Peace AirShed Zone Association

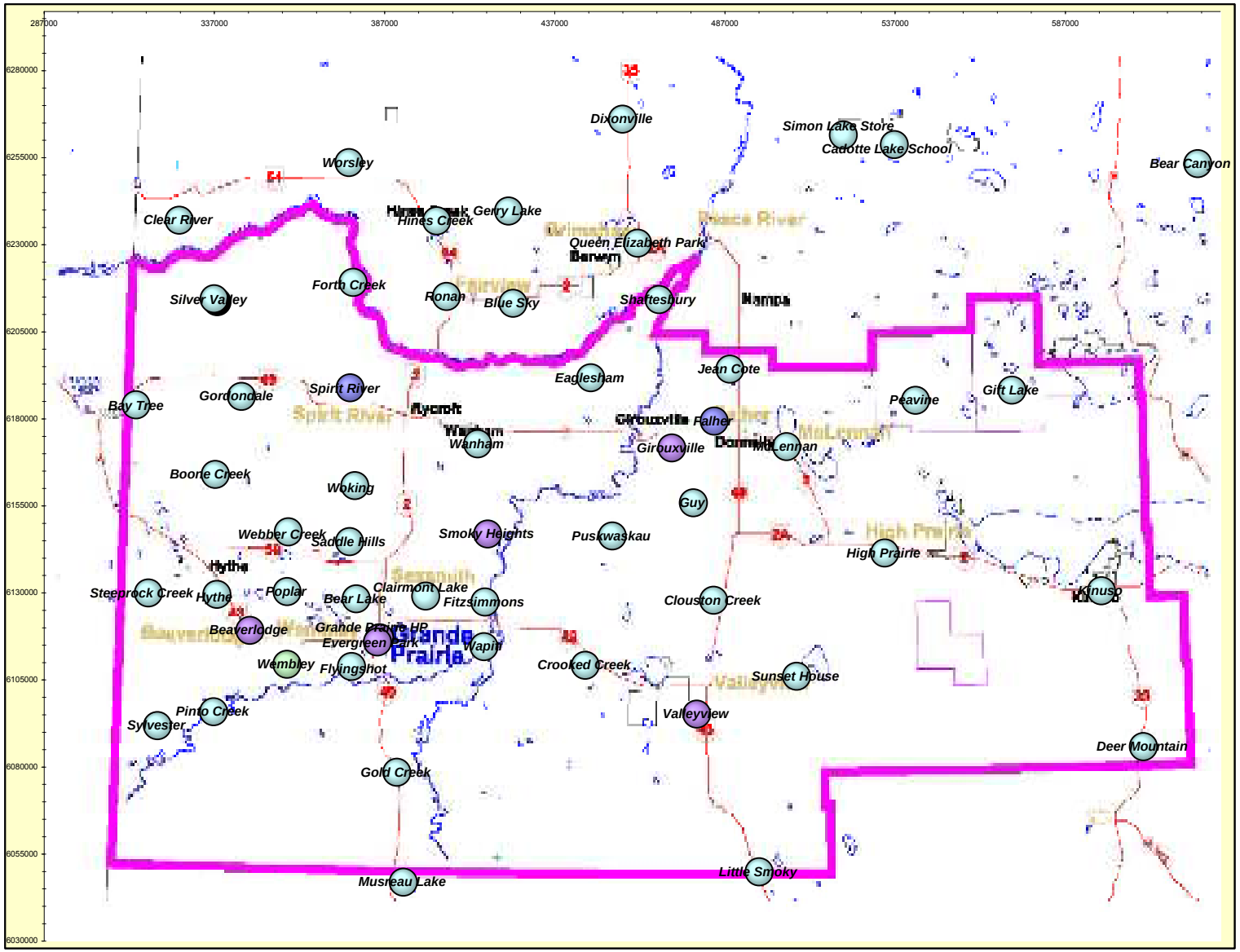
Ambient Air Monitoring Network Summary

Continuous Ambient Air Quality Monitoring Program
Monthly Report
November 2008

Operations and Reporting

FOCUS
AIR QUALITY MONITORING

Location of PASZA Continuous and Passive Monitoring Stations



PASZA
Peace AirShed Zone Association

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Grande Prairie, AB
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December 29th, 2008

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

RE: Peace Airshed Zone Association (PASZA) – November 2008 Ambient Air Report

Enclosed is the PASZA Ambient Monitoring Network Report for the month of **November 2008**.

Continuous Monitoring: **Six (6) Stations including Henry Pirker (Grande Prairie), Evergreen Park, Smoky Heights, Beaverlodge, Spirit River (portable) and Valleyview.**

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

During the month of November the following events were noted:

Henry Pirker Station:

- The measured ambient air quality was within the Alberta Ambient Air Quality Objectives (AAAQO) for the Henry Pirker station.
- All analyzers / sensors at the Henry Pirker station had an operational uptime greater than 90% for the month of November, with the exception of the temperature and relative humidity sensors - **Alberta Environment reference #209512**. The gauges were sent back to factory for repair, as they did not respond after tower replacement; the gauges have been out of service since November 6th.
- Meteorological tower was replaced on November 6th.

Evergreen Park Station:

- The measured ambient air quality was within the AAAQO for the Evergreen Park station.
- All analyzers / sensors at the Evergreen Park station had an operational uptime greater than 90%, with the exception of the temperature sensor. The gauge was sent back to factory for repair, and was out of service from October 23rd (**Alberta Environment reference # #208635),** and was reinstalled on November 14th.
- Meteorological tower was replaced on November 14th.

Smoky Heights Station:

- The measured ambient air quality was within the AAAQO for the Smoky Heights station for SO_2 and TRS, however the PM2.5 had one (1) 1-hour exceedence and one (1) 24-hour exceedence:
  - **Nov. 8 24-hour 33.6 µg/m^3 Alberta Environment reference # 208084.**
  - **Nov 19 1-hour 102 µg/m^3 Alberta Environment reference # 208426.**
- All analyzers / sensors at the Smoky Heights station had an operational uptime greater than 90% for the month of November, with the exception of the wind speed and direction sensors due to freezing conditions - **Alberta Environment reference #209512.**
- Meteorological tower was replaced on November 12th.

Beaverlodge Station:

- The measured ambient air quality was within the AAAQO for the Beaverlodge station.
- All analyzers / sensors at the Beaverlodge station had an operational uptime greater than 90% for the month of November; with the exception of the wind speed and wind direction sensors due to a combination of freezing conditions and power outages - **Alberta Environment reference #209512.**
- A number of power outages occurred at the station – resulting in a number of hours of invalid data for all parameters.

Portable – Spirit River Station:

- The measured ambient air quality was within the AAAQO for the Spirit River station.
- All analyzers / sensors at the Spirit River station had an operational uptime greater than 90%, with the exception of the NO_X analyzer. The motherboard on the NO_X analyzer failed on November 24th, parts were ordered and the analyzer was repaired on November 28th – **Alberta Environment reference # 209317**.
- There were a number of power outages throughout the month which resulted in several hours of invalid data for all parameters.
- There were a total of six days in which the spans of the SO_2 analyzer dropped below the span target – reason undetermined due to the intermittent nature.

Valleyview Station:

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

Passive Monitoring - 54 Stations throughout the PASZA zone:

There were seven duplicate sites sampled in the month of November: Bear Lake, Clairmont Lake, Puskwaskau, Little Smoky, Deer Mountain, Queen Elizabeth Park and Grande Prairie HP. The passive sample analyses were performed by MAXXAM Analytics Inc.

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

- Monthly average concentrations for SO_2 passives ranged from 0.0 ppb to 0.6 ppb, with a mean of 0.2 ppb.
- Monthly average concentrations for NO_2 passives ranged from 0.8 ppb to 8.9 ppb, with a mean of 2.4 ppb.
- Monthly average concentrations for O_3 passives ranged from 13.9 ppb to 31.6 ppb, with a mean of 22.0 ppb.

If you have any questions, please contact the Focus Intec office at 1.403.255.9440 (Kelly Baragar or Sharon Whiteley).

On Behalf of the,
Peace Airshed Zone Association

Michael Bisaga
PASZA Program Manager

Sharon Whiteley, B.Sc..
AQM Data Specialist

PASZA Monthly Continuous Data Summary

Nov-2008	Peace Airshed Zone Assocation						Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
Pollutant (units)	Objectives 1-hr	Objectives 24-hr	Station	Monthly Average	Exceedence 1-hr	Exceedence 24-hr	Conc	Day	Conc	Day	Operational Time (%)
SO_2 (ppb)	172	57	Henry Pirker	0.3	0	0	4.2	Nov-08 19:00	0.8	Nov-21	100.0%
SO_2 (ppb)	172	57	Evergreen Park	0.3	0	0	4.5	Nov-22 00:00	0.7	Nov-21	100.0%
SO_2 (ppb)	172	57	Smoky Heights	0.7	0	0	10.3	Nov-22 22:00	1.9	Nov-24	99.9%
SO_2 (ppb)	172	57	Beaverlodge	0.5	0	0	11.0	Nov-19 14:00	1.5	Nov-19	92.8%
SO_2 (ppb)	172	57	Portable-Spirit River	0.4	0	0	6.0	Nov-30 02:00	0.9	Nov-28	98.8%
SO_2 (ppb)	172	57	Valleyview	0.5	0	0	17.4	Nov-30 00:00	2.5	Nov-22	100.0%
NO (ppb)			Henry Pirker	12.2	-	-	123.8	Nov-07 19:00	42.4	Nov-28	100.0%
NO_2 (ppb)	212	106	Henry Pirker	14.2	0	0	43.9	Nov-21 10:00	27.6	Nov-27	100.0%
NO_X (ppb)			Henry Pirker	26.3	-	-	155.7	Nov-28 12:00	67.7	Nov-28	100.0%
NO (ppb)			Beaverlodge	2.3	-	-	61.3	Nov-06 11:00	10.2	Nov-06	92.4%
NO_2 (ppb)	212	106	Beaverlodge	6.7	0	0	24.1	Nov-25 11:00	13.2	Nov-08	92.4%
NO_X (ppb)			Beaverlodge	9.0	-	-	77.7	Nov-06 11:00	23.0	Nov-08	92.4%
NO (ppb)			Portable-Spirit River	1.2	-	-	13.7	Nov-19 07:00	3.9	Nov-07	86.7%
NO_2 (ppb)	212	106	Portable-Spirit River	4.4	0	0	26.3	Nov-19 07:00	8.8	Nov-07	86.7%
NO_X (ppb)			Portable-Spirit River	5.4	-	-	40.0	Nov-19 07:00	12.6	Nov-07	86.7%
O_3 (ppb)	82		Henry Pirker	12.8	0	-	35.3	Nov-26 03:00	27.8	Nov-13	100.0%
O_3 (ppb) - 8-hr	65		Henry Pirker		0				33.5	Nov-26	
O_3 (ppb)	82		Beaverlodge	18.7	0	-	40.3	Nov-24 12:00	34.1	Nov-26	92.8%
O_3 (ppb) - 8-hr	65		Beaverlodge		0				38.3	Nov-24	
O_3 (ppb)	82		Portable-Spirit River	17.2	0	-	40.4	Nov-26 12:00	33.4	Nov-26	98.8%
O_3 (ppb) - 8-hr	65		Portable-Spirit River		0				37.6	Nov-26	
CO (ppm)	13		Henry Pirker	0.28	0	-	1.3	Nov-28 12:00	0.6	Nov-28	100.0%
CO (ppm) - 8-hr	5		Henry Pirker		0				0.9	Nov-28	
THC (ppm)			Henry Pirker	2.21	-	-	3.4	Nov-08 19:00	2.9	Nov-08	100.0%
TRS (ppb)			Henry Pirker	0.4	-	-	1.2	Nov-30 15:00	0.6	Nov-28	100.0%
TRS (ppb)			Evergreen Park	0.6	-	-	1.6	Nov-02 21:00	0.9	Nov-02	100.0%
TRS (ppb)			Smoky Heights	0.4	-	-	1.5	Nov-09 00:00	1.0	Nov-08	99.9%
TRS (ppb)			Portable-Spirit River	0.6	-	-	1.4	Nov-01 07:00	1.0	Nov-02	98.8%
H_2S (ppb)	10	3	Valleyview	0.2	0	0	7.1	Nov-15 10:00	0.7	Nov-15	100.0%
$PM_{2.5}$ ($\mu g/m^3$)	80	30	Henry Pirker	5.1	0	0	31.6	Nov-20 22:00	11.2	Nov-07	98.6%
$PM_{2.5}$ ($\mu g/m^3$)	80	30	Evergreen Park	5.1	0	0	26.6	Nov-09 07:00	13.6	Nov-07	98.8%
$PM_{2.5}$ ($\mu g/m^3$)	80	30	Smoky Heights	5.4	1	1	102.2	Nov-19 21:00	33.6	Nov-08	99.3%
$PM_{2.5}$ ($\mu g/m^3$)	80	30	Beaverlodge	3.4	0	0	18.8	Nov-18 01:00	8.5	Nov-17	92.6%

PASZA Monthly Continuous Data Summary - continued

Nov-2008	Peace Airshed Zone Assocation						Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
RH (%)			Henry Pirker	78.3	-	-	93.1	Nov-01 09:00	82.9	Nov-04	99.3%
RH (%)			Beaverlodge	77.7	-	-	97.2	Nov-09 15:00	93.4	Nov-09	92.9%
RH (%)			Portable-Spirit River	79.5	-	-	98.1	Nov-02 04:00	96.6	Nov-01	98.8%
RH (%)			Valleyview	75.5	-	-	97.4	Nov-18 09:00	92.8	Nov-17	100.0%
SR (W/m^2)			Henry Pirker	26.2	-	-	297.9	Nov-03 13:00	64.0	Nov-03	100.0%
Temp (°C)			Henry Pirker	0.4	-	-	13.3	Nov-02 15:00	5.2	Nov-03	99.3%
Temp (°C)			Evergreen Park	-2.8	-	-	6.5	Nov-29 15:00	4.7	Nov-29	100.0%
Temp (°C)			Smoky Heights	-2.6	-	-	11.7	Nov-01 16:00	5.1	Nov-03	99.4%
Temp (°C)			Beaverlodge	-1.4	-	-	15.0	Nov-02 14:00	6.8	Nov-02	90.6%
Temp (°C)			Portable-Spirit River	-2.7	-	-	10.2	Nov-03 15:00	5.9	Nov-03	98.8%
Temp (°C)			Valleyview	-0.7	-	-	15.3	Nov-01 16:00	6.2	Nov-01	100.0%
WSPD s (km/hr)			Henry Pirker	8.6	-	-	33.0	Nov-22 13:00	18.4	Nov-22	91.3%
WSPD s (km/hr)			Evergreen Park	5.2	-	-	27.0	Nov-22 12:00	16.2	Nov-22	99.4%
WSPD s (km/hr)			Smoky Heights	11.9	-	-	37.0	Nov-22 07:00	25.2	Nov-22	85.7%
WSPD s (km/hr)			Beaverlodge	7.1	-	-	36.0	Nov-22 11:00	18.3	Nov-22	84.3%
WSPD s (km/hr)			Portable-Spirit River	6.2	-	-	34.0	Nov-24 08:00	15.2	Nov-24	98.8%
WSPD s (km/hr)			Valleyview	6.5	-	-	25.0	Nov-22 14:00	14.4	Nov-22	99.9%
WSPD v (km/hr)			Henry Pirker	4.2	-	-	33.0	Nov-22 13:00	17.7	Nov-13	91.3%
WSPD v (km/hr)			Evergreen Park	3.1	-	-	27.0	Nov-22 12:00	15.7	Nov-22	99.4%
WSPD v (km/hr)			Smoky Heights	5.9	-	-	37.0	Nov-22 07:00	24.7	Nov-22	85.7%
WSPD v (km/hr)			Beaverlodge	3.4	-	-	36.0	Nov-22 11:00	17.0	Nov-22	84.3%
WSPD v (km/hr)			Portable-Spirit River	3.7	-	-	34.0	Nov-24 08:00	14.8	Nov-24	98.8%
WSPD v (km/hr)			Valleyview	2.9	-	-	25.0	Nov-22 14:00	13.4	Nov-22	99.9%
WDIR (deg)			Henry Pirker	W	-	-	-	-	-	-	91.3%
WDIR (deg)			Evergreen Park	W	-	-	-	-	-	-	99.4%
WDIR (deg)			Smoky Heights	WSW	-	-	-	-	-	-	85.7%
WDIR (deg)			Beaverlodge	W	-	-	-	-	-	-	84.3%
WDIR (deg)			Portable-Spirit River	WSW	-	-	-	-	-	-	98.8%
WDIR (deg)			Valleyview	WSW	-	-	-	-	-	-	99.9%

Continuous Network Equipment Summary

PASZA – Henry Pirker Station

General Station Issues

Routine monthly calibrations were performed on November 7th (SO_2 & NO_X), November 10th (O3, CO & TRS) and November 11th (THC). The meteorological tower was replaced on November 6th.

Parameter	Make	Model	Notes
SO_2	TEI	43C	No operational issues observed. Zero and span adjustment made.
NOx/NO/NO_2	TEI	42C	No operational issues observed.
O_3	TEI	49C	No operational issues observed.
CO	TEI	48C	Spans drop from Nov. 20 to end of month – regulator pressure dropped. No other operational issues observed.
THC	TEI	51-CLT	No operational issues observed.
TRS	TEI	43C	No operational issues observed.
$PM_{2.5}$	R&P	1400AB	Ten (10) hours were flagged for excessive baseline drift.
RH	Met One	083D	Relative humidity sensor is out of service – sent back to factory for repair. **AE reference #209512.**
ET	Met One	083D	Temperature sensor is out of service – sent back to factory for repair. **AE reference #209512.**
SR	Met One	096-1	No operational issues observed.
WS	Met One	010C	A total of four (4) hours were flagged for maintenance for the tower replacement. A total of fifty-nine (59) hours were flagged invalid due to sensor cups freezing.
WD	Met One	020C	A total of four (4) hours were flagged for maintenance for the tower replacement. A total of fifty-nine (59) hours were flagged invalid due to sensor cups freezing.

PASZA – Evergreen Park Station

General Station Issues

Routine monthly calibrations were performed on November 11th (SO_2 & TRS) and November 14th (TEOM). Meteorological tower was replaced November 14th.

Parameter	Make	Model	Notes
SO_2	TEI	43i	No operational issues observed.
TRS	TEI	43C	No operational issues observed.
$PM_{2.5}$	R&P	1400AB	Small power bump resulted in one (1) hour of invalid data. Eight (8) hours were flagged due to excessive baseline drift.
ET	Met One/Gill	083D	Temperature sensor was out of service until November 14th – gauge was sent back to factory for repair and reinstalled on November 14th. **AE reference #208635.**
WS	Met One/ Gill	010C	A total of four (4) hours were flagged for maintenance for the tower replacement.
WD	Met One/ Gill	020C	A total of four (4) hours were flagged for maintenance for the tower replacement.

PASZA – Smoky Heights Station

General Station Issues

Routine monthly calibrations were performed on November 13th (TRS & SO_2) and November 26th (TEOM). Meteorological tower was replaced November 12th. One (1) hour of missing data for all parameters on November 29th, due to a communication, computer and DACs error.

Parameter	Make	Model	Notes
SO_2	TEI	43C	No operational issues observed.
TRS	TEI	43C	No operational issues observed.
$PM_{2.5}$	R&P	1400AB	Three (3) hours were flagged for excessive baseline drift. One (1) hour was flagged for power bump. One (1) 1-hour exceedence and one (1) 24-hour exceedence: **Nov. 8 24-hr 33.6 µg/m^3 AE Reference # 208084.** **Nov 19 1-hr 102 µg/m^3 AE Reference # 208426.**
ET	Met One	083D	Three (3) hours were flagged for maintenance for the tower replacement.
WS	Met One	010C	Three (3) hours were flagged for maintenance for the tower replacement. A total of ninety-nine hours were flagged invalid due to cups freezing. **AE Reference #209512.**
WD	Met One	020C	Three (3) hours were flagged for maintenance for the tower replacement. A total of ninety-nine hours were flagged invalid due to cups freezing. **AE Reference #209512.**

PASZA – Beaverlodge Station

General Station Issues

Routine monthly calibrations were performed on November 20th (SO_2, & NO_X) and November 21st (O_3 & TEOM).

Parameter	Make	Model	Notes
SO_2	TEI	43CTL	A total of fifty-two (52) hours were flagged due to power outages.
NOx/NO/NO_2	TEI	42C	A total of fifty-four (54) hours were flagged due to power outages.
O_3	TEI	49C	A total of fifty-two (52) hours were flagged due to power outages.
$PM_{2.5}$	R&P	1400AB	A total of fifty-three (53) hours were flagged due to power outages.
ET	n/a	n/a	A total of fifty-one (51) hours were flagged due to power outages. Due to an electrical short (which caused spiking in the temperature data) an additional seventeen (17) hours were flagged invalid.
RH	n/a	n/a	A total of fifty-one (51) hours were flagged due to power outages.
WS	Blue Sky	857	A total of fifty-three (53) hours were flagged due to power outages. Sixty-two (62) hours were flagged invalid due to freezing conditions. **AE Reference #209512.**
WD	Blue Sky	857	A total of fifty-three (53) hours were flagged due to power outages. Sixty-two (62) hours were flagged invalid due to freezing conditions. **AE Reference #209512.**

PASZA – Spirit River (Portable) Station

General Station Issues

Routine monthly calibrations were performed on November 24th (SO_2, TRS & NO_X), November 26th (O_3), and November 28th (NO_X). There were several power outages throughout the month – resulting in a number of hours being flagged invalid for all parameters. A power outage on November 6th appeared to have shifted the timing of the daily zero / spans for all pollutant analyzers.

Parameter	Make	Model	Notes
SO_2	TEI	43C	A total of nine (9) hours were flagged due to power outages.
NOx/NO/NO_2	TEI	42i	A total of ninety-two (92) hours were flagged invalid (maintenance). The motherboard on the NO_X analyzer failed on November 24th, parts were ordered and the analyzer was repaired on November 28th – **Alberta Environment reference # 209317**. A total of four (4) hours were flagged due to power outages.
TRS	TEI	43C	A total of nine (9) hours were flagged due to power outages.
O_3	TEI	49C	A total of nine (9) hours were flagged due to power outages.
ET	Gill	Met Pak 3	A total of nine (9) hours were flagged due to power outages.
RH	Gill	Met Pak 3	A total of nine (9) hours were flagged due to power outages.
WS	Met One		A total of nine (9) hours were flagged due to power outages.
WD	Met One		A total of nine (9) hours were flagged due to power outages.

PASZA – Valleyview Station

General Station Issues

Routine monthly calibrations were performed on November 17th (SO_2 & H_2S).

Parameter	Make	Model	Notes
SO_2	TEI	43i	No operational issues observed.
H_2S	TEI	43A	No operational issues observed.
ET	Gill	Met Pak 3	No operational issues observed.
RH	Gill	Met Pak 3	No operational issues observed.
WS	Gill	Met Pak 3	One (1) hour flagged invalid due to intermittent spiking – reason undetermined.
WD	Gill	Met Pak 3	One (1) hour flagged invalid due to intermittent spiking – reason undetermined.

PASZA
Henry Pirker Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Sulphur Dioxide (SO_2) - ppb
November 1, 2008 to December 1, 2008

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 4.2 ppb on Nov 8 19:00
Maximum Daily Average: 0.8 ppb on Nov 21

Minimum Value: 0 ppb on Nov 2 06:00
Maximum Diurnal Average: 0.4 ppb at hour 12
Monthly Average: 0.31 ppb

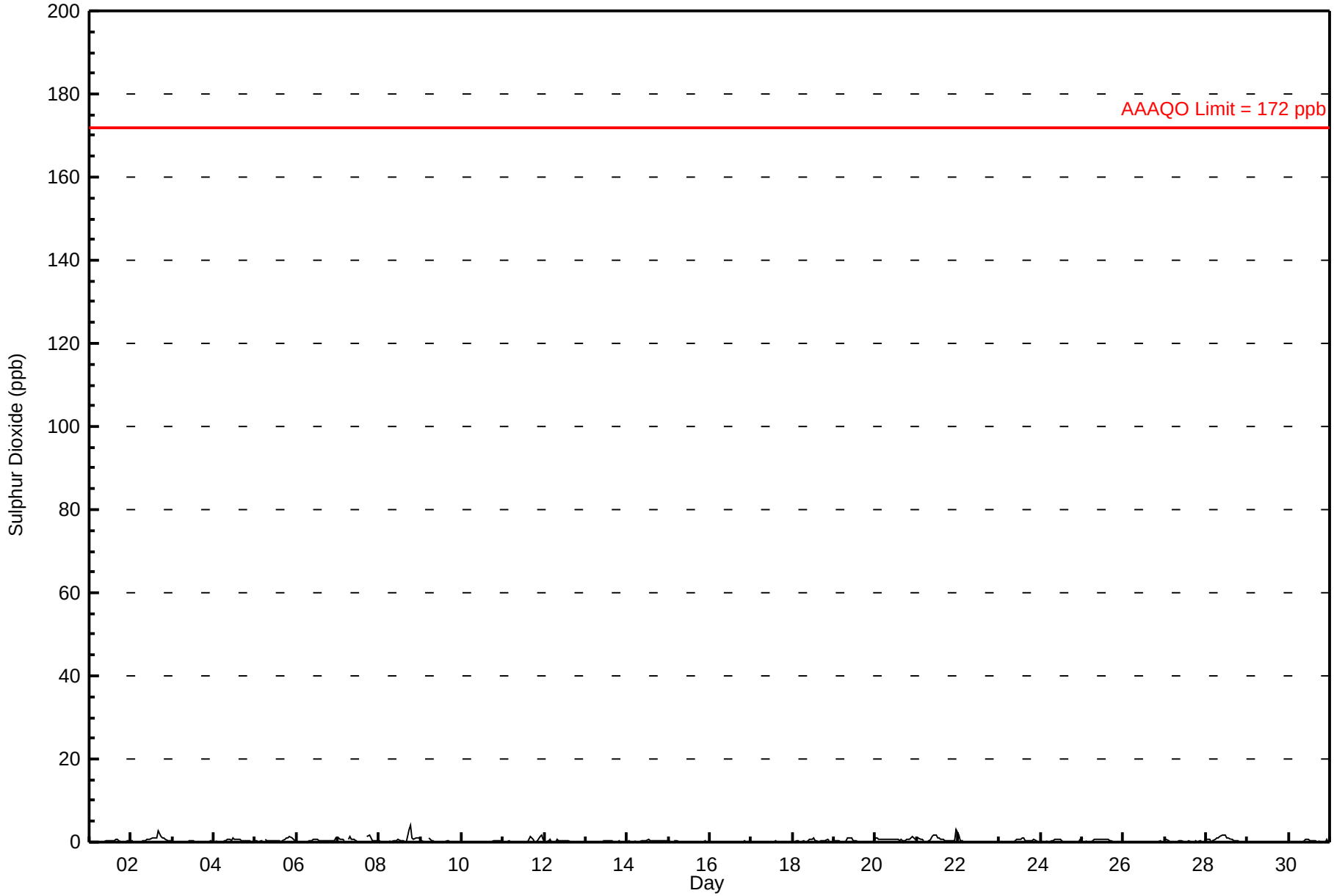
Minimum Daily Average: 0.0 ppb on Nov 26
Minimum Diurnal Average: 0.1 ppb at hour 5
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.2 Q_3 = 0.4 P_{90} = 0.8 P_{99} = 1.7

Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0.2	0.7
2-Nov	0	0	A	0	0	0	0	0	0	1	1	1	1	1	1	1	3	1	1	1	1	0	0	0	0.7	2.8
3-Nov	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
4-Nov	A	0	0	0	0	0	0	0	1	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0.4	0.9
5-Nov	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0.4	1.3
6-Nov	0	0	0	0	A	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0.3	0.9
7-Nov	1	1	1	1	0	A	1	1	1	1	0	0	C	C	C	C	A	1	2	1	0	0	0	0	0.7	1.5
8-Nov	0	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	3	4	1	1	1	1	1	0.7	4.2
9-Nov	1	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.1
10-Nov	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
11-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	2	1	0.3	1.7
12-Nov	0	0	0	1	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
13-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
14-Nov	0	0	0	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
15-Nov	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
16-Nov	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
17-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.1	0.2
18-Nov	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	A	1	0.3	0.9
19-Nov	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	1.0
20-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	1	1	1	1	1	1	0.7	1.4
21-Nov	1	1	1	1	0	A	0	0	1	1	2	2	1	1	1	1	0	0	0	0	0	0	0	3	0.8	3.0
22-Nov	2	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.6
23-Nov	0	0	0	A	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	1	0	0	0	0.3	1.1
24-Nov	0	0	A	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.3	0.8
25-Nov	1	A	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.4	0.9
26-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.0	0.2
27-Nov	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.2	0.5
28-Nov	1	1	1	0	0	1	1	1	1	2	2	2	1	1	1	1	0	0	0	0	0	A	0	0	0.7	1.7
29-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.0	0.1
30-Nov	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	A	0	0	1	0	0.2	0.7
	0.3	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.4	Diurnal Average	
	1.6	0.9	0.7	0.7	0.5	1.1	0.9	1.2	1.4	1.6	1.7	1.7	1.2	1.1	1.1	1.0	2.8	3.1	4.2	1.2	1.3	1.4	1.7	3.0	Diurnal Maximum	

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

Hourly Averages for SO_2 at Henry Pirker
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Sulphur Dioxide (SO_2) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 16.3 ppb on Nov 8 19:00

Maximum Daily Average: 2.1 ppb on Nov 8

Minimum Value: 0 ppb on Nov 22 12:00

Minimum Daily Average: 0.1 ppb on Nov 26

Maximum Diurnal Average: 1.2 ppb at hour 19

Minimum Diurnal Average: 0.4 ppb at hour 6

Monthly Average: 0.70 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.1$ $Q_1 = 0.4$ Median = 0.5 $Q_3 = 0.9$ $P_{90} = 1.3$ $P_{99} = 3.0$

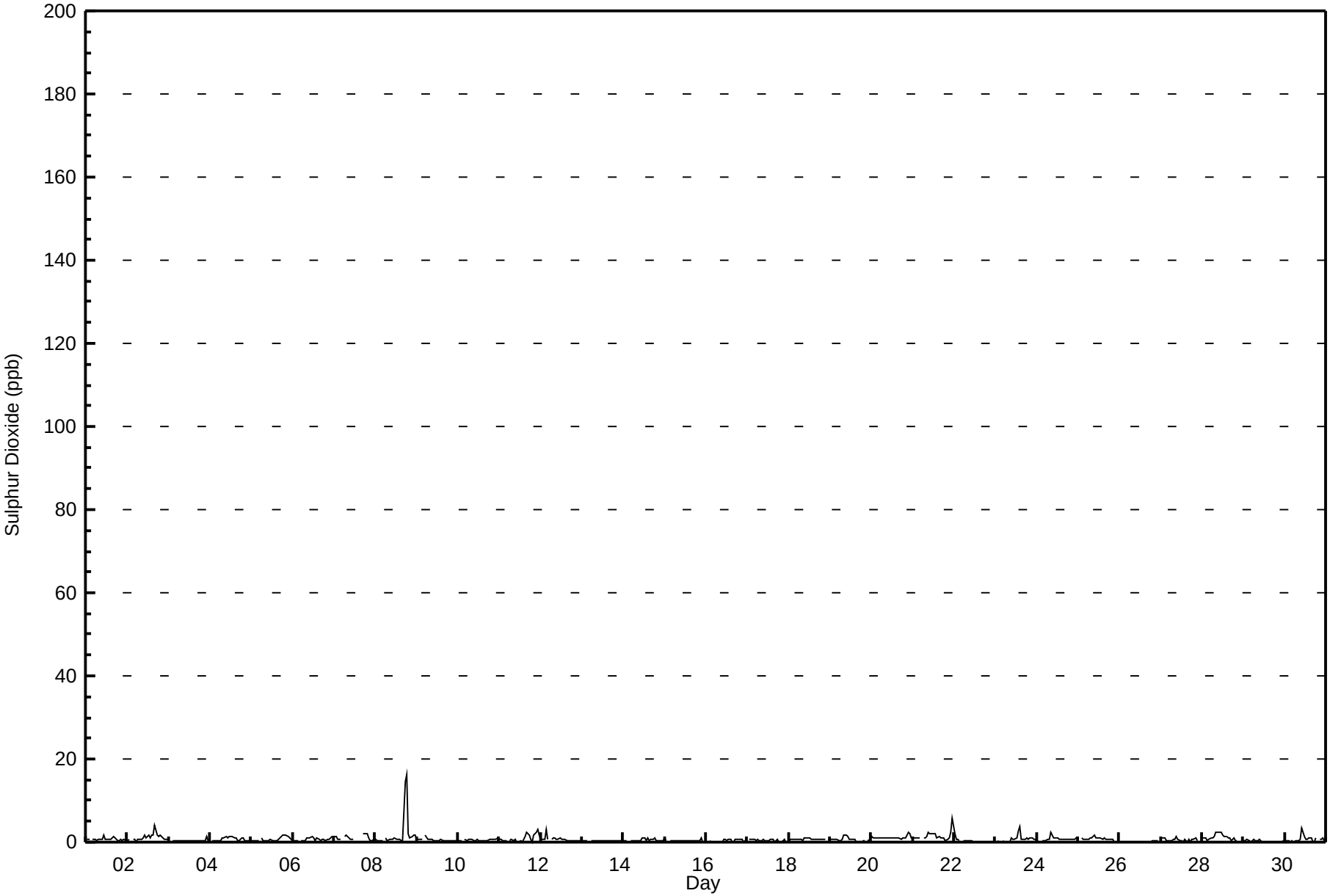
Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	1	1	1	A	1	1	0	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.7
2-Nov	1	1	A	1	1	0	1	1	1	1	2	1	2	1	2	2	4	2	1	2	1	1	1	1	1.1	4.2
3-Nov	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.4	1.5
4-Nov	A	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	1	1	0	0	0	0	0.8	1.5
5-Nov	0	0	0	0	0	A	1	0	0	0	0	1	0	0	0	0	1	1	2	2	2	1	1	1	0.7	1.6
6-Nov	0	0	0	0	A	0	0	0	1	1	1	1	1	0	1	1	0	1	1	0	1	1	1	1	0.7	1.3
7-Nov	1	1	1	1	1	A	1	2	1	1	1	1	C	C	C	C	A	2	2	2	1	0	0	1	1.1	1.9
8-Nov	1	0	0	0	0	A	1	0	1	1	1	1	1	1	1	0	0	14	16	2	1	1	2	2	2.1	16.3
9-Nov	1	1	1	1	A	2	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.5	1.5
10-Nov	0	0	1	A	1	1	1	1	1	1	0	1	1	0	0	1	1	1	1	1	1	1	1	1	0.5	1.0
11-Nov	1	1	1	1	1	A	1	1	1	1	0	0	0	0	1	2	3	2	1	0	2	3	3	2	0.9	3.1
12-Nov	1	1	1	3	1	A	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.6	3.1
13-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.4
14-Nov	0	0	0	A	0	0	0	0	0	0	0	1	1	0	1	0	1	1	1	0	0	0	0	0	0.5	0.9
15-Nov	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.3	1.2
16-Nov	0	A	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	1	1	1	1	1	0	1	0.3	0.6
17-Nov	A	1	1	1	1	0	1	0	0	1	0	0	0	1	1	1	0	1	0	0	0	1	0	A	0.4	0.6
18-Nov	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.7	1.1
19-Nov	1	1	1	1	1	0	0	1	2	2	1	1	1	1	1	0	0	0	0	0	1	A	0	1	0.6	1.6
20-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1.1	2.5
21-Nov	1	1	1	1	1	A	1	1	1	2	2	2	2	2	1	1	1	1	1	0	1	1	2	6	1.4	5.8
22-Nov	2	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.9
23-Nov	0	0	0	A	0	0	0	0	0	1	1	1	1	3	4	1	1	1	1	1	1	1	1	1	0.8	3.6
24-Nov	0	1	A	1	1	1	1	1	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	2.5
25-Nov	1	A	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0.7	1.6
26-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	A	0.1	0.5
27-Nov	1	1	1	0	0	0	0	1	1	1	1	0	0	0	1	0	1	0	1	1	1	0	A	1	0.6	1.3
28-Nov	1	1	1	0	1	1	1	1	2	2	2	2	2	1	1	1	1	0	1	0	0	A	0	0	1.1	2.3
29-Nov	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.2	0.6
30-Nov	0	0	0	0	0	0	0	0	0	1	3	1	1	1	1	1	0	0	1	A	1	1	1	1	0.7	3.3
	0.7	0.6	0.6	0.6	0.5	0.4	0.5	0.6	0.7	0.9	0.9	0.8	0.7	0.7	0.7	0.6	0.6	1.1	1.2	0.6	0.7	0.7	0.7	0.8	Diurnal Average	
	1.9	1.3	1.1	3.1	1.0	1.5	1.3	1.8	2.5	2.4	3.3	2.3	1.9	2.6	3.6	1.7	4.2	14.5	16.3	2.2	1.6	2.5	3.1	5.8	Diurnal Maximum	

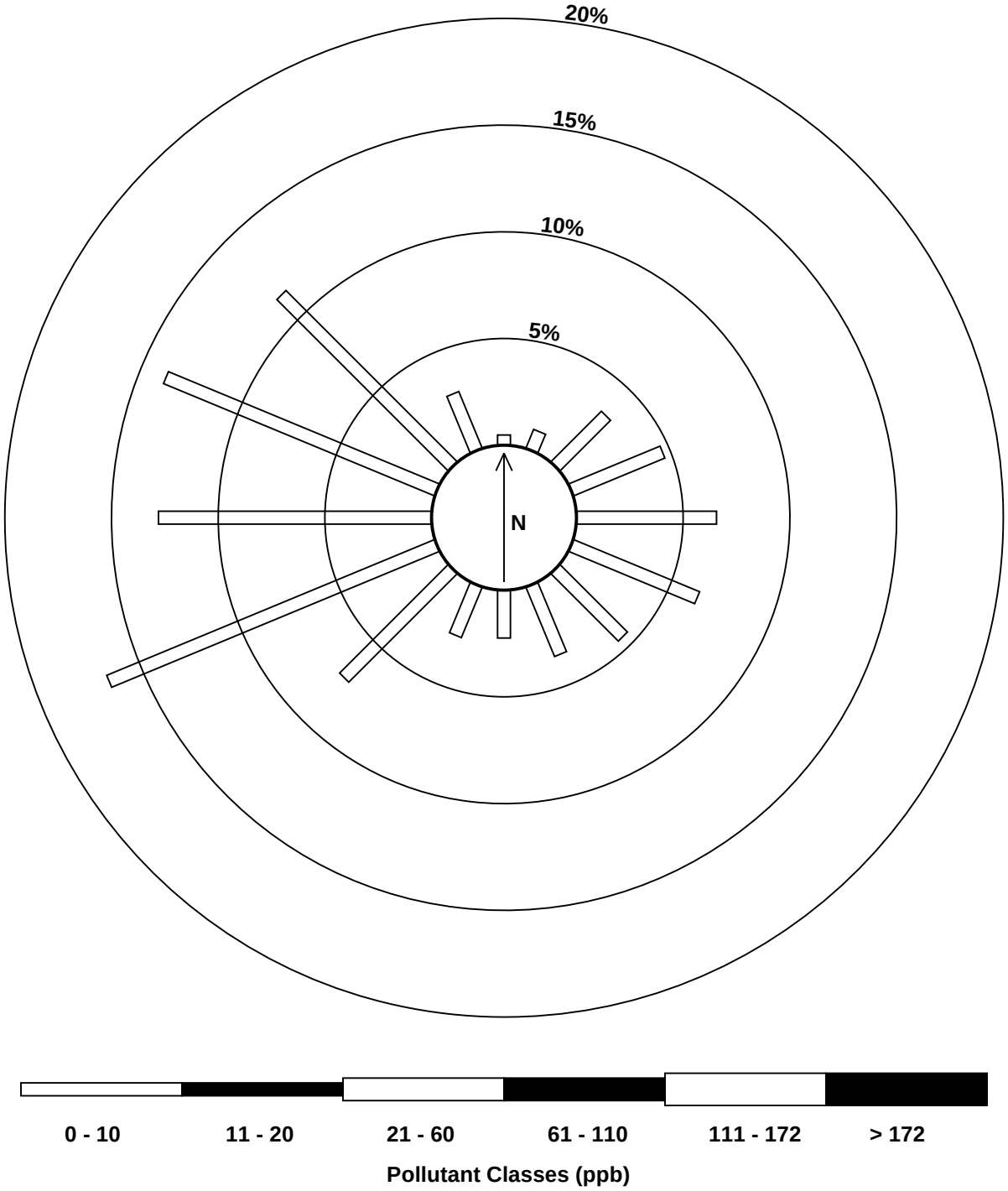
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for SO_2 at Henry Pirker
November 2008



Pollutant Rose for SO_2 at Henry Pirker
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Total Reduced Sulphur (TRS) - ppb
November 1, 2008 to December 1, 2008

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.2 ppb on Nov 30 15:00
Maximum Daily Average: 0.6 ppb on Nov 28

Minimum Value: 0 ppb on Nov 10 18:00
Maximum Diurnal Average: 0.5 ppb at hour 10
Monthly Average: 0.44 ppb

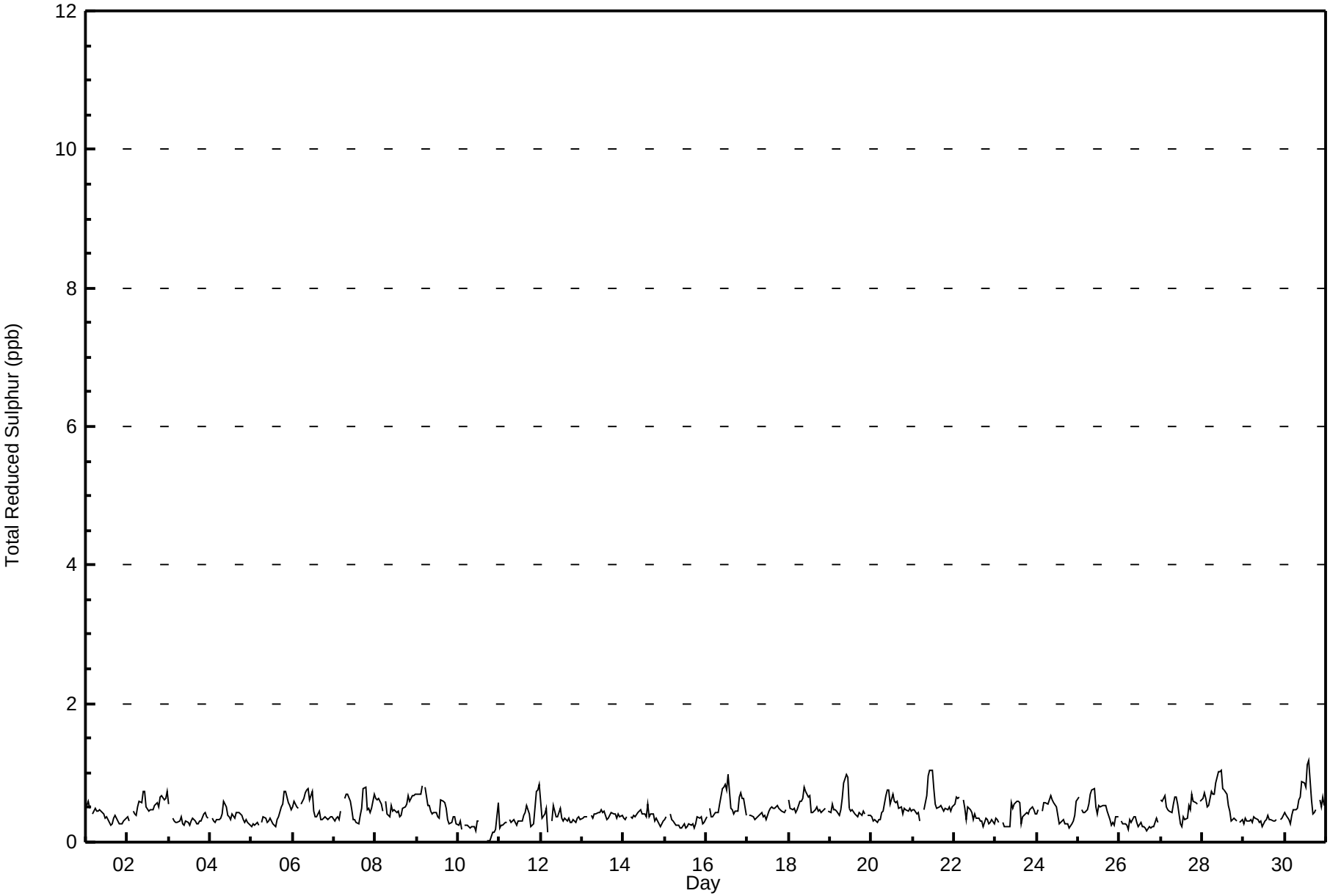
Minimum Daily Average: 0.2 ppb on Nov 10
Minimum Diurnal Average: 0.4 ppb at hour 5
Percentiles: $P_1 = 0.1$ $P_{10} = 0.3$ $Q_1 = 0.3$ Median = 0.4 $Q_3 = 0.5$ $P_{90} = 0.7$ $P_{99} = 1.0$

Hours in Service:	720
Hours of Data:	685
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

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

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

Hourly Averages for TRS at Henry Pirker
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Total Reduced Sulphur (TRS) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 2.0 ppb on Nov 12 00:00

Maximum Daily Average: 1.0 ppb on Nov 28

Minimum Value: 0 ppb on Nov 10 18:00

Maximum Diurnal Average: 0.9 ppb at hour 10

Monthly Average: 0.81 ppb

Minimum Daily Average: 0.6 ppb on Nov 26

Minimum Diurnal Average: 0.7 ppb at hour 5

Percentiles: $P_1 = 0.5$ $P_{10} = 0.6$ $Q_1 = 0.7$ Median = 0.8 $Q_3 = 0.9$ $P_{90} = 1.1$ $P_{99} = 1.5$

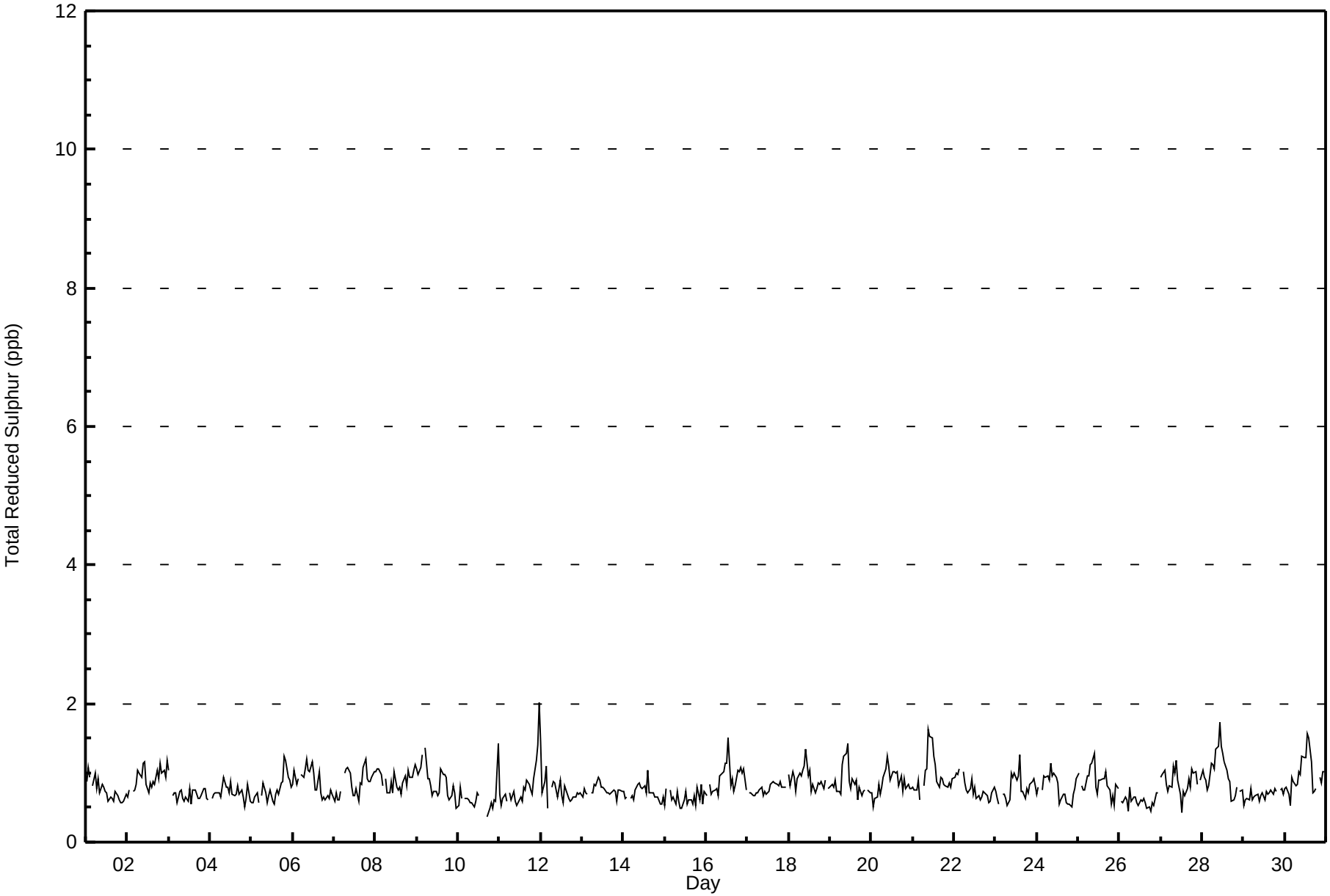
Hours in Service:	720
Hours of Data:	685
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

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

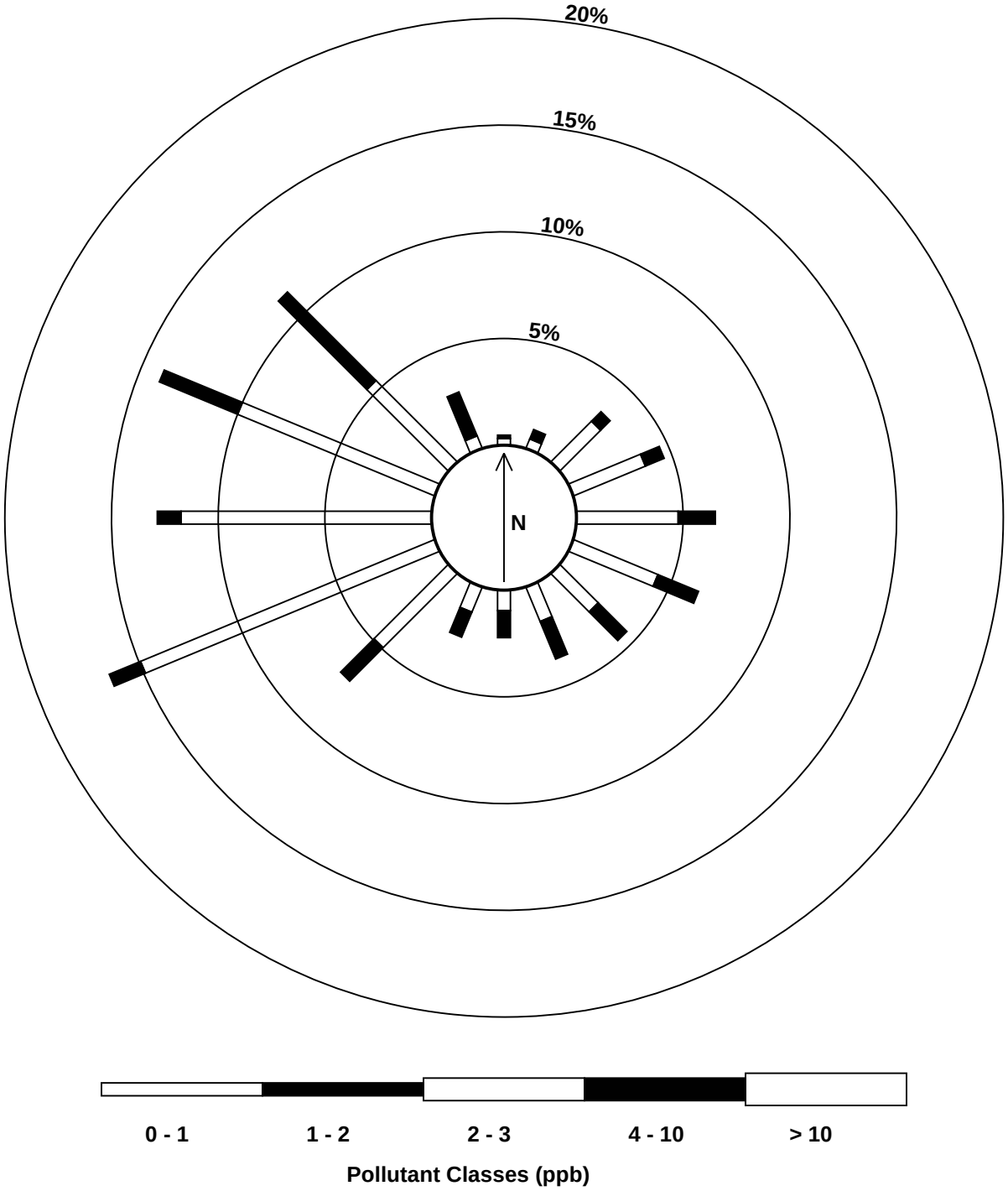
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for TRS at Henry Pirker
November 2008



Pollutant Rose for TRS at Henry Pirker
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Nitrogen Dioxide (NO_2) - ppb
November 1, 2008 to December 1, 2008

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 43.9 ppb on Nov 21 10:00
Maximum Daily Average: 27.6 ppb on Nov 27

Minimum Value: 1 ppb on Nov 13 04:00
Maximum Diurnal Average: 19.4 ppb at hour 10
Monthly Average: 14.19 ppb

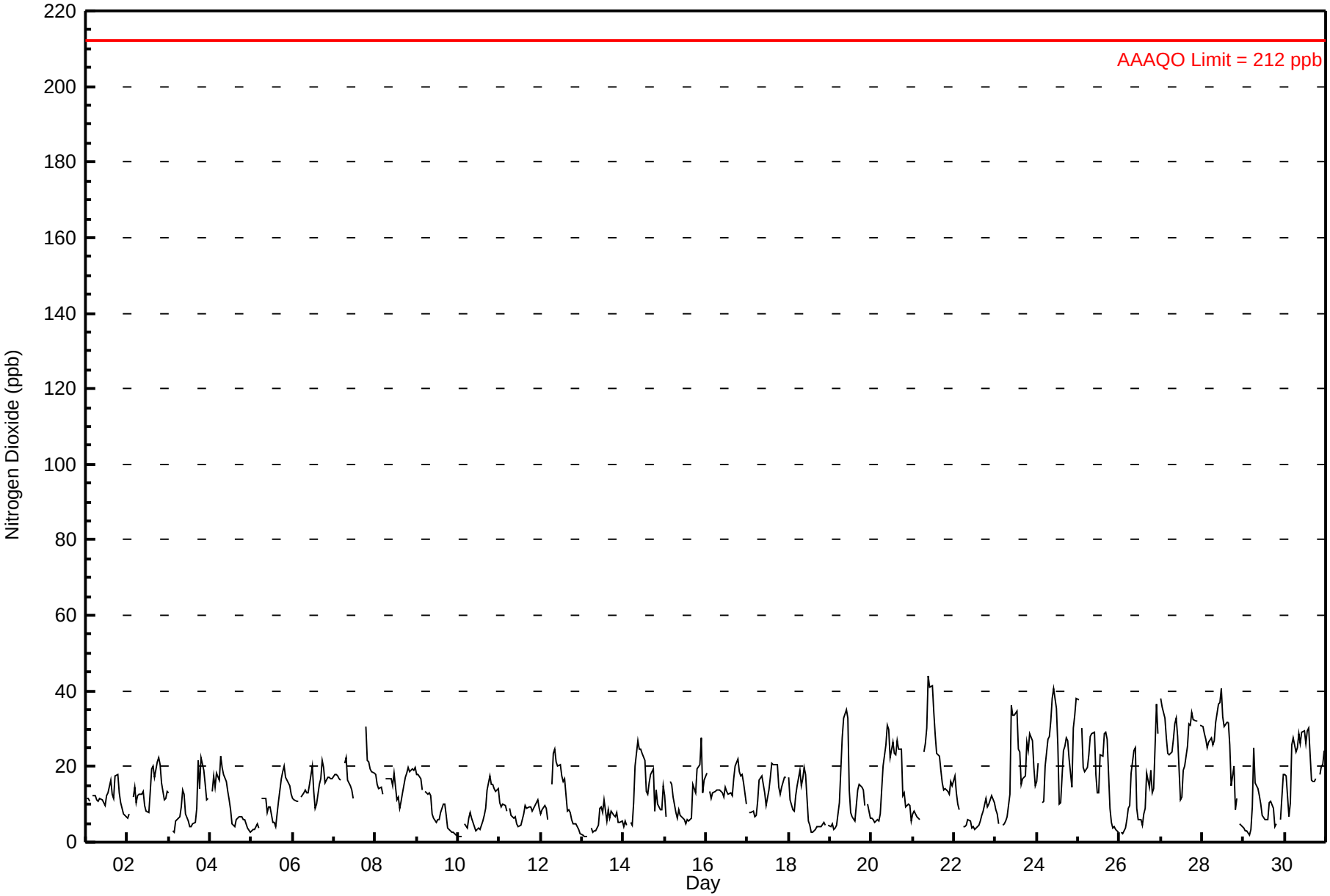
Minimum Daily Average: 5.5 ppb on Nov 13
Minimum Diurnal Average: 10.5 ppb at hour 3
Percentiles: P_1 = 1.9 P_{10} = 4.3 Q_1 = 7.1 Median = 12.8 Q_3 = 19.0 P_{90} = 27.4 P_{99} = 38.0

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) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	12	12	11	A	12	12	11	11	11	11	11	10	12	13	16	13	12	18	18	13	10	9	7	7	11.8	17.7
2-Nov	6	7	A	12	15	10	12	13	13	14	10	8	8	14	19	20	17	21	22	21	16	11	11	13	13.6	22.4
3-Nov	13	A	3	3	6	6	7	9	14	13	7	6	4	4	5	5	9	22	14	22	19	15	11	11	9.9	22.3
4-Nov	A	13	18	14	18	17	23	20	18	16	13	11	8	5	4	6	6	7	7	6	6	5	4	3	10.8	22.9
5-Nov	3	4	3	5	4	A	12	12	12	8	9	9	5	5	4	7	11	17	19	20	17	16	15	13	9.9	20.0
6-Nov	11	11	11	11	A	12	13	14	13	13	15	20	14	9	10	15	17	22	20	16	17	17	17	17	14.6	21.7
7-Nov	18	18	17	17	16	A	21	22	16	15	14	12	C	C	C	C	C	C	31	22	21	19	19	18	--	30.6
8-Nov	18	15	14	14	13	A	17	17	17	17	15	18	11	12	9	11	13	17	18	20	19	19	19	20	15.8	19.8
9-Nov	18	18	17	14	A	14	13	13	12	8	6	5	6	6	8	10	10	7	4	3	3	3	2	2	8.7	17.9
10-Nov	2	2	2	A	5	4	6	8	6	4	3	3	4	3	6	7	9	14	17	15	15	14	13	14	7.7	17.4
11-Nov	11	9	10	10	8	A	9	7	6	7	5	4	4	6	8	10	9	9	9	8	9	10	11	9	8.2	11.2
12-Nov	7	9	10	9	6	A	15	24	25	21	20	20	18	16	17	8	8	8	6	5	5	4	3	2	11.6	24.7
13-Nov	2	2	2	1	A	4	3	3	3	4	9	9	8	11	6	9	6	8	7	7	8	5	5	5	5.5	11.2
14-Nov	4	5	4	A	5	5	11	20	27	25	24	24	22	13	13	16	18	20	8	14	10	9	9	15	13.9	26.9
15-Nov	12	7	A	16	15	12	8	6	8	7	7	6	5	6	5	6	15	14	13	19	21	28	13	16	11.6	27.7
16-Nov	18	A	14	12	13	13	14	14	14	13	12	15	13	13	13	12	17	20	22	19	17	18	16	10	14.9	22.2
17-Nov	A	8	8	8	7	7	11	16	18	15	13	10	14	17	21	20	20	20	14	13	14	17	17	A	14.1	20.8
18-Nov	17	11	9	8	12	15	19	15	17	20	18	6	4	3	3	3	4	4	4	4	5	5	A	4	9.2	19.9
19-Nov	4	5	4	4	4	10	19	27	33	35	33	14	8	7	6	10	14	15	15	14	10	A	10	6	13.3	35.1
20-Nov	6	6	5	6	6	7	14	20	26	31	30	22	26	23	23	27	25	25	12	13	9	10	10	6	16.2	31.0
21-Nov	8	8	7	6	6	A	24	26	30	44	41	41	34	28	23	23	19	16	14	14	13	13	16	15	20.4	43.9
22-Nov	17	13	10	9	A	4	4	4	6	6	4	4	3	4	4	6	7	8	12	9	10	11	12	10	7.8	17.4
23-Nov	8	7	5	A	5	5	6	7	13	36	34	33	35	25	24	15	17	18	27	24	29	27	20	15	18.8	36.2
24-Nov	16	21	A	11	11	20	27	28	32	38	41	36	26	10	11	24	25	28	27	22	15	30	33	38	24.7	40.7
25-Nov	38	A	30	20	19	20	23	28	29	29	18	13	13	23	23	29	29	27	9	5	4	4	3	2	19.0	37.5
26-Nov	A	3	2	4	6	9	10	18	24	25	9	6	6	5	7	9	18	15	19	13	14	36	29	A	13.0	36.4
27-Nov	38	36	33	28	23	23	24	27	31	33	28	11	12	19	20	25	31	31	34	32	32	32	A	31	27.6	37.9
28-Nov	31	29	27	25	26	28	26	27	32	36	37	41	33	31	32	32	26	15	20	8	11	A	5	4	25.3	40.8
29-Nov	4	3	3	2	3	9	25	16	14	12	10	7	6	6	6	11	11	9	4	5	A	6	12	18	8.8	25.1
30-Nov	18	17	7	10	26	28	24	25	29	26	29	29	26	29	30	16	16	16	17	A	18	20	21	24	21.8	30.3
	13.3	11.0	10.5	10.6	11.2	12.2	14.9	16.6	18.3	19.4	17.5	15.1	13.4	12.6	13.0	14.0	15.2	16.2	15.4	14.0	13.7	14.8	13.0	12.5	Diurnal Average	
	37.9	35.8	32.8	27.6	26.4	27.7	27.2	28.1	32.7	43.9	40.9	41.5	34.5	30.7	31.7	31.7	31.3	30.9	34.4	32.4	32.1	36.4	33.4	38.1	Diurnal Maximum	

C - Calibration 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 Henry Pirker
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Nitrogen Dioxide (NO_2) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 109.8 ppb on Nov 23 10:00

Maximum Daily Average: 35.0 ppb on Nov 24

Minimum Value: 2 ppb on Nov 10 01:00

Minimum Daily Average: 9.1 ppb on Nov 13

Maximum Diurnal Average: 28.8 ppb at hour 10

Minimum Diurnal Average: 13.7 ppb at hour 3

Monthly Average: 18.85 ppb

Percentiles: P_1 = 2.9 P_{10} = 6.7 Q_1 = 10.5 Median = 16.9 Q_3 = 25.3 P_{90} = 34.1 P_{99} = 52.1

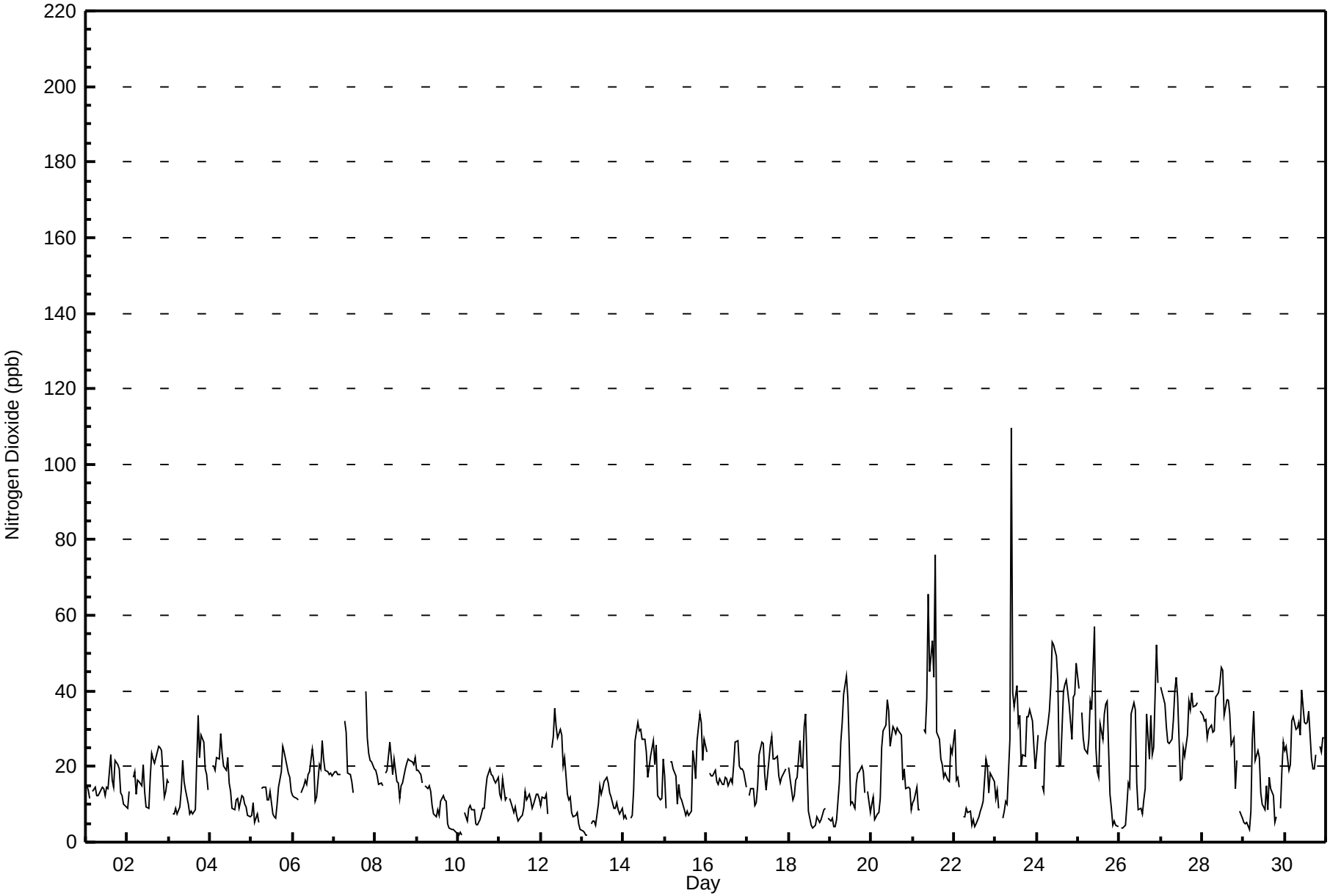
Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	15	14	11	A	13	14	12	12	13	14	14	12	14	14	23	16	14	22	20	19	13	12	10	9	14.6	23.2
2-Nov	9	13	A	17	19	13	16	16	15	20	13	9	9	17	23	22	21	24	26	25	24	12	14	16	17.2	25.5
3-Nov	16	A	7	7	9	7	9	14	21	16	14	10	7	8	7	8	21	33	22	28	27	19	18	14	15.1	33.4
4-Nov	A	20	20	19	22	22	29	23	20	19	22	15	13	9	9	11	12	9	12	12	10	9	7	7	15.3	28.6
5-Nov	7	11	5	8	5	A	14	14	14	11	11	13	8	7	6	10	15	18	25	24	22	18	17	13	13.0	25.3
6-Nov	12	12	11	11	A	13	15	16	15	18	19	25	21	11	12	21	19	27	22	19	19	18	18	18	17.0	26.7
7-Nov	19	19	18	18	18	A	32	29	18	18	16	13	C	C	C	C	C	C	40	28	24	21	21	19	--	39.7
8-Nov	19	18	15	16	15	A	18	19	27	22	18	22	16	16	12	15	16	20	21	22	22	21	20	23	18.8	26.5
9-Nov	19	19	18	16	A	15	14	15	13	10	8	7	8	7	11	12	11	11	5	4	3	3	3	2	10.2	19.2
10-Nov	2	2	2	A	8	6	9	10	9	9	5	4	5	6	9	9	14	17	19	18	17	17	16	17	9.9	19.4
11-Nov	13	11	17	11	12	A	12	10	8	10	7	5	7	7	9	14	11	13	11	9	10	13	13	11	10.5	16.9
12-Nov	10	12	12	13	7	A	25	28	36	31	28	30	28	20	22	13	11	12	8	7	7	8	5	3	16.3	35.5
13-Nov	3	2	2	2	A	5	5	5	4	10	15	13	14	16	17	16	13	12	9	9	11	9	7	9	9.1	17.2
14-Nov	6	7	6	A	7	7	14	27	32	29	30	27	27	24	17	20	23	27	20	26	12	11	12	22	18.8	31.7
15-Nov	17	9	A	21	21	19	17	10	15	12	11	9	7	8	7	8	24	21	17	27	34	32	22	27	17.2	33.8
16-Nov	24	A	18	18	17	19	16	15	17	15	15	17	17	15	17	16	21	26	27	20	20	19	19	15	18.3	26.9
17-Nov	A	12	14	14	10	10	15	23	26	26	18	14	22	26	28	22	22	23	17	16	17	19	20	A	18.8	27.9
18-Nov	20	17	11	12	16	17	27	20	20	31	34	8	6	4	4	4	7	6	5	6	9	9	A	6	13.0	34.1
19-Nov	6	6	4	4	6	16	27	32	39	44	38	25	10	11	9	16	18	19	20	19	13	A	14	8	17.5	44.2
20-Nov	10	12	6	7	8	11	25	29	31	38	35	25	30	30	29	30	29	28	16	20	14	14	14	8	20.9	37.6
21-Nov	11	11	14	9	8	A	30	29	38	66	45	53	44	76	29	27	22	20	17	18	16	16	25	23	28.2	75.9
22-Nov	30	16	17	14	A	7	7	9	8	8	5	6	4	5	7	8	9	11	22	20	13	18	17	16	12.1	30.0
23-Nov	11	14	9	A	6	8	11	10	27	110	39	36	42	31	34	20	23	23	33	33	35	32	25	19	27.5	109.8
24-Nov	23	28	A	15	13	26	31	35	42	53	52	49	43	20	20	40	42	43	40	37	27	38	39	47	35.0	53.0
25-Nov	41	A	34	28	25	24	27	37	35	57	25	19	17	31	27	34	37	37	13	9	5	6	5	4	25.0	57.1
26-Nov	A	4	4	5	10	16	15	34	37	35	16	8	9	8	11	14	34	22	34	23	25	52	42	A	20.7	52.1
27-Nov	41	40	36	30	27	26	27	33	40	44	38	16	17	25	23	29	37	35	40	36	36	37	A	35	32.4	43.6
28-Nov	33	32	33	28	30	31	29	29	39	39	42	46	45	34	38	38	34	26	28	14	22	A	8	6	30.6	46.2
29-Nov	5	5	5	3	8	27	35	22	24	22	13	10	9	15	9	17	14	12	5	7	A	9	19	26	14.0	34.7
30-Nov	24	25	19	21	32	33	30	30	32	28	40	32	31	32	35	22	19	19	23	A	26	24	28	27	27.5	40.1
	16.5	14.5	13.7	14.1	14.4	16.4	19.8	21.3	23.8	28.8	22.9	19.4	18.3	18.3	17.4	18.3	20.5	21.2	20.6	19.1	18.3	18.5	17.0	16.2	Diurnal Average	
	40.9	39.6	36.5	30.4	32.2	33.3	34.7	37.2	41.5	109.8	52.3	53.4	45.4	75.9	37.6	39.9	41.6	43.0	40.0	36.7	36.2	52.1	42.3	47.2	Diurnal Maximum	

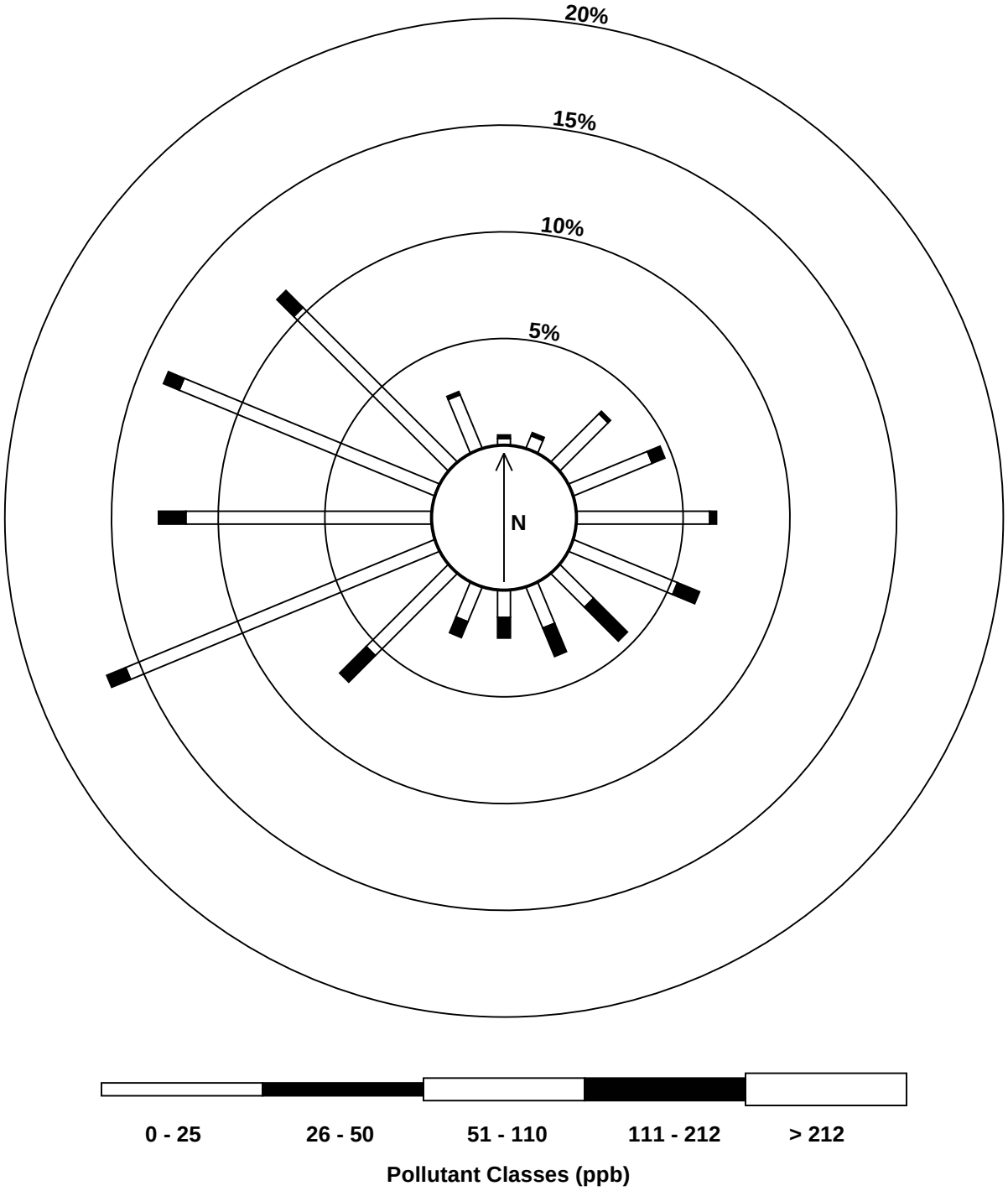
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for NO_2 at Henry Pirker
November 2008



Pollutant Rose for NO_2 at Henry Pirker
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Nitrogen Oxide (NO) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 123.8 ppb on Nov 7 19:00

Maximum Daily Average: 42.4 ppb on Nov 28

Minimum Value: 0 ppb on Nov 24 21:00

Minimum Daily Average: 0.9 ppb on Nov 22

Maximum Diurnal Average: 31.2 ppb at hour 10

Minimum Diurnal Average: 3.0 ppb at hour 4

Monthly Average: 12.18 ppb

Percentiles: $P_1 = 0.1$ $P_{10} = 0.4$ $Q_1 = 1.1$ Median = 3.7 $Q_3 = 14.0$ $P_{90} = 37.5$ $P_{99} = 101.1$

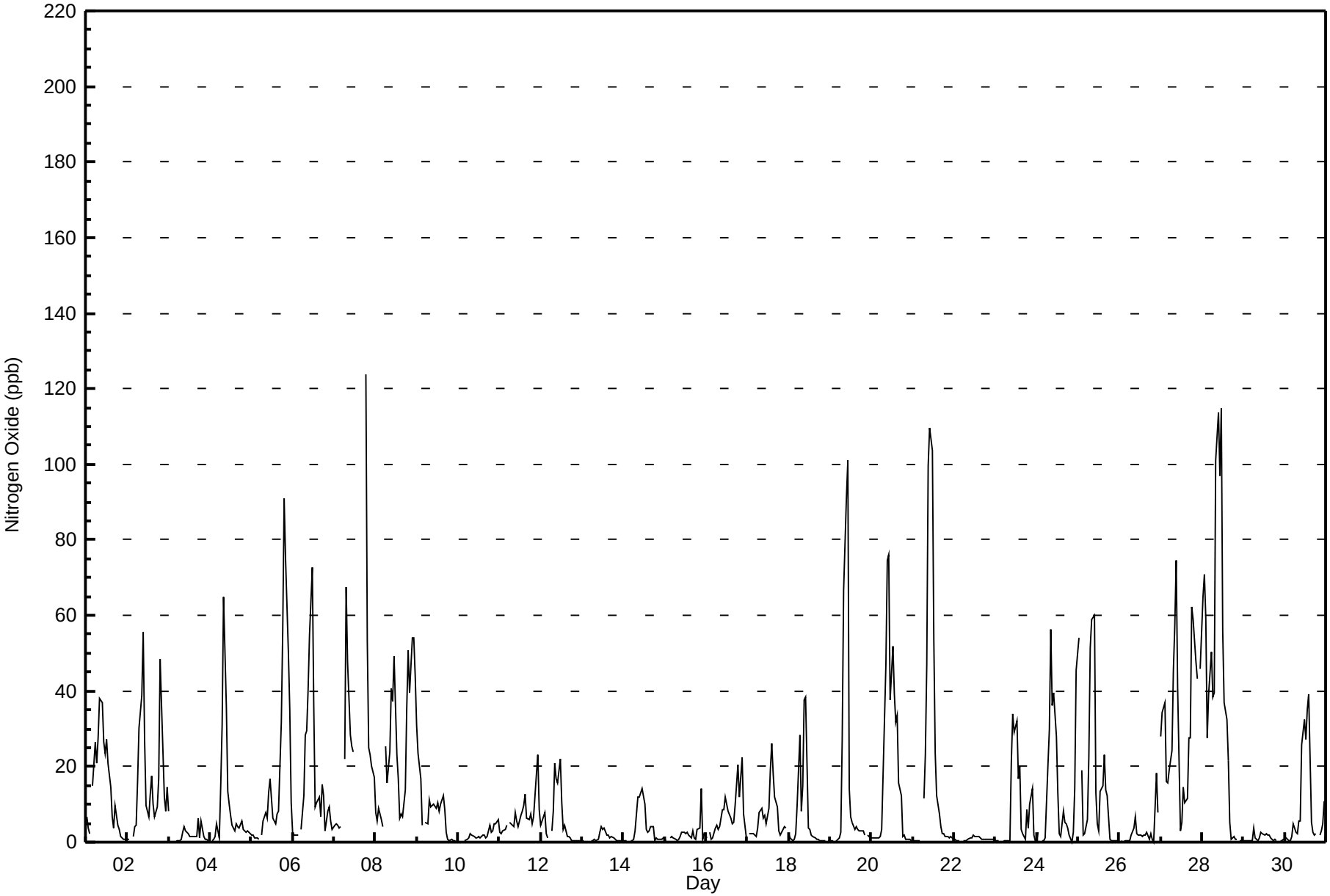
Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	7	4	2	A	15	26	21	28	38	37	27	23	27	21	15	7	4	10	4	3	1	1	1	1	14.0	38.1
2-Nov	1	1	A	1	4	5	16	30	39	56	27	10	7	13	17	10	7	9	17	49	36	12	8	14	16.8	55.5
3-Nov	8	A	0	0	0	0	0	1	3	4	3	2	2	2	1	1	2	6	1	6	1	1	1	0	2.0	8.2
4-Nov	A	0	1	1	5	1	15	31	65	36	13	10	7	5	3	5	4	4	6	3	3	3	3	2	9.7	64.7
5-Nov	2	2	1	1	1	A	2	6	8	6	13	17	6	6	5	8	8	32	56	91	75	50	35	10	19.1	90.8
6-Nov	2	2	2	2	A	3	12	29	30	40	55	73	36	9	10	12	7	15	12	3	8	9	6	3	16.6	72.7
7-Nov	5	5	5	4	4	A	22	67	48	29	25	24	C	C	C	C	C	C	124	53	25	23	20	17	--	123.8
8-Nov	8	6	9	6	4	A	25	16	24	41	37	49	23	17	7	7	7	14	35	51	40	54	54	44	25.1	54.2
9-Nov	31	23	17	4	A	5	5	11	9	10	10	9	10	8	10	12	9	3	1	1	1	0	0	0	8.2	30.9
10-Nov	0	0	0	A	1	1	1	2	2	1	1	1	1	1	2	2	1	1	4	3	3	5	5	6	2.0	5.9
11-Nov	3	2	3	3	4	A	5	5	4	8	6	4	7	8	10	13	6	6	8	5	7	18	23	9	7.2	23.3
12-Nov	5	6	8	2	1	A	3	8	21	17	16	22	10	4	4	1	1	1	1	0	1	1	0	0	5.7	22.1
13-Nov	0	0	0	0	A	0	0	1	1	1	3	4	3	4	2	2	1	1	1	1	1	1	0	0	1.2	4.3
14-Nov	0	0	0	A	0	0	1	3	12	12	13	14	10	3	3	3	4	4	0	1	1	1	1	1	3.9	14.1
15-Nov	1	0	A	1	2	1	1	0	1	2	3	3	2	3	2	1	3	1	1	3	4	14	1	2	2.2	14.0
16-Nov	1	A	3	1	1	4	5	3	4	9	9	12	10	8	6	5	5	10	21	12	17	22	7	1	7.7	22.4
17-Nov	A	2	2	2	2	2	4	8	9	6	7	5	9	19	26	18	12	9	3	2	2	4	4	A	7.2	26.1
18-Nov	2	1	1	1	2	10	28	8	15	38	38	4	4	2	1	1	1	1	1	1	1	1	A	0	6.9	38.5
19-Nov	0	0	0	0	0	1	3	27	67	91	101	14	7	5	3	4	3	3	3	3	2	A	2	1	14.8	101.2
20-Nov	1	1	1	1	1	1	3	18	47	75	76	38	52	39	32	34	16	12	1	2	1	1	1	0	18.9	76.0
21-Nov	1	1	0	0	0	A	12	23	47	99	110	104	54	23	12	7	4	2	2	2	2	1	2	1	22.1	109.6
22-Nov	1	0	0	0	A	0	0	0	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	0.9	1.8
23-Nov	1	0	0	A	0	0	0	0	1	21	34	29	32	17	20	3	2	1	8	4	10	14	2	0	8.7	34.1
24-Nov	0	3	A	0	0	1	21	30	56	36	40	28	13	2	2	8	5	5	4	2	0	3	14	46	13.9	56.4
25-Nov	54	A	19	2	2	6	22	52	59	60	13	5	3	13	15	23	14	12	1	0	0	0	0	0	16.4	60.2
26-Nov	A	0	0	0	0	0	0	2	4	7	2	2	2	1	2	2	2	1	2	1	0	18	8	A	2.6	18.2
27-Nov	28	34	37	16	16	19	24	45	57	75	41	3	5	15	11	12	28	28	62	59	48	43	A	46	32.7	74.6
28-Nov	65	71	59	28	39	50	39	39	101	114	97	115	56	37	32	22	5	1	2	1	1	A	0	0	42.4	115.0
29-Nov	0	0	0	0	0	1	4	1	0	1	3	2	2	2	2	2	1	1	1	1	A	0	1	1	1.1	3.7
30-Nov	1	1	0	0	1	5	3	2	6	6	26	33	27	35	39	5	3	2	2	A	2	3	5	11	9.4	39.0
	8.4	6.2	6.3	3.0	4.2	6.0	9.9	16.6	25.9	31.2	28.3	22.0	14.8	11.1	10.2	8.0	5.7	6.7	12.8	12.4	10.0	10.9	7.3	7.8	Diurnal Average	
	65.0	70.9	59.4	27.7	39.3	50.3	38.6	67.4	101.1	113.7	109.6	115.0	56.1	39.2	39.0	33.7	27.7	31.8	123.8	90.8	74.9	54.2	54.0	45.8	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

Hourly Averages for NO at Henry Pirker
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Nitrogen Oxide (NO) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 200.9 ppb on Nov 25 10:00

Maximum Daily Average: 64.4 ppb on Nov 28

Minimum Value: 0 ppb on Nov 25 22:00

Minimum Daily Average: 1.7 ppb on Nov 22

Maximum Diurnal Average: 57.8 ppb at hour 10

Minimum Diurnal Average: 7.1 ppb at hour 4

Monthly Average: 22.52 ppb

Percentiles: $P_1 = 0.4$ $P_{10} = 1.0$ $Q_1 = 2.8$ Median = 9.7 $Q_3 = 29.0$ $P_{90} = 67.9$ $P_{99} = 139.4$

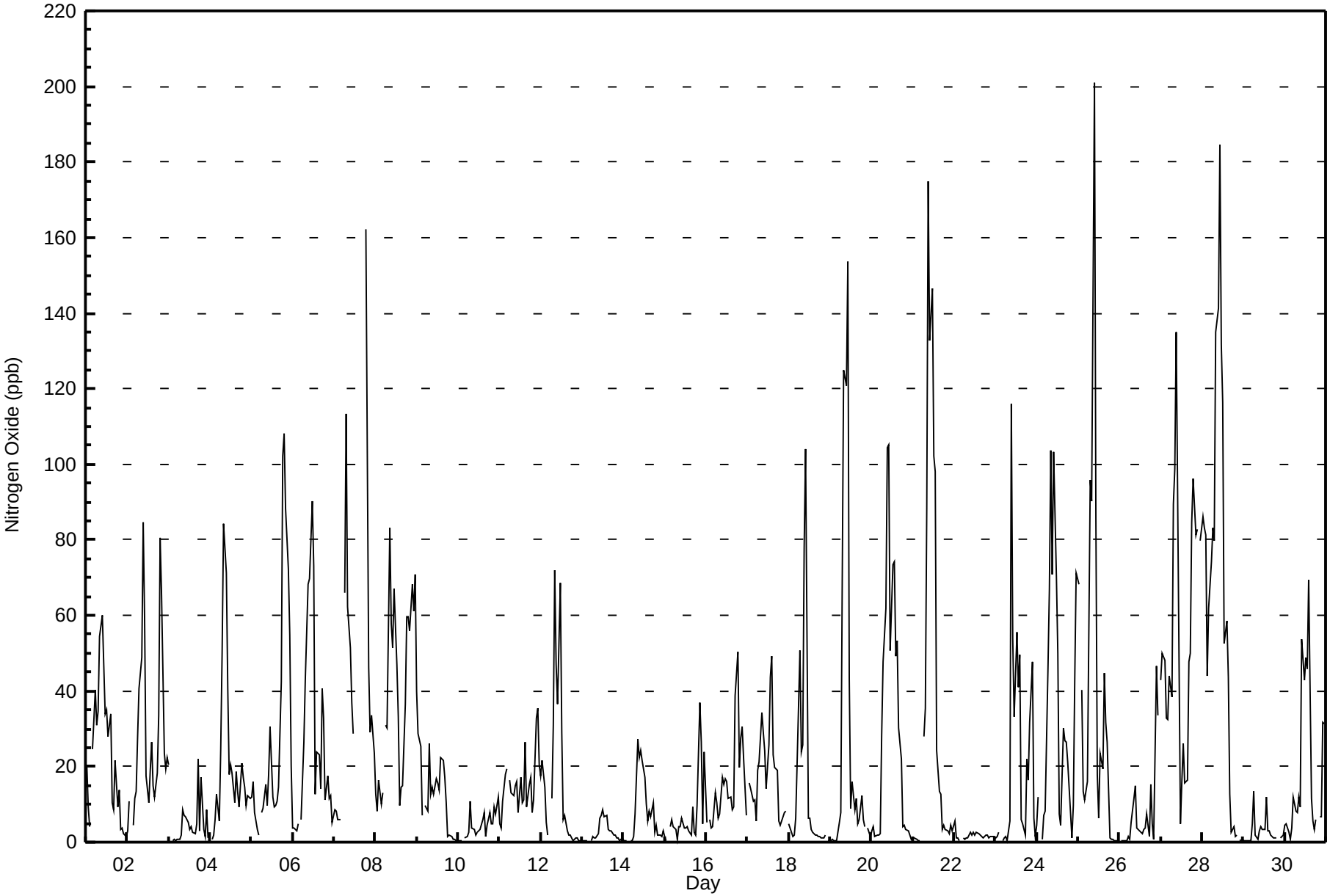
Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	20	9	4	A	25	40	31	35	55	60	47	34	35	28	34	10	9	22	9	14	3	4	2	1	23.1	59.9
2-Nov	3	11	A	4	11	13	27	40	49	85	59	18	10	19	27	15	12	18	34	80	66	23	19	22	29.0	84.7
3-Nov	20	A	0	1	0	1	1	2	9	7	7	5	3	4	2	2	5	22	3	17	3	1	9	1	5.5	21.9
4-Nov	A	1	2	6	13	6	25	51	84	71	41	18	21	18	10	18	14	9	21	17	15	10	12	12	21.4	84.1
5-Nov	12	16	8	3	2	A	8	9	15	10	18	31	12	9	10	11	14	42	102	108	88	72	55	20	29.4	108.1
6-Nov	4	4	3	5	A	6	27	43	55	68	70	90	73	13	24	23	14	41	33	11	18	12	12	5	28.4	90.2
7-Nov	9	8	6	6	6	A	66	113	62	51	37	29	C	C	C	C	C	C	162	104	46	29	34	24	--	162.3
8-Nov	13	8	16	10	13	A	31	30	83	58	51	67	47	33	10	15	15	37	60	60	56	68	61	71	39.6	83.0
9-Nov	40	29	25	7	A	10	8	26	13	14	13	17	16	14	22	22	17	10	1	2	1	1	1	0	13.5	39.7
10-Nov	0	0	0	A	1	1	2	11	4	3	2	2	3	3	6	8	1	4	8	5	5	9	8	12	4.4	12.0
11-Nov	5	4	11	18	19	A	16	13	12	15	16	8	17	10	11	27	9	15	17	8	11	33	35	20	15.3	35.4
12-Nov	18	21	15	5	2	A	11	31	72	47	37	69	29	6	7	3	2	2	1	1	1	1	1	1	16.6	71.9
13-Nov	1	1	1	1	A	1	1	1	1	2	6	7	8	7	7	4	3	3	2	2	1	1	1	1	2.7	8.5
14-Nov	1	1	1	A	1	1	2	7	27	22	24	22	17	10	5	8	7	10	3	4	2	2	2	3	7.8	27.1
15-Nov	2	1	A	4	6	4	3	1	4	4	6	4	4	4	3	2	9	3	2	10	37	26	5	24	7.2	36.8
16-Nov	5	A	6	4	4	13	11	6	7	17	15	17	16	11	12	8	9	39	50	20	28	30	22	7	15.6	50.3
17-Nov	A	16	14	11	11	6	19	21	34	29	24	14	26	44	49	23	20	19	5	4	5	8	8	A	18.7	49.4
18-Nov	5	4	1	2	6	21	51	24	26	78	104	6	6	3	2	2	2	1	1	1	1	2	A	1	15.3	103.9
19-Nov	1	1	1	1	1	5	8	68	125	121	154	43	9	16	9	12	5	6	12	6	4	A	4	2	26.6	153.6
20-Nov	3	4	2	2	2	2	28	48	62	104	105	51	73	74	49	53	30	22	4	5	3	3	2	1	30.5	105.3
21-Nov	1	1	1	1	1	A	28	36	88	175	133	146	102	98	24	13	13	3	4	3	3	2	4	3	38.4	174.8
22-Nov	5	1	1	0	A	1	1	1	1	2	2	2	2	2	2	2	1	1	2	2	1	1	2	1	1.7	5.4
23-Nov	1	2	3	A	1	1	1	0	5	116	54	33	55	41	49	6	5	2	22	17	32	48	6	1	21.8	115.9
24-Nov	5	12	A	1	7	8	46	67	104	71	103	70	50	7	4	30	27	26	21	15	1	10	43	71	34.7	103.6
25-Nov	68	A	40	13	11	16	56	96	90	201	86	18	7	23	19	45	32	26	1	1	1	0	0	0	37.0	200.9
26-Nov	A	0	0	0	0	1	1	5	11	15	4	3	3	2	3	4	8	2	15	5	1	46	34	A	7.5	46.4
27-Nov	43	50	48	33	32	44	39	90	99	135	92	5	16	26	16	16	48	50	84	96	81	83	A	80	56.7	134.9
28-Nov	86	83	81	44	62	74	83	80	135	141	185	132	116	53	59	44	13	3	4	1	2	A	0	1	64.4	184.7
29-Nov	0	0	0	0	0	5	13	2	1	3	4	3	3	12	3	3	2	1	1	1	A	1	1	2	2.8	13.5
30-Nov	5	5	2	1	4	12	8	8	12	9	54	43	49	46	69	11	6	3	6	A	7	7	32	31	18.7	69.3
	13.8	10.8	10.9	7.1	9.3	12.2	21.7	32.1	44.9	57.8	51.7	33.6	28.6	22.0	19.0	15.2	12.1	15.3	23.1	21.3	18.0	19.1	14.8	14.9	Diurnal Average	
	86.1	83.2	81.2	43.9	62.1	74.4	83.1	113.3	135.1	200.9	184.7	146.4	116.3	97.9	69.3	53.5	47.7	49.9	162.3	108.1	88.3	82.9	61.3	79.6	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for NO at Henry Pirker
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Oxides of Nitrogen (NO_X) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 155.7 ppb on Nov 28 12:00

Maximum Daily Average: 67.7 ppb on Nov 28

Minimum Value: 1 ppb on Nov 13 04:00

Minimum Daily Average: 6.5 ppb on Nov 13

Maximum Diurnal Average: 50.5 ppb at hour 10

Minimum Diurnal Average: 13.7 ppb at hour 4

Monthly Average: 26.31 ppb

Percentiles: P_1 = 2.0 P_{10} = 4.9 Q_1 = 9.3 Median = 17.5 Q_3 = 34.6 P_{90} = 63.2 P_{99} = 131.0

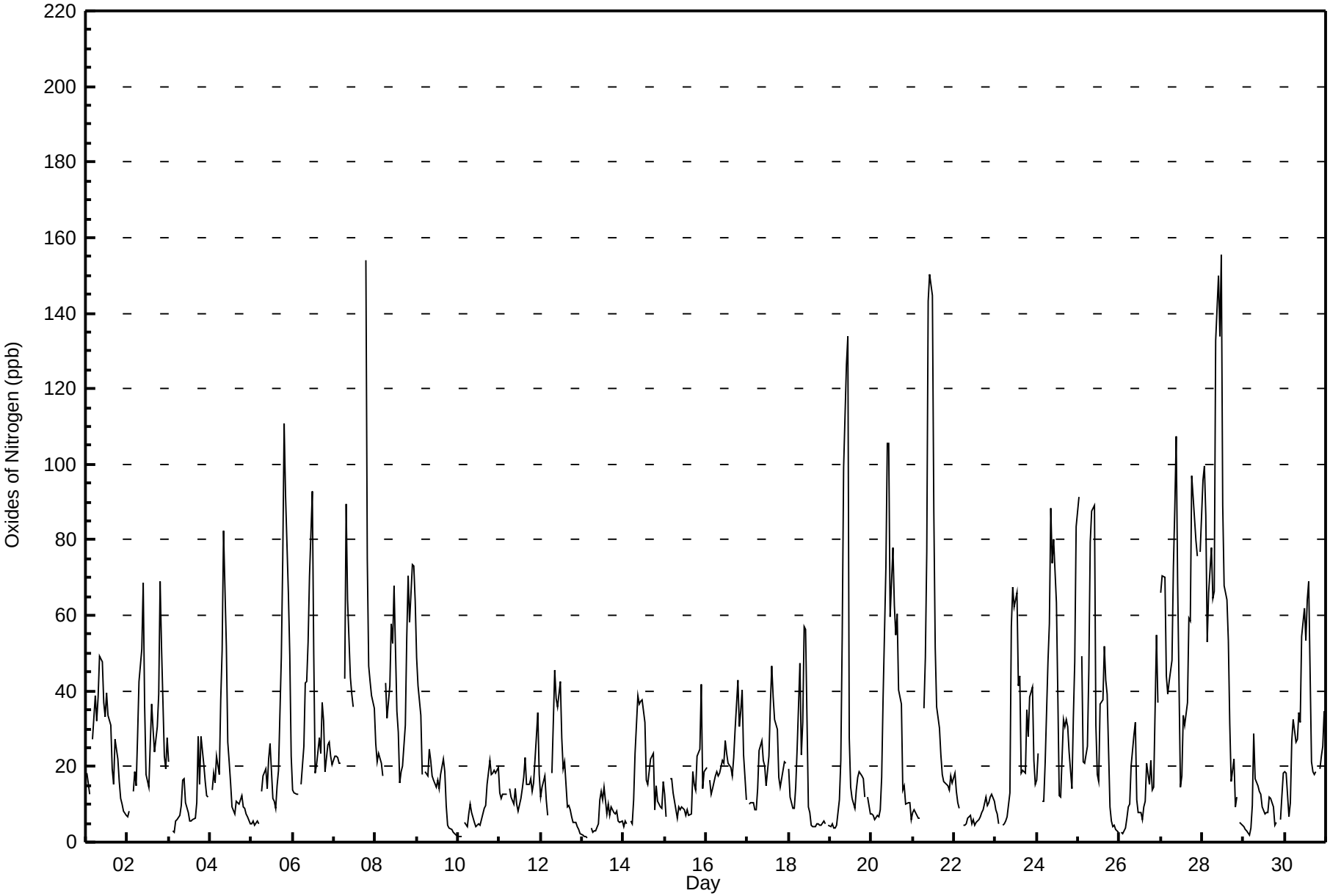
Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	18	16	13	A	27	39	32	39	49	48	37	33	39	34	31	20	15	27	22	16	12	10	8	7	25.7	49.3
2-Nov	7	8	A	13	19	15	28	43	51	69	36	18	15	26	37	30	24	31	39	69	52	23	19	28	30.3	68.9
3-Nov	21	A	3	3	6	6	7	10	16	17	10	8	6	6	6	6	11	28	15	28	21	16	12	12	11.8	28.0
4-Nov	A	14	18	16	23	18	38	51	83	52	27	21	16	9	7	11	10	10	12	9	9	7	7	5	20.5	82.5
5-Nov	5	5	5	6	5	A	14	17	19	14	22	26	12	11	9	15	19	49	75	111	92	66	50	23	29.0	110.6
6-Nov	14	13	13	13	A	15	25	42	43	53	70	93	50	18	21	27	23	37	32	19	26	27	23	21	31.2	92.8
7-Nov	23	23	22	21	21	A	43	90	64	44	39	36	C	C	C	C	C	C	154	75	47	43	39	35	--	154.2
8-Nov	26	21	23	21	17	A	42	33	41	58	53	68	35	29	16	19	20	31	54	70	58	74	73	64	41.1	73.6
9-Nov	49	41	33	18	A	19	18	24	22	17	16	14	16	14	18	22	19	10	5	4	3	3	2	2	16.9	48.9
10-Nov	2	2	2	A	5	4	7	10	8	5	4	4	5	4	7	9	10	15	22	18	18	19	18	20	9.5	21.8
11-Nov	13	12	13	13	13	A	14	12	10	14	10	8	11	14	17	22	15	15	17	13	16	28	34	18	15.3	34.4
12-Nov	12	14	17	11	7	A	18	32	45	38	36	42	28	19	21	9	10	9	7	5	5	4	3	2	17.2	45.4
13-Nov	2	1	1	1	A	4	3	3	3	5	11	13	11	15	7	10	7	9	8	8	8	6	5	6	6.5	14.7
14-Nov	4	6	5	A	6	5	11	23	39	37	37	38	32	16	15	19	22	24	9	15	11	9	9	16	17.6	38.7
15-Nov	13	7	A	17	17	13	8	6	9	9	9	9	7	9	7	8	18	15	14	23	24	42	14	19	13.8	41.8
16-Nov	20	A	16	13	14	18	19	17	18	22	21	27	23	21	20	17	22	30	43	31	35	40	23	11	22.6	42.9
17-Nov	A	10	10	10	9	8	14	24	27	22	20	15	23	36	47	39	32	30	17	15	17	21	21	A	21.2	46.8
18-Nov	19	12	9	9	14	25	47	23	32	57	56	9	8	4	4	4	5	5	4	5	5	5	A	4	16.0	57.2
19-Nov	4	5	4	4	4	11	22	55	99	126	134	28	14	12	9	14	17	19	17	17	12	A	12	7	28.0	133.9
20-Nov	7	7	6	7	7	9	17	38	73	105	106	60	78	63	55	60	40	37	14	15	10	11	11	6	35.0	105.5
21-Nov	8	9	7	6	6	A	35	49	77	143	150	145	88	52	36	30	23	18	16	16	15	14	18	16	42.4	150.1
22-Nov	18	13	10	9	A	5	5	5	6	7	5	6	5	5	6	7	8	9	12	10	10	12	13	11	8.5	18.1
23-Nov	9	7	5	A	4	5	5	7	13	57	67	62	66	41	44	18	19	18	35	28	39	41	21	15	27.3	67.3
24-Nov	16	24	A	11	11	21	48	58	88	74	80	63	39	12	12	32	31	32	31	24	14	33	48	84	38.5	88.4
25-Nov	91	A	49	21	21	25	45	79	88	89	31	18	16	37	38	52	43	39	9	6	4	4	4	3	35.3	91.3
26-Nov	A	3	2	4	6	9	10	20	28	32	11	8	8	6	9	11	21	15	21	14	14	55	37	A	15.7	54.7
27-Nov	66	70	70	44	39	42	48	73	88	107	69	15	17	34	31	37	59	59	97	91	80	76	A	77	60.4	107.3
28-Nov	96	99	87	53	66	78	65	66	133	150	134	156	89	68	64	53	31	16	22	9	12	A	5	4	67.7	155.7
29-Nov	4	3	3	2	4	10	29	17	15	13	13	9	8	8	8	12	11	9	4	5	A	6	12	18	9.7	28.9
30-Nov	19	18	7	10	27	32	26	27	34	32	54	62	53	64	69	21	19	18	19	A	19	23	26	35	31.1	69.0
	21.7	17.2	16.8	13.7	15.3	18.1	24.8	33.1	44.1	50.5	45.7	37.1	28.2	23.7	23.1	21.9	20.9	22.9	28.2	26.4	23.7	25.5	20.2	20.3	Diurnal Average	
	95.7	99.5	86.6	52.9	65.9	78.0	64.5	89.6	132.7	150.0	150.1	155.7	89.3	67.7	69.0	60.3	59.1	58.6	154.2	110.6	91.8	75.5	73.1	83.5	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

Hourly Averages for NO_X at Henry Pirker
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Oxides of Nitrogen (NO_X) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 257.3 ppb on Nov 25 10:00

Maximum Daily Average: 94.0 ppb on Nov 28

Minimum Value: 2 ppb on Nov 13 03:00

Minimum Daily Average: 11.2 ppb on Nov 13

Maximum Diurnal Average: 85.3 ppb at hour 10

Minimum Diurnal Average: 20.7 ppb at hour 4

Monthly Average: 40.61 ppb

Percentiles: P_1 = 3.1 P_{10} = 8.0 Q_1 = 15.4 Median = 26.8 Q_3 = 53.1 P_{90} = 92.6 P_{99} = 189.9

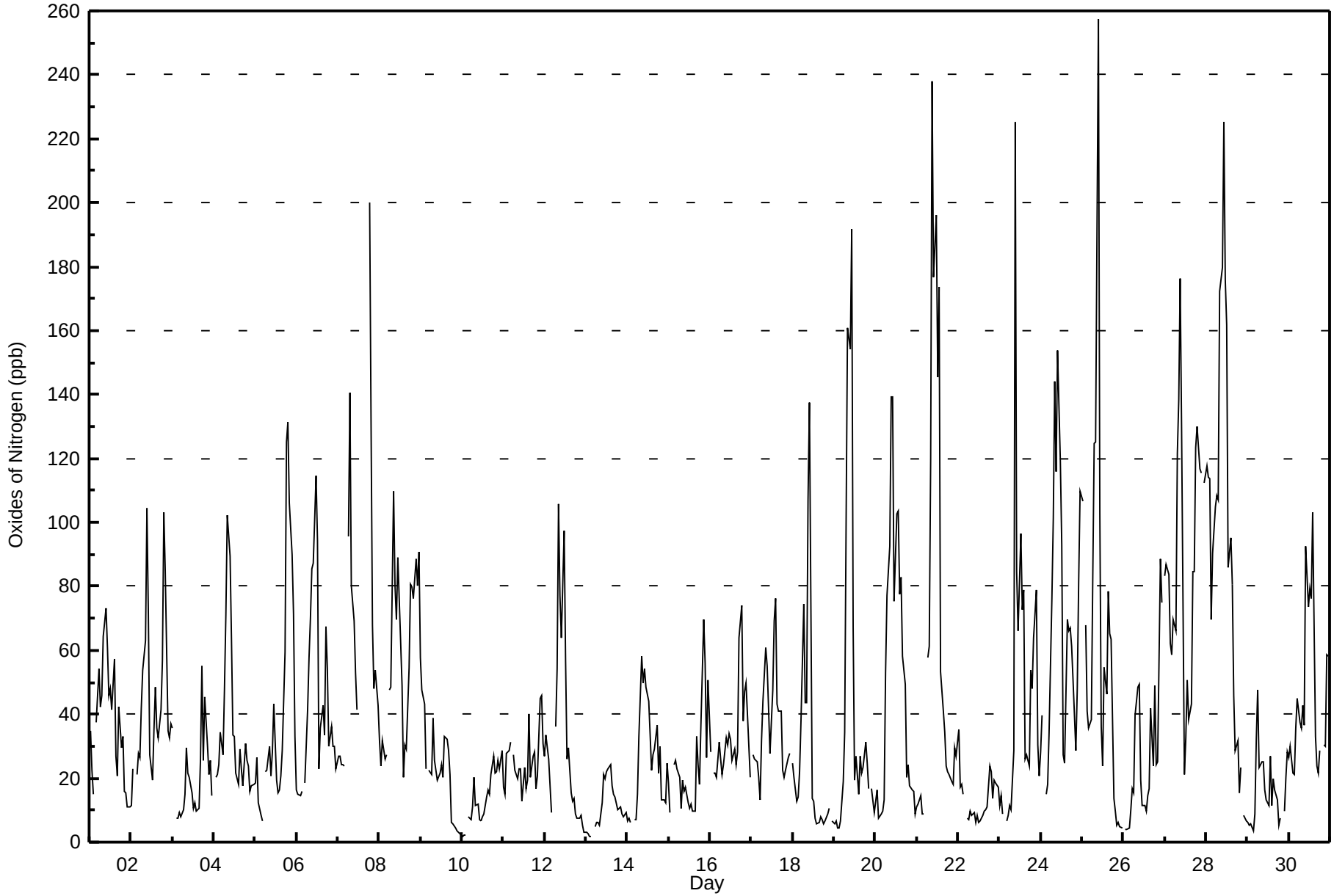
Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	35	23	15	A	38	54	42	46	65	73	61	46	48	41	57	27	21	42	30	33	16	15	11	11	36.9	73.3
2-Nov	11	23	A	21	28	26	42	54	63	105	72	27	19	35	48	36	33	42	57	103	85	35	33	37	45.0	104.6
3-Nov	36	A	8	7	9	8	10	15	29	22	20	15	11	12	10	11	26	55	25	45	30	21	26	15	20.3	54.9
4-Nov	A	20	21	24	34	27	48	71	102	90	63	34	33	22	18	29	23	18	31	26	24	16	18	18	35.1	102.1
5-Nov	19	27	12	9	6	A	22	22	30	21	28	43	19	15	16	21	29	59	125	131	106	90	72	33	41.6	131.1
6-Nov	16	15	15	16	A	19	42	58	70	86	87	115	95	23	36	43	33	68	54	30	36	30	30	23	45.1	114.7
7-Nov	27	27	24	24	24	A	96	141	80	69	53	41	C	C	C	C	C	C	200	131	68	48	54	43	--	200.0
8-Nov	32	24	32	26	27	A	48	48	110	80	70	89	62	49	20	30	29	55	81	80	76	89	80	91	57.7	109.8
9-Nov	58	48	43	23	A	23	21	39	26	23	19	22	24	20	33	32	29	21	6	6	5	4	3	3	23.0	57.8
10-Nov	2	2	2	A	8	7	11	20	12	12	7	7	8	9	14	16	15	21	27	22	22	25	23	29	14.0	28.8
11-Nov	17	15	28	28	31	A	27	23	20	23	23	13	24	17	19	40	20	27	28	17	21	45	46	31	25.3	46.0
12-Nov	27	33	26	18	9	A	36	54	106	77	64	97	57	26	29	15	13	14	9	7	8	8	5	3	32.3	105.7
13-Nov	3	3	2	2	A	5	6	6	5	12	21	20	22	23	24	18	15	14	10	11	11	9	8	9	11.2	24.4
14-Nov	6	7	6	A	7	7	15	33	58	50	54	48	44	34	23	27	29	37	22	30	13	13	12	25	26.1	58.3
15-Nov	19	9	A	24	26	23	20	10	19	16	17	12	11	12	10	10	33	24	18	37	70	56	27	51	24.1	69.7
16-Nov	28	A	22	22	20	31	26	21	24	32	31	34	32	26	29	24	28	64	74	38	47	50	40	20	33.2	74.0
17-Nov	A	27	26	25	20	13	32	44	61	55	42	28	48	69	76	43	41	41	23	20	23	26	28	A	36.9	76.1
18-Nov	25	20	13	14	22	38	75	44	44	107	138	14	13	8	6	6	8	7	6	6	9	10	A	7	27.7	137.6
19-Nov	6	6	5	5	7	19	34	99	161	154	192	67	19	27	15	27	22	23	31	25	17	A	17	9	42.9	191.5
20-Nov	13	16	7	9	10	13	53	77	93	139	139	75	103	104	78	83	58	49	20	24	17	16	16	9	50.9	139.4
21-Nov	11	12	15	9	9	A	58	61	120	238	177	196	145	174	53	41	34	24	22	21	19	18	29	27	65.8	237.9
22-Nov	35	17	18	15	A	7	7	10	8	9	6	8	6	7	8	9	10	11	24	22	14	20	19	17	13.4	35.3
23-Nov	12	14	9	A	7	8	11	10	29	225	84	66	97	73	79	26	27	24	54	48	64	79	30	21	47.7	225.3
24-Nov	28	40	A	15	18	34	76	101	144	116	154	119	93	27	25	69	66	67	61	50	29	48	82	110	68.3	153.6
25-Nov	107	A	68	41	36	38	83	125	125	257	103	36	24	55	46	78	65	63	14	10	5	6	5	4	60.6	257.3
26-Nov	A	4	4	4	10	17	15	40	49	49	19	12	12	10	15	17	42	24	49	24	25	89	75	A	27.4	88.8
27-Nov	83	87	84	62	59	70	66	122	138	176	130	21	33	51	38	43	84	84	123	130	117	116	A	113	88.2	176.2
28-Nov	118	114	114	70	90	105	109	107	172	180	225	176	162	86	95	81	46	29	32	15	23	A	9	7	94.0	225.3
29-Nov	6	5	6	4	9	32	47	23	25	25	16	13	12	27	11	20	17	13	5	7	A	10	20	28	16.6	47.4
30-Nov	27	30	22	21	36	45	37	36	43	36	92	74	79	76	103	33	24	22	29	A	30	30	59	58	45.3	103.1
	29.8	24.8	23.9	20.7	23.0	27.9	40.5	52.0	67.7	85.3	73.6	52.3	46.6	39.8	35.8	33.0	31.7	35.9	43.0	39.7	35.4	36.5	31.2	30.3	Diurnal Average	
	117.6	114.0	113.5	69.7	90.5	105.1	108.6	140.6	172.1	257.3	225.3	196.3	161.5	173.6	103.1	82.9	84.5	84.5	200.0	131.1	116.6	115.5	81.7	112.5	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for NO_X at Henry Pirker
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Ozone (O_3) - ppb
November 1, 2008 to December 1, 2008

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 35.3 ppb on Nov 26 03:00
Maximum Daily Average: 27.8 ppb on Nov 13

Minimum Value: 1 ppb on Nov 8 07:00
Maximum Diurnal Average: 16.0 ppb at hour 15
Monthly Average: 12.80 ppb

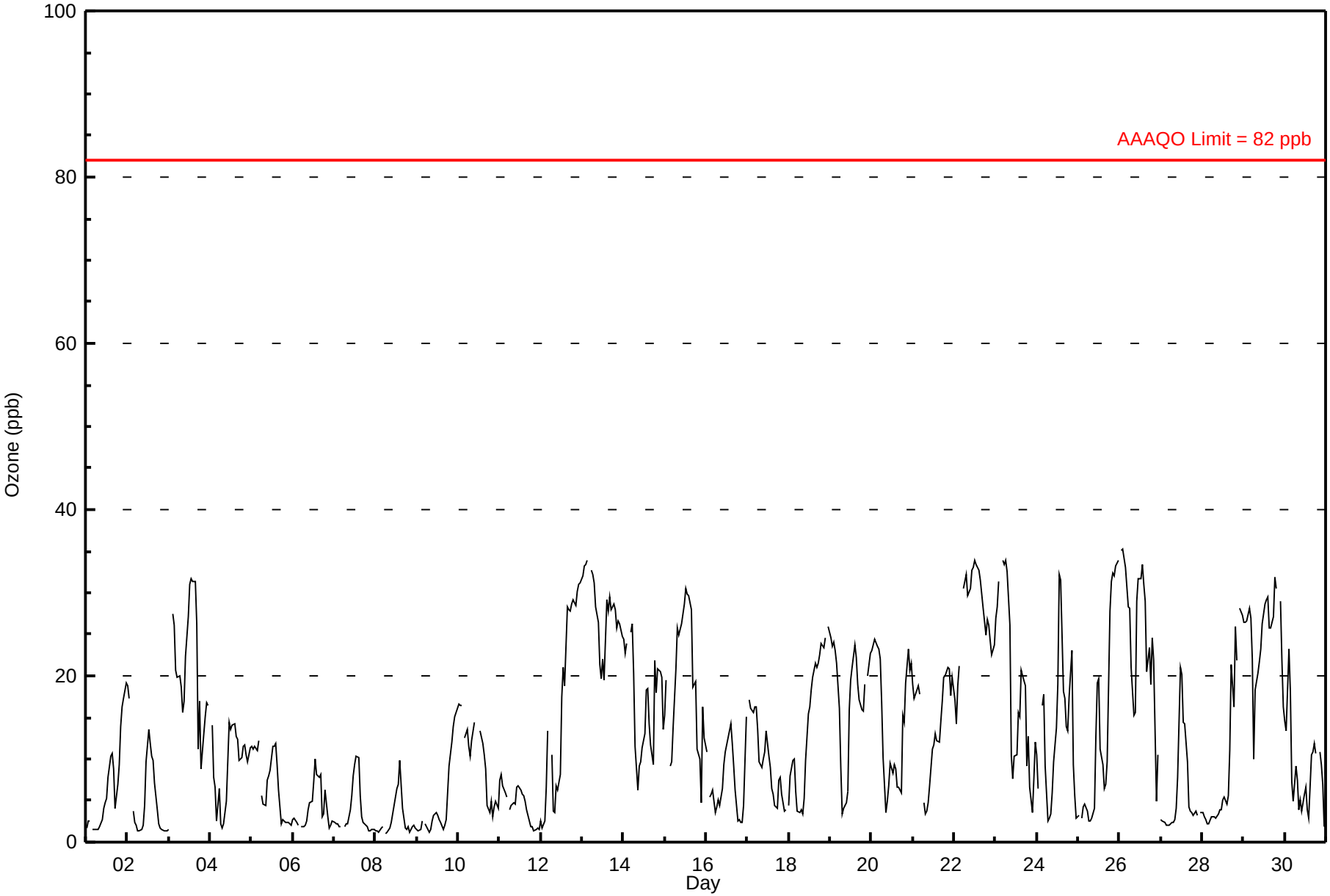
Minimum Daily Average: 3.0 ppb on Nov 8
Minimum Diurnal Average: 8.3 ppb at hour 9
Percentiles: P_1 = 1.3 P_{10} = 2.1 Q_1 = 3.9 Median = 10.3 Q_3 = 20.0 P_{90} = 28.1 P_{99} = 33.8

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) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	2	2	3	A	1	2	2	2	2	3	4	5	5	8	10	11	9	4	7	9	14	16	17	19	6.8	19.1
2-Nov	19	17	A	4	2	2	1	1	2	2	4	10	14	12	10	10	7	4	2	2	1	1	1	1	5.7	18.8
3-Nov	2	A	27	26	21	20	20	19	16	17	22	27	31	32	31	31	26	11	17	9	13	15	17	16	20.3	31.8
4-Nov	A	14	8	7	3	7	2	2	2	5	10	14	14	14	14	13	12	10	10	11	12	10	10	11	9.3	14.4
5-Nov	12	11	12	11	12	A	6	5	4	8	8	9	12	11	12	9	6	2	3	2	2	2	2	2	7.1	12.2
6-Nov	3	3	2	2	A	2	2	2	3	4	5	5	7	10	8	8	8	3	3	6	3	2	2	2	4.1	10.0
7-Nov	2	2	2	2	2	A	2	2	2	4	6	8	9	10	10	6	3	2	2	2	1	1	1	2	3.7	10.3
8-Nov	1	1	1	2	2	A	1	1	2	2	3	4	7	7	10	7	4	2	2	2	1	2	2	2	3.0	9.8
9-Nov	2	1	1	3	A	2	2	1	2	3	3	4	3	3	2	2	2	3	6	9	12	14	15	16	4.8	15.6
10-Nov	17	17	16	A	13	14	11	10	12	14	C	C	C	13	12	11	9	4	4	5	3	4	5	4	9.9	16.6
11-Nov	7	8	7	6	5	A	4	4	5	5	7	7	6	6	6	5	4	3	2	2	1	2	2	2	4.5	8.1
12-Nov	3	2	2	7	13	A	10	4	4	7	6	8	18	21	19	28	28	28	29	29	29	30	31	31	16.8	31.2
13-Nov	32	33	33	34	A	33	32	31	28	26	21	20	22	20	29	28	30	28	29	28	26	27	26	25	27.8	33.9
14-Nov	24	23	24	A	25	26	20	12	6	9	10	11	13	18	19	14	12	9	22	18	21	21	20	14	17.0	26.3
15-Nov	15	20	A	9	10	14	21	26	25	26	26	29	31	30	30	28	19	19	19	11	10	5	16	13	19.5	30.5
16-Nov	11	A	5	6	6	4	4	5	4	6	9	11	12	13	14	12	9	6	3	3	2	2	4	15	7.3	15.0
17-Nov	A	17	16	16	16	16	13	10	9	10	11	13	10	9	6	6	4	4	7	8	6	4	4	A	9.8	17.1
18-Nov	4	8	10	10	6	4	4	4	3	5	10	15	16	18	20	22	21	22	23	24	23	25	A	26	14.0	25.9
19-Nov	25	24	24	23	21	16	9	3	4	5	6	16	19	21	24	22	19	17	16	16	19	A	20	23	17.0	24.6
20-Nov	23	24	24	23	23	22	17	10	4	5	7	10	8	9	9	7	7	6	15	14	19	23	21	22	14.6	24.5
21-Nov	19	17	18	19	18	A	5	3	4	5	7	11	12	13	12	12	15	17	20	20	21	21	18	20	14.2	20.9
22-Nov	17	14	19	21	A	31	31	32	30	30	33	33	34	33	33	32	30	28	25	27	26	24	23	24	27.4	33.8
23-Nov	27	28	31	A	34	33	34	33	26	10	8	10	11	16	15	21	20	19	9	13	7	3	8	12	18.6	33.8
24-Nov	11	6	A	16	18	9	3	3	3	6	10	14	19	32	32	18	17	14	13	17	23	9	6	3	13.2	32.3
25-Nov	3	A	3	4	5	4	3	3	3	4	13	19	20	11	9	6	7	10	28	31	32	32	33	34	13.7	33.9
26-Nov	A	35	35	33	31	28	28	21	15	16	29	32	32	33	31	29	21	23	19	24	22	5	11	A	25.1	35.3
27-Nov	3	3	2	2	2	2	2	2	3	4	8	21	20	14	14	10	4	4	4	3	4	3	A	4	6.0	21.0
28-Nov	4	3	3	2	2	3	3	3	3	3	4	4	5	5	5	6	11	21	16	26	22	A	28	27	9.1	28.1
29-Nov	26	26	27	28	27	22	10	18	20	22	23	26	29	29	29	26	26	27	32	31	A	29	22	16	24.9	31.9
30-Nov	15	13	23	18	7	5	9	7	4	5	4	6	7	4	3	11	11	12	11	A	11	9	7	2	8.8	23.2
	12.1	13.9	14.1	12.8	12.5	13.3	10.4	9.3	8.3	9.0	10.9	13.8	15.3	15.9	16.0	14.9	13.3	12.1	13.2	13.9	13.3	12.2	13.2	13.8	Diurnal Average	
	32.1	35.1	35.3	33.9	33.8	33.5	33.8	32.6	29.7	30.4	32.7	33.1	33.8	33.4	32.7	31.5	29.8	28.1	31.9	31.3	32.4	32.0	33.2	33.9	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 Henry Pirker
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Ozone (O_3) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 37.3 ppb on Nov 24 15:00

Maximum Daily Average: 30.7 ppb on Nov 13

Minimum Value: 1 ppb on Nov 8 07:00

Minimum Daily Average: 4.0 ppb on Nov 8

Maximum Diurnal Average: 19.0 ppb at hour 14

Minimum Diurnal Average: 10.9 ppb at hour 9

Monthly Average: 15.69 ppb

Percentiles: P_1 = 1.6 P_{10} = 2.8 Q_1 = 6.1 Median = 14.2 Q_3 = 24.3 P_{90} = 31.2 P_{99} = 35.4

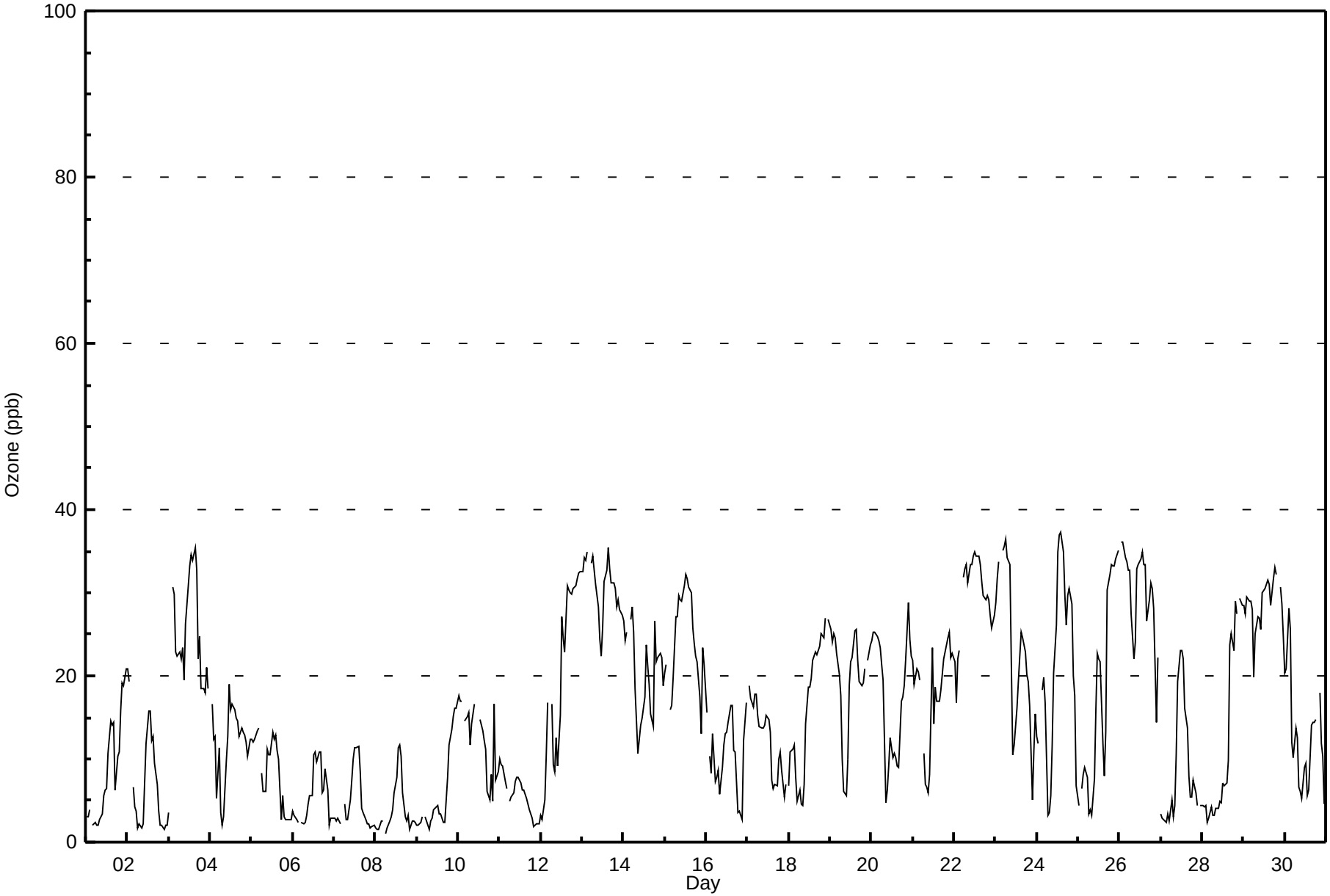
Hours in Service:	720
Hours of Data:	686
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	3	3	4	A	2	2	2	2	3	3	6	6	6	11	15	14	14	6	10	11	16	19	19	21	8.6	20.8
2-Nov	21	19	A	7	4	4	2	2	2	2	7	12	16	16	12	13	9	7	4	2	2	2	2	2	7.3	20.8
3-Nov	3	A	31	30	23	22	23	22	23	20	26	31	33	35	34	35	33	22	25	18	18	18	21	19	24.6	35.4
4-Nov	A	17	12	13	5	11	4	2	3	10	13	19	16	17	16	15	15	13	14	13	13	12	10	12	11.9	19.0
5-Nov	12	12	12	13	14	A	8	6	6	11	10	10	13	12	13	11	10	3	6	3	3	3	3	3	8.6	13.8
6-Nov	4	3	3	2	A	2	2	2	3	5	6	6	11	11	10	11	11	6	6	9	6	2	3	3	5.5	10.9
7-Nov	3	3	3	2	2	A	5	3	3	5	7	10	11	11	12	9	4	4	3	2	2	2	2	2	4.7	11.5
8-Nov	2	2	2	3	3	A	1	2	3	3	4	6	8	11	12	10	6	3	3	3	2	3	3	2	4.0	11.8
9-Nov	2	2	2	3	A	3	2	2	2	3	4	4	4	3	3	2	2	5	8	12	14	15	16	16	5.7	16.0
10-Nov	18	17	17	A	15	15	16	12	14	17	C	C	C	15	13	12	11	6	5	8	5	17	7	8	12.4	17.6
11-Nov	10	9	9	7	6	A	5	5	6	7	8	8	7	6	6	6	5	4	3	3	2	2	2	2	5.7	10.0
12-Nov	3	3	5	11	17	A	17	9	9	13	9	15	27	25	23	31	30	30	30	30	31	32	32	32	20.2	32.5
13-Nov	33	34	34	35	A	34	34	33	31	28	24	22	26	31	33	35	33	31	31	31	28	29	28	27	30.7	35.4
14-Nov	27	24	25	A	27	28	25	18	11	12	14	15	17	24	21	19	15	14	27	22	22	23	22	19	20.5	28.2
15-Nov	20	21	A	16	16	20	27	27	30	29	29	31	32	32	31	30	26	24	22	22	18	13	23	21	24.4	32.3
16-Nov	16	A	10	8	13	7	8	9	6	9	12	13	13	14	16	16	11	11	4	4	3	3	12	17	10.2	16.8
17-Nov	A	19	17	16	18	18	15	14	14	14	14	15	15	13	7	6	7	7	10	11	9	5	7	A	12.3	18.8
18-Nov	7	11	11	12	8	5	6	5	4	7	14	19	19	20	22	23	23	23	24	25	25	27	A	27	15.8	27.0
19-Nov	26	24	25	25	23	20	18	10	6	6	10	19	22	22	25	26	22	19	19	19	21	A	22	24	19.6	25.7
20-Nov	24	25	25	25	24	23	21	19	5	6	9	13	10	11	10	9	9	17	18	19	22	29	24	22	17.5	28.7
21-Nov	22	19	21	20	19	A	11	7	7	6	8	23	14	19	17	17	18	20	22	23	25	25	22	23	17.8	25.3
22-Nov	22	17	22	23	A	32	33	33	31	33	33	34	35	34	34	33	31	30	29	30	29	27	26	27	29.6	34.9
23-Nov	29	32	34	A	35	36	37	34	33	22	10	12	16	19	22	25	25	23	20	19	16	5	11	15	23.1	36.5
24-Nov	13	12	A	18	20	17	3	4	6	12	20	26	35	37	37	35	30	26	30	31	29	20	18	7	21.0	37.3
25-Nov	4	A	6	8	9	8	3	4	3	8	16	23	22	22	12	8	13	30	32	33	33	33	34	35	17.4	35.1
26-Nov	A	36	36	34	34	33	33	27	22	24	33	33	34	35	33	33	27	29	31	31	28	14	22	A	30.2	36.1
27-Nov	3	3	3	2	3	2	5	3	4	11	19	23	23	22	16	14	8	5	5	7	6	4	A	4	8.6	23.0
28-Nov	4	4	4	2	3	4	3	3	4	4	5	5	7	7	7	10	24	25	23	29	27	A	29	28	11.5	29.4
29-Nov	28	27	29	29	29	28	20	25	27	27	26	30	31	31	32	31	29	32	33	32	A	31	29	25	28.7	33.1
30-Nov	20	21	28	26	12	10	14	12	7	6	5	9	10	6	6	14	14	14	15	A	18	12	10	5	12.8	28.2
	14.0	15.5	16.0	15.0	14.8	16.0	13.4	11.9	10.9	12.1	13.9	17.0	18.4	19.0	18.4	18.5	17.2	16.3	17.0	17.3	16.3	15.2	16.4	16.1	Diurnal Average	
	32.6	36.1	36.1	35.0	35.1	35.6	36.5	34.3	33.5	33.4	33.4	34.4	34.9	36.9	37.3	35.4	32.9	31.6	33.1	33.4	33.2	33.2	34.1	35.1	Diurnal Maximum	

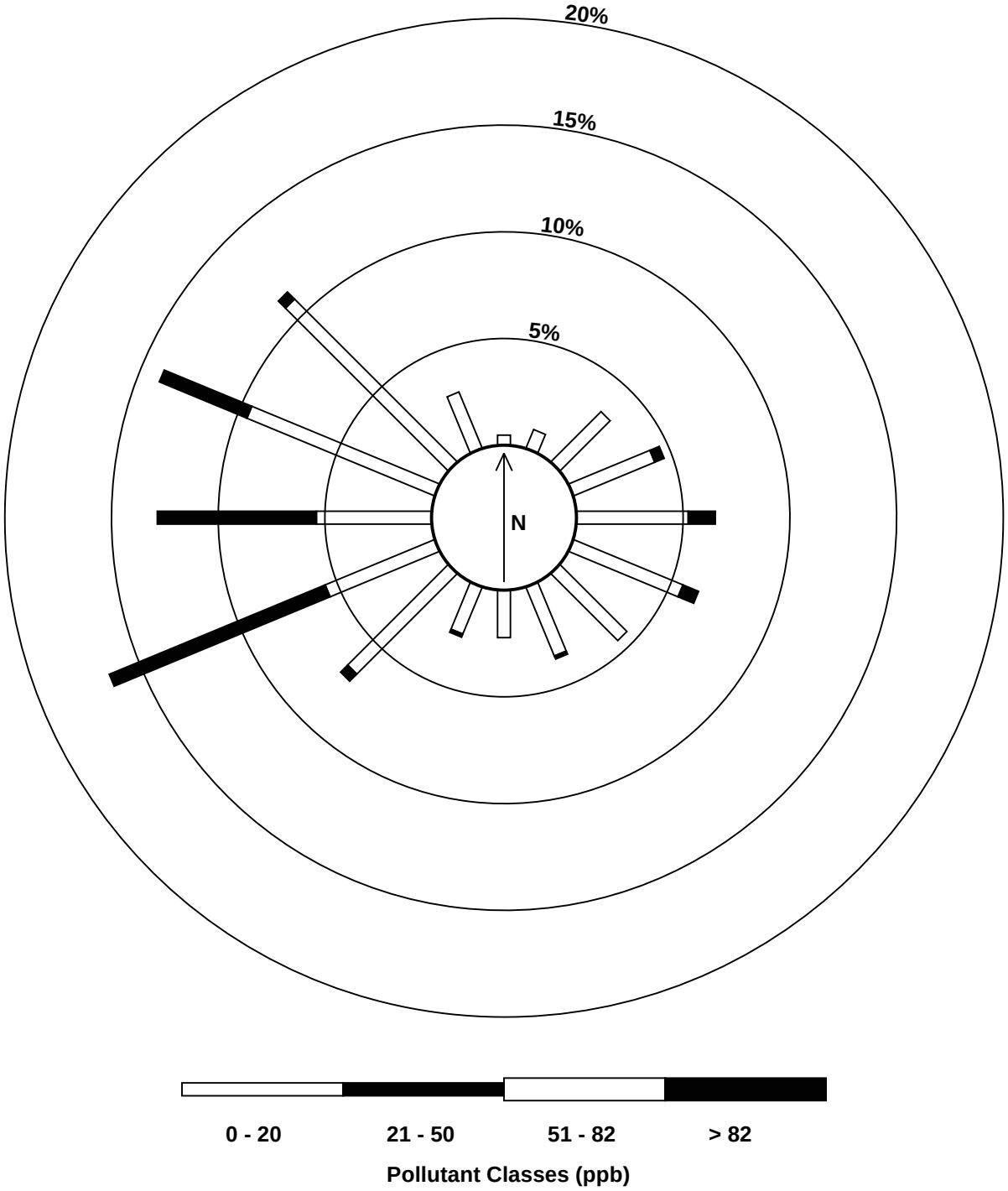
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for O_3 at Henry Pirker
November 2008



Pollutant Rose for O_3 at Henry Pirker
November 2008



Peace Airshed Zone Association
Summary of Eight Hour Running Averages

Henry Pirker - Ozone (O_3) - ppb
November 1, 2008 to December 1, 2008

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 33.6 ppb on Nov 26 04:00

Minimum Value: 1.4 ppb on Nov 8 08:00

Percentiles: P_1 = 1.5 P_{10} = 2.6 Q_1 = 5.6 Median = 10.7 Q_3 = 19.2 P_{90} = 26.4 P_{99} = 32.4

Hours in Service:	720
Hours of Data:	714
Hours of Missing Data:	6
Hours of Calibration:	6
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Nov	3	3	3	3	2	2	2	2	2	2	2	2	3	4	5	6	7	7	7	8	9	10	11	12	12.0
2-Nov	13	15	16	15	14	12	9	7	4	2	2	3	5	6	7	8	9	9	9	8	6	5	4	3	16.0
3-Nov	2	2	5	9	11	14	17	19	21	21	20	20	21	23	24	26	27	27	26	24	21	19	17	16	27.3
4-Nov	14	14	13	13	11	10	8	6	5	4	5	5	7	8	9	11	12	13	13	12	12	12	11	11	14.5
5-Nov	11	11	11	11	11	11	11	10	9	8	8	7	7	8	9	9	9	9	8	7	6	5	4	3	11.2
6-Nov	2	2	2	2	2	2	2	2	2	2	3	3	4	5	5	6	7	7	7	7	6	5	4	4	6.9
7-Nov	3	3	3	2	2	2	2	2	2	2	3	4	5	5	6	7	7	7	6	6	5	3	2	2	7.0
8-Nov	2	2	1	1	1	1	1	1	1	2	2	2	3	3	5	5	6	5	5	5	4	4	3	2	5.6
9-Nov	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	4	5	6	8	10	9.5
10-Nov	11	13	14	15	15	15	15	14	13	13	12	12	N	N	N	N	N	N	9	8	8	6	6	5	15.2
11-Nov	5	5	5	6	6	6	6	6	6	5	5	5	5	5	6	6	6	5	5	4	3	3	2	2	6.1
12-Nov	2	2	2	2	4	4	6	6	6	7	7	7	8	10	11	14	17	19	22	25	26	27	29	29	29.3
13-Nov	30	31	31	32	32	32	33	33	32	31	29	27	27	25	25	24	24	25	26	27	27	28	28	27	32.7
14-Nov	27	26	25	25	25	25	24	22	19	18	16	15	13	12	12	13	13	13	15	16	17	17	17	17	26.6
15-Nov	17	19	18	17	15	14	15	16	18	19	19	22	25	27	28	28	27	26	25	23	21	18	16	14	27.9
16-Nov	13	12	10	9	9	9	7	6	5	5	6	6	7	8	9	10	11	11	10	9	8	6	5	6	13.0
17-Nov	5	7	9	10	12	14	16	15	14	13	13	12	12	11	10	9	9	8	8	7	6	6	5	5	15.7
18-Nov	5	6	6	7	7	7	7	6	6	6	6	6	8	9	12	14	16	18	20	21	22	22	23	23	23.2
19-Nov	24	24	24	24	24	23	21	18	16	13	11	10	10	10	12	15	17	18	19	19	19	19	18	19	24.3
20-Nov	19	20	21	22	23	23	22	21	18	16	14	12	10	9	8	7	8	8	9	9	11	13	14	16	22.9
21-Nov	17	19	19	20	20	19	17	14	12	10	9	7	7	7	8	9	11	12	14	15	16	17	18	19	19.8
22-Nov	19	19	19	19	19	20	22	24	25	28	30	31	32	32	32	32	32	32	31	30	29	28	27	26	32.3
23-Nov	25	25	26	26	27	29	30	31	31	29	25	24	21	18	16	15	14	15	15	15	15	13	12	11	31.5
24-Nov	10	9	8	9	11	11	11	9	8	8	8	8	8	11	15	17	18	19	20	20	21	18	15	13	20.9
25-Nov	11	11	9	7	5	4	3	3	3	3	5	7	8	9	10	11	11	12	14	15	17	19	22	26	25.9
26-Nov	29	32	33	34	33	33	32	30	28	26	25	25	25	26	26	27	28	29	27	27	25	22	19	18	33.6
27-Nov	15	12	10	7	4	3	2	2	2	2	3	6	8	9	11	12	12	12	11	9	7	6	4	4	15.3
28-Nov	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	5	8	9	12	14	15	19	22	21.7
29-Nov	24	25	26	26	27	27	24	23	22	22	21	21	21	22	25	26	26	27	28	29	29	28	27	26	28.5
30-Nov	24	22	21	19	18	15	13	12	11	10	7	6	6	6	5	5	6	7	8	8	9	10	10	9	24.4
Diurnal Maximums	29.8	32.2	33.3	33.6	33.3	32.8	32.7	32.7	32.1	31.1	29.7	31.4	31.7	32.1	32.3	32.2	32.2	31.9	30.9	30.1	29.2	28.5	28.9	29.3	

N - Not Valid
Alberta Ambient Air Quality Objectives (AAAQO): 8-hr 65 ppb

Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Carbon Monoxide (CO) - ppm
November 1, 2008 to December 1, 2008

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.29 ppm on Nov 28 12:00 Maximum Daily Average: 0.55 ppm on Nov 28

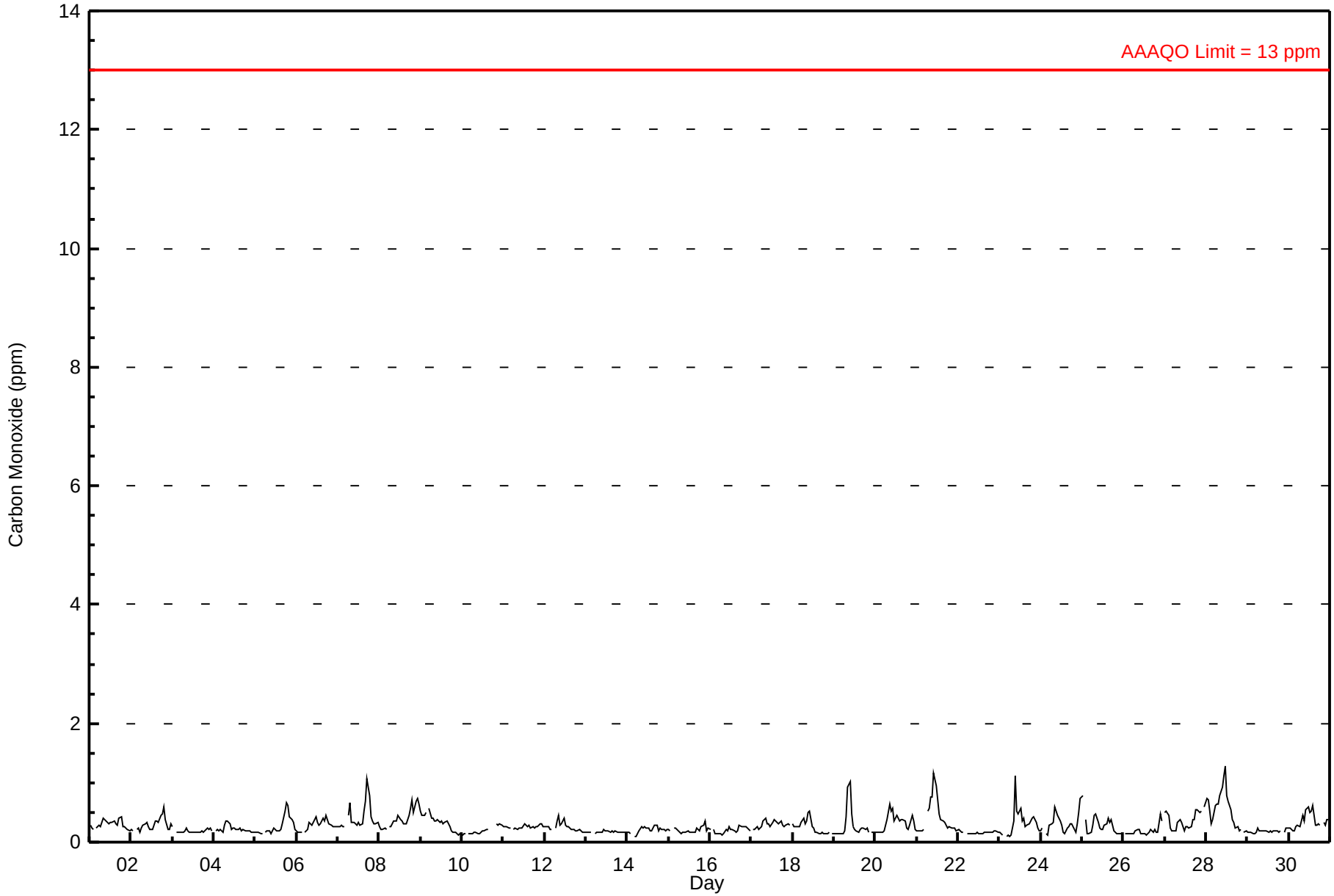
Minimum Value: 0.1 ppm on Nov 23 05:00 Minimum Daily Average: 0.16 ppm on Nov 22
Maximum Diurnal Average: 0.38 ppm at hour 10 Minimum Diurnal Average: 0.19 ppm at hour 5
Monthly Average: 0.283 ppm Percentiles: P_1 = 0.13 P_{10} = 0.15 Q_1 = 0.18 Median = 0.24 Q_3 = 0.33 P_{90} = 0.48 P_{99} = 0.93

Hours in Service:	720
Hours of Data:	685
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0.3	0.2	0.2	A	0.2	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.30	0.42
2-Nov	0.2	0.2	A	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.4	0.3	0.3	0.5	0.5	0.6	0.4	0.2	0.2	0.3	0.30	0.60
3-Nov	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18	0.25
4-Nov	A	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.36
5-Nov	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	0.2	0.2	0.3	0.5	0.7	0.6	0.4	0.4	0.3	0.2	0.27	0.67
6-Nov	0.2	0.2	0.2	0.2	A	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.4	0.4	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.29	0.46
7-Nov	0.3	0.3	0.3	0.3	0.3	A	0.4	0.7	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.7	1.1	0.8	0.4	0.4	0.3	0.3	0.3	0.41	1.08
8-Nov	0.3	0.2	0.2	0.2	0.2	A	0.3	0.3	0.3	0.4	0.4	0.5	0.4	0.4	0.3	0.3	0.3	0.5	0.6	0.7	0.5	0.7	0.7	0.6	0.40	0.74
9-Nov	0.5	0.5	0.4	0.5	A	0.6	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.33	0.56
10-Nov	0.1	0.1	0.1	A	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	C	C	C	A	0.3	0.3	0.3	0.3	0.19	0.31
11-Nov	0.3	0.3	0.3	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.26	0.30
12-Nov	0.3	0.3	0.3	0.2	0.2	A	0.2	0.4	0.4	0.3	0.3	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25	0.45
13-Nov	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.17	0.21
14-Nov	0.2	0.2	0.1	A	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.20	0.28
15-Nov	0.2	0.2	A	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	0.2	0.2	0.2	0.3	0.3	0.4	0.2	0.2	0.20	0.36
16-Nov	0.2	A	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.20	0.28
17-Nov	A	0.2	0.2	0.3	0.2	0.2	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	A	0.30	0.41
18-Nov	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.4	0.5	0.5	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.25	0.53
19-Nov	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.9	1.0	0.5	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.28	1.02
20-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.6	0.5	0.6	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.2	0.2	0.3	0.4	0.4	0.2	0.33	0.63
21-Nov	0.2	0.2	0.2	0.2	0.2	A	0.5	0.6	0.8	0.8	1.2	1.0	0.7	0.5	0.4	0.4	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.42	1.17
22-Nov	0.2	0.2	0.2	0.2	A	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.16	0.22
23-Nov	0.2	0.2	0.1	A	0.1	0.1	0.1	0.1	0.3	1.1	0.5	0.5	0.6	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.2	0.2	0.32	1.12
24-Nov	0.2	0.2	A	0.2	0.1	0.3	0.3	0.3	0.6	0.5	0.5	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.3	0.5	0.7	0.32	0.74
25-Nov	0.8	A	0.4	0.1	0.1	0.2	0.3	0.4	0.5	0.3	0.2	0.2	0.2	0.3	0.3	0.4	0.3	0.4	0.2	0.2	0.1	0.1	0.2	0.1	0.28	0.77
26-Nov	A	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.4	A	0.19	0.49
27-Nov	0.5	0.5	0.4	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.3	0.2	0.3	0.3	0.2	0.3	0.4	0.4	0.5	0.6	0.5	0.5	A	0.6	0.36	0.59
28-Nov	0.7	0.7	0.5	0.3	0.4	0.6	0.6	0.6	0.8	0.9	1.1	1.3	0.8	0.7	0.5	0.4	0.3	0.2	0.3	0.2	0.2	A	0.2	0.2	0.55	1.29
29-Nov	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	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.18	0.25
30-Nov	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.5	0.4	0.5	0.6	0.5	0.5	0.6	0.3	0.3	0.3	0.3	A	0.3	0.3	0.4	0.4	0.35	0.61
	0.27	0.24	0.23	0.21	0.19	0.22	0.25	0.30	0.37	0.38	0.36	0.33	0.30	0.27	0.27	0.27	0.28	0.32	0.30	0.29	0.27	0.29	0.26	0.26	Diurnal Average	
	0.77	0.71	0.51	0.49	0.39	0.61	0.63	0.67	0.92	1.12	1.17	1.29	0.77	0.69	0.61	0.52	0.69	1.08	0.79	0.71	0.50	0.70	0.74	0.74	Diurnal Maximum	

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

Hourly Averages for CO at Henry Pirker
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Carbon Monoxide (CO) - ppm
November 1, 2008 to December 1, 2008

Maximum Value: 4.59 ppm on Nov 21 08:00

Maximum Daily Average: 0.95 ppm on Nov 21

Minimum Value: 0.1 ppm on Nov 23 05:00

Minimum Daily Average: 0.21 ppm on Nov 22

Maximum Diurnal Average: 0.83 ppm at hour 9

Minimum Diurnal Average: 0.25 ppm at hour 5

Monthly Average: 0.456 ppm

Percentiles: P_1 = 0.15 P_{10} = 0.19 Q_1 = 0.22 Median = 0.33 Q_3 = 0.52 P_{90} = 0.85 P_{99} = 2.28

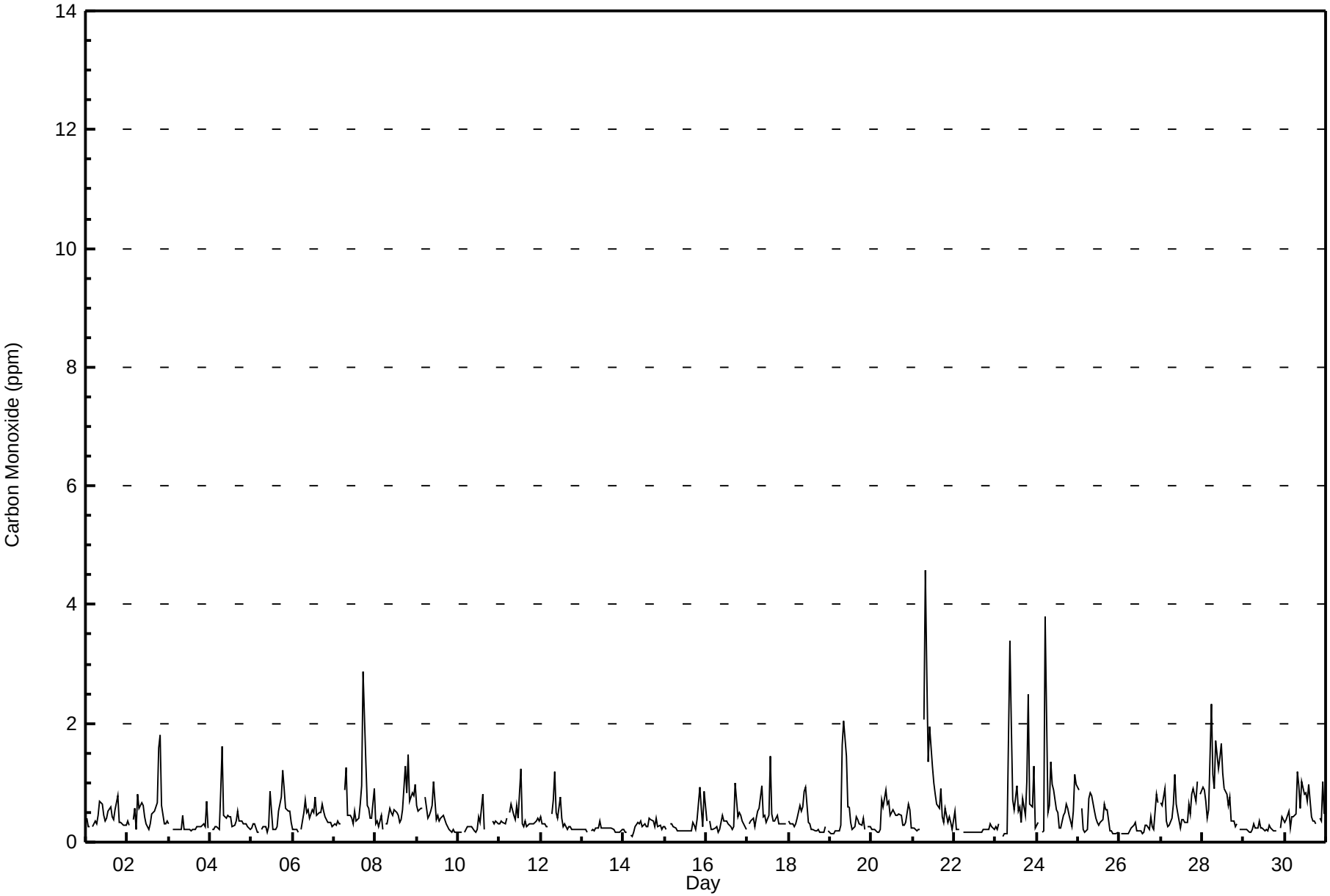
Hours in Service:	720
Hours of Data:	685
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0.4	0.3	0.3	A	0.3	0.4	0.3	0.4	0.7	0.6	0.4	0.3	0.4	0.5	0.6	0.4	0.4	0.5	0.8	0.3	0.3	0.3	0.3	0.3	0.42	0.78
2-Nov	0.4	0.3	A	0.4	0.6	0.2	0.8	0.6	0.7	0.6	0.4	0.3	0.2	0.3	0.5	0.5	0.5	0.7	1.6	1.8	0.6	0.3	0.3	0.4	0.56	1.80
3-Nov	0.3	A	0.2	0.2	0.2	0.2	0.2	0.2	0.5	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	0.7	0.2	0.26	0.70
4-Nov	A	0.2	0.2	0.3	0.3	0.2	0.8	1.6	0.5	0.4	0.5	0.4	0.4	0.3	0.3	0.4	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.40	1.62
5-Nov	0.2	0.3	0.3	0.2	0.2	A	0.2	0.3	0.3	0.2	0.3	0.8	0.2	0.2	0.2	0.3	0.5	0.8	1.2	0.9	0.6	0.5	0.5	0.3	0.41	1.22
6-Nov	0.2	0.2	0.2	0.2	A	0.2	0.5	0.7	0.5	0.5	0.4	0.5	0.5	0.8	0.4	0.5	0.5	0.6	0.5	0.4	0.3	0.3	0.3	0.3	0.42	0.76
7-Nov	0.3	0.3	0.4	0.3	0.3	A	0.9	1.3	0.5	0.5	0.4	0.3	0.5	0.4	0.4	0.6	0.9	2.9	1.3	0.6	0.6	0.4	0.4	0.9	0.66	2.87
8-Nov	0.3	0.4	0.3	0.4	0.2	A	0.3	0.3	0.6	0.5	0.4	0.5	0.5	0.4	0.3	0.4	0.5	1.3	0.8	1.5	0.7	0.8	0.8	1.0	0.58	1.48
9-Nov	0.6	0.5	0.6	0.6	A	0.8	0.4	0.5	0.5	0.6	1.0	0.4	0.5	0.4	0.4	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.43	1.02
10-Nov	0.2	0.2	0.2	A	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.4	0.3	0.8	0.2	C	C	C	A	0.4	0.3	0.4	0.3	0.28	0.80
11-Nov	0.3	0.4	0.3	0.3	0.4	A	0.5	0.6	0.4	0.4	0.6	0.4	1.2	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.41	1.23
12-Nov	0.4	0.3	0.3	0.3	0.3	A	0.5	0.7	1.2	0.5	0.4	0.8	0.4	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.37	1.19
13-Nov	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.35
14-Nov	0.2	0.2	0.2	A	0.1	0.1	0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.2	0.3	0.26	0.41
15-Nov	0.3	0.2	A	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.4	0.9	0.6	0.3	0.9	0.31	0.93
16-Nov	0.4	A	0.4	0.2	0.2	0.2	0.3	0.2	0.2	0.5	0.4	0.4	0.3	0.3	0.3	0.2	0.3	1.0	0.4	0.5	0.5	0.4	0.3	0.2	0.34	1.01
17-Nov	A	0.3	0.4	0.4	0.3	0.4	0.5	0.6	1.0	0.4	0.5	0.3	0.5	1.4	0.5	0.4	0.4	0.5	0.3	0.3	0.3	0.3	0.3	A	0.46	1.44
18-Nov	0.4	0.3	0.3	0.3	0.3	0.4	0.6	0.5	0.6	0.8	0.9	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	A	0.2	0.35	0.92
19-Nov	0.2	0.1	0.1	0.2	0.2	0.2	0.3	1.6	2.0	1.5	0.6	0.6	0.3	0.2	0.3	0.4	0.4	0.3	0.3	0.4	0.2	A	0.3	0.3	0.48	2.03
20-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.7	0.6	0.9	0.6	0.7	0.4	0.5	0.5	0.5	0.4	0.5	0.4	0.3	0.3	0.3	0.6	0.5	0.2	0.43	0.89
21-Nov	0.2	0.2	0.2	0.2	0.2	A	2.1	4.6	2.9	1.3	2.0	1.3	1.0	0.8	0.6	0.6	0.9	0.4	0.3	0.6	0.3	0.4	0.3	0.2	0.95	4.59
22-Nov	0.5	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.21	0.52
23-Nov	0.3	0.2	0.3	A	0.1	0.2	0.1	0.1	3.4	2.0	0.7	0.6	1.0	0.5	0.6	0.3	0.7	0.4	1.0	2.5	0.6	0.6	1.3	0.2	0.77	3.39
24-Nov	0.3	0.3	A	0.2	0.2	3.8	0.5	0.6	1.4	1.0	0.9	0.6	0.5	0.2	0.2	0.4	0.5	0.6	0.6	0.5	0.3	0.5	1.1	1.0	0.70	3.80
25-Nov	0.9	A	0.6	0.2	0.2	0.2	0.7	0.8	0.8	0.5	0.4	0.3	0.3	0.3	0.4	0.6	0.5	0.5	0.2	0.2	0.1	0.2	0.2	0.2	0.41	0.87
26-Nov	A	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.4	0.3	0.2	0.8	0.7	A	0.26	0.80
27-Nov	0.7	0.6	0.9	0.4	0.3	0.3	0.4	0.6	1.1	0.6	0.5	0.2	0.4	0.4	0.3	0.3	0.6	0.5	0.8	0.9	0.7	1.0	A	0.8	0.58	1.14
28-Nov	0.9	0.9	0.7	0.4	0.5	2.3	1.1	0.9	1.7	1.2	1.4	1.7	1.2	0.9	0.8	0.6	0.8	0.4	0.4	0.3	0.3	A	0.2	0.2	0.86	2.34
29-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	A	0.2	0.4	0.4	0.24	0.43
30-Nov	0.3	0.4	0.5	0.2	0.4	0.4	0.5	1.2	0.9	0.6	1.0	0.8	0.8	0.7	1.0	0.4	0.4	0.4	0.3	A	0.4	0.4	1.0	0.5	0.59	1.18
	0.36	0.30	0.32	0.26	0.25	0.50	0.49	0.70	0.83	0.60	0.55	0.47	0.46	0.40	0.39	0.37	0.44	0.53	0.49	0.54	0.37	0.41	0.44	0.37	Diurnal Average	
	0.93	0.88	0.90	0.56	0.56	3.80	2.06	4.59	3.39	1.98	1.96	1.65	1.23	1.44	0.97	0.65	0.94	2.87	1.59	2.49	0.93	1.01	1.29	0.98	Diurnal Maximum	

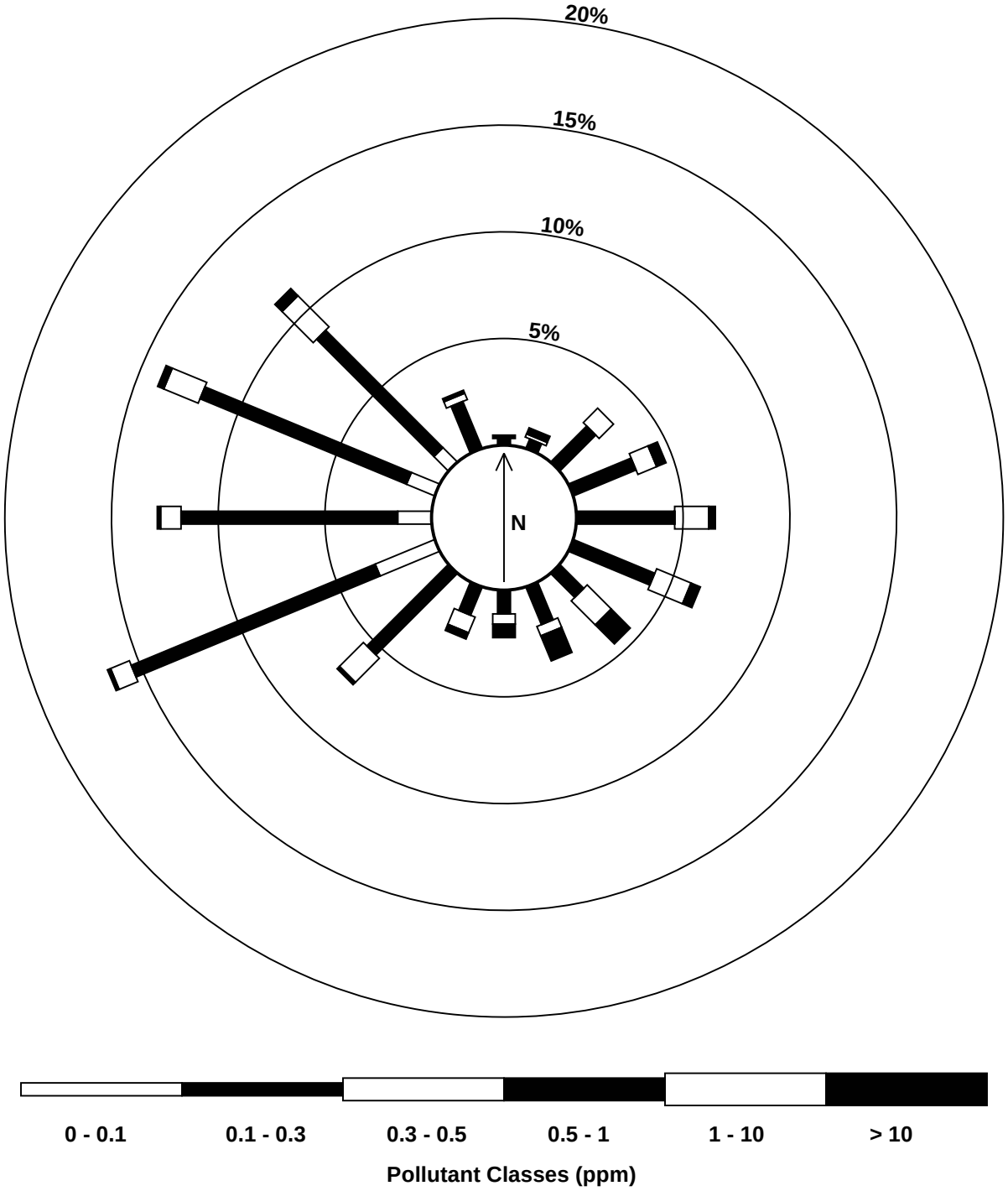
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for CO at Henry Pirker
November 2008



Pollutant Rose for CO at Henry Pirker
November 2008



Peace Airshed Zone Association
Summary of Eight Hour Running Averages

Henry Pirker - Carbon Monoxide (CO) - ppm
November 1, 2008 to December 1, 2008

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 0.86 ppm on Nov 28 14:00

Minimum Value: 0.12 ppm on Nov 23 08:00

Percentiles: P_1 = 0.14 P_{10} = 0.16 Q_1 = 0.19 Median = 0.25 Q_3 = 0.34 P_{90} = 0.43 P_{99} = 0.74

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 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-Nov	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.35
2-Nov	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.40
3-Nov	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.36
4-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.27
5-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.43
6-Nov	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.42
7-Nov	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.5	0.56
8-Nov	0.5	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.58
9-Nov	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.61
10-Nov	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	N	N	N	N	N	N	0.18
11-Nov	N	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.28
12-Nov	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.33
13-Nov	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	0.19
14-Nov	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24
15-Nov	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	0.24
16-Nov	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24
17-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.34
18-Nov	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.37
19-Nov	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.46
20-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.46
21-Nov	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.7	0.7	0.7	0.6	0.6	0.5	0.4	0.3	0.3	0.3	0.3	0.78
22-Nov	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24
23-Nov	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.50
24-Nov	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.4	0.39
25-Nov	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.45
26-Nov	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.25
27-Nov	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.50
28-Nov	0.5	0.6	0.6	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.8	0.8	0.9	0.8	0.8	0.8	0.7	0.6	0.4	0.4	0.3	0.3	0.2	0.86
29-Nov	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	0.20
30-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.49
Diurnal Maximums	0.61	0.60	0.59	0.56	0.57	0.55	0.56	0.57	0.57	0.60	0.68	0.80	0.85	0.86	0.85	0.81	0.76	0.67	0.56	0.55	0.56	0.56	0.56	0.58	

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

Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Total Hydrocarbons (THC) - ppm
November 1, 2008 to December 1, 2008

Maximum Value: 3.39 ppm on Nov 8 19:00

Maximum Daily Average: 2.86 ppm on Nov 8

Minimum Value: 1.8 ppm on Nov 13 01:00

Minimum Daily Average: 1.92 ppm on Nov 13

Maximum Diurnal Average: 2.33 ppm at hour 10

Minimum Diurnal Average: 2.13 ppm at hour 17

Monthly Average: 2.205 ppm

Percentiles: P_1 = 1.84 P_{10} = 1.93 Q_1 = 1.98 Median = 2.11 Q_3 = 2.36 P_{90} = 2.61 P_{99} = 3.07

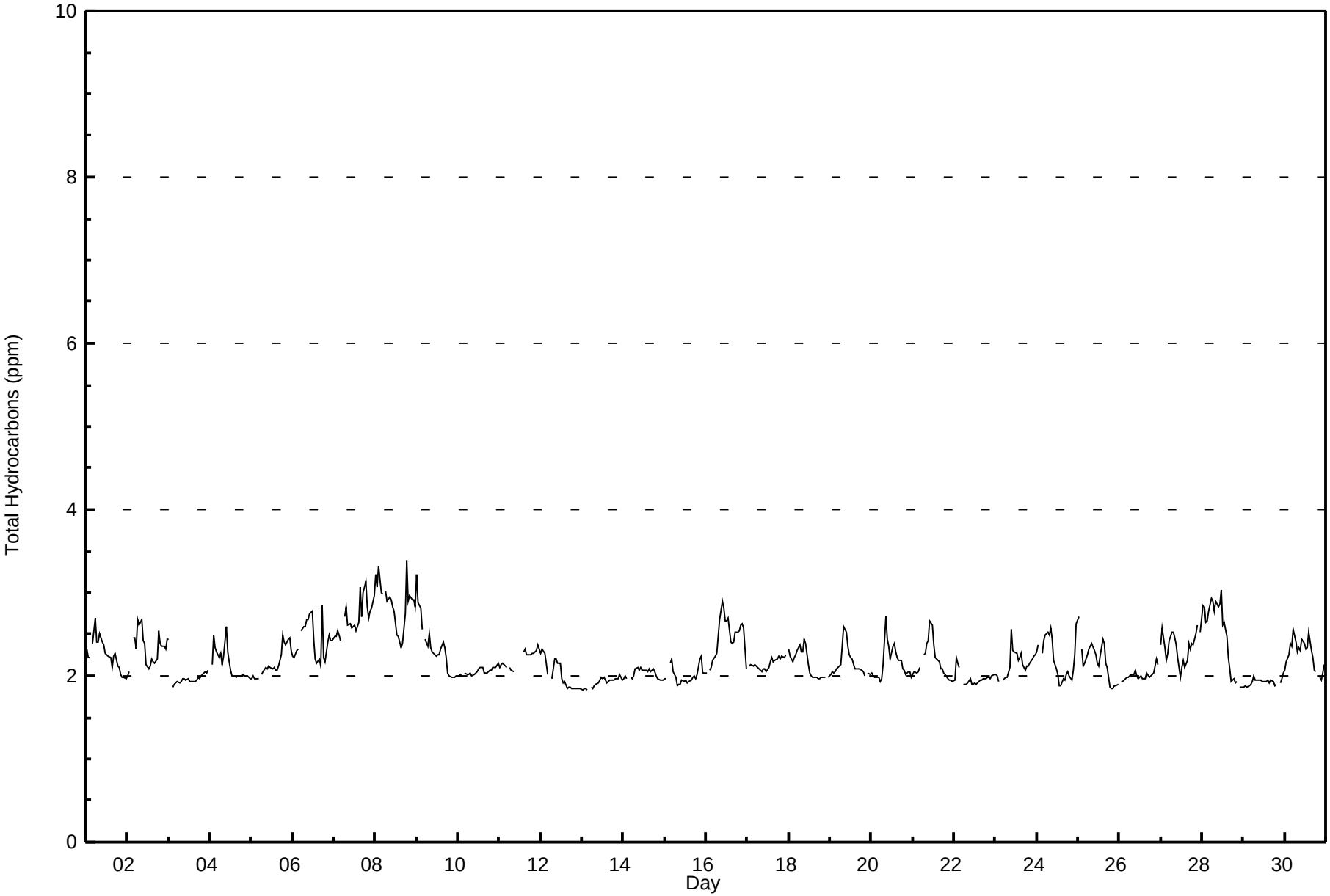
Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	2.3	2.2	2.2	A	2.4	2.7	2.4	2.4	2.5	2.4	2.4	2.3	2.2	2.2	2.2	2.1	2.2	2.3	2.1	2.1	2.0	2.0	2.0	2.0	2.25	2.69
2-Nov	2.0	2.0	A	2.5	2.5	2.3	2.7	2.6	2.7	2.4	2.4	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.5	2.4	2.3	2.3	2.3	2.4	2.33	2.68
3-Nov	2.4	A	1.9	1.9	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	2.0	2.0	2.0	2.0	2.0	2.0	2.1	1.98	2.44
4-Nov	A	2.1	2.5	2.3	2.3	2.2	2.3	2.1	2.2	2.6	2.3	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.14	2.59
5-Nov	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.5	2.4	2.4	2.4	2.5	2.3	2.15	2.50
6-Nov	2.2	2.2	2.3	2.3	A	2.5	2.6	2.6	2.7	2.7	2.7	2.8	2.4	2.2	2.2	2.2	2.1	2.8	2.2	2.2	2.4	2.5	2.4	2.4	2.43	2.84
7-Nov	2.5	2.5	2.5	2.5	2.4	A	2.7	2.8	2.6	2.6	2.6	2.6	2.6	2.5	2.6	3.1	2.7	3.0	3.1	2.8	2.7	2.8	2.8	3.0	2.70	3.13
8-Nov	3.2	3.1	3.3	3.0	3.0	A	3.0	2.9	2.9	2.9	2.8	2.8	2.5	2.5	2.4	2.3	2.4	2.7	3.4	2.9	3.0	2.9	2.9	2.8	2.86	3.39
9-Nov	3.2	2.9	2.8	2.6	A	2.4	2.4	2.5	2.3	2.3	2.3	2.2	2.3	2.3	2.3	2.4	2.3	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.34	3.22
10-Nov	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.05	2.15
11-Nov	2.1	2.1	2.1	2.1	2.1	A	2.1	2.1	2.0	C	C	C	A	A	2.3	2.3	2.3	2.2	2.2	2.3	2.3	2.3	2.4	2.3	2.20	2.37
12-Nov	2.3	2.3	2.3	2.1	2.0	A	2.0	2.1	2.2	2.2	2.1	2.2	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	2.01	2.32
13-Nov	1.8	1.8	1.8	1.8	A	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.92	2.02
14-Nov	2.0	2.0	2.0	A	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	1.9	1.9	2.03	2.10
15-Nov	2.0	2.0	A	2.2	2.2	2.0	2.0	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.2	2.2	2.0	2.0	2.00	2.23
16-Nov	2.0	A	2.1	2.1	2.2	2.2	2.3	2.5	2.7	2.9	2.8	2.7	2.7	2.7	2.4	2.4	2.4	2.5	2.5	2.6	2.6	2.6	2.6	2.1	2.46	2.90
17-Nov	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	A	2.15	2.25
18-Nov	2.3	2.2	2.2	2.2	2.2	2.3	2.4	2.3	2.3	2.4	2.4	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.14	2.44
19-Nov	2.0	2.1	2.0	2.1	2.1	2.1	2.1	2.4	2.6	2.5	2.4	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	A	2.0	2.0	2.15	2.59
20-Nov	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.1	2.7	2.4	2.4	2.2	2.4	2.4	2.3	2.2	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.15	2.72
21-Nov	2.0	2.0	2.0	2.1	2.1	A	2.2	2.3	2.4	2.4	2.7	2.6	2.4	2.2	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	1.9	2.17	2.66
22-Nov	1.9	2.2	2.1	2.1	A	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.97	2.23
23-Nov	2.0	2.0	1.9	A	2.0	2.0	2.0	2.0	2.1	2.6	2.3	2.3	2.3	2.2	2.2	2.3	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.15	2.56
24-Nov	2.3	2.4	A	2.3	2.4	2.5	2.5	2.5	2.6	2.4	2.2	2.1	2.0	1.9	1.9	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.3	2.6	2.21	2.62
25-Nov	2.7	A	2.3	2.1	2.1	2.2	2.3	2.4	2.4	2.3	2.3	2.2	2.1	2.2	2.4	2.4	2.2	2.1	1.9	1.9	1.9	1.9	1.9	1.9	2.17	2.71
26-Nov	A	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.1	A	2.01	2.21
27-Nov	2.4	2.6	2.3	2.2	2.3	2.4	2.5	2.5	2.5	2.4	2.2	2.0	2.1	2.2	2.1	2.2	2.4	2.3	2.4	2.4	2.5	2.6	A	2.5	2.35	2.61
28-Nov	2.8	2.8	2.6	2.7	2.8	2.9	2.9	2.8	2.9	2.8	2.9	3.0	2.6	2.6	2.5	2.2	2.1	1.9	2.0	1.9	1.9	A	1.9	1.9	2.50	3.03
29-Nov	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	2.0	2.0	1.93	2.03
30-Nov	2.1	2.2	2.3	2.4	2.4	2.6	2.4	2.3	2.3	2.3	2.4	2.4	2.3	2.3	2.5	2.3	2.2	2.1	2.0	A	2.0	2.0	2.0	2.1	2.26	2.56
	2.24	2.21	2.21	2.21	2.20	2.22	2.25	2.26	2.32	2.33	2.29	2.24	2.18	2.17	2.16	2.15	2.13	2.17	2.17	2.14	2.15	2.18	2.16	2.16	Diurnal Average	
	3.23	3.07	3.32	3.00	2.99	2.93	3.02	2.91	2.95	2.91	2.86	3.03	2.66	2.69	2.65	3.07	2.72	2.99	3.39	2.89	2.96	2.92	2.91	2.97	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

Hourly Averages for THC at Henry Pirker
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Total Hydrocarbons (THC) - ppm
November 1, 2008 to December 1, 2008

Maximum Value: 7.87 ppm on Nov 8 19:00

Maximum Daily Average: 3.76 ppm on Nov 8

Minimum Value: 1.9 ppm on Nov 13 01:00

Minimum Daily Average: 1.97 ppm on Nov 13

Maximum Diurnal Average: 2.55 ppm at hour 10

Minimum Diurnal Average: 2.27 ppm at hour 20

Monthly Average: 2.382 ppm

Percentiles: P_1 = 1.87 P_{10} = 1.98 Q_1 = 2.04 Median = 2.23 Q_3 = 2.55 P_{90} = 2.95 P_{99} = 4.18

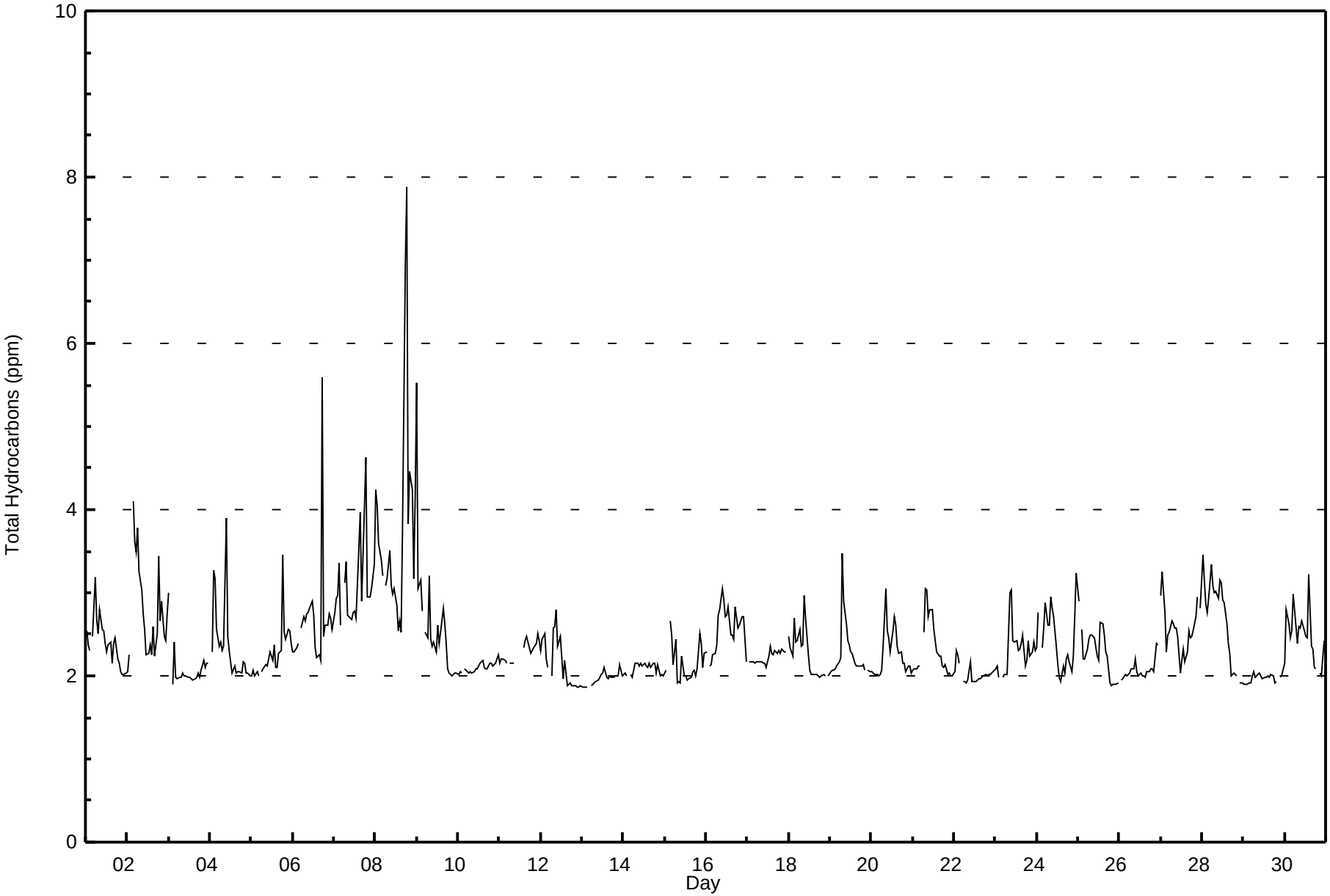
Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	2.5	2.4	2.3	A	2.5	3.2	2.7	2.5	2.8	2.6	2.5	2.4	2.3	2.4	2.4	2.2	2.4	2.4	2.2	2.2	2.1	2.0	2.0	2.0	2.39	3.18
2-Nov	2.0	2.2	A	4.1	3.6	3.5	3.8	3.3	3.0	2.8	2.6	2.3	2.3	2.4	2.3	2.6	2.2	2.5	3.4	2.7	2.9	2.5	2.4	2.8	2.78	4.11
3-Nov	3.0	A	1.9	2.4	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.1	2.1	2.1	2.08	3.01
4-Nov	A	2.3	3.3	3.2	2.6	2.4	2.4	2.3	2.4	3.9	2.5	2.3	2.2	2.0	2.1	2.0	2.1	2.1	2.0	2.2	2.1	2.0	2.0	2.0	2.36	3.89
5-Nov	2.0	2.1	2.0	2.0	2.0	A	2.1	2.1	2.1	2.1	2.2	2.3	2.2	2.4	2.1	2.1	2.3	2.3	3.5	2.5	2.4	2.6	2.5	2.4	2.27	3.46
6-Nov	2.3	2.3	2.3	2.4	A	2.6	2.7	2.7	2.8	2.8	2.8	2.9	2.7	2.3	2.2	2.3	2.2	5.6	2.5	2.6	2.6	2.7	2.7	2.6	2.67	5.60
7-Nov	2.8	2.9	3.0	3.4	2.6	A	3.1	3.4	2.7	2.7	2.7	2.8	2.8	2.7	3.5	4.0	2.9	3.5	4.6	2.9	2.9	2.9	3.1	3.3	3.09	4.63
8-Nov	4.2	4.1	3.6	3.4	3.2	A	3.1	3.2	3.5	3.1	3.0	3.1	2.9	2.5	2.7	2.5	3.8	7.0	7.9	3.8	4.5	4.2	3.2	4.2	3.76	7.87
9-Nov	5.5	3.0	3.1	2.8	A	2.5	2.5	3.2	2.4	2.4	2.4	2.3	2.6	2.4	2.5	2.8	2.6	2.4	2.1	2.0	2.0	2.0	2.0	2.0	2.60	5.52
10-Nov	2.0	2.0	2.0	A	2.1	2.0	2.0	2.1	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.10	2.25
11-Nov	2.2	2.2	2.2	2.2	2.2	A	2.2	2.1	2.1	C	C	C	A	A	2.3	2.4	2.5	2.3	2.3	2.3	2.3	2.4	2.5	2.4	2.29	2.52
12-Nov	2.3	2.4	2.5	2.2	2.1	A	2.0	2.6	2.6	2.8	2.4	2.5	2.2	2.0	2.2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.16	2.80
13-Nov	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	1.97	2.13
14-Nov	2.0	2.0	2.0	A	2.0	2.0	2.1	2.2	2.2	2.1	2.2	2.1	2.2	2.1	2.1	2.2	2.1	2.2	2.1	2.0	2.1	2.0	2.0	2.0	2.09	2.16
15-Nov	2.0	2.1	A	2.7	2.5	2.1	2.4	1.9	1.9	1.9	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.5	2.4	2.1	2.3	2.14	2.66
16-Nov	2.3	A	2.1	2.1	2.2	2.3	2.4	2.7	2.8	3.1	2.9	2.7	2.7	2.8	2.5	2.5	2.4	2.8	2.6	2.6	2.7	2.7	2.7	2.2	2.56	3.05
17-Nov	A	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	A	2.22	2.36
18-Nov	2.5	2.3	2.2	2.7	2.4	2.4	2.6	2.4	2.4	3.0	2.7	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.26	2.96
19-Nov	2.1	2.1	2.1	2.1	2.1	2.2	2.2	3.5	2.9	2.6	2.4	2.4	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	A	2.1	2.0	2.26	3.47
20-Nov	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.4	3.0	2.6	2.5	2.3	2.5	2.7	2.6	2.4	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.0	2.26	3.04
21-Nov	2.1	2.1	2.1	2.1	2.1	A	2.5	3.1	3.0	2.7	2.8	2.8	2.6	2.4	2.3	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.33	3.06
22-Nov	2.1	2.3	2.3	2.2	A	1.9	1.9	1.9	2.0	2.2	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.02	2.31
23-Nov	2.1	2.1	2.0	A	2.0	2.0	2.0	2.0	3.0	3.0	2.4	2.4	2.4	2.3	2.3	2.4	2.5	2.1	2.2	2.4	2.2	2.3	2.4	2.3	2.30	3.03
24-Nov	2.3	2.8	A	2.3	2.6	2.9	2.6	2.6	3.0	2.8	2.7	2.3	2.1	2.0	1.9	2.1	2.0	2.2	2.3	2.2	2.0	2.2	2.7	3.2	2.43	3.23
25-Nov	2.9	A	2.6	2.2	2.2	2.3	2.4	2.5	2.5	2.5	2.3	2.2	2.2	2.7	2.6	2.5	2.3	2.2	1.9	1.9	1.9	1.9	1.9	1.9	2.28	2.90
26-Nov	A	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.4	2.4	A	2.07	2.39
27-Nov	3.0	3.2	2.8	2.3	2.5	2.5	2.7	2.6	2.6	2.6	2.5	2.0	2.2	2.3	2.2	2.3	2.5	2.5	2.5	2.5	2.7	3.0	A	2.8	2.55	3.25
28-Nov	3.5	3.1	2.9	2.8	2.9	3.3	3.1	3.0	3.0	2.9	3.2	3.1	2.9	2.9	2.6	2.4	2.3	2.0	2.0	2.0	2.0	A	1.9	1.9	2.68	3.45
29-Nov	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	A	2.0	2.0	2.1	1.98	2.08
30-Nov	2.2	2.8	2.6	2.5	2.5	3.0	2.6	2.4	2.6	2.6	2.7	2.5	2.5	2.5	3.2	2.4	2.3	2.1	2.1	A	2.0	2.0	2.2	2.4	2.46	3.21
	2.50	2.40	2.36	2.46	2.35	2.39	2.41	2.49	2.52	2.55	2.44	2.35	2.31	2.29	2.31	2.28	2.28	2.50	2.49	2.27	2.31	2.32	2.27	2.33	Diurnal Average	
	5.52	4.06	3.59	4.11	3.60	3.50	3.78	3.47	3.50	3.89	3.15	3.11	2.91	2.88	3.53	3.97	3.78	6.96	7.87	3.83	4.45	4.25	3.16	4.16	Diurnal Maximum	

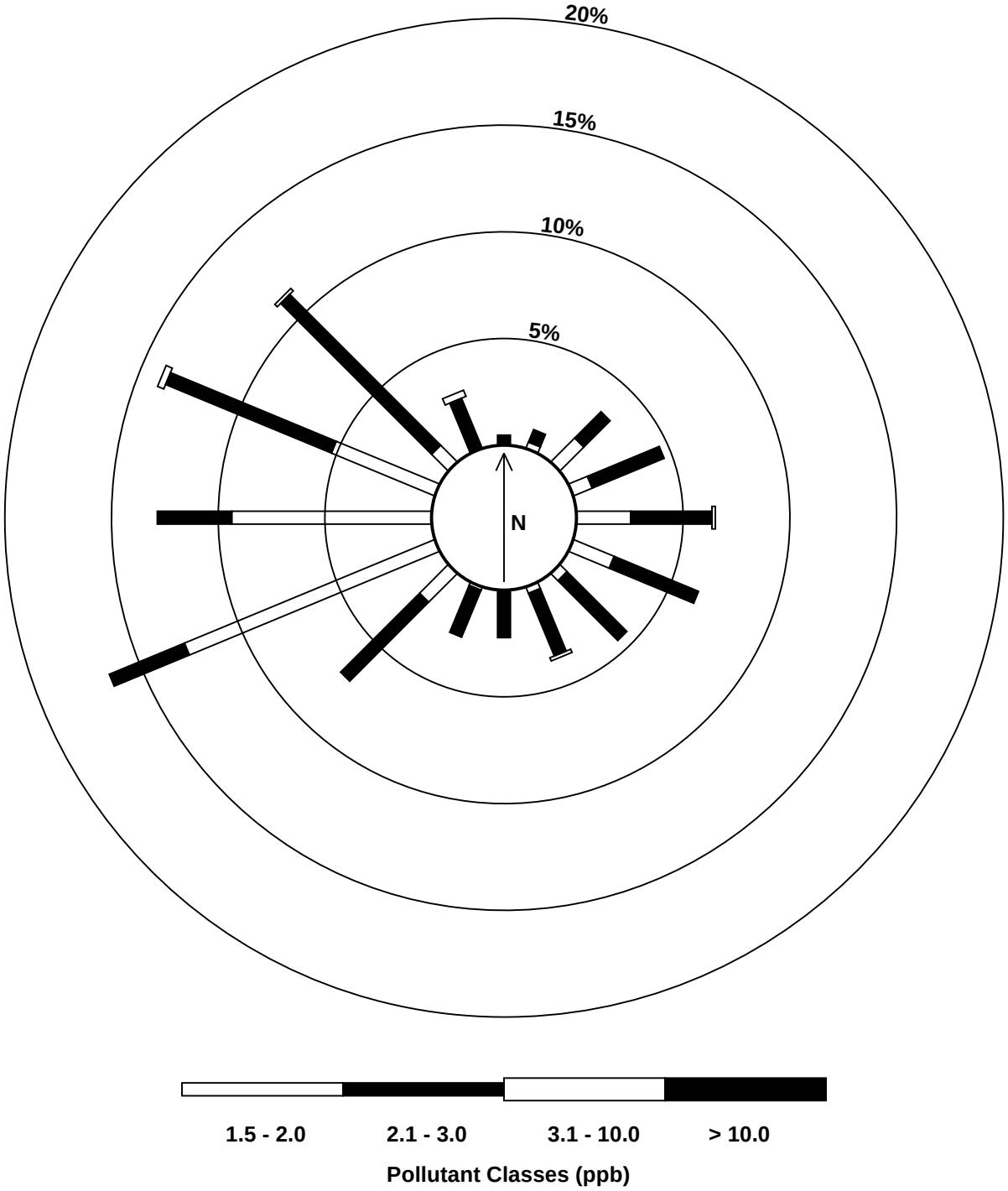
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for THC at Henry Pirker
November 2008



Pollutant Rose for THC at Henry Pirker
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$
November 1, 2008 to December 1, 2008

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

Maximum Value: 31.6 $\mu g/m^3$ on Nov 20 22:00

Maximum Daily Average: 11.2 $\mu g/m^3$ on Nov 7

Minimum Value: 0 $\mu g/m^3$ on Nov 1 23:00

Maximum Diurnal Average: 6.9 $\mu g/m^3$ at hour 10

Monthly Average: 5.14 $\mu g/m^3$

Minimum Daily Average: 0.6 $\mu g/m^3$ on Nov 29

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

Percentiles: P_1 = 0.0 P_{10} = 0.2 Q_1 = 1.1 Median = 3.2 Q_3 = 7.6 P_{90} = 12.9 P_{99} = 24.0

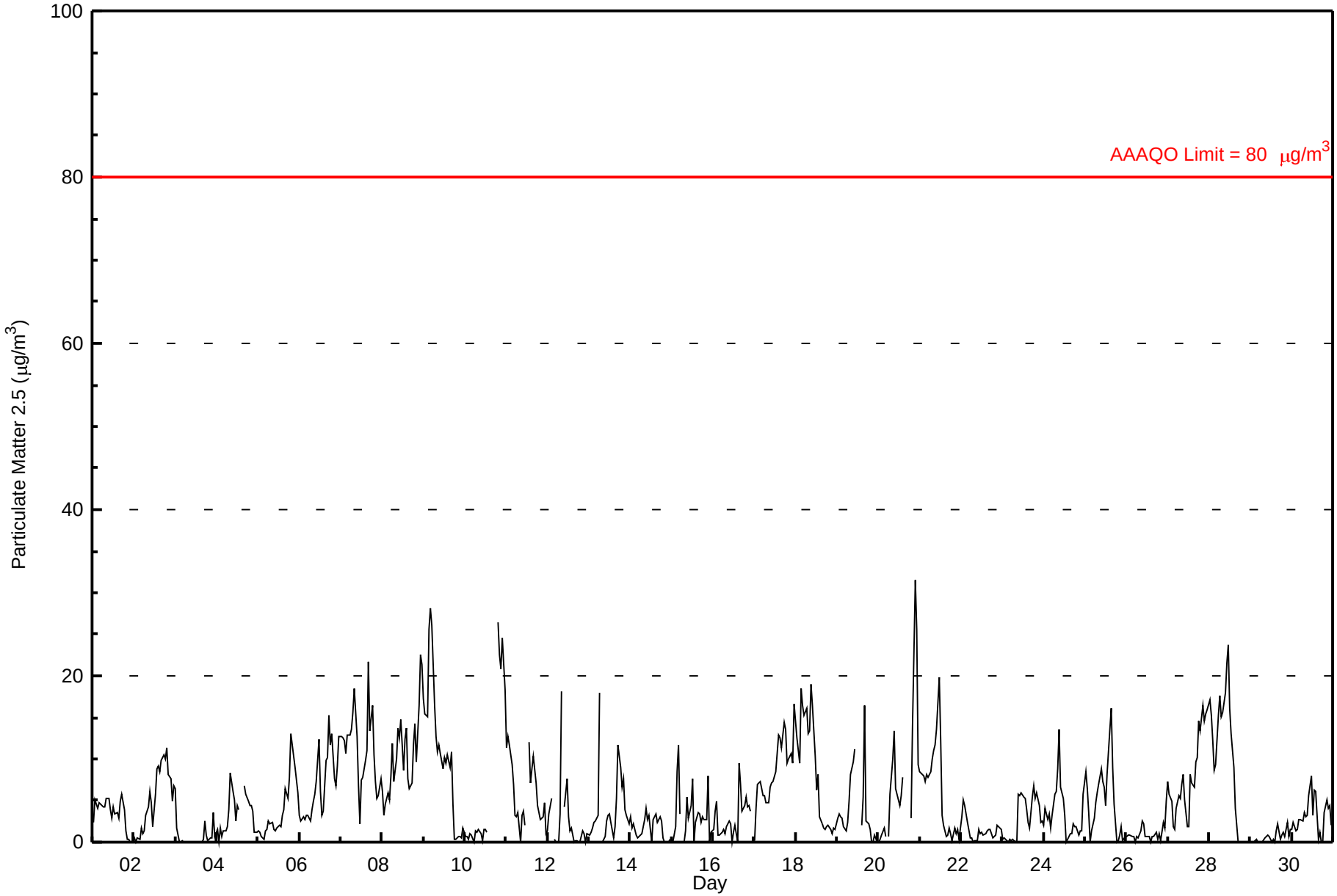
Hours in Service:	720
Hours of Data:	699
Hours of Missing Data:	21
Hours of Calibration:	11
Percent Operational Time:	98.6

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	2	5	5	4	5	4	4	4	5	5	4	3	4	3	4	3	5	6	4	1	0	0	0	0	3.4	5.8
2-Nov	0	0	1	0	2	1	1	3	4	6	5	2	6	9	9	9	10	11	10	11	8	8	5	7	5.3	11.4
3-Nov	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	4	1	0.7	6.4
4-Nov	2	0	2	1	1	1	2	4	8	6	5	3	4	4	C	C	7	6	5	4	4	4	1	1	3.4	8.2
5-Nov	1	1	1	0	1	1	3	2	2	1	1	2	2	2	3	4	6	5	8	13	12	9	8	6	4.0	13.1
6-Nov	3	3	3	3	3	3	2	4	5	6	7	12	6	3	4	10	10	15	12	13	8	7	9	13	6.8	15.3
7-Nov	13	13	12	11	13	13	14	16	18	13	7	2	8	8	10	11	22	13	16	11	7	5	6	8	11.2	21.7
8-Nov	6	3	5	6	5	8	12	7	10	14	13	15	9	12	14	8	6	7	12	14	10	16	23	21	10.6	22.5
9-Nov	17	15	15	26	28	26	16	13	11	12	11	9	10	10	10	9	11	5	0	0	1	1	0	2	10.7	28.1
10-Nov	1	1	0	1	1	0	1	1	2	1	0	1	1	1	C	C	C	C	C	26	22	21	25	18	6.6	26.4
11-Nov	11	13	12	9	7	3	3	4	0	3	4	2	BD	12	7	9	10	7	4	4	3	3	5	1	5.9	12.6
12-Nov	1	3	5	BD	0	0	0	3	18	BD	4	8	3	1	2	0	0	0	0	0	1	1	0	1	2.4	18.1
13-Nov	1	1	2	2	3	3	18	BD	0	1	3	3	3	2	1	2	5	12	9	7	8	4	3	2	4.1	17.9
14-Nov	3	2	2	1	0	1	1	1	3	4	3	3	0	3	3	3	2	3	3	0	0	0	0	0	1.7	4.1
15-Nov	BD	0	2	8	12	3	BD	0	1	5	3	4	8	0	2	4	3	2	3	3	3	8	0	1	3.5	11.7
16-Nov	2	4	5	1	1	1	2	1	2	2	2	0	1	2	0	10	7	4	4	5	4	4	4	BD	3.0	9.5
17-Nov	0	4	7	7	7	6	6	5	5	7	7	7	8	11	13	13	11	14	14	10	10	11	9	17	8.6	16.6
18-Nov	15	13	9	18	16	15	16	13	13	19	16	10	6	8	3	2	2	2	2	2	2	1	2	2	8.7	18.9
19-Nov	3	3	3	3	2	1	2	5	8	10	11	BD	5	BD	2	5	16	3	2	1	0	0	1	0	4.0	16.4
20-Nov	0	0	1	2	1	BD	1	6	10	13	7	6	4	6	8	C	C	C	C	3	14	32	26	9	7.7	31.6
21-Nov	9	8	8	7	8	8	8	10	11	12	13	20	12	3	2	1	1	2	1	0	2	1	2	0	6.2	19.8
22-Nov	3	5	4	3	2	0	0	0	0	0	2	1	1	1	1	1	1	1	1	1	1	2	2	1	1.5	5.1
23-Nov	0	1	0	0	0	0	0	0	0	6	6	6	5	5	4	2	2	5	7	5	6	4	2	2	3.0	6.8
24-Nov	2	4	3	3	2	3	6	6	9	14	7	5	3	0	0	1	1	2	2	2	1	1	1	6	3.5	13.5
25-Nov	9	6	4	0	1	3	5	6	7	9	7	7	4	8	13	16	9	5	0	0	1	2	0	1	5.1	16.1
26-Nov	1	1	1	1	1	0	1	1	1	3	2	1	1	1	0	1	1	1	0	1	0	2	2	5	1.1	5.0
27-Nov	7	6	5	2	1	4	6	5	7	8	5	2	2	8	7	7	10	10	15	13	16	15	15	16	8.0	16.4
28-Nov	17	15	12	9	9	15	18	15	16	18	21	24	16	13	9	4	2	0	0	0	0	0	0	0	9.7	23.7
29-Nov	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	2	0	1	1	1	2	1	1	0.6	2.4
30-Nov	2	2	1	2	3	3	2	4	3	3	6	8	3	6	6	0	1	0	0	3	5	4	4	2	3.1	8.0
Diurnal Average	4.7	4.5	4.3	4.5	4.5	4.5	5.2	4.8	6.0	6.9	6.1	5.7	4.7	4.9	4.9	5.0	5.9	5.1	4.8	5.2	5.0	5.6	5.3	5.0		
Diurnal Maximum	17.3	15.5	15.1	25.6	28.1	26.1	17.9	15.6	18.5	18.9	21.5	23.7	16.1	13.0	13.7	16.1	21.7	15.3	16.4	26.4	22.5	31.6	25.7	21.3		

C - Calibration 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 $PM_{2.5}$ at Henry Pirker
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$
November 1, 2008 to December 1, 2008

Maximum Value: 116.0 $\mu g/m^3$ on Nov 7 17:00

Maximum Daily Average: 36.5 $\mu g/m^3$ on Nov 15

Minimum Value: 0 $\mu g/m^3$ on Nov 12 04:00

Maximum Diurnal Average: 15.1 $\mu g/m^3$ at hour 17

Monthly Average: 12.26 $\mu g/m^3$

Minimum Daily Average: 2.8 $\mu g/m^3$ on Nov 29

Minimum Diurnal Average: 9.3 $\mu g/m^3$ at hour 6

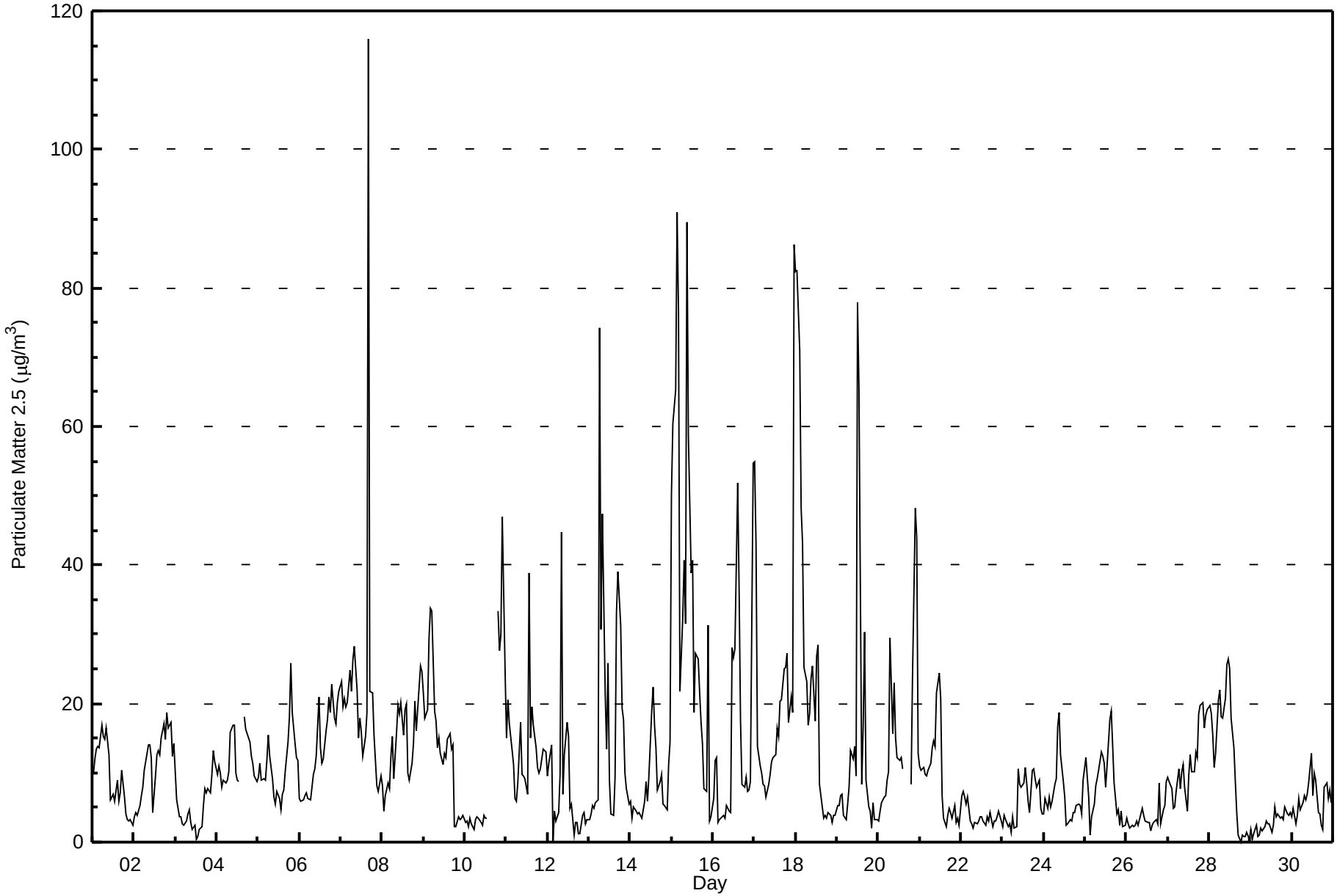
Percentiles: P_1 = 0.9 P_{10} = 2.7 Q_1 = 4.2 Median = 8.8 Q_3 = 15.2 P_{90} = 23.7 P_{99} = 75.2

Hours in Service:	720
Hours of Data:	709
Hours of Missing Data:	11
Hours of Calibration:	11
Percent Operational Time:	100.0

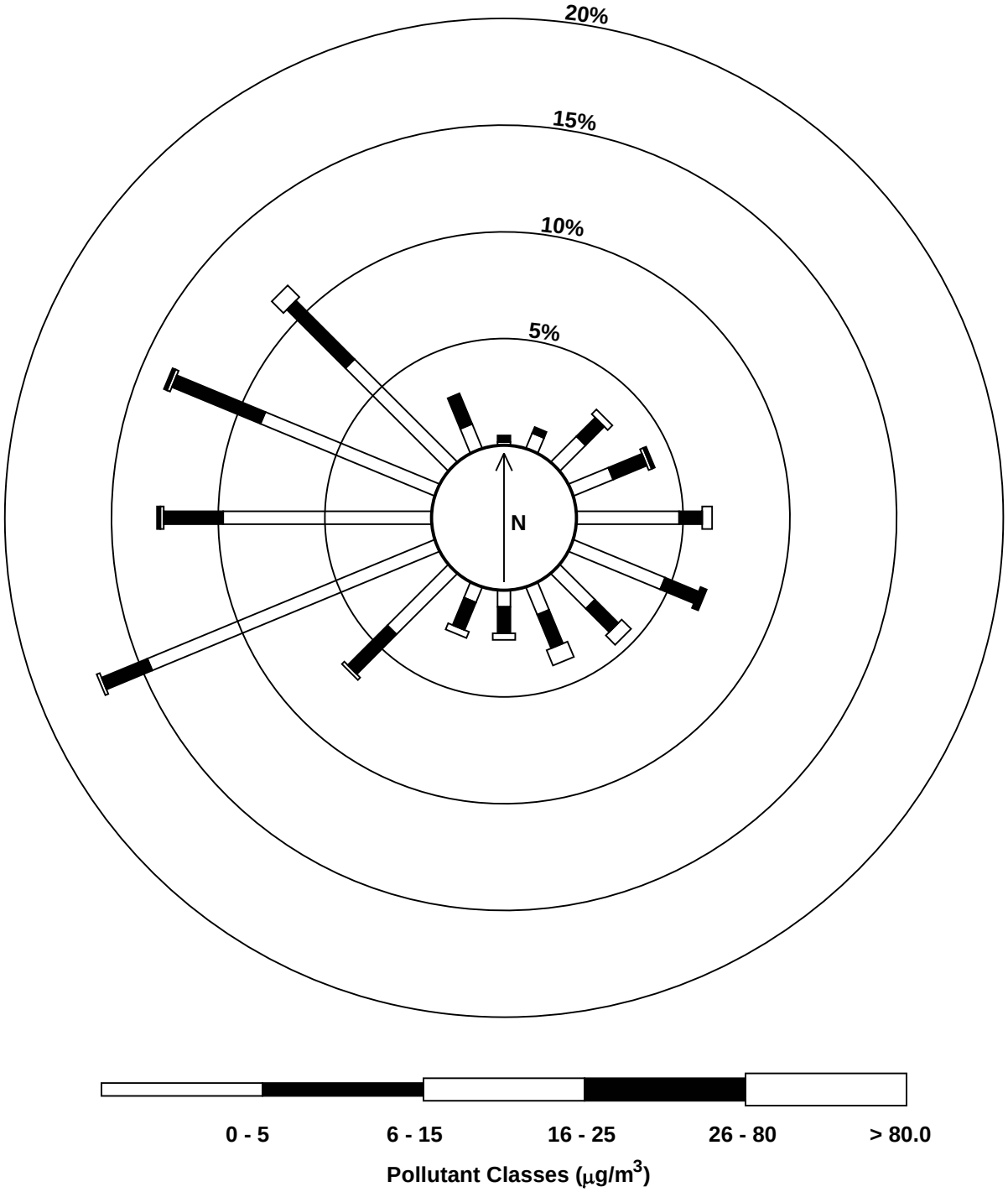
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Nov	10	12	13	14	14	17	15	15	16	13	6	7	7	6	9	6	7	10	7	4	3	3	3	2	9.1	16.9
2-Nov	4	4	4	5	7	8	10	12	14	14	12	4	10	13	13	13	15	17	15	19	16	17	12	14	11.3	18.7
3-Nov	10	6	4	4	3	2	3	4	5	3	2	2	0	1	2	2	5	8	7	8	7	10	13	12	5.1	13.2
4-Nov	10	11	10	8	9	8	9	10	16	17	17	10	9	9	C	C	18	16	15	15	12	11	10	9	11.7	18.0
5-Nov	9	11	9	9	9	12	15	13	9	7	5	7	6	5	7	8	10	14	18	26	19	14	12	12	11.1	25.8
6-Nov	6	6	6	7	7	6	6	8	10	10	12	21	14	11	12	16	18	21	19	23	18	17	20	22	13.2	22.8
7-Nov	23	20	21	20	20	25	22	26	28	22	15	18	16	12	15	19	116	22	22	15	12	8	7	10	22.2	116.0
8-Nov	8	4	7	9	8	12	15	9	16	20	18	20	15	19	20	10	9	11	14	20	16	22	25	25	14.8	25.4
9-Nov	21	18	19	29	34	33	19	17	14	15	13	11	13	12	15	16	13	14	2	2	4	3	4	4	14.4	33.7
10-Nov	3	3	2	4	3	2	3	4	3	3	2	4	4	3	C	C	C	C	C	33	28	30	47	25	10.8	47.0
11-Nov	15	21	17	13	11	6	6	9	17	10	10	9	7	39	15	19	17	14	11	10	11	13	13	13	13.5	38.8
12-Nov	10	11	14	0	4	3	4	10	45	7	13	17	15	5	5	1	3	3	1	1	4	4	3	3	7.8	44.7
13-Nov	3	4	5	5	6	6	74	31	47	22	13	26	9	4	4	9	33	39	31	19	18	10	8	6	18.0	74.2
14-Nov	6	3	5	4	4	4	4	3	6	9	6	9	19	22	17	14	8	9	10	5	5	5	11	15	8.5	22.3
15-Nov	50	60	65	91	77	22	32	41	31	89	59	39	41	19	27	26	22	17	14	8	7	31	3	4	36.5	90.9
16-Nov	6	12	12	3	3	4	4	3	5	4	4	28	27	28	52	37	18	8	8	9	7	8	9	55	14.8	54.7
17-Nov	55	43	14	11	10	8	8	7	8	10	12	12	13	16	15	20	21	25	25	27	17	21	19	86	21.0	86.1
18-Nov	82	83	71	48	43	25	23	17	18	24	25	17	27	28	8	5	3	4	4	4	4	3	4	4	24.0	82.6
19-Nov	5	5	7	7	4	3	5	8	13	12	14	10	78	66	8	17	30	9	5	5	2	6	3	3	13.5	77.9
20-Nov	3	4	6	6	7	9	10	30	16	23	15	12	12	12	11	C	C	C	C	8	24	48	44	13	15.6	48.2
21-Nov	11	10	11	10	10	10	11	14	15	14	21	24	21	7	3	2	4	5	4	4	5	3	4	2	9.4	24.4
22-Nov	7	7	7	5	6	3	3	2	3	3	3	4	4	3	3	4	3	4	2	3	3	4	5	3	3.9	7.4
23-Nov	2	4	3	2	3	2	4	2	2	11	8	8	9	11	8	6	4	10	11	9	8	9	5	4	6.0	10.9
24-Nov	4	6	5	7	5	6	8	9	17	19	13	9	6	3	3	3	3	4	4	5	5	5	4	9	6.8	18.7
25-Nov	12	9	6	1	4	6	8	9	10	13	12	11	8	11	18	19	14	9	4	5	2	4	2	2	8.4	18.8
26-Nov	3	3	2	2	2	2	3	2	4	5	4	3	3	3	2	2	3	3	3	9	3	5	5	9	3.5	8.8
27-Nov	9	9	8	5	5	7	11	8	10	11	8	4	10	13	10	10	13	12	19	20	20	16	18	19	11.5	20.1
28-Nov	20	18	16	11	13	20	22	18	18	21	26	26	25	18	14	9	4	1	0	1	1	1	1	1	12.6	26.5
29-Nov	2	0	1	3	1	1	2	2	2	3	3	3	1	3	5	4	4	3	4	3	5	4	4	4	2.8	5.1
30-Nov	4	5	3	4	6	5	6	7	6	7	8	13	7	10	9	4	4	2	2	8	9	6	8	6	6.1	12.8
	13.9	13.8	12.4	11.5	11.2	9.3	12.3	11.6	14.2	14.6	12.7	13.0	14.4	13.7	11.8	11.1	15.1	11.3	10.0	11.0	9.8	11.4	10.9	13.1	Diurnal Average	
	82.4	82.6	70.9	90.9	76.5	33.4	74.2	40.7	47.4	89.5	58.7	38.9	77.9	65.6	51.9	36.5	116.0	39.1	31.3	33.4	27.8	48.2	47.0	86.1	Diurnal Maximum	

C - Calibration

Hourly Maximums for $PM_{2.5}$ at Henry Pirker
November 2008



Pollutant Rose for $PM_{2.5}$ at Henry Pirker
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - External Temperature (ET) - ^{o}C
November 1, 2008 to December 1, 2008

Maximum Value: 13.3 ^{o}C on Nov 2 15:00

Maximum Daily Average: 5.2 ^{o}C on Nov 3

Minimum Value: -14 ^{o}C on Nov 6 09:00

Minimum Daily Average: -4.2 ^{o}C on Nov 5

Maximum Diurnal Average: 6.6 ^{o}C at hour 16

Minimum Diurnal Average: -3.9 ^{o}C at hour 9

Monthly Average: 0.36 ^{o}C

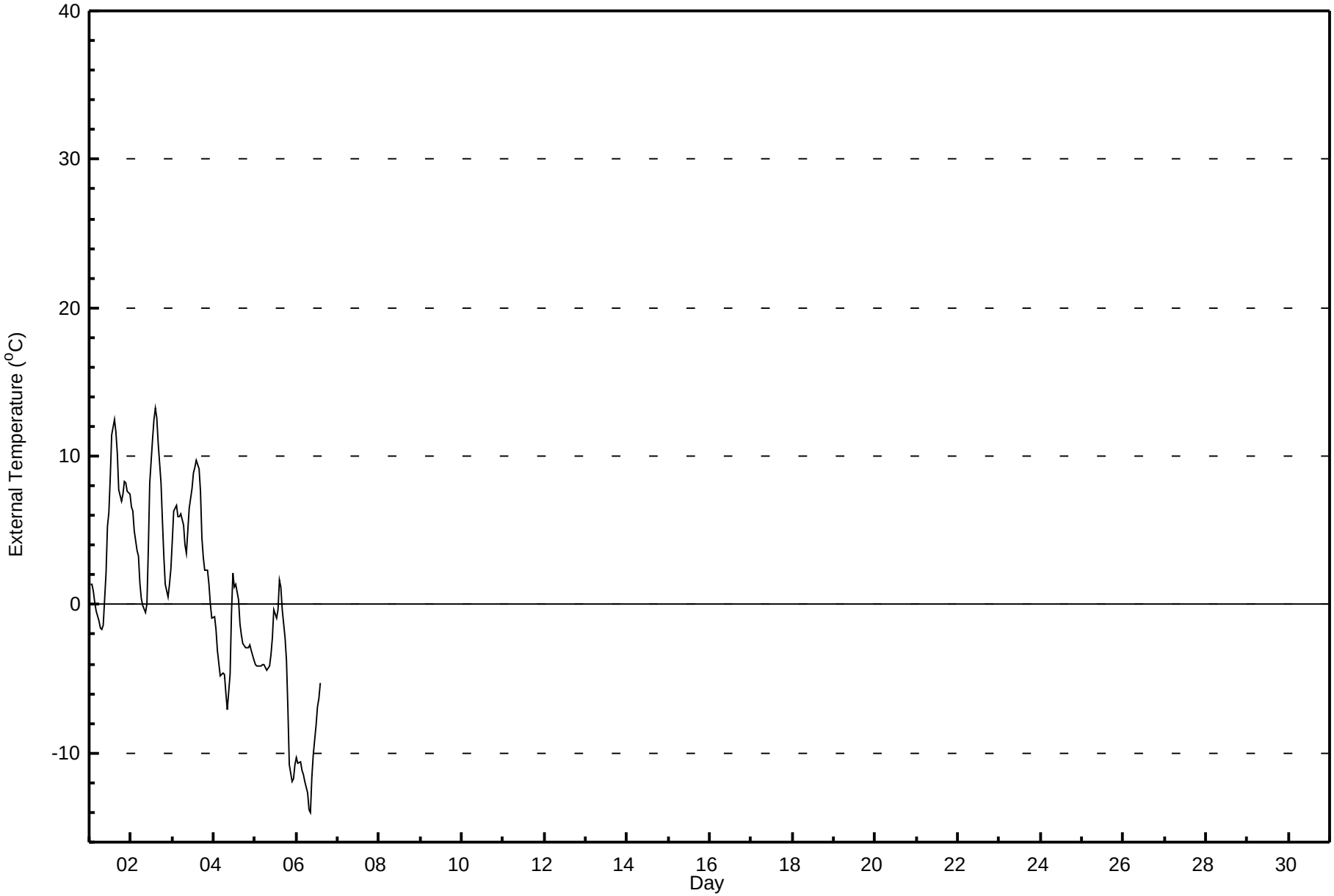
Percentiles: P_1 = -13.9 P_{10} = -10.3 Q_1 = -4.1 Median = 0.1 Q_3 = 5.9 P_{90} = 8.6 P_{99} = 13.3

Hours in Service:	136
Hours of Data:	135
Hours of Missing Data:	1
Hours of Calibration:	0
Percent Operational Time:	99.3

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	1	1	1	0	0	-1	-2	-2	-1	2	5	6	9	11	13	12	10	8	7	7	8	8	8	7	5.0	12.5
2-Nov	7	6	5	4	3	1	0	0	-1	0	4	8	11	13	13	13	11	8	6	3	1	0	1	2	5.0	13.3
3-Nov	4	6	7	6	6	6	5	4	3	5	6	8	9	9	10	9	8	5	3	2	2	1	0	-1	5.2	9.7
4-Nov	-1	-2	-3	-4	-5	-5	-5	-6	-7	-5	-1	2	1	1	0	-1	-2	-3	-3	-3	-3	-3	-3	-4	-2.5	2.1
5-Nov	-4	-4	-4	-4	-4	-4	-4	-4	-4	-3	-2	0	-1	0	2	1	0	-2	-4	-7	-11	-12	-12	-11	-4.2	1.6
6-Nov	-10	-11	-11	-11	-11	-12	-13	-14	-14	-12	-10	-8	-7	-6	-5	M	NS	NS	NS	NS	NS	NS	NS	NS	--	-5.3
7-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
8-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
9-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
10-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
11-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
12-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
13-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
14-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
15-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
16-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
17-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
18-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
19-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
20-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
21-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
22-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
23-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
24-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
25-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
26-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
27-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
28-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
29-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
30-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
	-0.5	-0.4	-0.9	-1.6	-1.9	-2.3	-2.9	-3.6	-3.9	-2.1	0.4	2.7	3.7	4.6	5.4	6.6	5.2	3.1	1.8	0.6	-0.3	-0.9	-1.2	-1.1	Diurnal Average	
	6.6	6.3	6.7	5.9	5.9	6.1	5.3	4.1	3.4	5.0	6.5	8.2	11.1	12.5	13.3	12.5	10.8	8.2	6.9	7.4	8.3	8.2	7.6	7.5	Diurnal Maximum	

M - Maintenance NS - Not in service

Hourly Averages for External Temperature at Henry Pirker
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Relative Humidity (RH) - %
November 1, 2008 to December 1, 2008

Maximum Value: 93.1 % on Nov 1 09:00

Maximum Daily Average: 82.9 % on Nov 4

Minimum Value: 44 % on Nov 3 16:00

Minimum Daily Average: 68.7 % on Nov 3

Maximum Diurnal Average: 87.0 % at hour 5

Minimum Diurnal Average: 62.0 % at hour 16

Monthly Average: 78.32 %

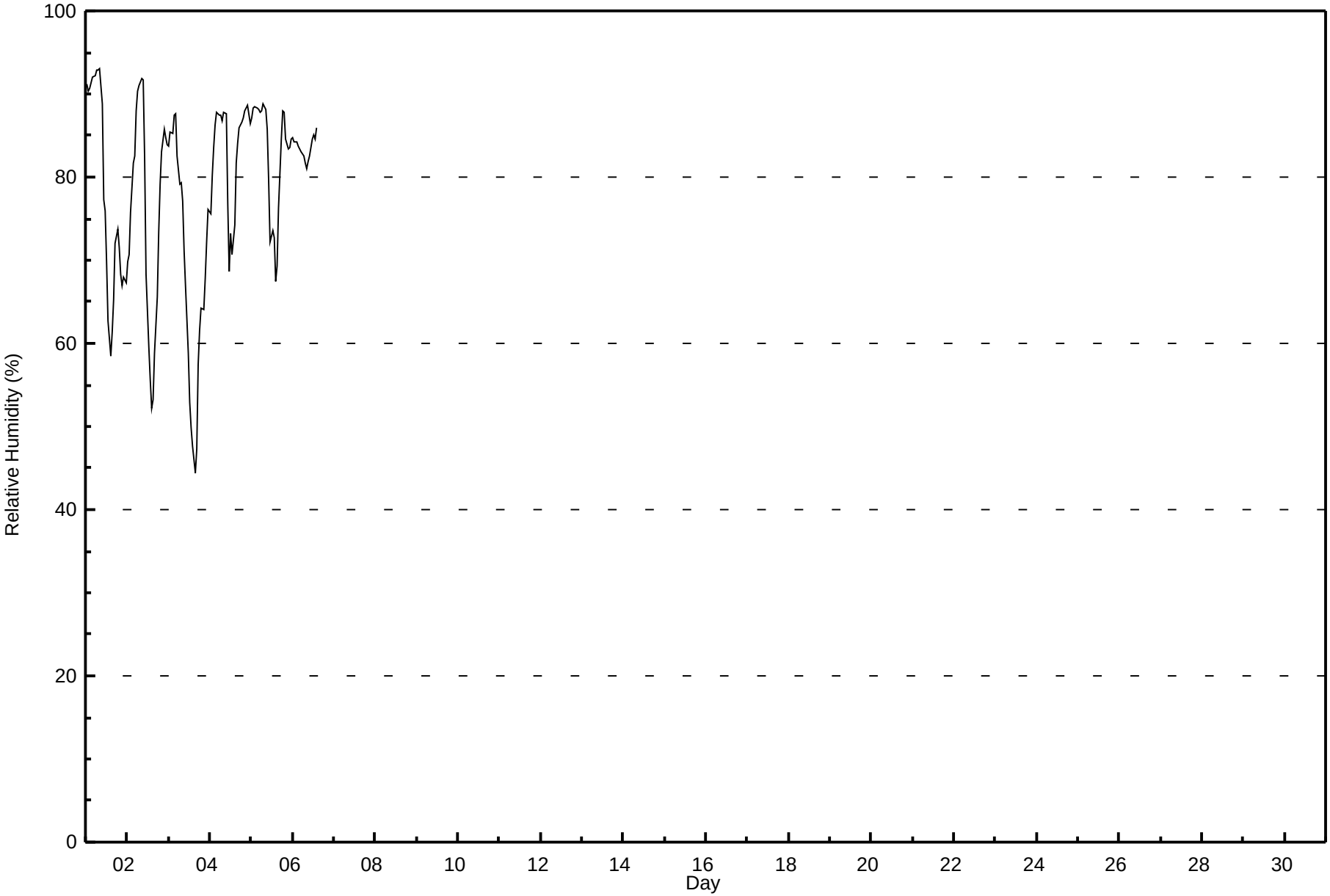
Percentiles: P_1 = 47.3 P_{10} = 61.3 Q_1 = 71.1 Median = 82.6 Q_3 = 87.4 P_{90} = 88.8 P_{99} = 93.1

Hours in Service:	136
Hours of Data:	135
Hours of Missing Data:	1
Hours of Calibration:	0
Percent Operational Time:	99.3

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	91	90	91	91	92	92	93	93	93	89	77	76	70	63	59	61	65	72	74	72	68	67	68	67	78.1	93.1
2-Nov	70	71	76	82	83	88	90	91	92	92	82	68	60	56	52	53	59	66	73	79	83	86	85	84	75.8	91.9
3-Nov	84	85	85	87	88	82	79	79	77	71	67	59	53	50	48	44	47	57	61	64	64	68	72	76	68.7	87.7
4-Nov	76	80	84	86	88	87	87	87	88	88	77	69	73	71	74	82	84	86	87	87	88	88	89	86	82.9	88.6
5-Nov	87	88	88	88	88	88	88	89	88	86	80	72	74	73	68	69	76	84	88	88	85	83	84	85	82.8	88.8
6-Nov	85	84	84	84	83	83	82	82	81	82	83	85	85	85	86	M	NS	NS	NS	NS	NS	NS	NS	NS	--	85.9
7-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
8-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
9-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
10-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
11-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
12-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
13-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
14-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
15-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
16-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
17-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
18-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
19-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
20-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
21-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
22-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
23-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
24-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
25-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
26-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
27-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
28-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
29-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
30-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
	82.0	83.2	84.7	86.5	87.0	86.8	86.7	86.8	86.5	84.5	77.6	71.4	69.0	66.0	64.3	62.0	66.3	73.1	76.6	78.0	77.6	78.4	79.4	79.7	Diurnal Average	
	91.2	90.4	90.7	91.3	92.0	92.2	92.9	92.9	93.1	91.6	82.5	84.5	85.1	84.6	85.9	81.6	84.0	85.9	88.0	87.8	87.9	88.3	88.6	86.5	Diurnal Maximum	

M - Maintenance NS - Not in service

Hourly Averages for Relative Humidity at Henry Pirker
November 2008



Maximum Value: 297.9 W/m^2 on Nov 3 13:00

Maximum Daily Average: 64.0 W/m^2 on Nov 3

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

Minimum Daily Average: 4.3 W/m^2 on Nov 17

Maximum Diurnal Average: 128.5 W/m^2 at hour 13

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

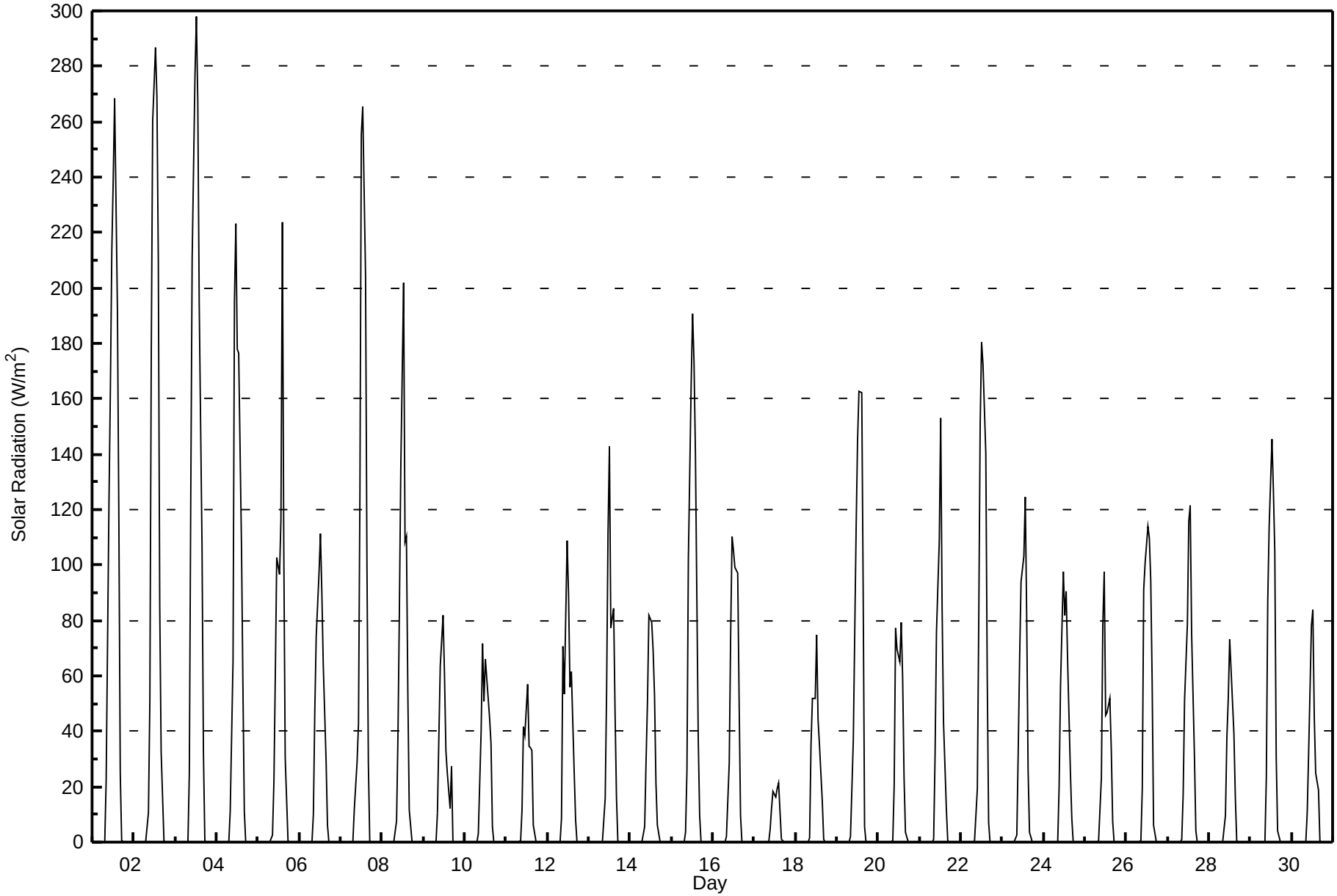
Monthly Average: 26.19 W/m^2

Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.0 Q_3 = 28.9 P_{90} = 97.6 P_{99} = 264.3

Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Nov	0	0	0	0	0	0	0	0	23	123	164	213	239	268	192	117	25	0	0	0	0	0	0	0	56.8	268.4
2-Nov	0	0	0	0	0	0	0	0	11	51	177	260	287	269	210	85	33	1	0	0	0	0	0	0	57.6	286.6
3-Nov	0	0	0	0	0	0	0	0	25	124	210	277	298	267	195	107	33	0	0	0	0	0	0	0	64.0	297.9
4-Nov	0	0	0	0	0	0	0	0	11	65	195	223	178	176	107	57	11	0	0	0	0	0	0	0	42.7	223.3
5-Nov	0	0	0	0	0	0	0	0	3	22	60	103	96	117	224	106	31	1	0	0	0	0	0	0	31.8	223.9
6-Nov	0	0	0	0	0	0	0	0	10	47	74	97	111	90	64	30	6	0	0	0	0	0	0	0	22.1	111.5
7-Nov	0	0	0	0	0	0	0	0	12	29	43	125	255	265	205	100	29	0	0	0	0	0	0	0	44.3	265.4
8-Nov	0	0	0	0	0	0	0	0	8	38	83	135	202	108	110	54	11	0	0	0	0	0	0	0	31.3	202.1
9-Nov	0	0	0	0	0	0	0	0	11	37	63	82	61	33	25	12	27	0	0	0	0	0	0	0	14.7	81.7
10-Nov	0	0	0	0	0	0	0	0	3	40	71	51	66	59	45	36	5	0	0	0	0	0	0	0	15.7	71.5
11-Nov	0	0	0	0	0	0	0	0	1	11	42	38	57	34	34	33	6	0	0	0	0	0	0	0	10.7	57.1
12-Nov	0	0	0	0	0	0	0	0	9	70	53	109	90	56	62	25	8	0	0	0	0	0	0	0	20.1	109.1
13-Nov	0	0	0	0	0	0	0	0	0	16	55	111	143	77	84	47	16	0	0	0	0	0	0	0	22.9	142.7
14-Nov	0	0	0	0	0	0	0	0	5	30	51	82	79	69	53	22	6	0	0	0	0	0	0	0	16.5	81.8
15-Nov	0	0	0	0	0	0	0	0	4	26	102	166	191	173	141	38	10	0	0	0	0	0	0	0	35.4	190.7
16-Nov	0	0	0	0	0	0	0	0	2	28	75	110	105	99	97	51	10	0	0	0	0	0	0	0	24.1	110.2
17-Nov	0	0	0	0	0	0	0	0	0	4	12	18	16	19	22	11	1	0	0	0	0	0	0	0	4.3	21.6
18-Nov	0	0	0	0	0	0	0	0	2	35	52	52	75	44	35	15	1	0	0	0	0	0	0	0	12.9	74.5
19-Nov	0	0	0	0	0	0	0	0	2	37	75	113	144	163	162	91	6	0	0	0	0	0	0	0	33.0	162.7
20-Nov	0	0	0	0	0	0	0	0	0	20	77	70	65	79	59	23	3	0	0	0	0	0	0	0	16.6	79.3
21-Nov	0	0	0	0	0	0	0	0	1	31	76	109	153	84	43	12	1	0	0	0	0	0	0	0	21.2	152.8
22-Nov	0	0	0	0	0	0	0	0	1	19	80	151	180	172	140	61	7	0	0	0	0	0	0	0	33.8	180.4
23-Nov	0	0	0	0	0	0	0	0	2	33	66	94	103	125	81	26	4	0	0	0	0	0	0	0	22.3	124.8
24-Nov	0	0	0	0	0	0	0	0	0	20	56	98	82	91	66	25	9	0	0	0	0	0	0	0	18.6	97.7
25-Nov	0	0	0	0	0	0	0	0	0	23	78	98	46	47	52	34	8	0	0	0	0	0	0	0	16.1	97.8
26-Nov	0	0	0	0	0	0	0	0	0	20	91	101	114	110	95	58	6	0	0	0	0	0	0	0	24.8	113.9
27-Nov	0	0	0	0	0	0	0	0	1	17	51	79	116	122	75	31	4	0	0	0	0	0	0	0	20.7	121.7
28-Nov	0	0	0	0	0	0	0	0	0	10	37	52	73	62	39	16	0	0	0	0	0	0	0	0	12.1	73.4
29-Nov	0	0	0	0	0	0	0	0	0	23	87	114	146	127	105	31	4	0	0	0	0	0	0	0	26.6	145.6
30-Nov	0	0	0	0	0	0	0	0	0	11	32	78	84	45	25	19	0	0	0	0	0	0	0	0	12.3	84.1
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	35.4	79.7	113.6	128.5	115.1	94.9	45.7	10.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	Diurnal Average	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	123.8	210.4	276.6	297.9	269.0	223.9	116.7	32.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	Diurnal Maximum	

Hourly Averages for Solar Radiation at Henry Pirker
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker
November 1, 2008 to December 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	3	7	6	3	2	1	4	3	3	2	4	4	3	2	3	7	6	4	5	9	11	11	10	11	2.1	11.3
Dir	207	233	252	259	164	318	148	135	145	213	227	232	235	313	117	84	85	45	52	58	78	81	80	87	99.0	87.3
2 Spd	8	4	1	2	3	2	1	2	2	2	4	4	4	3	1	2	7	4	1	4	4	5	3	2	0.4	8.5
Dir	95	73	270	52	267	281	251	320	160	300	302	279	243	153	254	41	101	72	310	327	309	287	336	208	322.0	94.9
3 Spd	6	15	17	5	8	12	14	11	7	9	10	15	21	19	16	20	16	13	14	10	6	5	4	4	10.9	20.8
Dir	229	242	290	300	203	229	241	252	268	268	259	240	245	259	249	266	269	274	275	272	225	227	283	264	256.1	244.6
4 Spd	5	4	2	2	2	4	3	5	3	4	4	2	8	6	8	10	8	8	7	6	7	8	9	9	3.2	9.6
Dir	268	235	174	162	159	149	236	298	307	330	292	22	353	55	62	57	51	37	41	44	37	54	60	45	35.8	57.3
5 Spd	8	5	4	6	7	3	4	6	6	6	5	5	6	4	4	4	4	5	3	3	4	4	4	4	1.0	8.1
Dir	56	57	35	21	25	11	294	288	285	278	266	213	181	181	146	136	94	84	82	303	289	309	308	315	343.5	56.2
6 Spd	5	4	4	3	3	3	3	3	3	2	2	1	1	5	5	M	M	M	7	5	8	5	8	6	2.6	8.3
Dir	326	320	308	305	295	307	314	312	305	309	302	290	62	86	71	M	M	M	298	307	247	236	229	248	289.6	247.4
7 Spd	5	4	4	4	4	5	1	3	4	5	3	4	4	4	3	1	M	3	4	5	6	5	4	5	2.1	6.4
Dir	233	192	206	180	167	161	44	312	292	316	309	312	267	300	299	147	M	21	316	310	326	321	291	329	288.7	326.3
8 Spd	3	5	3	3	2	3	4	3	2	3	2	2	2	4	4	3	1	2	1	3	1	2	2	2	1.6	4.5
Dir	338	301	345	334	265	250	340	296	219	282	287	300	306	283	282	307	334	184	292	356	257	154	145	73	300.3	300.7
9 Spd	2	4	5	5	3	4	3	2	5	7	7	6	3	10	9	6	8	15	16	N	N	N	N	N	1.4	16.0
Dir	85	101	83	114	106	62	48	68	104	91	93	102	312	292	289	295	293	299	292	N	N	N	N	N	343.3	291.8
10 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
11 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
12 Spd	N	N	N	N	N	8	5	N	3	6	6	3	11	12	13	24	25	23	23	21	20	21	20	23	13.0	24.9
Dir	N	N	N	N	N	118	104	N	319	246	176	136	231	245	243	249	246	253	249	253	243	247	243	249	243.4	246.3
13 Spd	24	21	21	23	22	21	32	31	19	12	8	5	5	7	19	20	24	23	22	20	16	16	14	10	17.6	32.3
Dir	249	257	252	255	258	263	279	281	294	303	323	283	281	286	279	273	275	267	267	263	254	252	253	260	268.5	279.1
14 Spd	9	8	14	15	15	16	12	9	7	8	7	7	5	6	8	7	8	7	9	7	7	8	7	4	4.4	16.0
Dir	269	257	242	248	248	249	247	254	240	237	218	216	205	134	111	113	105	128	161	120	108	110	113	117	207.6	248.9
15 Spd	5	5	4	1	6	4	10	12	16	16	14	17	21	23	19	17	10	12	11	8	4	4	7	4	9.2	23.1
Dir	137	145	170	255	216	224	242	261	260	277	279	257	261	265	259	258	241	246	254	283	290	265	268	299	257.2	265.3
16 Spd	4	4	4	3	3	3	4	5	4	5	5	4	5	5	4	6	4	5	3	4	4	4	3	4	3.7	5.6
Dir	305	322	301	322	294	341	297	306	315	321	318	329	330	348	309	280	303	337	288	302	322	310	340	48	317.2	280.1
17 Spd	5	6	5	6	8	7	6	6	7	5	4	5	1	1	4	7	6	5	6	5	3	2	2	3	1.3	8.0
Dir	49	62	55	50	59	72	65	74	76	67	72	71	126	145	249	256	268	202	207	235	228	207	255	251	77.5	58.9
18 Spd	3	5	5	4	5	2	3	5	3	2	6	12	16	19	14	16	14	17	14	12	11	13	12	9	8.0	19.4
Dir	215	252	263	180	152	82	325	312	321	44	309	308	308	307	300	296	298	295	289	289	285	283	286	294	293.5	307.0
19 Spd	10	12	10	11	10	6	4	3	1	4	2	7	8	6	11	10	10	11	10	10	14	15	14	15	3.6	15.0
Dir	296	302	290	290	294	293	315	319	21	175	250	107	100	78	76	75	82	86	84	86	89	91	89	84	66.0	84.2
20 Spd	16	16	17	14	11	12	7	6	5	4	4	5	4	6	5	5	9	7	10	12	16	14	15	14	1.0	17.0
Dir	89	87	89	95	101	95	93	121	170	231	217	232	220	259	220	217	242	275	292	287	290	283	275	284	230.3	88.6
21 Spd	10	10	8	4	4	4	4	5	4	5	3	3	3	5	6	9	10	11	11	10	8	10	10	9	3.9	11.4
Dir	260	267	280	235	162	137	119	169	173	241	126	132	114	98	101	99	99	103	102	105	97	111	114	118	125.2	102.5
22 Spd	1	4	7	8	17	29	29	26	21	24	30	28	33	29	25	20	19	17	13	15	11	10	9	10	17.7	33.0
Dir	240	310	309	297	262	252	249	246	243	239	248	249	250	249	251	253	254	251	253	243	238	234	229	233	250.0	249.7

Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker
November 1, 2008 to December 1, 2008
WS (km/h), WD (deg)

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
23 Spd	13	9	8	8	9	10	11	9	2	1	3	1	5	2	3	6	7	4	0	4	2	2	4	3	1.9	12.5
Dir	245	284	311	307	311	291	266	279	286	128	137	122	135	132	101	104	98	104	351	106	72	298	308	308	283.5	244.8
24 Spd	2	2	3	7	6	2	3	5	7	3	9	8	6	13	14	9	10	5	0	4	6	4	1	1	4.4	14.4
Dir	320	320	324	319	306	215	297	321	181	192	235	249	271	273	269	284	256	268	140	312	264	233	138	66	270.0	269.0
25 Spd	4	4	1	2	3	3	2	1	3	4	5	7	6	7	5	2	9	12	19	25	26	19	25	26	7.7	26.1
Dir	112	114	68	299	298	322	281	339	312	288	321	301	302	241	183	217	276	237	247	249	256	260	250	249	256.8	255.6
26 Spd	24	22	25	17	14	12	16	15	11	10	16	21	20	26	19	16	11	8	12	9	5	2	4	4	13.5	26.3
Dir	254	255	249	247	247	263	253	255	254	237	261	265	262	265	255	270	261	283	272	283	281	138	229	114	257.7	265.4
27 Spd	1	0	3	0	3	3	5	4	4	3	1	7	5	6	7	2	7	6	3	2	4	1	3	3	1.1	7.2
Dir	117	187	324	278	320	295	305	315	287	35	68	107	100	225	314	278	228	263	301	272	187	193	160	154	264.3	107.0
28 Spd	3	1	3	2	4	4	2	3	1	1	2	1	3	5	3	7	8	13	10	21	10	19	22	20	5.7	22.2
Dir	143	310	273	345	133	150	158	165	196	192	139	93	162	164	199	235	254	250	228	248	243	244	243	243	233.2	242.9
29 Spd	22	15	15	15	15	8	7	9	7	12	10	14	17	18	22	16	15	13	31	25	20	14	10	5	14.5	31.4
Dir	247	259	270	268	252	256	219	230	251	259	272	277	261	263	267	255	257	261	249	247	250	266	260	227	256.4	248.9
30 Spd	6	5	6	6	2	5	6	5	5	2	1	4	2	3	4	9	9	8	10	8	10	9	4	3	3.3	9.7
Dir	267	322	293	271	236	111	112	106	113	154	133	138	131	154	111	115	107	117	126	137	147	120	93	32	125.2	126.3
Spd	3.5	3.6	4.3	3.5	3.6	3.0	4.2	4.7	3.4	3.8	4.0	4.1	5.3	5.9	5.0	4.7	4.6	4.6	5.8	5.4	4.4	3.6	3.8	2.8	Diurnal Average	
Dir	252.4	265.0	274.4	274.1	253.2	247.8	259.2	267.8	258.1	262.4	262.0	255.7	256.5	261.7	260.3	259.5	258.3	263.5	260.0	263.4	254.0	249.6	249.3	255.6		
Spd	23.9	21.8	25.3	23.1	22.3	28.5	32.3	31.1	20.9	24.1	30.2	28.3	33.0	29.0	24.6	24.0	24.9	23.2	31.4	24.8	26.1	21.1	25.0	25.6	Diurnal Maximum	
Dir	248.6	255.0	248.9	254.7	257.7	252.0	279.1	281.4	243.0	239.3	248.4	248.8	249.7	249.3	251.3	248.5	246.3	266.9	248.9	248.8	255.6	246.6	250.4	249.1		

Maximum Speed Value: 33 km/h on Nov 22 13:00
Maximum Daily Speed Average: 17.7 km/h on Nov 13
Maximum Diurnal Speed Average: 5.9 km/h at hour 14

Minimum Speed Value: 0 km/h on Nov 24 19:00
Minimum Daily Speed Average: 0.4 km/h on Nov 8
Minimum Diurnal Speed Average: 2.8 km/h at hour 24

Monthly Average Velocity: 4.22 km/h 259.66 deg

Speed Percentiles: $P_1 = 0.6$ $P_{10} = 2.1$ $Q_1 = 3.5$ Median = 5.6 $Q_3 = 10.5$ $P_{90} = 17.4$ $P_{99} = 28.6$

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

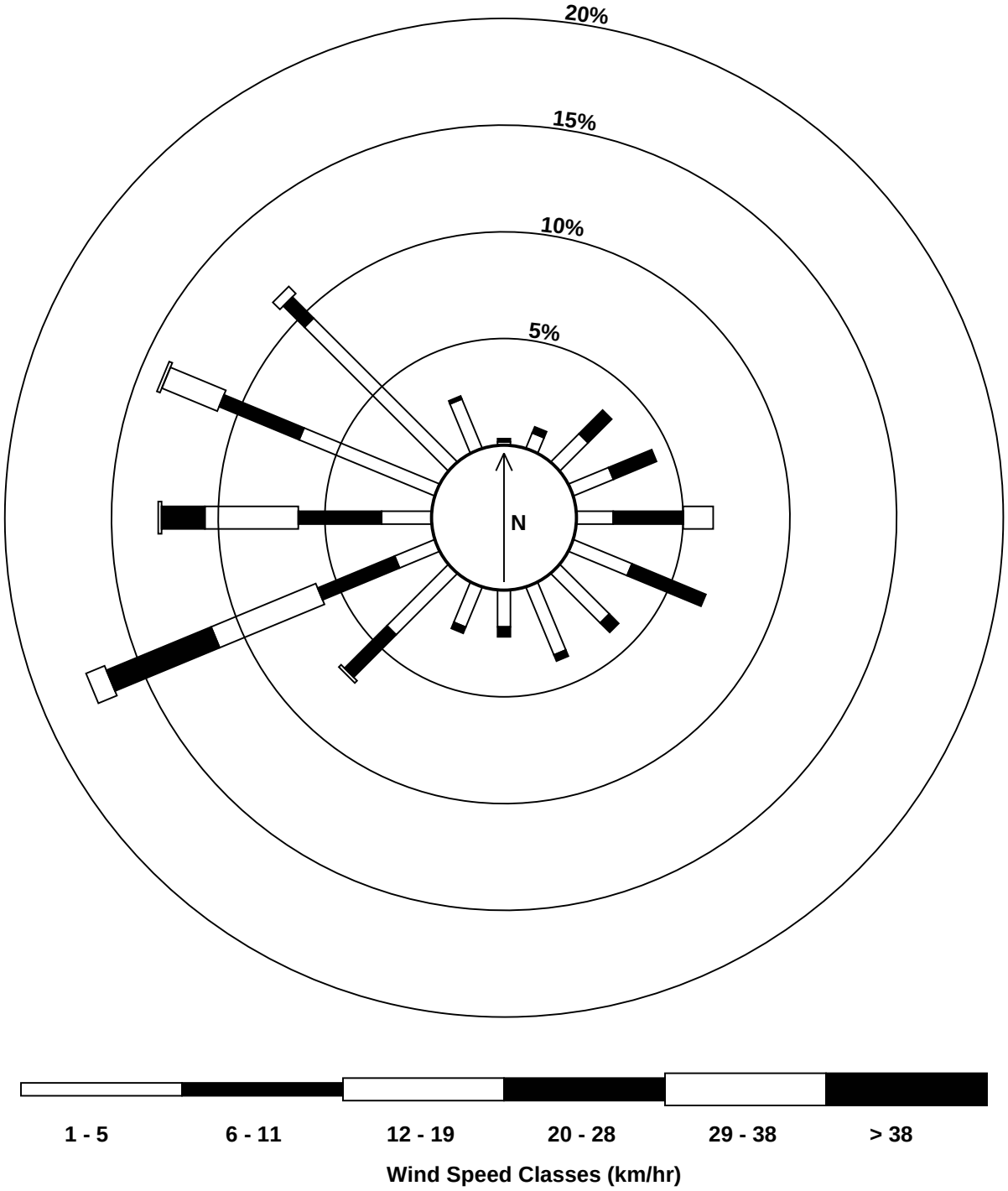
Hours in Service:	720
Hours of Data:	657
Hours of Missing Data:	63
Percent Operational Time:	91.3

M - Maintenance N - Not Valid

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	1.98	0.46	0.00	0.00	0.00	0.00	2.44
NorthEast	2.44	3.04	0.00	0.00	0.00	0.00	5.48
East	4.26	6.39	1.98	0.00	0.00	0.00	12.63
SouthEast	6.24	3.04	0.00	0.00	0.00	0.00	9.28
South	4.41	1.07	0.00	0.00	0.00	0.00	5.48
SouthWest	4.72	5.33	2.28	2.13	0.00	0.00	14.46
West	6.39	8.22	9.13	5.63	1.37	0.00	30.75
NorthWest	13.09	4.72	1.52	0.15	0.00	0.00	19.48
Total	43.53	32.27	14.92	7.91	1.37	0.00	100.00

Wind Rose for WS at Henry Pirker
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages - Wind Speed (Scalar)

Henry Pirker - Wind Speed (WS) - km/h
November 1, 2008 to December 1, 2008

Maximum Speed: 33 km/h on Nov 22 13:00

Maximum Daily Speed Average: 18.4 km/h on Nov 22

Minimum Speed: 2 km/h on Nov 6 12:00

Minimum Daily Speed Average: 3.3 km/h on Nov 8

Maximum Diurnal Speed Average: 10.5 km/h at hour 17

Minimum Diurnal Speed Average: 6.5 km/h at hour 9

Monthly Average Speed: 8.58 km/h

Percentiles: $P_1 = 2.2$ $P_{10} = 3.4$ $Q_1 = 4.2$ Median = 6.0 $Q_3 = 10.9$ $P_{90} = 17.5$ $P_{99} = 28.6$

Hours in Service: 720

Hours of Data: 657

Hours of Missing Data: 63

Percent Operational Time: 91.3

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	4	7	6	5	3	3	4	4	3	3	5	5	4	4	4	7	7	4	5	9	11	11	10	11	5.8	11.4
2-Nov	9	5	4	3	4	4	3	3	3	4	4	5	5	4	5	4	7	4	5	4	6	5	4	3	4.5	8.6
3-Nov	6	16	17	8	9	12	14	11	9	9	10	15	21	20	16	21	16	13	14	10	7	5	5	4	12.0	21.0
4-Nov	6	4	2	3	3	5	4	5	3	5	5	5	9	6	8	10	9	8	7	7	7	8	9	9	6.2	9.9
5-Nov	8	6	5	6	7	4	4	6	6	6	5	5	6	4	5	5	5	5	3	4	4	5	4	5	5.1	8.4
6-Nov	5	4	4	3	3	3	3	3	3	2	2	2	2	5	5	M	M	M	7	6	9	5	8	6	4.3	8.6
7-Nov	5	4	5	4	4	5	2	4	4	5	4	4	5	5	4	3	M	4	4	6	7	6	5	6	4.5	6.6
8-Nov	4	5	4	4	2	4	5	4	3	4	2	3	4	4	4	3	3	2	3	3	2	2	2	3	3.3	4.8
9-Nov	3	4	5	6	4	4	3	3	6	7	7	6	4	10	10	8	8	15	16	N	N	N	N	N	6.8	16.1
10-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
11-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
12-Nov	N	N	N	N	N	8	6	N	4	7	6	5	11	12	13	24	25	23	23	22	20	21	20	23	15.2	24.9
13-Nov	24	21	21	23	22	21	33	31	19	13	8	6	6	7	19	20	24	23	22	20	16	16	14	11	18.4	32.6
14-Nov	10	9	14	15	15	16	12	9	7	8	7	7	5	7	8	7	8	7	9	7	8	8	7	5	8.8	16.0
15-Nov	6	5	4	4	7	6	12	12	17	16	14	17	21	23	19	17	10	12	11	8	4	4	7	4	10.8	23.1
16-Nov	4	4	4	3	4	3	4	5	4	5	5	5	5	5	4	6	4	5	4	4	4	4	3	4	4.3	5.6
17-Nov	6	6	5	6	8	7	6	6	7	5	4	5	3	4	5	7	6	6	7	6	4	4	4	7	5.6	8.0
18-Nov	4	6	6	5	6	7	5	6	3	4	7	12	16	20	14	16	14	17	14	12	12	13	12	9	10.0	19.5
19-Nov	10	12	10	11	10	7	4	4	3	4	3	7	8	7	11	10	10	11	10	10	14	15	14	15	9.2	15.0
20-Nov	16	16	17	14	11	12	8	7	5	4	4	5	4	6	5	5	9	8	10	13	16	14	15	14	9.9	17.1
21-Nov	10	11	8	5	5	5	5	6	4	6	4	4	4	5	6	9	10	11	11	10	8	10	10	10	7.4	11.4
22-Nov	5	4	8	9	18	29	29	26	21	24	30	28	33	29	25	20	19	17	13	15	11	10	9	10	18.4	33.1
23-Nov	13	10	8	8	9	10	12	9	4	2	4	3	5	4	5	6	7	4	3	5	3	3	4	4	6.1	12.6
24-Nov	3	5	5	7	8	4	5	6	8	5	10	9	8	14	15	9	11	6	5	5	6	5	4	3	6.8	14.7
25-Nov	4	5	4	4	3	4	3	3	4	4	5	8	6	7	5	5	9	13	19	25	26	19	25	26	9.8	26.2
26-Nov	24	22	25	17	14	13	16	15	12	11	16	21	20	26	19	16	12	8	12	9	5	3	5	4	14.4	26.4
27-Nov	3	2	3	2	5	3	5	5	4	5	4	7	6	8	7	4	7	7	4	4	4	2	3	4	4.6	7.7
28-Nov	3	3	3	4	4	4	4	3	2	3	3	2	4	5	6	7	8	14	10	21	11	19	22	20	7.7	22.3
29-Nov	22	16	15	15	15	9	7	9	7	12	10	14	17	18	22	16	15	13	32	25	20	14	10	5	15.0	31.5
30-Nov	7	5	6	6	3	6	6	5	5	3	3	4	3	4	5	9	9	8	10	8	10	9	6	4	6.0	9.7
	8.3	8.0	8.1	7.4	7.6	7.7	8.0	7.7	6.5	6.6	6.9	7.8	8.7	9.8	9.8	10.1	10.5	10.0	10.5	10.2	9.4	9.0	8.9	8.5	Diurnal Average	
	23.9	21.8	25.3	23.1	22.4	28.7	32.6	31.5	21.1	24.2	30.3	28.4	33.1	29.1	24.7	24.1	24.9	23.2	31.5	24.9	26.2	21.2	25.0	25.7	Diurnal Maximum	

M - Maintenance N - Not Valid

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

Peace Airshed Zone Association
Summary of Hourly Standard Deviations

Henry Pirker - Wind Direction (WD) - deg
November 1, 2008 to December 1, 2008

Maximum Value: 95.3 deg on Nov 24 19:00

Minimum Value: 3.1 deg on Nov 26 03:00

Percentiles: P_1 = 3.7 P_{10} = 5.3 Q_1 = 8.8 Median = 16.6 Q_3 = 35.6 P_{90} = 64.6 P_{99} = 92.1

Hours in Service:	720
Hours of Data:	658
Hours of Missing Data:	62
Hours of Calibration:	0
Percent Operational Time:	91.4

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-Nov	44	24	19	45	62	76	18	47	43	58	38	31	45	72	58	15	18	14	19	8	6	6	9	8	76.0
2-Nov	10	58	93	73	67	73	77	65	42	79	24	38	38	51	95	79	11	23	94	49	52	32	70	73	94.8
3-Nov	30	24	15	47	9	12	6	12	33	11	12	11	9	8	10	6	5	5	4	9	20	20	26	30	46.9
4-Nov	16	30	59	71	78	25	31	12	32	22	26	81	22	20	17	15	13	14	14	19	17	17	11	14	80.7
5-Nov	16	17	19	15	13	30	20	5	10	7	15	29	17	26	39	29	22	16	41	72	16	16	16	15	72.4
6-Nov	11	12	11	18	14	12	18	12	12	19	10	31	83	13	13	M	M	M	25	30	15	14	13	12	82.5
7-Nov	18	12	18	21	10	9	59	22	31	11	22	35	19	31	50	60	M	43	17	17	15	25	60	18	59.9
8-Nov	57	24	48	45	54	46	31	33	65	43	40	43	63	25	18	15	77	19	83	18	43	27	12	37	82.6
9-Nov	68	23	10	26	30	20	35	62	15	12	13	17	60	11	22	50	10	8	6	N	N	N	N	N	68.5
10-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
11-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
12-Nov	N	N	N	N	N	15	43	85	45	19	25	55	16	12	8	4	4	7	5	7	5	5	5	4	85.1
13-Nov	3	5	5	5	5	4	8	9	4	14	11	17	6	15	11	8	9	4	4	4	7	7	7	29	28.6
14-Nov	16	9	5	6	4	4	6	10	17	11	17	13	29	16	8	10	6	21	11	16	7	7	11	14	29.4
15-Nov	16	11	32	76	39	61	74	21	11	6	11	6	5	4	6	5	16	9	7	11	35	11	11	19	76.3
16-Nov	13	13	23	14	13	25	19	13	19	10	18	14	14	13	14	8	14	14	28	10	19	14	45	24	45.0
17-Nov	15	11	20	11	8	9	10	11	9	21	35	47	77	72	28	14	22	32	35	37	42	59	70	74	77.5
18-Nov	49	25	34	57	30	65	84	52	37	74	69	8	7	5	7	7	7	4	5	6	6	5	7	6	83.6
19-Nov	8	6	6	4	7	36	34	43	84	32	60	12	10	21	11	10	7	5	9	7	4	4	5	5	83.9
20-Nov	4	4	6	8	8	11	13	29	16	27	25	14	20	19	14	15	8	20	15	23	6	5	8	6	28.7
21-Nov	20	12	13	35	21	31	40	57	25	40	42	26	36	14	15	8	6	4	6	9	8	7	9	7	57.2
22-Nov	76	43	25	13	10	6	3	6	6	5	4	5	4	5	5	5	5	5	7	7	6	7	8	8	76.2
23-Nov	6	33	9	10	7	16	20	20	87	82	38	92	21	74	75	21	14	35	94	19	74	74	41	30	94.3
24-Nov	58	91	58	25	38	73	64	40	35	75	16	19	38	11	12	15	12	24	95	46	25	48	89	71	95.3
25-Nov	28	29	85	63	54	55	72	79	48	26	14	19	26	21	26	67	19	13	6	5	6	6	4	4	85.3
26-Nov	5	5	3	5	5	14	5	9	17	16	7	5	6	5	7	7	21	13	8	15	45	61	26	34	61.4
27-Nov	72	79	62	91	52	49	27	33	25	54	93	12	41	39	18	77	14	26	40	58	30	64	24	36	92.9
28-Nov	49	78	40	84	26	17	85	29	83	64	57	74	24	13	81	17	47	13	9	4	23	5	5	5	84.8
29-Nov	4	11	7	7	6	14	10	15	25	20	13	13	5	5	5	6	6	10	5	4	5	11	9	12	25.5
30-Nov	34	14	18	21	51	23	12	26	12	44	87	26	59	33	57	11	8	13	8	16	12	10	54	46	86.8
	76.2	91.2	93.3	90.7	78.1	76.0	84.8	85.1	87.4	82.0	92.9	92.1	82.5	73.6	94.8	78.7	76.8	43.4	95.3	72.4	74.0	73.8	89.2	73.8	

M - Maintenance N - Not Valid

PASZA
Evergreen Park Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association
Summary of Hourly Averages

Evergreen Park - Sulphur Dioxide (SO_2) - ppb
November 1, 2008 to December 1, 2008

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 4.5 ppb on Nov 22 00:00
Maximum Daily Average: 0.7 ppb on Nov 21

Minimum Value: 0 ppb on Nov 15 08:00
Maximum Diurnal Average: 0.6 ppb at hour 14
Monthly Average: 0.30 ppb

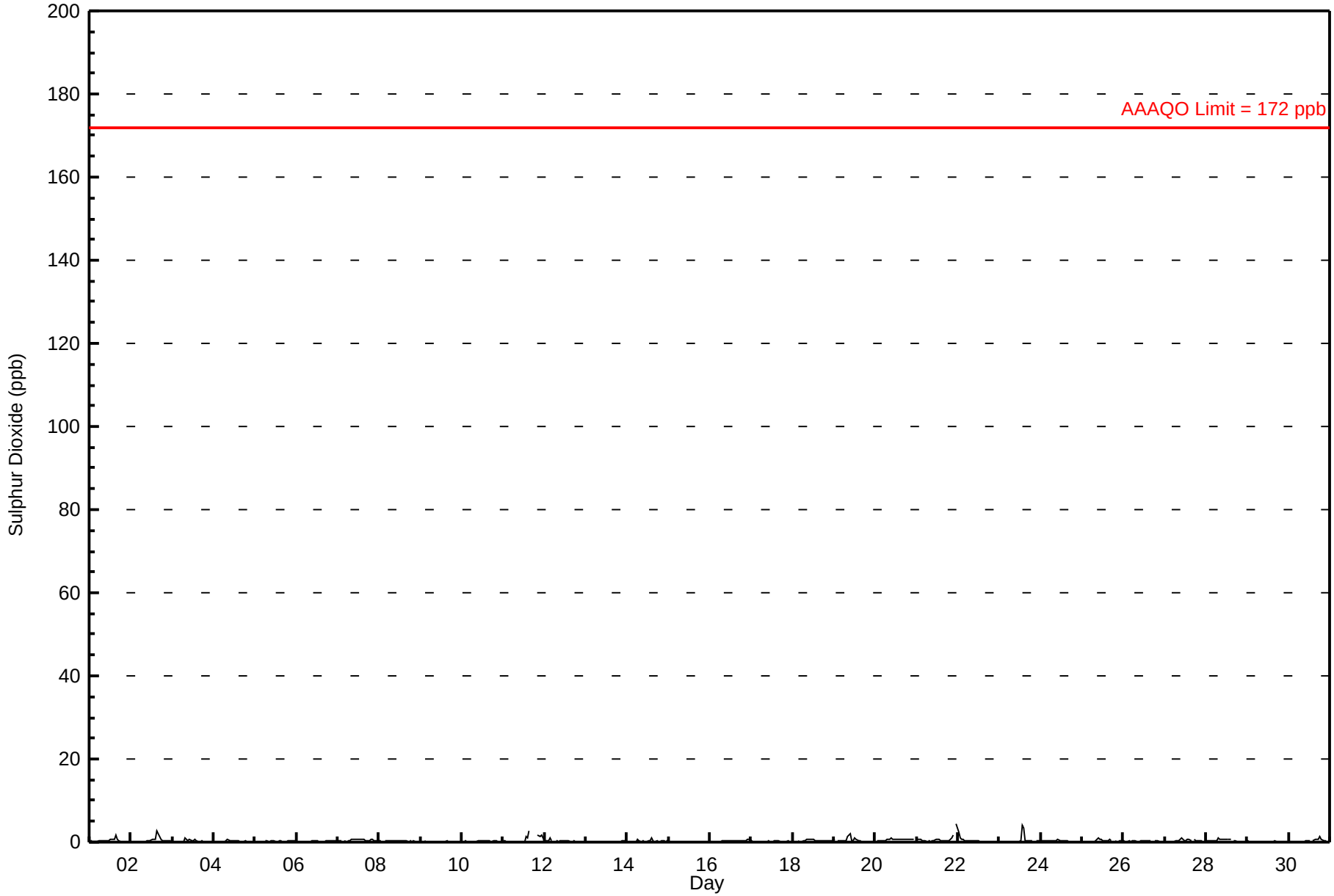
Minimum Daily Average: 0.1 ppb on Nov 15
Minimum Diurnal Average: 0.2 ppb at hour 6
Percentiles: $P_1 = 0.0$ $P_{10} = 0.1$ $Q_1 = 0.1$ Median = 0.2 $Q_3 = 0.3$ $P_{90} = 0.6$ $P_{99} = 2.1$

Hours in Service:	720
Hours of Data:	685
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	A	0	0	0	0	0	0	0	0	0	1	1	1	2	1	0	0	0	0	0	0	0	0.3	1.7
2-Nov	0	A	0	0	0	0	0	0	0	0	0	0	1	1	1	3	2	1	0	0	0	0	0	0	0.5	2.7
3-Nov	A	0	0	0	0	0	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	A	0.3	1.1
4-Nov	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
5-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
6-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
7-Nov	0	0	0	A	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	1	1	0	0	0	0.4	0.7
8-Nov	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
9-Nov	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
10-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.2	0.3
11-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	C	C	C	A	2	1	2	1	0.6	2.9
12-Nov	0	0	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.9
13-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
14-Nov	0	0	0	A	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.2	0.9
15-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
16-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.3	0.6
17-Nov	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
18-Nov	0	0	A	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8
19-Nov	1	A	0	0	0	0	0	0	1	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0.4	1.9
20-Nov	A	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.6	1.0
21-Nov	1	1	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	2	A	4	0.7	4.5
22-Nov	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	2.4
23-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	4	3	0	0	0	0	0	A	0	0	0	0.5	4.0
24-Nov	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	0.7
25-Nov	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	0	A	0	0	0	0	0	0.3	1.0
26-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.3
27-Nov	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	A	1	0	0	0	0	0	0	0.3	0.9
28-Nov	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	A	0	0	0	0	0	0	0	0	0.4	0.9
29-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.1	0.3
30-Nov	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0	1	1	1	1	1	0	0	0	0	0.3	1.4
	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.3	0.3	0.3	0.6	0.5	0.5	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.4	Diurnal Average	
	2.4	1.0	0.6	0.9	0.4	0.4	0.8	1.1	1.3	1.9	0.9	0.8	1.0	4.0	3.4	2.9	2.2	0.7	1.4	0.7	1.7	1.8	1.6	4.5	Diurnal Maximum	

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

Hourly Averages for SO_2 at Evergreen Park
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Evergreen Park - Sulphur Dioxide (SO_2) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 18.4 ppb on Nov 14 07:00

Maximum Daily Average: 1.4 ppb on Nov 21

Minimum Value: 0 ppb on Nov 25 03:00

Maximum Diurnal Average: 1.4 ppb at hour 14

Monthly Average: 0.76 ppb

Minimum Daily Average: 0.3 ppb on Nov 15

Minimum Diurnal Average: 0.4 ppb at hour 5

Percentiles: $P_1 = 0.2$ $P_{10} = 0.3$ $Q_1 = 0.4$ Median = 0.5 $Q_3 = 0.8$ $P_{90} = 1.1$ $P_{99} = 5.7$

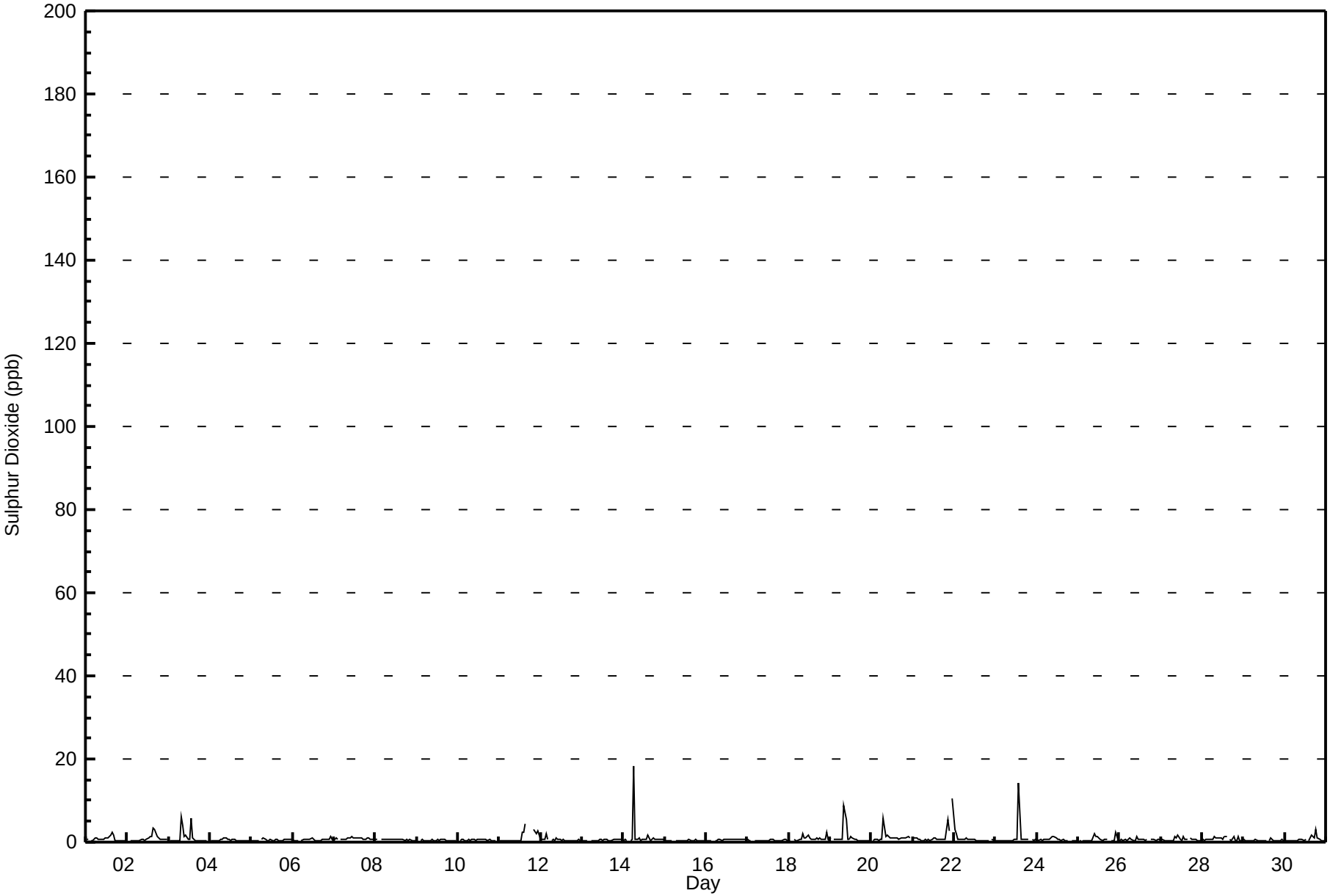
Hours in Service:	720
Hours of Data:	685
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	1	1	A	0	0	1	1	1	1	1	1	1	1	1	2	2	2	0	0	0	0	0	0	0	0.8	2.4
2-Nov	0	A	0	0	0	0	0	0	1	1	0	1	1	1	1	3	3	1	1	1	1	1	1	1	0.9	3.4
3-Nov	A	0	0	0	0	0	0	6	4	1	2	1	1	6	1	0	0	0	0	0	0	0	0	A	1.2	6.0
4-Nov	0	0	0	0	0	0	1	1	1	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0.5	0.9
5-Nov	0	0	0	0	0	A	1	1	1	0	1	1	0	0	1	1	0	0	0	1	1	1	1	1	0.5	0.9
6-Nov	1	0	0	0	A	0	1	1	1	1	1	1	1	0	0	0	0	1	1	1	1	1	1	1	0.5	1.3
7-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.2
8-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	0	0	0.5	0.8
9-Nov	0	A	0	1	0	0	0	0	0	1	0	0	1	0	1	1	1	0	0	0	0	0	0	0	0.4	0.6
10-Nov	A	0	1	1	0	0	1	0	1	1	0	1	1	1	1	1	1	0	1	0	0	0	0	A	0.5	0.7
11-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	C	C	C	A	3	2	3	2	1.1	4.4
12-Nov	1	1	1	2	1	A	0	1	0	1	1	1	0	1	0	0	0	0	0	0	0	0	1	0	0.6	2.1
13-Nov	0	0	0	0	A	0	0	0	0	0	1	1	0	1	1	0	0	0	1	1	1	1	1	1	0.4	0.8
14-Nov	1	1	0	A	0	1	18	1	1	1	0	1	1	1	2	1	0	1	1	1	1	1	1	1	1.4	18.4
15-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0.3	0.7
16-Nov	0	0	0	0	A	0	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	0.8
17-Nov	1	0	0	A	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	1	1	0	0.5	0.8
18-Nov	0	0	A	1	1	0	1	1	2	1	1	2	1	1	1	1	1	1	1	1	1	1	2	1	0.8	2.3
19-Nov	1	A	1	1	1	1	1	1	9	5	1	1	1	1	1	1	0	1	0	0	0	0	0	0	1.2	8.7
20-Nov	A	0	1	1	0	1	1	6	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1.2	5.7
21-Nov	1	1	1	1	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	5	3	A	11	1.4	10.7
22-Nov	3	2	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	A	1	0	0.7	3.0
23-Nov	0	0	0	1	0	1	0	1	0	0	0	1	1	14	7	1	1	1	1	1	A	1	0	1	1.3	14.3
24-Nov	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	A	0	0	0	0	0.7	1.4
25-Nov	0	0	0	0	0	0	0	0	0	2	1	1	1	1	0	1	1	1	A	0	0	0	3	1	0.7	2.5
26-Nov	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	A	1	1	1	0	1	1	0.6	1.4
27-Nov	0	1	0	0	0	1	0	0	1	1	2	1	1	1	1	1	A	1	1	1	1	0	0	0	0.7	1.6
28-Nov	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0	1	0	0	1	0	0	0.8	1.3
29-Nov	1	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0	1	0	0	0	0	0	1	0	0.5	0.9
30-Nov	0	0	0	0	0	0	0	0	1	1	1	0	1	A	0	2	1	1	3	1	1	0	0	0	0.7	3.1
	0.6	0.5	0.5	0.5	0.4	0.5	1.1	0.9	1.0	0.9	0.8	0.7	0.7	1.4	1.0	0.9	0.7	0.6	0.6	0.5	0.8	0.6	0.7	0.9	Diurnal Average	
	3.0	2.0	0.9	2.1	0.8	1.1	18.4	6.0	8.7	5.4	1.8	1.7	1.4	14.3	7.4	4.4	3.2	1.2	3.1	1.0	5.5	2.6	2.6	10.7	Diurnal Maximum	

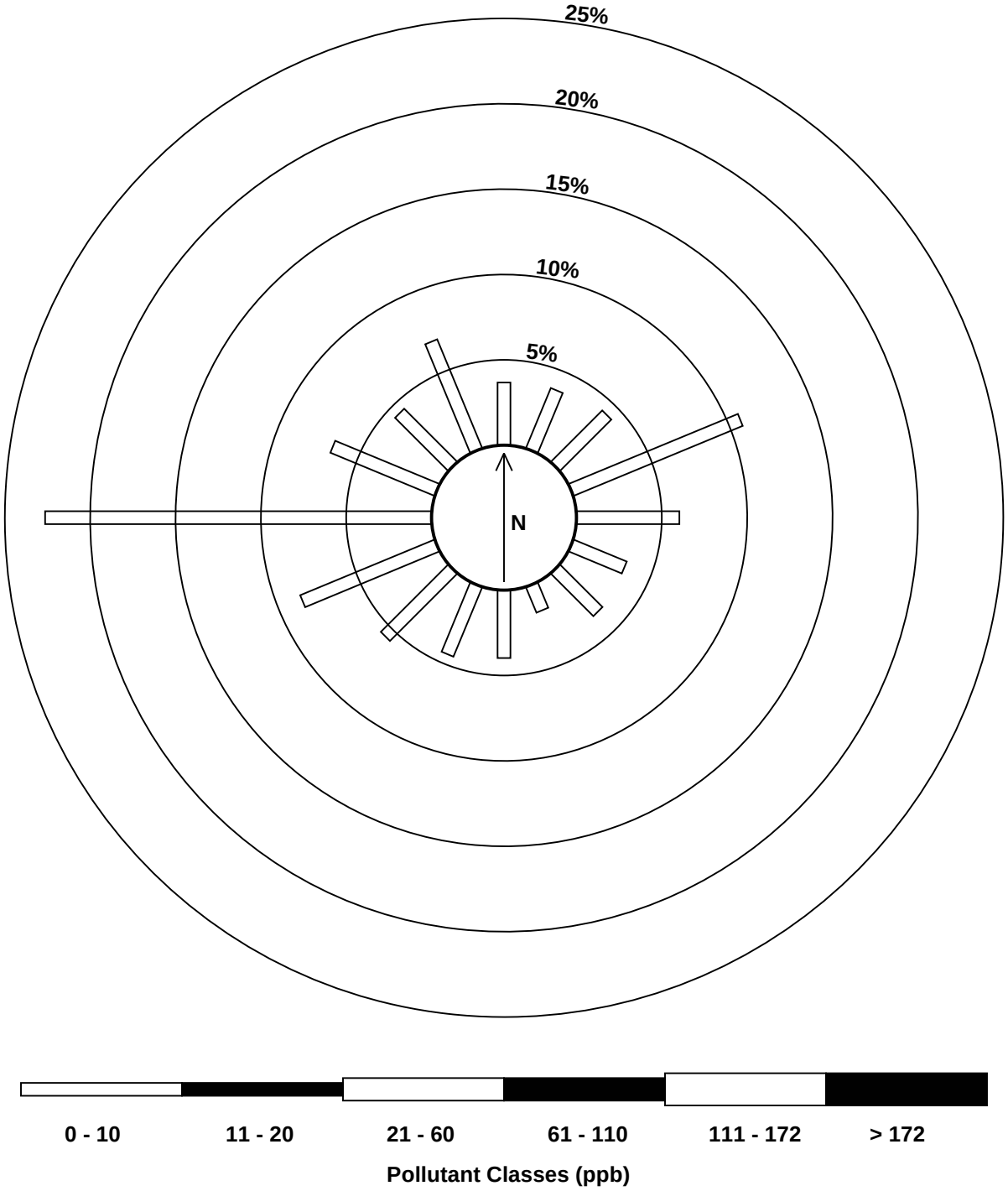
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for SO_2 at Evergreen Park
November 2008



Pollutant Rose for SO_2 at Evergreen Park
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Evergreen Park - Total Reduced Sulphur (TRS) - ppb
November 1, 2008 to December 1, 2008

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.6 ppb on Nov 2 21:00 Maximum Daily Average: 0.9 ppb on Nov 2

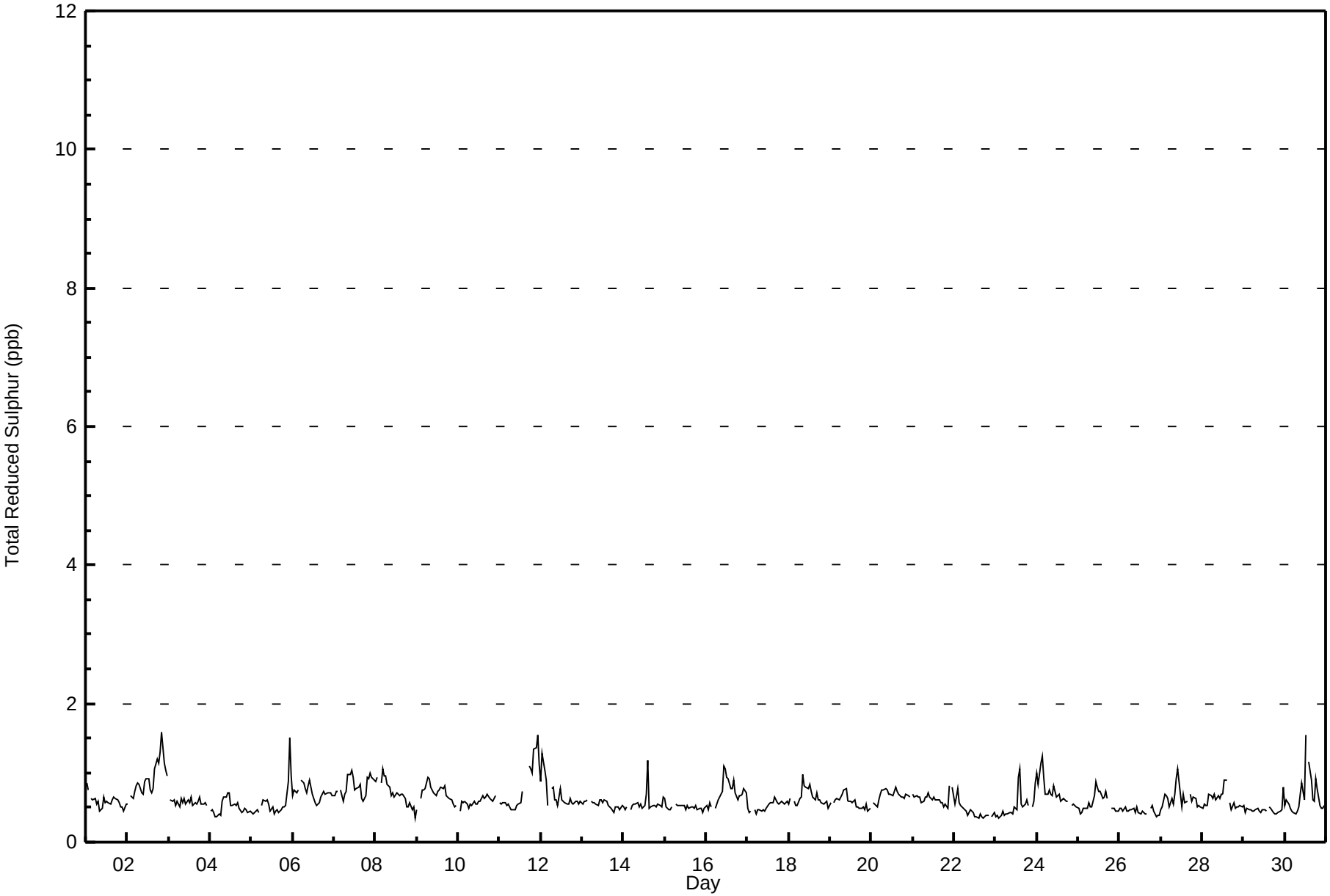
Minimum Value: 0 ppb on Nov 9 00:00 Minimum Daily Average: 0.4 ppb on Nov 26
Maximum Diurnal Average: 0.7 ppb at hour 11 Minimum Diurnal Average: 0.6 ppb at hour 6
Monthly Average: 0.62 ppb Percentiles: $P_1 = 0.4$ $P_{10} = 0.4$ $Q_1 = 0.5$ Median = 0.6 $Q_3 = 0.7$ $P_{90} = 0.8$ $P_{99} = 1.3$

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) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	1	1	A	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.6	0.8
2-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	0.9	1.6
3-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.6	0.7
4-Nov	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.5	0.7
5-Nov	0	0	0	0	0	A	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	2	1	0.6	1.5
6-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
7-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
8-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0.7	1.0
9-Nov	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
10-Nov	A	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.6	0.7
11-Nov	1	1	1	1	1	1	0	0	0	0	1	1	1	1	C	C	C	1	1	1	1	1	2	1	0.8	1.6
12-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.3
13-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	0	1	0.5	0.6
14-Nov	1	0	1	A	0	1	1	1	1	1	1	0	1	1	1	0	1	1	1	0	1	1	0	1	0.6	1.2
15-Nov	1	1	0	0	1	A	1	1	1	1	1	1	0	1	0	1	1	0	1	0	0	0	0	0	0.5	0.6
16-Nov	1	0	1	1	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1
17-Nov	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0.5	0.7
18-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0.7	1.0
19-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1	0	0	0.6	0.8
20-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.7	0.8
21-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	0.6	0.8
22-Nov	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.5	0.8
23-Nov	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	A	1	1	1	0.5	1.1
24-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.7	1.2
25-Nov	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	A	0	0	0	0	0	0.6	0.9
26-Nov	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0	1	0	0	0	0	0.4	0.5
27-Nov	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.6	1.1
28-Nov	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0	1	0	1	1	1	1	0.6	0.9
29-Nov	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	1	0.5	0.8
30-Nov	1	1	1	0	0	0	0	0	1	1	1	1	2	A	1	1	1	1	1	1	1	0	0	1	0.7	1.6
	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	Diurnal Average	
	1.0	1.3	1.1	1.2	1.0	1.0	0.9	0.9	1.0	1.0	1.1	1.1	1.6	0.9	1.2	0.9	1.1	1.2	1.1	1.3	1.6	1.4	1.6	1.1	Diurnal Maximum	

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

Hourly Averages for TRS at Evergreen Park
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Evergreen Park - Total Reduced Sulphur (TRS) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 2.5 ppb on Nov 2 20:00

Maximum Daily Average: 1.3 ppb on Nov 2

Minimum Value: 1 ppb on Nov 22 13:00

Maximum Diurnal Average: 1.0 ppb at hour 11

Monthly Average: 0.97 ppb

Minimum Daily Average: 0.8 ppb on Nov 26

Minimum Diurnal Average: 0.9 ppb at hour 6

Percentiles: $P_1 = 0.6$ $P_{10} = 0.7$ $Q_1 = 0.8$ Median = 0.9 $Q_3 = 1.1$ $P_{90} = 1.3$ $P_{99} = 2.0$

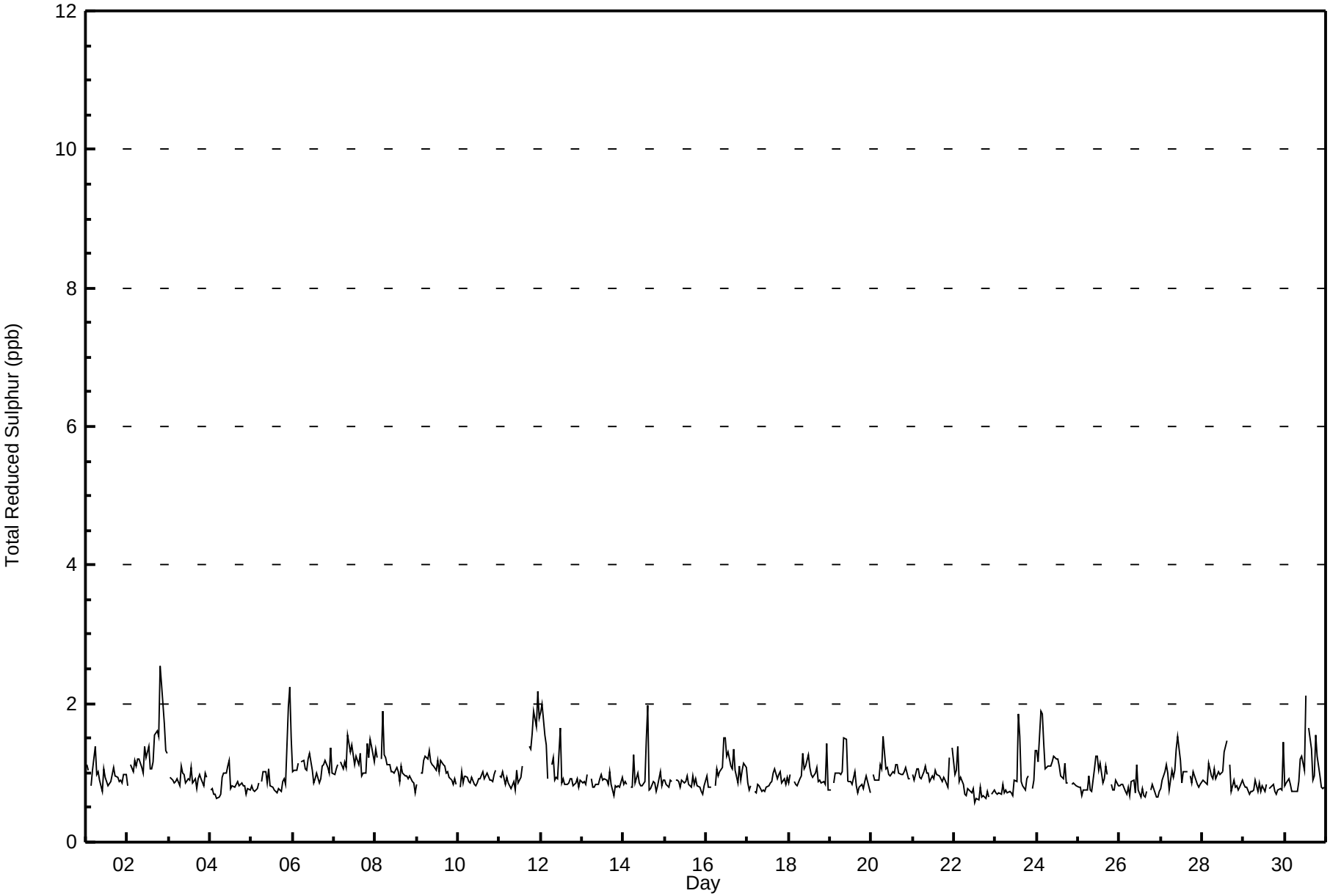
Hours in Service:	720
Hours of Data:	686
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.4
2-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	3	2	2	1	1	1.3	2.5
3-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.9	1.1
4-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.2
5-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1.0	2.2
6-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.4
7-Nov	1	1	1	A	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	1.5
8-Nov	1	1	A	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.9
9-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.3
10-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.9	1.0
11-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	C	C	C	1	1	2	2	2	2	2	1.2	2.2
12-Nov	2	2	2	1	1	A	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1.1	2.0
13-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.0
14-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	0.9	2.0
15-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
16-Nov	1	1	1	1	A	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.5
17-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.1
18-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.4
19-Nov	1	A	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.5
20-Nov	A	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1.0	1.5
21-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1.0	1.4
22-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.8	1.4
23-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	A	1	1	1	0.9	1.8
24-Nov	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1.1	1.9
25-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.9	1.2
26-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.8	1.1
27-Nov	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	A	1	1	1	1	1	1	1	1.0	1.5
28-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1.0	1.5
29-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.8	1.4
30-Nov	1	1	1	1	1	1	1	1	1	1	1	1	2	A	2	1	1	1	2	1	1	1	1	1	1.0	2.1
	0.9	0.9	1.0	0.9	1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	1.0	0.9	0.9	1.0	1.0	1.0	1.0	1.0	Diurnal Average	
	1.9	2.0	1.9	1.9	1.9	1.4	1.3	1.5	1.5	1.5	1.5	1.7	2.1	1.8	2.0	1.4	1.5	1.6	1.6	2.5	2.3	1.9	2.2	1.8	Diurnal Maximum	

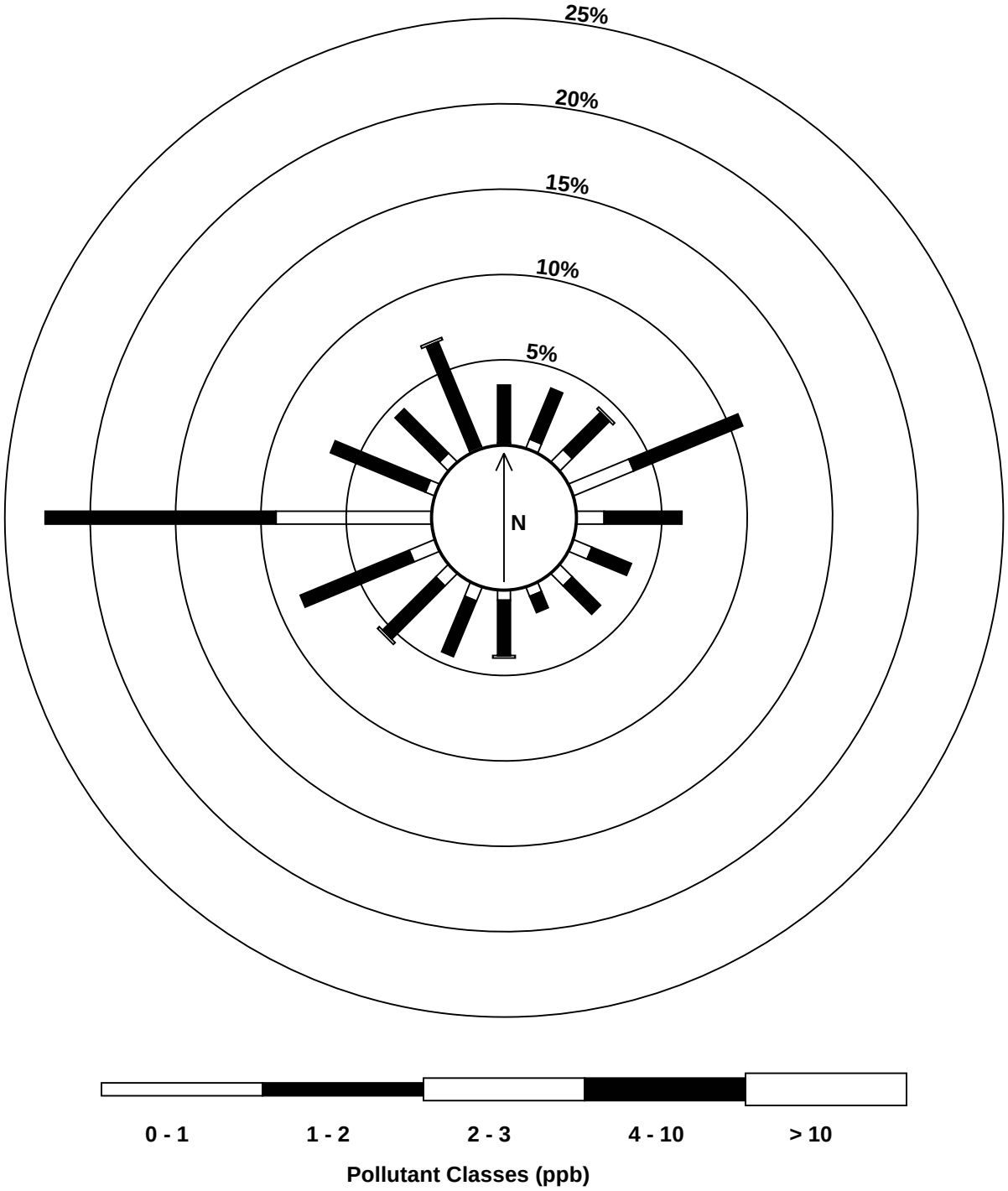
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for TRS at Evergreen Park
November 2008



Pollutant Rose for TRS at Evergreen Park
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Evergreen Park - Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$
November 1, 2008 to December 1, 2008

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 26.6 $\mu g/m^3$ on Nov 9 07:00
Maximum Daily Average: 13.6 $\mu g/m^3$ on Nov 7

Minimum Value: 0 $\mu g/m^3$ on Nov 1 22:00
Maximum Diurnal Average: 7.3 $\mu g/m^3$ at hour 10
Monthly Average: 5.05 $\mu g/m^3$

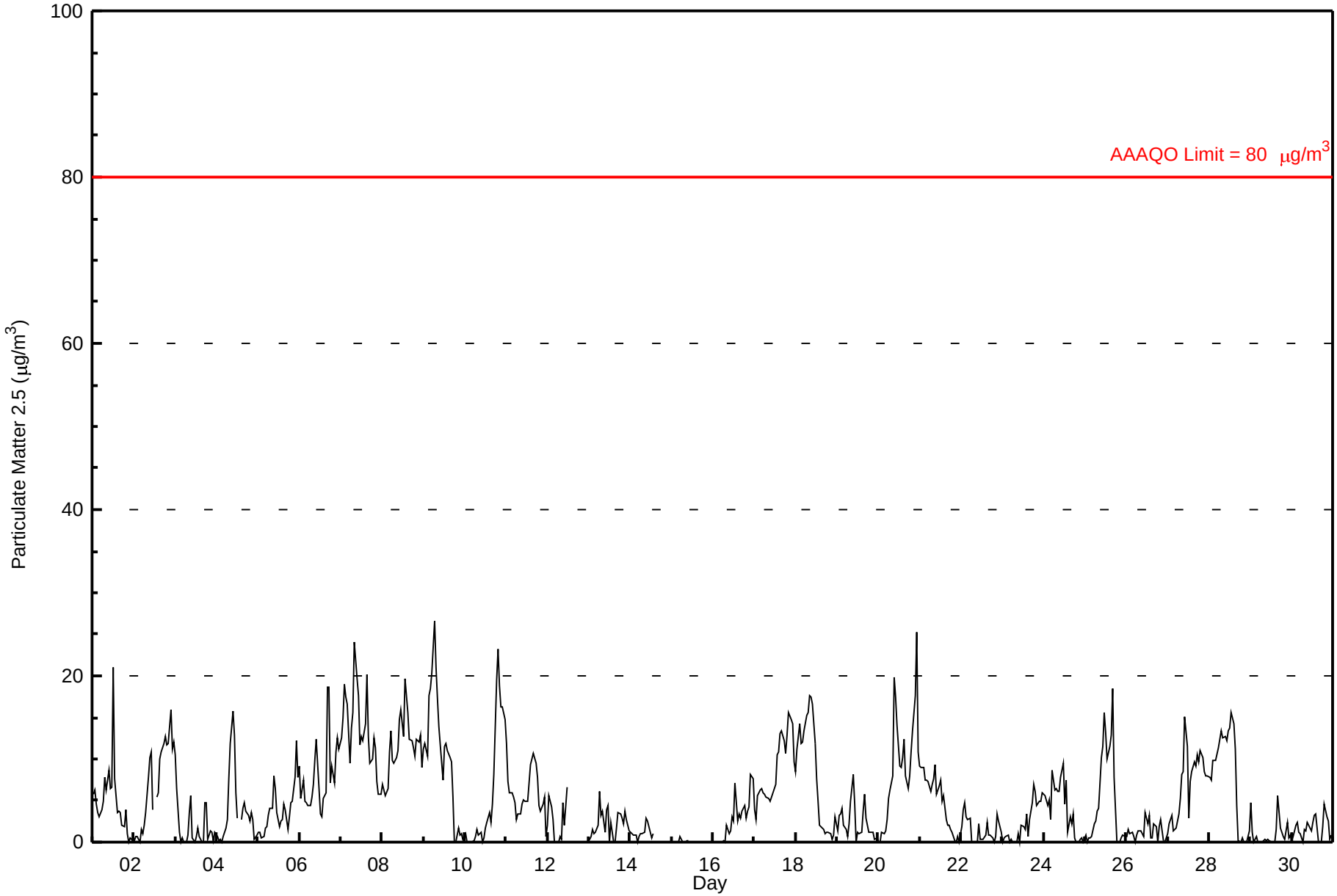
Minimum Daily Average: 0.0 $\mu g/m^3$ on Nov 15
Minimum Diurnal Average: 3.8 $\mu g/m^3$ at hour 5
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.7 Median = 3.2 Q_3 = 7.9 P_{90} = 12.6 P_{99} = 19.8

Hours in Service:	720
Hours of Data:	706
Hours of Missing Data:	14
Hours of Calibration:	5
Percent Operational Time:	98.8

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	6	6	5	4	3	4	5	8	6	9	7	7	21	8	4	4	3	2	2	4	1	0	0	0	4.9	21.1
2-Nov	0	1	1	0	1	1	2	4	8	10	11	4	P	5	6	10	11	12	13	12	12	16	11	12	7.0	15.9
3-Nov	11	6	1	0	0	0	0	1	3	6	0	0	1	2	1	0	0	5	5	0	1	1	0	1	1.9	10.6
4-Nov	1	0	0	0	1	2	3	8	12	16	13	6	3	C	3	4	5	4	3	3	4	3	0	1	4.0	15.8
5-Nov	1	1	1	1	2	2	3	4	4	8	6	4	2	3	3	5	4	2	3	5	5	8	12	8	3.9	12.2
6-Nov	9	5	8	5	5	4	4	5	7	10	12	6	3	3	5	6	19	19	7	9	7	11	13	11	8.1	18.7
7-Nov	12	15	19	17	17	9	14	16	24	20	18	12	13	12	14	20	13	9	10	13	11	7	6	6	13.6	24.1
8-Nov	7	6	6	6	11	13	10	10	10	11	15	16	13	20	18	16	12	12	11	10	12	12	13	9	11.6	19.7
9-Nov	11	12	10	18	18	20	27	21	17	14	12	8	11	12	11	10	10	5	0	0	2	1	1	0	10.5	26.6
10-Nov	1	0	0	0	0	0	1	2	1	1	0	1	2	2	4	2	5	8	20	23	19	16	16	15	5.7	23.3
11-Nov	12	7	6	6	5	5	3	3	3	5	5	5	5	7	9	10	11	10	8	4	4	5	5	1	6.0	11.8
12-Nov	2	6	4	3	0	0	0	1	0	5	2	7	BD	0	0	0	0	0	0	0	0	0	0	0	1.3	6.7
13-Nov	0	1	1	1	1	2	6	3	4	1	4	4	0	2	0	0	2	4	3	3	2	4	3	1	2.2	6.0
14-Nov	1	1	1	1	0	1	1	1	1	3	3	2	0	1	C	C	C	C	0	BD	BD	BD	BD	BD	--	2.9
15-Nov	0	0	0	0	0	1	0	0	0	0	0	BD	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.6
16-Nov	0	0	0	0	0	0	0	0	2	1	1	3	3	7	2	3	3	4	4	3	4	4	8	8	2.5	8.1
17-Nov	4	3	6	6	6	6	6	5	5	5	5	6	7	11	11	13	13	12	11	13	16	15	14	10	8.7	15.7
18-Nov	8	11	14	12	12	13	15	16	18	18	17	12	8	5	2	2	1	1	1	1	1	0	1	3	8.0	17.6
19-Nov	1	3	3	4	2	2	1	2	5	8	5	0	1	1	1	4	6	3	1	1	1	1	0	0	2.4	8.2
20-Nov	0	0	1	1	1	3	5	6	8	20	17	14	9	9	10	12	8	7	8	11	13	18	25	11	9.1	25.3
21-Nov	9	9	9	7	7	7	6	7	8	9	6	7	7	5	6	3	2	2	2	1	0	0	1	0	5.0	9.3
22-Nov	2	4	5	3	3	3	0	0	0	0	2	0	0	0	1	2	1	1	1	0	1	3	3	1	1.5	4.8
23-Nov	0	1	1	1	0	0	0	0	0	1	0	2	2	2	3	1	3	5	7	6	4	5	5	6	2.2	7.0
24-Nov	6	6	4	5	3	9	6	6	6	6	8	10	5	8	1	3	2	3	0	0	0	0	1	0	4.1	9.5
25-Nov	1	0	1	1	1	2	3	4	4	10	12	16	13	10	11	13	18	8	0	BD	0	1	1	1	5.6	18.5
26-Nov	1	1	1	1	1	0	1	1	1	1	1	3	2	3	1	0	2	2	0	2	3	0	0	1	1.2	3.5
27-Nov	1	2	3	1	1	2	3	5	8	9	15	11	3	7	8	10	9	11	10	11	10	9	8	8	6.9	15.2
28-Nov	8	7	10	10	10	11	12	13	13	13	12	13	14	16	14	11	4	0	0	0	0	0	0	1	8.1	15.6
29-Nov	5	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	6	2	1	1	0	2	0	1	0.9	5.7
30-Nov	0	1	2	2	1	1	0	2	1	2	2	1	2	3	3	0	0	0	2	5	3	3	0	1	1.6	4.6
	4.0	3.9	4.1	3.9	3.8	4.1	4.6	5.1	6.0	7.3	7.0	6.2	5.4	5.6	5.2	5.7	6.0	5.2	4.4	5.0	4.7	5.0	5.1	4.0	Diurnal Average	
	12.5	14.9	18.9	17.7	18.4	20.3	26.6	21.0	24.1	19.9	17.7	15.9	21.1	19.7	17.6	20.1	18.7	18.7	19.5	23.3	18.8	17.6	25.3	14.8	Diurnal Maximum	

C - Calibration 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 $PM_{2.5}$ at Evergreen Park
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Evergreen Park - Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$
November 1, 2008 to December 1, 2008

Maximum Value: 61.7 $\mu g/m^3$ on Nov 1 13:00

Maximum Daily Average: 19.6 $\mu g/m^3$ on Nov 7

Minimum Value: 0 $\mu g/m^3$ on Nov 12 06:00

Minimum Daily Average: 1.7 $\mu g/m^3$ on Nov 15

Maximum Diurnal Average: 12.2 $\mu g/m^3$ at hour 11

Minimum Diurnal Average: 7.2 $\mu g/m^3$ at hour 3

Monthly Average: 9.09 $\mu g/m^3$

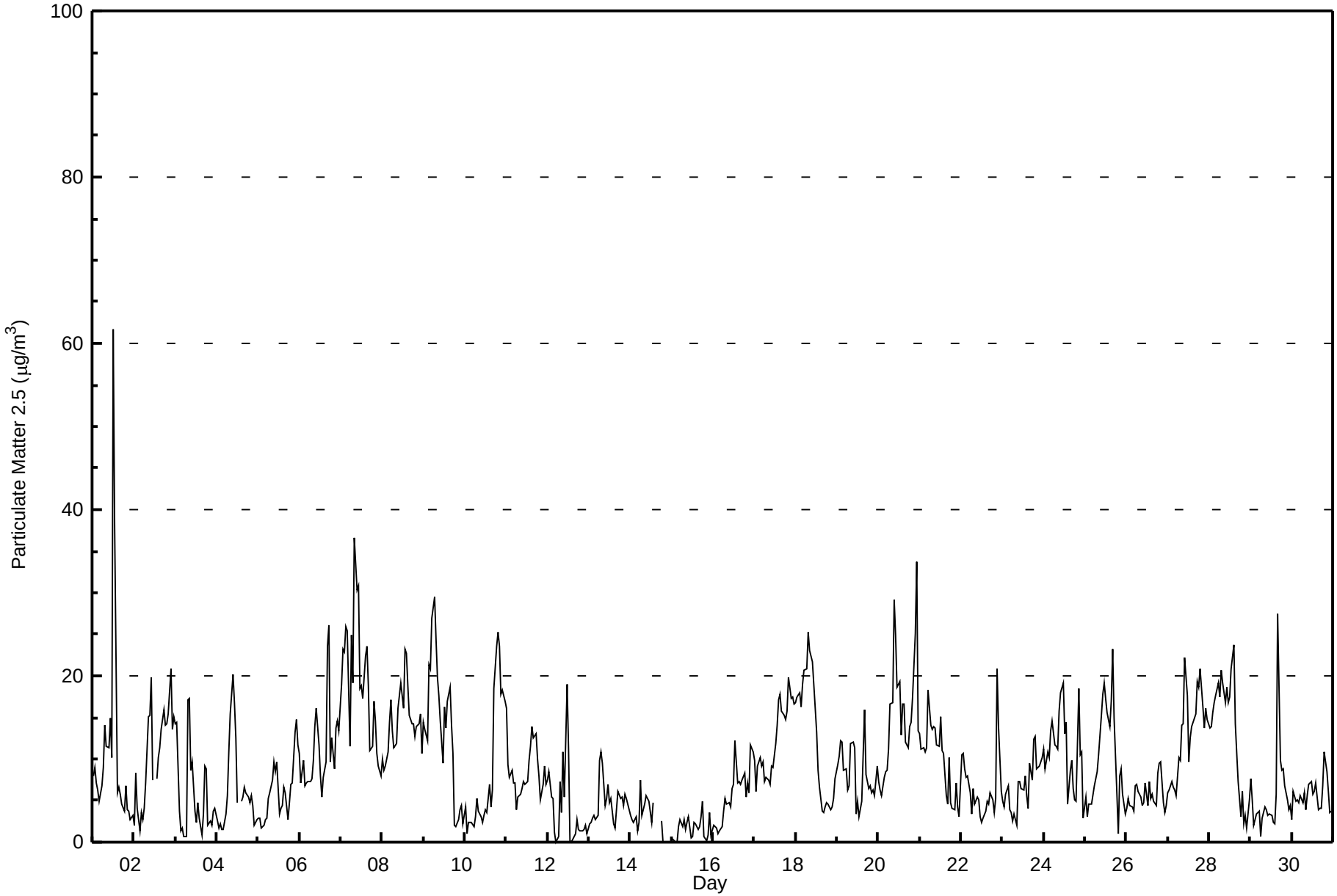
Percentiles: $P_1 = 0.0$ $P_{10} = 2.2$ $Q_1 = 4.1$ Median = 7.2 $Q_3 = 13.4$ $P_{90} = 17.7$ $P_{99} = 29.0$

Hours in Service:	720
Hours of Data:	714
Hours of Missing Data:	6
Hours of Calibration:	5
Percent Operational Time:	99.9

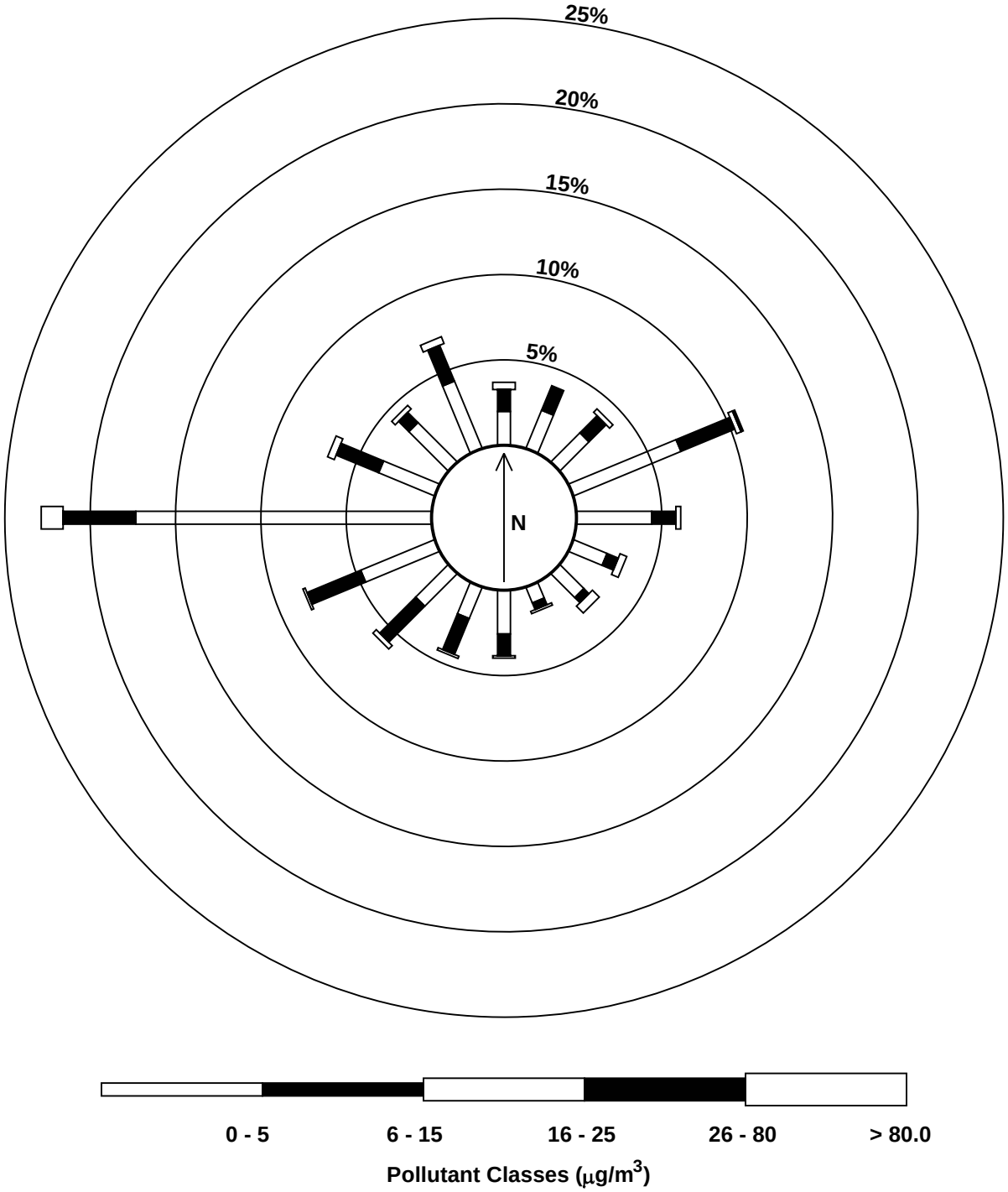
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	8	9	7	6	5	7	9	14	12	11	15	10	62	38	6	7	6	5	4	7	4	4	3	3	10.8	61.7
2-Nov	2	8	4	1	4	3	4	7	15	15	20	7	P	8	10	11	14	16	14	14	16	21	14	15	10.6	20.9
3-Nov	14	14	4	1	2	1	1	17	17	9	10	4	2	5	3	1	3	9	9	2	3	2	4	4	5.8	17.2
4-Nov	3	2	2	2	2	3	6	11	15	20	17	13	5	C	5	5	7	6	5	5	6	4	2	3	6.4	20.1
5-Nov	3	3	2	2	3	3	5	6	7	10	8	10	3	4	4	7	6	3	5	7	7	13	15	12	6.1	14.7
6-Nov	11	7	10	7	7	7	7	8	10	14	16	12	8	5	8	10	24	26	10	12	9	14	15	13	11.2	26.1
7-Nov	19	23	23	26	25	12	25	19	37	30	31	19	19	17	22	24	19	11	12	17	15	11	9	8	19.6	36.6
8-Nov	10	9	9	11	14	17	13	11	12	16	18	19	16	23	23	19	15	14	14	13	14	14	15	11	14.6	23.3
9-Nov	14	14	12	21	21	27	30	24	20	18	15	10	16	14	17	19	14	11	2	2	3	4	4	2	13.9	29.6
10-Nov	4	1	2	2	2	2	3	5	4	3	2	3	4	4	7	4	6	18	23	25	23	18	18	17	8.5	25.2
11-Nov	16	9	8	9	7	7	4	5	6	6	7	7	7	10	11	14	12	13	10	8	5	7	9	7	8.6	16.2
12-Nov	7	9	5	5	1	0	1	7	4	11	5	19	11	0	0	1	1	3	1	1	1	1	2	1	4.1	19.0
13-Nov	2	2	3	3	3	3	10	11	10	4	5	7	5	5	2	2	4	6	5	5	4	6	5	4	4.9	10.8
14-Nov	3	3	2	3	1	2	7	3	5	6	5	5	2	5	C	C	C	C	3	0	0	0	0	0	2.8	7.5
15-Nov	0	0	0	0	2	3	2	3	2	2	3	0	1	2	2	2	2	3	5	1	0	1	4	1	1.7	4.9
16-Nov	2	2	2	1	1	2	4	5	5	5	4	6	7	12	7	7	7	7	8	5	7	6	12	11	5.7	12.2
17-Nov	10	6	9	10	9	10	7	8	7	7	9	9	12	14	17	18	16	15	15	16	20	17	17	17	12.3	19.8
18-Nov	17	17	18	16	19	21	21	25	23	22	22	16	13	9	7	4	3	4	5	5	4	4	5	8	12.8	25.2
19-Nov	9	10	12	12	9	9	6	7	12	12	11	3	5	3	5	10	16	8	6	7	6	6	6	9	8.4	15.8
20-Nov	7	6	6	8	9	9	11	17	17	29	25	19	19	13	17	17	12	11	14	14	17	25	34	13	15.3	33.7
21-Nov	13	11	11	11	11	18	14	14	14	14	12	12	15	11	11	6	5	10	5	4	4	7	4	3	10.0	18.4
22-Nov	10	11	9	8	8	6	3	6	5	5	5	3	2	3	4	5	5	6	5	4	5	21	14	6	6.6	20.8
23-Nov	5	4	6	7	4	4	3	3	2	7	7	6	6	8	6	4	9	8	12	13	9	9	10	10	6.7	12.7
24-Nov	11	9	11	10	13	15	12	12	11	16	18	19	13	14	5	9	10	6	5	5	18	10	11	3	11.1	19.1
25-Nov	5	3	5	5	5	7	8	8	11	15	18	19	17	16	14	17	23	15	6	1	8	9	6	3	10.1	23.2
26-Nov	4	5	4	4	4	7	7	6	5	4	5	7	4	7	5	6	5	4	8	9	10	5	3	4	5.6	9.7
27-Nov	6	6	7	7	6	6	10	10	14	14	22	18	10	13	14	15	15	19	19	21	16	14	16	15	13.0	22.2
28-Nov	14	14	16	17	18	19	17	21	19	17	19	17	17	21	24	14	11	7	3	6	2	3	2	5	13.4	23.7
29-Nov	8	5	2	3	4	4	1	3	4	4	3	3	3	2	2	6	27	10	9	9	7	5	4	4	5.5	27.5
30-Nov	3	6	5	5	5	6	5	6	4	6	7	7	6	6	7	4	4	4	7	11	9	6	4	4	5.6	10.8
	8.0	7.7	7.2	7.4	7.4	7.9	8.5	10.1	10.9	11.8	12.2	10.3	10.8	10.1	9.1	9.1	10.4	9.6	8.3	8.3	8.4	8.9	8.8	7.2	Diurnal Average	
	18.9	23.3	22.9	25.9	25.4	27.0	29.6	25.2	36.6	30.4	30.9	19.2	61.7	38.2	23.7	23.5	27.5	26.1	23.5	25.2	23.5	25.1	33.7	16.9	Diurnal Maximum	

C - Calibration P - Power Failure

Hourly Maximums for $PM_{2.5}$ at Evergreen Park
November 2008



Pollutant Rose for $PM_{2.5}$ at Evergreen Park
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Evergreen Park - External Temperature (ET) - ^{o}C
November 1, 2008 to December 1, 2008

Maximum Value: 6.5 ^{o}C on Nov 29 15:00

Maximum Daily Average: 4.7 ^{o}C on Nov 29

Minimum Value: -15 ^{o}C on Nov 20 09:00

Maximum Diurnal Average: -0.2 ^{o}C at hour 15

Monthly Average: -2.76 ^{o}C

Minimum Daily Average: -11.0 ^{o}C on Nov 20

Minimum Diurnal Average: -5.5 ^{o}C at hour 9

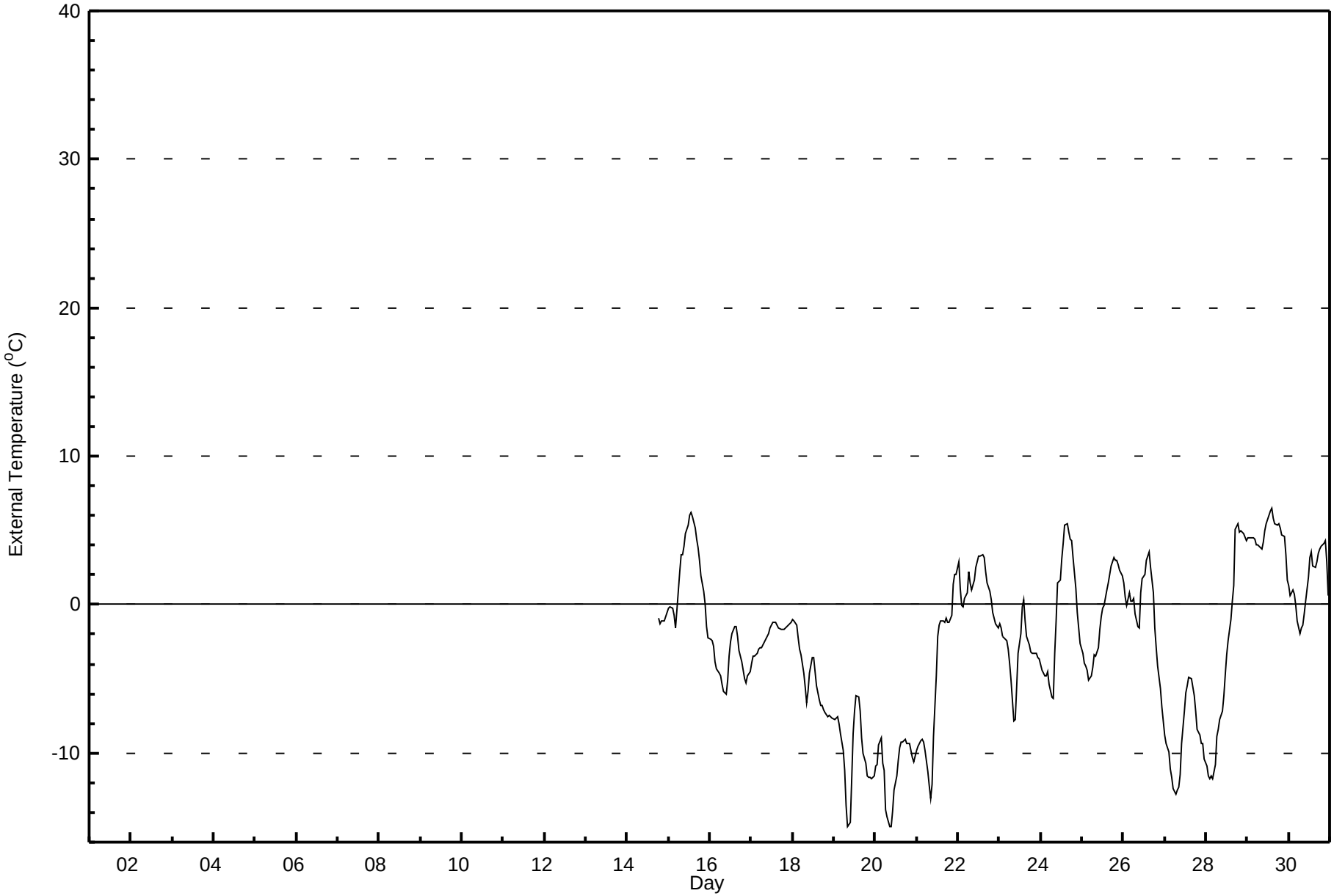
Percentiles: P_1 = -14.6 P_{10} = -10.7 Q_1 = -6.6 Median = -2.0 Q_3 = 1.4 P_{90} = 4.1 P_{99} = 5.9

Hours in Service:	390
Hours of Data:	390
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
2-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
3-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
4-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
5-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
6-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
7-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
8-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
9-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
10-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
11-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
12-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
13-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
14-Nov	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	-1	-1	-1	-1	-1	-1	--	-0.5
15-Nov	0	0	0	-1	-2	0	2	3	3	4	5	5	6	6	6	5	4	4	3	2	1	0	-1	-2	2.2	6.2
16-Nov	-2	-2	-3	-4	-4	-5	-5	-5	-6	-6	-5	-3	-2	-2	-1	-2	-2	-3	-4	-4	-5	-5	-5	-4	-3.8	-1.5
17-Nov	-4	-3	-3	-3	-3	-3	-3	-3	-2	-2	-2	-2	-1	-1	-1	-1	-2	-2	-2	-2	-2	-1	-1	-1	-2.1	-1.2
18-Nov	-1	-1	-1	-2	-3	-3	-5	-6	-7	-6	-5	-4	-4	-4	-5	-6	-7	-7	-7	-7	-8	-7	-8	-8	-5.0	-1.0
19-Nov	-8	-8	-8	-8	-9	-10	-11	-14	-15	-15	-12	-9	-7	-6	-6	-7	-9	-10	-11	-12	-12	-12	-12	-12	-10.0	-6.1
20-Nov	-11	-11	-9	-9	-11	-11	-14	-14	-15	-15	-14	-13	-12	-10	-10	-9	-9	-9	-9	-9	-9	-10	-11	-10	-11.0	-8.9
21-Nov	-10	-10	-9	-9	-9	-10	-11	-12	-13	-12	-9	-5	-2	-1	-1	-1	-1	-1	-1	-1	-1	1	2	2	-5.2	2.1
22-Nov	3	1	0	0	0	1	2	1	1	2	2	3	3	3	3	3	2	1	1	0	0	-1	-1	-2	1.3	3.4
23-Nov	-1	-2	-2	-2	-2	-3	-4	-5	-8	-8	-6	-3	-2	0	0	-1	-2	-3	-3	-3	-3	-3	-4	-4	-3.1	0.4
24-Nov	-4	-4	-5	-5	-5	-5	-6	-6	-3	-1	1	2	3	4	5	5	5	4	4	3	1	-1	-2	-3	-0.4	5.4
25-Nov	-3	-4	-4	-4	-5	-5	-4	-3	-3	-3	-2	-1	0	0	1	1	2	3	3	3	3	3	2	2	-0.8	3.2
26-Nov	2	0	0	1	0	0	0	-1	-1	-2	1	2	2	3	3	4	2	1	-2	-3	-4	-6	-7	-8	-0.5	3.5
27-Nov	-9	-9	-10	-11	-12	-12	-13	-13	-12	-11	-9	-7	-6	-5	-5	-5	-6	-6	-7	-8	-9	-9	-9	-10	-9.0	-4.9
28-Nov	-11	-12	-12	-12	-12	-11	-9	-8	-8	-7	-6	-5	-3	-2	-1	0	1	5	5	5	5	5	5	4	-3.4	5.4
29-Nov	5	4	5	5	4	4	4	4	4	4	5	5	6	6	6	6	5	5	5	5	5	5	3	2	4.7	6.5
30-Nov	1	1	1	1	0	-1	-2	-2	-1	-1	0	2	3	4	3	3	3	3	4	4	4	4	3	1	1.5	4.4
	-3.4	-3.7	-3.8	-4.0	-4.4	-4.7	-4.8	-5.2	-5.5	-4.9	-3.4	-2.0	-1.0	-0.4	-0.2	-0.3	-0.8	-0.8	-1.2	-1.7	-2.1	-2.3	-2.7	-3.2	Diurnal Average	
	4.5	4.5	4.5	4.5	4.4	4.1	4.0	3.9	3.7	4.2	5.0	5.5	6.0	6.3	6.5	5.9	5.4	5.3	5.4	5.1	5.0	4.9	4.8	4.3	Diurnal Maximum	

NS - Not in service

Hourly Averages for External Temperature at Evergreen Park
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Evergreen Park
November 1, 2008 to December 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	3	4	3	1	3	2	1	1	1	0	0	0	0	1	3	4	2	2	2	4	4	3	3	2	0.7	4.5
Dir	226	260	253	240	222	206	208	205	190	118	295	8	299	62	73	76	73	49	67	75	80	82	76	87	98.7	75.4
2 Spd	1	1	0	1	1	1	1	1	1	0	1	2	1	1	2	3	1	1	0	1	0	2	0	2	0.2	2.8
Dir	82	329	348	182	284	219	201	206	189	14	345	322	250	231	37	78	153	215	329	16	221	236	239	237	255.4	77.5
3 Spd	2	9	7	3	5	8	12	10	2	3	8	11	16	14	10	8	9	5	6	5	4	4	1	2	6.5	16.0
Dir	291	280	300	237	224	259	266	267	293	283	279	272	266	281	294	295	289	274	261	262	265	268	248	32	274.4	265.7
4 Spd	1	2	0	1	2	2	0	1	1	0	1	2	3	5	6	7	6	8	6	5	5	6	5	6	2.5	7.6
Dir	118	206	144	217	200	202	305	300	186	111	212	32	72	53	69	71	67	61	66	61	60	69	76	68	70.5	60.6
5 Spd	4	3	4	5	4	1	2	3	2	4	4	3	3	2	3	2	2	1	0	1	0	1	2	2	0.3	4.7
Dir	71	64	55	46	55	20	274	277	292	280	271	256	228	173	176	158	127	88	187	33	7	333	328	332	353.0	46.3
6 Spd	2	2	1	1	1	1	0	0	1	1	2	1	2	2	3	2	1	6	3	4	6	4	5	4	1.0	5.9
Dir	349	320	331	348	278	342	59	174	137	97	45	61	10	54	67	70	71	276	311	226	263	259	253	268	294.7	262.9
7 Spd	3	3	3	3	1	1	0	0	0	2	1	2	1	2	1	1	2	3	1	1	2	1	2	1	0.5	3.2
Dir	242	225	223	212	120	194	71	34	266	331	315	328	344	5	7	11	64	27	3	277	347	327	237	1	300.3	225.4
8 Spd	0	1	0	0	0	1	1	0	2	2	1	1	1	2	2	1	1	0	1	1	2	0	1	1	0.3	2.3
Dir	296	271	228	327	74	253	349	283	217	238	246	11	235	270	285	329	108	182	27	78	208	67	93	61	267.3	216.7
9 Spd	1	1	2	1	1	2	2	1	1	2	2	1	3	7	5	2	4	10	10	13	15	10	8	6	3.7	14.7
Dir	82	63	85	131	61	54	71	89	96	75	79	43	341	319	300	316	292	336	335	344	346	340	326	321	341.8	345.9
10 Spd	6	7	7	4	4	3	3	2	4	4	4	4	3	2	0	1	1	1	2	1	1	1	1	1	1.9	7.0
Dir	334	323	318	301	310	339	325	16	351	332	341	336	341	352	188	9	128	113	118	154	175	135	133	84	334.8	323.5
11 Spd	2	1	1	2	2	1	3	1	1	1	2	1	0	1	1	1	1	1	1	1	0	1	2	2	0.9	3.0
Dir	76	87	73	53	88	53	63	83	78	74	100	30	64	282	350	126	212	116	114	99	211	82	50	80	76.0	63.1
12 Spd	1	1	1	2	2	2	1	2	1	1	1	3	12	15	13	17	16	13	10	14	17	15	19	21	7.4	21.2
Dir	52	264	110	100	123	129	101	31	101	195	124	241	256	251	255	252	254	263	258	254	262	264	260	262	255.7	261.9
13 Spd	22	18	19	19	19	17	21	17	10	6	3	2	4	3	9	12	12	13	14	14	13	13	13	9	12.0	21.9
Dir	264	271	270	273	274	278	294	303	319	328	328	302	336	337	297	292	285	283	279	274	275	268	272	265	282.2	263.6
14 Spd	11	11	12	9	12	10	8	6	5	4	4	M	M	M	M	2	2	1	3	2	3	2	1	1	4.3	11.9
Dir	261	263	266	262	258	268	265	265	254	252	217	M	M	M	M	141	98	202	194	129	124	115	123	142	252.2	266.4
15 Spd	1	1	0	1	2	7	13	15	15	9	13	17	15	17	12	14	13	12	9	6	3	1	1	1	7.6	17.4
Dir	175	195	42	33	175	226	248	247	252	275	289	281	279	281	278	269	271	272	277	278	288	338	68	54	268.8	280.8
16 Spd	0	0	1	0	1	0	1	1	1	1	1	0	1	2	1	1	2	2	1	1	1	1	0	1	0.8	1.7
Dir	311	19	203	151	223	51	322	6	330	339	337	13	4	14	28	357	345	2	5	32	8	2	352	27	356.6	2.1
17 Spd	2	3	4	5	5	3	3	2	2	1	1	0	1	2	3	4	5	3	4	2	1	0	1	2	0.1	4.6
Dir	73	83	74	72	76	81	73	78	89	225	225	248	255	261	284	281	269	224	227	233	241	308	347	265	56.9	269.4
18 Spd	3	3	2	2	3	1	3	2	1	2	3	13	17	15	13	13	10	7	9	6	5	6	6	5	5.2	17.4
Dir	237	254	271	198	203	150	27	346	326	131	10	343	341	339	328	331	335	314	329	307	302	297	316	311	325.5	340.6
19 Spd	4	5	6	6	5	3	1	0	0	1	1	2	4	4	5	5	4	3	2	4	4	5	5	7	1.3	7.5
Dir	304	307	281	279	272	280	250	179	154	56	60	117	126	113	77	67	76	78	74	70	80	77	78	83	65.0	82.6
20 Spd	6	7	6	2	1	1	1	3	3	4	5	6	5	7	7	5	7	5	6	6	6	9	11	9	3.5	10.8
Dir	86	85	100	95	235	226	259	213	238	262	266	275	268	276	270	251	268	286	272	288	281	274	273	277	269.7	272.6
21 Spd	7	7	4	1	1	1	1	1	0	0	3	1	3	3	2	2	2	2	4	3	2	4	5	5	0.5	7.3
Dir	264	280	264	199	200	127	56	190	147	72	61	43	59	72	77	81	80	87	75	66	103	174	180	169	134.7	263.7
22 Spd	8	3	4	6	13	18	24	20	21	25	26	27	26	27	25	22	21	15	14	13	8	5	6	10	15.7	26.9
Dir	186	279	305	280	271	264	264	262	258	259	261	264	272	270	271	273	271	267	269	270	253	259	257	250	265.0	264.1

Peace Airshed Zone Association
Summary of Hourly Averages

Evergreen Park
November 1, 2008 to December 1, 2008
WS (km/h), WD (deg)

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
23 Spd	12	11	9	14	14	7	1	1	1	1	0	0	1	0	1	2	2	1	1	1	1	1	0	1	2.4	13.7
Dir	258	261	260	261	260	270	320	61	88	186	97	23	106	111	77	70	57	42	14	19	47	39	333	266	267.4	261.1
24 Spd	0	0	1	3	3	3	1	2	5	0	4	7	3	3	5	3	3	3	8	0	1	1	1	1	2.1	7.5
Dir	244	271	287	313	270	227	243	215	210	254	244	221	272	238	262	261	301	296	255	357	124	136	92	138	249.5	255.0
25 Spd	1	1	1	0	1	1	1	1	1	1	2	3	3	5	2	2	4	8	13	14	19	16	22	19	5.3	21.9
Dir	119	108	31	140	19	9	60	59	20	281	320	295	276	250	234	307	271	256	246	255	270	270	269	267	266.9	269.0
26 Spd	15	9	10	15	12	13	12	5	3	5	12	10	11	10	14	11	3	2	0	1	1	1	0	1	7.2	15.1
Dir	270	261	261	264	260	259	262	262	234	227	255	270	266	276	270	266	253	245	158	270	117	128	154	52	262.3	269.9
27 Spd	0	0	1	1	1	1	1	1	1	0	1	1	0	5	3	3	4	2	2	2	1	0	1	0	0.7	4.7
Dir	191	101	223	57	71	42	29	44	344	43	292	223	82	268	297	217	233	235	247	205	208	189	178	23	247.7	268.2
28 Spd	1	2	1	0	0	1	0	2	0	1	0	1	1	1	2	1	5	11	10	15	9	11	18	17	4.1	18.4
Dir	203	198	283	189	183	222	243	220	48	56	80	81	58	280	201	291	220	260	252	262	261	259	258	257	253.7	258.0
29 Spd	21	15	15	11	13	10	12	11	11	11	13	16	18	15	17	13	13	15	26	22	16	13	6	3	13.8	26.4
Dir	262	272	277	280	273	272	265	260	257	269	275	278	278	281	284	295	274	277	268	265	268	275	282	311	273.2	268.0
30 Spd	3	1	3	5	3	2	0	1	1	1	0	2	2	1	1	2	2	1	3	3	3	3	3	1	0.9	5.0
Dir	281	324	275	260	223	167	132	92	123	214	130	167	188	264	124	125	100	138	172	184	182	192	69	14	190.7	259.9
Spd	3.0	3.0	2.8	2.7	3.1	3.0	3.2	2.6	2.2	2.2	2.8	3.6	4.0	4.3	3.9	3.1	3.1	3.5	3.8	3.4	3.1	2.8	3.0	2.6	Diurnal Average	
Dir	263.4	273.1	276.5	270.1	259.7	261.4	273.3	268.9	262.2	269.8	276.4	281.3	283.5	284.2	285.5	285.9	276.9	280.6	273.3	272.6	276.2	274.2	271.7	272.2		
Spd	21.9	17.9	19.1	18.6	19.3	18.5	23.8	20.4	20.6	24.5	26.4	26.9	26.1	26.5	24.8	21.7	20.6	15.2	26.4	21.9	18.8	16.1	21.9	21.2	Diurnal Maximum	
Dir	263.6	270.7	269.9	272.6	274.0	263.5	263.6	261.5	258.4	259.0	261.4	264.1	272.3	270.1	271.5	273.3	271.1	277.0	268.0	264.7	269.9	269.9	269.0	261.9		

Maximum Speed Value: 27 km/h on Nov 22 12:00
Maximum Daily Speed Average: 15.7 km/h on Nov 22
Maximum Diurnal Speed Average: 4.3 km/h at hour 14

Minimum Speed Value: 0 km/h on Nov 5 19:00
Minimum Daily Speed Average: 0.1 km/h on Nov 8
Minimum Diurnal Speed Average: 2.2 km/h at hour 9

Monthly Average Velocity: 3.09 km/h 274.54 deg
Speed Percentiles: $P_1 = 0.2$ $P_{10} = 0.5$ $Q_1 = 1.1$ Median = 2.4 $Q_3 = 5.9$ $P_{90} = 13.3$ $P_{99} = 24.3$
All monthly, daily, and diurnal averages have been calculated using vector methods

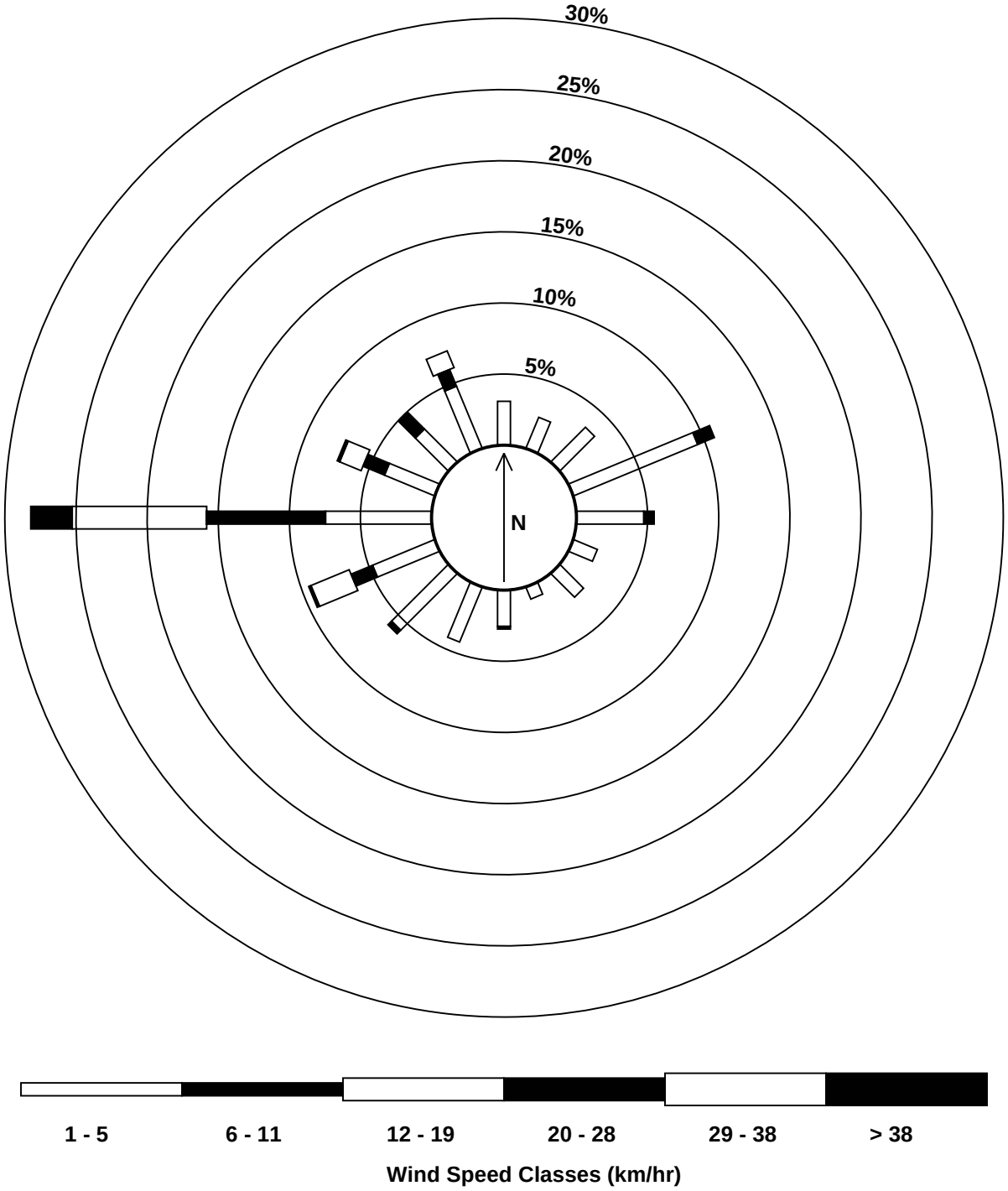
Hours in Service:	720
Hours of Data:	716
Hours of Missing Data:	4
Percent Operational Time:	99.4

M - Maintenance

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	7.54	0.14	0.70	0.00	0.00	0.00	8.38
NorthEast	9.78	0.70	0.00	0.00	0.00	0.00	10.47
East	12.29	1.40	0.00	0.00	0.00	0.00	13.69
SouthEast	6.98	0.00	0.00	0.00	0.00	0.00	6.98
South	6.01	0.42	0.00	0.00	0.00	0.00	6.42
SouthWest	10.20	0.70	0.28	0.00	0.00	0.00	11.17
West	9.64	8.38	10.89	2.93	0.00	0.00	31.84
NorthWest	7.26	3.07	0.56	0.14	0.00	0.00	11.03
Total	69.69	14.80	12.43	3.07	0.00	0.00	100.00

Wind Rose for WS at Evergreen Park
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages - Wind Speed (Scalar)

Evergreen Park - Wind Speed (WS) - km/h
November 1, 2008 to December 1, 2008

Maximum Speed: 27 km/h on Nov 22 12:00

Maximum Daily Speed Average: 16.2 km/h on Nov 22

Minimum Speed: 1 km/h on Nov 8 23:00

Minimum Daily Speed Average: 1.4 km/h on Nov 16

Maximum Diurnal Speed Average: 6.5 km/h at hour 14

Minimum Diurnal Speed Average: 3.7 km/h at hour 10

Monthly Average Speed: 5.20 km/h

Percentiles: $P_1 = 0.9$ $P_{10} = 1.3$ $Q_1 = 1.7$ Median = 2.9 $Q_3 = 6.2$ $P_{90} = 13.4$ $P_{99} = 24.4$

Hours in Service: 720

Hours of Data: 716

Hours of Missing Data: 4

Percent Operational Time: 99.4

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	3	4	3	2	3	3	2	1	2	2	1	1	1	2	3	4	2	2	3	5	4	3	4	3	2.6	4.5
2-Nov	2	3	2	2	2	2	2	2	1	1	2	2	2	2	3	3	2	2	1	2	2	2	2	2	1.9	3.4
3-Nov	2	9	8	5	5	8	12	10	2	3	8	12	16	14	11	9	9	5	6	5	4	4	2	2	7.2	16.2
4-Nov	1	3	1	2	3	2	1	1	1	1	2	3	3	5	6	7	6	8	6	6	5	6	6	6	3.8	7.8
5-Nov	5	3	4	5	4	2	3	3	3	4	4	3	3	3	3	3	2	2	1	1	1	1	2	2	2.7	4.8
6-Nov	2	2	2	1	1	1	1	1	1	1	2	2	2	3	3	3	2	6	3	5	6	4	5	4	2.6	6.0
7-Nov	3	3	3	3	1	1	2	1	1	2	2	2	2	3	1	1	3	3	1	1	2	2	2	1	2.0	3.3
8-Nov	1	1	2	1	1	2	2	2	2	2	1	2	2	2	2	1	1	1	1	1	2	1	1	1	1.5	2.5
9-Nov	1	1	2	2	1	2	2	2	1	2	2	2	4	7	6	4	4	11	10	13	15	11	9	6	5.0	14.9
10-Nov	6	7	7	4	4	3	3	2	4	5	4	4	3	3	1	2	1	1	2	1	2	2	1	1	3.1	7.5
11-Nov	2	1	1	2	3	2	3	1	1	1	2	2	2	2	1	1	2	2	1	2	1	1	2	2	1.7	3.2
12-Nov	2	2	2	2	3	2	3	2	2	2	2	4	12	15	13	17	16	13	11	14	17	15	19	21	8.8	21.3
13-Nov	22	18	19	19	19	17	21	18	11	6	4	2	4	3	9	12	12	13	14	14	13	13	13	9	12.8	22.0
14-Nov	11	11	12	9	12	10	8	6	6	4	4	M	M	M	M	2	2	2	3	2	3	2	1	1	5.6	12.0
15-Nov	2	2	1	1	3	8	13	15	15	9	13	17	16	18	12	14	13	12	9	6	4	2	1	1	8.6	17.5
16-Nov	1	1	2	1	1	1	1	2	2	2	1	1	2	2	2	1	2	2	1	1	1	2	1	1	1.4	1.9
17-Nov	3	3	4	5	5	4	3	3	2	1	2	2	2	3	3	5	5	4	4	2	2	1	2	3	3.0	5.1
18-Nov	4	3	3	3	3	3	3	2	3	3	4	13	18	15	13	13	10	7	10	6	5	6	6	5	6.8	17.5
19-Nov	4	5	6	6	5	3	2	1	2	1	2	3	5	5	5	5	4	3	2	4	4	5	5	8	3.9	7.5
20-Nov	6	7	6	2	2	4	2	3	3	4	5	6	6	7	7	5	7	6	6	7	6	9	11	9	5.7	10.9
21-Nov	8	7	5	2	1	2	2	2	1	2	3	2	3	3	3	2	2	2	4	3	2	4	5	5	3.2	7.6
22-Nov	8	3	4	6	13	19	24	20	21	25	27	27	26	27	25	22	21	15	14	13	8	6	6	10	16.2	27.0
23-Nov	12	11	9	14	14	7	2	2	1	1	1	1	2	2	2	2	2	2	2	1	1	2	1	1	3.9	13.7
24-Nov	1	2	2	4	4	4	2	2	5	3	4	7	5	5	6	4	4	4	8	3	3	3	1	2	3.7	7.9
25-Nov	2	1	2	2	1	1	2	2	1	2	3	4	4	5	3	3	4	8	14	15	19	16	22	20	6.4	22.1
26-Nov	15	9	10	15	12	13	12	5	3	5	12	11	11	10	14	11	4	3	2	2	2	2	1	2	7.9	15.1
27-Nov	1	1	1	2	2	1	2	1	1	1	1	2	3	5	4	4	4	3	2	3	2	1	2	1	2.1	5.5
28-Nov	2	2	1	1	1	2	2	2	2	3	2	1	1	2	4	3	5	11	10	15	9	11	19	17	5.3	18.5
29-Nov	21	15	15	12	13	10	12	11	11	11	13	16	18	15	17	13	13	15	27	22	16	13	6	3	14.1	26.5
30-Nov	3	2	4	5	3	2	1	2	3	2	1	2	2	1	2	2	2	2	3	4	3	4	3	2	2.5	5.0
	5.2	4.8	4.8	4.6	4.9	4.7	5.0	4.3	3.8	3.7	4.5	5.4	6.1	6.5	6.4	6.0	5.6	5.6	6.0	5.9	5.5	5.0	5.4	5.1	Diurnal Average	
	22.0	18.0	19.2	18.7	19.4	18.5	24.0	20.4	20.7	24.6	26.6	27.0	26.3	26.7	25.0	21.8	20.8	15.4	26.5	22.0	19.0	16.2	22.1	21.3	Diurnal Maximum	

M - Maintenance

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

Peace Airshed Zone Association
Summary of Hourly Standard Deviations

Evergreen Park - Wind Direction (WD) - deg
November 1, 2008 to December 1, 2008

Maximum Value: 97.8 deg on Nov 5 19:00

Minimum Value: 3.9 deg on Nov 23 05:00

Percentiles: P_1 = 4.6 P_{10} = 6.9 Q_1 = 12.9 Median = 33.9 Q_3 = 63.3 P_{90} = 81.1 P_{99} = 92.9

Hours in Service:	720
Hours of Data:	716
Hours of Missing Data:	4
Hours of Calibration:	0
Percent Operational Time:	99.4

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-Nov	20	34	19	54	37	70	61	62	68	79	80	94	84	62	25	16	44	13	13	8	7	12	26	26	94.1
2-Nov	80	80	90	86	68	52	88	70	81	90	81	52	80	69	45	29	65	85	97	83	84	34	86	49	96.8
3-Nov	72	12	30	60	8	10	5	9	71	25	16	15	10	16	13	17	13	11	11	8	8	9	82	61	81.8
4-Nov	64	55	86	78	48	49	73	44	64	84	56	57	38	26	20	14	15	17	15	17	13	17	17	16	85.8
5-Nov	18	19	15	12	29	41	17	10	32	12	16	22	29	56	38	30	26	39	98	69	88	71	28	31	97.8
6-Nov	22	28	61	30	53	33	78	74	63	56	32	47	28	22	21	23	68	13	27	31	15	13	12	12	78.5
7-Nov	21	16	12	16	65	49	87	75	81	42	49	37	66	63	72	79	40	30	42	60	36	72	66	55	86.7
8-Nov	73	87	90	75	88	79	62	88	39	53	68	59	87	26	43	47	54	85	57	50	64	79	49	25	90.3
9-Nov	51	59	33	88	69	25	33	37	62	32	43	74	15	20	36	69	45	13	12	11	9	15	18	20	87.9
10-Nov	17	19	13	25	28	47	32	54	20	23	18	36	24	43	85	62	47	48	30	57	33	27	40	42	85.0
11-Nov	26	43	66	53	35	66	23	50	65	75	48	83	86	65	60	55	66	57	59	49	94	66	38	24	94.5
12-Nov	37	77	61	35	21	42	65	67	78	69	52	68	10	7	6	5	5	6	9	9	6	7	6	5	78.1
13-Nov	6	6	6	6	6	8	12	17	15	28	37	27	27	34	19	11	9	8	7	6	8	6	6	7	37.3
14-Nov	4	5	7	5	6	7	9	8	9	14	9	M	M	M	M	22	23	87	25	24	24	26	46	48	86.5
15-Nov	39	33	76	68	47	18	8	8	9	15	8	7	7	8	9	6	6	6	7	10	18	57	68	60	76.2
16-Nov	76	73	49	91	72	87	73	29	37	33	42	87	34	35	31	34	27	26	53	87	24	20	83	70	90.7
17-Nov	26	18	13	12	15	18	20	17	35	47	85	95	59	48	21	20	32	55	39	46	63	87	88	61	94.9
18-Nov	48	40	41	56	51	72	36	61	71	61	37	8	8	10	11	11	18	17	15	21	18	14	14	17	72.4
19-Nov	15	16	15	10	13	54	78	85	92	88	83	59	17	26	15	12	12	15	14	9	9	8	7	7	92.2
20-Nov	8	9	12	37	52	82	78	26	33	19	13	14	10	10	11	15	11	18	30	28	11	10	9	12	81.6
21-Nov	17	16	39	56	78	59	60	75	79	76	47	46	16	23	43	24	15	23	15	14	48	14	11	15	78.5
22-Nov	31	36	35	19	13	5	5	5	5	6	6	5	7	7	7	6	7	6	5	6	10	10	11	6	36.3
23-Nov	5	5	4	4	4	32	43	64	69	68	68	66	54	90	69	23	26	30	37	55	37	70	78	69	90.4
24-Nov	89	79	87	55	57	53	63	53	16	85	23	7	48	72	42	47	51	43	56	91	83	74	68	74	91.4
25-Nov	62	73	68	91	79	66	83	57	62	49	34	46	44	21	45	40	18	8	8	11	7	8	7	6	90.9
26-Nov	6	10	6	4	5	5	6	15	58	11	9	8	6	11	9	9	82	59	88	49	50	60	81	77	88.1
27-Nov	90	83	79	75	92	37	72	64	68	91	78	86	87	39	31	34	14	64	66	59	78	85	78	93	93.0
28-Nov	72	50	78	88	71	57	93	50	90	92	91	55	60	77	82	96	46	9	9	5	11	7	6	6	95.5
29-Nov	5	11	9	11	5	6	6	5	7	9	6	7	6	8	9	10	7	9	5	4	7	7	16	27	26.7
30-Nov	43	50	22	8	38	39	71	64	59	73	77	56	38	77	63	31	43	45	42	34	31	27	42	84	83.7
	90.5	86.9	90.3	90.9	92.0	87.3	93.4	87.9	92.2	92.4	90.8	94.9	87.1	90.4	85.0	95.5	81.7	86.5	97.8	91.4	94.5	86.9	88.4	93.0	

M - Maintenance

PASZA
Smoky Heights Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association
Summary of Hourly Averages

Smoky Heights - Sulphur Dioxide (SO_2) - ppb
November 1, 2008 to December 1, 2008

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 10.3 ppb on Nov 22 22:00
Maximum Daily Average: 1.9 ppb on Nov 24

Minimum Value: 0 ppb on Nov 3 21:00
Maximum Diurnal Average: 1.1 ppb at hour 5
Monthly Average: 0.68 ppb

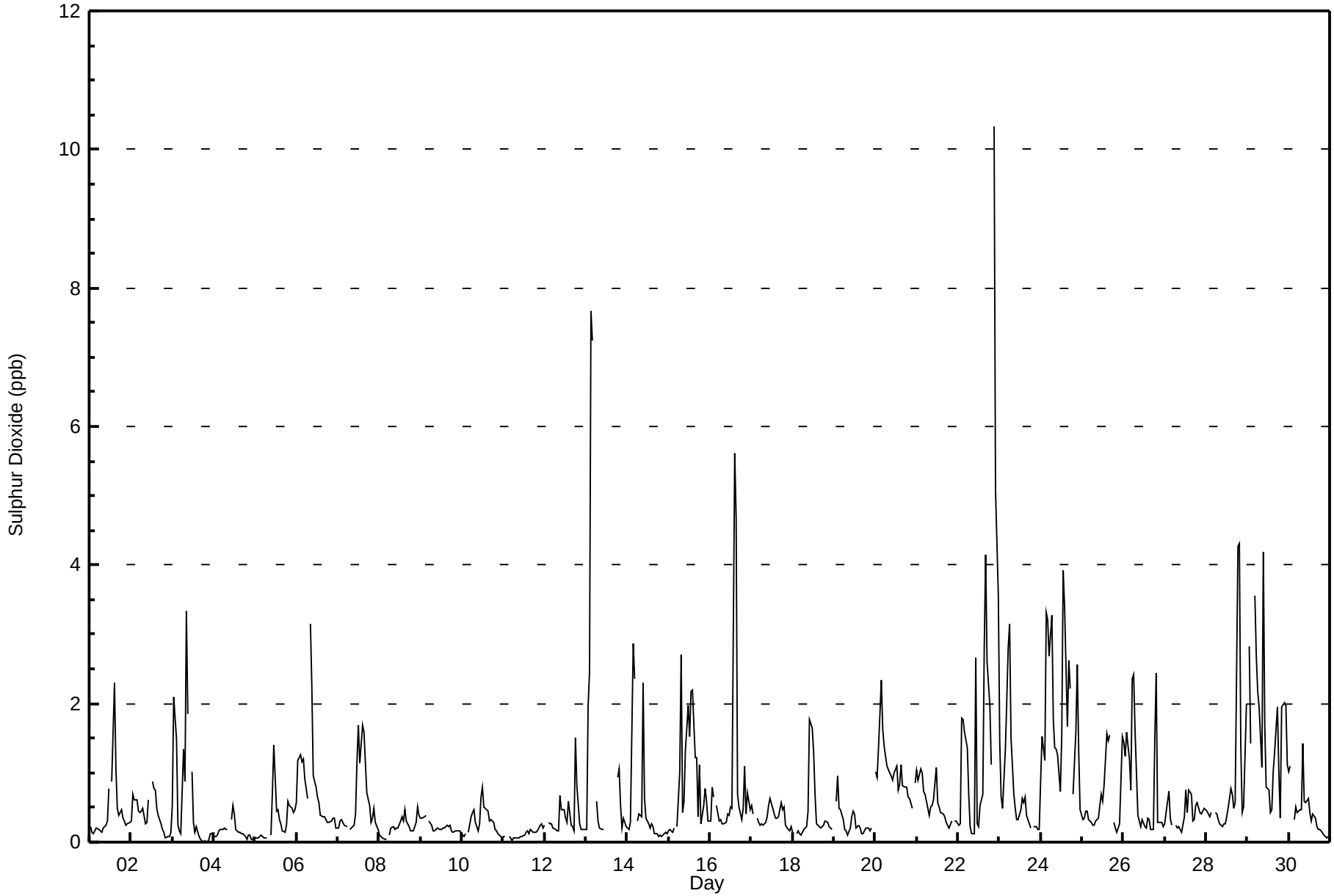
Minimum Daily Average: 0.1 ppb on Nov 11
Minimum Diurnal Average: 0.4 ppb at hour 21
Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 0.2 Median = 0.3 Q_3 = 0.7 P_{90} = 1.6 P_{99} = 4.2

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) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	0	0	0	0	0	0	0	0	0	1	A	1	2	1	0	0	0	0	0	0	0	0	0.4	2.3
2-Nov	0	1	1	1	0	0	0	0	0	0	1	A	1	1	1	0	0	0	0	0	0	0	0	0	0.4	0.9
3-Nov	1	2	1	0	0	0	1	1	3	2	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0.6	3.3
4-Nov	0	0	0	0	0	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
5-Nov	0	0	0	0	0	0	0	0	A	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0.3	1.4
6-Nov	1	1	1	1	1	1	1	A	3	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.8	3.1
7-Nov	0	0	0	0	0	0	A	0	0	0	0	1	2	1	2	2	1	1	1	0	0	0	0	0	0.6	1.7
8-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.2	0.5
9-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
10-Nov	0	0	0	A	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
11-Nov	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
12-Nov	0	A	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2	1	0	0	0	0	0.4	1.5
13-Nov	0	2	2	8	7	A	1	0	0	0	0	C	C	C	C	C	C	C	1	1	1	0	0	0	--	7.7
14-Nov	0	0	0	3	2	A	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	2.9
15-Nov	0	0	0	0	A	0	1	3	0	1	1	2	2	2	2	1	1	0	1	0	1	1	1	0	0.9	2.7
16-Nov	0	1	1	A	1	0	0	0	0	0	0	0	1	0	6	5	1	0	0	0	1	0	1	0	0.9	5.6
17-Nov	1	0	A	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	0.4	0.6
18-Nov	0	A	0	0	0	0	0	0	0	0	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0.4	1.8
19-Nov	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.3	1.0
20-Nov	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	A	1	1.0	2.3
21-Nov	1	1	1	1	1	1	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	A	0	0	0.6	1.1
22-Nov	0	0	2	2	2	1	1	0	0	0	3	0	0	1	1	3	4	3	2	1	A	10	5	4	1.9	10.3
23-Nov	1	1	0	1	2	3	3	1	1	0	0	0	0	1	1	1	0	0	0	A	0	0	0	0	0.8	3.2
24-Nov	1	2	1	3	3	3	3	2	1	1	1	1	2	4	3	2	3	2	A	1	2	3	1	0	1.9	3.9
25-Nov	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	1	2	A	0	0	0	0	0	2	0.6	1.6
26-Nov	1	1	2	1	1	2	2	2	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0.8	2.4
27-Nov	0	0	1	0	0	A	0	0	0	0	0	0	1	0	1	1	0	0	1	1	0	0	0	0	0.4	0.8
28-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	1	4	4	1	0	1	2	0.9	4.3
29-Nov	N	3	1	A	4	3	2	2	1	4	2	1	1	0	0	1	1	2	1	0	2	2	2	1	1.7	4.2
30-Nov	1	1	A	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.4
	0.4	0.7	0.7	1.0	1.1	0.7	0.7	0.6	0.6	0.7	0.7	0.7	0.6	0.6	0.9	0.8	0.7	0.5	0.6	0.6	0.4	0.8	0.5	0.5	Diurnal Average	
	1.5	2.8	2.5	7.7	7.3	2.8	3.3	2.7	3.3	4.2	2.7	2.0	1.7	3.9	5.6	4.7	4.2	2.6	4.3	4.3	1.9	10.3	5.1	3.6	Diurnal Maximum	

C - Calibration N - Not Valid A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 57 ppb

Hourly Averages for SO_2 at Smoky Heights
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Smoky Heights - Sulphur Dioxide (SO_2) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 31.3 ppb on Nov 29 10:00

Maximum Daily Average: 5.1 ppb on Nov 29

Minimum Value: 0 ppb on Nov 3 20:00

Maximum Diurnal Average: 2.4 ppb at hour 10

Monthly Average: 1.56 ppb

Minimum Daily Average: 0.4 ppb on Nov 11

Minimum Diurnal Average: 1.0 ppb at hour 1

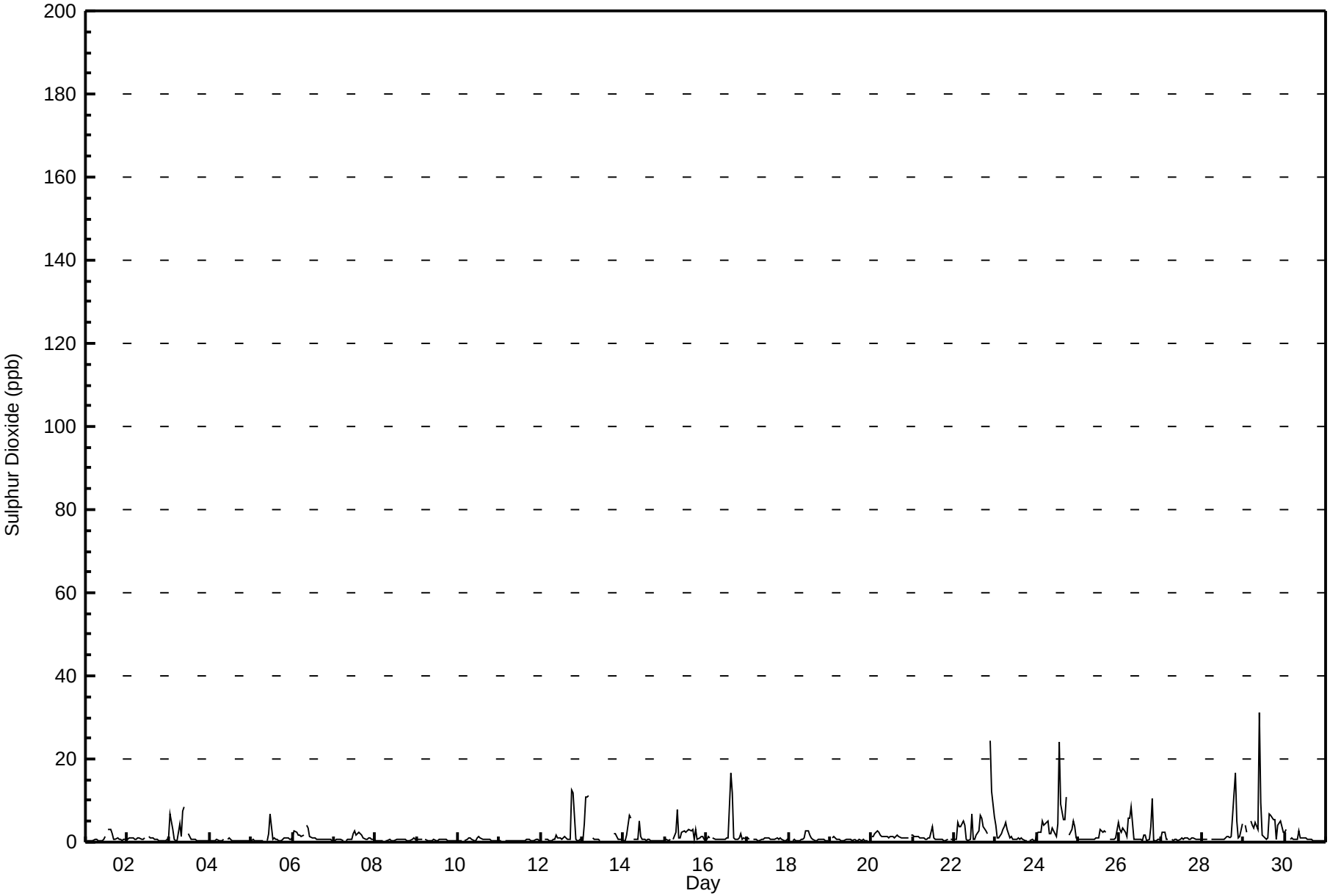
Percentiles: $P_1 = 0.3$ $P_{10} = 0.4$ $Q_1 = 0.5$ Median = 0.7 $Q_3 = 1.3$ $P_{90} = 3.6$ $P_{99} = 12.1$

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

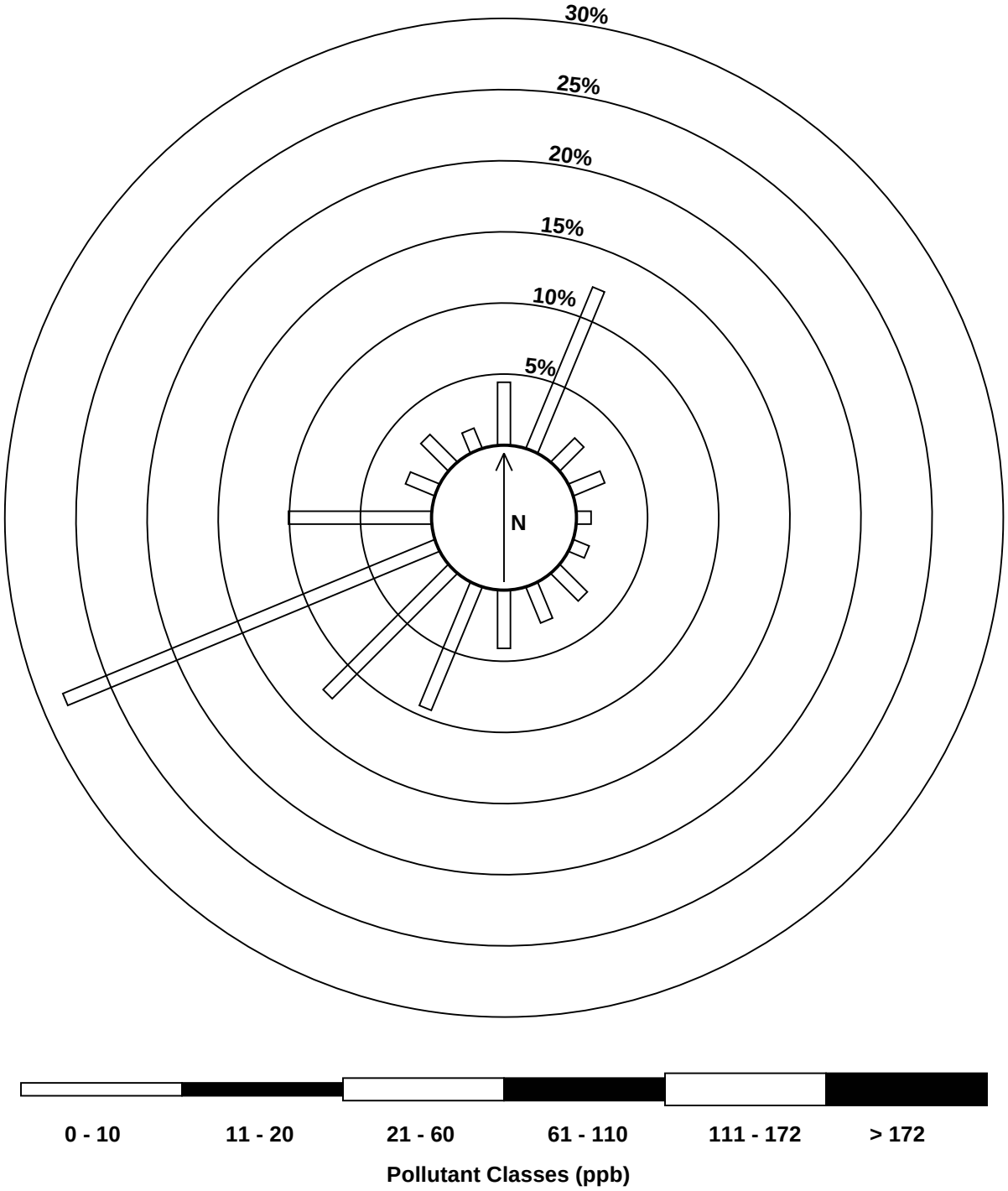
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	0	0	0	1	1	0	0	0	1	1	A	3	3	2	1	1	1	1	1	0	1	1	0.9	3.0
2-Nov	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0	0	0	0	0	1	0.8	1.3
3-Nov	1	7	3	1	0	0	4	2	7	9	A	2	1	1	1	1	0	0	0	0	0	0	0	0	1.8	8.6
4-Nov	0	0	0	0	1	0	0	0	1	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.5	1.0
5-Nov	0	1	0	0	0	0	0	0	A	0	2	7	1	1	1	1	0	0	1	1	1	1	1	1	0.9	6.6
6-Nov	1	3	2	2	2	2	2	A	4	3	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1.4	4.1
7-Nov	0	1	1	1	1	0	A	0	1	1	1	2	3	2	2	2	2	1	1	1	1	1	1	1	1.0	2.7
8-Nov	0	0	0	0	0	A	0	0	1	0	0	0	1	1	1	1	1	1	0	0	0	1	1	1	0.5	0.9
9-Nov	1	1	1	1	A	1	0	0	0	0	1	1	0	1	1	1	1	1	0	0	0	0	0	0	0.5	0.8
10-Nov	0	0	0	A	0	1	1	1	1	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0.6	1.2
11-Nov	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	1	0.4	0.5
12-Nov	0	A	1	1	1	0	0	1	1	2	1	1	1	1	1	1	1	1	12	12	1	0	0	1	1.7	12.5
13-Nov	0	4	11	11	11	A	1	1	1	1	0	C	C	C	C	C	C	C	2	2	1	1	1	1	--	11.2
14-Nov	0	0	2	7	6	A	1	1	1	5	1	1	1	0	1	1	0	0	0	0	0	0	0	0	1.3	6.6
15-Nov	0	1	0	1	A	1	2	8	1	1	2	3	2	3	3	3	3	1	3	1	1	1	1	1	1.9	7.9
16-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	17	12	1	1	1	1	2	1	1	1	2.0	16.7
17-Nov	1	1	A	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0.7	1.1
18-Nov	0	A	0	1	0	0	1	1	1	1	3	3	2	1	1	1	0	1	1	1	1	0	0	0	0.8	2.7
19-Nov	A	1	1	1	1	1	0	0	0	1	1	1	1	0	1	0	0	1	0	1	0	0	0	A	0.6	1.4
20-Nov	1	1	2	3	2	2	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	A	2	1.4	2.7
21-Nov	2	1	1	1	1	1	1	1	1	1	1	4	1	1	1	1	1	1	0	0	1	A	1	1	1.0	3.7
22-Nov	1	1	5	4	4	5	4	1	0	1	7	1	1	2	3	7	6	4	3	2	A	24	12	6	4.3	24.3
23-Nov	4	1	1	2	3	4	5	3	1	1	1	1	1	1	1	1	1	0	0	A	0	1	0	0	1.5	4.6
24-Nov	2	2	2	5	4	5	5	2	2	3	3	1	4	24	9	6	5	11	A	2	3	5	4	1	4.8	24.0
25-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	3	2	A	1	1	1	1	1	5	1.2	4.8
26-Nov	3	2	3	2	1	6	6	9	1	1	1	1	1	0	2	2	0	1	4	11	0	0	1	1	2.4	10.6
27-Nov	1	2	2	1	1	A	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.5
28-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	11	17	5	1	1	4	2.3	16.5
29-Nov	N	4	2	A	5	4	3	5	3	31	10	2	1	1	1	7	6	5	5	1	4	5	4	2	5.1	31.3
30-Nov	2	3	A	1	1	1	1	1	3	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.9	3.1
	1.0	1.5	1.8	1.7	1.8	1.4	1.6	1.4	1.2	2.4	1.5	1.4	1.2	1.9	2.0	2.0	1.3	1.3	1.9	2.0	1.0	1.7	1.2	1.1	Diurnal Average	
	4.2	6.7	10.9	10.7	11.2	5.9	5.6	8.5	7.3	31.3	9.5	6.6	4.5	24.0	16.7	11.7	6.3	10.7	12.5	16.5	5.2	24.3	12.2	6.0	Diurnal Maximum	

C - Calibration N - Not Valid A - Automated Daily Zero Span

Hourly Maximums for SO_2 at Smoky Heights
November 2008



Pollutant Rose for SO_2 at Smoky Heights
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Smoky Heights - Total Reduced Sulphur (TRS) - ppb
November 1, 2008 to December 1, 2008

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.5 ppb on Nov 9 00:00
Maximum Daily Average: 1.0 ppb on Nov 8

Minimum Value: 0 ppb on Nov 10 23:00
Maximum Diurnal Average: 0.5 ppb at hour 21
Monthly Average: 0.44 ppb

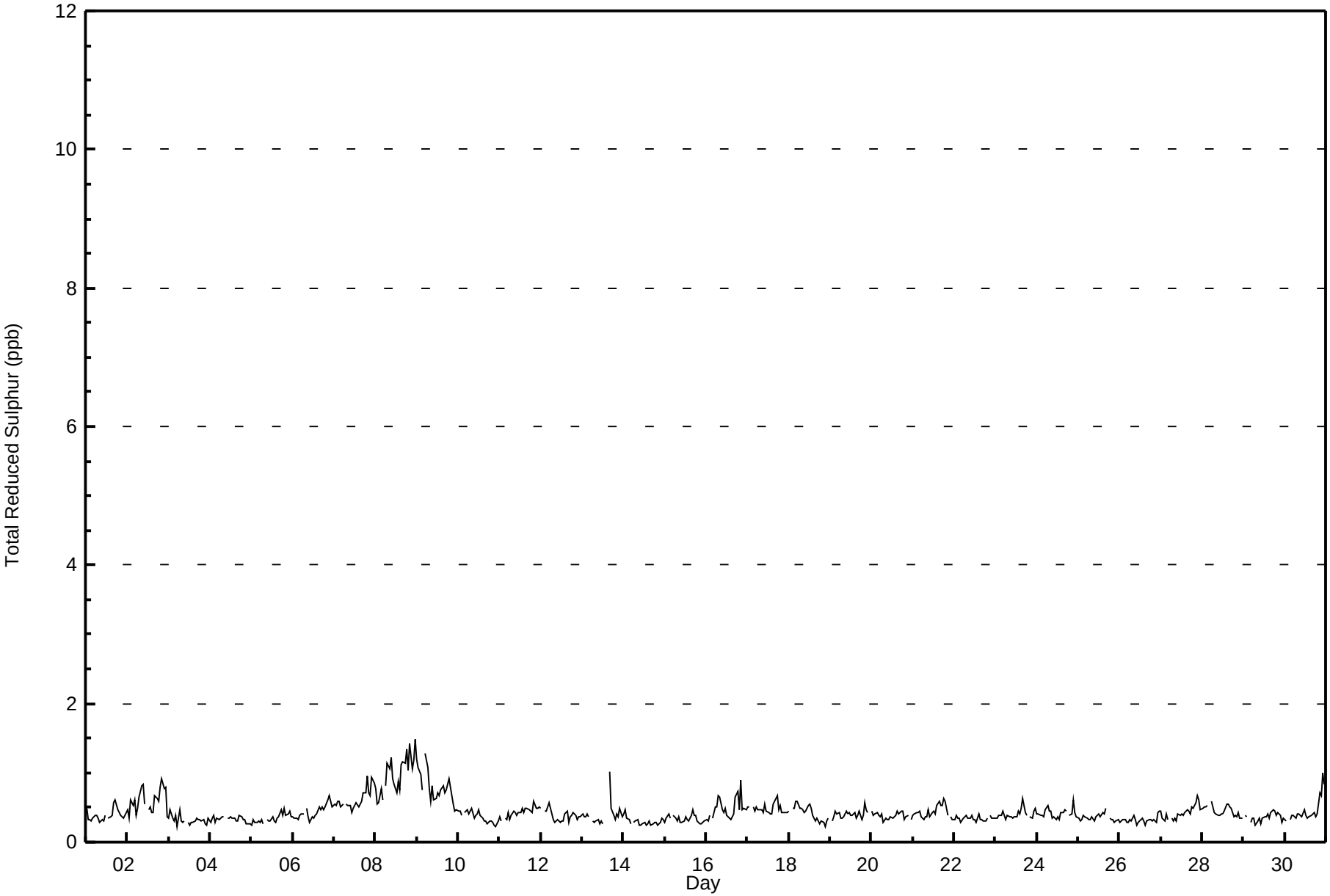
Minimum Daily Average: 0.3 ppb on Nov 14
Minimum Diurnal Average: 0.4 ppb at hour 11
Percentiles: $P_1 = 0.2$ $P_{10} = 0.3$ $Q_1 = 0.3$ Median = 0.4 $Q_3 = 0.5$ $P_{90} = 0.6$ $P_{99} = 1.2$

Hours in Service:	720
Hours of Data:	686
Hours of Missing Data:	34
Hours of Calibration:	33
Percent Operational Time:	99.9

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

C - Calibration N - Not Valid A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

Hourly Averages for TRS at Smoky Heights
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Smoky Heights - Total Reduced Sulphur (TRS) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 2.5 ppb on Nov 8 21:00

Maximum Daily Average: 1.5 ppb on Nov 8

Minimum Value: 0 ppb on Nov 14 14:00

Maximum Diurnal Average: 1.0 ppb at hour 20

Monthly Average: 0.85 ppb

Minimum Daily Average: 0.7 ppb on Nov 14

Minimum Diurnal Average: 0.8 ppb at hour 11

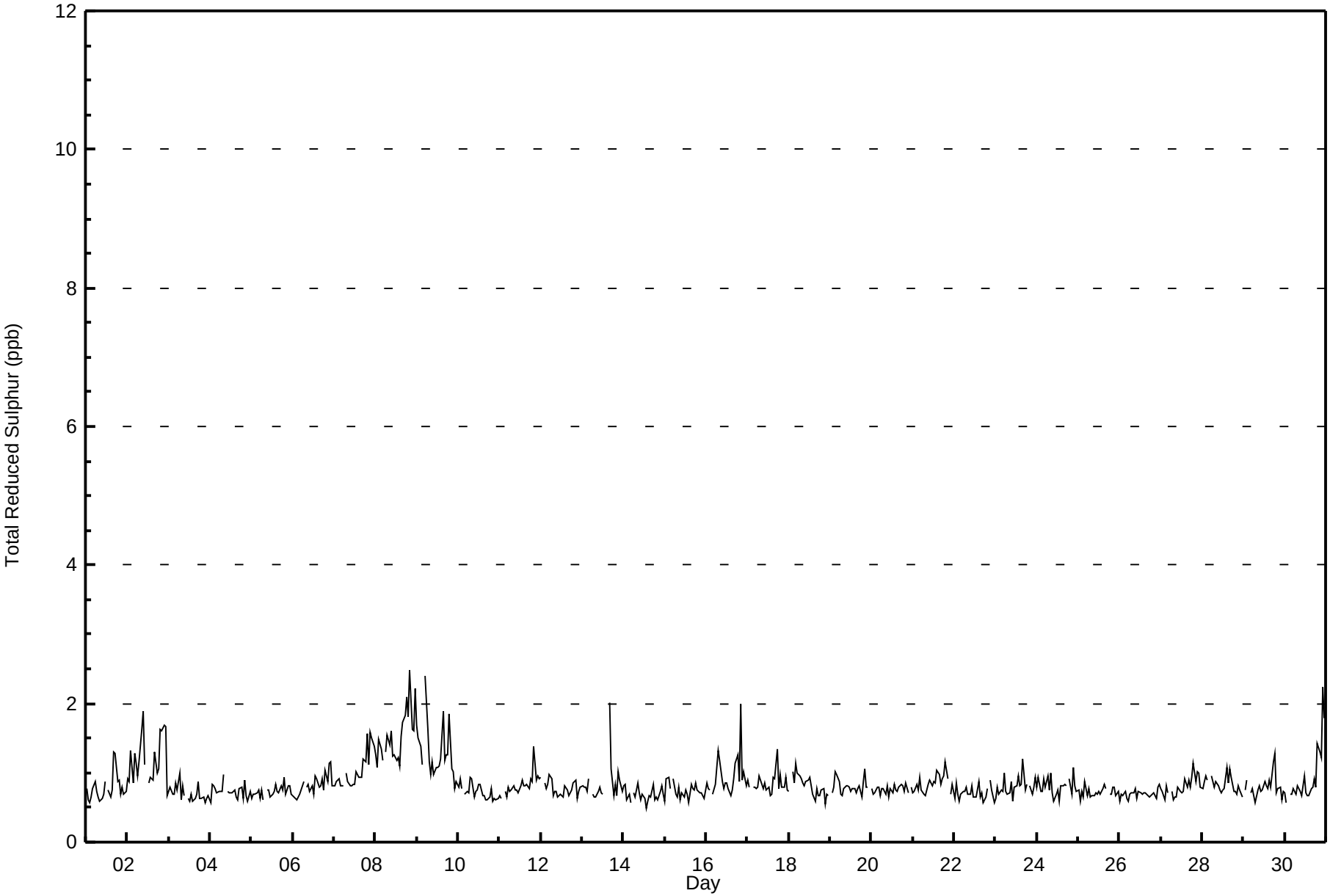
Percentiles: $P_1 = 0.6$ $P_{10} = 0.6$ $Q_1 = 0.7$ Median = 0.8 $Q_3 = 0.9$ $P_{90} = 1.2$ $P_{99} = 2.0$

Hours in Service:	720
Hours of Data:	686
Hours of Missing Data:	34
Hours of Calibration:	33
Percent Operational Time:	99.9

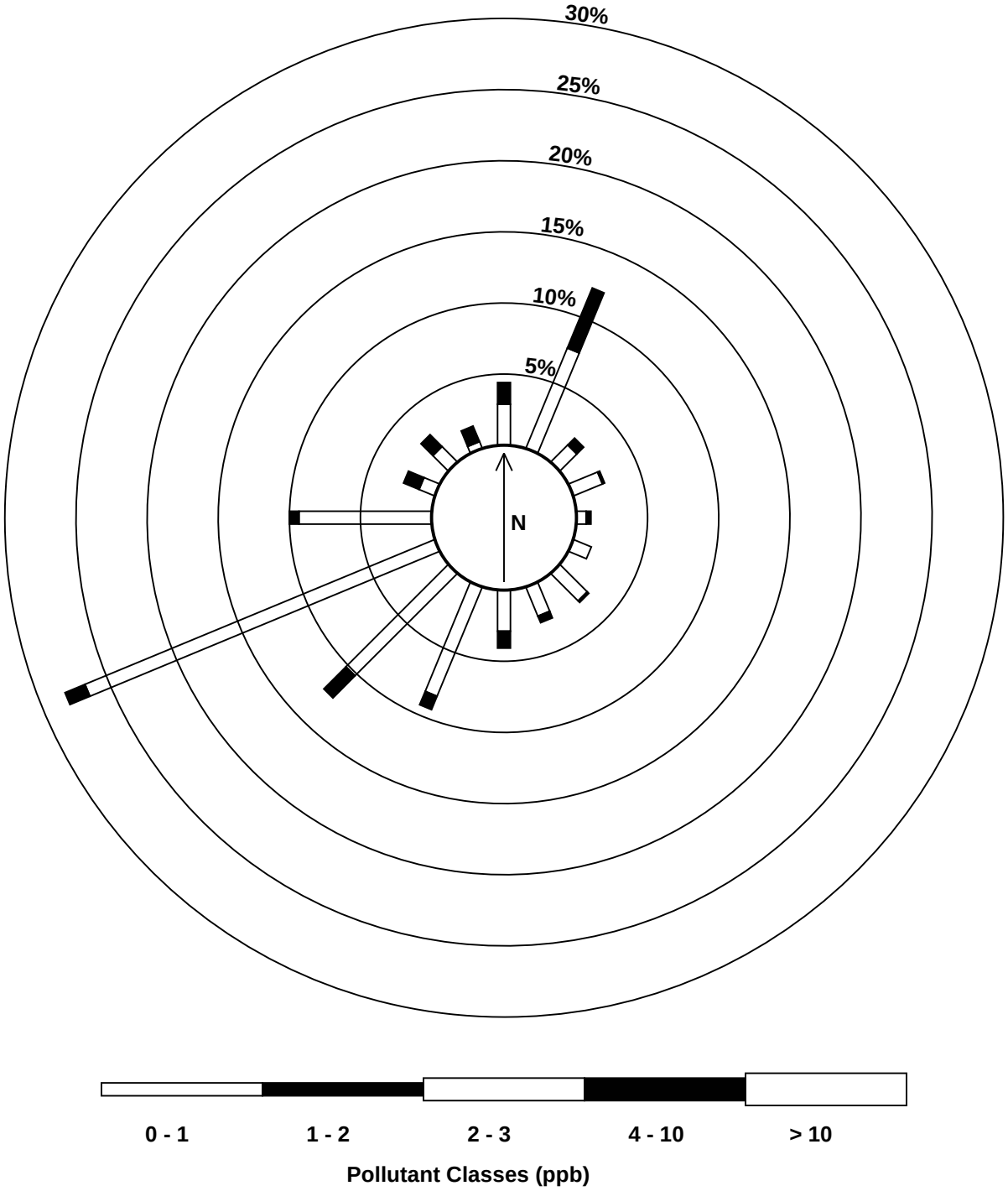
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.8	1.3
2-Nov	1	1	1	1	1	1	1	1	2	2	1	A	1	1	1	1	1	1	1	2	2	2	2	1	1.2	1.9
3-Nov	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
4-Nov	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
5-Nov	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
6-Nov	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.2
7-Nov	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	2	1	1.0	1.6
8-Nov	1	1	1	1	1	A	1	2	1	2	1	1	1	1	1	2	2	2	2	2	2	2	2	2	1.5	2.5
9-Nov	2	1	1	1	A	2	2	1	1	1	1	1	1	1	1	2	1	1	1	2	1	1	1	1	1.3	2.4
10-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
11-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.4
12-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
13-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	C	C	A	2	1	1	1	1	1	1	1	0.8	2.0
14-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0.7	0.8
15-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
16-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1.0	2.0
17-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.3
18-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1
19-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.8	1.1
20-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.8	0.9
21-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.8	1.2
22-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.7	0.9
23-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.8	1.2
24-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.8	1.1
25-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.7	0.9
26-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.8
27-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1
28-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1
29-Nov	N	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.3
30-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	0.9	2.2
	0.8	0.8	0.8	0.8	0.8	0.9	0.8	0.8	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.0	0.9	0.9	0.9	Diurnal Average	
	1.7	1.5	1.5	1.3	1.3	2.4	1.6	1.5	1.6	1.9	1.2	1.3	1.2	1.2	1.2	1.9	2.0	1.8	2.1	1.9	2.5	1.7	2.2	2.2	Diurnal Maximum	

C - Calibration N - Not Valid A - Automated Daily Zero Span

Hourly Maximums for TRS at Smoky Heights
November 2008



Pollutant Rose for TRS at Smoky Heights
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Smoky Heights - Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$
November 1, 2008 to December 1, 2008

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

Maximum Value: 102.2 $\mu g/m^3$ on Nov 19 21:00

Maximum Daily Average: 33.6 $\mu g/m^3$ on Nov 8

Minimum Value: 0 $\mu g/m^3$ on Nov 1 22:00

Maximum Diurnal Average: 9.5 $\mu g/m^3$ at hour 19

Monthly Average: 5.43 $\mu g/m^3$

Minimum Daily Average: 0.5 $\mu g/m^3$ on Nov 23

Minimum Diurnal Average: 3.4 $\mu g/m^3$ at hour 23

Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.6 Median = 2.3 Q_3 = 6.5 P_{90} = 12.8 P_{99} = 54.2

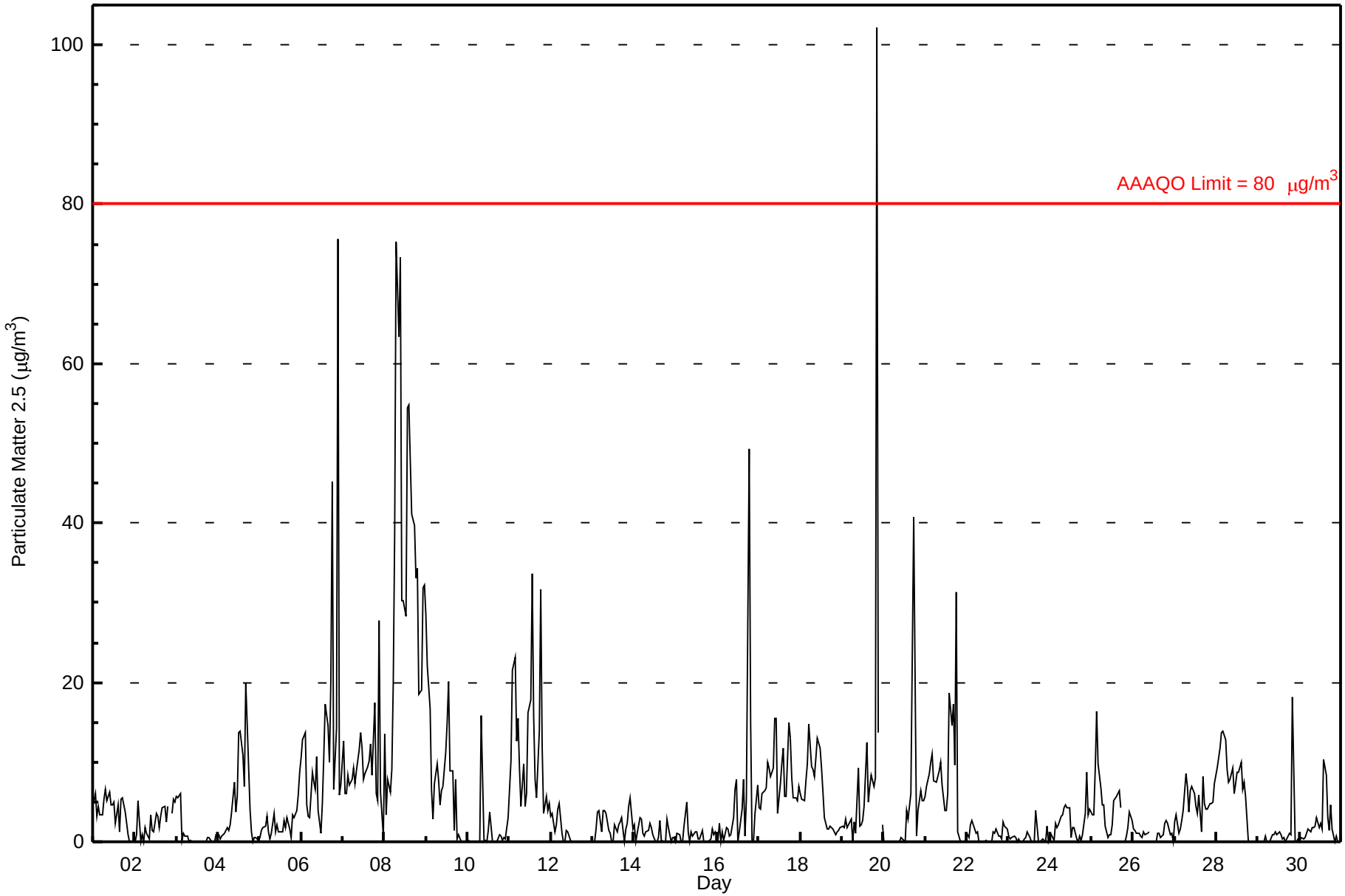
Hours in Service:	720
Hours of Data:	713
Hours of Missing Data:	7
Hours of Calibration:	2
Percent Operational Time:	99.3

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	5	6	3	4	3	3	5	7	5	6	5	5	5	2	5	1	5	5	4	2	1	0	0	0	3.7	6.5
2-Nov	0	1	5	0	1	0	2	1	0	3	1	1	3	3	2	3	4	4	3	4	P	4	5	5	2.5	5.3
3-Nov	6	6	6	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0.9	6.1
4-Nov	1	0	1	1	1	2	2	2	4	8	4	6	14	14	11	7	20	15	4	1	0	1	1	0	4.9	19.9
5-Nov	1	2	2	2	3	1	0	1	4	1	2	1	1	1	3	2	3	2	0	3	3	4	6	9	2.4	8.8
6-Nov	10	13	14	5	3	3	9	7	6	11	4	1	5	11	17	15	10	20	45	7	14	76	6	7	13.3	75.6
7-Nov	13	6	6	8	7	8	9	7	9	12	14	12	8	8	9	10	12	8	17	6	5	28	6	1	9.6	27.8
8-Nov	14	3	8	6	9	20	39	75	63	73	30	30	28	54	55	48	41	40	33	34	18	19	32	32	**33.6**	75.3
9-Nov	28	22	17	6	3	7	10	8	5	6	7	11	15	20	9	9	1	8	0	1	0	0	0	0	8.1	28.4
10-Nov	0	0	0	0	0	0	0	0	16	0	0	0	1	4	0	0	0	0	1	1	0	0	0	3	1.1	15.9
11-Nov	7	10	21	23	13	15	9	4	10	4	6	16	18	34	16	8	5	14	32	12	4	6	4	5	12.3	33.6
12-Nov	3	4	1	2	4	5	1	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1.0	4.8
13-Nov	0	0	2	4	4	1	4	4	4	1	1	0	0	2	1	2	3	3	0	2	2	4	6	2	2.1	5.6
14-Nov	2	0	1	3	3	1	1	1	1	2	2	1	0	0	1	3	0	0	0	3	2	0	1	0	1.1	3.0
15-Nov	0	1	1	0	0	2	5	1	0	1	1	1	1	0	0	1	0	0	0	0	0	2	1	1	0.9	5.0
16-Nov	0	2	0	1	0	2	2	1	1	3	7	8	0	1	4	8	1	5	49	15	0	0	3	7	5.0	49.3
17-Nov	4	4	6	6	7	10	9	8	9	16	15	4	7	10	12	6	6	15	13	8	5	6	5	7	8.3	15.6
18-Nov	6	5	5	8	10	15	9	9	8	11	13	12	9	6	3	2	2	2	2	2	1	1	1	2	6.0	14.7
19-Nov	2	2	3	2	2	3	0	2	1	9	2	2	3	4	12	5	7	8	7	8	**102**	14	BD	2	8.8	102.2
20-Nov	0	0	0	0	BD	0	0	0	0	0	0	0	0	4	3	4	6	41	20	1	4	6	5	5	4.4	40.8
21-Nov	6	7	9	10	11	8	8	8	9	10	7	4	4	6	19	15	17	10	31	1	0	0	0	0	8.3	31.2
22-Nov	1	0	2	3	2	1	1	0	0	0	0	0	0	0	0	1	1	2	1	1	0	3	2	2	0.9	2.7
23-Nov	1	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	4	0	0	0	0	0	2	0	0.5	3.8
24-Nov	1	1	0	2	2	2	3	3	4	5	4	4	0	2	2	0	0	1	0	1	4	9	3	4	2.4	8.7
25-Nov	3	3	9	16	10	7	5	5	2	1	1	1	2	5	6	6	6	4	BD	0	1	2	4	3	4.4	16.3
26-Nov	2	1	1	1	1	1	1	1	1	1	C	C	0	0	1	1	1	1	2	3	2	1	1	0	1.1	2.6
27-Nov	3	3	1	2	3	4	9	7	4	6	7	6	5	3	6	1	8	5	4	4	5	5	5	7	4.7	8.6
28-Nov	9	10	12	14	14	13	9	7	8	9	6	7	9	9	10	7	7	6	0	0	0	0	0	0	6.9	14.0
29-Nov	N	0	0	0	1	0	0	0	1	1	1	1	1	1	0	1	0	1	1	1	18	0	0	0	1.2	18.1
30-Nov	0	0	0	1	1	2	1	2	2	2	3	2	2	2	10	8	3	1	5	2	0	1	0	0	2.1	10.2
	4.4	3.8	4.5	4.4	4.1	4.5	5.1	5.8	5.9	6.8	5.0	4.8	4.8	6.9	7.2	5.8	5.8	7.3	9.5	4.1	6.7	6.3	3.4	3.5	Diurnal Average	
	28.4	22.0	21.5	23.1	14.0	20.0	38.8	75.3	63.3	73.4	30.3	30.3	28.4	54.4	54.8	47.8	41.1	40.8	49.3	34.3	102.2	75.6	31.8	32.2	Diurnal Maximum	

C - Calibration P - Power Failure N - Not Valid 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 $PM_{2.5}$ at Smoky Heights
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Smoky Heights - Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$
November 1, 2008 to December 1, 2008

Maximum Value: 220.4 $\mu g/m^3$ on Nov 6 22:00

Maximum Daily Average: 46.6 $\mu g/m^3$ on Nov 8

Minimum Value: 0 $\mu g/m^3$ on Nov 10 04:00

Maximum Diurnal Average: 23.4 $\mu g/m^3$ at hour 19

Monthly Average: 11.45 $\mu g/m^3$

Minimum Daily Average: 2.6 $\mu g/m^3$ on Nov 12

Minimum Diurnal Average: 6.8 $\mu g/m^3$ at hour 5

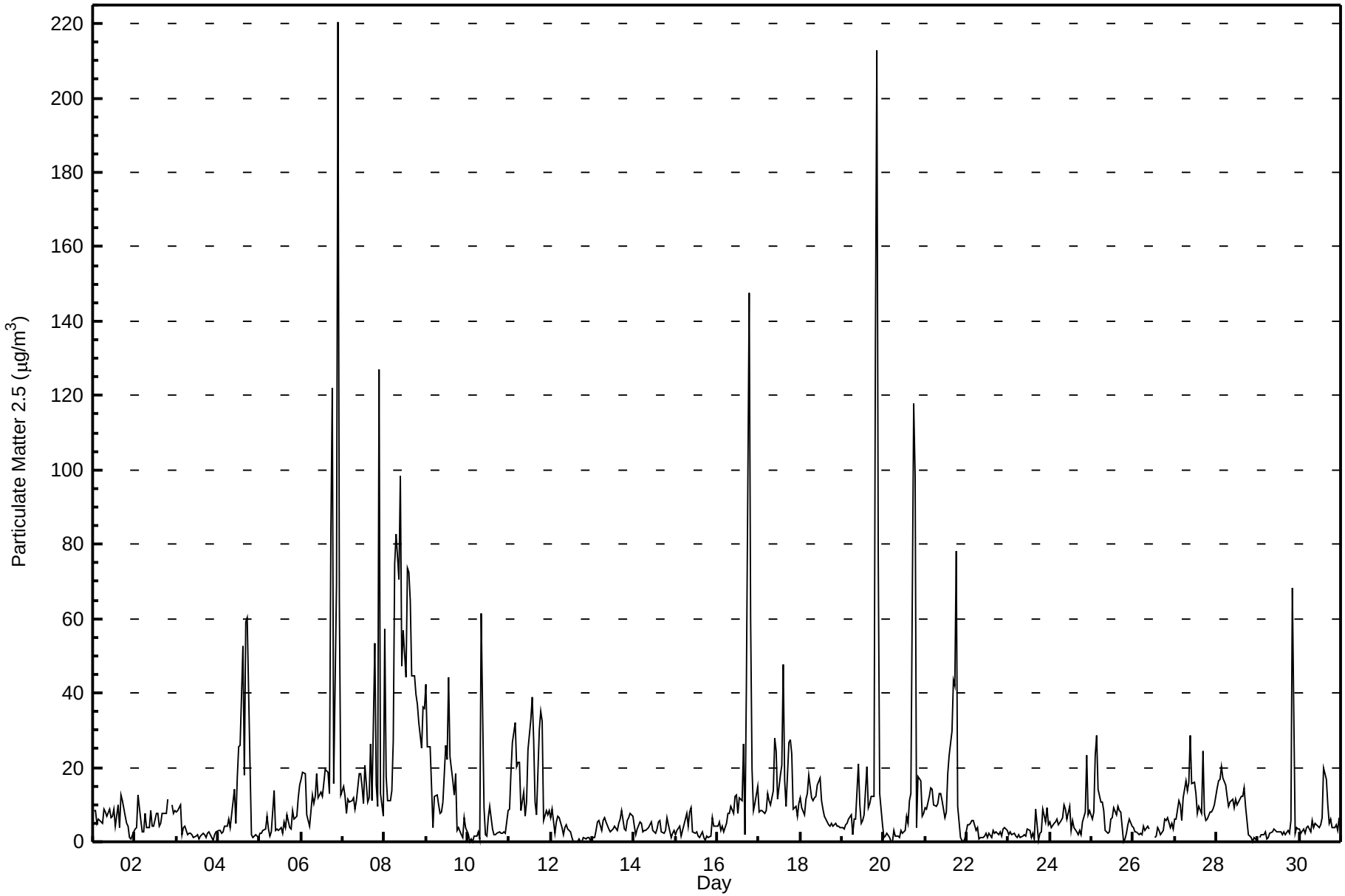
Percentiles: P_1 = 0.0 P_{10} = 1.5 Q_1 = 2.8 Median = 5.9 Q_3 = 11.3 P_{90} = 23.1 P_{99} = 115.0

Hours in Service:	720
Hours of Data:	716
Hours of Missing Data:	4
Hours of Calibration:	2
Percent Operational Time:	99.7

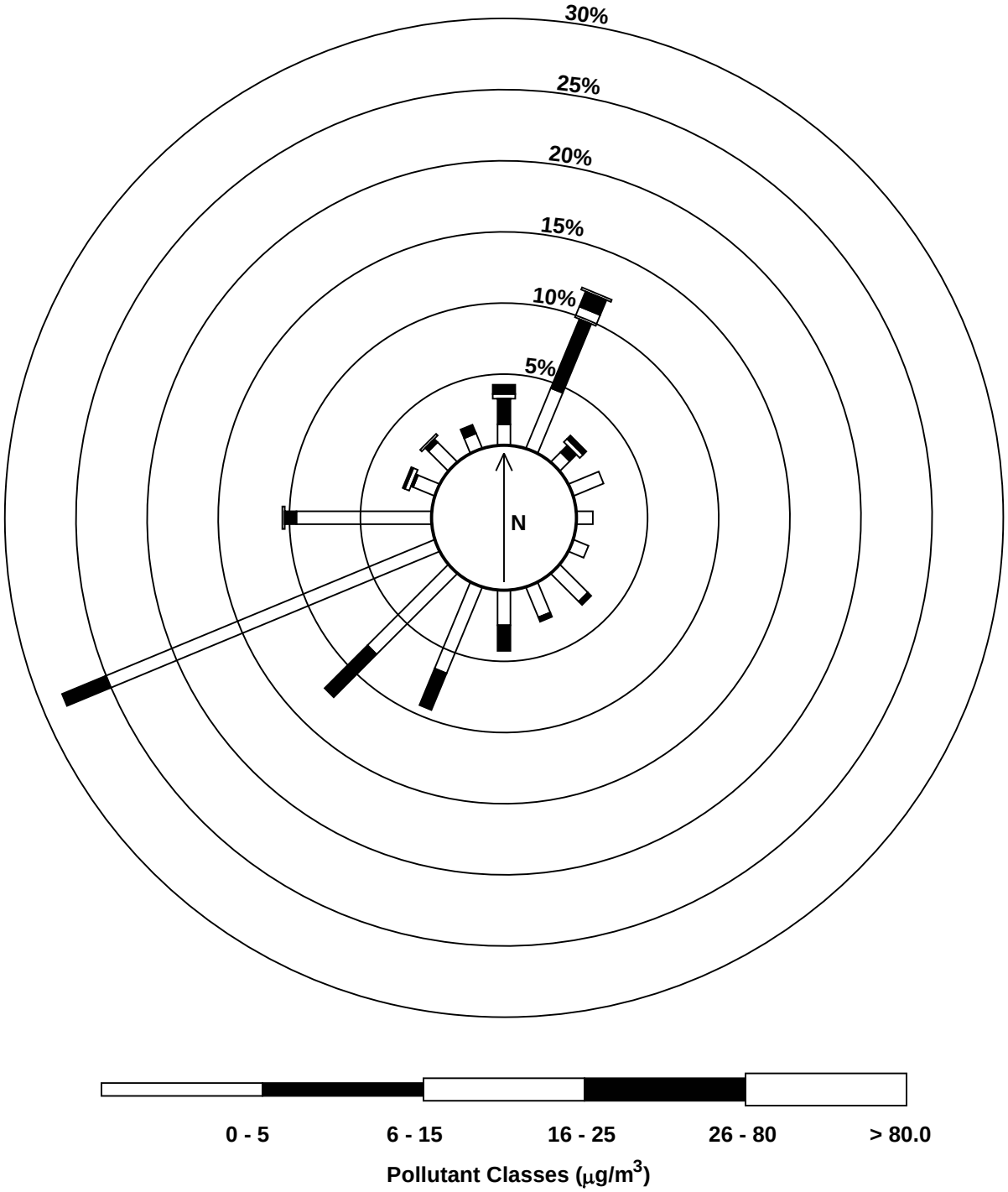
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	8	8	5	6	6	5	9	8	7	9	7	7	9	4	10	4	12	11	7	5	4	1	1	3	6.5	12.5
2-Nov	3	4	13	6	3	3	8	4	4	8	4	4	8	7	4	5	7	8	8	11	P	10	7	8	6.4	12.7
3-Nov	8	8	10	2	4	4	2	2	2	2	1	1	2	1	2	2	2	1	2	3	1	0	2	3	2.8	9.9
4-Nov	3	3	2	3	4	4	6	4	7	14	5	17	25	26	53	18	59	60	21	2	1	1	2	1	14.3	60.3
5-Nov	2	2	3	3	7	3	2	3	14	3	4	3	4	2	5	4	7	4	3	8	6	7	12	15	5.3	15.2
6-Nov	17	19	18	7	6	4	13	10	12	18	12	13	12	16	20	19	13	83	122	16	69	220	65	13	34.0	220.4
7-Nov	15	12	8	11	11	11	12	9	11	18	18	15	10	21	11	12	26	11	53	15	10	127	13	7	19.4	127.0
8-Nov	57	18	11	11	14	27	75	83	70	98	47	57	44	74	72	65	45	45	40	37	32	25	36	36	46.6	98.4
9-Nov	42	25	26	15	4	12	12	10	8	8	11	26	22	44	23	16	13	18	3	4	2	1	6	4	14.7	44.2
10-Nov	2	0	1	0	2	1	2	1	61	9	2	1	6	10	3	2	2	2	3	2	2	3	2	9	5.4	61.2
11-Nov	9	19	27	32	20	21	21	9	13	7	11	25	33	39	27	11	7	30	35	32	6	8	7	8	19.1	38.7
12-Nov	7	9	2	6	7	6	4	2	4	4	3	3	1	0	0	0	1	0	0	1	1	1	1	0	2.6	8.9
13-Nov	1	1	3	5	6	3	6	6	5	3	3	3	3	4	3	5	6	8	4	3	6	7	8	7	4.6	8.5
14-Nov	4	2	4	5	5	3	3	3	4	5	5	3	2	3	5	6	3	2	3	6	5	1	2	3	3.6	6.4
15-Nov	2	3	4	2	3	5	8	4	8	9	3	2	3	2	1	3	1	0	2	1	1	6	4	4	3.4	9.1
16-Nov	4	5	3	4	3	5	7	7	10	8	12	12	8	12	11	26	2	42	148	60	19	8	10	15	18.4	147.6
17-Nov	8	8	9	8	8	13	11	10	14	28	25	11	18	21	48	16	10	27	28	24	9	10	7	10	15.8	47.7
18-Nov	12	9	7	12	13	18	12	11	12	12	15	17	11	9	7	5	5	4	5	4	5	4	4	4	9.1	18.0
19-Nov	4	3	5	5	6	7	2	6	6	21	10	5	6	7	20	9	10	12	12	135	213	76	13	4	24.9	212.7
20-Nov	1	2	2	1	0	0	3	1	1	1	3	2	3	7	5	11	13	118	99	4	18	16	7	8	13.6	117.8
21-Nov	9	9	12	14	14	10	10	10	13	13	11	7	8	18	23	30	43	42	78	9	1	0	0	1	16.1	78.0
22-Nov	5	4	5	6	6	3	4	1	1	1	2	2	1	2	1	3	2	3	2	3	1	3	4	3	2.8	5.7
23-Nov	2	3	2	2	2	1	2	1	2	2	1	3	3	1	2	1	9	1	2	3	9	5	9	5	3.0	9.2
24-Nov	5	4	5	5	6	5	6	6	10	9	6	9	3	6	4	3	2	3	2	6	8	23	7	8	6.3	23.1
25-Nov	6	8	23	29	14	11	11	8	3	2	3	6	7	9	7	10	8	8	0	1	2	5	6	4	7.9	28.5
26-Nov	4	3	3	2	2	2	4	3	4	3	C	C	1	2	4	3	2	3	6	6	7	4	5	3	3.4	6.6
27-Nov	6	6	11	10	6	12	16	14	16	29	15	16	13	8	10	8	24	8	6	6	8	8	9	10	11.4	28.6
28-Nov	15	16	17	20	17	15	12	10	11	11	9	11	10	11	12	12	15	9	2	1	1	0	1	0	10.0	20.2
29-Nov	N	1	2	2	3	1	1	2	3	3	3	3	3	3	2	2	2	3	2	6	68	2	4	3	5.4	68.3
30-Nov	3	2	3	2	4	4	3	6	4	5	5	4	5	7	20	17	10	5	6	4	4	5	3	6	5.7	19.9
	9.1	7.2	8.2	7.9	6.8	7.3	9.5	8.5	11.3	12.2	8.8	10.0	9.4	12.4	13.8	10.9	12.0	19.1	23.4	13.9	17.9	19.7	8.6	6.9	Diurnal Average	
	57.1	25.4	26.9	31.9	20.4	27.1	74.9	82.9	70.4	98.4	47.1	56.8	44.1	73.5	72.5	64.8	59.1	117.8	147.6	134.5	212.7	220.4	64.6	35.9	Diurnal Maximum	

C - Calibration P - Power Failure N - Not Valid

Hourly Maximums for $PM_{2.5}$ at Smoky Heights
November 2008



Pollutant Rose for $PM_{2.5}$ at Smoky Heights
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Smoky Heights - External Temperature (ET) - ^{o}C
November 1, 2008 to December 1, 2008

Maximum Value: 11.7 ^{o}C on Nov 1 16:00

Maximum Daily Average: 5.1 ^{o}C on Nov 3

Minimum Value: -18 ^{o}C on Nov 19 09:00

Maximum Diurnal Average: -0.1 ^{o}C at hour 15

Monthly Average: -2.60 ^{o}C

Minimum Daily Average: -11.4 ^{o}C on Nov 19

Minimum Diurnal Average: -4.8 ^{o}C at hour 9

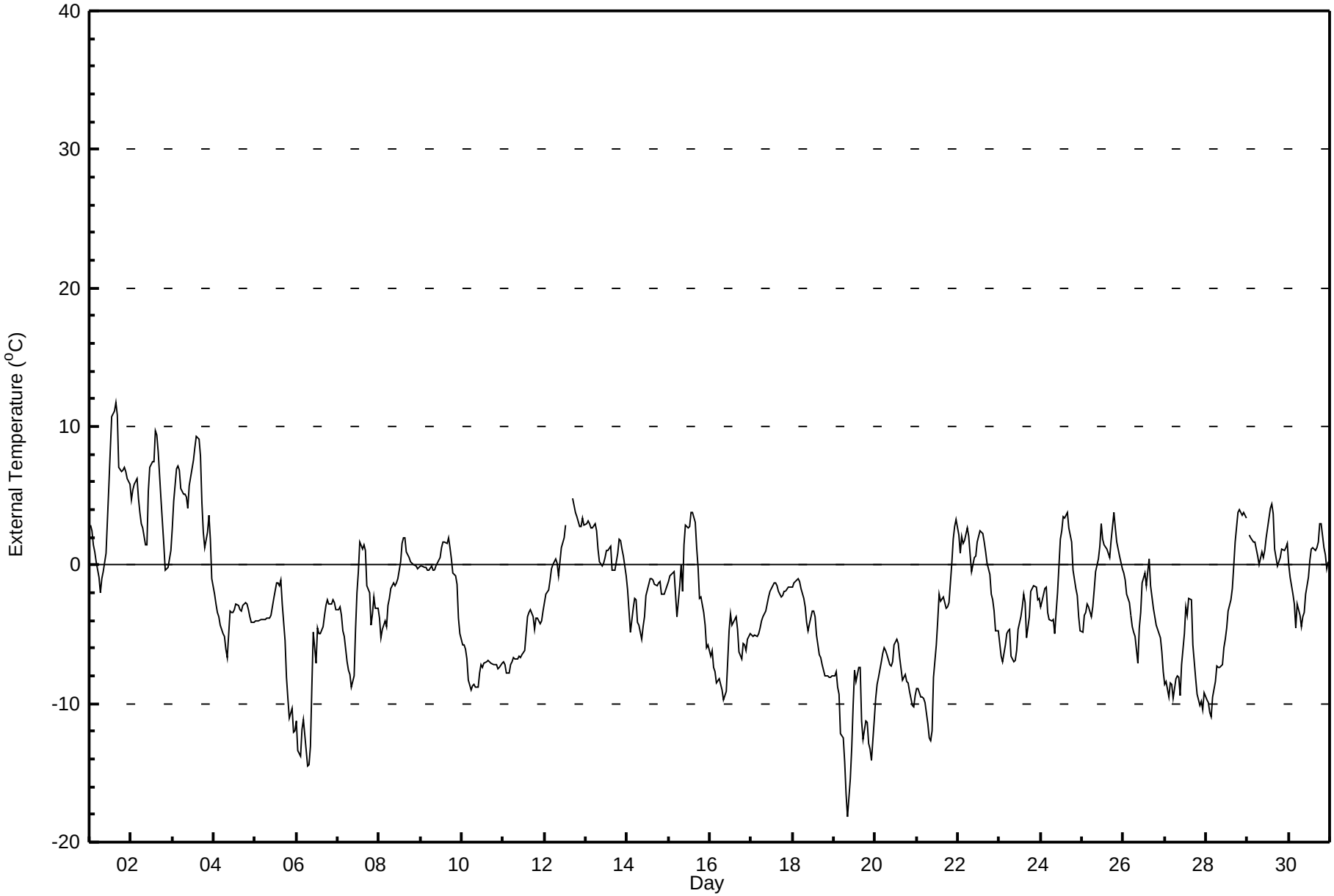
Percentiles: P_1 = -13.9 P_{10} = -8.6 Q_1 = -5.8 Median = -2.7 Q_3 = 0.7 P_{90} = 3.0 P_{99} = 9.3

Hours in Service:	720
Hours of Data:	716
Hours of Missing Data:	4
Hours of Calibration:	0
Percent Operational Time:	99.4

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	3	2	1	1	0	-1	-2	-1	0	1	3	6	8	11	11	12	11	7	7	7	7	7	6	6	4.7	11.7
2-Nov	5	5	6	6	5	4	3	3	1	1	5	7	7	7	10	9	8	5	3	1	0	0	0	1	4.3	9.7
3-Nov	3	5	7	7	7	6	5	5	5	4	6	7	8	9	9	9	8	4	2	1	2	4	2	-1	5.1	9.3
4-Nov	-2	-3	-3	-4	-4	-5	-5	-6	-7	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-4	-4	-4	-3.7	-2.1
5-Nov	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-3	-2	-1	-1	-2	-1	-3	-5	-8	-10	-11	-10	-12	-12	-5.1	-1.1
6-Nov	-11	-13	-14	-12	-11	-12	-15	-14	-13	-9	-5	-7	-4	-5	-5	-4	-4	-3	-2	-3	-3	-3	-3	-3	-7.4	-2.5
7-Nov	-3	-3	-4	-5	-5	-7	-8	-8	-9	-8	-5	-2	-1	2	1	1	1	-2	-2	-4	-4	-2	-3	-3	-3.4	1.7
8-Nov	-4	-5	-5	-4	-4	-3	-2	-2	-1	-1	-1	-1	0	2	2	2	1	1	0	0	0	0	0	0	-1.1	2.0
9-Nov	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	2	1	0	-1	-1	-1	-4	-5	-0.1	2.0
10-Nov	-6	-6	-6	-7	-8	-9	-9	-9	-9	-9	-8	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7.4	-5.8
11-Nov	-7	-7	-8	-8	-7	-7	-7	-7	-7	-7	-7	-6	-6	-5	-4	-3	-3	-4	-5	-4	-4	-4	-4	-3	-5.5	-3.3
12-Nov	-3	-2	-2	-1	0	0	0	0	-1	0	1	2	3	M	M	M	5	4	4	3	3	3	3	3	1.3	4.8
13-Nov	3	3	3	3	3	3	2	1	0	0	0	1	1	1	1	0	0	0	1	2	2	1	1	-1	1.2	3.2
14-Nov	-2	-3	-5	-3	-2	-3	-4	-4	-5	-4	-4	-2	-1	-1	-1	-1	-1	-2	-1	-1	-2	-2	-2	-1	-2.5	-0.9
15-Nov	-1	-1	-1	-1	-2	-4	-2	0	-2	1	3	3	3	4	4	3	1	0	-2	-2	-3	-4	-6	-6	-0.6	3.8
16-Nov	-7	-6	-7	-8	-8	-8	-9	-9	-10	-9	-7	-5	-4	-4	-4	-4	-5	-6	-7	-6	-6	-6	-5	-5	-6.4	-3.6
17-Nov	-5	-5	-5	-5	-5	-4	-4	-4	-3	-3	-2	-2	-1	-1	-1	-1	-2	-2	-2	-2	-2	-2	-2	-2	-2.8	-1.3
18-Nov	-2	-1	-1	-1	-1	-2	-2	-3	-4	-5	-4	-3	-3	-4	-5	-6	-7	-7	-8	-8	-8	-8	-8	-8	-4.6	-1.0
19-Nov	-8	-8	-9	-9	-12	-12	-14	-17	-18	-15	-13	-10	-8	-8	-7	-7	-11	-13	-11	-11	-13	-13	-14	-11	-11.4	-7.4
20-Nov	-10	-9	-8	-7	-6	-6	-6	-7	-7	-7	-7	-6	-5	-6	-7	-7	-8	-8	-8	-9	-9	-10	-10	-9	-7.6	-5.3
21-Nov	-9	-9	-9	-10	-10	-10	-11	-13	-13	-12	-8	-6	-4	-2	-3	-2	-3	-3	-3	-3	0	2	3	3	-5.6	3.3
22-Nov	2	1	2	2	2	3	2	1	0	0	1	2	2	2	2	2	1	0	-1	-2	-2	-3	-5	-5	0.3	2.7
23-Nov	-6	-7	-7	-6	-5	-5	-5	-7	-7	-7	-6	-5	-4	-3	-2	-3	-5	-4	-2	-2	-1	-2	-3	-2	-4.3	-1.5
24-Nov	-3	-3	-2	-2	-3	-4	-4	-4	-5	-3	-2	2	2	3	3	4	3	2	2	0	-2	-2	-4	-5	-1.1	3.8
25-Nov	-5	-4	-3	-3	-3	-4	-3	-2	-1	0	1	3	2	1	1	1	1	2	4	3	2	1	1	0	-0.2	3.8
26-Nov	-1	-1	-2	-3	-4	-4	-5	-5	-7	-5	-3	-1	-1	-1	0	0	-1	-3	-4	-4	-5	-5	-6	-8	-3.3	0.4
27-Nov	-9	-8	-10	-9	-9	-10	-8	-8	-8	-9	-7	-5	-3	-4	-2	-2	-6	-7	-8	-9	-10	-10	-10	-9	-7.5	-2.4
28-Nov	-10	-10	-11	-11	-10	-8	-7	-7	-7	-7	-6	-5	-5	-3	-2	-2	0	2	4	4	4	4	4	3	-3.7	4.0
29-Nov	N	2	2	2	2	1	1	0	1	1	1	2	3	4	4	4	1	0	0	1	1	1	1	2	1.6	4.4
30-Nov	0	-1	-2	-3	-5	-3	-4	-4	-4	-3	-2	-1	0	1	1	1	1	2	3	3	1	1	0	0	-0.7	3.0
	-3.4	-3.3	-3.5	-3.4	-3.7	-4.0	-4.2	-4.5	-4.8	-4.1	-2.8	-1.5	-0.7	-0.3	-0.1	-0.2	-0.9	-1.6	-1.8	-2.2	-2.5	-2.6	-3.0	-3.1	Diurnal Average	
	4.8	5.4	7.0	7.2	6.8	5.5	5.2	5.2	4.9	4.1	5.8	7.0	8.3	10.8	11.1	11.7	10.8	7.0	6.7	6.8	7.1	6.8	6.2	5.9	Diurnal Maximum	

M - Maintenance N - Not Valid

Hourly Averages for External Temperature at Smoky Heights
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Smoky Heights
November 1, 2008 to December 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	8	8	11	12	11	8	11	12	11	13	9	10	10	6	9	6	1	5	8	9	13	11	9	6	3.7	13.5
Dir	193	202	195	193	192	200	195	195	197	195	203	188	187	193	150	119	32	350	2	9	23	22	14	31	187.4	195.4
2 Spd	4	5	1	5	3	8	6	4	4	5	4	4	6	7	6	4	2	6	6	2	4	3	4	8	1.8	8.3
Dir	39	144	87	246	287	244	245	248	266	268	263	197	160	182	162	130	86	353	323	346	313	7	306	238	244.3	238.4
3 Spd	10	20	28	29	11	10	11	17	21	17	21	21	24	23	28	24	12	13	15	14	13	14	12	14	17.3	28.7
Dir	240	251	252	270	285	218	253	247	253	253	250	245	242	248	259	255	250	255	256	265	275	284	261	262	255.3	270.3
4 Spd	13	9	7	7	8	6	7	4	3	9	16	12	15	16	16	14	11	9	13	12	15	16	15	16	6.2	16.2
Dir	261	254	229	225	206	231	201	199	232	351	17	4	11	16	10	13	14	16	24	38	37	37	42	33	9.6	16.0
5 Spd	16	15	16	15	8	7	9	9	4	8	9	11	11	11	11	9	8	8	9	9	8	8	6	7	3.7	16.5
Dir	33	28	22	26	12	340	353	15	335	237	227	229	226	233	219	224	234	257	260	270	268	248	252	241	288.4	21.7
6 Spd	6	5	5	5	5	3	3	2	2	2	1	0	1	2	3	5	7	8	7	7	6	4	4	4	1.2	7.5
Dir	227	232	242	255	258	231	247	233	250	246	271	94	14	27	20	21	19	18	10	20	23	16	142	169	328.5	18.4
7 Spd	5	6	7	10	10	9	8	10	9	7	8	8	7	4	10	10	3	7	5	3	5	4	1	3	4.7	10.1
Dir	167	208	175	185	201	207	233	213	229	231	233	227	246	161	175	190	220	270	319	345	327	30	329	317	218.4	213.2
8 Spd	2	N	N	N	N	N	N	N	N	N	N	N	N	4	5	4	4	3	2	1	3	4	2	N	--	5.0
Dir	347	N	N	N	N	N	N	N	N	N	N	N	N	23	36	32	29	351	14	299	49	47	50	N	--	35.7
9 Spd	N	N	N	N	N	N	N	N	N	N	N	11	7	6	1	2	7	9	7	5	N	N	N	N	--	10.5
Dir	N	N	N	N	N	N	N	N	N	N	N	20	15	360	355	254	329	327	307	285	N	N	N	N	--	20.1
10 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
11 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
12 Spd	N	N	N	N	N	N	N	8	N	16	20	19	15	M	M	M	28	23	23	18	19	14	23	21	--	28.4
Dir	N	N	N	N	N	N	N	213	N	223	228	220	202	M	M	M	60	63	61	57	60	67	58	58	--	60.4
13 Spd	25	28	25	23	21	25	32	28	25	22	20	23	27	17	4	7	5	6	13	20	16	10	11	4	9.3	32.0
Dir	62	71	76	74	80	86	91	103	129	119	114	124	135	137	247	253	296	328	277	274	285	318	313	247	95.9	91.2
14 Spd	5	9	14	17	18	18	14	13	12	14	10	7	7	6	7	5	4	6	6	9	5	3	5	7	6.8	17.9
Dir	204	250	255	255	265	260	260	258	248	257	255	206	202	175	156	158	151	146	174	172	166	126	150	182	229.2	264.7
15 Spd	10	10	8	12	12	11	19	16	12	19	28	27	23	24	27	24	22	21	19	18	15	11	7	14	16.2	28.0
Dir	188	190	194	224	242	253	246	256	240	254	253	255	250	253	257	255	262	262	262	251	249	275	254	263	250.0	253.1
16 Spd	10	7	11	9	5	9	7	5	3	7	7	3	7	10	6	4	6	5	6	7	8	11	12	11	3.6	11.5
Dir	262	251	263	264	211	229	240	258	284	265	264	256	248	261	243	9	28	26	8	3	18	24	21	18	295.6	21.2
17 Spd	12	13	12	15	14	14	13	12	13	11	12	11	12	10	7	8	7	7	5	5	3	4	6	6	9.6	15.1
Dir	25	24	23	22	23	26	26	27	24	23	20	22	19	13	358	0	355	13	14	32	69	35	29	16	20.8	21.8
18 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	21	16	11	4	8	6	8	9	7	--	20.8
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	309	304	289	261	286	279	279	280	241	--	308.7
19 Spd	9	13	8	9	4	4	4	5	5	2	6	2	4	4	2	4	5	6	5	7	9	8	5	7	1.3	13.0
Dir	230	253	233	311	236	313	312	249	258	258	213	273	132	151	124	27	17	28	52	49	18	13	2	141	302.8	253.4
20 Spd	8	14	12	12	15	13	11	17	15	13	11	8	10	11	15	15	13	11	12	8	4	3	2	6	4.8	17.0
Dir	136	129	122	128	121	125	152	144	139	144	142	111	87	27	359	0	9	6	7	335	11	258	192	252	99.2	143.6
21 Spd	6	11	14	14	12	14	14	12	14	11	14	12	9	5	0	3	10	11	7	2	10	17	17	17	7.0	17.3
Dir	181	216	234	230	201	200	214	230	230	237	246	241	212	176	287	22	25	26	21	63	181	173	172	175	209.7	172.0
22 Spd	10	7	13	14	19	27	37	29	23	28	28	32	32	33	33	29	30	28	30	24	24	24	24	20	24.7	36.7
Dir	202	220	230	249	244	246	248	244	252	248	248	246	246	253	254	254	254	249	249	245	250	255	257	245	248.0	247.8

Peace Airshed Zone Association
Summary of Hourly Averages

Smoky Heights
November 1, 2008 to December 1, 2008
WS (km/h), WD (deg)

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
23 Spd	19	17	17	19	20	20	21	19	15	14	11	12	10	5	6	3	1	4	4	2	5	4	7	7	9.8	20.7
Dir	239	241	238	246	236	242	259	265	250	223	199	192	196	162	229	307	154	193	164	202	252	247	269	276	236.8	258.7
24 Spd	9	9	10	9	7	11	13	12	11	19	14	15	16	19	17	15	13	10	8	9	14	9	10	7	11.4	19.0
Dir	247	231	237	262	216	255	222	206	213	223	216	245	241	244	249	260	266	254	270	248	248	250	257	239	241.2	223.0
25 Spd	8	9	10	7	5	7	7	7	8	6	7	6	6	9	10	8	9	20	34	33	29	30	27	25	13.4	34.3
Dir	208	217	258	261	235	249	266	258	241	252	268	242	242	192	227	222	223	249	241	244	244	248	251	252	243.0	241.1
26 Spd	24	24	22	20	22	23	20	14	7	10	10	8	9	8	11	16	14	9	13	12	12	8	9	13	13.2	24.1
Dir	257	258	254	257	262	258	259	234	185	217	220	211	231	234	242	234	223	244	251	245	202	205	242	259	243.3	257.0
27 Spd	15	16	9	9	6	7	8	9	5	2	9	10	7	11	4	3	3	9	10	10	8	9	9	9	4.8	15.8
Dir	261	263	238	209	246	262	269	270	261	286	23	23	16	26	310	49	35	237	247	250	218	236	224	214	261.5	263.3
28 Spd	9	9	9	11	5	9	7	6	8	8	9	7	8	8	9	6	13	22	31	33	24	23	31	30	13.1	32.9
Dir	211	191	234	220	260	203	214	207	194	198	207	189	187	222	215	207	231	247	255	250	247	232	245	250	232.5	250.3
29 Spd	N	26	23	26	30	24	26	20	24	25	25	21	20	18	19	17	15	14	16	9	8	19	24	27	20.3	30.1
Dir	N	254	246	253	254	255	253	256	253	261	263	260	258	256	259	262	260	250	236	217	287	264	242	253	254.5	253.6
30 Spd	19	18	17	12	13	14	11	13	10	7	9	7	8	9	7	2	3	7	13	8	3	1	4	7	8.1	18.5
Dir	250	262	254	257	213	244	264	257	231	206	226	234	213	218	222	180	196	222	178	162	239	326	301	248	235.4	250.1
Spd	4.9	6.6	7.3	7.5	6.7	7.7	8.1	7.2	7.2	8.1	7.8	6.5	6.3	5.0	6.3	5.1	3.7	5.0	5.9	5.6	4.7	4.3	4.8	6.1	Diurnal Average	
Dir	235.0	238.7	240.2	248.2	237.6	239.3	243.1	234.9	230.0	234.0	238.2	233.9	226.2	240.0	250.6	268.1	291.0	282.6	271.1	265.9	271.1	272.0	263.5	250.7		
Spd	24.6	28.2	28.1	28.7	30.1	26.9	36.7	29.1	25.2	27.9	28.1	32.3	32.3	33.1	33.0	28.7	30.2	28.4	34.3	33.2	28.8	30.1	30.8	30.5	Diurnal Maximum	
Dir	62.3	70.7	252.1	270.3	253.6	246.4	247.8	243.8	128.5	248.1	248.2	246.4	246.5	253.3	253.5	254.3	253.5	249.1	241.1	243.5	244.2	248.5	245.1	250.4		

Maximum Speed Value: 37 km/h on Nov 22 07:00
Maximum Daily Speed Average: 24.7 km/h on Nov 22
Maximum Diurnal Speed Average: 8.1 km/h at hour 7

Minimum Speed Value: 0 km/h on Nov 21 15:00
Minimum Daily Speed Average: 1.2 km/h on Nov 6
Minimum Diurnal Speed Average: 3.7 km/h at hour 17

Monthly Average Velocity: 5.87 km/h 248.16 deg

Speed Percentiles: P_1 = 1.1 P_{10} = 3.8 Q_1 = 6.4 Median = 9.5 Q_3 = 15.0 P_{90} = 23.3 P_{99} = 32.9

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

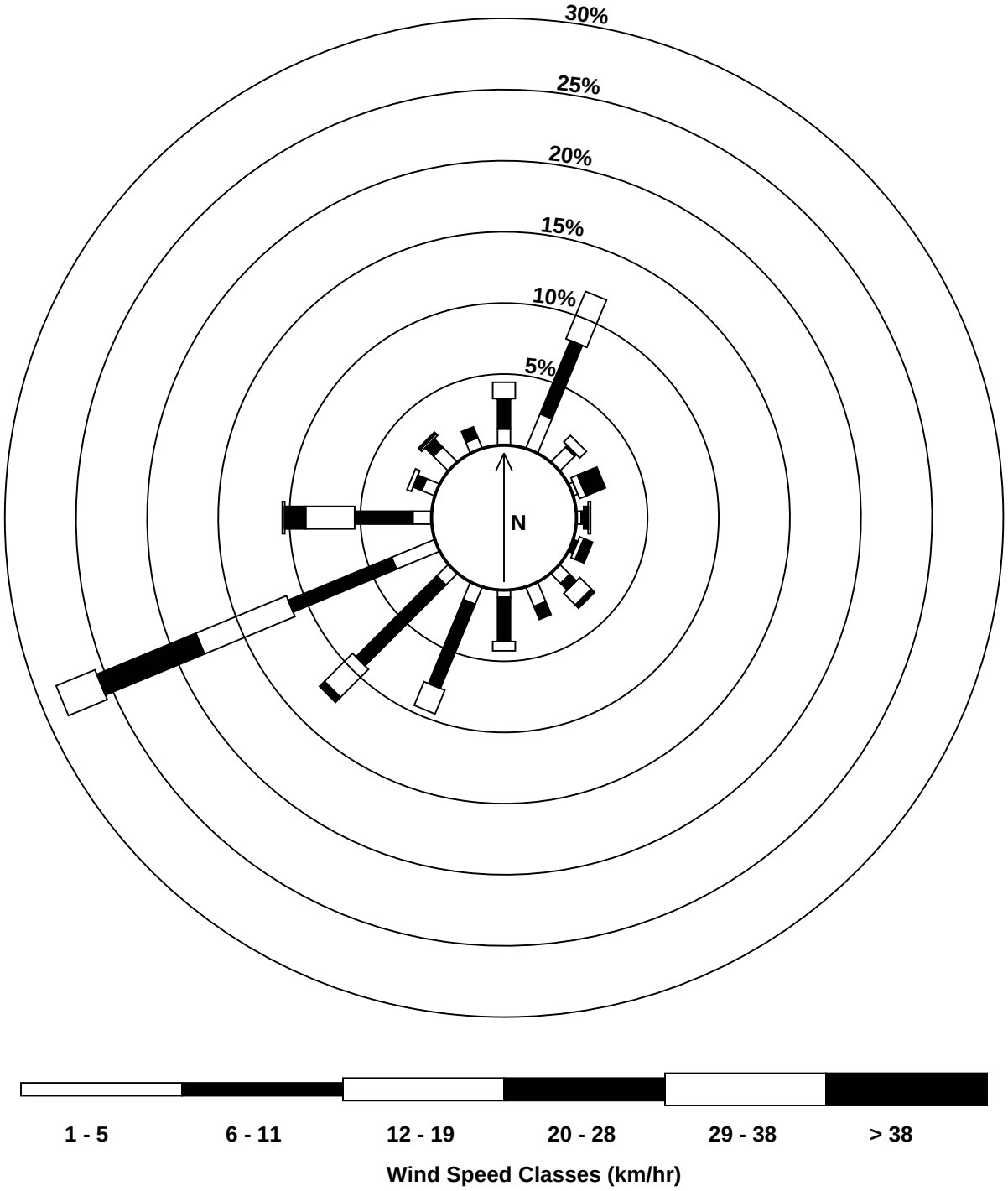
Hours in Service:	720
Hours of Data:	617
Hours of Missing Data:	103
Percent Operational Time:	85.7

M - Maintenance N - Not Valid

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	2.43	5.83	2.76	0.00	0.00	0.00	11.02
NorthEast	2.76	2.27	3.73	0.81	0.16	0.00	9.72
East	0.65	0.32	0.00	0.81	0.32	0.00	2.11
SouthEast	1.30	1.30	1.78	0.81	0.00	0.00	5.19
South	2.11	6.65	2.11	0.00	0.00	0.00	10.86
SouthWest	2.27	15.07	5.83	2.76	1.13	0.00	27.07
West	3.73	8.27	8.27	6.97	2.59	0.00	29.82
NorthWest	2.27	1.62	0.16	0.16	0.00	0.00	4.21
Total	17.50	41.33	24.64	12.32	4.21	0.00	100.00

Wind Rose for WS at Smoky Heights
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages - Wind Speed (Scalar)

Smoky Heights - Wind Speed (WS) - km/h
November 1, 2008 to December 1, 2008

Maximum Speed: 37 km/h on Nov 22 07:00

Maximum Daily Speed Average: 25.2 km/h on Nov 22

Minimum Speed: 1 km/h on Nov 6 13:00

Minimum Daily Speed Average: 4.3 km/h on Nov 6

Maximum Diurnal Speed Average: 13.6 km/h at hour 7

Minimum Diurnal Speed Average: 10.4 km/h at hour 17

Monthly Average Speed: 11.88 km/h

Percentiles: $P_1 = 2.1$ $P_{10} = 4.6$ $Q_1 = 6.8$ Median = 9.8 $Q_3 = 15.0$ $P_{90} = 23.3$ $P_{99} = 33.0$

Hours in Service: 720

Hours of Data: 617

Hours of Missing Data: 103

Percent Operational Time: 85.7

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	8	9	11	13	11	9	11	12	11	14	9	10	10	8	9	6	3	6	8	9	13	11	10	7	9.4	13.6
2-Nov	5	6	5	5	5	8	6	4	4	5	4	5	6	7	7	5	3	7	7	3	4	3	5	9	5.4	9.4
3-Nov	11	20	28	29	13	11	12	17	21	17	21	21	24	24	28	24	12	13	15	14	13	14	12	14	17.9	29.5
4-Nov	13	10	7	7	8	6	7	5	4	9	16	12	15	16	16	15	11	9	13	12	15	16	15	16	11.4	16.4
5-Nov	16	15	16	15	8	7	9	10	5	8	9	11	11	11	11	9	8	8	9	9	8	8	6	7	9.8	16.5
6-Nov	6	6	5	5	5	3	3	2	2	2	2	2	1	2	3	5	8	8	7	7	6	4	4	4	4.3	7.5
7-Nov	5	6	7	10	10	9	8	10	10	8	8	8	7	4	10	10	4	8	6	4	5	5	2	4	7.0	10.2
8-Nov	3	N	N	N	N	N	N	N	N	N	N	N	N	4	5	4	4	4	3	2	4	4	2	N	--	5.0
9-Nov	N	N	N	N	N	N	N	N	N	N	N	11	7	6	3	6	10	10	7	7	N	N	N	N	--	10.5
10-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
11-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
12-Nov	N	N	N	N	N	N	N	9	N	16	20	19	15	M	M	M	30	23	23	18	19	15	23	21	--	29.7
13-Nov	25	28	25	23	21	25	32	30	25	22	20	24	27	18	9	7	5	8	13	20	17	10	11	5	18.8	32.4
14-Nov	6	9	14	17	18	18	14	13	12	14	10	7	7	6	7	5	5	6	6	9	5	3	6	7	9.3	18.0
15-Nov	10	11	9	12	12	11	19	16	12	19	28	27	23	24	27	24	22	21	19	18	15	12	8	14	17.1	28.1
16-Nov	10	7	12	9	6	9	7	5	3	7	7	3	7	10	7	6	6	5	6	7	8	11	12	11	7.6	11.6
17-Nov	12	13	12	15	14	14	13	12	13	11	12	11	12	10	8	9	7	7	5	5	4	4	6	7	9.9	15.2
18-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	21	16	11	5	8	7	8	9	8	--	21.0
19-Nov	9	13	8	9	7	6	7	5	5	2	6	3	4	5	4	4	6	7	6	9	9	8	6	7	6.5	13.0
20-Nov	8	14	12	12	15	13	12	17	15	13	11	8	10	11	15	15	13	11	12	9	7	6	3	7	11.3	17.2
21-Nov	7	12	14	14	12	14	14	12	15	12	15	13	9	7	3	4	10	11	7	4	10	17	17	17	11.2	17.3
22-Nov	12	7	13	15	19	27	37	29	23	28	28	32	32	33	33	29	30	28	30	24	24	24	24	20	25.2	36.7
23-Nov	19	17	17	19	20	20	21	19	15	14	11	12	10	6	6	4	2	4	5	4	5	5	7	7	11.3	20.9
24-Nov	9	9	10	9	8	11	13	12	12	20	15	15	17	19	18	16	13	11	8	9	14	10	10	8	12.3	19.7
25-Nov	9	9	11	7	6	7	8	7	8	7	8	6	8	10	11	9	10	20	34	33	29	30	27	25	14.1	34.4
26-Nov	24	24	22	20	22	23	20	15	8	10	10	8	9	8	12	16	14	9	13	13	12	8	10	13	14.2	24.2
27-Nov	15	16	11	10	6	8	8	9	5	5	9	10	7	11	5	5	6	9	10	11	8	9	9	9	8.8	15.9
28-Nov	10	9	9	11	5	9	8	7	8	8	9	8	8	8	10	7	13	23	31	33	24	23	31	31	14.3	33.1
29-Nov	N	26	23	26	30	24	26	20	24	25	25	21	20	18	19	17	15	14	16	12	9	19	24	27	20.8	30.2
30-Nov	19	18	17	12	13	14	11	13	11	7	10	8	8	9	8	3	5	8	13	8	5	3	4	7	9.8	18.6
	11.2	13.1	13.3	13.6	12.2	12.7	13.6	12.4	11.3	12.1	13.0	12.1	12.1	11.4	11.3	10.5	10.4	11.1	12.1	11.5	11.1	10.8	11.2	11.9	Diurnal Average	
	24.6	28.3	28.4	29.5	30.2	27.2	36.7	30.0	25.3	28.0	28.3	32.4	32.4	33.1	33.0	28.7	30.2	28.5	34.4	33.2	28.9	30.1	30.9	30.6	Diurnal Maximum	

M - Maintenance N - Not Valid

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

Peace Airshed Zone Association
Summary of Hourly Standard Deviations

Smoky Heights - Wind Direction (WD) - deg
November 1, 2008 to December 1, 2008

Maximum Value: 96.3 deg on Nov 1 17:00

Minimum Value: 1.6 deg on Nov 26 05:00

Percentiles: P_1 = 1.9 P_{10} = 3.6 Q_1 = 5.7 Median = 10.0 Q_3 = 18.8 P_{90} = 38.2 P_{99} = 84.6

Hours in Service:	720
Hours of Data:	632
Hours of Missing Data:	88
Hours of Calibration:	0
Percent Operational Time:	87.8

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-Nov	19	14	9	7	7	14	6	7	7	7	12	19	16	36	18	18	96	26	6	5	9	6	19	36	96.3
2-Nov	45	42	73	25	51	17	12	28	13	14	24	25	17	16	18	22	48	20	36	73	23	33	33	28	73.1
3-Nov	10	4	8	14	33	19	21	7	3	5	4	6	6	6	6	5	4	4	3	5	5	6	10	6	33.2
4-Nov	5	17	20	13	14	11	20	47	54	13	12	16	12	9	12	14	8	7	10	7	7	5	7	5	54.2
5-Nov	5	5	3	5	10	11	8	6	30	6	6	7	6	10	8	6	11	10	6	4	8	7	10	6	30.0
6-Nov	12	14	10	7	5	17	28	14	8	11	56	88	16	4	5	4	5	6	9	5	7	12	28	14	87.7
7-Nov	25	13	13	6	7	12	9	7	10	12	8	5	8	36	4	8	73	23	35	62	16	28	75	46	75.3
8-Nov	52	N	N	N	N	N	N	N	N	N	N	N	N	15	11	13	7	40	46	69	17	10	32	N	69.0
9-Nov	N	N	N	N	N	N	N	N	N	N	N	4	8	15	82	77	46	20	16	35	N	N	N	N	82.2
10-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
11-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
12-Nov	N	N	N	N	N	N	N	25	N	9	4	9	6	M	M	M	20	3	3	3	3	17	3	2	25.4
13-Nov	4	4	3	3	4	7	10	22	6	9	8	5	7	7	59	13	26	44	8	4	17	16	18	31	58.6
14-Nov	46	14	4	5	3	2	4	7	13	5	18	14	8	15	6	12	16	8	13	7	14	15	15	9	45.8
15-Nov	5	5	9	9	9	7	3	6	7	4	3	4	4	3	2	2	4	4	5	6	2	30	14	5	30.5
16-Nov	7	7	7	12	13	6	5	12	22	4	11	24	11	7	33	61	7	8	12	8	14	6	4	5	60.6
17-Nov	4	4	4	3	4	6	5	4	6	5	5	6	6	15	13	13	18	14	22	14	54	47	13	47	53.9
18-Nov	29	34	52	33	13	21	9	10	23	45	40	86	14	9	12	8	10	15	45	17	42	16	12	31	85.6
19-Nov	19	5	18	15	69	60	70	23	26	19	18	12	54	35	59	34	17	10	33	38	4	7	41	8	70.4
20-Nov	9	6	6	5	6	7	19	9	3	5	7	21	9	17	6	8	11	8	13	38	78	54	67	24	77.6
21-Nov	30	23	9	8	7	5	3	11	9	17	17	21	16	42	85	23	9	6	9	85	9	4	4	4	85.2
22-Nov	35	28	12	14	8	10	3	4	8	3	6	3	4	3	3	2	2	3	2	3	4	4	2	8	35.0
23-Nov	3	5	3	3	5	3	8	6	7	10	12	5	9	26	25	44	84	39	39	48	25	20	15	8	84.3
24-Nov	14	16	15	11	33	18	18	13	21	16	13	13	11	11	12	8	14	16	7	14	5	13	7	17	33.2
25-Nov	14	10	15	18	11	15	11	10	12	14	10	19	33	18	15	28	21	7	4	4	3	3	4	4	33.0
26-Nov	5	4	3	2	2	4	5	21	22	7	11	19	8	10	18	7	3	10	6	18	8	9	16	6	21.7
27-Nov	5	6	39	16	21	9	6	9	10	73	34	8	13	6	32	67	62	21	15	27	19	10	13	8	73.0
28-Nov	15	19	12	15	28	12	17	23	13	9	15	15	9	8	16	22	12	12	3	6	9	4	3	4	27.8
29-Nov	N	3	4	8	4	4	2	3	4	3	2	3	5	2	3	5	2	3	7	65	38	19	6	3	64.7
30-Nov	5	5	3	16	14	8	5	5	20	26	12	17	9	10	23	53	58	24	8	40	53	85	23	21	84.9
	51.8	42.0	72.7	32.5	69.0	59.6	70.4	46.8	54.2	73.0	55.9	87.7	53.6	41.9	84.7	77.1	96.3	44.0	45.8	85.2	77.6	84.9	75.3	46.9	

M - Maintenance N - Not Valid

PASZA
Beaverlodge Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge - Sulphur Dioxide (SO_2) - ppb
November 1, 2008 to December 1, 2008

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 11.0 ppb on Nov 19 14:00
Maximum Daily Average: 1.5 ppb on Nov 19

Minimum Value: 0 ppb on Dec 1 00:00
Maximum Diurnal Average: 0.9 ppb at hour 18
Monthly Average: 0.51 ppb

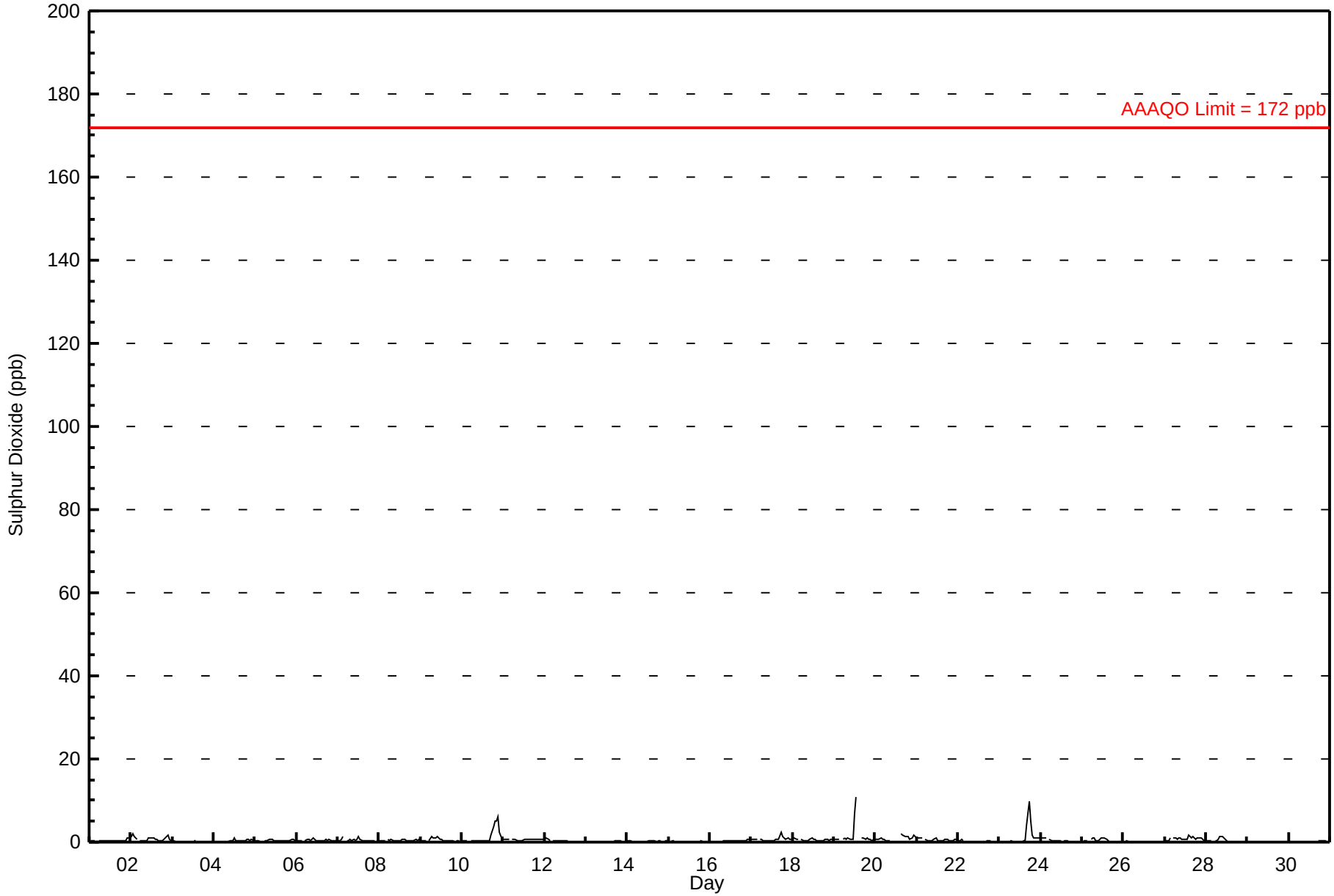
Minimum Daily Average: 0.1 ppb on Nov 26
Minimum Diurnal Average: 0.4 ppb at hour 16
Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 0.2 Median = 0.3 Q_3 = 0.6 P_{90} = 1.0 P_{99} = 4.9

Hours in Service:	720
Hours of Data:	637
Hours of Missing Data:	83
Hours of Calibration:	31
Percent Operational Time:	92.8

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.4	1.1
2-Nov	1	2	1	1	A	0	0	0	0	0	1	1	1	1	1	1	0	0	1	1	1	2	1	0	0.8	2.1
3-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
4-Nov	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	1	0	0.3	1.1
5-Nov	0	0	0	0	A	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0.4	0.7
6-Nov	0	0	0	0	A	0	1	1	0	1	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0.5	0.9
7-Nov	0	0	1	1	A	0	0	1	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0.5	1.4
8-Nov	0	0	0	0	A	1	0	1	0	0	0	0	1	1	1	1	0	1	0	0	0	1	0	1	0.5	0.7
9-Nov	1	0	0	0	A	0	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0.5	1.2
10-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	2	4	5	5	6	2	1	1.3	6.0
11-Nov	1	1	1	1	A	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8
12-Nov	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9
13-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
14-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
15-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
16-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.2	0.7
17-Nov	1	1	1	1	A	1	1	0	0	1	1	0	0	1	1	1	1	2	1	1	1	1	1	1	0.7	2.5
18-Nov	1	1	1	1	A	1	0	0	0	0	1	1	1	1	0	0	0	0	0	1	1	0	1	1	0.5	1.1
19-Nov	1	1	1	1	A	1	1	1	1	1	1	1	7	11	P	P	1	1	1	1	1	1	0	1	1.5	11.0
20-Nov	1	1	1	1	1	1	0	0	0	C	C	C	A	P	P	2	2	1	1	1	1	1	2	1	1.0	2.1
21-Nov	1	1	1	1	A	1	0	0	0	0	1	1	0	0	0	0	1	1	1	0	0	0	1	1	0.6	1.1
22-Nov	1	0	1	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
23-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	4	10	5	2	1	1	1	1	1.2	9.7
24-Nov	1	1	1	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.2
25-Nov	0	0	0	0	A	1	1	1	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.4	1.1
26-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
27-Nov	0	0	0	1	A	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	0	0.8	1.7
28-Nov	0	0	1	0	A	0	0	1	1	1	1	1	0	0	0	0	0	P	P	P	P	P	P	P	--	1.2
29-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
30-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	0	0	0	0	0	0	--	0.3
	0.4	0.5	0.5	0.5	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.7	0.8	0.4	0.4	0.5	0.9	0.7	0.6	0.6	0.6	0.5	0.4	Diurnal Average	
	1.3	2.1	1.2	1.2	0.7	1.0	1.2	1.0	1.2	1.2	1.2	1.1	6.9	11.0	1.7	2.1	4.0	9.7	5.0	5.0	5.2	6.0	2.4	1.2	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 SO_2 at Beaverlodge
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Beaverlodge - Sulphur Dioxide (SO_2) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 41.1 ppb on Nov 19 14:00

Maximum Daily Average: 4.5 ppb on Nov 19

Minimum Value: 0 ppb on Nov 15 19:00

Maximum Diurnal Average: 2.0 ppb at hour 14

Monthly Average: 0.85 ppb

Minimum Daily Average: 0.2 ppb on Nov 26

Minimum Diurnal Average: 0.5 ppb at hour 16

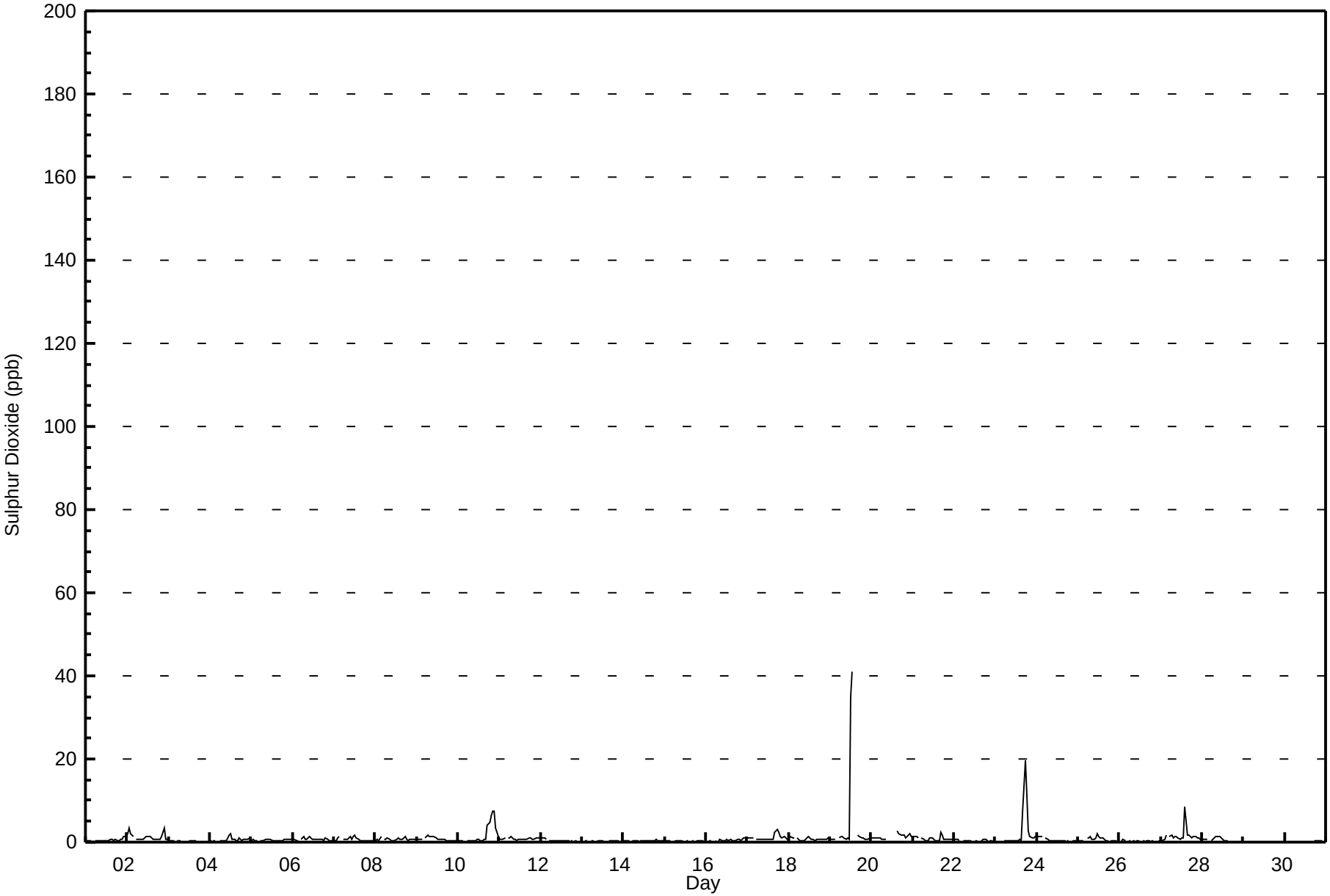
Percentiles: P_1 = 0.1 P_{10} = 0.2 Q_1 = 0.3 Median = 0.5 Q_3 = 0.8 P_{90} = 1.3 P_{99} = 6.6

Hours in Service:	720
Hours of Data:	637
Hours of Missing Data:	83
Hours of Calibration:	31
Percent Operational Time:	92.8

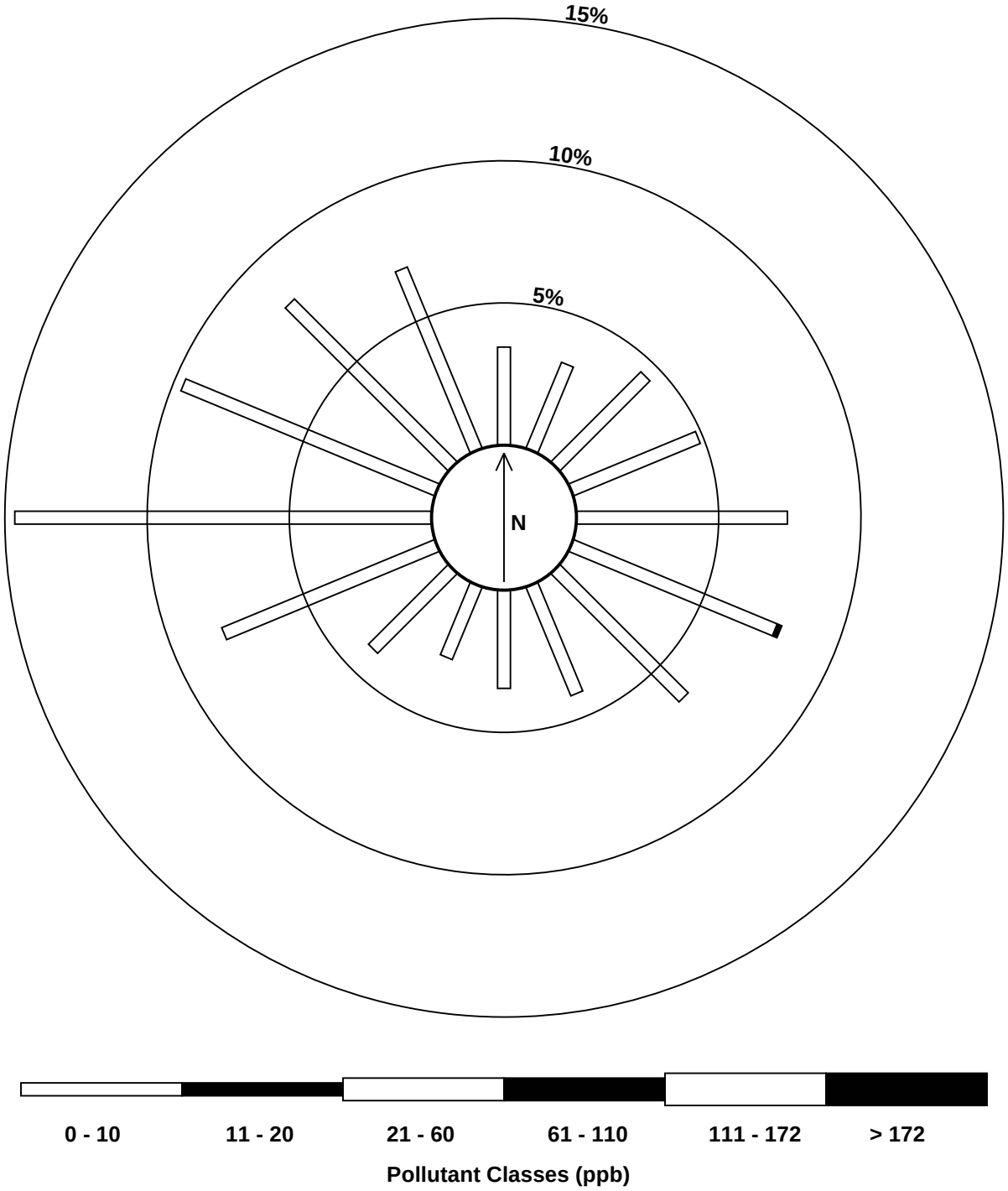
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	1	1	1	1	0.5	1.4
2-Nov	2	3	2	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	1	1	1.2	3.6
3-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
4-Nov	0	0	0	0	A	0	0	0	0	0	1	2	2	1	1	0	0	1	0	1	1	1	1	1	0.6	2.2
5-Nov	0	1	0	0	A	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	0.5	0.8
6-Nov	1	1	0	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0.7	1.3
7-Nov	0	0	1	1	A	1	1	1	1	1	1	1	2	1	1	0	0	0	0	0	0	0	0	0	0.7	1.8
8-Nov	0	1	0	2	A	1	1	1	1	0	0	1	1	1	1	1	1	1	1	0	1	1	1	1	0.7	1.5
9-Nov	1	1	1	1	A	1	2	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.7	1.8
10-Nov	0	0	0	0	A	0	0	0	0	0	0	1	1	0	0	1	1	4	5	7	7	7	4	1	1.8	7.4
11-Nov	1	1	1	1	A	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.3
12-Nov	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.1
13-Nov	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
14-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.3	0.6
15-Nov	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
16-Nov	0	0	0	0	A	0	0	0	1	0	0	0	1	0	1	0	0	0	1	1	0	1	1	1	0.4	1.2
17-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	2	3	2	1	1	1	1	1	1.0	2.9
18-Nov	1	1	1	1	A	1	0	0	0	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0.7	1.4
19-Nov	1	1	1	1	A	1	1	1	1	1	1	1	35	41	P	P	2	1	1	1	1	1	1	1	4.5	41.1
20-Nov	1	1	1	1	1	1	1	1	1	C	C	C	A	P	P	3	2	2	2	2	1	2	2	1	1.3	2.6
21-Nov	1	1	1	1	A	1	1	0	0	1	1	1	1	0	0	0	2	2	1	1	1	1	1	1	0.8	2.3
22-Nov	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0.3	0.6
23-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	7	20	12	3	1	1	1	1	2.2	19.8
24-Nov	1	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.5
25-Nov	0	0	0	0	A	1	1	1	1	1	1	2	1	1	1	1	0	0	0	0	0	0	0	0	0.6	2.1
26-Nov	0	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
27-Nov	0	0	1	2	A	1	2	1	1	1	1	1	1	1	8	2	2	1	1	1	1	1	1	1	1.4	8.3
28-Nov	1	1	1	1	A	0	1	1	1	1	1	1	1	0	0	0	0	P	P	P	P	P	P	P	--	1.4
29-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
30-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	0	0	0	0	0	0	--	0.4
	0.6	0.7	0.7	0.7	0.9	0.6	0.6	0.6	0.6	0.6	0.6	0.7	1.9	2.0	0.8	0.5	0.9	1.5	1.1	0.9	0.8	0.9	0.7	0.6	Diurnal Average	
	2.1	3.3	2.0	1.7	0.9	1.5	1.8	1.4	1.4	1.4	1.4	2.1	34.8	41.1	8.3	2.6	7.4	19.8	11.6	6.5	7.4	7.4	3.5	1.5	Diurnal Maximum	

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

Hourly Maximums for SO_2 at Beaverlodge
November 2008



Pollutant Rose for SO_2 at Beaverlodge
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge - Nitrogen Dioxide (NO_2) - ppb
November 1, 2008 to December 1, 2008

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 24.1 ppb on Nov 25 11:00
Maximum Daily Average: 13.2 ppb on Nov 8

Minimum Value: 1 ppb on Nov 22 14:00
Maximum Diurnal Average: 9.6 ppb at hour 5
Monthly Average: 6.73 ppb

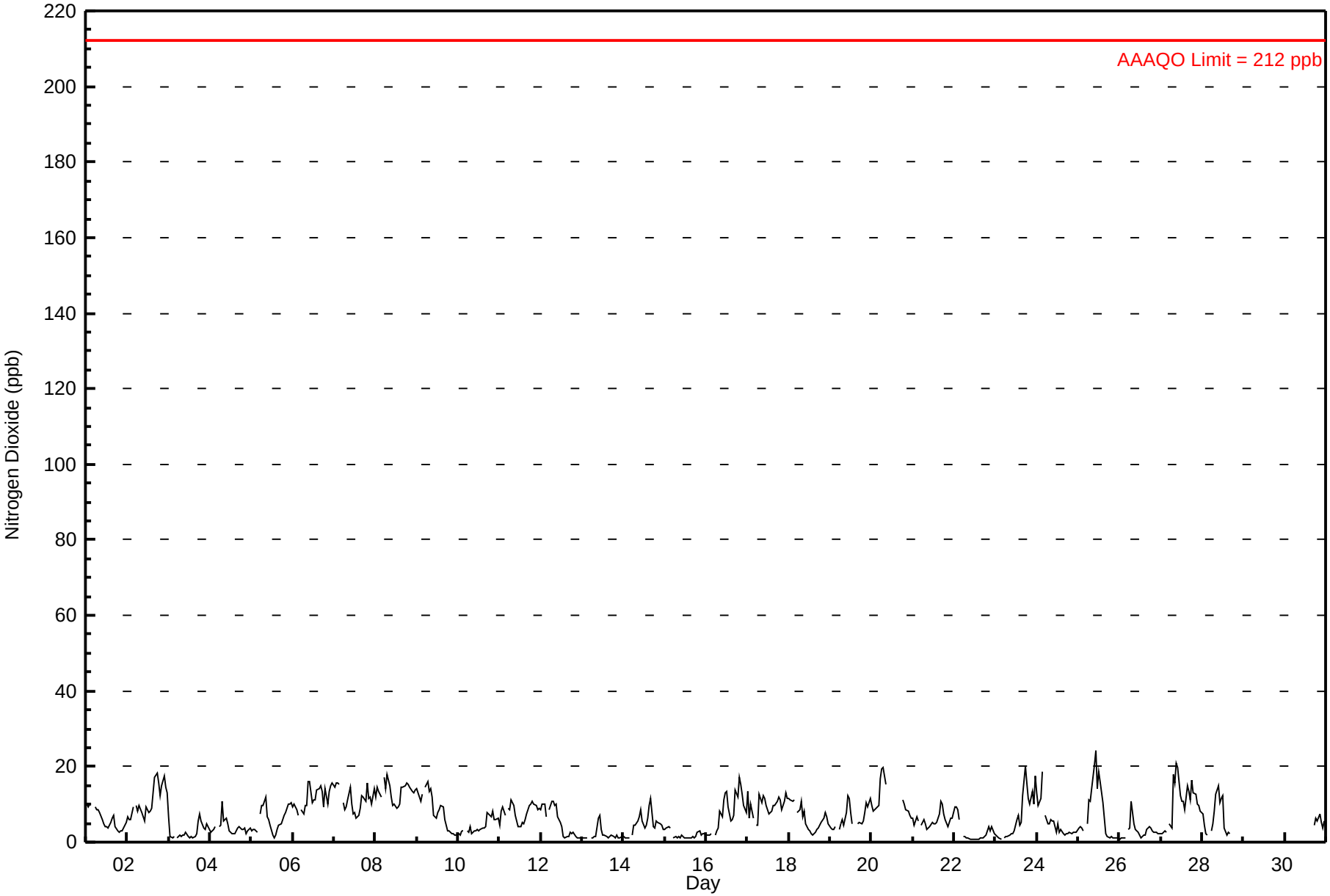
Minimum Daily Average: 1.9 ppb on Nov 13
Minimum Diurnal Average: 5.0 ppb at hour 15
Percentiles: P_1 = 0.9 P_{10} = 1.4 Q_1 = 2.8 Median = 5.8 Q_3 = 10.0 P_{90} = 13.5 P_{99} = 19.7

Hours in Service:	720
Hours of Data:	634
Hours of Missing Data:	86
Hours of Calibration:	31
Percent Operational Time:	92.4

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	10	9	10	10	A	9	8	9	8	6	5	4	4	4	5	6	7	4	3	3	3	3	4	5	6.1	10.1
2-Nov	7	6	6	9	A	10	8	10	8	7	6	9	8	8	9	13	17	18	16	12	15	17	15	13	10.7	18.2
3-Nov	7	2	1	1	A	1	2	1	2	2	3	1	1	1	1	1	2	5	7	5	4	3	5	4	2.8	7.3
4-Nov	3	3	3	4	A	4	5	11	6	6	5	3	3	2	2	3	4	4	3	3	4	2	3	4	3.9	10.7
5-Nov	3	3	3	2	A	8	10	10	12	7	6	5	2	1	2	3	4	5	6	7	8	10	10	10	6.0	12.0
6-Nov	9	10	8	7	A	9	7	10	10	16	16	10	11	11	14	14	15	14	9	14	10	14	15	16	11.7	16.1
7-Nov	15	16	15	15	A	10	9	9	11	15	10	7	8	7	7	9	12	12	11	16	12	12	10	14	11.4	15.7
8-Nov	12	14	13	12	A	17	14	18	15	12	10	10	9	9	10	14	14	15	16	15	14	13	13	14	13.2	17.8
9-Nov	14	13	11	13	A	14	16	13	14	12	7	6	8	9	10	9	6	5	3	3	2	2	2	2	8.4	16.0
10-Nov	2	2	3	3	A	3	3	4	2	3	3	3	3	3	4	4	4	8	7	7	8	6	6	6	4.2	8.1
11-Nov	4	8	9	7	A	9	9	11	10	7	6	4	4	5	5	6	7	10	10	11	10	10	9	9	7.8	11.2
12-Nov	9	10	10	7	A	9	11	11	10	10	7	5	4	1	1	1	2	3	2	3	1	1	1	1	5.2	10.9
13-Nov	1	1	1	1	A	1	1	1	1	6	7	3	2	2	2	1	2	2	1	1	2	1	1	2	1.9	6.9
14-Nov	1	1	1	1	A	2	4	4	6	7	9	6	4	4	6	10	11	4	4	6	5	5	4	3	4.8	11.4
15-Nov	3	4	4	4	A	1	1	1	1	1	2	1	1	1	1	1	1	1	2	3	3	2	2	2	1.9	4.0
16-Nov	2	2	2	2	A	2	3	4	8	7	11	13	13	9	6	6	7	14	12	17	15	13	10	8	8.1	17.1
17-Nov	13	6	10	6	A	5	4	13	10	12	11	10	8	8	8	10	10	11	12	11	9	11	13	12	9.7	13.3
18-Nov	12	11	11	11	A	8	9	11	7	8	5	3	3	2	2	3	3	4	4	5	6	8	7	5	6.4	11.7
19-Nov	4	3	3	4	A	3	5	6	4	8	12	12	8	5	P	P	5	5	5	6	8	10	9	12	6.5	12.4
20-Nov	10	8	8	9	10	17	20	20	15	C	C	C	C	P	P	P	P	P	11	10	9	8	7	6	--	19.8
21-Nov	7	4	7	6	A	5	6	5	3	4	4	5	5	5	5	7	11	10	7	6	4	5	6	6	5.8	10.9
22-Nov	9	9	9	6	A	2	2	1	1	1	1	1	1	1	1	1	1	1	2	3	4	3	4	2	2.8	9.4
23-Nov	2	2	1	1	A	1	2	2	2	2	2	3	6	7	5	5	12	20	16	11	10	13	10	17	6.6	20.1
24-Nov	13	10	12	19	A	7	5	5	6	6	6	3	5	3	4	2	2	2	2	3	2	3	3	3	5.3	18.6
25-Nov	4	4	4	3	A	5	11	11	14	21	24	14	19	16	11	6	2	1	1	2	1	1	1	1	7.6	24.1
26-Nov	1	1	1	1	A	3	4	11	5	3	3	2	1	1	2	2	3	4	4	3	3	3	2	2	2.8	10.8
27-Nov	2	2	3	3	A	5	4	18	15	21	20	12	11	11	8	15	13	11	17	13	13	10	10	8	10.7	21.1
28-Nov	7	4	2	2	A	3	5	8	13	15	11	11	12	4	2	3	2	P	P	P	P	P	P	P	--	15.0
29-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
30-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	4	6	5	7	5	4	6	--	7.3
	6.6	6.0	6.2	6.1	9.6	6.1	6.6	8.4	7.8	8.3	7.8	6.3	6.0	5.2	5.0	6.1	6.7	7.3	7.1	7.3	6.9	7.0	6.6	6.9	Diurnal Average	
	14.7	15.7	15.5	18.6	9.6	17.2	19.5	19.8	15.5	21.1	24.1	14.2	18.5	15.9	13.9	14.9	17.0	20.1	16.5	17.1	15.2	17.5	15.0	17.4	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 Beaverlodge
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Beaverlodge - Nitrogen Dioxide (NO_2) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 32.4 ppb on Nov 25 11:00

Maximum Daily Average: 16.5 ppb on Nov 27

Minimum Value: 1 ppb on Nov 22 15:00

Minimum Daily Average: 3.4 ppb on Nov 15

Maximum Diurnal Average: 13.3 ppb at hour 10

Minimum Diurnal Average: 7.3 ppb at hour 15

Monthly Average: 9.55 ppb

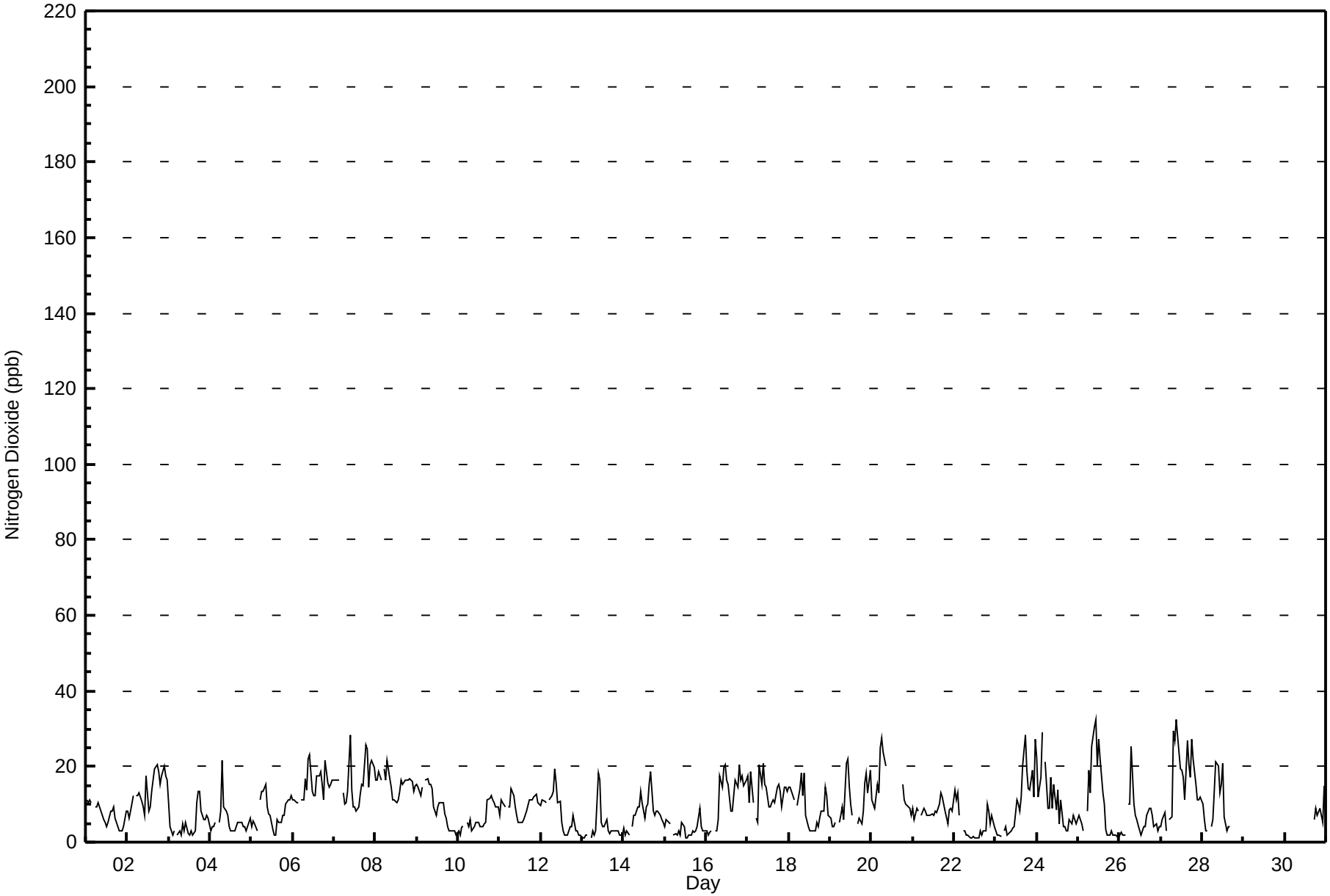
Percentiles: P_1 = 1.0 P_{10} = 3.0 Q_1 = 4.1 Median = 8.5 Q_3 = 13.4 P_{90} = 18.3 P_{99} = 27.8

Hours in Service:	720
Hours of Data:	634
Hours of Missing Data:	86
Hours of Calibration:	31
Percent Operational Time:	92.4

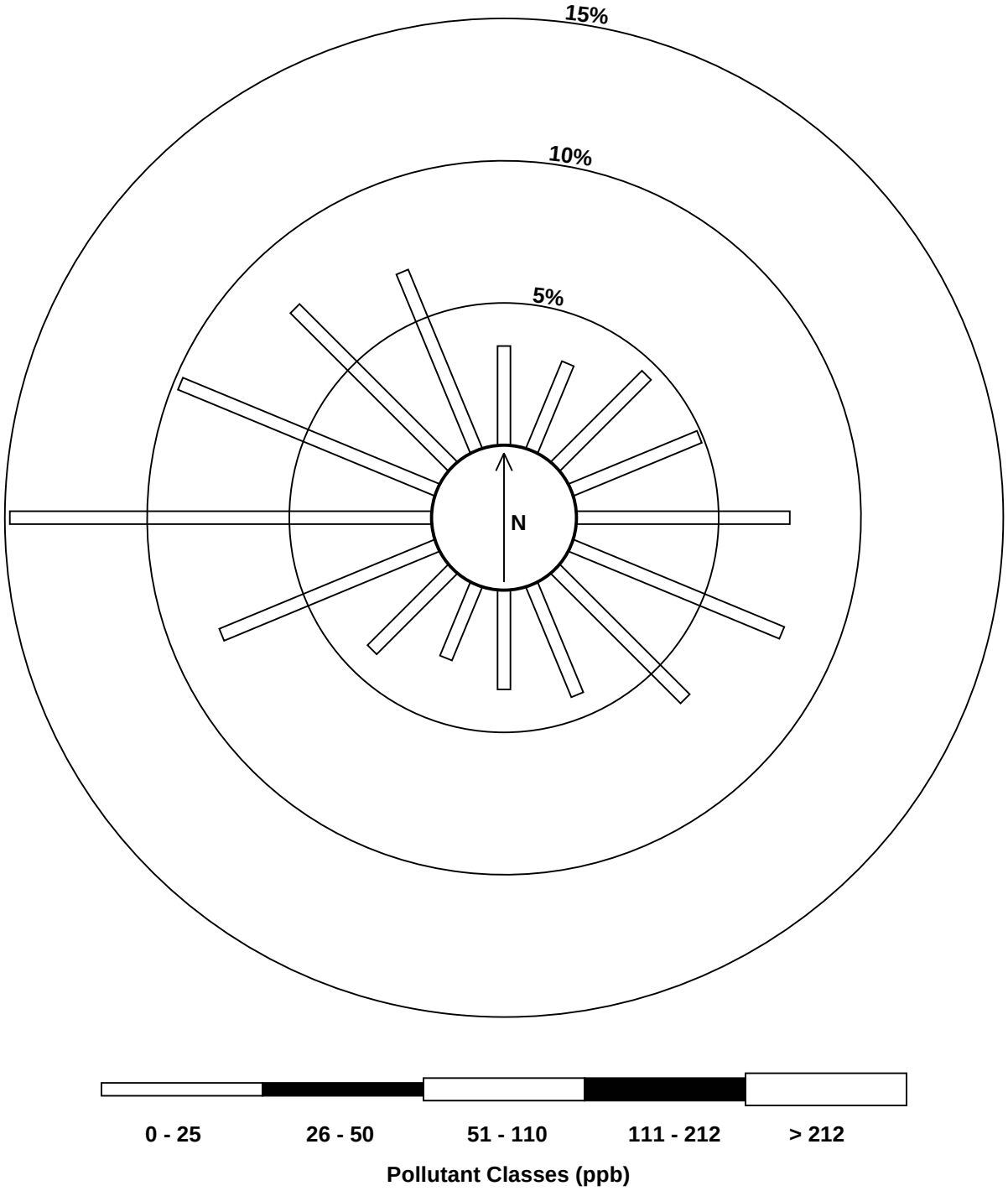
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	11	10	11	10	A	9	9	10	9	7	6	5	4	5	8	8	9	6	4	3	3	3	4	8	7.2	11.4
2-Nov	8	6	8	12	A	12	12	13	11	9	7	18	8	9	13	16	20	21	19	15	18	20	18	16	13.5	20.6
3-Nov	10	4	2	3	A	2	3	2	5	3	5	2	2	3	2	3	10	13	13	8	6	6	7	6	5.3	13.4
4-Nov	3	4	4	5	A	5	8	22	9	8	7	4	3	3	3	4	5	5	5	4	4	3	4	6	5.7	21.6
5-Nov	4	5	5	3	A	11	13	13	15	9	8	7	3	2	2	6	5	5	7	7	10	11	11	12	7.7	15.4
6-Nov	11	11	10	10	A	11	11	17	14	22	23	13	12	12	18	18	19	15	11	22	16	14	15	16	15.0	23.0
7-Nov	16	16	16	16	A	13	10	10	13	28	14	9	9	8	9	13	15	15	26	25	14	21	22	20	15.7	28.2
8-Nov	16	16	19	16	A	20	16	22	17	14	11	11	10	11	13	16	15	16	16	16	17	16	13	15	15.5	21.6
9-Nov	15	14	12	14	A	16	17	15	15	14	9	7	9	10	10	10	8	6	4	3	3	3	3	2	9.7	16.9
10-Nov	3	2	4	4	A	5	4	6	3	4	5	5	5	4	4	5	5	11	12	12	11	10	9	9	6.3	12.3
11-Nov	7	11	10	9	A	9	9	14	12	9	7	5	5	5	6	7	8	11	11	11	12	13	10	10	9.4	14.1
12-Nov	10	11	11	10	A	11	12	13	20	16	10	11	5	3	2	2	3	4	4	7	3	3	2	2	7.7	19.6
13-Nov	1	1	2	2	A	1	3	2	3	18	16	5	4	4	6	3	2	3	3	3	3	3	2	2	4.1	18.1
14-Nov	4	2	3	2	A	4	7	7	9	9	13	10	6	9	10	15	19	8	7	8	8	7	6	5	7.9	18.5
15-Nov	4	6	5	5	A	2	2	2	3	2	5	4	1	1	2	2	3	3	3	4	9	4	3	3	3.4	8.8
16-Nov	3	2	3	3	A	3	3	6	17	14	20	21	16	15	8	8	12	16	14	21	16	18	15	16	11.8	20.6
17-Nov	18	10	19	11	A	6	5	21	15	21	15	14	9	9	10	11	10	14	15	13	9	14	14	13	13.0	20.7
18-Nov	14	14	12	11	A	10	14	18	12	18	7	4	3	3	3	3	5	4	6	8	8	14	12	7	9.3	18.4
19-Nov	6	4	4	5	A	5	7	9	6	21	22	15	10	7	P	P	5	6	5	8	16	18	13	19	10.1	22.1
20-Nov	11	10	9	15	13	25	28	24	20	C	C	C	C	P	P	P	P	P	15	11	10	9	9	7	--	27.5
21-Nov	9	6	9	8	A	7	9	8	7	7	7	7	7	8	8	10	13	12	10	8	5	9	9	8	8.3	13.1
22-Nov	14	11	13	7	A	3	3	2	2	1	1	1	1	1	1	3	2	3	3	10	8	5	7	4	4.6	13.9
23-Nov	3	2	2	1	A	3	4	2	3	3	4	4	11	10	8	12	20	28	19	14	14	19	12	27	9.8	28.3
24-Nov	22	12	17	29	A	21	9	9	17	9	15	9	14	5	11	4	4	3	3	6	5	7	6	5	10.5	29.0
25-Nov	7	6	5	3	A	8	19	13	25	31	32	20	27	22	13	10	3	2	2	3	2	2	2	1	11.3	32.4
26-Nov	2	3	2	2	A	10	10	25	10	7	6	5	2	3	4	4	7	9	9	7	4	5	3	4	6.2	25.3
27-Nov	4	6	8	3	A	6	7	29	27	32	28	19	19	17	11	27	21	17	27	22	15	11	11	12	16.5	32.4
28-Nov	10	6	3	3	A	4	6	13	21	20	13	15	21	7	3	4	4	P	P	P	P	P	P	P	--	21.2
29-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
30-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	6	9	7	9	7	5	15	--	14.8
	8.9	7.7	8.2	8.1	13.1	8.7	9.4	12.5	12.2	13.3	11.8	9.3	8.5	7.4	7.3	8.7	9.4	9.8	10.2	10.3	9.3	9.9	8.9	9.8	Diurnal Average	
	22.2	16.5	18.6	29.0	13.1	25.0	27.5	29.3	26.8	32.4	32.4	20.6	27.0	22.2	17.5	27.0	20.5	28.3	27.1	24.8	17.5	20.6	21.6	27.1	Diurnal Maximum	

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

Hourly Maximums for NO_2 at Beaverlodge
November 2008



Pollutant Rose for NO_2 at Beaverlodge
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge - Nitrogen Oxide (NO) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 61.3 ppb on Nov 6 11:00

Maximum Daily Average: 10.2 ppb on Nov 6

Minimum Value: 0 ppb on Nov 1 18:00

Minimum Daily Average: 0.0 ppb on Nov 15

Maximum Diurnal Average: 8.2 ppb at hour 11

Minimum Diurnal Average: 0.0 ppb at hour 5

Monthly Average: 2.25 ppb

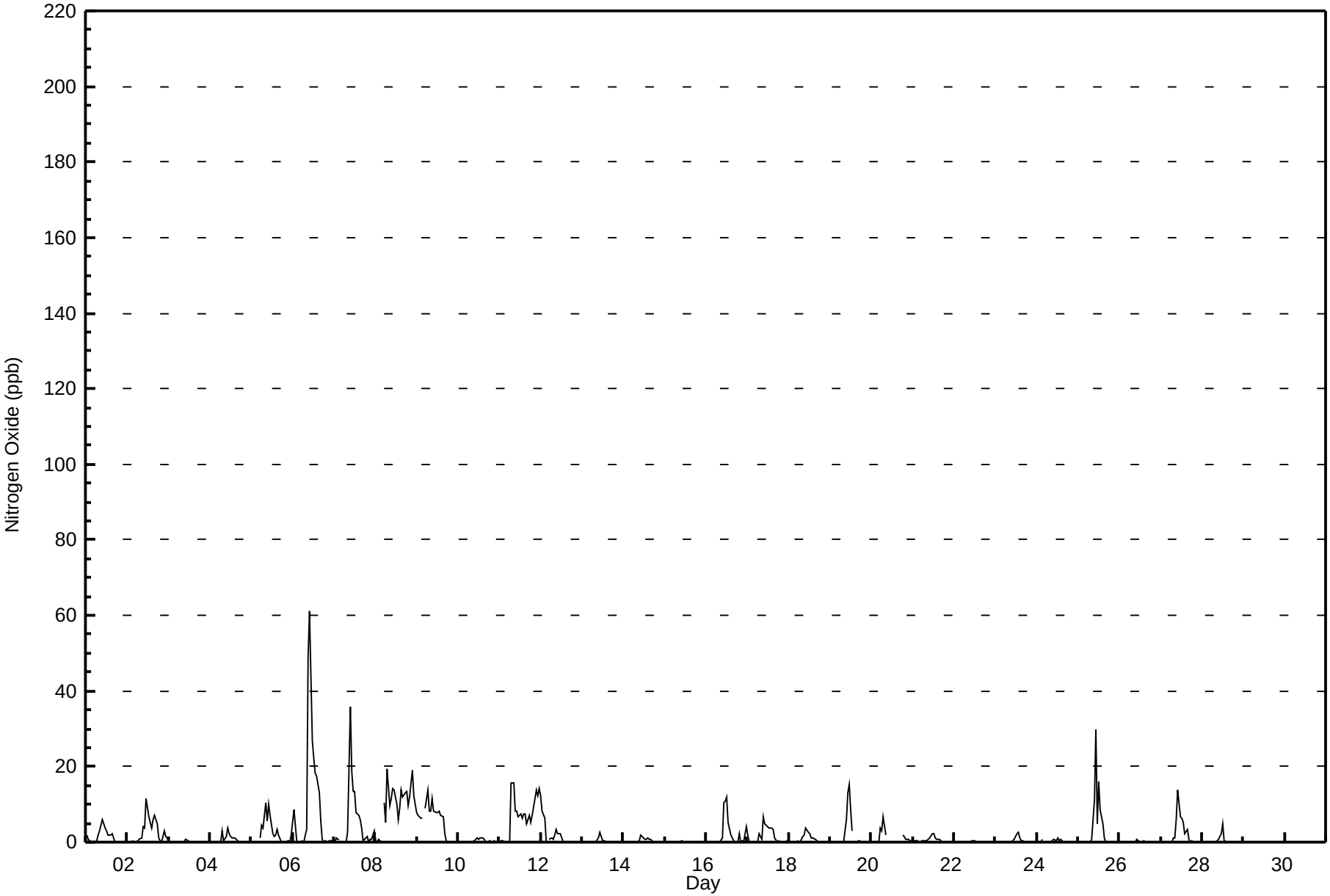
Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.1 $Q_3 = 1.9$ $P_{90} = 7.8$ $P_{99} = 18.8$

Hours in Service:	720
Hours of Data:	634
Hours of Missing Data:	86
Hours of Calibration:	31
Percent Operational Time:	92.4

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	2	1	0	0	A	0	1	2	3	6	5	4	3	2	2	2	1	0	0	0	0	0	0	0	1.4	5.9
2-Nov	0	0	0	0	A	1	0	1	1	4	4	12	7	5	4	6	7	5	1	0	0	3	1	1	2.8	11.7
3-Nov	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.9
4-Nov	0	0	0	0	A	0	0	3	0	2	4	2	1	1	1	1	0	0	0	0	0	0	0	0	0.7	3.8
5-Nov	0	0	0	0	A	1	4	4	10	6	10	7	2	2	2	3	2	0	0	0	0	0	0	2	2.4	10.3
6-Nov	5	8	0	0	A	0	0	2	3	49	61	27	22	18	17	13	6	1	0	1	0	0	0	0	10.2	61.3
7-Nov	0	1	1	1	A	0	0	0	3	36	19	13	13	8	7	6	4	0	1	2	0	1	1	3	5.2	35.7
8-Nov	0	0	1	0	A	10	5	19	10	11	14	14	10	6	9	14	12	13	13	10	12	19	12	10	9.8	19.5
9-Nov	8	7	6	6	A	9	14	8	8	12	8	8	8	8	7	7	2	0	0	0	0	0	0	0	5.5	13.9
10-Nov	0	0	0	0	A	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.3	1.1
11-Nov	0	0	0	0	A	0	0	16	16	8	8	7	8	6	7	7	5	7	5	7	9	14	12	14	6.9	15.8
12-Nov	12	8	6	0	A	1	1	1	2	3	2	2	1	0	0	0	0	0	0	0	0	0	0	0	1.8	12.3
13-Nov	0	0	0	0	A	0	0	0	0	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	2.5
14-Nov	0	0	0	0	A	0	0	0	0	0	2	2	1	1	1	1	1	0	0	0	0	0	0	0	0.3	1.8
15-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.3
16-Nov	0	0	0	0	A	0	0	0	0	1	10	11	12	5	2	1	0	0	0	2	0	0	0	4	2.1	11.8
17-Nov	2	0	0	0	A	0	0	2	1	7	5	4	4	4	4	4	1	0	0	0	0	0	0	0	1.6	6.8
18-Nov	0	0	0	0	A	0	0	1	1	2	4	3	2	1	1	1	0	0	0	0	0	0	0	0	0.7	3.7
19-Nov	0	0	0	0	A	0	0	0	0	6	13	15	9	3	P	P	1	0	0	0	0	0	0	0	2.2	15.2
20-Nov	0	0	0	0	0	4	3	7	2	C	C	C	C	P	P	P	P	P	2	2	1	1	1	1	--	6.7
21-Nov	1	0	0	0	A	0	0	0	0	1	1	2	2	1	1	1	0	0	0	0	0	0	0	0	0.6	2.3
22-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
23-Nov	0	0	0	0	A	0	0	0	0	0	0	1	2	3	1	0	0	0	0	0	0	0	0	0	0.3	2.6
24-Nov	0	0	0	1	A	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0.2	1.0
25-Nov	0	0	0	0	A	0	0	0	1	11	30	5	16	8	5	1	0	0	0	0	0	0	0	0	3.3	29.8
26-Nov	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
27-Nov	0	0	0	0	A	0	0	1	1	6	14	7	6	5	2	3	1	0	1	0	0	0	0	0	2.1	14.0
28-Nov	0	0	0	0	A	0	0	0	0	1	1	2	5	0	0	0	0	P	P	P	P	P	P	P	--	4.8
29-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
30-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	0	0	0	0	0	0	--	0.0
	1.1	0.9	0.6	0.3	0.0	1.0	1.0	2.4	2.2	6.4	8.2	5.6	5.0	3.3	2.9	2.7	1.6	1.0	0.9	0.8	0.8	1.4	1.0	1.3	Diurnal Average	
	12.3	8.5	6.4	6.3	0.0	10.4	13.9	19.5	15.7	48.7	61.3	26.8	22.5	18.2	17.5	13.7	11.9	13.2	13.3	9.6	12.0	18.9	12.3	14.0	Diurnal Maximum	

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

Hourly Averages for NO at Beaverlodge
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Beaverlodge - Nitrogen Oxide (NO) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 110.6 ppb on Nov 7 10:00

Maximum Daily Average: 18.5 ppb on Nov 6

Minimum Value: 0 ppb on Nov 2 02:00

Maximum Diurnal Average: 15.8 ppb at hour 10

Monthly Average: 4.75 ppb

Minimum Daily Average: 0.4 ppb on Nov 15

Minimum Diurnal Average: 0.1 ppb at hour 5

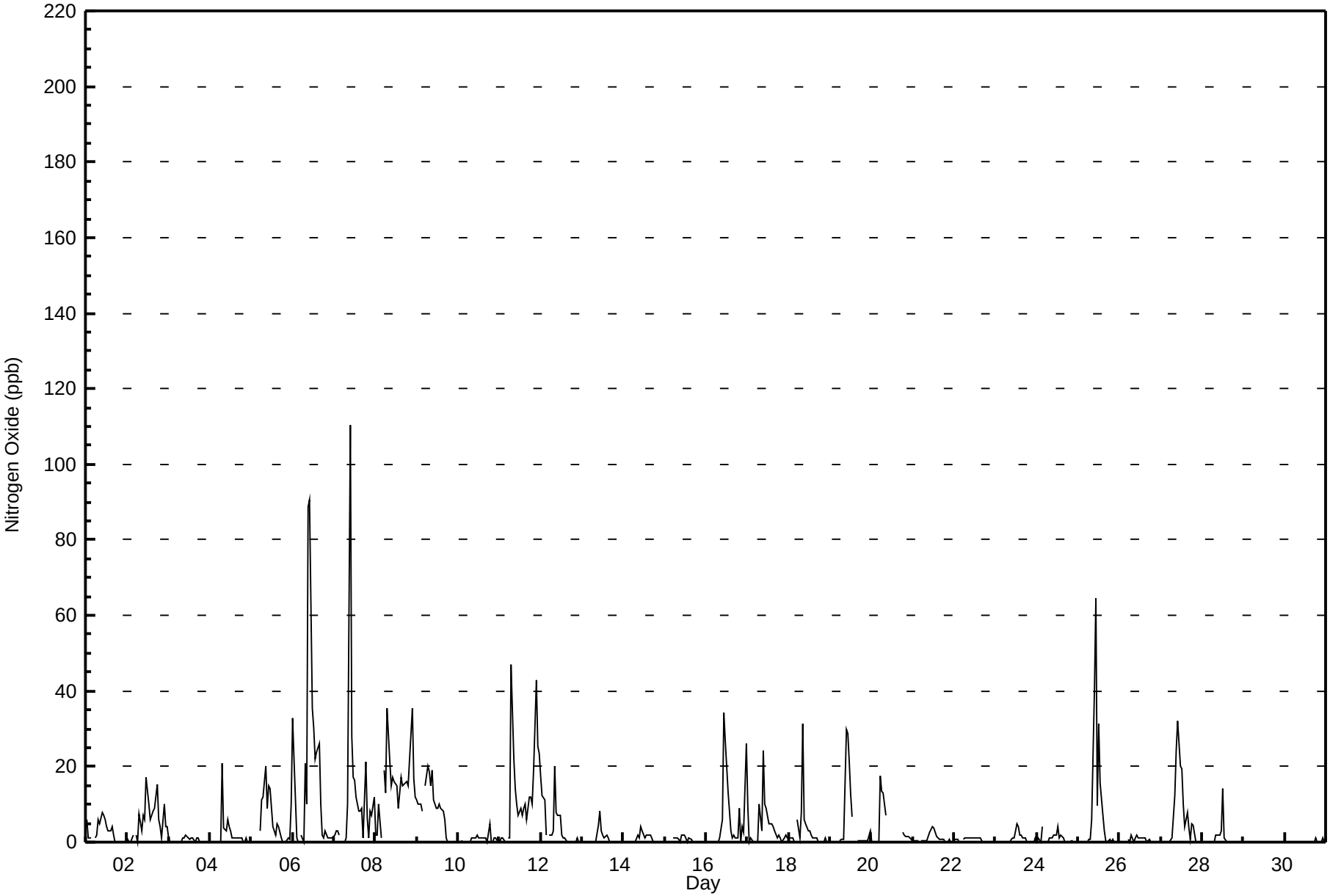
Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 1.0 $Q_3 = 5.0$ $P_{90} = 15.0$ $P_{99} = 39.1$

Hours in Service:	720
Hours of Data:	634
Hours of Missing Data:	86
Hours of Calibration:	31
Percent Operational Time:	92.4

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	6	1	1	1	A	1	2	6	5	8	7	6	4	3	3	4	2	0	0	0	0	0	0	0	2.6	8.0
2-Nov	1	0	0	2	A	2	0	8	3	7	6	17	10	6	7	8	9	15	6	4	1	10	4	4	5.6	17.1
3-Nov	1	0	0	0	A	0	0	0	1	1	2	1	1	1	1	0	1	1	0	0	0	0	0	0	0.5	2.0
4-Nov	0	0	0	0	A	0	0	21	4	3	6	4	3	1	1	1	1	1	1	0	0	1	0	0	2.1	20.9
5-Nov	0	0	0	0	A	3	11	12	20	9	15	14	4	3	2	5	4	1	0	0	0	1	1	10	5.0	20.1
6-Nov	33	22	1	0	A	2	0	21	10	89	91	35	30	22	24	26	10	2	1	3	1	1	1	1	18.5	90.7
7-Nov	2	3	3	2	A	0	0	1	10	111	28	17	16	12	8	8	9	1	21	6	1	8	7	12	12.5	110.6
8-Nov	2	2	10	1	A	19	13	35	21	15	17	16	15	9	13	17	15	16	16	15	22	36	17	12	15.4	35.6
9-Nov	11	10	10	8	A	15	20	19	15	19	11	9	9	10	9	8	6	1	0	0	0	0	0	0	8.3	20.1
10-Nov	0	0	0	0	A	0	0	0	1	1	1	2	1	1	1	1	1	0	5	0	0	1	1	0	0.8	5.0
11-Nov	0	1	1	0	A	1	1	47	22	14	10	7	9	7	9	10	6	12	12	10	19	43	25	24	12.6	47.0
12-Nov	17	12	11	2	A	2	2	3	20	8	7	7	2	1	1	0	0	0	0	0	0	1	0	0	4.2	20.1
13-Nov	0	0	0	0	A	0	0	0	0	5	8	3	2	1	2	1	0	0	0	0	0	0	0	0	0.9	8.0
14-Nov	0	0	0	0	A	0	0	0	2	1	4	3	1	2	2	2	2	0	0	0	0	0	0	0	0.8	4.0
15-Nov	0	0	0	0	A	1	1	1	1	0	2	2	1	0	1	1	0	0	0	0	0	0	0	0	0.4	2.0
16-Nov	0	0	0	0	A	0	0	0	1	6	34	27	20	13	3	1	2	1	1	9	0	4	3	26	6.6	34.2
17-Nov	10	0	1	0	A	0	0	10	3	24	10	9	5	5	5	4	3	1	2	1	0	1	2	1	4.2	24.1
18-Nov	1	1	1	0	A	6	1	8	31	6	5	3	3	2	1	1	1	0	0	0	0	1	0	0	3.1	31.4
19-Nov	0	0	0	0	A	0	1	1	1	30	29	21	13	7	P	P	1	1	1	0	0	0	0	3	5.1	29.9
20-Nov	0	0	0	0	0	18	14	13	7	C	C	C	C	P	P	P	P	P	3	2	2	2	1	1	--	17.6
21-Nov	1	1	0	0	A	0	0	0	1	2	3	4	4	3	2	1	1	1	1	0	0	1	0	0	1.0	3.9
22-Nov	1	1	1	0	A	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.6	1.0
23-Nov	0	0	0	0	A	0	0	0	0	1	1	1	5	4	2	2	1	1	0	0	0	0	0	1	0.8	5.0
24-Nov	0	1	0	4	A	0	0	1	1	1	2	2	4	1	2	1	0	0	0	0	1	0	0	0	0.9	4.0
25-Nov	0	0	0	0	A	0	1	1	6	41	65	10	31	16	7	3	0	0	1	0	1	0	0	0	7.9	64.7
26-Nov	0	0	0	0	A	1	0	2	0	1	2	1	1	1	1	1	0	1	0	0	0	0	0	0	0.5	1.9
27-Nov	0	0	0	0	A	0	1	7	12	24	32	20	19	10	4	8	4	1	5	5	0	0	0	0	6.6	32.2
28-Nov	0	0	0	0	A	0	0	0	2	2	2	3	14	1	0	0	0	P	P	P	P	P	P	P	--	14.1
29-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
30-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	0	0	0	1	0	--	0.9
	3.0	1.9	1.5	0.7	0.1	2.6	2.4	7.8	7.2	15.8	14.8	9.1	8.5	5.3	4.3	4.4	2.9	2.1	2.7	2.0	1.7	3.9	2.3	3.4	Diurnal Average	
	32.9	21.9	11.1	8.0	0.1	19.1	20.1	47.0	31.4	110.6	90.7	35.3	31.4	22.1	23.9	26.2	15.1	15.7	21.1	15.0	22.1	42.7	25.5	26.1	Diurnal Maximum	

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

Hourly Maximums for NO at Beaverlodge
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge - Oxides of Nitrogen (NO_X) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 77.7 ppb on Nov 6 11:00

Maximum Daily Average: 23.0 ppb on Nov 8

Minimum Value: 1 ppb on Nov 26 00:00

Minimum Daily Average: 2.0 ppb on Nov 15

Maximum Diurnal Average: 16.1 ppb at hour 11

Minimum Diurnal Average: 6.3 ppb at hour 4

Monthly Average: 9.01 ppb

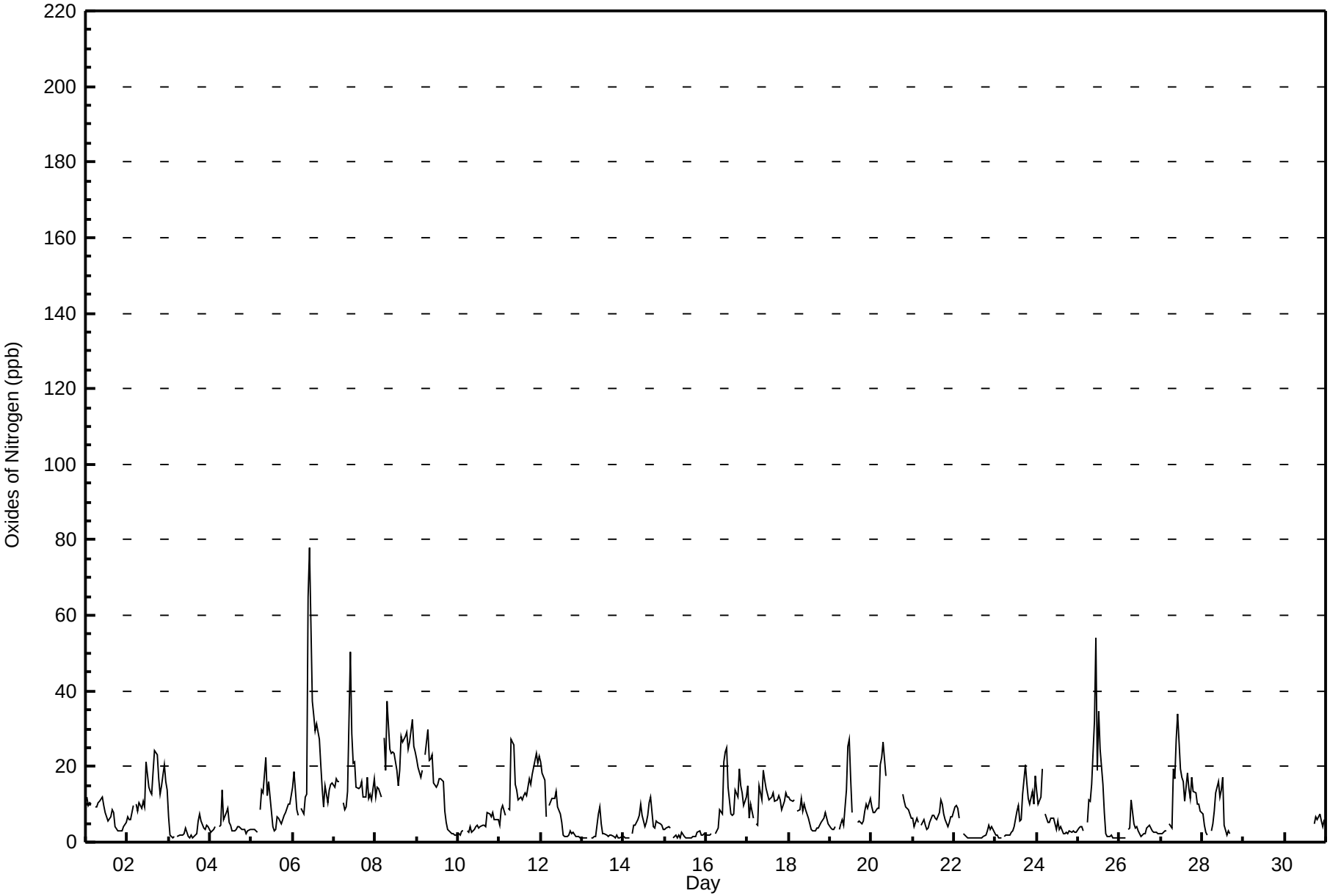
Percentiles: P_1 = 1.0 P_{10} = 1.6 Q_1 = 3.0 Median = 6.5 Q_3 = 12.3 P_{90} = 19.3 P_{99} = 37.2

Hours in Service:	720
Hours of Data:	634
Hours of Missing Data:	86
Hours of Calibration:	31
Percent Operational Time:	92.4

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	12	10	10	10	A	9	9	10	11	12	10	8	7	6	7	9	8	4	3	3	3	3	4	5	7.5	11.9
2-Nov	7	6	6	10	A	10	8	11	9	11	9	21	14	14	13	19	24	23	17	13	15	20	16	14	13.4	24.3
3-Nov	7	2	1	1	A	2	2	2	2	2	4	2	1	2	1	2	2	6	7	5	4	3	5	4	3.0	7.4
4-Nov	3	3	3	4	A	4	5	14	6	8	9	5	4	3	3	3	4	4	3	3	4	2	3	4	4.6	13.7
5-Nov	3	3	3	2	A	9	14	13	22	12	16	12	4	3	3	7	7	5	6	7	8	10	10	12	8.4	22.2
6-Nov	15	18	8	7	A	9	7	12	13	65	78	37	34	29	32	27	21	14	9	15	10	14	15	16	22.0	77.7
7-Nov	15	17	16	16	A	10	8	9	13	50	29	21	21	14	14	15	16	12	12	17	12	13	11	17	16.5	50.5
8-Nov	12	14	14	12	A	28	19	37	25	23	24	24	19	15	19	28	26	28	29	25	26	32	25	24	23.0	37.2
9-Nov	22	20	17	19	A	23	30	22	22	23	16	14	15	17	17	16	8	5	3	3	2	2	2	2	14.0	29.7
10-Nov	2	2	3	3	A	3	3	4	2	3	4	4	4	4	5	5	4	8	8	7	8	6	6	6	4.5	8.0
11-Nov	4	8	10	7	A	9	9	27	26	15	14	11	12	11	12	13	12	17	15	18	20	24	21	23	14.7	27.2
12-Nov	21	18	16	7	A	10	12	12	12	13	9	8	5	2	1	2	2	3	2	3	2	1	1	1	7.0	21.1
13-Nov	1	1	1	1	A	1	1	2	2	7	9	5	2	2	2	1	2	2	1	1	2	1	1	2	2.2	9.4
14-Nov	1	1	1	1	A	2	5	5	6	7	10	7	4	5	7	10	12	4	4	6	5	5	4	3	5.1	11.8
15-Nov	3	4	4	4	A	1	2	1	2	1	2	1	1	1	1	1	1	1	2	3	3	2	2	2	2.0	4.0
16-Nov	2	2	2	2	A	2	3	4	8	8	21	24	25	15	7	7	7	14	12	19	15	13	10	12	10.2	25.1
17-Nov	15	6	10	6	A	5	5	15	11	19	16	14	11	12	12	13	11	11	12	11	9	11	13	12	11.3	18.9
18-Nov	12	11	11	11	A	8	9	12	8	10	9	6	5	3	3	3	4	4	4	5	6	8	7	5	7.1	11.8
19-Nov	4	3	3	4	A	3	5	6	4	14	25	27	17	8	P	P	5	5	5	6	8	10	9	12	8.7	27.1
20-Nov	9	8	8	9	9	21	22	27	18	C	C	C	C	P	P	P	P	P	13	11	9	8	7	6	--	26.6
21-Nov	6	4	6	5	A	4	6	5	3	4	5	7	7	6	6	8	11	10	7	6	4	5	7	7	6.1	11.0
22-Nov	9	10	9	6	A	2	2	1	1	1	1	1	1	1	1	1	1	1	2	3	4	3	4	3	3.1	9.6
23-Nov	2	2	1	1	A	2	2	2	2	3	3	4	8	10	6	6	13	20	16	12	10	14	10	18	7.1	20.4
24-Nov	13	10	12	19	A	7	5	5	6	6	7	3	6	3	4	2	2	3	2	3	2	3	3	3	5.7	19.4
25-Nov	4	4	4	3	A	5	11	11	15	32	54	19	35	24	15	8	2	2	1	2	1	1	1	1	11.1	54.0
26-Nov	1	1	1	1	A	4	4	11	5	4	4	3	1	2	2	2	4	4	4	3	3	3	2	2	3.1	11.2
27-Nov	2	2	3	3	A	5	4	19	17	27	34	19	17	16	11	18	14	12	17	13	13	10	10	8	12.8	33.9
28-Nov	7	5	2	2	A	3	5	8	13	16	12	14	17	4	2	3	2	P	P	P	P	P	P	P	--	17.0
29-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
30-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	5	7	6	8	6	4	6	--	7.6
	7.7	7.0	6.7	6.3	9.1	7.2	7.7	10.9	10.1	14.7	16.1	12.0	11.0	8.6	7.9	8.8	8.4	8.4	8.0	8.2	7.7	8.4	7.6	8.1	Diurnal Average	
	22.1	19.8	17.2	19.4	9.1	27.6	29.7	37.2	25.6	64.9	77.7	37.3	34.6	29.4	31.5	28.1	26.3	28.1	29.1	24.7	26.4	32.4	25.4	23.9	Diurnal Maximum	

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

Hourly Averages for NO_X at Beaverlodge
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Beaverlodge - Oxides of Nitrogen (NO_X) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 135.0 ppb on Nov 7 10:00

Maximum Daily Average: 32.7 ppb on Nov 6

Minimum Value: 1 ppb on Nov 13 06:00

Maximum Diurnal Average: 28.5 ppb at hour 10

Monthly Average: 14.01 ppb

Minimum Daily Average: 3.9 ppb on Nov 15

Minimum Diurnal Average: 8.6 ppb at hour 4

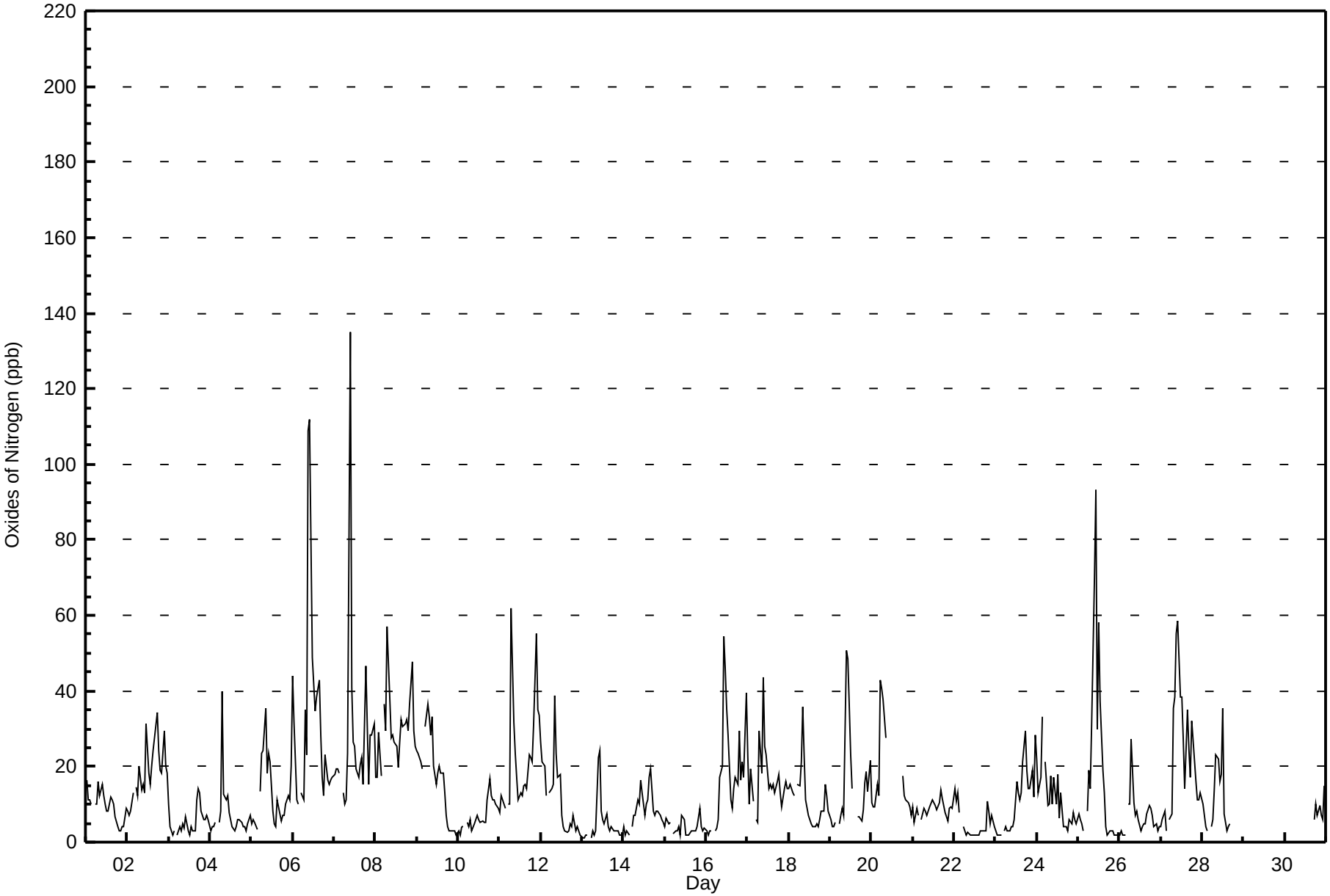
Percentiles: P_1 = 1.9 P_{10} = 3.0 Q_1 = 5.0 Median = 10.1 Q_3 = 18.2 P_{90} = 31.1 P_{99} = 54.7

Hours in Service:	720
Hours of Data:	634
Hours of Missing Data:	86
Hours of Calibration:	31
Percent Operational Time:	92.4

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	16	11	11	10	A	10	10	16	12	15	12	10	8	8	12	11	10	7	4	3	3	4	4	9	9.5	16.2
2-Nov	8	7	8	13	A	15	12	20	14	15	13	31	18	15	20	24	27	34	24	19	18	29	20	18	18.6	34.5
3-Nov	10	4	2	3	A	2	4	3	5	4	7	3	2	4	3	3	11	14	13	8	6	6	7	6	5.7	14.2
4-Nov	3	4	4	5	A	5	8	40	13	11	12	8	6	4	3	4	6	6	5	4	4	3	5	7	7.4	39.9
5-Nov	5	6	5	3	A	13	23	24	36	18	23	21	8	5	4	11	9	6	7	7	10	12	11	20	12.6	35.5
6-Nov	44	32	11	10	A	13	11	35	23	109	112	49	42	35	39	43	28	17	12	23	17	15	16	17	32.7	111.9
7-Nov	18	19	19	18	A	13	10	11	23	135	41	26	25	19	17	21	22	15	47	30	15	28	28	31	27.6	135.0
8-Nov	17	17	29	18	A	37	29	57	38	27	28	26	25	20	26	33	30	31	32	29	37	48	29	25	30.0	56.9
9-Nov	24	23	21	19	A	30	37	33	28	33	20	15	18	20	18	18	13	7	4	3	3	3	3	2	17.4	36.6
10-Nov	3	2	4	4	A	5	4	6	3	5	6	7	6	5	6	5	5	11	17	12	11	11	10	9	6.9	16.9
11-Nov	8	12	11	9	A	10	10	62	32	23	17	11	13	12	15	15	14	23	22	21	31	55	35	34	21.6	61.8
12-Nov	26	21	20	12	A	13	14	15	39	23	17	18	7	4	3	3	3	5	4	7	3	4	3	2	11.6	39.0
13-Nov	1	1	2	2	A	1	3	2	3	22	24	8	6	5	7	4	3	4	3	3	3	3	2	2	5.0	24.3
14-Nov	4	2	3	2	A	4	7	7	11	10	16	13	7	10	11	17	19	8	7	8	8	7	6	5	8.4	19.2
15-Nov	4	6	5	5	A	2	3	3	4	2	7	6	2	2	2	3	3	3	3	4	9	4	3	4	3.9	9.0
16-Nov	3	2	3	3	A	3	4	6	17	20	55	46	35	28	11	9	14	17	15	29	17	21	17	40	18.1	54.6
17-Nov	23	10	19	11	A	6	5	29	18	44	25	23	14	15	14	15	13	16	18	13	9	14	16	14	16.8	43.7
18-Nov	14	15	13	12	A	15	15	21	36	23	11	7	6	5	4	4	5	4	6	8	8	15	12	8	11.7	35.8
19-Nov	6	4	4	5	A	5	7	9	7	51	49	36	23	14	P	P	7	7	6	9	16	19	14	22	15.0	50.6
20-Nov	10	9	9	15	12	43	41	38	27	C	C	C	C	P	P	P	P	P	17	12	11	10	9	7	--	42.8
21-Nov	9	5	9	7	A	6	9	8	7	8	9	11	10	10	8	11	14	12	10	8	6	9	9	9	8.9	13.6
22-Nov	14	11	13	8	A	4	3	2	3	2	2	2	2	2	2	3	3	3	3	11	8	5	7	4	5.1	14.3
23-Nov	3	2	2	2	A	3	4	3	3	4	4	6	16	13	11	13	21	29	19	14	14	19	12	28	10.7	29.3
24-Nov	22	13	17	33	A	21	10	10	18	10	17	10	18	6	13	4	4	4	3	6	5	8	6	5	11.4	33.0
25-Nov	8	6	5	3	A	8	19	14	31	70	93	30	58	37	19	13	4	2	3	3	3	2	2	2	19.0	93.2
26-Nov	2	3	2	2	A	10	10	27	10	7	8	6	3	4	5	5	7	10	9	7	4	5	3	4	6.7	27.3
27-Nov	4	6	8	3	A	6	7	35	38	55	59	38	38	27	14	35	25	17	32	27	16	11	11	13	22.9	58.6
28-Nov	10	7	4	3	A	4	6	14	23	22	16	18	35	7	3	4	5	P	P	P	P	P	P	P	--	35.3
29-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
30-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	6	10	7	10	7	6	15	--	15.1
	11.5	9.4	9.5	8.6	12.3	11.0	11.6	19.7	18.7	28.5	26.1	18.1	16.8	12.5	11.2	12.8	12.1	11.8	12.7	12.1	10.9	13.5	11.0	13.0	Diurnal Average	
	44.1	31.5	28.9	33.0	12.3	42.8	40.6	61.8	39.0	135.0	111.9	48.8	58.3	37.4	38.6	43.1	30.5	34.5	46.8	30.5	36.6	55.0	35.2	39.6	Diurnal Maximum	

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

Hourly Maximums for NO_X at Beaverlodge
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge - Ozone (O_3) - ppb
November 1, 2008 to December 1, 2008

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 40.3 ppb on Nov 24 12:00
Maximum Daily Average: 34.1 ppb on Nov 26

Minimum Value: 0 ppb on Nov 11 20:00
Maximum Diurnal Average: 21.9 ppb at hour 14
Monthly Average: 18.69 ppb

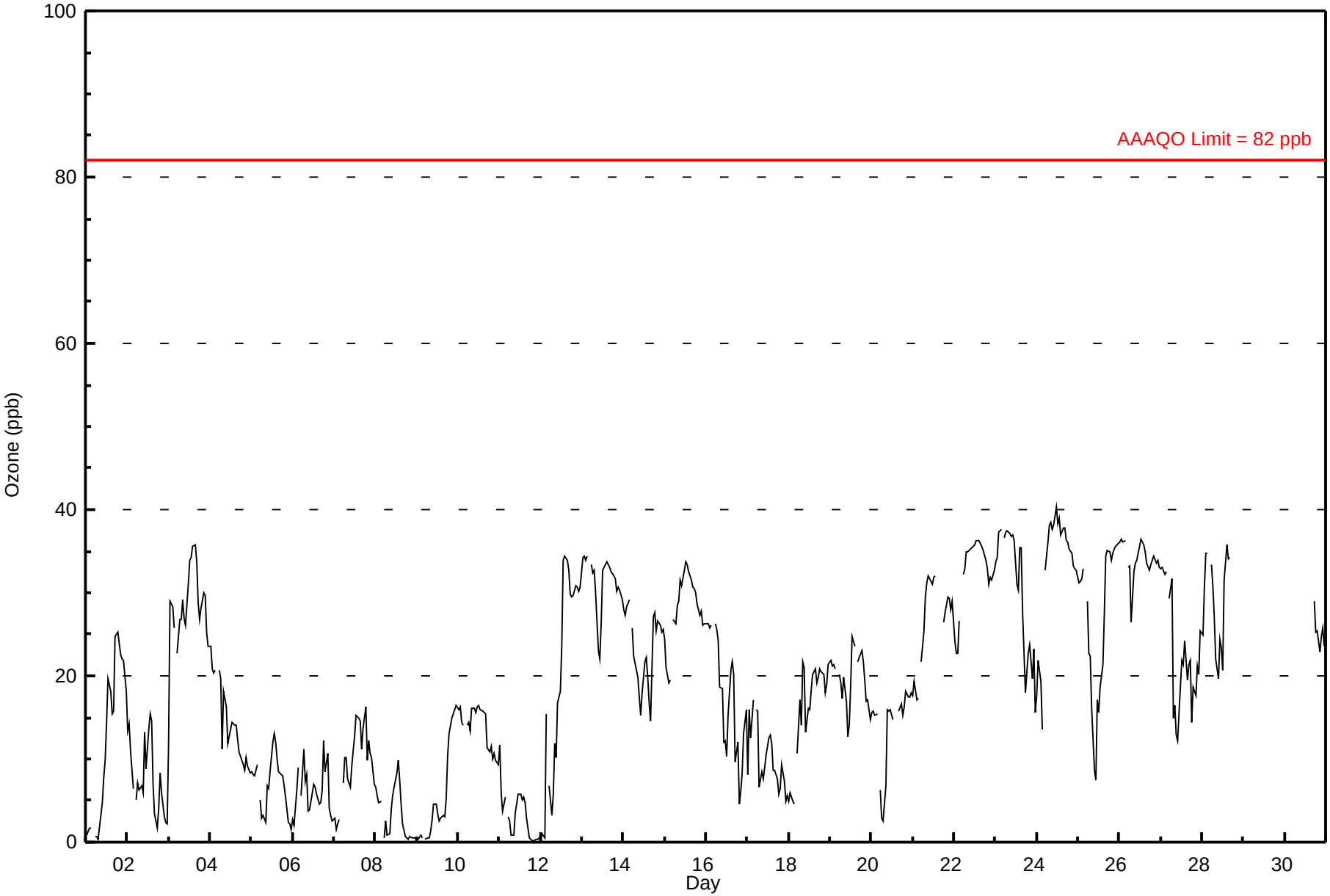
Minimum Daily Average: 3.2 ppb on Nov 11
Minimum Diurnal Average: 16.6 ppb at hour 8
Percentiles: P_1 = 0.4 P_{10} = 3.1 Q_1 = 8.5 Median = 18.0 Q_3 = 29.3 P_{90} = 34.3 P_{99} = 38.1

Hours in Service:	720
Hours of Data:	636
Hours of Missing Data:	84
Hours of Calibration:	32
Percent Operational Time:	92.8

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	1	1	2	2	A	1	1	0	2	5	8	10	14	20	18	15	16	25	25	24	23	22	22	18	11.9	25.2
2-Nov	13	14	11	6	A	5	7	6	7	6	13	9	14	15	15	7	3	2	4	8	6	3	2	2	7.8	15.5
3-Nov	12	29	28	26	A	23	27	27	29	27	26	31	34	34	36	36	34	29	27	28	30	30	25	24	28.3	35.7
4-Nov	24	21	20	21	A	21	20	11	18	16	12	13	14	14	14	14	12	11	10	9	9	10	9	8	14.4	23.5
5-Nov	9	8	8	9	A	5	3	3	2	7	6	9	12	13	12	10	9	8	8	7	5	2	2	2	6.9	13.0
6-Nov	3	2	6	9	A	6	11	7	8	4	4	6	7	7	6	5	5	6	12	8	11	4	3	3	6.2	12.2
7-Nov	3	2	2	3	A	7	10	10	8	7	9	11	13	15	15	15	11	14	16	10	12	11	10	7	9.5	16.2
8-Nov	7	6	5	5	A	1	3	1	1	4	6	7	8	10	7	5	2	1	0	0	1	1	1	1	3.4	9.9
9-Nov	0	0	1	0	A	0	1	0	1	3	5	5	3	3	3	3	3	5	10	13	15	15	16	16	5.4	16.5
10-Nov	16	16	14	14	A	14	14	13	16	16	16	16	16	16	16	16	15	11	11	12	10	11	10	9	13.9	16.5
11-Nov	12	6	4	5	A	3	3	1	1	3	5	6	6	5	5	5	3	1	0	0	0	0	0	0	3.2	11.7
12-Nov	0	1	1	15	A	7	3	6	12	10	17	18	24	34	34	34	33	30	29	30	31	31	30	31	20.0	34.4
13-Nov	34	34	34	34	A	33	32	33	30	23	22	26	33	33	34	33	33	33	32	32	30	31	30	29	31.3	34.4
14-Nov	28	27	28	29	A	26	22	21	20	17	15	18	22	22	20	17	15	27	28	25	27	26	25	26	23.1	29.1
15-Nov	24	21	19	19	A	27	26	28	29	32	31	33	34	33	33	32	31	30	30	29	27	28	26	26	28.2	33.7
16-Nov	26	26	26	26	A	26	26	24	19	18	12	12	10	15	21	22	20	10	12	5	6	8	13	16	17.4	26.3
17-Nov	8	16	13	17	A	16	16	7	9	8	9	11	13	13	12	9	9	8	6	6	9	7	5	6	9.9	17.2
18-Nov	5	6	5	5	A	11	17	14	22	21	13	16	16	18	20	21	19	20	21	20	20	18	19	21	16.0	21.7
19-Nov	22	21	21	21	A	20	19	17	20	17	13	14	19	25	23	P	22	22	23	22	19	17	17	15	19.5	24.8
20-Nov	16	16	15	15	A	6	3	3	7	16	16	16	15	P	P	P	16	17	15	16	18	17	17	18	13.9	18.1
21-Nov	18	19	17	17	A	22	25	30	31	32	32	31	32	32	C	C	C	C	26	28	29	29	28	29	26.7	32.0
22-Nov	24	23	23	27	A	32	33	35	35	35	35	36	36	36	36	36	36	35	34	33	31	32	32	33	32.4	36.2
23-Nov	34	34	37	38	A	37	37	38	37	37	37	36	31	30	35	36	28	18	20	23	24	20	23	16	30.6	37.6
24-Nov	18	22	19	14	A	33	36	38	39	38	38	40	38	39	37	38	38	36	36	35	35	33	33	33	33.3	40.3
25-Nov	31	31	32	33	A	29	23	22	16	9	7	17	16	19	21	27	34	35	35	34	35	35	36	36	26.7	35.9
26-Nov	36	37	36	36	A	33	33	26	33	34	34	35	36	36	36	35	34	33	33	34	34	34	34	33	34.1	36.5
27-Nov	33	33	32	32	A	29	32	15	17	13	12	19	22	21	24	20	21	22	14	19	18	21	20	25	22.4	33.0
28-Nov	25	31	35	35	A	33	31	27	22	20	24	23	21	32	36	34	34	P	P	P	P	P	P	P	--	35.8
29-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
30-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	29	25	25	23	25	26	24	--	28.9
	17.2	18.0	17.7	18.4	--	18.0	18.3	16.6	17.4	17.0	17.0	18.7	19.9	21.9	21.9	20.9	19.8	19.1	19.5	19.1	19.2	18.6	18.4	18.0	Diurnal Average	
	36.2	36.5	37.2	37.6	--	36.7	37.2	38.1	38.5	37.6	38.1	40.3	38.3	38.9	36.9	37.8	37.8	36.3	36.1	35.2	34.8	35.2	35.5	35.9	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 Beaverlodge
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Beaverlodge - Ozone (O_3) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 42.5 ppb on Nov 24 09:00

Maximum Daily Average: 36.1 ppb on Nov 24

Minimum Value: 1 ppb on Nov 11 21:00

Maximum Diurnal Average: 23.8 ppb at hour 14

Monthly Average: 21.27 ppb

Minimum Daily Average: 4.3 ppb on Nov 11

Minimum Diurnal Average: 19.6 ppb at hour 3

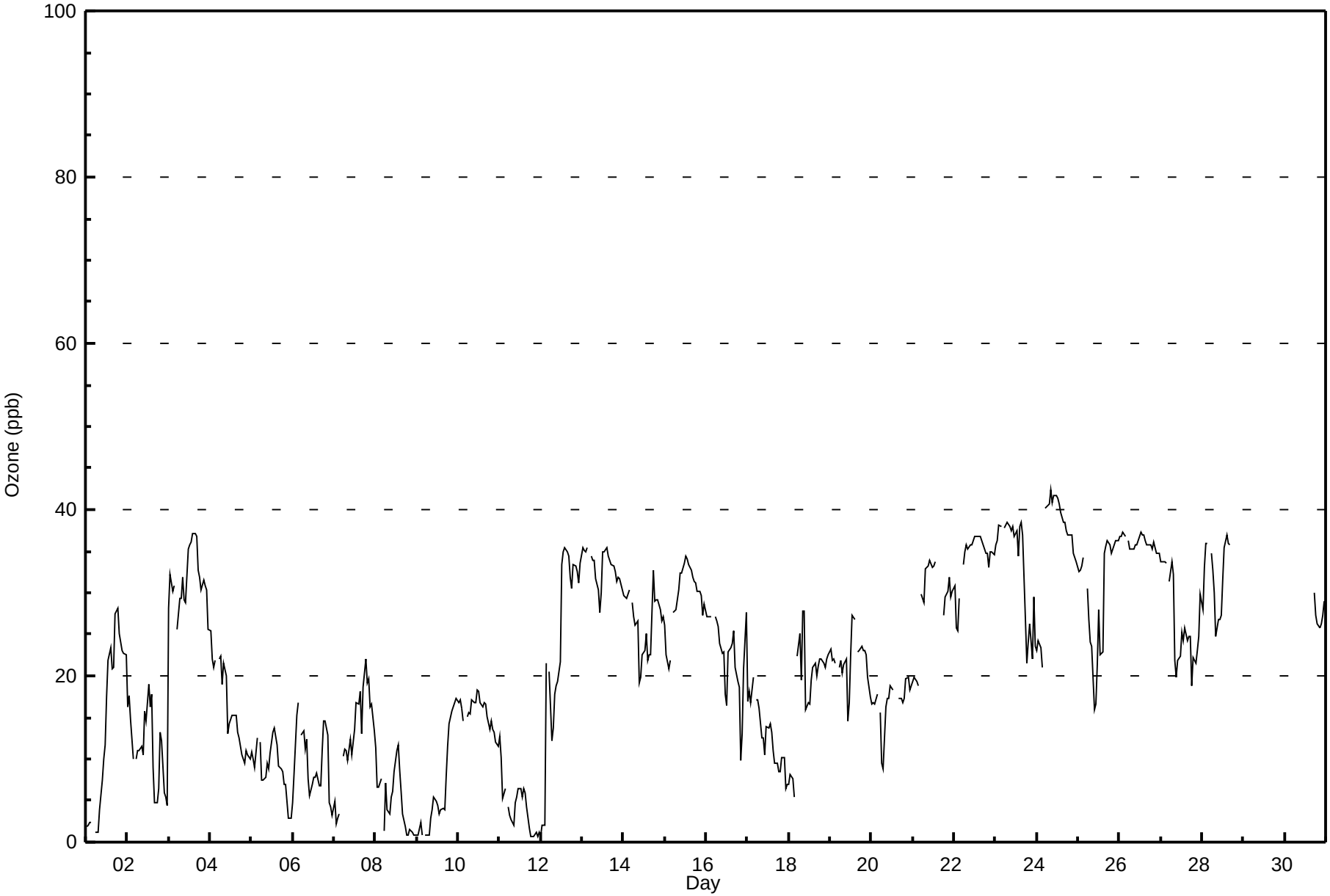
Percentiles: P_1 = 0.8 P_{10} = 5.3 Q_1 = 12.1 Median = 21.9 Q_3 = 31.8 P_{90} = 35.8 P_{99} = 40.5

Hours in Service:	720
Hours of Data:	636
Hours of Missing Data:	84
Hours of Calibration:	32
Percent Operational Time:	92.8

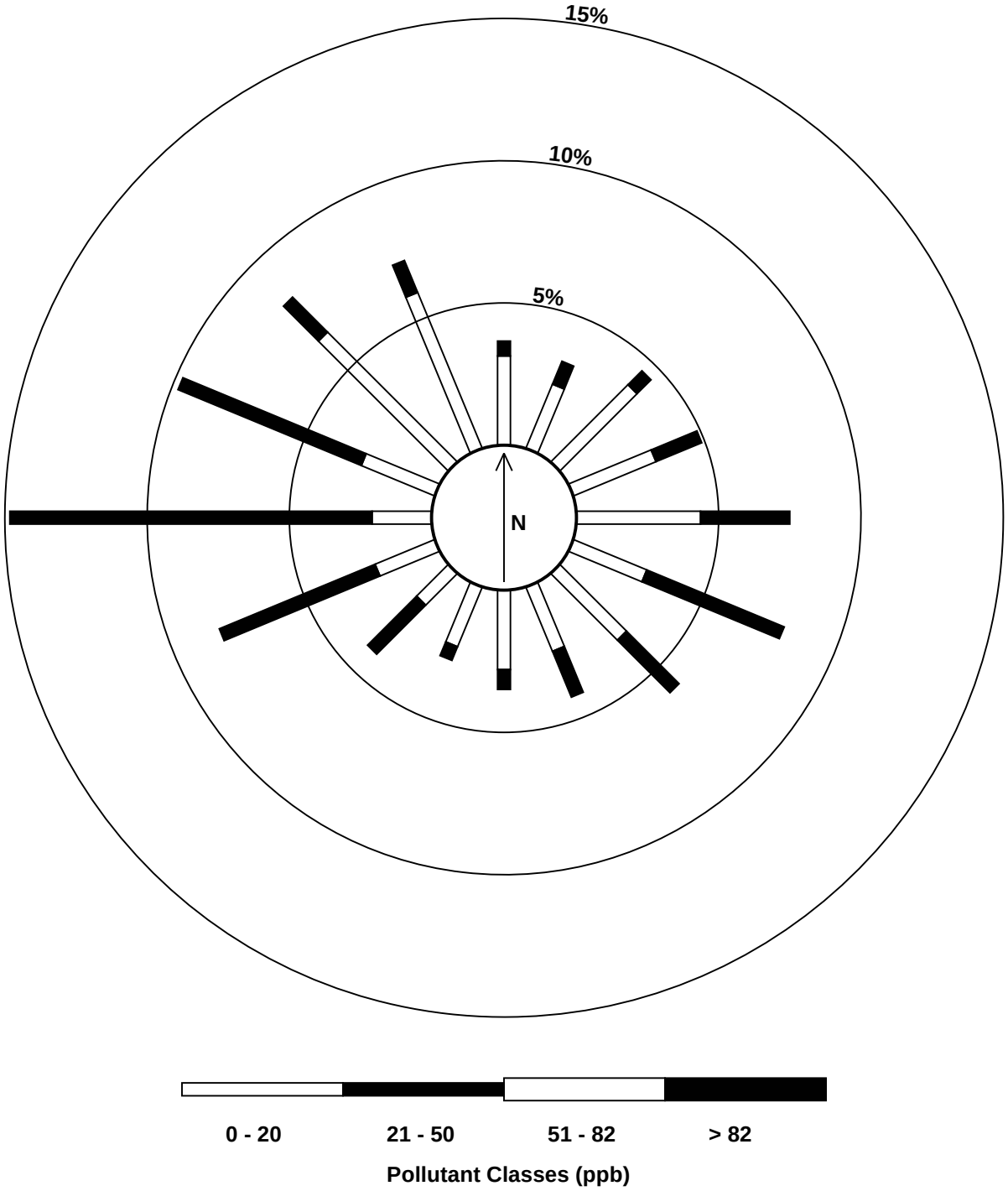
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	2	2	2	2	A	1	1	1	4	7	10	12	17	22	23	21	21	28	28	25	24	23	23	23	14.0	28.1
2-Nov	16	18	15	10	A	10	11	11	12	11	16	15	19	16	18	9	5	5	6	13	12	6	5	4	11.4	19.1
3-Nov	28	32	30	31	A	26	29	29	32	29	29	35	36	36	37	37	37	33	32	30	32	31	30	26	31.6	37.1
4-Nov	25	22	21	22	A	22	22	19	21	20	13	14	15	15	15	15	13	13	11	10	10	11	11	10	16.1	25.5
5-Nov	11	10	9	13	A	12	7	7	8	10	9	11	13	14	13	12	9	9	9	7	7	3	3	3	9.0	13.7
6-Nov	5	8	15	17	A	13	13	11	12	8	6	7	8	8	8	7	7	11	15	15	13	5	4	3	9.5	16.8
7-Nov	5	2	3	3	A	10	11	11	10	12	11	12	14	17	17	18	13	19	22	19	20	16	17	13	12.8	22.0
8-Nov	11	7	7	8	A	1	7	4	3	5	6	8	11	12	9	6	3	2	1	1	2	1	1	1	5.1	11.8
9-Nov	1	1	2	1	A	1	1	1	3	4	5	5	4	3	4	4	4	8	12	14	16	16	17	17	6.2	17.3
10-Nov	17	17	16	15	A	15	16	15	17	17	17	18	18	17	16	17	17	15	14	15	14	13	12	12	15.6	18.3
11-Nov	13	10	5	6	A	4	3	3	2	5	5	6	6	5	6	6	4	2	1	1	1	1	1	1	4.3	12.8
12-Nov	1	2	2	21	A	20	12	14	18	19	19	22	33	35	35	35	34	32	30	33	33	32	31	33	23.9	35.4
13-Nov	35	35	35	35	A	34	34	34	32	30	28	30	35	35	35	34	34	33	33	32	31	32	32	30	33.0	35.4
14-Nov	30	30	29	30	A	29	27	26	27	19	20	22	23	25	22	22	22	33	29	29	29	28	27	27	26.4	32.7
15-Nov	26	22	21	22	A	28	28	29	30	32	32	34	34	34	33	33	32	31	31	30	30	30	27	29	29.5	34.4
16-Nov	27	27	27	27	A	27	27	26	24	23	23	18	16	23	23	24	26	21	19	19	10	13	21	28	22.5	27.6
17-Nov	17	18	17	20	A	17	17	16	13	13	11	14	14	14	13	11	10	10	8	9	10	10	6	7	12.8	19.8
18-Nov	7	8	8	6	A	22	25	20	28	28	16	17	17	20	21	22	20	21	22	22	22	21	22	23	18.9	27.8
19-Nov	23	22	22	22	A	21	22	20	21	22	15	17	23	27	27	P	23	23	24	23	23	23	20	18	21.8	27.2
20-Nov	17	17	17	18	A	16	9	9	16	17	17	19	18	P	P	P	17	17	17	17	20	20	18	19	16.8	19.9
21-Nov	19	20	19	19	A	30	29	33	33	33	34	33	33	34	C	C	C	C	27	30	30	32	30	30	28.8	33.8
22-Nov	31	26	25	29	A	33	35	36	35	36	36	36	37	37	37	37	36	36	35	35	33	35	35	35	34.1	36.8
23-Nov	36	36	38	38	A	38	38	38	38	37	38	37	37	34	38	38	37	27	21	24	26	22	29	24	33.5	38.5
24-Nov	23	24	23	21	A	40	41	41	42	41	42	42	41	41	40	39	39	37	37	37	37	35	34	34	36.1	42.5
25-Nov	32	33	33	34	A	30	27	24	24	16	17	21	28	22	23	35	36	36	36	35	35	36	36	36	29.8	36.3
26-Nov	37	37	37	37	A	36	35	35	35	36	36	36	37	37	37	36	36	36	36	35	36	35	35	35	36.0	37.3
27-Nov	34	34	34	34	A	31	34	32	22	20	22	22	25	24	26	24	25	25	19	22	22	23	25	30	26.4	33.8
28-Nov	28	33	36	36	A	35	33	30	25	27	27	27	32	35	37	36	36	P	P	P	P	P	P	P	--	36.9
29-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
30-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	27	26	26	26	27	29	--	30.0
	19.9	19.7	19.6	20.5	--	21.6	21.2	20.6	21.0	20.6	19.9	21.1	23.1	23.8	23.6	23.1	22.0	21.9	21.5	21.7	21.5	20.7	20.7	20.6	Diurnal Average	
	36.8	36.8	38.1	38.0	--	40.2	40.6	40.7	42.5	40.9	41.7	41.7	41.4	40.7	39.6	38.5	38.5	37.4	36.9	36.9	36.9	35.8	36.3	36.3	Diurnal Maximum	

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

Hourly Maximums for O_3 at Beaverlodge
November 2008



Pollutant Rose for O_3 at Beaverlodge
November 2008



Peace Airshed Zone Association
Summary of Eight Hour Running Averages

Beaverlodge - Ozone (O_3) - ppb
November 1, 2008 to December 1, 2008

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 38.3 ppb on Nov 24 15:00

Minimum Value: 0.4 ppb on Nov 12 01:00

Percentiles: P_1 = 0.5 P_{10} = 4.0 Q_1 = 8.9 Median = 18.4 Q_3 = 28.6 P_{90} = 33.4 P_{99} = 37.4

Hours in Service:	720
Hours of Data:	656
Hours of Missing Data:	64
Hours of Calibration:	7
Percent Operational Time:	92.1

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-Nov	2	2	2	1	2	1	1	1	1	2	3	4	5	7	10	11	13	16	18	20	21	21	21	22	21.8
2-Nov	21	20	18	16	15	13	11	9	8	7	7	8	8	10	11	11	10	10	9	8	8	6	4	4	21.5
3-Nov	5	8	11	14	15	17	21	24	27	27	26	27	28	29	30	32	32	32	32	32	32	31	30	28	32.5
4-Nov	27	26	25	24	23	22	21	20	19	18	17	16	16	15	14	14	14	13	13	12	12	11	11	10	27.0
5-Nov	9	9	9	9	9	8	7	6	6	5	5	5	6	7	8	9	10	10	10	10	9	8	6	5	10.0
6-Nov	5	4	4	4	4	4	5	6	7	7	7	7	7	7	6	6	5	6	7	7	7	7	7	7	7.4
7-Nov	6	6	4	4	3	3	4	5	6	7	8	9	9	10	11	11	12	13	14	14	14	13	12	11	13.7
8-Nov	11	10	8	8	7	6	5	4	3	3	3	3	4	5	5	6	6	6	5	4	3	2	1	1	10.8
9-Nov	1	0	1	1	1	1	1	0	1	1	1	2	2	3	3	3	3	4	4	5	7	9	10	12	11.8
10-Nov	13	15	15	15	16	15	15	15	15	15	15	15	15	16	16	16	16	15	15	14	13	13	12	11	16.0
11-Nov	11	10	9	8	8	7	6	5	3	3	3	3	3	4	4	4	5	4	4	3	2	2	1	1	10.7
12-Nov	0	0	0	2	3	4	4	5	6	8	10	10	12	15	19	23	25	28	29	31	32	31	31	31	31.8
13-Nov	31	31	32	32	33	33	33	34	33	31	30	29	29	29	29	29	30	31	32	33	32	32	32	31	33.6
14-Nov	31	30	29	29	29	28	27	26	25	23	22	20	20	20	19	19	18	19	21	22	23	23	24	25	30.6
15-Nov	26	25	24	23	23	23	23	24	24	26	27	29	30	31	32	32	32	32	32	31	31	30	29	28	32.1
16-Nov	28	27	27	26	26	26	26	26	25	24	22	20	18	17	17	16	16	15	15	14	14	13	12	11	27.9
17-Nov	10	11	11	12	13	14	14	13	13	12	11	11	11	10	10	10	10	10	10	9	9	8	7	7	14.5
18-Nov	6	6	6	6	5	6	8	9	11	13	15	16	16	17	18	18	18	18	19	19	20	20	20	20	20.0
19-Nov	20	20	20	20	21	21	21	20	20	19	18	17	17	18	18	19	19	20	21	22	22	21	20	20	22.4
20-Nov	19	18	17	16	16	14	12	11	9	9	9	9	10	11	12	N	N	N	N	N	N	17	17	17	18.8
21-Nov	17	17	18	18	18	18	20	21	23	25	27	29	29	31	31	32	N	N	N	N	N	N	N	28	31.6
22-Nov	28	27	27	26	26	26	27	28	30	31	33	34	35	35	36	36	36	36	36	35	35	34	33	33	35.7
23-Nov	33	33	33	34	34	35	36	36	37	37	37	37	36	35	35	35	34	31	29	28	27	25	24	21	37.2
24-Nov	20	21	20	19	19	21	22	26	29	31	34	37	37	38	38	38	38	38	38	37	37	36	36	35	38.3
25-Nov	34	33	33	33	32	32	30	29	27	23	20	18	17	16	16	17	19	22	26	28	30	32	34	35	35.0
26-Nov	35	35	36	36	36	36	35	34	33	33	33	32	33	33	34	35	35	35	35	35	34	34	34	34	36.0
27-Nov	33	33	33	33	33	32	32	29	27	24	21	19	20	19	18	18	19	20	20	20	20	20	19	20	33.5
28-Nov	21	22	24	26	27	29	31	31	30	29	27	26	25	25	26	26	28	29	30	N	N	N	N	N	30.9
29-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
30-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	25	25	25.5
	35.2	35.4	35.5	35.8	36.0	35.6	35.6	36.3	36.8	37.2	37.1	37.3	37.5	38.3	38.3	38.3	38.2	38.1	37.8	37.2	36.7	36.0	35.5	35.0	
	Diurnal Maximums																								

N - Not Valid
Alberta Ambient Air Quality Objectives (AAAQO): 8-hr 65 ppb

Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge - Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$
November 1, 2008 to December 1, 2008

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 18.8 $\mu g/m^3$ on Nov 18 01:00 Maximum Daily Average: 8.5 $\mu g/m^3$ on Nov 17

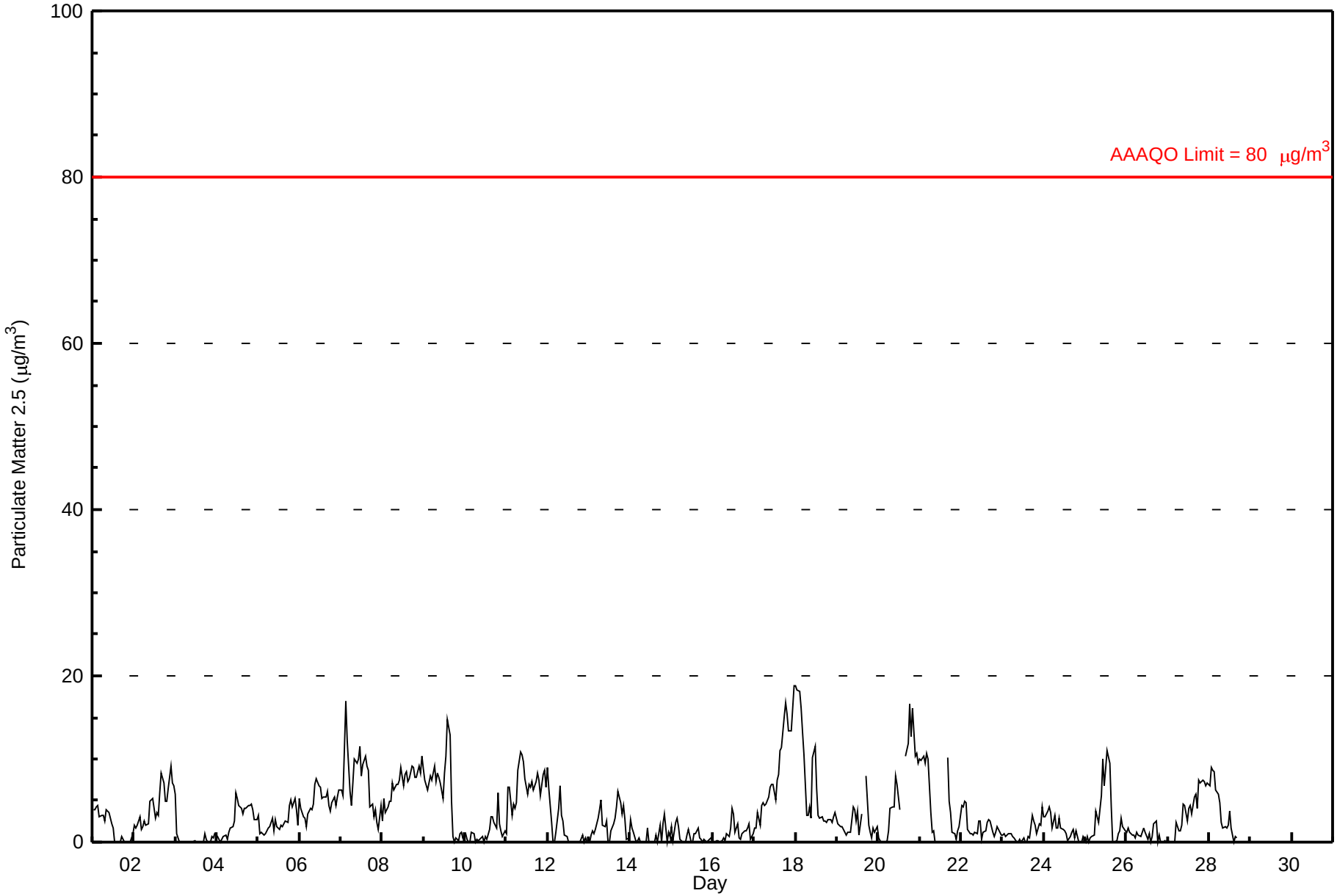
Minimum Value: 0 $\mu g/m^3$ on Nov 1 14:00 Minimum Daily Average: 0.4 $\mu g/m^3$ on Nov 3
Maximum Diurnal Average: 4.1 $\mu g/m^3$ at hour 11 Minimum Diurnal Average: 2.7 $\mu g/m^3$ at hour 7
Monthly Average: 3.39 $\mu g/m^3$ Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.7 Median = 2.1 Q_3 = 5.0 P_{90} = 8.5 P_{99} = 16.6

Hours in Service:	720
Hours of Data:	665
Hours of Missing Data:	55
Hours of Calibration:	2
Percent Operational Time:	92.6

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	4	4	4	4	3	3	3	2	4	4	3	2	2	0	0	0	0	1	0	0	0	0	0	1	1.9	4.4
2-Nov	2	2	2	3	2	2	2	2	2	5	5	5	3	4	3	6	8	7	5	5	6	9	7	7	4.4	9.2
3-Nov	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	0.4	5.7
4-Nov	1	0	0	0	1	1	0	1	2	2	3	6	5	4	4	3	4	4	4	4	5	4	3	3	2.7	6.0
5-Nov	3	1	1	1	1	1	2	2	3	1	3	2	2	2	2	2	2	2	4	5	4	5	4	2	2.4	5.2
6-Nov	5	4	3	3	2	3	4	4	4	7	8	7	7	5	5	5	6	4	4	5	5	4	5	6	4.9	7.7
7-Nov	6	6	11	17	12	6	4	7	10	10	10	12	8	9	10	9	9	4	5	3	4	2	2	4	7.5	17.0
8-Nov	3	5	4	4	5	5	7	6	7	7	7	9	7	8	8	7	8	9	9	8	8	9	8	10	7.0	10.3
9-Nov	9	7	6	7	8	8	9	7	8	8	7	5	8	10	15	13	5	1	0	0	0	1	1	0	6.0	14.8
10-Nov	1	0	0	0	1	1	0	0	0	1	1	0	1	0	2	3	3	2	2	6	2	1	1	1	1.2	6.0
11-Nov	1	7	7	3	5	4	5	9	11	10	10	8	6	7	7	7	6	7	8	7	6	8	9	7	6.8	10.8
12-Nov	9	6	2	0	0	1	4	7	3	3	1	1	0	0	0	0	0	0	0	0	1	0	0	0	1.6	8.9
13-Nov	0	1	1	1	1	3	4	5	2	2	3	0	0	1	2	3	4	6	5	3	4	3	0	1	2.3	6.2
14-Nov	3	2	1	0	0	1	0	0	0	0	2	0	0	0	0	1	0	2	0	2	3	0	1	1	0.8	3.3
15-Nov	2	0	2	3	2	0	0	0	0	1	1	0	0	1	1	2	0	0	0	0	0	0	0	1	0.7	3.0
16-Nov	0	0	0	0	0	0	0	0	1	1	2	4	3	1	2	0	0	1	1	1	2	2	0	1	1.0	4.0
17-Nov	2	2	4	2	4	5	4	5	5	7	7	7	5	8	8	11	11	15	17	15	13	13	16	19	8.5	18.7
18-Nov	19	18	18	16	13	10	3	3	4	3	10	11	7	3	3	3	3	3	2	3	3	2	3	4	7.0	18.8
19-Nov	2	2	2	2	1	1	1	1	1	4	4	2	4	1	3	P	P	8	2	1	1	2	1	2	2.2	8.0
20-Nov	1	0	0	0	0	0	1	4	4	4	8	7	4	P	P	P	10	12	17	13	16	10	11	10	6.3	16.7
21-Nov	10	10	10	10	11	10	4	1	1	0	0	0	0	0	C	C	10	5	4	1	1	0	1	2	4.1	10.7
22-Nov	4	4	5	5	1	1	1	1	1	1	3	3	0	1	1	2	3	3	1	1	1	2	2	1	2.0	4.9
23-Nov	1	1	1	1	1	1	1	0	0	0	0	0	1	0	0	1	1	3	3	2	1	2	2	4	1.1	4.3
24-Nov	3	3	4	4	4	2	3	2	2	3	2	2	1	1	0	1	1	1	1	1	0	0	0	1	1.7	4.2
25-Nov	0	1	0	1	1	1	4	3	2	6	10	7	9	11	9	4	0	0	0	1	1	3	2	1	3.2	11.0
26-Nov	1	2	1	1	1	0	1	1	1	1	2	1	0	1	0	1	2	3	0	1	0	0	0	0	0.9	2.5
27-Nov	0	0	0	0	0	2	1	1	2	5	4	3	4	4	3	5	6	4	7	7	7	7	7	7	3.7	7.4
28-Nov	7	9	9	8	6	6	5	2	2	2	2	2	4	2	0	1	0	P	P	P	P	P	P	P	--	9.0
29-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
30-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	0	0	0	0	0	0	--	0.0
	3.7	3.5	3.5	3.4	3.1	2.8	2.7	2.8	3.0	3.4	4.1	3.7	3.2	3.2	3.5	3.6	3.8	3.9	3.6	3.5	3.4	3.3	3.1	3.4	Diurnal Average	
	18.8	18.4	18.1	17.0	13.3	10.5	9.1	8.6	10.8	10.4	10.1	11.5	8.8	11.0	14.8	12.8	11.4	15.2	16.9	15.4	16.1	13.4	16.0	18.7	Diurnal Maximum	

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

Hourly Averages for $PM_{2.5}$ at Beaverlodge
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Beaverlodge - Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$
November 1, 2008 to December 1, 2008

Maximum Value: 39.6 $\mu g/m^3$ on Nov 20 19:00

Maximum Daily Average: 13.0 $\mu g/m^3$ on Nov 20

Minimum Value: 0 $\mu g/m^3$ on Nov 3 14:00

Maximum Diurnal Average: 8.2 $\mu g/m^3$ at hour 18

Monthly Average: 6.58 $\mu g/m^3$

Minimum Daily Average: 2.4 $\mu g/m^3$ on Nov 3

Minimum Diurnal Average: 5.6 $\mu g/m^3$ at hour 7

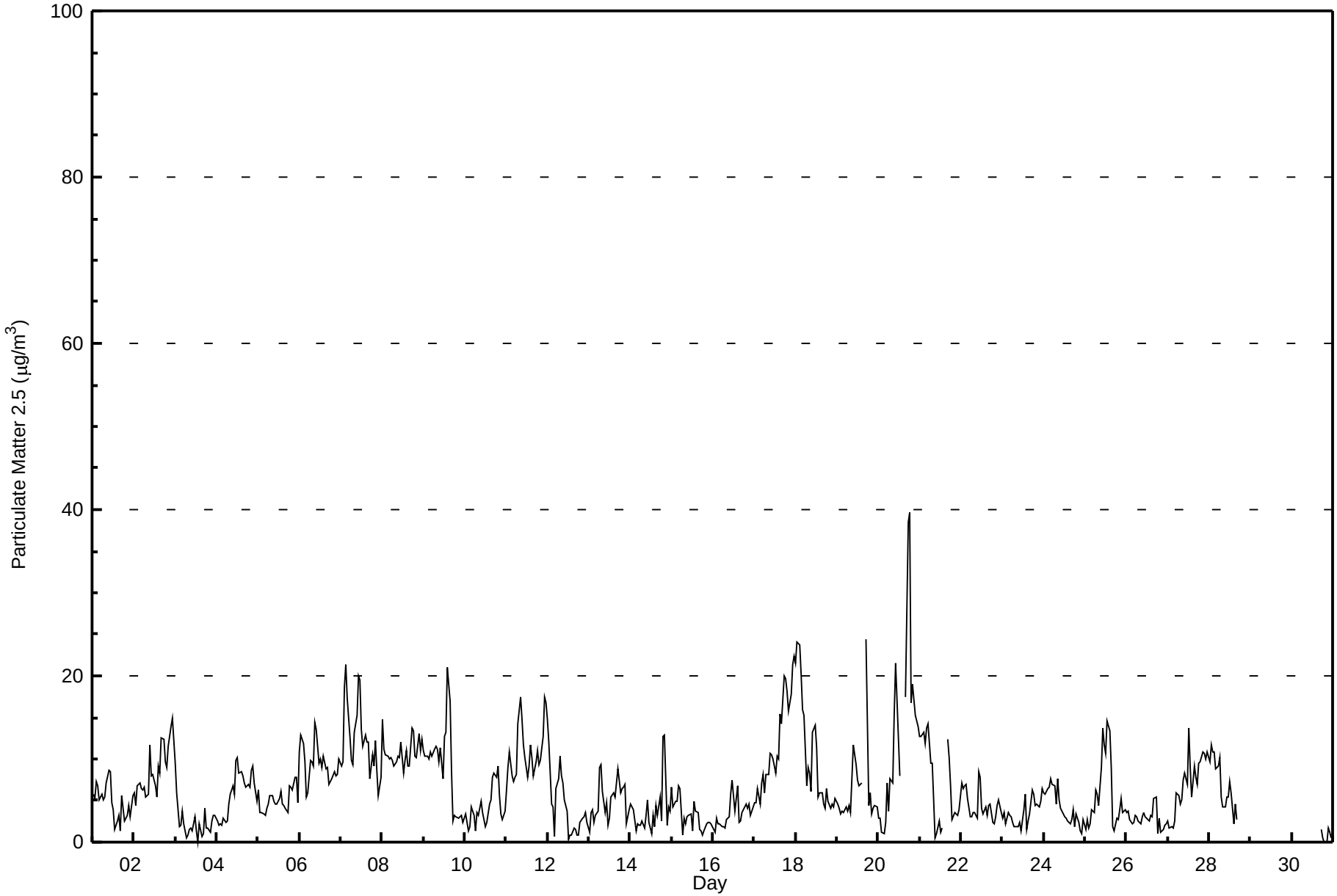
Percentiles: $P_1 = 0.5$ $P_{10} = 1.8$ $Q_1 = 3.1$ Median = 5.3 $Q_3 = 9.2$ $P_{90} = 12.8$ $P_{99} = 21.4$

Hours in Service:	720
Hours of Data:	665
Hours of Missing Data:	55
Hours of Calibration:	2
Percent Operational Time:	92.6

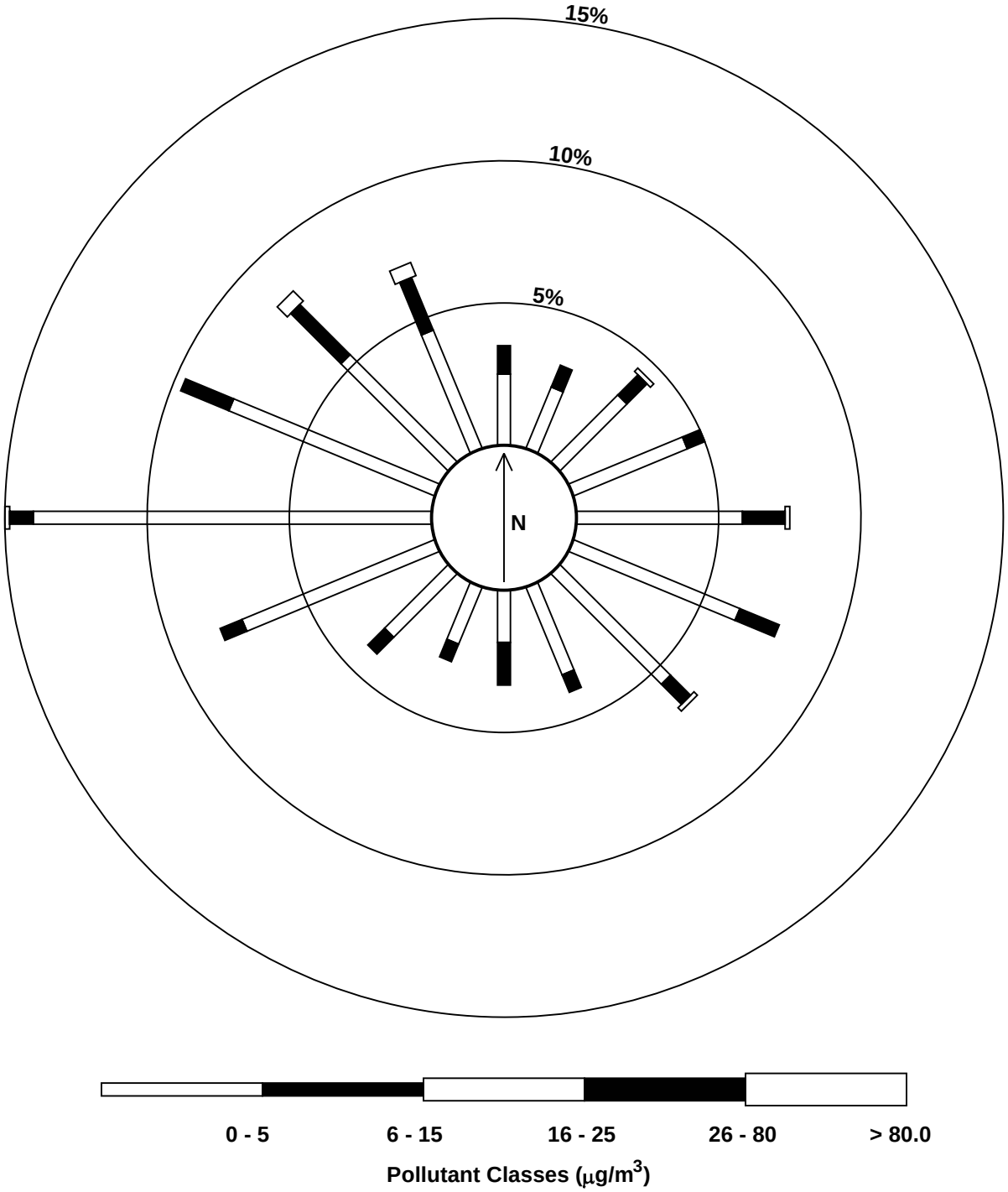
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	6	5	7	7	5	6	5	5	7	9	8	5	4	2	3	3	1	6	3	3	3	4	3	6	4.8	8.6
2-Nov	6	4	7	7	6	6	7	5	6	12	8	8	7	5	9	8	13	12	10	9	11	14	15	12	8.7	14.8
3-Nov	10	6	2	2	4	2	1	1	2	2	1	3	1	0	2	1	1	4	2	2	1	2	3	3	2.4	9.5
4-Nov	2	2	2	2	3	2	3	5	6	7	6	10	10	8	8	8	7	7	7	7	9	9	7	5	5.9	10.1
5-Nov	6	4	4	3	3	4	5	6	6	5	5	5	5	6	5	4	4	3	7	7	6	8	8	5	5.1	7.9
6-Nov	11	13	12	10	5	6	10	10	9	14	14	10	10	9	10	9	9	7	7	8	8	8	8	10	9.4	14.4
7-Nov	9	10	19	21	17	13	10	9	13	15	20	19	14	12	13	12	12	8	11	9	12	9	6	8	12.5	21.3
8-Nov	15	11	11	10	10	10	10	9	10	10	10	12	8	10	11	9	9	14	13	10	10	13	11	12	10.8	14.7
9-Nov	11	10	10	10	11	10	11	11	11	10	11	8	13	13	21	17	9	3	3	3	3	3	3	2	9.1	21.0
10-Nov	3	2	1	2	4	3	1	4	3	5	4	3	2	2	5	5	8	8	8	9	6	3	3	4	4.1	9.1
11-Nov	6	9	11	8	7	8	8	14	17	15	12	10	8	9	12	10	8	10	11	9	10	13	17	17	10.8	17.5
12-Nov	15	12	5	4	1	7	8	10	8	7	5	4	0	1	1	2	1	1	1	2	3	3	4	2	4.4	14.7
13-Nov	1	4	4	2	3	4	9	9	6	4	5	2	3	5	6	5	7	9	6	6	7	7	2	4	5.0	9.4
14-Nov	4	4	4	1	2	2	2	3	2	3	5	2	1	3	2	4	3	5	2	13	13	2	4	4	3.9	12.9
15-Nov	7	4	5	5	7	6	1	3	2	3	3	3	1	5	4	4	2	1	1	1	2	2	2	2	3.2	6.7
16-Nov	1	1	3	2	2	2	2	2	3	3	6	8	6	4	7	2	3	4	4	5	4	5	3	4	3.5	7.5
17-Nov	5	5	6	5	7	8	6	8	8	11	11	10	8	10	10	15	14	20	20	18	16	18	21	22	11.8	22.4
18-Nov	22	24	24	20	16	15	7	9	8	6	13	14	11	5	6	6	5	4	6	5	4	5	4	5	10.2	24.1
19-Nov	5	4	3	4	4	4	4	4	4	12	10	9	7	7	7	P	P	24	4	6	3	4	4	4	6.3	24.5
20-Nov	3	3	1	1	2	7	4	8	7	15	22	17	8	P	P	P	18	39	40	17	19	15	15	14	13.0	39.6
21-Nov	13	13	13	12	14	14	10	10	5	0	1	2	1	2	C	C	12	10	7	3	4	3	3	4	7.1	14.2
22-Nov	7	6	7	7	5	3	3	4	4	3	8	8	4	3	4	3	4	5	2	2	3	4	5	4	4.6	8.5
23-Nov	3	4	2	4	3	3	2	2	2	2	2	1	4	6	2	3	3	6	6	4	5	4	5	6	3.5	6.4
24-Nov	6	6	6	7	8	7	7	5	8	5	4	3	3	3	3	2	3	4	2	3	2	1	1	3	4.2	7.7
25-Nov	2	3	2	2	4	4	6	6	4	9	14	12	11	15	13	9	2	1	3	3	4	5	4	4	5.8	14.5
26-Nov	4	4	3	2	2	3	3	3	2	3	4	3	3	3	3	3	5	5	1	3	1	1	2	2	2.8	5.5
27-Nov	2	2	2	2	3	6	6	5	5	7	8	7	14	9	5	9	8	7	9	10	11	11	10	11	7.0	13.8
28-Nov	10	12	11	11	9	9	10	6	4	4	5	5	7	6	2	5	3	P	P	P	P	P	P	P	--	11.7
29-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
30-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	1	0	0	0	2	1	0	--	1.7
	6.9	6.6	6.6	6.2	6.0	6.3	5.6	6.2	6.1	7.2	8.0	7.3	6.2	6.0	6.7	6.4	6.4	8.2	7.0	6.3	6.4	6.4	6.3	6.4	Diurnal Average	
	21.6	24.1	23.7	21.3	17.3	15.2	11.1	14.3	17.5	15.3	21.5	19.4	13.8	14.5	21.0	17.0	17.5	38.5	39.6	18.1	19.0	17.7	21.4	22.4	Diurnal Maximum	

C - Calibration P - Power Failure

Hourly Maximums for $PM_{2.5}$ at Beaverlodge
November 2008



Pollutant Rose for $PM_{2.5}$ at Beaverlodge
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge - External Temperature (ET) - ^{o}C
November 1, 2008 to December 1, 2008

Maximum Value: 15.0 ^{o}C on Nov 2 14:00

Maximum Daily Average: 6.8 ^{o}C on Nov 2

Minimum Value: -13 ^{o}C on Nov 6 06:00

Minimum Daily Average: -9.0 ^{o}C on Nov 19

Maximum Diurnal Average: 1.8 ^{o}C at hour 15

Minimum Diurnal Average: -3.2 ^{o}C at hour 8

Monthly Average: -1.42 ^{o}C

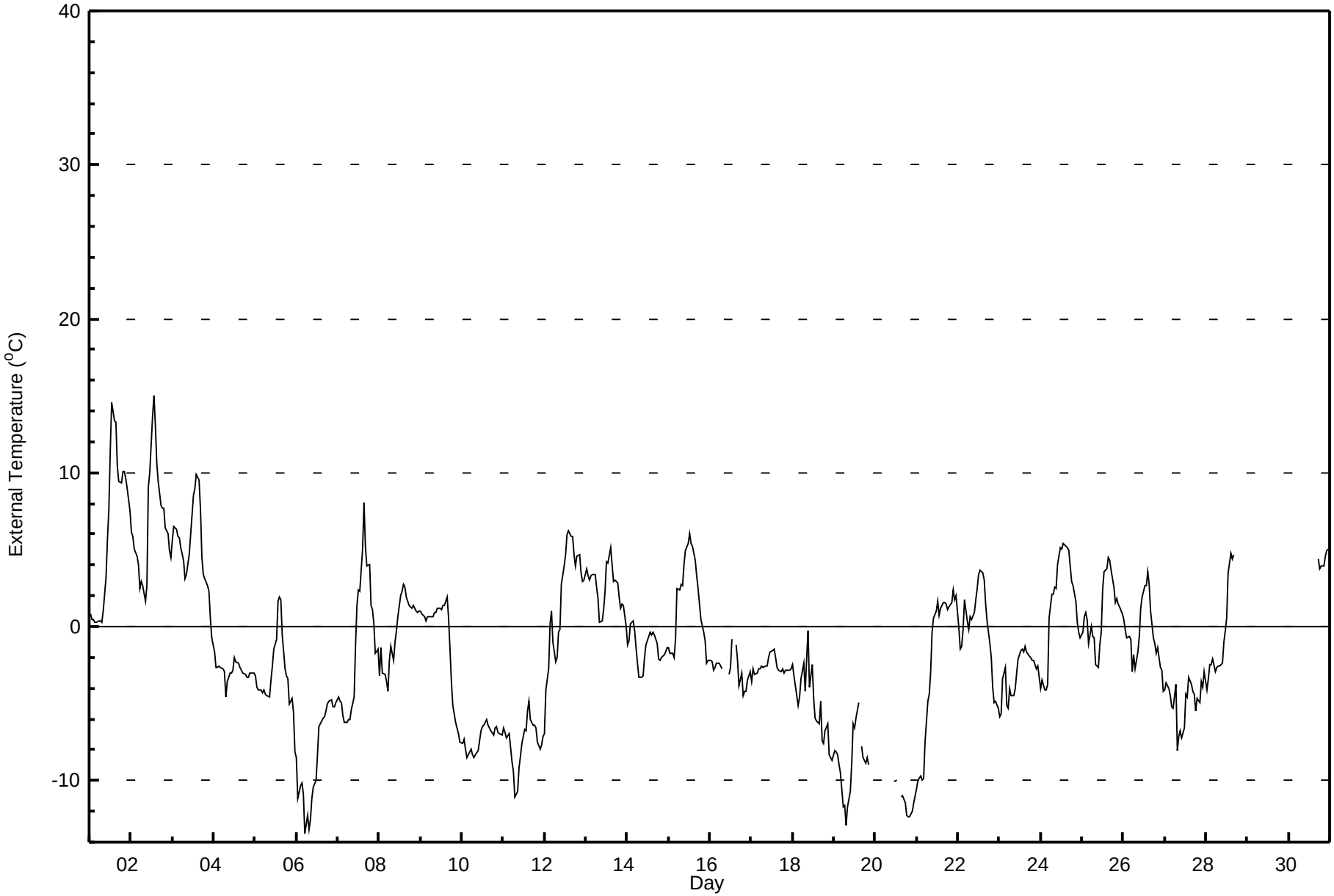
Percentiles: P_1 = -12.5 P_{10} = -7.9 Q_1 = -4.5 Median = -1.8 Q_3 = 1.8 P_{90} = 4.6 P_{99} = 11.4

Hours in Service:	720
Hours of Data:	652
Hours of Missing Data:	68
Hours of Calibration:	0
Percent Operational Time:	90.6

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	1	0	0	0	0	0	0	0	1	3	6	8	11	15	13	13	10	9	9	10	10	10	9	7	6.2	14.5
2-Nov	6	6	5	5	4	3	3	3	2	3	9	10	14	15	13	11	9	8	8	8	6	6	5	4	6.8	15.0
3-Nov	6	7	6	6	6	5	4	3	3	4	5	7	9	9	10	9	8	5	3	3	3	2	1	-1	5.1	9.9
4-Nov	-2	-3	-3	-3	-3	-3	-3	-5	-4	-3	-3	-3	-2	-2	-2	-3	-3	-3	-3	-3	-3	-3	-3	-3	-2.9	-1.6
5-Nov	-3	-4	-4	-4	-4	-4	-4	-5	-5	-3	-3	-1	-1	2	2	2	-1	-3	-3	-3	-5	-5	-6	-8	-3.1	2.0
6-Nov	-9	-11	-10	-10	-11	-13	-12	-13	-12	-11	-10	-10	-8	-7	-6	-6	-6	-6	-5	-5	-5	-5	-5	-5	-8.4	-4.8
7-Nov	-5	-5	-5	-6	-6	-6	-6	-6	-5	-5	-1	1	2	2	5	8	5	4	4	1	1	0	-2	-1	-1.0	8.1
8-Nov	-3	-1	-3	-3	-4	-4	-2	-1	-2	-1	0	1	2	2	3	3	2	1	1	1	1	1	1	1	-0.2	2.8
9-Nov	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	2	1	-1	-4	-5	-6	-7	-7	-7	-0.9	1.9
10-Nov	-8	-7	-8	-8	-8	-8	-8	-8	-8	-8	-7	-7	-6	-6	-6	-6	-7	-7	-7	-7	-7	-7	-7	-7	-7.3	-6.1
11-Nov	-7	-7	-7	-7	-8	-9	-9	-11	-11	-9	-8	-8	-7	-7	-5	-5	-6	-6	-6	-7	-7	-8	-8	-7	-7.5	-4.9
12-Nov	-7	-4	-3	0	1	-1	-2	-2	0	0	3	4	5	6	6	6	6	5	4	5	5	4	3	3	1.8	6.3
13-Nov	4	3	3	3	3	3	3	2	0	0	1	2	4	4	5	4	3	3	3	2	1	1	1	0	2.5	5.1
14-Nov	-1	-1	0	0	0	-1	-2	-3	-3	-3	-2	-1	-1	0	-1	0	-1	-1	-2	-2	-2	-2	-2	-1	-1.4	0.3
15-Nov	-1	-2	-2	-2	-1	2	2	3	3	4	5	5	6	5	5	4	3	2	1	0	0	-1	-2	-2	1.7	6.1
16-Nov	-2	-2	-3	-3	-2	-2	-3	-3	N	N	N	-3	-3	-1	N	-1	-2	-4	-3	-5	-4	-4	-3	-3	-2.8	-0.8
17-Nov	-4	-3	-3	-3	-3	-3	-3	-3	-3	-3	-2	-2	-2	-1	-2	-3	-3	-3	-3	-3	-3	-3	-3	-3	-2.6	-1.4
18-Nov	-2	-3	-5	-5	-5	-3	-2	-4	-2	0	-4	-2	-5	-6	-6	-6	-5	-7	-8	-7	-6	-8	-8	-9	-5.0	-0.3
19-Nov	-8	-8	-8	-9	-10	-12	-12	-13	-12	-11	-9	-6	-7	-6	-5	P	-8	-9	-9	-8	-9	N	N	-11	-9.0	-4.9
20-Nov	N	N	N	N	N	N	N	N	N	N	N	-10	-10	P	P	-11	-11	-11	-12	-12	-12	-12	-11	-11	--	-10.0
21-Nov	-11	-10	-10	-10	-10	-8	-5	-4	-3	0	1	1	2	1	1	2	2	1	1	1	2	2	2	2	-2.1	2.4
22-Nov	0	-1	-1	0	2	0	0	1	0	1	2	2	3	4	3	3	1	0	-1	-2	-4	-5	-5	-5	-0.1	3.6
23-Nov	-6	-6	-3	-3	-5	-5	-4	-4	-4	-4	-3	-2	-2	-2	-2	-1	-2	-2	-2	-2	-2	-3	-3	-3	-3.1	-1.3
24-Nov	-4	-3	-4	-4	-4	1	2	2	3	2	4	5	5	5	5	5	5	4	3	3	2	0	0	-1	1.5	5.4
25-Nov	0	1	1	0	-1	0	-1	-1	-2	-3	-1	0	2	4	4	5	4	4	3	2	2	1	1	1	1.0	4.5
26-Nov	1	0	-1	-1	-1	-3	-2	-3	-2	-1	1	2	3	3	4	3	1	-1	-1	-2	-1	-3	-3	-4	-0.4	3.6
27-Nov	-4	-4	-4	-4	-5	-5	-4	-8	-7	-7	-7	-7	-4	-5	-3	-4	-4	-4	-6	-5	-5	-4	-4	-3	-4.8	-2.9
28-Nov	-4	-3	-2	-2	-2	-3	-3	-3	-3	-2	-1	0	1	3	5	4	5	P	P	P	P	P	P	P	--	4.8
29-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
30-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	4	4	4	4	5	5	5	--	5.0
	-2.7	-2.6	-2.7	-2.7	-2.8	-2.9	-2.7	-3.2	-2.9	-2.1	-1.0	-0.4	0.5	1.4	1.8	1.4	0.3	-0.6	-1.1	-1.4	-1.7	-1.7	-2.0	-2.6	Diurnal Average	
	6.1	6.5	6.3	5.9	5.8	5.1	4.3	3.1	3.4	4.0	9.1	10.0	13.6	15.0	13.4	13.3	10.5	9.5	9.3	10.0	10.1	9.6	9.0	7.5	Diurnal Maximum	

P - Power Failure N - Not Valid

Hourly Averages for External Temperature at Beaverlodge
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge - Relative Humidity (RH) - %
November 1, 2008 to December 1, 2008

Maximum Value: 97.2 % on Nov 9 15:00

Maximum Daily Average: 93.4 % on Nov 9

Minimum Value: 38 % on Nov 3 16:00

Minimum Daily Average: 57.7 % on Nov 26

Maximum Diurnal Average: 83.7 % at hour 8

Minimum Diurnal Average: 66.2 % at hour 15

Monthly Average: 77.74 %

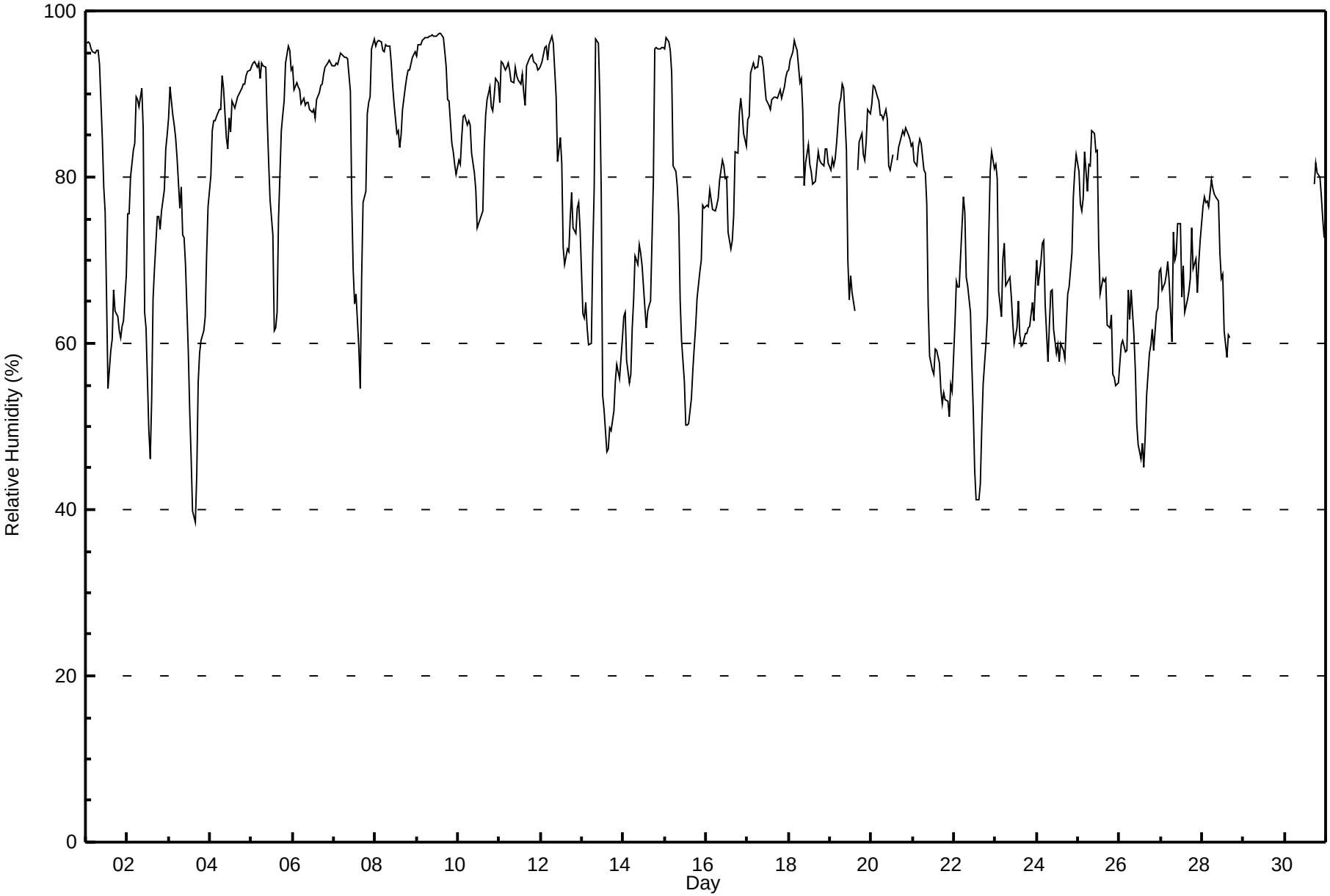
Percentiles: P_1 = 44.4 P_{10} = 58.3 Q_1 = 66.0 Median = 80.7 Q_3 = 90.1 P_{90} = 94.4 P_{99} = 96.9

Hours in Service:	720
Hours of Data:	669
Hours of Missing Data:	51
Hours of Calibration:	0
Percent Operational Time:	92.9

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	96	96	96	95	95	95	95	95	94	85	79	76	65	55	59	60	66	64	63	61	61	62	63	68	76.9	96.3
2-Nov	76	76	80	83	84	90	89	88	91	86	64	62	50	46	53	65	69	75	75	74	76	78	83	85	74.9	90.6
3-Nov	87	91	88	86	85	82	76	79	73	73	69	59	52	46	40	38	44	55	59	60	61	63	71	76	67.3	90.8
4-Nov	80	86	87	87	87	88	88	92	91	85	83	87	85	89	88	89	90	90	91	91	91	92	93	93	88.5	92.8
5-Nov	93	94	94	93	94	92	94	93	93	87	82	77	73	61	62	64	75	86	87	89	94	96	95	93	85.9	95.7
6-Nov	93	90	91	91	91	89	90	89	89	89	88	88	88	87	89	90	91	91	92	93	94	94	94	93	90.6	94.0
7-Nov	93	94	94	94	95	95	94	94	94	90	77	69	65	66	59	55	68	77	78	88	89	90	95	97	83.7	96.6
8-Nov	96	96	96	96	95	95	96	96	96	94	91	89	85	86	83	85	88	91	92	93	93	94	95	95	92.4	96.4
9-Nov	95	96	96	96	97	97	97	97	97	97	97	97	97	97	97	97	95	93	89	89	84	83	82	80	93.4	97.2
10-Nov	82	82	85	87	87	86	87	86	83	81	79	74	74	75	76	83	87	89	91	88	88	90	92	91	84.3	91.9
11-Nov	89	94	94	93	93	94	93	92	91	93	92	92	91	92	90	89	93	94	95	95	94	94	93	93	92.6	94.7
12-Nov	93	94	96	96	94	96	97	96	93	90	82	85	82	72	69	71	71	75	78	74	73	76	77	74	83.5	97.0
13-Nov	64	63	65	62	60	60	71	79	97	96	90	78	54	52	47	47	50	50	52	55	57	57	56	61	63.4	96.6
14-Nov	63	64	58	55	56	62	65	71	69	72	71	69	64	62	64	65	65	79	95	96	95	95	96	96	72.8	95.6
15-Nov	95	97	96	95	92	81	81	79	75	65	60	55	50	50	50	53	57	59	62	65	69	70	77	76	71.4	96.8
16-Nov	77	76	79	77	76	76	77	77	80	82	81	80	80	73	71	72	75	83	83	88	90	88	85	84	79.6	89.5
17-Nov	87	87	92	94	93	93	93	95	94	93	91	89	89	88	89	89	90	89	90	91	90	91	92	93	91.0	94.6
18-Nov	93	94	95	96	96	95	91	92	88	79	82	84	82	81	79	80	81	83	82	82	81	83	83	82	86.0	96.4
19-Nov	81	82	81	82	84	89	90	91	91	83	70	65	68	66	64	P	81	84	85	83	82	84	88	88	81.0	91.2
20-Nov	89	91	91	90	89	87	87	87	88	87	81	81	83	P	P	82	84	85	86	85	86	85	85	84	86.0	91.0
21-Nov	84	82	81	84	85	84	81	81	77	65	58	57	56	59	59	58	54	53	54	53	53	51	55	54	65.7	84.5
22-Nov	62	67	67	67	71	78	76	68	67	64	57	52	45	41	41	43	50	55	60	63	73	81	83	81	62.9	83.1
23-Nov	82	80	66	63	70	72	67	67	68	66	63	60	62	65	61	60	60	61	61	62	62	65	63	67	65.5	81.6
24-Nov	70	67	70	72	72	65	58	62	66	66	62	59	60	58	60	59	58	62	66	67	71	78	81	83	66.3	82.7
25-Nov	81	77	76	77	83	78	82	81	86	85	83	83	72	66	68	67	68	62	62	63	56	56	55	55	71.8	85.7
26-Nov	58	60	60	59	59	66	63	66	61	57	50	48	46	48	45	49	54	59	60	62	59	64	64	69	57.7	68.7
27-Nov	69	67	67	68	70	67	60	73	70	71	74	74	66	69	64	65	66	68	74	69	70	66	70	72	68.8	74.5
28-Nov	76	78	77	77	76	80	79	78	78	77	71	68	68	62	58	61	61	P	P	P	P	P	P	P	--	79.6
29-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
30-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	79	82	81	80	78	75	73	--	81.6
	82.3	82.8	82.8	82.8	83.2	83.3	82.7	83.7	83.5	80.6	76.0	73.5	69.7	67.1	66.2	68.1	71.1	74.7	76.6	77.1	77.6	78.7	80.0	80.5	Diurnal Average	
	96.0	96.8	96.4	96.4	96.6	96.7	97.0	96.9	96.9	97.1	96.9	96.9	97.2	97.2	97.2	96.7	95.0	94.2	95.4	95.6	95.4	95.7	95.6	96.6	Diurnal Maximum	

P - Power Failure

Hourly Averages for Relative Humidity at Beaverlodge
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge
November 1, 2008 to December 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	2	1	1	2	2	2	2	4	2	2	2	3	2	3	4	6	6	9	9	11	13	9	7	2	4.1	13.1
Dir	207	111	175	85	95	97	98	75	109	108	142	86	109	119	152	136	130	82	91	103	108	113	103	159	108.4	108.2
2 Spd	2	1	0	7	2	1	1	2	0	0	0	4	1	2	0	4	4	2	5	4	4	2	1	2	0.8	7.0
Dir	293	51	85	331	50	40	18	335	162	201	231	302	240	311	75	311	318	57	56	107	113	272	21	183	351.9	330.8
3 Spd	9	9	1	7	11	8	9	7	10	9	10	13	16	17	21	18	14	11	9	10	7	6	1	3	9.0	21.5
Dir	256	289	98	243	252	263	266	256	253	234	225	244	260	265	263	269	286	288	293	298	288	295	197	70	265.5	262.7
4 Spd	2	2	3	1	2	2	2	2	2	11	13	10	10	9	9	8	8	7	8	8	8	7	2	2	4.8	13.4
Dir	85	88	79	112	73	72	47	234	350	327	333	341	5	8	7	13	9	4	16	20	28	50	70	340	9.2	333.5
5 Spd	2	6	2	2	3	2	4	4	4	2	1	2	2	3	3	4	4	5	4	3	1	2	1	0	1.1	5.7
Dir	137	128	149	51	307	335	318	307	305	326	122	144	152	151	144	127	113	104	93	92	133	95	168	158	112.4	128.1
6 Spd	1	1	1	0	0	1	0	0	1	0	1	2	2	0	2	4	7	5	7	7	4	4	3	0	1.4	7.4
Dir	69	90	73	138	81	99	233	59	77	248	244	293	340	347	309	266	294	327	358	320	281	229	231	78	304.9	294.1
7 Spd	1	1	1	1	2	3	2	2	0	1	3	2	2	3	2	2	2	3	2	0	1	1	3	2	0.9	3.3
Dir	32	209	183	145	104	86	134	83	128	185	191	208	89	200	113	188	99	89	88	172	80	196	67	282	128.4	200.3
8 Spd	3	3	2	4	3	2	4	2	3	2	2	1	4	4	2	2	1	3	2	6	2	1	2	1	1.1	5.6
Dir	43	334	44	54	298	330	28	328	272	50	227	49	344	21	285	297	221	183	147	45	329	237	110	86	6.9	44.8
9 Spd	2	4	1	1	2	4	4	1	2	3	4	3	4	3	5	8	13	N	N	N	N	N	N	N	--	12.8
Dir	83	89	279	202	136	131	118	37	191	167	161	210	289	296	327	351	342	N	N	N	N	N	N	N	--	341.7
10 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
11 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
12 Spd	N	N	N	N	12	N	N	N	7	3	2	5	7	25	25	24	19	11	11	13	16	17	17	18	--	25.1
Dir	N	N	N	N	139	N	N	N	259	62	193	211	240	255	254	253	257	258	249	260	256	258	261	270	--	253.7
13 Spd	23	19	18	21	23	22	27	24	7	3	4	5	23	25	24	21	20	22	21	17	13	15	12	8	16.6	26.6
Dir	276	272	266	275	278	283	296	307	17	309	26	319	294	294	288	287	282	286	288	287	286	278	287	277	287.3	295.9
14 Spd	5	6	8	9	7	5	4	1	1	3	2	3	4	6	5	5	4	9	5	6	6	6	5	4	2.8	9.3
Dir	251	257	271	267	257	236	240	139	206	78	169	151	153	149	123	129	163	211	169	132	125	134	149	163	188.9	210.8
15 Spd	5	3	2	1	4	24	25	26	19	20	13	22	24	22	21	18	15	12	8	5	2	2	2	1	11.4	26.3
Dir	173	168	192	341	260	258	253	257	263	279	289	286	284	283	280	280	282	280	280	274	232	221	228	80	270.9	256.8
16 Spd	3	3	3	4	2	1	2	4	2	1	1	4	2	1	3	4	3	5	1	3	0	2	1	4	1.6	4.5
Dir	81	86	72	67	77	77	60	52	322	46	310	321	329	352	8	3	42	82	40	187	3	18	47	54	42.1	81.7
17 Spd	3	2	3	3	1	1	1	2	2	3	2	3	4	6	7	8	4	3	4	5	5	4	4	4	3.0	7.7
Dir	250	258	300	312	301	28	32	209	256	303	318	294	309	306	325	324	329	317	313	2	349	2	330	309	317.2	324.2
18 Spd	3	2	1	2	4	2	4	1	4	7	16	15	14	16	15	12	12	9	8	7	6	5	5	5	6.3	15.6
Dir	265	341	44	94	139	58	280	242	292	289	332	333	351	337	340	348	341	333	341	320	320	299	309	328	331.6	337.4
19 Spd	10	9	9	7	7	4	1	3	4	2	2	3	6	9	7	P	7	8	8	9	7	2	1	4	1.6	9.5
Dir	328	328	322	323	317	56	42	64	72	113	133	171	135	110	122	P	109	127	121	125	134	250	21	181	93.6	327.7
20 Spd	5	3	2	2	2	4	1	2	3	10	5	7	9	P	P	9	10	13	14	16	11	12	11	9	6.5	15.6
Dir	222	234	61	243	306	314	301	309	4	332	347	352	323	P	P	327	321	326	323	331	334	322	324	318	324.2	331.4
21 Spd	5	3	2	3	5	2	6	8	13	6	5	3	5	5	8	12	15	16	14	14	12	11	7	2	4.3	15.8
Dir	288	277	299	95	214	218	229	235	258	268	226	140	127	117	113	124	127	126	122	121	116	137	142	89	147.4	125.6
22 Spd	10	4	10	10	20	16	15	25	27	36	36	33	32	31	32	25	20	17	10	8	2	1	4	6	17.0	35.9
Dir	331	17	325	298	262	261	260	260	258	258	264	266	271	275	274	276	280	282	279	277	222	162	237	265	271.0	263.9

Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge
November 1, 2008 to December 1, 2008
WS (km/h), WD (deg)

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
23 Spd	3	2	10	14	2	5	6	4	1	0	1	3	1	4	6	7	9	6	5	5	2	1	1	3	1.4	13.9
Dir	256	37	277	275	261	258	270	273	170	90	167	86	168	127	122	123	137	145	153	158	112	243	74	248	202.0	274.7
24 Spd	0	1	1	4	2	5	5	5	8	10	13	15	10	7	10	15	17	12	2	5	11	9	2	3	6.5	17.5
Dir	38	36	176	352	348	293	299	321	279	282	294	274	298	300	277	282	272	284	333	296	264	261	247	107	285.3	272.5
25 Spd	4	4	4	2	3	4	1	2	2	3	4	4	4	2	3	9	19	29	25	17	23	24	24	20	7.4	28.6
Dir	93	97	86	79	193	116	213	294	7	43	324	30	318	281	173	262	262	261	255	266	275	277	274	272	269.6	261.5
26 Spd	19	13	12	13	12	5	7	6	10	11	10	12	22	17	13	12	10	8	4	5	7	2	1	2	9.5	21.8
Dir	275	277	272	275	278	244	269	262	269	273	257	274	275	277	273	260	255	251	285	266	264	232	23	136	269.4	275.0
27 Spd	2	3	2	2	4	6	6	2	1	4	5	8	4	8	5	5	4	5	2	2	1	2	1	3	1.2	8.2
Dir	114	84	123	103	129	102	63	179	266	265	312	327	325	309	349	308	318	25	184	38	341	105	108	247	349.9	309.3
28 Spd	3	3	1	1	1	2	3	3	3	3	1	2	4	11	17	12	11	P	P	P	P	P	P	P	--	16.7
Dir	78	79	219	108	107	165	118	121	100	87	128	84	227	255	252	263	269	P	P	P	P	P	P	P	--	251.7
29 Spd	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
Dir	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
30 Spd	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	7	6	6	4	2	5	1	--	6.6
Dir	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	113	119	108	111	128	38	284	--	112.9
Spd	2.6	1.4	2.0	2.6	2.6	2.6	3.4	3.7	3.7	3.9	3.9	4.5	5.6	6.1	5.9	6.1	5.2	3.5	2.2	1.7	1.9	2.6	2.0	2.2	Diurnal Average	
Dir	278.6	293.1	287.7	292.3	258.2	266.1	274.9	274.3	270.2	280.9	280.9	287.5	288.9	282.4	277.8	283.1	283.0	279.8	289.6	300.4	278.9	267.2	280.8	273.4		
Spd	22.7	19.0	18.3	20.6	23.0	24.4	26.6	26.3	27.2	35.5	35.9	33.3	32.0	31.3	32.5	24.6	20.3	28.6	25.0	17.3	23.4	23.7	24.3	20.1	Diurnal Maximum	
Dir	276.3	271.5	265.8	275.5	278.0	258.5	295.9	256.8	257.9	258.3	263.9	265.5	271.2	274.6	274.3	276.2	279.9	261.5	255.1	287.4	274.6	277.0	274.1	271.7		

Maximum Speed Value: 36 km/h on Nov 22 11:00
Maximum Daily Speed Average: 17.0 km/h on Nov 22
Maximum Diurnal Speed Average: 6.1 km/h at hour 16

Minimum Speed Value: 0 km/h on Nov 2 11:00
Minimum Daily Speed Average: 0.8 km/h on Nov 7
Minimum Diurnal Speed Average: 1.4 km/h at hour 2

Monthly Average Velocity: 3.39 km/h 280.35 deg
Speed Percentiles: $P_1 = 0.3$ $P_{10} = 1.1$ $Q_1 = 2.1$ Median = 4.1 $Q_3 = 9.0$ $P_{90} = 16.6$ $P_{99} = 31.0$
All monthly, daily, and diurnal averages have been calculated using vector methods

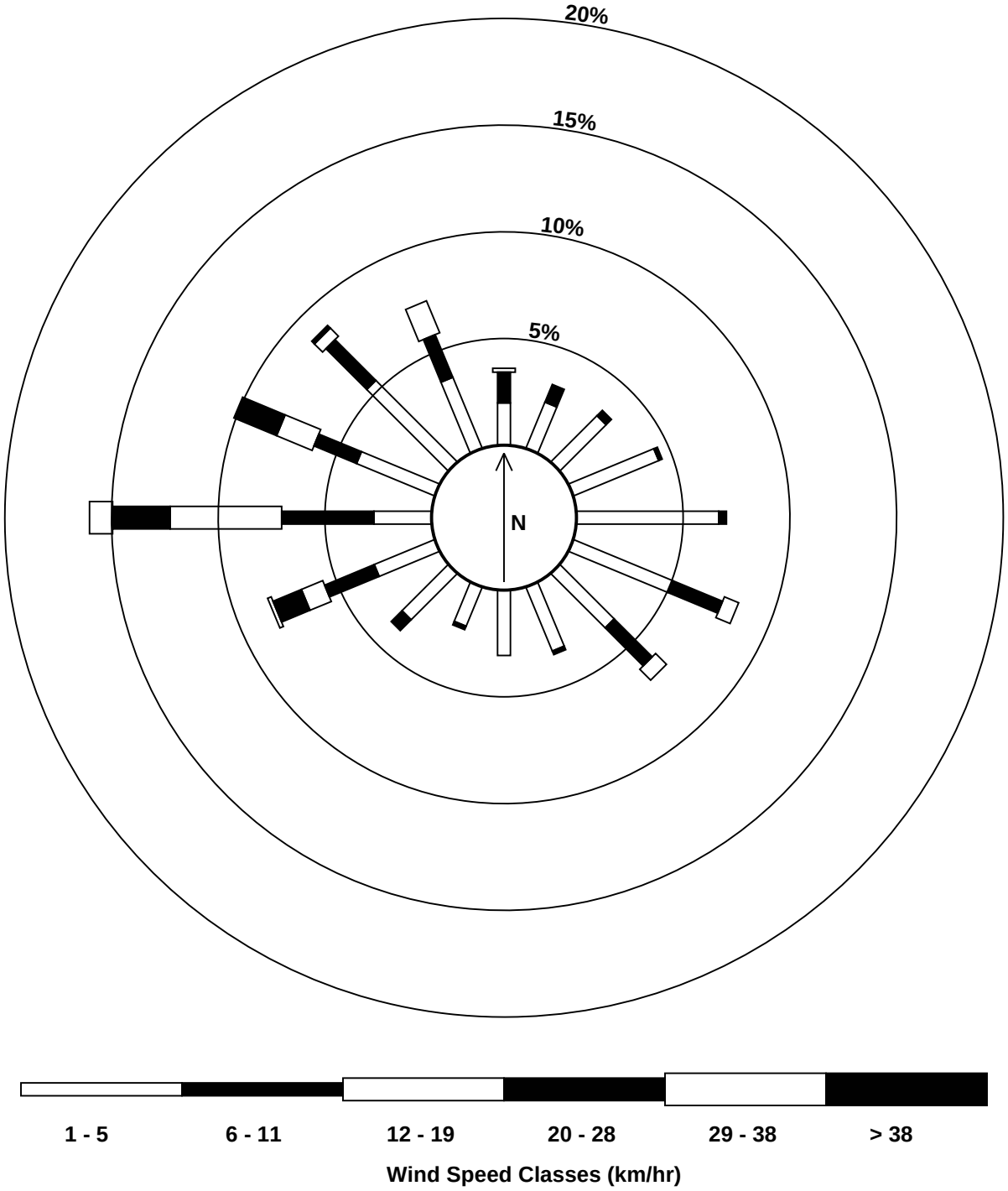
Hours in Service:	720
Hours of Data:	607
Hours of Missing Data:	113
Percent Operational Time:	84.3

P - Power Failure N - Not Valid

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	4.45	2.31	0.82	0.00	0.00	0.00	7.58
NorthEast	7.08	0.82	0.00	0.00	0.00	0.00	7.91
East	12.85	1.15	0.33	0.00	0.00	0.00	14.33
SouthEast	7.08	4.28	1.15	0.00	0.00	0.00	12.52
South	6.75	0.16	0.00	0.00	0.00	0.00	6.92
SouthWest	5.93	1.65	0.16	0.00	0.00	0.00	7.74
West	4.94	6.59	7.25	5.60	1.15	0.00	25.54
NorthWest	8.57	6.43	1.81	0.66	0.00	0.00	17.46
Total	57.66	23.39	11.53	6.26	1.15	0.00	100.00

Wind Rose for WS at Beaverlodge
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages - Wind Speed (Scalar)

Beaverlodge - Wind Speed (WS) - km/h
November 1, 2008 to December 1, 2008

Maximum Speed: 36 km/h on Nov 22 11:00

Maximum Daily Speed Average: 18.3 km/h on Nov 22

Minimum Speed: 0 km/h on Nov 7 09:00

Minimum Daily Speed Average: 2.2 km/h on Nov 7

Maximum Diurnal Speed Average: 10.3 km/h at hour 16

Minimum Diurnal Speed Average: 4.6 km/h at hour 3

Monthly Average Speed: 7.11 km/h

Percentiles: $P_1 = 0.6$ $P_{10} = 1.9$ $Q_1 = 2.9$ Median = 4.6 $Q_3 = 9.1$ $P_{90} = 16.6$ $P_{99} = 31.0$

Hours in Service:	720
Hours of Data:	607
Hours of Missing Data:	113
Percent Operational Time:	84.3

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	2	1	2	3	3	2	2	4	3	2	3	4	3	3	4	6	6	9	9	11	13	9	7	5	4.8	13.2
2-Nov	3	2	2	7	3	3	2	3	2	2	2	4	2	3	2	4	4	2	5	4	4	4	4	4	3.3	7.2
3-Nov	10	9	1	7	11	8	9	8	11	9	10	13	16	17	22	18	14	11	9	10	7	6	2	3	10.0	21.6
4-Nov	3	2	3	1	2	2	3	2	2	11	13	11	10	9	9	9	8	7	8	8	8	7	2	2	5.9	13.5
5-Nov	4	6	3	3	3	2	4	4	4	2	2	2	2	3	3	4	4	5	4	3	1	2	1	1	3.0	5.7
6-Nov	2	2	1	1	1	1	0	1	1	1	1	3	2	1	4	4	8	6	7	7	5	4	3	0	2.7	7.6
7-Nov	1	1	1	2	3	3	2	2	0	2	3	2	2	3	2	2	3	4	3	1	3	2	3	4	2.2	3.7
8-Nov	4	3	3	4	4	4	5	3	5	3	3	2	5	4	4	3	1	3	2	6	3	2	2	1	3.3	5.6
9-Nov	2	4	5	3	3	4	4	3	3	3	4	3	5	3	5	9	13	N	N	N	N	N	N	N	--	13.0
10-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
11-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
12-Nov	N	N	N	N	12	N	N	N	8	4	2	5	9	25	25	24	19	11	11	13	16	17	17	18	--	25.1
13-Nov	23	19	18	21	23	22	27	24	7	3	4	5	23	25	24	21	20	22	21	17	13	15	12	8	17.5	26.7
14-Nov	5	6	8	9	7	5	5	1	1	3	2	3	4	6	6	5	5	9	5	6	6	6	5	4	5.2	9.3
15-Nov	5	3	2	4	6	24	25	26	19	20	13	22	24	22	21	18	15	12	8	5	4	3	3	3	12.8	26.3
16-Nov	3	3	3	4	2	1	2	4	3	1	2	4	3	2	3	4	4	5	2	3	1	2	1	4	2.7	4.7
17-Nov	3	2	4	3	1	1	1	2	3	3	3	4	4	6	7	8	4	3	4	5	5	4	4	5	3.7	8.0
18-Nov	3	3	4	3	5	5	5	3	6	10	16	15	14	16	15	13	12	9	8	7	6	5	5	6	8.0	15.7
19-Nov	10	9	9	7	7	5	1	3	4	3	3	3	6	9	7	P	7	8	8	9	7	7	4	5	6.0	9.5
20-Nov	5	3	2	2	3	5	3	3	4	10	5	7	9	P	P	9	10	13	15	16	11	13	12	9	7.7	15.7
21-Nov	6	3	2	3	6	4	7	8	13	7	5	4	5	6	8	12	15	16	14	14	12	11	7	3	7.9	15.8
22-Nov	11	6	10	10	20	16	15	25	27	36	36	33	32	31	33	25	20	17	10	8	4	3	5	6	18.3	35.9
23-Nov	3	3	10	14	5	5	6	4	2	1	2	3	3	4	6	7	9	6	5	5	3	2	2	3	4.8	13.9
24-Nov	2	2	2	6	4	7	7	6	9	11	13	15	10	8	11	15	18	12	3	6	11	9	3	4	8.0	17.5
25-Nov	4	4	4	3	3	4	2	3	4	4	6	6	5	2	3	9	19	29	25	17	23	24	24	20	10.2	28.6
26-Nov	19	14	12	13	12	6	7	7	10	11	10	12	22	17	13	12	10	9	5	5	7	3	3	4	10.2	21.8
27-Nov	3	3	3	3	4	6	6	3	3	4	6	8	7	8	5	6	4	5	3	3	4	2	2	4	4.4	8.4
28-Nov	3	3	1	2	1	2	3	3	4	4	2	2	4	11	17	12	11	P	P	P	P	P	P	P	--	16.7
29-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
30-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	7	6	6	4	2	5	4	--	6.8
	5.6	4.6	4.6	5.4	5.9	6.0	6.2	6.2	6.0	6.5	6.5	7.6	8.9	9.8	10.3	10.3	10.1	9.6	8.0	7.8	7.2	6.5	5.6	5.1	Diurnal Average	
	22.7	19.0	18.3	20.6	23.0	24.5	26.7	26.3	27.3	35.6	35.9	33.3	32.1	31.4	32.5	24.7	20.3	28.6	25.0	17.3	23.5	23.7	24.3	20.1	Diurnal Maximum	

P - Power Failure N - Not Valid

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

Peace Airshed Zone Association
Summary of Hourly Standard Deviations

Beaverlodge - Wind Direction (WD) - deg
November 1, 2008 to December 1, 2008

Maximum Value: 96.8 deg on Nov 2 09:00

Minimum Value: 2.2 deg on Nov 15 07:00

Percentiles: P_1 = 2.7 P_{10} = 4.1 Q_1 = 7.9 Median = 21.2 Q_3 = 45.5 P_{90} = 71.4 P_{99} = 91.0

Hours in Service:	720
Hours of Data:	607
Hours of Missing Data:	113
Hours of Calibration:	0
Percent Operational Time:	84.3

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-Nov	31	39	44	19	23	18	30	23	31	48	49	25	39	25	16	10	18	10	11	3	6	10	10	68	68.4
2-Nov	80	70	87	23	57	75	68	71	97	91	94	20	70	32	81	23	41	48	15	34	29	87	76	62	96.8
3-Nov	21	17	71	40	7	7	10	8	14	8	7	14	7	5	5	9	5	6	6	4	6	7	73	18	72.5
4-Nov	29	26	18	64	19	14	48	23	66	3	5	14	13	14	13	13	12	10	6	5	5	6	9	44	65.5
5-Nov	75	4	49	70	31	23	12	15	6	9	45	15	10	14	18	16	14	8	11	22	29	15	56	62	74.9
6-Nov	67	61	59	83	70	70	79	87	19	87	65	21	52	81	84	22	14	38	10	9	30	8	16	70	86.8
7-Nov	67	22	25	36	32	30	34	12	73	61	22	46	40	15	35	44	35	52	75	81	87	76	75	90	90.0
8-Nov	52	46	28	24	86	72	19	73	63	40	70	73	39	35	55	27	40	24	34	4	52	29	14	18	86.1
9-Nov	9	21	87	59	42	20	18	89	36	27	24	26	29	52	21	14	9	N	N	N	N	N	N	N	89.5
10-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
11-Nov	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
12-Nov	N	N	N	N	7	N	N	N	27	55	48	22	74	4	3	2	3	5	6	17	6	3	4	4	74.2
13-Nov	3	4	4	3	3	6	4	15	13	35	29	38	4	4	7	3	3	3	4	3	5	4	3	11	37.7
14-Nov	16	25	9	6	6	16	49	59	56	25	24	38	29	10	5	13	38	6	21	7	11	6	9	8	58.7
15-Nov	8	17	37	74	69	3	2	3	5	4	10	4	3	4	3	3	4	3	3	17	77	57	48	73	76.6
16-Nov	12	10	7	11	12	11	8	5	51	73	69	14	49	44	26	16	28	14	49	34	92	29	64	25	91.8
17-Nov	38	24	24	26	46	55	38	27	22	43	36	24	16	11	11	17	57	27	22	23	15	24	27	45	56.8
18-Nov	52	65	78	51	23	82	39	82	68	41	5	7	9	7	8	11	9	11	18	12	10	7	17	9	82.2
19-Nov	4	4	3	4	5	33	72	56	7	45	29	17	10	9	15	P	12	7	6	5	20	69	77	37	77.0
20-Nov	11	39	69	43	61	52	90	68	39	6	44	30	21	P	P	6	7	6	12	6	7	7	12	8	90.0
21-Nov	11	18	52	40	24	73	10	12	13	47	18	50	15	13	7	3	4	2	4	6	6	12	6	59	72.8
22-Nov	50	49	4	17	6	4	4	4	3	3	3	3	4	4	3	4	5	4	5	15	78	63	31	23	77.9
23-Nov	61	59	5	3	87	42	11	20	58	93	74	14	69	34	9	14	8	18	14	23	39	31	85	18	93.0
24-Nov	87	70	88	52	70	45	38	44	43	16	6	8	16	32	12	6	4	11	61	39	16	14	71	28	87.9
25-Nov	15	12	19	29	33	32	57	46	63	62	58	54	41	71	17	12	4	3	4	5	3	3	4	3	71.4
26-Nov	3	4	3	3	6	42	14	21	3	6	7	7	4	5	6	7	13	54	73	44	14	72	72	54	73.4
27-Nov	41	19	36	17	32	12	27	42	82	20	40	34	51	19	41	33	28	28	78	46	80	32	70	24	82.3
28-Nov	21	25	75	43	34	45	35	21	50	44	23	49	35	14	4	8	11	P	P	P	P	P	P	P	74.8
29-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--
30-Nov	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	15	21	8	14	37	29	92	91.8
	86.6	70.5	87.9	82.9	87.0	82.2	90.0	89.5	96.8	93.0	93.6	72.5	74.2	81.2	84.2	44.1	56.8	54.2	77.9	80.9	91.8	87.2	84.7	91.8	

P - Power Failure N - Not Valid

PASZA
Portable – Spirit River Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Spirit River - Sulphur Dioxide (SO_2) - ppb
November 1, 2008 to December 1, 2008

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 6.0 ppb on Nov 30 02:00
Maximum Daily Average: 0.9 ppb on Nov 28

Minimum Value: 0 ppb on Nov 3 23:00
Maximum Diurnal Average: 0.6 ppb at hour 2
Monthly Average: 0.39 ppb

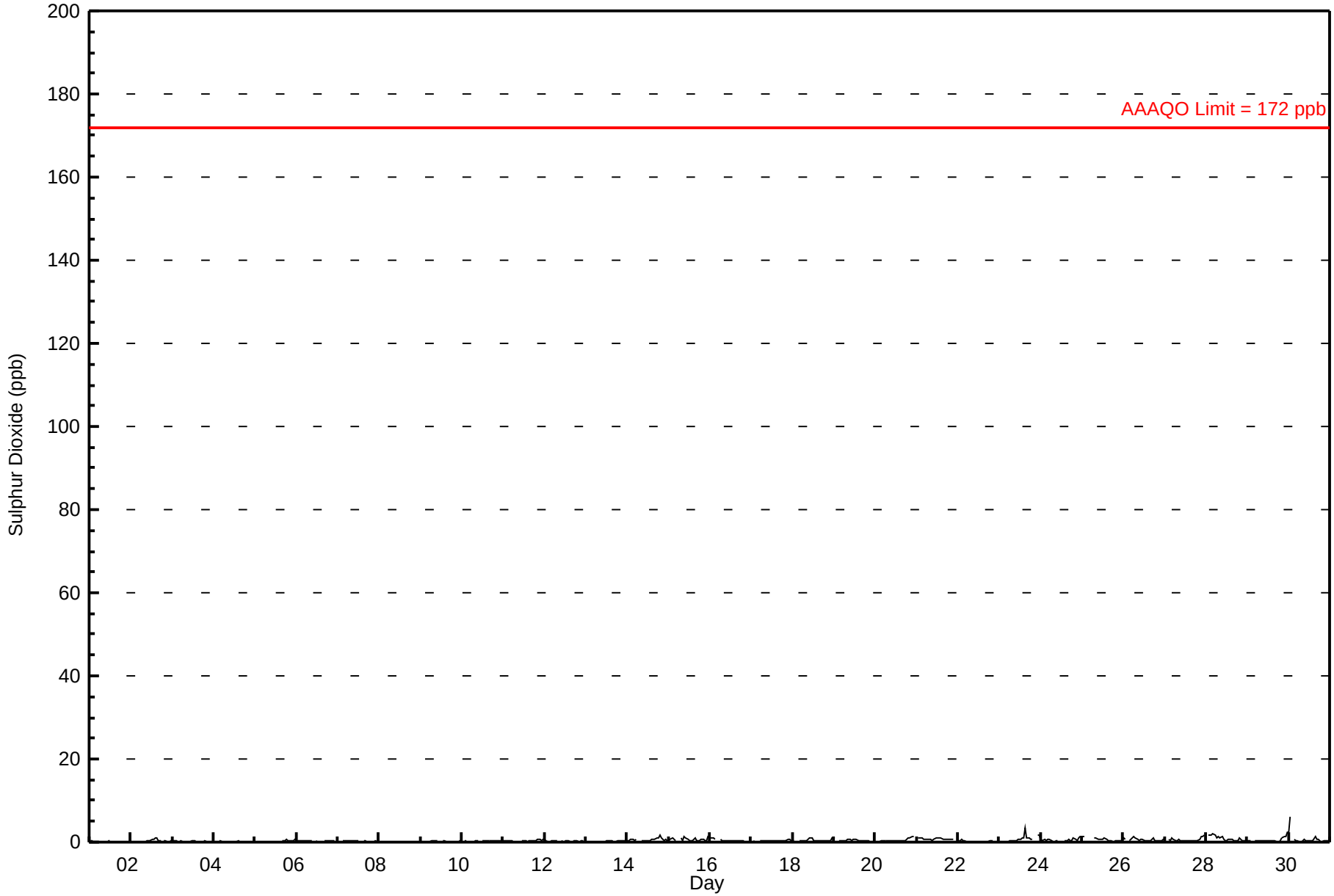
Minimum Daily Average: 0.0 ppb on Nov 8
Minimum Diurnal Average: 0.3 ppb at hour 7
Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.1$ Median = 0.3 $Q_3 = 0.5$ $P_{90} = 0.9$ $P_{99} = 1.7$

Hours in Service:	720
Hours of Data:	660
Hours of Missing Data:	60
Hours of Calibration:	51
Percent Operational Time:	98.8

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.1	0.2
2-Nov	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	A	0	0	0	0	0	0.3	1.1
3-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.1	0.4
4-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.1	0.3
5-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	0	0	0	0	1	0.2	0.7
6-Nov	0	0	0	0	0	0	0	0	0	0	P	0	0	0	A	A	0	0	0	0	0	0	0	P	0.3	0.4
7-Nov	0	P	P	0	0	0	0	0	0	0	0	0	0	A	A	0	0	0	0	0	0	0	0	0	0.2	0.4
8-Nov	0	0	0	0	0	0	0	0	0	0	0	0	A	A	0	0	0	0	0	0	0	0	0	0	0.0	0.2
9-Nov	0	0	0	0	0	0	0	0	0	0	0	A	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
10-Nov	0	0	0	0	0	0	0	0	0	0	A	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
11-Nov	0	0	0	0	0	0	0	0	0	A	A	0	0	0	0	0	0	0	0	0	1	1	0	1	0.3	0.7
12-Nov	1	0	0	0	0	0	0	0	A	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.2	0.7
13-Nov	0	0	0	0	0	0	0	A	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
14-Nov	0	0	1	1	0	1	A	A	0	0	0	0	0	0	1	1	1	1	1	2	1	0	1	0	0.6	1.6
15-Nov	0	1	1	1	0	A	A	1	0	1	1	1	0	0	0	1	0	0	0	1	1	0	0	1	0.6	1.3
16-Nov	1	1	1	1	A	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.1
17-Nov	0	0	0	A	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0.4	0.5
18-Nov	0	0	A	A	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0.5	1.0
19-Nov	1	A	A	0	0	0	0	0	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0.4	1.2
20-Nov	A	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	A	0.5	1.4
21-Nov	A	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	A	A	0.8	1.2
22-Nov	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	A	0	0.2	0.6
23-Nov	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	4	1	1	1	1	A	A	2	2	0.7	3.5
24-Nov	1	0	1	0	1	1	0	0	0	0	0	C	C	A	0	0	1	0	0	1	1	1	1	1	0.5	1.3
25-Nov	1	1	P	P	P	P	P	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.6	1.4
26-Nov	1	1	A	0	1	1	1	1	1	0	1	1	0	0	0	0	0	1	0	0	0	0	0	1	0.6	1.3
27-Nov	0	A	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	0.6	1.7
28-Nov	A	2	2	2	2	2	1	1	1	1	1	0	0	1	1	1	0	0	0	1	1	0	0	0	0.9	1.9
29-Nov	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	0.5	2.5
30-Nov	3	6	A	1	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0.7	6.0
	0.5	0.6	0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.4	0.4	0.5	0.3	0.4	0.3	0.4	0.4	0.4	0.4	0.5	Diurnal Average	
	2.5	6.0	1.7	1.7	1.9	1.6	1.3	1.2	1.1	1.3	1.1	1.1	1.2	1.1	1.2	3.5	1.1	1.2	0.9	1.6	1.1	1.4	1.7	2.5	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 SO_2 at Portable-Spirit River
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Portable-Spirit River - Sulphur Dioxide (SO_2) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 19.3 ppb on Nov 15 16:00

Maximum Daily Average: 1.8 ppb on Nov 15

Minimum Value: 0 ppb on Nov 8 09:00

Maximum Diurnal Average: 1.7 ppb at hour 16

Monthly Average: 0.80 ppb

Minimum Daily Average: 0.2 ppb on Nov 8

Minimum Diurnal Average: 0.6 ppb at hour 9

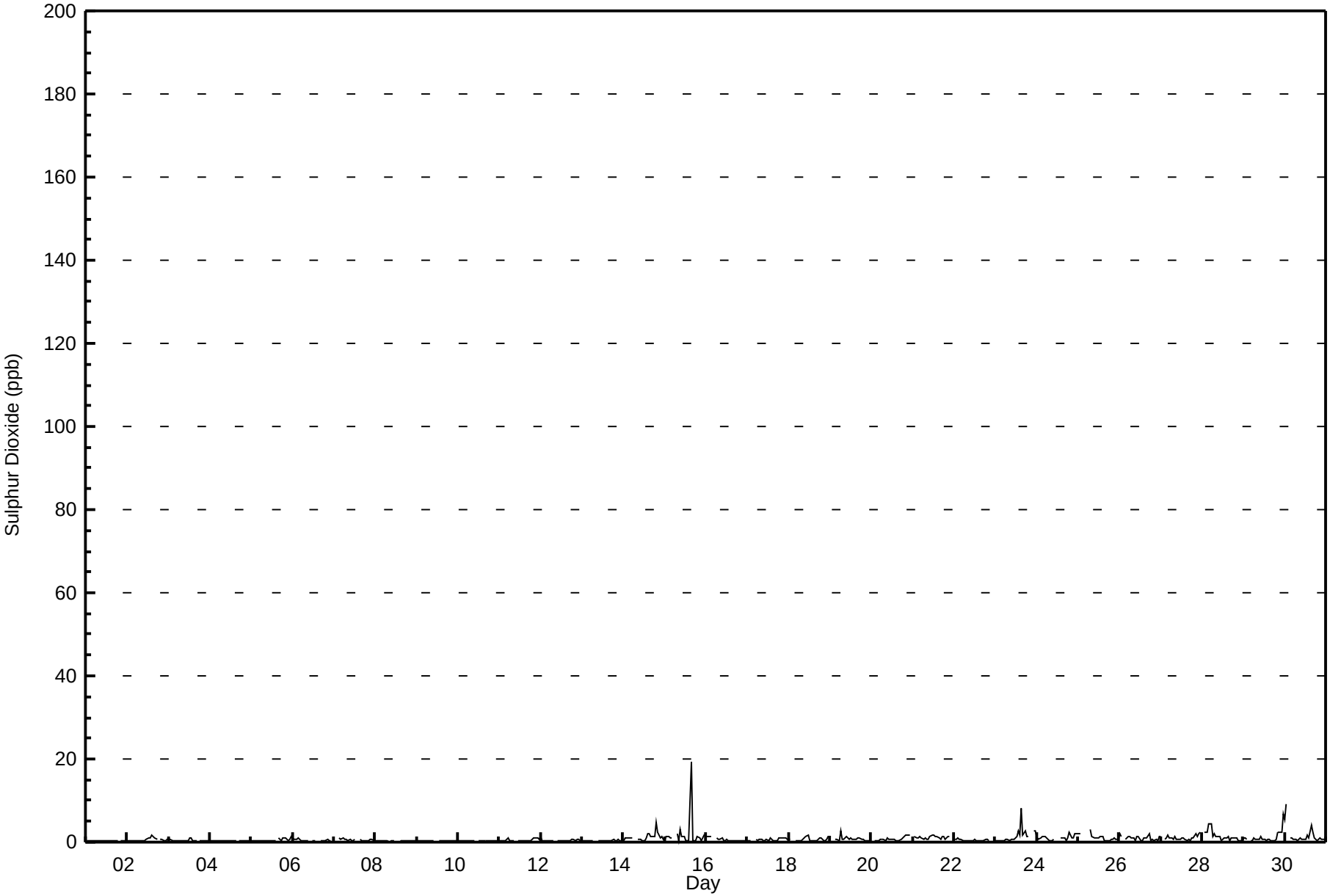
Percentiles: $P_1 = 0.2$ $P_{10} = 0.3$ $Q_1 = 0.4$ Median = 0.5 $Q_3 = 0.9$ $P_{90} = 1.4$ $P_{99} = 4.4$

Hours in Service:	720
Hours of Data:	660
Hours of Missing Data:	60
Hours of Calibration:	51
Percent Operational Time:	98.8

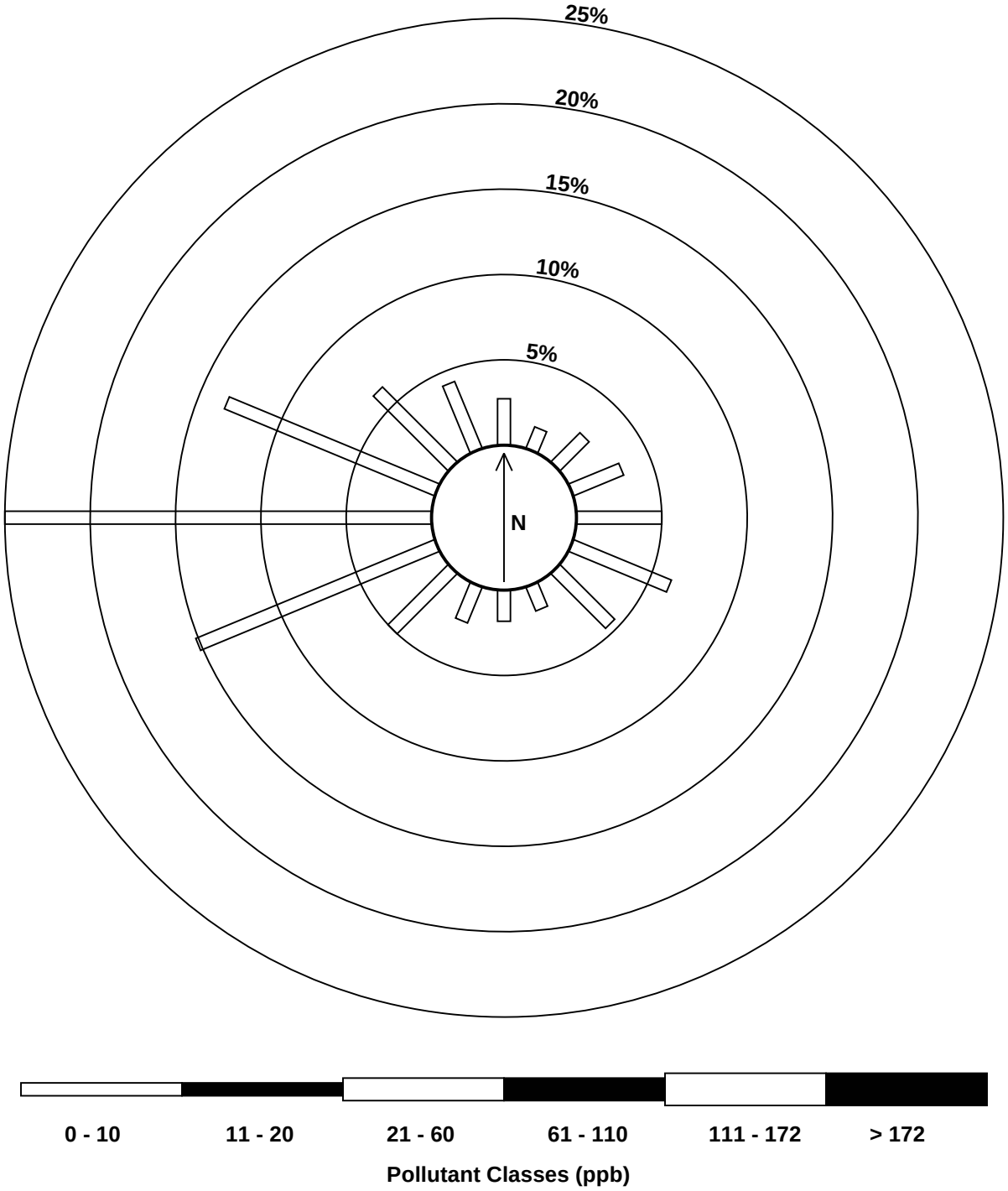
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.4	0.4
2-Nov	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	1	1	1	A	1	1	0	0	1	0.6	1.5
3-Nov	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	A	0	0	0	0	0	0	0.5	0.9
4-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.4	0.5
5-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	1	1	1	0	1	1	0.5	1.4
6-Nov	1	1	1	1	1	0	0	0	0	0	P	0	0	0	A	A	0	0	0	0	1	0	0	P	0.5	0.9
7-Nov	1	P	P	1	1	1	1	1	0	1	0	0	1	A	A	1	0	0	0	0	0	1	1	0	0.5	0.9
8-Nov	0	0	0	0	0	0	0	0	0	0	0	0	A	A	0	0	0	0	0	0	0	0	0	0	0.2	0.2
9-Nov	0	0	0	0	0	0	0	0	0	0	0	A	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
10-Nov	0	0	0	0	0	0	0	0	0	0	A	A	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
11-Nov	0	0	0	0	1	1	0	0	0	A	A	0	0	0	0	0	0	0	0	1	1	1	1	1	0.6	1.1
12-Nov	1	0	0	0	0	0	0	0	A	A	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0.5	1.3
13-Nov	0	0	0	0	0	0	0	A	A	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0.4	0.8
14-Nov	0	1	1	1	1	1	A	A	1	1	1	0	0	1	2	2	1	1	1	5	2	1	1	1	1.3	4.9
15-Nov	0	1	1	1	1	A	A	2	0	3	1	1	0	0	0	19	0	0	0	1	1	0	1	2	1.8	19.3
16-Nov	1	1	1	1	A	A	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.6	1.4
17-Nov	0	0	1	A	A	1	0	1	1	0	0	1	0	1	1	0	0	0	1	1	1	1	1	1	0.6	1.0
18-Nov	1	1	A	A	1	0	0	1	1	1	1	2	0	0	0	0	0	1	1	1	0	1	1	1	0.7	1.8
19-Nov	1	A	A	1	1	0	3	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0.8	2.6
20-Nov	A	A	0	0	0	1	1	1	0	1	1	1	1	1	0	0	0	1	1	1	2	2	2	A	0.8	1.7
21-Nov	A	2	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	A	A	1.1	1.7
22-Nov	1	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	A	A	0	0.4	0.9
23-Nov	0	0	0	0	0	0	1	1	0	1	1	1	1	3	2	8	2	3	1	1	A	A	3	3	1.5	8.2
24-Nov	1	1	1	1	1	1	1	0	0	0	1	C	C	A	1	1	1	0	1	2	1	1	2	2	1.0	2.3
25-Nov	2	2	P	P	P	P	P	3	1	1	1	1	1	1	1	0	0	0	0	1	1	1	1	1	1.1	3.0
26-Nov	2	1	A	1	1	2	2	1	1	1	1	1	0	0	1	1	1	2	0	1	0	1	0	1	1.0	2.0
27-Nov	1	A	1	1	2	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	2	1	2	2	1.1	2.4
28-Nov	A	2	2	2	4	4	1	2	1	1	1	0	1	1	1	1	0	1	1	1	1	1	0	0	1.5	4.4
29-Nov	1	1	1	A	0	0	1	1	1	1	1	1	1	0	1	1	0	0	0	1	2	2	2	7	1.1	6.8
30-Nov	5	9	A	1	1	1	1	0	1	1	1	1	1	2	1	4	2	1	1	0	1	1	1	1	1.6	9.3
	0.9	1.1	0.7	0.7	0.8	0.8	0.7	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.7	1.7	0.6	0.7	0.7	0.9	0.8	0.7	0.8	1.1	Diurnal Average	
	5.4	9.3	2.5	2.4	4.4	4.4	2.6	3.0	1.5	2.9	1.5	1.8	1.7	2.7	2.0	19.3	2.3	2.7	1.5	4.9	2.4	2.4	2.8	6.8	Diurnal Maximum	

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

Hourly Maximums for SO_2 at Portable-Spirit River
November 2008



Pollutant Rose for SO_2 at Portable-Spirit River
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Spirit River - Total Reduced Sulphur (TRS) - ppb
November 1, 2008 to December 1, 2008

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.4 ppb on Nov 1 07:00 Maximum Daily Average: 1.0 ppb on Nov 2

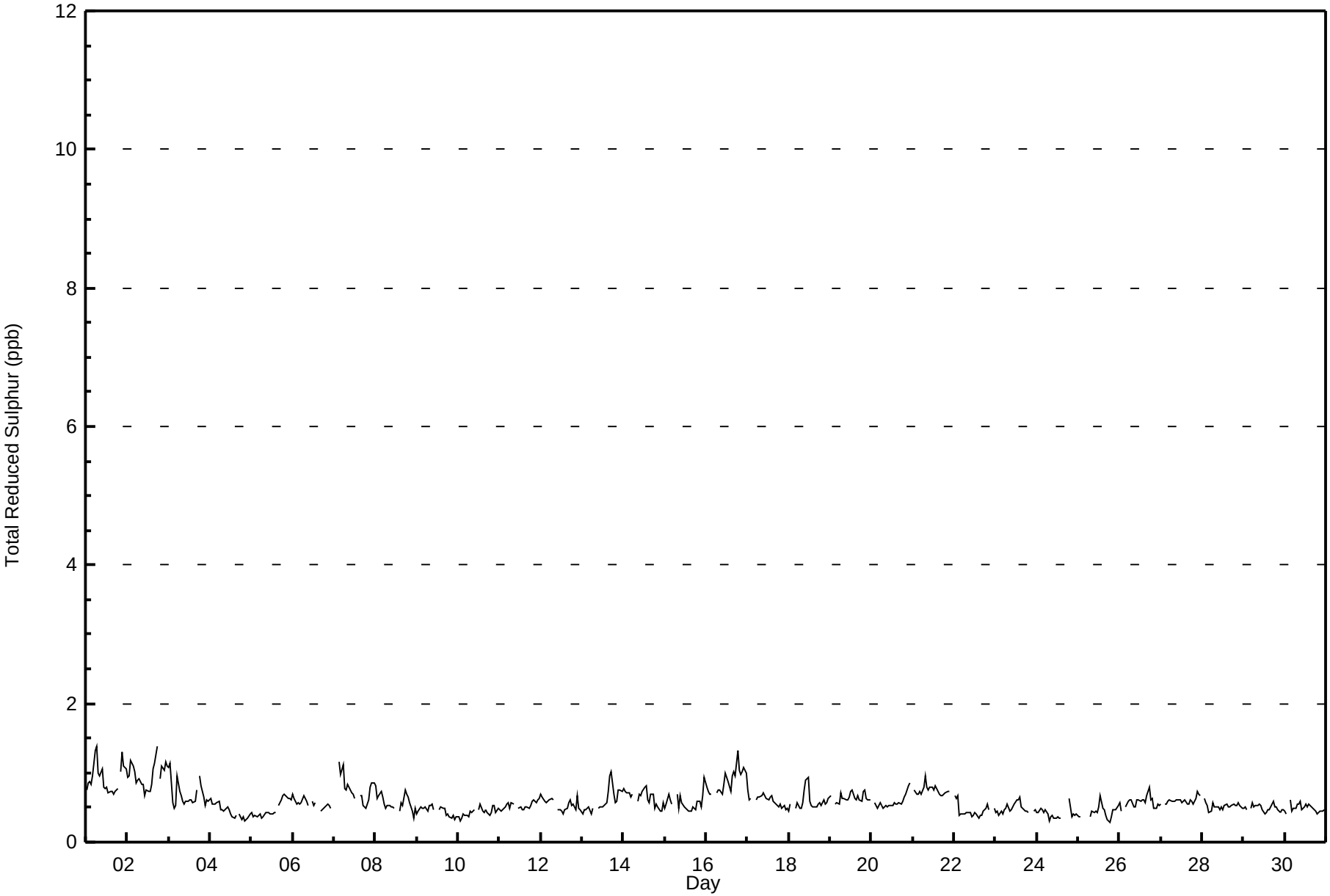
Minimum Value: 0 ppb on Nov 25 19:00 Minimum Daily Average: 0.4 ppb on Nov 24
Maximum Diurnal Average: 0.6 ppb at hour 22 Minimum Diurnal Average: 0.5 ppb at hour 15
Monthly Average: 0.59 ppb Percentiles: $P_1 = 0.3$ $P_{10} = 0.4$ $Q_1 = 0.5$ Median = 0.6 $Q_3 = 0.7$ $P_{90} = 0.8$ $P_{99} = 1.2$

Hours in Service:	720
Hours of Data:	659
Hours of Missing Data:	61
Hours of Calibration:	52
Percent Operational Time:	98.8

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.9	1.4
2-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1.0	1.4
3-Nov	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.7	1.1
4-Nov	1	1	1	1	1	1	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0.4	0.6
5-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	1	1	1	1	1	0.5	0.7
6-Nov	1	1	1	1	1	1	1	1	1	1	P	1	1	1	A	A	0	0	0	1	1	1	0	P	0.6	0.7
7-Nov	1	P	P	1	1	1	1	1	1	1	1	1	1	A	A	1	1	1	0	1	1	1	1	1	0.8	1.2
8-Nov	1	1	1	1	1	1	0	1	1	1	1	0	A	A	0	1	1	1	1	1	1	0	0	0	0.6	0.8
9-Nov	0	0	1	0	0	1	0	1	1	1	0	A	A	0	1	0	0	0	0	0	0	0	0	0	0.5	0.5
10-Nov	0	0	0	0	0	0	0	0	0	0	A	A	0	1	0	0	0	0	0	0	1	1	0	0	0.4	0.5
11-Nov	0	0	0	1	1	1	0	1	1	A	A	0	1	0	0	1	1	0	1	1	1	1	1	1	0.5	0.6
12-Nov	1	1	1	1	1	1	1	1	A	A	0	0	0	0	0	0	1	1	1	1	0	1	0	0	0.5	0.7
13-Nov	0	0	0	0	1	0	0	A	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.0
14-Nov	1	1	1	1	1	1	A	A	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	1	0.6	0.8
15-Nov	0	1	1	1	1	A	A	1	0	1	1	1	0	0	0	0	1	0	0	1	1	1	1	1	0.6	0.9
16-Nov	1	1	1	1	A	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3
17-Nov	1	1	1	A	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0.6	0.8
18-Nov	0	1	A	A	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.9
19-Nov	1	A	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.7
20-Nov	A	A	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.6	0.9
21-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	A	0.7	1.0
22-Nov	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	A	A	0	0.5	0.7
23-Nov	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1	0	0	0	0	A	A	0	0	0.5	0.6
24-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	A	1	0	0	0	0	0.4	0.6
25-Nov	0	0	P	P	P	P	P	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0.4	0.7
26-Nov	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0.6	0.8
27-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.7
28-Nov	A	1	1	1	0	0	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0.5	0.6
29-Nov	0	1	0	A	0	1	1	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	0.5	0.6
30-Nov	0	0	A	1	0	0	0	1	1	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0.5	0.6
	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	Diurnal Average	
	1.1	1.1	1.2	1.2	1.0	1.3	1.4	1.0	1.0	1.1	0.9	1.0	0.9	0.9	0.8	1.0	1.1	1.4	1.3	1.0	1.1	1.3	1.2	1.1	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 TRS at Portable-Spirit River
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Portable-Spirit River - Total Reduced Sulphur (TRS) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 2.4 ppb on Nov 7 06:00

Maximum Daily Average: 1.4 ppb on Nov 2

Minimum Value: 1 ppb on Nov 4 22:00

Maximum Diurnal Average: 1.0 ppb at hour 7

Monthly Average: 0.91 ppb

Minimum Daily Average: 0.7 ppb on Nov 24

Minimum Diurnal Average: 0.8 ppb at hour 15

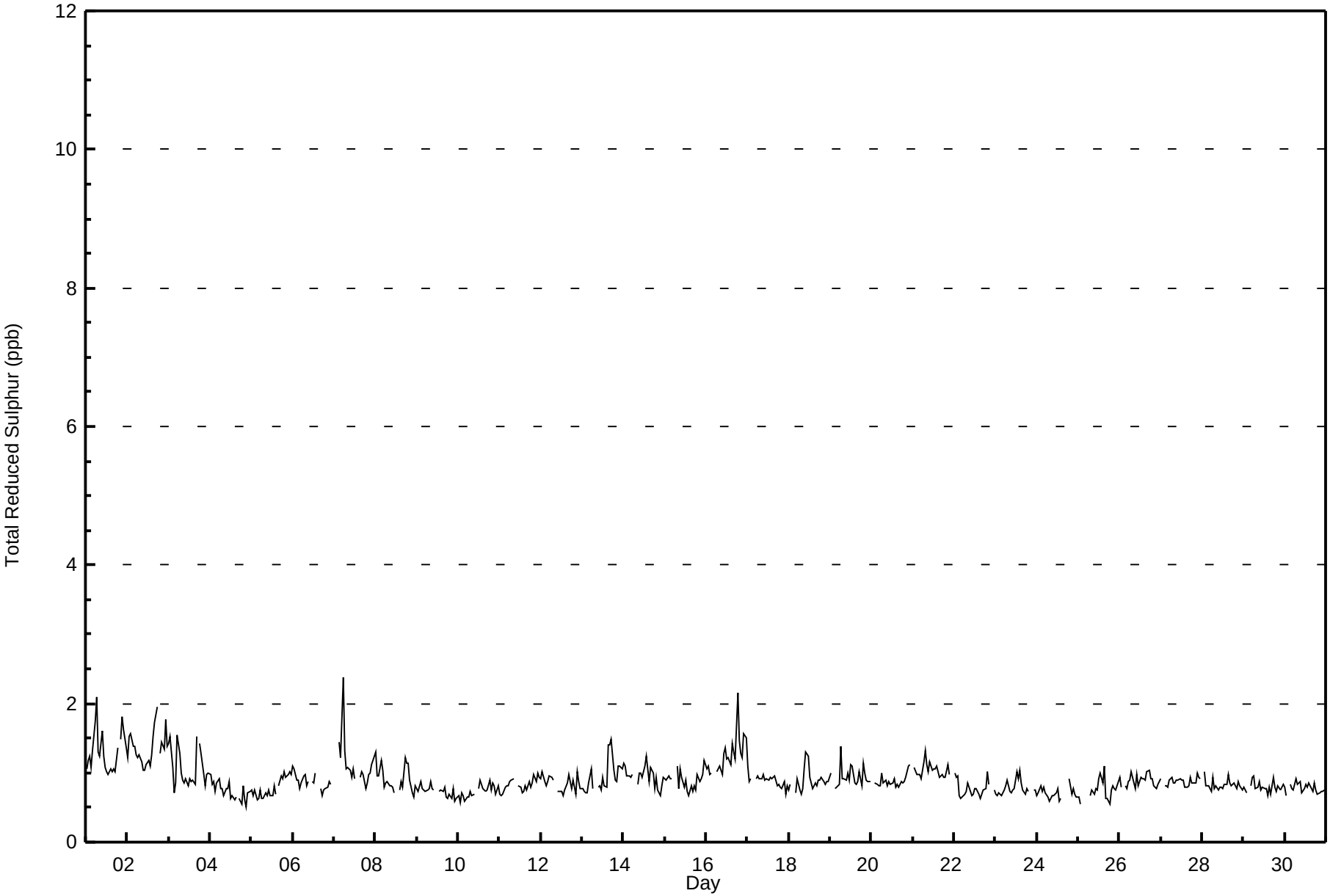
Percentiles: $P_1 = 0.6$ $P_{10} = 0.7$ $Q_1 = 0.8$ Median = 0.9 $Q_3 = 1.0$ $P_{90} = 1.2$ $P_{99} = 1.8$

Hours in Service:	720
Hours of Data:	659
Hours of Missing Data:	61
Hours of Calibration:	52
Percent Operational Time:	98.8

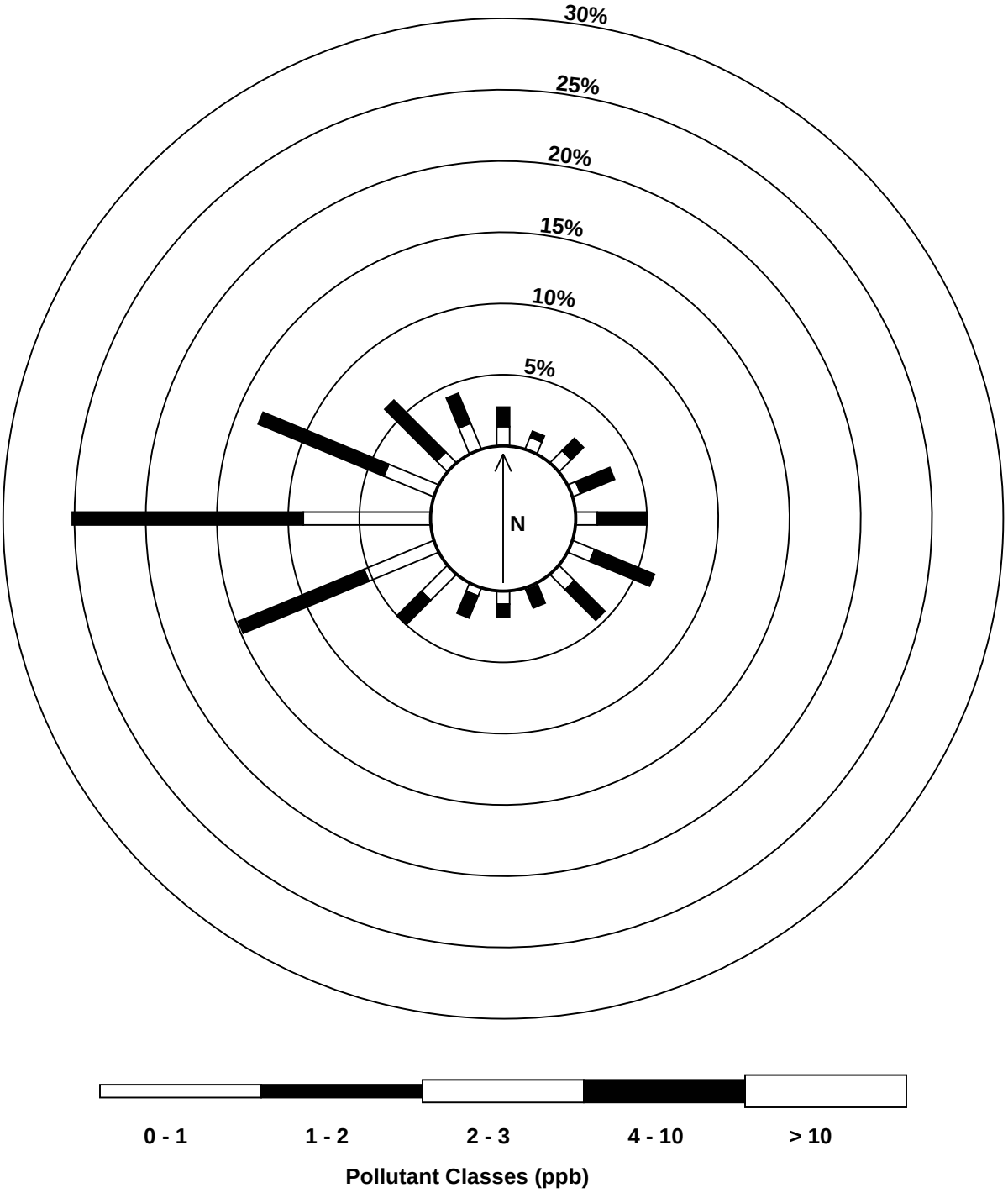
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	1	1	1	1	1	2	2	1	1	2	1	1	1	1	1	1	1	1	1	A	1	2	2	1	1.3	2.1
2-Nov	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	A	1	1	1	2	1	1.4	2.0
3-Nov	1	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	2	A	1	1	1	1	1	1	1.1	1.6
4-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.7	1.0
5-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.8	1.0
6-Nov	1	1	1	1	1	1	1	1	1	1	P	1	1	1	A	A	1	1	1	1	1	1	1	P	0.9	1.1
7-Nov	1	P	P	1	1	2	1	1	1	1	1	1	1	A	A	1	1	1	1	1	1	1	1	1	1.1	2.4
8-Nov	1	1	1	1	1	1	1	1	1	1	1	1	A	A	1	1	1	1	1	1	1	1	1	1	0.9	1.3
9-Nov	1	1	1	1	1	1	1	1	1	1	1	A	A	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
10-Nov	1	1	1	1	1	1	1	1	1	1	A	A	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
11-Nov	1	1	1	1	1	1	1	1	1	A	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
12-Nov	1	1	1	1	1	1	1	1	A	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
13-Nov	1	1	1	1	1	1	1	A	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.5
14-Nov	1	1	1	1	1	1	A	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.2
15-Nov	1	1	1	1	1	A	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2
16-Nov	1	1	1	1	A	A	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	2	2	1.3	2.2
17-Nov	1	1	1	A	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.1
18-Nov	1	1	A	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3
19-Nov	1	A	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.4
20-Nov	A	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.9	1.1
21-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	A	1.0	1.3
22-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	A	1	0.8	1.0
23-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	A	1	1	0.8	1.0
24-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	C	C	C	A	1	1	1	1	1	0.7	0.9
25-Nov	1	1	P	P	P	P	P	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1
26-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.0
27-Nov	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.0
28-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
29-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	0.9
30-Nov	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	0.9
	0.9	0.9	0.9	0.9	0.9	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	Diurnal Average	
	1.4	1.5	1.6	1.4	1.4	2.4	2.1	1.3	1.2	1.6	1.3	1.4	1.2	1.2	1.3	1.5	1.7	2.0	2.2	1.5	1.5	1.8	1.8	1.5	Diurnal Maximum	

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

Hourly Maximums for TRS at Portable-Spirit River
November 2008



Pollutant Rose for TRS at Portable-Spirit River
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Spirit River - Nitrogen Dioxide (NO_2) - ppb
November 1, 2008 to December 1, 2008

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 26.3 ppb on Nov 19 07:00 Maximum Daily Average: 8.8 ppb on Nov 7

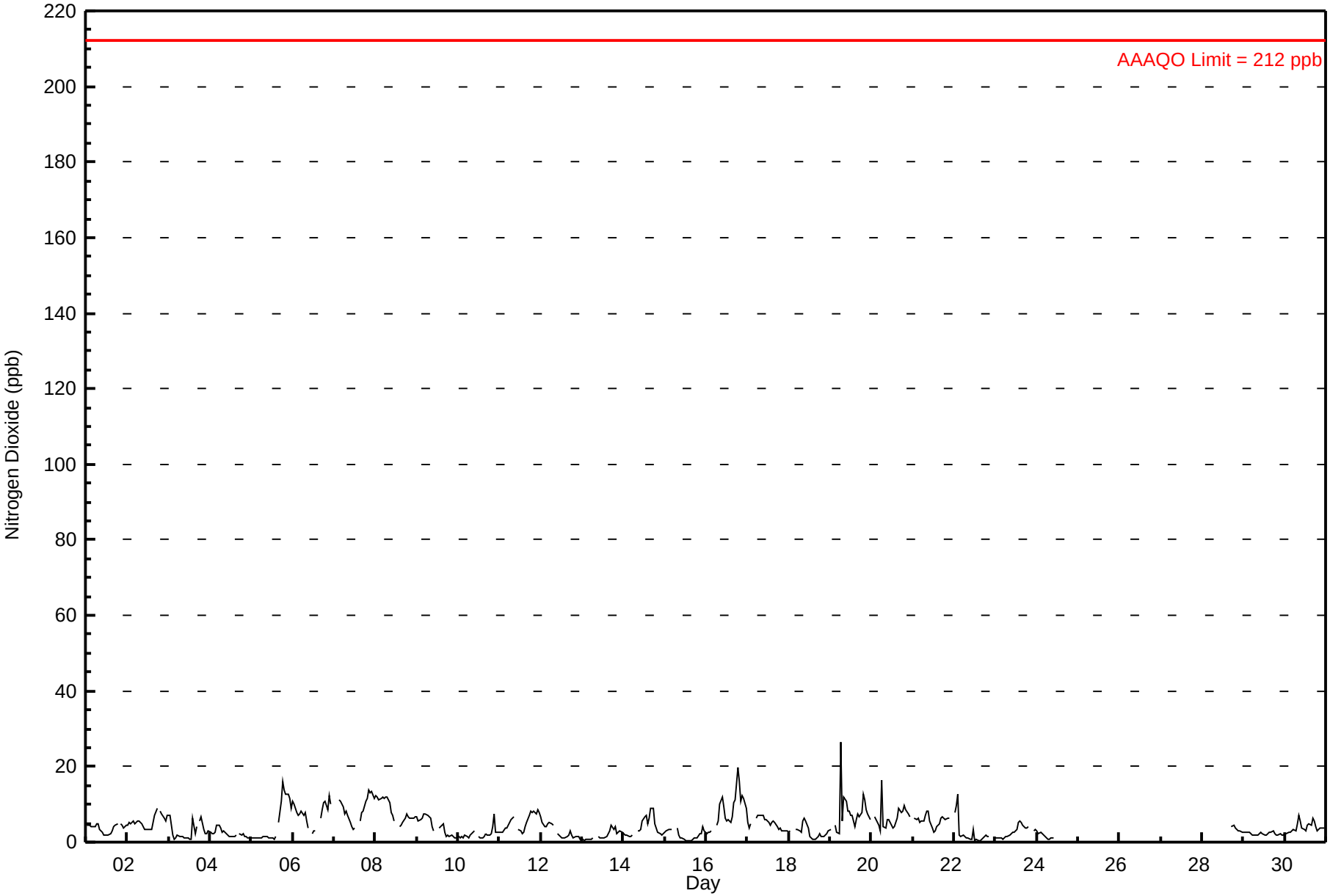
Minimum Value: 0 ppb on Nov 22 16:00 Minimum Daily Average: 1.8 ppb on Nov 13
Maximum Diurnal Average: 5.8 ppb at hour 20 Minimum Diurnal Average: 2.7 ppb at hour 13
Monthly Average: 4.42 ppb Percentiles: $P_1 = 0.5$ $P_{10} = 1.2$ $Q_1 = 1.9$ Median = 3.5 $Q_3 = 6.2$ $P_{90} = 8.6$ $P_{99} = 13.4$

Hours in Service:	720
Hours of Data:	571
Hours of Missing Data:	149
Hours of Calibration:	53
Percent Operational Time:	86.7

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	4	4	4	4	4	4	5	5	3	3	2	2	2	2	2	3	4	4	5	A	5	4	4	4	3.7	5.0
2-Nov	4	5	5	6	5	5	6	6	5	4	3	3	3	3	3	5	7	9	A	8	8	6	6	7	5.4	8.8
3-Nov	7	7	2	1	1	2	2	2	2	1	1	1	1	1	6	2	4	A	6	7	3	2	2	3	2.9	7.2
4-Nov	3	2	2	3	4	4	4	2	3	2	2	2	1	1	1	2	A	2	2	2	2	1	1	1	2.2	4.5
5-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	A	5	11	16	14	13	13	11	9	4.8	16.2
6-Nov	11	10	8	7	8	8	7	8	6	4	P	2	3	3	A	A	6	8	10	11	9	12	10	P	7.6	12.1
7-Nov	9	P	P	11	11	9	7	8	7	5	4	3	4	A	A	6	8	8	11	12	14	13	13	12	8.8	13.7
8-Nov	12	12	11	12	12	12	12	12	10	8	7	6	A	A	4	5	5	6	8	7	6	7	7	7	8.5	12.2
9-Nov	7	6	6	6	7	8	7	7	6	4	3	A	A	4	4	5	3	2	2	2	2	1	1	1	4.2	7.6
10-Nov	2	1	1	1	2	1	1	2	2	3	A	A	1	1	1	2	2	2	2	2	4	7	3	3	2.1	7.3
11-Nov	3	3	3	4	4	4	5	6	7	A	A	3	3	2	3	4	5	7	8	8	8	7	9	8	5.1	8.6
12-Nov	7	5	4	4	5	5	5	4	A	A	2	1	1	1	1	2	2	3	2	1	1	2	2	1	2.8	6.7
13-Nov	1	1	1	1	1	1	1	A	A	1	1	1	1	1	1	2	3	4	3	4	2	3	3	3	1.8	4.4
14-Nov	2	2	2	2	2	2	A	A	3	3	3	5	7	7	5	6	9	9	5	4	3	2	2	2	3.9	9.0
15-Nov	3	3	3	3	4	A	A	4	2	1	1	1	1	1	0	1	1	1	1	1	2	2	4	3	1.9	4.0
16-Nov	2	3	3	3	A	A	4	6	10	12	9	6	6	6	5	7	10	11	20	16	11	12	12	9	8.3	19.6
17-Nov	5	4	5	A	A	6	7	7	7	7	6	6	5	5	5	6	5	4	4	4	3	3	3	3	5.0	7.1
18-Nov	3	3	A	A	3	3	3	3	6	6	6	4	1	1	1	1	1	2	2	1	2	2	2	3	2.7	6.2
19-Nov	3	A	A	4	2	2	26	6	12	11	8	8	7	7	4	6	7	7	8	13	11	9	7	6	8.0	26.3
20-Nov	A	A	7	5	4	3	16	4	4	6	6	5	4	4	5	6	9	8	8	10	9	8	7	A	6.6	16.3
21-Nov	A	6	6	6	5	6	6	7	8	8	6	4	3	3	4	5	6	7	6	6	6	6	A	A	5.7	8.3
22-Nov	8	10	13	2	1	2	1	1	1	1	1	3	0	1	0	0	1	1	2	1	1	A	A	1	2.4	12.8
23-Nov	1	1	1	1	1	1	1	1	2	2	3	3	3	5	6	5	5	4	4	4	A	A	3	3	2.8	5.5
24-Nov	3	2	3	2	2	2	1	1	1	1	1	C	C	C	C	C	M	M	M	M	M	M	M	M	--	2.8
25-Nov	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	--
26-Nov	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	--
27-Nov	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	--
28-Nov	M	M	M	M	M	M	M	M	M	M	M	M	C	C	C	C	C	4	4	4	3	3	3	3	--	4.3
29-Nov	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	3	3	3	2	2	2	2	2	2	2.3	3.1
30-Nov	2	2	2	3	3	3	3	5	7	6	4	3	3	5	5	4	6	6	4	3	4	4	4	4	3.9	7.2
	4.4	4.2	4.2	4.0	4.0	4.0	5.6	4.5	4.9	4.3	3.6	3.4	2.7	2.9	3.2	3.8	4.9	5.3	5.8	5.8	5.3	5.5	5.0	4.2	Diurnal Average	
	12.2	12.0	12.8	11.6	12.1	11.6	26.3	12.1	11.9	11.8	9.4	8.4	7.2	7.2	6.4	6.8	10.4	11.2	19.6	16.0	13.7	13.1	13.3	11.6	Diurnal Maximum	

C - Calibration P - Power Failure M - Maintenance 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 Portable-Spirit River
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Portable-Spirit River - Nitrogen Dioxide (NO_2) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 322.4 ppb on Nov 19 07:00

Maximum Daily Average: 24.4 ppb on Nov 19

Minimum Value: 1 ppb on Nov 22 15:00

Minimum Daily Average: 2.8 ppb on Nov 29

Maximum Diurnal Average: 23.1 ppb at hour 7

Minimum Diurnal Average: 3.4 ppb at hour 13

Monthly Average: 6.90 ppb

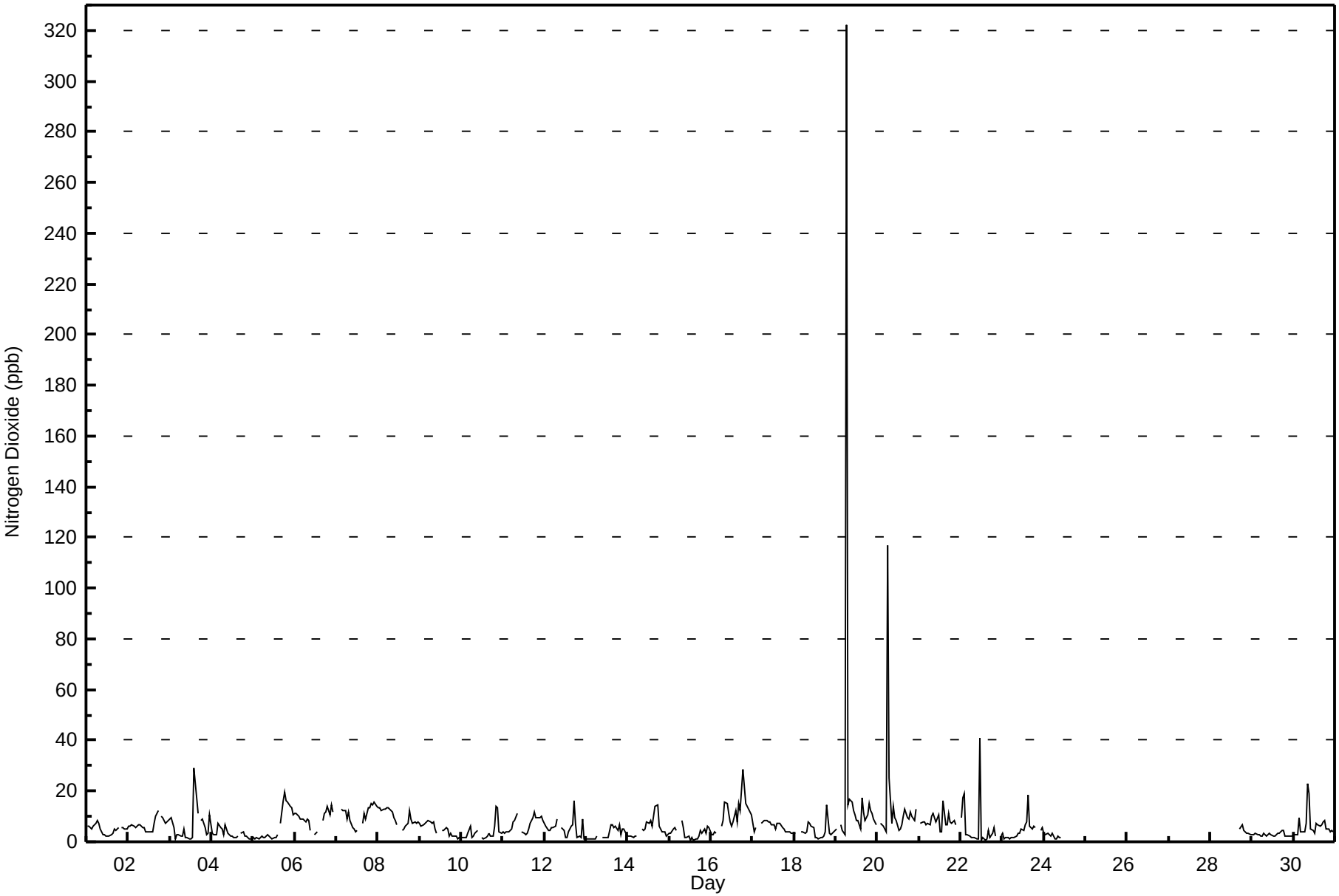
Percentiles: P_1 = 1.0 P_{10} = 1.7 Q_1 = 2.8 Median = 5.0 Q_3 = 8.2 P_{90} = 12.6 P_{99} = 24.7

Hours in Service:	720
Hours of Data:	571
Hours of Missing Data:	149
Hours of Calibration:	53
Percent Operational Time:	86.7

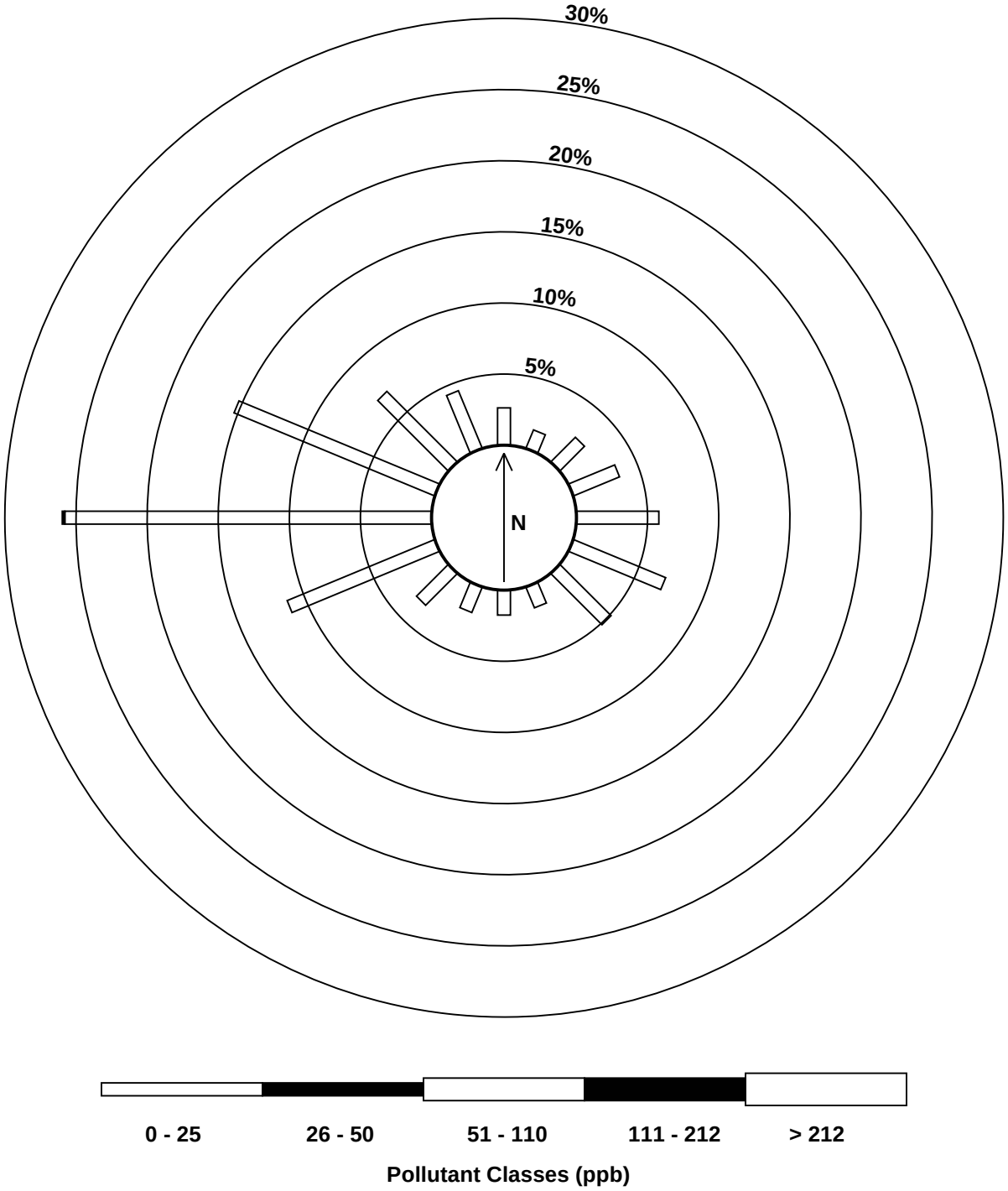
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	6	6	6	5	6	7	9	7	5	3	3	2	2	2	3	4	5	5	6	A	6	6	5	5	4.9	8.6
2-Nov	6	6	7	6	6	6	7	7	6	6	4	4	4	4	4	7	10	13	A	10	10	7	8	8	6.7	12.5
3-Nov	9	9	6	1	3	3	2	2	5	2	2	1	1	2	29	18	11	A	8	9	6	3	3	10	6.3	29.2
4-Nov	3	3	3	3	7	6	5	3	7	3	3	2	2	2	2	2	A	4	4	2	2	2	1	1	3.1	7.1
5-Nov	1	1	2	1	2	2	2	2	3	2	2	1	2	2	3	A	7	16	19	16	16	14	14	11	6.1	19.4
6-Nov	11	11	10	9	9	9	8	9	8	4	P	3	3	4	A	A	9	11	12	14	10	14	11	P	9.1	14.3
7-Nov	10	P	P	13	12	12	9	12	9	6	5	4	4	A	A	7	11	9	13	14	15	14	16	14	10.5	15.9
8-Nov	13	14	12	13	13	14	14	13	12	10	8	7	A	A	4	5	6	7	13	9	7	8	7	8	9.9	13.7
9-Nov	7	6	6	7	8	8	8	8	8	5	4	A	A	4	5	6	5	2	3	2	2	2	1	2	4.9	8.1
10-Nov	2	2	2	2	3	6	2	2	3	4	A	A	2	1	2	2	3	2	2	6	14	14	4	3	3.8	13.8
11-Nov	4	3	4	4	5	5	8	8	11	A	A	4	3	3	4	5	7	9	12	10	10	9	10	8	6.6	11.7
12-Nov	7	6	4	4	6	6	6	9	A	A	5	5	2	2	4	6	7	16	7	2	2	2	9	1	5.4	16.1
13-Nov	1	1	1	1	1	1	2	A	A	2	2	2	2	2	7	7	6	6	5	7	3	5	5	3	3.2	6.6
14-Nov	2	2	2	2	2	2	A	A	5	5	5	8	8	8	6	10	14	14	6	5	4	4	2	3	5.4	14.5
15-Nov	3	4	5	6	5	A	A	8	6	2	1	2	1	2	1	1	1	2	4	3	5	3	6	6	3.5	8.2
16-Nov	3	3	4	4	A	A	6	8	16	15	11	8	6	8	12	8	15	12	28	22	15	14	13	11	11.0	28.5
17-Nov	7	4	6	A	A	7	8	8	8	8	8	7	6	5	7	8	7	6	5	4	4	4	3	3	6.1	8.2
18-Nov	3	4	A	A	4	4	4	4	8	7	6	6	2	1	1	2	2	2	4	15	3	3	3	4	4.1	14.7
19-Nov	5	A	A	7	5	3	322	15	17	16	12	11	8	8	5	17	12	8	11	15	12	11	9	7	24.4	322.4
20-Nov	A	A	7	6	5	4	117	25	7	14	9	9	4	5	7	10	13	10	9	12	10	9	13	A	14.5	116.8
21-Nov	A	7	8	8	7	7	7	10	11	10	8	10	4	4	16	6	7	11	8	7	9	7	A	A	8.2	16.3
22-Nov	9	17	19	3	3	2	2	2	1	1	1	41	1	2	1	1	4	2	4	6	2	A	A	2	5.7	41.1
23-Nov	3	1	2	2	1	2	2	2	2	3	3	5	4	7	8	19	6	5	6	5	A	A	4	6	4.5	18.7
24-Nov	3	3	3	3	2	3	1	1	2	2	2	C	C	C	C	C	M	M	M	M	M	M	M	M	--	3.3
25-Nov	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	--
26-Nov	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	--
27-Nov	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	--
28-Nov	M	M	M	M	M	M	M	M	M	M	M	M	C	C	C	C	C	5	7	4	4	3	3	3	--	6.5
29-Nov	3	3	4	3	3	2	2	3	2	3	3	3	2	2	3	3	3	5	4	3	2	2	2	2	2.8	4.6
30-Nov	3	3	3	9	4	4	4	7	23	19	5	4	4	7	7	6	7	8	8	5	5	4	5	4	6.6	23.2
	5.3	5.2	5.5	5.0	5.0	5.2	23.1	7.3	7.7	6.3	4.9	6.4	3.4	3.8	6.1	6.9	7.5	7.6	8.3	8.2	7.2	6.8	6.6	5.4	Diurnal Average	
	13.4	17.1	18.8	13.0	13.0	13.7	322.4	25.3	23.2	19.2	12.3	41.1	8.2	8.3	29.2	18.7	15.2	16.1	28.5	21.6	15.8	14.5	15.9	13.9	Diurnal Maximum	

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

Hourly Maximums for NO_2 at Portable-Spirit River
November 2008



Pollutant Rose for NO_2 at Portable-Spirit River
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Spirit River - Nitrogen Oxide (NO) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 13.7 ppb on Nov 19 07:00

Maximum Daily Average: 3.9 ppb on Nov 7

Minimum Value: 0 ppb on Nov 10 19:00

Maximum Diurnal Average: 2.8 ppb at hour 12

Monthly Average: 1.17 ppb

Minimum Daily Average: 0.0 ppb on Nov 29

Minimum Diurnal Average: 0.5 ppb at hour 6

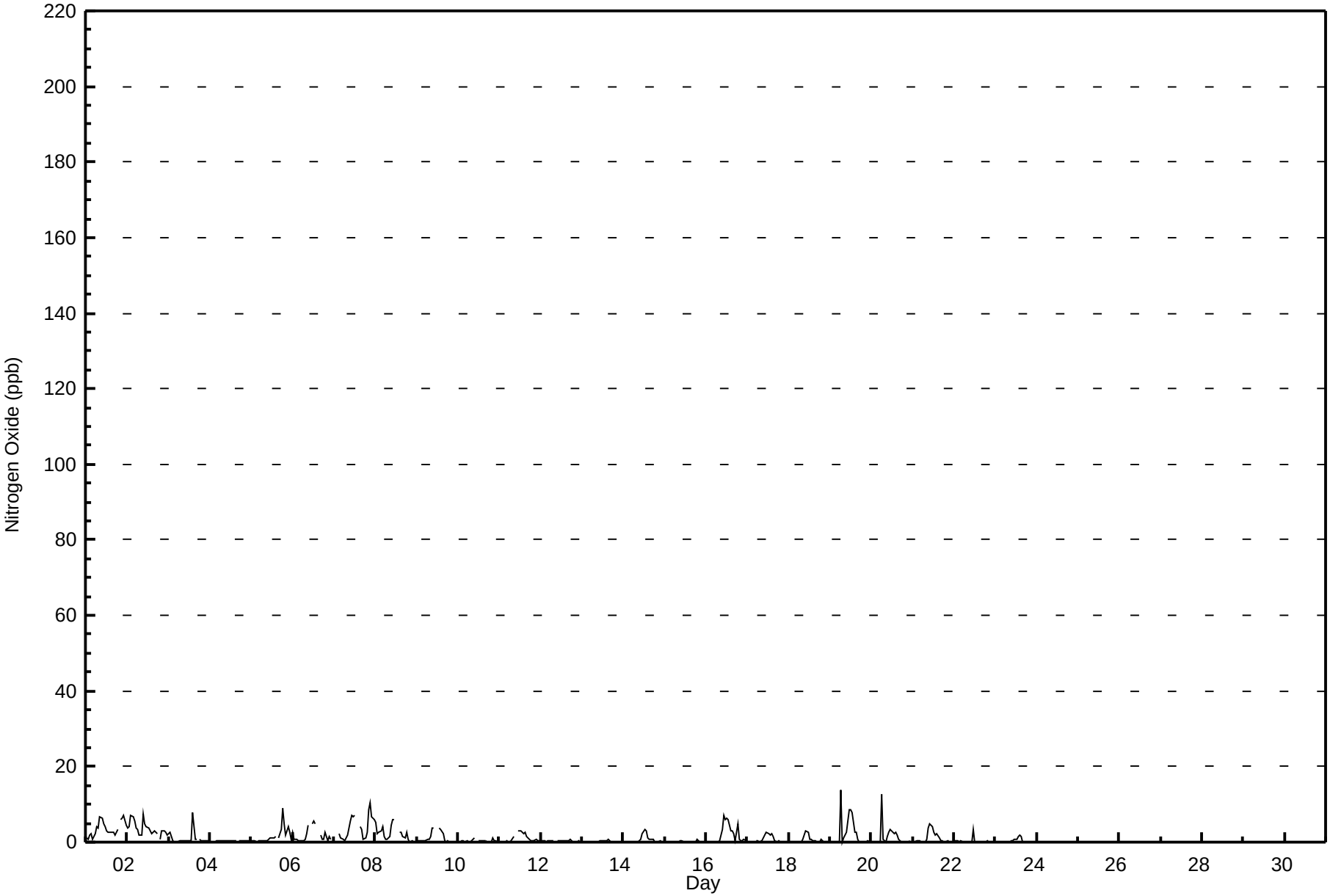
Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.1$ Median = 0.3 $Q_3 = 1.5$ $P_{90} = 3.7$ $P_{99} = 8.6$

Hours in Service:	720
Hours of Data:	571
Hours of Missing Data:	149
Hours of Calibration:	53
Percent Operational Time:	86.7

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	1	1	2	2	1	2	4	4	7	6	5	4	3	3	3	3	3	2	3	A	6	6	7	4	3.5	7.2
2-Nov	4	4	7	7	6	4	3	2	2	7	5	4	4	3	2	3	3	2	A	1	3	3	3	2	3.6	7.4
3-Nov	2	3	0	0	0	0	0	0	0	0	0	0	0	0	8	1	1	A	1	0	0	0	0	0	0.9	7.9
4-Nov	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	A	0	0	0	0	0	0	0	0.3	0.5
5-Nov	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	A	1	3	9	5	2	4	3	1	1.6	9.0
6-Nov	3	1	1	0	0	0	0	1	2	5	P	5	6	5	A	A	2	1	1	3	0	2	1	P	1.9	5.6
7-Nov	0	P	P	2	1	1	0	1	2	5	7	7	7	A	A	4	3	1	1	3	9	10	7	6	3.9	10.4
8-Nov	5	2	2	3	4	2	1	1	2	5	6	6	A	A	3	3	1	1	3	1	0	0	0	0	2.3	6.0
9-Nov	0	1	0	0	0	0	1	1	1	4	4	A	A	4	3	2	0	0	0	0	0	0	0	0	1.1	3.9
10-Nov	0	0	0	0	0	0	0	0	0	1	A	A	0	0	0	0	0	0	0	0	1	0	0	0	0.3	1.2
11-Nov	0	0	0	0	0	0	0	0	1	A	A	3	3	3	2	3	1	1	0	0	0	1	0	0	0.9	3.0
12-Nov	0	0	0	0	0	0	0	0	A	A	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0.3	0.6
13-Nov	0	0	0	0	0	0	0	A	A	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0.2	0.6
14-Nov	0	0	0	0	0	0	A	A	0	0	1	2	3	3	1	1	1	1	0	0	0	0	0	0	0.6	3.3
15-Nov	0	0	0	0	0	A	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.1	0.6
16-Nov	0	0	0	0	A	A	0	0	0	4	7	6	6	6	3	3	2	0	5	1	0	0	1	0	2.1	7.0
17-Nov	0	0	0	A	A	0	0	0	0	1	2	3	2	2	2	1	0	0	0	0	0	0	0	0	0.7	2.6
18-Nov	0	0	A	A	0	0	0	0	1	2	3	2	1	1	0	0	0	0	0	1	0	0	0	0	0.5	2.9
19-Nov	0	A	A	0	0	0	14	0	1	3	6	9	9	8	2	2	1	0	0	0	0	0	0	0	2.5	13.7
20-Nov	A	A	0	0	0	0	13	1	0	2	3	3	2	2	2	2	1	0	0	0	0	0	0	A	1.5	12.6
21-Nov	A	0	0	0	0	0	0	0	1	4	5	4	2	2	2	1	0	0	0	0	0	0	A	A	1.1	4.7
22-Nov	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	A	A	0	0.2	3.2
23-Nov	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	1	0	0	0	0	A	A	0	0	0.4	2.0
24-Nov	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	M	M	M	M	M	M	M	M	--	0.1
25-Nov	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	--
26-Nov	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	--
27-Nov	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	--
28-Nov	M	M	M	M	M	M	M	M	M	M	M	M	C	C	C	C	C	0	0	0	0	0	0	0	--	0.0
29-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
30-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
	0.7	0.6	0.7	0.7	0.6	0.5	1.6	0.5	0.9	2.1	2.4	2.8	2.3	1.9	1.7	1.4	0.9	0.5	1.0	0.6	0.9	1.2	1.0	0.7	Diurnal Average	
	5.2	4.2	7.1	6.7	5.7	3.8	13.7	3.9	6.7	7.4	7.0	8.6	8.7	7.8	7.9	4.0	3.2	3.2	9.0	4.7	8.6	10.4	7.2	6.0	Diurnal Maximum	

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

Hourly Averages for NO at Portable-Spirit River
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Portable-Spirit River - Nitrogen Oxide (NO) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 148.3 ppb on Nov 19 07:00

Maximum Daily Average: 11.0 ppb on Nov 19

Minimum Value: 0 ppb on Nov 28 20:00

Minimum Daily Average: 0.7 ppb on Nov 30

Maximum Diurnal Average: 13.4 ppb at hour 7

Minimum Diurnal Average: 1.6 ppb at hour 6

Monthly Average: 3.91 ppb

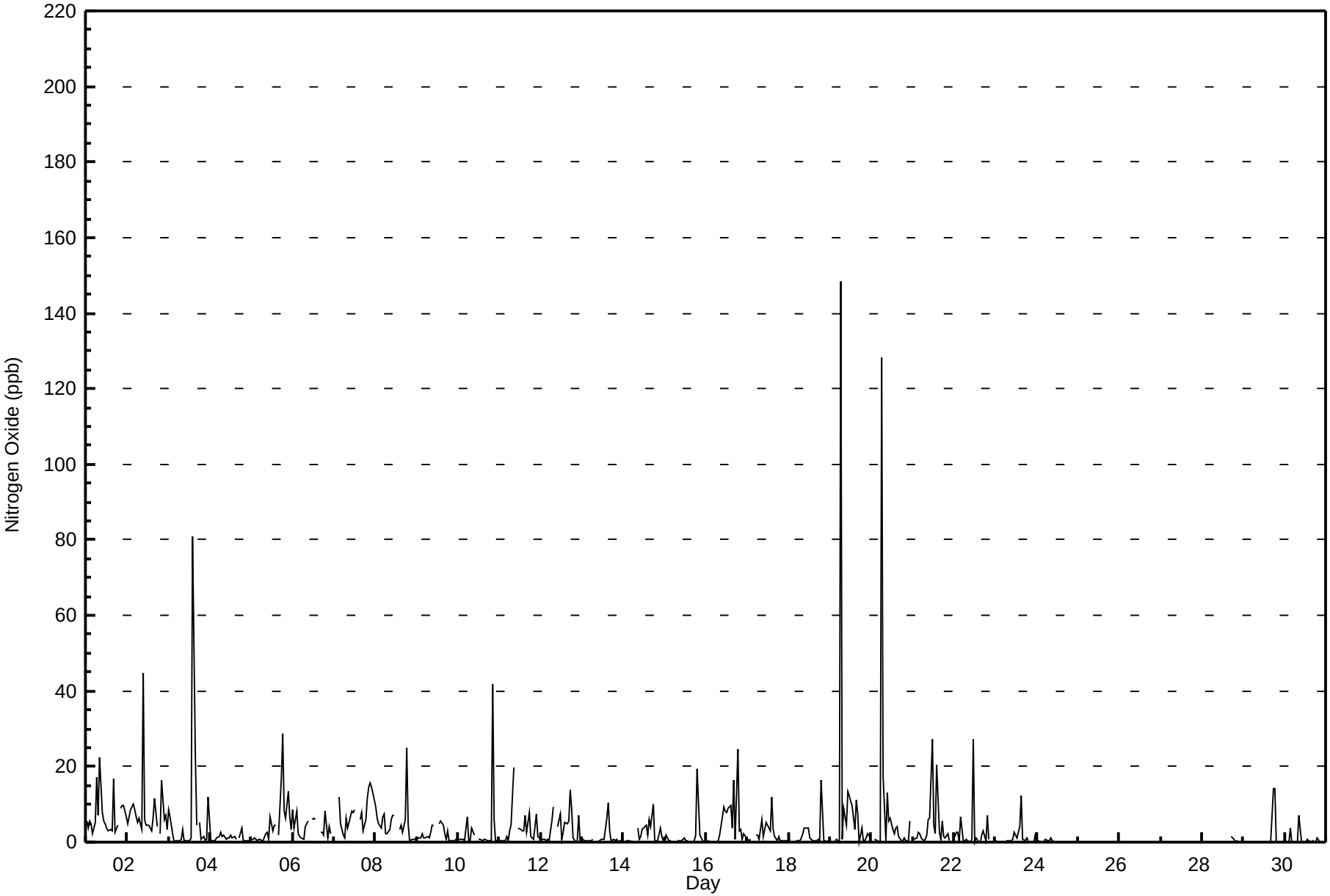
Percentiles: $P_1 = 0.0$ $P_{10} = 0.1$ $Q_1 = 0.3$ Median = 1.1 $Q_3 = 4.5$ $P_{90} = 8.5$ $P_{99} = 26.1$

Hours in Service:	720
Hours of Data:	571
Hours of Missing Data:	149
Hours of Calibration:	53
Percent Operational Time:	86.7

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	6	4	5	5	2	5	17	7	22	8	6	5	4	3	3	3	17	3	4	A	9	10	10	7	7.1	22.4
2-Nov	5	7	8	10	9	7	5	6	3	45	6	5	5	4	3	6	11	4	A	2	17	6	7	3	8.0	44.9
3-Nov	9	7	2	0	0	0	0	1	3	1	1	1	0	1	81	23	4	A	5	1	2	1	1	12	6.8	81.1
4-Nov	0	0	0	0	1	1	2	2	2	1	1	1	2	1	2	1	A	1	4	0	0	0	1	1	1.1	3.9
5-Nov	1	1	1	0	1	1	0	0	2	3	1	7	3	4	5	A	2	17	29	8	6	14	7	4	5.0	28.8
6-Nov	9	4	8	2	1	1	1	4	5	6	P	6	6	6	A	A	3	3	2	8	1	4	2	P	4.1	8.6
7-Nov	1	P	P	12	5	2	1	6	4	7	8	8	8	A	A	6	8	3	6	12	15	16	14	11	7.6	15.8
8-Nov	9	6	5	4	7	7	2	2	3	6	7	7	A	A	3	4	2	6	25	5	0	1	1	1	5.3	25.0
9-Nov	1	1	1	2	1	1	2	1	3	4	4	A	A	5	6	5	2	1	3	0	0	0	0	1	2.1	5.8
10-Nov	1	1	1	1	0	7	1	0	4	2	A	A	1	1	0	1	1	0	0	0	42	6	1	0	3.1	41.7
11-Nov	0	0	1	0	1	0	3	5	20	A	A	4	3	3	3	7	2	8	1	1	1	8	1	1	3.4	19.9
12-Nov	1	1	1	1	1	1	6	9	A	A	4	7	1	3	5	5	6	14	9	1	0	0	7	0	3.7	13.8
13-Nov	1	0	0	0	0	0	1	A	A	1	1	1	1	1	6	10	3	0	1	0	1	0	0	0	1.3	10.3
14-Nov	0	0	0	0	0	0	A	A	4	1	2	3	4	5	2	6	4	10	0	1	0	4	1	0	2.1	10.2
15-Nov	0	2	0	1	0	A	A	0	0	0	1	1	0	1	0	0	0	0	2	19	2	1	0	0	1.4	19.2
16-Nov	0	0	0	0	A	A	0	0	2	7	9	8	8	9	10	4	16	1	25	3	3	1	2	1	5.0	24.8
17-Nov	1	0	1	A	A	2	2	1	6	2	3	5	4	3	12	3	2	0	2	0	0	0	0	0	2.2	11.8
18-Nov	0	1	A	A	0	0	0	1	2	4	4	4	1	1	1	1	1	1	1	16	0	0	0	0	1.8	16.3
19-Nov	1	A	A	0	1	0	148	1	9	5	13	12	11	10	3	11	7	0	4	0	0	1	2	1	11.0	148.3
20-Nov	A	A	1	0	0	0	128	18	1	13	6	6	3	2	4	4	1	0	0	1	0	0	5	A	9.3	128.3
21-Nov	A	1	1	2	2	1	0	1	2	6	6	27	4	2	21	3	1	5	1	1	2	0	A	A	4.3	27.2
22-Nov	2	3	3	0	7	0	0	1	0	0	1	27	0	1	0	0	2	3	0	7	1	A	A	0	2.6	27.1
23-Nov	0	0	0	0	0	0	0	0	0	1	1	3	1	3	4	12	1	0	1	0	A	A	0	2	1.4	12.3
24-Nov	0	0	0	0	0	1	0	0	1	0	0	C	C	C	C	C	M	M	M	M	M	M	M	M	--	1.2
25-Nov	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	--
26-Nov	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	--
27-Nov	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	--
28-Nov	M	M	M	M	M	M	M	M	M	M	M	M	C	C	C	C	C	1	1	0	0	0	0	0	--	1.4
29-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14	0	0	0	0	0	1.2	14.3
30-Nov	0	0	0	4	0	0	0	0	7	3	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0.7	7.0
	2.0	1.7	1.7	1.9	1.7	1.6	13.4	2.8	4.4	5.1	3.6	6.4	3.1	2.9	7.5	5.0	4.0	3.8	5.6	3.6	4.1	3.1	2.6	2.0	Diurnal Average	
	9.4	6.9	8.4	12.1	8.6	7.4	148.3	17.7	22.4	44.9	13.4	27.2	10.8	9.7	81.1	22.7	16.8	16.9	28.8	19.2	41.7	15.8	14.4	12.0	Diurnal Maximum	

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

Hourly Maximums for NO at Portable-Spirit River
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Spirit River - Oxides of Nitrogen (NO_X) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 40.0 ppb on Nov 19 07:00

Maximum Daily Average: 12.6 ppb on Nov 7

Minimum Value: 0 ppb on Nov 29 14:00

Minimum Daily Average: 0.4 ppb on Nov 29

Maximum Diurnal Average: 7.0 ppb at hour 7

Minimum Diurnal Average: 4.3 ppb at hour 6

Monthly Average: 5.38 ppb

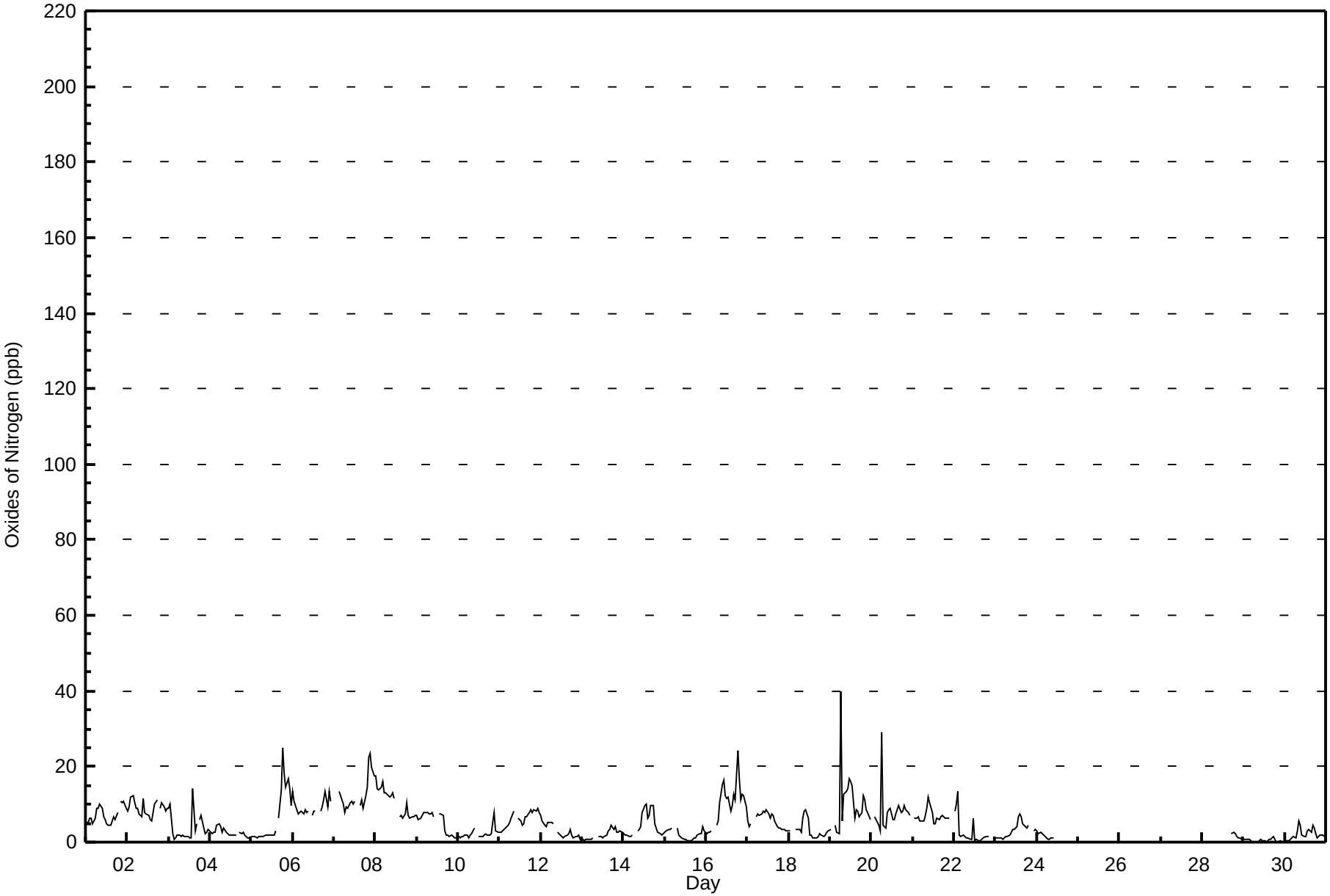
Percentiles: P_1 = 0.1 P_{10} = 1.1 Q_1 = 1.7 Median = 4.1 Q_3 = 7.9 P_{90} = 11.1 P_{99} = 22.1

Hours in Service:	720
Hours of Data:	571
Hours of Missing Data:	149
Hours of Calibration:	53
Percent Operational Time:	86.7

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	5	5	6	6	5	6	9	9	10	9	7	6	5	4	5	6	7	6	8	A	11	11	11	9	7.2	11.0
2-Nov	8	9	12	12	10	9	9	7	7	11	8	7	7	6	6	8	10	11	A	9	11	9	8	9	8.9	12.1
3-Nov	9	10	2	1	1	2	2	2	2	1	2	1	1	1	14	3	5	A	6	7	4	2	3	3	3.6	14.2
4-Nov	3	2	2	3	5	5	4	3	4	3	2	2	2	2	2	2	A	3	2	2	2	2	1	1	2.5	4.7
5-Nov	1	2	1	1	1	2	1	1	2	2	2	2	2	2	3	A	6	14	25	18	14	17	14	10	6.3	25.1
6-Nov	13	11	9	7	8	8	7	9	8	8	P	7	8	8	A	A	8	9	11	13	9	14	11	P	9.4	13.6
7-Nov	10	P	P	14	12	10	8	9	9	11	11	10	11	A	A	10	11	9	12	14	22	23	20	18	12.6	23.4
8-Nov	17	14	14	15	16	13	13	13	12	12	13	11	A	A	7	7	6	8	10	7	6	7	7	7	10.7	17.4
9-Nov	7	6	6	7	8	8	8	7	8	8	7	A	A	8	7	7	3	2	2	2	2	1	1	1	5.3	8.0
10-Nov	2	1	2	1	2	2	1	2	2	4	A	A	2	1	2	2	2	2	2	2	5	8	3	3	2.3	7.7
11-Nov	3	3	3	4	4	4	5	6	8	A	A	6	6	5	5	7	7	8	8	8	8	8	9	8	6.1	9.1
12-Nov	7	5	4	4	5	5	5	5	A	A	3	2	1	1	1	2	2	3	2	1	1	2	2	1	3.0	7.1
13-Nov	1	1	1	1	1	1	1	A	A	2	1	1	1	2	2	3	3	4	4	4	2	3	3	3	2.0	4.4
14-Nov	2	2	2	2	2	2	A	A	3	3	4	8	10	10	6	7	10	10	5	4	3	2	2	2	4.5	10.0
15-Nov	3	3	4	3	4	A	A	4	2	1	1	1	1	1	0	0	1	1	1	2	2	2	4	3	2.0	4.0
16-Nov	2	3	3	3	A	A	4	6	10	15	16	12	12	12	8	10	13	11	24	17	11	13	12	9	10.3	24.3
17-Nov	5	4	5	A	A	7	7	7	8	8	8	8	7	6	7	7	6	4	4	4	3	3	3	3	5.7	8.4
18-Nov	3	3	A	A	3	3	3	3	6	8	9	6	2	2	1	1	1	2	2	2	2	2	2	3	3.2	8.6
19-Nov	3	A	A	4	2	2	40	6	13	14	14	17	16	15	6	8	8	7	8	12	11	9	8	6	10.5	40.0
20-Nov	A	A	7	5	4	3	29	5	4	8	9	9	6	6	8	8	10	8	8	10	9	8	7	A	8.1	28.9
21-Nov	A	6	6	7	5	6	6	7	9	12	10	8	5	5	6	6	7	7	7	6	6	6	A	A	6.9	11.8
22-Nov	8	10	13	2	2	2	1	1	1	1	1	6	1	1	0	0	1	1	2	2	1	A	A	1	2.6	13.2
23-Nov	1	1	1	1	1	1	1	1	2	3	3	3	4	7	8	7	5	4	4	4	A	A	3	3	3.1	7.5
24-Nov	3	2	3	2	2	2	1	1	1	1	1	C	C	C	C	C	M	M	M	M	M	M	M	M	--	2.9
25-Nov	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	--
26-Nov	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	--
27-Nov	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	--
28-Nov	M	M	M	M	M	M	M	M	M	M	M	M	C	C	C	C	C	2	3	2	2	1	1	1	--	2.6
29-Nov	1	1	1	1	1	0	0	0	0	0	1	0	0	0	0	1	1	2	1	0	0	0	0	0	0.4	1.5
30-Nov	0	0	1	1	1	1	1	3	6	4	2	2	2	3	3	3	4	4	2	1	2	2	2	2	2.1	5.7
	4.9	4.6	4.7	4.5	4.4	4.3	7.0	4.9	5.6	6.2	5.8	6.0	4.8	4.6	4.7	5.0	5.7	5.6	6.5	6.2	6.0	6.4	5.7	4.6	Diurnal Average	
	17.4	14.3	13.7	14.7	16.2	13.2	40.0	12.8	12.8	15.2	16.3	16.9	15.9	14.8	14.2	9.8	12.6	13.9	25.1	18.4	22.3	23.4	19.8	17.6	Diurnal Maximum	

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

Hourly Averages for NO_X at Portable-Spirit River
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Portable-Spirit River - Oxides of Nitrogen (NO_X) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 440.2 ppb on Nov 19 07:00

Maximum Daily Average: 33.3 ppb on Nov 19

Minimum Value: 0 ppb on Nov 29 07:00

Minimum Daily Average: 1.8 ppb on Nov 29

Maximum Diurnal Average: 34.1 ppb at hour 7

Minimum Diurnal Average: 5.9 ppb at hour 5

Monthly Average: 10.03 ppb

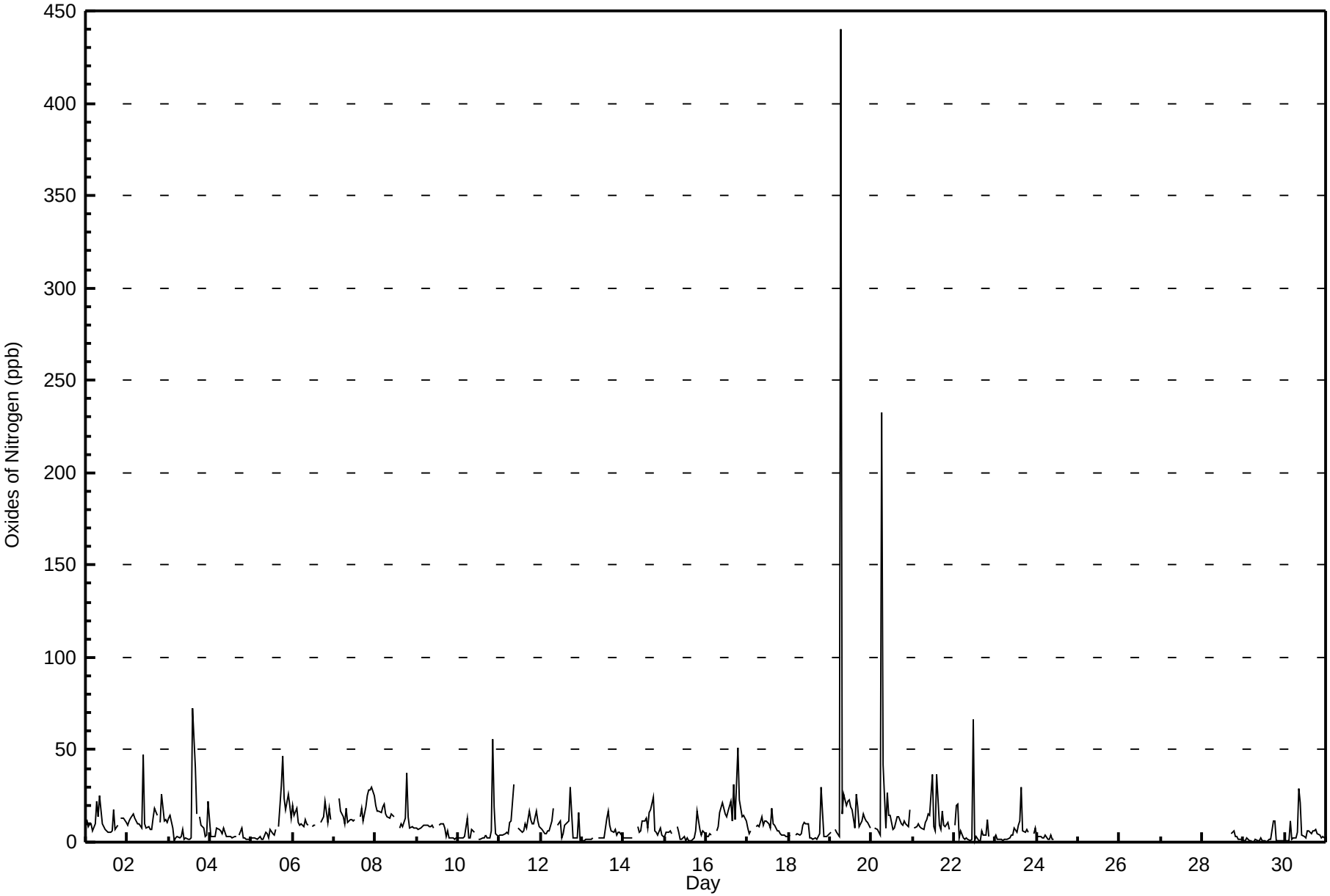
Percentiles: $P_1 = 0.5$ $P_{10} = 1.7$ $Q_1 = 2.8$ Median = 7.0 $Q_3 = 11.7$ $P_{90} = 18.5$ $P_{99} = 50.2$

Hours in Service:	720
Hours of Data:	571
Hours of Missing Data:	149
Hours of Calibration:	53
Percent Operational Time:	86.7

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	12	9	10	10	6	10	22	14	26	10	8	7	6	5	6	6	18	7	9	A	13	13	13	11	10.8	25.5
2-Nov	9	11	13	15	13	12	10	10	7	47	10	8	8	7	7	13	18	14	A	11	26	12	12	11	13.2	47.4
3-Nov	13	15	8	1	3	3	2	3	7	2	2	2	1	2	73	40	15	A	13	9	7	3	4	22	10.9	72.7
4-Nov	3	3	3	3	7	7	6	4	7	3	3	3	3	2	3	3	A	4	8	3	2	2	1	2	3.8	7.7
5-Nov	2	2	3	1	3	3	2	2	5	5	2	7	4	4	7	A	8	31	47	23	17	26	20	13	10.3	46.8
6-Nov	20	14	18	11	10	10	8	12	10	9	P	9	9	9	A	A	11	12	13	22	11	18	12	P	12.5	22.2
7-Nov	11	P	P	23	17	14	10	18	11	12	12	12	12	A	A	13	18	12	19	25	28	28	30	25	17.5	30.0
8-Nov	20	17	17	16	19	21	15	14	13	15	15	14	A	A	7	10	8	13	37	14	8	8	7	8	14.4	37.2
9-Nov	8	7	7	9	9	9	9	9	9	9	8	A	A	9	10	10	7	3	6	2	2	2	2	2	6.7	9.7
10-Nov	2	3	2	2	3	13	2	2	7	6	A	A	2	2	2	2	4	3	2	6	56	19	5	3	6.7	55.5
11-Nov	4	3	4	4	6	5	11	11	31	A	A	8	6	5	6	10	8	17	12	10	10	17	11	9	9.5	31.0
12-Nov	8	7	5	5	6	6	11	18	A	A	9	12	2	4	9	11	11	30	16	2	2	2	16	1	8.9	29.9
13-Nov	1	1	1	1	1	1	2	A	A	2	2	2	2	2	13	17	9	6	5	7	4	5	5	3	4.3	16.7
14-Nov	3	3	2	2	2	2	A	A	8	5	6	11	11	13	8	16	18	24	6	5	4	8	4	3	7.4	24.5
15-Nov	3	5	5	6	5	A	A	8	6	2	2	3	1	2	1	1	1	3	6	17	7	4	6	6	4.5	16.8
16-Nov	3	3	4	4	A	A	6	8	16	22	19	15	14	17	22	11	31	13	51	23	19	14	15	11	15.4	51.1
17-Nov	7	4	6	A	A	8	9	8	14	9	11	11	10	7	18	10	9	6	6	4	4	4	3	3	8.0	18.1
18-Nov	3	4	A	A	4	4	4	5	9	11	10	10	3	2	2	2	2	3	4	30	3	3	3	4	5.6	29.7
19-Nov	5	A	A	7	5	3	440	15	26	20	22	23	19	18	7	26	19	8	12	15	13	11	11	8	33.3	440.2
20-Nov	A	A	8	6	5	4	233	42	8	27	15	15	7	7	10	14	14	10	9	12	10	9	18	A	22.9	232.6
21-Nov	A	8	8	10	8	8	7	10	12	15	14	37	8	6	37	9	7	16	9	8	11	7	A	A	12.2	36.9
22-Nov	9	20	21	2	6	2	2	2	2	1	2	66	1	3	1	1	6	4	4	13	3	A	A	2	7.8	66.3
23-Nov	4	1	2	2	1	2	2	2	2	4	4	8	5	9	12	30	6	5	7	6	A	A	4	8	5.6	29.9
24-Nov	3	3	3	3	2	4	1	1	3	2	2	C	C	C	C	C	M	M	M	M	M	M	M	M	--	3.7
25-Nov	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	--
26-Nov	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	--
27-Nov	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	--
28-Nov	M	M	M	M	M	M	M	M	M	M	M	M	C	C	C	C	C	4	6	3	3	2	2	1	--	6.0
29-Nov	1	1	2	1	1	0	0	1	0	1	2	1	1	0	1	1	1	12	12	1	0	1	1	1	1.8	11.6
30-Nov	1	1	1	12	2	3	2	5	29	21	4	3	2	6	6	4	6	6	7	4	3	2	3	2	5.6	29.2
Diurnal Average	6.5	6.3	6.7	6.5	5.9	6.4	34.1	9.4	11.2	10.8	7.9	12.4	6.1	6.2	11.6	11.4	10.7	10.6	13.2	11.0	10.7	9.1	8.6	6.9		
Diurnal Maximum	20.1	19.8	20.7	23.4	18.8	20.7	440.2	41.6	31.0	47.4	22.1	66.3	19.0	17.7	72.7	40.3	31.5	30.6	51.1	29.7	55.5	28.4	30.0	24.9		

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

Hourly Maximums for NO_X at Portable-Spirit River
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Spirit River - Ozone (O_3) - ppb
November 1, 2008 to December 1, 2008

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 40.4 ppb on Nov 26 12:00
Maximum Daily Average: 33.4 ppb on Nov 26

Minimum Value: 0 ppb on Nov 1 06:00
Maximum Diurnal Average: 20.6 ppb at hour 15
Monthly Average: 17.15 ppb

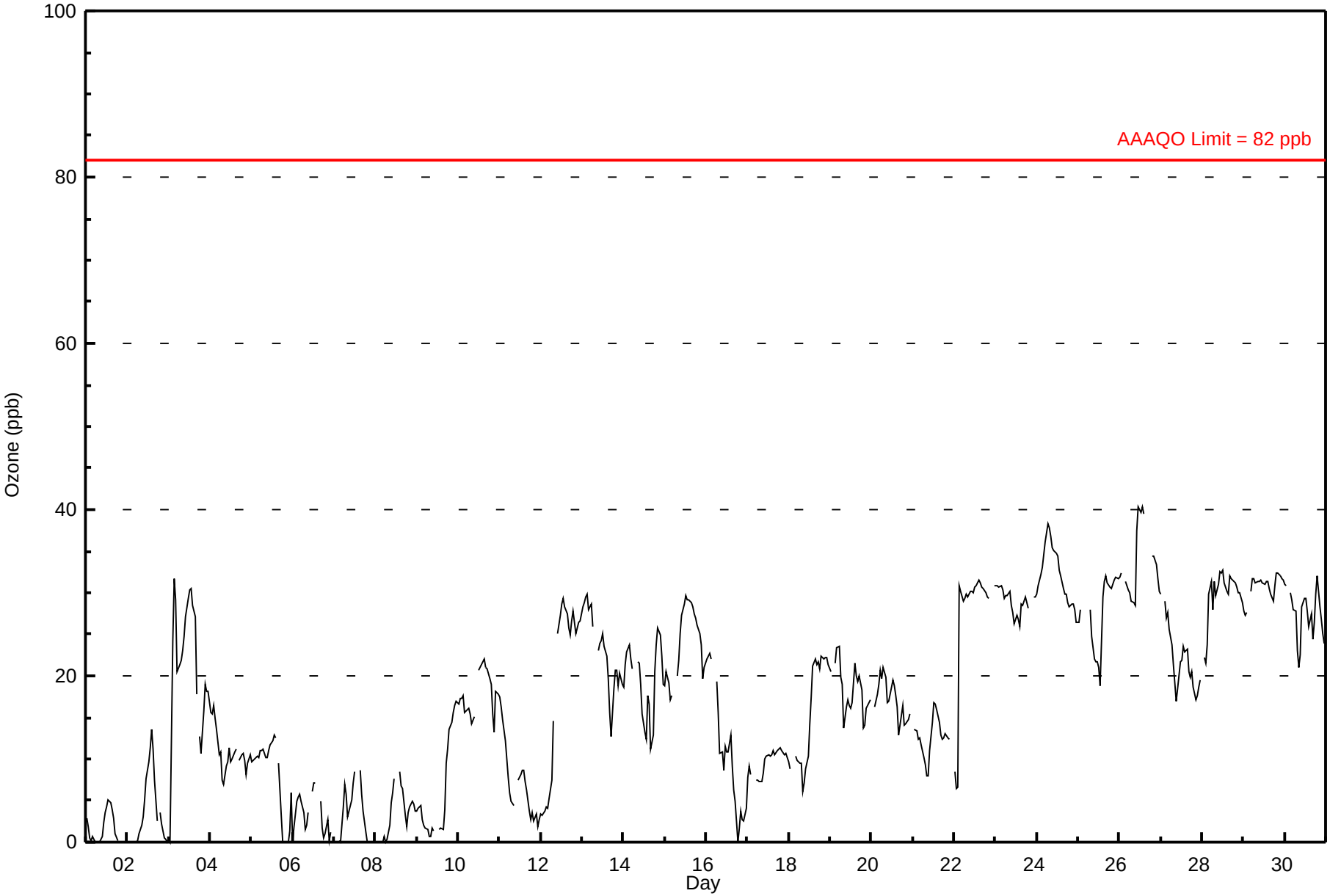
Minimum Daily Average: 1.5 ppb on Nov 1
Minimum Diurnal Average: 15.3 ppb at hour 1
Percentiles: P_1 = 0.0 P_{10} = 1.8 Q_1 = 7.9 Median = 17.4 Q_3 = 27.8 P_{90} = 30.9 P_{99} = 37.4

Hours in Service:	720
Hours of Data:	659
Hours of Missing Data:	61
Hours of Calibration:	52
Percent Operational Time:	98.8

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	3	2	1	0	1	0	0	0	0	1	2	4	4	5	5	4	3	1	0	A	0	0	0	0	1.5	5.1
2-Nov	0	0	0	0	0	0	0	1	2	3	5	8	10	11	14	11	7	3	A	4	2	0	0	0	3.5	13.6
3-Nov	0	0	24	32	29	21	21	22	23	25	27	29	30	31	29	27	18	A	13	11	16	19	18	18	21.0	31.6
4-Nov	16	15	16	15	14	10	11	7	7	9	10	11	10	10	11	11	A	10	11	11	10	8	9	10	11.0	16.4
5-Nov	10	10	10	10	10	11	11	11	10	10	11	12	12	13	12	A	10	3	0	0	0	0	1	6	8.0	12.9
6-Nov	0	2	5	5	6	5	4	2	2	4	P	6	7	7	A	A	5	2	0	1	3	0	1	P	3.3	7.2
7-Nov	2	P	P	0	0	4	7	6	3	4	5	7	8	A	A	9	6	4	1	0	0	0	0	0	3.3	8.7
8-Nov	0	0	0	0	0	1	0	0	2	5	6	8	A	A	8	7	6	3	2	4	4	5	5	4	3.1	8.4
9-Nov	4	4	4	3	2	2	1	1	1	2	1	A	A	1	2	2	4	10	11	13	14	16	16	17	5.9	16.9
10-Nov	17	17	17	18	16	16	16	15	14	15	A	A	21	21	22	22	21	21	20	19	15	13	18	18	17.8	22.0
11-Nov	17	16	15	12	10	8	6	5	4	A	A	7	8	9	9	7	6	4	3	4	3	3	2	3	7.3	17.4
12-Nov	3	3	4	4	4	5	7	15	A	A	25	27	29	29	28	27	26	25	27	28	25	26	26	27	19.1	29.3
13-Nov	28	29	29	30	28	29	26	A	A	23	24	24	25	24	22	20	16	13	19	21	21	19	20	19	23.1	29.8
14-Nov	19	21	23	24	22	21	A	A	22	22	19	15	13	12	18	17	11	13	21	24	26	25	22	19	19.4	25.7
15-Nov	19	20	19	17	18	A	A	20	22	25	27	29	30	29	29	29	28	27	27	26	25	24	20	21	24.1	29.6
16-Nov	22	22	23	22	A	A	19	16	11	11	9	12	11	11	13	9	6	5	0	2	4	3	3	4	10.7	22.7
17-Nov	8	9	8	A	A	7	7	7	7	8	10	10	10	10	11	11	10	11	11	11	11	11	11	10	9.6	11.3
18-Nov	10	9	A	A	10	10	10	9	6	7	9	10	14	17	21	22	21	22	21	22	22	22	22	21	15.4	22.3
19-Nov	21	A	A	21	23	24	20	19	14	16	17	16	16	17	21	20	19	20	18	14	14	16	16	17	18.2	23.6
20-Nov	A	A	16	18	19	21	20	21	20	17	17	18	20	19	18	16	13	15	16	14	14	15	15	A	17.2	20.9
21-Nov	A	14	13	12	13	12	10	9	8	8	11	14	17	17	16	14	13	12	13	13	13	12	A	A	12.6	16.8
22-Nov	8	6	7	31	30	29	29	30	30	30	30	30	31	31	31	31	31	31	30	30	29	A	A	31	27.1	31.4
23-Nov	31	31	31	31	30	29	30	30	30	29	28	26	27	27	26	29	28	29	29	28	A	A	29	29	29.0	30.9
24-Nov	30	31	32	33	35	36	38	38	37	35	35	35	34	33	32	31	30	30	29	28	29	29	28	26	32.2	38.3
25-Nov	27	28	P	P	P	P	P	28	25	22	22	22	21	19	29	31	32	31	31	30	31	31	32	32	27.6	32.1
26-Nov	32	32	A	31	31	30	30	29	29	28	37	40	40	40	40	C	C	C	C	34	34	33	32	30	33.4	40.4
27-Nov	30	A	29	27	28	26	24	21	19	17	18	22	22	24	23	23	21	20	20	19	17	18	19	20	21.9	29.8
28-Nov	A	22	22	24	30	31	28	31	30	31	33	32	33	31	30	30	32	32	31	31	31	30	30	29	29.7	32.7
29-Nov	28	27	28	A	30	32	32	31	31	31	31	31	31	31	31	30	30	29	31	32	32	32	32	31	30.7	32.4
30-Nov	31	31	A	30	29	28	28	23	21	23	28	29	29	28	26	27	24	26	30	32	28	27	25	24	27.3	32.1
	15.3	15.5	15.7	17.3	17.3	16.5	16.1	16.0	15.3	16.5	18.5	19.1	20.1	19.9	20.6	19.2	17.1	16.1	16.5	17.4	16.3	15.6	16.2	17.3	Diurnal Average	
	31.8	32.4	32.2	33.1	34.6	36.0	38.3	37.8	36.7	35.5	37.5	40.4	39.7	40.3	39.6	31.4	32.1	31.8	31.3	34.5	34.5	33.4	31.9	31.7	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-Spirit River
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Portable-Spirit River - Ozone (O_3) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 65.4 ppb on Nov 19 07:00

Maximum Daily Average: 34.6 ppb on Nov 26

Minimum Value: 0 ppb on Nov 1 07:00

Minimum Daily Average: 2.9 ppb on Nov 1

Maximum Diurnal Average: 22.6 ppb at hour 15

Minimum Diurnal Average: 17.1 ppb at hour 1

Monthly Average: 19.29 ppb

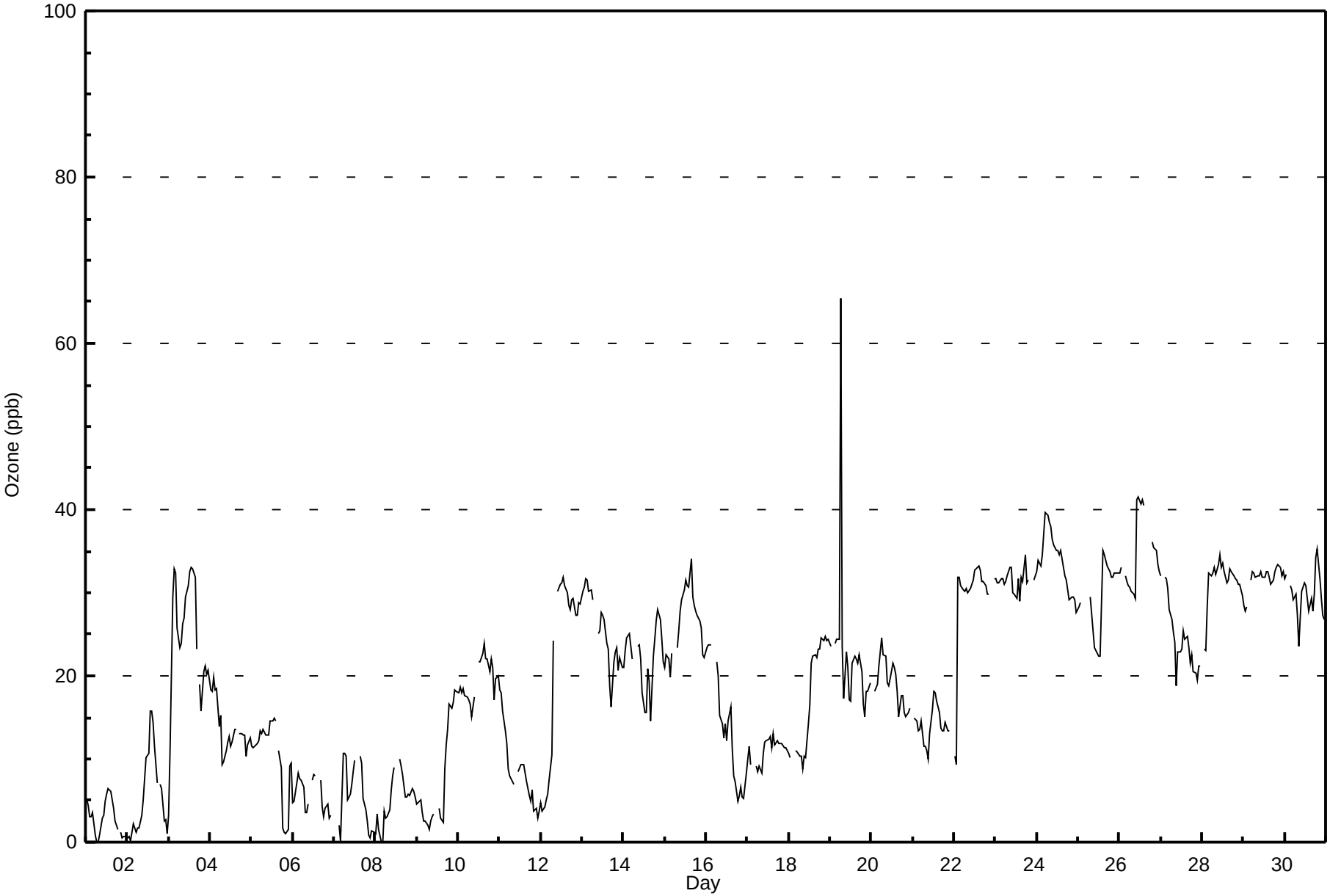
Percentiles: P_1 = 0.6 P_{10} = 3.8 Q_1 = 10.2 Median = 20.5 Q_3 = 29.8 P_{90} = 32.4 P_{99} = 39.6

Hours in Service:	720
Hours of Data:	659
Hours of Missing Data:	61
Hours of Calibration:	52
Percent Operational Time:	98.8

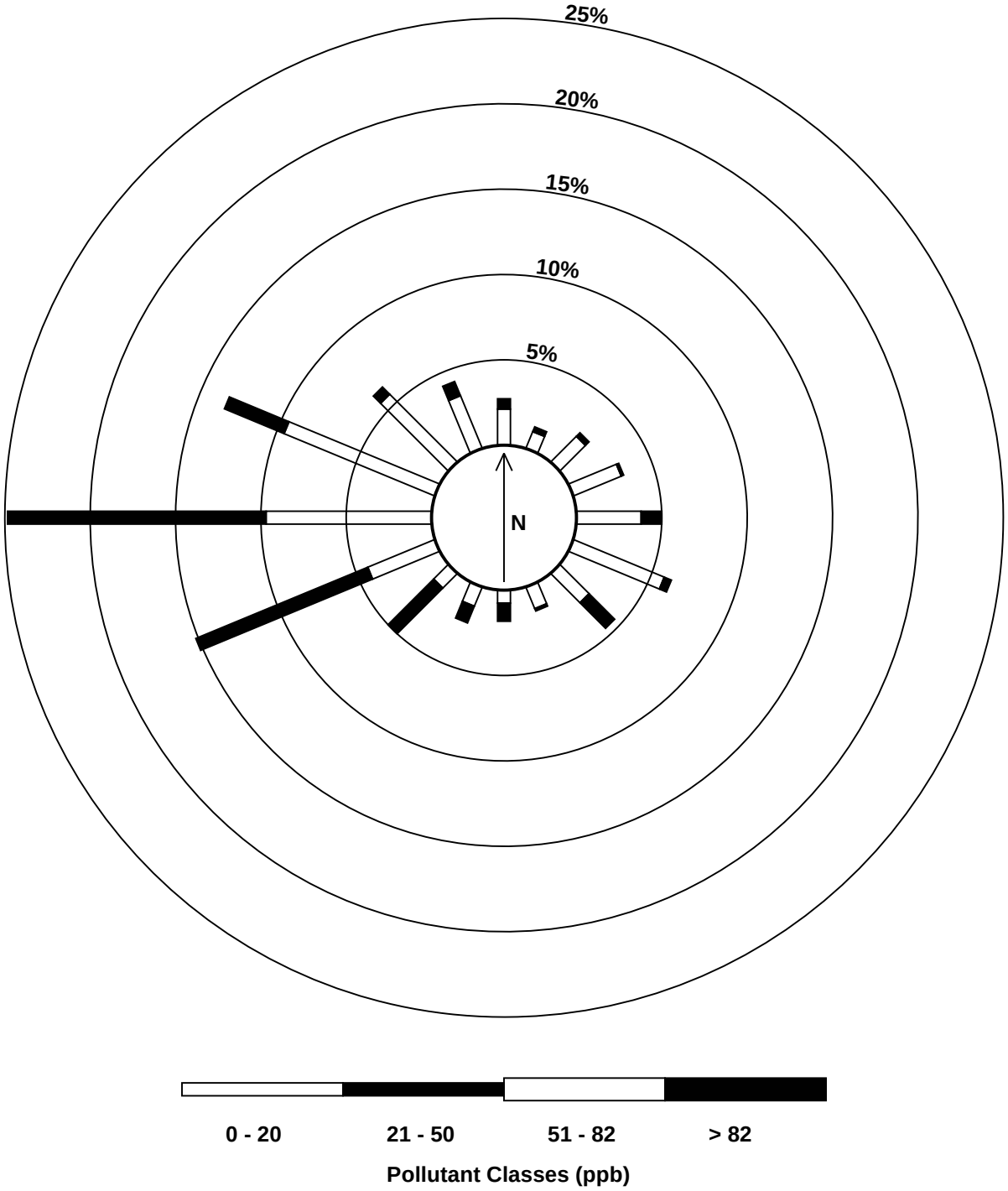
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	5	4	3	3	3	1	0	0	1	3	3	5	6	6	6	5	4	3	1	A	1	1	1	1	2.9	6.5
2-Nov	0	1	0	2	2	1	2	2	3	5	8	10	11	16	16	14	11	7	A	7	6	3	3	1	5.7	15.7
3-Nov	3	11	30	33	32	26	23	24	26	27	30	31	33	33	33	32	23	A	19	16	21	21	20	21	24.6	33.0
4-Nov	18	18	20	18	18	14	15	9	10	11	12	13	12	12	13	13	A	13	13	13	13	10	12	12	13.6	19.8
5-Nov	12	11	12	12	12	13	13	13	13	13	13	15	15	15	15	A	11	9	2	1	1	1	9	9	10.4	15.0
6-Nov	5	5	7	8	8	7	7	4	4	5	P	8	8	8	A	A	7	4	3	4	5	3	3	P	5.6	8.4
7-Nov	3	P	P	2	0	11	11	10	5	6	7	8	10	A	A	10	9	5	4	3	1	1	1	1	5.4	10.7
8-Nov	1	3	2	0	0	4	3	3	4	6	8	9	A	A	10	9	8	5	5	6	6	6	6	5	5.0	10.0
9-Nov	5	5	5	4	3	3	2	2	3	3	3	A	A	4	3	2	9	12	14	17	16	17	18	18	7.5	18.2
10-Nov	18	19	18	18	18	17	17	17	15	17	A	A	22	22	23	24	22	22	21	22	21	17	20	20	19.5	23.9
11-Nov	18	18	16	13	12	9	8	8	7	A	A	8	9	9	9	8	7	6	5	6	4	4	3	4	8.7	18.3
12-Nov	5	4	4	5	6	7	10	24	A	A	30	31	31	32	31	30	29	28	29	29	27	27	29	29	21.7	31.9
13-Nov	30	31	32	32	30	30	29	A	A	25	25	28	27	27	24	23	19	16	22	23	23	21	22	21	25.5	31.7
14-Nov	21	23	25	25	24	22	A	A	24	24	22	18	16	16	21	19	15	22	24	27	28	27	24	22	22.1	28.0
15-Nov	21	23	22	20	23	A	A	23	25	28	29	30	31	31	31	34	29	28	28	27	27	26	23	22	26.4	34.1
16-Nov	23	24	24	24	A	A	22	20	15	14	12	14	12	15	16	11	8	7	5	6	7	5	5	8	13.5	23.7
17-Nov	10	11	9	A	A	9	9	9	8	11	12	12	12	13	11	13	12	12	12	12	12	11	11	11	11.1	13.1
18-Nov	11	10	A	A	11	11	10	10	9	10	10	14	17	21	22	23	22	23	23	25	24	25	24	24	17.3	24.7
19-Nov	24	A	A	24	24	24	65	24	17	23	21	17	17	22	22	22	21	23	21	17	15	18	18	19	22.6	65.4
20-Nov	A	A	18	19	21	23	25	23	22	19	19	20	22	21	20	18	15	18	18	16	15	16	16	A	19.1	24.6
21-Nov	A	15	15	13	14	15	12	12	11	10	13	16	18	18	17	16	14	13	13	14	13	13	A	A	14.0	18.1
22-Nov	10	9	32	32	31	30	30	31	30	31	31	31	33	33	33	33	31	31	31	30	30	A	A	32	29.3	33.2
23-Nov	32	31	31	32	32	31	31	32	33	33	30	30	29	32	29	32	31	35	31	32	A	A	32	32	31.5	34.7
24-Nov	32	34	33	35	37	40	39	38	38	36	36	35	35	35	35	33	32	32	30	29	29	30	29	28	33.8	39.7
25-Nov	28	29	P	P	P	P	P	29	27	23	23	23	22	22	35	35	34	33	32	32	32	32	32	32	29.4	35.1
26-Nov	32	33	A	32	31	31	31	30	30	29	41	41	41	41	41	C	C	C	C	36	35	35	33	33	34.6	41.4
27-Nov	32	A	32	32	31	28	27	25	24	19	23	23	23	25	24	25	23	22	23	21	20	20	21	21	24.5	32.0
28-Nov	A	23	23	28	32	32	32	33	32	33	34	33	34	33	31	32	33	33	32	32	32	31	31	30	31.3	34.5
29-Nov	28	28	28	A	31	32	32	32	32	32	33	32	32	32	33	32	31	31	32	33	33	33	32	32	31.7	33.4
30-Nov	32	32	A	31	30	29	30	27	24	27	30	31	31	29	28	29	28	30	34	35	32	29	27	27	29.7	35.3
	17.1	17.5	18.3	19.1	19.1	18.5	19.8	18.4	17.6	18.7	20.7	21.0	21.7	22.2	22.6	21.4	19.3	18.7	18.8	19.6	18.2	17.2	18.1	19.1	Diurnal Average	
	32.5	34.0	33.3	34.6	37.1	39.7	65.4	38.5	37.9	36.5	41.1	41.4	40.7	41.3	40.6	34.6	33.9	34.7	34.3	36.1	35.4	35.0	33.5	32.6	Diurnal Maximum	

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

Hourly Maximums for O_3 at Portable-Spirit River
November 2008



Pollutant Rose for O_3 at Portable-Spirit River
November 2008



Peace Airshed Zone Association
Summary of Eight Hour Running Averages

Portable-Spirit River - Ozone (O_3) - ppb
November 1, 2008 to December 1, 2008

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 37.6 ppb on Nov 26 17:00

Minimum Value: 0.0 ppb on Nov 1 09:00

Percentiles: P_1 = 0.0 P_{10} = 3.0 Q_1 = 7.8 Median = 17.2 Q_3 = 26.9 P_{90} = 30.7 P_{99} = 35.5

Hours in Service:	720
Hours of Data:	697
Hours of Missing Data:	23
Hours of Calibration:	7
Percent Operational Time:	97.8

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-Nov	6	5	4	3	3	2	1	0	0	0	0	0	1	2	2	3	3	3	3	3	3	2	1	1	6.1
2-Nov	0	0	0	0	0	0	0	0	0	1	1	2	4	5	7	8	9	9	9	8	7	6	4	2	9.0
3-Nov	1	1	4	7	11	13	16	19	21	25	25	25	25	26	27	28	27	27	25	23	20	19	17	16	27.6
4-Nov	16	16	16	17	16	15	14	13	12	11	10	10	9	9	9	10	10	10	10	10	10	10	10	10	16.7
5-Nov	10	10	10	10	10	10	10	10	10	10	11	11	11	11	11	12	11	10	9	7	5	3	2	2	11.5
6-Nov	1	1	1	2	3	4	4	4	4	4	4	4	4	4	5	N	N	N	5	4	3	2	2	2	4.6
7-Nov	1	1	N	N	N	N	N	3	3	3	4	4	6	6	6	6	7	6	6	5	3	2	2	1	6.6
8-Nov	0	0	0	0	0	0	0	0	0	1	1	3	3	3	5	6	7	6	6	5	5	5	4	4	6.6
9-Nov	4	4	4	4	4	3	3	3	2	2	2	1	1	1	1	1	2	3	5	6	7	9	11	13	12.7
10-Nov	14	15	16	16	17	17	17	16	16	16	16	15	16	17	18	19	20	21	21	21	20	19	19	18	21.2
11-Nov	18	17	16	16	15	14	13	11	10	9	8	7	6	7	7	7	8	7	7	6	5	5	4	3	17.7
12-Nov	3	3	3	3	3	4	4	6	6	7	10	14	18	22	26	28	27	27	27	27	27	26	26	26	27.7
13-Nov	26	27	27	28	28	28	28	28	28	27	27	26	25	24	24	23	22	21	20	20	19	19	18	18	28.5
14-Nov	19	20	20	21	21	21	21	22	22	22	21	20	19	17	17	17	16	15	15	16	18	19	20	20	22.1
15-Nov	21	22	22	21	20	19	19	19	19	20	21	23	25	26	26	27	28	29	29	28	28	27	26	25	28.5
16-Nov	24	23	23	22	22	22	22	21	19	17	14	13	12	12	11	11	10	9	8	7	6	5	4	3	24.0
17-Nov	3	4	5	5	6	7	7	8	8	8	8	8	9	9	9	10	10	11	11	11	11	11	11	11	10.9
18-Nov	11	10	10	10	10	10	10	10	9	9	9	9	9	10	12	13	15	17	19	20	21	22	22	22	21.9
19-Nov	22	22	22	22	22	22	22	21	20	20	19	19	18	17	17	17	18	18	19	18	18	18	17	17	22.1
20-Nov	17	16	16	16	17	18	18	19	19	19	19	19	19	19	19	18	17	17	17	16	16	15	15	15	19.1
21-Nov	15	15	14	14	14	13	12	12	11	11	10	11	11	12	12	13	14	14	15	14	14	13	13	13	15.0
22-Nov	12	11	10	13	16	19	20	21	24	27	30	30	30	30	30	31	31	31	31	31	30	30	30	30	30.7
23-Nov	30	30	30	31	31	31	30	30	30	30	30	29	29	28	28	28	27	28	28	28	28	28	29	29	30.7
24-Nov	29	29	30	31	31	32	33	34	35	36	36	36	36	36	35	34	33	32	32	31	30	30	29	29	36.1
25-Nov	28	28	28	28	N	N	N	N	N	N	N	N	23	23	23	24	25	26	27	28	29	31	31	31	31.3
26-Nov	31	31	32	32	32	31	31	31	30	30	31	32	33	34	35	36	38	N	N	N	N	N	N	N	37.6
27-Nov	32	32	32	31	30	29	28	26	25	24	22	22	21	21	21	21	21	21	22	21	21	20	20	19	32.3
28-Nov	19	19	19	20	22	24	25	27	27	28	30	31	31	31	31	31	32	32	31	31	31	31	31	31	31.6
29-Nov	30	30	29	29	29	29	29	30	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31.4
30-Nov	31	32	32	31	31	30	30	29	27	26	26	26	26	26	26	26	27	27	28	28	28	28	28	27	31.7
Diurnal Maximums	32.3	32.3	31.8	31.6	31.6	31.9	33.0	34.1	34.9	35.5	35.9	36.1	36.1	35.6	35.4	36.4	37.6	32.4	31.6	31.3	31.0	31.0	31.3	31.3	

N - Not Valid
Alberta Ambient Air Quality Objectives (AAAQO): 8-hr 65 ppb

Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Spirit River - External Temperature (ET) - ^{o}C
November 1, 2008 to December 1, 2008

Maximum Value: 10.2 ^{o}C on Nov 3 15:00

Maximum Daily Average: 5.9 ^{o}C on Nov 3

Minimum Value: -19 ^{o}C on Nov 20 01:00

Maximum Diurnal Average: -0.9 ^{o}C at hour 15

Monthly Average: -2.66 ^{o}C

Minimum Daily Average: -14.0 ^{o}C on Nov 19

Minimum Diurnal Average: -4.0 ^{o}C at hour 9

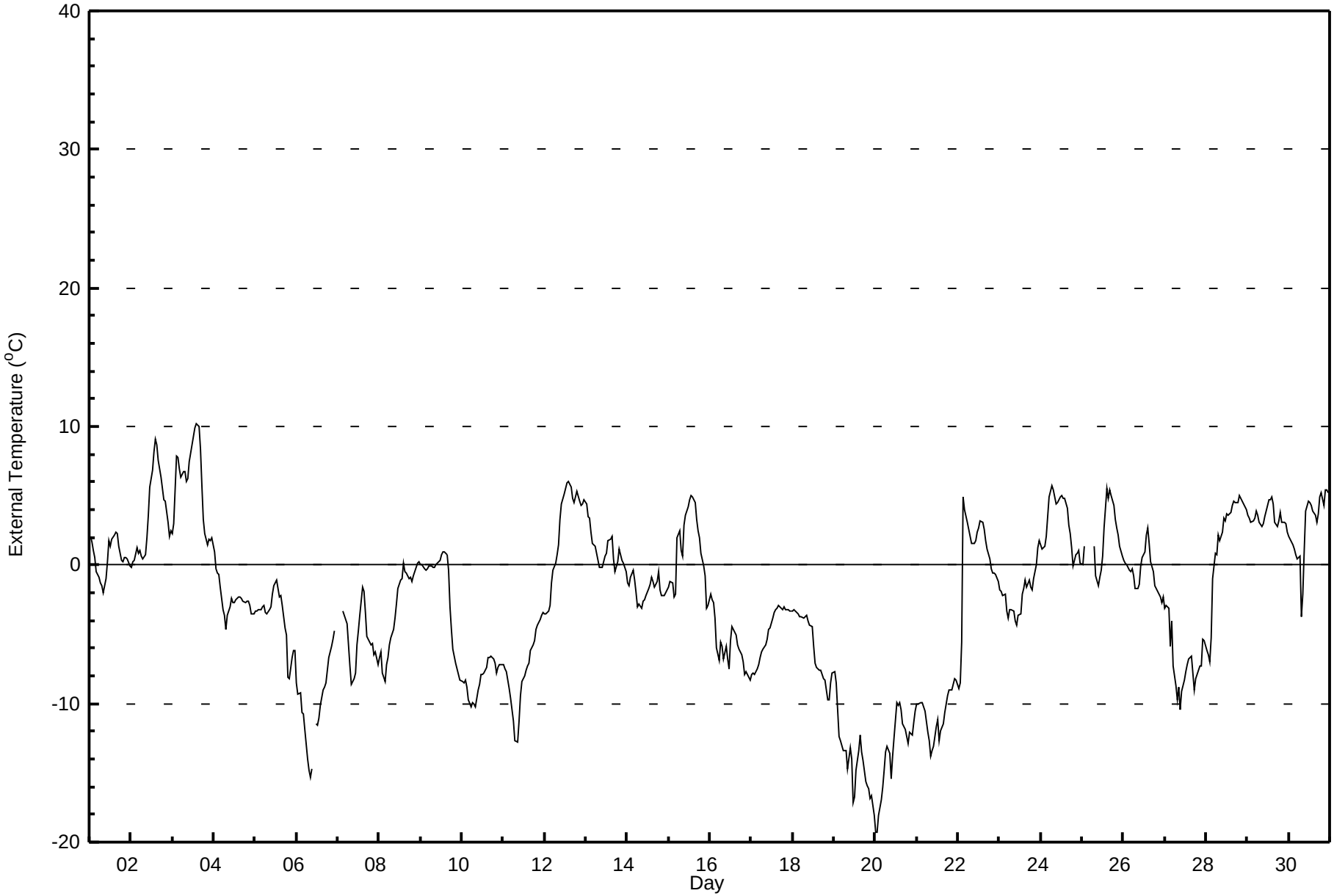
Percentiles: P_1 = -16.8 P_{10} = -10.2 Q_1 = -7.0 Median = -2.1 Q_3 = 1.5 P_{90} = 4.4 P_{99} = 8.6

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	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-Nov	2	2	1	1	0	-1	-1	-1	-2	-1	0	2	1	2	2	2	2	1	0	0	1	1	0	0	0.6	2.4
2-Nov	0	0	0	1	1	1	1	0	1	2	4	6	7	8	9	9	8	6	6	5	5	3	2	2	3.6	9.1
3-Nov	2	3	8	8	7	6	7	7	6	6	8	9	9	10	10	10	8	6	3	2	1	2	2	2	5.9	10.2
4-Nov	1	0	-1	-1	-2	-3	-4	-5	-4	-3	-2	-3	-3	-3	-2	-2	-2	-3	-3	-3	-3	-3	-4	-4	-2.4	1.0
5-Nov	-3	-3	-3	-3	-3	-3	-3	-4	-3	-3	-2	-1	-1	-2	-2	-2	-3	-4	-5	-8	-8	-7	-6	-6	-3.8	-1.1
6-Nov	-9	-9	-9	-11	-11	-12	-14	-15	-15	-15	P	-11	-12	-11	-10	-9	-9	-8	-8	-7	-6	-5	-5	P	-10.0	-4.7
7-Nov	-4	P	P	-3	-4	-4	-6	-7	-9	-8	-8	-6	-5	-4	-2	-2	-3	-5	-6	-6	-6	-6	-6	-7	-5.3	-1.6
8-Nov	-7	-6	-8	-8	-7	-7	-6	-5	-5	-4	-3	-2	-1	-1	0	0	-1	-1	-1	-1	-1	0	0	0	-3.1	0.3
9-Nov	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	-3	-5	-6	-7	-7	-8	-8	-1.8	1.0
10-Nov	-8	-8	-8	-9	-10	-10	-10	-10	-10	-9	-9	-8	-8	-8	-7	-7	-7	-7	-7	-7	-8	-7	-7	-7	-8.2	-6.6
11-Nov	-7	-7	-8	-9	-10	-10	-11	-13	-13	-11	-9	-8	-8	-8	-7	-7	-6	-6	-5	-5	-4	-4	-4	-3	-7.7	-3.5
12-Nov	-3	-4	-3	-3	-1	0	0	1	1	3	4	5	6	6	6	6	5	4	5	5	5	4	4	5	2.5	6.0
13-Nov	4	3	3	2	2	1	1	0	0	0	0	1	1	2	2	2	0	0	0	1	1	0	0	-1	1.1	4.4
14-Nov	-1	-1	-1	0	-1	-2	-3	-3	-3	-3	-3	-2	-2	-1	-1	-1	-2	-1	-1	-2	-2	-2	-2	-2	-1.7	-0.4
15-Nov	-2	-1	-1	-2	-2	2	3	1	1	3	4	4	5	5	5	5	3	2	2	1	0	-1	-3	-3	1.2	5.0
16-Nov	-2	-3	-3	-4	-6	-7	-6	-6	-7	-6	-7	-8	-5	-4	-5	-5	-6	-6	-6	-7	-8	-8	-8	-8	-5.8	-2.1
17-Nov	-8	-8	-8	-7	-7	-7	-6	-6	-6	-5	-5	-5	-4	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-4.9	-2.9
18-Nov	-3	-3	-3	-3	-4	-4	-4	-4	-4	-4	-4	-4	-6	-7	-7	-8	-8	-8	-8	-8	-10	-10	-9	-8	-5.9	-3.2
19-Nov	-8	-9	-10	-12	-13	-13	-13	-13	-15	-13	-14	-17	-17	-15	-13	-12	-13	-14	-16	-16	-16	-17	-17	-18	-14.0	-7.7
20-Nov	-19	-19	-18	-17	-16	-15	-13	-13	-14	-15	-14	-12	-10	-10	-10	-10	-11	-12	-12	-13	-12	-12	-11	-11	-13.4	-9.9
21-Nov	-10	-10	-10	-10	-10	-11	-12	-13	-14	-13	-13	-12	-11	-13	-12	-11	-11	-10	-9	-9	-9	-9	-8	-8	-10.8	-8.2
22-Nov	-9	-9	-6	5	4	3	3	2	2	2	2	2	3	3	3	3	2	1	0	0	-1	-1	-1	-1	0.5	4.9
23-Nov	-2	-2	-2	-2	-3	-4	-3	-3	-3	-4	-4	-4	-4	-2	-2	-1	-2	-1	-2	-2	-1	0	1	2	-2.1	1.8
24-Nov	1	1	1	2	3	5	6	5	5	4	5	5	5	5	5	4	3	2	1	0	1	1	1	0	3.0	5.8
25-Nov	0	1	P	P	P	P	P	1	-1	-1	-1	0	1	3	6	5	5	5	4	3	3	2	1	1	2.0	5.6
26-Nov	0	0	0	0	0	0	-1	-2	-2	-1	0	1	1	2	3	2	0	-1	-2	-2	-2	-2	-3	-2	-0.5	2.7
27-Nov	-3	-3	-3	-6	-4	-7	-9	-10	-9	-10	-9	-8	-8	-7	-7	-7	-8	-9	-8	-8	-7	-7	-5	-5	-7.0	-3.0
28-Nov	-6	-6	-7	-5	-1	1	1	2	2	2	3	3	4	4	4	4	5	5	5	5	5	5	4	4	1.7	5.0
29-Nov	4	3	3	3	3	4	4	3	3	3	3	4	5	5	5	4	3	3	3	4	3	3	3	2	3.5	4.9
30-Nov	2	2	1	1	1	0	1	-4	-2	1	4	5	5	4	4	4	3	4	5	5	4	5	5	5	2.7	5.4
	-3.2	-3.3	-3.4	-3.2	-3.3	-3.3	-3.5	-3.8	-4.0	-3.5	-2.4	-2.2	-1.7	-1.3	-0.9	-1.0	-1.5	-2.1	-2.4	-2.7	-2.9	-2.9	-2.8	-2.9	Diurnal Average	
	4.4	3.5	7.9	7.7	6.9	6.4	6.7	6.7	6.0	6.3	7.5	8.6	9.3	9.9	10.2	10.0	8.4	6.3	5.5	5.3	4.8	5.4	5.4	5.2	Diurnal Maximum	

P - Power Failure

Hourly Averages for External Temperature at Portable-Spirit River
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Spirit River - Relative Humidity (RH) - %
November 1, 2008 to December 1, 2008

Maximum Value: 98.1 % on Nov 2 04:00

Maximum Daily Average: 96.6 % on Nov 1

Minimum Value: 42 % on Nov 3 15:00

Minimum Daily Average: 61.0 % on Nov 26

Maximum Diurnal Average: 82.6 % at hour 6

Minimum Diurnal Average: 74.7 % at hour 15

Monthly Average: 79.50 %

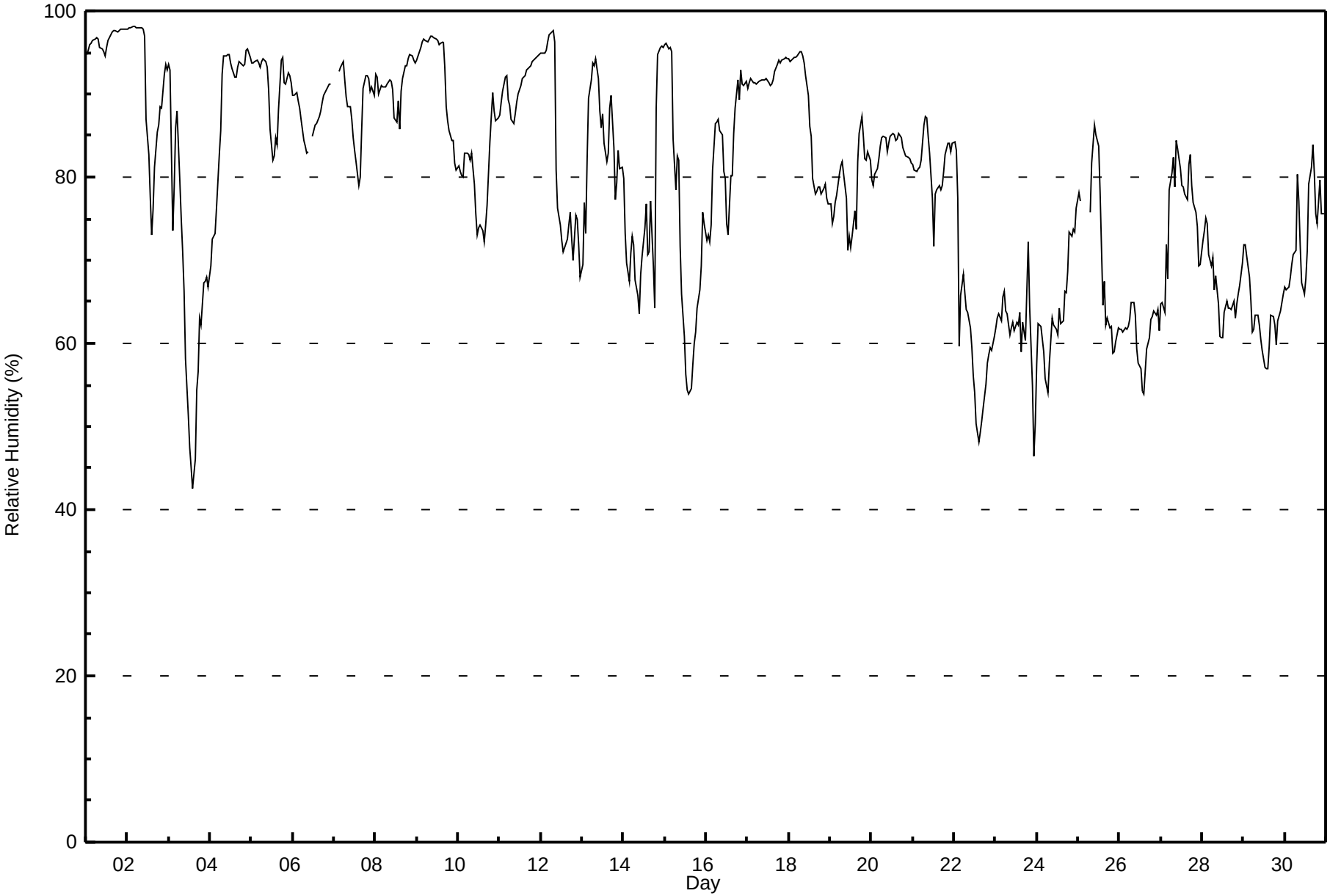
Percentiles: P_1 = 50.2 P_{10} = 61.6 Q_1 = 69.2 Median = 81.7 Q_3 = 91.4 P_{90} = 94.8 P_{99} = 97.9

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) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	95	95	96	96	96	97	97	97	96	95	95	95	96	97	97	97	98	98	98	98	98	98	98	98	96.6	97.8
2-Nov	98	98	98	98	98	98	98	98	98	98	97	87	83	78	73	76	81	85	86	88	88	92	94	93	90.9	98.1
3-Nov	94	93	74	79	86	88	79	75	71	66	58	51	48	45	42	46	54	57	63	62	67	67	68	67	66.7	93.6
4-Nov	69	73	73	73	76	83	86	92	95	95	95	95	94	93	92	92	93	94	94	93	94	95	95	94	88.6	95.4
5-Nov	94	94	94	94	94	93	94	94	94	93	90	86	82	83	85	84	88	94	94	91	91	92	92	91	90.9	94.4
6-Nov	90	90	90	89	88	87	84	84	83	83	P	85	86	86	86	87	88	89	90	90	91	91	91	P	87.7	91.2
7-Nov	92	P	P	93	93	94	92	90	88	88	87	85	83	82	79	80	86	91	92	92	92	90	91	90	88.6	93.8
8-Nov	92	92	90	91	91	91	91	91	92	91	90	87	87	89	86	90	92	93	93	94	95	95	94	94	91.3	94.7
9-Nov	94	95	96	96	97	96	96	97	97	97	97	97	96	96	96	96	93	88	87	86	84	84	82	81	92.7	97.0
10-Nov	81	81	80	80	83	83	83	82	83	79	76	73	74	74	74	72	74	77	84	87	90	88	87	87	80.5	90.1
11-Nov	88	89	90	92	92	89	89	87	86	88	89	90	91	92	92	92	93	93	93	94	94	94	95	95	91.1	94.8
12-Nov	95	95	95	95	96	97	97	98	96	81	76	74	72	71	71	73	74	76	73	70	75	75	72	68	81.9	97.6
13-Nov	70	77	73	82	90	92	94	93	94	92	88	86	88	84	82	83	88	90	84	77	79	83	81	81	84.6	94.2
14-Nov	80	73	70	67	71	73	72	68	66	64	68	70	74	77	71	71	77	69	64	88	95	96	96	96	75.6	95.7
15-Nov	96	96	95	96	95	85	78	83	82	72	66	61	56	54	54	55	57	60	61	64	66	69	76	74	73.0	96.0
16-Nov	72	73	72	74	81	86	87	87	86	85	81	80	74	73	80	80	85	88	92	89	93	91	91	92	83.0	92.8
17-Nov	91	91	92	91	91	91	91	91	92	92	92	92	91	91	91	92	93	93	94	94	94	94	94	94	92.2	94.4
18-Nov	94	94	94	94	94	95	95	95	95	94	92	90	86	85	80	78	78	79	79	78	79	79	77	77	86.7	95.0
19-Nov	77	74	75	77	78	80	81	82	80	77	71	73	72	73	76	74	82	85	87	85	82	82	83	82	78.7	87.2
20-Nov	80	79	80	81	82	84	85	85	85	83	84	85	85	85	84	85	85	85	84	83	83	82	82	82	83.2	85.3
21-Nov	81	81	81	81	81	82	86	87	87	85	83	78	72	78	78	79	79	79	81	83	84	84	83	84	81.5	87.3
22-Nov	84	83	77	60	66	68	66	64	64	62	59	56	54	50	48	49	51	52	55	58	59	60	59	61	61.1	84.3
23-Nov	62	63	64	63	66	66	64	64	61	62	62	61	63	62	64	59	63	60	66	72	64	55	46	50	61.8	72.2
24-Nov	57	62	62	61	59	56	54	58	60	63	62	62	61	64	62	63	66	66	69	73	73	74	73	76	64.0	76.2
25-Nov	78	77	P	P	P	P	P	76	82	86	85	84	84	78	65	67	62	63	62	62	59	59	60	62	71.1	86.2
26-Nov	62	62	61	62	62	62	63	65	65	63	59	58	57	54	54	57	59	61	63	63	64	63	64	62	61.0	65.0
27-Nov	65	65	64	72	68	78	81	82	79	84	83	81	79	79	78	77	81	83	79	77	76	74	69	69	76.0	84.4
28-Nov	72	74	75	74	71	69	70	66	68	65	61	61	61	64	65	64	64	64	65	63	65	66	67	70	66.9	75.2
29-Nov	72	72	71	68	65	61	62	63	63	62	60	59	57	57	57	60	63	63	62	60	63	64	65	66	63.2	71.9
30-Nov	67	66	67	68	70	71	71	80	77	72	67	66	68	71	79	81	84	81	76	74	80	76	76	76	73.4	83.8
	81.4	81.3	80.3	81.0	82.1	82.6	82.3	82.5	82.1	80.6	78.5	76.9	75.7	75.5	74.7	75.3	77.8	78.5	79.0	79.7	80.5	80.5	80.1	79.7	Diurnal Average	
	97.8	97.9	97.9	98.1	98.1	98.0	97.9	98.0	98.0	97.8	96.9	96.7	96.5	96.5	97.1	97.5	97.6	97.6	97.5	97.6	97.7	97.8	97.8	97.8	Diurnal Maximum	

P - Power Failure

Hourly Averages for Relative Humidity at Portable-Spirit River
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Spirit River
November 1, 2008 to December 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	1	1	2	1	2	2	3	3	1	1	3	3	3	4	5	4	1	2	2	3	2	2	2	3	0.7	4.8
Dir	85	119	314	268	266	246	202	309	292	332	58	49	44	62	65	53	289	290	304	245	298	269	295	273	331.2	65.5
2 Spd	5	4	4	4	3	2	3	5	3	2	2	1	4	3	4	3	1	4	2	3	1	3	2	5	1.8	5.4
Dir	273	283	261	290	284	275	259	236	267	292	8	61	358	14	66	83	68	240	233	223	237	303	265	261	277.6	235.7
3 Spd	1	2	9	24	8	7	10	9	10	7	7	6	7	6	7	3	2	5	8	9	8	6	8	6	7.1	24.3
Dir	176	266	264	246	266	229	254	257	254	265	262	267	270	267	269	292	269	254	247	230	237	242	255	257	254.3	246.5
4 Spd	6	7	5	5	5	2	8	8	3	3	3	4	3	4	4	5	6	5	4	6	8	11	13	10	2.8	13.1
Dir	261	254	267	265	305	292	333	322	280	266	302	302	299	332	327	353	32	36	52	350	23	56	82	79	349.0	81.6
5 Spd	5	5	4	5	3	2	5	5	2	2	1	1	0	3	4	6	4	4	4	1	3	4	3	2	1.3	5.7
Dir	74	76	61	46	48	40	1	349	322	322	310	329	343	120	125	128	105	150	155	190	305	297	325	255	56.6	127.9
6 Spd	2	2	3	2	2	1	1	2	1	1	P	1	1	1	1	1	1	1	1	1	1	1	0	P	0.8	2.9
Dir	46	8	357	311	285	347	310	273	305	307	P	1	75	86	312	284	296	273	268	286	313	313	286	P	325.5	357.1
7 Spd	1	P	P	0	2	2	1	1	1	2	2	1	1	1	0	1	1	3	4	5	4	2	2	2	1.1	5.2
Dir	266	P	P	124	123	189	267	336	291	323	342	345	12	74	267	44	74	271	276	270	279	288	289	286	285.4	269.7
8 Spd	1	1	2	1	1	2	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	0	0	0.7	1.7
Dir	228	298	325	244	324	336	311	319	278	326	243	350	353	22	10	347	352	278	302	248	317	332	337	346	322.1	325.3
9 Spd	1	2	4	5	4	3	5	7	8	8	7	7	3	2	2	2	6	6	7	7	7	6	5	4	0.6	8.1
Dir	31	79	97	111	115	115	84	92	99	95	90	96	100	341	304	304	290	282	276	284	286	287	292	293	46.2	99.1
10 Spd	5	4	3	4	2	3	5	4	3	4	5	9	9	7	5	1	1	1	1	0	3	4	4	8	1.9	9.2
Dir	286	290	296	302	285	268	263	264	286	302	313	335	346	349	347	344	88	325	221	263	189	132	111	124	311.6	346.0
11 Spd	9	8	8	6	10	1	4	3	3	1	1	1	3	6	7	8	6	7	6	6	5	5	5	5	4.0	9.5
Dir	133	118	112	114	96	168	269	293	266	295	260	131	98	119	113	115	119	106	121	113	125	114	112	115	117.6	96.2
12 Spd	8	5	3	5	7	10	6	3	11	18	21	21	25	28	20	18	13	7	10	15	5	7	13	17	8.8	28.3
Dir	91	88	98	107	89	102	98	200	221	235	236	238	235	242	248	246	255	261	260	257	276	260	257	258	239.0	241.5
13 Spd	16	12	8	9	7	10	10	8	6	6	5	6	4	4	4	1	3	3	6	6	3	3	5	6	6.0	15.6
Dir	266	272	290	289	285	275	295	296	295	292	289	294	292	272	258	285	240	263	257	323	303	269	258	248	280.1	266.0
14 Spd	7	5	6	5	4	5	8	9	5	3	1	2	2	3	5	8	6	4	8	6	10	10	10	6	2.4	10.1
Dir	252	265	270	281	277	265	249	247	260	260	90	79	71	72	124	130	129	148	205	169	134	135	125	120	186.1	125.3
15 Spd	8	8	2	2	3	12	9	5	7	12	13	11	12	9	9	8	8	6	8	7	5	5	7	7	6.2	13.1
Dir	135	157	168	303	295	262	270	273	270	261	262	269	268	271	272	272	266	271	269	263	317	335	248	257	264.4	261.9
16 Spd	4	7	8	7	1	1	5	6	7	7	2	1	1	3	0	1	2	0	4	3	3	3	1	1	2.7	8.2
Dir	271	258	259	257	247	19	237	279	272	268	265	46	285	336	141	234	192	59	220	307	288	287	83	309	266.7	259.2
17 Spd	1	2	2	2	3	2	1	1	2	2	1	3	1	1	2	2	1	3	3	2	4	3	5	5	1.5	5.3
Dir	324	348	323	299	331	322	318	289	277	278	306	326	312	295	267	312	280	19	78	59	33	37	56	355	348.5	55.8
18 Spd	3	2	2	2	3	4	7	4	3	2	3	4	6	7	5	6	5	5	3	2	4	2	3	3	2.5	7.1
Dir	358	332	99	74	114	126	21	330	309	276	276	292	290	289	294	301	296	290	290	289	279	285	283	288	302.9	288.6
19 Spd	4	5	3	4	3	6	4	6	5	6	1	2	3	7	7	1	3	2	2	2	1	0	0	1	0.7	7.1
Dir	290	294	288	282	275	260	263	250	206	204	106	73	87	81	89	135	130	73	142	130	131	194	300	341	219.3	81.5
20 Spd	1	0	1	1	1	1	1	0	3	2	2	1	1	2	2	3	2	3	4	5	5	5	5	5	1.8	5.1
Dir	17	125	287	151	108	109	60	139	275	268	265	266	273	279	272	263	277	283	287	278	283	278	279	278	276.8	283.2
21 Spd	3	3	2	2	1	1	4	2	4	3	2	1	1	3	2	3	3	5	4	2	4	1	1	2	0.3	5.1
Dir	292	290	298	306	297	86	120	281	287	277	267	243	155	108	123	110	106	99	103	112	101	121	281	297	116.9	98.8
22 Spd	3	4	3	26	23	24	23	23	17	19	21	20	16	12	11	11	12	12	13	14	13	13	13	12	14.7	25.7
Dir	293	263	289	251	254	256	257	256	259	259	258	260	261	265	270	272	267	265	263	261	262	262	262	261	260.2	251.4

Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Spirit River
November 1, 2008 to December 1, 2008
WS (km/h), WD (deg)

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
23 Spd	12	13	11	11	12	11	7	5	1	2	2	1	4	2	6	10	15	3	7	7	4	7	5	3	2.6	14.9
Dir	261	261	261	262	256	256	267	283	26	98	142	122	137	135	137	158	142	84	80	88	86	125	197	189	208.9	142.1
24 Spd	7	8	11	11	13	7	30	34	30	18	28	25	24	6	7	15	8	7	13	13	14	12	12	9	14.8	33.6
Dir	235	241	226	216	220	271	247	244	244	250	241	242	246	265	259	241	257	258	249	250	241	234	224	226	242.3	244.3
25 Spd	11	11	P	P	P	P	P	2	5	1	1	2	3	4	10	11	20	22	32	22	13	12	9	10	9.2	32.2
Dir	231	227	P	P	P	P	P	173	36	350	13	287	145	157	247	250	237	239	242	252	265	267	271	266	246.3	241.7
26 Spd	14	14	14	14	13	11	11	13	13	13	15	12	4	9	8	8	9	8	9	11	10	8	4	7	10.5	15.5
Dir	260	260	260	260	260	267	259	246	255	254	248	254	271	258	256	253	259	259	257	252	254	256	249	226	255.7	248.2
27 Spd	4	3	5	1	1	1	4	5	5	3	1	2	3	4	3	4	3	5	6	7	6	6	5	2	2.4	7.1
Dir	256	229	230	116	54	247	327	251	338	206	185	61	338	3	278	3	268	255	247	241	248	256	225	199	261.8	241.3
28 Spd	1	2	2	2	12	9	3	9	2	8	14	13	14	7	5	10	10	18	17	29	20	14	18	13	10.1	29.3
Dir	269	270	319	216	232	216	229	212	208	243	239	230	235	244	226	253	263	258	253	247	251	258	256	262	246.1	247.3
29 Spd	14	11	16	15	12	9	9	8	7	8	11	11	9	7	5	5	5	8	7	10	8	13	12	9	9.4	15.6
Dir	261	262	257	259	263	271	271	271	271	270	261	260	264	273	285	282	265	244	266	272	276	266	265	265	265.1	256.7
30 Spd	10	10	9	6	8	9	2	5	2	5	15	14	10	10	3	12	10	6	6	10	1	2	8	15	5.4	14.6
Dir	263	262	261	265	259	245	211	86	145	225	229	236	247	235	201	140	135	131	182	179	79	184	189	193	215.1	193.1
Spd	3.2	3.5	3.4	4.5	3.4	3.7	4.5	4.8	4.2	4.4	5.1	4.3	3.8	2.6	2.3	2.3	2.5	3.1	4.5	5.0	3.4	3.0	3.2	3.6	Diurnal Average	
Dir	255.1	256.0	264.2	257.6	256.8	254.3	266.2	260.4	260.2	256.5	251.6	258.5	260.8	265.7	255.1	240.8	237.2	252.0	245.7	250.6	262.6	259.4	246.3	246.1		
Spd	15.6	14.1	15.6	25.7	22.5	24.4	30.0	33.6	29.6	18.7	27.9	25.5	24.7	28.3	20.1	17.9	19.5	22.4	32.2	29.3	20.4	13.6	18.5	17.3	Diurnal Maximum	
Dir	266.0	259.6	256.7	251.4	253.5	256.2	246.8	244.3	243.9	259.3	241.0	241.8	235.5	241.5	247.7	245.9	236.8	238.6	241.7	247.3	250.5	258.0	256.4	257.5		

Maximum Speed Value: 34 km/h on Nov 24 08:00
Maximum Daily Speed Average: 14.8 km/h on Nov 24
Maximum Diurnal Speed Average: 5.1 km/h at hour 11

Minimum Speed Value: 0 km/h on Nov 8 11:00
Minimum Daily Speed Average: 0.3 km/h on Nov 8
Minimum Diurnal Speed Average: 2.3 km/h at hour 15

Monthly Average Velocity: 3.65 km/h 255.33 deg
Speed Percentiles: $P_1 = 0.3$ $P_{10} = 1.0$ $Q_1 = 2.1$ Median = 4.4 $Q_3 = 8.0$ $P_{90} = 12.8$ $P_{99} = 27.6$
All monthly, daily, and diurnal averages have been calculated using vector methods

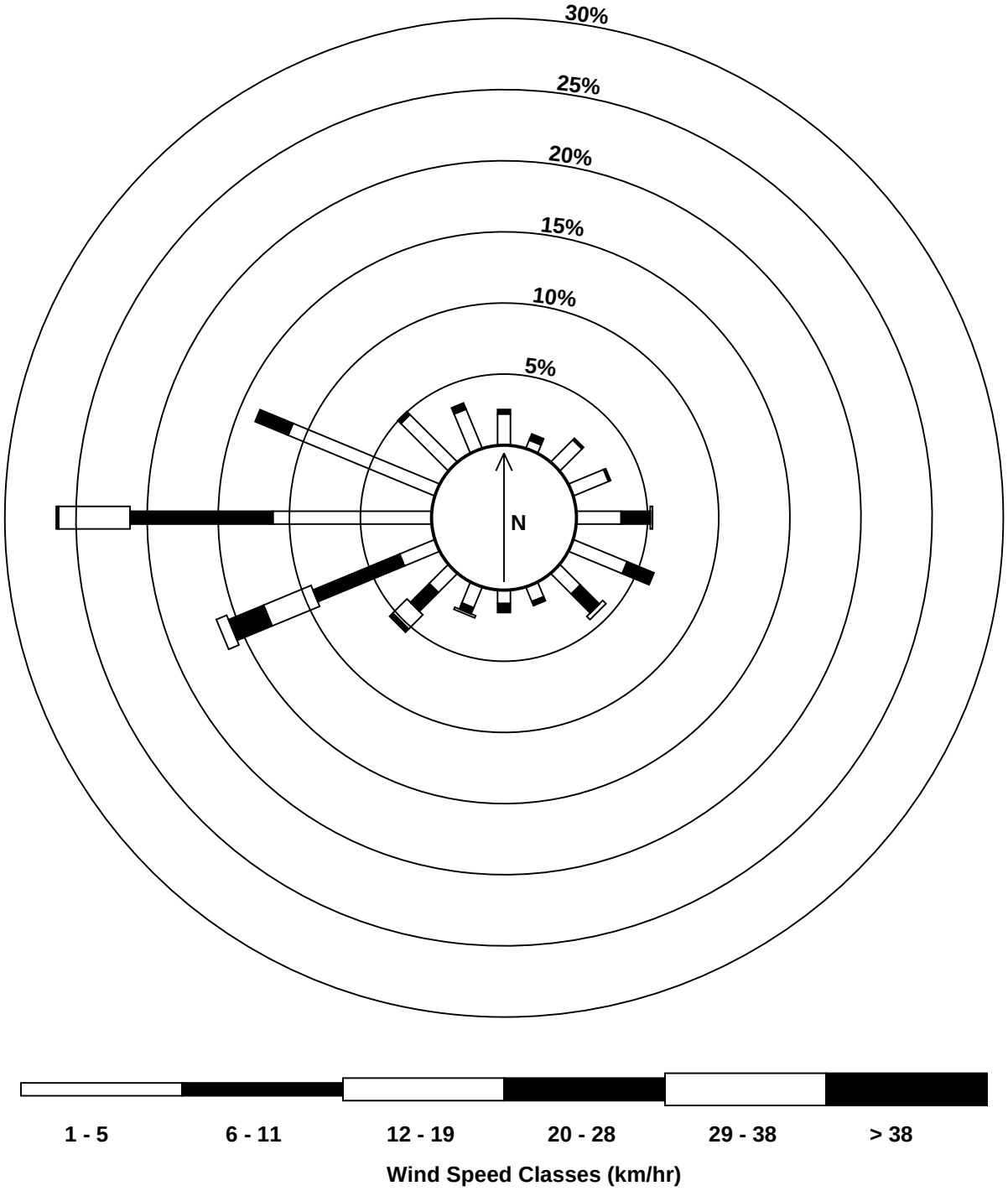
Hours in Service:	720
Hours of Data:	711
Hours of Missing Data:	9
Percent Operational Time:	98.8

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	4.92	0.84	0.00	0.00	0.00	0.00	5.77
NorthEast	3.52	0.70	0.14	0.00	0.00	0.00	4.36
East	6.33	2.95	0.14	0.00	0.00	0.00	9.42
SouthEast	5.20	3.52	0.28	0.00	0.00	0.00	9.00
South	2.25	0.84	0.14	0.00	0.00	0.00	3.23
SouthWest	3.66	4.22	2.11	1.27	0.84	0.00	12.10
West	18.42	15.33	7.88	1.41	0.00	0.00	43.04
NorthWest	11.25	1.83	0.00	0.00	0.00	0.00	13.08
Total	55.56	30.24	10.69	2.67	0.84	0.00	100.00

Wind Rose for WS at Portable-Spirit River
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages - Wind Speed (Scalar)

Portable-Spirit River - Wind Speed (WS) - km/h
November 1, 2008 to December 1, 2008

Maximum Speed: 34 km/h on Nov 24 08:00

Maximum Daily Speed Average: 15.2 km/h on Nov 24

Minimum Speed: 0 km/h on Nov 8 19:00

Minimum Daily Speed Average: 1.1 km/h on Nov 8

Maximum Diurnal Speed Average: 7.4 km/h at hour 20

Minimum Diurnal Speed Average: 5.5 km/h at hour 15

Monthly Average Speed: 6.18 km/h

Percentiles: $P_1 = 0.6$ $P_{10} = 1.4$ $Q_1 = 2.5$ Median = 4.6 $Q_3 = 8.1$ $P_{90} = 12.8$ $P_{99} = 27.7$

Hours in Service: 720

Hours of Data: 711

Hours of Missing Data: 9

Percent Operational Time: 98.8

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	2	1	2	1	2	2	3	4	2	2	3	3	3	4	5	4	2	2	2	3	2	2	2	4	2.6	4.9
2-Nov	5	4	4	4	3	2	3	6	3	3	3	3	5	3	4	3	2	4	3	4	3	4	3	5	3.6	5.6
3-Nov	3	3	9	24	9	7	10	9	10	7	7	6	7	7	7	3	2	5	8	9	8	6	8	6	7.5	24.3
4-Nov	6	7	5	5	6	2	9	8	3	3	3	4	4	5	4	5	6	6	5	6	9	12	13	10	6.1	13.2
5-Nov	5	5	4	5	4	2	5	5	2	2	1	2	1	3	4	6	4	4	4	2	3	5	3	2	3.6	5.8
6-Nov	2	3	3	3	2	2	1	2	1	1	P	1	1	1	1	1	1	1	2	1	1	1	0	P	1.4	3.3
7-Nov	1	P	P	1	2	2	2	1	1	2	2	1	1	1	1	1	1	3	4	5	4	2	2	2	1.9	5.2
8-Nov	2	1	2	1	1	2	1	1	1	1	1	1	1	1	1	2	1	1	0	1	1	1	1	1	1.1	1.8
9-Nov	1	2	4	5	4	3	5	7	8	8	7	7	3	3	2	2	6	6	7	7	7	6	5	5	5.0	8.2
10-Nov	5	5	3	4	2	3	5	4	3	4	5	9	9	7	5	1	1	1	1	1	3	5	5	8	4.1	9.3
11-Nov	9	8	8	6	10	2	5	3	3	1	1	1	3	6	7	8	6	7	7	6	5	5	5	5	5.2	9.7
12-Nov	8	5	3	5	7	10	6	4	11	18	21	21	25	28	20	18	13	7	11	15	5	7	13	17	12.5	28.4
13-Nov	16	12	8	9	8	10	10	8	6	6	5	6	4	4	4	1	4	3	6	7	3	3	5	6	6.4	15.7
14-Nov	7	5	6	5	4	5	8	9	5	3	3	2	2	3	6	8	6	4	8	7	10	10	10	7	5.9	10.1
15-Nov	8	9	4	5	4	12	9	5	7	13	13	11	12	9	9	8	8	6	8	7	7	5	7	7	8.0	13.1
16-Nov	4	7	8	7	2	3	5	6	7	7	3	1	2	3	3	2	2	1	4	4	4	3	3	1	3.8	8.2
17-Nov	1	2	2	2	3	2	2	2	2	2	1	3	2	2	3	3	1	4	4	3	4	3	6	5	2.5	6.0
18-Nov	3	2	2	2	4	5	7	4	3	2	3	4	6	7	5	6	5	5	4	2	4	2	3	3	3.9	7.1
19-Nov	4	5	3	4	3	6	4	6	5	7	4	2	3	7	7	2	3	3	2	2	1	1	1	1	3.5	7.1
20-Nov	1	1	1	1	1	2	1	1	3	2	2	1	1	2	2	3	2	3	4	5	5	5	5	5	2.3	5.1
21-Nov	3	3	3	2	2	2	5	2	4	3	3	1	1	3	2	3	4	5	4	3	4	1	2	3	2.8	5.5
22-Nov	3	4	4	26	23	24	23	23	17	19	21	20	16	12	11	11	12	12	13	14	13	13	13	12	14.9	25.7
23-Nov	12	13	11	11	12	11	7	5	3	3	2	2	5	3	6	10	15	4	7	8	4	7	6	4	7.1	15.1
24-Nov	7	9	11	11	13	8	30	34	30	18	28	26	24	6	7	15	8	7	13	13	14	12	12	9	15.2	33.7
25-Nov	11	11	P	P	P	P	P	2	6	3	2	3	4	5	11	11	20	22	32	22	13	12	9	10	11.1	32.3
26-Nov	14	14	14	14	13	11	11	13	13	13	16	12	4	9	8	8	9	8	9	11	10	8	4	7	10.6	15.5
27-Nov	4	3	5	2	1	2	5	5	6	4	2	3	3	4	4	5	4	5	6	7	6	6	5	2	4.2	7.2
28-Nov	2	3	3	3	12	9	4	9	3	9	14	13	14	7	5	10	10	18	17	29	20	14	19	13	10.8	29.5
29-Nov	14	11	16	15	12	9	9	8	7	8	11	11	10	7	5	5	5	8	7	10	8	13	12	9	9.6	15.7
30-Nov	10	10	9	6	8	9	4	5	3	6	15	14	10	10	6	12	11	7	8	10	4	3	8	15	8.4	14.7
	5.7	5.8	5.6	6.6	6.2	5.8	6.8	6.7	6.0	5.9	6.9	6.4	6.2	5.7	5.5	5.9	5.8	5.8	6.9	7.4	6.1	5.9	6.3	6.3	Diurnal Average	
	15.7	14.1	15.7	25.7	22.6	24.4	30.1	33.7	29.7	18.7	27.9	25.5	24.8	28.4	20.1	17.9	19.6	22.5	32.3	29.5	20.5	13.7	18.5	17.3	Diurnal Maximum	

P - Power Failure

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

Maximum Value: 92.4 deg on Nov 21 06:00

Minimum Value: 1.9 deg on Nov 25 02:00

Percentiles: P_1 = 2.8 P_{10} = 4.3 Q_1 = 7.2 Median = 15.0 Q_3 = 33.0 P_{90} = 56.8 P_{99} = 85.6

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 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-Nov	55	66	19	34	28	46	22	39	75	70	35	28	35	19	16	21	70	16	22	32	18	18	10	16	74.9
2-Nov	10	11	15	13	30	47	26	21	18	70	80	72	18	44	23	18	82	20	47	36	72	32	45	18	81.6
3-Nov	78	44	10	4	27	12	5	5	5	10	9	14	14	18	14	26	19	20	13	7	5	9	7	8	78.4
4-Nov	6	8	8	7	40	32	10	4	21	16	18	18	23	28	23	25	23	31	39	12	11	21	6	5	39.8
5-Nov	6	7	8	6	21	20	7	13	8	21	27	32	85	33	13	6	11	21	10	73	42	13	27	43	84.6
6-Nov	42	37	57	42	32	20	32	19	18	25	P	39	19	43	55	47	46	69	46	46	31	33	73	P	72.9
7-Nov	38	P	P	43	18	40	44	53	28	30	21	41	26	46	86	71	77	8	11	5	9	16	42	25	86.0
8-Nov	60	74	21	34	23	24	42	40	32	49	80	39	25	26	44	34	38	48	57	28	47	34	51	82	82.3
9-Nov	25	10	11	6	8	33	10	7	8	5	5	8	44	51	26	17	13	13	11	10	16	10	14	15	50.9
10-Nov	12	20	20	13	25	16	10	9	16	16	9	8	8	7	10	79	52	27	45	86	17	17	20	4	86.0
11-Nov	5	5	6	21	10	72	45	12	13	41	45	67	21	18	15	8	7	7	9	12	13	11	16	13	71.9
12-Nov	9	8	20	14	10	10	18	39	9	4	4	4	4	2	3	4	3	8	11	5	7	5	3	4	38.8
13-Nov	7	9	10	7	10	8	11	8	9	8	12	11	14	12	11	23	19	21	22	24	14	16	19	6	24.1
14-Nov	6	8	9	10	6	12	7	9	10	23	87	33	20	13	26	9	11	43	35	20	4	4	6	8	86.9
15-Nov	6	29	71	52	58	5	10	6	8	4	5	6	6	7	7	7	6	6	6	5	38	20	13	10	70.7
16-Nov	5	3	3	5	74	85	12	8	5	3	68	44	49	20	80	84	36	73	9	37	24	10	65	55	84.6
17-Nov	51	35	21	38	13	15	21	38	24	17	17	15	17	26	31	24	50	27	18	29	29	26	29	18	50.8
18-Nov	49	61	46	45	42	22	20	14	10	23	13	14	9	7	11	8	8	8	9	23	9	10	12	13	61.5
19-Nov	11	9	27	7	5	10	28	18	10	15	73	25	10	7	6	38	15	19	12	12	15	71	82	46	82.2
20-Nov	36	90	44	71	24	56	48	79	39	16	18	21	24	21	9	6	11	7	7	10	9	10	12	12	89.6
21-Nov	16	19	31	35	38	92	38	55	13	18	20	48	45	18	22	18	23	21	22	23	20	48	86	35	92.4
22-Nov	20	21	75	5	3	3	3	4	4	3	3	4	4	6	7	7	5	5	5	3	3	4	3	4	75.1
23-Nov	3	3	3	4	3	4	8	6	74	73	49	89	19	47	23	13	10	72	26	21	19	25	13	50	89.0
24-Nov	14	16	10	7	12	28	5	3	5	15	4	4	5	13	13	5	5	4	5	5	3	5	4	5	28.3
25-Nov	4	2	P	P	P	P	P	74	33	79	90	58	76	41	66	5	2	4	3	6	5	5	7	7	90.4
26-Nov	3	3	3	3	3	5	6	6	4	3	4	4	11	7	4	4	3	4	4	5	6	9	42	14	42.1
27-Nov	25	11	19	59	42	60	46	23	41	48	80	80	32	29	44	40	18	10	15	10	22	13	17	64	80.3
28-Nov	67	59	54	55	9	7	86	13	67	44	4	9	5	6	9	14	15	3	3	5	7	8	4	4	85.9
29-Nov	5	9	3	3	7	7	7	7	6	6	6	4	6	7	10	8	10	11	14	6	8	6	5	5	13.8
30-Nov	3	3	3	8	4	6	89	21	39	40	5	5	8	15	77	10	24	28	65	5	74	74	17	6	89.4
	78.4	89.6	75.1	71.1	73.9	92.4	89.4	79.4	74.9	79.1	90.4	89.0	84.6	50.9	86.0	84.4	81.6	72.9	65.1	86.0	74.0	73.8	86.1	82.3	

P - Power Failure

PASZA
Valleyview Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association
Summary of Hourly Averages

Valleyview - Sulphur Dioxide (SO_2) - ppb
November 1, 2008 to December 1, 2008

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 17.4 ppb on Nov 30 00:00
Maximum Daily Average: 2.5 ppb on Nov 22

Minimum Value: 0 ppb on Nov 2 21:00
Maximum Diurnal Average: 1.3 ppb at hour 23
Monthly Average: 0.53 ppb

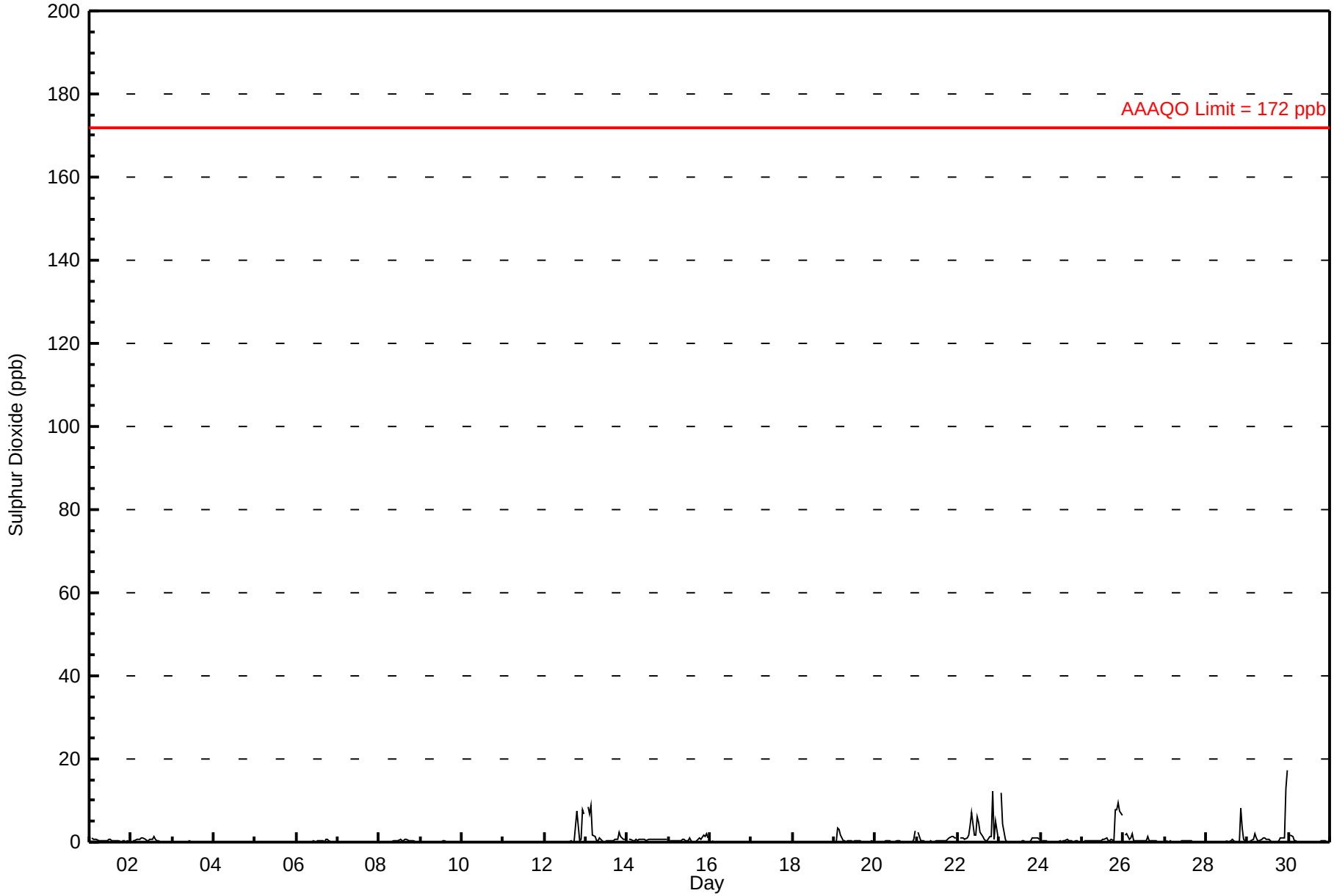
Minimum Daily Average: 0.0 ppb on Nov 18
Minimum Diurnal Average: 0.2 ppb at hour 17
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.4 P_{90} = 1.0 P_{99} = 8.5

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) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	A	1	1	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9
2-Nov	A	0	0	1	1	1	1	1	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0.4	1.2
3-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
4-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
5-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
6-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0.2	0.8
7-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
8-Nov	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0.2	0.7
9-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
10-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
11-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
12-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	7	0	1	8	7	1.2	7.7
13-Nov	A	9	7	9	2	1	0	0	1	0	0	0	0	0	0	0	0	1	1	2	1	1	1	1	1.7	8.9
14-Nov	A	1	1	0	0	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8
15-Nov	A	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	1	1	1	2	1	2	1	0.6	2.2
16-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
17-Nov	A	0	0	0	0	0	0	0	0	0	0	C	C	C	A	0	0	0	0	0	0	0	0	0	0.0	0.1
18-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
19-Nov	A	0	3	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3.3
20-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0.2	2.7
21-Nov	A	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0.5	2.3
22-Nov	A	1	1	1	1	1	2	4	7	2	2	6	5	2	1	1	0	0	1	1	12	1	5	1	2.5	12.2
23-Nov	A	12	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1.0	11.8
24-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.2	0.6
25-Nov	A	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	1	8	8	10	7	6	2.0	9.5
26-Nov	A	2	2	1	1	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.6	1.9
27-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
28-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	8	3	1	0	0.6	8.1
29-Nov	A	0	1	1	2	1	0	0	1	1	1	1	1	0	0	0	0	0	0	1	1	1	13	17	1.9	17.4
30-Nov	A	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.8
	--	1.0	0.8	0.6	0.4	0.3	0.2	0.3	0.4	0.2	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.4	0.8	1.2	0.7	1.3	1.3	Diurnal Average	
	--	11.8	6.8	8.9	2.0	1.9	1.7	4.1	7.0	1.6	1.6	6.1	4.6	2.3	1.5	0.7	0.7	0.7	3.7	7.8	12.2	9.5	12.7	17.4	Diurnal Maximum	

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

Hourly Averages for SO_2 at Valleyview
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Valleyview - Sulphur Dioxide (SO_2) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 24.1 ppb on Nov 30 00:00

Maximum Daily Average: 6.9 ppb on Nov 22

Minimum Value: 0 ppb on Nov 4 22:00

Maximum Diurnal Average: 3.6 ppb at hour 23

Monthly Average: 1.81 ppb

Minimum Daily Average: 0.5 ppb on Nov 18

Minimum Diurnal Average: 1.1 ppb at hour 17

Percentiles: $P_1 = 0.1$ $P_{10} = 0.5$ $Q_1 = 1.0$ Median = 1.1 $Q_3 = 1.3$ $P_{90} = 2.2$ $P_{99} = 19.2$

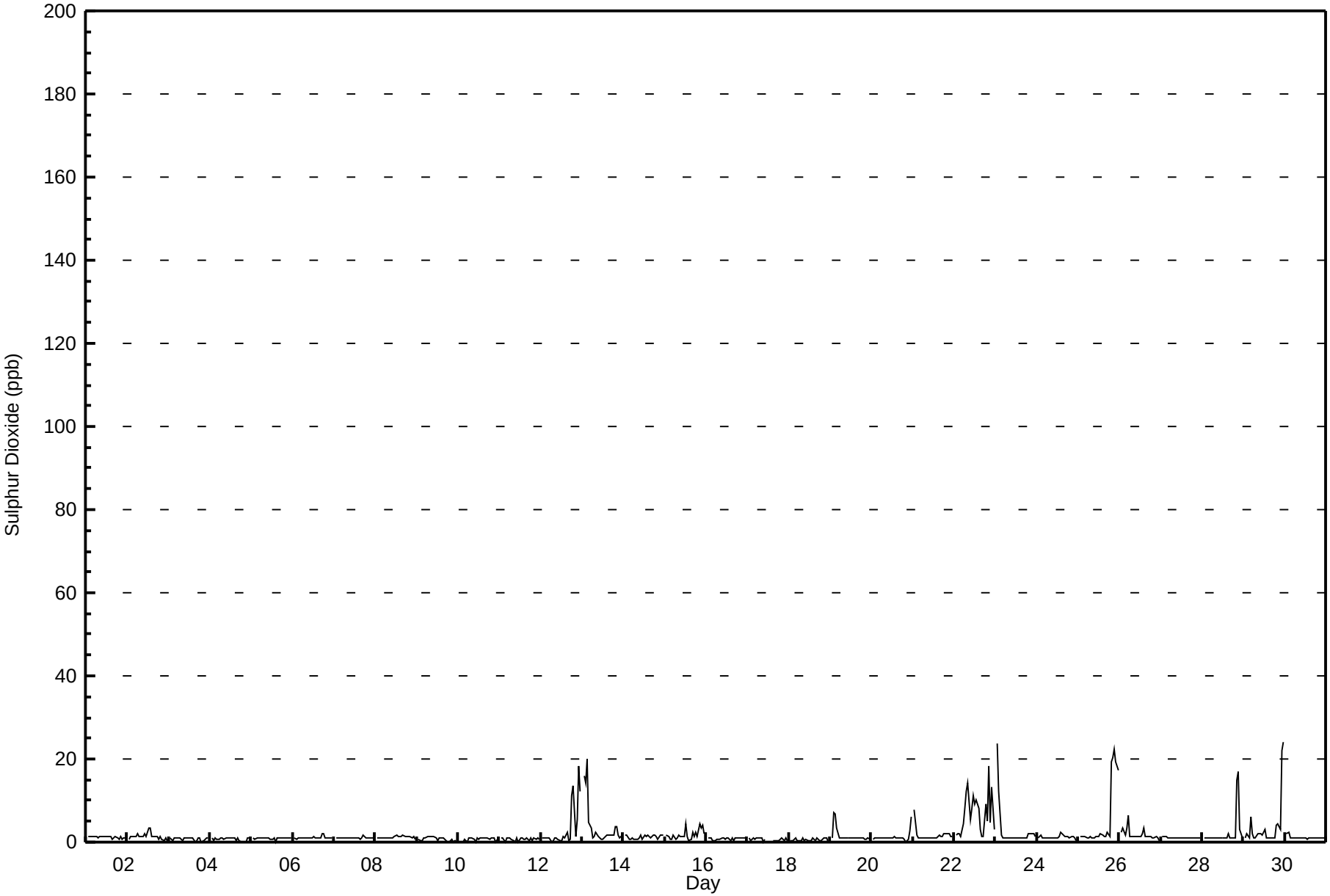
Hours in Service:	720
Hours of Data:	686
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	1.4
2-Nov	A	1	1	1	1	1	2	1	1	1	2	1	3	3	1	1	1	1	1	1	1	0	1	0	1.4	3.3
3-Nov	A	1	0	1	1	1	1	1	0	1	1	1	1	1	1	0	0	1	1	0	0	1	1	1	0.8	1.2
4-Nov	A	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	1	1	0.7	1.0
5-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0.9	1.1
6-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1.1	2.0
7-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1.0	1.7
8-Nov	A	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	2	1	1	1	1	1	1	1	1.2	1.8
9-Nov	A	1	0	0	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	0	1	0	0	0	0.8	1.2
10-Nov	A	0	0	0	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	0.7	1.1
11-Nov	A	1	1	0	1	1	1	1	0	0	1	0	1	1	1	1	1	0	1	0	1	1	1	1	0.8	1.1
12-Nov	A	1	1	1	1	1	0	0	1	1	1	0	0	1	1	2	0	1	11	14	1	5	18	12	3.3	18.2
13-Nov	A	16	14	20	5	3	1	1	2	2	1	1	1	1	2	2	2	2	2	4	4	2	1	2	3.8	19.9
14-Nov	A	2	2	1	1	1	1	1	1	1	2	1	2	1	2	2	1	2	2	1	1	2	2	2	1.4	1.8
15-Nov	A	2	1	1	1	2	1	1	2	2	1	1	4	1	0	1	2	1	2	1	4	3	4	2	1.8	4.4
16-Nov	A	1	1	1	0	0	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	0.9	1.2
17-Nov	A	1	0	1	1	1	1	1	1	0	1	C	C	C	A	0	0	0	0	1	1	0	1	0	0.7	1.2
18-Nov	A	0	0	1	1	0	0	0	1	0	1	0	0	0	1	0	1	1	0	0	1	1	1	0	0.5	1.1
19-Nov	A	1	7	7	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.7	7.1
20-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	3	6	1.2	6.0
21-Nov	A	8	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	2	2	2	1	1	1.6	7.9
22-Nov	A	2	2	2	1	5	8	12	14	5	8	11	9	10	8	3	1	1	9	5	18	5	13	3	6.9	18.1
23-Nov	A	24	12	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1	2.8	23.8
24-Nov	A	1	2	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	0	1.2	2.2
25-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	2	1	19	20	22	19	17	5.4	22.3
26-Nov	A	2	3	2	3	6	1	1	1	1	1	1	1	2	3	1	1	1	1	1	1	1	1	0	1.8	6.3
27-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.2
28-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	15	17	3	1	2.4	17.0
29-Nov	A	1	2	1	6	2	1	1	2	2	2	2	3	1	1	1	1	1	1	4	4	3	22	24	3.9	24.1
30-Nov	A	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	2.4
	--	2.6	2.2	1.9	1.5	1.4	1.3	1.4	1.6	1.2	1.4	1.3	1.6	1.5	1.4	1.1	1.1	1.1	1.7	2.3	3.0	2.7	3.6	2.9	Diurnal Average	
	--	23.8	14.3	19.9	6.0	6.3	8.3	12.4	14.3	5.3	8.3	11.3	9.3	10.2	8.2	3.2	2.4	2.2	11.2	19.4	20.4	22.3	22.1	24.1	Diurnal Maximum	

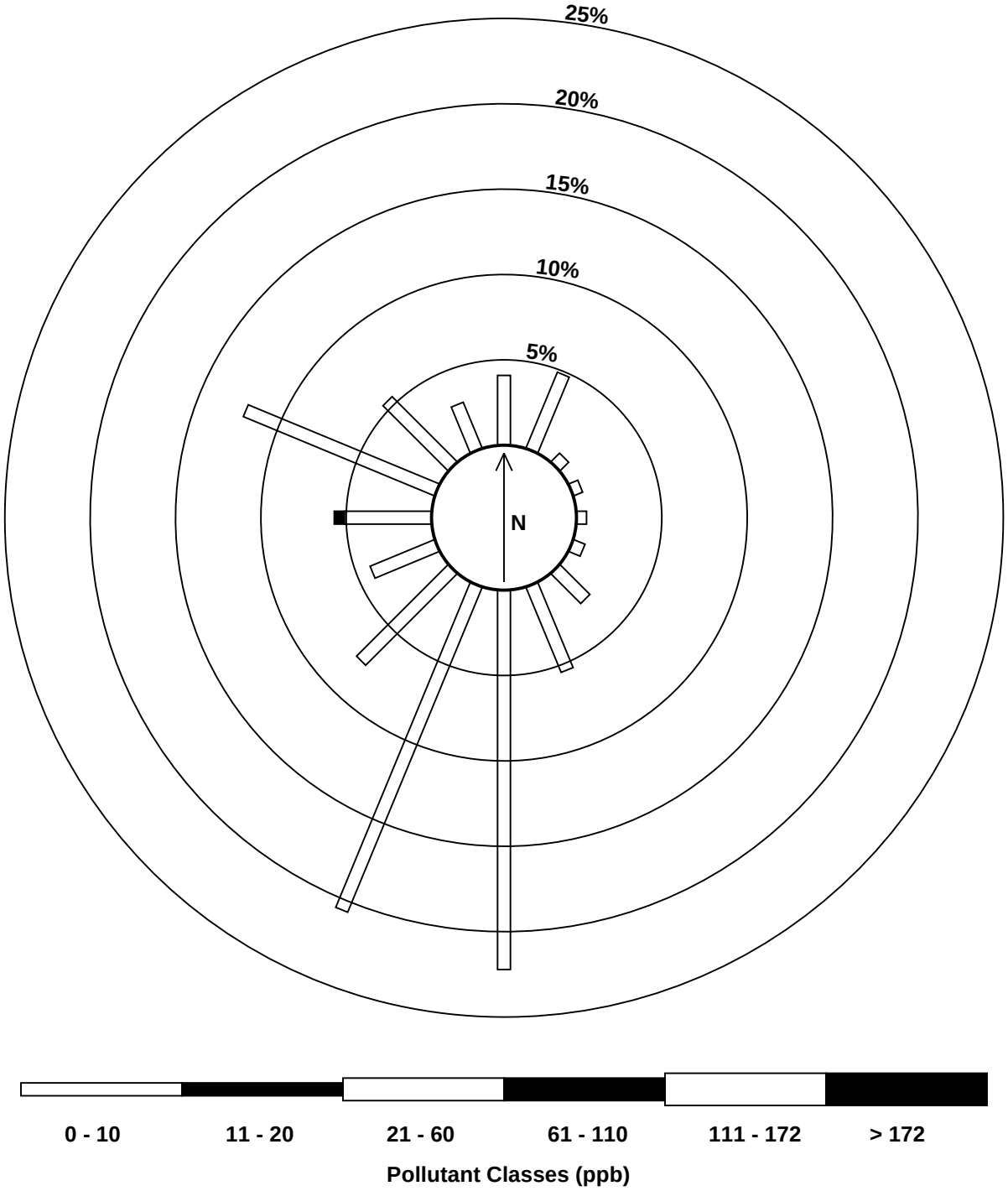
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for SO_2 at Valleyview
November 2008



Pollutant Rose for SO_2 at Valleyview
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Valleyview - Hydrogen Sulphide (H_2S) - ppb
November 1, 2008 to December 1, 2008

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 7.1 ppb on Nov 15 10:00
Maximum Daily Average: 0.7 ppb on Nov 15

Minimum Value: 0 ppb on Nov 7 12:00
Maximum Diurnal Average: 0.4 ppb at hour 10
Monthly Average: 0.19 ppb

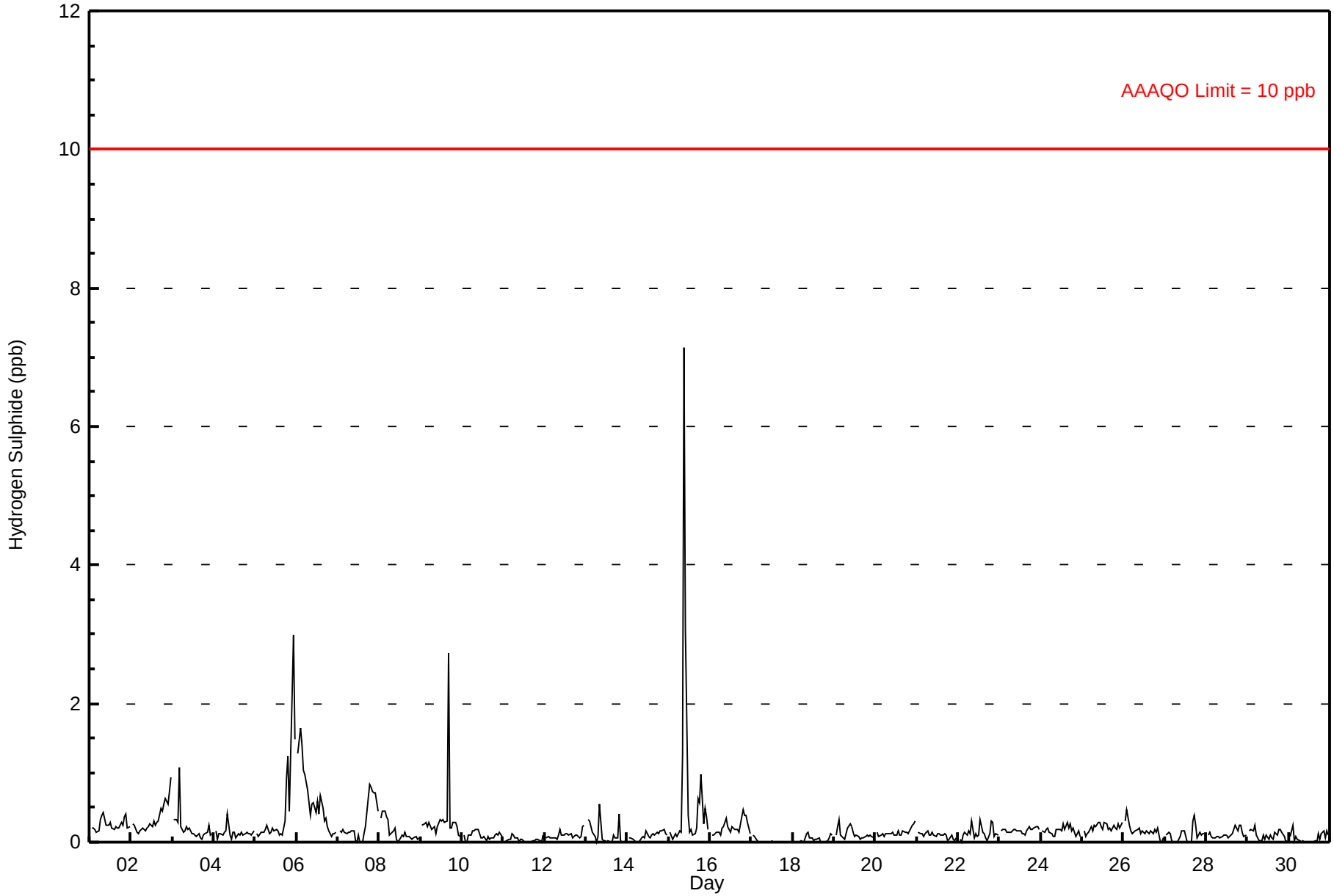
Minimum Daily Average: 0.0 ppb on Nov 17
Minimum Diurnal Average: 0.1 ppb at hour 15
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.1 Q_3 = 0.2 P_{90} = 0.3 P_{99} = 1.4

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) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
2-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0.3	0.9
3-Nov	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.1
4-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
5-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	3	1	0.5	3.0
6-Nov	A	1	2	1	1	1	1	1	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0.6	1.7
7-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0.3	0.8
8-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
9-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0.3	2.7
10-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
11-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
12-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
13-Nov	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
14-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
15-Nov	A	0	0	0	0	0	0	0	1	7	3	0	0	0	0	0	0	1	1	1	0	0	0	0	0.7	7.1
16-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
17-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0.0	0.1
18-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
19-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
20-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
21-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
22-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
23-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.2
24-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
25-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
26-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
27-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
28-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
29-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
30-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
	--	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.2	Diurnal Average	
	--	1.3	1.7	1.4	1.1	1.0	0.8	0.6	1.3	7.1	3.1	0.4	0.6	0.4	0.7	0.5	2.7	0.6	0.9	1.2	0.7	2.1	3.0	1.5	Diurnal Maximum	

C - Calibration 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 Valleyview
November 2008



Peace Airshed Zone Association
Summary of Hourly Maximums

Valleyview - Hydrogen Sulphide (H_2S) - ppb
November 1, 2008 to December 1, 2008

Maximum Value: 47.0 ppb on Nov 15 10:00

Maximum Daily Average: 4.2 ppb on Nov 15

Minimum Value: 0 ppb on Nov 30 13:00

Minimum Daily Average: 0.4 ppb on Nov 17

Maximum Diurnal Average: 2.1 ppb at hour 10

Minimum Diurnal Average: 0.5 ppb at hour 6

Monthly Average: 0.76 ppb

Percentiles: $P_1 = 0.2$ $P_{10} = 0.4$ $Q_1 = 0.4$ Median = 0.5 $Q_3 = 0.6$ $P_{90} = 0.9$ $P_{99} = 6.0$

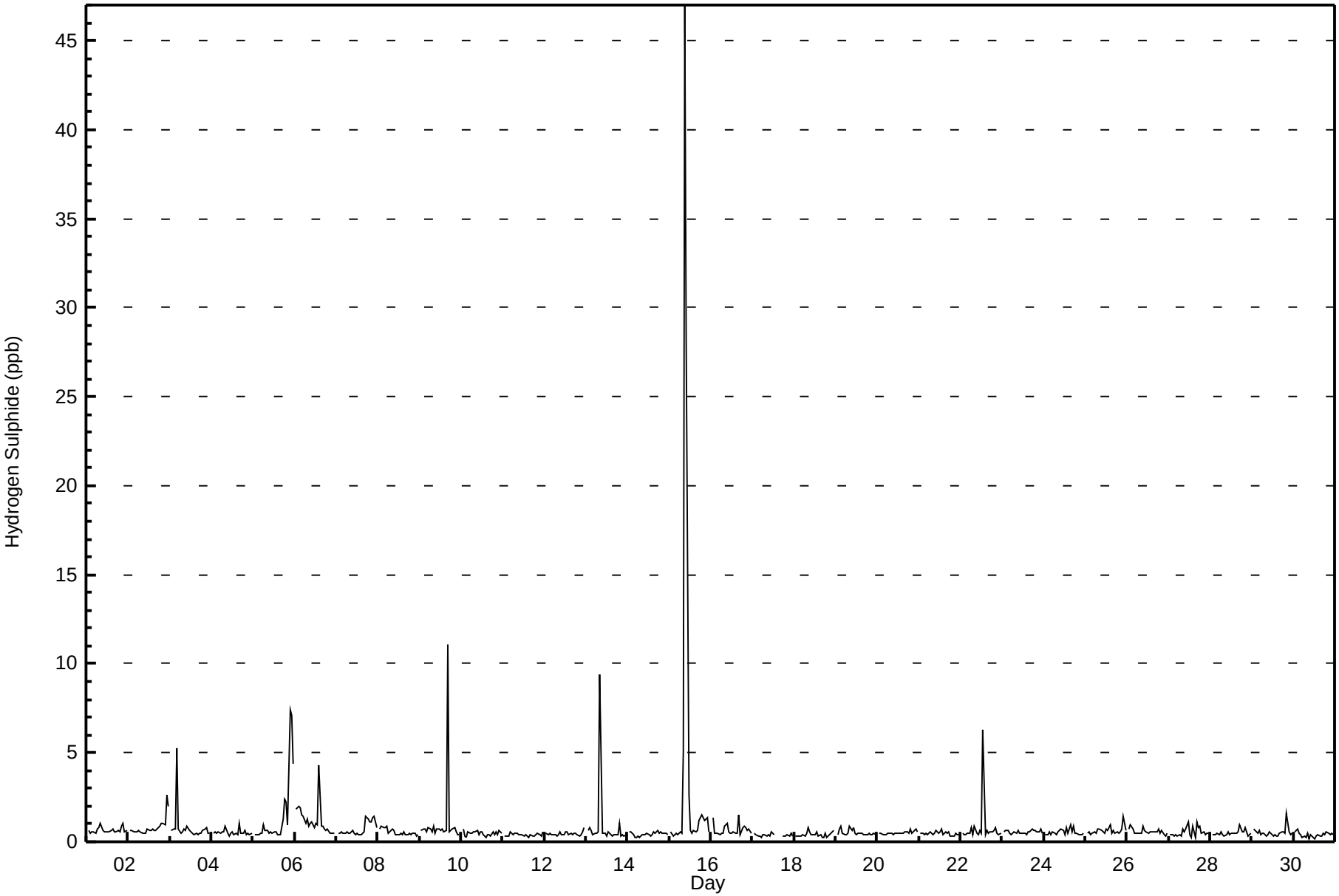
Hours in Service:	720
Hours of Data:	686
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	A	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.1
2-Nov	A	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	3	2	0.8	2.6
3-Nov	A	1	1	1	5	1	0	1	1	1	1	1	1	1	0	0	0	0	0	1	1	1	0	0	0.8	5.2
4-Nov	A	0	1	0	1	0	1	1	1	0	0	0	1	0	0	0	1	0	1	1	0	0	0	1	0.5	1.0
5-Nov	A	0	0	0	0	0	1	1	1	0	1	0	1	1	0	0	0	1	2	2	1	7	7	4	1.5	7.4
6-Nov	A	2	2	2	2	1	1	1	1	1	1	1	1	1	4	1	1	1	1	1	0	0	0	1	1.2	4.3
7-Nov	A	0	0	1	0	0	1	1	1	1	0	0	1	0	0	0	1	1	1	1	1	1	1	1	0.7	1.4
8-Nov	A	1	1	1	1	1	0	1	1	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0.5	0.8
9-Nov	A	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	11	1	1	1	1	1	0	0	1.1	11.1
10-Nov	A	1	0	0	1	0	0	1	1	1	0	1	1	0	0	0	0	0	1	0	1	0	1	0	0.5	0.7
11-Nov	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.4	0.6
12-Nov	A	0	0	0	0	0	0	0	0	1	0	0	1	1	0	1	0	0	1	0	0	0	1	1	0.5	0.8
13-Nov	A	1	1	1	0	0	0	1	9	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0.9	9.4
14-Nov	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0.4	0.6
15-Nov	A	1	0	0	0	0	1	1	5	47	28	3	1	0	1	1	1	1	1	2	1	1	1	1	4.2	47.0
16-Nov	A	1	0	0	0	0	0	1	1	1	1	0	0	1	0	0	2	0	1	1	1	1	1	0	0.7	1.5
17-Nov	A	0	0	0	0	0	0	0	0	0	0	1	0	C	C	C	C	0	0	0	0	0	0	0	0.4	0.5
18-Nov	A	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	1	0	0	0	1	1	0.4	0.8
19-Nov	A	0	1	1	0	0	0	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0.5	0.9
20-Nov	A	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	1	0	1	0	1	1	1	0.5	0.7
21-Nov	A	1	0	0	0	0	1	0	0	0	1	0	1	1	0	1	0	1	0	0	0	0	0	0	0.5	0.7
22-Nov	A	1	0	0	0	0	1	0	1	0	0	1	1	6	0	1	0	1	1	1	1	0	0	0	0.8	6.3
23-Nov	A	1	1	1	1	0	0	1	1	1	0	0	1	0	0	1	1	1	1	1	1	1	1	0	0.5	0.7
24-Nov	A	0	0	1	0	1	1	0	1	1	1	1	0	1	0	1	1	1	0	0	0	0	0	0	0.5	1.0
25-Nov	A	0	1	0	0	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	0.6	1.4
26-Nov	A	1	1	1	0	0	0	0	0	1	1	1	0	1	1	1	1	1	1	1	1	0	0	1	0.6	1.0
27-Nov	A	0	0	0	0	0	0	0	1	1	1	1	0	0	1	0	1	1	1	0	1	0	1	0	0.6	1.1
28-Nov	A	0	0	0	1	0	1	0	0	0	1	0	1	0	0	0	1	1	1	1	1	1	0	0	0.5	1.0
29-Nov	A	1	1	0	1	0	0	0	0	0	1	1	0	0	0	0	0	1	1	1	2	1	0	0	0.5	1.6
30-Nov	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.4	0.7
	--	0.6	0.6	0.5	0.7	0.5	0.5	0.5	1.1	2.1	1.5	0.6	0.5	0.7	0.6	0.5	0.9	0.6	0.7	0.7	0.6	0.8	0.9	0.7	Diurnal Average	
	--	1.8	2.0	1.9	5.2	1.4	1.0	1.3	9.4	47.0	28.3	2.6	1.0	6.3	4.3	1.0	11.1	1.4	2.4	2.2	1.6	7.4	7.1	4.4	Diurnal Maximum	

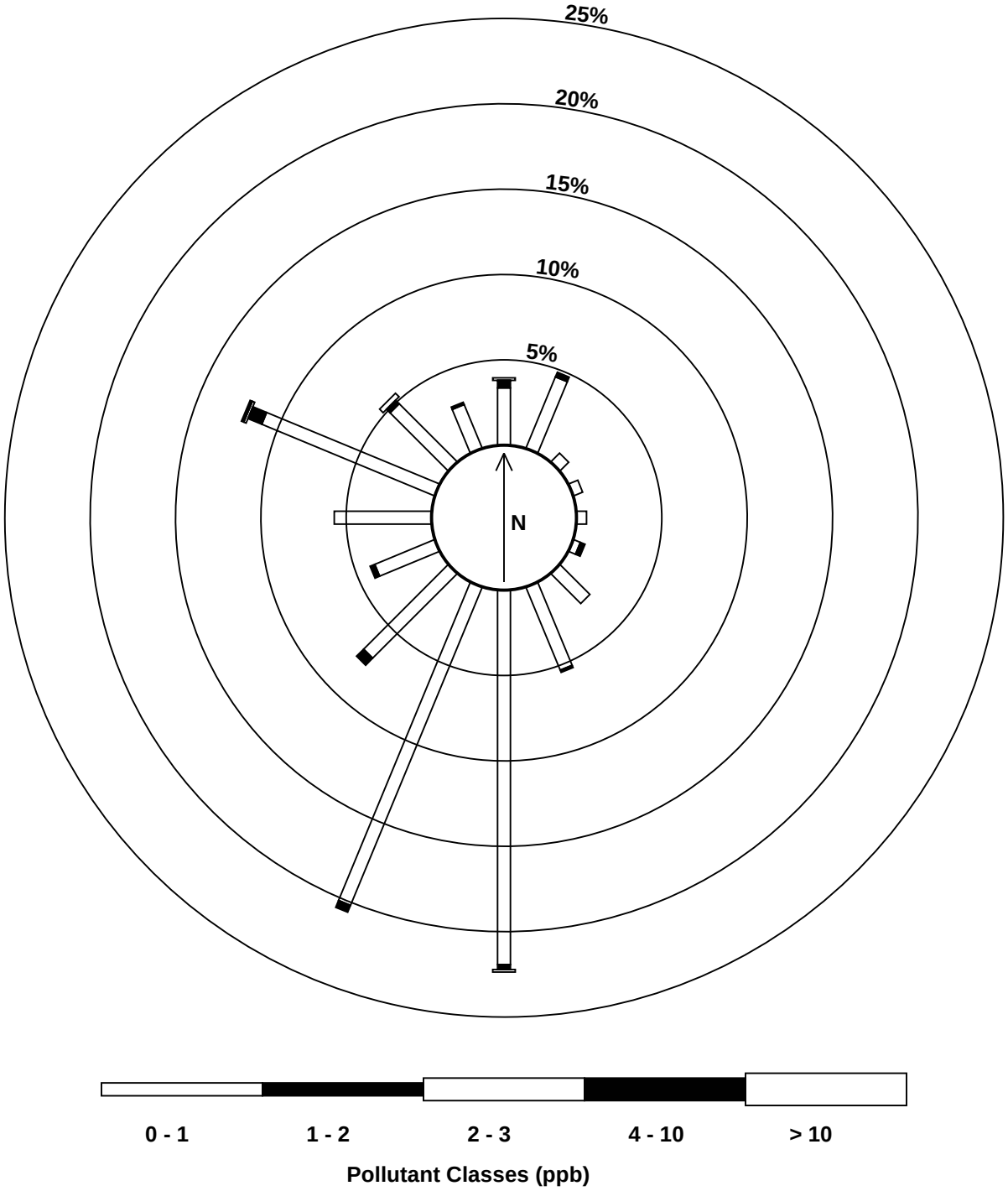
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for H_2S at Valleyview
November 2008



Pollutant Rose for H_2S at Valleyview
November 2008



Maximum Value: 15.3 ^{o}C on Nov 1 16:00

Maximum Daily Average: 6.2 ^{o}C on Nov 1

Minimum Value: -15 ^{o}C on Nov 6 08:00

Minimum Daily Average: -8.5 ^{o}C on Nov 19

Maximum Diurnal Average: 2.4 ^{o}C at hour 15

Minimum Diurnal Average: -2.9 ^{o}C at hour 9

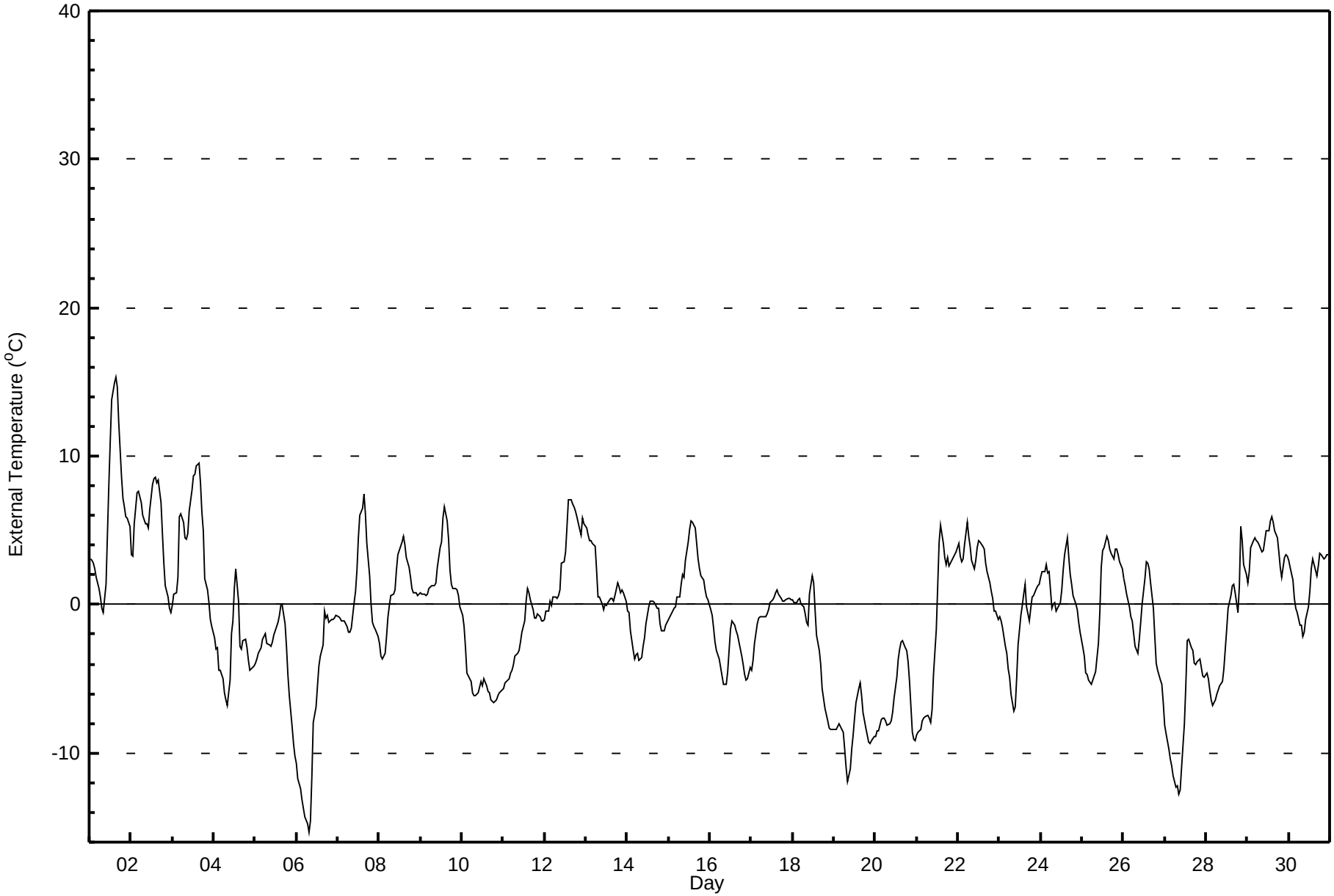
Monthly Average: -0.73 ^{o}C

Percentiles: P_1 = -12.6 P_{10} = -7.3 Q_1 = -3.7 Median = -0.2 Q_3 = 2.4 P_{90} = 5.0 P_{99} = 8.5

Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	3	3	3	2	2	1	0	0	-1	1	5	8	11	14	15	15	15	12	9	7	7	6	6	5	6.2	15.3
2-Nov	3	3	5	8	8	7	7	6	5	5	5	6	8	8	9	8	8	7	5	3	1	1	0	0	5.3	8.5
3-Nov	0	1	1	2	6	6	6	4	4	5	6	8	9	9	9	10	8	6	5	2	1	0	-1	-1	4.4	9.6
4-Nov	-2	-3	-3	-4	-4	-5	-6	-6	-7	-5	-2	-1	1	2	0	-3	-3	-2	-2	-3	-4	-4	-4	-4	-3.1	2.4
5-Nov	-4	-4	-3	-3	-2	-2	-2	-3	-3	-3	-3	-2	-1	-1	-1	0	0	-1	-3	-5	-6	-8	-9	-10	-3.3	0.0
6-Nov	-11	-12	-12	-13	-14	-14	-15	-15	-15	-12	-8	-7	-5	-4	-3	-3	0	-1	-1	-1	-1	-1	-1	-1	-7.1	-0.5
7-Nov	-1	-1	-1	-1	-1	-1	-2	-2	-2	0	1	2	4	6	6	7	6	4	2	0	-1	-1	-2	-2	0.9	7.4
8-Nov	-3	-3	-4	-3	-2	-1	0	1	1	1	2	3	4	4	5	4	3	3	2	1	1	1	1	1	0.9	4.6
9-Nov	1	1	1	1	1	1	1	1	1	1	2	4	4	6	7	6	4	2	1	1	1	1	1	0	2.1	6.6
10-Nov	-1	-2	-3	-5	-5	-5	-6	-6	-6	-6	-6	-5	-5	-5	-5	-6	-6	-6	-7	-6	-6	-6	-6	-6	-5.2	-0.7
11-Nov	-6	-5	-5	-5	-5	-4	-4	-3	-3	-3	-3	-2	-1	0	1	1	0	0	-1	-1	-1	-1	-1	-1	-2.2	1.1
12-Nov	-1	0	0	0	0	1	1	0	1	1	3	3	4	5	7	7	7	7	6	6	5	5	6	5	3.2	7.1
13-Nov	5	5	4	4	4	4	2	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1.5	5.2
14-Nov	0	-1	-2	-3	-4	-3	-3	-4	-4	-3	-2	-1	0	0	0	0	0	0	0	-1	-2	-2	-1	-1	-1.5	0.2
15-Nov	-1	-1	0	0	0	1	1	1	2	2	3	4	5	6	6	5	4	3	2	2	2	1	1	0	2.0	5.6
16-Nov	0	-1	-2	-3	-3	-4	-4	-5	-5	-5	-5	-3	-2	-1	-1	-2	-2	-2	-3	-4	-5	-5	-5	-4	-3.2	-0.4
17-Nov	-4	-4	-3	-1	-1	-1	-1	-1	-1	-1	0	0	0	1	1	1	1	0	0	0	0	0	0	0	-0.5	0.9
18-Nov	0	0	0	0	0	0	0	-1	-1	-1	1	2	1	0	-2	-3	-4	-6	-6	-7	-8	-8	-8	-8	-2.5	1.9
19-Nov	-8	-8	-8	-8	-8	-9	-10	-11	-12	-11	-10	-9	-8	-7	-6	-5	-6	-7	-8	-9	-9	-9	-9	-9	-8.5	-5.3
20-Nov	-9	-8	-8	-8	-8	-8	-8	-8	-8	-8	-7	-6	-5	-4	-3	-2	-2	-3	-3	-4	-5	-9	-9	-9	-6.4	-2.4
21-Nov	-9	-9	-8	-8	-8	-8	-7	-8	-8	-7	-5	-2	1	4	5	4	3	3	3	3	3	3	3	4	-1.9	5.3
22-Nov	4	3	3	3	4	6	5	4	3	2	3	4	4	4	4	4	3	2	2	1	0	0	0	-1	2.7	5.5
23-Nov	-1	-1	-2	-3	-3	-4	-5	-6	-7	-7	-5	-3	-1	0	1	1	0	-1	0	0	1	1	1	1	-1.8	1.4
24-Nov	2	2	2	3	2	2	0	0	0	0	0	0	1	2	3	5	3	2	1	1	0	0	-1	-2	1.2	4.5
25-Nov	-3	-3	-5	-5	-5	-5	-5	-5	-4	-3	-1	2	4	4	5	4	4	3	3	4	4	3	3	2	0.1	4.6
26-Nov	2	1	1	0	-1	-1	-2	-3	-3	-2	-1	0	2	3	3	2	1	0	-2	-4	-4	-5	-5	-7	-1.1	2.9
27-Nov	-8	-9	-10	-10	-11	-12	-12	-12	-13	-13	-11	-8	-5	-2	-2	-3	-3	-4	-4	-4	-4	-4	-5	-5	-7.2	-2.3
28-Nov	-5	-5	-6	-6	-7	-6	-6	-6	-5	-5	-4	-3	-2	0	1	1	1	1	-1	1	5	4	3	2	-2.0	5.3
29-Nov	2	2	4	4	4	4	4	4	4	4	4	5	5	6	6	6	5	5	4	3	2	3	3	3	4.0	6.0
30-Nov	3	2	2	0	0	0	-1	-1	-2	-2	-1	0	1	2	3	2	2	3	3	3	3	3	3	3	1.3	3.4
	-1.7	-1.9	-2.0	-2.1	-2.0	-2.1	-2.4	-2.8	-2.9	-2.4	-1.2	0.0	1.1	2.1	2.4	2.3	1.7	0.9	0.3	-0.3	-0.6	-1.0	-1.3	-1.5	Diurnal Average	
	5.2	4.7	5.5	7.5	7.6	7.3	6.8	6.0	5.5	5.4	6.4	8.1	11.0	13.8	14.9	15.3	14.7	12.3	8.6	7.1	6.6	6.0	5.8	5.4	Diurnal Maximum	

Hourly Averages for External Temperature at Valleyview
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Valleyview - Relative Humidity (RH) - %
November 1, 2008 to December 1, 2008

Maximum Value: 97.4 % on Nov 18 09:00

Maximum Daily Average: 92.8 % on Nov 17

Minimum Value: 35 % on Nov 22 14:00

Minimum Daily Average: 49.0 % on Nov 22

Maximum Diurnal Average: 82.8 % at hour 9

Minimum Diurnal Average: 63.3 % at hour 15

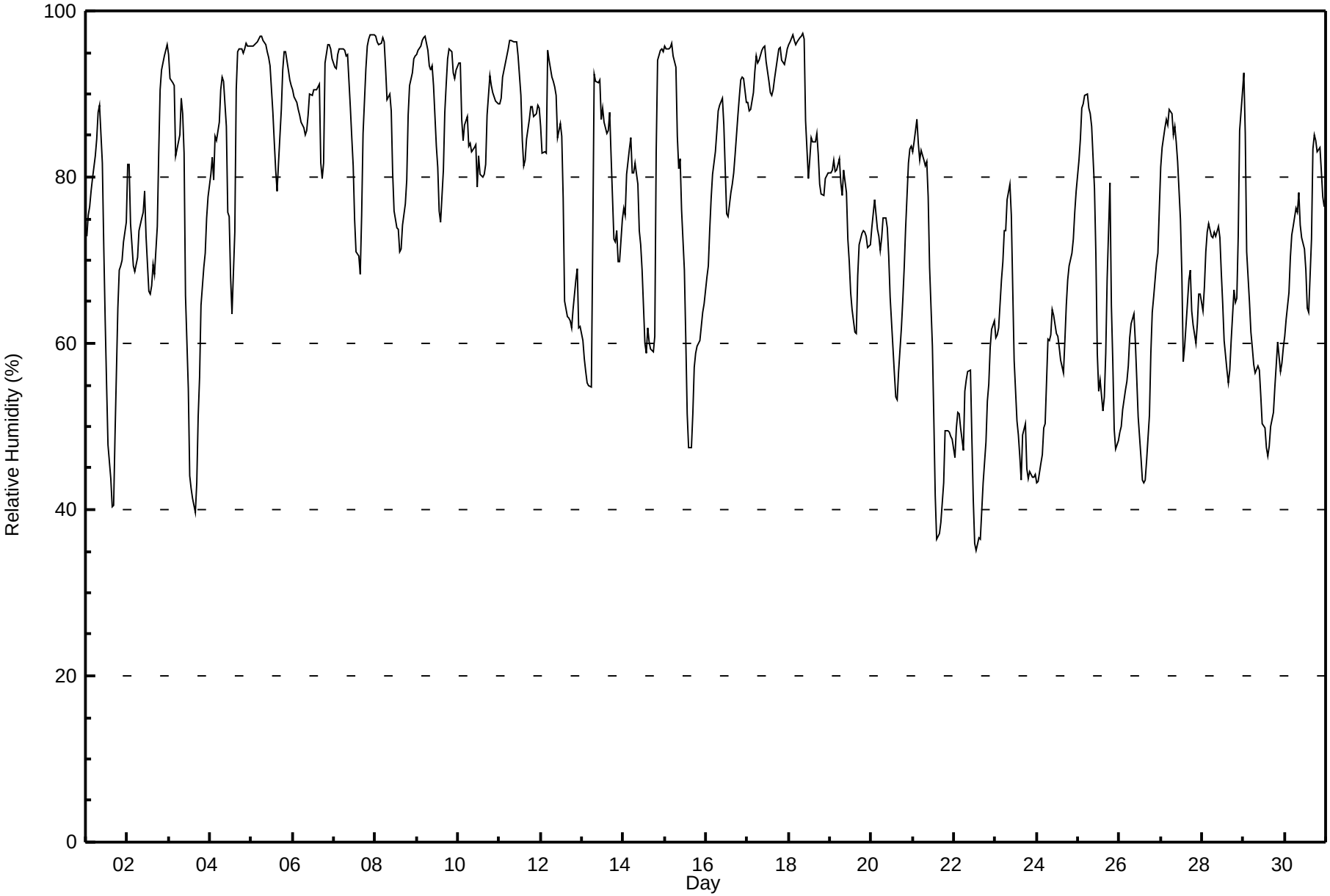
Monthly Average: 75.49 %

Percentiles: P_1 = 39.6 P_{10} = 51.3 Q_1 = 63.2 Median = 78.3 Q_3 = 89.0 P_{90} = 95.2 P_{99} = 96.9

Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Nov	73	75	77	78	80	83	85	88	89	82	72	63	55	48	44	40	40	49	64	69	69	70	72	75	68.2	88.6
2-Nov	81	82	74	69	69	70	70	74	75	76	78	73	66	66	67	69	68	74	83	91	93	95	95	96	77.2	96.0
3-Nov	95	92	91	91	83	83	85	89	88	83	66	55	44	43	41	40	43	51	56	65	69	71	75	78	69.8	94.8
4-Nov	80	82	80	85	84	87	90	92	92	86	76	75	68	63	73	91	95	95	95	95	95	96	96	96	86.2	96.1
5-Nov	96	96	96	96	97	97	97	96	96	95	94	93	88	84	81	78	82	88	93	95	95	93	92	91	92.1	96.9
6-Nov	91	90	89	88	87	87	86	85	86	87	90	90	90	90	91	91	82	80	82	94	96	96	95	94	89.0	96.0
7-Nov	93	93	95	95	95	95	95	95	95	88	85	81	75	71	71	68	75	85	93	96	97	97	97	97	88.7	97.2
8-Nov	97	96	96	96	97	96	93	89	90	88	80	76	74	74	71	71	74	77	80	87	91	92	94	95	86.5	97.0
9-Nov	95	95	96	96	97	97	95	93	93	93	91	84	81	76	75	81	88	91	94	95	95	93	92	93	90.8	96.9
10-Nov	94	94	87	84	86	87	84	84	83	84	84	79	83	80	80	80	81	87	92	91	90	90	89	89	85.9	93.8
11-Nov	89	89	92	94	95	95	96	96	96	96	96	95	90	84	81	82	85	87	89	89	87	88	89	88	90.4	96.5
12-Nov	86	83	83	83	95	94	92	92	91	90	85	87	85	77	65	63	63	63	62	64	68	69	62	62	77.6	95.3
13-Nov	60	58	57	55	55	55	73	92	92	91	92	87	88	87	85	86	88	82	72	72	73	70	70	75	75.6	92.4
14-Nov	76	75	80	83	85	80	80	82	79	74	72	69	60	59	62	60	59	59	61	83	94	95	95	95	75.8	95.4
15-Nov	96	95	95	96	96	95	93	85	81	82	76	69	61	52	47	47	52	57	59	60	60	62	64	65	72.7	96.2
16-Nov	68	69	74	77	80	83	85	88	89	89	86	81	76	75	78	79	80	83	88	90	92	92	92	89	82.6	92.0
17-Nov	89	88	88	90	93	95	94	94	95	96	96	94	92	90	90	91	92	94	95	96	94	94	94	95	92.8	95.7
18-Nov	96	96	97	96	96	96	97	97	97	97	87	80	82	85	84	84	85	83	79	78	78	80	80	81	87.9	97.4
19-Nov	81	81	82	81	81	82	79	78	81	78	73	70	66	64	61	61	68	72	73	73	73	73	72	72	74.0	82.2
20-Nov	74	76	77	74	73	71	73	75	75	74	71	66	59	57	54	53	57	62	65	69	74	82	83	84	69.8	83.7
21-Nov	83	84	87	84	82	83	82	81	82	78	69	60	51	42	36	37	38	41	43	50	49	49	49	48	62.1	87.0
22-Nov	46	50	52	51	50	47	54	56	57	57	49	41	36	35	37	36	40	43	48	53	55	59	62	63	49.0	62.7
23-Nov	61	61	62	68	70	74	74	77	79	75	67	58	51	49	46	44	49	50	45	44	45	44	44	44	57.4	79.2
24-Nov	43	43	46	47	50	50	61	60	61	64	63	61	61	60	58	56	60	65	68	69	71	73	76	78	60.2	78.3
25-Nov	82	85	88	89	90	90	88	88	86	79	71	59	54	56	52	54	59	68	79	64	58	50	47	48	70.1	90.0
26-Nov	49	50	52	54	55	57	61	62	64	60	56	51	46	44	43	44	46	51	59	64	66	70	71	76	56.3	76.1
27-Nov	81	84	86	87	86	88	88	85	86	84	82	75	68	58	60	65	68	69	64	62	60	62	66	66	74.1	88.1
28-Nov	64	67	71	73	74	73	73	73	73	74	73	68	65	60	57	55	57	60	66	65	66	73	86	90	69.0	90.2
29-Nov	92	85	71	65	61	60	57	56	57	57	54	50	50	47	46	48	50	52	55	57	60	57	58	60	58.6	92.5
30-Nov	61	63	66	70	73	74	76	76	78	74	73	71	69	64	64	72	83	85	84	83	83	81	78	76	74.1	85.1
	79.1	79.3	79.6	79.9	80.5	80.8	81.9	82.7	82.8	81.0	76.8	72.0	67.8	64.6	63.3	64.3	66.9	70.1	72.9	75.4	76.6	77.1	77.8	78.6	Diurnal Average	
	97.0	96.3	97.1	96.4	96.8	96.9	96.9	96.9	97.4	96.7	96.3	94.6	91.5	90.5	90.6	91.3	95.1	95.3	95.5	95.7	96.7	97.0	97.1	97.2	Diurnal Maximum	

Hourly Averages for Relative Humidity at Valleyview
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages

Valleyview
November 1, 2008 to December 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	6	5	5	6	6	4	5	3	4	5	5	3	3	3	5	4	4	2	3	3	1	1	2	2	2.9	6.3
Dir	190	192	190	188	194	193	201	210	210	195	191	203	192	171	179	154	132	66	12	348	87	113	240	239	188.9	190.1
2 Spd	1	2	8	8	9	8	9	7	7	3	1	2	0	0	1	1	2	2	0	2	1	1	2	1	2.9	9.4
Dir	335	268	176	189	189	188	190	193	194	204	166	183	130	253	307	295	202	221	10	185	216	235	245	165	194.8	190.2
3 Spd	4	4	2	4	11	2	1	3	3	1	8	13	15	11	10	9	7	5	2	3	2	2	3	4	3.4	15.1
Dir	197	183	214	221	285	263	177	185	226	161	294	306	302	314	312	316	349	336	296	203	149	199	196	178	285.0	301.7
4 Spd	3	4	2	2	4	3	1	1	1	3	0	3	3	8	14	11	13	10	9	11	11	10	9	8	4.1	13.7
Dir	185	178	192	217	212	216	225	341	229	203	154	26	25	23	11	22	21	32	25	20	14	19	33	32	22.4	11.2
5 Spd	8	8	6	7	5	5	3	4	4	4	3	3	4	4	4	4	4	3	1	1	1	1	1	1	0.7	7.9
Dir	32	35	33	26	17	339	276	273	258	255	250	206	214	200	213	192	184	176	225	224	255	307	356	14	305.5	31.6
6 Spd	0	1	0	0	1	1	N	1	0	0	0	1	2	3	6	3	8	10	10	8	5	5	4	3	1.7	10.0
Dir	352	183	183	122	213	199	N	198	153	113	251	359	2	7	1	359	148	157	168	180	171	188	189	209	168.3	156.7
7 Spd	3	2	3	3	2	4	3	2	2	2	6	6	6	4	5	2	2	0	1	2	1	0	1	2	2.2	5.6
Dir	207	222	175	193	206	190	196	183	163	171	186	183	185	184	194	208	182	136	351	14	328	314	307	288	192.6	182.8
8 Spd	1	1	1	1	2	5	5	4	2	3	9	7	6	5	5	8	7	8	12	8	6	5	4	2	4.8	11.9
Dir	235	216	218	198	237	197	193	198	234	212	194	190	193	191	194	186	192	187	188	193	193	202	206	211	195.3	187.7
9 Spd	1	0	1	2	0	3	6	5	5	3	3	8	11	7	6	4	9	13	2	3	5	4	3	3	1.6	13.4
Dir	263	196	61	25	99	180	187	188	187	141	181	185	178	180	195	290	313	331	130	248	291	320	322	39	225.2	331.3
10 Spd	7	9	12	10	5	5	6	5	4	5	5	7	9	6	10	9	7	5	5	3	2	2	1	2	4.7	11.9
Dir	304	309	307	307	323	332	316	338	2	21	42	19	26	24	360	18	22	353	17	21	21	91	117	166	351.4	306.8
11 Spd	2	3	7	8	7	7	7	5	6	7	6	7	5	7	8	7	6	8	7	7	11	10	4	3	6.4	10.9
Dir	177	194	188	187	182	172	189	179	168	164	165	170	157	180	186	191	186	188	188	184	187	190	173	162	180.7	186.7
12 Spd	6	6	9	13	8	9	11	9	6	4	7	7	3	3	6	7	10	8	10	6	3	4	19	16	5.8	18.7
Dir	170	178	175	179	176	189	185	192	189	206	202	192	192	199	243	267	261	258	273	265	212	247	286	288	223.5	286.5
13 Spd	15	16	13	16	18	18	19	16	21	22	16	17	15	12	9	9	6	9	11	10	8	12	13	11	13.4	21.8
Dir	284	284	286	288	289	293	306	291	290	327	317	312	317	313	304	297	274	294	300	287	298	300	333	316	300.8	327.4
14 Spd	8	8	3	3	3	2	2	4	3	3	4	4	4	4	5	5	5	5	8	7	5	7	9	9	3.9	8.9
Dir	301	295	244	225	227	231	188	187	197	194	174	203	205	189	167	172	173	172	187	186	167	178	187	190	197.3	189.6
15 Spd	8	7	6	4	5	3	2	9	9	8	12	16	19	18	14	11	8	8	9	9	11	11	9	4	7.8	18.9
Dir	192	192	192	196	216	232	212	270	290	286	288	291	293	298	305	305	283	281	285	283	295	290	295	294	280.9	293.1
16 Spd	2	2	2	2	2	2	2	0	2	1	1	0	1	1	2	4	2	2	2	4	3	3	3	1	0.6	3.6
Dir	170	175	169	171	189	189	213	18	5	62	7	266	176	220	353	5	7	36	358	357	14	4	19	57	14.1	356.6
17 Spd	4	3	1	6	5	6	9	6	5	5	4	4	6	8	6	1	2	1	1	3	5	5	2	3	3.1	8.6
Dir	21	357	4	136	119	126	138	136	132	136	138	176	170	183	182	171	358	51	151	167	180	194	180	182	151.0	137.5
18 Spd	2	2	5	4	2	2	4	2	3	3	3	4	9	15	18	16	14	14	17	18	16	4	4	4	5.8	18.0
Dir	319	14	177	241	240	183	193	15	215	223	206	246	318	339	338	318	317	317	337	345	343	338	314	324	322.1	344.9
19 Spd	7	9	11	10	6	5	7	4	1	1	2	3	4	5	6	8	5	5	6	5	7	9	8	8	1.9	11.4
Dir	316	300	286	290	299	309	357	344	324	179	170	149	170	165	157	137	139	149	171	166	167	166	175	177	204.9	285.9
20 Spd	5	4	6	12	14	18	20	18	20	16	18	18	19	15	18	17	12	7	5	2	2	6	4	7	10.6	20.3
Dir	162	178	186	188	186	187	184	183	188	182	183	186	186	180	188	186	191	191	170	329	355	295	279	280	189.2	183.6
21 Spd	6	3	3	2	3	4	4	5	5	3	3	3	3	3	5	4	4	5	12	11	16	13	11	11	5.4	15.6
Dir	285	257	209	241	219	190	192	198	193	176	195	188	183	171	178	152	147	159	180	179	182	179	189	192	187.7	181.7
22 Spd	11	8	10	8	5	10	11	16	15	7	14	20	19	25	22	19	15	18	18	18	15	15	12	10	12.6	25.0
Dir	195	200	194	192	234	294	295	289	285	261	273	283	285	291	292	292	299	294	288	288	280	269	276	269	278.0	291.4

Peace Airshed Zone Association
Summary of Hourly Averages

Valleyview
November 1, 2008 to December 1, 2008
WS (km/h), WD (deg)

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
23 Spd	12	11	8	4	2	4	4	3	3	3	5	5	4	5	4	2	0	4	10	11	12	9	9	6	4.7	12.3
Dir	279	275	269	242	156	157	172	184	225	219	199	200	189	185	172	156	299	196	190	190	191	188	191	196	206.8	278.5
24 Spd	9	7	5	4	2	5	2	4	3	3	3	4	3	3	3	2	3	2	3	5	5	4	5	2	3.6	9.3
Dir	187	192	202	190	205	214	190	200	224	221	207	213	213	198	225	260	166	184	202	213	212	212	204	225	204.1	187.5
25 Spd	2	1	1	0	1	2	1	1	1	1	3	3	4	4	2	3	3	4	5	11	10	9	10	13	3.3	13.2
Dir	202	354	192	262	294	235	222	283	195	244	206	209	212	292	212	220	212	257	208	269	273	290	282	287	260.0	287.3
26 Spd	14	13	7	10	8	6	4	4	5	5	5	5	4	3	5	7	4	2	2	3	5	5	4	3	4.6	14.1
Dir	291	291	285	272	266	255	226	195	199	208	212	196	194	220	261	269	266	192	214	211	217	215	212	224	246.9	291.4
27 Spd	1	2	3	3	2	1	2	1	0	1	1	1	5	4	4	2	1	2	3	2	3	4	4	5	1.3	5.4
Dir	217	273	202	215	217	252	291	230	348	253	146	281	132	129	0	331	202	228	232	215	262	224	211	205	219.5	131.8
28 Spd	5	4	2	4	6	6	6	4	6	5	4	6	7	6	6	7	3	1	1	3	18	16	10	5	4.5	18.1
Dir	209	192	212	217	207	196	209	207	198	203	194	194	193	196	193	191	204	83	233	179	283	288	256	220	222.7	283.2
29 Spd	5	8	17	21	23	20	18	18	14	15	14	14	12	13	12	17	14	12	5	8	2	13	16	17	13.3	22.7
Dir	208	277	291	291	289	292	296	297	294	289	291	292	298	304	304	309	310	298	275	267	241	286	277	277	291.1	289.5
30 Spd	13	11	8	6	2	4	5	6	5	6	5	3	4	5	4	6	5	7	10	13	11	12	10	8	5.5	13.1
Dir	285	292	278	270	187	161	161	184	191	192	198	191	191	194	201	189	188	193	190	187	191	190	193	191	205.3	285.4
Spd	3.0	3.0	3.2	3.6	3.3	3.2	3.3	3.2	3.3	2.5	3.2	3.4	3.0	2.6	2.8	2.6	1.9	2.1	2.5	2.9	3.0	3.5	3.5	3.1	Diurnal Average	
Dir	251.7	261.0	238.7	235.5	239.0	229.1	221.8	232.0	232.1	227.6	226.6	239.4	240.8	256.1	266.8	270.9	267.2	261.7	235.5	242.3	245.0	245.4	250.2	249.3		
Spd	14.9	16.2	16.9	21.2	22.7	20.0	20.3	18.0	21.2	21.8	18.4	19.5	19.0	25.0	21.5	18.9	15.1	18.4	18.3	18.4	18.1	16.2	18.7	17.2	Diurnal Maximum	
Dir	284.2	284.5	291.2	290.7	289.5	292.2	183.6	296.7	290.2	327.4	183.2	282.6	186.3	291.4	291.7	291.7	299.4	294.2	287.8	288.3	283.2	288.1	286.5	277.5		

Maximum Speed Value: 25 km/h on Nov 22 14:00
Maximum Daily Speed Average: 13.4 km/h on Nov 22
Maximum Diurnal Speed Average: 3.6 km/h at hour 4

Minimum Speed Value: 0 km/h on Nov 2 13:00
Minimum Daily Speed Average: 0.6 km/h on Nov 16
Minimum Diurnal Speed Average: 1.9 km/h at hour 17

Monthly Average Velocity: 2.92 km/h 243.38 deg

Speed Percentiles: $P_1 = 0.3$ $P_{10} = 1.4$ $Q_1 = 2.6$ Median = 4.9 $Q_3 = 8.3$ $P_{90} = 13.4$ $P_{99} = 19.8$

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

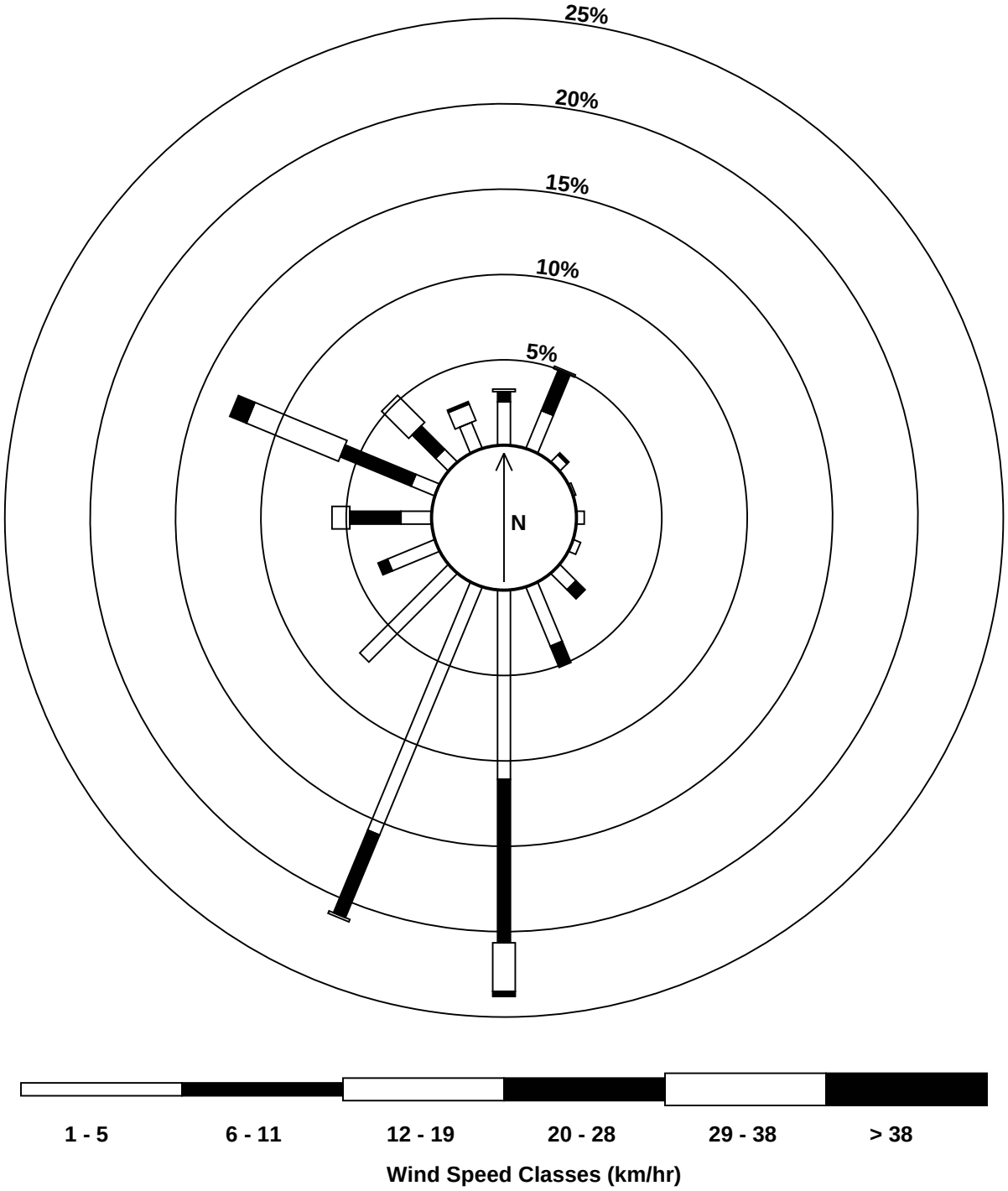
Hours in Service:	720
Hours of Data:	719
Hours of Missing Data:	1
Percent Operational Time:	99.9

N - Not Valid

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	5.56	1.95	1.11	0.00	0.00	0.00	8.62
NorthEast	1.53	1.53	0.00	0.00	0.00	0.00	3.06
East	0.56	0.00	0.00	0.00	0.00	0.00	0.56
SouthEast	3.34	1.95	0.00	0.00	0.00	0.00	5.29
South	18.64	16.55	3.06	0.42	0.00	0.00	38.66
SouthWest	15.44	1.53	0.00	0.00	0.00	0.00	16.97
West	4.17	5.29	5.15	0.97	0.00	0.00	15.58
NorthWest	2.92	3.48	4.59	0.28	0.00	0.00	11.27
Total	52.16	32.27	13.91	1.67	0.00	0.00	100.00

Wind Rose for WS at Valleyview
November 2008



Peace Airshed Zone Association
Summary of Hourly Averages - Wind Speed (Scalar)

Valleyview - Wind Speed (WS) - km/h
November 1, 2008 to December 1, 2008

Maximum Speed: 25 km/h on Nov 22 14:00

Maximum Daily Speed Average: 14.4 km/h on Nov 22

Minimum Speed: 1 km/h on Nov 6 10:00

Minimum Daily Speed Average: 2.2 km/h on Nov 16

Maximum Diurnal Speed Average: 7.7 km/h at hour 15

Minimum Diurnal Speed Average: 5.3 km/h at hour 10

Monthly Average Speed: 6.47 km/h

Percentiles: P_1 = 1.0 P_{10} = 1.9 Q_1 = 3.0 Median = 5.0 Q_3 = 8.6 P_{90} = 13.8 P_{99} = 19.9

Hours in Service: 720

Hours of Data: 719

Hours of Missing Data: 1

Percent Operational Time: 99.9

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	6	5	5	6	6	4	5	3	4	5	5	3	3	3	5	5	4	3	3	4	2	4	3	2	4.1	6.4
2-Nov	2	2	9	8	9	8	9	7	7	4	2	2	2	1	1	2	2	2	1	3	2	2	3	2	3.8	9.4
3-Nov	4	4	2	5	11	5	3	3	4	4	8	13	15	12	10	9	7	5	2	3	3	2	4	4	5.9	15.3
4-Nov	3	4	2	2	4	3	1	1	1	3	2	3	4	8	14	11	13	10	9	11	11	10	9	8	6.2	13.9
5-Nov	8	8	6	7	5	5	4	4	4	4	4	3	4	4	4	4	4	3	1	1	2	1	1	1	3.8	8.0
6-Nov	1	1	1	1	1	1	N	1	1	1	1	1	2	3	6	4	8	10	10	8	5	5	4	3	3.4	10.2
7-Nov	3	2	3	3	2	4	3	3	3	2	6	6	6	5	5	3	2	2	1	2	2	1	1	2	2.9	5.7
8-Nov	2	2	1	1	2	5	5	4	2	3	9	7	6	5	5	8	7	8	12	8	6	5	4	2	5.0	12.0
9-Nov	1	2	1	2	1	3	6	5	5	3	3	9	11	8	6	7	10	14	4	3	6	4	4	4	5.0	13.8
10-Nov	8	9	12	11	5	5	7	5	4	5	5	7	10	7	10	9	7	5	5	4	3	2	2	2	6.1	12.2
11-Nov	3	3	7	8	8	8	7	6	6	7	7	8	5	7	8	7	6	8	7	7	11	10	4	3	6.7	11.0
12-Nov	7	6	9	13	8	9	11	10	7	5	7	7	4	3	7	8	10	8	10	7	3	5	19	17	8.2	18.8
13-Nov	15	16	13	16	18	18	19	16	22	22	16	17	15	13	9	9	6	10	11	10	8	13	13	11	14.0	21.9
14-Nov	8	8	3	3	3	2	2	4	4	3	4	4	4	4	5	5	5	5	8	7	5	7	9	9	5.0	8.9
15-Nov	8	7	6	4	5	3	3	9	9	8	12	17	19	18	15	11	8	8	9	9	11	11	9	6	9.4	19.0
16-Nov	3	2	2	2	2	2	2	1	2	1	1	1	1	1	2	4	2	2	3	4	3	4	3	2	2.2	3.7
17-Nov	4	3	2	6	5	6	9	6	5	5	5	4	6	8	6	2	2	1	2	3	5	5	3	3	4.5	8.7
18-Nov	3	3	6	5	2	2	4	4	3	3	3	5	10	15	18	16	14	14	17	18	16	4	4	5	8.1	18.1
19-Nov	7	9	12	11	6	5	7	5	2	1	2	3	4	5	6	8	5	5	6	5	7	9	8	8	6.1	11.5
20-Nov	5	4	6	13	14	18	20	18	20	16	19	18	19	15	18	17	12	7	5	3	3	7	4	7	12.0	20.5
21-Nov	7	4	4	3	3	4	4	5	5	4	3	3	3	3	5	4	5	5	13	11	16	13	11	11	6.2	15.7
22-Nov	11	8	10	8	6	11	11	16	15	7	14	20	19	25	22	19	15	18	18	19	15	15	12	10	14.4	25.1
23-Nov	12	11	8	4	3	4	5	4	3	3	5	5	4	5	4	3	1	4	10	11	12	9	9	6	6.0	12.4
24-Nov	9	7	5	4	4	7	5	4	3	3	3	4	4	3	3	3	3	2	3	5	5	4	5	2	4.2	9.3
25-Nov	2	2	2	1	1	2	2	3	2	2	3	3	4	5	3	3	3	4	5	11	10	10	10	13	4.5	13.4
26-Nov	14	13	7	10	8	6	4	4	5	5	5	5	4	4	5	7	5	3	2	3	5	5	4	3	5.8	14.2
27-Nov	2	2	3	3	3	2	3	2	1	2	2	3	6	5	5	3	2	3	4	3	3	4	4	5	3.0	5.7
28-Nov	5	4	3	4	6	6	6	5	6	6	4	6	7	6	6	7	3	2	3	5	18	16	10	6	6.2	18.2
29-Nov	5	9	17	21	23	20	18	18	14	15	14	14	12	14	12	17	14	12	6	8	3	13	16	17	13.9	22.7
30-Nov	13	11	8	6	5	4	5	6	5	6	5	3	4	5	4	6	5	7	10	13	11	12	10	8	7.2	13.2
	6.0	5.7	5.9	6.4	5.9	6.2	6.6	6.0	5.8	5.3	5.9	6.7	7.2	7.3	7.7	7.3	6.4	6.4	6.6	7.0	7.1	7.0	6.7	6.1	Diurnal Average	
	15.1	16.3	16.9	21.3	22.7	20.0	20.5	18.1	21.7	21.9	18.7	19.7	19.2	25.1	21.7	19.0	15.2	18.5	18.4	18.5	18.2	16.4	18.8	17.2	Diurnal Maximum	

N - Not Valid

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

Maximum Value: 94.9 deg on Nov 2 19:00

Minimum Value: 4.2 deg on Nov 26 22:00

Percentiles: P_1 = 5.1 P_{10} = 6.7 Q_1 = 8.9 Median = 13.7 Q_3 = 27.6 P_{90} = 59.1 P_{99} = 87.1

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 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-Nov	10	10	10	11	9	15	7	36	7	9	12	18	26	26	15	21	26	49	24	21	61	80	54	33	79.7
2-Nov	75	60	28	9	10	11	7	9	6	35	84	42	91	75	85	56	12	13	95	68	84	56	62	60	94.9
3-Nov	28	20	44	44	9	69	69	20	21	87	14	11	11	13	15	10	8	14	55	14	46	22	16	6	87.2
4-Nov	11	8	25	15	5	6	60	83	52	15	87	16	28	17	10	10	7	9	10	7	9	10	9	9	86.7
5-Nov	10	9	11	7	13	12	27	22	14	20	20	22	16	14	10	16	14	15	87	51	37	82	75	58	87.1
6-Nov	73	70	80	81	22	40	N	46	71	71	78	50	22	12	9	63	10	12	15	10	14	8	9	10	80.8
7-Nov	10	26	22	9	7	8	22	48	33	21	9	12	10	18	9	13	28	77	72	37	39	90	48	36	89.7
8-Nov	67	44	42	52	13	17	11	22	13	14	6	8	13	15	11	8	6	7	7	8	9	8	6	7	67.0
9-Nov	37	80	39	15	67	27	8	8	17	34	25	12	11	15	11	54	27	15	60	29	28	27	32	19	79.8
10-Nov	29	12	12	10	26	22	15	17	13	17	19	14	15	23	8	13	14	13	13	26	30	39	48	22	48.3
11-Nov	29	22	12	9	12	19	12	15	16	14	19	14	16	19	11	7	8	9	8	10	8	8	18	20	28.8
12-Nov	11	12	11	8	14	9	12	13	16	22	8	6	29	32	14	11	10	13	10	35	32	32	8	8	34.9
13-Nov	9	8	10	9	7	8	11	10	12	6	12	8	8	13	10	8	19	18	15	10	11	9	10	13	19.0
14-Nov	10	8	41	12	14	61	29	16	17	12	8	8	9	16	14	9	9	9	7	10	12	9	8	7	60.7
15-Nov	8	8	13	16	8	16	59	15	11	8	9	6	6	8	8	8	11	6	7	6	7	6	8	64	64.2
16-Nov	50	35	30	21	20	30	12	79	47	84	69	75	56	54	19	7	22	11	20	14	18	11	13	71	84.0
17-Nov	13	22	74	18	11	8	9	9	8	13	26	30	27	13	13	64	25	56	75	26	15	14	52	18	75.2
18-Nov	81	63	39	33	45	63	16	89	32	26	11	17	24	17	12	9	10	11	6	6	5	34	26	21	89.1
19-Nov	14	11	10	11	18	17	19	32	80	62	26	23	23	18	21	9	12	11	10	9	9	8	8	9	79.8
20-Nov	10	19	9	6	7	5	6	6	7	7	10	7	7	9	8	8	7	14	17	29	40	23	14	14	39.9
21-Nov	16	34	37	35	37	14	17	7	26	20	11	14	11	14	9	15	30	21	9	7	5	7	8	6	37.3
22-Nov	8	8	7	9	20	10	10	9	7	19	10	8	9	7	8	6	7	6	6	5	7	6	7	7	20.1
23-Nov	7	6	13	36	26	15	9	15	8	9	11	16	10	13	19	40	86	9	7	7	5	7	6	7	86.4
24-Nov	5	6	7	16	65	45	72	16	14	52	32	16	12	28	37	45	46	40	15	5	13	11	14	70	71.8
25-Nov	24	85	71	84	67	43	54	57	67	54	26	16	15	42	37	23	20	27	21	25	18	18	16	9	85.1
26-Nov	7	6	7	6	6	22	19	15	10	7	6	10	17	27	9	11	11	51	46	10	10	4	9	12	50.6
27-Nov	29	32	28	18	14	82	63	49	89	84	80	83	38	50	32	52	79	58	43	40	23	15	10	8	88.5
28-Nov	10	18	16	7	6	14	16	14	11	28	13	6	9	15	11	11	42	44	70	59	7	10	9	17	70.3
29-Nov	11	32	5	5	5	5	7	6	7	6	6	7	9	9	10	8	8	7	23	8	57	7	5	4	56.7
30-Nov	10	7	12	13	68	14	10	6	9	7	13	21	15	8	12	22	8	7	7	5	5	5	6	6	67.8
	80.7	85.1	79.6	84.1	67.8	81.8	71.8	89.1	88.5	87.2	86.7	83.3	90.7	75.2	85.0	64.2	86.4	77.0	94.9	68.3	84.1	89.7	74.6	70.6	

N - Not Valid

PASZA

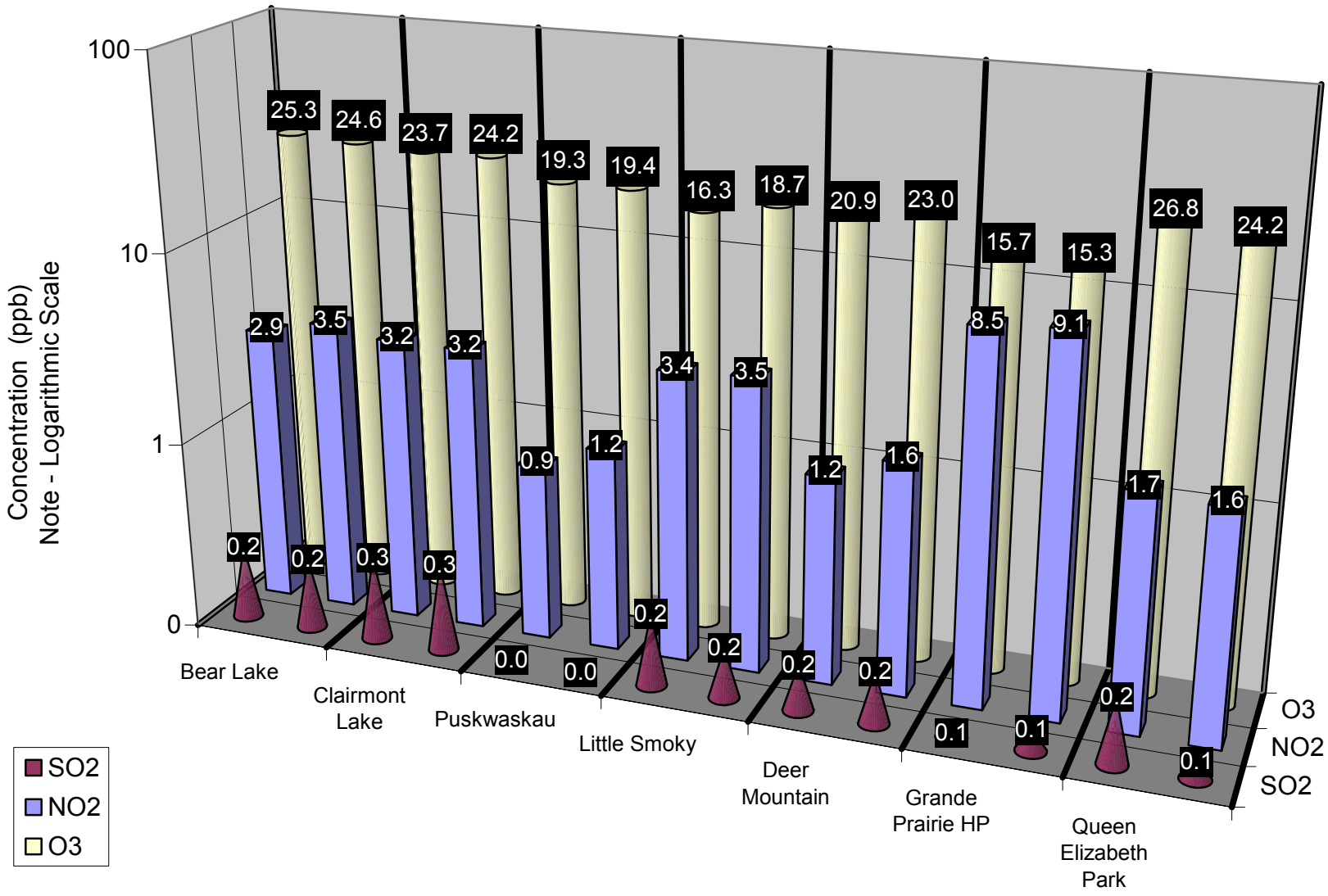
Monthly Passive Data Summary

PASZA Passive Results for November 2008

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	Site Legal
Duplicates					
23a	Bear Lake	**0.2**	**25.3**	**2.9**	
23b	Bear Lake	**0.2**	**24.6**	**3.5**	
28a	Clairmont Lake	**0.3**	**23.7**	**3.2**	
28b	Clairmont Lake	**0.3**	**24.2**	**3.2**	
34a	Puskwaskau	**0.0**	**19.3**	**0.9**	
34b	Puskwaskau	**0.0**	**19.4**	**1.2**	
46a	Little Smoky	**0.2**	**16.3**	**3.4**	
46b	Little Smoky	**0.2**	**18.7**	**3.5**	
48a	Deer Mountain	**0.2**	**20.9**	**1.2**	
48b	Deer Mountain	**0.2**	**23.0**	**1.6**	
49a	Grande Prairie HP	**0.1**	**15.7**	**8.5**	
49b	Grande Prairie HP	**0.1**	**15.3**	**9.1**	
58a	Queen Elizabeth Park	**0.2**	**26.8**	**1.7**	
58b	Queen Elizabeth Park	**0.1**	**24.2**	**1.6**	
1	Silver Valley	**0.3**	**27.3**	**2.1**	08-27-081-11 W6M
2	Bay Tree	**0.1**	**21.9**	**1.9**	13-16-078-13 W6M
3	Forth Creek	**0.2**	**23.1**	**1.7**	04-13-082-07 W6M
4	Gordondale	**0.3**	**27.1**	**2.4**	04-34-078-10 W6M
5	Boone Creek	**0.3**	**20.4**	**3.5**	01-23-076-11 W6M
7	Steeprock Creek	**0.0**	**24.0**	**1.9**	09-35-072-13 W6M
9	Spirit River	**0.3**	**22.7**	**2.1**	08-12-079-07 W6M
10	Woking	**0.2**	**23.6**	**1.5**	01-13-076-07 W6M
11	Webber Creek	**0.4**	**19.8**	**2.8**	09-36-074-09 W6M
12	Hythe	**0.1**	**22.4**	**2.8**	14-36-072-11 W6M
14	Sylvester	**0.2**	**18.7**	**1.6**	08-06-069-12 W6M
16	Beaverlodge	**0.3**	**24.4**	**3.8**	15-36-071-10 W6M
17	Poplar	**0.2**	**20.4**	**2.9**	13-06-073-08 W6M
18	Saddle Hills	**0.2**	**23.7**	**1.7**	04-25-074-07 W6M
19	Wanham	**0.2**	**27.3**	**2.1**	16-22-077-03 W6M
20	Shaftesbury	**0.1**	**21.2**	**1.6**	04-03-082-23 W5M
21	Eaglesham	**0.0**	**22.8**	**1.3**	16-21-079-25 W5M
23	Bear Lake	**0.2**	**25.0**	**3.2**	15-31-072-06 W6M

PASZA Passive Results for November 2008 (Continued)

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	Site Legal
24	Wembley	**0.2**	**19.9**	**3.3**	12-31-070-08 W6M
25	Pinto Creek	**0.1**	**20.4**	**2.1**	04-24-069-11 W6M
26	Flyingshot	**0.1**	**20.0**	**4.1**	15-36-070-07 W6M
27	Grande Prairie I	**0.2**	**17.3**	**8.9**	08-15-071-06 W6M
28	Clairmont Lake	**0.3**	**24.0**	**3.2**	09-06-073-04 W6M
29	Smoky Heights	**0.4**	**22.7**	**2.9**	04-06-075-02 W6M
30	Fitzsimmons	**0.1**	**17.0**	**2.5**	15-36-072-03 W6M
32	Gold Creek	**0.1**	**13.9**	**5.7**	06-33-067-05 W6M
33	Wapiti	**0.1**	**19.4**	**2.5**	02-25-071-03 W6M
34	Puskwaskau	**0.0**	**19.4**	**1.0**	15-35-074-25 W5M
35	Jean Cote	**0.2**	**24.2**	**1.9**	12-35-079-21 W5M
36	Guy	**0.1**	**24.8**	**1.5**	03-04-076-22 W5M
37	Crooked Creek	**0.2**	**21.2**	**3.2**	16-01-071-26 W5M
39	Clouston Creek	**0.2**	**23.2**	**1.6**	12-01-073-22 W5M
40	McLennan	**0.2**	**24.3**	**1.6**	03-29-077-19 W5M
41	Valleyview	**0.2**	**23.4**	**2.3**	09-30-069-22 W5M
42	Sunset House	**0.2**	**31.6**	**1.3**	05-32-070-19 W5M
43	High Prairie	**0.1**	**18.7**	**2.4**	16-13-074-17 W5M
44	Peavine	**0.2**	**20.5**	**1.0**	03-05-079-15 W5M
45	Gift Lake	**0.0**	**16.4**	**1.2**	10-07-079-12 W5M
46	Little Smoky	**0.2**	**17.5**	**3.4**	12-01-065-21 W5M
47	Kinuso	**0.0**	**18.1**	**0.8**	12-10-073-10 W5M
48	Deer Mountain	**0.2**	**21.9**	**1.4**	15-22-068-09 W5M
49	Grande Prairie HP	**0.1**	**15.5**	**8.8**	17-26-071-06 W6M
50	Clear River	**0.3**	**25.1**	**1.4**	SE-03-084-12 W6M
51	Bear Canyon	**0.6**	**24.1**	**1.2**	SE-28-085-12 W6M
52	Worsley	**0.0**	**22.5**	**1.6**	NE-34-085-07 W6M
53	Hines Creek	**0.1**	**24.8**	**1.5**	SW-09-084-04 W6M
54	Ronan	**0.2**	**23.7**	**2.5**	SE-03-082-04 W6M
55	Cadotte Lake School	**0.1**	**14.6**	**1.4**	NE-23-086-16 W5M
56	Simon Lake Store	**0.6**	**20.2**	**1.3**	SE-32-086-17 W5M
57	Dixonville	**0.0**	**21.9**	**1.6**	SE-14-087-24 W5M
58	Queen Elizabeth Park	**0.2**	**25.5**	**1.7**	NW-19-083-23 W5M
59	Blue Sky	**0.1**	**27.2**	**2.5**	SW-35-081-02 W6M
60	Gerry Lake	**0.0**	**23.2**	**1.0**	SW-22-084-02 W6M
61	Musreau Lake	**0.0**	**24.2**	**1.4**	NE-22-064-05 W6M



Duplicate Summary Chart

Passive Summary for November 2008

Stats	Sulphur Dioxide SO_2	Ozone O_3	Nitrogen Dioxide NO_2
	ppb	ppb	ppb
	Passive Summary for November 2008 (PASZA Zone)		
Mean	**0.2**	**22.0**	**2.4**
Standard Deviation	**0.1**	**3.5**	**1.6**
Minimum	**0.0**	**14.0**	**0.9**
Minimum At	**Gift Lake (#45)**	**Gold Creek (#32)**	**Kinuso (#47)**
Maximum	**0.6**	**31.6**	**8.9**
Maximum At	**Bear Canyon (#51)**	**Sunset House (#42)**	**Grande Prairie I (#27)**

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

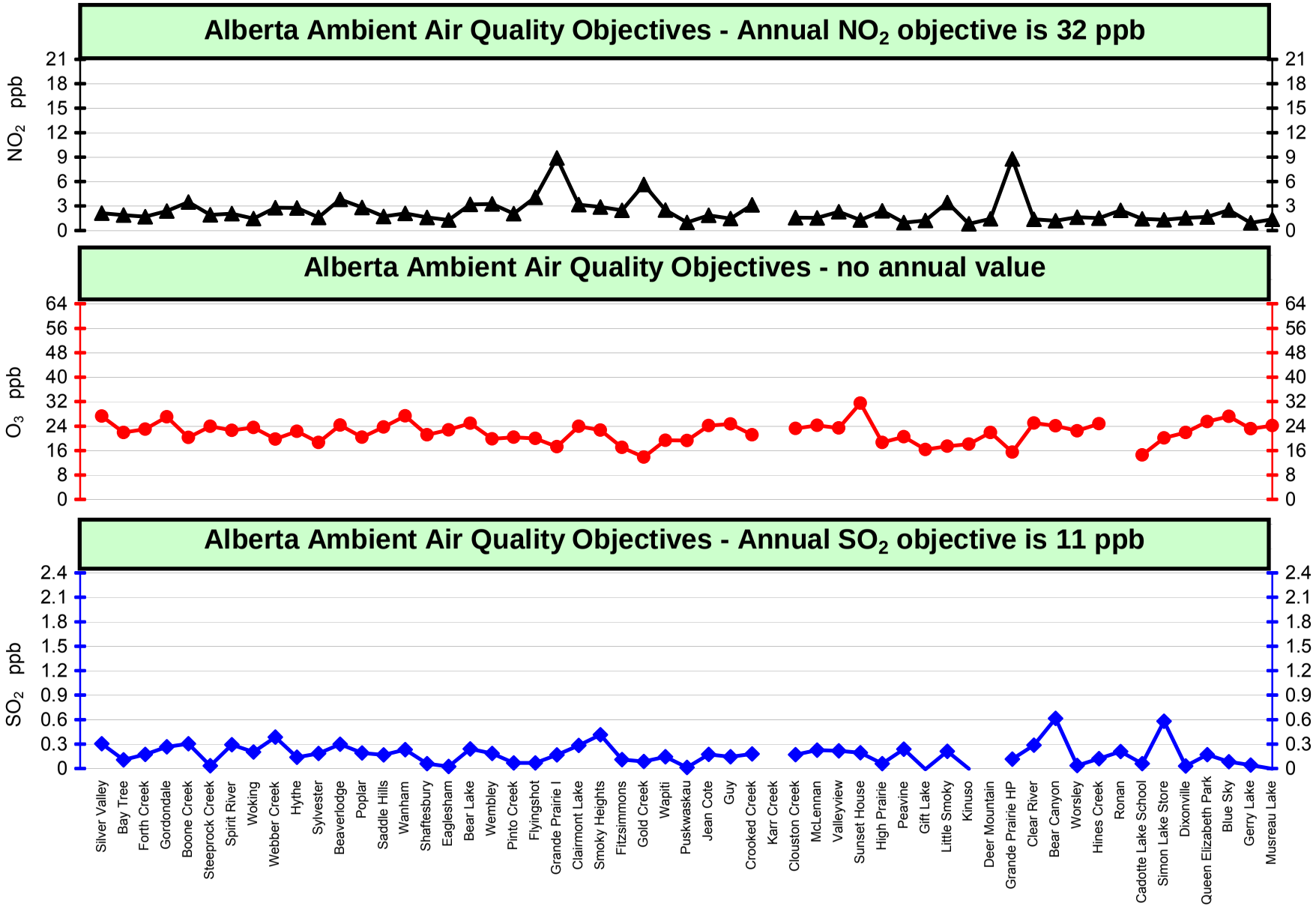
	SO_2	O_3	NO_2
PASZA Beaverlodge station	**0.5**	**18.7**	**6.7**
PASZA Beaverlodge passive	**0.3**	**24.4**	**3.9**

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

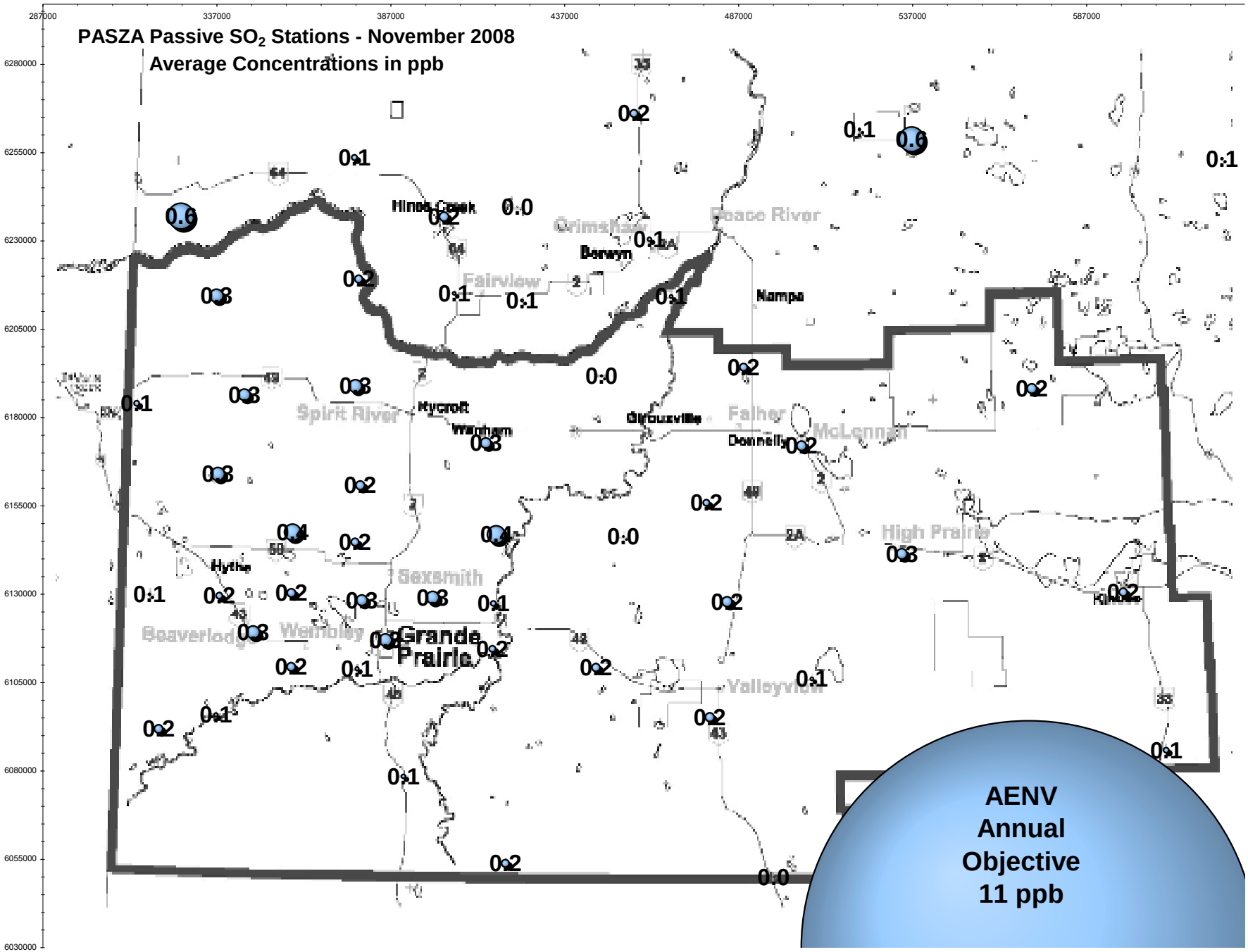
	SO_2	O_3	NO_2
PASZA Henry Pirker station	**0.3**	**12.8**	**14.2**
PASZA Grande Prairie passive	**0.1**	**15.5**	**8.8**

Comparison between Continuous and Passive monitoring at Spirit River (passive #9 Spirit River)

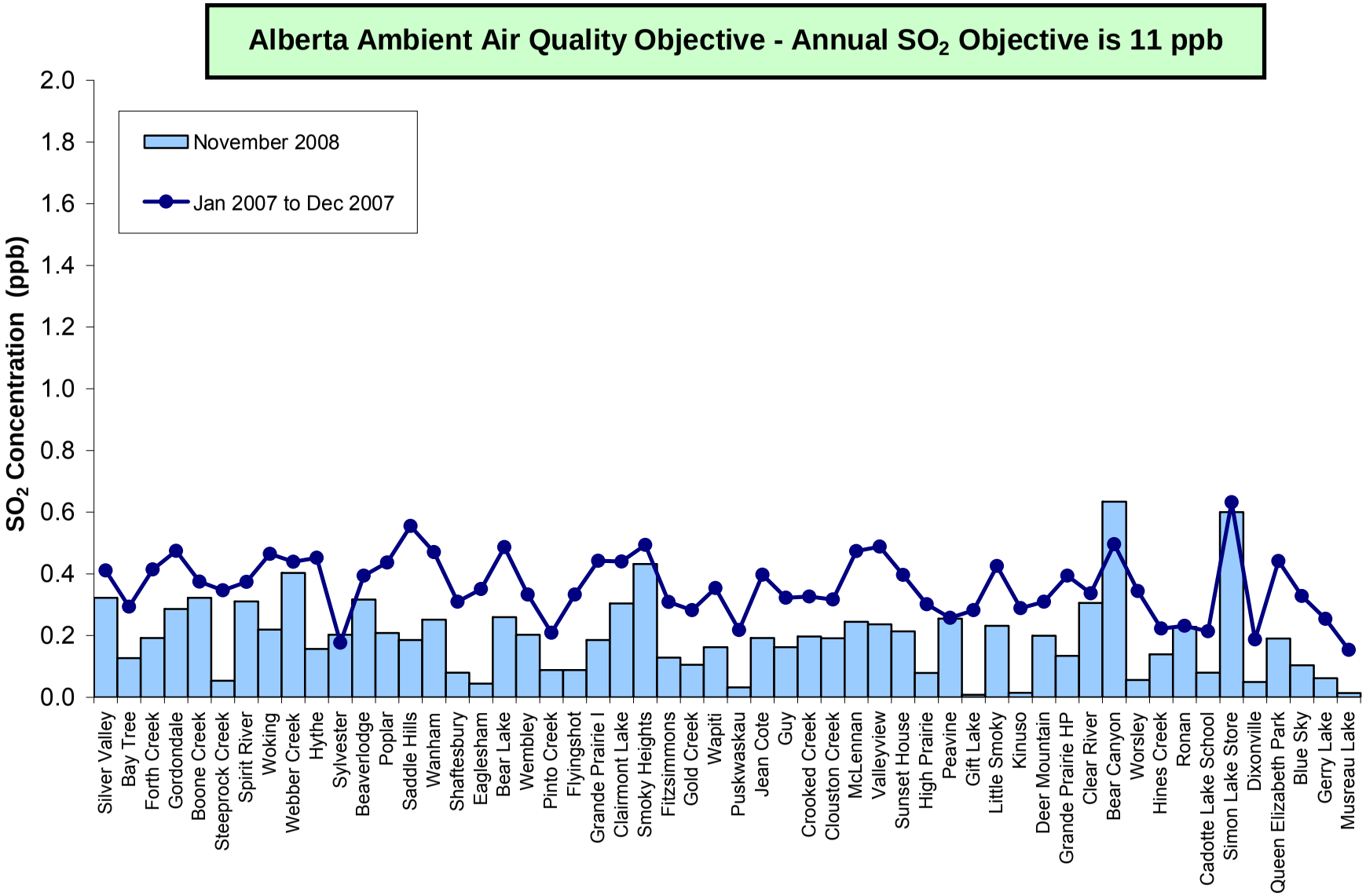
	SO_2	O_3	NO_2
PASZA Portable Spirit River station	**0.4**	**17.2**	**4.4**
PASZA Spirit River passive	**0.3**	**22.7**	**2.1**



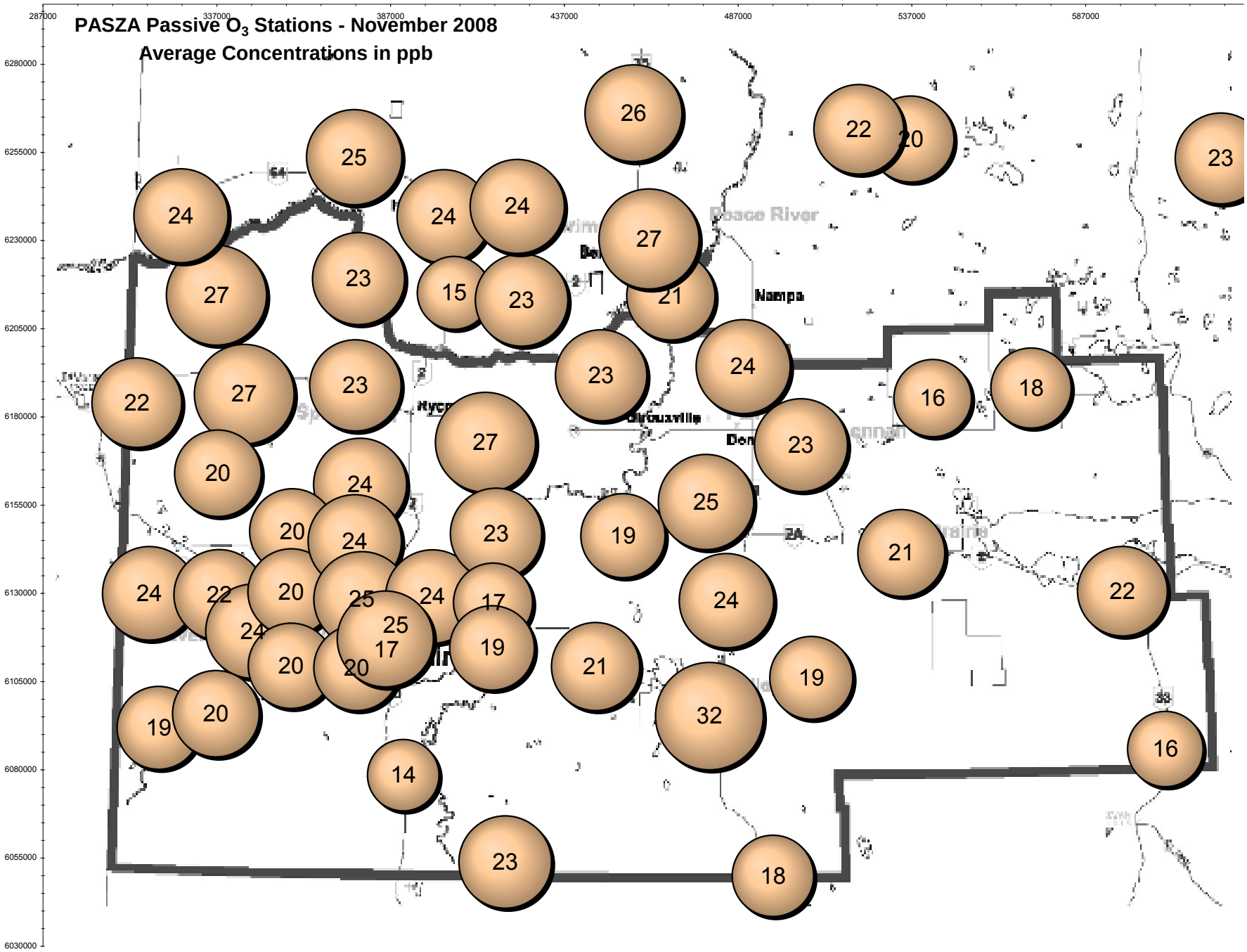
PASZA Passives - Annual Alberta Ambient Air Quality Objectives



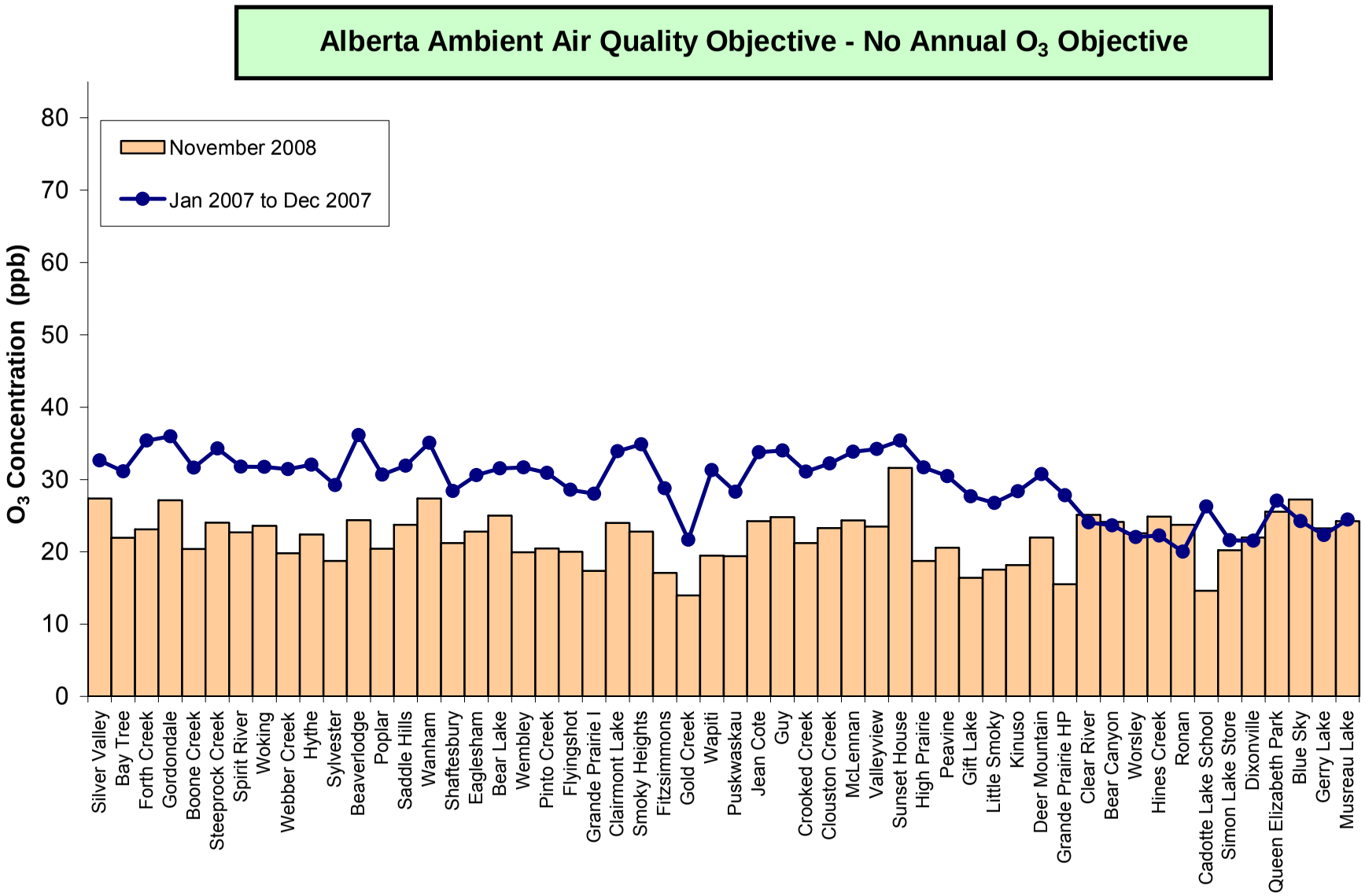
SO_2 Bubble Chart



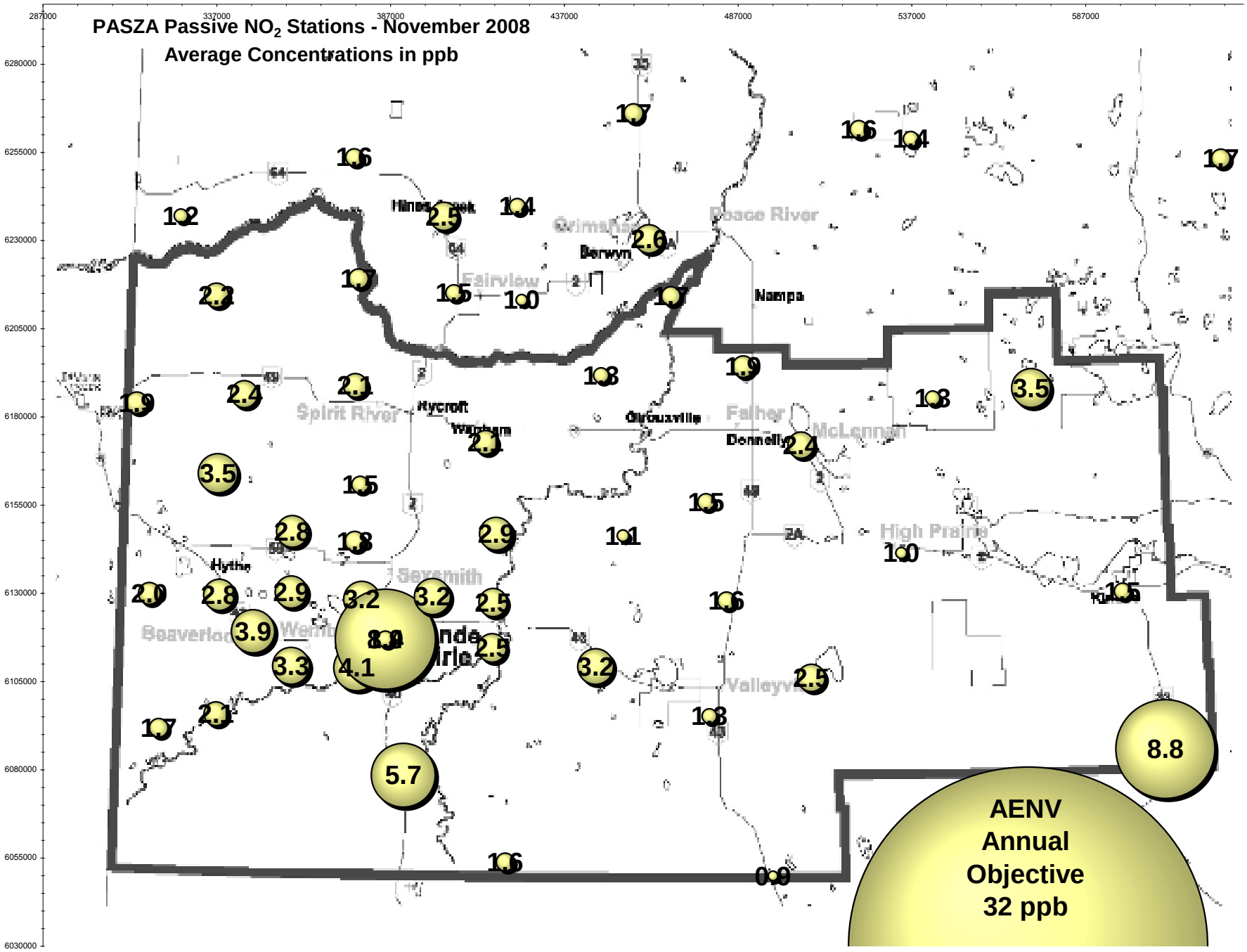
SO_2 Summary Chart



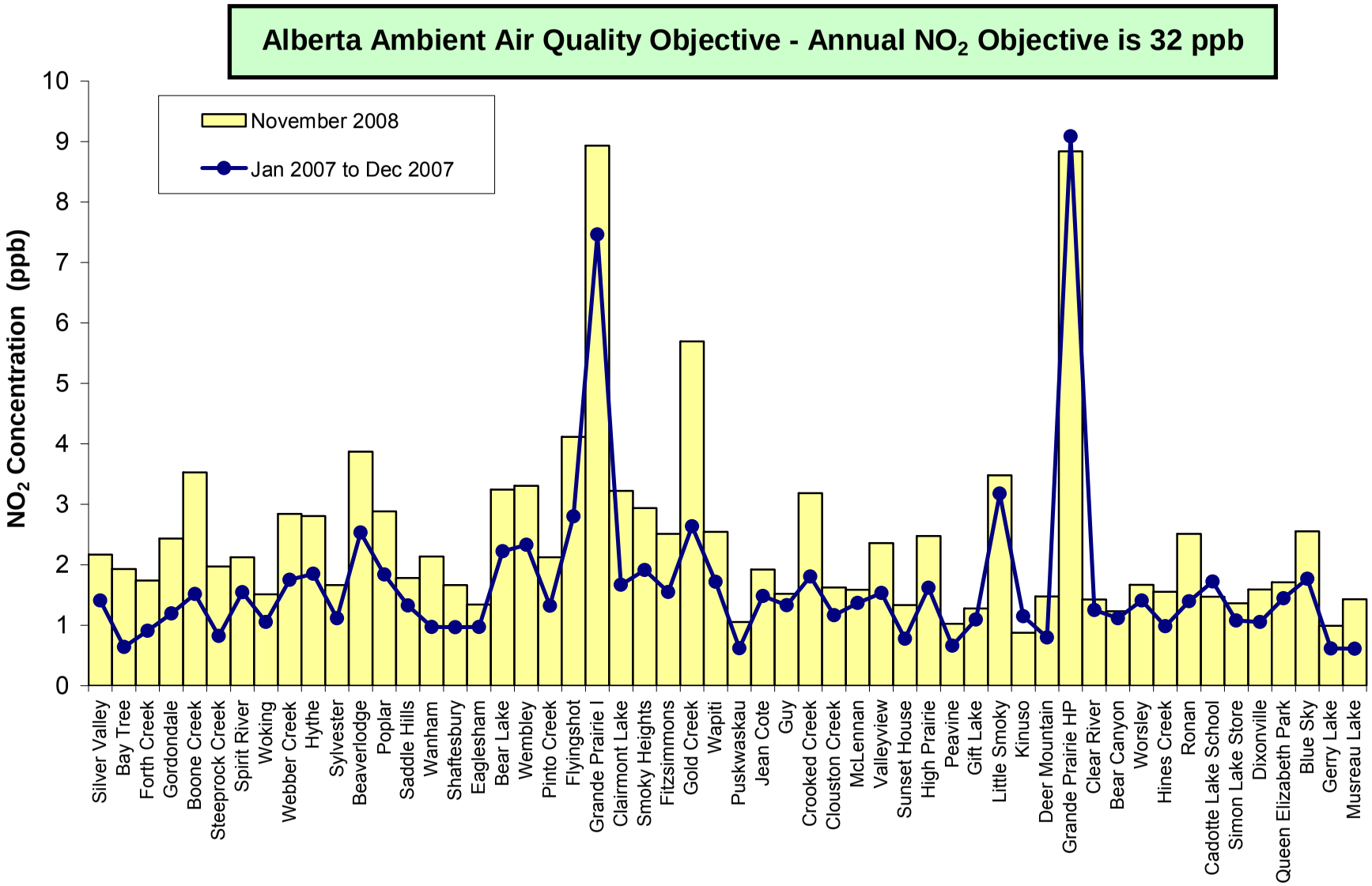
O_3 Bubble Chart



O_3 Summary Chart



NO_2 Bubble Chart



NO_2 Summary Chart

November 2008 Calibration Reports

PASZA - Henry Pirker Station with the following calibrations:
SO_2, NO, NO_2, NO_x, O_3, CO, THC, TRS & TEOM

PASZA – Evergreen Park Station with the following calibrations:
SO_2, TRS & TEOM

PASZA – Smoky Heights Station with the following calibrations:
SO_2, TRS & TEOM

PASZA – Beaverlodge Station with the following calibrations:
SO_2, NO, NO_2, NO_x, O_3 & TEOM

PASZA – Spirit River (Portable) Station with the following calibrations:
SO_2, TRS, NO, NO_2, NO_x & O_3,

PASZA – Valleyview Station with the following calibrations:
SO_2 & H_2S

Calibration Report

Parameter	SO2
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 7, 2008	Previous Calibration	October 3, 2008
Station Number	1	Station Location	Henry Pirker
Reason: Routine	Install	Removal	Other:

Start Time (MST)	12:05	End Time (MST)	16:20
Barometric Pressure	0.920 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Conc	49.6 ppb	Cal Gas Cert Date	6/8/2008
		Cal Gas Cylinder #	AAL 15377
DACS make	Focus AP1000	DACS serial No.	1
DACS voltage range	0 - 1 volt	DACS channel #	10
	Before		After
Calculated slope	1.003609	Calculated slope	1.012125
Calculated intercept	-2.152197	Calculated intercept	-1.467042
Analyzer make	TEI 43C	Analyzer serial #	610816292

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	7.4		7.6	
Coefficient	.800		.800	
Pressure	654.7	mm Hg	637.6	mm Hg
Flow	0.535	lpm	0.481	lpm
Lamp Voltage	44117	Hz	44657	Hz

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
4988	0.00	0.0	0.0	N/A
4991	39.83	392.7	388.5	1.0109
4991	19.91	197.1	197.6	0.9973
4993	9.96	98.7	100.0	0.9876
4988	0.00	0.0	1.0	As Found Zero
4991	39.84	392.8	393.3	As Found Span
			Average Correction Factor	0.9986

Calculated value of As Found Response: 391.5 ppb Percent Change of As Found: 0.3%

	before calibration		after calibration	
Auto zero	-1.1	ppb	-0.9	ppb
Auto span	350.0	ppb	328.0	ppb

Notes: Zero Adjustment Made

Calibration Performed By: Conor Whiteley

Calibration Summary

Parameter	SO2
Air Monitoring Network	PASZA

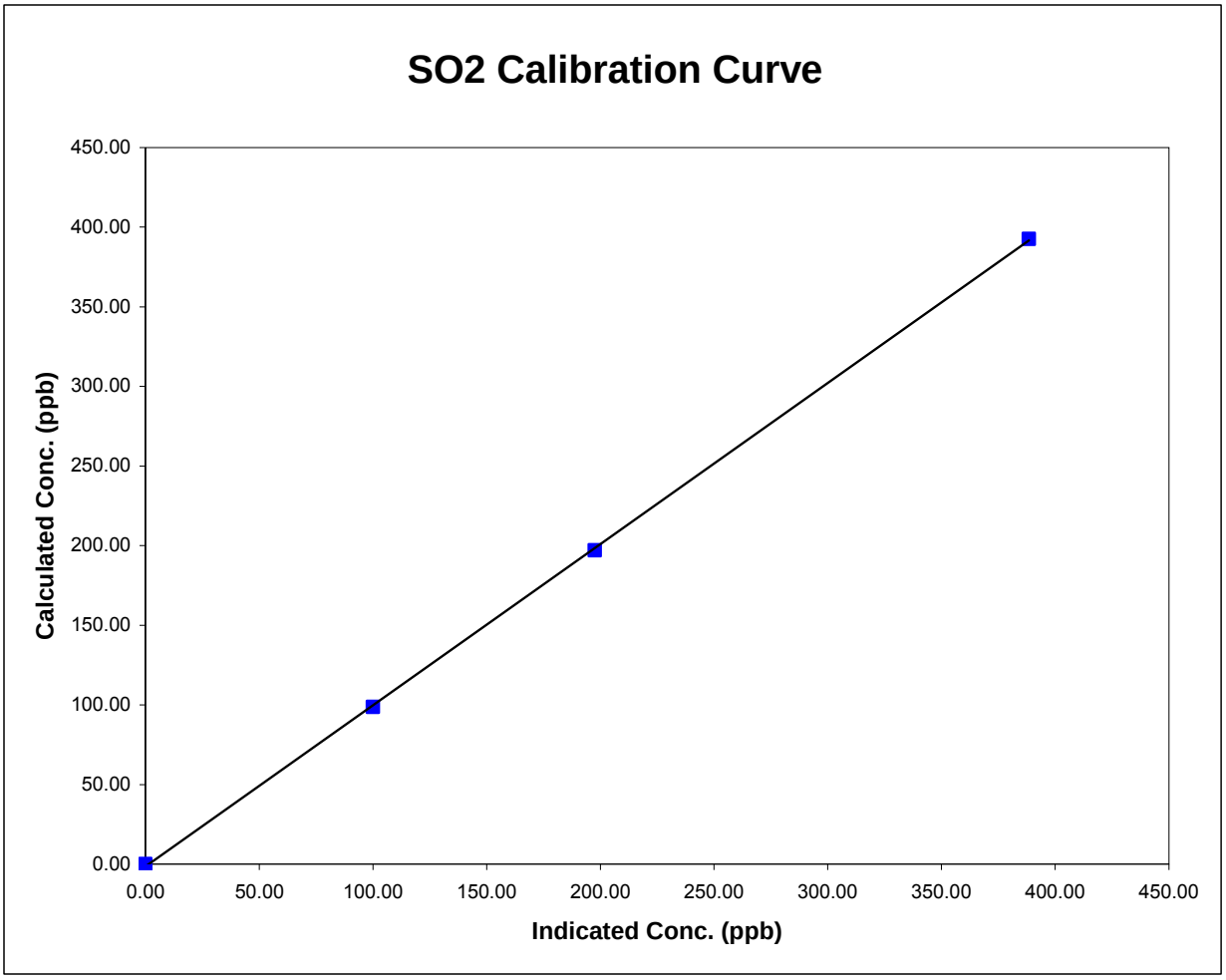
FOCUS AIR QUALITY MONITORING

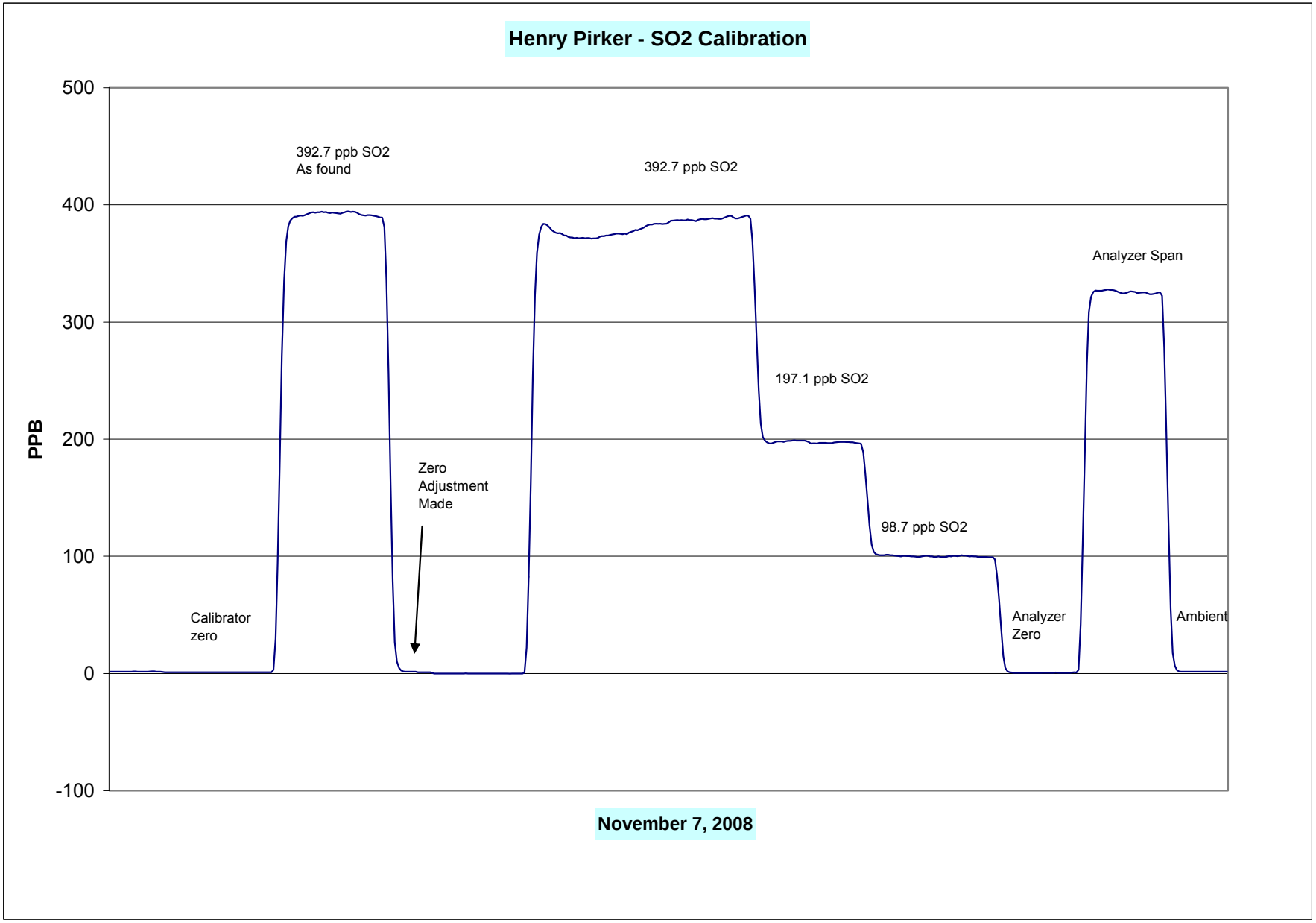
Station Information

Calibration Date	November 7, 2008	Previous Calibration	October 3, 2008
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:05	End Time (MST)	16:20
Analyzer make/model	TEI 43C	Analyzer serial #	610816292

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
392.7	388.5	1.0109	Correlation Coefficient	0.999927
197.1	197.6	0.9973		
98.7	100.0	0.9876	Slope	1.012125
			Intercept	-1.467042




Henry Pirker - SO2 Calibration
500
400
300
200
100
0
-100
PPB
392.7 ppb SO2
As found
392.7 ppb SO2
Analyzer Span
197.1 ppb SO2
Zero
Adjustment
Made
98.7 ppb SO2
Calibrator
zero
Analyzer
Zero
Ambient
November 7, 2008

Calibration Report

Parameter	**NOx-NO-NO_2**
Air Monitoring Network	**PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 7, 2008	Previous Calibration	October 3, 2008
Station Number	1	Station Location	Henry Pirker

Reason: Routine Installation Removal Other:

Start Time (MST)	12:05		End Time (MST)	18:20	
Barometric Pressure	0.920	Atm	Station Temperature	21.0	Deg C
Calibrator	Environics 6100		Serial Number	3474	
NO Cal Gas Conc	49.6	ppm	Cal Gas Cert Date	6/8/2008	
NOx Cal Gas Conc	49.6	ppm	Cal Gas Cylinder #	AAL 15377	

DACS Information

DACS make	FOCUS AP1000	DACS serial No.	45269

Parameter		NO2	NOx	NO
Before	Data Slope	1.000251	1.002705	1.006528
	Data Offset	-0.622120	-4.108996	-3.922548
After	Data Slope	1.003198	1.007423	1.010457
	Data Offset	0.726987	-2.259763	-3.103413
Channel #		8	6	7
Voltage Range		0 - 10 VDC	0 - 10 VDC	0 - 10 VDC

Analyzer Information

Analyzer make/model	Teco 42C	Analyzer serial #	508011073

Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO background	8.4	ppb	9.0	mV
NOx background	9.4	ppb	10.7	mV
NO coefficient	0.783		0.783	
NOx coefficient	1.003		1.003	
Chamber Temp	50.0	Deg C	50.0	Deg C
Cooler Temp	-2.5	Deg C	-2.5	Deg C
Converter Temp	318.0	Deg C	318.0	Deg C
Vacuum	187.3	mm Hg	185.7	mm Hg

Notes:

Calibration Report

Parameter **NOx-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: November 7, 2008 Station Location: Henry Pirker

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4990	0.00	0.0	0.0	0.0	0.1	0.8	-0.8	N/A	N/A
1	4991	39.83	392.7	392.7	0.0	390.9	390.5	0.4	1.0046	1.0057
2	4991	19.91	197.1	197.1	0.0	199.0	199.3	-0.4	0.9905	0.9888
3	4993	9.96	98.7	98.7	0.0	102.5	103.1	-0.8	0.9634	0.9577
AFZ	4990	0.00	0.0	0.0	0.0	1.1	0.5	0.5	0.0000	0.0000
AFS	4990	39.85	393.0	393.0	0.0	391.7	390.3	1.3	1.0033	1.0069
							Average Correction Factor		0.9862	0.9840

As Found Concentrations: NO_X= 386.5 NO= 385.9 As Found Percent Change NO_X= -1.6% NO= -1.8%

GPT Calibration Data

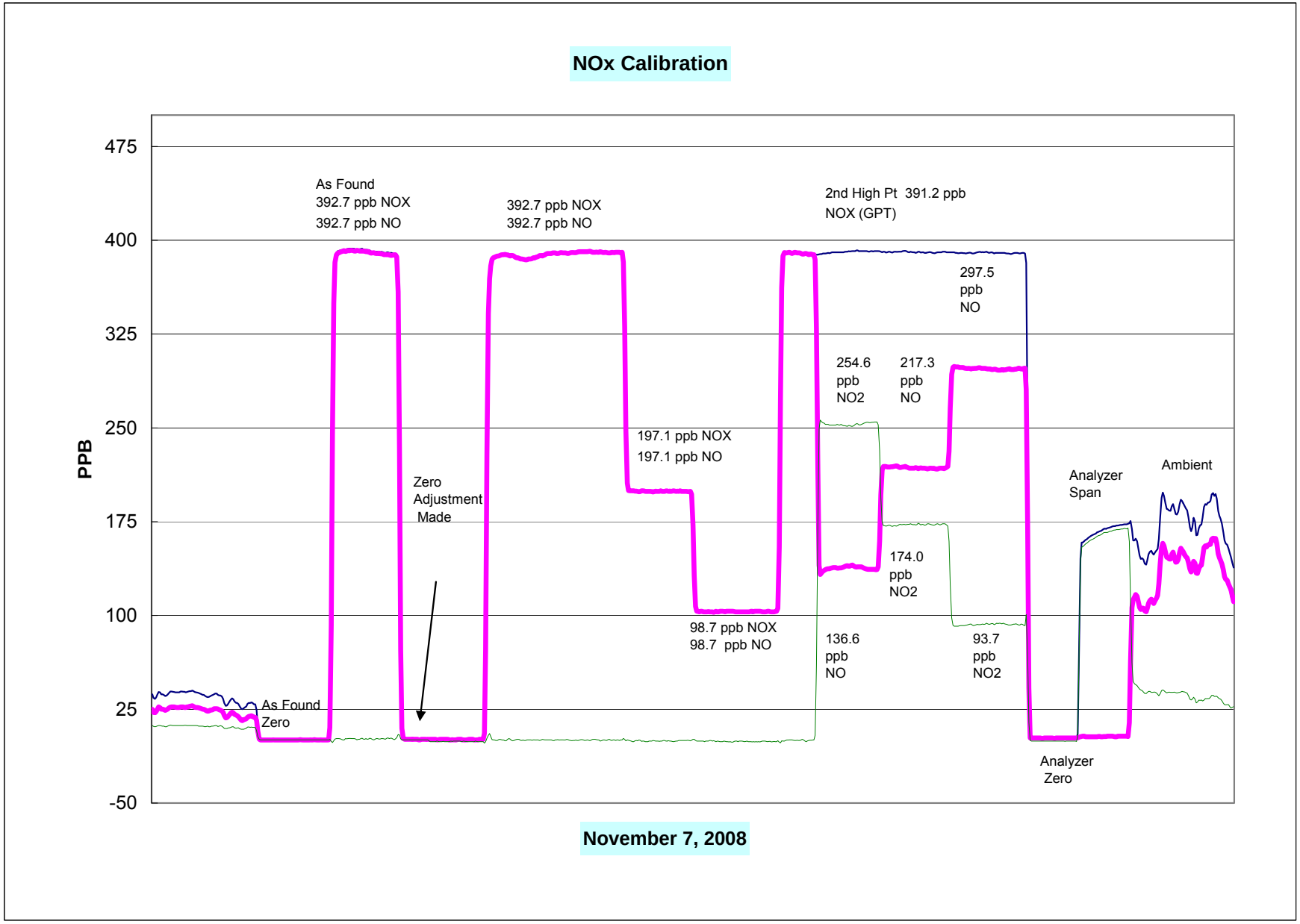
Dilution Flow 4990 ccm Source Gas Flow 39.88 ccm

O3 Setpoint (ppb)	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	NO2 Correction factor	Converter Efficiency
0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A
NO point	391.2	390.5	0.8	389.7	389.5	0.2	1.0039	1.0025	N/A	N/A
300	391.2	136.6	254.6	391.2	138.3	253.1	1.0001	0.9880	1.0060	99.4%
200	391.2	217.3	174.0	390.5	218.1	172.6	1.0019	0.9962	1.0077	99.2%
100	391.2	297.5	93.7	390.1	297.5	92.8	1.0030	1.0000	1.0103	99.0%
					Average Correction Factor		1.0016	0.9948	1.0080	99.2%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-1.4	1.0	-0.8	ppb	-4.6	1.3	-6.7	ppb
Auto span	159.5	160.7	-2.0	ppb	170.3	169.3	0.3	ppb

Calibration Performed By: Conor Whiteley


NOx Calibration
PPB
475
400
325
250
175
100
25
-50
As Found
392.7 ppb NOX
392.7 ppb NO
392.7 ppb NOX
392.7 ppb NO
2nd High Pt 391.2 ppb
NOX (GPT)
297.5
ppb
NO
254.6
ppb
NO2
217.3
ppb
NO
197.1 ppb NOX
197.1 ppb NO
Zero
Adjustment
Made
Analyzer
Span
Ambient
174.0
ppb
NO2
98.7 ppb NOX
98.7 ppb NO
136.6
ppb
NO
93.7
ppb
NO2
As Found
Zero
Analyzer
Zero
November 7, 2008

Calibration Summary

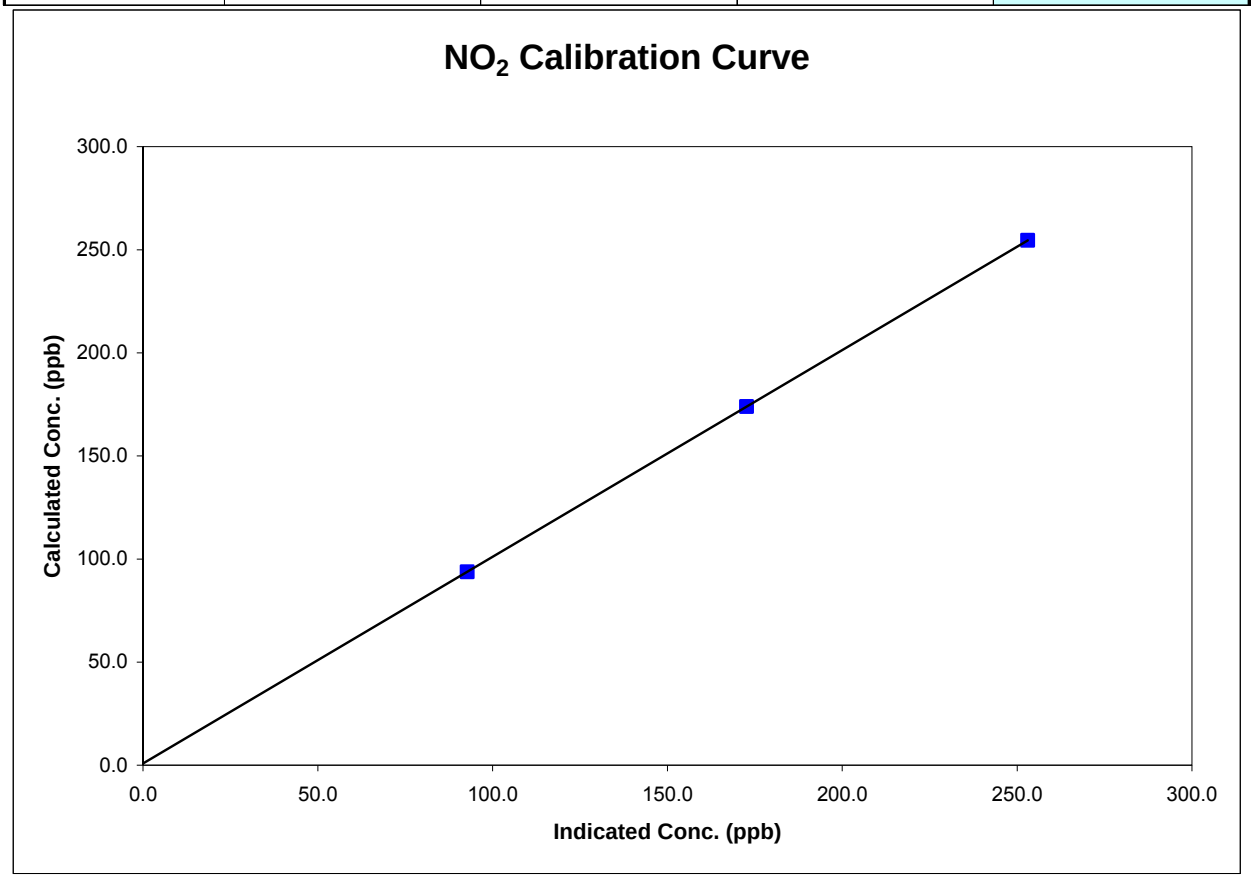
Parameter	NO_2
Air Monitoring Network	PASZA

Station Information

Calibration Date	November 7, 2008	Previous Calibration	October 3, 2008
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:05	End Time (MST)	18:20
Analyzer make	Teco 42C	Analyzer serial #	508011073

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.8	0.0000		
254.6	253.1	1.0060	Correlation Coefficient	1.000000
174.0	172.6	1.0077		
93.7	92.8	1.0103	Slope	1.003198
			Intercept	0.726987



Calibration Summary

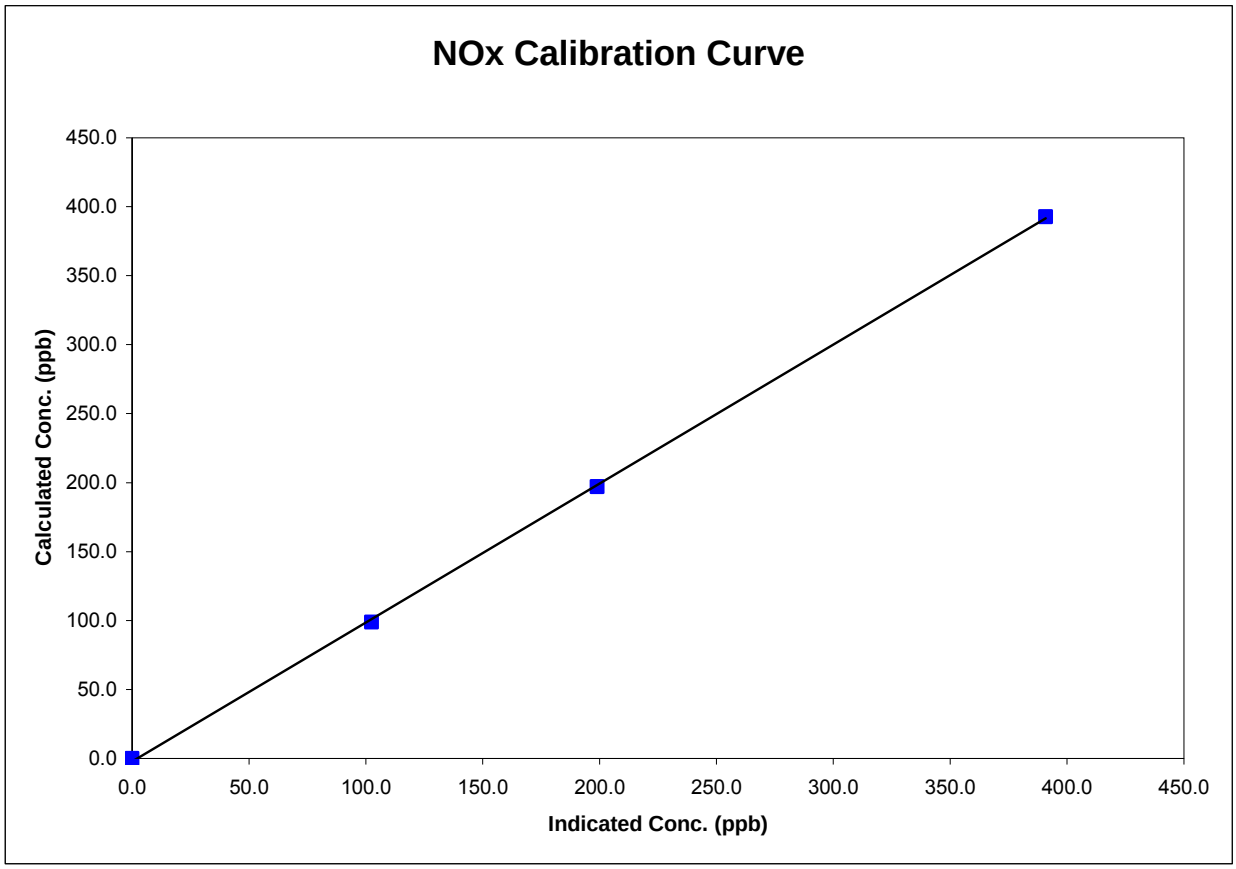
Parameter	NO_x
Air Monitoring Network	PASZA

Station Information

Calibration Date	November 7, 2008	Previous Calibration	October 3, 2008
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:05	End Time (MST)	18:20
Analyzer make	Teco 42C	Analyzer serial #	508011073

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	0.0000		
392.7	390.9	1.0046	Correlation Coefficient	0.999853
197.1	199.0	0.9905		
98.7	102.5	0.9634	Slope	1.007423
			Intercept	-2.259763



Calibration Summary

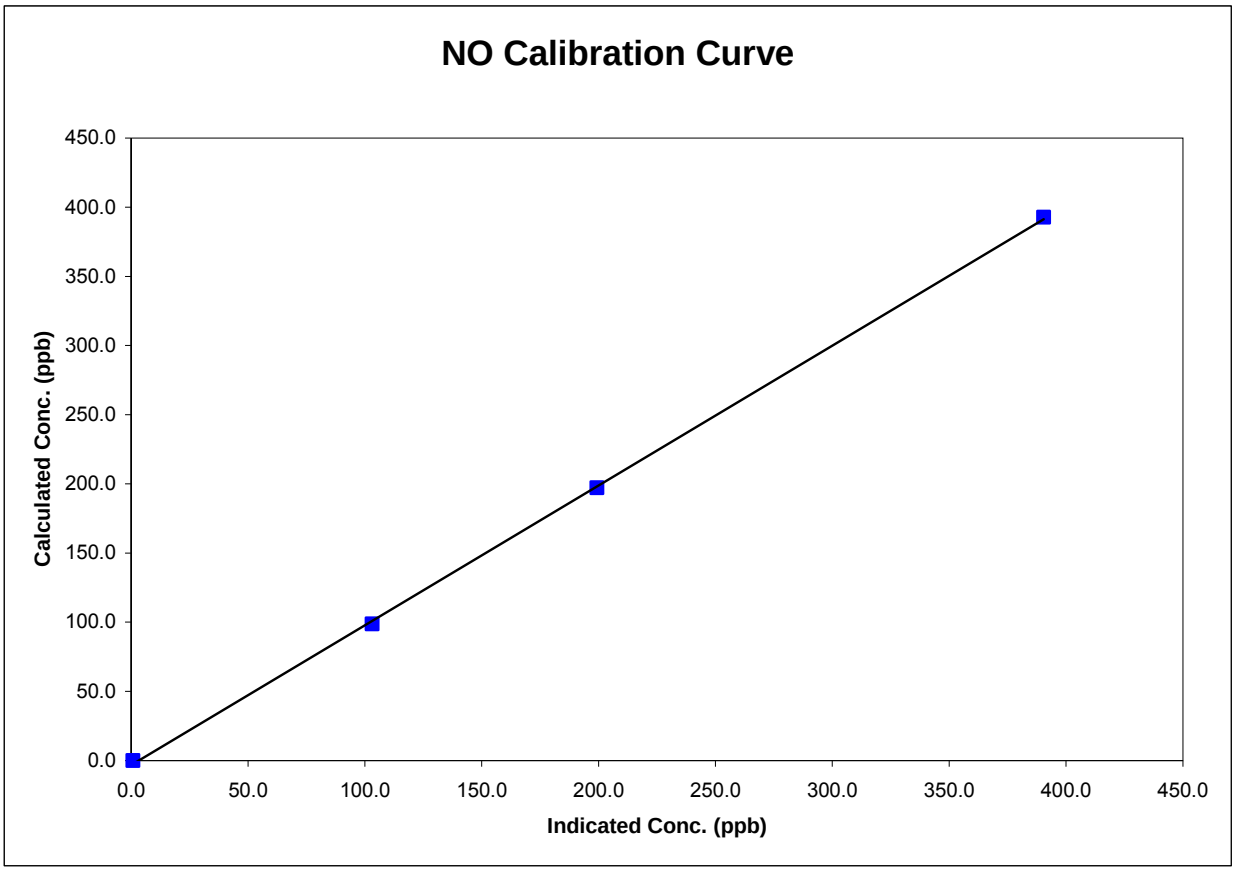
Parameter	NO
Air Monitoring Network	PASZA

Station Information

Calibration Date	November 7, 2008	Previous Calibration	October 3, 2008
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:05	End Time (MST)	18:20
Analyzer make	Teco 42C	Analyzer serial #	508011073

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.8	N/A		
392.7	390.5	1.0057	Correlation Coefficient	0.999835
197.1	199.3	0.9888		
98.7	103.1	0.9577	Slope	1.010457
			Intercept	-3.103413



Calibration Report

Parameter	O3
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 10, 2008	Previous Calibration	October 3, 2008
Station Number	1	Station Location	Henry Pirker

Reason: Routine | Install | Removal | Other:

Start Time (MST)	10:30	End Time (MST)	13:00
Barometric Pressure	0.912 atm	Station Temperature	20.0 Deg C
Calibrator	Environics 6103	Serial Number	2844
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA
DACS make	Focus AP1000	DACS serial No.	45269
DACS voltage range	0 - 1 volt	DACS channel #	5
	Before		After
Calculated slope	0.972873	Calculated slope	0.975057
Calculated intercept	1.208328	Calculated intercept	-0.089560
Analyzer make	TECO 49C	Analyzer serial #	607415761

	before		after	
Concentration range	500	ppb	500	ppb
offset	-0.6	ppb	-0.7	ppb
slope	1.023		1.023	
O3 Lamp temp	71	Deg C	71	Deg C
Intensities	100819/81123	mV	97375/79288	mV
Pressure	708.9	inches Hg	678.3	inches Hg
Flow A	683	ccm	705	ccm
Flow B	695	Deg C	727	Deg C

Calibration Data

Referenced concentration (ppb)	Dilution air flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0	4990	0.0	0.1	N/A
300	4990	254.6	260.8	0.9763
200	4990	174.0	179.3	0.9701
100	4990	93.7	95.8	0.9782
0	4990	0.0	0.1	As found zero
300	4990	254.6	260.8	As found span
			Average Correction Factor	0.9749

Calculated value of As Found Response: 254.9 ppm Percent Change of As Found: 0.1%

	before calibration		after calibration	
Auto zero	-0.2	ppb	-0.9	ppb
Auto span	155.3	ppb	159.6	ppb

Notes:

Calibration Performed By:

Calibration Summary

Parameter	O3
Air Monitoring Network	PASZA

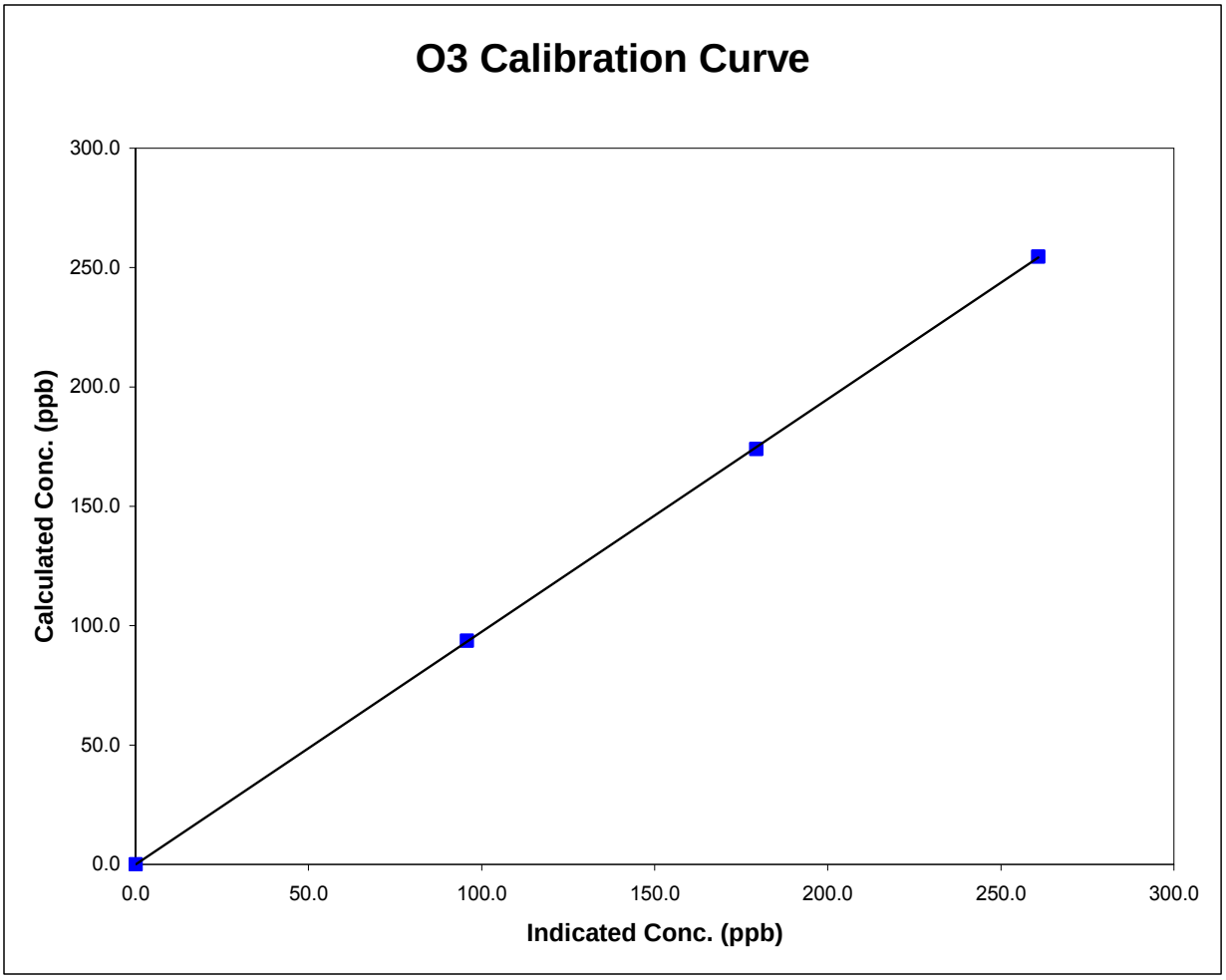
FOCUS AIR QUALITY MONITORING

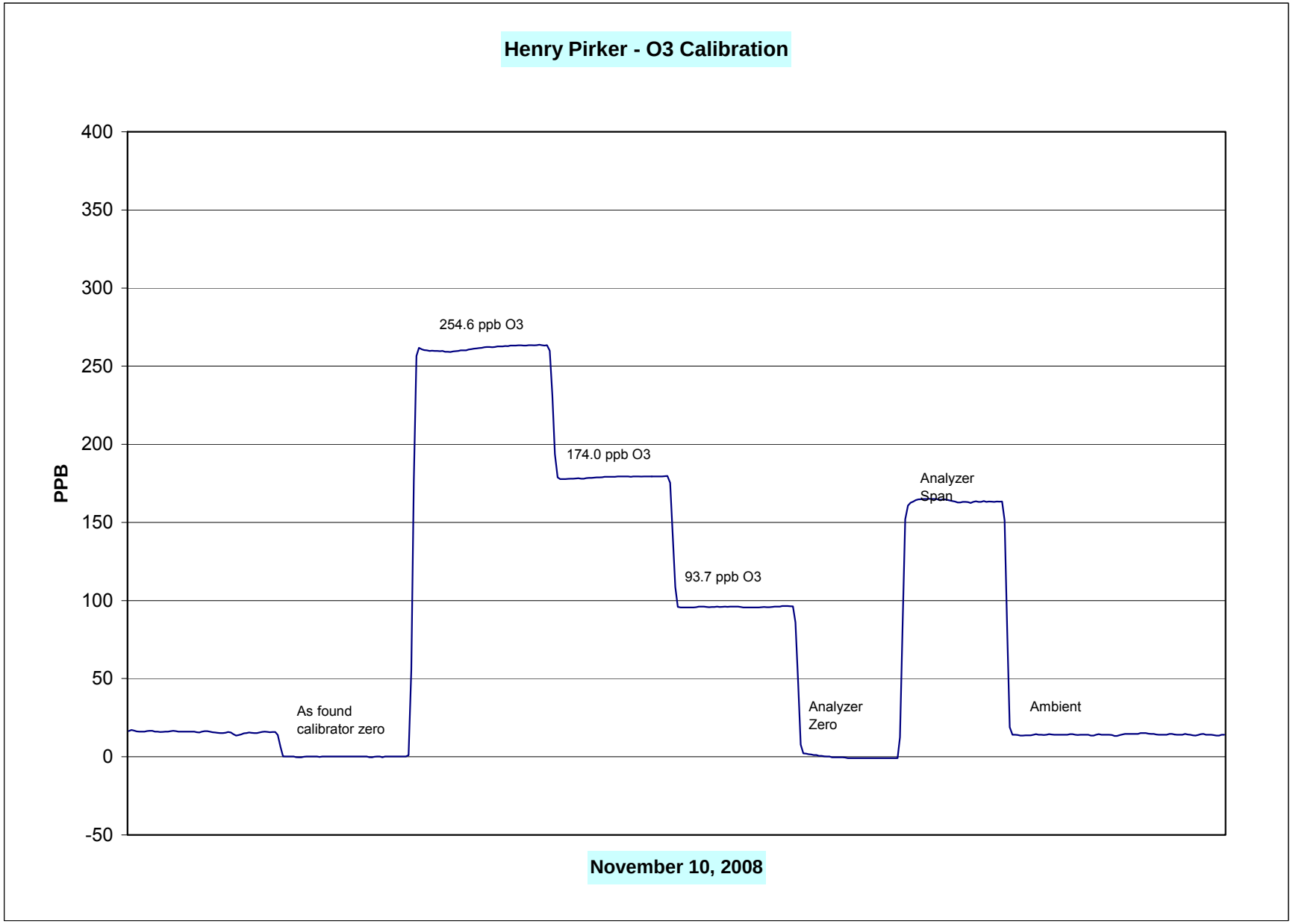
Station Information

Calibration Date	November 10, 2008	Previous Calibration	October 3, 2008
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:30	End Time (MST)	13:00
Analyzer make/model	TECO 49C	Analyzer serial #	607415761

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	NA		
254.6	260.8	0.9763	Correlation Coefficient	0.999973
174.0	179.3	0.9701		
93.7	95.8	0.9782	Slope	0.975057
			Intercept	-0.089560




Henry Pirker - O3 Calibration
400
350
300
250
200
150
100
50
0
-50
PPB
254.6 ppb O3
174.0 ppb O3
93.7 ppb O3
Analyzer Span
As found calibrator zero
Analyzer Zero
Ambient
November 10, 2008

Calibration Report

Parameter	CO
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 10, 2008	Previous Calibration	October 6, 2008
Station Number	1	Station Location	Henry Pirker
Reason: Routine	Install	Removal	Other:

Start Time (MST)	15:55	End Time (MST)	19:30
Barometric Pressure	0.912 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Conc	3000 ppm	Cal Gas Expiry Date	AUG 28/05
		Cal Gas Cylinder #	AAL20565
DACS make	Focus AP1000	DACS serial No.	1
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	1.018675	Calculated slope	1.021363
Calculated intercept	-0.145860	Calculated intercept	-0.133460
Analyzer make	TEI Model 48C	Analyzer serial #	508011062

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO span setting	3.012		3.012	
CO zero setting	1.017		1.017	
Sample pressure	679.1	mm Hg	679.1	mm Hg
Sample Flow	1.12	LPM	1.12	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)
4990	0.00	0.00	0.04	N/A
4992	39.82	23.74	23.34	1.0174
4990	19.90	11.92	11.83	1.0077
4990	9.94	5.96	6.07	0.9829
4990	0.00	0.00	0.65	As Found Zero
4991	39.83	23.75	24.62	As Found Span
			Average Correction Factor	1.0027

Calculated value of As Found Response: 24.266 ppm Percent Change of As Found: -2.2%

	before calibration		after calibration	
Auto zero	0.15	ppm	0.00	ppm
Auto span	15.95	ppm	13.99	ppm

Notes:

Calibration Performed By: Conor Whiteley

Calibration Summary

Parameter	CO
Air Monitoring Network	PASZA

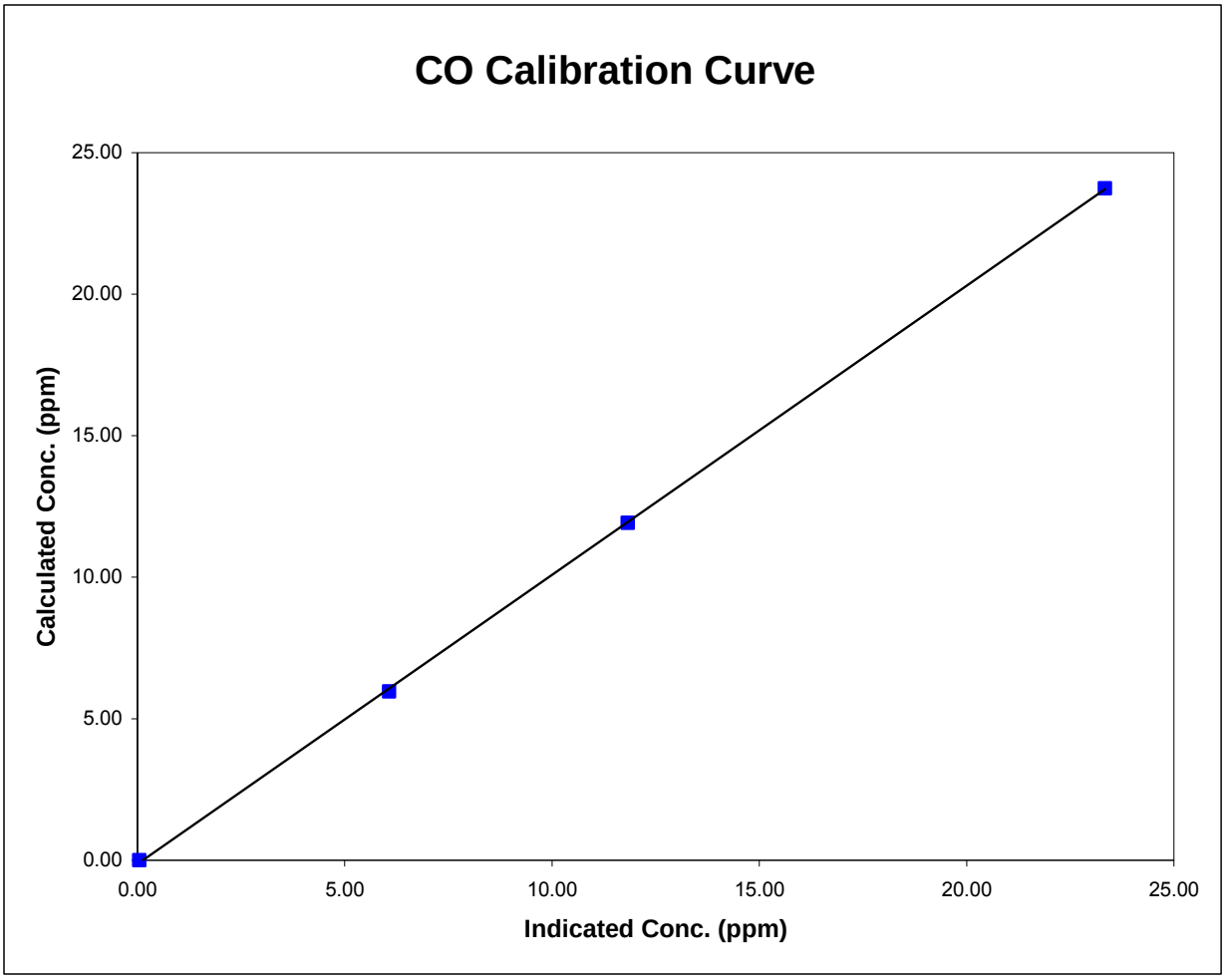
FOCUS AIR QUALITY MONITORING

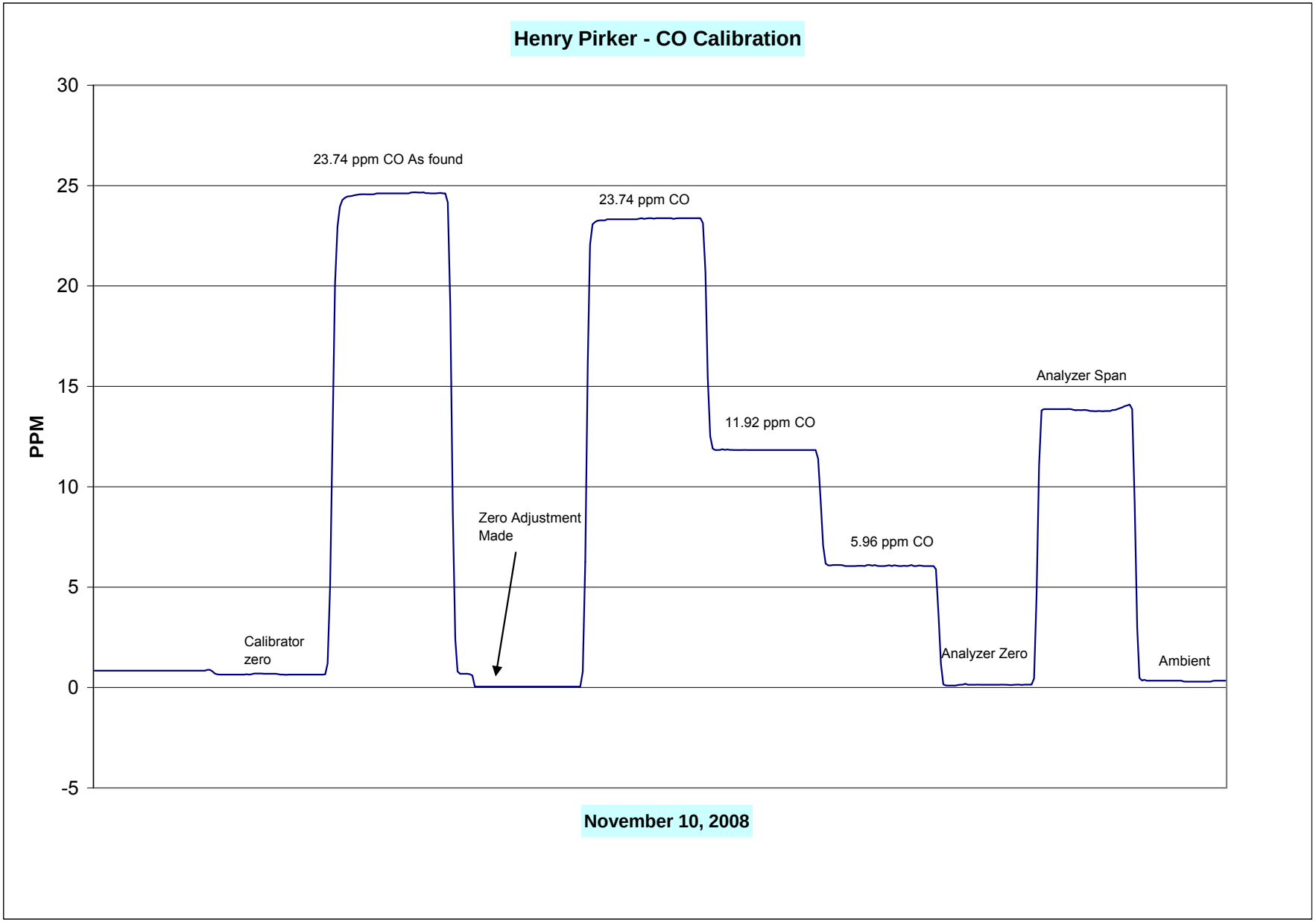
Station Information

Calibration Date	November 10, 2008	Previous Calibration	October 6, 2008
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	15:55	End Time (MST)	19:30
Analyzer make/model	TEI Model 48C	Analyzer serial #	508011062

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.044	N/A		
23.741	23.336	1.0174	Correlation Coefficient	0.999935
11.916	11.826	1.0077		
5.964	6.068	0.9829	Slope	1.021363
			Intercept	-0.133460




Henry Pirker - CO Calibration
30
25
20
15
10
5
0
-5
PPM
23.74 ppm CO As found
23.74 ppm CO
11.92 ppm CO
5.96 ppm CO
Analyzer Span
Zero Adjustment Made
Calibrator zero
Analyzer Zero
Ambient
November 10, 2008

Calibration Report

Parameter	THC
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 11, 2008	Previous Calibration	October 6, 2008
Station Number	1	Station Location	Henry Pirker
Reason: Routine	Install	Removal	Other:

Start Time (MST)	9:20	End Time (MST)	13:40
Barometric Pressure	0.907 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	701 ppm CH4/ 299 ppm C3H8	Cal Gas Expiry Date	12/10/2005
Cal Gas CH4 equiv	1523.25 ppm	Cal Gas Cylinder #	ALM 005412
DACS make	Focus AP1000	DACS serial No.	1
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	1.001594	Calculated slope	0.990993
Calculated intercept	-0.124706	Calculated intercept	0.080238

Analyzer make	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

	before		after	
Concentration range	0 - 25	ppm	0 - 25	ppm
THC sample pressure	6.10	psi	6.10	psi
THC span counts	7217	capture	7205	capture
THC zero counts	1626	capture	1166	capture

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)
4988	0.00	0.00	-0.10	N/A
4992	69.72	20.98	21.11	0.9939
4991	29.91	9.07	9.01	1.0073
4992	9.95	3.03	3.04	0.9969
4988	0.00	0.00	-0.10	As Found Zero
4992	69.72	20.98	21.11	As Found Span
			Average Correction Factor	0.9993

Calculated value of As Found Response: 21.116 ppm Percent Change of As Found: -0.6%

	before calibration		after calibration	
Auto zero	-0.08	ppm	0.00	ppm
Auto span	20.99	ppm	20.97	ppm

Notes: Locked out of Trailer on first point, thus the 90 min as found…
FID extinguished just as span gas was introduced, thus break in the first internal span, using second span attempt

Calibration Performed By: Conor Whiteley

Calibration Summary

Parameter	THC
Air Monitoring Network	PASZA

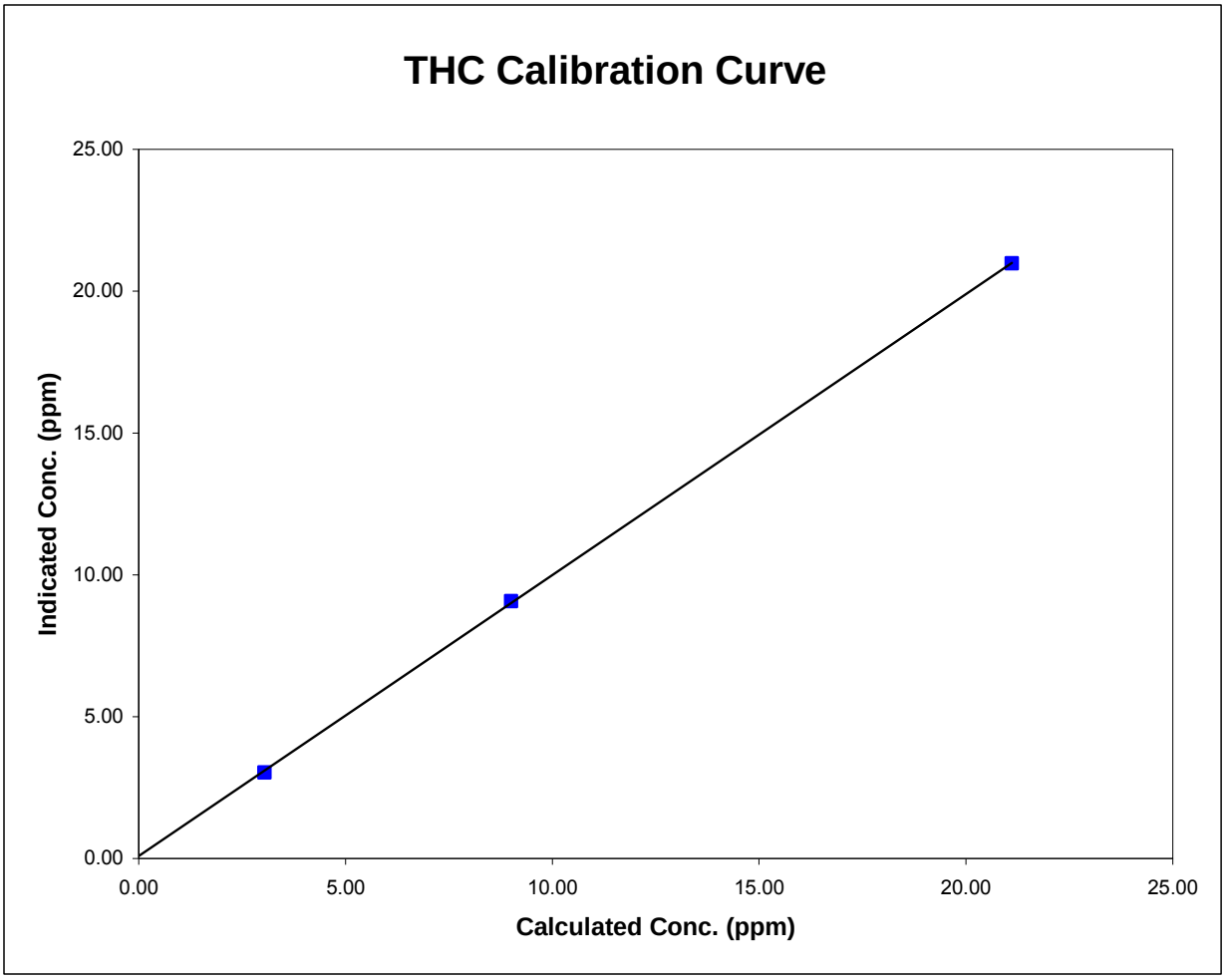
FOCUS AIR QUALITY MONITORING

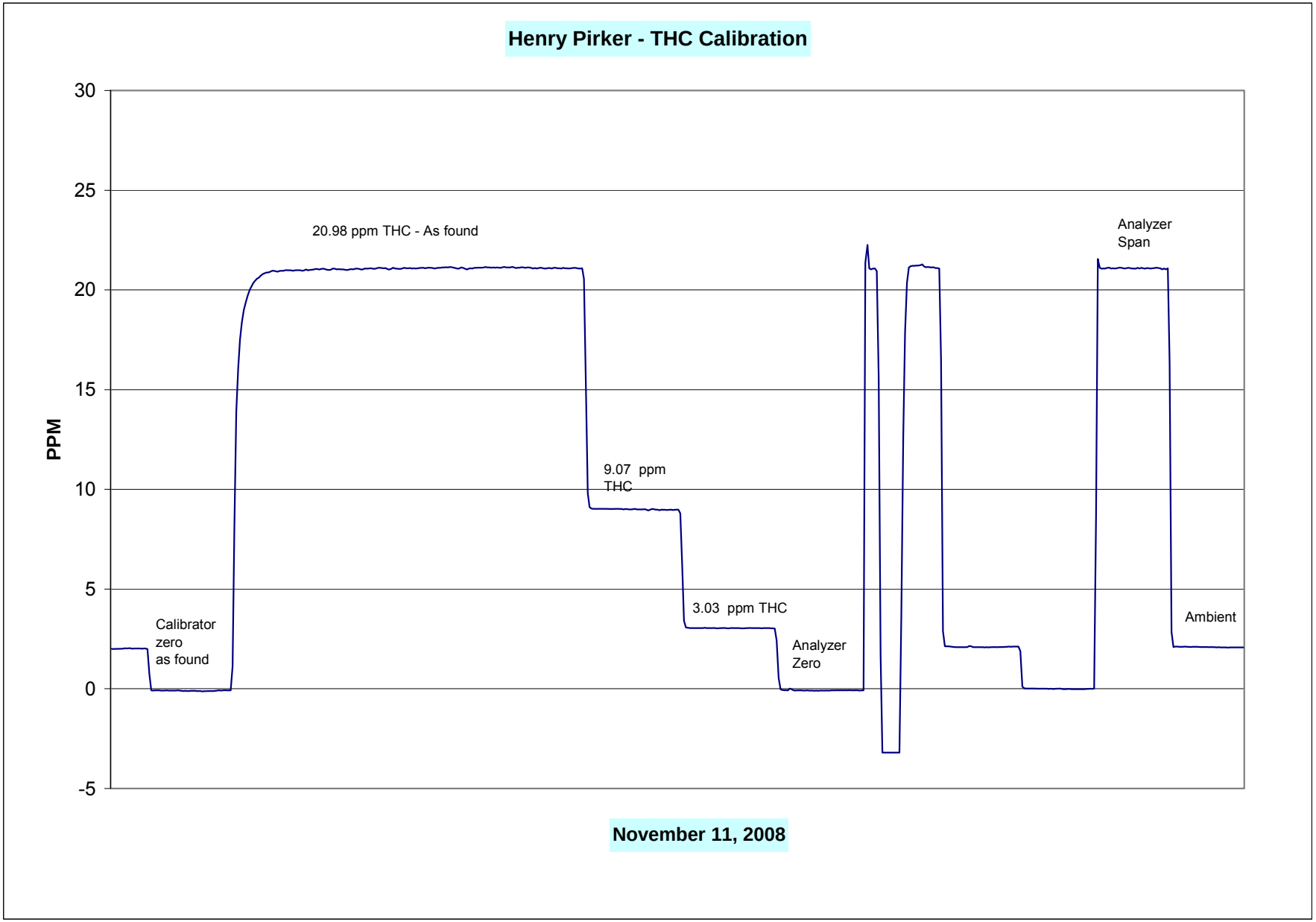
Station Information

Calibration Date	November 11, 2008	Previous Calibration	October 6, 2008
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:20	End Time (MST)	13:40
Analyzer make/model	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	-0.096	N/A		
20.981	21.110	0.9939	Correlation Coefficient	0.999965
9.074	9.008	1.0073		
3.030	3.040	0.9969	Slope	0.990993
			Intercept	0.080238




Henry Pirker - THC Calibration
30
25
20
15
10
5
0
-5
PPM
20.98 ppm THC - As found
9.07 ppm THC
3.03 ppm THC
Analyzer Zero
Analyzer Span
Calibrator zero as found
Ambient
November 11, 2008

Calibration Report

Parameter	TRS
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 10, 2008	Previous Calibration	October 6, 2008
Station Number	1	Station Location	Henry Pirker
Reason: Routine	Install	Removal	Other:
Start Time (MST)	13:30	End Time (MST)	16:30
Barometric Pressure	0.911 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Conc	5.1 ppb	Cal Gas Expiry Date	7/31/2008
		Cal Gas Cylinder #	ALM013295
DACS make	Focus AP1000	DACS serial No.	1
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	1.005115	Calculated slope	0.997929
Calculated intercept	-0.145655	Calculated intercept	-0.443192
Analyzer make	TEI 45C	Analyzer serial #	630718528

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Coefficient	.850		.850	
Background	16.5		16.5	
Pressure	652	mm Hg	652	mm Hg
Flow	462	ccm	463	ccm
Lamp Voltage	849	V	843	V

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
4990	0.00	0.00	0.21	N/A
4990	79.83	80.31	80.76	0.9944
4990	39.89	40.45	41.25	0.9805
4990	9.92	10.12	10.70	0.9460
4990	0.00	0.00	0.21	As Found Zero
4990	79.83	80.31	80.76	As Found Span
			Average Correction Factor	0.9736

Calculated value of As Found Response: 80.8 ppb Percent Change of As Found: -0.6%

	before calibration		after calibration	
Auto zero	-0.18	ppb	-0.15	ppb
Auto span	35.29	ppb	35.36	ppb

Notes:

Calibration Performed By: Conor Whiteley

Calibration Summary

Parameter	TRS
Air Monitoring Network	PASZA

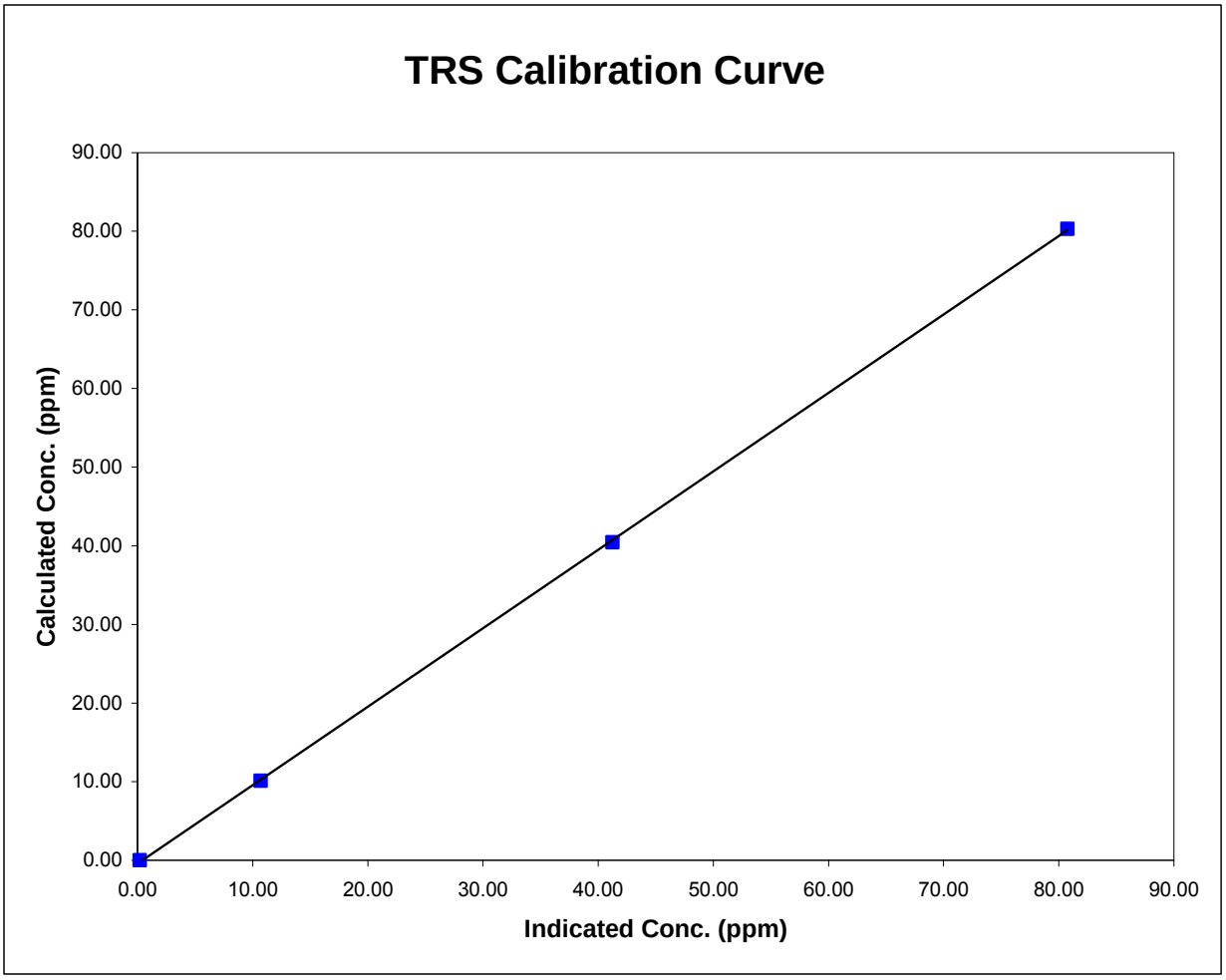
FOCUS AIR QUALITY MONITORING

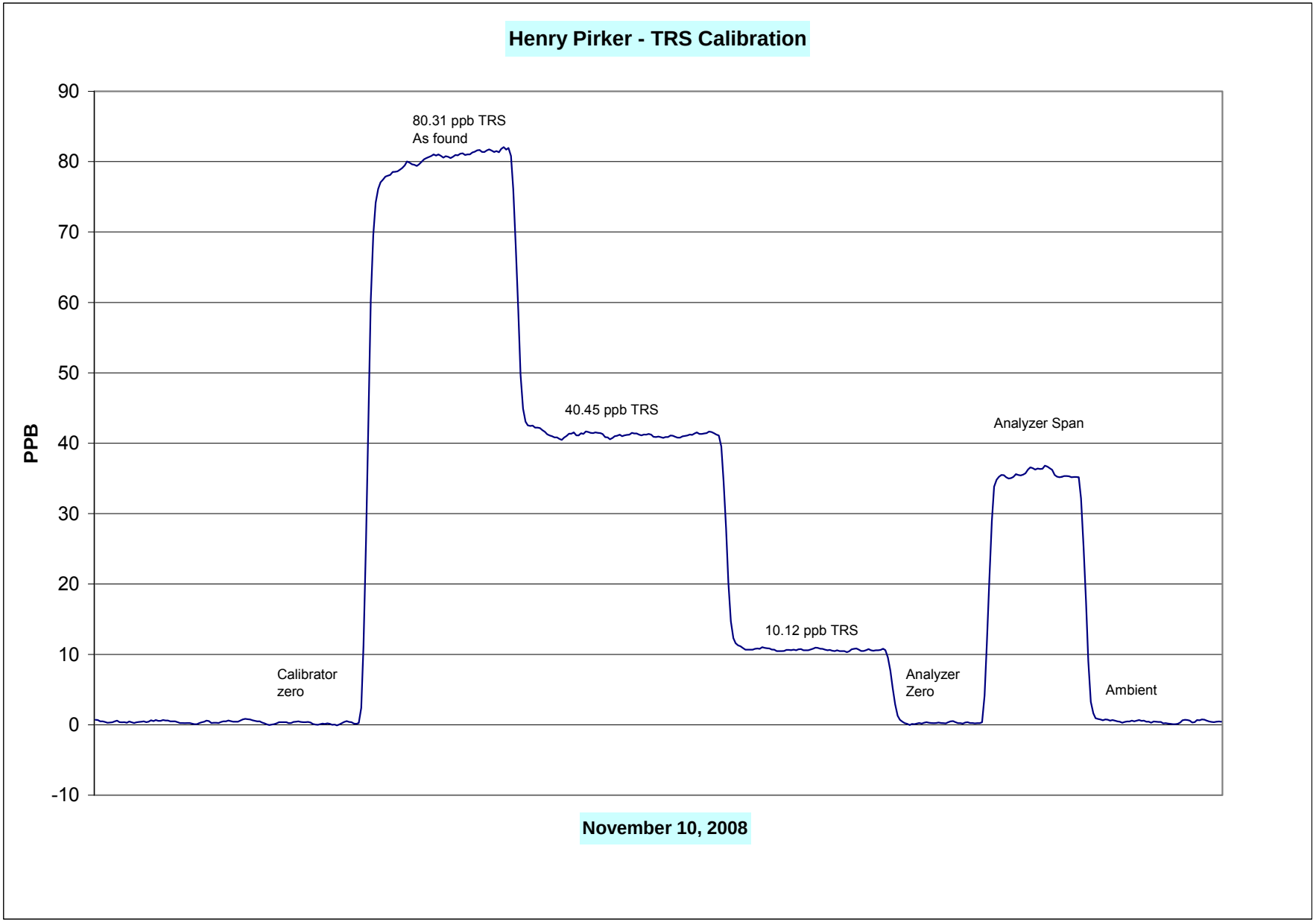
Station Information

Calibration Date	November 10, 2008	Previous Calibration	October 6, 2008
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	13:30	End Time (MST)	16:30
Analyzer make/model	TEI 45C	Analyzer serial #	630718528

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.211	N/A		
80.305	80.761	0.9944	Correlation Coefficient	0.999957
40.446	41.249	0.9805		
10.119	10.697	0.9460	Slope	0.997929
			Intercept	-0.443192




Henry Pirker - TRS Calibration
PPB
90
80
70
60
50
40
30
20
10
0
-10
80.31 ppb TRS
As found
40.45 ppb TRS
10.12 ppb TRS
Analyzer Span
Calibrator
zero
Analyzer
Zero
Ambient
November 10, 2008

Calibration Report

Parameter	PM2.5
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 10, 2008	Previous Calibration	October 29, 2008
Station Number	1	Station Location	Henry Pirker
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	14:00	End Time (MST)	16:00
Barometric Pressure	0.911 ATM	Station Temperature	20.0 Deg C
Flow Calibrator	BIOS Drycal DC- lite	Serial Number	108180
DACS make	AP 1000	DACS serial No.	45269
DACS voltage range	0 - 1 V	DACS channel #	15

Analyzer Information

Analyzer make	R&P	Control Unit serial #	140AB246340305
Analyzer model	TEOM 1400AB	Sensor Unit serial #	140AB246340305

	before		after	
Main Flow Set Point	3.000	SLPM	3.000	SLPM
Aux Flow Set Point	13.67	SLPM	13.67	SLPM
Filter Load	27	%	14	%
Ko Factor	13020		13020	
Temperature	-5.5	Deg C	27.1	Deg C
Pressure	0.918	ATM	0.924	ATM

Calibration Data

Parameter	Set Point	As Found	Tolerance	TEOM Reading
zero flow - main	0.0	0.11		0.10
zero flow - auxillary	0.0	0.31		0.29
flow recovery - main	45 - 60 Seconds	30	45 - 60 Seconds	33
flow recovery - aux	46 - 60 Seconds	50	46 - 60 Seconds	50
Temperature	measured	26.9	+/- 1.0 Deg C	27.1
Pressure	measured	0.921	+/- 1.5% ΔATM	0.924
Total Flow	16.67 SLPM	3.00		3.00
Auxillary Flow	13.67 SLPM	13.00	+/- 1.0 SLPM	13.69
Main Flow	3.0 SLPM	2.959	+/- 0.2 SLPM	3.000
Leak Check - main	0.0	0.13	<0.15 SLPM	0.04
Leak Check - aux	0.0	0.53	<0.15 SLPM	0.26
Ko Factor (w/o filter)	measured	337.865	filter weight (g)	0.11043
Ko Factor (w/ filter)	measured	240.396	% Ko difference	0.73%

Notes: Hard Adjust on Zero flow, Soft adjust on Auxillery flow, Soft adjust on Main Flow

Calibration Performed By: C Whiteley / Grover Christianson

Calibration Report

Parameter	SO_2
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 11, 2008	Previous Calibration	October 9, 2008
Station Number	2	Station Location	Evergreen Park
Reason: Routine	Install	Removal	Other:

Start Time (MST)	16:40	End Time (MST)	19:20
Barometric Pressure	0.907 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	50.3 ppm	Cal Gas Expiry Date	1/2/2009
Correction factor	0.030831	Cal Gas Cylinder #	LL16161
DACS make	Focus AP1000	DACS serial No.	52620
DACS voltage range	0 - 10 volt	DACS channel #	6
	Before		After
Calculated slope	1.001565	Calculated slope	0.992270
Calculated intercept	-3.118998	Calculated intercept	-2.129888

Analyzer make	Teco 43i	Analyzer serial #	701120008

	before		after	
Concentration range	0 - 1000	ppb	0 - 1000	ppb
Background	9.9		9.5	
coefficient	0.99		0.99	
Lamp Voltage	827	volts	835	volts
Chamber Temp	45.3	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	661	mm Hg	668.9	mm Hg
Sample Flow	440	ccm	449	ccm
Lamp Intensity	89	%	89	%

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4990	0.0	0.00	1.1	N/A
4989	39.85	398.59	403.3	0.9883
4990	19.90	199.80	204.0	0.9796
4989	9.94	100.02	104.1	0.9610
4990	0.0	0.00	1.1	As Found Zero
4988	39.82	398.37	403.3	As Found Span
			Average Correction Factor	0.9763

Calculated value of As Found Response: 399.756 ppm Percent Change of As Found: -0.3%

	before calibration		after calibration	
Auto zero	-2.1	ppm	-1.1	ppm
Auto span	272.5	ppm	276.4	ppm

Notes:

Calibration Performed By: Conor Whiteley

Calibration Summary

Parameter	SO2
Air Monitoring Network	PASZA

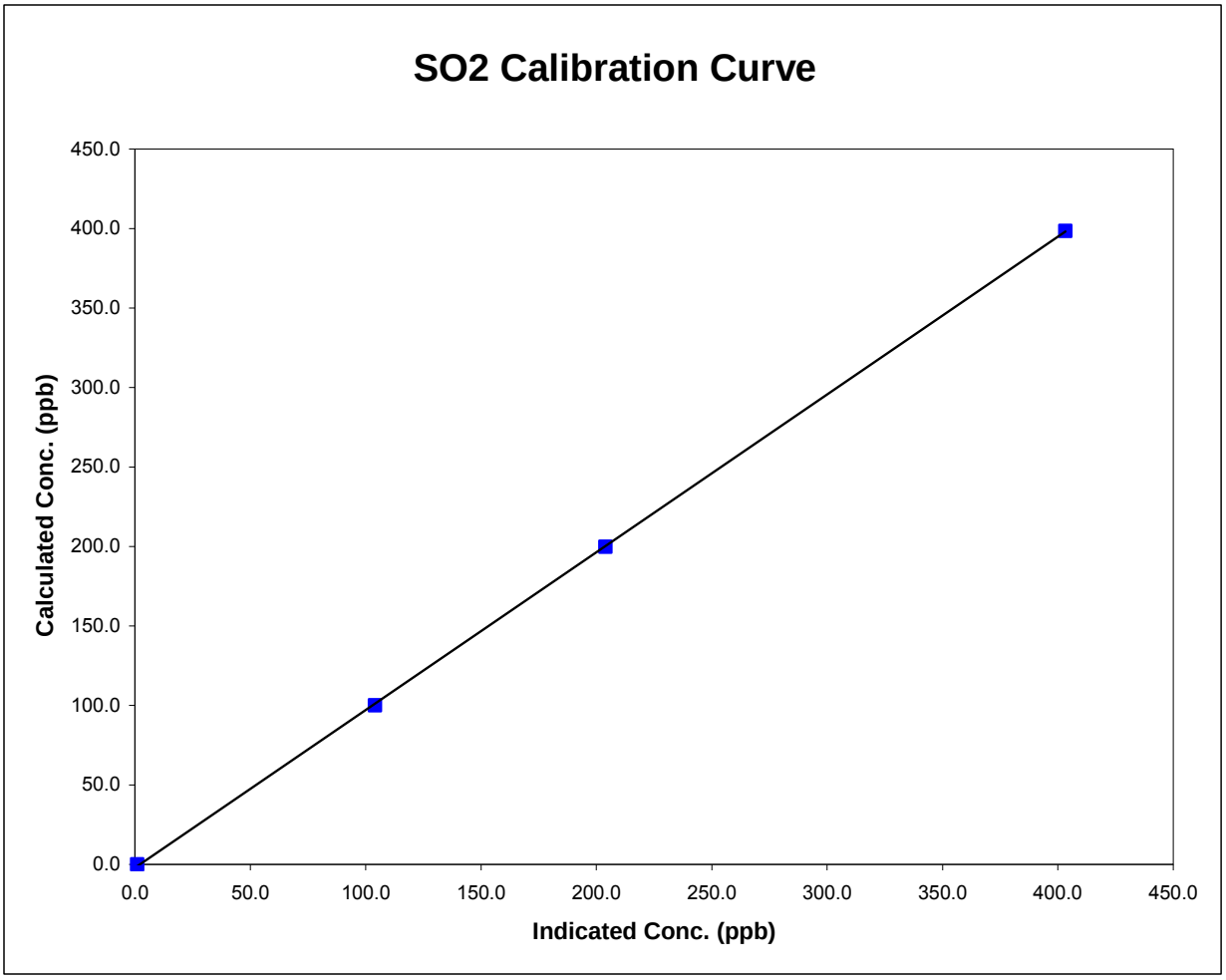
FOCUS AIR QUALITY MONITORING

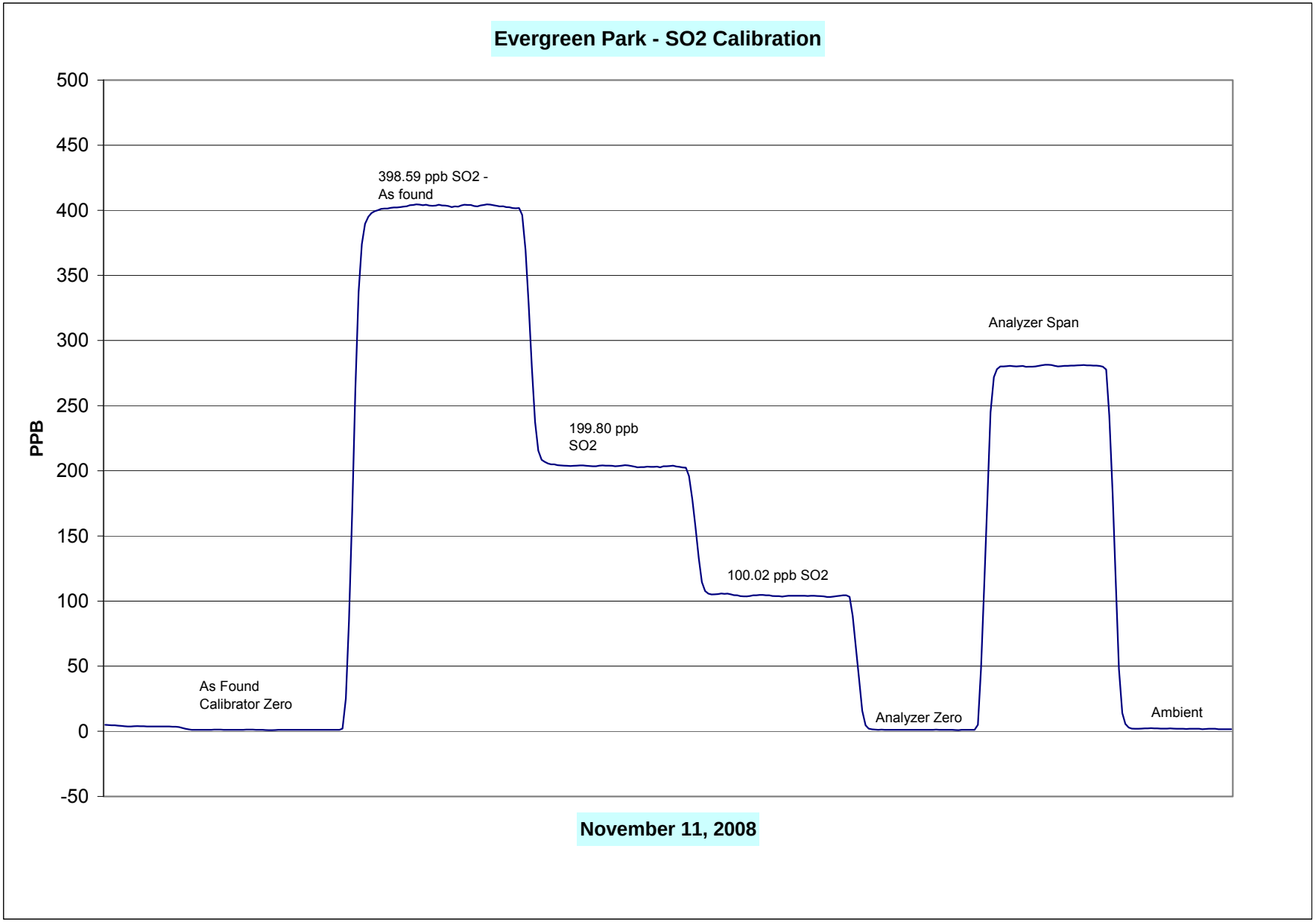
Station Information

Calibration Date	November 11, 2008	Previous Calibration	October 9, 2008
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	16:40	End Time (MST)	19:20
Analyzer make/model	Teco 43i	Analyzer serial #	701120008

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	1.1	N/A		
398.6	403.3	0.9883	Correlation Coefficient	0.999967
199.8	204.0	0.9796		
100.0	104.1	0.9610	Slope	0.992270
			Intercept	-2.129888




Evergreen Park - SO2 Calibration
PPB
500
450
400
350
300
250
200
150
100
50
0
-50
398.59 ppb SO2 -
As found
199.80 ppb
SO2
100.02 ppb SO2
Analyzer Span
As Found
Calibrator Zero
Analyzer Zero
Ambient
November 11, 2008

Calibration Report

Parameter	**TRS**
Air Monitoring Network	**PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 11, 2008	Previous Calibration	October 9, 2008
Station Number	2	Station Location	Evergreen Park
Reason: Routine	Install	Removal	Other:

Start Time (MST)	13:55	End Time (MST)	16:55
Barometric Pressure	0.907 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Conc	5.1 ppm	Cal Gas Expiry Date	4/2/2009
Correction factor	0.030831	Cal Gas Cylinder #	ALM 013295
DACS make	Focus AP1000	DACS serial No.	52620
DACS voltage range	0 - 10 volt	DACS channel #	5
	Before		After
Calculated slope	1.048503	Calculated slope	1.010794
Calculated intercept	-0.163761	Calculated intercept	-0.103794

Analyzer make	TEI Model 43C	Analyzer serial #	0436610005

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	15.8	ppb	14.5	ppb
coefficient	0.645		0.586	
Lamp Voltage	821	volts	815	volts
Chamber Temp	44.1	Deg C	44.3	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	631.5	mm Hg	624.4	mm Hg
Sample Flow	0.463	ccm	0.459	ccm
Lamp Intensity	41,003	mv	45,308	mv

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4990	0.00	0.00	0.2	N/A
4989	79.71	80.20	79.6	1.0080
4988	39.88	40.45	39.9	1.0148
4989	9.92	10.12	10.2	0.9923
4990	0.00	0.00	0.2	As Found Zero
4987	79.91	80.43	79.6	As Found Span
			Average Correction Factor	1.0050

Calculated value of As Found Response: 83.10 ppm Percent Change of As Found: -3.3%

	before calibration		after calibration	
Auto zero	-0.3	ppm	-0.2	ppm
Auto span	67.3	ppm	69.1	ppm

Notes:

Calibration Performed By: Conor Whiteley

Calibration Summary

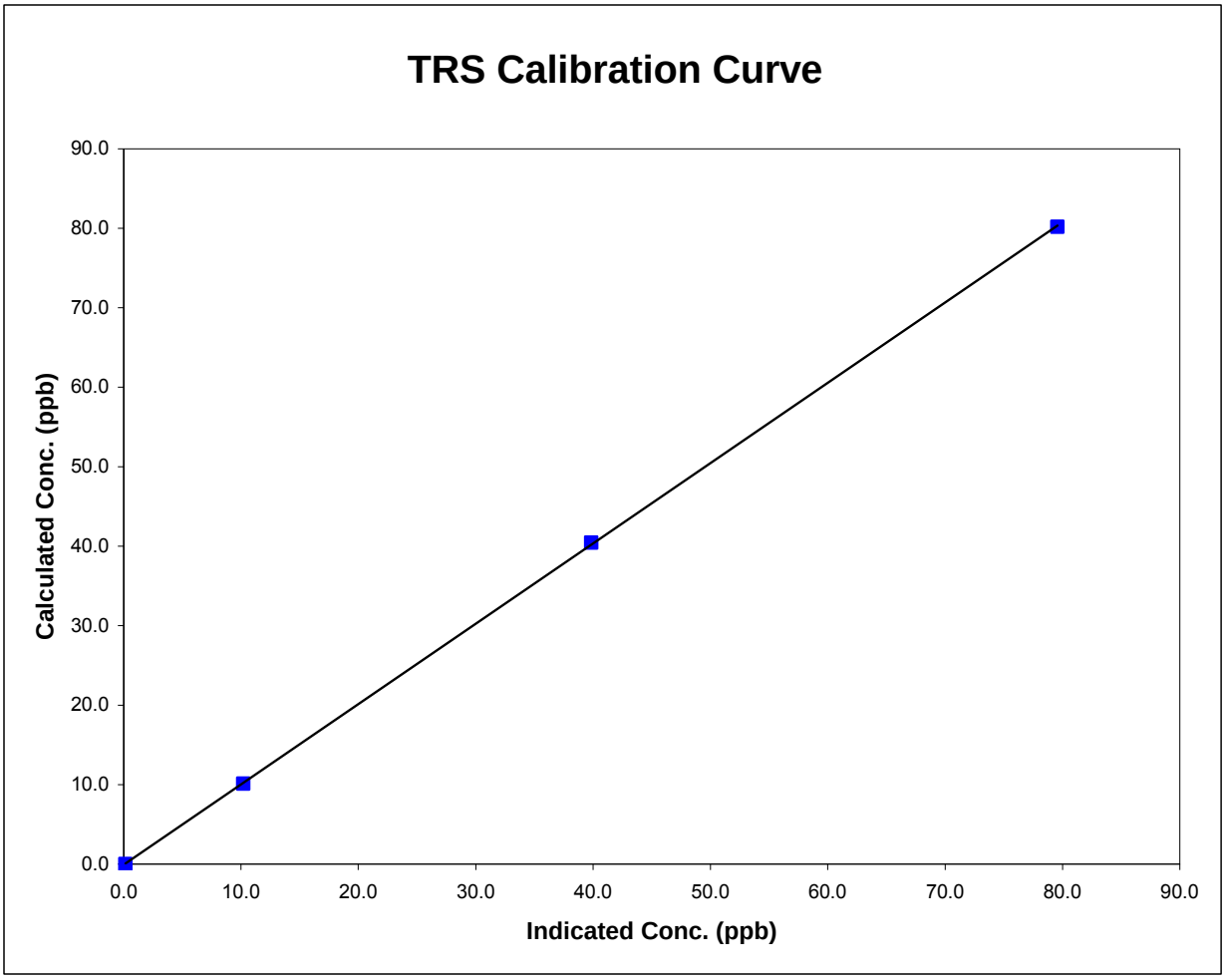
Parameter	TRS
Air Monitoring Network	PASZA

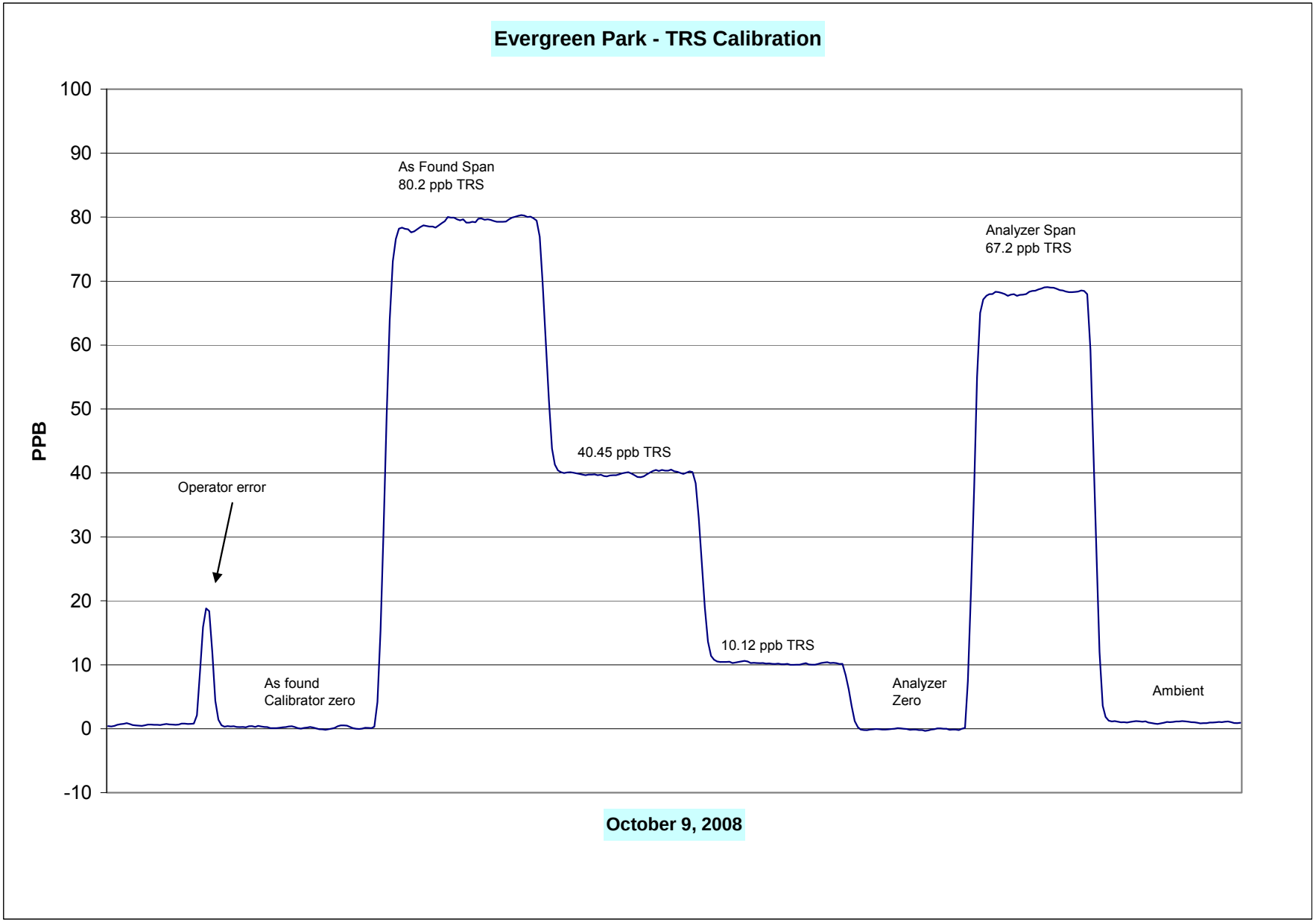
Station Information

Calibration Date	November 11, 2008	Previous Calibration	October 9, 2008
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	13:55	End Time (MST)	16:55
Analyzer make/model	TEI Model 43C	Analyzer serial #	0436610005

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
80.2	79.6	1.0080	Correlation Coefficient	0.999976
40.5	39.9	1.0148		
10.1	10.2	0.9923	Slope	1.010794
			Intercept	-0.103794




Evergreen Park - TRS Calibration
PPB
100
90
80
70
60
50
40
30
20
10
0
-10
As Found Span
80.2 ppb TRS
Analyzer Span
67.2 ppb TRS
40.45 ppb TRS
Operator error
10.12 ppb TRS
As found
Calibrator zero
Analyzer
Zero
Ambient
October 9, 2008

Calibration Report

Parameter	PM2.5
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 14, 2008	Previous Calibration	September 17, 2008
Station Number	3	Station Location	Evergreen Park
Reason: Routine	Install	Removal	Other:
Start Time (MST)	14:30	End Time (MST)	16:30
Barometric Pressure	0.936 ATM	Station Temperature	20.0 Deg C
Flow Calibrator	BIOS Drycal DCL-MH	Serial Number	101780
DACS make	AP 1000	DACS serial No.	45269
DACS voltage range	0 - 1 V	DACS channel #	15

Analyzer Information

Analyzer make	R&P	Control Unit serial #	140AB246340305
Analyzer model	TEOM 1400AB	Sensor Unit serial #	140AB246340305

	before		after	
Main Flow Set Point	3.000	SLPM	3.000	SLPM
Aux Flow Set Point	13.67	SLPM	13.67	SLPM
Filter Load	43	%	20	%
Ko Factor	10124		10124	
Temperature	0.1	Deg C	-0.4	Deg C
Pressure	0.936	ATM	0.936	ATM
Main Fadj	1.000		1.000	
Aux Fadj	1.000		1.000	

Calibration Data

Parameter	Set Point	As Found	Tolerance	New Reading
zero flow - main	0.0	-0.01		0.00
zero flow - auxillary	0.0	0.05		0.01
flow recovery - main	45 - 60 Seconds	35	45 - 60 Seconds	33
flow recovery - aux	46 - 60 Seconds	40	46 - 60 Seconds	45
Temperature	measured	0.5	+/- 1.0 Deg C	0.4
Pressure	measured	0.936	+/- 1.5% ΔATM	0.926
Total Flow	16.67 SLPM	16.84		16.52
Main Flow	13.67 SLPM	3.08	+/- 1.0 SLPM	3.01
Auxillary Flow	3.0 SLPM	13.820	+/- 0.2 SLPM	13.530
Leak Check - main	0.0	0.01	<0.15 SLPM	0.01
Leak Check - aux	0.0	0.07	<0.15 SLPM	0.11
Ko Factor (w/o filter)	measured	307.183	filter weight (g)	0.11043
Ko Factor (w/ filter)	measured	216.166	% Ko difference	-0.01

Notes: Hard calibration of analogue voltages, hard calibration of flows

Calibration Performed By: Conor Whiteley

Calibration Report

Parameter	SO_2
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 13, 2008	Previous Calibration	October 15, 2008
Station Number	3	Station Location	Smokey Heights
Reason: Routine	Install	Removal	Other:

Start Time (MST)	10:55	End Time (MST)	18:20
Barometric Pressure	0.913 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	50.6 ppm	Cal Gas Cert Date	6/8/2008
Correction factor	0.031035	Cal Gas Cylinder #	AAL 15377
DACS make	Focus AP1000	DACS serial No.	45272
DACS voltage range	0 - 10 volt	DACS channel #	6
	Before		After
Calculated slope	1.005278	Calculated slope	1.009443
Calculated intercept	-1.502802	Calculated intercept	-2.818314

Analyzer make	Teco 43i	Analyzer serial #	701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	6.3		6.3	
coefficient	0.712		0.712	
Lamp Voltage	923	volts	924	volts
Chamber Temp	44.9	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	667.2	mm Hg	672	mm Hg
Sample Flow	442	ccm	445	ccm
Lamp Intensity	88	%	88	%

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4988	0.0	0.00	1.0	N/A
4988	39.82	400.75	398.6	1.0054
4988	19.89	200.97	203.6	0.9873
4989	9.94	100.61	103.8	0.9690
4988	0.0	0.00	1.0	As Found Zero
4988	39.81	400.65	398.6	As Found Span
			Average Correction Factor	0.9872

Calculated value of As Found Response: 398.222 ppm Percent Change of As Found: 0.6%

	before calibration		after calibration	
Auto zero	-0.6	ppm	-1.8	ppm
Auto span	309.9	ppm	309.8	ppm

Notes: Crack in Gas line caused some trouble for the first attempt

Calibration Performed By: Conor Whiteley

Calibration Summary

Parameter	SO2
Air Monitoring Network	PASZA

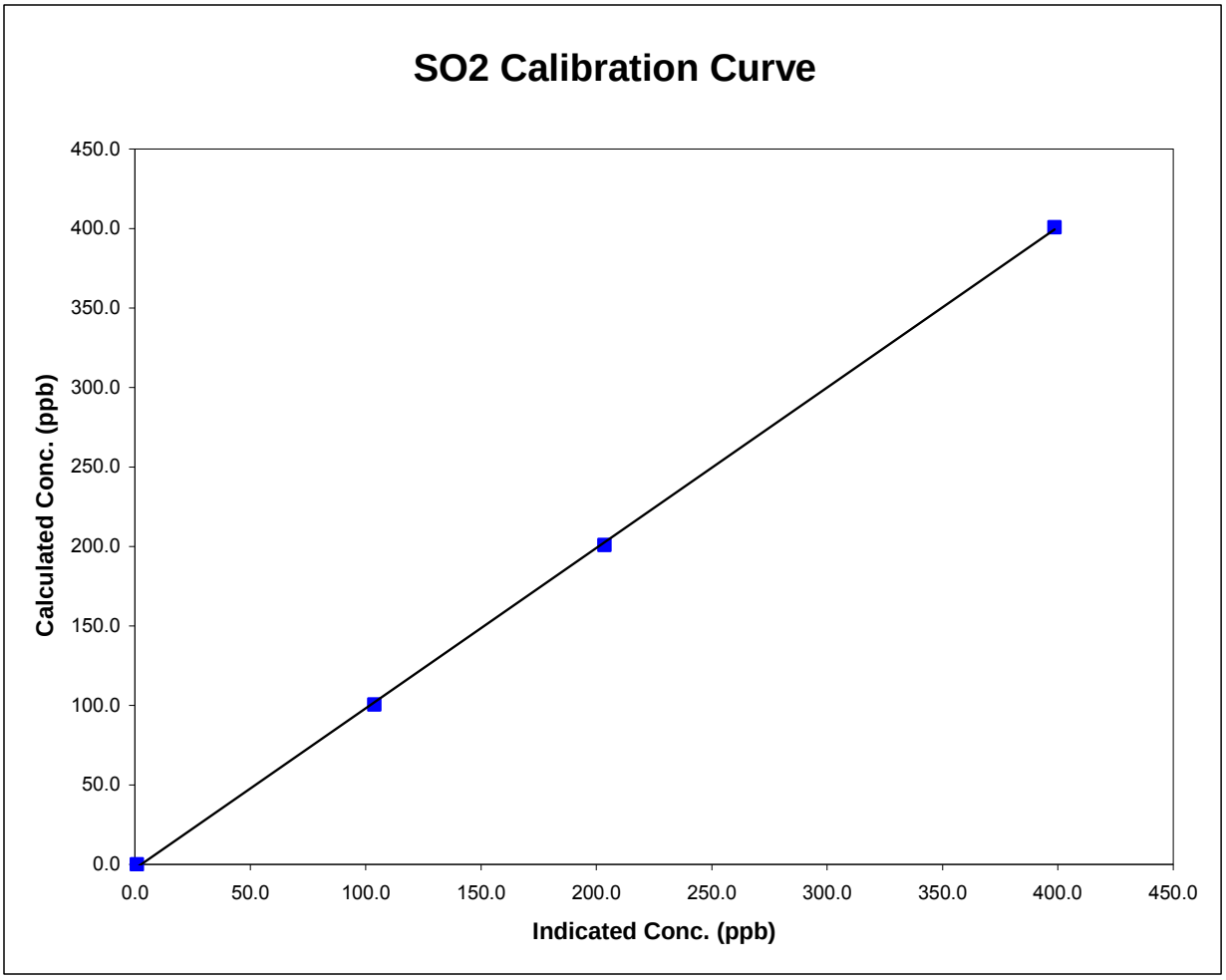
FOCUS AIR QUALITY MONITORING

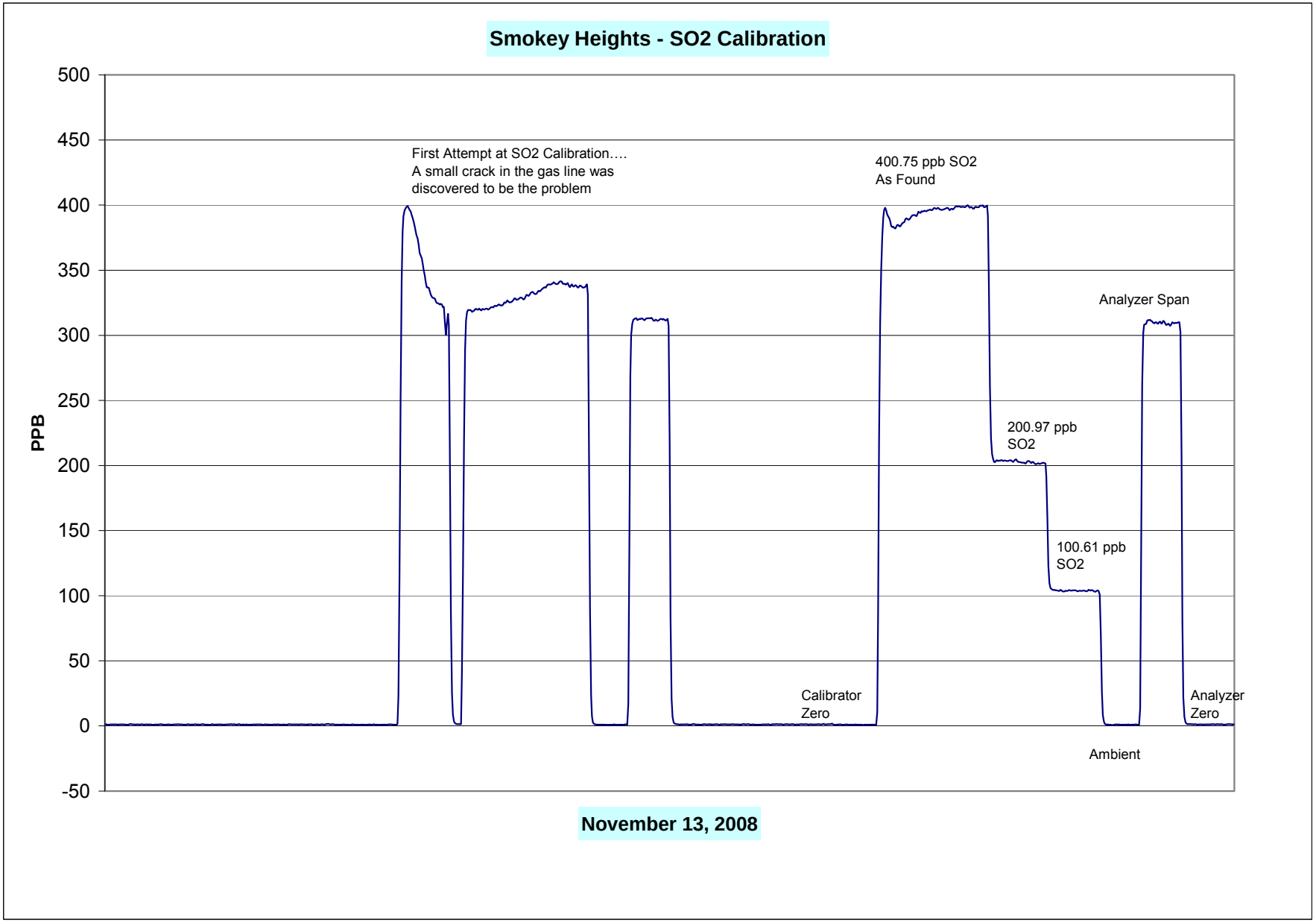
Station Information

Calibration Date	November 13, 2008	Previous Calibration	October 15, 2008
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	10:55	End Time (MST)	18:20
Analyzer make/model	Teco 43i	Analyzer serial #	701120009

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	1.0	N/A		
400.7	398.6	1.0054	Correlation Coefficient	0.999890
201.0	203.6	0.9873		
100.6	103.8	0.9690	Slope	1.009443
			Intercept	-2.818314




Smokey Heights - SO2 Calibration
500
450
400
350
300
250
200
150
100
50
0
-50
PPB
First Attempt at SO2 Calibration….
A small crack in the gas line was
discovered to be the problem
400.75 ppb SO2
As Found
Analyzer Span
200.97 ppb
SO2
100.61 ppb
SO2
Calibrator
Zero
Analyzer
Zero
Ambient
November 13, 2008

Calibration Report

Parameter	**TRS**
Air Monitoring Network	**PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 13, 2008	Previous Calibration	October 15, 2008
Station Number	3	Station Location	Smokey Heights
Reason: Routine	Install	Removal	Other:

Start Time (MST)	13:05	End Time (MST)	16:06
Barometric Pressure	0.927 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Conc	5.1 ppm	Cal Gas Expiry Date	4/2/2009
Correction factor	0.031511	Cal Gas Cylinder #	ALM013295
DACS make	Focus AP1000	DACS serial No.	52620
DACS voltage range	0 - 10 volt	DACS channel #	5
	Before		After
Calculated slope	1.010631	Calculated slope	1.022833
Calculated intercept	-0.306905	Calculated intercept	-0.002091

Analyzer make	TEI Model 43C		Analyzer serial #	0436610005

	before		after	
Concentration range	100	ppb	100	ppb
Background	12.5	ppb	12.8	ppb
coefficient	1.004		1.004	
Lamp Voltage	763	volts	766	volts
Chamber Temp	44.1	Deg C	44.2	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	508.1	mm Hg	478.9	mm Hg
Sample Flow	772	ccm	742	ccm
Lamp Intensity	32,400	mv	32,409	mv

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4990	0.0	0.00	0.2	N/A
4987	79.90	80.42	78.7	1.0214
4988	39.82	40.39	39.3	1.0278
4990	9.91	10.11	9.8	1.0353
4990	0.0	0.00	0.2	As Found Zero
4990	79.71	80.19	78.7	As Found Span
			Average Correction Factor	1.0282

Calculated value of As Found Response: 79.06 ppm Percent Change of As Found: 1.4%

	before calibration		after calibration	
Auto zero	-0.2	ppm	0.0	ppm
Auto span	42.1	ppm	43.1	ppm

Notes:

Calibration Performed By: Conor Whiteley

Calibration Summary

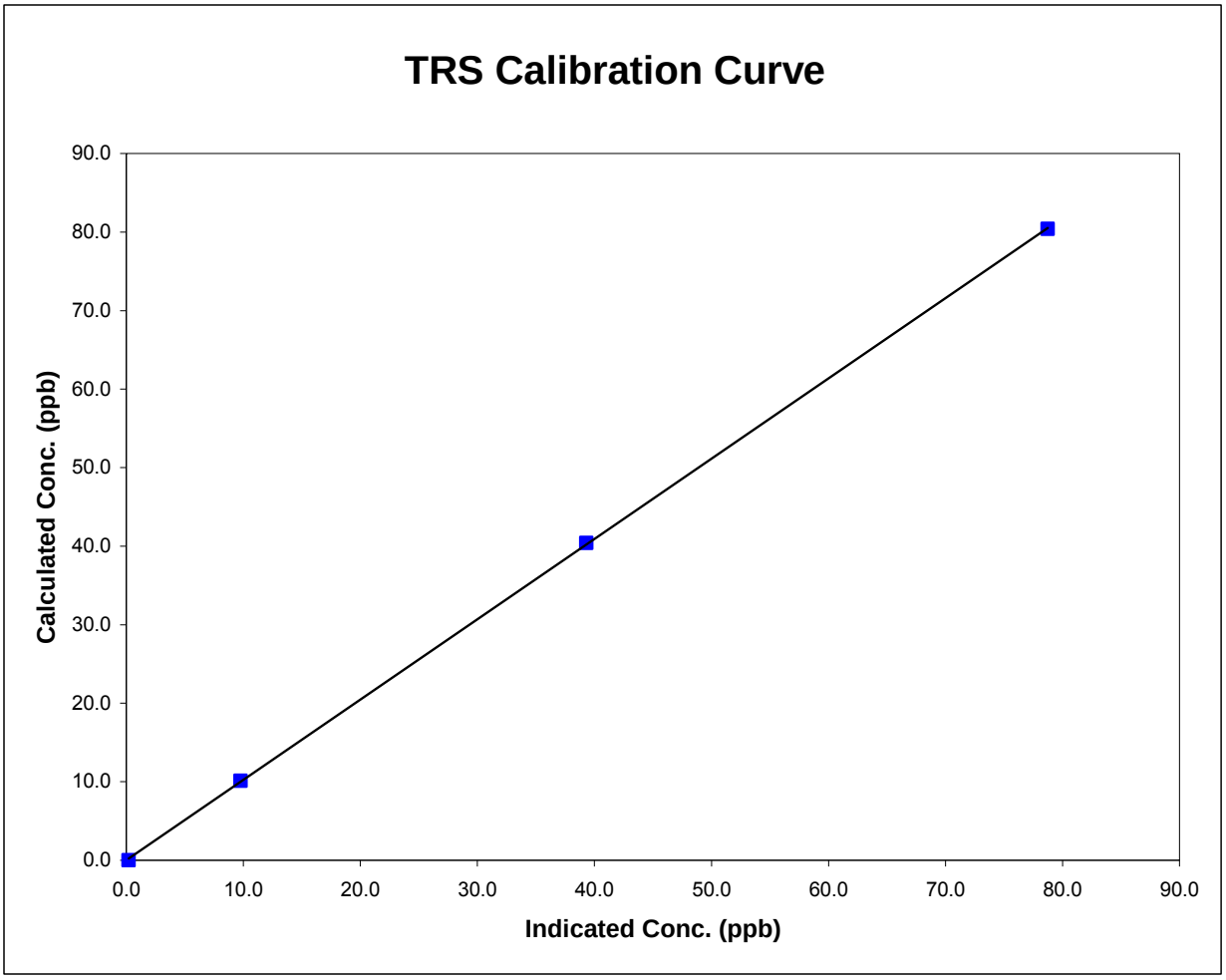
Parameter	TRS
Air Monitoring Network	PASZA

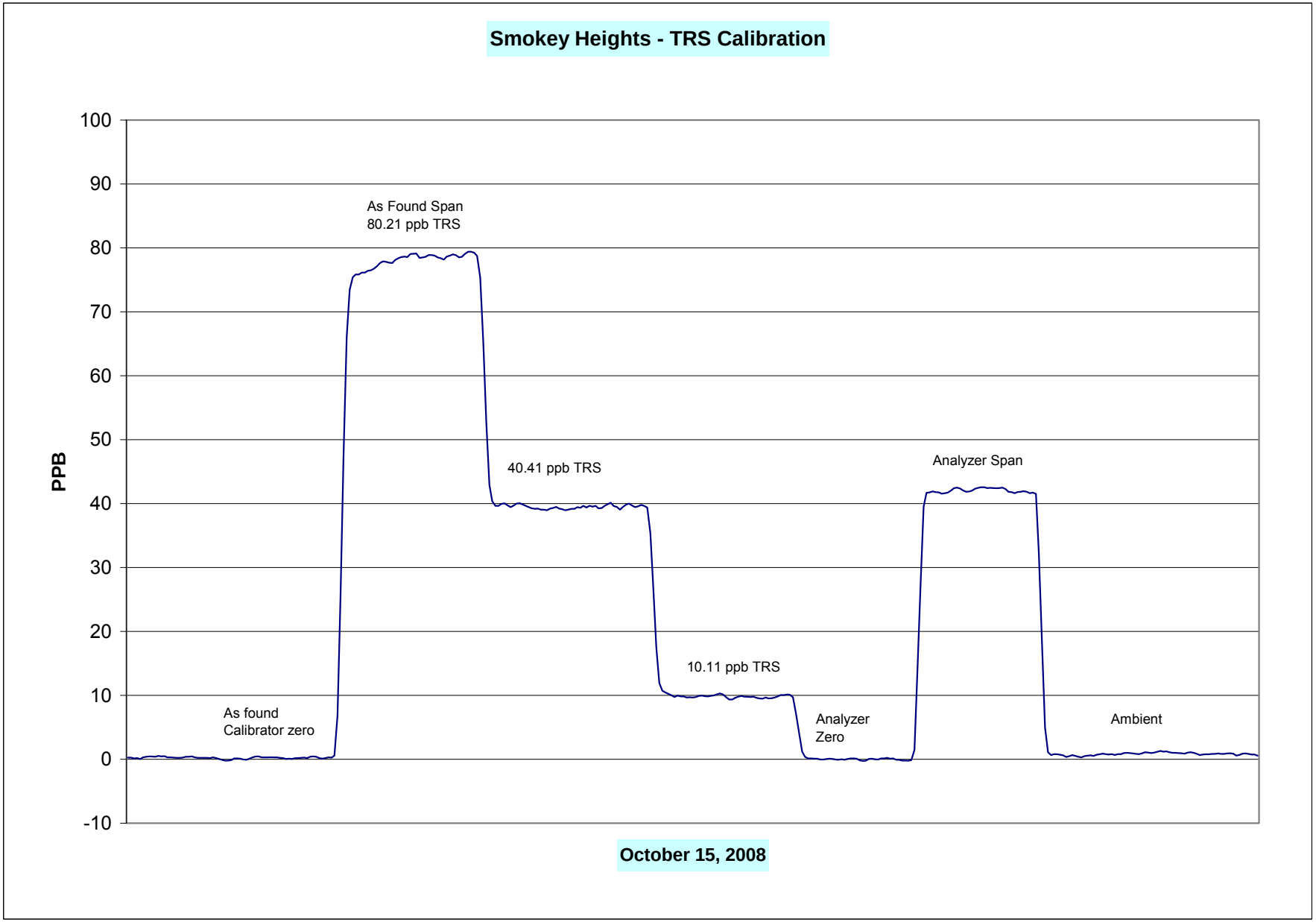
Station Information

Calibration Date	November 13, 2008	Previous Calibration	October 15, 2008
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	13:05	End Time (MST)	16:06
Analyzer make/model	TEI Model 43C	Analyzer serial #	0436610005

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
80.4	78.7	1.0214	Correlation Coefficient	0.999972
40.4	39.3	1.0278		
10.1	9.8	1.0353	Slope	1.022833
			Intercept	-0.002091




Smokey Heights - TRS Calibration
PPB
100
90
80
70
60
50
40
30
20
10
0
-10
As Found Span
80.21 ppb TRS
40.41 ppb TRS
10.11 ppb TRS
Analyzer Span
As found
Calibrator zero
Analyzer
Zero
Ambient
October 15, 2008

Calibration Report

Parameter	PM2.5
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 26, 2008	Previous Calibration	September 17, 2008
Station Number	3	Station Location	Smoky Heights
Reason: Routine	Install	Removal	Other:
Start Time (MST)	9:45	End Time (MST)	11:45
Barometric Pressure	0.928 ATM	Station Temperature	20.0 Deg C
Flow Calibrator	BIOS Drycal DCL-MH	Serial Number	101780
DACS make	AP 1000	DACS serial No.	45269
DACS voltage range	0 - 1 V	DACS channel #	15

Analyzer Information

Analyzer make	R&P	Control Unit serial #	140AB246340305
Analyzer model	TEOM 1400AB	Sensor Unit serial #	140AB246340305

	before		after	
Main Flow Set Point	3.000	SLPM	3.000	SLPM
Aux Flow Set Point	13.67	SLPM	13.67	SLPM
Filter Load	58	%	31	%
Ko Factor	12122		12122	
Temperature	22.0	Deg C	9.3	Deg C
Pressure	0.928	ATM	0.928	ATM
Main Fadj	1.000		1.000	
Aux Fadj	1.000		1.000	

Calibration Data

Parameter	Set Point	As Found	Tolerance	New Reading
zero flow - main	0.0	0.03		0.00
zero flow - auxillary	0.0	0.24		0.00
flow recovery - main	45 - 60 Seconds	35	45 - 60 Seconds	33
flow recovery - aux	46 - 60 Seconds	36	46 - 60 Seconds	35
Temperature	measured	22.0	+/- 1.0 Deg C	22.4
Pressure	measured	0.928	+/- 1.5% ΔATM	0.928
Total Flow	16.67 SLPM	15.60		16.68
Main Flow	13.67 SLPM	2.94	+/- 1.0 SLPM	3.00
Auxillary Flow	3.0 SLPM	12.660	+/- 0.2 SLPM	13.680
Leak Check - main	0.0	-0.01	<0.15 SLPM	0.00
Leak Check - aux	0.0	0.01	<0.15 SLPM	0.00
Ko Factor (w/o filter)	measured	324.912	filter weight (g)	0.11026
Ko Factor (w/ filter)	measured	232.405	% Ko difference	-0.60%

Notes: Hard Calibration Preformed
Using inside Temperature as all flow audits will be done inside

Calibration Performed By: Grover Christiansen, Conor Whiteley

Calibration Report

Parameter	SO2
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 20, 2008	Previous Calibration	October 8, 2008
Station Number	4	Station Location	Beaverlodge
Reason: Routine	Install	Removal	Other:
Start Time (MST)	9:30	End Time (MST)	12:37
Barometric Pressure	0.906 atm	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	10.06 ppm	Cal Gas Expiry Date	7/27/2009
Gas Cert Reference	CC 114395		
DACS make	Focus AP1000	DACS serial No.	45269
DACS voltage range	0 - 10 volt	DACS channel #	4
	Before		After
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.003651	Calculated slope	1.001137
Calculated intercept	-0.404933	Calculated intercept	-0.336003
Analyzer make	TEI Model 43CTL	Analyzer serial #	43CTL-74200-376

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.47		2.47	
Coefficient	0.913		0.913	
PMT	-813	V	-812	V
UV Lamp Voltage	1055	V	1061	V
Chamber Temp	44.7	Deg C	44.8	Deg C
Pressure	669.4	mm Hg	662.8	mm Hg
Sample Flow	0.471	LPM	0.473	LPM
Lamp Intesity	85%	%	84%	%

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4988	0.00	0.0	0.0	N/A
4991	39.84	79.7	79.7	0.9995
4988	19.87	39.9	40.4	0.9875
4991	9.96	20.0	20.7	0.9673
4988	0.00	0.0	0.0	As found zero
4988	39.90	79.8	82.4	As found span
			Average Correction Factor	0.9848

Calculated value of As Found Response: 82.346 ppm Percent Change of As Found: -3.1%

	before calibration		after calibration	
Auto zero	-0.5	ppm	-0.4	ppm
Auto span	54.3	ppm	54.3	ppm

Notes:

Calibration Performed By: Conor Whiteley

Calibration Summary

Parameter	SO2
Air Monitoring Network	PASZA

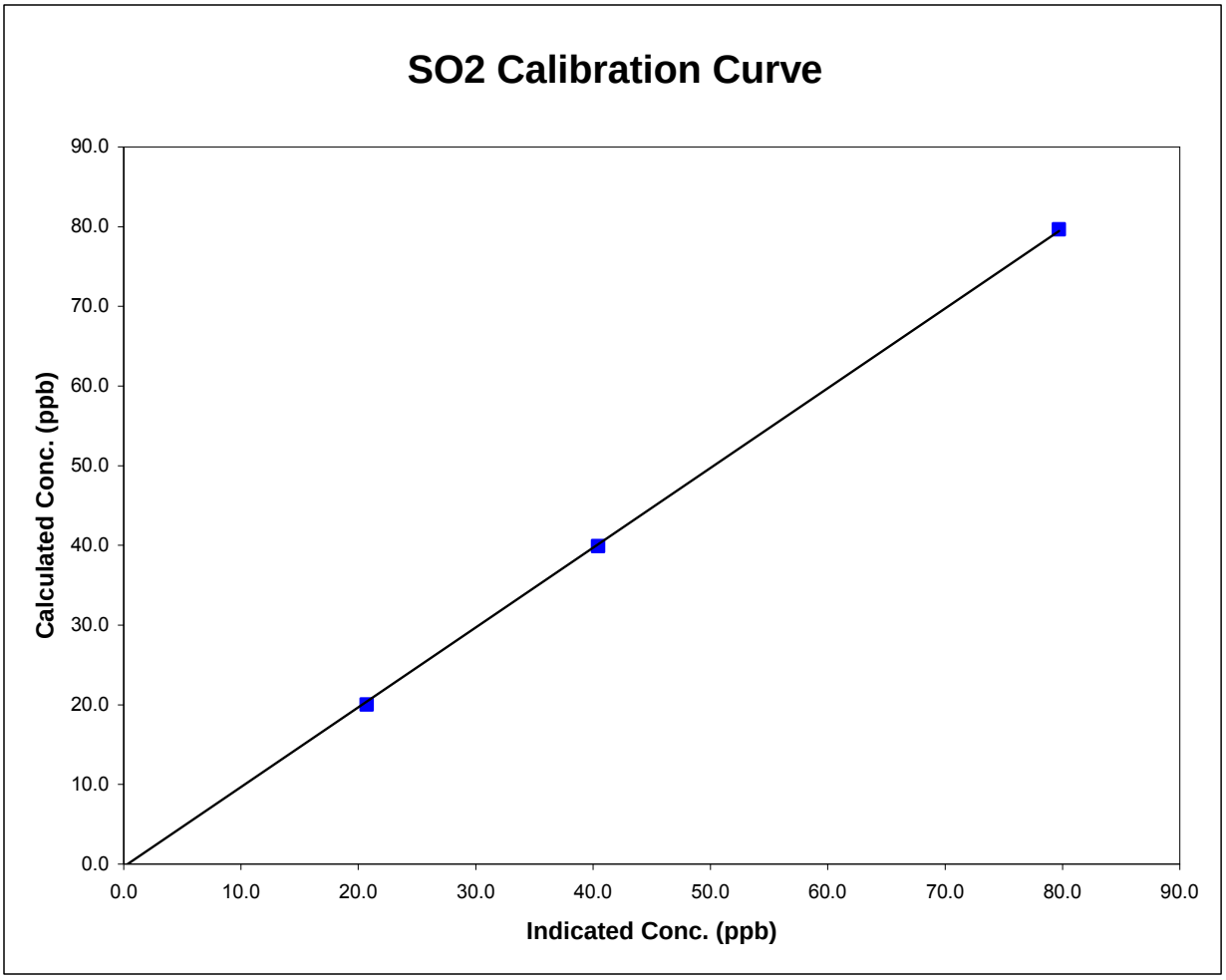
FOCUS AIR QUALITY MONITORING

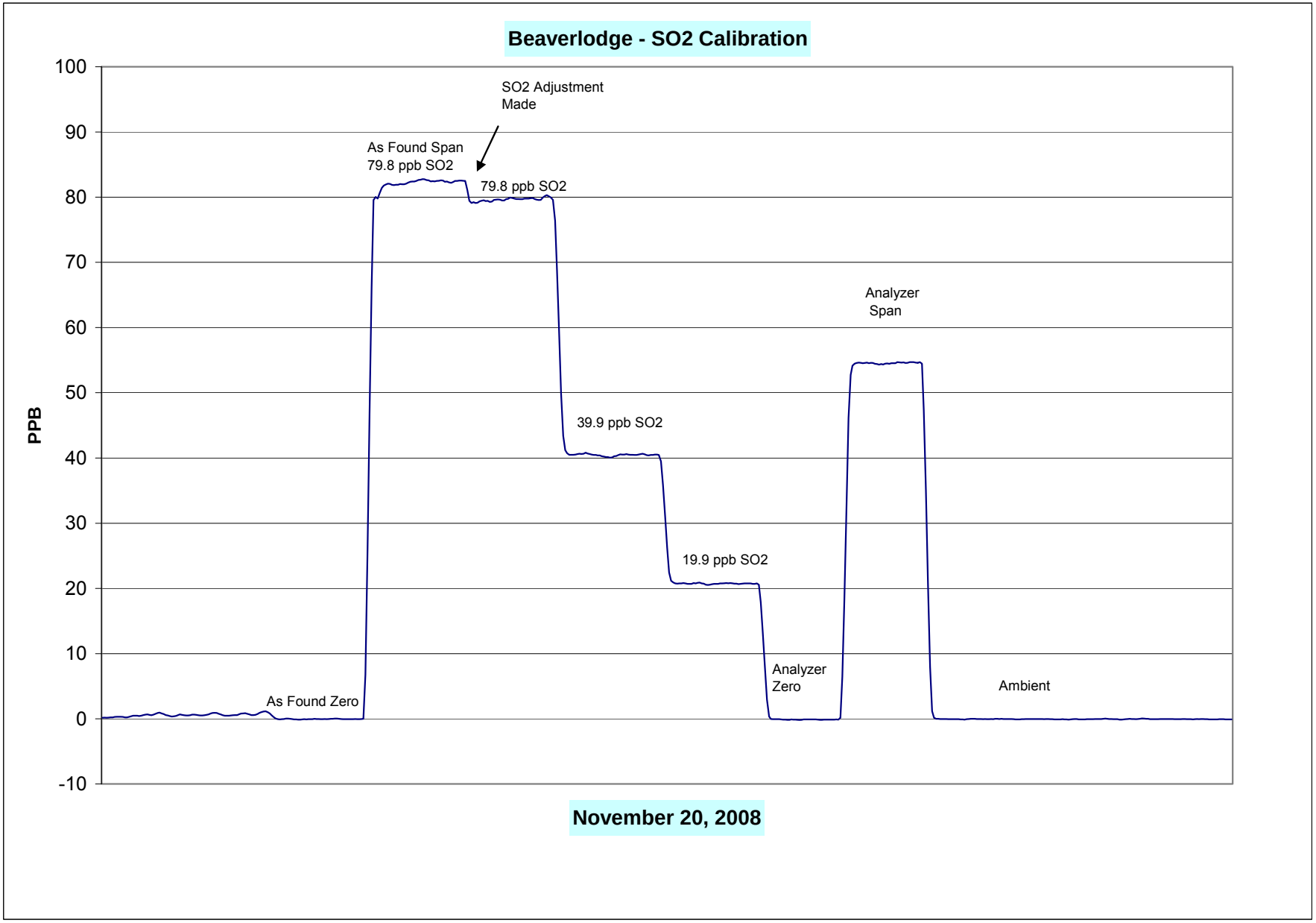
Station Information

Calibration Date	November 20, 2008	Previous Calibration	October 8, 2008
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:30	End Time (MST)	12:37
Analyzer make/model	TEI Model 43CTL	Analyzer serial #	43CTL-74200-376

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
79.7	79.7	0.9995	Correlation Coefficient	0.999895
39.9	40.4	0.9875		
20.0	20.7	0.9673	Slope	1.001137
			Intercept	-0.336003




Beaverlodge - SO2 Calibration
PPB
100
90
80
70
60
50
40
30
20
10
0
-10
SO2 Adjustment Made
As Found Span 79.8 ppb SO2
79.8 ppb SO2
Analyzer Span
39.9 ppb SO2
19.9 ppb SO2
Analyzer Zero
Ambient
As Found Zero
November 20, 2008

Calibration Report

Parameter	**NOx-NO-NO_2**
Air Monitoring Network	**PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 20, 2008	Previous Calibration	October 8, 2008
Station Number	4	Station Location	Beaverlodge

Reason: Routine Installation Removal Other:

Start Time (MST)	9:30:00		End Time (MST)	13:00:00	
Barometric Pressure	0.906	Atm	Station Temperature	20.0	Deg C
Calibrator	Environics 6100		Serial Number	3474	
NO Cal Gas Conc	50.1	ppm	Cal Gas Cert. Date	2-Jan-07	
NOx Cal Gas Conc	50.2	ppm	Cal Gas Serial #	CC 114395	

DACS Information

DACS make	FOCUS AP1000	DACS serial No.	45269

Parameter		NO2	NOx	NO
Before	Data Slope	1.034518	1.017172	1.007699
	Data Offset	-0.159586	-2.367820	-2.301968
After	Data Slope	1.013820	1.011582	1.008038
	Data Offset	0.337186	-1.746786	-1.358998
Channel #		8	6	7
Voltage Range		0 - 10 VDC	0 - 10 VDC	0 - 10 VDC

Analyzer Information

Analyzer make/model	TEI Model 42	Analyzer serial #	42-28486-231

Test Point	before		after	
Concentration range	0 - 1000	ppb	0 - 1000	ppb
NO background	1.4	ppb	1.5	mV
NOx background	1.4	ppb	1.5	mV
NO coefficient	1.116		1.213	
NOx coefficient	0.999		1.006	
PMT Voltage	-635	V	-636	V
Chamber Temp	49.3	Deg C	49.2	Deg C
Cooler Temp	-2.0	Deg C	-2.0	Deg C
Converter Temp	322.0	Deg C	324.0	Deg C
Sample Flow	0.733	LPM	1.715	LPM
Ozonator Flow	0.083	LPM	0.082	LPM
Pressure	191.9	mm Hg	197.6	mm Hg

Notes:

Calibration Report

Parameter	**NOx-NO-NO_2**
Air Monitoring Network	**PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: November 20, 2008 Station Location: Beaverlodge

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4988	0.00	0.0	0.0	0.0	-0.2	-0.3	-0.3	N/A	N/A
1	4991	39.84	397.5	396.7	0.8	393.7	394.1	-0.8	1.0097	1.0067
2	4988	19.87	199.2	198.8	0.4	199.6	199.2	-0.3	0.9981	0.9977
3	4991	9.96	100.0	99.8	0.2	102.5	102.1	0.1	0.9750	0.9769
AFZ	4988	0.00	0.0	0.0	0.0	-0.2	-0.3	-0.3	0.0000	0.0000
AFS	4988	39.90	398.4	397.6	0.8	374.0	376.4	-2.9	1.0652	1.0563
							Average Correction Factor		0.9943	0.9938

As Found Concentrations: NO_X= 371.8 NO= 374.4 As Found Percent Change NO_X= -6.7% NO= -5.8%

GPT Calibration Data

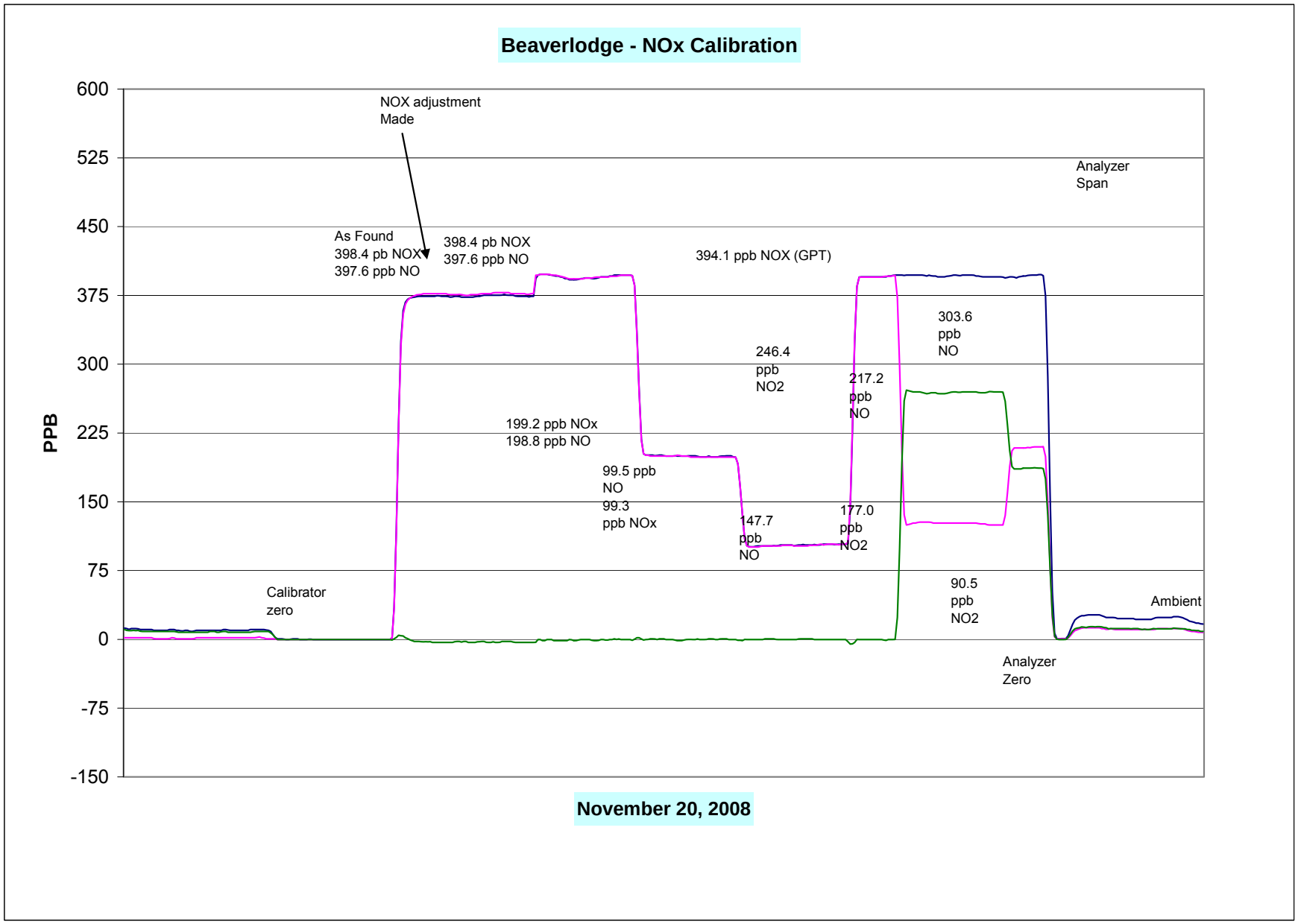
Dilution Flow 4990 ccm Source Gas Flow 39.88 ccm

O3 Setpoint (ppb)	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	NO2 Correction factor	Converter Efficiency
0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A
NO point	399.3	396.9	2.4	395.1	395.0	-0.3	1.0104	1.0046	N/A	N/A
300	399.3	126.0	273.2	396.2	126.4	269.2	1.0079	0.9973	1.0149	98.5%
200	399.3	209.7	189.6	396.7	209.3	186.6	1.0065	1.0015	1.0160	98.4%
100										
					Average Correction Factor		1.0072	0.9994	1.0154	98.5%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-2.6	-0.4	-2.6	ppb	NA	NA	NA	ppb
Auto span	479.4	-2.1	476.3	ppb	NA	NA	NA	ppb

Calibration Performed By: Conor Whiteley


Beaverlodge - NOx Calibration
600
525
450
375
300
225
150
75
0
-75
-150
PPB
NOX adjustment Made
As Found 398.4 pb NOX 397.6 ppb NO
398.4 pb NOX 397.6 ppb NO
394.1 ppb NOX (GPT)
Analyzer Span
303.6 ppb NO
246.4 ppb NO2
217.2 ppb NO
199.2 ppb NOx 198.8 ppb NO
99.5 ppb NO 99.3 ppb NOx
147.7 ppb NO
177.0 ppb NO2
90.5 ppb NO2
Calibrator zero
Ambient
Analyzer Zero
November 20, 2008

Calibration Summary

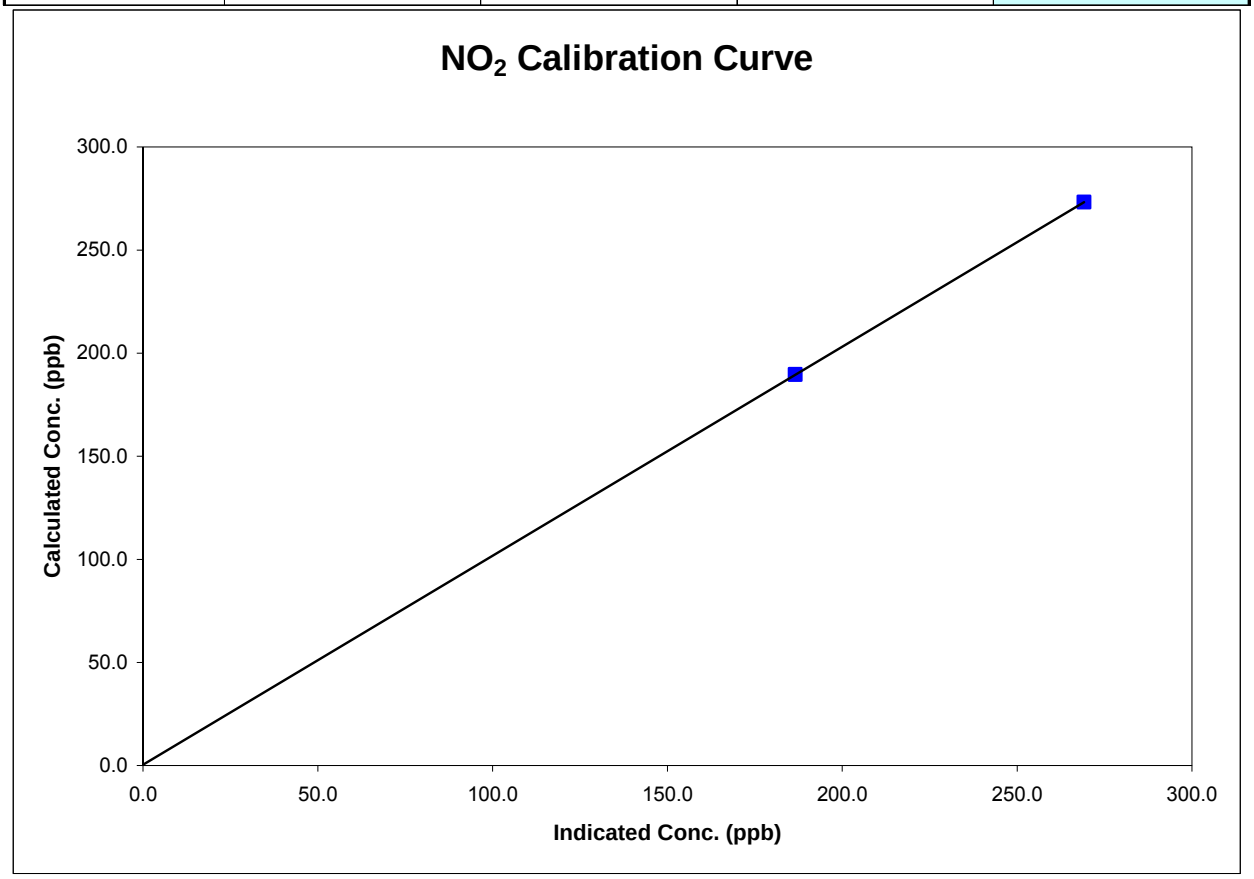
Parameter	NO_2
Air Monitoring Network	PASZA

Station Information

Calibration Date	November 20, 2008	Previous Calibration	October 8, 2008
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:30	End Time (MST)	13:00
Analyzer make	TEI Model 42	Analyzer serial #	42-28486-231

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.3	0.0000		
273.2	269.2	1.0149	Correlation Coefficient	1.000000
189.6	186.6	1.0160		
			Slope	1.013820
			Intercept	0.337186



Calibration Summary

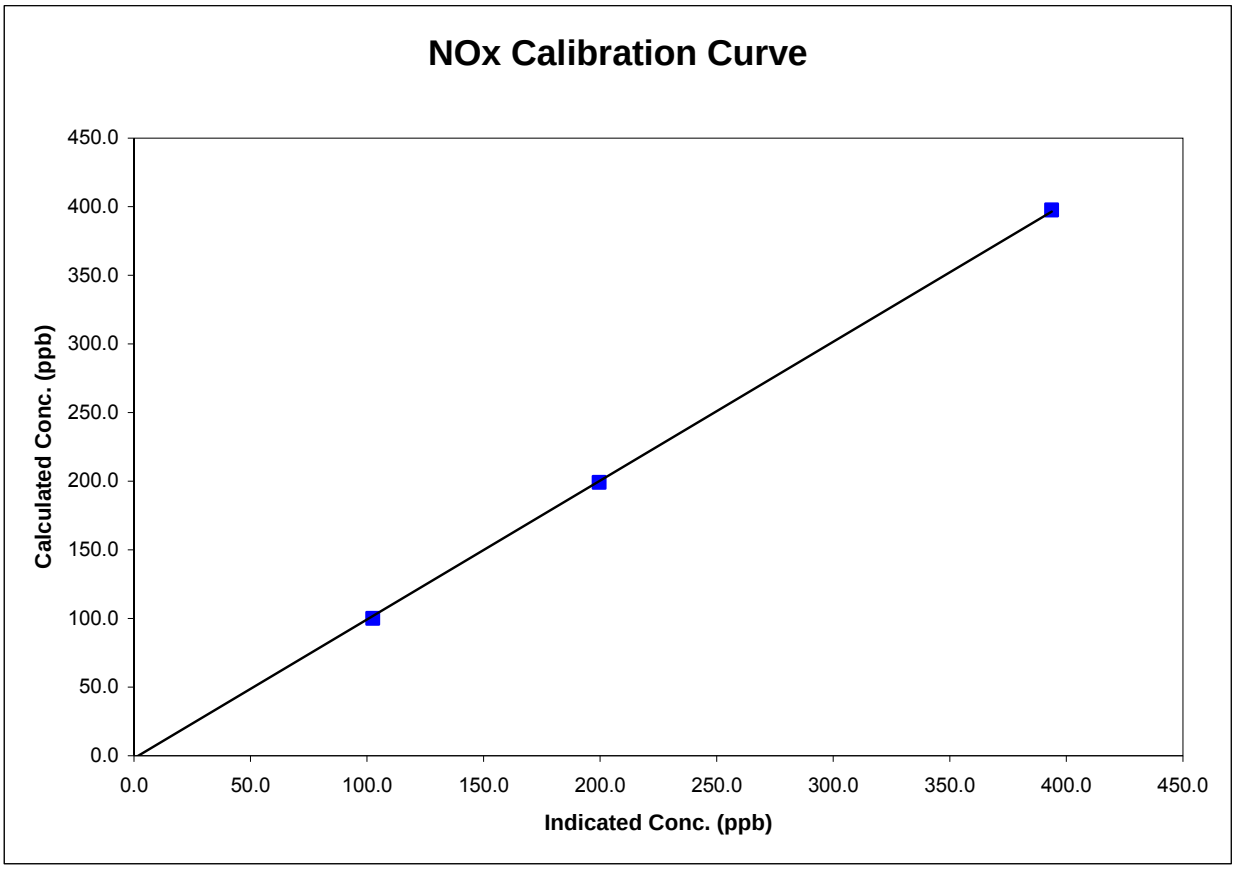
Parameter	NO_x
Air Monitoring Network	PASZA

Station Information

Calibration Date	November 20, 2008	Previous Calibration	October 8, 2008
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:30	End Time (MST)	13:00
Analyzer make	TEI Model 42	Analyzer serial #	42-28486-231

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.2	0.0000		
397.5	393.7	1.0097	Correlation Coefficient	0.999888
199.2	199.6	0.9981		
100.0	102.5	0.9750	Slope	1.011582
			Intercept	-1.746786



Calibration Summary

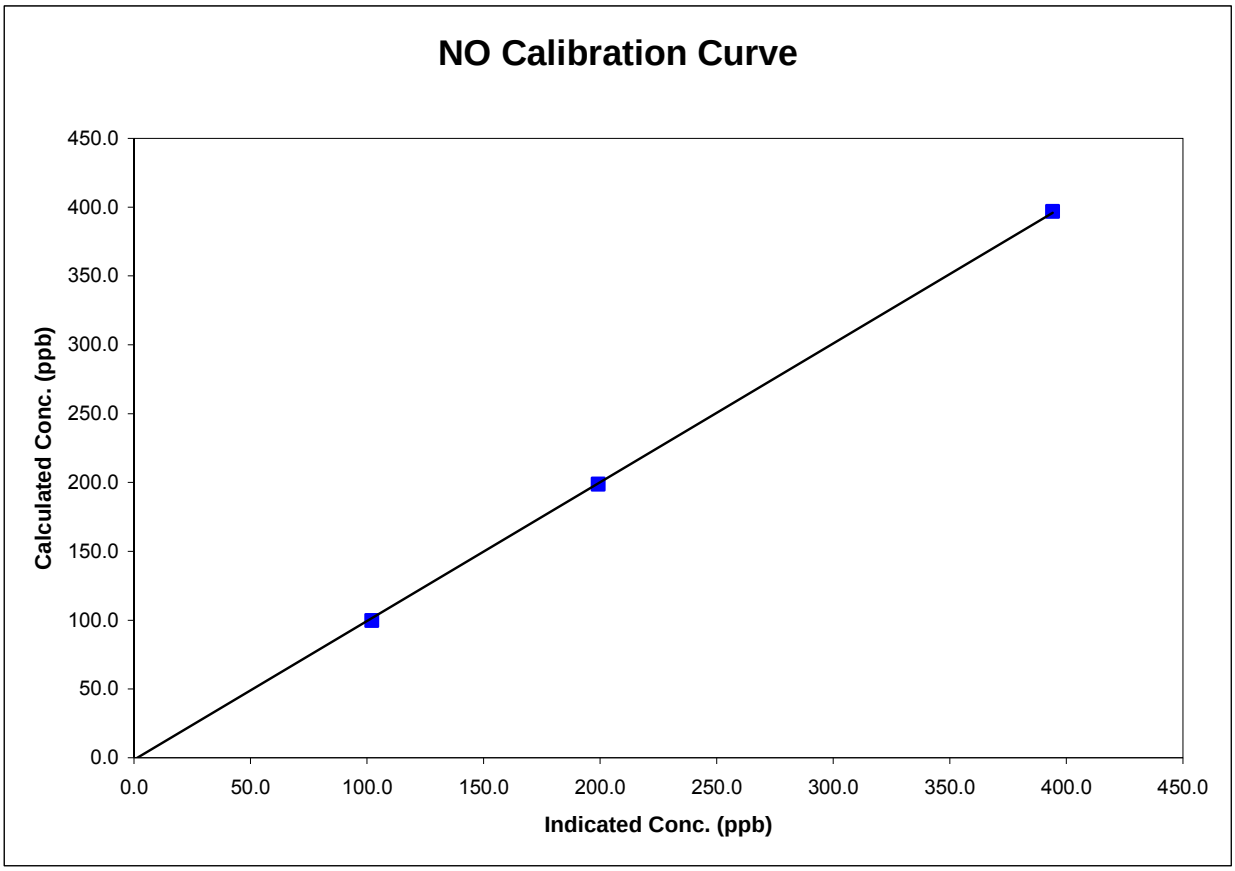
Parameter	NO
Air Monitoring Network	PASZA

Station Information

Calibration Date	November 20, 2008	Previous Calibration	October 8, 2008
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	9:30	End Time (MST)	13:00
Analyzer make	TEI Model 42	Analyzer serial #	42-28486-231

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.3	N/A		
396.7	394.1	1.0067	Correlation Coefficient	0.999914
198.8	199.2	0.9977		
99.8	102.1	0.9769	Slope	1.008038
			Intercept	-1.358998



Calibration Report

Parameter	O3
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 21, 2008	Previous Calibration	October 8, 2008
Station Number	4	Station Location	Beaverlodge
Reason: Routine	Install	Removal	Other:
Start Time (MST)	14:10	End Time (MST)	18:00
Barometric Pressure	0.918 atm	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA
DACS make	Focus AP1000	DACS serial No.	45269
DACS voltage range	0 - 1 volt	DACS channel #	5
	Before		After
Calculated slope	1.039658	Calculated slope	1.063898
Calculated intercept	1.840215	Calculated intercept	-2.165877
Analyzer make	Teco 49C	Analyzer serial #	49C-76443-383

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-0.20	ppb	-0.20	ppb
slope	0.956		0.956	
Lamp temp	56.4	mV	56.3	mV
Lamp Intensity A/B	75465/73989	mV	74025/73340	mV
Pressure	668	mm Hg	642	mm Hg
Flow A	728	ccm	717	ccm
Flow B	682	ccm	667	ccm

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4990	0.00	0.0	-0.1	N/A
4990	0.00	273.2	259.5	1.0531
4990	0.00	189.6	176.5	1.0742
4990	0.00	93.7	95.4	0.9822
4990	0.00	0.0	-0.1	As found zero
4990	0.00	273.2	259.5	As found span
			Average Correction Factor	1.0365

Calculated value of As Found Response: 271.7 ppm Percent Change of As Found: -0.6%

	before calibration		after calibration	
Auto zero	1.7	ppb	-2.3	ppb
Auto span	111.1	ppb	109.0	ppb

Notes:

Calibration Performed By: Conor Whiteley

Calibration Summary

Parameter	O3
Air Monitoring Network	PASZA

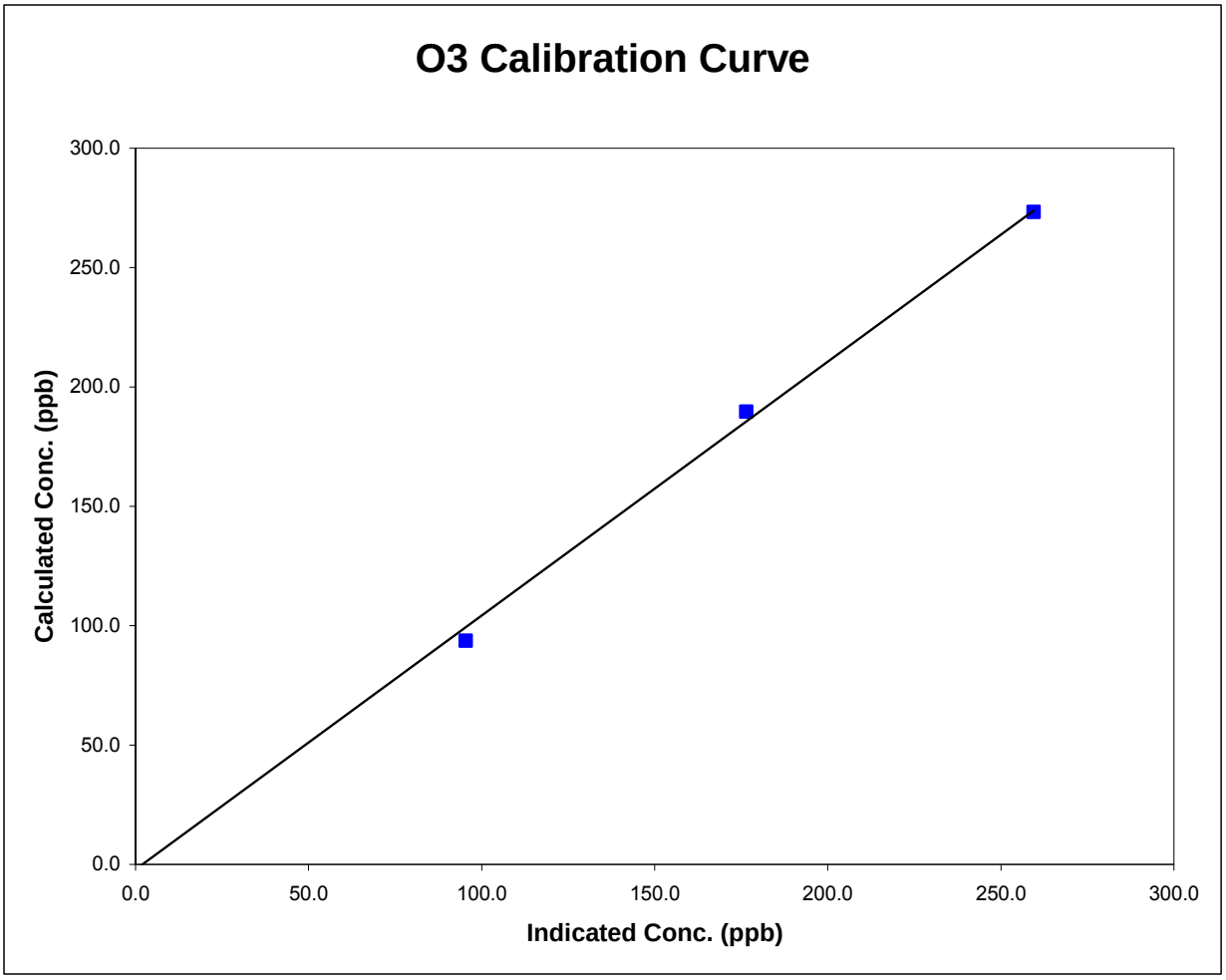
FOCUS AIR QUALITY MONITORING

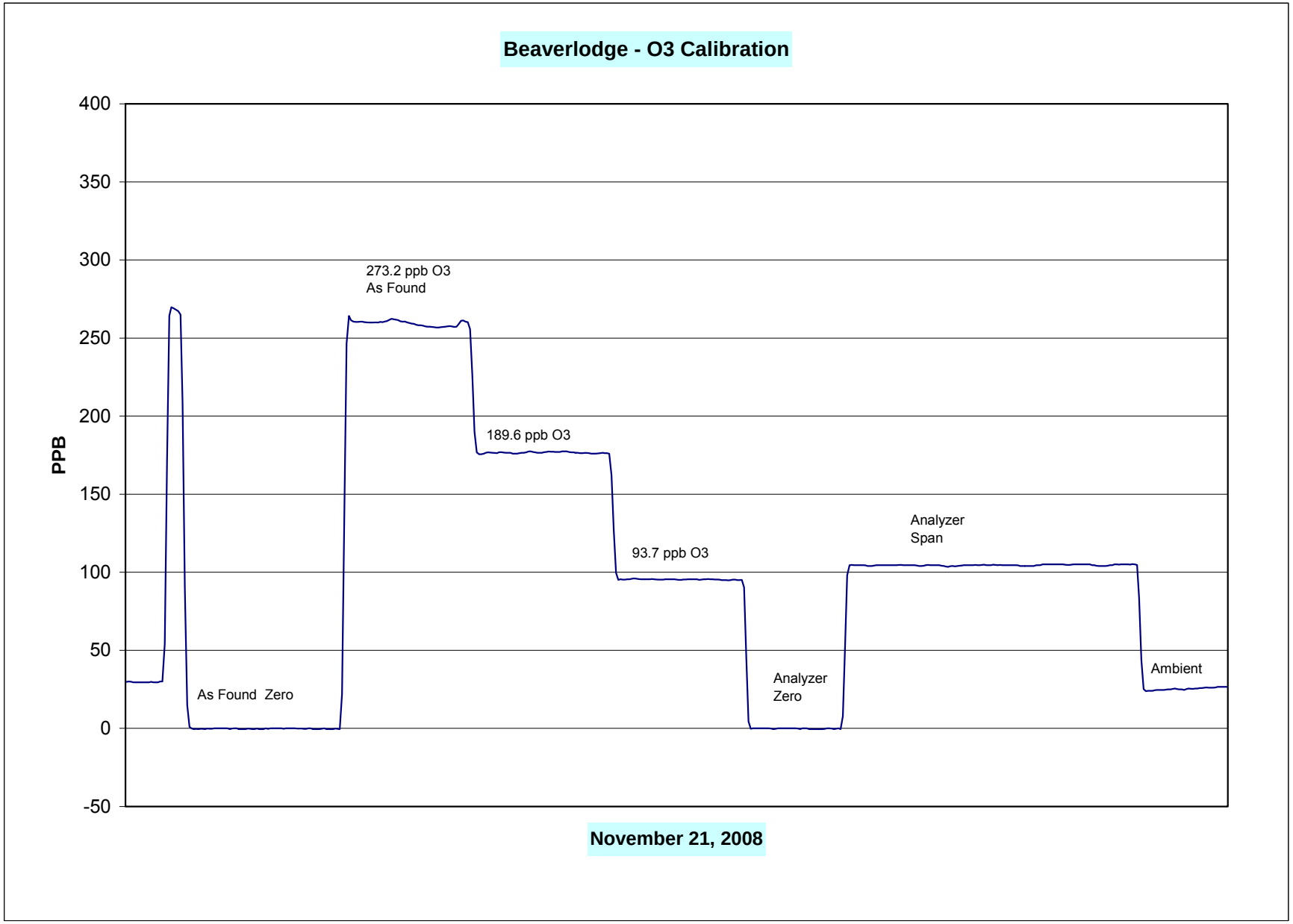
Station Information

Calibration Date	November 21, 2008	Previous Calibration	October 8, 2008
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	14:10	End Time (MST)	18:00
Analyzer make/model	Teco 49C	Analyzer serial #	49C-76443-383

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	NA		
273.2	259.5	1.0531	Correlation Coefficient	0.998731
189.6	176.5	1.0742		
93.7	95.4	0.9822	Slope	1.063898
			Intercept	-2.165877




Beaverlodge - O3 Calibration
PPB
400
350
300
250
200
150
100
50
0
-50
273.2 ppb O3
As Found
189.6 ppb O3
93.7 ppb O3
Analyzer
Span
Ambient
Analyzer
Zero
As Found Zero
November 21, 2008

Calibration Report

Parameter	PM2.5
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 21, 2008	Previous Calibration	September 24, 2008
Station Number	4	Station Location	Beaverlodge
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	14:20	End Time (MST)	16:00
Barometric Pressure	0.904 ATM	Station Temperature	20.0 Deg C
Flow Calibrator	BIOS Drycal DCL-MH	Serial Number	101780
DACS make	AP 1000	DACS serial No.	45269
DACS voltage range	0 - 1 V	DACS channel #	10

Analyzer Information

Analyzer make	R&P	Control Unit serial #	140AB246340305
Analyzer model	TEOM 1400AB	Sensor Unit serial #	140AB246340305

	before		after	
Main Flow Set Point	3.000	SLPM	3.000	SLPM
Aux Flow Set Point	13.68	SLPM	13.68	SLPM
Filter Load	48	%	16	%
Ko Factor	14287		14287	
Temperature	-0.9	Deg C	19.6	Deg C
Pressure	0.903	ATM	0.919	ATM

Calibration Data

Parameter	Set Point	Teom Reading (As Found)	Tolerance	Teom Reading (After Adjustments)
zero flow - main	0.0	0.00		0.01
zero flow - auxillary	0.0	0.03		0.01
flow recovery - main	45 - 60 Seconds	30.00	45 - 60 Seconds	34.00
flow recovery - aux	46 - 60 Seconds	35.00	46 - 60 Seconds	48.00
Temperature	measured	30.1	+/- 1.0 Deg C	9.3
Pressure	measured	0.903	+/- 1.5% ΔATM	0.913
Total Flow	16.67 SLPM	15.53		16.67
Auxillary Flow	13.67 SLPM	12.75	+/- 1.0 SLPM	13.67
Main Flow	3.0 SLPM	2.830	+/- 0.2 SLPM	3.000
Leak Check - main	0.0	-0.01	<0.15 SLPM	0.00
Leak Check - aux	0.0	0.08	<0.15 SLPM	0.07
Ko Factor (w/o filter)	measured	350.056	filter weight (g)	0.11026
Ko Factor (w/ filter)	measured	250.341	% Ko difference	1.0%

Notes: Soft Cal aadjustment made

Calibration Performed By: Grover Christiansen, Conor Whiteley

Calibration Report

Parameter	SO2
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 24, 2008	Previous Calibration	October 24, 2008
Station Number	8	Station Location	Rover - Spirit River
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	10:50	End Time (MST)	13:30
Barometric Pressure	27.66 inches Hg	Station Temperature	22.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	50.3 ppm	Cal Gas Expiry Date	7/27/2009
Gas Cert Reference	LL 16161		
DACS make	Focus AP1000	DACS serial No.	52662
DACS voltage range	0 - 10 volt	DACS channel #	9
	Before		After
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.995597	Calculated slope	1.009182
Calculated intercept	-2.557226	Calculated intercept	-0.900572
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	8.2		8.2	
Coefficient	1.181		1.181	
UV Lamp Voltage	725	V	727	V
Chamber Temp	44.2	C	44.5	C
Perm Gas Temp	45	C	45	C
Pressure	676.3	mm Hg	674.9	mm Hg
Sample Flow	488	LPM	0.469	LPM
Lamp Intesity	34337	Hz	34540	Hz

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)
4988	0.00	0.0	0.0	N/A
4987	39.80	398.3	394.9	1.0084
4990	19.88	199.6	199.6	1.0002
4990	9.92	99.8	100.4	0.9940
4988	0.00	0.0	0.0	As found zero
4990	39.89	398.9	394.9	As found span
			Average Correction Factor	1.0009

Calculated value of As Found Response: 390.629 ppm Percent Change of As Found: 2.1%

	before calibration		after calibration	
Auto zero	-2.4	ppm	-0.8	ppm
Auto span	293.7	ppm	273.2	ppm

Notes:

Calibration Performed By: Conor Whiteley

Calibration Summary

Parameter	SO2
Air Monitoring Network	PASZA

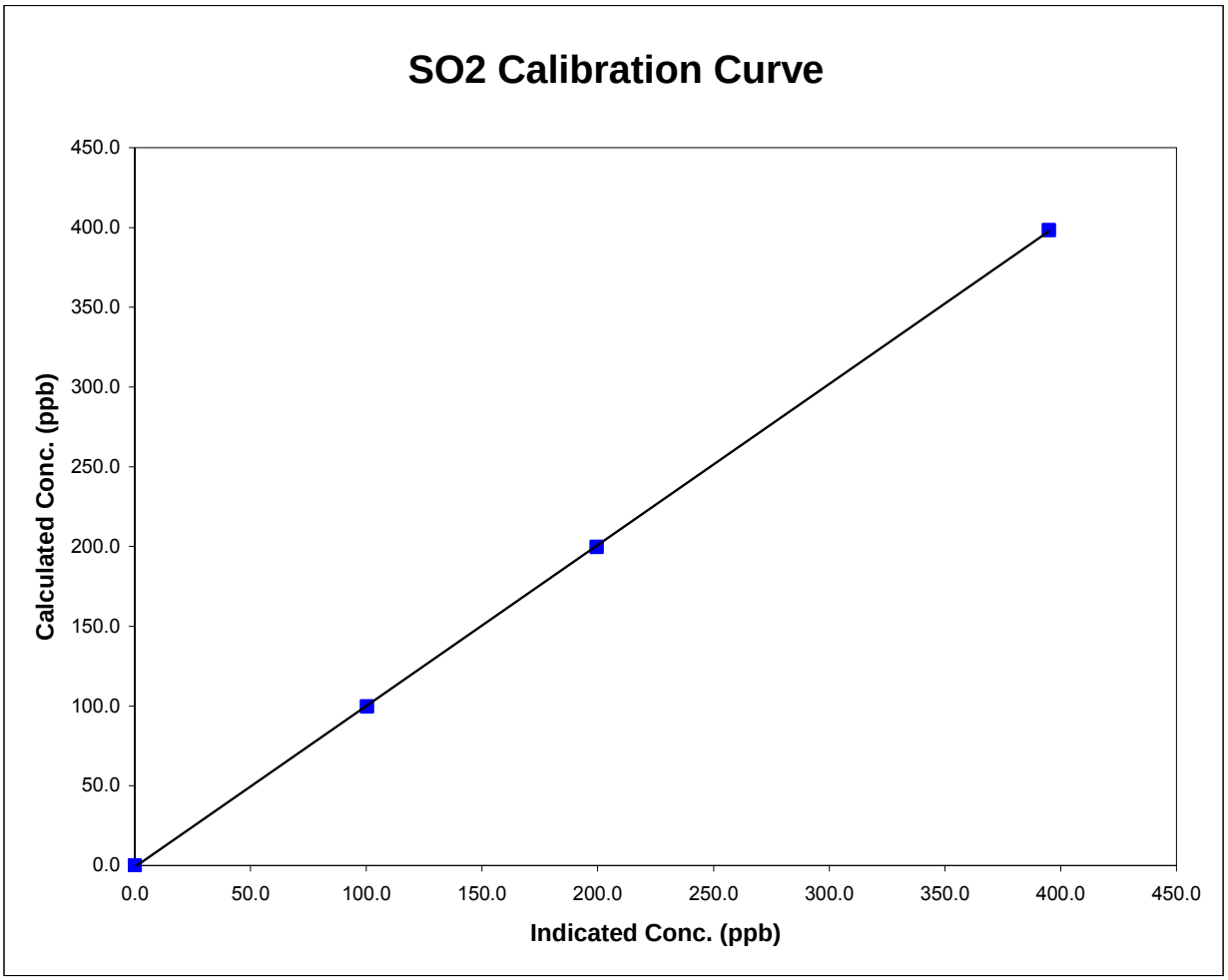
FOCUS AIR QUALITY MONITORING

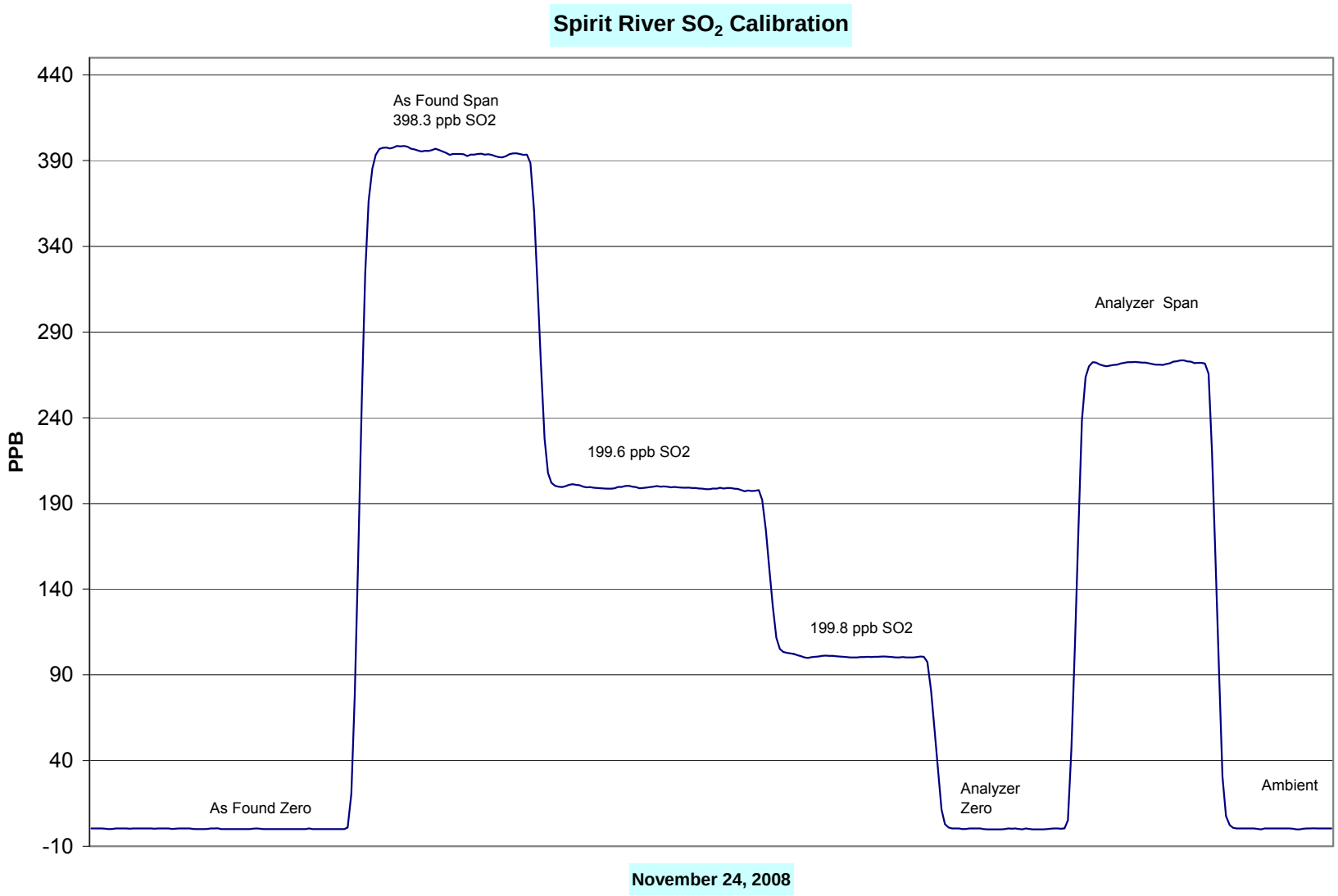
Station Information

Calibration Date	November 24, 2008	Previous Calibration	October 24, 2008
Station Number	8	Station Location	Rover - Spirit River
Start Time (MST)	10:50	End Time (MST)	13:30
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
398.3	394.9	1.0084	Correlation Coefficient	0.999972
199.6	199.6	1.0002		
99.8	100.4	0.9940	Slope	1.009182
			Intercept	-0.900572




Spirit River SO_2 Calibration
440
390
340
290
240
190
140
90
40
-10
PPB
As Found Span
398.3 ppb SO2
199.6 ppb SO2
199.8 ppb SO2
Analyzer Span
As Found Zero
Analyzer
Zero
Ambient
November 24, 2008

Calibration Report

Parameter	TRS
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 24, 2008	Previous Calibration	October 17, 2008
Station Number	6	Station Location	Rover Spirit River
Reason: Routine	Install	Removal	Other:
Start Time (MST)	15:10	End Time (MST)	18:30
Barometric Pressure	27.4 inches Hg	Station Temperature	21.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	5.1 ppm	Cal Gas Expiry Date	11/15/2005
Gas Cert Reference	ALM013295		
DACS make	Focus AP1000	DACS serial No.	52662
DACS voltage range	0 - 5 volt	DACS channel #	8
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.999146	Calculated slope	0.994561
Calculated intercept	-0.319851	Calculated intercept	1.429671
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	9.0	ppb	10.7	ppb
Coefficient	1.454		1.454	
Lamp Voltage	799	V	797	V
Chamber Temp	43.7	C	43.8	C
Perm gas Temp	45	C	45	C
Pressure	662	mmHg	660	mmHg
Sample Flow	423	ccm	433	ccm
Lamp Intensity	38187.0	Hz	39159.0	Hz

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)
4988	0.0	0.0	-1.4	N/A
4991	79.73	80.2	79.2	1.0119
4988	39.81	40.4	39.1	1.0337
4988	9.94	10.1	8.7	1.1624
4988	0.00	0.0	0.4	As found zero
4988	79.88	80.4	80.5	As found span
			Average Correction Factor	1.0693

Calculated value of As Found Response: 79.74 ppm Percent Change of As Found: 0.8%

	before calibration		after calibration	
Auto zero	-0.1	ppm	0.1	ppm
Auto span	72.3	ppm	70.5	ppm

Notes: Zero Adjustment made

Calibration Performed By: Conor Whiteley

Calibration Summary

Parameter	TRS
Air Monitoring Network	PASZA

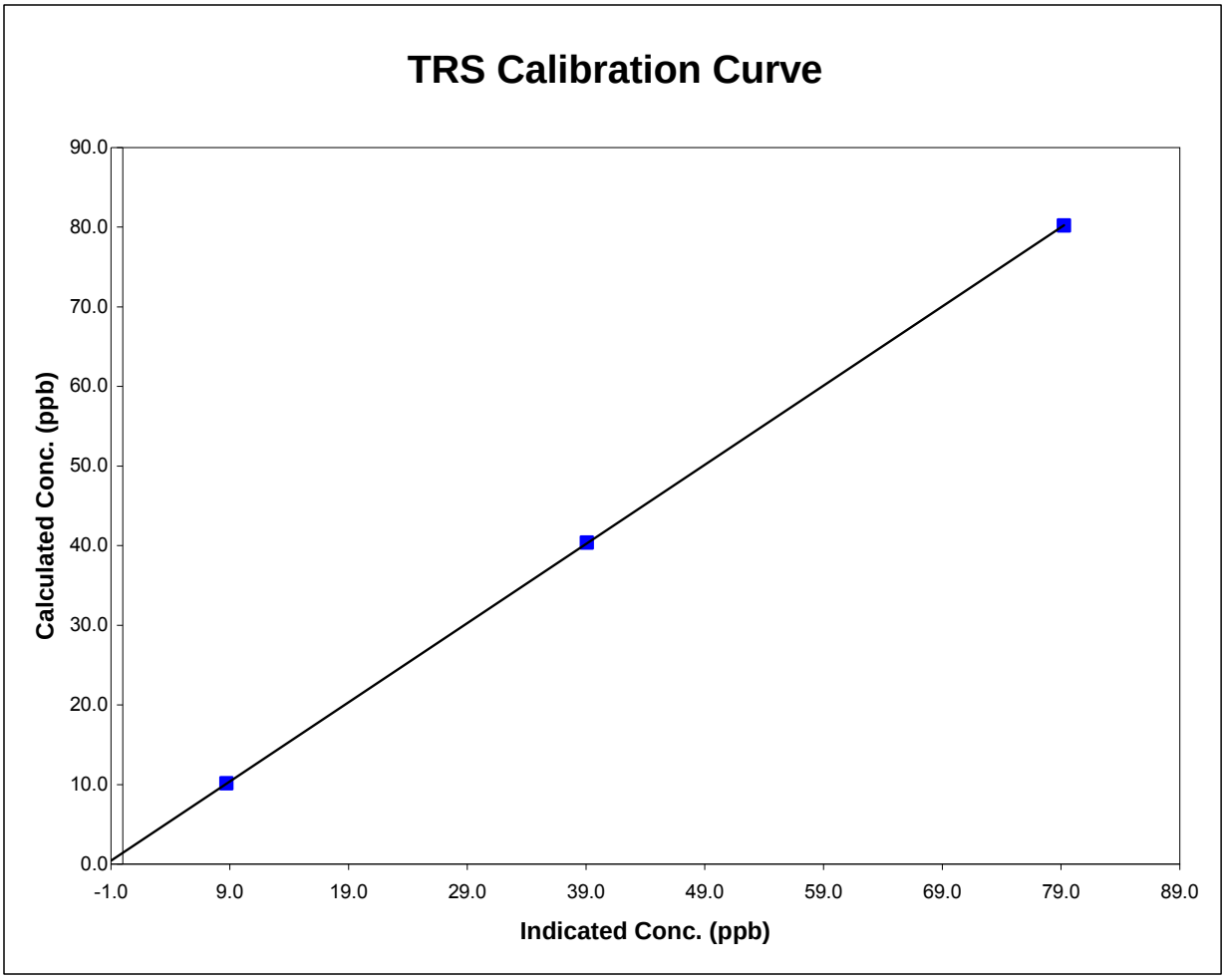
FOCUS AIR QUALITY MONITORING

Station Information

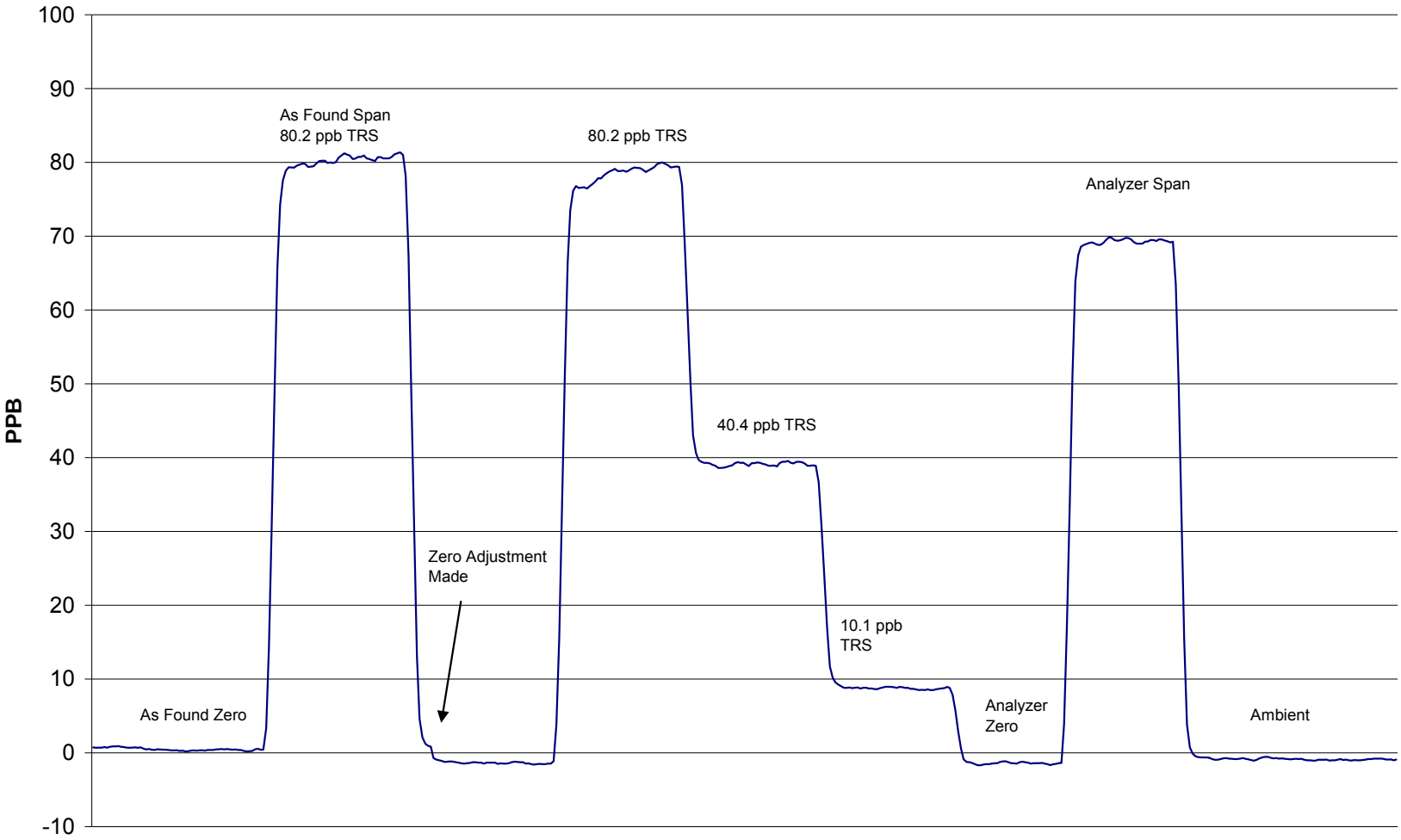
Calibration Date	November 24, 2008	Previous Calibration	October 17, 2008
Station Number	6	Station Location	Rover Spirit River
Start Time (MST)	15:10	End Time (MST)	18:30
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-1.4	N/A		
80.2	79.2	1.0119	Correlation Coefficient	0.999995
40.4	39.1	1.0337		
10.1	8.7	1.1624	Slope	0.994561
			Intercept	1.429671



Spirit River TRS Calibration



November 24, 2008

Calibration Report

Parameter	O3
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 26, 2008	Previous Calibration	October 17, 2008
Station Number	8	Station Location	Rover - Spirit River
Reason: Routine	Install	Removal	Other:
Start Time (MST)	15:30	End Time (MST)	18:15
Barometric Pressure	0.925 atm	Station Temperature	21.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
DACS make	Focus AP1000	DACS serial No.	52662
DACS voltage range	0-5	DACS channel #	7
	Before		After
Calculated slope	0.998915	Calculated slope	1.035946
Calculated intercept	0.788872	Calculated intercept	11.556874
Analyzer make	TEI Model 49C	Analyzer serial #	609-716240

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Offset	0	ppb	0	ppb
Span	1.391		1.24	
Cell A	67172	Hz	64900	Hz
Cell B	64678	Hz	63099	Hz
Pressure	695	in Hg	697	k
CellA Flow	673	ccm	677	ccm
Cell B Flow	671	cmm	679	cmm

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)`1
4990	0.00	0.0	0.0	N/A
4990	0.00	270.7	260.0	1.0409
4990	0.00	183.6	152.9	1.2009
4990	0.00	93.7	71.5	1.3115
4990	0.00	0.0	0.0	As found zero
4990	0.00	273.2	260.0	As found span
			Average Correction Factor	1.1844

Calculated value of As Found Response: 260.6 ppm Percent Change of As Found: -4.6%

	before calibration		after calibration	
Auto zero	1.8	ppb	12.3	ppb
Auto span	216.5	ppb	214.7	ppb

Notes:

Calibration Performed By: Conor Whiteley

Calibration Summary

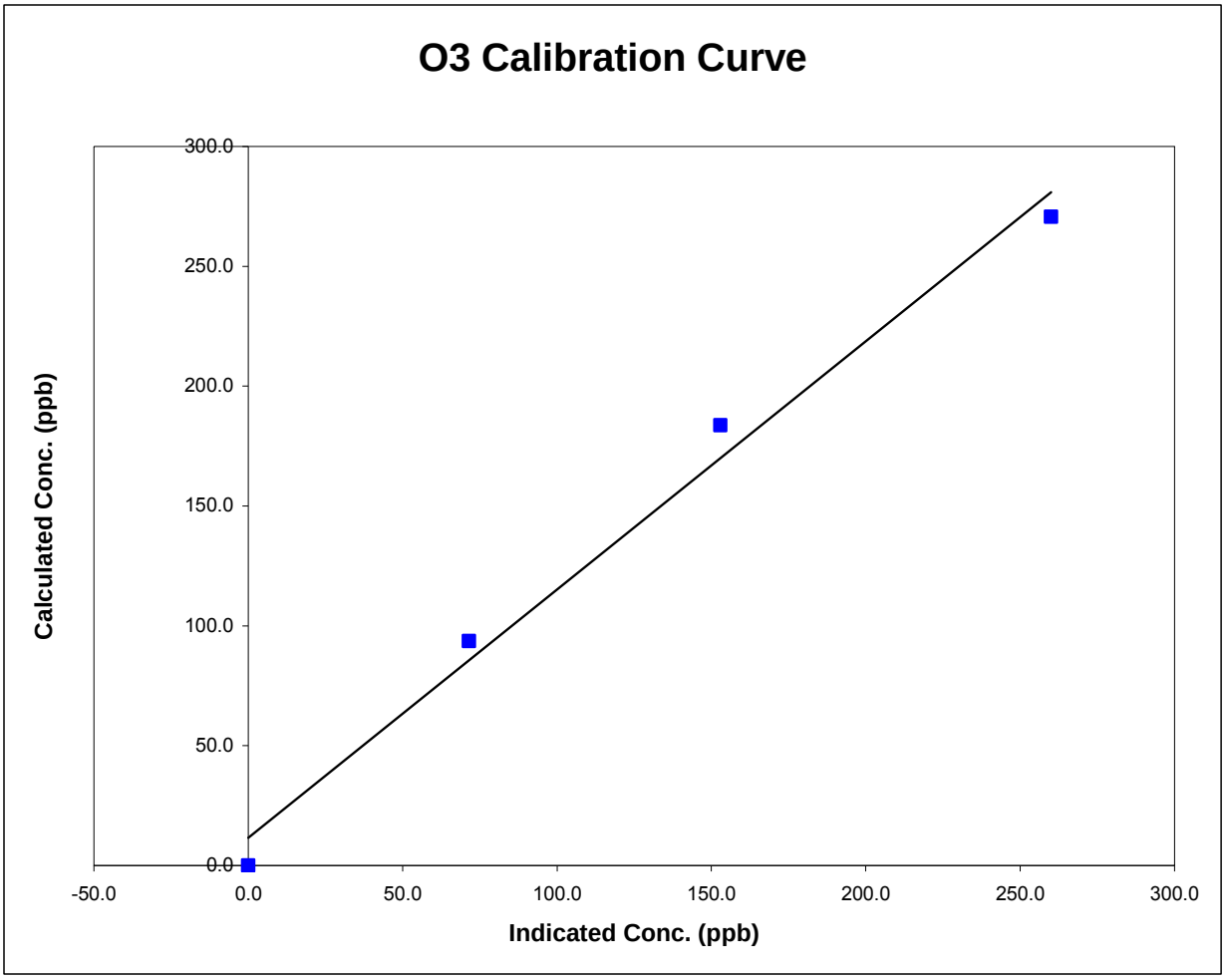
Parameter	O3
Air Monitoring Network	PASZA

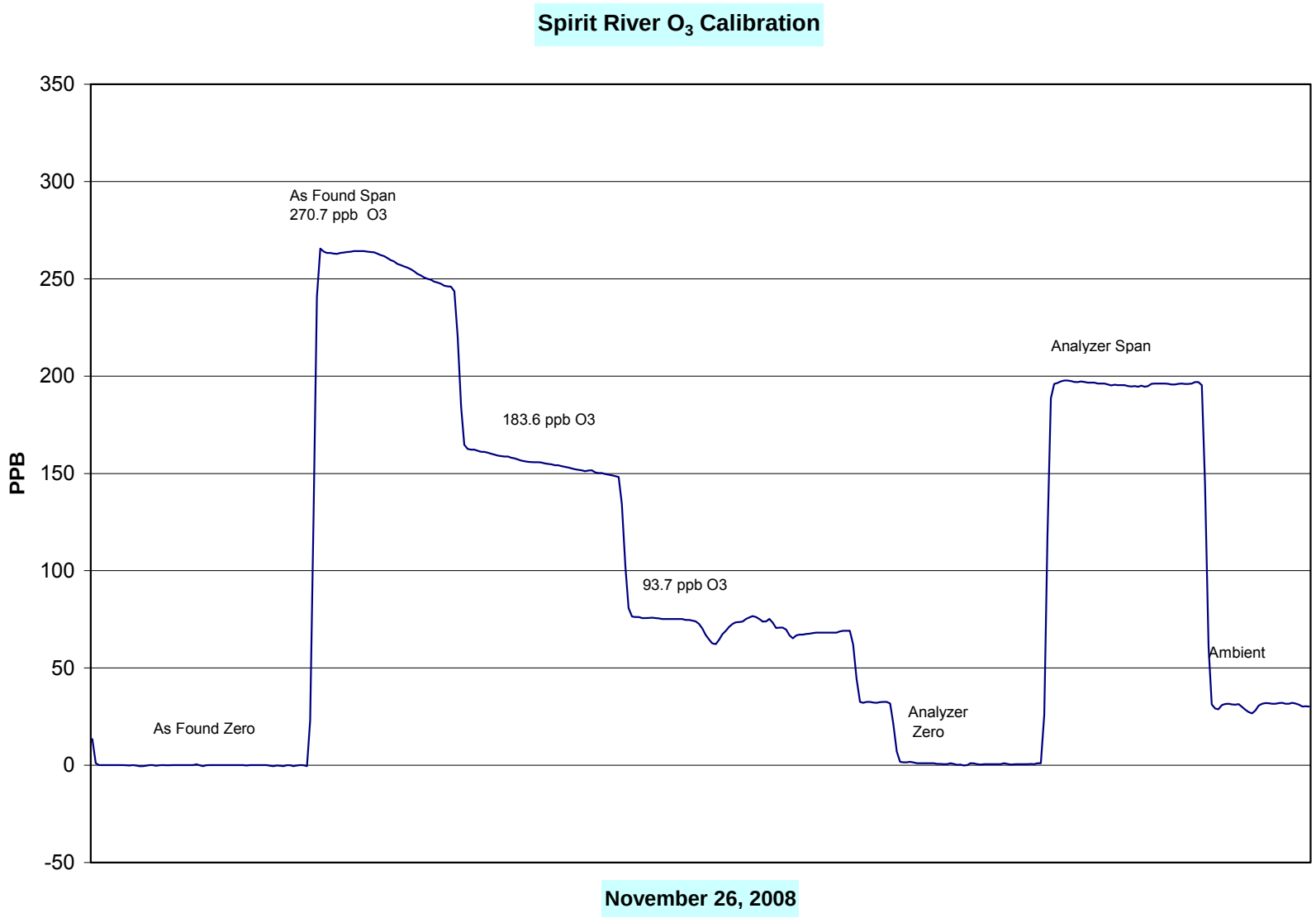
Station Information

Calibration Date	November 26, 2008	Previous Calibration	October 17, 2008
Station Number	8	Station Location	Rover - Spirit River
Start Time (MST)	15:30	End Time (MST)	18:15
Analyzer make/model	TEI Model 49C	Analyzer serial #	609-716240

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	NA		
270.7	260.0	1.0409	Correlation Coefficient	0.987926
183.6	152.9	1.2009		
93.7	71.5	1.3115	Slope	1.035946
			Intercept	11.556874




Spirit River O_3 Calibration
350
300
250
200
150
100
50
0
-50
PPB
As Found Span
270.7 ppb O3
183.6 ppb O3
93.7 ppb O3
Analyzer Span
Ambient
Analyzer
Zero
As Found Zero
November 26, 2008

Calibration Report

Parameter	**NOx-NO-NO_2**
Air Monitoring Network	**PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 24, 2008	Previous Calibration	October 16, 2008
Station Number	8	Station Location	Rover - Spirit River

Reason: Routine Installation Removal Other:

Start Time (MST)	10:50		End Time (MST)	15:00	
Barometric Pressure	27.66	Inches Hg	Station Temperature	22.0	Deg C
Calibrator	Environics 6100		Serial Number	3474	
NO Cal Gas Conc	49.6	ppm	Cal Gas Cert Date	Aug 6 2008	
NOx Cal Gas Conc	49.6	ppm	Cal Gas Serial #	AAL15377	

DACS Information

DACS make	FOCUS AP1000	DACS serial No.	52662

Parameter		NO2	NOx	NO
Before	Data Slope	0.998774	0.999058	0.995999
	Data Offset	-0.264731	-3.465620	-3.333685
After	Data Slope	0.984402	0.986766	0.985042
	Data Offset	0.023715	-1.852541	-1.867288
Channel #		8	6	7
Voltage Range		0 - 10 VDC	0 - 10 VDC	0 - 10 VDC

Analyzer Information

Analyzer make/model	TECO 42i	Analyzer serial #	701120011

Test Point	before		after	
Concentration range	0-500	ppb	0-500	ppb
NO background	5.7	ppb	5.7	mV
NOx background	5.9	ppb	6.0	mV
NO coefficient	1.001		0.980	
NOx coefficient	0.984		1.001	
Chamber Temp	49.8	Deg C	49.8	Deg C
Cooler Temp	-2.7	Deg C	-2.7	Deg C
NO2 Converter Temp	323.7	Deg C	323.7	Deg C
Sample Flow	0.5	ccm	0.5	ccm
Ozonator Flow	OK	LPM	OK	LPM
Preasure	185.0	mm Hg	185.0	mm Hg

Notes: High Voltage Power supply faulure during GPT cut calibration short… will have to return with new HV power supply in order to repair the analyzer.

Calibration Performed By: Conor Whiteley

Calibration Report

Parameter	**NOx-NO-NO_2**
Air Monitoring Network	**PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: November 24, 2008 Station Location: Rover - Spirit River

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	4988	0.00	0.0	0.0	0.0	0.1	0.0	0.3	N/A	N/A
1	4987	39.80	392.7	392.7	0.0	399.2	399.8	0.5	0.9837	0.9823
2	4990	19.89	196.9	196.9	0.0	201.4	202.1	0.3	0.9776	0.9744
3	4990	9.90	98.2	98.2	0.0	103.8	104.0	0.6	0.9462	0.9441
AFZ	4988	0.00	0.0	0.0	0.0	0.1	0.0	0.3	0.0000	0.0000
AFS	4990	39.84	392.9	392.9	0.0	399.2	399.8	0.5	0.9840	0.9827
							Average Correction Factor		0.9692	0.9669

As Found Concentrations: NO_X= 395.7 NO= 396.5 As Found Percent Change NO_X= 0.7% NO= 0.9%

GPT Calibration Data

Dilution Flow 4988 ccm Source Gas Flow 39.82 ccm

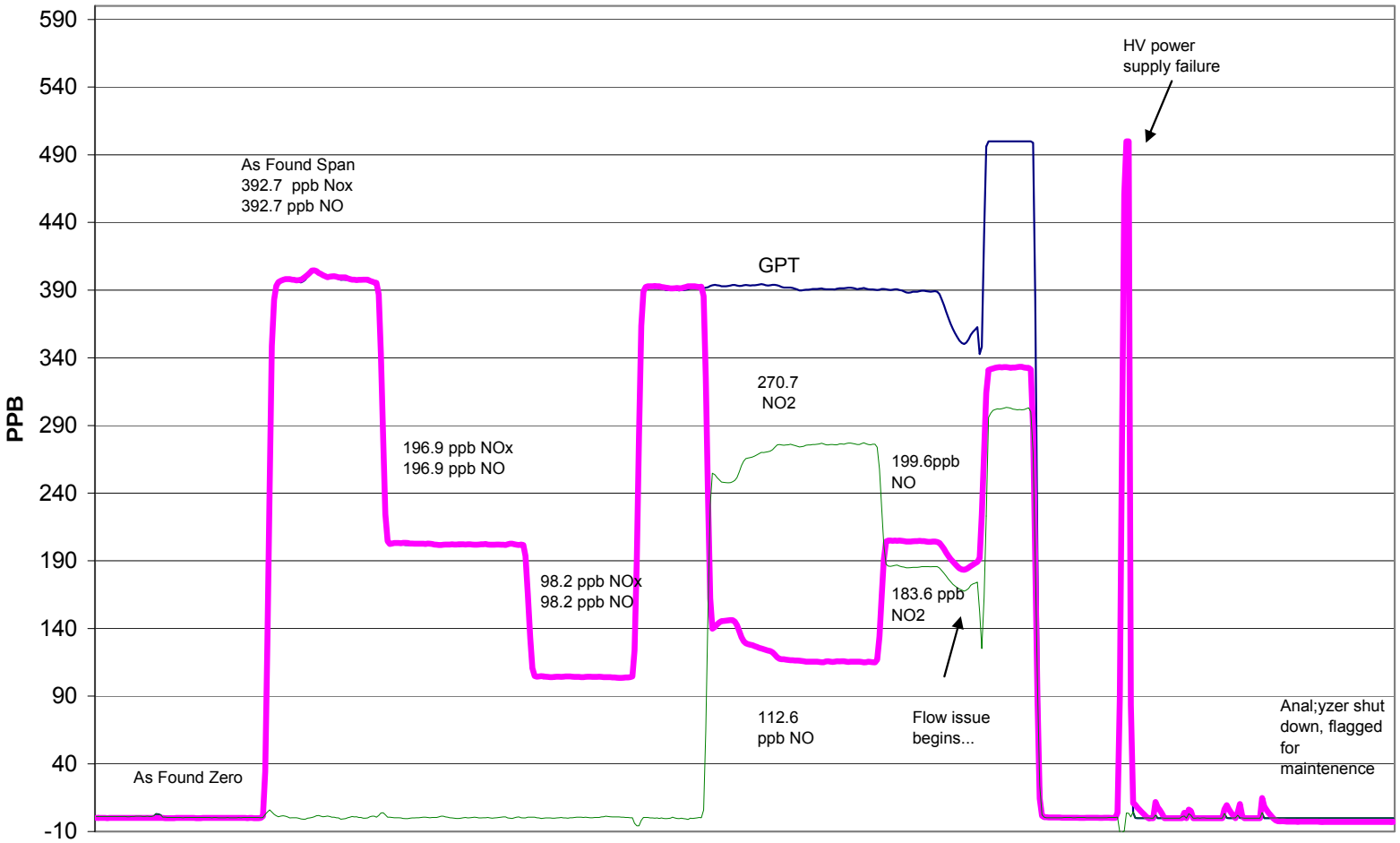
O3 Setpoint (ppb)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A
NO point	383.3	384.4	-1.1	390.7	392.1	-0.3	0.9809	0.9803	N/A	N/A
300	383.3	112.6	270.7	391.2	116.2	275.6	0.9797	0.9690	0.9822	101.8%
200	383.3	199.6	183.6	389.4	204.6	185.6	0.9843	0.9759	0.9896	101.0%
100										
					Average Correction Factor		0.9820	0.9724	0.9859	101.4%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.2	0.9	1.2	ppb	NA	NA	NA	ppb
Auto span	302.8	302.8	-0.2	ppb	NA	NA	NA	ppb

Calibration Performed By: Conor Whiteley

Spirit River NOx Calibration



November 24, 2008

Calibration Summary

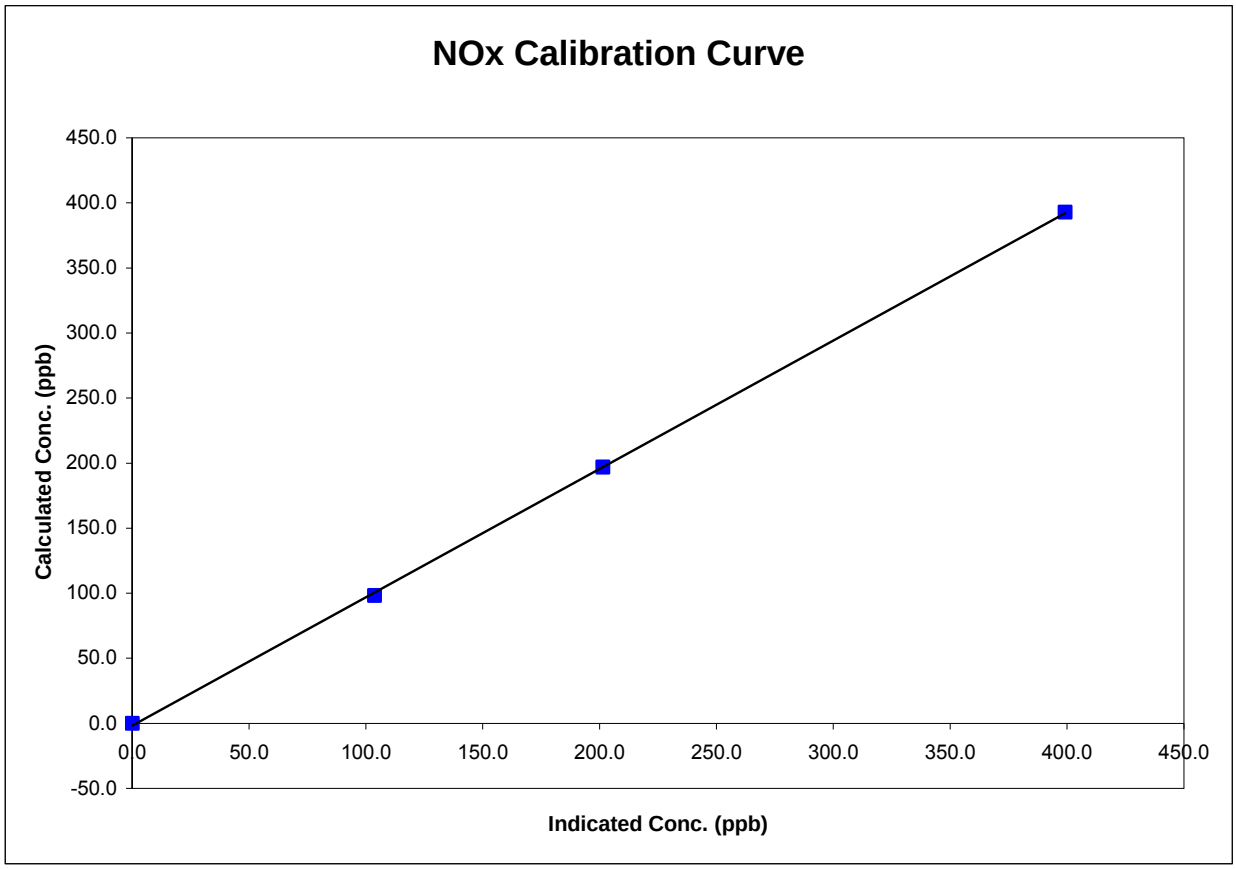
Parameter	NO_x
Air Monitoring Network	PASZA

Station Information

Calibration Date	November 24, 2008	Previous Calibration	October 16, 2008
Station Number	8	Station Location	Rover - Spirit River
Start Time (MST)	10:50	End Time (MST)	15:00
Analyzer make	TECO 42i	Analyzer serial #	701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	0.0000		
392.7	399.2	0.9837	Correlation Coefficient	0.999894
196.9	201.4	0.9776		
98.2	103.8	0.9462	Slope	0.986766
			Intercept	-1.852541



Calibration Summary

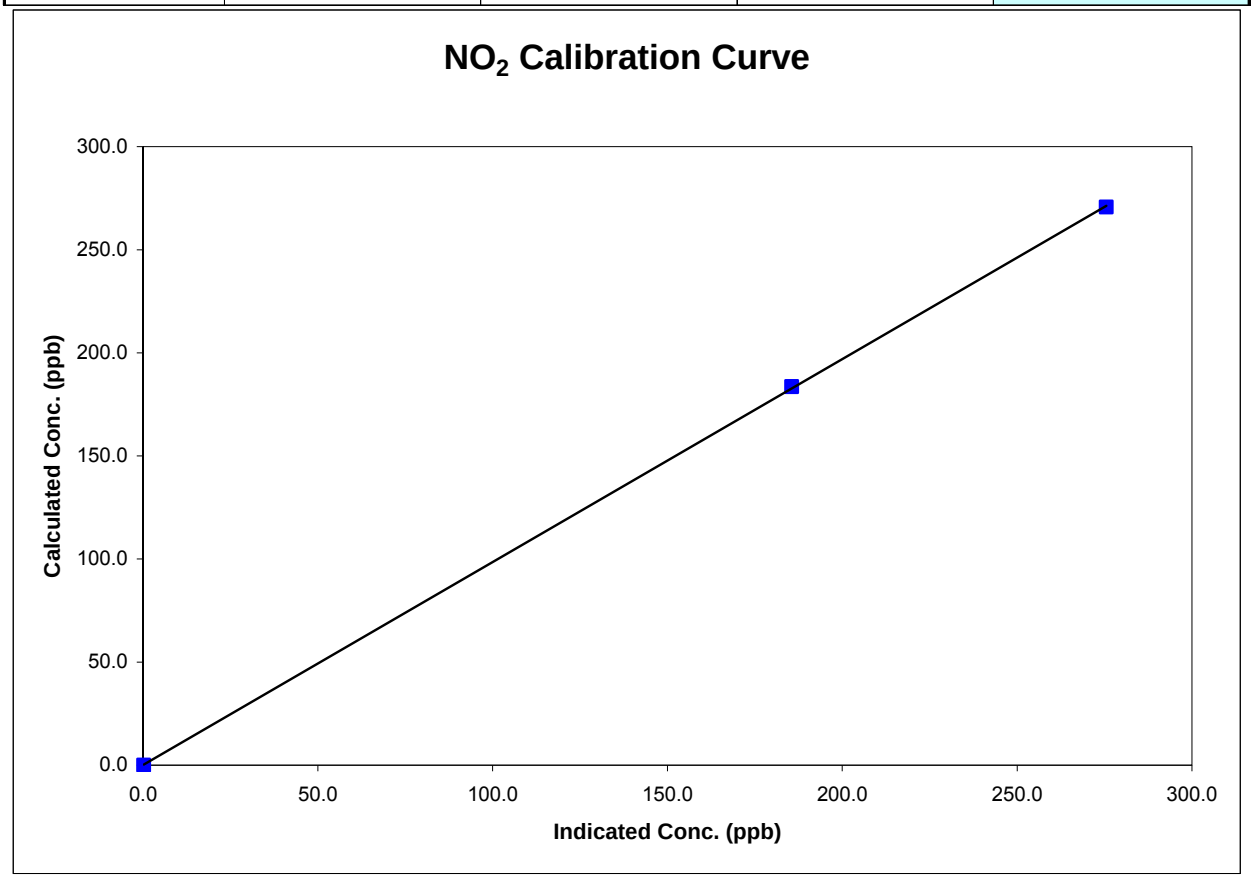
Parameter	NO_2
Air Monitoring Network	PASZA

Station Information

Calibration Date	November 24, 2008	Previous Calibration	October 16, 2008
Station Number	8	Station Location	Rover - Spirit River
Start Time (MST)	10:50	End Time (MST)	15:00
Analyzer make	TECO 42i	Analyzer serial #	701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	0.0000		
270.7	275.6	0.9822	Correlation Coefficient	0.999963
183.6	185.6	0.9896		
			Slope	0.984402
			Intercept	0.023715



Calibration Summary

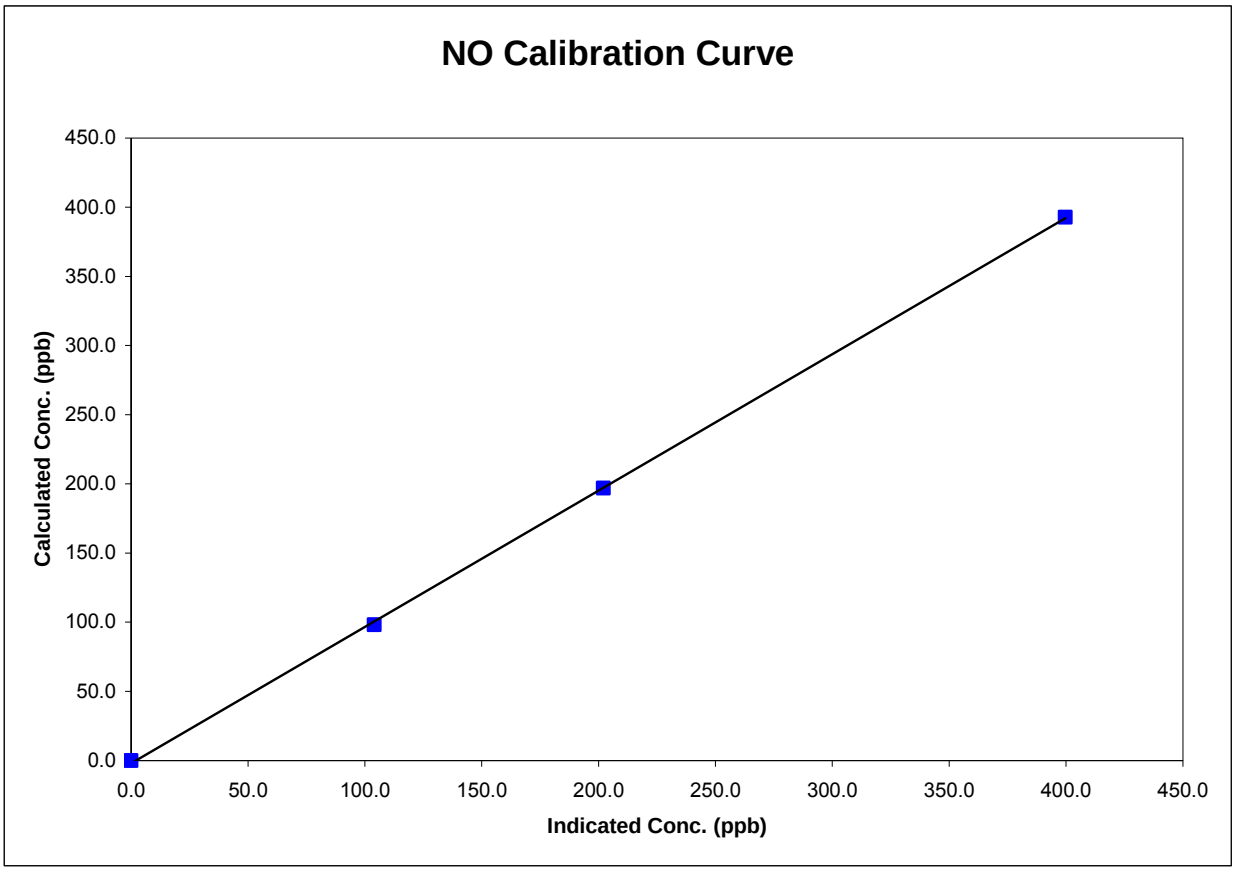
Parameter	NO
Air Monitoring Network	PASZA

Station Information

Calibration Date	November 24, 2008	Previous Calibration	October 16, 2008
Station Number	8	Station Location	Rover - Spirit River
Start Time (MST)	10:50	End Time (MST)	15:00
Analyzer make	TECO 42i	Analyzer serial #	701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
392.7	399.8	0.9823	Correlation Coefficient	0.999881
196.9	202.1	0.9744		
98.2	104.0	0.9441	Slope	0.985042
			Intercept	-1.867288



Calibration Report

Parameter	SO2
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 17, 2008	Previous Calibration	October 7, 2008
Station Number	6	Station Location	Valleyview
Reason: Routine	Install	Removal	Other:
Start Time (MST)	11:20	End Time (MST)	14:05
Barometric Pressure	27.52 inches Hg	Station Temperature	23.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	50.6 ppm	Cal Gas Cert Date	8/6/2008
Gas Cert Reference	AAL 56996		
DACS make	Focus AP1000	DACS serial No.	45274
DACS voltage range	0 - 10 volt	DACS channel #	4
	Before		After
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.989862	Calculated slope	0.998832
Calculated intercept	-1.513525	Calculated intercept	-2.076118
Analyzer make	TEI 43i	Analyzer serial #	43C-57351-313

	before		after	
Concentration range	0 - 1000	ppb	0 - 1000	ppb
Background	27.6		27.5	
Coefficient	0.724		0.726	
UV Lamp Voltage	694	Vlt	695	LPM
Chamber Temp	45	C	44.8	V
Perm Gas Temp	26.8	C	28	C
Pressure	620.8	in Hg	623.7	in Hg
Sample Flow	0.469	LPM	0.471	LPM
Lamp Intesity	44376	Hz	45766	Hz

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)
4988	0.00	0.0	0.7	N/A
4983	39.88	401.7	403.7	0.9952
4988	19.92	201.3	203.9	0.9869
4988	9.90	100.2	104.1	0.9628
4988	0.00	0.0	0.7	As found zero
4988	39.88	401.3	403.7	As found span
			Average Correction Factor	0.9816

Calculated value of As Found Response: 397.430 ppm Percent Change of As Found: 1.0%

	before calibration		after calibration	
Auto zero	-1.5	ppm	-1.5	ppm
Auto span	167.9	ppm	164.3	ppm

Notes:

Calibration Performed By: Conor Whiteley

Calibration Summary

Parameter	SO2
Air Monitoring Network	PASZA

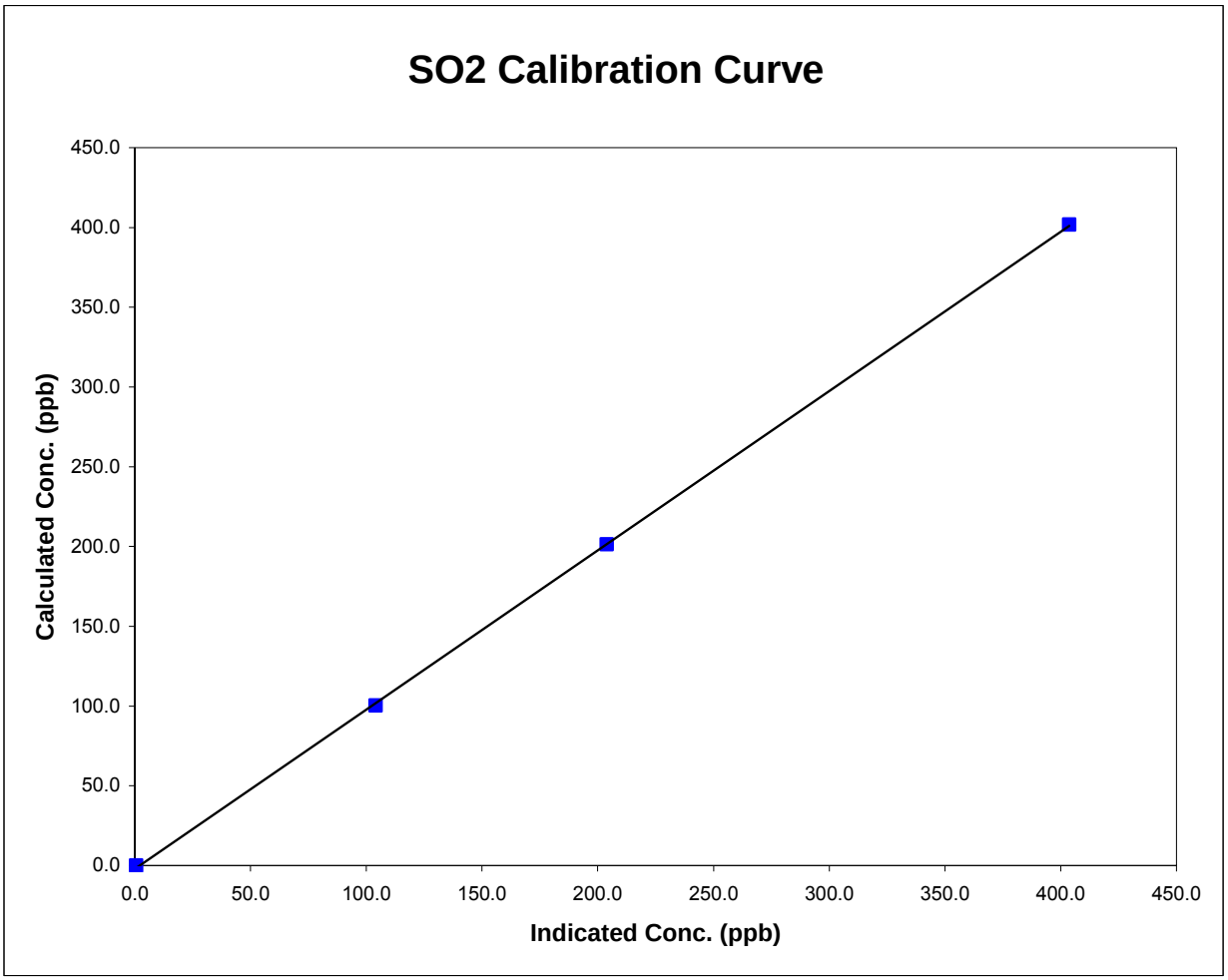
FOCUS AIR QUALITY MONITORING

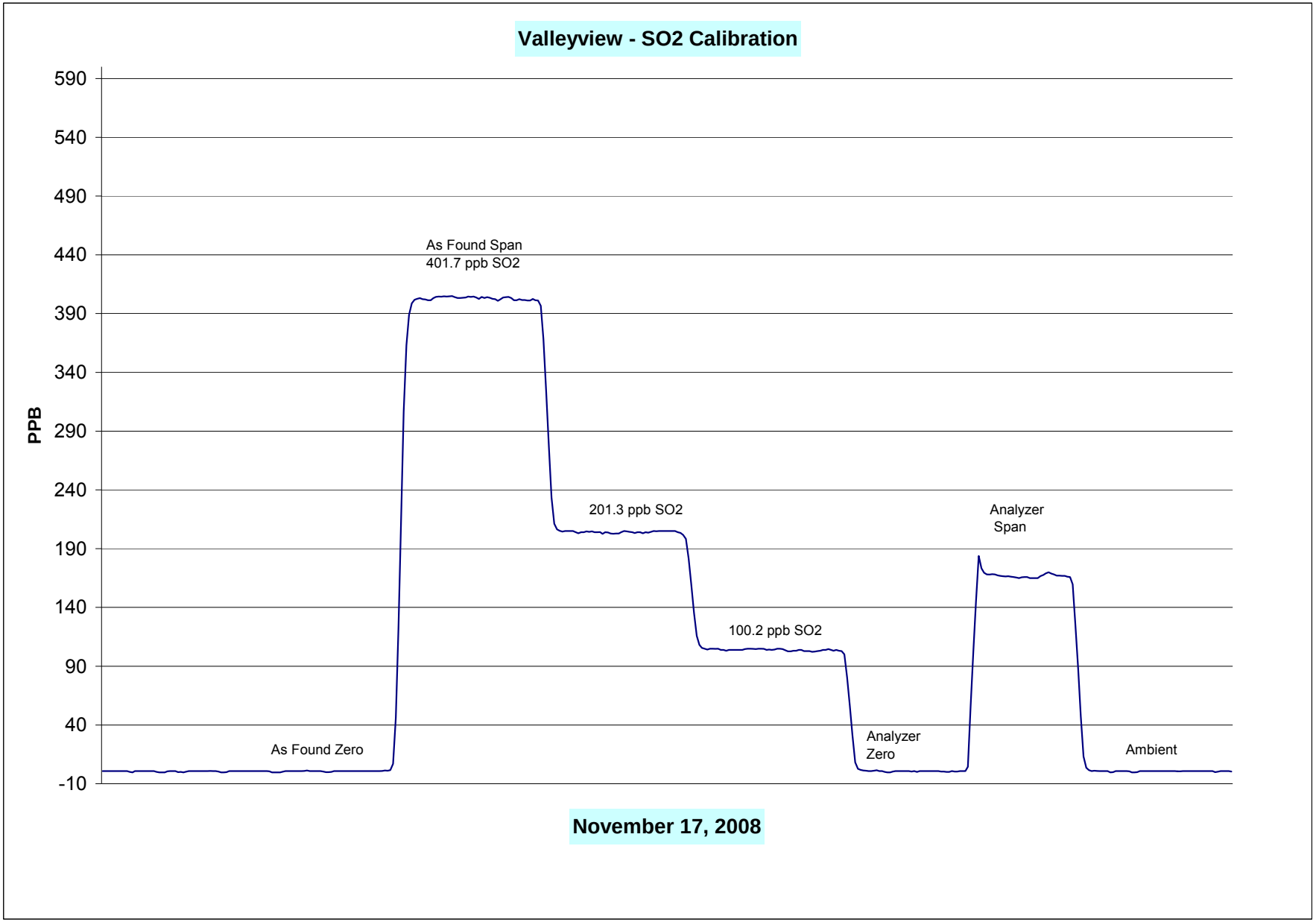
Station Information

Calibration Date	November 17, 2008	Previous Calibration	October 7, 2008
Station Number	6	Station Location	Valleyview
Start Time (MST)	11:20	End Time (MST)	14:05
Analyzer make/model	TEI 43i	Analyzer serial #	43C-57351-313

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.7	N/A		
401.7	403.7	0.9952	Correlation Coefficient	0.999940
201.3	203.9	0.9869		
100.2	104.1	0.9628	Slope	0.998832
			Intercept	-2.076118




Valleyview - SO2 Calibration
590
540
490
440
390
340
290
240
190
140
90
40
-10
PPB
As Found Span
401.7 ppb SO2
201.3 ppb SO2
100.2 ppb SO2
Analyzer
Span
As Found Zero
Analyzer
Zero
Ambient
November 17, 2008

Calibration Report

Parameter	H2S
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 17, 2008	Previous Calibration	October 7, 2008
Station Number	5	Station Location	Valleyview
Reason: Routine	Install	Removal	Other:
Start Time (MST)	13:30	End Time (MST)	16:10
Barometric Pressure	27.46 inches Hg	Station Temperature	23.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	5.1 ppm	Cal Gas Expiry Date	4/4/2009
Gas Cert Reference	ALM013295		
DACS make	Focus AP1000	DACS serial No.	1
DACS voltage range	0 - 10 volt	DACS channel #	9
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.025150	Calculated slope	1.038531
Calculated intercept	-0.161163	Calculated intercept	-0.103418
Analyzer make	TEI Model 43A	Analyzer serial #	43A-25575-221

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Back Ground	4.7	ppb	4.8	ppb
Coefficient	1.026		1.026	
Lamp Voltage	791	V	794	V
Chamber Temp	45	c	44.9	c
Perm Oven Temp	45	c	44.95	c
Pressure	640	mm Hg	639	mm Hg
Sample Flow	.442	ccm	446	ccm
Lamp Intensity	90.0	%	90.0	%

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)
4988	0.00	0.0	0.1	N/A
4989	79.73	80.2	77.4	1.0368
4988	39.88	40.5	39.0	1.0374
4988	9.93	10.1	9.8	1.0295
4988	0.00	0.0	0.1	As found zero
4989	79.73	80.2	77.4	As found span
			Average Correction Factor	1.0346

Calculated value of As Found Response: 79.02 ppm Percent Change of As Found: 1.5%

	before calibration		after calibration	
Auto zero	-0.1	ppm	0.1	ppm
Auto span	65.1	ppm	64.5	ppm

Notes:

Calibration Performed By: Conor Whiteley

Calibration Summary

Parameter	H2S
Air Monitoring Network	PASZA

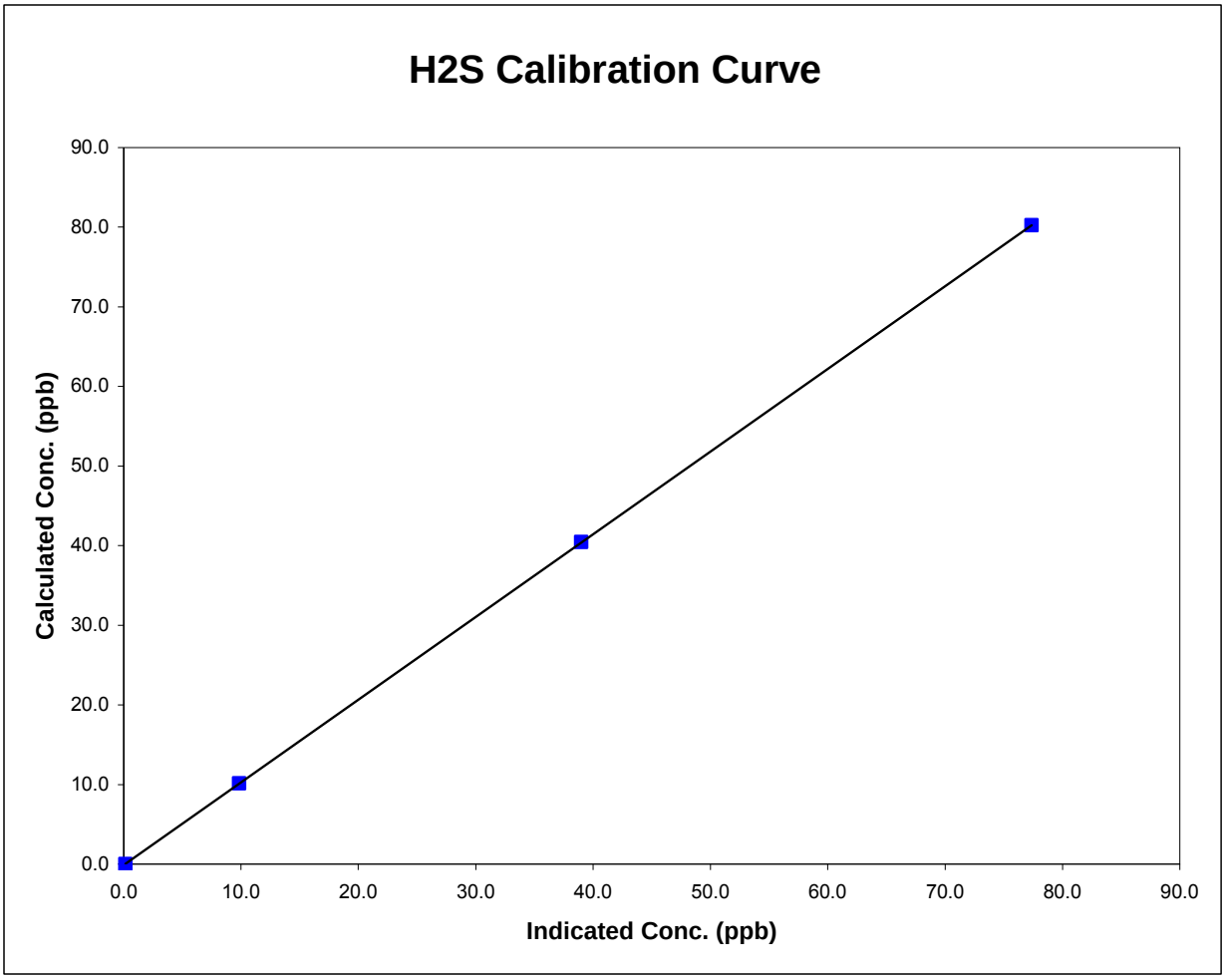
FOCUS AIR QUALITY MONITORING

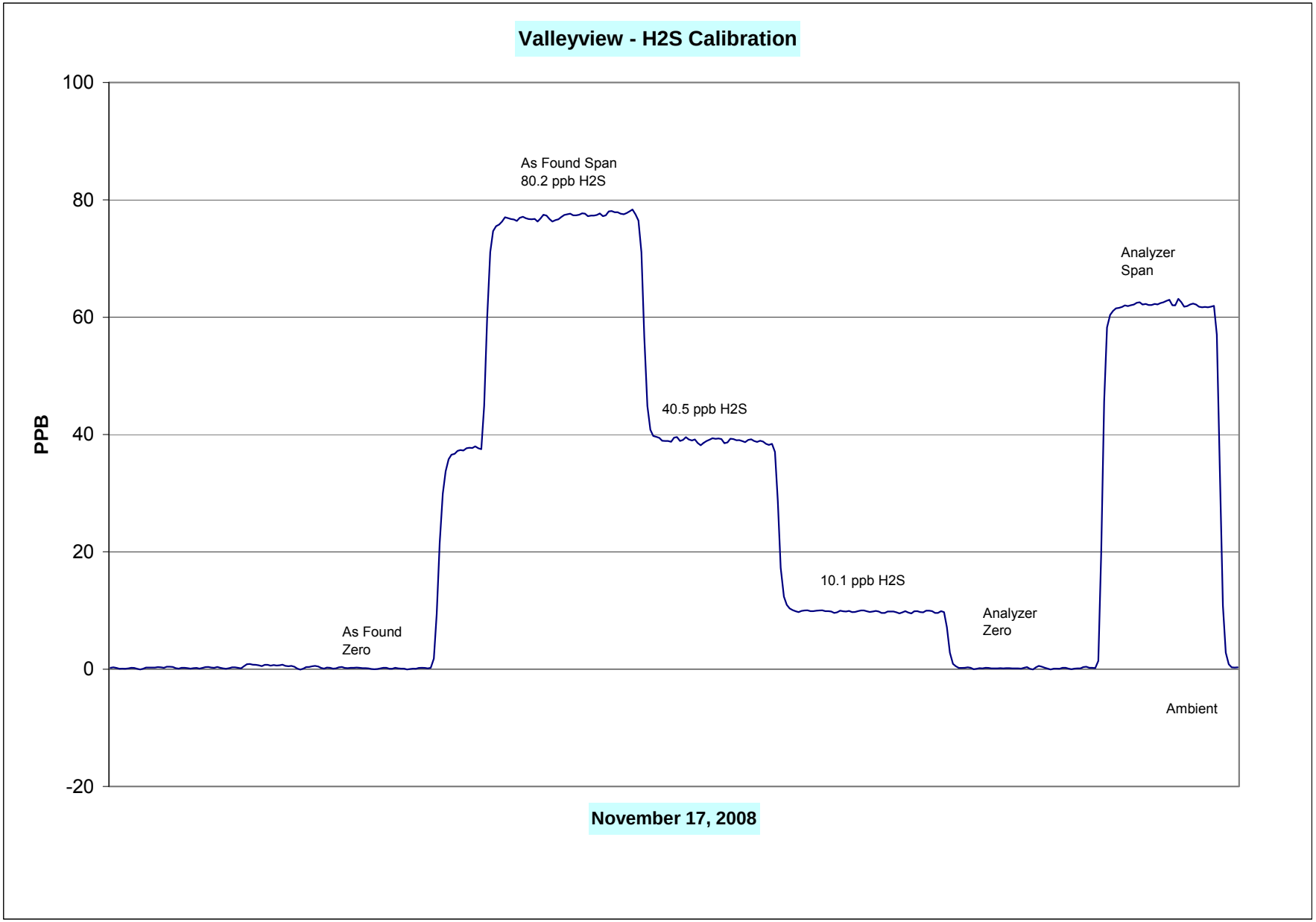
Station Information

Calibration Date	November 17, 2008	Previous Calibration	October 7, 2008
Station Number	5	Station Location	Valleyview
Start Time (MST)	13:30	End Time (MST)	16:10
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	0.1	N/A		
80.2	77.4	1.0368	Correlation Coefficient	0.999998
40.5	39.0	1.0374		
10.1	9.8	1.0295	Slope	1.038531
			Intercept	-0.103418




Valleyview - H2S Calibration
100
80
60
40
20
0
-20
PPB
As Found Span
80.2 ppb H2S
40.5 ppb H2S
10.1 ppb H2S
Analyzer
Span
Analyzer
Zero
As Found
Zero
Ambient
November 17, 2008