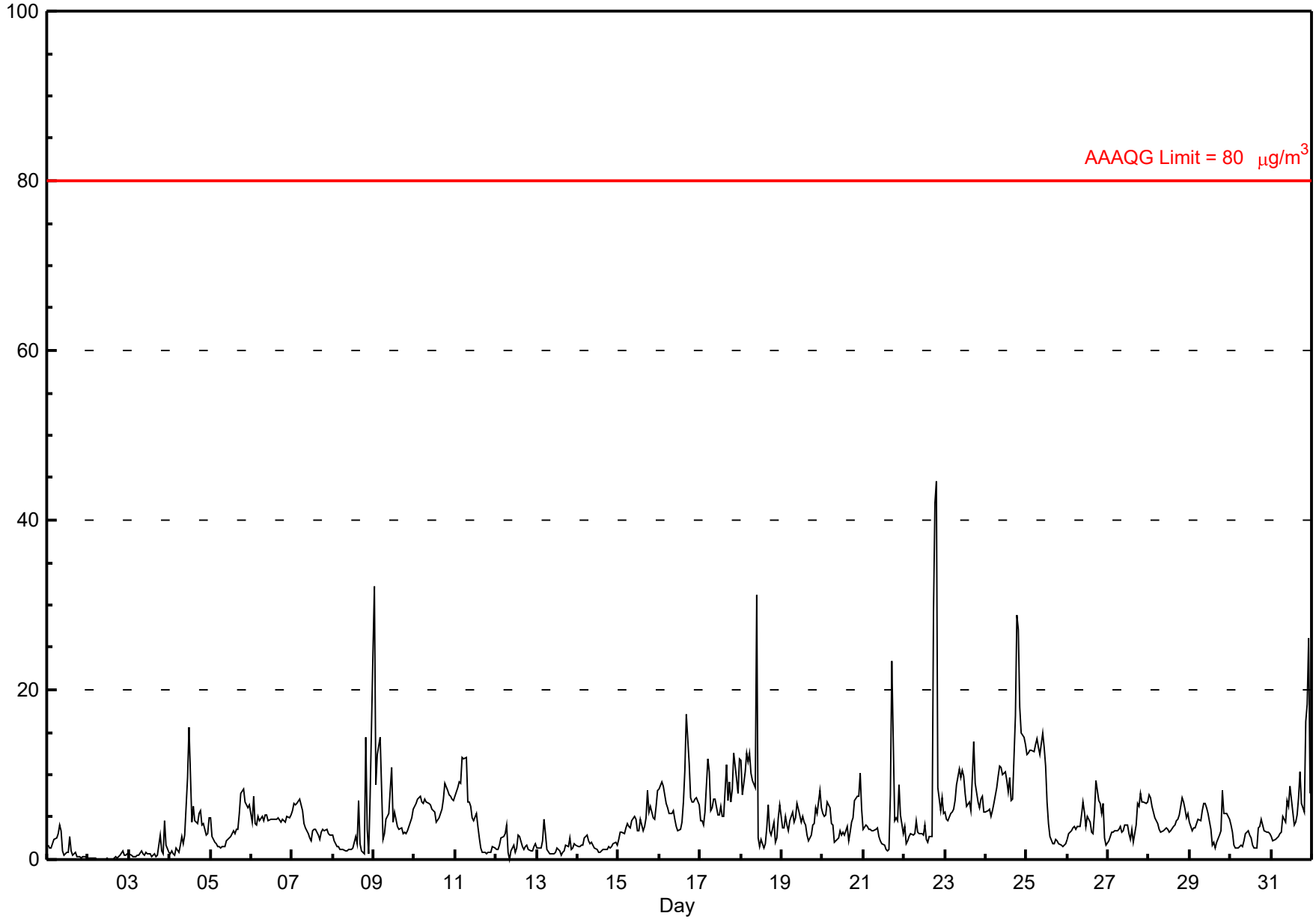
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

## Hourly Averages

**Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$**

**Smoky Heights - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

## Smoky Heights - October 2018

Maximum Value: 346.3 $\mu g/m^3$ on Oct 22 19:00

Maximum Daily Average: 44.9 $\mu g/m^3$ on Oct 22

Minimum Value: 0 $\mu g/m^3$ on Oct 2 10:00

Maximum Diurnal Average: 29.2 $\mu g/m^3$ at hour 18

Monthly Average: 10.59 $\mu g/m^3$

Minimum Daily Average: 1.2 $\mu g/m^3$ on Oct 2

Minimum Diurnal Average: 5.6 $\mu g/m^3$ at hour 4

Percentiles: $P_1 = 0.5$ $P_{10} = 1.4$ $Q_1 = 2.9$ Median = 5.8 $Q_3 = 10.3$ $P_{90} = 20.2$ $P_{99} = 91.8$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

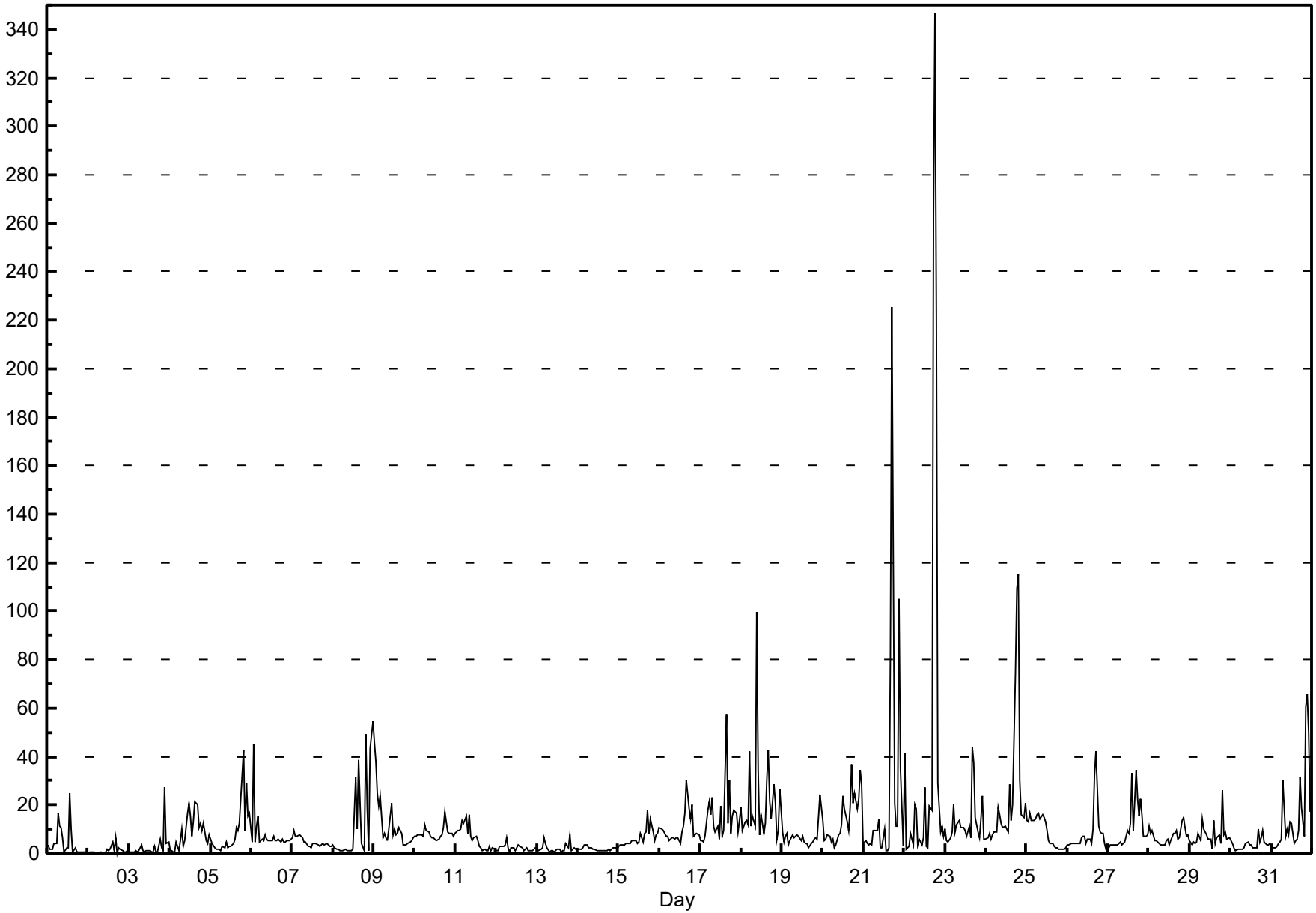
| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Average | Maximum |
| 1-Oct | 3 | 2 | 2 | 2 | 4 | 4 | 17 | 11 | 11 | 6 | 1 | 2 | 3 | 25 | 10 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4.6 | 24.9 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 2 | 5 | 1 | 7 | 0 | 2 | 2 | 1 | 0 | 1 | 1 | 1.2 | 6.6 |
| 3-Oct | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 6 | 3 | 1 | 27 | 4 | 5 | 2.7 | 27.1 |
| 4-Oct | 1 | 1 | 1 | 1 | 5 | 1 | 5 | 10 | 3 | 6 | 17 | 21 | 15 | 7 | 13 | 21 | 20 | 10 | 12 | 9 | 13 | 5 | 4 | 8 | 8.8 | 21.4 |
| 5-Oct | 6 | 4 | 2 | 2 | 2 | 2 | 1 | 3 | 2 | 5 | 3 | 3 | 3 | 4 | 6 | 10 | 10 | 13 | 23 | 42 | 10 | 29 | 15 | 17 | 9.0 | 42.5 |
| 6-Oct | 5 | 45 | 5 | 11 | 15 | 5 | 6 | 5 | 8 | 6 | 5 | 5 | 5 | 7 | 5 | 5 | 6 | 5 | 6 | 5 | 5 | 6 | 5 | 6 | 7.8 | 45.2 |
| 7-Oct | 7 | 9 | 7 | 7 | 8 | 7 | 6 | 5 | 5 | 3 | 3 | 3 | 4 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 4.7 | 9.5 |
| 8-Oct | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 31 | 10 | 39 | 20 | 4 | 1 | 49 | 19 | 1 | 43 | 54 | 12.3 | 54.4 |
| 9-Oct | 46 | 38 | 25 | 20 | 24 | 6 | 8 | 7 | 5 | 10 | 20 | 8 | 10 | 8 | 8 | 11 | 9 | 4 | 4 | 3 | 4 | 5 | 6 | 7 | 12.3 | 45.9 |
| 10-Oct | 7 | 7 | 8 | 8 | 8 | 7 | 12 | 9 | 9 | 7 | 6 | 6 | 6 | 6 | 6 | 7 | 8 | 11 | 17 | 9 | 9 | 8 | 9 | 7 | 8.1 | 17.1 |
| 11-Oct | 9 | 9 | 10 | 10 | 13 | 13 | 15 | 8 | 16 | 7 | 6 | 6 | 7 | 6 | 3 | 2 | 1 | 2 | 1 | 1 | 3 | 1 | 3 | 2 | 6.4 | 16.1 |
| 12-Oct | 1 | 1 | 3 | 3 | 3 | 3 | 7 | 3 | 0 | 2 | 2 | 1 | 2 | 3 | 3 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2.3 | 6.8 |
| 13-Oct | 2 | 1 | 2 | 3 | 6 | 4 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 4 | 2 | 8 | 1 | 2 | 2 | 2 | 2.2 | 7.6 |
| 14-Oct | 2 | 2 | 2 | 2 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 1.9 | 3.6 |
| 15-Oct | 3 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 6 | 5 | 5 | 4 | 5 | 9 | 5 | 8 | 9 | 18 | 8 | 14 | 9 | 6 | 8 | 9 | 6.6 | 18.0 |
| 16-Oct | 10 | 10 | 9 | 8 | 7 | 7 | 6 | 7 | 6 | 6 | 7 | 6 | 4 | 9 | 11 | 17 | 30 | 18 | 14 | 20 | 7 | 8 | 8 | 8 | 10.2 | 30.5 |
| 17-Oct | 5 | 5 | 5 | 7 | 18 | 21 | 16 | 23 | 11 | 9 | 11 | 6 | 20 | 7 | 9 | 57 | 13 | 30 | 8 | 15 | 18 | 17 | 9 | 13 | 14.7 | 57.4 |
| 18-Oct | 19 | 9 | 13 | 13 | 12 | 42 | 11 | 15 | 11 | 99 | 34 | 8 | 16 | 8 | 12 | 30 | 43 | 22 | 14 | 29 | 20 | 6 | 10 | 27 | 21.8 | 99.4 |
| 19-Oct | 9 | 5 | 7 | 9 | 4 | 5 | 8 | 6 | 7 | 8 | 7 | 5 | 7 | 5 | 4 | 4 | 3 | 4 | 5 | 6 | 6 | 6 | 24 | 19 | 7.2 | 24.2 |
| 20-Oct | 14 | 6 | 6 | 8 | 7 | 5 | 6 | 3 | 4 | 8 | 9 | 12 | 24 | 19 | 13 | 9 | 19 | 37 | 20 | 25 | 18 | 22 | 34 | 29 | 14.8 | 36.9 |
| 21-Oct | 4 | 5 | 4 | 4 | 4 | 4 | 9 | 9 | 10 | 14 | 3 | 2 | 10 | 1 | 1 | 2 | 82 | 226 | 21 | 11 | 11 | 105 | 35 | 3 | 24.3 | 225.7 |
| 22-Oct | 42 | 2 | 3 | 3 | 8 | 4 | 20 | 19 | 4 | 6 | 4 | 6 | 27 | 3 | 2 | 20 | 18 | 262 | 346 | 222 | 29 | 9 | 11 | 7 | 44.9 | 346.3 |
| 23-Oct | 10 | 5 | 5 | 7 | 9 | 20 | 9 | 12 | 14 | 10 | 11 | 10 | 9 | 7 | 11 | 6 | 44 | 38 | 15 | 9 | 7 | 14 | 24 | 6 | 13.0 | 44.0 |
| 24-Oct | 6 | 6 | 8 | 6 | 8 | 9 | 9 | 19 | 16 | 12 | 10 | 11 | 10 | 9 | 29 | 13 | 20 | 74 | 109 | 115 | 30 | 16 | 15 | 20 | 24.3 | 115.3 |
| 25-Oct | 14 | 13 | 16 | 14 | 13 | 14 | 16 | 17 | 14 | 16 | 15 | 13 | 10 | 5 | 4 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 9.0 | 16.6 |
| 26-Oct | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 7 | 7 | 7 | 4 | 6 | 6 | 4 | 10 | 32 | 42 | 11 | 9 | 8 | 8 | 4 | 2 | 8.4 | 42.0 |
| 27-Oct | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 4 | 4 | 5 | 9 | 9 | 12 | 33 | 9 | 35 | 23 | 16 | 23 | 16 | 7 | 7 | 8 | 10.3 | 34.6 |
| 28-Oct | 11 | 8 | 9 | 5 | 5 | 5 | 4 | 3 | 4 | 4 | 6 | 6 | 4 | 5 | 8 | 9 | 9 | 6 | 7 | 14 | 15 | 11 | 7 | 8 | 7.2 | 14.6 |
| 29-Oct | 6 | 4 | 5 | 4 | 5 | 8 | 5 | 14 | 10 | 9 | 8 | 6 | 6 | 2 | 14 | 4 | 6 | 8 | 4 | 26 | 8 | 9 | 6 | 7 | 7.6 | 26.1 |
| 30-Oct | 6 | 4 | 3 | 1 | 2 | 2 | 2 | 2 | 3 | 4 | 5 | 4 | 3 | 2 | 2 | 2 | 10 | 5 | 6 | 9 | 5 | 4 | 3 | 4 | 3.9 | 10.2 |
| 31-Oct | 3 | 3 | 3 | 3 | 4 | 5 | 6 | 31 | 7 | 10 | 8 | 13 | 12 | 4 | 6 | 6 | 10 | 31 | 19 | 7 | 61 | 66 | 50 | 17 | 16.0 | 65.9 |
| | 8.4 | 7.1 | 5.6 | 5.6 | 6.8 | 7.1 | 7.3 | 8.5 | 6.5 | 9.3 | 7.2 | 6.1 | 7.9 | 7.1 | 7.9 | 10.3 | 15.3 | 29.2 | 22.9 | 22.4 | 11.1 | 13.2 | 11.5 | 9.8 | Diurnal Average | |
| | 45.9 | 45.2 | 25.1 | 19.5 | 23.9 | 42.0 | 20.0 | 30.5 | 16.3 | 99.4 | 34.2 | 21.0 | 27.3 | 31.2 | 33.2 | 57.4 | 81.8 | 262.3 | 346.3 | 221.8 | 60.8 | 105.0 | 50.1 | 54.4 | Diurnal Maximum | |

Peace Airshed Zone Association

# Hourly Maximums

**Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$**

**Smoky Heights - October 2018**

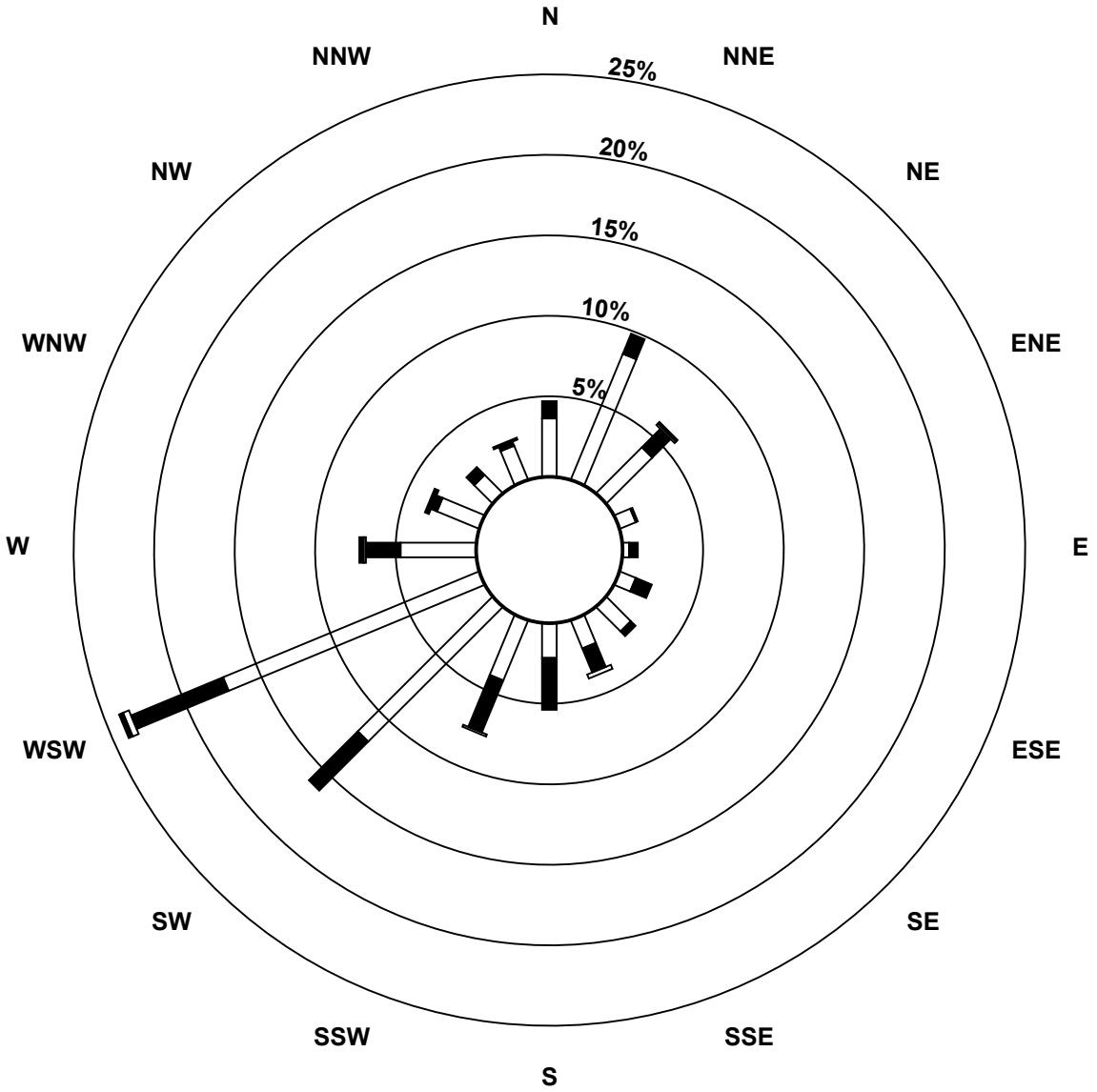


Peace Airshed Zone Association

# Pollutant Rose

## Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$

## Smoky Heights - October 2018




**Pollutant Classes ($\mu g/m^3$)**

- 0 - 5
- 6 - 15
- 16 - 25
- 26 - 80
- > 80.0

Peace Airshed Zone Association

# Hourly Averages

## External Temperature (ET) - °C

## Smoky Heights - October 2018

Maximum Value: 20.5 °C on Oct 16 16:00

Maximum Daily Average: 11.7 °C on Oct 17

Minimum Value: -6 °C on Oct 23 06:00

Minimum Daily Average: -2.0 °C on Oct 2

Maximum Diurnal Average: 8.3 °C at hour 15

Minimum Diurnal Average: -1.0 °C at hour 8

Monthly Average: 2.85 °C

Percentiles: $P_1$ = -5.5 $P_{10}$ = -3.0 $Q_1$ = -1.2 Median = 1.3 $Q_3$ = 6.2 $P_{90}$ = 11.1 $P_{99}$ = 16.6

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

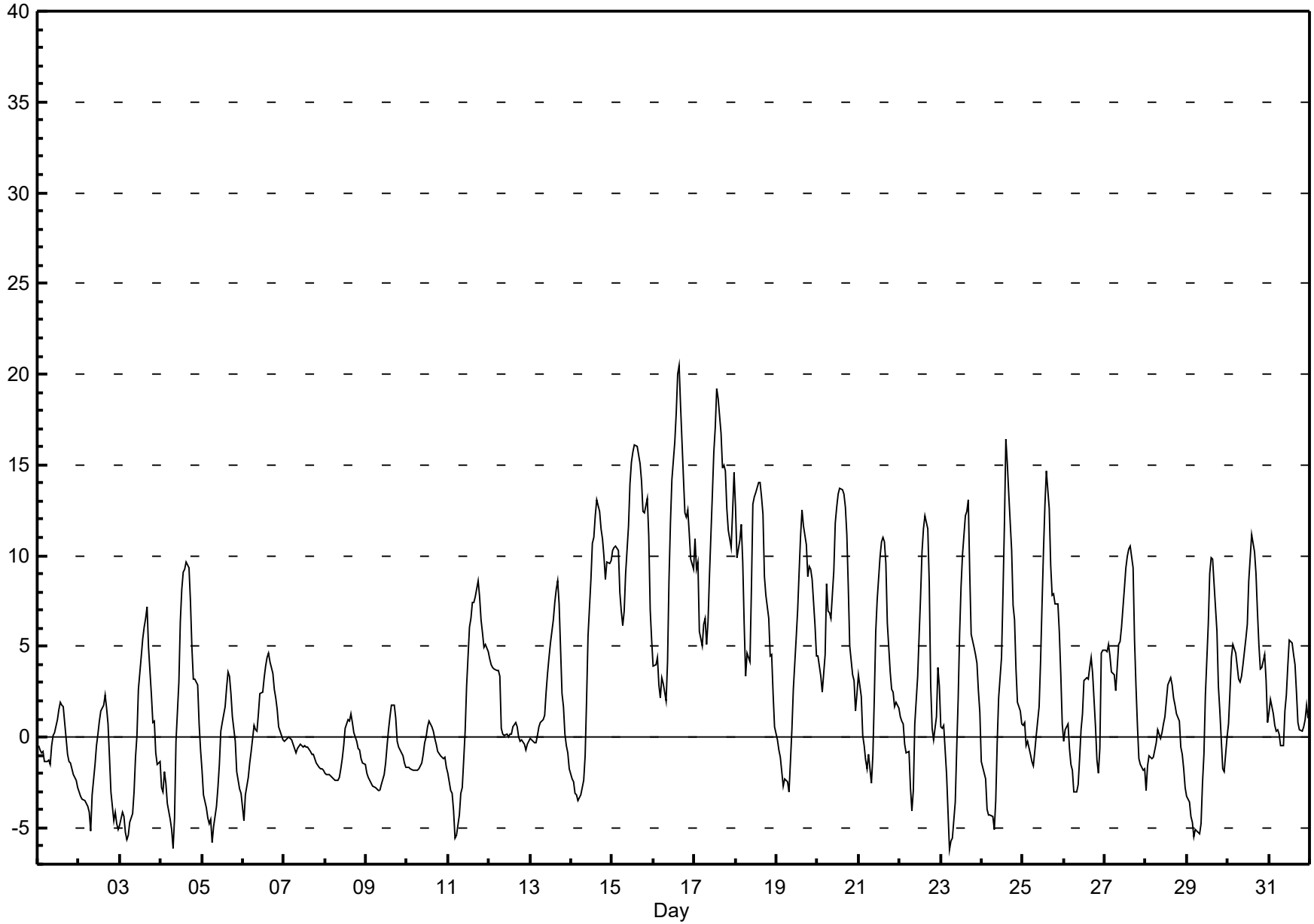
| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Average | Maximum |
| 1-Oct | 0 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | 0 | 1 | 2 | 2 | 2 | 2 | 0 | -1 | -1 | -1 | -2 | -2 | -2 | -3 | -0.5 | 1.9 |
| 2-Oct | -3 | -3 | -3 | -4 | -4 | -4 | -4 | -5 | -3 | -2 | 0 | 0 | 1 | 1 | 2 | 2 | 2 | 1 | -1 | -3 | -5 | -4 | -5 | -5 | -2.0 | 2.3 |
| 3-Oct | -5 | -4 | -4 | -5 | -6 | -5 | -5 | -4 | -3 | -1 | 0 | 3 | 4 | 5 | 6 | 7 | 7 | 5 | 2 | 1 | 1 | -1 | -1 | -1 | -0.2 | 7.1 |
| 4-Oct | -3 | -3 | -2 | -3 | -4 | -5 | -5 | -6 | -4 | 0 | 3 | 6 | 8 | 9 | 9 | 10 | 9 | 8 | 5 | 3 | 3 | 3 | 1 | -1 | 1.8 | 9.7 |
| 5-Oct | -2 | -3 | -4 | -4 | -5 | -5 | -6 | -5 | -4 | -3 | -2 | 0 | 1 | 2 | 3 | 4 | 3 | 2 | 1 | 0 | -2 | -2 | -3 | -3 | -1.5 | 3.6 |
| 6-Oct | -5 | -3 | -3 | -2 | -1 | -1 | 1 | 0 | 0 | 1 | 2 | 2 | 3 | 4 | 4 | 5 | 4 | 4 | 3 | 2 | 2 | 1 | 0 | 0 | 1.0 | 4.7 |
| 7-Oct | 0 | 0 | 0 | 0 | 0 | 0 | -1 | -1 | -1 | 0 | 0 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -2 | -2 | -2 | -2 | -0.8 | 0.0 |
| 8-Oct | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | -1 | -1 | -1 | -1 | -2 | -1.0 | 1.3 |
| 9-Oct | -2 | -2 | -2 | -3 | -3 | -3 | -3 | -3 | -3 | -3 | -2 | -1 | 0 | 0 | 1 | 2 | 2 | 1 | 0 | -1 | -1 | -1 | -1 | -2 | -1.2 | 1.8 |
| 10-Oct | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -1 | -1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | -1 | -1 | -1 | -1 | -1 | -2 | -0.9 | 0.9 |
| 11-Oct | -2 | -3 | -3 | -4 | -6 | -5 | -4 | -3 | -3 | -1 | 0 | 3 | 6 | 7 | 7 | 7 | 8 | 9 | 8 | 6 | 6 | 5 | 5 | 5 | 2.0 | 8.6 |
| 12-Oct | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | -1 | 0 | 0 | 1.2 | 4.3 |
| 13-Oct | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 4 | 4 | 5 | 6 | 7 | 8 | 9 | 7 | 2 | 2 | 0 | 0 | -1 | -2 | 2.4 | 8.6 |
| 14-Oct | -2 | -2 | -3 | -3 | -3 | -3 | -3 | -2 | -1 | 2 | 6 | 9 | 11 | 11 | 12 | 13 | 12 | 11 | 11 | 10 | 9 | 10 | 10 | 10 | 5.1 | 13.1 |
| 15-Oct | 10 | 10 | 11 | 10 | 8 | 7 | 6 | 7 | 9 | 12 | 14 | 15 | 16 | 16 | 16 | 16 | 15 | 14 | 12 | 12 | 13 | 11 | 7 | 5 | 11.4 | 16.1 |
| 16-Oct | 4 | 4 | 4 | 3 | 2 | 3 | 3 | 2 | 4 | 9 | 12 | 14 | 16 | 18 | 20 | 20 | 18 | 14 | 12 | 12 | 12 | 11 | 10 | 9 | 9.9 | 20.5 |
| 17-Oct | 11 | 9 | 10 | 6 | 5 | 6 | 7 | 5 | 6 | 9 | 13 | 16 | 17 | 19 | 19 | 17 | 15 | 15 | 15 | 13 | 11 | 10 | 12 | 15 | 11.7 | 19.2 |
| 18-Oct | 13 | 10 | 11 | 12 | 10 | 6 | 3 | 5 | 4 | 8 | 13 | 13 | 13 | 14 | 14 | 13 | 12 | 9 | 8 | 7 | 4 | 5 | 2 | 1 | 8.7 | 14.1 |
| 19-Oct | 0 | -1 | -1 | -2 | -3 | -2 | -2 | -3 | -1 | 0 | 3 | 6 | 7 | 9 | 11 | 13 | 12 | 11 | 9 | 9 | 9 | 9 | 6 | 5 | 4.2 | 12.5 |
| 20-Oct | 5 | 4 | 3 | 3 | 5 | 8 | 7 | 7 | 7 | 9 | 12 | 13 | 13 | 14 | 14 | 13 | 13 | 11 | 8 | 5 | 3 | 3 | 1 | 2 | 7.6 | 13.7 |
| 21-Oct | 3 | 2 | 0 | 0 | -1 | -2 | -1 | -3 | -1 | 2 | 6 | 8 | 10 | 11 | 11 | 11 | 10 | 6 | 4 | 3 | 2 | 2 | 2 | 2 | 3.6 | 11.0 |
| 22-Oct | 1 | 1 | 1 | 0 | -1 | -1 | -3 | -4 | -3 | 1 | 3 | 6 | 8 | 10 | 11 | 12 | 11 | 8 | 3 | 1 | 0 | 1 | 4 | 3 | 3.1 | 12.2 |
| 23-Oct | 1 | 0 | 1 | -2 | -4 | -6 | -6 | -6 | -4 | -1 | 2 | 6 | 8 | 10 | 12 | 12 | 13 | 9 | 6 | 5 | 5 | 4 | 3 | 1 | 2.9 | 13.1 |
| 24-Oct | -1 | -2 | -2 | -4 | -4 | -4 | -4 | -5 | -4 | 0 | 2 | 4 | 8 | 12 | 16 | 15 | 13 | 10 | 7 | 6 | 4 | 2 | 1 | 1 | 3.0 | 16.4 |
| 25-Oct | 1 | 1 | 0 | 0 | -1 | -1 | -2 | -1 | 0 | 2 | 4 | 7 | 10 | 13 | 15 | 13 | 9 | 8 | 8 | 7 | 7 | 6 | 3 | 1 | 4.6 | 14.7 |
| 26-Oct | 0 | 0 | 1 | -1 | -2 | -2 | -3 | -3 | -3 | -1 | 0 | 1 | 3 | 3 | 3 | 4 | 4 | 3 | 1 | -1 | -2 | -1 | 5 | 5 | 0.7 | 4.8 |
| 27-Oct | 5 | 5 | 5 | 4 | 4 | 3 | 3 | 4 | 5 | 5 | 6 | 8 | 9 | 10 | 10 | 11 | 9 | 5 | 3 | 1 | -1 | -2 | -2 | -2 | 4.6 | 10.5 |
| 28-Oct | -3 | -2 | -1 | -1 | -1 | -1 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | -1 | -1 | -2 | -3 | 0.2 | 3.3 |
| 29-Oct | -3 | -4 | -4 | -5 | -5 | -5 | -5 | -5 | -5 | -3 | -1 | 2 | 6 | 9 | 10 | 10 | 8 | 6 | 3 | 1 | 0 | -2 | -2 | 0 | 0.3 | 9.9 |
| 30-Oct | 1 | 2 | 4 | 5 | 5 | 4 | 3 | 3 | 3 | 4 | 5 | 6 | 9 | 10 | 11 | 10 | 9 | 7 | 5 | 4 | 4 | 5 | 3 | 1 | 5.1 | 11.1 |
| 31-Oct | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 4 | 5 | 5 | 5 | 4 | 2 | 1 | 0 | 0 | 1 | 1 | 2 | 1 | 1.7 | 5.4 |
| | 0.8 | 0.6 | 0.5 | 0.0 | -0.6 | -0.6 | -0.8 | -1.0 | -0.2 | 1.7 | 3.5 | 5.1 | 6.5 | 7.6 | 8.3 | 8.3 | 7.5 | 6.0 | 4.2 | 3.3 | 2.6 | 2.2 | 1.7 | 1.2 | Diurnal Average | |
| | 12.6 | 10.4 | 10.8 | 11.7 | 9.6 | 8.5 | 6.9 | 7.0 | 9.0 | 11.7 | 14.0 | 15.7 | 17.0 | 19.2 | 20.0 | 20.5 | 18.2 | 15.0 | 14.7 | 12.6 | 13.1 | 11.3 | 12.4 | 14.6 | Diurnal Maximum | |

Peace Airshed Zone Association

# Hourly Averages

**External Temperature (ET) - $^{o}C$**

**Smoky Heights - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Wind Speed (km/h)
## Wind Direction (deg)
## Smoky Heights - October 2018

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Average | Maximum |
| 1 Spd | 6 | 6 | 6 | 5 | 1 | 3 | 4 | 2 | 5 | 6 | 2 | 8 | 9 | 8 | 7 | 5 | 8 | 11 | 12 | 14 | 13 | 13 | 12 | 12 | 7.2 | 13.9 |
| Dir | 359 | 354 | 355 | 348 | 10 | 344 | 18 | 32 | 324 | 4 | 62 | 342 | 6 | 1 | 18 | 28 | 359 | 25 | 26 | 23 | 17 | 12 | 11 | 9 | 9.3 | 22.8 |
| 2 Spd | 10 | 10 | 11 | 10 | 7 | 7 | 7 | 5 | 0 | 6 | 4 | 6 | 9 | 8 | 7 | 13 | 22 | 20 | 18 | 15 | 13 | 18 | 18 | 18 | 7.1 | 21.6 |
| Dir | 4 | 3 | 1 | 3 | 356 | 341 | 338 | 329 | 281 | 323 | 329 | 289 | 247 | 266 | 250 | 232 | 225 | 230 | 229 | 236 | 242 | 246 | 247 | 248 | 265.3 | 225.0 |
| 3 Spd | 19 | 24 | 20 | 12 | 13 | 15 | 7 | 5 | 6 | 6 | 8 | 6 | 7 | 7 | 7 | 4 | 5 | 5 | 5 | 6 | 6 | 3 | 2 | 2 | 4.6 | 23.9 |
| Dir | 241 | 245 | 246 | 245 | 241 | 252 | 219 | 189 | 192 | 192 | 159 | 157 | 151 | 139 | 147 | 183 | 104 | 63 | 50 | 69 | 70 | 6 | 182 | 230 | 213.6 | 244.6 |
| 4 Spd | 3 | 1 | 6 | 6 | 6 | 7 | 6 | 6 | 5 | 5 | 7 | 9 | 10 | 19 | 12 | 10 | 9 | 9 | 8 | 14 | 14 | 10 | 7 | 5 | 4.3 | 18.5 |
| Dir | 302 | 328 | 230 | 220 | 221 | 228 | 193 | 192 | 208 | 195 | 182 | 167 | 205 | 229 | 260 | 301 | 315 | 336 | 324 | 311 | 319 | 325 | 9 | 1 | 264.2 | 229.1 |
| 5 Spd | 8 | 9 | 8 | 9 | 10 | 9 | 5 | 7 | 9 | 10 | 8 | 6 | 8 | 8 | 5 | 9 | 8 | 7 | 7 | 6 | 6 | 5 | 4 | 4 | 7.2 | 9.8 |
| Dir | 6 | 11 | 11 | 20 | 22 | 27 | 20 | 26 | 28 | 31 | 35 | 27 | 40 | 34 | 26 | 33 | 28 | 46 | 52 | 28 | 28 | 26 | 16 | 355 | 26.2 | 31.4 |
| 6 Spd | 5 | 6 | 5 | 7 | 7 | 8 | 6 | 3 | 3 | 2 | 6 | 6 | 6 | 7 | 7 | 9 | 10 | 6 | 5 | 7 | 13 | 12 | 10 | 10 | 3.1 | 13.2 |
| Dir | 275 | 232 | 219 | 201 | 190 | 197 | 251 | 178 | 74 | 139 | 24 | 50 | 36 | 30 | 32 | 34 | 38 | 41 | 32 | 29 | 27 | 36 | 30 | 26 | 32.7 | 27.4 |
| 7 Spd | 9 | 9 | 10 | 11 | 12 | 14 | 11 | 12 | 13 | 13 | 12 | 14 | 15 | 13 | 14 | 14 | 15 | 16 | 15 | 14 | 12 | 10 | 10 | 11 | 12.4 | 16.1 |
| Dir | 27 | 19 | 34 | 34 | 34 | 34 | 34 | 31 | 31 | 31 | 30 | 24 | 20 | 18 | 21 | 19 | 21 | 28 | 26 | 25 | 24 | 33 | 35 | 35 | 27.5 | 27.6 |
| 8 Spd | 10 | 10 | 11 | 11 | 13 | 13 | 10 | 9 | 9 | 9 | 10 | 10 | 8 | 11 | 13 | 14 | 14 | 13 | 14 | 10 | 10 | 9 | 9 | 9 | 10.0 | 14.5 |
| Dir | 28 | 30 | 40 | 42 | 45 | 43 | 36 | 32 | 37 | 34 | 25 | 31 | 44 | 97 | 110 | 89 | 60 | 62 | 58 | 45 | 56 | 28 | 36 | 54 | 49.7 | 57.8 |
| 9 Spd | 9 | 10 | 10 | 10 | 11 | 11 | 9 | 10 | 11 | 10 | 10 | 11 | 8 | 14 | 15 | 18 | 18 | 19 | 18 | 18 | 17 | 18 | 16 | 16 | 10.4 | 18.9 |
| Dir | 45 | 47 | 40 | 34 | 38 | 44 | 45 | 45 | 47 | 49 | 43 | 47 | 56 | 92 | 94 | 111 | 105 | 146 | 128 | 115 | 119 | 128 | 131 | 126 | 88.6 | 146.2 |
| 10 Spd | 14 | 12 | 12 | 10 | 7 | 5 | 5 | 3 | 4 | 6 | 1 | 1 | 1 | 4 | 7 | 6 | 5 | 3 | 5 | 3 | 3 | 2 | 4 | 4 | 2.8 | 14.2 |
| Dir | 122 | 123 | 119 | 118 | 100 | 104 | 88 | 79 | 112 | 152 | 167 | 304 | 335 | 301 | 336 | 353 | 359 | 32 | 115 | 180 | 252 | 231 | 174 | 154 | 111.4 | 121.9 |
| 11 Spd | 3 | 2 | 4 | 6 | 6 | 7 | 6 | 7 | 6 | 9 | 11 | 13 | 19 | 19 | 19 | 17 | 13 | 22 | 17 | 10 | 6 | 7 | 10 | 9 | 9.5 | 21.8 |
| Dir | 154 | 153 | 255 | 235 | 226 | 239 | 206 | 184 | 186 | 186 | 182 | 194 | 209 | 229 | 231 | 223 | 217 | 242 | 243 | 240 | 242 | 246 | 239 | 248 | 222.6 | 242.3 |
| 12 Spd | 6 | 4 | 3 | 1 | 4 | 7 | 14 | 18 | 16 | 16 | 12 | 18 | 18 | 13 | 10 | 14 | 13 | 6 | 3 | 4 | 4 | 2 | 4 | 6 | 7.1 | 18.5 |
| Dir | 278 | 272 | 143 | 318 | 2 | 15 | 16 | 11 | 5 | 4 | 347 | 331 | 328 | 338 | 324 | 314 | 307 | 341 | 348 | 277 | 249 | 213 | 227 | 259 | 335.9 | 10.9 |
| 13 Spd | 7 | 5 | 3 | 4 | 8 | 8 | 7 | 7 | 6 | 5 | 5 | 7 | 4 | 3 | 11 | 13 | 10 | 7 | 8 | 10 | 12 | 13 | 16 | 14 | 6.7 | 16.1 |
| Dir | 259 | 246 | 190 | 205 | 234 | 240 | 252 | 237 | 266 | 282 | 326 | 22 | 34 | 235 | 284 | 294 | 287 | 266 | 251 | 256 | 257 | 248 | 249 | 245 | 261.2 | 248.5 |
| 14 Spd | 12 | 10 | 11 | 12 | 12 | 13 | 14 | 13 | 15 | 16 | 19 | 19 | 23 | 16 | 30 | 41 | 34 | 26 | 26 | 24 | 21 | 24 | 28 | 23 | 19.4 | 41.1 |
| Dir | 221 | 234 | 232 | 241 | 243 | 244 | 236 | 218 | 229 | 225 | 227 | 227 | 235 | 225 | 247 | 254 | 257 | 259 | 248 | 251 | 260 | 264 | 264 | 264 | 245.6 | 253.5 |
| 15 Spd | 22 | 25 | 25 | 24 | 18 | 18 | 18 | 18 | 19 | 25 | 29 | 29 | 22 | 26 | 22 | 18 | 15 | 15 | 15 | 16 | 16 | 1 | 5 | 15 | 18.5 | 29.3 |
| Dir | 269 | 275 | 270 | 267 | 257 | 255 | 245 | 253 | 258 | 258 | 262 | 264 | 274 | 282 | 288 | 290 | 281 | 271 | 262 | 267 | 282 | 306 | 221 | 256 | 267.2 | 261.5 |
| 16 Spd | 15 | 14 | 14 | 14 | 14 | 15 | 14 | 14 | 13 | 15 | 20 | 21 | 25 | 18 | 27 | 26 | 15 | 15 | 19 | 27 | 29 | 27 | 25 | 26 | 19.0 | 29.4 |
| Dir | 243 | 235 | 228 | 241 | 236 | 239 | 250 | 246 | 250 | 232 | 229 | 222 | 236 | 230 | 254 | 254 | 250 | 243 | 246 | 249 | 254 | 252 | 252 | 255 | 244.0 | 254.1 |
| 17 Spd | 23 | 19 | 17 | 15 | 12 | 14 | 10 | 10 | 6 | 7 | 14 | 17 | 18 | 18 | 15 | 8 | 12 | 18 | 21 | 21 | 18 | 17 | 15 | 16 | 13.1 | 23.5 |
| Dir | 252 | 249 | 233 | 194 | 194 | 189 | 175 | 180 | 231 | 216 | 183 | 194 | 183 | 229 | 239 | 235 | 231 | 234 | 251 | 244 | 249 | 255 | 273 | 272 | 228.3 | 251.5 |
| 18 Spd | 10 | 12 | 15 | 15 | 11 | 13 | 15 | 15 | 11 | 13 | 25 | 26 | 23 | 22 | 20 | 16 | 13 | 11 | 11 | 14 | 11 | 14 | 16 | 15 | 14.5 | 25.8 |
| Dir | 254 | 236 | 243 | 252 | 254 | 258 | 245 | 255 | 265 | 245 | 279 | 289 | 296 | 299 | 297 | 285 | 270 | 286 | 290 | 283 | 272 | 265 | 262 | 260 | 271.2 | 288.9 |
| 19 Spd | 12 | 9 | 11 | 10 | 8 | 6 | 4 | 8 | 6 | 7 | 8 | 7 | 8 | 8 | 9 | 14 | 14 | 11 | 13 | 14 | 13 | 10 | 4 | 8 | 6.8 | 13.8 |
| Dir | 246 | 223 | 220 | 248 | 202 | 198 | 200 | 242 | 184 | 179 | 173 | 165 | 152 | 139 | 135 | 133 | 131 | 117 | 117 | 137 | 147 | 164 | 233 | 225 | 171.9 | 133.1 |
| 20 Spd | 10 | 10 | 12 | 13 | 17 | 23 | 22 | 19 | 17 | 23 | 44 | 51 | 49 | 46 | 47 | 45 | 40 | 28 | 17 | 15 | 13 | 14 | 12 | 19 | 24.9 | 50.6 |
| Dir | 226 | 226 | 248 | 253 | 244 | 243 | 226 | 239 | 245 | 245 | 252 | 253 | 248 | 249 | 258 | 257 | 256 | 250 | 245 | 235 | 230 | 259 | 262 | 260 | 248.8 | 252.6 |
| 21 Spd | 20 | 13 | 16 | 17 | 15 | 17 | 16 | 9 | 7 | 8 | 7 | 6 | 6 | 9 | 11 | 12 | 9 | 3 | 1 | 2 | 4 | 5 | 4 | 5 | 6.6 | 19.6 |
| Dir | 248 | 258 | 261 | 259 | 260 | 260 | 264 | 238 | 221 | 216 | 167 | 146 | 162 | 142 | 142 | 151 | 178 | 206 | 134 | 217 | 239 | 235 | 236 | 242 | 228.8 | 248.2 |
| 22 Spd | 5 | 6 | 6 | 9 | 8 | 10 | 10 | 8 | 7 | 9 | 6 | 9 | 9 | 9 | 7 | 6 | 7 | 8 | 5 | 2 | 2 | 5 | 6 | 8 | 6.1 | 10.5 |
| Dir | 246 | 244 | 230 | 216 | 209 | 208 | 202 | 216 | 217 | 208 | 187 | 177 | 194 | 167 | 153 | 170 | 222 | 259 | 282 | 297 | 312 | 209 | 207 | 226 | 210.6 | 207.8 |

Peace Airshed Zone Association

# Hourly Averages

## Wind Speed (km/h)
## Wind Direction (deg)
## Smoky Heights - October 2018

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 Spd | 9 | 7 | 7 | 7 | 8 | 9 | 9 | 7 | 8 | 7 | 6 | 5 | 6 | 7 | 3 | 4 | 0 | 3 | 4 | 6 | 7 | 7 | 5 | 6 | 2.6 | 9.3 |
| Dir | 242 | 231 | 215 | 200 | 207 | 182 | 198 | 206 | 219 | 216 | 195 | 174 | 164 | 162 | 162 | 115 | 286 | 17 | 358 | 355 | 359 | 2 | 353 | 16 | 210.2 | 182.2 |
| 24 Spd | 1 | 5 | 1 | 7 | 4 | 4 | 6 | 8 | 9 | 8 | 7 | 6 | 6 | 6 | 23 | 19 | 16 | 14 | 14 | 11 | 9 | 10 | 8 | 8 | 7.1 | 22.7 |
| Dir | 135 | 238 | 271 | 237 | 181 | 175 | 203 | 194 | 195 | 184 | 168 | 140 | 152 | 150 | 254 | 242 | 250 | 257 | 258 | 262 | 252 | 233 | 214 | 202 | 225.7 | 254.0 |
| 25 Spd | 5 | 7 | 9 | 7 | 9 | 9 | 9 | 10 | 7 | 6 | 9 | 10 | 7 | 7 | 8 | 13 | 32 | 18 | 20 | 16 | 26 | 21 | 16 | 14 | 11.5 | 32.0 |
| Dir | 199 | 218 | 231 | 227 | 217 | 234 | 236 | 212 | 221 | 207 | 196 | 193 | 169 | 168 | 197 | 240 | 246 | 211 | 201 | 219 | 229 | 222 | 235 | 252 | 221.1 | 246.2 |
| 26 Spd | 13 | 16 | 15 | 12 | 15 | 12 | 8 | 8 | 9 | 5 | 6 | 5 | 3 | 5 | 5 | 6 | 6 | 8 | 7 | 6 | 4 | 11 | 25 | 21 | 9.2 | 24.9 |
| Dir | 242 | 230 | 237 | 232 | 216 | 236 | 212 | 212 | 247 | 241 | 191 | 207 | 221 | 172 | 176 | 215 | 218 | 201 | 189 | 191 | 180 | 200 | 228 | 218 | 218.4 | 227.7 |
| 27 Spd | 23 | 24 | 25 | 24 | 20 | 20 | 15 | 24 | 28 | 29 | 30 | 33 | 26 | 23 | 22 | 19 | 15 | 11 | 13 | 12 | 13 | 9 | 8 | 5 | 18.8 | 33.1 |
| Dir | 223 | 227 | 232 | 234 | 237 | 236 | 250 | 243 | 252 | 256 | 257 | 260 | 266 | 286 | 281 | 271 | 259 | 253 | 251 | 256 | 260 | 254 | 227 | 247 | 251.2 | 259.9 |
| 28 Spd | 2 | 4 | 1 | 4 | 8 | 10 | 11 | 14 | 11 | 10 | 10 | 10 | 8 | 6 | 4 | 6 | 11 | 12 | 4 | 3 | 2 | 2 | 1 | 9 | 3.2 | 13.9 |
| Dir | 266 | 254 | 292 | 14 | 14 | 16 | 23 | 41 | 26 | 17 | 20 | 16 | 16 | 3 | 16 | 240 | 245 | 238 | 241 | 308 | 224 | 247 | 226 | 249 | 350.4 | 41.3 |
| 29 Spd | 11 | 6 | 6 | 8 | 6 | 7 | 6 | 4 | 3 | 6 | 6 | 7 | 13 | 21 | 23 | 19 | 14 | 13 | 13 | 11 | 12 | 10 | 12 | 9 | 9.4 | 23.1 |
| Dir | 257 | 240 | 204 | 233 | 228 | 222 | 239 | 240 | 200 | 178 | 182 | 174 | 203 | 235 | 250 | 246 | 246 | 256 | 246 | 255 | 258 | 254 | 254 | 254 | 238.4 | 250.4 |
| 30 Spd | 8 | 13 | 20 | 20 | 16 | 14 | 14 | 13 | 15 | 16 | 18 | 17 | 21 | 27 | 35 | 33 | 23 | 22 | 20 | 17 | 16 | 19 | 12 | 11 | 18.2 | 34.5 |
| Dir | 233 | 234 | 233 | 237 | 240 | 239 | 247 | 242 | 236 | 239 | 239 | 233 | 239 | 257 | 245 | 245 | 241 | 243 | 233 | 235 | 240 | 234 | 245 | 231 | 240.2 | 245.1 |
| 31 Spd | 11 | 12 | 9 | 9 | 8 | 5 | 12 | 7 | 7 | 7 | 6 | 7 | 4 | 2 | 3 | 1 | 6 | 5 | 2 | 3 | 1 | 3 | 10 | 14 | 4.0 | 13.6 |
| Dir | 215 | 244 | 242 | 239 | 253 | 238 | 203 | 218 | 233 | 229 | 189 | 208 | 182 | 152 | 26 | 335 | 290 | 339 | 320 | 264 | 157 | 276 | 327 | 351 | 247.2 | 351.3 |
| Spd | 6.3 | 6.4 | 6.4 | 6.2 | 5.4 | 5.5 | 4.9 | 4.3 | 4.3 | 4.8 | 5.5 | 5.8 | 6.1 | 6.2 | 7.9 | 7.9 | 7.6 | 6.2 | 5.2 | 5.4 | 5.4 | 5.8 | 6.3 | 6.6 | Diurnal Average | |
| Dir | 250.0 | 248.4 | 243.9 | 244.8 | 240.1 | 243.3 | 240.4 | 238.8 | 248.7 | 241.3 | 240.0 | 244.9 | 243.2 | 246.6 | 256.7 | 254.2 | 255.2 | 251.7 | 246.7 | 255.2 | 259.7 | 252.6 | 255.1 | 258.2 | | |
| Spd | 23.5 | 25.0 | 25.3 | 23.9 | 19.8 | 22.7 | 21.8 | 24.0 | 28.5 | 29.3 | 44.4 | 50.6 | 48.8 | 46.1 | 46.7 | 45.4 | 40.2 | 27.8 | 26.5 | 26.5 | 29.4 | 27.0 | 28.4 | 26.4 | Diurnal Maximum | |
| Dir | 251.5 | 274.7 | 270.4 | 266.6 | 237.3 | 243.0 | 225.6 | 243.2 | 252.0 | 256.1 | 252.0 | 252.6 | 248.4 | 248.5 | 257.8 | 257.0 | 256.4 | 250.4 | 248.0 | 248.9 | 254.1 | 251.5 | 263.8 | 255.2 | | |

Maximum Speed Value: 51 km/h on Oct 20 12:00
Maximum Daily Speed Average: 24.9 km/h on Oct 20
Maximum Diurnal Speed Average: 7.9 km/h at hour 16

Minimum Speed Value: 0 km/h on Oct 2 09:00
Minimum Daily Speed Average: 2.6 km/h on Oct 10
Minimum Diurnal Speed Average: 4.3 km/h at hour 8

Monthly Average Velocity: 5.90 km/h 248.85 deg

Speed Percentiles: $P_1$ = 1.0 $P_{10}$ = 4.1 $Q_1$ = 6.3 Median = 9.8 $Q_3$ = 14.7 $P_{90}$ = 20.8 $P_{99}$ = 37.8

All monthly, daily, and diurnal averages have been calculated using vector methods

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Percent Operational Time: | 100.0 |

Frequency Distribution

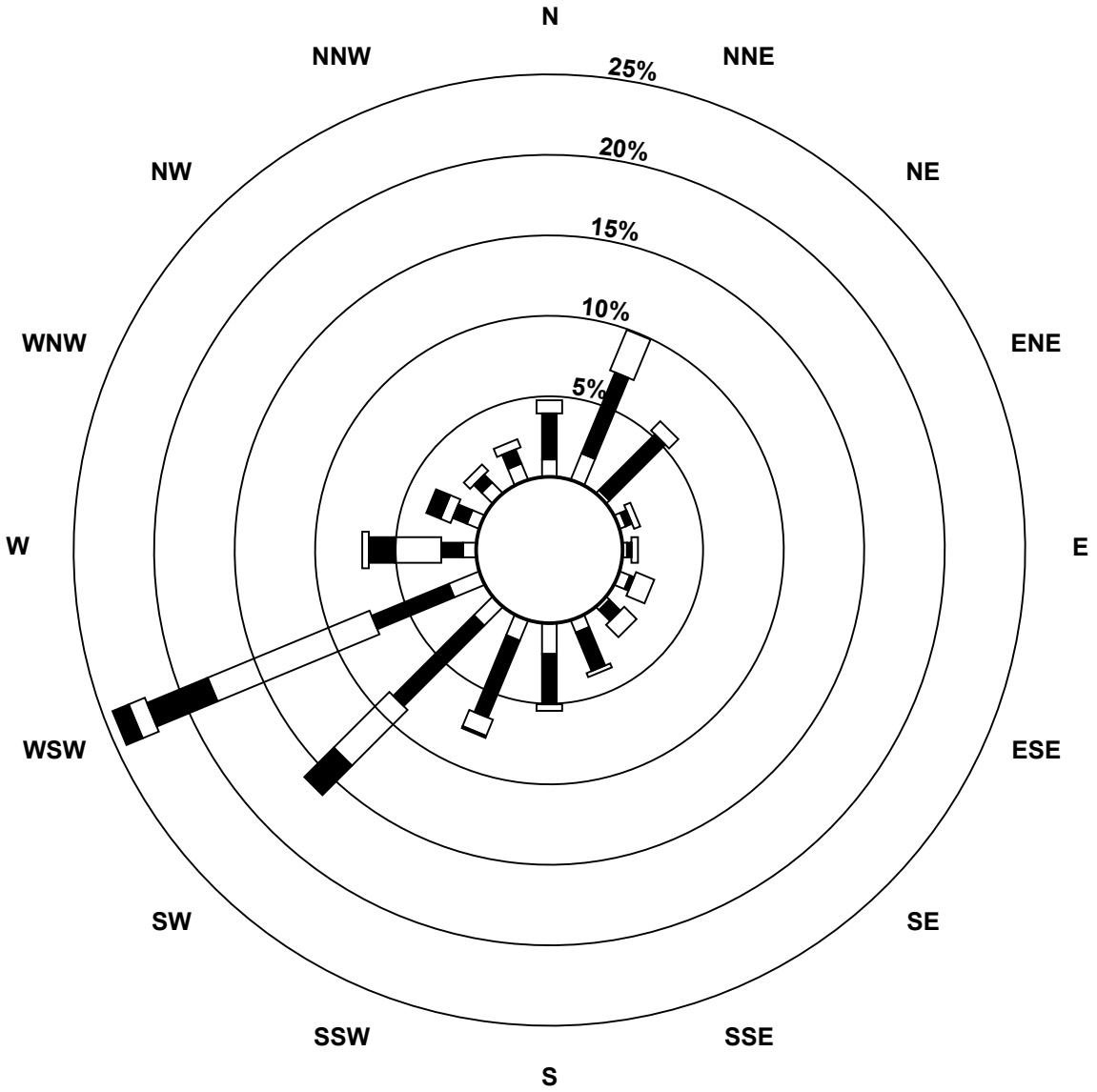
| Direction | Speed Range (km/h) 0 to 5 | 5 to 11 | 11 to 19 | 19 to 28 | 28 to 38 | > 38 | Total |
|---|---|---|---|---|---|---|---|
| North | 13 | 43 | 16 | 0 | 0 | 0 | 72 |
| NorthEast | 6 | 61 | 29 | 0 | 0 | 0 | 96 |
| East | 4 | 6 | 6 | 0 | 0 | 0 | 16 |
| SouthEast | 10 | 17 | 17 | 0 | 0 | 0 | 44 |
| South | 15 | 61 | 8 | 1 | 0 | 0 | 85 |
| SouthWest | 23 | 93 | 83 | 36 | 4 | 0 | 239 |
| West | 16 | 29 | 62 | 33 | 9 | 8 | 157 |
| NorthWest | 14 | 11 | 7 | 3 | 0 | 0 | 35 |
| Total | 101 | 321 | 228 | 73 | 13 | 8 | 744 |

Peace Airshed Zone Association

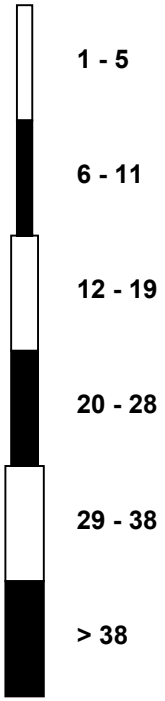
# Wind Rose

**Wind Speed (WS) (km/h)**

**Smoky Heights - October 2018**




**Wind Speed Classes (km/h)**



# Hourly Averages - Wind Speed (Scalar)

**Wind Speed (km/h)**

## Smoky Heights - October 2018

Peace Airshed Zone Association

Maximum Speed: 51 km/h on Oct 20 12:00

Maximum Daily Speed Average: 25.4 km/h on Oct 20

Minimum Speed: 1 km/h on Oct 23 17:00

Minimum Daily Speed Average: 5.7 km/h on Oct 10

Maximum Diurnal Speed Average: 15.0 km/h at hour 16

Minimum Diurnal Speed Average: 9.8 km/h at hour 9

Monthly Average Speed: 11.75 km/h

Percentiles: $P_1$ = 2.1 $P_{10}$ = 4.4 $Q_1$ = 6.6 Median = 10.0 $Q_3$ = 14.9 $P_{90}$ = 20.9 $P_{99}$ = 37.9

Hours in Service: 744
Hours of Data: 744
Hours of Missing Data: 0

Percent Operational Time: 100.0

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 6 | 6 | 6 | 5 | 2 | 3 | 4 | 3 | 5 | 7 | 3 | 8 | 9 | 8 | 7 | 6 | 9 | 11 | 12 | 14 | 13 | 13 | 12 | 12 | 7.8 | 14.0 |
| 2-Oct | 11 | 11 | 11 | 10 | 8 | 7 | 7 | 5 | 4 | 6 | 5 | 7 | 11 | 9 | 8 | 14 | 22 | 20 | 18 | 15 | 14 | 18 | 18 | 18 | 11.4 | 21.8 |
| 3-Oct | 19 | 24 | 20 | 14 | 14 | 15 | 7 | 5 | 7 | 7 | 8 | 6 | 7 | 8 | 8 | 5 | 6 | 6 | 5 | 6 | 7 | 4 | 2 | 3 | 8.9 | 24.0 |
| 4-Oct | 3 | 2 | 6 | 6 | 6 | 7 | 7 | 6 | 5 | 6 | 7 | 10 | 11 | 19 | 15 | 11 | 11 | 9 | 8 | 14 | 15 | 10 | 8 | 6 | 8.7 | 19.0 |
| 5-Oct | 8 | 10 | 8 | 9 | 10 | 9 | 5 | 7 | 9 | 10 | 9 | 7 | 9 | 8 | 6 | 9 | 8 | 7 | 7 | 6 | 6 | 5 | 4 | 4 | 7.5 | 10.0 |
| 6-Oct | 5 | 6 | 5 | 7 | 7 | 8 | 8 | 4 | 3 | 3 | 7 | 6 | 7 | 8 | 7 | 9 | 10 | 6 | 5 | 7 | 13 | 12 | 10 | 10 | 7.2 | 13.2 |
| 7-Oct | 9 | 9 | 10 | 11 | 12 | 14 | 11 | 12 | 13 | 13 | 12 | 14 | 15 | 13 | 14 | 14 | 15 | 16 | 15 | 14 | 12 | 10 | 10 | 11 | 12.5 | 16.2 |
| 8-Oct | 10 | 10 | 11 | 11 | 13 | 13 | 10 | 9 | 10 | 9 | 11 | 10 | 8 | 11 | 13 | 14 | 14 | 13 | 15 | 11 | 10 | 9 | 9 | 9 | 10.9 | 14.6 |
| 9-Oct | 9 | 10 | 10 | 10 | 11 | 11 | 9 | 10 | 11 | 10 | 10 | 11 | 9 | 14 | 16 | 19 | 19 | 19 | 19 | 18 | 17 | 18 | 16 | 16 | 13.4 | 19.1 |
| 10-Oct | 14 | 12 | 12 | 10 | 7 | 6 | 5 | 3 | 4 | 6 | 3 | 3 | 2 | 4 | 7 | 7 | 6 | 3 | 5 | 4 | 3 | 3 | 4 | 4 | 5.7 | 14.3 |
| 11-Oct | 3 | 2 | 4 | 6 | 6 | 7 | 6 | 7 | 6 | 9 | 11 | 14 | 19 | 20 | 19 | 17 | 14 | 22 | 17 | 10 | 6 | 7 | 10 | 9 | 10.5 | 21.9 |
| 12-Oct | 6 | 4 | 4 | 3 | 4 | 7 | 14 | 19 | 16 | 17 | 12 | 18 | 19 | 13 | 10 | 14 | 13 | 6 | 3 | 4 | 4 | 3 | 4 | 6 | 9.3 | 18.7 |
| 13-Oct | 7 | 5 | 3 | 4 | 8 | 8 | 7 | 7 | 6 | 5 | 6 | 7 | 5 | 5 | 11 | 14 | 10 | 7 | 8 | 10 | 12 | 13 | 16 | 14 | 8.3 | 16.1 |
| 14-Oct | 12 | 10 | 11 | 12 | 12 | 13 | 14 | 13 | 15 | 16 | 19 | 19 | 23 | 16 | 30 | 41 | 34 | 26 | 27 | 24 | 21 | 24 | 28 | 23 | 20.1 | 41.3 |
| 15-Oct | 22 | 25 | 25 | 24 | 18 | 18 | 18 | 18 | 19 | 25 | 29 | 29 | 23 | 26 | 22 | 18 | 15 | 15 | 15 | 16 | 16 | 7 | 6 | 15 | 19.3 | 29.4 |
| 16-Oct | 15 | 14 | 14 | 14 | 14 | 15 | 14 | 14 | 13 | 15 | 20 | 21 | 25 | 18 | 27 | 26 | 15 | 15 | 19 | 27 | 29 | 27 | 25 | 26 | 19.3 | 29.5 |
| 17-Oct | 24 | 19 | 18 | 15 | 12 | 14 | 10 | 10 | 6 | 8 | 14 | 17 | 18 | 19 | 15 | 9 | 12 | 18 | 21 | 21 | 18 | 17 | 15 | 17 | 15.2 | 23.6 |
| 18-Oct | 11 | 12 | 15 | 15 | 12 | 13 | 15 | 15 | 12 | 13 | 26 | 26 | 23 | 22 | 20 | 16 | 13 | 11 | 11 | 14 | 11 | 15 | 16 | 15 | 15.6 | 26.0 |
| 19-Oct | 12 | 10 | 11 | 11 | 8 | 6 | 4 | 9 | 7 | 8 | 8 | 7 | 8 | 8 | 9 | 14 | 14 | 11 | 13 | 14 | 13 | 10 | 5 | 8 | 9.5 | 13.9 |
| 20-Oct | 11 | 10 | 12 | 13 | 18 | 23 | 22 | 19 | 17 | 24 | 45 | 51 | 49 | 46 | 47 | 46 | 40 | 28 | 17 | 15 | 13 | 14 | 12 | 19 | 25.4 | 51.0 |
| 21-Oct | 20 | 13 | 16 | 17 | 15 | 17 | 16 | 10 | 7 | 8 | 7 | 7 | 6 | 9 | 11 | 12 | 9 | 3 | 1 | 2 | 4 | 6 | 4 | 5 | 9.4 | 19.6 |
| 22-Oct | 5 | 6 | 6 | 9 | 9 | 11 | 10 | 9 | 8 | 9 | 7 | 9 | 9 | 9 | 7 | 6 | 7 | 9 | 5 | 2 | 2 | 6 | 7 | 8 | 7.2 | 10.6 |
| 23-Oct | 9 | 7 | 7 | 7 | 8 | 9 | 9 | 7 | 8 | 7 | 6 | 5 | 7 | 7 | 3 | 4 | 1 | 3 | 4 | 6 | 7 | 7 | 5 | 6 | 6.3 | 9.3 |
| 24-Oct | 4 | 5 | 2 | 7 | 5 | 4 | 6 | 8 | 9 | 8 | 7 | 6 | 6 | 6 | 24 | 19 | 16 | 14 | 14 | 11 | 10 | 11 | 8 | 8 | 9.1 | 23.8 |
| 25-Oct | 6 | 8 | 10 | 7 | 9 | 9 | 9 | 10 | 8 | 6 | 9 | 10 | 7 | 7 | 10 | 13 | 32 | 18 | 20 | 16 | 26 | 21 | 16 | 14 | 12.5 | 32.5 |
| 26-Oct | 13 | 16 | 15 | 12 | 15 | 12 | 9 | 8 | 9 | 5 | 6 | 5 | 3 | 7 | 7 | 7 | 6 | 8 | 8 | 7 | 6 | 12 | 25 | 22 | 10.1 | 25.0 |
| 27-Oct | 23 | 24 | 25 | 24 | 20 | 20 | 15 | 24 | 29 | 29 | 30 | 33 | 27 | 23 | 22 | 20 | 15 | 11 | 13 | 12 | 13 | 10 | 9 | 6 | 19.9 | 33.3 |
| 28-Oct | 3 | 4 | 2 | 4 | 8 | 10 | 12 | 14 | 11 | 10 | 10 | 10 | 8 | 6 | 4 | 7 | 11 | 12 | 4 | 4 | 2 | 3 | 2 | 10 | 7.1 | 14.0 |
| 29-Oct | 11 | 6 | 6 | 8 | 6 | 7 | 6 | 4 | 3 | 7 | 6 | 7 | 14 | 21 | 24 | 19 | 14 | 13 | 13 | 12 | 12 | 11 | 12 | 10 | 10.4 | 23.5 |
| 30-Oct | 8 | 13 | 20 | 20 | 16 | 14 | 14 | 13 | 15 | 16 | 18 | 17 | 22 | 27 | 35 | 33 | 23 | 23 | 20 | 17 | 16 | 19 | 12 | 11 | 18.5 | 34.7 |
| 31-Oct | 11 | 12 | 9 | 9 | 8 | 6 | 12 | 7 | 7 | 7 | 7 | 7 | 5 | 3 | 4 | 2 | 7 | 5 | 3 | 3 | 4 | 5 | 11 | 15 | 6.9 | 14.7 |
| | 10.7 | 10.5 | 10.8 | 10.8 | 10.4 | 10.8 | 10.2 | 9.9 | 9.8 | 10.6 | 12.2 | 13.1 | 13.3 | 13.6 | 14.9 | 15.0 | 14.2 | 12.6 | 11.8 | 11.4 | 11.5 | 11.2 | 11.0 | 11.7 | Diurnal Average | |
| | 23.6 | 25.0 | 25.3 | 23.9 | 19.8 | 22.9 | 21.9 | 24.1 | 28.6 | 29.3 | 44.7 | 51.0 | 49.1 | 46.3 | 47.3 | 45.7 | 40.3 | 27.9 | 26.5 | 26.6 | 29.5 | 27.0 | 28.4 | 26.4 | Diurnal Maximum | |

All monthly, daily, and diurnal averages have been calculated using scalar methods

Peace Airshed Zone Association

# Hourly Standard Deviations

## Wind Direction (WD) - deg

## Smoky Heights - October 2018

Maximum Value: 96.4 deg on Oct 23 17:00

Minimum Value: 2.0 deg on Oct 16 00:00

Percentiles: $P_1$ = 2.6 $P_{10}$ = 4.5 $Q_1$ = 6.2 Median = 9.5 $Q_3$ = 16.8 $P_{90}$ = 30.2 $P_{99}$ = 83.3

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| 1-Oct | 10 | 10 | 10 | 13 | 77 | 32 | 54 | 56 | 16 | 27 | 70 | 41 | 15 | 19 | 19 | 28 | 26 | 8 | 5 | 6 | 8 | 6 | 7 | 7 | 77.4 |
| 2-Oct | 9 | 8 | 9 | 11 | 13 | 9 | 9 | 9 | 94 | 29 | 55 | 34 | 30 | 33 | 48 | 21 | 7 | 7 | 3 | 4 | 5 | 5 | 5 | 3 | 94.4 |
| 3-Oct | 3 | 4 | 4 | 37 | 22 | 17 | 14 | 18 | 15 | 24 | 17 | 28 | 30 | 23 | 33 | 38 | 42 | 21 | 6 | 12 | 26 | 39 | 48 | 37 | 47.9 |
| 4-Oct | 42 | 62 | 12 | 14 | 16 | 10 | 23 | 11 | 8 | 16 | 13 | 14 | 24 | 12 | 56 | 40 | 29 | 10 | 8 | 4 | 4 | 18 | 25 | 36 | 62.1 |
| 5-Oct | 10 | 8 | 6 | 5 | 5 | 5 | 7 | 7 | 7 | 11 | 13 | 28 | 18 | 19 | 37 | 17 | 14 | 11 | 11 | 6 | 8 | 12 | 8 | 12 | 36.8 |
| 6-Oct | 26 | 11 | 9 | 10 | 19 | 21 | 42 | 47 | 29 | 56 | 17 | 17 | 22 | 15 | 17 | 11 | 9 | 13 | 18 | 8 | 7 | 8 | 6 | 5 | 56.4 |
| 7-Oct | 8 | 17 | 6 | 6 | 6 | 6 | 7 | 6 | 6 | 6 | 6 | 5 | 6 | 7 | 7 | 7 | 6 | 8 | 5 | 5 | 5 | 6 | 8 | 6 | 17.5 |
| 8-Oct | 6 | 6 | 8 | 6 | 5 | 5 | 7 | 6 | 5 | 7 | 6 | 7 | 13 | 22 | 11 | 9 | 15 | 6 | 6 | 9 | 14 | 7 | 5 | 15 | 22.3 |
| 9-Oct | 7 | 10 | 5 | 6 | 6 | 5 | 5 | 5 | 5 | 7 | 8 | 7 | 17 | 9 | 11 | 14 | 12 | 9 | 10 | 5 | 6 | 5 | 6 | 5 | 17.3 |
| 10-Oct | 6 | 8 | 6 | 8 | 8 | 9 | 11 | 20 | 24 | 17 | 85 | 68 | 78 | 36 | 23 | 17 | 20 | 24 | 22 | 38 | 15 | 52 | 25 | 32 | 85.0 |
| 11-Oct | 42 | 56 | 17 | 18 | 9 | 10 | 14 | 8 | 10 | 7 | 13 | 16 | 11 | 8 | 6 | 9 | 18 | 5 | 4 | 7 | 12 | 21 | 5 | 4 | 55.9 |
| 12-Oct | 7 | 19 | 57 | 89 | 23 | 14 | 8 | 7 | 8 | 8 | 11 | 9 | 7 | 6 | 11 | 8 | 17 | 20 | 16 | 19 | 12 | 22 | 16 | 7 | 89.2 |
| 13-Oct | 9 | 12 | 14 | 14 | 11 | 9 | 7 | 6 | 8 | 8 | 25 | 10 | 26 | 75 | 14 | 11 | 8 | 13 | 6 | 7 | 6 | 6 | 3 | 7 | 75.2 |
| 14-Oct | 10 | 8 | 6 | 5 | 5 | 4 | 7 | 5 | 7 | 4 | 5 | 7 | 6 | 10 | 4 | 5 | 4 | 3 | 4 | 6 | 5 | 3 | 2 | 2 | 10.1 |
| 15-Oct | 4 | 3 | 3 | 3 | 5 | 3 | 7 | 7 | 3 | 4 | 5 | 5 | 8 | 6 | 8 | 8 | 7 | 8 | 4 | 4 | 5 | 94 | 46 | 2 | 94.3 |
| 16-Oct | 8 | 5 | 3 | 6 | 5 | 4 | 7 | 5 | 4 | 6 | 5 | 8 | 6 | 11 | 6 | 4 | 5 | 6 | 6 | 2 | 3 | 3 | 3 | 3 | 11.1 |
| 17-Oct | 6 | 9 | 12 | 7 | 10 | 5 | 19 | 11 | 21 | 20 | 6 | 8 | 10 | 20 | 13 | 22 | 8 | 7 | 8 | 10 | 6 | 4 | 10 | 15 | 21.6 |
| 18-Oct | 20 | 5 | 8 | 8 | 8 | 5 | 4 | 13 | 28 | 10 | 12 | 8 | 10 | 11 | 9 | 9 | 6 | 6 | 4 | 5 | 8 | 13 | 7 | 5 | 27.7 |
| 19-Oct | 12 | 24 | 12 | 18 | 14 | 14 | 11 | 17 | 23 | 10 | 15 | 16 | 14 | 14 | 13 | 9 | 8 | 4 | 4 | 9 | 7 | 13 | 25 | 11 | 25.0 |
| 20-Oct | 17 | 11 | 9 | 8 | 10 | 7 | 6 | 8 | 8 | 8 | 6 | 6 | 5 | 6 | 9 | 6 | 4 | 6 | 6 | 7 | 11 | 6 | 8 | 7 | 16.6 |
| 21-Oct | 3 | 13 | 5 | 4 | 6 | 3 | 3 | 37 | 12 | 8 | 18 | 14 | 22 | 22 | 22 | 13 | 17 | 35 | 53 | 36 | 11 | 10 | 14 | 7 | 53.4 |
| 22-Oct | 6 | 7 | 7 | 6 | 16 | 8 | 8 | 16 | 21 | 11 | 16 | 11 | 15 | 17 | 14 | 18 | 12 | 9 | 13 | 43 | 63 | 21 | 15 | 10 | 62.7 |
| 23-Oct | 5 | 7 | 8 | 11 | 12 | 7 | 17 | 16 | 12 | 11 | 16 | 19 | 14 | 17 | 35 | 18 | 96 | 9 | 11 | 11 | 9 | 12 | 13 | 9 | 96.4 |
| 24-Oct | 79 | 17 | 86 | 8 | 28 | 27 | 18 | 12 | 9 | 8 | 14 | 13 | 13 | 13 | 28 | 10 | 7 | 7 | 2 | 9 | 25 | 13 | 9 | 13 | 86.1 |
| 25-Oct | 15 | 10 | 24 | 13 | 11 | 8 | 6 | 10 | 24 | 19 | 6 | 10 | 12 | 16 | 34 | 11 | 9 | 13 | 8 | 6 | 3 | 6 | 13 | 4 | 33.5 |
| 26-Oct | 11 | 4 | 4 | 6 | 5 | 8 | 13 | 20 | 9 | 15 | 17 | 19 | 38 | 36 | 39 | 25 | 20 | 7 | 13 | 29 | 63 | 10 | 5 | 5 | 62.8 |
| 27-Oct | 7 | 3 | 3 | 2 | 3 | 3 | 13 | 4 | 4 | 4 | 4 | 5 | 15 | 11 | 11 | 15 | 11 | 7 | 7 | 11 | 10 | 22 | 28 | 28 | 28.4 |
| 28-Oct | 62 | 24 | 58 | 9 | 6 | 6 | 10 | 7 | 7 | 11 | 12 | 7 | 10 | 10 | 30 | 64 | 6 | 8 | 50 | 55 | 65 | 56 | 81 | 22 | 81.1 |
| 29-Oct | 4 | 28 | 18 | 9 | 15 | 19 | 17 | 28 | 35 | 13 | 18 | 14 | 17 | 7 | 11 | 8 | 5 | 3 | 7 | 12 | 12 | 12 | 6 | 14 | 35.3 |
| 30-Oct | 14 | 4 | 5 | 4 | 5 | 7 | 3 | 6 | 4 | 4 | 5 | 8 | 8 | 6 | 6 | 5 | 5 | 4 | 7 | 4 | 5 | 3 | 11 | 17 | 17.3 |
| 31-Oct | 8 | 7 | 12 | 9 | 11 | 33 | 14 | 17 | 6 | 11 | 17 | 18 | 39 | 72 | 53 | 85 | 17 | 11 | 50 | 26 | 93 | 48 | 8 | 22 | 93.0 |
| | 79.4 | 62.1 | 86.1 | 89.2 | 77.4 | 32.6 | 54.0 | 56.4 | 94.4 | 56.4 | 85.0 | 68.2 | 78.4 | 75.2 | 55.6 | 85.2 | 96.4 | 34.7 | 53.4 | 54.9 | 93.0 | 94.3 | 81.1 | 36.5 | |

# PAZA
# Valleyview Station
## Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

# Hourly Averages

## Sulphur Dioxide ($SO_2$) - ppb

## Valleyview - October 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 8.6 ppb on Oct 30 11:00 Maximum Daily Average: 1.4 ppb on Oct 30

Minimum Value: 0 ppb on Oct 1 19:00 Minimum Daily Average: 0.0 ppb on Oct 2
Maximum Diurnal Average: 0.7 ppb at hour 11 Minimum Diurnal Average: 0.0 ppb at hour 7
Monthly Average: 0.17 ppb Percentiles: $P_1$ = 0.0 $P_{10}$ = 0.0 $Q_1$ = 0.0 Median = 0.1 $Q_3$ = 0.1 $P_{90}$ = 0.3 $P_{99}$ = 2.3

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 710 |
| Hours of Missing Data: | 34 |
| Hours of Calibration: | 34 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 |
| 3-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 1.2 |
| 4-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.6 |
| 5-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.2 |
| 6-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.5 |
| 7-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 |
| 8-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 |
| 9-Oct | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 10-Oct | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 1.7 |
| 11-Oct | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 |
| 12-Oct | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0.0 | 0.0 |
| 13-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0.1 | 0.3 |
| 14-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0.1 | 0.4 |
| 15-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0.1 | 0.3 |
| 16-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0.1 | 0.4 |
| 17-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 18-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.5 |
| 19-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.5 |
| 20-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0.3 | 2.3 |
| 21-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.7 |
| 22-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 7 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0.6 | 7.0 |
| 23-Oct | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.6 |
| 24-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.7 |
| 25-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | R | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 26-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.3 |
| 27-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 4 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 3.6 |
| 28-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.9 |
| 29-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 |
| 30-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 2 | 4 | 9 | 7 | 1 | 0 | 0 | 0 | 1 | 2 | 3 | 2 | 0 | 0 | 0 | 0 | 1.4 | 8.6 |
| 31-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.3 | 0.7 | 0.5 | 0.2 | 0.2 | 0.4 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | Diurnal Average | |
| | 0.6 | 0.4 | 0.5 | 0.3 | 0.3 | 0.2 | 0.2 | 0.4 | 1.9 | 3.6 | 8.6 | 7.1 | 1.1 | 0.7 | 7.0 | 2.1 | 0.9 | 1.6 | 3.0 | 2.0 | 2.3 | 0.4 | 0.7 | 0.8 | Diurnal Maximum | |

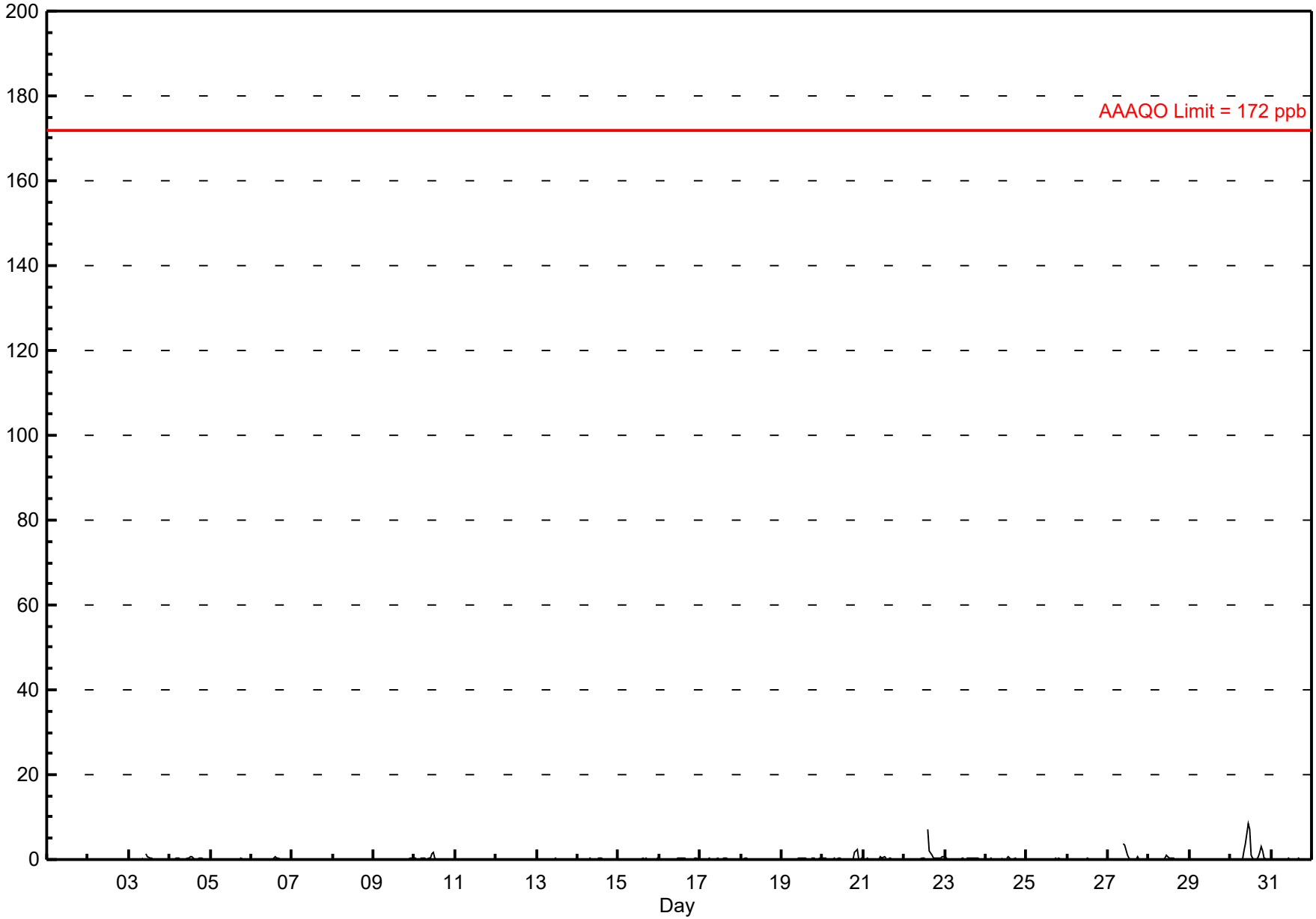
C - Calibration R - Recovery A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

# Hourly Averages

## Sulphur Dioxide ($SO_2$) - ppb

## Valleyview - October 2018



Peace Airshed Zone Association

# Hourly Maximums

## Sulphur Dioxide ($SO_2$) - ppb

## Valleyview - October 2018

Maximum Value: 33.7 ppb on Oct 30 11:00

Maximum Daily Average: 4.4 ppb on Oct 30

Minimum Value: 0 ppb on Oct 2 17:00

Minimum Daily Average: 0.3 ppb on Oct 2

Maximum Diurnal Average: 4.2 ppb at hour 11

Minimum Diurnal Average: 0.4 ppb at hour 7

Monthly Average: 1.02 ppb

Percentiles: $P_1 = 0.2$ $P_{10} = 0.3$ $Q_1 = 0.4$ Median = 0.4 $Q_3 = 0.6$ $P_{90} = 1.0$ $P_{99} = 10.2$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 710 |
| Hours of Missing Data: | 34 |
| Hours of Calibration: | 34 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | A | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 0.9 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0.3 | 0.5 |
| 3-Oct | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | A | 3 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 0.7 | 2.8 |
| 4-Oct | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | A | 1 | 10 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1.0 | 10.2 |
| 5-Oct | 0 | 0 | 0 | 1 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 10 | 0 | 0 | 0 | 0 | 0 | 0.9 | 9.8 |
| 6-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 10 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0.9 | 9.7 |
| 7-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0.8 | 9.3 |
| 8-Oct | 0 | 0 | 1 | 0 | A | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0.8 | 10.1 |
| 9-Oct | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0.5 | 0.8 |
| 10-Oct | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 10 | 1 | 3 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1.2 | 10.0 |
| 11-Oct | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.6 |
| 12-Oct | A | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0.4 | 0.5 |
| 13-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | A | 0 | 0.9 | 10.1 |
| 14-Oct | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 10 | 0 | 1 | 1 | 0 | 10 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | A | 0 | 0 | 1.4 | 10.2 |
| 15-Oct | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 1 | 1 | 1 | 0 | 0 | A | 0 | 0 | 1 | 0.9 | 10.0 |
| 16-Oct | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | A | 1 | 1 | 1 | 1 | 0.6 | 1.3 |
| 17-Oct | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 10 | 0 | 1 | 1 | 1 | 10 | 1 | 0 | A | 0 | 0 | 0 | 0 | 0 | 1.7 | 10.1 |
| 18-Oct | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 1.1 |
| 19-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 10 | 10 | 1 | 1 | 1 | 0 | A | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1.3 | 10.0 |
| 20-Oct | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 1 | A | 0 | 0 | 10 | 10 | 10 | 0 | 0 | 10 | 2.2 | 10.2 |
| 21-Oct | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 2 | 10 | 1 | A | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.4 | 10.3 |
| 22-Oct | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 1 | 1 | A | 9 | 4 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.6 | 10.3 |
| 23-Oct | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0.6 | 1.5 |
| 24-Oct | 10 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | 1 | 2 | 1 | 1 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 1.4 | 10.1 |
| 25-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | A | R | C | 1 | 1 | 0 | 1 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0.5 | 1.8 |
| 26-Oct | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | A | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 1.0 |
| 27-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 8 | 21 | 3 | 1 | 1 | 1 | 0 | 1 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 1.9 | 21.2 |
| 28-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0.6 | 1.2 |
| 29-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.6 |
| 30-Oct | 0 | 1 | 0 | 1 | 1 | A | 0 | 1 | 4 | 11 | 34 | 15 | 6 | 2 | 0 | 1 | 5 | 6 | 8 | 5 | 0 | 1 | 1 | 1 | 4.4 | 33.7 |
| 31-Oct | 1 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 1.6 |
| | 0.8 | 0.5 | 0.5 | 0.8 | 0.4 | 0.7 | 0.4 | 0.8 | 1.5 | 1.2 | 4.2 | 2.0 | 1.5 | 0.7 | 1.1 | 0.9 | 0.7 | 0.8 | 1.4 | 1.3 | 0.8 | 0.5 | 0.5 | 0.8 | Diurnal Average | |
| | 10.1 | 0.8 | 1.1 | 9.8 | 0.6 | 9.6 | 0.6 | 10.1 | 10.1 | 11.3 | 33.7 | 14.9 | 10.3 | 2.1 | 10.0 | 9.8 | 5.0 | 5.5 | 9.9 | 9.6 | 10.2 | 0.9 | 1.2 | 9.9 | Diurnal Maximum | |

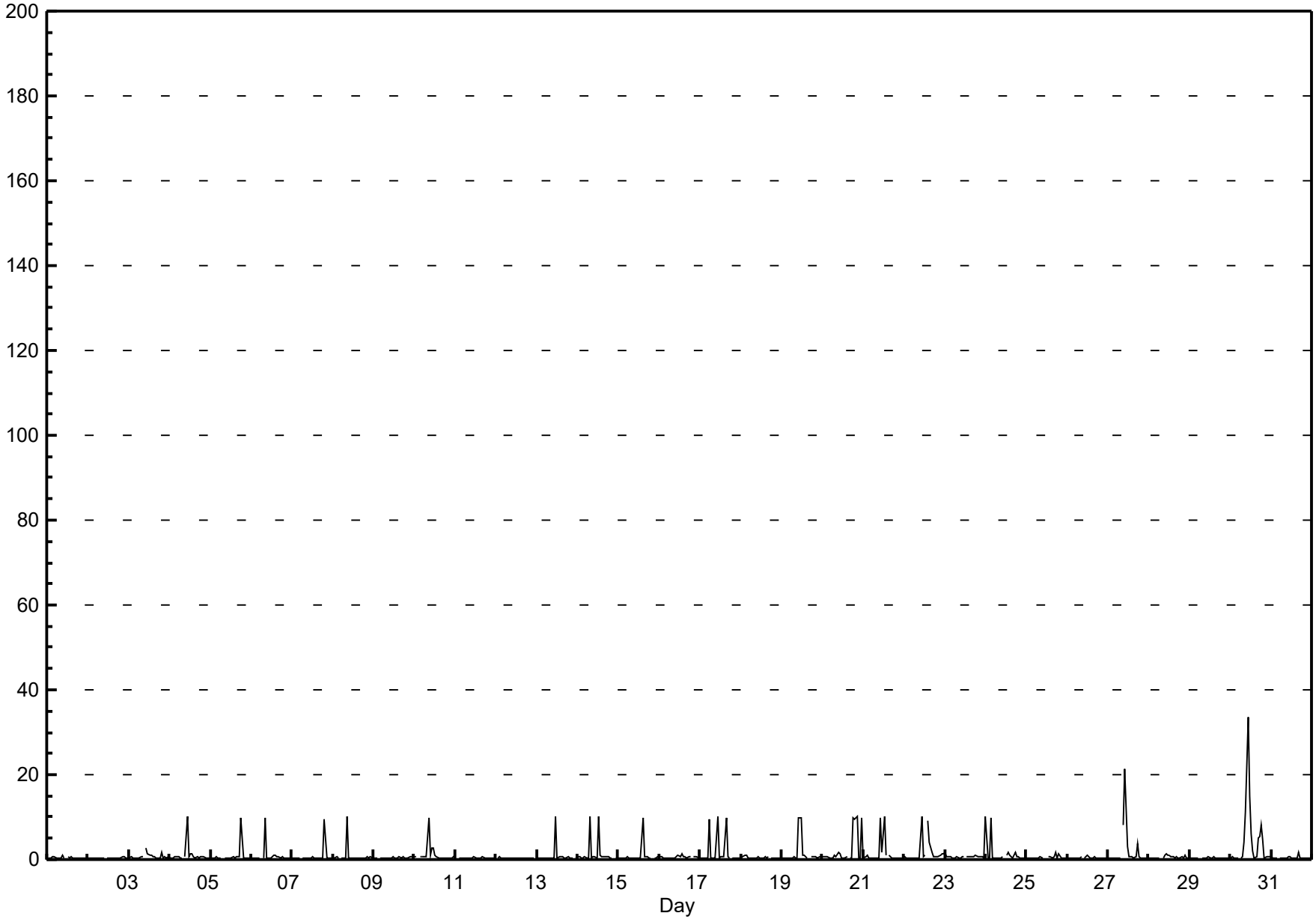
C - Calibration R - Recovery A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

**Sulphur Dioxide ($SO_2$) - ppb**

**Valleyview - October 2018**



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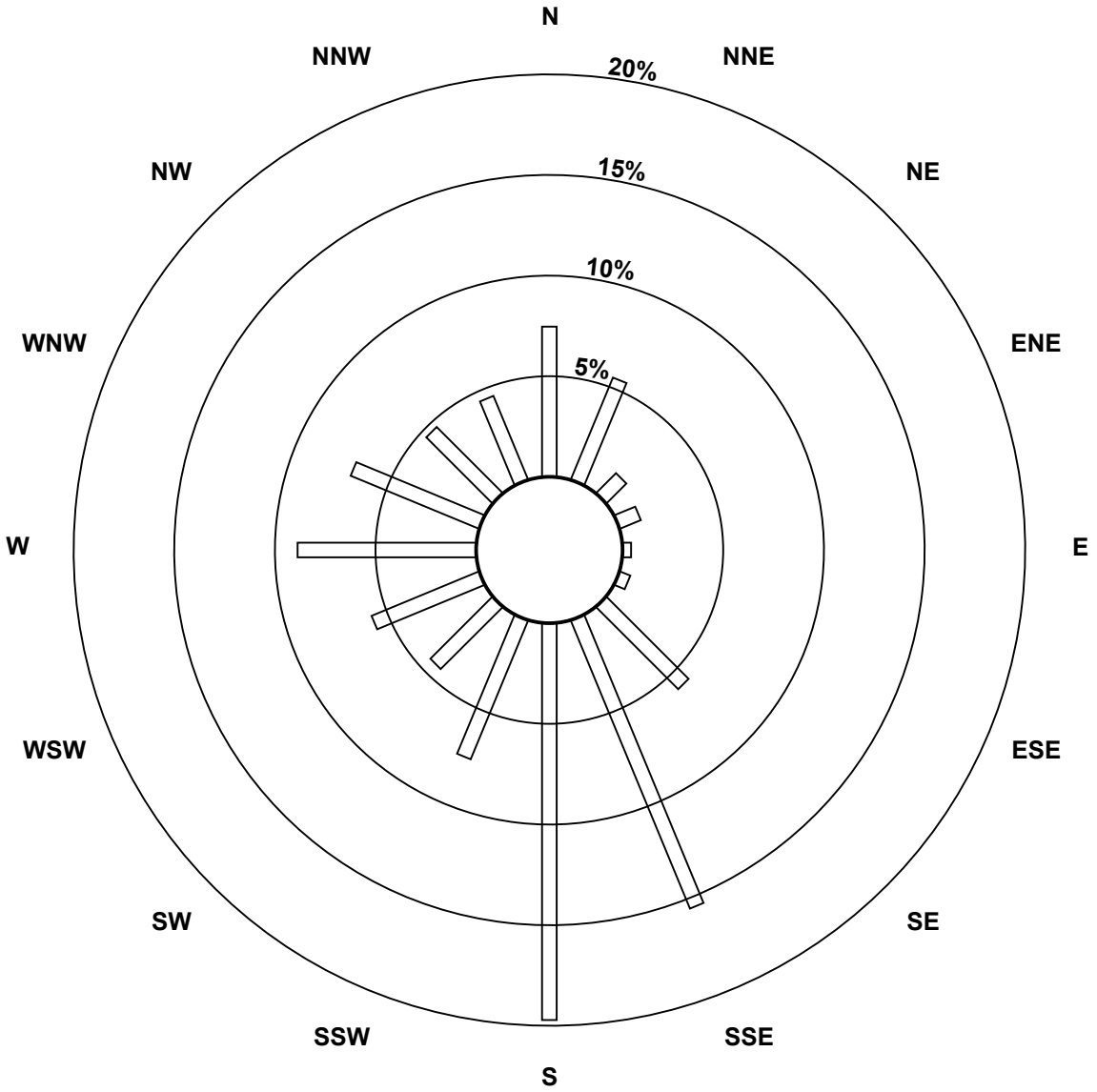
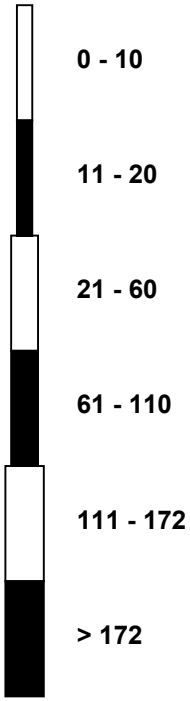
# Pollutant Rose

## Sulphur Dioxide ($SO_2$) - ppb

## Valleyview - October 2018




### Pollutant Classes (ppb)

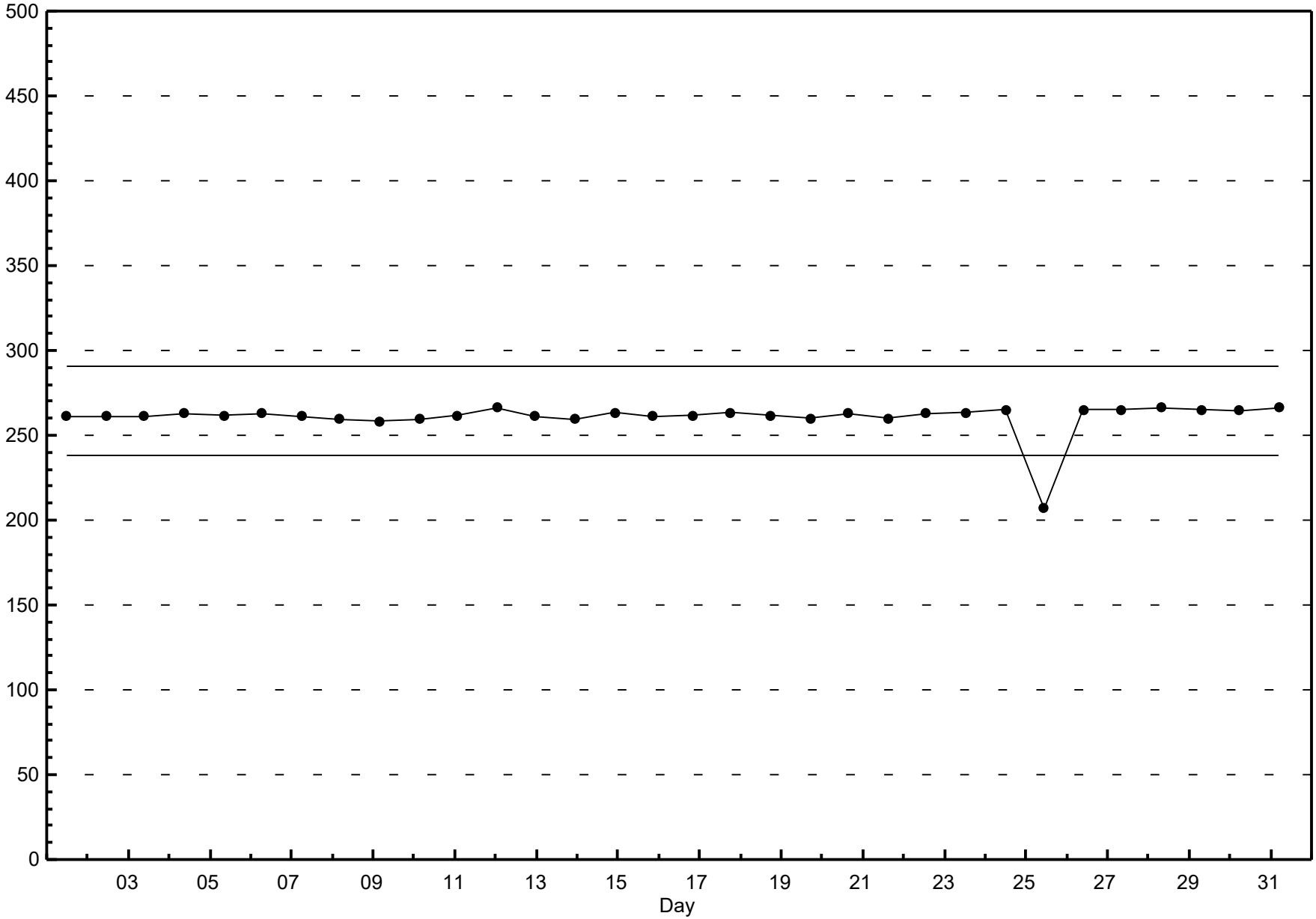


Peace Airshed Zone Association

# Span Responses

**Sulphur Dioxide ($SO_2$)**

**Valleyview - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Hydrogen Sulphide ($H_2S$) - ppb

## Valleyview - October 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.3 ppb on Oct 4 02:00 Maximum Daily Average: 0.3 ppb on Oct 4

Minimum Value: 0 ppb on Oct 1 14:00 Minimum Daily Average: 0.0 ppb on Oct 7
Maximum Diurnal Average: 0.2 ppb at hour 2 Minimum Diurnal Average: 0.1 ppb at hour 15
Monthly Average: 0.11 ppb Percentiles: $P_1$ = 0.0 $P_{10}$ = 0.0 $Q_1$ = 0.0 Median = 0.1 $Q_3$ = 0.2 $P_{90}$ = 0.3 $P_{99}$ = 0.6

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 710 |
| Hours of Missing Data: | 34 |
| Hours of Calibration: | 34 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.2 |
| 3-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.2 | 0.9 |
| 4-Oct | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0.3 | 1.3 |
| 5-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 6-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.4 |
| 7-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 |
| 8-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 |
| 9-Oct | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.2 |
| 10-Oct | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.4 |
| 11-Oct | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 12-Oct | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | A | 0.1 | 0.6 |
| 13-Oct | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0.2 | 0.8 |
| 14-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0.2 | 0.4 |
| 15-Oct | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0.2 | 0.5 |
| 16-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0.0 | 0.2 |
| 17-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.2 |
| 18-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 |
| 19-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.2 |
| 20-Oct | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.6 |
| 21-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.9 |
| 22-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 23-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.5 |
| 24-Oct | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.5 |
| 25-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | C | C | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.5 |
| 26-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.3 |
| 27-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.5 |
| 28-Oct | 0 | 0 | 0 | 0 | 1 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 1.0 |
| 29-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 30-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.5 |
| 31-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | Diurnal Average | |
| | 0.8 | 1.3 | 0.6 | 0.5 | 1.0 | 0.5 | 0.4 | 0.5 | 0.4 | 0.3 | 0.9 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.5 | 0.4 | 1.0 | 0.3 | 0.6 | 0.9 | 0.5 | Diurnal Maximum | |

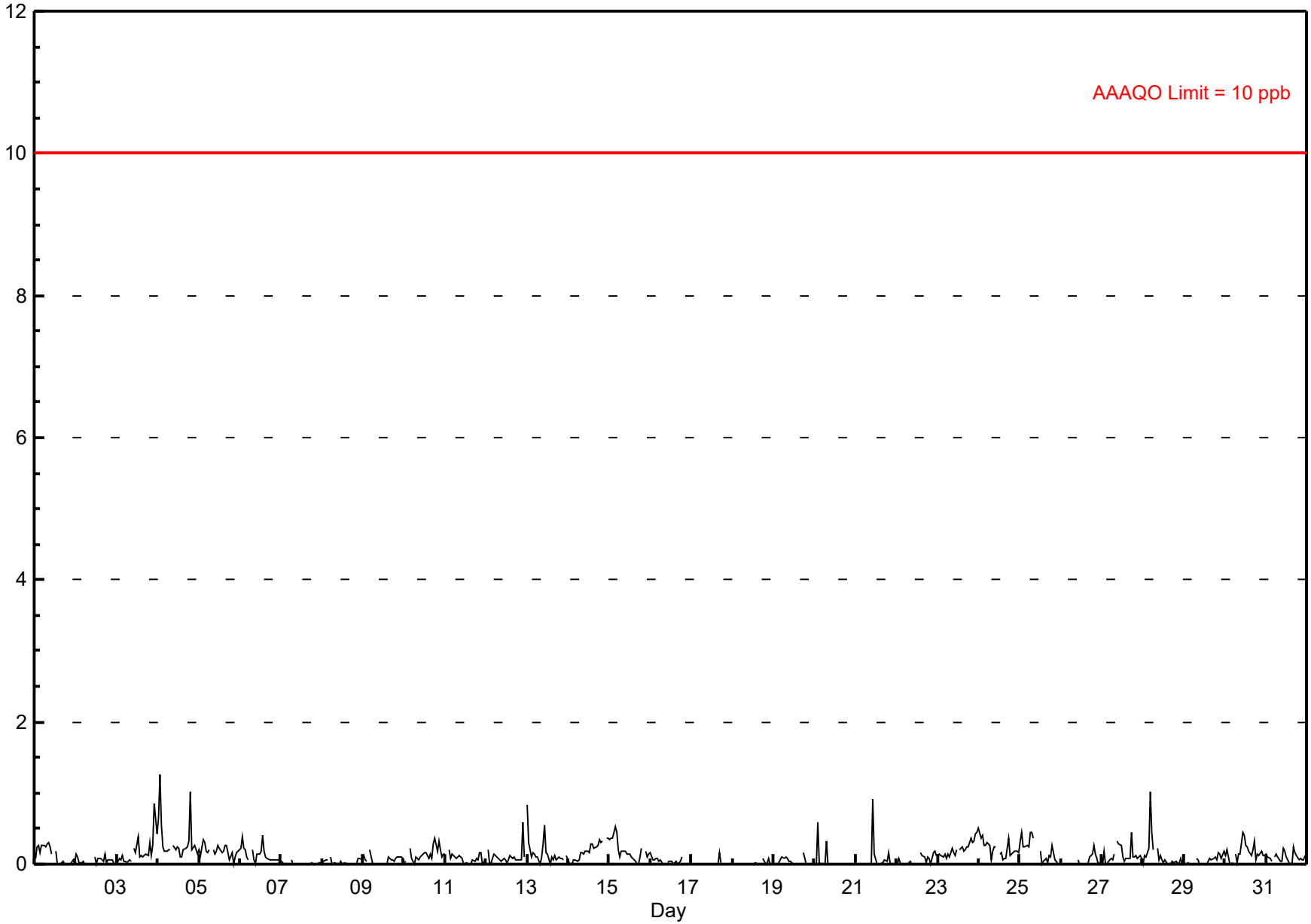
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

Peace Airshed Zone Association

# Hourly Averages

## Hydrogen Sulphide ($H_2S$) - ppb

## Valleyview - October 2018



Peace Airshed Zone Association

# Hourly Maximums

## Hydrogen Sulphide ($H_2S$) - ppb

## Valleyview - October 2018

Maximum Value: 28.7 ppb on Oct 21 11:00

Maximum Daily Average: 1.9 ppb on Oct 21

Minimum Value: 0 ppb on Oct 17 23:00

Minimum Daily Average: 0.3 ppb on Oct 17

Maximum Diurnal Average: 1.5 ppb at hour 11

Minimum Diurnal Average: 0.5 ppb at hour 16

Monthly Average: 0.60 ppb

Percentiles: $P_1 = 0.2$ $P_{10} = 0.3$ $Q_1 = 0.4$ Median = 0.5 $Q_3 = 0.6$ $P_{90} = 0.8$ $P_{99} = 1.9$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 710 |
| Hours of Missing Data: | 34 |
| Hours of Calibration: | 34 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.6 | 1.1 |
| 2-Oct | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0.5 | 0.7 |
| 3-Oct | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | A | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 2 | 0 | 1 | 5 | 1 | 0.8 | 4.8 |
| 4-Oct | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 0 | 0.8 | 2.4 |
| 5-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0.7 | 1.3 |
| 6-Oct | 1 | 1 | 1 | 1 | 1 | 0 | A | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0.6 | 1.3 |
| 7-Oct | 0 | 0 | 1 | 0 | 0 | A | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0.4 | 0.7 |
| 8-Oct | 0 | 0 | 0 | 0 | A | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0.4 | 0.6 |
| 9-Oct | 0 | 1 | 0 | A | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0.5 | 0.6 |
| 10-Oct | 0 | 1 | A | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.6 | 1.3 |
| 11-Oct | 0 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0.5 | 0.8 |
| 12-Oct | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | A | 0.6 | 1.3 |
| 13-Oct | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | A | 0 | 0.7 | 1.9 |
| 14-Oct | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 0.6 | 0.8 |
| 15-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | A | 1 | 1 | 1 | 0.6 | 1.0 |
| 16-Oct | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | A | 1 | 0 | 0 | 0 | 0.4 | 0.7 |
| 17-Oct | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0.3 | 1.2 |
| 18-Oct | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | A | 1 | 0 | 1 | 1 | 0 | 1 | 0.4 | 0.6 |
| 19-Oct | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | A | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0.5 | 0.8 |
| 20-Oct | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0.5 | 2.3 |
| 21-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 6 | 0 | 1 | A | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1.9 | 28.7 |
| 22-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | A | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0.5 | 0.8 |
| 23-Oct | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 1.1 |
| 24-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | A | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 1.1 |
| 25-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | C | C | C | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0.6 | 1.0 |
| 26-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0.4 | 0.7 |
| 27-Oct | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | A | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 1 | 0 | 1 | 1 | 1 | 1 | 0.7 | 1.6 |
| 28-Oct | 1 | 1 | 1 | 1 | 2 | 1 | 1 | A | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0.6 | 1.8 |
| 29-Oct | 0 | 0 | 1 | 0 | 0 | 0 | A | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0.4 | 0.7 |
| 30-Oct | 1 | 1 | 1 | 0 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0.7 | 1.3 |
| 31-Oct | 1 | 0 | 1 | 1 | A | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0.5 | 1.3 |
| | 0.6 | 0.7 | 0.6 | 0.5 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1.5 | 0.7 | 0.5 | 0.5 | 0.5 | 0.5 | 0.6 | 0.6 | 0.5 | 0.6 | 0.5 | 0.5 | 0.7 | 0.5 | Diurnal Average | |
| | 1.9 | 2.2 | 2.3 | 1.0 | 1.8 | 1.0 | 0.9 | 0.9 | 1.1 | 1.0 | 28.7 | 5.8 | 1.0 | 0.8 | 0.7 | 1.2 | 1.3 | 1.6 | 1.3 | 2.4 | 0.9 | 1.3 | 4.8 | 1.0 | Diurnal Maximum | |

C - Calibration

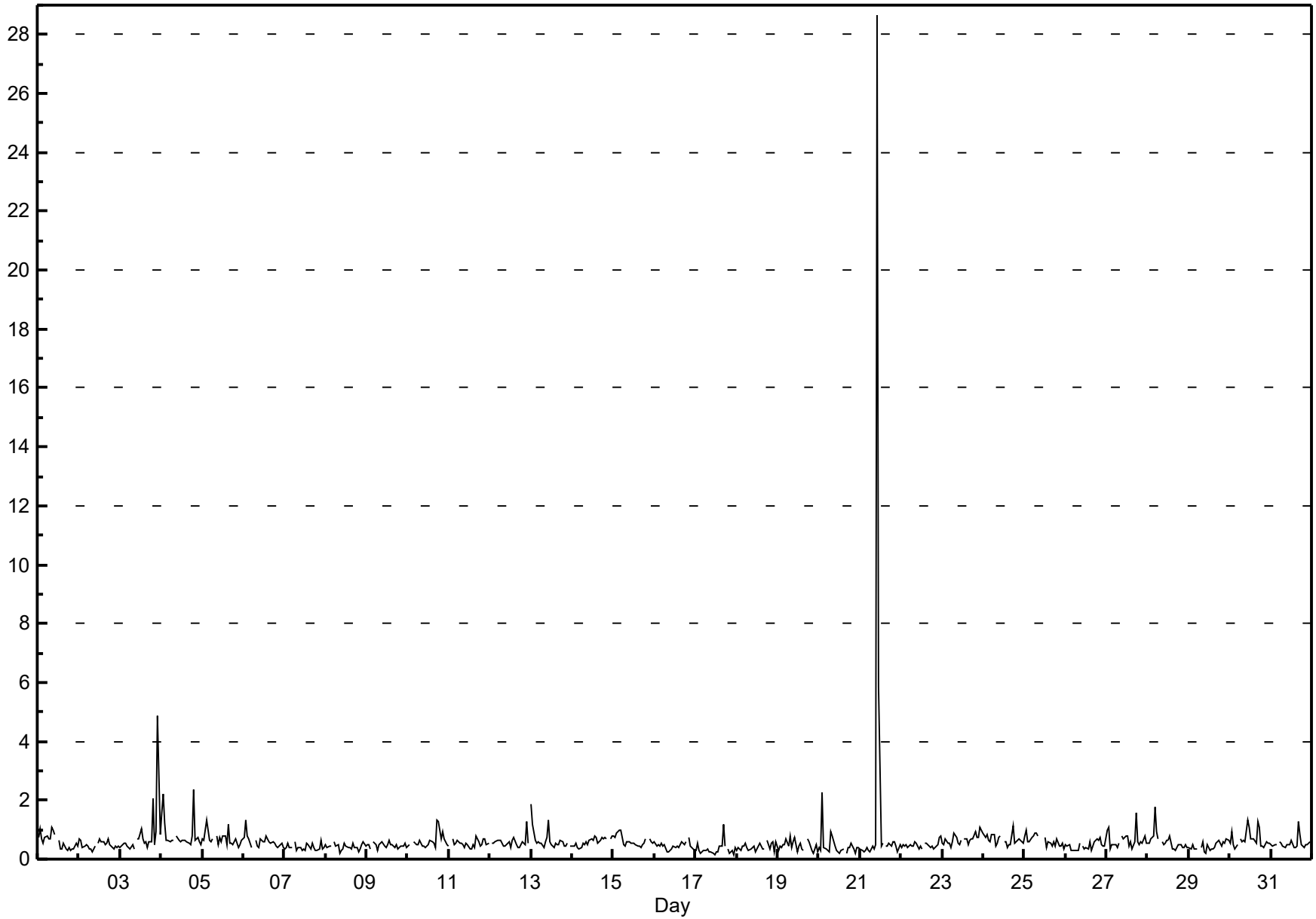
A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

## Hydrogen Sulphide ($H_2S$) - ppb

## Valleyview - October 2018



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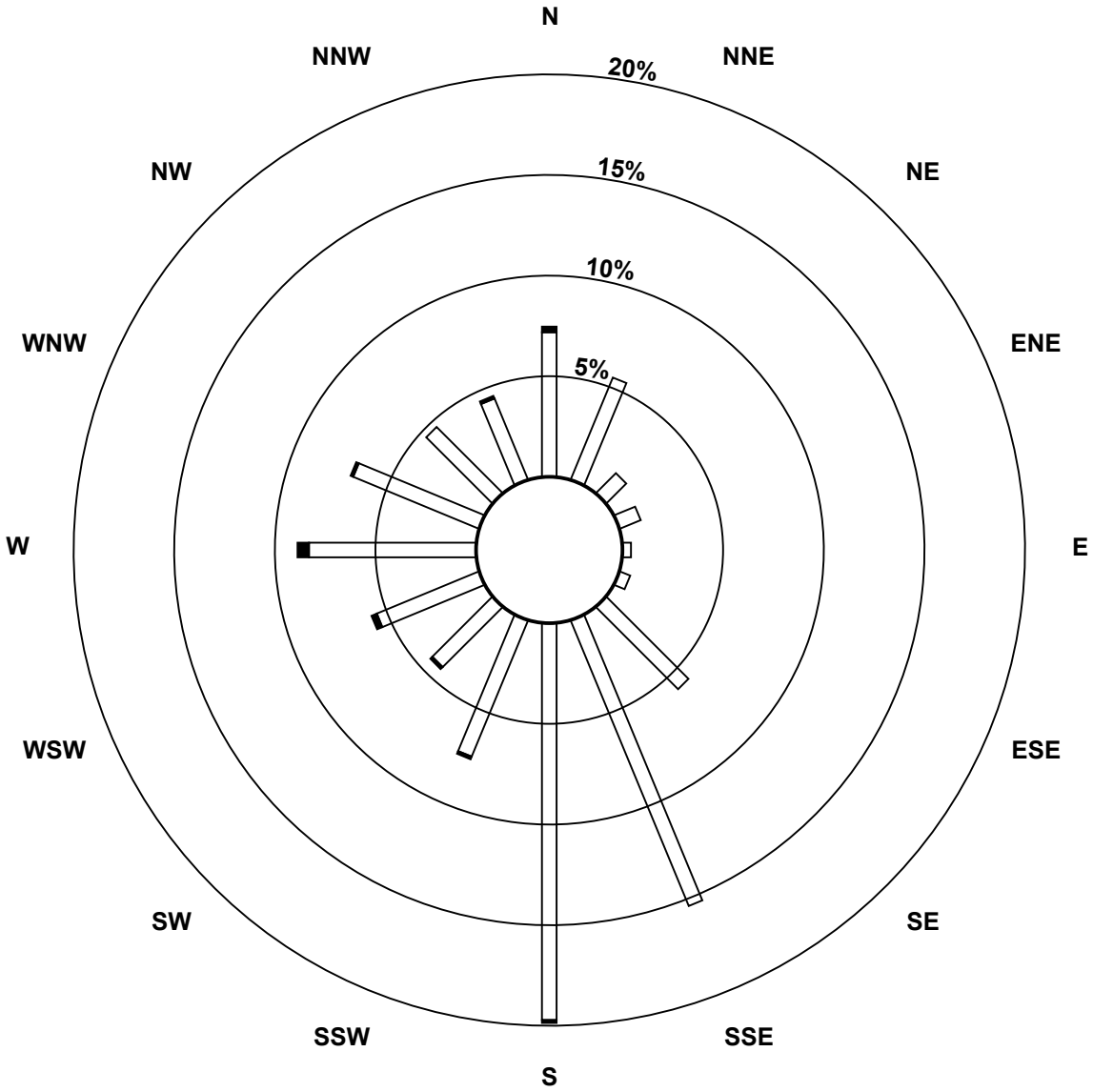
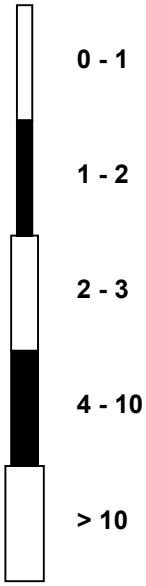
# Pollutant Rose

## Hydrogen Sulphide ($H_2S$) - ppb

## Valleyview - October 2018




### Pollutant Classes (ppb)



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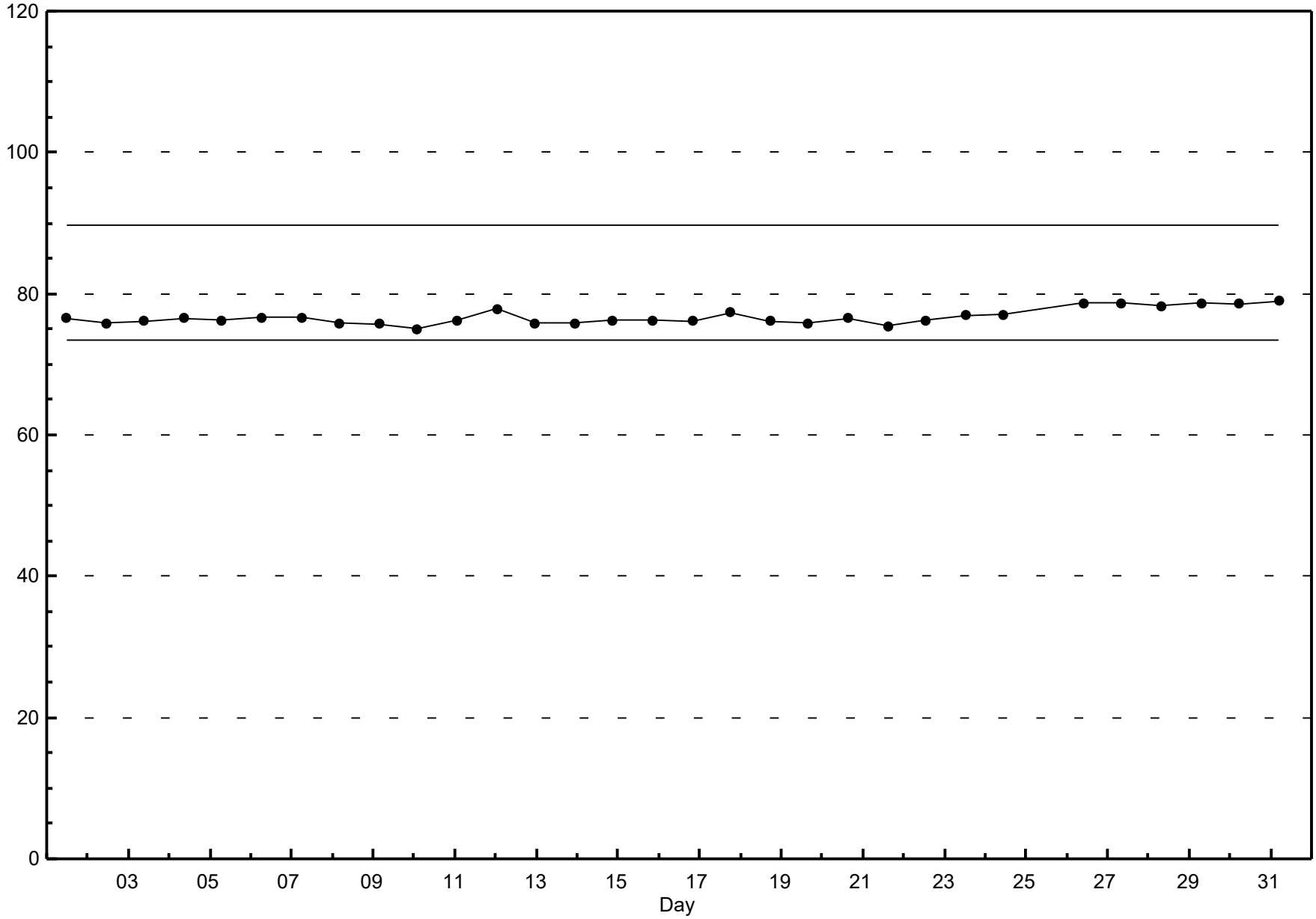
# Span Responses

**Hydrogen Sulphide ($H_2S$)**

**Valleyview - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## External Temperature (ET) - °C

## Valleyview - October 2018

Maximum Value: 24.2 °C on Oct 17 15:00

Maximum Daily Average: 13.5 °C on Oct 15

Minimum Value: -2 °C on Oct 5 06:00

Minimum Daily Average: 1.7 °C on Oct 2

Maximum Diurnal Average: 11.6 °C at hour 15

Minimum Diurnal Average: 2.2 °C at hour 7

Monthly Average: 6.09 °C

Percentiles: $P_1$ = -1.4 $P_{10}$ = 0.4 $Q_1$ = 2.1 Median = 4.4 $Q_3$ = 9.7 $P_{90}$ = 14.5 $P_{99}$ = 21.0

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

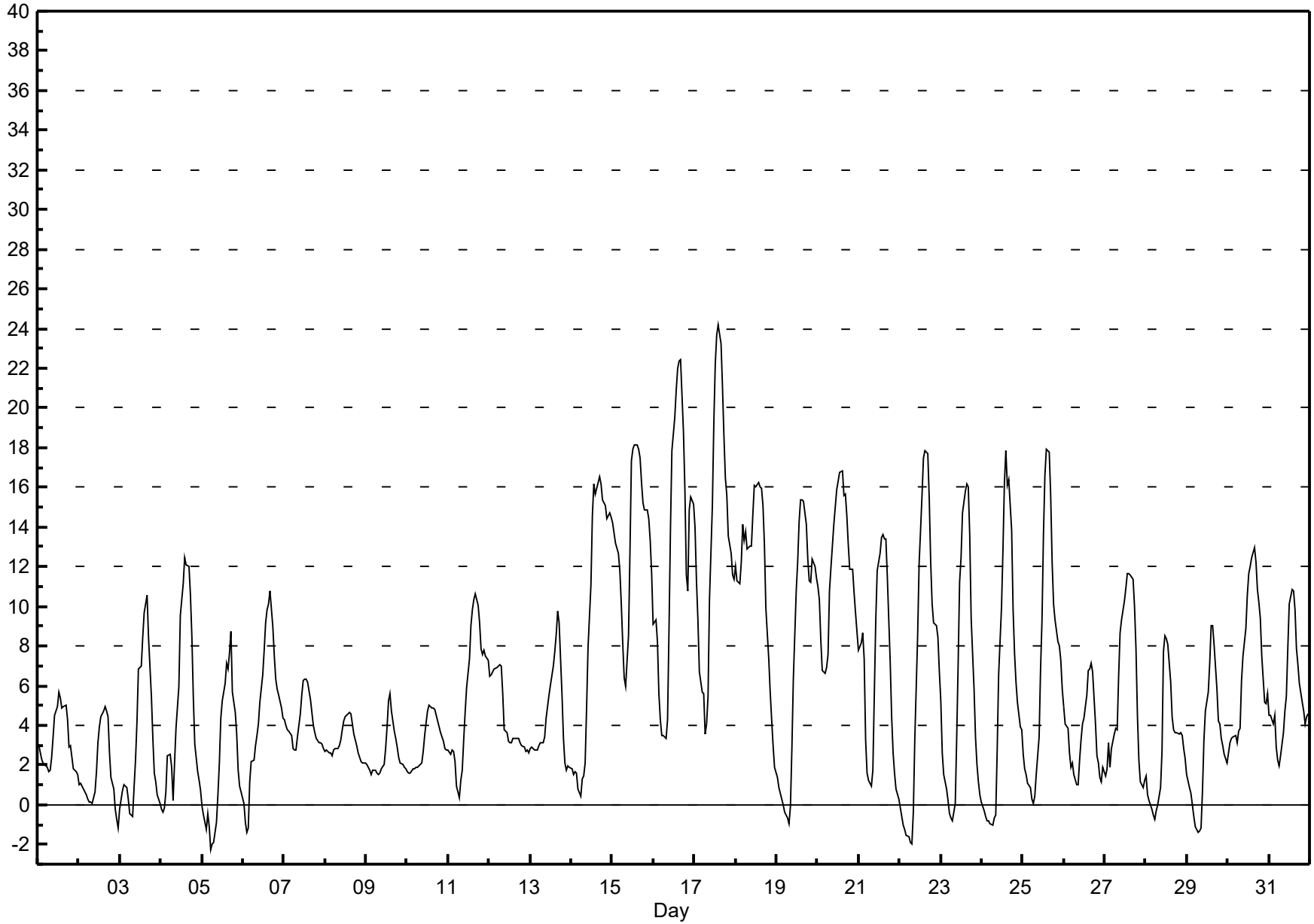
| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | |
| 1-Oct | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 5 | 5 | 6 | 5 | 5 | 5 | 5 | 4 | 3 | 3 | 2 | 2 | 2 | 1 | 3.2 | 5.6 |
| 2-Oct | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 4 | 4 | 5 | 5 | 5 | 4 | 3 | 1 | 1 | 0 | -1 | -1 | 1.7 | 4.9 |
| 3-Oct | 0 | 1 | 1 | 1 | 1 | 0 | 0 | -1 | 1 | 2 | 4 | 7 | 7 | 8 | 10 | 10 | 11 | 8 | 5 | 3 | 2 | 1 | 0 | 0 | 3.5 | 10.5 |
| 4-Oct | 0 | 0 | 0 | 1 | 2 | 3 | 2 | 0 | 2 | 4 | 6 | 10 | 10 | 11 | 12 | 12 | 12 | 11 | 8 | 5 | 3 | 2 | 1 | 1 | 4.9 | 12.4 |
| 5-Oct | 0 | -1 | -1 | 0 | -1 | -2 | -2 | -2 | -1 | 0 | 2 | 4 | 5 | 6 | 7 | 7 | 8 | 9 | 6 | 5 | 4 | 2 | 1 | 1 | 2.3 | 8.8 |
| 6-Oct | 0 | -1 | -1 | -1 | 1 | 2 | 2 | 3 | 3 | 4 | 5 | 7 | 8 | 9 | 10 | 10 | 11 | 9 | 8 | 6 | 6 | 6 | 5 | 4 | 4.8 | 10.8 |
| 7-Oct | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 5 | 6 | 6 | 6 | 6 | 6 | 5 | 5 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 4.1 | 6.3 |
| 8-Oct | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 4 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 3.2 | 4.6 |
| 9-Oct | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 5 | 6 | 5 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2.6 | 5.6 |
| 10-Oct | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3.1 | 5.0 |
| 11-Oct | 3 | 3 | 3 | 3 | 2 | 1 | 0 | 1 | 2 | 3 | 5 | 6 | 7 | 9 | 10 | 10 | 11 | 10 | 9 | 8 | 8 | 8 | 8 | 7 | 5.6 | 10.6 |
| 12-Oct | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4.5 | 7.0 |
| 13-Oct | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 5 | 6 | 6 | 7 | 8 | 9 | 10 | 9 | 6 | 3 | 2 | 2 | 2 | 2 | 4.4 | 9.7 |
| 14-Oct | 2 | 2 | 2 | 2 | 1 | 0 | 1 | 1 | 2 | 5 | 8 | 11 | 15 | 16 | 16 | 16 | 17 | 16 | 15 | 15 | 15 | 14 | 15 | 14 | 9.2 | 16.6 |
| 15-Oct | 14 | 14 | 13 | 13 | 12 | 10 | 8 | 6 | 6 | 8 | 13 | 17 | 18 | 18 | 18 | 18 | 17 | 16 | 15 | 15 | 15 | 14 | 13 | 12 | 13.5 | 18.2 |
| 16-Oct | 9 | 9 | 8 | 6 | 4 | 3 | 3 | 3 | 4 | 9 | 14 | 18 | 20 | 21 | 22 | 22 | 22 | 19 | 16 | 12 | 11 | 15 | 16 | 15 | 12.6 | 22.5 |
| 17-Oct | 14 | 11 | 9 | 7 | 6 | 6 | 4 | 4 | 5 | 10 | 15 | 19 | 22 | 24 | 24 | 23 | 21 | 19 | 16 | 16 | 14 | 13 | 12 | 11 | 13.5 | 24.2 |
| 18-Oct | 12 | 11 | 11 | 12 | 14 | 13 | 14 | 13 | 13 | 13 | 15 | 16 | 16 | 16 | 16 | 16 | 15 | 13 | 10 | 7 | 6 | 4 | 3 | 2 | 11.7 | 16.2 |
| 19-Oct | 1 | 1 | 1 | 0 | 0 | 0 | -1 | -1 | 0 | 3 | 6 | 11 | 12 | 14 | 15 | 15 | 15 | 14 | 12 | 11 | 11 | 12 | 12 | 11 | 7.4 | 15.4 |
| 20-Oct | 11 | 10 | 8 | 7 | 7 | 7 | 8 | 11 | 12 | 14 | 15 | 16 | 16 | 17 | 17 | 16 | 16 | 15 | 13 | 12 | 12 | 11 | 10 | 9 | 12.0 | 16.8 |
| 21-Oct | 8 | 8 | 9 | 7 | 3 | 2 | 1 | 1 | 2 | 6 | 9 | 12 | 13 | 13 | 14 | 13 | 13 | 11 | 7 | 4 | 3 | 2 | 1 | 0 | 6.8 | 13.6 |
| 22-Oct | 0 | -1 | -1 | -1 | -2 | -2 | -2 | -2 | 0 | 3 | 9 | 12 | 14 | 16 | 17 | 18 | 18 | 15 | 12 | 10 | 9 | 9 | 8 | 7 | 7.0 | 17.9 |
| 23-Oct | 5 | 3 | 2 | 1 | 0 | 0 | -1 | -1 | 0 | 3 | 7 | 11 | 12 | 15 | 16 | 16 | 16 | 14 | 9 | 6 | 3 | 2 | 1 | 1 | 5.9 | 16.2 |
| 24-Oct | 0 | 0 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 3 | 7 | 10 | 13 | 16 | 18 | 16 | 16 | 14 | 10 | 8 | 6 | 5 | 4 | 4 | 6.0 | 17.8 |
| 25-Oct | 3 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 2 | 3 | 7 | 9 | 14 | 17 | 18 | 18 | 16 | 12 | 10 | 9 | 8 | 8 | 7 | 6 | 7.2 | 17.9 |
| 26-Oct | 5 | 4 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 2 | 3 | 4 | 4 | 6 | 7 | 7 | 7 | 7 | 4 | 2 | 2 | 1 | 1 | 2 | 3.5 | 7.2 |
| 27-Oct | 1 | 2 | 3 | 2 | 3 | 4 | 4 | 4 | 6 | 9 | 9 | 10 | 11 | 12 | 12 | 12 | 11 | 10 | 8 | 5 | 2 | 1 | 1 | 1 | 5.9 | 11.6 |
| 28-Oct | 1 | 1 | 0 | 0 | 0 | -1 | 0 | 0 | 1 | 3 | 8 | 9 | 8 | 8 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 2 | 3.1 | 8.5 |
| 29-Oct | 2 | 1 | 1 | 0 | -1 | -1 | -1 | -1 | -1 | 1 | 3 | 5 | 6 | 7 | 9 | 9 | 8 | 6 | 4 | 4 | 3 | 3 | 3 | 2 | 2.9 | 9.1 |
| 30-Oct | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 6 | 8 | 9 | 11 | 12 | 12 | 12 | 13 | 12 | 11 | 10 | 9 | 8 | 5 | 5 | 6 | 7.3 | 12.9 |
| 31-Oct | 5 | 4 | 4 | 4 | 3 | 2 | 2 | 2 | 4 | 5 | 5 | 8 | 10 | 11 | 11 | 10 | 8 | 7 | 6 | 5 | 5 | 4 | 4 | 5 | 5.6 | 10.8 |
| | 3.9 | 3.5 | 3.3 | 2.9 | 2.7 | 2.3 | 2.2 | 2.2 | 2.9 | 4.7 | 6.9 | 8.9 | 10.0 | 11.1 | 11.6 | 11.4 | 11.1 | 9.9 | 8.0 | 6.6 | 5.7 | 5.2 | 4.8 | 4.4 | Diurnal Average | |
| | 14.2 | 13.7 | 13.1 | 12.6 | 14.1 | 13.3 | 13.7 | 12.9 | 13.0 | 14.2 | 15.1 | 19.3 | 22.2 | 23.7 | 24.2 | 23.3 | 22.5 | 18.8 | 16.5 | 15.6 | 15.1 | 14.8 | 15.5 | 15.2 | Diurnal Maximum | |

Peace Airshed Zone Association

# Hourly Averages

**External Temperature (ET) - $^{o}C$**

**Valleyview - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Relative Humidity (RH) - %

## Valleyview - October 2018

Maximum Value: 100.0 % on Oct 7 02:00

Maximum Daily Average: 98.4 % on Oct 29

Minimum Value: 15 % on Oct 17 15:00

Minimum Daily Average: 41.8 % on Oct 17

Maximum Diurnal Average: 89.0 % at hour 8

Minimum Diurnal Average: 52.3 % at hour 15

Monthly Average: 73.74 %

Percentiles: $P_1$ = 21.1 $P_{10}$ = 37.2 $Q_1$ = 54.5 Median = 80.5 $Q_3$ = 93.3 $P_{90}$ = 100.0 $P_{99}$ = 100.0

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

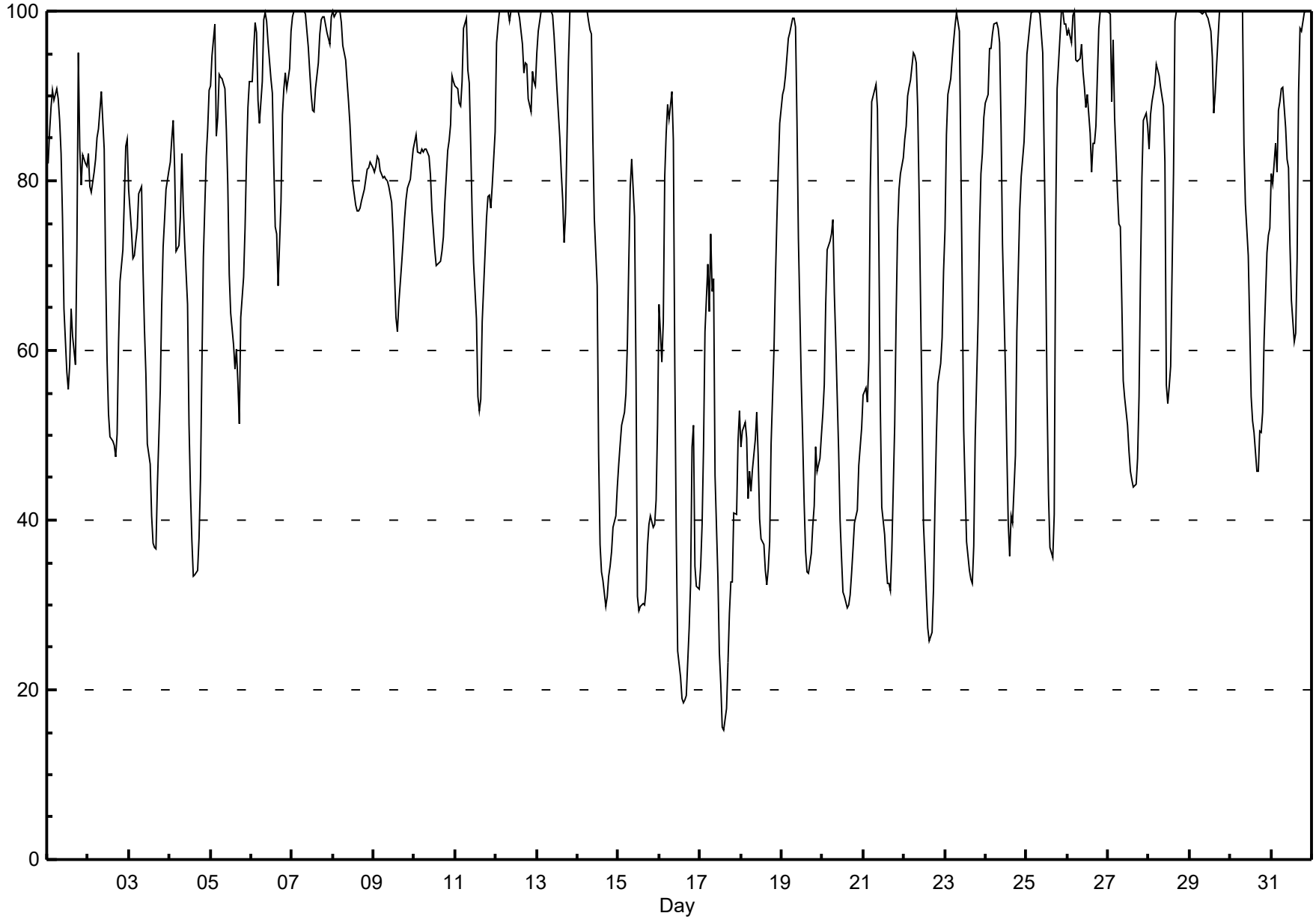
| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 82 | 86 | 89 | 91 | 90 | 91 | 90 | 87 | 83 | 76 | 65 | 58 | 55 | 58 | 65 | 62 | 58 | 72 | 95 | 84 | 80 | 83 | 82 | 82 | 77.6 | 95.1 |
| 2-Oct | 83 | 79 | 79 | 81 | 83 | 85 | 86 | 88 | 91 | 84 | 69 | 59 | 53 | 50 | 49 | 49 | 47 | 50 | 61 | 68 | 72 | 78 | 84 | 85 | 71.4 | 90.6 |
| 3-Oct | 79 | 74 | 71 | 71 | 73 | 74 | 78 | 79 | 70 | 63 | 57 | 49 | 47 | 40 | 37 | 37 | 37 | 44 | 55 | 65 | 72 | 75 | 79 | 81 | 62.9 | 81.2 |
| 4-Oct | 82 | 85 | 87 | 82 | 72 | 72 | 76 | 83 | 77 | 73 | 65 | 51 | 43 | 38 | 33 | 34 | 34 | 38 | 45 | 58 | 71 | 83 | 86 | 91 | 65.0 | 90.6 |
| 5-Oct | 91 | 95 | 98 | 85 | 87 | 93 | 92 | 92 | 91 | 86 | 80 | 69 | 64 | 61 | 58 | 60 | 56 | 51 | 64 | 69 | 74 | 83 | 89 | 92 | 78.3 | 98.5 |
| 6-Oct | 92 | 95 | 99 | 97 | 89 | 87 | 92 | 99 | 100 | 99 | 96 | 92 | 90 | 82 | 75 | 74 | 68 | 77 | 88 | 91 | 93 | 91 | 93 | 98 | 89.8 | 99.8 |
| 7-Oct | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 96 | 93 | 90 | 88 | 88 | 91 | 94 | 97 | 99 | 99 | 99 | 97 | 97 | 96 | 99 | 96.8 | 100.0 |
| 8-Oct | 100 | 99 | 100 | 100 | 100 | 99 | 96 | 94 | 92 | 89 | 87 | 83 | 80 | 77 | 76 | 76 | 77 | 78 | 79 | 80 | 81 | 81 | 82 | 82 | 87.0 | 100.0 |
| 9-Oct | 81 | 82 | 83 | 83 | 81 | 80 | 80 | 80 | 80 | 79 | 77 | 74 | 69 | 64 | 62 | 66 | 70 | 73 | 76 | 78 | 79 | 80 | 82 | 84 | 76.8 | 83.7 |
| 10-Oct | 85 | 85 | 83 | 83 | 84 | 83 | 84 | 84 | 83 | 81 | 77 | 74 | 72 | 70 | 70 | 70 | 72 | 73 | 77 | 84 | 85 | 87 | 92 | 92 | 80.4 | 92.4 |
| 11-Oct | 91 | 91 | 89 | 89 | 92 | 98 | 99 | 93 | 91 | 84 | 76 | 70 | 64 | 55 | 53 | 54 | 63 | 71 | 76 | 78 | 78 | 77 | 80 | 86 | 79.1 | 99.2 |
| 12-Oct | 96 | 98 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 99 | 96 | 93 | 94 | 94 | 90 | 88 | 93 | 92 | 91 | 96.8 | 100.0 |
| 13-Oct | 95 | 98 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 94 | 91 | 85 | 81 | 78 | 73 | 76 | 94 | 100 | 100 | 100 | 100 | 100 | 94.2 | 100.0 |
| 14-Oct | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 98 | 97 | 85 | 76 | 68 | 48 | 37 | 34 | 33 | 30 | 31 | 33 | 35 | 36 | 39 | 41 | 44 | 65.1 | 100.0 |
| 15-Oct | 47 | 49 | 51 | 53 | 55 | 61 | 71 | 79 | 83 | 76 | 57 | 31 | 29 | 30 | 30 | 30 | 32 | 37 | 39 | 41 | 39 | 39 | 42 | 51 | 48.0 | 82.6 |
| 16-Oct | 65 | 59 | 63 | 81 | 86 | 89 | 87 | 90 | 85 | 58 | 38 | 25 | 22 | 19 | 19 | 19 | 19 | 27 | 33 | 49 | 51 | 35 | 32 | 32 | 49.3 | 90.4 |
| 17-Oct | 35 | 39 | 49 | 62 | 70 | 65 | 74 | 67 | 69 | 45 | 33 | 24 | 21 | 16 | 15 | 18 | 23 | 29 | 33 | 33 | 41 | 41 | 49 | 53 | 41.8 | 73.6 |
| 18-Oct | 49 | 50 | 52 | 50 | 42 | 46 | 43 | 46 | 50 | 53 | 48 | 40 | 38 | 37 | 34 | 32 | 34 | 38 | 49 | 60 | 68 | 75 | 82 | 87 | 50.1 | 86.7 |
| 19-Oct | 90 | 91 | 92 | 95 | 97 | 97 | 99 | 99 | 98 | 87 | 73 | 56 | 50 | 42 | 36 | 34 | 34 | 36 | 39 | 42 | 49 | 46 | 47 | 50 | 65.8 | 99.2 |
| 20-Oct | 53 | 56 | 65 | 72 | 73 | 74 | 75 | 67 | 61 | 48 | 40 | 36 | 32 | 31 | 30 | 30 | 31 | 34 | 37 | 40 | 41 | 46 | 49 | 51 | 48.7 | 75.4 |
| 21-Oct | 55 | 56 | 54 | 59 | 79 | 89 | 90 | 91 | 89 | 72 | 53 | 42 | 38 | 35 | 33 | 32 | 32 | 37 | 51 | 64 | 74 | 79 | 81 | 83 | 61.1 | 91.3 |
| 22-Oct | 85 | 86 | 90 | 91 | 92 | 95 | 95 | 94 | 89 | 78 | 53 | 40 | 36 | 31 | 27 | 26 | 27 | 32 | 42 | 50 | 56 | 58 | 62 | 69 | 62.6 | 95.1 |
| 23-Oct | 74 | 85 | 90 | 92 | 94 | 96 | 98 | 100 | 98 | 83 | 68 | 51 | 44 | 37 | 34 | 33 | 33 | 37 | 49 | 63 | 74 | 81 | 83 | 88 | 70.2 | 99.8 |
| 24-Oct | 89 | 90 | 96 | 96 | 97 | 98 | 99 | 98 | 96 | 86 | 73 | 58 | 48 | 40 | 36 | 40 | 40 | 48 | 62 | 69 | 77 | 80 | 85 | 89 | 74.6 | 98.6 |
| 25-Oct | 95 | 97 | 98 | 100 | 100 | 100 | 100 | 100 | 100 | 95 | 83 | 72 | 55 | 43 | 37 | 36 | 41 | 75 | 91 | 94 | 100 | 100 | 98 | 98 | 83.6 | 100.0 |
| 26-Oct | 97 | 98 | 96 | 99 | 100 | 94 | 94 | 94 | 96 | 93 | 91 | 89 | 90 | 86 | 81 | 84 | 84 | 86 | 98 | 100 | 100 | 100 | 100 | 100 | 93.8 | 100.0 |
| 27-Oct | 100 | 100 | 89 | 97 | 87 | 79 | 75 | 75 | 66 | 57 | 54 | 51 | 48 | 46 | 45 | 44 | 44 | 47 | 55 | 69 | 80 | 87 | 88 | 86 | 69.5 | 99.9 |
| 28-Oct | 84 | 88 | 89 | 91 | 94 | 93 | 92 | 91 | 89 | 82 | 56 | 54 | 56 | 58 | 81 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 87.4 | 100.0 |
| 29-Oct | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 99 | 98 | 95 | 88 | 90 | 94 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 98.4 | 100.0 |
| 30-Oct | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 84 | 77 | 71 | 63 | 55 | 52 | 50 | 46 | 46 | 51 | 50 | 53 | 61 | 72 | 74 | 74 | 74.1 | 100.0 |
| 31-Oct | 81 | 80 | 84 | 81 | 88 | 89 | 91 | 91 | 86 | 83 | 82 | 72 | 66 | 61 | 62 | 71 | 90 | 98 | 98 | 100 | 100 | 100 | 100 | 100 | 85.6 | 100.0 |
| | 82.4 | 83.6 | 85.1 | 86.4 | 87.3 | 88.0 | 88.9 | 89.0 | 86.8 | 79.6 | 70.6 | 62.3 | 57.7 | 53.6 | 52.3 | 53.1 | 54.1 | 59.3 | 66.5 | 71.1 | 74.8 | 77.0 | 79.0 | 81.2 | Diurnal Average | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 99.2 | 98.9 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | Diurnal Maximum | |

Peace Airshed Zone Association

# Hourly Averages

**Relative Humidity (RH) - %**

**Valleyview - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Wind Speed (km/h)
## Wind Direction (deg)
## Valleyview - October 2018

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Average | Maximum |
| 1 Spd | 0 | 0 | 1 | 0 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 5 | 7 | 6 | 8 | 10 | 3 | 8 | 11 | 13 | 12 | 10 | 4.6 | 12.5 |
| Dir | 152 | 3 | 346 | 10 | 339 | 337 | 339 | 334 | 9 | 0 | 25 | 4 | 2 | 334 | 340 | 355 | 4 | 6 | 347 | 3 | 7 | 10 | 8 | 3 | 1 | 10 |
| 2 Spd | 11 | 12 | 11 | 10 | 7 | 6 | 5 | 6 | 5 | 5 | 7 | 6 | 3 | 4 | 6 | 6 | 6 | 7 | 6 | 6 | 6 | 3 | 1 | 1 | 4.2 | 12.0 |
| Dir | 1 | 4 | 6 | 3 | 10 | 3 | 1 | 359 | 2 | 4 | 9 | 356 | 347 | 259 | 316 | 256 | 289 | 284 | 262 | 255 | 255 | 238 | 165 | 220 | 335 | 4 |
| 3 Spd | 2 | 3 | 3 | 3 | 1 | 2 | 1 | 1 | 3 | 4 | 3 | 1 | 1 | 2 | 1 | 2 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1.0 | 3.9 |
| Dir | 227 | 235 | 233 | 224 | 176 | 219 | 162 | 243 | 252 | 272 | 281 | 252 | 271 | 26 | 246 | 240 | 287 | 53 | 113 | 78 | 312 | 311 | 349 | 171 | 249 | 272 |
| 4 Spd | 0 | 0 | 0 | 1 | 3 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 1 | 3 | 5 | 6 | 7 | 7 | 1 | 1 | 0 | 1 | 0 | 1 | 1.0 | 6.6 |
| Dir | 216 | 252 | 195 | 176 | 170 | 172 | 172 | 166 | 163 | 194 | 177 | 160 | 149 | 261 | 292 | 298 | 306 | 324 | 298 | 326 | 298 | 166 | 280 | 186 | 266 | 306 |
| 5 Spd | 0 | 0 | 1 | 4 | 1 | 1 | 2 | 2 | 2 | 4 | 3 | 4 | 3 | 4 | 5 | 6 | 3 | 2 | 2 | 2 | 2 | 1 | 0 | 0 | 2.1 | 5.7 |
| Dir | 327 | 68 | 55 | 29 | 20 | 3 | 340 | 346 | 18 | 23 | 24 | 7 | 358 | 4 | 21 | 33 | 54 | 68 | 23 | 29 | 9 | 334 | 173 | 193 | 19 | 33 |
| 6 Spd | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 2 | 4 | 5 | 3 | 6 | 3 | 3 | 3 | 5 | 5 | 1.2 | 5.9 |
| Dir | 292 | 300 | 180 | 189 | 179 | 241 | 172 | 158 | 172 | 172 | 146 | 224 | 158 | 270 | 359 | 41 | 19 | 32 | 17 | 22 | 21 | 22 | 7 | 9 | 21 | 17 |
| 7 Spd | 3 | 2 | 3 | 4 | 3 | 3 | 3 | 4 | 3 | 2 | 4 | 4 | 7 | 7 | 9 | 9 | 8 | 9 | 8 | 7 | 7 | 5 | 6 | 5 | 5.1 | 9.1 |
| Dir | 8 | 11 | 2 | 15 | 18 | 8 | 15 | 3 | 33 | 45 | 24 | 25 | 15 | 18 | 28 | 19 | 14 | 15 | 22 | 17 | 14 | 18 | 22 | 28 | 18 | 15 |
| 8 Spd | 5 | 2 | 3 | 1 | 2 | 1 | 1 | 1 | 3 | 3 | 4 | 5 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 5 | 7 | 5 | 5 | 4.0 | 7.4 |
| Dir | 37 | 38 | 34 | 60 | 38 | 81 | 126 | 128 | 134 | 136 | 155 | 147 | 135 | 133 | 131 | 133 | 139 | 135 | 136 | 138 | 140 | 141 | 145 | 138 | 130 | 133 |
| 9 Spd | 6 | 7 | 7 | 5 | 5 | 4 | 4 | 4 | 6 | 6 | 7 | 5 | 7 | 8 | 8 | 8 | 7 | 7 | 5 | 6 | 5 | 6 | 7 | 5 | 5.9 | 8.2 |
| Dir | 134 | 130 | 131 | 137 | 135 | 138 | 148 | 141 | 147 | 147 | 157 | 149 | 141 | 148 | 144 | 152 | 137 | 148 | 159 | 165 | 156 | 156 | 150 | 155 | 146 | 144 |
| 10 Spd | 4 | 5 | 4 | 3 | 4 | 5 | 5 | 4 | 6 | 6 | 5 | 5 | 4 | 3 | 2 | 1 | 0 | 1 | 3 | 3 | 2 | 1 | 1 | 1 | 2.7 | 6.3 |
| Dir | 159 | 145 | 154 | 162 | 157 | 160 | 158 | 164 | 165 | 165 | 170 | 158 | 161 | 163 | 164 | 179 | 203 | 268 | 302 | 287 | 271 | 68 | 76 | 141 | 165 | 165 |
| 11 Spd | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 4 | 4 | 5 | 5 | 5 | 4 | 3 | 2 | 6 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1.9 | 5.9 |
| Dir | 155 | 164 | 166 | 164 | 157 | 173 | 177 | 176 | 165 | 169 | 167 | 169 | 167 | 168 | 173 | 175 | 255 | 234 | 179 | 170 | 163 | 186 | 191 | 188 | 180 | 255 |
| 12 Spd | 1 | 1 | 2 | 1 | 1 | 1 | 4 | 8 | 16 | 14 | 18 | 16 | 14 | 14 | 15 | 14 | 11 | 8 | 8 | 7 | 5 | 4 | 3 | 4 | 6.9 | 18.4 |
| Dir | 174 | 183 | 166 | 172 | 174 | 8 | 5 | 14 | 11 | 4 | 352 | 346 | 350 | 353 | 348 | 339 | 328 | 331 | 336 | 322 | 305 | 274 | 298 | 275 | 344 | 352 |
| 13 Spd | 4 | 4 | 3 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 2 | 4 | 5 | 7 | 7 | 5 | 5 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 1.7 | 7.3 |
| Dir | 273 | 257 | 244 | 215 | 228 | 281 | 89 | 159 | 169 | 282 | 277 | 293 | 301 | 312 | 309 | 314 | 323 | 5 | 165 | 183 | 184 | 186 | 178 | 172 | 283 | 312 |
| 14 Spd | 3 | 3 | 2 | 2 | 1 | 2 | 3 | 3 | 2 | 4 | 3 | 3 | 11 | 12 | 8 | 11 | 16 | 14 | 7 | 11 | 12 | 11 | 16 | 16 | 6.0 | 16.4 |
| Dir | 168 | 166 | 177 | 173 | 187 | 176 | 175 | 184 | 167 | 171 | 163 | 191 | 261 | 273 | 267 | 267 | 275 | 269 | 273 | 268 | 279 | 285 | 284 | 283 | 262 | 284 |
| 15 Spd | 16 | 13 | 11 | 9 | 6 | 3 | 2 | 1 | 2 | 2 | 1 | 9 | 15 | 14 | 14 | 12 | 11 | 5 | 3 | 4 | 6 | 4 | 3 | 2 | 6.2 | 15.9 |
| Dir | 280 | 280 | 278 | 273 | 271 | 253 | 216 | 178 | 155 | 132 | 60 | 311 | 307 | 308 | 307 | 307 | 317 | 327 | 306 | 305 | 306 | 290 | 264 | 282 | 294 | 280 |
| 16 Spd | 1 | 6 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 2 | 8 | 8 | 10 | 10 | 8 | 6 | 1 | 4 | 3 | 4 | 10 | 10 | 11 | 4.0 | 10.6 |
| Dir | 206 | 250 | 220 | 191 | 175 | 177 | 176 | 165 | 183 | 178 | 186 | 267 | 279 | 283 | 296 | 290 | 302 | 307 | 247 | 241 | 233 | 258 | 256 | 254 | 259 | 254 |
| 17 Spd | 6 | 3 | 1 | 2 | 3 | 2 | 1 | 0 | 2 | 3 | 3 | 4 | 3 | 9 | 6 | 4 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 0 | 1.9 | 9.3 |
| Dir | 230 | 216 | 155 | 136 | 144 | 160 | 177 | 182 | 198 | 181 | 175 | 180 | 202 | 245 | 268 | 302 | 276 | 215 | 223 | 232 | 207 | 200 | 156 | 137 | 215 | 245 |
| 18 Spd | 2 | 1 | 2 | 2 | 4 | 1 | 7 | 6 | 5 | 1 | 9 | 16 | 18 | 17 | 16 | 14 | 9 | 5 | 1 | 1 | 1 | 1 | 1 | 1 | 5.1 | 18.2 |
| Dir | 278 | 219 | 225 | 240 | 249 | 217 | 264 | 273 | 315 | 44 | 302 | 304 | 316 | 320 | 314 | 292 | 297 | 277 | 185 | 193 | 186 | 209 | 183 | 196 | 297 | 316 |
| 19 Spd | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 2 | 2 | 2 | 3 | 4 | 5 | 5 | 3 | 3 | 3 | 6 | 11 | 9 | 8 | 3.0 | 11.0 |
| Dir | 167 | 175 | 196 | 202 | 200 | 45 | 194 | 218 | 188 | 154 | 171 | 172 | 156 | 168 | 168 | 162 | 155 | 150 | 143 | 161 | 168 | 168 | 167 | 168 | 165 | 168 |
| 20 Spd | 9 | 6 | 2 | 3 | 3 | 2 | 2 | 8 | 6 | 13 | 17 | 24 | 25 | 20 | 22 | 21 | 17 | 11 | 10 | 8 | 9 | 10 | 11 | 8 | 9.8 | 24.5 |
| Dir | 173 | 174 | 245 | 202 | 185 | 183 | 245 | 270 | 268 | 268 | 270 | 274 | 282 | 292 | 275 | 292 | 283 | 281 | 273 | 261 | 262 | 252 | 253 | 250 | 268 | 282 |
| 21 Spd | 6 | 11 | 8 | 6 | 3 | 2 | 1 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 4 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1.9 | 10.6 |
| Dir | 249 | 246 | 259 | 256 | 218 | 184 | 164 | 167 | 149 | 135 | 288 | 294 | 194 | 217 | 252 | 254 | 274 | 300 | 141 | 269 | 186 | 184 | 174 | 244 | 239 | 246 |
| 22 Spd | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 4 | 5 | 6 | 4 | 6 | 5 | 4 | 6 | 3 | 4 | 6 | 4 | 4 | 2.8 | 6.0 |
| Dir | 295 | 207 | 217 | 314 | 349 | 158 | 248 | 230 | 215 | 169 | 172 | 177 | 165 | 169 | 168 | 167 | 168 | 172 | 168 | 170 | 174 | 170 | 176 | 184 | 172 | 170 |

Peace Airshed Zone Association

# Hourly Averages

## Wind Speed (km/h)
## Wind Direction (deg)
## Valleyview - October 2018

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 Spd | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 2 | 2 | 2 | 0 | 2 | 3 | 4 | 4 | 2 | 0 | 1 | 0 | 0 | 0 | 0.3 | 4.2 |
| Dir | 192 | 260 | 190 | 163 | 207 | 201 | 200 | 206 | 187 | 181 | 179 | 185 | 192 | 260 | 18 | 332 | 337 | 351 | 329 | 69 | 176 | 145 | 260 | 349 | 284 | 337 |
| 24 Spd | 0 | 0 | 1 | 1 | 0 | 1 | 2 | 1 | 1 | 2 | 2 | 3 | 3 | 2 | 8 | 3 | 5 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 0.7 | 7.5 |
| Dir | 181 | 94 | 167 | 176 | 189 | 205 | 195 | 194 | 168 | 173 | 173 | 172 | 143 | 328 | 317 | 347 | 296 | 262 | 201 | 196 | 165 | 190 | 169 | 201 | 233 | 317 |
| 25 Spd | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 3 | 2 | 1 | 13 | 9 | 2 | 2 | 3 | 2 | 2 | 0.9 | 13.2 |
| Dir | 215 | 192 | 199 | 170 | 204 | 287 | 156 | 210 | 142 | 165 | 161 | 154 | 170 | 168 | 159 | 138 | 104 | 304 | 303 | 262 | 163 | 185 | 189 | 182 | 236 | 304 |
| 26 Spd | 3 | 3 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 1 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 2 | 0 | 1 | 2 | 1 | 1 | 2 | 1.1 | 3.1 |
| Dir | 180 | 181 | 186 | 158 | 198 | 175 | 188 | 187 | 177 | 183 | 210 | 107 | 310 | 169 | 4 | 212 | 55 | 331 | 180 | 194 | 199 | 186 | 185 | 180 | 186 | 180 |
| 27 Spd | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 5 | 8 | 15 | 15 | 16 | 17 | 17 | 14 | 12 | 8 | 5 | 5 | 2 | 1 | 1 | 2 | 2 | 5.3 | 17.5 |
| Dir | 164 | 183 | 176 | 174 | 183 | 188 | 207 | 239 | 247 | 270 | 272 | 279 | 288 | 306 | 303 | 308 | 300 | 267 | 245 | 212 | 186 | 170 | 181 | 170 | 271 | 288 |
| 28 Spd | 1 | 0 | 1 | 1 | 1 | 4 | 5 | 3 | 1 | 3 | 7 | 2 | 2 | 6 | 4 | 2 | 2 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0.7 | 7.3 |
| Dir | 196 | 13 | 342 | 306 | 2 | 339 | 344 | 326 | 337 | 126 | 133 | 174 | 175 | 176 | 181 | 176 | 170 | 167 | 246 | 207 | 244 | 239 | 170 | 173 | 180 | 133 |
| 29 Spd | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 2 | 2 | 2 | 2 | 3 | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 1.2 | 2.5 |
| Dir | 212 | 169 | 168 | 157 | 163 | 203 | 208 | 200 | 196 | 183 | 171 | 180 | 170 | 168 | 164 | 150 | 164 | 173 | 185 | 216 | 205 | 166 | 168 | 173 | 177 | 168 |
| 30 Spd | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 5 | 6 | 6 | 7 | 13 | 11 | 10 | 13 | 11 | 6 | 9 | 6 | 2 | 2 | 2 | 2 | 4.3 | 13.4 |
| Dir | 177 | 212 | 170 | 167 | 189 | 193 | 190 | 214 | 257 | 251 | 268 | 272 | 288 | 287 | 301 | 297 | 284 | 261 | 261 | 260 | 230 | 199 | 187 | 188 | 269 | 288 |
| 31 Spd | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 0 | 2 | 2 | 2 | 2 | 3 | 2 | 8 | 6 | 3 | 2 | 4 | 6 | 0.6 | 7.9 |
| Dir | 144 | 153 | 166 | 151 | 177 | 196 | 281 | 197 | 168 | 310 | 6 | 120 | 154 | 146 | 173 | 223 | 261 | 3 | 345 | 357 | 345 | 319 | 291 | 315 | 307 | 345 |
| Spd | 1.0 | 1.1 | 0.7 | 0.5 | 0.7 | 0.5 | 0.6 | 0.5 | 0.4 | 0.8 | 1.1 | 2.4 | 3.0 | 3.3 | 3.6 | 3.3 | 3.2 | 2.2 | 1.6 | 1.3 | 1.1 | 1.2 | 1.2 | 1.2 | Diurnal Average | |
| Dir | 222 | 229 | 235 | 210 | 189 | 185 | 204 | 243 | 219 | 233 | 257 | 278 | 286 | 290 | 301 | 299 | 300 | 301 | 287 | 275 | 265 | 232 | 244 | 243 | | |
| Spd | 15.9 | 13.2 | 11.1 | 10.2 | 6.7 | 6.4 | 6.9 | 7.5 | 15.7 | 15.5 | 18.4 | 23.5 | 24.5 | 19.8 | 22.0 | 20.5 | 16.8 | 14.5 | 9.5 | 11.3 | 12.2 | 12.5 | 16.4 | 15.9 | Diurnal Maximum | |
| Dir | 280 | 280 | 278 | 3 | 10 | 3 | 264 | 14 | 11 | 270 | 352 | 274 | 282 | 292 | 275 | 292 | 283 | 269 | 273 | 268 | 279 | 10 | 284 | 283 | | |

Maximum Speed Value: 25 km/h on Oct 20 13:00
Maximum Daily Speed Average: 9.8 km/h on Oct 20
Maximum Diurnal Speed Average: 3.6 km/h at hour 15

Minimum Speed Value: 0 km/h on Oct 24 00:00
Minimum Daily Speed Average: 0.3 km/h on Oct 23
Minimum Diurnal Speed Average: 0.4 km/h at hour 9

Monthly Average Velocity: 1.31 km/h 273.3 deg

Speed Percentiles: $P_1 = 0.1$ $P_{10} = 0.4$ $Q_1 = 1.1$ Median = 2.4 $Q_3 = 5.5$ $P_{90} = 9.4$ $P_{99} = 17.3$

All monthly, daily, and diurnal averages have been calculated using vector methods

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Percent Operational Time: | 100.0 |

Frequency Distribution

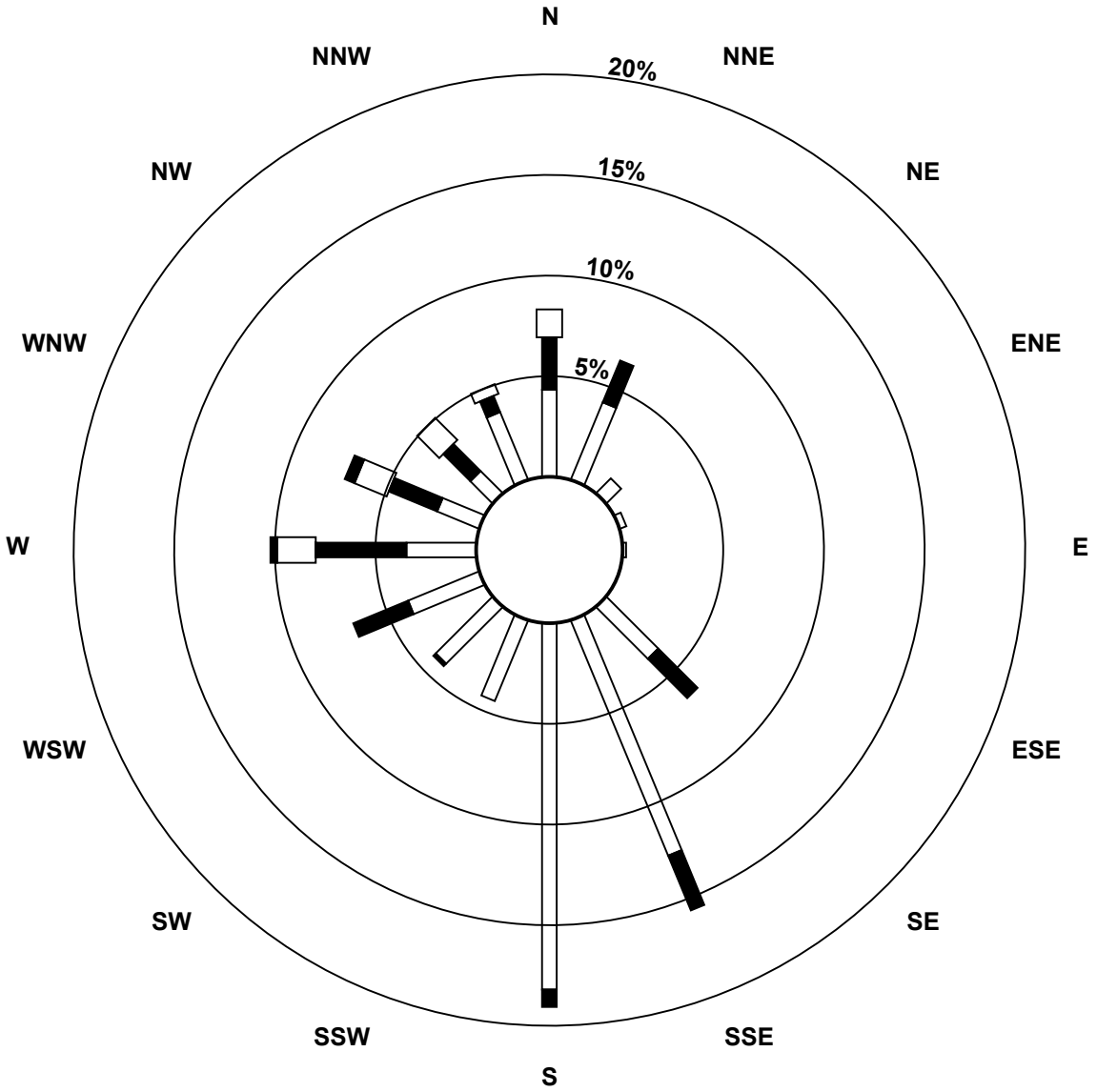
| Direction | Speed Range (km/h) 0 to 5 | 5 to 11 | 11 to 19 | 19 to 28 | 28 to 38 | > 38 | Total |
|---|---|---|---|---|---|---|---|
| North | 53 | 31 | 13 | 0 | 0 | 0 | 97 |
| NorthEast | 26 | 2 | 0 | 0 | 0 | 0 | 28 |
| East | 11 | 0 | 0 | 0 | 0 | 0 | 11 |
| SouthEast | 52 | 29 | 0 | 0 | 0 | 0 | 81 |
| South | 242 | 19 | 1 | 0 | 0 | 0 | 262 |
| SouthWest | 67 | 6 | 0 | 0 | 0 | 0 | 73 |
| West | 47 | 40 | 25 | 5 | 0 | 0 | 117 |
| NorthWest | 34 | 28 | 13 | 0 | 0 | 0 | 75 |
| Total | 532 | 155 | 52 | 5 | 0 | 0 | 744 |

Peace Airshed Zone Association

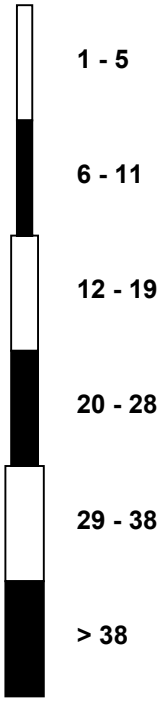
# Wind Rose

**Wind Speed (WS) (km/h)**

**Valleyview - October 2018**




**Wind Speed Classes (km/h)**



Peace Airshed Zone Association

# Hourly Averages - Wind Speed (Scalar)

## Wind Speed (km/h)

## Valleyview - October 2018

Maximum Speed: 25 km/h on Oct 20 13:00

Maximum Daily Speed Average: 11.4 km/h on Oct 20

Minimum Speed: 0 km/h on Oct 24 00:00

Minimum Daily Speed Average: 1.3 km/h on Oct 29

Maximum Diurnal Speed Average: 7.2 km/h at hour 15

Minimum Diurnal Speed Average: 1.9 km/h at hour 6

Monthly Average Speed: 4.14 km/h

Percentiles: $P_1 = 0.2$ $P_{10} = 0.6$ $Q_1 = 1.3$ Median = 2.7 $Q_3 = 5.7$ $P_{90} = 9.6$ $P_{99} = 17.7$

Hours in Service: 744

Hours of Data: 744

Hours of Missing Data: 0

Percent Operational Time: 100.0

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 1 | 1 | 0 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 4 | 4 | 6 | 8 | 6 | 8 | 10 | 3 | 8 | 12 | 13 | 12 | 10 | 4.9 | 12.7 |
| 2-Oct | 11 | 12 | 11 | 10 | 7 | 6 | 5 | 6 | 6 | 5 | 7 | 6 | 4 | 5 | 7 | 7 | 6 | 7 | 6 | 6 | 6 | 3 | 1 | 1 | 6.4 | 12.1 |
| 3-Oct | 3 | 3 | 3 | 3 | 1 | 2 | 1 | 1 | 3 | 4 | 3 | 2 | 3 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 2.0 | 4.5 |
| 4-Oct | 0 | 1 | 0 | 1 | 3 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 3 | 4 | 6 | 7 | 7 | 7 | 2 | 2 | 1 | 1 | 1 | 1 | 2.4 | 7.1 |
| 5-Oct | 1 | 1 | 1 | 4 | 1 | 1 | 2 | 2 | 2 | 4 | 3 | 4 | 3 | 5 | 6 | 6 | 3 | 2 | 2 | 2 | 3 | 1 | 0 | 0 | 2.5 | 6.2 |
| 6-Oct | 0 | 1 | 0 | 2 | 2 | 2 | 2 | 1 | 2 | 0 | 0 | 0 | 1 | 1 | 2 | 4 | 5 | 3 | 6 | 3 | 3 | 3 | 6 | 5 | 2.2 | 6.0 |
| 7-Oct | 3 | 2 | 3 | 4 | 3 | 3 | 3 | 4 | 3 | 3 | 4 | 4 | 7 | 7 | 9 | 9 | 8 | 9 | 8 | 7 | 7 | 5 | 6 | 5 | 5.3 | 9.2 |
| 8-Oct | 5 | 2 | 3 | 1 | 2 | 1 | 2 | 2 | 3 | 4 | 4 | 5 | 7 | 8 | 7 | 7 | 8 | 7 | 7 | 7 | 6 | 8 | 5 | 5 | 4.7 | 7.6 |
| 9-Oct | 6 | 7 | 7 | 5 | 5 | 4 | 4 | 5 | 6 | 6 | 7 | 6 | 7 | 8 | 9 | 8 | 7 | 7 | 5 | 6 | 5 | 7 | 7 | 5 | 6.2 | 8.7 |
| 10-Oct | 5 | 5 | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 5 | 5 | 4 | 3 | 2 | 1 | 0 | 1 | 3 | 4 | 2 | 1 | 1 | 1 | 3.4 | 6.5 |
| 11-Oct | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 4 | 4 | 5 | 5 | 5 | 4 | 3 | 2 | 6 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 2.2 | 6.2 |
| 12-Oct | 1 | 1 | 2 | 1 | 1 | 2 | 4 | 8 | 16 | 14 | 19 | 16 | 14 | 14 | 15 | 14 | 11 | 8 | 9 | 7 | 5 | 4 | 4 | 4 | 8.1 | 18.6 |
| 13-Oct | 4 | 4 | 4 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 2 | 4 | 6 | 8 | 7 | 6 | 6 | 1 | 1 | 1 | 1 | 2 | 3 | 3 | 2.7 | 7.7 |
| 14-Oct | 3 | 3 | 2 | 2 | 1 | 2 | 3 | 3 | 2 | 4 | 4 | 3 | 11 | 12 | 8 | 12 | 16 | 15 | 8 | 12 | 12 | 12 | 17 | 16 | 7.6 | 16.6 |
| 15-Oct | 16 | 13 | 11 | 9 | 6 | 3 | 2 | 1 | 2 | 2 | 2 | 10 | 15 | 15 | 14 | 12 | 11 | 5 | 3 | 4 | 6 | 4 | 3 | 2 | 7.2 | 16.0 |
| 16-Oct | 1 | 6 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 8 | 8 | 11 | 11 | 8 | 6 | 2 | 4 | 3 | 5 | 10 | 10 | 11 | 5.1 | 10.9 |
| 17-Oct | 6 | 3 | 1 | 2 | 3 | 3 | 1 | 1 | 2 | 4 | 3 | 4 | 3 | 9 | 6 | 4 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 2.8 | 9.4 |
| 18-Oct | 2 | 1 | 2 | 3 | 4 | 2 | 7 | 6 | 5 | 2 | 10 | 17 | 19 | 17 | 16 | 14 | 9 | 5 | 1 | 1 | 1 | 1 | 1 | 1 | 6.1 | 18.6 |
| 19-Oct | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 2 | 2 | 3 | 4 | 4 | 5 | 5 | 3 | 3 | 3 | 6 | 11 | 9 | 8 | 3.2 | 11.1 |
| 20-Oct | 9 | 6 | 2 | 3 | 3 | 2 | 4 | 8 | 6 | 13 | 17 | 24 | 25 | 20 | 23 | 21 | 17 | 12 | 10 | 8 | 9 | 10 | 12 | 9 | 11.4 | 25.0 |
| 21-Oct | 6 | 11 | 8 | 6 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2.8 | 10.7 |
| 22-Oct | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 5 | 4 | 5 | 6 | 4 | 6 | 5 | 4 | 6 | 3 | 4 | 6 | 4 | 4 | 3.0 | 6.0 |
| 23-Oct | 2 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 2 | 2 | 2 | 1 | 2 | 3 | 4 | 4 | 2 | 0 | 1 | 0 | 0 | 0 | 1.4 | 4.2 |
| 24-Oct | 0 | 0 | 1 | 1 | 0 | 1 | 2 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 8 | 3 | 6 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 2.0 | 7.8 |
| 25-Oct | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 3 | 3 | 2 | 2 | 15 | 10 | 4 | 2 | 3 | 2 | 2 | 2.4 | 14.7 |
| 26-Oct | 3 | 3 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1.8 | 3.1 |
| 27-Oct | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 6 | 8 | 16 | 16 | 16 | 18 | 17 | 14 | 12 | 8 | 5 | 5 | 2 | 1 | 1 | 2 | 2 | 6.9 | 18.0 |
| 28-Oct | 1 | 0 | 2 | 1 | 1 | 4 | 5 | 3 | 1 | 3 | 8 | 4 | 2 | 6 | 4 | 2 | 3 | 1 | 1 | 0 | 2 | 1 | 1 | 0 | 2.3 | 7.5 |
| 29-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 2 | 2 | 2 | 2 | 3 | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 1.3 | 2.6 |
| 30-Oct | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 5 | 6 | 6 | 8 | 14 | 12 | 11 | 13 | 11 | 7 | 9 | 6 | 2 | 2 | 2 | 2 | 5.2 | 13.8 |
| 31-Oct | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 3 | 2 | 3 | 2 | 8 | 6 | 3 | 2 | 4 | 6 | 2.6 | 8.2 |
| | 3.2 | 3.0 | 2.6 | 2.4 | 2.1 | 1.9 | 2.4 | 2.5 | 3.1 | 3.8 | 5.0 | 5.7 | 6.7 | 7.2 | 7.2 | 6.6 | 6.1 | 4.9 | 4.1 | 3.7 | 3.6 | 3.8 | 3.9 | 3.6 | Diurnal Average | |
| | 16.0 | 13.3 | 11.2 | 10.3 | 6.8 | 6.4 | 7.0 | 7.8 | 15.9 | 15.7 | 18.6 | 23.9 | 25.0 | 20.3 | 22.6 | 20.9 | 17.1 | 14.7 | 9.7 | 11.5 | 12.5 | 12.7 | 16.6 | 16.1 | Diurnal Maximum | |

All monthly, daily, and diurnal averages have been calculated using scalar methods

Peace Airshed Zone Association

# Hourly Standard Deviations

## Wind Direction (WD) - deg

## Valleyview - October 2018

Maximum Value: 96.4 deg on Oct 3 17:00

Minimum Value: 4.8 deg on Oct 27 04:00

Percentiles: $P_1$ = 6.0 $P_{10}$ = 8.6 $Q_1$ = 11.8 Median = 17.5 $Q_3$ = 35.3 $P_{90}$ = 62.7 $P_{99}$ = 90.1

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| 1-Oct | 76 | 80 | 46 | 51 | 8 | 30 | 22 | 19 | 35 | 23 | 36 | 32 | 54 | 36 | 20 | 23 | 11 | 10 | 26 | 16 | 8 | 8 | 8 | 8 | 80.0 |
| 2-Oct | 8 | 8 | 8 | 8 | 12 | 9 | 10 | 9 | 16 | 17 | 18 | 35 | 54 | 52 | 27 | 28 | 16 | 15 | 11 | 8 | 14 | 24 | 23 | 21 | 53.7 |
| 3-Oct | 42 | 37 | 32 | 32 | 32 | 35 | 31 | 65 | 46 | 32 | 40 | 80 | 77 | 75 | 86 | 61 | 96 | 44 | 37 | 34 | 63 | 66 | 52 | 85 | 96.4 |
| 4-Oct | 55 | 54 | 78 | 17 | 10 | 9 | 8 | 55 | 12 | 32 | 36 | 42 | 76 | 51 | 39 | 27 | 22 | 10 | 39 | 52 | 67 | 12 | 89 | 49 | 88.9 |
| 5-Oct | 82 | 83 | 67 | 11 | 86 | 51 | 36 | 15 | 23 | 25 | 46 | 43 | 53 | 35 | 39 | 26 | 33 | 42 | 21 | 9 | 17 | 15 | 77 | 39 | 86.0 |
| 6-Oct | 85 | 78 | 28 | 14 | 16 | 58 | 49 | 15 | 16 | 54 | 59 | 87 | 26 | 68 | 49 | 21 | 21 | 15 | 9 | 15 | 34 | 19 | 8 | 11 | 86.7 |
| 7-Oct | 51 | 21 | 28 | 13 | 19 | 16 | 11 | 16 | 19 | 30 | 20 | 22 | 13 | 12 | 11 | 11 | 9 | 8 | 11 | 9 | 8 | 10 | 15 | 12 | 50.9 |
| 8-Oct | 17 | 19 | 12 | 29 | 8 | 26 | 14 | 16 | 15 | 12 | 14 | 14 | 12 | 11 | 10 | 13 | 11 | 9 | 9 | 12 | 12 | 12 | 15 | 12 | 29.4 |
| 9-Oct | 13 | 9 | 8 | 10 | 11 | 12 | 14 | 12 | 11 | 11 | 12 | 19 | 18 | 17 | 19 | 17 | 12 | 12 | 12 | 11 | 14 | 13 | 15 | 13 | 19.4 |
| 10-Oct | 12 | 14 | 21 | 21 | 15 | 12 | 11 | 11 | 9 | 12 | 13 | 16 | 17 | 18 | 26 | 31 | 39 | 25 | 25 | 14 | 35 | 65 | 43 | 46 | 65.0 |
| 11-Oct | 30 | 56 | 46 | 30 | 17 | 10 | 8 | 14 | 9 | 10 | 11 | 10 | 13 | 13 | 18 | 15 | 26 | 30 | 24 | 13 | 11 | 20 | 7 | 15 | 56.4 |
| 12-Oct | 12 | 13 | 14 | 8 | 18 | 68 | 17 | 13 | 8 | 7 | 9 | 8 | 9 | 8 | 8 | 6 | 7 | 11 | 13 | 9 | 15 | 12 | 16 | 9 | 68.0 |
| 13-Oct | 12 | 14 | 18 | 23 | 28 | 52 | 67 | 24 | 31 | 36 | 19 | 19 | 15 | 17 | 19 | 24 | 21 | 66 | 17 | 25 | 22 | 8 | 14 | 10 | 67.1 |
| 14-Oct | 7 | 5 | 6 | 9 | 15 | 10 | 8 | 11 | 28 | 12 | 15 | 31 | 13 | 14 | 23 | 16 | 10 | 9 | 16 | 12 | 12 | 11 | 8 | 8 | 31.3 |
| 15-Oct | 7 | 8 | 7 | 7 | 10 | 21 | 16 | 19 | 17 | 22 | 76 | 17 | 11 | 11 | 11 | 11 | 13 | 18 | 23 | 10 | 9 | 15 | 11 | 24 | 75.8 |
| 16-Oct | 41 | 13 | 15 | 9 | 12 | 9 | 13 | 10 | 7 | 9 | 34 | 15 | 19 | 20 | 15 | 19 | 25 | 91 | 12 | 23 | 21 | 10 | 6 | 7 | 91.2 |
| 17-Oct | 14 | 13 | 32 | 22 | 13 | 22 | 39 | 81 | 33 | 15 | 12 | 11 | 34 | 13 | 20 | 13 | 29 | 18 | 24 | 12 | 18 | 23 | 51 | 90 | 90.4 |
| 18-Oct | 26 | 14 | 15 | 56 | 26 | 34 | 9 | 15 | 13 | 72 | 22 | 12 | 12 | 11 | 12 | 14 | 12 | 14 | 48 | 31 | 47 | 25 | 37 | 45 | 72.0 |
| 19-Oct | 25 | 26 | 17 | 58 | 19 | 92 | 12 | 90 | 36 | 38 | 23 | 20 | 29 | 19 | 15 | 17 | 13 | 12 | 12 | 12 | 8 | 6 | 7 | 6 | 92.4 |
| 20-Oct | 6 | 8 | 48 | 15 | 14 | 14 | 69 | 18 | 12 | 12 | 13 | 11 | 11 | 12 | 13 | 10 | 11 | 13 | 8 | 14 | 13 | 8 | 6 | 6 | 68.7 |
| 21-Oct | 9 | 8 | 10 | 10 | 26 | 25 | 42 | 28 | 32 | 15 | 82 | 52 | 42 | 76 | 42 | 52 | 56 | 44 | 43 | 84 | 36 | 31 | 68 | 93 | 93.0 |
| 22-Oct | 76 | 28 | 69 | 84 | 72 | 57 | 50 | 51 | 75 | 17 | 10 | 13 | 15 | 11 | 19 | 10 | 9 | 8 | 6 | 8 | 7 | 6 | 8 | 5 | 83.9 |
| 23-Oct | 32 | 50 | 40 | 22 | 61 | 22 | 16 | 71 | 76 | 17 | 18 | 40 | 41 | 86 | 41 | 22 | 8 | 10 | 17 | 92 | 38 | 84 | 74 | 93 | 93.0 |
| 24-Oct | 57 | 89 | 32 | 41 | 55 | 54 | 18 | 20 | 20 | 15 | 15 | 12 | 24 | 71 | 16 | 18 | 14 | 25 | 23 | 46 | 42 | 28 | 10 | 16 | 89.0 |
| 25-Oct | 53 | 16 | 52 | 48 | 57 | 88 | 35 | 47 | 77 | 55 | 68 | 24 | 15 | 21 | 24 | 38 | 59 | 33 | 17 | 78 | 27 | 10 | 10 | 8 | 88.4 |
| 26-Oct | 7 | 19 | 18 | 25 | 19 | 16 | 11 | 14 | 10 | 41 | 81 | 79 | 65 | 83 | 73 | 62 | 78 | 28 | 61 | 23 | 15 | 15 | 14 | 28 | 83.2 |
| 27-Oct | 16 | 7 | 7 | 5 | 5 | 5 | 8 | 14 | 10 | 9 | 10 | 12 | 14 | 14 | 12 | 10 | 13 | 17 | 6 | 22 | 19 | 16 | 10 | 13 | 21.7 |
| 28-Oct | 35 | 93 | 71 | 68 | 84 | 14 | 8 | 53 | 53 | 55 | 15 | 50 | 41 | 10 | 19 | 15 | 9 | 26 | 22 | 29 | 24 | 24 | 65 | 50 | 93.5 |
| 29-Oct | 18 | 25 | 21 | 21 | 30 | 35 | 71 | 25 | 19 | 14 | 21 | 13 | 11 | 14 | 23 | 22 | 46 | 23 | 8 | 10 | 20 | 10 | 17 | 9 | 70.8 |
| 30-Oct | 33 | 38 | 76 | 27 | 32 | 14 | 13 | 28 | 10 | 8 | 12 | 16 | 14 | 13 | 14 | 13 | 11 | 11 | 7 | 9 | 18 | 13 | 10 | 22 | 75.6 |
| 31-Oct | 9 | 16 | 27 | 41 | 21 | 20 | 74 | 18 | 49 | 79 | 54 | 85 | 40 | 38 | 20 | 31 | 26 | 28 | 14 | 11 | 37 | 26 | 17 | 10 | 85.4 |
| | 85.4 | 93.5 | 78.0 | 83.9 | 86.0 | 92.4 | 73.9 | 89.8 | 76.9 | 79.3 | 81.7 | 86.7 | 76.9 | 86.4 | 86.2 | 62.1 | 96.4 | 91.2 | 61.2 | 91.5 | 67.1 | 84.1 | 88.9 | 93.0 | |

# PAZA
# Donnelly Station
## Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

# Hourly Averages

## Sulphur Dioxide ($SO_2$) - ppb

## Donnelly - October 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.5 ppb on Oct 17 11:00 Maximum Daily Average: 0.4 ppb on Oct 16

Minimum Value: 0 ppb on Oct 4 03:00 Minimum Daily Average: 0.0 ppb on Oct 12
Maximum Diurnal Average: 0.2 ppb at hour 11 Minimum Diurnal Average: 0.1 ppb at hour 22
Monthly Average: 0.11 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.1 $Q_3 = 0.1$ $P_{90} = 0.3$ $P_{99} = 0.7$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 709 |
| Hours of Missing Data: | 35 |
| Hours of Calibration: | 35 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 3-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 4-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.5 |
| 5-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 |
| 6-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 7-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 |
| 8-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 |
| 9-Oct | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 |
| 10-Oct | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 11-Oct | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 12-Oct | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0.0 | 0.0 |
| 13-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0.0 | 0.0 |
| 14-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0.1 | 0.2 |
| 15-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0.1 | 0.1 |
| 16-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | A | 0 | 0 | 0 | 1 | 0.4 | 0.8 |
| 17-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0.2 | 1.5 |
| 18-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 |
| 19-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.5 |
| 20-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 21-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 22-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.5 |
| 23-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | A | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.6 |
| 24-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | 1 | C | C | C | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.7 |
| 25-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 26-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 27-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 |
| 28-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 29-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.5 |
| 30-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.2 |
| 31-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 |
| Diurnal Average | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | | |
| Diurnal Maximum | 0.3 | 0.3 | 0.2 | 0.2 | 0.4 | 0.5 | 0.4 | 0.4 | 0.5 | 0.8 | 1.5 | 0.7 | 0.7 | 0.5 | 0.4 | 0.7 | 0.6 | 0.5 | 0.4 | 0.4 | 0.3 | 0.2 | 0.4 | 0.8 | | |

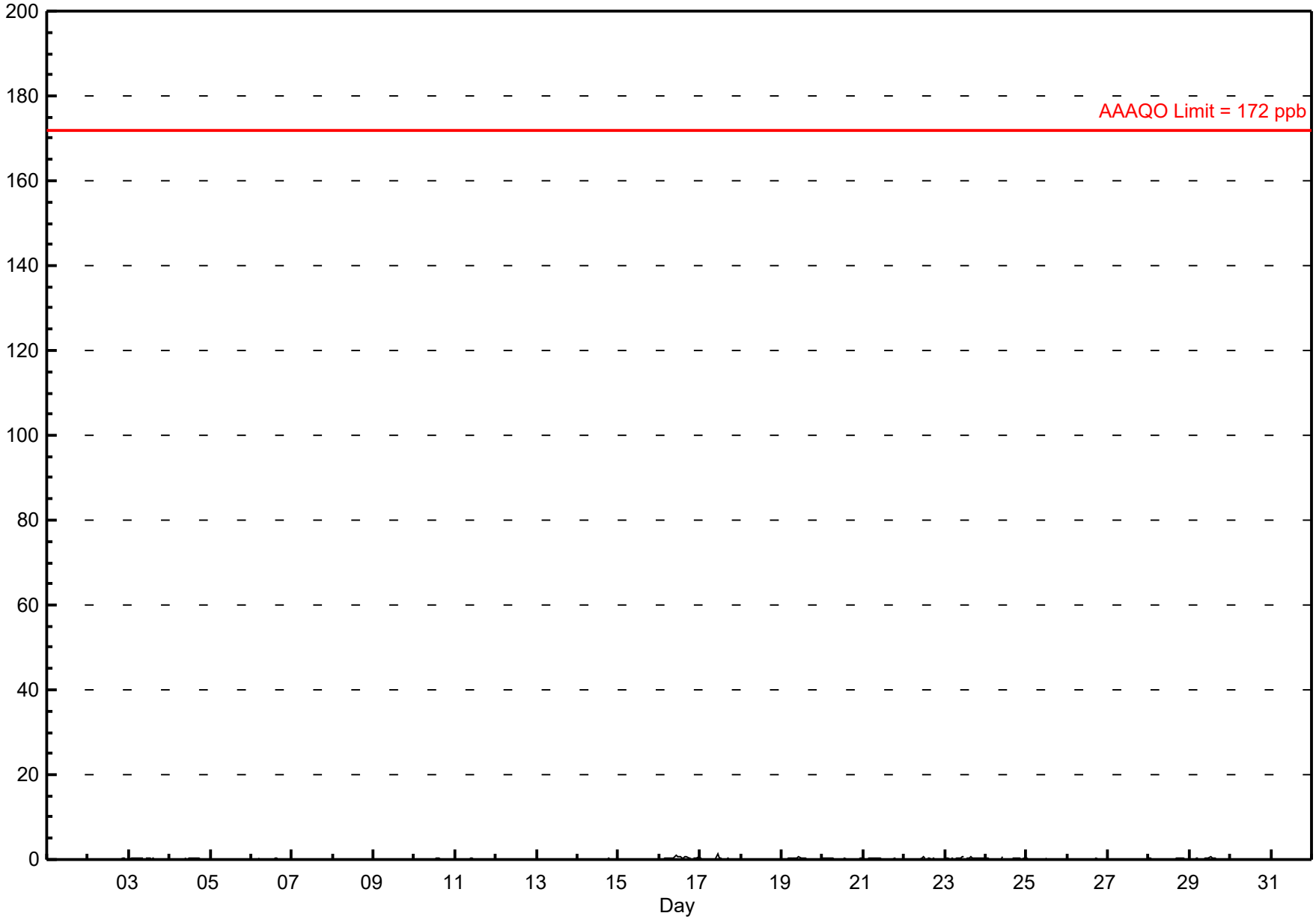
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

# Hourly Averages

## Sulphur Dioxide ($SO_2$) - ppb

## Donnelly - October 2018



Peace Airshed Zone Association

# Hourly Maximums

## Sulphur Dioxide ($SO_2$) - ppb

## Donnelly - October 2018

Maximum Value: 13.5 ppb on Oct 29 06:00

Maximum Daily Average: 1.1 ppb on Oct 29

Minimum Value: 0 ppb on Oct 12 05:00

Minimum Daily Average: 0.3 ppb on Oct 12

Maximum Diurnal Average: 0.9 ppb at hour 6

Minimum Diurnal Average: 0.4 ppb at hour 3

Monthly Average: 0.52 ppb

Percentiles: $P_1 = 0.2$ $P_{10} = 0.3$ $Q_1 = 0.3$ Median = 0.4 $Q_3 = 0.6$ $P_{90} = 0.7$ $P_{99} = 1.5$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 709 |
| Hours of Missing Data: | 35 |
| Hours of Calibration: | 35 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0.4 | 0.7 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0.4 | 0.6 |
| 3-Oct | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.6 | 0.8 |
| 4-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0.5 | 1.1 |
| 5-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.6 |
| 6-Oct | 0 | 0 | 0 | 0 | 0 | 1 | A | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 0.8 |
| 7-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0.4 | 0.6 |
| 8-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.5 |
| 9-Oct | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.4 |
| 10-Oct | 0 | 0 | A | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0.5 | 0.7 |
| 11-Oct | 1 | A | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 0.7 |
| 12-Oct | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0.3 | 0.4 |
| 13-Oct | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0.6 | 6.6 |
| 14-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | A | 0 | 0 | 0.4 | 0.6 |
| 15-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | 0 | 0 | 0 | 0.4 | 0.7 |
| 16-Oct | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 0.9 | 1.8 |
| 17-Oct | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 9 | 3 | 1 | 1 | 0 | 0 | 1 | 0 | A | 0 | 0 | 0 | 0 | 0 | 1.0 | 9.3 |
| 18-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 1 | 1 | 0.4 | 0.7 |
| 19-Oct | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | A | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0.6 | 1.1 |
| 20-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | A | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0.5 | 0.8 |
| 21-Oct | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | A | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0.5 | 0.8 |
| 22-Oct | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0.6 | 1.0 |
| 23-Oct | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0.7 | 1.3 |
| 24-Oct | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | A | 2 | C | C | C | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 1.7 |
| 25-Oct | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | A | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.8 |
| 26-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.8 |
| 27-Oct | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | A | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0.4 | 0.5 |
| 28-Oct | 1 | 1 | 1 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0.5 | 0.9 |
| 29-Oct | 0 | 1 | 1 | 1 | 0 | 13 | A | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.1 | 13.5 |
| 30-Oct | 1 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.8 |
| 31-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.6 |
| | 0.5 | 0.4 | 0.4 | 0.4 | 0.5 | 0.9 | 0.4 | 0.5 | 0.5 | 0.8 | 0.9 | 0.7 | 0.6 | 0.5 | 0.5 | 0.5 | 0.6 | 0.5 | 0.4 | 0.5 | 0.4 | 0.4 | 0.5 | 0.5 | Diurnal Average | |
| | 0.9 | 0.8 | 0.7 | 0.8 | 0.9 | 13.5 | 0.9 | 0.8 | 1.0 | 6.6 | 9.3 | 3.3 | 1.7 | 1.0 | 1.1 | 1.3 | 1.3 | 1.0 | 0.7 | 0.8 | 0.8 | 0.7 | 0.8 | 1.4 | Diurnal Maximum | |

C - Calibration

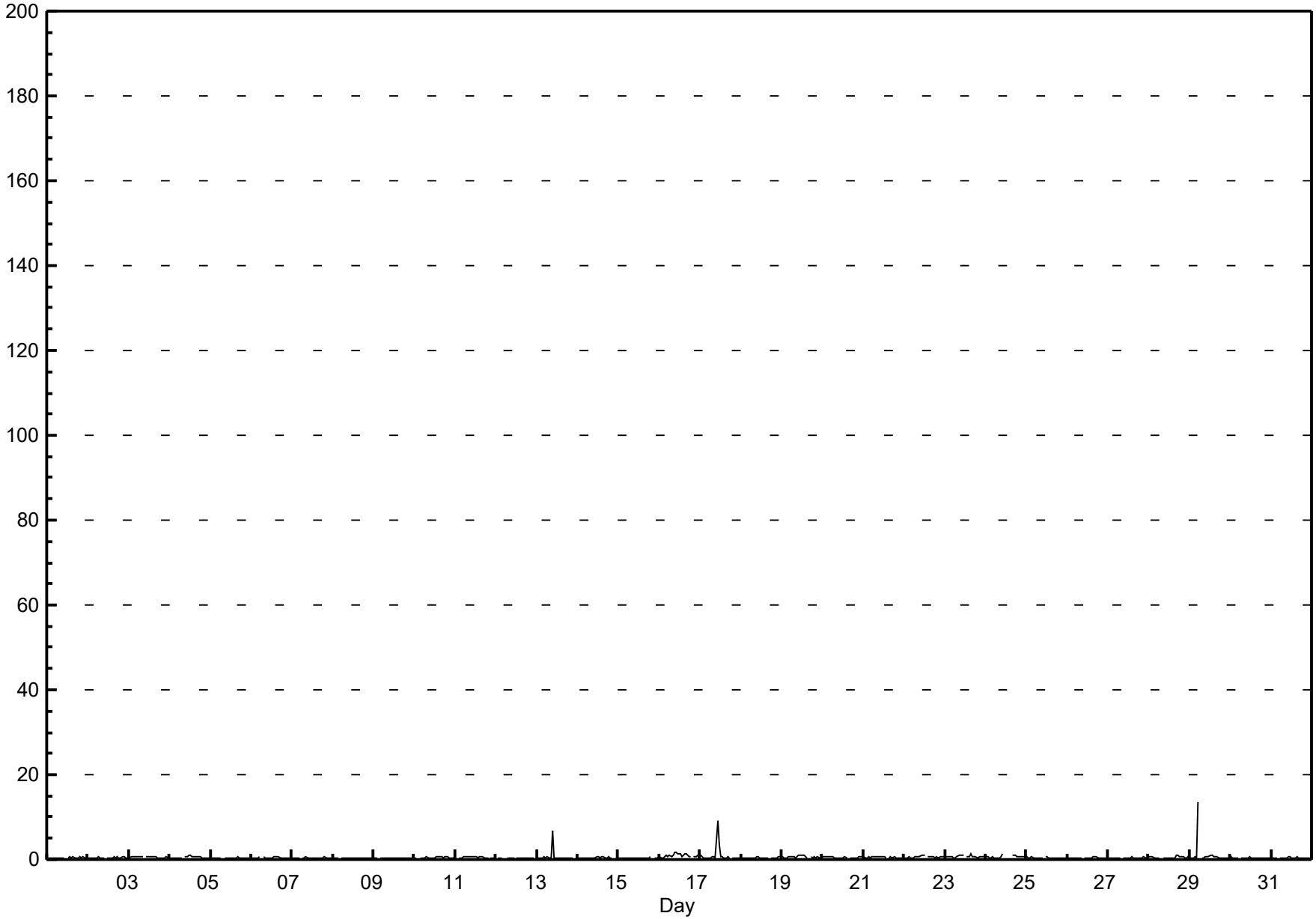
A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

**Sulphur Dioxide ($SO_2$) - ppb**

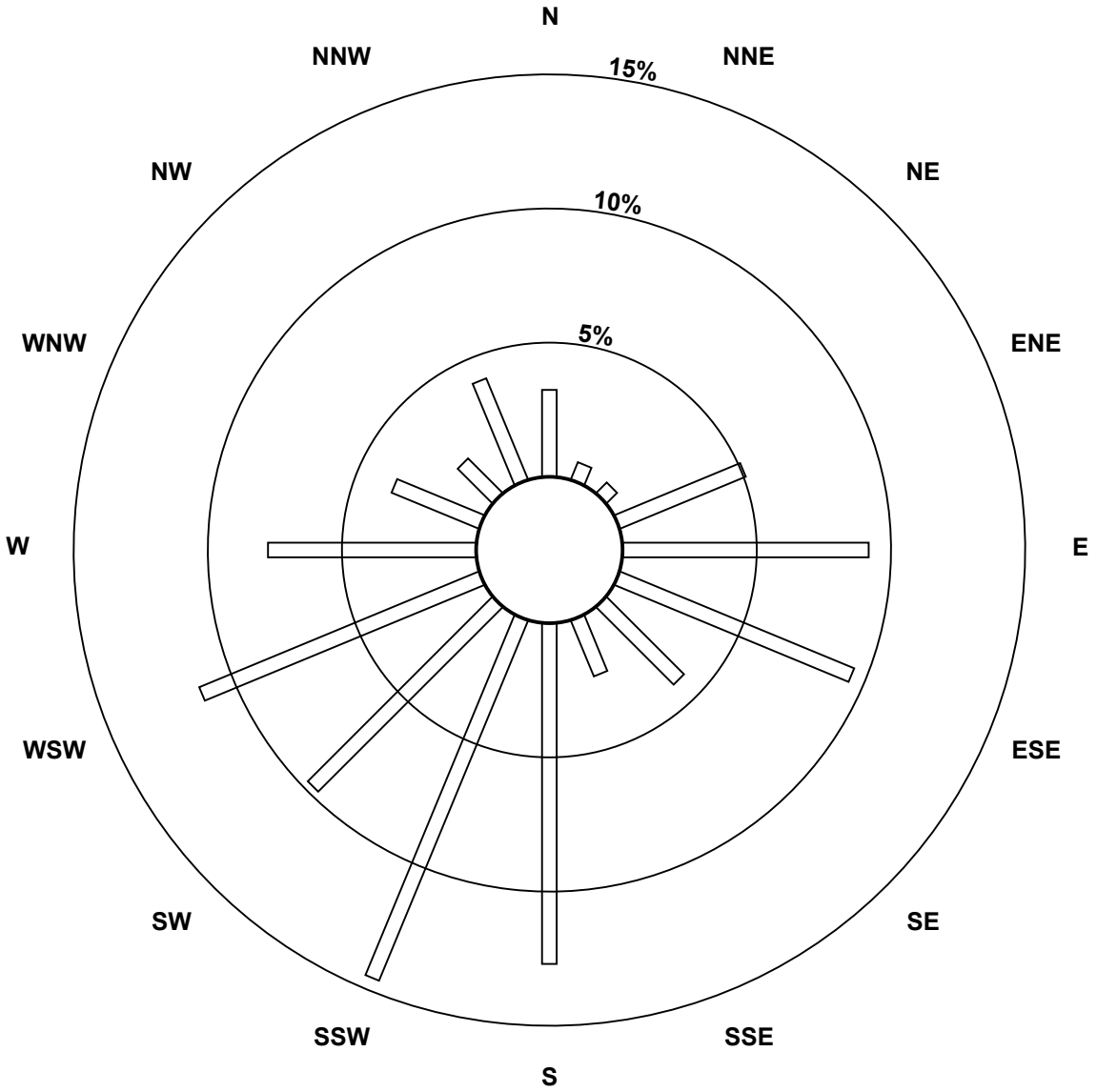
**Donnelly - October 2018**



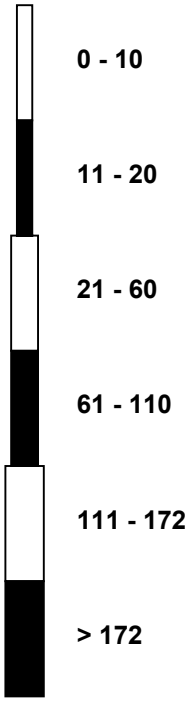
# Pollutant Rose

**Sulphur Dioxide ($SO_2$) - ppb**

**Donnelly - October 2018**




**Pollutant Classes (ppb)**



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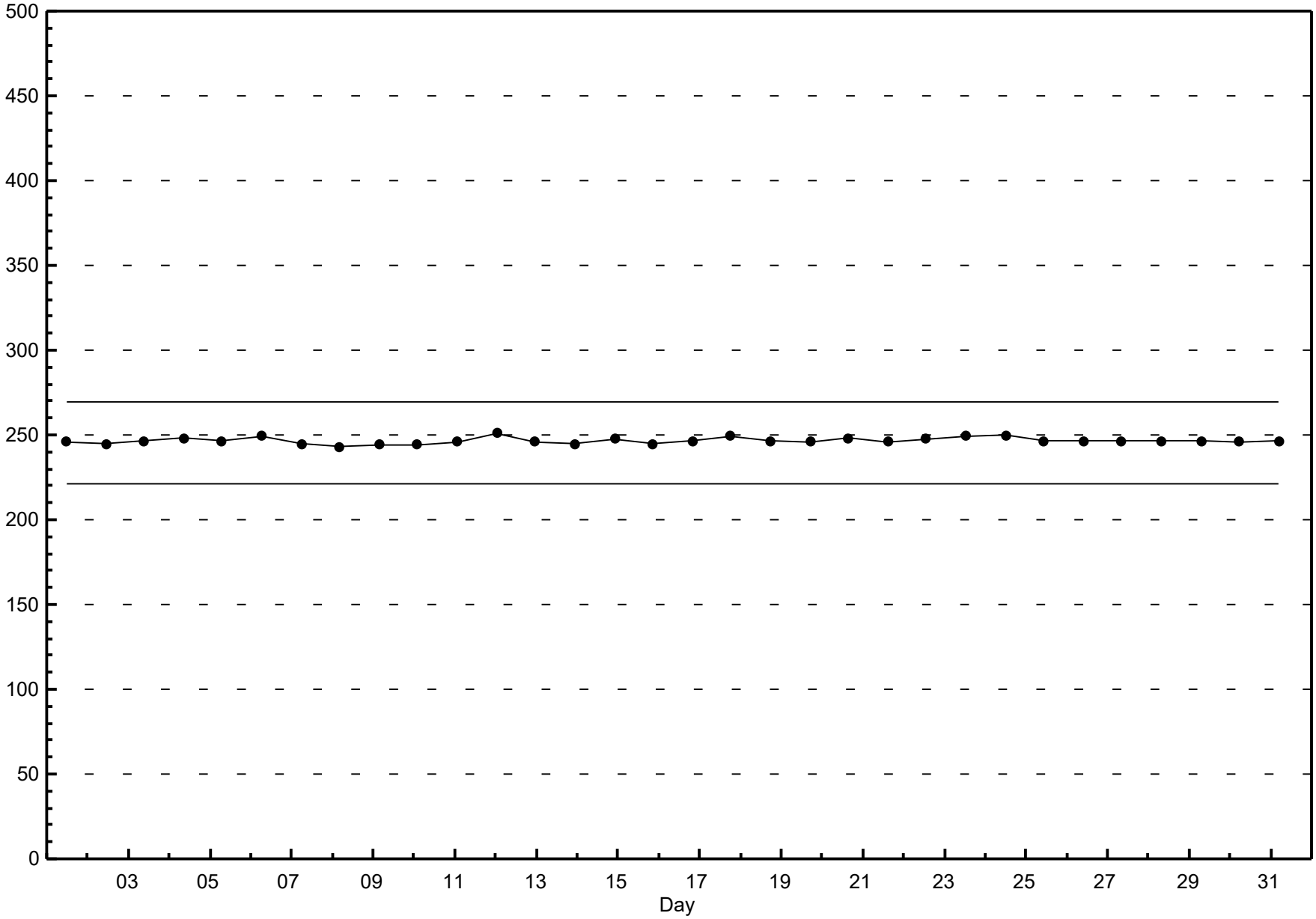
# Span Responses

**Sulphur Dioxide ($SO_2$)**

**Donnelly - October 2018**



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# Hourly Averages

## Hydrogen Sulphide ($H_2S$) - ppb

## Donnelly - October 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.9 ppb on Oct 12 06:00 Maximum Daily Average: 0.5 ppb on Oct 13

Minimum Value: 0 ppb on Oct 7 16:00 Minimum Daily Average: 0.0 ppb on Oct 8
Maximum Diurnal Average: 0.3 ppb at hour 19 Minimum Diurnal Average: 0.1 ppb at hour 14
Monthly Average: 0.18 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.1$ Median = 0.1 $Q_3 = 0.2$ $P_{90} = 0.3$ $P_{99} = 0.9$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 710 |
| Hours of Missing Data: | 34 |
| Hours of Calibration: | 34 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0.3 | 1.1 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.4 |
| 3-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 4-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 5-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 6-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 7-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.5 |
| 8-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 |
| 9-Oct | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 10-Oct | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 11-Oct | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 12-Oct | A | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | A | 0.3 | 1.9 |
| 13-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0.5 | 1.0 |
| 14-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | A | 0 | 0 | 0.2 | 0.6 |
| 15-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0.3 | 0.5 |
| 16-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 17-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.2 |
| 18-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 19-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.5 |
| 20-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.5 |
| 21-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.4 |
| 22-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.1 | 0.7 |
| 23-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0.1 | 1.1 |
| 24-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | C | C | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.8 |
| 25-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 26-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 27-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 28-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.3 | 0.8 |
| 29-Oct | 1 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0.3 | 1.1 |
| 30-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.5 |
| 31-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0.2 | 0.8 |
| | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | Diurnal Average | |
| | 0.8 | 0.6 | 0.6 | 0.6 | 1.0 | 1.9 | 0.8 | 1.0 | 0.9 | 0.6 | 0.5 | 0.3 | 0.5 | 0.4 | 0.4 | 0.5 | 0.5 | 0.4 | 1.1 | 0.9 | 0.9 | 1.0 | 1.1 | 0.7 | Diurnal Maximum | |

C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

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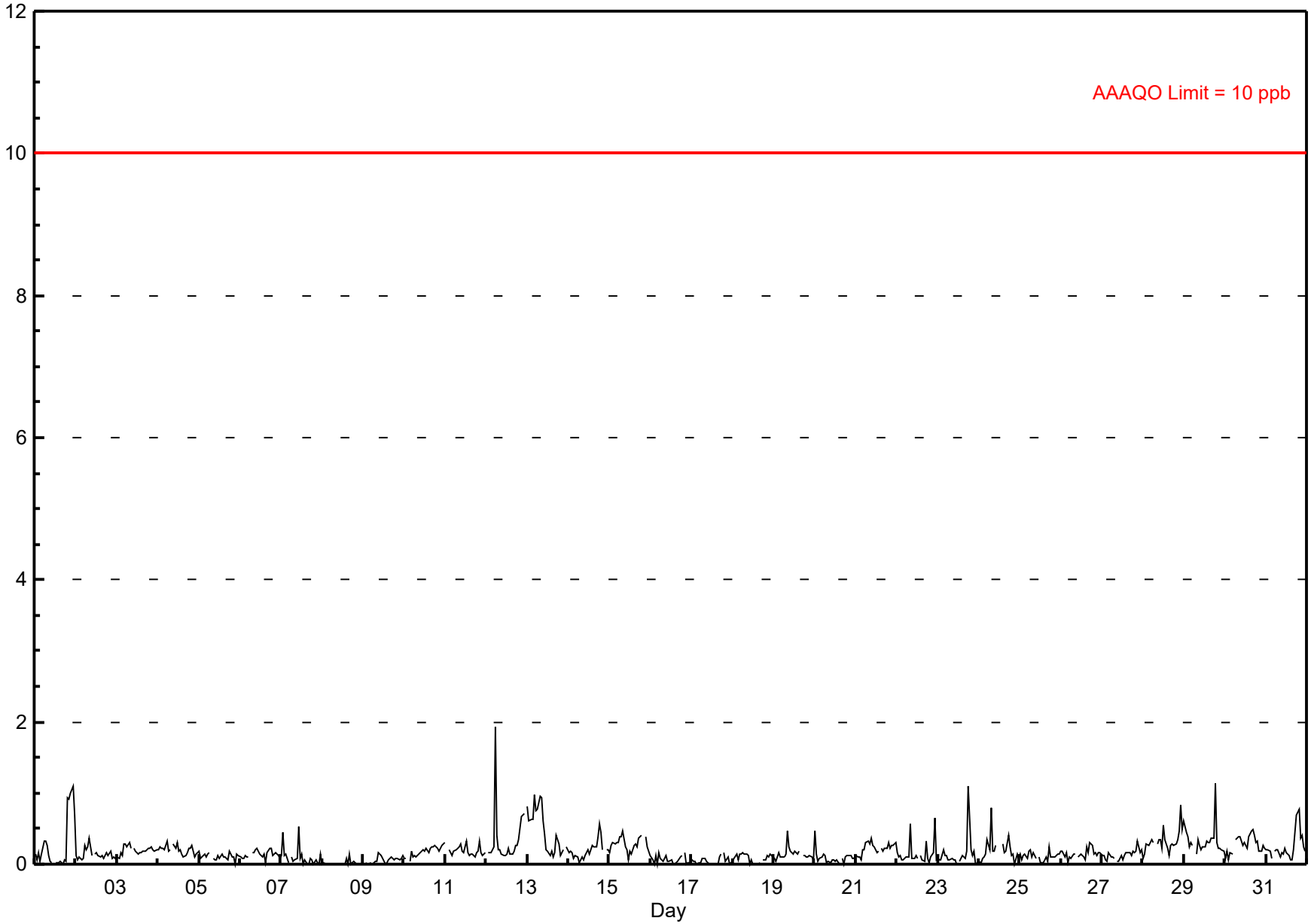
# Hourly Averages

## Hydrogen Sulphide ($H_2S$) - ppb

## Donnelly - October 2018



Peace Airshed Zone Association

# Hourly Maximums

## Hydrogen Sulphide ($H_2S$) - ppb

## Donnelly - October 2018

Maximum Value: 14.3 ppb on Oct 29 19:00

Maximum Daily Average: 1.5 ppb on Oct 29

Minimum Value: 0 ppb on Oct 7 17:00

Minimum Daily Average: 0.6 ppb on Oct 17

Maximum Diurnal Average: 1.6 ppb at hour 19

Minimum Diurnal Average: 0.7 ppb at hour 14

Monthly Average: 0.85 ppb

Percentiles: $P_1 = 0.4$ $P_{10} = 0.5$ $Q_1 = 0.6$ Median = 0.7 $Q_3 = 0.9$ $P_{90} = 1.0$ $P_{99} = 3.3$

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 710 |
| Hours of Missing Data: | 34 |
| Hours of Calibration: | 34 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 2 | 2 | 2 | 2 | 1 | 0.9 | 1.7 |
| 2-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 1.0 |
| 3-Oct | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.0 |
| 4-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.1 |
| 5-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 0.9 |
| 6-Oct | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 1.1 |
| 7-Oct | 1 | 2 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0.8 | 2.7 |
| 8-Oct | 0 | 1 | 1 | 1 | A | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.6 | 1.2 |
| 9-Oct | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.6 | 1.2 |
| 10-Oct | 0 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.0 |
| 11-Oct | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 2.2 |
| 12-Oct | A | 1 | 1 | 1 | 1 | 4 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | A | 1.0 | 4.1 |
| 13-Oct | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1.1 | 1.7 |
| 14-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 0.8 | 1.2 |
| 15-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 0.9 | 1.1 |
| 16-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | A | 1 | 0 | 1 | 0 | 0.6 | 0.9 |
| 17-Oct | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | A | 1 | 1 | 1 | 0 | 1 | 0.6 | 0.8 |
| 18-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | A | 0 | 1 | 1 | 1 | 1 | 1 | 0.7 | 1.0 |
| 19-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.2 | 9.4 |
| 20-Oct | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | A | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 2.1 |
| 21-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.1 |
| 22-Oct | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 2 | 1 | 0 | 1 | 1 | 5 | 1 | 1.0 | 4.9 |
| 23-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | A | 1 | 1 | 1 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | 1 | 1.1 | 10.9 |
| 24-Oct | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 14 | 1 | 1 | 1 | C | C | C | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.4 | 13.9 |
| 25-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0.7 | 1.0 |
| 26-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 0.9 |
| 27-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 0.9 |
| 28-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 1 | 1.1 | 3.1 |
| 29-Oct | 1 | 1 | 1 | 1 | 1 | 2 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 14 | 1 | 1 | 1 | 1 | 1 | 1.5 | 14.3 |
| 30-Oct | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.9 | 1.3 |
| 31-Oct | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 0.9 | 1.7 |
| | 0.8 | 0.8 | 0.7 | 0.7 | 0.8 | 0.9 | 0.8 | 1.2 | 1.2 | 0.9 | 0.8 | 0.7 | 0.8 | 0.7 | 0.7 | 0.7 | 0.7 | 0.8 | 1.6 | 0.8 | 0.8 | 0.8 | 1.0 | 0.7 | Diurnal Average | |
| | 2.1 | 2.0 | 1.2 | 1.5 | 1.6 | 4.1 | 1.8 | 13.9 | 9.4 | 3.4 | 2.7 | 1.1 | 2.6 | 1.3 | 1.2 | 1.2 | 1.3 | 2.1 | 14.3 | 1.7 | 1.6 | 1.9 | 4.9 | 1.3 | Diurnal Maximum | |

C - Calibration

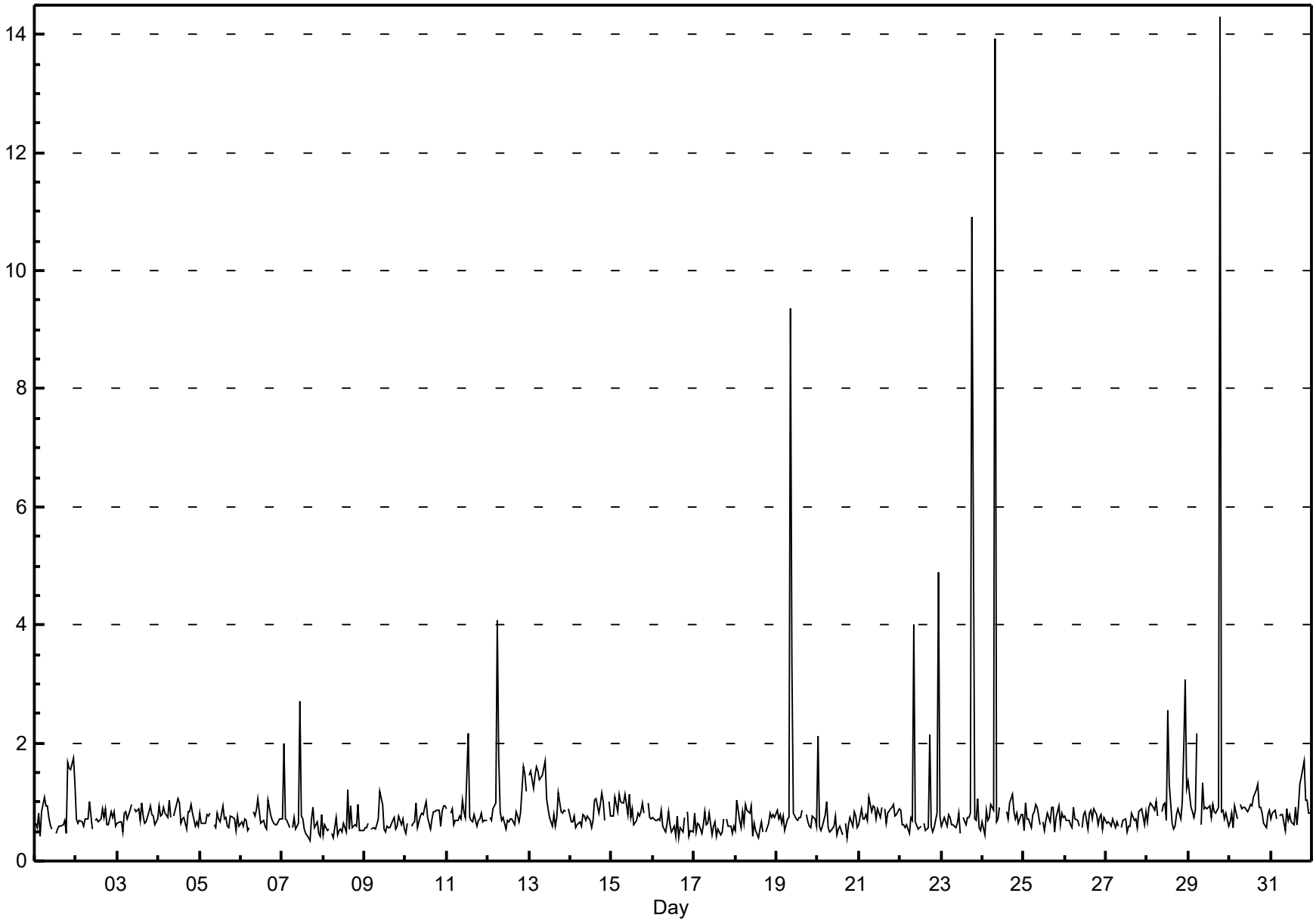
A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

## Hydrogen Sulphide ($H_2S$) - ppb

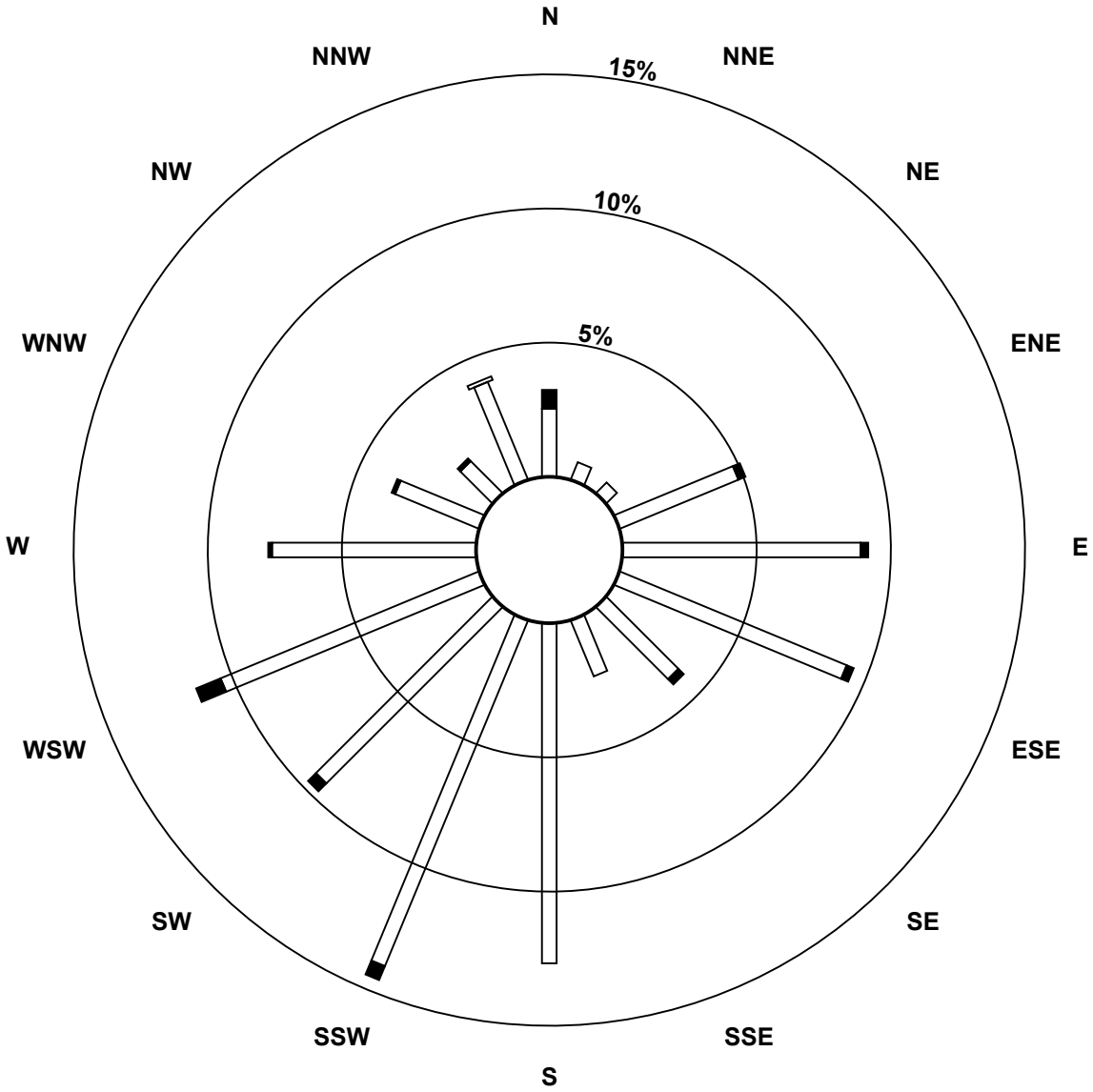
## Donnelly - October 2018



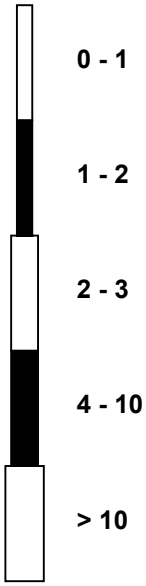
# Pollutant Rose

**Hydrogen Sulphide ($H_2S$) - ppb**

**Donnelly - October 2018**




**Pollutant Classes (ppb)**

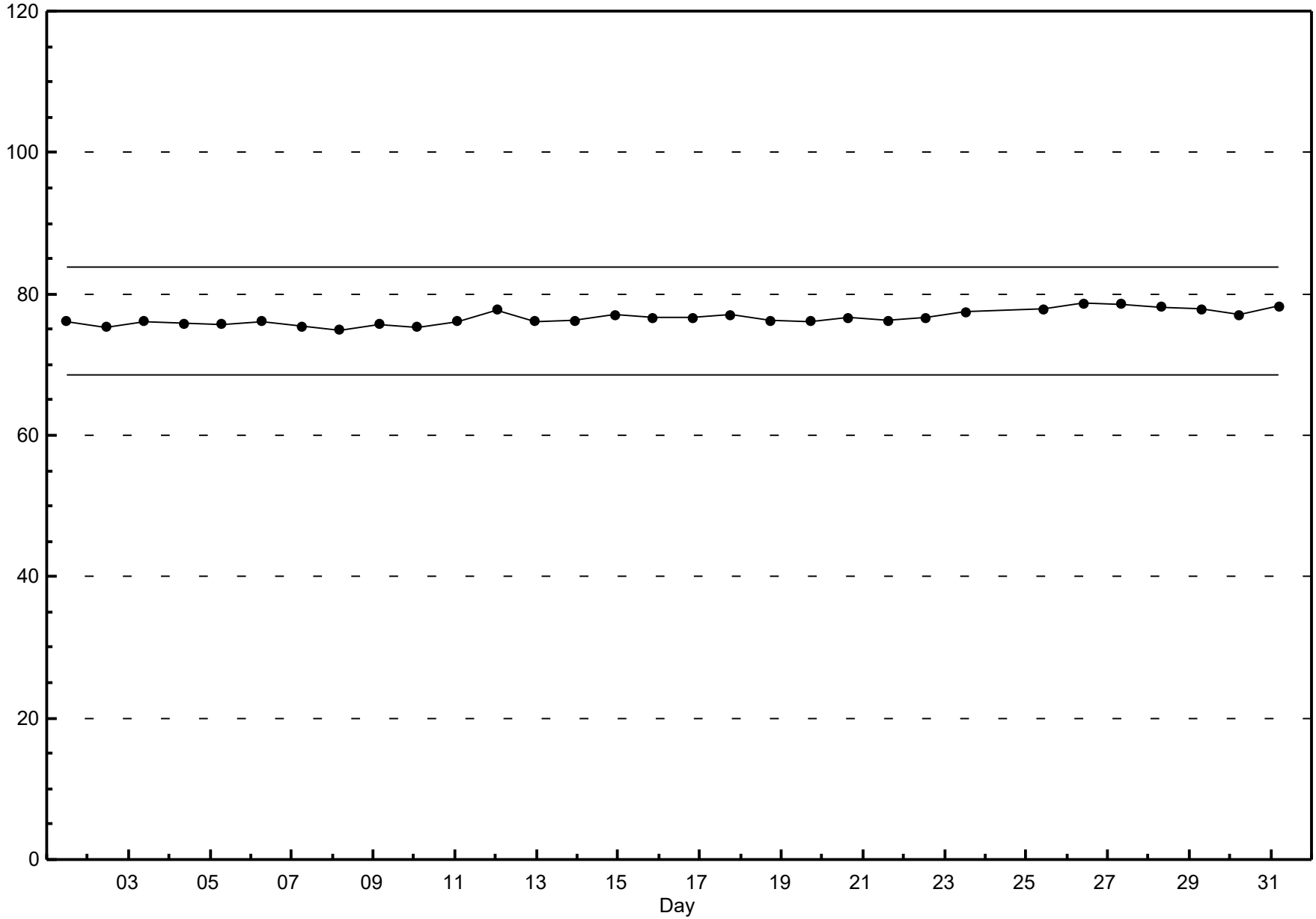


Peace Airshed Zone Association

# Span Responses

**Hydrogen Sulphide ($H_2S$)**

**Donnelly - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## External Temperature (ET) - °C

## Donnelly - October 2018

Maximum Value: 20.3 °C on Oct 17 14:00

Maximum Daily Average: 13.0 °C on Oct 17

Minimum Value: -7 °C on Oct 2 08:00

Minimum Daily Average: -2.1 °C on Oct 8

Maximum Diurnal Average: 8.0 °C at hour 16

Minimum Diurnal Average: 0.3 °C at hour 7

Monthly Average: 3.41 °C

Percentiles: $P_1$ = -5.0 $P_{10}$ = -2.5 $Q_1$ = -0.7 Median = 2.6 $Q_3$ = 6.8 $P_{90}$ = 10.7 $P_{99}$ = 17.2

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

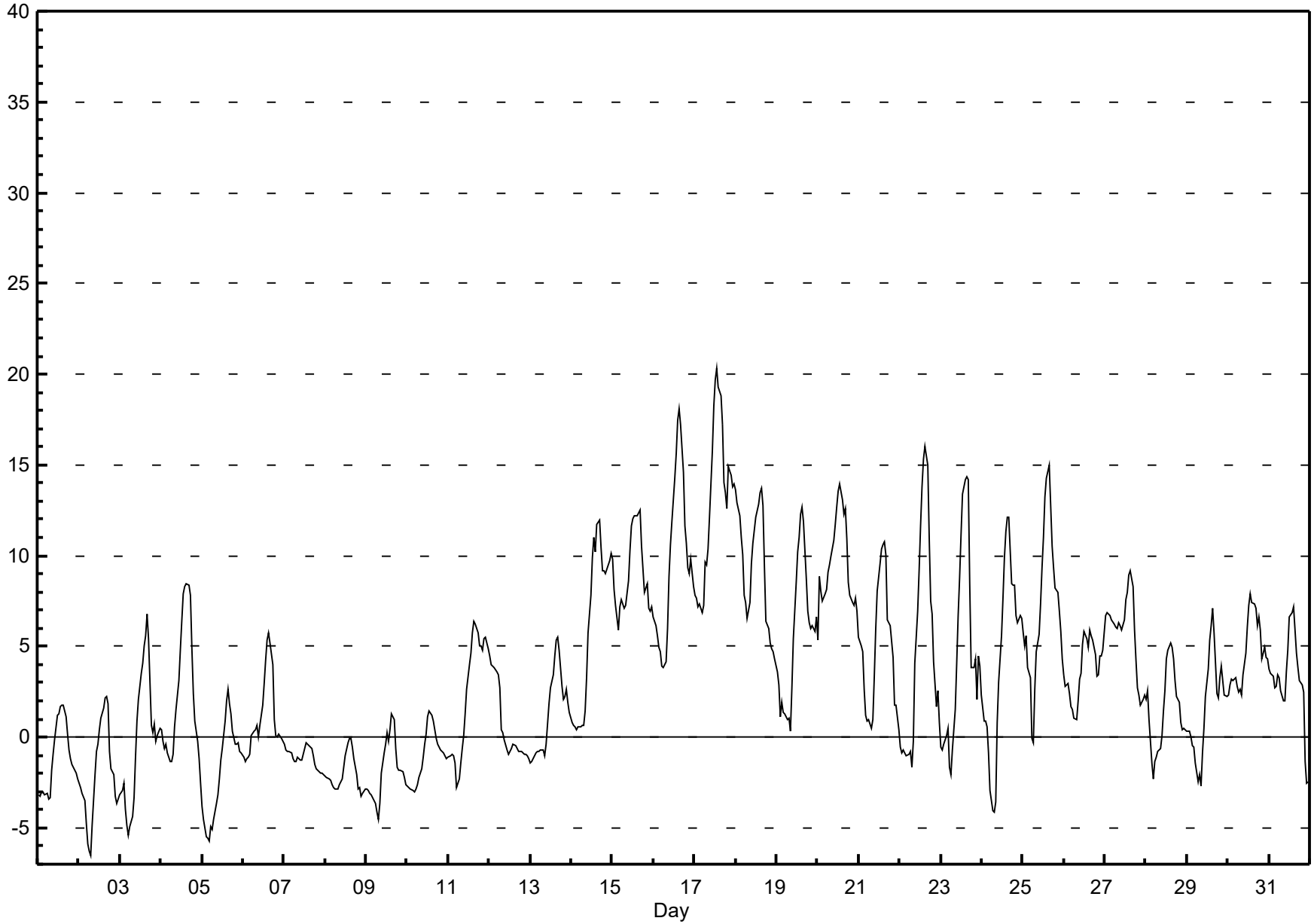
| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | -3 | -3 | -3 | -3 | -3 | -3 | -3 | -3 | -2 | -1 | 0 | 1 | 1 | 2 | 2 | 2 | 1 | 0 | -1 | -1 | -1 | -2 | -2 | -2 | -1.2 | 1.7 |
| 2-Oct | -3 | -3 | -3 | -3 | -5 | -6 | -6 | -7 | -5 | -2 | -1 | 0 | 0 | 1 | 2 | 2 | 2 | 2 | -1 | -2 | -2 | -3 | -4 | -3 | -2.0 | 2.2 |
| 3-Oct | -3 | -3 | -3 | -4 | -5 | -5 | -5 | -4 | -3 | -1 | 1 | 2 | 4 | 4 | 5 | 6 | 7 | 5 | 1 | 0 | 1 | 0 | 0 | 0 | 0.0 | 6.8 |
| 4-Oct | 0 | 0 | -1 | 0 | -1 | -1 | -1 | -1 | 1 | 2 | 3 | 5 | 6 | 8 | 8 | 8 | 8 | 8 | 5 | 2 | 1 | 0 | -1 | -3 | 2.3 | 8.4 |
| 5-Oct | -4 | -5 | -5 | -6 | -6 | -5 | -5 | -5 | -4 | -3 | -2 | -1 | -1 | 1 | 2 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | -1 | -1 | -1.8 | 2.7 |
| 6-Oct | -1 | -1 | -1 | -1 | -1 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 5 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 1.1 | 5.7 |
| 7-Oct | 0 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | 0 | -1 | -1 | -1 | -1 | -2 | -2 | -2 | -2 | -2 | -1.1 | -0.3 |
| 8-Oct | -2 | -2 | -2 | -2 | -3 | -3 | -3 | -3 | -3 | -2 | -2 | -2 | -1 | 0 | 0 | 0 | -1 | -1 | -2 | -3 | -3 | -3 | -3 | -3 | -2.1 | -0.1 |
| 9-Oct | -3 | -3 | -3 | -3 | -3 | -4 | -4 | -5 | -4 | -2 | -1 | 0 | 0 | 0 | 0 | 1 | 1 | -1 | -2 | -2 | -2 | -2 | -2 | -3 | -1.9 | 1.3 |
| 10-Oct | -3 | -3 | -3 | -3 | -3 | -3 | -3 | -2 | -2 | -1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | -1 | -1 | -1 | -1 | -1 | -1.0 | 1.5 |
| 11-Oct | -1 | -1 | -1 | -1 | -1 | -3 | -2 | -1 | -1 | 0 | 1 | 3 | 4 | 5 | 6 | 6 | 6 | 6 | 5 | 5 | 5 | 5 | 6 | 5 | 2.3 | 6.3 |
| 12-Oct | 5 | 4 | 4 | 4 | 4 | 3 | 3 | 0 | 0 | 0 | -1 | -1 | -1 | -1 | 0 | 0 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 0.6 | 4.5 |
| 13-Oct | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 0 | 1 | 2 | 3 | 3 | 4 | 5 | 6 | 5 | 3 | 2 | 2 | 3 | 2 | 1 | 1.4 | 5.5 |
| 14-Oct | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 3 | 6 | 8 | 10 | 11 | 10 | 12 | 12 | 10 | 9 | 9 | 9 | 9 | 10 | 10 | 6.0 | 11.9 |
| 15-Oct | 10 | 8 | 7 | 6 | 7 | 8 | 7 | 7 | 7 | 9 | 10 | 12 | 12 | 12 | 12 | 12 | 13 | 11 | 9 | 8 | 8 | 7 | 7 | 7 | 9.0 | 12.5 |
| 16-Oct | 7 | 6 | 6 | 5 | 5 | 4 | 4 | 4 | 6 | 9 | 11 | 12 | 14 | 16 | 17 | 18 | 17 | 15 | 12 | 11 | 9 | 9 | 10 | 8 | 9.7 | 18.1 |
| 17-Oct | 8 | 8 | 7 | 7 | 7 | 7 | 10 | 9 | 10 | 12 | 16 | 18 | 20 | 20 | 19 | 19 | 17 | 14 | 13 | 13 | 15 | 14 | 14 | 14 | 13.0 | 20.3 |
| 18-Oct | 14 | 13 | 12 | 11 | 10 | 8 | 7 | 7 | 7 | 10 | 11 | 11 | 12 | 13 | 14 | 14 | 13 | 9 | 6 | 6 | 5 | 5 | 5 | 4 | 9.4 | 13.7 |
| 19-Oct | 4 | 3 | 1 | 2 | 1 | 1 | 1 | 1 | 0 | 3 | 5 | 9 | 10 | 11 | 12 | 13 | 12 | 9 | 7 | 6 | 6 | 6 | 6 | 7 | 5.7 | 12.6 |
| 20-Oct | 5 | 9 | 8 | 8 | 8 | 8 | 9 | 10 | 10 | 11 | 12 | 13 | 14 | 14 | 13 | 12 | 13 | 11 | 9 | 8 | 7 | 7 | 8 | 7 | 9.6 | 13.9 |
| 21-Oct | 6 | 5 | 5 | 3 | 1 | 1 | 1 | 0 | 1 | 3 | 6 | 8 | 10 | 10 | 11 | 11 | 10 | 6 | 6 | 5 | 4 | 2 | 2 | 0 | 4.9 | 10.7 |
| 22-Oct | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -2 | 0 | 4 | 7 | 9 | 12 | 14 | 15 | 16 | 15 | 11 | 8 | 7 | 4 | 2 | 3 | 1 | 4.9 | 16.0 |
| 23-Oct | -1 | -1 | 0 | 0 | 1 | -2 | -2 | -1 | 2 | 4 | 7 | 9 | 11 | 13 | 14 | 14 | 14 | 8 | 4 | 4 | 4 | 2 | 4 | 4 | 4.8 | 14.3 |
| 24-Oct | 2 | 1 | 1 | 1 | -1 | -3 | -4 | -4 | -4 | 1 | 3 | 6 | 8 | 10 | 11 | 12 | 12 | 8 | 8 | 8 | 7 | 6 | 7 | 7 | 4.3 | 12.1 |
| 25-Oct | 6 | 5 | 6 | 4 | 3 | 0 | 0 | 3 | 5 | 6 | 7 | 9 | 11 | 13 | 14 | 15 | 13 | 11 | 9 | 8 | 8 | 7 | 6 | 4 | 7.2 | 15.0 |
| 26-Oct | 3 | 3 | 3 | 2 | 2 | 2 | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 5 | 5 | 6 | 6 | 5 | 5 | 3 | 3 | 4 | 4 | 5 | 3.7 | 5.9 |
| 27-Oct | 7 | 7 | 7 | 7 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 8 | 8 | 9 | 9 | 8 | 6 | 4 | 3 | 2 | 2 | 2 | 2 | 5.8 | 9.1 |
| 28-Oct | 2 | 3 | 1 | -1 | -2 | -1 | -1 | -1 | -1 | 0 | 1 | 3 | 4 | 5 | 5 | 5 | 4 | 3 | 2 | 2 | 1 | 0 | 1 | 0 | 1.5 | 5.2 |
| 29-Oct | 0 | 0 | 0 | 0 | -1 | -1 | -2 | -2 | -3 | -1 | 0 | 2 | 4 | 5 | 6 | 7 | 6 | 2 | 2 | 3 | 4 | 3 | 2 | 2 | 1.7 | 7.1 |
| 30-Oct | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 2 | 3 | 5 | 6 | 7 | 8 | 7 | 7 | 7 | 6 | 7 | 6 | 4 | 5 | 4 | 4 | 4.7 | 7.9 |
| 31-Oct | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 4 | 5 | 7 | 7 | 7 | 6 | 5 | 4 | 3 | 3 | 3 | -1 | -3 | -2 | 3.1 | 7.2 |
| | 1.9 | 1.7 | 1.5 | 1.1 | 0.8 | 0.4 | 0.3 | 0.4 | 1.0 | 2.4 | 3.8 | 5.1 | 6.4 | 7.2 | 7.7 | 8.0 | 7.5 | 5.7 | 4.2 | 3.6 | 3.3 | 2.7 | 2.6 | 2.3 | Diurnal Average | |
| | 13.6 | 12.9 | 12.2 | 11.0 | 10.0 | 8.1 | 9.6 | 9.5 | 10.4 | 12.1 | 15.8 | 18.2 | 19.7 | 20.3 | 19.3 | 18.8 | 17.3 | 14.6 | 13.4 | 12.6 | 14.9 | 14.4 | 13.8 | 13.9 | Diurnal Maximum | |

Peace Airshed Zone Association

## Hourly Averages

**External Temperature (ET) - $^{o}C$**

**Donnelly - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Wind Speed (km/h)
## Wind Direction (deg)
## Donnelly - October 2018

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Average | Maximum |
| 1 Spd | 5 | 3 | 2 | 2 | 2 | 1 | 2 | 2 | 4 | 5 | 7 | 9 | 10 | 12 | 14 | 14 | 17 | 19 | 16 | 14 | 13 | 13 | 14 | 12 | 7.3 | 19.2 |
| Dir | 47 | 58 | 108 | 51 | 70 | 259 | 281 | 213 | 241 | 267 | 261 | 301 | 344 | 345 | 352 | 347 | 356 | 358 | 0 | 2 | 4 | 1 | 4 | 3 | 353 | 358 |
| 2 Spd | 10 | 10 | 11 | 9 | 4 | 1 | 3 | 3 | 4 | 8 | 11 | 13 | 14 | 16 | 18 | 17 | 18 | 15 | 11 | 14 | 18 | 14 | 14 | 15 | 8.1 | 18.0 |
| Dir | 2 | 360 | 3 | 3 | 334 | 329 | 299 | 297 | 293 | 269 | 282 | 299 | 280 | 279 | 272 | 271 | 270 | 273 | 258 | 232 | 224 | 218 | 206 | 211 | 271 | 224 |
| 3 Spd | 12 | 10 | 11 | 7 | 8 | 7 | 5 | 5 | 4 | 2 | 3 | 2 | 1 | 3 | 2 | 4 | 2 | 2 | 4 | 5 | 8 | 10 | 10 | 12 | 2.7 | 11.8 |
| Dir | 212 | 212 | 229 | 230 | 211 | 224 | 225 | 225 | 249 | 235 | 173 | 236 | 286 | 345 | 296 | 207 | 219 | 58 | 93 | 101 | 101 | 101 | 103 | 102 | 183 | 212 |
| 4 Spd | 12 | 11 | 9 | 8 | 6 | 5 | 7 | 5 | 8 | 10 | 9 | 8 | 8 | 8 | 12 | 11 | 11 | 8 | 2 | 2 | 3 | 3 | 4 | 6 | 1.0 | 12.2 |
| Dir | 103 | 102 | 105 | 101 | 108 | 106 | 118 | 116 | 142 | 177 | 199 | 215 | 239 | 257 | 271 | 296 | 307 | 316 | 360 | 223 | 309 | 338 | 358 | 359 | 172 | 103 |
| 5 Spd | 5 | 5 | 4 | 5 | 4 | 3 | 3 | 4 | 6 | 6 | 3 | 3 | 7 | 6 | 3 | 4 | 5 | 4 | 4 | 4 | 4 | 8 | 9 | 10 | 2.9 | 9.9 |
| Dir | 345 | 345 | 293 | 322 | 319 | 334 | 306 | 349 | 31 | 15 | 17 | 345 | 340 | 335 | 317 | 333 | 334 | 340 | 14 | 61 | 97 | 102 | 98 | 99 | 10 | 99 |
| 6 Spd | 9 | 9 | 9 | 7 | 4 | 9 | 8 | 9 | 8 | 9 | 11 | 7 | 8 | 8 | 9 | 6 | 10 | 8 | 9 | 10 | 11 | 9 | 7 | 6 | 1.9 | 11.3 |
| Dir | 104 | 106 | 103 | 105 | 108 | 189 | 201 | 195 | 241 | 287 | 300 | 309 | 295 | 305 | 319 | 329 | 347 | 349 | 353 | 11 | 37 | 65 | 80 | 87 | 2 | 37 |
| 7 Spd | 9 | 10 | 8 | 6 | 10 | 11 | 12 | 10 | 11 | 14 | 13 | 14 | 15 | 13 | 15 | 15 | 18 | 17 | 14 | 14 | 13 | 10 | 14 | 12 | 12.4 | 18.3 |
| Dir | 74 | 76 | 79 | 82 | 71 | 69 | 68 | 74 | 76 | 67 | 71 | 67 | 65 | 66 | 64 | 60 | 58 | 58 | 58 | 62 | 63 | 67 | 64 | 69 | 66 | 58 |
| 8 Spd | 12 | 11 | 10 | 7 | 9 | 10 | 9 | 8 | 9 | 12 | 13 | 14 | 12 | 10 | 9 | 8 | 11 | 11 | 9 | 9 | 12 | 13 | 16 | 14 | 10.5 | 15.6 |
| Dir | 69 | 69 | 67 | 75 | 74 | 74 | 80 | 83 | 92 | 96 | 98 | 96 | 96 | 88 | 89 | 84 | 90 | 93 | 90 | 89 | 96 | 100 | 99 | 99 | 88 | 99 |
| 9 Spd | 11 | 9 | 8 | 9 | 9 | 9 | 10 | 10 | 11 | 9 | 8 | 9 | 9 | 10 | 9 | 9 | 10 | 10 | 9 | 10 | 10 | 9 | 9 | 9 | 9.3 | 11.1 |
| Dir | 100 | 94 | 91 | 95 | 98 | 98 | 98 | 99 | 100 | 97 | 89 | 89 | 86 | 91 | 95 | 99 | 102 | 99 | 95 | 101 | 103 | 106 | 105 | 103 | 97 | 100 |
| 10 Spd | 9 | 8 | 8 | 9 | 8 | 10 | 17 | 16 | 14 | 12 | 7 | 8 | 8 | 5 | 9 | 8 | 8 | 7 | 8 | 7 | 8 | 7 | 4 | 5 | 3.2 | 16.6 |
| Dir | 102 | 101 | 103 | 102 | 104 | 111 | 124 | 129 | 135 | 145 | 152 | 162 | 165 | 210 | 289 | 300 | 307 | 291 | 278 | 280 | 278 | 261 | 235 | 196 | 152 | 124 |
| 11 Spd | 6 | 5 | 6 | 8 | 5 | 7 | 9 | 11 | 10 | 14 | 14 | 13 | 14 | 13 | 13 | 12 | 13 | 10 | 10 | 7 | 7 | 11 | 11 | 8 | 8.4 | 14.4 |
| Dir | 191 | 206 | 198 | 205 | 165 | 123 | 131 | 142 | 142 | 168 | 168 | 172 | 181 | 191 | 235 | 224 | 216 | 200 | 211 | 230 | 211 | 232 | 231 | 219 | 192 | 168 |
| 12 Spd | 11 | 9 | 8 | 4 | 2 | 3 | 12 | 10 | 14 | 19 | 21 | 19 | 18 | 18 | 16 | 14 | 13 | 10 | 8 | 7 | 6 | 6 | 6 | 5 | 7.0 | 21.1 |
| Dir | 210 | 201 | 190 | 176 | 234 | 332 | 22 | 8 | 8 | 356 | 342 | 334 | 330 | 329 | 329 | 335 | 330 | 312 | 293 | 280 | 268 | 243 | 238 | 213 | 323 | 342 |
| 13 Spd | 6 | 6 | 5 | 4 | 4 | 6 | 9 | 5 | 5 | 4 | 4 | 5 | 7 | 8 | 10 | 11 | 12 | 7 | 8 | 10 | 13 | 14 | 14 | 14 | 6.5 | 14.5 |
| Dir | 204 | 197 | 230 | 235 | 245 | 233 | 249 | 250 | 244 | 206 | 280 | 257 | 249 | 266 | 256 | 251 | 257 | 221 | 179 | 176 | 176 | 172 | 180 | 182 | 218 | 182 |
| 14 Spd | 14 | 14 | 15 | 14 | 17 | 16 | 18 | 17 | 18 | 18 | 16 | 17 | 18 | 21 | 16 | 16 | 17 | 15 | 10 | 18 | 20 | 22 | 23 | 22 | 14.7 | 23.4 |
| Dir | 184 | 185 | 182 | 183 | 181 | 184 | 184 | 185 | 189 | 193 | 202 | 218 | 236 | 242 | 217 | 224 | 248 | 236 | 247 | 254 | 257 | 261 | 260 | 264 | 220 | 260 |
| 15 Spd | 19 | 14 | 13 | 10 | 16 | 15 | 12 | 12 | 11 | 11 | 12 | 9 | 11 | 11 | 7 | 5 | 4 | 9 | 7 | 5 | 4 | 6 | 7 | 8 | 8.8 | 19.0 |
| Dir | 268 | 263 | 271 | 252 | 249 | 244 | 233 | 226 | 215 | 215 | 228 | 254 | 282 | 285 | 283 | 274 | 231 | 251 | 269 | 202 | 241 | 197 | 186 | 188 | 246 | 268 |
| 16 Spd | 9 | 11 | 9 | 10 | 10 | 14 | 15 | 14 | 14 | 11 | 13 | 9 | 13 | 12 | 13 | 13 | 9 | 6 | 12 | 7 | 11 | 15 | 15 | 15 | 10.9 | 15.4 |
| Dir | 182 | 184 | 197 | 192 | 198 | 209 | 203 | 201 | 207 | 228 | 237 | 227 | 230 | 236 | 237 | 235 | 216 | 240 | 261 | 224 | 194 | 190 | 188 | 183 | 211 | 190 |
| 17 Spd | 15 | 14 | 13 | 11 | 12 | 11 | 15 | 18 | 20 | 18 | 21 | 19 | 24 | 25 | 26 | 28 | 19 | 15 | 15 | 19 | 23 | 21 | 23 | 25 | 16.9 | 28.2 |
| Dir | 194 | 197 | 194 | 195 | 203 | 193 | 193 | 189 | 189 | 183 | 207 | 229 | 237 | 246 | 243 | 244 | 235 | 211 | 207 | 214 | 242 | 251 | 261 | 260 | 222 | 244 |
| 18 Spd | 22 | 17 | 14 | 11 | 12 | 12 | 16 | 14 | 17 | 21 | 24 | 26 | 23 | 22 | 25 | 24 | 17 | 12 | 12 | 12 | 2 | 7 | 8 | 7 | 14.8 | 26.1 |
| Dir | 268 | 271 | 257 | 246 | 249 | 256 | 257 | 253 | 255 | 267 | 281 | 287 | 291 | 287 | 277 | 272 | 279 | 267 | 253 | 253 | 299 | 213 | 204 | 208 | 267 | 287 |
| 19 Spd | 10 | 14 | 9 | 9 | 8 | 8 | 7 | 8 | 5 | 9 | 2 | 3 | 7 | 9 | 11 | 13 | 10 | 6 | 9 | 12 | 12 | 9 | 9 | 9 | 6.6 | 13.9 |
| Dir | 188 | 189 | 197 | 198 | 198 | 202 | 207 | 207 | 197 | 201 | 214 | 117 | 178 | 147 | 131 | 133 | 123 | 107 | 105 | 103 | 107 | 111 | 116 | 129 | 155 | 189 |
| 20 Spd | 5 | 15 | 17 | 13 | 14 | 16 | 24 | 26 | 29 | 34 | 36 | 40 | 41 | 44 | 41 | 31 | 30 | 23 | 17 | 20 | 20 | 20 | 25 | 22 | 23.0 | 44.3 |
| Dir | 107 | 175 | 186 | 198 | 208 | 227 | 239 | 240 | 242 | 249 | 249 | 255 | 256 | 264 | 264 | 273 | 275 | 267 | 254 | 249 | 240 | 237 | 238 | 239 | 247 | 264 |
| 21 Spd | 18 | 17 | 18 | 13 | 12 | 8 | 7 | 7 | 8 | 7 | 11 | 13 | 13 | 12 | 14 | 14 | 10 | 6 | 10 | 8 | 8 | 5 | 9 | 4 | 8.2 | 18.0 |
| Dir | 234 | 244 | 237 | 222 | 215 | 225 | 247 | 214 | 202 | 225 | 266 | 271 | 276 | 288 | 272 | 250 | 255 | 193 | 189 | 189 | 152 | 128 | 126 | 137 | 233 | 234 |
| 22 Spd | 5 | 5 | 5 | 6 | 7 | 6 | 6 | 4 | 5 | 5 | 10 | 12 | 12 | 10 | 11 | 8 | 6 | 7 | 6 | 7 | 6 | 9 | 7 | 5 | 6.7 | 12.5 |
| Dir | 126 | 105 | 96 | 95 | 106 | 108 | 110 | 105 | 114 | 113 | 129 | 135 | 139 | 130 | 129 | 115 | 97 | 105 | 105 | 112 | 91 | 75 | 89 | 90 | 112 | 135 |

Peace Airshed Zone Association

# Hourly Averages

## Wind Speed (km/h)
## Wind Direction (deg)
## Donnelly - October 2018

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 Spd | 4 | 5 | 5 | 5 | 5 | 7 | 5 | 10 | 11 | 10 | 8 | 6 | 4 | 2 | 5 | 6 | 4 | 4 | 4 | 5 | 3 | 2 | 5 | 8 | 5.1 | 11.4 |
| Dir | 92 | 81 | 79 | 106 | 103 | 79 | 105 | 127 | 127 | 129 | 164 | 171 | 105 | 118 | 134 | 124 | 104 | 94 | 106 | 117 | 103 | 64 | 102 | 114 | 115 | 127 |
| 24 Spd | 6 | 6 | 5 | 4 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 7 | 8 | 7 | 7 | 3 | 4 | 10 | 11 | 14 | 11 | 10 | 10 | 4.2 | 13.7 |
| Dir | 120 | 95 | 103 | 106 | 240 | 7 | 54 | 126 | 215 | 175 | 245 | 269 | 232 | 224 | 229 | 244 | 240 | 187 | 190 | 200 | 190 | 195 | 198 | 195 | 195 | 190 |
| 25 Spd | 10 | 8 | 7 | 6 | 5 | 1 | 4 | 8 | 10 | 10 | 7 | 5 | 8 | 10 | 11 | 8 | 7 | 13 | 34 | 24 | 14 | 15 | 16 | 15 | 10.2 | 33.7 |
| Dir | 191 | 200 | 190 | 188 | 181 | 138 | 123 | 179 | 167 | 180 | 173 | 173 | 177 | 180 | 181 | 173 | 178 | 211 | 214 | 190 | 197 | 187 | 191 | 207 | 190 | 214 |
| 26 Spd | 16 | 17 | 17 | 16 | 13 | 18 | 15 | 11 | 11 | 14 | 11 | 11 | 5 | 8 | 10 | 4 | 6 | 6 | 10 | 10 | 13 | 14 | 16 | 17 | 11.5 | 17.9 |
| Dir | 209 | 206 | 206 | 210 | 201 | 197 | 198 | 200 | 179 | 174 | 175 | 180 | 145 | 167 | 181 | 106 | 139 | 152 | 173 | 175 | 176 | 174 | 184 | 201 | 187 | 197 |
| 27 Spd | 24 | 25 | 26 | 27 | 27 | 25 | 27 | 26 | 29 | 37 | 37 | 34 | 33 | 29 | 27 | 23 | 17 | 14 | 11 | 12 | 12 | 10 | 12 | 11 | 21.4 | 36.8 |
| Dir | 232 | 234 | 240 | 242 | 241 | 241 | 244 | 248 | 254 | 269 | 269 | 265 | 272 | 272 | 270 | 272 | 260 | 242 | 234 | 210 | 197 | 193 | 186 | 186 | 249 | 269 |
| 28 Spd | 12 | 9 | 6 | 3 | 6 | 8 | 9 | 9 | 9 | 9 | 10 | 10 | 10 | 7 | 8 | 8 | 8 | 11 | 13 | 11 | 7 | 2 | 0 | 2 | 3.8 | 12.9 |
| Dir | 178 | 168 | 149 | 95 | 70 | 102 | 102 | 97 | 98 | 96 | 94 | 83 | 83 | 84 | 103 | 104 | 137 | 214 | 258 | 274 | 278 | 244 | 56 | 203 | 124 | 258 |
| 29 Spd | 5 | 8 | 10 | 8 | 6 | 6 | 10 | 10 | 3 | 3 | 7 | 6 | 8 | 7 | 9 | 6 | 4 | 4 | 5 | 5 | 11 | 12 | 12 | 12 | 7.1 | 12.5 |
| Dir | 196 | 199 | 207 | 204 | 186 | 205 | 197 | 196 | 156 | 175 | 207 | 208 | 219 | 210 | 204 | 208 | 190 | 119 | 130 | 157 | 180 | 185 | 189 | 185 | 193 | 185 |
| 30 Spd | 12 | 10 | 8 | 14 | 16 | 12 | 9 | 10 | 9 | 12 | 12 | 14 | 15 | 14 | 9 | 5 | 6 | 10 | 14 | 16 | 15 | 15 | 12 | 13 | 11.1 | 16.3 |
| Dir | 182 | 181 | 195 | 202 | 198 | 208 | 210 | 214 | 196 | 209 | 208 | 224 | 239 | 255 | 236 | 222 | 202 | 192 | 216 | 231 | 226 | 226 | 207 | 211 | 214 | 231 |
| 31 Spd | 13 | 14 | 14 | 13 | 12 | 10 | 10 | 12 | 12 | 12 | 13 | 13 | 12 | 10 | 10 | 15 | 9 | 6 | 6 | 6 | 8 | 12 | 16 | 16 | 6.5 | 16.3 |
| Dir | 189 | 191 | 191 | 186 | 188 | 194 | 184 | 182 | 181 | 180 | 181 | 186 | 193 | 230 | 237 | 224 | 238 | 276 | 314 | 296 | 288 | 340 | 348 | 351 | 213 | 351 |
| Spd | 5.2 | 5.4 | 5.3 | 4.9 | 5.0 | 4.8 | 5.0 | 5.7 | 5.4 | 5.5 | 5.8 | 5.6 | 6.1 | 6.7 | 6.7 | 5.7 | 4.2 | 3.3 | 4.1 | 4.3 | 4.3 | 4.5 | 4.6 | 4.9 | Diurnal Average | |
| Dir | 190 | 189 | 194 | 192 | 193 | 195 | 195 | 192 | 192 | 208 | 227 | 239 | 248 | 258 | 254 | 255 | 260 | 244 | 228 | 211 | 203 | 196 | 189 | 193 | | |
| Spd | 23.7 | 25.2 | 26.1 | 27.2 | 27.0 | 24.9 | 27.4 | 26.2 | 29.3 | 36.8 | 36.7 | 40.1 | 40.7 | 44.3 | 41.3 | 31.0 | 29.6 | 23.5 | 33.7 | 23.5 | 22.7 | 22.4 | 25.4 | 24.9 | Diurnal Maximum | |
| Dir | 232 | 234 | 240 | 242 | 241 | 241 | 244 | 248 | 242 | 269 | 269 | 255 | 256 | 264 | 264 | 273 | 275 | 267 | 214 | 190 | 242 | 261 | 238 | 260 | | |

Maximum Speed Value: 44 km/h on Oct 20 14:00
Maximum Daily Speed Average: 23.0 km/h on Oct 20
Maximum Diurnal Speed Average: 6.7 km/h at hour 15

Minimum Speed Value: 0 km/h on Oct 28 23:00
Minimum Daily Speed Average: 1.0 km/h on Oct 5
Minimum Diurnal Speed Average: 3.3 km/h at hour 18

Monthly Average Velocity: 4.60 km/h 214.9 deg

Speed Percentiles: $P_1$ = 1.7 $P_{10}$ = 4.1 $Q_1$ = 6.8 Median = 9.8 $Q_3$ = 13.6 $P_{90}$ = 18.0 $P_{99}$ = 34.1

All monthly, daily, and diurnal averages have been calculated using vector methods

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Percent Operational Time: | 100.0 |

Frequency Distribution

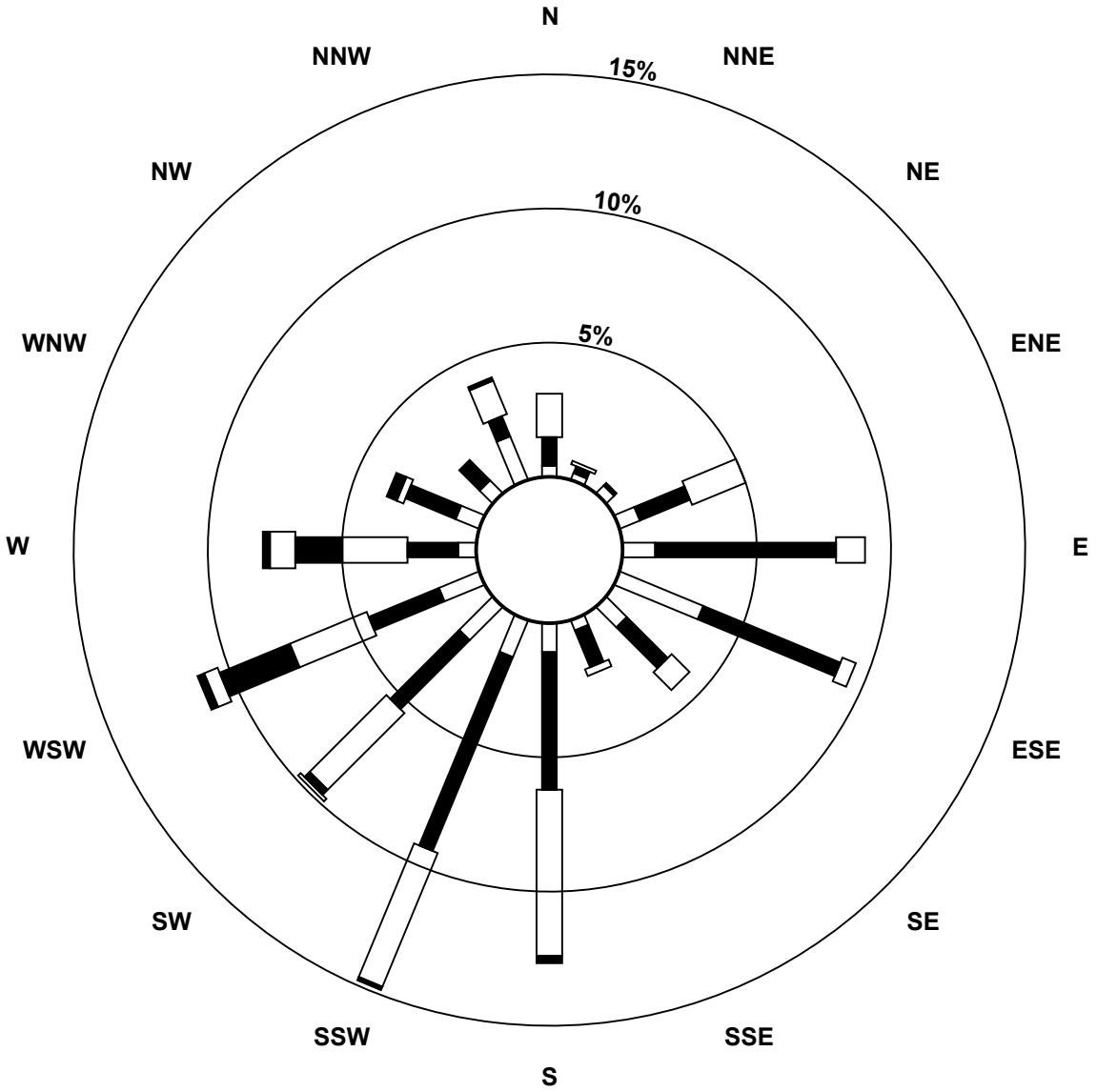
| Direction | Speed Range (km/h) 0 to 5 | 5 to 11 | 11 to 19 | 19 to 28 | 28 to 38 | > 38 | Total |
|---|---|---|---|---|---|---|---|
| North | 11 | 14 | 16 | 2 | 0 | 0 | 43 |
| NorthEast | 7 | 5 | 13 | 0 | 0 | 0 | 25 |
| East | 19 | 101 | 20 | 0 | 0 | 0 | 140 |
| SouthEast | 13 | 32 | 8 | 0 | 0 | 0 | 53 |
| South | 8 | 79 | 72 | 2 | 0 | 0 | 161 |
| SouthWest | 24 | 60 | 62 | 21 | 3 | 0 | 170 |
| West | 9 | 27 | 41 | 20 | 10 | 4 | 111 |
| NorthWest | 17 | 17 | 6 | 1 | 0 | 0 | 41 |
| Total | 108 | 335 | 238 | 46 | 13 | 4 | 744 |

Peace Airshed Zone Association

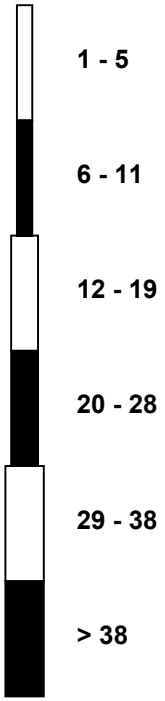
# Wind Rose

**Wind Speed (WS) (km/h)**

**Donnelly - October 2018**




**Wind Speed Classes (km/h)**



Peace Airshed Zone Association

# Hourly Averages - Wind Speed (Scalar)

**Wind Speed (km/h)**

## Donnelly - October 2018

Maximum Speed: 45 km/h on Oct 20 14:00

Maximum Daily Speed Average: 25.3 km/h on Oct 20

Minimum Speed: 1 km/h on Oct 28 23:00

Minimum Daily Speed Average: 5.3 km/h on Oct 5

Maximum Diurnal Speed Average: 13.3 km/h at hour 15

Minimum Diurnal Speed Average: 9.0 km/h at hour 5

Monthly Average Speed: 11.06 km/h

Percentiles: $P_1 = 2.2$ $P_{10} = 4.5$ $Q_1 = 6.9$ Median = 9.9 $Q_3 = 13.7$ $P_{90} = 18.1$ $P_{99} = 34.2$

Hours in Service: 744

Hours of Data: 744

Hours of Missing Data: 0

Percent Operational Time: 100.0

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 5 | 3 | 3 | 2 | 2 | 1 | 2 | 2 | 5 | 5 | 7 | 10 | 10 | 12 | 14 | 15 | 17 | 19 | 16 | 14 | 13 | 13 | 14 | 12 | 9.1 | 19.2 |
| 2-Oct | 10 | 10 | 11 | 9 | 4 | 1 | 4 | 3 | 4 | 8 | 12 | 14 | 15 | 17 | 18 | 17 | 18 | 15 | 11 | 14 | 18 | 14 | 14 | 15 | 11.6 | 18.1 |
| 3-Oct | 12 | 10 | 11 | 7 | 8 | 7 | 5 | 5 | 5 | 2 | 3 | 4 | 4 | 4 | 5 | 5 | 3 | 3 | 4 | 5 | 8 | 11 | 10 | 12 | 6.4 | 11.8 |
| 4-Oct | 12 | 11 | 9 | 8 | 6 | 5 | 7 | 5 | 8 | 10 | 9 | 9 | 8 | 8 | 12 | 11 | 11 | 8 | 2 | 3 | 4 | 4 | 4 | 6 | 7.6 | 12.4 |
| 5-Oct | 5 | 5 | 4 | 5 | 4 | 4 | 3 | 4 | 6 | 6 | 4 | 4 | 7 | 6 | 5 | 4 | 5 | 4 | 4 | 4 | 4 | 8 | 9 | 10 | 5.3 | 10.0 |
| 6-Oct | 9 | 9 | 9 | 7 | 4 | 9 | 8 | 9 | 10 | 9 | 11 | 8 | 9 | 9 | 10 | 7 | 10 | 8 | 9 | 10 | 11 | 9 | 7 | 6 | 8.6 | 11.5 |
| 7-Oct | 9 | 10 | 8 | 6 | 10 | 11 | 12 | 10 | 11 | 14 | 13 | 14 | 15 | 13 | 16 | 15 | 18 | 17 | 14 | 14 | 13 | 10 | 14 | 12 | 12.5 | 18.4 |
| 8-Oct | 12 | 11 | 10 | 7 | 9 | 10 | 9 | 8 | 9 | 12 | 13 | 14 | 12 | 10 | 9 | 8 | 11 | 11 | 9 | 10 | 12 | 13 | 16 | 14 | 10.7 | 15.6 |
| 9-Oct | 11 | 9 | 8 | 9 | 9 | 9 | 10 | 10 | 11 | 9 | 8 | 9 | 9 | 10 | 9 | 9 | 10 | 10 | 9 | 10 | 10 | 9 | 9 | 9 | 9.5 | 11.1 |
| 10-Oct | 9 | 8 | 8 | 9 | 9 | 10 | 17 | 16 | 14 | 12 | 7 | 8 | 9 | 7 | 10 | 8 | 8 | 7 | 8 | 7 | 8 | 7 | 4 | 5 | 9.0 | 16.7 |
| 11-Oct | 6 | 5 | 6 | 8 | 6 | 7 | 9 | 11 | 10 | 14 | 14 | 13 | 14 | 14 | 13 | 12 | 13 | 10 | 10 | 7 | 7 | 11 | 11 | 9 | 10.0 | 14.5 |
| 12-Oct | 11 | 9 | 8 | 4 | 2 | 3 | 12 | 10 | 15 | 19 | 21 | 19 | 18 | 18 | 16 | 14 | 13 | 10 | 8 | 7 | 6 | 6 | 6 | 6 | 10.9 | 21.2 |
| 13-Oct | 6 | 6 | 6 | 4 | 4 | 6 | 9 | 5 | 5 | 4 | 4 | 5 | 7 | 9 | 10 | 11 | 12 | 7 | 8 | 10 | 13 | 14 | 14 | 14 | 8.1 | 14.5 |
| 14-Oct | 14 | 14 | 15 | 14 | 17 | 16 | 18 | 17 | 18 | 18 | 17 | 17 | 18 | 21 | 16 | 16 | 17 | 15 | 10 | 18 | 20 | 22 | 23 | 22 | 17.3 | 23.4 |
| 15-Oct | 19 | 14 | 13 | 10 | 16 | 15 | 12 | 12 | 11 | 11 | 12 | 10 | 11 | 12 | 7 | 5 | 4 | 9 | 8 | 5 | 4 | 6 | 7 | 8 | 10.1 | 19.0 |
| 16-Oct | 9 | 11 | 9 | 10 | 10 | 14 | 15 | 14 | 14 | 11 | 13 | 10 | 13 | 12 | 13 | 13 | 9 | 7 | 12 | 8 | 11 | 15 | 15 | 15 | 11.8 | 15.4 |
| 17-Oct | 15 | 14 | 13 | 11 | 12 | 11 | 15 | 18 | 20 | 18 | 21 | 19 | 24 | 26 | 27 | 28 | 20 | 15 | 15 | 19 | 23 | 21 | 23 | 25 | 18.8 | 28.2 |
| 18-Oct | 22 | 17 | 14 | 11 | 12 | 12 | 16 | 14 | 17 | 22 | 24 | 26 | 23 | 22 | 25 | 25 | 17 | 12 | 12 | 12 | 6 | 8 | 8 | 7 | 16.0 | 26.3 |
| 19-Oct | 10 | 14 | 9 | 9 | 8 | 8 | 7 | 8 | 5 | 9 | 2 | 4 | 8 | 11 | 11 | 13 | 10 | 6 | 9 | 12 | 12 | 9 | 9 | 9 | 8.9 | 13.9 |
| 20-Oct | 7 | 15 | 17 | 13 | 14 | 16 | 24 | 26 | 29 | 34 | 36 | 40 | 41 | 45 | 42 | 31 | 30 | 24 | 17 | 20 | 20 | 20 | 25 | 22 | 25.3 | 44.6 |
| 21-Oct | 18 | 17 | 18 | 13 | 12 | 9 | 7 | 7 | 8 | 8 | 11 | 13 | 14 | 13 | 14 | 15 | 10 | 7 | 10 | 9 | 8 | 5 | 9 | 5 | 10.7 | 18.1 |
| 22-Oct | 5 | 5 | 5 | 7 | 7 | 6 | 6 | 4 | 5 | 5 | 10 | 13 | 12 | 10 | 11 | 8 | 6 | 7 | 6 | 7 | 6 | 9 | 7 | 6 | 7.2 | 12.5 |
| 23-Oct | 5 | 5 | 5 | 5 | 5 | 7 | 5 | 10 | 11 | 10 | 9 | 7 | 5 | 3 | 5 | 6 | 4 | 4 | 4 | 5 | 4 | 3 | 5 | 8 | 5.9 | 11.5 |
| 24-Oct | 6 | 6 | 5 | 4 | 6 | 2 | 2 | 3 | 3 | 4 | 3 | 4 | 7 | 8 | 8 | 7 | 3 | 4 | 10 | 11 | 14 | 12 | 10 | 10 | 6.3 | 13.7 |
| 25-Oct | 10 | 8 | 7 | 6 | 5 | 2 | 5 | 9 | 10 | 10 | 7 | 5 | 8 | 10 | 11 | 8 | 8 | 16 | 34 | 24 | 14 | 15 | 16 | 15 | 11.0 | 34.0 |
| 26-Oct | 16 | 17 | 17 | 16 | 13 | 18 | 15 | 11 | 11 | 14 | 11 | 11 | 6 | 8 | 11 | 5 | 7 | 6 | 10 | 10 | 13 | 14 | 16 | 17 | 12.3 | 18.0 |
| 27-Oct | 24 | 25 | 26 | 27 | 27 | 25 | 27 | 26 | 29 | 37 | 37 | 34 | 33 | 29 | 27 | 23 | 17 | 14 | 12 | 12 | 12 | 10 | 12 | 11 | 23.2 | 36.9 |
| 28-Oct | 12 | 9 | 6 | 4 | 6 | 8 | 9 | 9 | 9 | 9 | 10 | 11 | 10 | 7 | 9 | 8 | 9 | 12 | 13 | 11 | 7 | 3 | 1 | 3 | 8.1 | 12.9 |
| 29-Oct | 5 | 8 | 10 | 8 | 6 | 7 | 10 | 10 | 4 | 4 | 7 | 7 | 8 | 8 | 9 | 7 | 4 | 4 | 5 | 5 | 11 | 12 | 12 | 13 | 7.6 | 12.5 |
| 30-Oct | 12 | 10 | 8 | 14 | 16 | 12 | 9 | 10 | 9 | 12 | 12 | 14 | 15 | 14 | 9 | 5 | 6 | 10 | 16 | 16 | 15 | 15 | 12 | 13 | 11.8 | 16.4 |
| 31-Oct | 13 | 14 | 14 | 13 | 12 | 10 | 10 | 12 | 12 | 12 | 13 | 13 | 12 | 11 | 10 | 15 | 9 | 6 | 6 | 6 | 9 | 12 | 16 | 16 | 11.5 | 16.4 |
| | 10.9 | 10.7 | 10.1 | 9.1 | 9.0 | 9.1 | 10.3 | 10.4 | 10.9 | 12.0 | 12.3 | 12.4 | 13.2 | 13.1 | 13.3 | 12.2 | 11.0 | 9.9 | 10.4 | 10.6 | 10.8 | 10.9 | 11.6 | 11.4 | Diurnal Average | |
| | 23.8 | 25.3 | 26.1 | 27.3 | 27.0 | 24.9 | 27.5 | 26.2 | 29.4 | 36.9 | 36.9 | 40.2 | 40.9 | 44.6 | 41.5 | 31.1 | 29.6 | 23.5 | 34.0 | 23.7 | 22.8 | 22.5 | 25.4 | 24.9 | Diurnal Maximum | |

All monthly, daily, and diurnal averages have been calculated using scalar methods

Peace Airshed Zone Association

# Hourly Standard Deviations

## Wind Direction (WD) - deg

## Donnelly - October 2018

Maximum Value: 86.1 deg on Oct 29 00:00

Minimum Value: 1.9 deg on Oct 17 01:00

Percentiles: $P_1$ = 2.2 $P_{10}$ = 3.5 $Q_1$ = 5.1 Median = 7.6 $Q_3$ = 13.4 $P_{90}$ = 25.2 $P_{99}$ = 64.9

| | |
|---|---|
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| 1-Oct | 10 | 10 | 31 | 14 | 27 | 57 | 21 | 17 | 40 | 15 | 14 | 24 | 11 | 14 | 11 | 9 | 5 | 6 | 6 | 7 | 6 | 7 | 7 | 7 | 57.1 |
| 2-Oct | 8 | 6 | 5 | 6 | 16 | 24 | 23 | 25 | 32 | 12 | 20 | 15 | 22 | 17 | 14 | 13 | 10 | 7 | 9 | 12 | 3 | 4 | 5 | 5 | 32.4 |
| 3-Oct | 3 | 4 | 7 | 9 | 7 | 12 | 14 | 12 | 19 | 49 | 52 | 79 | 83 | 55 | 77 | 37 | 63 | 42 | 11 | 6 | 5 | 4 | 4 | 5 | 83.0 |
| 4-Oct | 4 | 4 | 6 | 10 | 8 | 12 | 9 | 14 | 9 | 12 | 16 | 19 | 23 | 27 | 18 | 18 | 12 | 16 | 18 | 65 | 24 | 23 | 28 | 18 | 64.5 |
| 5-Oct | 8 | 20 | 30 | 10 | 19 | 26 | 14 | 35 | 17 | 21 | 57 | 54 | 24 | 38 | 54 | 52 | 18 | 18 | 12 | 17 | 14 | 8 | 7 | 7 | 57.2 |
| 6-Oct | 6 | 6 | 5 | 9 | 16 | 39 | 18 | 13 | 36 | 16 | 21 | 24 | 21 | 20 | 26 | 32 | 10 | 7 | 6 | 9 | 9 | 9 | 8 | 11 | 38.7 |
| 7-Oct | 7 | 6 | 6 | 12 | 9 | 5 | 5 | 6 | 6 | 4 | 4 | 4 | 4 | 5 | 5 | 4 | 6 | 6 | 3 | 3 | 4 | 5 | 4 | 3 | 11.8 |
| 8-Oct | 4 | 5 | 6 | 7 | 5 | 5 | 6 | 9 | 9 | 6 | 6 | 6 | 8 | 9 | 11 | 10 | 9 | 8 | 6 | 8 | 6 | 5 | 4 | 5 | 10.6 |
| 9-Oct | 8 | 11 | 11 | 8 | 9 | 7 | 5 | 4 | 6 | 9 | 11 | 11 | 11 | 10 | 12 | 11 | 8 | 7 | 7 | 6 | 6 | 9 | 6 | 6 | 12.4 |
| 10-Oct | 7 | 6 | 7 | 6 | 6 | 6 | 4 | 3 | 4 | 7 | 14 | 10 | 16 | 43 | 13 | 9 | 7 | 10 | 7 | 19 | 11 | 9 | 22 | 7 | 42.9 |
| 11-Oct | 11 | 17 | 7 | 12 | 29 | 6 | 7 | 7 | 8 | 7 | 7 | 5 | 7 | 9 | 11 | 10 | 5 | 4 | 10 | 12 | 6 | 10 | 4 | 10 | 28.9 |
| 12-Oct | 5 | 3 | 7 | 30 | 56 | 38 | 5 | 8 | 8 | 7 | 6 | 5 | 7 | 6 | 6 | 7 | 11 | 7 | 6 | 6 | 12 | 7 | 7 | 19 | 56.4 |
| 13-Oct | 12 | 6 | 18 | 20 | 13 | 13 | 6 | 8 | 7 | 22 | 36 | 29 | 22 | 20 | 15 | 11 | 9 | 20 | 9 | 4 | 4 | 4 | 4 | 2 | 35.7 |
| 14-Oct | 2 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 4 | 6 | 6 | 7 | 7 | 4 | 13 | 3 | 5 | 7 | 4 | 4 | 2 | 2 | 3 | 12.7 |
| 15-Oct | 3 | 5 | 2 | 6 | 3 | 4 | 7 | 5 | 9 | 14 | 11 | 14 | 5 | 6 | 6 | 30 | 9 | 5 | 27 | 57 | 22 | 10 | 9 | 8 | 57.3 |
| 16-Oct | 8 | 4 | 5 | 3 | 8 | 3 | 3 | 3 | 4 | 10 | 8 | 6 | 12 | 8 | 8 | 8 | 5 | 19 | 3 | 31 | 9 | 3 | 6 | 3 | 31.2 |
| 17-Oct | 2 | 3 | 7 | 12 | 7 | 5 | 6 | 4 | 3 | 4 | 12 | 6 | 6 | 7 | 5 | 3 | 11 | 5 | 5 | 10 | 4 | 4 | 7 | 3 | 12.1 |
| 18-Oct | 5 | 4 | 10 | 8 | 4 | 3 | 3 | 5 | 6 | 8 | 5 | 6 | 8 | 9 | 12 | 9 | 5 | 7 | 4 | 4 | 82 | 12 | 6 | 5 | 82.4 |
| 19-Oct | 9 | 5 | 4 | 4 | 3 | 6 | 4 | 6 | 61 | 30 | 65 | 59 | 32 | 32 | 12 | 8 | 8 | 8 | 4 | 4 | 6 | 6 | 17 | 25 | 65.3 |
| 20-Oct | 36 | 9 | 7 | 9 | 8 | 5 | 4 | 3 | 5 | 3 | 4 | 4 | 6 | 6 | 6 | 3 | 3 | 4 | 7 | 5 | 4 | 3 | 3 | 3 | 35.9 |
| 21-Oct | 5 | 2 | 3 | 12 | 10 | 5 | 7 | 14 | 6 | 21 | 13 | 11 | 13 | 16 | 11 | 8 | 4 | 30 | 7 | 15 | 15 | 19 | 2 | 25 | 29.5 |
| 22-Oct | 14 | 13 | 12 | 20 | 5 | 7 | 8 | 7 | 18 | 11 | 13 | 7 | 9 | 9 | 9 | 14 | 9 | 5 | 4 | 7 | 14 | 6 | 14 | 22 | 21.5 |
| 23-Oct | 10 | 8 | 10 | 11 | 18 | 10 | 8 | 7 | 5 | 11 | 18 | 21 | 32 | 51 | 11 | 14 | 11 | 20 | 12 | 9 | 40 | 41 | 12 | 10 | 51.2 |
| 24-Oct | 18 | 9 | 6 | 7 | 81 | 38 | 51 | 41 | 58 | 33 | 31 | 44 | 19 | 19 | 14 | 15 | 47 | 17 | 6 | 4 | 5 | 4 | 6 | 7 | 81.1 |
| 25-Oct | 4 | 5 | 10 | 7 | 14 | 74 | 44 | 13 | 9 | 6 | 13 | 19 | 11 | 8 | 11 | 12 | 18 | 37 | 7 | 7 | 20 | 3 | 8 | 5 | 74.2 |
| 26-Oct | 4 | 4 | 3 | 3 | 8 | 7 | 5 | 10 | 4 | 4 | 8 | 6 | 30 | 28 | 7 | 41 | 28 | 11 | 4 | 4 | 3 | 5 | 4 | 11 | 41.4 |
| 27-Oct | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 5 | 5 | 5 | 4 | 4 | 5 | 5 | 7 | 2 | 9 | 7 | 6 | 6 | 4 | 7 | 9.1 |
| 28-Oct | 3 | 5 | 19 | 25 | 18 | 6 | 4 | 7 | 6 | 5 | 6 | 7 | 5 | 7 | 11 | 6 | 34 | 21 | 5 | 11 | 16 | 57 | 49 | 86 | 86.1 |
| 29-Oct | 11 | 8 | 5 | 7 | 7 | 20 | 9 | 6 | 22 | 18 | 11 | 16 | 17 | 13 | 10 | 13 | 13 | 19 | 16 | 13 | 5 | 4 | 5 | 4 | 21.9 |
| 30-Oct | 3 | 4 | 7 | 10 | 5 | 4 | 3 | 10 | 3 | 7 | 5 | 8 | 11 | 6 | 11 | 11 | 16 | 9 | 24 | 5 | 4 | 5 | 5 | 6 | 24.4 |
| 31-Oct | 7 | 2 | 3 | 3 | 3 | 7 | 5 | 2 | 3 | 3 | 3 | 3 | 9 | 17 | 11 | 6 | 7 | 26 | 4 | 16 | 14 | 13 | 8 | 6 | 26.4 |
| | 35.9 | 20.2 | 30.9 | 29.6 | 81.1 | 74.2 | 50.6 | 40.5 | 60.8 | 49.0 | 65.3 | 79.4 | 83.0 | 55.4 | 77.1 | 51.8 | 62.8 | 41.8 | 26.7 | 64.5 | 82.4 | 56.6 | 48.8 | 86.1 | |

# PAZA
# Portable – Rycroft Station
## Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

# Hourly Averages

## Sulphur Dioxide ($SO_2$) - ppb

## Portable Rycroft - October 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.8 ppb on Oct 4 11:00 Maximum Daily Average: 0.5 ppb on Oct 25

Minimum Value: 0 ppb on Oct 1 01:00 Minimum Daily Average: 0.0 ppb on Oct 12
Maximum Diurnal Average: 0.4 ppb at hour 15 Minimum Diurnal Average: 0.1 ppb at hour 9
Monthly Average: 0.20 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.2 $Q_3 = 0.3$ $P_{90} = 0.4$ $P_{99} = 1.1$

| | |
|---|---|
| Hours in Service: | 635 |
| Hours of Data: | 601 |
| Hours of Missing Data: | 34 |
| Hours of Calibration: | 34 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 3-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.5 |
| 4-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 1.8 |
| 5-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 6-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 7-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 |
| 8-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 9-Oct | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 10-Oct | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.5 |
| 11-Oct | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 1.0 |
| 12-Oct | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0.0 | 0.1 |
| 13-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0.1 | 0.4 |
| 14-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0.2 | 0.4 |
| 15-Oct | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0.5 | 1.6 |
| 16-Oct | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 1 | 0 | 0.3 | 0.5 |
| 17-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | 0 | 0 | 0 | 0 | 0 | 0.3 | 1.2 |
| 18-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 19-Oct | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 1.1 |
| 20-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0.3 | 0.6 |
| 21-Oct | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.7 |
| 22-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | A | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0.3 | 0.7 |
| 23-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | C | C | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 1.1 |
| 24-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 1.1 |
| 25-Oct | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | A | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0.5 | 1.2 |
| 26-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.7 |
| 27-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | C | C | C | C | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 0.0 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | Diurnal Average | |
| | 0.5 | 0.7 | 1.1 | 0.7 | 1.0 | 0.7 | 0.4 | 0.7 | 0.6 | 1.0 | 1.8 | 1.1 | 1.1 | 1.2 | 1.6 | 1.6 | 0.6 | 1.2 | 0.6 | 0.6 | 0.4 | 0.5 | 0.6 | 0.5 | Diurnal Maximum | |

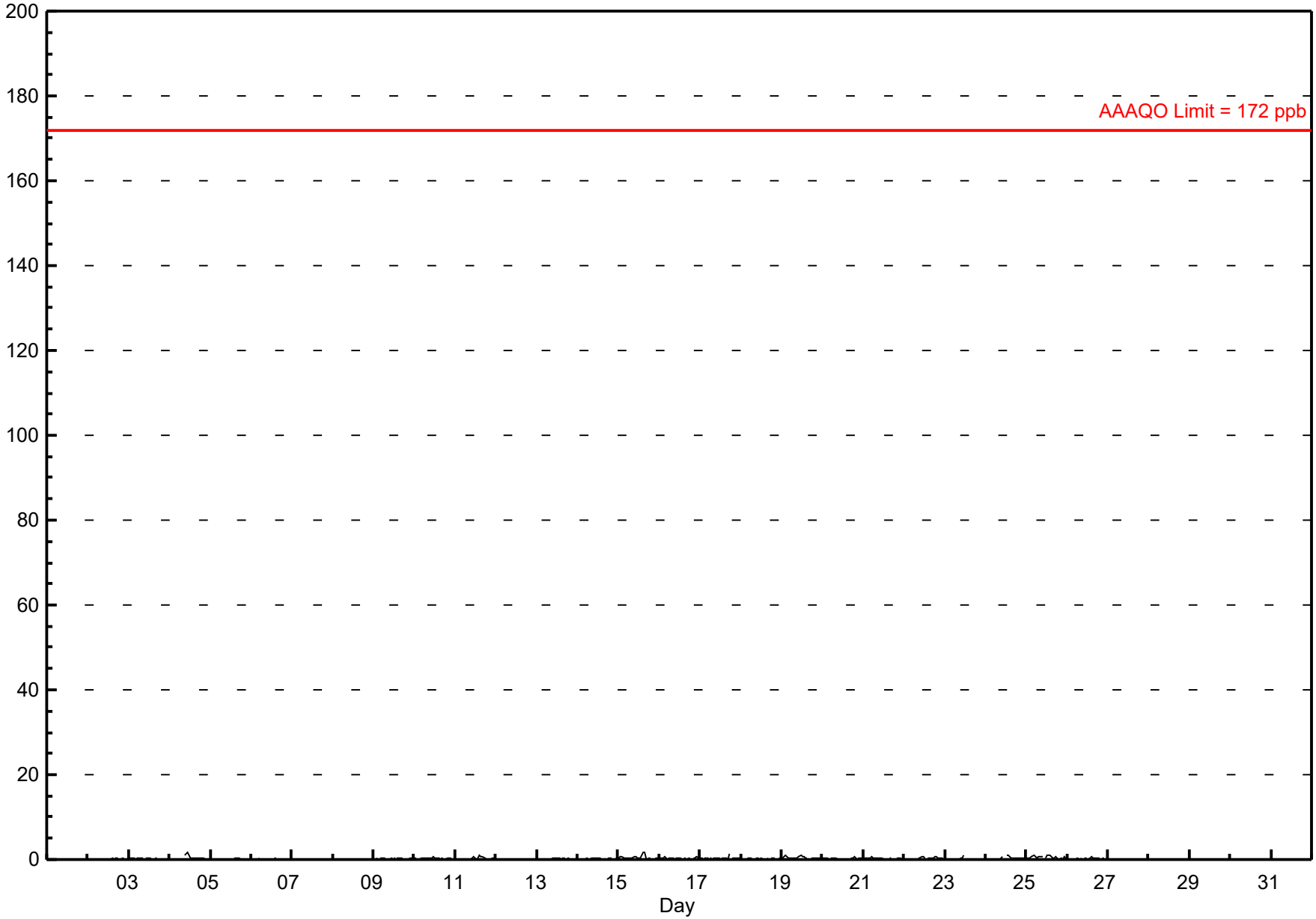
C - Calibration NS - Not in service A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

# Hourly Averages

## Sulphur Dioxide ($SO_2$) - ppb

## Portable Rycroft - October 2018



Peace Airshed Zone Association

# Hourly Maximums

## Sulphur Dioxide ($SO_2$) - ppb

## Portable Rycroft - October 2018

Maximum Value: 25.0 ppb on Oct 23 17:00

Maximum Daily Average: 1.8 ppb on Oct 23

Minimum Value: 0 ppb on Oct 23 18:00

Minimum Daily Average: 0.5 ppb on Oct 12

Maximum Diurnal Average: 2.0 ppb at hour 17

Minimum Diurnal Average: 0.7 ppb at hour 5

Monthly Average: 0.89 ppb

Percentiles: $P_1 = 0.2$ $P_{10} = 0.5$ $Q_1 = 0.6$ Median = 0.7 $Q_3 = 0.9$ $P_{90} = 1.3$ $P_{99} = 2.6$

| | |
|---|---|
| Hours in Service: | 635 |
| Hours of Data: | 601 |
| Hours of Missing Data: | 34 |
| Hours of Calibration: | 34 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0.6 | 0.8 |
| 2-Oct | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 0.9 | 2.2 |
| 3-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0.8 | 1.7 |
| 4-Oct | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | A | 2 | 4 | 2 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.1 | 4.4 |
| 5-Oct | 0 | 0 | 0 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 1.1 |
| 6-Oct | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0.7 | 1.0 |
| 7-Oct | 1 | 1 | 1 | 0 | 1 | A | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0.6 | 0.9 |
| 8-Oct | 0 | 1 | 0 | 0 | A | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.6 | 0.8 |
| 9-Oct | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.1 |
| 10-Oct | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.0 | 2.6 |
| 11-Oct | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.0 | 2.8 |
| 12-Oct | A | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | A | 0.5 | 0.9 |
| 13-Oct | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 2 | 1 | 0 | 1 | A | 1 | 0.8 | 2.1 |
| 14-Oct | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 0.8 | 1.4 |
| 15-Oct | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 3 | 2 | 2 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1.3 | 3.4 |
| 16-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 0.9 | 1.3 |
| 17-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | A | 1 | 1 | 2 | 1 | 1 | 1.0 | 3.7 |
| 18-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.4 |
| 19-Oct | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.0 | 1.7 |
| 20-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | A | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 0.9 | 1.7 |
| 21-Oct | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0.8 | 1.7 |
| 22-Oct | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.9 | 1.4 |
| 23-Oct | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 2 | A | C | C | C | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.8 | 25.0 |
| 24-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | A | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.9 |
| 25-Oct | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | A | 2 | 2 | 2 | 3 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1.3 | 2.6 |
| 26-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0.8 | 1.7 |
| 27-Oct | 1 | 0 | 1 | 0 | 0 | 1 | 1 | C | C | C | C | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 0.6 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| Diurnal Average | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.8 | 0.7 | 0.7 | 0.7 | 0.9 | 1.2 | 1.0 | 0.9 | 1.0 | 1.3 | 1.0 | 2.0 | 1.0 | 0.8 | 0.8 | 0.8 | 0.7 | 0.8 | 0.8 | | |
| Diurnal Maximum | 1.4 | 1.4 | 1.7 | 1.6 | 1.6 | 1.7 | 1.3 | 1.7 | 1.4 | 1.8 | 4.4 | 2.0 | 1.9 | 2.5 | 3.4 | 2.3 | 25.0 | 3.7 | 1.6 | 1.7 | 2.0 | 1.8 | 2.0 | 1.4 | | |

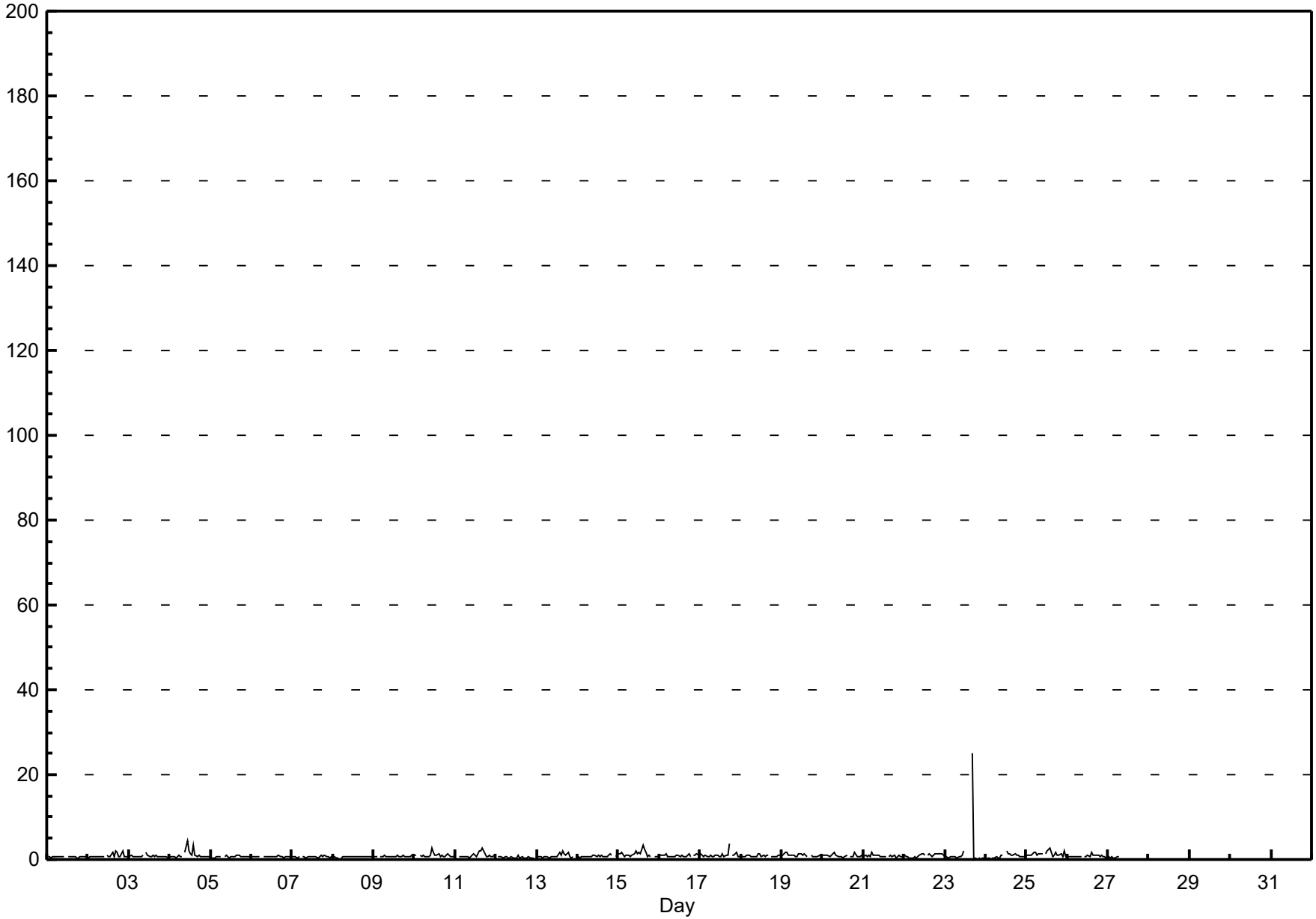
C - Calibration NS - Not in service A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

**Sulphur Dioxide ($SO_2$) - ppb**

**Portable Rycroft - October 2018**

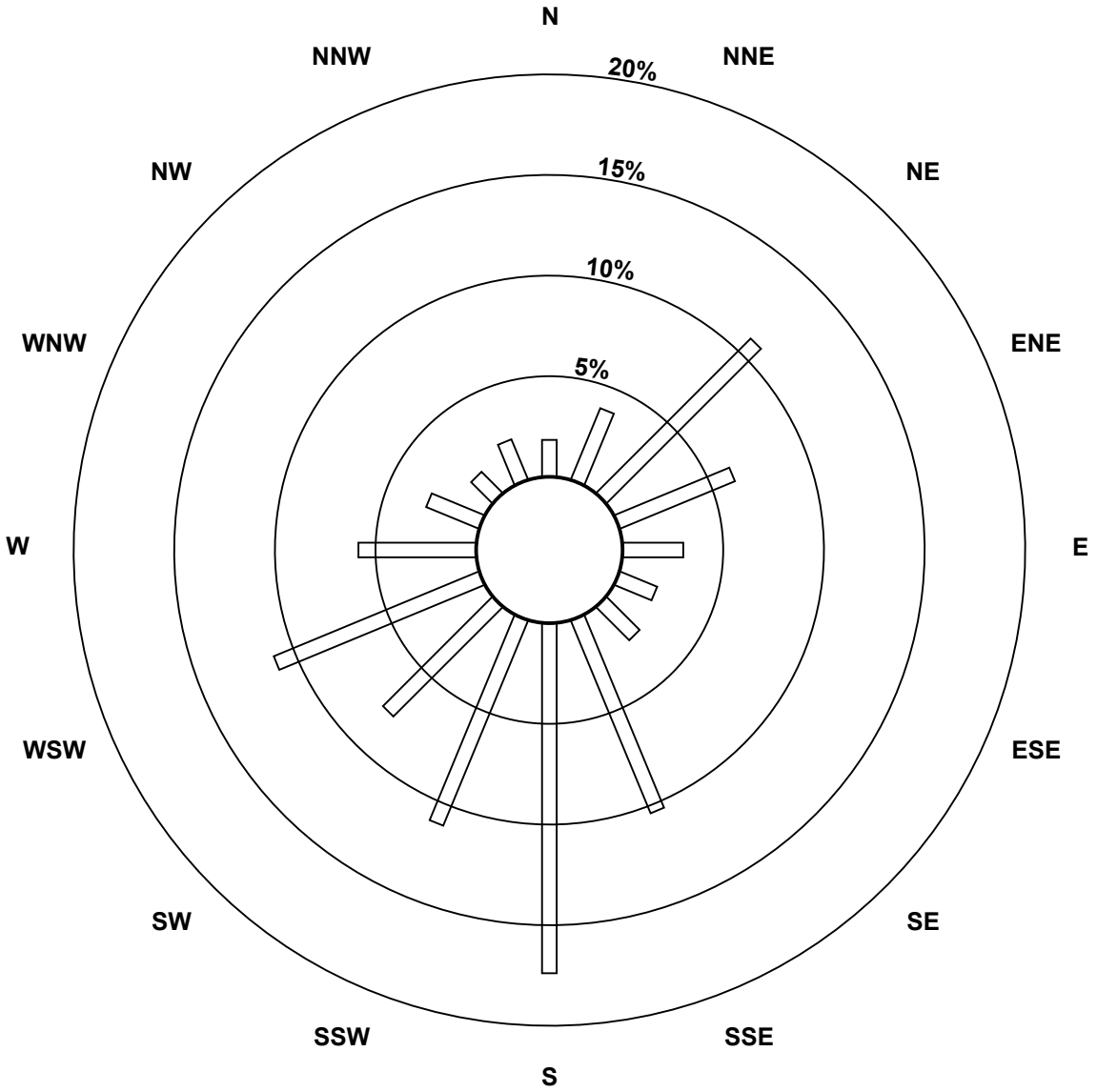


Peace Airshed Zone Association

# Pollutant Rose

## Sulphur Dioxide ($SO_2$) - ppb

## Portable Rycroft - October 2018




**Pollutant Classes (ppb)**

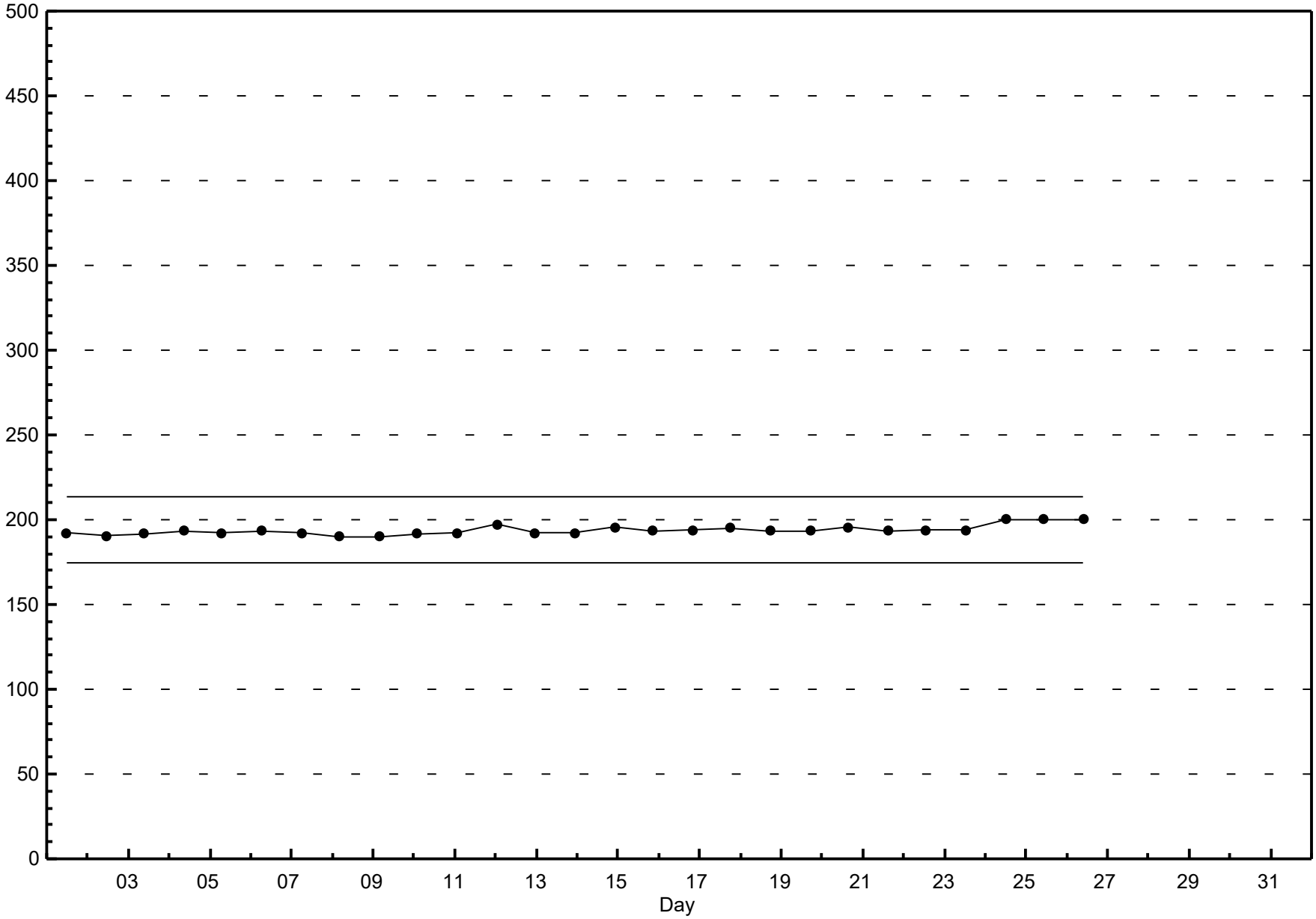
- 0 - 10
- 11 - 20
- 21 - 60
- 61 - 110
- 111 - 172
- > 172

Peace Airshed Zone Association

# Span Responses

**Sulphur Dioxide ($SO_2$)**

**Portable Rycroft - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Total Reduced Sulphur (TRS) - ppb

## Portable Rycroft - October 2018

Maximum Value: 3.7 ppb on Oct 4 02:00

Maximum Daily Average: 0.8 ppb on Oct 13

Minimum Value: 0 ppb on Oct 10 04:00

Minimum Daily Average: 0.1 ppb on Oct 10

Maximum Diurnal Average: 0.4 ppb at hour 2

Minimum Diurnal Average: 0.1 ppb at hour 14

Monthly Average: 0.22 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.1$ $Q_1 = 0.1$ Median = 0.2 $Q_3 = 0.3$ $P_{90} = 0.4$ $P_{99} = 1.1$

| | |
|---|---|
| Hours in Service: | 635 |
| Hours of Data: | 600 |
| Hours of Missing Data: | 35 |
| Hours of Calibration: | 35 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.5 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 |
| 3-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 4-Oct | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 3.7 |
| 5-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 6-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.4 |
| 7-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.2 |
| 8-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 9-Oct | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 10-Oct | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 |
| 11-Oct | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 12-Oct | A | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | A | 0.4 | 1.3 |
| 13-Oct | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 1 | 1 | A | 0 | 0.8 | 1.7 |
| 14-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0.3 | 0.4 |
| 15-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 1 | 0.3 | 0.6 |
| 16-Oct | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0.3 | 0.5 |
| 17-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | C | C | C | C | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 18-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.4 |
| 19-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.4 |
| 20-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.4 |
| 21-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 22-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.4 |
| 23-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.4 |
| 24-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.4 |
| 25-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.3 |
| 26-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.4 |
| 27-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | C | C | C | C | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 0.1 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| | 0.2 | 0.4 | 0.2 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | Diurnal Average | |
| | 1.3 | 3.7 | 0.7 | 0.9 | 1.3 | 0.9 | 0.8 | 0.9 | 0.8 | 0.6 | 0.6 | 0.4 | 0.3 | 0.4 | 0.4 | 0.4 | 0.7 | 0.6 | 1.3 | 1.7 | 1.2 | 0.8 | 0.7 | 0.6 | Diurnal Maximum | |

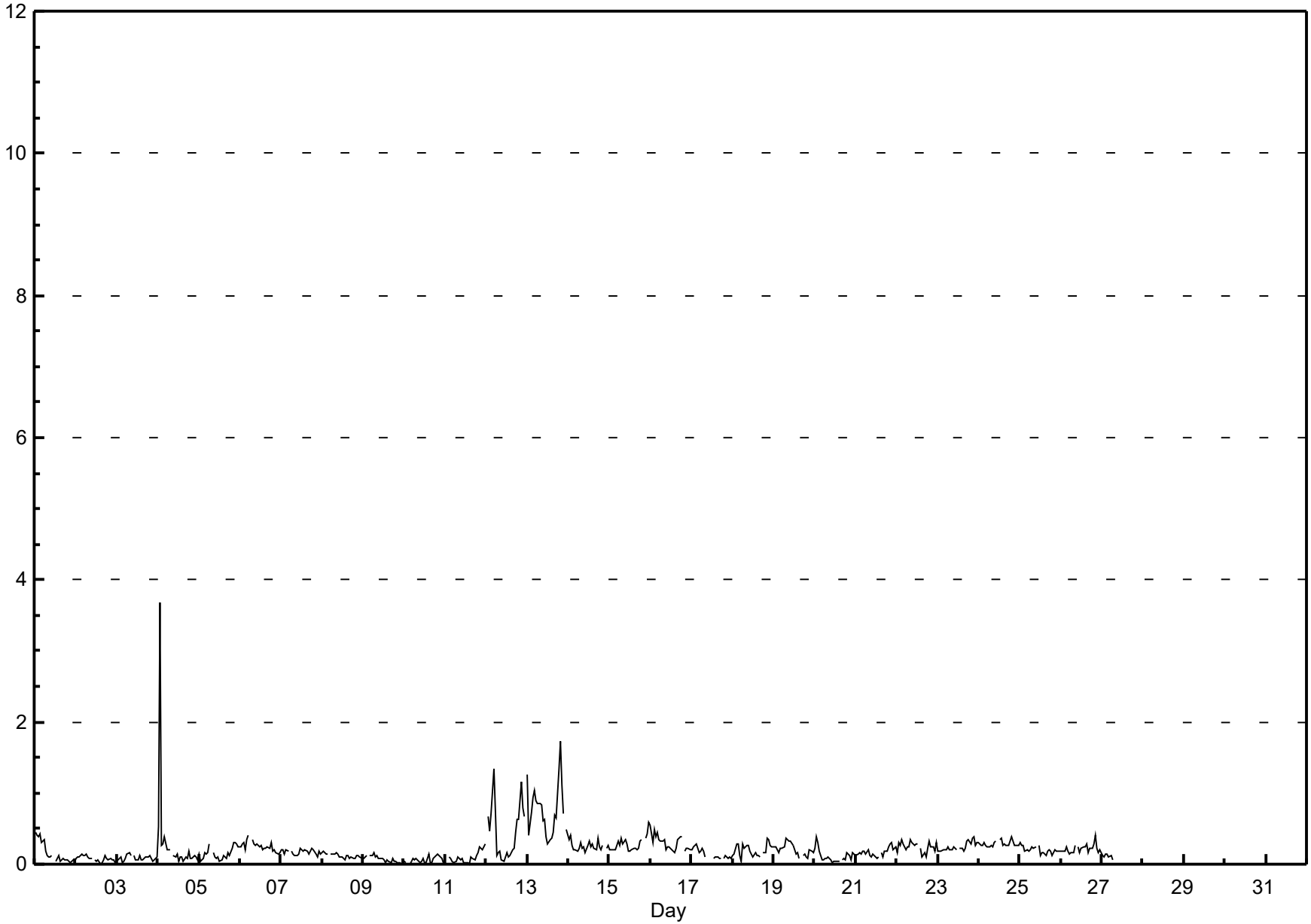
C - Calibration NS - Not in service A - Automated Daily Zero Span

Peace Airshed Zone Association

## Hourly Averages

**Total Reduced Sulphur (TRS) - ppb**

**Portable Rycroft - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Total Reduced Sulphur (TRS) - ppb

## Portable Rycroft - October 2018

Maximum Value: 8.4 ppb on Oct 4 02:00

Maximum Daily Average: 1.6 ppb on Oct 13

Minimum Value: 0 ppb on Oct 9 22:00

Maximum Diurnal Average: 0.9 ppb at hour 2

Monthly Average: 0.72 ppb

Minimum Daily Average: 0.5 ppb on Oct 3

Minimum Diurnal Average: 0.6 ppb at hour 13

Percentiles: $P_1 = 0.3$ $P_{10} = 0.4$ $Q_1 = 0.5$ Median = 0.6 $Q_3 = 0.8$ $P_{90} = 1.0$ $P_{99} = 2.7$

| | |
|---|---|
| Hours in Service: | 635 |
| Hours of Data: | 600 |
| Hours of Missing Data: | 35 |
| Hours of Calibration: | 35 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0.6 | 1.0 |
| 2-Oct | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | A | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0.6 | 1.1 |
| 3-Oct | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | A | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0.5 | 1.0 |
| 4-Oct | 5 | 8 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1.1 | 8.4 |
| 5-Oct | 1 | 1 | 0 | 1 | 1 | 1 | 1 | A | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.6 | 1.0 |
| 6-Oct | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 1.1 |
| 7-Oct | 1 | 1 | 1 | 1 | 1 | A | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0.6 | 1.1 |
| 8-Oct | 1 | 1 | 0 | 1 | A | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0.6 | 1.1 |
| 9-Oct | 1 | 1 | 1 | A | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0.5 | 1.0 |
| 10-Oct | 0 | 0 | A | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0.6 | 3.4 |
| 11-Oct | 0 | A | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.6 | 1.1 |
| 12-Oct | A | 1 | 1 | 2 | 2 | 3 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 2 | 3 | 1 | 2 | A | 1.2 | 2.7 |
| 13-Oct | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 3 | 2 | 1 | A | 1 | 1.6 | 3.4 |
| 14-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 0.7 | 1.0 |
| 15-Oct | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 0.7 | 1.2 |
| 16-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 0.8 | 1.3 |
| 17-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | C | C | C | C | 0 | 0 | 0 | 1 | 1 | A | 0 | 1 | 1 | 0 | 0 | 0.6 | 0.8 |
| 18-Oct | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | A | 1 | 0 | 1 | 1 | 1 | 1 | 0.6 | 1.2 |
| 19-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | A | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0.7 | 1.0 |
| 20-Oct | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0.5 | 0.9 |
| 21-Oct | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | A | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.6 | 1.1 |
| 22-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 1.0 |
| 23-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 0.9 |
| 24-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.1 |
| 25-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0.6 | 0.9 |
| 26-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0.7 | 1.0 |
| 27-Oct | 1 | 0 | 1 | 1 | 0 | 1 | 1 | C | C | C | C | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 0.7 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| | 0.9 | 0.9 | 0.7 | 0.7 | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.7 | 0.6 | 0.8 | 0.9 | 0.8 | 0.8 | 0.8 | 0.7 | 0.7 | 0.6 | Diurnal Average | |
| | 4.6 | 8.4 | 1.5 | 1.6 | 2.4 | 2.7 | 1.6 | 1.8 | 2.1 | 2.0 | 1.5 | 1.2 | 0.8 | 0.9 | 3.4 | 1.1 | 1.2 | 2.5 | 3.3 | 3.4 | 2.7 | 1.4 | 1.6 | 1.2 | Diurnal Maximum | |

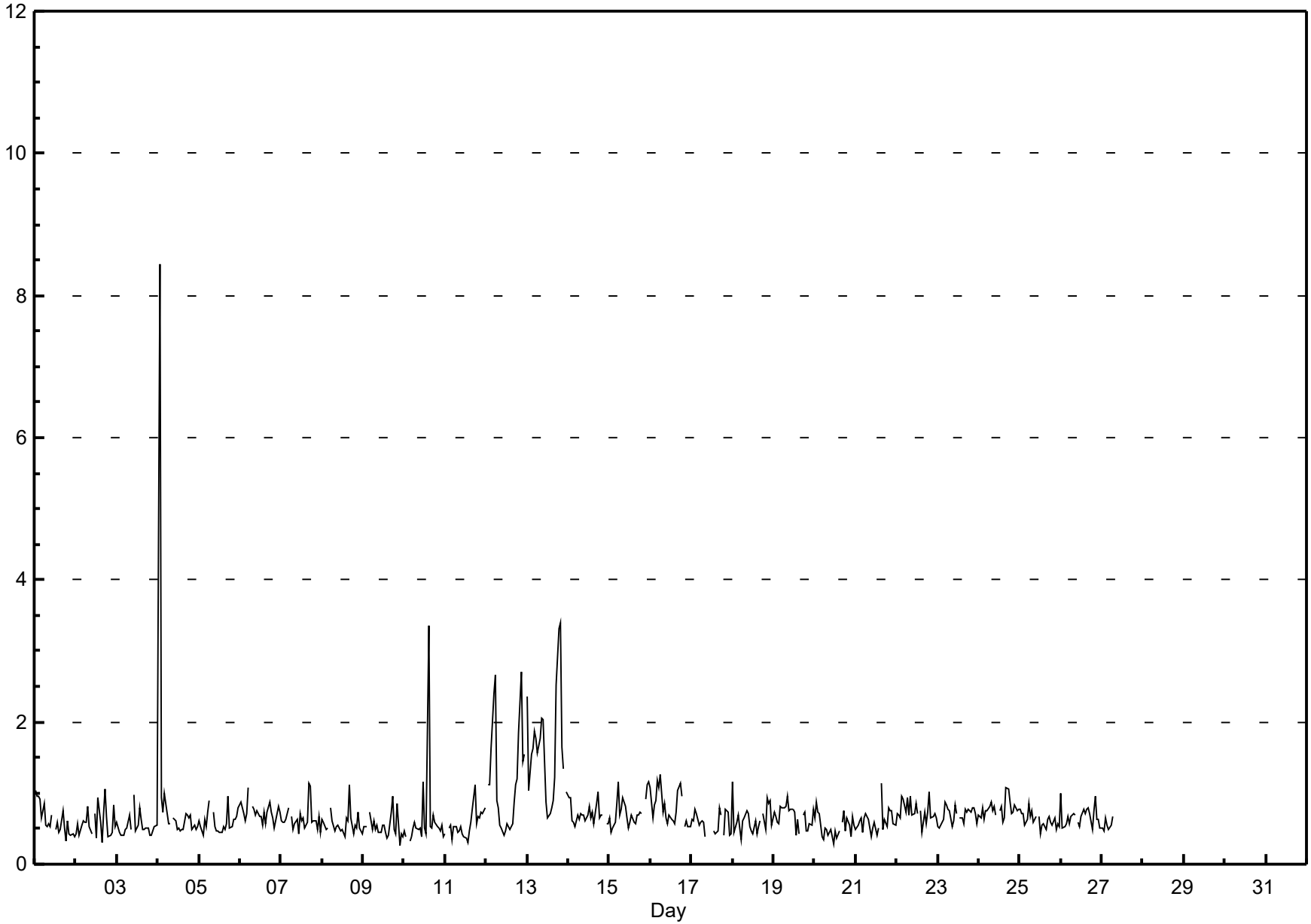
C - Calibration NS - Not in service A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

## Total Reduced Sulphur (TRS) - ppb

## Portable Rycroft - October 2018

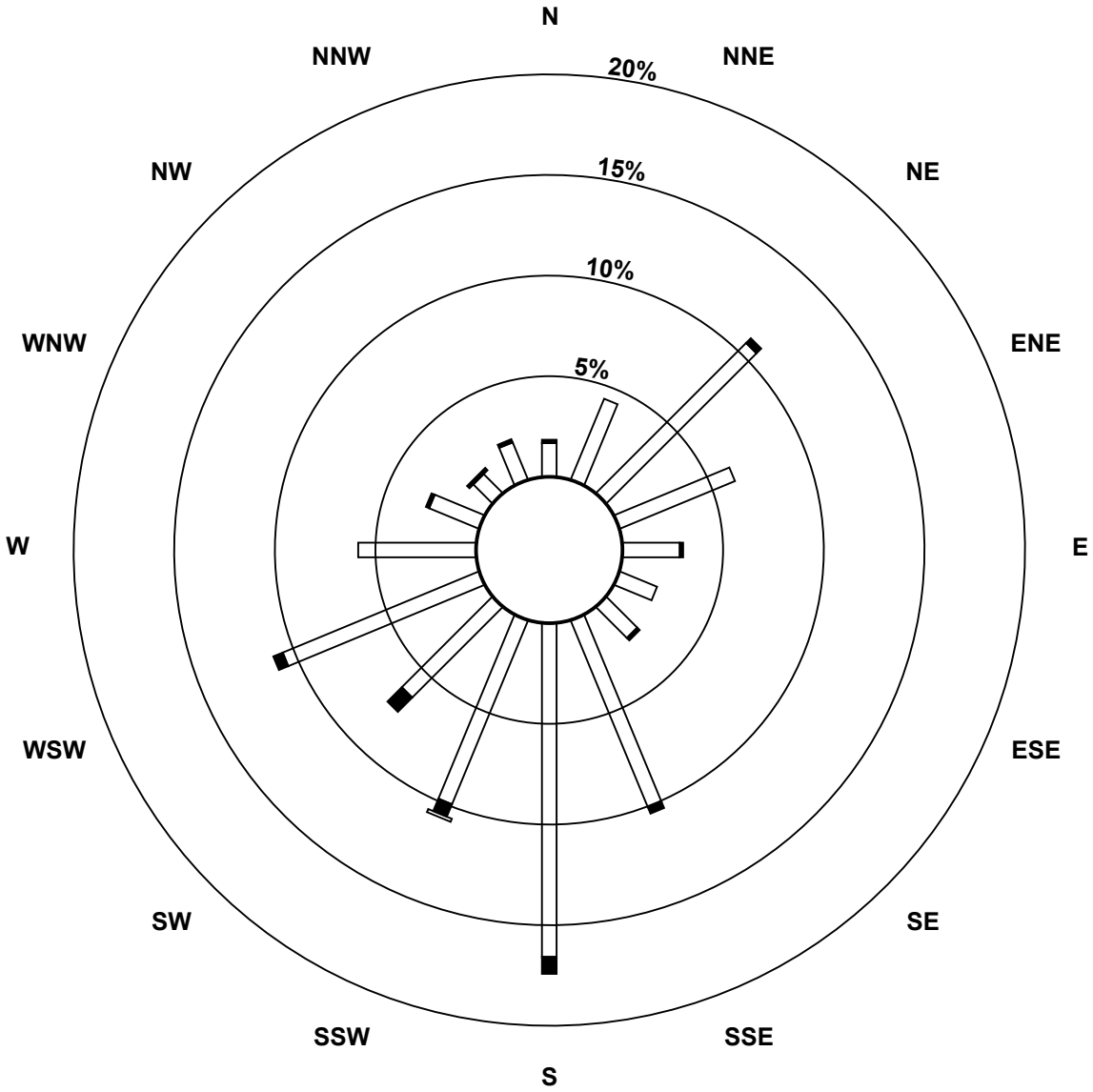


Peace Airshed Zone Association

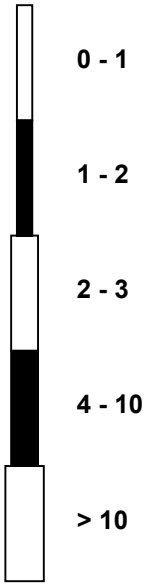
# Pollutant Rose

## Total Reduced Sulphur (TRS) - ppb

## Portable Rycroft - October 2018




### Pollutant Classes (ppb)

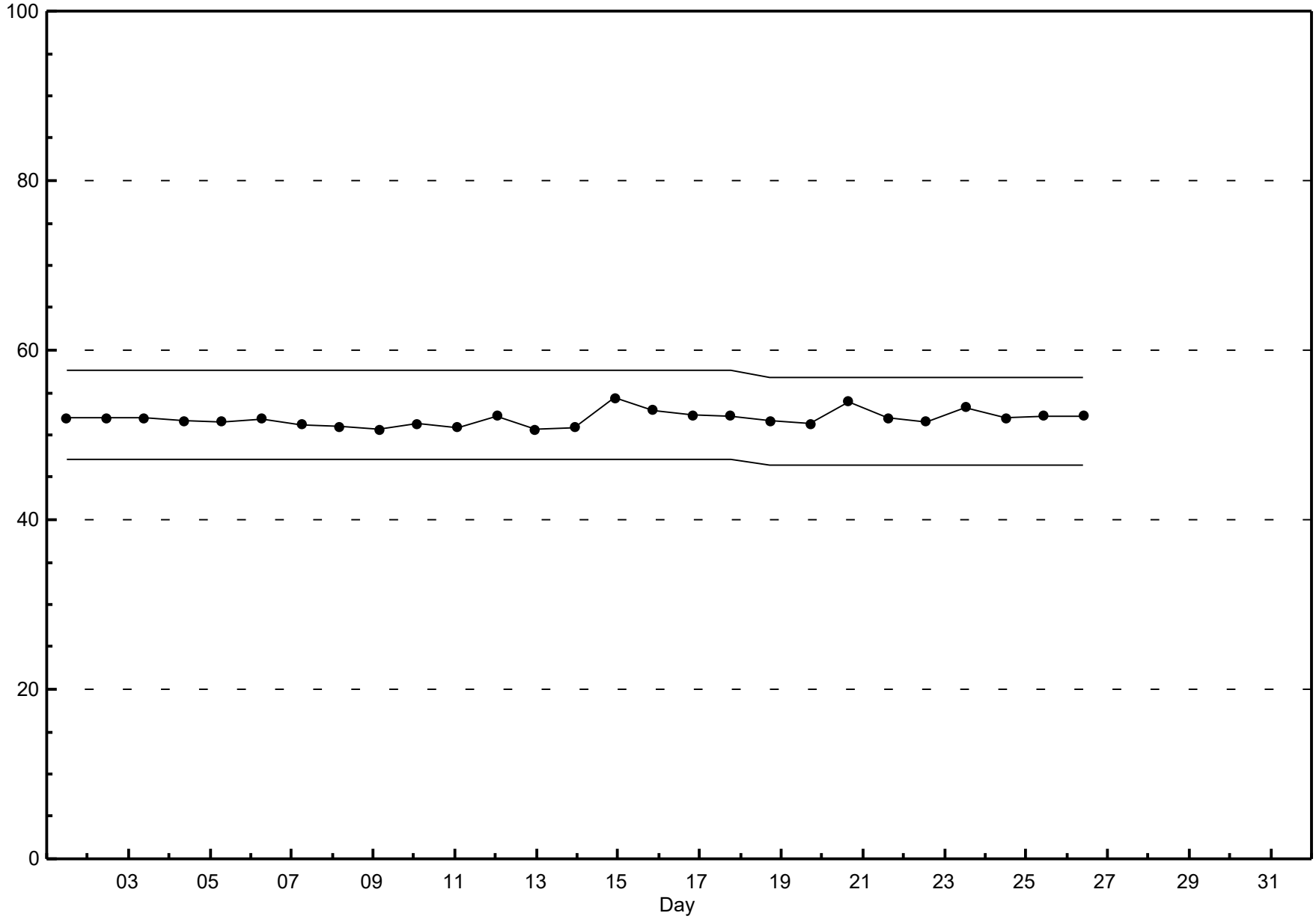


Peace Airshed Zone Association

# Span Responses

**Total Reduced Sulphur (TRS)**

**Portable Rycroft - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Nitrogen Dioxide ($NO_2$) - ppb

## Portable Rycroft - October 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 14.4 ppb on Oct 17 21:00 Maximum Daily Average: 8.0 ppb on Oct 23

Minimum Value: 0 ppb on Oct 2 10:00 Minimum Daily Average: 0.7 ppb on Oct 8
Maximum Diurnal Average: 3.8 ppb at hour 21 Minimum Diurnal Average: 1.7 ppb at hour 14
Monthly Average: 2.51 ppb Percentiles: $P_1 = 0.4$ $P_{10} = 0.7$ $Q_1 = 1.1$ Median = 1.8 $Q_3 = 3.0$ $P_{90} = 5.5$ $P_{99} = 11.5$

| | |
|---|---|
| Hours in Service: | 635 |
| Hours of Data: | 599 |
| Hours of Missing Data: | 36 |
| Hours of Calibration: | 36 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 8 | 5 | 4 | 5 | 3 | 3 | 4 | 3 | 3 | 2 | 1 | A | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 0 | 2.4 | 7.8 |
| 2-Oct | 0 | 1 | 0 | 0 | 1 | 2 | 2 | 1 | 1 | 0 | A | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 4 | 2 | 2 | 2 | 1.3 | 3.7 |
| 3-Oct | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | A | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 1 | 2 | 4 | 2.2 | 4.0 |
| 4-Oct | 6 | 6 | 2 | 2 | 2 | 3 | 4 | 6 | A | 5 | 4 | 3 | 2 | 2 | 2 | 2 | 1 | 2 | 8 | 5 | 4 | 6 | 3 | 1 | 3.6 | 7.7 |
| 5-Oct | 2 | 1 | 1 | 1 | 3 | 1 | 1 | A | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 3 | 3 | 4 | 4 | 1.8 | 3.7 |
| 6-Oct | 4 | 4 | 3 | 2 | 2 | 4 | A | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 2.3 | 4.4 |
| 7-Oct | 1 | 1 | 1 | 1 | 1 | A | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1.4 | 2.2 |
| 8-Oct | 1 | 2 | 2 | 2 | A | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0.7 | 1.7 |
| 9-Oct | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 1.0 | 2.6 |
| 10-Oct | 3 | 3 | A | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 5 | 5 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 3 | 2 | 2 | 3.1 | 5.4 |
| 11-Oct | 2 | A | 2 | 2 | 2 | 3 | 5 | 6 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 3 | 4 | 3 | 7 | 5 | 6 | 6 | 4 | 3 | 3.5 | 6.5 |
| 12-Oct | A | 2 | 2 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 1 | A | 1.3 | 3.3 |
| 13-Oct | 2 | 1 | 1 | 1 | 3 | 3 | 5 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 1 | A | 2 | 1.9 | 5.2 |
| 14-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 4 | A | 3 | 1 | 1.3 | 4.0 |
| 15-Oct | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 3 | 2 | 2 | 6 | 3 | 2 | 2 | 2 | 5 | 1 | 1 | 3 | 3 | A | 3 | 2 | 2 | 2.3 | 5.7 |
| 16-Oct | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 3 | 1 | 1 | 1 | 2 | 2 | 4 | 2 | A | 2 | 1 | 1 | 1 | 1.8 | 4.3 |
| 17-Oct | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | A | 3 | 14 | 6 | 1 | 1 | 2.0 | 14.4 |
| 18-Oct | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 3 | 6 | 8 | 3 | 2 | 1 | 1 | 1 | 1 | 3 | A | 5 | 8 | 3 | 3 | 3 | 3 | 2.7 | 8.5 |
| 19-Oct | 3 | 2 | 2 | 2 | 3 | 2 | 3 | 2 | 6 | 5 | 3 | 2 | 2 | 2 | 2 | 2 | A | 3 | 3 | 3 | 7 | 9 | 3 | 3 | 3.2 | 8.9 |
| 20-Oct | 3 | 8 | 4 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | A | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 1.5 | 7.7 |
| 21-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 3 | 2 | 1 | 1 | 0 | A | 1 | 1 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1.5 | 2.8 |
| 22-Oct | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 6 | 4 | 4 | 5 | 5 | 4 | A | 5 | 5 | 6 | 6 | 7 | 6 | 6 | 9 | 10 | 12 | 4.8 | 11.5 |
| 23-Oct | 8 | 6 | 5 | 5 | 5 | 7 | 6 | 6 | 4 | 4 | 5 | 7 | A | C | C | C | C | C | 13 | 11 | 14 | 14 | 12 | 11 | 8.0 | 14.2 |
| 24-Oct | 10 | 10 | 7 | 8 | 6 | 6 | 7 | 7 | 7 | 7 | 9 | A | 10 | 10 | 9 | 7 | 9 | 9 | 9 | 6 | 6 | 5 | 3 | 3 | 7.3 | 9.7 |
| 25-Oct | 4 | 4 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | A | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.9 | 4.2 |
| 26-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 1 | 1 | 2.1 | 3.9 |
| 27-Oct | 1 | 1 | 1 | 0 | 1 | 0 | 1 | C | C | C | C | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 0.7 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| | 2.7 | 2.6 | 2.1 | 2.1 | 2.0 | 2.2 | 2.5 | 2.7 | 2.6 | 2.5 | 2.5 | 2.1 | 1.9 | 1.7 | 1.8 | 2.0 | 2.2 | 2.5 | 3.5 | 3.2 | 3.8 | 3.5 | 2.7 | 2.6 | Diurnal Average | |
| | 9.7 | 9.7 | 7.1 | 7.8 | 6.0 | 6.7 | 6.9 | 7.1 | 7.5 | 8.5 | 9.0 | 7.2 | 9.7 | 9.7 | 8.8 | 6.8 | 9.1 | 9.0 | 13.3 | 10.5 | 14.4 | 14.2 | 11.9 | 11.5 | Diurnal Maximum | |

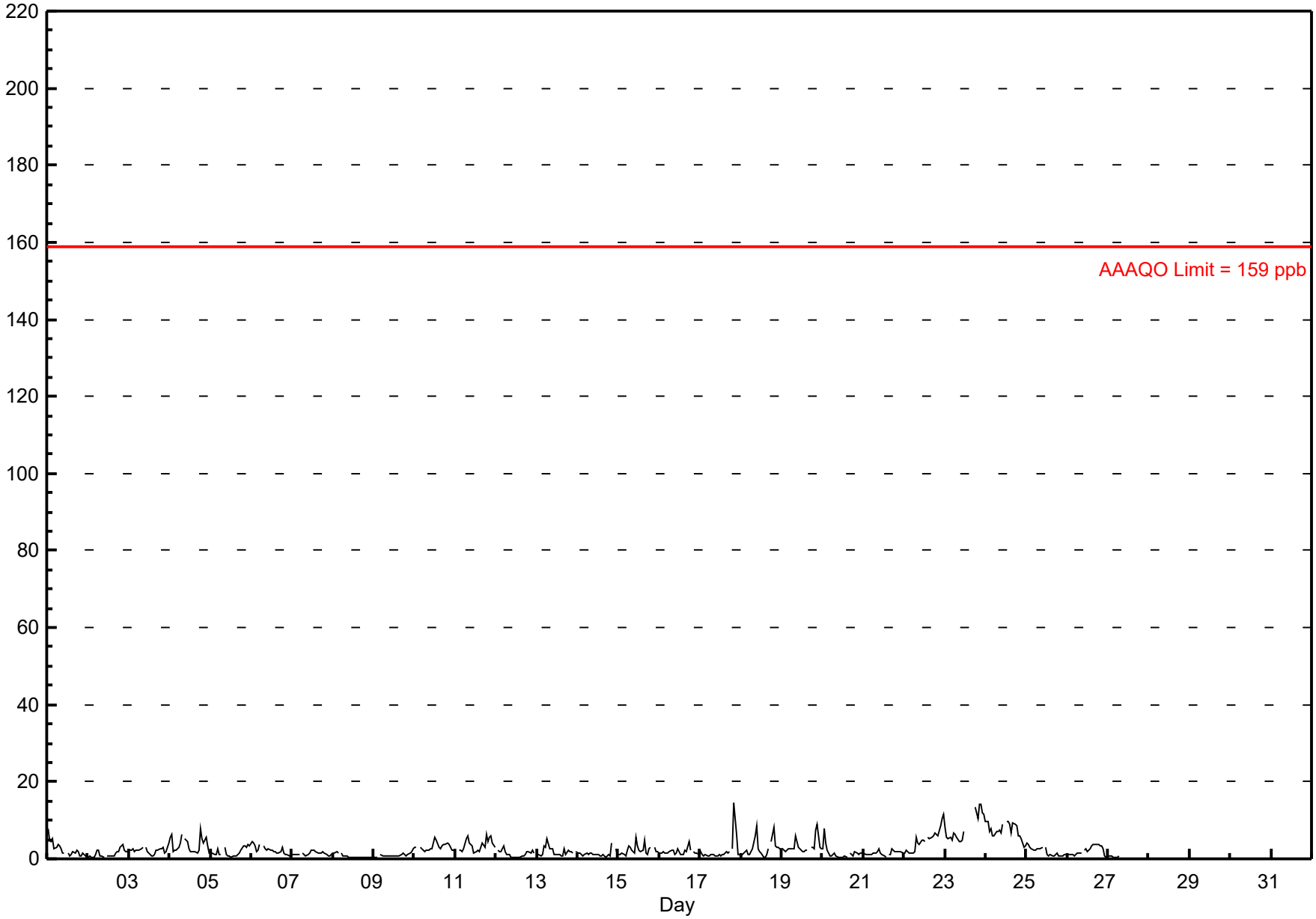
C - Calibration NS - Not in service A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb

Peace Airshed Zone Association

# Hourly Averages

## Nitrogen Dioxide ($NO_2$) - ppb

## Portable Rycroft - October 2018



Peace Airshed Zone Association

# Hourly Maximums

## Nitrogen Dioxide ($NO_2$) - ppb

## Portable Rycroft - October 2018

Maximum Value: 68.9 ppb on Oct 18 09:00

Maximum Daily Average: 10.4 ppb on Oct 23

Minimum Value: 0 ppb on Oct 2 10:00

Minimum Daily Average: 1.1 ppb on Oct 8

Maximum Diurnal Average: 9.7 ppb at hour 21

Minimum Diurnal Average: 2.9 ppb at hour 5

Monthly Average: 4.76 ppb

Percentiles: $P_1 = 0.6$ $P_{10} = 1.2$ $Q_1 = 1.7$ Median = 2.9 $Q_3 = 5.6$ $P_{90} = 10.1$ $P_{99} = 26.8$

| | |
|---|---|
| Hours in Service: | 635 |
| Hours of Data: | 599 |
| Hours of Missing Data: | 36 |
| Hours of Calibration: | 36 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 10 | 6 | 7 | 7 | 3 | 4 | 5 | 5 | 4 | 2 | 2 | A | 2 | 2 | 3 | 10 | 5 | 8 | 10 | 4 | 3 | 6 | 4 | 1 | 4.9 | 10.0 |
| 2-Oct | 1 | 1 | 1 | 1 | 3 | 3 | 4 | 2 | 2 | 0 | A | 1 | 3 | 1 | 2 | 1 | 4 | 6 | 2 | 6 | 13 | 3 | 2 | 2 | 2.8 | 12.6 |
| 3-Oct | 2 | 3 | 3 | 2 | 3 | 3 | 3 | 6 | 5 | A | 5 | 2 | 2 | 1 | 1 | 1 | 3 | 3 | 8 | 8 | 10 | 2 | 6 | 15 | 4.3 | 14.9 |
| 4-Oct | 9 | 12 | 3 | 3 | 4 | 5 | 13 | 13 | A | 7 | 5 | 5 | 4 | 5 | 6 | 4 | 4 | 4 | 24 | 10 | 9 | 11 | 5 | 6 | 7.3 | 23.9 |
| 5-Oct | 2 | 2 | 2 | 5 | 7 | 1 | 2 | A | 5 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 5 | 5 | 7 | 4 | 4 | 5 | 2.9 | 6.9 |
| 6-Oct | 10 | 5 | 4 | 2 | 3 | 6 | A | 5 | 6 | 3 | 3 | 3 | 3 | 2 | 3 | 2 | 3 | 4 | 8 | 11 | 7 | 2 | 1 | 1 | 4.2 | 10.8 |
| 7-Oct | 1 | 1 | 1 | 1 | 1 | A | 2 | 1 | 1 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 1.9 | 3.2 |
| 8-Oct | 2 | 2 | 2 | 2 | A | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.1 | 2.6 |
| 9-Oct | 1 | 1 | 1 | A | 2 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 3 | 4 | 3 | 1 | 2 | 2 | 2 | 3 | 1.7 | 3.7 |
| 10-Oct | 3 | 3 | A | 4 | 3 | 3 | 2 | 3 | 2 | 6 | 3 | 7 | 8 | 7 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 5 | 3 | 3 | 4.2 | 7.6 |
| 11-Oct | 3 | A | 3 | 3 | 2 | 4 | 6 | 7 | 6 | 4 | 4 | 3 | 2 | 2 | 2 | 6 | 7 | 5 | 33 | 12 | 25 | 18 | 16 | 4 | 7.8 | 32.9 |
| 12-Oct | A | 4 | 2 | 2 | 6 | 3 | 3 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 3 | 6 | 3 | 2 | 2 | 2 | A | 2.4 | 6.3 |
| 13-Oct | 2 | 2 | 1 | 2 | 5 | 4 | 15 | 4 | 3 | 3 | 2 | 2 | 3 | 3 | 4 | 3 | 13 | 2 | 4 | 3 | 3 | 2 | A | 3 | 3.9 | 15.4 |
| 14-Oct | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 3 | 1 | 1 | 3 | 1 | 1 | 2 | 3 | 7 | A | 5 | 2 | 2.1 | 6.7 |
| 15-Oct | 4 | 3 | 4 | 3 | 1 | 7 | 8 | 4 | 9 | 2 | 10 | 8 | 4 | 4 | 9 | 12 | 2 | 1 | 4 | 6 | A | 10 | 2 | 2 | 5.2 | 11.8 |
| 16-Oct | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 4 | 2 | 6 | 5 | 12 | 5 | 6 | 3 | 18 | 6 | A | 3 | 2 | 4 | 2 | 4.3 | 17.9 |
| 17-Oct | 6 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 6 | 1 | 2 | 2 | 22 | 2 | 20 | A | 24 | 60 | 50 | 2 | 2 | 9.3 | 60.2 |
| 18-Oct | 1 | 6 | 9 | 5 | 1 | 2 | 3 | 6 | 69 | 18 | 6 | 4 | 4 | 1 | 1 | 5 | 8 | A | 15 | 27 | 5 | 3 | 3 | 3 | 9.0 | 68.9 |
| 19-Oct | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 9 | 9 | 5 | 3 | 2 | 5 | 3 | 4 | A | 5 | 6 | 8 | 35 | 32 | 9 | 3 | 6.9 | 35.2 |
| 20-Oct | 3 | 21 | 7 | 3 | 2 | 2 | 5 | 5 | 2 | 1 | 1 | 1 | 1 | 3 | 2 | A | 4 | 3 | 2 | 3 | 3 | 2 | 3 | 3 | 3.4 | 20.9 |
| 21-Oct | 2 | 2 | 1 | 1 | 2 | 2 | 3 | 2 | 11 | 13 | 4 | 2 | 1 | 1 | A | 2 | 3 | 17 | 2 | 2 | 2 | 2 | 2 | 2 | 3.6 | 17.3 |
| 22-Oct | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 17 | 8 | 5 | 6 | 6 | 6 | A | 7 | 6 | 6 | 13 | 14 | 8 | 7 | 10 | 12 | 14 | 6.9 | 16.7 |
| 23-Oct | 10 | 6 | 6 | 6 | 6 | 9 | 8 | 9 | 5 | 14 | 8 | 9 | A | C | C | C | C | C | 15 | 12 | 17 | 17 | 13 | 14 | 10.4 | 17.4 |
| 24-Oct | 13 | 11 | 10 | 10 | 8 | 7 | 8 | 8 | 11 | 14 | 11 | A | 10 | 11 | 11 | 8 | 17 | 15 | 13 | 9 | 9 | 7 | 4 | 4 | 9.9 | 17.4 |
| 25-Oct | 5 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | A | 13 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2.8 | 12.6 |
| 26-Oct | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | A | 3 | 3 | 2 | 3 | 6 | 4 | 4 | 4 | 5 | 4 | 4 | 4 | 1 | 1 | 2.8 | 6.2 |
| 27-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | C | C | C | C | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 1.0 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| | 3.8 | 4.2 | 3.1 | 3.0 | 2.9 | 3.2 | 4.2 | 4.6 | 6.9 | 5.0 | 3.7 | 3.9 | 3.0 | 3.2 | 3.3 | 4.6 | 4.5 | 6.2 | 7.9 | 7.2 | 9.7 | 8.1 | 4.4 | 4.0 | Diurnal Average | |
| | 12.6 | 20.9 | 9.5 | 9.6 | 7.7 | 9.4 | 15.4 | 16.7 | 68.9 | 18.0 | 11.0 | 12.6 | 10.2 | 12.3 | 10.9 | 21.7 | 17.4 | 20.0 | 32.9 | 26.7 | 60.2 | 49.6 | 16.4 | 14.9 | Diurnal Maximum | |

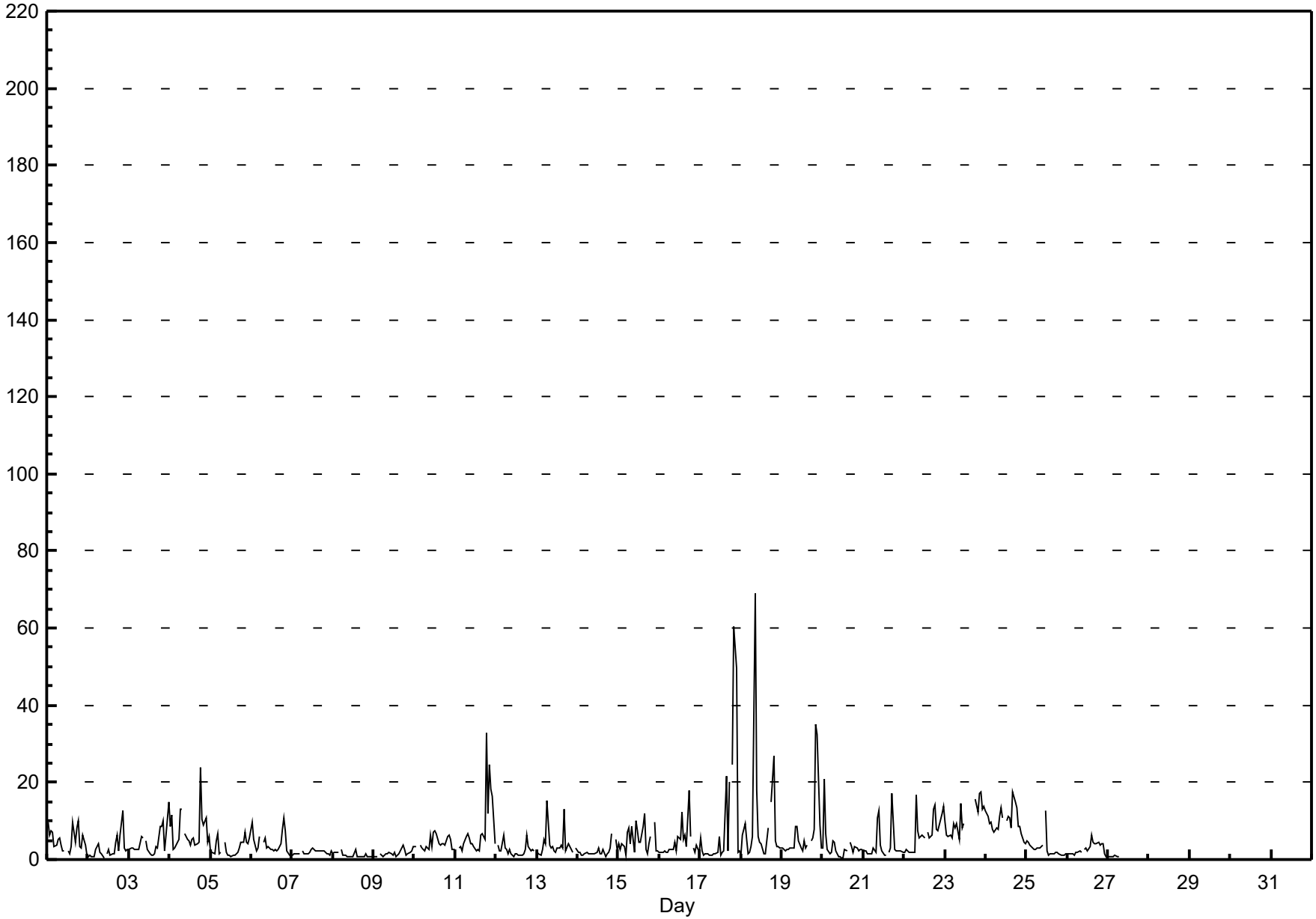
C - Calibration NS - Not in service A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

**Nitrogen Dioxide ($NO_2$) - ppb**

**Portable Rycroft - October 2018**

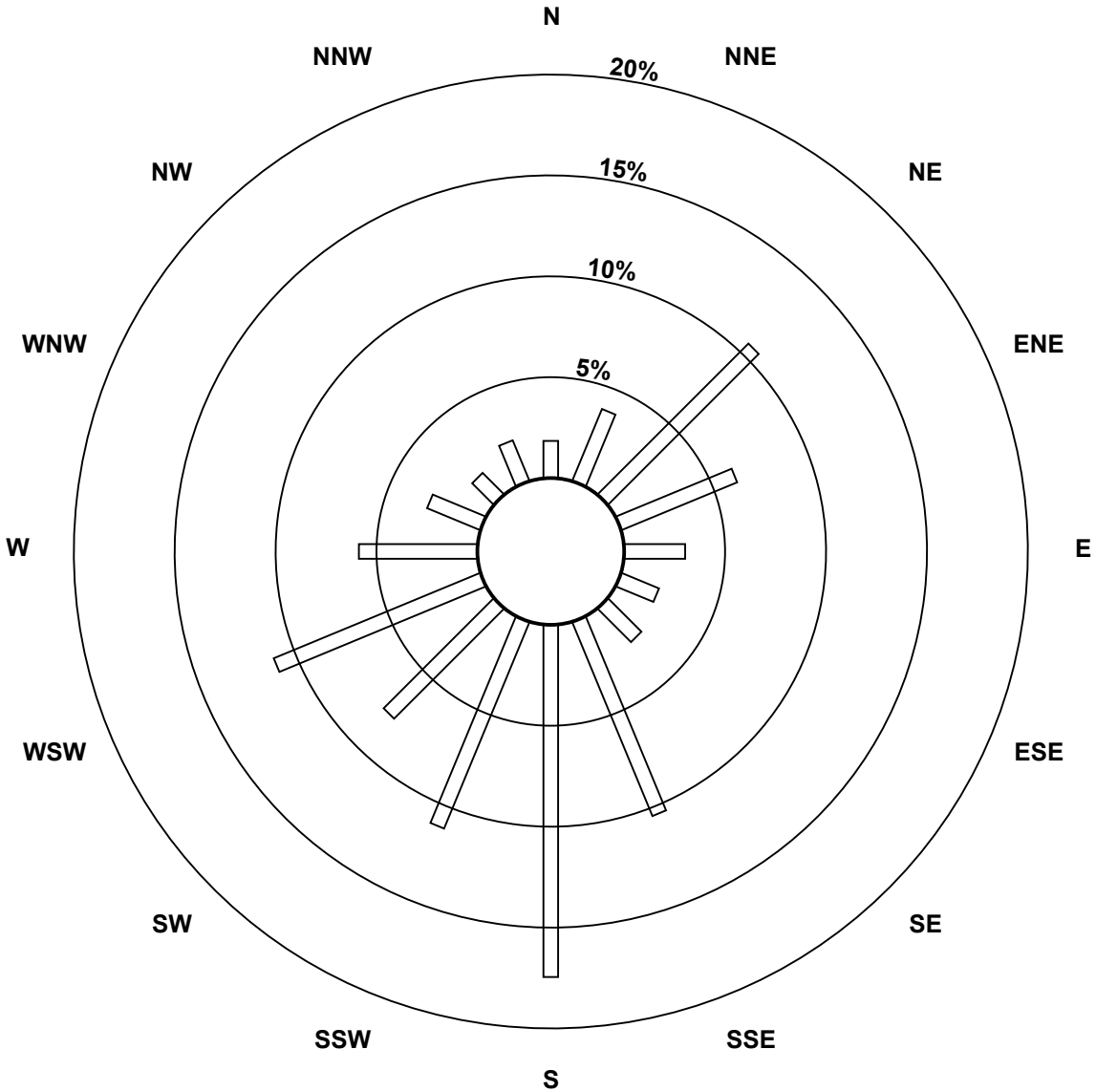


Peace Airshed Zone Association

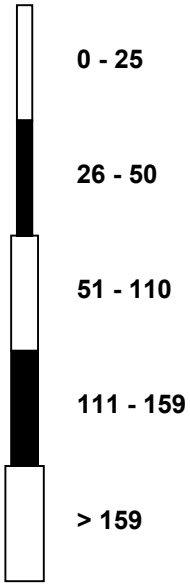
# Pollutant Rose

## Nitrogen Dioxide ($NO_2$) - ppb

## Portable Rycroft - October 2018




### Pollutant Classes (ppb)

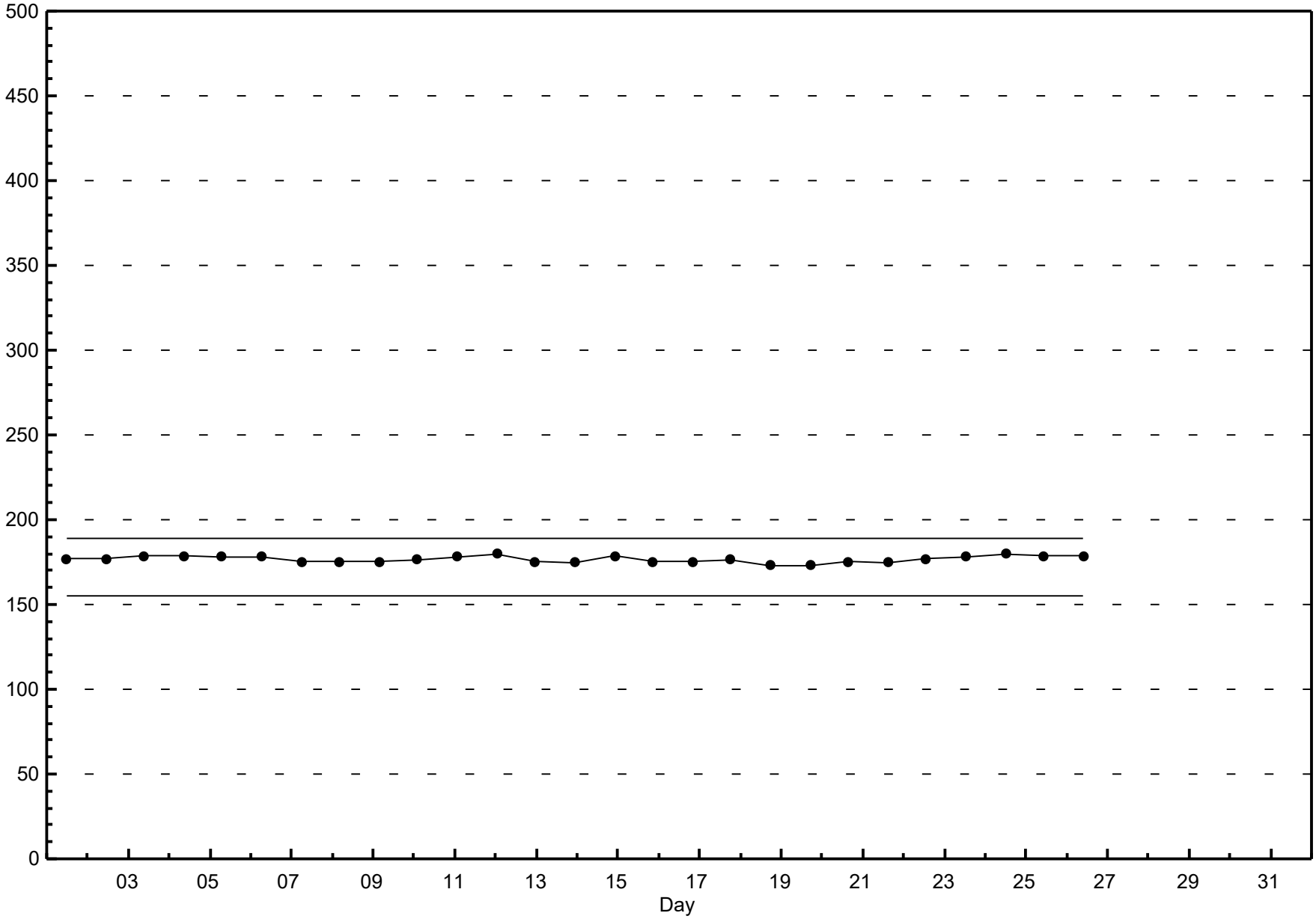


Peace Airshed Zone Association

# Span Responses

**Nitrogen Dioxide ($NO_2$)**

**Portable Rycroft - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Nitrogen Oxide (NO) - ppb

## Portable Rycroft - October 2018

Maximum Value: 22.7 ppb on Oct 17 21:00

Maximum Daily Average: 2.1 ppb on Oct 23

Minimum Value: 0 ppb on Oct 14 04:00

Minimum Daily Average: 0.1 ppb on Oct 8

Maximum Diurnal Average: 1.9 ppb at hour 21

Minimum Diurnal Average: 0.1 ppb at hour 5

Monthly Average: 0.51 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.1 $Q_3 = 0.3$ $P_{90} = 1.0$ $P_{99} = 6.5$

| | |
|---|---|
| Hours in Service: | 635 |
| Hours of Data: | 599 |
| Hours of Missing Data: | 36 |
| Hours of Calibration: | 36 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.7 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.5 |
| 3-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.3 | 0.9 |
| 4-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | A | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0.8 | 3.0 |
| 5-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.7 |
| 6-Oct | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0.4 | 1.0 |
| 7-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.4 |
| 8-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.2 |
| 9-Oct | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 10-Oct | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 1.7 |
| 11-Oct | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 5 | 3 | 1 | 0 | 0.8 | 5.0 |
| 12-Oct | A | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0.1 | 0.6 |
| 13-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 2 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0.7 | 3.8 |
| 14-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | 1 | 0 | 0.1 | 0.9 |
| 15-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0.3 | 1.3 |
| 16-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | A | 0 | 0 | 0 | 0 | 0.1 | 0.7 |
| 17-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 6 | A | 4 | 23 | 10 | 0 | 0 | 2.0 | 22.7 |
| 18-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 6 | 5 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | A | 0 | 3 | 0 | 0 | 0 | 0 | 0.8 | 6.5 |
| 19-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | A | 0 | 0 | 0 | 5 | 4 | 0 | 0 | 0.9 | 4.7 |
| 20-Oct | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 1.5 |
| 21-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.7 |
| 22-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 3 | 3 | A | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.7 | 2.6 |
| 23-Oct | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 4 | 5 | 6 | A | C | C | C | C | C | 1 | 0 | 12 | 7 | 1 | 1 | 2.1 | 11.6 |
| 24-Oct | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 6 | 10 | A | 7 | 6 | 4 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.9 | 10.2 |
| 25-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 1.6 |
| 26-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.5 |
| 27-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | C | C | C | C | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 0.1 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | 0.3 | 0.8 | 1.2 | 1.3 | 0.9 | 0.8 | 0.6 | 0.5 | 0.5 | 0.4 | 0.5 | 0.3 | 0.4 | 1.9 | 1.0 | 0.2 | 0.1 | Diurnal Average | |
| | 0.6 | 1.5 | 0.4 | 0.6 | 0.6 | 0.7 | 3.8 | 2.9 | 6.5 | 5.6 | 10.2 | 6.0 | 7.0 | 5.6 | 4.2 | 2.0 | 1.5 | 5.6 | 2.3 | 3.9 | 22.7 | 10.0 | 1.3 | 1.5 | Diurnal Maximum | |

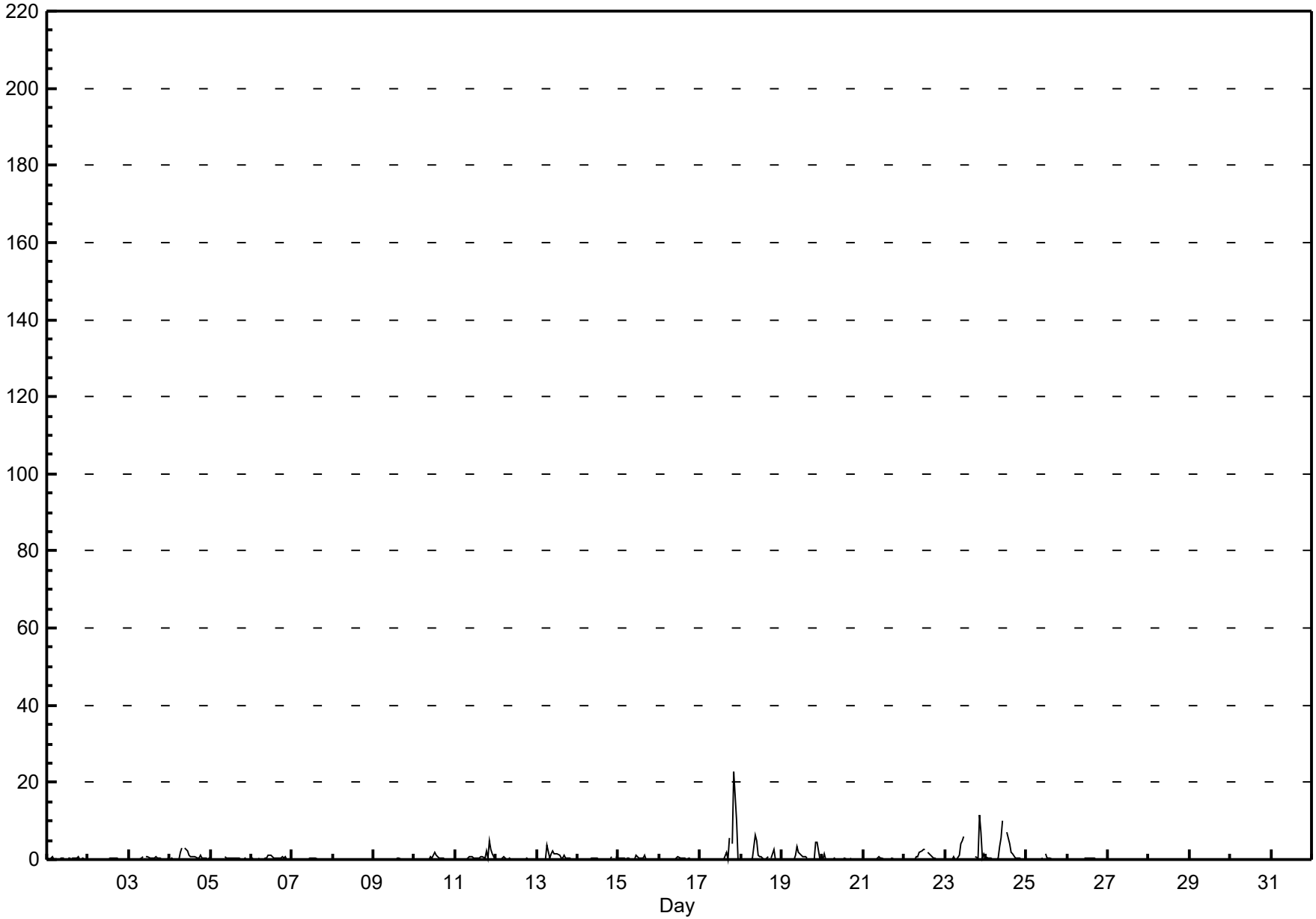
C - Calibration NS - Not in service A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Averages

**Nitrogen Oxide (NO) - ppb**

**Portable Rycroft - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Nitrogen Oxide (NO) - ppb

## Portable Rycroft - October 2018

Maximum Value: 236.4 ppb on Oct 17 18:00

Maximum Daily Average: 27.1 ppb on Oct 17

Minimum Value: 0 ppb on Oct 16 02:00

Minimum Daily Average: 0.4 ppb on Oct 8

Maximum Diurnal Average: 12.2 ppb at hour 18

Minimum Diurnal Average: 0.3 ppb at hour 4

Monthly Average: 3.56 ppb

Percentiles: $P_1 = 0.1$ $P_{10} = 0.1$ $Q_1 = 0.2$ Median = 0.4 $Q_3 = 1.5$ $P_{90} = 4.5$ $P_{99} = 60.9$

| | |
|---|---|
| Hours in Service: | 635 |
| Hours of Data: | 599 |
| Hours of Missing Data: | 36 |
| Hours of Calibration: | 36 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | A | 0 | 1 | 1 | 2 | 1 | 3 | 6 | 1 | 1 | 2 | 1 | 0 | 1.1 | 5.5 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | A | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 2.4 |
| 3-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | A | 2 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 4 | 1 | 2 | 0 | 1 | 11 | 1.3 | 10.5 |
| 4-Oct | 0 | 1 | 0 | 0 | 0 | 0 | 29 | 19 | A | 4 | 3 | 2 | 2 | 3 | 3 | 2 | 2 | 1 | 11 | 1 | 3 | 3 | 0 | 5 | 4.1 | 29.2 |
| 5-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 1 | 2 | 3 | 1 | 0 | 2 | 0.9 | 3.5 |
| 6-Oct | 9 | 1 | 0 | 0 | 0 | 2 | A | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 9 | 8 | 25 | 2 | 0 | 0 | 3.0 | 25.1 |
| 7-Oct | 0 | 0 | 0 | 0 | 0 | A | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0.6 | 1.8 |
| 8-Oct | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0.4 | 1.6 |
| 9-Oct | 0 | 0 | 0 | A | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 2 | 0 | 1 | 2 | 2 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0.8 | 2.9 |
| 10-Oct | 0 | 0 | A | 0 | 0 | 0 | 0 | 1 | 0 | 14 | 1 | 3 | 3 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.3 | 14.3 |
| 11-Oct | 0 | A | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 5 | 1 | 1 | 1 | 2 | 2 | 1 | 60 | 7 | 100 | 38 | 26 | 0 | 10.8 | 100.3 |
| 12-Oct | A | 0 | 0 | 0 | 3 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | A | 0.6 | 2.5 |
| 13-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 36 | 1 | 2 | 3 | 6 | 2 | 3 | 3 | 3 | 2 | 7 | 0 | 3 | 0 | 0 | 0 | A | 0 | 3.2 | 36.3 |
| 14-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | A | 2 | 1 | 0.4 | 1.8 |
| 15-Oct | 1 | 1 | 1 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 3 | 3 | 1 | 1 | 2 | 3 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 1.0 | 3.3 |
| 16-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 5 | 1 | 1 | 0 | 16 | 0 | A | 1 | 0 | 0 | 0 | 1.4 | 16.4 |
| 17-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 96 | 0 | 236 | A | 50 | 96 | 140 | 0 | 0 | 27.1 | 236.4 |
| 18-Oct | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 23 | 108 | 15 | 3 | 3 | 2 | 0 | 0 | 2 | 2 | A | 7 | 51 | 0 | 0 | 0 | 0 | 9.5 | 108.0 |
| 19-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 22 | 23 | 3 | 2 | 3 | 2 | 3 | A | 3 | 1 | 3 | 43 | 30 | 4 | 0 | 6.3 | 42.7 |
| 20-Oct | 0 | 16 | 0 | 0 | 0 | 0 | 5 | 10 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | A | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1.7 | 16.3 |
| 21-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 7 | 7 | 1 | 1 | 0 | 0 | A | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 1.1 | 7.1 |
| 22-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 2 | 18 | 3 | 3 | 4 | A | 3 | 2 | 1 | 13 | 6 | 0 | 0 | 0 | 0 | 0 | 2.7 | 17.6 |
| 23-Oct | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 2 | 14 | 32 | 7 | 8 | A | C | C | C | C | C | 4 | 1 | 18 | 17 | 1 | 3 | 6.2 | 31.6 |
| 24-Oct | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 51 | 21 | 19 | A | 8 | 7 | 6 | 2 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 5.5 | 51.3 |
| 25-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | 35 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.9 | 35.1 |
| 26-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 1 | 1 | 1 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 3.3 |
| 27-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | C | C | C | C | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 0.2 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| | 0.7 | 0.9 | 0.3 | 0.3 | 0.3 | 0.5 | 3.0 | 2.9 | 7.9 | 6.1 | 3.3 | 3.2 | 1.5 | 1.5 | 1.3 | 5.2 | 1.3 | 12.2 | 4.7 | 5.2 | 11.9 | 9.5 | 1.5 | 1.1 | Diurnal Average | |
| | 9.4 | 16.3 | 1.9 | 1.5 | 2.5 | 5.0 | 36.3 | 22.9 | 108.0 | 31.6 | 23.1 | 35.1 | 8.1 | 6.9 | 6.2 | 96.1 | 7.2 | 236.4 | 60.2 | 50.7 | 100.3 | 140.3 | 25.7 | 10.5 | Diurnal Maximum | |

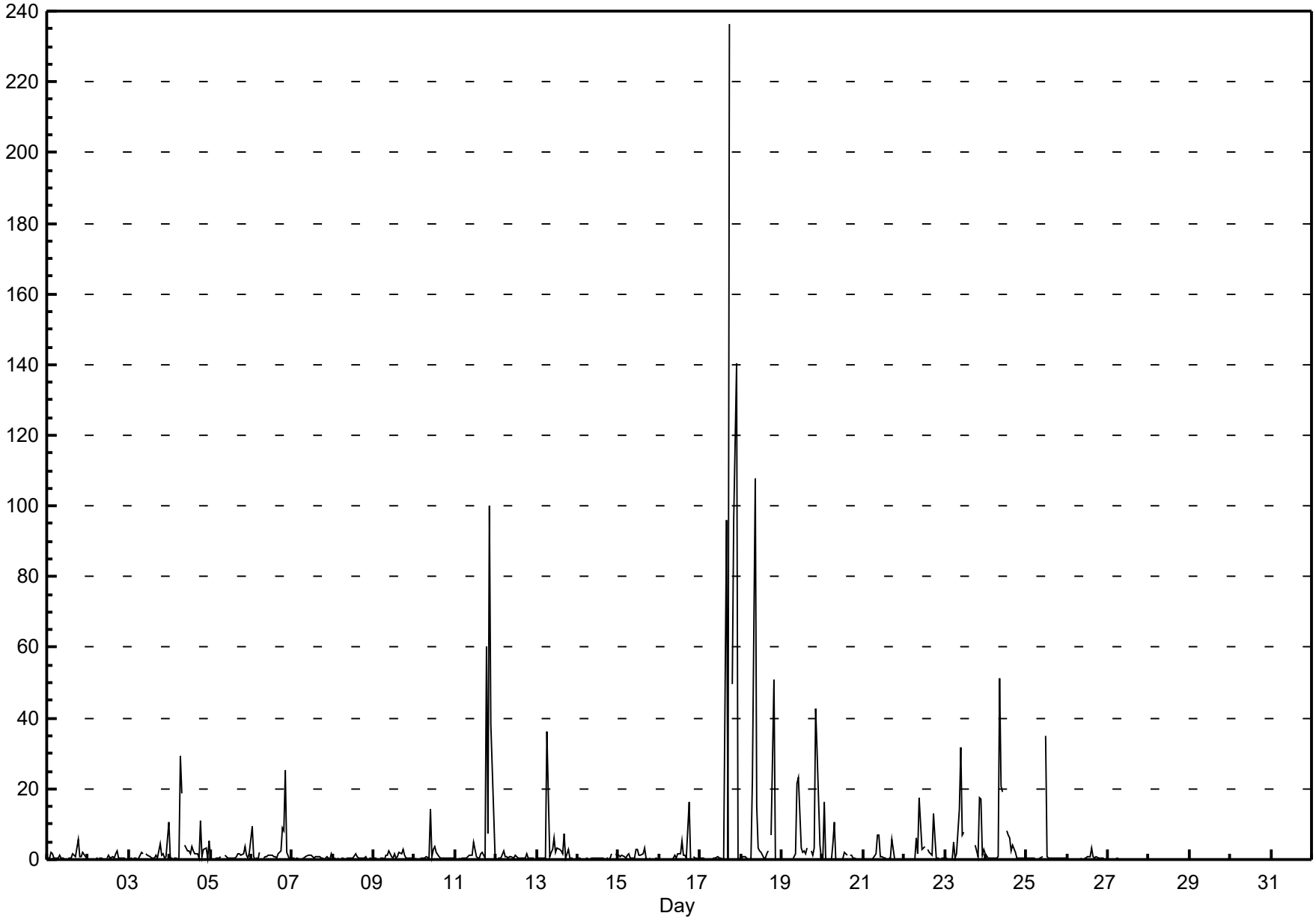
C - Calibration NS - Not in service A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

**Nitrogen Oxide (NO) - ppb**

**Portable Rycroft - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Oxides of Nitrogen ($NO_X$) - ppb

## Portable Rycroft - October 2018

Maximum Value: 37.2 ppb on Oct 17 21:00

Maximum Daily Average: 10.2 ppb on Oct 23

Minimum Value: 0 ppb on Oct 2 10:00

Minimum Daily Average: 0.8 ppb on Oct 8

Maximum Diurnal Average: 5.8 ppb at hour 21

Minimum Diurnal Average: 2.1 ppb at hour 5

Monthly Average: 3.04 ppb

Percentiles: $P_1 = 0.4$ $P_{10} = 0.8$ $Q_1 = 1.2$ Median = 2.0 $Q_3 = 3.4$ $P_{90} = 6.5$ $P_{99} = 15.5$

| | |
|---|---|
| Hours in Service: | 635 |
| Hours of Data: | 599 |
| Hours of Missing Data: | 36 |
| Hours of Calibration: | 36 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 8 | 5 | 5 | 6 | 3 | 3 | 4 | 3 | 3 | 2 | 2 | A | 2 | 1 | 1 | 2 | 2 | 3 | 3 | 1 | 1 | 2 | 1 | 0 | 2.7 | 8.2 |
| 2-Oct | 0 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | A | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 4 | 2 | 2 | 2 | 1.5 | 3.8 |
| 3-Oct | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 3 | 4 | A | 4 | 3 | 2 | 1 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 1 | 2 | 5 | 2.5 | 4.6 |
| 4-Oct | 6 | 7 | 2 | 2 | 2 | 3 | 6 | 9 | A | 8 | 7 | 4 | 3 | 3 | 3 | 3 | 2 | 3 | 9 | 6 | 4 | 6 | 4 | 2 | 4.4 | 9.4 |
| 5-Oct | 2 | 1 | 1 | 1 | 3 | 1 | 1 | A | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 4 | 4 | 3 | 4 | 4 | 2.0 | 3.7 |
| 6-Oct | 5 | 4 | 3 | 2 | 2 | 4 | A | 4 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 4 | 2 | 2 | 1 | 1 | 1 | 2.6 | 4.8 |
| 7-Oct | 1 | 1 | 1 | 1 | 1 | A | 2 | 1 | 1 | 1 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1.5 | 2.6 |
| 8-Oct | 1 | 2 | 2 | 2 | A | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0.8 | 1.7 |
| 9-Oct | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 3 | 1.1 | 2.7 |
| 10-Oct | 3 | 3 | A | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 5 | 7 | 6 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 3 | 2 | 2 | 3.4 | 7.2 |
| 11-Oct | 2 | A | 2 | 2 | 2 | 3 | 5 | 7 | 5 | 4 | 4 | 2 | 2 | 3 | 2 | 4 | 5 | 3 | 9 | 5 | 11 | 9 | 6 | 3 | 4.4 | 10.8 |
| 12-Oct | A | 2 | 2 | 2 | 4 | 2 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 1 | A | 1.4 | 3.9 |
| 13-Oct | 2 | 1 | 1 | 1 | 3 | 3 | 9 | 3 | 4 | 5 | 3 | 3 | 3 | 2 | 1 | 1 | 4 | 1 | 2 | 2 | 2 | 2 | A | 2 | 2.6 | 9.1 |
| 14-Oct | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | A | 3 | 2 | 1.4 | 4.9 |
| 15-Oct | 2 | 1 | 2 | 2 | 1 | 3 | 4 | 3 | 2 | 2 | 7 | 4 | 3 | 2 | 3 | 6 | 1 | 1 | 3 | 3 | A | 3 | 2 | 2 | 2.6 | 7.0 |
| 16-Oct | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 2 | 3 | 1 | 2 | 2 | 3 | 2 | 5 | 2 | A | 2 | 1 | 1 | 1 | 1.9 | 4.9 |
| 17-Oct | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 2 | 6 | A | 7 | 37 | 16 | 1 | 1 | 3.9 | 37.2 |
| 18-Oct | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 3 | 13 | 13 | 4 | 3 | 2 | 1 | 1 | 1 | 3 | A | 5 | 11 | 3 | 3 | 3 | 3 | 3.6 | 13.4 |
| 19-Oct | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 7 | 8 | 5 | 3 | 2 | 3 | 3 | 3 | A | 3 | 3 | 3 | 12 | 14 | 3 | 3 | 4.1 | 13.5 |
| 20-Oct | 3 | 9 | 4 | 2 | 1 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | A | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1.6 | 9.3 |
| 21-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 2 | 2 | 1 | 1 | A | 1 | 1 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1.6 | 3.5 |
| 22-Oct | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 6 | 5 | 6 | 7 | 8 | 7 | A | 8 | 7 | 7 | 7 | 7 | 6 | 6 | 9 | 10 | 12 | 5.6 | 11.8 |
| 23-Oct | 8 | 6 | 5 | 5 | 5 | 7 | 6 | 6 | 6 | 8 | 10 | 13 | A | C | C | C | C | C | 14 | 11 | 26 | 21 | 13 | 13 | 10.2 | 25.9 |
| 24-Oct | 10 | 10 | 8 | 8 | 6 | 6 | 7 | 7 | 11 | 12 | 19 | A | 17 | 15 | 13 | 9 | 11 | 10 | 9 | 6 | 6 | 5 | 3 | 3 | 9.3 | 19.3 |
| 25-Oct | 4 | 4 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | A | 4 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2.1 | 4.4 |
| 26-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | A | 3 | 3 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 1 | 1 | 2.3 | 4.4 |
| 27-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | C | C | C | C | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 0.7 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| | 2.8 | 2.8 | 2.2 | 2.2 | 2.1 | 2.3 | 2.8 | 3.0 | 3.4 | 3.8 | 3.8 | 3.1 | 2.7 | 2.3 | 2.4 | 2.6 | 2.6 | 2.9 | 3.9 | 3.6 | 5.8 | 4.6 | 2.8 | 2.8 | Diurnal Average | |
| | 10.5 | 10.0 | 7.5 | 8.1 | 6.2 | 7.4 | 9.1 | 9.4 | 12.6 | 13.4 | 19.3 | 13.4 | 16.9 | 15.5 | 13.1 | 8.9 | 10.8 | 9.6 | 14.1 | 11.0 | 37.2 | 21.5 | 12.5 | 13.1 | Diurnal Maximum | |

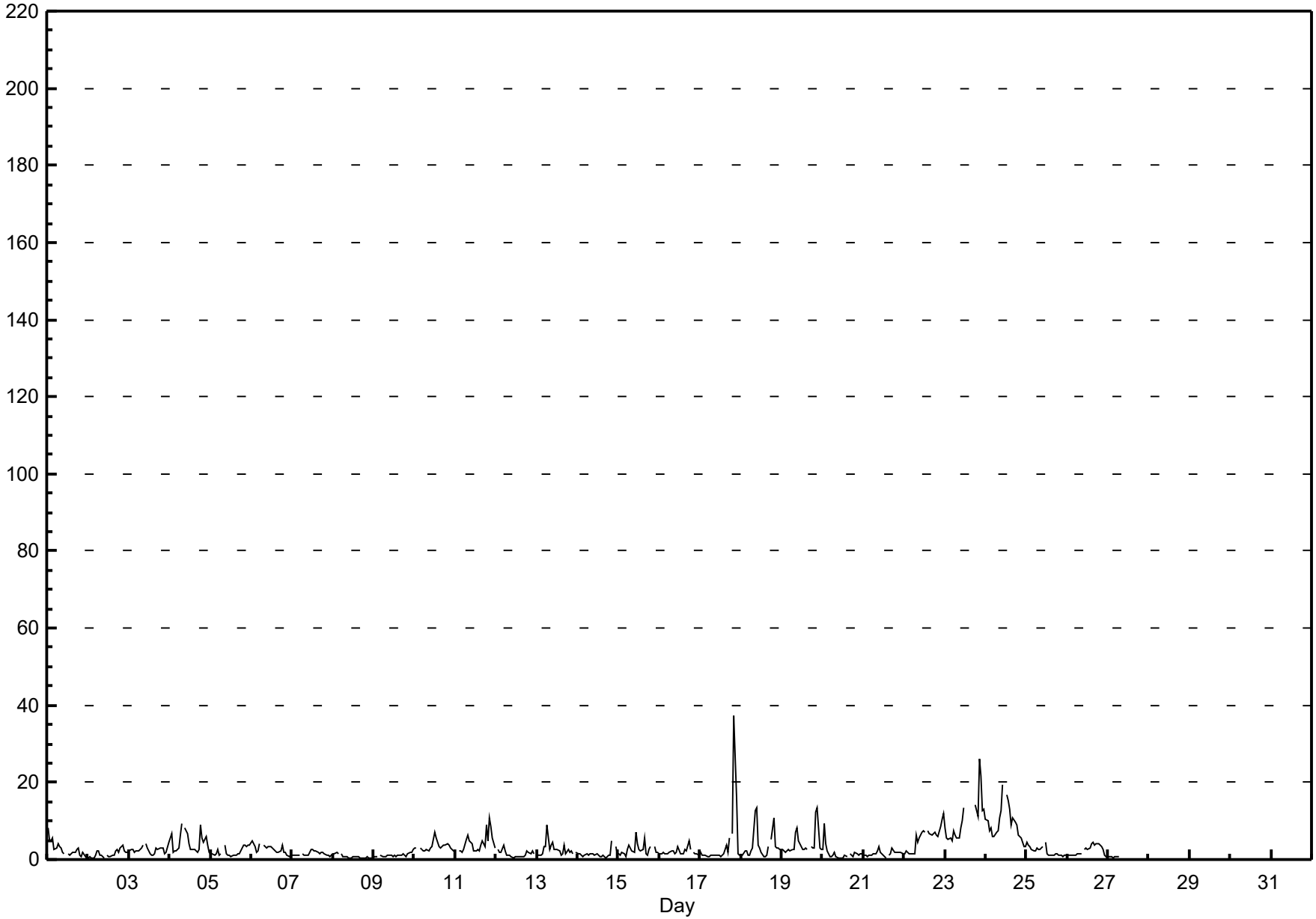
C - Calibration NS - Not in service A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Averages

**Oxides of Nitrogen ($NO_X$) - ppb**

**Portable Rycroft - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Oxides of Nitrogen ($NO_X$) - ppb

## Portable Rycroft - October 2018

Maximum Value: 188.0 ppb on Oct 17 22:00

Maximum Daily Average: 26.3 ppb on Oct 17

Minimum Value: 1 ppb on Oct 20 13:00

Minimum Daily Average: 1.3 ppb on Oct 8

Maximum Diurnal Average: 19.4 ppb at hour 21

Minimum Diurnal Average: 3.0 ppb at hour 5

Monthly Average: 7.74 ppb

Percentiles: $P_1 = 0.7$ $P_{10} = 1.3$ $Q_1 = 2.0$ Median = 3.3 $Q_3 = 7.0$ $P_{90} = 14.4$ $P_{99} = 92.4$

| | |
|---|---|
| Hours in Service: | 635 |
| Hours of Data: | 599 |
| Hours of Missing Data: | 36 |
| Hours of Calibration: | 36 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 10 | 7 | 9 | 9 | 3 | 4 | 5 | 7 | 4 | 3 | 2 | A | 2 | 2 | 4 | 11 | 5 | 11 | 16 | 4 | 3 | 8 | 4 | 1 | 5.9 | 15.7 |
| 2-Oct | 1 | 1 | 1 | 1 | 3 | 3 | 4 | 2 | 2 | 1 | A | 2 | 4 | 2 | 2 | 2 | 6 | 9 | 2 | 6 | 13 | 3 | 2 | 2 | 3.2 | 12.8 |
| 3-Oct | 2 | 3 | 3 | 2 | 3 | 3 | 3 | 8 | 7 | A | 6 | 3 | 2 | 1 | 1 | 2 | 4 | 3 | 13 | 10 | 12 | 2 | 7 | 26 | 5.6 | 25.6 |
| 4-Oct | 9 | 12 | 3 | 3 | 4 | 5 | 42 | 30 | A | 11 | 8 | 7 | 5 | 9 | 8 | 5 | 6 | 5 | 35 | 11 | 12 | 14 | 5 | 11 | 11.3 | 41.7 |
| 5-Oct | 2 | 2 | 2 | 5 | 7 | 2 | 2 | A | 6 | 3 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 4 | 6 | 6 | 11 | 6 | 4 | 8 | 3.7 | 10.5 |
| 6-Oct | 19 | 6 | 4 | 2 | 3 | 7 | A | 5 | 6 | 4 | 4 | 4 | 4 | 3 | 3 | 2 | 4 | 7 | 17 | 19 | 33 | 4 | 1 | 1 | 7.1 | 32.5 |
| 7-Oct | 2 | 2 | 1 | 1 | 1 | A | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 4 | 2.3 | 4.0 |
| 8-Oct | 2 | 2 | 2 | 2 | A | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1.3 | 3.9 |
| 9-Oct | 1 | 1 | 1 | A | 2 | 1 | 1 | 2 | 3 | 4 | 2 | 1 | 3 | 1 | 2 | 3 | 5 | 7 | 4 | 1 | 2 | 2 | 2 | 3 | 2.3 | 6.6 |
| 10-Oct | 3 | 3 | A | 4 | 3 | 3 | 2 | 4 | 3 | 19 | 4 | 10 | 11 | 9 | 5 | 4 | 4 | 4 | 4 | 6 | 6 | 5 | 3 | 3 | 5.3 | 18.8 |
| 11-Oct | 3 | A | 3 | 3 | 2 | 4 | 6 | 7 | 7 | 5 | 5 | 7 | 3 | 3 | 3 | 8 | 9 | 6 | 92 | 19 | 123 | 53 | 42 | 4 | 18.1 | 122.6 |
| 12-Oct | A | 4 | 2 | 2 | 8 | 3 | 3 | 2 | 3 | 2 | 1 | 3 | 2 | 1 | 2 | 1 | 2 | 3 | 8 | 3 | 2 | 3 | 2 | A | 2.9 | 8.1 |
| 13-Oct | 2 | 2 | 1 | 3 | 5 | 4 | 51 | 4 | 4 | 6 | 8 | 4 | 6 | 6 | 6 | 5 | 20 | 3 | 7 | 4 | 3 | 2 | A | 3 | 6.9 | 50.9 |
| 14-Oct | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 1 | 3 | 1 | 2 | 2 | 3 | 9 | A | 7 | 3 | 2.4 | 8.6 |
| 15-Oct | 5 | 3 | 6 | 4 | 1 | 9 | 10 | 4 | 9 | 2 | 13 | 11 | 6 | 6 | 10 | 15 | 3 | 1 | 4 | 6 | A | 10 | 2 | 2 | 6.2 | 15.2 |
| 16-Oct | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 6 | 3 | 8 | 7 | 18 | 7 | 8 | 4 | 34 | 6 | A | 4 | 2 | 4 | 2 | 5.6 | 33.5 |
| 17-Oct | 6 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 6 | 1 | 2 | 2 | 103 | 2 | 115 | A | 51 | 109 | 188 | 2 | 2 | 26.3 | 188.0 |
| 18-Oct | 1 | 7 | 10 | 5 | 2 | 2 | 3 | 18 | 177 | 33 | 9 | 7 | 6 | 2 | 2 | 6 | 11 | A | 22 | 78 | 5 | 3 | 3 | 3 | 18.1 | 177.4 |
| 19-Oct | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 10 | 30 | 22 | 6 | 4 | 7 | 4 | 6 | A | 7 | 7 | 11 | 78 | 60 | 13 | 3 | 12.6 | 78.1 |
| 20-Oct | 3 | 37 | 7 | 3 | 1 | 2 | 9 | 15 | 2 | 1 | 1 | 1 | 1 | 4 | 3 | A | 5 | 5 | 2 | 3 | 3 | 2 | 3 | 3 | 5.0 | 36.6 |
| 21-Oct | 2 | 2 | 1 | 1 | 1 | 1 | 3 | 3 | 18 | 20 | 5 | 3 | 1 | 2 | A | 2 | 3 | 23 | 3 | 2 | 2 | 2 | 2 | 2 | 4.6 | 23.0 |
| 22-Oct | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 23 | 9 | 23 | 8 | 9 | 9 | A | 10 | 7 | 7 | 26 | 20 | 8 | 7 | 10 | 12 | 14 | 9.4 | 25.8 |
| 23-Oct | 10 | 7 | 6 | 7 | 6 | 13 | 8 | 11 | 18 | 46 | 15 | 17 | A | C | C | C | C | C | 20 | 13 | 33 | 32 | 14 | 15 | 16.2 | 46.2 |
| 24-Oct | 14 | 12 | 10 | 10 | 8 | 7 | 8 | 8 | 57 | 34 | 30 | A | 18 | 18 | 17 | 11 | 21 | 17 | 14 | 9 | 9 | 7 | 5 | 4 | 15.1 | 56.6 |
| 25-Oct | 5 | 5 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 5 | A | 48 | 3 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 4.5 | 47.7 |
| 26-Oct | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | A | 3 | 3 | 3 | 4 | 10 | 5 | 4 | 5 | 5 | 4 | 4 | 4 | 1 | 1 | 3.1 | 9.5 |
| 27-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | C | C | C | C | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 1.0 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| | 4.4 | 4.9 | 3.3 | 3.1 | 3.0 | 3.5 | 7.0 | 6.8 | 14.4 | 10.9 | 6.7 | 6.9 | 4.4 | 4.6 | 4.6 | 9.1 | 5.6 | 12.5 | 12.5 | 11.4 | 19.4 | 17.1 | 5.8 | 4.9 | Diurnal Average | |
| | 19.3 | 36.6 | 10.0 | 9.9 | 8.1 | 13.2 | 50.9 | 29.8 | 177.4 | 46.2 | 30.1 | 47.7 | 18.3 | 18.0 | 17.2 | 102.8 | 21.2 | 114.6 | 92.1 | 77.5 | 122.6 | 188.0 | 42.2 | 25.6 | Diurnal Maximum | |

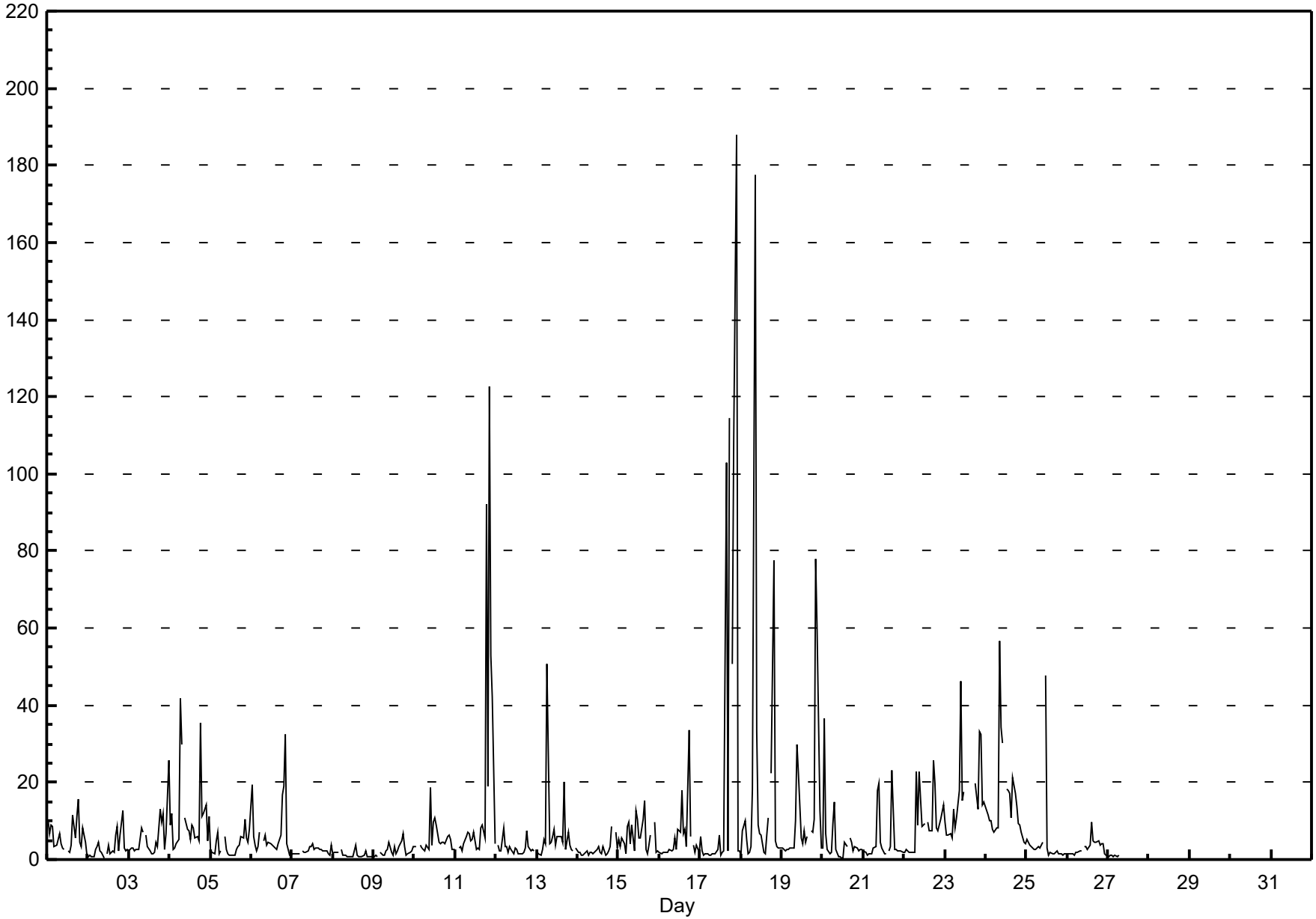
C - Calibration NS - Not in service A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

## Oxides of Nitrogen ($NO_X$) - ppb

## Portable Rycroft - October 2018

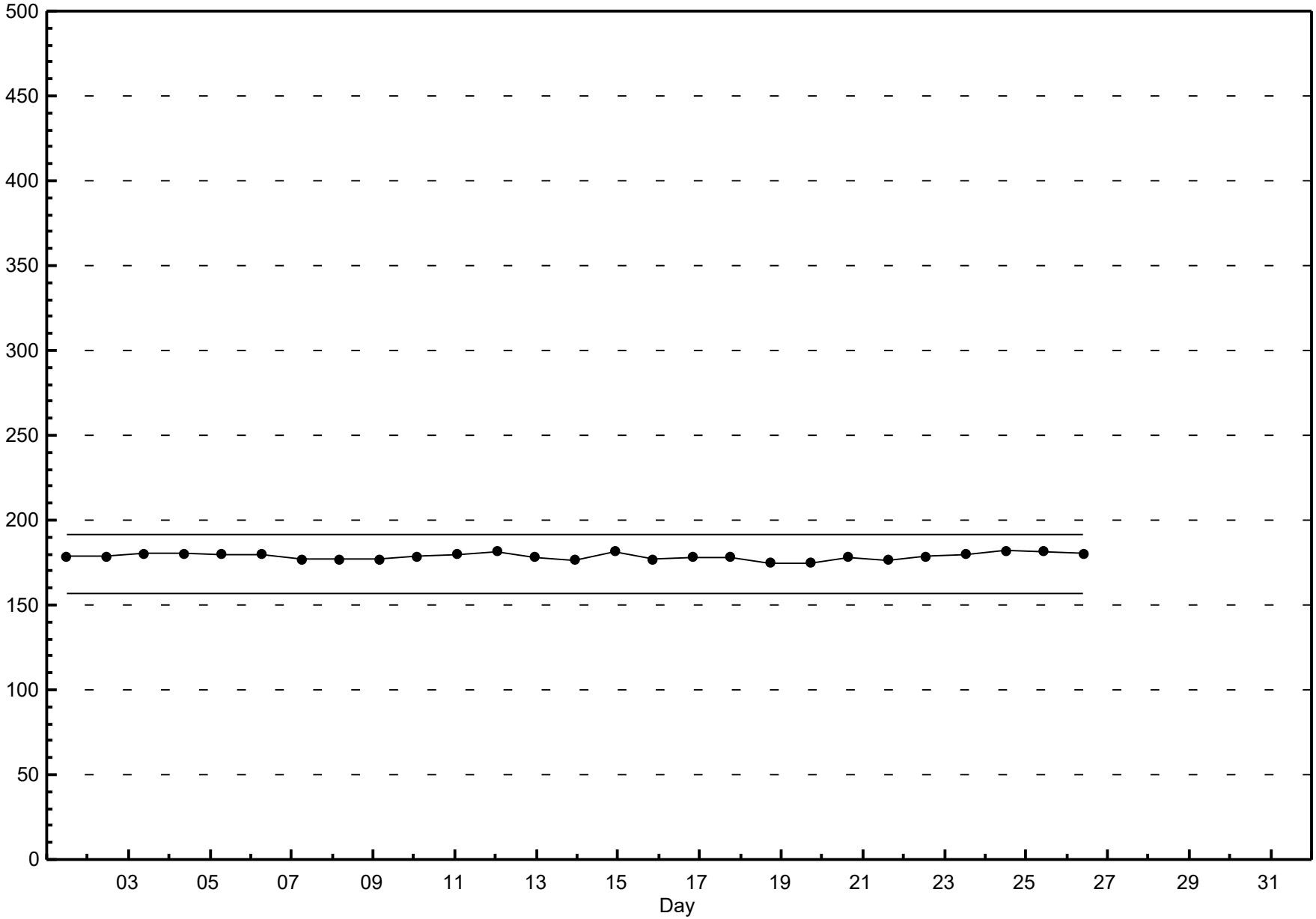


Peace Airshed Zone Association

# Span Responses

## Oxides of Nitrogen ($NO_X$)

## Portable Rycroft - October 2018



Peace Airshed Zone Association

# Hourly Averages

## Ozone ($O_3$) - ppb

## Portable Rycroft - October 2018

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0

Maximum Value: 48.0 ppb on Oct 16 14:00

Maximum Daily Average: 41.4 ppb on Oct 17

Minimum Value: 1 ppb on Oct 23 21:00

Minimum Daily Average: 10.0 ppb on Oct 23

Maximum Diurnal Average: 29.2 ppb at hour 14

Minimum Diurnal Average: 18.9 ppb at hour 8

Monthly Average: 23.24 ppb

Percentiles: $P_1$ = 3.5 $P_{10}$ = 11.1 $Q_1$ = 16.3 Median = 22.4 $Q_3$ = 30.0 $P_{90}$ = 36.6 $P_{99}$ = 45.7

| | |
|---|---|
| Hours in Service: | 635 |
| Hours of Data: | 601 |
| Hours of Missing Data: | 34 |
| Hours of Calibration: | 34 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 5 | 11 | 9 | 7 | 12 | 12 | 11 | 15 | 17 | 21 | 25 | A | 27 | 30 | 28 | 28 | 29 | 29 | 28 | 26 | 26 | 25 | 27 | 27 | 20.7 | 29.6 |
| 2-Oct | 27 | 25 | 24 | 21 | 21 | 20 | 20 | 24 | 28 | 33 | A | 32 | 32 | 32 | 33 | 33 | 33 | 33 | 30 | 25 | 23 | 25 | 25 | 24 | 27.0 | 33.4 |
| 3-Oct | 22 | 21 | 21 | 21 | 18 | 17 | 16 | 16 | 17 | A | 25 | 28 | 32 | 35 | 35 | 33 | 30 | 31 | 29 | 27 | 28 | 31 | 28 | 21 | 25.3 | 35.2 |
| 4-Oct | 17 | 12 | 21 | 20 | 12 | 12 | 8 | 5 | A | 16 | 25 | 30 | 33 | 33 | 33 | 32 | 32 | 31 | 21 | 21 | 20 | 15 | 16 | 20 | 21.0 | 33.0 |
| 5-Oct | 19 | 18 | 19 | 10 | 11 | 11 | 8 | A | 13 | 19 | 21 | 22 | 24 | 24 | 25 | 26 | 26 | 26 | 22 | 18 | 17 | 17 | 16 | 15 | 18.5 | 26.2 |
| 6-Oct | 11 | 11 | 10 | 14 | 10 | 6 | A | 8 | 8 | 11 | 11 | 13 | 15 | 17 | 18 | 20 | 20 | 20 | 16 | 19 | 19 | 18 | 16 | 15 | 14.1 | 20.5 |
| 7-Oct | 13 | 13 | 13 | 12 | 12 | A | 12 | 13 | 15 | 16 | 16 | 15 | 15 | 16 | 16 | 17 | 17 | 17 | 17 | 18 | 19 | 20 | 20 | 19 | 15.7 | 20.2 |
| 8-Oct | 17 | 17 | 16 | 16 | A | 18 | 19 | 19 | 19 | 20 | 20 | 20 | 19 | 20 | 20 | 20 | 20 | 21 | 22 | 23 | 22 | 23 | 22 | 21 | 19.7 | 22.7 |
| 9-Oct | 21 | 20 | 20 | A | 20 | 21 | 20 | 20 | 20 | 21 | 22 | 23 | 24 | 24 | 24 | 24 | 24 | 23 | 24 | 23 | 26 | 25 | 24 | 21 | 22.4 | 26.1 |
| 10-Oct | 19 | 18 | A | 17 | 17 | 16 | 14 | 13 | 14 | 15 | 14 | 13 | 11 | 12 | 16 | 16 | 16 | 13 | 12 | 11 | 15 | 16 | 16 | 15 | 14.7 | 19.1 |
| 11-Oct | 15 | A | 9 | 11 | 10 | 9 | 8 | 6 | 12 | 14 | 17 | 25 | 28 | 27 | 28 | 27 | 28 | 26 | 20 | 18 | 17 | 17 | 18 | 19 | 17.8 | 28.1 |
| 12-Oct | A | 13 | 10 | 9 | 4 | 11 | 16 | 14 | 13 | 16 | 22 | 20 | 18 | 18 | 17 | 16 | 16 | 15 | 13 | 13 | 10 | 10 | 11 | A | 13.9 | 21.9 |
| 13-Oct | 12 | 14 | 15 | 11 | 7 | 8 | 7 | 10 | 10 | 13 | 15 | 16 | 16 | 21 | 24 | 25 | 23 | 23 | 17 | 15 | 13 | 14 | A | 14 | 14.9 | 25.2 |
| 14-Oct | 16 | 15 | 17 | 18 | 19 | 19 | 19 | 18 | 20 | 24 | 27 | 37 | 39 | 42 | 43 | 43 | 43 | 41 | 40 | 37 | 33 | A | 32 | 33 | 29.4 | 43.2 |
| 15-Oct | 33 | 32 | 30 | 29 | 29 | 28 | 30 | 30 | 30 | 32 | 34 | 40 | 41 | 40 | 39 | 36 | 38 | 37 | 33 | 30 | A | 31 | 28 | 26 | 32.9 | 40.5 |
| 16-Oct | 26 | 27 | 26 | 29 | 30 | 30 | 32 | 35 | 35 | 36 | 37 | 40 | 45 | 48 | 47 | 42 | 38 | 37 | 34 | A | 31 | 31 | 32 | 34 | 34.8 | 48.0 |
| 17-Oct | 35 | 35 | 36 | 38 | 44 | 45 | 45 | 46 | 45 | 46 | 47 | 44 | 46 | 46 | 43 | 43 | 41 | 40 | A | 40 | 33 | 37 | 39 | 39 | 41.4 | 47.0 |
| 18-Oct | 38 | 36 | 31 | 32 | 38 | 35 | 30 | 29 | 26 | 25 | 34 | 35 | 36 | 38 | 37 | 37 | 34 | A | 26 | 20 | 23 | 24 | 23 | 23 | 30.8 | 38.3 |
| 19-Oct | 22 | 23 | 23 | 21 | 20 | 18 | 17 | 15 | 10 | 12 | 20 | 26 | 29 | 29 | 30 | 32 | A | 31 | 30 | 30 | 28 | 25 | 30 | 29 | 23.8 | 31.6 |
| 20-Oct | 26 | 14 | 21 | 25 | 33 | 31 | 29 | 30 | 34 | 38 | 38 | 38 | 38 | 38 | 38 | A | 36 | 35 | 33 | 29 | 29 | 29 | 26 | 28 | 31.1 | 38.1 |
| 21-Oct | 28 | 26 | 27 | 27 | 27 | 28 | 28 | 27 | 31 | 31 | 35 | 35 | 39 | 40 | A | 41 | 40 | 35 | 32 | 31 | 28 | 28 | 27 | 27 | 31.1 | 40.6 |
| 22-Oct | 27 | 24 | 25 | 23 | 21 | 24 | 20 | 14 | 15 | 17 | 20 | 23 | 22 | A | 26 | 26 | 26 | 26 | 24 | 21 | 20 | 15 | 11 | 6 | 20.7 | 26.9 |
| 23-Oct | 12 | 14 | 11 | 9 | 11 | 7 | 9 | 10 | 9 | 10 | 12 | 16 | A | 20 | 19 | 17 | C | C | C | 9 | 1 | 1 | 3 | 1 | 10.0 | 20.2 |
| 24-Oct | 2 | 4 | 3 | 3 | 6 | 7 | 5 | 6 | 6 | 8 | 9 | A | 15 | 19 | 20 | 21 | 18 | 19 | 20 | 22 | 21 | 22 | 23 | 21 | 13.1 | 23.4 |
| 25-Oct | 20 | 21 | 21 | 22 | 24 | 21 | 19 | 20 | 23 | 22 | A | 26 | 37 | 39 | 38 | 37 | 35 | 34 | 33 | 34 | 34 | 34 | 32 | 30 | 28.5 | 39.2 |
| 26-Oct | 29 | 29 | 28 | 26 | 29 | 29 | 29 | 30 | 26 | A | 25 | 26 | 23 | 22 | 26 | 25 | 23 | 21 | 21 | 21 | 19 | 25 | 30 | 31 | 25.8 | 31.5 |
| 27-Oct | 31 | 30 | 31 | 34 | 33 | 33 | 33 | C | C | C | C | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 33.6 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| | 20.8 | 20.1 | 19.8 | 19.5 | 20.0 | 19.8 | 19.3 | 18.9 | 19.8 | 21.5 | 23.7 | 26.7 | 28.2 | 29.2 | 28.9 | 28.7 | 28.6 | 27.6 | 24.8 | 23.2 | 22.3 | 22.2 | 23.1 | 22.3 | Diurnal Average | |
| | 38.3 | 35.8 | 36.2 | 37.8 | 44.4 | 44.7 | 44.6 | 46.4 | 44.7 | 46.1 | 47.0 | 43.9 | 45.9 | 48.0 | 47.1 | 43.4 | 43.0 | 41.4 | 39.8 | 39.6 | 34.1 | 37.2 | 39.1 | 38.5 | Diurnal Maximum | |

C - Calibration NS - Not in service A - Automated Daily Zero Span

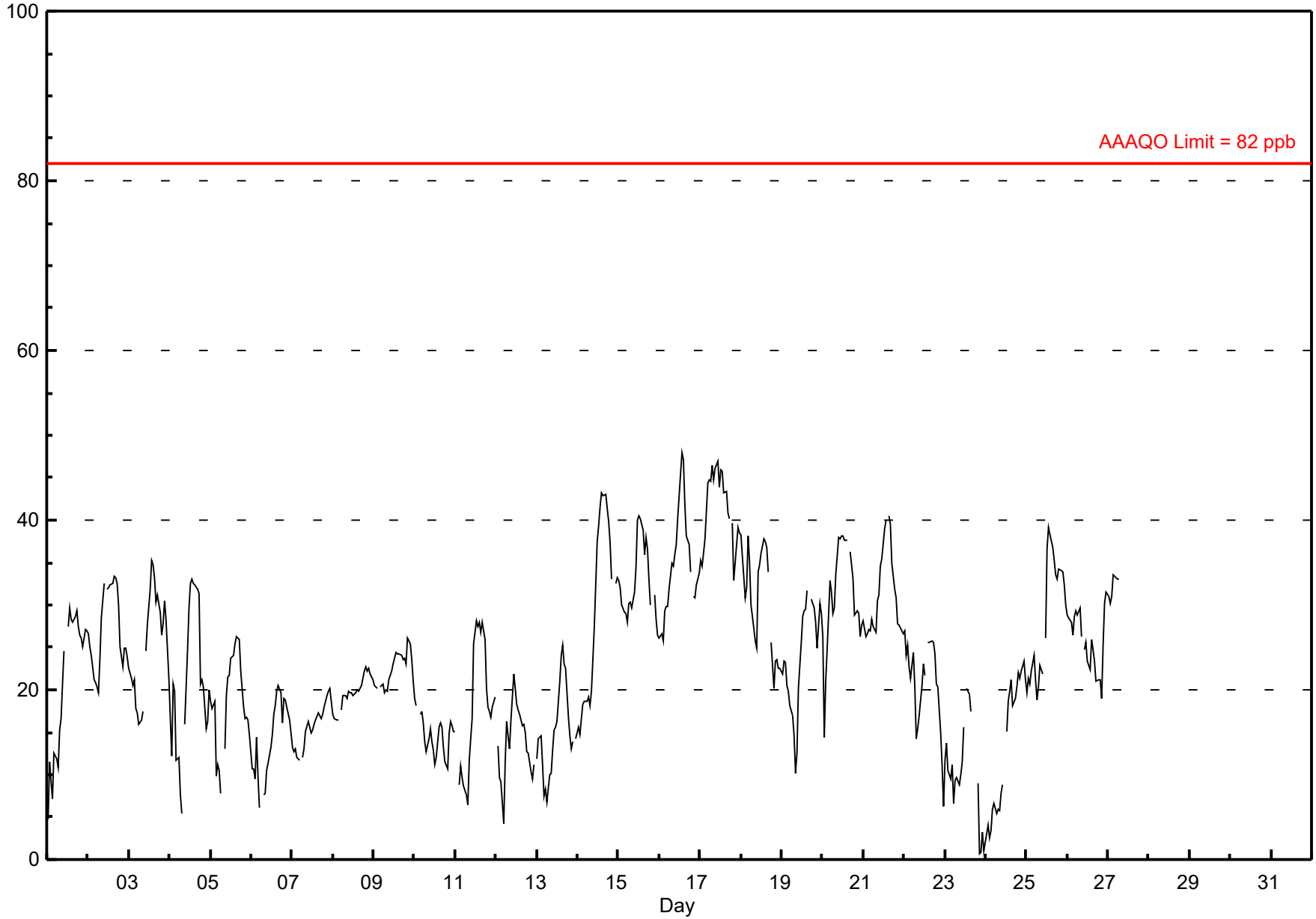
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na

Peace Airshed Zone Association

# Hourly Averages

**Ozone ($O_3$) - ppb**

**Portable Rycroft - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Ozone ($O_3$) - ppb

## Portable Rycroft - October 2018

Maximum Value: 49.6 ppb on Oct 16 15:00

Maximum Daily Average: 43.5 ppb on Oct 17

Minimum Value: 3 ppb on Oct 24 00:00

Minimum Daily Average: 12.4 ppb on Oct 23

Maximum Diurnal Average: 30.7 ppb at hour 14

Minimum Diurnal Average: 21.2 ppb at hour 8

Monthly Average: 25.36 ppb

Percentiles: $P_1$ = 6.2 $P_{10}$ = 13.5 $Q_1$ = 18.3 Median = 24.6 $Q_3$ = 31.9 $P_{90}$ = 38.6 $P_{99}$ = 47.4

| | |
|---|---|
| Hours in Service: | 635 |
| Hours of Data: | 601 |
| Hours of Missing Data: | 34 |
| Hours of Calibration: | 34 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 10 | 15 | 12 | 10 | 14 | 14 | 14 | 19 | 19 | 25 | 26 | A | 31 | 31 | 30 | 30 | 31 | 31 | 31 | 28 | 27 | 27 | 28 | 28 | 23.0 | 31.2 |
| 2-Oct | 28 | 27 | 25 | 23 | 26 | 24 | 22 | 26 | 33 | 33 | A | 33 | 33 | 33 | 33 | 35 | 35 | 34 | 32 | 30 | 24 | 26 | 26 | 26 | 29.0 | 34.6 |
| 3-Oct | 24 | 22 | 22 | 23 | 19 | 18 | 18 | 18 | 20 | A | 26 | 30 | 34 | 36 | 36 | 34 | 32 | 32 | 32 | 29 | 30 | 32 | 31 | 27 | 27.2 | 36.2 |
| 4-Oct | 22 | 19 | 23 | 23 | 19 | 18 | 11 | 12 | A | 21 | 28 | 31 | 34 | 34 | 34 | 34 | 34 | 33 | 30 | 23 | 22 | 18 | 18 | 22 | 24.4 | 34.2 |
| 5-Oct | 20 | 19 | 20 | 17 | 15 | 16 | 13 | A | 19 | 21 | 22 | 23 | 25 | 25 | 27 | 27 | 27 | 28 | 24 | 19 | 17 | 18 | 17 | 17 | 20.6 | 27.8 |
| 6-Oct | 12 | 13 | 12 | 16 | 15 | 10 | A | 8 | 10 | 11 | 13 | 15 | 16 | 18 | 19 | 22 | 22 | 22 | 20 | 21 | 20 | 19 | 18 | 16 | 16.0 | 22.1 |
| 7-Oct | 14 | 13 | 14 | 13 | 12 | A | 13 | 14 | 16 | 17 | 16 | 15 | 16 | 17 | 17 | 18 | 18 | 18 | 18 | 19 | 21 | 21 | 21 | 20 | 16.6 | 20.9 |
| 8-Oct | 18 | 17 | 17 | 17 | A | 19 | 20 | 20 | 20 | 21 | 20 | 20 | 20 | 21 | 20 | 20 | 21 | 21 | 24 | 24 | 23 | 23 | 23 | 22 | 20.5 | 23.6 |
| 9-Oct | 21 | 21 | 21 | A | 21 | 22 | 21 | 20 | 21 | 22 | 23 | 24 | 24 | 25 | 25 | 26 | 25 | 24 | 24 | 24 | 27 | 26 | 25 | 22 | 23.2 | 26.9 |
| 10-Oct | 20 | 19 | A | 18 | 18 | 17 | 17 | 16 | 16 | 17 | 15 | 14 | 12 | 15 | 17 | 17 | 17 | 15 | 12 | 12 | 25 | 21 | 21 | 17 | 16.8 | 24.6 |
| 11-Oct | 16 | A | 11 | 13 | 11 | 9 | 8 | 8 | 14 | 16 | 22 | 28 | 29 | 29 | 30 | 28 | 31 | 29 | 24 | 22 | 23 | 24 | 22 | 22 | 20.5 | 30.9 |
| 12-Oct | A | 18 | 12 | 13 | 6 | 21 | 18 | 17 | 15 | 20 | 23 | 22 | 19 | 19 | 19 | 18 | 17 | 18 | 16 | 14 | 13 | 13 | 14 | A | 16.6 | 23.1 |
| 13-Oct | 15 | 16 | 17 | 15 | 9 | 10 | 10 | 13 | 12 | 15 | 17 | 17 | 19 | 24 | 26 | 28 | 26 | 26 | 20 | 20 | 15 | 16 | A | 16 | 17.3 | 27.6 |
| 14-Oct | 16 | 16 | 18 | 20 | 19 | 19 | 20 | 20 | 22 | 25 | 31 | 41 | 42 | 44 | 44 | 44 | 44 | 43 | 41 | 39 | 36 | A | 34 | 34 | 30.9 | 44.2 |
| 15-Oct | 34 | 33 | 32 | 30 | 30 | 30 | 33 | 33 | 32 | 34 | 41 | 43 | 43 | 42 | 41 | 40 | 39 | 38 | 35 | 32 | A | 34 | 32 | 29 | 35.2 | 42.7 |
| 16-Oct | 28 | 28 | 29 | 31 | 31 | 31 | 34 | 36 | 36 | 37 | 39 | 44 | 48 | 50 | 50 | 47 | 41 | 41 | 36 | A | 32 | 32 | 35 | 36 | 37.1 | 49.6 |
| 17-Oct | 36 | 36 | 38 | 41 | 46 | 47 | 47 | 48 | 46 | 47 | 48 | 48 | 47 | 47 | 45 | 45 | 43 | 42 | A | 42 | 38 | 41 | 42 | 40 | 43.5 | 48.1 |
| 18-Oct | 39 | 39 | 33 | 37 | 40 | 37 | 34 | 31 | 30 | 34 | 36 | 37 | 38 | 39 | 38 | 38 | 37 | A | 31 | 24 | 25 | 24 | 24 | 25 | 33.4 | 39.6 |
| 19-Oct | 24 | 25 | 24 | 23 | 22 | 21 | 19 | 18 | 11 | 17 | 28 | 27 | 31 | 32 | 33 | 33 | A | 32 | 31 | 31 | 33 | 30 | 31 | 31 | 26.5 | 33.3 |
| 20-Oct | 28 | 25 | 26 | 28 | 35 | 34 | 30 | 31 | 38 | 39 | 39 | 39 | 39 | 39 | 39 | A | 37 | 36 | 35 | 31 | 32 | 30 | 29 | 30 | 33.4 | 39.1 |
| 21-Oct | 30 | 27 | 28 | 28 | 28 | 30 | 30 | 28 | 34 | 36 | 36 | 38 | 41 | 41 | A | 41 | 41 | 39 | 33 | 32 | 30 | 30 | 29 | 29 | 33.0 | 41.1 |
| 22-Oct | 30 | 27 | 28 | 28 | 25 | 26 | 25 | 22 | 20 | 20 | 23 | 26 | 24 | A | 27 | 27 | 27 | 27 | 27 | 25 | 23 | 20 | 14 | 9 | 23.8 | 30.0 |
| 23-Oct | 15 | 16 | 13 | 11 | 13 | 11 | 11 | 12 | 11 | 14 | 16 | 17 | A | 21 | 21 | 19 | C | C | C | 10 | 8 | 3 | 4 | 3 | 12.4 | 21.1 |
| 24-Oct | 4 | 6 | 4 | 5 | 7 | 8 | 8 | 7 | 9 | 9 | 14 | A | 18 | 21 | 24 | 24 | 21 | 21 | 23 | 25 | 24 | 24 | 26 | 23 | 15.4 | 25.6 |
| 25-Oct | 23 | 23 | 23 | 25 | 25 | 25 | 21 | 23 | 24 | 25 | A | 32 | 40 | 40 | 40 | 39 | 37 | 35 | 34 | 36 | 35 | 35 | 33 | 32 | 30.6 | 40.3 |
| 26-Oct | 30 | 29 | 29 | 29 | 30 | 32 | 30 | 31 | 29 | A | 27 | 27 | 25 | 23 | 29 | 29 | 25 | 23 | 23 | 23 | 23 | 30 | 32 | 32 | 27.8 | 32.2 |
| 27-Oct | 32 | 31 | 33 | 34 | 34 | 34 | 34 | C | C | C | C | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 34.3 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| | 22.7 | 22.3 | 21.7 | 21.9 | 21.9 | 22.4 | 21.6 | 21.2 | 22.2 | 24.0 | 26.2 | 28.7 | 29.9 | 30.7 | 30.5 | 30.5 | 30.2 | 29.5 | 27.4 | 25.3 | 25.1 | 24.7 | 25.1 | 24.2 | Diurnal Average | |
| | 39.4 | 38.6 | 38.1 | 41.3 | 46.4 | 46.6 | 46.9 | 47.6 | 46.2 | 47.4 | 48.1 | 47.9 | 48.5 | 49.6 | 49.6 | 47.3 | 43.6 | 43.2 | 40.9 | 41.9 | 38.5 | 40.9 | 41.5 | 39.5 | Diurnal Maximum | |

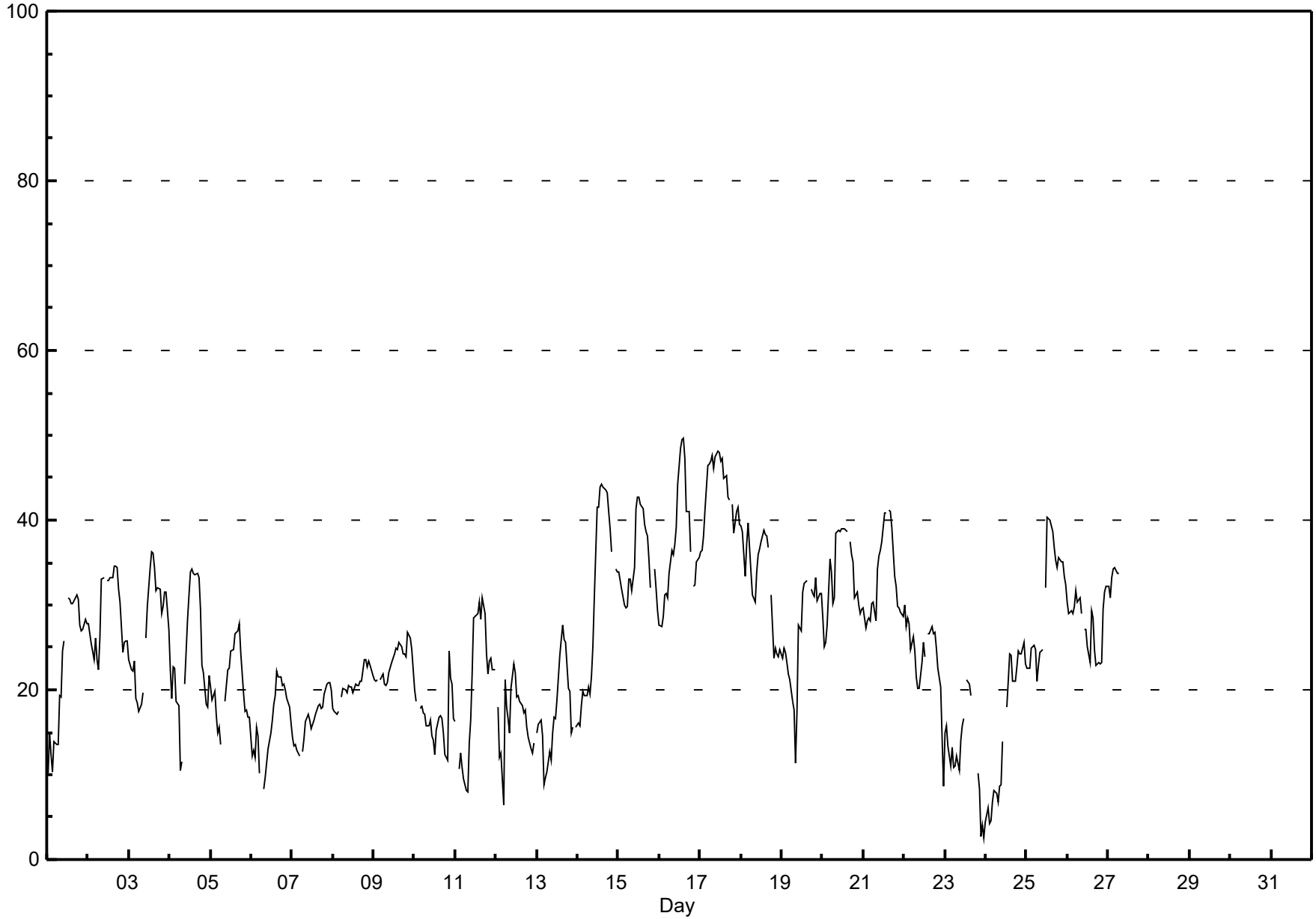
C - Calibration NS - Not in service A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

**Ozone ($O_3$) - ppb**

**Portable Rycroft - October 2018**

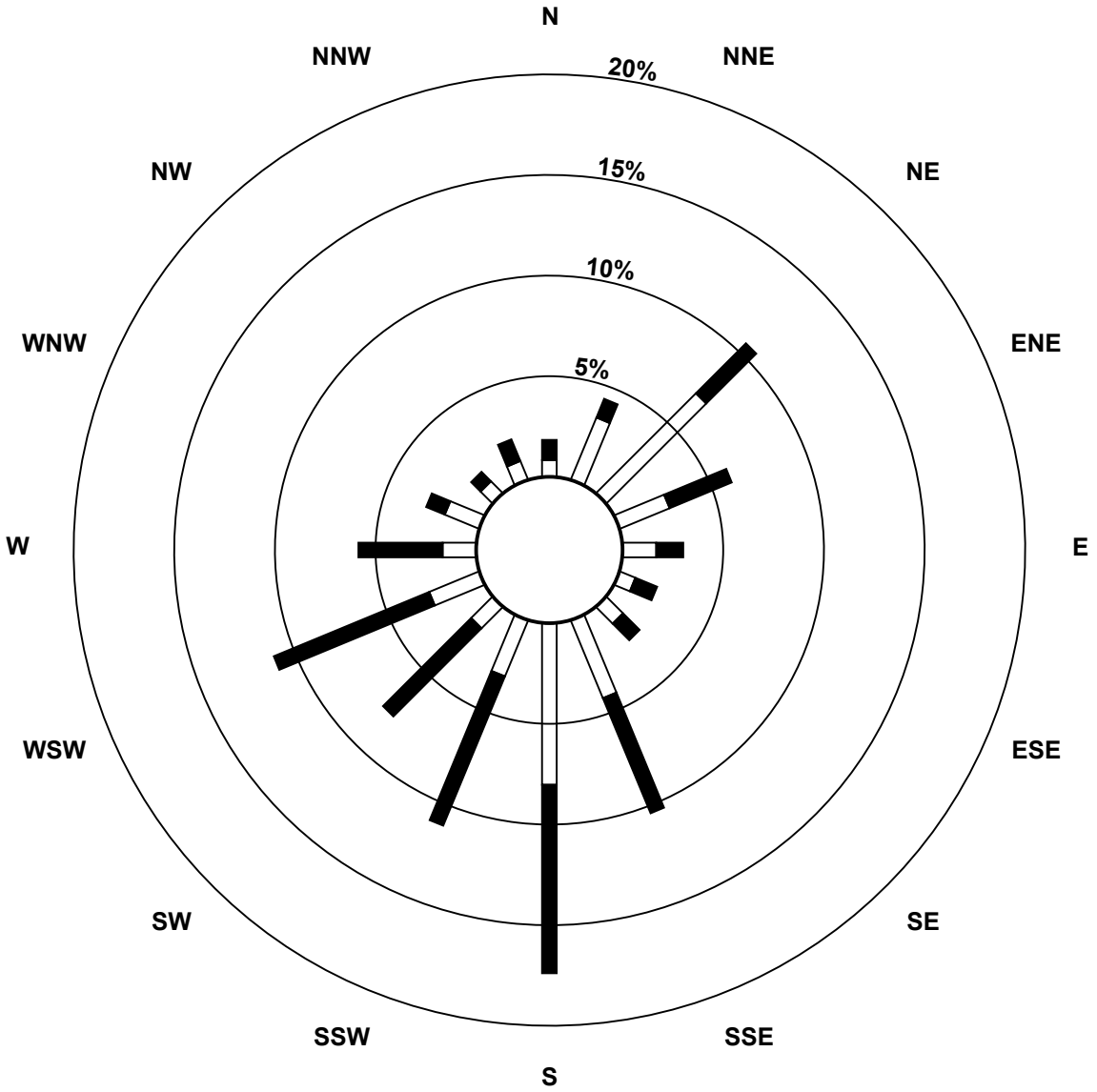


Peace Airshed Zone Association

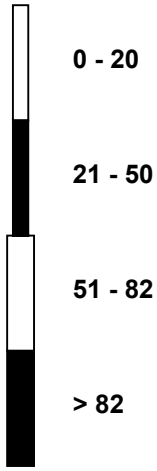
# Pollutant Rose

**Ozone ($O_3$) - ppb**

**Portable Rycroft - October 2018**




**Pollutant Classes (ppb)**



Peace Airshed Zone Association

# Eight Hour Running Averages

## Ozone ($O_3$) - ppb

## Portable Rycroft - October 2018

Maximum Value: 45.5 ppb on Oct 17 14:00

Minimum Value: 2.2 ppb on Oct 24 04:00

Percentiles: $P_1$ = 4.0 $P_{10}$ = 12.2 $Q_1$ = 16.4 Median = 22.3 $Q_3$ = 29.8 $P_{90}$ = 35.6 $P_{99}$ = 44.3

| | |
|---|---|
| Hours in Service: | 642 |
| Hours of Data: | 626 |
| Hours of Missing Data: | 16 |
| Hours of Calibration: | 16 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| 1-Oct | 18 | 15 | 13 | 11 | 10 | 9 | 9 | 10 | 12 | 13 | 15 | 16 | 18 | 21 | 23 | 25 | 27 | 28 | 28 | 28 | 28 | 27 | 27 | 27 | 28.4 |
| 2-Oct | 27 | 26 | 26 | 25 | 25 | 24 | 23 | 23 | 23 | 24 | 24 | 25 | 27 | 29 | 30 | 32 | 33 | 33 | 32 | 31 | 30 | 29 | 28 | 27 | 32.5 |
| 3-Oct | 26 | 24 | 23 | 23 | 22 | 21 | 20 | 19 | 18 | 18 | 19 | 20 | 22 | 24 | 27 | 29 | 31 | 31 | 32 | 32 | 31 | 30 | 30 | 28 | 31.7 |
| 4-Oct | 26 | 24 | 23 | 22 | 20 | 18 | 15 | 13 | 13 | 13 | 14 | 15 | 18 | 21 | 25 | 29 | 29 | 31 | 31 | 29 | 28 | 26 | 24 | 22 | 31.0 |
| 5-Oct | 21 | 19 | 19 | 17 | 16 | 15 | 14 | 14 | 13 | 13 | 13 | 15 | 17 | 19 | 21 | 22 | 24 | 24 | 24 | 24 | 23 | 22 | 21 | 20 | 24.4 |
| 6-Oct | 18 | 16 | 14 | 14 | 13 | 12 | 11 | 10 | 9 | 9 | 10 | 10 | 10 | 12 | 13 | 14 | 16 | 17 | 17 | 18 | 19 | 19 | 19 | 18 | 18.7 |
| 7-Oct | 17 | 16 | 16 | 15 | 14 | 13 | 13 | 13 | 13 | 13 | 14 | 14 | 15 | 15 | 15 | 16 | 16 | 16 | 16 | 17 | 17 | 18 | 18 | 18 | 18.3 |
| 8-Oct | 18 | 18 | 18 | 18 | 18 | 18 | 17 | 18 | 18 | 18 | 19 | 19 | 19 | 20 | 20 | 20 | 20 | 20 | 20 | 21 | 21 | 21 | 22 | 22 | 21.7 |
| 9-Oct | 22 | 22 | 21 | 21 | 21 | 21 | 20 | 20 | 20 | 20 | 21 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24.3 |
| 10-Oct | 23 | 23 | 22 | 21 | 20 | 19 | 18 | 16 | 16 | 15 | 15 | 15 | 14 | 13 | 13 | 14 | 14 | 14 | 13 | 13 | 14 | 14 | 14 | 14 | 23.2 |
| 11-Oct | 14 | 14 | 14 | 14 | 13 | 12 | 11 | 10 | 9 | 10 | 11 | 13 | 15 | 17 | 20 | 22 | 24 | 26 | 26 | 25 | 24 | 23 | 21 | 20 | 26.2 |
| 12-Oct | 19 | 18 | 16 | 15 | 13 | 12 | 12 | 11 | 11 | 12 | 13 | 15 | 16 | 17 | 17 | 18 | 18 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 19.3 |
| 13-Oct | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 10 | 10 | 10 | 11 | 12 | 14 | 16 | 18 | 19 | 20 | 21 | 20 | 20 | 19 | 18 | 17 | 20.6 |
| 14-Oct | 16 | 15 | 15 | 15 | 16 | 17 | 17 | 17 | 18 | 19 | 20 | 23 | 25 | 28 | 31 | 34 | 37 | 40 | 41 | 41 | 40 | 40 | 39 | 37 | 41.1 |
| 15-Oct | 36 | 34 | 33 | 32 | 31 | 31 | 31 | 30 | 30 | 30 | 30 | 32 | 33 | 35 | 36 | 36 | 37 | 38 | 38 | 37 | 36 | 35 | 33 | 32 | 38.1 |
| 16-Oct | 30 | 29 | 28 | 28 | 28 | 28 | 28 | 29 | 30 | 31 | 33 | 34 | 36 | 38 | 40 | 41 | 42 | 42 | 41 | 42 | 40 | 37 | 35 | 34 | 41.9 |
| 17-Oct | 33 | 33 | 33 | 34 | 36 | 37 | 39 | 40 | 42 | 43 | 44 | 45 | 45 | 46 | 45 | 45 | 45 | 44 | 43 | 43 | 41 | 40 | 39 | 38 | 45.5 |
| 18-Oct | 38 | 37 | 37 | 36 | 36 | 36 | 35 | 34 | 32 | 31 | 31 | 31 | 31 | 31 | 32 | 33 | 34 | 36 | 35 | 33 | 31 | 29 | 27 | 25 | 38.0 |
| 19-Oct | 23 | 23 | 23 | 23 | 22 | 22 | 21 | 20 | 18 | 17 | 17 | 17 | 18 | 20 | 21 | 23 | 25 | 28 | 29 | 30 | 30 | 29 | 29 | 29 | 29.9 |
| 20-Oct | 29 | 27 | 25 | 25 | 25 | 26 | 26 | 26 | 27 | 30 | 32 | 34 | 34 | 35 | 36 | 37 | 38 | 37 | 36 | 35 | 34 | 33 | 31 | 31 | 37.6 |
| 21-Oct | 30 | 29 | 28 | 28 | 27 | 27 | 27 | 27 | 28 | 28 | 29 | 30 | 32 | 33 | 34 | 36 | 37 | 38 | 37 | 37 | 35 | 33 | 33 | 31 | 37.7 |
| 22-Oct | 29 | 28 | 27 | 26 | 25 | 25 | 24 | 22 | 21 | 20 | 19 | 20 | 20 | 19 | 20 | 21 | 23 | 24 | 25 | 24 | 24 | 23 | 21 | 19 | 29.2 |
| 23-Oct | 17 | 15 | 14 | 12 | 11 | 10 | 10 | 10 | 10 | 9 | 10 | 10 | 10 | 12 | 14 | 15 | 16 | N | N | N | N | N | N | N | 16.9 |
| 24-Oct | 3 | 3 | 3 | 2 | 3 | 4 | 4 | 5 | 5 | 5 | 6 | 7 | 8 | 10 | 12 | 14 | 16 | 17 | 19 | 19 | 20 | 21 | 21 | 21 | 21.0 |
| 25-Oct | 21 | 21 | 21 | 22 | 22 | 22 | 21 | 21 | 21 | 21 | 22 | 22 | 24 | 27 | 29 | 32 | 33 | 35 | 35 | 36 | 36 | 35 | 34 | 33 | 35.9 |
| 26-Oct | 32 | 32 | 31 | 30 | 30 | 29 | 29 | 29 | 28 | 28 | 28 | 28 | 27 | 26 | 25 | 25 | 24 | 24 | 23 | 23 | 22 | 23 | 23 | 24 | 32.5 |
| 27-Oct | 25 | 26 | 27 | 29 | 31 | 32 | 32 | 32 | 32 | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | 32.4 |
| 28-Oct | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- |
| 29-Oct | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- |
| 30-Oct | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- |
| 31-Oct | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- |
| Diurnal Maximums | 38.0 | 37.4 | 36.5 | 35.6 | 36.2 | 37.4 | 38.9 | 40.5 | 41.7 | 43.1 | 44.5 | 45.2 | 45.4 | 45.5 | 45.4 | 45.0 | 44.5 | 43.8 | 43.3 | 42.7 | 40.9 | 40.1 | 39.0 | 38.3 | |

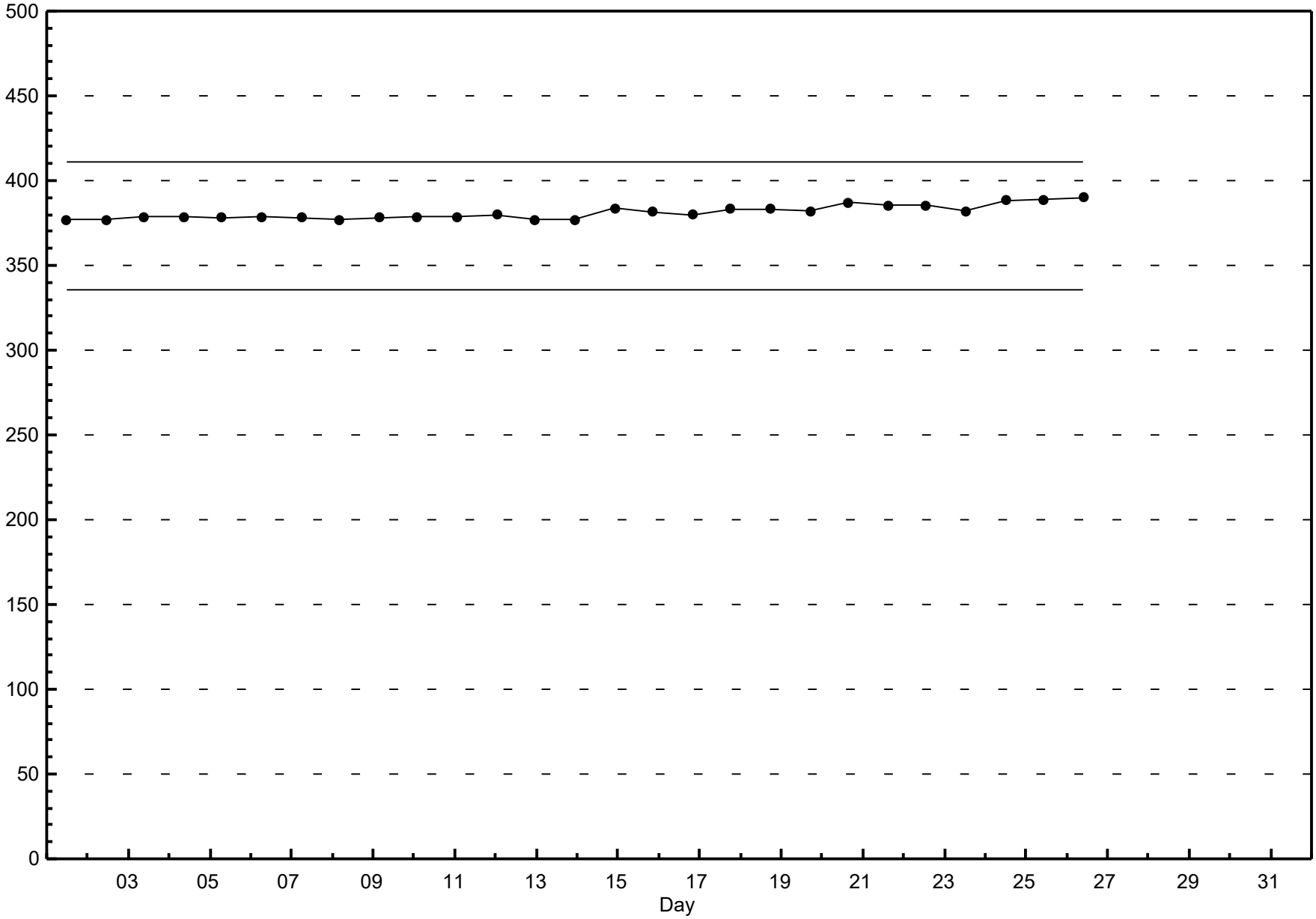
N - Not Valid

Peace Airshed Zone Association

# Span Responses

**Ozone ($O_3$)**

**Portable Rycroft - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Total Hydrocarbons (THC) - ppm

## Portable Rycroft - October 2018

Maximum Value: 2.39 ppm on Oct 1 07:00

Maximum Daily Average: 2.14 ppm on Oct 24

Minimum Value: 1.8 ppm on Oct 12 11:00

Minimum Daily Average: 1.84 ppm on Oct 12

Maximum Diurnal Average: 1.94 ppm at hour 7

Minimum Diurnal Average: 1.91 ppm at hour 14

Monthly Average: 1.921 ppm

Percentiles: $P_1$ = 1.81 $P_{10}$ = 1.84 $Q_1$ = 1.87 Median = 1.90 $Q_3$ = 1.96 $P_{90}$ = 2.01 $P_{99}$ = 2.19

| | |
|---|---|
| Hours in Service: | 635 |
| Hours of Data: | 584 |
| Hours of Missing Data: | 51 |
| Hours of Calibration: | 38 |
| Percent Operational Time: | 98.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 1.9 | 1.9 | 1.9 | 2.0 | 2.1 | 2.2 | 2.4 | 2.1 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.92 | 2.39 |
| 2-Oct | 1.9 | 1.9 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | A | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.87 | 1.91 |
| 3-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.89 | 1.91 |
| 4-Oct | 1.8 | 1.9 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.87 | 1.92 |
| 5-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.87 | 1.89 |
| 6-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.90 | 1.92 |
| 7-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.89 | 1.93 |
| 8-Oct | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.89 | 1.91 |
| 9-Oct | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.88 | 1.91 |
| 10-Oct | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.90 | 1.94 |
| 11-Oct | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.87 | 1.93 |
| 12-Oct | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.8 | 1.9 | 1.9 | 1.8 | 1.9 | 1.9 | A | 1.84 | 1.90 |
| 13-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.88 | 1.97 |
| 14-Oct | 1.9 | 1.8 | 1.8 | 1.9 | 1.8 | 1.9 | 1.8 | 1.9 | 1.8 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | A | 1.9 | 1.9 | 1.85 | 1.88 |
| 15-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.9 | 1.9 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.86 | 1.87 |
| 16-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | N | N | N | N | N | N | N | N | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | A | 1.8 | 1.8 | 1.8 | 1.8 | -- | 1.90 |
| 17-Oct | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | C | C | C | C | C | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.88 | 1.93 |
| 18-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.95 | 1.99 |
| 19-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.99 | 2.02 |
| 20-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.96 | 2.02 |
| 21-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 1.9 | 1.9 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.94 | 1.98 |
| 22-Oct | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.1 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.1 | 2.00 | 2.07 |
| 23-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.1 | N | N | N | N | N | C | C | C | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | -- | 2.19 |
| 24-Oct | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.1 | 2.1 | 2.1 | 2.3 | A | 2.3 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.14 | 2.27 |
| 25-Oct | 2.0 | 2.0 | 2.1 | 2.1 | 2.0 | 2.0 | 2.0 | 2.1 | 2.1 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.01 | 2.15 |
| 26-Oct | 2.0 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.97 | 2.01 |
| 27-Oct | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | C | C | C | C | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 1.98 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.93 | 1.94 | 1.92 | 1.92 | 1.91 | 1.92 | 1.91 | 1.92 | 1.91 | 1.92 | 1.93 | 1.92 | 1.92 | 1.92 | 1.93 | 1.92 | 1.92 | 1.92 | 1.92 | Diurnal Average | |
| | 2.18 | 2.17 | 2.18 | 2.20 | 2.17 | 2.18 | 2.39 | 2.15 | 2.15 | 2.11 | 2.25 | 2.06 | 2.27 | 2.22 | 2.20 | 2.19 | 2.15 | 2.17 | 2.17 | 2.17 | 2.18 | 2.17 | 2.17 | 2.18 | Diurnal Maximum | |

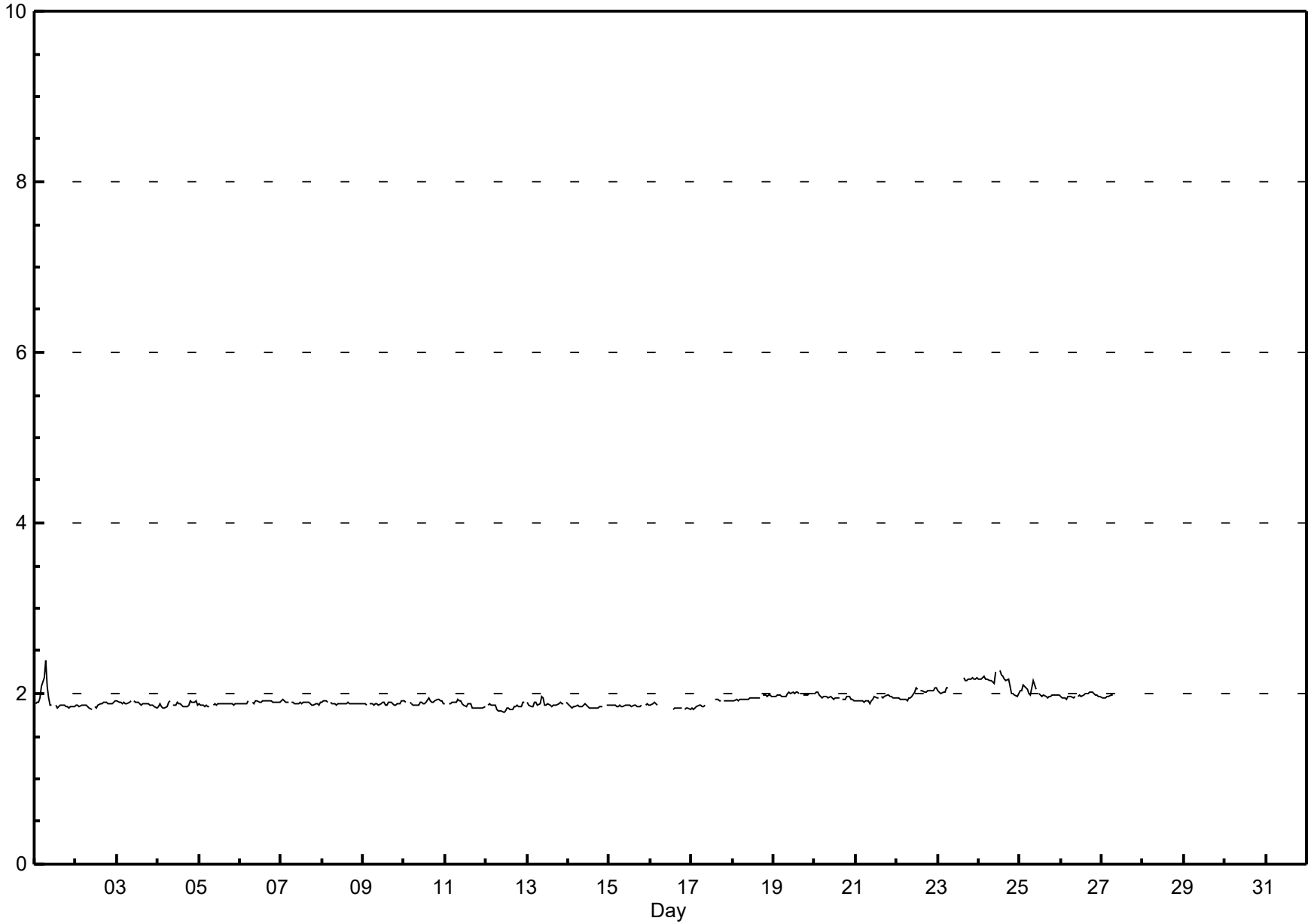
C - Calibration N - Not Valid NS - Not in service A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Averages

## Total Hydrocarbons (THC) - ppm

## Portable Rycroft - October 2018



Peace Airshed Zone Association

# Hourly Maximums

## Total Hydrocarbons (THC) - ppm

## Portable Rycroft - October 2018

Maximum Value: 2.50 ppm on Oct 1 07:00

Maximum Daily Average: 2.17 ppm on Oct 24

Minimum Value: 1.8 ppm on Oct 12 11:00

Minimum Daily Average: 1.87 ppm on Oct 12

Maximum Diurnal Average: 1.97 ppm at hour 6

Minimum Diurnal Average: 1.93 ppm at hour 14

Monthly Average: 1.949 ppm

Percentiles: $P_1$ = 1.84 $P_{10}$ = 1.87 $Q_1$ = 1.89 Median = 1.92 $Q_3$ = 1.99 $P_{90}$ = 2.05 $P_{99}$ = 2.25

| | |
|---|---|
| Hours in Service: | 635 |
| Hours of Data: | 584 |
| Hours of Missing Data: | 51 |
| Hours of Calibration: | 38 |
| Percent Operational Time: | 98.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 1.9 | 1.9 | 1.9 | 2.0 | 2.2 | 2.4 | 2.5 | 2.2 | 2.0 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.97 | 2.50 |
| 2-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.89 | 1.94 |
| 3-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.91 | 1.94 |
| 4-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | A | 1.9 | 1.9 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.91 | 1.97 |
| 5-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.89 | 1.91 |
| 6-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.92 | 1.95 |
| 7-Oct | 1.9 | 2.0 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.92 | 1.95 |
| 8-Oct | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.91 | 1.93 |
| 9-Oct | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.90 | 1.93 |
| 10-Oct | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.1 | 1.9 | 1.9 | 2.3 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.94 | 2.28 |
| 11-Oct | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.9 | 1.8 | 1.9 | 1.9 | 1.9 | 1.89 | 1.95 |
| 12-Oct | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.87 | 1.95 |
| 13-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.91 | 2.01 |
| 14-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.88 | 1.90 |
| 15-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.88 | 1.90 |
| 16-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | N | N | N | N | N | N | N | N | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.8 | -- | 1.93 |
| 17-Oct | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | C | C | C | C | C | 2.0 | 2.0 | 1.9 | 2.0 | A | 1.9 | 1.9 | 2.0 | 1.9 | 1.9 | 1.91 | 2.01 |
| 18-Oct | 1.9 | 1.9 | 2.0 | 1.9 | 2.0 | 2.0 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.97 | 2.01 |
| 19-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.01 | 2.05 |
| 20-Oct | 2.0 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.98 | 2.08 |
| 21-Oct | 1.9 | 1.9 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.97 | 2.01 |
| 22-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | 2.0 | 2.0 | 2.0 | 2.1 | 2.1 | 2.1 | A | 2.1 | 2.1 | 2.0 | 2.0 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.02 | 2.10 |
| 23-Oct | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.1 | N | N | N | N | N | C | C | C | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | -- | 2.22 |
| 24-Oct | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.1 | 2.3 | A | 2.3 | 2.3 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.17 | 2.33 |
| 25-Oct | 2.0 | 2.1 | 2.2 | 2.2 | 2.1 | 2.0 | 2.0 | 2.1 | 2.2 | 2.1 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.04 | 2.19 |
| 26-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.00 | 2.04 |
| 27-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | C | C | C | C | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 2.01 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| | 1.95 | 1.95 | 1.94 | 1.95 | 1.96 | 1.97 | 1.96 | 1.95 | 1.95 | 1.94 | 1.95 | 1.94 | 1.95 | 1.93 | 1.96 | 1.95 | 1.94 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | Diurnal Average | |
| | 2.20 | 2.20 | 2.21 | 2.24 | 2.20 | 2.39 | 2.50 | 2.22 | 2.19 | 2.14 | 2.30 | 2.09 | 2.33 | 2.27 | 2.28 | 2.22 | 2.17 | 2.19 | 2.20 | 2.18 | 2.21 | 2.21 | 2.18 | 2.22 | Diurnal Maximum | |

C - Calibration N - Not Valid NS - Not in service A - Automated Daily Zero Span

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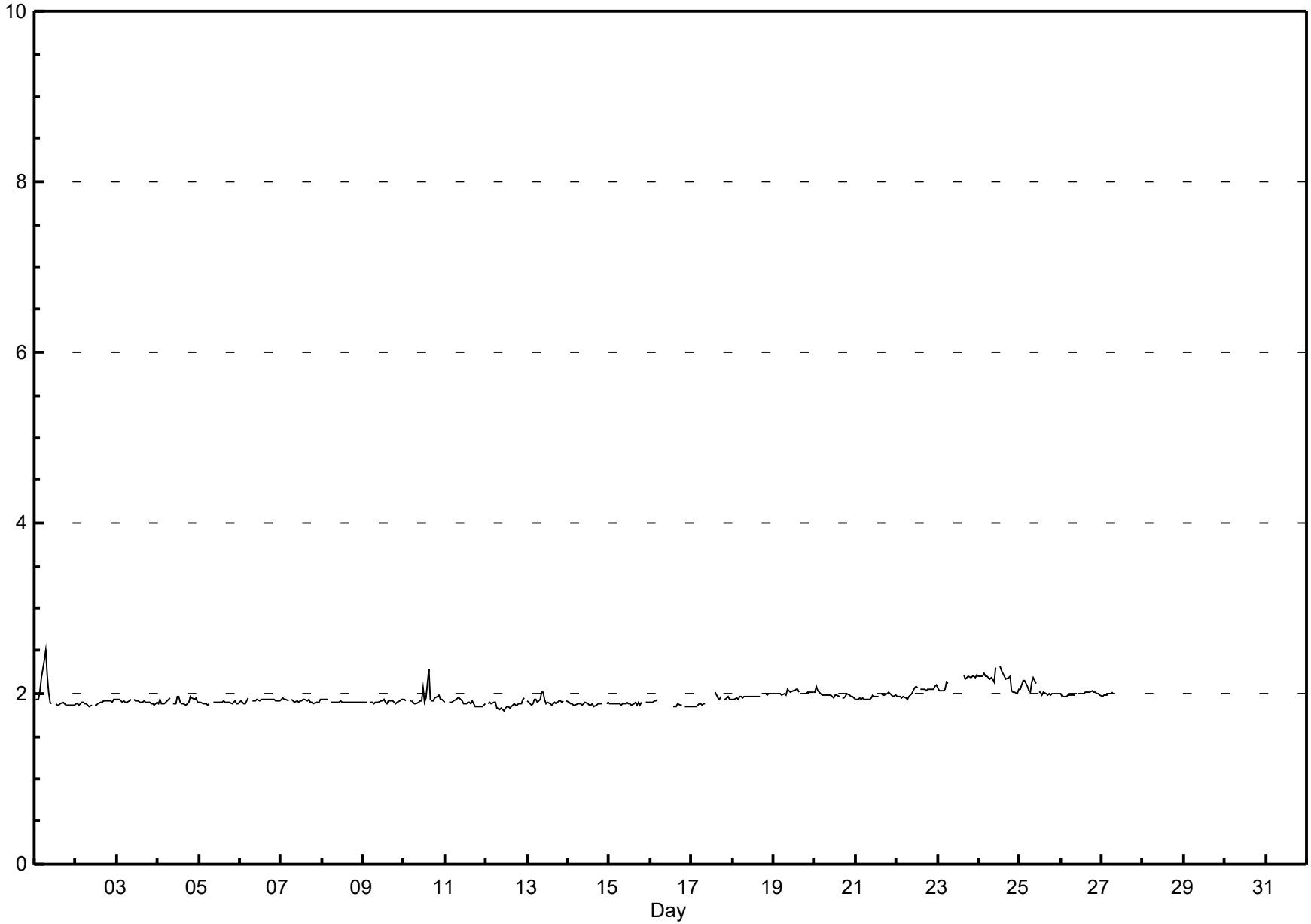
## Hourly Maximums

**Total Hydrocarbons (THC) - ppm**

**Portable Rycroft - October 2018**



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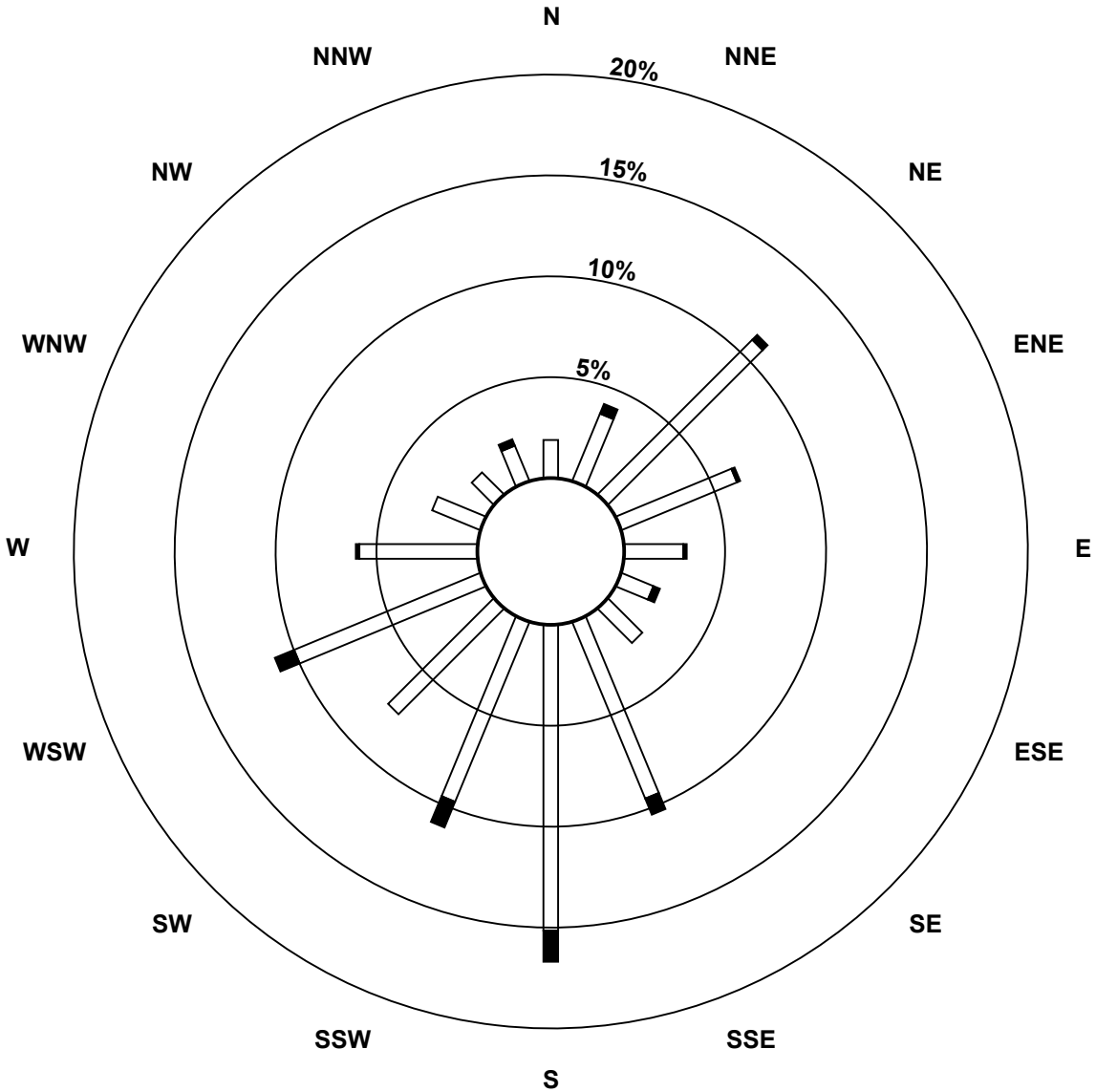
# Pollutant Rose

## Total Hydrocarbons (THC) - ppm

## Portable Rycroft - October 2018




### Pollutant Classes (ppm)

- 1.5 - 2.0
- 2.1 - 3.0
- 3.1 - 10.0
- > 10.0

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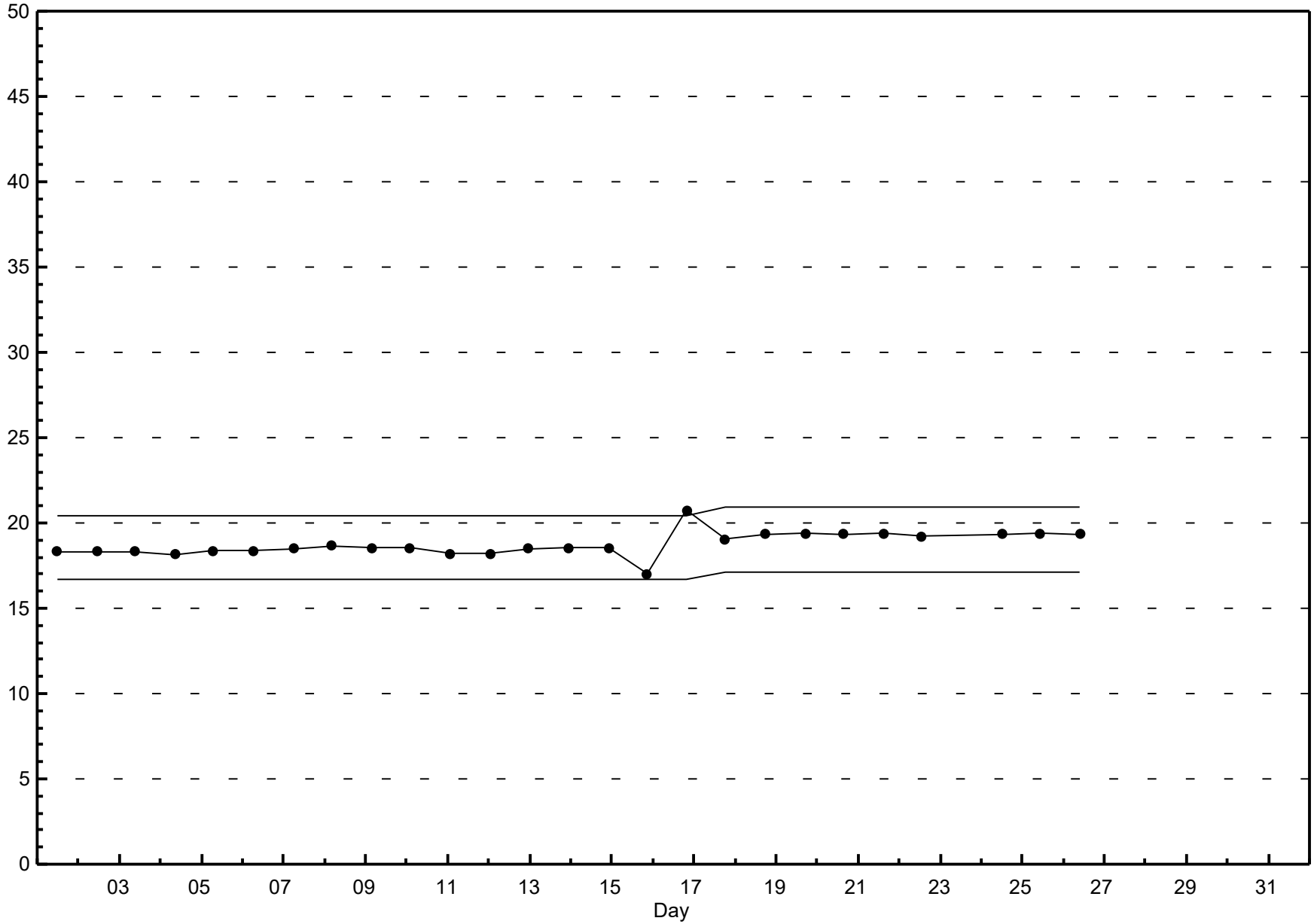
# Span Responses

**Total Hydrocarbons (THC)**

**Portable Rycroft - October 2018**



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# Hourly Averages

## Methane ($CH_4$) - ppm

## Portable Rycroft - October 2018

Maximum Value: 2.38 ppm on Oct 1 07:00

Maximum Daily Average: 2.13 ppm on Oct 24

Minimum Value: 1.8 ppm on Oct 12 11:00

Minimum Daily Average: 1.84 ppm on Oct 12

Maximum Diurnal Average: 1.93 ppm at hour 7

Minimum Diurnal Average: 1.90 ppm at hour 14

Monthly Average: 1.915 ppm

Percentiles: $P_1$ = 1.81 $P_{10}$ = 1.84 $Q_1$ = 1.86 Median = 1.89 $Q_3$ = 1.95 $P_{90}$ = 2.01 $P_{99}$ = 2.18

| | |
|---|---|
| Hours in Service: | 635 |
| Hours of Data: | 584 |
| Hours of Missing Data: | 51 |
| Hours of Calibration: | 38 |
| Percent Operational Time: | 98.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 2.1 | 2.2 | 2.4 | 2.1 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.8 | 1.8 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.92 | 2.38 |
| 2-Oct | 1.8 | 1.9 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | A | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.86 | 1.91 |
| 3-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.88 | 1.91 |
| 4-Oct | 1.8 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | A | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.86 | 1.92 |
| 5-Oct | 1.9 | 1.9 | 1.9 | 1.8 | 1.9 | 1.8 | 1.8 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.86 | 1.88 |
| 6-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.89 | 1.92 |
| 7-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.89 | 1.92 |
| 8-Oct | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.88 | 1.90 |
| 9-Oct | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.88 | 1.91 |
| 10-Oct | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.89 | 1.94 |
| 11-Oct | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.86 | 1.93 |
| 12-Oct | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.8 | 1.8 | 1.9 | 1.9 | A | 1.84 | 1.90 |
| 13-Oct | 1.9 | 1.9 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.88 | 1.96 |
| 14-Oct | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | A | 1.9 | 1.9 | 1.84 | 1.88 |
| 15-Oct | 1.8 | 1.8 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.85 | 1.87 |
| 16-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | N | N | N | N | N | N | N | N | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | A | 1.8 | 1.8 | 1.8 | 1.8 | -- | 1.89 |
| 17-Oct | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.8 | 1.8 | 1.9 | C | C | C | C | C | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.88 | 1.92 |
| 18-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.94 | 1.99 |
| 19-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.99 | 2.02 |
| 20-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.95 | 2.02 |
| 21-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 1.9 | 1.9 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | 2.0 | 1.93 | 1.98 |
| 22-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.1 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.1 | 1.99 | 2.07 |
| 23-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.1 | N | N | N | N | N | C | C | C | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | -- | 2.18 |
| 24-Oct | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.1 | 2.1 | 2.1 | 2.2 | A | 2.3 | 2.2 | 2.2 | 2.2 | 2.1 | 2.2 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.13 | 2.26 |
| 25-Oct | 2.0 | 2.0 | 2.1 | 2.1 | 2.0 | 2.0 | 2.0 | 2.1 | 2.1 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.00 | 2.14 |
| 26-Oct | 2.0 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 1.9 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.97 | 2.01 |
| 27-Oct | 1.9 | 2.0 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | C | C | C | C | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 1.98 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| | 1.91 | 1.91 | 1.91 | 1.91 | 1.92 | 1.93 | 1.93 | 1.92 | 1.91 | 1.91 | 1.91 | 1.90 | 1.91 | 1.90 | 1.91 | 1.92 | 1.91 | 1.91 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | Diurnal Average | |
| | 2.17 | 2.16 | 2.18 | 2.20 | 2.17 | 2.18 | 2.38 | 2.14 | 2.14 | 2.11 | 2.24 | 2.06 | 2.26 | 2.21 | 2.20 | 2.18 | 2.15 | 2.16 | 2.17 | 2.16 | 2.18 | 2.17 | 2.16 | 2.18 | Diurnal Maximum | |

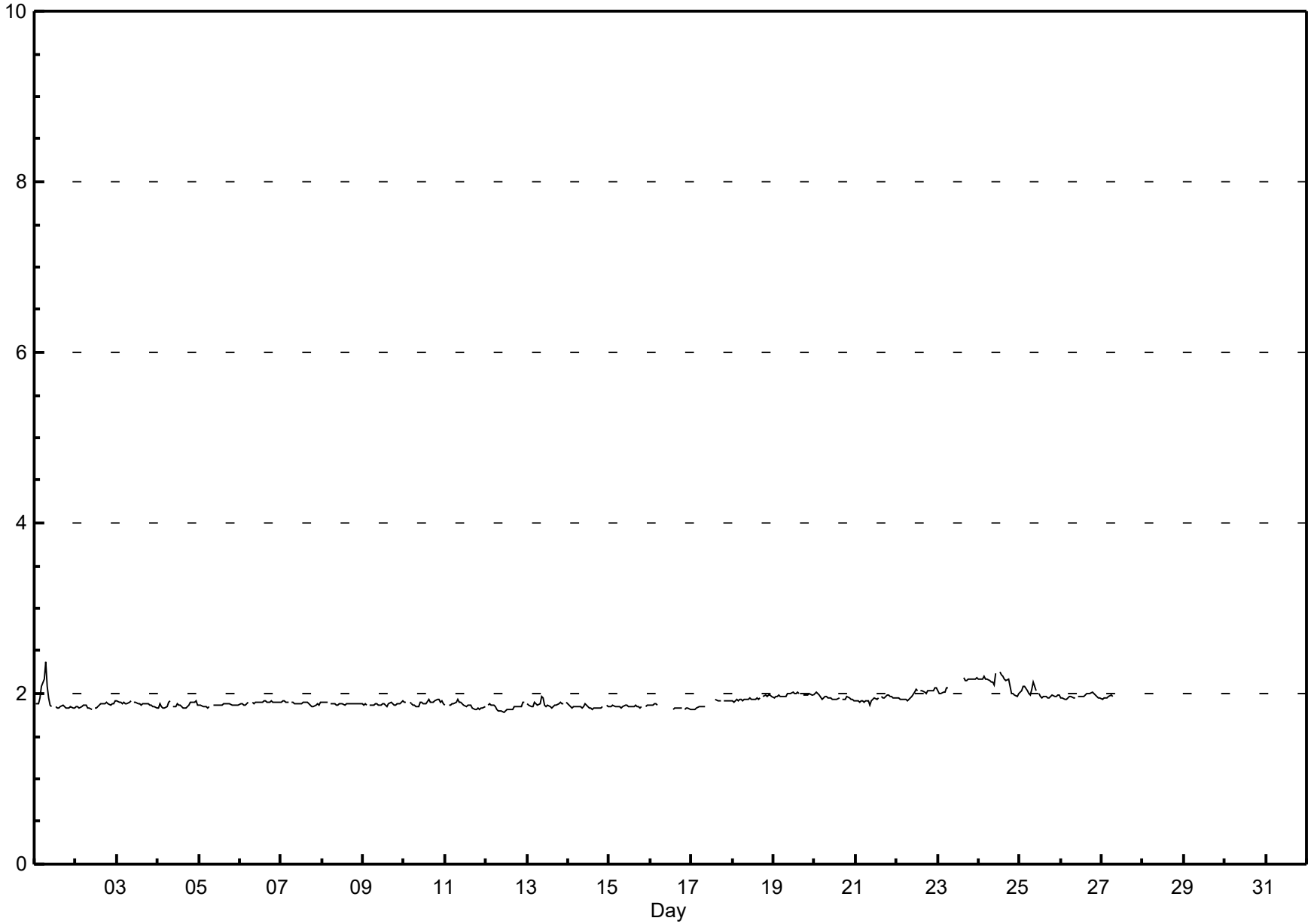
C - Calibration N - Not Valid NS - Not in service A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Averages

**Methane ($CH_4$) - ppm**

**Portable Rycroft - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Methane ($CH_4$) - ppm

## Portable Rycroft - October 2018

Maximum Value: 2.49 ppm on Oct 1 07:00

Maximum Daily Average: 2.16 ppm on Oct 24

Minimum Value: 1.8 ppm on Oct 12 11:00

Minimum Daily Average: 1.86 ppm on Oct 12

Maximum Diurnal Average: 1.96 ppm at hour 6

Minimum Diurnal Average: 1.92 ppm at hour 14

Monthly Average: 1.943 ppm

Percentiles: $P_1$ = 1.83 $P_{10}$ = 1.86 $Q_1$ = 1.88 Median = 1.91 $Q_3$ = 1.98 $P_{90}$ = 2.04 $P_{99}$ = 2.24

| | |
|---|---|
| Hours in Service: | 635 |
| Hours of Data: | 584 |
| Hours of Missing Data: | 51 |
| Hours of Calibration: | 38 |
| Percent Operational Time: | 98.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 1.9 | 1.9 | 1.9 | 2.0 | 2.2 | 2.4 | 2.5 | 2.2 | 2.0 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.96 | 2.49 |
| 2-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.89 | 1.94 |
| 3-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.90 | 1.93 |
| 4-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.90 | 1.96 |
| 5-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.89 | 1.90 |
| 6-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.91 | 1.94 |
| 7-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.91 | 1.94 |
| 8-Oct | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.90 | 1.92 |
| 9-Oct | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.90 | 1.93 |
| 10-Oct | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.1 | 1.9 | 1.9 | 2.3 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.94 | 2.29 |
| 11-Oct | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.89 | 1.95 |
| 12-Oct | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.86 | 1.94 |
| 13-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.91 | 2.01 |
| 14-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.9 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.87 | 1.90 |
| 15-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.88 | 1.90 |
| 16-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | N | N | N | N | N | N | N | N | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | A | 1.8 | 1.8 | 1.8 | 1.8 | -- | 1.92 |
| 17-Oct | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | C | C | C | C | C | 2.0 | 1.9 | 1.9 | 2.0 | A | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.90 | 2.01 |
| 18-Oct | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 1.9 | 2.0 | 2.0 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.96 | 2.00 |
| 19-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.01 | 2.04 |
| 20-Oct | 2.0 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | A | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | 1.98 | 2.08 |
| 21-Oct | 1.9 | 1.9 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.96 | 2.00 |
| 22-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | 2.0 | 2.0 | 2.0 | 2.1 | 2.1 | 2.1 | A | 2.1 | 2.1 | 2.0 | 2.0 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.02 | 2.10 |
| 23-Oct | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.1 | N | N | N | N | N | C | C | C | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | -- | 2.21 |
| 24-Oct | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.1 | 2.3 | A | 2.3 | 2.3 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.16 | 2.32 |
| 25-Oct | 2.0 | 2.1 | 2.1 | 2.1 | 2.1 | 2.0 | 2.0 | 2.1 | 2.2 | 2.1 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.04 | 2.17 |
| 26-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.99 | 2.03 |
| 27-Oct | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | C | C | C | C | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 2.00 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| | 1.94 | 1.94 | 1.94 | 1.94 | 1.95 | 1.96 | 1.96 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.92 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 | Diurnal Average | |
| | 2.19 | 2.20 | 2.20 | 2.24 | 2.19 | 2.37 | 2.49 | 2.21 | 2.17 | 2.14 | 2.29 | 2.08 | 2.32 | 2.25 | 2.29 | 2.21 | 2.17 | 2.19 | 2.19 | 2.18 | 2.20 | 2.20 | 2.19 | 2.21 | Diurnal Maximum | |

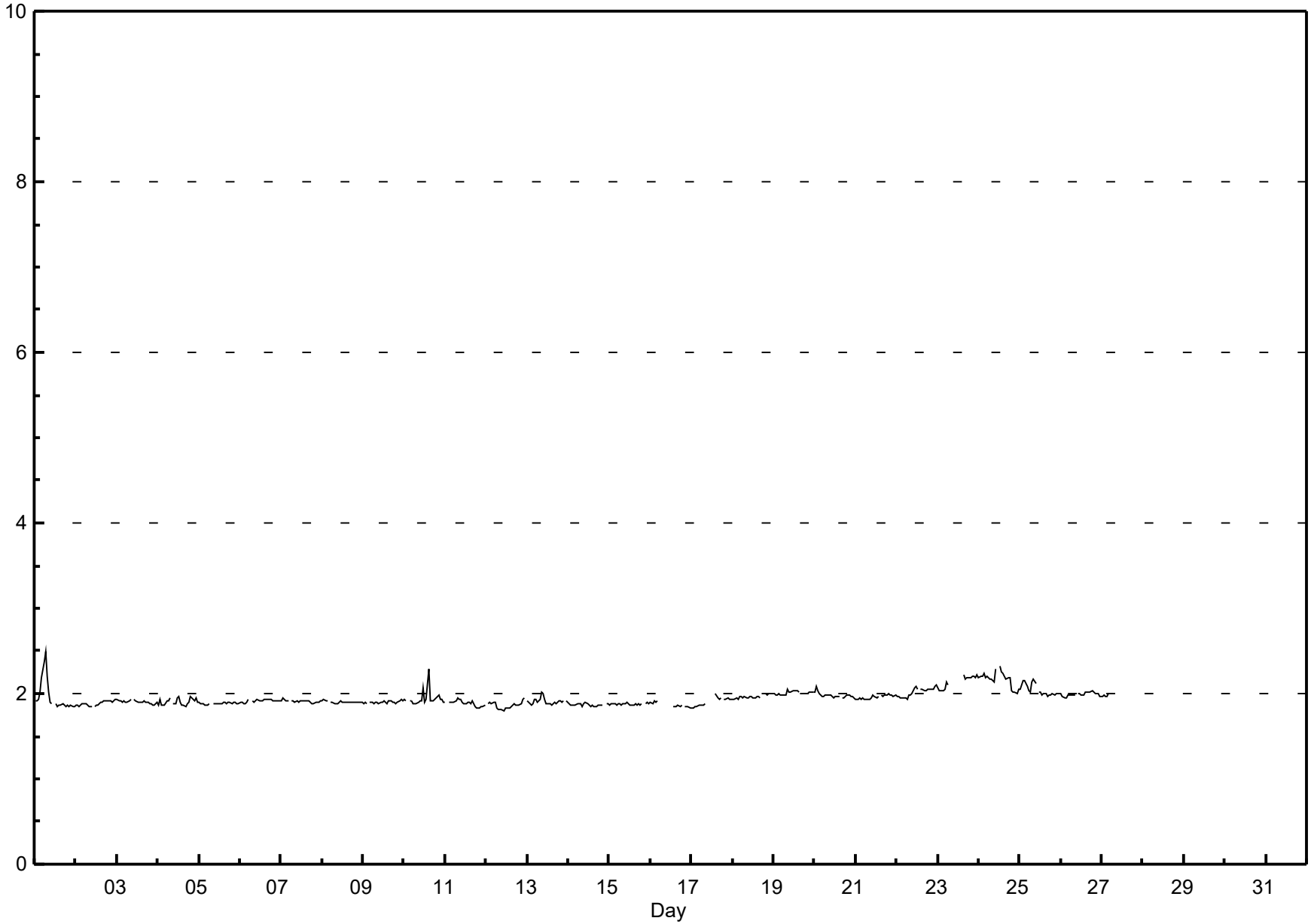
C - Calibration N - Not Valid NS - Not in service A - Automated Daily Zero Span

Peace Airshed Zone Association

# Hourly Maximums

**Methane ($CH_4$) - ppm**

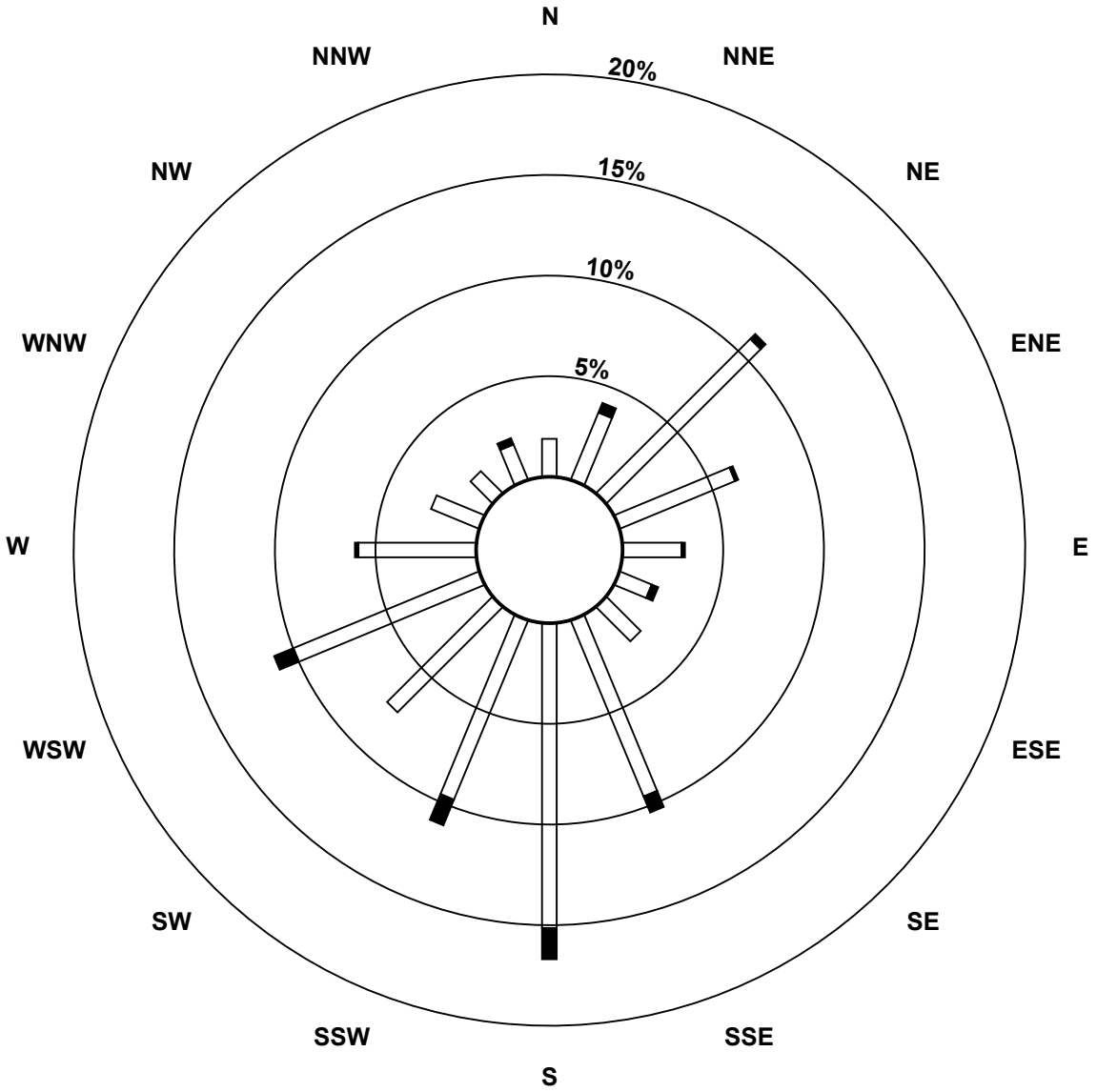
**Portable Rycroft - October 2018**



# Pollutant Rose

**Methane ($CH_4$) - ppm**

**Portable Rycroft - October 2018**




**Pollutant Classes (ppm)**

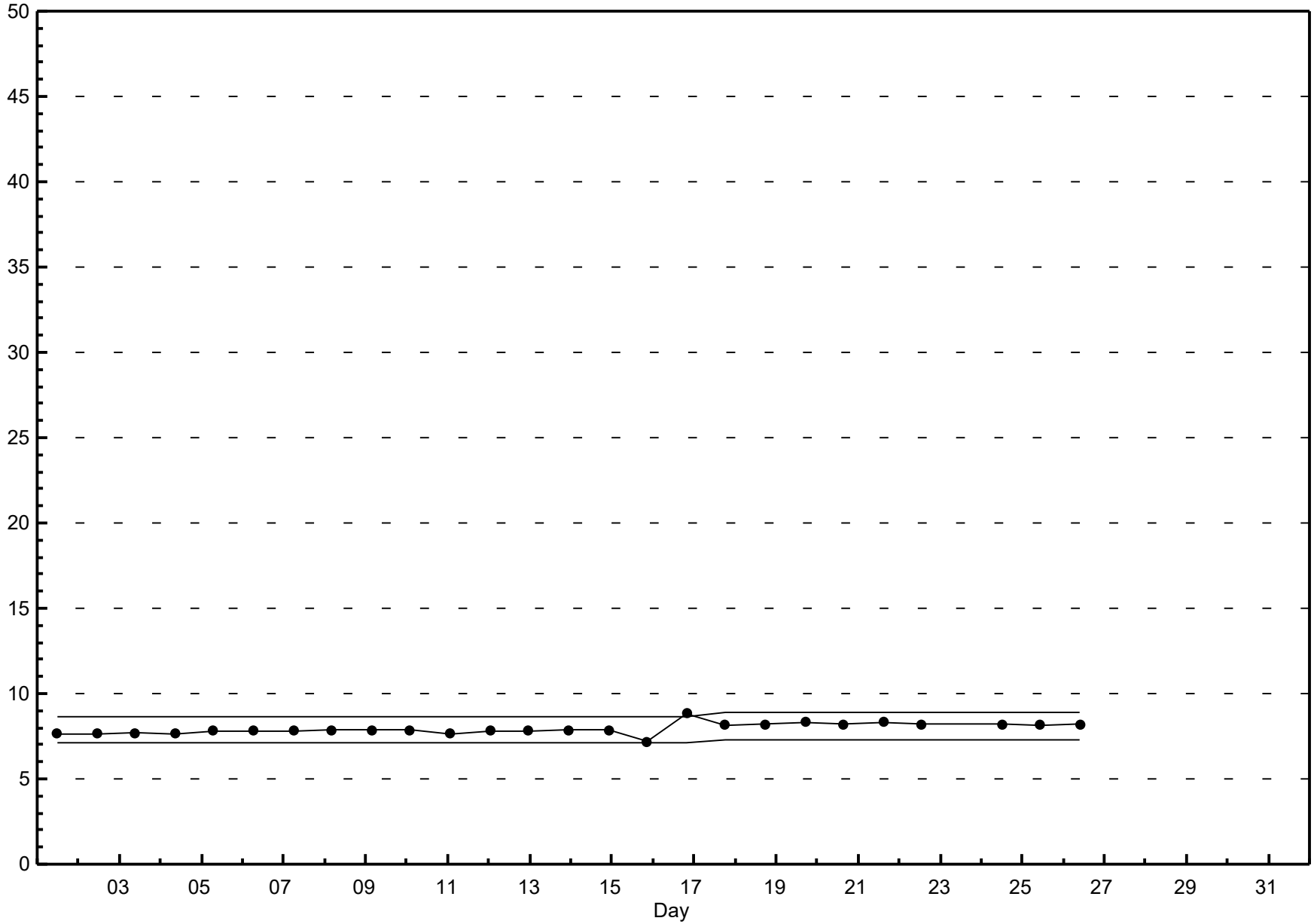
- 1.5 - 2.0
- 2.1 - 3.0
- 3.1 - 10.0
- > 10.0

Peace Airshed Zone Association

# Span Responses

**Methane ($CH_4$)**

**Portable Rycroft - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Non Methane Hydrocarbon (NMHC) - ppm

## Portable Rycroft - October 2018

Maximum Value: 0.00 ppm on Oct 4 12:00

Maximum Daily Average: 0.00 ppm on Oct 4

Minimum Value: 0.0 ppm on Oct 1 01:00

Minimum Daily Average: 0.00 ppm on Oct 5

Maximum Diurnal Average: 0.00 ppm at hour 15

Minimum Diurnal Average: 0.00 ppm at hour 3

Monthly Average: 0.000 ppm

Percentiles: $P_1$ = 0.00 $P_{10}$ = 0.00 $Q_1$ = 0.00 Median = 0.00 $Q_3$ = 0.00 $P_{90}$ = 0.00 $P_{99}$ = 0.00

| | |
|---|---|
| Hours in Service: | 635 |
| Hours of Data: | 584 |
| Hours of Missing Data: | 51 |
| Hours of Calibration: | 38 |
| Percent Operational Time: | 98.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 2-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 3-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 4-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 5-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 6-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 7-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 8-Oct | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 9-Oct | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 10-Oct | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 11-Oct | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 12-Oct | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.00 | 0.00 |
| 13-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.00 | 0.00 |
| 14-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.00 | 0.00 |
| 15-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 16-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | N | N | N | N | N | N | N | N | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | -- | 0.00 |
| 17-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | C | C | C | C | C | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 18-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 19-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 20-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 21-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 22-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 23-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | N | N | N | N | N | C | C | C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -- | 0.00 |
| 24-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 25-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 26-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 27-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | C | C | C | C | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 0.00 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Diurnal Average | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Diurnal Maximum | |

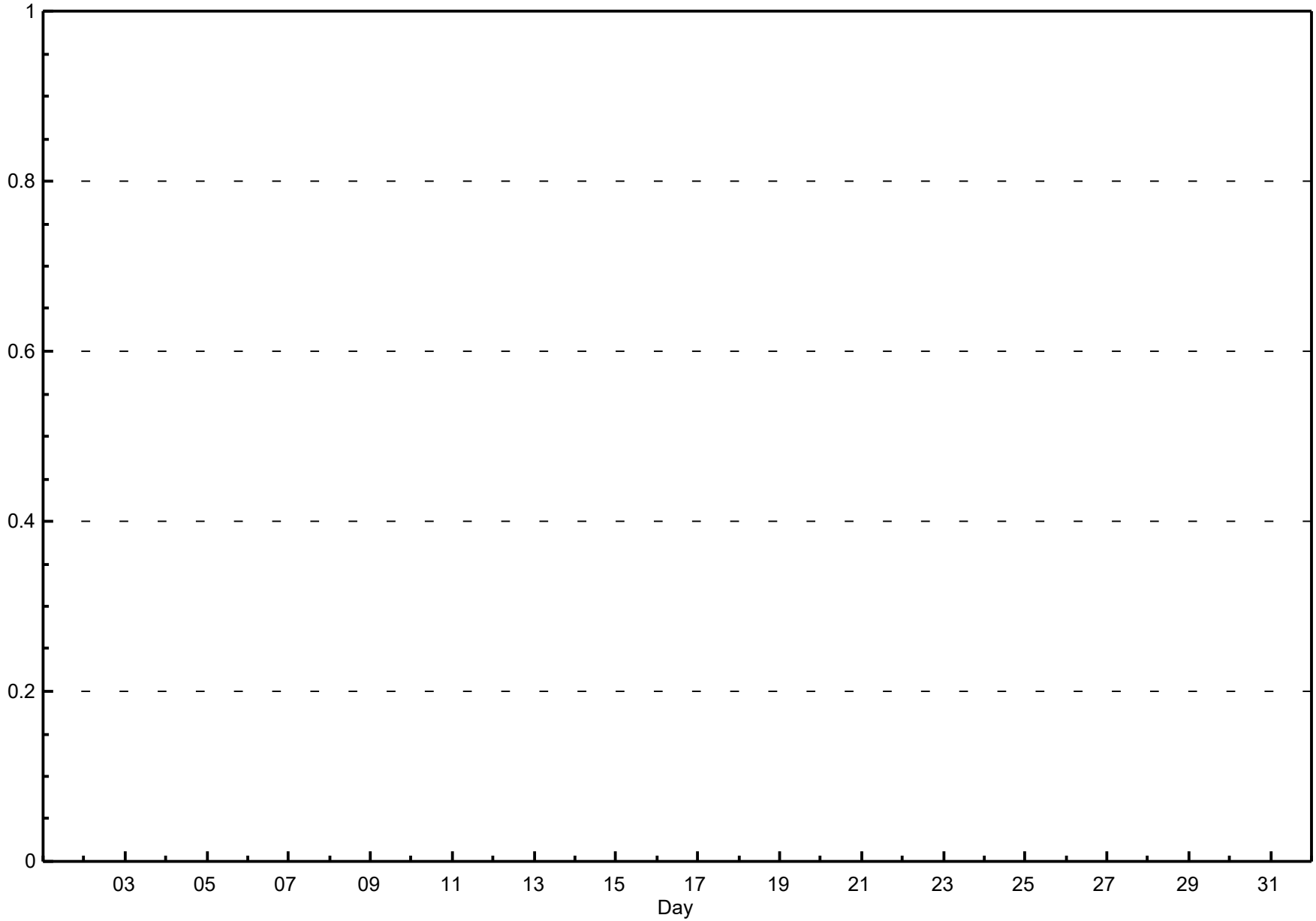
C - Calibration N - Not Valid NS - Not in service A - Automated Daily Zero Span

Peace Airshed Zone Association

## Hourly Averages

**Non Methane Hydrocarbon (NMHC) - ppm**

**Portable Rycroft - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## Non Methane Hydrocarbon (NMHC) - ppm

## Portable Rycroft - October 2018

Maximum Value: 0.00 ppm on Oct 4 15:00

Maximum Daily Average: 0.00 ppm on Oct 4

Minimum Value: 0.0 ppm on Oct 5 09:00

Minimum Daily Average: 0.00 ppm on Oct 6

Maximum Diurnal Average: 0.00 ppm at hour 19

Minimum Diurnal Average: 0.00 ppm at hour 9

Monthly Average: 0.000 ppm

Percentiles: $P_1$ = 0.00 $P_{10}$ = 0.00 $Q_1$ = 0.00 Median = 0.00 $Q_3$ = 0.00 $P_{90}$ = 0.00 $P_{99}$ = 0.00

| | |
|---|---|
| Hours in Service: | 635 |
| Hours of Data: | 584 |
| Hours of Missing Data: | 51 |
| Hours of Calibration: | 38 |
| Percent Operational Time: | 98.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 2-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 3-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 4-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 5-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 6-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 7-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 8-Oct | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 9-Oct | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 10-Oct | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 11-Oct | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 12-Oct | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.00 | 0.00 |
| 13-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.00 | 0.00 |
| 14-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.00 | 0.00 |
| 15-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 16-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | N | N | N | N | N | N | N | N | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | -- | 0.00 |
| 17-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | C | C | C | C | C | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 18-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 19-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 20-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 21-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 22-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 23-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | N | N | N | N | N | C | C | C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -- | 0.00 |
| 24-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 25-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 26-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 |
| 27-Oct | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | C | C | C | C | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 0.00 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Diurnal Average | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Diurnal Maximum | |

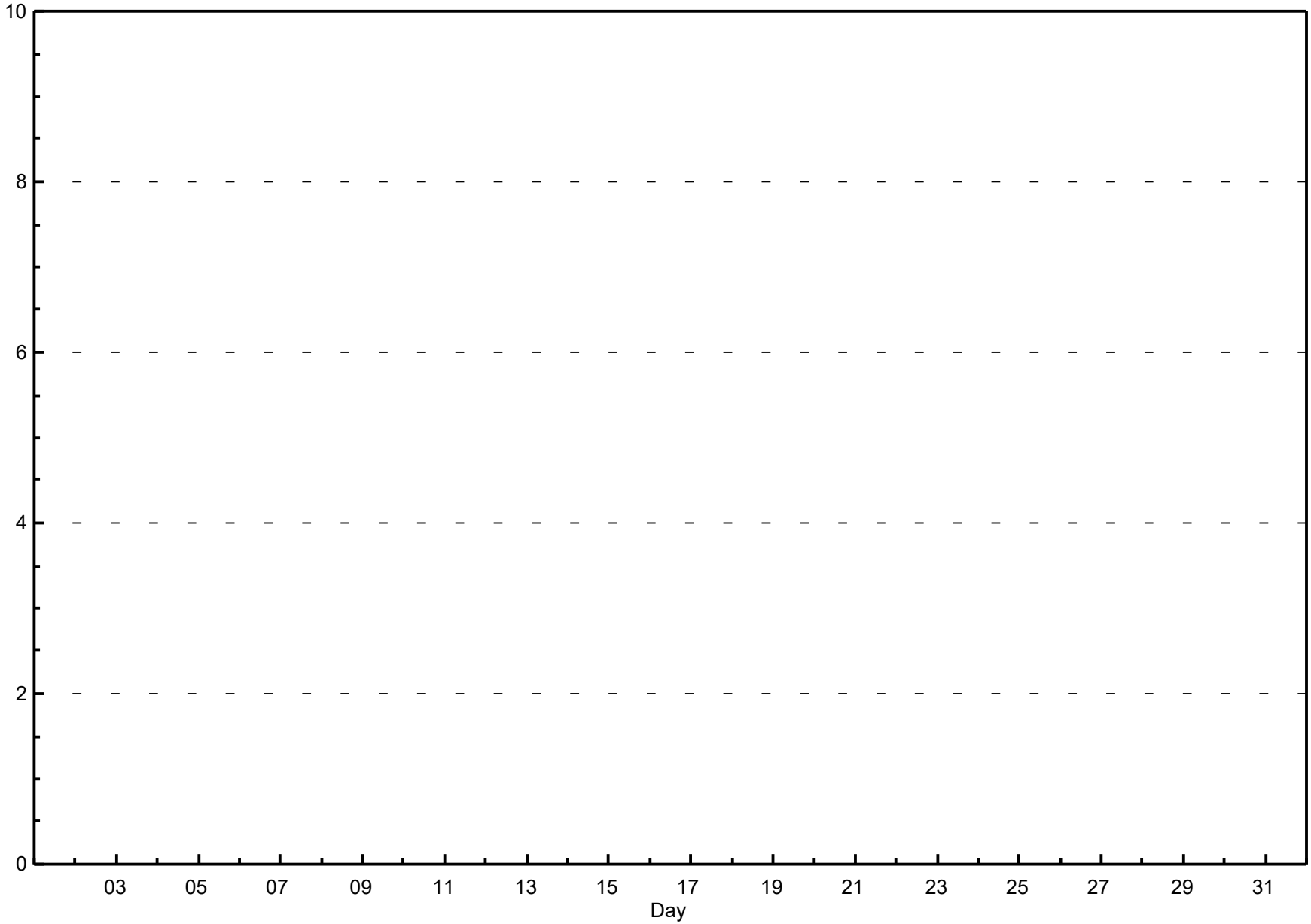
C - Calibration N - Not Valid NS - Not in service A - Automated Daily Zero Span

Peace Airshed Zone Association

## Hourly Maximums

**Non Methane Hydrocarbon (NMHC) - ppm**

**Portable Rycroft - October 2018**

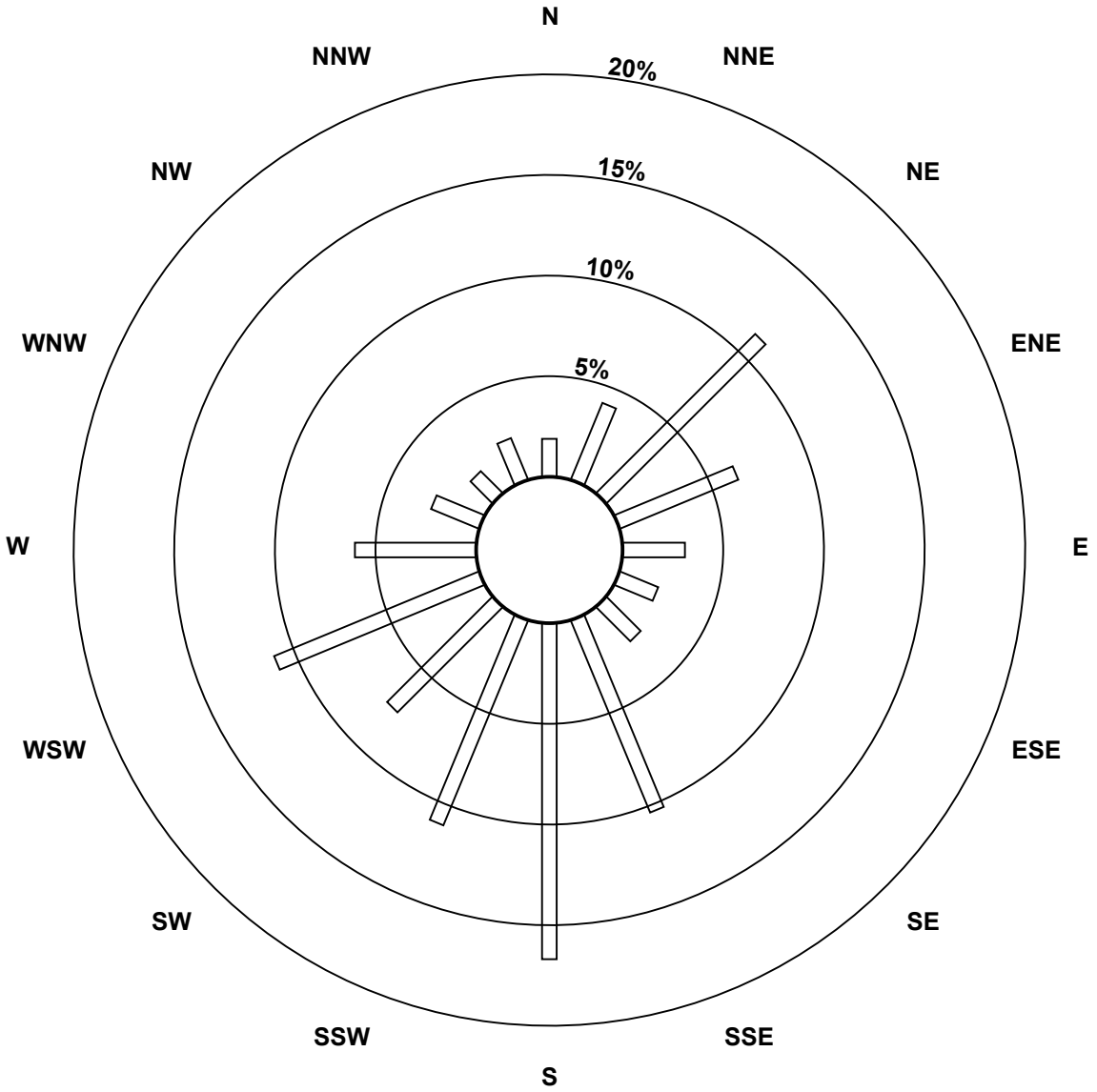


Peace Airshed Zone Association

# Pollutant Rose

## Non Methane Hydrocarbon (NMHC) - ppm

## Portable Rycroft - October 2018




**Pollutant Classes (ppm)**

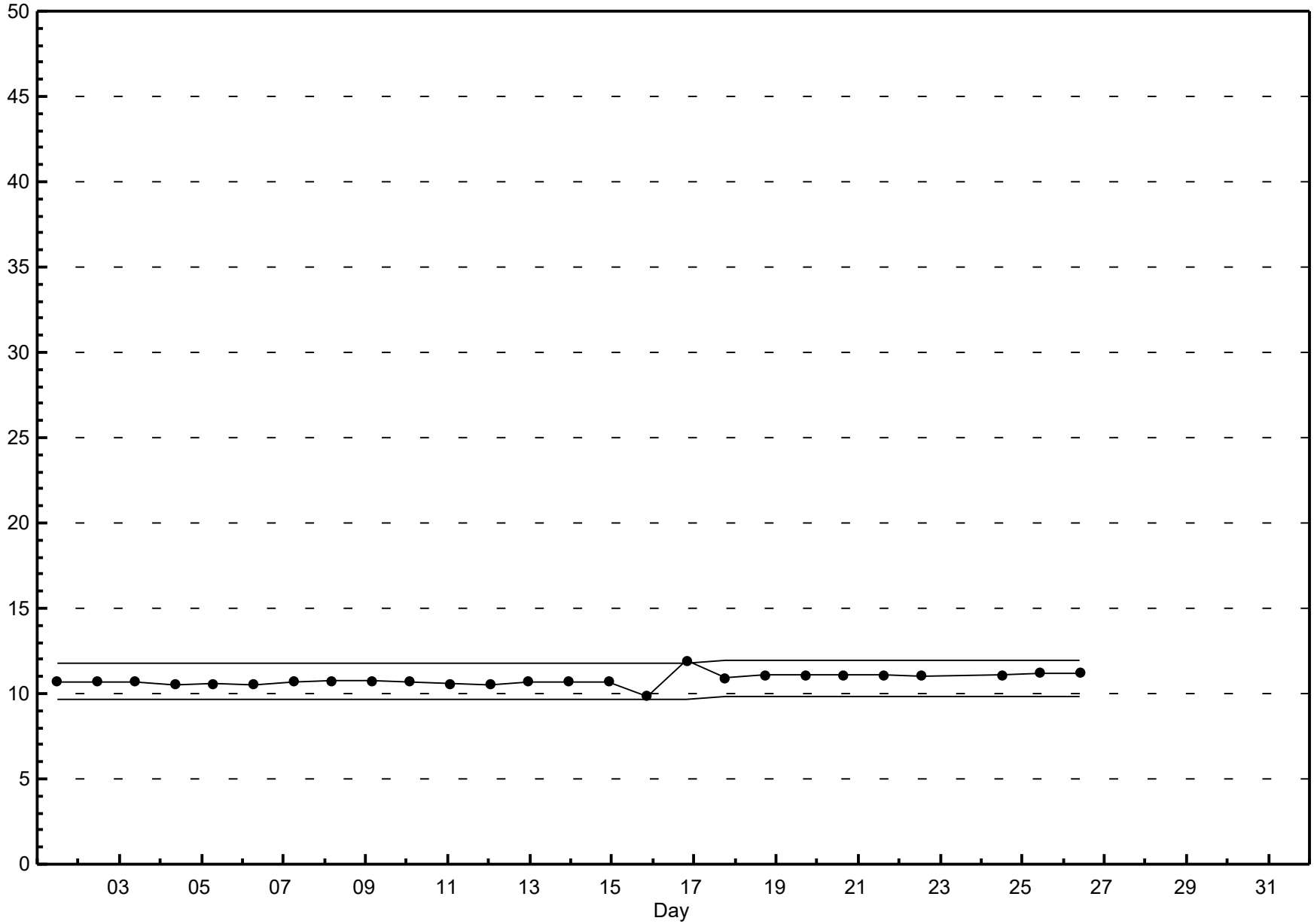
- 0 - 0.05
- 0.06 - 0.1
- 0.11 - 0.30
- > 0.30

Peace Airshed Zone Association

# Span Responses

## Non Methane Hydrocarbon (NMHC)

## Portable Rycroft - October 2018



Peace Airshed Zone Association

# Hourly Averages

## PM2.5 ($PM_{2.5}$) - $\mu g/m^3$

## Portable Rycroft - October 2018

Number of Exceedences: 1-hr: 0 24-hr: 0

Maximum Value: 19.4 $\mu g/m^3$ on Oct 23 21:00

Maximum Daily Average: 7.8 $\mu g/m^3$ on Oct 24

Minimum Value: 0 $\mu g/m^3$ on Oct 2 00:00

Maximum Diurnal Average: 4.1 $\mu g/m^3$ at hour 19

Monthly Average: 2.79 $\mu g/m^3$

Minimum Daily Average: 0.4 $\mu g/m^3$ on Oct 8

Minimum Diurnal Average: 1.7 $\mu g/m^3$ at hour 13

Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.8$ Median = 2.0 $Q_3 = 3.9$ $P_{90} = 6.5$ $P_{99} = 12.5$

| | |
|---|---|
| Hours in Service: | 635 |
| Hours of Data: | 629 |
| Hours of Missing Data: | 6 |
| Hours of Calibration: | 6 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 11 | 11 | 6 | 3 | 4 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 4 | 3 | 1 | 1 | 1 | 0 | 0 | 2.8 | 11.5 |
| 2-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 3 | 4 | 2 | 1 | 1 | 0.7 | 4.4 |
| 3-Oct | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 3 | 3 | 5 | 2 | 1 | 0 | 1 | 1 | 3 | 2 | 7 | 7 | 2 | 1 | 1 | 5 | 2.1 | 7.1 |
| 4-Oct | 7 | 19 | 2 | 2 | 3 | 2 | 2 | 4 | 4 | 7 | 6 | 3 | 2 | 3 | 3 | 3 | 4 | 5 | 14 | 11 | 6 | 7 | 6 | 9 | 5.6 | 18.6 |
| 5-Oct | 3 | 3 | 2 | 2 | 2 | 2 | 4 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 5 | 6 | 11 | 9 | 7 | 10 | 4 | 4 | 9 | 3.8 | 11.3 |
| 6-Oct | 7 | 8 | 7 | 4 | 5 | 5 | 5 | 5 | 5 | 4 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 4 | 5 | 3 | 2 | 2 | 2 | 2 | 4.0 | 7.9 |
| 7-Oct | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 2.4 | 3.1 |
| 8-Oct | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.4 | 1.7 |
| 9-Oct | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 3 | 0 | 1 | 2 | 3 | 3 | 1.6 | 4.3 |
| 10-Oct | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 3 | 3 | 4 | 4 | 3 | 4 | 3 | 2 | 3 | 2 | 4.0 | 5.3 |
| 11-Oct | 3 | 2 | 3 | 2 | 2 | 4 | 5 | 4 | 2 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 3 | 2 | 1 | 1 | 3 | 1 | 1 | 1 | 1.9 | 4.5 |
| 12-Oct | 0 | 0 | 2 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 1 | 2 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1.9 | 4.3 |
| 13-Oct | 1 | 0 | 1 | 1 | 2 | 2 | 0 | 0 | 2 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 2.1 |
| 14-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 0.6 | 2.1 |
| 15-Oct | 2 | 2 | 2 | 2 | 2 | 1 | 0 | 2 | 2 | 3 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 1 | 2 | 3 | 1 | 2 | 2 | 3 | 1.9 | 3.3 |
| 16-Oct | 2 | 3 | 2 | 1 | 1 | 2 | 1 | 0 | 1 | 0 | 0 | 4 | 2 | 1 | 3 | 7 | 9 | 10 | 5 | 2 | 1 | 2 | 1 | 2 | 2.6 | 10.0 |
| 17-Oct | 3 | 1 | 1 | 2 | 1 | 3 | 3 | 3 | 4 | 3 | 3 | 2 | 1 | 4 | 3 | 4 | 5 | 4 | 5 | 3 | 4 | 4 | 6 | 8 | 3.3 | 8.4 |
| 18-Oct | 9 | 8 | 8 | 8 | 7 | 6 | 7 | 5 | 5 | 5 | 7 | 5 | 2 | 0 | 1 | 1 | 4 | 6 | 5 | 12 | 4 | 2 | 2 | 2 | 5.1 | 12.0 |
| 19-Oct | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 4 | 4 | 1.5 | 11.8 |
| 20-Oct | 5 | 5 | 4 | 4 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 4 | 0 | 2 | 1 | 2 | 5 | 2 | 2 | 2 | 2 | 2.0 | 6.5 |
| 21-Oct | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 1.3 | 3.0 |
| 22-Oct | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 5 | 7 | 8 | 7 | 7 | 6 | 3.2 | 8.1 |
| 23-Oct | 5 | 7 | 3 | 3 | 4 | 6 | 2 | 3 | 5 | 6 | 7 | 7 | 5 | 4 | 5 | C | C | 18 | 14 | 12 | 19 | 14 | 11 | 10 | 7.8 | 19.4 |
| 24-Oct | 9 | 7 | 7 | 7 | 5 | 5 | 5 | 5 | 6 | 6 | 9 | 9 | 7 | 8 | 10 | 9 | 12 | 8 | 11 | 13 | 9 | 8 | 7 | 6 | 7.8 | 12.6 |
| 25-Oct | 6 | 5 | 5 | 5 | 5 | 5 | 7 | 6 | 5 | 4 | 6 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 2.8 | 6.7 |
| 26-Oct | 1 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 1 | 2 | 1 | 1 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 1 | 0 | 0 | 1.5 | 3.4 |
| 27-Oct | 0 | 1 | 1 | 2 | 4 | 4 | 4 | C | C | C | C | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 4.0 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| | 3.3 | 3.6 | 2.5 | 2.4 | 2.4 | 2.6 | 2.4 | 2.3 | 2.6 | 2.6 | 2.6 | 2.4 | 1.7 | 1.9 | 2.0 | 2.1 | 2.9 | 3.9 | 4.1 | 4.1 | 3.5 | 3.3 | 2.6 | 3.1 | Diurnal Average | |
| | 11.3 | 18.6 | 8.5 | 7.5 | 7.2 | 6.2 | 6.7 | 6.1 | 6.2 | 7.2 | 8.8 | 8.8 | 6.8 | 7.8 | 9.9 | 9.3 | 12.2 | 18.4 | 14.5 | 12.6 | 19.4 | 14.4 | 11.0 | 10.2 | Diurnal Maximum | |

C - Calibration NS - Not in service

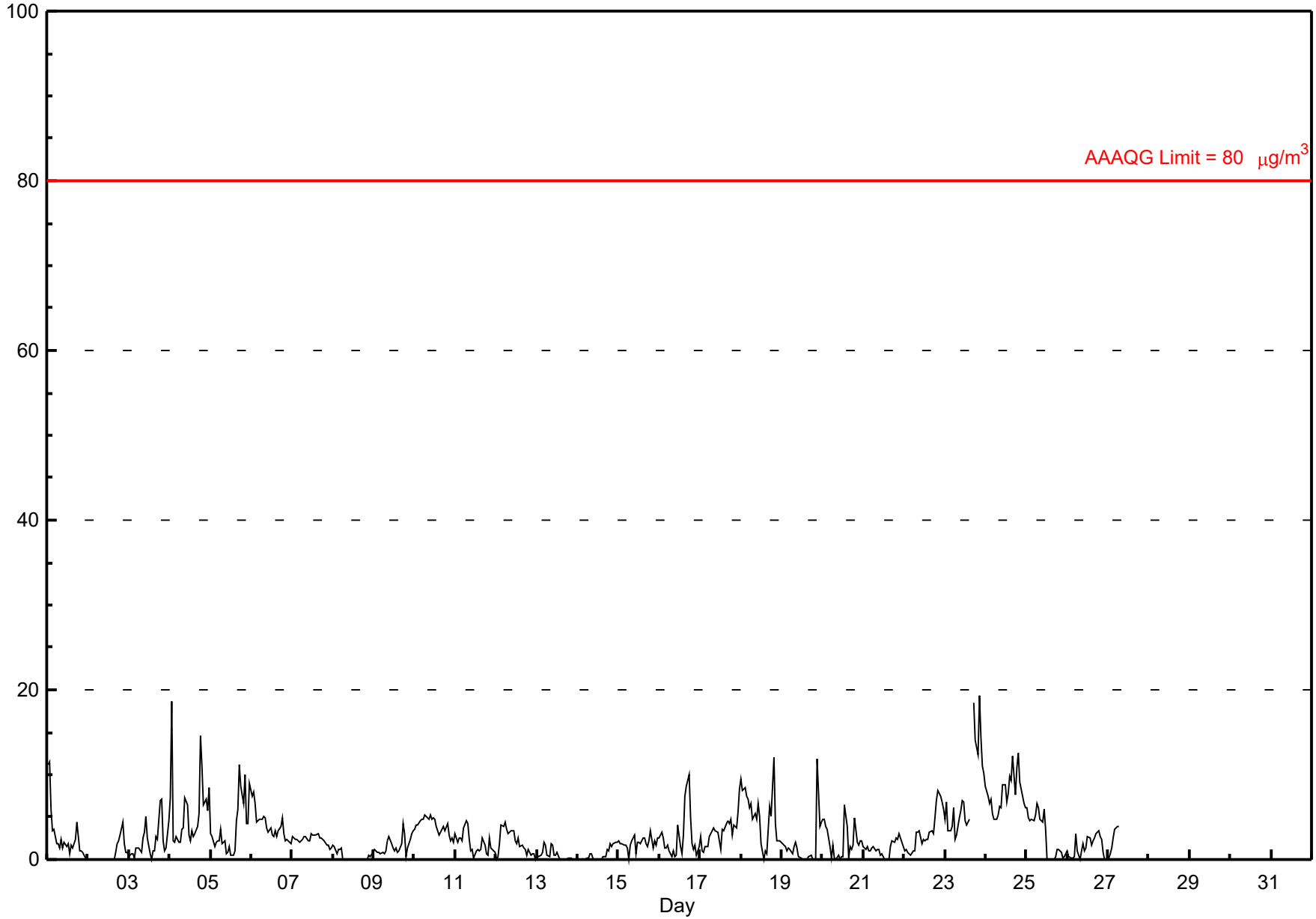
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

# Hourly Averages

**PM2.5 ($PM_{2.5}$) - $\mu g/m^3$**

**Portable Rycroft - October 2018**



Peace Airshed Zone Association

# Hourly Maximums

## PM2.5 ($PM_{2.5}$) - $\mu g/m^3$

## Portable Rycroft - October 2018

Maximum Value: 44.8 $\mu g/m^3$ on Oct 19 22:00

Maximum Daily Average: 10.9 $\mu g/m^3$ on Oct 23

Minimum Value: 0 $\mu g/m^3$ on Oct 2 03:00

Maximum Diurnal Average: 7.8 $\mu g/m^3$ at hour 19

Monthly Average: 4.96 $\mu g/m^3$

Minimum Daily Average: 1.5 $\mu g/m^3$ on Oct 2

Minimum Diurnal Average: 3.4 $\mu g/m^3$ at hour 13

Percentiles: $P_1$ = 0.0 $P_{10}$ = 1.3 $Q_1$ = 2.4 Median = 3.6 $Q_3$ = 6.0 $P_{90}$ = 9.3 $P_{99}$ = 27.8

| | |
|---|---|
| Hours in Service: | 635 |
| Hours of Data: | 629 |
| Hours of Missing Data: | 6 |
| Hours of Calibration: | 6 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 18 | 17 | 13 | 5 | 8 | 3 | 3 | 3 | 4 | 2 | 4 | 3 | 3 | 2 | 4 | 4 | 4 | 7 | 4 | 2 | 3 | 2 | 1 | 1 | 5.1 | 18.1 |
| 2-Oct | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 5 | 3 | 5 | 7 | 3 | 3 | 2 | 1.5 | 7.1 |
| 3-Oct | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 2 | 5 | 5 | 8 | 6 | 3 | 1 | 3 | 3 | 7 | 7 | 18 | 14 | 3 | 3 | 6 | 7 | 4.8 | 17.5 |
| 4-Oct | 18 | 30 | 5 | 3 | 4 | 5 | 4 | 5 | 6 | 9 | 8 | 5 | 4 | 5 | 5 | 5 | 7 | 7 | 40 | 28 | 8 | 10 | 7 | 27 | 10.7 | 40.1 |
| 5-Oct | 4 | 4 | 4 | 4 | 4 | 3 | 7 | 3 | 4 | 2 | 3 | 8 | 3 | 2 | 2 | 17 | 11 | 28 | 14 | 13 | 16 | 7 | 6 | 22 | 8.0 | 28.2 |
| 6-Oct | 15 | 17 | 8 | 6 | 7 | 6 | 6 | 6 | 7 | 6 | 5 | 5 | 5 | 4 | 4 | 3 | 6 | 6 | 7 | 5 | 4 | 4 | 3 | 3 | 6.2 | 17.1 |
| 7-Oct | 4 | 6 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 2 | 3 | 3.9 | 6.1 |
| 8-Oct | 3 | 3 | 2 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1.5 | 3.1 |
| 9-Oct | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 4 | 4 | 3 | 2 | 2 | 3 | 2 | 2 | 3 | 7 | 4 | 2 | 3 | 4 | 5 | 5 | 3.0 | 6.6 |
| 10-Oct | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 6 | 6 | 6 | 5 | 4 | 4 | 5 | 5 | 6 | 6 | 6 | 4 | 4 | 4 | 5.4 | 6.6 |
| 11-Oct | 6 | 4 | 5 | 4 | 4 | 7 | 6 | 6 | 5 | 2 | 2 | 2 | 3 | 3 | 2 | 3 | 5 | 3 | 2 | 3 | 8 | 3 | 2 | 2 | 3.8 | 7.8 |
| 12-Oct | 1 | 2 | 5 | 6 | 6 | 7 | 6 | 4 | 4 | 4 | 4 | 3 | 3 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 3 | 2 | 1 | 3.5 | 6.6 |
| 13-Oct | 2 | 2 | 2 | 3 | 4 | 3 | 2 | 2 | 3 | 4 | 3 | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 2.0 | 4.4 |
| 14-Oct | 0 | 1 | 0 | 1 | 1 | 1 | 3 | 2 | 2 | 2 | 1 | 1 | 3 | 0 | 1 | 4 | 3 | 3 | 2 | 3 | 3 | 4 | 3 | 3 | 2.0 | 3.6 |
| 15-Oct | 3 | 3 | 4 | 3 | 4 | 3 | 1 | 4 | 4 | 4 | 3 | 4 | 3 | 3 | 4 | 4 | 4 | 3 | 3 | 5 | 3 | 3 | 3 | 3 | 3.5 | 5.4 |
| 16-Oct | 4 | 4 | 4 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 9 | 5 | 3 | 6 | 12 | 11 | 12 | 11 | 4 | 2 | 2 | 2 | 3 | 4.7 | 12.4 |
| 17-Oct | 9 | 3 | 2 | 3 | 3 | 4 | 5 | 5 | 5 | 5 | 5 | 4 | 2 | 9 | 4 | 18 | 10 | 7 | 8 | 5 | 6 | 5 | 8 | 10 | 6.1 | 18.2 |
| 18-Oct | 10 | 9 | 10 | 10 | 9 | 8 | 8 | 6 | 7 | 9 | 12 | 7 | 4 | 1 | 2 | 2 | 8 | 12 | 10 | 24 | 6 | 3 | 4 | 3 | 7.6 | 23.9 |
| 19-Oct | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 4 | 4 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 45 | 6 | 5 | 4.3 | 44.8 |
| 20-Oct | 6 | 8 | 6 | 6 | 6 | 3 | 3 | 2 | 0 | 4 | 1 | 2 | 2 | 29 | 9 | 2 | 3 | 3 | 3 | 9 | 4 | 4 | 3 | 5 | 5.2 | 29.3 |
| 21-Oct | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 1 | 1 | 1 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 2.8 | 4.4 |
| 22-Oct | 2 | 3 | 2 | 2 | 3 | 2 | 3 | 7 | 6 | 6 | 4 | 5 | 5 | 7 | 5 | 6 | 6 | 4 | 7 | 14 | 14 | 9 | 8 | 8 | 5.7 | 14.5 |
| 23-Oct | 8 | 9 | 6 | 5 | 6 | 13 | 4 | 4 | 7 | 8 | 9 | 9 | 6 | 6 | 6 | C | C | 32 | 22 | 14 | 24 | 18 | 13 | 12 | 10.9 | 32.1 |
| 24-Oct | 11 | 9 | 9 | 10 | 7 | 6 | 6 | 7 | 9 | 8 | 10 | 17 | 8 | 10 | 11 | 13 | 19 | 11 | 16 | 16 | 10 | 10 | 8 | 7 | 10.3 | 19.3 |
| 25-Oct | 7 | 6 | 6 | 7 | 6 | 7 | 8 | 7 | 6 | 7 | 7 | 7 | 3 | 1 | 1 | 2 | 2 | 2 | 4 | 2 | 3 | 1 | 1 | 2 | 4.3 | 7.9 |
| 26-Oct | 2 | 1 | 1 | 1 | 9 | 10 | 2 | 2 | 3 | 3 | 3 | 3 | 5 | 6 | 4 | 5 | 4 | 5 | 5 | 4 | 3 | 2 | 0 | 1 | 3.6 | 9.9 |
| 27-Oct | 2 | 2 | 2 | 4 | 5 | 5 | 5 | C | C | C | C | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 5.2 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| | 5.6 | 5.9 | 4.2 | 3.8 | 4.4 | 4.5 | 4.0 | 3.9 | 4.3 | 4.4 | 4.4 | 4.7 | 3.4 | 4.3 | 3.5 | 4.9 | 5.4 | 7.0 | 7.8 | 7.4 | 5.7 | 6.2 | 4.2 | 5.6 | Diurnal Average | |
| | 18.1 | 30.2 | 12.5 | 9.5 | 9.5 | 12.7 | 8.3 | 7.5 | 8.5 | 9.0 | 11.6 | 17.5 | 8.2 | 29.3 | 11.0 | 18.2 | 19.3 | 32.1 | 40.1 | 28.4 | 23.8 | 44.8 | 12.5 | 26.7 | Diurnal Maximum | |

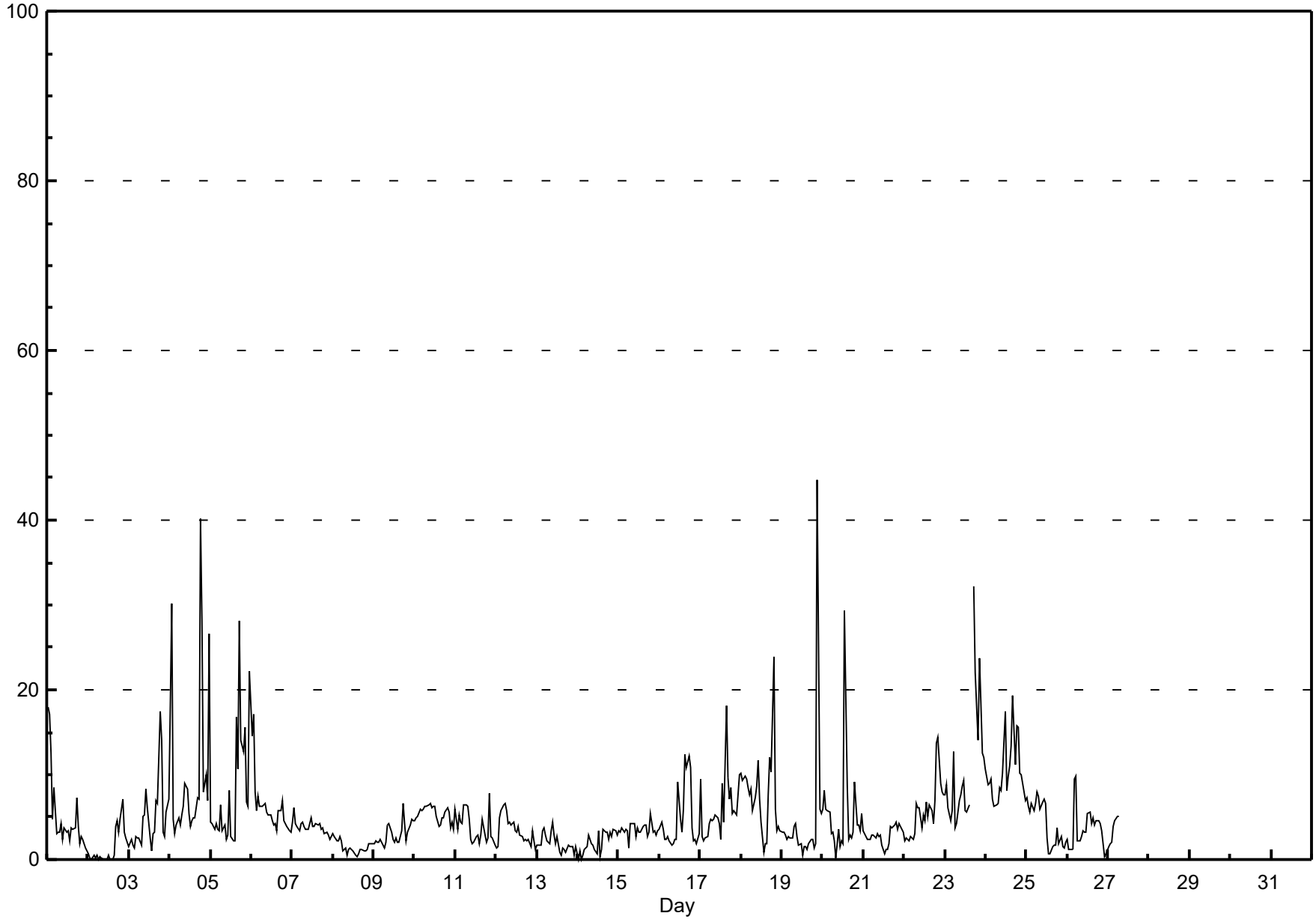
C - Calibration NS - Not in service

Peace Airshed Zone Association

# Hourly Maximums

**PM2.5 ($PM_{2.5}$) - $\mu g/m^3$**

**Portable Rycroft - October 2018**

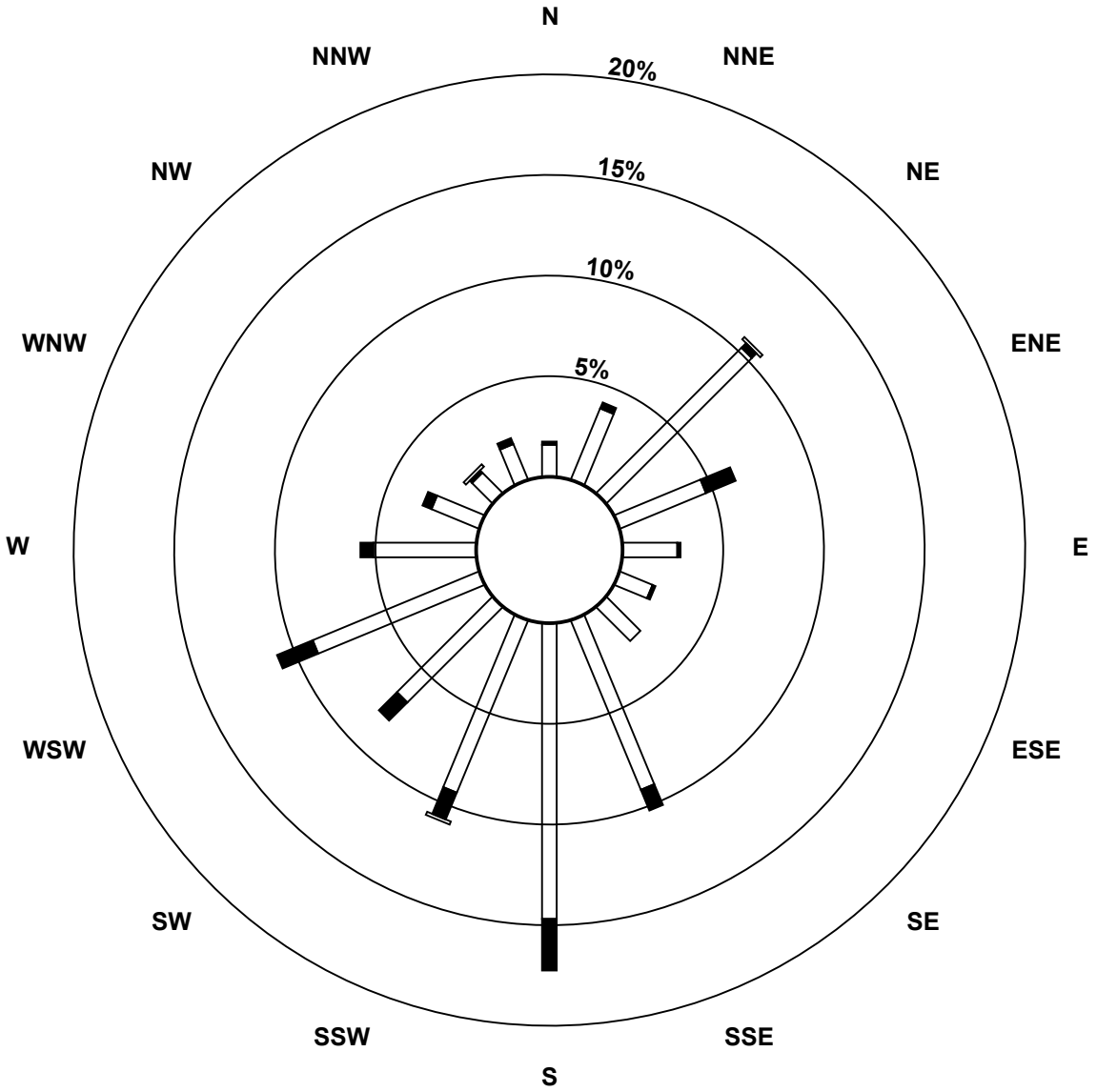


Peace Airshed Zone Association

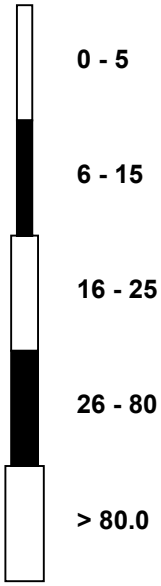
# Pollutant Rose

**PM2.5 ($PM_{2.5}$) - $\mu g/m^3$**

**Portable Rycroft - October 2018**




**Pollutant Classes ($\mu g/m^3$)**



Peace Airshed Zone Association

# Hourly Averages

## External Temperature (ET) - °C

## Portable Rycroft - October 2018

Maximum Value: 21.2 °C on Oct 16 15:00

Maximum Daily Average: 14.5 °C on Oct 17

Minimum Value: -8 °C on Oct 11 03:00

Minimum Daily Average: -1.8 °C on Oct 5

Maximum Diurnal Average: 9.0 °C at hour 15

Minimum Diurnal Average: -0.2 °C at hour 8

Monthly Average: 3.59 °C

Percentiles: $P_1$ = -5.9 $P_{10}$ = -3.1 $Q_1$ = -1.3 Median = 1.9 $Q_3$ = 8.2 $P_{90}$ = 12.9 $P_{99}$ = 19.3

| | |
|---|---|
| Hours in Service: | 631 |
| Hours of Data: | 631 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | -2 | -3 | -3 | -3 | -3 | -3 | -3 | -2 | -2 | -1 | 1 | 1 | 2 | 4 | 1 | 1 | 1 | 0 | 0 | -1 | -1 | -1 | -2 | -2 | -0.9 | 3.6 |
| 2-Oct | -3 | -3 | -3 | -4 | -4 | -4 | -5 | -5 | -1 | 1 | 1 | 1 | 2 | 3 | 3 | 3 | 3 | 2 | -1 | -3 | -4 | -4 | -4 | -4 | -1.4 | 3.3 |
| 3-Oct | -4 | -5 | -5 | -5 | -6 | -6 | -4 | -4 | -2 | 1 | 3 | 5 | 7 | 8 | 7 | 7 | 6 | 5 | 3 | 0 | 0 | 1 | 0 | -3 | 0.3 | 7.6 |
| 4-Oct | -3 | -3 | -4 | -4 | -5 | -5 | -6 | -6 | -3 | 2 | 7 | 8 | 9 | 9 | 9 | 9 | 8 | 6 | 2 | 1 | 0 | -2 | -3 | -3 | 1.1 | 9.4 |
| 5-Oct | -3 | -4 | -4 | -5 | -6 | -6 | -5 | -5 | -4 | -3 | -2 | 0 | 3 | 4 | 3 | 3 | 3 | 1 | 0 | -2 | -3 | -3 | -3 | -4 | -1.8 | 3.9 |
| 6-Oct | -5 | -4 | -3 | -2 | -1 | -1 | -2 | -2 | -1 | 0 | 1 | 2 | 3 | 3 | 4 | 4 | 5 | 4 | 3 | 2 | 0 | 0 | 0 | 0 | 0.4 | 4.5 |
| 7-Oct | -1 | -1 | -1 | -1 | -1 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -1 | -1 | -1 | -1 | -1 | -1 | -2 | -2 | -2 | -2 | -2 | -2 | -1.4 | -0.5 |
| 8-Oct | -2 | -2 | -2 | -2 | -3 | -3 | -3 | -3 | -3 | -2 | -2 | -1 | -1 | -1 | 0 | 0 | 0 | -1 | -1 | -1 | -1 | -2 | -2 | -3 | -1.7 | -0.2 |
| 9-Oct | -3 | -3 | -3 | -3 | -3 | -3 | -3 | -3 | -3 | -3 | -2 | -1 | -1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | -1.2 | 1.5 |
| 10-Oct | -1 | -1 | -1 | -1 | -1 | -2 | -2 | -2 | -1 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | -1 | -1 | -1 | -3 | -4 | -1.0 | 0.2 |
| 11-Oct | -4 | -6 | -8 | -7 | -6 | -6 | -3 | -3 | -1 | 0 | 2 | 5 | 7 | 7 | 9 | 9 | 9 | 8 | 7 | 5 | 5 | 4 | 4 | 4 | 1.7 | 9.1 |
| 12-Oct | 4 | 4 | 3 | 3 | 3 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.1 | 4.2 |
| 13-Oct | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | 1 | 2 | 5 | 7 | 8 | 8 | 9 | 9 | 8 | 6 | 3 | 1 | 0 | 0 | 0 | 0 | 2.7 | 9.1 |
| 14-Oct | 0 | -1 | 0 | 0 | 1 | 1 | 1 | 2 | 4 | 7 | 10 | 12 | 12 | 13 | 14 | 14 | 13 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 7.7 | 13.9 |
| 15-Oct | 12 | 11 | 11 | 11 | 10 | 10 | 10 | 9 | 9 | 12 | 15 | 15 | 16 | 16 | 15 | 15 | 14 | 13 | 10 | 8 | 8 | 8 | 6 | 6 | 11.1 | 15.6 |
| 16-Oct | 5 | 6 | 6 | 5 | 5 | 4 | 5 | 6 | 7 | 11 | 15 | 18 | 19 | 21 | 21 | 20 | 17 | 16 | 12 | 12 | 12 | 11 | 12 | 12 | 11.6 | 21.2 |
| 17-Oct | 12 | 11 | 9 | 8 | 11 | 11 | 10 | 12 | 12 | 17 | 19 | 20 | 21 | 20 | 19 | 19 | 17 | 17 | 15 | 14 | 12 | 13 | 14 | 15 | 14.5 | 20.7 |
| 18-Oct | 14 | 14 | 11 | 10 | 10 | 9 | 7 | 6 | 6 | 10 | 12 | 13 | 14 | 14 | 14 | 14 | 13 | 10 | 6 | 5 | 3 | 2 | 2 | 2 | 9.2 | 14.4 |
| 19-Oct | 1 | 1 | 1 | 0 | -1 | -1 | -1 | -1 | 0 | 3 | 6 | 8 | 11 | 13 | 13 | 13 | 12 | 11 | 9 | 8 | 9 | 8 | 7 | 6 | 5.8 | 13.5 |
| 20-Oct | 7 | 4 | 5 | 7 | 11 | 10 | 8 | 8 | 9 | 12 | 13 | 13 | 14 | 14 | 14 | 13 | 13 | 11 | 9 | 5 | 5 | 4 | 2 | 3 | 8.9 | 13.9 |
| 21-Oct | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 6 | 9 | 11 | 13 | 14 | 14 | 14 | 11 | 8 | 6 | 4 | 3 | 2 | 2 | 1 | 5.4 | 14.0 |
| 22-Oct | 1 | 0 | 0 | -2 | -2 | -2 | -2 | -4 | -3 | 3 | 7 | 10 | 13 | 14 | 14 | 14 | 13 | 10 | 8 | 4 | 3 | 2 | 0 | -2 | 4.0 | 14.0 |
| 23-Oct | -2 | -1 | -3 | -4 | -3 | -5 | -5 | -5 | -4 | 1 | 6 | 9 | 12 | 13 | 13 | 12 | 10 | 6 | 4 | 3 | -1 | -1 | -1 | -3 | 2.1 | 13.1 |
| 24-Oct | -4 | -3 | -4 | -4 | -4 | -4 | -4 | -4 | -3 | 1 | 4 | 8 | 12 | 15 | 17 | 16 | 12 | 11 | 8 | 6 | 5 | 5 | 5 | 3 | 3.9 | 16.5 |
| 25-Oct | 2 | 3 | 2 | 2 | 2 | 1 | 1 | 3 | 5 | 6 | 7 | 12 | 15 | 15 | 16 | 14 | 12 | 10 | 9 | 9 | 9 | 7 | 6 | 4 | 7.2 | 15.7 |
| 26-Oct | 3 | 3 | 2 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 3 | 4 | 5 | 6 | 7 | 7 | 7 | 6 | 4 | 2 | 2 | 5 | 6 | 6 | 3.4 | 7.0 |
| 27-Oct | 6 | 6 | 6 | 7 | 6 | 6 | 6 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 6.6 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| | 1.3 | 0.8 | 0.4 | 0.3 | 0.4 | 0.2 | 0.1 | -0.2 | 0.9 | 3.2 | 5.3 | 6.9 | 8.2 | 9.0 | 9.0 | 8.9 | 8.0 | 6.6 | 4.7 | 3.5 | 2.8 | 2.6 | 2.1 | 1.6 | Diurnal Average | |
| | 14.1 | 13.6 | 11.4 | 10.5 | 11.0 | 10.9 | 10.4 | 12.0 | 12.2 | 16.6 | 19.3 | 20.5 | 20.7 | 20.8 | 21.2 | 20.2 | 17.4 | 17.2 | 14.5 | 14.0 | 12.4 | 13.3 | 13.7 | 14.5 | Diurnal Maximum | |

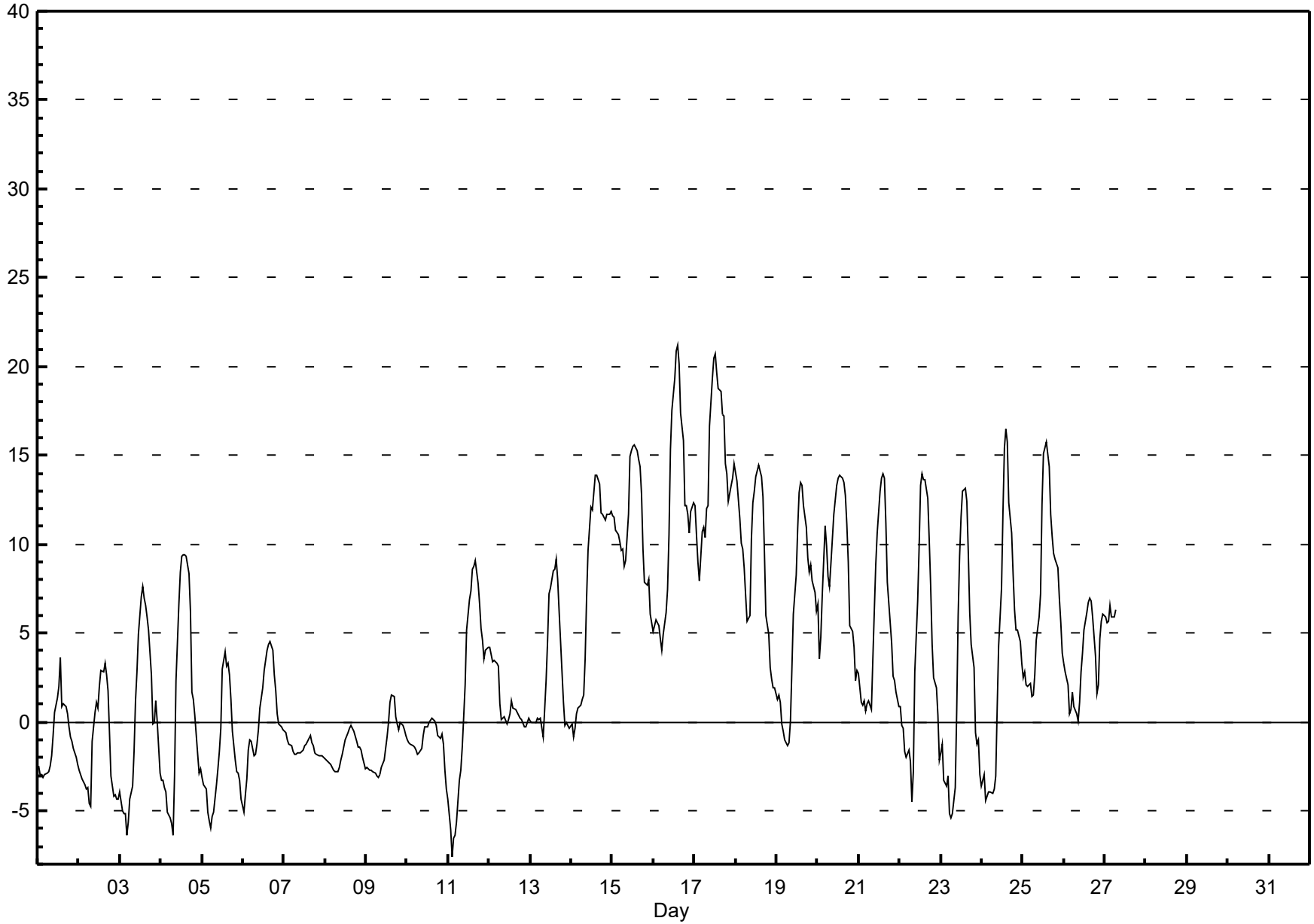
NS - Not in service

Peace Airshed Zone Association

# Hourly Averages

**External Temperature (ET) - $^{o}C$**

**Portable Rycroft - October 2018**



Peace Airshed Zone Association

# Hourly Averages

## Wind Speed (km/h)
## Wind Direction (deg)
## Portable Rycroft - October 2018

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Average | Maximum |
| 1 Spd | 5 | 1 | 3 | 4 | 4 | 6 | 6 | 6 | 3 | 7 | 9 | 8 | 11 | 8 | 8 | 10 | 11 | 15 | 15 | 16 | 15 | 16 | 14 | 13 | 7.1 | 16.4 |
| Dir | 323 | 271 | 231 | 244 | 244 | 262 | 258 | 242 | 295 | 269 | 304 | 340 | 324 | 343 | 28 | 360 | 17 | 356 | 353 | 344 | 339 | 346 | 345 | 353 | 333.7 | 346.1 |
| 2 Spd | 8 | 5 | 5 | 5 | 6 | 4 | 7 | 8 | 8 | 9 | 10 | 11 | 12 | 15 | 14 | 13 | 14 | 14 | 7 | 4 | 7 | 9 | 7 | 7 | 7.0 | 14.8 |
| Dir | 346 | 316 | 289 | 269 | 263 | 240 | 283 | 293 | 297 | 298 | 283 | 266 | 267 | 267 | 248 | 252 | 250 | 243 | 228 | 215 | 186 | 186 | 187 | 187 | 257.5 | 267.4 |
| 3 Spd | 7 | 7 | 7 | 6 | 6 | 6 | 3 | 4 | 2 | 2 | 2 | 2 | 3 | 2 | 8 | 11 | 9 | 7 | 4 | 3 | 3 | 7 | 3 | 3 | 2.2 | 11.0 |
| Dir | 181 | 176 | 171 | 164 | 178 | 166 | 164 | 176 | 156 | 307 | 268 | 83 | 41 | 353 | 24 | 51 | 69 | 75 | 76 | 60 | 77 | 81 | 94 | 336 | 107.2 | 51.0 |
| 4 Spd | 1 | 3 | 2 | 2 | 1 | 2 | 3 | 3 | 3 | 3 | 3 | 7 | 14 | 18 | 16 | 18 | 19 | 15 | 11 | 13 | 13 | 6 | 6 | 5 | 6.4 | 19.4 |
| Dir | 292 | 317 | 33 | 109 | 241 | 186 | 207 | 230 | 194 | 177 | 249 | 273 | 259 | 261 | 254 | 254 | 268 | 274 | 260 | 241 | 241 | 276 | 4 | 44 | 259.4 | 267.9 |
| 5 Spd | 3 | 3 | 2 | 1 | 2 | 1 | 1 | 0 | 3 | 7 | 6 | 6 | 5 | 6 | 5 | 5 | 10 | 10 | 9 | 8 | 7 | 8 | 9 | 4 | 4.9 | 10.3 |
| Dir | 84 | 82 | 101 | 56 | 75 | 90 | 61 | 67 | 35 | 55 | 60 | 41 | 18 | 35 | 76 | 62 | 47 | 61 | 61 | 59 | 63 | 66 | 68 | 56 | 58.3 | 47.0 |
| 6 Spd | 6 | 4 | 1 | 6 | 1 | 6 | 4 | 2 | 5 | 4 | 3 | 2 | 3 | 3 | 2 | 4 | 3 | 3 | 8 | 16 | 15 | 15 | 12 | 14 | 3.9 | 15.9 |
| Dir | 62 | 61 | 206 | 144 | 101 | 266 | 232 | 217 | 314 | 338 | 324 | 337 | 8 | 0 | 348 | 19 | 32 | 61 | 47 | 46 | 49 | 49 | 53 | 55 | 40.6 | 46.5 |
| 7 Spd | 12 | 12 | 14 | 13 | 14 | 14 | 12 | 13 | 12 | 14 | 15 | 13 | 15 | 13 | 14 | 13 | 10 | 12 | 12 | 12 | 11 | 13 | 14 | 17 | 12.8 | 16.5 |
| Dir | 50 | 52 | 51 | 49 | 49 | 47 | 44 | 44 | 36 | 24 | 29 | 28 | 24 | 25 | 28 | 19 | 22 | 25 | 27 | 20 | 32 | 34 | 39 | 48 | 35.5 | 47.5 |
| 8 Spd | 16 | 12 | 11 | 13 | 14 | 13 | 13 | 12 | 15 | 16 | 16 | 16 | 15 | 17 | 18 | 18 | 19 | 20 | 19 | 17 | 18 | 18 | 18 | 16 | 15.7 | 19.8 |
| Dir | 48 | 49 | 50 | 51 | 53 | 50 | 49 | 50 | 51 | 58 | 56 | 55 | 56 | 49 | 52 | 55 | 56 | 56 | 57 | 52 | 52 | 50 | 48 | 45 | 52.3 | 55.9 |
| 9 Spd | 15 | 13 | 14 | 14 | 13 | 12 | 11 | 13 | 12 | 13 | 14 | 14 | 17 | 13 | 14 | 15 | 14 | 13 | 14 | 12 | 9 | 8 | 6 | 6 | 12.2 | 16.6 |
| Dir | 52 | 49 | 47 | 49 | 49 | 47 | 43 | 47 | 50 | 56 | 52 | 54 | 54 | 55 | 52 | 63 | 62 | 58 | 59 | 63 | 90 | 87 | 97 | 107 | 56.9 | 54.0 |
| 10 Spd | 4 | 5 | 5 | 5 | 4 | 2 | 1 | 2 | 2 | 1 | 3 | 4 | 8 | 7 | 7 | 6 | 3 | 2 | 3 | 3 | 2 | 3 | 5 | 6 | 1.0 | 7.6 |
| Dir | 112 | 88 | 76 | 72 | 78 | 75 | 84 | 84 | 82 | 185 | 304 | 250 | 253 | 261 | 267 | 279 | 250 | 183 | 171 | 183 | 200 | 163 | 149 | 143 | 180.6 | 253.0 |
| 11 Spd | 4 | 4 | 5 | 7 | 5 | 6 | 6 | 6 | 9 | 8 | 7 | 11 | 10 | 6 | 6 | 6 | 12 | 6 | 3 | 6 | 3 | 2 | 4 | 5 | 4.7 | 11.7 |
| Dir | 142 | 160 | 184 | 148 | 162 | 175 | 159 | 150 | 159 | 156 | 168 | 188 | 193 | 203 | 217 | 245 | 253 | 292 | 284 | 251 | 184 | 122 | 159 | 160 | 186.9 | 252.7 |
| 12 Spd | 4 | 4 | 4 | 0 | 2 | 9 | N | N | N | 19 | 22 | 20 | 17 | 14 | 17 | 13 | 12 | 7 | 6 | 3 | 2 | 2 | 3 | 2 | 6.9 | 22.0 |
| Dir | 161 | 182 | 156 | 92 | 329 | 2 | N | N | N | 297 | 305 | 290 | 300 | 293 | 278 | 282 | 279 | 276 | 251 | 225 | 195 | 195 | 216 | 209 | 285.3 | 305.4 |
| 13 Spd | 3 | 4 | 2 | 3 | 4 | 5 | 5 | 3 | 3 | 2 | 3 | 2 | 2 | 10 | 14 | 13 | 11 | 5 | 4 | 4 | 7 | 10 | 10 | 10 | 3.9 | 14.4 |
| Dir | 154 | 143 | 141 | 186 | 227 | 235 | 246 | 215 | 203 | 48 | 47 | 16 | 153 | 264 | 262 | 260 | 254 | 226 | 193 | 193 | 173 | 170 | 170 | 175 | 213.8 | 261.7 |
| 14 Spd | 11 | 10 | 10 | 12 | 10 | 11 | 10 | 10 | 10 | 10 | 8 | 17 | 14 | 16 | 13 | 22 | 21 | 14 | 19 | 22 | 24 | 28 | 30 | 30 | 14.1 | 29.9 |
| Dir | 170 | 168 | 173 | 181 | 179 | 182 | 186 | 184 | 184 | 186 | 194 | 238 | 236 | 232 | 226 | 238 | 234 | 233 | 238 | 241 | 248 | 245 | 246 | 246 | 223.6 | 246.0 |
| 15 Spd | 28 | 28 | 23 | 20 | 20 | 16 | 16 | 6 | 3 | 4 | 10 | 29 | 30 | 28 | 22 | 19 | 17 | 15 | 8 | 10 | 9 | 3 | 7 | 7 | 14.5 | 29.6 |
| Dir | 245 | 247 | 245 | 245 | 246 | 248 | 246 | 265 | 148 | 213 | 249 | 253 | 253 | 256 | 258 | 244 | 234 | 234 | 218 | 299 | 301 | 165 | 167 | 175 | 246.2 | 252.9 |
| 16 Spd | 7 | 7 | 7 | 5 | 6 | 8 | 8 | 6 | 6 | 6 | 3 | 13 | 19 | 19 | 20 | 17 | 4 | 5 | 9 | 9 | 9 | 9 | 11 | 12 | 7.9 | 19.8 |
| Dir | 160 | 161 | 179 | 192 | 179 | 177 | 172 | 173 | 164 | 149 | 182 | 244 | 240 | 236 | 240 | 244 | 211 | 180 | 168 | 183 | 200 | 199 | 194 | 191 | 203.8 | 239.9 |
| 17 Spd | 10 | 8 | 8 | 4 | 6 | 9 | 9 | 12 | 10 | 10 | 11 | 14 | 21 | 17 | 8 | 10 | 6 | 10 | 10 | 10 | 10 | 10 | 13 | 20 | 10.3 | 21.2 |
| Dir | 191 | 192 | 181 | 193 | 201 | 192 | 187 | 185 | 190 | 204 | 206 | 221 | 225 | 223 | 214 | 221 | 212 | 220 | 215 | 208 | 224 | 214 | 222 | 235 | 210.6 | 224.8 |
| 18 Spd | 20 | 17 | 11 | 14 | 14 | 13 | 12 | 7 | 6 | 17 | 33 | 32 | 33 | 31 | 28 | 25 | 19 | 12 | 8 | 7 | 8 | 10 | 8 | 9 | 14.7 | 33.0 |
| Dir | 233 | 257 | 265 | 243 | 230 | 229 | 251 | 247 | 197 | 248 | 253 | 252 | 257 | 269 | 271 | 263 | 246 | 230 | 213 | 207 | 189 | 168 | 172 | 170 | 244.7 | 252.9 |
| 19 Spd | 8 | 8 | 7 | 7 | 7 | 8 | 5 | 6 | 5 | 2 | 2 | 7 | 8 | 7 | 7 | 8 | 8 | 5 | 6 | 5 | 5 | 7 | 9 | 6 | 5.0 | 9.4 |
| Dir | 173 | 171 | 178 | 186 | 167 | 176 | 163 | 182 | 177 | 180 | 78 | 61 | 61 | 111 | 103 | 113 | 124 | 108 | 72 | 92 | 125 | 150 | 148 | 143 | 137.8 | 148.5 |
| 20 Spd | 8 | 7 | 8 | 9 | 14 | 15 | 12 | 10 | 11 | 26 | 30 | 32 | 35 | 40 | 43 | 40 | 34 | 27 | 15 | 8 | 10 | 8 | 8 | 10 | 18.1 | 43.0 |
| Dir | 148 | 231 | 179 | 198 | 216 | 203 | 204 | 207 | 212 | 226 | 228 | 228 | 229 | 241 | 242 | 239 | 241 | 242 | 232 | 190 | 199 | 197 | 198 | 192 | 225.4 | 242.2 |
| 21 Spd | 7 | 6 | 7 | 7 | 6 | 7 | 6 | 8 | 9 | 11 | 15 | 11 | 5 | 4 | 4 | 2 | 3 | 4 | 6 | 8 | 7 | 7 | 6 | 7 | 4.9 | 14.9 |
| Dir | 199 | 199 | 191 | 191 | 194 | 214 | 190 | 175 | 219 | 236 | 269 | 275 | 268 | 269 | 274 | 259 | 124 | 145 | 143 | 148 | 149 | 157 | 170 | 171 | 203.2 | 268.6 |
| 22 Spd | 7 | 6 | 4 | 3 | 4 | 6 | 6 | 2 | 3 | 3 | 7 | 4 | 6 | 8 | 7 | 7 | 6 | 5 | 5 | 6 | 9 | 7 | 7 | 6 | 3.0 | 9.3 |
| Dir | 173 | 164 | 173 | 172 | 166 | 176 | 135 | 3 | 191 | 184 | 135 | 121 | 5 | 14 | 42 | 50 | 74 | 88 | 146 | 161 | 154 | 180 | 195 | 204 | 142.3 | 154.3 |

Peace Airshed Zone Association

# Hourly Averages

## Wind Speed (km/h)
## Wind Direction (deg)
## Portable Rycroft - October 2018

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 Spd | 7 | 6 | 6 | 6 | 5 | 5 | 3 | 6 | 6 | 3 | 1 | 2 | 2 | 4 | 6 | 8 | 8 | 8 | 5 | 4 | 6 | 6 | 6 | 5 | 1.7 | 8.4 |
| Dir | 179 | 174 | 200 | 166 | 184 | 237 | 212 | 176 | 172 | 173 | 294 | 286 | 315 | 12 | 26 | 27 | 34 | 43 | 61 | 121 | 195 | 182 | 173 | 193 | 160.6 | 34.2 |
| 24 Spd | 6 | 6 | 4 | 6 | 7 | 7 | 8 | 8 | 7 | 4 | 4 | 3 | 2 | 2 | 4 | 4 | 3 | 4 | 5 | 8 | 7 | 9 | 8 | 7 | 4.0 | 8.5 |
| Dir | 189 | 166 | 202 | 177 | 179 | 176 | 186 | 185 | 191 | 208 | 257 | 220 | 246 | 345 | 341 | 24 | 24 | 98 | 188 | 183 | 177 | 173 | 165 | 181 | 183.0 | 173.5 |
| 25 Spd | 8 | 8 | 10 | 10 | 8 | 8 | 11 | 11 | 10 | 8 | 7 | 6 | 8 | 11 | 11 | 13 | 17 | 16 | 13 | 12 | 16 | 15 | 13 | 12 | 10.4 | 17.3 |
| Dir | 176 | 164 | 167 | 149 | 150 | 169 | 159 | 161 | 158 | 161 | 169 | 166 | 197 | 194 | 205 | 204 | 189 | 186 | 188 | 191 | 195 | 192 | 187 | 192 | 180.7 | 188.6 |
| 26 Spd | 11 | 12 | 12 | 9 | 8 | 14 | 10 | 7 | 6 | 6 | 8 | 7 | 5 | 4 | 4 | 2 | 3 | 3 | 5 | 5 | 5 | 8 | 11 | 13 | 7.1 | 14.4 |
| Dir | 196 | 193 | 187 | 172 | 174 | 183 | 166 | 153 | 171 | 172 | 164 | 159 | 171 | 165 | 163 | 147 | 143 | 130 | 134 | 149 | 172 | 186 | 194 | 195 | 175.0 | 183.3 |
| 27 Spd | 11 | 11 | 11 | 20 | 17 | 17 | 18 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 19.6 |
| Dir | 205 | 202 | 207 | 225 | 222 | 221 | 224 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 224.9 |
| 28 Spd | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| Dir | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29 Spd | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| Dir | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30 Spd | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| Dir | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31 Spd | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| Dir | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| Spd | 3.6 | 3.4 | 3.4 | 3.7 | 3.6 | 4.0 | 3.9 | 2.9 | 2.5 | 2.3 | 3.4 | 5.1 | 5.9 | 6.4 | 5.3 | 4.8 | 3.3 | 1.6 | 1.4 | 1.4 | 2.6 | 3.0 | 3.4 | 3.5 | Diurnal Average | |
| Dir | 179.7 | 185.7 | 182.4 | 183.7 | 191.7 | 198.3 | 196.1 | 176.1 | 168.3 | 223.9 | 254.7 | 254.1 | 258.3 | 263.1 | 264.5 | 261.2 | 248.7 | 235.9 | 178.1 | 184.0 | 185.2 | 167.0 | 171.2 | 181.2 | | |
| Spd | 28.2 | 28.4 | 22.5 | 20.5 | 20.1 | 16.6 | 18.5 | 13.1 | 14.8 | 26.0 | 33.0 | 32.3 | 34.7 | 39.9 | 43.0 | 39.8 | 34.4 | 27.0 | 18.8 | 21.8 | 24.0 | 27.9 | 29.6 | 29.9 | Diurnal Maximum | |
| Dir | 245.3 | 247.2 | 244.6 | 244.7 | 245.7 | 220.6 | 223.8 | 44.1 | 50.5 | 226.2 | 252.9 | 252.1 | 228.6 | 241.4 | 242.2 | 239.5 | 241.0 | 242.3 | 237.6 | 241.0 | 247.9 | 245.0 | 246.0 | 246.0 | | |

Maximum Speed Value: 43 km/h on Oct 20 15:00
Maximum Daily Speed Average: 18.1 km/h on Oct 20
Maximum Diurnal Speed Average: 6.4 km/h at hour 14

Minimum Speed Value: 0 km/h on Oct 5 08:00
Minimum Daily Speed Average: 1.0 km/h on Oct 10
Minimum Diurnal Speed Average: 1.4 km/h at hour 19

Monthly Average Velocity: 2.81 km/h 214.80 deg

Speed Percentiles: $P_1$ = 1.1 $P_{10}$ = 2.8 $Q_1$ = 5.0 Median = 7.7 $Q_3$ = 12.6 $P_{90}$ = 16.7 $P_{99}$ = 32.6

All monthly, daily, and diurnal averages have been calculated using vector methods

| | |
|---|---|
| Hours in Service: | 631 |
| Hours of Data: | 628 |
| Hours of Missing Data: | 3 |
| Percent Operational Time: | 99.5 |

N - Not Valid NS - Not in service

Frequency Distribution

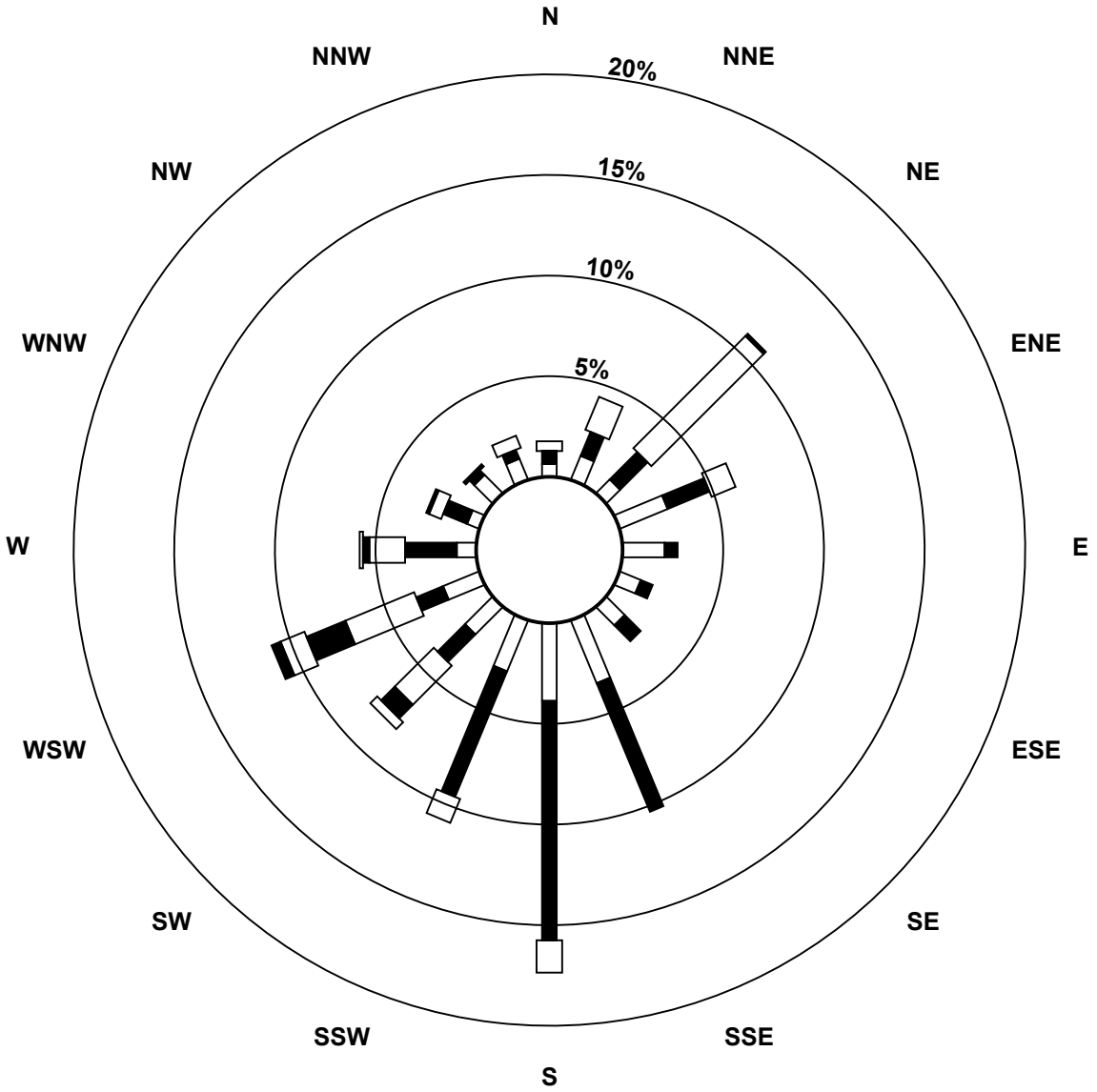
| Direction | Speed Range (km/h) 0 to 5 | 5 to 11 | 11 to 19 | 19 to 28 | 28 to 38 | > 38 | Total |
|---|---|---|---|---|---|---|---|
| North | 11 | 11 | 9 | 0 | 0 | 0 | 31 |
| NorthEast | 16 | 26 | 68 | 1 | 0 | 0 | 111 |
| East | 24 | 15 | 0 | 0 | 0 | 0 | 39 |
| SouthEast | 20 | 23 | 0 | 0 | 0 | 0 | 43 |
| South | 40 | 132 | 20 | 0 | 0 | 0 | 192 |
| SouthWest | 24 | 30 | 33 | 16 | 8 | 3 | 114 |
| West | 12 | 28 | 21 | 5 | 8 | 0 | 74 |
| NorthWest | 12 | 8 | 2 | 2 | 0 | 0 | 24 |
| Total | 159 | 273 | 153 | 24 | 16 | 3 | 628 |

Peace Airshed Zone Association

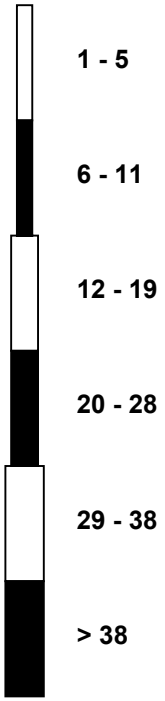
# Wind Rose

**Wind Speed (WS) (km/h)**

**Portable Rycroft - October 2018**




**Wind Speed Classes (km/h)**



# Hourly Averages - Wind Speed (Scalar)

**Wind Speed (km/h)**

## Portable Rycroft - October 2018

Peace Airshed Zone Association

Maximum Speed: 43 km/h on Oct 20 15:00

Maximum Daily Speed Average: 19.3 km/h on Oct 20

Minimum Speed: 1 km/h on Oct 5 08:00

Minimum Daily Speed Average: 4.2 km/h on Oct 10

Maximum Diurnal Speed Average: 12.9 km/h at hour 14

Minimum Diurnal Speed Average: 6.9 km/h at hour 9

Monthly Average Speed: 9.61 km/h

Percentiles: $P_1 = 1.7$ $P_{10} = 3.2$ $Q_1 = 5.2$ Median = 7.8 $Q_3 = 12.8$ $P_{90} = 16.9$ $P_{99} = 32.8$

Hours in Service: 631

Hours of Data: 628

Hours of Missing Data: 3

Percent Operational Time: 99.5

| Day | Hourly Period Ending At (MST) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Oct | 5 | 2 | 3 | 4 | 4 | 6 | 6 | 6 | 4 | 8 | 9 | 8 | 11 | 9 | 9 | 10 | 11 | 15 | 15 | 16 | 15 | 17 | 14 | 13 | 9.3 | 16.6 |
| 2-Oct | 8 | 5 | 6 | 6 | 6 | 4 | 8 | 8 | 8 | 10 | 10 | 12 | 13 | 15 | 14 | 13 | 14 | 15 | 7 | 4 | 7 | 9 | 7 | 7 | 9.0 | 15.5 |
| 3-Oct | 7 | 7 | 7 | 6 | 6 | 6 | 3 | 4 | 2 | 3 | 3 | 3 | 5 | 5 | 8 | 11 | 9 | 7 | 4 | 3 | 3 | 7 | 4 | 4 | 5.4 | 11.2 |
| 4-Oct | 2 | 4 | 2 | 2 | 3 | 3 | 4 | 3 | 3 | 3 | 4 | 8 | 14 | 19 | 16 | 19 | 20 | 15 | 11 | 13 | 13 | 7 | 8 | 5 | 8.3 | 19.8 |
| 5-Oct | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 4 | 7 | 6 | 6 | 6 | 7 | 6 | 6 | 11 | 10 | 9 | 8 | 7 | 8 | 9 | 4 | 5.4 | 10.5 |
| 6-Oct | 6 | 4 | 2 | 7 | 3 | 6 | 4 | 3 | 5 | 4 | 3 | 3 | 4 | 4 | 3 | 4 | 4 | 4 | 8 | 16 | 15 | 15 | 12 | 14 | 6.3 | 16.1 |
| 7-Oct | 12 | 12 | 14 | 13 | 14 | 14 | 12 | 13 | 13 | 14 | 15 | 14 | 15 | 14 | 14 | 13 | 10 | 12 | 12 | 12 | 11 | 13 | 14 | 17 | 13.1 | 16.6 |
| 8-Oct | 16 | 12 | 11 | 13 | 14 | 13 | 13 | 12 | 15 | 16 | 16 | 17 | 15 | 17 | 18 | 18 | 19 | 20 | 19 | 17 | 18 | 18 | 18 | 16 | 15.9 | 19.9 |
| 9-Oct | 15 | 13 | 14 | 14 | 13 | 12 | 11 | 13 | 12 | 13 | 14 | 15 | 17 | 14 | 15 | 15 | 14 | 14 | 14 | 12 | 9 | 8 | 6 | 7 | 12.7 | 16.9 |
| 10-Oct | 5 | 5 | 5 | 5 | 4 | 3 | 1 | 2 | 3 | 2 | 3 | 4 | 8 | 8 | 7 | 6 | 3 | 2 | 3 | 3 | 3 | 4 | 5 | 6 | 4.2 | 7.7 |
| 11-Oct | 4 | 4 | 5 | 7 | 5 | 6 | 6 | 6 | 9 | 8 | 7 | 11 | 10 | 6 | 7 | 7 | 12 | 6 | 4 | 7 | 3 | 2 | 4 | 5 | 6.3 | 11.9 |
| 12-Oct | 4 | 4 | 4 | 2 | 3 | 10 | N | N | N | 21 | 22 | 20 | 17 | 14 | 17 | 13 | 12 | 7 | 6 | 3 | 2 | 2 | 3 | 3 | 9.0 | 22.2 |
| 13-Oct | 3 | 4 | 3 | 3 | 4 | 5 | 6 | 3 | 3 | 2 | 3 | 3 | 3 | 10 | 14 | 13 | 11 | 5 | 4 | 5 | 7 | 10 | 10 | 10 | 6.0 | 14.5 |
| 14-Oct | 11 | 10 | 10 | 12 | 10 | 11 | 10 | 10 | 10 | 10 | 8 | 17 | 14 | 16 | 14 | 22 | 21 | 14 | 19 | 22 | 24 | 28 | 30 | 30 | 16.0 | 29.9 |
| 15-Oct | 28 | 28 | 23 | 20 | 20 | 17 | 16 | 6 | 4 | 4 | 10 | 29 | 30 | 28 | 22 | 19 | 17 | 15 | 8 | 11 | 9 | 4 | 7 | 7 | 15.9 | 29.7 |
| 16-Oct | 7 | 7 | 7 | 5 | 7 | 8 | 8 | 6 | 6 | 6 | 4 | 13 | 19 | 19 | 20 | 17 | 4 | 5 | 9 | 9 | 9 | 9 | 11 | 12 | 9.4 | 19.9 |
| 17-Oct | 10 | 8 | 8 | 5 | 6 | 9 | 9 | 12 | 10 | 10 | 11 | 14 | 21 | 17 | 8 | 10 | 6 | 10 | 10 | 10 | 10 | 10 | 13 | 20 | 10.7 | 21.3 |
| 18-Oct | 20 | 18 | 11 | 14 | 14 | 13 | 12 | 8 | 6 | 17 | 33 | 32 | 33 | 31 | 28 | 25 | 20 | 12 | 8 | 7 | 8 | 10 | 8 | 9 | 16.5 | 33.0 |
| 19-Oct | 8 | 8 | 7 | 7 | 7 | 8 | 5 | 6 | 6 | 3 | 3 | 7 | 9 | 8 | 8 | 9 | 8 | 5 | 6 | 5 | 6 | 8 | 9 | 7 | 6.8 | 9.5 |
| 20-Oct | 8 | 8 | 8 | 9 | 14 | 15 | 12 | 10 | 11 | 26 | 31 | 32 | 35 | 40 | 43 | 40 | 34 | 27 | 16 | 8 | 10 | 9 | 8 | 10 | 19.3 | 43.1 |
| 21-Oct | 7 | 6 | 8 | 7 | 7 | 7 | 7 | 8 | 10 | 12 | 15 | 11 | 6 | 5 | 5 | 3 | 3 | 4 | 7 | 8 | 7 | 7 | 7 | 7 | 7.2 | 15.2 |
| 22-Oct | 7 | 6 | 5 | 3 | 5 | 6 | 6 | 3 | 4 | 4 | 7 | 5 | 6 | 8 | 8 | 8 | 6 | 5 | 5 | 6 | 9 | 7 | 7 | 6 | 5.9 | 9.4 |
| 23-Oct | 7 | 6 | 6 | 6 | 5 | 5 | 4 | 7 | 6 | 3 | 1 | 3 | 3 | 4 | 7 | 8 | 8 | 8 | 5 | 5 | 6 | 6 | 6 | 5 | 5.4 | 8.4 |
| 24-Oct | 7 | 6 | 4 | 6 | 7 | 7 | 8 | 8 | 7 | 4 | 4 | 3 | 2 | 2 | 4 | 4 | 3 | 4 | 5 | 8 | 7 | 9 | 8 | 7 | 5.6 | 8.5 |
| 25-Oct | 8 | 8 | 10 | 10 | 8 | 8 | 11 | 11 | 10 | 8 | 7 | 6 | 9 | 11 | 11 | 14 | 17 | 16 | 13 | 12 | 16 | 15 | 13 | 12 | 10.9 | 17.4 |
| 26-Oct | 12 | 12 | 12 | 9 | 9 | 15 | 10 | 8 | 6 | 6 | 8 | 7 | 5 | 5 | 4 | 3 | 3 | 4 | 5 | 5 | 6 | 8 | 11 | 13 | 7.6 | 14.5 |
| 27-Oct | 11 | 11 | 11 | 20 | 17 | 17 | 19 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | 19.6 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- | -- |
| | 9.0 | 8.3 | 7.7 | 8.0 | 8.1 | 8.7 | 8.2 | 7.1 | 6.9 | 8.6 | 9.9 | 11.7 | 12.7 | 12.9 | 12.7 | 12.6 | 11.6 | 10.0 | 8.9 | 9.1 | 9.3 | 9.6 | 9.6 | 9.8 | Diurnal Average | |
| | 28.2 | 28.4 | 22.5 | 20.5 | 20.1 | 16.6 | 18.5 | 13.2 | 14.9 | 26.1 | 33.0 | 32.5 | 34.9 | 40.2 | 43.1 | 39.9 | 34.5 | 27.0 | 18.9 | 21.8 | 24.0 | 27.9 | 29.6 | 29.9 | Diurnal Maximum | |

N - Not Valid NS - Not in service

All monthly, daily, and diurnal averages have been calculated using scalar methods

Peace Airshed Zone Association

# Hourly Standard Deviations

## Wind Direction (WD) - deg

## Portable Rycroft - October 2018

Maximum Value: 91.5 deg on Oct 23 11:00

Minimum Value: 2.2 deg on Oct 15 04:00

Percentiles: $P_1$ = 2.6 $P_{10}$ = 4.1 $Q_1$ = 5.8 Median = 9.3 $Q_3$ = 18.4 $P_{90}$ = 37.8 $P_{99}$ = 78.6

| | |
|---|---|
| Hours in Service: | 631 |
| Hours of Data: | 628 |
| Hours of Missing Data: | 3 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 99.5 |

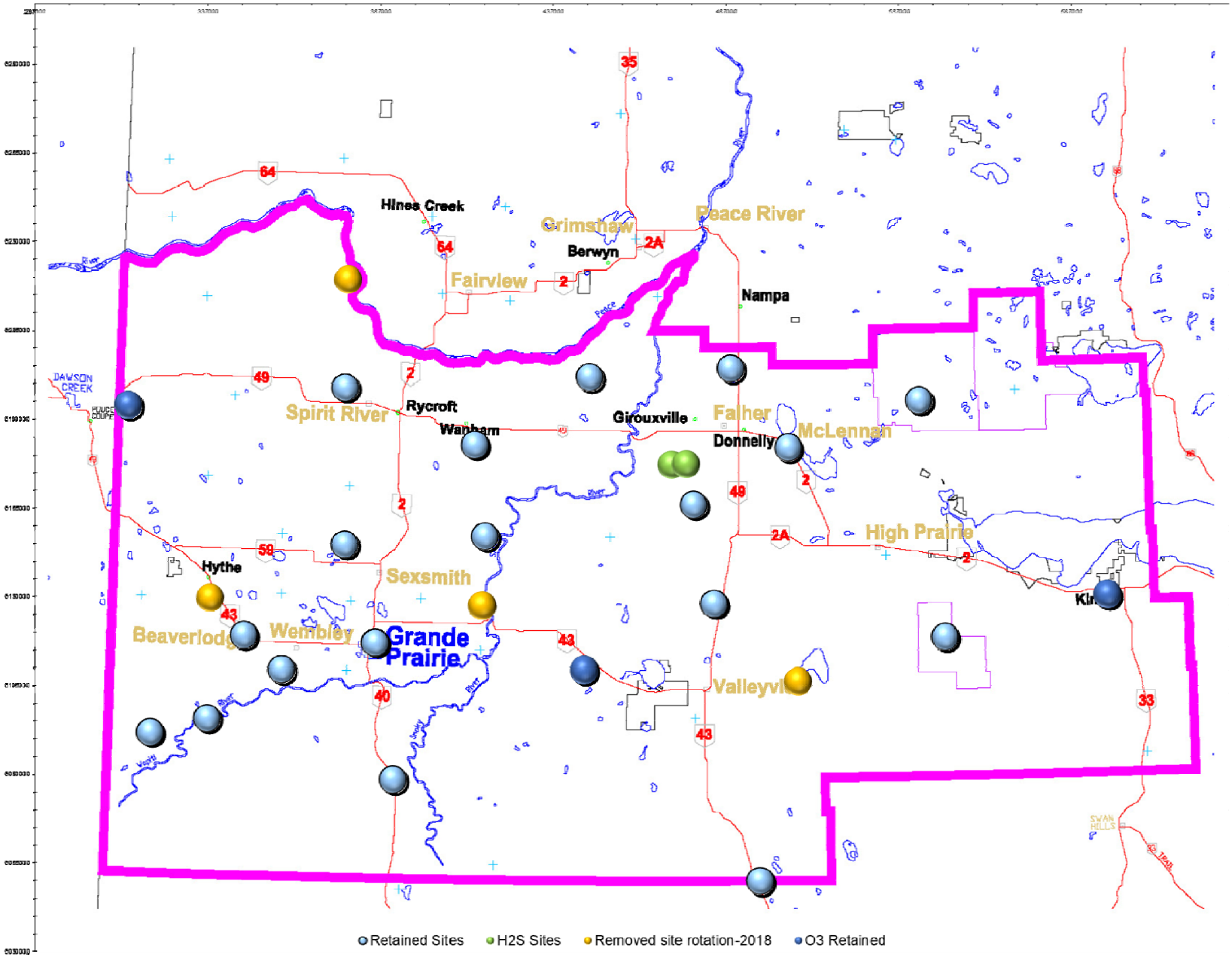
| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| 1-Oct | 7 | 65 | 21 | 17 | 15 | 17 | 6 | 20 | 40 | 10 | 21 | 12 | 14 | 23 | 25 | 12 | 8 | 7 | 10 | 5 | 4 | 8 | 5 | 6 | 65.3 |
| 2-Oct | 9 | 44 | 6 | 6 | 6 | 16 | 19 | 6 | 9 | 14 | 16 | 22 | 25 | 20 | 13 | 18 | 12 | 7 | 7 | 11 | 5 | 3 | 4 | 6 | 43.8 |
| 3-Oct | 7 | 5 | 5 | 9 | 5 | 8 | 31 | 8 | 42 | 80 | 44 | 79 | 62 | 78 | 21 | 13 | 11 | 9 | 16 | 57 | 14 | 10 | 71 | 47 | 79.5 |
| 4-Oct | 71 | 51 | 38 | 25 | 88 | 44 | 29 | 26 | 20 | 39 | 52 | 33 | 15 | 13 | 15 | 13 | 12 | 4 | 9 | 3 | 3 | 40 | 37 | 12 | 87.8 |
| 5-Oct | 30 | 18 | 28 | 55 | 31 | 41 | 41 | 74 | 14 | 18 | 25 | 21 | 35 | 43 | 29 | 45 | 11 | 6 | 4 | 5 | 4 | 5 | 3 | 27 | 73.8 |
| 6-Oct | 11 | 12 | 77 | 9 | 79 | 23 | 25 | 38 | 18 | 40 | 30 | 80 | 42 | 30 | 55 | 42 | 48 | 86 | 7 | 9 | 5 | 5 | 7 | 6 | 85.9 |
| 7-Oct | 7 | 12 | 6 | 8 | 5 | 5 | 8 | 8 | 8 | 5 | 7 | 9 | 6 | 7 | 6 | 9 | 9 | 5 | 4 | 3 | 8 | 3 | 3 | 4 | 12.3 |
| 8-Oct | 4 | 5 | 5 | 6 | 7 | 6 | 5 | 5 | 6 | 7 | 7 | 8 | 9 | 9 | 7 | 7 | 7 | 6 | 7 | 5 | 5 | 5 | 5 | 5 | 9.2 |
| 9-Oct | 6 | 6 | 4 | 5 | 5 | 8 | 4 | 5 | 8 | 7 | 8 | 9 | 9 | 11 | 12 | 11 | 8 | 6 | 7 | 13 | 13 | 13 | 14 | 19 | 18.8 |
| 10-Oct | 19 | 15 | 9 | 12 | 18 | 41 | 48 | 29 | 58 | 69 | 31 | 17 | 12 | 9 | 11 | 12 | 20 | 11 | 13 | 10 | 32 | 25 | 13 | 5 | 68.7 |
| 11-Oct | 9 | 20 | 6 | 12 | 8 | 8 | 12 | 7 | 6 | 7 | 8 | 9 | 9 | 9 | 14 | 22 | 9 | 14 | 49 | 20 | 21 | 32 | 13 | 10 | 49.2 |
| 12-Oct | 11 | 5 | 21 | 77 | 19 | 20 | N | N | N | 28 | 6 | 5 | 7 | 7 | 5 | 7 | 4 | 14 | 11 | 15 | 16 | 12 | 20 | 14 | 77.4 |
| 13-Oct | 16 | 6 | 34 | 25 | 7 | 12 | 20 | 9 | 22 | 34 | 12 | 46 | 58 | 16 | 6 | 7 | 11 | 10 | 7 | 26 | 15 | 3 | 3 | 4 | 58.4 |
| 14-Oct | 2 | 3 | 6 | 3 | 4 | 4 | 5 | 5 | 4 | 6 | 7 | 14 | 7 | 10 | 9 | 5 | 4 | 5 | 4 | 3 | 3 | 3 | 4 | 3 | 13.7 |
| 15-Oct | 3 | 3 | 3 | 2 | 2 | 3 | 6 | 38 | 28 | 19 | 14 | 4 | 4 | 5 | 6 | 5 | 4 | 4 | 5 | 33 | 19 | 26 | 12 | 12 | 37.9 |
| 16-Oct | 15 | 4 | 10 | 10 | 14 | 6 | 4 | 9 | 12 | 6 | 36 | 26 | 8 | 7 | 6 | 7 | 18 | 12 | 9 | 18 | 5 | 3 | 9 | 9 | 35.9 |
| 17-Oct | 6 | 7 | 6 | 18 | 5 | 9 | 4 | 3 | 6 | 5 | 5 | 7 | 5 | 6 | 6 | 8 | 7 | 9 | 3 | 6 | 6 | 7 | 10 | 3 | 17.8 |
| 18-Oct | 4 | 15 | 16 | 7 | 3 | 4 | 15 | 16 | 12 | 7 | 3 | 5 | 7 | 9 | 8 | 13 | 7 | 4 | 9 | 5 | 7 | 4 | 4 | 3 | 16.1 |
| 19-Oct | 8 | 3 | 7 | 5 | 5 | 7 | 29 | 9 | 35 | 44 | 39 | 14 | 17 | 19 | 17 | 14 | 12 | 22 | 12 | 15 | 22 | 20 | 8 | 56 | 55.6 |
| 20-Oct | 10 | 32 | 17 | 11 | 8 | 6 | 4 | 5 | 7 | 6 | 4 | 5 | 5 | 7 | 5 | 4 | 4 | 3 | 19 | 10 | 13 | 7 | 7 | 6 | 31.8 |
| 21-Oct | 6 | 8 | 7 | 6 | 10 | 13 | 25 | 7 | 19 | 29 | 13 | 12 | 31 | 52 | 62 | 68 | 34 | 14 | 12 | 9 | 8 | 7 | 8 | 8 | 68.2 |
| 22-Oct | 7 | 8 | 36 | 17 | 17 | 15 | 20 | 55 | 41 | 41 | 17 | 51 | 20 | 13 | 23 | 17 | 20 | 16 | 27 | 22 | 8 | 18 | 6 | 7 | 54.9 |
| 23-Oct | 18 | 13 | 10 | 16 | 13 | 15 | 34 | 12 | 12 | 20 | 91 | 38 | 39 | 26 | 14 | 8 | 5 | 3 | 11 | 43 | 6 | 7 | 8 | 10 | 91.5 |
| 24-Oct | 11 | 16 | 9 | 19 | 8 | 10 | 7 | 8 | 8 | 23 | 15 | 30 | 50 | 64 | 24 | 19 | 19 | 30 | 10 | 9 | 4 | 3 | 7 | 5 | 63.7 |
| 25-Oct | 6 | 5 | 4 | 5 | 6 | 8 | 10 | 6 | 7 | 10 | 9 | 17 | 18 | 15 | 10 | 7 | 4 | 6 | 6 | 12 | 6 | 4 | 5 | 6 | 18.0 |
| 26-Oct | 3 | 3 | 6 | 3 | 5 | 9 | 8 | 13 | 10 | 15 | 11 | 10 | 20 | 46 | 32 | 40 | 18 | 22 | 18 | 56 | 12 | 12 | 6 | 4 | 56.3 |
| 27-Oct | 5 | 4 | 8 | 4 | 4 | 4 | 4 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | 7.8 |
| 28-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- |
| 29-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- |
| 30-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- |
| 31-Oct | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | -- |
| | 70.9 | 65.3 | 76.7 | 77.4 | 87.8 | 44.1 | 47.7 | 73.8 | 58.0 | 79.5 | 91.5 | 80.0 | 62.3 | 77.7 | 61.9 | 68.2 | 48.2 | 85.9 | 49.2 | 56.8 | 32.4 | 40.1 | 71.4 | 55.6 | |

N - Not Valid NS - Not in service

# PAZA

## Monthly Passive Data Summary

## Location of PAZA Passive Monitoring Stations



# PAZA Passive Results for October 2018

| Station Number | Station Name | SO2 ppb | O3 ppb | NO2 ppb | H2S ppb | Site Legal |
|---|---|---|---|---|---|---|
| **Duplicates** | | | | | | |
| 2a | Bay Tree | | **50.9** | | | |
| 2b | Bay Tree | | **31.5** | | | |
| 19a | Wanham | | | **1.2** | | |
| 19b | Wanham | | | **1.2** | | |
| 21a | Eaglesham | **0.1** | | | | |
| 21b | Eaglesham | **0.1** | | | | |
| 46a | Little Smoky | **0.1** | | **3.9** | | |
| 46b | Little Smoky | **0.1** | | **3.9** | | |
| 63a | Girouxville 3 | | | | **Damaged** | |
| 63b | Girouxville 3 | | | | **Damaged** | |
| 2 | Bay Tree | **0.2** | **41.2** | **1.1** | | 13-16-078-13 W6M |
| 3 | Fourth Creek | **0.3** | | **0.3** | | 04-13-082-07 W6M |
| 9 | Spirit River | **0.2** | | **0.2** | | 08-12-079-07 W6M |
| 12 | Hythe | **0.2** | | **0.2** | | 14-36-072-11 W6M |
| 14 | Sylvester | **0.1** | | **0.7** | | 08-06-069-12 W6M |
| 16 | Beaverlodge | **0.2** | | **2.1** | | 15-36-071-10 W6M |
| 18 | Saddle Hills | **0.2** | | **1.0** | | 04-25-074-07 W6M |
| 19 | Wanham | **0.3** | | **1.2** | | 16-22-077-03 W6M |
| 21 | Eaglesham | **0.1** | | **1.3** | | 16-21-079-25 W5M |
| 24 | Wembley | **0.1** | | **2.5** | | 12-31-070-08 W6M |
| 25 | Pinto Creek | **0.1** | | **1.0** | | 04-24-069-11 W6M |
| 27 | Grande Prairie I | **0.2** | | **6.3** | | 08-15-071-06 W6M |
| 29 | Smoky Heights | **0.3** | | **2.1** | | 04-06-075-02 W6M |
| 30 | Fitzsimmons | **0.2** | | **2.0** | | 15-36-072-03 W6M |
| 32 | Gold Creek | **0.4** | | **4.2** | | 06-33-067-05 W6M |
| 35 | Jean Cote | **0.1** | | **1.1** | | 12-35-079-21 W5M |
| 36 | Guy | **0.1** | | **1.1** | **0.1** | 03-04-076-22 W5M |
| 37 | Crooked Creek | **0.3** | **25.6** | **2.3** | | 16-01-071-26 W5M |
| 39 | Clouston Creek | **0.2** | | **1.1** | | 12-01-073-22 W5M |
| 40 | McLennan | **0.2** | | **1.1** | | 03-29-077-19 W5M |
| 42 | Sunset House | **0.2** | | **0.9** | | 05-32-070-19 W5M |
| 44 | Peavine | **0.1** | | **0.6** | | 03-05-079-15 W5M |
| 46 | Little Smoky | **0.1** | | **3.9** | | 12-01-065-21 W5M |
| 47 | Kinuso | **0.1** | **26.0** | **0.9** | | 12-10-073-10 W5M |
| 49 | Grande Prairie HP | **0.2** | | **8.3** | | 17-26-071-06 W6M |
| 50 | East Prairie | **0.1** | | **0.6** | | 13-02-072-15 W5M |
| 63 | Girouxville 3 | | | | **Damaged** | 14-02-077-23 W5M |
| 64 | Girouxville 4 | | | | **0.2** | 4-08-077-22 W5M |

*BDL = Below Detection Level

*N/S - No sample

# Passive Summary for October 2018

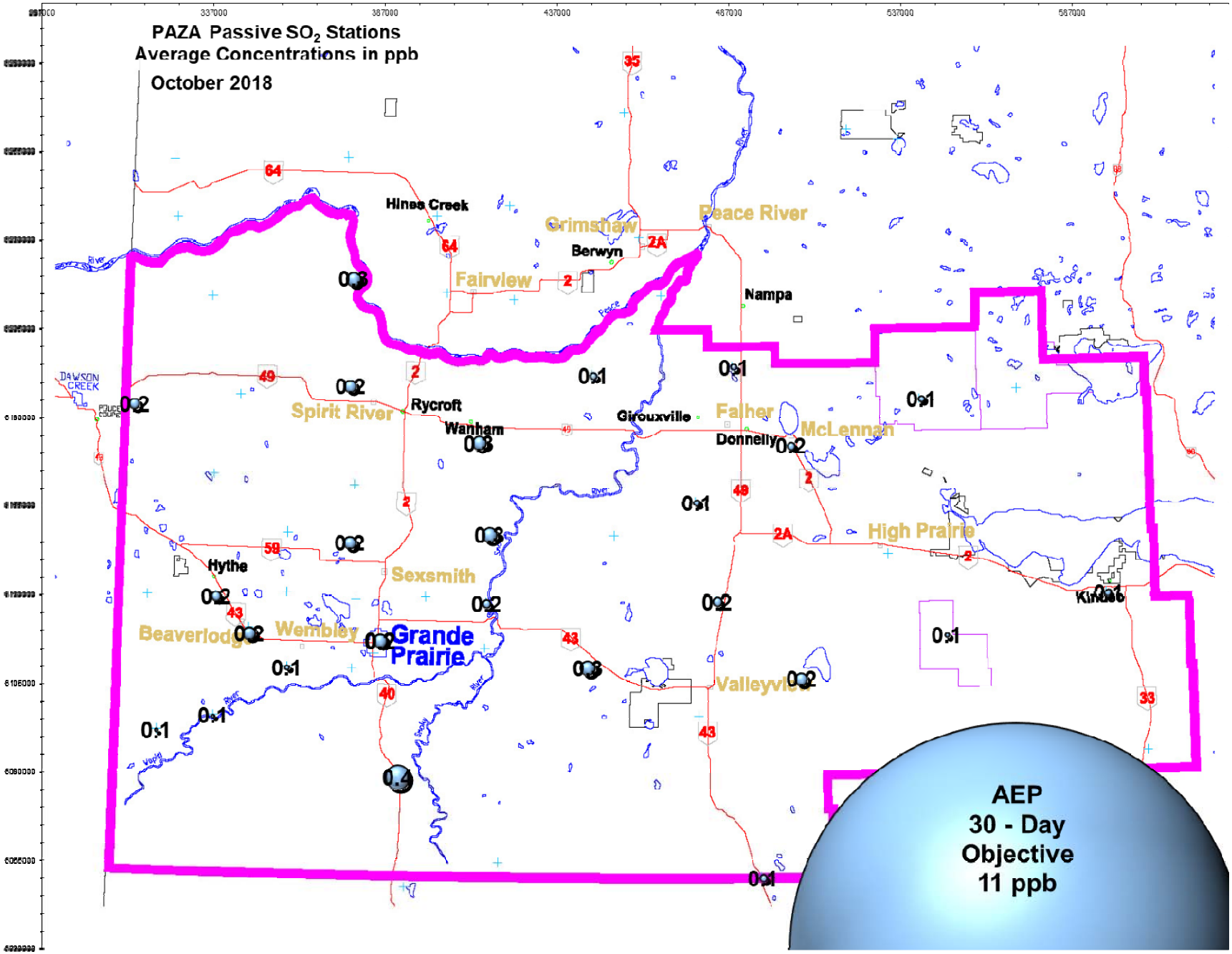
| Stats | Sulphur Dioxide $SO_2$ | Ozone $O_3$ | Nitrogen Dioxide $NO_2$ | Hydrogen Sulphide $H_2S$ |
|---|---|---|---|---|
| | ppb | ppb | ppb | ppb |
| | Passive Summary for October 2018 (PAZA Zone) | | | |
| **Mean** | **0.2** | **30.9** | **1.9** | **0.2** |
| **Standard Deviation** | **0.1** | **8.9** | **1.9** | **0.1** |
| **Minimum** | **0.1** | **25.6** | **0.2** | **0.1** |
| **Minimum At** | **Sylvester (#14)** | **Crooked Creek (#37)** | **Hythe (#12)** | **Guy (#36)** |
| **Maximum** | **0.4** | **41.2** | **8.3** | **0.2** |
| **Maximum At** | **Gold Creek (#32)** | **Bay Tree (#2)** | **Grande Prairie HP** | **Girouxville 4 (#64)** |

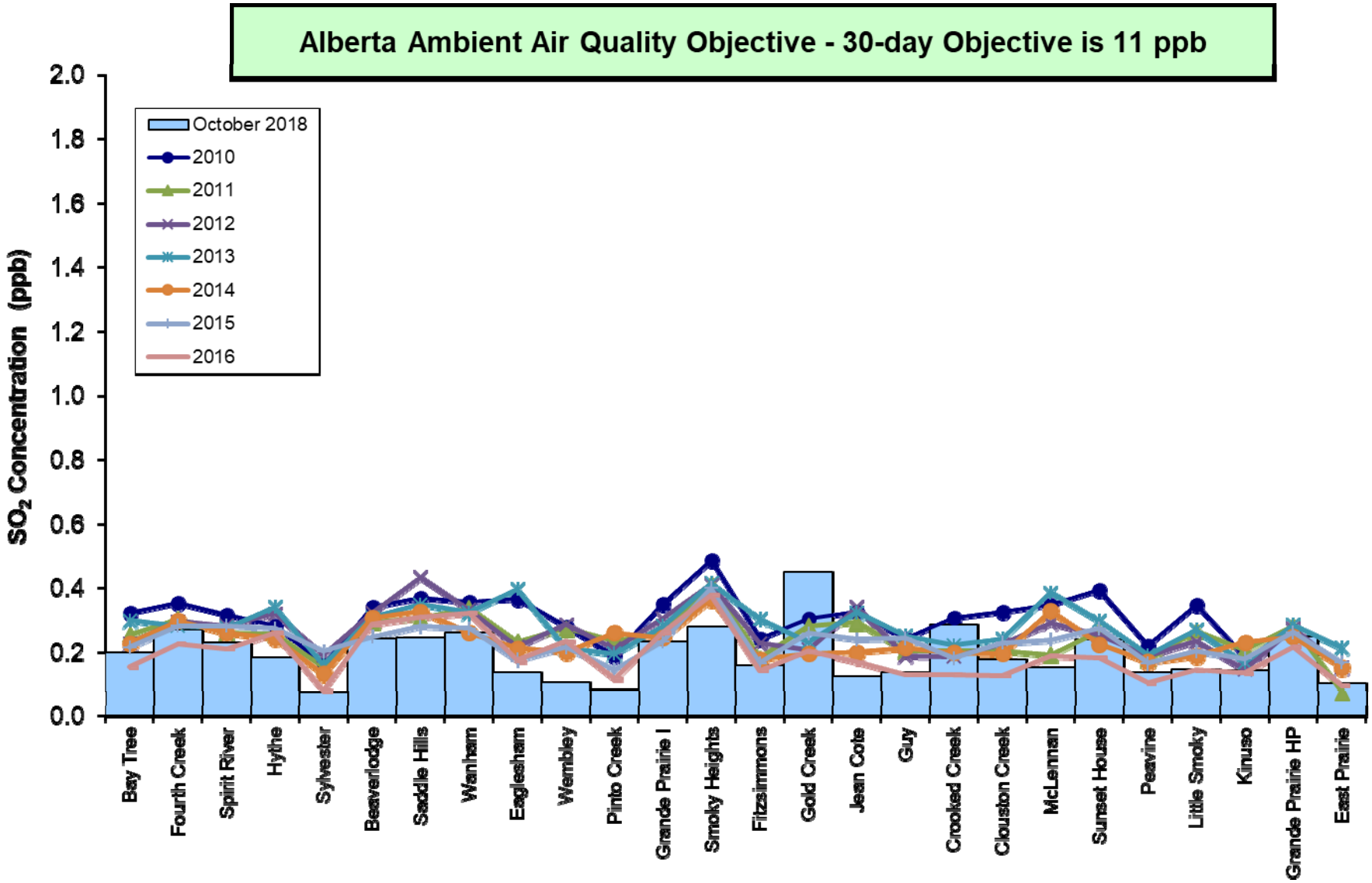
**Comparison between Continuous and Passive monitoring at Beaverlodge (passive #16 Beaverlodge)**

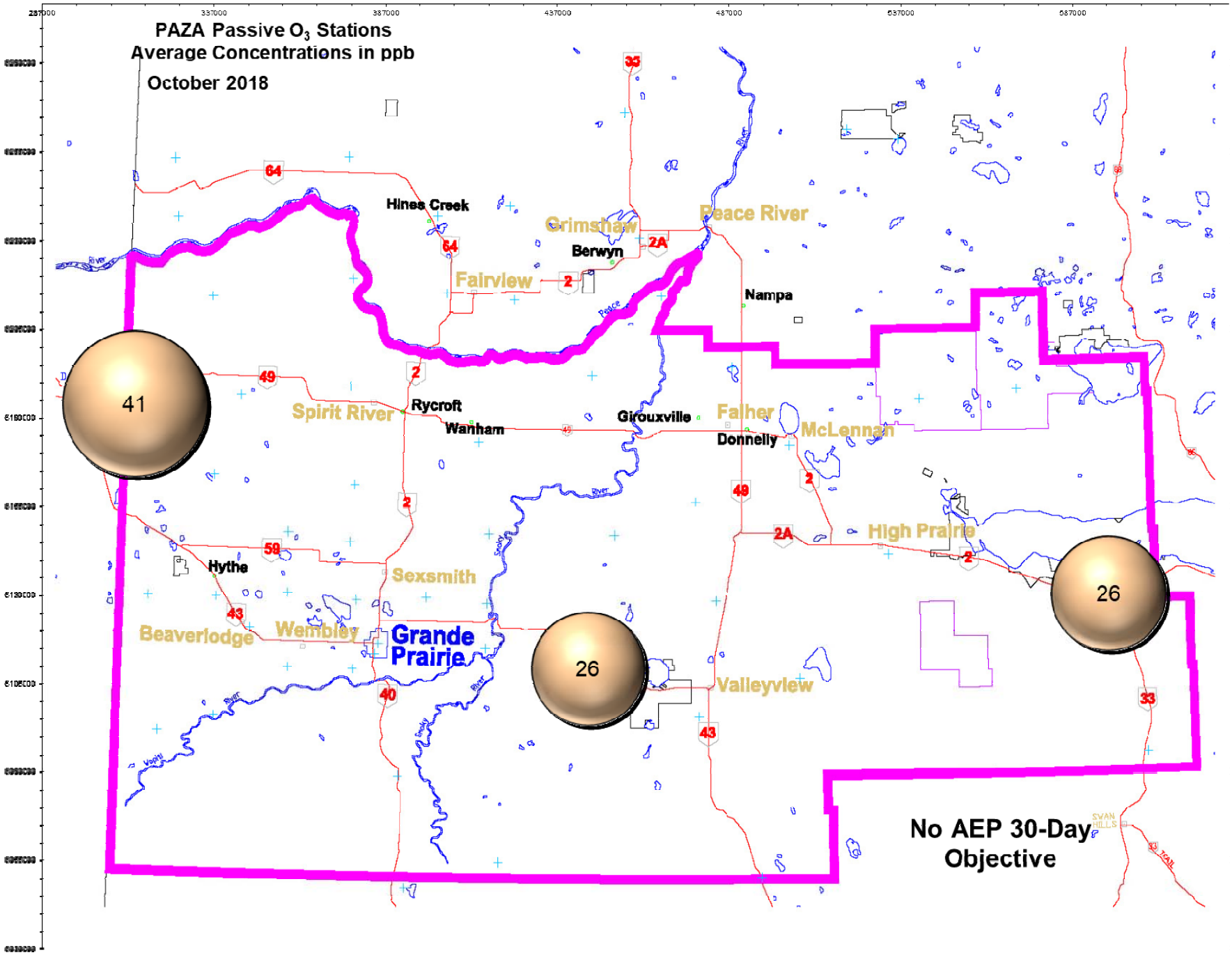
| | $SO_2$ | $NO_2$ |
|---|---|---|
| **PAZA Beaverlodge station** | **0.1** | **4.0** |
| **PAZA Beaverlodge passive** | **0.2** | **2.1** |

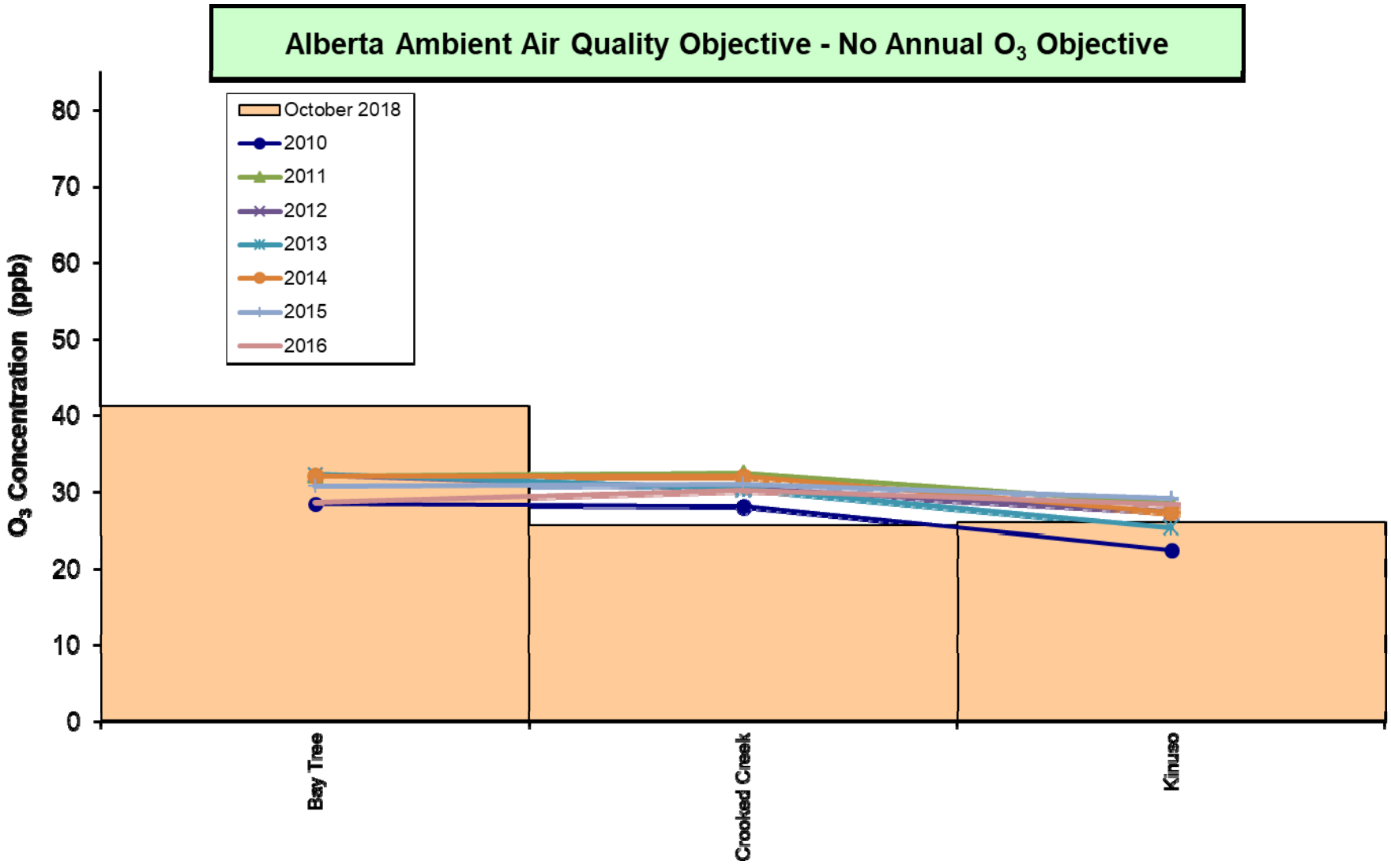
**Comparison between Continuous and Passive monitoring at Henry Pirker (passive #49 Grande Prairie HP)**

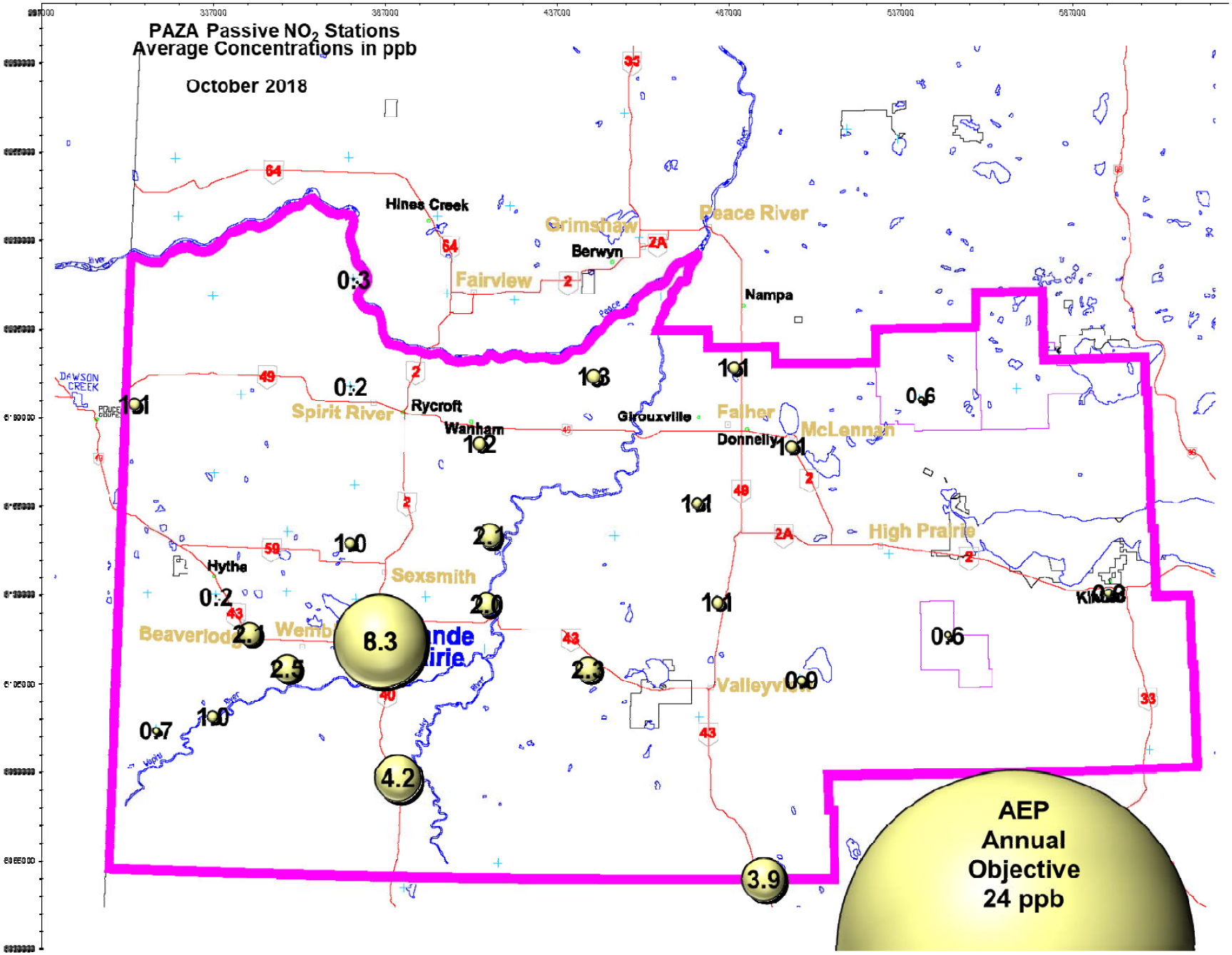
| | $SO_2$ | $NO_2$ |
|---|---|---|
| **PAZA Henry Pirker station** | **0.3** | **10.9** |
| **PAZA Grande Prairie passive** | **0.2** | **6.3** |

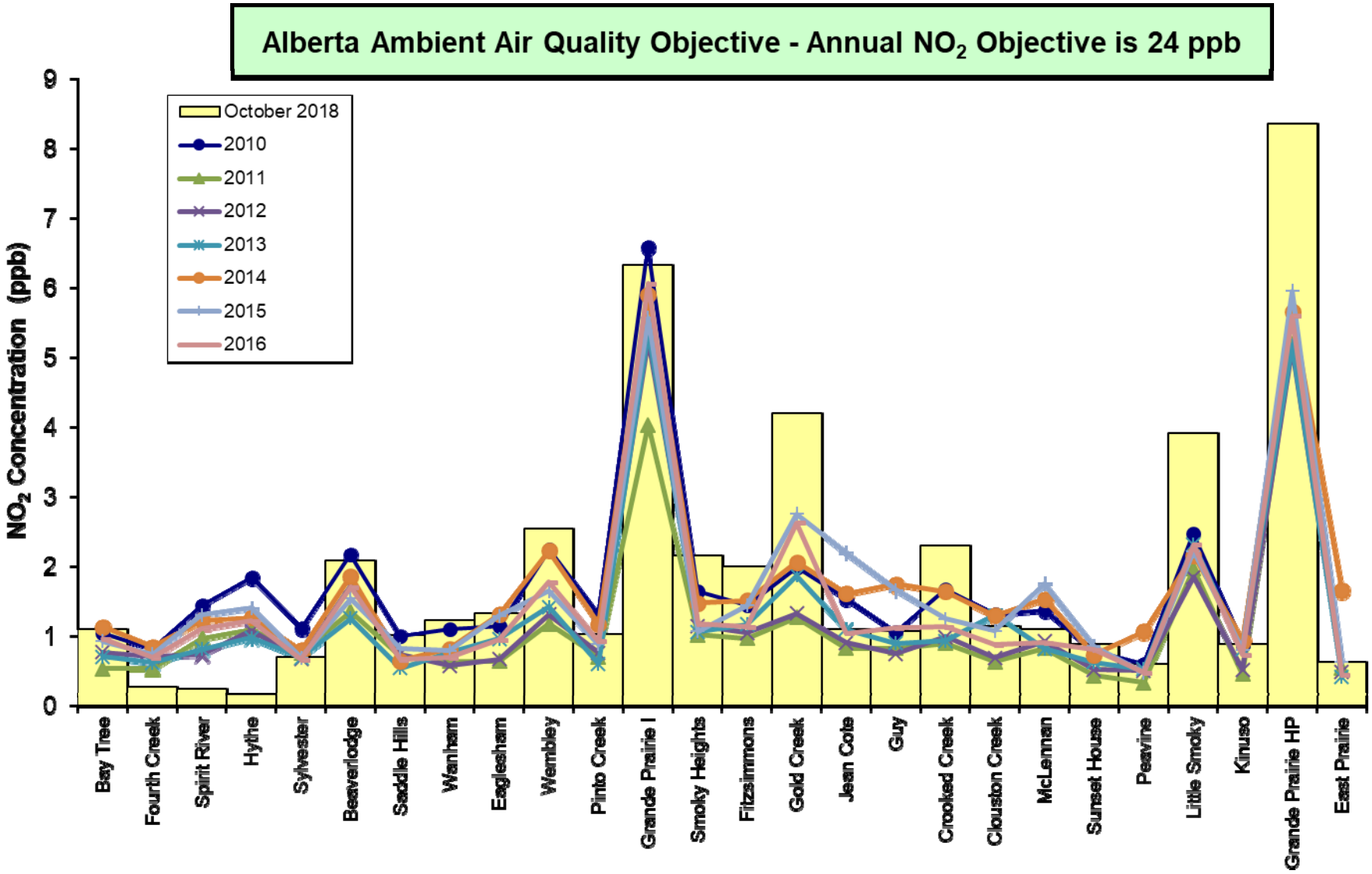

PAZA Passive $SO_2$ Stations
Average Concentrations in ppb
October 2018
Hines Creek
Grimshaw
Berwyn
Peace River
Fairview
Nampa
Spirit River
Rycroft
Wanham
Girouxville
Falher
Donnelly
McLennan
High Prairie
Hythe
Sexsmith
Beaverlodge
Wembley
Grande Prairie
Valleyview
Kinuso
DAWSON CREEK
AEP
30 - Day
Objective
11 ppb

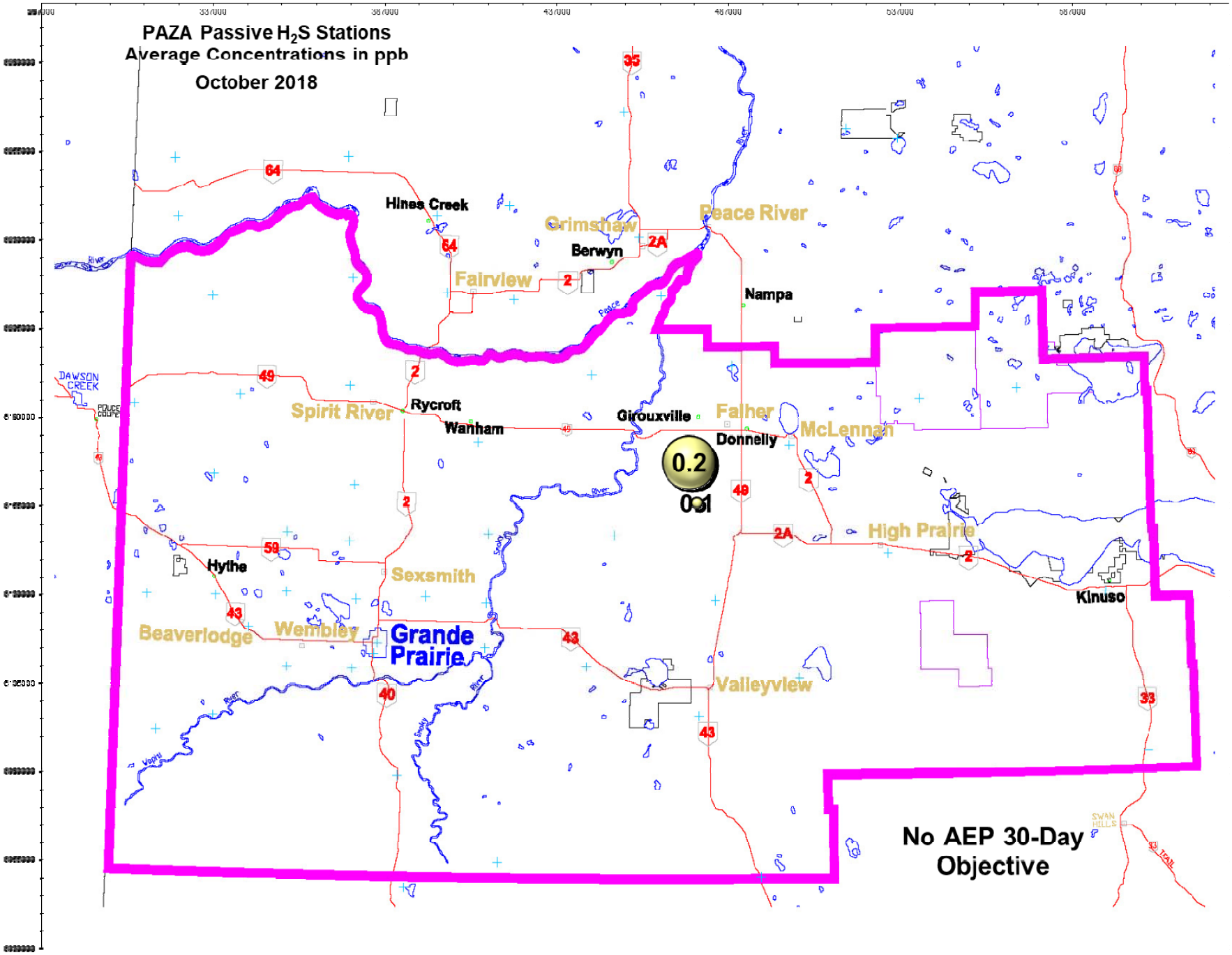

Alberta Ambient Air Quality Objective - 30-day Objective is 11 ppb
$SO_2$ Concentration (ppb)
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
October 2018
2010
2011
2012
2013
2014
2015
2016
Bay Tree
Fourth Creek
Spirit River
Hythe
Sylvester
Beaverlodge
Saddle Hills
Wanham
Eaglesham
Wembley
Pinto Creek
Grande Prairie I
Smoky Heights
Fitzsimmons
Gold Creek
Jean Cote
Guy
Crooked Creek
Clouston Creek
McLennan
Sunset House
Peavine
Little Smoky
Kinuso
Grande Prairie HP
East Prairie


PAZA Passive $O_3$ Stations
Average Concentrations in ppb
October 2018
Hines Creek
Grimshaw
Peace River
Berwyn
Fairview
Nampa
Spirit River
Rycroft
Wanham
Girouxville
Falher
Donnelly
McLennan
High Prairie
Hythe
Sexsmith
Beaverlodge
Wembley
Grande Prairie
Valleyview
41
26
26
No AEP 30-Day Objective


Alberta Ambient Air Quality Objective - No Annual $O_3$ Objective
October 2018
2010
2011
2012
2013
2014
2015
2016
$O_3$ Concentration (ppb)
0
10
20
30
40
50
60
70
80
Bay Tree
Crooked Creek
Kinuso


PAZA Passive $NO_2$ Stations
Average Concentrations in ppb
October 2018
Hines Creek
Grimshaw
Peace River
Berwyn
Fairview
Nampa
Spirit River
Rycroft
Wanham
Girouxville
Falher
Donnelly
McLennan
High Prairie
Hythe
Sexsmith
Beaverlodge
Valleyview
DAWSON CREEK
0.3
0.2
1.3
1.1
0.6
1.2
1.0
2.1
2.0
8.3
2.5
2.3
0.9
0.7
4.2
3.9
AEP
Annual
Objective
24 ppb


Alberta Ambient Air Quality Objective - Annual $NO_2$ Objective is 24 ppb
$NO_2$ Concentration (ppb)
0
1
2
3
4
5
6
7
8
9
October 2018
2010
2011
2012
2013
2014
2015
2016
Bay Tree
Fourth Creek
Spirit River
Hythe
Sylvester
Beaverlodge
Saddle Hills
Wanham
Eaglesham
Wembley
Pinto Creek
Grande Prairie I
Smoky Heights
Fitzsimmons
Gold Creek
Jean Cote
Guy
Crooked Creek
Clouston Creek
McLennan
Sunset House
Peavine
Little Smoky
Kinuso
Grande Prairie HP
East Prairie


PAZA Passive $H_2S$ Stations
Average Concentrations in ppb
October 2018
Hines Creek
Grimshaw
Peace River
Berwyn
Fairview
Nampa
Spirit River
Rycroft
Wanham
Girouxville
Falher
Donnelly
McLennan
0.2
0.1
High Prairie
Hythe
Sexsmith
Kinuso
Beaverlodge
Wembley
Grande Prairie
Valleyview
No AEP 30-Day Objective

# October 2018 Calibration Reports

# Calibration Report

Parameter **SO2**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 14, 2018 | Previous Calibration | September 11, 2018 |
| Station Number | 4 | Station Location | Beaverlodge |
| Reason: Routine | Install | Removal | Other: |
| Start Time (MST) | 13:15 | End Time (MST) | 15:40 |
| Barometric Pressure | 0.921 atm | Station Temperature | 20.0 Deg C |
| Calibrator | Environics 6100 | Serial Number | 3016 |
| Cal Gas Concentratio | 10.1 ppm | Cal Gas Expiry Date | 21/02/2021 |
| Gas Cert Reference | EX0012231 | | |
| DACS make | CR3000 | DACS serial No. | 5237 |
| DACS voltage range | 0 - 5 volt | DACS channel # | 5 |
| | Before | | After |
| DACS Scale High | 100 | DACS slope | 100 |
| DACS Scale Low | 0 | DACS intercept | 0 |
| Calculated slope | 1.000983 | Calculated slope | 0.997848 |
| Calculated intercept | 0.197878 | Calculated intercept | 0.184743 |
| Analyzer make | TEI Model 43i-TLE | Analyzer serial # | 713021137 |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0 - 100 | ppb | 0 - 100 | ppb |
| Background | 2.74 | | 2.8 | |
| Coefficient | 0.936 | | 0.962 | |
| PMT | -768.2 | V | -768.2 | V |
| UV Lamp Voltage | 1121 | V | 1121 | V |
| Chamber Temp | 45 | Deg C | 45 | Deg C |
| Pressure | 667.3 | mm Hg | 667.00 | mm Hg |
| Sample Flow | 0.530 | LPM | 0.53 | LPM |
| Lamp Intensity | 94 | % | 94 | % |

## *Calibration Data*

| Dilution air flow rate (cc/min) | Source gas flow rate (cc/min) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 4995 | 0.00 | 0.0 | 0.1 | N/A |
| 4995 | 39.94 | 80.1 | 80.2 | 0.9993 |
| 4995 | 19.97 | 40.2 | 40.2 | 1.0014 |
| 4995 | 9.97 | 20.1 | 19.6 | 1.0268 |
| | | | | |
| 4995 | 0.00 | 0.0 | 0.1 | As found zero |
| 4995 | 39.94 | 80.1 | 78.1 | As found span |
| | | | Average Correction Factor | 1.0092 |

Calculated value of As Found Response: 78.245 ppm Percent Change of As Found: 2.3%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.1 | ppb | 0.3 | ppb |
| Auto span | 60.0 | ppb | 60.2 | ppb |

Notes: Slight span adjustment made.

Calibration Performed By: Grover Christiansen

## Calibration Summary

Parameter **SO2**

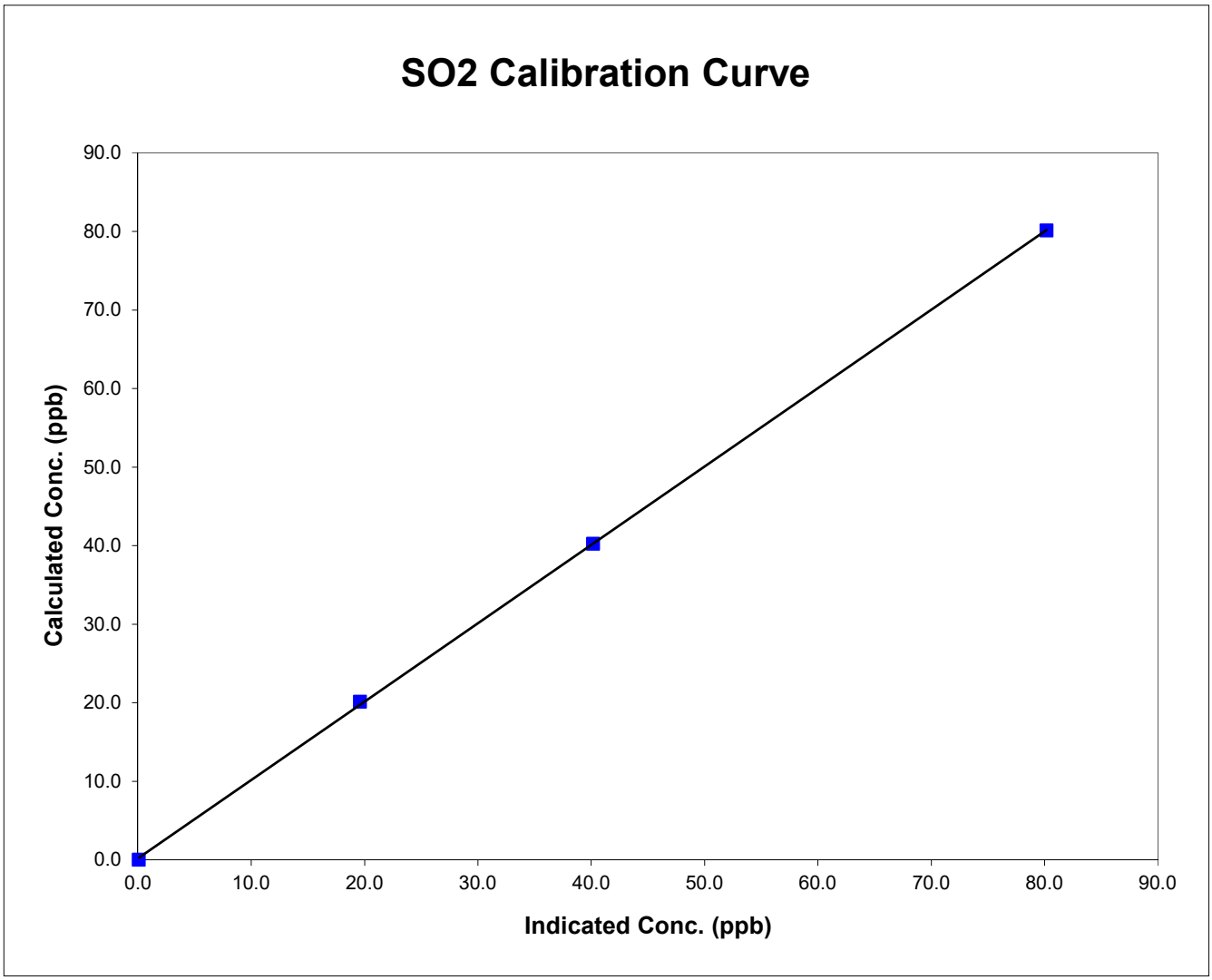
Air Monitoring Network **PAZA**

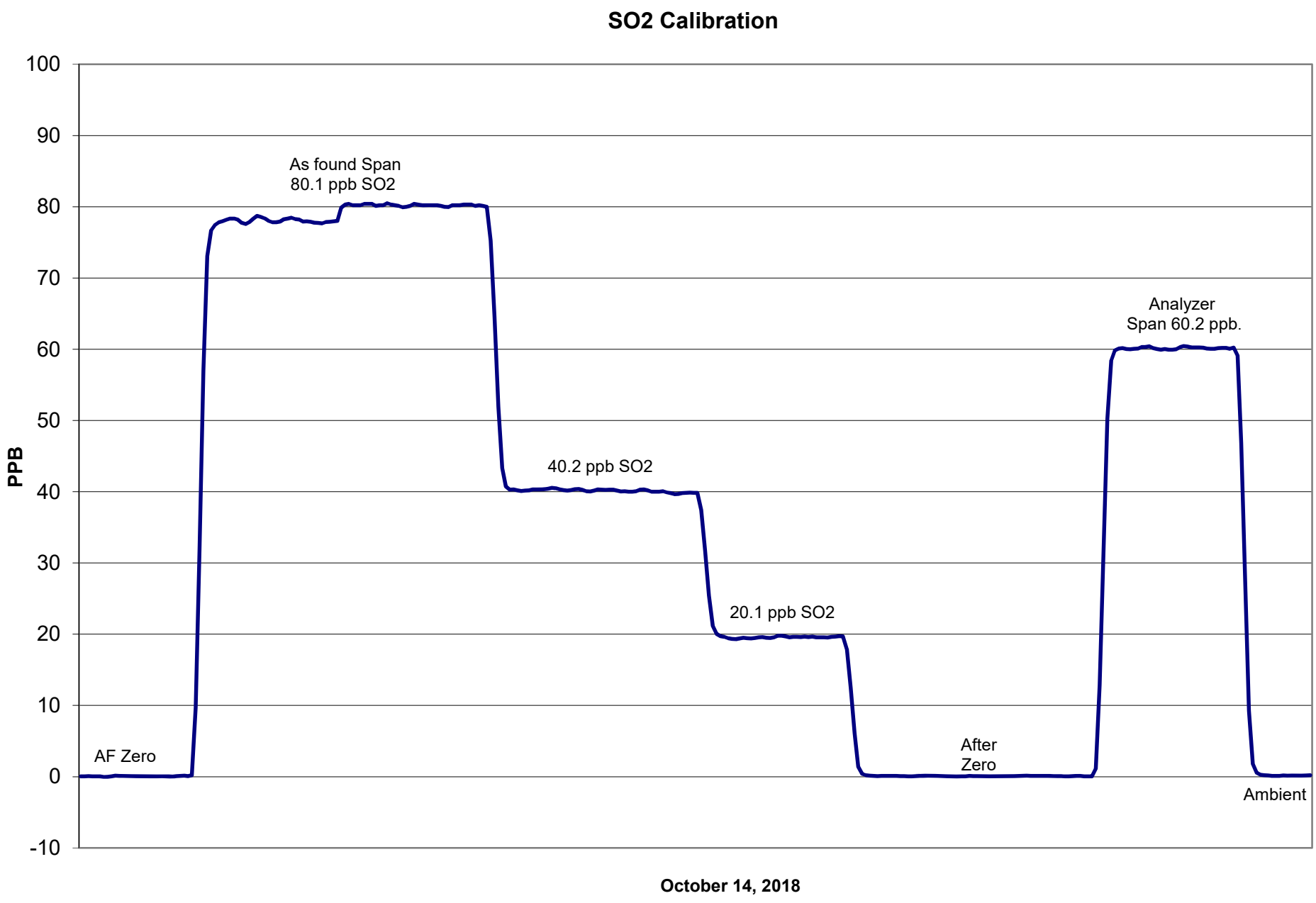
***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | October 14, 2018 | Previous Calibration | September 11, 2018 |
| Station Number | 4 | Station Location | Beaverlodge |
| Start Time (MST) | 13:15 | End Time (MST) | 15:40 |
| Analyzer make/model | TEI Model 43i-TLE | Analyzer serial # | 713021137 |

***Calibration Data***

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | 0.1 | N/A | | |
| 80.1 | 80.2 | 0.9993 | Correlation Coefficient | 0.999935 |
| 40.2 | 40.2 | 1.0014 | | |
| 20.1 | 19.6 | 1.0268 | Slope | 0.997848 |
| | | | | |
| | | | Intercept | 0.184743 |
| | | | | |




SO2 Calibration
100
90
80
70
60
50
40
30
20
10
0
-10
PPB
As found Span
80.1 ppb SO2
40.2 ppb SO2
20.1 ppb SO2
Analyzer
Span 60.2 ppb.
AF Zero
After
Zero
Ambient
October 14, 2018

# Calibration Report

Parameter **$NO_X$-NO-$NO_2$**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 13, 2018 | Previous Calibration | September 6, 2018 |
| Station Number | 4 | Station Location | Beaverlodge |

Reason: Routine Installation Removal Other:

| | | | | | |
|---|---|---|---|---|---|
| Start Time (MST) | 10:20 | | End Time (MST) | 14:25 | |
| Barometric Pressure | 0.921 | Atm | Station Temperature | 20.0 | Deg C |
| Calibrator | Environics 6100 | | Serial Number | 3016 | |
| NO Cal Gas Conc | 50.4 | ppm | Cal Gas Expiry Date | 10/24/2020 | |
| NOx Cal Gas Conc | 50.5 | ppm | Cal Gas Serial # | LL107945 | |

## *DACS Information*

| | | | |
|---|---|---|---|
| DACS make | CR3000 | DACS serial No. | 5237 |

| Parameter | | NO2 | NOx | NO |
|---|---|---|---|---|
| Before | Data Slope | 1.000422 | 0.986002 | 0.987135 |
| | Data Offset | -0.108666 | 1.555934 | 1.750910 |
| After | Data Slope | 1.000685 | 0.997107 | 0.997429 |
| | Data Offset | 0.305393 | 1.635322 | 1.471479 |
| Channel # | | 8 | 6 | 7 |
| Voltage Range | | 0 - 5 VDC | 0 - 5 VDC | 0 - 5 VDC |

## *Analyzer Information*

| | | | |
|---|---|---|---|
| Analyzer make/model | TEI 42i | Analyzer serial # | 906535068 |

| Test Point | before | | after | |
|---|---|---|---|---|
| Concentration range | 0-500 | ppb | 0-500 | ppb |
| NO offset | 2.1 | mV | 2.1 | mV |
| NOx bkgnd | 2.9 | mV | 2.9 | mV |
| NO coefficient | 0.993 | | 0.993 | |
| NOx coefficient | 1.001 | | 1.001 | |
| NO2 conv temp | 322.4 | Deg C | 322.4 | Deg C |
| PMT Temp | -3.0 | Deg C | -3.0 | Deg C |
| PMT Volt | -729.6 | mV | -729.6 | mV |
| R Cell Press | 175.9 | in Hg | 175.9 | in Hg |
| Sample Flow | 0.802 | LPM | 0.803 | LPM |

Notes: No adjustment made

# Calibration Report

Parameter **NOX-NO-NO2**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## Station Information

Calibration Date: October 13, 2018 Station Location: Beaverlodge

## Calibration Data

| | Dilution flow rate (ccm) | Source gas flow rate (ccm) | Calculated NOx conc (ppb) | Calculated NO conc (ppb) | Calculated NO2 conc (ppb) | Indicated NOx conc (ppb) | Indicated NO conc (ppb) | Indicated NO2 conc (ppb) | NOx Correction factor | NO Correction factor |
|---|---|---|---|---|---|---|---|---|---|---|
| zero | 4995 | 0.00 | 0.0 | 0.0 | 0.0 | -0.3 | -0.1 | -0.3 | N/A | N/A |
| 1 | 4995 | 39.94 | 400.6 | 399.8 | 0.8 | 400.7 | 400.1 | -0.2 | 0.9998 | 0.9992 |
| 2 | 4995 | 19.97 | 201.1 | 200.7 | 0.4 | 199.7 | 198.8 | 0.1 | 1.0070 | 1.0096 |
| 3 | 4995 | 9.97 | 100.6 | 100.4 | 0.2 | 97.7 | 98.0 | -0.4 | 1.0296 | 1.0246 |
| | | | | | | | | | | |
| AFZ | 4995 | 0.00 | 0.0 | 0.0 | 0.0 | -0.3 | -0.1 | -0.3 | 0.0000 | 0.0000 |
| AFS | 4995 | 39.94 | 400.6 | 399.8 | 0.8 | 401.4 | 401.0 | -0.3 | 0.9979 | 0.9970 |
| | | | | | | | Average Correction Factor | | 1.0121 | 1.0111 |

As Found Concentrations: $NO_X$= 397.7 NO= 397.7 As Found Percent Change $NO_X$= -0.7% NO= -0.5%

## GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.94 ccm

| O3 Setpoint (ppb) | Indicated NOx high point (ppb) | Indicated NO drop conc (ppb) | Calculated NO2 conc (ppb) | Indicated NOx conc (ppb) | Indicated NO conc (ppb) | Indicated NO2 conc (ppb) | NOx Correction factor | NO Correction factor | NO2 Correction factor | Converter Efficiency |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | -0.1 | -0.1 | 0.0 | -0.3 | -0.1 | -0.3 | N/A | N/A | N/A | N/A |
| NO point | 399.6 | 399.6 | 0.0 | 399.8 | 399.6 | -0.6 | 0.9997 | 1.0000 | N/A | N/A |
| 300 | 399.6 | 101.8 | 297.8 | 399.8 | 101.8 | 297.4 | 0.9996 | 1.0000 | 1.0014 | 99.9% |
| 200 | 399.6 | 194.3 | 205.3 | 399.7 | 194.3 | 204.7 | 0.9999 | 1.0000 | 1.0033 | 99.7% |
| 100 | 399.6 | 288.8 | 110.9 | 399.9 | 288.8 | 110.6 | 0.9994 | 1.0000 | 1.0021 | 99.8% |
| | | | | | Average Correction Factor | | 0.9996 | 1.0000 | 1.0023 | 99.8% |

## AIC Data

| | Previous calibration | | | | Current calibration | | | |
|---|---|---|---|---|---|---|---|---|
| Parameter | NOx | NO2 | NO | | NOx | NO2 | NO | |
| Auto zero | -0.3 | -0.3 | -0.1 | ppb | 0.1 | 0.0 | 0.0 | ppb |
| Auto span | 289.4 | 286.0 | 2.5 | ppb | 307.3 | 304.6 | 2.0 | ppb |

Calibration Performed By: Grover Christiansen

# Calibration Summary

Parameter **$NO_2$**

Air Monitoring Network **PAZA**

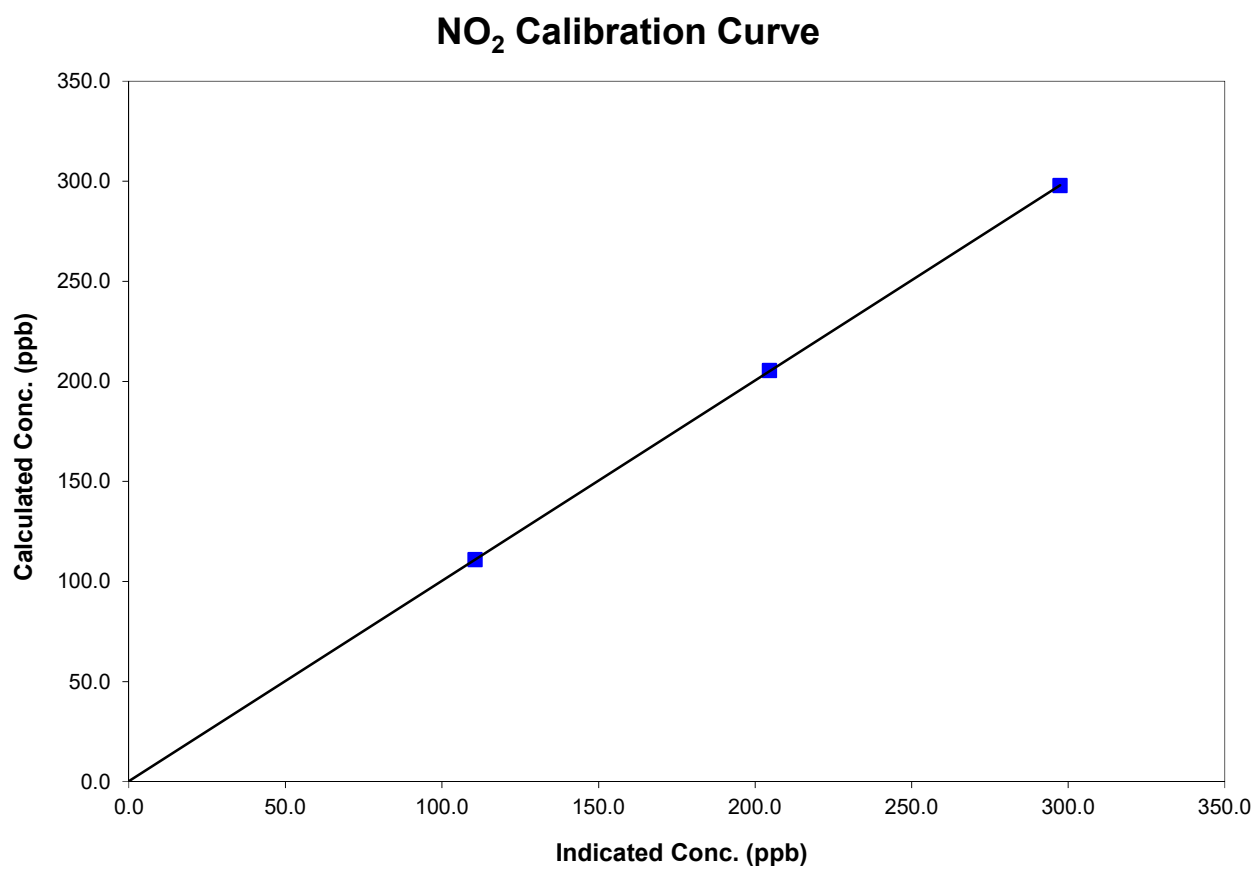
Air Quality Monitoring

### *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 13, 2018 | Previous Calibration | September 6, 2018 |
| Station Number | 4 | Station Location | Beaverlodge |
| Start Time (MST) | 10:20 | End Time (MST) | 14:25 |
| Analyzer make | TEI 42i | Analyzer serial # | 906535068 |

### *Calibration Data*

| Calculated conc (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | -0.3 | N/A | | |
| 297.8 | 297.4 | 1.0014 | Correlation Coefficient | 0.999998 |
| 205.3 | 204.7 | 1.0033 | | |
| 110.9 | 110.6 | 1.0021 | Slope | 1.000685 |
| | | | | |
| | | | Intercept | 0.305393 |
| | | | | |



# Calibration Summary

Parameter **$NO_x$**

Air Monitoring Network **PAZA**

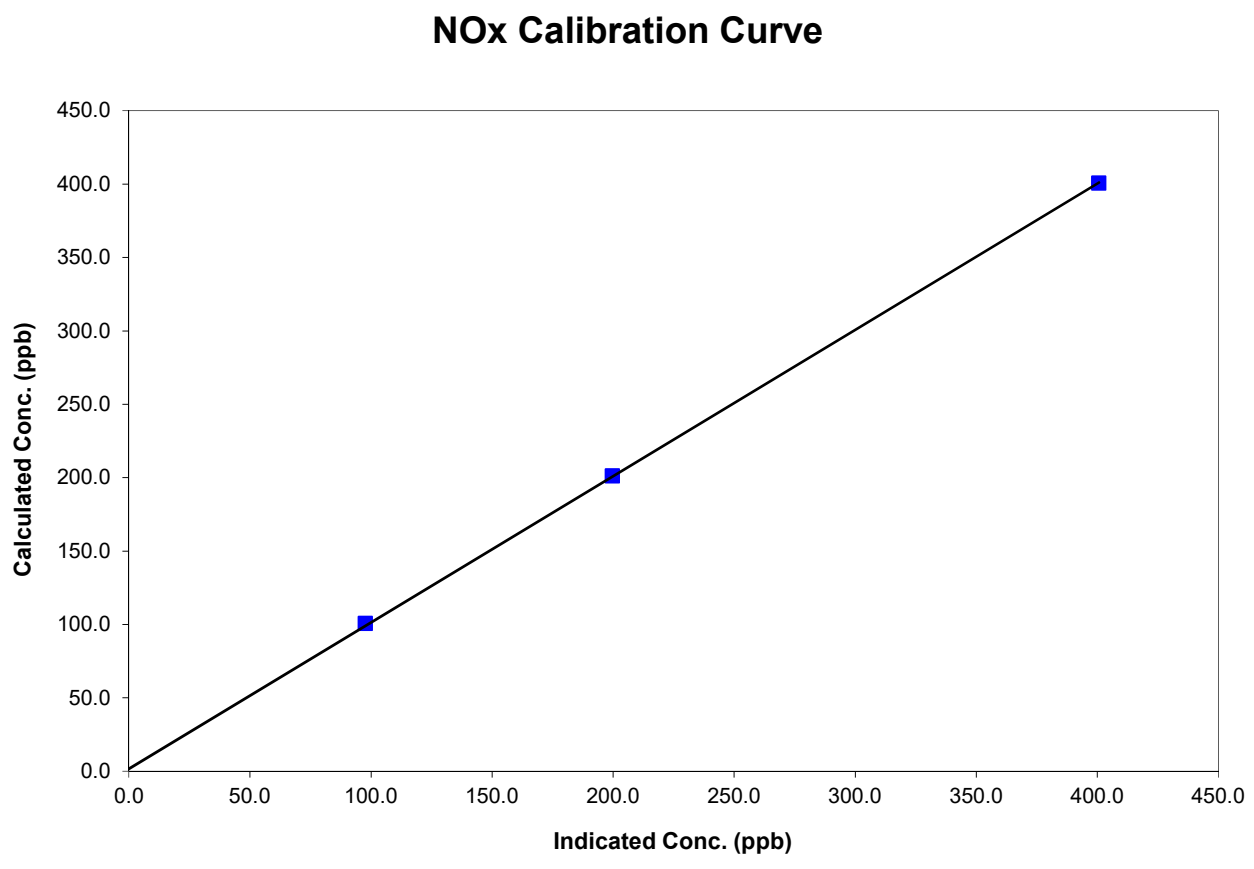
Air Quality Monitoring

### *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 13, 2018 | Previous Calibration | September 6, 2018 |
| Station Number | 4 | Station Location | Beaverlodge |
| Start Time (MST) | 10:20 | End Time (MST) | 14:25 |
| Analyzer make | TEI 42i | Analyzer serial # | 906535068 |

### *Calibration Data*

| Calculated conc (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | -0.3 | N/A | | |
| 400.6 | 400.7 | 0.9998 | Correlation Coefficient | 0.999948 |
| 201.1 | 199.7 | 1.0070 | | |
| 100.6 | 97.7 | 1.0296 | Slope | 0.997107 |
| | | | | |
| | | | Intercept | 1.635322 |
| | | | | |



# Calibration Summary

Parameter **NO**

Air Monitoring Network **PAZA**

Air Quality Monitoring

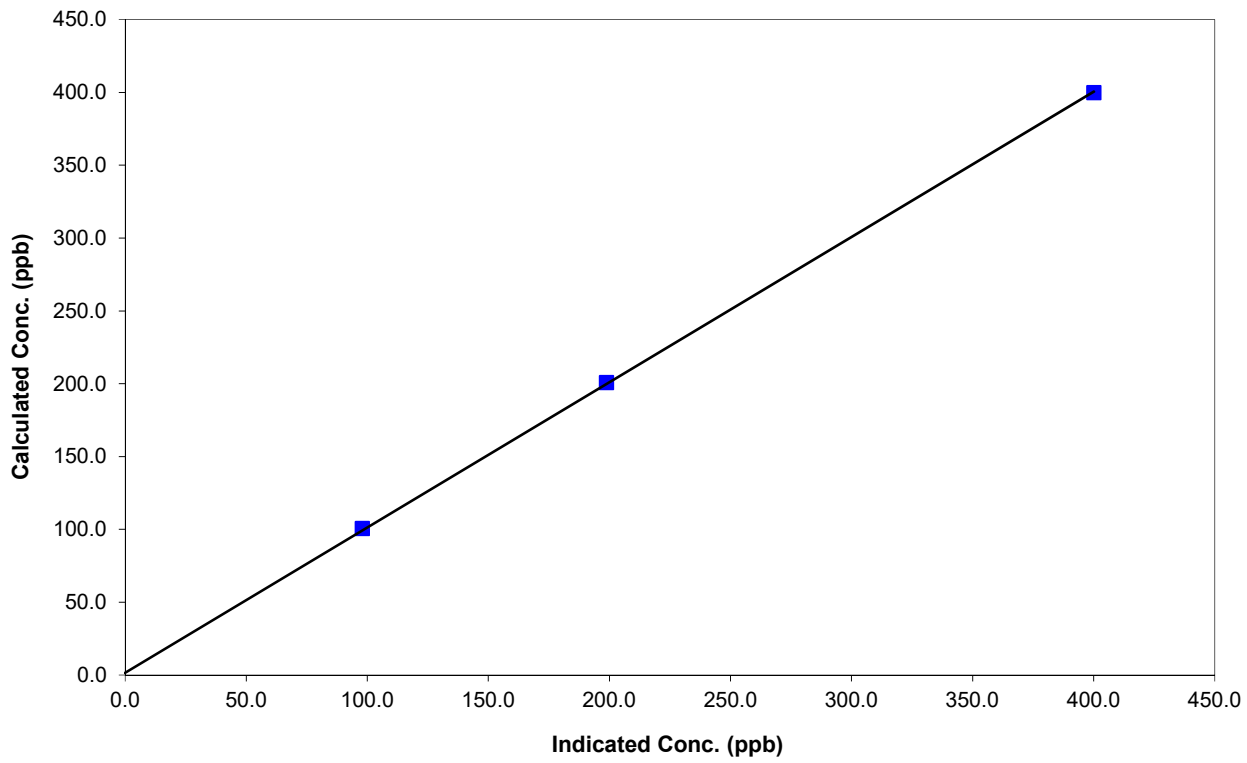
### *Station Information*

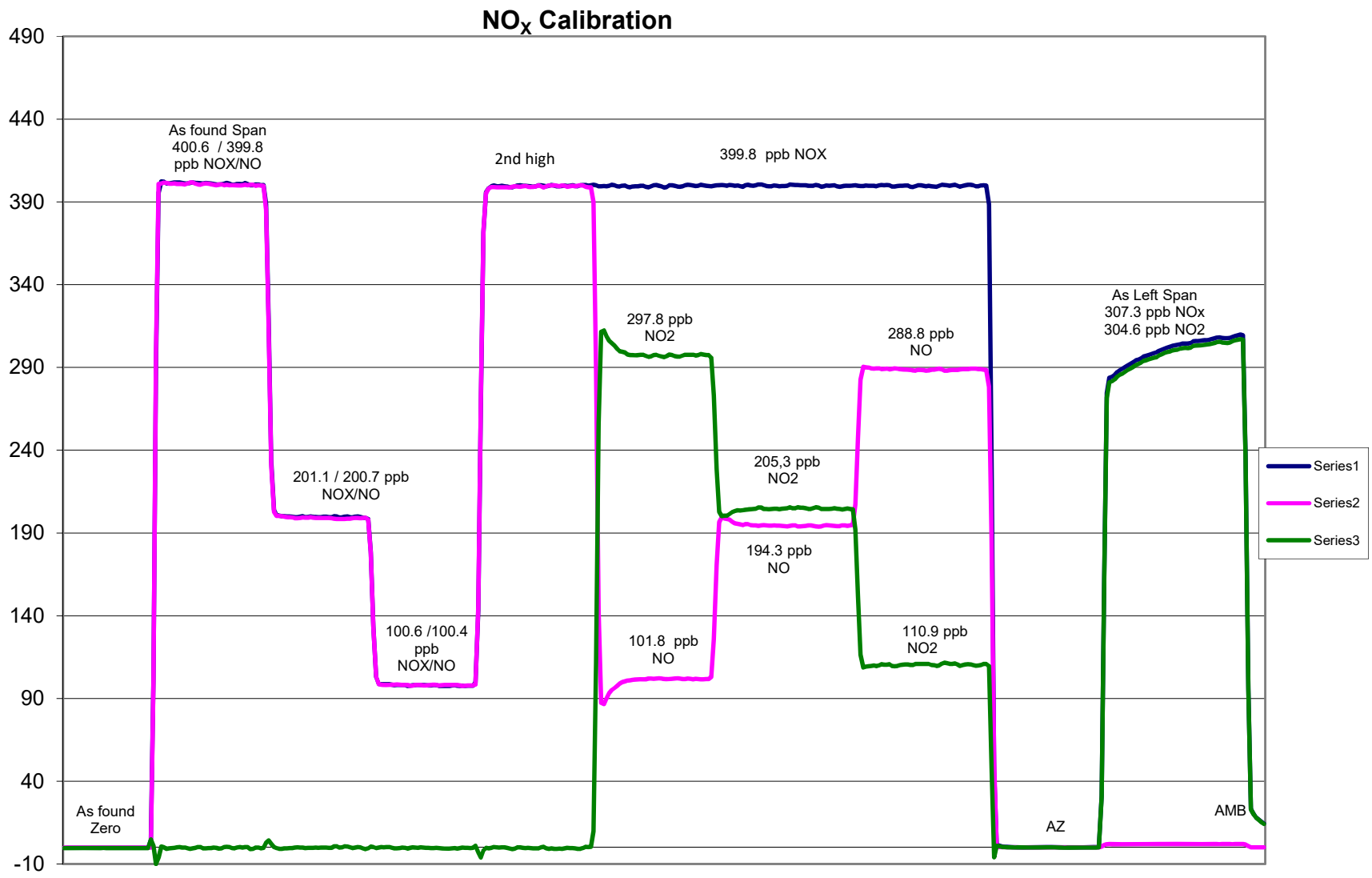
| | | | |
|---|---|---|---|
| Calibration Date | October 13, 2018 | Previous Calibration | September 6, 2018 |
| Station Number | 4 | Station Location | Beaverlodge |
| Start Time (MST) | 10:20 | End Time (MST) | 14:25 |
| Analyzer make | TEI 42i | Analyzer serial # | 906535068 |

### *Calibration Data*

| Calculated conc (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | -0.1 | N/A | | |
| 399.8 | 400.1 | 0.9992 | Correlation Coefficient | 0.999945 |
| 200.7 | 198.8 | 1.0096 | | |
| 100.4 | 98.0 | 1.0246 | Slope | 0.997429 |
| | | | | |
| | | | Intercept | 1.471479 |
| | | | | |

## NO Calibration Curve






**October 13, 2018**

# Calibration Report

Parameter **O3**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 13, 2018 | Previous Calibration | September 6, 2018 |
| Station Number | 4 | Station Location | Beaverlodge |
| Reason: Routine | Install | Removal | Other: |
| Start Time (MST) | 13:25:00 PM | End Time (MST) | 15:50 |
| Barometric Pressure | 0.921 atm | Station Temperature | 20.0 Deg C |
| Calibrator | Environics 6103 | Serial Number | 6586 |
| Cal Gas Concentration | NA | Cal Gas Expiry Date | NA |
| DACS make | CR3000 | DACS serial No. | 5237 |
| DACS voltage range | 0 - 5 volt | DACS channel # | 9 |
| | Before | | After |
| Calculated slope | 0.965556 | Calculated slope | 1.000903 |
| Calculated intercept | 0.250823 | Calculated intercept | 0.811066 |

| | | | |
|---|---|---|---|
| Analyzer make | Teco 49i | Analyzer serial # | 1136451236,AMU 1879 |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0 - 500 | ppb | 0 - 500 | ppb |
| offset | 0.20 | ppb | 0.10 | ppb |
| slope | 1.021 | | 0.991 | |
| Lamp temp | 67.5 | mV | 67.5 | mV |
| Lamp Intensity A/B | 63679/77398 | mV | 63492/77011 | mV |
| Pressure | 692 | mm Hg | 692 | mm Hg |
| Flow A | 0.784 | LPM | 0.790 | LPM |
| Flow B | 0.742 | LPM | 0.748 | LPM |

## *Calibration Data*

| Dilution air flow rate (cc/min) | Calibrator Setting | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 5032 | 0.00 | 0.0 | 0.1 | N/A |
| 5032 | 0.30 | 297.8 | 297.8 | 0.9999 |
| 5032 | 0.20 | 205.3 | 203.2 | 1.0103 |
| 5032 | 0.10 | 110.9 | 109.0 | 1.0172 |
| 5032 | | | | |
| 5032 | 0.00 | 0.0 | 0.1 | As found zero |
| 5032 | 0.30 | 297.8 | 306.4 | As found span |
| | | | Average Correction Factor | 1.0091 |

Calculated value of As Found Response: 295.9 ppm Percent Change of As Found: -0.6%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.1 | ppb | 0.2 | ppb |
| Auto span | 274.3 | ppb | 270.0 | ppb |

Notes: Slight span adjustment made

Calibration Performed By: Grover Christiansen

## Calibration Summary

Parameter **O3**

Air Monitoring Network **PAZA**

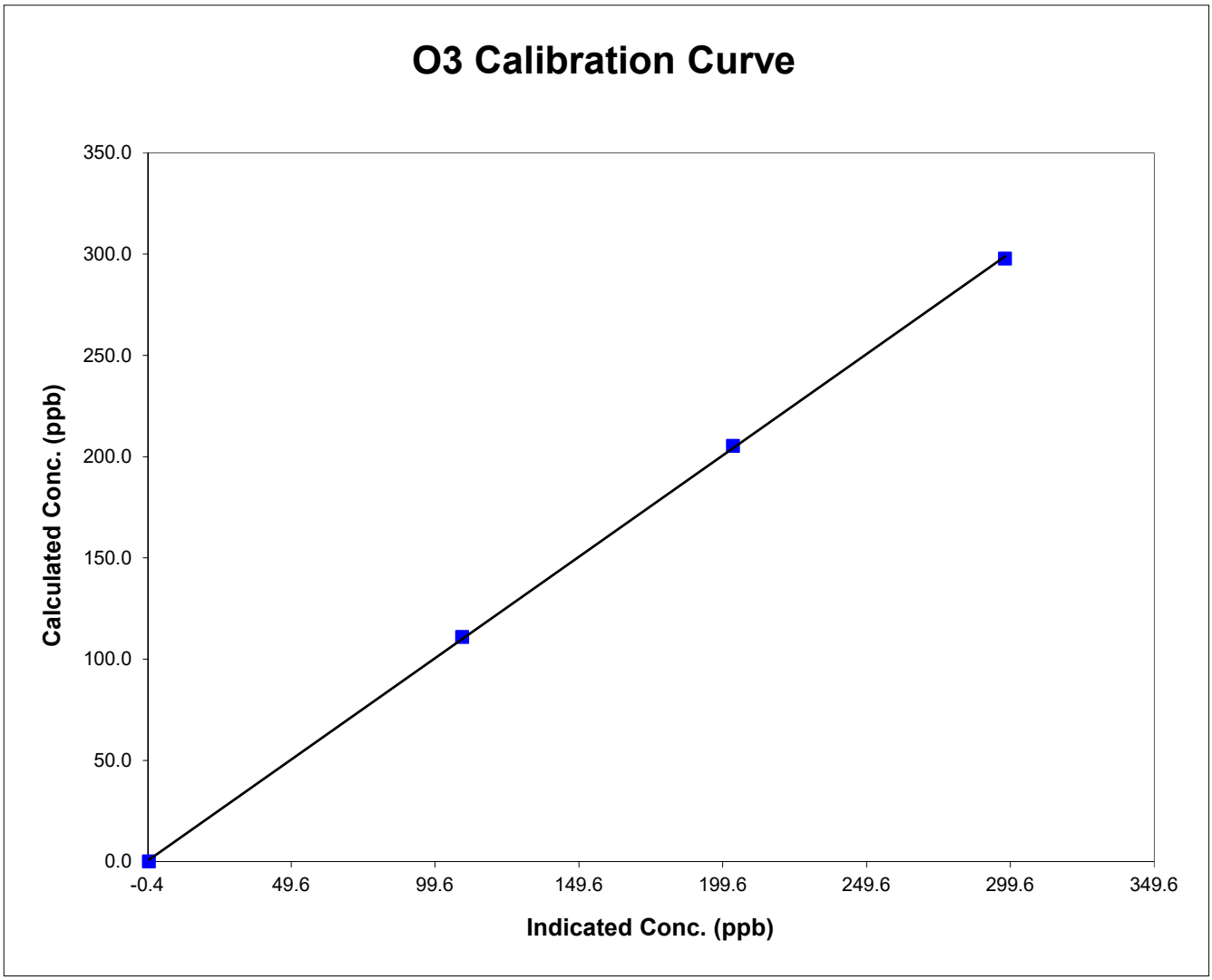
Air Quality Monitoring

### *Station Information*

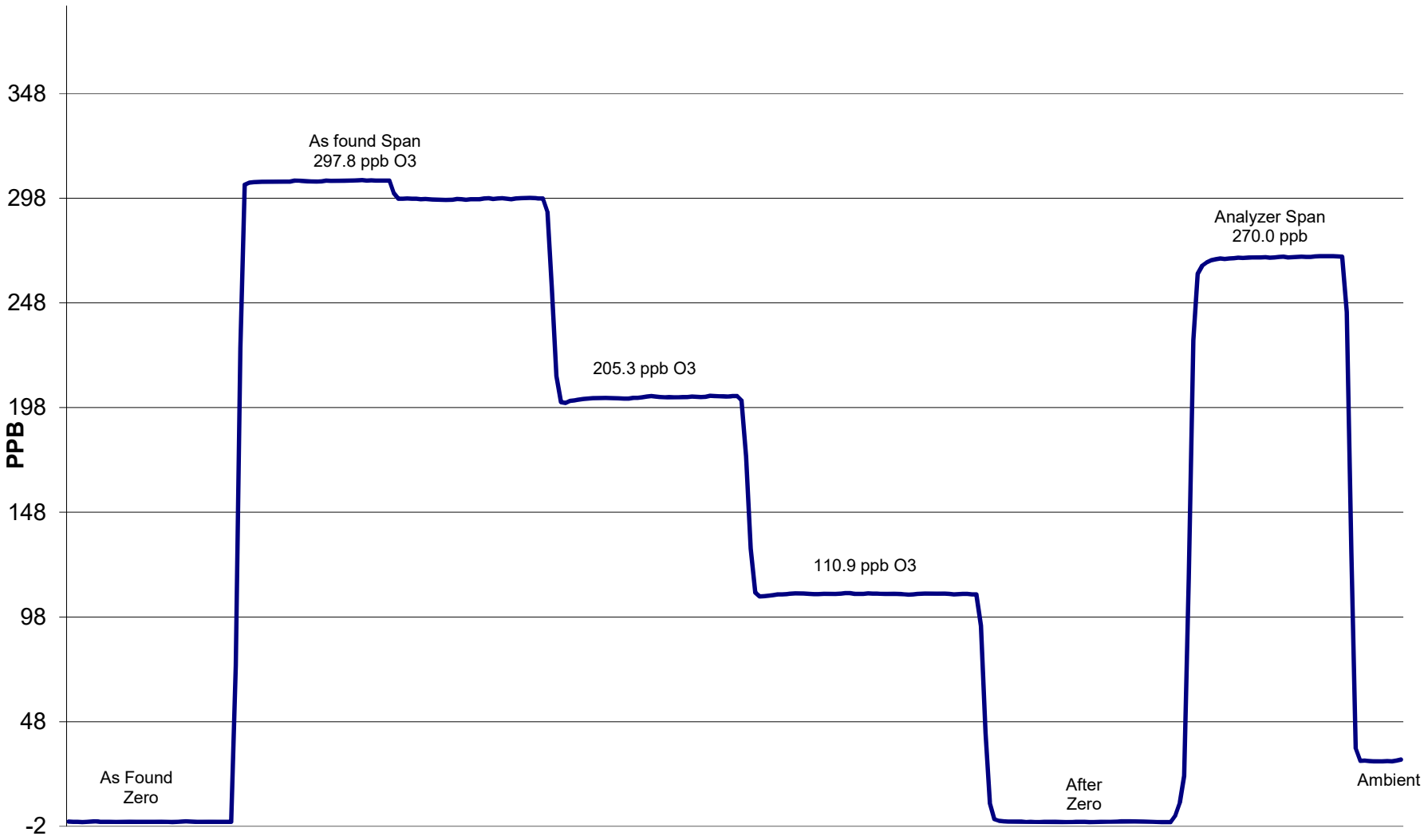
| | | | |
|---|---|---|---|
| Calibration Date | October 13, 2018 | Previous Calibration | September 6, 2018 |
| Station Number | 4 | Station Location | Beaverlodge |
| Start Time (MST) | 13:25:00 PM | End Time (MST) | 15:50 |
| Analyzer make/model | Teco 49i | Analyzer serial # | 1136451236,AMU 1879 |

### *Calibration Data*

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | 0.1 | NA | | |
| 297.8 | 297.8 | 0.9999 | Correlation Coefficient | 0.999913 |
| 205.3 | 203.2 | 1.0103 | | |
| 110.9 | 109.0 | 1.0172 | Slope | 1.000903 |
| | | | | |
| | | | Intercept | 0.811066 |
| | | | | |



# O3 Calibration




**October 13, 2018**

# Calibration Report

Parameter **$SO_2$**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 19, 2018 | Previous Calibration | September 27, 2018 |
| Station Number | 2 | Station Location | Evergreen Park |
| Reason: Routine | Install | Removal | Other: |
| Start Time (MST) | 13:00:00 PM | End Time (MST) | 14:57:00 PM |
| Barometric Pressure | 0.936 ATM | Station Temperature | 22.0 Deg C |
| Calibrator | Environics 6100 | Serial Number | 3474 |
| Cal Gas Concentratio | 49.6 ppm | Cal Gas Expiry Date | 04/05/2019 |
| Correction factor | 0.031602 | Cal Gas Cylinder # | LL107945 |
| DACS make | CR3000 | DACS serial No. | 5236 |
| DACS voltage range | 0 - 5 volt | DACS channel # | 6 |
| | Before | | After |
| Calculated slope | 1.000773 | Calculated slope | 1.000878 |
| Calculated intercept | -0.273893 | Calculated intercept | -0.654359 |
| Analyzer make | Teco 43i | Analyzer serial # | 701120008 |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0 - 500 | ppb | 0 - 500 | ppb |
| Background | 12.1 | | 12 | |
| coefficient | 1.072 | | 1.072 | |
| Lamp Voltage | 842 | volts | 845 | volts |
| Chamber Temp | 45 | Deg C | 45 | Deg C |
| Perm Gas Temp | 45 | Deg C | 45 | Deg C |
| Pressure | 680.2 | mm Hg | 678.6 | mm Hg |
| Sample Flow | 0.436 | ccm | 0.439 | ccm |
| Lamp Intensity | 92 | % | 92 | % |

| Dilution air flow rate (cc/min) | Corrected gas flow rate (cc/min) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 4997 | 0.0 | 0.00 | 0.8 | N/A |
| 4997 | 39.97 | 393.6 | 393.9 | 0.9993 |
| 4997 | 19.99 | 197.6 | 198.4 | 0.9961 |
| 4997 | 9.98 | 98.9 | 99.0 | 0.9984 |
| | | | | |
| | | | | |
| 4997 | 0.0 | 0.0 | 0.8 | As Found Zero |
| 4997 | 39.98 | 393.7 | 393.9 | As Found Span |
| | | | Average Correction Factor | 0.9979 |

Calculated value of As Found Response: 393.157 ppm Percent Change of As Found: 0.1%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.8 | ppm | 0.9 | ppm |
| Auto span | 259.3 | ppm | 260.0 | ppm |

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

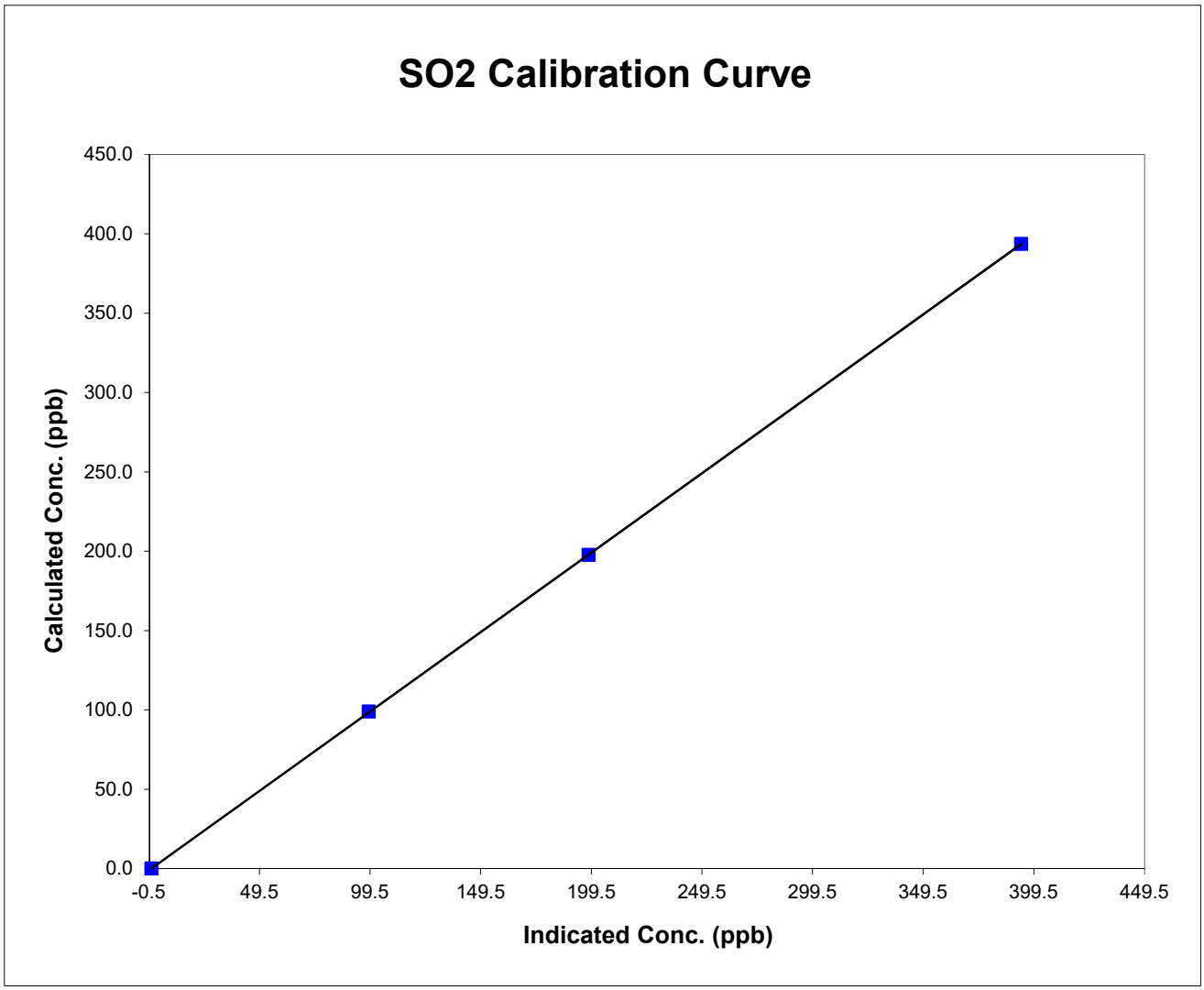
Air Quality Monitoring

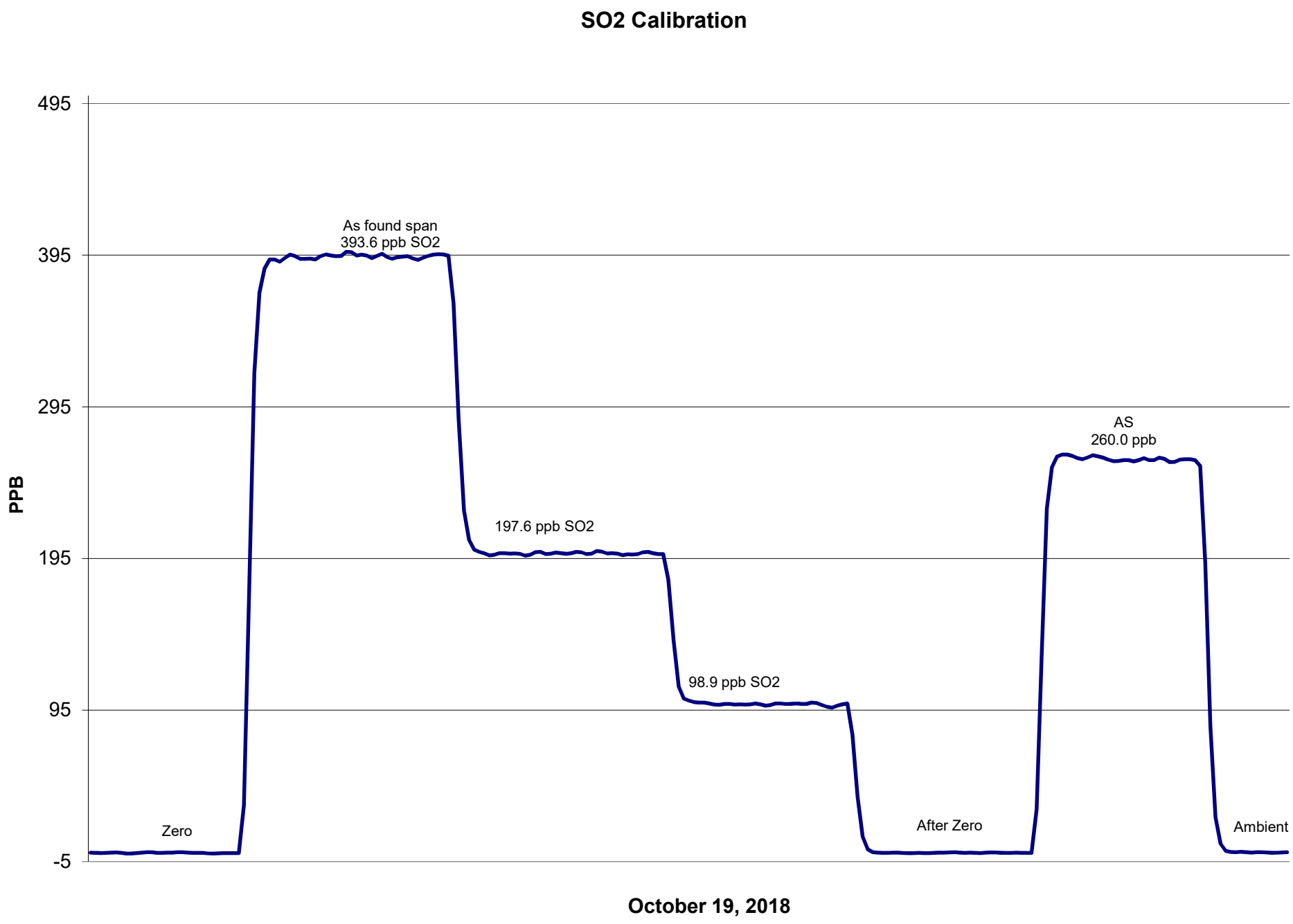
***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | October 19, 2018 | Previous Calibration | September 27, 2018 |
| Station Number | 2 | Station Location | Evergreen Park |
| Start Time (MST) | 13:00:00 PM | End Time (MST) | 14:57:00 PM |
| Analyzer make/model | Teco 43i | Analyzer serial # | 701120008 |

***Calibration Data***

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | 0.8 | N/A | | |
| 393.6 | 393.9 | 0.9993 | Correlation Coefficient | 0.999997 |
| 197.6 | 198.4 | 0.9961 | | |
| 98.9 | 99.0 | 0.9984 | Slope | 1.000878 |
| | | | | |
| | | | Intercept | -0.654359 |
| | | | | |




SO2 Calibration
495
395
295
195
95
-5
PPB
As found span
393.6 ppb SO2
197.6 ppb SO2
98.9 ppb SO2
AS
260.0 ppb
Zero
After Zero
Ambient
October 19, 2018

# Calibration Report

Parameter **TRS**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 19, 2018 | Previous Calibration | September 27, 2018 |
| Station Number | 2 | Station Location | Evergreen Park |
| Reason: Routine | Install | Removal | Other: |
| Start Time (MST) | 11:10 | End Time (MST) | 14:10:00 PM |
| Barometric Pressure | 0.936 ATM | Station Temperature | 22.0 Deg C |
| Calibrator | Evironics 6100 | Serial Number | 3474 |
| Cal Gas Conc | 9.78 ppm | Cal Gas Expiry Date | 23/02/2019 |
| Correction factor | 0.031602 | Cal Gas Cylinder # | EY0000380 |
| DACS make | CR3000 | DACS serial No. | 5236 |
| DACS voltage range | 0 - 5 volt | DACS channel # | 5 |
| | Before | | After |
| Calculated slope | 1.000771 | Calculated slope | 0.994402 |
| Calculated intercept | 0.255830 | Calculated intercept | -0.009313 |
| Analyzer make | TEI Model 43I | Analyzer serial # | |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0 - 100 | ppb | 0 - 100 | ppb |
| Background | 27.2 | ppb | 26.5 | ppb |
| coefficient | 0.880 | | 0.880 | |
| Lamp Voltage | 888 | volts | 890 | volts |
| Chamber Temp | 44.6 | Deg C | 44.6 | Deg C |
| Perm Gas Temp | 44.9 | Deg C | 45 | Deg C |
| Pressure | 664.9 | mm Hg | 662.2 | mm Hg |
| Sample Flow | 0.466 | ccm | 0.464 | ccm |
| Lamp Intensity | 30,458 | mv | 30,722 | mv |

| Dilution air flow rate (cc/min) | Corrected gas flow rate (cc/min) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 4996 | 0.00 | 0.00 | 0.2 | N/A |
| 4996 | 39.97 | 77.62 | 78.2 | 0.9930 |
| 4996 | 19.96 | 38.92 | 39.0 | 0.9984 |
| 6999 | 9.97 | 13.91 | 13.9 | 1.0018 |
| 4996 | 10.00 | 0.00 | 0.4 | Sox |
| | | | | |
| 4996 | 0.00 | 0.00 | -0.6 | As Found Zero |
| 4996 | 39.97 | 77.62 | 76.9 | As Found Span |
| | | | Average Correction Factor | 0.9977 |

Calculated value of As Found Response: 77.79 ppm Percent Change of As Found: -0.2%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | -0.2 | ppm | 0.3 | ppm |
| Auto span | 94.4 | ppm | 96.5 | ppm |

Notes: Zero adjustment made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter **TRS**

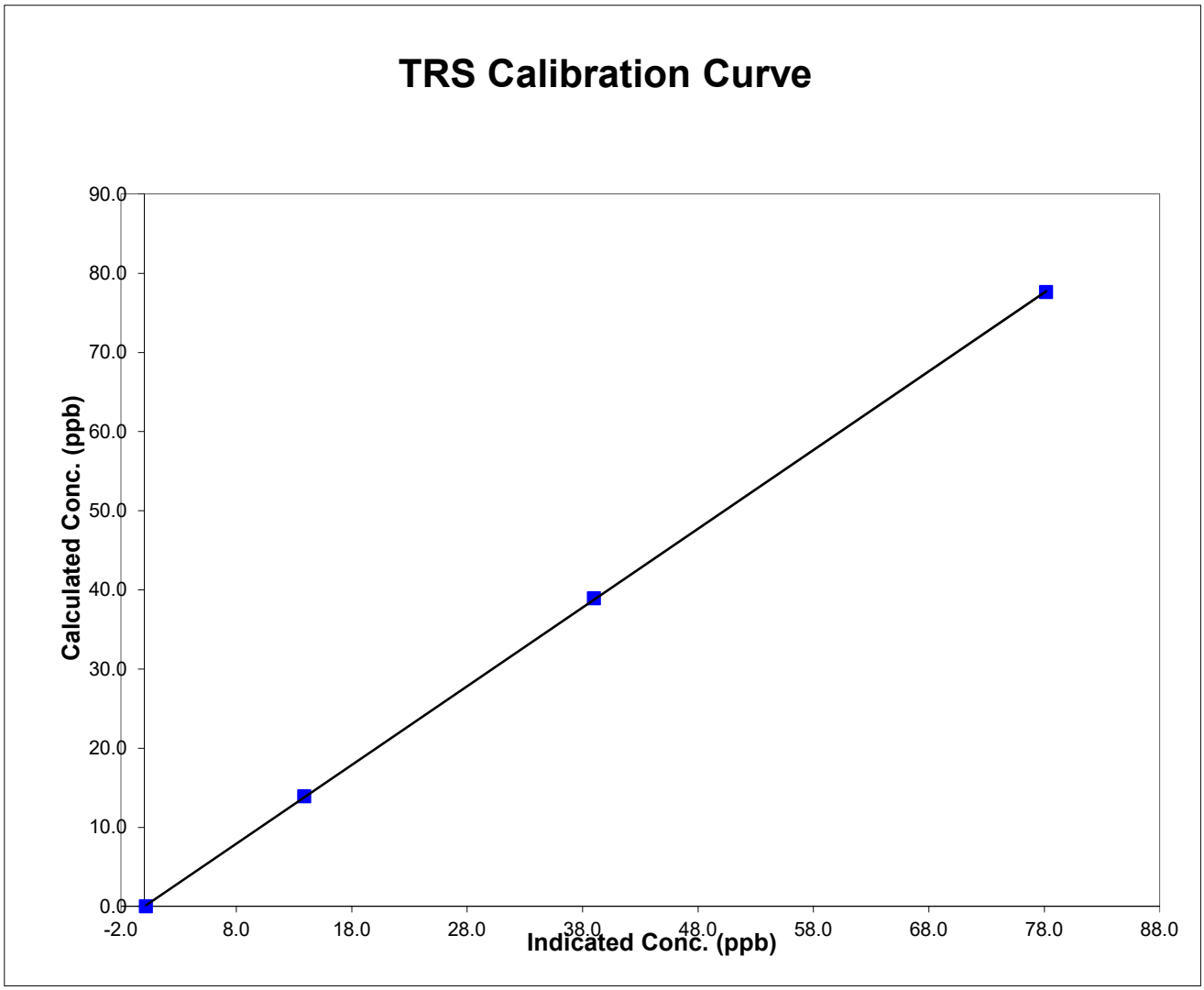
Air Monitoring Network **PAZA**

***Station Information***

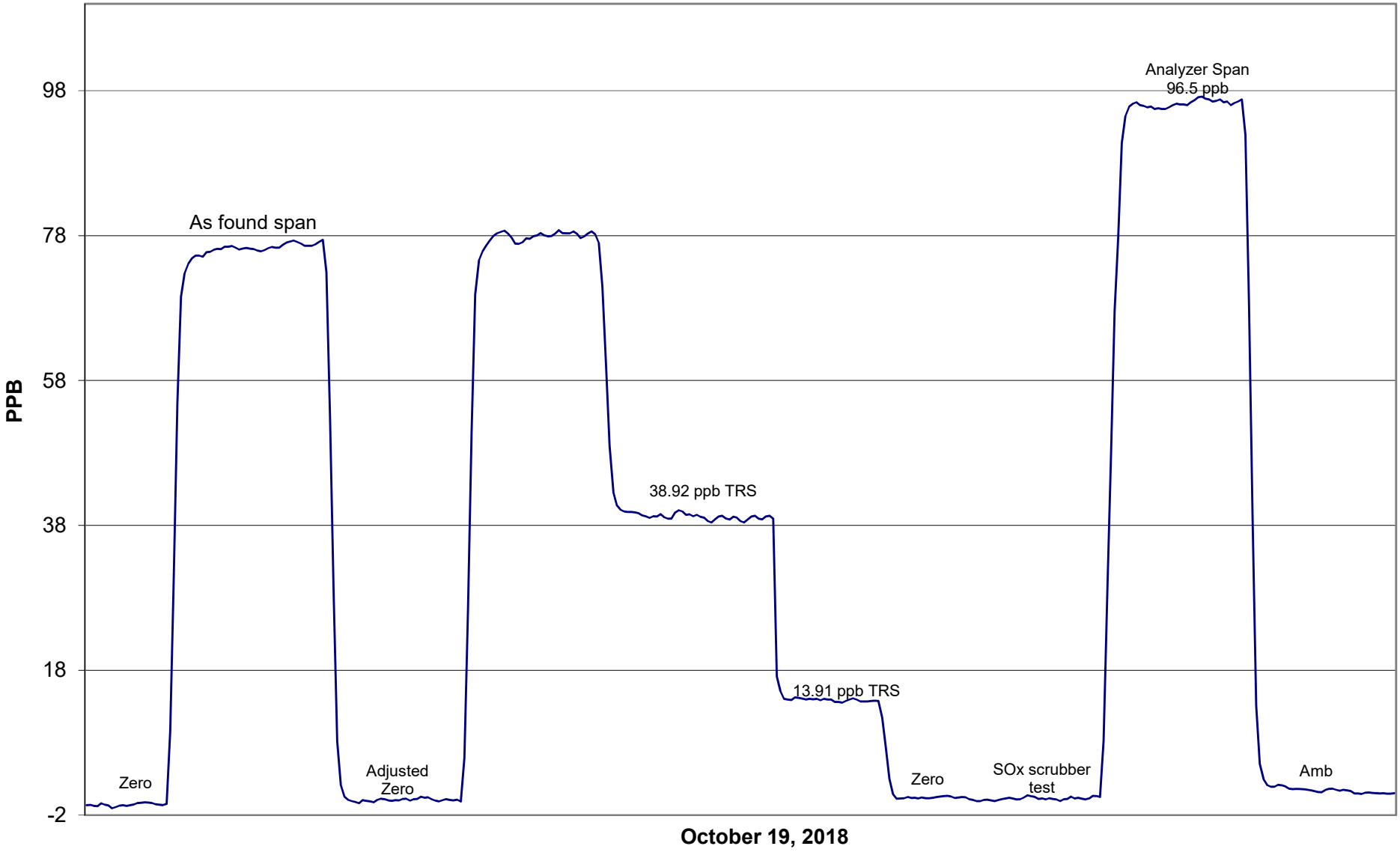
| | | | |
|---|---|---|---|
| Calibration Date | October 19, 2018 | Previous Calibration | September 27, 2018 |
| Station Number | 2 | Station Location | Evergreen Park |
| Start Time (MST) | 11:10 | End Time (MST) | 14:10:00 PM |
| Analyzer make/model | TEI Model 43I | Analyzer serial # | 0 |

***Calibration Data***

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | 0.2 | N/A | | |
| 77.6 | 78.2 | 0.9930 | Correlation Coefficient | 0.999977 |
| 38.9 | 39.0 | 0.9984 | | |
| 13.9 | 13.9 | 1.0018 | Slope | 0.994402 |
| | | | | |
| | | | Intercept | -0.009313 |
| | | | | |



# TRS Calibration



# Calibration Report

Parameter **H2S**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 9, 2018 | Previous Calibration | September 12, 2018 |
| Station Number | 1 | Station Location | Henry Pirker |

Reason: Routine | Install | Removal | Other:

| | | | |
|---|---|---|---|
| Start Time (MST) | 12:05 | End Time (MST) | 15:00:00 PM |
| Barometric Pressure | 0.921 mBar | Station Temperature | 22.0 Deg C |
| Calibrator | Environics 6103 | Serial Number | 6586 |
| Cal Gas Conc | 9.78 ppb | Cal Gas Expiry Date | 02/28/2020 |
| | | Cal Gas Cylinder # | LL119574 |
| DACS make | CR3000 | DACS serial No. | 5408 |
| DACS voltage range | 0 - 1 volt | DACS channel # | 9 |
| | Before | | After |
| Calculated slope | 0.991497 | Calculated slope | 0.991809 |
| Calculated intercept | 0.601916 | Calculated intercept | 0.163916 |

| | | | |
|---|---|---|---|
| Analyzer make | TEI 450i | Analyzer serial # | 1170050143(AMU 2198) |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0 - 100 | ppb | 0 - 100 | ppb |
| Coefficient | 0.875 | | 0.831 | |
| Background | 13.7 | | 12.7 | |
| Pressure | 558.0 | mm Hg | 555.6 | mm Hg |
| Flow | 0.968 | ccm | 0.964 | ccm |
| Lamp Voltage | 777 | V | 778 | V |

| Dilution air flow rate (cc/min) | Source gas flow rate (cc/min) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 4997 | 0.00 | 0.00 | 0.32 | N/A |
| 4997 | 39.98 | 77.63 | 78.26 | 0.9919 |
| 4998 | 19.97 | 38.92 | 38.91 | 1.0002 |
| 6997 | 9.98 | 13.93 | 13.40 | 1.0395 |
| | | | | |
| | | | | |
| 4997 | 0.00 | 0.00 | -0.27 | As Found Zero |
| 4997 | 41.20 | 79.98 | 81.40 | As Found Span |
| | | | Average Correction Factor | 1.0105 |

Calculated value of As Found Response: 81.6 ppb Percent Change of As Found: -2.0%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | -0.31 | ppb | 0.35 | ppb |
| Auto span | 30.06 | ppb | 29.43 | ppb |

Notes: Zero & span adjustments made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter **H2S**

Air Monitoring Network **PAZA**

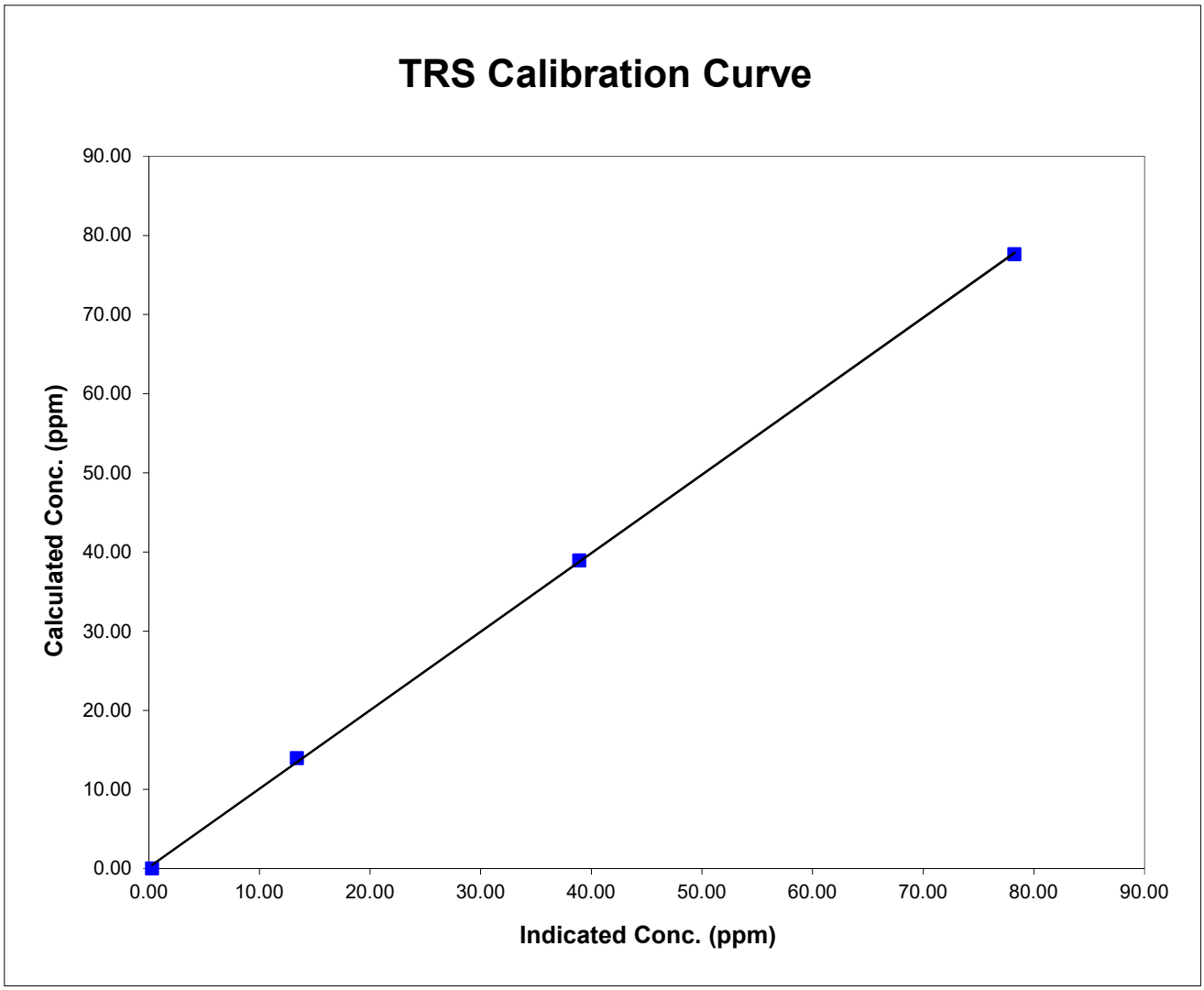
Air Quality Monitoring

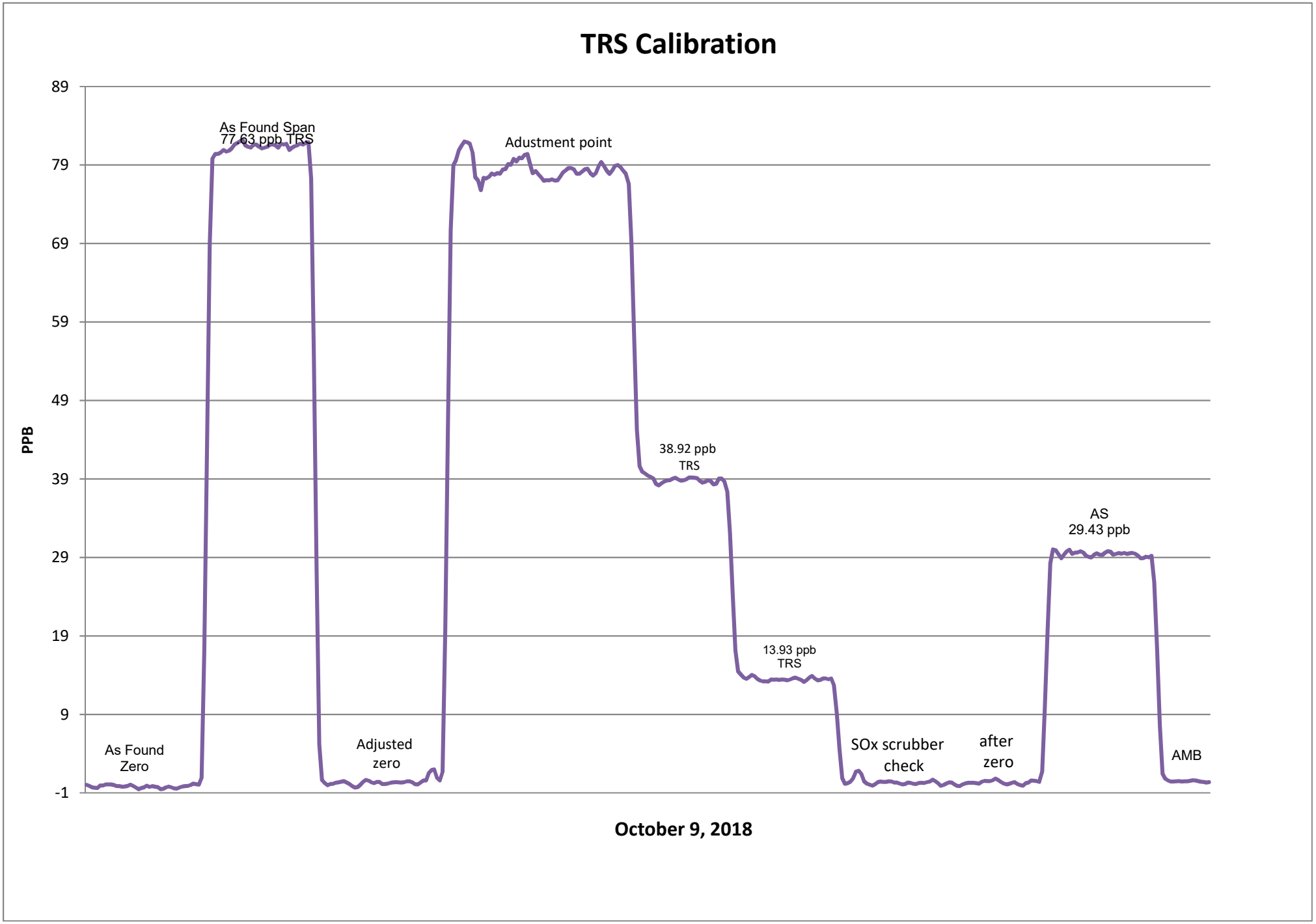
***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | October 9, 2018 | Previous Calibration | September 12, 2018 |
| Station Number | 1 | Station Location | Henry Pirker |
| Start Time (MST) | 12:05 | End Time (MST) | 15:00:00 PM |
| Analyzer make/model | TEI 450i | Analyzer serial # | 1170050143(AMU 2198) |

***Calibration Data***

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.000 | 0.316 | N/A | | |
| 77.627 | 78.264 | 0.9919 | Correlation Coefficient | 0.999855 |
| 38.921 | 38.914 | 1.0002 | | |
| 13.930 | 13.401 | 1.0395 | Slope | 0.991809 |
| | | | | |
| | | | Intercept | 0.163916 |
| | | | | |




TRS Calibration
PPB
89
79
69
59
49
39
29
19
9
-1
As Found Span
77.63 ppb TRS
Adustment point
38.92 ppb
TRS
13.93 ppb
TRS
AS
29.43 ppb
As Found
Zero
Adjusted
zero
SOx scrubber
check
after
zero
AMB
October 9, 2018

# Calibration Report

Parameter **SO2**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 5, 2018 | Previous Calibration | September 21, 2018 |
| Station Number | 1 | Station Location | Henry Pirker |
| Reason: | Routine / Install | Removal | Other: |
| Start Time (MST) | 8:35 | End Time (MST) | 11:35 |
| Barometric Pressure | 923.0 mbar | Station Temperature | 20.0 Deg C |
| Calibrator | Environics | Serial Number | 6586 |
| Cal Gas Conc | 50.1 ppm | Cal Gas Cert Date | 10/24/2020 |
| | | Cal Gas Cylinder # | LL107945 |
| DACS make | CR3000 | DACS serial No. | 5408 |
| DACS voltage range | 0 - 1 volt | DACS channel # | 10 |
| | Before | | After |
| Calculated slope | 1.000385 | Calculated slope | 0.996997 |
| Calculated intercept | 1.564898 | Calculated intercept | 2.404827 |
| Analyzer make | TEI 43I-TLE | Analyzer serial # | 1507864682 (AMU 2006) |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0 - 500 | ppb | 0 - 500 | ppb |
| Background | 1.40 | | 1.43 | |
| Coefficient | 0.905 | | 0.926 | |
| Pressure | 671.0 | mm Hg | 669.8 | mm Hg |
| Flow | 0.443 | lpm | 0.443 | lpm |
| Lamp intensity | 91 | Hz | 91 | Hz |

## *Calibration Data*

| Dilution air flow rate (cc/min) | Source gas flow rate (cc/min) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 4995 | 0.00 | 0.0 | 0.2 | N/A |
| 4995 | 39.99 | 397.9 | 397.9 | 1.0000 |
| 4995 | 19.97 | 199.5 | 196.5 | 1.0151 |
| 4995 | 9.98 | 99.9 | 95.2 | 1.0496 |
| | | | | |
| | | | | |
| 4995 | 0.00 | 0.0 | 0.2 | As Found Zero |
| 4995 | 39.97 | 397.7 | 385.8 | As Found Span |
| | | | Average Correction Factor | 1.0216 |

Calculated value of As Found Response: 387.4 ppb Percent Change of As Found: 2.6%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.2 | ppb | 0.2 | ppb |
| Auto span | 276.3 | ppb | 279.4 | ppb |

Notes: Span adjustment made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

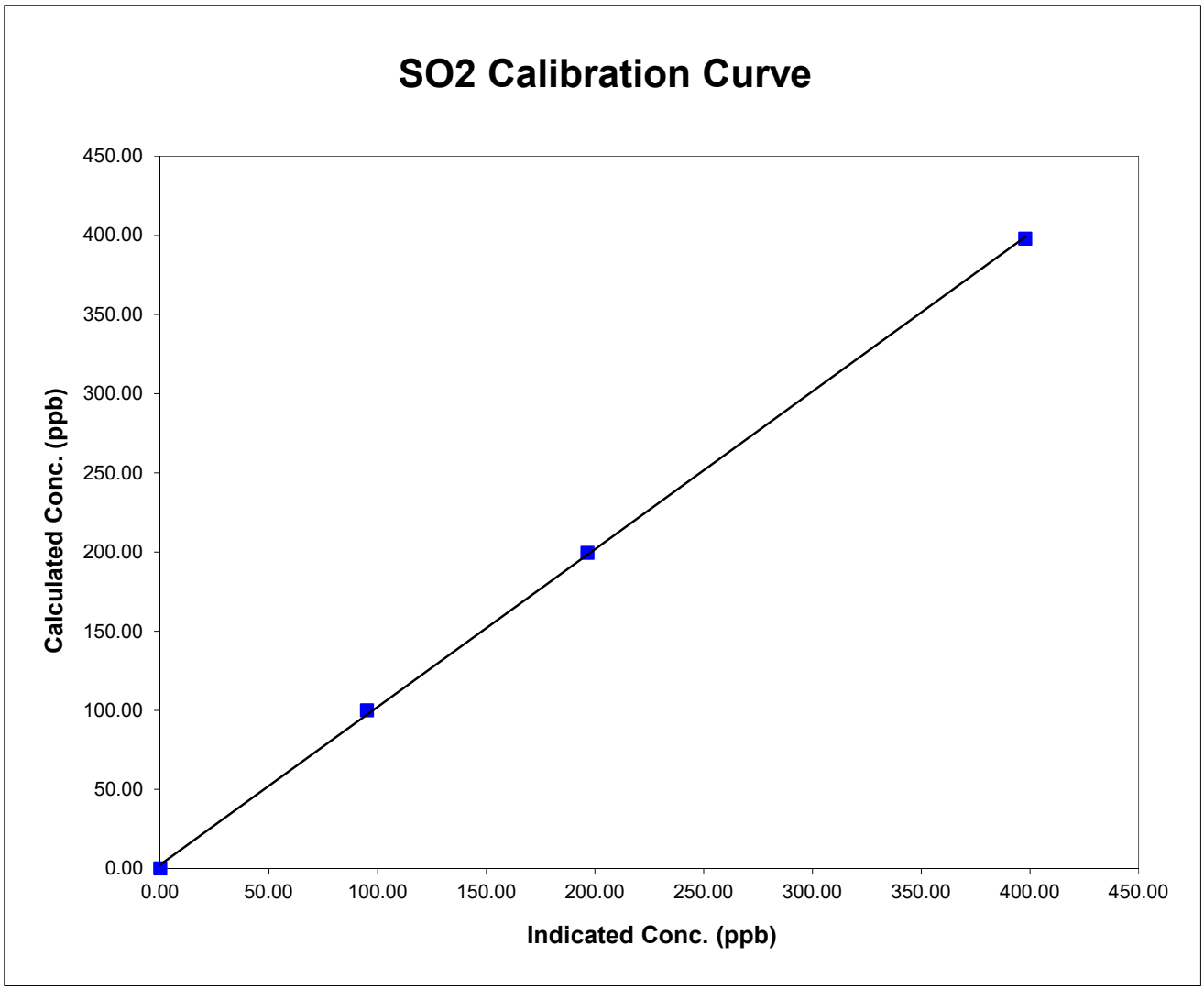
Air Quality Monitoring

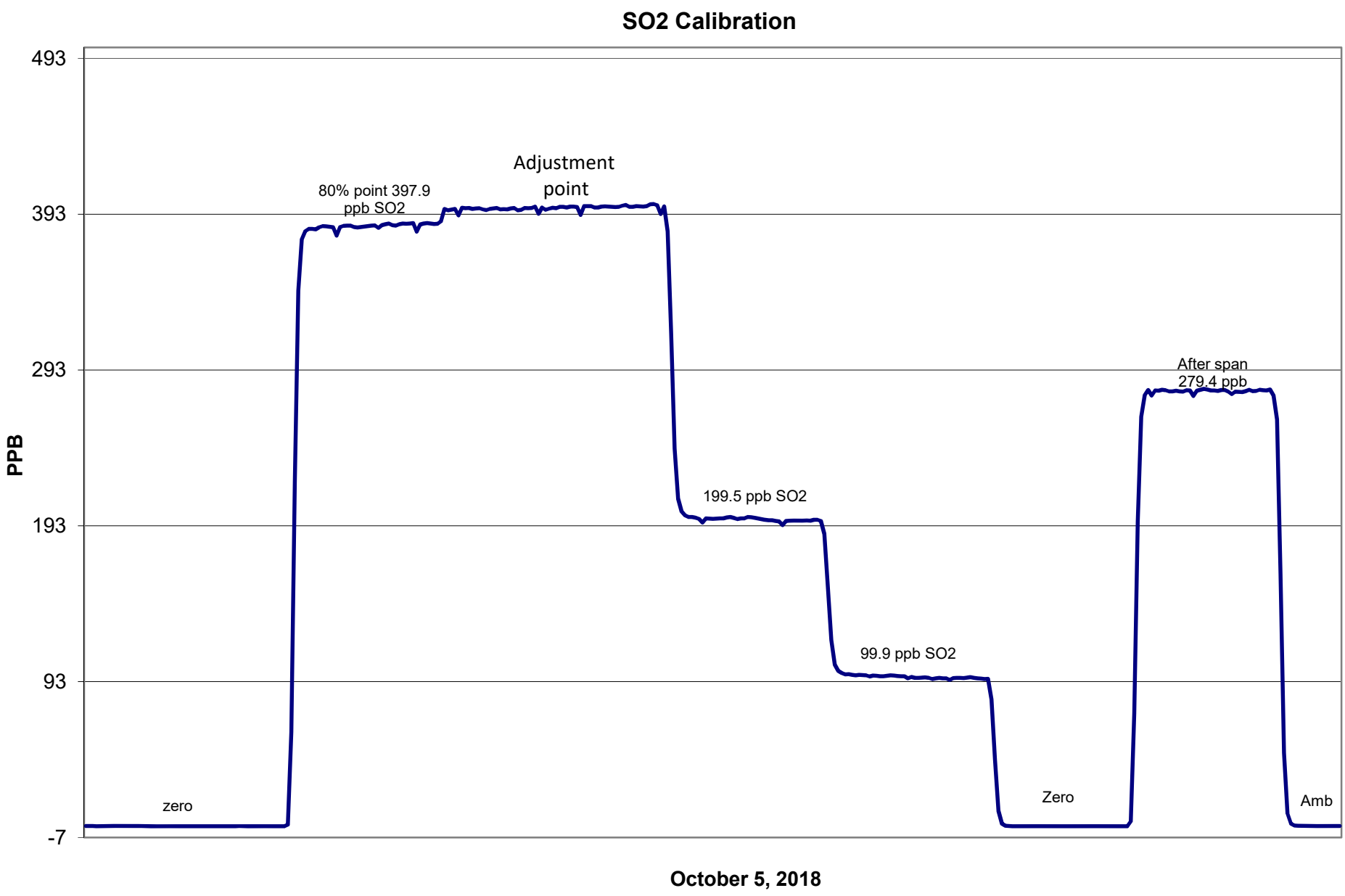
***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | October 5, 2018 | Previous Calibration | September 21, 2018 |
| Station Number | 1 | Station Location | Henry Pirker |
| Start Time (MST) | 8:35 | End Time (MST) | 11:35 |
| Analyzer make/model | TEI 43I-TLE | Analyzer serial # | 1507864682 (AMU 2006) |

***Calibration Data***

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | 0.2 | N/A | | |
| 397.9 | 397.9 | 1.0000 | Correlation Coefficient | 0.999814 |
| 199.5 | 196.5 | 1.0151 | | |
| 99.9 | 95.2 | 1.0496 | Slope | 0.996997 |
| | | | | |
| | | | Intercept | 2.404827 |
| | | | | |




SO2 Calibration
493
393
293
193
93
-7
PPB
80% point 397.9
ppb SO2
Adjustment
point
199.5 ppb SO2
99.9 ppb SO2
After span
279.4 ppb
zero
Zero
Amb
October 5, 2018

# Calibration Report

Parameter **$NO_X$-NO-$NO_2$**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 5, 2018 | Previous Calibration | September 11, 2018 |
| Station Number | 1 | Station Location | Henry Pirker |

Reason: Routine Installation Removal Other:

| | | | | | |
|---|---|---|---|---|---|
| Start Time (MST) | 8:45 | | End Time (MST) | 13:30:00 PM | |
| Barometric Pressure | 0.923 | mbar | Station Temperature | 20.0 | Deg C |
| Calibrator | Environics 6103 | | Serial Number | 6586 | |
| NO Cal Gas Conc | 50.7 | ppm | Cal Gas Expiry Date | 10/24/2020 | |
| NOx Cal Gas Conc | 50.8 | ppm | Cal Gas Serial # | LL107945 | |

## *DACS Information*

DACS make: CR3000 DACS serial No.: 5408

| Parameter | | NO2 | NOx | NO |
|---|---|---|---|---|
| Before | Data Slope | 1.007421 | 0.999633 | 0.995852 |
| | Data Offset | -0.741001 | 0.757281 | 1.161816 |
| After | Data Slope | 1.003940 | 1.000158 | 0.996899 |
| | Data Offset | -0.995607 | 3.143073 | 3.506504 |
| Channel # | | 8 | 6 | 7 |
| Voltage Range | | 0 - 5 VDC | 0 - 5 VDC | 0 - 5 VDC |

## *Analyzer Information*

Analyzer make/model: 42i Analyzer serial #: 906535087

| Test Point | before | | after | |
|---|---|---|---|---|
| Concentration range | 0 - 500 | ppb | 0 - 500 | ppb |
| NO offset | 8.3 | mV | 8.5 | mV |
| NOx bkgnd | 8.5 | mV | 8.7 | mV |
| NO coefficient | 1.198 | | 1.230 | |
| NOx coefficient | 0.999 | | 0.999 | |
| NO2 conv temp | 326.8 | Deg C | 326.8 | Deg C |
| Cooler Temp | -2.9 | Deg C | -2.8 | Deg C |
| PMT Volt | -834.4 | mV | -834.4 | mV |
| R Cell Press | 205.6 | in Hg | 203.8 | in Hg |
| Sample Flow | 0.511 | LPM | 0.514 | LPM |

Notes: Span adjustment made

# Calibration Report

Parameter **NOX-NO-NO2**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## Station Information

Calibration Date: October 5, 2018 Station Location: Henry Pirker

## Calibration Data

| | Dilution flow rate (ccm) | Source gas flow rate (ccm) | Calculated NOx conc (ppb) | Calculated NO conc (ppb) | Calculated NO2 conc (ppb) | Indicated NOx conc (ppb) | Indicated NO conc (ppb) | Indicated NO2 conc (ppb) | NOx Correction factor | NO Correction factor |
|---|---|---|---|---|---|---|---|---|---|---|
| zero | 4996 | 0.00 | 0.0 | 0.0 | 0.0 | 0.2 | 0.2 | 0.6 | N/A | N/A |
| 1 | 4996 | 39.97 | 403.2 | 402.4 | 0.8 | 401.7 | 402.2 | -0.1 | 1.0036 | 1.0006 |
| 2 | 4996 | 19.98 | 202.4 | 202.0 | 0.4 | 197.0 | 196.4 | 0.3 | 1.0269 | 1.0283 |
| 3 | 4996 | 9.97 | 101.2 | 101.0 | 0.2 | 95.1 | 94.8 | 0.4 | 1.0643 | 1.0657 |
| | | | | | | | | | | |
| AFZ | 4996 | 0.00 | 0.0 | 0.0 | 0.0 | 0.2 | 0.2 | 0.6 | 0.0000 | 0.0000 |
| AFS | 4996 | 39.97 | 403.2 | 402.4 | 0.8 | 391.2 | 391.7 | -0.1 | 1.0307 | 1.0274 |
| | | | | | | | Average Correction Factor | | 1.0316 | 1.0315 |

As Found Concentrations: $NO_X$= 391.6 NO= 391.0 As Found Percent Change $NO_X$= -2.9% NO= -2.8%

## GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.93 ccm

| O3 Setpoint (ppb) | Indicated NO high point (ppb) | Calculated NO drop conc (ppb) | Calculated NO2 conc (ppb) | Indicated NOx conc (ppb) | Indicated NO conc (ppb) | Indicated NO2 conc (ppb) | NOx Correction factor | NO Correction factor | NO2 Correction factor | Converter Efficiency |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.2 | 0.2 | 0.0 | 0.2 | 0.2 | 0.6 | N/A | N/A | N/A | N/A |
| NO point | 398.9 | 398.9 | 0.0 | 398.5 | 398.9 | -0.2 | 1.0010 | 1.0000 | N/A | N/A |
| 300 | 398.9 | 98.8 | 300.0 | 398.4 | 98.8 | 299.5 | 1.0012 | 1.0000 | 1.0017 | 99.8% |
| 200 | 398.9 | 193.6 | 205.3 | 400.0 | 193.6 | 205.6 | 0.9971 | 1.0000 | 0.9983 | 100.2% |
| 100 | 398.9 | 290.3 | 108.5 | 400.9 | 290.3 | 109.7 | 0.9948 | 1.0000 | 0.9896 | 101.1% |
| | | | | | Average Correction Factor | | 0.9977 | 1.0000 | 0.9965 | 100.4% |

## AIC Data

| | Previous calibration | | | | Current calibration | | | |
|---|---|---|---|---|---|---|---|---|
| Parameter | NOx | NO2 | NO | | NOx | NO2 | NO | |
| Auto zero | 0.0 | 0.2 | 0.1 | ppb | 0.0 | 0.2 | 0.2 | ppb |
| Auto span | 291.6 | 288.9 | 2.4 | ppb | 290.9 | 288.3 | 2.3 | ppb |

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter **$NO_2$**

Air Monitoring Network **PAZA**

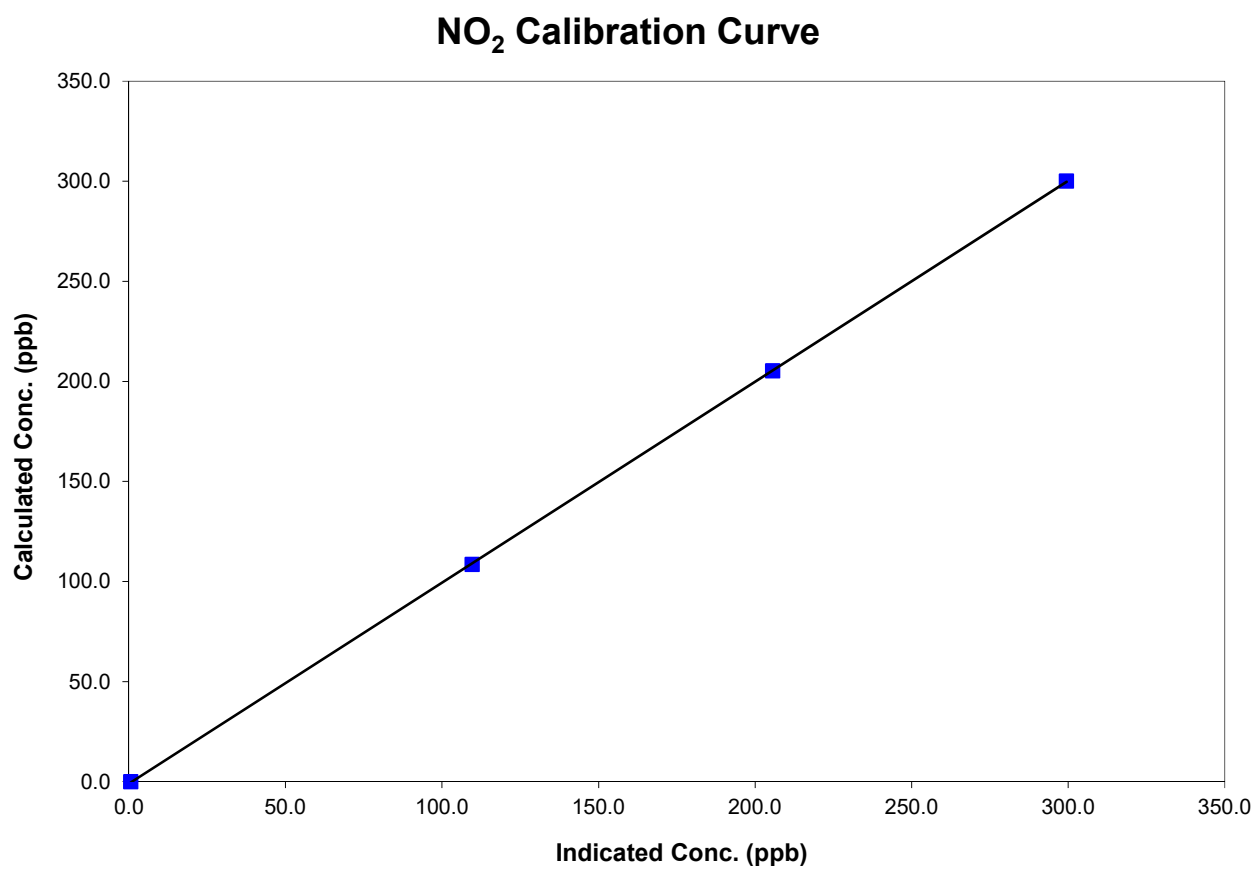
Air Quality Monitoring

### *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 5, 2018 | Previous Calibration | September 11, 2018 |
| Station Number | 1 | Station Location | Henry Pirker |
| Start Time (MST) | 8:45 | End Time (MST) | 13:30:00 PM |
| Analyzer make | 42i | Analyzer serial # | 906535087 |

### *Calibration Data*

| Calculated conc (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | 0.6 | N/A | | |
| 300.0 | 299.5 | 1.0017 | Correlation Coefficient | 0.999987 |
| 205.3 | 205.6 | 0.9983 | | |
| 108.5 | 109.7 | 0.9896 | Slope | 1.003940 |
| | | | | |
| | | | Intercept | -0.995607 |
| | | | | |



# Calibration Summary

Parameter **$NO_x$**

Air Monitoring Network **PAZA**

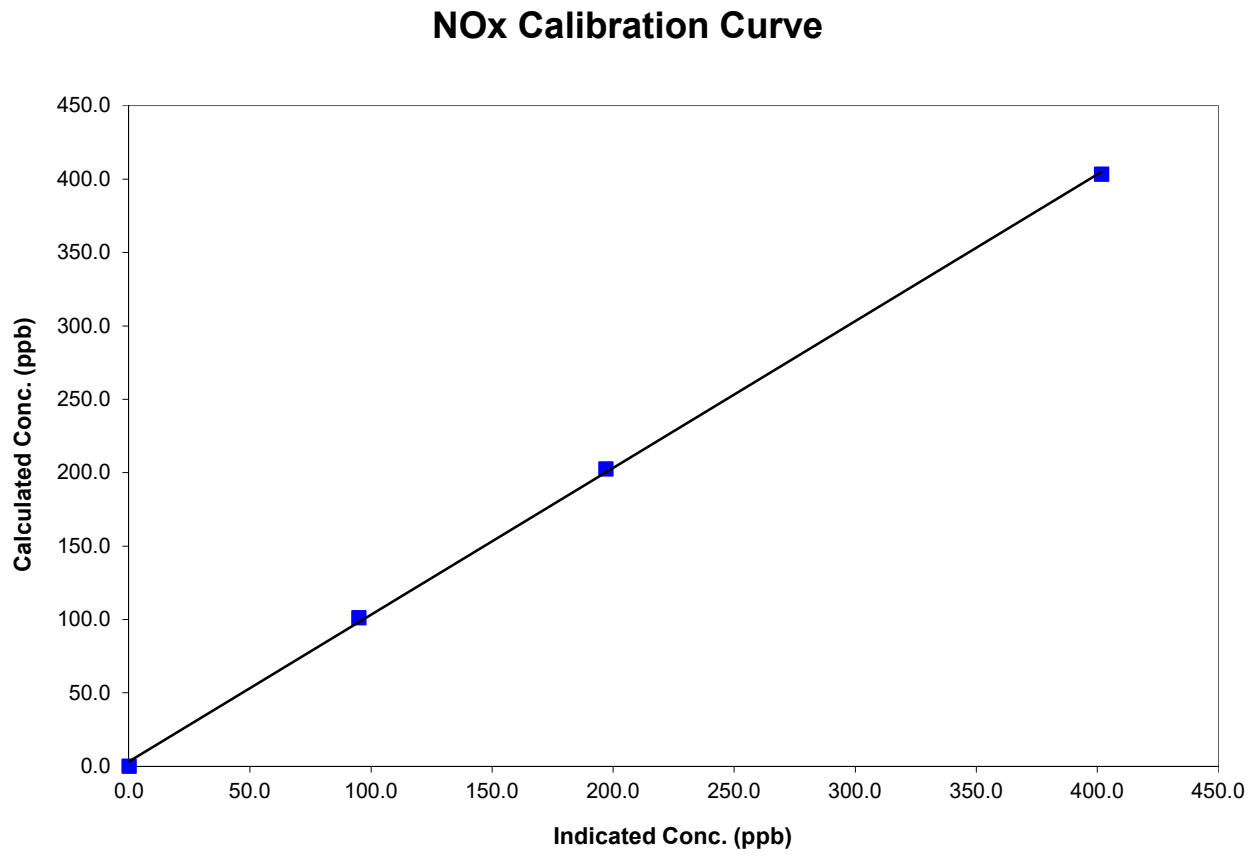
Air Quality Monitoring

### *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 5, 2018 | Previous Calibration | September 11, 2018 |
| Station Number | 1 | Station Location | Henry Pirker |
| Start Time (MST) | 8:45 | End Time (MST) | 13:30:00 PM |
| Analyzer make | 42i | Analyzer serial # | 906535087 |

### *Calibration Data*

| Calculated conc (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | 0.2 | N/A | | |
| 403.2 | 401.7 | 1.0036 | Correlation Coefficient | 0.999690 |
| 202.4 | 197.0 | 1.0269 | | |
| 101.2 | 95.1 | 1.0643 | Slope | 1.000158 |
| | | | | |
| | | | Intercept | 3.143073 |
| | | | | |



# Calibration Summary

Parameter **NO**

Air Monitoring Network **PAZA**

Air Quality Monitoring

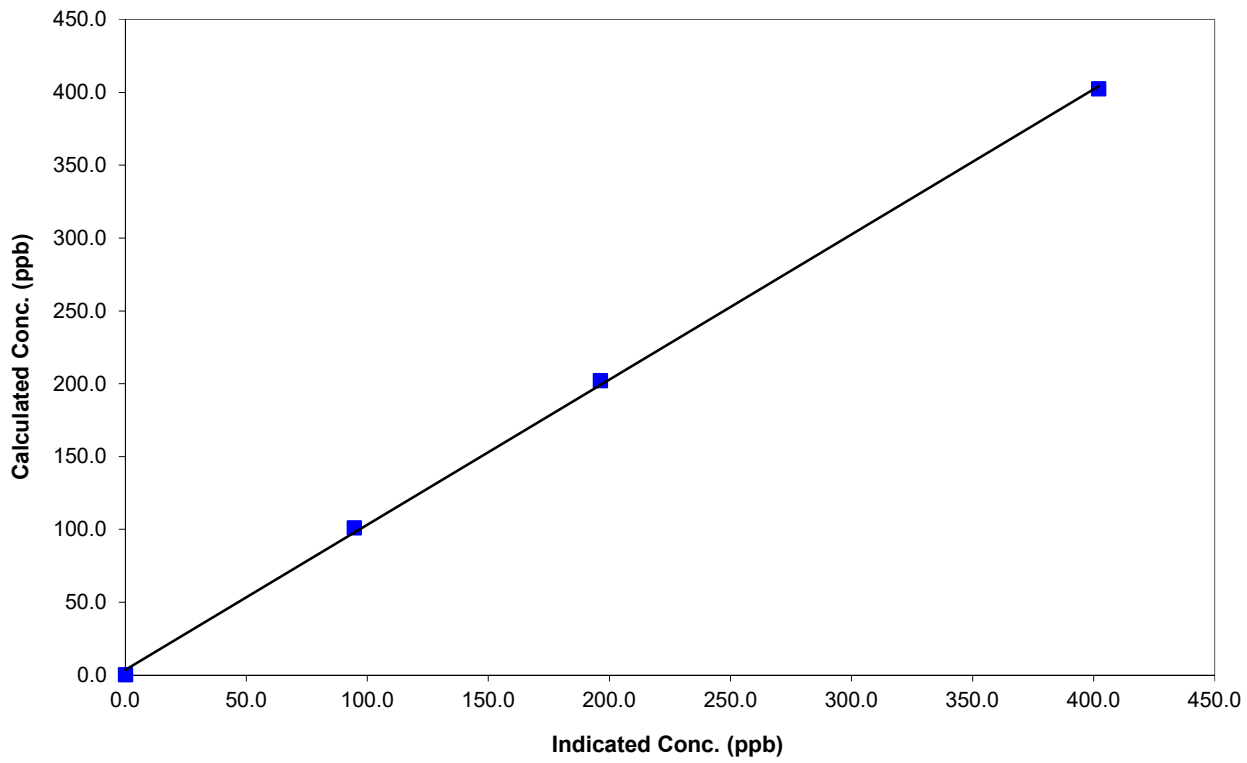
### *Station Information*

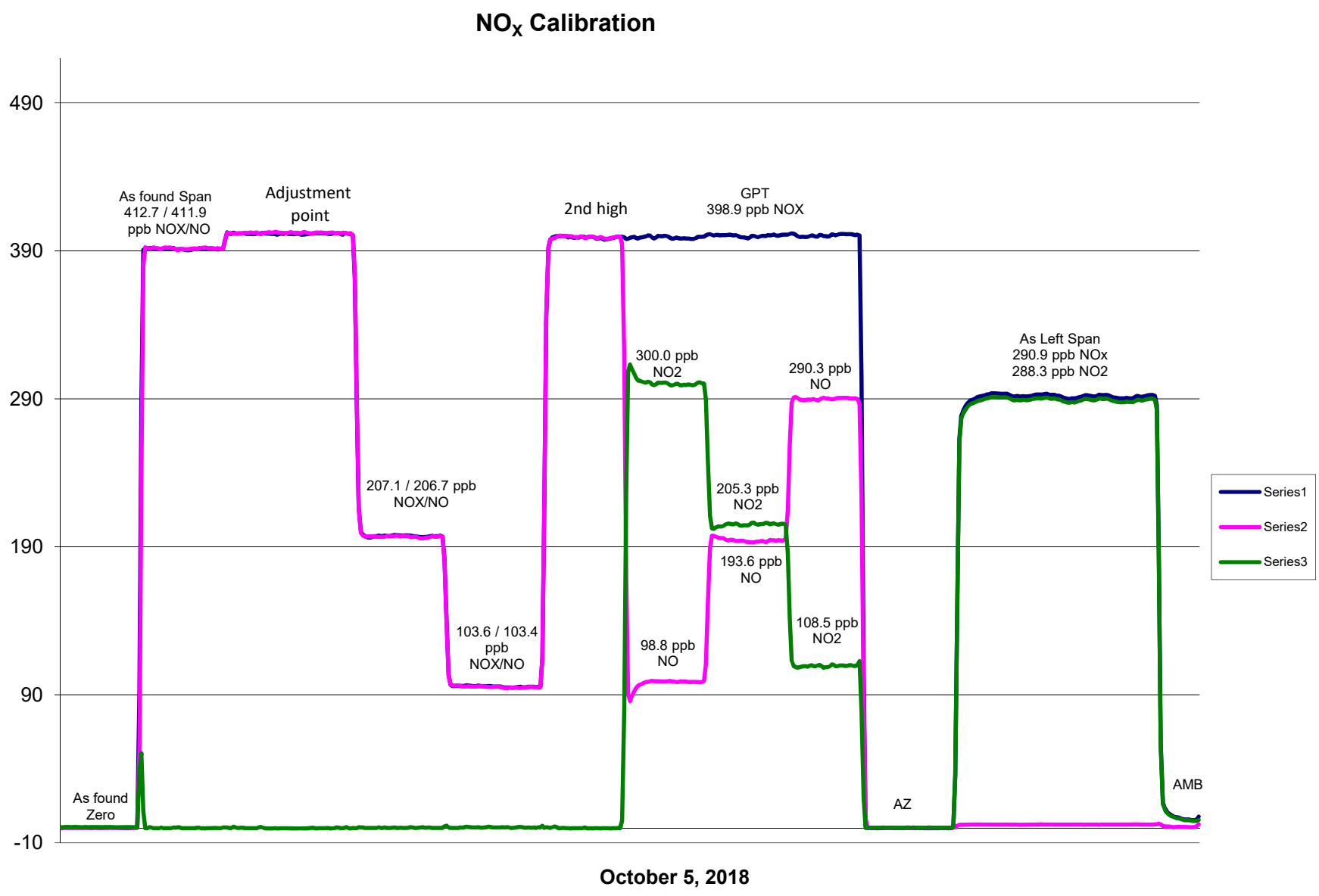
| | | | |
|---|---|---|---|
| Calibration Date | October 5, 2018 | Previous Calibration | September 11, 2018 |
| Station Number | 1 | Station Location | Henry Pirker |
| Start Time (MST) | 8:45 | End Time (MST) | 13:30:00 PM |
| Analyzer make | 42i | Analyzer serial # | 906535087 |

### *Calibration Data*

| Calculated conc (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | 0.2 | N/A | | |
| 402.4 | 402.2 | 1.0006 | Correlation Coefficient | 0.999620 |
| 202.0 | 196.4 | 1.0283 | | |
| 101.0 | 94.8 | 1.0657 | Slope | 0.996899 |
| | | | | |
| | | | Intercept | 3.506504 |
| | | | | |

## NO Calibration Curve




NOX Calibration
490
390
290
190
90
-10
As found Span
412.7 / 411.9
ppb NOX/NO
Adjustment
point
2nd high
GPT
398.9 ppb NOX
300.0 ppb
NO2
290.3 ppb
NO
As Left Span
290.9 ppb NOx
288.3 ppb NO2
207.1 / 206.7 ppb
NOX/NO
205.3 ppb
NO2
193.6 ppb
NO
103.6 / 103.4
ppb
NOX/NO
98.8 ppb
NO
108.5 ppb
NO2
As found
Zero
AZ
AMB
Series1
Series2
Series3
October 5, 2018

# Calibration Report

Parameter **O3**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 5, 2018 | Previous Calibration | September 11, 2018 |
| Station Number | 1 | Station Location | Henry Pirker |
| Reason: Routine | Install | Removal | Other: |
| Start Time (MST) | 12:00 | End Time (MST) | 14:20:00 PM |
| Barometric Pressure | 920.0 mbar | Station Temperature | 20.0 Deg C |
| Calibrator | Environics | Serial Number | 6586 |
| Cal Gas Concentration | NA | Cal Gas Expiry Date | NA |
| DACS make | CR3000 | DACS serial No. | 5237 |
| DACS voltage range | 0 - 5 volt | DACS channel # | 9 |
| | Before | | After |
| Calculated slope | 1.005155 | Calculated slope | 0.983351 |
| Calculated intercept | -0.321566 | Calculated intercept | -0.115935 |
| Analyzer make | Teco 49I | Analyzer serial # | 1507964699 (AMU:2015) |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0 - 500 | ppb | 0 - 500 | ppb |
| offset | -0.30 | ppb | -0.30 | ppb |
| slope | 1.013 | | 1.013 | |
| Lamp temp | 53.6 | mV | 53.6 | mV |
| Lamp Intensity A/B | 62969/68213 | mV | 62812/68134 | mV |
| Pressure | 692.8 | mm Hg | 692.9 | mm Hg |
| Flow A | 0.728 | ccm | 0.728 | ccm |
| Flow B | 0.732 | ccm | 0.732 | ccm |

## *Calibration Data*

| Dilution air flow rate (cc/min) | Source gas flow rate (cc/min) | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 4996 | 0.0 | 0.0 | -0.1 | N/A |
| 4998 | 0.3 | 300.0 | 305.5 | 0.9820 |
| 4998 | 0.2 | 205.3 | 208.1 | 0.9865 |
| 4998 | 0.1 | 108.5 | 111.1 | 0.9764 |
| | | | | |
| 4996 | 0.0 | 0.0 | -0.1 | As found zero |
| 4996 | 0.3 | 300.0 | 305.5 | As found span |
| | | | Average Correction Factor | 0.9816 |

Calculated value of As Found Response: 306.8 ppm Percent Change of As Found: 2.3%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.3 | ppb | 0.0 | ppb |
| Auto span | 374.5 | ppb | 380.9 | ppb |

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter **O3**

Air Monitoring Network **PAZA**

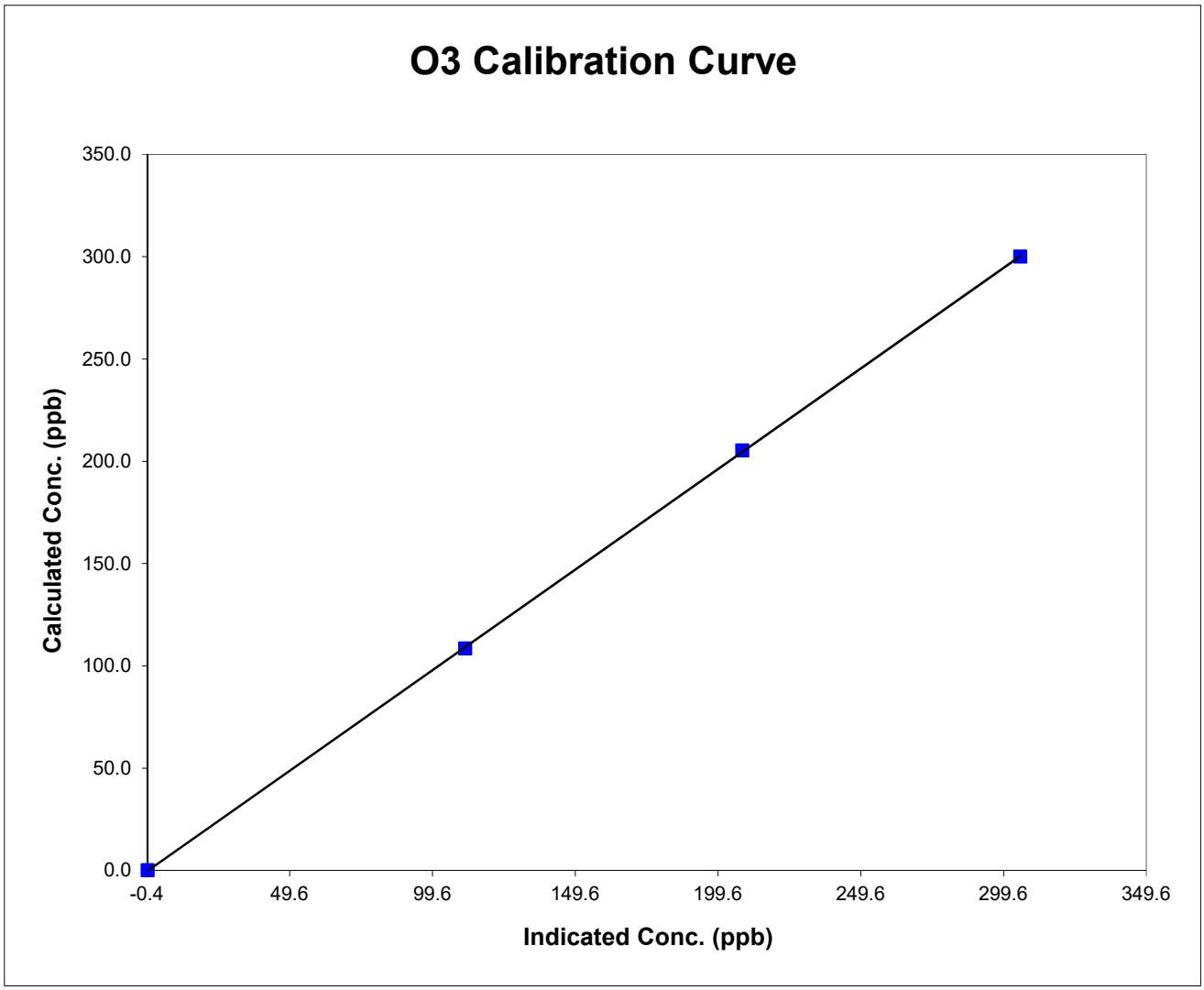
Air Quality Monitoring

***Station Information***

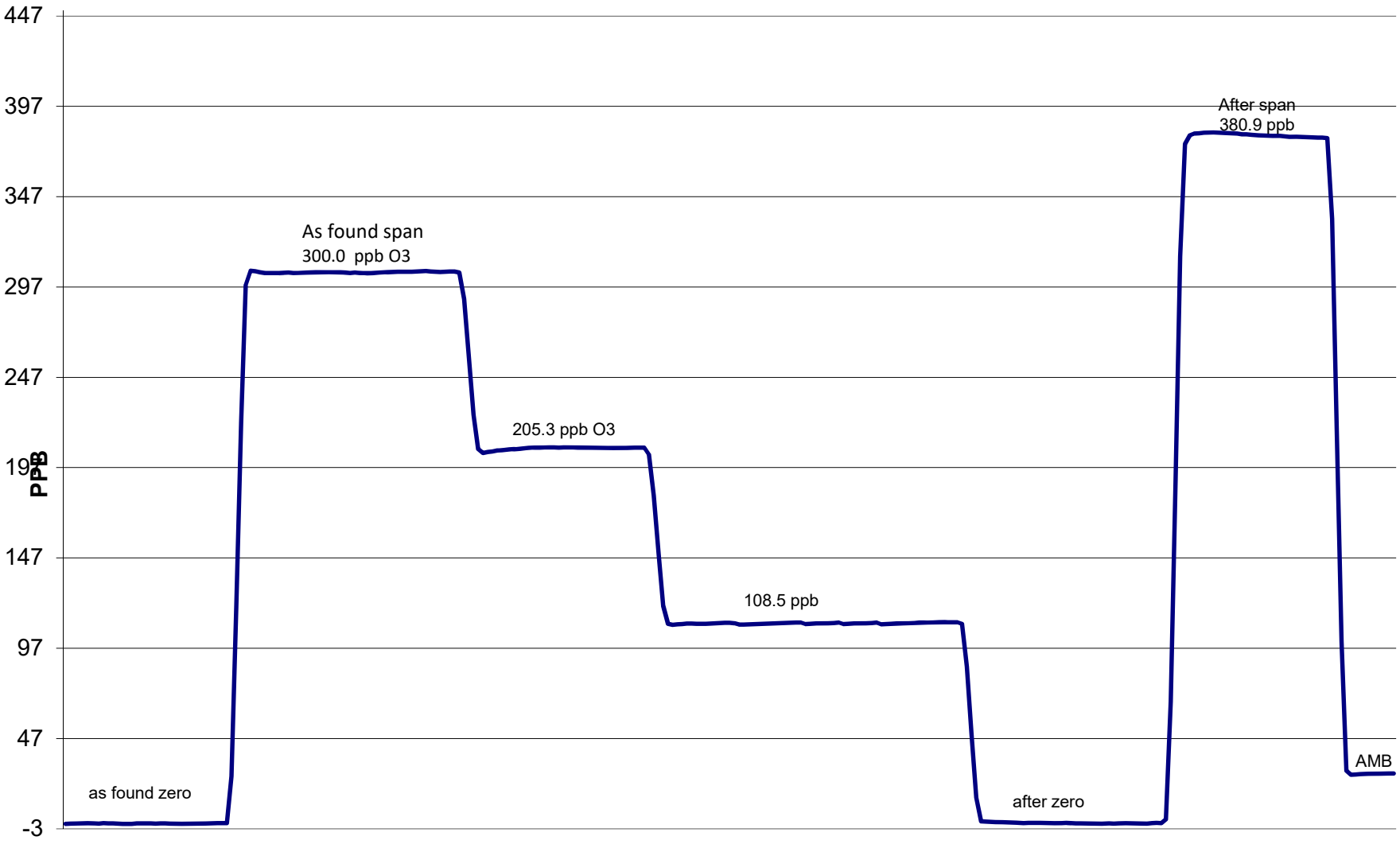
| | | | |
|---|---|---|---|
| Calibration Date | October 5, 2018 | Previous Calibration | September 11, 2018 |
| Station Number | 1 | Station Location | Henry Pirker |
| Start Time (MST) | 12:00 | End Time (MST) | 14:20:00 PM |
| Analyzer make/model | Teco 49I | Analyzer serial # | 1507964699 (AMU:2015) |

***Calibration Data***

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | -0.1 | NA | | |
| 300.0 | 305.5 | 0.9820 | Correlation Coefficient | 0.999977 |
| 205.3 | 208.1 | 0.9865 | | |
| 108.5 | 111.1 | 0.9764 | Slope | 0.983351 |
| | | | | |
| | | | Intercept | -0.115935 |
| | | | | |



# O3 Calibration




**October 5, 2018**

# Calibration Report

Parameter: CO

Air Monitoring Network: PAZA

Air Quality Monitoring

## Station Information

| | | | |
|---|---|---|---|
| Calibration Date | October 9, 2018 | Previous Calibration | September 12, 2018 |
| Station Number | 1 | Station Location | Henry Pirker |
| Reason: Routine | Install | Removal | Other: |
| Start Time (MST) | 13:40:00 PM | End Time (MST) | 16:35:00 PM |
| Barometric Pressure | 0.921 mBar | Station Temperature | 23.0 Deg C |
| Calibrator | Environics 6100 | Serial Number | 6586 |
| Cal Gas Conc | 2906 ppm | Cal Gas Expiry Date | 07/07/2023 |
| | | Cal Gas Cylinder # | LL109096 |
| DACS make | CR3000 | DACS serial No. | 5408 |
| DACS voltage range | 0 - 5 volt | DACS channel # | 9 |
| | Before | | After |
| Calculated slope | 1.003742 | Calculated slope | 1.000999 |
| Calculated intercept | -0.298527 | Calculated intercept | -0.170489 |
| Analyzer make | Model 48I-TLE | Analyzer serial # | 1408761378 |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0 - 50 | ppm | 0 - 50 | ppm |
| CO zero setting | 10.771 | | 10.814 | |
| CO span setting | 1.087 | | 1.087 | |
| Sample pressure | 704.9 | mm Hg | 708.2 | mm Hg |
| Sample Flow | 0.450 | LPM | 0.452 | LPM |

## Calibration Data

| Dilution air flow rate (cc/min) | Source gas flow rate (cc/min) | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 4997 | 0.00 | 0.00 | 0.00 | N/A |
| 4998 | 69.96 | 40.12 | 40.12 | 0.9998 |
| 4998 | 34.98 | 20.20 | 20.53 | 0.9836 |
| 4998 | 17.99 | 10.42 | 10.69 | 0.9752 |
| | | | | |
| | | | | |
| 4998 | 0.00 | 0.00 | 0.25 | As Found Zero |
| 4998 | 69.96 | 40.12 | 40.90 | As Found Span |
| | | | Average Correction Factor | 0.9862 |

Calculated value of As Found Response: 40.503 ppm  Percent Change of As Found: -1.0%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.05 | ppm | 0.15 | ppm |
| Auto span | 20.72 | ppm | 20.56 | ppm |

Notes: Zero & span adjustment made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter **CO**

Air Monitoring Network **PAZA**

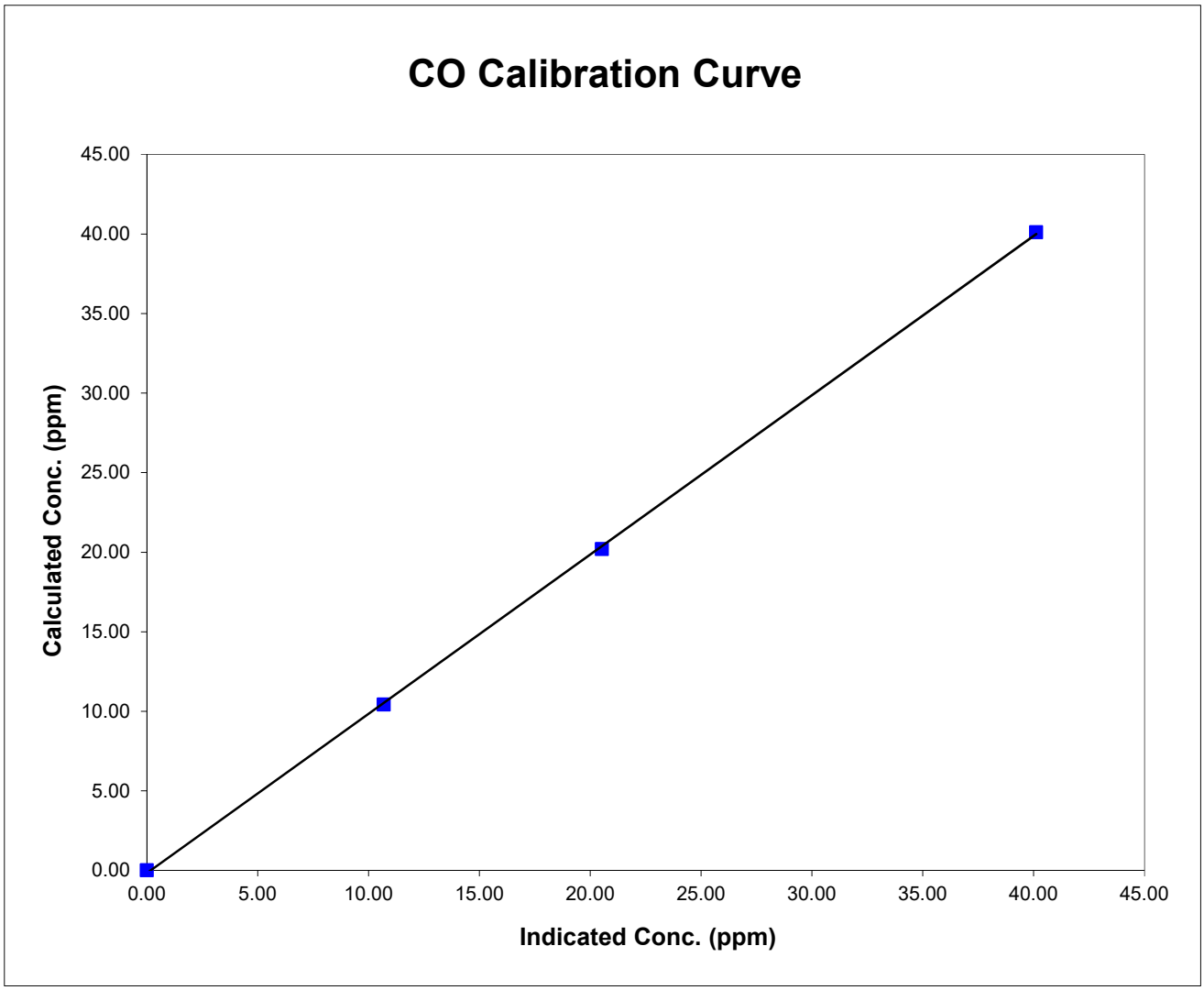
Air Quality Monitoring

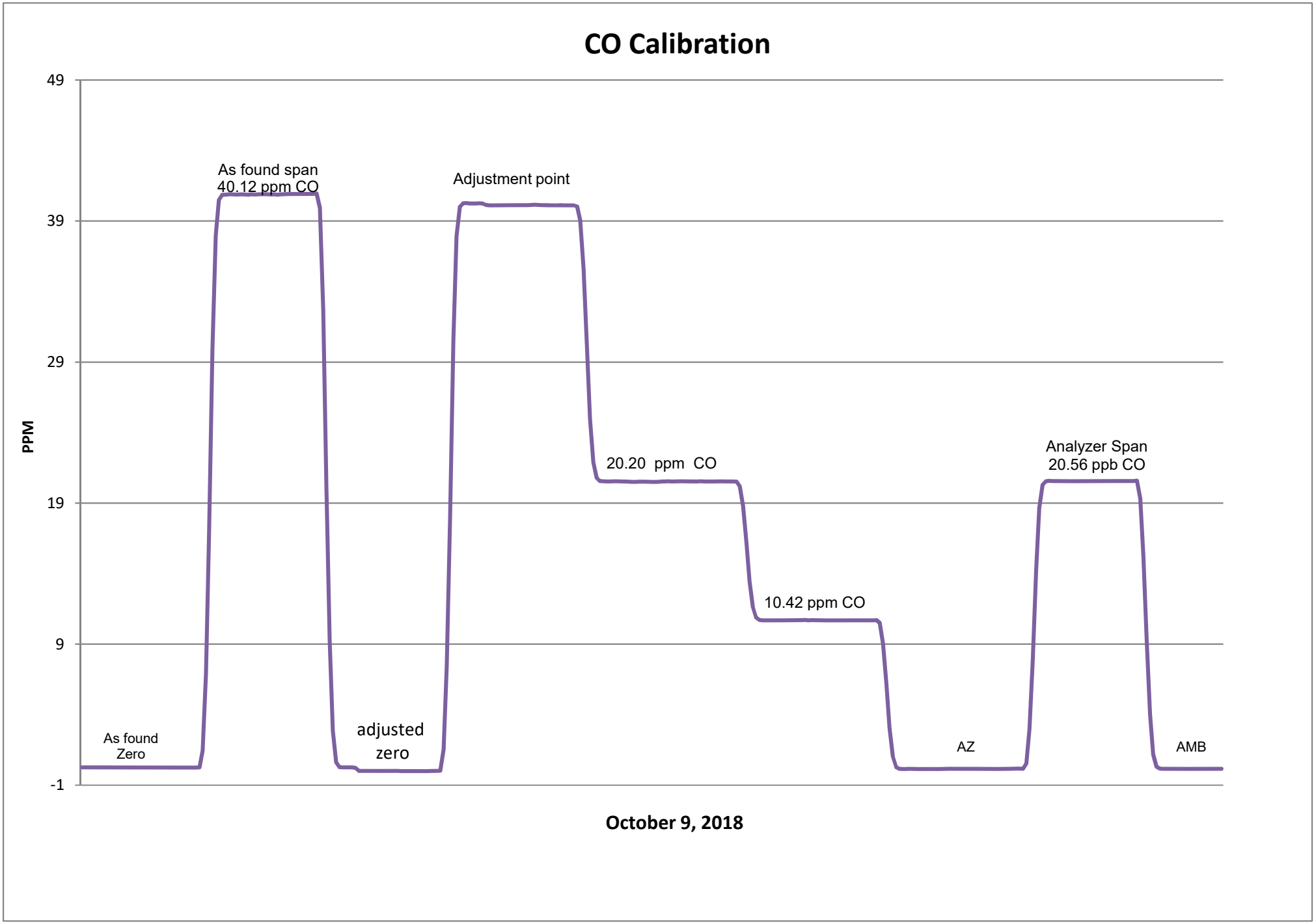
***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | October 9, 2018 | Previous Calibration | September 12, 2018 |
| Station Number | 1 | Station Location | Henry Pirker |
| Start Time (MST) | 13:40:00 PM | End Time (MST) | 16:35:00 PM |
| Analyzer make/model | Model 48I-TLE | Analyzer serial # | 1408761378 |

***Calibration Data***

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.000 | 0.003 | N/A | | |
| 40.116 | 40.123 | 0.9998 | Correlation Coefficient | 0.999899 |
| 20.197 | 20.533 | 0.9836 | | |
| 10.422 | 10.687 | 0.9752 | Slope | 1.000999 |
| | | | | |
| | | | Intercept | -0.170489 |
| | | | | |




CO Calibration
49
39
29
19
9
-1
PPM
As found span
40.12 ppm CO
Adjustment point
20.20 ppm CO
10.42 ppm CO
Analyzer Span
20.56 ppb CO
As found
Zero
adjusted
zero
AZ
AMB
October 9, 2018

# Calibration Report

Parameter **CH4 / NMHC / THC**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 5, 2018 | Previous Calibration | September 15, 2018 |
| Station Number | 1 | Station Location | Henry Pirker |
| Reason: Routine | Install | Removal | Other:Mair |

| | | | |
|---|---|---|---|
| Start Time (MST) | 13:10:00 PM | End Time (MST) | 16:25:00 PM |
| Barometric Pressure | 0.921 mBar | Station Temperature | 23.0 Deg C |
| Calibrator | Environics 6103 | Serial Number | 6586 |
| Cal Gas CH4 Conc | 995.6 ppm CH4 | Cal Gas Expiry Date | 05/07/2015 |
| Cal Gas C3H8 Conc | 370.5 1018.875 ppm CH4 | Cal Gas Cylinder # | LL34318 |
| DACS make | CR3000 | DACS serial No. | 5408 |
| DACS voltage range | 0 - 5 volt | DACS channel # | SE 11,12,13 |

| | | | |
|---|---|---|---|
| Analyzer make | TEI 55I | Analyzer serial # | 1134650658 |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0-20 (CH4, NMHC); 0-40 (THC) | ppm | 0-20 (CH4, NMHC); 0-40 (THC) | ppm |
| Air pressure | 27.8 | PSI | 27.8 | PSI |
| Fuel pressure | 42.1 | PSI | 42.1 | PSI |
| Carrier pressure | 30.3 | PSI | 30.3 | PSI |
| CH4 cal factor | 5.22 | | 5.22 | $E^{-4}$ |
| NMHC cal factor | 1.51 | | 1.51 | $E^{-4}$ |
| Rt | 12.31 | Sec | 12.31 | Sec |
| Pk Index | 23.43 | | 23.43 | |

## *CH4 Calibration Data*

| Dilution air flow rate (cc/min) | Source gas flow rate (cc/min) | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 3495 | 0.00 | 0.00 | 0.02 | N/A |
| 3495 | 54.94 | 15.41 | 15.23 | 1.0116 |
| 3494 | 34.97 | 9.87 | 9.68 | 1.0192 |
| 3495 | 14.96 | 4.24 | 4.13 | 1.0286 |
| | | | | |
| | | | | |
| 3495 | 0.00 | 0.00 | 0.02 | As Found Zero |
| 3495 | 54.94 | 15.41 | 15.24 | As Found Span |
| | | | Average Correction Factor | 1.0198 |

Calculated value of As Found Response: 15.242 ppm Percent Change of As Found: 1.1%

| | Before | | After |
|---|---|---|---|
| Calculated slope | 0.999910 | Calculated slope | 1.012353 |
| Calculated intercept | 0.022820 | Calculated intercept | 0.025704 |

### *Final Zero/Span Data*

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.05 | ppm | 0.03 | ppm |
| Auto span | 9.11 | ppm | 9.13 | ppm |

## NMHC Calibration Data

| Dilution air flow rate (cc/min) | Source gas flow rate (cc/min) | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 3495 | 0.00 | 0.00 | 0.02 | N/A |
| 3495 | 54.94 | 15.77 | 15.60 | 1.0111 |
| 3494 | 34.97 | 10.10 | 9.96 | 1.0141 |
| 3495 | 14.96 | 4.34 | 4.22 | 1.0298 |
| | | | | |
| | | | | |
| 3495 | 0.00 | 0.00 | 0.02 | As Found Zero |
| 3495 | 54.94 | 15.77 | 15.57 | As Found Span |
| | | | Average Correction Factor | 1.0183 |

Calculated value of As Found Response: 15.562 ppm Percent Change of As Found: 1.3%

| | Before | | After |
|---|---|---|---|
| Calculated slope | 0.997279 | Calculated slope | 1.011124 |
| Calculated intercept | 0.055328 | Calculated intercept | 0.021033 |

***Final Zero/Span Data***

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.02 | ppm | 0.02 | ppm |
| Auto span | 12.21 | ppm | 12.27 | ppm |

## THC Calibration Data

| Dilution air flow rate (cc/min) | Source gas flow rate (cc/min) | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 3495 | 0.00 | 0.00 | 0.04 | N/A |
| 3495 | 54.94 | 31.18 | 30.80 | 1.0122 |
| 3494 | 34.97 | 19.96 | 19.63 | 1.0171 |
| 3495 | 14.96 | 8.59 | 8.32 | 1.0324 |
| | | | | |
| | | | | |
| 3495 | 0.00 | 0.00 | 0.03 | As Found Zero |
| 3495 | 54.94 | 31.18 | 30.80 | As Found Span |
| | | | Average Correction Factor | 1.0205 |

Calculated value of As Found Response: 30.823 ppm Percent Change of As Found: 1.1%

| | Before | | After |
|---|---|---|---|
| Calculated slope | 0.999091 | Calculated slope | 1.012078 |
| Calculated intercept | 0.089062 | Calculated intercept | 0.058339 |

***Final Zero/Span Data***

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.04 | ppm | 0.02 | ppm |
| Auto span | 21.32 | ppm | 21.39 | ppm |

Notes: Hydrogen cylinder replaced
No adjustment made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter **CH4**

Air Monitoring Network **PAZA**

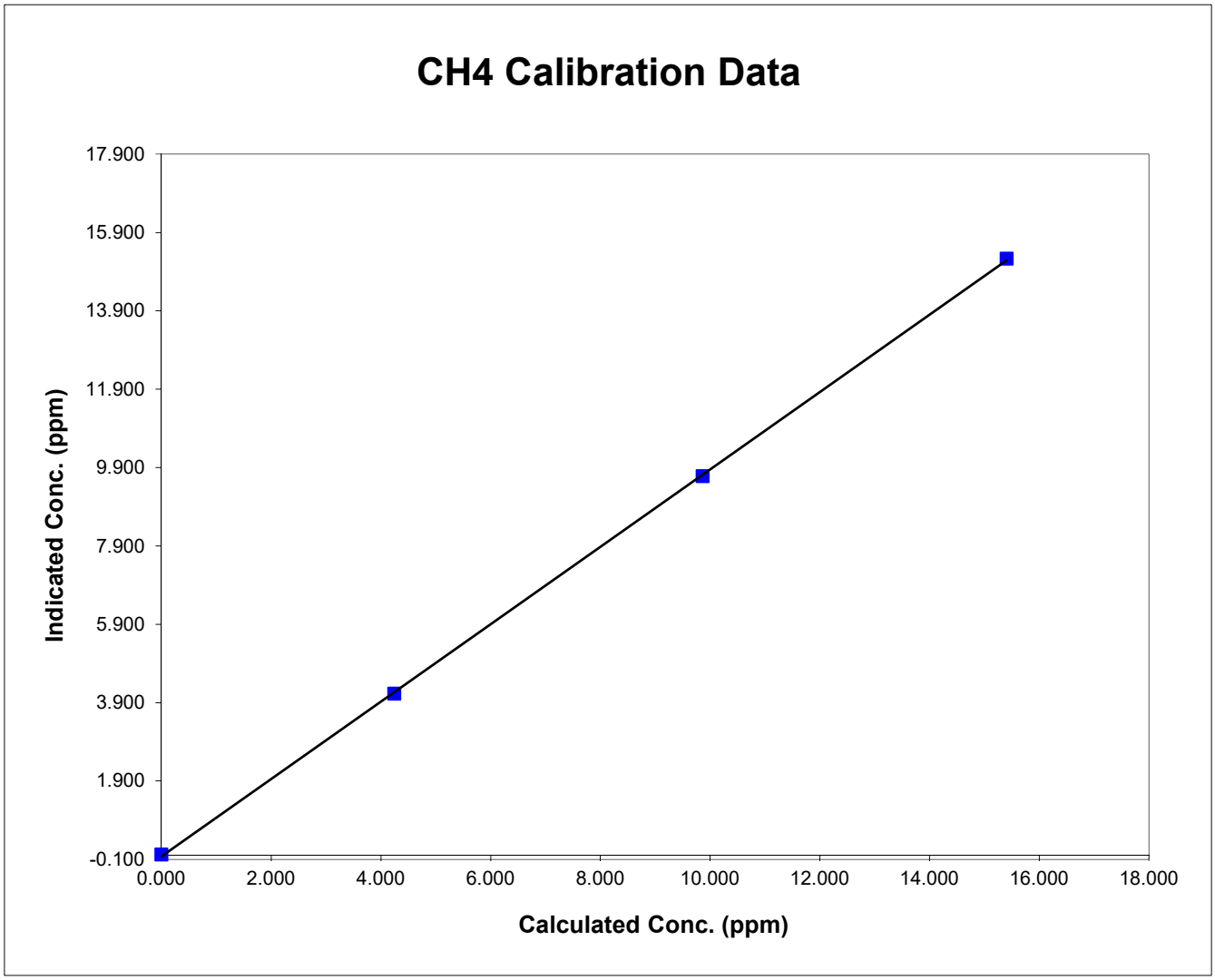
Air Quality Monitoring

***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | October 5, 2018 | Previous Calibration | September 15, 2018 |
| Station Number | 1 | Station Location | Henry Pirker |
| Start Time (MST) | 13:10:00 PM | End Time (MST) | 16:25:00 PM |
| Analyzer make/model | TEI 55I | Analyzer serial # | 1134650658 |

***Calibration Data***

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.000 | 0.019 | N/A | | |
| 15.408 | 15.231 | 1.0116 | Correlation Coefficient | 0.999950 |
| 9.866 | 9.680 | 1.0192 | | |
| 4.243 | 4.125 | 1.0286 | Slope | 1.012353 |
| | | | | |
| | | | Intercept | 0.025704 |
| | | | | |



# Calibration Summary

Parameter **NMHC**

Air Monitoring Network **PAZA**

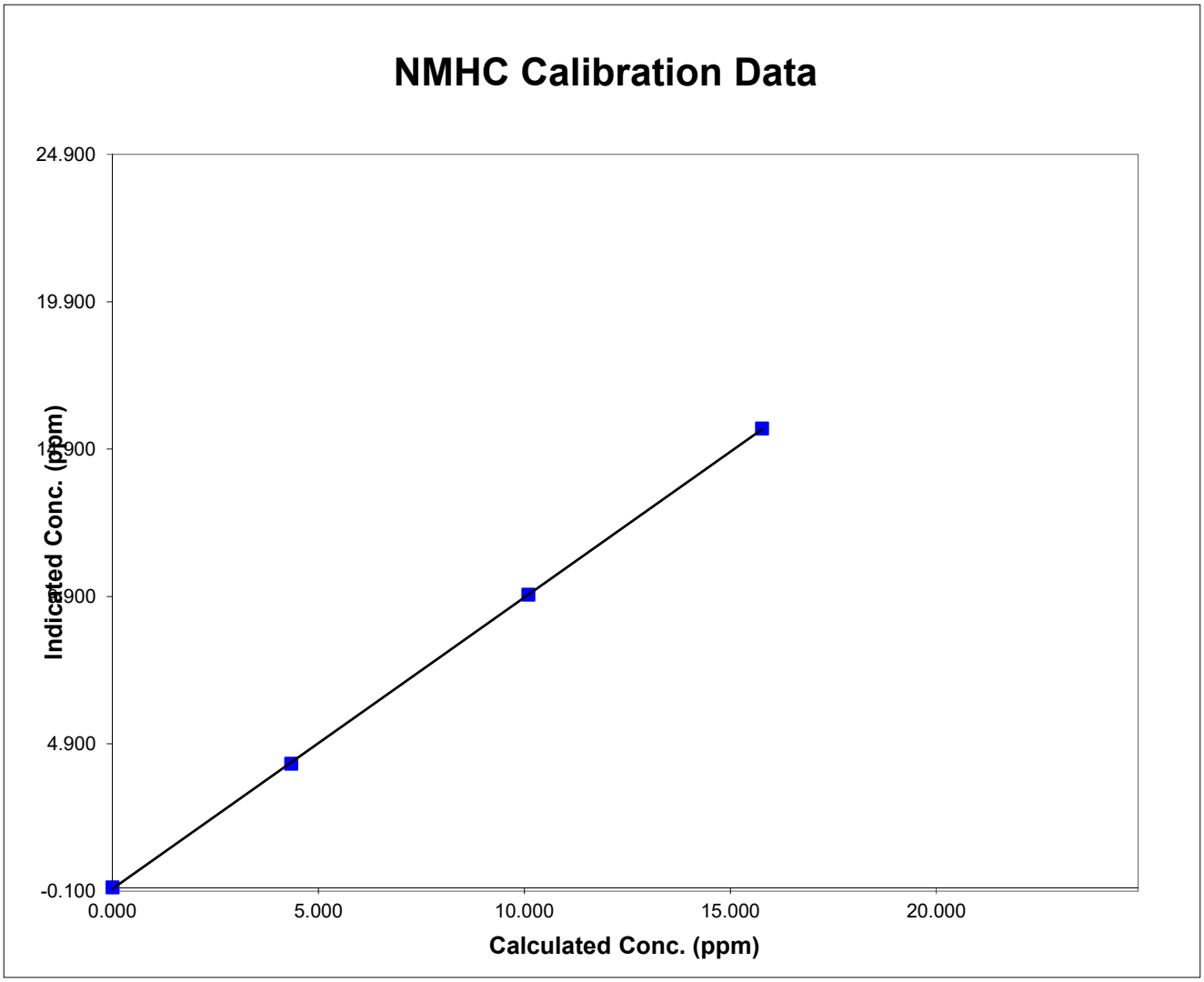
Air Quality Monitoring

***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | October 5, 2018 | Previous Calibration | September 15, 2018 |
| Station Number | 1 | Station Location | Henry Pirker |
| Start Time (MST) | 13:10:00 PM | End Time (MST) | 16:25:00 PM |
| Analyzer make/model | TEI 55I | Analyzer serial # | 1134650658 |

***Calibration Data***

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.000 | 0.024 | N/A | | |
| 15.768 | 15.595 | 1.0111 | Correlation Coefficient | 0.999958 |
| 10.096 | 9.956 | 1.0141 | | |
| 4.343 | 4.217 | 1.0298 | Slope | 1.011124 |
| | | | | |
| | | | Intercept | 0.021033 |
| | | | | |



# Calibration Summary

Parameter **THC**

Air Monitoring Network **PAZA**

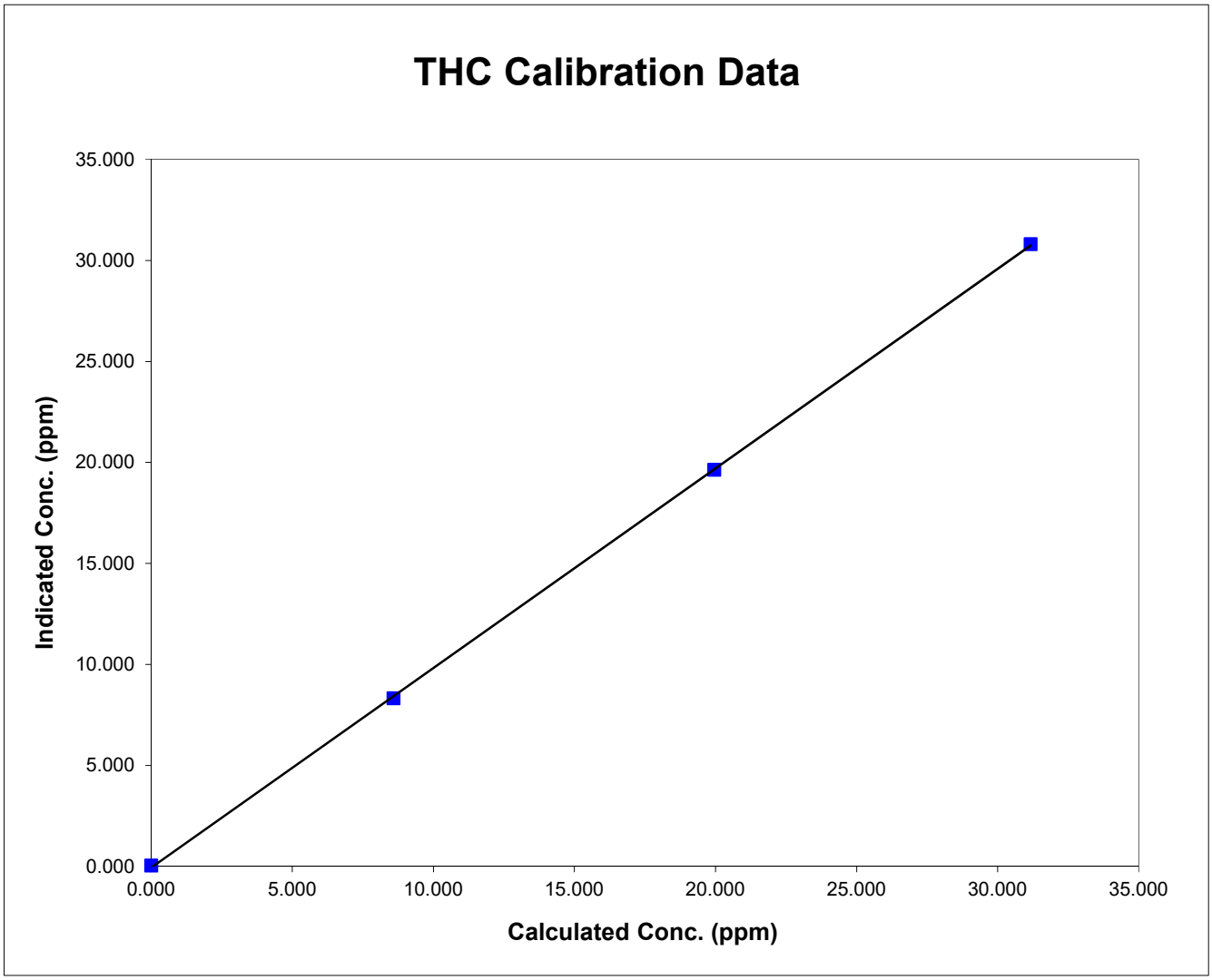
Air Quality Monitoring

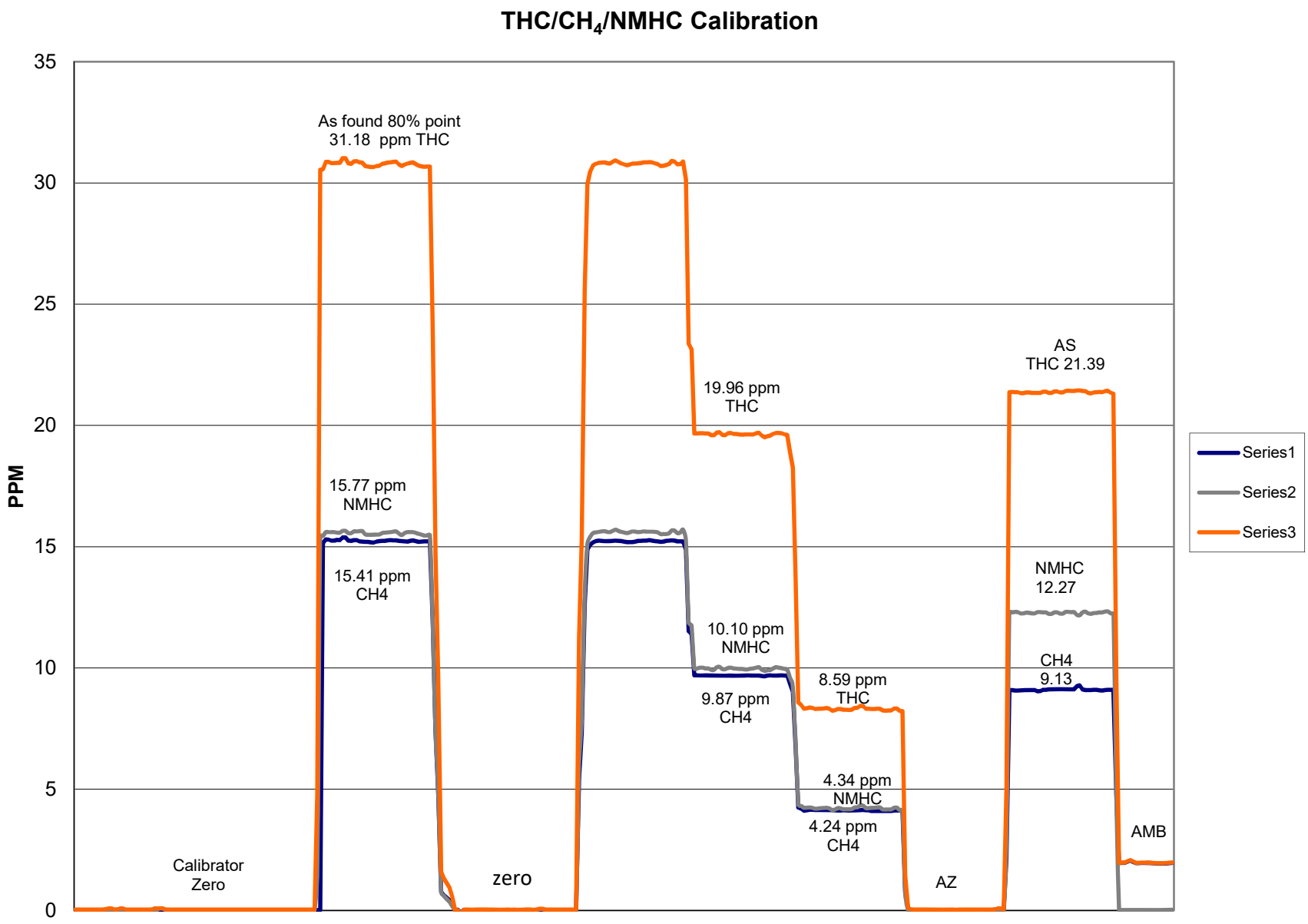
***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | October 5, 2018 | Previous Calibration | September 15, 2018 |
| Station Number | 1 | Station Location | Henry Pirker |
| Start Time (MST) | 13:10:00 PM | End Time (MST) | 16:25:00 PM |
| Analyzer make/model | TEI 55I | Analyzer serial # | 1134650658 |

***Calibration Data***

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.000 | 0.037 | N/A | | |
| 31.177 | 30.802 | 1.0122 | Correlation Coefficient | 0.999953 |
| 19.962 | 19.626 | 1.0171 | | |
| 8.586 | 8.317 | 1.0324 | Slope | 1.012078 |
| | | | | |
| | | | Intercept | 0.058339 |
| | | | | |




THC/CH4/NMHC Calibration
PPM
35
30
25
20
15
10
5
0
As found 80% point
31.18 ppm THC
15.77 ppm
NMHC
15.41 ppm
CH4
19.96 ppm
THC
10.10 ppm
NMHC
9.87 ppm
CH4
8.59 ppm
THC
4.34 ppm
NMHC
4.24 ppm
CH4
AS
THC 21.39
NMHC
12.27
CH4
9.13
Calibrator
Zero
zero
AZ
AMB
Series1
Series2
Series3

# Calibration Report

Parameter **$SO_2$**

Air Monitoring Network **PAZA**

***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | October 19, 2018 | Previous Calibration | September 26, 2018 |
| Station Number | 3 | Station Location | Smokey Heights |
| Reason: Routine | Install | Removal | Other: |
| Start Time (MST) | 8:50 | End Time (MST) | 11:40 |
| Barometric Pressure | 0.924 ATM | Station Temperature | 19.0 Deg C |
| Calibrator | Environics 6100 | Serial Number | 3016 |
| Cal Gas Concentratio | 50.1 ppm | Cal Gas Cert Date | 10/10/2020 |
| Correction factor | 0.031517 | Cal Gas Cylinder # | LL104185 |
| DACS make | CR3000 | DACS serial No. | 5238 |
| DACS voltage range | 0 - 5 volt | DACS channel # | 6 |
| | Before | | After |
| Calculated slope | 1.003839 | Calculated slope | 0.997695 |
| Calculated intercept | 0.896348 | Calculated intercept | 0.953357 |
| Analyzer make | Teco 43i | Analyzer serial # | 701120009 |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0 - 500 | ppb | 0 - 500 | ppb |
| Background | 15.7 | | 14.3 | |
| coefficient | 0.951 | | 0.951 | |
| Lamp Voltage | 944 | volts | 944 | volts |
| Chamber Temp | 45 | Deg C | 45 | Deg C |
| Perm Gas Temp | 45 | Deg C | 45 | Deg C |
| Pressure | 676.5 | mm Hg | 670.9 | mm Hg |
| Sample Flow | 0.452 | lpm | 0.450 | lpm |
| Lamp Intensity | 88 | % | 88 | % |

| Dilution air flow rate (cc/min) | Corrected gas flow rate (cc/min) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 4995 | 0.0 | 0.00 | 0.2 | N/A |
| 4995 | 39.94 | 397.42 | 398.0 | 0.9985 |
| 4995 | 19.97 | 199.50 | 198.3 | 1.0062 |
| 4995 | 9.99 | 100.00 | 98.2 | 1.0186 |
| | | | | |
| | | | | |
| 4995 | 0.0 | 0.00 | 0.2 | As Found Zero |
| 4995 | 39.94 | 397.42 | 393.0 | As Found Span |
| | | | Average Correction Factor | 1.0078 |

Calculated value of As Found Response: 395.174 ppb Percent Change of As Found: 0.6%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 1.0 | ppb | 0.2 | ppb |
| Auto span | 213.2 | ppb | 205.3 | ppb |

Notes: Slight span adjustment made

Calibration Performed By: Grover Christiansen

# Calibration Summary

Parameter **SO2**

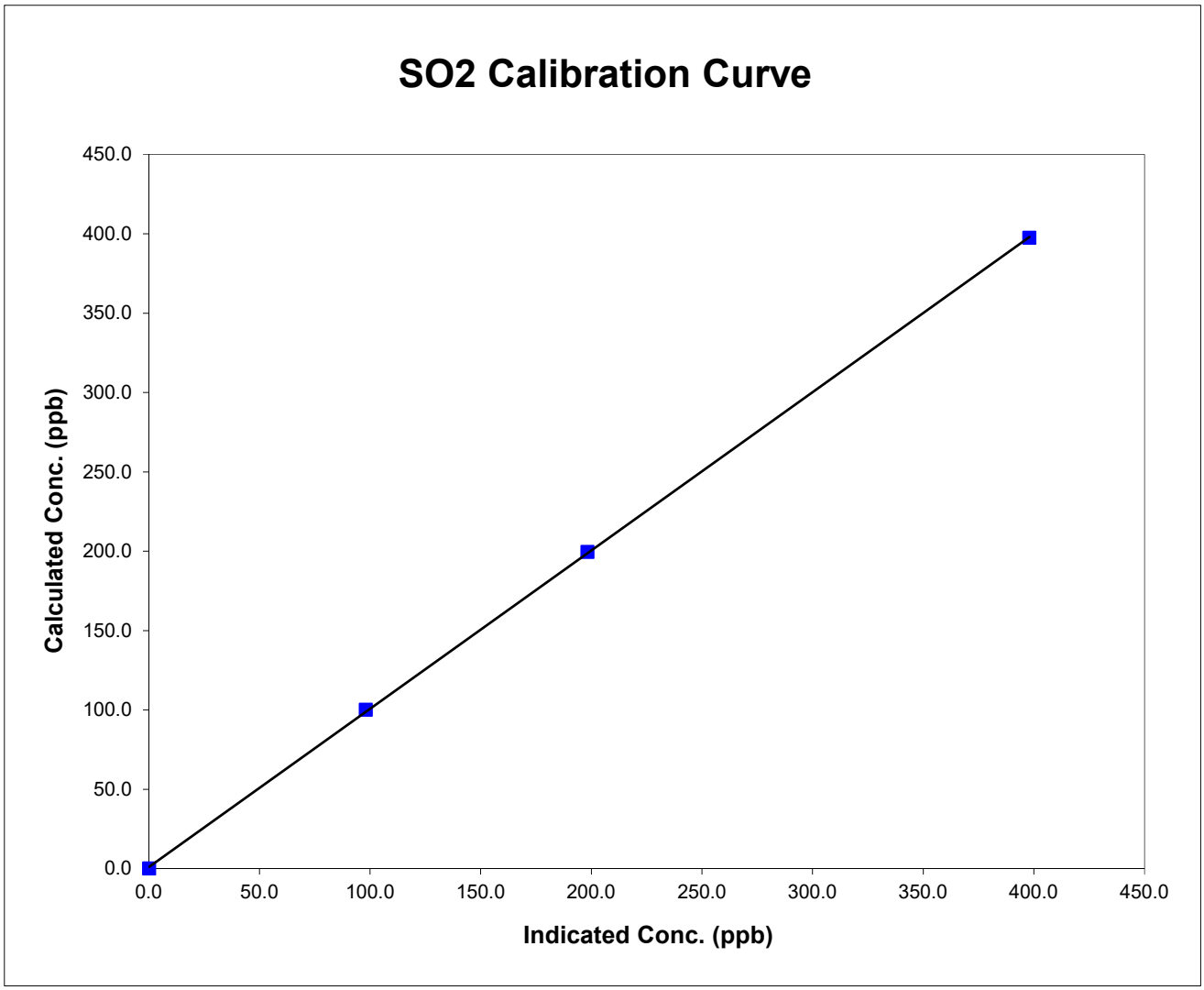
Air Monitoring Network **PAZA**

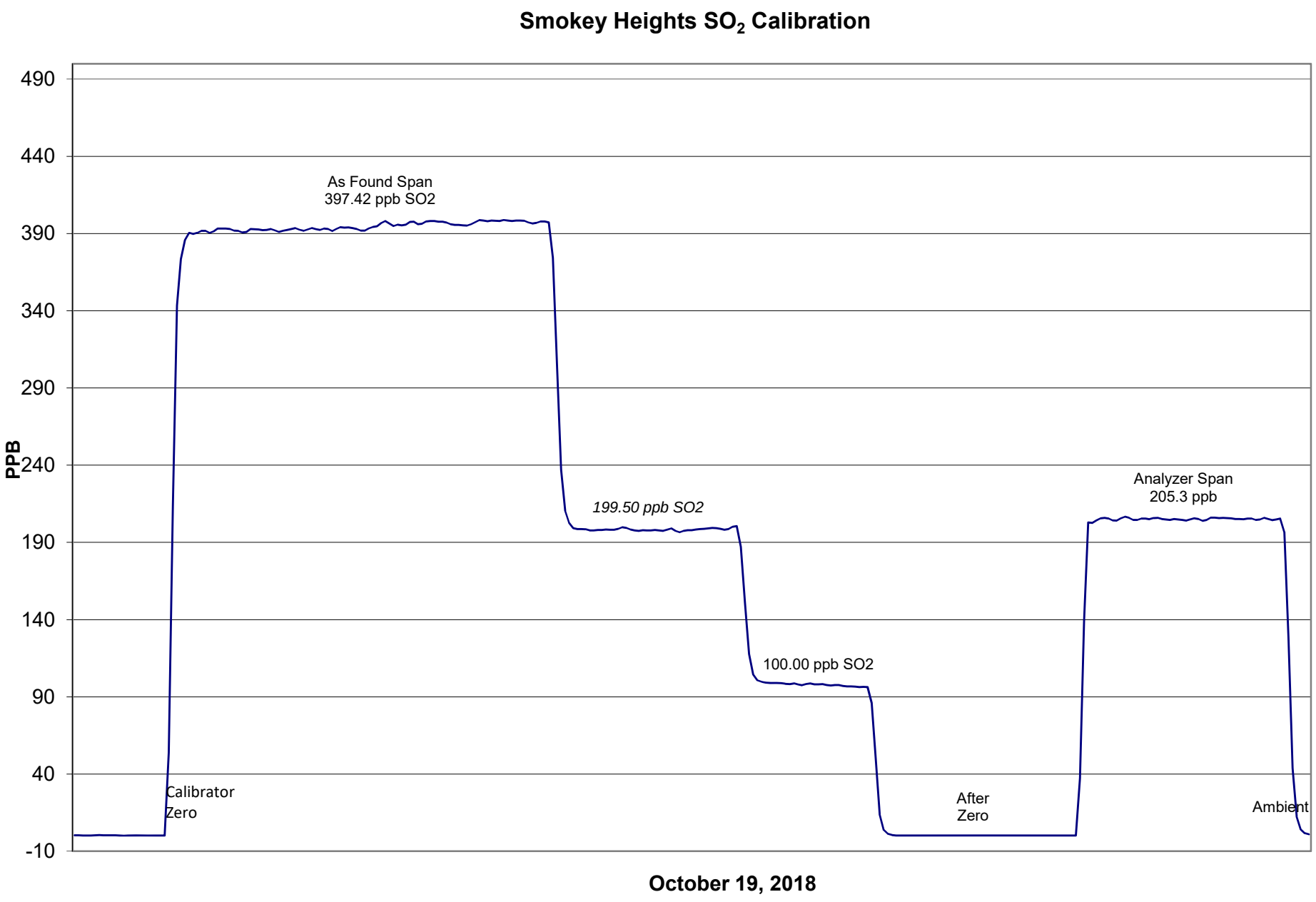
***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | October 19, 2018 | Previous Calibration | September 26, 2018 |
| Station Number | 3 | Station Location | Smokey Heights |
| Start Time (MST) | 8:50 | End Time (MST) | 11:40 |
| Analyzer make/model | Teco 43i | Analyzer serial # | 701120009 |

***Calibration Data***

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | 0.2 | N/A | | |
| 397.4 | 398.0 | 0.9985 | Correlation Coefficient | 0.999958 |
| 199.5 | 198.3 | 1.0062 | | |
| 100.0 | 98.2 | 1.0186 | Slope | 0.997695 |
| | | | | |
| | | | Intercept | 0.953357 |
| | | | | |




Smokey Heights $SO_2$ Calibration
490
440
390
340
290
240
190
140
90
40
-10
PPB
As Found Span
397.42 ppb SO2
199.50 ppb SO2
100.00 ppb SO2
Analyzer Span
205.3 ppb
Calibrator
Zero
After
Zero
Ambient
October 19, 2018

# Calibration Report

Parameter **TRS**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 19, 2018 | Previous Calibration | September 26, 2018 |
| Station Number | 3 | Station Location | Smokey Heights |
| Reason: Routine | Install | Removal | Other: |

| | | | |
|---|---|---|---|
| Start Time (MST) | 10:55 | End Time (MST) | 13:22 |
| Barometric Pressure | 0.923 ATM | Station Temperature | 19.0 Deg C |
| Calibrator | Environics 6103 | Serial Number | 6586 |
| Cal Gas Conc | 13.4 ppm | Cal Gas Expiry Date | 02/28/2020 |
| Correction factor | 0.031483 | Cal Gas Cylinder # | LL119574 |
| DACS make | CR3000 | DACS serial No. | 5238 |
| DACS voltage range | 0 - 5 volt | DACS channel # | 5 |
| | Before | | After |
| Calculated slope | 1.370301 | Calculated slope | 0.997059 |
| Calculated intercept | 0.854545 | Calculated intercept | 0.540201 |

| | | | |
|---|---|---|---|
| Analyzer make | TEI Model 43I APSAA | Analyzer serial # | 1153630151 |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 100 | ppb | 100 | ppb |
| Background | 14.9 | ppb | 15.1 | ppb |
| coefficient | 1.075 | | 1.075 | |
| Lamp Voltage | 804 | volts | 804 | volts |
| Chamber Temp | 45 | Deg C | 45 | Deg C |
| Perm Gas Temp | 45 | Deg C | 45 | Deg C |
| Pressure | 680.2 | mm Hg | 676.1 | mm Hg |
| Sample Flow | 0.422 | lpm | 0.420 | lpm |
| Lamp Intensity | 91 | mv | 91 | mv |

| Dilution air flow rate (cc/min) | Corrected gas flow rate (cc/min) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 4995 | 0.0 | 0.00 | -0.1 | N/A |
| 6995 | 41.94 | 79.86 | 79.8 | 1.0004 |
| 6995 | 20.97 | 40.05 | 39.2 | 1.0214 |
| 7995 | 9.97 | 16.69 | 15.9 | 1.0519 |
| 4995 | 9.97 | | -0.1 | Sox test |
| | | | | |
| 4995 | 0.0 | 0.00 | -0.1 | As Found Zero |
| 6995 | 41.94 | 79.86 | 74.6 | As Found Span |
| | | | Average Correction Factor | 1.0246 |

Calculated value of As Found Response: 103.17 ppb Percent Change of As Found: -29.2%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.3 | ppb | -0.1 | ppb |
| Auto span | 70.3 | ppb | 70.9 | ppb |

Notes: Slight span adjustment made

Calibration Performed By: Grover Christiansen

# Calibration Summary

Parameter **TRS**

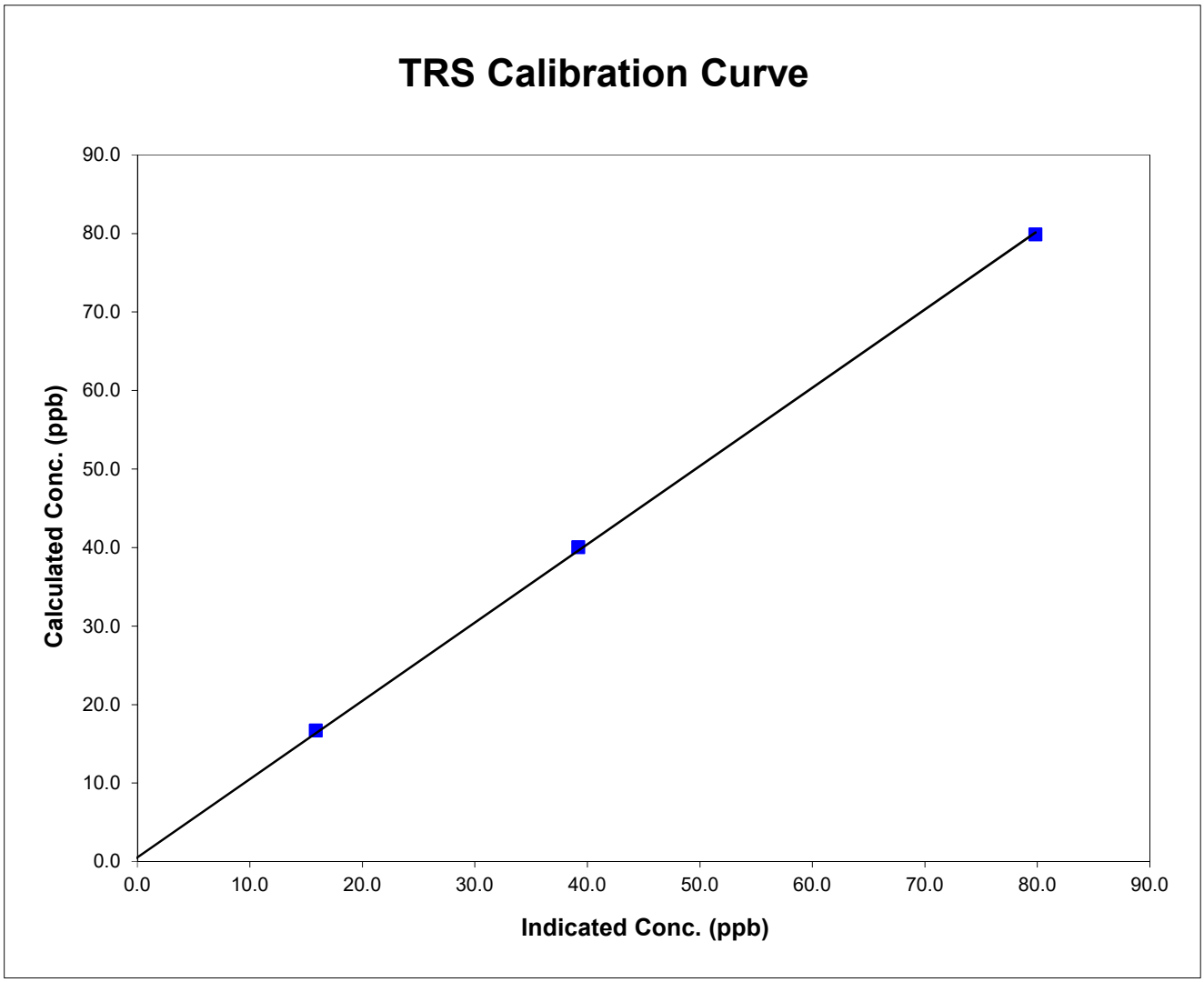
Air Monitoring Network **PAZA**

***Station Information***

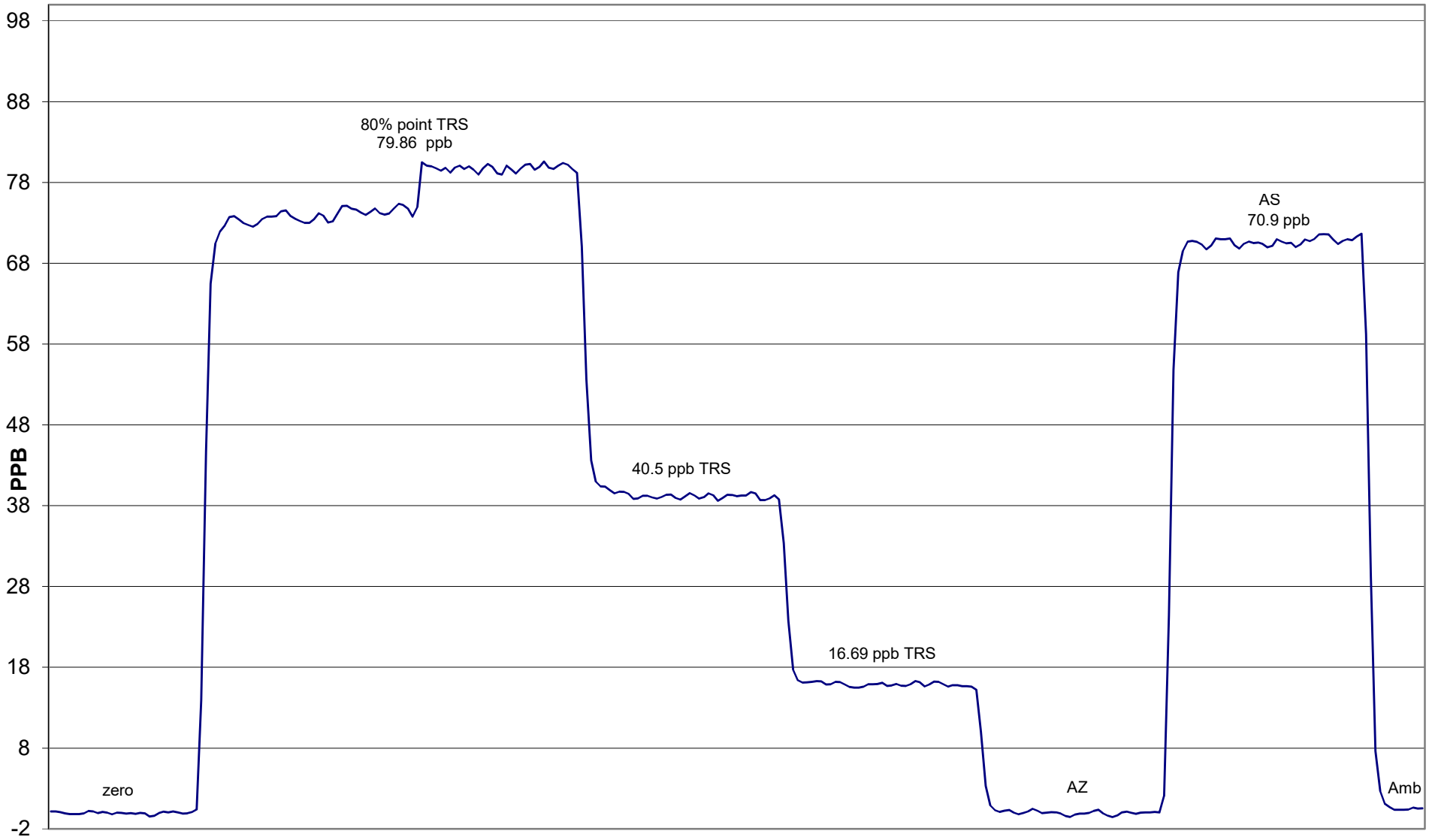
| | | | |
|---|---|---|---|
| Calibration Date | October 19, 2018 | Previous Calibration | September 26, 2018 |
| Station Number | 3 | Station Location | Smokey Heights |
| Start Time (MST) | 10:55 | End Time (MST) | 13:22 |
| Analyzer make/model | TEI Model 43I APSAA | Analyzer serial # | 1153630151 |

***Calibration Data***

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | -0.1 | N/A | | |
| 79.9 | 79.8 | 1.0004 | Correlation Coefficient | 0.999838 |
| 40.1 | 39.2 | 1.0214 | | |
| 16.7 | 15.9 | 1.0519 | Slope | 0.997059 |
| | | | | |
| | | | Intercept | 0.540201 |
| | | | | |



## Smokey Heights TRS Calibration




**October 19, 2018**

# Calibration Report

Parameter **SO2**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 25, 2018 | Previous Calibration | September 24, 2018 |
| Station Number | 6 | Station Location | Valleyview |
| Reason: | Routine / Install | Removal | Other: |
| Start Time (MST) | 10:50 | End Time (MST) | 12:45 |
| Barometric Pressure | 0.929 atm | Station Temperature | 22.0 Deg C |
| Calibrator | Environics | Serial Number | 3016 |
| Cal Gas Concentratio | 49.4 ppm | Cal Gas Exp Date | February 21, 2020 |
| Gas Cylinder Num. | EY0000751 | | |
| DACS make | CR3000 | DACS serial No. | 5409 |
| DACS voltage range | 0 - 5 volt | DACS channel # | 4 |
| | Before | | After |
| DACS Scale High | 500 | DACS slope | 500 |
| DACS Scale Low | 0 | DACS intercept | 0 |
| Calculated slope | 1.004279 | Calculated slope | 0.997555 |
| Calculated intercept | 0.287931 | Calculated intercept | -0.557414 |
| Analyzer make | TEI Model 43i - APSCB | Analyzer serial # | 701120010 |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0-500 | ppb | 0-500 | ppb |
| Background | 7.1 | | 7.1 | |
| Coefficient | 0.831 | | 0.831 | |
| UV Lamp Voltage | 794 | LPM | 794 | LPM |
| Chamber Temp | 45 | V | 45 | V |
| Perm Gas Temp | 45 | C | 45 | C |
| Pressure | 673 | in Hg | 6733 | in Hg |
| Sample Flow | 0.454 | LPM | 0.455 | LPM |
| Lamp Intensity | 91 | Hz | 91 | % |

## *Calibration Data*

| Dilution air flow rate (cc/min) | Source gas flow rate (cc/min) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 4995 | 0.00 | 0.0 | 0.8 | N/A |
| 4995 | 39.94 | 391.9 | 393.4 | 0.9960 |
| 4995 | 19.97 | 196.7 | 197.9 | 0.9942 |
| 4995 | 9.97 | 98.4 | 98.8 | 0.9959 |
| | | | | |
| 4995 | 0.00 | 0.0 | 0.8 | As found zero |
| 4995 | 39.94 | 391.9 | 393.4 | As found span |
| | | | Average Correction Factor | 0.9954 |

Calculated value of As Found Response: 394.6 ppb Percent Change of As Found: -0.7%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.6 | ppb | 0.8 | ppb |
| Auto span | 264.7 | ppb | 265.8 | ppb |

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

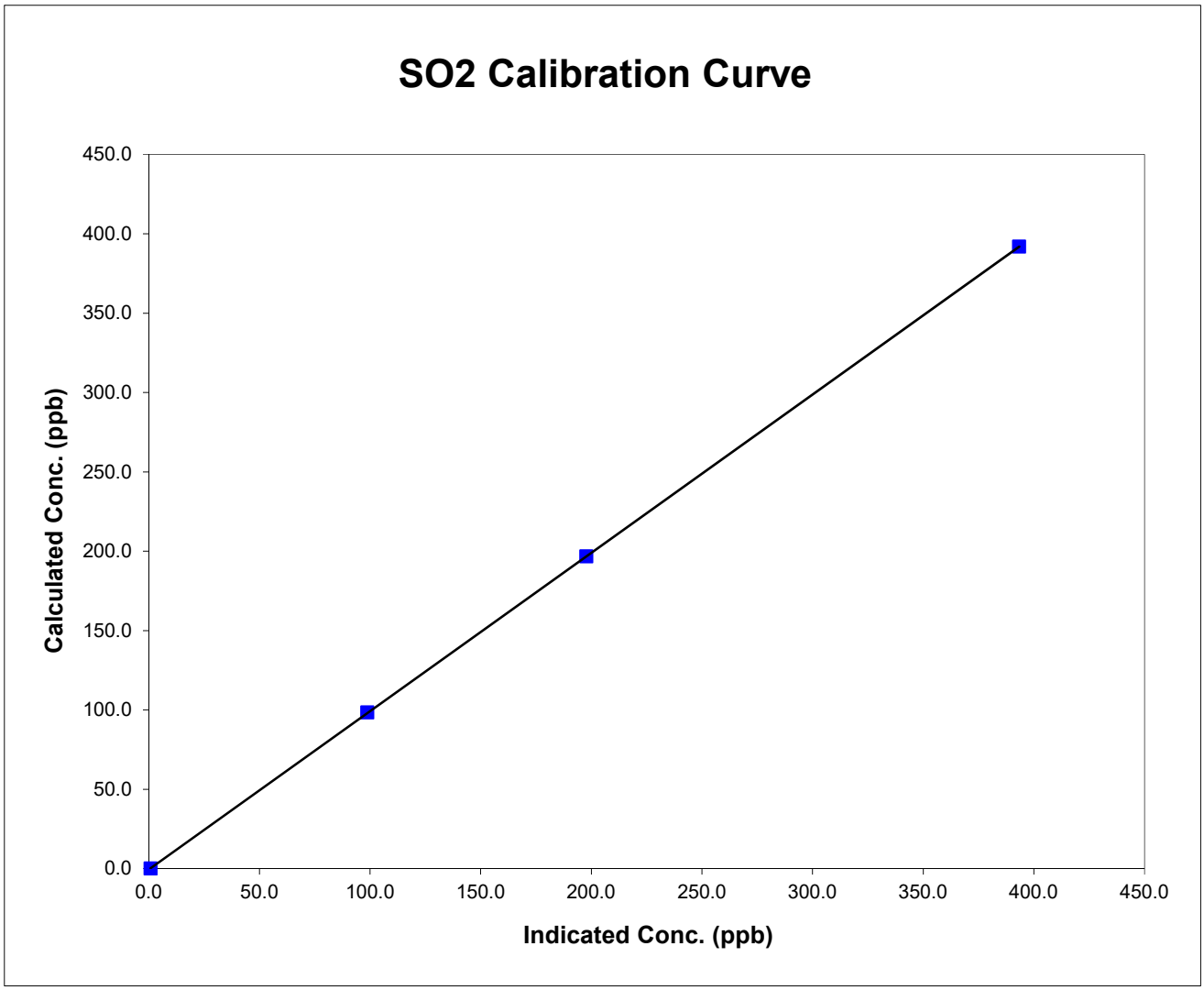
Air Quality Monitoring

***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | October 25, 2018 | Previous Calibration | September 24, 2018 |
| Station Number | 6 | Station Location | Valleyview |
| Start Time (MST) | 10:50 | End Time (MST) | 12:45 |
| Analyzer make/model | TEI Model 43i - APSCB | Analyzer serial # | 701120010 |

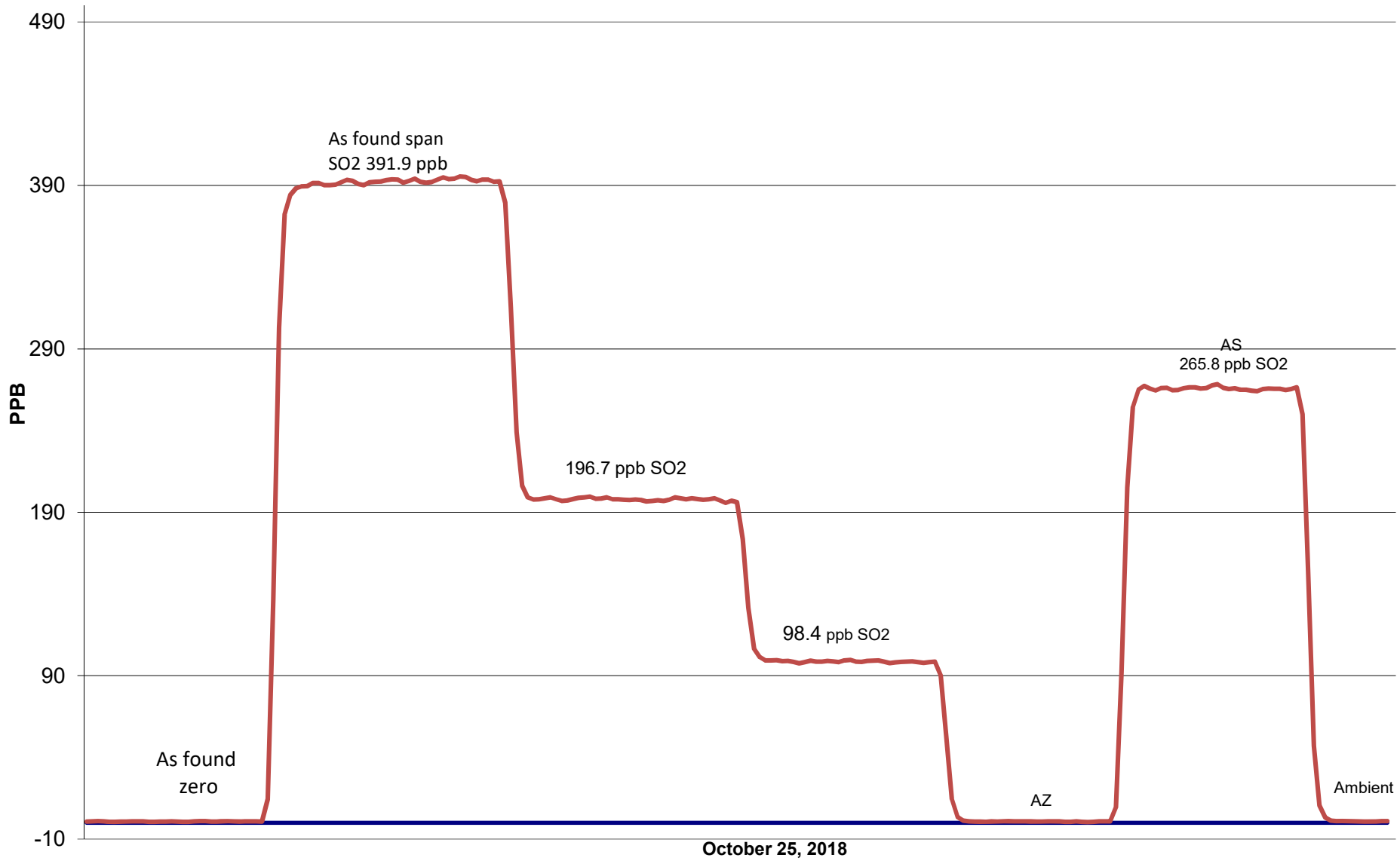
***Calibration Data***

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | 0.8 | N/A | | |
| 391.9 | 393.4 | 0.9960 | Correlation Coefficient | 0.999997 |
| 196.7 | 197.9 | 0.9942 | | |
| 98.4 | 98.8 | 0.9959 | Slope | 0.997555 |
| | | | | |
| | | | Intercept | -0.557414 |
| | | | | |



AZ

# SO2 Calibration



# Calibration Report

Parameter **H2S**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 25, 2018 | Previous Calibration | September 24, 2018 |
| Station Number | 6 | Station Location | Valleyview |
| Reason: Routine | Install | Removal | Other: |
| Start Time (MST) | 9:00 | End Time (MST) | 11:55 |
| Barometric Pressure | 0.929 atm | Station Temperature | 22.0 Deg C |
| Calibrator | Environics 6100 | Serial Number | 3016 |
| Cal Gas Concentratio | 9.78 ppm | Cal Gas Expiry Date | 19/03/2021 |
| Gas Cert Reference | EY0000943 | | |
| DACS make | CR3000 | DACS serial No. | 5409 |
| DACS voltage range | 0 - 5 volt | DACS channel # | 9 |
| | Before | | After |
| DACS Scale High | 100 | DACS slope | 100 |
| DACS Scale Low | 0 | DACS intercept | 0 |
| Calculated slope | 0.991407 | Calculated slope | 1.000454 |
| Calculated intercept | 0.645592 | Calculated intercept | 0.023966 |
| Analyzer make | TEI Model 450i-APHAA | Analyzer serial # | 1170050144 |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0 - 100 | ppb | 0 - 100 | ppb |
| Back Ground | 14.7 | ppb | 14.8 | ppb |
| Coefficient | 0.947 | | 00.965 | |
| Lamp Voltage | 771 | V | 769 | V |
| Chamber Temp | 45.1 | c | 45.1 | c |
| Convertor | 323.9 | c | 324.1 | c |
| Pressure | 484.20 | mm Hg | 483.60 | mm Hg |
| Sample Flow | 0.804 | ccm | 0.810 | lpm |
| Lamp Intensity | 93 | % | 90 | % |

## *Calibration Data*

| Dilution air flow rate (cc/min) | Source gas flow rate (cc/min) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 4995 | 0.00 | 0.0 | -0.1 | N/A |
| 4995 | 39.94 | 77.6 | 77.6 | 1.0001 |
| 4995 | 19.97 | 38.9 | 38.8 | 1.0050 |
| 6995 | 9.97 | 13.9 | 14.0 | 0.9913 |
| | | | | |
| 4995 | 0.00 | 0.0 | -0.1 | As found zero |
| 4995 | 39.94 | 77.6 | 75.5 | As found span |
| | | | Average Correction Factor | 0.9988 |

Calculated value of As Found Response: 75.52 ppb Percent Change of As Found: 2.7%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.1 | ppb | 0.0 | ppb |
| Auto span | 78.3 | ppb | 79.7 | ppb |

Notes: Slights span adjustment made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter **H2S**

Air Monitoring Network **PAZA**

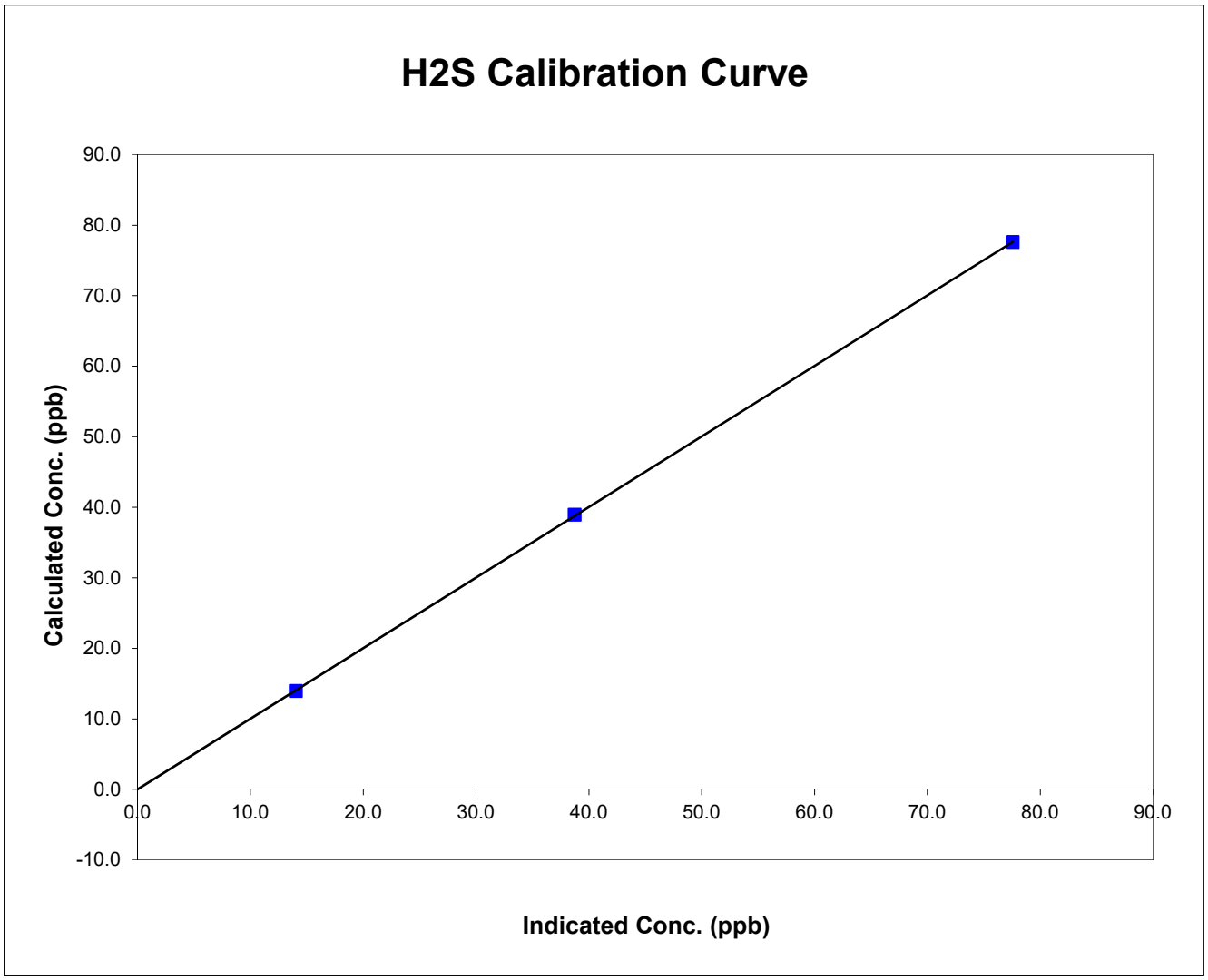
Air Quality Monitoring

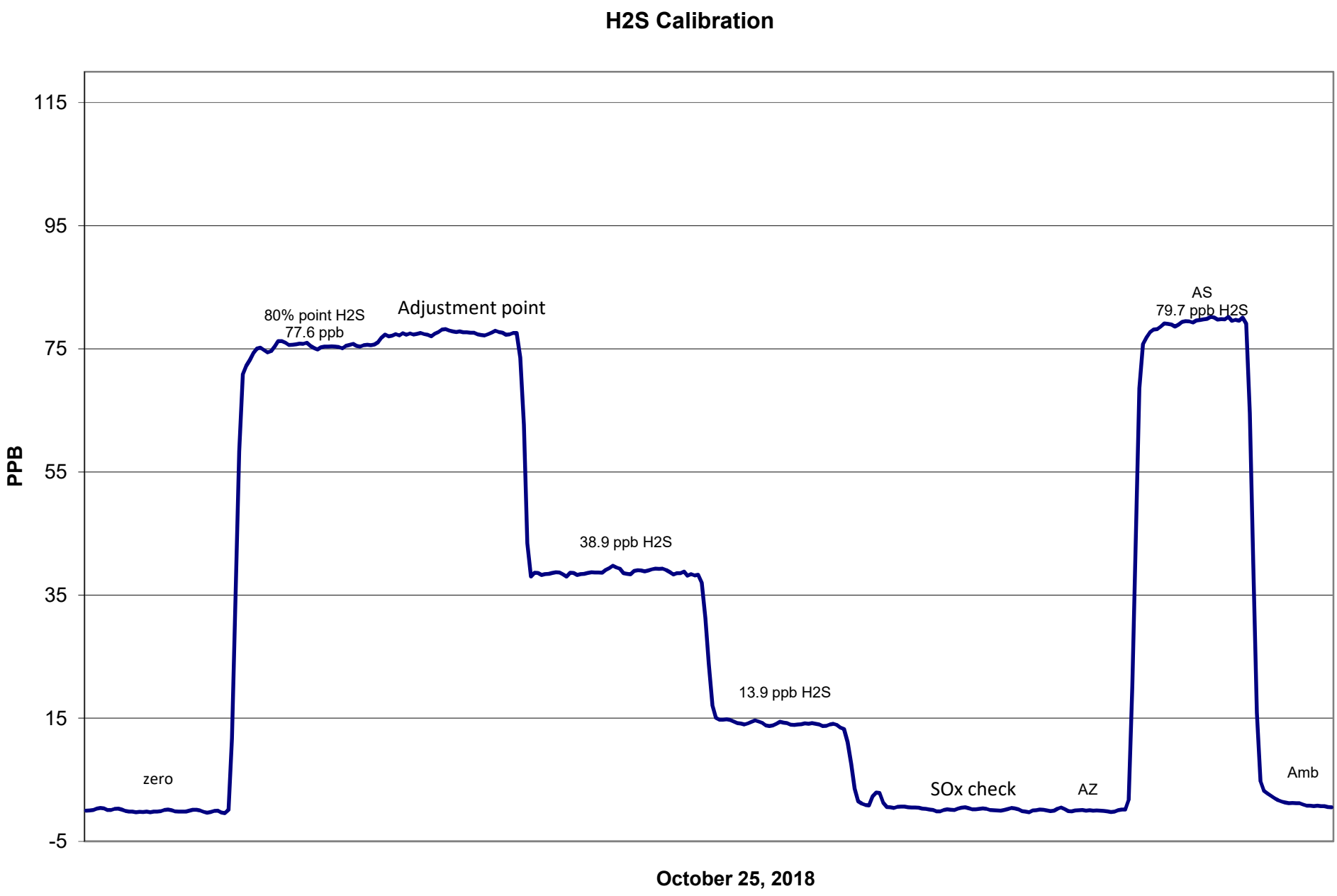
***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | October 25, 2018 | Previous Calibration | September 24, 2018 |
| Station Number | 6 | Station Location | Valleyview |
| Start Time (MST) | 9:00 | End Time (MST) | 11:55 |
| Analyzer make/model | TEI Model 450i-APHAA | Analyzer serial # | 1170050144 |

***Calibration Data***

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | -0.1 | N/A | | |
| 77.6 | 77.6 | 1.0001 | Correlation Coefficient | 0.999985 |
| 38.9 | 38.8 | 1.0050 | | |
| 13.9 | 14.0 | 0.9913 | Slope | 1.000454 |
| | | | | |
| | | | Intercept | 0.023966 |
| | | | | |




H2S Calibration
115
95
75
55
35
15
-5
PPB
zero
80% point H2S
77.6 ppb
Adjustment point
38.9 ppb H2S
13.9 ppb H2S
SOx check
AZ
AS
79.7 ppb H2S
Amb
October 25, 2018

# Calibration Report

Parameter **$SO_2$**

Air Monitoring Network **PAZA**

Air Quality Monitoring

### *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 24, 2018 | Previous Calibration | September 25, 2018 |
| Station Number | 1 | Station Location | Donnely |
| Reason: Routine | Install | Removal | Other: |
| Start Time (MST) | 13:10:00 PM | End Time (MST) | 15:30:00 PM |
| Barometric Pressure | 0.934 atm | Station Temperature | 21.0 Deg C |
| Calibrator | Environics 6103 | Serial Number | 6586 |
| Cal Gas Concentration | 49.6 ppm | Cal Gas Expiry Date | October 24, 2020 |
| Correction factor | 0.031641 | Cal Gas Cylinder # | LL107945 |
| DACS make | CR1000 | DACS serial No. | 3980 |
| DACS voltage range | 0 - 5 volt | DACS channel # | 6 |
| | Before | | After |
| Calculated slope | 0.984949 | Calculated slope | 0.995190 |
| Calculated intercept | 1.342359 | Calculated intercept | -0.994771 |
| Analyzer make | Teco 43i | Analyzer serial # | 1207452008 |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0 - 500 | ppb | 0 - 500 | ppb |
| Background | 6.9 | | 6.8 | |
| coefficient | 1.029 | | 1.016 | |
| Lamp Voltage | 849 | volts | 847 | volts |
| Chamber Temp | 45 | Deg C | 45 | Deg C |
| Perm Gas Temp | 45 | Deg C | 45 | Deg C |
| Pressure | 678.2 | mm Hg | 674 | mm Hg |
| Sample Flow | 0.432 | ccm | 0.43 | ccm |
| Lamp Intensity | 96 | % | 97 | % |

| Dilution air flow rate (cc/min) | Corrected gas flow rate (cc/min) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 4995 | 0.0 | 0.00 | 0.8 | N/A |
| 4995 | 39.89 | 393.0 | 395.3 | 0.9941 |
| 4995 | 19.78 | 195.6 | 199.0 | 0.9832 |
| 4995 | 9.90 | 98.1 | 99.0 | 0.9913 |
| | | | | |
| | | | | |
| 4995 | 0.0 | 0.0 | 0.8 | As Found Zero |
| 4995 | 39.99 | 393.9 | 399.4 | As Found Span |
| | | | Average Correction Factor | 0.9895 |

Calculated value of As Found Response: 394.021 ppb Percent Change of As Found: 0.0%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.6 | ppb | 0.7 | ppb |
| Auto span | 245.0 | ppb | 246.5 | ppb |

Notes: Span adjustment made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

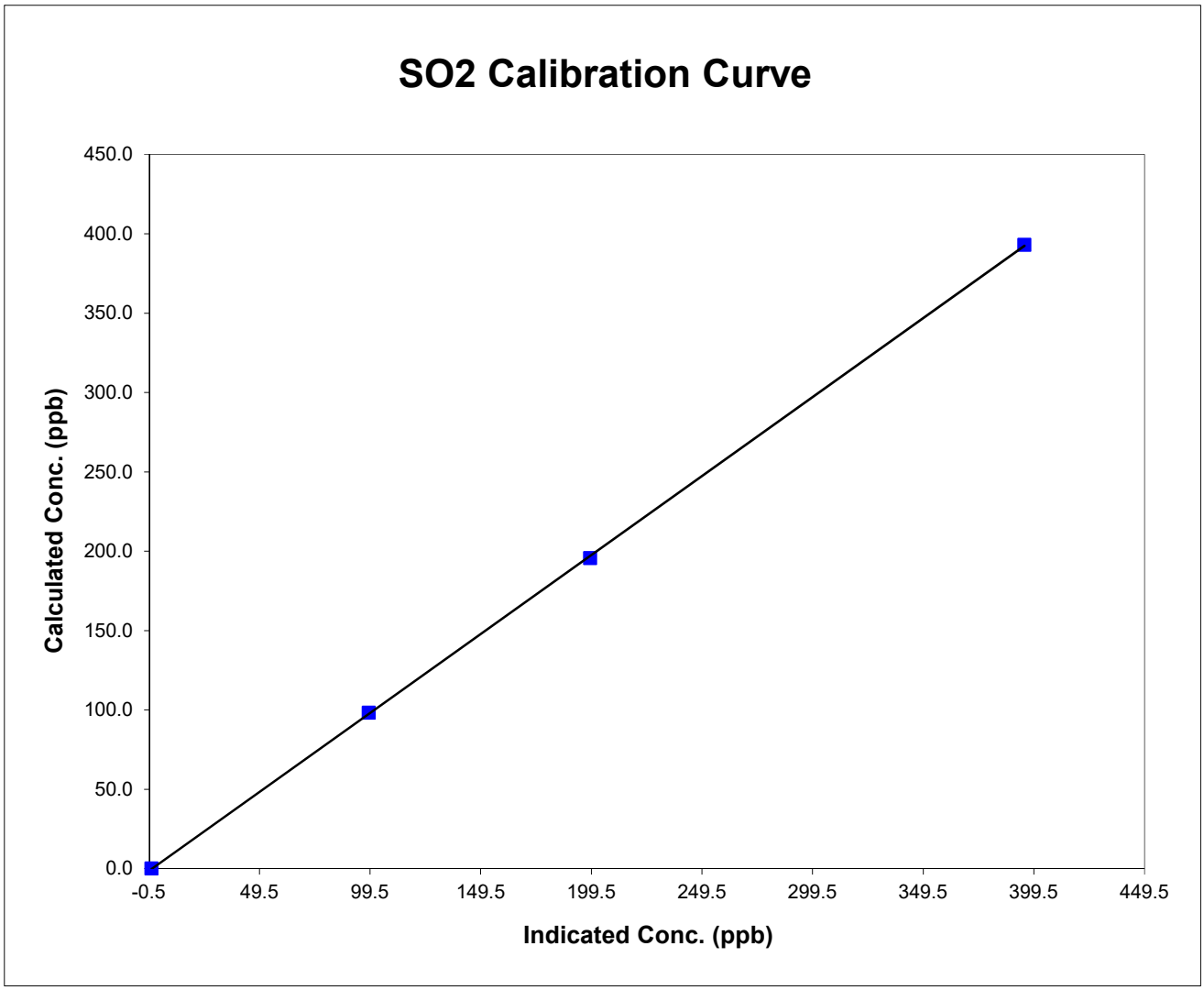
Air Quality Monitoring

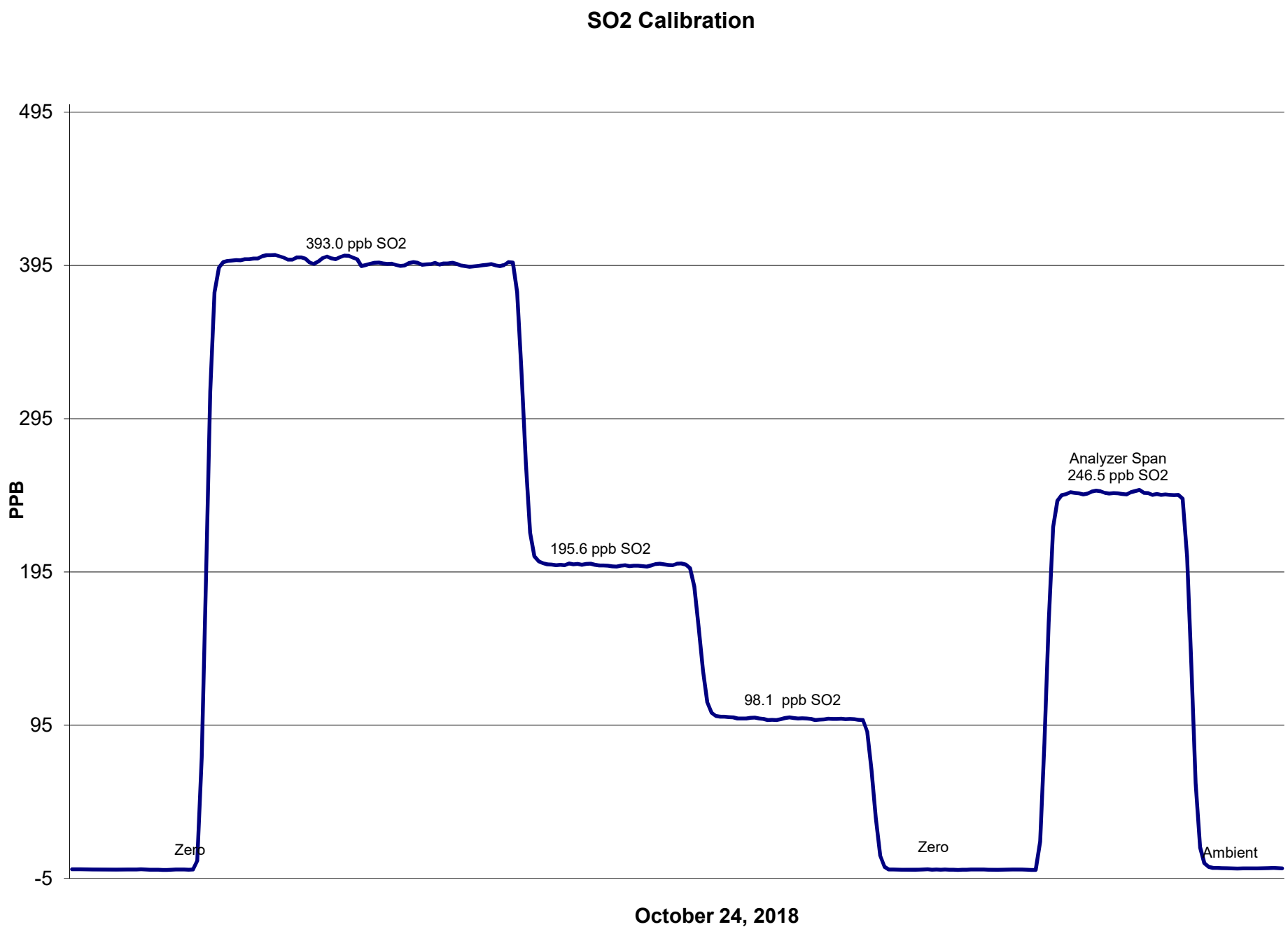
***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | October 24, 2018 | Previous Calibration | September 25, 2018 |
| Station Number | 1 | Station Location | Donnely |
| Start Time (MST) | 13:10:00 PM | End Time (MST) | 15:30:00 PM |
| Analyzer make/model | Teco 43i | Analyzer serial # | 1207452008 |

***Calibration Data***

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | 0.8 | N/A | | |
| 393.0 | 395.3 | 0.9941 | Correlation Coefficient | 0.999968 |
| 195.6 | 199.0 | 0.9832 | | |
| 98.1 | 99.0 | 0.9913 | Slope | 0.995190 |
| | | | | |
| | | | Intercept | -0.994771 |
| | | | | |




SO2 Calibration
495
395
295
195
95
-5
PPB
393.0 ppb SO2
195.6 ppb SO2
98.1 ppb SO2
Analyzer Span
246.5 ppb SO2
Zero
Zero
Ambient
October 24, 2018

# Calibration Report

Parameter **H2S**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | 24/10/2018 | Previous Calibration | 25/09/2018 |
| Station Number | 1 | Station Location | Donnely |
| Reason: Routine | Install | Removal | Other: |
| Start Time (MST) | 11:45 | End Time (MST) | 14:20:00 PM |
| Barometric Pressure | 0.926 atm | Station Temperature | 20.0 Deg C |
| Calibrator | Environics 6103 | Serial Number | 6586 |
| Cal Gas Conc | 9.78 ppm | Cal Gas Expiry Date | March 19, 2021 |
| Correction factor | 0.031477 | Cal Gas Cylinder # | LL119574 |
| DACS make | CR1000 | DACS serial No. | 3980 |
| DACS voltage range | 0 - 5 volt | DACS channel # | 5 |
| | Before | | After |
| Calculated slope | 0.978232 | Calculated slope | 0.999119 |
| Calculated intercept | -0.012988 | Calculated intercept | -0.821425 |
| Analyzer make | Thermo 450i | Analyzer serial # | 1207452006 |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0 - 100 | ppb | 0 - 100 | ppb |
| Background | 10.1 | ppb | 10.1 | ppb |
| coefficient | 1.091 | | 1.091 | |
| Lamp Voltage | 767 | volts | 767 | volts |
| Chamber Temp | 45 | Deg C | 45 | Deg C |
| Perm Gas Temp | 45 | Deg C | 45 | Deg C |
| Pressure | 463 | mm Hg | 469.3 | mm Hg |
| Sample Flow | 0.685 | lpm | 0.650 | lpm |
| Lamp Intensity | 91 | mv | 91 | mv |

## *Calibration Data*

| Dilution air flow rate (cc/min) | Corrected gas flow rate (cc/min) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 4992 | 0.00 | 0.00 | 1.1 | N/A |
| 4991 | 39.92 | 77.60 | 78.5 | 0.9885 |
| 4991 | 19.84 | 38.72 | 39.7 | 0.9760 |
| 6970 | 9.93 | 13.91 | 14.4 | 0.9659 |
| | | | | |
| | | | | |
| 4992 | 0.00 | 0.00 | 1.1 | As Found Zero |
| 4991 | 39.92 | 77.60 | 78.5 | As Found Span |
| | | | Average Correction Factor | 0.9768 |

Calculated value of As Found Response: 75.75 ppb Percent Change of As Found: 2.4%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.6 | ppb | 0.8 | ppb |
| Auto span | 76.4 | ppb | 78.0 | ppb |

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter **H2S**

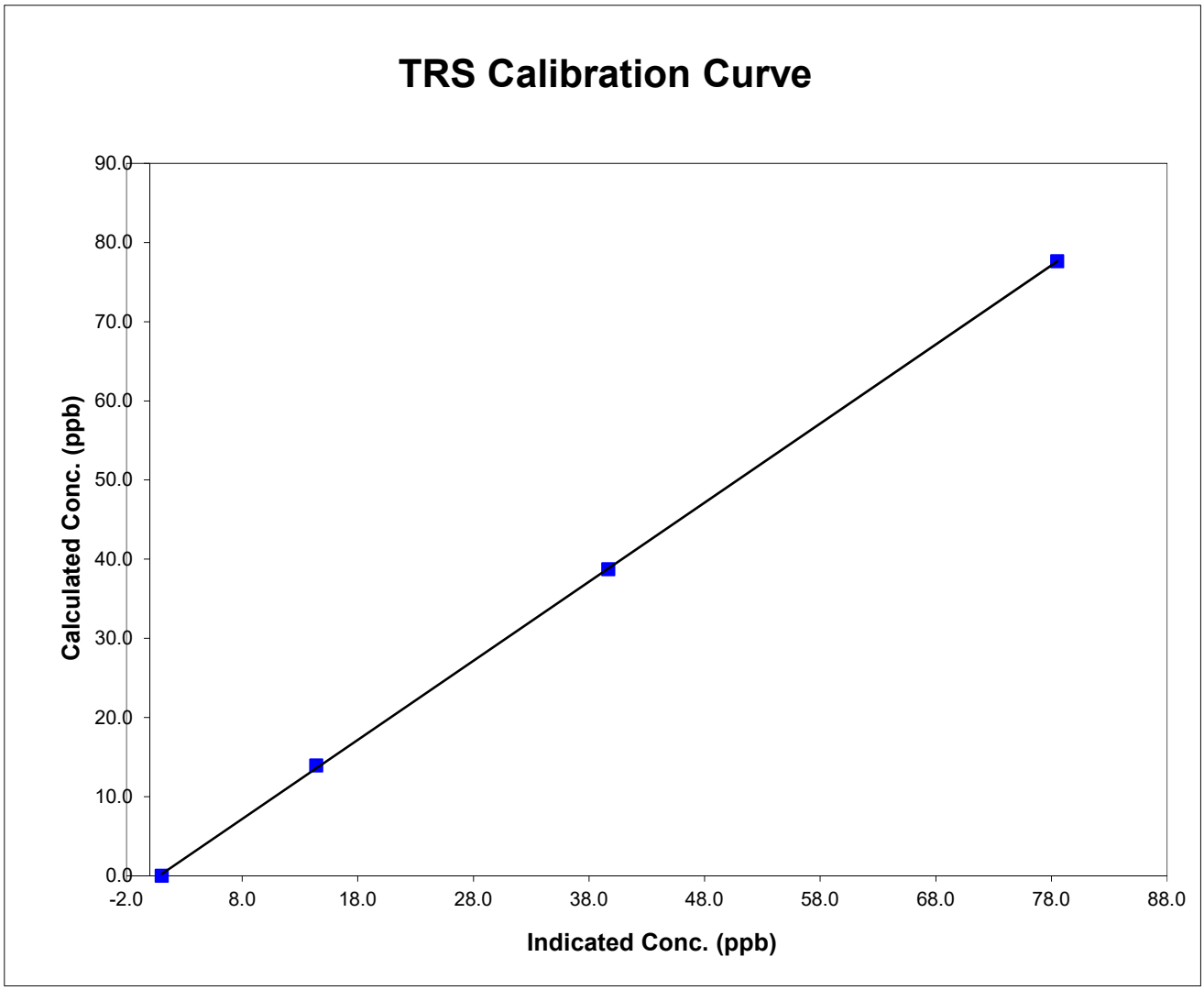
Air Monitoring Network **PAZA**

***Station Information***

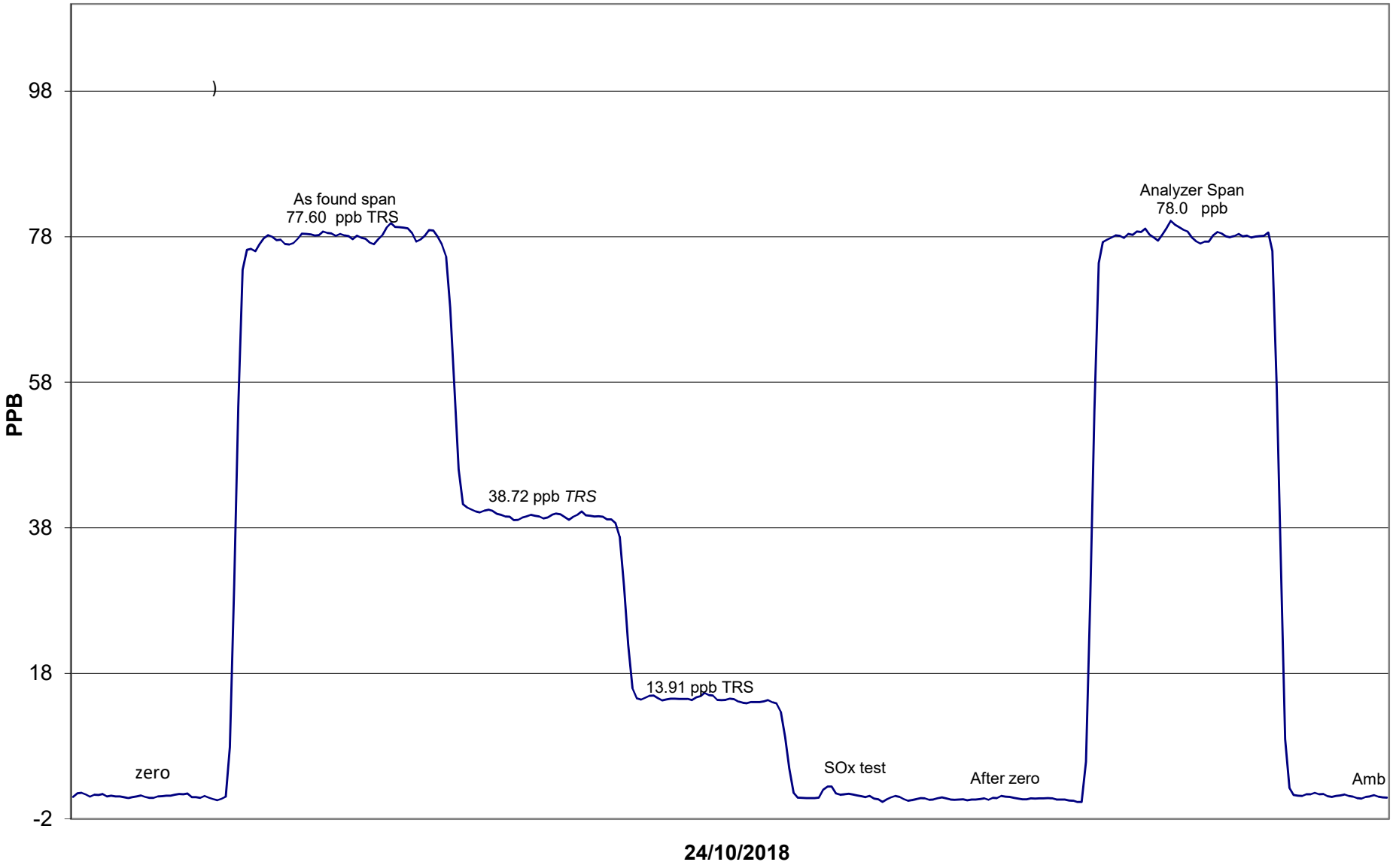
| | | | |
|---|---|---|---|
| Calibration Date | 24/10/2018 | Previous Calibration | 25/09/2018 |
| Station Number | 1 | Station Location | Donnely |
| Start Time (MST) | 11:45 | End Time (MST) | 14:20:00 PM |
| Analyzer make/model | Thermo 450i | Analyzer serial # | 1207452006 |

***Calibration Data***

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | 1.1 | N/A | | |
| 77.6 | 78.5 | 0.9885 | Correlation Coefficient | 0.999948 |
| 38.7 | 39.7 | 0.9760 | | |
| 13.9 | 14.4 | 0.9659 | Slope | 0.999119 |
| | | | | |
| | | | Intercept | -0.821425 |
| | | | | |



# H2S Calibration



# Calibration Report

Parameter **SO2**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 23, 2018 | Previous Calibration | September 19, 2018 |
| Station Number | 10 | Station Location | Rycroft |
| Reason: | Routine / Install | Removal | Other: |
| Start Time (MST) | 13:10:00 PM | End Time (MST) | 16:20:00 PM |
| Barometric Pressure | 0.919 Atm | Station Temperature | 20.0 Deg C |
| Calibrator | Environics 6103 | Serial Number | 6586 |
| Cal Gas Concentratio | 49.6 ppm | Cal Gas Expiry Date | 10/10/2020 |
| Gas Cert Reference | LL104185 | | |
| DACS make | CR3000 | DACS serial No. | 5407 |
| DACS voltage range | 0 - 5 Volt | DACS channel # | 2 |
| | Before | | After |
| DACS Scale High | 500 | DACS slope | 500 |
| DACS Scale Low | 0 | DACS intercept | 0 |
| Calculated slope | 1.000406 | Calculated slope | 0.991056 |
| Calculated intercept | 0.350038 | Calculated intercept | -0.355742 |
| Analyzer make | TEI 43I | Analyzer serial # | 1173410005 |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0-500 | ppb | 0-500 | ppb |
| Background | 15.9 | | 17.3 | |
| Coefficient | 0.971 | | 0.997 | |
| UV Lamp Voltage | 756 | V | 756 | V |
| Chamber Temp | 45 | C | 45 | C |
| Perm Gas Temp | 45 | C | 45 | C |
| Pressure | 670.1 | mm Hg | 668.3 | mm Hg |
| Sample Flow | 0.444 | LPM | 0.441 | LPM |
| Lamp Intesity | 96 | Hz | 96 | Hz |

## *Calibration Data*

| Dilution air flow rate (cc/min) | Source gas flow rate (cc/min) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 4996 | 0.00 | 0.0 | 0.2 | N/A |
| 4996 | 39.96 | 393.6 | 397.2 | 0.9909 |
| 4996 | 19.99 | 197.7 | 200.5 | 0.9860 |
| 4996 | 9.98 | 98.9 | 100.0 | 0.9891 |
| | | | | |
| 4996 | 0.00 | 0.0 | 1.2 | As found zero |
| 4996 | 39.96 | 393.6 | 384.5 | As found span |
| | | | Average Correction Factor | 0.9887 |

Calculated value of As Found Response: 383.790 ppb Percent Change of As Found: 2.5%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.3 | ppb | 0.3 | ppb |
| Auto span | 195.3 | ppb | 199.7 | ppb |

Notes: Zero/span adjustmen made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

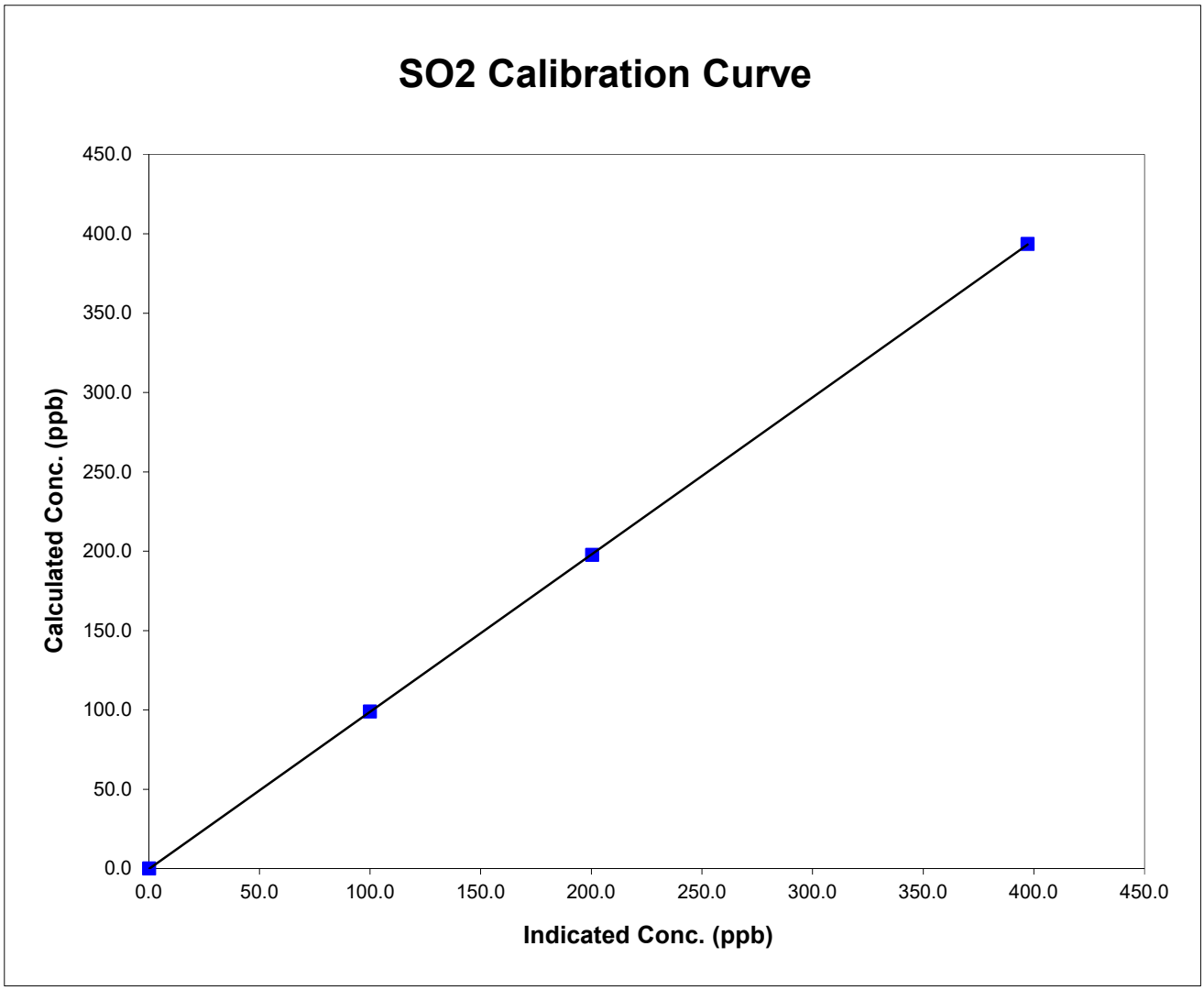
Air Quality Monitoring

***Station Information***

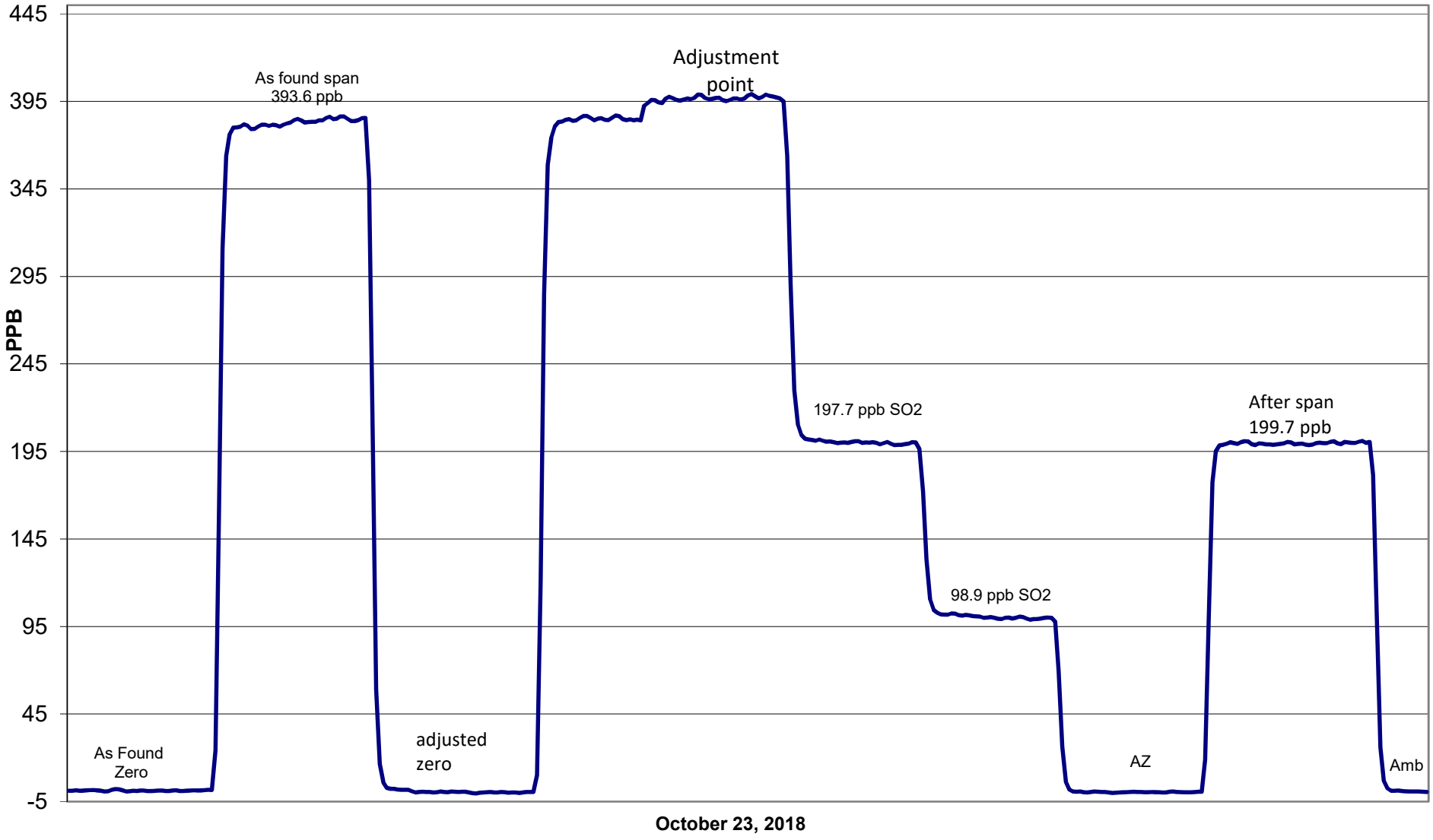
| | | | |
|---|---|---|---|
| Calibration Date | October 23, 2018 | Previous Calibration | September 19, 2018 |
| Station Number | 10 | Station Location | Rycroft |
| Start Time (MST) | 13:10:00 PM | End Time (MST) | 16:20:00 PM |
| Analyzer make/model | TEI 43I | Analyzer serial # | 1173410005 |

***Calibration Data***

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | 0.2 | N/A | | |
| 393.6 | 397.2 | 0.9909 | Correlation Coefficient | 0.999993 |
| 197.7 | 200.5 | 0.9860 | | |
| 98.9 | 100.0 | 0.9891 | Slope | 0.991056 |
| | | | | |
| | | | Intercept | -0.355742 |
| | | | | |



# SO2 Calibration



# Calibration Report

Parameter **TRS**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 17, 2018 | Previous Calibration | September 20, 2018 |
| Station Name | PAZA Rover | Station Location | Rycroft |
| Reason: | Routine / Install | Removal | Other: |
| Start Time (MST) | 9:50 AM | End Time (MST) | 12:30 |
| Barometric Pressure | 0.919 mbar | Station Temperature | 21.0 Deg C |
| Calibrator | Environics 6103 | Serial Number | 6586 |
| Cal Gas Concentratio | 9.78 ppm | Cal Gas Expiry Date | 02/02/2020 |
| Gas Cert Reference | LL119574 | | |
| DACS make | CR3000 | DACS serial No. | 5407 |
| DACS voltage range | 0 - 5 Volt | DACS channel # | 1 |
| | Before | | After |
| DACS Scale High | 100 | DACS slope | 100 |
| DACS Scale Low | 0 | DACS intercept | 0 |
| Calculated slope | 0.987933 | Calculated slope | 1.010660 |
| Calculated intercept | 0.734319 | Calculated intercept | -0.009781 |
| Analyzer make | TEI 43C | Analyzer serial # | |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0 - 100 | ppb | 0 - 100 | ppb |
| Background | 11.5 | ppb | 11.5 | ppb |
| Coefficient | 0.964 | | 0.964 | |
| Lamp Voltage | 774 | V | 775 | V |
| Chamber Temp | 45 | C | 45 | C |
| Perm gas Temp | 45 | C | 45 | C |
| Pressure | 673.9 | mmHg | 673.3 | mmHg |
| Sample Flow | 0.385 | lpm | 0.385 | lpm |
| Lamp Intensity | 85 | Hz | 87 | Hz |

## *Calibration Data*

| Dilution air flow rate (cc/min) | Source gas flow rate (cc/min) | Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 4996 | 0.0 | 0.0 | 0.2 | N/A |
| 4996 | 39.96 | 77.6 | 76.9 | 1.0098 |
| 4998 | 19.98 | 38.9 | 38.5 | 1.0113 |
| 6996 | 9.97 | 13.9 | 13.6 | 1.0269 |
| | | | 0.1 | Sox Test |
| 4996 | 0.00 | 0.0 | 0.2 | As found zero |
| 4996 | 39.96 | 77.6 | 76.9 | As found span |
| | | | Average Correction Factor | 1.0160 |

Calculated value of As Found Response: 76.45 ppb Percent Change of As Found: 1.5%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.2 | ppb | 0.1 | ppb |
| Auto span | 52.2 | ppb | 53.3 | ppb |

Notes: No adjustment made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter **TRS**

Air Monitoring Network **PAZA**

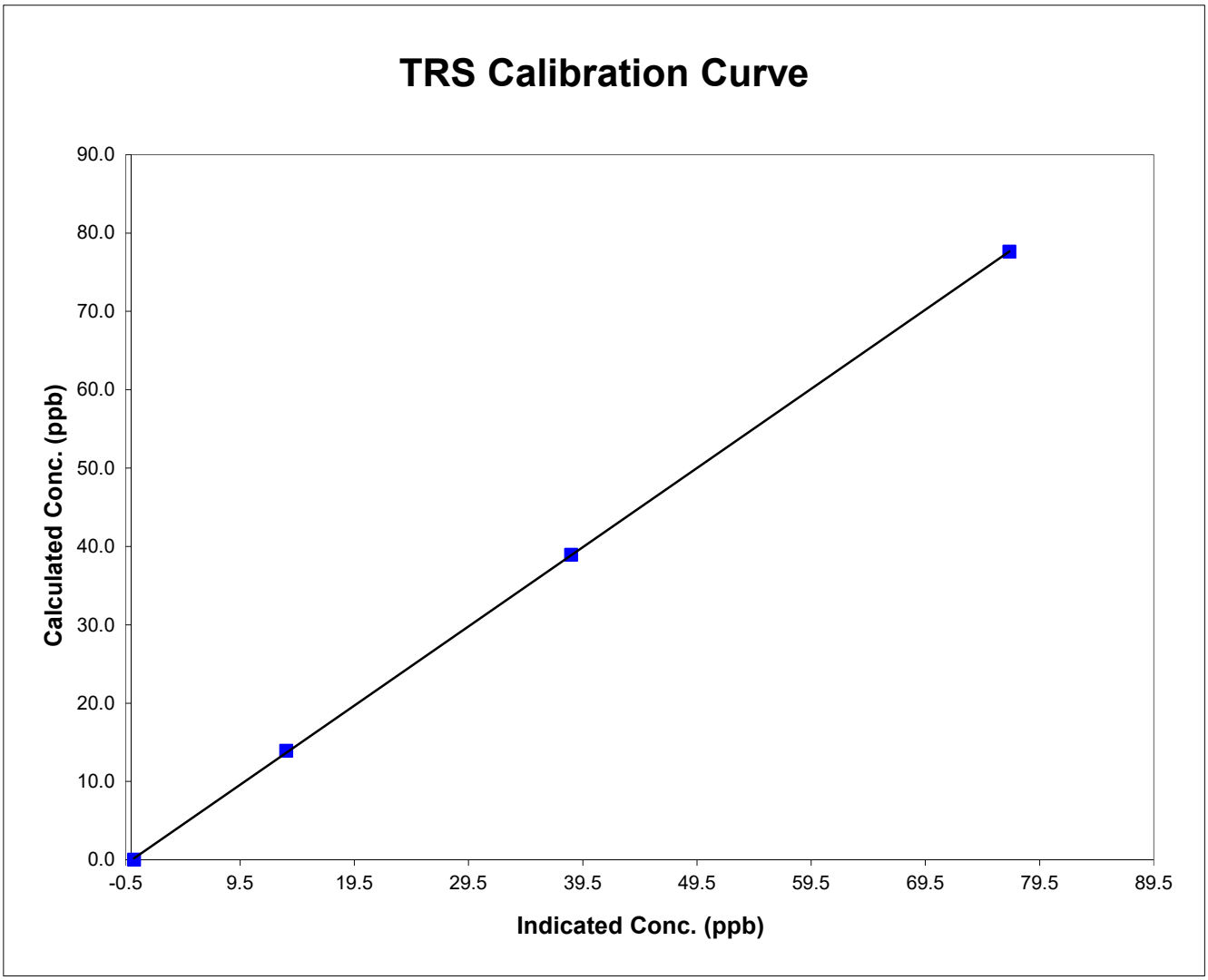
Air Quality Monitoring

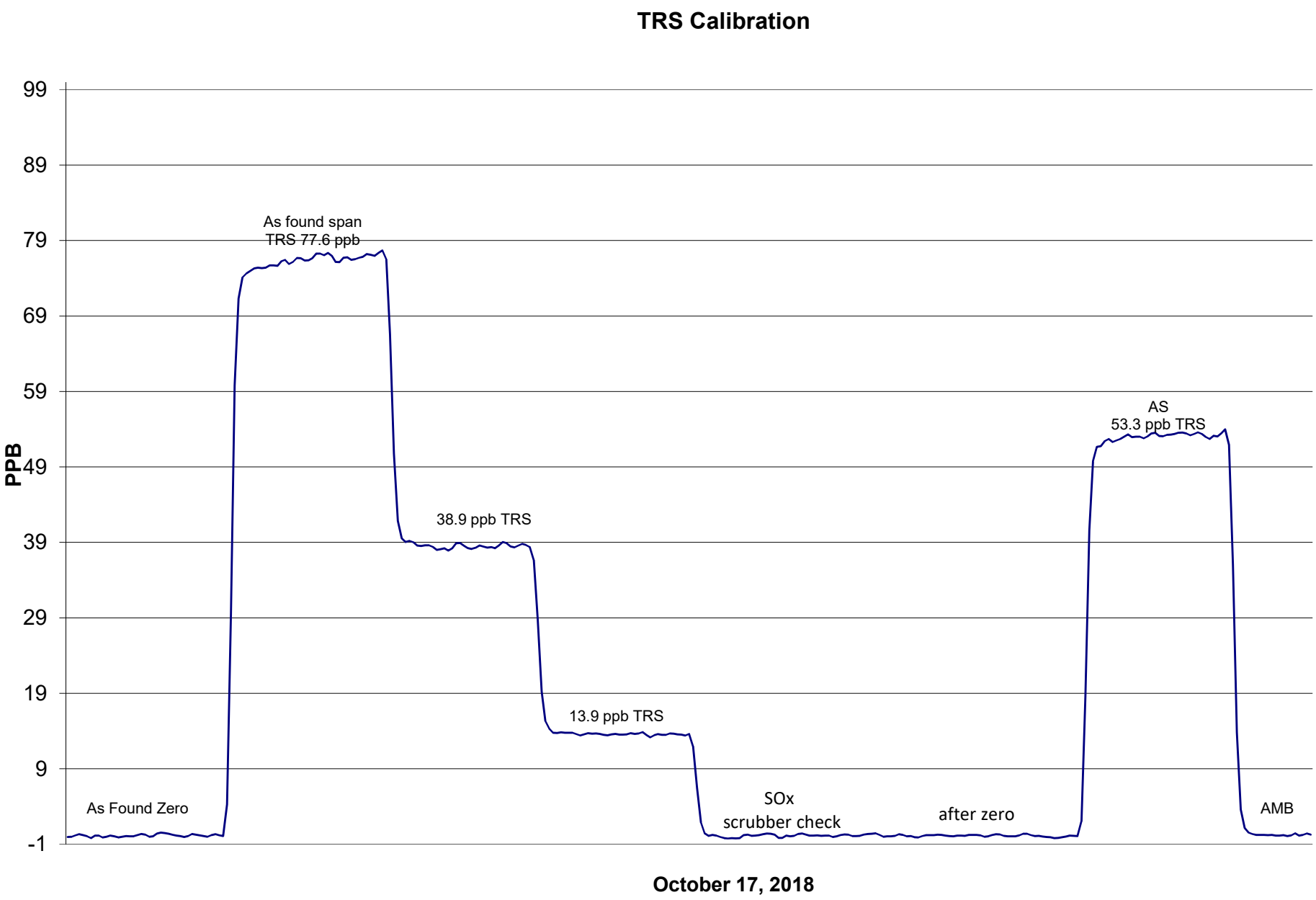
***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | October 17, 2018 | Previous Calibration | September 20, 2018 |
| Station Number | PAZA Rover | Station Location | Rycroft |
| Start Time (MST) | 9:50 | End Time (MST) | 12:30 |
| Analyzer make/model | TEI 43C | Analyzer serial # | 0 |

***Calibration Data***

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | 0.2 | N/A | | |
| 77.6 | 76.9 | 1.0098 | Correlation Coefficient | 0.999971 |
| 38.9 | 38.5 | 1.0113 | | |
| 13.9 | 13.6 | 1.0269 | Slope | 1.010660 |
| | | | | |
| | | | Intercept | -0.009781 |
| | | | | |




TRS Calibration
99
89
79
69
59
49
39
29
19
9
-1
PPB
As found span
TRS 77.6 ppb
38.9 ppb TRS
13.9 ppb TRS
AS
53.3 ppb TRS
As Found Zero
SOx
scrubber check
after zero
AMB
October 17, 2018

# Calibration Report

Parameter **$NO_X$-NO-$NO_2$**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 23, 2018 | Previous Calibration | September 19, 2018 |
| Station Number | 10 | Station Location | Rycroft |

Reason: Routine Installation Removal Other:

| | | | | | |
|---|---|---|---|---|---|
| Start Time (MST) | 13:05:00 PM | | End Time (MST) | 17:45:00 PM | |
| Barometric Pressure | 0.919 | Atm | Station Temperature | 20.0 | Deg C |
| Calibrator | Environicsn 6103 | | Serial Number | 6586 | |
| NO Cal Gas Conc | 51.9 | ppm | Cal Gas Expiry Date | 10/24/2020 | |
| NOx Cal Gas Conc | 52 | ppm | Cal Gas Serial # | LL107945 | |

## *DACS Information*

| | | | |
|---|---|---|---|
| DACS make | CR3000 | DACS serial No. | 5407 |

| Parameter | | NO2 | NOx | NO |
|---|---|---|---|---|
| Before | Data Slope | 1.006542 | 1.002179 | 0.999409 |
| | Data Offset | 0.452592 | 1.790533 | 1.897272 |
| After | Data Slope | 1.003572 | 1.000955 | 1.000631 |
| | Data Offset | 0.502992 | 0.208167 | -0.148580 |
| Channel # | | 8 | 6 | 7 |
| Voltage Range | | 0 - 5 VDC | 0 - 5 VDC | 0 - 5 VDC |

## *Analyzer Information*

| | | | |
|---|---|---|---|
| Analyzer make/model | TEI 42i | Analyzer serial # | 0701120011 |

| Test Point | before | | after | |
|---|---|---|---|---|
| Concentration range | 0-500 | ppb | 0-500 | ppb |
| NO offset | 6.8 | mV | 6.7 | mV |
| NOx bkgnd | 7.0 | mV | 7.2 | mV |
| NO coefficient | 1.044 | | 1.053 | |
| NOx coefficient | 0.995 | | 0.995 | |
| NO2 conv temp | 326.8 | Deg C | 326.7 | Deg C |
| Cooler | -2.7 | Deg C | -2.7 | Deg C |
| PMT Volt | -840.6 | mV | -840.6 | mV |
| R Cell Press | 175.4 | in Hg | 176.9 | in Hg |
| Sample Flow | 0.729 | LPM | 0.729 | LPM |

Notes: Zero/span adjustment made

# Calibration Report

Parameter **NOX-NO-NO2**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## Station Information

Calibration Date: October 23, 2018 Station Location: Rycroft

## Calibration Data

| | Dilution flow rate (ccm) | Source gas flow rate (ccm) | Calculated NOx conc (ppb) | Calculated NO conc (ppb) | Calculated NO2 conc (ppb) | Indicated NOx conc (ppb) | Indicated NO conc (ppb) | Indicated NO2 conc (ppb) | NOx Correction factor | NO Correction factor |
|---|---|---|---|---|---|---|---|---|---|---|
| zero | 4996 | 0.00 | 0.0 | 0.0 | 0.0 | -0.1 | 0.0 | 0.0 | N/A | N/A |
| 1 | 4996 | 39.96 | 412.6 | 411.8 | 0.8 | 412.0 | 411.6 | -1.2 | 1.0015 | 1.0006 |
| 2 | 4996 | 19.99 | 207.2 | 206.8 | 0.4 | 207.0 | 207.2 | -0.9 | 1.0010 | 0.9983 |
| 3 | 4996 | 9.98 | 103.7 | 103.5 | 0.2 | 103.1 | 103.5 | -0.2 | 1.0056 | 0.9999 |
| | | | | | | | | | | |
| AFZ | 4996 | 0.00 | 0.0 | 0.0 | 0.0 | 0.5 | -0.1 | 0.6 | 0.0000 | 0.0000 |
| AFS | 4996 | 39.96 | 412.6 | 411.8 | 0.8 | 409.1 | 408.9 | -1.3 | 1.0085 | 1.0073 |
| | | | | | | | Average Correction Factor | | 1.0027 | 0.9996 |

As Found Concentrations: $NO_X$= 411.4 NO= 410.6 As Found Percent Change $NO_X$= -0.3% NO= -0.3%

## GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.94 ccm

| O3 Setpoint (ppb) | Indicated NOX high point (ppb) | Indicated NO drop conc (ppb) | Calculated NO2 conc (ppb) | Indicated NOx conc (ppb) | Indicated NO conc (ppb) | Indicated NO2 conc (ppb) | NOx Correction factor | NO Correction factor | NO2 Correction factor | Converter Efficiency |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | -0.1 | -0.1 | 0.0 | -0.1 | 0.0 | 0.0 | N/A | N/A | N/A | N/A |
| NO point | 411.9 | 411.9 | 0.0 | 411.9 | 411.9 | -2.0 | 0.9999 | 1.0000 | N/A | N/A |
| 300 | 411.9 | 136.5 | 275.4 | 412.2 | 136.5 | 274.2 | 0.9993 | 1.0000 | 1.0043 | 99.6% |
| 200 | 411.9 | 242.5 | 169.4 | 412.6 | 242.5 | 168.1 | 0.9983 | 1.0000 | 1.0079 | 99.2% |
| 100 | 411.9 | 340.3 | 71.6 | 412.3 | 340.3 | 70.3 | 0.9989 | 1.0000 | 1.0191 | 98.1% |
| | | | | | Average Correction Factor | | 0.9988 | 1.0000 | 1.0104 | 99.0% |

## AIC Data

| | Previous calibration | | | | Current calibration | | | |
|---|---|---|---|---|---|---|---|---|
| Parameter | NOx | NO2 | NO | | NOx | NO2 | NO | |
| Auto zero | 0.3 | 0.4 | 0.0 | ppb | -0.2 | -0.3 | 0.2 | ppb |
| Auto span | 192.3 | 189.9 | 1.4 | ppb | 183.3 | 181.0 | 1.3 | ppb |

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter **$NO_2$**

Air Monitoring Network **PAZA**

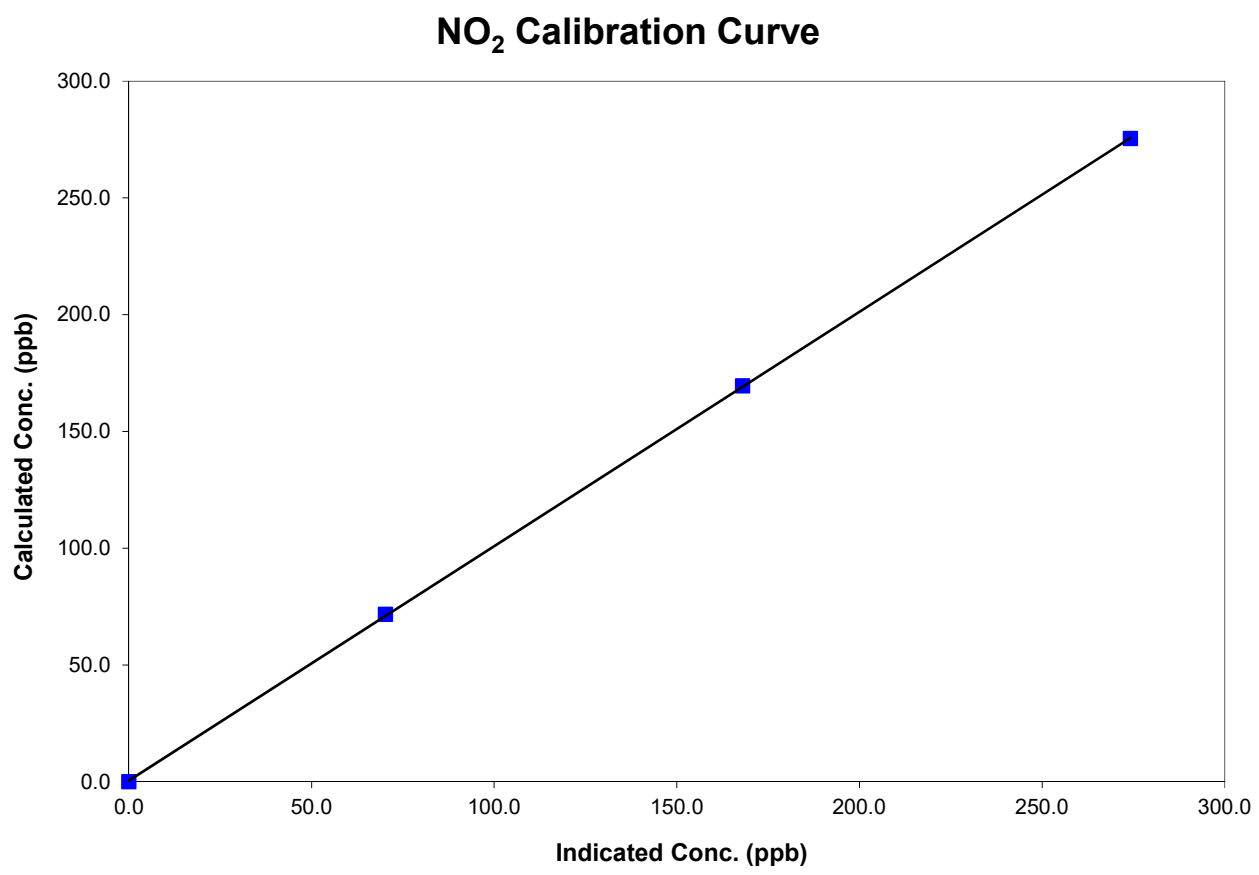
Air Quality Monitoring

### *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 23, 2018 | Previous Calibration | September 19, 2018 |
| Station Number | 10 | Station Location | Rycroft |
| Start Time (MST) | 13:05:00 PM | End Time (MST) | 17:45:00 PM |
| Analyzer make | TEI 42i | Analyzer serial # | 0701120011 |

### *Calibration Data*

| Calculated conc (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | 0.0 | N/A | | |
| 275.4 | 274.2 | 1.0043 | Correlation Coefficient | 0.999982 |
| 169.4 | 168.1 | 1.0079 | | |
| 71.6 | 70.3 | 1.0191 | Slope | 1.003572 |
| | | | | |
| | | | Intercept | 0.502992 |
| | | | | |



# Calibration Summary

Parameter **$NO_x$**

Air Monitoring Network **PAZA**

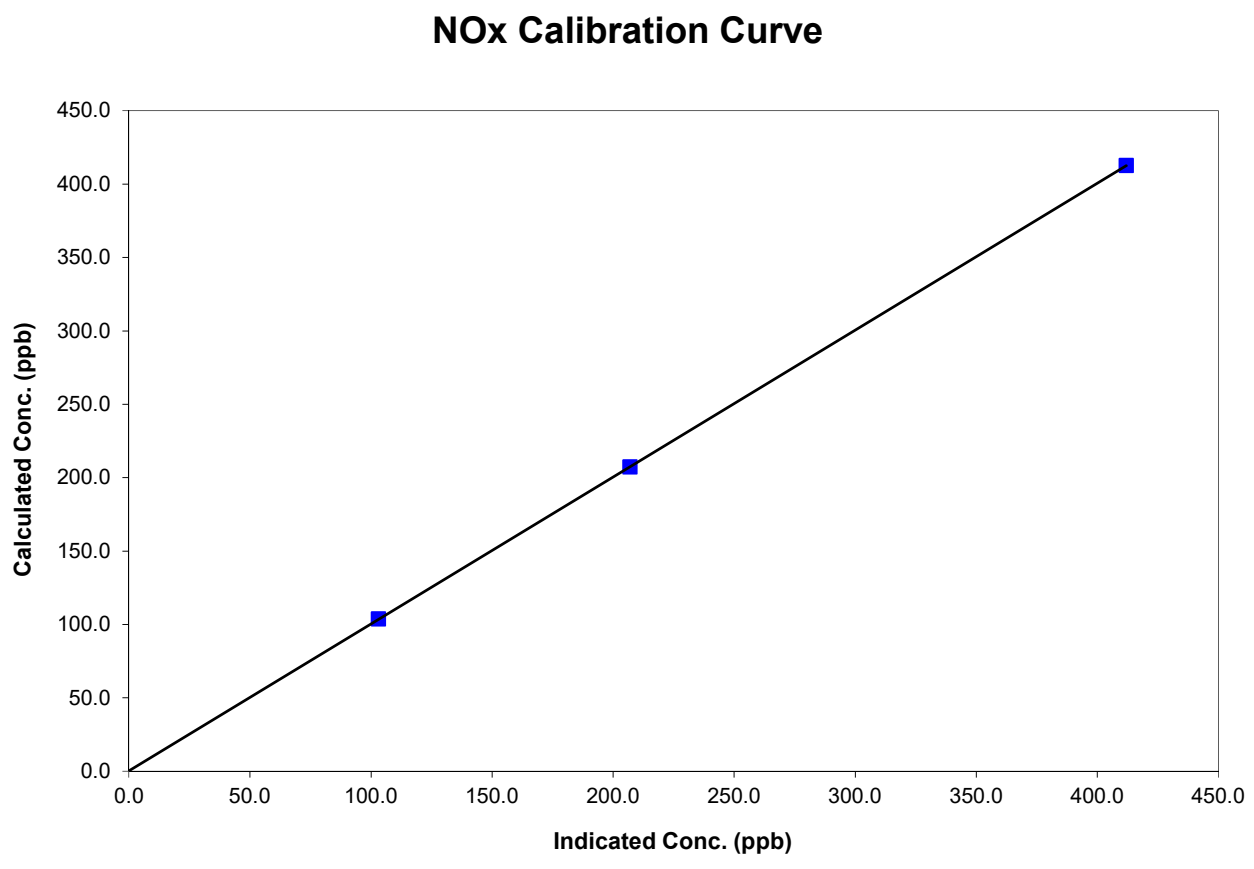
Air Quality Monitoring

### *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 23, 2018 | Previous Calibration | September 19, 2018 |
| Station Number | 10 | Station Location | Rycroft |
| Start Time (MST) | 13:05:00 PM | End Time (MST) | 17:45:00 PM |
| Analyzer make | TEI 42i | Analyzer serial # | 0701120011 |

### *Calibration Data*

| Calculated conc (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | -0.1 | N/A | | |
| 412.6 | 412.0 | 1.0015 | Correlation Coefficient | 0.999999 |
| 207.2 | 207.0 | 1.0010 | | |
| 103.7 | 103.1 | 1.0056 | Slope | 1.000955 |
| | | | | |
| | | | Intercept | 0.208167 |
| | | | | |



# Calibration Summary

Parameter **NO**

Air Monitoring Network **PAZA**

Air Quality Monitoring

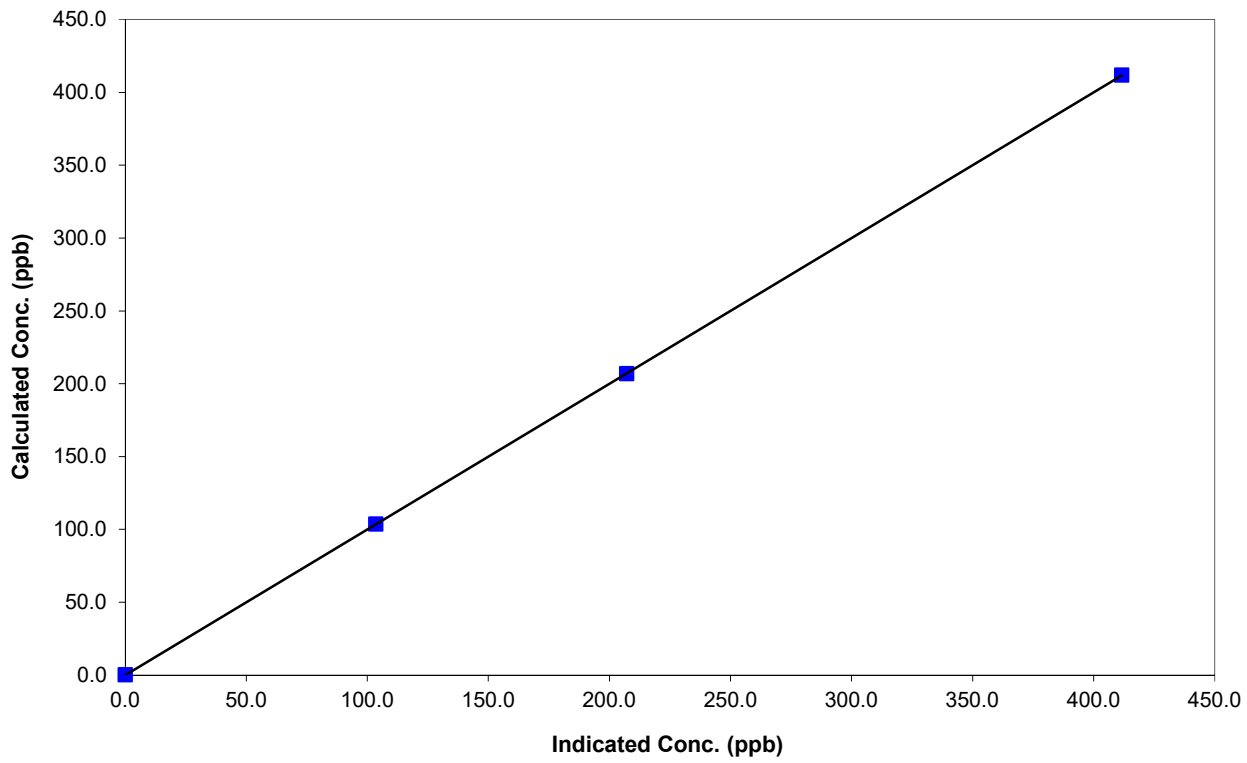
### *Station Information*

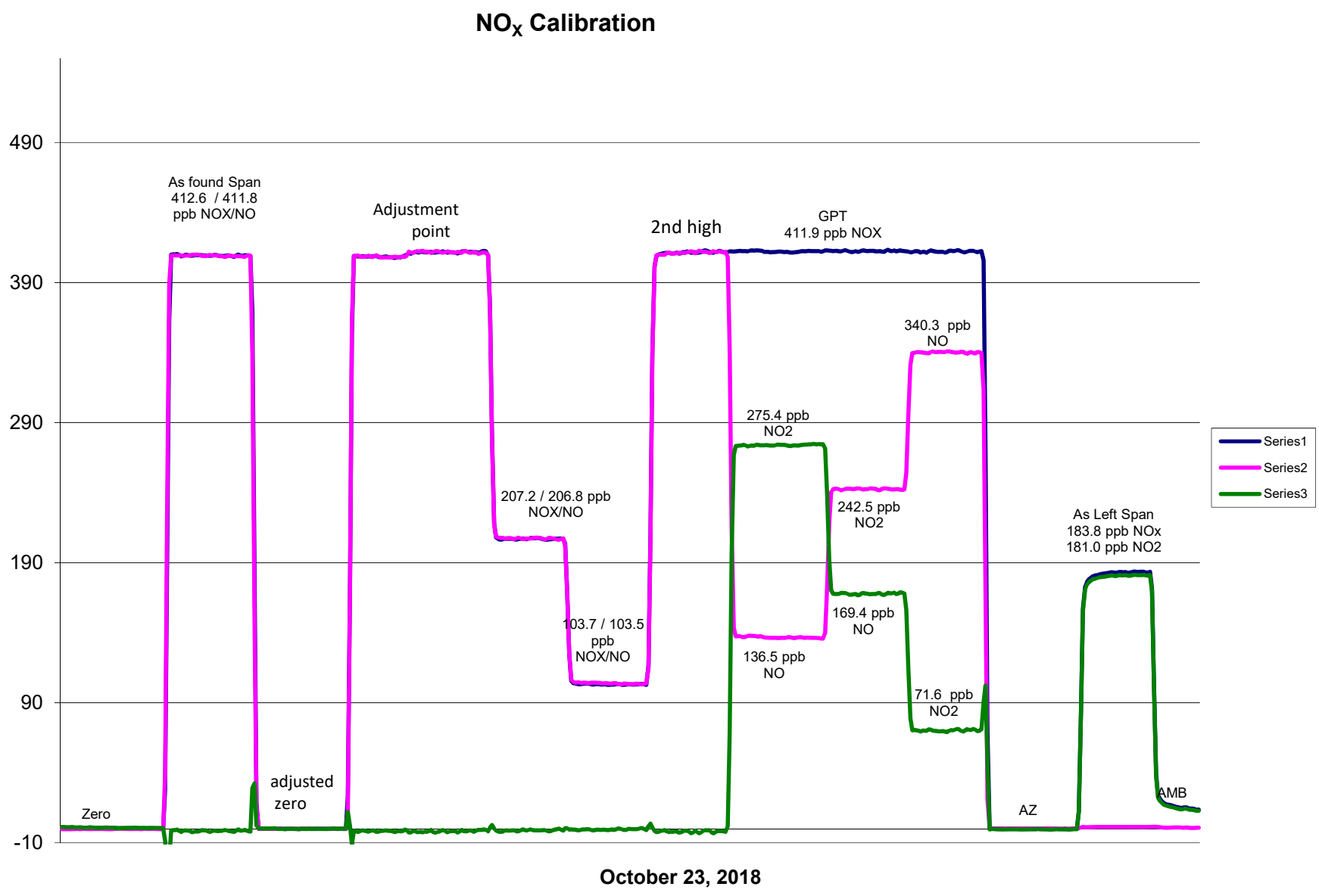
| | | | |
|---|---|---|---|
| Calibration Date | October 23, 2018 | Previous Calibration | September 19, 2018 |
| Station Number | 10 | Station Location | Rycroft |
| Start Time (MST) | 13:05:00 PM | End Time (MST) | 17:45:00 PM |
| Analyzer make | TEI 42i | Analyzer serial # | 0701120011 |

### *Calibration Data*

| Calculated conc (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | 0.0 | N/A | | |
| 411.8 | 411.6 | 1.0006 | Correlation Coefficient | 0.999998 |
| 206.8 | 207.2 | 0.9983 | | |
| 103.5 | 103.5 | 0.9999 | Slope | 1.000631 |
| | | | | |
| | | | Intercept | -0.148580 |
| | | | | |

## NO Calibration Curve




NOX Calibration
490
390
290
190
90
-10
As found Span
412.6 / 411.8
ppb NOX/NO
Adjustment
point
2nd high
GPT
411.9 ppb NOX
340.3 ppb
NO
275.4 ppb
NO2
207.2 / 206.8 ppb
NOX/NO
242.5 ppb
NO2
As Left Span
183.8 ppb NOx
181.0 ppb NO2
169.4 ppb
NO
103.7 / 103.5
ppb
NOX/NO
136.5 ppb
NO
71.6 ppb
NO2
adjusted
zero
Zero
AZ
AMB
Series1
Series2
Series3
October 23, 2018

# Calibration Report

Parameter **O3**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 23 2018 | Previous Calibration | September 19 2018 |
| Station Number | 10 | Station Location | Rycroft |
| Reason: Routine | Install | Removal | Other: |
| Start Time (MST) | 16:40:00 PM | End Time (MST) | 19:10:00 PM |
| Barometric Pressure | 0.919 atm | Station Temperature | 20.0 Deg C |
| Calibrator | Environics 6103 | Serial Number | 6586 |
| DACS make | CR3000 | DACS serial No. | 5407 |
| DACS voltage range | 0 - 5 Volts | DACS channel # | 6 |
| | Before | | After |
| Calculated slope | 1.000937 | Calculated slope | 1.005291 |
| Calculated intercept | 0.273305 | Calculated intercept | -0.257758 |
| Analyzer make | TEI Model 49I | Analyzer serial # | 49I-115363156 |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0-500 | ppb | 0-500 | ppb |
| Offset | -0.8 | ppb | -0.8 | ppb |
| Span | 0.991 | | 1.010 | |
| Cell A intensity | 91706 | Hz | 91609 | Hz |
| Cell B intensity | 79100 | Hz | 79323 | Hz |
| Pressure | 693.80 | in Hg | 695.60 | in Hg |
| CellA Flow | 0.682 | ccm | 0.683 | ccm |
| Cell B Flow | 0.682 | cmm | 0.683 | cmm |

## *Calibration Data*

| Dilution air flow rate (cc/min) | Source gas flow rate (cc/min) | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 4996 | 0.00 | 0.0 | -0.3 | N/A |
| 4996 | 0.30 | 275.4 | 273.8 | 1.0057 |
| 4996 | 0.20 | 169.4 | 169.1 | 1.0017 |
| 4996 | 0.10 | 71.6 | 72.1 | 0.9934 |
| | | | | |
| 4996 | 0.00 | 0.0 | -0.3 | As found zero |
| 4996 | 0.30 | 275.4 | 269.6 | As found span |
| | | | Average Correction Factor | 1.0003 |

Calculated value of As Found Response: 270.4 ppm Percent Change of As Found: -1.8%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.8 | ppb | 0.9 | ppb |
| Auto span | 371.2 | ppb | 388.3 | ppb |

Notes: Slight span adjustment made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter **O3**

Air Monitoring Network **PAZA**

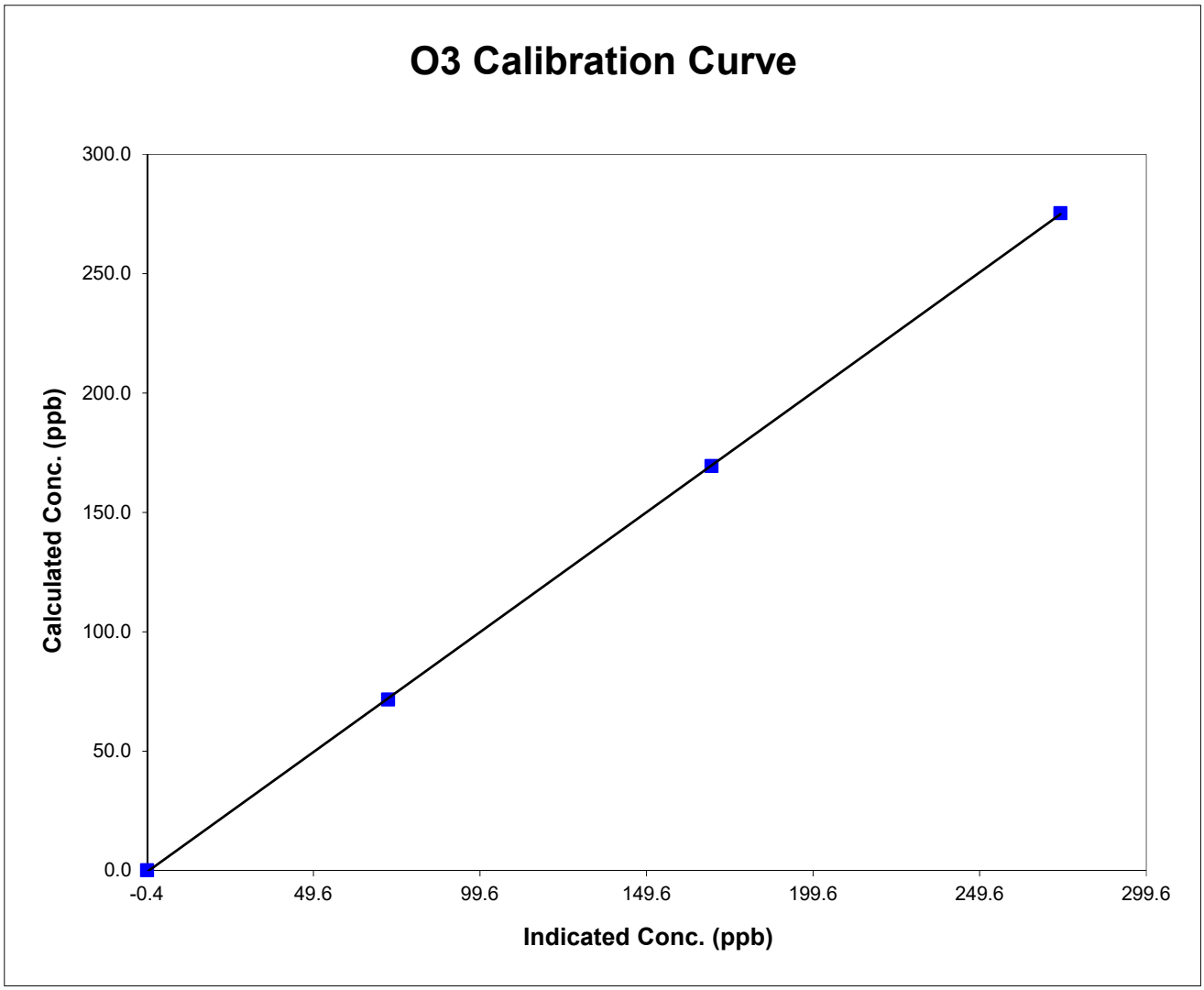
Air Quality Monitoring

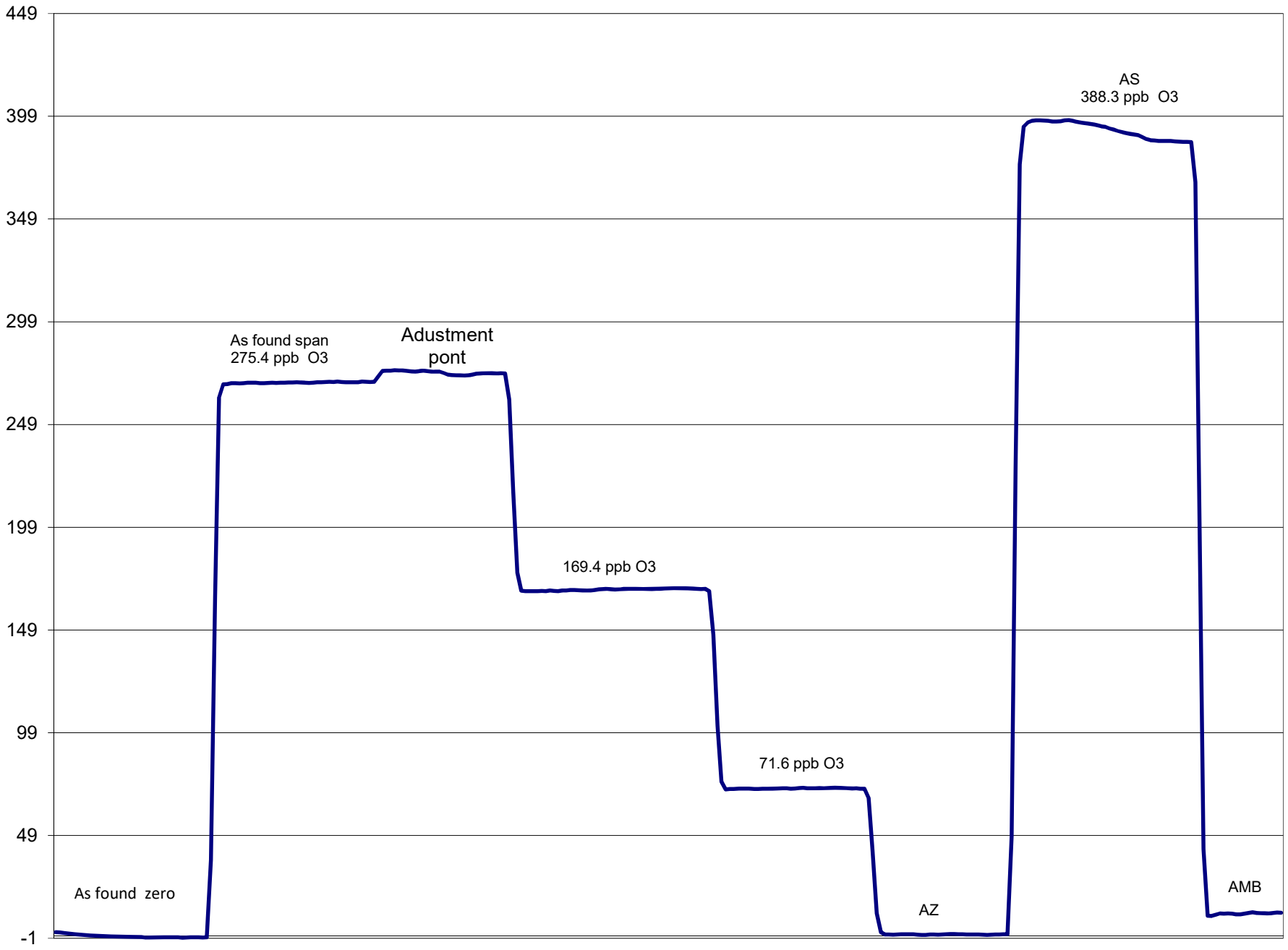
***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | October 23 2018 | Previous Calibration | September 19 2018 |
| Station Number | 10 | Station Location | Rycroft |
| Start Time (MST) | 16:40:00 PM | End Time (MST) | 19:10:00 PM |
| Analyzer make/model | TEI Model 49I | Analyzer serial # | 49I-115363156 |

***Calibration Data***

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | -0.3 | NA | | |
| 275.4 | 273.8 | 1.0057 | Correlation Coefficient | 0.999978 |
| 169.4 | 169.1 | 1.0017 | | |
| 71.6 | 72.1 | 0.9934 | Slope | 1.005291 |
| | | | | |
| | | | Intercept | -0.257758 |
| | | | | |






**October 23 2018**

# Calibration Report

Parameter **CH4 / NMHC / THC**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 17, 2018 | Previous Calibration | September 18, 2018 |
| Station Number | 1 | Station Location | Rycroft |

Reason: Routine | Install | Removal | Other:

| | | | |
|---|---|---|---|
| Start Time (MST) | 11:40 | End Time (MST) | 14:15:00 PM |
| Barometric Pressure | 0.930 atm | Station Temperature | 21.0 Deg C |
| Calibrator | Environics 6103 | Serial Number | 6586 |
| Cal Gas CH4 Conc | 404 ppm CH4 | Cal Gas Expiry Date | 28/03/2014 |
| Cal Gas C3H8 Conc | 201 552.75 ppm CH4 | Cal Gas Cylinder # | LL34988 |
| DACS make | CR3000 | DACS serial No. | 5408 |
| DACS voltage range | 0 - 5 volt | DACS channel # | SE 12,13,14 |

| | | | |
|---|---|---|---|
| Analyzer make | TEI 55I-A3PHAA | Analyzer serial # | 1151980005 |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0-20 (CH4, NMHC); 0-40 (THC) | ppm | 0-20 (CH4, NMHC); 0-40 (THC) | ppm |
| Air pressure | 34.7 | PSI | 34.5 | PSI |
| Fuel pressure | 49.4 | PSI | 49.5 | PSI |
| Carrier pressure | 40.1 | PSI | 42.2 | PSI |
| CH4 cal factor | 7.06582160 | | 7.48918500 | $E^{-4}$ |
| NMHC cal factor | 1.8934355 | | 1.9680489 | $E^{-4}$ |
| CH4 Rt | 12.60 | Sec | 12.60 | Sec |
| CH4 Pk HT | 18009.00 | | 17155.00 | |

## *CH4 Calibration Data*

| Dilution air flow rate (cc/min) | Source gas flow rate (cc/min) | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 2000 | 0.00 | 0.00 | 0.00 | N/A |
| 2000 | 64.96 | 12.71 | 12.77 | 0.9954 |
| 2000 | 34.97 | 6.94 | 6.95 | 0.9991 |
| 2000 | 15.96 | 3.20 | 3.19 | 1.0013 |
| | | | | |
| | | | | |
| 2000 | 0.00 | 0.00 | 0.00 | As Found Zero |
| 2000 | 64.96 | 12.71 | 12.11 | As Found Span |
| | | | Average Correction Factor | 0.9986 |

Calculated value of As Found Response: 12.066 ppm Percent Change of As Found: 5.1%

| | Before | | After |
|---|---|---|---|
| Calculated slope | 0.991757 | Calculated slope | 0.995263 |
| Calculated intercept | 0.055769 | Calculated intercept | 0.011542 |

### *Final Zero/Span Data*

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.02 | ppm | 0.00 | ppm |
| Auto span | 7.91 | ppm | 8.18 | ppm |

## NMHC Calibration Data

| Dilution air flow rate (cc/min) | Source gas flow rate (cc/min) | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 2000 | 0.00 | 0.00 | 0.00 | N/A |
| 2002 | 64.96 | 17.37 | 17.35 | 1.0012 |
| 2000 | 34.97 | 9.50 | 9.43 | 1.0076 |
| 2000 | 15.96 | 4.38 | 4.24 | 1.0328 |
| | | | | |
| | | | | |
| 2000 | 0.00 | 0.00 | 0.00 | As Found Zero |
| 2000 | 64.96 | 17.39 | 16.65 | As Found Span |
| | | | Average Correction Factor | 1.0139 |

Calculated value of As Found Response: 16.704 ppm Percent Change of As Found: 3.9%

| | Before | | After |
|---|---|---|---|
| Calculated slope | 0.996274 | Calculated slope | 0.999053 |
| Calculated intercept | 0.122504 | Calculated intercept | 0.065092 |

***Final Zero/Span Data***

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.00 | ppm | 0.00 | ppm |
| Auto span | 10.73 | ppm | 10.99 | ppm |

## THC Calibration Data

| Dilution air flow rate (cc/min) | Source gas flow rate (cc/min) | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 2000 | 0.00 | 0.00 | 0.00 | N/A |
| 2000 | 64.96 | 30.10 | 30.16 | 0.9981 |
| 2000 | 34.97 | 16.44 | 16.39 | 1.0034 |
| 2000 | 15.96 | 7.57 | 7.46 | 1.0155 |
| | | | | |
| | | | | |
| 2000 | 0.00 | 0.00 | 0.00 | As Found Zero |
| 2000 | 64.96 | 30.10 | 28.79 | As Found Span |
| | | | Average Correction Factor | 1.0057 |

Calculated value of As Found Response: 28.791 ppm Percent Change of As Found: 4.3%

| | Before | | After |
|---|---|---|---|
| Calculated slope | 0.993982 | Calculated slope | 0.997022 |
| Calculated intercept | 0.172336 | Calculated intercept | 0.068739 |

***Final Zero/Span Data***

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.02 | ppm | 0.00 | ppm |
| Auto span | 18.64 | ppm | 19.17 | ppm |

Notes: Span adjustmen made
Span & hydrogen cylinders replaced on Oct 16 2018

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter **CH4**

Air Monitoring Network **PAZA**

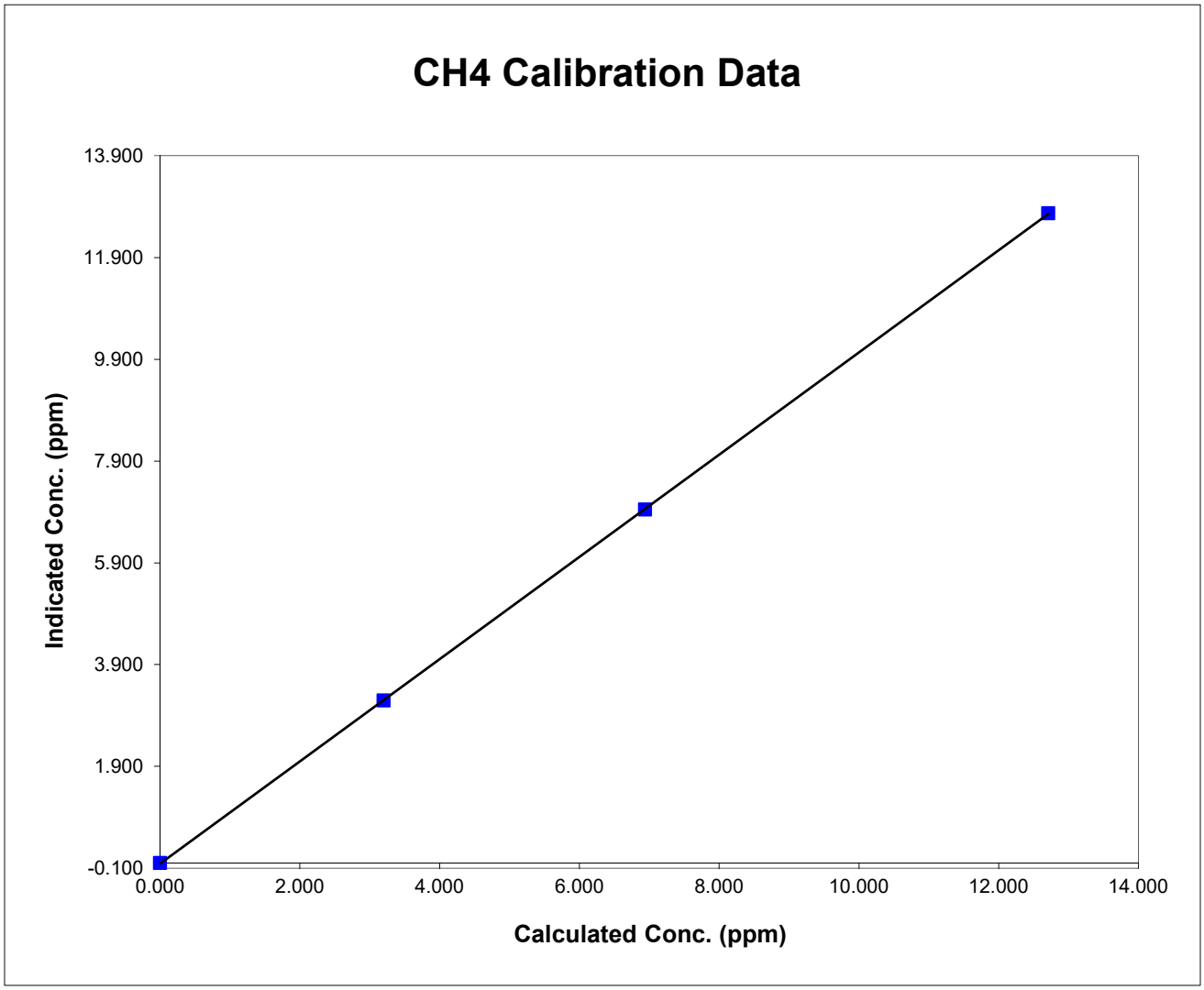
Air Quality Monitoring

***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | October 17, 2018 | Previous Calibration | September 18, 2018 |
| Station Number | 1 | Station Location | Rycroft |
| Start Time (MST) | 11:40 | End Time (MST) | 14:15:00 PM |
| Analyzer make/model | TEI 55I-A3PHAA | Analyzer serial # | 1151980005 |

***Calibration Data***

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.000 | 0.001 | N/A | | |
| 12.709 | 12.768 | 0.9954 | Correlation Coefficient | 0.999994 |
| 6.943 | 6.949 | 0.9991 | | |
| 3.198 | 3.194 | 1.0013 | Slope | 0.995263 |
| | | | | |
| | | | Intercept | 0.011542 |
| | | | | |



# Calibration Summary

Parameter **NMHC**

Air Monitoring Network **PAZA**

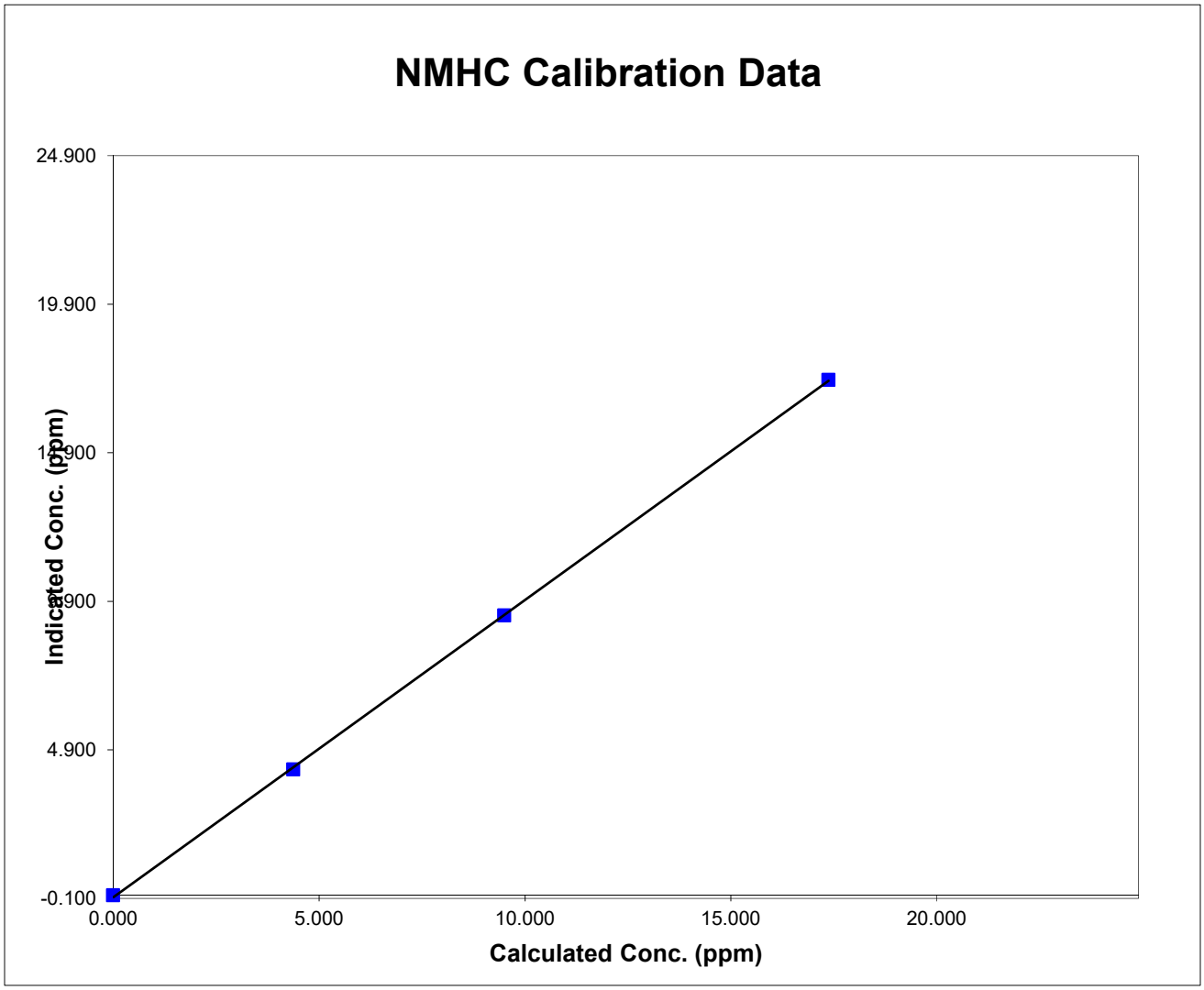
Air Quality Monitoring

***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | October 17, 2018 | Previous Calibration | September 18, 2018 |
| Station Number | 1 | Station Location | Rycroft |
| Start Time (MST) | 11:40 | End Time (MST) | 14:15:00 PM |
| Analyzer make/model | TEI 55I-A3PHAA | Analyzer serial # | 1151980005 |

***Calibration Data***

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.000 | 0.001 | N/A | | |
| 17.372 | 17.351 | 1.0012 | Correlation Coefficient | 0.999931 |
| 9.499 | 9.427 | 1.0076 | | |
| 4.376 | 4.237 | 1.0328 | Slope | 0.999053 |
| | | | | |
| | | | Intercept | 0.065092 |
| | | | | |



# Calibration Summary

Parameter **THC**

Air Monitoring Network **PAZA**

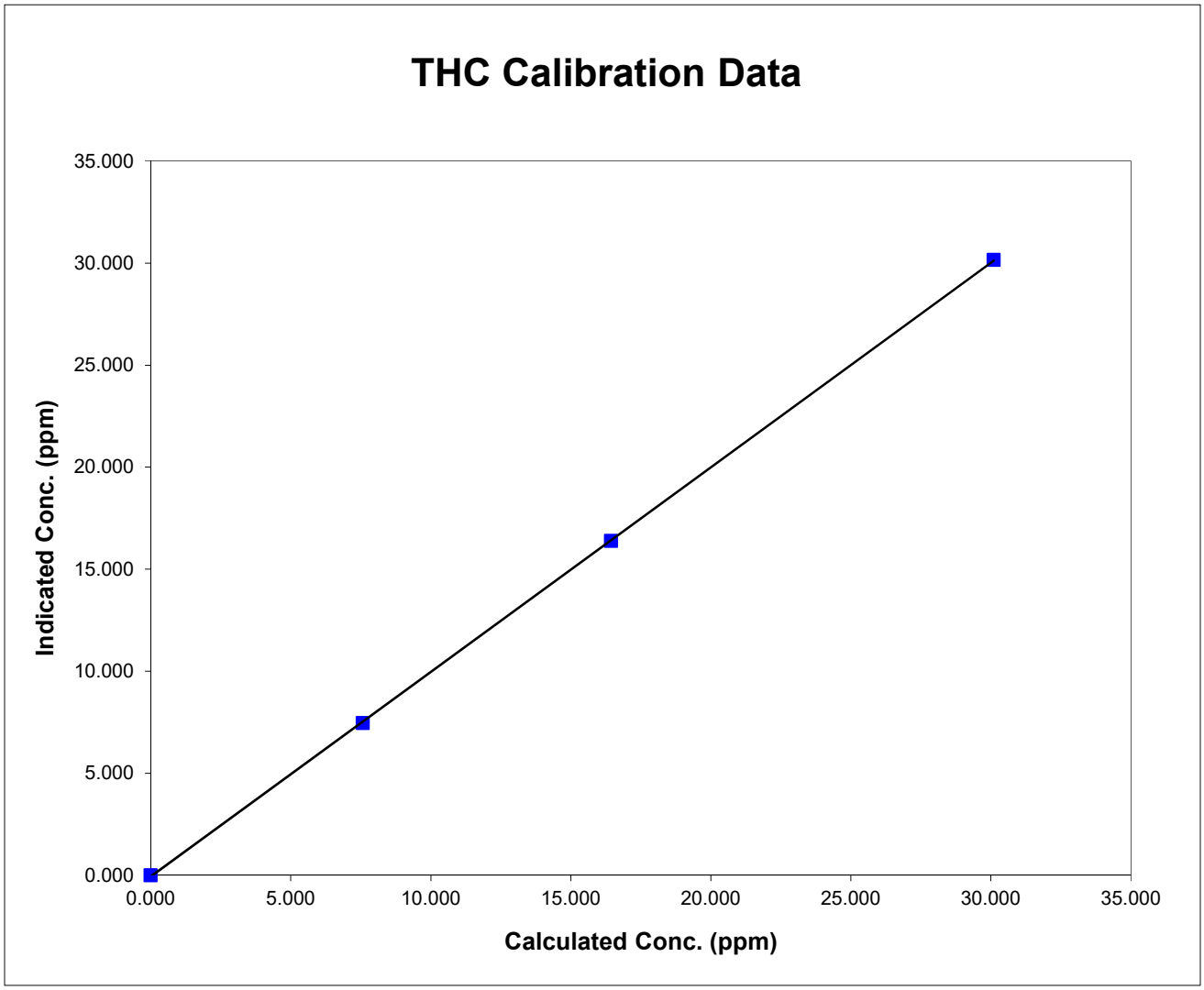
Air Quality Monitoring

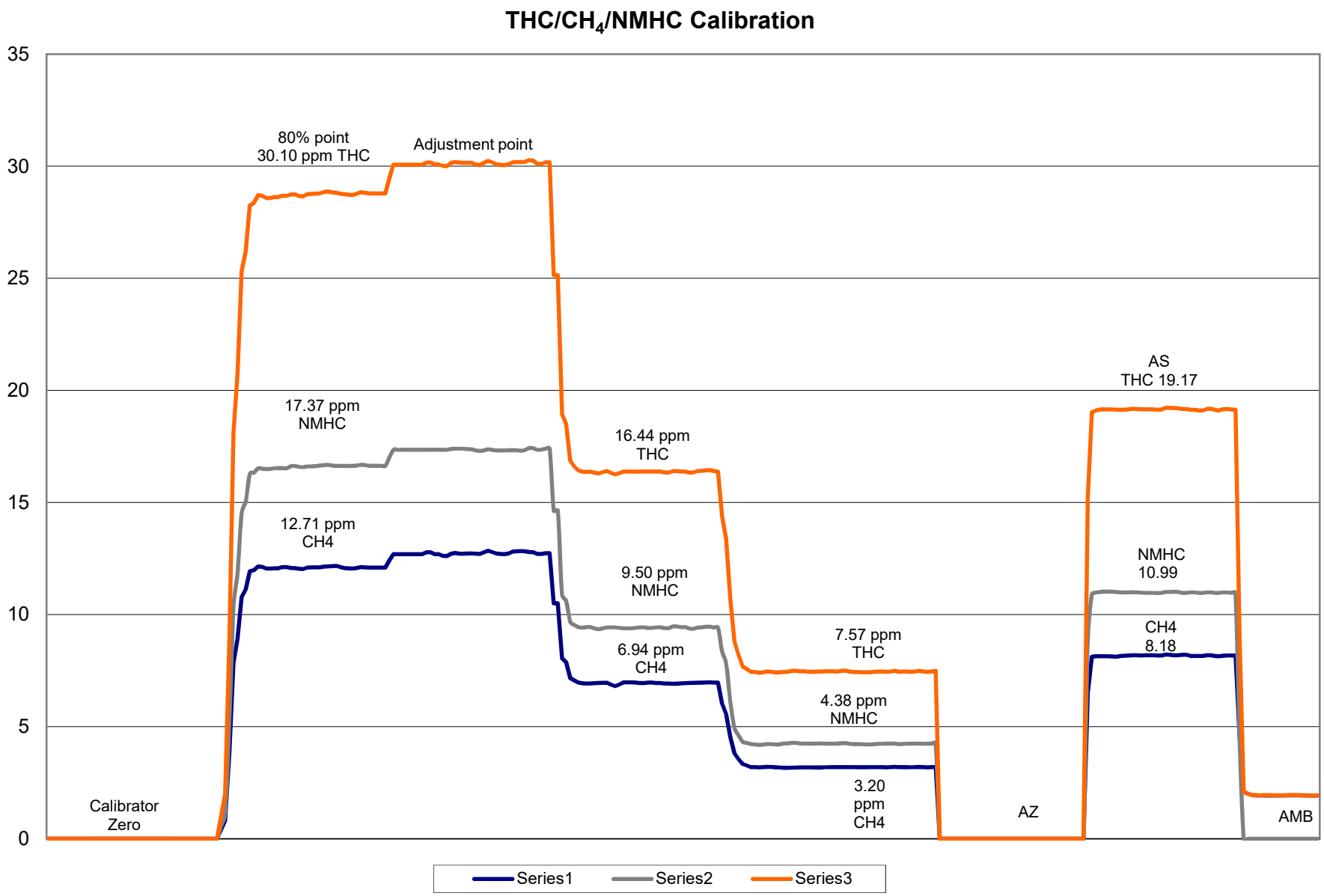
***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | October 17, 2018 | Previous Calibration | September 18, 2018 |
| Station Number | 1 | Station Location | Rycroft |
| Start Time (MST) | 11:40 | End Time (MST) | 14:15:00 PM |
| Analyzer make/model | TEI 55I-A3PHAA | Analyzer serial # | 1151980005 |

***Calibration Data***

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.000 | 0.000 | N/A | | |
| 30.098 | 30.156 | 0.9981 | Correlation Coefficient | 0.999976 |
| 16.441 | 16.385 | 1.0034 | | |
| 7.574 | 7.459 | 1.0155 | Slope | 0.997022 |
| | | | | |
| | | | Intercept | 0.068739 |
| | | | | |




THC/CH4/NMHC Calibration
35
30
25
20
15
10
5
0
80% point
30.10 ppm THC
Adjustment point
17.37 ppm
NMHC
12.71 ppm
CH4
16.44 ppm
THC
9.50 ppm
NMHC
6.94 ppm
CH4
7.57 ppm
THC
4.38 ppm
NMHC
3.20
ppm
CH4
AS
THC 19.17
NMHC
10.99
CH4
8.18
Calibrator
Zero
AZ
AMB
Series1
Series2
Series3

# Calibration Report

Parameter **CH4 / NMHC / THC**

Air Monitoring Network **PAZA**

Air Quality Monitoring

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | October 23, 2018 | Previous Calibration | October 17, 2018 |
| Station Number | 1 | Station Location | Rycroft |

Reason: Routine | Install | Removal | Other:

| | | | |
|---|---|---|---|
| Start Time (MST) | 11:25 | End Time (MST) | 14:25:00 PM |
| Barometric Pressure | 0.930 atm | Station Temperature | 21.0 Deg C |
| Calibrator | Environics 6103 | Serial Number | 6586 |
| Cal Gas CH4 Conc | 404 ppm CH4 | Cal Gas Expiry Date | 28/03/2014 |
| Cal Gas C3H8 Conc | 201 552.75 ppm CH4 | Cal Gas Cylinder # | LL34988 |
| DACS make | CR3000 | DACS serial No. | 5408 |
| DACS voltage range | 0 - 5 volt | DACS channel # | SE 12,13,14 |

| | | | |
|---|---|---|---|
| Analyzer make | TEI 55I-A3PHAA | Analyzer serial # | 1151980005 |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0-20 (CH4, NMHC); 0-40 (THC) | ppm | 0-20 (CH4, NMHC); 0-40 (THC) | ppm |
| Air pressure | 34.5 | PSI | 34.6 | PSI |
| Fuel pressure | 49.5 | PSI | 49.5 | PSI |
| Carrier pressure | 42.2 | PSI | 42.2 | PSI |
| CH4 cal factor | 7.48918500 | | 7.59986650 | $E^{-4}$ |
| NMHC cal factor | 1.9680489 | | 2.0225895 | $E^{-4}$ |
| CH4 Rt | 12.60 | Sec | 12.60 | Sec |
| CH4 Pk HT | 17155 | | 16724 | |

## *CH4 Calibration Data*

| Dilution air flow rate (cc/min) | Source gas flow rate (cc/min) | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 2000 | 0.00 | 0.00 | 0.02 | N/A |
| 2000 | 64.96 | 12.71 | 12.83 | 0.9907 |
| 2000 | 34.97 | 6.94 | 6.89 | 1.0075 |
| 2000 | 15.96 | 3.20 | 3.23 | 0.9912 |
| | | | | |
| | | | | |
| 2000 | 0.00 | 0.00 | 0.02 | As Found Zero |
| 2000 | 64.93 | 12.70 | 12.29 | As Found Span |
| | | | Average Correction Factor | 0.9965 |

Calculated value of As Found Response: 12.227 ppm Percent Change of As Found: 3.7%

| | Before | | After |
|---|---|---|---|
| Calculated slope | 0.991757 | Calculated slope | 0.993464 |
| Calculated intercept | 0.055769 | Calculated intercept | 0.008284 |

### *Final Zero/Span Data*

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.02 | ppm | 0.01 | ppm |
| Auto span | 7.91 | ppm | 8.29 | ppm |

## NMHC Calibration Data

| Dilution air flow rate (cc/min) | Source gas flow rate (cc/min) | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 2000 | 0.00 | 0.00 | 0.00 | N/A |
| 2002 | 64.96 | 17.37 | 17.41 | 0.9981 |
| 2000 | 34.97 | 9.50 | 9.30 | 1.0213 |
| 2000 | 15.96 | 4.38 | 4.25 | 1.0286 |
| | | | | |
| | | | | |
| 2000 | 0.00 | 0.00 | 0.00 | As Found Zero |
| 2000 | 64.93 | 17.38 | 16.87 | As Found Span |
| | | | Average Correction Factor | 1.0160 |

Calculated value of As Found Response: 16.926 ppm Percent Change of As Found: 2.6%

| | Before | | After |
|---|---|---|---|
| Calculated slope | 0.996274 | Calculated slope | 0.997410 |
| Calculated intercept | 0.122504 | Calculated intercept | 0.091253 |

***Final Zero/Span Data***

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.00 | ppm | 0.00 | ppm |
| Auto span | 10.73 | ppm | 11.04 | ppm |

## THC Calibration Data

| Dilution air flow rate (cc/min) | Source gas flow rate (cc/min) | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 2000 | 0.00 | 0.00 | 0.02 | N/A |
| 2000 | 64.96 | 30.10 | 30.27 | 0.9943 |
| 2000 | 34.97 | 16.44 | 16.20 | 1.0149 |
| 2000 | 15.96 | 7.57 | 7.50 | 1.0095 |
| | | | | |
| | | | | |
| 2000 | 0.00 | 0.00 | 0.02 | As Found Zero |
| 2000 | 64.93 | 30.08 | 29.20 | As Found Span |
| | | | Average Correction Factor | 1.0062 |

Calculated value of As Found Response: 29.176 ppm Percent Change of As Found: 3.0%

| | Before | | After |
|---|---|---|---|
| Calculated slope | 0.993982 | Calculated slope | 0.995255 |
| Calculated intercept | 0.172336 | Calculated intercept | 0.094392 |

***Final Zero/Span Data***

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.02 | ppm | 0.01 | ppm |
| Auto span | 18.64 | ppm | 19.33 | ppm |

Notes: Hydrogen & nitrogen cylinders replaced
Span adjustment made

Calibration Performed By: Dmytro Dolotii

# Calibration Summary

Parameter **CH4**

Air Monitoring Network **PAZA**

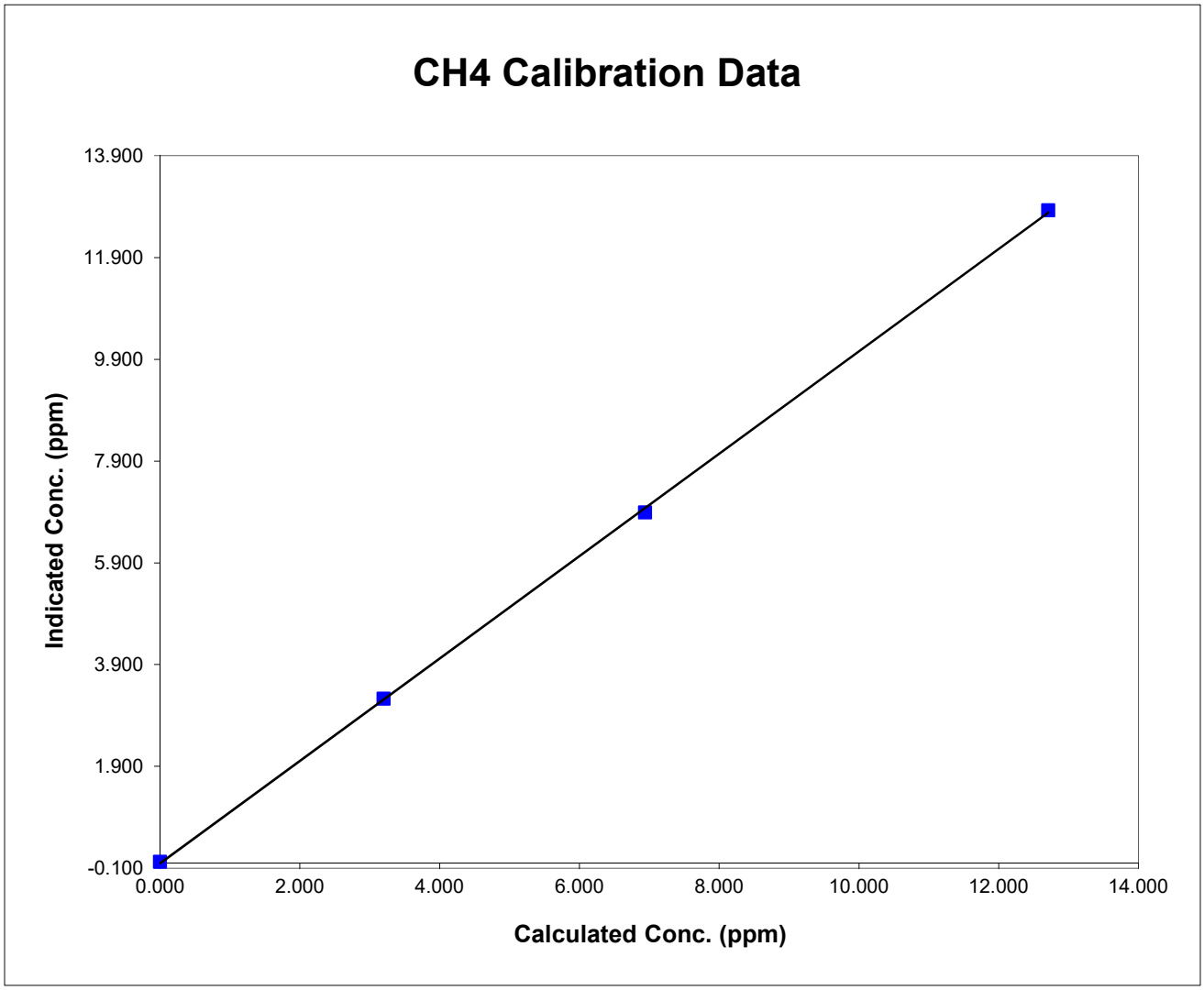
Air Quality Monitoring

***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | October 23, 2018 | Previous Calibration | October 17, 2018 |
| Station Number | 1 | Station Location | Rycroft |
| Start Time (MST) | 11:25 | End Time (MST) | 14:25:00 PM |
| Analyzer make/model | TEI 55I-A3PHAA | Analyzer serial # | 1151980005 |

***Calibration Data***

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.000 | 0.021 | N/A | | |
| 12.709 | 12.828 | 0.9907 | Correlation Coefficient | 0.999880 |
| 6.943 | 6.891 | 1.0075 | | |
| 3.198 | 3.227 | 0.9912 | Slope | 0.993464 |
| | | | | |
| | | | Intercept | 0.008284 |
| | | | | |



# Calibration Summary

Parameter **NMHC**

Air Monitoring Network **PAZA**

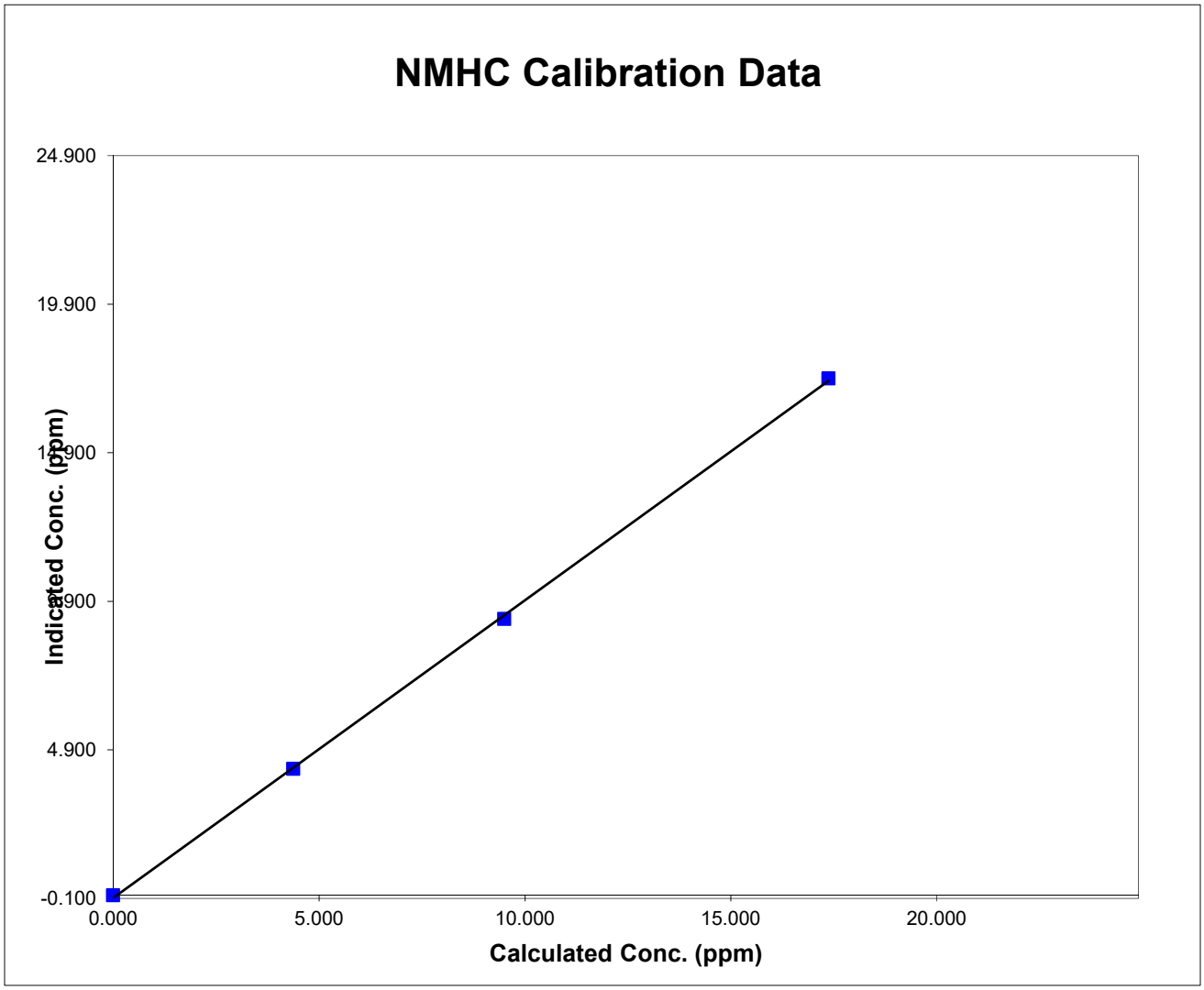
Air Quality Monitoring

***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | October 23, 2018 | Previous Calibration | October 17, 2018 |
| Station Number | 1 | Station Location | Rycroft |
| Start Time (MST) | 11:25 | End Time (MST) | 14:25:00 PM |
| Analyzer make/model | TEI 55I-A3PHAA | Analyzer serial # | 1151980005 |

***Calibration Data***

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.000 | 0.001 | N/A | | |
| 17.372 | 17.406 | 0.9981 | Correlation Coefficient | 0.999798 |
| 9.499 | 9.301 | 1.0213 | | |
| 4.376 | 4.254 | 1.0286 | Slope | 0.997410 |
| | | | | |
| | | | Intercept | 0.091253 |
| | | | | |



# Calibration Summary

Parameter **THC**

Air Monitoring Network **PAZA**

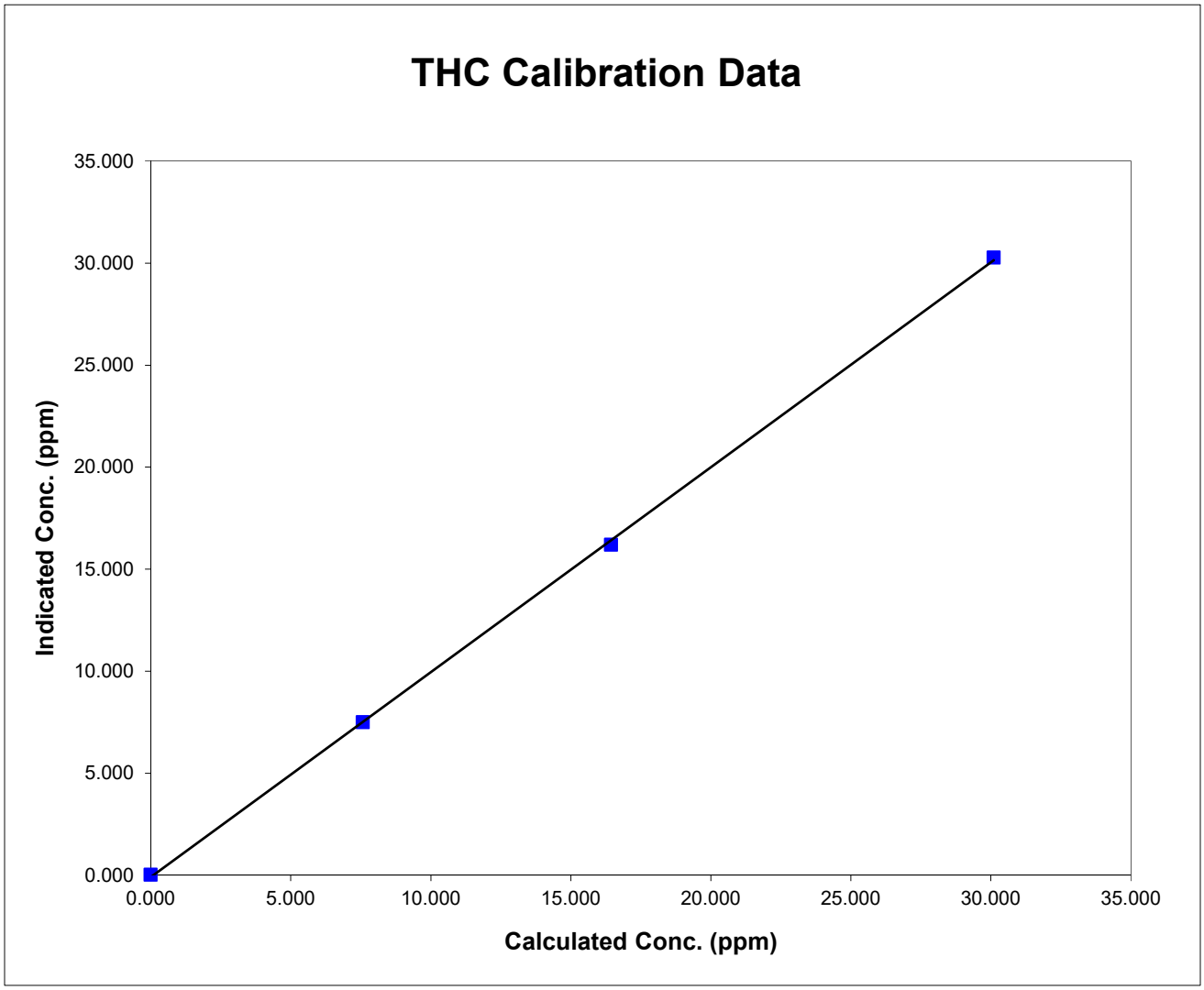
Air Quality Monitoring

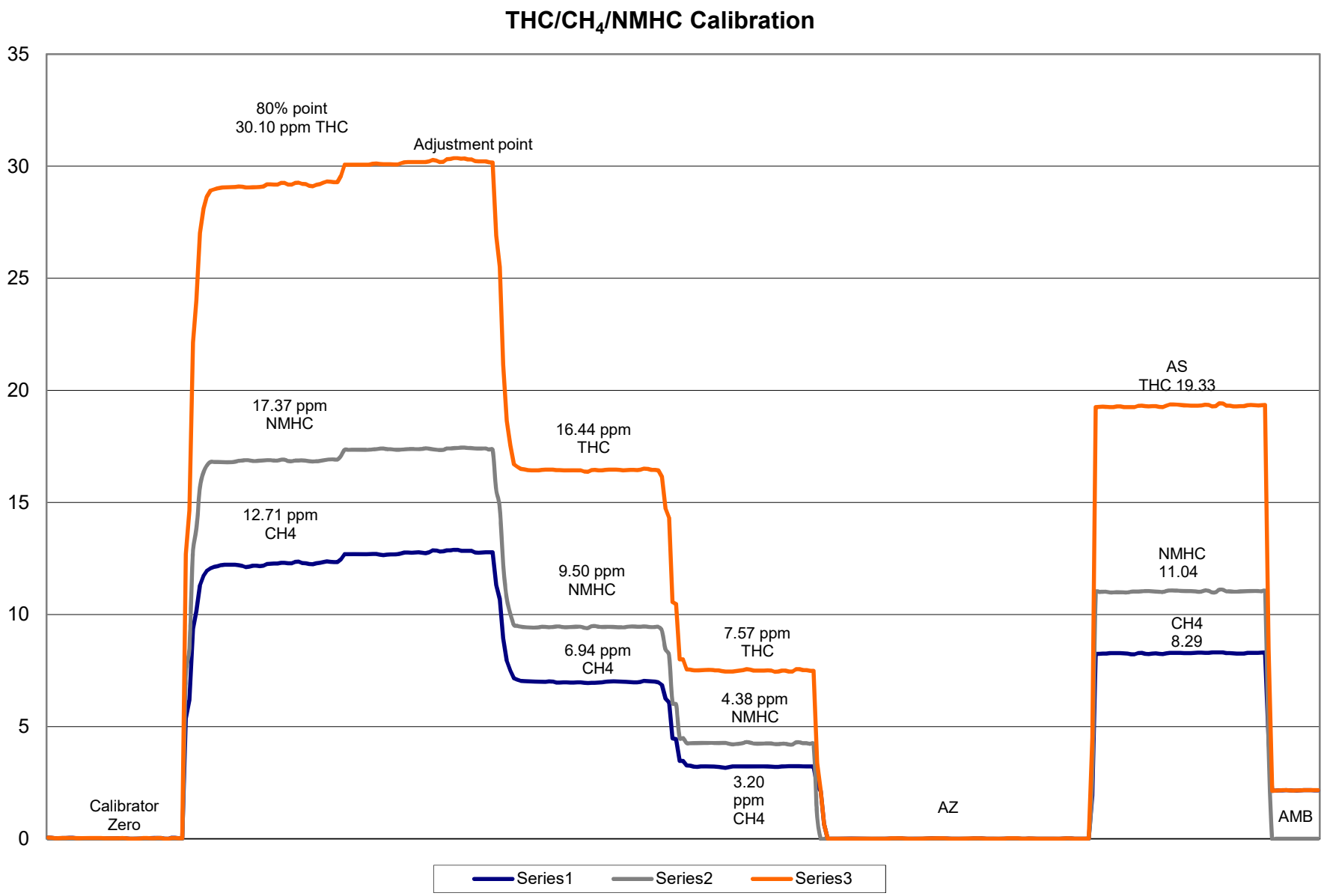
***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | October 23, 2018 | Previous Calibration | October 17, 2018 |
| Station Number | 1 | Station Location | Rycroft |
| Start Time (MST) | 11:25 | End Time (MST) | 14:25:00 PM |
| Analyzer make/model | TEI 55I-A3PHAA | Analyzer serial # | 1151980005 |

***Calibration Data***

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.000 | 0.019 | N/A | | |
| 30.098 | 30.269 | 0.9943 | Correlation Coefficient | 0.999845 |
| 16.441 | 16.201 | 1.0149 | | |
| 7.574 | 7.503 | 1.0095 | Slope | 0.995255 |
| | | | | |
| | | | Intercept | 0.094392 |
| | | | | |




THC/CH4/NMHC Calibration
35
30
25
20
15
10
5
0
80% point
30.10 ppm THC
Adjustment point
17.37 ppm
NMHC
12.71 ppm
CH4
16.44 ppm
THC
9.50 ppm
NMHC
6.94 ppm
CH4
7.57 ppm
THC
4.38 ppm
NMHC
3.20
ppm
CH4
AS
THC 19.33
NMHC
11.04
CH4
8.29
Calibrator
Zero
AZ
AMB
Series1
Series2
Series3

# AB TEOM PM2.5 Calibration

Air Quality Monitoring

STATION: **Rover-Rycroft**

LOCATION: PAZA - Grande Prairie

OPERATOR: Dmytro Dolotii

DATE: 23-Oct-18

MONITOR INFO / PARAMETER VALUES:

| | |
|---|---|
| Make/Model | TEOM AB |
| Configuration | PM2.5 |
| Serial Number | 140AB245710304 |
| Site Number | 10 |
| Inlet Type | PM 10 / SCC |
| FAdj. Main Setting | 1.000 |
| FAdj. Aux. Setting | 0.990 |
| T-Case Indicated / Set Point | 40/40 |
| T-Air Indicated / Set Point | 40/40 |
| T-Cap Indicated / Set Point | 40/40 |
| Splitter Assembly Alignment (cm) | 15.5 |

( vs. specified depth of 15.5 cm from top of flow tube to top of concentric 1/2 in. tube )

RECENT CALIBRATION AND AUDIT HISTORY

| | |
|---|---|
| Previous Audit | |
| Previous Calibration | 14-Aug-18 |

| PUMP CAPACITY CHECK * | PASS |
|---|---|

* capacity test or pump on timed test utilized to verify pump integrity

"FAIL" indicates that pump requires service.

| LEAK CHECK | Indicated Flow (lpm) | |
|---|---|---|
| | Main | Auxiliary |
| PUMP ON | 0.130 | 0.200 |
| PUMP OFF | 0.100 | 0.160 |
| NET | 0.030 | 0.040 |
| *LIMITS* | *<0.15* | *<0.60* |

| | | Ambient Temp. ( ˚ C ) | Ambient Pres. (atm) | Ko * | Bypass flow (lpm) | Sample flow (lpm) |
|---|---|---|---|---|---|---|
| | SET POINT ( S ) | na | na | 12247 | 13.67 | 3.000 |
| | INDICATED ( I ) | 9.8 | 0.923 | | 13.69 | 3.000 |
| *As Found Data* | MEASURED ( AF ) | 9.2 | 0.923 | | 13.41 | 3.280 |
| *Adjusted Data* | MEASURED ( M ) | 9.2 | 0.923 | 12276 | 13.68 | 3.140 |
| | DIFFERENCE (M-I) | -0.6 | 0.000 | 0.2% | 0.01 | 0.14 |
| | *LIMITS* | *± 2 $^{0}$ C* | *± 0.005 atm* | *± 2.5 %* | *± 1.0 L/min* | *± 0.2 L/min* |

Ko Audit Filter data *Weight:* 0.09687 *Serial #:* *CVK 5445*

*COMMENTS:* Pass

Full audit was performed.

No adjustment required

Cleaned the heads

Sample Head Inspection/Cleaning: Large In Line Filter Inspection & Or Cleaning: