# Palliser Airshed Society

## Ambient Air Monitoring Network Summary

### Continuous Ambient Air Quality Monitoring Program
### Monthly Report
### September 2008

**Operations and Reporting**

FOCUS
AIR QUALITY MONITORING

October 22, 2008

**Alberta Environment**
11th Floor, Oxbridge Place
9820-106 Street
Edmonton Alberta T6B 2X3

**Attention: Director of Monitoring and Evaluation**

**RE: Palliser Airshed Society (PAS) Ambient Air Monitoring Report – September 2008**

Enclosed is the PAS Ambient Monitoring Report for the month of **September 2008**.

**Continuous Monitoring – Crescent Heights and Portable-Brooks**
Included in this report are; monthly sampling table, detailed hourly average reports and multipoint calibration reports of all instruments.

**Crescent Heights**:

- All analyzers and instruments at the Crescent Heights Station were above 90% operational for for the month of September.
- The measured ambient air quality was within the Alberta Objectives and Federal guidelines with no exceedences recorded at the Crescent Heights Station.
- The following is a summary of the monthly averages recorded during sampling:
  Monthly average concentrations of $NO_2$ was 6.1 ppb
  Monthly average concentrations for $O_3$ was 19.2 ppb
  Monthly average concentrations for CO was 0.15 ppm
  Monthly average concentrations for THC was 1.86 ppm
  Monthly average concentrations for $PM_{2.5}$ was 3.4 µg/m³

**Portable-Brooks**:

- All pollutant analyzers at the Portable Brooks Station were above 90% operational for the month of September.
- The measured ambient air quality was within the Alberta Objectives and Federal guidelines for $SO_2$ and $O_3$ pollutants recorded at the Portable - Brooks Station. The $H_2S$ analyzer recorded nine (9) exceedences greater then the Alberta Objective of 10 (ppb):
  1. September 9: 01:00 15 ppb Alberta Environment Reference #205946**.**
  2. September 9: 03:00 11 ppb Alberta Environment Reference #205946**.**
  3. September 13: 20:00 17 ppb Alberta Environment Reference #206508**.**
  4. September 16: 00:00 14 ppb Alberta Environment Reference #206290**.**
  5. September 17: 23:00 18 ppb Alberta Environment Reference #207225**.**
  6. September 29: 20:00 23 ppb Alberta Environment Reference #206669**.**
  7. September 29: 22:00 27 ppb Alberta Environment Reference #206670**.**
  8. September 30: 21:00 13 ppb Alberta Environment Reference #206411**.**
  9. September 30: 22:00 16 ppb Alberta Environment Reference #206686**.**

- The following is a summary of the monthly averages recorded during sampling:
  Monthly average concentrations of $SO_2$ was 0.4 ppb
  Monthly average concentrations for $H_2S$ was 0.8 ppb
  Monthly average concentrations for $O_3$ was 21.1 ppb

**Passive Monitoring – Twenty Sites throughout the PAS zone:**
There were two duplicate sites sampled in the month of September: Site 3 and Site 13. All passive samplers ($SO_2$, $NO_2$ and $O_3$) at Site 18 – Christian School Park were found damaged, there are no results for all three samples. The passive sample analyses were performed by MAXXAM Analytics Inc. The following are the ranges for September 2008 recorded by the twenty passive stations located throughout the PAS zone.

- Average concentrations for $SO_2$ passives ranged from 0.0 to 0.3 ppb with a mean of 0.1 ppb.
- Average concentrations for $NO_2$ passives ranged from 0.4 to 5.9 ppb with a mean of 1.7 ppb.
- Average concentrations for $O_3$ passives ranged from 19.1 to 31.0 ppb with a mean of 26.9 ppb.

If you have any questions, please contact the Focus Intec office at 1.403.255.9440.

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AQM Data Specialist

Kelly Baragar, C.E.T
AQM Technical Field Supervisor

# Continuous Monitoring

## Ambient Air Monitoring Network

## Crescent Heights Station

### General Station Issues

Routine monthly calibrations were performed on September 2nd ($NO_X$, THC), September 11th ($O_3$, CO & THC). A power failure on September 10th resulted in at least one hour of invalid data for all parameters.

| Parameter | Make | Model | Units | Notes |
|---|---|---|---|---|
| **Ozone** | TECO | 43I | ppb | No operational issues were observed. |
| **Nitrogen Dioxide** | Teledyne - API | 200E | ppb | No operational issues were observed. |
| **Total Hydrocarbons** | Bendix | 400A | ppm | A total of fifty-two (52) hours were flagged invalid due to zero air supply failure. |
| **Carbon Monoxide** | TEI | 49C | ppm | No operational issues were observed. |
| **$PM_{2.5}$** | R&P TEOM | 1400ab | $\mu g/m^3$ | Eight (8) hours were flagged for excessive baseline drift |
| **Wind Speed** | Met One | 010C | kph | No operational issues were observed. |
| **Wind Direction** | Met One | 020C | Deg | No operational issues were observed. |
| **Ambient Temperature** | Met One | 083D | DegC | No operational issues were observed. |
| **Relative Humidity** | Met One | 083D | % | No operational issues were observed. |
| **Solar Radiation** | Met One | 096-1 | $W/m^2$ | No operational issues were observed. |
| **Data Acquisition System** | Titan Logix | AP1000 | | No operational issues were observed. |

# Continuous Monitoring

## Ambient Air Monitoring Network

## Portable-Brooks Station

### General Station Issues

Routine monthly calibrations were performed on September 26th ($SO_2$, $H_2S$) and September 28th ($O_3$). A power failure on September 17th resulted in several hours of invalid data for all parameters.

| Parameter | Make | Model | Units | Notes |
|---|---|---|---|---|
| **Ozone** | Teledyne - API | 400E | ppb | No operational problems observed. |
| **Sulphur Dioxide** | TEI | 43A | ppb | No operational problems observed. |
| **Hydrogen Sulphide** | TEI | 43A | ppb | No operational problems observed. |
| **Wind Speed** | Blue Sky | | kph | No operational problems observed. |
| **Wind Direction** | Blue Sky | | Deg | No operational problems observed. |
| **Data Acquisition System** | Titan Logix | AP1000 | | No operational problems observed. |

# September 2008 Monthly Overall Summary Report

## Ambient Air Quality Data

| Sep-2008 | Palliser Airshed Society | | | | | | Maximum Recorded Values | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 1-hr | | 24-hr / 8-hr | | |
| **Pollutant** (units) | **Objectives** 1-hr | 24-hr | **Station** | **Monthly Average** | **Exceedence** 1-hr | 24-hr | Conc | Day | Conc | Day | **Operational Time (%)** |
| NO (**ppb**) | | | Crescent Heights | 3.1 | - | - | 76.4 | Sep-30 08:00 | 9.4 | Sep-30 | 100.0% |
| $NO_2$ (**ppb**) | 212 | 106 | Crescent Heights | 6.1 | - | - | 30.8 | Sep-25 20:00 | 10.6 | Sep-29 | 99.9% |
| $NO_X$ (**ppb**) | | | Crescent Heights | 8.7 | - | - | 99.5 | Sep-30 08:00 | 19.1 | Sep-30 | 99.9% |
| $O_3$ (**ppb**) | 82 | | Crescent Heights | 19.2 | 0 | - | 50.9 | Sep-18 16:00 | 28.6 | Sep-18 | 100.0% |
| $O_3$ (**ppb**) - **8-hr** | 65 | | Crescent Heights | | 0 | | | | 44.5 | Sep-19 | |
| CO (**ppm**) | 13 | | Crescent Heights | 0.15 | 0 | - | 0.7 | Sep-25 20:00 | 0.2 | Sep-25 | 99.9% |
| CO **(ppm) - 8-hr** | 5 | | Crescent Heights | | 0 | | | | 0.3 | Sep-30 | |
| THC (**ppm**) | | | Crescent Heights | 1.86 | - | - | 2.5 | Sep-17 04:00 | 2.1 | Sep-17 | 92.6% |
| $PM_{2.5}$ (**µg/m$^3$**) | 80 | 30 | Crescent Heights | 3.4 | 0 | 0 | 22.5 | Sep-18 21:00 | 9.6 | Sep-19 | 98.8% |
| | | | | | | | | | | | |
| RH **(%)** | | | Crescent Heights | 60.4 | - | - | 91.4 | - | 87.3 | - | 99.9% |
| SR **(W/m2)** | | | Crescent Heights | 180.8 | - | - | 786.9 | - | 249.8 | - | 99.9% |
| Temp **(°C)** | | | Crescent Heights | 13.7 | - | - | 30.7 | - | 19.7 | - | 99.9% |
| WSPD s **(km/hr)** | | | Crescent Heights | 9.7 | - | - | 27.0 | Sep-19 21:00 | 17.0 | Sep-12 | 99.9% |
| WSPD v (**km/hr**) | | | Crescent Heights | 2.4 | - | - | 26.0 | Sep-19 21:00 | 11.3 | Sep-12 | 99.9% |
| WDIR | | | Crescent Heights | WSW | - | - | | - | | - | 99.9% |
| $SO_2$ **(ppb)** | 172 | 57 | Portable-Brooks | 0.4 | 0 | 0 | 3.1 | Sep-12 11:00 | 0.7 | Sep-16 | 99.6% |
| $O_3$ (**ppb**) | 82 | | Portable-Brooks | 21.1 | 0 | - | 59.2 | Sep-18 16:00 | 27.4 | Sep-28 | 99.6% |
| $O_3$ (**ppb**) - **8-hr** | 65 | | Portable-Brooks | | 0 | | | | 51.7 | Sep-18 | 99.2% |
| $H_2S$ **(ppb)** | 10 | 3 | Portable-Brooks | 0.81 | 9 | 0 | 0.8 | Sep-29 22:00 | 3.4 | Sep-30 | 99.6% |
| | | | | | | | | | | | |
| WSPD s (km/hr) | | | Portable-Brooks | 9.4 | - | - | 3.1 | Sep-27 18:00 | 16.6 | Sep-19 | 99.7% |
| WSPD v (**km/hr**) | | | Portable-Brooks | 1.2 | - | - | 31.0 | Sep-27 18:00 | 14.6 | Sep-19 | 99.7% |
| WDIR | | | Portable-Brooks | S | - | - | | - | | - | 99.7% |

# PAS - Crescent Heights

## Monthly Summary Tables, Graphs and Roses

**Palliser Airshed Society**
**Summary of Hourly Averages**

**Crescent Heights - Nitrogen Dioxide ($NO_2$) - ppb**
**September 1, 2008 to October 1, 2008**

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 30.8 ppb on Sep 25 20:00 Maximum Daily Average: 10.6 ppb on Sep 29

Minimum Value: 0 ppb on Sep 8 12:00
Maximum Diurnal Average: 10.7 ppb at hour 20
Monthly Average: 6.08 ppb

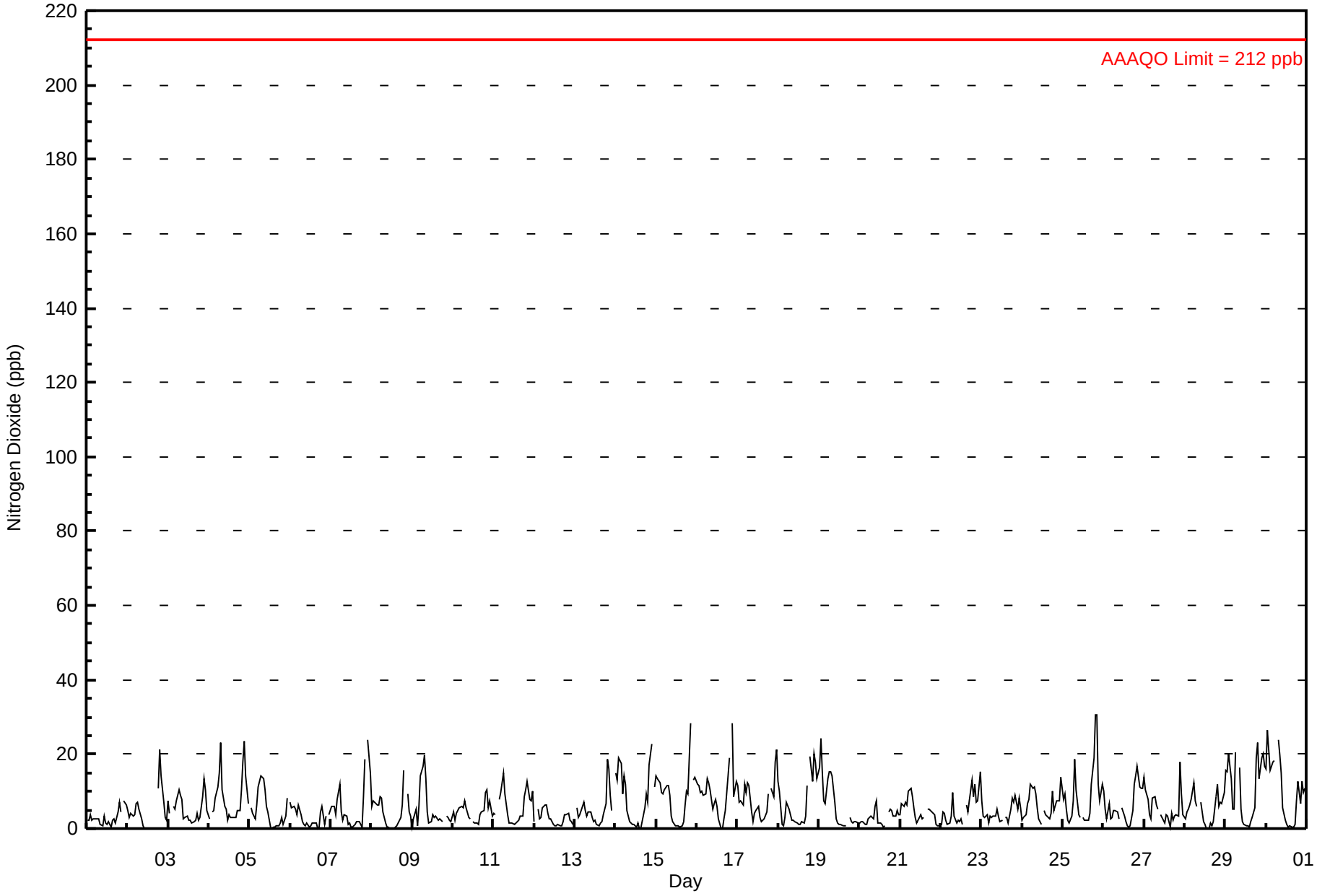
Minimum Daily Average: 2.8 ppb on Sep 12
Minimum Diurnal Average: 1.4 ppb at hour 15
Percentiles: $P_1$ = 0.0 $P_{10}$ = 1.0 $Q_1$ = 2.1 Median = 4.3 $Q_3$ = 8.5 $P_{90}$ = 13.5 $P_{99}$ = 23.6

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 682 |
| Hours of Missing Data: | 38 |
| Hours of Calibration: | 37 |
| Percent Operational Time: | 99.9 |

| 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-Sep | 2 | 2 | 4 | 2 | 3 | 3 | 3 | 2 | 1 | 1 | 3 | 1 | 1 | 2 | 0 | 2 | 3 | 2 | 4 | 7 | 5 | A | 8 | 6 | 2.9 | 7.5 |
| 2-Sep | 5 | 3 | 4 | 3 | 4 | 7 | 7 | 5 | 3 | 1 | 0 | C | C | C | C | C | C | A | 11 | 21 | 14 | 7 | 3 | 2 | -- | 21.4 |
| 3-Sep | 8 | 4 | A | 6 | 5 | 7 | 10 | 9 | 8 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 4 | 2 | 3 | 9 | 13 | 10 | 5 | 5.3 | 13.3 |
| 4-Sep | 2 | A | 4 | 5 | 8 | 11 | 15 | 23 | 10 | 6 | 5 | 2 | 4 | 3 | 3 | 3 | 3 | 5 | 5 | 11 | 18 | 23 | 14 | 7 | 8.3 | 23.4 |
| 5-Sep | A | 6 | 4 | 3 | 6 | 11 | 13 | 14 | 13 | 10 | 6 | 4 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 3 | 1 | 3 | 8 | A | 5.0 | 14.1 |
| 6-Sep | 7 | 6 | 6 | 5 | 4 | 6 | 4 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 0 | 0 | 5 | 6 | 1 | 3 | A | 4 | 3.0 | 7.2 |
| 7-Sep | 6 | 6 | 6 | 4 | 8 | 12 | 4 | 2 | 4 | 3 | 1 | 2 | 0 | 0 | 1 | 2 | 2 | 2 | 0 | 9 | 19 | A | 24 | 15 | 5.7 | 23.7 |
| 8-Sep | 6 | 8 | 7 | 6 | 6 | 9 | 8 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 6 | 16 | A | 9 | 4 | 3 | 4.4 | 15.7 |
| 9-Sep | 0 | 3 | 5 | 1 | 6 | 14 | 17 | 20 | 14 | 4 | 2 | 2 | 4 | 3 | 3 | 2 | 3 | 2 | 2 | A | 3 | 3 | 2 | 2 | 5.1 | 19.8 |
| 10-Sep | 5 | 2 | 4 | 5 | 6 | 6 | 6 | 7 | 5 | 3 | 3 | P | 2 | 2 | 1 | 1 | 4 | 5 | 5 | 10 | 10 | 6 | 7 | 4 | 4.6 | 10.3 |
| 11-Sep | 4 | 4 | A | 8 | 10 | 12 | 15 | 9 | 4 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 3 | 3 | 8 | 10 | 13 | 8 | 7 | 10 | 6.1 | 15.0 |
| 12-Sep | 2 | A | 5 | 2 | 3 | 5 | 6 | 6 | 4 | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 4 | 4 | 2 | 2 | 1 | 2.8 | 6.4 |
| 13-Sep | A | 5 | 3 | 4 | 5 | 7 | 5 | 3 | 4 | 4 | 3 | 2 | 2 | 1 | 1 | 1 | 2 | 4 | 7 | 19 | 16 | 9 | 5 | A | 5.1 | 18.7 |
| 14-Sep | 15 | 13 | 19 | 18 | 9 | 14 | 12 | 5 | 2 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 2 | 5 | 9 | 7 | 17 | 23 | A | 11 | 8.1 | 22.8 |
| 15-Sep | 14 | 13 | 12 | 10 | 9 | 11 | 12 | 12 | 9 | 3 | 2 | 1 | 1 | 1 | 0 | 1 | 2 | 6 | 10 | 9 | 28 | A | 13 | 14 | 8.4 | 28.2 |
| 16-Sep | 12 | 11 | 10 | 10 | 9 | 9 | 14 | 12 | 10 | 5 | 7 | 8 | 6 | 3 | 0 | 0 | 2 | 5 | 14 | 19 | A | 28 | 9 | 13 | 9.4 | 28.2 |
| 17-Sep | 12 | 7 | 7 | 6 | 12 | 10 | 12 | 11 | 5 | 2 | 4 | 5 | 6 | 3 | 2 | 2 | 3 | 4 | 9 | A | 11 | 8 | 18 | 21 | 7.9 | 21.3 |
| 18-Sep | 13 | 10 | 1 | 1 | 3 | 7 | 5 | 4 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 3 | 11 | A | 19 | 13 | 20 | 18 | 13 | 6.8 | 20.2 |
| 19-Sep | 17 | 24 | 15 | 8 | 7 | 13 | 15 | 15 | 14 | 7 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | A | 3 | 2 | 2 | 2 | 2 | 2 | 6.8 | 24.1 |
| 20-Sep | 2 | 2 | 2 | 1 | 1 | 3 | 3 | 3 | 3 | 6 | 8 | 2 | 1 | 1 | 0 | 1 | A | 4 | 5 | 5 | 3 | 3 | 5 | 4 | 2.9 | 7.6 |
| 21-Sep | 4 | 7 | 6 | 7 | 6 | 10 | 11 | 9 | 5 | 3 | 1 | 3 | 4 | 2 | 3 | A | 5 | 5 | 5 | 4 | 4 | 1 | 1 | 1 | 4.7 | 10.9 |
| 22-Sep | 1 | 4 | 4 | 2 | 1 | 2 | 3 | 10 | 3 | 2 | 2 | 2 | 3 | 1 | A | 6 | 4 | 8 | 13 | 8 | 12 | 7 | 7 | 15 | 5.3 | 15.2 |
| 23-Sep | 7 | 3 | 3 | 4 | 1 | 3 | 3 | 4 | 3 | 5 | 4 | 2 | 2 | A | 3 | 3 | 2 | 5 | 8 | 7 | 9 | 5 | 8 | 6 | 4.4 | 8.8 |
| 24-Sep | 2 | 3 | 4 | 7 | 8 | 12 | 11 | 11 | 9 | 5 | 2 | 1 | A | 5 | 4 | 3 | 3 | 4 | 10 | 5 | 8 | 7 | 7 | 14 | 6.3 | 13.7 |
| 25-Sep | 8 | 9 | 5 | 2 | 1 | 3 | 8 | 19 | 10 | 4 | 3 | A | 3 | 2 | 2 | 2 | 4 | 12 | 19 | 31 | 31 | 12 | 7 | 12 | 9.1 | 30.8 |
| 26-Sep | 10 | 5 | 3 | 7 | 3 | 3 | 5 | 5 | 4 | 3 | A | 6 | 3 | 2 | 1 | 0 | 1 | 5 | 12 | 14 | 17 | 11 | 11 | 11 | 6.1 | 16.8 |
| 27-Sep | 14 | 10 | 8 | 4 | 3 | 8 | 8 | 6 | 5 | A | 4 | 2 | 1 | 4 | 3 | 1 | 4 | 2 | 3 | 4 | 3 | 18 | 9 | 4 | 5.6 | 17.9 |
| 28-Sep | 3 | 5 | 5 | 6 | 8 | 12 | 7 | 6 | A | 7 | 4 | 2 | 1 | 0 | 0 | 2 | 1 | 2 | 9 | 12 | 6 | 7 | 7 | 10 | 5.3 | 12.3 |
| 29-Sep | 16 | 15 | 20 | 13 | 5 | 5 | 21 | A | 16 | 5 | 2 | 1 | 1 | 1 | 0 | 2 | 3 | 6 | 19 | 23 | 13 | 19 | 20 | 17 | 10.6 | 23.0 |
| 30-Sep | 16 | 26 | 16 | 17 | 18 | 18 | A | 24 | 20 | 15 | 6 | 2 | 1 | 0 | 1 | 0 | 0 | 1 | 8 | 13 | 7 | 13 | 10 | 11 | 10.5 | 26.4 |
| | 7.5 | 7.8 | 6.9 | 5.9 | 5.9 | 8.5 | 9.0 | 9.1 | 6.7 | 4.0 | 3.0 | 2.2 | 1.9 | 1.6 | 1.4 | 1.6 | 2.3 | 4.2 | 7.5 | 10.7 | 10.5 | 10.1 | 8.8 | 8.4 | Diurnal Average | |
| | 16.6 | 26.4 | 20.1 | 17.5 | 18.0 | 18.2 | 20.5 | 23.7 | 19.9 | 14.9 | 7.6 | 7.9 | 6.0 | 4.8 | 3.9 | 6.3 | 5.1 | 11.8 | 19.0 | 30.8 | 30.7 | 28.2 | 23.7 | 21.3 | Diurnal Maximum | |

C - Calibration P - Power Failure A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 212 ppb 24-hr 106 ppb

# Hourly Averages for $NO_2$ at Crescent Heights
## September 2008



**Palliser Airshed Society**
**Summary of Hourly Maximums**

**Crescent Heights - Nitrogen Dioxide ($NO_2$) - ppb**
**September 1, 2008 to October 1, 2008**

Maximum Value: 95.6 ppb on Sep 4 08:00

Maximum Daily Average: 22.0 ppb on Sep 14

Minimum Value: 0 ppb on Sep 16 15:00

Minimum Daily Average: 4.7 ppb on Sep 20

Maximum Diurnal Average: 19.8 ppb at hour 19

Minimum Diurnal Average: 5.8 ppb at hour 15

Monthly Average: 13.69 ppb

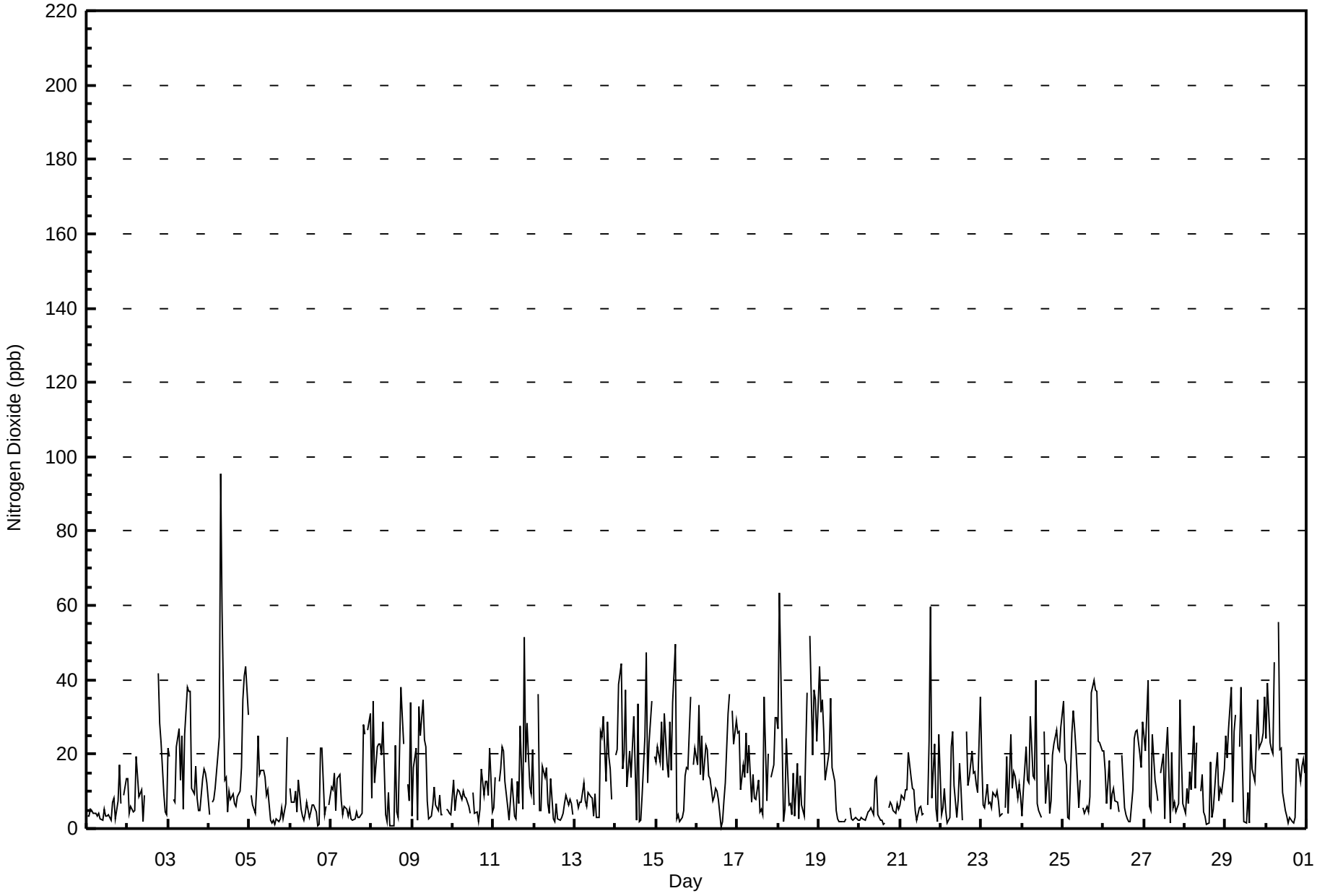
Percentiles: $P_1$ = 1.1 $P_{10}$ = 2.7 $Q_1$ = 4.7 Median = 10.2 $Q_3$ = 20.8 $P_{90}$ = 28.9 $P_{99}$ = 51.5

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 682 |
| Hours of Missing Data: | 38 |
| Hours of Calibration: | 37 |
| Percent Operational Time: | 99.9 |

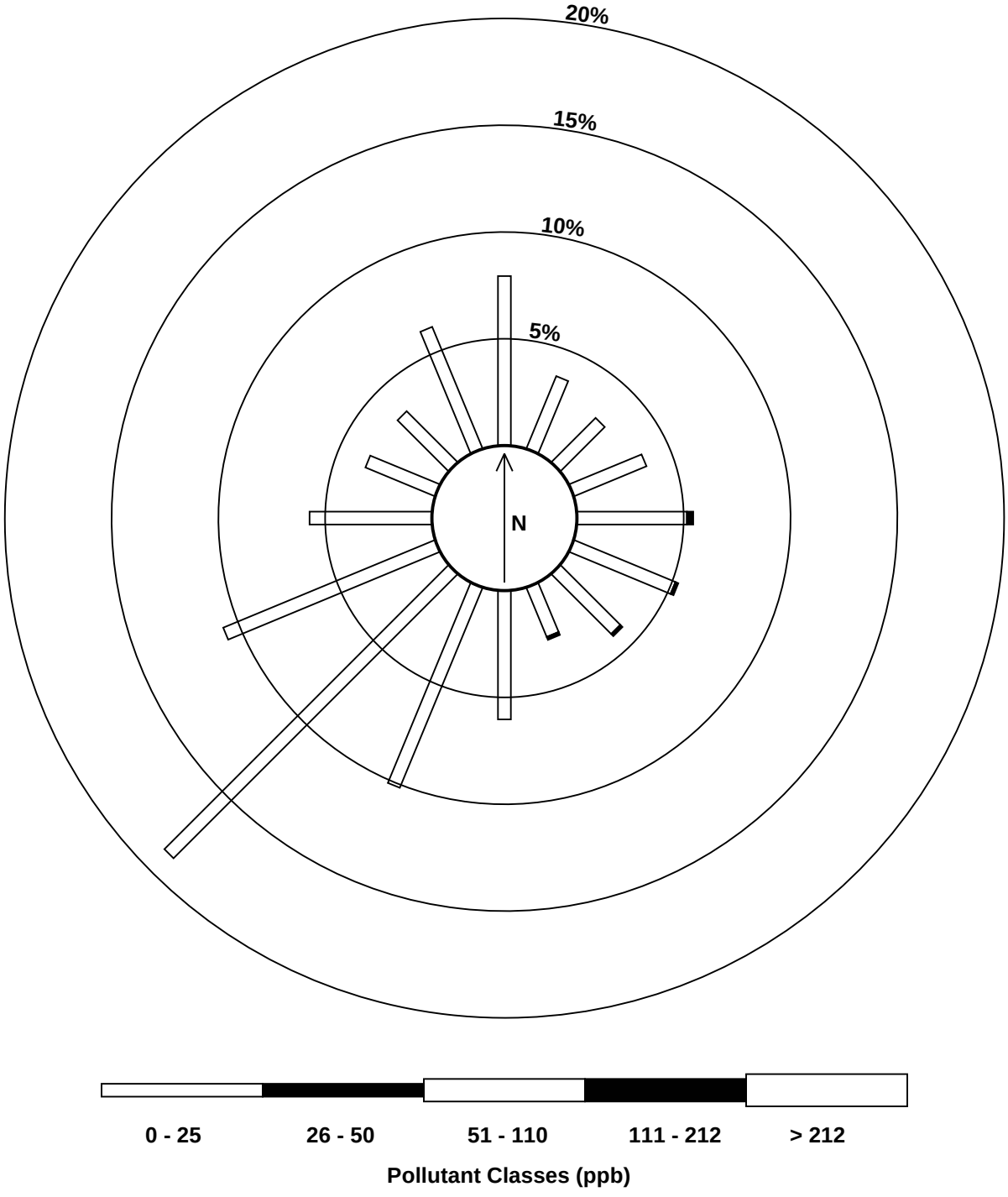
| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | |
| 1-Sep | 3 | 3 | 5 | 5 | 4 | 4 | 4 | 4 | 3 | 2 | 5 | 3 | 3 | 4 | 2 | 7 | 8 | 3 | 7 | 17 | 7 | A | 9 | 13 | 5.5 | 17.0 |
| 2-Sep | 13 | 4 | 6 | 4 | 5 | 19 | 14 | 8 | 10 | 2 | 9 | C | C | C | C | C | C | A | 42 | 28 | 23 | 9 | 4 | 4 | -- | 41.9 |
| 3-Sep | 22 | 19 | A | 8 | 7 | 22 | 27 | 13 | 25 | 5 | 25 | 38 | 37 | 37 | 11 | 9 | 17 | 8 | 5 | 5 | 14 | 16 | 15 | 12 | 17.2 | 38.0 |
| 4-Sep | 4 | A | 7 | 8 | 11 | 20 | 24 | 96 | 59 | 13 | 14 | 5 | 10 | 8 | 9 | 7 | 6 | 9 | 10 | 16 | 35 | 41 | 44 | 30 | 21.0 | 95.6 |
| 5-Sep | A | 9 | 6 | 4 | 12 | 25 | 14 | 16 | 16 | 14 | 9 | 10 | 2 | 2 | 2 | 1 | 2 | 2 | 3 | 6 | 3 | 7 | 25 | A | 8.6 | 25.1 |
| 6-Sep | 11 | 7 | 7 | 10 | 5 | 13 | 5 | 3 | 2 | 4 | 7 | 3 | 4 | 6 | 6 | 4 | 1 | 1 | 22 | 22 | 4 | 6 | A | 6 | 7.0 | 21.7 |
| 7-Sep | 11 | 11 | 15 | 5 | 13 | 15 | 8 | 4 | 6 | 5 | 3 | 5 | 2 | 2 | 3 | 5 | 3 | 3 | 4 | 28 | 25 | A | 26 | 31 | 10.2 | 31.1 |
| 8-Sep | 8 | 34 | 12 | 22 | 23 | 23 | 20 | 29 | 4 | 2 | 10 | 1 | 1 | 1 | 23 | 4 | 3 | 38 | 30 | 23 | A | 12 | 7 | 34 | 15.8 | 38.0 |
| 9-Sep | 3 | 16 | 21 | 2 | 33 | 25 | 35 | 24 | 22 | 8 | 3 | 3 | 6 | 11 | 6 | 5 | 9 | 4 | 4 | A | 5 | 5 | 4 | 4 | 11.2 | 34.9 |
| 10-Sep | 13 | 5 | 9 | 10 | 10 | 8 | 10 | 9 | 8 | 6 | 4 | P | 10 | 4 | 4 | 2 | 5 | 16 | 9 | 13 | 13 | 9 | 22 | 5 | 8.8 | 21.7 |
| 11-Sep | 6 | 14 | A | 13 | 16 | 22 | 21 | 13 | 6 | 2 | 7 | 14 | 3 | 3 | 13 | 7 | 28 | 5 | 52 | 18 | 28 | 11 | 10 | 21 | 14.4 | 51.6 |
| 12-Sep | 6 | A | 36 | 5 | 5 | 17 | 14 | 16 | 7 | 4 | 13 | 3 | 2 | 7 | 3 | 2 | 3 | 4 | 7 | 9 | 6 | 8 | 7 | 4 | 8.1 | 36.2 |
| 13-Sep | A | 8 | 6 | 7 | 7 | 12 | 8 | 6 | 10 | 8 | 8 | 3 | 9 | 3 | 3 | 26 | 24 | 30 | 13 | 29 | 19 | 16 | 8 | A | 12.0 | 30.3 |
| 14-Sep | 20 | 21 | 39 | 44 | 16 | 20 | 37 | 11 | 21 | 14 | 22 | 30 | 2 | 34 | 2 | 2 | 9 | 25 | 47 | 12 | 23 | 34 | A | 19 | 22.0 | 47.4 |
| 15-Sep | 18 | 22 | 18 | 29 | 16 | 31 | 17 | 14 | 29 | 16 | 34 | 50 | 2 | 4 | 2 | 3 | 5 | 14 | 17 | 16 | 35 | A | 17 | 22 | 18.7 | 49.6 |
| 16-Sep | 17 | 33 | 14 | 25 | 13 | 22 | 21 | 14 | 13 | 7 | 8 | 11 | 10 | 8 | 0 | 2 | 8 | 12 | 31 | 36 | A | 32 | 23 | 29 | 17.0 | 36.3 |
| 17-Sep | 26 | 26 | 10 | 17 | 14 | 26 | 15 | 22 | 7 | 15 | 8 | 8 | 13 | 5 | 5 | 4 | 35 | 7 | 20 | A | 14 | 17 | 30 | 30 | 16.2 | 35.3 |
| 18-Sep | 27 | 63 | 24 | 2 | 5 | 24 | 6 | 7 | 4 | 15 | 3 | 18 | 2 | 14 | 6 | 3 | 21 | 37 | A | 52 | 20 | 37 | 35 | 24 | 19.5 | 63.4 |
| 19-Sep | 44 | 31 | 35 | 26 | 13 | 18 | 21 | 35 | 16 | 13 | 5 | 2 | 2 | 2 | 2 | 2 | 3 | A | 6 | 3 | 2 | 3 | 3 | 2 | 12.5 | 43.6 |
| 20-Sep | 2 | 3 | 3 | 2 | 3 | 4 | 5 | 5 | 4 | 13 | 14 | 4 | 2 | 2 | 1 | 1 | A | 6 | 7 | 6 | 5 | 4 | 7 | 5 | 4.7 | 13.7 |
| 21-Sep | 6 | 9 | 8 | 11 | 10 | 21 | 14 | 11 | 11 | 5 | 2 | 6 | 6 | 4 | 4 | A | 6 | 23 | 60 | 8 | 23 | 5 | 2 | 25 | 12.1 | 59.8 |
| 22-Sep | 4 | 5 | 11 | 5 | 2 | 3 | 22 | 26 | 11 | 3 | 8 | 17 | 11 | 2 | A | 26 | 11 | 14 | 21 | 15 | 15 | 12 | 10 | 36 | 12.6 | 35.6 |
| 23-Sep | 18 | 6 | 5 | 12 | 7 | 7 | 6 | 10 | 8 | 10 | 7 | 3 | 4 | A | 6 | 20 | 4 | 25 | 11 | 15 | 14 | 8 | 12 | 9 | 9.9 | 25.4 |
| 24-Sep | 3 | 10 | 22 | 13 | 12 | 30 | 14 | 13 | 40 | 7 | 5 | 3 | A | 26 | 7 | 17 | 4 | 7 | 20 | 23 | 26 | 22 | 21 | 27 | 16.2 | 39.9 |
| 25-Sep | 34 | 19 | 17 | 3 | 3 | 26 | 32 | 27 | 21 | 6 | 13 | A | 5 | 4 | 6 | 5 | 9 | 36 | 40 | 37 | 37 | 23 | 23 | 21 | 19.4 | 39.8 |
| 26-Sep | 21 | 16 | 7 | 18 | 5 | 9 | 11 | 8 | 7 | 5 | A | 20 | 5 | 4 | 3 | 2 | 2 | 10 | 24 | 26 | 27 | 20 | 16 | 29 | 12.8 | 28.7 |
| 27-Sep | 25 | 21 | 40 | 6 | 5 | 25 | 13 | 11 | 8 | A | 15 | 20 | 3 | 21 | 27 | 2 | 21 | 5 | 7 | 5 | 7 | 35 | 19 | 7 | 15.0 | 39.8 |
| 28-Sep | 4 | 11 | 7 | 15 | 11 | 27 | 11 | 23 | A | 10 | 15 | 4 | 3 | 1 | 1 | 18 | 3 | 5 | 16 | 21 | 8 | 11 | 10 | 16 | 10.9 | 27.5 |
| 29-Sep | 25 | 19 | 27 | 38 | 7 | 26 | 31 | A | 22 | 38 | 17 | 2 | 2 | 10 | 1 | 25 | 16 | 13 | 23 | 35 | 22 | 24 | 26 | 35 | 20.9 | 38.1 |
| 30-Sep | 24 | 39 | 23 | 21 | 20 | 45 | A | 56 | 21 | 22 | 10 | 5 | 4 | 2 | 3 | 2 | 2 | 3 | 19 | 19 | 13 | 17 | 19 | 15 | 17.4 | 55.6 |
| | 15.0 | 17.3 | 15.7 | 13.0 | 10.4 | 19.7 | 16.5 | 18.4 | 14.5 | 9.4 | 10.5 | 10.7 | 6.0 | 8.1 | 5.8 | 7.6 | 9.5 | 13.1 | 19.8 | 19.3 | 16.9 | 16.4 | 16.1 | 18.4 | Diurnal Average | |
| | 43.6 | 63.4 | 39.8 | 44.2 | 32.9 | 44.6 | 37.4 | 95.6 | 58.7 | 38.1 | 34.1 | 49.6 | 36.9 | 37.0 | 27.2 | 26.2 | 35.3 | 38.0 | 59.8 | 51.7 | 36.9 | 40.9 | 43.6 | 35.6 | Diurnal Maximum | |

C - Calibration P - Power Failure A - Automated Daily Zero Span

# Hourly Maximums for $NO_2$ at Crescent Heights
## September 2008



## Pollutant Rose for $NO_2$ at Crescent Heights
## September 2008



**Palliser Airshed Society**
**Summary of Hourly Averages**

**Crescent Heights - Nitrogen Oxide (NO) - ppb**
**September 1, 2008 to October 1, 2008**

Maximum Value: 76.4 ppb on Sep 30 08:00

Maximum Daily Average: 9.4 ppb on Sep 30

Minimum Value: 0 ppb on Sep 2 02:00

Minimum Daily Average: 0.8 ppb on Sep 28

Maximum Diurnal Average: 13.6 ppb at hour 8

Minimum Diurnal Average: 0.7 ppb at hour 17

Monthly Average: 3.05 ppb

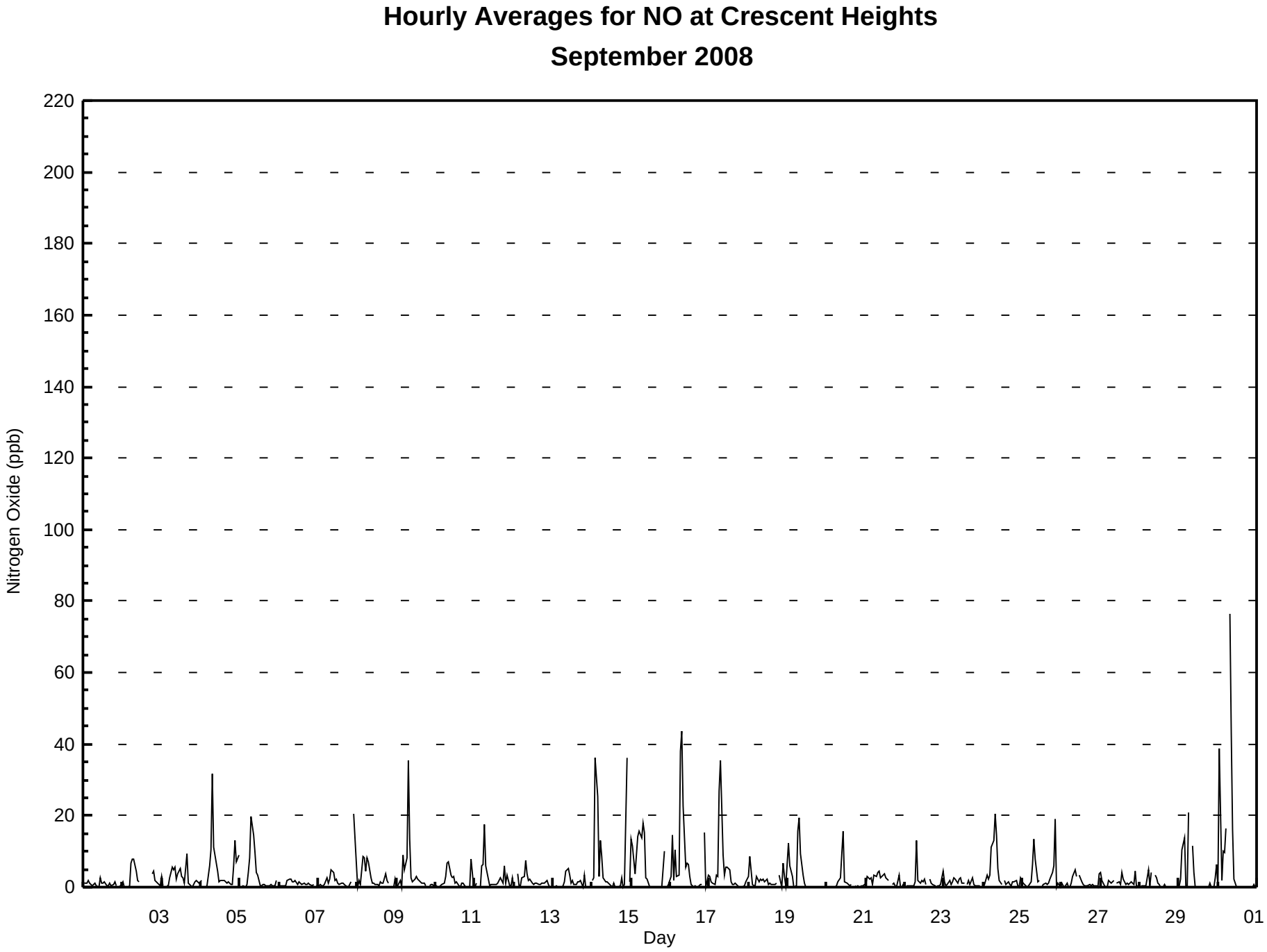
Percentiles: $P_1$ = 0.0 $P_{10}$ = 0.0 $Q_1$ = 0.3 Median = 1.0 $Q_3$ = 2.8 $P_{90}$ = 7.6 $P_{99}$ = 36.0

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 683 |
| Hours of Missing Data: | 37 |
| Hours of Calibration: | 37 |
| 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-Sep | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 3 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | A | 0 | 1 | 0.9 | 2.8 |
| 2-Sep | 1 | 0 | 0 | 0 | 0 | 7 | 8 | 8 | 5 | 2 | 1 | C | C | C | C | C | C | A | 4 | 5 | 2 | 1 | 1 | 0 | -- | 7.8 |
| 3-Sep | 3 | 0 | A | 0 | 0 | 3 | 6 | 5 | 6 | 2 | 4 | 5 | 3 | 3 | 1 | 9 | 1 | 1 | 0 | 0 | 2 | 2 | 1 | 1 | 2.5 | 9.4 |
| 4-Sep | 2 | A | 0 | 0 | 0 | 6 | 10 | 32 | 11 | 7 | 4 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 6 | 13 | 7 | 9 | 5.3 | 31.8 |
| 5-Sep | A | 0 | 0 | 0 | 1 | 4 | 8 | 20 | 14 | 10 | 4 | 3 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 2 | A | 3.3 | 19.9 |
| 6-Sep | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | A | 0 | 1.0 | 2.2 |
| 7-Sep | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 2 | 5 | 4 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 2 | A | 21 | 7 | 2.4 | 20.5 |
| 8-Sep | 0 | 2 | 1 | 9 | 8 | 5 | 8 | 7 | 2 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 4 | 2 | 1 | A | 0 | 0 | 2 | 2.5 | 8.6 |
| 9-Sep | 0 | 1 | 2 | 0 | 9 | 5 | 8 | 35 | 13 | 3 | 1 | 2 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | A | 0 | 1 | 1 | 0 | 4.0 | 35.5 |
| 10-Sep | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 7 | 7 | 3 | 3 | 3 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 8 | 0 | 1.7 | 7.7 |
| 11-Sep | 0 | 1 | A | 0 | 6 | 6 | 18 | 6 | 2 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 1 | 6 | 1 | 4 | 0 | 0 | 3 | 2.7 | 17.5 |
| 12-Sep | 0 | A | 4 | 0 | 0 | 3 | 3 | 7 | 4 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 0 | 0 | 1.6 | 7.4 |
| 13-Sep | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 5 | 3 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | 0 | 3 | 0 | 0 | 0 | A | 1.3 | 5.2 |
| 14-Sep | 2 | 3 | 36 | 25 | 3 | 13 | 9 | 3 | 2 | 2 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 36 | A | 2 | 6.1 | 36.1 |
| 15-Sep | 13 | 12 | 4 | 9 | 14 | 16 | 14 | 18 | 15 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | A | 0 | 1 | 5.6 | 17.9 |
| 16-Sep | 3 | 15 | 2 | 10 | 3 | 3 | 38 | 44 | 23 | 6 | 7 | 6 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | A | 15 | 0 | 3 | 8.0 | 43.5 |
| 17-Sep | 3 | 1 | 1 | 1 | 3 | 3 | 27 | 36 | 9 | 3 | 6 | 6 | 5 | 2 | 1 | 1 | 1 | 1 | 0 | A | 0 | 0 | 2 | 2 | 4.9 | 35.5 |
| 18-Sep | 3 | 9 | 1 | 0 | 0 | 3 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | A | 3 | 0 | 7 | 3 | 1 | 2.0 | 8.6 |
| 19-Sep | 12 | 6 | 4 | 3 | 0 | 0 | 16 | 20 | 9 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 3.3 | 19.5 |
| 20-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 9 | 16 | 2 | 1 | 1 | 0 | 1 | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1.6 | 15.8 |
| 21-Sep | 1 | 3 | 2 | 3 | 1 | 3 | 3 | 4 | 5 | 3 | 3 | 4 | 3 | 2 | 2 | A | 1 | 1 | 0 | 0 | 3 | 0 | 0 | 1 | 2.1 | 4.6 |
| 22-Sep | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 13 | 2 | 1 | 2 | 1 | 2 | 1 | A | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 5 | 1.6 | 13.0 |
| 23-Sep | 1 | 0 | 1 | 2 | 1 | 1 | 3 | 2 | 1 | 2 | 3 | 1 | 1 | A | 1 | 2 | 1 | 3 | 1 | 1 | 1 | 0 | 0 | 0 | 1.2 | 2.8 |
| 24-Sep | 0 | 1 | 3 | 2 | 3 | 11 | 13 | 20 | 14 | 5 | 2 | 1 | A | 2 | 1 | 1 | 1 | 0 | 2 | 1 | 2 | 1 | 0 | 3 | 3.9 | 20.3 |
| 25-Sep | 1 | 1 | 0 | 0 | 0 | 1 | 6 | 13 | 8 | 2 | 2 | A | 0 | 1 | 1 | 1 | 1 | 2 | 4 | 6 | 19 | 0 | 1 | 0 | 3.1 | 18.8 |
| 26-Sep | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 3 | 5 | 3 | A | 3 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 4 | 1.2 | 4.7 |
| 27-Sep | 4 | 2 | 1 | 0 | 0 | 2 | 1 | 1 | 2 | A | 1 | 2 | 1 | 4 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 0 | 0 | 1.5 | 4.3 |
| 28-Sep | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 4 | A | 3 | 3 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.8 | 5.0 |
| 29-Sep | 0 | 2 | 11 | 14 | 0 | 0 | 21 | A | 11 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 6 | 3.2 | 20.7 |
| 30-Sep | 0 | 39 | 2 | 10 | 10 | 17 | A | 76 | 44 | 16 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 9.4 | 76.4 |
| | 1.9 | 3.5 | 2.8 | 3.1 | 2.3 | 4.1 | 8.0 | 13.6 | 7.9 | 3.7 | 2.9 | 1.9 | 1.3 | 1.1 | 0.8 | 1.1 | 0.7 | 0.9 | 1.0 | 1.1 | 2.0 | 3.1 | 1.8 | 1.8 | Diurnal Average | |
| | 13.4 | 38.8 | 36.1 | 25.4 | 14.1 | 16.6 | 38.0 | 76.4 | 43.8 | 16.2 | 15.8 | 6.3 | 4.9 | 4.0 | 2.2 | 9.4 | 2.6 | 3.8 | 6.0 | 6.1 | 18.8 | 36.0 | 20.5 | 8.9 | Diurnal Maximum | |

C - Calibration

A - Automated Daily Zero Span


Hourly Averages for NO at Crescent Heights
September 2008
Nitrogen Oxide (ppb)
220
200
180
160
140
120
100
80
60
40
20
0
03
05
07
09
11
13
15
17
19
21
23
25
27
29
01
Day

**Palliser Airshed Society**
**Summary of Hourly Maximums**

**Crescent Heights - Nitrogen Oxide (NO) - ppb**
**September 1, 2008 to October 1, 2008**

Maximum Value: 397.9 ppb on Sep 3 16:00

Maximum Daily Average: 41.2 ppb on Sep 3

Minimum Value: 0 ppb on Sep 11 00:00

Minimum Daily Average: 3.6 ppb on Sep 6

Maximum Diurnal Average: 39.9 ppb at hour 8

Minimum Diurnal Average: 4.3 ppb at hour 15

Monthly Average: 17.88 ppb

Percentiles: $P_1$ = 0.0 $P_{10}$ = 0.9 $Q_1$ = 1.7 Median = 3.9 $Q_3$ = 20.8 $P_{90}$ = 48.7 $P_{99}$ = 158.3

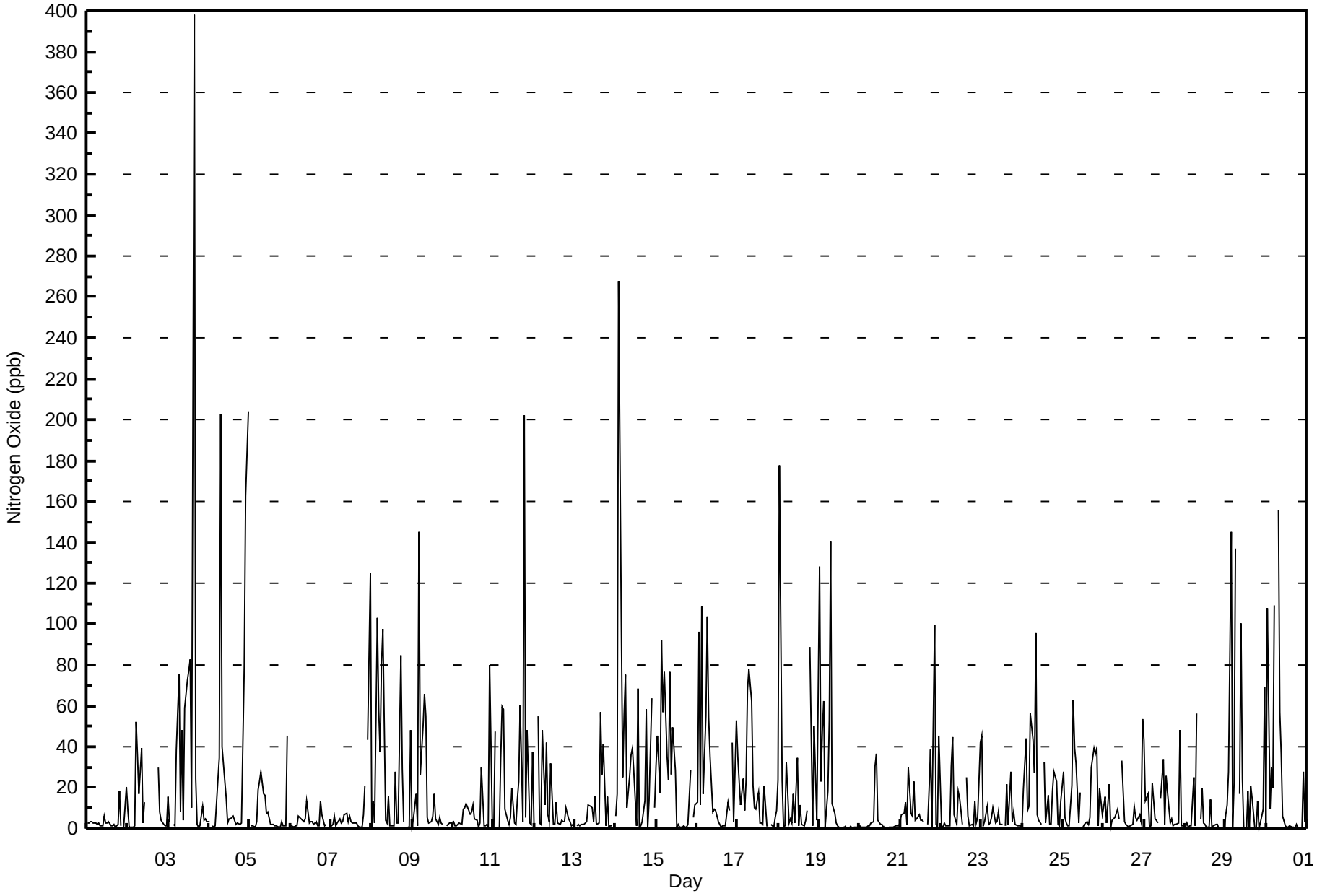
| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 683 |
| Hours of Missing Data: | 37 |
| Hours of Calibration: | 37 |
| Percent Operational Time: | 100.0 |

| 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-Sep | 3 | 3 | 3 | 4 | 3 | 3 | 2 | 3 | 2 | 1 | 6 | 3 | 3 | 4 | 1 | 1 | 2 | 1 | 2 | 18 | 2 | A | 1 | 20 | 3.9 | 20.4 |
| 2-Sep | 9 | 1 | 1 | 1 | 1 | 52 | 35 | 17 | 39 | 3 | 13 | C | C | C | C | C | C | A | 30 | 8 | 4 | 2 | 1 | 1 | -- | 52.1 |
| 3-Sep | 16 | 4 | A | 2 | 1 | 39 | 75 | 8 | 48 | 4 | 59 | 72 | 77 | 83 | 10 | 398 | 25 | 2 | 1 | 1 | 11 | 4 | 4 | 3 | 41.2 | 397.9 |
| 4-Sep | 4 | A | 1 | 1 | 1 | 24 | 35 | 203 | 40 | 23 | 15 | 3 | 5 | 5 | 6 | 4 | 2 | 3 | 2 | 3 | 41 | 79 | 163 | 204 | 37.7 | 204.2 |
| 5-Sep | A | 1 | 1 | 1 | 4 | 19 | 23 | 28 | 17 | 16 | 7 | 8 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 3 | 2 | 1 | 45 | A | 8.5 | 45.5 |
| 6-Sep | 1 | 1 | 1 | 1 | 1 | 6 | 5 | 4 | 3 | 5 | 13 | 3 | 3 | 3 | 2 | 3 | 1 | 1 | 13 | 7 | 2 | 2 | A | 1 | 3.6 | 13.3 |
| 7-Sep | 1 | 2 | 6 | 1 | 3 | 4 | 2 | 4 | 7 | 7 | 4 | 6 | 3 | 3 | 2 | 3 | 2 | 1 | 1 | 7 | 21 | A | 43 | 125 | 11.2 | 124.7 |
| 8-Sep | 1 | 14 | 3 | 103 | 58 | 37 | 80 | 98 | 4 | 3 | 16 | 1 | 2 | 1 | 28 | 3 | 3 | 84 | 29 | 3 | A | 1 | 1 | 48 | 26.9 | 103.1 |
| 9-Sep | 2 | 5 | 17 | 1 | 145 | 26 | 50 | 65 | 55 | 5 | 3 | 3 | 6 | 17 | 5 | 2 | 6 | 3 | 2 | A | 2 | 2 | 3 | 2 | 18.6 | 145.1 |
| 10-Sep | 3 | 1 | 1 | 2 | 3 | 2 | 10 | 10 | 12 | 9 | 7 | 8 | 11 | 5 | 4 | 1 | 3 | 30 | 2 | 1 | 2 | 1 | 80 | 0 | 8.6 | 79.7 |
| 11-Sep | 0 | 47 | A | 0 | 34 | 60 | 59 | 10 | 4 | 2 | 5 | 20 | 3 | 2 | 14 | 23 | 60 | 3 | 202 | 5 | 48 | 2 | 2 | 37 | 27.9 | 201.7 |
| 12-Sep | 2 | A | 55 | 3 | 2 | 48 | 12 | 42 | 7 | 4 | 32 | 2 | 2 | 13 | 3 | 2 | 4 | 4 | 4 | 10 | 5 | 3 | 2 | 2 | 11.3 | 55.2 |
| 13-Sep | A | 2 | 2 | 1 | 2 | 2 | 2 | 3 | 11 | 11 | 10 | 3 | 15 | 2 | 3 | 57 | 26 | 42 | 1 | 16 | 1 | 1 | 2 | A | 9.8 | 56.7 |
| 14-Sep | 6 | 17 | 268 | 99 | 25 | 56 | 75 | 10 | 26 | 36 | 39 | 28 | 2 | 68 | 0 | 1 | 3 | 14 | 59 | 0 | 14 | 63 | A | 10 | 40.0 | 267.8 |
| 15-Sep | 31 | 45 | 18 | 92 | 57 | 77 | 36 | 24 | 77 | 27 | 49 | 29 | 1 | 2 | 1 | 0 | 1 | 1 | 1 | 2 | 29 | A | 6 | 11 | 26.7 | 92.2 |
| 16-Sep | 13 | 96 | 11 | 108 | 17 | 55 | 104 | 54 | 36 | 8 | 9 | 9 | 6 | 3 | 1 | 1 | 1 | 1 | 13 | 9 | A | 42 | 3 | 53 | 28.5 | 108.2 |
| 17-Sep | 35 | 23 | 12 | 24 | 9 | 24 | 68 | 78 | 63 | 21 | 10 | 10 | 17 | 3 | 3 | 2 | 21 | 1 | 1 | A | 2 | 1 | 5 | 9 | 19.1 | 77.7 |
| 18-Sep | 24 | 177 | 24 | 1 | 1 | 33 | 3 | 5 | 3 | 17 | 3 | 34 | 1 | 12 | 2 | 1 | 4 | 9 | A | 89 | 1 | 50 | 28 | 4 | 22.9 | 177.4 |
| 19-Sep | 128 | 23 | 48 | 62 | 0 | 18 | 53 | 141 | 12 | 7 | 3 | 1 | 0 | 0 | 1 | 1 | 2 | A | 1 | 0 | 0 | 1 | 0 | 0 | 21.9 | 140.6 |
| 20-Sep | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 31 | 36 | 4 | 2 | 2 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 4.2 | 36.5 |
| 21-Sep | 2 | 7 | 7 | 13 | 2 | 30 | 7 | 6 | 23 | 4 | 5 | 7 | 4 | 4 | 3 | A | 2 | 19 | 38 | 1 | 100 | 2 | 1 | 46 | 14.5 | 99.9 |
| 22-Sep | 1 | 1 | 3 | 1 | 1 | 1 | 31 | 44 | 7 | 2 | 18 | 15 | 9 | 2 | A | 25 | 6 | 2 | 2 | 1 | 13 | 3 | 5 | 42 | 10.3 | 44.4 |
| 23-Sep | 45 | 1 | 3 | 11 | 2 | 3 | 6 | 11 | 3 | 4 | 8 | 2 | 2 | A | 2 | 22 | 2 | 28 | 3 | 8 | 2 | 2 | 1 | 1 | 7.5 | 45.3 |
| 24-Sep | 1 | 19 | 44 | 9 | 11 | 56 | 43 | 27 | 96 | 7 | 4 | 2 | A | 33 | 2 | 16 | 2 | 2 | 18 | 28 | 23 | 2 | 1 | 13 | 19.9 | 95.7 |
| 25-Sep | 28 | 5 | 3 | 1 | 1 | 21 | 63 | 39 | 32 | 3 | 17 | A | 1 | 2 | 3 | 2 | 5 | 30 | 40 | 36 | 39 | 1 | 20 | 7 | 17.4 | 62.9 |
| 26-Sep | 11 | 16 | 3 | 22 | 1 | 4 | 5 | 5 | 9 | 5 | A | 33 | 4 | 2 | 1 | 1 | 1 | 2 | 11 | 6 | 4 | 7 | 3 | 53 | 9.0 | 53.4 |
| 27-Sep | 43 | 13 | 17 | 1 | 1 | 22 | 5 | 4 | 3 | A | 15 | 34 | 2 | 26 | 18 | 3 | 5 | 2 | 2 | 2 | 3 | 48 | 2 | 1 | 11.8 | 48.0 |
| 28-Sep | 1 | 2 | 1 | 1 | 1 | 25 | 1 | 56 | A | 5 | 20 | 2 | 2 | 1 | 1 | 14 | 1 | 1 | 2 | 2 | 0 | 0 | 0 | 0 | 6.1 | 56.0 |
| 29-Sep | 6 | 11 | 28 | 145 | 0 | 22 | 137 | A | 17 | 100 | 24 | 0 | 0 | 18 | 0 | 21 | 15 | 0 | 0 | 14 | 0 | 6 | 9 | 69 | 27.9 | 144.8 |
| 30-Sep | 1 | 108 | 9 | 30 | 20 | 109 | A | 156 | 57 | 37 | 6 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 28 | 3 | 24.9 | 155.8 |
| | 15.0 | 23.1 | 21.1 | 24.8 | 13.6 | 29.3 | 35.4 | 39.9 | 24.7 | 14.0 | 15.7 | 12.3 | 6.6 | 11.3 | 4.3 | 21.8 | 7.3 | 10.2 | 16.6 | 10.0 | 13.2 | 12.2 | 16.4 | 27.5 | Diurnal Average | |
| | 127.9 | 177.4 | 267.8 | 144.8 | 145.1 | 109.4 | 136.9 | 202.9 | 95.7 | 100.0 | 58.7 | 72.5 | 77.0 | 83.0 | 27.7 | 397.9 | 60.1 | 84.4 | 201.7 | 88.8 | 99.9 | 79.0 | 163.0 | 204.2 | Diurnal Maximum | |

C - Calibration

A - Automated Daily Zero Span

# Hourly Maximums for NO at Crescent Heights
## September 2008



**Palliser Airshed Society**
**Summary of Hourly Averages**

**Crescent Heights - Oxides of Nitrogen ($NO_X$) - ppb**
**September 1, 2008 to October 1, 2008**

Maximum Value: 99.5 ppb on Sep 30 08:00

Maximum Daily Average: 19.1 ppb on Sep 30

Minimum Value: 0 ppb on Sep 8 14:00

Minimum Daily Average: 3.5 ppb on Sep 6

Maximum Diurnal Average: 22.4 ppb at hour 8

Minimum Diurnal Average: 1.8 ppb at hour 15

Monthly Average: 8.69 ppb

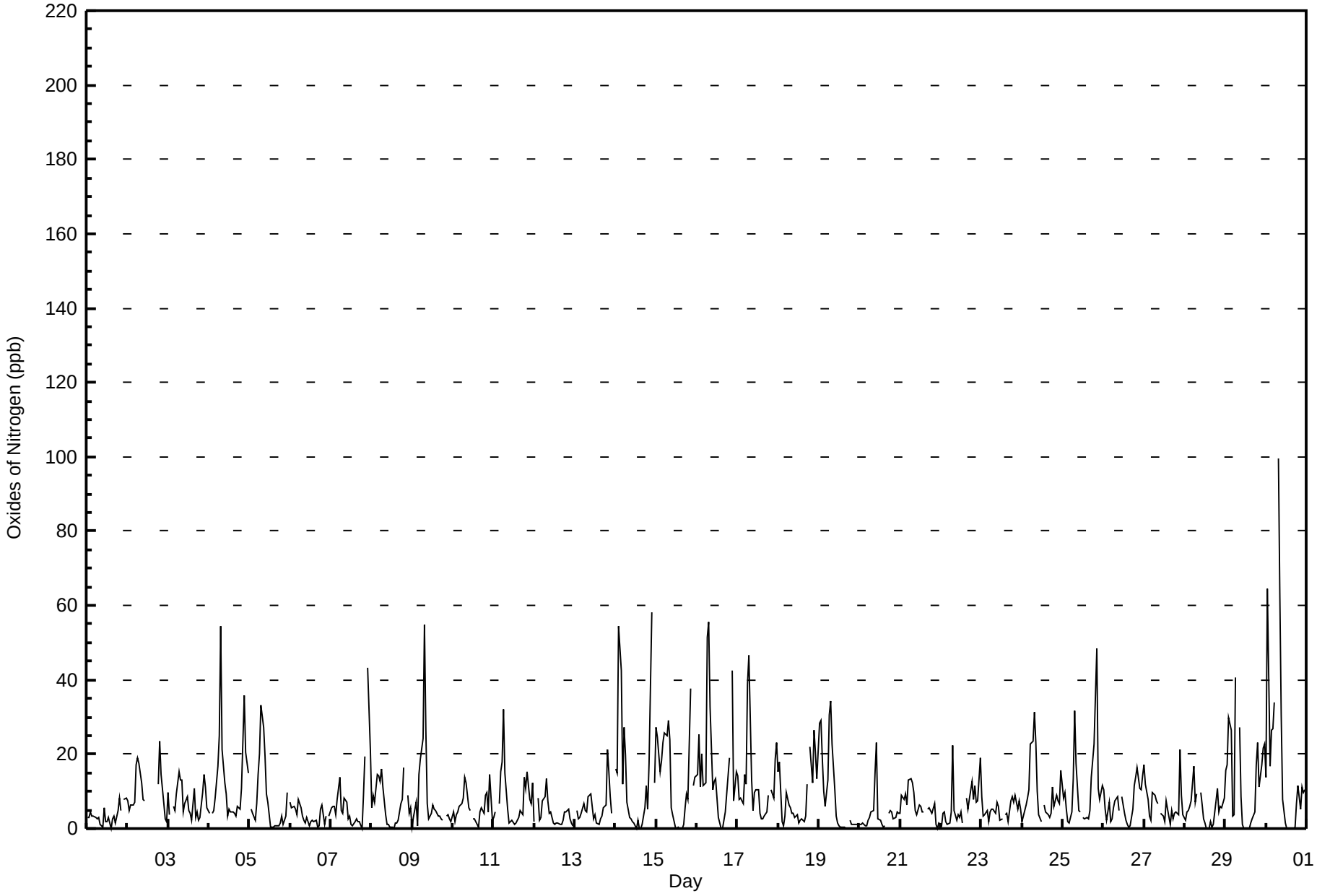
Percentiles: $P_1$ = 0.0 $P_{10}$ = 1.1 $Q_1$ = 2.6 Median = 5.2 $Q_3$ = 10.9 $P_{90}$ = 20.0 $P_{99}$ = 54.5

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 682 |
| Hours of Missing Data: | 38 |
| Hours of Calibration: | 37 |
| Percent Operational Time: | 99.9 |

| 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-Sep | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 1 | 0 | 6 | 2 | 2 | 3 | 0 | 3 | 3 | 2 | 5 | 8 | 5 | A | 8 | 8 | 3.5 | 8.3 |
| 2-Sep | 7 | 5 | 6 | 6 | 7 | 17 | 19 | 18 | 12 | 8 | 7 | C | C | C | C | C | C | A | 12 | 24 | 14 | 7 | 3 | 2 | -- | 23.6 |
| 3-Sep | 10 | 4 | A | 6 | 5 | 9 | 15 | 13 | 13 | 4 | 7 | 8 | 5 | 4 | 2 | 11 | 3 | 4 | 2 | 3 | 10 | 15 | 11 | 6 | 7.4 | 15.3 |
| 4-Sep | 4 | A | 4 | 5 | 8 | 17 | 25 | 54 | 21 | 12 | 9 | 3 | 5 | 4 | 4 | 4 | 3 | 6 | 5 | 11 | 23 | 36 | 20 | 15 | 13.1 | 54.3 |
| 5-Sep | A | 5 | 4 | 2 | 7 | 15 | 20 | 33 | 27 | 19 | 9 | 7 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 3 | 1 | 3 | 10 | A | 7.8 | 33.2 |
| 6-Sep | 7 | 5 | 6 | 5 | 4 | 8 | 5 | 4 | 2 | 1 | 3 | 1 | 2 | 2 | 2 | 2 | 0 | 1 | 5 | 6 | 1 | 3 | A | 3 | 3.5 | 7.7 |
| 7-Sep | 6 | 6 | 6 | 4 | 8 | 14 | 5 | 4 | 8 | 7 | 2 | 3 | 1 | 1 | 2 | 3 | 2 | 2 | 0 | 9 | 19 | A | 43 | 21 | 7.6 | 43.3 |
| 8-Sep | 5 | 9 | 7 | 15 | 14 | 13 | 16 | 11 | 4 | 1 | 1 | 0 | 0 | 0 | 2 | 2 | 2 | 7 | 8 | 16 | A | 9 | 4 | 6 | 6.6 | 16.3 |
| 9-Sep | 0 | 3 | 7 | 1 | 15 | 19 | 24 | 55 | 27 | 7 | 3 | 4 | 6 | 5 | 5 | 3 | 3 | 3 | 2 | A | 3 | 4 | 3 | 2 | 8.8 | 54.8 |
| 10-Sep | 5 | 2 | 4 | 5 | 6 | 7 | 8 | 14 | 12 | 6 | 5 | P | 3 | 3 | 1 | 0 | 4 | 5 | 4 | 9 | 10 | 4 | 14 | 2 | 5.8 | 14.5 |
| 11-Sep | 3 | 4 | A | 7 | 15 | 18 | 32 | 15 | 5 | 1 | 2 | 2 | 1 | 1 | 2 | 3 | 5 | 4 | 14 | 11 | 15 | 8 | 7 | 12 | 8.2 | 32.0 |
| 12-Sep | 2 | A | 8 | 2 | 3 | 7 | 9 | 13 | 7 | 4 | 4 | 2 | 1 | 2 | 2 | 1 | 1 | 2 | 4 | 4 | 5 | 3 | 2 | 1 | 3.9 | 13.3 |
| 13-Sep | A | 5 | 3 | 3 | 4 | 7 | 5 | 5 | 9 | 9 | 6 | 3 | 4 | 1 | 1 | 3 | 3 | 5 | 6 | 21 | 15 | 8 | 4 | A | 6.0 | 21.4 |
| 14-Sep | 16 | 15 | 55 | 42 | 12 | 27 | 20 | 7 | 3 | 3 | 2 | 1 | 0 | 2 | 0 | 0 | 1 | 6 | 12 | 5 | 17 | 58 | A | 12 | 13.7 | 58.2 |
| 15-Sep | 27 | 25 | 15 | 18 | 23 | 26 | 25 | 29 | 24 | 6 | 4 | 0 | 0 | 0 | 0 | 0 | 1 | 6 | 9 | 8 | 38 | A | 12 | 14 | 13.4 | 37.6 |
| 16-Sep | 15 | 25 | 11 | 20 | 12 | 12 | 51 | 55 | 33 | 10 | 13 | 14 | 8 | 3 | 0 | 0 | 2 | 4 | 14 | 19 | A | 43 | 8 | 15 | 16.9 | 55.4 |
| 17-Sep | 14 | 8 | 8 | 7 | 15 | 12 | 39 | 47 | 13 | 5 | 10 | 10 | 11 | 4 | 2 | 3 | 3 | 5 | 9 | A | 10 | 8 | 19 | 23 | 12.3 | 46.6 |
| 18-Sep | 15 | 18 | 2 | 1 | 3 | 10 | 6 | 5 | 4 | 4 | 3 | 4 | 2 | 2 | 2 | 2 | 4 | 12 | A | 22 | 12 | 26 | 20 | 13 | 8.4 | 26.3 |
| 19-Sep | 28 | 29 | 18 | 10 | 6 | 13 | 31 | 34 | 23 | 10 | 3 | 1 | 1 | 0 | 1 | 0 | 0 | A | 2 | 1 | 1 | 1 | 1 | 1 | 9.5 | 34.2 |
| 20-Sep | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 4 | 5 | 15 | 23 | 3 | 2 | 1 | 0 | 1 | A | 4 | 5 | 4 | 3 | 3 | 5 | 4 | 4.0 | 23.0 |
| 21-Sep | 4 | 9 | 8 | 9 | 7 | 13 | 14 | 12 | 10 | 5 | 4 | 6 | 6 | 4 | 5 | A | 5 | 6 | 5 | 4 | 7 | 1 | 0 | 1 | 6.3 | 13.5 |
| 22-Sep | 1 | 4 | 4 | 2 | 1 | 2 | 5 | 22 | 5 | 2 | 4 | 3 | 4 | 1 | A | 8 | 5 | 8 | 13 | 8 | 12 | 7 | 8 | 19 | 6.4 | 22.3 |
| 23-Sep | 8 | 3 | 4 | 5 | 2 | 4 | 5 | 5 | 4 | 7 | 6 | 2 | 3 | A | 4 | 4 | 2 | 7 | 9 | 7 | 9 | 5 | 8 | 5 | 5.2 | 8.8 |
| 24-Sep | 2 | 3 | 6 | 8 | 11 | 23 | 24 | 31 | 23 | 10 | 4 | 2 | A | 6 | 4 | 4 | 3 | 4 | 11 | 6 | 9 | 8 | 7 | 16 | 9.7 | 31.2 |
| 25-Sep | 8 | 10 | 5 | 2 | 1 | 4 | 14 | 32 | 18 | 5 | 4 | A | 3 | 3 | 3 | 3 | 5 | 14 | 23 | 36 | 49 | 11 | 8 | 11 | 11.8 | 48.6 |
| 26-Sep | 10 | 5 | 2 | 7 | 2 | 3 | 5 | 7 | 9 | 5 | A | 8 | 4 | 2 | 1 | 0 | 1 | 5 | 12 | 14 | 16 | 11 | 10 | 14 | 6.8 | 16.4 |
| 27-Sep | 17 | 12 | 8 | 3 | 2 | 10 | 9 | 7 | 7 | A | 4 | 3 | 2 | 7 | 5 | 1 | 5 | 3 | 4 | 4 | 4 | 21 | 9 | 4 | 6.6 | 21.4 |
| 28-Sep | 2 | 5 | 5 | 6 | 8 | 17 | 7 | 10 | A | 10 | 6 | 2 | 1 | 0 | 0 | 2 | 0 | 1 | 8 | 11 | 5 | 6 | 5 | 8 | 5.4 | 16.6 |
| 29-Sep | 16 | 17 | 30 | 26 | 3 | 4 | 41 | A | 27 | 9 | 1 | 0 | 0 | 0 | 0 | 1 | 3 | 4 | 17 | 23 | 11 | 17 | 22 | 23 | 12.8 | 40.5 |
| 30-Sep | 14 | 64 | 17 | 26 | 27 | 34 | A | 99 | 63 | 31 | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 11 | 5 | 11 | 10 | 10 | 19.1 | 99.5 |
| | 9.0 | 10.9 | 9.3 | 8.6 | 7.8 | 12.3 | 16.7 | 22.4 | 14.4 | 7.5 | 5.6 | 3.7 | 2.8 | 2.3 | 1.8 | 2.3 | 2.6 | 4.6 | 7.8 | 11.1 | 11.8 | 12.5 | 10.0 | 9.7 | Diurnal Average | |
| | 28.4 | 64.4 | 54.6 | 42.4 | 27.0 | 34.1 | 51.3 | 99.5 | 63.2 | 30.5 | 23.0 | 13.6 | 10.5 | 7.5 | 5.2 | 10.9 | 5.2 | 13.7 | 22.6 | 35.9 | 48.6 | 58.2 | 43.3 | 23.0 | Diurnal Maximum | |

C - Calibration P - Power Failure A - Automated Daily Zero Span

# Hourly Averages for $NO_X$ at Crescent Heights
## September 2008



**Palliser Airshed Society**
**Summary of Hourly Maximums**

**Crescent Heights - Oxides of Nitrogen ($NO_X$) - ppb**
**September 1, 2008 to October 1, 2008**

Maximum Value: 407.2 ppb on Sep 3 16:00
Maximum Daily Average: 58.4 ppb on Sep 14

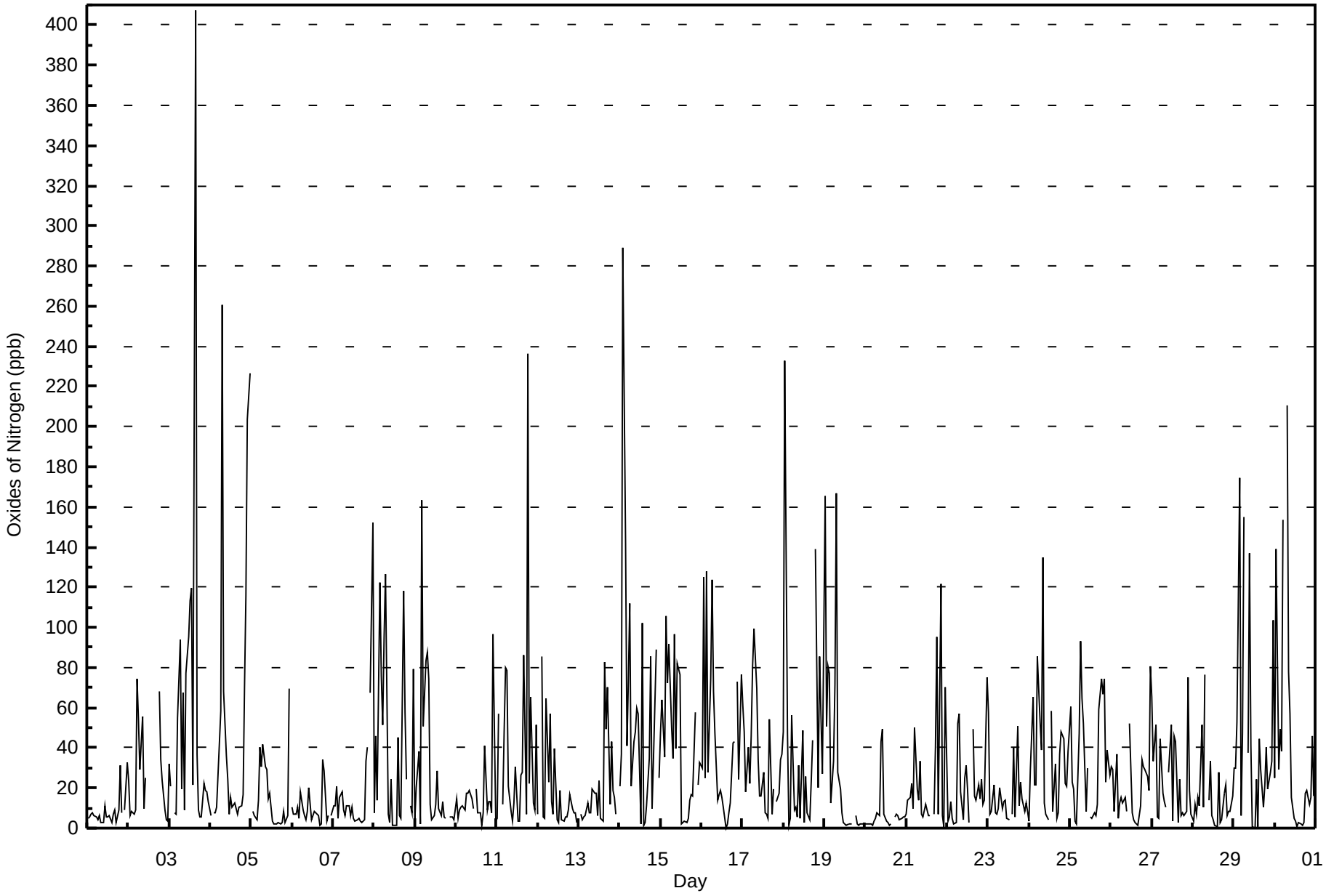
Minimum Value: 0 ppb on Sep 16 15:00
Minimum Daily Average: 7.8 ppb on Sep 20
Maximum Diurnal Average: 55.2 ppb at hour 8
Minimum Diurnal Average: 8.9 ppb at hour 15
Monthly Average: 29.69 ppb
Percentiles: $P_1$ = 1.0 $P_{10}$ = 3.1 $Q_1$ = 6.1 Median = 13.9 $Q_3$ = 39.6 $P_{90}$ = 74.6 $P_{99}$ = 205.1

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 682 |
| Hours of Missing Data: | 38 |
| Hours of Calibration: | 37 |
| Percent Operational Time: | 99.9 |

| 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-Sep | 5 | 5 | 7 | 8 | 6 | 6 | 4 | 6 | 3 | 2 | 11 | 5 | 5 | 6 | 3 | 7 | 9 | 3 | 9 | 31 | 7 | A | 9 | 33 | 8.3 | 32.8 |
| 2-Sep | 23 | 6 | 8 | 7 | 9 | 75 | 54 | 29 | 55 | 10 | 25 | C | C | C | C | C | C | A | 68 | 34 | 24 | 9 | 4 | 3 | -- | 74.6 |
| 3-Sep | 32 | 21 | A | 8 | 7 | 55 | 94 | 20 | 67 | 9 | 77 | 95 | 113 | 119 | 21 | 407 | 37 | 9 | 5 | 6 | 22 | 19 | 18 | 13 | 55.4 | 407.2 |
| 4-Sep | 6 | A | 8 | 8 | 11 | 42 | 59 | 261 | 68 | 36 | 24 | 7 | 15 | 10 | 13 | 10 | 7 | 11 | 11 | 16 | 70 | 116 | 203 | 227 | 53.9 | 260.5 |
| 5-Sep | A | 9 | 6 | 4 | 14 | 41 | 31 | 42 | 31 | 29 | 15 | 17 | 3 | 2 | 2 | 2 | 3 | 2 | 3 | 8 | 3 | 7 | 69 | A | 15.5 | 69.2 |
| 6-Sep | 11 | 7 | 7 | 10 | 5 | 18 | 9 | 6 | 4 | 8 | 20 | 4 | 6 | 9 | 8 | 6 | 1 | 2 | 34 | 28 | 4 | 6 | A | 6 | 9.5 | 33.9 |
| 7-Sep | 11 | 11 | 21 | 5 | 15 | 18 | 9 | 7 | 11 | 11 | 6 | 11 | 5 | 4 | 4 | 5 | 4 | 3 | 4 | 33 | 40 | A | 67 | 152 | 19.8 | 151.8 |
| 8-Sep | 8 | 46 | 14 | 122 | 76 | 51 | 95 | 126 | 7 | 3 | 24 | 1 | 1 | 1 | 45 | 6 | 5 | 118 | 58 | 24 | A | 11 | 7 | 79 | 40.5 | 126.3 |
| 9-Sep | 3 | 20 | 38 | 2 | 163 | 51 | 83 | 87 | 75 | 12 | 4 | 6 | 12 | 28 | 10 | 6 | 13 | 6 | 5 | A | 5 | 6 | 6 | 4 | 28.1 | 163.1 |
| 10-Sep | 14 | 5 | 9 | 10 | 11 | 9 | 18 | 17 | 19 | 14 | 10 | P | 19 | 8 | 8 | 1 | 7 | 41 | 9 | 13 | 13 | 8 | 97 | 3 | 15.9 | 96.9 |
| 11-Sep | 5 | 57 | A | 12 | 48 | 80 | 79 | 21 | 9 | 3 | 13 | 30 | 4 | 3 | 27 | 28 | 86 | 7 | 236 | 22 | 65 | 12 | 9 | 52 | 39.5 | 236.2 |
| 12-Sep | 7 | A | 85 | 5 | 5 | 64 | 23 | 57 | 13 | 7 | 39 | 4 | 3 | 19 | 4 | 3 | 5 | 6 | 9 | 17 | 10 | 8 | 7 | 3 | 17.5 | 85.3 |
| 13-Sep | A | 7 | 4 | 6 | 7 | 13 | 8 | 7 | 19 | 18 | 17 | 6 | 24 | 5 | 4 | 83 | 49 | 70 | 12 | 43 | 19 | 15 | 7 | A | 20.1 | 82.7 |
| 14-Sep | 21 | 37 | 289 | 142 | 41 | 74 | 112 | 21 | 43 | 48 | 60 | 57 | 2 | 102 | 1 | 2 | 11 | 35 | 85 | 10 | 35 | 89 | A | 25 | 58.4 | 288.8 |
| 15-Sep | 47 | 64 | 35 | 105 | 72 | 92 | 50 | 35 | 97 | 40 | 82 | 76 | 2 | 3 | 3 | 3 | 5 | 14 | 17 | 16 | 58 | A | 22 | 33 | 42.1 | 105.5 |
| 16-Sep | 30 | 125 | 25 | 128 | 28 | 74 | 124 | 68 | 47 | 14 | 16 | 19 | 15 | 10 | 0 | 2 | 8 | 13 | 43 | 43 | A | 73 | 25 | 76 | 43.7 | 127.6 |
| 17-Sep | 61 | 48 | 18 | 40 | 22 | 46 | 81 | 100 | 69 | 34 | 16 | 16 | 28 | 7 | 7 | 5 | 54 | 7 | 19 | A | 13 | 17 | 34 | 37 | 33.9 | 99.6 |
| 18-Sep | 48 | 233 | 47 | 2 | 5 | 57 | 9 | 11 | 6 | 31 | 5 | 49 | 3 | 25 | 8 | 4 | 23 | 44 | A | 139 | 20 | 86 | 56 | 27 | 40.7 | 232.8 |
| 19-Sep | 165 | 51 | 81 | 77 | 12 | 33 | 71 | 167 | 28 | 19 | 7 | 3 | 2 | 1 | 2 | 2 | 2 | A | 6 | 2 | 2 | 2 | 2 | 2 | 32.2 | 167.0 |
| 20-Sep | 2 | 2 | 2 | 2 | 2 | 4 | 5 | 7 | 6 | 43 | 49 | 7 | 4 | 3 | 1 | 2 | A | 5 | 7 | 6 | 4 | 5 | 6 | 5 | 7.8 | 49.4 |
| 21-Sep | 7 | 14 | 15 | 22 | 10 | 50 | 20 | 14 | 33 | 7 | 6 | 12 | 9 | 6 | 6 | A | 7 | 40 | 95 | 7 | 122 | 6 | 1 | 70 | 25.2 | 121.8 |
| 22-Sep | 3 | 5 | 13 | 5 | 2 | 3 | 52 | 57 | 18 | 4 | 25 | 31 | 20 | 3 | A | 50 | 16 | 14 | 22 | 14 | 24 | 12 | 14 | 75 | 21.0 | 75.3 |
| 23-Sep | 57 | 7 | 8 | 22 | 8 | 7 | 10 | 20 | 10 | 13 | 14 | 5 | 4 | A | 7 | 40 | 6 | 51 | 11 | 23 | 14 | 8 | 12 | 8 | 15.9 | 57.4 |
| 24-Sep | 3 | 29 | 65 | 21 | 22 | 85 | 53 | 39 | 135 | 12 | 7 | 4 | A | 58 | 8 | 32 | 5 | 8 | 37 | 48 | 45 | 22 | 21 | 38 | 34.7 | 134.7 |
| 25-Sep | 60 | 23 | 19 | 3 | 2 | 47 | 93 | 65 | 52 | 8 | 30 | A | 6 | 5 | 8 | 6 | 12 | 59 | 74 | 67 | 74 | 23 | 39 | 26 | 34.9 | 93.1 |
| 26-Sep | 31 | 29 | 9 | 37 | 5 | 13 | 15 | 12 | 15 | 8 | A | 52 | 8 | 4 | 3 | 2 | 2 | 11 | 34 | 31 | 30 | 26 | 19 | 81 | 20.6 | 80.9 |
| 27-Sep | 65 | 34 | 51 | 5 | 5 | 44 | 17 | 13 | 10 | A | 28 | 51 | 3 | 46 | 43 | 3 | 24 | 6 | 7 | 6 | 8 | 75 | 19 | 7 | 24.9 | 74.9 |
| 28-Sep | 4 | 12 | 7 | 15 | 11 | 51 | 10 | 77 | A | 14 | 34 | 6 | 4 | 1 | 1 | 28 | 3 | 4 | 18 | 21 | 6 | 9 | 9 | 16 | 15.6 | 76.8 |
| 29-Sep | 30 | 30 | 53 | 175 | 6 | 47 | 155 | A | 37 | 137 | 41 | 1 | 0 | 24 | 1 | 45 | 29 | 10 | 21 | 40 | 20 | 28 | 34 | 103 | 46.4 | 174.6 |
| 30-Sep | 25 | 139 | 29 | 50 | 38 | 154 | A | 210 | 78 | 57 | 16 | 5 | 3 | 1 | 3 | 2 | 1 | 2 | 18 | 19 | 12 | 15 | 46 | 16 | 40.8 | 210.4 |
| | 28.1 | 38.4 | 34.8 | 35.3 | 22.2 | 46.8 | 49.7 | 55.2 | 36.7 | 22.5 | 24.9 | 21.5 | 11.6 | 18.3 | 8.9 | 28.3 | 15.5 | 21.5 | 33.7 | 27.4 | 27.4 | 26.4 | 30.7 | 43.6 | Diurnal Average | |
| | 165.3 | 232.8 | 288.8 | 174.6 | 163.1 | 153.7 | 154.7 | 260.5 | 134.7 | 137.2 | 81.8 | 95.4 | 113.2 | 119.3 | 44.9 | 407.2 | 86.4 | 118.4 | 236.2 | 139.0 | 121.8 | 116.1 | 203.4 | 226.8 | Diurnal Maximum | |

C - Calibration P - Power Failure A - Automated Daily Zero Span

# Hourly Maximums for $NO_X$ at Crescent Heights
## September 2008



**Palliser Airshed Society**
**Summary of Hourly Averages**

**Crescent Heights - Ozone ($O_3$) - ppb**
**September 1, 2008 to October 1, 2008**

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 50.9 ppb on Sep 18 16:00 Maximum Daily Average: 28.6 ppb on Sep 18

Minimum Value: 1 ppb on Sep 7 23:00
Maximum Diurnal Average: 33.1 ppb at hour 16
Monthly Average: 19.22 ppb

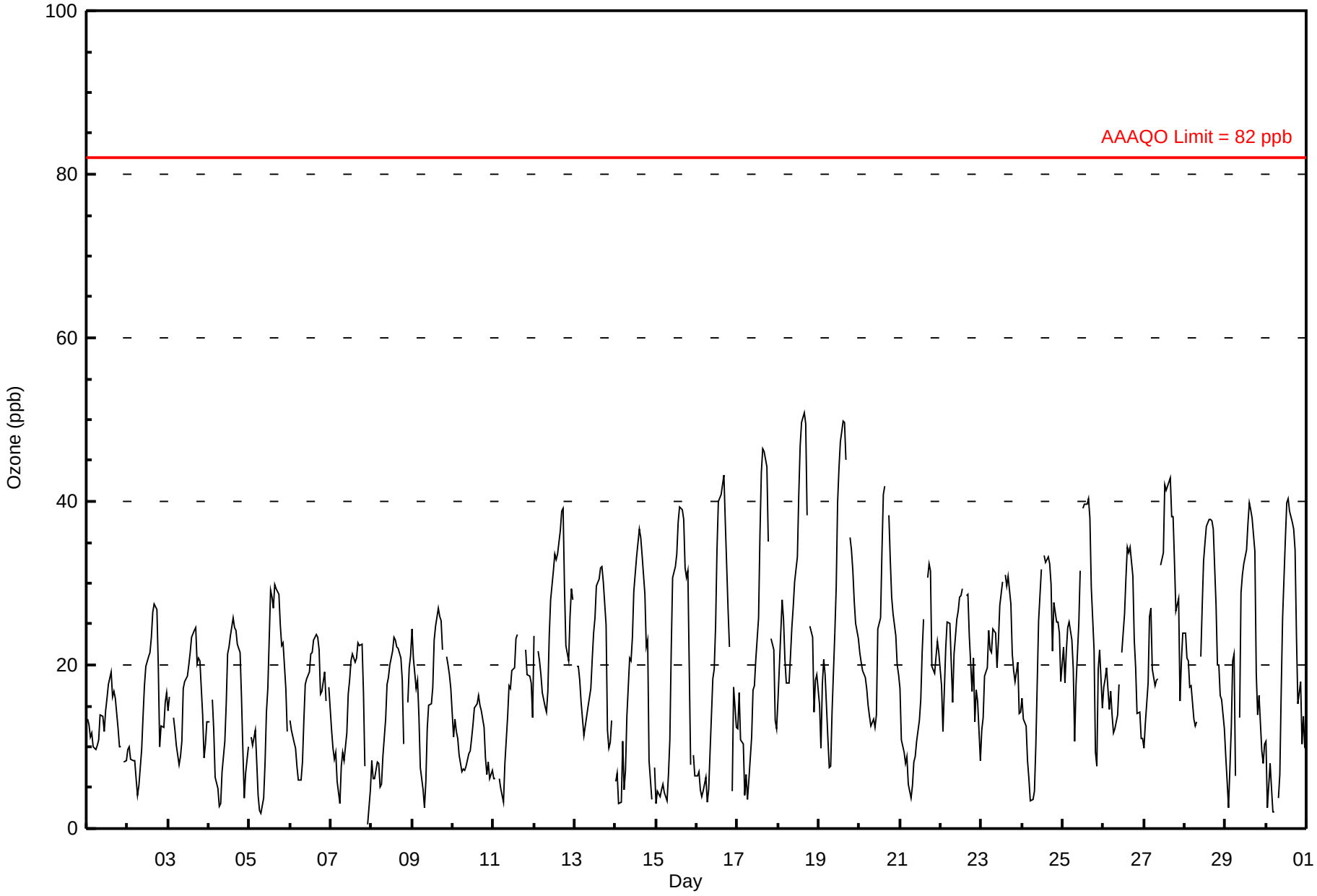
Minimum Daily Average: 10.5 ppb on Sep 10
Minimum Diurnal Average: 9.0 ppb at hour 7
Percentiles: $P_1$ = 2.5 $P_{10}$ = 6.3 $Q_1$ = 11.0 Median = 18.1 $Q_3$ = 25.3 $P_{90}$ = 34.1 $P_{99}$ = 46.7

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 686 |
| Hours of Missing Data: | 34 |
| Hours of Calibration: | 34 |
| 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-Sep | 13 | 13 | 11 | 12 | 10 | 10 | 10 | 11 | 14 | 14 | 12 | 14 | 16 | 18 | 19 | 16 | 17 | 16 | 12 | 10 | 10 | A | 8 | 8 | 12.8 | 19.1 |
| 2-Sep | 10 | 10 | 9 | 8 | 8 | 6 | 4 | 5 | 10 | 14 | 17 | 20 | 21 | 22 | 23 | 26 | 28 | 27 | 20 | 10 | 13 | 12 | 16 | 17 | 14.8 | 27.5 |
| 3-Sep | 14 | 16 | A | 14 | 12 | 10 | 8 | 9 | 11 | 17 | 18 | 19 | 20 | 22 | 23 | 24 | 25 | 20 | 21 | 21 | 14 | 9 | 10 | 13 | 16.0 | 24.6 |
| 4-Sep | 13 | A | 16 | 12 | 6 | 5 | 3 | 3 | 7 | 11 | 15 | 21 | 22 | 24 | 26 | 24 | 24 | 23 | 21 | 16 | 10 | 4 | 7 | 10 | 14.0 | 25.7 |
| 5-Sep | A | 11 | 10 | 12 | 8 | 4 | 2 | 2 | 4 | 8 | 14 | 17 | 29 | 28 | 27 | 30 | 29 | 29 | 25 | 22 | 23 | 17 | 12 | A | 16.6 | 29.9 |
| 6-Sep | 13 | 12 | 10 | 10 | 8 | 6 | 6 | 8 | 13 | 18 | 18 | 19 | 21 | 22 | 23 | 24 | 23 | 22 | 16 | 17 | 19 | 16 | A | 17 | 15.7 | 23.7 |
| 7-Sep | 12 | 10 | 8 | 9 | 6 | 3 | 8 | 9 | 8 | 12 | 16 | 18 | 20 | 21 | 20 | 21 | 23 | 22 | 23 | 17 | 8 | A | 1 | 5 | 13.1 | 22.7 |
| 8-Sep | 8 | 6 | 6 | 8 | 8 | 5 | 5 | 9 | 13 | 18 | 18 | 20 | 22 | 23 | 23 | 22 | 22 | 21 | 18 | 10 | A | 15 | 20 | 21 | 14.9 | 23.4 |
| 9-Sep | 24 | 21 | 17 | 18 | 14 | 7 | 5 | 3 | 6 | 12 | 15 | 15 | 17 | 23 | 25 | 27 | 26 | 25 | 22 | A | 21 | 20 | 19 | 17 | 17.4 | 27.0 |
| 10-Sep | 11 | 13 | 12 | 11 | 9 | 7 | 7 | 7 | 8 | 9 | 9 | 11 | 13 | 15 | 15 | 16 | 15 | 14 | 12 | 9 | 7 | 8 | 6 | 7 | 10.5 | 16.3 |
| 11-Sep | 6 | 6 | A | 6 | 5 | 4 | 3 | 8 | 14 | 17 | 17 | 19 | 20 | 23 | 24 | C | C | C | C | 22 | 19 | 19 | 18 | 14 | 13.9 | 23.7 |
| 12-Sep | 24 | A | 22 | 21 | 19 | 17 | 15 | 14 | 17 | 24 | 28 | 32 | 34 | 33 | 34 | 36 | 39 | 39 | 29 | 22 | 20 | 26 | 29 | 28 | 26.1 | 39.2 |
| 13-Sep | A | 20 | 20 | 18 | 15 | 11 | 13 | 14 | 15 | 17 | 21 | 24 | 26 | 30 | 31 | 32 | 32 | 30 | 25 | 12 | 10 | 10 | 13 | A | 19.9 | 32.1 |
| 14-Sep | 6 | 7 | 3 | 3 | 11 | 5 | 7 | 14 | 21 | 21 | 23 | 29 | 33 | 35 | 37 | 36 | 33 | 29 | 22 | 23 | 8 | 4 | A | 8 | 18.1 | 36.6 |
| 15-Sep | 3 | 5 | 4 | 5 | 5 | 4 | 3 | 7 | 11 | 22 | 31 | 32 | 34 | 37 | 39 | 39 | 38 | 32 | 31 | 32 | 8 | A | 9 | 7 | 19.0 | 39.2 |
| 16-Sep | 6 | 7 | 5 | 4 | 5 | 6 | 3 | 5 | 9 | 18 | 19 | 25 | 34 | 40 | 41 | 42 | 43 | 37 | 27 | 22 | A | 4 | 17 | 12 | 18.9 | 43.3 |
| 17-Sep | 12 | 17 | 11 | 10 | 4 | 7 | 3 | 6 | 11 | 17 | 17 | 21 | 26 | 36 | 44 | 46 | 46 | 44 | 35 | A | 23 | 22 | 13 | 12 | 21.0 | 46.5 |
| 18-Sep | 16 | 20 | 28 | 26 | 21 | 18 | 18 | 21 | 25 | 27 | 30 | 33 | 41 | 47 | 50 | 51 | 50 | 38 | A | 25 | 23 | 14 | 18 | 19 | 28.6 | 50.9 |
| 19-Sep | 15 | 10 | 18 | 21 | 19 | 11 | 8 | 8 | 14 | 24 | 29 | 40 | 44 | 47 | 50 | 50 | 45 | A | 36 | 34 | 32 | 28 | 25 | 23 | 27.3 | 49.8 |
| 20-Sep | 22 | 20 | 19 | 18 | 17 | 15 | 14 | 13 | 13 | 12 | 14 | 24 | 26 | 34 | 41 | 42 | A | 38 | 33 | 28 | 26 | 24 | 20 | 19 | 23.2 | 41.9 |
| 21-Sep | 17 | 11 | 9 | 8 | 9 | 5 | 4 | 5 | 8 | 9 | 11 | 13 | 16 | 22 | 26 | A | 31 | 32 | 32 | 20 | 19 | 21 | 23 | 22 | 16.1 | 32.3 |
| 22-Sep | 18 | 12 | 17 | 22 | 25 | 25 | 20 | 15 | 21 | 26 | 27 | 28 | 28 | 29 | A | 29 | 29 | 23 | 17 | 21 | 13 | 17 | 16 | 8 | 21.1 | 29.4 |
| 23-Sep | 12 | 14 | 19 | 20 | 24 | 22 | 22 | 24 | 24 | 20 | 23 | 27 | 30 | A | 31 | 30 | 31 | 28 | 21 | 19 | 18 | 20 | 14 | 14 | 22.0 | 31.1 |
| 24-Sep | 16 | 13 | 13 | 8 | 6 | 3 | 4 | 5 | 10 | 18 | 25 | 32 | A | 33 | 33 | 33 | 32 | 30 | 22 | 28 | 25 | 25 | 24 | 18 | 19.8 | 33.5 |
| 25-Sep | 22 | 18 | 22 | 25 | 25 | 23 | 19 | 11 | 18 | 25 | 32 | A | 39 | 40 | 40 | 40 | 38 | 29 | 22 | 9 | 8 | 19 | 22 | 15 | 24.4 | 40.3 |
| 26-Sep | 17 | 18 | 20 | 15 | 17 | 14 | 12 | 12 | 14 | 18 | A | 21 | 26 | 31 | 34 | 34 | 34 | 31 | 23 | 20 | 14 | 14 | 11 | 11 | 20.0 | 34.4 |
| 27-Sep | 10 | 13 | 18 | 26 | 27 | 20 | 17 | 18 | 18 | A | 32 | 34 | 42 | 41 | 42 | 43 | 38 | 38 | 33 | 27 | 28 | 16 | 20 | 24 | 27.2 | 42.9 |
| 28-Sep | 24 | 21 | 20 | 17 | 17 | 13 | 13 | 13 | A | 21 | 27 | 33 | 35 | 37 | 38 | 38 | 38 | 37 | 27 | 20 | 20 | 16 | 16 | 12 | 24.1 | 37.9 |
| 29-Sep | 9 | 6 | 3 | 12 | 20 | 21 | 6 | A | 14 | 29 | 31 | 32 | 34 | 37 | 40 | 39 | 38 | 34 | 19 | 14 | 16 | 10 | 8 | 10 | 21.0 | 39.9 |
| 30-Sep | 11 | 3 | 8 | 5 | 2 | 2 | A | 4 | 7 | 17 | 26 | 35 | 40 | 40 | 39 | 37 | 37 | 34 | 24 | 15 | 18 | 10 | 14 | 10 | 19.0 | 40.3 |
| | 13.7 | 12.5 | 13.4 | 13.5 | 12.7 | 10.3 | 9.0 | 9.7 | 13.0 | 17.6 | 21.3 | 24.5 | 27.9 | 30.7 | 32.3 | 33.1 | 32.2 | 29.4 | 23.8 | 19.4 | 16.9 | 15.6 | 15.3 | 14.3 | Diurnal Average | |
| | 24.3 | 20.8 | 28.0 | 26.0 | 26.9 | 25.1 | 21.5 | 24.5 | 24.6 | 28.8 | 32.2 | 39.8 | 44.1 | 47.4 | 49.8 | 50.9 | 49.5 | 44.3 | 35.6 | 34.1 | 31.5 | 27.8 | 29.3 | 28.0 | Diurnal Maximum | |

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

# Hourly Averages for $O_3$ at Crescent Heights
## September 2008



**Palliser Airshed Society**
**Summary of Hourly Maximums**

**Crescent Heights - Ozone ($O_3$) - ppb**
**September 1, 2008 to October 1, 2008**

Maximum Value: 53.5 ppb on Sep 18 16:00

Maximum Daily Average: 33.6 ppb on Sep 18

Minimum Value: 3 ppb on Sep 30 05:00

Minimum Daily Average: 13.1 ppb on Sep 10

Maximum Diurnal Average: 35.6 ppb at hour 16

Minimum Diurnal Average: 11.9 ppb at hour 7

Monthly Average: 22.90 ppb

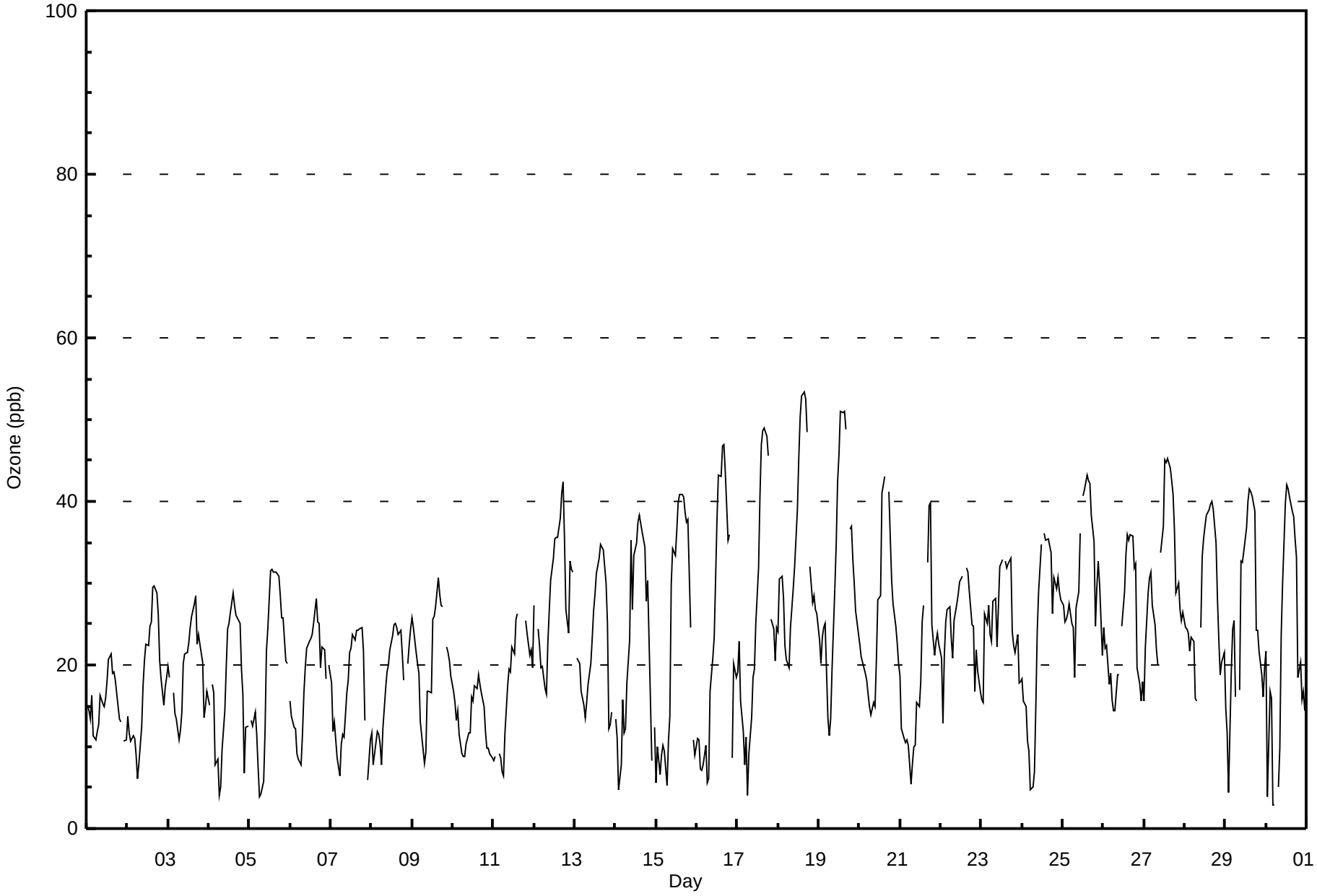
Percentiles: $P_1$ = 4.3 $P_{10}$ = 9.9 $Q_1$ = 15.0 Median = 22.2 $Q_3$ = 29.3 $P_{90}$ = 37.7 $P_{99}$ = 50.1

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 686 |
| Hours of Missing Data: | 34 |
| Hours of Calibration: | 34 |
| Percent Operational Time: | 100.0 |

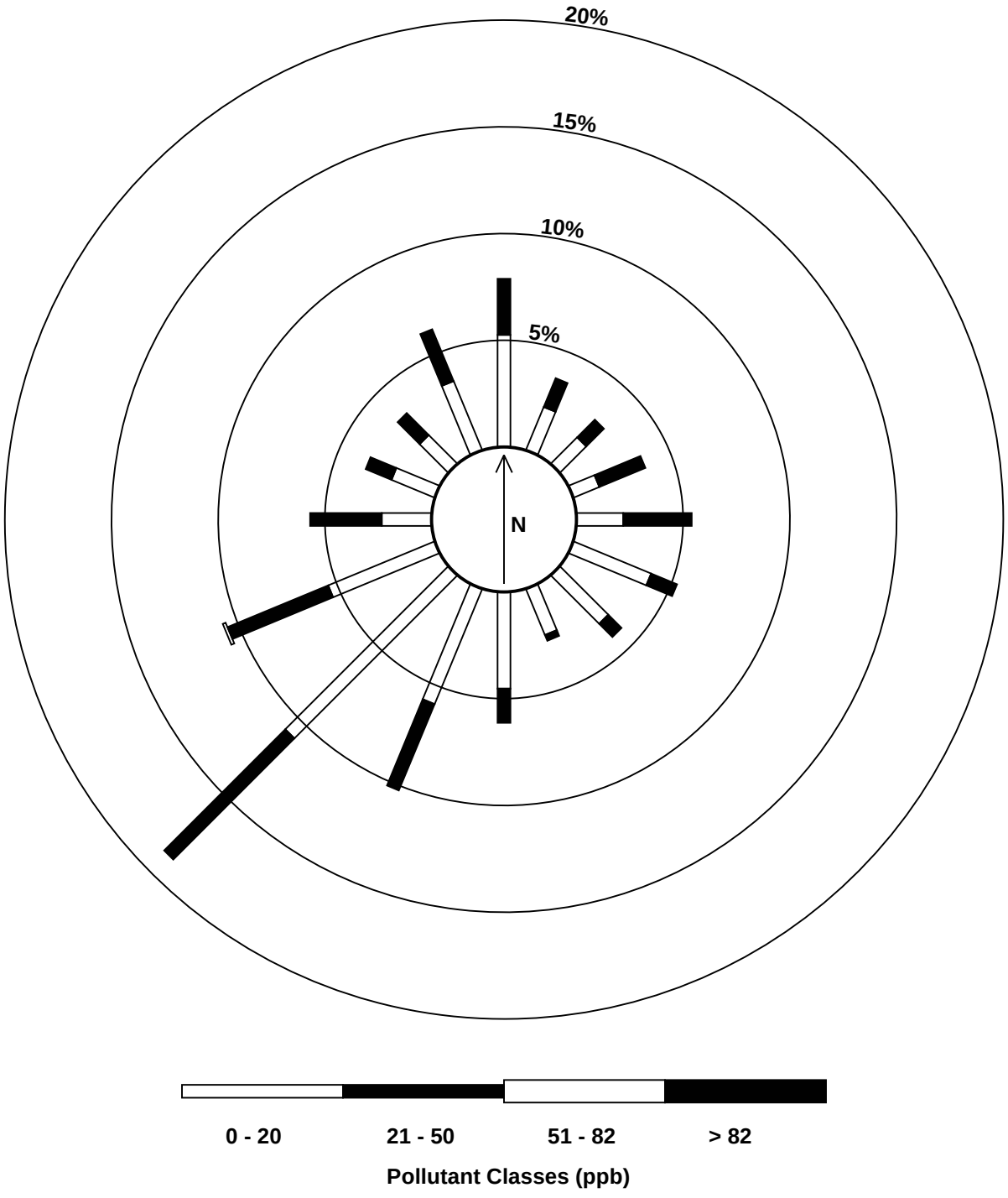
| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Average | Maximum |
| 1-Sep | 15 | 14 | 13 | 16 | 11 | 11 | 12 | 13 | 16 | 15 | 15 | 16 | 18 | 21 | 21 | 19 | 19 | 18 | 15 | 13 | 13 | A | 11 | 11 | 15.1 | 21.4 |
| 2-Sep | 14 | 12 | 11 | 11 | 11 | 9 | 6 | 8 | 12 | 17 | 21 | 22 | 22 | 25 | 25 | 30 | 30 | 29 | 26 | 20 | 18 | 15 | 17 | 19 | 17.9 | 29.7 |
| 3-Sep | 20 | 18 | A | 17 | 14 | 13 | 11 | 12 | 14 | 20 | 21 | 21 | 23 | 25 | 26 | 27 | 29 | 23 | 24 | 23 | 20 | 14 | 15 | 17 | 19.4 | 28.5 |
| 4-Sep | 15 | A | 18 | 17 | 8 | 9 | 4 | 5 | 10 | 14 | 20 | 24 | 25 | 26 | 29 | 27 | 26 | 26 | 25 | 20 | 16 | 7 | 12 | 12 | 17.2 | 28.8 |
| 5-Sep | A | 13 | 13 | 14 | 11 | 7 | 4 | 4 | 6 | 12 | 22 | 24 | 32 | 32 | 31 | 31 | 31 | 31 | 28 | 26 | 26 | 21 | 20 | A | 20.0 | 31.6 |
| 6-Sep | 16 | 14 | 12 | 12 | 9 | 8 | 8 | 11 | 16 | 20 | 22 | 23 | 23 | 24 | 25 | 28 | 25 | 25 | 20 | 22 | 22 | 18 | A | 20 | 18.5 | 28.2 |
| 7-Sep | 18 | 12 | 13 | 11 | 9 | 6 | 10 | 12 | 11 | 17 | 18 | 22 | 22 | 24 | 23 | 24 | 24 | 24 | 25 | 22 | 13 | A | 6 | 11 | 16.3 | 24.5 |
| 8-Sep | 12 | 8 | 9 | 12 | 12 | 10 | 8 | 12 | 17 | 19 | 20 | 22 | 24 | 25 | 25 | 25 | 24 | 24 | 21 | 18 | A | 20 | 23 | 24 | 18.0 | 25.2 |
| 9-Sep | 26 | 25 | 22 | 20 | 19 | 13 | 10 | 8 | 9 | 17 | 17 | 17 | 26 | 26 | 27 | 31 | 29 | 27 | 27 | A | 22 | 22 | 21 | 19 | 20.7 | 30.6 |
| 10-Sep | 17 | 15 | 13 | 14 | 12 | 9 | 9 | 9 | 10 | 12 | 12 | 16 | 16 | 17 | 17 | 19 | 18 | 17 | 15 | 12 | 10 | 10 | 9 | 9 | 13.1 | 18.8 |
| 11-Sep | 8 | 9 | A | 9 | 9 | 7 | 6 | 12 | 17 | 19 | 19 | 22 | 21 | 26 | 26 | C | C | C | C | 25 | 24 | 21 | 22 | 20 | 17.0 | 26.2 |
| 12-Sep | 27 | A | 24 | 22 | 20 | 20 | 17 | 16 | 23 | 27 | 30 | 33 | 35 | 36 | 36 | 38 | 41 | 42 | 35 | 27 | 24 | 33 | 32 | 31 | 29.1 | 42.3 |
| 13-Sep | A | 21 | 21 | 20 | 17 | 15 | 14 | 15 | 18 | 20 | 23 | 27 | 29 | 31 | 33 | 35 | 34 | 34 | 30 | 25 | 12 | 13 | 14 | A | 22.8 | 34.8 |
| 14-Sep | 13 | 11 | 5 | 8 | 16 | 12 | 12 | 18 | 23 | 35 | 27 | 33 | 35 | 37 | 38 | 37 | 36 | 34 | 28 | 30 | 23 | 8 | A | 12 | 23.2 | 38.2 |
| 15-Sep | 6 | 10 | 7 | 9 | 10 | 10 | 5 | 11 | 14 | 30 | 34 | 33 | 36 | 40 | 41 | 41 | 41 | 39 | 37 | 38 | 25 | A | 11 | 9 | 23.2 | 40.8 |
| 16-Sep | 11 | 11 | 7 | 7 | 8 | 10 | 6 | 6 | 17 | 21 | 23 | 30 | 38 | 43 | 43 | 47 | 47 | 44 | 35 | 36 | A | 9 | 20 | 19 | 23.4 | 47.0 |
| 17-Sep | 19 | 23 | 16 | 12 | 8 | 11 | 4 | 9 | 14 | 19 | 19 | 25 | 32 | 41 | 47 | 49 | 49 | 48 | 46 | A | 26 | 24 | 21 | 25 | 25.4 | 49.0 |
| 18-Sep | 24 | 30 | 31 | 28 | 22 | 21 | 20 | 25 | 27 | 29 | 32 | 39 | 45 | 50 | 53 | 53 | 53 | 48 | A | 32 | 28 | 28 | 27 | 26 | 33.6 | 53.5 |
| 19-Sep | 23 | 20 | 23 | 25 | 25 | 14 | 11 | 13 | 20 | 29 | 35 | 42 | 46 | 51 | 51 | 51 | 49 | A | 37 | 37 | 33 | 30 | 27 | 24 | 31.1 | 51.1 |
| 20-Sep | 23 | 21 | 20 | 19 | 18 | 17 | 15 | 14 | 15 | 15 | 21 | 28 | 28 | 41 | 42 | 43 | A | 41 | 36 | 30 | 28 | 25 | 23 | 20 | 25.3 | 43.0 |
| 21-Sep | 19 | 12 | 11 | 10 | 11 | 10 | 5 | 8 | 10 | 10 | 16 | 15 | 18 | 25 | 27 | A | 32 | 39 | 40 | 25 | 21 | 23 | 24 | 23 | 18.9 | 39.9 |
| 22-Sep | 21 | 13 | 21 | 25 | 27 | 27 | 23 | 21 | 25 | 27 | 29 | 30 | 30 | 31 | A | 32 | 31 | 29 | 25 | 25 | 17 | 22 | 19 | 17 | 24.7 | 31.9 |
| 23-Sep | 16 | 15 | 26 | 25 | 27 | 24 | 23 | 28 | 28 | 22 | 27 | 32 | 33 | A | 33 | 32 | 32 | 33 | 24 | 22 | 22 | 24 | 18 | 18 | 25.4 | 33.1 |
| 24-Sep | 18 | 16 | 15 | 11 | 10 | 5 | 5 | 7 | 15 | 24 | 29 | 35 | A | 36 | 35 | 35 | 35 | 34 | 26 | 31 | 29 | 31 | 29 | 28 | 23.4 | 36.1 |
| 25-Sep | 27 | 25 | 26 | 26 | 27 | 25 | 25 | 19 | 27 | 29 | 36 | A | 41 | 41 | 43 | 42 | 42 | 38 | 35 | 25 | 29 | 33 | 30 | 21 | 31.0 | 43.1 |
| 26-Sep | 25 | 22 | 22 | 18 | 19 | 16 | 14 | 14 | 19 | 19 | A | 25 | 29 | 34 | 36 | 35 | 36 | 36 | 32 | 32 | 20 | 18 | 16 | 18 | 24.1 | 36.0 |
| 27-Sep | 16 | 22 | 29 | 31 | 31 | 27 | 25 | 22 | 20 | A | 34 | 37 | 45 | 45 | 45 | 44 | 43 | 41 | 36 | 29 | 30 | 27 | 25 | 27 | 31.7 | 45.2 |
| 28-Sep | 25 | 24 | 24 | 22 | 23 | 23 | 16 | 16 | A | 25 | 33 | 35 | 37 | 38 | 39 | 40 | 40 | 39 | 35 | 28 | 23 | 19 | 20 | 21 | 28.1 | 39.9 |
| 29-Sep | 15 | 12 | 4 | 19 | 24 | 25 | 16 | A | 17 | 33 | 33 | 34 | 37 | 40 | 41 | 41 | 41 | 39 | 24 | 24 | 22 | 19 | 16 | 20 | 25.9 | 41.5 |
| 30-Sep | 22 | 4 | 17 | 16 | 3 | 3 | A | 5 | 10 | 24 | 30 | 40 | 42 | 42 | 41 | 39 | 38 | 36 | 33 | 19 | 20 | 16 | 17 | 14 | 23.0 | 42.0 |
| | 18.2 | 16.2 | 16.9 | 16.9 | 15.7 | 13.9 | 11.9 | 12.8 | 16.6 | 21.4 | 24.7 | 27.7 | 30.6 | 33.5 | 34.5 | 35.6 | 34.8 | 33.5 | 29.3 | 25.6 | 22.0 | 20.3 | 19.4 | 19.0 | Diurnal Average | |
| | 27.3 | 30.5 | 30.8 | 30.7 | 31.3 | 27.3 | 24.9 | 27.8 | 28.1 | 35.3 | 36.0 | 42.3 | 45.7 | 51.1 | 52.9 | 53.5 | 52.5 | 48.4 | 45.6 | 37.8 | 33.0 | 32.8 | 31.8 | 31.4 | Diurnal Maximum | |

C - Calibration

A - Automated Daily Zero Span


Hourly Maximums for $O_3$ at Crescent Heights
September 2008
Ozone (ppb)
100
80
60
40
20
0
03
05
07
09
11
13
15
17
19
21
23
25
27
29
01
Day

**Pollutant Rose for $O_3$ at Crescent Heights**
**September 2008**



**Palliser Airshed Society**

**Summary of Eight Hour Running Averages**

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

**September 1, 2008 to October 1, 2008**

Number of Exceedences (AAAQO): 8-hr: 0

Maximum Value: 44.5 ppb on Sep 19 19:00

Minimum Value: 4.3 ppb on Sep 30 09:00

Percentiles: $P_1$ = 5.0 $P_{10}$ = 8.7 $Q_1$ = 12.4 Median = 18.7 $Q_3$ = 24.4 $P_{90}$ = 31.8 $P_{99}$ = 41.5

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 713 |
| Hours of Missing Data: | 7 |
| Hours of Calibration: | 7 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | 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 | Maximum |
| 1-Sep | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 11 | 12 | 13 | 14 | 15 | 15 | 16 | 16 | 16 | 15 | 15 | 14 | 13 | 12 | 16.0 |
| 2-Sep | 11 | 10 | 9 | 9 | 9 | 8 | 8 | 8 | 8 | 8 | 9 | 11 | 12 | 14 | 16 | 19 | 21 | 23 | 23 | 22 | 21 | 20 | 19 | 18 | 23.3 |
| 3-Sep | 16 | 15 | 14 | 14 | 14 | 14 | 13 | 12 | 11 | 11 | 12 | 13 | 14 | 15 | 17 | 19 | 21 | 21 | 22 | 22 | 21 | 20 | 18 | 17 | 22.0 |
| 4-Sep | 15 | 14 | 14 | 12 | 11 | 11 | 10 | 8 | 7 | 8 | 8 | 9 | 11 | 13 | 16 | 19 | 21 | 22 | 23 | 23 | 21 | 18 | 16 | 14 | 23.2 |
| 5-Sep | 13 | 11 | 10 | 9 | 9 | 9 | 8 | 7 | 7 | 6 | 7 | 7 | 10 | 13 | 16 | 20 | 23 | 25 | 27 | 27 | 27 | 25 | 23 | 22 | 27.5 |
| 6-Sep | 20 | 18 | 16 | 14 | 12 | 10 | 9 | 9 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 21 | 22 | 21 | 21 | 21 | 20 | 20 | 19 | 21.6 |
| 7-Sep | 17 | 15 | 14 | 13 | 11 | 9 | 9 | 8 | 8 | 8 | 9 | 10 | 12 | 14 | 16 | 17 | 19 | 20 | 21 | 21 | 19 | 19 | 16 | 14 | 21.1 |
| 8-Sep | 12 | 9 | 7 | 6 | 6 | 6 | 6 | 7 | 8 | 9 | 11 | 12 | 14 | 16 | 18 | 20 | 21 | 21 | 21 | 20 | 20 | 19 | 18 | 18 | 21.5 |
| 9-Sep | 19 | 19 | 18 | 20 | 19 | 18 | 16 | 14 | 11 | 10 | 10 | 10 | 10 | 12 | 14 | 18 | 20 | 22 | 23 | 24 | 24 | 24 | 23 | 21 | 24.1 |
| 10-Sep | 19 | 18 | 16 | 16 | 14 | 12 | 11 | 10 | 9 | 9 | 8 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 14 | 14 | 13 | 12 | 11 | 10 | 19.3 |
| 11-Sep | 9 | 8 | 7 | 7 | 6 | 6 | 5 | 6 | 7 | 8 | 9 | 11 | 13 | 15 | 18 | 19 | 20 | N | N | N | N | N | N | N | 20.1 |
| 12-Sep | 19 | 19 | 19 | 19 | 19 | 19 | 18 | 19 | 18 | 18 | 19 | 21 | 22 | 24 | 27 | 30 | 32 | 34 | 34 | 33 | 32 | 31 | 30 | 29 | 34.4 |
| 13-Sep | 28 | 25 | 24 | 23 | 22 | 20 | 18 | 16 | 16 | 15 | 16 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 29 | 27 | 25 | 23 | 21 | 19 | 28.6 |
| 14-Sep | 15 | 12 | 9 | 7 | 8 | 7 | 6 | 7 | 9 | 10 | 13 | 16 | 19 | 23 | 27 | 29 | 31 | 32 | 32 | 31 | 28 | 24 | 22 | 18 | 31.9 |
| 15-Sep | 14 | 10 | 8 | 5 | 5 | 5 | 5 | 5 | 6 | 8 | 11 | 14 | 18 | 22 | 27 | 31 | 34 | 35 | 35 | 35 | 32 | 31 | 27 | 22 | 35.2 |
| 16-Sep | 18 | 14 | 10 | 6 | 6 | 6 | 5 | 5 | 5 | 7 | 9 | 11 | 15 | 19 | 24 | 29 | 33 | 35 | 36 | 36 | 36 | 31 | 28 | 23 | 36.2 |
| 17-Sep | 19 | 16 | 14 | 12 | 11 | 11 | 10 | 9 | 9 | 9 | 9 | 11 | 13 | 17 | 22 | 27 | 32 | 35 | 37 | 40 | 39 | 37 | 33 | 28 | 39.6 |
| 18-Sep | 24 | 20 | 19 | 20 | 20 | 19 | 20 | 21 | 22 | 23 | 23 | 24 | 27 | 30 | 34 | 38 | 41 | 42 | 44 | 43 | 40 | 36 | 31 | 27 | 44.2 |
| 19-Sep | 22 | 18 | 18 | 17 | 17 | 16 | 15 | 14 | 13 | 15 | 17 | 19 | 22 | 27 | 32 | 37 | 41 | 44 | 44 | 44 | 42 | 39 | 36 | 32 | 44.5 |
| 20-Sep | 28 | 27 | 25 | 23 | 22 | 20 | 19 | 17 | 16 | 15 | 15 | 15 | 16 | 19 | 22 | 26 | 28 | 31 | 34 | 35 | 35 | 33 | 30 | 27 | 34.6 |
| 21-Sep | 26 | 22 | 19 | 17 | 15 | 12 | 10 | 9 | 7 | 7 | 7 | 8 | 9 | 11 | 14 | 15 | 18 | 21 | 24 | 25 | 26 | 26 | 25 | 25 | 25.8 |
| 22-Sep | 23 | 21 | 19 | 19 | 20 | 20 | 20 | 19 | 20 | 22 | 23 | 23 | 24 | 24 | 25 | 27 | 28 | 28 | 26 | 25 | 23 | 21 | 20 | 18 | 27.9 |
| 23-Sep | 16 | 15 | 15 | 15 | 16 | 17 | 17 | 20 | 21 | 22 | 22 | 23 | 24 | 24 | 26 | 26 | 27 | 28 | 28 | 27 | 25 | 25 | 23 | 21 | 28.5 |
| 24-Sep | 19 | 17 | 16 | 15 | 13 | 11 | 10 | 8 | 8 | 8 | 10 | 13 | 14 | 18 | 22 | 26 | 29 | 31 | 31 | 30 | 29 | 28 | 27 | 25 | 31.2 |
| 25-Sep | 24 | 23 | 23 | 22 | 22 | 22 | 22 | 21 | 20 | 21 | 22 | 22 | 24 | 26 | 29 | 33 | 36 | 37 | 35 | 32 | 28 | 26 | 23 | 20 | 36.8 |
| 26-Sep | 18 | 16 | 16 | 17 | 18 | 17 | 16 | 16 | 15 | 15 | 14 | 15 | 17 | 19 | 22 | 25 | 28 | 30 | 29 | 29 | 28 | 26 | 23 | 20 | 30.3 |
| 27-Sep | 17 | 14 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 23 | 24 | 26 | 29 | 33 | 36 | 39 | 39 | 39 | 38 | 36 | 33 | 30 | 28 | 38.9 |
| 28-Sep | 26 | 24 | 22 | 21 | 20 | 20 | 19 | 17 | 16 | 16 | 17 | 20 | 22 | 25 | 29 | 33 | 33 | 35 | 35 | 34 | 32 | 29 | 26 | 23 | 35.2 |
| 29-Sep | 20 | 16 | 13 | 12 | 12 | 12 | 11 | 11 | 12 | 15 | 19 | 22 | 24 | 26 | 31 | 32 | 35 | 36 | 34 | 32 | 30 | 26 | 22 | 19 | 35.7 |
| 30-Sep | 15 | 11 | 10 | 9 | 7 | 6 | 6 | 5 | 4 | 6 | 9 | 13 | 19 | 24 | 26 | 30 | 34 | 36 | 36 | 33 | 30 | 27 | 24 | 20 | 36.0 |
| | 28.4 | 27.4 | 25.4 | 23.4 | 22.4 | 22.1 | 21.5 | 20.8 | 21.9 | 22.9 | 23.1 | 24.1 | 26.6 | 30.2 | 34.2 | 37.9 | 41.2 | 43.6 | 44.5 | 43.7 | 41.9 | 39.1 | 35.5 | 31.8 | |
| | Diurnal Maximums | | | | | | | | | | | | | | | | | | | | | | | | |

N - Not Valid

Alberta Ambient Air Quality Objectives (AAAQO): 8-hr 65 ppb

**Palliser Airshed Society**
**Summary of Hourly Averages**

**Crescent Heights - Total Hydrocarbons (THC) - ppm**
**September 1, 2008 to October 1, 2008**

Maximum Value: 2.48 ppm on Sep 17 04:00

Maximum Daily Average: 2.10 ppm on Sep 17

Minimum Value: 1.5 ppm on Sep 11 13:00

Minimum Daily Average: 1.67 ppm on Sep 3

Maximum Diurnal Average: 1.95 ppm at hour 8

Minimum Diurnal Average: 1.75 ppm at hour 16

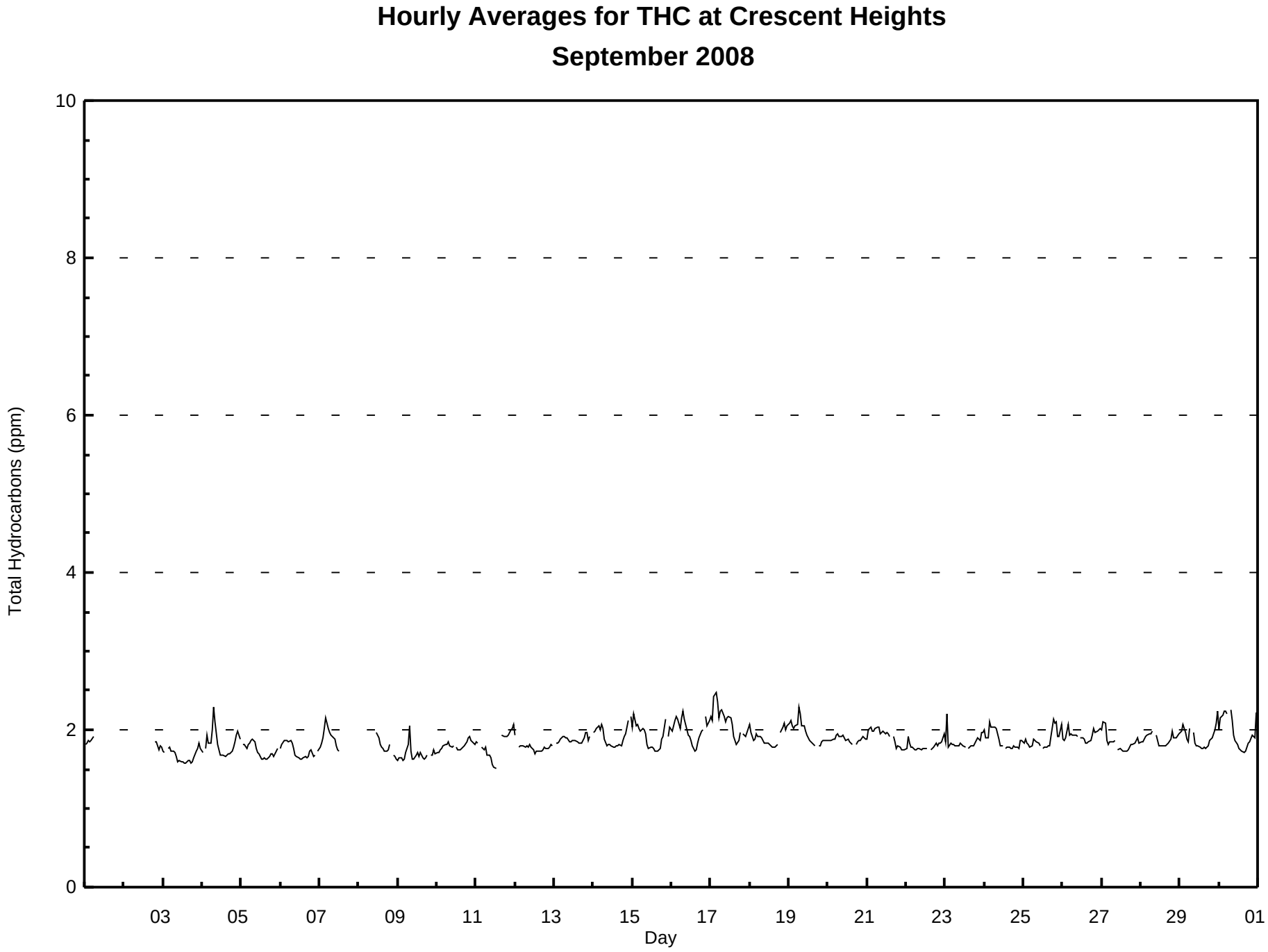
Monthly Average: 1.860 ppm

Percentiles: $P_1$ = 1.59 $P_{10}$ = 1.69 $Q_1$ = 1.77 Median = 1.84 $Q_3$ = 1.93 $P_{90}$ = 2.05 $P_{99}$ = 2.23

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 629 |
| Hours of Missing Data: | 91 |
| Hours of Calibration: | 38 |
| Percent Operational Time: | 92.6 |

| 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-Sep | 1.8 | 1.8 | 1.9 | 1.8 | 1.9 | 1.9 | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- | 1.91 |
| 2-Sep | N | N | N | N | N | N | N | N | N | N | N | N | C | C | C | C | C | C | C | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | -- | 1.85 |
| 3-Sep | 1.7 | 1.7 | A | 1.8 | 1.8 | 1.7 | 1.7 | 1.7 | 1.7 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.7 | 1.8 | 1.8 | 1.8 | 1.67 | 1.82 |
| 4-Sep | 1.7 | A | 1.8 | 1.9 | 1.8 | 1.8 | 2.0 | 2.3 | 2.1 | 1.8 | 1.8 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.8 | 1.8 | 1.9 | 2.0 | 1.9 | 1.82 | 2.28 |
| 5-Sep | A | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.8 | 1.8 | 1.7 | 1.7 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.8 | A | 1.73 | 1.88 |
| 6-Sep | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.7 | 1.7 | 1.6 | 1.6 | 1.6 | 1.6 | 1.7 | 1.6 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | A | 1.7 | 1.73 | 1.87 |
| 7-Sep | 1.8 | 1.8 | 1.9 | 2.0 | 2.1 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.8 | 1.7 | 1.7 | N | N | N | N | N | N | N | N | N | N | N | -- | 2.15 |
| 8-Sep | N | N | N | N | N | N | N | N | N | N | N | 2.0 | 1.9 | 1.8 | 1.8 | 1.8 | 1.7 | 1.7 | 1.7 | 1.8 | A | 1.7 | 1.7 | 1.6 | -- | 1.96 |
| 9-Sep | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.7 | 1.8 | 2.0 | 1.7 | 1.6 | 1.6 | 1.7 | 1.7 | 1.7 | 1.7 | 1.6 | 1.6 | 1.7 | 1.7 | A | 1.7 | 1.7 | 1.7 | 1.7 | 1.69 | 2.05 |
| 10-Sep | 1.7 | 1.7 | 1.7 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | P | 1.8 | 1.8 | 1.7 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.80 | 1.91 |
| 11-Sep | 1.8 | 1.8 | A | 1.8 | 1.8 | 1.8 | 1.8 | 1.7 | 1.7 | 1.6 | 1.6 | 1.5 | 1.5 | C | C | C | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.1 | 1.80 | 2.06 |
| 12-Sep | 1.9 | A | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.78 | 1.93 |
| 13-Sep | A | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.9 | 2.0 | 2.0 | 1.9 | 1.9 | A | 1.88 | 1.97 |
| 14-Sep | 2.0 | 2.0 | 2.0 | 2.1 | 2.0 | 2.1 | 2.0 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 2.1 | A | 2.2 | 1.91 | 2.18 |
| 15-Sep | 2.0 | 2.2 | 2.1 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.7 | 1.7 | 1.7 | 1.8 | 1.9 | 1.9 | 2.1 | A | 1.9 | 2.0 | 1.92 | 2.21 |
| 16-Sep | 2.0 | 2.1 | 2.1 | 2.2 | 2.1 | 2.0 | 2.2 | 2.2 | 2.1 | 2.0 | 1.9 | 1.9 | 1.9 | 1.8 | 1.7 | 1.7 | 1.8 | 1.9 | 2.0 | 2.0 | A | 2.2 | 2.0 | 2.1 | 2.00 | 2.24 |
| 17-Sep | 2.2 | 2.1 | 2.4 | 2.5 | 2.3 | 2.2 | 2.2 | 2.3 | 2.2 | 2.1 | 2.1 | 2.2 | 2.2 | 2.1 | 1.9 | 1.9 | 1.8 | 1.9 | 2.0 | A | 1.9 | 1.9 | 2.0 | 2.0 | 2.10 | 2.48 |
| 18-Sep | 2.1 | 2.0 | 1.9 | 1.9 | 2.0 | 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 | A | 2.0 | 2.0 | 2.1 | 2.0 | 2.1 | 1.90 | 2.08 |
| 19-Sep | 2.1 | 2.1 | 2.1 | 2.0 | 2.1 | 2.1 | 2.3 | 2.2 | 2.0 | 2.1 | 2.0 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | A | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.96 | 2.29 |
| 20-Sep | 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 | A | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.88 | 1.94 |
| 21-Sep | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | A | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.7 | 1.7 | 1.91 | 2.04 |
| 22-Sep | 1.8 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.7 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | A | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.79 | 1.94 |
| 23-Sep | 1.8 | 2.2 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | A | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 1.84 | 2.20 |
| 24-Sep | 2.0 | 1.9 | 1.9 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | 1.8 | 1.8 | A | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.88 | 2.09 |
| 25-Sep | 1.8 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | A | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 2.1 | 2.1 | 2.1 | 1.9 | 1.9 | 2.1 | 1.88 | 2.13 |
| 26-Sep | 1.9 | 1.9 | 1.9 | 2.1 | 1.9 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | A | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.93 | 2.06 |
| 27-Sep | 2.0 | 2.1 | 2.1 | 1.9 | 1.8 | 1.9 | 1.9 | 1.8 | 1.9 | A | 1.7 | 1.8 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.8 | 1.84 | 2.11 |
| 28-Sep | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 1.9 | 2.0 | A | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.88 | 1.98 |
| 29-Sep | 2.0 | 2.0 | 2.1 | 2.0 | 1.9 | 1.8 | 2.0 | A | 2.0 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 2.0 | 2.1 | 2.2 | 1.90 | 2.24 |
| 30-Sep | 2.0 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | A | 2.3 | 2.1 | 1.9 | 1.9 | 1.8 | 1.8 | 1.7 | 1.7 | 1.7 | 1.7 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 2.2 | 1.96 | 2.25 |
| | 1.89 | 1.93 | 1.93 | 1.93 | 1.92 | 1.91 | 1.94 | 1.95 | 1.89 | 1.84 | 1.81 | 1.80 | 1.78 | 1.78 | 1.76 | 1.75 | 1.77 | 1.78 | 1.83 | 1.86 | 1.87 | 1.87 | 1.89 | 1.93 | Diurnal Average | |
| | 2.16 | 2.21 | 2.43 | 2.48 | 2.35 | 2.20 | 2.29 | 2.28 | 2.17 | 2.10 | 2.15 | 2.18 | 2.15 | 2.07 | 1.92 | 1.86 | 1.93 | 1.92 | 2.13 | 2.09 | 2.14 | 2.17 | 2.08 | 2.24 | Diurnal Maximum | |

C - Calibration P - Power Failure N - Not Valid A - Automated Daily Zero Span


Hourly Averages for THC at Crescent Heights
September 2008
Total Hydrocarbons (ppm)
10
8
6
4
2
0
03
05
07
09
11
13
15
17
19
21
23
25
27
29
01
Day

**Palliser Airshed Society**
**Summary of Hourly Maximums**

**Crescent Heights - Total Hydrocarbons (THC) - ppm**
**September 1, 2008 to October 1, 2008**

Maximum Value: 5.87 ppm on Sep 4 09:00

Maximum Daily Average: 2.30 ppm on Sep 4

Minimum Value: 1.5 ppm on Sep 11 13:00

Minimum Daily Average: 1.74 ppm on Sep 3

Maximum Diurnal Average: 2.16 ppm at hour 8

Minimum Diurnal Average: 1.80 ppm at hour 16

Monthly Average: 1.976 ppm

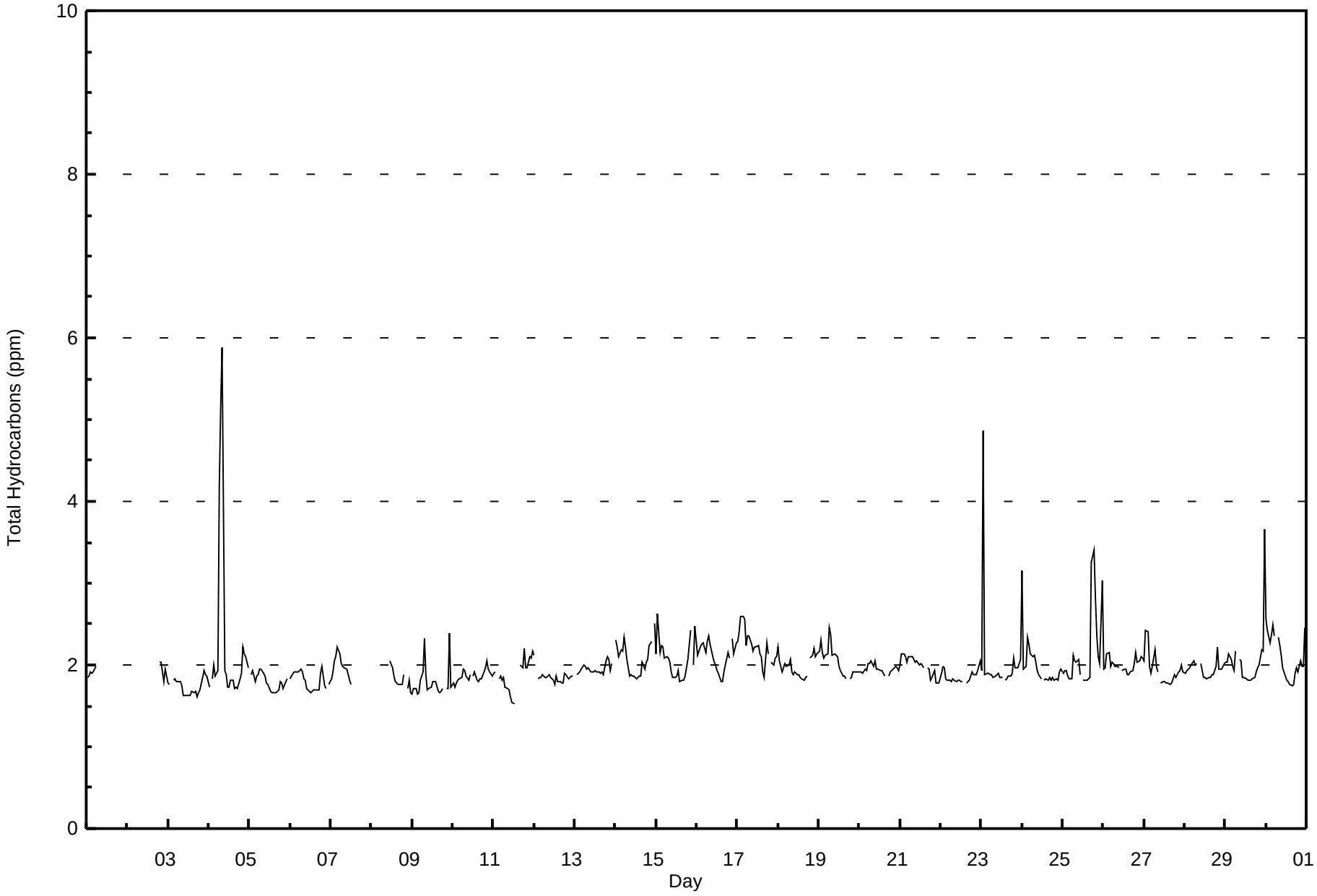
Percentiles: $P_1$ = 1.63 $P_{10}$ = 1.76 $Q_1$ = 1.83 Median = 1.92 $Q_3$ = 2.05 $P_{90}$ = 2.21 $P_{99}$ = 3.22

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 629 |
| Hours of Missing Data: | 91 |
| Hours of Calibration: | 38 |
| Percent Operational Time: | 92.6 |

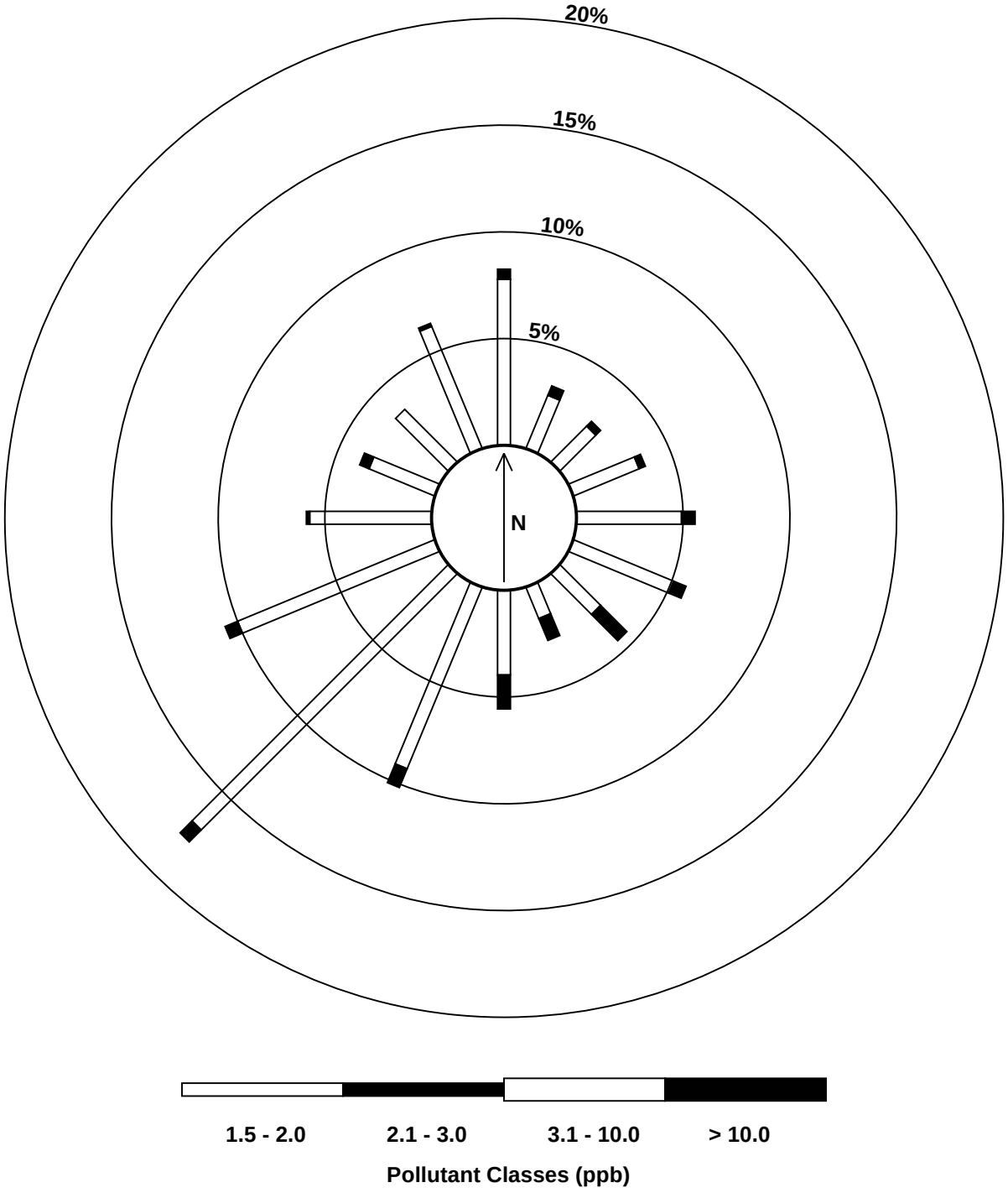
| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | |
| 1-Sep | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | -- | 1.98 |
| 2-Sep | N | N | N | N | N | N | N | N | N | N | N | N | C | C | C | C | C | C | C | 2.0 | 2.0 | 1.8 | 2.0 | 1.9 | -- | 2.03 |
| 3-Sep | 1.8 | 1.8 | A | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.7 | 1.7 | 1.7 | 1.6 | 1.7 | 1.7 | 1.8 | 1.9 | 1.9 | 1.9 | 1.74 | 1.92 |
| 4-Sep | 1.7 | A | 1.8 | 2.0 | 1.9 | 1.9 | 4.2 | 5.2 | 5.9 | 1.9 | 1.9 | 1.7 | 1.7 | 1.8 | 1.8 | 1.7 | 1.7 | 1.7 | 1.8 | 1.9 | 2.2 | 2.1 | 2.1 | 2.0 | 2.30 | 5.87 |
| 5-Sep | A | 1.9 | 1.9 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.8 | 1.8 | 1.7 | 1.8 | 1.8 | A | 1.79 | 1.94 |
| 6-Sep | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.9 | 2.0 | 1.7 | 1.7 | A | 1.8 | 1.80 | 1.98 |
| 7-Sep | 1.8 | 1.9 | 2.1 | 2.1 | 2.2 | 2.1 | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | 1.8 | 1.8 | N | N | N | N | N | N | N | N | N | N | N | -- | 2.21 |
| 8-Sep | N | N | N | N | N | N | N | N | N | N | N | 2.0 | 2.0 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | A | 1.7 | 1.8 | 1.7 | -- | 2.04 |
| 9-Sep | 1.6 | 1.7 | 1.7 | 1.6 | 1.7 | 1.8 | 1.9 | 2.3 | 1.9 | 1.7 | 1.7 | 1.7 | 1.8 | 1.8 | 1.8 | 1.7 | 1.7 | 1.7 | 1.7 | A | 1.7 | 1.7 | 2.4 | 1.7 | 1.79 | 2.39 |
| 10-Sep | 1.8 | 1.7 | 1.8 | 1.8 | 1.8 | 1.8 | 2.0 | 1.9 | 1.9 | 1.8 | 1.9 | P | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 2.0 | 2.1 | 2.0 | 1.9 | 1.9 | 1.87 | 2.06 |
| 11-Sep | 1.9 | 1.9 | A | 1.8 | 1.9 | 1.8 | 1.9 | 1.7 | 1.7 | 1.7 | 1.6 | 1.5 | 1.5 | C | C | C | 2.0 | 2.0 | 2.2 | 2.0 | 2.0 | 2.1 | 2.1 | 2.2 | 1.87 | 2.21 |
| 12-Sep | 2.1 | A | 1.8 | 1.9 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.8 | 1.8 | 1.9 | 1.9 | 1.85 | 2.11 |
| 13-Sep | A | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.1 | 2.1 | 1.9 | 2.0 | A | 1.95 | 2.10 |
| 14-Sep | 2.3 | 2.2 | 2.1 | 2.2 | 2.2 | 2.3 | 2.2 | 2.1 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.9 | 1.9 | 1.9 | 2.0 | 1.9 | 2.0 | 2.1 | 2.2 | 2.3 | A | 2.5 | 2.07 | 2.51 |
| 15-Sep | 2.1 | 2.6 | 2.2 | 2.2 | 2.2 | 2.1 | 2.1 | 2.1 | 2.0 | 1.9 | 1.8 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.9 | 2.0 | 2.1 | 2.4 | A | 2.0 | 2.5 | 2.06 | 2.63 |
| 16-Sep | 2.1 | 2.2 | 2.2 | 2.2 | 2.3 | 2.1 | 2.3 | 2.4 | 2.2 | 2.1 | 2.0 | 2.0 | 1.9 | 1.9 | 1.8 | 1.8 | 1.9 | 2.0 | 2.1 | 2.1 | A | 2.3 | 2.1 | 2.3 | 2.11 | 2.35 |
| 17-Sep | 2.3 | 2.4 | 2.6 | 2.6 | 2.6 | 2.2 | 2.4 | 2.4 | 2.3 | 2.2 | 2.2 | 2.2 | 2.2 | 2.1 | 2.1 | 1.9 | 1.9 | 2.3 | 2.1 | A | 2.0 | 2.0 | 2.1 | 2.1 | 2.22 | 2.60 |
| 18-Sep | 2.2 | 2.0 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | A | 2.1 | 2.1 | 2.2 | 2.1 | 2.1 | 1.98 | 2.21 |
| 19-Sep | 2.2 | 2.3 | 2.2 | 2.1 | 2.1 | 2.1 | 2.4 | 2.4 | 2.1 | 2.1 | 2.1 | 2.1 | 2.0 | 1.9 | 1.9 | 1.9 | 1.8 | A | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 2.05 | 2.45 |
| 20-Sep | 1.9 | 1.9 | 1.9 | 2.0 | 1.9 | 2.0 | 2.0 | 2.1 | 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 | 2.0 | 1.9 | 1.95 | 2.05 |
| 21-Sep | 2.0 | 2.1 | 2.1 | 2.1 | 2.0 | 2.1 | 2.1 | 2.1 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | A | 2.0 | 2.0 | 1.8 | 1.8 | 1.9 | 1.8 | 1.8 | 1.8 | 1.99 | 2.14 |
| 22-Sep | 1.9 | 2.0 | 2.0 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | A | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 1.86 | 2.05 |
| 23-Sep | 1.9 | 4.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | A | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 2.1 | 2.0 | 2.0 | 2.0 | 2.1 | 2.03 | 4.87 |
| 24-Sep | 3.2 | 1.9 | 2.0 | 2.3 | 2.2 | 2.1 | 2.1 | 2.1 | 2.0 | 1.9 | 1.9 | 1.8 | A | 1.8 | 1.8 | 1.8 | 1.9 | 1.8 | 1.9 | 1.8 | 1.8 | 1.8 | 1.9 | 2.0 | 2.00 | 3.16 |
| 25-Sep | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 2.1 | 2.0 | 2.0 | 2.1 | 1.9 | A | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 3.2 | 3.4 | 2.8 | 2.4 | 2.1 | 2.0 | 3.0 | 2.15 | 3.41 |
| 26-Sep | 2.0 | 2.0 | 2.1 | 2.2 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | A | 1.9 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.2 | 2.0 | 2.1 | 2.1 | 2.1 | 2.00 | 2.16 |
| 27-Sep | 2.1 | 2.4 | 2.4 | 2.0 | 1.9 | 2.0 | 2.2 | 2.0 | 1.9 | A | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 1.9 | 1.94 | 2.42 |
| 28-Sep | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.1 | 2.0 | 2.0 | A | 2.0 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 2.0 | 2.2 | 2.0 | 2.0 | 1.9 | 2.0 | 1.95 | 2.22 |
| 29-Sep | 2.0 | 2.0 | 2.1 | 2.1 | 2.0 | 1.9 | 2.2 | A | 2.1 | 2.1 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 2.0 | 2.0 | 2.2 | 2.2 | 3.7 | 2.04 | 3.66 |
| 30-Sep | 2.6 | 2.4 | 2.3 | 2.4 | 2.5 | 2.4 | A | 2.3 | 2.2 | 2.1 | 2.0 | 1.9 | 1.8 | 1.8 | 1.8 | 1.7 | 1.8 | 1.9 | 2.0 | 1.9 | 2.1 | 2.0 | 2.0 | 2.5 | 2.09 | 2.57 |
| | 2.04 | 2.15 | 2.03 | 2.02 | 2.01 | 2.00 | 2.12 | 2.16 | 2.12 | 1.93 | 1.88 | 1.86 | 1.84 | 1.85 | 1.83 | 1.80 | 1.83 | 1.91 | 1.98 | 1.99 | 1.99 | 1.96 | 2.00 | 2.12 | Diurnal Average | |
| | 3.16 | 4.87 | 2.60 | 2.59 | 2.55 | 2.35 | 4.19 | 5.16 | 5.87 | 2.17 | 2.22 | 2.23 | 2.23 | 2.14 | 2.09 | 1.92 | 2.03 | 3.25 | 3.41 | 2.82 | 2.42 | 2.32 | 2.39 | 3.66 | Diurnal Maximum | |

C - Calibration P - Power Failure N - Not Valid A - Automated Daily Zero Span

# Hourly Maximums for THC at Crescent Heights
## September 2008



## Pollutant Rose for THC at Crescent Heights
## September 2008



**Palliser Airshed Society**
**Summary of Hourly Averages**

**Crescent Heights - Carbon Monoxide (CO) - ppm**
**September 1, 2008 to October 1, 2008**

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 0.71 ppm on Sep 25 20:00 Maximum Daily Average: 0.20 ppm on Sep 25

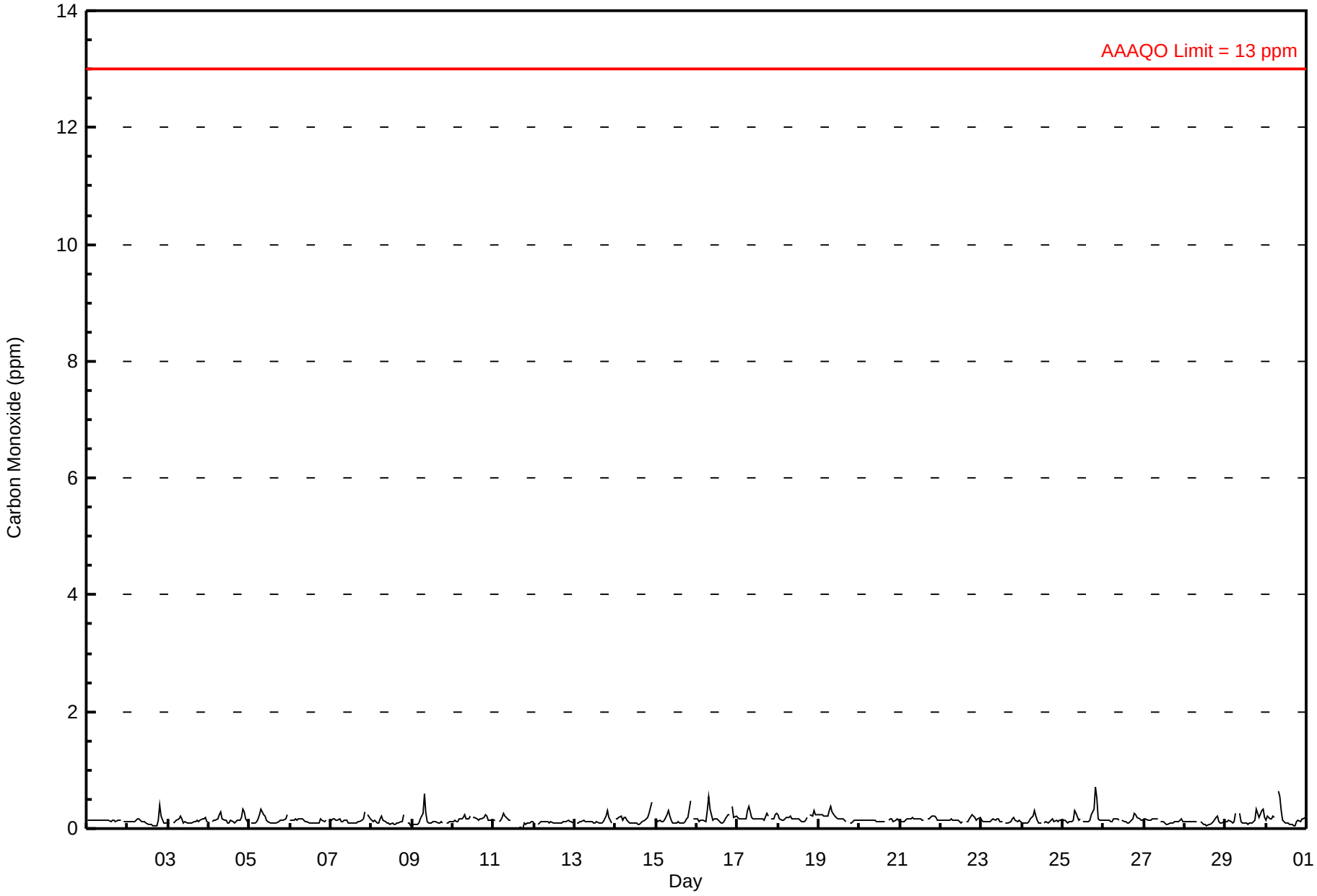
Minimum Value: 0.0 ppm on Sep 11 18:00 Minimum Daily Average: 0.11 ppm on Sep 28
Maximum Diurnal Average: 0.25 ppm at hour 8 Minimum Diurnal Average: 0.10 ppm at hour 16
Monthly Average: 0.150 ppm Percentiles: $P_1$ = 0.05 $P_{10}$ = 0.10 $Q_1$ = 0.11 Median = 0.14 $Q_3$ = 0.16 $P_{90}$ = 0.22 $P_{99}$ = 0.47

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 685 |
| Hours of Missing Data: | 35 |
| Hours of Calibration: | 34 |
| Percent Operational Time: | 99.9 |

| 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-Sep | 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 | A | 0.1 | 0.1 | 0.14 | 0.15 |
| 2-Sep | 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 | 0.1 | 0.1 | 0.1 | 0.4 | 0.2 | 0.1 | 0.1 | 0.1 | 0.12 | 0.40 |
| 3-Sep | 0.1 | 0.1 | A | 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 | 0.2 | 0.2 | 0.2 | 0.1 | 0.13 | 0.21 |
| 4-Sep | 0.1 | A | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0.3 | 0.2 | 0.1 | 0.16 | 0.32 |
| 5-Sep | A | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 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 | 0.2 | 0.2 | A | 0.15 | 0.33 |
| 6-Sep | 0.2 | 0.1 | 0.1 | 0.2 | 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 | 0.2 | 0.2 | 0.1 | 0.2 | A | 0.1 | 0.13 | 0.17 |
| 7-Sep | 0.1 | 0.2 | 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 | 0.1 | 0.1 | 0.2 | 0.3 | A | 0.2 | 0.2 | 0.14 | 0.29 |
| 8-Sep | 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 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | A | 0.1 | 0.1 | 0.1 | 0.11 | 0.24 |
| 9-Sep | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0.6 | 0.3 | 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 | 0.1 | 0.14 | 0.59 |
| 10-Sep | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | P | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.17 | 0.23 |
| 11-Sep | 0.1 | 0.1 | A | 0.1 | 0.1 | 0.2 | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 | C | C | C | C | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.12 | 0.26 |
| 12-Sep | 0.1 | A | 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 | 0.1 | 0.1 | 0.1 | 0.11 | 0.15 |
| 13-Sep | A | 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 | 0.3 | 0.2 | 0.1 | 0.1 | A | 0.13 | 0.30 |
| 14-Sep | 0.2 | 0.2 | 0.2 | 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 | 0.2 | 0.2 | 0.3 | 0.5 | A | 0.1 | 0.16 | 0.46 |
| 15-Sep | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.5 | A | 0.2 | 0.2 | 0.16 | 0.48 |
| 16-Sep | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | 0.6 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | A | 0.4 | 0.2 | 0.2 | 0.20 | 0.55 |
| 17-Sep | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.3 | 0.2 | A | 0.2 | 0.2 | 0.2 | 0.3 | 0.20 | 0.39 |
| 18-Sep | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | A | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | 0.18 | 0.30 |
| 19-Sep | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | A | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.19 | 0.38 |
| 20-Sep | 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 | A | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.14 | 0.17 |
| 21-Sep | 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 | A | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.16 | 0.21 |
| 22-Sep | 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 | A | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.15 | 0.24 |
| 23-Sep | 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 | A | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.13 | 0.18 |
| 24-Sep | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 | A | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.14 | 0.31 |
| 25-Sep | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0.3 | 0.2 | 0.2 | A | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0.7 | 0.5 | 0.2 | 0.1 | 0.2 | 0.20 | 0.71 |
| 26-Sep | 0.1 | 0.1 | 0.1 | 0.2 | 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 | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.15 | 0.26 |
| 27-Sep | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | A | 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 | 0.1 | 0.13 | 0.18 |
| 28-Sep | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | A | 0.1 | 0.1 | 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 | 0.11 | 0.21 |
| 29-Sep | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.3 | A | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 | 0.2 | 0.16 | 0.34 |
| 30-Sep | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | A | 0.6 | 0.5 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.18 | 0.64 |
| | 0.14 | 0.14 | 0.13 | 0.13 | 0.14 | 0.15 | 0.19 | 0.25 | 0.19 | 0.14 | 0.13 | 0.12 | 0.11 | 0.11 | 0.11 | 0.10 | 0.11 | 0.13 | 0.17 | 0.21 | 0.19 | 0.18 | 0.16 | 0.15 | Diurnal Average | |
| | 0.23 | 0.24 | 0.23 | 0.21 | 0.21 | 0.22 | 0.31 | 0.64 | 0.55 | 0.31 | 0.22 | 0.17 | 0.18 | 0.20 | 0.17 | 0.16 | 0.17 | 0.27 | 0.34 | 0.71 | 0.51 | 0.46 | 0.32 | 0.27 | Diurnal Maximum | |

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

# Hourly Averages for CO at Crescent Heights
## September 2008



**Palliser Airshed Society**
**Summary of Hourly Maximums**

**Crescent Heights - Carbon Monoxide (CO) - ppm**
**September 1, 2008 to October 1, 2008**

Maximum Value: 7.71 ppm on Sep 25 20:00

Maximum Daily Average: 0.66 ppm on Sep 25

Minimum Value: 0.0 ppm on Sep 11 18:00

Minimum Daily Average: 0.16 ppm on Sep 28

Maximum Diurnal Average: 0.63 ppm at hour 20

Minimum Diurnal Average: 0.16 ppm at hour 4

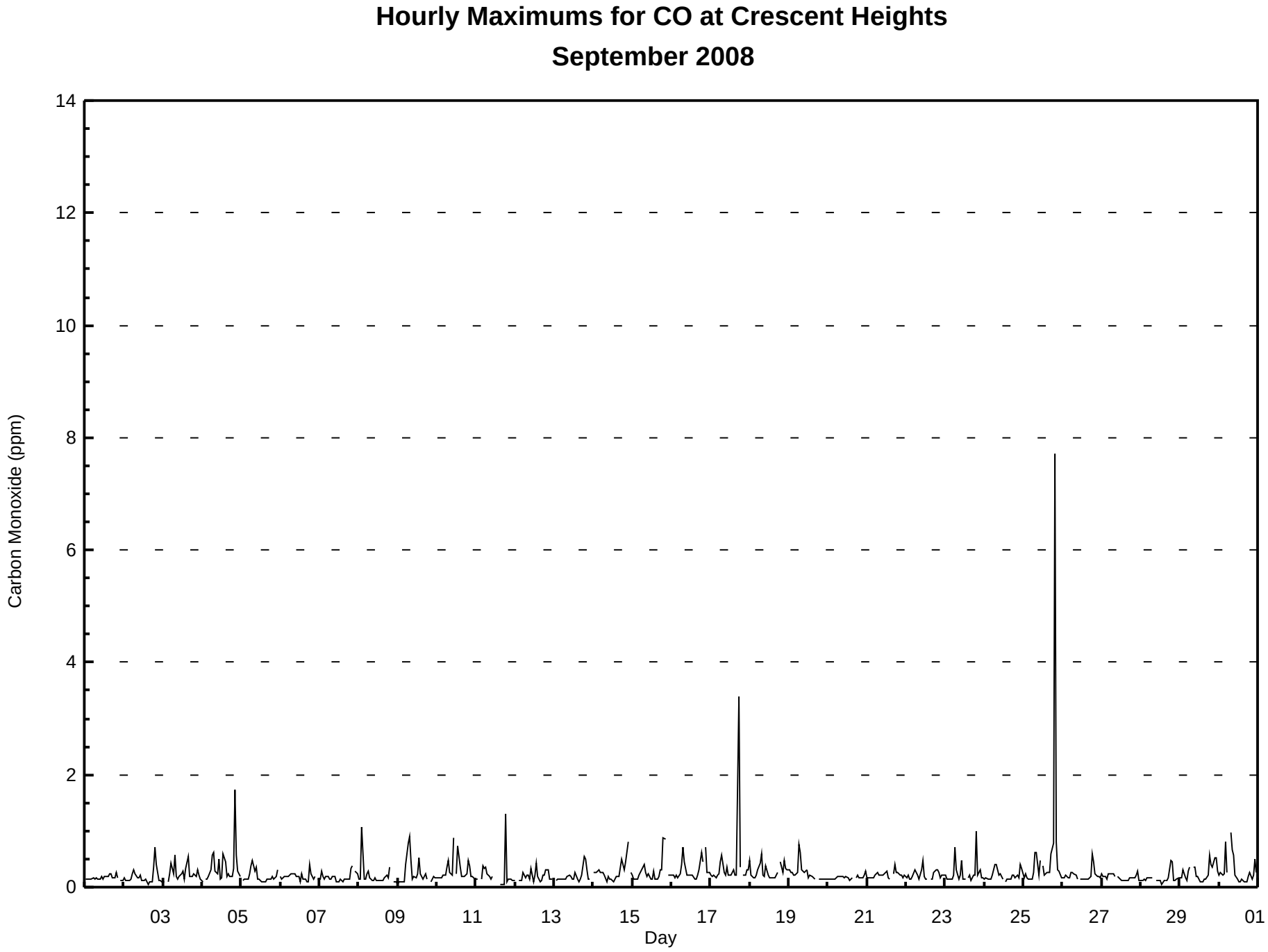
Monthly Average: 0.251 ppm

Percentiles: $P_1$ = 0.09 $P_{10}$ = 0.12 $Q_1$ = 0.15 Median = 0.20 $Q_3$ = 0.25 $P_{90}$ = 0.41 $P_{99}$ = 0.96

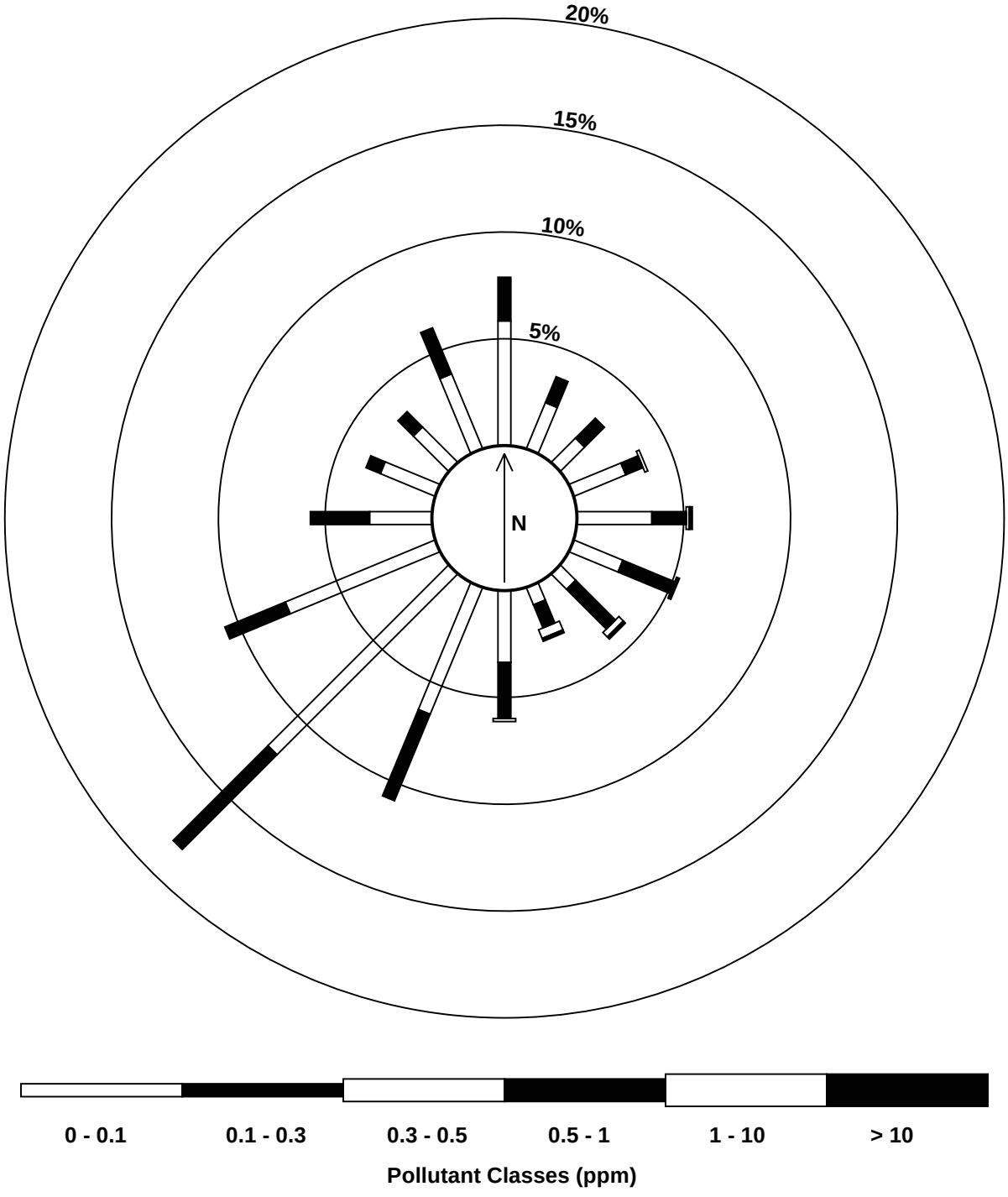
| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 685 |
| Hours of Missing Data: | 35 |
| Hours of Calibration: | 34 |
| Percent Operational Time: | 99.9 |

| 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-Sep | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | A | 0.1 | 0.1 | 0.17 | 0.25 |
| 2-Sep | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | 0.7 | 0.4 | 0.1 | 0.1 | 0.1 | 0.19 | 0.72 |
| 3-Sep | 0.1 | 0.1 | A | 0.1 | 0.2 | 0.4 | 0.2 | 0.6 | 0.2 | 0.1 | 0.2 | 0.2 | 0.3 | 0.1 | 0.3 | 0.5 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | 0.24 | 0.57 |
| 4-Sep | 0.1 | A | 0.1 | 0.2 | 0.2 | 0.3 | 0.6 | 0.6 | 0.3 | 0.2 | 0.5 | 0.1 | 0.2 | 0.6 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 1.7 | 0.6 | 0.3 | 0.2 | 0.37 | 1.72 |
| 5-Sep | A | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.4 | 0.5 | 0.3 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 0.3 | A | 0.19 | 0.47 |
| 6-Sep | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.4 | 0.2 | 0.1 | 0.2 | A | 0.1 | 0.19 | 0.41 |
| 7-Sep | 0.1 | 0.3 | 0.2 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.3 | 0.4 | A | 0.3 | 0.2 | 0.18 | 0.37 |
| 8-Sep | 0.1 | 0.1 | 1.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0.2 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.4 | A | 0.1 | 0.1 | 0.1 | 0.20 | 1.08 |
| 9-Sep | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.4 | 0.8 | 0.9 | 0.5 | 0.2 | 0.2 | 0.2 | 0.2 | 0.5 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | A | 0.1 | 0.1 | 0.2 | 0.2 | 0.26 | 0.91 |
| 10-Sep | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.4 | 0.5 | 0.3 | 0.2 | 0.9 | P | 0.2 | 0.7 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.5 | 0.4 | 0.2 | 0.2 | 0.1 | 0.29 | 0.88 |
| 11-Sep | 0.1 | 0.1 | A | 0.1 | 0.4 | 0.3 | 0.3 | 0.2 | 0.2 | 0.1 | 0.2 | C | C | C | C | 0.0 | 0.0 | 0.0 | 1.3 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.23 | 1.31 |
| 12-Sep | 0.1 | A | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.3 | 0.1 | 0.2 | 0.4 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.19 | 0.43 |
| 13-Sep | A | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | 0.1 | 0.1 | 0.2 | 0.5 | 0.5 | 0.3 | 0.2 | 0.2 | A | 0.20 | 0.55 |
| 14-Sep | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.5 | 0.4 | 0.3 | 0.5 | 0.8 | A | 0.3 | 0.27 | 0.80 |
| 15-Sep | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 0.4 | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 | 0.3 | 0.2 | 0.1 | 0.2 | 0.3 | 0.3 | 0.9 | 0.9 | A | 0.2 | 0.2 | 0.28 | 0.88 |
| 16-Sep | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.4 | 0.7 | 0.5 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.3 | 0.6 | 0.5 | A | 0.7 | 0.3 | 0.3 | 0.30 | 0.71 |
| 17-Sep | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.5 | 0.6 | 0.3 | 0.2 | 0.4 | 0.2 | 0.2 | 0.3 | 0.3 | 0.2 | 0.2 | 3.4 | 0.4 | A | 0.2 | 0.2 | 0.3 | 0.3 | 0.40 | 3.40 |
| 18-Sep | 0.5 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 0.6 | 0.2 | 0.2 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | A | 0.4 | 0.3 | 0.5 | 0.3 | 0.3 | 0.28 | 0.60 |
| 19-Sep | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.3 | 0.8 | 0.6 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | A | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.26 | 0.75 |
| 20-Sep | 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 | 0.1 | 0.1 | 0.2 | A | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.17 | 0.29 |
| 21-Sep | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.2 | 0.2 | A | 0.2 | 0.4 | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.21 | 0.40 |
| 22-Sep | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.2 | 0.2 | 0.3 | 0.5 | 0.2 | 0.2 | 0.2 | A | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.22 | 0.48 |
| 23-Sep | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.7 | 0.3 | 0.2 | 0.2 | 0.5 | 0.2 | 0.2 | A | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 1.0 | 0.2 | 0.3 | 0.2 | 0.2 | 0.26 | 0.99 |
| 24-Sep | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.4 | 0.4 | 0.3 | 0.2 | 0.2 | 0.2 | A | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.4 | 0.3 | 0.21 | 0.41 |
| 25-Sep | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.3 | 0.6 | 0.6 | 0.2 | 0.5 | A | 0.4 | 0.2 | 0.3 | 0.3 | 0.3 | 0.6 | 0.8 | 7.7 | 0.8 | 0.3 | 0.3 | 0.2 | 0.66 | 7.71 |
| 26-Sep | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | A | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.6 | 0.5 | 0.2 | 0.2 | 0.2 | 0.2 | 0.21 | 0.60 |
| 27-Sep | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | A | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.1 | 0.18 | 0.28 |
| 28-Sep | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | A | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.5 | 0.5 | 0.1 | 0.1 | 0.2 | 0.2 | 0.16 | 0.47 |
| 29-Sep | 0.2 | 0.2 | 0.3 | 0.2 | 0.1 | 0.3 | 0.4 | A | 0.4 | 0.4 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.6 | 0.4 | 0.4 | 0.5 | 0.5 | 0.3 | 0.26 | 0.58 |
| 30-Sep | 0.2 | 0.3 | 0.2 | 0.2 | 0.8 | 0.3 | A | 1.0 | 0.7 | 0.6 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.5 | 0.3 | 0.29 | 0.97 |
| | 0.18 | 0.17 | 0.20 | 0.16 | 0.20 | 0.25 | 0.34 | 0.39 | 0.26 | 0.21 | 0.27 | 0.17 | 0.17 | 0.22 | 0.18 | 0.16 | 0.16 | 0.33 | 0.35 | 0.63 | 0.33 | 0.27 | 0.23 | 0.20 | Diurnal Average | |
| | 0.47 | 0.29 | 1.08 | 0.31 | 0.80 | 0.43 | 0.78 | 0.97 | 0.66 | 0.56 | 0.88 | 0.31 | 0.37 | 0.73 | 0.44 | 0.54 | 0.26 | 3.40 | 1.31 | 7.71 | 1.72 | 0.80 | 0.51 | 0.34 | Diurnal Maximum | |

C - Calibration P - Power Failure A - Automated Daily Zero Span


Hourly Maximums for CO at Crescent Heights
September 2008
Carbon Monoxide (ppm)
0
2
4
6
8
10
12
14
03
05
07
09
11
13
15
17
19
21
23
25
27
29
01
Day

## Pollutant Rose for CO at Crescent Heights
## September 2008



**Palliser Airshed Society**

**Summary of Eight Hour Running Averages**

**Crescent Heights - Carbon Monoxide (CO) - ppm**

**September 1, 2008 to October 1, 2008**

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 0.32 ppm on Sep 30 10:00

Minimum Value: 0.05 ppm on Sep 11 21:00

Percentiles: $P_1$ = 0.07 $P_{10}$ = 0.11 $Q_1$ = 0.12 Median = 0.14 $Q_3$ = 0.17 $P_{90}$ = 0.21 $P_{99}$ = 0.29

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 713 |
| Hours of Missing Data: | 7 |
| Hours of Calibration: | 7 |
| Percent Operational Time: | 100.0 |

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | 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 | Maximum |
| 1-Sep | 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 | 0.14 |
| 2-Sep | 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-Sep | 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 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.16 |
| 4-Sep | 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 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.18 |
| 5-Sep | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 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 | 0.19 |
| 6-Sep | 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 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.16 |
| 7-Sep | 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 | 0.2 | 0.2 | 0.18 |
| 8-Sep | 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 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.18 |
| 9-Sep | 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 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.21 |
| 10-Sep | 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 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.19 |
| 11-Sep | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | N | N | N | N | N | N | N | 0.0 | 0.1 | 0.1 | 0.1 | 0.18 |
| 12-Sep | 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 | 0.12 |
| 13-Sep | 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 | 0.2 | 0.2 | 0.2 | 0.2 | 0.16 |
| 14-Sep | 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 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.21 |
| 15-Sep | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 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 | 0.2 | 0.2 | 0.2 | 0.2 | 0.22 |
| 16-Sep | 0.2 | 0.2 | 0.2 | 0.2 | 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 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.25 |
| 17-Sep | 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 | 0.23 |
| 18-Sep | 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 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.22 |
| 19-Sep | 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 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.26 |
| 20-Sep | 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 |
| 21-Sep | 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 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.18 |
| 22-Sep | 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 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.18 |
| 23-Sep | 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 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.18 |
| 24-Sep | 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 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.18 |
| 25-Sep | 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 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.30 |
| 26-Sep | 0.3 | 0.3 | 0.3 | 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 | 0.2 | 0.30 |
| 27-Sep | 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 | 0.1 | 0.1 | 0.1 | 0.1 | 0.19 |
| 28-Sep | 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 | 0.13 |
| 29-Sep | 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 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.23 |
| 30-Sep | 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 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.32 |
| | 0.30 | 0.29 | 0.26 | 0.24 | 0.24 | 0.23 | 0.24 | 0.25 | 0.31 | 0.32 | 0.32 | 0.31 | 0.29 | 0.27 | 0.25 | 0.19 | 0.17 | 0.18 | 0.18 | 0.24 | 0.29 | 0.29 | 0.30 | 0.30 | |
| | Diurnal Maximums | | | | | | | | | | | | | | | | | | | | | | | | |

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

**Palliser Airshed Society**

**Summary of Hourly Averages**

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

**September 1, 2008 to October 1, 2008**

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

Maximum Value: 22.5 $\mu g/m^3$ on Sep 18 21:00 Maximum Daily Average: 9.6 $\mu g/m^3$ on Sep 19

Minimum Value: 0 $\mu g/m^3$ on Sep 1 08:00 Minimum Daily Average: 1.0 $\mu g/m^3$ on Sep 1

Maximum Diurnal Average: 5.8 $\mu g/m^3$ at hour 21 Minimum Diurnal Average: 1.4 $\mu g/m^3$ at hour 14

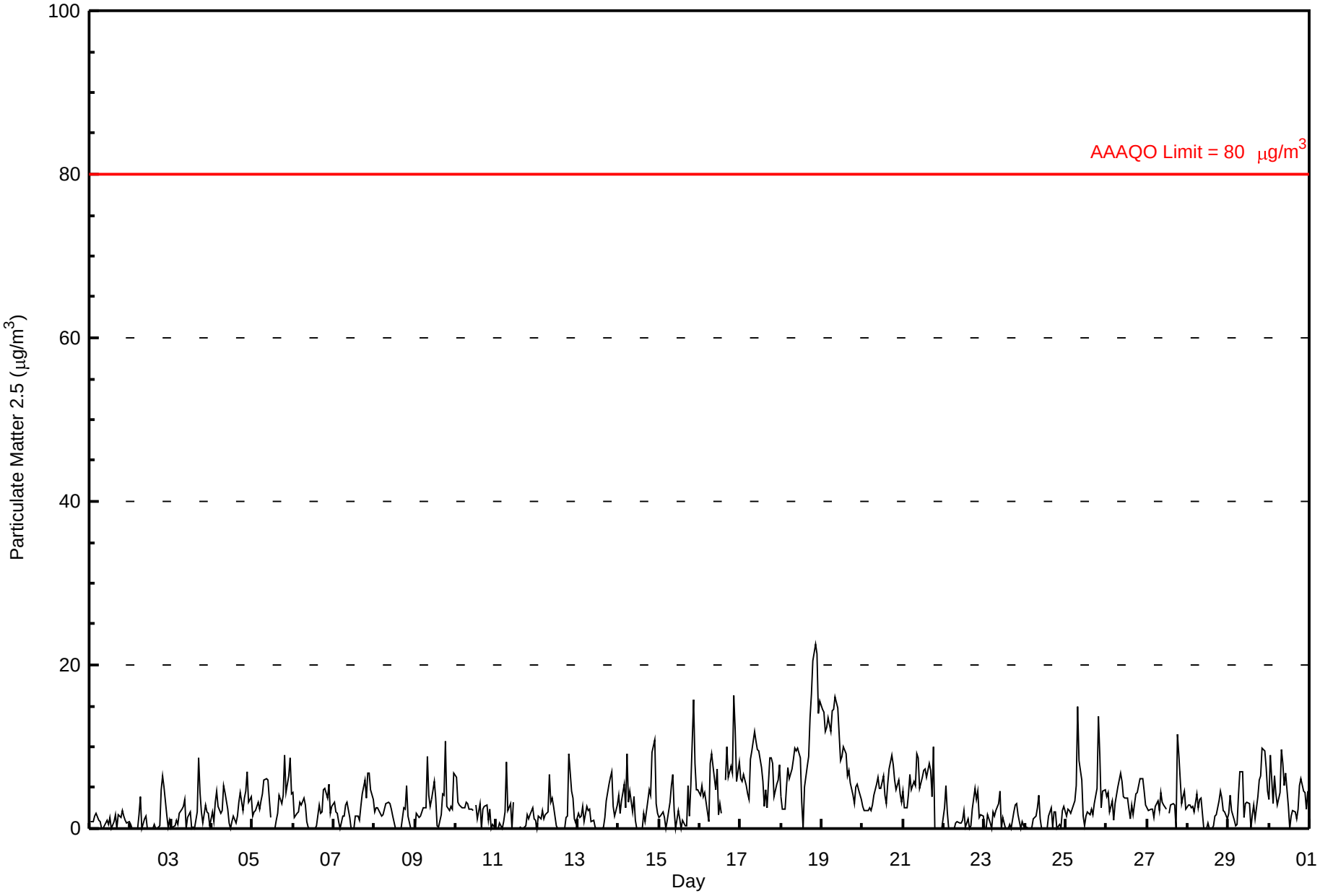
Monthly Average: 3.40 $\mu g/m^3$ Percentiles: $P_1$ = 0.0 $P_{10}$ = 0.0 $Q_1$ = 1.1 Median = 2.5 $Q_3$ = 4.7 $P_{90}$ = 7.9 $P_{99}$ = 15.5

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 711 |
| Hours of Missing Data: | 9 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 98.8 |

| 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-Sep | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1.0 | 2.3 |
| 2-Sep | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 6 | 5 | 2 | 0 | 1 | 1.2 | 6.5 |
| 3-Sep | 0 | 0 | 0 | 1 | 0 | 2 | 2 | 3 | 4 | 0 | 1 | 2 | 0 | 0 | 0 | 2 | 9 | 4 | 2 | 1 | 3 | 2 | 2 | 0 | 1.7 | 8.6 |
| 4-Sep | 2 | 1 | 3 | 5 | 3 | 2 | 2 | 5 | 4 | 2 | 1 | 0 | 1 | 2 | 1 | 2 | 3 | 4 | 2 | 4 | 5 | 7 | 3 | 4 | 2.8 | 7.0 |
| 5-Sep | 2 | 2 | 2 | 3 | 2 | 3 | 4 | 6 | 6 | 6 | 4 | 1 | BD | 0 | 1 | 2 | 4 | 3 | 4 | 9 | 4 | 6 | 9 | 4 | 3.9 | 9.0 |
| 6-Sep | 4 | 1 | 2 | 2 | 3 | 3 | 4 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 2 | 5 | 5 | 4 | 6 | 2 | 3 | 2.2 | 5.5 |
| 7-Sep | 3 | 2 | 2 | 1 | 0 | 1 | 2 | 3 | 3 | 1 | 0 | 0 | 0 | 2 | 2 | 1 | 3 | 4 | 6 | 4 | 7 | 7 | 5 | 4 | 2.5 | 6.8 |
| 8-Sep | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 5 | 1 | 0 | 0 | 0 | 1.6 | 5.3 |
| 9-Sep | 0 | 2 | 1 | 2 | 2 | 3 | 2 | 9 | 4 | 3 | 4 | 6 | 4 | 0 | 0 | 2 | 4 | 4 | 11 | 3 | 2 | 3 | 2 | 7 | 3.3 | 10.7 |
| 10-Sep | 6 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 2 | P | 3 | 1 | 3 | 0 | 2 | 3 | 3 | 1 | 2 | 0 | 1 | 0 | 2.3 | 6.3 |
| 11-Sep | 0 | 0 | 1 | 0 | 1 | 2 | 8 | 2 | 3 | 0 | 3 | BD | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 2 | 3 | 1 | 1 | 1.3 | 8.2 |
| 12-Sep | 0 | 2 | 1 | 2 | 1 | 2 | 2 | 7 | 3 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 9 | 5 | 4 | 1 | 1 | 2.0 | 9.1 |
| 13-Sep | 2 | 1 | 1 | 3 | 1 | 3 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 5 | 6 | 7 | 3 | 1 | 3 | 2.0 | 7.0 |
| 14-Sep | 4 | 2 | 3 | 5 | 2 | 9 | 3 | 5 | 2 | 4 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 5 | 4 | 9 | 11 | 3 | 2 | 3.4 | 10.8 |
| 15-Sep | 1 | 2 | 2 | 1 | 0 | 1 | 3 | 5 | 7 | 2 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 5 | 1 | 5 | 16 | 8 | 5 | 5 | 3.1 | 15.7 |
| 16-Sep | 4 | 5 | 4 | 4 | 3 | 1 | 8 | 9 | 8 | 5 | 7 | 2 | 3 | 2 | BD | 6 | 10 | 6 | 8 | 7 | 16 | 12 | 6 | 8 | 6.3 | 16.2 |
| 17-Sep | 6 | 6 | 7 | 5 | 4 | 4 | 9 | 10 | 12 | 11 | 10 | 9 | 7 | 6 | 3 | 5 | 3 | 9 | 9 | 8 | 4 | 5 | 6 | 8 | 6.8 | 11.9 |
| 18-Sep | 4 | 2 | 2 | 5 | 8 | 6 | 7 | 8 | 10 | 9 | 10 | 9 | 3 | 0 | 5 | 8 | 9 | 14 | 16 | 21 | 23 | 21 | 14 | 16 | 9.6 | 22.5 |
| 19-Sep | 15 | 14 | 12 | 12 | 14 | 12 | 14 | 15 | 16 | 15 | 12 | 8 | 9 | 10 | 9 | 6 | 7 | 6 | 4 | 3 | 5 | 5 | 5 | 4 | 9.6 | 16.1 |
| 20-Sep | 3 | 2 | 2 | 2 | 3 | 2 | 3 | 4 | 5 | 6 | 5 | 5 | 6 | 4 | 3 | 5 | 7 | 9 | 8 | 6 | 5 | 6 | 4 | 3 | 4.6 | 9.0 |
| 21-Sep | 5 | 3 | 2 | 4 | 7 | 5 | 6 | 5 | 9 | 9 | 5 | 6 | 7 | 7 | 6 | 8 | 7 | 4 | 10 | 0 | BD | 0 | BD | 0 | 5.2 | 10.0 |
| 22-Sep | 3 | 5 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 0 | 1 | 0 | 0 | 2 | 5 | 4 | 5 | 1 | 2 | 2 | 1.6 | 5.2 |
| 23-Sep | 0 | 0 | 2 | 1 | 0 | 2 | 2 | 2 | 3 | 5 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 3 | 2 | 0 | 1 | 0 | 1.2 | 4.5 |
| 24-Sep | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 4 | 1 | 0 | BD | 0 | 0 | 1 | 3 | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 3 | 1.1 | 4.0 |
| 25-Sep | 1 | 2 | 2 | 2 | 2 | 3 | 5 | 15 | 8 | 6 | 1 | 0 | 2 | 2 | 2 | 2 | 2 | 3 | 5 | 14 | 9 | 3 | 5 | 5 | 4.2 | 14.8 |
| 26-Sep | 4 | 4 | 2 | 3 | 1 | 3 | 4 | 5 | 7 | 6 | 4 | 4 | 4 | 2 | 1 | 3 | 2 | 4 | 4 | 5 | 6 | 6 | 5 | 3 | 3.9 | 6.9 |
| 27-Sep | 3 | 2 | 2 | 2 | 1 | 3 | 3 | 2 | 4 | 3 | 3 | 2 | BD | 2 | 3 | 3 | 3 | 0 | 12 | 9 | 3 | 4 | 5 | 2 | 3.4 | 11.6 |
| 28-Sep | 3 | 3 | 3 | 3 | 2 | 4 | 2 | 3 | 4 | 0 | BD | 0 | 1 | 0 | 0 | 0 | 2 | 2 | 3 | 4 | 4 | 2 | 2 | 1 | 2.1 | 4.5 |
| 29-Sep | 2 | 4 | 2 | 1 | 0 | 0 | 4 | 7 | 7 | 1 | 3 | 3 | 3 | 0 | 2 | 3 | 1 | 4 | 6 | 6 | 10 | 10 | 7 | 5 | 3.8 | 9.8 |
| 30-Sep | 4 | 9 | 3 | 6 | 4 | 3 | 4 | 10 | 8 | 5 | 7 | 3 | 0 | 2 | 2 | 2 | 1 | 2 | 5 | 6 | 5 | 4 | 2 | 5 | 4.3 | 9.6 |
| | 2.8 | 2.8 | 2.5 | 2.8 | 2.4 | 2.9 | 4.0 | 5.1 | 5.0 | 3.8 | 3.1 | 2.5 | 2.1 | 1.4 | 1.6 | 2.3 | 2.8 | 3.7 | 5.2 | 5.4 | 5.8 | 4.7 | 3.5 | 3.3 | Diurnal Average | |
| | 14.6 | 14.3 | 11.8 | 12.3 | 13.5 | 11.8 | 14.4 | 14.8 | 16.1 | 14.7 | 11.6 | 9.5 | 8.8 | 9.9 | 9.1 | 8.0 | 9.9 | 13.6 | 16.4 | 20.6 | 22.5 | 21.3 | 14.1 | 15.5 | Diurnal Maximum | |

P - Power Failure BD - Baseline Drift

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


Hourly Averages for PM2.5 at Crescent Heights
September 2008
100
80
60
40
20
0
AAAQO Limit = 80 µg/m3
Particulate Matter 2.5 (µg/m3)
03
05
07
09
11
13
15
17
19
21
23
25
27
29
01
Day

**Palliser Airshed Society**
**Summary of Hourly Maximums**

**Crescent Heights - Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$**
**September 1, 2008 to October 1, 2008**

Maximum Value: 48.0 $\mu g/m^3$ on Sep 2 19:00

Maximum Daily Average: 16.2 $\mu g/m^3$ on Sep 18

Minimum Value: 0 $\mu g/m^3$ on Sep 21 23:00

Minimum Daily Average: 3.6 $\mu g/m^3$ on Sep 1

Maximum Diurnal Average: 11.6 $\mu g/m^3$ at hour 19

Minimum Diurnal Average: 5.7 $\mu g/m^3$ at hour 3

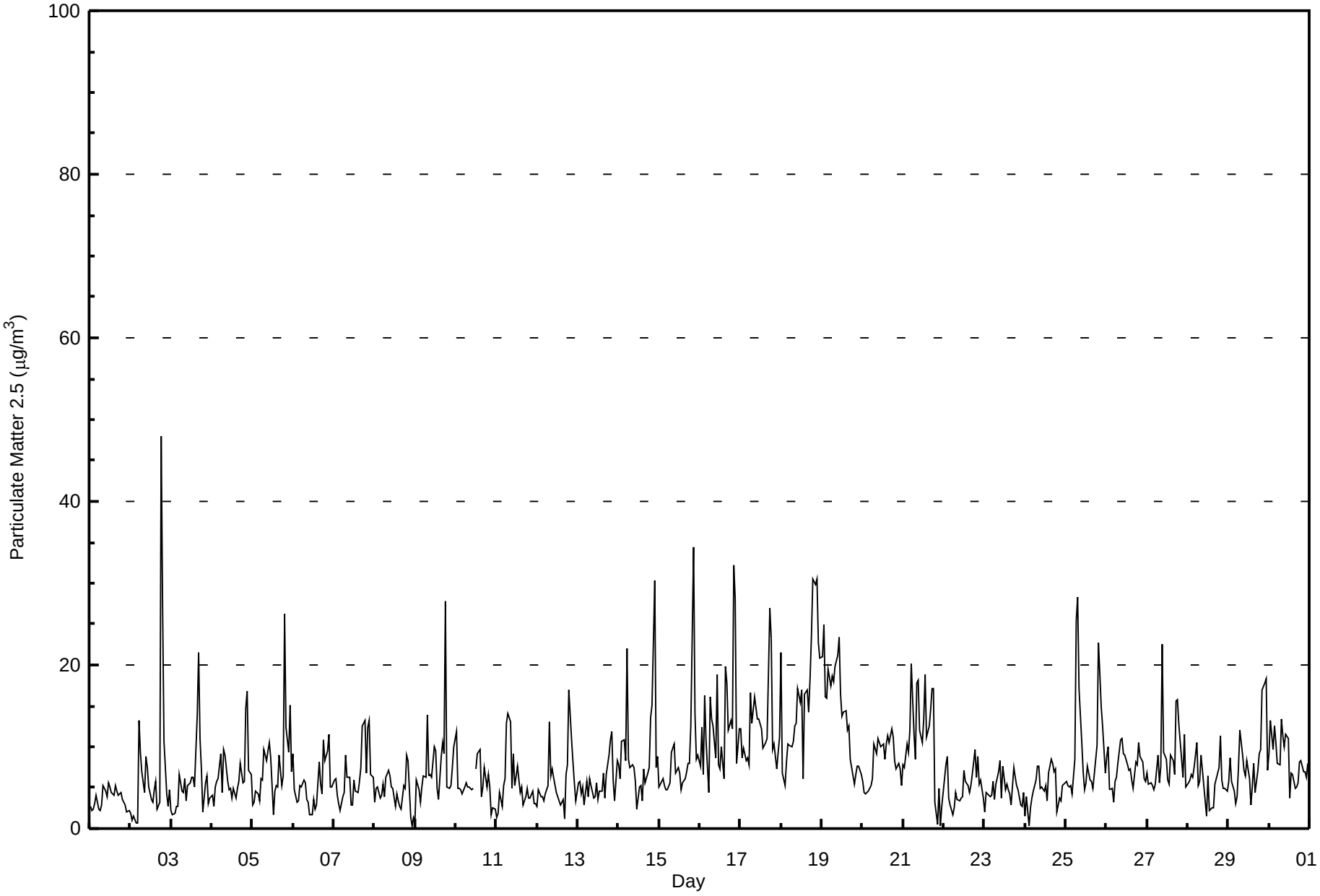
Monthly Average: 7.83 $\mu g/m^3$

Percentiles: $P_1$ = 0.9 $P_{10}$ = 3.1 $Q_1$ = 4.5 Median = 6.2 $Q_3$ = 9.5 $P_{90}$ = 14.2 $P_{99}$ = 29.4

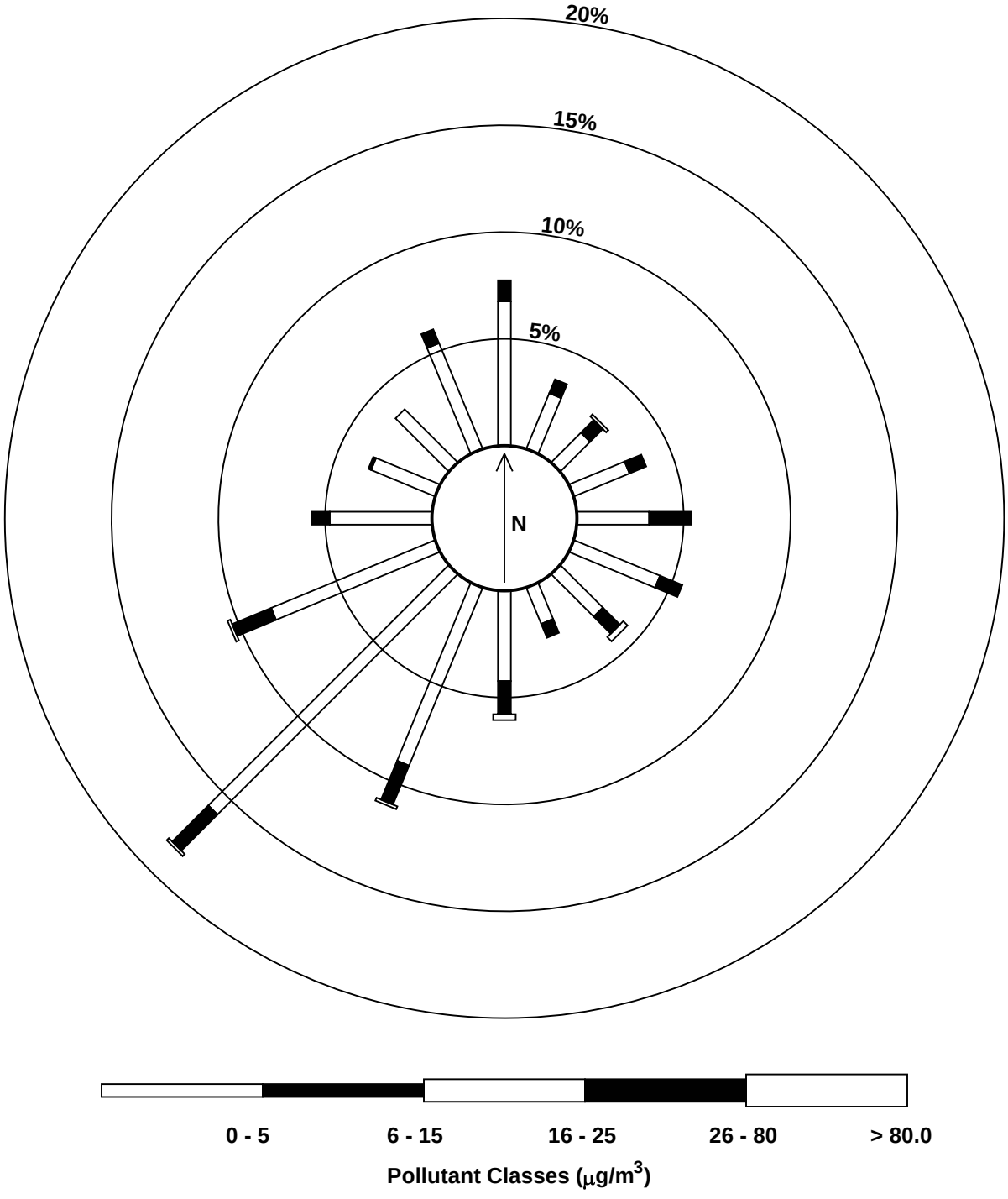
| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 719 |
| Hours of Missing Data: | 1 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 99.9 |

| 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-Sep | 3 | 2 | 2 | 3 | 4 | 2 | 2 | 3 | 5 | 5 | 4 | 6 | 5 | 4 | 4 | 5 | 5 | 4 | 4 | 3 | 3 | 3 | 2 | 2 | 3.6 | 5.7 |
| 2-Sep | 2 | 1 | 2 | 1 | 1 | 13 | 9 | 7 | 4 | 9 | 7 | 5 | 4 | 3 | 5 | 6 | 2 | 3 | 48 | 27 | 11 | 4 | 3 | 5 | 7.6 | 48.0 |
| 3-Sep | 2 | 2 | 2 | 3 | 3 | 7 | 5 | 4 | 6 | 3 | 5 | 6 | 6 | 6 | 5 | 14 | 22 | 11 | 7 | 2 | 6 | 6 | 3 | 4 | 5.8 | 21.6 |
| 4-Sep | 4 | 3 | 5 | 6 | 6 | 9 | 4 | 10 | 9 | 6 | 5 | 5 | 4 | 5 | 4 | 5 | 6 | 8 | 6 | 6 | 15 | 17 | 7 | 7 | 6.6 | 16.9 |
| 5-Sep | 3 | 3 | 5 | 4 | 3 | 6 | 6 | 10 | 8 | 10 | 10 | 9 | 2 | 5 | 5 | 5 | 9 | 5 | 6 | 26 | 12 | 9 | 15 | 7 | 7.7 | 26.2 |
| 6-Sep | 9 | 5 | 3 | 3 | 5 | 5 | 6 | 6 | 4 | 3 | 2 | 2 | 4 | 2 | 3 | 8 | 5 | 4 | 11 | 8 | 9 | 12 | 5 | 5 | 5.4 | 11.6 |
| 7-Sep | 6 | 6 | 4 | 3 | 2 | 4 | 4 | 9 | 6 | 6 | 3 | 3 | 6 | 5 | 4 | 6 | 7 | 13 | 13 | 7 | 12 | 13 | 7 | 6 | 6.5 | 13.2 |
| 8-Sep | 3 | 5 | 5 | 4 | 4 | 5 | 4 | 6 | 7 | 6 | 5 | 5 | 3 | 4 | 3 | 3 | 2 | 5 | 5 | 9 | 8 | 1 | 0 | 1 | 4.4 | 8.9 |
| 9-Sep | 1 | 6 | 5 | 3 | 5 | 7 | 6 | 14 | 6 | 7 | 6 | 10 | 10 | 5 | 3 | 9 | 10 | 9 | 28 | 5 | 5 | 5 | 8 | 10 | 7.6 | 27.7 |
| 10-Sep | 12 | 5 | 5 | 5 | 4 | 5 | 6 | 5 | 5 | 5 | 5 | P | 7 | 9 | 10 | 4 | 5 | 8 | 5 | 7 | 5 | 2 | 2 | 2 | 5.5 | 11.9 |
| 11-Sep | 1 | 2 | 4 | 3 | 5 | 6 | 13 | 14 | 13 | 5 | 9 | 5 | 8 | 6 | 4 | 5 | 3 | 4 | 5 | 4 | 4 | 5 | 3 | 3 | 5.6 | 14.1 |
| 12-Sep | 3 | 5 | 4 | 4 | 3 | 4 | 5 | 13 | 6 | 7 | 6 | 4 | 4 | 3 | 3 | 4 | 1 | 7 | 8 | 17 | 11 | 8 | 6 | 3 | 5.8 | 17.0 |
| 13-Sep | 6 | 6 | 4 | 5 | 3 | 6 | 4 | 6 | 5 | 4 | 4 | 6 | 4 | 5 | 5 | 7 | 4 | 7 | 9 | 11 | 12 | 6 | 3 | 8 | 5.7 | 11.8 |
| 14-Sep | 8 | 6 | 11 | 11 | 8 | 22 | 8 | 7 | 8 | 7 | 6 | 2 | 5 | 5 | 3 | 7 | 6 | 7 | 7 | 14 | 15 | 30 | 7 | 9 | 9.2 | 30.4 |
| 15-Sep | 5 | 5 | 6 | 5 | 5 | 5 | 6 | 9 | 10 | 10 | 7 | 7 | 7 | 5 | 6 | 6 | 7 | 8 | 8 | 13 | 34 | 14 | 8 | 9 | 8.6 | 34.5 |
| 16-Sep | 8 | 12 | 7 | 16 | 11 | 4 | 16 | 13 | 13 | 9 | 19 | 8 | 7 | 10 | 6 | 20 | 18 | 12 | 13 | 12 | 32 | 28 | 8 | 12 | 13.1 | 32.2 |
| 17-Sep | 12 | 9 | 10 | 8 | 9 | 8 | 17 | 13 | 16 | 15 | 13 | 13 | 12 | 10 | 10 | 10 | 11 | 27 | 23 | 10 | 10 | 7 | 9 | 11 | 12.3 | 27.0 |
| 18-Sep | 22 | 7 | 5 | 8 | 10 | 10 | 10 | 11 | 13 | 13 | 17 | 16 | 17 | 6 | 17 | 17 | 14 | 18 | 24 | 30 | 30 | 31 | 23 | 21 | 16.2 | 30.5 |
| 19-Sep | 21 | 25 | 16 | 16 | 19 | 17 | 19 | 18 | 20 | 21 | 23 | 16 | 14 | 14 | 14 | 12 | 13 | 9 | 6 | 5 | 7 | 8 | 8 | 7 | 14.5 | 24.9 |
| 20-Sep | 6 | 4 | 4 | 5 | 5 | 5 | 6 | 10 | 9 | 11 | 11 | 10 | 10 | 8 | 10 | 11 | 10 | 12 | 11 | 8 | 7 | 8 | 7 | 5 | 8.2 | 12.2 |
| 21-Sep | 8 | 7 | 10 | 9 | 12 | 20 | 11 | 8 | 18 | 18 | 12 | 11 | 13 | 19 | 11 | 13 | 15 | 17 | 17 | 3 | 1 | 5 | 0 | 3 | 10.9 | 20.1 |
| 22-Sep | 6 | 8 | 9 | 4 | 3 | 2 | 3 | 4 | 4 | 3 | 4 | 4 | 7 | 6 | 5 | 4 | 5 | 7 | 10 | 6 | 9 | 5 | 6 | 4 | 5.3 | 9.7 |
| 23-Sep | 2 | 4 | 4 | 4 | 4 | 6 | 4 | 5 | 7 | 8 | 4 | 8 | 5 | 5 | 5 | 4 | 3 | 8 | 6 | 5 | 5 | 3 | 3 | 4 | 4.8 | 8.3 |
| 24-Sep | 2 | 4 | 0 | 3 | 4 | 5 | 6 | 8 | 8 | 5 | 5 | 5 | 5 | 3 | 7 | 8 | 8 | 7 | 7 | 2 | 4 | 3 | 5 | 5 | 4.9 | 8.4 |
| 25-Sep | 6 | 5 | 5 | 5 | 4 | 8 | 25 | 28 | 17 | 11 | 7 | 5 | 6 | 8 | 6 | 6 | 5 | 7 | 10 | 23 | 19 | 15 | 13 | 7 | 10.4 | 28.3 |
| 26-Sep | 9 | 10 | 5 | 5 | 3 | 6 | 6 | 8 | 11 | 11 | 9 | 9 | 8 | 7 | 7 | 6 | 5 | 8 | 8 | 11 | 9 | 8 | 6 | 6 | 7.5 | 11.0 |
| 27-Sep | 7 | 5 | 6 | 5 | 5 | 5 | 9 | 6 | 8 | 22 | 9 | 8 | 6 | 5 | 9 | 8 | 7 | 16 | 16 | 13 | 9 | 6 | 12 | 5 | 8.6 | 22.5 |
| 28-Sep | 6 | 6 | 7 | 6 | 7 | 10 | 5 | 6 | 9 | 5 | 3 | 2 | 6 | 2 | 3 | 2 | 5 | 6 | 8 | 11 | 6 | 5 | 5 | 5 | 5.7 | 11.3 |
| 29-Sep | 6 | 9 | 6 | 4 | 3 | 4 | 7 | 12 | 9 | 7 | 6 | 8 | 6 | 3 | 5 | 8 | 4 | 7 | 9 | 10 | 17 | 18 | 18 | 7 | 8.1 | 18.3 |
| 30-Sep | 9 | 13 | 10 | 13 | 10 | 8 | 8 | 13 | 11 | 10 | 11 | 11 | 4 | 7 | 7 | 5 | 5 | 6 | 8 | 8 | 7 | 7 | 6 | 8 | 8.6 | 13.4 |
| | 6.5 | 6.4 | 5.7 | 5.8 | 5.7 | 7.5 | 8.0 | 9.6 | 9.2 | 8.8 | 8.0 | 7.1 | 6.8 | 6.2 | 6.3 | 7.6 | 7.4 | 8.9 | 11.6 | 10.5 | 11.1 | 9.8 | 7.0 | 6.4 | Diurnal Average | |
| | 21.5 | 24.9 | 16.2 | 16.3 | 19.4 | 22.1 | 25.5 | 28.3 | 19.8 | 22.5 | 23.4 | 16.5 | 17.0 | 18.9 | 16.5 | 19.8 | 21.6 | 27.0 | 48.0 | 30.4 | 34.5 | 30.5 | 22.8 | 20.8 | Diurnal Maximum | |

P - Power Failure


Hourly Maximums for PM2.5 at Crescent Heights
September 2008
Particulate Matter 2.5 (µg/m3)
100
80
60
40
20
0
03
05
07
09
11
13
15
17
19
21
23
25
27
29
01
Day

## Pollutant Rose for $PM_{2.5}$ at Crescent Heights
## September 2008



**Palliser Airshed Society**
**Summary of Hourly Averages**

**Crescent Heights - Relative Humidity (RH) - %**
**September 1, 2008 to October 1, 2008**

Maximum Value: 91.4 % on Sep 2 05:00

Maximum Daily Average: 87.3 % on Sep 1

Minimum Value: 15 % on Sep 18 15:00

Minimum Daily Average: 44.1 % on Sep 18

Maximum Diurnal Average: 78.1 % at hour 6

Minimum Diurnal Average: 35.9 % at hour 16

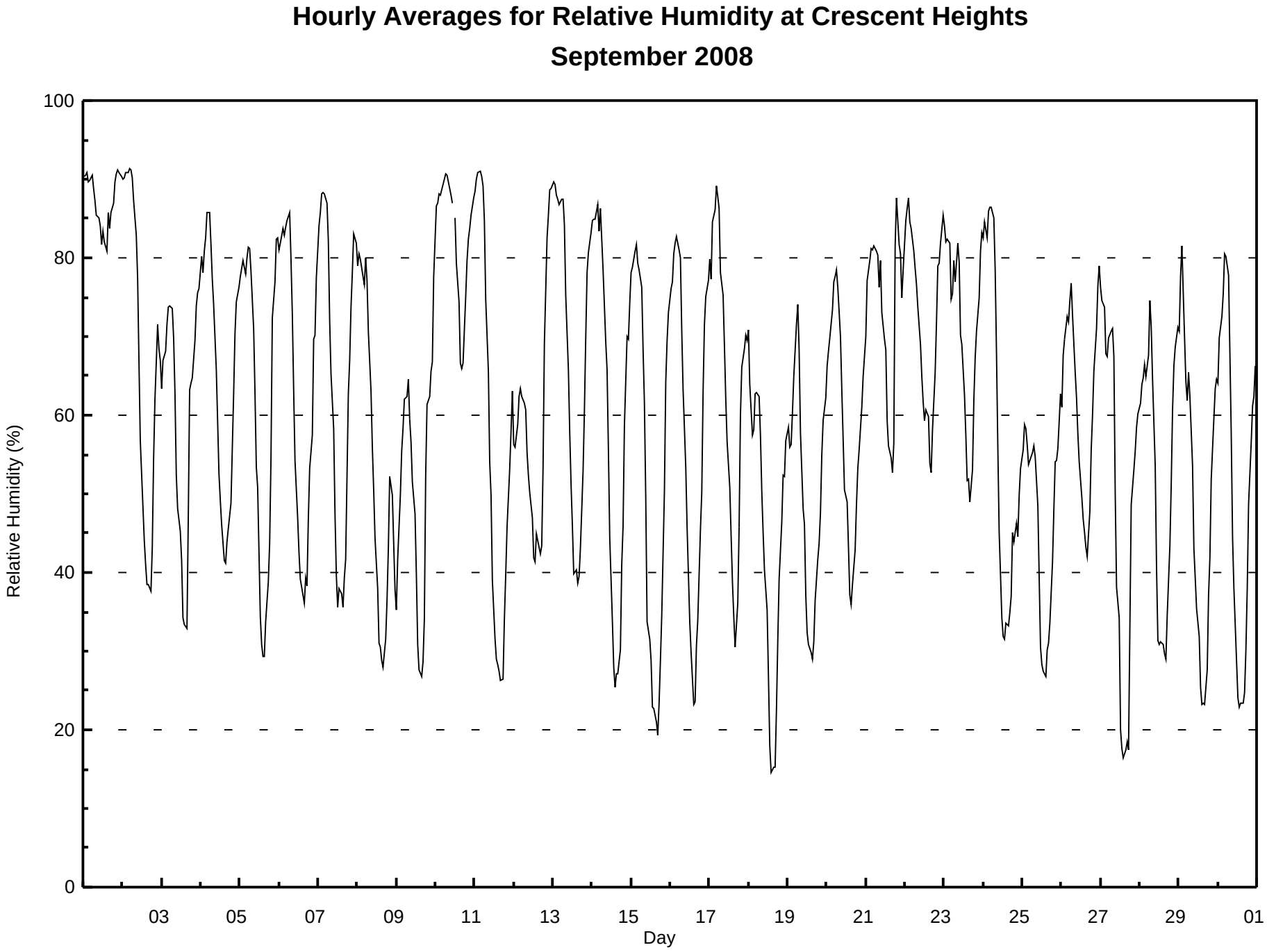
Monthly Average: 60.44 %

Percentiles: $P_1$ = 17.7 $P_{10}$ = 31.3 $Q_1$ = 44.3 Median = 62.5 $Q_3$ = 78.1 $P_{90}$ = 85.4 $P_{99}$ = 90.7

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 719 |
| Hours of Missing Data: | 1 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 99.9 |

| 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-Sep | 90 | 90 | 91 | 90 | 90 | 91 | 89 | 87 | 85 | 85 | 84 | 82 | 83 | 82 | 81 | 86 | 84 | 86 | 87 | 90 | 91 | 91 | 91 | 90 | 87.3 | 91.1 |
| 2-Sep | 90 | 90 | 91 | 91 | 91 | 91 | 90 | 87 | 83 | 77 | 67 | 57 | 48 | 44 | 41 | 38 | 39 | 38 | 43 | 55 | 62 | 71 | 69 | 67 | 67.5 | 91.4 |
| 3-Sep | 63 | 67 | 68 | 72 | 74 | 74 | 74 | 70 | 63 | 52 | 48 | 45 | 42 | 34 | 33 | 33 | 47 | 63 | 64 | 65 | 70 | 74 | 76 | 76 | 60.3 | 76.1 |
| 4-Sep | 80 | 78 | 81 | 82 | 86 | 86 | 82 | 77 | 74 | 66 | 59 | 53 | 49 | 46 | 42 | 41 | 44 | 46 | 49 | 56 | 63 | 70 | 74 | 76 | 65.0 | 85.7 |
| 5-Sep | 78 | 79 | 80 | 78 | 80 | 81 | 81 | 78 | 71 | 63 | 53 | 51 | 34 | 31 | 29 | 29 | 34 | 39 | 44 | 55 | 72 | 77 | 82 | 83 | 61.8 | 82.5 |
| 6-Sep | 81 | 82 | 84 | 83 | 84 | 85 | 86 | 80 | 73 | 63 | 54 | 47 | 43 | 39 | 38 | 36 | 39 | 38 | 47 | 53 | 57 | 70 | 70 | 77 | 62.9 | 85.8 |
| 7-Sep | 84 | 86 | 88 | 88 | 88 | 87 | 82 | 72 | 65 | 58 | 48 | 40 | 36 | 38 | 37 | 36 | 39 | 42 | 63 | 67 | 74 | 78 | 83 | 82 | 65.0 | 88.4 |
| 8-Sep | 79 | 80 | 80 | 78 | 77 | 80 | 77 | 71 | 63 | 56 | 50 | 44 | 38 | 31 | 31 | 29 | 28 | 32 | 36 | 43 | 52 | 50 | 44 | 38 | 53.6 | 80.4 |
| 9-Sep | 35 | 42 | 50 | 55 | 58 | 62 | 62 | 65 | 59 | 57 | 51 | 47 | 40 | 31 | 28 | 27 | 29 | 34 | 52 | 61 | 62 | 66 | 67 | 78 | 50.7 | 77.6 |
| 10-Sep | 87 | 87 | 88 | 88 | 89 | 90 | 91 | 91 | 90 | 88 | 87 | P | 85 | 79 | 74 | 67 | 66 | 67 | 75 | 80 | 82 | 84 | 85 | 88 | 82.9 | 90.6 |
| 11-Sep | 88 | 90 | 91 | 91 | 90 | 89 | 85 | 75 | 66 | 54 | 50 | 39 | 32 | 29 | 28 | 27 | 26 | 26 | 34 | 40 | 46 | 53 | 58 | 63 | 57.1 | 91.0 |
| 12-Sep | 56 | 56 | 59 | 62 | 63 | 62 | 62 | 61 | 55 | 52 | 50 | 47 | 42 | 41 | 45 | 43 | 42 | 43 | 53 | 69 | 83 | 85 | 89 | 89 | 58.8 | 88.8 |
| 13-Sep | 90 | 89 | 88 | 87 | 87 | 88 | 87 | 84 | 75 | 66 | 58 | 51 | 46 | 40 | 40 | 39 | 40 | 43 | 53 | 60 | 70 | 78 | 81 | 83 | 67.6 | 89.7 |
| 14-Sep | 85 | 85 | 85 | 87 | 83 | 86 | 82 | 79 | 69 | 66 | 56 | 44 | 34 | 28 | 25 | 27 | 27 | 30 | 41 | 46 | 59 | 70 | 70 | 74 | 59.9 | 86.7 |
| 15-Sep | 78 | 79 | 81 | 82 | 79 | 78 | 76 | 68 | 62 | 50 | 34 | 31 | 29 | 23 | 23 | 21 | 19 | 23 | 29 | 35 | 50 | 64 | 69 | 73 | 52.4 | 81.6 |
| 16-Sep | 76 | 77 | 80 | 82 | 83 | 81 | 80 | 71 | 63 | 53 | 46 | 40 | 34 | 30 | 23 | 24 | 31 | 34 | 45 | 50 | 63 | 71 | 75 | 77 | 57.9 | 82.6 |
| 17-Sep | 80 | 77 | 85 | 86 | 89 | 88 | 86 | 78 | 75 | 69 | 62 | 57 | 51 | 45 | 39 | 34 | 30 | 36 | 46 | 60 | 66 | 69 | 70 | 69 | 64.5 | 89.2 |
| 18-Sep | 71 | 64 | 58 | 58 | 63 | 63 | 62 | 57 | 50 | 45 | 40 | 35 | 27 | 18 | 15 | 15 | 15 | 23 | 31 | 39 | 46 | 52 | 52 | 57 | 44.1 | 70.8 |
| 19-Sep | 59 | 56 | 56 | 60 | 65 | 72 | 74 | 68 | 58 | 48 | 46 | 37 | 32 | 31 | 30 | 29 | 31 | 36 | 42 | 44 | 48 | 55 | 59 | 62 | 49.9 | 74.1 |
| 20-Sep | 66 | 68 | 70 | 73 | 77 | 78 | 78 | 76 | 70 | 63 | 57 | 51 | 49 | 43 | 37 | 36 | 38 | 43 | 49 | 53 | 56 | 61 | 65 | 68 | 59.4 | 78.4 |
| 21-Sep | 70 | 77 | 80 | 81 | 81 | 81 | 81 | 80 | 76 | 80 | 73 | 70 | 68 | 59 | 56 | 55 | 53 | 56 | 82 | 88 | 82 | 81 | 75 | 78 | 73.4 | 87.6 |
| 22-Sep | 85 | 86 | 88 | 85 | 84 | 81 | 79 | 77 | 74 | 69 | 65 | 62 | 59 | 61 | 60 | 54 | 53 | 58 | 65 | 72 | 79 | 79 | 82 | 85 | 72.5 | 87.7 |
| 23-Sep | 84 | 82 | 82 | 82 | 75 | 75 | 80 | 77 | 82 | 80 | 70 | 69 | 62 | 57 | 52 | 52 | 49 | 53 | 62 | 67 | 71 | 75 | 81 | 83 | 70.9 | 84.1 |
| 24-Sep | 83 | 85 | 83 | 86 | 86 | 86 | 85 | 79 | 68 | 56 | 45 | 34 | 32 | 31 | 34 | 33 | 35 | 37 | 45 | 44 | 46 | 45 | 50 | 53 | 56.7 | 86.4 |
| 25-Sep | 56 | 59 | 58 | 56 | 54 | 55 | 55 | 56 | 55 | 49 | 39 | 30 | 28 | 27 | 27 | 30 | 31 | 33 | 41 | 48 | 54 | 54 | 56 | 63 | 46.5 | 62.7 |
| 26-Sep | 61 | 68 | 70 | 73 | 72 | 75 | 77 | 73 | 65 | 62 | 58 | 54 | 50 | 47 | 45 | 43 | 42 | 48 | 56 | 60 | 66 | 71 | 76 | 79 | 62.0 | 79.0 |
| 27-Sep | 76 | 75 | 74 | 68 | 67 | 70 | 71 | 71 | 67 | 50 | 38 | 34 | 20 | 18 | 16 | 17 | 18 | 17 | 33 | 49 | 53 | 55 | 58 | 60 | 49.1 | 76.3 |
| 28-Sep | 62 | 64 | 65 | 66 | 65 | 68 | 75 | 71 | 65 | 54 | 40 | 31 | 31 | 31 | 31 | 30 | 29 | 34 | 43 | 51 | 61 | 66 | 69 | 71 | 53.0 | 74.5 |
| 29-Sep | 71 | 78 | 82 | 70 | 64 | 62 | 65 | 62 | 54 | 43 | 39 | 35 | 32 | 25 | 23 | 23 | 23 | 28 | 37 | 42 | 52 | 60 | 63 | 65 | 49.9 | 81.5 |
| 30-Sep | 64 | 70 | 72 | 75 | 80 | 80 | 78 | 68 | 58 | 44 | 38 | 29 | 24 | 23 | 23 | 23 | 25 | 30 | 38 | 49 | 57 | 61 | 62 | 66 | 51.6 | 80.5 |
| | 74.2 | 75.5 | 76.8 | 77.2 | 77.5 | 78.1 | 77.7 | 73.6 | 67.8 | 60.6 | 53.6 | 46.4 | 42.6 | 38.8 | 36.9 | 35.9 | 36.9 | 40.6 | 49.5 | 56.3 | 63.0 | 67.9 | 70.0 | 72.5 | Diurnal Average | |
| | 90.3 | 90.5 | 90.9 | 91.0 | 91.4 | 91.2 | 90.6 | 90.6 | 89.7 | 88.0 | 87.0 | 81.7 | 85.2 | 82.1 | 80.8 | 85.8 | 83.8 | 85.7 | 87.0 | 89.6 | 90.6 | 91.1 | 90.8 | 90.4 | Diurnal Maximum | |

P - Power Failure


Hourly Averages for Relative Humidity at Crescent Heights
September 2008
Relative Humidity (%)
100
80
60
40
20
0
03
05
07
09
11
13
15
17
19
21
23
25
27
29
01
Day

**Palliser Airshed Society**
**Summary of Hourly Averages**

**Crescent Heights - Solar Radiation (SR) - W/m$^2$**
**September 1, 2008 to October 1, 2008**

Maximum Value: 786.9 W/m$^2$ on Sep 2 13:00

Maximum Daily Average: 249.8 W/m$^2$ on Sep 2

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

Minimum Daily Average: 38.6 W/m$^2$ on Sep 1

Maximum Diurnal Average: 595.3 W/m$^2$ at hour 13

Minimum Diurnal Average: 0.0 W/m$^2$ at hour 1

Monthly Average: 180.76 W/m$^2$

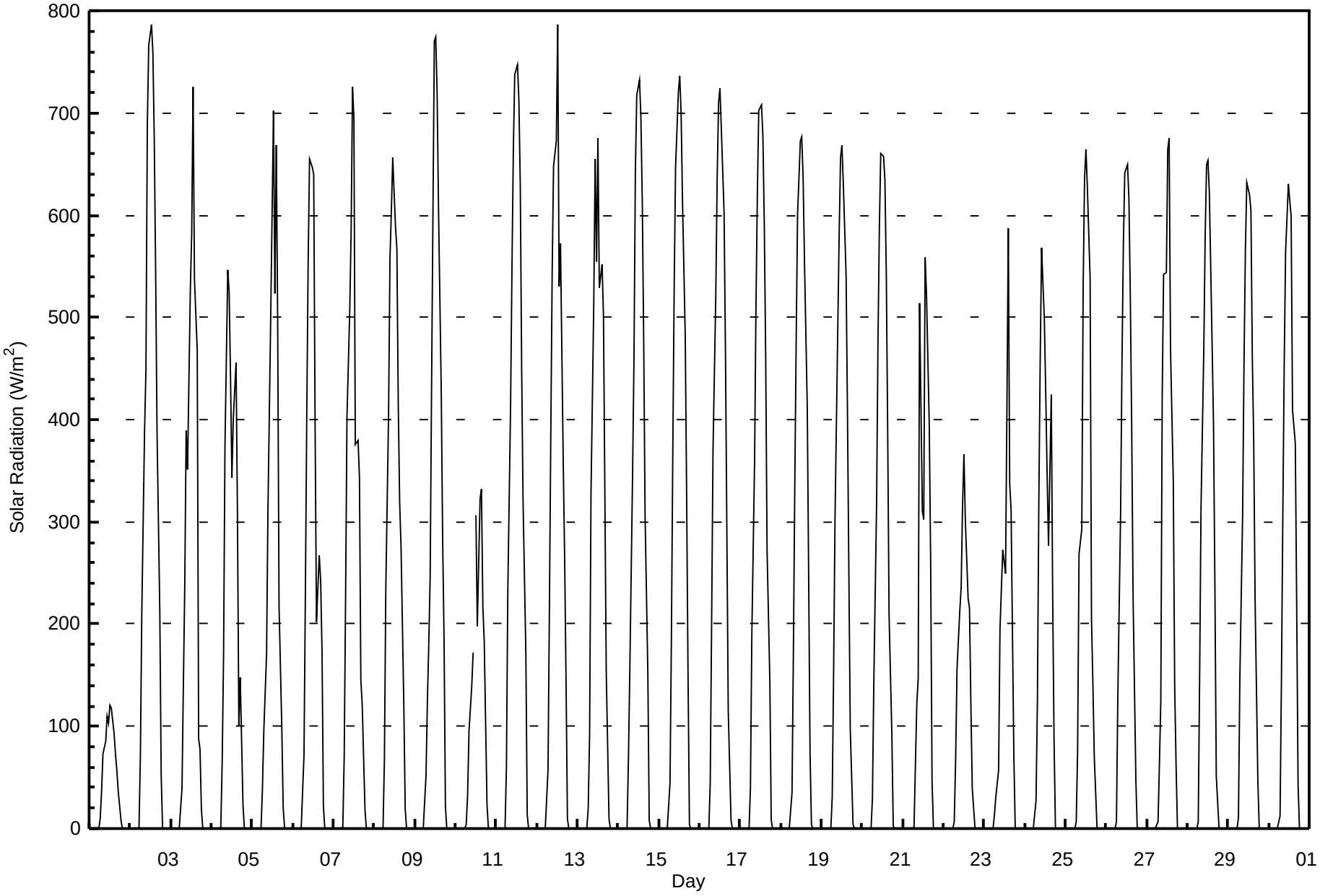
Percentiles: $P_1$ = 0.0 $P_{10}$ = 0.0 $Q_1$ = 0.0 Median = 12.2 $Q_3$ = 350.6 $P_{90}$ = 603.0 $P_{99}$ = 738.5

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 719 |
| Hours of Missing Data: | 1 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 99.9 |

| 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-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 37 | 73 | 86 | 109 | 103 | 121 | 118 | 94 | 73 | 58 | 37 | 8 | 0 | 0 | 0 | 0 | 0 | 38.6 | 121.2 |
| 2-Sep | 0 | 0 | 0 | 0 | 0 | 2 | 73 | 211 | 390 | 449 | 689 | 766 | 787 | 760 | 674 | 544 | 387 | 212 | 52 | 0 | 0 | 0 | 0 | 0 | 249.8 | 786.9 |
| 3-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 40 | 140 | 237 | 388 | 352 | 527 | 582 | 725 | 537 | 467 | 88 | 78 | 19 | 0 | 0 | 0 | 0 | 0 | 174.2 | 725.0 |
| 4-Sep | 0 | 0 | 0 | 0 | 0 | 1 | 67 | 171 | 374 | 547 | 524 | 442 | 343 | 401 | 456 | 308 | 101 | 147 | 22 | 0 | 0 | 0 | 0 | 0 | 162.7 | 547.0 |
| 5-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 94 | 170 | 312 | 406 | 502 | 702 | 523 | 668 | 499 | 219 | 97 | 21 | 0 | 0 | 0 | 0 | 0 | 177.2 | 701.7 |
| 6-Sep | 0 | 0 | 0 | 0 | 0 | 1 | 72 | 231 | 406 | 554 | 655 | 647 | 641 | 396 | 202 | 268 | 243 | 173 | 22 | 0 | 0 | 0 | 0 | 0 | 187.9 | 654.8 |
| 7-Sep | 0 | 0 | 0 | 0 | 0 | 1 | 70 | 226 | 402 | 507 | 585 | 726 | 694 | 376 | 380 | 343 | 145 | 121 | 18 | 0 | 0 | 0 | 0 | 0 | 191.4 | 725.7 |
| 8-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 67 | 233 | 405 | 557 | 603 | 656 | 589 | 567 | 413 | 319 | 275 | 121 | 18 | 0 | 0 | 0 | 0 | 0 | 201.0 | 656.2 |
| 9-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 52 | 125 | 181 | 246 | 429 | 770 | 774 | 720 | 609 | 427 | 283 | 187 | 22 | 0 | 0 | 0 | 0 | 0 | 201.1 | 773.7 |
| 10-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 33 | 94 | 140 | 173 | P | 306 | 198 | 323 | 332 | 217 | 183 | 22 | 0 | 0 | 0 | 0 | 0 | 88.1 | 332.5 |
| 11-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 59 | 232 | 413 | 548 | 664 | 738 | 747 | 712 | 629 | 448 | 320 | 173 | 13 | 0 | 0 | 0 | 0 | 0 | 237.4 | 747.2 |
| 12-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 57 | 215 | 384 | 544 | 648 | 672 | 787 | 530 | 572 | 356 | 263 | 145 | 10 | 0 | 0 | 0 | 0 | 0 | 215.9 | 786.6 |
| 13-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 92 | 327 | 514 | 655 | 554 | 675 | 528 | 551 | 501 | 328 | 153 | 10 | 0 | 0 | 0 | 0 | 0 | 204.5 | 675.0 |
| 14-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 67 | 154 | 348 | 459 | 642 | 717 | 732 | 695 | 612 | 481 | 308 | 152 | 8 | 0 | 0 | 0 | 0 | 0 | 224.0 | 732.3 |
| 15-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 187 | 368 | 528 | 647 | 721 | 736 | 700 | 614 | 481 | 322 | 149 | 5 | 0 | 0 | 0 | 0 | 0 | 229.3 | 735.8 |
| 16-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 201 | 369 | 520 | 635 | 709 | 724 | 685 | 602 | 463 | 290 | 116 | 8 | 0 | 0 | 0 | 0 | 0 | 223.6 | 724.0 |
| 17-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 40 | 189 | 361 | 512 | 621 | 702 | 708 | 676 | 592 | 461 | 272 | 143 | 8 | 0 | 0 | 0 | 0 | 0 | 220.2 | 708.3 |
| 18-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 36 | 175 | 336 | 479 | 601 | 673 | 677 | 637 | 553 | 412 | 247 | 73 | 4 | 0 | 0 | 0 | 0 | 0 | 204.3 | 676.7 |
| 19-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 153 | 302 | 489 | 581 | 656 | 668 | 631 | 541 | 405 | 249 | 97 | 4 | 0 | 0 | 0 | 0 | 0 | 200.3 | 668.1 |
| 20-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 144 | 317 | 477 | 589 | 660 | 658 | 634 | 542 | 387 | 209 | 93 | 3 | 0 | 0 | 0 | 0 | 0 | 197.6 | 660.2 |
| 21-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 62 | 122 | 147 | 513 | 311 | 303 | 559 | 522 | 394 | 259 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 135.0 | 558.8 |
| 22-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 67 | 155 | 213 | 236 | 316 | 366 | 302 | 225 | 216 | 122 | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 94.3 | 365.6 |
| 23-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 31 | 57 | 195 | 235 | 272 | 249 | 410 | 587 | 338 | 312 | 71 | 0 | 0 | 0 | 0 | 0 | 0 | 115.4 | 587.2 |
| 24-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 127 | 317 | 458 | 568 | 498 | 426 | 346 | 276 | 425 | 227 | 86 | 0 | 0 | 0 | 0 | 0 | 0 | 157.5 | 568.0 |
| 25-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 78 | 268 | 293 | 531 | 636 | 664 | 628 | 538 | 204 | 142 | 70 | 0 | 0 | 0 | 0 | 0 | 0 | 169.1 | 663.9 |
| 26-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 130 | 309 | 457 | 572 | 641 | 650 | 616 | 520 | 392 | 226 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 190.3 | 650.1 |
| 27-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 64 | 125 | 421 | 542 | 544 | 664 | 675 | 469 | 339 | 140 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 168.9 | 674.7 |
| 28-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 150 | 315 | 468 | 581 | 650 | 654 | 622 | 474 | 396 | 238 | 51 | 0 | 0 | 0 | 0 | 0 | 0 | 191.9 | 653.7 |
| 29-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 147 | 307 | 454 | 565 | 632 | 620 | 604 | 461 | 380 | 224 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 185.5 | 632.4 |
| 30-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 145 | 306 | 454 | 564 | 630 | 614 | 599 | 409 | 377 | 219 | 43 | 0 | 0 | 0 | 0 | 0 | 0 | 182.2 | 630.1 |
| | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 34.1 | 141.4 | 284.6 | 413.9 | 523.9 | 588.7 | 595.3 | 552.5 | 488.2 | 381.2 | 231.1 | 107.0 | 9.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | Diurnal Average | |
| | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.5 | 72.5 | 232.8 | 412.9 | 557.5 | 688.8 | 769.8 | 786.9 | 760.0 | 673.6 | 543.9 | 387.2 | 212.1 | 51.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | Diurnal Maximum | |

P - Power Failure

## Hourly Averages for Solar Radiation at Crescent Heights
## September 2008



**Palliser Airshed Society**
**Summary of Hourly Averages**

**Crescent Heights - External Temperature (ET) - $^{o}$C**
**September 1, 2008 to October 1, 2008**

Maximum Value: 30.7 $^{o}$C on Sep 18 16:00

Maximum Daily Average: 19.7 $^{o}$C on Sep 18

Minimum Value: 1 $^{o}$C on Sep 24 07:00

Minimum Daily Average: 7.4 $^{o}$C on Sep 1

Maximum Diurnal Average: 21.0 $^{o}$C at hour 16

Minimum Diurnal Average: 8.0 $^{o}$C at hour 7

Monthly Average: 13.69 $^{o}$C

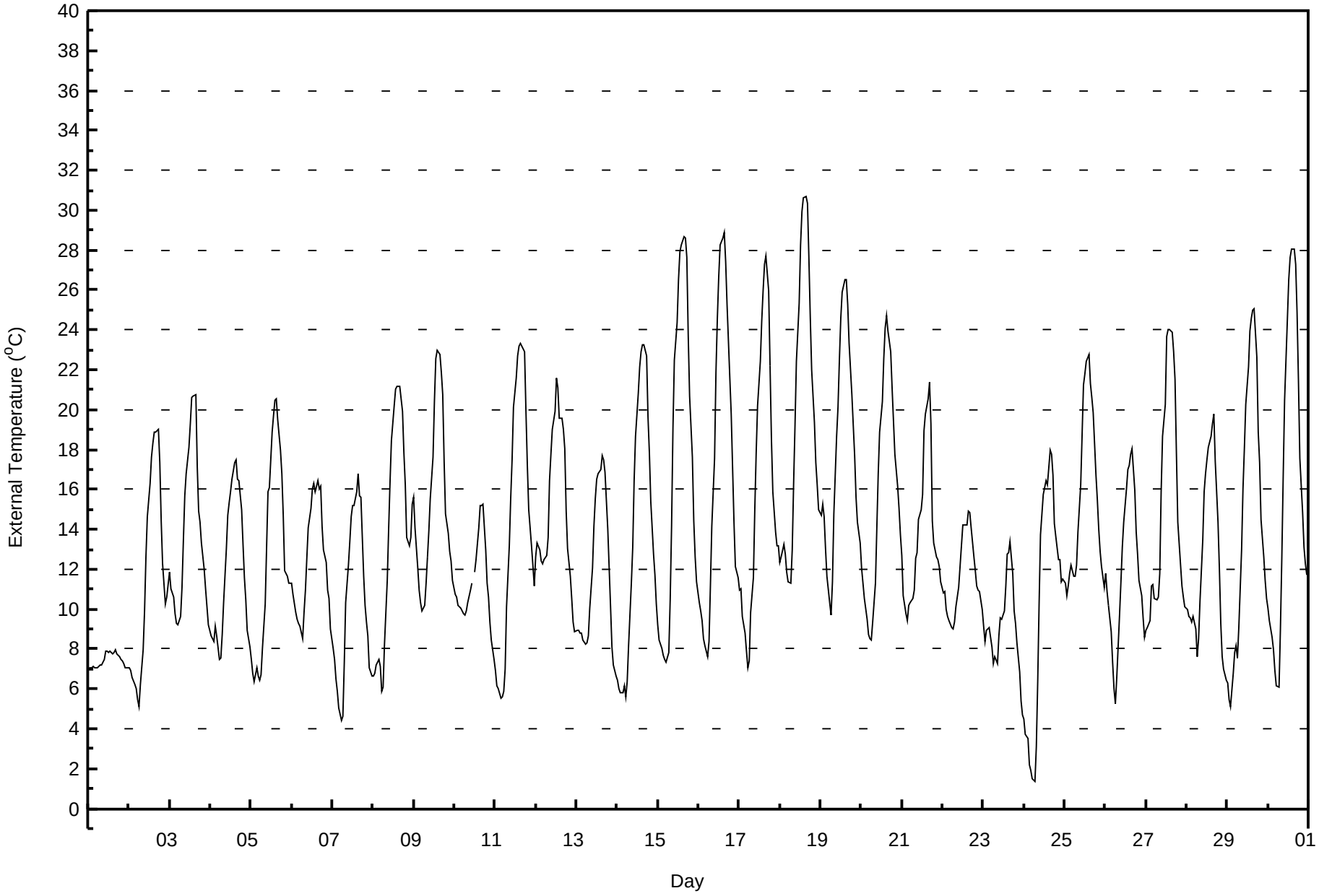
Percentiles: $P_1$ = 4.4 $P_{10}$ = 7.1 $Q_1$ = 9.3 Median = 12.5 $Q_3$ = 17.4 $P_{90}$ = 22.4 $P_{99}$ = 28.6

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 719 |
| Hours of Missing Data: | 1 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 99.9 |

| 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-Sep | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 7 | 7 | 7 | 7 | 7.4 | 8.0 |
| 2-Sep | 7 | 7 | 7 | 6 | 6 | 5 | 5 | 6 | 8 | 10 | 13 | 15 | 16 | 18 | 18 | 19 | 19 | 19 | 17 | 14 | 12 | 10 | 11 | 11 | 11.7 | 19.0 |
| 3-Sep | 12 | 11 | 11 | 10 | 9 | 9 | 10 | 11 | 13 | 16 | 17 | 18 | 19 | 21 | 21 | 21 | 17 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 13.8 | 20.7 |
| 4-Sep | 9 | 8 | 8 | 9 | 9 | 7 | 8 | 9 | 10 | 13 | 15 | 15 | 16 | 17 | 17 | 17 | 16 | 16 | 15 | 13 | 12 | 10 | 9 | 8 | 12.0 | 17.5 |
| 5-Sep | 7 | 7 | 6 | 7 | 7 | 6 | 7 | 8 | 10 | 13 | 16 | 16 | 19 | 20 | 20 | 21 | 20 | 18 | 17 | 15 | 12 | 12 | 11 | 11 | 12.7 | 20.5 |
| 6-Sep | 11 | 11 | 10 | 9 | 9 | 9 | 8 | 10 | 11 | 13 | 14 | 15 | 16 | 16 | 16 | 16 | 16 | 16 | 14 | 13 | 12 | 11 | 11 | 9 | 12.4 | 16.4 |
| 7-Sep | 8 | 7 | 7 | 6 | 5 | 4 | 5 | 7 | 10 | 12 | 13 | 15 | 15 | 15 | 16 | 17 | 16 | 16 | 12 | 10 | 9 | 9 | 7 | 7 | 10.3 | 16.8 |
| 8-Sep | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 8 | 11 | 14 | 16 | 18 | 20 | 21 | 21 | 21 | 21 | 20 | 18 | 16 | 14 | 13 | 14 | 15 | 13.8 | 21.2 |
| 9-Sep | 16 | 14 | 12 | 11 | 10 | 10 | 10 | 11 | 13 | 14 | 16 | 18 | 20 | 23 | 23 | 23 | 22 | 21 | 17 | 15 | 14 | 13 | 12 | 11 | 15.3 | 23.0 |
| 10-Sep | 11 | 11 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 11 | P | 12 | 12 | 14 | 15 | 15 | 15 | 13 | 11 | 11 | 9 | 8 | 8 | 11.2 | 15.2 |
| 11-Sep | 7 | 6 | 6 | 6 | 6 | 6 | 7 | 10 | 13 | 16 | 17 | 20 | 22 | 23 | 23 | 23 | 23 | 23 | 20 | 17 | 15 | 13 | 12 | 11 | 14.4 | 23.3 |
| 12-Sep | 13 | 13 | 13 | 12 | 12 | 12 | 13 | 14 | 16 | 18 | 19 | 20 | 22 | 21 | 20 | 20 | 19 | 18 | 15 | 13 | 12 | 11 | 9 | 9 | 15.1 | 21.6 |
| 13-Sep | 9 | 9 | 9 | 9 | 8 | 8 | 8 | 9 | 10 | 12 | 14 | 16 | 17 | 17 | 17 | 18 | 17 | 17 | 14 | 12 | 10 | 8 | 7 | 7 | 11.7 | 17.7 |
| 14-Sep | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 8 | 11 | 13 | 16 | 19 | 21 | 22 | 23 | 23 | 23 | 23 | 20 | 18 | 15 | 13 | 12 | 10 | 13.9 | 23.3 |
| 15-Sep | 9 | 8 | 8 | 8 | 7 | 7 | 8 | 10 | 14 | 19 | 22 | 24 | 27 | 28 | 28 | 29 | 29 | 28 | 24 | 21 | 18 | 14 | 13 | 11 | 17.3 | 28.6 |
| 16-Sep | 10 | 10 | 9 | 9 | 8 | 8 | 8 | 11 | 14 | 18 | 22 | 25 | 27 | 28 | 29 | 29 | 27 | 25 | 22 | 20 | 17 | 14 | 12 | 12 | 17.2 | 28.9 |
| 17-Sep | 11 | 11 | 10 | 9 | 8 | 7 | 7 | 10 | 12 | 15 | 18 | 20 | 22 | 24 | 26 | 27 | 28 | 26 | 22 | 19 | 16 | 14 | 13 | 13 | 16.2 | 27.7 |
| 18-Sep | 12 | 13 | 13 | 13 | 12 | 11 | 11 | 13 | 16 | 19 | 22 | 25 | 28 | 30 | 31 | 31 | 30 | 28 | 25 | 22 | 19 | 17 | 16 | 15 | 19.7 | 30.7 |
| 19-Sep | 15 | 15 | 15 | 13 | 12 | 10 | 10 | 11 | 15 | 19 | 20 | 22 | 25 | 26 | 27 | 26 | 25 | 23 | 21 | 19 | 18 | 16 | 14 | 13 | 17.9 | 26.5 |
| 20-Sep | 12 | 11 | 11 | 10 | 9 | 9 | 8 | 9 | 11 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 24 | 23 | 21 | 19 | 18 | 16 | 15 | 14 | 15.9 | 24.7 |
| 21-Sep | 13 | 11 | 10 | 9 | 10 | 10 | 11 | 11 | 13 | 13 | 14 | 15 | 16 | 19 | 20 | 21 | 21 | 19 | 14 | 13 | 13 | 12 | 12 | 11 | 13.8 | 21.4 |
| 22-Sep | 11 | 11 | 10 | 10 | 9 | 9 | 9 | 9 | 10 | 11 | 12 | 13 | 14 | 14 | 14 | 15 | 15 | 14 | 13 | 12 | 11 | 11 | 11 | 10 | 11.6 | 14.9 |
| 23-Sep | 9 | 8 | 9 | 9 | 9 | 8 | 7 | 8 | 7 | 9 | 10 | 9 | 10 | 11 | 13 | 13 | 13 | 12 | 10 | 9 | 8 | 7 | 5 | 5 | 9.1 | 13.4 |
| 24-Sep | 4 | 4 | 3 | 2 | 2 | 2 | 1 | 3 | 6 | 10 | 14 | 16 | 16 | 16 | 16 | 18 | 18 | 17 | 14 | 14 | 12 | 12 | 11 | 12 | 10.2 | 18.0 |
| 25-Sep | 11 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 14 | 16 | 19 | 21 | 22 | 22 | 23 | 21 | 21 | 20 | 17 | 15 | 14 | 13 | 12 | 11 | 15.6 | 22.8 |
| 26-Sep | 12 | 11 | 10 | 9 | 7 | 6 | 5 | 7 | 10 | 11 | 13 | 14 | 16 | 17 | 17 | 18 | 18 | 16 | 14 | 13 | 11 | 11 | 10 | 9 | 11.8 | 18.0 |
| 27-Sep | 9 | 9 | 9 | 11 | 11 | 11 | 10 | 11 | 12 | 16 | 19 | 20 | 24 | 24 | 24 | 24 | 23 | 22 | 18 | 14 | 12 | 11 | 11 | 10 | 15.2 | 24.0 |
| 28-Sep | 10 | 10 | 10 | 9 | 10 | 9 | 8 | 8 | 10 | 13 | 16 | 17 | 18 | 18 | 19 | 19 | 20 | 17 | 14 | 12 | 9 | 8 | 7 | 6 | 12.4 | 19.8 |
| 29-Sep | 6 | 5 | 5 | 7 | 8 | 8 | 8 | 9 | 13 | 16 | 18 | 20 | 22 | 24 | 25 | 25 | 25 | 23 | 19 | 17 | 14 | 13 | 11 | 11 | 14.7 | 25.1 |
| 30-Sep | 10 | 9 | 9 | 8 | 7 | 6 | 6 | 9 | 13 | 17 | 20 | 24 | 27 | 28 | 28 | 28 | 27 | 25 | 21 | 18 | 15 | 13 | 12 | 12 | 16.3 | 28.1 |
| | 9.8 | 9.4 | 9.0 | 8.7 | 8.4 | 8.0 | 8.0 | 9.4 | 11.5 | 13.9 | 16.1 | 17.9 | 19.2 | 20.2 | 20.7 | 21.0 | 20.6 | 19.4 | 16.7 | 14.9 | 13.1 | 11.8 | 10.9 | 10.3 | Diurnal Average | |
| | 15.6 | 15.3 | 14.7 | 13.0 | 12.3 | 12.5 | 12.7 | 13.6 | 16.5 | 19.2 | 22.5 | 25.4 | 28.3 | 29.9 | 30.6 | 30.7 | 30.3 | 27.7 | 24.7 | 22.0 | 19.4 | 17.3 | 16.2 | 15.2 | Diurnal Maximum | |

P - Power Failure

# Hourly Averages for External Temperature at Crescent Heights
## September 2008



**Palliser Airshed Society**
**Summary of Hourly Averages**

Crescent Heights
September 1, 2008 to October 1, 2008
WS (km/h), WD (deg)

| 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 | 15 | 14 | 15 | 15 | 13 | 13 | 14 | 13 | 11 | 5 | 10 | 9 | 8 | 8 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 4 | 6.1 | 15.1 |
| Dir | 2 | 3 | 3 | 0 | 4 | 10 | 15 | 17 | 54 | 80 | 4 | 23 | 19 | 18 | 55 | 272 | 340 | 308 | 274 | 239 | 237 | 223 | 234 | 229 | 2 | 0 |
| 2 Spd | 5 | 4 | 5 | 3 | 6 | 7 | 7 | 9 | 13 | 10 | 11 | 8 | 7 | 8 | 9 | 10 | 12 | 9 | 2 | 5 | 7 | 9 | 6 | 3 | 5.5 | 13.2 |
| Dir | 235 | 236 | 238 | 233 | 240 | 237 | 235 | 224 | 218 | 205 | 211 | 202 | 185 | 200 | 206 | 205 | 212 | 214 | 189 | 65 | 114 | 112 | 90 | 111 | 204 | 218 |
| 3 Spd | 7 | 9 | 9 | 8 | 7 | 7 | 10 | 10 | 12 | 15 | 16 | 15 | 11 | 10 | 10 | 4 | 10 | 11 | 14 | 9 | 6 | 7 | 7 | 15 | 4.3 | 15.9 |
| Dir | 253 | 234 | 237 | 247 | 244 | 241 | 234 | 224 | 209 | 222 | 221 | 226 | 239 | 259 | 254 | 53 | 91 | 125 | 57 | 68 | 343 | 334 | 339 | 350 | 241 | 221 |
| 4 Spd | 16 | 9 | 6 | 7 | 7 | 6 | 6 | 7 | 7 | 7 | 9 | 11 | 10 | 10 | 10 | 11 | 10 | 9 | 9 | 6 | 3 | 6 | 9 | 10 | 6.5 | 15.5 |
| Dir | 359 | 342 | 308 | 299 | 300 | 269 | 280 | 287 | 254 | 281 | 299 | 328 | 334 | 339 | 329 | 347 | 324 | 340 | 331 | 322 | 317 | 213 | 223 | 229 | 311 | 359 |
| 5 Spd | 9 | 9 | 10 | 8 | 6 | 6 | 5 | 5 | 4 | 4 | 4 | 12 | 7 | 5 | 6 | 7 | 8 | 11 | 12 | 16 | 12 | 2 | 4 | 4 | 0.9 | 16.0 |
| Dir | 222 | 215 | 212 | 235 | 214 | 200 | 192 | 200 | 187 | 205 | 353 | 35 | 59 | 103 | 79 | 86 | 99 | 75 | 45 | 0 | 20 | 357 | 217 | 267 | 94 | 0 |
| 6 Spd | 6 | 9 | 7 | 8 | 9 | 12 | 11 | 8 | 11 | 11 | 10 | 12 | 13 | 11 | 9 | 9 | 11 | 9 | 5 | 12 | 13 | 9 | 9 | 6 | 8.0 | 13.2 |
| Dir | 297 | 319 | 311 | 321 | 315 | 339 | 348 | 350 | 358 | 354 | 344 | 350 | 343 | 325 | 338 | 332 | 18 | 28 | 31 | 6 | 42 | 30 | 69 | 106 | 354 | 42 |
| 7 Spd | 0 | 5 | 5 | 7 | 4 | 5 | 5 | 3 | 1 | 2 | 7 | 9 | 8 | 7 | 3 | 5 | 6 | 5 | 11 | 2 | 4 | 5 | 5 | 6 | 2.3 | 11.5 |
| Dir | 182 | 344 | 338 | 337 | 302 | 330 | 9 | 348 | 83 | 48 | 35 | 2 | 13 | 342 | 71 | 173 | 74 | 2 | 39 | 93 | 178 | 189 | 149 | 204 | 13 | 39 |
| 8 Spd | 6 | 5 | 6 | 8 | 8 | 7 | 12 | 15 | 19 | 20 | 16 | 13 | 11 | 11 | 10 | 10 | 12 | 13 | 8 | 8 | 7 | 7 | 5 | 9 | 9.5 | 20.3 |
| Dir | 177 | 175 | 183 | 229 | 238 | 202 | 214 | 222 | 221 | 219 | 221 | 213 | 216 | 215 | 214 | 202 | 201 | 196 | 185 | 156 | 138 | 155 | 226 | 212 | 207 | 219 |
| 9 Spd | 9 | 7 | 8 | 11 | 7 | 5 | 2 | 4 | 5 | 11 | 17 | 13 | 7 | 8 | 11 | 11 | 14 | 18 | 22 | 24 | 23 | 19 | 14 | 14 | 5.9 | 23.6 |
| Dir | 195 | 247 | 253 | 226 | 215 | 331 | 47 | 153 | 195 | 226 | 227 | 232 | 287 | 283 | 290 | 322 | 334 | 1 | 4 | 7 | 6 | 1 | 348 | 345 | 318 | 7 |
| 10 Spd | 16 | 18 | 12 | 14 | 16 | 17 | 16 | 13 | 12 | 12 | 13 | P | 14 | 11 | 2 | 2 | 6 | 8 | 7 | 5 | 7 | 9 | 9 | 9 | 6.8 | 18.3 |
| Dir | 342 | 345 | 326 | 335 | 344 | 347 | 350 | 350 | 354 | 4 | 0 | P | 3 | 17 | 73 | 92 | 215 | 230 | 247 | 235 | 224 | 222 | 222 | 233 | 332 | 345 |
| 11 Spd | 7 | 5 | 1 | 4 | 5 | 4 | 8 | 13 | 18 | 23 | 20 | 20 | 21 | 17 | 18 | 18 | 17 | 14 | 9 | 8 | 9 | 8 | 5 | 5 | 11.2 | 23.5 |
| Dir | 227 | 209 | 217 | 203 | 235 | 249 | 190 | 204 | 215 | 218 | 221 | 227 | 225 | 231 | 224 | 210 | 210 | 200 | 194 | 194 | 201 | 214 | 208 | 231 | 216 | 218 |
| 12 Spd | 13 | 12 | 20 | 15 | 14 | 16 | 14 | 11 | 6 | 14 | 17 | 18 | 17 | 23 | 25 | 21 | 19 | 20 | 23 | 19 | 17 | 16 | 13 | 15 | 9.1 | 25.4 |
| Dir | 212 | 232 | 227 | 239 | 241 | 233 | 241 | 240 | 288 | 8 | 14 | 12 | 9 | 5 | 7 | 10 | 12 | 8 | 5 | 357 | 359 | 347 | 315 | 317 | 335 | 7 |
| 13 Spd | 12 | 13 | 12 | 7 | 6 | 8 | 8 | 8 | 9 | 7 | 7 | 6 | 9 | 10 | 9 | 11 | 10 | 9 | 4 | 3 | 6 | 6 | 5 | 2 | 5.0 | 13.3 |
| Dir | 312 | 305 | 311 | 300 | 294 | 287 | 298 | 294 | 310 | 320 | 284 | 277 | 290 | 277 | 254 | 237 | 232 | 217 | 193 | 125 | 109 | 118 | 118 | 192 | 279 | 305 |
| 14 Spd | 2 | 3 | 3 | 5 | 5 | 4 | 7 | 9 | 15 | 15 | 12 | 12 | 9 | 11 | 10 | 12 | 10 | 7 | 5 | 6 | 5 | 7 | 7 | 7 | 7.1 | 15.4 |
| Dir | 165 | 121 | 257 | 204 | 239 | 214 | 202 | 224 | 231 | 226 | 219 | 226 | 231 | 243 | 248 | 233 | 242 | 251 | 262 | 255 | 213 | 160 | 192 | 195 | 225 | 231 |
| 15 Spd | 6 | 6 | 5 | 6 | 8 | 6 | 6 | 7 | 6 | 11 | 22 | 18 | 16 | 12 | 11 | 8 | 8 | 5 | 9 | 5 | 4 | 6 | 6 | 6 | 6.0 | 21.8 |
| Dir | 149 | 146 | 162 | 179 | 196 | 179 | 197 | 190 | 203 | 223 | 227 | 224 | 218 | 256 | 257 | 265 | 261 | 257 | 322 | 304 | 146 | 131 | 144 | 132 | 215 | 227 |
| 16 Spd | 5 | 6 | 4 | 3 | 6 | 5 | 5 | 3 | 4 | 6 | 5 | 6 | 4 | 6 | 13 | 11 | 10 | 7 | 3 | 5 | 6 | 6 | 6 | 4 | 2.7 | 13.0 |
| Dir | 114 | 162 | 154 | 171 | 138 | 127 | 208 | 109 | 33 | 23 | 96 | 129 | 144 | 190 | 220 | 220 | 275 | 274 | 261 | 232 | 185 | 155 | 118 | 77 | 177 | 220 |
| 17 Spd | 5 | 2 | 5 | 4 | 4 | 4 | 3 | 5 | 10 | 11 | 8 | 7 | 6 | 4 | 3 | 3 | 3 | 6 | 6 | 7 | 7 | 7 | 5 | 6 | 2.6 | 10.9 |
| Dir | 172 | 259 | 346 | 13 | 131 | 127 | 143 | 182 | 211 | 219 | 237 | 241 | 227 | 252 | 208 | 145 | 203 | 80 | 97 | 102 | 113 | 118 | 127 | 179 | 174 | 219 |
| 18 Spd | 7 | 7 | 15 | 16 | 13 | 14 | 13 | 16 | 15 | 15 | 13 | 13 | 13 | 17 | 14 | 11 | 8 | 7 | 7 | 8 | 7 | 6 | 6 | 4 | 10.0 | 16.7 |
| Dir | 185 | 214 | 229 | 234 | 233 | 237 | 240 | 236 | 228 | 221 | 219 | 212 | 214 | 213 | 248 | 259 | 274 | 253 | 239 | 231 | 197 | 188 | 172 | 44 | 227 | 213 |
| 19 Spd | 1 | 5 | 7 | 7 | 3 | 4 | 4 | 5 | 6 | 6 | 11 | 9 | 13 | 17 | 18 | 20 | 22 | 22 | 17 | 25 | 26 | 23 | 24 | 20 | 11.3 | 26.3 |
| Dir | 5 | 142 | 187 | 204 | 207 | 92 | 114 | 140 | 134 | 33 | 18 | 54 | 86 | 96 | 94 | 81 | 76 | 73 | 72 | 79 | 88 | 85 | 85 | 88 | 85 | 88 |
| 20 Spd | 17 | 15 | 11 | 10 | 8 | 7 | 6 | 5 | 4 | 5 | 7 | 9 | 10 | 11 | 12 | 13 | 12 | 10 | 11 | 12 | 13 | 10 | 10 | 11 | 9.2 | 16.7 |
| Dir | 81 | 79 | 80 | 90 | 89 | 64 | 71 | 68 | 15 | 1 | 10 | 33 | 33 | 41 | 74 | 75 | 80 | 66 | 44 | 40 | 72 | 86 | 55 | 34 | 62 | 81 |
| 21 Spd | 12 | 12 | 7 | 7 | 2 | 4 | 5 | 6 | 6 | 10 | 14 | 11 | 7 | 6 | 4 | 5 | 4 | 18 | 20 | 15 | 17 | 20 | 26 | 24 | 6.6 | 25.9 |
| Dir | 20 | 1 | 348 | 353 | 263 | 359 | 239 | 330 | 241 | 221 | 222 | 243 | 246 | 226 | 327 | 34 | 71 | 221 | 217 | 234 | 219 | 214 | 217 | 220 | 236 | 217 |
| 22 Spd | 16 | 12 | 14 | 13 | 14 | 14 | 12 | 13 | 14 | 15 | 13 | 14 | 15 | 19 | 17 | 12 | 8 | 3 | 3 | 5 | 5 | 5 | 3 | 5 | 9.8 | 19.4 |
| Dir | 223 | 261 | 269 | 266 | 265 | 265 | 261 | 254 | 263 | 267 | 262 | 253 | 238 | 227 | 222 | 247 | 254 | 172 | 176 | 208 | 233 | 313 | 31 | 167 | 249 | 227 |

**Palliser Airshed Society**
**Summary of Hourly Averages**

Crescent Heights
September 1, 2008 to October 1, 2008
WS (km/h), WD (deg)

| 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 |
| 23 Spd | 7 | 6 | 8 | 6 | 20 | 13 | 12 | 10 | 8 | 8 | 12 | 13 | 9 | 10 | 11 | 11 | 11 | 10 | 7 | 6 | 7 | 7 | 3 | 5 | 5.3 | 20.4 |
| Dir | 228 | 281 | 352 | 360 | 11 | 357 | 360 | 348 | 325 | 273 | 306 | 303 | 280 | 258 | 246 | 233 | 231 | 222 | 223 | 220 | 243 | 227 | 200 | 229 | 287 | 11 |
| 24 Spd | 10 | 11 | 12 | 5 | 5 | 6 | 6 | 6 | 7 | 7 | 8 | 11 | 14 | 13 | 12 | 15 | 11 | 9 | 9 | 11 | 5 | 5 | 6 | 1 | 8.0 | 15.5 |
| Dir | 226 | 227 | 225 | 181 | 182 | 175 | 196 | 177 | 197 | 214 | 217 | 185 | 197 | 194 | 201 | 204 | 192 | 189 | 166 | 171 | 212 | 197 | 237 | 272 | 200 | 204 |
| 25 Spd | 4 | 2 | 6 | 6 | 11 | 14 | 13 | 4 | 5 | 9 | 11 | 9 | 10 | 9 | 9 | 9 | 9 | 5 | 2 | 3 | 4 | 9 | 5 | 5 | 4.3 | 13.8 |
| Dir | 260 | 224 | 243 | 282 | 251 | 250 | 229 | 256 | 287 | 238 | 255 | 305 | 295 | 293 | 272 | 320 | 326 | 339 | 70 | 100 | 94 | 110 | 106 | 193 | 268 | 250 |
| 26 Spd | 7 | 9 | 7 | 6 | 9 | 10 | 10 | 9 | 6 | 5 | 4 | 5 | 4 | 4 | 11 | 11 | 7 | 3 | 3 | 6 | 5 | 6 | 5 | 5 | 4.0 | 10.9 |
| Dir | 241 | 225 | 272 | 11 | 78 | 94 | 102 | 114 | 160 | 210 | 117 | 150 | 128 | 107 | 85 | 91 | 97 | 108 | 67 | 115 | 113 | 128 | 124 | 129 | 116 | 85 |
| 27 Spd | 4 | 1 | 4 | 8 | 7 | 4 | 6 | 4 | 6 | 19 | 23 | 21 | 21 | 25 | 24 | 19 | 16 | 12 | 18 | 23 | 11 | 3 | 7 | 7 | 8.2 | 25.2 |
| Dir | 45 | 41 | 180 | 220 | 235 | 264 | 249 | 269 | 240 | 207 | 217 | 217 | 247 | 257 | 258 | 267 | 268 | 277 | 347 | 1 | 6 | 274 | 247 | 256 | 258 | 257 |
| 28 Spd | 7 | 4 | 5 | 3 | 2 | 3 | 7 | 7 | 8 | 6 | 5 | 7 | 8 | 9 | 9 | 5 | 5 | 4 | 6 | 8 | 10 | 8 | 5 | 5 | 3.3 | 9.5 |
| Dir | 269 | 202 | 199 | 199 | 255 | 247 | 223 | 228 | 218 | 227 | 246 | 296 | 246 | 236 | 225 | 237 | 183 | 178 | 78 | 108 | 111 | 120 | 108 | 119 | 206 | 111 |
| 29 Spd | 3 | 2 | 3 | 8 | 9 | 10 | 8 | 7 | 5 | 15 | 14 | 12 | 13 | 12 | 12 | 10 | 7 | 5 | 4 | 4 | 4 | 5 | 3 | 4 | 6.8 | 15.0 |
| Dir | 151 | 182 | 189 | 235 | 238 | 231 | 216 | 212 | 187 | 213 | 219 | 214 | 213 | 216 | 210 | 205 | 186 | 180 | 181 | 203 | 214 | 196 | 100 | 104 | 208 | 213 |
| 30 Spd | 3 | 1 | 4 | 3 | 4 | 4 | 3 | 4 | 3 | 3 | 6 | 4 | 6 | 7 | 6 | 9 | 11 | 12 | 9 | 5 | 6 | 5 | 4 | 6 | 4.2 | 11.7 |
| Dir | 182 | 122 | 137 | 234 | 138 | 139 | 122 | 135 | 165 | 122 | 44 | 100 | 129 | 124 | 118 | 106 | 92 | 75 | 116 | 121 | 110 | 124 | 97 | 353 | 110 | 75 |
| Spd | 2.0 | 2.4 | 3.6 | 3.7 | 3.3 | 2.8 | 3.1 | 3.4 | 4.5 | 5.9 | 5.6 | 4.6 | 4.0 | 4.6 | 4.2 | 2.5 | 1.2 | 0.6 | 1.9 | 1.9 | 1.9 | 2.2 | 1.9 | 1.4 | Diurnal Average | |
| Dir | 249 | 266 | 258 | 264 | 261 | 267 | 247 | 239 | 235 | 235 | 249 | 250 | 253 | 254 | 244 | 240 | 245 | 218 | 27 | 34 | 94 | 141 | 157 | 212 | | |
| Spd | 16.7 | 18.3 | 19.7 | 15.9 | 20.4 | 17.0 | 16.0 | 16.3 | 18.7 | 23.5 | 22.8 | 21.2 | 21.0 | 25.2 | 25.4 | 20.6 | 22.0 | 22.1 | 22.6 | 25.0 | 26.3 | 22.6 | 25.9 | 23.6 | Diurnal Maximum | |
| Dir | 81 | 345 | 227 | 234 | 11 | 347 | 350 | 236 | 221 | 218 | 217 | 217 | 225 | 257 | 7 | 10 | 76 | 73 | 5 | 79 | 88 | 85 | 217 | 220 | | |

Maximum Speed Value: 26 km/h on Sep 19 21:00
Minimum Speed Value: 0 km/h on Sep 7 01:00
Maximum Daily Speed Average: 11.3 km/h on Sep 12
Minimum Daily Speed Average: 0.9 km/h on Sep 7
Maximum Diurnal Speed Average: 5.9 km/h at hour 10
Minimum Diurnal Speed Average: 0.6 km/h at hour 18

Monthly Average Velocity: 2.37 km/h 245.9 deg
Speed Percentiles: $P_1$ = 1.5 $P_{10}$ = 3.8 $Q_1$ = 5.4 Median = 7.8 $Q_3$ = 11.8 $P_{90}$ = 15.8 $P_{99}$ = 23.9
All monthly, daily, and diurnal averages have been calculated using vector methods

Hours in Service: 720
Hours of Data: 719
Hours of Missing Data: 1

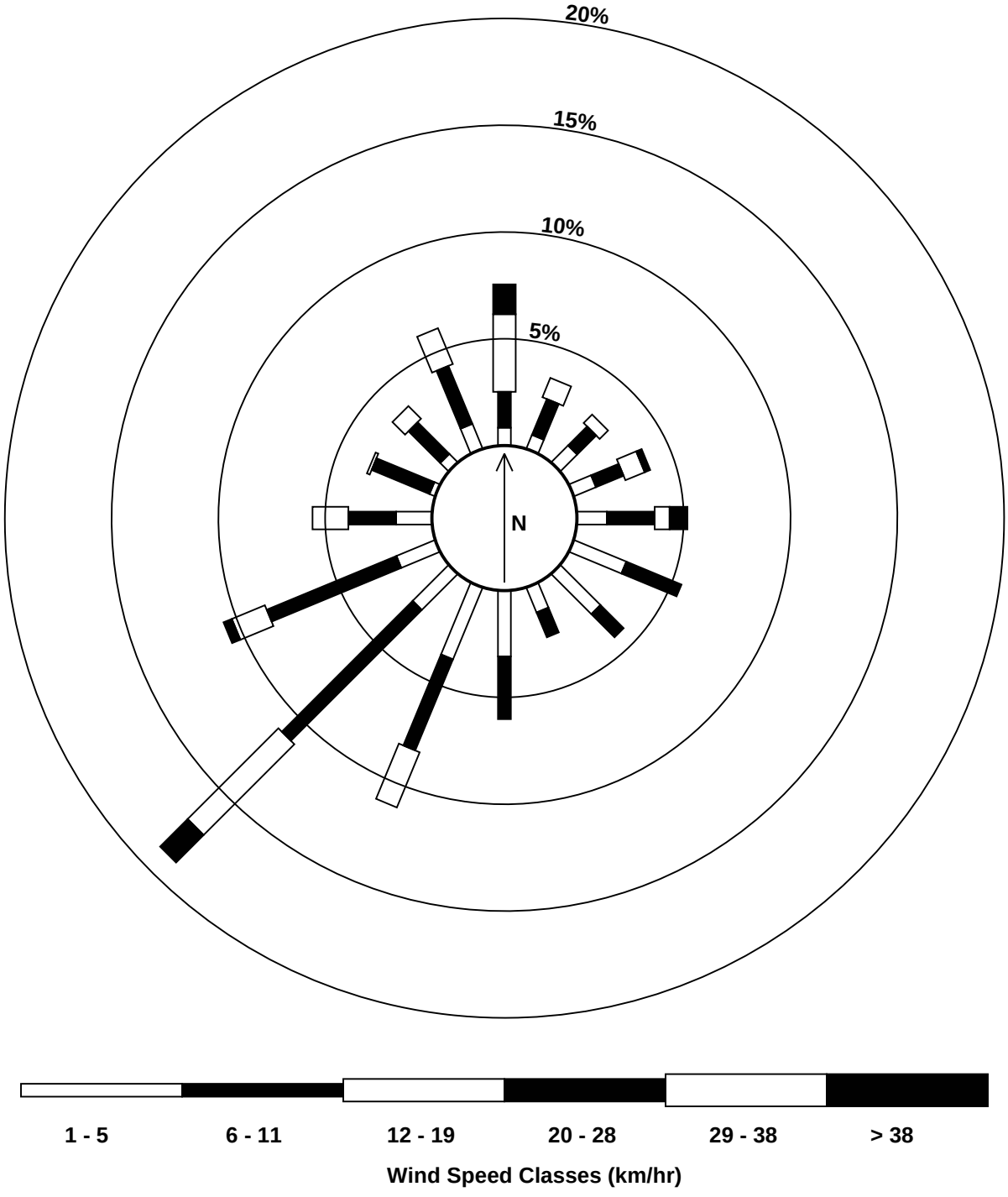
Percent Operational Time: 99.9

P - Power Failure

Percentage 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 | 1.95 | 3.62 | 6.26 | 1.81 | 0.00 | 0.00 | 13.63 |
| NorthEast | 1.67 | 2.50 | 0.97 | 0.00 | 0.00 | 0.00 | 5.15 |
| East | 3.06 | 4.87 | 1.67 | 1.11 | 0.00 | 0.00 | 10.71 |
| SouthEast | 3.76 | 4.73 | 0.00 | 0.00 | 0.00 | 0.00 | 8.48 |
| South | 4.59 | 6.82 | 0.97 | 0.00 | 0.00 | 0.00 | 12.38 |
| SouthWest | 3.89 | 15.16 | 9.74 | 2.23 | 0.00 | 0.00 | 31.02 |
| West | 2.36 | 5.98 | 2.64 | 0.28 | 0.00 | 0.00 | 11.27 |
| NorthWest | 0.83 | 5.15 | 1.39 | 0.00 | 0.00 | 0.00 | 7.37 |
| Total | 22.11 | 48.82 | 23.64 | 5.42 | 0.00 | 0.00 | 100.00 |

## Wind Rose for WS at Crescent Heights
## September 2008



**Palliser Airshed Society**

**Summary of Hourly Averages - Wind Speed (Scalar)**

**Crescent Heights - Wind Speed (WS) - km/h**

**September 1, 2008 to October 1, 2008**

Maximum Speed: 27 km/h on Sep 19 21:00

Maximum Daily Speed Average: 17.0 km/h on Sep 12

Minimum Speed: 3 km/h on Sep 25 19:00

Minimum Daily Speed Average: 6.1 km/h on Sep 30

Maximum Diurnal Speed Average: 12.1 km/h at hour 11

Minimum Diurnal Speed Average: 8.2 km/h at hour 23

Monthly Average Speed: 9.68 km/h

Percentiles: $P_1$ = 3.5 $P_{10}$ = 4.7 $Q_1$ = 6.1 Median = 8.4 $Q_3$ = 12.2 $P_{90}$ = 16.0 $P_{99}$ = 24.1

Hours in Service: 720

Hours of Data: 719

Hours of Missing Data: 1

Percent Operational Time: 99.9

| 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-Sep | 15 | 14 | 15 | 15 | 13 | 13 | 14 | 13 | 13 | 5 | 10 | 10 | 8 | 8 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 6 | 6 | 5 | 8.9 | 15.1 |
| 2-Sep | 5 | 4 | 6 | 3 | 6 | 7 | 7 | 9 | 13 | 11 | 11 | 9 | 9 | 9 | 10 | 11 | 13 | 9 | 3 | 6 | 8 | 9 | 6 | 5 | 8.0 | 13.4 |
| 3-Sep | 7 | 9 | 9 | 8 | 7 | 7 | 10 | 11 | 12 | 16 | 16 | 16 | 12 | 11 | 12 | 7 | 12 | 11 | 15 | 9 | 8 | 7 | 8 | 15 | 10.6 | 16.1 |
| 4-Sep | 16 | 10 | 7 | 7 | 8 | 6 | 7 | 8 | 8 | 8 | 10 | 11 | 11 | 11 | 10 | 12 | 10 | 9 | 9 | 7 | 5 | 6 | 9 | 11 | 8.9 | 15.6 |
| 5-Sep | 9 | 9 | 10 | 8 | 7 | 6 | 5 | 5 | 4 | 5 | 6 | 12 | 8 | 7 | 8 | 8 | 9 | 11 | 12 | 17 | 12 | 5 | 5 | 5 | 8.1 | 16.6 |
| 6-Sep | 7 | 9 | 8 | 8 | 9 | 12 | 11 | 9 | 12 | 12 | 11 | 12 | 13 | 12 | 10 | 11 | 12 | 9 | 5 | 12 | 14 | 9 | 11 | 6 | 10.1 | 13.6 |
| 7-Sep | 3 | 5 | 5 | 8 | 5 | 6 | 5 | 4 | 4 | 5 | 8 | 10 | 10 | 8 | 6 | 7 | 7 | 10 | 12 | 4 | 5 | 5 | 5 | 7 | 6.4 | 12.3 |
| 8-Sep | 6 | 6 | 6 | 8 | 8 | 7 | 12 | 15 | 19 | 21 | 16 | 14 | 12 | 12 | 11 | 10 | 12 | 13 | 8 | 8 | 7 | 7 | 6 | 9 | 10.6 | 20.7 |
| 9-Sep | 9 | 8 | 8 | 11 | 7 | 6 | 4 | 5 | 5 | 11 | 17 | 14 | 9 | 10 | 12 | 12 | 15 | 18 | 22 | 24 | 23 | 19 | 14 | 14 | 12.4 | 23.7 |
| 10-Sep | 16 | 18 | 13 | 14 | 16 | 17 | 16 | 14 | 12 | 12 | 13 | P | 15 | 11 | 5 | 5 | 6 | 9 | 7 | 5 | 7 | 9 | 9 | 9 | 11.2 | 18.3 |
| 11-Sep | 7 | 6 | 4 | 5 | 5 | 4 | 8 | 13 | 18 | 24 | 20 | 20 | 21 | 18 | 19 | 18 | 17 | 14 | 9 | 8 | 9 | 8 | 6 | 6 | 12.0 | 23.7 |
| 12-Sep | 13 | 13 | 20 | 15 | 14 | 17 | 15 | 11 | 9 | 14 | 17 | 18 | 17 | 24 | 26 | 21 | 19 | 20 | 23 | 20 | 17 | 17 | 13 | 15 | 17.0 | 25.7 |
| 13-Sep | 12 | 13 | 12 | 8 | 6 | 8 | 8 | 8 | 10 | 8 | 9 | 8 | 10 | 11 | 11 | 12 | 10 | 9 | 5 | 4 | 6 | 6 | 5 | 3 | 8.4 | 13.5 |
| 14-Sep | 3 | 4 | 3 | 5 | 5 | 5 | 7 | 10 | 16 | 15 | 12 | 12 | 10 | 12 | 11 | 12 | 10 | 7 | 6 | 6 | 5 | 7 | 8 | 7 | 8.2 | 15.5 |
| 15-Sep | 6 | 7 | 5 | 6 | 8 | 6 | 6 | 7 | 7 | 11 | 22 | 19 | 16 | 13 | 12 | 9 | 8 | 6 | 9 | 6 | 5 | 7 | 7 | 6 | 8.9 | 22.0 |
| 16-Sep | 5 | 7 | 4 | 4 | 6 | 7 | 6 | 4 | 5 | 7 | 6 | 6 | 5 | 7 | 14 | 12 | 10 | 7 | 4 | 5 | 7 | 7 | 6 | 6 | 6.6 | 13.5 |
| 17-Sep | 6 | 5 | 5 | 5 | 4 | 5 | 4 | 5 | 10 | 11 | 9 | 8 | 7 | 6 | 6 | 5 | 4 | 6 | 6 | 7 | 7 | 7 | 5 | 6 | 6.2 | 11.1 |
| 18-Sep | 7 | 9 | 15 | 16 | 13 | 14 | 13 | 16 | 15 | 15 | 13 | 13 | 13 | 17 | 14 | 11 | 9 | 7 | 7 | 8 | 8 | 6 | 7 | 6 | 11.4 | 17.1 |
| 19-Sep | 6 | 6 | 7 | 7 | 5 | 5 | 5 | 5 | 6 | 7 | 11 | 10 | 14 | 17 | 19 | 20 | 22 | 22 | 18 | 25 | 27 | 23 | 24 | 21 | 13.8 | 26.6 |
| 20-Sep | 17 | 15 | 11 | 10 | 8 | 8 | 6 | 6 | 5 | 6 | 8 | 10 | 10 | 11 | 13 | 13 | 12 | 11 | 11 | 12 | 13 | 11 | 10 | 12 | 10.3 | 16.9 |
| 21-Sep | 12 | 12 | 8 | 9 | 9 | 14 | 9 | 7 | 7 | 12 | 14 | 11 | 8 | 7 | 6 | 6 | 5 | 18 | 20 | 16 | 17 | 20 | 26 | 24 | 12.4 | 26.0 |
| 22-Sep | 17 | 12 | 14 | 14 | 14 | 14 | 12 | 13 | 14 | 15 | 14 | 14 | 16 | 20 | 17 | 12 | 8 | 5 | 5 | 5 | 5 | 6 | 5 | 6 | 11.5 | 19.7 |
| 23-Sep | 8 | 7 | 8 | 7 | 21 | 13 | 12 | 10 | 9 | 9 | 13 | 13 | 9 | 11 | 12 | 11 | 11 | 10 | 7 | 6 | 8 | 8 | 4 | 6 | 9.7 | 20.5 |
| 24-Sep | 10 | 11 | 12 | 5 | 6 | 6 | 6 | 6 | 7 | 8 | 8 | 12 | 14 | 13 | 12 | 16 | 12 | 9 | 9 | 11 | 6 | 6 | 7 | 5 | 9.1 | 16.0 |
| 25-Sep | 5 | 4 | 6 | 8 | 12 | 16 | 13 | 6 | 8 | 9 | 12 | 10 | 11 | 10 | 11 | 10 | 10 | 5 | 3 | 4 | 7 | 9 | 7 | 7 | 8.4 | 15.7 |
| 26-Sep | 7 | 10 | 9 | 7 | 9 | 10 | 10 | 9 | 7 | 7 | 6 | 7 | 6 | 7 | 12 | 11 | 8 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 7.5 | 12.0 |
| 27-Sep | 4 | 4 | 6 | 8 | 7 | 5 | 7 | 5 | 7 | 19 | 23 | 21 | 21 | 25 | 24 | 19 | 16 | 12 | 19 | 23 | 11 | 5 | 7 | 8 | 12.9 | 25.4 |
| 28-Sep | 7 | 5 | 5 | 5 | 5 | 5 | 7 | 8 | 8 | 6 | 7 | 8 | 10 | 10 | 10 | 7 | 6 | 5 | 6 | 8 | 10 | 8 | 6 | 5 | 6.9 | 10.4 |
| 29-Sep | 4 | 3 | 4 | 8 | 9 | 10 | 8 | 7 | 5 | 15 | 15 | 12 | 14 | 13 | 13 | 11 | 8 | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 7.9 | 15.3 |
| 30-Sep | 5 | 4 | 5 | 4 | 4 | 4 | 3 | 4 | 4 | 4 | 6 | 6 | 7 | 8 | 7 | 10 | 11 | 12 | 10 | 6 | 6 | 5 | 5 | 6 | 6.1 | 11.7 |
| | 8.4 | 8.3 | 8.4 | 8.2 | 8.5 | 8.7 | 8.6 | 8.4 | 9.3 | 10.9 | 12.1 | 12.0 | 11.6 | 12.0 | 11.9 | 11.1 | 10.6 | 9.9 | 9.4 | 9.6 | 9.1 | 8.6 | 8.2 | 8.3 | Diurnal Average | |
| | 16.9 | 18.3 | 19.9 | 16.0 | 20.5 | 17.1 | 16.0 | 16.4 | 18.8 | 23.7 | 23.1 | 21.4 | 21.4 | 25.4 | 25.7 | 20.8 | 22.2 | 22.3 | 22.7 | 25.2 | 26.6 | 22.7 | 26.0 | 23.7 | Diurnal Maximum | |

P - Power Failure

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

**Palliser Airshed Society**

**Summary of Hourly Standard Deviations**

**Crescent Heights - Wind Direction (WD) - deg**

**September 1, 2008 to October 1, 2008**

Maximum Value: 98.3 deg on Sep 19 01:00

Minimum Value: 4.0 deg on Sep 1 03:00

Percentiles: $P_1$ = 4.4 $P_{10}$ = 7.6 $Q_1$ = 10.9 Median = 17.6 $Q_3$ = 31.4 $P_{90}$ = 48.7 $P_{99}$ = 82.0

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 719 |
| Hours of Missing Data: | 1 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 99.9 |

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | 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 | Maximum |
| 1-Sep | 4 | 5 | 4 | 4 | 4 | 5 | 5 | 6 | 30 | 28 | 12 | 11 | 18 | 18 | 83 | 35 | 27 | 13 | 24 | 11 | 16 | 11 | 11 | 11 | 83.4 |
| 2-Sep | 12 | 8 | 7 | 23 | 10 | 11 | 9 | 12 | 11 | 17 | 20 | 25 | 38 | 33 | 33 | 21 | 24 | 15 | 64 | 33 | 12 | 8 | 21 | 57 | 64.2 |
| 3-Sep | 22 | 11 | 8 | 11 | 10 | 11 | 9 | 17 | 10 | 10 | 8 | 14 | 21 | 24 | 34 | 72 | 36 | 19 | 12 | 12 | 38 | 19 | 16 | 9 | 72.1 |
| 4-Sep | 6 | 14 | 19 | 23 | 14 | 23 | 25 | 22 | 29 | 34 | 31 | 23 | 27 | 23 | 22 | 22 | 11 | 16 | 11 | 36 | 46 | 22 | 18 | 6 | 46.0 |
| 5-Sep | 8 | 17 | 17 | 28 | 34 | 12 | 12 | 12 | 32 | 41 | 68 | 13 | 47 | 53 | 63 | 40 | 49 | 9 | 13 | 15 | 8 | 85 | 53 | 33 | 85.4 |
| 6-Sep | 26 | 9 | 13 | 16 | 14 | 11 | 15 | 23 | 11 | 14 | 27 | 19 | 21 | 25 | 23 | 31 | 17 | 17 | 17 | 9 | 13 | 16 | 31 | 14 | 31.4 |
| 7-Sep | 93 | 28 | 26 | 13 | 43 | 33 | 19 | 39 | 91 | 83 | 34 | 27 | 44 | 37 | 62 | 51 | 41 | 67 | 23 | 80 | 32 | 15 | 22 | 22 | 93.3 |
| 8-Sep | 25 | 15 | 17 | 7 | 16 | 14 | 7 | 6 | 7 | 11 | 11 | 18 | 20 | 26 | 22 | 18 | 17 | 7 | 13 | 8 | 8 | 21 | 22 | 8 | 25.9 |
| 9-Sep | 13 | 26 | 14 | 11 | 13 | 36 | 63 | 38 | 32 | 8 | 9 | 25 | 36 | 35 | 27 | 29 | 14 | 7 | 5 | 4 | 4 | 5 | 9 | 9 | 63.4 |
| 10-Sep | 9 | 5 | 12 | 13 | 8 | 5 | 5 | 5 | 6 | 7 | 7 | P | 7 | 12 | 82 | 80 | 29 | 15 | 10 | 14 | 14 | 8 | 12 | 8 | 82.3 |
| 11-Sep | 18 | 29 | 79 | 58 | 34 | 32 | 29 | 9 | 8 | 9 | 10 | 11 | 12 | 15 | 12 | 10 | 10 | 7 | 6 | 11 | 7 | 9 | 44 | 43 | 79.5 |
| 12-Sep | 13 | 14 | 9 | 9 | 8 | 8 | 8 | 14 | 42 | 14 | 14 | 12 | 15 | 10 | 8 | 7 | 8 | 7 | 5 | 8 | 6 | 13 | 11 | 9 | 41.7 |
| 13-Sep | 12 | 10 | 9 | 17 | 19 | 12 | 10 | 14 | 19 | 34 | 35 | 40 | 30 | 23 | 28 | 26 | 25 | 18 | 32 | 36 | 12 | 10 | 8 | 45 | 45.4 |
| 14-Sep | 62 | 34 | 54 | 20 | 21 | 34 | 12 | 14 | 7 | 8 | 12 | 15 | 24 | 22 | 32 | 16 | 18 | 17 | 12 | 11 | 19 | 11 | 17 | 23 | 62.3 |
| 15-Sep | 13 | 22 | 25 | 15 | 18 | 14 | 14 | 11 | 18 | 17 | 8 | 14 | 15 | 21 | 14 | 25 | 28 | 18 | 12 | 45 | 21 | 20 | 16 | 10 | 44.9 |
| 16-Sep | 19 | 38 | 26 | 33 | 22 | 42 | 55 | 51 | 35 | 24 | 45 | 26 | 52 | 40 | 18 | 21 | 12 | 15 | 35 | 19 | 28 | 27 | 11 | 55 | 55.5 |
| 17-Sep | 35 | 66 | 25 | 51 | 32 | 26 | 52 | 30 | 11 | 12 | 23 | 28 | 38 | 56 | 77 | 66 | 59 | 10 | 20 | 8 | 8 | 6 | 15 | 23 | 76.9 |
| 18-Sep | 17 | 47 | 9 | 8 | 7 | 6 | 7 | 6 | 6 | 8 | 10 | 10 | 15 | 15 | 15 | 17 | 14 | 13 | 10 | 10 | 10 | 21 | 17 | 61 | 60.6 |
| 19-Sep | 98 | 47 | 16 | 23 | 53 | 26 | 32 | 21 | 23 | 33 | 16 | 32 | 14 | 14 | 14 | 12 | 8 | 8 | 9 | 8 | 8 | 7 | 6 | 8 | 98.3 |
| 20-Sep | 7 | 10 | 10 | 7 | 13 | 10 | 14 | 23 | 40 | 31 | 25 | 22 | 19 | 22 | 17 | 18 | 9 | 12 | 4 | 12 | 11 | 11 | 10 | 12 | 39.5 |
| 21-Sep | 10 | 6 | 39 | 42 | 93 | 94 | 64 | 42 | 37 | 43 | 15 | 13 | 31 | 33 | 61 | 37 | 51 | 28 | 13 | 14 | 10 | 7 | 5 | 6 | 94.4 |
| 22-Sep | 12 | 9 | 11 | 11 | 10 | 9 | 9 | 8 | 9 | 10 | 10 | 10 | 13 | 10 | 10 | 13 | 13 | 52 | 49 | 29 | 41 | 35 | 65 | 30 | 64.8 |
| 23-Sep | 35 | 32 | 28 | 37 | 6 | 9 | 6 | 11 | 19 | 15 | 16 | 12 | 20 | 20 | 21 | 17 | 18 | 11 | 16 | 29 | 13 | 22 | 68 | 23 | 67.5 |
| 24-Sep | 14 | 6 | 17 | 31 | 32 | 12 | 22 | 17 | 9 | 19 | 27 | 31 | 13 | 15 | 14 | 15 | 17 | 14 | 11 | 11 | 29 | 34 | 36 | 82 | 82.2 |
| 25-Sep | 43 | 72 | 29 | 46 | 17 | 30 | 19 | 63 | 61 | 21 | 25 | 25 | 23 | 26 | 26 | 39 | 10 | 25 | 62 | 47 | 58 | 12 | 55 | 39 | 72.0 |
| 26-Sep | 18 | 20 | 40 | 27 | 23 | 19 | 13 | 13 | 35 | 57 | 60 | 56 | 60 | 68 | 26 | 18 | 23 | 30 | 31 | 11 | 21 | 19 | 9 | 12 | 67.5 |
| 27-Sep | 28 | 76 | 74 | 28 | 15 | 48 | 22 | 53 | 41 | 7 | 10 | 8 | 17 | 7 | 7 | 9 | 8 | 14 | 23 | 4 | 37 | 57 | 22 | 11 | 76.4 |
| 28-Sep | 13 | 33 | 32 | 57 | 64 | 55 | 12 | 10 | 12 | 35 | 58 | 30 | 38 | 34 | 27 | 49 | 48 | 21 | 24 | 18 | 8 | 10 | 29 | 28 | 63.7 |
| 29-Sep | 54 | 48 | 45 | 7 | 8 | 5 | 6 | 15 | 34 | 14 | 14 | 13 | 13 | 16 | 17 | 14 | 18 | 12 | 14 | 39 | 37 | 27 | 33 | 29 | 53.9 |
| 30-Sep | 53 | 78 | 32 | 57 | 53 | 19 | 30 | 24 | 47 | 46 | 21 | 59 | 47 | 39 | 40 | 25 | 14 | 5 | 21 | 18 | 11 | 14 | 45 | 14 | 78.4 |
| | 98.3 | 78.4 | 79.5 | 58.2 | 92.9 | 94.4 | 63.8 | 63.2 | 90.7 | 82.6 | 68.2 | 58.7 | 60.3 | 67.5 | 83.4 | 79.8 | 59.2 | 66.6 | 64.2 | 80.1 | 58.0 | 85.4 | 67.5 | 82.2 | |

P - Power Failure

# PAS – Portable-Brooks

## Monthly Summary Tables, Graphs and Roses

**Palliser Airshed Society**
**Summary of Hourly Averages**

**Portable-Brooks - Sulphur Dioxide ($SO_2$) - ppb**
**September 1, 2008 to October 1, 2008**

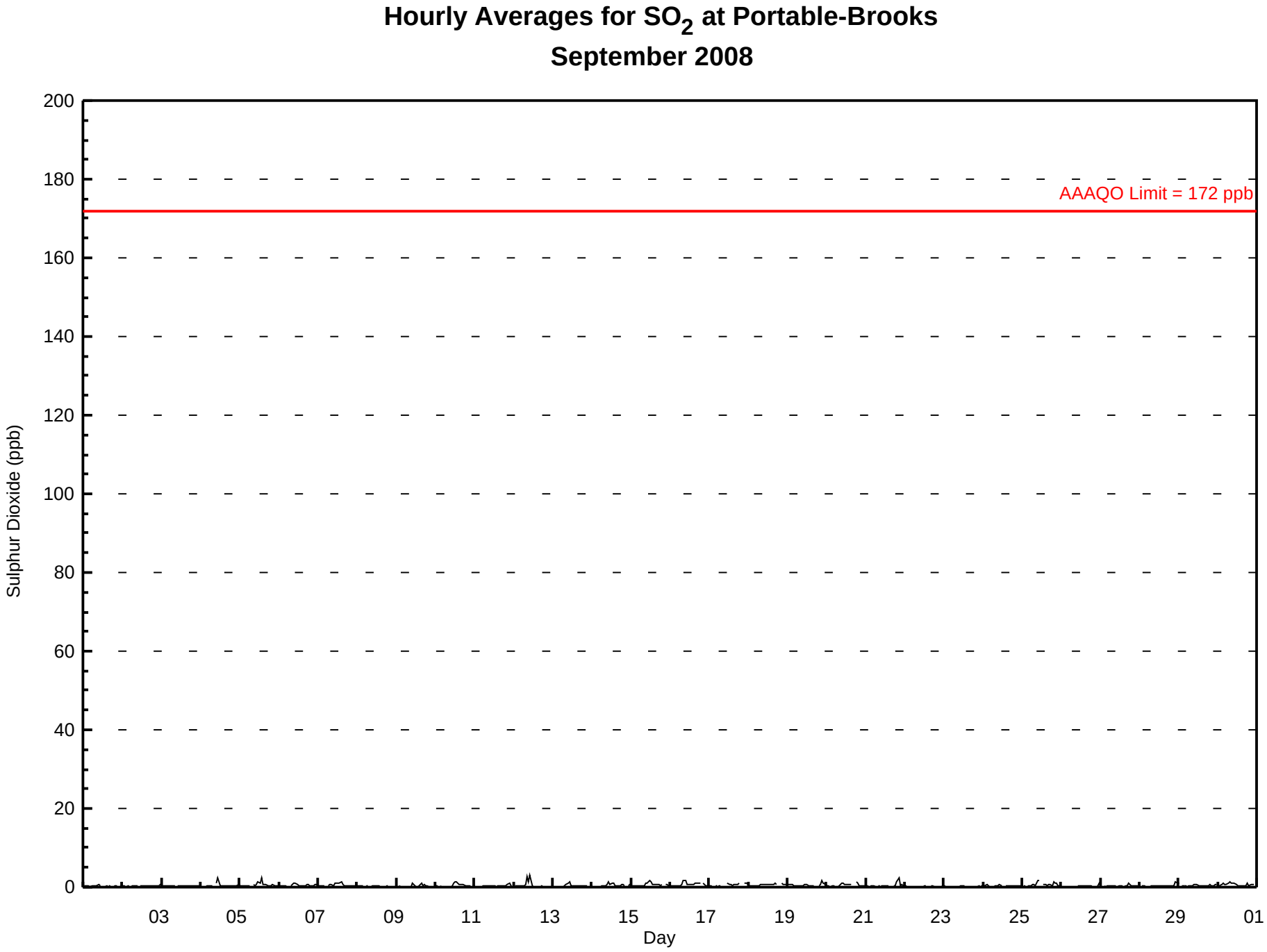
Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 3.1 ppb on Sep 12 11:00 Maximum Daily Average: 0.7 ppb on Sep 16

Minimum Value: 0 ppb on Sep 9 06:00 Minimum Daily Average: 0.1 ppb on Sep 22
Maximum Diurnal Average: 0.8 ppb at hour 11 Minimum Diurnal Average: 0.2 ppb at hour 6
Monthly Average: 0.41 ppb Percentiles: $P_1$ = 0.0 $P_{10}$ = 0.1 $Q_1$ = 0.2 Median = 0.3 $Q_3$ = 0.5 $P_{90}$ = 0.9 $P_{99}$ = 1.7

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 674 |
| Hours of Missing Data: | 46 |
| Hours of Calibration: | 43 |
| Percent Operational Time: | 99.6 |

| 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-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.5 |
| 2-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.3 | 0.6 |
| 3-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.4 |
| 4-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.5 | 2.5 |
| 5-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 1 | 0 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0.5 | 2.4 |
| 6-Sep | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0.5 | 1.1 |
| 7-Sep | 0 | 0 | 0 | 0 | 0 | A | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 1.4 |
| 8-Sep | 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 |
| 9-Sep | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 1.1 |
| 10-Sep | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 1.4 |
| 11-Sep | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0.3 | 1.1 |
| 12-Sep | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0.5 | 3.1 |
| 13-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | A | 1 | 0.3 | 1.3 |
| 14-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | A | 0 | 1 | 0.4 | 1.3 |
| 15-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | A | 1 | 1 | 0 | 0.6 | 1.5 |
| 16-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 0 | 0 | 0.7 | 1.8 |
| 17-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | P | P | P | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | A | A | 1 | 1 | 1 | 0.5 | 1.2 |
| 18-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | A | 1 | 1 | 1 | 1 | 0.6 | 0.9 |
| 19-Sep | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | A | A | 0 | 1 | 2 | 1 | 1 | 0.6 | 1.9 |
| 20-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | A | 1 | 1 | 0 | 0 | 0 | 0 | 0.5 | 1.5 |
| 21-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | A | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 0.4 | 2.4 |
| 22-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 23-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.4 |
| 24-Sep | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | A | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.6 |
| 25-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 2 | A | A | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0.6 | 1.6 |
| 26-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | C | C | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.2 | 0.9 |
| 27-Sep | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0.3 | 1.1 |
| 28-Sep | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0.4 | 1.4 |
| 29-Sep | 1 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0.4 | 0.9 |
| 30-Sep | A | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | A | 0.6 | 1.3 |
| | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.5 | 0.6 | 0.8 | 0.6 | 0.5 | 0.5 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | Diurnal Average | |
| | 0.9 | 0.8 | 0.8 | 0.9 | 0.5 | 0.5 | 0.9 | 1.3 | 2.9 | 1.6 | 3.1 | 1.5 | 1.4 | 2.4 | 1.4 | 1.0 | 1.1 | 1.1 | 1.5 | 1.4 | 2.4 | 1.9 | 1.4 | 1.0 | Diurnal Maximum | |

C - Calibration P - Power Failure A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 57 ppb


Hourly Averages for SO2 at Portable-Brooks
September 2008
AAAQO Limit = 172 ppb
Sulphur Dioxide (ppb)
200
180
160
140
120
100
80
60
40
20
0
03
05
07
09
11
13
15
17
19
21
23
25
27
29
01
Day

**Palliser Airshed Society**
**Summary of Hourly Maximums**

**Portable-Brooks - Sulphur Dioxide ($SO_2$) - ppb**
**September 1, 2008 to October 1, 2008**

Maximum Value: 63.2 ppb on Sep 5 14:00
Maximum Daily Average: 3.8 ppb on Sep 5

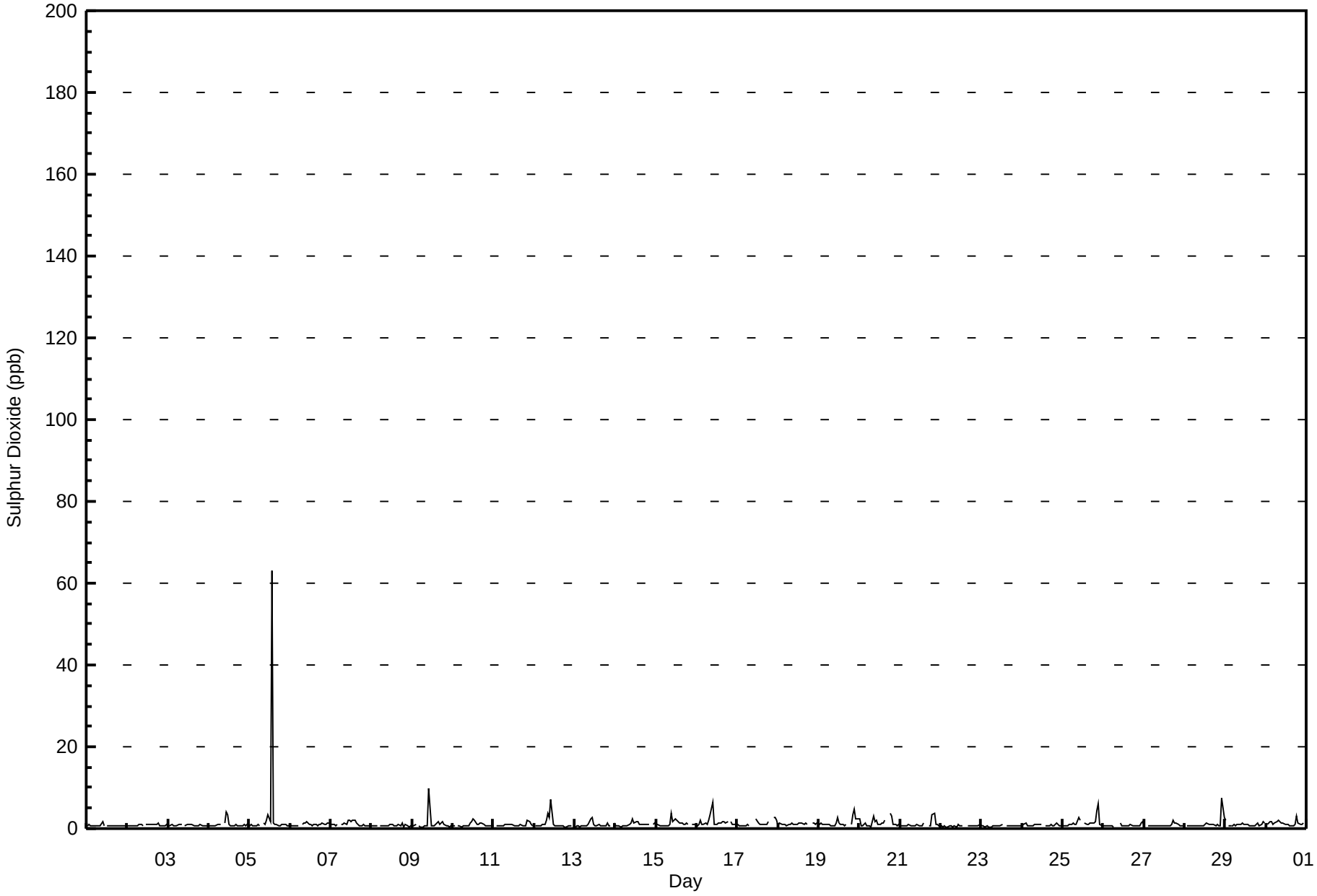
Minimum Value: 0 ppb on Sep 14 04:00
Minimum Daily Average: 0.6 ppb on Sep 22
Maximum Diurnal Average: 3.3 ppb at hour 14
Minimum Diurnal Average: 0.7 ppb at hour 5
Monthly Average: 1.15 ppb
Percentiles: $P_1$ = 0.5 $P_{10}$ = 0.6 $Q_1$ = 0.7 Median = 0.8 $Q_3$ = 1.1 $P_{90}$ = 1.6 $P_{99}$ = 4.4

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 674 |
| Hours of Missing Data: | 46 |
| Hours of Calibration: | 43 |
| Percent Operational Time: | 99.6 |

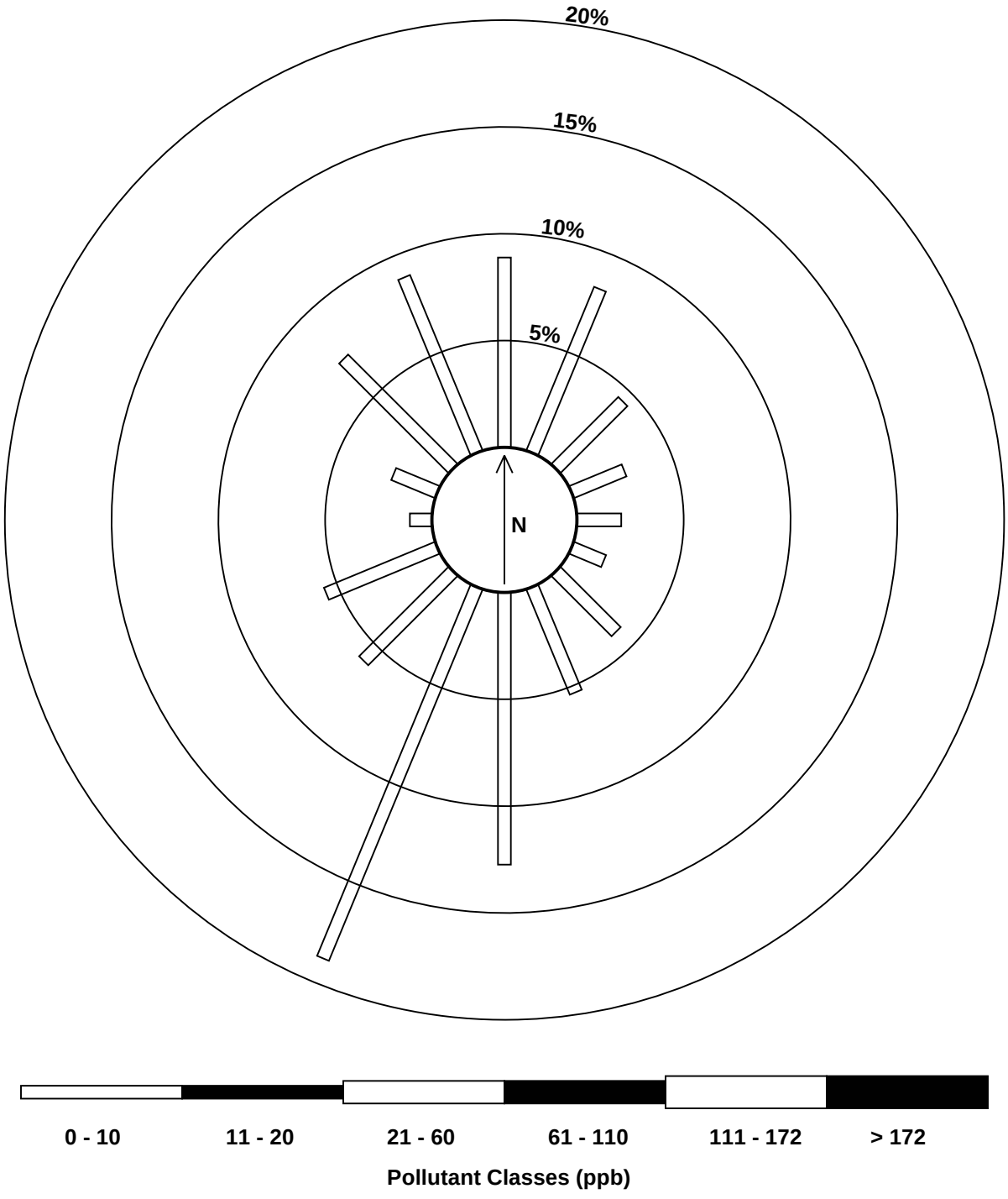
| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | |
| 1-Sep | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 1.5 |
| 2-Sep | 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 | 1.2 |
| 3-Sep | 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 | 1.1 |
| 4-Sep | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 4 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.1 | 4.0 |
| 5-Sep | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 2 | 4 | 2 | 63 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3.8 | 63.2 |
| 6-Sep | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.0 | 1.5 |
| 7-Sep | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.1 | 2.1 |
| 8-Sep | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0.8 | 1.4 |
| 9-Sep | 1 | 1 | 1 | A | 1 | 0 | 1 | 1 | 1 | 1 | 10 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 0 | 1 | 1.2 | 10.0 |
| 10-Sep | 1 | 1 | A | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.0 | 2.5 |
| 11-Sep | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 0.9 | 1.9 |
| 12-Sep | A | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 3 | 7 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | A | 1.3 | 7.1 |
| 13-Sep | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 0.9 | 2.6 |
| 14-Sep | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1.0 | 2.2 |
| 15-Sep | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1.3 | 3.9 |
| 16-Sep | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 3 | 6 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | A | 2 | 1 | 1 | 1 | 1.6 | 6.5 |
| 17-Sep | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | P | P | P | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | A | A | 3 | 3 | 2 | 1.3 | 2.8 |
| 18-Sep | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | A | 1 | 1 | 1 | 1 | 1.1 | 1.4 |
| 19-Sep | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | A | A | 1 | 3 | 5 | 2 | 2 | 1.5 | 4.7 |
| 20-Sep | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | A | A | 4 | 3 | 1 | 1 | 1 | 1 | 1.4 | 3.8 |
| 21-Sep | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | A | 1 | 1 | 3 | 4 | 1 | 1 | 1 | 1.0 | 3.8 |
| 22-Sep | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | A | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.6 | 1.1 |
| 23-Sep | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | A | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.7 | 0.9 |
| 24-Sep | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1.4 |
| 25-Sep | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | A | A | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 6 | 1 | 1 | 1.5 | 6.3 |
| 26-Sep | 1 | 1 | 1 | 1 | 1 | 1 | 0 | C | C | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 0.8 | 1.8 |
| 27-Sep | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 2.2 |
| 28-Sep | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8 | 3 | 1.2 | 7.5 |
| 29-Sep | 2 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1.0 | 2.2 |
| 30-Sep | A | 1 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | A | 1.3 | 2.9 |
| | 0.9 | 0.8 | 0.8 | 0.8 | 0.7 | 0.8 | 0.8 | 0.9 | 1.2 | 1.4 | 1.9 | 1.4 | 1.1 | 3.3 | 1.0 | 1.0 | 0.9 | 1.0 | 1.1 | 1.1 | 1.2 | 1.2 | 1.2 | 1.1 | Diurnal Average | |
| | 2.4 | 1.2 | 2.1 | 1.6 | 1.2 | 1.4 | 1.6 | 2.0 | 3.8 | 6.5 | 10.0 | 3.5 | 2.5 | 63.2 | 2.0 | 1.9 | 1.6 | 2.2 | 3.8 | 3.4 | 4.3 | 6.3 | 7.5 | 2.7 | Diurnal Maximum | |

C - Calibration  P - Power Failure  A - Automated Daily Zero Span

# Hourly Maximums for $SO_2$ at Portable-Brooks
## September 2008



## Pollutant Rose for $SO_2$ at Portable-Brooks
## September 2008



**Palliser Airshed Society**
**Summary of Hourly Averages**

**Portable-Brooks - Hydrogen Sulphide ($H_2S$) - ppb**
**September 1, 2008 to October 1, 2008**

Number of Exceedances (AAAQO): 1-hr: 9 24-hr: 0
Maximum Value: 27.1 ppb on Sep 29 22:00 Maximum Daily Average: 3.4 ppb on Sep 30

Minimum Value: 0 ppb on Sep 1 01:00
Maximum Diurnal Average: 2.8 ppb at hour 22
Monthly Average: 0.81 ppb

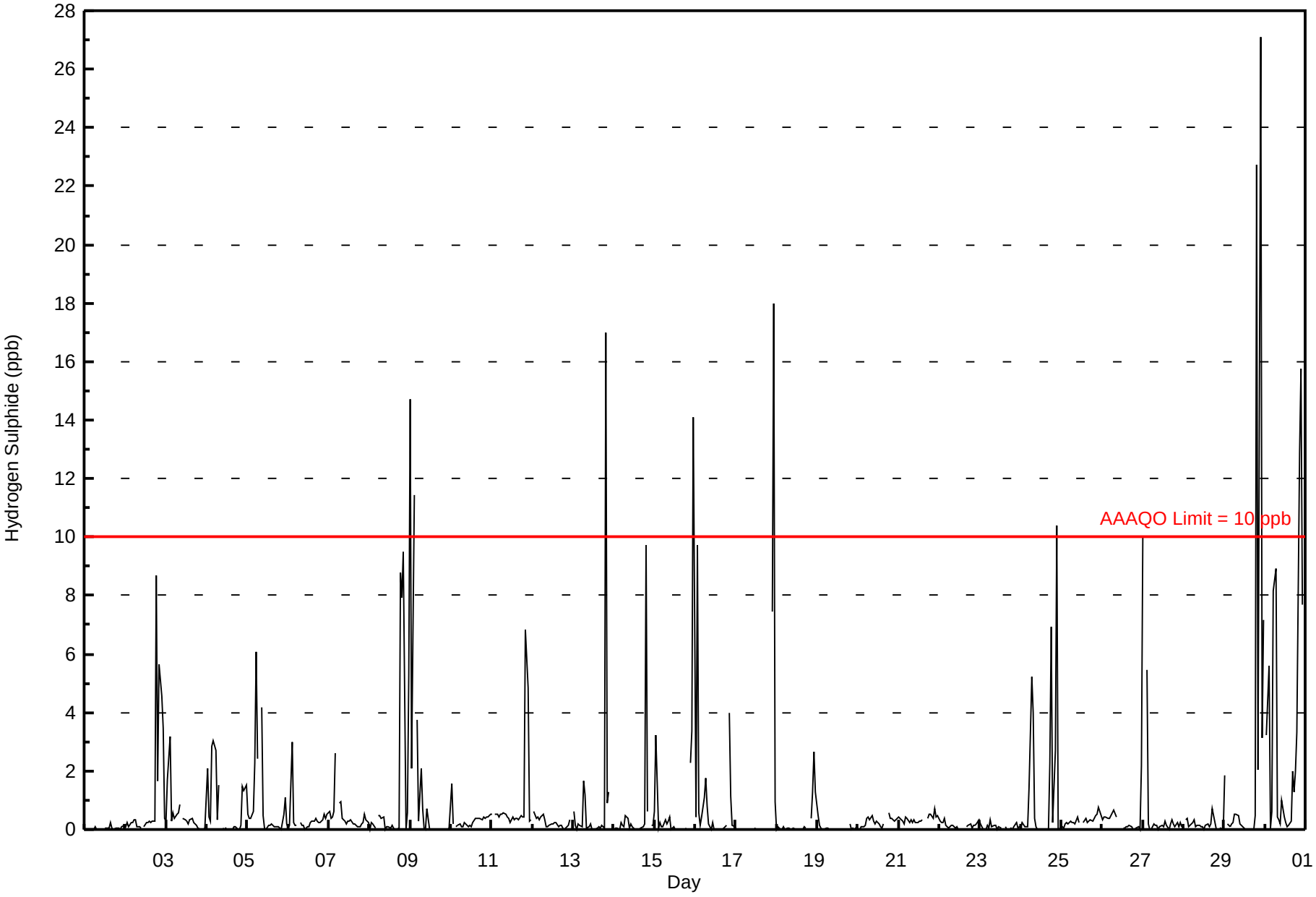
Minimum Daily Average: 0.0 ppb on Sep 1
Minimum Diurnal Average: 0.1 ppb at hour 13
Percentiles: $P_1$ = 0.0 $P_{10}$ = 0.0 $Q_1$ = 0.0 Median = 0.2 $Q_3$ = 0.4 $P_{90}$ = 1.5 $P_{99}$ = 13.9

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 674 |
| Hours of Missing Data: | 46 |
| Hours of Calibration: | 43 |
| Percent Operational Time: | 99.6 |

| 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-Sep | 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 | 0.2 |
| 2-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 2 | 6 | 5 | 3 | 0 | 1.2 | 8.7 |
| 3-Sep | 0 | 2 | 3 | 0 | 1 | 0 | 1 | 1 | 1 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 3.2 |
| 4-Sep | 2 | 0 | 0 | 3 | 3 | 3 | 0 | 2 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0.8 | 3.0 |
| 5-Sep | 1 | 0 | 0 | 1 | 2 | 6 | 2 | A | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0.9 | 6.1 |
| 6-Sep | 0 | 0 | 3 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0.4 | 3.0 |
| 7-Sep | 1 | 0 | 0 | 1 | 3 | A | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 2.6 |
| 8-Sep | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 8 | 9 | 0 | 1 | 1.5 | 9.5 |
| 9-Sep | 15 | 2 | 11 | A | 4 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.6 | 14.7 |
| 10-Sep | 2 | 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 | 1.6 |
| 11-Sep | 1 | A | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 5 | 0 | 0 | 0.9 | 6.8 |
| 12-Sep | A | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 0.2 | 0.6 |
| 13-Sep | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 1 | 1 | A | 0 | 1.0 | 17.0 |
| 14-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 1 | A | 0 | 0 | 0.6 | 9.7 |
| 15-Sep | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 2 | 3 | 14 | 1.1 | 14.1 |
| 16-Sep | 0 | 10 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | 4 | 1 | 0 | 0 | 0.9 | 9.7 |
| 17-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | P | P | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | A | 7 | 18 | 1 | 1.4 | 18.0 |
| 18-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | A | 0 | 1 | 3 | 1 | 0.3 | 2.7 |
| 19-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | A | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.5 |
| 20-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | A | 1 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.6 |
| 21-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | A | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0.4 | 0.7 |
| 22-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.4 |
| 23-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.3 |
| 24-Sep | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 4 | 0 | 0 | 0 | 0 | A | A | 0 | 0 | 0 | 2 | 7 | 0 | 3 | 10 | 0 | 0 | 1.6 | 10.4 |
| 25-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0.3 | 0.8 |
| 26-Sep | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | C | C | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.3 | 2.2 |
| 27-Sep | 10 | A | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.8 | 10.0 |
| 28-Sep | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.7 |
| 29-Sep | 2 | A | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 2 | 27 | 3 | 7 | 2.9 | 27.1 |
| 30-Sep | A | 3 | 6 | 0 | 1 | 8 | 9 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 2 | 3 | 13 | 16 | 8 | A | 3.4 | 15.7 |
| | 1.3 | 0.9 | 1.2 | 0.3 | 0.6 | 0.8 | 1.0 | 0.5 | 0.4 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 1.1 | 2.4 | 1.7 | 2.8 | 1.6 | 1.3 | Diurnal Average | |
| | 14.7 | 9.7 | 11.4 | 2.8 | 3.7 | 8.2 | 8.9 | 4.0 | 4.2 | 0.5 | 1.0 | 0.4 | 0.4 | 0.3 | 0.4 | 0.4 | 2.0 | 2.3 | 8.8 | 22.7 | 12.9 | 27.1 | 18.0 | 14.1 | Diurnal Maximum | |

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

# Hourly Averages for $H_2S$ at Portable-Brooks
## September 2008



**Palliser Airshed Society**
**Summary of Hourly Maximums**

**Portable-Brooks - Hydrogen Sulphide ($H_2S$) - ppb**
**September 1, 2008 to October 1, 2008**

Maximum Value: 74.5 ppb on Sep 29 20:00

Maximum Daily Average: 14.2 ppb on Sep 30

Minimum Value: 1 ppb on Sep 24 12:00

Minimum Daily Average: 1.2 ppb on Sep 19

Maximum Diurnal Average: 11.0 ppb at hour 22

Minimum Diurnal Average: 1.2 ppb at hour 15

Monthly Average: 3.78 ppb

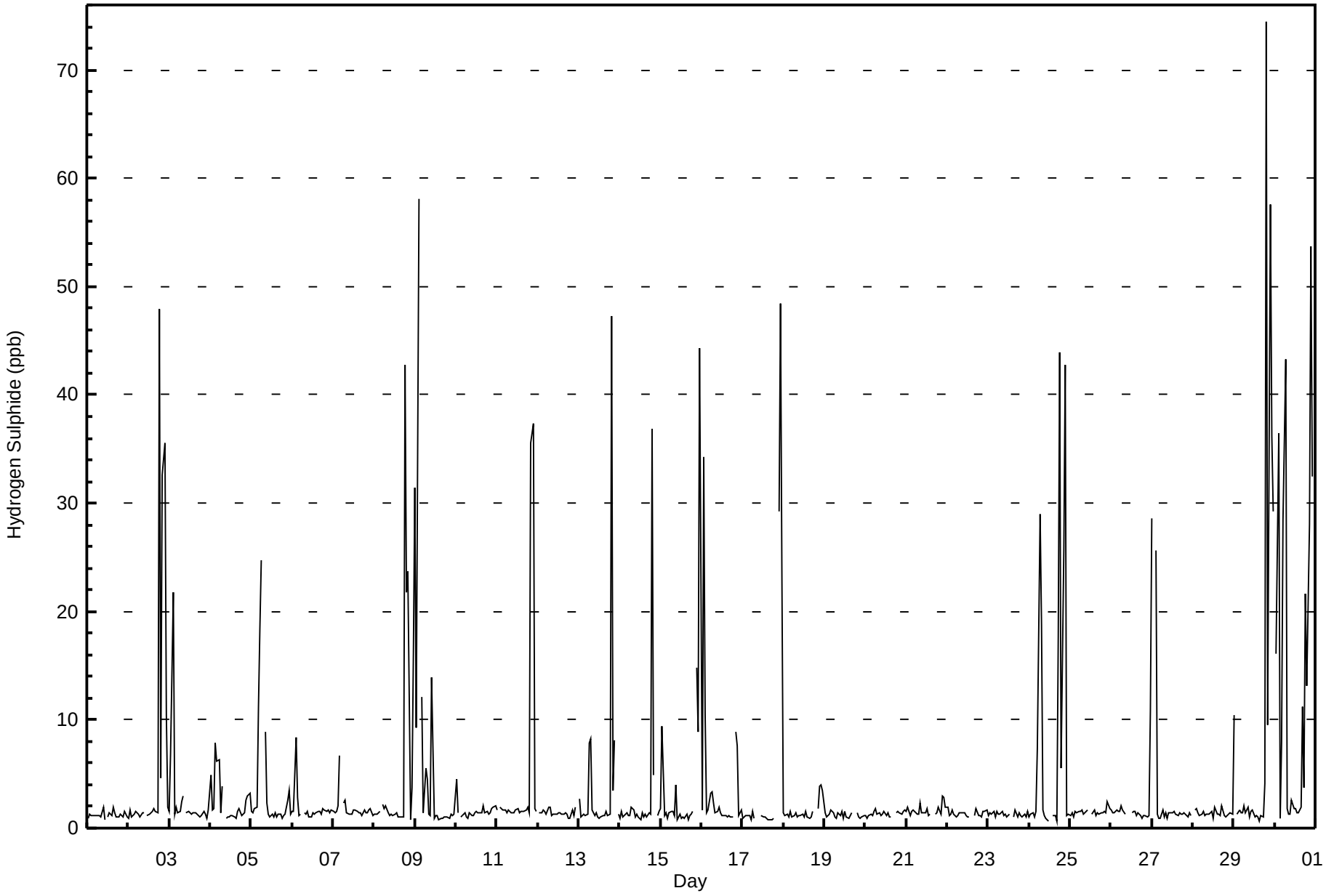
Percentiles: $P_1$ = 0.8 $P_{10}$ = 1.0 $Q_1$ = 1.2 Median = 1.4 $Q_3$ = 1.7 $P_{90}$ = 6.5 $P_{99}$ = 47.2

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 674 |
| Hours of Missing Data: | 46 |
| Hours of Calibration: | 43 |
| Percent Operational Time: | 99.6 |

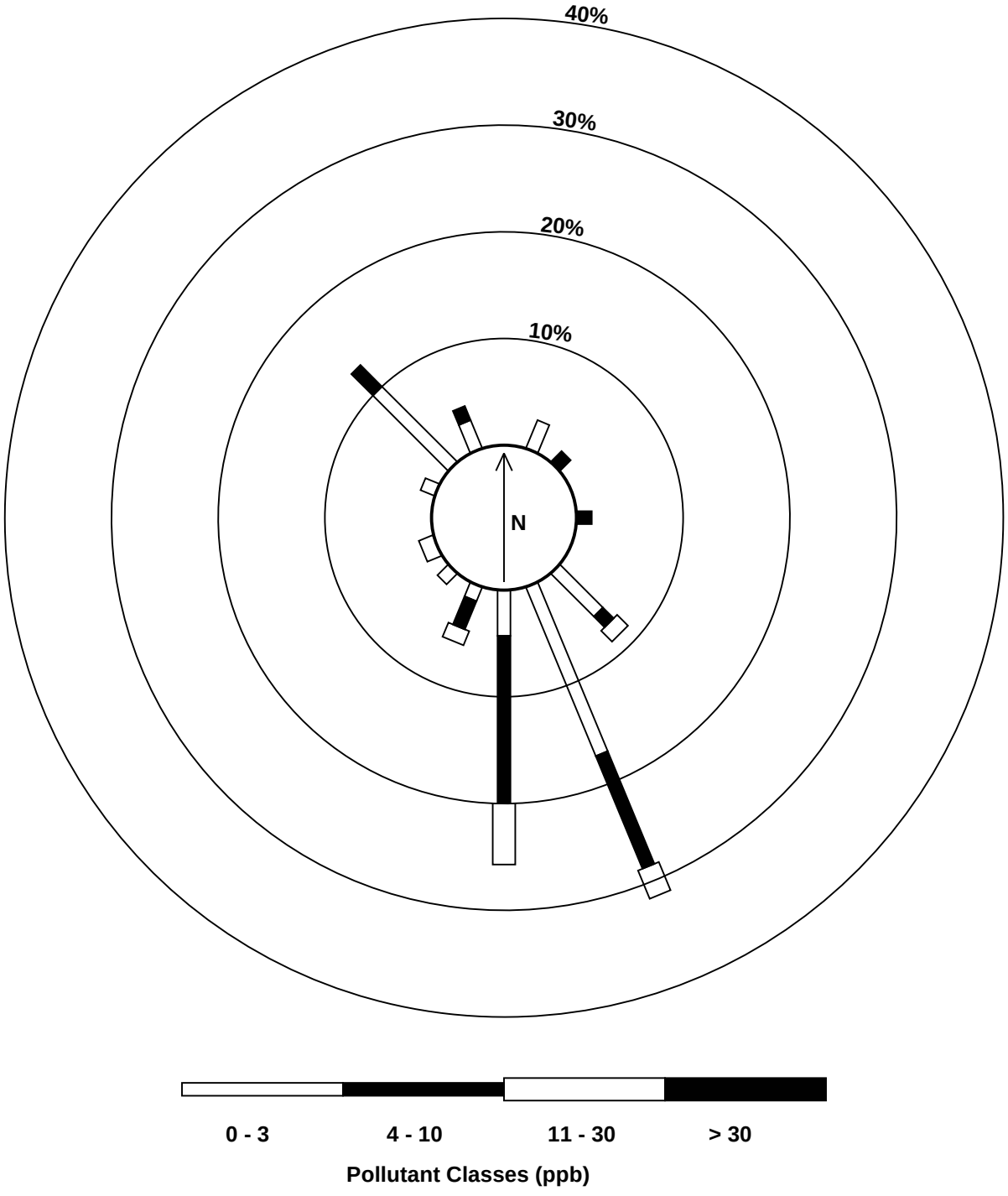
| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Average | Daily Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | |
| 1-Sep | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | A | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.2 | 1.9 |
| 2-Sep | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 48 | 5 | 33 | 36 | 10 | 2 | 6.8 | 48.0 |
| 3-Sep | 2 | 7 | 22 | 1 | 2 | 1 | 2 | 2 | 3 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2.6 | 21.8 |
| 4-Sep | 5 | 2 | 2 | 8 | 6 | 6 | 1 | 4 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 3 | 3 | 3 | 2.5 | 7.8 |
| 5-Sep | 2 | 1 | 2 | 2 | 11 | 18 | 25 | A | 9 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 4 | 1 | 4.0 | 24.7 |
| 6-Sep | 2 | 2 | 8 | 3 | 1 | 1 | A | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 2 | 1.8 | 8.4 |
| 7-Sep | 1 | 1 | 2 | 2 | 7 | A | 2 | 3 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 1.8 | 6.7 |
| 8-Sep | 1 | 1 | 1 | 2 | A | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 43 | 22 | 24 | 1 | 4 | 16 | 5.8 | 42.8 |
| 9-Sep | 31 | 9 | 58 | A | 12 | 1 | 6 | 5 | 1 | 1 | 14 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 6.6 | 58.1 |
| 10-Sep | 4 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | 1.6 | 4.5 |
| 11-Sep | 2 | A | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 36 | 37 | 2 | 2 | 4.6 | 37.4 |
| 12-Sep | A | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | A | 1.4 | 2.0 |
| 13-Sep | 3 | 1 | 1 | 1 | 1 | 1 | 8 | 8 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 47 | 4 | 8 | A | 1 | 4.3 | 47.3 |
| 14-Sep | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 37 | 5 | A | 1 | 2 | 3.0 | 36.9 |
| 15-Sep | 2 | 9 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 15 | 9 | 44 | 4.5 | 44.3 |
| 16-Sep | 2 | 34 | 11 | 1 | 2 | 3 | 3 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 9 | 8 | 1 | 2 | 4.0 | 34.2 |
| 17-Sep | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | P | P | P | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | A | 29 | 48 | 23 | 6.1 | 48.4 |
| 18-Sep | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | A | A | 2 | 4 | 4 | 3 | 1.6 | 4.0 |
| 19-Sep | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | A | A | 1 | 1 | 1 | 1 | 1 | 1.2 | 1.6 |
| 20-Sep | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | A | A | 1 | 2 | 1 | 1 | 2 | 2 | 1.3 | 1.8 |
| 21-Sep | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | A | A | 1 | 1 | 2 | 1 | 3 | 3 | 2 | 1.6 | 3.0 |
| 22-Sep | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | A | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 1.3 | 1.9 |
| 23-Sep | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | A | A | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1.3 | 1.7 |
| 24-Sep | 1 | 1 | 1 | 1 | 2 | 7 | 29 | 19 | 2 | 1 | 1 | 1 | A | A | 1 | 1 | 1 | 18 | 44 | 6 | 26 | 43 | 1 | 1 | 9.4 | 43.9 |
| 25-Sep | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 1 | 2 | 2 | A | A | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 1.5 | 2.4 |
| 26-Sep | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | C | C | A | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 11 | 1.8 | 10.8 |
| 27-Sep | 29 | A | 26 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3.5 | 28.6 |
| 28-Sep | A | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1.4 | 2.0 |
| 29-Sep | 10 | A | 1 | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 74 | 10 | 58 | 36 | 29 | 10.6 | 74.5 |
| 30-Sep | A | 16 | 36 | 1 | 8 | 28 | 43 | 2 | 1 | 1 | 3 | 2 | 2 | 1 | 1 | 2 | 11 | 4 | 22 | 13 | 28 | 54 | 32 | A | 14.2 | 53.8 |
| | 4.1 | 3.9 | 6.6 | 1.7 | 2.7 | 3.3 | 5.1 | 2.5 | 1.7 | 1.4 | 1.8 | 1.3 | 1.3 | 1.3 | 1.2 | 1.2 | 1.6 | 2.0 | 6.8 | 8.5 | 7.1 | 11.0 | 6.2 | 5.8 | Diurnal Average | |
| | 31.4 | 34.2 | 58.1 | 7.8 | 12.2 | 28.4 | 43.3 | 18.9 | 8.9 | 4.0 | 14.0 | 1.8 | 1.8 | 2.0 | 1.7 | 1.9 | 11.2 | 17.7 | 48.0 | 74.5 | 35.6 | 57.5 | 48.4 | 44.3 | Diurnal Maximum | |

C - Calibration P - Power Failure A - Automated Daily Zero Span

# Hourly Maximums for $H_2S$ at Portable-Brooks
## September 2008



**Pollutant Rose for $H_2S$ at Portable-Brooks**
**September 2008**



**Palliser Airshed Society**
**Summary of Hourly Averages**

**Portable-Brooks - Ozone ($O_3$) - ppb**
**September 1, 2008 to October 1, 2008**

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 59.2 ppb on Sep 18 16:00 Maximum Daily Average: 27.4 ppb on Sep 28

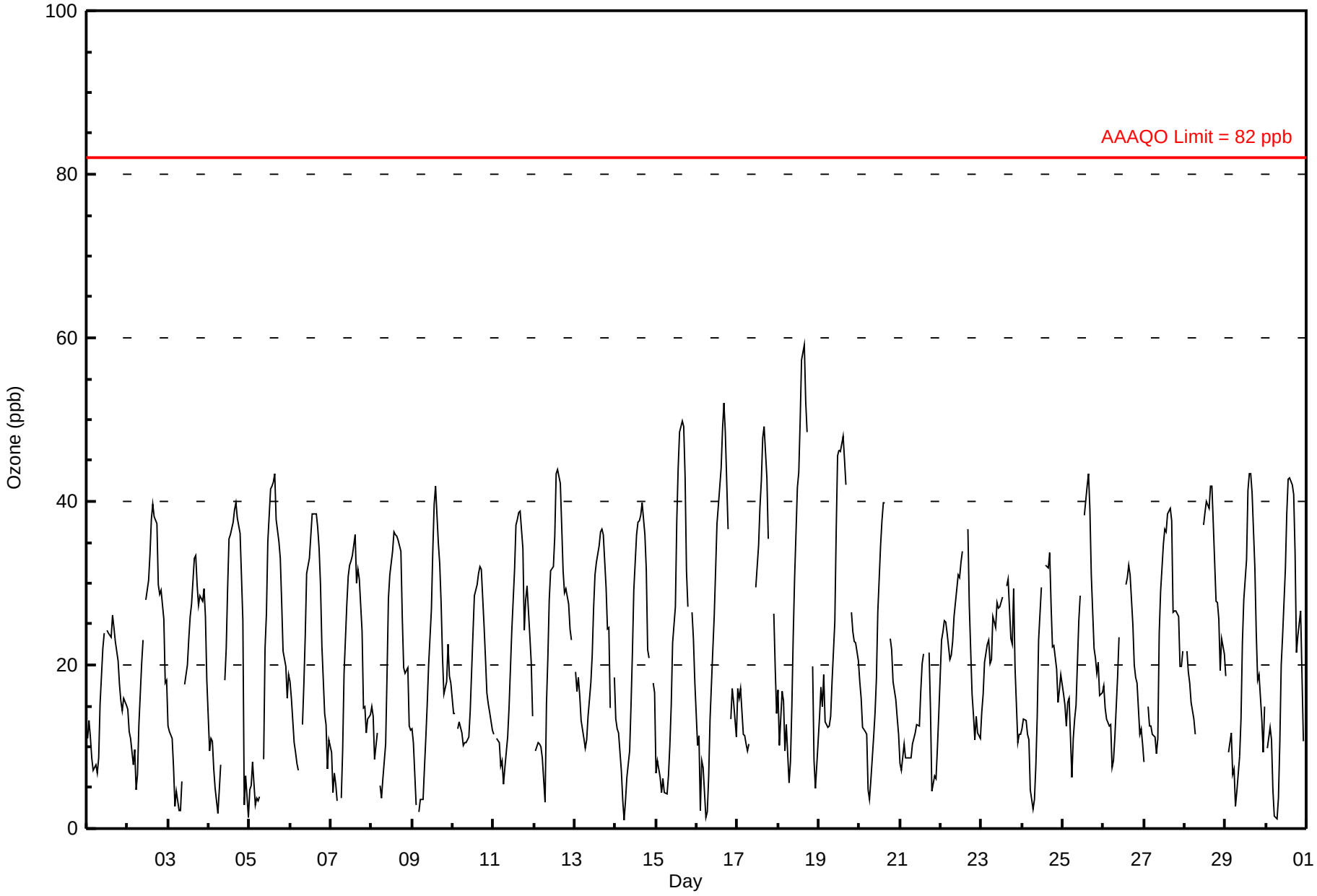
Minimum Value: 1 ppb on Sep 14 06:00
Maximum Diurnal Average: 39.3 ppb at hour 16
Monthly Average: 21.09 ppb

Minimum Daily Average: 11.5 ppb on Sep 21
Minimum Diurnal Average: 7.0 ppb at hour 7
Percentiles: $P_1$ = 2.0 $P_{10}$ = 6.6 $Q_1$ = 11.3 Median = 19.1 $Q_3$ = 29.9 $P_{90}$ = 38.4 $P_{99}$ = 49.0

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 670 |
| Hours of Missing Data: | 50 |
| Hours of Calibration: | 47 |
| Percent Operational Time: | 99.6 |

| 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-Sep | 11 | 13 | 11 | 9 | 7 | 8 | 7 | 9 | 15 | 22 | 24 | A | 24 | 24 | 23 | 26 | 25 | 23 | 21 | 18 | 16 | 14 | 16 | 15 | 16.5 | 26.1 |
| 2-Sep | 15 | 12 | 11 | 8 | 10 | 5 | 7 | 13 | 20 | 23 | A | 28 | 30 | 33 | 38 | 40 | 38 | 37 | 30 | 29 | 29 | 26 | 18 | 18 | 22.4 | 39.7 |
| 3-Sep | 13 | 12 | 11 | 7 | 3 | 5 | 2 | 2 | 6 | A | 18 | 20 | 23 | 26 | 27 | 33 | 33 | 30 | 27 | 28 | 28 | 29 | 26 | 18 | 18.6 | 33.4 |
| 4-Sep | 9 | 11 | 11 | 7 | 5 | 2 | 5 | 8 | A | 18 | 22 | 29 | 35 | 36 | 38 | 39 | 40 | 38 | 36 | 31 | 25 | 3 | 6 | 1 | 19.9 | 39.9 |
| 5-Sep | 5 | 5 | 8 | 3 | 4 | 3 | 4 | A | 8 | 22 | 26 | 35 | 41 | 42 | 42 | 43 | 38 | 35 | 33 | 28 | 22 | 20 | 16 | 19 | 21.9 | 43.3 |
| 6-Sep | 18 | 16 | 11 | 9 | 8 | 7 | A | 13 | 18 | 24 | 31 | 33 | 36 | 38 | 39 | 39 | 37 | 34 | 30 | 22 | 14 | 13 | 7 | 11 | 22.0 | 38.5 |
| 7-Sep | 9 | 4 | 7 | 5 | 3 | A | 4 | 10 | 19 | 27 | 31 | 32 | 33 | 33 | 36 | 30 | 32 | 30 | 24 | 15 | 15 | 12 | 13 | 14 | 19.1 | 35.9 |
| 8-Sep | 15 | 14 | 8 | 12 | A | 5 | 4 | 6 | 10 | 19 | 28 | 31 | 34 | 36 | 36 | 36 | 35 | 34 | 26 | 20 | 19 | 20 | 13 | 12 | 20.5 | 36.4 |
| 9-Sep | 12 | 11 | 3 | A | 2 | 4 | 3 | 7 | 11 | 15 | 20 | 27 | 34 | 40 | 42 | 35 | 32 | 28 | 21 | 16 | 18 | 22 | 19 | 18 | 19.1 | 41.9 |
| 10-Sep | 14 | 14 | A | 12 | 13 | 12 | 10 | 11 | 10 | 11 | 14 | 19 | 24 | 28 | 30 | 31 | 32 | 32 | 25 | 21 | 17 | 15 | 14 | 12 | 18.3 | 32.0 |
| 11-Sep | 12 | A | 11 | 11 | 8 | 8 | 5 | 7 | 11 | 15 | 20 | 24 | 32 | 37 | 38 | 39 | 39 | 34 | 24 | 28 | 30 | 24 | 20 | 14 | 21.3 | 38.7 |
| 12-Sep | A | 9 | 10 | 10 | 10 | 9 | 3 | 15 | 21 | 28 | 32 | 32 | 36 | 43 | 44 | 42 | 37 | 32 | 29 | 29 | 27 | 24 | 23 | A | 24.8 | 43.9 |
| 13-Sep | 19 | 17 | 19 | 16 | 13 | 11 | 10 | 11 | 14 | 18 | 21 | 27 | 31 | 33 | 35 | 36 | 37 | 36 | 30 | 24 | 25 | 15 | A | 18 | 22.3 | 36.7 |
| 14-Sep | 13 | 12 | 12 | 7 | 3 | 1 | 3 | 6 | 9 | 15 | 22 | 29 | 36 | 37 | 38 | 38 | 40 | 36 | 32 | 22 | 21 | A | 18 | 17 | 20.3 | 39.8 |
| 15-Sep | 7 | 8 | 6 | 4 | 6 | 4 | 4 | 6 | 10 | 15 | 23 | 27 | 38 | 44 | 49 | 50 | 49 | 43 | 31 | 27 | A | 26 | 23 | 18 | 22.6 | 49.8 |
| 16-Sep | 10 | 11 | 2 | 8 | 7 | 1 | 2 | 6 | 13 | 22 | 26 | 32 | 37 | 39 | 44 | 49 | 52 | 48 | 37 | A | 13 | 17 | 15 | 11 | 22.0 | 52.0 |
| 17-Sep | 17 | 16 | 17 | 11 | 11 | 10 | 9 | 10 | P | P | P | 30 | 35 | 39 | 43 | 48 | 49 | 43 | 35 | A | A | 26 | 20 | 14 | 25.5 | 49.2 |
| 18-Sep | 17 | 10 | 17 | 16 | 9 | 13 | 6 | 8 | 15 | 24 | 31 | 42 | 44 | 50 | 57 | 59 | 52 | 48 | A | A | 20 | 8 | 5 | 8 | 25.3 | 59.2 |
| 19-Sep | 14 | 17 | 15 | 19 | 13 | 12 | 13 | 14 | 18 | 25 | 37 | 46 | 46 | 46 | 48 | 45 | 42 | A | A | 26 | 24 | 23 | 23 | 20 | 26.6 | 47.9 |
| 20-Sep | 18 | 16 | 12 | 12 | 12 | 5 | 4 | 6 | 11 | 14 | 18 | 26 | 35 | 38 | 40 | 40 | A | A | 23 | 22 | 18 | 16 | 14 | 11 | 18.6 | 39.8 |
| 21-Sep | 8 | 7 | 10 | 9 | 9 | 9 | 9 | 10 | 11 | 12 | 13 | 13 | 17 | 20 | 21 | A | A | 22 | 15 | 5 | 6 | 6 | 10 | 14 | 11.5 | 21.5 |
| 22-Sep | 23 | 24 | 25 | 25 | 24 | 21 | 21 | 23 | 26 | 29 | 31 | 31 | 33 | 34 | A | A | 37 | 27 | 16 | 14 | 11 | 14 | 12 | 11 | 23.2 | 36.7 |
| 23-Sep | 14 | 17 | 20 | 22 | 23 | 20 | 21 | 26 | 25 | 28 | 27 | 27 | 28 | A | A | 30 | 30 | 23 | 23 | 29 | 20 | 11 | 12 | 11 | 22.1 | 30.4 |
| 24-Sep | 12 | 13 | 13 | 11 | 11 | 5 | 2 | 4 | 8 | 14 | 23 | 29 | A | A | 32 | 32 | 34 | 27 | 22 | 22 | 19 | 15 | 17 | 19 | 17.5 | 33.8 |
| 25-Sep | 16 | 15 | 13 | 15 | 16 | 6 | 11 | 13 | 15 | 25 | 28 | A | A | 38 | 42 | 43 | 39 | 31 | 22 | 21 | 19 | 20 | 16 | 17 | 22.0 | 43.4 |
| 26-Sep | 18 | 15 | 13 | 13 | 13 | 7 | 8 | 11 | 19 | 23 | C | C | C | 30 | 31 | 32 | 31 | 25 | 20 | 19 | 18 | 12 | 12 | 10 | 18.0 | 32.1 |
| 27-Sep | 8 | A | 15 | 13 | 13 | 12 | 11 | 9 | 11 | 24 | 29 | 35 | 37 | 36 | 39 | 39 | 38 | 26 | 27 | 27 | 26 | 20 | 20 | 22 | 23.2 | 39.2 |
| 28-Sep | A | 22 | 19 | 18 | 15 | 13 | 12 | C | C | C | A | 37 | 39 | 40 | 39 | 42 | 42 | 37 | 28 | 28 | 26 | 19 | 23 | 21 | 27.4 | 41.9 |
| 29-Sep | 19 | A | 9 | 12 | 7 | 7 | 3 | 5 | 9 | 13 | 23 | 28 | 33 | 41 | 43 | 43 | 41 | 32 | 24 | 18 | 19 | 13 | 9 | 15 | 20.2 | 43.4 |
| 30-Sep | A | 10 | 12 | 11 | 5 | 1 | 1 | 4 | 11 | 20 | 24 | 32 | 39 | 43 | 43 | 42 | 41 | 34 | 21 | 24 | 27 | 19 | 11 | A | 21.4 | 42.9 |
| | 13.5 | 13.0 | 12.2 | 11.6 | 9.7 | 7.8 | 7.0 | 9.7 | 13.9 | 20.2 | 24.6 | 29.6 | 33.6 | 36.7 | 38.4 | 39.3 | 38.2 | 33.0 | 26.1 | 22.7 | 20.4 | 17.3 | 15.5 | 14.6 | Diurnal Average | |
| | 23.0 | 24.0 | 25.4 | 25.2 | 23.8 | 20.7 | 21.2 | 25.9 | 26.0 | 29.4 | 36.5 | 45.5 | 46.3 | 49.8 | 57.3 | 59.2 | 52.1 | 48.4 | 36.5 | 30.9 | 29.6 | 29.3 | 25.9 | 21.6 | Diurnal Maximum | |

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


Hourly Averages for $O_3$ at Portable-Brooks
September 2008
AAAQO Limit = 82 ppb
Ozone (ppb)
100
80
60
40
20
0
03
05
07
09
11
13
15
17
19
21
23
25
27
29
01
Day

**Palliser Airshed Society**
**Summary of Hourly Maximums**

**Portable-Brooks - Ozone ($O_3$) - ppb**
**September 1, 2008 to October 1, 2008**

Maximum Value: 62.4 ppb on Sep 18 16:00

Maximum Daily Average: 31.6 ppb on Sep 18

Minimum Value: 3 ppb on Sep 14 06:00

Minimum Daily Average: 15.2 ppb on Sep 21

Maximum Diurnal Average: 42.4 ppb at hour 16

Minimum Diurnal Average: 10.7 ppb at hour 7

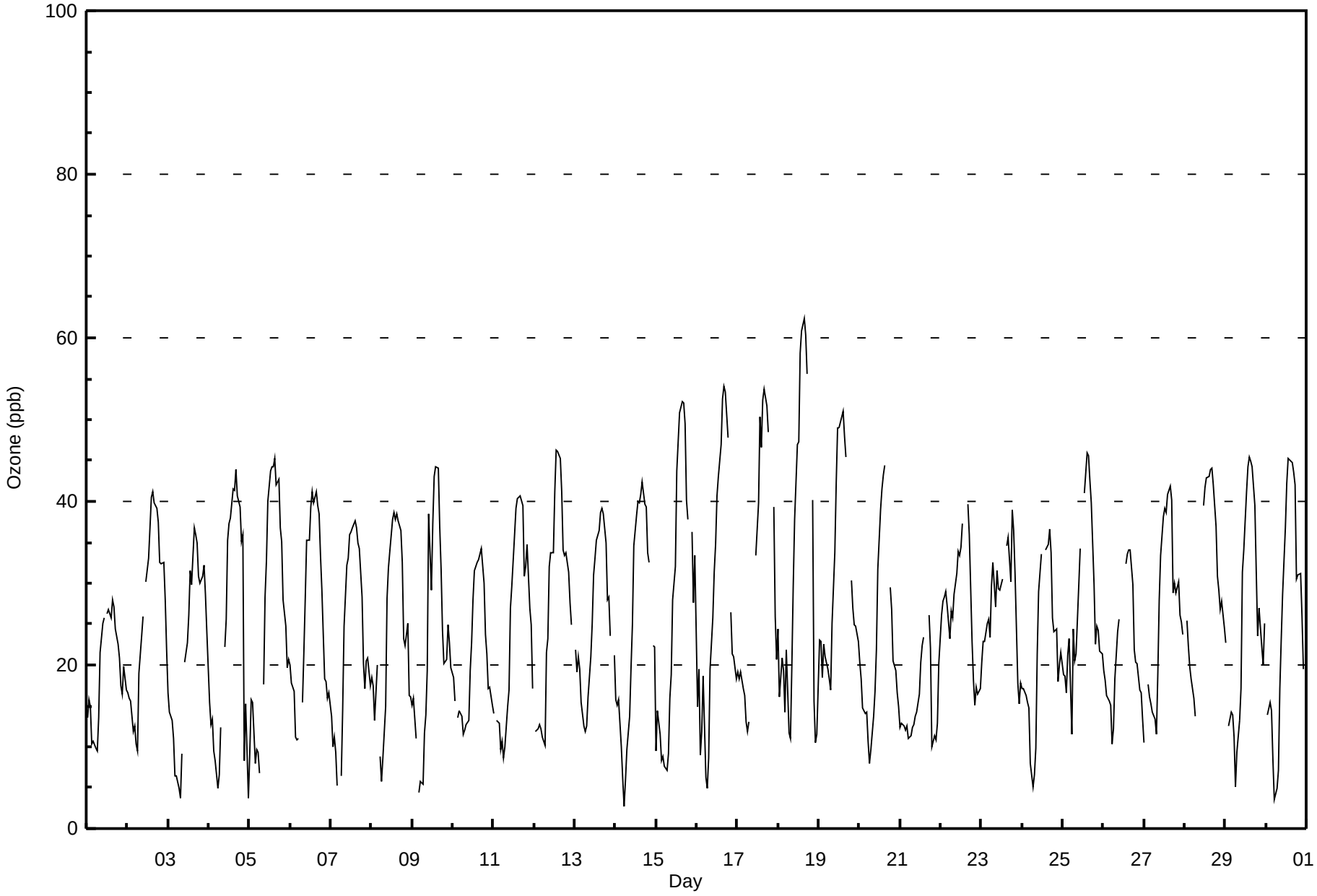
Monthly Average: 25.27 ppb

Percentiles: $P_1$ = 5.0 $P_{10}$ = 10.7 $Q_1$ = 15.4 Median = 23.5 $Q_3$ = 34.3 $P_{90}$ = 41.8 $P_{99}$ = 53.6

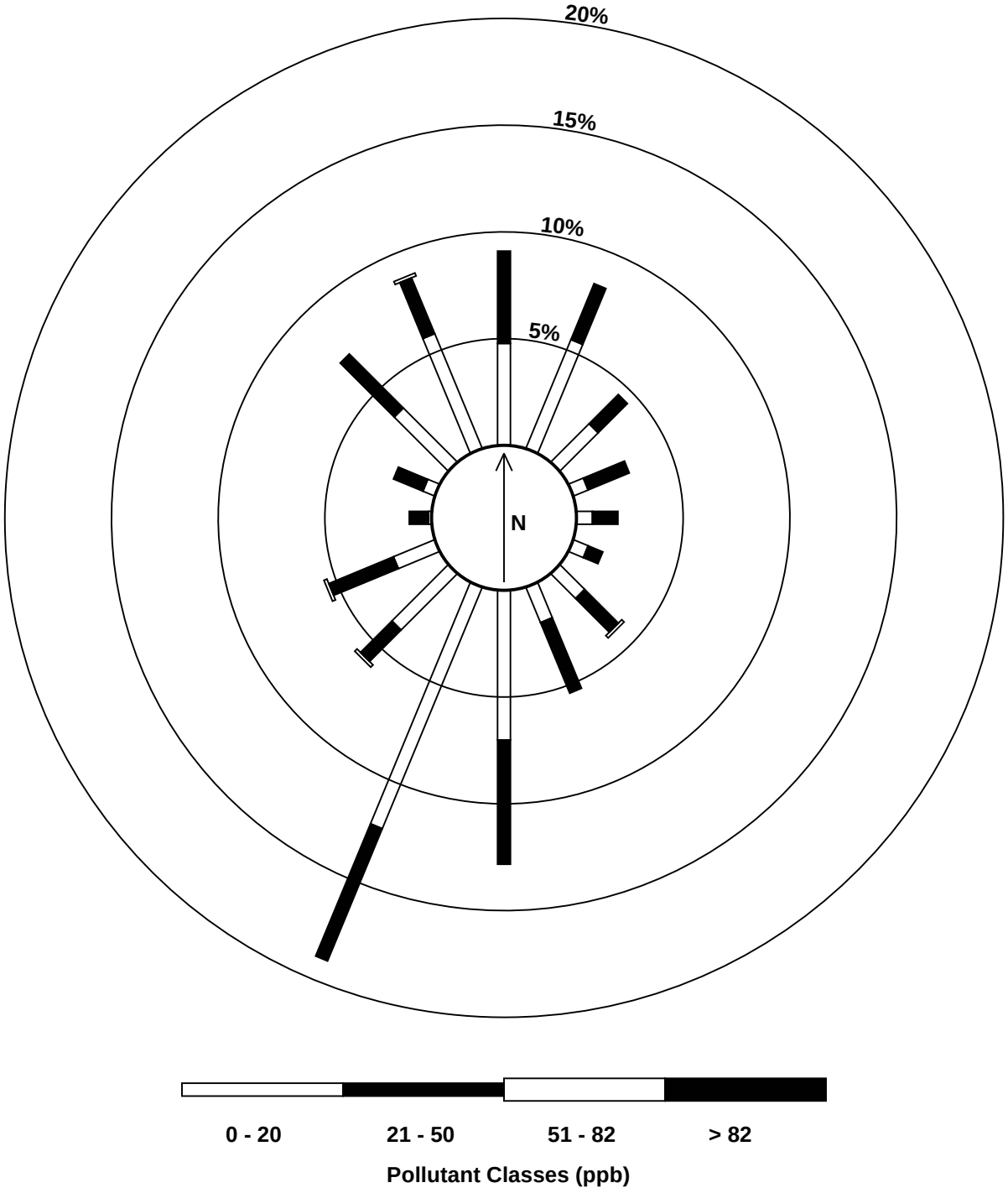
| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 670 |
| Hours of Missing Data: | 50 |
| Hours of Calibration: | 47 |
| Percent Operational Time: | 99.6 |

| 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-Sep | 14 | 16 | 15 | 10 | 11 | 10 | 9 | 14 | 21 | 25 | 26 | A | 26 | 27 | 26 | 28 | 27 | 24 | 23 | 21 | 18 | 16 | 20 | 17 | 19.3 | 28.0 |
| 2-Sep | 17 | 16 | 16 | 12 | 12 | 10 | 9 | 19 | 24 | 26 | A | 30 | 33 | 37 | 40 | 41 | 40 | 39 | 38 | 33 | 32 | 33 | 28 | 22 | 26.4 | 41.3 |
| 3-Sep | 17 | 14 | 13 | 11 | 7 | 6 | 5 | 4 | 9 | A | 20 | 23 | 26 | 32 | 30 | 37 | 36 | 35 | 31 | 30 | 31 | 32 | 29 | 24 | 21.8 | 36.7 |
| 4-Sep | 15 | 13 | 13 | 9 | 8 | 5 | 7 | 12 | A | 22 | 26 | 35 | 37 | 38 | 42 | 41 | 44 | 41 | 39 | 35 | 36 | 8 | 15 | 4 | 23.8 | 43.8 |
| 5-Sep | 9 | 16 | 15 | 8 | 10 | 9 | 7 | A | 18 | 28 | 33 | 40 | 44 | 44 | 44 | 45 | 42 | 43 | 37 | 35 | 28 | 25 | 20 | 21 | 27.0 | 45.2 |
| 6-Sep | 20 | 18 | 17 | 11 | 11 | 11 | A | 15 | 22 | 28 | 35 | 35 | 39 | 41 | 40 | 41 | 40 | 39 | 33 | 29 | 18 | 18 | 16 | 17 | 25.8 | 41.2 |
| 7-Sep | 14 | 10 | 11 | 9 | 5 | A | 6 | 15 | 25 | 32 | 33 | 36 | 36 | 37 | 38 | 37 | 35 | 34 | 28 | 20 | 17 | 20 | 21 | 17 | 23.4 | 37.6 |
| 8-Sep | 19 | 17 | 13 | 20 | A | 9 | 6 | 9 | 15 | 28 | 32 | 34 | 38 | 39 | 38 | 38 | 38 | 36 | 32 | 23 | 22 | 25 | 16 | 16 | 24.5 | 38.6 |
| 9-Sep | 15 | 16 | 11 | A | 4 | 6 | 6 | 12 | 14 | 19 | 38 | 29 | 37 | 43 | 44 | 44 | 37 | 32 | 24 | 20 | 21 | 25 | 23 | 20 | 23.5 | 44.3 |
| 10-Sep | 18 | 16 | A | 13 | 14 | 14 | 11 | 12 | 13 | 13 | 19 | 23 | 28 | 32 | 32 | 33 | 33 | 34 | 30 | 24 | 21 | 17 | 17 | 15 | 21.1 | 34.3 |
| 11-Sep | 14 | A | 13 | 13 | 10 | 11 | 9 | 10 | 15 | 17 | 27 | 30 | 36 | 39 | 40 | 41 | 41 | 39 | 31 | 32 | 35 | 27 | 25 | 17 | 24.8 | 40.7 |
| 12-Sep | A | 12 | 12 | 13 | 12 | 11 | 10 | 22 | 23 | 32 | 34 | 34 | 41 | 46 | 46 | 45 | 41 | 34 | 33 | 34 | 31 | 28 | 25 | A | 28.2 | 46.3 |
| 13-Sep | 22 | 19 | 21 | 19 | 15 | 13 | 12 | 12 | 16 | 21 | 25 | 31 | 33 | 35 | 37 | 39 | 39 | 38 | 35 | 28 | 28 | 24 | A | 21 | 25.4 | 39.2 |
| 14-Sep | 16 | 15 | 16 | 10 | 6 | 3 | 6 | 10 | 14 | 20 | 25 | 35 | 38 | 40 | 40 | 41 | 42 | 40 | 39 | 34 | 33 | A | 22 | 22 | 24.6 | 42.4 |
| 15-Sep | 9 | 14 | 12 | 8 | 9 | 8 | 7 | 9 | 16 | 19 | 28 | 32 | 44 | 47 | 51 | 52 | 52 | 49 | 40 | 38 | A | 36 | 28 | 33 | 27.9 | 52.2 |
| 16-Sep | 15 | 19 | 9 | 12 | 19 | 6 | 5 | 9 | 19 | 26 | 31 | 35 | 41 | 43 | 47 | 52 | 54 | 53 | 48 | A | 26 | 21 | 21 | 18 | 27.4 | 54.1 |
| 17-Sep | 19 | 18 | 19 | 17 | 16 | 13 | 12 | 13 | P | P | P | 33 | 40 | 50 | 47 | 52 | 54 | 52 | 48 | A | A | 39 | 26 | 21 | 31.1 | 53.7 |
| 18-Sep | 24 | 16 | 21 | 19 | 14 | 22 | 12 | 11 | 20 | 30 | 38 | 47 | 47 | 58 | 61 | 62 | 60 | 56 | A | A | 40 | 16 | 10 | 12 | 31.6 | 62.4 |
| 19-Sep | 23 | 23 | 18 | 23 | 21 | 19 | 18 | 17 | 25 | 34 | 42 | 49 | 49 | 50 | 51 | 48 | 45 | A | A | 30 | 27 | 25 | 25 | 23 | 31.2 | 51.1 |
| 20-Sep | 20 | 18 | 15 | 14 | 14 | 11 | 8 | 10 | 14 | 17 | 22 | 32 | 39 | 42 | 43 | 44 | A | A | 29 | 27 | 21 | 19 | 17 | 15 | 22.3 | 44.4 |
| 21-Sep | 12 | 13 | 13 | 12 | 13 | 11 | 11 | 12 | 13 | 14 | 14 | 16 | 20 | 22 | 23 | A | A | 26 | 22 | 10 | 11 | 11 | 13 | 20 | 15.2 | 26.1 |
| 22-Sep | 26 | 28 | 28 | 29 | 27 | 23 | 27 | 26 | 29 | 31 | 34 | 33 | 34 | 37 | A | A | 40 | 36 | 23 | 18 | 15 | 17 | 16 | 17 | 27.1 | 39.7 |
| 23-Sep | 20 | 23 | 23 | 25 | 26 | 23 | 30 | 32 | 27 | 32 | 29 | 29 | 31 | A | A | 35 | 36 | 30 | 39 | 36 | 31 | 18 | 15 | 18 | 27.6 | 38.9 |
| 24-Sep | 17 | 17 | 16 | 16 | 15 | 8 | 5 | 7 | 10 | 21 | 29 | 34 | A | A | 34 | 35 | 37 | 34 | 26 | 24 | 24 | 18 | 20 | 21 | 21.2 | 36.6 |
| 25-Sep | 19 | 19 | 17 | 21 | 23 | 12 | 24 | 20 | 21 | 30 | 34 | A | A | 41 | 46 | 46 | 43 | 40 | 30 | 22 | 25 | 24 | 22 | 21 | 27.2 | 45.9 |
| 26-Sep | 19 | 18 | 16 | 16 | 15 | 10 | 12 | 18 | 24 | 26 | C | C | C | 32 | 34 | 34 | 34 | 30 | 22 | 20 | 20 | 17 | 17 | 13 | 21.3 | 34.1 |
| 27-Sep | 10 | A | 18 | 16 | 15 | 14 | 13 | 11 | 19 | 28 | 33 | 38 | 39 | 39 | 41 | 42 | 40 | 29 | 30 | 29 | 30 | 26 | 25 | 24 | 26.5 | 41.9 |
| 28-Sep | A | 25 | 22 | 20 | 18 | 16 | 14 | C | C | C | A | 39 | 42 | 43 | 43 | 44 | 44 | 42 | 37 | 31 | 29 | 27 | 28 | 25 | 31.0 | 44.1 |
| 29-Sep | 23 | A | 12 | 14 | 14 | 11 | 5 | 9 | 13 | 17 | 31 | 34 | 41 | 44 | 46 | 45 | 44 | 39 | 31 | 24 | 27 | 22 | 20 | 25 | 25.8 | 45.5 |
| 30-Sep | A | 14 | 15 | 14 | 8 | 3 | 5 | 7 | 17 | 23 | 29 | 37 | 42 | 45 | 45 | 45 | 44 | 42 | 31 | 31 | 31 | 26 | 20 | A | 26.1 | 45.3 |
| | 17.3 | 17.2 | 15.9 | 15.0 | 13.6 | 11.3 | 10.7 | 13.5 | 18.3 | 24.4 | 29.6 | 33.4 | 37.1 | 40.1 | 41.0 | 42.4 | 41.5 | 38.1 | 32.5 | 27.3 | 26.1 | 22.8 | 20.6 | 19.2 | Diurnal Average | |
| | 26.2 | 27.7 | 28.3 | 28.9 | 27.2 | 23.4 | 29.6 | 32.5 | 28.7 | 33.7 | 42.1 | 48.9 | 49.0 | 58.1 | 60.8 | 62.4 | 60.4 | 55.6 | 48.5 | 37.7 | 40.1 | 39.3 | 28.7 | 33.4 | Diurnal Maximum | |

C - Calibration P - Power Failure A - Automated Daily Zero Span


Hourly Maximums for $O_3$ at Portable-Brooks
September 2008
Ozone (ppb)
100
80
60
40
20
0
03
05
07
09
11
13
15
17
19
21
23
25
27
29
01
Day

**Pollutant Rose for $O_3$ at Portable-Brooks**
**September 2008**



**Palliser Airshed Society**

**Summary of Eight Hour Running Averages**

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

**September 1, 2008 to October 1, 2008**

Number of Exceedences (AAAQO): 8-hr: 0

Maximum Value: 51.7 ppb on Sep 18 20:00

Minimum Value: 4.2 ppb on Sep 5 07:00

Percentiles: $P_1$ = 5.9 $P_{10}$ = 9.5 $Q_1$ = 13.0 Median = 19.3 $Q_3$ = 28.4 $P_{90}$ = 34.6 $P_{99}$ = 43.9

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 701 |
| Hours of Missing Data: | 19 |
| Hours of Calibration: | 13 |
| Percent Operational Time: | 99.2 |

| Day | Hourly Period Ending At (MST) | | | | | | | | | | | | | | | | | | | | | | | | 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 | Maximum |
| 1-Sep | 13 | 13 | 12 | 11 | 10 | 10 | 10 | 9 | 10 | 11 | 13 | 13 | 16 | 18 | 20 | 23 | 24 | 24 | 24 | 23 | 22 | 21 | 20 | 18 | 24.2 |
| 2-Sep | 17 | 16 | 15 | 13 | 13 | 11 | 10 | 10 | 11 | 12 | 12 | 15 | 18 | 22 | 27 | 30 | 33 | 35 | 34 | 34 | 34 | 33 | 31 | 28 | 35.0 |
| 3-Sep | 25 | 22 | 19 | 17 | 13 | 11 | 9 | 7 | 6 | 5 | 6 | 8 | 11 | 14 | 17 | 22 | 26 | 26 | 27 | 29 | 29 | 30 | 29 | 27 | 29.5 |
| 4-Sep | 25 | 22 | 20 | 17 | 15 | 11 | 9 | 7 | 7 | 8 | 10 | 13 | 17 | 22 | 27 | 31 | 32 | 35 | 36 | 37 | 35 | 31 | 27 | 23 | 36.6 |
| 5-Sep | 18 | 14 | 11 | 7 | 4 | 4 | 4 | 5 | 5 | 7 | 10 | 15 | 20 | 26 | 31 | 33 | 36 | 38 | 39 | 38 | 35 | 33 | 29 | 26 | 38.8 |
| 6-Sep | 24 | 21 | 19 | 16 | 15 | 13 | 13 | 12 | 12 | 13 | 16 | 19 | 23 | 27 | 29 | 32 | 34 | 36 | 36 | 34 | 32 | 28 | 24 | 21 | 35.8 |
| 7-Sep | 18 | 14 | 11 | 9 | 7 | 7 | 6 | 6 | 7 | 11 | 14 | 18 | 22 | 24 | 28 | 30 | 32 | 32 | 31 | 29 | 27 | 24 | 21 | 19 | 32.2 |
| 8-Sep | 17 | 15 | 13 | 13 | 13 | 12 | 10 | 9 | 8 | 9 | 12 | 15 | 17 | 21 | 25 | 29 | 32 | 34 | 33 | 32 | 30 | 28 | 25 | 22 | 33.8 |
| 9-Sep | 19 | 16 | 14 | 13 | 10 | 8 | 7 | 6 | 6 | 7 | 9 | 11 | 15 | 20 | 25 | 28 | 31 | 32 | 32 | 31 | 29 | 27 | 24 | 22 | 32.3 |
| 10-Sep | 19 | 18 | 17 | 17 | 16 | 14 | 13 | 12 | 12 | 11 | 12 | 13 | 14 | 16 | 19 | 21 | 24 | 26 | 28 | 28 | 27 | 25 | 23 | 21 | 27.8 |
| 11-Sep | 18 | 16 | 15 | 13 | 12 | 11 | 10 | 9 | 9 | 10 | 11 | 12 | 15 | 19 | 23 | 27 | 30 | 33 | 33 | 34 | 34 | 32 | 30 | 27 | 33.8 |
| 12-Sep | 25 | 21 | 19 | 17 | 14 | 12 | 9 | 10 | 11 | 13 | 16 | 19 | 22 | 26 | 31 | 35 | 37 | 37 | 37 | 36 | 35 | 33 | 30 | 29 | 37.1 |
| 13-Sep | 26 | 24 | 23 | 21 | 19 | 17 | 15 | 14 | 14 | 14 | 14 | 16 | 18 | 20 | 24 | 27 | 30 | 32 | 33 | 33 | 32 | 30 | 29 | 26 | 32.9 |
| 14-Sep | 23 | 20 | 17 | 15 | 12 | 10 | 9 | 7 | 7 | 7 | 8 | 11 | 15 | 20 | 24 | 28 | 32 | 34 | 36 | 35 | 33 | 32 | 29 | 26 | 35.8 |
| 15-Sep | 22 | 18 | 14 | 12 | 9 | 9 | 7 | 6 | 6 | 7 | 9 | 12 | 16 | 21 | 26 | 32 | 37 | 40 | 41 | 41 | 42 | 39 | 36 | 31 | 41.9 |
| 16-Sep | 26 | 21 | 17 | 14 | 13 | 10 | 8 | 6 | 7 | 8 | 11 | 14 | 17 | 22 | 27 | 33 | 38 | 41 | 42 | 44 | 40 | 37 | 33 | 28 | 43.8 |
| 17-Sep | 23 | 18 | 15 | 15 | 15 | 14 | 13 | 13 | 12 | 12 | N | N | N | N | N | N | 40 | 41 | 40 | 42 | 43 | 41 | 37 | 31 | 42.9 |
| 18-Sep | 26 | 20 | 17 | 17 | 16 | 14 | 13 | 12 | 12 | 13 | 15 | 18 | 23 | 27 | 34 | 40 | 45 | 48 | 50 | 52 | 48 | 41 | 32 | 24 | 51.7 |
| 19-Sep | 17 | 12 | 12 | 13 | 12 | 13 | 14 | 15 | 15 | 16 | 19 | 22 | 26 | 30 | 35 | 39 | 42 | 44 | 45 | 42 | 39 | 35 | 31 | 26 | 45.5 |
| 20-Sep | 22 | 21 | 20 | 19 | 17 | 15 | 12 | 11 | 10 | 9 | 10 | 12 | 15 | 19 | 23 | 28 | 30 | 33 | 34 | 33 | 30 | 26 | 22 | 17 | 33.6 |
| 21-Sep | 16 | 15 | 13 | 12 | 10 | 10 | 9 | 9 | 9 | 10 | 10 | 10 | 12 | 13 | 15 | 15 | 16 | 17 | 18 | 16 | 15 | 12 | 11 | 11 | 17.8 |
| 22-Sep | 13 | 13 | 14 | 17 | 19 | 21 | 22 | 23 | 24 | 24 | 25 | 26 | 27 | 28 | 29 | 31 | 32 | 32 | 30 | 27 | 23 | 20 | 19 | 18 | 32.3 |
| 23-Sep | 15 | 14 | 14 | 15 | 17 | 17 | 19 | 20 | 22 | 23 | 24 | 25 | 25 | 26 | 27 | 27 | 28 | 28 | 27 | 27 | 26 | 24 | 22 | 20 | 28.4 |
| 24-Sep | 18 | 16 | 15 | 13 | 12 | 11 | 10 | 9 | 8 | 8 | 10 | 12 | 12 | 13 | 18 | 23 | 27 | 30 | 29 | 28 | 27 | 26 | 24 | 22 | 29.6 |
| 25-Sep | 20 | 18 | 17 | 16 | 16 | 15 | 14 | 13 | 13 | 14 | 16 | 17 | 17 | 22 | 27 | 32 | 36 | 37 | 36 | 34 | 32 | 30 | 26 | 23 | 37.0 |
| 26-Sep | 20 | 18 | 17 | 16 | 16 | 14 | 13 | 12 | 12 | 13 | 13 | 14 | N | N | N | N | N | N | 28 | 27 | 26 | 23 | 21 | 18 | 28.1 |
| 27-Sep | 15 | 14 | 13 | 12 | 12 | 12 | 12 | 11 | 12 | 13 | 15 | 18 | 21 | 24 | 27 | 31 | 35 | 35 | 35 | 34 | 32 | 30 | 28 | 26 | 34.8 |
| 28-Sep | 24 | 23 | 22 | 21 | 19 | 18 | 17 | 16 | 16 | N | N | N | N | N | N | N | 40 | 39 | 38 | 37 | 35 | 33 | 31 | 28 | 39.8 |
| 29-Sep | 25 | 23 | 21 | 18 | 16 | 14 | 11 | 9 | 7 | 8 | 10 | 12 | 15 | 19 | 24 | 29 | 33 | 36 | 36 | 34 | 33 | 29 | 25 | 21 | 35.7 |
| 30-Sep | 19 | 15 | 14 | 13 | 11 | 9 | 8 | 6 | 7 | 8 | 10 | 12 | 16 | 22 | 27 | 32 | 35 | 37 | 37 | 36 | 34 | 31 | 27 | 25 | 37.0 |
| | 26.2 | 24.1 | 22.6 | 20.8 | 19.3 | 20.8 | 22.2 | 23.3 | 23.6 | 24.3 | 25.0 | 25.7 | 26.8 | 30.5 | 34.9 | 40.1 | 44.7 | 47.8 | 50.3 | 51.7 | 47.8 | 40.9 | 36.8 | 31.2 | |
| | Diurnal Maximums | | | | | | | | | | | | | | | | | | | | | | | | |

N - Not Valid

Alberta Ambient Air Quality Objectives (AAAQO): 8-hr 65 ppb

**Palliser Airshed Society**
**Summary of Hourly Averages**

Portable-Brooks
September 1, 2008 to October 1, 2008
WS (km/h), WD (deg)

| 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 | 7 | 7 | 8 | 7 | 8 | 4 | 4 | 6 | 5 | 4 | 3 | 2 | 1 | 13 | 17 | 13 | 13 | 15 | 11 | 12 | 12 | 14 | 14 | 8 | 3.1 | 16.6 |
| Dir | 1 | 351 | 338 | 349 | 358 | 338 | 23 | 59 | 47 | 54 | 358 | 314 | 14 | 148 | 175 | 154 | 185 | 196 | 199 | 190 | 187 | 192 | 204 | 212 | 184.5 | 175.2 |
| 2 Spd | 11 | 13 | 9 | 10 | 12 | 12 | 12 | 13 | 15 | 14 | 15 | 13 | 14 | 15 | 11 | 10 | 9 | 8 | 9 | 12 | 12 | 12 | 14 | 13 | 11.5 | 15.2 |
| Dir | 188 | 189 | 199 | 187 | 182 | 201 | 196 | 194 | 197 | 191 | 187 | 193 | 181 | 186 | 202 | 194 | 192 | 181 | 153 | 155 | 162 | 154 | 152 | 143 | 181.9 | 197.3 |
| 3 Spd | 9 | 7 | 10 | 6 | 6 | 8 | 6 | 3 | 5 | 6 | 7 | 8 | 11 | 14 | 16 | 14 | 15 | 5 | 5 | 13 | 13 | 9 | 9 | 6 | 3.6 | 16.4 |
| Dir | 133 | 144 | 170 | 187 | 182 | 207 | 206 | 205 | 310 | 331 | 326 | 338 | 4 | 17 | 21 | 16 | 34 | 55 | 244 | 357 | 1 | 340 | 336 | 324 | 1.9 | 21.5 |
| 4 Spd | 5 | 5 | 6 | 4 | 4 | 2 | 3 | 7 | 6 | 7 | 7 | 9 | 8 | 9 | 9 | 8 | 8 | 10 | 5 | 3 | 2 | 2 | 3 | 6 | 4.7 | 9.7 |
| Dir | 323 | 330 | 323 | 318 | 319 | 307 | 311 | 325 | 329 | 321 | 338 | 6 | 347 | 3 | 360 | 10 | 358 | 0 | 334 | 321 | 243 | 225 | 245 | 214 | 336.5 | 0.0 |
| 5 Spd | 6 | 3 | 4 | 4 | 3 | 1 | 5 | 5 | 5 | 11 | 17 | 18 | 10 | 7 | 4 | 5 | 13 | 16 | 19 | 12 | 7 | 5 | 4 | 6 | 4.0 | 18.5 |
| Dir | 221 | 232 | 236 | 216 | 139 | 339 | 159 | 202 | 36 | 54 | 60 | 85 | 91 | 106 | 227 | 58 | 28 | 31 | 28 | 43 | 10 | 299 | 309 | 331 | 49.6 | 27.9 |
| 6 Spd | 8 | 8 | 5 | 8 | 7 | 5 | 6 | 6 | 9 | 8 | 9 | 8 | 8 | 9 | 7 | 8 | 15 | 17 | 13 | 9 | 9 | 5 | 6 | 5 | 7.6 | 17.3 |
| Dir | 335 | 336 | 328 | 336 | 6 | 355 | 6 | 357 | 349 | 352 | 352 | 359 | 358 | 341 | 348 | 14 | 36 | 36 | 41 | 27 | 32 | 23 | 5 | 355 | 6.2 | 35.9 |
| 7 Spd | 4 | 4 | 4 | 3 | 5 | 6 | 3 | 4 | 5 | 2 | 2 | 6 | 7 | 9 | 9 | 8 | 9 | 11 | 10 | 9 | 10 | 9 | 6 | 4 | 3.1 | 11.1 |
| Dir | 339 | 1 | 338 | 300 | 345 | 20 | 304 | 352 | 25 | 241 | 218 | 244 | 251 | 244 | 241 | 46 | 219 | 192 | 205 | 205 | 204 | 205 | 213 | 253 | 240.1 | 192.3 |
| 8 Spd | 5 | 5 | 8 | 5 | 7 | 10 | 9 | 8 | 9 | 9 | 10 | 12 | 14 | 15 | 14 | 13 | 15 | 13 | 9 | 10 | 10 | 12 | 1 | 5 | 9.0 | 15.3 |
| Dir | 238 | 214 | 211 | 244 | 207 | 198 | 190 | 211 | 197 | 197 | 197 | 193 | 189 | 183 | 181 | 186 | 185 | 166 | 152 | 162 | 183 | 176 | 84 | 132 | 187.4 | 185.1 |
| 9 Spd | 6 | 5 | 3 | 4 | 6 | 4 | 4 | 6 | 7 | 5 | 3 | 8 | 13 | 12 | 15 | 20 | 22 | 22 | 11 | 15 | 13 | 10 | 6 | 6 | 7.6 | 21.6 |
| Dir | 137 | 147 | 236 | 253 | 315 | 314 | 300 | 330 | 350 | 354 | 30 | 7 | 16 | 11 | 18 | 346 | 0 | 8 | 347 | 351 | 337 | 339 | 328 | 330 | 352.9 | 0.2 |
| 10 Spd | 5 | 5 | 7 | 10 | 10 | 9 | 10 | 10 | 9 | 10 | 11 | 10 | 7 | 3 | 7 | 6 | 6 | 7 | 9 | 11 | 13 | 13 | 13 | 14 | 1.8 | 13.8 |
| Dir | 322 | 326 | 329 | 335 | 341 | 339 | 338 | 338 | 343 | 338 | 351 | 357 | 11 | 331 | 71 | 136 | 175 | 207 | 197 | 186 | 188 | 187 | 189 | 188 | 295.0 | 188.3 |
| 11 Spd | 15 | 14 | 15 | 15 | 14 | 14 | 8 | 11 | 13 | 10 | 8 | 9 | 11 | 13 | 12 | 11 | 12 | 10 | 10 | 12 | 12 | 13 | 15 | 16 | 12.0 | 15.8 |
| Dir | 189 | 190 | 192 | 193 | 198 | 200 | 211 | 195 | 204 | 211 | 213 | 212 | 200 | 201 | 201 | 206 | 196 | 196 | 172 | 176 | 179 | 178 | 185 | 201 | 194.9 | 201.4 |
| 12 Spd | 11 | 9 | 10 | 9 | 6 | 6 | 4 | 11 | 17 | 20 | 26 | 25 | 25 | 22 | 17 | 16 | 17 | 14 | 13 | 11 | 5 | 3 | 8 | 10 | 8.8 | 26.1 |
| Dir | 211 | 214 | 211 | 211 | 214 | 216 | 328 | 358 | 12 | 5 | 8 | 9 | 18 | 16 | 5 | 358 | 357 | 350 | 334 | 347 | 320 | 305 | 328 | 332 | 352.5 | 8.1 |
| 13 Spd | 7 | 9 | 9 | 8 | 8 | 7 | 6 | 6 | 7 | 7 | 5 | 6 | 7 | 7 | 10 | 11 | 14 | 14 | 9 | 11 | 13 | 15 | 12 | 14 | 3.5 | 14.7 |
| Dir | 328 | 334 | 334 | 330 | 332 | 328 | 320 | 329 | 325 | 333 | 309 | 264 | 252 | 249 | 234 | 214 | 203 | 201 | 182 | 162 | 151 | 153 | 176 | 180 | 232.9 | 152.7 |
| 14 Spd | 12 | 10 | 9 | 7 | 4 | 4 | 5 | 5 | 5 | 5 | 7 | 9 | 6 | 5 | 5 | 5 | 4 | 1 | 3 | 7 | 10 | 9 | 7 | 10 | 5.5 | 11.7 |
| Dir | 193 | 180 | 190 | 202 | 204 | 203 | 209 | 210 | 237 | 230 | 231 | 230 | 247 | 298 | 301 | 274 | 287 | 249 | 184 | 189 | 189 | 199 | 208 | 203 | 213.2 | 192.9 |
| 15 Spd | 2 | 4 | 5 | 5 | 6 | 8 | 8 | 7 | 6 | 5 | 4 | 4 | 5 | 7 | 5 | 4 | 2 | 3 | 6 | 2 | 2 | 5 | 5 | 4 | 3.0 | 8.3 |
| Dir | 204 | 178 | 204 | 205 | 189 | 216 | 208 | 222 | 217 | 212 | 263 | 274 | 315 | 325 | 308 | 317 | 294 | 228 | 210 | 222 | 125 | 137 | 140 | 198 | 222.1 | 207.9 |
| 16 Spd | 1 | 4 | 5 | 5 | 6 | 2 | 3 | 5 | 6 | 8 | 9 | 6 | 5 | 7 | 2 | 7 | 6 | 3 | 4 | 5 | 5 | 11 | 9 | 12 | 1.2 | 12.4 |
| Dir | 170 | 99 | 98 | 104 | 192 | 99 | 12 | 43 | 108 | 131 | 188 | 202 | 205 | 209 | 130 | 61 | 127 | 306 | 279 | 278 | 322 | 29 | 359 | 27 | 90.1 | 26.8 |
| 17 Spd | 12 | 10 | 11 | 9 | 9 | 8 | 4 | 4 | P | P | 1 | 3 | 7 | 8 | 10 | 11 | 9 | 6 | 8 | 7 | 8 | 8 | 7 | 8 | 2.6 | 11.8 |
| Dir | 52 | 46 | 34 | 13 | 12 | 12 | 13 | 1 | P | P | 212 | 170 | 118 | 173 | 177 | 168 | 193 | 168 | 141 | 147 | 158 | 185 | 179 | 207 | 126.6 | 52.3 |
| 18 Spd | 4 | 6 | 5 | 5 | 6 | 7 | 10 | 11 | 12 | 13 | 12 | 14 | 12 | 9 | 9 | 4 | 2 | 3 | 6 | 10 | 6 | 3 | 6 | 6 | 5.9 | 13.5 |
| Dir | 216 | 220 | 220 | 231 | 211 | 220 | 203 | 203 | 208 | 207 | 205 | 207 | 207 | 221 | 221 | 238 | 340 | 326 | 212 | 200 | 204 | 349 | 32 | 34 | 213.3 | 207.3 |
| 19 Spd | 11 | 8 | 8 | 12 | 10 | 9 | 8 | 8 | 11 | 14 | 18 | 22 | 24 | 26 | 28 | 28 | 27 | 23 | 18 | 16 | 17 | 20 | 15 | 13 | 14.6 | 28.0 |
| Dir | 21 | 26 | 9 | 22 | 28 | 33 | 20 | 17 | 22 | 36 | 65 | 86 | 89 | 94 | 94 | 94 | 91 | 85 | 73 | 62 | 65 | 75 | 65 | 68 | 67.9 | 93.8 |
| 20 Spd | 6 | 6 | 8 | 7 | 7 | 5 | 3 | 5 | 2 | 3 | 3 | 5 | 4 | 7 | 9 | 13 | 13 | 9 | 10 | 9 | 10 | 11 | 9 | 8 | 5.7 | 13.4 |
| Dir | 40 | 41 | 56 | 49 | 21 | 18 | 341 | 8 | 42 | 73 | 108 | 192 | 171 | 109 | 65 | 71 | 91 | 58 | 73 | 57 | 40 | 27 | 25 | 7 | 54.3 | 91.1 |
| 21 Spd | 8 | 10 | 10 | 8 | 8 | 8 | 6 | 7 | 7 | 6 | 5 | 8 | 9 | 5 | 6 | 3 | 3 | 2 | 5 | 4 | 3 | 4 | 8 | 8 | 4.9 | 10.1 |
| Dir | 356 | 6 | 14 | 3 | 16 | 6 | 349 | 7 | 359 | 345 | 329 | 335 | 11 | 30 | 14 | 339 | 265 | 319 | 206 | 216 | 238 | 325 | 325 | 322 | 350.6 | 14.4 |
| 22 Spd | 8 | 7 | 5 | 7 | 6 | 5 | 6 | 5 | 6 | 10 | 8 | 6 | 7 | 7 | 5 | 6 | 6 | 7 | 10 | 7 | 8 | 6 | 3 | 3 | 4.0 | 9.9 |
| Dir | 323 | 325 | 313 | 322 | 313 | 320 | 321 | 285 | 311 | 326 | 319 | 301 | 294 | 270 | 294 | 248 | 253 | 204 | 193 | 206 | 205 | 203 | 40 | 23 | 285.5 | 193.1 |

**Palliser Airshed Society**
**Summary of Hourly Averages**

Portable-Brooks
September 1, 2008 to October 1, 2008
WS (km/h), WD (deg)

| 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 |
| 23 Spd | 3 | 10 | 18 | 17 | 10 | 5 | 6 | 8 | 4 | 5 | 11 | 13 | 10 | 9 | 11 | 12 | 11 | 5 | 12 | 8 | 7 | 7 | 8 | 8 | 3.3 | 17.8 |
| Dir | 33 | 30 | 24 | 16 | 357 | 337 | 324 | 335 | 313 | 229 | 240 | 241 | 239 | 237 | 230 | 197 | 201 | 189 | 206 | 218 | 211 | 212 | 205 | 213 | 250.2 | 23.9 |
| 24 Spd | 8 | 8 | 6 | 7 | 7 | 3 | 4 | 5 | 7 | 10 | 13 | 16 | 20 | 17 | 16 | 15 | 16 | 10 | 11 | 11 | 10 | 11 | 15 | 17 | 10.7 | 20.2 |
| Dir | 211 | 213 | 218 | 210 | 212 | 172 | 194 | 184 | 183 | 189 | 190 | 185 | 180 | 174 | 171 | 174 | 179 | 164 | 166 | 176 | 174 | 171 | 189 | 184 | 183.3 | 180.4 |
| 25 Spd | 14 | 14 | 2 | 5 | 6 | 7 | 8 | 3 | 3 | 5 | 8 | 7 | 7 | 5 | 5 | 3 | 9 | 9 | 9 | 9 | 7 | 10 | 4 | 16 | 0.7 | 16.2 |
| Dir | 180 | 186 | 188 | 201 | 220 | 215 | 213 | 203 | 277 | 325 | 329 | 328 | 320 | 289 | 300 | 306 | 37 | 66 | 48 | 43 | 65 | 86 | 282 | 24 | 353.5 | 23.7 |
| 26 Spd | 19 | 15 | 13 | 14 | 14 | 11 | 8 | 6 | 7 | 9 | 8 | 11 | 13 | 15 | 15 | 14 | 13 | 9 | 9 | 9 | 11 | 14 | 18 | 11 | 8.1 | 19.2 |
| Dir | 36 | 36 | 25 | 23 | 24 | 38 | 11 | 8 | 58 | 101 | 92 | 104 | 113 | 114 | 127 | 137 | 131 | 128 | 123 | 113 | 127 | 131 | 141 | 152 | 91.4 | 35.6 |
| 27 Spd | 11 | 17 | 20 | 10 | 13 | 14 | 16 | 14 | 11 | 18 | 16 | 18 | 13 | 12 | 13 | 11 | 14 | 31 | 25 | 14 | 9 | 3 | 4 | 3 | 4.7 | 30.8 |
| Dir | 163 | 169 | 173 | 209 | 184 | 192 | 189 | 190 | 213 | 239 | 244 | 249 | 254 | 254 | 256 | 334 | 335 | 9 | 15 | 18 | 10 | 305 | 246 | 256 | 240.2 | 8.9 |
| 28 Spd | 1 | 2 | 4 | 4 | 4 | 3 | 6 | 5 | 3 | 6 | 4 | 1 | 8 | 10 | 11 | 10 | 9 | 8 | 10 | 13 | 14 | 15 | 19 | 17 | 4.8 | 18.8 |
| Dir | 273 | 208 | 237 | 241 | 239 | 232 | 248 | 248 | 293 | 344 | 304 | 300 | 200 | 208 | 214 | 206 | 204 | 156 | 126 | 126 | 126 | 137 | 142 | 135 | 173.7 | 141.9 |
| 29 Spd | 14 | 13 | 8 | 12 | 5 | 5 | 6 | 8 | 9 | 8 | 4 | 8 | 12 | 12 | 9 | 11 | 10 | 6 | 8 | 5 | 4 | 6 | 12 | 6 | 7.8 | 14.0 |
| Dir | 157 | 178 | 192 | 196 | 249 | 223 | 215 | 204 | 204 | 195 | 182 | 197 | 201 | 215 | 214 | 209 | 210 | 189 | 176 | 150 | 165 | 182 | 194 | 153 | 194.5 | 157.0 |
| 30 Spd | 7 | 8 | 9 | 11 | 2 | 4 | 7 | 5 | 7 | 3 | 5 | 10 | 15 | 17 | 15 | 17 | 15 | 10 | 12 | 13 | 7 | 7 | 9 | 11 | 9.1 | 17.4 |
| Dir | 151 | 153 | 175 | 183 | 137 | 175 | 204 | 193 | 193 | 190 | 170 | 162 | 165 | 153 | 159 | 153 | 158 | 147 | 147 | 166 | 176 | 169 | 173 | 172 | 164.9 | 152.6 |
| Spd | 1.1 | 1.3 | 0.9 | 1.4 | 1.2 | 1.5 | 2.1 | 1.6 | 1.4 | 1.3 | 1.2 | 1.4 | 1.5 | 2.4 | 2.2 | 2.0 | 1.9 | 2.0 | 2.6 | 2.7 | 3.1 | 3.7 | 3.1 | 2.3 | Diurnal Average | |
| Dir | 170.1 | 172.4 | 224.2 | 268.9 | 281.7 | 248.7 | 246.6 | 265.6 | 287.3 | 288.1 | 283.7 | 230.6 | 187.2 | 179.8 | 183.7 | 141.0 | 144.0 | 100.3 | 138.3 | 142.0 | 154.7 | 156.7 | 177.1 | 174.9 | | |
| Spd | 19.2 | 17.5 | 20.3 | 17.1 | 14.4 | 14.4 | 15.6 | 13.6 | 16.8 | 20.4 | 26.1 | 24.9 | 24.6 | 25.9 | 27.6 | 28.0 | 26.8 | 30.8 | 25.2 | 16.1 | 17.4 | 19.8 | 18.8 | 17.2 | Diurnal Maximum | |
| Dir | 35.6 | 169.2 | 172.8 | 15.9 | 23.9 | 192.2 | 189.1 | 189.9 | 12.0 | 5.5 | 8.1 | 9.1 | 18.3 | 93.6 | 94.0 | 93.8 | 90.5 | 8.9 | 15.1 | 61.6 | 64.9 | 75.2 | 141.9 | 135.5 | | |

Maximum Speed Value: 31 km/h on Sep 27 18:00
Maximum Daily Speed Average: 14.6 km/h on Sep 19
Maximum Diurnal Speed Average: 3.7 km/h at hour 22

Minimum Speed Value: 1 km/h on Sep 5 06:00
Minimum Daily Speed Average: 0.7 km/h on Sep 15
Minimum Diurnal Speed Average: 0.9 km/h at hour 3

Monthly Average Velocity: 1.23 km/h 183.68 deg

Speed Percentiles: $P_1$ = 1.3 $P_{10}$ = 3.6 $Q_1$ = 5.4 Median = 8.2 $Q_3$ = 11.5 $P_{90}$ = 14.9 $P_{99}$ = 24.7

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

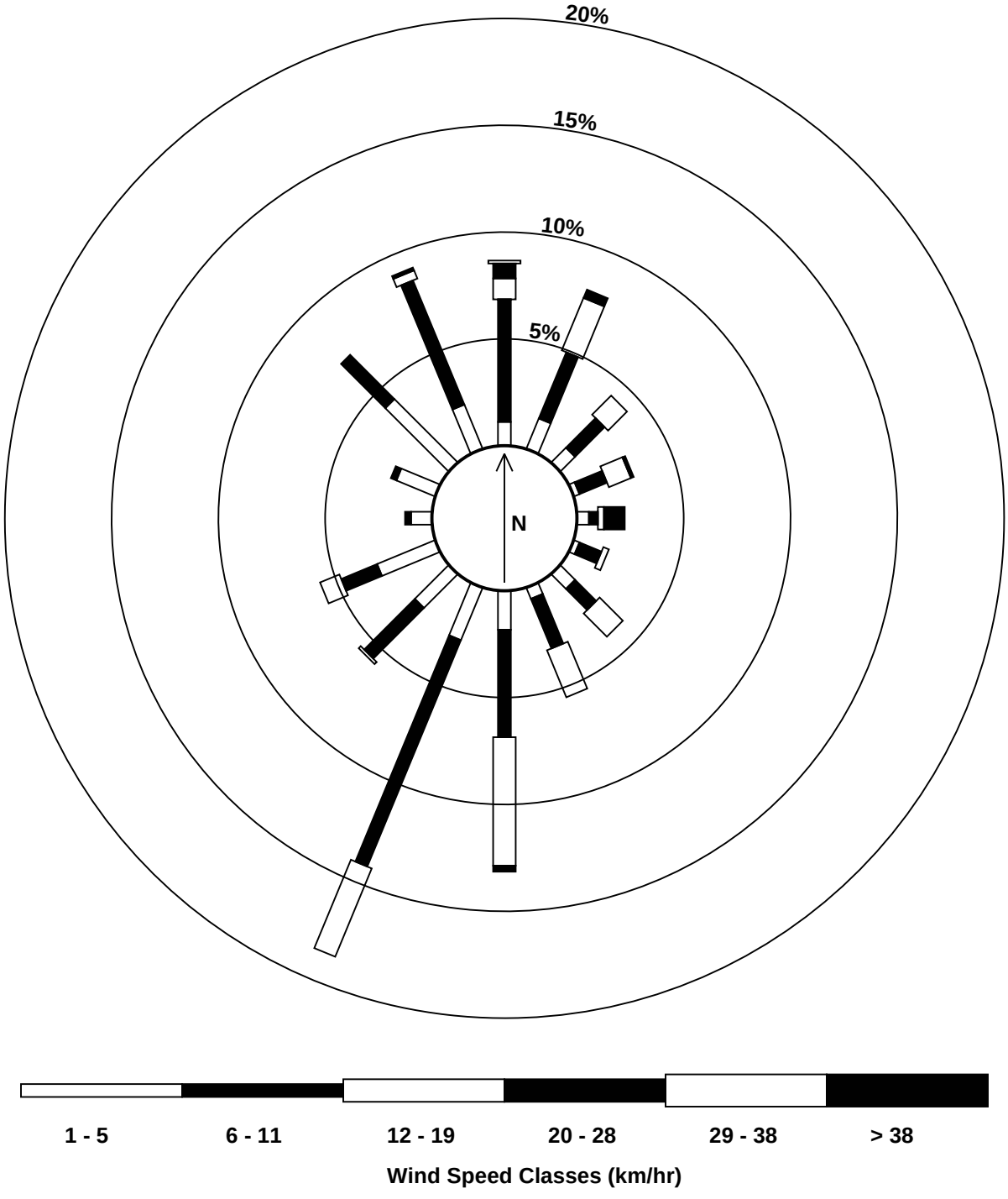
| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 718 |
| Hours of Missing Data: | 2 |
| Percent Operational Time: | 99.7 |

P - Power Failure

Percentage 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 | 2.65 | 10.17 | 2.65 | 1.25 | 0.14 | 0.00 | 16.85 |
| NorthEast | 1.39 | 4.60 | 3.62 | 0.14 | 0.00 | 0.00 | 9.75 |
| East | 0.97 | 1.39 | 0.70 | 1.11 | 0.00 | 0.00 | 4.18 |
| SouthEast | 1.25 | 2.92 | 3.48 | 0.00 | 0.00 | 0.00 | 7.66 |
| South | 2.51 | 8.91 | 11.56 | 0.28 | 0.00 | 0.00 | 23.26 |
| SouthWest | 5.43 | 12.26 | 2.37 | 0.00 | 0.00 | 0.00 | 20.06 |
| West | 2.09 | 1.53 | 0.56 | 0.00 | 0.00 | 0.00 | 4.18 |
| NorthWest | 5.85 | 7.66 | 0.56 | 0.00 | 0.00 | 0.00 | 14.07 |
| Total | 22.14 | 49.44 | 25.49 | 2.79 | 0.14 | 0.00 | 100.00 |

## Wind Rose for WS at Portable-Brooks
## September 2008



**Palliser Airshed Society**

**Summary of Hourly Averages - Wind Speed (Scalar)**

**Portable-Brooks - Wind Speed (WS) - km/h**

**September 1, 2008 to October 1, 2008**

Maximum Speed: 31 km/h on Sep 27 18:00

Maximum Daily Speed Average: 16.6 km/h on Sep 19

Minimum Speed: 2 km/h on Sep 14 18:00

Minimum Daily Speed Average: 5.5 km/h on Sep 15

Maximum Diurnal Speed Average: 11.8 km/h at hour 17

Minimum Diurnal Speed Average: 6.8 km/h at hour 7

Monthly Average Speed: 9.42 km/h

Percentiles: $P_1$ = 3.1 $P_{10}$ = 4.7 $Q_1$ = 6.1 Median = 8.6 $Q_3$ = 12.0 $P_{90}$ = 15.1 $P_{99}$ = 24.8

Hours in Service: 720

Hours of Data: 718

Hours of Missing Data: 2

Percent Operational Time: 99.7

| 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-Sep | 8 | 7 | 8 | 7 | 8 | 4 | 5 | 6 | 5 | 4 | 4 | 5 | 4 | 14 | 17 | 13 | 13 | 15 | 11 | 12 | 12 | 14 | 14 | 8 | 9.2 | 16.9 |
| 2-Sep | 11 | 13 | 10 | 11 | 12 | 12 | 12 | 13 | 15 | 15 | 16 | 14 | 15 | 16 | 12 | 11 | 10 | 9 | 9 | 12 | 12 | 12 | 14 | 13 | 12.4 | 15.8 |
| 3-Sep | 9 | 7 | 10 | 7 | 6 | 9 | 6 | 4 | 5 | 6 | 7 | 9 | 11 | 14 | 17 | 15 | 16 | 9 | 8 | 13 | 13 | 10 | 9 | 6 | 9.4 | 16.8 |
| 4-Sep | 5 | 5 | 6 | 5 | 5 | 3 | 4 | 7 | 7 | 7 | 8 | 10 | 8 | 10 | 10 | 9 | 9 | 10 | 5 | 4 | 3 | 2 | 4 | 6 | 6.3 | 10.1 |
| 5-Sep | 6 | 3 | 4 | 4 | 5 | 4 | 5 | 5 | 5 | 11 | 17 | 19 | 11 | 9 | 7 | 7 | 14 | 16 | 19 | 12 | 8 | 5 | 4 | 6 | 8.6 | 18.7 |
| 6-Sep | 8 | 8 | 5 | 8 | 7 | 6 | 6 | 7 | 9 | 9 | 10 | 9 | 9 | 9 | 9 | 9 | 16 | 18 | 13 | 9 | 9 | 5 | 6 | 5 | 8.7 | 17.7 |
| 7-Sep | 5 | 4 | 4 | 4 | 5 | 6 | 3 | 4 | 5 | 4 | 5 | 7 | 8 | 10 | 11 | 13 | 10 | 11 | 10 | 10 | 10 | 9 | 6 | 4 | 7.1 | 12.6 |
| 8-Sep | 5 | 5 | 8 | 5 | 7 | 10 | 9 | 8 | 9 | 9 | 11 | 13 | 15 | 16 | 15 | 14 | 16 | 13 | 9 | 10 | 10 | 12 | 5 | 5 | 10.0 | 15.6 |
| 9-Sep | 6 | 5 | 4 | 5 | 6 | 4 | 4 | 6 | 7 | 6 | 5 | 9 | 14 | 12 | 16 | 21 | 23 | 22 | 11 | 15 | 13 | 10 | 6 | 6 | 9.8 | 22.6 |
| 10-Sep | 5 | 5 | 7 | 10 | 11 | 9 | 10 | 10 | 9 | 10 | 11 | 10 | 7 | 5 | 8 | 7 | 7 | 8 | 9 | 11 | 13 | 13 | 13 | 14 | 9.2 | 13.8 |
| 11-Sep | 15 | 14 | 15 | 15 | 14 | 14 | 8 | 11 | 13 | 11 | 8 | 9 | 12 | 14 | 12 | 11 | 12 | 10 | 10 | 12 | 12 | 13 | 15 | 16 | 12.4 | 15.9 |
| 12-Sep | 11 | 10 | 10 | 9 | 6 | 9 | 5 | 11 | 17 | 21 | 26 | 25 | 25 | 23 | 17 | 17 | 17 | 14 | 13 | 11 | 5 | 4 | 8 | 10 | 13.5 | 26.3 |
| 13-Sep | 7 | 9 | 9 | 8 | 8 | 7 | 6 | 6 | 7 | 7 | 6 | 7 | 8 | 8 | 10 | 12 | 14 | 14 | 9 | 12 | 13 | 15 | 12 | 14 | 9.6 | 14.8 |
| 14-Sep | 12 | 10 | 9 | 7 | 4 | 5 | 5 | 5 | 5 | 6 | 8 | 9 | 7 | 7 | 6 | 6 | 5 | 2 | 4 | 8 | 10 | 9 | 7 | 10 | 6.9 | 11.8 |
| 15-Sep | 5 | 5 | 5 | 5 | 6 | 8 | 8 | 7 | 6 | 6 | 5 | 5 | 6 | 8 | 6 | 5 | 4 | 4 | 6 | 6 | 2 | 5 | 5 | 5 | 5.5 | 8.5 |
| 16-Sep | 5 | 4 | 6 | 5 | 9 | 5 | 4 | 5 | 6 | 9 | 9 | 7 | 6 | 7 | 5 | 8 | 6 | 4 | 4 | 5 | 5 | 12 | 9 | 13 | 6.6 | 12.8 |
| 17-Sep | 12 | 11 | 11 | 9 | 9 | 8 | 4 | 5 | P | P | 4 | 5 | 8 | 10 | 10 | 12 | 9 | 6 | 8 | 7 | 8 | 8 | 7 | 9 | 8.1 | 12.0 |
| 18-Sep | 5 | 6 | 5 | 5 | 6 | 8 | 10 | 11 | 12 | 13 | 12 | 14 | 12 | 10 | 9 | 5 | 3 | 3 | 6 | 10 | 6 | 6 | 7 | 8 | 8.0 | 13.7 |
| 19-Sep | 11 | 9 | 8 | 12 | 10 | 9 | 8 | 8 | 11 | 15 | 18 | 22 | 24 | 26 | 28 | 28 | 27 | 23 | 18 | 16 | 17 | 20 | 15 | 13 | 16.6 | 28.2 |
| 20-Sep | 6 | 7 | 8 | 7 | 7 | 5 | 3 | 5 | 4 | 4 | 5 | 6 | 6 | 8 | 11 | 14 | 14 | 9 | 10 | 10 | 10 | 11 | 9 | 8 | 7.7 | 13.8 |
| 21-Sep | 8 | 10 | 10 | 8 | 11 | 9 | 8 | 9 | 8 | 7 | 6 | 8 | 11 | 6 | 7 | 5 | 4 | 3 | 6 | 4 | 3 | 4 | 8 | 8 | 7.2 | 11.0 |
| 22-Sep | 9 | 7 | 5 | 7 | 6 | 6 | 7 | 6 | 7 | 10 | 8 | 7 | 7 | 8 | 6 | 7 | 7 | 7 | 10 | 7 | 8 | 6 | 6 | 5 | 7.1 | 10.1 |
| 23-Sep | 5 | 10 | 18 | 17 | 10 | 6 | 6 | 8 | 5 | 5 | 11 | 13 | 10 | 10 | 11 | 12 | 12 | 5 | 13 | 8 | 7 | 7 | 8 | 8 | 9.5 | 18.0 |
| 24-Sep | 8 | 8 | 6 | 7 | 8 | 4 | 4 | 5 | 7 | 11 | 13 | 17 | 20 | 17 | 16 | 15 | 16 | 10 | 11 | 11 | 10 | 11 | 15 | 17 | 11.3 | 20.5 |
| 25-Sep | 14 | 14 | 5 | 8 | 8 | 8 | 9 | 5 | 4 | 6 | 9 | 8 | 7 | 6 | 7 | 5 | 10 | 10 | 9 | 9 | 7 | 11 | 7 | 16 | 8.5 | 16.3 |
| 26-Sep | 19 | 15 | 13 | 14 | 14 | 11 | 8 | 7 | 8 | 9 | 8 | 11 | 13 | 16 | 15 | 14 | 13 | 9 | 9 | 10 | 11 | 14 | 18 | 11 | 12.1 | 19.3 |
| 27-Sep | 11 | 18 | 21 | 10 | 13 | 15 | 16 | 14 | 11 | 18 | 16 | 18 | 14 | 12 | 13 | 12 | 15 | 31 | 25 | 14 | 9 | 4 | 5 | 4 | 14.0 | 30.9 |
| 28-Sep | 3 | 3 | 4 | 4 | 4 | 4 | 6 | 5 | 4 | 7 | 6 | 6 | 9 | 11 | 12 | 11 | 10 | 9 | 10 | 13 | 14 | 15 | 19 | 17 | 8.5 | 18.8 |
| 29-Sep | 14 | 13 | 8 | 12 | 6 | 5 | 6 | 8 | 9 | 8 | 5 | 9 | 12 | 12 | 10 | 11 | 10 | 7 | 8 | 5 | 5 | 6 | 12 | 8 | 8.7 | 14.2 |
| 30-Sep | 8 | 9 | 9 | 11 | 5 | 4 | 7 | 5 | 7 | 4 | 6 | 11 | 15 | 17 | 16 | 18 | 15 | 10 | 13 | 13 | 8 | 8 | 10 | 11 | 9.9 | 17.7 |
| | 8.6 | 8.4 | 8.4 | 8.3 | 7.9 | 7.1 | 6.8 | 7.2 | 7.9 | 8.9 | 9.5 | 10.7 | 11.2 | 11.7 | 11.6 | 11.5 | 11.8 | 10.7 | 10.2 | 9.9 | 9.1 | 9.4 | 9.6 | 9.5 | Diurnal Average | |
| | 19.3 | 17.5 | 21.1 | 17.1 | 14.5 | 14.5 | 15.7 | 13.7 | 16.9 | 20.6 | 26.3 | 25.1 | 24.9 | 26.2 | 27.8 | 28.2 | 26.9 | 30.9 | 25.4 | 16.1 | 17.5 | 19.9 | 18.8 | 17.2 | Diurnal Maximum | |

P - Power Failure

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

**Palliser Airshed Society**

**Summary of Hourly Standard Deviations**

**Portable-Brooks - Wind Direction (WD) - deg**

**September 1, 2008 to October 1, 2008**

Maximum Value: 94.0 deg on Sep 17 11:00

Minimum Value: 1.5 deg on Sep 13 21:00

Percentiles: $P_1$ = 2.9 $P_{10}$ = 5.4 $Q_1$ = 8.3 Median = 15.0 $Q_3$ = 29.0 $P_{90}$ = 45.8 $P_{99}$ = 78.1

| | |
|---|---|
| Hours in Service: | 720 |
| Hours of Data: | 718 |
| Hours of Missing Data: | 2 |
| Hours of Calibration: | 0 |
| Percent Operational Time: | 99.7 |

| 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-Sep | 9 | 12 | 8 | 11 | 9 | 15 | 35 | 9 | 16 | 24 | 62 | 71 | 74 | 36 | 11 | 13 | 11 | 9 | 9 | 4 | 4 | 5 | 10 | 11 | 73.7 |
| 2-Sep | 6 | 4 | 20 | 14 | 8 | 7 | 5 | 4 | 8 | 10 | 12 | 15 | 18 | 17 | 32 | 36 | 20 | 14 | 6 | 6 | 3 | 6 | 5 | 5 | 36.3 |
| 3-Sep | 14 | 35 | 7 | 24 | 8 | 9 | 10 | 30 | 34 | 21 | 22 | 20 | 18 | 12 | 12 | 13 | 20 | 73 | 52 | 9 | 6 | 11 | 9 | 14 | 73.3 |
| 4-Sep | 38 | 22 | 26 | 35 | 40 | 68 | 63 | 23 | 21 | 23 | 27 | 25 | 30 | 34 | 31 | 29 | 29 | 11 | 17 | 25 | 59 | 48 | 34 | 9 | 67.9 |
| 5-Sep | 8 | 19 | 20 | 10 | 61 | 88 | 25 | 37 | 38 | 9 | 11 | 18 | 34 | 47 | 64 | 41 | 12 | 15 | 4 | 5 | 22 | 27 | 36 | 12 | 88.4 |
| 6-Sep | 7 | 7 | 32 | 9 | 12 | 19 | 17 | 53 | 14 | 21 | 25 | 29 | 30 | 30 | 48 | 30 | 16 | 13 | 6 | 6 | 6 | 15 | 8 | 20 | 53.1 |
| 7-Sep | 32 | 19 | 25 | 42 | 20 | 20 | 27 | 26 | 21 | 70 | 91 | 40 | 32 | 25 | 31 | 72 | 27 | 13 | 5 | 4 | 3 | 4 | 11 | 22 | 91.0 |
| 8-Sep | 13 | 12 | 8 | 21 | 35 | 3 | 17 | 7 | 11 | 15 | 16 | 16 | 14 | 12 | 17 | 17 | 12 | 6 | 4 | 4 | 8 | 3 | 80 | 14 | 79.8 |
| 9-Sep | 9 | 14 | 47 | 38 | 21 | 18 | 24 | 17 | 16 | 25 | 62 | 40 | 17 | 17 | 16 | 12 | 17 | 5 | 9 | 9 | 7 | 9 | 23 | 14 | 62.1 |
| 10-Sep | 23 | 18 | 14 | 9 | 8 | 8 | 7 | 8 | 9 | 9 | 13 | 14 | 18 | 61 | 39 | 25 | 24 | 17 | 6 | 5 | 4 | 3 | 3 | 3 | 60.6 |
| 11-Sep | 5 | 4 | 3 | 7 | 4 | 10 | 31 | 6 | 9 | 14 | 23 | 18 | 14 | 10 | 11 | 12 | 8 | 6 | 8 | 3 | 3 | 2 | 4 | 7 | 30.7 |
| 12-Sep | 7 | 10 | 6 | 10 | 14 | 55 | 40 | 16 | 7 | 8 | 7 | 7 | 9 | 11 | 9 | 11 | 7 | 12 | 7 | 19 | 43 | 50 | 30 | 10 | 55.3 |
| 13-Sep | 28 | 8 | 12 | 12 | 10 | 10 | 26 | 20 | 18 | 23 | 37 | 45 | 26 | 23 | 23 | 24 | 11 | 6 | 6 | 5 | 1 | 4 | 12 | 7 | 45.4 |
| 14-Sep | 3 | 6 | 9 | 8 | 9 | 24 | 20 | 13 | 22 | 27 | 23 | 20 | 38 | 52 | 44 | 41 | 42 | 80 | 12 | 11 | 9 | 9 | 8 | 6 | 80.2 |
| 15-Sep | 85 | 27 | 25 | 14 | 10 | 15 | 13 | 15 | 21 | 22 | 37 | 49 | 35 | 32 | 40 | 49 | 67 | 53 | 7 | 77 | 46 | 29 | 33 | 46 | 84.6 |
| 16-Sep | 78 | 35 | 33 | 27 | 46 | 71 | 54 | 14 | 25 | 32 | 25 | 28 | 43 | 31 | 78 | 27 | 29 | 38 | 9 | 11 | 24 | 17 | 8 | 14 | 78.3 |
| 17-Sep | 5 | 4 | 5 | 6 | 5 | 5 | 9 | 17 | P | P | 94 | 60 | 29 | 36 | 17 | 21 | 11 | 19 | 4 | 13 | 13 | 14 | 10 | 19 | 94.0 |
| 18-Sep | 44 | 23 | 18 | 11 | 13 | 12 | 9 | 4 | 6 | 7 | 13 | 11 | 12 | 19 | 21 | 48 | 74 | 24 | 24 | 5 | 23 | 69 | 62 | 41 | 73.6 |
| 19-Sep | 8 | 13 | 14 | 6 | 6 | 7 | 7 | 8 | 13 | 13 | 8 | 11 | 10 | 9 | 7 | 8 | 6 | 6 | 7 | 5 | 6 | 4 | 8 | 8 | 14.0 |
| 20-Sep | 20 | 12 | 7 | 17 | 11 | 21 | 27 | 15 | 70 | 64 | 62 | 44 | 56 | 39 | 33 | 19 | 12 | 5 | 11 | 8 | 8 | 4 | 8 | 13 | 69.8 |
| 21-Sep | 8 | 7 | 11 | 13 | 64 | 30 | 62 | 55 | 37 | 36 | 29 | 31 | 33 | 47 | 36 | 55 | 55 | 81 | 10 | 21 | 43 | 53 | 18 | 15 | 80.6 |
| 22-Sep | 25 | 21 | 39 | 22 | 35 | 28 | 28 | 36 | 34 | 17 | 24 | 36 | 36 | 33 | 42 | 34 | 35 | 18 | 5 | 8 | 7 | 6 | 78 | 63 | 78.4 |
| 23-Sep | 57 | 25 | 8 | 5 | 13 | 22 | 26 | 21 | 45 | 33 | 9 | 8 | 14 | 17 | 19 | 31 | 29 | 23 | 24 | 18 | 15 | 5 | 9 | 6 | 57.5 |
| 24-Sep | 7 | 11 | 10 | 12 | 43 | 44 | 29 | 25 | 13 | 9 | 12 | 12 | 9 | 10 | 7 | 8 | 12 | 17 | 12 | 4 | 4 | 6 | 5 | 5 | 44.0 |
| 25-Sep | 5 | 6 | 77 | 58 | 46 | 13 | 23 | 64 | 48 | 33 | 20 | 26 | 35 | 46 | 43 | 60 | 30 | 9 | 7 | 8 | 26 | 43 | 61 | 9 | 76.7 |
| 26-Sep | 6 | 8 | 10 | 8 | 5 | 10 | 24 | 19 | 22 | 15 | 20 | 18 | 18 | 16 | 15 | 17 | 9 | 3 | 4 | 8 | 4 | 3 | 3 | 13 | 24.2 |
| 27-Sep | 11 | 4 | 17 | 17 | 5 | 6 | 7 | 6 | 14 | 6 | 7 | 10 | 9 | 15 | 21 | 14 | 9 | 4 | 6 | 3 | 7 | 45 | 13 | 41 | 45.1 |
| 28-Sep | 92 | 64 | 17 | 17 | 37 | 32 | 5 | 18 | 54 | 28 | 54 | 84 | 36 | 31 | 21 | 21 | 13 | 17 | 6 | 3 | 4 | 6 | 2 | 3 | 91.8 |
| 29-Sep | 9 | 7 | 8 | 15 | 20 | 12 | 12 | 6 | 8 | 11 | 66 | 29 | 13 | 18 | 20 | 13 | 8 | 18 | 8 | 27 | 29 | 15 | 7 | 41 | 66.1 |
| 30-Sep | 31 | 13 | 5 | 27 | 65 | 29 | 12 | 39 | 23 | 44 | 37 | 25 | 9 | 12 | 12 | 9 | 6 | 4 | 20 | 11 | 37 | 32 | 16 | 8 | 64.6 |
| | 91.8 | 64.2 | 76.7 | 58.3 | 64.6 | 88.4 | 62.9 | 64.5 | 69.8 | 69.7 | 94.0 | 84.3 | 73.7 | 60.6 | 78.3 | 71.6 | 73.6 | 80.6 | 52.5 | 77.2 | 58.6 | 68.5 | 79.8 | 63.4 | |

P - Power Failure

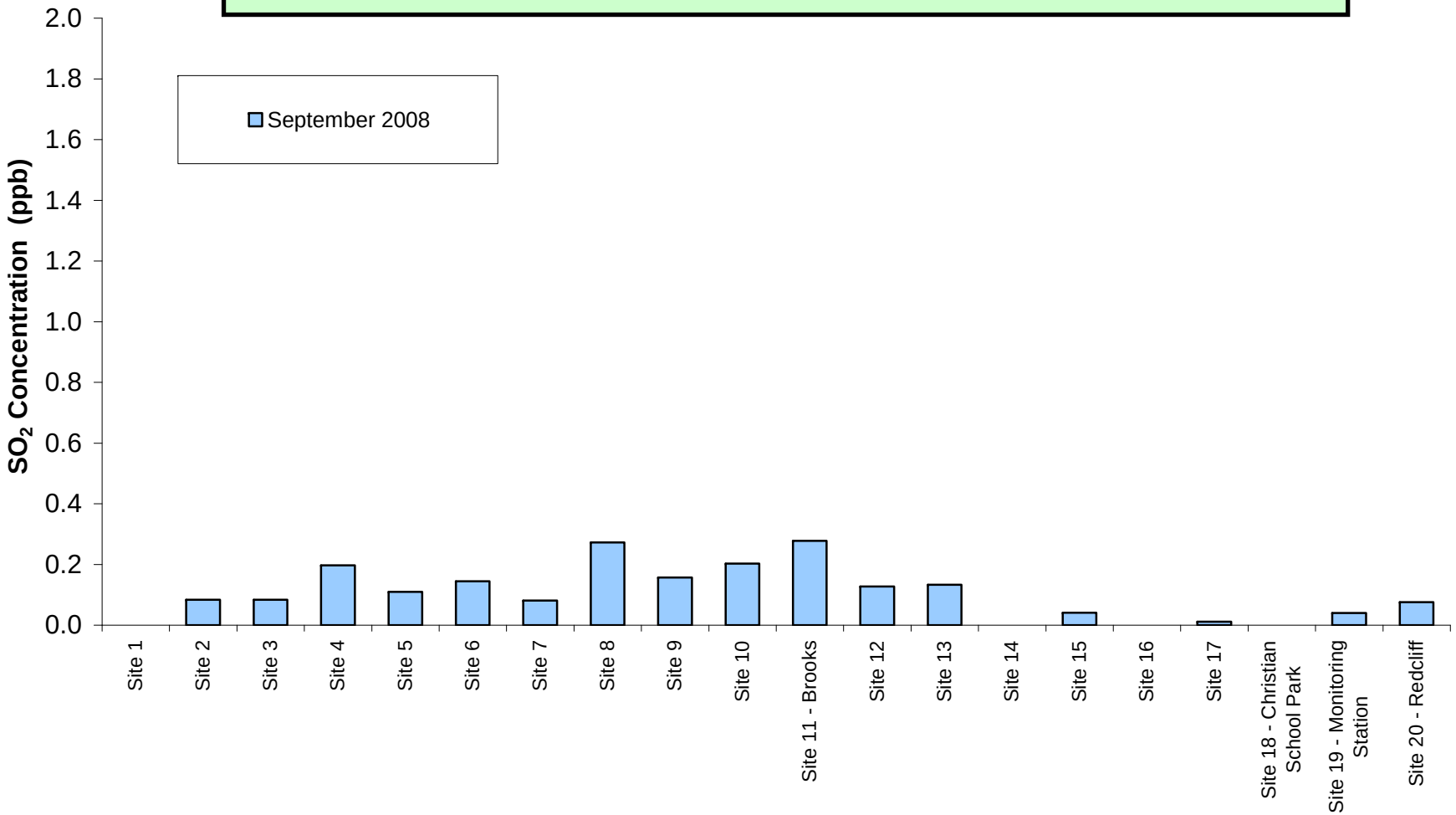
# Palliser Airshed Society
## Passive Monitoring – September 2008

# Palliser Airshed Society - Palliser Passive Stations for September 2008
## Palliser Passive Monitoring Expansion

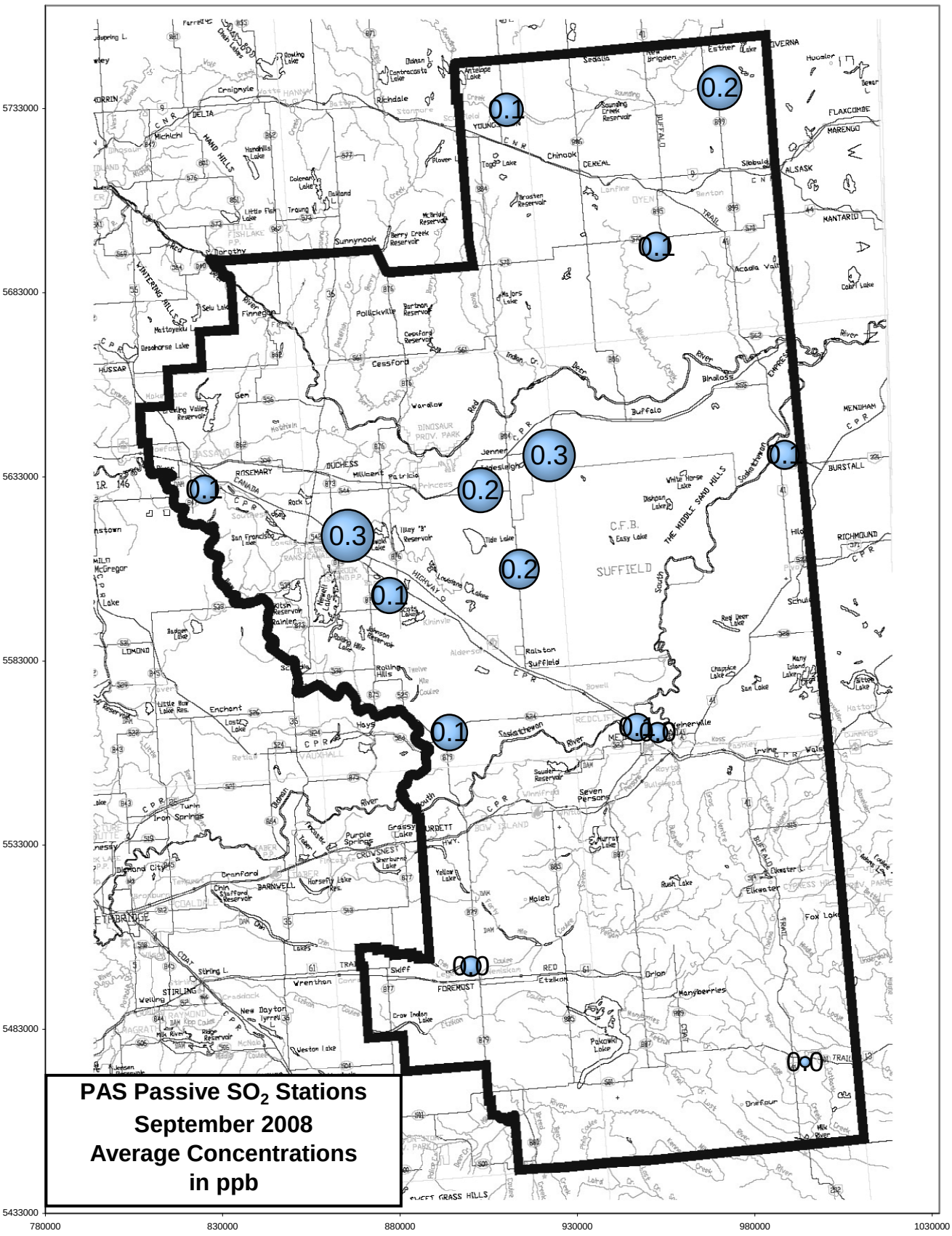
| Station Number | Station Name | SO2 ppb | O3 ppb | NO2 ppb | Location Easting | Location Northing | Elevation Meter |
|---|---|---|---|---|---|---|---|
| **Duplicates** | | | | | | | |
| **3a** | Site 3 | **0.1** | **29.2** | **0.8** | | | |
| **3b** | Site 3 | **0.1** | **29.4** | **0.8** | | | |
| **13a** | Site 13 | **0.1** | **27.0** | **0.9** | | | |
| **13b** | Site 13 | **0.2** | **27.6** | **1.0** | | | |
| **1** | Site 1 | **0.0** | **29.2** | **0.8** | 562434 | 5583139 | 719 |
| **2** | Site 2 | **0.1** | **29.3** | **0.8** | 565416 | 5616277 | |
| **3** | Site 3 | **0.1** | **29.3** | **0.8** | 533794 | 5675379 | 779 |
| **4** | Site 4 | **0.2** | **27.2** | **1.1** | 554771 | 5717338 | 718 |
| **5** | Site 5 | **0.1** | **26.4** | **1.1** | 494218 | 5715862 | 735 |
| **6** | Site 6 | **0.1** | **27.1** | **1.7** | 433039 | 5673766 | 818 |
| **7** | Site 7 | **0.1** | **23.5** | **1.9** | 400808 | 5620907 | 780 |
| **8** | Site 8 | **0.3** | **31.0** | **1.6** | 498530 | 5621839 | 747 |
| **9** | Site 9 | **0.2** | **27.3** | **2.2** | 487701 | 5591707 | 763 |
| **10** | Site 10 | **0.2** | **26.8** | **2.2** | 478223 | 5613583 | 774 |
| **11** | Site 11 - Brooks | **0.3** | **21.8** | **4.1** | 439773 | 5604548 | 736 |
| **12** | Site 12 | **0.1** | **19.1** | **1.6** | 450287 | 5587201 | 726 |
| **13** | Site 13 | **0.1** | **27.3** | **1.0** | 464279 | 5548934 | |
| **14** | Site 14 | **0.0** | **26.4** | **0.7** | 493206 | 5521201 | 870 |
| **15** | Site 15 | **0.0** | **26.3** | **0.6** | 465824 | 5485742 | 874 |
| **16** | Site 16 | **0.0** | **30.8** | **0.4** | 503827 | 5446942 | 903 |
| **17** | Site 17 | **0.0** | **30.4** | **0.4** | 557668 | 5452307 | 942 |
| **18** | Site 18 - Christian School Park | **N/A** | **N/A** | **N/A** | 526575 | 5538135 | 709 |
| **19** | Site 19 - Monitoring Station | **0.0** | **26.3** | **5.9** | 522813 | 5544137 | 714 |
| **20** | Site 20 - Redcliff | **0.1** | **24.6** | **4.1** | 517479 | 5546059 | 725 |

**BDL = Below Detection Limit**

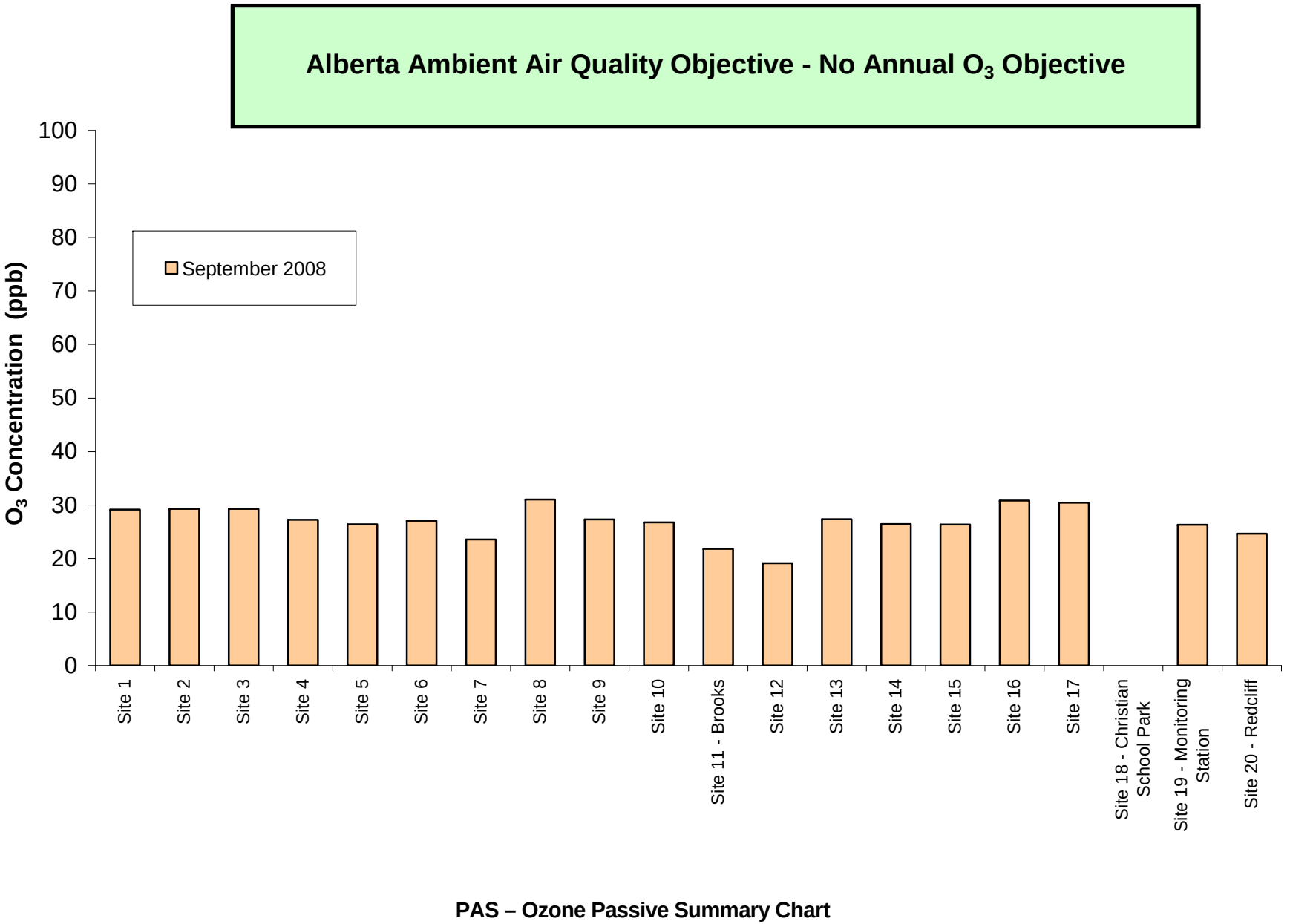
**Alberta Ambient Air Quality Objective - Annual $SO_2$ Objective is 11 ppb**



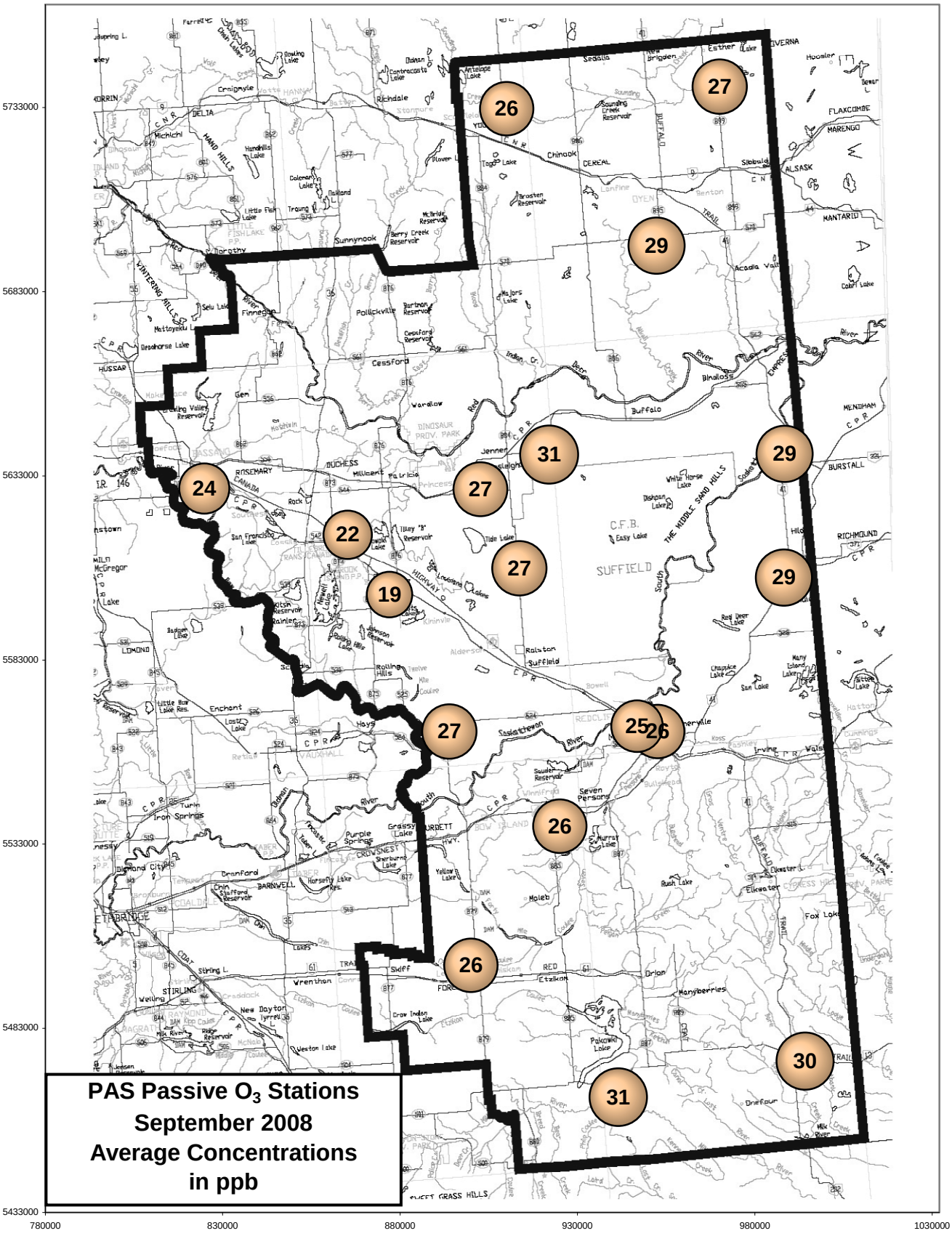

**PAS – Sulphur Dioxide Passive Summary Chart**




**PAS – Sulphur Dioxide Passive Summary Bubble Chart**

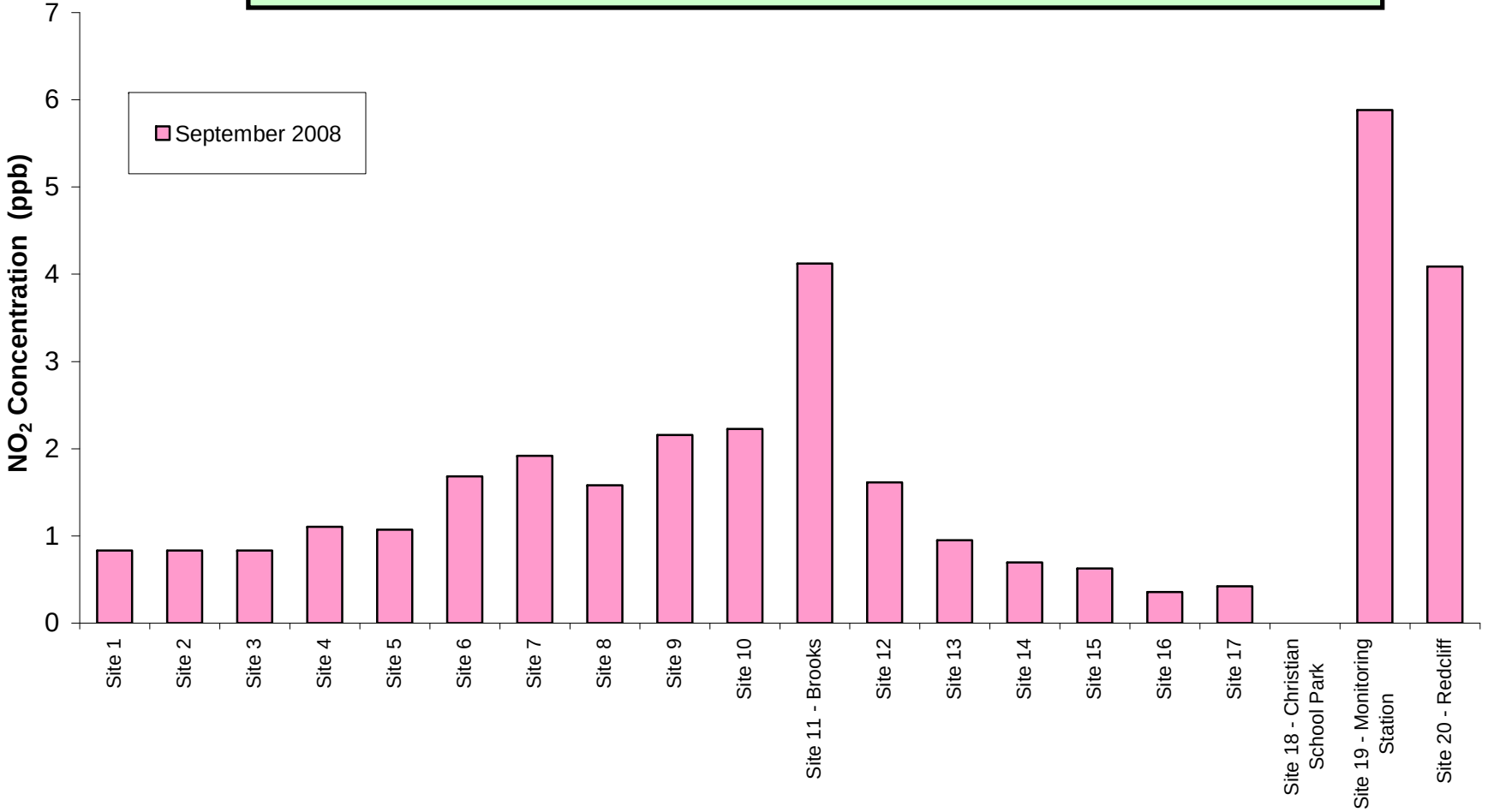



**PAS – Ozone Passive Summary Chart**

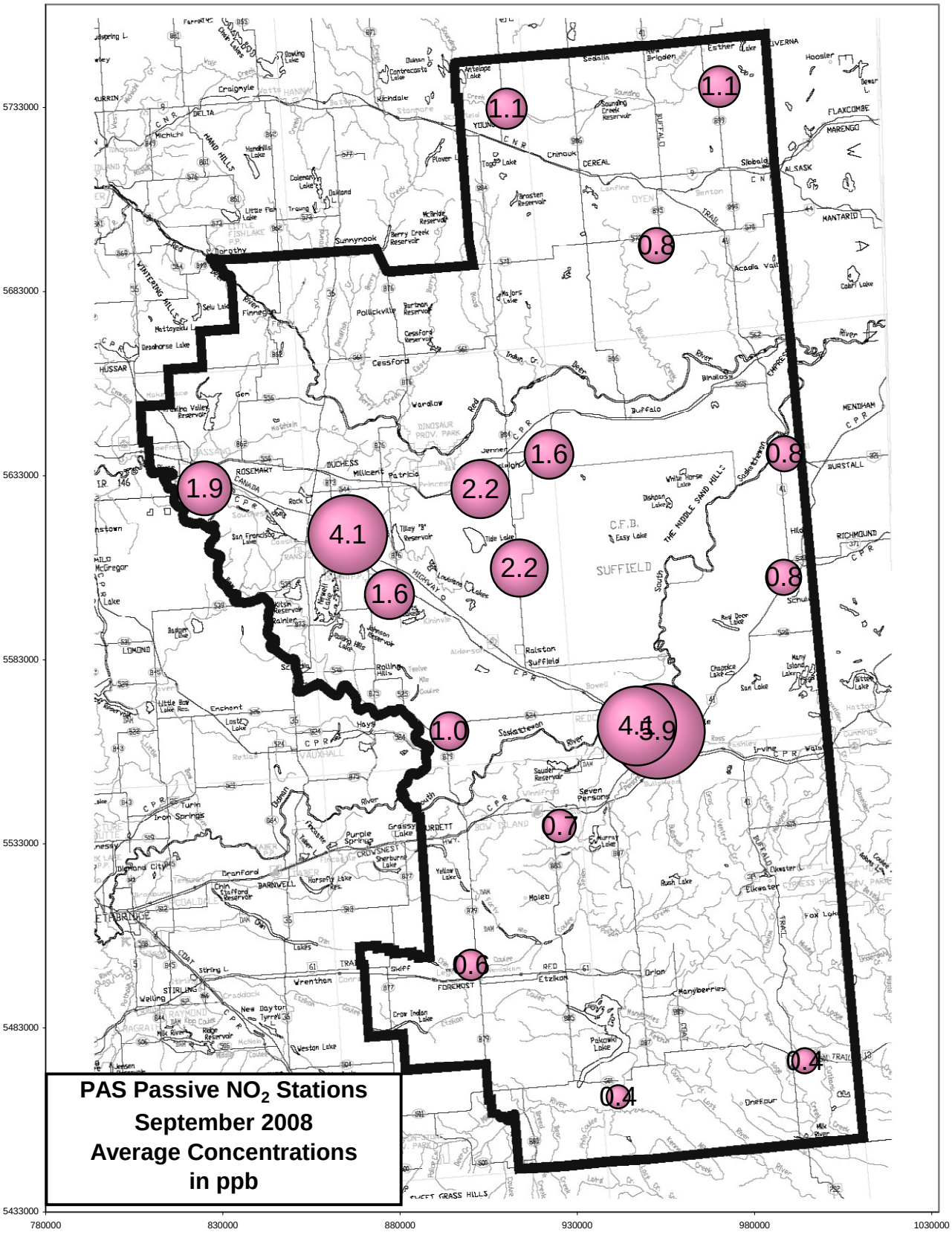



**PAS – Ozone Passive Summary Bubble Chart**

**Alberta Ambient Air Quality Objective - Annual $NO_2$ Objective is 32 ppb**




**PAS – Nitrogen Dioxide Passive Summary Chart**




**PAS – Nitrogen Dioxide Passive Summary Bubble Chart**

# Palliser Airshed Society
# September 2008 - Calibration Reports

**Crescent Heights Station: $O_3$, $NO_x$, NO, $NO_2$, THC, CO and $PM_{2.5}$**

**Portable-Brooks: $O_3$, $SO_2$, and $H_2S$**

# Calibration Report

Parameter **O3**

Air Monitoring Network **Palliser Airshed**

FOCUS AIR QUALITY MONITORING

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | September 11, 2008 | Previous Calibration | August 12, 2008 |
| Station Number | 101 | Station Location | Crescent Heights |

Reason: **Routine** | Calibration | Removal | Other:

| | | | |
|---|---|---|---|
| Start Time (MST) | 15:40 | End Time (MST) | 18:45 |
| Barometric Pressure | 0.9 ATM | Station Temperature | 20.0 Deg C |
| Calibrator | SABIO 2010 | Serial Number | 3750708 |
| Cal Gas Concentration | NA | Cal Gas Expiry Date | NA |
| DACS make | Focus AP1000 | DACS serial No. | 45270 |
| DACS voltage range | 0 - 10 volt | DACS channel # | 5 |
| | Before | | After |
| Calculated slope | 0.990772 | Calculated slope | 1.006656 |
| Calculated intercept | -0.988367 | Calculated intercept | -2.331102 |
| Analyzer make | TEI 49i | Analyzer serial # | 713021144 |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0 - 500 | ppb | 0 - 500 | ppb |
| O3 Background | 0.5 | ppb | 0.5 | ppb |
| O3 Coeff | 1.033 | | 1.024 | |
| CellA | 68067 | Hz | 68062 | Hz |
| CellB | 104782 | Hz | 104768 | Hz |
| Pressure | 706.3 | mmHg | 706.3 | mmHg |
| Cell A Flow | 723 | ccm | 720 | ccm |
| Cell B Flow | 712 | ccm | 718 | ccm |
| Bench | 36.2 | Deg C | 36.2 | Deg C |

## *Calibration Data*

| Dilution air flow rate (cc/min) | Ozone Set Point | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 5026 | 0.0 | 0.0 | 3.5 | N/A |
| 5026 | 300(0.82v) | 298.0 | 299.2 | 0.9960 |
| 5026 | 200(0.52v) | 182.0 | 182.5 | 0.9975 |
| 5026 | 100(0.32v) | 103.0 | 103.3 | 0.9971 |
| | | | | |
| 5026 | 0.0 | 0.0 | 3.5 | 0.0000 |
| 5026 | 400(1.1v) | 297.6 | 318.9 | 0.9331 |
| | | | Average Correction Factor | 0.9969 |

Calculated value of As Found Response: 311.6 ppm Percent Change of As Found: 4.7%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | -3.2 | ppb | -1.9 | ppb |
| Auto span | 146.0 | ppb | 149.5 | ppb |

Notes: No Adjustments Made..

Calibration Performed By: Brad Moyles

# Calibration Summary

| | |
|---|---|
| Parameter | O3 |
| Air Monitoring Network | Palliser Airshed |

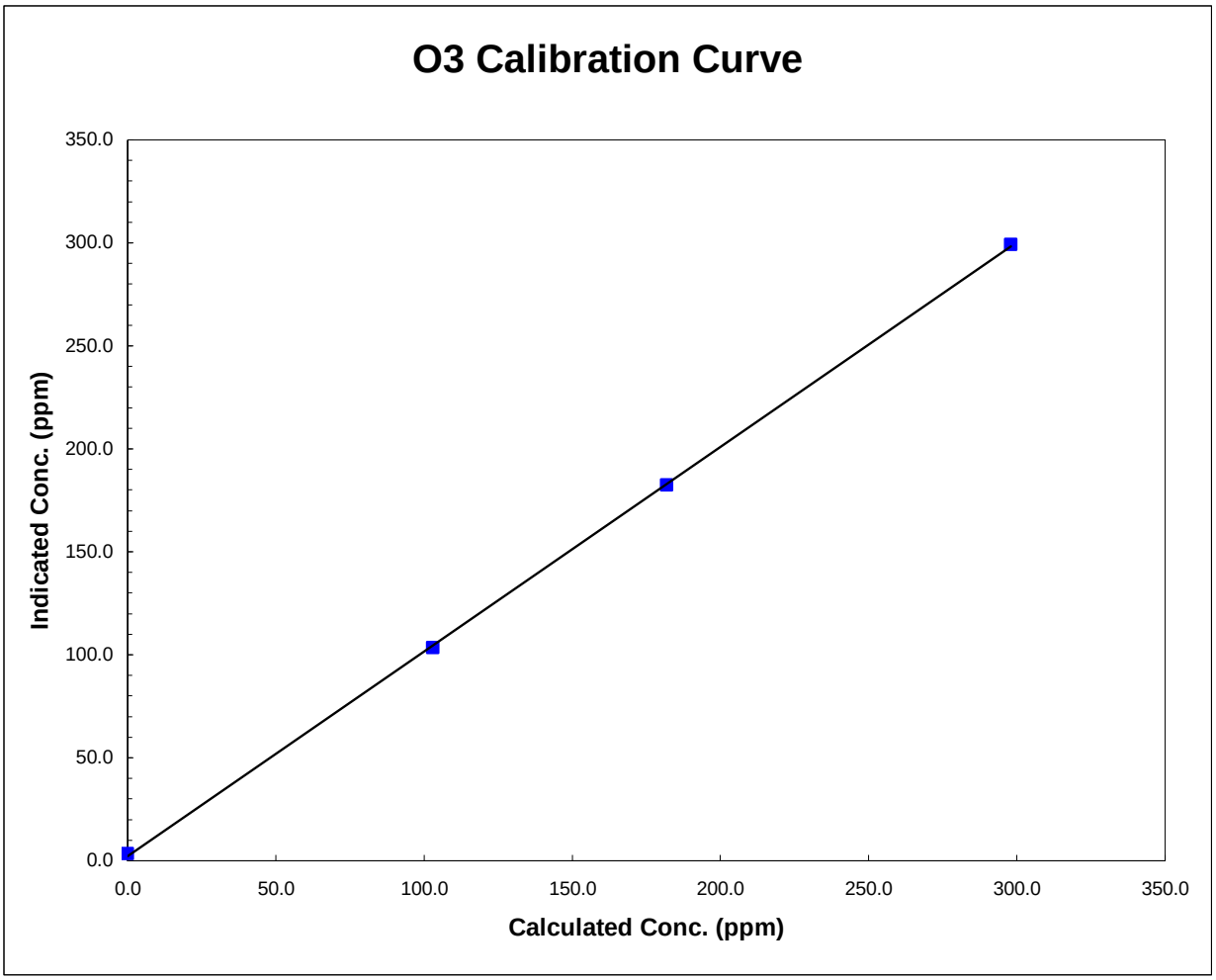
FOCUS AIR QUALITY MONITORING

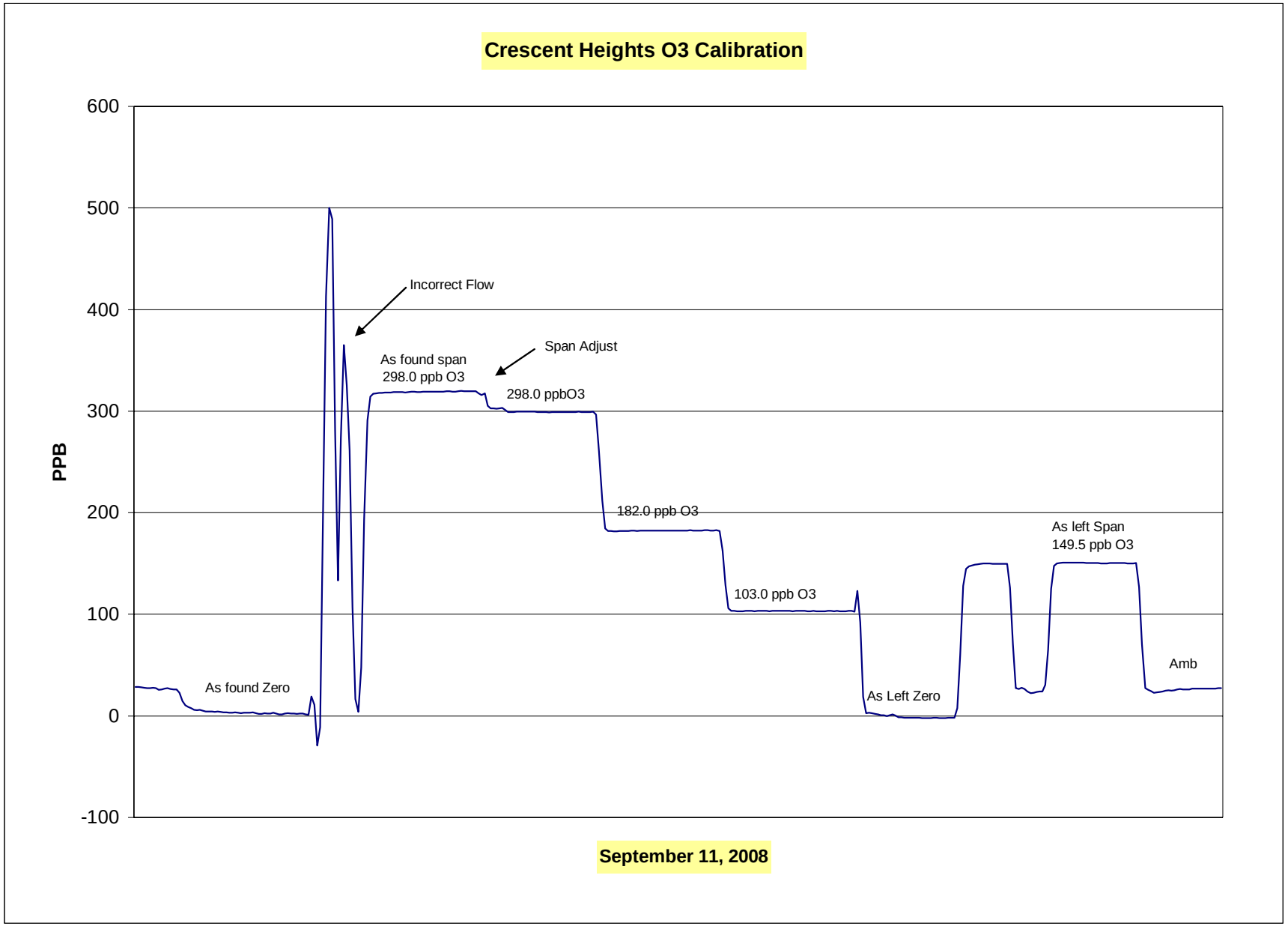
## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | September 11, 2008 | Previous Calibration | August 12, 2008 |
| Station Number | 101 | Station Location | Crescent Heights |
| Start Time (MST) | 15:40 | End Time (MST) | 18:45 |
| Analyzer make/model | TEI 49i | Analyzer serial # | 713021144 |

## *Calibration Data*

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 298.0 | 299.2 | 0.9960 | | |
| 182.0 | 182.5 | 0.9975 | Correlation Coefficient | 0.999909 |
| 103.0 | 103.3 | 0.9971 | | |
| 0.0 | 3.5 | N/A | Slope | 1.006656 |
| | | | | |
| | | | Intercept | -2.331102 |
| | | | | |




Crescent Heights O3 Calibration
600
500
400
300
200
100
0
-100
PPB
Incorrect Flow
As found span
298.0 ppb O3
Span Adjust
298.0 ppbO3
182.0 ppb O3
103.0 ppb O3
As left Span
149.5 ppb O3
Amb
As found Zero
As Left Zero
September 11, 2008

# Calibration Report

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

Air Monitoring Network **Palliser Airshed**

FOCUS AIR QUALITY MONITORING

## Station Information

| | | | |
|---|---|---|---|
| Calibration Date | September 2, 2008 | Previous Calibration | August 12, 2008 |
| Station Number | 101 | Station Location | Crescent Heights |

Reason: Routine | Installation | Removal | Other:

| | | | | | |
|---|---|---|---|---|---|
| Start Time (MST) | 11:35 | | End Time (MST) | 17:15 | |
| Barometric Pressure | 0.943 | Atm | Station Temperature | 20.0 | Deg C |
| Calibrator | SABIO 2010 | | Serial Number | 3750708 | |
| NO Cal Gas Conc | 50 | ppm | Cal Gas Expiry Date | June 6 / 2010 | |
| NOx Cal Gas Conc | 50 | ppm | Cal Gas Serial # | ALM051339 | |

## DACS Information

DACS make: FOCUS AP1000 — DACS serial No.: 45270

| Parameter | | NO2 | NOx | NO |
|---|---|---|---|---|
| Before | Data Slope | 1.025590 | 1.000736 | 0.997854 |
| | Data Offset | 4.575904 | -0.696060 | 0.907083 |
| After | Data Slope | 1.025590 | 1.000736 | 0.997854 |
| | Data Offset | 4.575904 | -0.696060 | 0.907083 |
| Channel # | | 8 | 6 | 7 |
| Voltage Range | | 0 - 10 VDC | 0 - 10 VDC | 0 - 10 VDC |

## Analyzer Information

Analyzer make/model: API Model 200E — Analyzer serial #: 219

| Test Point | before | | after | |
|---|---|---|---|---|
| Concentration range | 0 - 500 | ppb | 0 - 500 | ppb |
| NO offset | -21.1 | mV | -3.0 | mV |
| NOx offset | -17.0 | mV | -1.6 | mV |
| NO slope | 1.031 | | 1.149 | |
| NOx slope | 1.019 | | 1.133 | |
| R Cell Temp | 50.0 | Deg C | 49.6 | Deg C |
| PMT Temp | 7.1 | Deg C | 7.1 | Deg C |
| Azero | 59.4 | mV | 49.8 | mV |
| IZS Temp | 37.1 | Deg C | 37.1 | Deg C |
| R Cell Press | 4.7 | in Hg | 4.9 | in Hg |
| Sample Press | 26.5 | in Hg | 26.8 | in Hg |
| O3 Flow | 75.0 | ccm | 75.0 | ccm |
| Sample Flow | 451.0 | ccm | 449.0 | ccm |

Notes: Span Adjustment Made

# Calibration Report

FOCUS AIR QUALITY MONITORING

| | |
|---|---|
| Parameter | **NOx-NO-$NO_2$** |
| Air Monitoring Network | **Palliser Airshed** |

## *Station Information*

Calibration Date: September 2, 2008 Station Location: Crescent Heights

## *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 | 5027 | 0.00 | 0.0 | 0.0 | 0.0 | -4.2 | -4.9 | -4.4 | N/A | N/A |
| 1 | 5027 | 40.20 | 396.7 | 396.7 | 0.0 | 397.3 | 395.7 | -6.1 | 0.9983 | 1.0023 |
| 2 | 5026 | 20.20 | 200.2 | 200.2 | 0.0 | 198.6 | 199.1 | -9.7 | 1.0077 | 1.0051 |
| 3 | 5027 | 10.10 | 100.3 | 100.3 | 0.0 | 96.1 | 96.6 | -8.2 | 1.0431 | 1.0382 |
| | | | | | | | | | | |
| AFZ | 5025 | 0.00 | 0.0 | 0.0 | 0.0 | 4.3 | 4.8 | -9.9 | 0.0000 | 0.0000 |
| AFS | 5025 | 40.20 | 396.8 | 396.8 | 0.0 | 362.3 | 362.1 | -6.1 | 1.0954 | 1.0960 |
| | | | | | | | Average Correction Factor | | 1.0164 | 1.0152 |

As Found Concentrations: $NO_X$= 357.3 NO= 358.2 As Found Percent Change $NO_X$= -10.0% NO= -9.7%

## *GPT Calibration Data*

Dilution Flow 5025 ccm Source Gas Flow 40.20 ccm

| O3 Setpoint (ppb) | Indicated NO 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 | 4.8 | 4.8 | 0.0 | -4.2 | -4.9 | -4.4 | N/A | N/A | N/A | N/A |
| NO point | 394.9 | 394.9 | 0.0 | 395.4 | 394.9 | -6.5 | 0.9987 | 1.0000 | N/A | N/A |
| 300(0.82v) | 394.9 | 104.2 | 290.6 | 393.7 | 104.2 | 285.2 | 1.0031 | 1.0000 | 1.0191 | 98.1% |
| 200(0.52v) | 394.9 | 217.3 | 177.6 | 395.3 | 217.3 | 174.0 | 0.9989 | 1.0000 | 1.0206 | 98.0% |
| 100(0.32v) | 394.9 | 292.8 | 102.1 | 394.6 | 292.8 | 97.9 | 1.0007 | 1.0000 | 1.0428 | 95.9% |
| | | | | | Average Correction Factor | | 1.0009 | 1.0000 | 1.0275 | 97.3% |

## *AIC Data*

| | Previous calibration | | | | Current calibration | | | |
|---|---|---|---|---|---|---|---|---|
| Parameter | NOx | NO2 | NO | | NOx | NO2 | NO | |
| Auto zero | 4.5 | 0.6 | 1.5 | ppb | -8.0 | -2.7 | -8.1 | ppb |
| Auto span | 235.5 | 234.0 | 8.4 | ppb | 246.9 | 253.7 | 0.3 | ppb |

Calibration Performed By: Brad Moyles

# Calibration Summary

| | |
|---|---|
| Parameter | $NO_2$ |
| Air Monitoring Network | **Palliser Airshed** |

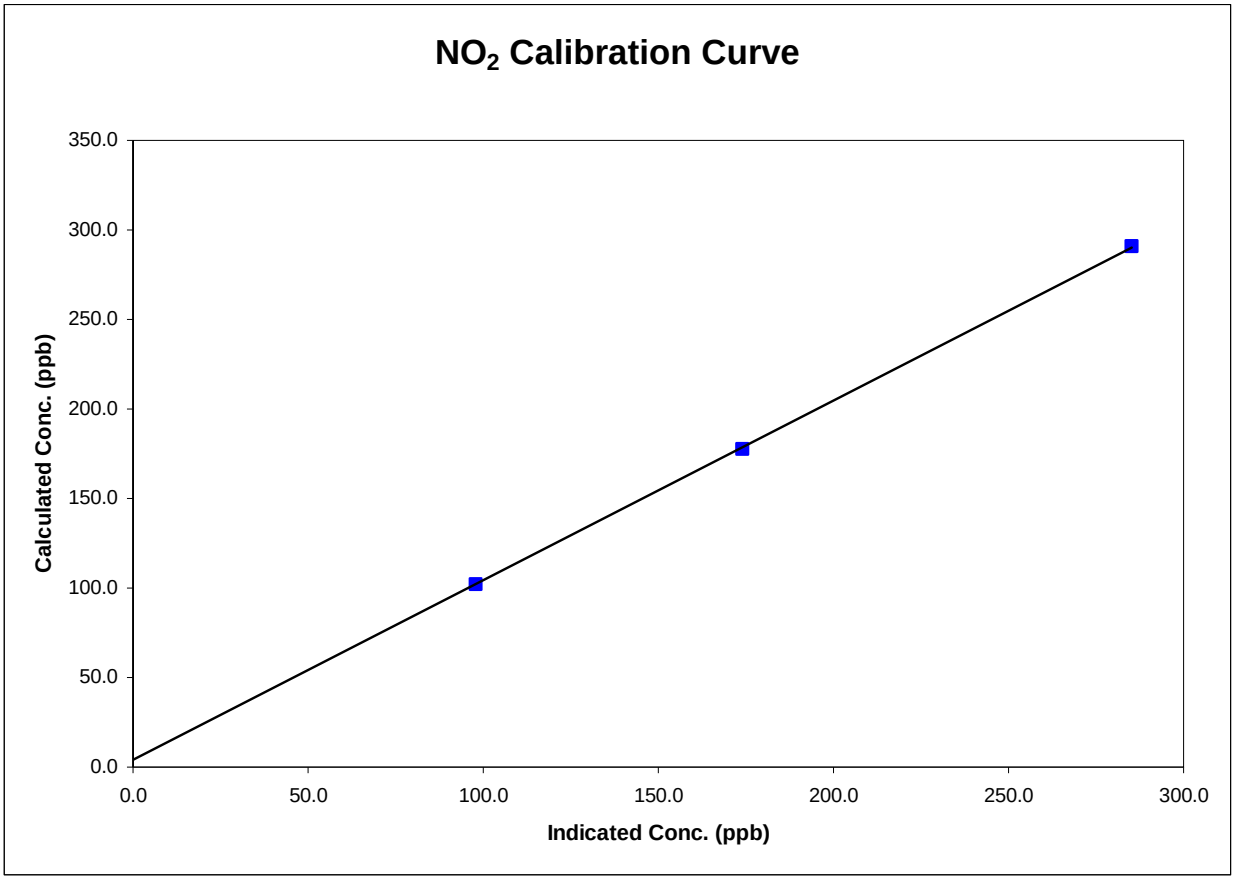
FOCUS AIR QUALITY MONITORING

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | September 2, 2008 | Previous Calibration | August 12, 2008 |
| Station Number | 101 | Station Location | Crescent Heights |
| Start Time (MST) | 11:35 | End Time (MST) | 17:15 |
| Analyzer make | API Model 200E | Analyzer serial # | 219 |

## *Calibration Data*

| Calculated conc (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | -4.4 | N/A | | |
| 290.6 | 285.2 | 1.0191 | Correlation Coefficient | 0.999969 |
| 177.6 | 174.0 | 1.0206 | | |
| 102.1 | 97.9 | 1.0428 | Slope | 1.002908 |
| | | | | |
| | | | Intercept | 4.004117 |
| | | | | |



# Calibration Summary

| | |
|---|---|
| Parameter | $NO_x$ |
| Air Monitoring Network | **Palliser Airshed** |

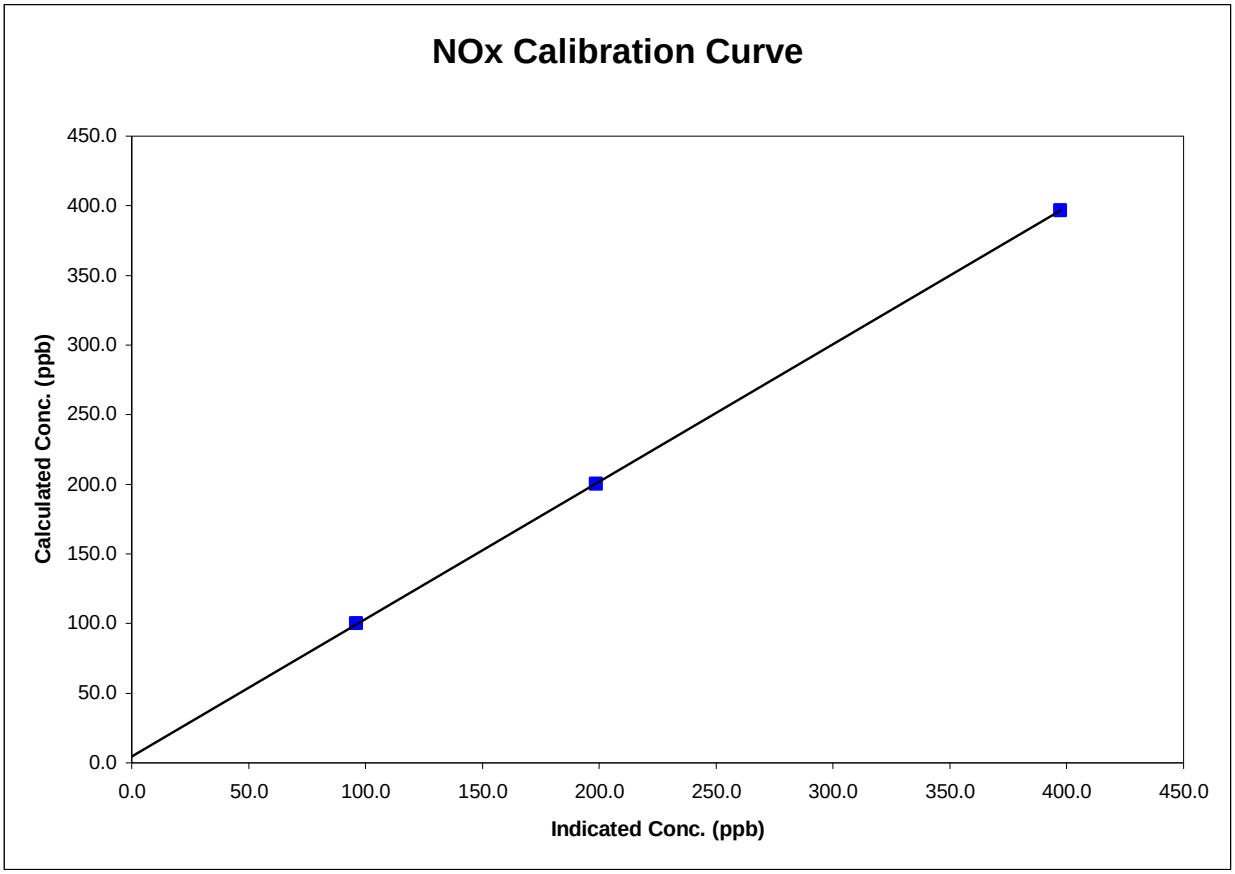
FOCUS AIR QUALITY MONITORING

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | September 2, 2008 | Previous Calibration | August 12, 2008 |
| Station Number | 101 | Station Location | Crescent Heights |
| Start Time (MST) | 11:35 | End Time (MST) | 17:15 |
| Analyzer make | API Model 200E | Analyzer serial # | 219 |

## *Calibration Data*

| Calculated conc (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | -4.2 | N/A | | |
| 396.7 | 397.3 | 0.9983 | Correlation Coefficient | 0.999987 |
| 200.2 | 198.6 | 1.0077 | | |
| 100.3 | 96.1 | 1.0431 | Slope | 0.986874 |
| | | | | |
| | | | Intercept | 4.550305 |
| | | | | |



# Calibration Summary

| | |
|---|---|
| Parameter | **NO** |
| Air Monitoring Network | **Palliser Airshed** |

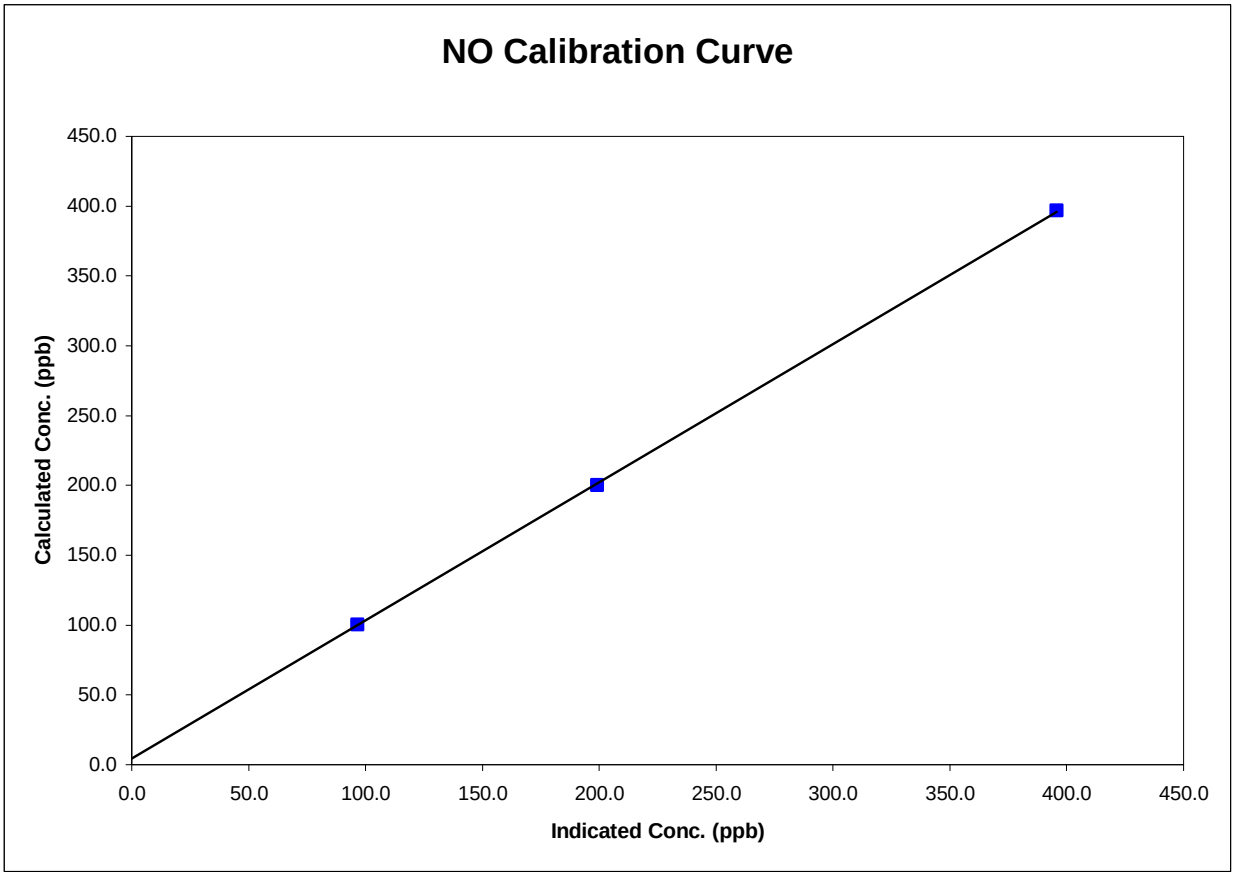
FOCUS AIR QUALITY MONITORING

## *Station Information*

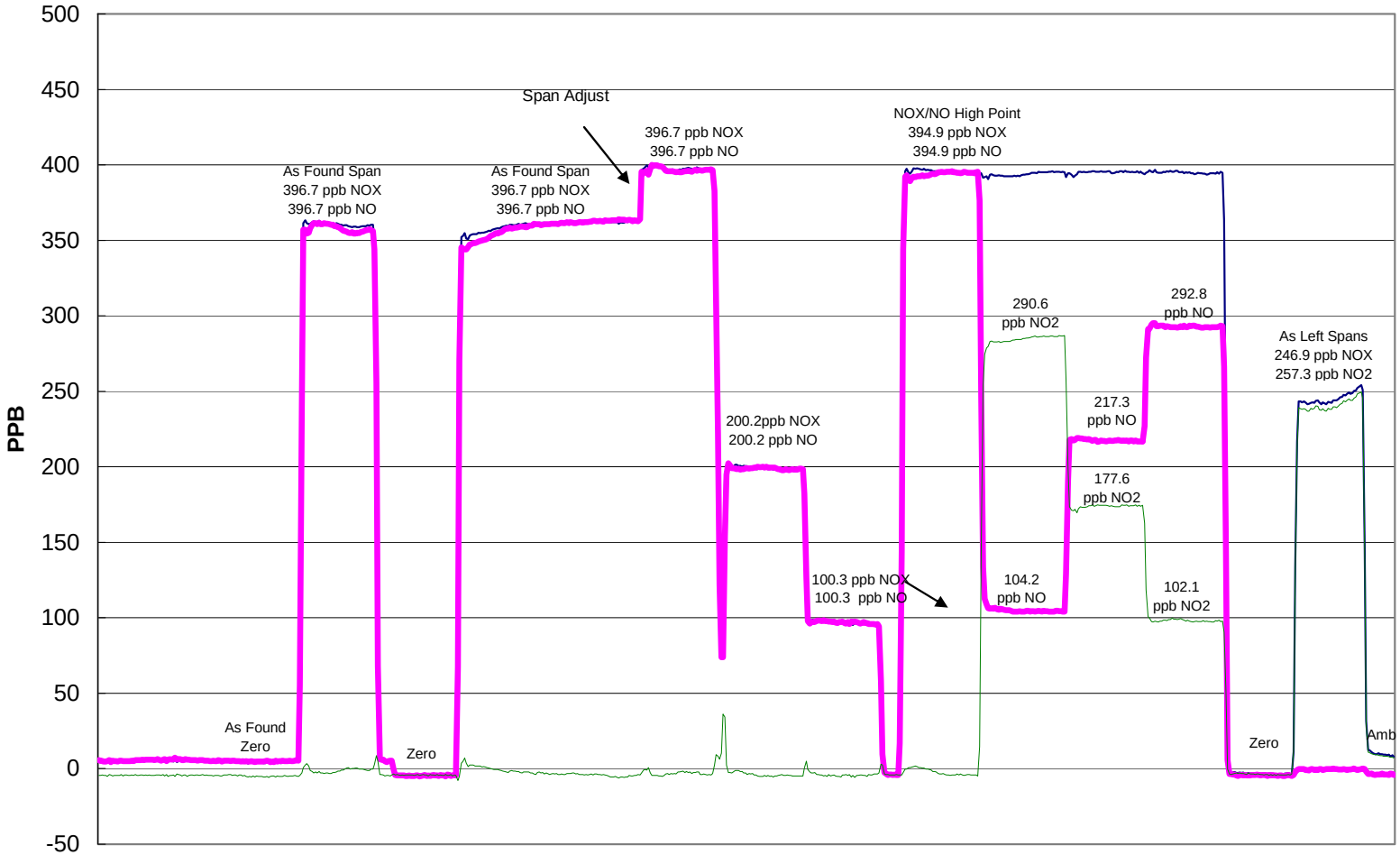
| | | | |
|---|---|---|---|
| Calibration Date | September 2, 2008 | Previous Calibration | August 12, 2008 |
| Station Number | 101 | Station Location | Crescent Heights |
| Start Time (MST) | 11:35 | End Time (MST) | 17:15 |
| Analyzer make | API Model 200E | Analyzer serial # | 219 |

## *Calibration Data*

| Calculated conc (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | -4.9 | N/A | | |
| 396.7 | 395.7 | 1.0023 | Correlation Coefficient | 0.999972 |
| 200.2 | 199.1 | 1.0051 | | |
| 100.3 | 96.6 | 1.0382 | Slope | 0.989659 |
| | | | | |
| | | | Intercept | 4.405882 |
| | | | | |



## Crescent Heights NOx Calibration Graph




**September 2, 2008**

# Calibration Report

| | |
|---|---|
| Parameter | **THC** |
| Air Monitoring Network | **Palliser Airshed** |

FOCUS AIR QUALITY MONITORING

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | September 2, 2008 | Previous Calibration | August 27, 2008 |
| Station Number | 101 | Station Location | Crescent Heights |

Reason: **Routine** | Install | Removal | Other:

| | | | |
|---|---|---|---|
| Start Time (MST) | 16:36 | End Time (MST) | 18:59 |
| Barometric Pressure | 0.9 ATM | Station Temperature | 20.0 Deg C |
| Calibrator | SABIO | Serial Number | 3750708 |
| Cal Gas Concentration | 708 ppm $CH_4$ / 299 ppm $C_3H_8$ | Cal Gas Expiry Date | 1/25/2009 |
| Cal Gas CH4 equiv | 1530.25 ppm | Cal Gas Cylinder # | LL-41839 |
| DACS make | Focus AP1000 | DACS serial No. | 45270 |
| DACS voltage range | 0 - 10 volt | DACS channel # | 9 |
| | Before | | After |
| Calculated slope | 0.998406 | Calculated slope | 0.995720 |
| Calculated intercept | 0.121819 | Calculated intercept | -0.015590 |

| | | |
|---|---|---|
| Analyzer make | TEI 51C-LT | Analyzer serial # 0407505596 |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0 - 50 | ppm | 0 - 50 | ppm |
| THC sample pressure | 5.74 | PSI | 5.74 | PSI |
| THC span counts | 19864 | raw | 19864 | raw |
| THC zero counts | 1478 | raw | 1478 | raw |
| V Bias | -326 | Volts | -326 | Volts |

## *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) |
|---|---|---|---|---|
| 3020 | 0.00 | 0.00 | 0.24 | N/A |
| 3020 | 80.20 | 39.59 | 39.87 | 0.9928 |
| 3020 | 40.20 | 20.10 | 20.04 | 1.0032 |
| 3020 | 10.10 | 5.10 | 4.98 | 1.0240 |
| | | | | |
| 3020 | 0.00 | 0.00 | 0.24 | As Found Zero |
| 3020 | 80.10 | 39.54 | 40.93 | As Found Span |
| | | | Average Correction Factor | 1.0066 |

Calculated value of As Found Response: 40.753 ppm  Percent Change of As Found: -3.1%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | -0.02 | ppm | -0.07 | ppm |
| Auto span | 23.29 | ppm | 23.47 | ppm |

Notes:

Calibration Performed By: Brad Moyles

# Calibration Summary

| | |
|---|---|
| Parameter | **THC** |
| Air Monitoring Network | **Palliser Airshed** |

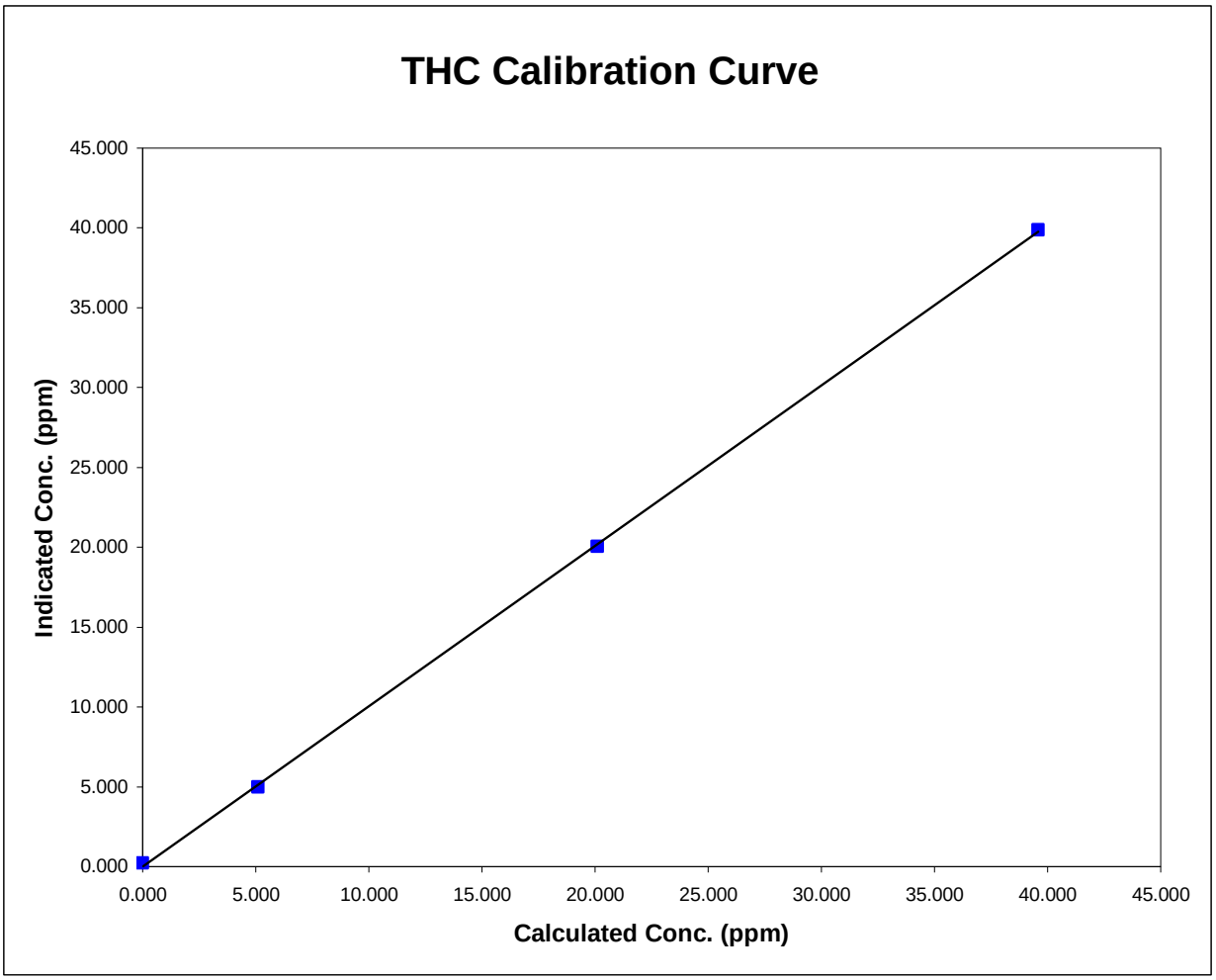
FOCUS AIR QUALITY MONITORING

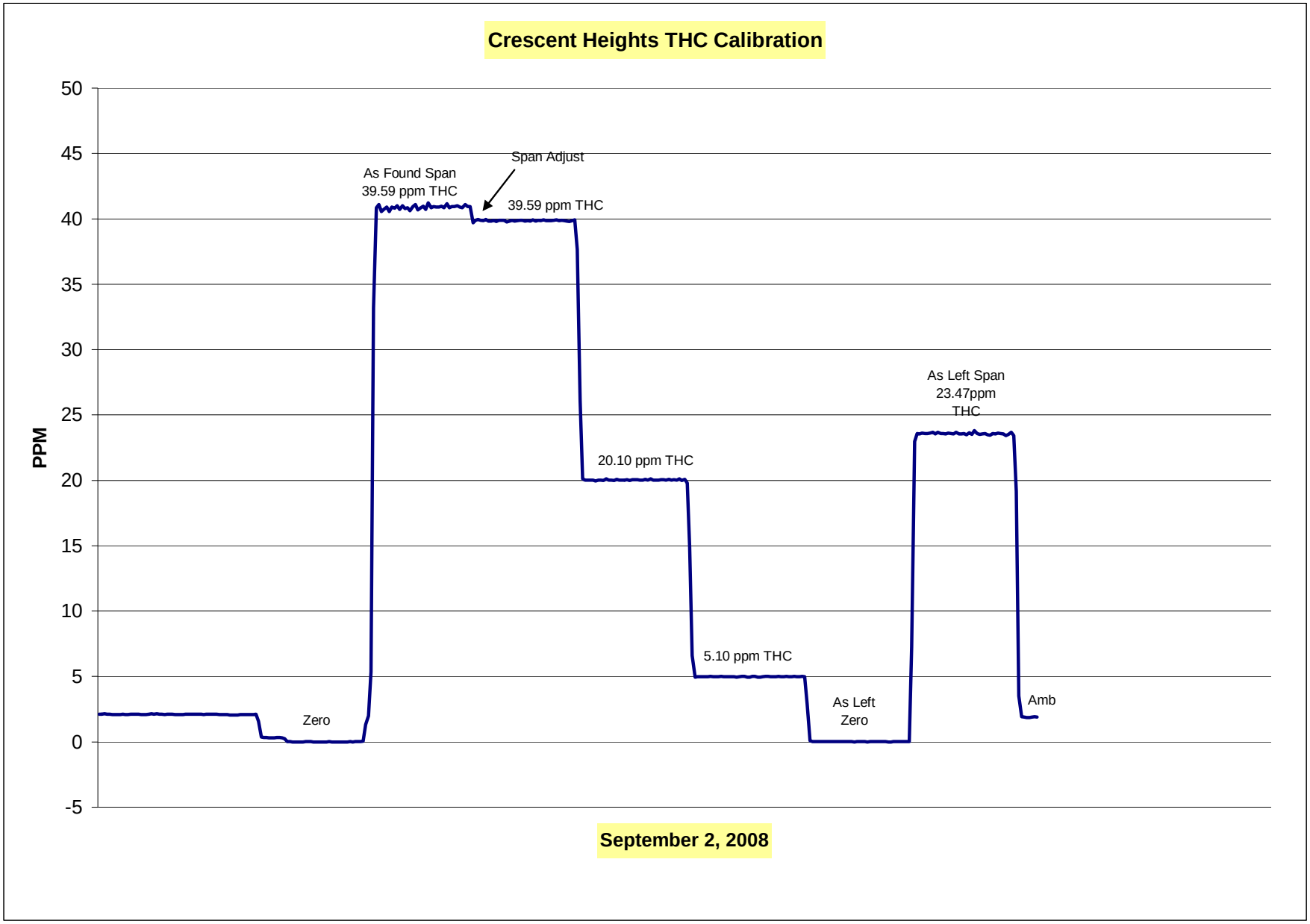
***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | September 2, 2008 | Previous Calibration | August 27, 2008 |
| Station Number | 101 | Station Location | Crescent Heights |
| Start Time (MST) | 16:36 | End Time (MST) | 18:59 |
| Analyzer make/model | TEI 51C-LT | Analyzer serial # | 0407505596 |

***Calibration Data***

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.000 | 0.237 | N/A | | |
| 39.586 | 39.874 | 0.9928 | Correlation Coefficient | 0.999884 |
| 20.102 | 20.038 | 1.0032 | | |
| 5.101 | 4.981 | 1.0240 | Slope | 0.995720 |
| | | | | |
| | | | Intercept | -0.015590 |
| | | | | |




Crescent Heights THC Calibration
PPM
50
45
40
35
30
25
20
15
10
5
0
-5
As Found Span
39.59 ppm THC
Span Adjust
39.59 ppm THC
20.10 ppm THC
5.10 ppm THC
As Left Span
23.47ppm
THC
Zero
As Left
Zero
Amb
September 2, 2008

# Calibration Report

Parameter **THC**

Air Monitoring Network **Palliser Airshed**

FOCUS AIR QUALITY MONITORING

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | September 11, 2008 | Previous Calibration | September 2, 2008 |
| Station Number | 101 | Station Location | Crescent Heights |

Reason: **Routine** | Install | Removal | Other:

| | | | |
|---|---|---|---|
| Start Time (MST) | 13:48 | End Time (MST) | 16:15 |
| Barometric Pressure | 0.9 ATM | Station Temperature | 20.0 Deg C |
| Calibrator | SABIO | Serial Number | 3750708 |
| Cal Gas Concentration | 708 ppm $CH_4$ / 299 ppm $C_3H_8$ | Cal Gas Expiry Date | 1/25/2009 |
| Cal Gas CH4 equiv | 1530.25 ppm | Cal Gas Cylinder # | LL-41839 |
| DACS make | Focus AP1000 | DACS serial No. | 45270 |
| DACS voltage range | 0 - 10 volt | DACS channel # | 9 |
| | Before | | After |
| Calculated slope | 0.000000 | Calculated slope | 0.994179 |
| Calculated intercept | 0.000000 | Calculated intercept | 0.126247 |

| | | |
|---|---|---|
| Analyzer make | TEI 51C-LT | Analyzer serial # 0407505596 |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0 - 50 | ppm | 0 - 50 | ppm |
| THC sample pressure | 5.74 | PSI | 5.74 | PSI |
| THC span counts | 19864 | raw | 19864 | raw |
| THC zero counts | 1478 | raw | 1478 | raw |
| V Bias | -326 | Volts | -326 | Volts |

## *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) |
|---|---|---|---|---|
| 3020 | 0.00 | 0.00 | 0.01 | N/A |
| 3020 | 80.20 | 39.59 | 39.79 | 0.9950 |
| 3021 | 40.20 | 20.10 | 19.91 | 1.0094 |
| 3020 | 10.10 | 5.10 | 4.95 | 1.0296 |
| | | | | |
| 3020 | 0.00 | 0.00 | 0.01 | As Found Zero |
| 3020 | 80.10 | 39.54 | 39.79 | As Found Span |
| | | | Average Correction Factor | 1.0113 |

Calculated value of As Found Response: 0.000 ppm Percent Change of As Found: 100.0%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | -0.05 | ppm | 0.06 | ppm |
| Auto span | 23.15 | ppm | 23.49 | ppm |

Notes:

Calibration Performed By: Brad Moyles

# Calibration Summary

| | |
|---|---|
| Parameter | **THC** |
| Air Monitoring Network | **Palliser Airshed** |

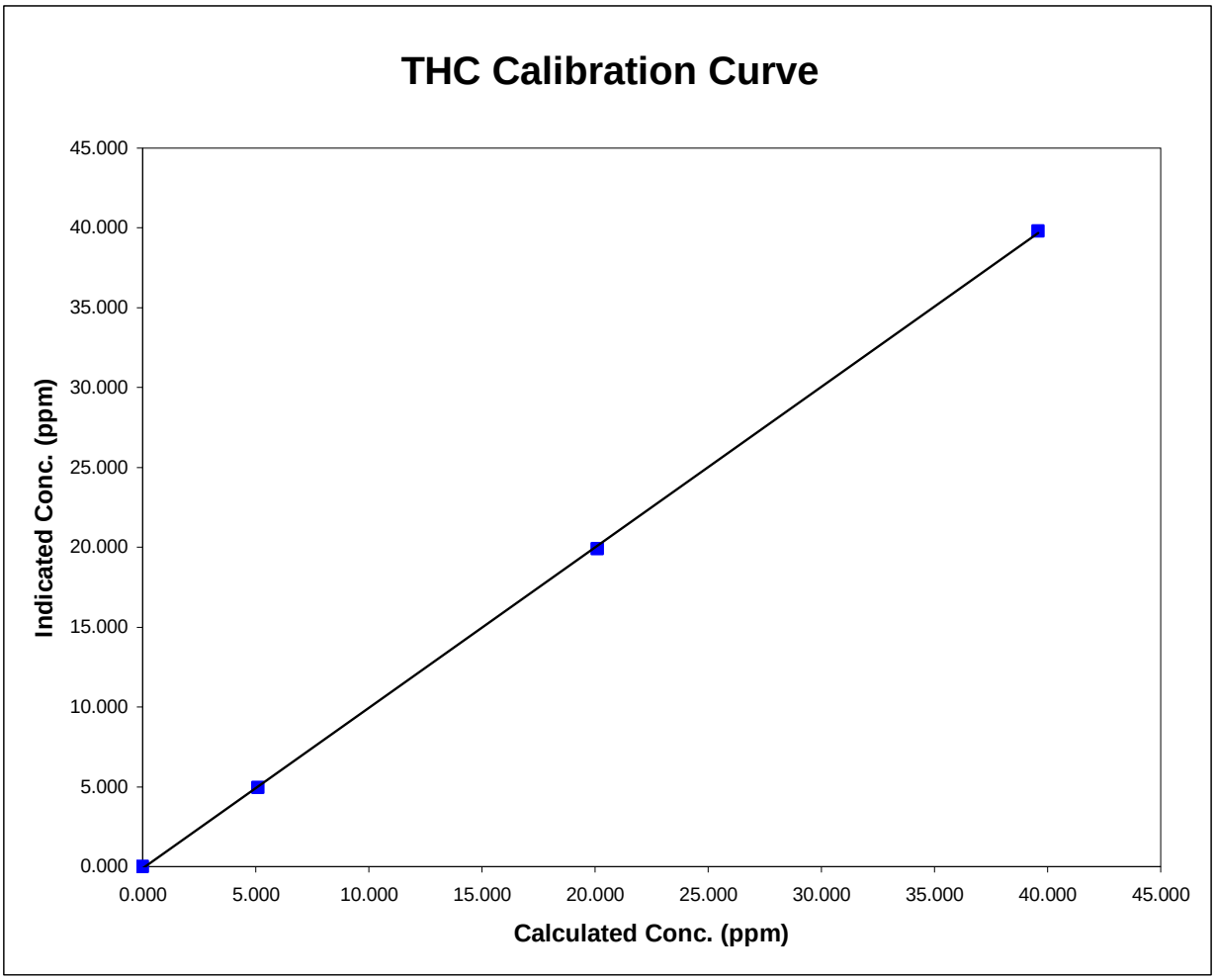
FOCUS AIR QUALITY MONITORING

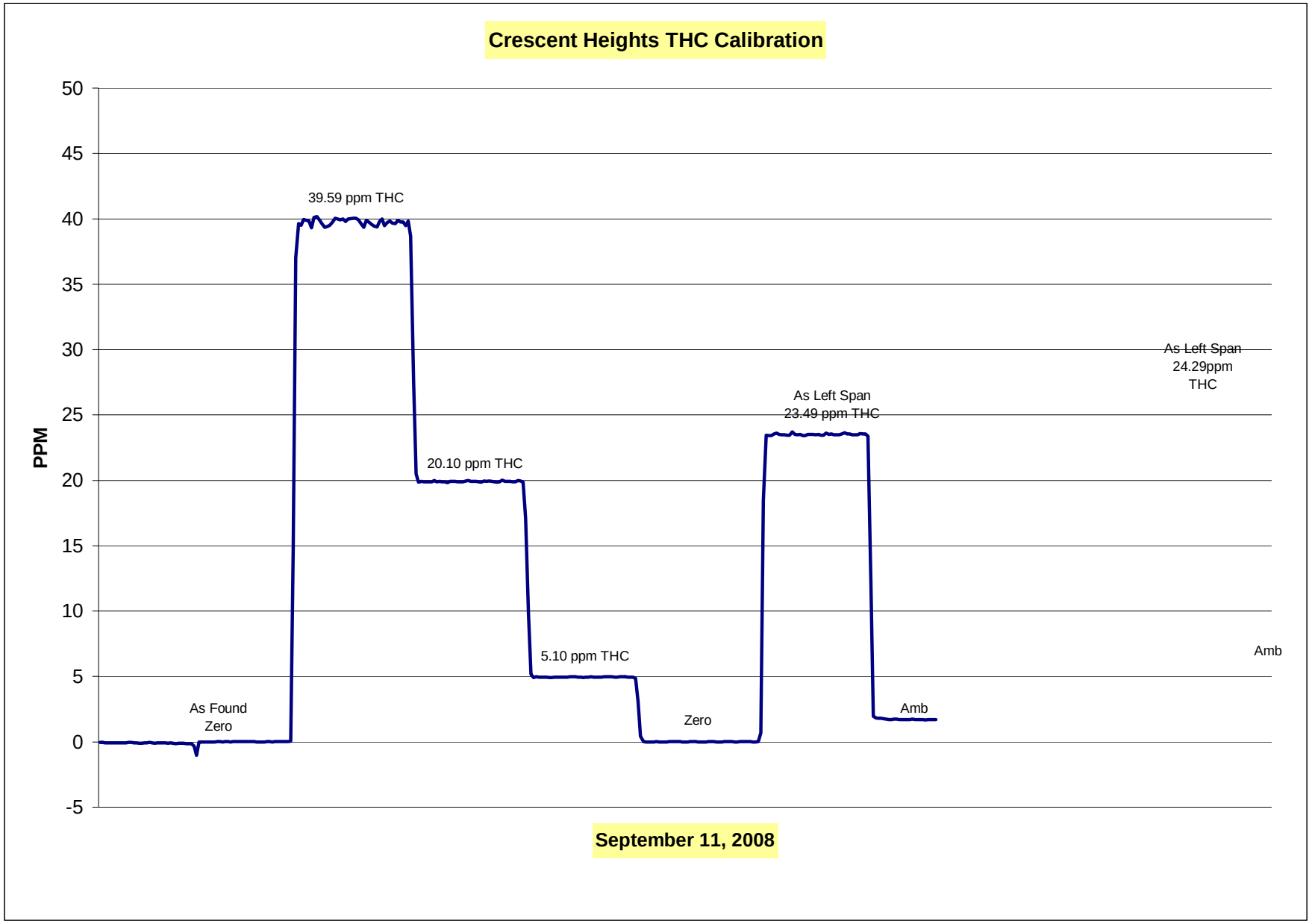
***Station Information***

| | | | |
|---|---|---|---|
| Calibration Date | September 11, 2008 | Previous Calibration | September 2, 2008 |
| Station Number | 101 | Station Location | Crescent Heights |
| Start Time (MST) | 13:48 | End Time (MST) | 16:15 |
| Analyzer make/model | TEI 51C-LT | Analyzer serial # | 0407505596 |

***Calibration Data***

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.000 | 0.005 | N/A | | |
| 39.586 | 39.787 | 0.9950 | Correlation Coefficient | 0.999937 |
| 20.095 | 19.908 | 1.0094 | | |
| 5.101 | 4.954 | 1.0296 | Slope | 0.994179 |
| | | | | |
| | | | Intercept | 0.126247 |
| | | | | |




Crescent Heights THC Calibration
PPM
50
45
40
35
30
25
20
15
10
5
0
-5
39.59 ppm THC
20.10 ppm THC
5.10 ppm THC
As Found
Zero
Zero
As Left Span
23.49 ppm THC
Amb
As Left Span
24.29ppm
THC
Amb
September 11, 2008

# Calibration Report

Parameter: **CO**

Air Monitoring Network: **Palliser Airshed**

FOCUS AIR QUALITY MONITORING

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | September 11, 2008 | Previous Calibration | August 11, 2008 |
| Station Number | 101 | Station Location | Crescent Heights |

Reason: Routine | Install | Removal | Other:

| | | | |
|---|---|---|---|
| Start Time (MST) | 11:10 | End Time (MST) | 14:20 |
| Barometric Pressure | 0.90 ATM | Station Temperature | 20.0 Deg C |
| Calibrator | SABIO 2010 | Serial Number | 3750708 |
| Cal Gas Conc | 3000 ppm | Cal Gas Expiry Date | August 4 / 2011 |
| | | Cal Gas Cylinder # | ALM019594 |
| DACS make | Focus AP1000 | DACS serial No. | 45270 |
| DACS voltage range | 0 - 1 volt | DACS channel # | 11 |
| | Before | | After |
| Calculated slope | 0.987737 | Calculated slope | 1.018949 |
| Calculated intercept | -0.194271 | Calculated intercept | -0.625503 |

Analyzer make: TEI Model 48C | Analyzer serial #: 436609887

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0 - 50 | ppm | 0 - 50 | ppm |
| CO coefficient | 1.106 | | 1.106 | |
| CO bkg setting | 4.050 | | 4.050 | |
| Lamp ratio | 1.110412 | | 1.110398 | |
| Lamp intensity | 199378 | Hz | 199264 | Hz |
| Sample Flow | 1.016 | LPM | 1.014 | 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) |
|---|---|---|---|---|
| 3021 | 0.00 | 0.00 | 0.65 | N/A |
| 3021 | 40.20 | 39.40 | 39.30 | 1.0026 |
| 3020 | 20.20 | 19.93 | 20.16 | 0.9888 |
| 3021 | 10.10 | 10.00 | 10.39 | 0.9622 |
| | | | | |
| 3021 | 0.00 | 0.00 | 0.65 | 0.0000 |
| 3021 | 40.20 | 39.40 | 42.98 | 0.9167 |
| | | | Average Correction Factor | 0.9845 |

Calculated value of As Found Response: 41.614 ppm  Percent Change of As Found: -5.6%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.10 | ppm | 0.00 | ppm |
| Auto span | 19.50 | ppm | 1.46 | ppm |

Notes: No Adjustments Made

Calibration Performed By: Brad Moyles

# Calibration Summary

| | |
|---|---|
| Parameter | CO |
| Air Monitoring Network | Palliser Airshed |

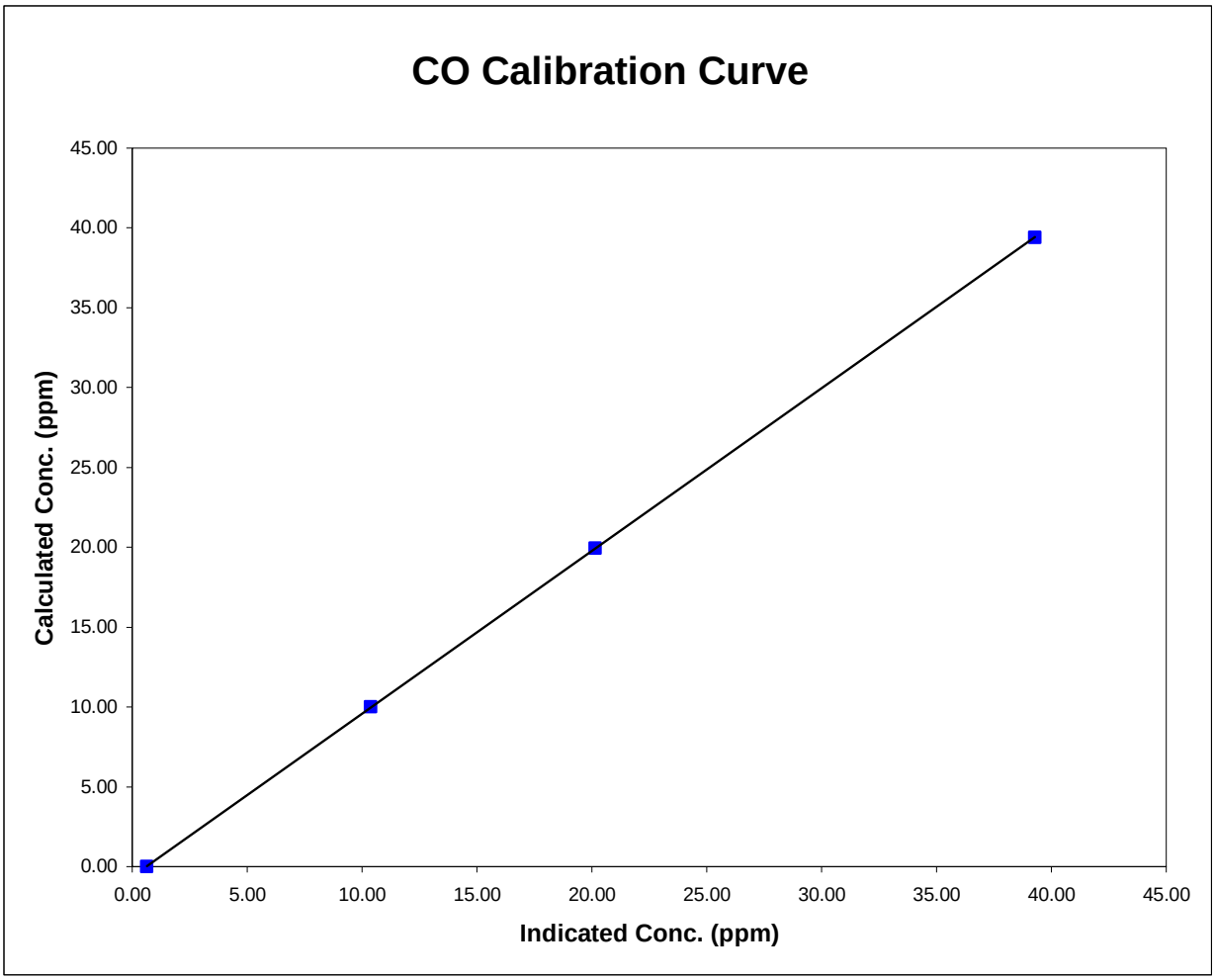
FOCUS AIR QUALITY MONITORING

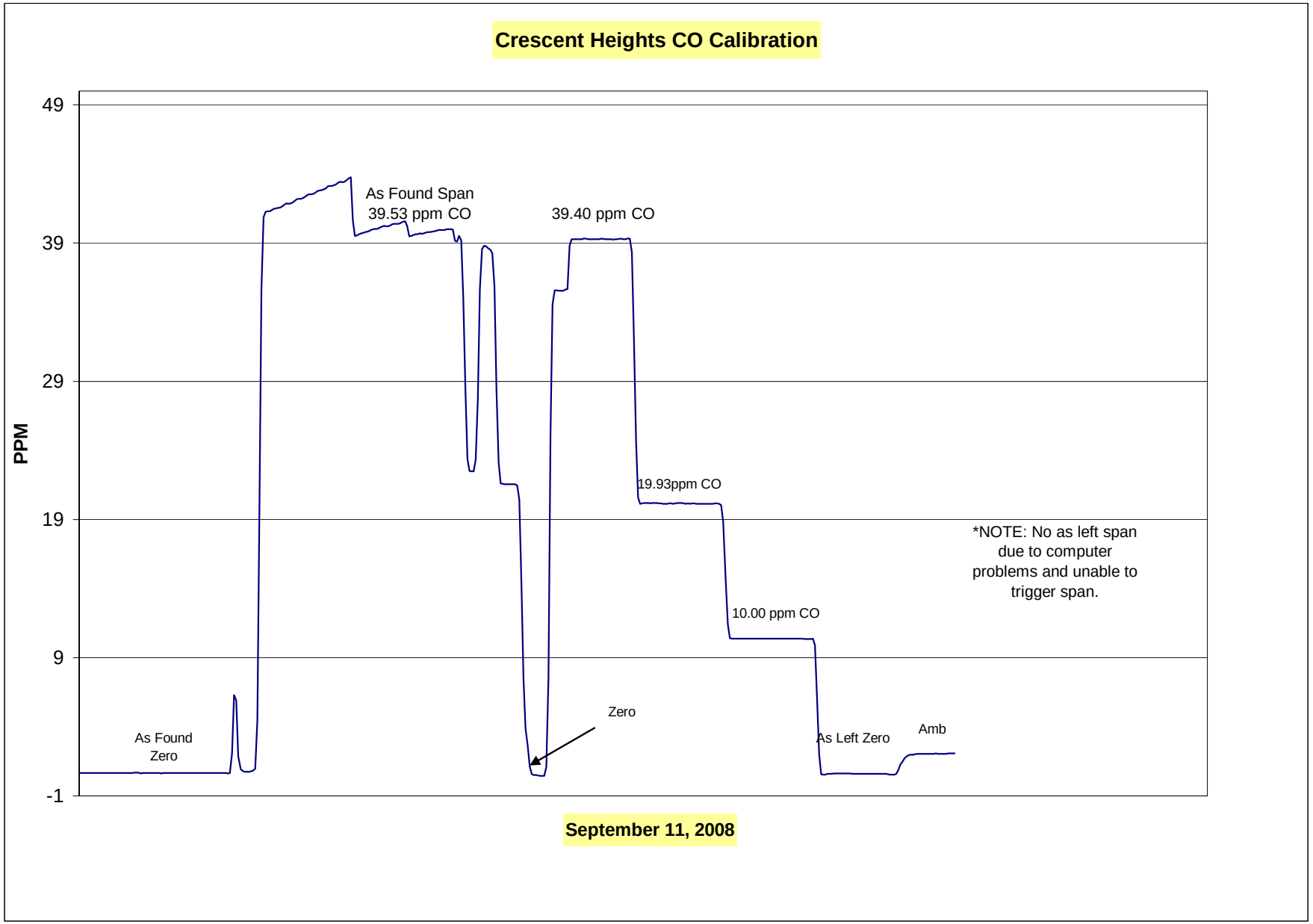
## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | September 11, 2008 | Previous Calibration | August 11, 2008 |
| Station Number | 101 | Station Location | Crescent Heights |
| Start Time (MST) | 11:10 | End Time (MST) | 14:20 |
| Analyzer make/model | TEI Model 48C | Analyzer serial # | 436609887 |

## *Calibration Data*

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.00 | 0.65 | N/A | | |
| 39.40 | 39.30 | 1.0026 | Correlation Coefficient | 0.999996 |
| 19.93 | 20.16 | 0.9888 | | |
| 10.00 | 10.39 | 0.9622 | Slope | 1.018949 |
| | | | | |
| | | | Intercept | -0.625503 |
| | | | | |




Crescent Heights CO Calibration
49
39
29
19
9
-1
PPM
As Found Span
39.53 ppm CO
39.40 ppm CO
19.93ppm CO
10.00 ppm CO
*NOTE: No as left span due to computer problems and unable to trigger span.
As Found Zero
Zero
As Left Zero
Amb
September 11, 2008

# Calibration Report

| | |
|---|---|
| Parameter | **O3** |
| Air Monitoring Network | **PAS** |

FOCUS AIR QUALITY MONITORING

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | September 28, 2008 | Previous Calibration | August 18, 2008 |
| Station Number | 110 | Station Location | Rover - Brooks |

Reason: Routine | Install | Removal | Other:

| | | | |
|---|---|---|---|
| Start Time (MST) | 7:00 | End Time (MST) | 10:30 |
| Barometric Pressure | 27.3 inches Hg | Station Temperature | 20.0 Deg C |
| Calibrator | SABIO | Serial Number | 2844 |
| Cal Gas Concentration | NA | Cal Gas Expiry Date | NA |
| DACS make | Focus AP1000 | DACS serial No. | 3750708 |
| DACS voltage range | 0 - 1 volt | DACS channel # | 7 |
| | Before | | After |
| Calculated slope | 1.180337 | Calculated slope | 0.988256 |
| Calculated intercept | -18.255848 | Calculated intercept | 0.934650 |
| Analyzer make | API Model 400E | Analyzer serial # | 331 |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0 - 500 | ppb | 0 - 500 | ppb |
| Offset | -10.8 | ppb | -10.8 | ppb |
| Slope | 1.02 | | 1.021 | |
| Lamp measure | 4067.1 | mV | 4066.2 | mV |
| Lamp Reference | 4070.9 | mV | 4068.8 | mV |
| Pressure | 26.5 | inches Hg | 27.1 | inches Hg |
| Sample Flow | 491 | ccm | 489 | ccm |
| Sample temp | 39.6 | Deg C | 39.6 | Deg C |

## *Calibration Data*

| Dilution air flow rate (cc/min) | Ozone Set Point | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) |
|---|---|---|---|---|
| 5000 | 0.0 | 0.0 | 0.5 | N/A |
| 5000 | 300(0.82v) | 293.9 | 298.0 | 0.9862 |
| 5000 | 200(0.52v) | 180.9 | 180.1 | 1.0044 |
| 5000 | 100(0.32v) | 101.9 | 101.1 | 1.0076 |
| | | | | |
| 5000 | 0.0 | 0.0 | 3.2 | As Found Zero |
| 5000 | 300(0.82v) | 293.9 | 279.3 | As Found Span |
| | | | Average Correction Factor | 0.9994 |

Calculated value of As Found Response: 293.9 ppm  Percent Change of As Found: 5.2%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 3.0 | ppb | 0.9 | ppb |
| Auto span | 240.0 | ppb | 278.0 | ppb |

Notes: Made Adjustment to O3 First Point….

Calibration Performed By: Brad Moyles

# Calibration Summary

| | |
|---|---|
| Parameter | O3 |
| Air Monitoring Network | PAS |

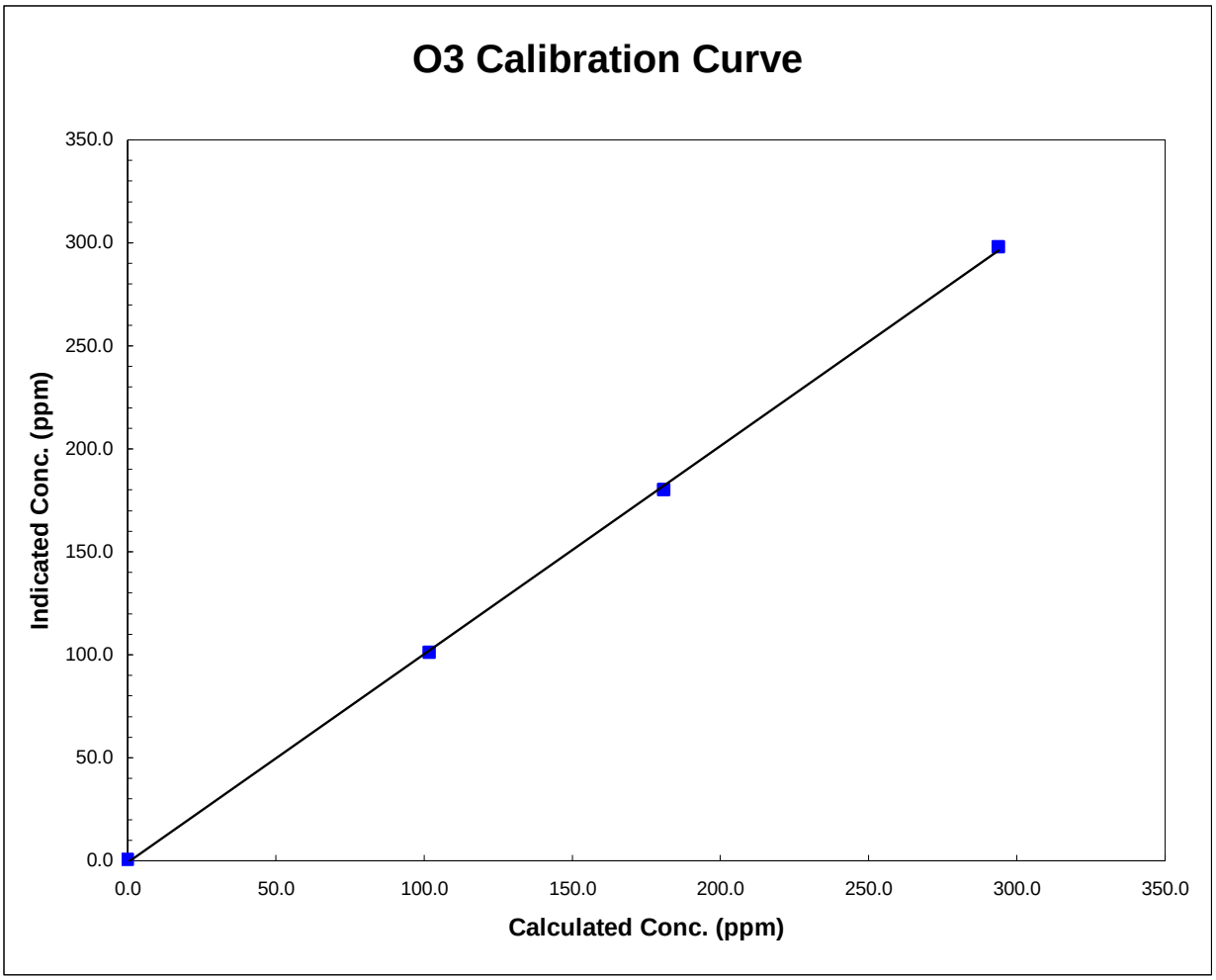
FOCUS AIR QUALITY MONITORING

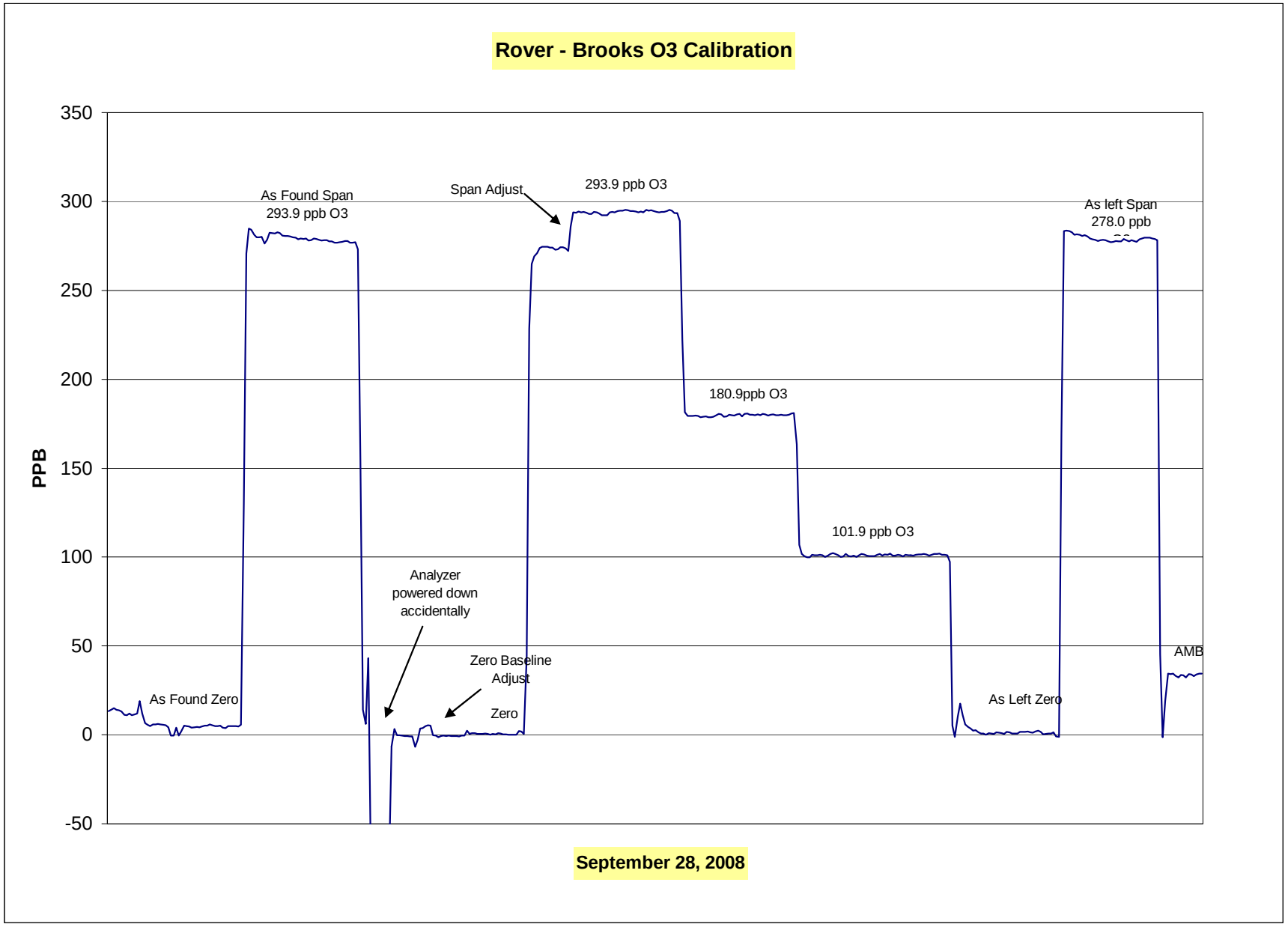
## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | September 28, 2008 | Previous Calibration | August 18, 2008 |
| Station Number | 110 | Station Location | Rover - Brooks |
| Start Time (MST) | 7:00 | End Time (MST) | 10:30 |
| Analyzer make/model | API Model 400E | Analyzer serial # | 331 |

## *Calibration Data*

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 293.9 | 298.0 | 0.9862 | | |
| 180.9 | 180.1 | 1.0044 | Correlation Coefficient | 0.999797 |
| 101.9 | 101.1 | 1.0076 | | |
| 0.0 | 0.5 | N/A | Slope | 0.988256 |
| | | | | |
| | | | Intercept | 0.934650 |
| | | | | |




Rover - Brooks O3 Calibration
350
300
250
200
150
100
50
0
-50
PPB
As Found Span
293.9 ppb O3
Span Adjust
293.9 ppb O3
As left Span
278.0 ppb
180.9ppb O3
101.9 ppb O3
Analyzer
powered down
accidentally
Zero Baseline
Adjust
Zero
As Found Zero
As Left Zero
AMB
September 28, 2008

# Calibration Report

| | |
|---|---|
| Parameter | **SO2** |
| Air Monitoring Network | **PAS** |

FOCUS AIR QUALITY MONITORING

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | September 26, 2008 | Previous Calibration | August 18, 2008 |
| Station Number | 110 | Station Location | Rover - Brooks |

Reason: Routine | Install | Removal | Other:

| | | | |
|---|---|---|---|
| Start Time (MST) | 7:06 | End Time (MST) | 9:44 |
| Barometric Pressure | 27.25 inches Hg | Station Temperature | 22.0 Deg C |
| Calibrator | Environics 6103 | Serial Number | 2844 |
| Cal Gas Concentration | 50.8 ppm | Cal Gas Expiry Date | June 6 / 2010 |
| Gas Cert Reference | LL-16136 | | |
| DACS make | Focus AP1000 | DACS serial No. | 45265 |
| DACS voltage range | 0 - 10 volt | DACS channel # | 5 |
| | Before | | After |
| DACS Scale High | 500 | DACS slope | 500 |
| DACS Scale Low | 0 | DACS intercept | 0 |
| Calculated slope | 0.992756 | Calculated slope | 0.995608 |
| Calculated intercept | 2.165161 | Calculated intercept | -0.246707 |

| | | |
|---|---|---|
| Analyzer make | TEI Model 43A | Analyzer serial # | NA |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0-500 | ppb | 0-500 | ppb |
| SO2 zero pot | 1.5 | | 1.5 | |
| SO2 span pot | 4.08 | | 4.08 | |
| Analyzer flow | 0.5 | LPM | 0.5 | LPM |
| UV Lamp voltage | 857 | V | 861 | V |
| Vacuum | 22 | in Hg | 22 | in Hg |

## *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) |
|---|---|---|---|---|
| 4993 | 0.00 | 0.0 | -1.0 | N/A |
| 4993 | 39.96 | 403.3 | 404.6 | 0.9970 |
| 4993 | 19.98 | 202.5 | 204.7 | 0.9890 |
| 4993 | 9.99 | 101.4 | 103.1 | 0.9842 |
| | | | | |
| 4993 | 0.00 | 0.0 | -1.0 | As found zero |
| 4993 | 39.96 | 403.3 | 404.6 | As found span |
| | | | Average Correction Factor | 0.9901 |

Calculated value of As Found Response: 404.778 ppm  Percent Change of As Found: -0.4%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | -1.6 | ppm | -0.7 | ppm |
| Auto span | 201.8 | ppm | 195.5 | ppm |

Notes: No Adjustment Required

Calibration Performed By: Brad Moyles

# Calibration Summary

| | |
|---|---|
| Parameter | SO2 |
| Air Monitoring Network | PAS |

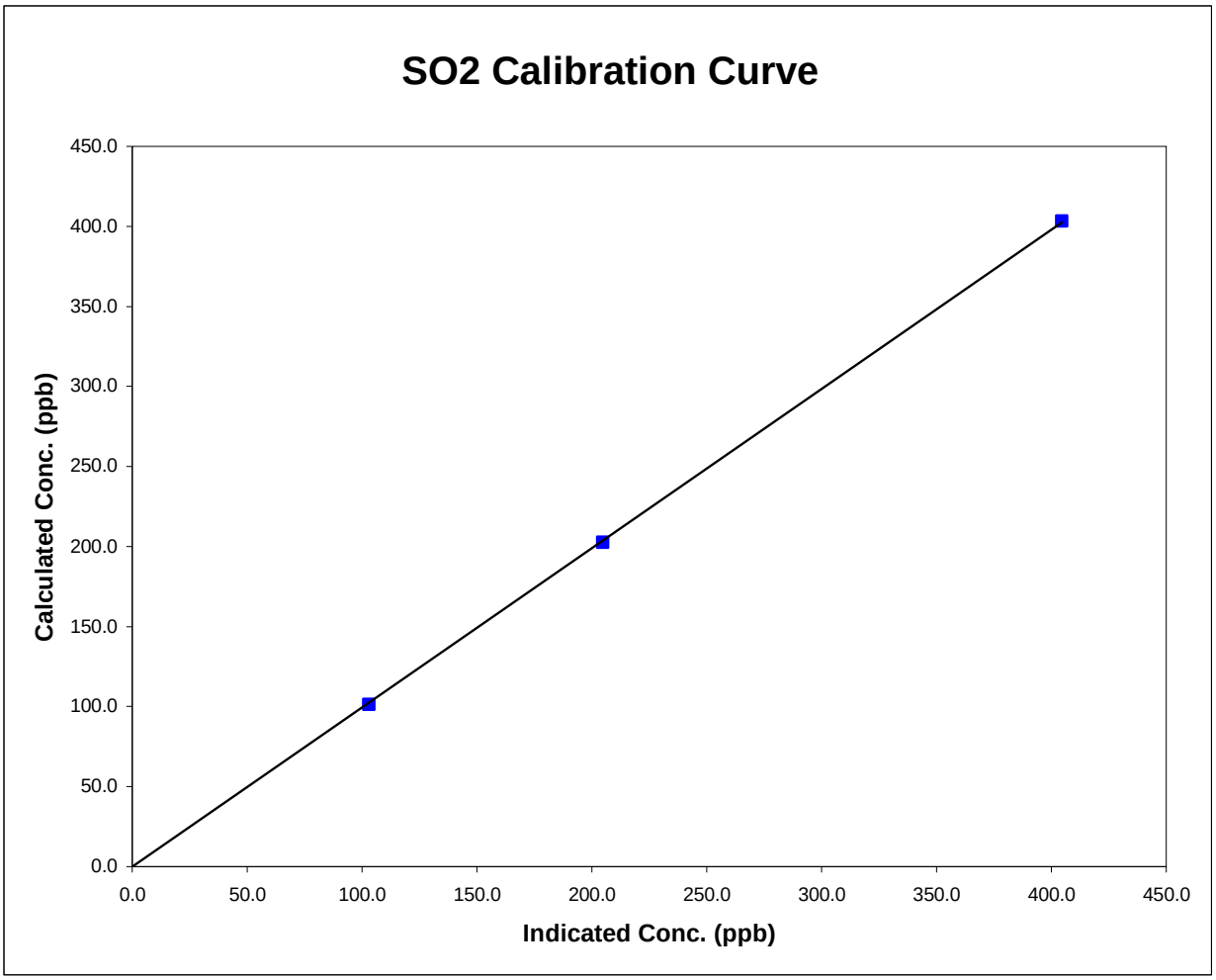
FOCUS AIR QUALITY MONITORING

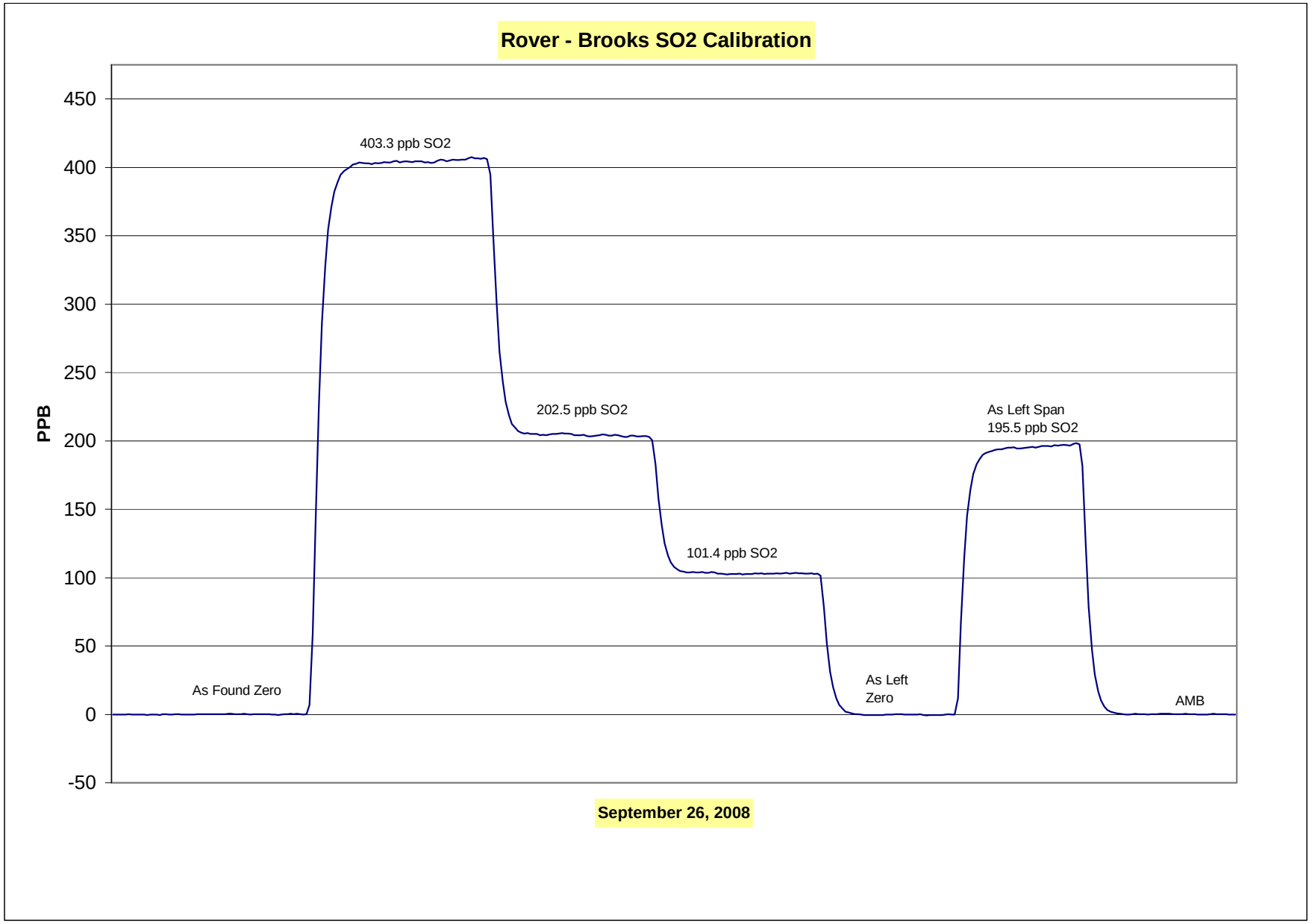
## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | September 26, 2008 | Previous Calibration | August 18, 2008 |
| Station Number | 110 | Station Location | Rover - Brooks |
| Start Time (MST) | 7:06 | End Time (MST) | 9:44 |
| Analyzer make/model | TEI Model 43A | Analyzer serial # | NA |

## *Calibration Data*

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | -1.0 | N/A | | |
| 403.3 | 404.6 | 0.9970 | Correlation Coefficient | 0.999952 |
| 202.5 | 204.7 | 0.9890 | | |
| 101.4 | 103.1 | 0.9842 | Slope | 0.995608 |
| | | | | |
| | | | Intercept | -0.246707 |
| | | | | |




Rover - Brooks SO2 Calibration
PPB
450
400
350
300
250
200
150
100
50
0
-50
403.3 ppb SO2
202.5 ppb SO2
101.4 ppb SO2
As Left Span
195.5 ppb SO2
As Found Zero
As Left
Zero
AMB
September 26, 2008

# Calibration Report

Parameter **H2S**

Air Monitoring Network **PAS**

FOCUS AIR QUALITY MONITORING

## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | September 26, 2008 | Previous Calibration | August 18, 2008 |
| Station Number | 110 | Station Location | Rover - Brooks |
| Reason: | Routine / Install | Removal | Other: |
| | | | 16:50 |
| Start Time (MST) | 9:00 | End Time (MST) | 11:34 |
| Barometric Pressure | 27.3 inches Hg | Station Temperature | 22.0 Deg C |
| Calibrator | Environics | Serial Number | 2844 |
| Cal Gas Concentration | 5.12 ppm | Cal Gas Expiry Date | April 2 / 2009 |
| Gas Cert Reference | BLM003489 | | |
| DACS make | Focus AP1000 | DACS serial No. | 45265 |
| DACS voltage range | 0 - 10 volt | DACS channel # | 6 |
| | Before | | After |
| DACS Scale High | 100 | DACS slope | 100 |
| DACS Scale Low | 0 | DACS intercept | 0 |
| Calculated slope | 0.996773 | Calculated slope | 1.013070 |
| Calculated intercept | -0.927723 | Calculated intercept | -0.695766 |
| Analyzer make | TEI Model 43A | Analyzer serial # | 43A-25575-221 |

| | before | | after | |
|---|---|---|---|---|
| Concentration range | 0 - 100 | ppb | 0 - 100 | ppb |
| H2S zero pot | 9.60 | | 9.60 | |
| H2S span pot | 7.35 | | 7.35 | |
| Analyzer flow | 0.900 | LPM | 0.900 | LPM |
| UV Lamp voltage | 922 | V | 920 | V |
| Vacuum | 21.5 | in Hg | 21.5 | in Hg |

## *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) |
|---|---|---|---|---|
| 3995 | 0.00 | 0.0 | 1.1 | N/A |
| 3995 | 69.93 | 88.1 | 87.8 | 1.0028 |
| 3995 | 39.96 | 50.7 | 50.5 | 1.0047 |
| 3995 | 9.98 | 12.8 | 12.9 | 0.9904 |
| | | | | |
| 3995 | 0.00 | 0.0 | 1.1 | As found zero |
| 3995 | 69.93 | 88.1 | 87.8 | As found span |
| | | | Average Correction Factor | 0.9993 |

Calculated value of As Found Response: 85.48 ppm Percent Change of As Found: 2.9%

| | before calibration | | after calibration | |
|---|---|---|---|---|
| Auto zero | 0.9 | ppm | 0.4 | ppm |
| Auto span | 45.3 | ppm | 43.0 | ppm |

Notes: No Adjustment Required

Calibration Performed By: Brad Moyles

# Calibration Summary

| | |
|---|---|
| Parameter | H2S |
| Air Monitoring Network | PAS |

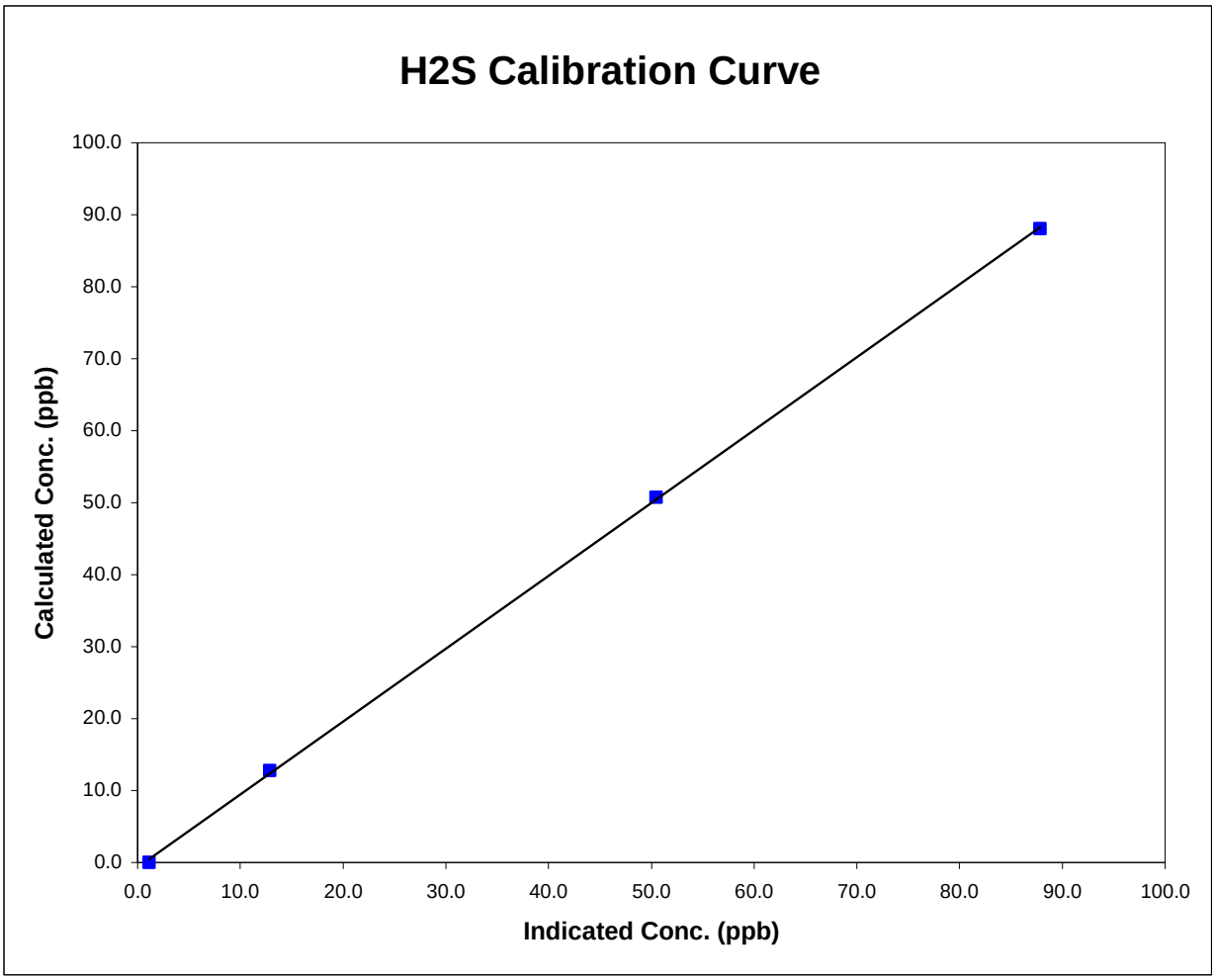
FOCUS AIR QUALITY MONITORING

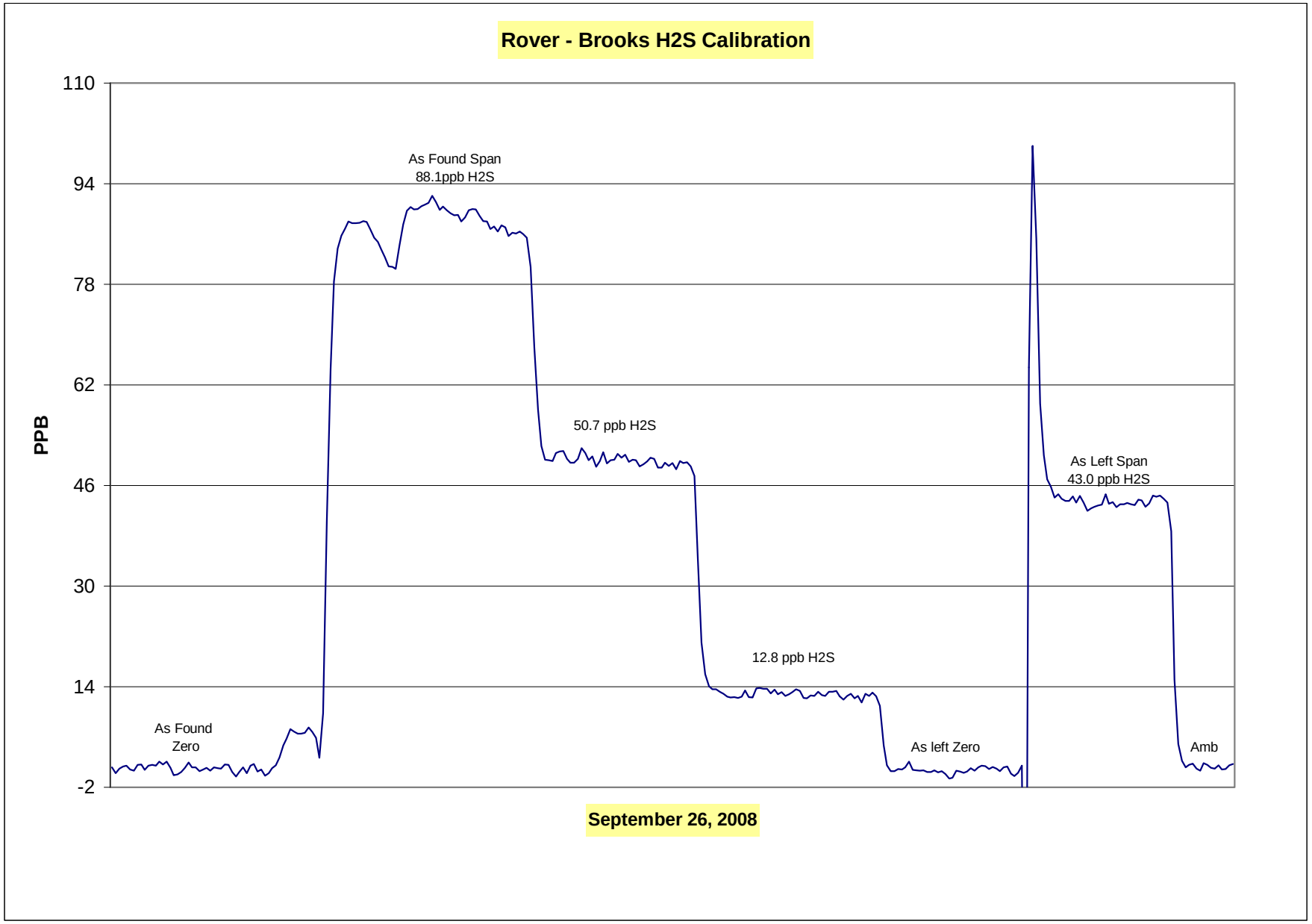
## *Station Information*

| | | | |
|---|---|---|---|
| Calibration Date | September 26, 2008 | Previous Calibration | August 18, 2008 |
| Station Number | 110 | Station Location | Rover - Brooks |
| Start Time (MST) | 9:00 | End Time (MST) | 11:34 |
| Analyzer make/model | TEI Model 43A | Analyzer serial # | 43A-25575-221 |

## *Calibration Data*

| Calculated concentration (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|---|---|---|---|---|
| 0.0 | 1.1 | N/A | | |
| 88.1 | 87.8 | 1.0028 | Correlation Coefficient | 0.999895 |
| 50.7 | 50.5 | 1.0047 | | |
| 12.8 | 12.9 | 0.9904 | Slope | 1.013070 |
| | | | | |
| | | | Intercept | -0.695766 |
| | | | | |




Rover - Brooks H2S Calibration
110
94
78
62
46
30
14
-2
PPB
As Found Span
88.1ppb H2S
50.7 ppb H2S
12.8 ppb H2S
As Found
Zero
As left Zero
As Left Span
43.0 ppb H2S
Amb
September 26, 2008