Peace AirShed Zone Association

Ambient Air Monitoring Network Summary

Continuous Ambient Air Quality Monitoring Program
Monthly Report
November 2009

Operations and Reporting

FOCUS
AIR QUALITY MONITORING

PASZA
Peace AirShed Zone Association

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January 4, 2010

Alberta Environment
11th Floor, Oxbridge Place
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RE: Peace Airshed Zone Association (PASZA) – November 2009 Ambient Air Report

Enclosed is the PASZA Ambient Monitoring Network Report for the month of **November 2009**.

Continuous Monitoring: **Six (6) Stations including Henry Pirker (Grande Prairie), Evergreen Park, Smoky Heights, Beaverlodge, Kinuso (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 and sensors at the Henry Pirker station had an operational uptime greater than 90% for the month of November.

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% for the month of November.

Smoky Heights Station:

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

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.

Portable – Kinuso Station:

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

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 of 100% for the month of November.

Passive Monitoring - 43 Stations throughout the PASZA zone:

There were four duplicate sites sampled in the month of November: Silver Valley, Hythe, Flyingshot and McLennan. The passive sample analyses were performed by MAXXAM Analytics Inc.

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

- Monthly average concentrations for SO_2 passives ranged from 0.1 ppb to 0.5 ppb, with a mean of 0.2 ppb.
- Monthly average concentrations for NO_2 passives ranged from 0.6 ppb to 9.6 ppb, with a mean of 1.9 ppb.
- Monthly average concentrations for O_3 passives ranged from 21.5 ppb to 39.6 ppb, with a mean of 29.3 ppb.

If you have any questions, please contact the Focus Intec office at 1.403.263.8200 (Kelly Baragar or Sharon Whiteley).

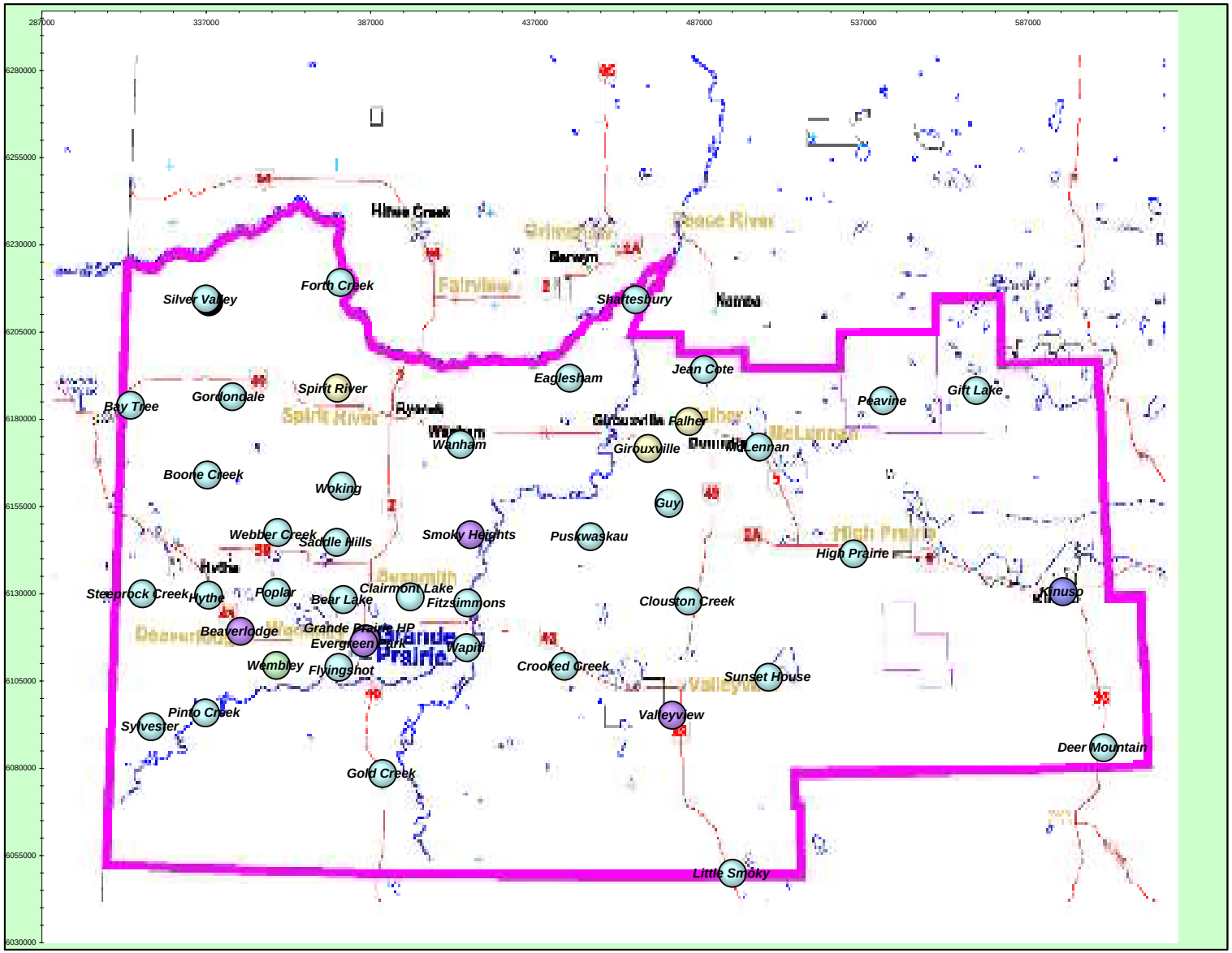
On Behalf of the,
Peace Airshed Zone Association

Sharon L Whiteley

Shelly Pruden
Executive Director

Sharon Whiteley, B.Sc..
FOCUS AQM Data Specialist

Location of PASZA Continuous and Passive Monitoring Stations



PASZA Monthly Continuous Data Summary

Nov-2009	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	3.3	Nov-14 05:00	0.7	Nov-14	100.0%
SO_2 (ppb)	172	57	Evergreen Park	0.3	0	0	17.5	Nov-03 15:00	2.2	Nov-03	100.0%
SO_2 (ppb)	172	57	Smoky Heights	0.3	0	0	5.9	Nov-11 22:00	1.6	Nov-24	99.9%
SO_2 (ppb)	172	57	Beaverlodge	0.2	0	0	1.4	Nov-20 13:00	0.7	Nov-20	99.9%
SO_2 (ppb)	172	57	Portable-Kinuso	0.2	0	0	5.3	Nov-23 01:00	0.8	Nov-23	99.9%
SO_2 (ppb)	172	57	Valleyview	0.2	0	0	2.4	Nov-03 13:00	0.5	Nov-11	100.0%
NO (ppb)			Henry Pirker	10.5	-	-	190.1	Nov-19 20:00	38.4	Nov-19	100.0%
NO_2 (ppb)	212	106	Henry Pirker	15.6	0	0	49.5	Nov-23 10:00	24.5	Nov-23	100.0%
NO_X (ppb)			Henry Pirker	26.2	-	-	234.8	Nov-19 20:00	62.5	Nov-19	100.0%
NO (ppb)			Beaverlodge	1.2	-	-	51.4	Nov-04 12:00	6.8	Nov-25	99.9%
NO_2 (ppb)	212	106	Beaverlodge	5.2	0	0	30.2	Nov-22 22:00	16.0	Nov-25	99.9%
NO_X (ppb)			Beaverlodge	6.6	-	-	71.5	Nov-04 12:00	23.0	Nov-25	99.9%
NO (ppb)			Portable-Kinuso	0.2	-	-	6.1	Nov-23 17:00	0.6	Nov-23	99.9%
NO_2 (ppb)	212	106	Portable-Kinuso	2.1	0	0	21.4	Nov-23 17:00	5.6	Nov-23	99.9%
NO_X (ppb)			Portable-Kinuso	2.2	-	-	27.7	Nov-23 17:00	6.2	Nov-23	99.9%
O_3 (ppb)	82		Henry Pirker	15.9	0	-	33.7	Nov-06 04:00	26.8	Nov-29	100.0%
O_3 (ppb) - 8-hr			Henry Pirker		0				31.8	Nov-29	
O_3 (ppb)	82		Beaverlodge	27.6	0	-	39.9	Nov-06 04:00	35.5	Nov-12	99.9%
O_3 (ppb) - 8-hr			Beaverlodge		0				38.4	Nov-29	
O_3 (ppb)	82		Portable-Kinuso	26.9	0	-	41.0	Nov-17 16:00	34.9	Nov-06	99.9%
O_3 (ppb) - 8-hr			Portable-Kinuso		0				38.9	Nov-17	
CO (ppm)	13		Henry Pirker	0.26	0	-	2.3	Nov-23 10:00	0.5	Nov-23	99.9%
CO (ppm) - 8-hr	5		Henry Pirker		0				1.0	Nov-23	
THC (ppm)			Henry Pirker	2.16	-	-	3.7	Nov-22 08:00	2.6	Nov-22	99.9%
TRS (ppb)			Henry Pirker	0.3	-	-	1.5	Nov-23 10:00	0.9	Nov-23	100.0%
TRS (ppb)			Evergreen Park	0.6	-	-	2.5	Nov-05 20:00	0.9	Nov-22	100.0%
TRS (ppb)			Smoky Heights	0.2	-	-	0.6	Nov-05 18:00	0.3	Nov-04	99.9%
TRS (ppb)			Portable-Kinuso	0.4	-	-	0.6	Nov-05 16:00	0.5	Nov-29	99.9%
H_2S (ppb)	10	3	Valleyview	0.1	0	0	0.5	Nov-18 23:00	0.2	Nov-26	100.0%
$PM_{2.5}$ ($\mu g/m^3$)	80	30	Henry Pirker	4.1	0	0	29.0	Nov-19 21:00	12.2	Nov-19	100.0%
$PM_{2.5}$ ($\mu g/m^3$)	80	30	Evergreen Park	3.5	0	0	29.0	Nov-09 22:00	9.8	Nov-19	99.6%
$PM_{2.5}$ ($\mu g/m^3$)	80	30	Smoky Heights	2.9	0	0	47.2	Nov-19 00:00	10.5	Nov-19	99.7%
$PM_{2.5}$ ($\mu g/m^3$)	80	30	Beaverlodge	5.6	0	0	24.0	Nov-25 19:00	14.5	Nov-25	99.9%

PASZA Monthly Continuous Data Summary – continued

Nov-2009	Peace Airshed Zone Assocation						Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
RH (%)			Henry Pirker	67.5	-	-	91.2	Nov-03 02:00	87.1	Nov-16	100.0%
RH (%)			Evergreen Park	69.1	-	-	97.3	Nov-17 07:00	95.0	Nov-16	100.0%
RH (%)			Beaverlodge	71.1	-	-	96.5	Nov-16 02:00	94.5	Nov-16	99.9%
RH (%)			Valleyview	63.3	-	-	97.4	Nov-03 01:00	90.5	Nov-16	100.0%
SR (W/m^2)			Henry Pirker	30.0	-	-	258.3	Nov-03 14:00	56.4	Nov-01	100.0%
Temp (°C)			Henry Pirker	-1.5	-	-	7.4	Nov-06 13:00	4.3	Nov-06	100.0%
Temp (°C)			Evergreen Park	-0.8	-	-	8.5	Nov-05 23:00	5.5	Nov-06	100.0%
Temp (°C)			Smoky Heights	-2.2	-	-	6.7	Nov-05 22:00	3.7	Nov-06	99.9%
Temp (°C)			Beaverlodge	-1.5	-	-	6.0	Nov-06 01:00	2.9	Nov-06	99.9%
Temp (°C)			Portable-Kinuso	0.5	-	-	13.2	Nov-05 15:00	6.4	Nov-06	99.9%
Temp (°C)			Valleyview	-0.5	-	-	12.4	Nov-05 15:00	5.9	Nov-05	100.0%
WSPD s (km/hr)			Henry Pirker	8.5	-	-	31.0	Nov-29 16:00	16.4	Nov-29	94.6%
WSPD s (km/hr)			Evergreen Park	6.0	-	-	31.0	Nov-06 22:00	16.1	Nov-06	100.0%
WSPD s (km/hr)			Smoky Heights	12.4	-	-	35.0	Nov-17 23:00	24.7	Nov-07	99.9%
WSPD s (km/hr)			Beaverlodge	10.3	-	-	42.0	Nov-12 15:00	22.1	Nov-29	99.9%
WSPD s (km/hr)			Portable-Kinuso	7.1	-	-	18.0	Nov-14 19:00	10.9	Nov-09	99.9%
WSPD s (km/hr)			Valleyview	5.8	-	-	24.0	Nov-06 05:00	9.9	Nov-30	100.0%
WSPD v (km/hr)			Henry Pirker	4.7	-	-	31.0	Nov-29 16:00	15.9	Nov-29	94.6%
WSPD v (km/hr)			Evergreen Park	4.2	-	-	30.0	Nov-06 22:00	15.4	Nov-06	100.0%
WSPD v (km/hr)			Smoky Heights	8.9	-	-	35.0	Nov-17 23:00	24.6	Nov-07	99.9%
WSPD v (km/hr)			Beaverlodge	5.6	-	-	42.0	Nov-12 15:00	21.7	Nov-29	99.9%
WSPD v (km/hr)			Portable-Kinuso	4.2	-	-	17.0	Nov-14 19:00	10.4	Nov-09	99.9%
WSPD v (km/hr)			Valleyview	3.5	-	-	24.0	Nov-06 05:00	9.2	Nov-30	100.0%
WDIR			Henry Pirker	SW	-	-	-	-	-	-	94.6%
WDIR			Evergreen Park	WSW	-	-	-	-	-	-	100.0%
WDIR			Smoky Heights	WSW	-	-	-	-	-	-	99.9%
WDIR			Beaverlodge	WSW	-	-	-	-	-	-	99.9%
WDIR			Portable-Kinuso	SSW	-	-	-	-	-	-	99.9%
WDIR			Valleyview	SW	-	-	-	-	-	-	100.0%

Continuous Network Equipment Summary

PASZA – Henry Pirker Station

General Station Issues

Routine monthly calibrations were performed on November 5th (SO_2, NO_X & O_3), November 8th (TRS, THC & CO), November 9th ($PM_{2.5}$) and November 23rd (THC).

Parameter	Make	Model	Notes
SO_2	TEI	43C	No operational issues observed.
NOx/NO/NO_2	TEI	42C	No operational issues observed.
O_3	TEI	49C	No operational issues observed.
CO	TEI	48C	One (1) hour was flagged for maintenance on November 11th – changed out cylinder.
THC	TEI	51-CLT	One (1) hour was flagged for maintenance on November 11th – changed out cylinder. A second calibration was performed on November 23rd to ensure operational efficiency.
TRS	TEI	43C	No operational issues observed.
$PM_{2.5}$	R&P	1400AB	No operational issues observed.
RH	Met One	083D	No operational issues observed.
ET	Met One	083D	No operational issues observed.
SR	Met One	096-1	No operational issues observed.
WS	Met One	010C	Thirty-nine (39 hours were flagged invalid due to flatlining (due to freezing).
WD	Met One	020C	Thirty-nine (39 hours were flagged invalid due to flatlining (due to freezing).

PASZA – Evergreen Park Station

General Station Issues

Routine monthly calibrations were performed on November 21st (SO_2, TRS & $PM_{2.5}$).

Parameter	Make	Model	Notes
SO_2	TEI	43i	No operational issues observed.
TRS	TEI	43C	TRS spans dropped from November 28th to end of month – new perm tube was installed December 2nd.
$PM_{2.5}$	R&P	1400AB	Two (2) hours were flagged maintenance on November 11th (sample filter change & leak/flow check). One (1) hour was flagged for baseline drift.
ET	Met One/Gill	083D	No operational issues observed.
RH	Met One/Gill		No operational issues observed.
WS	Met One/ Gill	010C	No operational issues observed.
WD	Met One/ Gill	020C	No operational issues observed.

PASZA – Smoky Heights Station

General Station Issues

Routine monthly calibrations were performed on November 26th (TRS, SO_2 & $PM_{2.5}$). One (1) hour of data was flagged invalid for all parameters due to communication/DACS error on November 1st.

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	One (1) hour were flagged invalid due to baseline drift.
ET	Met One	083D	No operational issues observed.
WS	Met One	010C	No operational issues observed.
WD	Met One	020C	No operational issues observed.

PASZA – Beaverlodge Station

General Station Issues

Routine monthly calibrations were performed on November 16th (SO_2, O_3 & NO_X). One (1) hour of data was flagged invalid for all parameters due to communication/DACS error on November 30th.

Parameter	Make	Model	Notes
SO_2	TEI	43CTL	No operational issues observed.
NOx/NO/NO_2	TEI	42C	No operational issues observed.
O_3	TEI	49C	No operational issues observed.
$PM_{2.5}$	R&P	1400AB	No operational issues observed.
ET	n/a	n/a	No operational issues observed.
RH	n/a	n/a	No operational issues observed.
WS	Blue Sky	857	No operational issues observed.
WD	Blue Sky	857	No operational issues observed.

PASZA – Kinuso (Portable) Station

General Station Issues

Routine monthly calibrations were performed on November 29th (SO_2, TRS, NO_X & O_3). One (1) hour of data was flagged invalid for all parameters due to DACS error on November 29th.

Parameter	Make	Model	Notes
SO_2	TEI	43C	No operational issues observed.
TRS	TEI	43C	No operational issues observed.
NOx/NO/NO_2	TEI	42I	No operational issues observed.
O_3	TEI	49C	No operational issues observed.
ET	Met One		No operational issues observed.
WS	Met One		No operational issues observed.
WD	Met One		No operational issues observed.

PASZA – Valleyview Station

General Station Issues

Routine monthly calibrations were performed November 15th (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	No operational issues observed.
WD	Gill	Met Pak 3	No operational issues observed.

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, 2009 to December 1, 2009

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 3.3 ppb on Nov 14 05:00
Maximum Daily Average: 0.7 ppb on Nov 14

Minimum Value: 0 ppb on Nov 1 01:00
Maximum Diurnal Average: 0.4 ppb at hour 10
Monthly Average: 0.25 ppb

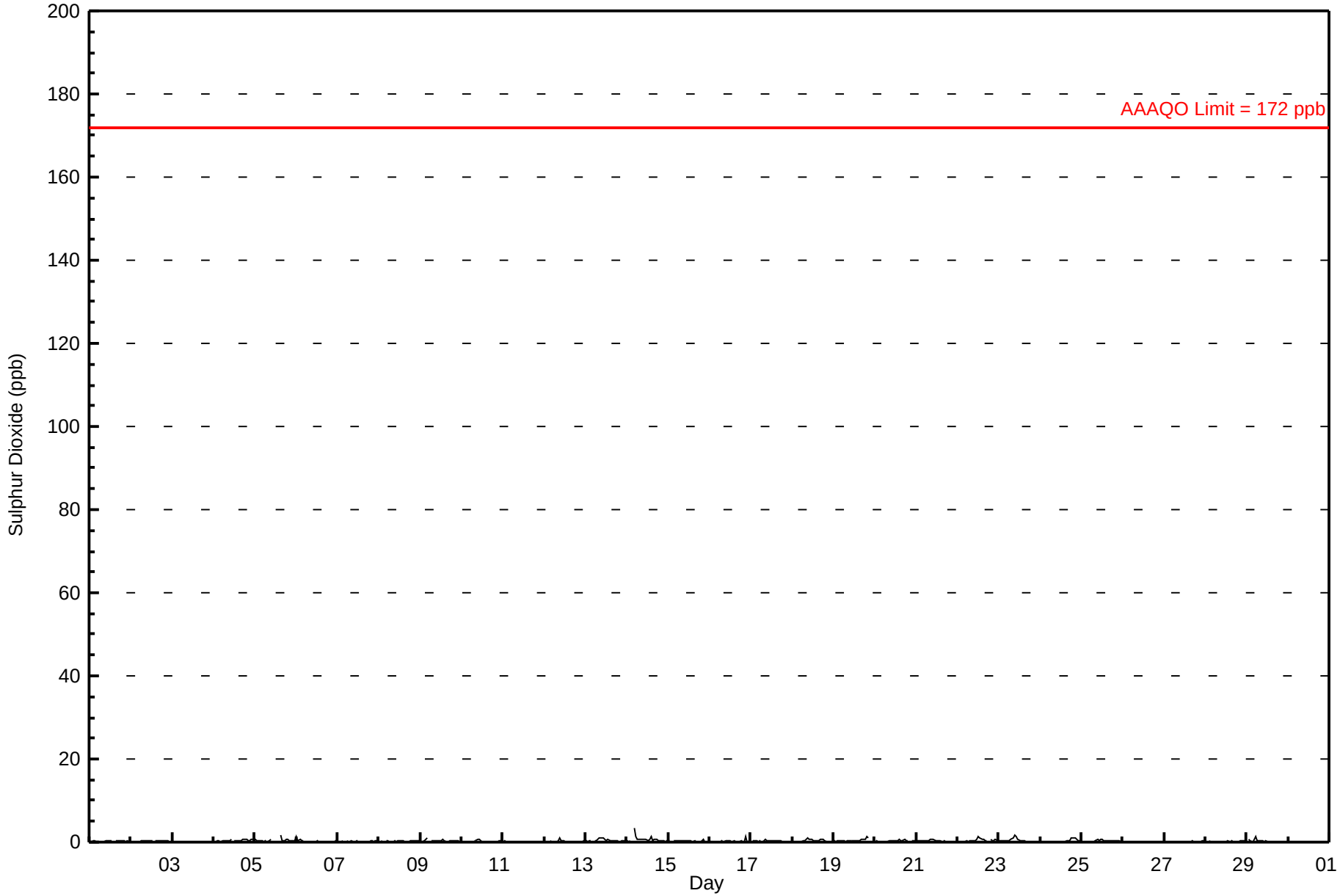
Minimum Daily Average: 0.0 ppb on Nov 11
Minimum Diurnal Average: 0.2 ppb at hour 7
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.2 Q_3 = 0.4 P_{90} = 0.5 P_{99} = 1.3

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	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.2	0.5
2-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	0.5
3-Nov	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
4-Nov	0	0	0	0	0	0	0	0	0	0	1	A	0	0	0	0	0	1	1	1	0	1	1	1	0.4	0.8
5-Nov	1	0	0	0	0	0	0	0	0	1	A	C	C	C	C	2	0	0	1	1	0	0	0	0	0.4	1.5
6-Nov	1	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.2
7-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
8-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	0.5
9-Nov	0	0	0	1	1	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.4	1.0
10-Nov	0	0	0	0	0	A	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
11-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	0.2
12-Nov	0	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.1
13-Nov	0	0	0	0	A	0	0	1	1	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0.4	1.0
14-Nov	0	0	0	A	3	1	1	1	1	1	1	1	0	1	1	0	1	1	0	0	0	0	0	0	0.7	3.3
15-Nov	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.3	0.5
16-Nov	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.2	1.3
17-Nov	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.3	0.7
18-Nov	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	0	0	0	A	0	0.3	0.9
19-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	A	0	0	0.4	1.3
20-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	A	0	0	0	0.3	0.7
21-Nov	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	0.7
22-Nov	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	A	1	0	0	1	0	0.4	1.5
23-Nov	0	0	0	0	0	0	0	1	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.6
24-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0.3	1.1
25-Nov	0	0	0	0	A	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
26-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	0.2
27-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	0.4
28-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	0.3
29-Nov	A	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.2	1.3
30-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	0.1	0.1
Diurnal Average	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2		
Diurnal Maximum	1.2	0.5	0.5	0.7	3.3	1.3	0.5	0.7	1.1	1.6	1.2	0.6	1.5	1.1	1.5	1.5	0.7	0.7	0.9	1.3	1.1	1.3	0.5	0.8		

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 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Sulphur Dioxide (SO_2) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 4.5 ppb on Nov 14 05:00

Maximum Daily Average: 1.2 ppb on Nov 14

Minimum Value: 0 ppb on Nov 10 15:00

Minimum Daily Average: 0.3 ppb on Nov 11

Maximum Diurnal Average: 0.8 ppb at hour 10

Minimum Diurnal Average: 0.5 ppb at hour 24

Monthly Average: 0.64 ppb

Percentiles: $P_1 = 0.1$ $P_{10} = 0.4$ $Q_1 = 0.5$ Median = 0.5 $Q_3 = 0.8$ $P_{90} = 1.0$ $P_{99} = 2.1$

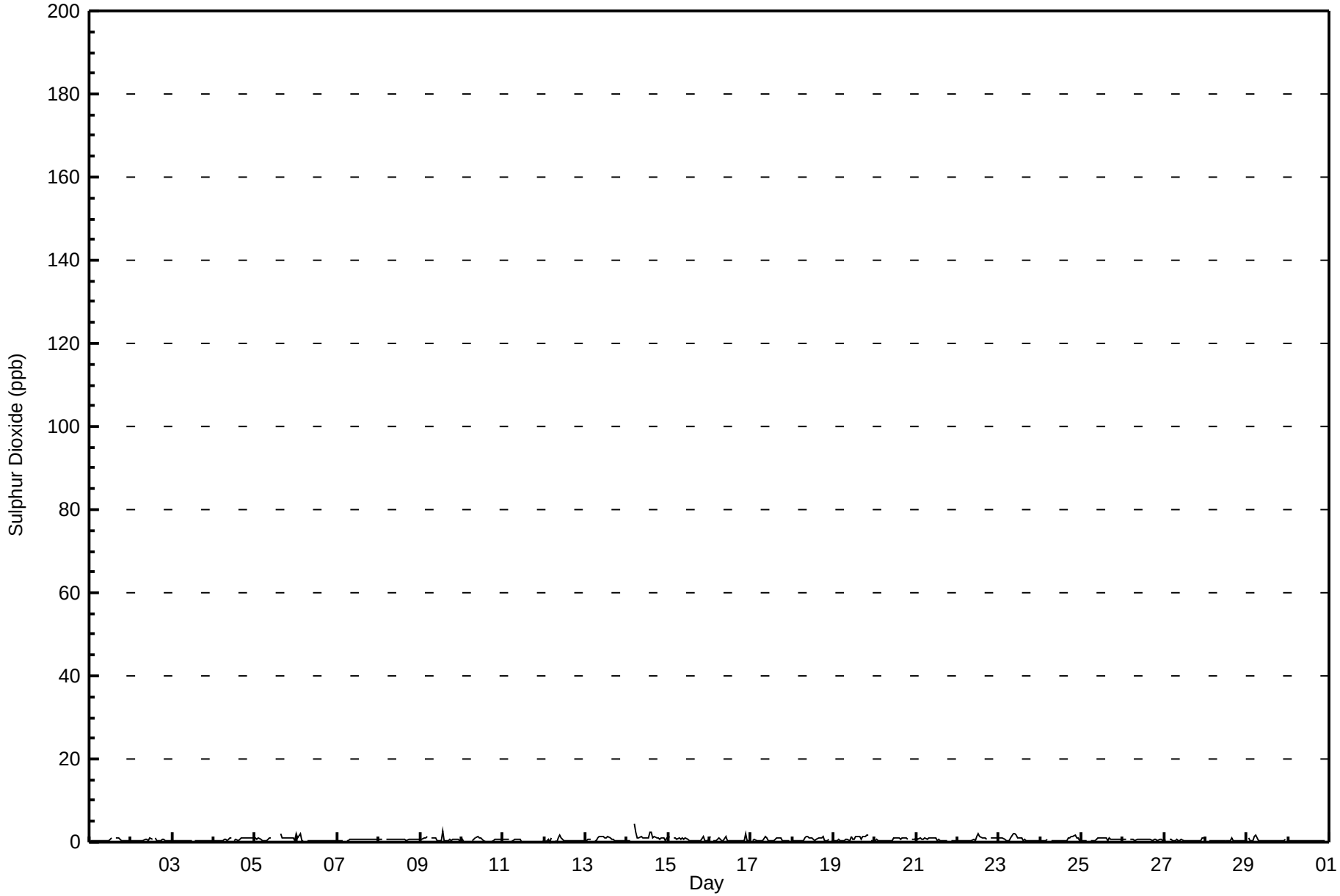
Hours in Service:	720
Hours of Data:	685
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

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	0	0	0	0	0	0	0	0	0	0	1	1	A	1	1	1	0	0	0	0	0	0	0.6	1.0
2-Nov	0	0	0	0	0	0	0	0	1	1	0	1	1	A	1	0	0	0	1	1	0	0	0	0	0.6	1.0
3-Nov	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.5	0.5
4-Nov	0	0	0	0	0	0	1	1	0	1	1	A	0	1	0	1	1	1	1	1	1	1	1	1	0.7	1.0
5-Nov	1	1	1	1	0	0	0	0	1	1	A	C	C	C	C	2	1	1	1	1	1	1	1	0	0.8	2.2
6-Nov	2	1	2	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	1.9
7-Nov	0	0	0	0	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	0.6
8-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	0.6	0.7
9-Nov	1	1	1	1	1	A	1	1	1	1	0	0	0	3	0	0	0	1	0	1	1	1	1	0	0.8	2.7
10-Nov	1	0	0	0	0	A	0	1	1	1	1	1	1	0	0	0	0	0	0	1	1	1	1	1	0.5	1.3
11-Nov	1	1	1	1	A	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
12-Nov	1	0	1	0	1	A	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.7
13-Nov	0	1	1	1	A	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.7	1.4
14-Nov	0	0	0	A	4	2	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	0	1	1.2	4.5
15-Nov	1	1	A	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0.7	1.5
16-Nov	1	A	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0.6	1.9
17-Nov	A	0	1	0	0	0	0	0	1	1	0	0	0	0	1	1	1	1	0	0	0	0	0	A	0.6	1.2
18-Nov	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	1	1	1	1	0	0	1	A	0	0.8	1.5
19-Nov	0	0	0	1	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1	2	2	A	0	0	0.8	1.7
20-Nov	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	A	1	1	1	0.6	1.1
21-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	A	0	0	0	0	0.7	1.0
22-Nov	0	0	0	0	0	0	0	0	0	1	0	1	2	1	1	1	1	1	A	1	1	1	1	1	0.8	1.9
23-Nov	1	1	1	1	0	0	0	1	2	2	2	1	1	1	0	1	0	0	0	0	0	0	1	0	0.8	2.1
24-Nov	0	1	1	1	1	A	0	1	1	1	0	0	0	0	0	0	1	1	1	1	2	1	1	0	0.7	1.8
25-Nov	0	0	0	0	A	0	0	0	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0.6	1.0
26-Nov	1	1	1	A	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	0	0.5	0.5
27-Nov	1	0	A	1	1	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	0.5	1.0
28-Nov	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.5	1.0
29-Nov	A	1	0	0	1	2	1	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1	1	A	0.6	1.6
30-Nov	1	1	1	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.5	0.5
	0.7	0.6	0.6	0.5	0.7	0.6	0.5	0.6	0.8	0.8	0.7	0.7	0.6	0.8	0.7	0.7	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.5	Diurnal Average	
	1.9	1.5	1.9	1.0	4.5	2.4	1.0	1.0	2.0	2.1	1.6	1.4	1.9	2.7	2.4	2.2	1.4	1.2	1.5	1.7	1.8	1.9	1.0	1.0	Diurnal Maximum	

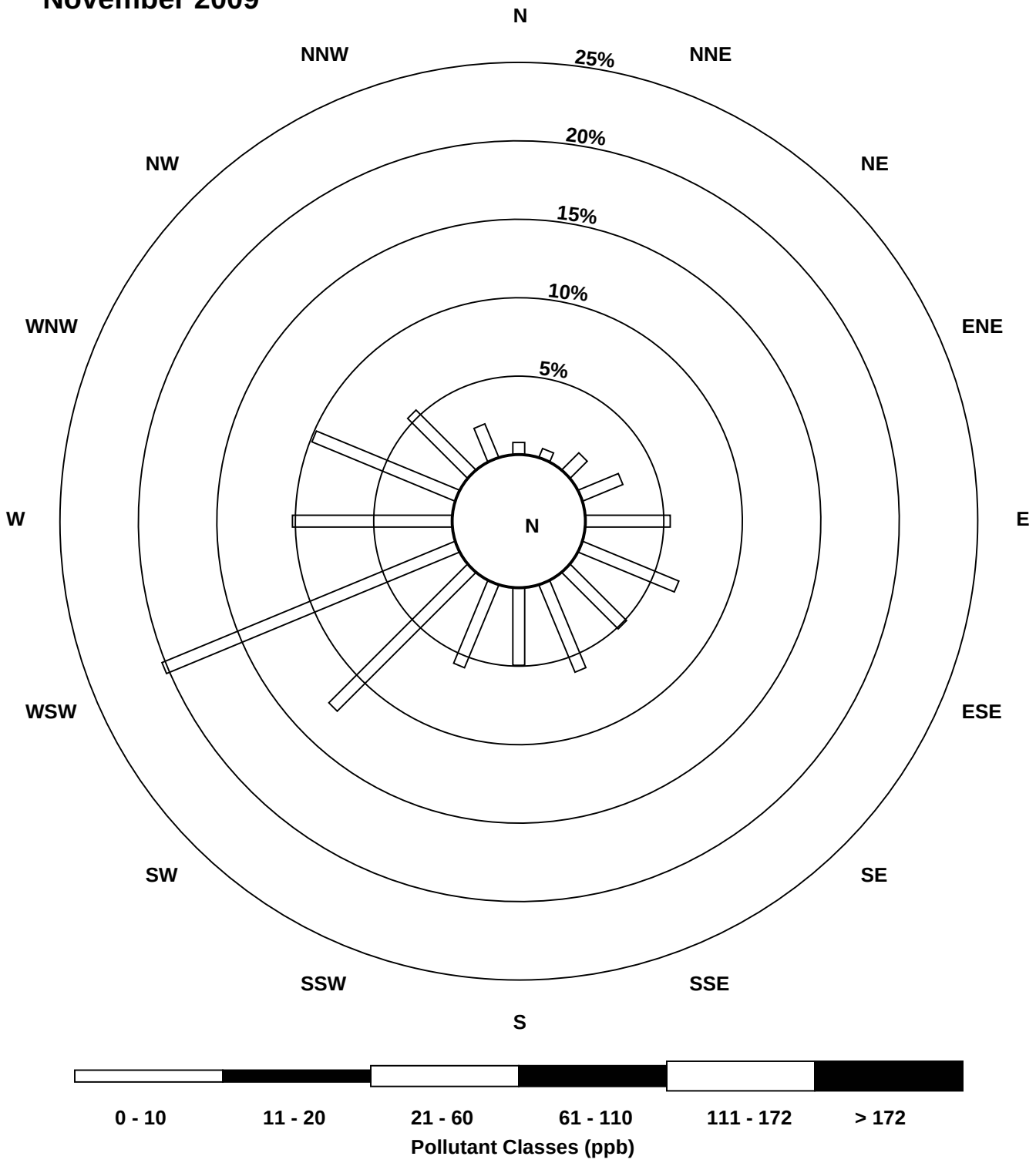
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for SO_2 at Henry Pirker
November 2009



Pollutant Rose for SO_2 at Henry Pirker
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Total Reduced Sulphur (TRS) - ppb
November 1, 2009 to December 1, 2009

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.5 ppb on Nov 23 10:00
Maximum Daily Average: 0.5 ppb on Nov 23

Minimum Value: 0 ppb on Nov 8 08:00
Maximum Diurnal Average: 0.4 ppb at hour 10
Monthly Average: 0.30 ppb

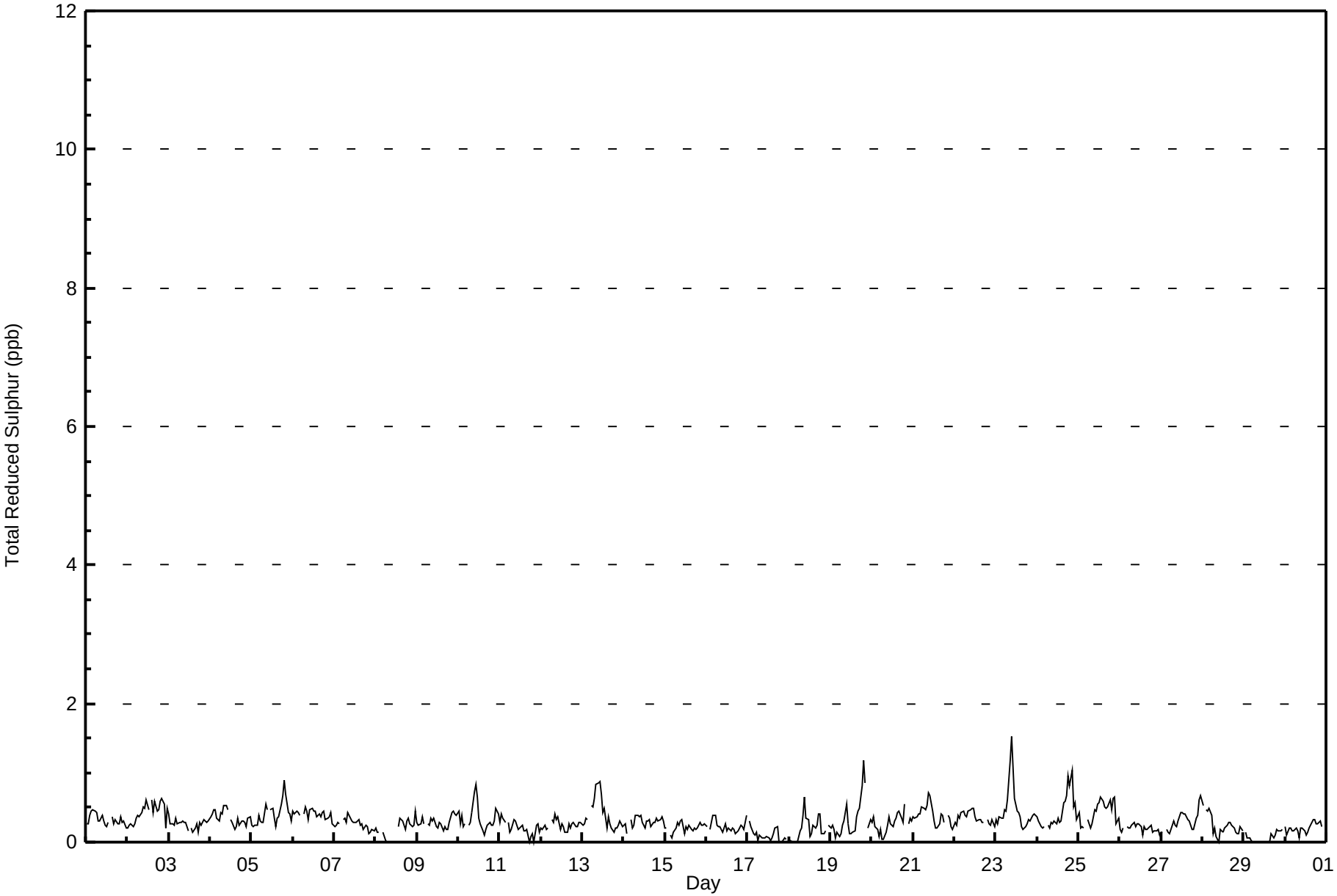
Minimum Daily Average: 0.1 ppb on Nov 29
Minimum Diurnal Average: 0.2 ppb at hour 2
Percentiles: $P_1 = 0.0$ $P_{10} = 0.1$ $Q_1 = 0.2$ Median = 0.3 $Q_3 = 0.4$ $P_{90} = 0.5$ $P_{99} = 0.9$

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	0.5
2-Nov	0	0	0	0	0	0	0	0	0	1	0	1	0	A	1	0	1	0	0	1	1	1	0	0	0.4	0.6
3-Nov	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
4-Nov	0	0	0	0	0	0	0	0	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
5-Nov	0	0	0	0	0	0	0	0	1	0	A	0	0	0	0	0	0	1	1	1	1	0	0	0	0.4	0.9
6-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	0.4	0.5
7-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	0.4
8-Nov	0	0	0	A	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
9-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	0.4
10-Nov	0	0	0	0	0	A	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
11-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
12-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	0.4
13-Nov	0	0	0	0	A	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9
14-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	0.3	0.4
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	0.2	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	0.2	0.4
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	0.3
18-Nov	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.2	0.7
19-Nov	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	A	0	0	0.3	1.2
20-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0	0	0	0.3	0.6
21-Nov	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0.4	0.7
22-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.3	0.5
23-Nov	0	0	0	0	0	0	0	1	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.5
24-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0.4	1.0
25-Nov	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	1	0	1	1	0	1	1	0	0	0.4	0.7
26-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	0.3
27-Nov	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.3	0.7
28-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	0.2	0.5
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	A	0.1	0.2
30-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	0.2	0.3
	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	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	Diurnal Average	
	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.6	1.2	1.5	1.1	0.7	0.6	0.7	0.6	0.6	0.6	0.7	1.0	1.2	1.0	0.6	0.6	0.7	Diurnal Maximum	

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

Hourly Averages for TRS at Henry Pirker
November 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Total Reduced Sulphur (TRS) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 2.2 ppb on Nov 23 10:00

Maximum Daily Average: 0.9 ppb on Nov 23

Minimum Value: 0 ppb on Nov 29 11:00

Minimum Daily Average: 0.4 ppb on Nov 29

Maximum Diurnal Average: 0.8 ppb at hour 11

Minimum Diurnal Average: 0.6 ppb at hour 7

Monthly Average: 0.70 ppb

Percentiles: $P_1 = 0.3$ $P_{10} = 0.5$ $Q_1 = 0.6$ Median = 0.7 $Q_3 = 0.8$ $P_{90} = 0.9$ $P_{99} = 1.5$

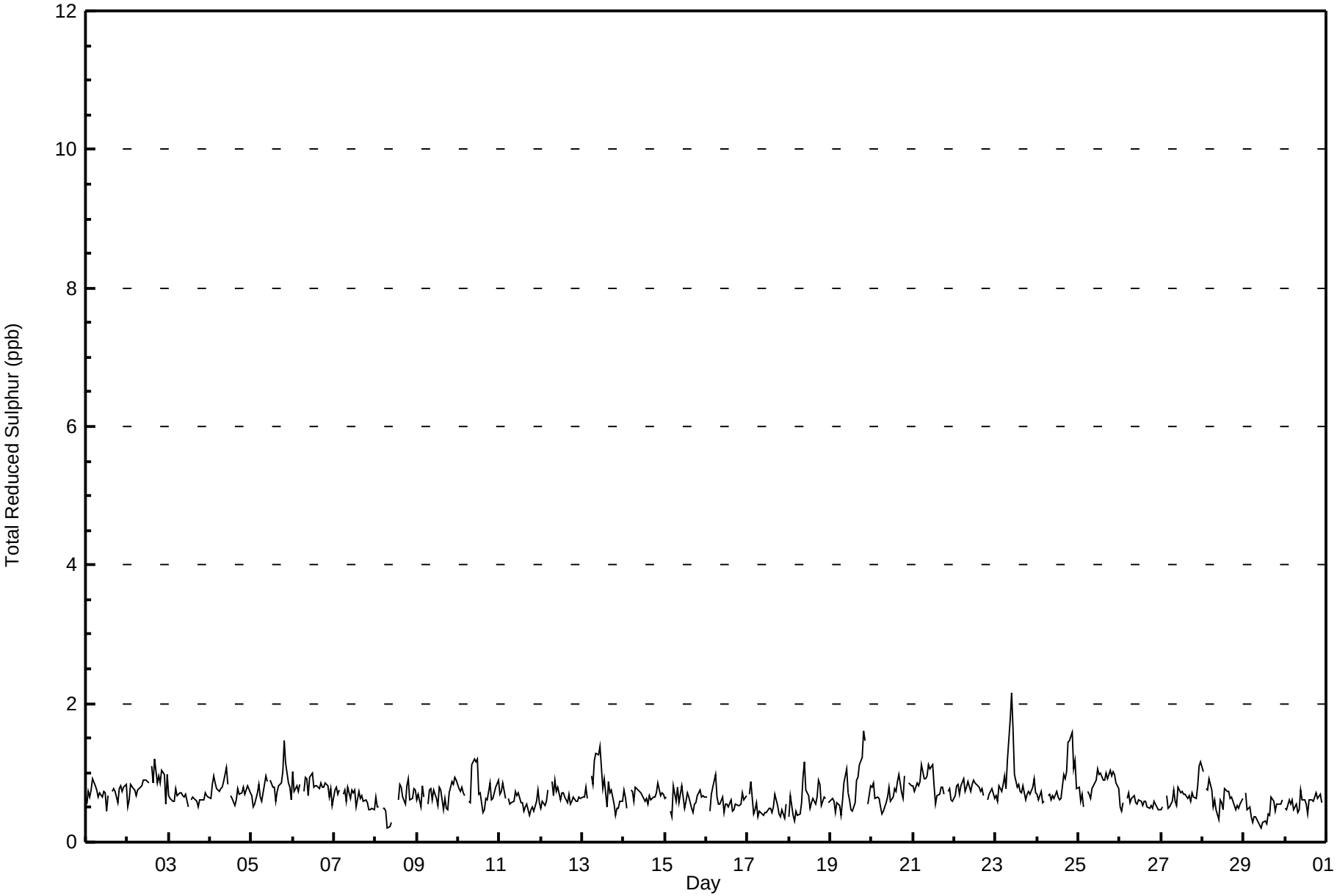
Hours in Service:	720
Hours of Data:	686
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

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	1	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	1	1	1	1	1	1	1	1	0.7	0.9
2-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.8	1.2
3-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	0.6	0.8
4-Nov	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1
5-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	0.8	1.5
6-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
7-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0.6	0.8
8-Nov	1	1	1	A	0	0	0	0	0	0	C	C	C	1	1	1	1	1	1	1	1	1	1	1	0.6	0.9
9-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0	1	0	0	1	1	1	1	1	0.7	0.9
10-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	0.8	1.2
11-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0	1	1	0	0	1	0	1	1	1	0.6	0.8
12-Nov	0	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	0.9
13-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	0.8	1.4
14-Nov	1	1	0	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
15-Nov	1	1	A	0	0	1	1	1	1	1	1	0	1	1	1	0	0	1	1	1	1	1	1	1	0.6	0.8
16-Nov	1	A	0	1	1	1	1	1	1	1	0	1	1	1	1	0	0	1	1	1	1	1	1	1	0.6	1.0
17-Nov	A	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	A	0.5	0.9
18-Nov	0	1	0	0	0	0	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	A	1	0.6	1.2
19-Nov	1	1	1	0	1	1	0	1	1	1	1	1	0	0	1	1	1	1	1	2	1	A	1	1	0.8	1.6
20-Nov	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.7	1.0
21-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	1.1
22-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	0.9
23-Nov	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.2
24-Nov	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	0.8	1.6
25-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
26-Nov	1	0	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	0	0	0.6	0.7
27-Nov	0	1	A	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.2
28-Nov	1	A	1	1	1	1	1	1	0	0	1	1	0	1	1	1	1	1	1	0	1	0	1	1	0.6	1.0
29-Nov	A	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1	1	A	0.4	0.7
30-Nov	0	0	1	1	1	0	1	0	0	1	1	1	1	0	1	1	1	1	1	1	1	1	A	1	0.6	0.7
	0.7	0.7	0.7	0.6	0.7	0.7	0.6	0.7	0.8	0.8	0.8	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	Diurnal Average	
	1.0	0.9	1.0	0.9	0.9	1.1	0.9	1.2	1.8	2.2	1.6	1.2	1.0	1.0	1.1	1.0	1.2	1.1	1.4	1.6	1.6	1.1	1.2	1.2	Diurnal Maximum	

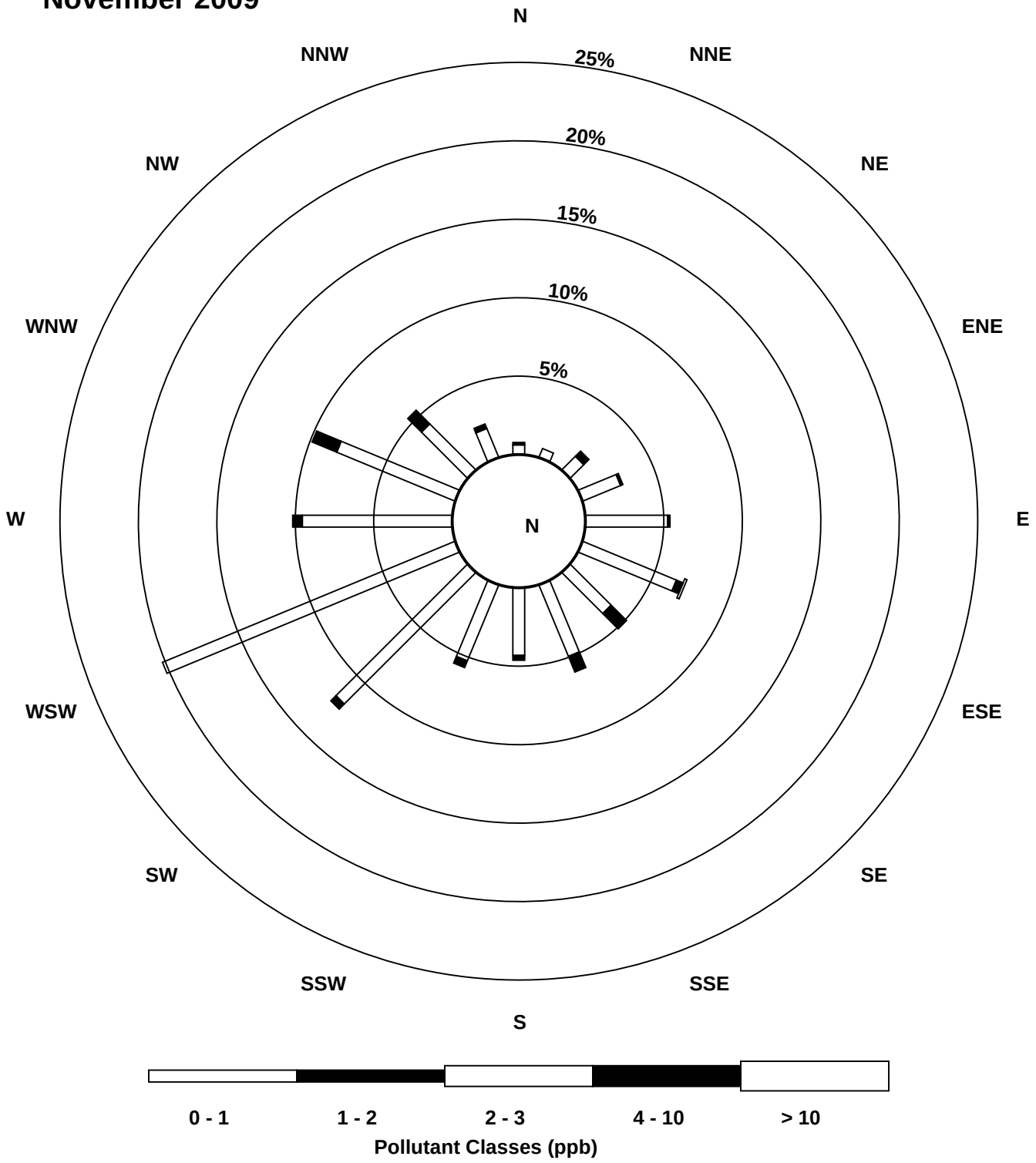
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for TRS at Henry Pirker
November 2009



Pollutant Rose for TRS at Henry Pirker
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Nitrogen Dioxide (NO_2) - ppb
November 1, 2009 to December 1, 2009

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 49.5 ppb on Nov 23 10:00
Maximum Daily Average: 24.5 ppb on Nov 23

Minimum Value: 2 ppb on Nov 6 04:00
Maximum Diurnal Average: 23.2 ppb at hour 9
Monthly Average: 15.64 ppb

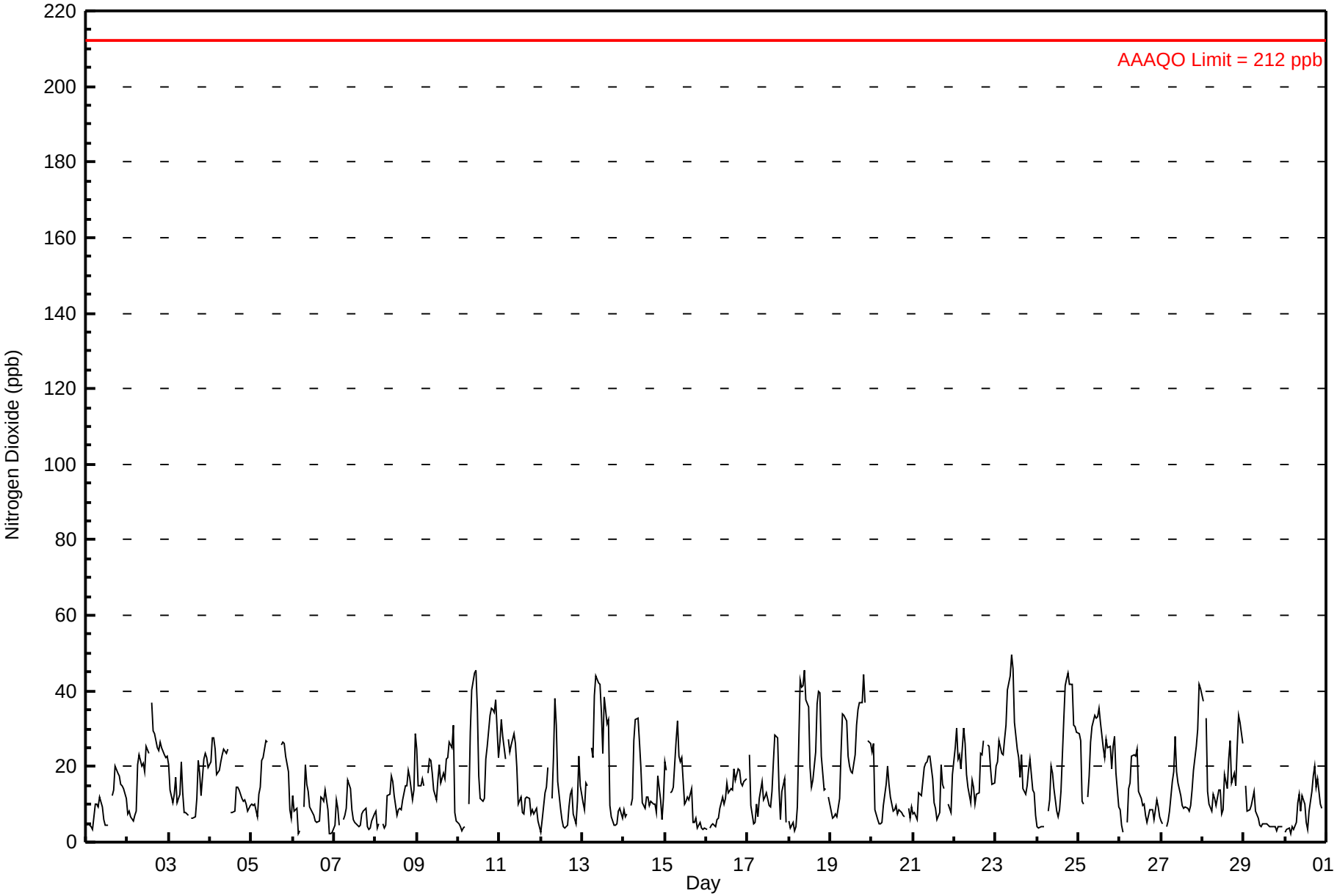
Minimum Daily Average: 6.3 ppb on Nov 29
Minimum Diurnal Average: 9.5 ppb at hour 5
Percentiles: P_1 = 2.7 P_{10} = 4.6 Q_1 = 8.0 Median = 12.9 Q_3 = 22.3 P_{90} = 30.6 P_{99} = 44.1

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	5	5	5	4	3	10	10	9	12	9	6	4	5	4	A	12	14	20	18	18	15	15	14	11	10.0	20.3
2-Nov	7	8	7	6	7	8	20	23	20	21	18	25	23	A	37	30	29	25	24	27	25	23	22	23	19.9	36.9
3-Nov	21	14	10	13	17	10	13	21	13	8	8	7	A	6	6	7	11	22	18	12	22	23	22	20	14.2	23.4
4-Nov	21	28	28	25	18	19	21	23	24	23	24	A	8	8	8	15	15	14	11	11	11	10	8	10	16.7	27.8
5-Nov	10	10	10	7	13	15	22	23	27	27	A	C	C	C	C	C	C	26	26	26	23	19	8	6	--	26.9
6-Nov	12	8	9	2	3	A	9	21	15	14	9	8	7	5	5	6	12	12	11	14	8	2	2	3	8.6	20.6
7-Nov	4	11	9	4	A	6	7	9	16	14	9	6	5	5	4	5	7	8	9	4	3	4	6	7	7.1	16.4
8-Nov	8	4	5	A	5	4	4	12	13	18	16	12	7	9	9	8	11	15	15	19	17	11	14	29	11.6	28.9
9-Nov	25	15	15	17	15	A	18	22	22	18	14	11	16	20	16	18	17	22	22	27	25	31	8	5	18.2	31.1
10-Nov	5	4	3	4	4	A	10	29	40	45	45	35	18	12	11	12	22	25	34	35	35	34	38	22	22.7	45.4
11-Nov	27	32	28	22	A	27	24	26	29	26	20	10	12	8	8	11	12	12	7	9	8	9	6	4	16.3	32.3
12-Nov	3	6	13	15	20	A	11	22	38	31	16	9	6	4	4	5	9	13	14	8	5	11	23	15	13.0	38.0
13-Nov	10	9	16	15	A	25	22	39	44	42	42	34	24	38	31	33	10	7	4	4	5	8	9	6	20.7	44.0
14-Nov	9	7	7	A	10	11	27	32	33	27	20	10	9	12	12	10	11	10	10	8	17	11	6	12	13.9	32.7
15-Nov	21	19	A	13	14	15	27	32	23	21	22	10	11	12	11	14	5	5	6	4	5	4	3	4	13.1	32.0
16-Nov	4	A	4	5	5	4	6	6	9	12	10	12	16	13	14	14	19	17	19	19	15	15	16	17	11.7	19.4
17-Nov	A	23	10	5	5	10	7	12	16	11	12	13	10	9	13	21	28	28	14	6	13	17	5	A	13.1	28.2
18-Nov	6	4	5	3	4	9	43	41	42	45	38	36	20	15	16	24	37	40	39	23	14	14	A	12	23.0	45.4
19-Nov	8	6	7	7	7	11	24	34	34	32	23	20	19	18	23	31	35	37	37	44	37	A	27	26	23.8	44.3
20-Nov	24	26	8	6	5	5	5	10	15	20	15	12	8	9	10	7	9	8	7	7	A	9	6	9	10.5	26.1
21-Nov	7	8	6	13	13	12	20	21	21	23	23	17	10	9	6	8	21	15	14	A	10	9	8	18	13.5	22.8
22-Nov	25	30	22	23	20	30	26	18	15	11	16	15	10	13	13	24	23	27	A	26	25	20	15	16	20.1	30.4
23-Nov	20	21	27	24	23	27	31	40	44	50	46	32	25	22	17	23	14	13	15	19	22	14	13	7	24.5	49.5
24-Nov	4	4	4	4	4	A	8	11	20	18	14	8	7	8	14	33	41	43	45	42	42	31	31	29	20.2	44.9
25-Nov	29	27	11	10	A	12	17	26	31	34	33	33	35	32	25	22	27	25	25	19	25	28	18	9	24.1	35.4
26-Nov	9	5	3	A	5	14	16	23	23	23	25	13	11	10	10	7	5	9	9	9	6	11	9	7	11.3	24.8
27-Nov	5	5	A	4	5	8	16	19	28	19	16	12	10	9	9	9	8	10	14	19	26	30	42	40	15.8	41.9
28-Nov	37	A	33	13	10	8	13	12	10	14	14	7	8	18	14	22	27	16	18	15	25	33	32	26	18.5	37.1
29-Nov	A	15	8	9	10	12	13	8	6	5	4	5	5	5	4	4	4	4	4	3	4	4	4	A	6.3	14.9
30-Nov	2	3	4	2	4	3	5	10	13	8	12	10	5	3	8	13	18	20	15	17	10	9	A	7	8.8	20.0
	13.1	12.7	11.2	10.1	9.5	12.7	16.6	21.1	23.2	22.2	19.7	15.3	12.5	12.0	12.9	15.4	17.3	18.2	17.5	16.9	17.2	15.8	14.8	14.3	Diurnal Average	
	37.1	32.3	32.7	24.7	23.0	30.4	43.0	40.9	44.0	49.5	45.8	35.8	35.4	38.4	36.9	32.5	41.4	43.4	44.9	44.3	41.8	34.2	41.9	40.5	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 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Nitrogen Dioxide (NO_2) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 59.3 ppb on Nov 18 10:00

Maximum Daily Average: 31.4 ppb on Nov 23

Minimum Value: 3 ppb on Nov 6 04:00

Maximum Diurnal Average: 30.4 ppb at hour 9

Monthly Average: 21.05 ppb

Minimum Daily Average: 9.8 ppb on Nov 29

Minimum Diurnal Average: 13.1 ppb at hour 5

Percentiles: P_1 = 4.8 P_{10} = 6.8 Q_1 = 11.6 Median = 18.9 Q_3 = 29.3 P_{90} = 37.3 P_{99} = 52.3

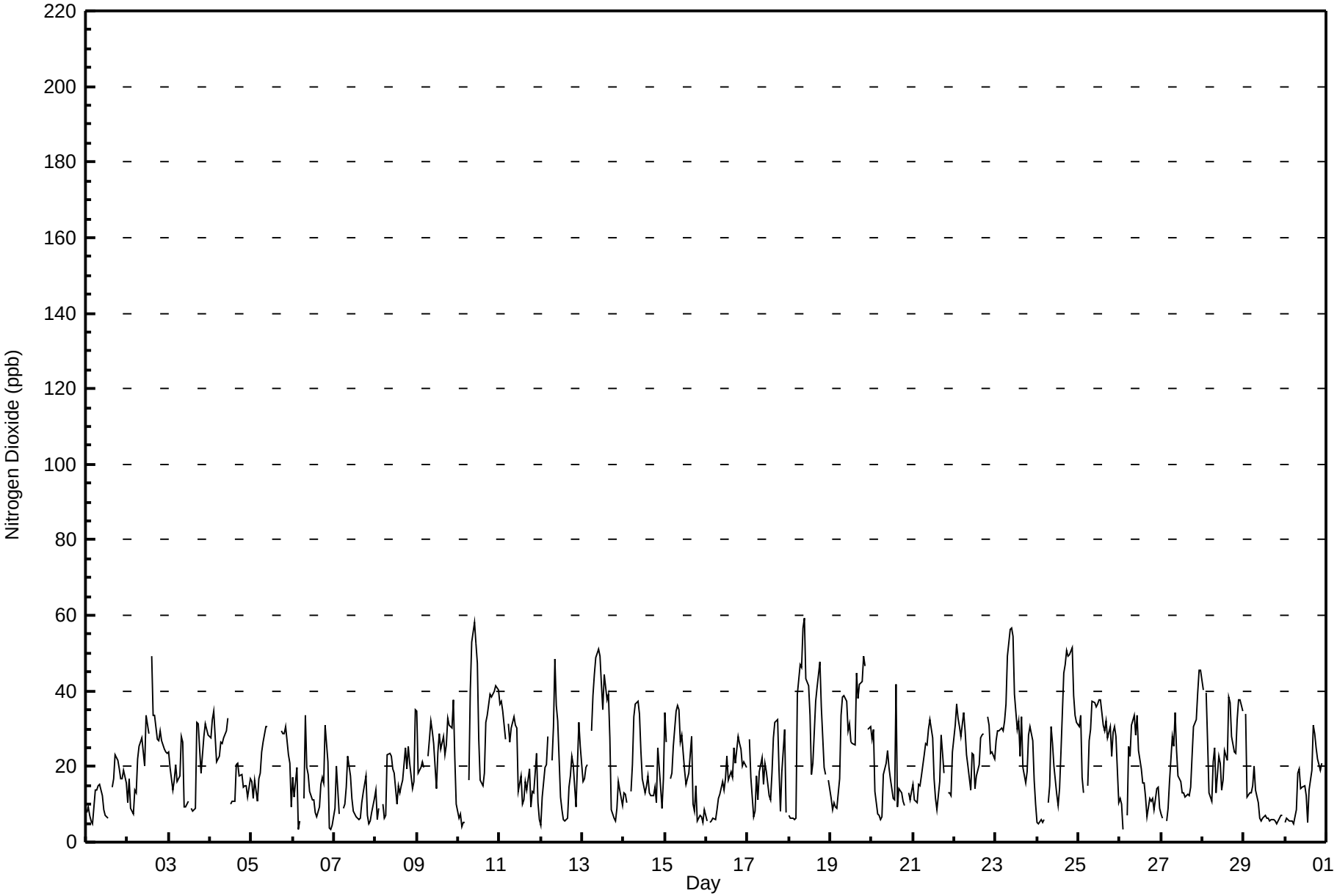
Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 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	5	5	14	14	15	15	12	8	7	7	6	A	14	17	23	22	19	17	17	19	16	12.9	23.3
2-Nov	10	17	9	7	14	13	22	25	28	24	20	33	29	A	49	33	34	27	27	29	27	24	24	23	23.9	49.1
3-Nov	24	20	14	16	20	16	17	28	26	9	9	11	A	9	8	9	32	31	24	18	28	31	30	28	20.1	31.7
4-Nov	27	33	35	28	21	23	26	26	27	29	33	A	10	11	11	20	21	17	18	14	15	15	12	17	21.3	34.6
5-Nov	16	11	16	11	17	18	24	26	30	31	A	C	C	C	C	C	C	30	29	29	31	23	21	9	--	30.7
6-Nov	17	12	20	3	6	A	12	34	20	18	13	11	11	8	7	9	15	17	16	31	21	4	3	4	13.6	33.7
7-Nov	9	20	14	7	A	9	10	14	23	17	11	8	7	7	6	6	11	13	17	7	5	6	8	11	10.8	22.9
8-Nov	14	6	9	A	10	6	7	23	23	23	19	18	10	15	13	15	16	25	19	25	21	14	16	35	16.7	35.2
9-Nov	35	18	20	21	20	A	23	27	32	30	26	14	24	29	25	28	23	26	33	31	30	38	22	10	25.4	37.6
10-Nov	6	7	4	5	5	A	16	40	53	58	53	47	27	17	15	18	32	33	39	38	39	40	42	40	29.4	58.2
11-Nov	37	37	35	27	A	31	26	30	33	31	30	13	17	10	11	16	14	19	9	13	13	24	11	6	21.6	37.3
12-Nov	4	12	20	20	28	A	22	30	48	36	32	12	9	6	5	6	14	17	23	21	9	21	32	25	19.7	48.5
13-Nov	16	17	20	21	A	29	39	44	49	51	49	42	35	44	38	39	28	8	6	5	9	16	14	10	27.4	51.1
14-Nov	13	13	10	A	13	20	33	37	37	34	24	17	13	15	17	13	12	12	15	10	25	14	9	17	18.5	37.3
15-Nov	34	26	A	17	18	25	35	36	35	26	28	19	15	17	18	28	10	8	15	5	7	7	5	8	19.4	36.3
16-Nov	5	A	5	6	6	6	9	12	13	16	14	17	23	16	19	17	25	21	28	26	25	20	21	20	16.1	28.1
17-Nov	A	27	17	7	8	18	11	19	22	15	21	19	12	11	18	27	32	32	19	8	19	30	8	A	18.2	32.4
18-Nov	7	6	6	6	6	39	47	46	57	59	43	41	34	18	21	37	41	44	48	36	20	18	A	16	30.3	59.3
19-Nov	11	9	10	9	9	17	34	39	39	37	29	31	27	26	26	45	38	42	43	49	47	A	30	30	29.4	49.3
20-Nov	27	30	13	8	7	6	7	18	21	24	20	17	12	11	42	9	14	13	11	10	A	13	11	13	15.5	41.6
21-Nov	15	11	10	15	15	17	23	26	26	30	32	28	17	11	8	16	28	24	18	A	13	13	12	24	18.9	32.3
22-Nov	31	36	33	30	28	34	30	23	20	14	23	23	14	18	20	27	28	29	A	33	31	24	24	22	25.9	36.5
23-Nov	27	29	29	30	29	32	36	49	56	56	54	39	30	32	23	33	20	16	18	28	31	27	16	10	31.4	56.5
24-Nov	5	5	6	5	6	A	10	15	31	26	20	13	10	14	24	45	47	51	49	50	52	39	34	32	25.5	51.6
25-Nov	31	34	17	13	A	15	27	30	37	37	36	37	38	38	31	29	32	27	31	23	29	30	28	11	28.7	37.6
26-Nov	12	10	3	A	7	25	23	31	33	29	34	24	19	15	16	12	7	11	11	12	9	14	14	9	16.5	33.5
27-Nov	7	6	A	5	9	16	28	25	34	24	17	16	13	13	12	13	12	14	23	31	32	40	46	45	21.0	45.5
28-Nov	40	A	39	27	13	11	21	25	13	23	21	14	16	24	22	38	37	28	24	23	32	38	38	35	26.2	40.1
29-Nov	A	34	12	13	13	15	20	14	10	6	5	6	7	6	6	5	6	6	5	5	5	7	7	A	9.8	33.9
30-Nov	5	6	5	5	5	5	8	18	20	14	14	15	12	5	14	19	31	29	25	22	19	21	A	17	14.6	30.9
	17.7	18.0	15.7	13.7	13.1	18.5	22.0	27.6	30.4	28.0	25.6	21.2	17.8	16.2	18.7	21.7	23.3	23.2	22.9	22.5	22.7	21.6	19.9	19.5	Diurnal Average	
	40.1	37.3	39.5	30.4	29.5	39.2	47.1	49.3	56.5	59.3	54.3	47.4	37.6	44.3	49.1	44.7	46.9	50.7	49.1	49.7	51.6	39.8	45.5	45.3	Diurnal Maximum	

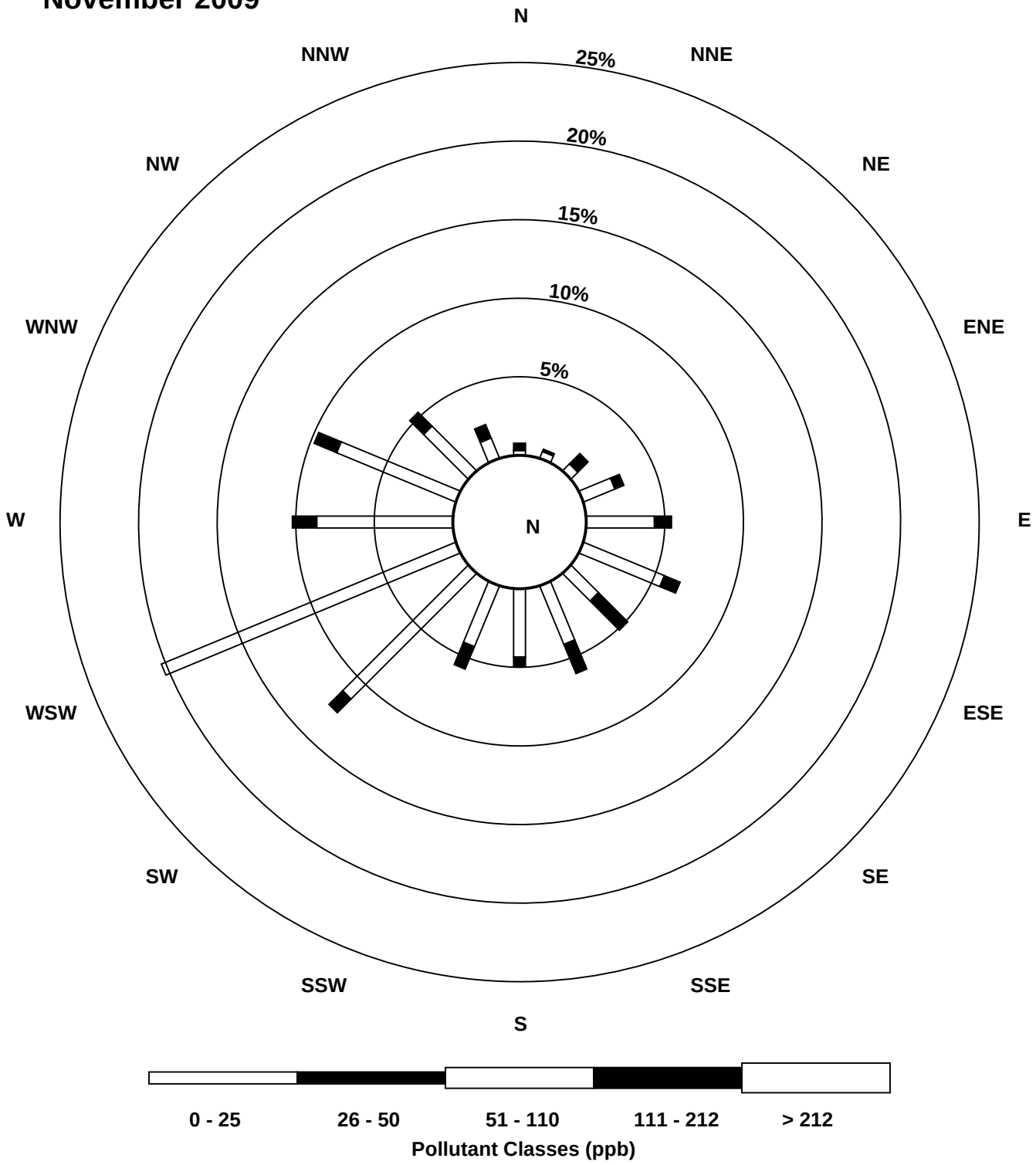
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for NO_2 at Henry Pirker
November 2009



Pollutant Rose for NO_2 at Henry Pirker
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Nitrogen Oxide (NO) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 190.1 ppb on Nov 19 20:00

Maximum Daily Average: 38.4 ppb on Nov 19

Minimum Value: 0 ppb on Nov 6 00:00

Minimum Daily Average: 0.3 ppb on Nov 29

Maximum Diurnal Average: 29.3 ppb at hour 10

Minimum Diurnal Average: 0.8 ppb at hour 5

Monthly Average: 10.45 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.1$ $Q_1 = 0.5$ Median = 1.9 $Q_3 = 8.1$ $P_{90} = 31.9$ $P_{99} = 131.5$

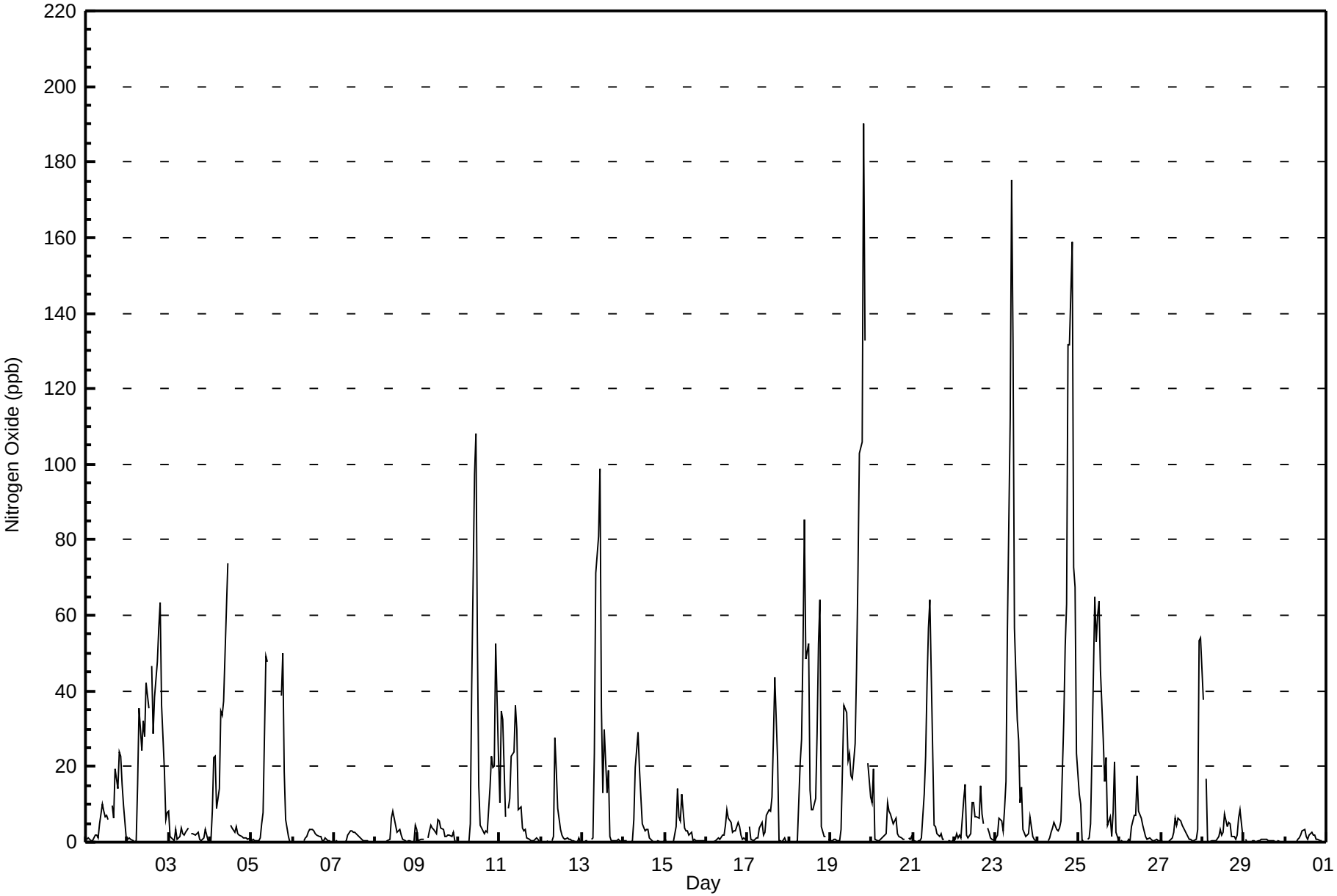
Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

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	1	1	1	0	0	2	2	1	5	10	8	7	7	6	A	10	6	19	14	24	23	15	10	1	7.5	23.7
2-Nov	1	1	1	0	0	0	15	35	24	32	28	42	35	A	47	29	38	48	57	64	36	19	6	8	24.6	63.5
3-Nov	8	2	1	1	3	1	1	4	2	2	3	4	A	2	2	2	2	3	1	0	1	3	2	0	2.2	8.1
4-Nov	1	8	22	23	9	14	35	33	37	62	74	A	4	4	3	4	2	2	1	1	1	1	1	1	14.9	73.9
5-Nov	1	1	0	0	0	1	5	8	49	48	A	C	C	C	C	C	C	39	50	18	6	2	0	0	--	50.0
6-Nov	0	0	0	0	0	A	0	1	2	3	3	3	3	2	2	1	2	1	0	1	0	0	0	0	1.1	3.3
7-Nov	0	0	0	0	A	0	0	0	2	3	3	3	2	2	1	1	1	0	0	0	0	0	0	0	0.9	3.0
8-Nov	0	0	0	A	0	0	0	0	1	6	8	6	3	3	3	2	1	0	0	0	0	0	0	4	1.7	8.4
9-Nov	3	0	1	1	1	A	1	3	4	4	3	2	6	5	4	4	2	2	2	2	2	3	0	0	2.4	6.0
10-Nov	0	0	0	0	0	A	0	5	41	97	108	55	15	5	3	2	3	3	14	23	20	20	53	22	21.3	108.3
11-Nov	10	35	33	7	A	9	12	23	24	36	30	9	9	4	3	3	1	1	0	0	0	1	1	0	10.9	36.3
12-Nov	0	0	0	0	0	A	0	2	27	19	9	3	2	1	1	1	1	1	0	0	0	0	1	0	3.0	27.4
13-Nov	0	0	0	0	A	1	1	24	71	81	99	36	13	30	13	19	1	0	0	0	0	1	0	0	17.0	98.7
14-Nov	0	0	0	A	0	1	6	20	29	19	12	5	3	4	3	1	1	0	0	0	0	0	0	0	4.5	29.1
15-Nov	1	0	A	0	0	0	4	14	7	6	13	4	3	3	2	2	1	1	1	1	0	1	1	1	2.7	14.0
16-Nov	0	A	0	0	0	0	1	1	1	2	2	4	9	6	5	2	3	3	5	4	2	1	1	0	2.3	8.6
17-Nov	A	4	1	1	1	1	1	4	5	2	3	7	9	8	12	27	44	22	1	0	0	1	0	A	6.9	43.7
18-Nov	0	0	0	0	0	0	21	27	51	85	48	52	14	9	9	12	29	52	64	4	1	1	A	1	20.9	85.3
19-Nov	0	1	1	1	0	0	3	19	36	34	22	24	17	17	26	46	71	103	106	190	133	A	21	12	38.4	190.1
20-Nov	10	19	1	0	1	1	1	1	2	11	8	7	5	5	6	2	1	1	1	1	A	1	1	1	3.9	19.4
21-Nov	0	0	0	1	0	1	13	23	42	57	64	24	5	4	2	2	2	1	1	A	0	0	0	0	10.5	64.0
22-Nov	1	2	1	2	1	11	15	2	1	2	11	10	7	7	6	15	7	5	A	4	3	1	1	0	5.0	15.2
23-Nov	1	2	6	6	3	9	16	56	112	175	132	57	32	27	10	15	3	2	2	2	7	2	1	1	28.2	175.2
24-Nov	0	0	0	0	0	A	1	1	2	4	5	3	3	4	6	32	52	63	132	132	159	73	67	23	33.1	158.8
25-Nov	13	10	0	0	A	1	1	5	23	65	53	60	64	46	27	16	22	5	7	1	8	21	3	0	19.6	64.8
26-Nov	0	0	0	A	0	1	0	4	7	7	17	8	6	4	3	1	1	1	1	0	0	1	1	0	2.8	17.4
27-Nov	0	0	A	0	0	0	1	3	6	4	6	6	4	4	3	2	1	1	0	0	1	3	53	54	6.7	54.1
28-Nov	38	A	17	0	0	0	0	0	0	2	3	2	3	8	4	5	5	1	1	1	2	6	8	2	4.8	37.6
29-Nov	A	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	A	0.3	0.9
30-Nov	0	0	0	0	0	0	0	1	1	2	3	3	1	1	2	3	2	2	1	1	0	0	A	0	1.0	3.4
	3.2	3.2	3.1	1.6	0.8	2.2	5.3	10.6	20.6	29.3	26.9	16.0	10.2	7.9	7.5	9.0	10.5	12.6	15.9	16.4	14.0	6.1	8.2	4.8	Diurnal Average	
	37.6	34.8	32.6	22.6	9.0	14.3	34.8	56.1	112.1	175.2	132.0	60.1	63.9	45.6	46.6	45.8	71.4	103.0	131.6	190.1	158.8	72.9	67.5	54.1	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

Hourly Averages for NO at Henry Pirker
November 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Nitrogen Oxide (NO) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 251.4 ppb on Nov 24 21:00

Maximum Daily Average: 64.6 ppb on Nov 19

Minimum Value: 0 ppb on Nov 14 22:00

Minimum Daily Average: 0.9 ppb on Nov 29

Maximum Diurnal Average: 47.7 ppb at hour 10

Minimum Diurnal Average: 2.5 ppb at hour 5

Monthly Average: 19.73 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.5$ $Q_1 = 1.5$ Median = 5.0 $Q_3 = 19.4$ $P_{90} = 59.8$ $P_{99} = 173.2$

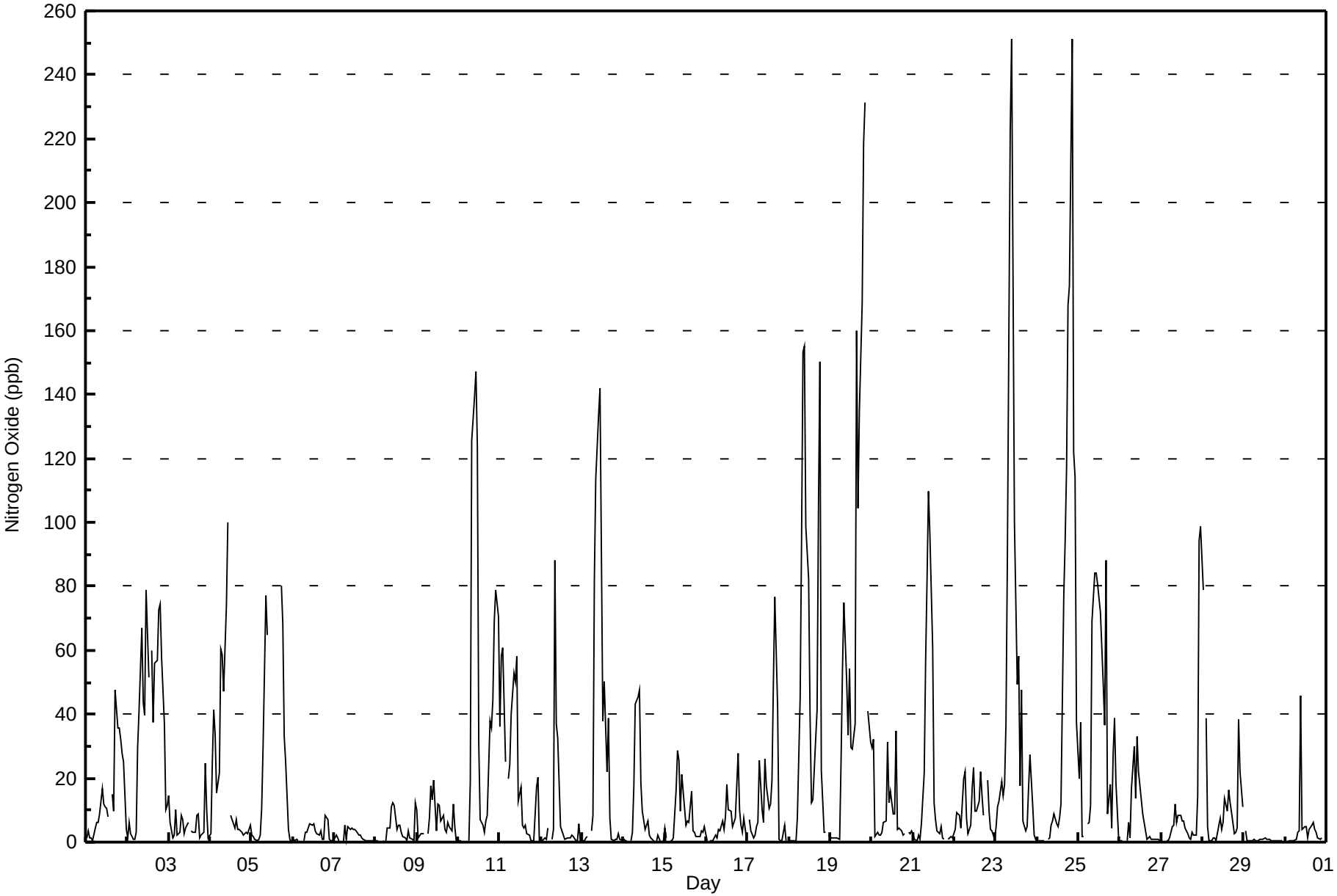
Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

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	1	3	2	1	1	4	6	6	9	17	12	11	11	8	A	15	10	47	36	36	32	28	25	4	14.1	47.5
2-Nov	2	6	2	1	1	3	30	41	67	44	40	79	52	A	60	38	56	57	73	75	58	37	10	12	36.6	79.1
3-Nov	15	6	1	2	10	2	3	9	7	3	5	6	A	3	3	3	8	9	2	2	3	25	10	2	6.0	24.7
4-Nov	3	25	41	33	16	22	60	58	47	74	100	A	8	7	4	7	4	4	3	2	2	3	3	5	23.2	100.2
5-Nov	2	2	1	1	1	2	10	30	77	65	A	C	C	C	C	C	C	80	68	33	25	4	1	0	--	80.3
6-Nov	1	0	1	0	0	A	1	3	3	5	6	5	6	3	2	2	3	1	1	8	7	1	1	1	2.7	8.3
7-Nov	2	2	1	0	A	0	5	1	5	4	5	4	4	3	2	2	1	1	1	1	1	1	1	0	2.0	5.1
8-Nov	0	0	0	A	0	0	0	4	4	11	13	11	4	5	5	3	2	1	1	4	1	1	0	12	3.7	12.5
9-Nov	10	1	3	2	2	A	2	7	18	13	19	4	12	12	7	9	4	3	6	5	3	12	5	1	7.0	19.5
10-Nov	0	0	0	0	0	A	1	19	126	139	147	124	31	7	5	3	7	8	38	36	44	69	79	71	41.5	147.1
11-Nov	36	58	61	25	A	20	24	40	53	50	58	13	17	6	4	5	3	2	1	1	1	17	20	0	22.4	60.6
12-Nov	0	0	2	1	4	A	1	4	88	37	33	5	3	2	1	1	2	1	2	2	0	0	6	0	8.6	88.3
13-Nov	0	0	1	2	A	3	8	82	114	133	142	90	38	50	22	39	7	1	0	1	1	2	1	0	32.2	141.8
14-Nov	1	1	1	A	0	3	17	43	45	47	18	10	4	5	6	2	1	0	0	0	2	0	0	0	9.1	47.4
15-Nov	5	1	A	0	1	1	16	29	25	10	21	11	5	7	6	16	3	3	2	2	2	3	3	5	7.7	28.7
16-Nov	1	A	0	1	0	2	1	4	4	7	4	8	18	10	10	5	6	7	28	10	5	3	8	1	6.2	27.8
17-Nov	A	7	4	1	2	5	6	26	10	6	26	17	10	12	20	50	77	42	1	1	1	5	0	A	14.9	76.6
18-Nov	0	0	0	1	0	7	46	95	153	155	99	82	40	13	13	32	42	105	150	22	3	3	A	2	46.3	155.2
19-Nov	1	1	1	1	1	1	25	54	75	50	33	54	30	29	37	160	104	135	169	219	231	A	41	31	64.6	231.2
20-Nov	29	32	2	3	2	2	3	6	7	31	13	16	9	9	35	4	4	3	2	2	A	3	2	3	9.8	34.9
21-Nov	3	1	0	2	1	6	21	57	82	110	96	61	13	7	3	3	5	2	1	A	1	1	2	1	20.8	109.5
22-Nov	4	9	9	8	4	20	22	8	3	5	17	23	10	10	13	22	14	8	A	19	9	4	3	1	10.7	23.4
23-Nov	5	11	13	19	14	18	38	90	222	251	176	100	49	58	18	47	7	3	5	17	28	11	2	1	50.1	251.2
24-Nov	1	1	1	0	1	A	1	2	6	7	9	6	5	8	12	77	95	118	168	174	251	122	114	38	52.7	251.4
25-Nov	20	37	2	2	A	6	6	12	69	84	84	81	76	72	49	36	88	9	18	4	27	39	18	1	36.5	88.1
26-Nov	1	1	0	A	0	6	1	17	30	14	33	22	13	9	6	4	1	2	1	1	1	1	1	1	7.1	33.1
27-Nov	1	1	A	1	1	1	5	6	12	6	8	9	7	6	4	2	1	1	3	2	2	15	94	99	12.4	98.8
28-Nov	79	A	39	5	0	0	1	2	1	5	8	4	6	14	9	16	12	9	2	3	4	38	22	11	12.7	78.7
29-Nov	A	4	0	0	0	0	1	0	1	1	1	1	2	1	1	1	1	1	0	0	1	1	1	A	0.9	3.7
30-Nov	0	0	0	0	0	0	1	3	3	46	4	5	5	2	4	5	6	4	3	2	1	2	A	0	4.2	45.8
	7.9	7.6	6.7	4.2	2.5	5.5	12.2	25.2	45.5	47.7	42.4	30.8	17.4	13.5	13.0	21.0	19.8	22.3	27.0	23.5	25.8	15.6	16.9	10.8	Diurnal Average	
	78.7	58.1	60.6	33.3	15.6	21.5	60.3	95.2	222.0	251.2	176.5	124.0	76.2	71.9	60.0	160.0	104.4	134.8	168.8	218.6	251.4	122.0	114.3	98.8	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for NO at Henry Pirker
November 2009



Henry Pirker - Oxides of Nitrogen (NO_X) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 234.8 ppb on Nov 19 20:00

Maximum Daily Average: 62.5 ppb on Nov 19

Minimum Value: 2 ppb on Nov 6 04:00

Minimum Daily Average: 6.8 ppb on Nov 29

Maximum Diurnal Average: 51.7 ppb at hour 10

Minimum Diurnal Average: 10.4 ppb at hour 5

Monthly Average: 26.20 ppb

Percentiles: P_1 = 2.8 P_{10} = 5.2 Q_1 = 8.9 Median = 15.4 Q_3 = 29.6 P_{90} = 62.5 P_{99} = 168.9

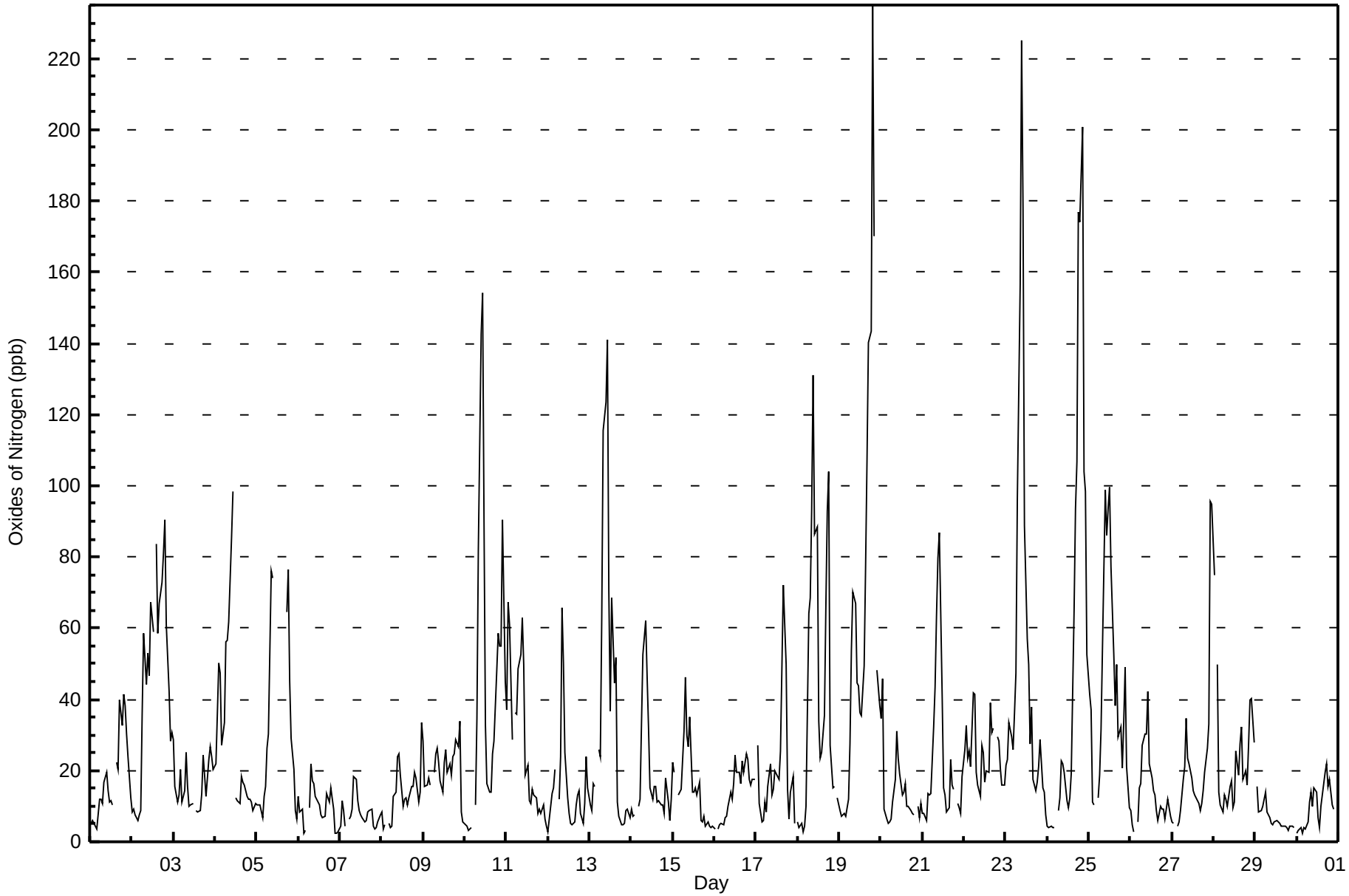
Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

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	5	6	5	4	4	12	12	11	17	20	14	11	12	10	A	22	20	40	33	41	38	30	24	12	17.6	41.4
2-Nov	8	9	8	6	7	9	36	59	44	53	47	67	59	A	84	58	67	73	81	90	61	42	28	31	44.6	90.2
3-Nov	29	16	11	13	20	11	14	25	16	10	11	11	A	9	9	9	14	24	19	13	23	27	24	20	16.3	28.9
4-Nov	22	36	50	47	27	33	56	56	62	85	98	A	12	12	11	18	17	16	13	12	12	11	9	11	31.6	98.2
5-Nov	10	10	10	7	13	15	26	30	76	74	A	C	C	C	C	C	C	65	77	45	29	20	9	6	--	76.6
6-Nov	13	8	9	2	3	A	10	22	17	16	13	11	11	8	7	7	14	12	11	15	9	2	3	3	9.8	21.8
7-Nov	4	12	9	5	A	6	7	9	18	17	12	9	8	7	5	6	8	9	9	4	3	4	6	8	8.1	18.3
8-Nov	9	4	5	A	5	4	4	13	14	24	25	19	10	12	13	10	12	16	15	20	18	11	14	33	13.4	33.4
9-Nov	28	16	16	18	16	A	20	25	26	22	17	14	22	26	19	22	19	24	25	29	27	34	8	6	20.8	34.0
10-Nov	5	4	3	4	4	A	10	34	82	143	154	91	33	16	14	14	25	28	48	58	55	55	90	45	44.2	154.1
11-Nov	37	67	61	29	A	36	36	49	53	63	50	19	21	12	11	15	13	12	8	9	8	10	6	4	27.3	67.4
12-Nov	3	6	13	15	20	A	12	24	66	50	25	13	8	5	5	6	10	13	14	8	5	11	24	15	16.2	65.7
13-Nov	11	9	16	15	A	26	24	63	116	123	141	70	37	68	45	52	11	7	5	5	5	9	9	7	37.9	140.8
14-Nov	9	7	8	A	10	12	33	53	62	46	32	15	12	15	16	11	11	10	10	8	18	11	6	12	18.6	62.1
15-Nov	22	20	A	13	14	15	31	46	30	27	35	14	14	15	13	17	6	6	7	4	5	4	4	4	15.9	46.2
16-Nov	4	A	4	5	5	5	7	7	10	14	12	16	24	19	20	16	23	20	25	23	17	16	17	17	14.2	24.8
17-Nov	A	27	11	6	6	11	8	15	22	13	15	20	18	18	25	49	72	50	15	6	14	18	5	A	20.2	72.2
18-Nov	6	4	5	3	4	10	64	68	93	131	86	89	34	23	25	35	66	93	104	27	15	15	A	12	44.1	131.1
19-Nov	9	7	7	8	7	12	28	54	70	67	45	44	36	36	49	77	107	140	143	235	170	A	48	38	62.5	234.8
20-Nov	35	46	9	6	5	5	6	11	18	31	24	19	13	14	16	10	10	9	8	7	A	10	7	11	14.3	45.7
21-Nov	8	8	6	13	13	14	32	44	63	80	87	41	15	13	8	10	23	16	15	A	11	9	8	18	24.1	87.0
22-Nov	26	33	23	25	21	42	41	20	16	13	27	25	17	20	19	39	31	32	A	30	28	21	16	16	25.2	41.9
23-Nov	22	23	33	29	26	36	47	97	156	225	178	89	57	50	28	38	18	14	17	21	29	15	14	7	52.9	225.1
24-Nov	4	4	4	4	4	A	9	12	23	22	19	12	10	12	19	65	94	107	177	174	201	104	98	53	53.5	200.9
25-Nov	42	37	11	10	A	13	19	31	54	99	86	94	100	77	53	38	50	30	32	21	33	49	21	10	43.9	99.5
26-Nov	9	5	3	A	5	15	16	27	30	30	42	22	18	14	13	9	6	10	9	9	6	12	10	7	14.3	42.3
27-Nov	6	5	A	4	6	9	17	21	34	23	22	18	14	13	12	11	9	11	14	20	26	33	96	95	22.6	95.5
28-Nov	75	A	50	14	11	9	13	12	10	15	17	10	11	26	19	27	32	17	20	16	27	40	40	28	23.4	75.0
29-Nov	A	16	8	9	10	12	14	8	7	5	5	6	6	6	5	5	4	4	4	3	4	4	4	A	6.8	15.6
30-Nov	3	3	4	2	4	4	5	11	14	10	15	14	7	4	10	16	20	22	16	17	11	9	A	7	10.0	22.0
	16.5	16.0	14.4	11.8	10.4	15.0	22.0	31.9	43.9	51.7	46.7	31.4	22.8	20.0	20.4	24.5	27.9	30.9	33.6	33.5	31.4	22.1	23.2	19.2	Diurnal Average	
	75.0	67.4	61.0	47.3	27.1	41.9	64.2	96.6	156.5	225.1	178.2	93.6	99.5	77.5	83.6	76.9	106.6	140.3	176.8	234.8	200.9	103.8	98.2	94.9	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

Hourly Averages for NO_X at Henry Pirker
November 2009



Maximum Value: 308.2 ppb on Nov 23 10:00

Maximum Daily Average: 92.9 ppb on Nov 19

Minimum Value: 3 ppb on Nov 6 04:00

Minimum Daily Average: 10.6 ppb on Nov 29

Maximum Diurnal Average: 75.2 ppb at hour 9

Minimum Diurnal Average: 15.3 ppb at hour 5

Monthly Average: 40.19 ppb

Percentiles: P_1 = 4.9 P_{10} = 8.0 Q_1 = 14.0 Median = 23.6 Q_3 = 47.5 P_{90} = 91.9 P_{99} = 221.5

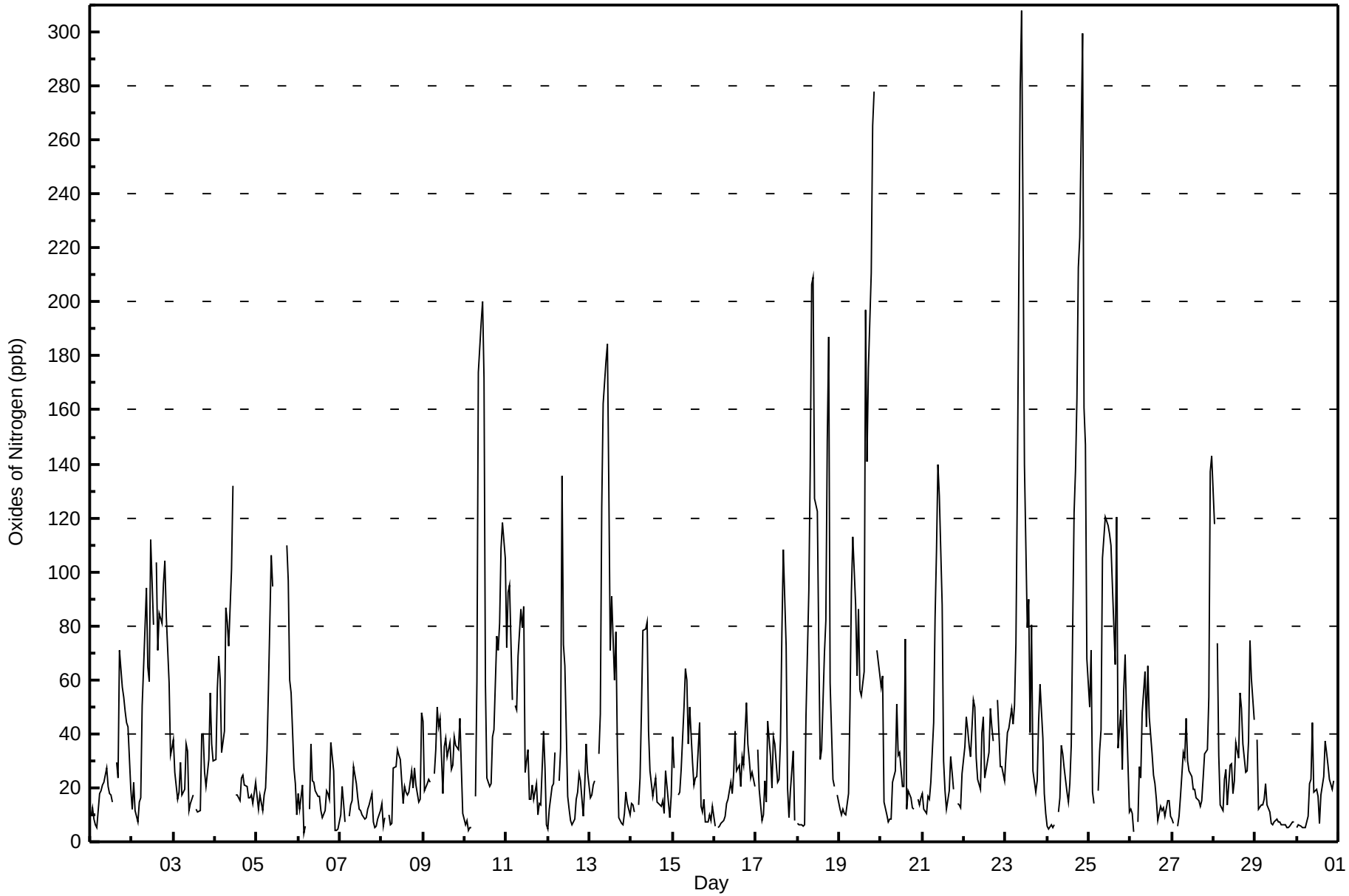
Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

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	9	13	8	7	5	18	19	21	22	27	20	18	17	15	A	30	24	71	57	54	48	44	43	20	26.5	70.8
2-Nov	12	22	11	7	15	16	51	65	94	64	60	112	81	A	103	71	85	81	96	104	84	59	32	35	59.1	111.8
3-Nov	38	26	16	18	30	17	20	36	34	12	14	17	A	12	11	12	40	40	26	20	31	55	36	30	25.6	55.4
4-Nov	30	57	69	60	33	41	86	82	72	101	132	A	18	17	15	24	25	21	21	16	16	17	14	22	43.0	132.1
5-Nov	17	12	17	11	17	20	34	56	106	95	A	C	C	C	C	C	C	110	97	60	55	27	22	10	--	109.6
6-Nov	18	12	21	3	6	A	12	36	23	22	19	17	17	11	9	11	19	18	16	37	26	4	4	5	16.0	36.9
7-Nov	10	21	14	8	A	10	13	15	28	22	16	12	11	10	8	9	12	14	18	7	5	6	8	12	12.5	27.6
8-Nov	14	6	9	A	10	7	7	27	28	34	32	30	14	20	18	18	18	26	20	28	21	15	16	48	20.2	47.6
9-Nov	45	19	21	23	22	A	25	34	50	43	46	18	35	38	31	37	27	28	39	36	34	46	28	11	32.0	50.1
10-Nov	7	8	4	5	5	A	17	59	174	192	200	172	58	24	21	21	39	42	76	71	81	109	118	105	69.9	200.0
11-Nov	72	92	95	52	A	51	49	69	86	79	87	26	34	16	16	21	16	21	10	14	14	41	27	6	43.2	95.2
12-Nov	4	12	20	21	33	A	23	35	135	73	65	17	12	8	6	8	16	18	25	23	9	21	36	26	28.2	135.5
13-Nov	16	17	21	23	A	32	47	124	163	178	185	131	71	91	60	78	35	9	7	6	10	19	14	10	58.6	184.7
14-Nov	14	14	11	A	14	24	49	78	79	82	41	26	17	21	24	15	14	13	15	11	26	15	9	18	27.2	81.7
15-Nov	39	28	A	18	19	27	50	64	60	36	50	30	21	24	24	44	13	11	16	7	8	10	8	13	26.9	64.2
16-Nov	6	A	5	6	7	8	10	14	16	22	18	25	41	26	28	20	31	28	52	36	30	23	26	20	21.8	51.7
17-Nov	A	34	19	8	10	22	15	45	31	20	39	36	22	23	38	77	108	73	20	9	19	33	8	A	32.3	108.2
18-Nov	7	7	6	6	7	47	93	139	207	209	127	123	74	31	34	70	82	149	187	59	23	21	A	18	74.9	208.9
19-Nov	12	10	12	11	10	18	49	92	113	88	62	86	56	54	63	197	141	176	211	265	278	A	71	62	92.9	277.9
20-Nov	57	62	15	10	8	8	9	22	26	51	32	33	20	20	75	12	19	16	12	12	A	16	14	16	24.6	75.1
21-Nov	18	12	10	17	16	22	44	83	108	140	128	88	30	19	12	19	32	26	20	A	14	14	13	25	39.4	139.7
22-Nov	35	46	42	36	32	53	50	31	23	19	40	46	24	27	33	49	43	37	A	52	41	28	28	23	36.4	52.7
23-Nov	32	40	42	49	44	50	74	132	279	308	230	140	79	90	40	81	26	18	23	45	58	38	18	11	81.2	308.2
24-Nov	6	5	6	5	6	A	11	16	36	33	28	18	15	22	36	122	138	164	213	224	300	161	147	68	77.3	299.6
25-Nov	50	71	18	14	A	19	34	41	105	120	119	117	114	110	81	66	121	35	49	27	56	69	46	11	64.9	120.6
26-Nov	12	10	4	A	7	28	24	48	63	43	65	46	33	25	22	16	8	13	11	12	9	15	15	9	23.4	65.3
27-Nov	8	7	A	6	10	17	33	31	46	30	26	24	20	20	16	15	13	15	24	33	34	53	137	143	33.1	143.0
28-Nov	118	A	74	32	14	12	23	27	14	29	29	18	23	37	31	55	49	36	26	26	37	75	60	45	38.6	117.7
29-Nov	A	38	12	14	14	16	21	14	11	7	6	8	9	8	8	7	6	6	6	5	6	8	8	A	10.6	37.9
30-Nov	6	6	6	6	6	6	9	22	23	44	19	20	17	7	18	24	37	33	28	23	20	23	A	17	18.1	44.4
	25.4	25.2	21.8	17.6	15.3	23.5	33.3	51.9	75.2	74.0	66.7	51.9	35.0	29.4	31.5	42.3	42.6	44.9	48.9	45.6	48.1	36.7	36.0	29.9	Diurnal Average	
	117.7	92.3	95.2	59.8	43.6	52.7	92.9	139.5	278.8	308.2	230.1	171.6	114.0	110.0	103.4	197.1	141.0	175.6	212.8	265.3	299.6	160.8	147.0	143.0	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for NO_X at Henry Pirker
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Ozone (O_3) - ppb
November 1, 2009 to December 1, 2009

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 33.7 ppb on Nov 6 04:00
Maximum Daily Average: 26.8 ppb on Nov 29

Minimum Value: 1 ppb on Nov 25 01:00
Maximum Diurnal Average: 20.3 ppb at hour 14
Monthly Average: 15.85 ppb

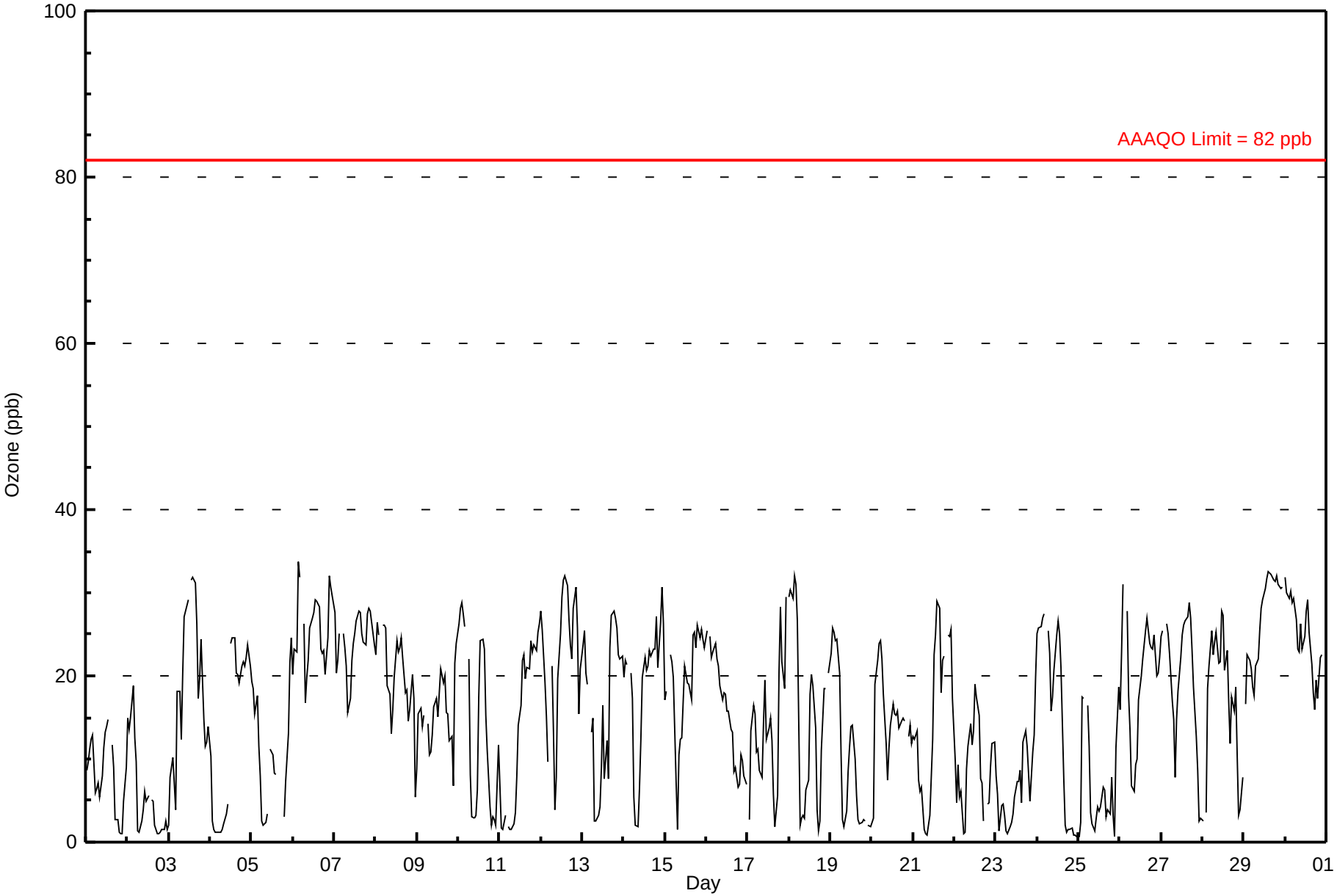
Minimum Daily Average: 5.8 ppb on Nov 2
Minimum Diurnal Average: 9.4 ppb at hour 9
Percentiles: P_1 = 0.9 P_{10} = 2.5 Q_1 = 7.6 Median = 17.1 Q_3 = 23.3 P_{90} = 27.2 P_{99} = 32.0

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	9	10	11	12	13	6	6	7	6	8	11	13	14	15	A	12	9	3	3	1	1	1	5	9	8.0	14.8
2-Nov	15	14	15	19	13	10	1	1	3	4	6	5	6	A	5	5	2	1	1	1	2	2	3	1	5.8	18.8
3-Nov	2	8	10	7	4	18	18	12	20	27	28	29	A	31	32	31	26	17	20	24	15	11	12	14	18.2	31.8
4-Nov	10	3	2	1	1	1	1	2	2	3	5	A	24	25	25	20	20	19	21	22	21	22	24	21	12.8	24.6
5-Nov	19	18	15	18	12	8	3	2	2	3	A	11	10	8	8	C	C	C	C	3	7	13	22	25	11.0	24.5
6-Nov	20	23	23	34	32	A	26	17	20	22	26	27	28	29	29	28	23	23	23	20	25	32	31	30	25.6	33.7
7-Nov	28	20	22	25	A	25	23	21	16	17	22	24	25	27	28	28	25	24	24	28	28	28	26	24	24.2	28.2
8-Nov	23	26	25	A	26	26	26	19	18	13	16	20	24	23	23	25	22	18	18	15	16	20	17	5	20.2	26.4
9-Nov	9	16	16	14	15	A	14	11	11	13	16	17	15	18	21	19	20	16	15	12	13	7	22	24	15.3	23.8
10-Nov	26	28	29	27	26	A	22	8	3	3	3	6	17	24	24	23	15	11	4	2	3	3	2	12	14.1	28.9
11-Nov	7	2	2	3	A	2	2	2	2	3	8	14	17	22	23	20	21	21	24	23	24	23	25	26	13.6	26.2
12-Nov	28	26	19	15	10	A	21	13	4	8	20	25	30	32	32	31	27	24	22	28	31	26	15	21	22.0	32.0
13-Nov	24	25	20	19	A	13	15	2	2	3	4	9	16	8	12	8	23	27	28	27	26	22	22	22	16.5	27.8
14-Nov	20	22	21	A	20	17	5	2	2	6	12	20	22	21	21	23	22	23	23	27	21	26	31	26	19.0	30.6
15-Nov	17	18	A	23	22	20	7	1	11	12	13	21	20	19	19	17	25	25	23	26	25	26	24	23	19.0	26.2
16-Nov	25	A	25	22	23	24	22	21	19	17	18	18	16	16	14	13	9	9	7	7	11	10	8	7	15.6	25.4
17-Nov	A	3	13	16	15	11	11	9	8	14	19	12	14	15	12	6	2	6	21	28	22	18	29	A	13.9	29.5
18-Nov	30	30	29	32	31	27	2	3	3	3	6	7	18	20	19	14	4	1	3	11	18	18	A	20	15.2	32.0
19-Nov	23	26	25	24	24	20	11	3	2	4	9	11	14	14	10	6	3	2	2	3	3	A	2	2	10.5	25.8
20-Nov	2	3	19	22	24	24	22	18	12	7	11	14	17	15	15	16	14	15	15	15	A	13	14	12	14.7	24.3
21-Nov	13	12	13	7	6	7	2	1	1	2	3	12	23	25	29	28	18	22	22	A	25	25	26	17	14.7	29.0
22-Nov	10	5	9	5	6	1	1	9	11	14	12	13	19	17	15	8	7	3	A	5	5	9	12	12	9.1	19.0
23-Nov	8	6	1	4	5	3	1	1	2	2	3	5	7	7	9	5	12	13	12	8	5	11	13	20	6.8	19.8
24-Nov	25	26	26	27	27	A	25	23	16	17	21	25	27	25	21	8	2	1	1	2	2	1	1	1	15.1	27.5
25-Nov	1	2	18	17	A	17	12	4	2	1	3	4	4	4	7	6	3	4	3	8	3	1	11	19	6.7	18.6
26-Nov	16	23	31	A	28	18	13	7	6	9	10	17	20	22	24	25	27	24	23	23	25	20	20	22	19.8	31.1
27-Nov	25	25	A	26	25	23	17	15	8	15	18	22	25	26	27	27	29	27	23	19	13	9	3	3	19.5	28.8
28-Nov	2	A	4	18	21	25	23	24	25	22	22	28	27	21	23	17	12	17	16	19	10	3	4	8	17.0	27.9
29-Nov	A	17	23	22	21	19	18	21	22	26	28	29	30	32	33	32	32	31	31	32	31	31	31	A	26.8	32.6
30-Nov	32	30	29	30	29	29	27	23	23	26	23	25	28	29	25	21	18	16	19	17	22	23	A	24	24.8	31.9
	16.7	16.6	17.7	18.2	18.4	15.7	13.3	10.0	9.4	10.9	13.7	16.8	19.2	20.3	20.1	18.0	16.3	15.3	16.0	15.7	15.5	15.6	16.2	16.1	Diurnal Average	
	31.9	30.4	31.1	33.7	31.8	29.4	26.7	24.1	25.2	27.1	28.2	29.2	30.5	31.7	32.6	32.4	32.2	31.5	31.4	32.1	30.9	32.1	30.7	29.7	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 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Ozone (O_3) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 36.1 ppb on Nov 6 04:00

Maximum Daily Average: 29.3 ppb on Nov 6

Minimum Value: 1 ppb on Nov 25 22:00

Minimum Daily Average: 7.9 ppb on Nov 2

Maximum Diurnal Average: 23.4 ppb at hour 14

Minimum Diurnal Average: 13.2 ppb at hour 9

Monthly Average: 19.31 ppb

Percentiles: P_1 = 1.6 P_{10} = 4.7 Q_1 = 12.2 Median = 21.5 Q_3 = 26.8 P_{90} = 29.8 P_{99} = 33.5

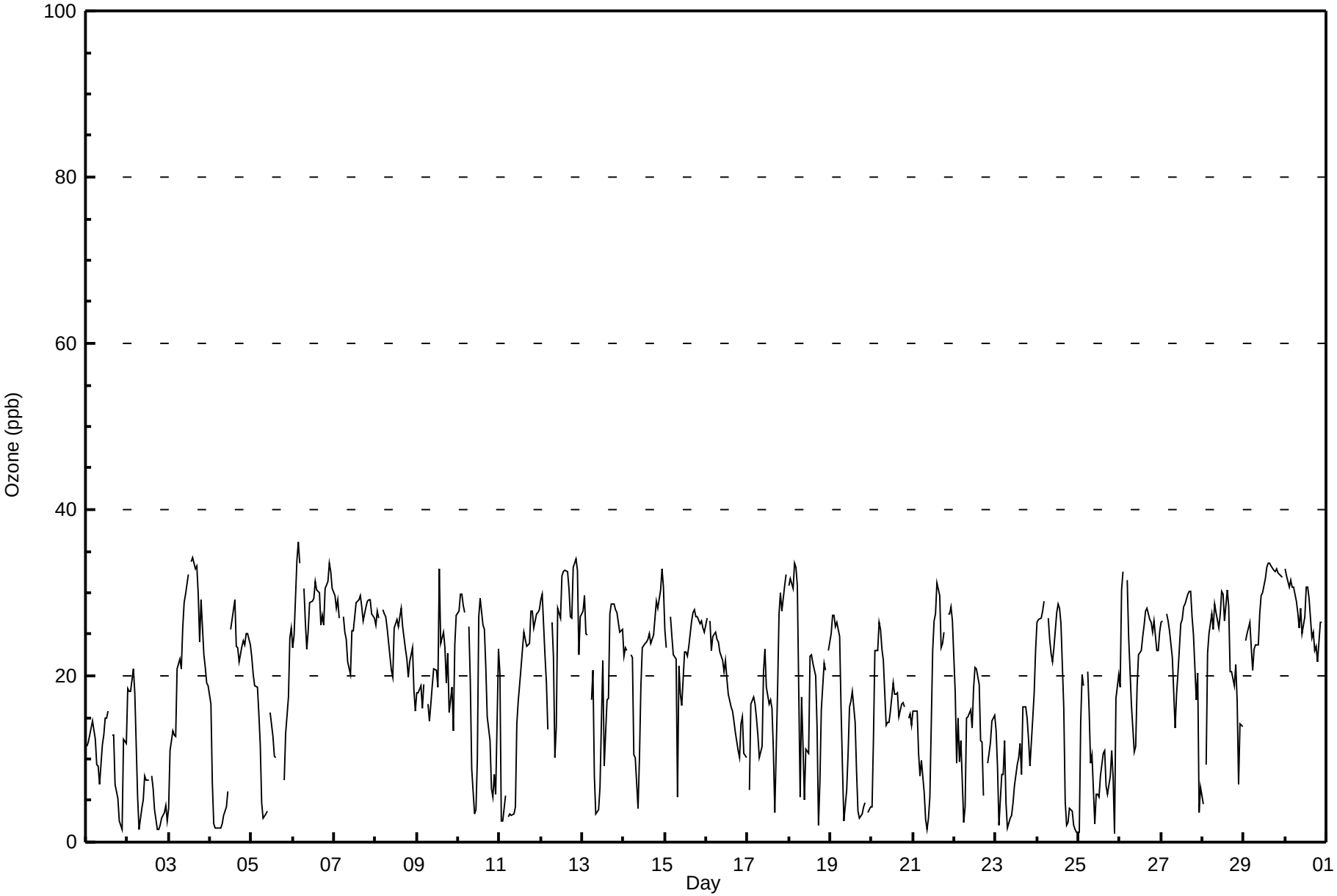
Hours in Service:	720
Hours of Data:	685
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

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	11	12	13	14	15	12	9	9	7	12	13	15	15	16	A	13	13	7	5	3	2	2	12	12	10.5	15.8
2-Nov	18	18	18	21	18	12	5	2	4	5	8	8	7	A	8	6	4	2	2	2	3	3	4	2	7.9	20.9
3-Nov	4	11	13	13	13	21	22	21	26	29	30	32	A	34	34	33	33	30	24	29	22	21	19	19	23.2	34.3
4-Nov	17	7	2	2	2	2	2	2	3	4	6	A	26	27	29	24	23	22	24	24	24	25	25	24	15.0	29.1
5-Nov	22	20	19	19	15	12	5	3	3	4	A	16	13	10	10	C	C	C	C	7	13	18	24	26	13.6	25.8
6-Nov	23	25	34	36	34	A	31	27	23	25	29	29	29	31	30	30	26	27	26	31	31	34	33	31	29.3	36.1
7-Nov	30	28	29	27	A	27	25	24	22	20	25	25	27	29	29	30	28	27	28	29	29	29	27	27	27.1	29.6
8-Nov	26	28	27	A	28	27	27	26	22	21	20	26	27	26	27	28	26	23	22	20	22	23	18	16	24.2	28.1
9-Nov	18	18	19	16	19	A	17	15	17	19	21	21	19	33	24	25	23	19	23	16	19	13	24	27	20.1	32.9
10-Nov	28	30	30	28	28	A	26	19	9	3	4	10	27	29	26	26	21	15	12	6	5	8	6	23	18.3	29.8
11-Nov	20	3	3	6	A	3	3	3	3	4	14	17	21	23	25	24	24	24	28	28	26	27	28	28	16.8	28.0
12-Nov	29	30	22	19	14	A	27	22	10	14	28	27	32	33	33	33	30	27	27	33	34	33	23	27	26.3	34.0
13-Nov	28	30	25	25	A	17	21	8	3	4	7	14	22	9	17	17	27	29	29	28	28	27	25	26	20.2	29.7
14-Nov	22	23	23	A	23	22	11	10	4	10	19	23	24	24	24	25	24	25	27	29	28	30	33	31	22.4	32.9
15-Nov	26	23	A	27	25	23	22	5	21	18	16	23	23	22	23	27	28	28	27	27	26	27	26	25	23.4	28.0
16-Nov	27	A	27	23	25	25	24	24	23	22	21	22	20	18	16	16	15	13	11	10	14	15	11	10	18.7	27.0
17-Nov	A	6	17	18	17	15	13	10	12	21	23	19	17	17	16	11	4	18	27	30	28	31	32	A	18.2	32.3
18-Nov	31	32	30	34	33	31	5	17	12	5	11	11	22	22	21	20	14	2	7	16	22	21	A	23	19.2	33.5
19-Nov	25	27	27	26	26	25	16	9	3	6	11	16	17	18	14	8	4	3	3	4	5	A	4	4	13.1	27.3
20-Nov	4	13	23	23	26	26	23	22	14	14	14	16	19	18	18	18	15	17	17	16	A	15	15	14	17.4	26.4
21-Nov	16	16	16	11	8	10	6	3	2	3	5	23	27	27	31	30	23	24	25	A	27	27	28	27	18.0	31.2
22-Nov	18	10	15	10	12	2	4	15	15	16	14	19	21	21	19	12	12	6	A	9	11	12	15	15	13.1	21.1
23-Nov	13	9	2	8	8	12	5	2	3	3	5	7	9	10	12	8	16	16	15	12	9	15	18	23	10.1	23.1
24-Nov	26	27	27	28	29	A	27	24	23	22	23	28	29	28	26	16	5	2	2	4	4	2	2	1	17.6	29.1
25-Nov	1	14	20	19	A	21	16	10	11	2	6	6	5	8	11	11	7	6	8	11	8	1	17	20	10.3	20.5
26-Nov	19	30	33	A	32	25	21	16	11	12	19	23	23	25	26	28	28	27	26	25	27	23	23	25	23.7	32.6
27-Nov	27	27	A	27	27	25	22	18	14	18	20	26	27	28	29	30	30	30	27	25	17	20	4	7	22.8	30.2
28-Nov	5	A	9	23	25	27	26	29	28	26	27	30	30	27	30	28	21	21	19	21	17	7	14	14	21.9	30.4
29-Nov	A	24	25	26	23	21	23	24	24	28	30	30	32	33	34	34	33	33	32	33	32	32	32	A	29.0	33.5
30-Nov	33	32	31	32	31	31	29	28	26	28	25	27	31	31	29	25	25	23	24	22	26	26	A	27	27.8	32.8
	20.3	20.4	20.7	20.7	21.3	18.9	17.1	14.9	13.2	13.9	17.0	20.2	22.0	23.4	23.3	21.9	20.1	18.8	19.6	19.0	19.3	19.6	19.4	19.8	Diurnal Average	
	32.8	32.0	34.0	36.1	33.5	30.9	30.5	28.6	27.7	28.8	29.8	32.3	32.0	33.8	34.3	33.5	33.2	32.6	32.5	33.0	34.0	33.6	32.9	30.8	Diurnal Maximum	

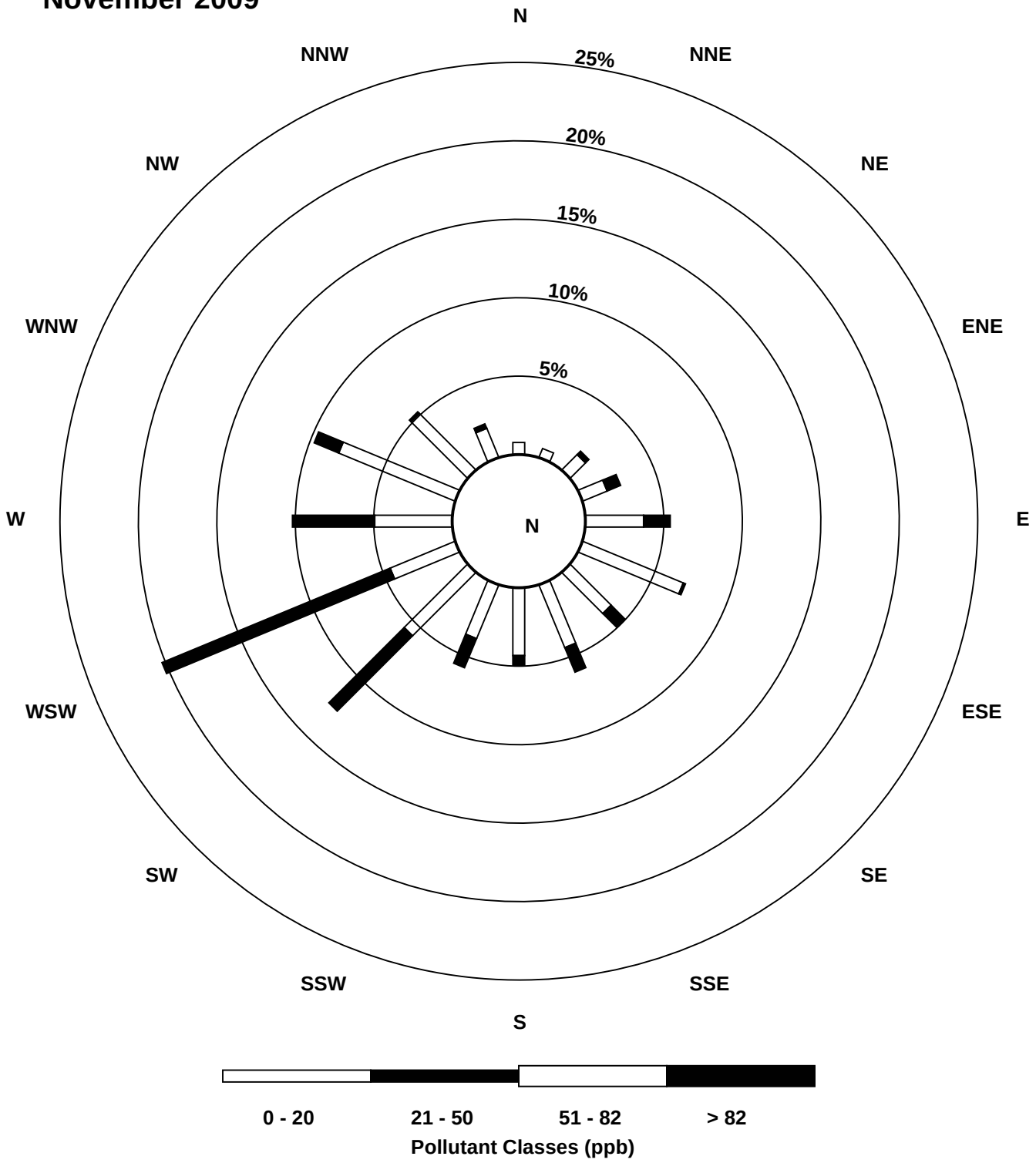
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for O_3 at Henry Pirker
November 2009



Pollutant Rose for O_3 at Henry Pirker
November 2009



Peace Airshed Zone Association
Summary of Eight Hour Running Averages

Henry Pirker - Ozone (O_3) - ppb
November 1, 2009 to December 1, 2009

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 31.8 ppb on Nov 29 21:00

Minimum Value: 1.1 ppb on Nov 25 01:00

Percentiles: P_1 = 1.9 P_{10} = 5.1 Q_1 = 9.8 Median = 15.9 Q_3 = 22.4 P_{90} = 25.4 P_{99} = 31.3

Hours in Service:	720
Hours of Data:	712
Hours of Missing Data:	8
Hours of Calibration:	8
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Nov	22	19	16	14	11	9	9	9	9	9	9	9	9	10	11	11	12	11	10	8	6	4	4	4	22.5
2-Nov	5	6	8	10	11	12	12	11	9	8	7	5	4	4	4	5	5	4	4	3	2	2	2	2	12.3
3-Nov	2	2	4	4	5	7	9	10	12	15	17	20	22	24	26	28	29	28	27	26	25	22	20	17	29.2
4-Nov	15	14	11	8	7	5	4	3	2	2	2	2	5	9	12	15	17	20	22	22	22	21	21	21	22.0
5-Nov	21	21	20	20	19	17	14	12	10	8	7	6	6	6	7	7	N	N	N	N	N	N	N	N	21.2
6-Nov	15	16	17	21	24	25	26	25	25	25	25	24	24	24	25	26	26	27	26	25	25	25	26	26	26.6
7-Nov	26	26	26	26	27	26	25	23	22	21	21	21	22	22	22	23	24	25	25	26	26	26	26	26	26.8
8-Nov	25	26	26	26	25	25	25	24	24	22	21	20	20	20	20	20	21	21	22	21	20	20	19	16	25.9
9-Nov	15	14	14	14	14	13	13	13	14	13	13	14	14	14	15	16	17	18	18	17	17	15	15	16	17.8
10-Nov	17	18	20	22	24	26	26	24	21	17	13	10	9	11	11	13	15	16	16	15	13	11	8	7	26.1
11-Nov	5	4	4	4	4	4	4	3	2	2	3	5	6	9	11	14	16	18	20	21	22	22	23	23	23.4
12-Nov	24	25	24	23	21	21	21	19	15	13	13	14	17	19	20	23	25	27	28	28	28	27	25	24	28.2
13-Nov	24	24	24	23	21	20	20	17	14	11	8	7	8	8	7	8	10	13	16	19	20	22	23	25	24.8
14-Nov	24	24	23	22	21	21	18	15	13	11	9	11	11	11	13	16	19	21	22	23	23	23	25	25	25.0
15-Nov	24	24	24	23	23	22	19	15	14	14	14	13	13	13	15	17	18	20	21	22	22	23	24	25	24.7
16-Nov	25	25	25	24	24	24	24	23	22	22	21	20	19	18	17	16	15	14	13	11	11	10	9	8	24.9
17-Nov	8	7	8	10	10	11	11	11	11	12	13	13	12	13	13	13	12	11	11	13	14	14	16	18	18.0
18-Nov	22	25	27	27	29	30	26	23	20	16	13	10	9	8	10	11	11	11	11	11	11	11	10	11	29.8
19-Nov	14	17	20	22	23	23	22	20	17	14	12	10	9	8	8	9	9	9	8	7	5	4	3	2	23.3
20-Nov	2	2	5	8	11	12	15	17	18	19	18	17	16	15	14	13	14	15	15	15	15	14	14	14	18.5
21-Nov	14	13	13	12	11	11	9	8	6	5	4	4	6	9	12	15	18	20	22	24	24	24	24	22	24.2
22-Nov	21	19	17	15	13	10	7	6	6	7	8	9	10	12	14	14	13	12	12	11	8	7	7	7	21.0
23-Nov	8	8	7	7	7	6	5	4	3	3	3	3	3	4	5	5	6	8	9	9	9	9	10	12	11.7
24-Nov	13	15	17	19	22	23	25	26	24	23	22	22	22	22	22	20	18	16	14	11	8	5	2	1	25.6
25-Nov	1	1	3	5	6	8	10	10	10	10	8	6	6	4	4	4	4	4	4	5	5	4	5	6	10.2
26-Nov	8	10	14	15	18	21	21	19	18	16	13	14	13	13	14	17	19	21	23	24	24	24	24	23	24.2
27-Nov	23	23	23	23	23	24	23	22	20	18	18	18	18	18	19	21	24	25	26	25	24	22	19	16	25.8
28-Nov	12	10	7	7	9	11	14	17	20	20	23	24	24	24	24	23	21	21	20	19	17	15	12	11	24.5
29-Nov	11	11	12	12	14	16	18	20	20	21	22	23	24	26	28	29	30	31	31	32	32	32	31	31	31.8
30-Nov	31	31	31	31	30	30	30	29	28	27	26	26	26	26	25	25	24	23	23	22	21	20	20	20	31.3
Diurnal Maximums	31.3	31.1	30.8	30.5	30.2	30.1	29.5	28.7	27.6	27.1	26.4	25.7	25.5	25.7	27.6	29.0	30.3	31.0	31.4	31.8	31.8	31.7	31.5	31.3	

N - Not Valid

Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Carbon Monoxide (CO) - ppm
November 1, 2009 to December 1, 2009

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 2.34 ppm on Nov 23 10:00
Maximum Daily Average: 0.49 ppm on Nov 23

Minimum Value: 0.1 ppm on Nov 22 10:00
Maximum Diurnal Average: 0.43 ppm at hour 9
Monthly Average: 0.263 ppm

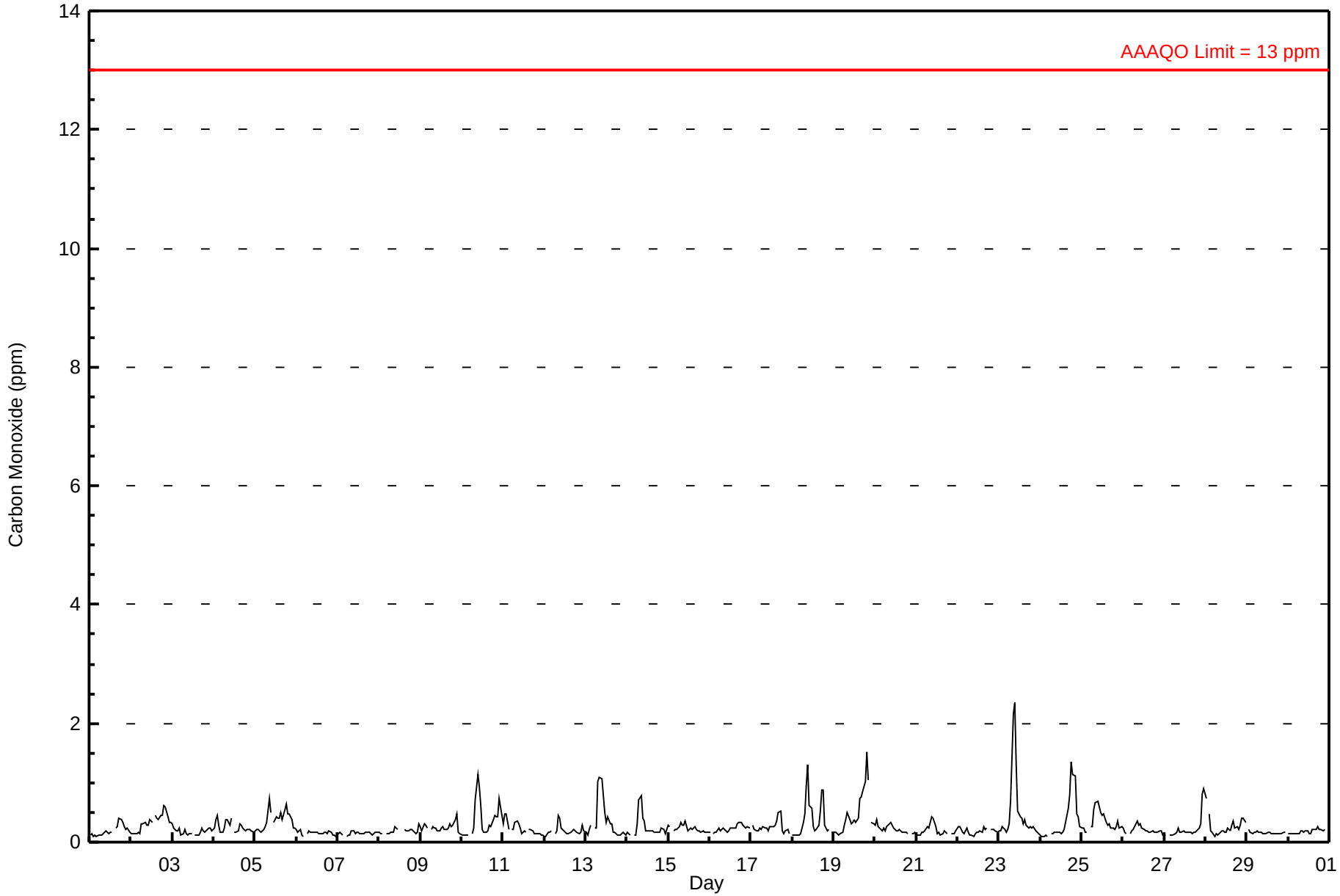
Minimum Daily Average: 0.15 ppm on Nov 7
Minimum Diurnal Average: 0.16 ppm at hour 5
Percentiles: $P_1 = 0.10$ $P_{10} = 0.13$ $Q_1 = 0.16$ Median = 0.20 $Q_3 = 0.28$ $P_{90} = 0.44$ $P_{99} = 1.09$

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

Day	Hourly Period Ending At (MST) 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	0.1	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	A	0.2	0.3	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.19	0.40
2-Nov	0.1	0.1	0.1	0.1	0.2	0.1	0.3	0.3	0.3	0.3	0.3	0.4	0.3	A	0.5	0.4	0.4	0.4	0.5	0.6	0.6	0.4	0.3	0.3	0.33	0.61
3-Nov	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	A	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18	0.32
4-Nov	0.2	0.4	0.4	0.3	0.2	0.2	0.2	0.4	0.4	0.3	0.4	A	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.26	0.45
5-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.7	0.5	A	0.3	0.4	0.4	0.4	0.5	0.4	0.5	0.6	0.5	0.5	0.4	0.2	0.2	0.36	0.73
6-Nov	0.2	0.2	0.2	0.1	0.1	A	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.15	0.21
7-Nov	0.1	0.2	0.1	0.1	A	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.15	0.20
8-Nov	0.2	0.1	0.2	A	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	C	C	C	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.19	0.30
9-Nov	0.3	0.2	0.3	0.3	0.2	A	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.5	0.2	0.1	0.25	0.48
10-Nov	0.1	0.1	0.1	0.1	0.1	A	0.1	0.2	0.7	1.1	0.9	0.6	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.7	0.4	0.37	1.13
11-Nov	0.3	0.5	0.5	0.2	A	0.2	0.2	0.3	0.4	0.3	0.2	0.2	0.2	0.2	M	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.23	0.48
12-Nov	0.1	0.1	0.2	0.2	0.2	A	0.1	0.2	0.4	0.4	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.2	0.19	0.44
13-Nov	0.2	0.1	0.2	0.3	A	0.2	0.2	1.0	1.1	1.1	0.8	0.5	0.3	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.36	1.08
14-Nov	0.2	0.1	0.1	A	0.1	0.1	0.3	0.7	0.8	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25	0.79
15-Nov	0.3	0.3	A	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	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	0.23	0.36
16-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	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.23	0.32
17-Nov	A	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.2	0.1	0.2	0.2	0.1	A	0.25	0.51
18-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.5	0.9	1.3	0.6	0.6	0.3	0.2	0.2	0.3	0.5	0.9	0.9	0.3	0.2	0.2	A	0.2	0.40	1.31
19-Nov	0.2	0.2	0.1	0.1	0.1	0.2	0.3	0.4	0.5	0.4	0.3	0.3	0.4	0.3	0.4	0.7	0.8	0.9	1.0	1.5	1.0	A	0.3	0.3	0.47	1.51
20-Nov	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.1	0.1	0.2	0.22	0.37
21-Nov	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.3	0.4	0.4	0.3	0.2	0.2	0.1	0.1	0.2	0.2	0.1	A	0.1	0.1	0.2	0.2	0.20	0.42
22-Nov	0.3	0.3	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.19	0.27
23-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.7	2.2	2.3	1.3	0.5	0.4	0.4	0.3	0.4	0.3	0.2	0.3	0.2	0.3	0.2	0.2	0.1	0.49	2.34
24-Nov	0.1	0.1	0.1	0.1	0.1	A	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.6	0.8	1.3	1.1	1.1	0.5	0.4	0.3	0.37	1.35
25-Nov	0.2	0.2	0.2	0.2	A	0.3	0.3	0.6	0.7	0.7	0.6	0.5	0.4	0.5	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.4	0.2	0.3	0.35	0.68
26-Nov	0.2	0.2	0.1	A	0.1	0.2	0.2	0.3	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	0.1	0.20	0.36
27-Nov	0.1	0.1	A	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	0.1	0.2	0.2	0.2	0.2	0.3	0.8	0.9	0.23	0.91
28-Nov	0.7	A	0.5	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.2	0.3	0.4	0.4	0.3	0.26	0.73
29-Nov	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	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	A	0.16	0.22
30-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	A	0.2	0.18	0.26
	0.21	0.20	0.20	0.17	0.16	0.18	0.20	0.30	0.43	0.43	0.34	0.26	0.23	0.22	0.23	0.26	0.28	0.31	0.32	0.31	0.29	0.24	0.25	0.23	Diurnal Average	
	0.73	0.48	0.48	0.29	0.24	0.27	0.32	1.02	2.16	2.34	1.32	0.61	0.45	0.47	0.45	0.74	0.77	0.89	1.35	1.51	1.11	0.48	0.82	0.91	Diurnal Maximum	

C - Calibration M - Maintenance 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 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Carbon Monoxide (CO) - ppm
November 1, 2009 to December 1, 2009

Maximum Value: 5.76 ppm on Nov 14 08:00

Maximum Daily Average: 0.91 ppm on Nov 23

Minimum Value: 0.1 ppm on Nov 7 06:00

Minimum Daily Average: 0.19 ppm on Nov 7

Maximum Diurnal Average: 0.97 ppm at hour 9

Minimum Diurnal Average: 0.22 ppm at hour 5

Monthly Average: 0.435 ppm

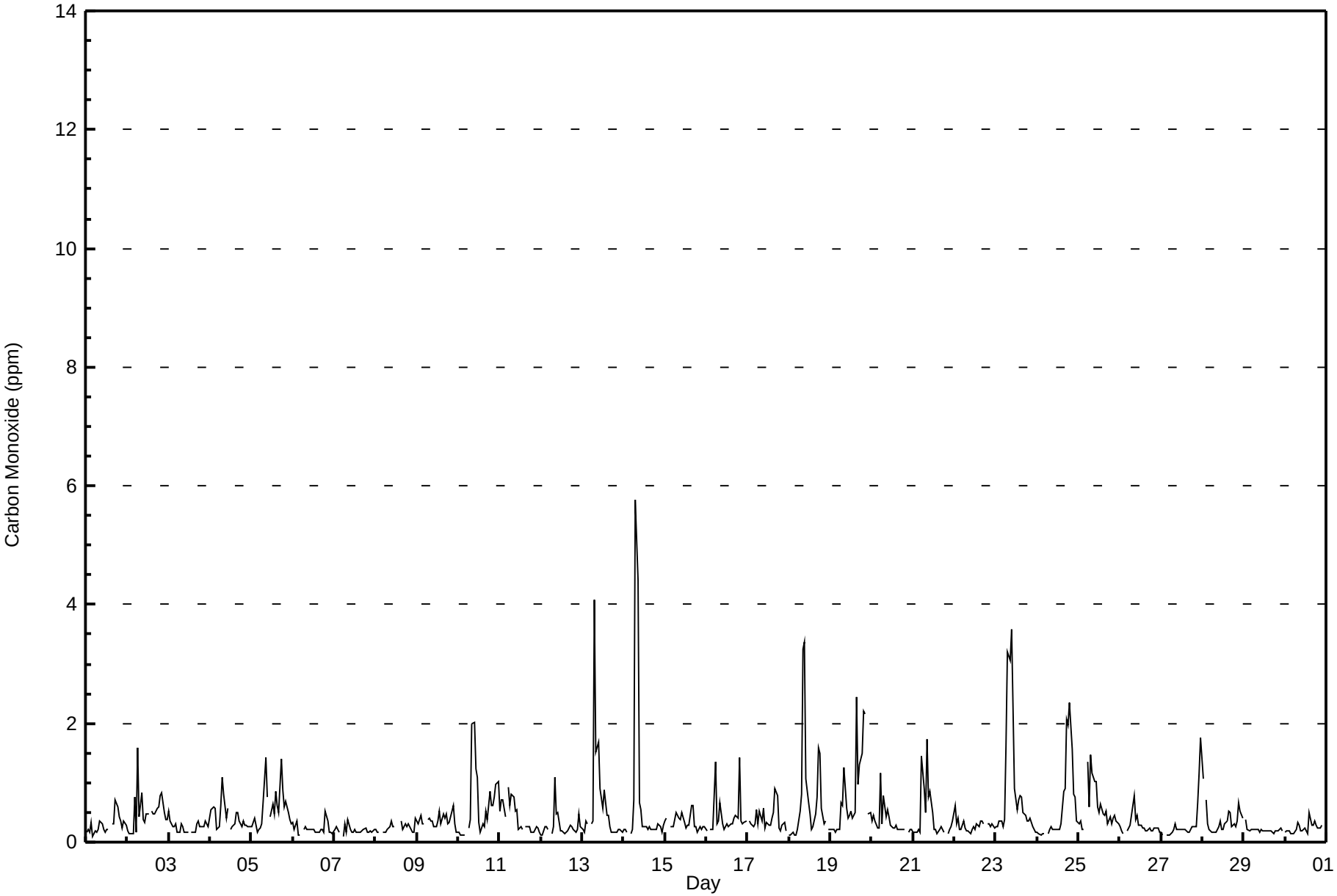
Percentiles: $P_1 = 0.12$ $P_{10} = 0.16$ $Q_1 = 0.20$ Median = 0.27 $Q_3 = 0.47$ $P_{90} = 0.79$ $P_{99} = 3.17$

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

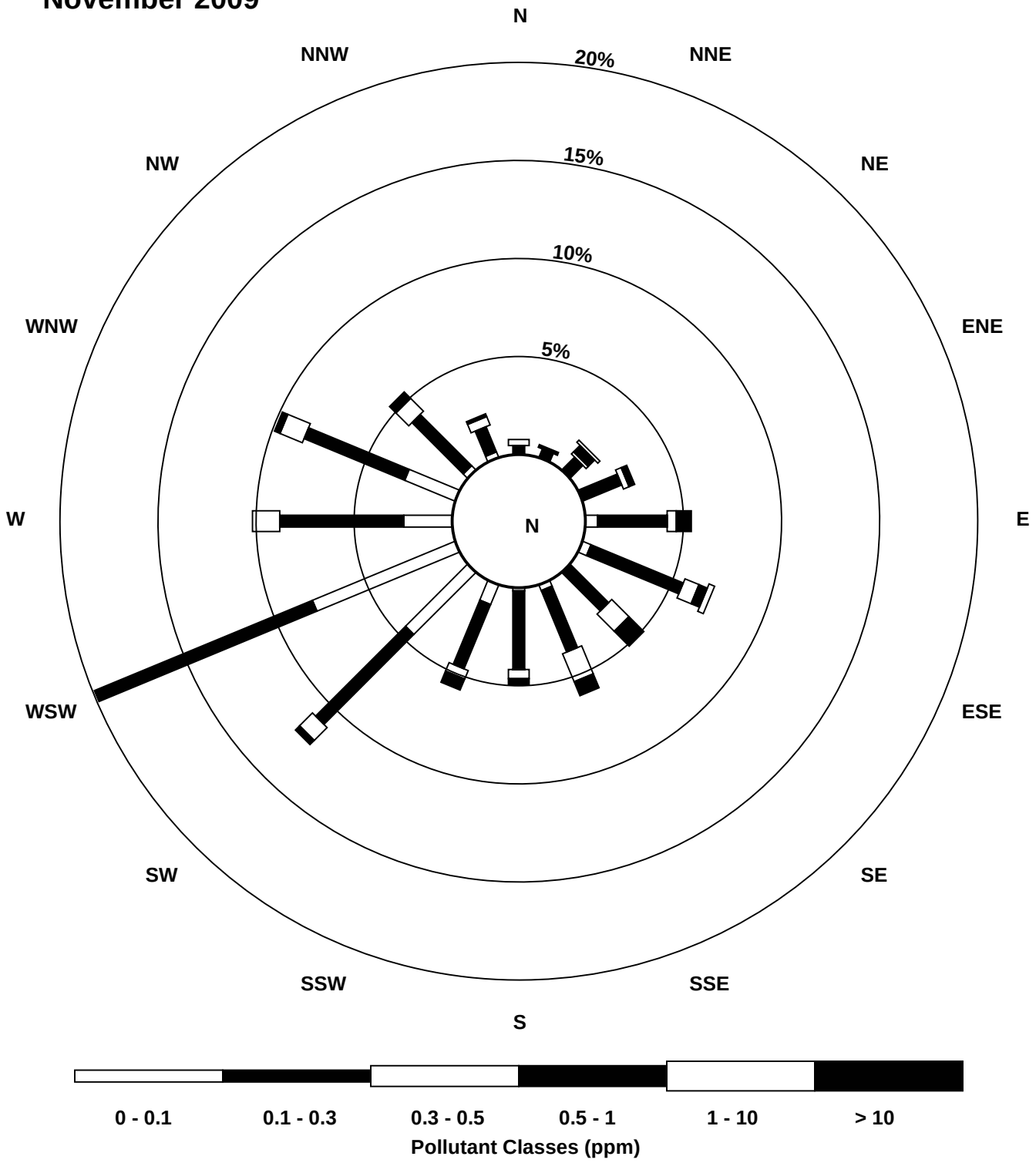
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0.2	0.2	0.2	0.3	0.1	0.2	0.2	0.2	0.4	0.3	0.2	0.2	0.2	0.2	A	0.3	0.3	0.7	0.6	0.4	0.3	0.2	0.3	0.3	0.28	0.70
2-Nov	0.2	0.1	0.1	0.1	0.8	0.2	1.6	0.4	0.8	0.4	0.3	0.5	0.5	A	0.5	0.5	0.5	0.6	0.6	0.8	0.8	0.5	0.4	0.4	0.50	1.58
3-Nov	0.5	0.4	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	A	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.26	0.52
4-Nov	0.6	0.6	0.6	0.6	0.2	0.3	0.6	1.1	0.8	0.4	0.6	A	0.2	0.3	0.3	0.5	0.5	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.44	1.10
5-Nov	0.3	0.3	0.4	0.2	0.2	0.2	0.3	0.7	1.4	0.7	A	0.4	0.7	0.5	0.8	0.6	0.5	1.4	0.9	0.6	0.7	0.5	0.4	0.3	0.57	1.42
6-Nov	0.3	0.2	0.4	0.1	0.1	A	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	0.5	0.4	0.2	0.2	0.1	0.22	0.51
7-Nov	0.2	0.3	0.2	0.2	A	0.1	0.3	0.2	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.38
8-Nov	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.3	C	C	C	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.4	0.24	0.41
9-Nov	0.4	0.3	0.5	0.3	0.3	A	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.5	0.3	0.5	0.4	0.5	0.3	0.3	0.5	0.6	0.3	0.2	0.37	0.62
10-Nov	0.2	0.1	0.1	0.1	0.1	A	0.2	0.4	2.0	2.0	1.2	1.1	0.3	0.2	0.3	0.3	0.5	0.4	0.8	0.6	0.6	0.8	1.0	1.0	0.63	2.02
11-Nov	0.5	0.7	0.7	0.4	A	0.9	0.6	0.8	0.8	0.5	0.6	0.2	0.3	0.2	M	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.42	0.91
12-Nov	0.1	0.1	0.3	0.3	0.2	A	0.2	0.2	1.1	0.5	0.5	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.5	0.3	0.28	1.09
13-Nov	0.2	0.2	0.4	0.3	A	0.3	0.4	4.1	1.5	1.7	0.9	0.7	0.6	0.9	0.4	0.5	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.63	4.08
14-Nov	0.2	0.2	0.2	A	0.2	0.2	0.7	5.8	4.4	0.7	0.6	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.70	5.76
15-Nov	0.4	0.4	A	0.3	0.3	0.2	0.5	0.4	0.4	0.4	0.5	0.3	0.2	0.3	0.3	0.6	0.6	0.3	0.3	0.2	0.3	0.2	0.3	0.3	0.34	0.63
16-Nov	0.2	A	0.2	0.2	0.2	1.3	0.3	0.4	0.7	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.4	1.4	0.4	0.3	0.3	0.3	0.41	1.42
17-Nov	A	0.4	0.3	0.3	0.3	0.5	0.3	0.5	0.3	0.6	0.2	0.3	0.3	0.3	0.4	0.5	0.9	0.8	0.2	0.2	0.3	0.3	0.2	A	0.38	0.90
18-Nov	0.1	0.1	0.2	0.1	0.1	0.2	0.5	0.8	3.3	3.4	1.1	0.7	0.5	0.2	0.3	0.5	0.8	1.6	1.5	0.6	0.3	0.4	A	0.2	0.75	3.37
19-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.7	0.6	1.3	0.6	0.4	0.5	0.5	0.4	0.5	2.4	1.0	1.3	1.5	2.2	2.2	A	0.5	0.5	0.79	2.44
20-Nov	0.4	0.4	0.3	0.2	0.2	1.2	0.3	0.8	0.4	0.5	0.4	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.35	1.16
21-Nov	0.2	0.2	0.2	0.2	0.2	1.4	0.9	0.5	1.7	0.8	0.9	0.5	0.2	0.2	0.2	0.2	0.3	0.2	0.2	A	0.2	0.2	0.3	0.4	0.43	1.74
22-Nov	0.6	0.3	0.4	0.2	0.2	0.4	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.4	0.4	0.3	A	0.3	0.3	0.3	0.3	0.2	0.28	0.61
23-Nov	0.3	0.3	0.4	0.4	0.3	0.4	1.6	3.2	3.1	3.6	2.3	0.9	0.5	0.7	0.8	0.8	0.5	0.4	0.4	0.4	0.4	0.3	0.2	0.2	0.91	3.59
24-Nov	0.2	0.2	0.1	0.2	0.2	A	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.9	0.9	2.1	2.0	2.4	1.6	0.8	0.8	0.4	0.62	2.35
25-Nov	0.3	0.4	0.2	0.2	A	1.4	0.6	1.5	1.2	1.0	1.0	0.6	0.5	0.6	0.5	0.5	0.5	0.3	0.4	0.3	0.4	0.5	0.3	0.3	0.58	1.47
26-Nov	0.2	0.2	0.1	A	0.2	0.2	0.3	0.4	0.8	0.4	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	0.27	0.77
27-Nov	0.2	0.1	A	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.7	1.2	1.8	0.33	1.76
28-Nov	1.1	A	0.7	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.2	0.2	0.3	0.4	0.5	0.5	0.3	0.3	0.3	0.4	0.7	0.5	0.4	0.36	1.07
29-Nov	A	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	A	0.20	0.37
30-Nov	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.5	0.3	0.3	0.3	0.3	0.2	0.2	0.3	A	0.2	0.24	0.50
	0.30	0.27	0.29	0.23	0.22	0.43	0.44	0.85	0.97	0.70	0.51	0.36	0.31	0.30	0.34	0.44	0.41	0.50	0.46	0.49	0.44	0.35	0.35	0.35	Diurnal Average	
	1.07	0.72	0.72	0.56	0.76	1.44	1.62	5.76	4.41	3.59	2.25	1.08	0.65	0.87	0.84	2.44	0.97	2.07	1.96	2.35	2.16	0.81	1.17	1.76	Diurnal Maximum	

C - Calibration M - Maintenance A - Automated Daily Zero Span

Hourly Maximums for CO at Henry Pirker
November 2009



Pollutant Rose for CO at Henry Pirker
November 2009



Peace Airshed Zone Association
Summary of Eight Hour Running Averages

Henry Pirker - Carbon Monoxide (CO) - ppm
November 1, 2009 to December 1, 2009

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 1.02 ppm on Nov 23 15:00

Minimum Value: 0.11 ppm on Nov 24 07:00

Percentiles: P_1 = 0.12 P_{10} = 0.15 Q_1 = 0.16 Median = 0.22 Q_3 = 0.29 P_{90} = 0.46 P_{99} = 0.89

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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.29
2-Nov	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	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.48
3-Nov	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.44
4-Nov	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	0.2	0.2	0.2	0.2	0.2	0.2	0.31
5-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	0.4	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.48
6-Nov	0.4	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	0.1	0.40
7-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.16
8-Nov	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	N	N	N	N	N	N	0.2	0.2	0.2	0.2	0.20
9-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.3	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	0.30
10-Nov	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.4	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.57
11-Nov	0.4	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.47
12-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25
13-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.6	0.7	0.7	0.7	0.7	0.7	0.6	0.5	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.70
14-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.40
15-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.27
16-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	0.3	0.3	0.3	0.3	0.3	0.3	0.28
17-Nov	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.33
18-Nov	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.59
19-Nov	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.6	0.8	0.8	0.9	0.9	0.8	0.91
20-Nov	0.8	0.7	0.6	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	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	0.77
21-Nov	0.1	0.1	0.1	0.1	0.1	0.1	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	0.28
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	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
23-Nov	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.8	0.9	1.0	1.0	1.0	1.0	1.0	0.7	0.5	0.4	0.3	0.3	0.3	0.3	0.2	1.02
24-Nov	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.5	0.6	0.7	0.8	0.8	0.8	0.79
25-Nov	0.7	0.7	0.5	0.4	0.3	0.3	0.2	0.3	0.3	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.73
26-Nov	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.26
27-Nov	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	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.37
28-Nov	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.52
29-Nov	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.30
30-Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
Diurnal Maximums	0.77	0.70	0.59	0.52	0.51	0.48	0.39	0.33	0.53	0.79	0.93	0.97	1.00	1.02	1.02	0.98	0.75	0.51	0.60	0.75	0.83	0.91	0.90	0.84	

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, 2009 to December 1, 2009

Maximum Value: 3.65 ppm on Nov 22 08:00

Maximum Daily Average: 2.56 ppm on Nov 22

Minimum Value: 1.9 ppm on Nov 6 04:00

Minimum Daily Average: 1.95 ppm on Nov 7

Maximum Diurnal Average: 2.27 ppm at hour 10

Minimum Diurnal Average: 2.09 ppm at hour 5

Monthly Average: 2.159 ppm

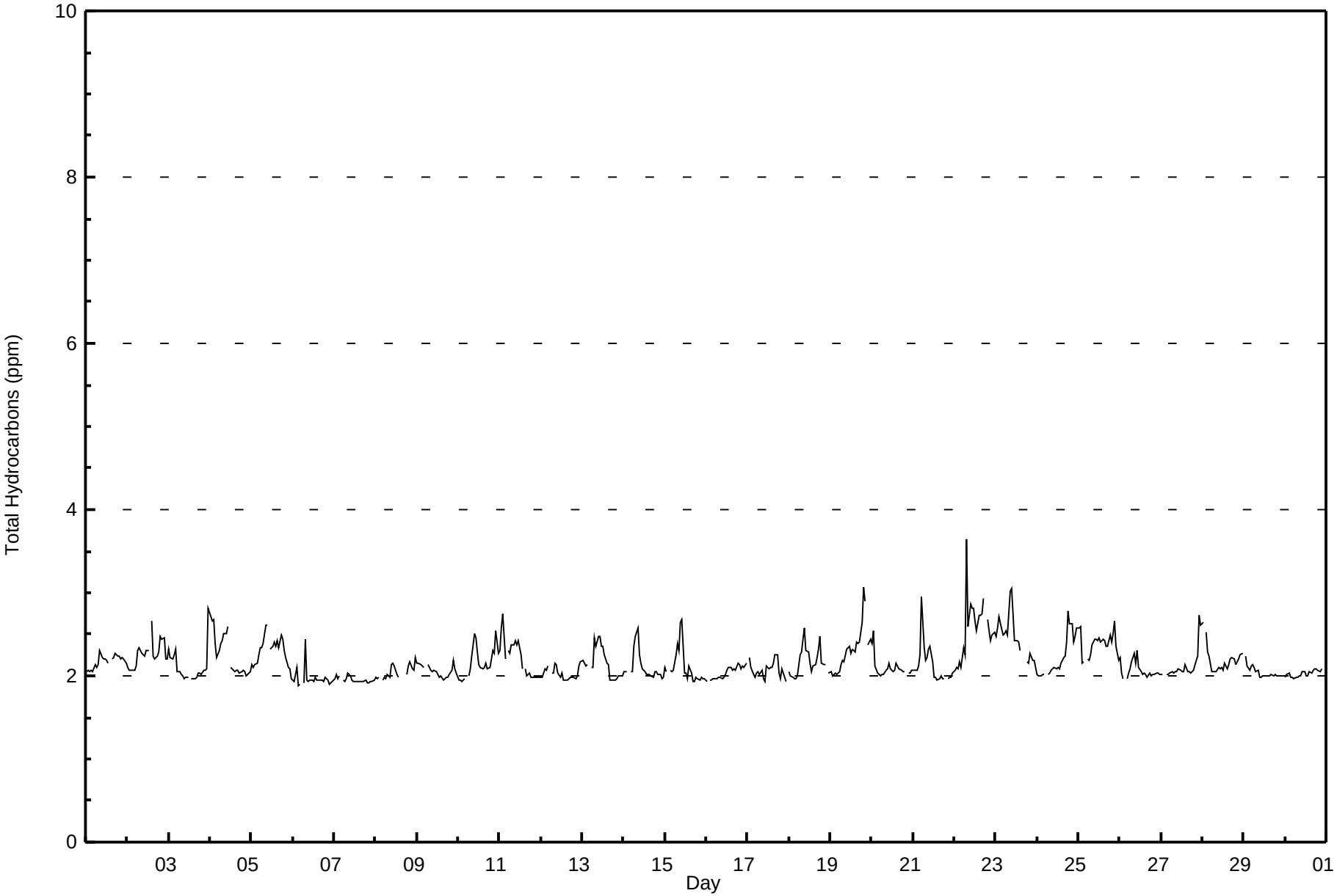
Percentiles: P_1 = 1.92 P_{10} = 1.96 Q_1 = 2.01 Median = 2.08 Q_3 = 2.25 P_{90} = 2.47 P_{99} = 2.89

Hours in Service:	720
Hours of Data:	681
Hours of Missing Data:	39
Hours of Calibration:	38
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	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.3	2.2	2.2	2.2	2.2	2.2	A	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.1	2.17	2.31
2-Nov	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.3	2.3	2.3	2.2	2.3	2.3	A	2.7	2.2	2.2	2.2	2.3	2.5	2.4	2.5	2.2	2.2	2.26	2.65
3-Nov	2.3	2.2	2.2	2.3	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.8	2.10	2.81
4-Nov	2.7	2.7	2.7	2.4	2.2	2.3	2.4	2.4	2.5	2.5	2.6	A	2.1	2.1	2.0	2.1	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.26	2.71
5-Nov	2.1	2.1	2.1	2.2	2.3	2.3	2.3	2.4	2.6	2.6	A	2.3	2.4	2.4	2.4	2.4	2.3	2.5	2.4	2.3	2.2	2.1	2.1	2.0	2.30	2.61
6-Nov	1.9	1.9	2.1	1.9	1.9	A	1.9	2.4	1.9	1.9	2.0	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.97	2.44
7-Nov	2.0	2.0	2.0	2.0	A	1.9	1.9	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.95	2.03
8-Nov	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	C	C	C	C	2.0	2.1	2.2	2.1	2.1	2.2	2.05	2.22
9-Nov	2.2	2.2	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.1	2.0	2.06	2.18
10-Nov	1.9	1.9	1.9	1.9	2.0	A	2.0	2.1	2.2	2.5	2.5	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.5	2.3	2.16	2.54
11-Nov	2.3	2.6	2.7	2.2	A	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.3	2.1	M	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.22	2.75
12-Nov	2.0	2.0	2.1	2.1	2.1	A	2.0	2.0	2.2	2.1	2.0	2.0	2.0	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.03	2.17
13-Nov	2.2	2.2	2.1	2.1	A	2.1	2.1	2.5	2.4	2.5	2.5	2.4	2.3	2.2	2.2	2.1	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.16	2.48
14-Nov	2.1	2.0	2.0	A	2.1	2.1	2.4	2.5	2.6	2.3	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.10	2.58
15-Nov	2.1	2.1	A	2.1	2.0	2.1	2.3	2.4	2.3	2.6	2.7	2.0	2.0	2.0	2.1	2.0	1.9	1.9	2.0	2.0	1.9	2.0	2.0	2.0	2.11	2.67
16-Nov	1.9	A	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.04	2.15
17-Nov	A	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.0	1.9	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.0	2.0	2.1	2.0	1.9	A	2.07	2.25
18-Nov	2.1	2.0	2.0	2.0	2.0	2.0	2.3	2.3	2.4	2.6	2.3	2.3	2.1	2.1	2.1	2.1	2.2	2.3	2.5	2.1	2.1	2.1	A	2.0	2.18	2.58
19-Nov	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.3	2.3	2.4	2.3	2.3	2.3	2.4	2.4	2.4	2.6	3.1	2.9	A	2.4	2.4	2.31	3.06
20-Nov	2.4	2.5	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.0	A	2.0	2.0	2.1	2.10	2.53
21-Nov	2.1	2.1	2.1	2.1	2.3	2.9	2.3	2.2	2.2	2.3	2.4	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.13	2.95
22-Nov	2.1	2.1	2.1	2.2	2.1	2.3	2.2	3.6	2.6	2.9	2.8	2.8	2.7	2.6	2.7	2.7	2.8	2.9	A	2.7	2.5	2.4	2.5	2.5	2.56	3.65
23-Nov	2.5	2.6	2.7	2.6	2.5	2.5	2.5	2.5	3.0	3.1	2.7	2.4	2.4	2.4	2.3	C	C	C	2.2	2.2	2.3	2.2	2.2	2.1	2.47	3.06
24-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	2.2	2.2	2.4	2.8	2.6	2.6	2.4	2.5	2.6	2.22	2.79
25-Nov	2.6	2.6	2.1	2.2	A	2.2	2.2	2.3	2.4	2.4	2.4	2.4	2.5	2.4	2.4	2.4	2.3	2.4	2.5	2.4	2.5	2.7	2.4	2.2	2.38	2.66
26-Nov	2.2	2.0	2.0	A	2.0	2.0	2.1	2.2	2.3	2.2	2.3	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.07	2.30
27-Nov	2.0	2.0	A	2.0	2.0	2.0	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.7	2.6	2.12	2.73
28-Nov	2.6	A	2.5	2.3	2.2	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.2	2.2	2.2	2.1	2.2	2.2	2.3	2.3	2.19	2.64
29-Nov	A	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.04	2.24
30-Nov	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	A	2.1	2.03	2.08
	2.16	2.16	2.15	2.10	2.09	2.15	2.14	2.24	2.24	2.27	2.24	2.18	2.14	2.11	2.14	2.12	2.12	2.15	2.14	2.17	2.17	2.13	2.15	2.17	Diurnal Average	
	2.71	2.67	2.75	2.56	2.49	2.95	2.54	3.65	3.02	3.06	2.82	2.81	2.66	2.55	2.72	2.73	2.75	2.93	2.79	3.06	2.90	2.66	2.73	2.81	Diurnal Maximum	

C - Calibration M - Maintenance A - Automated Daily Zero Span

Hourly Averages for THC at Henry Pirker
November 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Total Hydrocarbons (THC) - ppm
November 1, 2009 to December 1, 2009

Maximum Value: 7.00 ppm on Nov 6 03:00

Maximum Daily Average: 2.81 ppm on Nov 22

Minimum Value: 1.9 ppm on Nov 6 04:00

Minimum Daily Average: 2.07 ppm on Nov 7

Maximum Diurnal Average: 2.59 ppm at hour 8

Minimum Diurnal Average: 2.22 ppm at hour 14

Monthly Average: 2.338 ppm

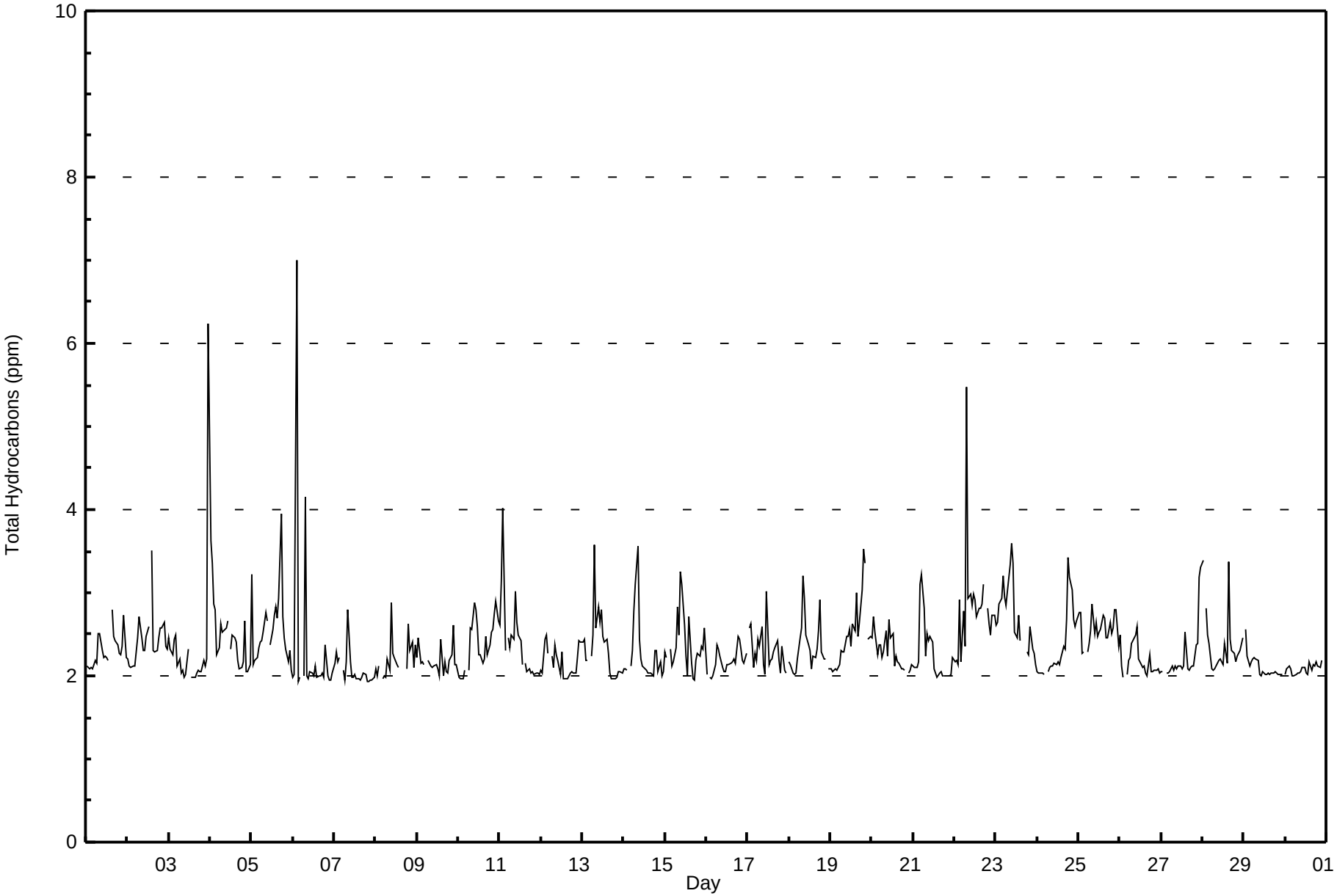
Percentiles: P_1 = 1.95 P_{10} = 2.01 Q_1 = 2.07 Median = 2.21 Q_3 = 2.47 P_{90} = 2.80 P_{99} = 3.53

Hours in Service:	720
Hours of Data:	681
Hours of Missing Data:	39
Hours of Calibration:	38
Percent Operational Time:	99.9

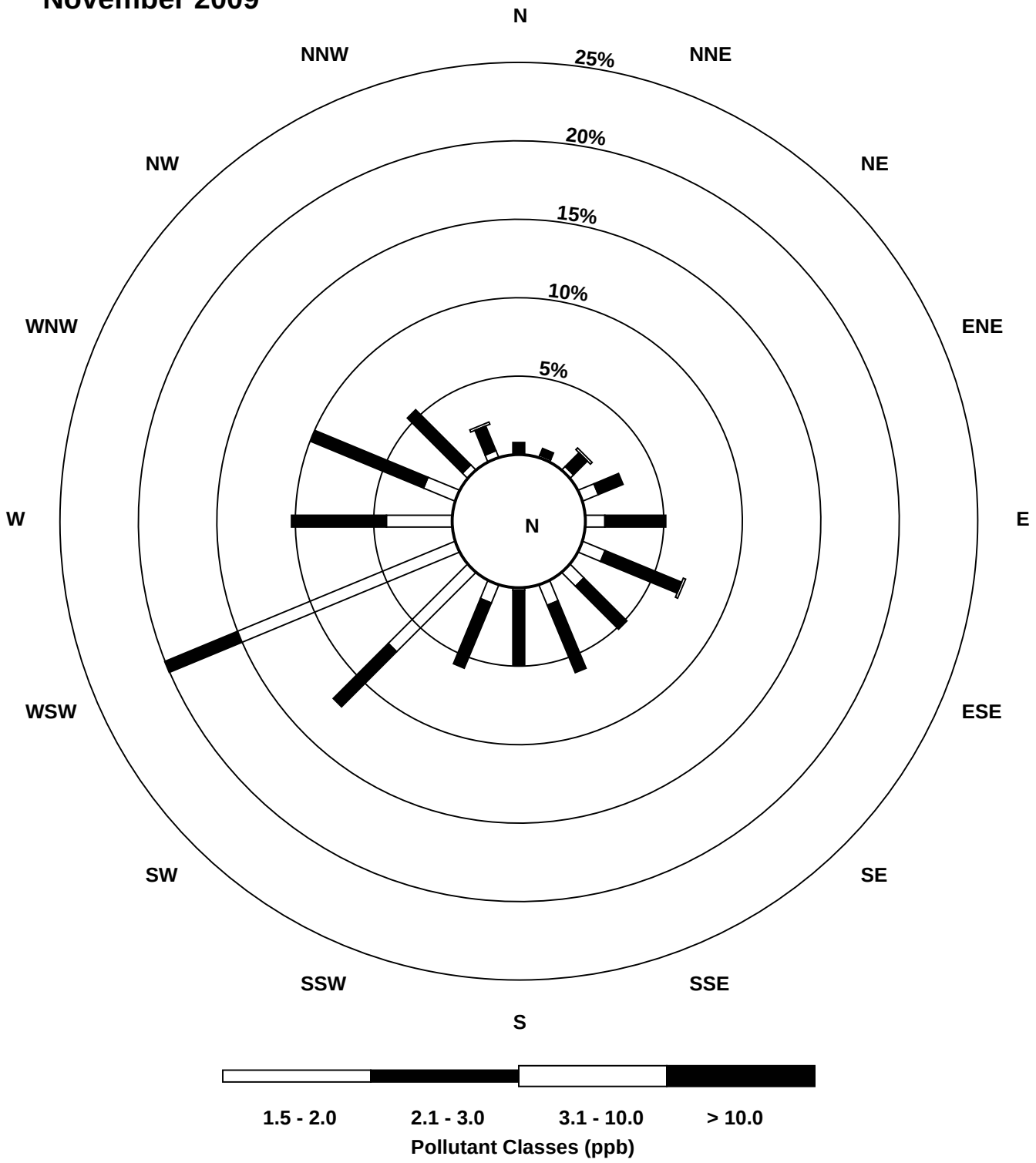
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.5	2.5	2.3	2.2	2.2	2.2	2.2	A	2.8	2.5	2.4	2.4	2.3	2.3	2.3	2.7	2.2	2.30	2.80
2-Nov	2.2	2.1	2.1	2.1	2.1	2.3	2.5	2.7	2.5	2.3	2.3	2.5	2.6	A	3.5	2.3	2.3	2.3	2.5	2.6	2.6	2.7	2.4	2.3	2.42	3.51
3-Nov	2.5	2.3	2.2	2.4	2.5	2.1	2.2	2.0	2.1	2.0	2.0	2.3	A	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.2	2.1	2.2	6.2	2.33	6.23
4-Nov	3.6	3.4	2.9	2.8	2.3	2.3	2.6	2.5	2.5	2.6	2.7	A	2.3	2.5	2.5	2.4	2.2	2.1	2.1	2.2	2.7	2.0	2.0	2.1	2.49	3.63
5-Nov	3.2	2.1	2.2	2.2	2.3	2.4	2.4	2.5	2.8	2.7	A	2.4	2.6	2.7	2.8	2.7	2.9	4.0	2.7	2.5	2.3	2.2	2.3	2.1	2.56	3.96
6-Nov	2.0	2.0	7.0	1.9	2.0	A	2.0	4.2	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.4	2.0	2.0	1.9	2.0	2.33	7.00
7-Nov	2.2	2.3	2.2	2.2	A	2.1	1.9	2.2	2.8	2.2	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	1.9	1.9	2.0	2.0	2.0	2.07	2.80
8-Nov	2.1	2.0	2.1	A	2.0	2.0	2.0	2.2	2.1	2.9	2.3	2.2	2.1	2.1	C	C	C	C	2.1	2.6	2.3	2.4	2.1	2.4	2.21	2.87
9-Nov	2.2	2.5	2.2	2.2	2.1	A	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.0	2.4	2.0	2.2	2.0	2.0	2.2	2.2	2.6	2.1	2.1	2.18	2.62
10-Nov	2.0	2.0	2.0	2.0	2.1	A	2.1	2.6	2.6	2.9	2.8	2.6	2.3	2.3	2.1	2.2	2.5	2.3	2.4	2.5	2.6	2.8	2.9	2.7	2.38	2.90
11-Nov	2.6	3.1	4.0	2.3	A	2.5	2.3	2.5	2.4	3.0	2.6	2.5	2.4	2.1	M	2.2	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.41	4.01
12-Nov	2.1	2.0	2.4	2.5	2.3	A	2.2	2.1	2.4	2.2	2.2	2.0	2.3	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.2	2.4	2.4	2.17	2.50
13-Nov	2.4	2.4	2.2	2.2	A	2.2	2.5	3.6	2.6	2.8	2.6	2.8	2.5	2.4	2.4	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.35	3.57
14-Nov	2.1	2.1	2.1	A	2.1	2.3	2.8	3.1	3.6	2.4	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.3	2.3	2.0	2.2	2.0	2.0	2.26	3.56
15-Nov	2.3	2.2	A	2.3	2.1	2.2	2.3	2.8	2.5	3.3	3.1	2.6	2.2	2.0	2.7	2.1	2.0	2.0	2.2	2.3	2.2	2.4	2.3	2.6	2.38	3.26
16-Nov	2.0	A	2.0	2.0	2.0	2.1	2.4	2.3	2.2	2.1	2.0	2.0	2.1	2.1	2.2	2.2	2.2	2.2	2.5	2.4	2.3	2.2	2.2	2.3	2.18	2.48
17-Nov	A	2.6	2.6	2.1	2.3	2.2	2.4	2.4	2.6	2.1	2.0	3.0	2.1	2.2	2.2	2.3	2.3	2.4	2.2	2.0	2.4	2.1	2.0	A	2.30	3.01
18-Nov	2.2	2.1	2.0	2.0	2.0	2.2	2.5	2.6	3.2	2.9	2.5	2.4	2.3	2.1	2.2	2.2	2.3	2.5	2.9	2.3	2.2	2.2	A	2.1	2.35	3.20
19-Nov	2.1	2.0	2.1	2.1	2.1	2.1	2.3	2.3	2.3	2.5	2.5	2.6	2.3	2.6	2.5	3.0	2.5	2.6	3.0	3.5	3.4	A	2.4	2.5	2.49	3.52
20-Nov	2.5	2.7	2.5	2.2	2.4	2.4	2.2	2.3	2.5	2.2	2.7	2.5	2.5	2.1	2.2	2.2	2.1	2.1	2.1	2.1	A	2.0	2.1	2.1	2.29	2.70
21-Nov	2.1	2.1	2.1	2.2	3.1	3.2	2.8	2.2	2.5	2.4	2.5	2.4	2.1	2.0	2.0	2.0	2.1	2.0	2.0	A	2.0	2.0	2.0	2.2	2.26	3.22
22-Nov	2.2	2.2	2.1	2.9	2.2	2.8	2.4	5.5	2.9	3.0	2.9	3.0	2.9	2.7	2.8	2.8	2.9	3.1	A	2.8	2.6	2.5	2.7	2.7	2.81	5.47
23-Nov	2.6	2.6	2.9	2.9	3.2	2.9	2.8	3.0	3.3	3.6	3.4	2.5	2.5	2.7	2.4	C	C	C	2.3	2.3	2.6	2.3	2.3	2.1	2.73	3.59
24-Nov	2.0	2.0	2.0	2.0	2.0	A	2.0	2.1	2.1	2.1	2.2	2.1	2.2	2.1	2.2	2.4	2.3	2.7	3.4	3.2	3.0	2.7	2.6	2.7	2.36	3.42
25-Nov	2.8	2.8	2.3	2.3	A	2.3	2.4	2.5	2.9	2.5	2.7	2.5	2.5	2.6	2.7	2.7	2.5	2.5	2.6	2.5	2.6	2.8	2.8	2.4	2.56	2.87
26-Nov	2.5	2.1	2.0	A	2.0	2.2	2.2	2.4	2.5	2.5	2.6	2.2	2.1	2.1	2.1	2.0	2.0	2.2	2.0	2.1	2.1	2.1	2.1	2.0	2.18	2.59
27-Nov	2.1	2.1	A	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.5	2.1	2.1	2.1	2.1	2.1	2.4	2.4	3.2	3.3	2.23	3.31
28-Nov	3.4	A	2.8	2.5	2.4	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.4	2.2	3.4	2.4	2.3	2.3	2.2	2.2	2.3	2.3	2.5	2.37	3.38
29-Nov	A	2.6	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	A	2.10	2.56
30-Nov	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.2	2.1	2.1	2.1	2.2	2.1	2.1	2.2	A	2.3	2.09	2.30
	2.35	2.31	2.48	2.25	2.22	2.30	2.31	2.59	2.50	2.47	2.39	2.34	2.26	2.22	2.33	2.29	2.23	2.29	2.29	2.33	2.32	2.26	2.29	2.44	Diurnal Average	
	3.63	3.36	7.00	2.93	3.20	3.22	2.85	5.47	3.56	3.59	3.36	3.01	2.92	2.73	3.51	3.37	2.94	3.96	3.42	3.52	3.35	2.80	3.18	6.23	Diurnal Maximum	

C - Calibration M - Maintenance A - Automated Daily Zero Span

Hourly Maximums for THC at Henry Pirker
November 2009



Pollutant Rose for THC at Henry Pirker
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$
November 1, 2009 to December 1, 2009

Number of Exceedences: 1-hr: 0 24-hr: 0
Maximum Value: 29.6 $\mu g/m^3$ on Nov 19 21:00
Maximum Daily Average: 12.2 $\mu g/m^3$ on Nov 19

Minimum Value: 0 $\mu g/m^3$ on Nov 2 01:00
Maximum Diurnal Average: 6.6 $\mu g/m^3$ at hour 11
Monthly Average: 4.05 $\mu g/m^3$

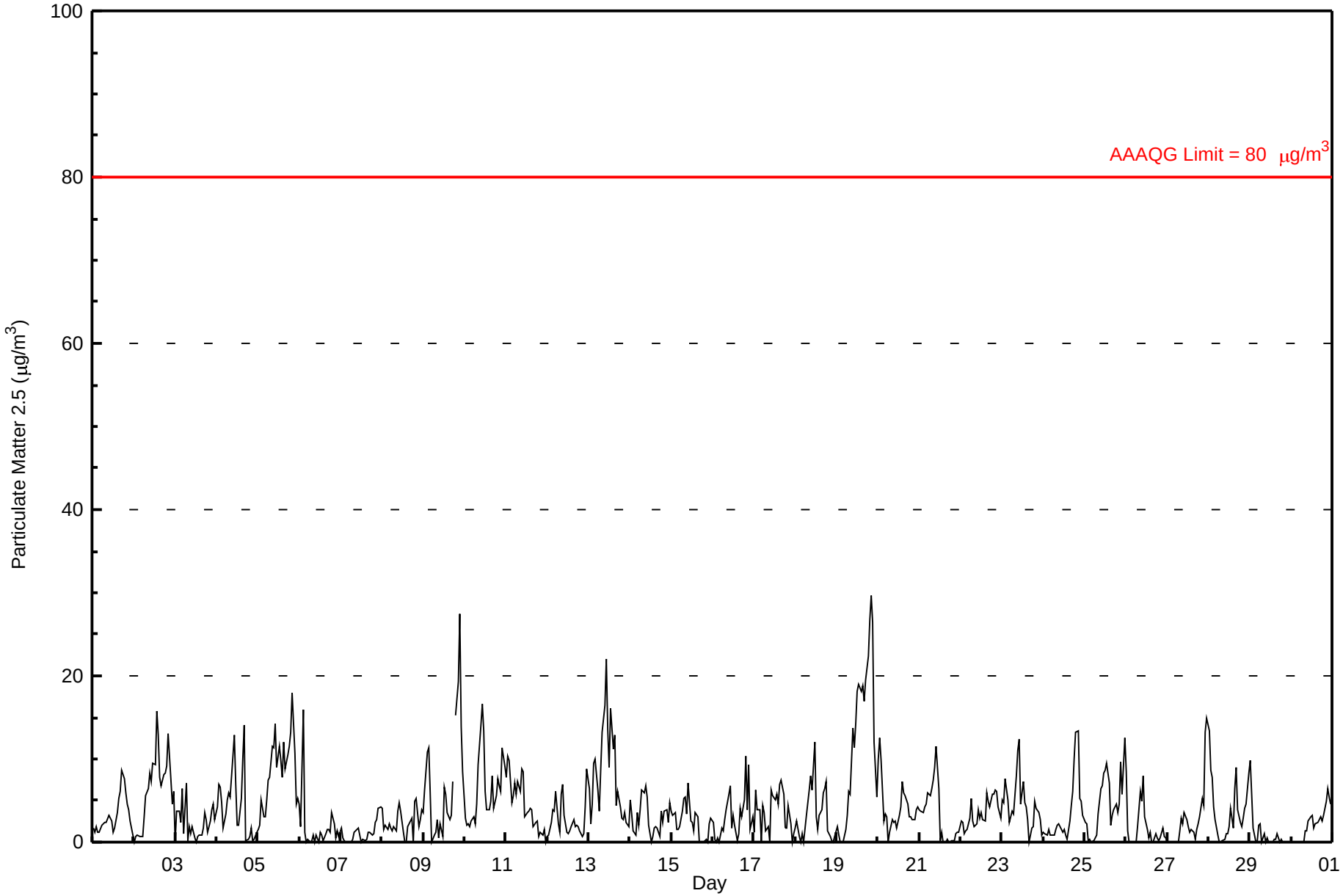
Minimum Daily Average: 1.1 $\mu g/m^3$ on Nov 29
Minimum Diurnal Average: 2.2 $\mu g/m^3$ at hour 5
Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 1.1$ Median = 2.7 $Q_3 = 5.7$ $P_{90} = 9.5$ $P_{99} = 17.6$

Hours in Service:	720
Hours of Data:	719
Hours of Missing Data:	1
Hours of Calibration:	1
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	1	2	1	1	2	2	2	2	3	3	2	1	2	4	5	6	9	8	6	5	4	3	1	3.2	8.7
2-Nov	0	1	1	1	1	1	3	6	6	8	7	10	9	16	13	8	7	8	8	9	13	8	5	6	6.4	15.7
3-Nov	0	4	4	2	6	1	7	0	2	1	2	1	0	1	1	1	2	4	3	1	3	4	5	3	2.3	7.1
4-Nov	4	7	7	5	2	3	5	6	5	10	13	7	2	2	5	10	14	0	0	1	2	0	0	1	4.7	14.0
5-Nov	1	2	5	3	3	5	7	8	12	11	14	9	11	10	8	12	9	11	12	13	18	11	5	5	8.5	17.9
6-Nov	5	2	16	1	0	0	0	0	1	0	1	0	1	1	0	1	2	2	1	4	2	1	1	1	1.7	16.0
7-Nov	2	1	0	0	0	0	0	0	1	2	2	1	0	0	0	0	1	1	1	1	2	3	4	4	1.1	4.2
8-Nov	4	1	2	1	2	2	1	2	1	4	5	4	1	0	0	2	2	3	0	5	5	2	3	4	2.3	5.2
9-Nov	4	6	11	11	6	0	1	1	3	1	2	1	7	6	3	3	3	7	C	15	19	27	14	8	6.9	27.4
10-Nov	3	2	2	2	2	3	2	5	9	14	17	13	6	4	4	5	8	4	6	8	7	6	11	9	6.3	16.6
11-Nov	8	10	10	5	6	7	6	7	6	9	8	3	4	4	4	4	2	2	2	1	1	1	2	0	4.6	10.4
12-Nov	1	1	2	4	4	6	2	1	6	7	3	1	1	1	2	3	2	2	2	1	1	1	4	9	2.8	8.8
13-Nov	6	2	5	10	10	6	4	9	13	17	22	14	9	16	11	13	4	6	4	3	3	4	2	2	8.1	22.1
14-Nov	5	3	1	1	4	2	4	6	6	7	5	2	0	1	2	2	2	1	4	2	4	4	2	5	3.1	6.7
15-Nov	4	3	3	2	2	2	4	5	5	3	7	3	2	1	3	3	0	0	0	0	0	0	2	3	2.4	7.1
16-Nov	2	0	0	0	0	2	1	3	4	6	7	2	3	2	0	1	4	3	5	10	4	9	2	3	3.1	10.3
17-Nov	1	6	4	4	0	4	4	1	2	0	6	6	5	6	5	7	7	6	2	2	4	2	0	1	3.5	7.4
18-Nov	2	2	1	0	1	0	3	5	6	8	6	12	3	2	3	4	6	6	7	1	1	0	0	1	3.4	12.0
19-Nov	2	1	0	0	0	2	3	6	6	14	11	14	18	19	18	19	17	19	22	27	30	26	12	6	12.2	29.6
20-Nov	10	13	10	3	3	3	0	1	3	2	2	2	3	4	7	6	6	4	3	3	3	3	4	4	4.3	12.6
21-Nov	4	4	4	4	5	6	6	6	7	9	12	7	0	1	0	0	0	0	0	0	0	1	1	1	3.2	11.6
22-Nov	2	2	1	1	1	3	5	3	2	2	4	3	4	3	3	6	5	4	6	6	6	6	4	3	3.6	6.2
23-Nov	5	5	8	5	2	3	4	3	8	11	12	5	7	5	4	3	0	2	2	5	4	4	3	1	4.6	12.4
24-Nov	1	1	1	1	1	1	1	2	2	2	2	1	2	1	0	3	4	6	10	13	13	5	5	3	3.4	13.4
25-Nov	2	2	0	0	0	0	1	1	3	6	7	8	9	9	7	2	3	4	5	3	5	10	6	13	4.4	12.6
26-Nov	9	1	0	0	0	0	0	2	6	5	8	3	2	1	1	0	0	1	0	0	0	2	1	1	1.8	8.5
27-Nov	0	0	0	0	0	0	0	1	3	2	4	3	2	1	2	1	0	1	2	3	5	4	13	15	2.6	14.9
28-Nov	13	9	8	4	3	1	0	0	0	0	1	1	2	4	2	7	9	4	2	2	3	4	4	8	3.8	13.3
29-Nov	10	6	2	0	0	2	2	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1.1	9.9
30-Nov	0	0	0	0	0	0	0	0	1	1	3	3	3	2	2	2	3	3	2	3	5	7	5	5	2.1	6.5
	3.7	3.3	3.6	2.4	2.2	2.2	2.6	3.1	4.5	5.5	6.6	4.6	3.9	4.1	3.9	4.4	4.3	4.1	4.1	4.9	5.6	5.2	4.1	4.2	Diurnal Average	
	13.3	12.6	16.0	11.4	10.1	7.1	7.5	8.7	13.2	16.5	22.1	14.3	18.2	18.9	18.1	18.8	17.0	19.4	22.3	26.7	29.6	27.4	13.8	14.9	Diurnal Maximum	

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

Hourly Averages for $PM_{2.5}$ at Henry Pirker
November 2009



Maximum Value: 43.1 $\mu g/m^3$ on Nov 4 17:00

Maximum Daily Average: 17.6 $\mu g/m^3$ on Nov 9

Minimum Value: 1 $\mu g/m^3$ on Nov 26 03:00

Maximum Diurnal Average: 10.8 $\mu g/m^3$ at hour 11

Monthly Average: 8.25 $\mu g/m^3$

Minimum Daily Average: 3.8 $\mu g/m^3$ on Nov 7

Minimum Diurnal Average: 5.8 $\mu g/m^3$ at hour 5

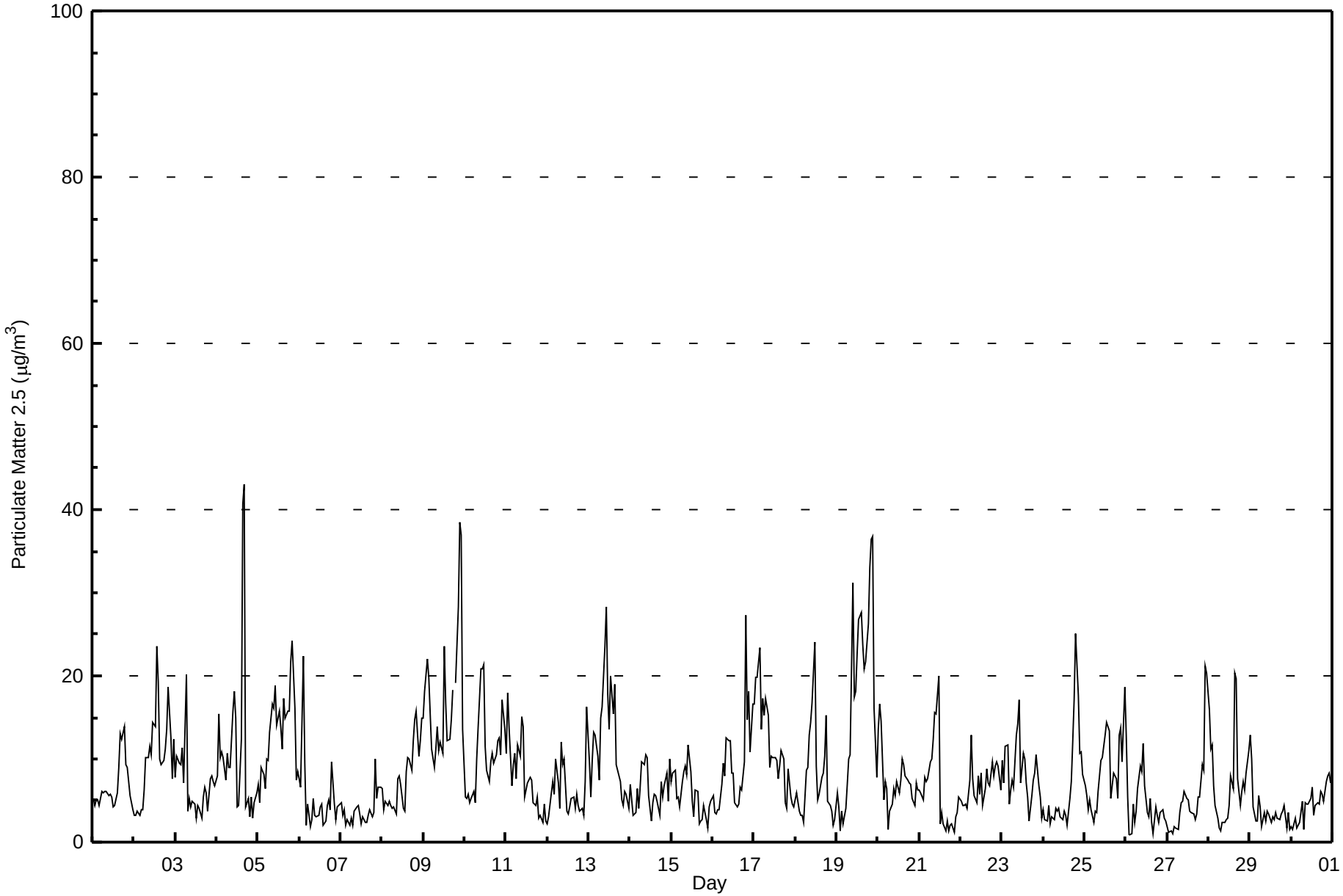
Percentiles: $P_1 = 1.4$ $P_{10} = 2.7$ $Q_1 = 4.1$ Median = 6.5 $Q_3 = 10.4$ $P_{90} = 16.1$ $P_{99} = 30.6$

Hours in Service:	720
Hours of Data:	719
Hours of Missing Data:	1
Hours of Calibration:	1
Percent Operational Time:	100.0

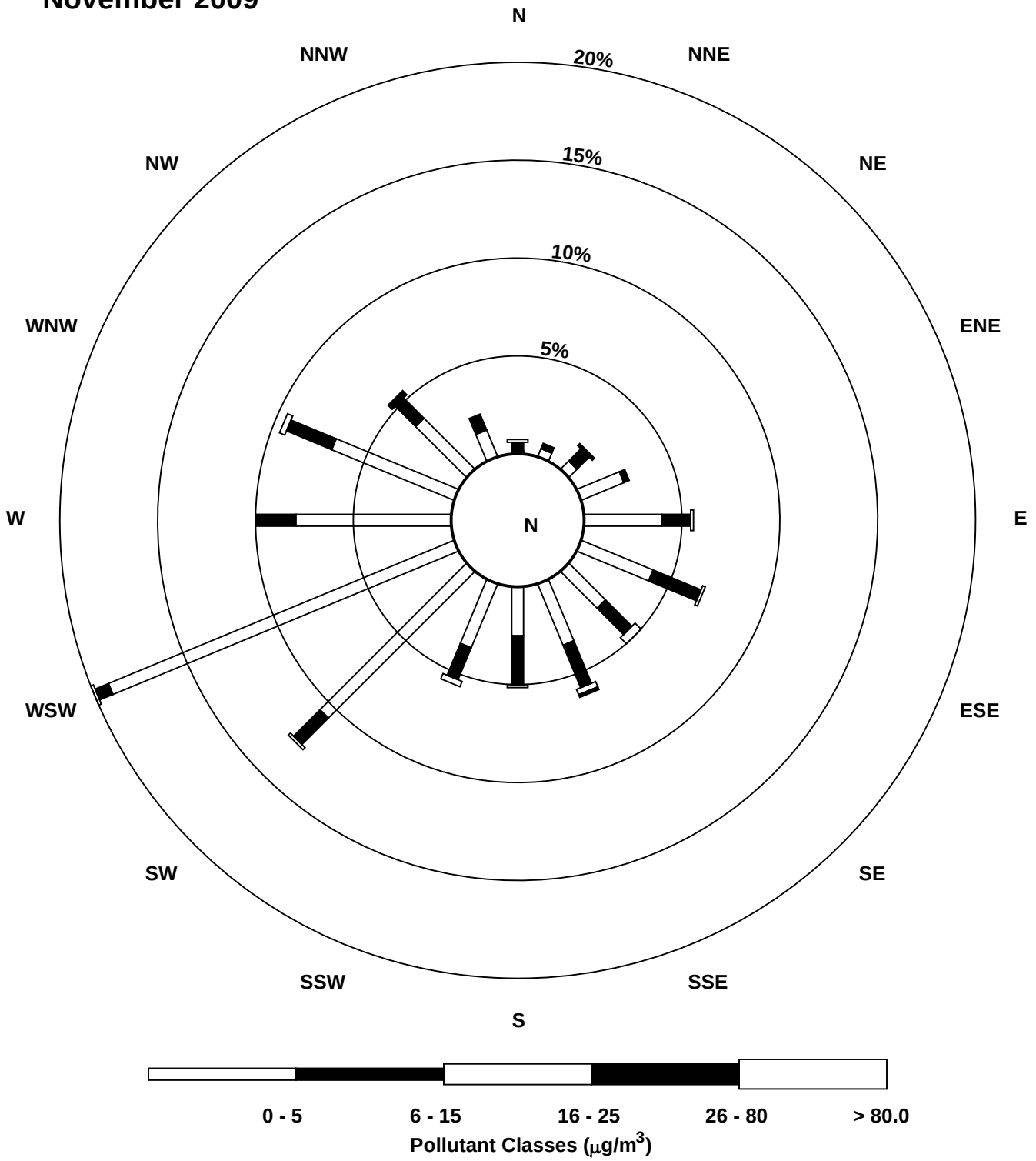
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Nov	5	4	5	5	4	6	6	6	6	6	6	5	4	4	6	9	13	12	14	9	9	7	6	4	6.8	13.9
2-Nov	3	3	4	3	4	4	6	10	10	12	10	14	14	24	19	10	9	10	11	14	19	13	8	12	10.2	23.6
3-Nov	8	10	10	9	11	7	20	4	5	4	5	4	3	4	4	3	5	7	6	4	8	8	7	7	6.8	20.2
4-Nov	8	15	10	11	10	7	11	9	9	16	18	15	4	4	12	41	43	4	5	3	5	3	5	6	11.5	43.1
5-Nov	7	5	9	8	6	10	10	13	17	16	19	14	16	14	11	17	15	16	16	22	24	16	7	8	13.2	24.3
6-Nov	8	7	22	9	2	5	2	3	5	3	3	3	4	5	2	2	4	5	4	10	5	3	4	4	5.2	22.5
7-Nov	5	3	4	2	3	2	3	2	4	4	4	3	2	3	2	2	3	4	3	3	10	5	7	7	3.8	9.9
8-Nov	7	4	5	4	5	4	4	4	3	8	8	7	4	4	8	10	10	9	12	15	16	10	12	15	7.8	15.7
9-Nov	15	18	22	20	15	11	9	11	14	11	12	11	24	17	12	12	15	18	C	19	28	38	37	14	17.6	38.4
10-Nov	5	5	6	5	5	6	5	10	14	21	21	21	12	9	7	10	11	10	11	12	13	11	17	14	10.8	21.4
11-Nov	11	18	14	7	9	11	8	12	10	15	14	5	7	7	8	7	5	4	5	3	3	2	5	2	8.1	17.9
12-Nov	2	3	6	7	6	10	7	4	12	9	10	4	3	4	5	5	4	6	4	4	4	3	7	16	6.1	16.3
13-Nov	10	5	10	13	13	10	8	15	16	23	28	18	14	20	15	19	9	9	7	5	4	6	6	4	12.0	28.3
14-Nov	7	5	3	4	7	4	7	10	9	11	10	6	2	5	6	6	5	3	7	5	7	8	5	10	6.3	10.6
15-Nov	7	8	9	5	6	4	7	9	9	8	12	9	5	3	6	6	2	3	3	4	3	2	4	5	5.8	11.7
16-Nov	6	3	3	4	4	7	10	8	13	12	12	8	8	5	4	5	7	6	10	27	15	18	11	17	9.3	27.2
17-Nov	17	20	20	23	14	17	15	17	15	9	10	10	10	10	8	9	11	10	5	4	9	5	5	4	11.6	23.4
18-Nov	5	6	4	3	3	2	9	9	13	14	17	24	9	5	6	8	8	10	15	5	4	4	2	3	7.9	24.1
19-Nov	6	4	1	4	2	4	7	10	11	31	17	18	23	27	28	24	21	22	26	33	36	37	16	8	17.3	36.8
20-Nov	13	17	15	5	7	7	2	4	5	7	6	7	6	7	10	9	8	7	7	7	5	4	7	6	7.4	16.6
21-Nov	6	6	5	8	7	8	10	10	12	16	15	20	2	3	2	1	3	1	2	2	1	3	4	5	6.4	20.0
22-Nov	5	4	4	5	4	7	13	8	6	5	8	6	8	4	6	9	7	7	10	8	9	10	9	6	7.0	12.9
23-Nov	10	7	12	12	5	6	7	7	13	14	17	7	11	10	7	5	3	6	8	8	10	7	5	3	8.3	17.1
24-Nov	4	3	2	4	2	3	3	4	4	4	3	3	4	3	2	5	7	12	17	25	18	11	11	8	6.8	25.2
25-Nov	7	6	4	5	4	2	4	4	6	10	10	12	13	14	13	5	7	8	8	5	13	14	10	19	8.4	18.6
26-Nov	13	5	1	1	5	2	4	6	9	8	12	7	4	3	5	2	1	4	3	2	4	4	3	3	4.6	12.7
27-Nov	2	1	1	1	2	2	1	3	5	5	6	5	5	4	4	3	3	3	5	5	9	9	21	20	5.3	21.1
28-Nov	16	11	12	7	4	3	2	1	2	2	3	3	4	8	6	20	20	8	4	6	7	6	8	11	7.3	20.4
29-Nov	13	10	4	3	3	6	4	2	4	3	4	3	2	3	3	3	3	3	3	4	4	2	4	1	3.9	12.9
30-Nov	2	2	3	2	2	2	5	2	5	5	5	5	7	3	4	5	5	6	6	5	7	8	8	7	4.6	8.3
	7.7	7.3	7.6	6.6	5.8	6.0	6.9	7.2	8.8	10.4	10.8	9.3	7.8	7.9	7.8	9.2	8.9	7.7	8.2	9.3	10.3	9.2	8.7	8.3	Diurnal Average	
	16.6	19.9	22.5	23.4	15.4	17.4	20.2	17.3	16.6	31.2	28.3	24.1	23.6	26.8	27.7	40.7	43.1	21.7	26.3	33.0	36.4	38.4	36.9	20.4	Diurnal Maximum	

C - Calibration

Hourly Maximums for $PM_{2.5}$ at Henry Pirker
November 2009



Pollutant Rose for $PM_{2.5}$ at Henry Pirker
November 2009



Henry Pirker - External Temperature (ET) - ^{o}C
November 1, 2009 to December 1, 2009

Maximum Value: 7.4 ^{o}C on Nov 6 13:00

Maximum Daily Average: 4.3 ^{o}C on Nov 6

Minimum Value: -16 ^{o}C on Nov 22 09:00

Minimum Daily Average: -11.0 ^{o}C on Nov 22

Maximum Diurnal Average: 1.9 ^{o}C at hour 15

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

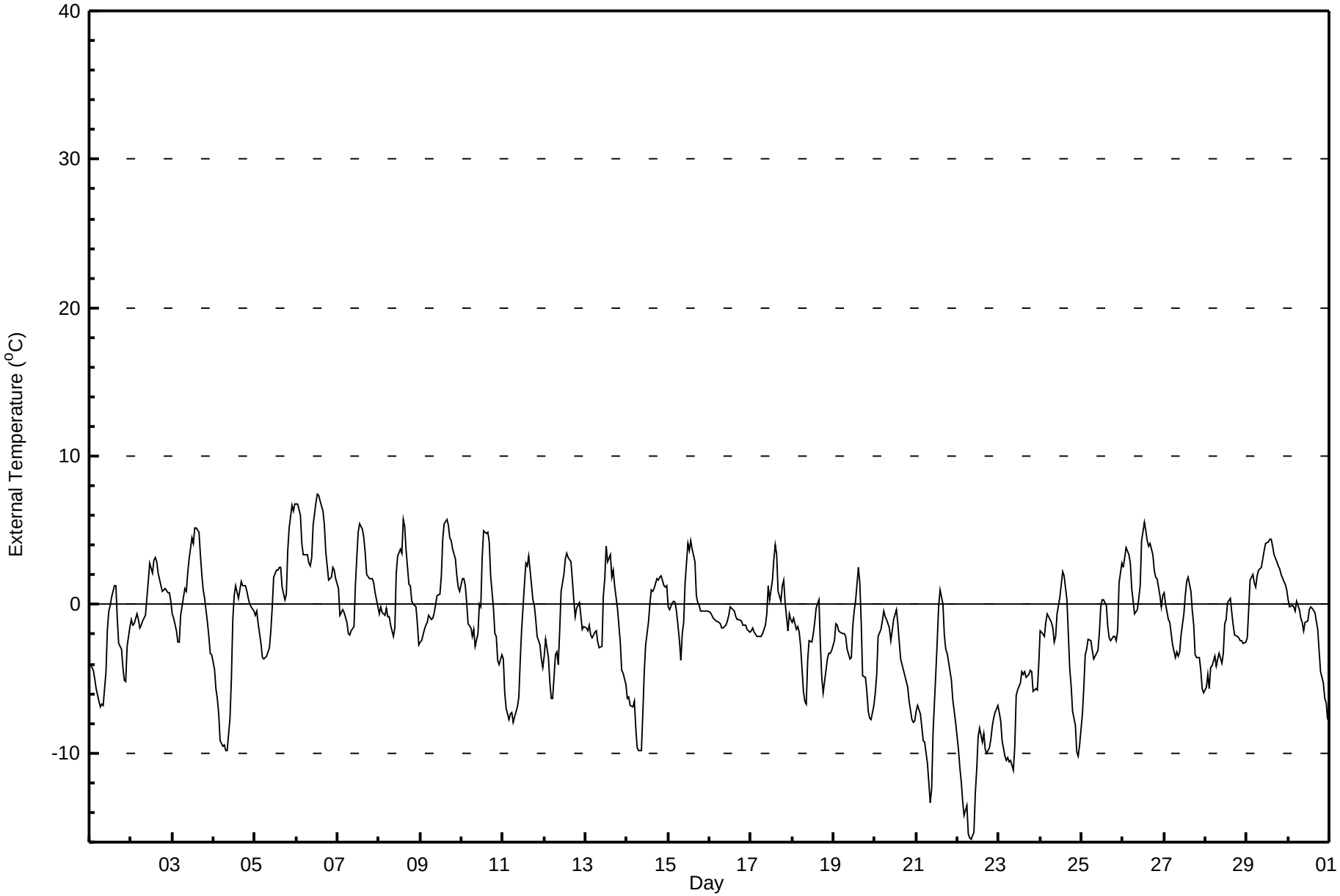
Monthly Average: -1.53 ^{o}C

Percentiles: P_1 = -13.4 P_{10} = -7.2 Q_1 = -3.6 Median = -1.1 Q_3 = 1.2 P_{90} = 3.3 P_{99} = 6.7

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	-4	-4	-4	-5	-6	-7	-7	-7	-7	-5	-2	0	0	0	1	1	-1	-3	-3	-4	-5	-5	-3	-2	-3.3	1.3
2-Nov	-1	-1	-1	-1	-1	-2	-1	-1	-1	0	2	3	2	3	3	3	2	1	1	1	1	1	1	0	0.6	3.2
3-Nov	-1	-1	-2	-3	-3	-1	0	1	1	2	3	5	4	5	5	5	3	2	1	0	-1	-2	-3	-3	0.8	5.2
4-Nov	-4	-6	-6	-7	-9	-10	-9	-10	-10	-8	-5	-1	1	1	0	1	2	1	1	1	0	0	0	0	-3.2	1.5
5-Nov	-1	0	-1	-3	-4	-4	-4	-3	-3	-2	0	2	2	2	2	3	1	0	1	4	5	7	6	7	0.8	6.8
6-Nov	7	7	6	4	3	3	3	3	3	3	5	7	7	7	7	6	5	4	3	2	2	2	2	2	4.3	7.4
7-Nov	1	-1	-1	0	-1	-1	-2	-2	-2	-1	1	3	5	5	5	4	3	2	2	2	2	1	1	0	1.2	5.4
8-Nov	-1	0	-1	-1	0	-1	-1	-1	-2	-2	2	3	4	3	6	5	4	1	1	0	0	0	-1	-3	0.7	5.8
9-Nov	-3	-2	-2	-1	-1	-1	-1	-1	-1	0	1	1	2	4	5	6	5	5	4	4	3	2	1	1	1.3	5.8
10-Nov	2	2	1	0	-1	-2	-2	-2	-3	-2	0	0	3	5	5	5	4	2	0	-2	-2	-4	-4	-3	0.1	5.0
11-Nov	-4	-6	-7	-8	-7	-7	-8	-8	-7	-6	-4	-2	1	3	3	3	2	0	0	-1	-2	-3	-4	-4	-3.1	3.3
12-Nov	-3	-2	-4	-5	-6	-6	-3	-3	-4	-2	1	2	3	3	3	3	2	0	-1	0	0	-1	-2	-1	-1.1	3.4
13-Nov	-2	-2	-1	-2	-2	-2	-2	-3	-3	-3	1	2	4	3	3	2	2	1	0	-1	-3	-4	-5	-5	-0.9	3.9
14-Nov	-6	-6	-7	-7	-7	-8	-10	-10	-10	-7	-5	-3	-1	0	1	1	1	2	2	2	2	1	1	1	-3.0	1.9
15-Nov	0	0	0	0	0	-1	-2	-4	-2	-1	1	4	4	4	4	3	1	0	0	0	0	0	0	0	0.4	4.3
16-Nov	-1	-1	-1	-1	-1	-1	-1	-2	-2	-1	-1	-1	0	0	0	-1	-1	-1	-1	-1	-1	-1	-2	-2	-1.1	-0.2
17-Nov	-2	-2	-2	-2	-2	-2	-2	-2	-1	-1	1	0	2	3	4	3	1	0	1	2	0	-2	-1	-1	-0.1	4.0
18-Nov	-1	-1	-2	-1	-2	-3	-6	-7	-7	-4	-2	-3	-2	-1	0	0	-3	-5	-6	-5	-4	-3	-3	-3	-3.0	0.3
19-Nov	-2	-1	-1	-2	-2	-2	-2	-2	-3	-4	-4	-1	0	0	2	1	-1	-5	-5	-6	-7	-8	-8	-7	-2.9	2.5
20-Nov	-6	-5	-2	-2	-1	0	-1	-1	-2	-2	-2	-1	0	-1	-2	-4	-4	-5	-5	-6	-7	-8	-8	-8	-3.4	-0.4
21-Nov	-7	-7	-7	-8	-9	-9	-11	-12	-13	-12	-9	-5	-2	0	1	0	-2	-3	-3	-4	-5	-6	-7	-8	-6.2	1.0
22-Nov	-10	-11	-12	-13	-14	-14	-15	-16	-16	-15	-13	-11	-9	-8	-9	-9	-10	-10	-10	-9	-8	-8	-7	-7	-11.0	-6.8
23-Nov	-7	-8	-9	-10	-10	-10	-11	-10	-11	-10	-6	-6	-5	-5	-5	-5	-5	-5	-4	-5	-6	-6	-6	-4	-7.0	-4.1
24-Nov	-2	-2	-2	-1	-1	-1	-1	-2	-3	-2	-1	1	1	2	2	0	-2	-4	-5	-7	-8	-10	-10	-9	-2.8	2.3
25-Nov	-7	-6	-3	-3	-2	-2	-3	-4	-3	-3	-2	0	0	0	0	-1	-2	-2	-2	-2	-2	-2	1	3	-2.0	2.8
26-Nov	3	3	4	3	3	1	0	-1	0	0	1	4	6	5	4	4	4	3	2	2	2	1	0	1	2.3	5.6
27-Nov	1	0	-1	-1	-2	-3	-4	-3	-3	-3	-2	-1	1	2	2	1	0	-1	-3	-4	-4	-4	-6	-6	-1.9	1.9
28-Nov	-6	-5	-6	-4	-4	-3	-4	-4	-3	-4	-3	-1	-1	0	0	0	-1	-2	-2	-2	-2	-2	-3	-3	-2.8	0.4
29-Nov	-2	0	2	2	1	1	2	2	3	3	4	4	4	4	4	4	3	3	3	2	2	2	1	1	2.3	4.4
30-Nov	0	0	0	0	0	0	0	-1	-1	-2	-1	-1	0	0	0	-1	-1	-2	-3	-5	-5	-6	-7	-8	-1.8	0.4
	-2.3	-2.3	-2.4	-2.7	-3.0	-3.2	-3.6	-3.8	-3.9	-3.1	-1.2	0.1	1.1	1.7	1.9	1.5	0.4	-0.6	-1.1	-1.4	-1.8	-2.3	-2.4	-2.4	Diurnal Average	
	6.8	6.8	6.0	4.2	3.3	3.4	3.4	2.8	2.6	3.2	5.4	6.8	7.4	7.3	7.0	6.3	5.4	4.5	4.3	3.8	5.1	6.6	6.3	6.8	Diurnal Maximum	

Hourly Averages for External Temperature at Henry Pirker
November 2009



Maximum Value: 91.2 % on Nov 3 02:00

Maximum Daily Average: 87.1 % on Nov 16

Minimum Value: 26 % on Nov 14 18:00

Minimum Daily Average: 47.9 % on Nov 14

Maximum Diurnal Average: 73.9 % at hour 8

Minimum Diurnal Average: 57.5 % at hour 15

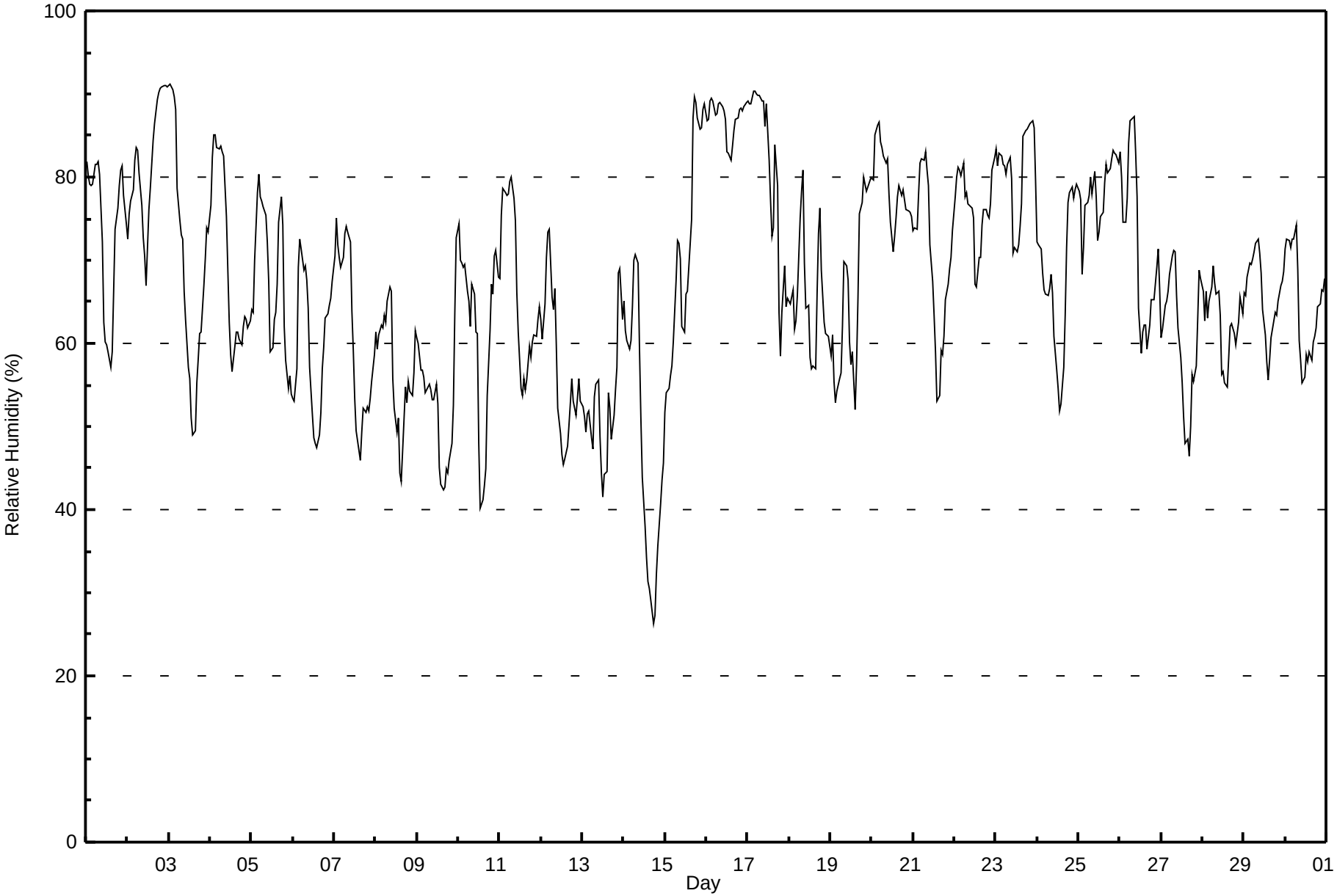
Monthly Average: 67.52 %

Percentiles: P_1 = 34.9 P_{10} = 51.8 Q_1 = 58.7 Median = 67.1 Q_3 = 77.7 P_{90} = 83.8 P_{99} = 90.5

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	82	80	79	79	79	81	82	82	80	72	63	60	60	59	57	59	66	74	76	79	81	81	78	74	73.5	81.9
2-Nov	73	76	77	78	82	84	83	80	77	73	71	67	76	79	82	84	87	89	90	91	91	91	91	91	81.7	91.0
3-Nov	91	91	91	90	88	79	75	73	72	66	63	57	56	51	49	49	55	58	61	61	67	70	74	73	69.2	91.2
4-Nov	77	82	85	85	84	83	84	83	83	75	69	62	59	57	60	61	61	60	60	62	63	63	62	63	70.1	85.1
5-Nov	64	64	70	78	80	78	77	76	75	72	67	59	59	63	64	67	75	78	74	62	58	55	56	54	67.7	80.3
6-Nov	53	53	57	69	73	71	69	69	68	64	57	51	49	48	47	49	52	57	59	63	64	65	65	67	60.0	72.6
7-Nov	71	75	72	70	69	70	73	74	73	72	64	59	53	49	47	46	49	52	52	52	52	53	55	59	61.0	75.0
8-Nov	61	59	61	62	62	63	63	65	67	66	56	52	49	51	44	43	47	55	53	55	54	54	56	62	56.7	66.8
9-Nov	61	60	57	57	56	54	55	55	54	53	53	55	53	45	43	42	43	45	44	46	48	52	64	73	52.8	72.7
10-Nov	74	70	70	69	70	66	65	62	67	66	61	61	48	40	41	43	45	54	61	67	66	70	71	68	61.5	74.4
11-Nov	68	75	79	78	78	78	80	80	77	75	66	61	55	54	56	54	56	60	58	60	61	61	63	64	66.5	80.0
12-Nov	63	61	65	70	73	74	66	64	67	60	52	49	47	45	46	48	50	53	56	53	51	53	56	53	57.3	73.8
13-Nov	52	51	49	52	52	49	47	54	55	56	49	44	41	44	45	54	52	48	51	54	57	69	69	63	52.4	69.0
14-Nov	65	62	60	59	60	64	70	71	70	59	51	44	38	34	31	31	29	26	27	32	36	41	44	46	47.9	70.8
15-Nov	52	54	55	56	57	60	68	72	72	70	62	61	66	66	69	75	87	90	89	87	86	86	88	89	71.6	89.6
16-Nov	87	87	89	89	89	87	88	89	89	89	88	87	83	83	82	84	86	87	87	88	88	88	88	89	87.1	89.4
17-Nov	89	89	89	90	90	90	90	90	89	89	86	89	82	77	73	74	84	79	64	58	64	69	64	65	80.2	90.3
18-Nov	65	65	67	62	63	66	75	78	81	70	64	65	58	57	57	57	66	73	76	69	63	61	61	61	65.8	80.8
19-Nov	59	61	55	53	54	56	56	62	70	69	68	60	58	59	52	57	65	76	77	80	79	78	79	80	65.1	80.1
20-Nov	80	80	85	86	87	84	83	83	82	82	78	75	71	73	75	78	79	78	78	77	76	76	76	75	79.0	86.6
21-Nov	74	74	74	78	82	82	82	83	81	79	72	68	63	59	53	54	59	59	61	65	67	69	70	74	70.0	83.0
22-Nov	78	80	81	81	80	82	78	78	77	76	76	75	67	67	70	70	74	76	76	75	75	77	81	82	76.4	82.4
23-Nov	83	81	83	82	82	81	80	81	82	80	71	72	71	72	74	77	85	86	86	86	86	87	86	80	80.6	86.8
24-Nov	72	72	71	68	66	66	66	67	68	66	61	57	55	52	53	57	63	72	77	78	79	77	78	79	67.5	79.1
25-Nov	78	77	68	72	77	77	78	80	78	81	78	72	73	75	76	79	82	81	81	82	83	83	83	82	78.1	83.2
26-Nov	83	80	75	74	77	84	87	87	87	83	78	64	59	61	62	62	59	62	65	65	65	69	71	67	72.0	87.2
27-Nov	61	62	65	65	66	68	71	71	71	66	62	58	55	51	48	48	47	50	56	55	57	63	69	68	60.5	71.3
28-Nov	66	63	66	63	65	67	69	67	66	66	63	56	57	55	55	58	62	62	61	60	61	62	66	64	62.6	69.4
29-Nov	66	66	68	70	69	70	71	72	72	71	69	64	61	58	56	58	61	63	64	63	65	67	68	69	65.8	72.5
30-Nov	71	72	72	72	73	73	74	69	60	58	55	56	59	58	59	58	60	61	62	64	65	66	66	68	64.6	74.2
	70.6	70.7	71.1	72.0	72.8	72.9	73.4	73.9	73.7	70.8	65.7	62.1	59.3	58.1	57.5	59.3	62.9	65.4	66.2	66.5	67.0	68.6	69.9	70.0	Diurnal Average	
	91.1	91.2	90.6	90.3	90.3	90.0	89.9	89.8	89.1	89.2	88.0	88.9	83.1	82.8	82.1	84.5	87.1	89.6	90.2	90.7	90.9	91.0	91.0	90.9	Diurnal Maximum	

Hourly Averages for Relative Humidity at Henry Pirker
November 2009



Maximum Value: 258.3 W/m^2 on Nov 3 14:00

Maximum Daily Average: 56.4 W/m^2 on Nov 1

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

Minimum Daily Average: 5.2 W/m^2 on Nov 16

Maximum Diurnal Average: 144.7 W/m^2 at hour 13

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

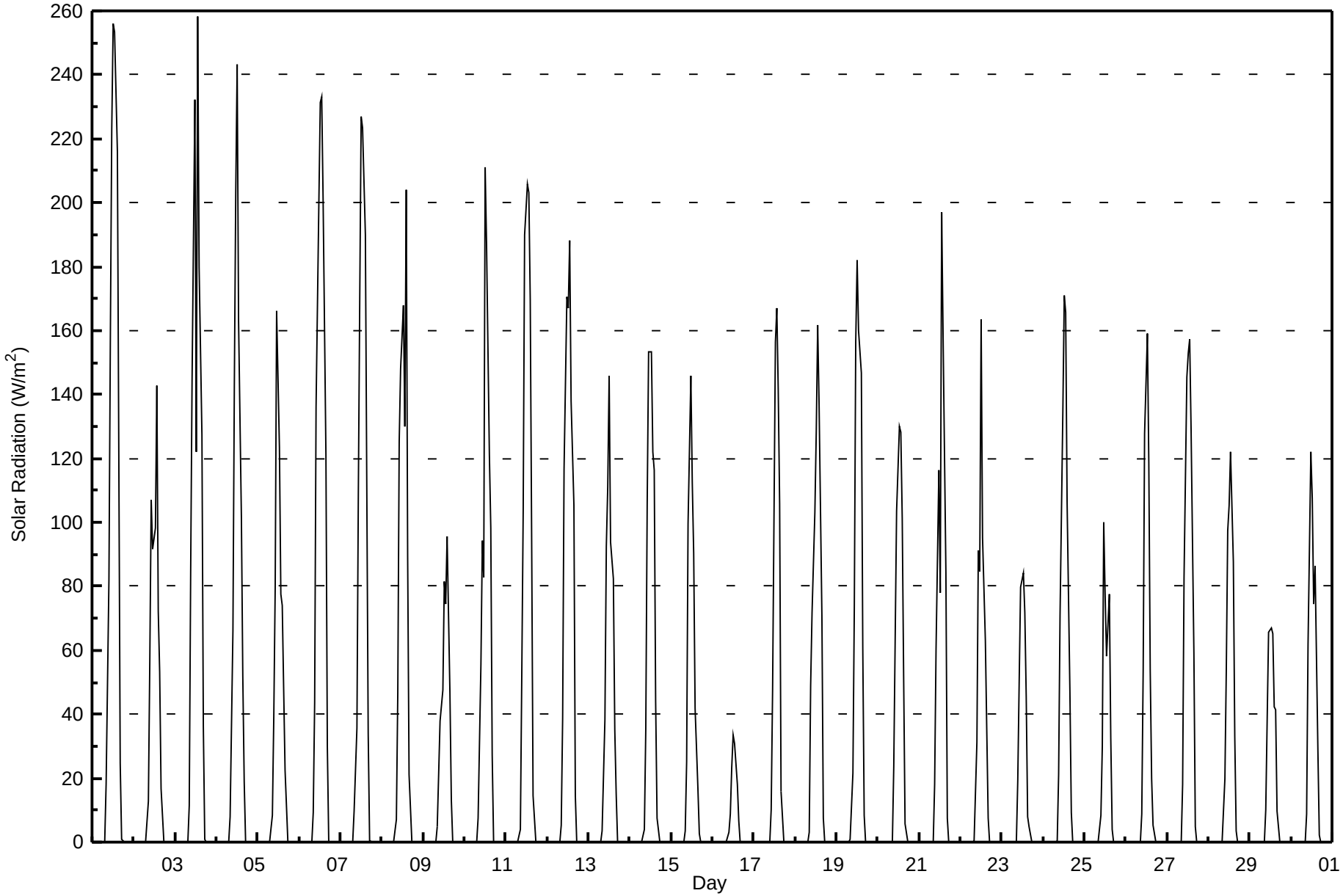
Monthly Average: 30.03 W/m^2

Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.0 Q_3 = 35.2 P_{90} = 121.9 P_{99} = 230.7

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	0	0	0	0	0	0	0	0	18	82	157	223	256	253	216	122	25	1	0	0	0	0	0	0	56.4	256.0
2-Nov	0	0	0	0	0	0	0	0	13	56	107	92	98	143	72	53	17	0	0	0	0	0	0	0	27.1	142.9
3-Nov	0	0	0	0	0	0	0	0	12	84	145	232	122	258	180	127	36	1	0	0	0	0	0	0	49.9	258.3
4-Nov	0	0	0	0	0	0	0	0	8	66	143	203	243	163	102	52	19	0	0	0	0	0	0	0	41.6	243.4
5-Nov	0	0	0	0	0	0	0	0	9	39	80	166	124	77	74	48	23	0	0	0	0	0	0	0	26.6	166.1
6-Nov	0	0	0	0	0	0	0	0	9	44	136	201	231	233	201	121	30	0	0	0	0	0	0	0	50.3	233.2
7-Nov	0	0	0	0	0	0	0	0	10	36	109	170	227	223	190	111	34	0	0	0	0	0	0	0	46.3	227.0
8-Nov	0	0	0	0	0	0	0	0	7	47	125	148	168	130	204	90	21	0	0	0	0	0	0	0	39.2	203.9
9-Nov	0	0	0	0	0	0	0	0	5	21	38	47	81	75	96	47	13	0	0	0	0	0	0	0	17.6	95.5
10-Nov	0	0	0	0	0	0	0	0	7	55	94	83	211	187	121	98	27	0	0	0	0	0	0	0	36.8	210.9
11-Nov	0	0	0	0	0	0	0	0	4	52	103	190	206	203	170	95	15	0	0	0	0	0	0	0	43.3	205.6
12-Nov	0	0	0	0	0	0	0	0	5	39	117	171	167	188	138	105	14	0	0	0	0	0	0	0	39.4	188.2
13-Nov	0	0	0	0	0	0	0	0	3	38	93	111	146	94	82	35	15	0	0	0	0	0	0	0	25.7	145.7
14-Nov	0	0	0	0	0	0	0	0	4	35	106	153	153	122	116	44	8	0	0	0	0	0	0	0	30.9	153.3
15-Nov	0	0	0	0	0	0	0	0	4	25	100	146	112	91	42	17	3	0	0	0	0	0	0	0	22.4	145.8
16-Nov	0	0	0	0	0	0	0	0	0	3	9	23	34	31	18	6	0	0	0	0	0	0	0	0	5.2	33.5
17-Nov	0	0	0	0	0	0	0	0	0	0	10	47	156	167	141	106	16	0	0	0	0	0	0	0	26.8	167.2
18-Nov	0	0	0	0	0	0	0	0	3	49	72	103	129	162	136	70	7	0	0	0	0	0	0	0	30.5	161.8
19-Nov	0	0	0	0	0	0	0	0	1	22	74	156	182	160	147	61	8	0	0	0	0	0	0	0	33.8	182.1
20-Nov	0	0	0	0	0	0	0	0	0	24	64	103	130	128	101	52	6	0	0	0	0	0	0	0	25.4	130.1
21-Nov	0	0	0	0	0	0	0	0	0	18	60	116	78	197	158	84	8	0	0	0	0	0	0	0	30.0	197.1
22-Nov	0	0	0	0	0	0	0	0	0	31	91	85	164	95	63	35	8	0	0	0	0	0	0	0	23.8	163.5
23-Nov	0	0	0	0	0	0	0	0	0	20	50	80	84	72	45	8	5	0	0	0	0	0	0	0	15.1	84.0
24-Nov	0	0	0	0	0	0	0	0	0	21	71	135	171	165	107	47	9	0	0	0	0	0	0	0	30.2	170.9
25-Nov	0	0	0	0	0	0	0	0	0	9	30	100	77	58	78	33	4	0	0	0	0	0	0	0	16.2	100.2
26-Nov	0	0	0	0	0	0	0	0	0	9	54	128	159	118	54	20	5	0	0	0	0	0	0	0	22.8	159.0
27-Nov	0	0	0	0	0	0	0	0	0	18	83	145	153	157	129	59	5	0	0	0	0	0	0	0	31.2	157.3
28-Nov	0	0	0	0	0	0	0	0	0	20	54	97	105	122	88	33	3	0	0	0	0	0	0	0	21.8	121.9
29-Nov	0	0	0	0	0	0	0	0	0	10	39	66	67	65	42	42	10	0	0	0	0	0	0	0	14.2	66.9
30-Nov	0	0	0	0	0	0	0	0	0	9	61	122	107	74	86	29	2	0	0	0	0	0	0	0	20.5	121.9
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	32.7	82.4	128.1	144.7	140.5	113.2	61.7	13.2	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	18.3	84.3	156.8	232.1	256.0	258.3	215.8	127.2	36.3	1.1	0.0	0.0	0.0	0.0	0.0	0.0	Diurnal Maximum	

Hourly Averages for Solar Radiation at Henry Pirker
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker
November 1, 2009 to December 1, 2009
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	7	9	9	9	4	5	4	2	3	3	4	5	5	5	4	3	0	4	1	1	3	2	2	2.9	9.0
Dir	266	284	288	295	288	279	311	296	292	316	298	287	283	286	336	16	82	341	105	102	312	316	72	115	299.9	288.1
2 Spd	7	7	7	4	3	3	2	3	4	2	2	2	1	4	3	3	3	2	2	2	3	4	4	4	1.5	7.2
Dir	84	118	100	116	286	242	171	169	290	307	228	282	261	161	155	154	288	315	230	192	122	148	152	171	154.4	84.3
3 Spd	5	6	4	3	4	10	13	11	17	19	17	21	20	19	18	17	13	10	7	9	7	4	3	3	10.3	20.6
Dir	189	226	295	303	204	234	231	222	246	248	248	245	251	261	256	260	264	245	247	252	250	286	275	204	248.1	244.9
4 Spd	3	2	2	2	3	2	1	3	3	3	3	3	8	7	8	8	8	11	11	9	7	10	10	7	3.9	11.4
Dir	159	156	92	262	326	248	319	308	305	292	279	88	81	67	73	79	83	85	92	82	79	84	88	88	79.2	91.7
5 Spd	5	6	6	7	4	5	2	3	2	2	1	4	4	3	3	2	3	1	5	9	9	9	13	11	2.6	12.9
Dir	77	91	307	311	173	177	178	149	49	340	33	110	105	101	47	292	320	72	128	145	127	110	159	151	128.8	158.9
6 Spd	10	10	12	21	13	11	11	9	12	12	13	15	14	18	19	20	12	10	7	3	11	25	20	14	12.1	24.6
Dir	127	147	242	253	233	217	225	222	219	224	208	222	249	250	250	247	241	247	232	311	244	226	225	215	230.8	225.9
7 Spd	7	2	3	8	7	9	5	6	3	5	8	11	12	16	19	24	15	13	11	17	17	14	10	7	9.7	23.8
Dir	208	30	161	202	218	234	277	221	160	224	244	237	234	248	257	247	238	230	219	224	228	232	229	264	234.0	247.2
8 Spd	7	10	9	9	10	9	7	6	6	4	4	3	7	7	4	9	8	6	7	5	8	8	6	5	5.5	10.4
Dir	258	242	239	224	270	260	270	249	276	172	176	184	226	250	219	236	253	234	239	191	186	181	163	126	230.7	241.6
9 Spd	5	5	7	7	7	8	7	8	10	9	10	8	9	11	7	10	10	9	8	9	7	6	16	10	6.6	16.0
Dir	114	111	115	119	99	108	113	114	123	109	109	107	111	126	93	109	111	106	114	120	112	161	240	245	120.6	240.3
10 Spd	11	11	11	7	5	2	3	7	2	2	1	6	6	5	6	7	4	6	4	3	3	1	1	7	4.0	11.1
Dir	239	231	236	267	318	272	214	206	230	235	286	163	170	177	176	179	208	229	262	268	262	208	100	213	222.3	230.7
11 Spd	1	1	2	5	1	3	1	1	1	2	5	4	6	9	13	9	13	13	17	13	10	8	6	7	5.6	17.2
Dir	42	357	220	332	185	319	240	193	284	234	294	271	227	240	253	244	247	250	253	245	244	286	290	289	257.7	253.0
12 Spd	9	10	4	5	6	4	14	9	5	5	8	9	16	24	26	26	15	11	7	12	11	8	3	6	9.8	25.8
Dir	259	242	214	178	170	189	243	240	218	193	237	238	253	251	252	246	246	235	262	254	252	237	192	187	240.1	252.4
13 Spd	8	7	5	6	5	5	4	4	5	2	2	4	1	4	1	6	20	24	24	22	18	13	11	8	5.7	24.3
Dir	192	163	114	138	137	127	154	146	152	198	159	146	180	10	354	280	262	253	252	251	258	278	250	244	236.6	253.4
14 Spd	6	9	8	8	6	4	0	3	2	5	5	9	10	11	10	10	12	12	9	9	8	8	9	7	6.1	12.3
Dir	227	229	230	216	216	289	344	187	139	133	140	148	141	131	133	142	148	148	153	150	139	152	156	141	159.9	148.2
15 Spd	5	8	6	7	8	8	1	2	9	6	4	8	9	6	5	7	10	10	7	N	N	N	N	N	1.1	10.0
Dir	124	138	153	134	137	160	343	131	189	163	158	241	240	281	5	337	333	341	34	N	N	N	N	N	176.8	341.4
16 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	--	--
17 Spd	N	N	N	N	N	N	N	N	N	N	10	9	8	10	4	4	4	4	11	15	7	6	11	11	--	14.7
Dir	N	N	N	N	N	N	N	N	N	N	185	224	196	190	221	281	154	183	202	208	199	262	230	200	--	207.9
18 Spd	12	13	11	17	12	6	3	2	2	3	1	5	9	7	6	1	2	4	4	9	11	10	10	7	3.8	16.9
Dir	197	210	214	210	217	209	46	138	136	38	70	163	199	238	200	113	163	117	93	99	94	89	93	103	167.2	210.1
19 Spd	8	10	10	10	9	5	3	1	4	4	4	5	5	5	2	3	2	2	3	2	2	3	4	3	1.8	10.4
Dir	99	83	91	93	103	104	88	262	284	229	230	182	217	179	284	91	127	204	137	44	316	309	295	338	114.0	90.9
20 Spd	2	4	7	9	9	12	12	8	5	2	4	4	4	7	10	13	16	14	10	9	11	11	11	10	3.6	16.3
Dir	273	134	55	36	57	74	65	71	73	33	60	47	71	307	300	292	286	287	286	288	284	285	283	268	323.5	286.0
21 Spd	9	7	5	1	5	5	3	4	2	2	4	8	13	13	15	16	9	11	10	11	11	6	7	4	6.4	16.0
Dir	278	268	280	333	161	178	333	303	349	301	308	274	256	248	257	254	227	227	223	234	231	290	279	271	253.6	253.5
22 Spd	3	3	3	1	1	3	5	5	5	4	4	6	5	5	5	3	6	3	2	3	3	4	5	2	3.3	5.8
Dir	280	265	308	288	335	142	309	330	300	287	307	326	322	307	284	315	297	318	312	294	290	317	301	260	302.8	296.5

Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker
November 1, 2009 to December 1, 2009
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	4	2	4	1	2	3	1	2	2	3	4	3	5	3	4	10	9	5	3	3	10	8	14	1.9	14.0
Dir	256	238	279	232	190	114	200	320	117	118	128	132	155	100	116	81	91	105	86	314	226	234	223	226	172.2	225.7
24 Spd	16	11	13	18	20	21	21	18	11	13	12	8	9	8	8	6	4	1	2	3	1	1	4	4	8.9	21.3
Dir	226	235	236	249	250	249	248	244	248	245	251	301	268	272	263	260	307	202	98	299	347	313	292	321	252.6	248.7
25 Spd	2	1	5	2	5	4	2	2	1	1	1	2	2	2	5	3	5	5	4	6	5	4	8	11	1.1	10.7
Dir	295	103	114	70	96	84	67	89	61	27	46	273	281	346	312	278	295	303	299	290	286	225	220	205	266.8	204.9
26 Spd	7	15	15	17	9	2	7	4	8	8	7	5	6	11	14	20	29	20	15	14	20	13	11	17	11.3	28.8
Dir	198	226	226	237	228	317	161	201	189	207	204	258	262	272	271	258	247	234	236	244	245	243	240	246	238.2	247.0
27 Spd	20	20	15	15	13	13	11	13	9	12	13	15	15	17	15	17	19	17	6	5	4	3	3	3	11.5	20.1
Dir	246	246	241	236	243	239	240	232	232	239	234	241	246	244	246	251	253	246	278	252	196	142	109	148	241.3	246.5
28 Spd	3	3	7	5	8	13	11	10	11	8	6	11	9	4	2	3	6	9	8	5	3	0	5	3	3.2	12.8
Dir	177	157	185	200	202	237	241	246	252	269	284	261	275	235	298	118	97	104	107	116	122	69	148	148	216.2	237.3
29 Spd	3	7	9	8	8	9	8	2	9	17	19	18	23	23	28	31	23	25	22	24	21	16	17	16	15.9	30.8
Dir	184	242	247	244	230	219	241	230	206	230	238	248	247	248	247	247	251	247	248	248	243	245	243	253	243.4	247.2
30 Spd	11	11	13	12	11	18	11	14	17	17	13	17	15	16	15	12	11	12	11	7	9	9	8	8	12.1	17.9
Dir	298	265	262	264	238	243	285	271	268	264	257	262	282	284	275	270	268	240	256	247	268	277	263	272	265.8	243.3
Spd	3.7	4.3	3.9	4.6	3.9	4.1	3.4	3.5	3.6	4.1	4.2	5.0	5.9	6.3	6.6	6.9	6.1	5.5	4.3	5.1	4.9	4.1	4.7	4.7	Diurnal Average	
Dir	218.5	217.3	227.9	234.0	220.5	221.2	241.3	231.1	230.7	234.4	231.1	235.8	239.4	246.6	254.8	250.7	249.2	236.7	230.4	232.7	232.2	237.2	226.6	221.9		
Spd	19.9	20.1	15.3	20.7	19.8	21.3	21.0	17.7	17.0	18.8	18.9	20.6	22.6	23.6	28.4	30.8	28.8	25.2	23.7	23.9	20.9	24.6	20.4	17.2	Diurnal Maximum	
Dir	245.7	246.5	226.5	253.4	249.8	248.7	248.1	243.9	267.8	247.7	237.9	244.9	246.5	250.9	247.5	247.2	247.0	247.0	251.8	247.9	243.0	225.9	225.3	245.7		

Maximum Speed Value: 31 km/h on Nov 29 16:00
Maximum Daily Speed Average: 15.9 km/h on Nov 29
Maximum Diurnal Speed Average: 6.9 km/h at hour 16

Minimum Speed Value: 0 km/h on Nov 14 07:00
Minimum Daily Speed Average: 1.1 km/h on Nov 2
Minimum Diurnal Speed Average: 3.4 km/h at hour 7

Monthly Average Velocity: 4.66 km/h 235.01 deg

Speed Percentiles: $P_1 = 0.8$ $P_{10} = 2.1$ $Q_1 = 3.6$ Median = 6.8 $Q_3 = 10.7$ $P_{90} = 16.1$ $P_{99} = 24.4$

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

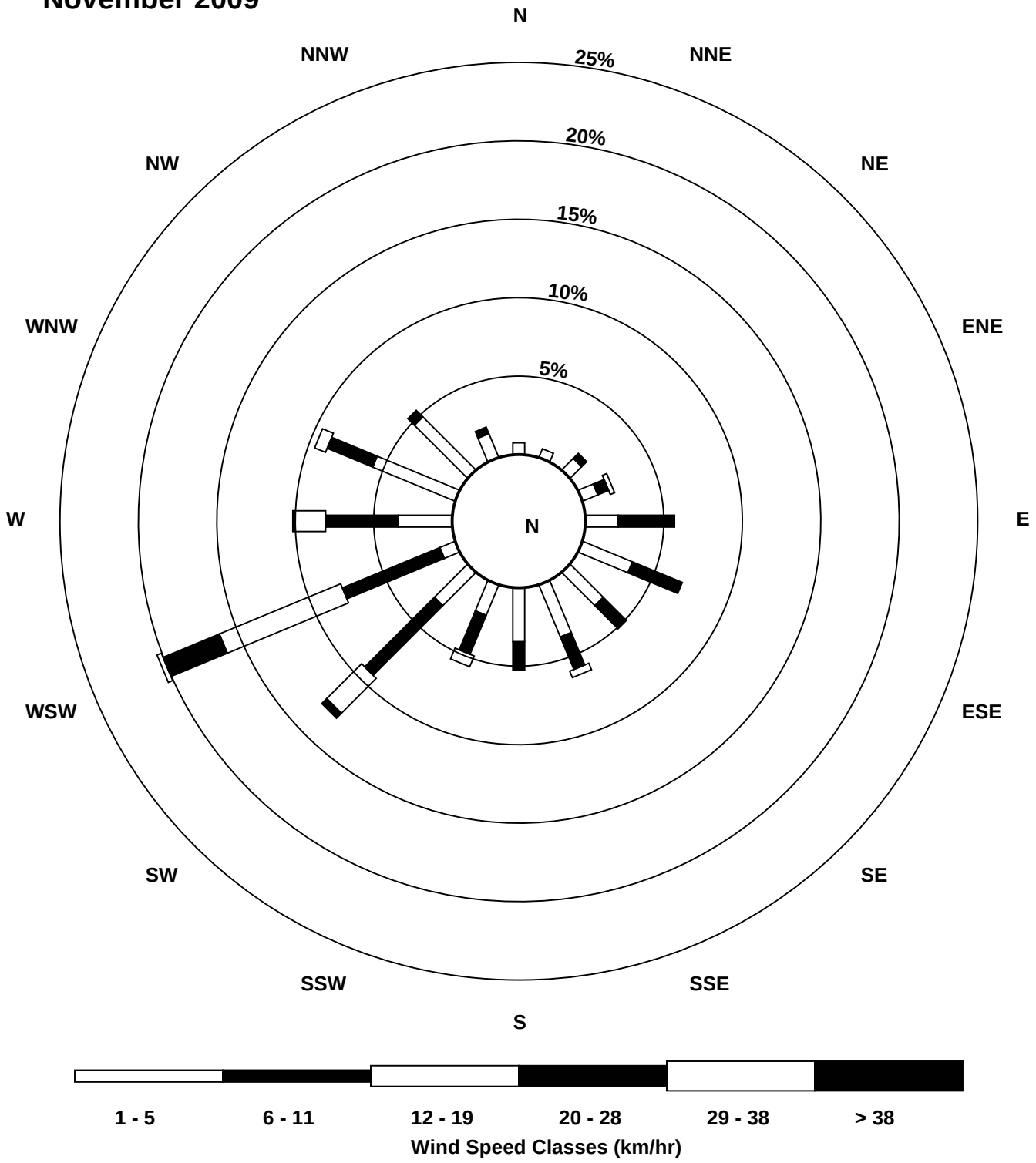
Hours in Service:	720
Hours of Data:	681
Hours of Missing Data:	39
Percent Operational Time:	94.6

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	1.91	0.15	0.00	0.00	0.00	0.00	2.06
NorthEast	2.20	0.73	0.15	0.00	0.00	0.00	3.08
East	3.82	6.61	0.44	0.00	0.00	0.00	10.87
SouthEast	6.31	5.14	0.44	0.00	0.00	0.00	11.89
South	5.29	4.99	0.59	0.00	0.00	0.00	10.87
SouthWest	3.96	10.72	9.84	1.91	0.44	0.00	26.87
West	6.75	8.81	6.31	2.64	0.00	0.00	24.52
NorthWest	7.49	2.35	0.00	0.00	0.00	0.00	9.84
Total	37.74	39.50	17.77	4.55	0.44	0.00	100.00

Wind Rose for WS at Henry Pirker
November 2009



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

Henry Pirker - Wind Speed (WS) - km/h
November 1, 2009 to December 1, 2009

Maximum Speed: 31 km/h on Nov 29 16:00

Maximum Daily Speed Average: 16.4 km/h on Nov 29

Minimum Speed: 2 km/h on Nov 14 07:00

Minimum Daily Speed Average: 3.8 km/h on Nov 2

Maximum Diurnal Speed Average: 10.6 km/h at hour 16

Minimum Diurnal Speed Average: 6.6 km/h at hour 8

Monthly Average Speed: 8.45 km/h

Percentiles: $P_1 = 2.2$ $P_{10} = 3.3$ $Q_1 = 4.5$ Median = 7.3 $Q_3 = 10.9$ $P_{90} = 16.1$ $P_{99} = 24.8$

Hours in Service:	720
Hours of Data:	681
Hours of Missing Data:	39
Percent Operational Time:	94.6

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	7	9	9	9	5	5	4	3	4	4	4	5	5	5	4	4	3	4	2	3	4	5	4	4.9	9.1
2-Nov	7	7	7	4	3	4	2	3	4	2	3	2	3	4	3	3	3	3	2	3	4	5	5	4	3.8	7.4
3-Nov	5	6	5	3	6	10	13	11	17	19	17	21	20	19	18	17	13	10	7	9	7	4	4	4	11.1	20.6
4-Nov	3	2	3	3	4	3	3	4	3	3	4	6	8	7	8	8	8	11	11	9	7	10	10	7	6.1	11.5
5-Nov	5	6	6	7	5	6	3	4	4	3	3	5	4	4	3	3	5	4	5	9	9	9	13	11	5.7	12.9
6-Nov	11	10	16	21	14	11	11	9	12	12	13	15	14	18	19	20	12	11	8	7	12	25	21	14	14.1	24.9
7-Nov	9	5	5	9	7	9	6	7	4	5	9	12	12	17	19	24	15	13	11	17	17	14	10	7	10.9	23.8
8-Nov	7	10	9	10	10	10	8	6	6	5	4	4	8	7	4	9	9	7	7	5	8	8	6	5	7.1	10.4
9-Nov	5	6	7	7	7	8	8	8	10	9	10	9	9	11	7	10	10	9	8	9	7	7	16	10	8.7	16.1
10-Nov	11	11	11	8	7	6	5	7	3	3	3	6	7	6	6	7	5	6	5	5	6	4	5	7	6.2	11.2
11-Nov	3	2	3	5	5	4	3	3	4	3	5	4	6	9	14	9	13	13	17	13	10	10	7	7	7.2	17.3
12-Nov	10	11	5	5	6	5	14	9	6	5	8	9	17	24	26	26	15	11	8	12	12	8	6	7	10.9	25.9
13-Nov	8	7	5	7	6	5	4	4	5	3	3	4	4	4	2	6	20	24	24	22	18	13	11	8	9.1	24.4
14-Nov	6	9	8	8	7	5	2	3	3	5	6	9	10	11	11	10	12	12	9	9	8	8	9	7	7.9	12.4
15-Nov	6	8	7	7	8	8	4	4	9	7	5	8	9	7	5	8	10	10	8	N	N	N	N	N	7.2	10.1
16-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	--	--
17-Nov	N	N	N	N	N	N	N	N	N	N	13	9	9	10	6	4	5	6	11	15	7	8	12	11	--	14.8
18-Nov	13	13	11	17	12	9	5	4	3	4	3	5	9	8	6	2	4	4	5	9	11	10	10	8	7.6	17.0
19-Nov	9	10	10	10	9	5	4	3	4	4	4	6	5	5	3	3	3	3	5	3	4	5	5	4	5.3	10.5
20-Nov	3	5	7	9	9	12	12	8	5	3	4	5	5	8	10	13	16	14	10	10	11	11	11	10	8.8	16.4
21-Nov	9	8	6	3	5	5	4	5	3	3	4	8	13	14	15	16	9	11	10	11	12	8	8	5	8.0	16.2
22-Nov	3	4	4	3	4	4	5	5	5	4	4	6	6	5	6	3	6	3	3	4	4	4	5	4	4.3	6.3
23-Nov	5	5	3	5	3	4	5	3	3	3	4	4	3	6	4	5	10	9	7	5	5	11	9	14	5.6	14.1
24-Nov	16	11	13	18	20	21	21	18	11	13	12	8	10	8	8	6	4	2	3	3	2	3	4	5	10.1	21.4
25-Nov	2	3	5	3	5	4	3	3	2	2	2	3	3	4	5	4	5	5	5	6	5	5	9	11	4.4	11.1
26-Nov	7	15	16	17	9	4	7	7	8	8	8	5	7	11	14	20	29	20	15	15	20	13	11	17	12.7	28.9
27-Nov	20	20	15	15	13	13	11	13	9	12	14	15	16	17	16	17	19	17	7	6	5	3	4	4	12.4	20.1
28-Nov	3	3	8	5	8	13	11	10	11	8	7	11	9	5	4	5	6	9	8	6	6	2	5	4	6.9	12.9
29-Nov	4	8	9	8	8	9	8	4	10	17	19	18	23	23	28	31	23	25	22	24	21	16	17	16	16.4	30.8
30-Nov	11	11	13	13	11	18	12	14	17	17	13	17	16	16	15	12	11	12	11	8	10	9	8	9	12.7	18.0
	7.5	8.0	8.0	8.5	7.8	7.9	7.1	6.6	6.7	6.7	7.2	8.2	9.2	10.1	10.0	10.6	10.5	10.0	8.8	9.2	9.0	8.4	8.7	8.0	Diurnal Average	
	20.0	20.1	15.7	21.0	19.9	21.4	21.0	17.8	17.0	18.9	19.1	20.6	22.7	23.7	28.5	30.8	28.9	25.2	23.8	23.9	20.9	24.9	20.6	17.3	Diurnal Maximum	

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, 2009 to December 1, 2009

Maximum Value: 99.5 deg on Nov 14 07:00

Minimum Value: 3.5 deg on Nov 29 20:00

Percentiles: P_1 = 3.9 P_{10} = 6.2 Q_1 = 8.8 Median = 15.9 Q_3 = 35.5 P_{90} = 61.2 P_{99} = 87.6

Hours in Service:	720
Hours of Data:	681
Hours of Missing Data:	39
Hours of Calibration:	0
Percent Operational Time:	94.6

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	22	11	12	8	6	45	20	23	67	45	20	20	16	19	17	35	31	94	20	88	84	46	77	57	93.7
2-Nov	14	15	11	43	31	44	27	24	33	67	56	46	64	7	8	26	39	42	42	47	21	19	26	24	66.8
3-Nov	12	18	30	8	52	7	6	7	7	4	5	5	7	9	6	7	16	11	15	16	16	28	39	43	52.4
4-Nov	24	40	40	64	21	56	69	44	31	14	15	80	11	16	10	11	9	6	8	10	11	6	6	19	79.9
5-Nov	26	32	42	22	40	43	68	58	57	65	79	25	29	44	38	73	76	95	23	10	14	21	5	7	95.0
6-Nov	12	9	45	10	11	10	9	10	9	11	8	17	8	7	6	6	11	25	24	73	33	9	8	13	72.7
7-Nov	50	78	46	11	18	13	30	51	50	25	22	14	12	13	8	4	13	9	8	6	7	8	9	10	77.8
8-Nov	12	6	8	21	10	18	11	20	14	38	20	57	17	15	31	11	18	31	8	26	11	12	15	10	56.6
9-Nov	12	7	13	14	10	12	8	8	11	9	7	7	7	12	19	9	7	9	7	7	10	28	8	21	28.1
10-Nov	7	9	9	22	58	86	51	22	49	58	89	7	11	13	14	18	30	12	34	43	54	80	76	15	89.0
11-Nov	69	71	66	24	85	36	61	76	69	49	34	25	23	16	8	7	5	7	6	9	8	38	17	15	84.8
12-Nov	18	12	59	15	9	27	5	7	20	27	21	11	9	6	5	6	7	19	14	13	17	16	77	19	77.2
13-Nov	13	15	15	16	15	15	40	26	10	46	31	14	76	21	59	23	6	5	5	5	11	5	15	7	75.9
14-Nov	15	8	9	11	20	66	100	18	72	16	15	12	9	8	13	7	5	7	8	8	12	9	6	12	99.5
15-Nov	42	14	22	13	9	7	81	76	15	24	37	10	16	28	17	19	7	7	30	N	N	N	N	N	81.5
16-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	--
17-Nov	N	N	N	N	N	N	N	N	N	N	42	23	14	13	47	15	51	53	8	6	13	48	13	11	52.8
18-Nov	8	14	9	5	7	66	55	83	53	29	84	14	10	31	18	72	74	20	20	10	7	7	11	20	84.0
19-Nov	19	6	6	11	8	17	40	81	30	28	36	48	24	14	57	48	78	54	59	49	63	64	52	42	80.8
20-Nov	47	50	18	16	15	7	6	13	22	47	19	41	58	47	9	8	5	10	12	13	10	6	6	9	58.0
21-Nov	12	20	35	90	10	20	61	35	75	59	35	29	11	8	6	8	7	5	8	7	7	33	25	31	90.4
22-Nov	39	34	35	58	84	38	37	10	21	18	14	15	15	18	19	20	25	22	46	29	24	16	23	72	84.4
23-Nov	54	36	61	29	71	66	52	71	37	46	19	21	16	24	49	54	13	10	48	63	61	19	30	6	71.1
24-Nov	6	8	8	4	4	4	4	5	19	7	10	15	16	14	11	27	22	58	69	39	60	86	15	28	86.1
25-Nov	57	88	19	61	24	43	65	61	87	75	83	61	62	71	30	53	18	16	29	10	19	34	23	15	88.0
26-Nov	29	9	10	10	20	82	23	58	40	13	16	33	31	17	10	7	4	5	6	7	4	9	7	4	82.3
27-Nov	4	4	6	6	7	5	9	6	7	7	6	9	7	6	6	5	6	9	34	27	27	41	20	24	41.2
28-Nov	45	28	20	11	18	8	6	8	9	16	27	6	17	40	61	70	22	6	6	32	68	83	18	31	82.7
29-Nov	45	39	12	10	9	11	24	84	15	7	9	6	4	5	4	4	5	4	4	3	4	5	7	11	83.6
30-Nov	10	18	9	14	7	5	25	12	4	4	5	6	7	6	6	5	10	11	18	12	22	12	9	11	25.1
	68.5	88.0	65.8	90.4	84.8	86.4	99.5	83.6	86.5	74.6	89.0	79.9	75.9	71.3	60.7	72.6	77.7	95.0	69.1	87.7	84.1	86.1	77.3	71.7	

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, 2009 to December 1, 2009

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 17.5 ppb on Nov 3 15:00 Maximum Daily Average: 2.2 ppb on Nov 3

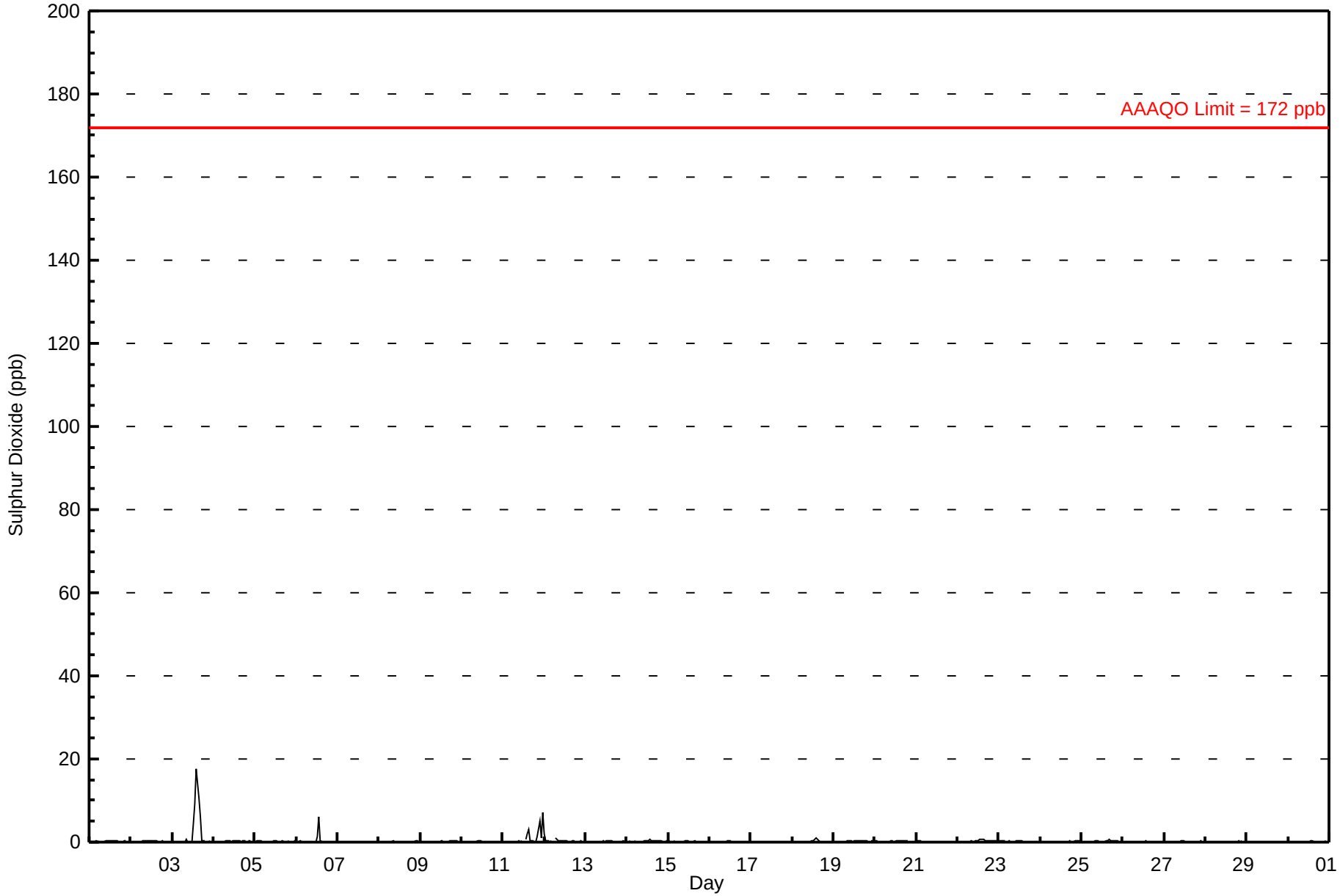
Minimum Value: 0 ppb on Nov 6 10:00 Minimum Daily Average: 0.0 ppb on Nov 29
Maximum Diurnal Average: 0.9 ppb at hour 15 Minimum Diurnal Average: 0.1 ppb at hour 6
Monthly Average: 0.25 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.1 Q_3 = 0.2 P_{90} = 0.3 P_{99} = 4.9

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.2	0.4
2-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	0.4
3-Nov	0	0	0	0	0	0	0	0	1	0	0	0	4	9	18	11	6	0	0	0	A	0	0	0	2.2	17.5
4-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	0.2	0.3
5-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.2	0.3
6-Nov	0	0	0	0	0	0	0	0	0	0	0	0	1	6	0	0	0	A	0	0	0	0	0	0	0.4	6.0
7-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	0.2
8-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.2
9-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
10-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.1	0.3
11-Nov	0	0	0	0	0	0	0	0	0	0	0	0	A	1	2	3	0	0	0	0	1	5	1	7	1.0	7.2
12-Nov	2	0	0	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.0
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	0	1	0	0	0	0	0	0	0	0	0	0	0.2	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	0.0	0.2
18-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	A	0	0.1	0.9
19-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	0.4
20-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	0.2	0.4
21-Nov	0	0	0	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0.1	0.3
22-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0.3	0.7
23-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
24-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	0.3
25-Nov	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.2	0.6
26-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
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	A	0.1	0.3
28-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	0.1	0.3
29-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.0	0.1
30-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	0.1	0.3
Diurnal Average	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.8	0.9	0.6	0.4	0.1	0.1	0.1	0.2	0.3	0.2	0.4		
Diurnal Maximum	2.0	0.5	0.3	0.2	0.4	0.2	1.1	0.6	0.5	0.3	0.4	0.4	4.4	9.0	17.5	10.5	6.1	0.3	0.4	0.3	1.2	5.2	1.1	7.2		

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 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Evergreen Park - Sulphur Dioxide (SO_2) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 36.5 ppb on Nov 3 15:00

Maximum Daily Average: 6.3 ppb on Nov 3

Minimum Value: 0 ppb on Nov 29 20:00

Minimum Daily Average: 0.3 ppb on Nov 29

Maximum Diurnal Average: 2.6 ppb at hour 14

Minimum Diurnal Average: 0.4 ppb at hour 4

Monthly Average: 0.81 ppb

Percentiles: $P_1 = 0.2$ $P_{10} = 0.3$ $Q_1 = 0.3$ Median = 0.4 $Q_3 = 0.5$ $P_{90} = 0.8$ $P_{99} = 15.6$

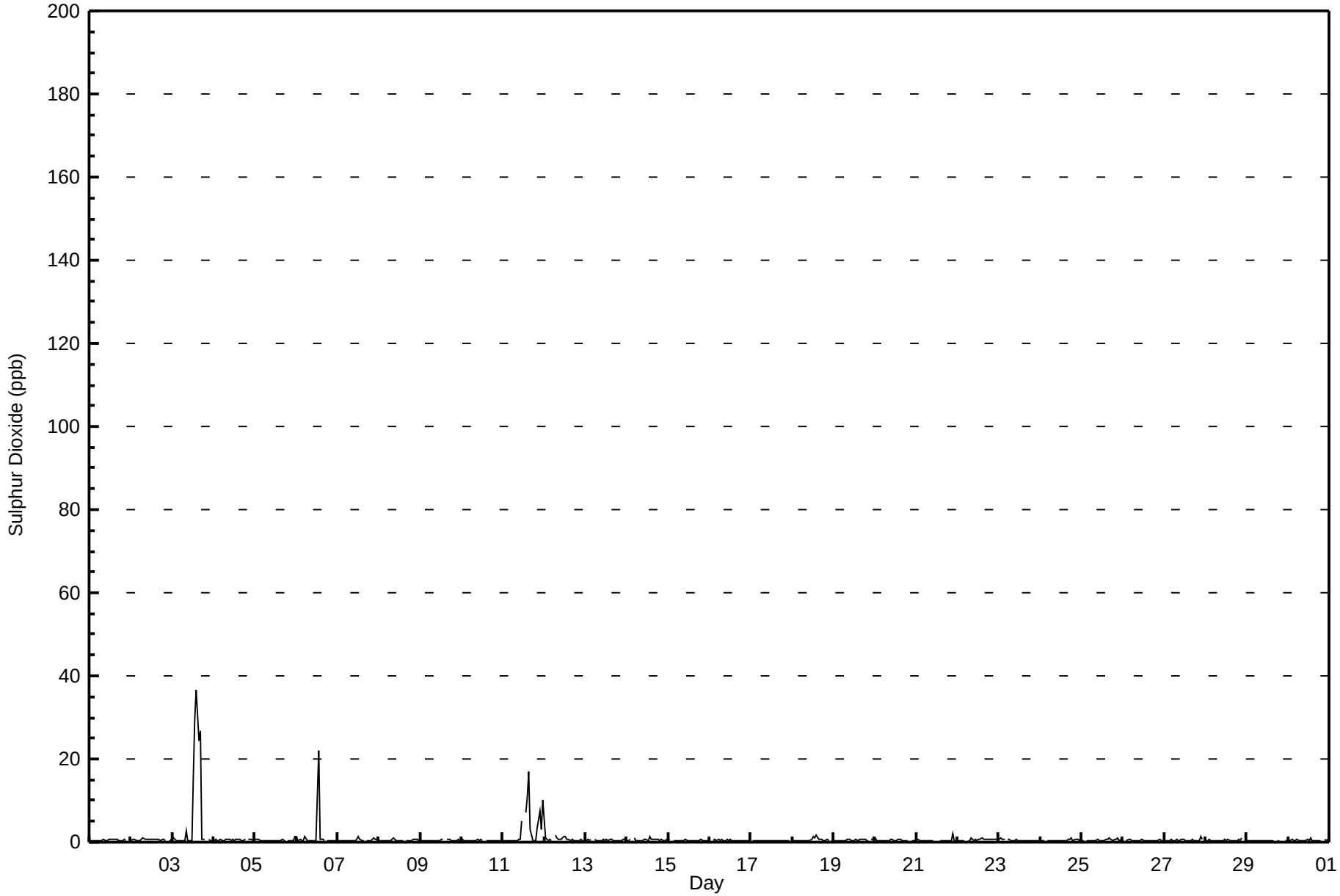
Hours in Service:	720
Hours of Data:	686
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

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	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1	0	0	0	1	0	A	1	0.5	0.8
2-Nov	0	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	A	0	0	0.5	0.9
3-Nov	1	1	0	0	0	0	0	0	3	0	0	0	16	30	36	24	27	1	1	1	A	1	0	0	6.3	36.5
4-Nov	0	1	0	0	1	0	0	1	1	1	0	1	0	1	1	1	0	0	1	A	1	1	1	0	0.5	0.8
5-Nov	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	A	0	0	0	0	1	0.5	1.4
6-Nov	1	0	1	0	0	1	0	0	0	0	0	0	11	22	1	1	0	A	0	0	0	0	0	0	1.9	22.1
7-Nov	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	A	0	0	0	1	1	1	1	0.5	1.4
8-Nov	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	A	0	0	0	0	1	1	1	0	0.4	1.1
9-Nov	1	0	0	0	0	0	0	0	0	0	0	0	1	1	A	1	1	1	1	0	0	1	1	0	0.4	0.8
10-Nov	1	0	0	0	0	0	0	0	0	1	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0.4	0.8
11-Nov	0	0	0	0	0	0	0	0	0	1	1	5	A	7	11	17	3	0	0	0	3	7	3	10	3.2	17.0
12-Nov	5	1	1	1	0	A	2	1	1	1	1	1	1	1	1	0	1	0	0	0	0	1	0	0	0.9	5.5
13-Nov	0	1	0	1	A	1	0	0	0	0	1	0	1	1	1	1	0	0	0	0	0	0	1	1	0.4	0.5
14-Nov	0	0	1	A	1	0	0	0	0	0	1	1	0	1	1	1	1	1	1	1	1	0	0	1	0.6	1.4
15-Nov	0	1	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0.4	0.8
16-Nov	0	A	0	1	0	1	0	1	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0.4	0.5
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	0.3	0.5
18-Nov	0	0	0	0	0	0	0	1	0	0	0	1	1	1	2	1	1	1	0	0	1	0	A	0	0.5	1.5
19-Nov	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	A	1	1	0.5	0.8
20-Nov	1	0	0	0	0	0	0	0	0	1	1	0	0	1	1	1	0	0	0	0	A	0	0	0	0.5	1.1
21-Nov	1	1	0	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	2	0	0	0.5	2.0
22-Nov	0	0	0	0	0	A	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.1
23-Nov	1	1	1	1	A	1	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.5	1.1
24-Nov	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	1	0	0.5	0.9
25-Nov	0	0	A	0	0	0	0	0	1	1	1	0	0	0	1	1	1	1	0	1	1	1	0	1	0.5	1.1
26-Nov	0	A	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0.4	0.7
27-Nov	A	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	1	0	0	0	0	1	1	A	0.4	1.2
28-Nov	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	A	0	0.4	1.1
29-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	0.4
30-Nov	0	0	1	0	0	1	0	0	0	0	0	1	0	1	1	0	1	0	1	0	A	1	0	1	0.4	1.1
	0.7	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.7	1.5	2.6	2.1	1.9	1.5	0.4	0.4	0.4	0.5	0.9	0.6	0.8	Diurnal Average	
	5.5	1.1	0.8	0.6	1.0	1.4	1.8	0.9	2.6	0.7	0.8	5.0	16.0	29.8	36.5	24.3	26.8	0.8	0.9	0.6	3.3	7.4	3.1	10.1	Diurnal Maximum	

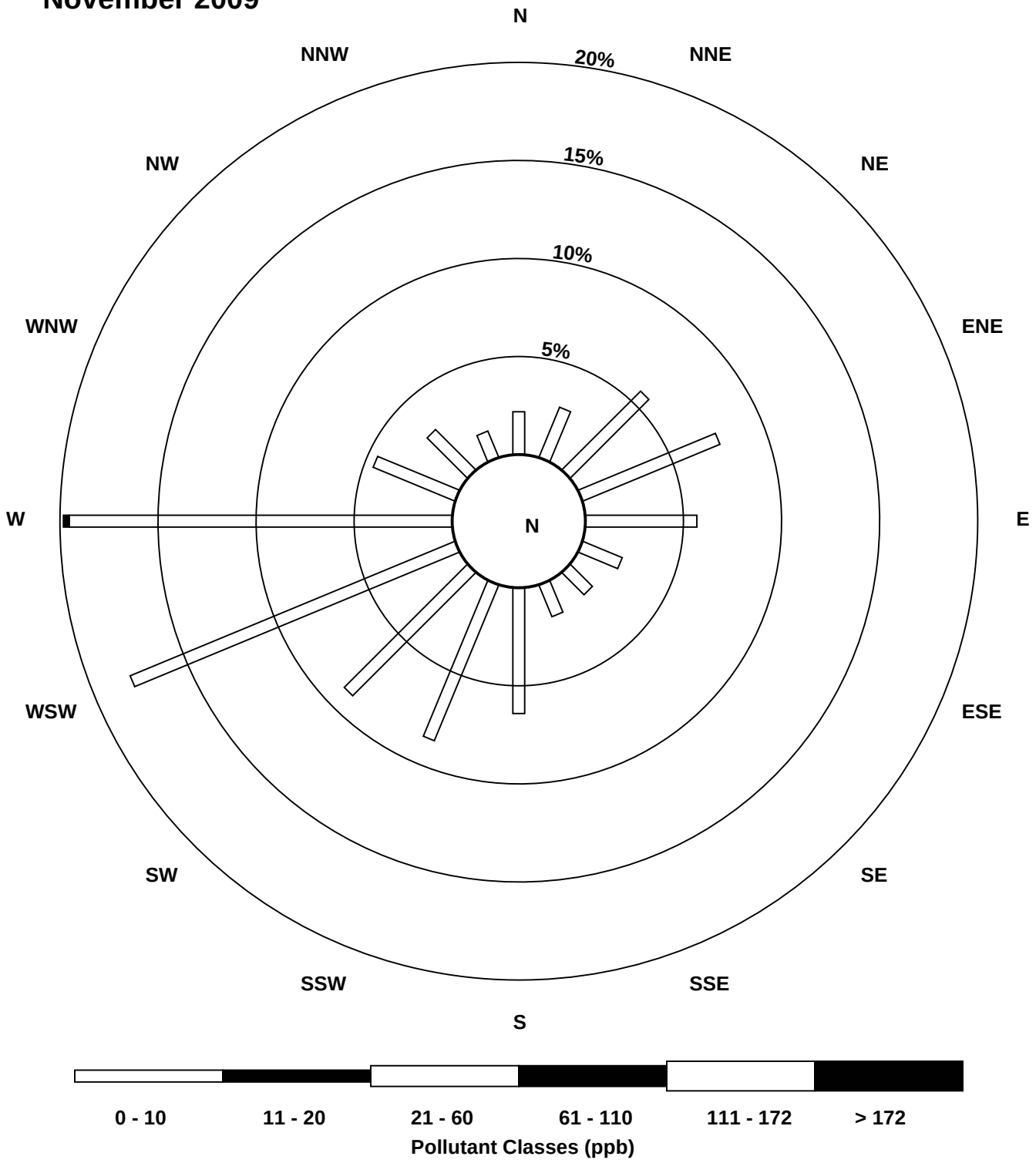
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for SO_2 at Evergreen Park
November 2009



Pollutant Rose for SO_2 at Evergreen Park
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Evergreen Park - Total Reduced Sulphur (TRS) - ppb
November 1, 2009 to December 1, 2009

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 2.5 ppb on Nov 5 20:00 Maximum Daily Average: 0.9 ppb on Nov 22

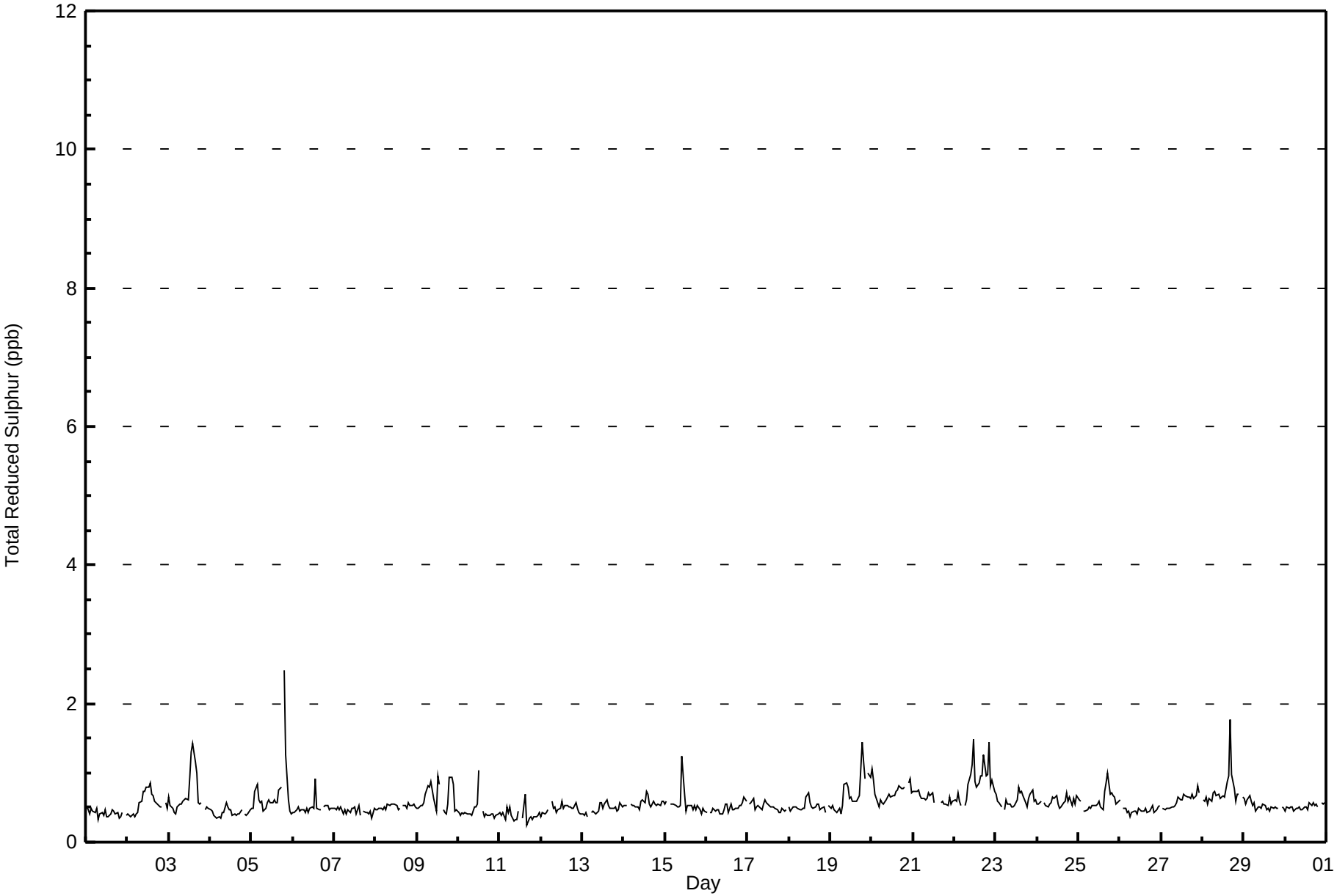
Minimum Value: 0 ppb on Nov 11 17:00 Minimum Daily Average: 0.4 ppb on Nov 11
Maximum Diurnal Average: 0.6 ppb at hour 20 Minimum Diurnal Average: 0.5 ppb at hour 6
Monthly Average: 0.56 ppb Percentiles: $P_1 = 0.3$ $P_{10} = 0.4$ $Q_1 = 0.5$ Median = 0.5 $Q_3 = 0.6$ $P_{90} = 0.7$ $P_{99} = 1.3$

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	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	0.5
2-Nov	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	A	1	0	0.6	0.9
3-Nov	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0	1	0	0.7	1.4
4-Nov	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0.4	0.6
5-Nov	0	0	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	A	2	1	1	0	0	0.7	2.5
6-Nov	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	A	1	1	1	0	0	0	0.5	0.9
7-Nov	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	0	A	0	0	0	0	0	0	0	0.5	0.5
8-Nov	0	0	0	0	0	1	0	1	1	1	1	1	1	0	0	A	1	1	0	1	1	1	1	1	0.5	0.6
9-Nov	0	0	1	1	1	1	1	1	1	1	1	0	1	1	A	0	0	0	1	1	1	1	0	0	0.6	1.0
10-Nov	0	0	0	0	0	0	0	0	0	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0.4	1.0
11-Nov	0	0	0	0	1	0	1	0	0	0	0	0	A	0	1	1	0	0	0	0	0	0	0	0	0.4	0.7
12-Nov	0	0	0	0	0	A	1	0	1	0	0	0	1	0	1	1	1	1	0	0	1	0	0	0	0.5	0.6
13-Nov	0	0	0	0	A	0	0	0	0	0	1	1	0	1	1	1	0	0	0	1	0	0	1	1	0.5	0.6
14-Nov	1	1	1	A	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.7
15-Nov	1	1	A	1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	0	1	0	0	0	0	0.6	1.2
16-Nov	0	A	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	1	1	1	1	1	0.5	0.6
17-Nov	A	1	1	1	0	1	1	1	0	1	1	1	1	0	1	1	0	0	0	0	0	0	0	A	0.5	0.6
18-Nov	1	0	1	1	1	0	0	0	0	0	1	1	1	1	0	1	1	1	0	0	1	0	A	1	0.5	0.7
19-Nov	0	1	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.7	1.4
20-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	1.1
21-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	C	C	C	1	1	1	1	1	1	1	1	0.6	0.8
22-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	1.5
23-Nov	1	1	1	1	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8
24-Nov	1	1	1	A	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0.6	0.7
25-Nov	1	1	A	0	0	0	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0.6	1.0
26-Nov	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0.5	0.6
27-Nov	A	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.6	0.8
28-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	A	1	0.7	1.8
29-Nov	1	1	1	1	1	1	1	0	0	1	0	1	1	0	0	0	0	0	1	0	0	A	1	0	0.5	0.7
30-Nov	0	1	0	1	1	0	0	0	1	0	0	1	1	0	1	1	1	1	1	1	A	1	1	1	0.5	0.6
	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	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	0.5	Diurnal Average	
	1.1	0.9	0.7	0.8	0.7	0.7	0.8	0.8	0.9	1.0	1.2	1.5	1.0	1.3	1.4	1.2	1.8	1.3	1.4	2.5	1.4	0.8	1.0	0.9	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 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Evergreen Park - Total Reduced Sulphur (TRS) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 3.7 ppb on Nov 5 20:00

Maximum Daily Average: 1.4 ppb on Nov 22

Minimum Value: 1 ppb on Nov 11 04:00

Maximum Diurnal Average: 1.1 ppb at hour 13

Monthly Average: 0.95 ppb

Minimum Daily Average: 0.8 ppb on Nov 1

Minimum Diurnal Average: 0.8 ppb at hour 5

Percentiles: $P_1 = 0.6$ $P_{10} = 0.7$ $Q_1 = 0.8$ Median = 0.9 $Q_3 = 1.0$ $P_{90} = 1.2$ $P_{99} = 2.3$

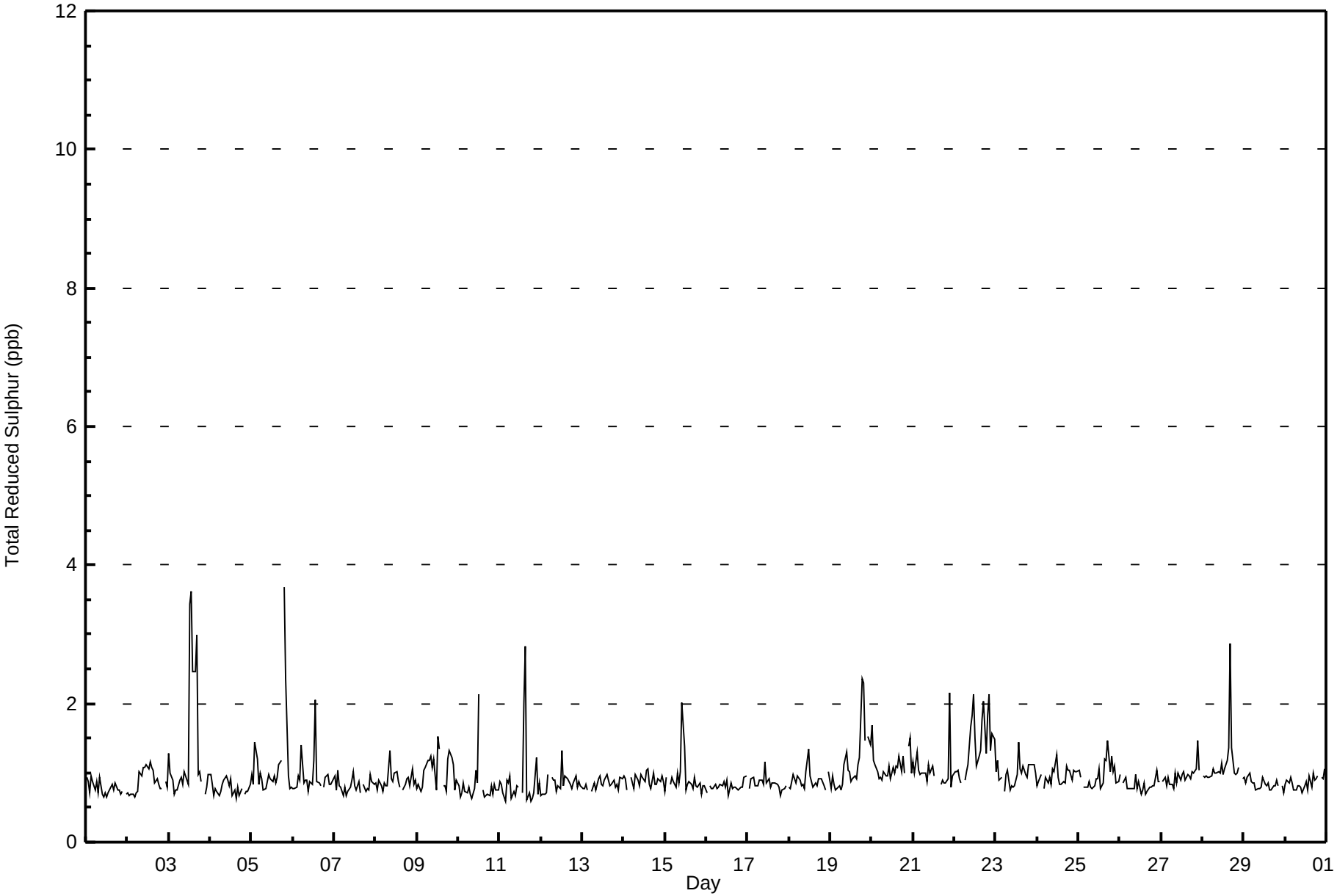
Hours in Service:	720
Hours of Data:	686
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

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	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.8	1.0
2-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	1.2
3-Nov	1	1	1	1	1	1	1	1	1	1	1	1	3	4	2	2	3	1	1	1	A	1	1	1	1.4	3.6
4-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	1.0
5-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	4	2	1	1	1	1.1	3.7
6-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	A	1	1	1	1	1	1	0.9	2.1
7-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	0.8	1.0
8-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	0.9	1.3
9-Nov	1	1	1	1	1	1	1	1	1	1	1	1	2	1	A	1	1	1	1	1	1	1	1	1	1.0	1.5
10-Nov	1	1	1	1	1	1	1	1	1	1	1	1	2	A	1	1	1	1	1	1	1	1	1	1	0.8	2.1
11-Nov	1	1	1	1	1	1	1	1	1	1	1	1	A	1	2	3	1	1	1	1	1	1	1	1	0.9	2.8
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	0.9	1.3
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	0.8	1.0
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	0.9	1.1
15-Nov	1	1	A	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.0
16-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
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	1.2
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	2	2	1	A	2	1	1.1	2.4
20-Nov	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1.1	1.7
21-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	C	C	C	1	1	1	1	1	2	1	1	1.0	2.2
22-Nov	1	1	1	1	1	A	1	1	1	2	2	2	2	1	1	1	2	2	1	2	2	1	2	1	1.4	2.1
23-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	1.0	1.4
24-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	1.3
25-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	1.5
26-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
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	A	1.0	1.5
28-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	A	1	1.1	2.9
29-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	1.0
30-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	0.9	1.1
	0.9	0.9	0.9	0.9	0.8	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.1	1.0	1.0	1.0	1.0	1.0	0.9	1.1	1.0	1.0	0.9	0.9	Diurnal Average	
	1.7	1.2	1.4	1.2	1.0	1.4	1.2	1.2	1.3	1.7	2.0	2.1	3.4	3.6	2.5	2.8	3.0	2.0	2.4	3.7	2.4	2.2	1.6	1.5	Diurnal Maximum	

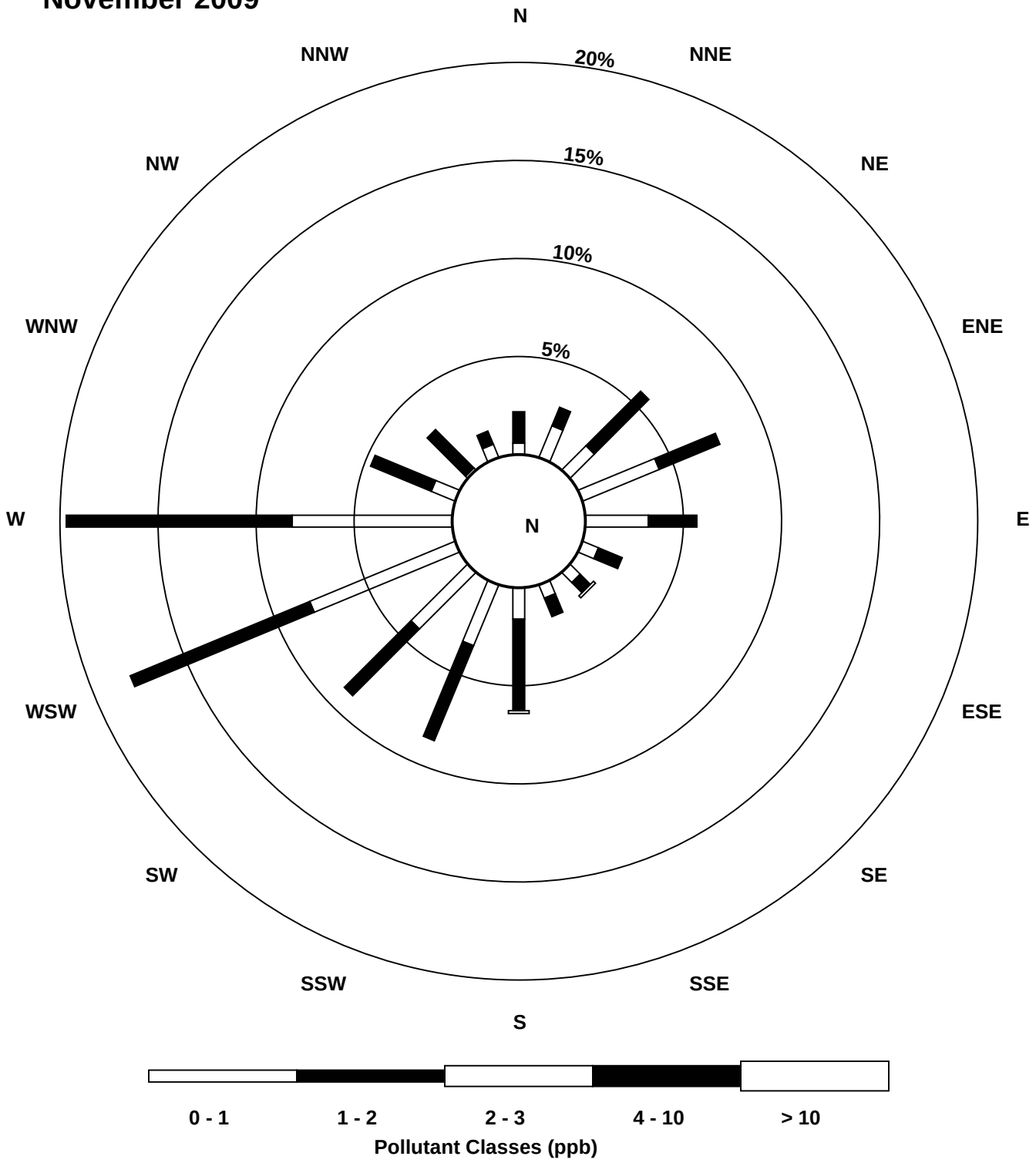
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for TRS at Evergreen Park
November 2009



Pollutant Rose for TRS at Evergreen Park
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Evergreen Park - Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$
November 1, 2009 to December 1, 2009

Number of Exceedences: 1-hr: 0 24-hr: 0
Maximum Value: 29.0 $\mu g/m^3$ on Nov 9 22:00
Maximum Daily Average: 9.8 $\mu g/m^3$ on Nov 19

Minimum Value: 0 $\mu g/m^3$ on Nov 3 00:00
Maximum Diurnal Average: 5.6 $\mu g/m^3$ at hour 22
Monthly Average: 3.50 $\mu g/m^3$

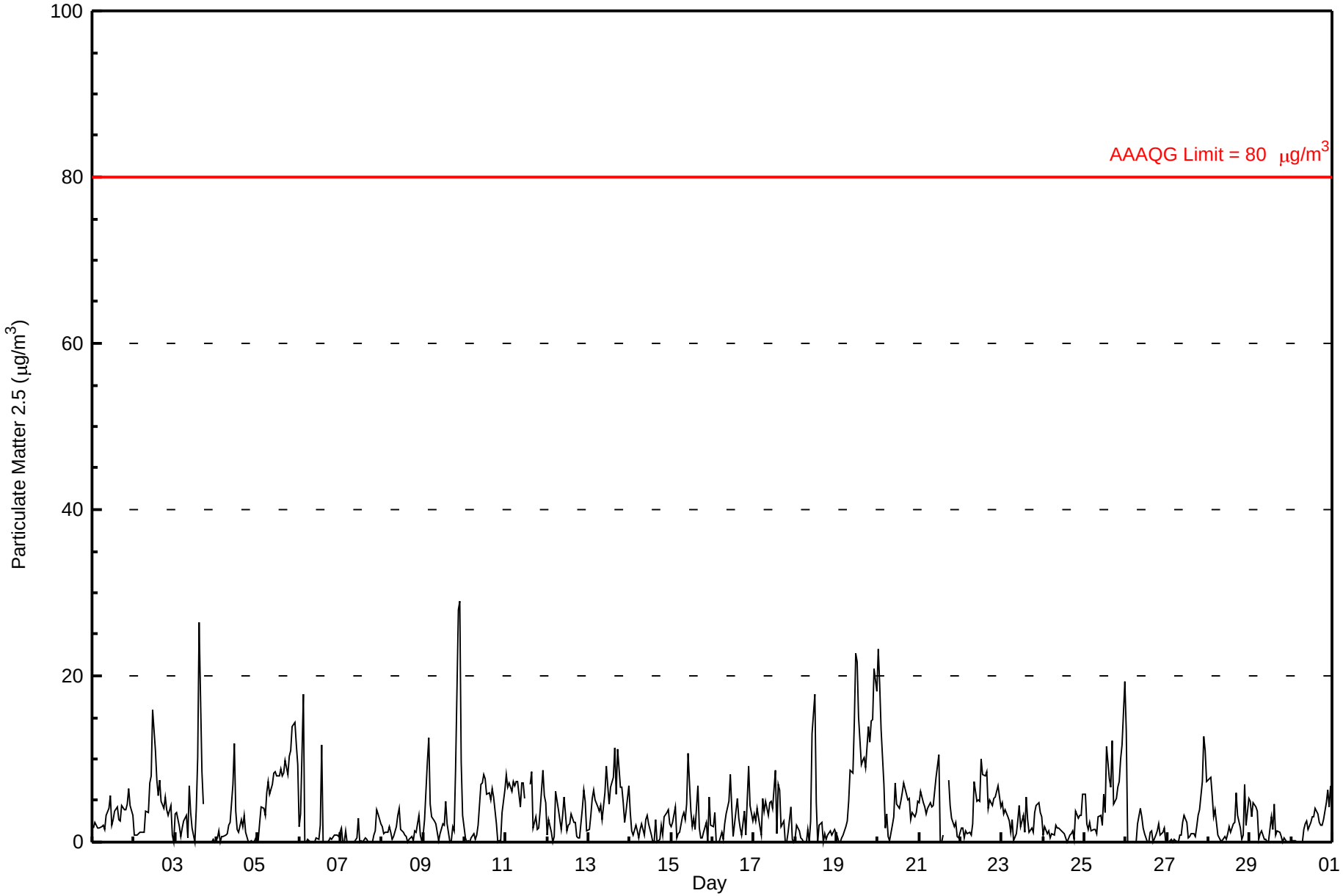
Minimum Daily Average: 0.8 $\mu g/m^3$ on Nov 7
Minimum Diurnal Average: 1.7 $\mu g/m^3$ at hour 5
Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.8$ Median = 2.3 $Q_3 = 4.8$ $P_{90} = 8.0$ $P_{99} = 20.2$

Hours in Service:	720
Hours of Data:	715
Hours of Missing Data:	5
Hours of Calibration:	2
Percent Operational Time:	99.6

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	2	2	2	2	2	2	2	3	4	6	2	3	4	4	3	2	4	4	4	5	6	4	3	3.2	6.5
2-Nov	1	1	1	1	1	1	1	4	4	7	8	16	11	7	6	7	5	4	5	4	3	4	1	0	4.3	15.9
3-Nov	3	4	2	1	2	3	3	0	7	4	2	0	4	10	27	8	5	BD	0	0	0	0	0	0	3.6	26.5
4-Nov	0	1	0	1	1	1	1	2	2	7	12	4	1	1	3	2	3	1	0	0	0	0	0	1	1.9	11.9
5-Nov	0	2	4	4	3	6	7	6	7	8	8	8	8	9	8	8	10	8	10	11	14	14	12	9	7.8	14.5
6-Nov	2	3	18	0	0	0	0	0	0	0	0	0	2	12	0	0	0	0	0	0	1	1	1	1	1.8	17.9
7-Nov	2	0	0	1	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	1	1	4	3	2	0.8	3.9
8-Nov	2	1	1	1	2	1	0	1	2	3	4	1	1	1	1	0	0	1	0	1	1	3	1	0	1.3	4.0
9-Nov	1	3	10	12	5	3	2	2	1	0	1	2	2	5	2	0	0	2	1	9	28	29	10	3	5.6	29.0
10-Nov	1	0	0	0	0	1	0	1	2	7	7	8	8	6	6	5	6	5	2	0	0	0	3	6	3.2	8.1
11-Nov	8	7	7	6	7	7	7	7	4	7	7	5	M	M	7	9	2	3	2	2	4	9	6	5	5.7	8.6
12-Nov	1	3	1	0	1	6	4	3	2	3	5	1	2	2	3	2	2	1	0	0	4	6	5	1	2.5	6.3
13-Nov	2	3	5	6	5	4	4	4	3	6	9	7	5	7	8	11	6	11	7	7	5	2	4	7	5.7	11.3
14-Nov	4	1	1	2	1	0	2	2	1	3	3	2	1	0	0	3	0	0	2	1	3	4	4	2	1.7	3.9
15-Nov	2	2	4	1	1	1	3	4	3	5	11	4	2	3	2	7	2	0	0	1	2	0	5	2	2.8	10.6
16-Nov	2	4	0	0	0	1	0	2	3	5	8	4	1	2	5	3	2	1	4	1	5	9	4	3	2.9	9.1
17-Nov	3	3	4	2	1	5	4	5	3	5	5	4	9	1	7	6	2	3	0	0	1	4	0	0	3.2	8.7
18-Nov	1	2	1	0	0	0	0	1	0	3	13	18	5	0	2	2	0	1	0	1	1	1	1	1	2.3	17.9
19-Nov	1	0	0	1	1	2	3	5	9	8	14	23	22	15	9	10	10	9	14	12	15	15	21	18	9.8	22.8
20-Nov	23	19	14	7	2	3	1	0	2	3	7	5	4	5	6	7	6	5	5	3	4	3	4	5	5.9	23.2
21-Nov	5	6	5	4	3	4	5	4	4	6	8	10	0	0	1	C	C	7	4	3	2	2	1	1	3.9	10.5
22-Nov	2	2	1	1	1	1	1	2	7	5	5	5	10	8	8	8	4	5	4	5	5	6	7	4	4.5	10.0
23-Nov	5	3	4	3	3	1	3	0	1	3	4	2	3	1	5	3	1	2	1	4	4	5	4	3	2.8	5.4
24-Nov	1	2	1	1	0	1	1	2	2	2	2	1	1	1	0	1	1	1	0	4	3	3	3	6	1.6	5.7
25-Nov	6	2	2	2	1	2	2	1	3	3	2	6	4	12	8	7	12	5	5	7	7	10	12	19	5.7	19.4
26-Nov	13	0	0	0	0	0	0	2	4	3	2	1	0	0	1	1	0	1	1	2	1	1	2	0	1.5	13.5
27-Nov	0	0	0	0	0	0	0	1	1	2	3	2	1	1	1	1	1	2	3	4	7	13	11	7	2.6	12.6
28-Nov	8	8	6	3	4	1	1	0	0	1	0	1	2	1	2	2	6	3	2	0	1	7	2	5	2.7	7.8
29-Nov	5	3	5	4	4	0	1	1	0	0	0	0	3	1	5	1	1	1	1	0	1	0	0	0	1.6	4.9
30-Nov	0	0	0	0	0	0	0	1	2	2	2	2	3	3	4	3	2	2	2	3	5	6	4	7	2.3	6.7
	3.4	2.9	3.3	2.3	1.7	2.0	1.9	2.2	2.7	3.9	5.4	4.9	4.0	4.0	4.7	4.2	3.2	3.1	2.8	2.9	4.4	5.6	4.5	4.1	Diurnal Average	
	23.2	19.1	17.9	12.5	7.4	6.8	7.3	7.2	8.7	8.4	14.3	22.8	21.7	15.1	26.5	11.3	12.2	11.1	13.8	12.0	28.0	29.0	20.8	19.4	Diurnal Maximum	

C - Calibration M - Maintenance BD - Baseline Drift
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Hourly Averages for $PM_{2.5}$ at Evergreen Park
November 2009



Evergreen Park - Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$
November 1, 2009 to December 1, 2009

Maximum Value: 64.2 $\mu g/m^3$ on Nov 3 15:00

Maximum Daily Average: 13.3 $\mu g/m^3$ on Nov 19

Minimum Value: 0 $\mu g/m^3$ on Nov 3 18:00

Maximum Diurnal Average: 9.9 $\mu g/m^3$ at hour 15

Monthly Average: 7.00 $\mu g/m^3$

Minimum Daily Average: 2.3 $\mu g/m^3$ on Nov 7

Minimum Diurnal Average: 4.6 $\mu g/m^3$ at hour 7

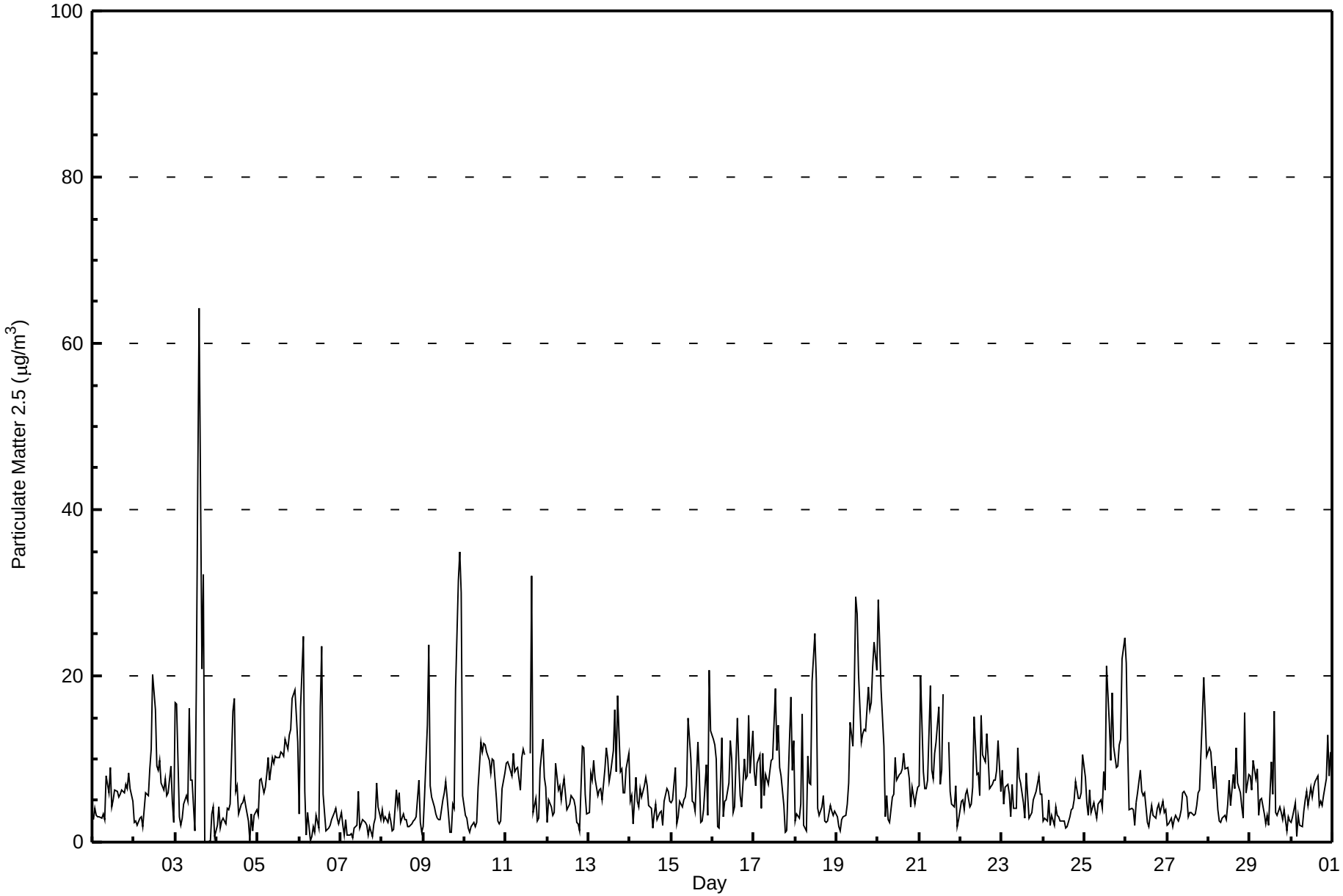
Percentiles: $P_1 = 0.7$ $P_{10} = 2.1$ $Q_1 = 3.2$ Median = 5.6 $Q_3 = 8.8$ $P_{90} = 13.5$ $P_{99} = 29.1$

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

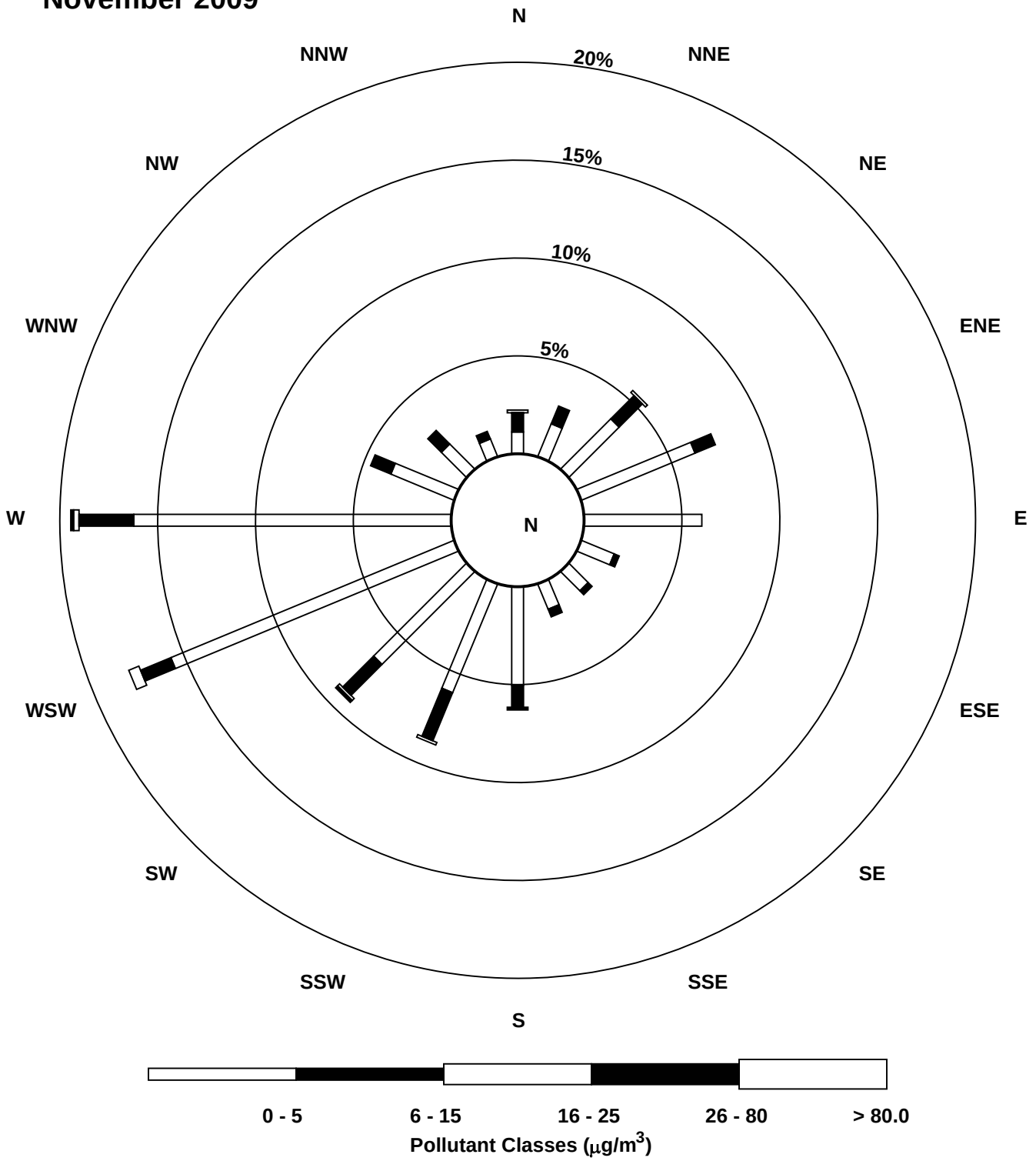
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	3	4	3	3	3	3	3	3	8	6	9	4	5	6	6	5	6	6	6	7	6	8	6	5	5.2	8.9
2-Nov	2	2	2	3	3	2	4	6	6	9	11	20	16	9	9	10	7	6	8	6	6	9	5	2	6.8	20.3
3-Nov	17	17	3	2	3	5	6	5	16	7	7	1	18	42	64	21	32	0	0	0	0	3	4	1	11.5	64.2
4-Nov	2	4	2	2	3	2	4	4	5	16	17	6	7	3	4	5	5	4	3	0	3	1	3	4	4.6	17.3
5-Nov	3	8	8	6	7	8	10	7	10	10	10	10	10	11	11	10	12	11	13	14	17	18	15	12	10.5	18.3
6-Nov	3	16	25	6	1	4	0	1	2	1	3	2	16	24	6	1	1	2	2	3	4	4	3	2	5.4	24.7
7-Nov	4	2	1	3	1	1	1	1	2	2	6	2	2	3	2	2	1	2	1	2	3	7	4	3	2.3	7.1
8-Nov	4	3	3	2	3	3	1	2	6	4	6	2	3	3	3	2	2	2	3	3	3	7	2	1	3.1	7.4
9-Nov	2	6	14	24	7	5	4	3	3	3	3	5	6	7	5	1	1	5	4	18	32	35	30	6	9.5	34.9
10-Nov	3	3	2	1	2	2	2	2	7	12	11	12	12	11	10	8	10	10	5	3	2	2	6	8	6.1	12.1
11-Nov	9	10	9	8	11	9	9	9	6	10	11	11	M	M	11	32	3	5	3	3	9	12	8	7	9.3	32.0
12-Nov	2	5	4	3	4	9	6	7	5	7	8	4	4	5	6	5	4	2	2	1	12	11	6	3	5.3	11.6
13-Nov	4	8	7	10	8	6	6	6	5	9	11	10	7	8	11	16	8	18	9	9	6	6	9	11	8.6	17.7
14-Nov	5	6	2	8	5	4	6	5	7	8	7	4	4	2	3	5	3	4	4	2	5	6	6	5	4.8	7.8
15-Nov	5	5	9	2	3	5	4	5	5	7	15	10	5	5	4	12	8	2	3	4	9	3	21	13	6.8	20.7
16-Nov	12	12	10	2	2	13	3	5	5	7	12	10	4	4	15	10	6	4	10	8	8	15	8	13	8.2	15.2
17-Nov	8	7	10	10	4	11	6	8	7	8	10	10	18	11	14	9	8	4	1	1	7	17	9	12	8.8	18.4
18-Nov	2	3	3	5	15	2	1	10	7	7	19	25	20	4	3	4	6	3	2	3	4	4	3	4	6.7	25.2
19-Nov	3	2	1	3	3	3	5	7	14	12	19	29	27	20	12	13	14	13	19	16	17	21	24	21	13.3	29.5
20-Nov	29	24	18	12	3	6	3	2	5	6	10	7	8	8	9	11	9	9	8	4	7	5	6	7	8.9	29.1
21-Nov	7	20	9	6	6	7	19	9	8	11	12	16	7	9	18	C	C	12	6	5	4	7	2	3	9.2	20.0
22-Nov	5	5	4	6	6	4	5	7	15	8	8	6	15	10	10	13	10	6	7	7	7	9	12	6	8.0	15.2
23-Nov	9	5	7	7	6	3	7	4	4	11	8	7	5	3	8	6	3	4	5	6	6	8	6	6	5.9	11.3
24-Nov	3	3	3	5	2	3	2	4	3	3	3	3	3	2	2	3	4	4	5	7	5	5	6	11	3.9	10.5
25-Nov	8	5	3	6	4	5	4	3	5	5	4	8	6	21	14	10	18	11	9	9	12	12	22	25	9.5	24.6
26-Nov	21	12	4	4	4	2	5	6	9	6	6	6	2	2	3	4	3	3	4	5	3	5	4	4	5.3	21.5
27-Nov	2	2	3	2	3	3	3	3	4	6	6	5	3	4	3	3	3	4	6	6	15	20	15	10	5.7	19.9
28-Nov	11	11	8	6	9	4	2	2	3	3	3	5	7	4	8	6	11	7	6	4	3	16	6	8	6.5	15.6
29-Nov	8	6	10	8	9	3	5	5	3	2	3	2	10	6	16	4	3	4	4	3	4	1	3	3	5.2	15.8
30-Nov	2	3	5	1	3	2	2	4	5	6	4	7	5	7	7	8	4	5	4	6	8	13	8	11	5.4	12.8
	6.6	7.2	6.4	5.5	4.7	4.6	4.6	4.9	6.3	7.0	8.8	8.4	8.9	8.7	9.9	8.2	7.2	5.8	5.3	5.4	7.6	9.8	8.8	7.5	Diurnal Average	
	29.1	23.8	24.7	23.7	15.5	12.5	18.8	10.4	16.1	15.8	19.4	29.5	27.4	42.2	64.2	32.0	32.2	17.7	18.7	18.5	31.6	34.9	30.1	24.6	Diurnal Maximum	

C - Calibration M - Maintenance

Hourly Maximums for $PM_{2.5}$ at Evergreen Park
November 2009



Pollutant Rose for $PM_{2.5}$ at Evergreen Park
November 2009



Evergreen Park - External Temperature (ET) - ^{o}C
November 1, 2009 to December 1, 2009

Maximum Value: 8.5 ^{o}C on Nov 5 23:00

Maximum Daily Average: 5.5 ^{o}C on Nov 6

Minimum Value: -14 ^{o}C on Nov 22 08:00

Minimum Daily Average: -9.5 ^{o}C on Nov 22

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

Minimum Diurnal Average: -3.6 ^{o}C at hour 9

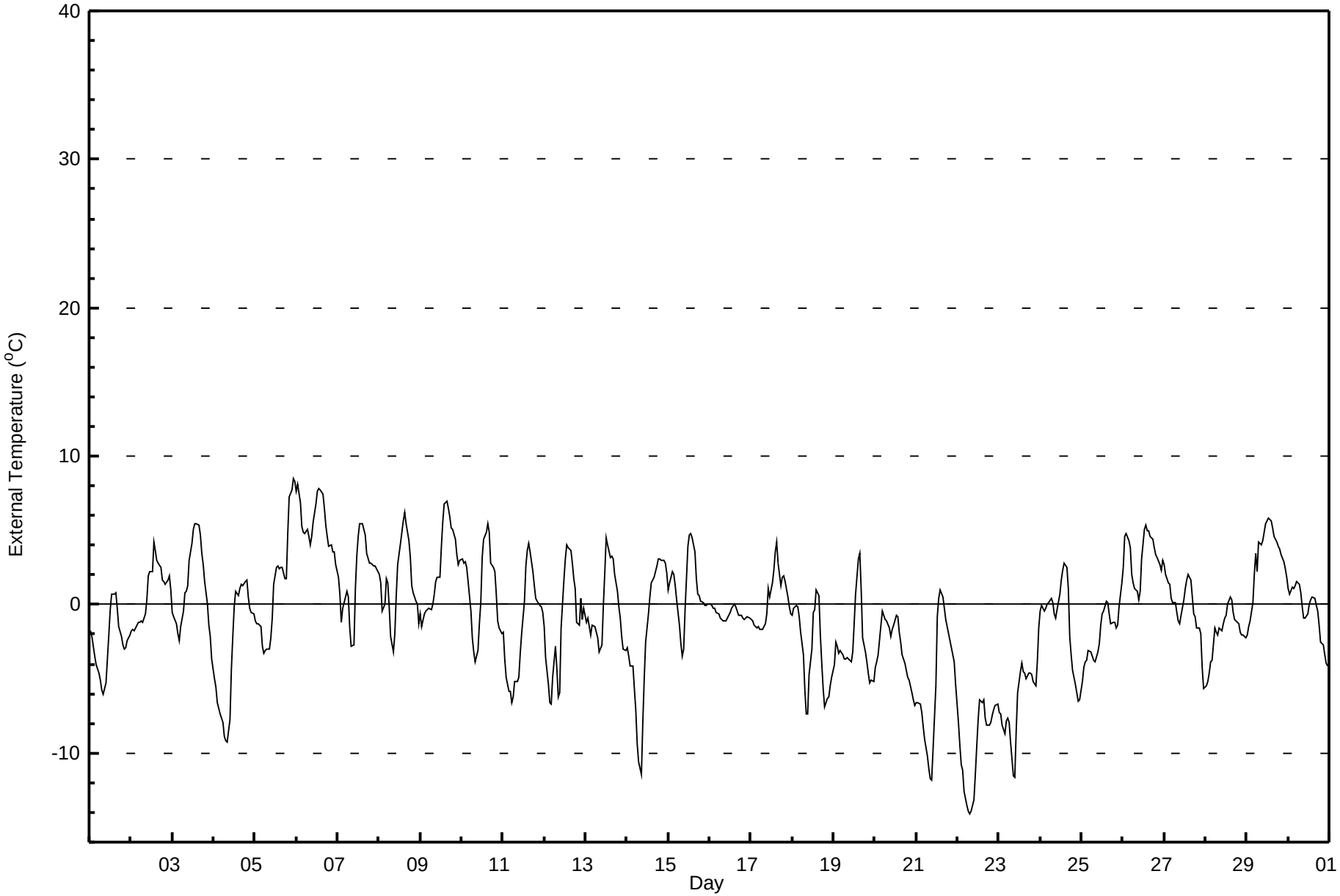
Monthly Average: -0.78 ^{o}C

Percentiles: P_1 = -11.8 P_{10} = -6.3 Q_1 = -3.1 Median = -0.5 Q_3 = 1.9 P_{90} = 4.2 P_{99} = 7.6

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	-2	-2	-3	-3	-4	-5	-5	-6	-6	-5	-4	-2	0	1	1	1	0	-2	-2	-3	-3	-3	-2	-2	-2.6	0.8
2-Nov	-2	-2	-2	-1	-1	-1	-1	-1	-1	0	2	2	2	4	4	3	3	2	2	2	1	2	2	1	0.8	4.2
3-Nov	-1	-1	-1	-2	-2	-1	0	1	1	1	3	4	5	5	5	5	5	3	3	2	0	-1	-2	-4	1.2	5.5
4-Nov	-5	-6	-7	-7	-7	-8	-9	-9	-9	-8	-4	-2	0	1	1	1	1	1	2	2	0	0	0	-1	-3.1	1.6
5-Nov	-1	-1	-1	-1	-3	-3	-3	-3	-3	-2	-1	1	3	3	2	2	3	2	2	5	7	8	8	8	1.3	8.5
6-Nov	8	8	7	5	5	5	5	5	4	5	6	7	8	8	8	7	7	5	5	4	4	4	4	3	5.5	8.1
7-Nov	2	1	-1	0	0	1	1	-2	-3	-3	1	3	5	5	5	5	5	3	3	3	3	3	3	2	1.9	5.5
8-Nov	2	1	0	0	2	1	0	-2	-3	-2	1	3	4	5	6	6	5	4	3	1	1	0	0	-1	1.5	6.2
9-Nov	-1	-1	-1	0	0	0	0	0	1	2	2	2	4	6	7	7	7	6	5	5	4	3	3	3	2.6	7.0
10-Nov	3	3	3	3	2	0	-2	-3	-4	-3	-1	0	3	4	5	5	5	3	2	2	1	-1	-2	-2	1.0	5.4
11-Nov	-2	-4	-5	-6	-6	-7	-6	-5	-5	-5	-3	-2	0	3	4	4	4	2	1	0	0	0	0	-1	-1.6	4.1
12-Nov	-1	-4	-5	-7	-7	-5	-3	-4	-6	-6	-2	2	3	4	4	4	3	2	1	-1	-1	0	-1	0	-1.3	4.0
13-Nov	-1	-1	-1	-2	-1	-1	-2	-2	-3	-3	0	2	4	4	3	3	3	2	1	0	-1	-2	-3	-3	-0.2	4.5
14-Nov	-3	-3	-4	-4	-6	-7	-9	-11	-11	-8	-5	-3	-1	0	1	2	2	3	3	3	3	3	3	2	-2.1	3.1
15-Nov	1	1	2	2	1	0	-1	-3	-3	-3	0	4	5	5	5	4	2	1	1	0	0	0	0	0	0.9	4.8
16-Nov	0	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	0	0	0	-1	-1	-1	-1	-1	-1	-1	-0.6	0.1
17-Nov	-1	-1	-1	-2	-1	-2	-2	-2	-1	-1	1	1	1	2	4	4	3	1	2	2	2	0	0	-1	0.4	4.2
18-Nov	-1	0	0	0	-1	-2	-3	-6	-7	-7	-5	-3	-1	0	1	1	-2	-4	-6	-7	-6	-6	-5	-5	-3.2	1.0
19-Nov	-4	-3	-3	-3	-3	-3	-4	-4	-4	-4	-4	-3	-1	1	3	3	1	-2	-3	-4	-5	-5	-5	-5	-2.6	3.5
20-Nov	-4	-4	-3	-1	0	-1	-1	-1	-2	-2	-2	-1	-1	-1	-2	-2	-3	-4	-4	-5	-5	-6	-6	-7	-2.9	-0.4
21-Nov	-7	-7	-7	-7	-8	-9	-10	-11	-12	-12	-10	-5	-1	0	1	1	0	-1	-1	-2	-3	-3	-4	-5	-5.2	1.0
22-Nov	-8	-9	-11	-11	-13	-14	-14	-14	-14	-13	-11	-10	-8	-6	-7	-6	-8	-8	-8	-8	-7	-7	-7	-7	-9.5	-6.4
23-Nov	-7	-7	-8	-9	-8	-8	-8	-9	-12	-12	-9	-6	-5	-4	-5	-5	-5	-5	-5	-5	-5	-6	-4	-2	-6.4	-1.5
24-Nov	0	0	0	0	0	0	0	0	-1	-1	0	1	2	2	3	2	1	-2	-3	-4	-5	-6	-6	-6	-1.1	2.8
25-Nov	-5	-4	-4	-4	-3	-3	-3	-4	-4	-3	-3	-1	-1	0	0	0	-1	-1	-1	-1	-2	-1	0	1	-2.0	1.5
26-Nov	3	5	5	4	4	2	1	1	1	0	1	3	5	5	5	5	5	4	4	3	3	3	2	3	3.2	5.3
27-Nov	3	2	1	1	0	0	0	-1	-1	-1	-1	0	1	2	2	2	0	-1	-1	-2	-2	-2	-4	-6	-0.2	2.7
28-Nov	-5	-5	-5	-4	-4	-2	-2	-2	-2	-2	-1	-1	-1	0	1	0	0	-1	-1	-1	-2	-2	-2	-2	-1.9	0.5
29-Nov	-2	-2	-1	0	2	3	2	4	4	4	5	5	6	6	6	5	5	4	4	4	3	3	2	2	3.1	5.8
30-Nov	1	1	1	1	1	2	1	1	0	-1	-1	-1	0	0	1	0	0	0	-1	-2	-3	-3	-4	-4	-0.5	1.6
	-1.4	-1.5	-1.9	-2.0	-2.1	-2.2	-2.7	-3.1	-3.6	-3.2	-1.5	0.0	1.4	2.1	2.4	2.3	1.6	0.6	0.1	-0.3	-0.6	-0.9	-1.1	-1.3	Diurnal Average	
	7.7	8.1	6.8	5.3	4.9	4.8	5.1	4.6	4.0	4.6	5.5	6.7	7.7	7.8	7.8	7.4	6.5	5.9	5.1	5.0	7.3	7.7	8.5	8.3	Diurnal Maximum	

Hourly Averages for External Temperature at Evergreen Park
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Evergreen Park - Relative Humidity (RH) - %
November 1, 2009 to December 1, 2009

Maximum Value: 97.3 % on Nov 17 07:00

Maximum Daily Average: 95.0 % on Nov 16

Minimum Value: 22 % on Nov 14 18:00

Minimum Daily Average: 45.7 % on Nov 14

Maximum Diurnal Average: 78.7 % at hour 9

Minimum Diurnal Average: 57.6 % at hour 15

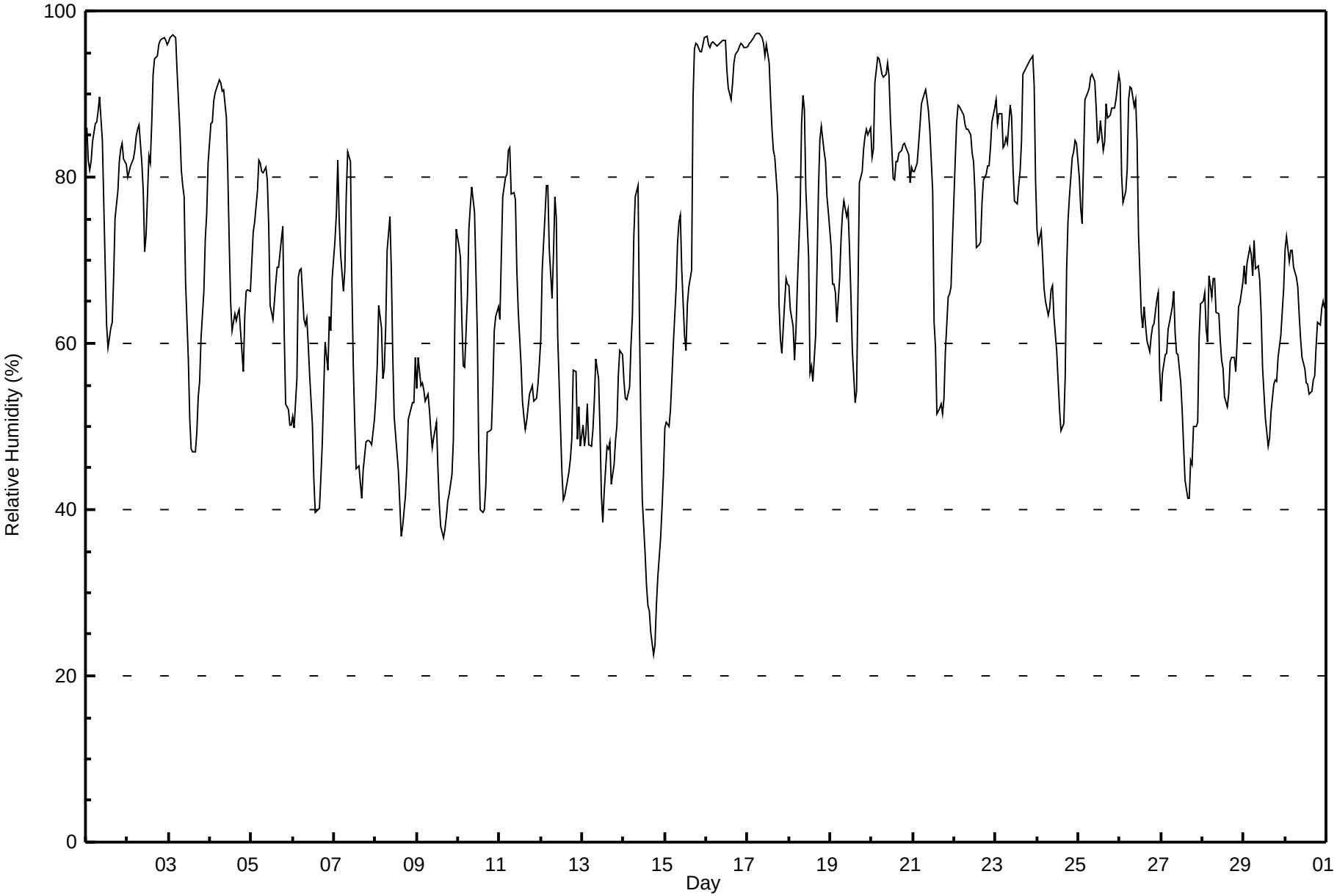
Monthly Average: 69.07 %

Percentiles: P_1 = 30.9 P_{10} = 47.7 Q_1 = 55.7 Median = 67.8 Q_3 = 83.2 P_{90} = 92.0 P_{99} = 96.8

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	86	82	81	82	84	86	87	88	90	84	77	69	62	60	62	62	68	75	78	82	83	84	82	82	78.2	89.7
2-Nov	80	81	81	82	83	85	86	86	82	78	71	73	82	82	87	92	94	95	96	96	97	97	96	96	86.6	96.8
3-Nov	96	97	97	97	97	93	86	81	79	78	68	58	51	47	47	47	49	54	55	61	66	73	76	82	72.2	97.1
4-Nov	86	87	89	90	91	92	91	90	90	87	80	72	65	61	64	63	64	64	59	57	63	66	66	66	75.2	91.7
5-Nov	70	73	75	78	82	82	81	80	81	80	74	65	63	65	67	69	69	73	74	61	53	52	50	50	69.4	82.0
6-Nov	51	50	56	68	69	69	63	62	63	60	56	50	44	40	40	40	44	48	54	60	57	63	62	68	55.7	69.0
7-Nov	72	76	82	75	71	66	69	78	83	82	67	57	51	45	45	43	41	45	48	48	48	48	48	51	60.0	83.0
8-Nov	54	58	65	62	56	57	62	71	75	69	58	51	47	45	41	37	38	42	45	51	51	53	53	58	54.0	75.2
9-Nov	55	58	55	55	54	53	54	52	49	47	49	50	45	41	38	37	38	39	41	42	44	49	62	74	49.2	73.8
10-Nov	72	70	63	57	57	66	74	77	79	76	69	61	47	40	40	40	43	49	49	50	55	61	63	64	59.2	78.8
11-Nov	63	71	78	80	80	83	84	78	78	77	69	64	57	53	51	50	51	54	54	55	53	53	55	58	64.5	83.6
12-Nov	61	69	75	79	79	71	65	71	78	75	61	50	44	41	42	44	45	46	48	57	57	49	52	48	58.6	79.1
13-Nov	50	48	49	53	48	48	50	53	58	56	50	42	38	42	48	47	48	43	45	48	50	56	59	59	49.5	59.2
14-Nov	55	53	53	55	60	63	73	78	79	62	50	41	35	31	28	28	25	22	24	29	32	37	40	44	45.7	79.0
15-Nov	50	51	50	52	56	60	67	72	75	75	69	61	59	65	67	69	89	95	96	96	95	95	96	97	73.1	96.7
16-Nov	97	96	96	96	96	96	96	96	96	96	96	96	93	91	89	91	94	95	95	96	96	96	96	96	95.0	96.9
17-Nov	96	96	96	97	97	97	97	97	97	96	95	96	94	89	86	83	82	78	65	60	59	65	68	67	85.5	97.3
18-Nov	67	64	62	58	62	67	76	86	90	88	79	70	56	57	55	61	69	79	85	86	83	82	78	76	72.4	89.9
19-Nov	72	67	67	66	62	68	73	76	77	75	76	71	66	59	53	54	66	79	81	83	85	86	85	86	72.2	85.9
20-Nov	82	83	91	94	94	93	92	92	92	94	92	87	80	80	82	82	83	83	84	84	84	83	79	81	86.4	94.4
21-Nov	81	81	82	84	86	89	90	91	89	88	86	78	62	59	51	52	53	52	53	59	66	66	67	72	72.4	90.6
22-Nov	82	87	89	89	88	87	86	86	86	85	83	82	78	72	72	72	77	80	80	81	81	84	87	88	82.5	88.6
23-Nov	89	86	88	88	84	84	85	84	89	87	81	77	77	79	81	84	92	93	93	94	94	95	91	80	86.4	94.6
24-Nov	74	72	74	70	67	65	63	64	66	67	63	59	55	52	50	50	56	69	75	78	82	83	84	84	67.6	84.5
25-Nov	80	76	74	82	89	90	91	92	92	91	88	84	85	87	83	84	89	87	87	88	88	88	89	92	86.7	92.4
26-Nov	91	80	77	78	81	89	91	91	88	89	84	73	64	62	64	62	60	59	61	62	62	65	66	57	73.3	91.4
27-Nov	53	56	59	59	62	62	64	66	61	59	59	55	52	48	44	41	41	46	45	50	50	51	61	65	54.5	66.4
28-Nov	65	66	62	60	68	66	68	68	64	64	60	58	57	54	52	54	58	58	58	57	60	64	65	67	61.4	68.2
29-Nov	69	67	70	71	71	68	72	69	69	68	64	57	51	49	48	49	52	55	56	55	58	61	64	67	61.6	72.4
30-Nov	71	73	70	71	71	69	68	67	63	61	58	57	55	55	54	54	56	56	60	62	62	64	65	64	62.8	72.9
	72.3	72.5	73.5	74.3	74.8	75.5	76.7	78.1	78.7	76.5	71.0	65.6	60.5	58.3	57.6	58.1	61.1	63.7	64.9	66.3	67.2	68.9	70.2	71.2	Diurnal Average	
	96.9	96.9	97.1	97.0	97.1	97.3	97.3	97.2	96.7	96.4	96.4	96.4	93.8	90.8	89.4	92.4	94.2	95.3	96.0	96.4	96.7	96.8	96.4	96.7	Diurnal Maximum	

Hourly Averages for Relative Humidity at Evergreen Park
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Evergreen Park
November 1, 2009 to December 1, 2009
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	4	4	4	4	3	2	3	1	3	2	2	2	2	4	3	1	1	1	1	0	1	2	1	1.4	4.4
Dir	256	282	275	275	274	275	274	239	254	279	269	344	294	335	1	23	45	16	81	23	29	18	80	49	299.5	275.1
2 Spd	2	0	2	0	1	1	0	4	1	1	1	1	1	0	1	3	2	0	3	1	1	2	2	1	0.6	3.6
Dir	93	88	76	27	3	233	297	222	225	340	228	276	6	216	215	215	207	50	217	196	99	200	189	232	210.4	222.3
3 Spd	1	3	1	1	1	5	6	4	7	7	11	17	18	15	16	12	10	6	5	2	1	1	1	1	5.8	18.0
Dir	203	210	201	126	196	216	243	230	261	258	267	267	272	281	274	277	272	276	271	268	220	217	78	74	264.5	271.7
4 Spd	1	1	1	1	0	1	0	0	1	1	2	3	4	4	4	3	3	4	3	3	2	4	3	1	1.8	4.0
Dir	79	202	186	243	53	126	49	100	89	45	64	65	68	56	68	74	77	78	87	83	48	80	81	63	74.4	77.9
5 Spd	1	0	2	3	4	3	1	1	2	1	1	1	2	2	2	1	1	1	2	3	7	9	6	5	1.1	8.9
Dir	23	257	309	295	212	213	106	114	58	49	78	18	10	41	41	353	306	169	209	183	192	198	199	185	199.1	198.4
6 Spd	4	6	10	19	13	12	13	11	11	14	14	14	19	21	19	24	21	13	15	11	22	30	25	17	15.4	30.3
Dir	179	187	268	268	251	243	248	247	244	244	231	247	261	264	265	262	261	245	248	247	254	248	250	240	251.2	248.1
7 Spd	8	1	1	8	11	10	5	2	2	1	4	14	17	17	11	15	16	9	13	16	15	12	13	10	8.9	17.0
Dir	232	197	136	223	236	256	249	100	70	150	258	251	259	264	290	274	268	238	242	249	246	252	250	255	252.6	263.6
8 Spd	7	4	1	8	14	9	2	0	1	2	3	4	7	5	5	12	10	8	5	4	5	5	4	1	4.7	13.7
Dir	248	265	72	236	259	255	180	126	169	176	215	224	244	267	253	255	248	247	216	205	214	214	207	138	239.9	259.3
9 Spd	2	2	3	1	2	2	2	1	4	3	3	2	6	6	5	4	3	3	3	4	3	5	15	15	2.5	14.8
Dir	185	108	178	174	97	110	178	148	178	166	104	79	177	177	164	150	151	156	172	180	191	226	278	254	193.7	277.8
10 Spd	9	5	13	14	5	1	1	1	2	0	1	2	3	5	6	5	5	4	6	8	8	0	5	7	4.2	14.0
Dir	249	241	252	256	272	347	105	196	49	297	193	203	196	219	216	218	219	232	248	240	224	150	211	211	235.0	255.9
11 Spd	3	1	2	0	1	1	3	3	1	3	4	5	3	10	10	12	10	9	11	11	12	13	11	8	5.9	12.7
Dir	203	30	231	305	166	252	221	242	221	270	288	286	285	259	268	267	262	261	262	254	253	252	259	257	258.4	251.9
12 Spd	1	2	1	1	2	7	9	5	1	1	2	9	12	11	15	15	11	5	4	1	2	8	6	5	4.7	15.3
Dir	210	71	118	185	203	215	230	210	85	86	243	261	274	272	273	275	270	237	262	102	237	233	211	201	250.5	273.2
13 Spd	5	4	1	1	2	1	1	1	1	1	3	3	3	1	2	4	13	19	19	19	16	9	7	7	5.0	19.5
Dir	203	191	141	125	195	200	177	212	194	202	222	206	217	326	38	268	276	277	274	274	273	301	278	262	264.9	277.1
14 Spd	7	6	7	9	6	2	0	0	1	2	3	4	5	5	6	6	6	7	6	6	5	6	5	3	4.1	9.1
Dir	260	252	244	244	222	192	177	105	177	191	196	195	174	163	171	181	186	190	198	180	181	194	186	189	201.2	244.2
15 Spd	1	2	6	4	3	3	1	1	1	1	3	4	2	3	1	2	5	4	4	5	2	6	6	5	0.7	6.1
Dir	170	188	201	189	189	210	56	35	182	199	214	266	248	289	59	45	5	23	63	70	100	71	75	62	93.7	71.3
16 Spd	3	3	4	1	2	2	4	2	2	3	4	7	6	5	1	1	1	2	2	3	2	2	1	1	0.7	7.2
Dir	31	356	345	26	57	97	101	73	59	12	288	272	264	257	266	139	107	91	38	48	57	253	318	220	347.5	271.5
17 Spd	1	2	4	3	1	4	3	5	4	2	10	7	4	7	3	3	2	6	10	14	9	6	5	6	2.8	13.7
Dir	99	68	101	99	37	88	71	52	28	86	204	227	250	230	227	248	213	222	227	224	235	263	252	233	222.5	223.8
18 Spd	11	13	13	15	11	9	1	0	1	2	0	1	5	5	3	2	2	1	1	1	1	1	1	2	2.8	14.5
Dir	226	229	240	241	238	230	95	87	95	39	161	259	245	264	257	52	58	105	68	70	71	77	99	55	235.0	241.2
19 Spd	3	3	3	2	2	1	1	0	2	3	3	4	2	2	3	1	1	0	3	3	1	1	1	2	0.1	4.2
Dir	66	89	77	81	77	67	37	234	255	251	280	254	244	250	197	174	28	194	213	65	26	24	248	34	191.1	253.9
20 Spd	1	1	5	3	4	6	7	4	2	0	1	1	1	3	7	8	7	6	5	4	3	4	4	4	1.6	7.6
Dir	8	211	56	68	87	82	77	81	100	306	34	3	5	305	333	326	294	282	271	289	285	313	303	256	334.7	325.7
21 Spd	4	6	3	0	3	1	1	0	0	1	2	3	13	12	15	12	10	10	12	11	9	10	8	2	5.6	14.7
Dir	281	271	250	153	201	207	56	44	85	65	50	296	261	269	273	275	254	246	244	258	258	248	264	301	261.0	273.2
22 Spd	1	2	0	1	1	0	0	0	1	1	1	1	2	3	2	1	3	1	1	1	1	1	2	3	0.9	3.3
Dir	70	226	197	222	88	220	125	280	307	319	310	316	356	359	322	343	302	312	264	299	329	354	304	225	309.0	302.3

Peace Airshed Zone Association
Summary of Hourly Averages

Evergreen Park
November 1, 2009 to December 1, 2009
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	3	2	3	5	3	4	0	1	0	0	0	1	3	2	3	3	2	2	2	3	4	9	16	1.8	15.7
Dir	242	244	228	246	250	274	267	315	72	115	196	283	232	82	43	72	90	63	48	319	240	251	251	254	253.8	254.2
24 Spd	17	14	13	15	16	15	17	14	11	12	10	11	12	12	10	4	1	0	1	0	1	1	0	1	8.4	17.2
Dir	249	252	247	256	259	262	267	265	261	260	258	262	262	260	252	262	271	173	86	184	28	56	265	41	258.7	266.5
25 Spd	2	1	1	1	2	1	0	0	0	0	1	0	1	2	1	1	1	3	2	3	4	5	7	9	0.7	8.8
Dir	62	62	145	50	77	67	30	100	342	7	62	70	49	37	11	214	262	318	283	300	266	257	228	215	256.8	215.4
26 Spd	4	16	13	15	8	3	3	4	9	5	9	7	11	13	8	11	17	20	17	13	14	8	12	18	10.3	19.7
Dir	241	262	251	251	240	199	186	208	222	210	215	230	260	259	264	260	256	252	254	260	261	266	259	266	251.1	252.1
27 Spd	19	17	16	15	13	14	15	12	12	13	14	15	15	14	15	17	8	9	7	3	4	3	0	1	11.0	19.2
Dir	269	267	261	255	252	254	261	245	250	252	259	266	272	267	267	276	259	240	247	241	201	199	152	189	258.8	269.1
28 Spd	1	0	2	3	5	13	10	10	8	7	7	4	4	1	1	1	2	1	1	1	1	0	1	1	2.7	12.8
Dir	207	51	212	194	232	248	246	246	244	244	255	284	276	353	277	112	129	94	92	125	50	15	74	58	244.0	247.9
29 Spd	1	1	0	2	4	3	1	15	13	19	21	22	21	24	25	23	21	20	22	20	16	15	12	11	13.5	25.3
Dir	211	121	260	269	253	272	242	241	230	246	253	260	262	262	266	267	271	272	265	266	266	257	264	268	260.2	265.7
30 Spd	2	3	9	8	9	13	12	9	8	10	12	12	12	9	10	9	8	9	9	11	11	8	7	8	9.0	13.2
Dir	335	316	274	274	265	265	272	282	278	280	273	278	288	291	290	290	289	270	280	274	268	289	284	293	279.7	265.4
Spd	3.0	2.8	3.2	4.2	3.9	3.6	2.7	2.6	2.3	2.9	4.0	5.2	6.0	5.9	5.5	5.6	5.3	4.6	5.2	4.4	4.9	4.5	4.5	4.2	Diurnal Average	
Dir	242.6	248.2	248.5	249.7	244.2	242.8	247.9	242.1	242.9	251.7	248.2	259.1	262.1	265.0	269.0	267.8	264.3	254.9	251.8	252.7	249.0	250.3	251.3	248.1		
Spd	19.2	17.5	15.9	19.5	16.1	14.6	17.2	14.5	13.5	19.4	21.0	21.5	21.2	23.6	25.3	23.7	21.4	19.7	21.8	19.7	22.2	30.3	24.6	18.1	Diurnal Maximum	
Dir	269.1	266.6	261.1	267.6	259.0	261.8	266.5	241.0	229.9	246.0	253.0	260.0	262.3	262.2	265.7	261.8	261.1	252.1	264.7	266.1	254.1	248.1	250.1	265.9		

Maximum Speed Value: 30 km/h on Nov 6 22:00
Maximum Daily Speed Average: 15.4 km/h on Nov 6
Maximum Diurnal Speed Average: 6.0 km/h at hour 13

Minimum Speed Value: 0 km/h on Nov 24 20:00
Minimum Daily Speed Average: 0.1 km/h on Nov 2
Minimum Diurnal Speed Average: 2.3 km/h at hour 9

Monthly Average Velocity: 4.17 km/h 253.96 deg

Speed Percentiles: $P_1 = 0.2$ $P_{10} = 0.7$ $Q_1 = 1.4$ Median = 3.5 $Q_3 = 8.7$ $P_{90} = 13.9$ $P_{99} = 21.3$

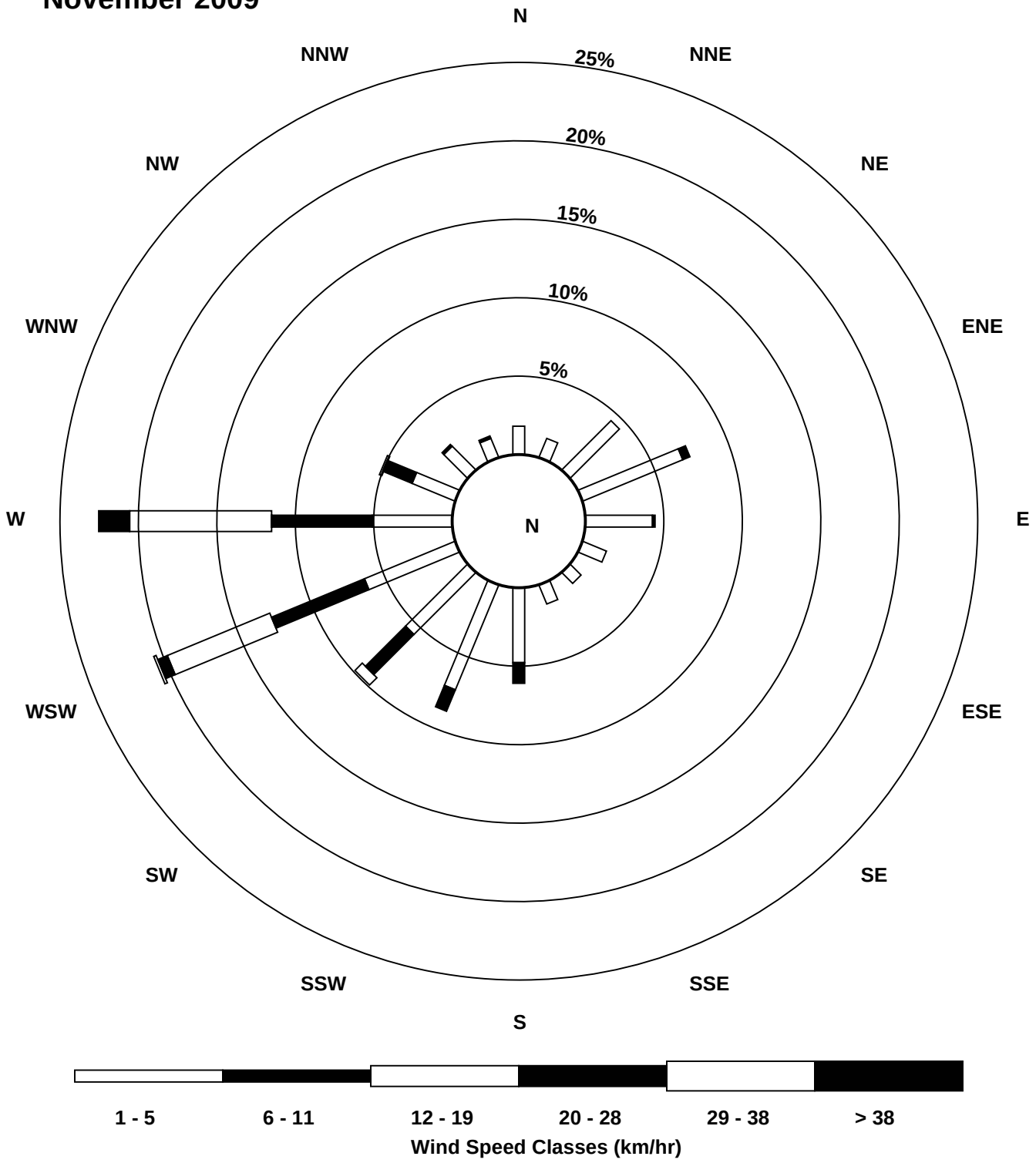
All monthly, daily, and diurnal averages have been calculated using vector methods

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

Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	26	1	0	0	0	0	27
NorthEast	74	1	0	0	0	0	75
East	82	4	0	0	0	0	86
SouthEast	24	0	0	0	0	0	24
South	64	19	0	0	0	0	83
SouthWest	75	50	20	1	0	0	146
West	67	64	88	22	1	0	242
NorthWest	32	5	0	0	0	0	37
Total	444	144	108	23	1	0	720

Wind Rose for WS at Evergreen Park
November 2009



Maximum Speed: 31 km/h on Nov 6 22:00

Maximum Daily Speed Average: 16.1 km/h on Nov 6

Minimum Speed: 1 km/h on Nov 22 08:00

Minimum Daily Speed Average: 1.8 km/h on Nov 2

Maximum Diurnal Speed Average: 7.6 km/h at hour 14

Minimum Diurnal Speed Average: 4.3 km/h at hour 9

Monthly Average Speed: 5.98 km/h

Percentiles: P_1 = 1.0 P_{10} = 1.4 Q_1 = 2.0 Median = 3.7 Q_3 = 8.9 P_{90} = 13.9 P_{99} = 21.7

Hours in Service: 720
Hours of Data: 720
Hours of Missing Data: 0

Percent Operational Time: 100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	2	4	4	4	4	3	3	3	2	4	3	2	2	3	4	3	2	2	1	1	1	2	3	2	2.7	4.5
2-Nov	2	1	2	1	1	2	1	4	3	2	1	2	2	1	1	3	2	1	3	1	2	2	2	1	1.8	3.7
3-Nov	1	3	2	1	2	5	6	5	7	7	11	18	18	15	16	12	10	6	5	3	2	2	2	2	6.7	18.2
4-Nov	1	2	2	2	2	2	2	1	1	1	2	4	4	4	4	3	3	4	4	3	2	4	3	2	2.5	4.0
5-Nov	2	1	3	4	4	3	2	2	2	2	2	1	3	2	2	2	2	2	3	3	7	9	6	5	3.1	8.9
6-Nov	4	6	12	20	14	12	13	11	12	14	14	15	20	21	19	24	22	13	15	11	22	31	25	18	16.1	30.6
7-Nov	9	2	3	8	11	10	6	2	2	2	6	14	17	17	11	15	16	9	14	16	15	12	13	10	10.0	17.2
8-Nov	8	4	2	8	14	9	2	1	2	2	3	4	7	5	6	13	11	8	5	4	5	5	4	2	5.5	13.8
9-Nov	2	2	3	2	2	2	2	2	4	4	3	2	6	7	5	5	3	3	3	4	3	5	15	15	4.4	15.3
10-Nov	9	5	13	14	7	2	2	2	3	1	2	2	4	5	6	5	5	4	7	8	8	2	5	7	5.3	14.0
11-Nov	4	2	2	2	2	2	4	3	2	3	5	5	4	10	11	12	10	9	12	11	12	13	12	8	6.7	12.8
12-Nov	3	2	1	1	2	7	9	5	1	1	3	9	12	11	15	15	11	5	5	2	4	8	6	5	6.1	15.4
13-Nov	5	4	2	2	3	2	2	2	1	1	3	3	3	2	2	4	14	20	19	19	16	9	7	7	6.3	19.6
14-Nov	7	6	7	9	6	3	1	2	2	2	3	5	6	5	6	6	6	7	7	6	5	6	5	3	5.0	9.2
15-Nov	3	2	6	4	3	3	2	1	1	1	3	4	2	3	2	2	6	4	4	5	3	7	6	5	3.4	6.5
16-Nov	3	4	4	2	3	3	4	2	2	3	5	7	6	5	1	2	1	2	2	4	2	3	2	2	3.1	7.3
17-Nov	2	2	5	3	2	4	3	5	6	6	10	7	4	7	4	3	3	7	10	14	10	7	5	7	5.6	13.7
18-Nov	11	13	13	15	11	9	3	1	2	2	2	2	5	5	4	2	3	1	2	2	2	2	2	3	4.8	14.6
19-Nov	3	4	3	2	2	1	1	1	2	4	4	4	3	2	3	2	1	2	3	3	1	2	2	2	2.4	4.3
20-Nov	2	2	5	3	5	6	7	4	3	1	1	2	2	4	8	8	7	7	6	5	3	5	4	4	4.3	8.1
21-Nov	4	6	4	2	3	3	2	2	2	2	2	5	13	12	15	12	11	10	12	11	9	10	8	3	6.7	14.8
22-Nov	2	2	2	1	1	1	1	1	1	1	1	2	3	3	3	2	3	2	1	2	2	1	3	3	1.9	3.5
23-Nov	5	3	3	3	5	4	4	2	2	1	1	1	1	3	2	3	3	2	3	3	4	4	9	16	3.6	15.7
24-Nov	17	14	14	15	16	15	17	14	11	12	10	11	12	12	10	4	2	1	1	1	1	1	1	2	9.0	17.3
25-Nov	2	2	1	2	2	1	1	1	1	1	1	1	1	3	2	2	2	3	2	3	4	5	8	9	2.5	8.9
26-Nov	5	16	13	15	8	5	4	5	9	5	9	7	11	13	9	12	17	20	17	13	14	8	12	18	11.0	19.8
27-Nov	19	18	16	15	13	15	15	12	12	13	14	15	16	14	15	17	8	9	7	3	4	3	2	1	11.5	19.2
28-Nov	2	1	3	3	5	13	10	10	8	7	8	4	4	2	1	2	3	2	2	2	2	1	1	1	4.0	12.9
29-Nov	2	2	2	2	5	3	3	15	14	20	21	22	21	24	26	24	21	20	22	20	16	15	12	11	14.1	25.5
30-Nov	4	4	9	8	9	13	12	9	8	10	12	13	12	10	11	9	9	10	9	11	11	9	7	8	9.4	13.3
	4.7	4.6	5.2	5.8	5.6	5.5	4.8	4.4	4.3	4.4	5.4	6.5	7.5	7.6	7.4	7.6	7.2	6.4	6.8	6.4	6.5	6.4	6.3	6.0	Diurnal Average	
	19.2	17.6	16.0	20.0	16.2	14.7	17.3	14.7	13.6	19.5	21.1	21.6	21.4	23.7	25.5	23.8	21.5	19.8	21.9	19.8	22.5	30.6	24.7	18.2	Diurnal Maximum	

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

Maximum Value: 99.5 deg on Nov 25 08:00

Minimum Value: 3.5 deg on Nov 18 06:00

Percentiles: P_1 = 4.2 P_{10} = 6.4 Q_1 = 9.5 Median = 24.2 Q_3 = 51.7 P_{90} = 75.8 P_{99} = 92.6

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
	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	55	14	12	13	12	21	27	28	78	33	29	55	50	50	18	26	32	69	71	64	67	59	70	58	78.2
2-Nov	45	86	26	91	39	41	86	16	81	53	56	59	44	89	40	12	22	85	45	81	46	53	20	76	91.2
3-Nov	61	14	88	64	76	8	14	10	13	7	6	6	9	10	7	9	8	19	10	37	60	69	64	66	87.7
4-Nov	75	66	75	86	85	66	85	92	81	57	19	13	16	18	26	16	12	10	20	16	33	8	20	76	91.7
5-Nov	70	85	42	35	22	41	77	60	50	40	55	75	45	23	20	42	65	72	36	26	9	7	8	11	85.0
6-Nov	17	19	41	13	10	7	7	8	7	6	9	13	8	8	9	7	7	7	7	8	9	7	7	11	40.9
7-Nov	8	67	56	6	10	11	48	37	53	63	67	8	12	10	14	8	9	12	7	6	6	8	6	6	67.3
8-Nov	8	48	33	45	7	13	43	84	51	34	15	17	17	12	15	10	11	12	17	15	15	4	21	81	83.6
9-Nov	39	44	16	53	32	30	57	40	23	32	32	28	27	14	16	20	29	34	29	13	15	22	15	6	56.7
10-Nov	7	14	10	5	59	75	55	83	48	86	82	14	30	12	11	7	6	30	29	12	13	78	13	6	85.7
11-Nov	10	84	24	88	72	83	37	24	90	37	26	21	26	8	9	8	7	9	7	7	4	5	5	7	89.7
12-Nov	69	30	57	49	47	14	9	23	45	60	80	8	10	13	8	6	12	17	55	63	94	15	14	8	93.6
13-Nov	7	11	48	61	35	66	84	45	42	37	28	31	43	79	17	65	9	7	5	5	6	22	10	5	84.4
14-Nov	7	7	6	8	6	51	99	81	57	36	25	19	17	17	19	10	9	10	8	20	10	9	13	33	99.2
15-Nov	74	63	11	23	21	24	88	67	29	75	33	17	36	33	45	24	18	21	15	26	49	32	13	12	87.7
16-Nov	26	17	35	48	40	20	30	27	32	30	52	12	16	10	38	34	31	49	27	23	65	52	43	62	65.0
17-Nov	62	36	17	35	60	36	24	26	46	68	18	16	24	17	26	13	65	42	4	4	11	14	25	20	68.5
18-Nov	4	7	7	7	6	4	73	74	84	24	90	52	28	28	28	67	35	48	50	33	54	23	62	43	90.2
19-Nov	33	18	17	29	47	65	42	97	47	17	23	17	30	40	23	71	73	91	50	13	75	40	79	25	97.0
20-Nov	75	88	13	21	18	13	11	17	78	90	65	53	64	50	17	19	24	20	25	25	25	20	29	16	89.7
21-Nov	21	15	24	93	14	88	82	85	98	84	18	54	6	8	6	8	8	5	5	8	7	8	10	71	98.4
22-Nov	69	35	85	48	68	90	76	74	64	49	49	55	25	27	24	32	21	28	37	50	38	42	36	31	89.9
23-Nov	52	35	48	37	8	37	17	95	50	87	89	78	74	33	40	22	29	27	47	65	43	32	12	5	95.1
24-Nov	4	6	6	4	5	5	5	5	4	4	5	6	6	6	6	40	70	83	82	96	55	49	82	30	96.1
25-Nov	26	51	71	48	17	43	92	100	91	87	43	85	74	36	74	54	68	24	41	20	20	20	27	11	99.5
26-Nov	31	9	8	9	27	69	46	48	10	16	8	12	9	7	7	9	6	6	7	7	6	7	6	5	69.1
27-Nov	5	6	5	6	6	5	4	6	5	6	7	7	8	7	7	6	18	7	12	41	20	62	70	72	71.5
28-Nov	91	76	19	36	56	7	5	5	7	6	12	18	47	57	69	70	41	33	70	64	59	87	70	65	90.7
29-Nov	81	63	93	35	39	43	87	8	5	6	7	5	6	7	6	6	7	6	5	5	5	6	6	7	93.5
30-Nov	56	40	11	11	7	8	9	11	7	7	6	9	10	12	10	10	10	11	7	6	6	18	10	12	56.4
	90.7	88.3	93.5	93.0	85.4	89.9	99.2	99.5	98.4	89.7	90.2	85.5	73.9	89.4	73.6	71.2	72.9	90.7	81.6	96.1	93.6	87.0	82.2	81.3	

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, 2009 to December 1, 2009

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 5.9 ppb on Nov 11 22:00
Maximum Daily Average: 1.6 ppb on Nov 24

Minimum Value: 0 ppb on Nov 14 23:00
Maximum Diurnal Average: 0.8 ppb at hour 15
Monthly Average: 0.33 ppb

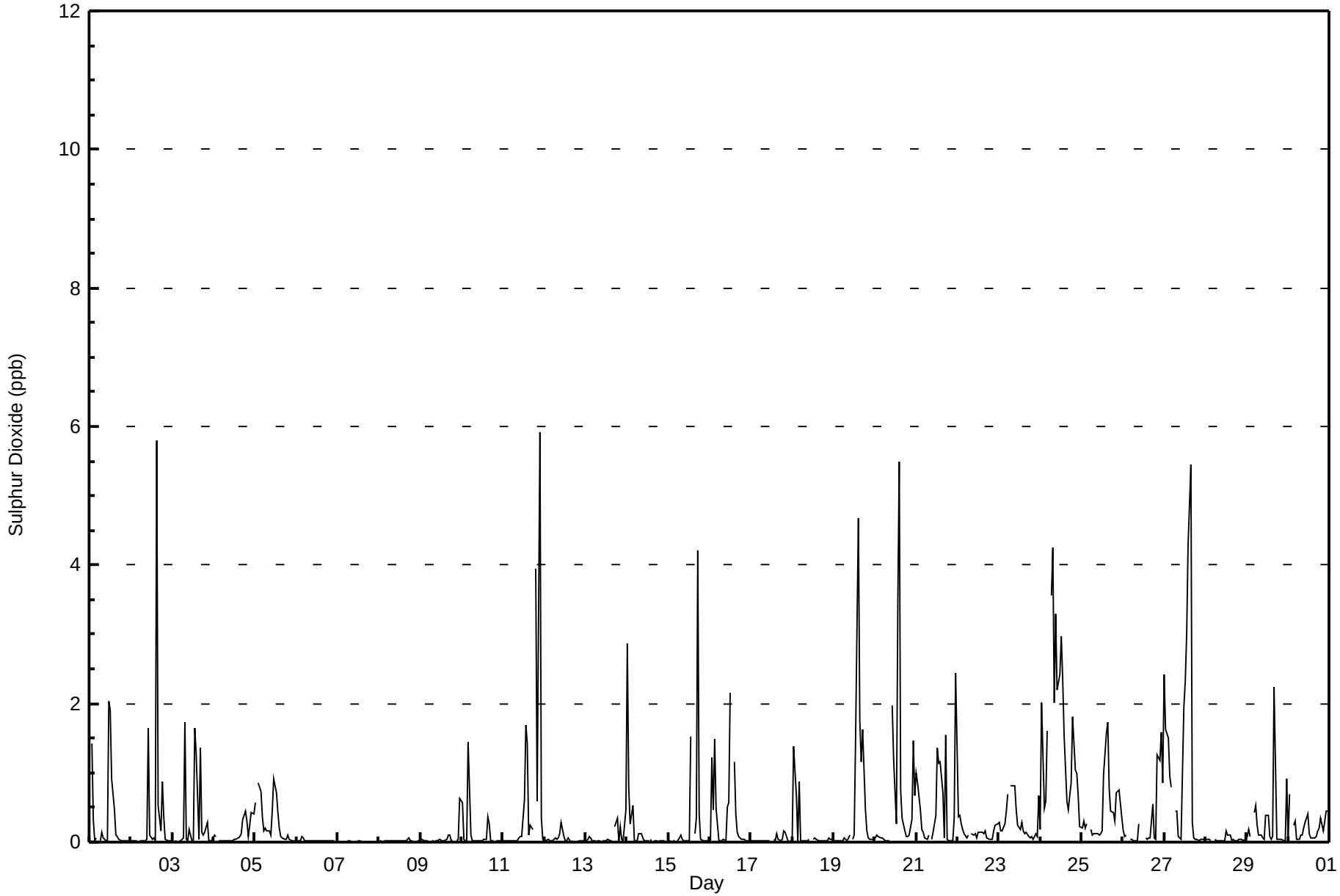
Minimum Daily Average: 0.0 ppb on Nov 7
Minimum Diurnal Average: 0.1 ppb at hour 6
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.0 Q_3 = 0.3 P_{90} = 0.9 P_{99} = 4.2

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

Day	Hourly Period Ending At (MST) 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	N	1	0	0	0	A	0	0	0	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0	0.4	2.0
2-Nov	0	0	0	0	A	0	0	0	0	0	2	0	0	0	0	6	1	0	1	0	0	0	0	0	0.4	5.8
3-Nov	0	0	0	A	0	0	0	2	0	0	0	0	0	2	1	0	1	0	0	0	0	0	0	0	0.3	1.7
4-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	0.4
5-Nov	1	A	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9
6-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	0.1
7-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	0.0	0.0
8-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.0	0.1
9-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	0.1	0.6
10-Nov	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.1	1.5
11-Nov	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	A	4	1	6	0	0	0.7	5.9
12-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	0.0	0.3
13-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	0.5
14-Nov	3	1	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	2.9
15-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	2	A	0	0	4	0	0	0	0	0	0	0.3	4.2
16-Nov	0	1	0	1	0	0	0	0	0	0	1	1	2	A	1	0	0	0	0	0	0	0	0	0	0.4	2.2
17-Nov	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
18-Nov	0	1	1	0	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.4
19-Nov	0	0	0	0	0	0	0	0	0	0	A	0	0	1	5	2	1	2	0	0	0	0	0	0	0.5	4.7
20-Nov	0	0	0	0	0	0	0	0	0	A	2	1	0	3	5	1	0	0	0	0	0	0	1	1	0.7	5.5
21-Nov	1	1	0	0	0	0	0	0	A	0	0	0	1	1	1	1	0	2	0	0	0	0	0	2	0.5	2.4
22-Nov	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
23-Nov	0	0	0	0	0	1	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	0.8
24-Nov	0	2	0	1	2	A	4	4	2	3	2	2	3	2	2	1	0	1	1	2	1	1	1	0	1.6	4.2
25-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	1	2	2	1	0	0	0	1	1	1	0	0.5	1.7
26-Nov	0	0	0	A	0	0	0	0	0	0	C	C	C	0	0	0	0	1	0	0	1	1	2	1	0.3	1.6
27-Nov	2	2	2	1	1	A	0	0	0	0	0	2	2	3	4	5	0	0	0	0	0	0	0	0	1.1	5.5
28-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	0.2
29-Nov	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0.3	2.2
30-Nov	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
	0.3	0.4	0.2	0.2	0.3	0.1	0.2	0.3	0.1	0.2	0.3	0.4	0.5	0.7	0.8	0.6	0.3	0.4	0.2	0.3	0.2	0.4	0.2	0.3	Diurnal Average	
	2.9	2.0	1.5	1.5	1.6	0.7	3.6	4.2	2.0	3.3	2.2	2.4	3.0	3.5	5.5	5.8	2.2	4.2	0.9	4.0	1.3	5.9	1.6	2.4	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 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Smoky Heights - Sulphur Dioxide (SO_2) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 28.2 ppb on Nov 11 22:00

Maximum Daily Average: 3.1 ppb on Nov 27

Minimum Value: 0 ppb on Nov 7 12:00

Maximum Diurnal Average: 2.1 ppb at hour 15

Monthly Average: 1.02 ppb

Minimum Daily Average: 0.1 ppb on Nov 7

Minimum Diurnal Average: 0.4 ppb at hour 6

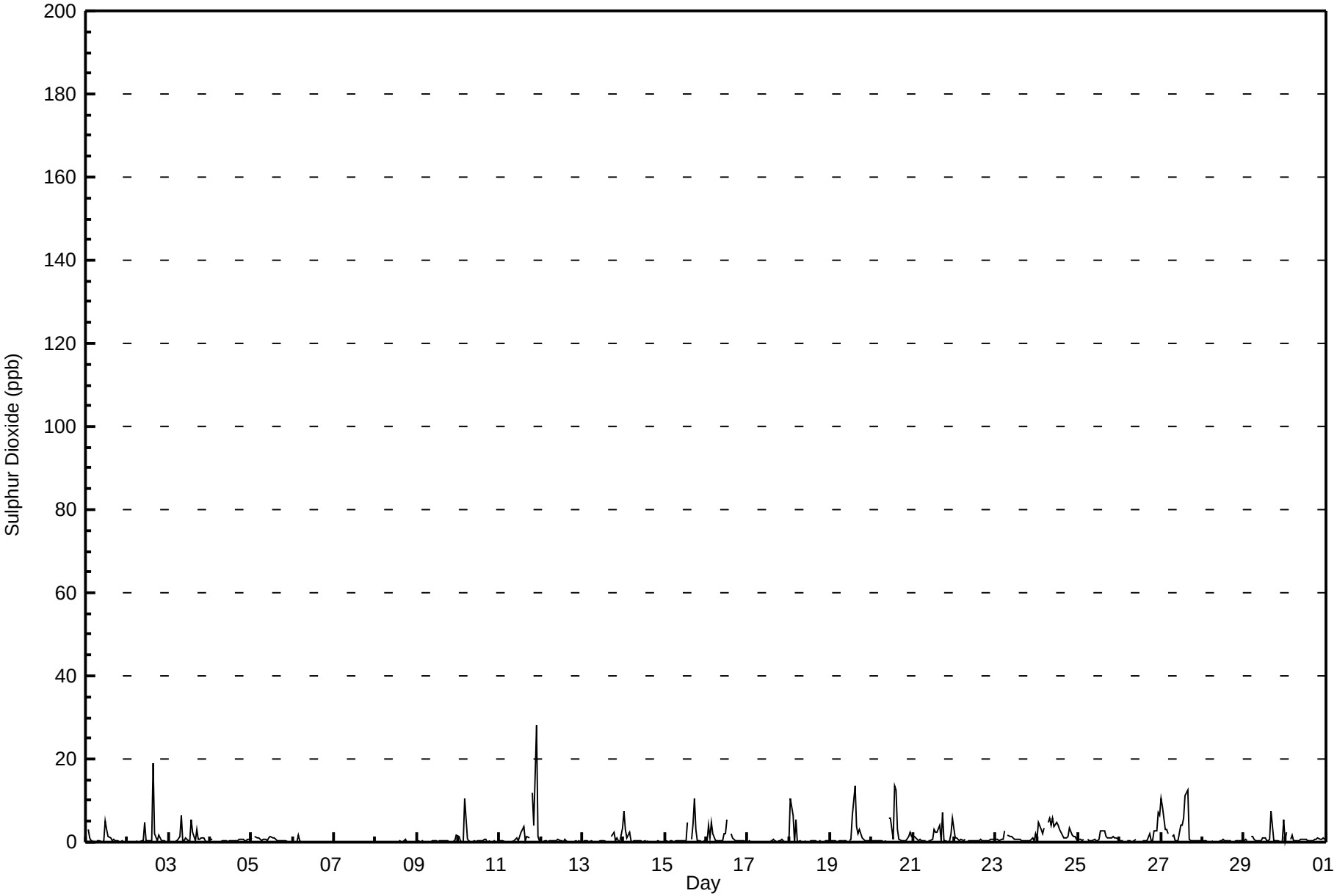
Percentiles: $P_1 = 0.0$ $P_{10} = 0.1$ $Q_1 = 0.2$ Median = 0.3 $Q_3 = 0.7$ $P_{90} = 2.7$ $P_{99} = 11.7$

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

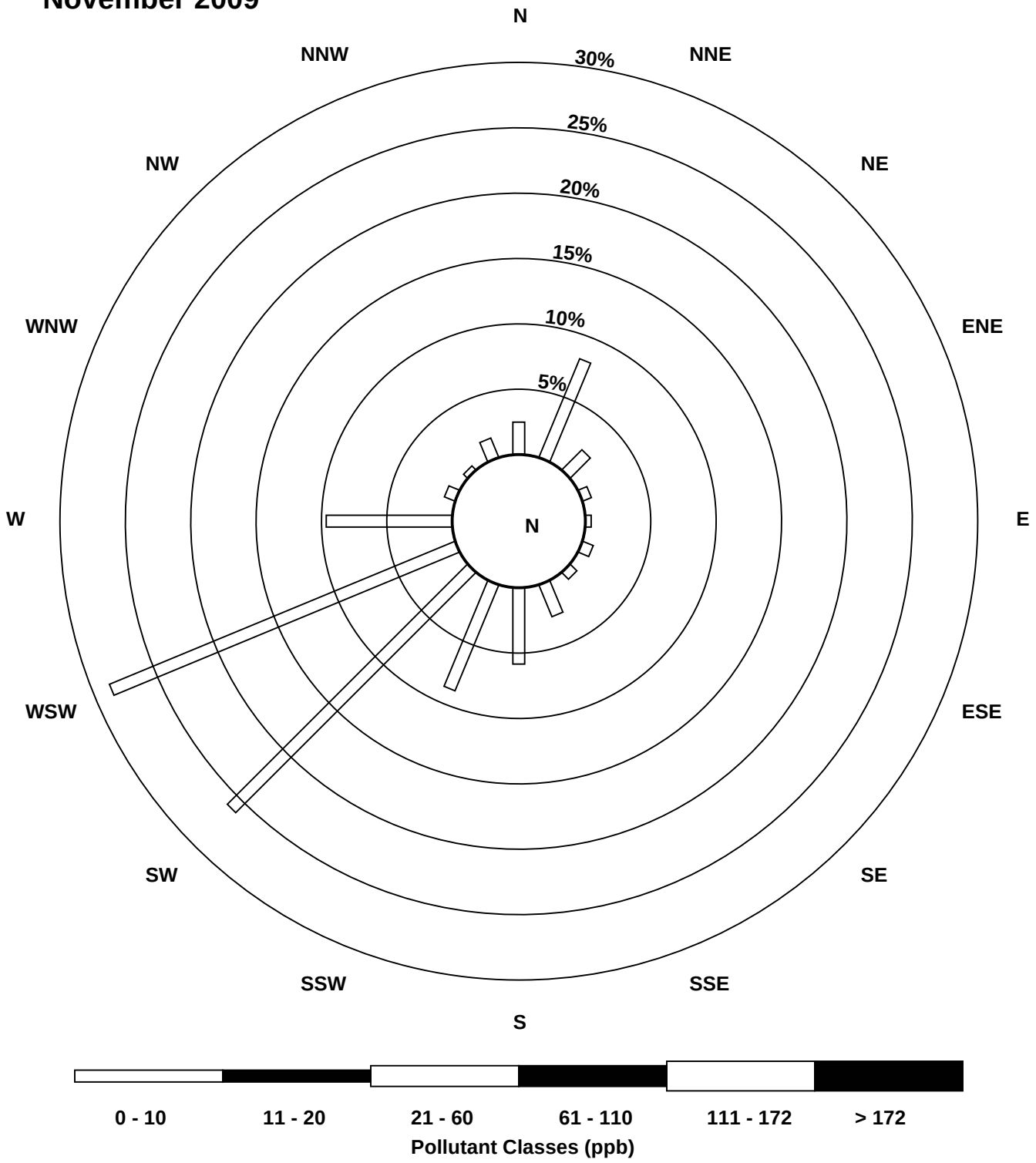
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	N	3	1	0	0	A	0	1	0	0	0	5	3	1	1	0	1	0	0	0	0	0	0	0	0.9	5.2
2-Nov	0	0	0	0	A	0	0	0	0	0	5	0	0	0	0	19	2	0	2	1	0	0	0	0	1.4	19.0
3-Nov	0	0	0	A	0	0	1	7	0	0	1	0	0	6	2	0	3	1	1	1	1	0	0	0	1.1	6.5
4-Nov	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	1	0.4	0.8
5-Nov	1	A	1	1	1	1	0	1	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.6	1.4
6-Nov	A	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.2	1.6
7-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	0.1	0.1
8-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0	0.1	0.7
9-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	2	0.3	1.6
10-Nov	1	0	0	0	11	1	0	0	0	0	0	0	0	0	0	1	1	0	0	A	0	0	0	0	0.8	10.5
11-Nov	0	0	0	0	0	0	0	0	0	1	1	0	2	3	4	0	1	1	A	12	4	28	1	0	2.6	28.2
12-Nov	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	A	0	0	0	0	0	0	0.3	0.6
13-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	2	0	1	0	0	3	0.5	3.4
14-Nov	8	3	1	2	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.8	7.6
15-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	5	A	1	4	10	3	0	0	0	0	0	1.2	10.5
16-Nov	0	4	1	5	2	0	0	0	0	0	2	2	6	A	2	1	1	0	0	0	0	0	0	0	1.2	5.5
17-Nov	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	0	0	0	0	1	0	0	0	0.2	0.5
18-Nov	0	11	6	0	5	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1.1	10.7
19-Nov	0	0	0	0	0	0	0	0	0	0	A	0	1	6	13	4	2	3	1	1	0	0	0	0	1.5	13.4
20-Nov	0	0	0	0	0	0	0	0	0	A	6	6	1	14	13	3	1	0	0	0	0	1	2	1	2.2	13.7
21-Nov	1	1	1	0	1	0	0	0	A	0	0	1	3	2	2	4	0	7	0	0	0	0	2	6	1.5	7.2
22-Nov	1	1	1	1	1	0	1	A	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0.5	0.9
23-Nov	1	1	0	1	1	3	A	2	1	1	1	1	1	1	1	0	1	0	0	0	0	1	1	2	0.8	2.7
24-Nov	1	5	3	2	3	A	5	6	4	6	4	5	4	3	2	1	1	1	1	3	2	1	1	1	2.8	5.9
25-Nov	1	1	1	1	A	1	0	0	0	1	0	0	1	3	3	3	2	1	1	1	1	1	1	1	1.0	2.8
26-Nov	0	0	0	A	0	0	0	0	0	1	C	C	C	0	0	0	0	2	0	0	3	3	7	7	1.3	7.2
27-Nov	11	9	3	3	2	A	1	2	0	0	0	4	4	6	11	13	1	0	0	0	0	0	0	0	3.1	12.6
28-Nov	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
29-Nov	0	1	0	A	1	2	1	0	0	0	0	1	1	0	0	1	8	0	0	0	0	0	0	5	1.0	7.5
30-Nov	0	2	A	1	2	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	1	1	1	0.7	2.4
	1.0	1.5	0.8	0.8	1.2	0.4	0.5	0.7	0.4	0.5	0.9	1.1	1.1	1.9	2.1	1.9	1.0	1.2	0.6	0.9	0.6	1.4	0.7	1.1	Diurnal Average	
	10.7	10.7	6.4	4.7	10.5	2.7	4.6	6.5	4.2	5.9	5.8	5.8	5.5	13.7	13.4	19.0	7.5	10.5	2.9	12.0	4.1	28.2	7.2	6.6	Diurnal Maximum	

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

Hourly Maximums for SO_2 at Smoky Heights
November 2009



Pollutant Rose for SO_2 at Smoky Heights
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Smoky Heights - Total Reduced Sulphur (TRS) - ppb
November 1, 2009 to December 1, 2009

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 0.6 ppb on Nov 5 18:00 Maximum Daily Average: 0.3 ppb on Nov 4

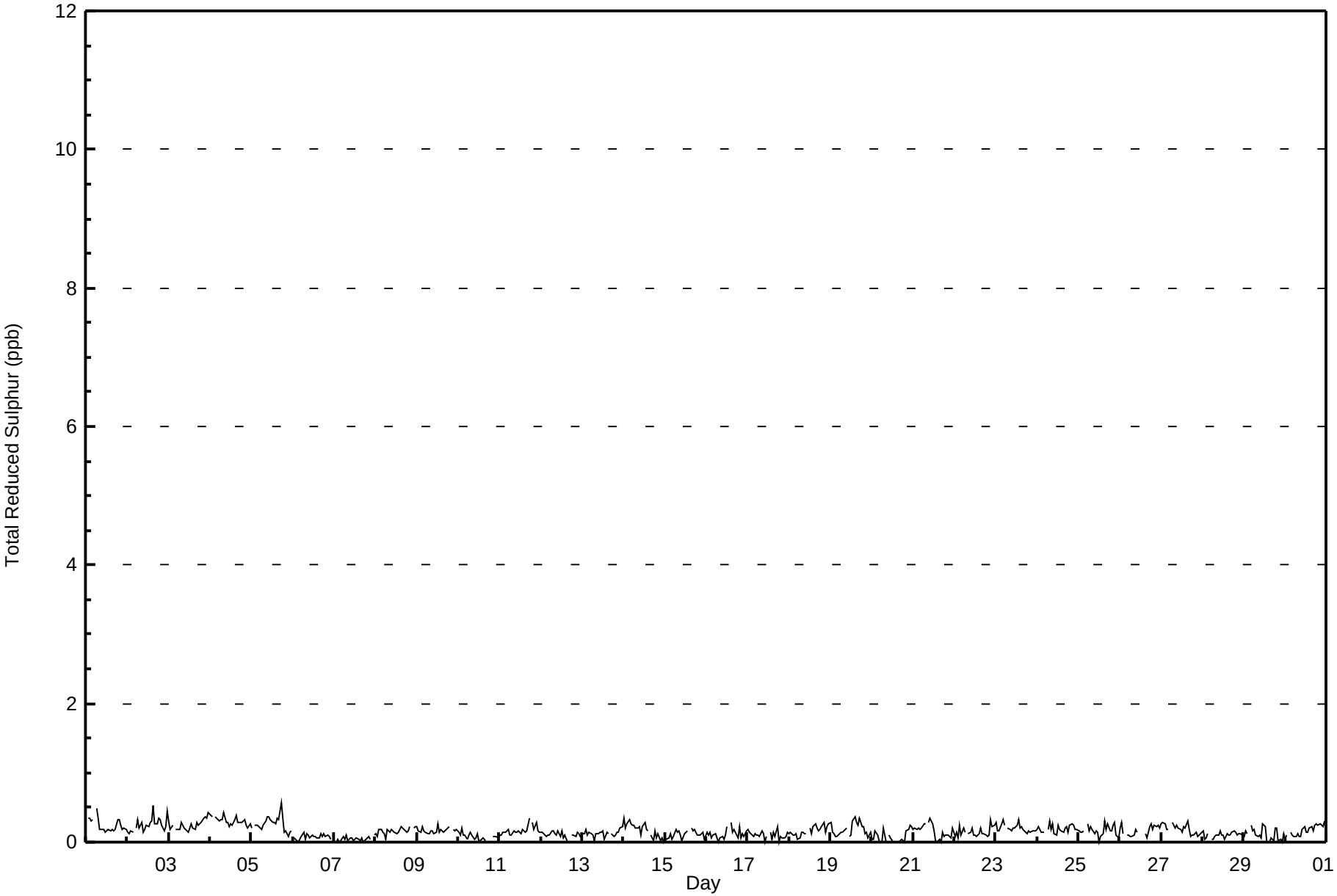
Minimum Value: 0 ppb on Nov 6 04:00 Minimum Daily Average: 0.0 ppb on Nov 7
Maximum Diurnal Average: 0.2 ppb at hour 24 Minimum Diurnal Average: 0.1 ppb at hour 14
Monthly Average: 0.16 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.1$ Median = 0.1 $Q_3 = 0.2$ $P_{90} = 0.3$ $P_{99} = 0.4$

Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	35
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	N	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
2-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.3	0.5
3-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
4-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
5-Nov	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.3	0.6
6-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	0.1
7-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	0.0	0.1
8-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	0.2
9-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	0.2	0.3
10-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
11-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.2	0.3
12-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	0.2
13-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	0.2
14-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	0.3
15-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	0.2
16-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.1	0.3
17-Nov	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
18-Nov	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
19-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	0.2	0.4
20-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	0.1	0.2
21-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	0.2	0.3
22-Nov	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
23-Nov	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
24-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	0.3
25-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
26-Nov	0	0	0	A	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0.2	0.3
27-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	0.3
28-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
29-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	0.3
30-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	0.3
	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	Diurnal Average	
	0.4	0.4	0.3	0.4	0.3	0.3	0.5	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.5	0.3	0.6	0.3	0.3	0.3	0.4	0.4	0.5	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 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Smoky Heights - Total Reduced Sulphur (TRS) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 1.1 ppb on Nov 2 16:00

Maximum Daily Average: 0.7 ppb on Nov 4

Minimum Value: 0 ppb on Nov 10 18:00

Maximum Diurnal Average: 0.6 ppb at hour 18

Monthly Average: 0.57 ppb

Minimum Daily Average: 0.5 ppb on Nov 7

Minimum Diurnal Average: 0.5 ppb at hour 12

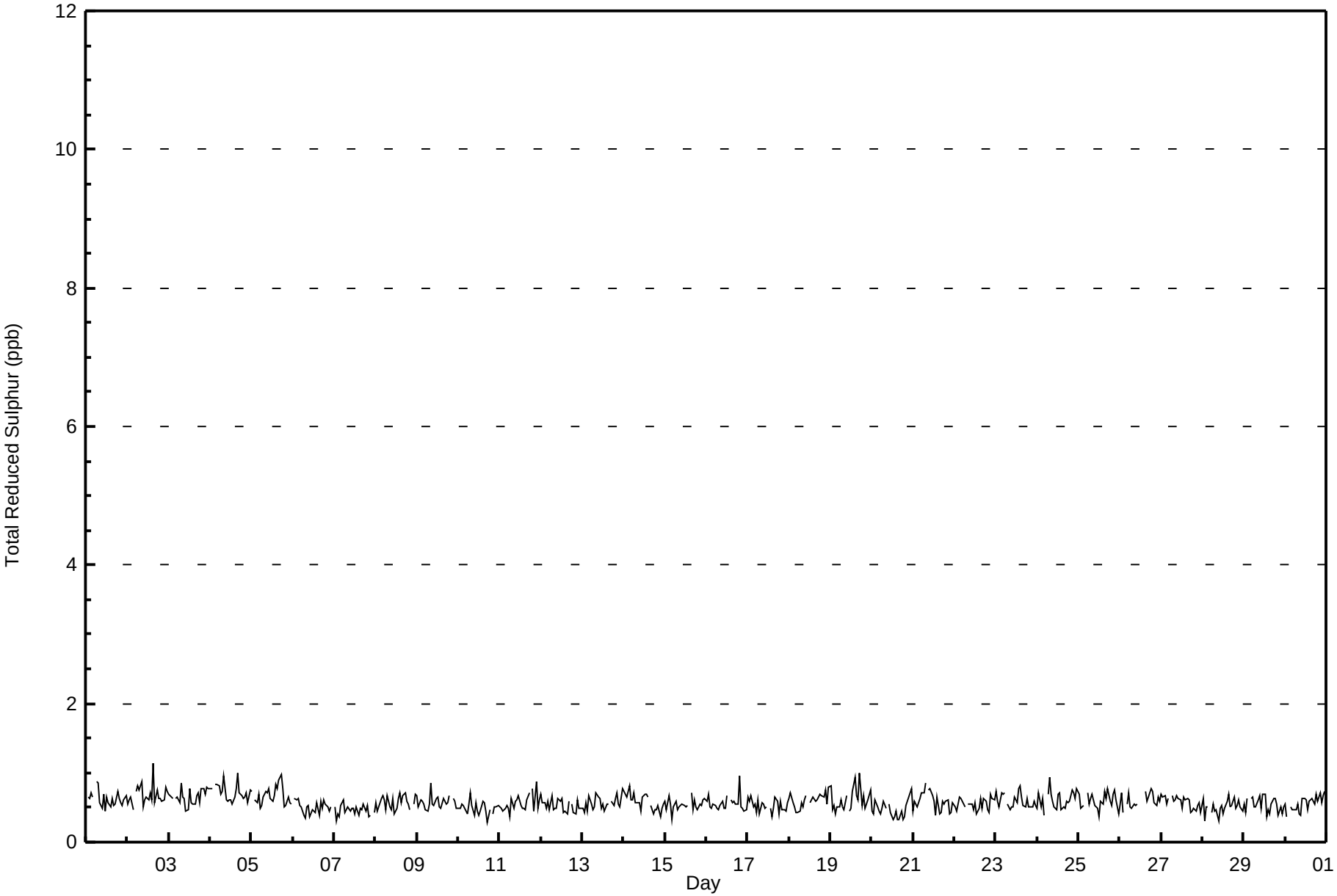
Percentiles: $P_1 = 0.3$ $P_{10} = 0.4$ $Q_1 = 0.5$ Median = 0.6 $Q_3 = 0.6$ $P_{90} = 0.7$ $P_{99} = 0.9$

Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	35
Percent Operational Time:	99.9

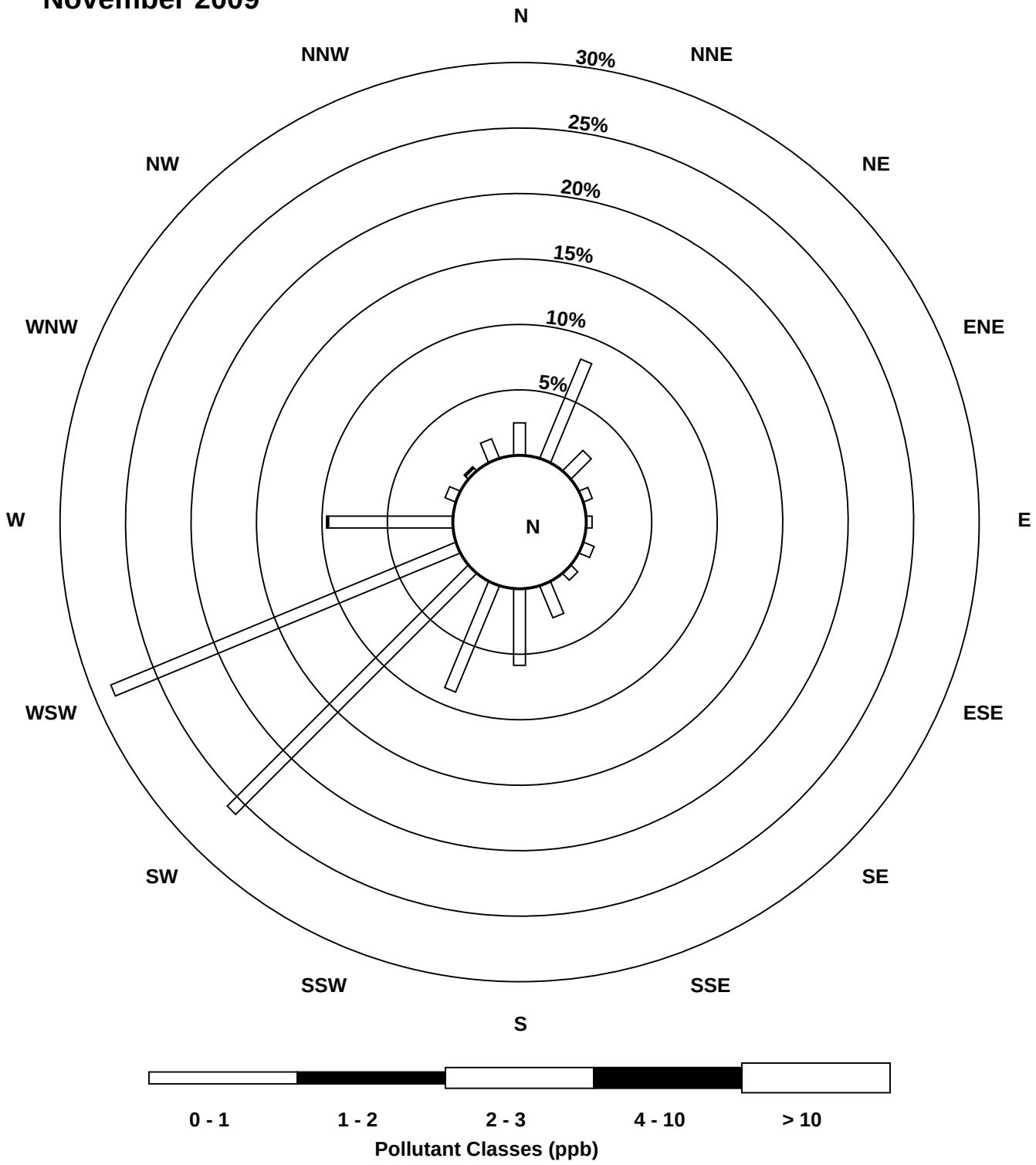
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	N	1	1	1	1	A	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.9
2-Nov	1	1	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1
3-Nov	1	1	1	A	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1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

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

Hourly Maximums for TRS at Smoky Heights
November 2009



Pollutant Rose for TRS at Smoky Heights
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Smoky Heights - Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$
November 1, 2009 to December 1, 2009

Number of Exceedences: 1-hr: 0 24-hr: 0
Maximum Value: 47.2 $\mu g/m^3$ on Nov 19 00:00
Maximum Daily Average: 10.5 $\mu g/m^3$ on Nov 19

Minimum Value: 0 $\mu g/m^3$ on Nov 1 16:00
Maximum Diurnal Average: 5.0 $\mu g/m^3$ at hour 23
Monthly Average: 2.86 $\mu g/m^3$

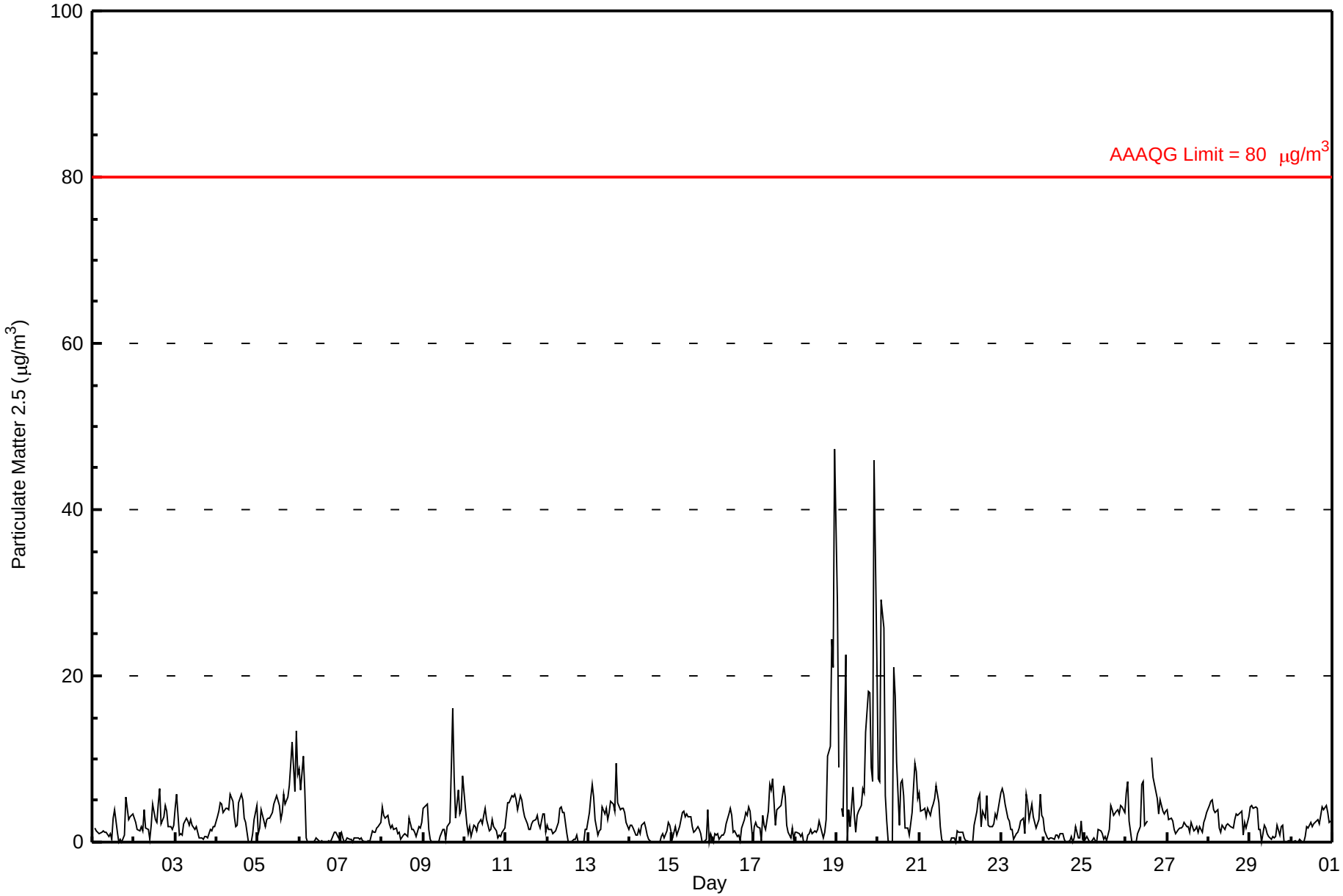
Minimum Daily Average: 0.6 $\mu g/m^3$ on Nov 7
Minimum Diurnal Average: 1.5 $\mu g/m^3$ at hour 7
Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 0.8 Median = 1.9 Q_3 = 3.7 P_{90} = 5.7 P_{99} = 21.3

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	N	2	1	1	1	1	1	1	1	1	1	0	3	4	1	0	0	0	1	5	4	3	3	3	1.7	5.4
2-Nov	3	2	2	1	2	1	4	2	1	0	2	5	3	2	5	6	2	3	4	4	2	2	1	2	2.6	6.5
3-Nov	4	6	1	1	1	2	3	3	2	3	2	2	2	1	1	1	0	1	1	0	2	1	2	2	1.7	5.7
4-Nov	3	4	5	5	4	4	4	4	6	5	3	2	2	5	6	5	3	2	0	0	0	1	3	4	3.3	5.8
5-Nov	1	2	4	2	2	3	3	3	4	5	5	6	4	3	4	6	5	5	7	9	12	6	13	8	5.0	13.3
6-Nov	9	6	10	6	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1.6	10.3
7-Nov	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	1	2	2	2	0.6	2.4
8-Nov	4	3	3	3	2	2	2	2	2	1	1	0	1	1	1	1	3	1	2	1	1	2	2	2	1.8	4.2
9-Nov	4	4	5	2	0	0	0	0	0	0	1	2	1	0	2	2	9	16	8	3	6	3	4	8	3.3	16.1
10-Nov	4	2	1	2	1	2	2	1	2	3	2	3	4	3	1	2	3	2	1	1	1	1	1	2	1.9	4.1
11-Nov	3	5	5	6	5	6	5	4	6	5	4	3	2	1	2	2	3	3	3	2	2	3	3	1	3.5	5.7
12-Nov	2	2	1	1	1	1	2	4	4	4	4	1	0	0	0	0	0	1	0	0	0	0	2	2	1.3	4.2
13-Nov	4	5	7	5	3	1	1	2	4	3	4	3	4	5	5	4	9	5	4	4	4	3	2	1	3.9	9.5
14-Nov	2	2	2	1	1	1	1	2	2	2	1	0	0	0	0	0	0	0	1	1	1	1	2	2	1.0	2.4
15-Nov	1	1	2	1	1	2	4	4	3	3	3	3	2	1	1	2	2	1	0	0	0	4	0	1	1.8	3.8
16-Nov	0	1	1	1	0	1	1	1	2	3	4	3	1	1	1	1	0	2	3	4	3	4	4	0	1.8	4.3
17-Nov	2	2	2	2	0	3	2	2	4	7	6	8	2	4	4	4	4	7	5	2	1	1	2	0	3.2	7.6
18-Nov	1	1	1	1	1	0	0	1	1	1	1	1	1	1	3	1	1	1	3	10	12	24	21	47	5.7	47.2
19-Nov	29	9	BD	4	3	23	0	4	2	7	3	1	3	4	4	6	6	13	18	18	9	7	46	22	10.5	46.0
20-Nov	8	7	29	26	6	3	0	0	0	21	18	10	2	7	7	6	2	2	1	2	4	9	8	5	7.6	29.2
21-Nov	6	4	4	4	3	4	3	4	5	5	7	5	2	0	0	0	0	0	0	0	0	0	1	1	2.5	6.7
22-Nov	1	1	1	0	0	0	0	0	2	4	5	6	2	4	3	6	2	2	2	2	3	3	4	6	2.4	6.0
23-Nov	6	6	5	3	2	2	2	0	1	1	2	3	3	1	6	5	3	5	3	2	2	3	6	3	3.0	6.4
24-Nov	3	1	0	0	1	1	0	1	1	1	1	1	0	0	0	0	1	0	0	2	1	1	2	0	0.8	2.8
25-Nov	0	1	0	0	0	0	0	0	2	1	1	0	1	0	1	4	4	3	4	4	3	4	4	4	1.8	4.4
26-Nov	6	7	3	0	0	0	0	1	2	7	7	2	3	C	C	10	8	6	5	3	5	4	3	4	3.9	10.1
27-Nov	4	3	3	3	2	1	2	2	2	2	2	2	2	1	2	1	2	2	1	2	1	2	3	4	2.0	3.9
28-Nov	4	5	5	4	4	4	2	1	2	1	2	2	2	2	2	3	3	3	4	4	1	2	2	3	2.8	5.0
29-Nov	4	4	4	4	4	2	1	0	2	2	1	1	0	1	0	1	2	1	2	2	0	0	0	0	1.6	4.5
30-Nov	0	0	0	0	0	0	0	0	1	2	2	2	2	2	2	3	2	3	4	4	4	3	2	2	1.8	4.5
	4.1	3.3	3.6	3.0	1.7	2.3	1.5	1.6	2.2	3.3	3.2	2.5	1.8	1.9	2.2	2.7	2.6	3.0	2.9	3.1	2.9	3.4	5.0	4.8	Diurnal Average	
	28.7	8.9	29.2	25.8	5.5	22.6	5.1	4.1	5.8	20.9	17.7	9.6	4.4	7.1	7.4	10.1	9.5	16.1	18.1	18.0	12.1	24.4	46.0	47.2	Diurnal Maximum	

C - Calibration N - Not Valid BD - Baseline Drift
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Hourly Averages for $PM_{2.5}$ at Smoky Heights
November 2009



Maximum Value: 228.4 $\mu g/m^3$ on Nov 19 23:00

Maximum Daily Average: 34.4 $\mu g/m^3$ on Nov 19

Minimum Value: 0 $\mu g/m^3$ on Nov 9 07:00

Maximum Diurnal Average: 15.9 $\mu g/m^3$ at hour 23

Monthly Average: 6.52 $\mu g/m^3$

Minimum Daily Average: 2.2 $\mu g/m^3$ on Nov 7

Minimum Diurnal Average: 3.6 $\mu g/m^3$ at hour 7

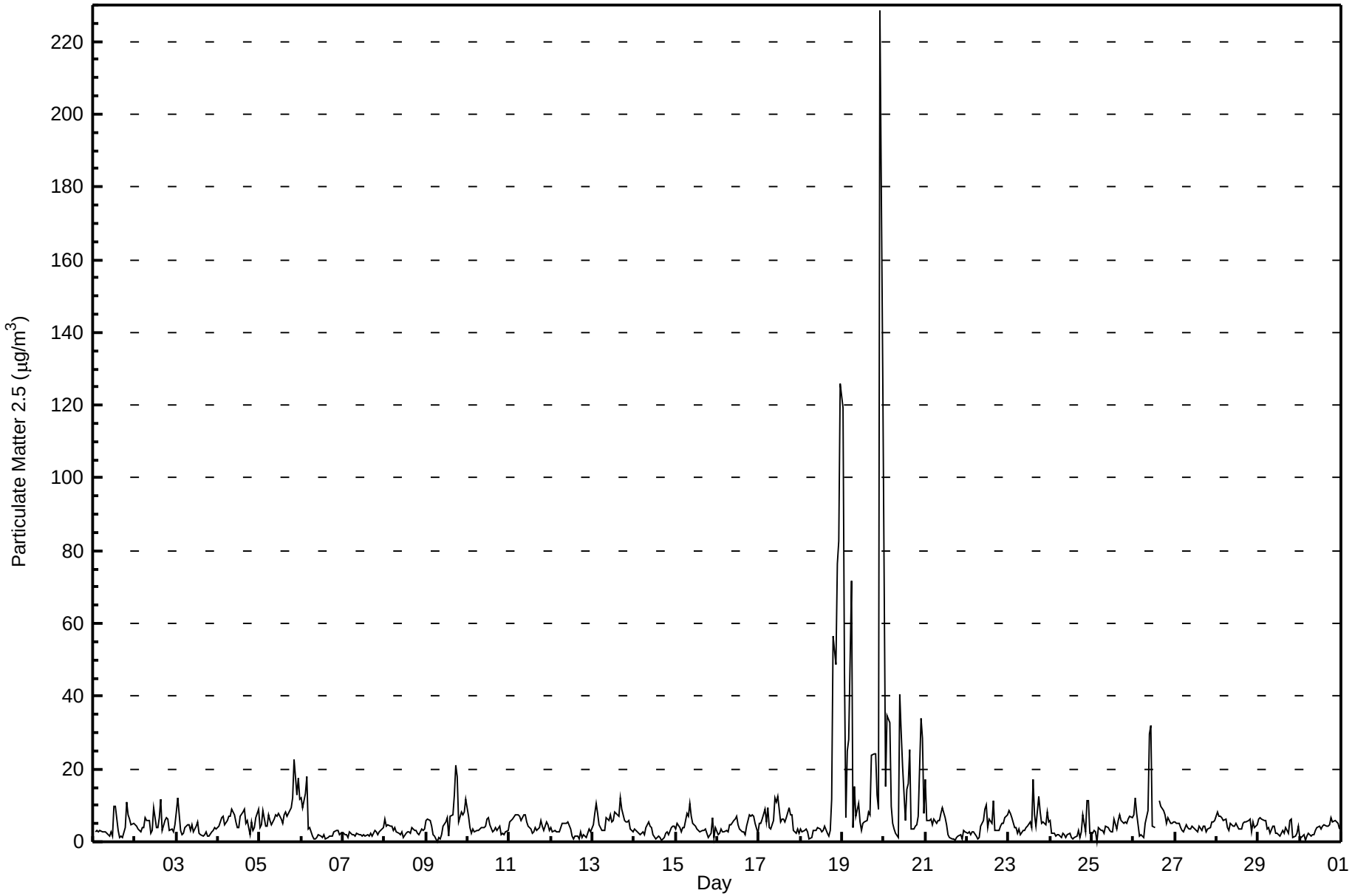
Percentiles: $P_1 = 0.7$ $P_{10} = 1.6$ $Q_1 = 2.6$ Median = 4.1 $Q_3 = 6.1$ $P_{90} = 9.2$ $P_{99} = 69.0$

Hours in Service:	720
Hours of Data:	717
Hours of Missing Data:	3
Hours of Calibration:	2
Percent Operational Time:	99.9

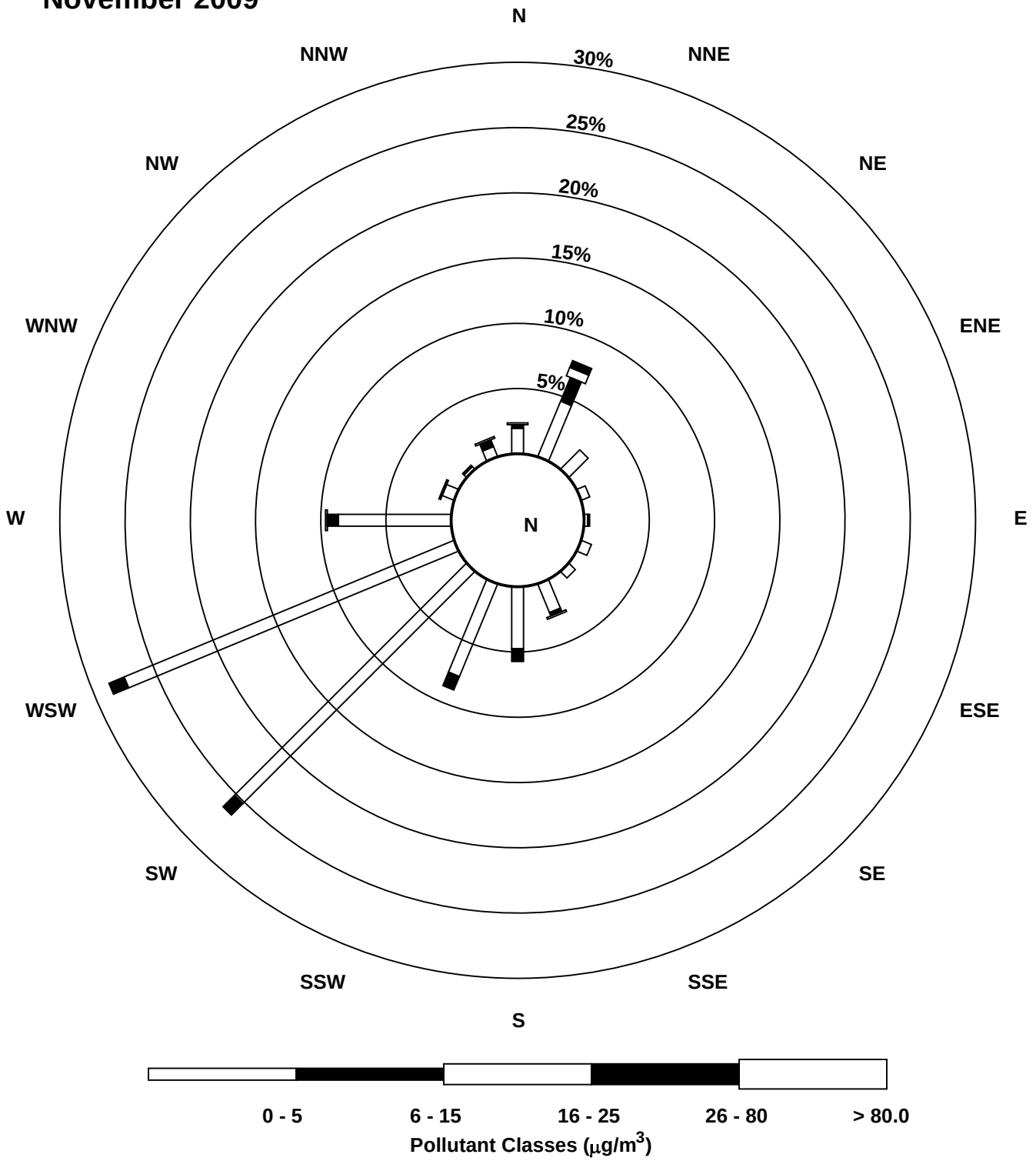
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	N	3	3	3	3	3	3	3	2	2	3	1	10	10	3	1	2	1	4	11	7	6	5	5	4.0	10.9
2-Nov	5	4	3	3	4	4	7	6	6	2	3	9	4	4	7	12	3	6	6	6	3	4	3	5	4.9	11.7
3-Nov	8	12	3	2	2	4	5	5	3	5	3	4	5	2	2	2	2	3	2	2	3	3	4	4	3.6	12.1
4-Nov	4	6	7	7	5	6	7	7	9	7	5	4	4	7	8	9	5	6	2	6	3	4	7	9	5.9	9.1
5-Nov	4	5	8	4	4	7	6	5	6	7	7	8	6	5	7	8	7	8	9	12	23	13	18	12	8.3	22.7
6-Nov	12	9	13	18	4	4	2	1	1	1	2	1	1	2	1	1	1	2	1	3	3	3	2	2	3.8	17.8
7-Nov	2	2	2	1	3	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	2	3	3	4	2.2	4.1
8-Nov	6	4	5	4	4	3	4	3	3	2	3	1	2	3	3	3	4	3	3	2	2	3	3	4	3.2	6.4
9-Nov	6	6	6	4	2	1	0	1	1	2	4	6	7	2	7	7	13	21	18	5	8	8	8	12	6.4	20.9
10-Nov	7	4	2	3	3	3	3	4	4	4	4	6	7	5	3	3	4	3	4	2	2	2	3	3	3.7	7.1
11-Nov	5	6	6	8	7	7	7	6	8	7	5	4	3	2	3	4	3	4	6	4	3	6	5	3	5.2	7.6
12-Nov	4	3	3	3	3	3	5	5	5	5	5	4	2	1	1	1	1	3	1	2	1	2	4	3	2.9	5.3
13-Nov	5	8	10	8	5	3	3	3	7	6	7	5	6	8	7	7	12	9	6	5	6	6	4	3	6.2	12.2
14-Nov	3	3	3	2	2	3	2	4	6	4	4	2	1	1	2	1	0	1	2	3	2	4	4	4	2.6	5.5
15-Nov	3	5	4	3	4	4	8	7	10	7	5	4	4	3	3	3	3	3	2	1	2	7	1	4	4.2	10.4
16-Nov	2	2	3	3	3	3	3	5	5	6	6	7	5	4	3	3	2	4	7	7	7	7	5	2	4.3	7.5
17-Nov	5	5	6	9	6	9	4	3	6	12	11	13	5	6	6	6	6	9	7	7	3	2	4	2	6.4	12.6
18-Nov	3	3	3	3	3	1	1	3	3	3	4	3	3	3	4	2	2	3	12	56	49	76	83	126	18.9	126.0
19-Nov	119	48	7	25	28	72	4	15	7	11	5	3	5	5	6	8	7	24	24	24	13	9	228	129	34.4	228.4
20-Nov	72	15	35	33	10	5	3	2	1	40	30	20	6	14	16	25	3	3	4	5	7	34	29	8	17.6	71.9
21-Nov	17	6	6	6	5	6	5	6	6	8	9	6	5	2	1	1	1	1	1	2	2	1	3	3	4.5	17.1
22-Nov	2	3	2	3	3	1	1	1	4	6	9	10	4	6	5	11	3	3	3	4	5	5	7	7	4.6	11.4
23-Nov	8	8	7	4	4	3	4	2	3	3	4	4	5	4	17	7	4	12	8	5	5	5	8	6	5.9	17.3
24-Nov	6	2	2	2	2	2	1	2	2	1	2	2	1	1	1	2	3	1	3	7	3	11	11	2	3.1	11.5
25-Nov	2	3	3	0	4	3	3	2	4	4	3	3	3	6	4	6	7	6	5	6	5	6	7	7	4.2	7.4
26-Nov	7	12	8	1	2	1	1	5	9	29	32	4	4	C	C	11	10	9	7	5	7	5	5	5	8.2	31.8
27-Nov	5	5	5	4	3	3	5	4	4	4	4	3	3	3	4	3	4	4	3	4	4	5	5	6	4.1	5.8
28-Nov	8	7	7	7	6	6	4	3	5	4	4	5	4	4	3	5	5	5	6	6	3	6	4	5	5.1	8.2
29-Nov	6	7	6	6	6	4	4	2	4	4	2	2	2	3	3	2	4	2	6	6	1	2	2	4	3.8	6.6
30-Nov	1	1	2	1	2	2	1	2	2	3	4	4	4	4	5	4	4	5	7	6	6	6	5	4	3.5	6.6
	11.8	6.9	6.0	6.0	4.6	5.9	3.6	3.9	4.6	6.7	6.5	5.1	4.0	4.2	4.7	5.4	4.3	5.6	5.8	7.2	6.4	8.4	15.9	13.0	Diurnal Average	
	119.3	47.7	34.8	32.9	28.0	71.8	7.9	15.3	10.4	40.4	31.8	20.5	9.7	14.4	17.3	25.3	13.0	23.9	24.1	56.4	48.6	76.2	228.4	128.9	Diurnal Maximum	

C - Calibration N - Not Valid

Hourly Maximums for $PM_{2.5}$ at Smoky Heights
November 2009



Pollutant Rose for $PM_{2.5}$ at Smoky Heights
November 2009



Smoky Heights - External Temperature (ET) - ^{o}C
November 1, 2009 to December 1, 2009

Maximum Value: 6.7 ^{o}C on Nov 5 22:00

Maximum Daily Average: 3.7 ^{o}C on Nov 6

Minimum Value: -14 ^{o}C on Nov 22 08:00

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

Monthly Average: -2.17 ^{o}C

Minimum Daily Average: -8.8 ^{o}C on Nov 22

Minimum Diurnal Average: -4.4 ^{o}C at hour 9

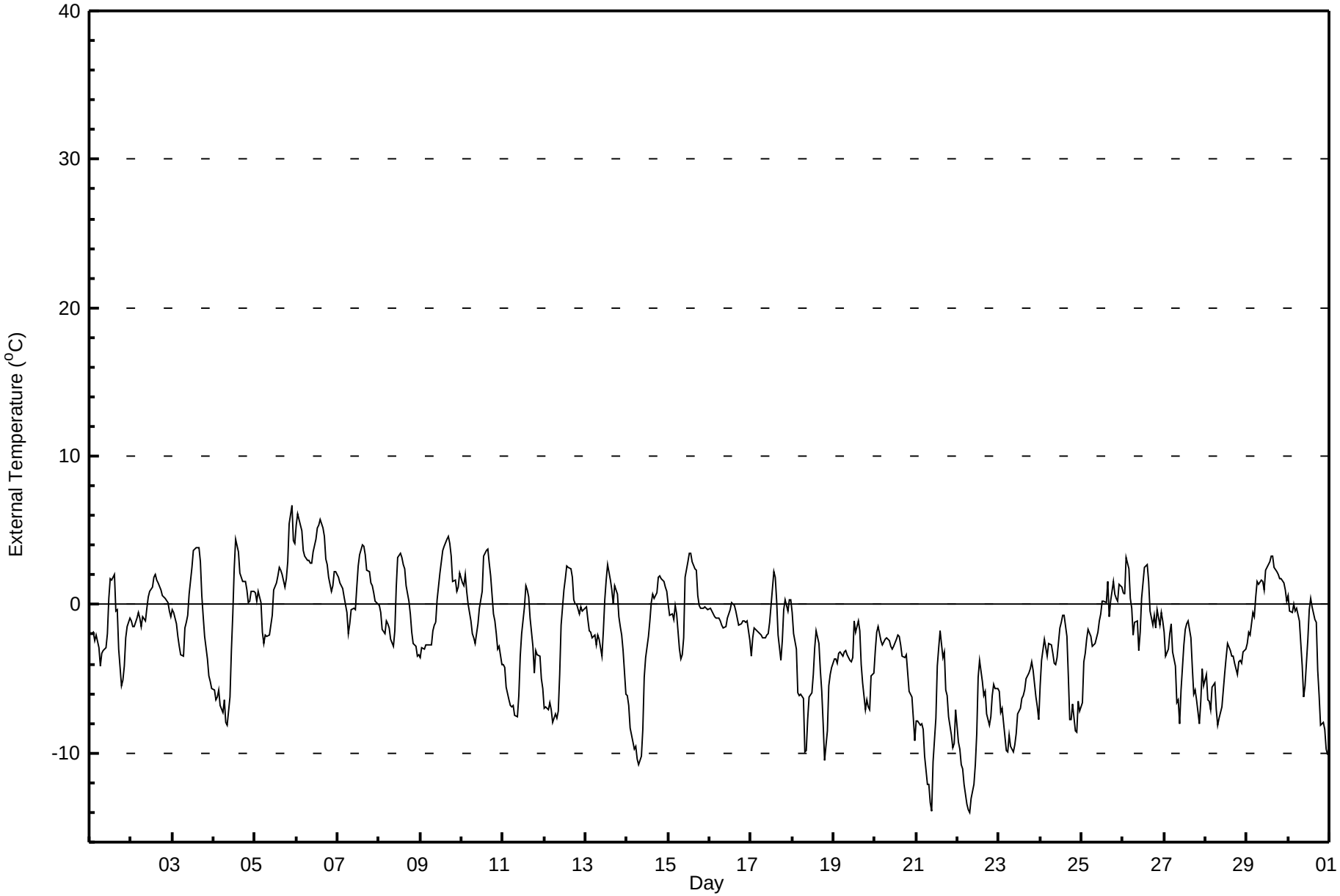
Percentiles: P_1 = -12.1 P_{10} = -7.6 Q_1 = -4.5 Median = -1.8 Q_3 = 0.5 P_{90} = 2.4 P_{99} = 5.3

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) 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	N	-2	-2	-2	-2	-3	-4	-3	-3	-3	-2	0	2	2	2	0	0	-3	-5	-5	-4	-2	-1	-1	-1.9	2.1
2-Nov	-1	-1	-1	-1	-1	-1	-2	-1	-1	0	1	1	1	2	2	2	2	1	1	1	0	0	0	-1	0.0	2.0
3-Nov	0	-1	-1	-2	-3	-3	-3	-2	-1	-1	1	3	4	4	4	4	3	1	-1	-2	-4	-5	-5	-6	-0.7	3.8
4-Nov	-6	-6	-6	-6	-7	-7	-6	-8	-8	-6	-3	-1	2	4	4	2	2	2	2	1	0	0	1	1	-2.1	4.4
5-Nov	1	0	1	0	-2	-3	-2	-2	-2	-1	-1	1	1	2	3	2	2	1	2	3	5	7	4	4	1.1	6.7
6-Nov	5	6	5	5	4	3	3	3	3	3	4	4	5	5	6	5	5	3	3	2	1	1	2	2	3.7	6.1
7-Nov	2	1	1	1	1	-1	-2	-1	0	0	0	1	3	3	4	4	3	2	2	1	1	1	0	0	1.2	4.0
8-Nov	0	0	-2	-2	-1	-1	-2	-2	-3	-2	1	3	3	3	3	2	1	0	-1	-2	-3	-3	-3	-3	-0.5	3.4
9-Nov	-4	-3	-3	-3	-3	-3	-3	-2	-1	-1	0	2	3	4	4	4	5	4	3	2	2	1	1	2	0.5	4.6
10-Nov	1	1	2	1	0	-1	-2	-2	-3	-1	0	0	1	3	4	4	3	2	-1	-1	-2	-3	-3	-4	0.0	3.7
11-Nov	-4	-4	-6	-6	-7	-7	-7	-7	-8	-6	-4	-2	0	1	1	0	-1	-3	-5	-3	-3	-3	-5	-6	-3.9	1.2
12-Nov	-7	-7	-7	-7	-7	-8	-7	-8	-7	-5	-1	1	2	3	2	2	2	0	0	0	-1	0	0	0	-2.5	2.6
13-Nov	0	-1	-2	-2	-2	-2	-3	-2	-2	-3	-2	0	2	3	2	1	0	1	1	-1	-1	-2	-3	-6	-1.1	2.7
14-Nov	-6	-7	-8	-9	-10	-10	-10	-11	-10	-8	-5	-4	-2	-1	0	1	0	1	2	2	2	2	1	1	-3.8	2.0
15-Nov	0	-1	-1	-1	0	-1	-3	-4	-3	-2	2	3	3	3	3	2	2	1	0	0	0	0	0	0	0.1	3.5
16-Nov	0	0	-1	-1	-1	-1	-1	-1	-2	-1	-1	-1	0	0	0	0	-1	-1	-1	-1	-1	-1	-1	-2	-0.9	0.1
17-Nov	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-1	1	2	2	0	-2	-4	-2	0	0	0	0	0	-1.1	2.2
18-Nov	-1	-2	-3	-6	-6	-6	-6	-10	-10	-8	-6	-6	-5	-3	-2	-3	-4	-6	-8	-11	-9	-6	-5	-4	-5.6	-0.5
19-Nov	-4	-4	-4	-3	-3	-3	-3	-3	-3	-4	-4	-4	-1	-2	-1	-2	-4	-5	-7	-6	-7	-7	-5	-5	-3.9	-1.1
20-Nov	-3	-2	-1	-2	-3	-2	-2	-2	-2	-3	-3	-3	-2	-2	-2	-3	-3	-4	-3	-5	-6	-6	-8	-9	-3.4	-1.5
21-Nov	-8	-8	-8	-8	-8	-10	-12	-12	-13	-14	-11	-8	-4	-3	-2	-4	-3	-6	-6	-8	-9	-10	-9	-7	-7.9	-1.8
22-Nov	-9	-10	-11	-11	-12	-13	-14	-14	-13	-12	-11	-9	-5	-4	-5	-6	-6	-7	-8	-8	-6	-5	-6	-6	-8.8	-3.7
23-Nov	-6	-7	-7	-9	-10	-10	-9	-10	-10	-9	-9	-7	-7	-6	-6	-6	-5	-5	-4	-4	-4	-6	-7	-8	-7.1	-3.9
24-Nov	-6	-4	-2	-3	-3	-3	-3	-3	-4	-4	-4	-2	-1	-1	-1	-2	-5	-8	-8	-7	-9	-9	-7	-7	-4.3	-0.7
25-Nov	-7	-4	-3	-2	-2	-2	-3	-3	-3	-2	-1	-1	0	0	0	2	-1	0	2	1	0	0	1	1	-1.0	1.5
26-Nov	1	1	3	2	0	0	-2	-1	-1	-3	-2	0	3	3	3	2	0	-1	-1	-2	0	-1	-1	-1	0.0	3.1
27-Nov	-2	-3	-3	-2	-1	-3	-4	-7	-6	-8	-6	-3	-2	-1	-1	-2	-4	-6	-6	-6	-8	-7	-4	-5	-4.2	-1.1
28-Nov	-5	-6	-6	-7	-6	-5	-7	-8	-8	-7	-6	-5	-4	-3	-3	-4	-3	-4	-5	-4	-4	-4	-3	-3	-4.9	-2.6
29-Nov	-3	-2	-2	-1	-1	0	2	1	2	2	1	2	3	3	3	3	3	2	2	2	2	1	1	0	1.1	3.3
30-Nov	1	0	-1	0	0	0	-1	-3	-4	-6	-5	-2	0	0	0	-1	-1	-4	-6	-8	-8	-8	-10	-10	-3.3	0.6
	-2.5	-2.6	-2.7	-3.0	-3.2	-3.6	-4.0	-4.3	-4.4	-4.0	-2.6	-1.1	0.2	0.8	0.9	0.4	-0.4	-1.5	-2.0	-2.3	-2.5	-2.5	-2.5	-2.8	Diurnal Average	
	5.4	6.1	5.3	5.0	3.7	3.3	3.0	3.0	2.8	2.8	3.6	4.4	5.1	5.4	5.7	5.2	4.6	4.2	3.3	2.9	5.4	6.7	4.3	4.1	Diurnal Maximum	

N - Not Valid

Hourly Averages for External Temperature at Smoky Heights
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Smoky Heights
November 1, 2009 to December 1, 2009
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	N	9	5	6	2	4	6	7	9	8	7	5	1	2	2	9	5	2	3	3	4	5	5	2	1.2	8.9
Dir	N	272	276	197	267	269	221	23	9	16	24	36	148	255	167	141	145	248	257	278	260	231	242	249	272.9	8.6
2 Spd	3	5	4	1	4	4	8	4	6	8	8	8	8	10	7	9	5	3	4	4	5	2	2	3	2.7	10.0
Dir	72	22	349	17	294	229	226	229	211	235	245	239	220	247	255	263	329	11	11	29	54	177	6	272	259.2	246.9
3 Spd	7	8	11	11	13	13	13	17	19	19	25	24	22	22	25	19	15	13	12	12	10	10	11	10	14.6	24.9
Dir	225	219	239	230	219	212	218	239	236	253	254	245	249	249	254	255	244	250	252	248	251	259	260	255	244.3	254.4
4 Spd	11	11	14	8	11	7	8	10	9	7	6	3	2	3	7	8	5	5	10	9	7	5	9	11	2.1	14.3
Dir	257	248	259	183	194	215	233	204	212	204	194	221	221	98	25	36	56	50	66	55	39	78	116	140	187.9	258.7
5 Spd	7	1	6	7	2	7	6	8	6	3	2	1	4	4	3	4	6	2	3	12	9	13	12	14	3.9	13.7
Dir	159	166	219	264	120	210	224	201	200	118	250	13	223	279	15	18	26	308	227	203	226	194	190	181	205.1	181.4
6 Spd	14	16	14	31	25	26	19	19	22	27	26	25	28	28	26	25	25	21	25	19	13	16	26	30	21.5	31.4
Dir	173	172	177	251	233	224	229	235	247	245	235	221	227	238	244	244	244	235	234	235	221	225	238	235	231.6	251.4
7 Spd	31	27	25	25	27	19	16	22	24	20	20	23	25	30	33	31	31	27	28	23	24	22	20	18	24.6	33.4
Dir	223	226	232	233	230	232	236	225	230	233	231	232	236	233	235	233	231	232	231	234	229	237	236	237	231.9	235.4
8 Spd	15	10	8	6	7	14	18	13	8	15	14	18	19	18	12	8	9	11	11	9	8	3	9	12	11.2	19.5
Dir	231	252	249	232	236	234	240	227	240	233	230	230	230	222	223	222	240	221	203	244	232	303	216	227	231.1	229.9
9 Spd	12	7	10	7	4	5	3	5	2	3	4	8	10	11	10	10	10	11	7	4	3	8	17	28	6.6	28.0
Dir	226	238	208	223	234	249	238	192	175	200	189	166	171	154	156	164	158	154	169	166	212	235	238	246	201.7	246.4
10 Spd	25	19	21	22	20	18	7	3	7	5	6	9	16	16	16	14	13	15	12	16	15	17	15	15	13.4	24.6
Dir	240	243	233	238	251	236	214	231	226	205	221	190	185	198	200	195	209	232	249	243	245	229	238	236	227.4	240.5
11 Spd	16	15	9	5	3	8	5	11	8	9	9	10	15	15	17	13	10	11	11	14	17	16	8	10	10.6	17.2
Dir	236	232	267	201	222	180	213	198	234	243	225	234	234	238	242	245	243	248	238	241	251	251	229	210	235.1	251.5
12 Spd	7	9	13	12	11	10	8	4	3	3	4	12	18	20	24	31	34	29	31	32	27	26	22	19	16.7	34.1
Dir	225	232	233	212	207	228	241	233	209	241	202	218	228	246	250	250	243	236	237	241	231	231	223	212	233.7	243.3
13 Spd	23	23	19	13	14	18	12	12	4	3	6	9	4	4	3	2	8	21	27	28	28	25	18	14	11.4	28.2
Dir	206	198	193	188	194	189	187	186	248	224	198	197	239	220	26	118	255	259	258	256	260	279	276	246	230.6	256.5
14 Spd	15	15	15	13	13	14	10	13	13	12	18	16	14	12	15	16	19	19	17	16	16	18	18	14	12.6	19.2
Dir	247	254	258	249	235	238	237	234	230	209	195	189	174	157	163	168	176	174	177	162	162	183	186	176	197.8	174.3
15 Spd	11	10	7	11	12	10	8	8	5	13	12	11	12	7	8	7	2	13	13	15	14	13	14	14	1.7	15.4
Dir	161	171	169	167	172	202	252	258	281	244	240	236	229	245	242	267	352	358	20	17	30	34	34	17	264.3	17.1
16 Spd	17	15	14	13	13	11	10	10	11	10	8	7	11	7	6	8	6	3	6	7	8	4	7	3	4.9	16.6
Dir	16	357	352	355	3	41	42	32	28	22	341	281	253	233	218	178	171	189	17	15	34	105	289	340	1.7	16.0
17 Spd	1	5	7	4	7	8	9	15	16	12	7	12	12	16	16	14	9	10	17	20	24	25	35	28	6.6	35.3
Dir	242	42	79	46	3	78	21	30	18	21	100	209	207	216	203	207	242	237	215	209	211	217	224	219	215.6	224.4
18 Spd	28	21	18	17	15	19	14	10	12	11	10	11	11	13	16	15	16	14	3	4	6	8	9	6	10.0	28.2
Dir	218	244	243	225	237	218	223	227	220	222	233	239	225	211	221	224	222	231	272	343	19	29	22	21	230.7	217.8
19 Spd	3	5	8	8	8	8	7	4	5	3	6	8	8	11	8	8	8	7	7	4	3	3	2	5	2.6	11.4
Dir	33	29	21	45	24	18	25	347	32	10	232	229	236	256	246	242	272	266	259	335	316	258	287	17	307.6	256.4
20 Spd	11	11	9	13	17	16	19	16	14	12	13	14	11	10	10	8	8	7	5	7	7	3	4	3	8.5	18.8
Dir	21	19	26	22	26	36	33	27	24	12	10	15	20	12	358	346	337	272	291	199	255	333	23	324	12.3	32.6
21 Spd	6	1	3	7	7	11	11	7	9	10	7	11	14	24	17	14	17	15	16	14	16	15	16	19	11.2	24.2
Dir	31	10	212	238	205	234	240	236	232	238	259	243	236	243	251	223	251	270	247	255	260	261	255	259	247.3	242.9
22 Spd	16	14	9	9	9	8	8	9	10	8	7	5	1	1	5	5	5	3	2	3	7	7	9	10	5.5	15.7
Dir	262	259	241	224	238	255	236	235	222	214	235	226	269	32	27	15	358	356	280	266	244	242	226	223	245.4	261.7

Peace Airshed Zone Association
Summary of Hourly Averages

Smoky Heights
November 1, 2009 to December 1, 2009
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	9	11	9	7	5	10	13	15	16	8	8	8	5	2	2	7	2	6	2	5	10	11	13	14	6.7	15.6
Dir	198	219	227	239	235	215	246	272	264	250	184	184	236	207	330	266	278	82	39	251	239	242	237	198	233.0	264.0
24 Spd	18	22	24	22	21	21	24	24	26	25	23	21	21	21	16	12	9	9	8	7	2	0	5	4	16.0	25.6
Dir	234	249	251	245	244	253	255	261	260	260	255	247	245	258	249	246	263	252	240	270	281	181	233	261	251.9	260.3
25 Spd	2	2	4	6	4	7	8	7	8	9	10	9	9	6	8	7	2	8	5	5	8	10	12	10	6.4	12.0
Dir	229	194	226	228	205	209	218	221	248	242	233	232	234	229	267	275	256	262	240	221	217	202	221	185	228.4	220.8
26 Spd	13	10	19	19	15	14	13	17	15	4	10	9	10	14	15	21	15	13	12	14	16	13	21	19	13.8	21.0
Dir	187	235	234	245	260	224	244	227	246	268	228	230	218	236	236	241	263	247	243	240	238	255	249	252	239.9	248.7
27 Spd	17	18	20	20	19	18	11	13	14	14	17	21	20	17	21	15	13	10	18	14	14	15	15	12	15.6	21.1
Dir	253	265	259	251	256	269	242	225	242	260	256	248	248	245	255	253	240	227	226	238	245	228	231	202	246.3	255.0
28 Spd	17	12	12	13	16	11	15	10	9	8	9	8	8	7	9	9	8	5	6	5	5	7	8	11	8.1	17.5
Dir	200	229	231	235	234	243	224	223	199	168	175	137	142	117	175	179	185	207	237	226	182	233	219	218	206.7	199.8
29 Spd	12	13	13	15	13	11	12	9	13	11	11	15	15	17	20	22	18	18	23	25	28	29	29	20	16.9	28.9
Dir	236	229	223	242	252	257	239	229	233	256	256	240	218	222	250	246	259	256	238	242	248	250	245	256	243.6	249.6
30 Spd	19	14	19	24	17	15	14	13	11	14	14	16	19	18	15	16	15	16	14	15	17	13	13	15	15.1	24.3
Dir	264	254	261	247	268	267	255	261	247	239	259	266	290	300	281	272	265	259	247	260	261	251	248	262	262.5	246.5
Spd	9.4	8.6	9.0	9.5	8.3	8.6	8.0	7.2	7.4	7.2	8.2	9.6	10.5	10.4	10.0	9.7	8.7	8.8	9.0	8.8	8.9	9.1	10.4	9.8	Diurnal Average	
Dir	227.4	239.3	240.5	237.3	240.0	232.6	238.0	237.2	245.3	245.3	236.9	230.5	229.5	234.8	239.0	235.5	240.4	241.4	237.9	241.4	241.0	238.2	236.6	231.6		
Spd	31.5	27.2	25.1	31.4	26.9	26.2	24.0	23.7	25.6	26.6	26.0	25.4	28.2	30.4	33.4	31.3	34.1	29.4	31.5	31.9	28.0	28.9	35.3	29.6	Diurnal Maximum	
Dir	223.1	225.9	232.2	251.4	230.2	223.7	254.7	261.2	260.3	244.7	234.7	220.9	226.8	233.3	235.4	249.6	243.3	235.9	236.5	240.9	259.7	249.6	224.4	235.0		

Maximum Speed Value: 35 km/h on Nov 17 23:00
Maximum Daily Speed Average: 24.6 km/h on Nov 7
Maximum Diurnal Speed Average: 10.5 km/h at hour 13

Minimum Speed Value: 0 km/h on Nov 24 22:00
Minimum Daily Speed Average: 1.2 km/h on Nov 1
Minimum Diurnal Speed Average: 7.2 km/h at hour 10

Monthly Average Velocity: 8.94 km/h 237.12 deg

Speed Percentiles: $P_1 = 1.3$ $P_{10} = 3.7$ $Q_1 = 7.1$ Median = 11.2 $Q_3 = 15.9$ $P_{90} = 22.2$ $P_{99} = 31.4$

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

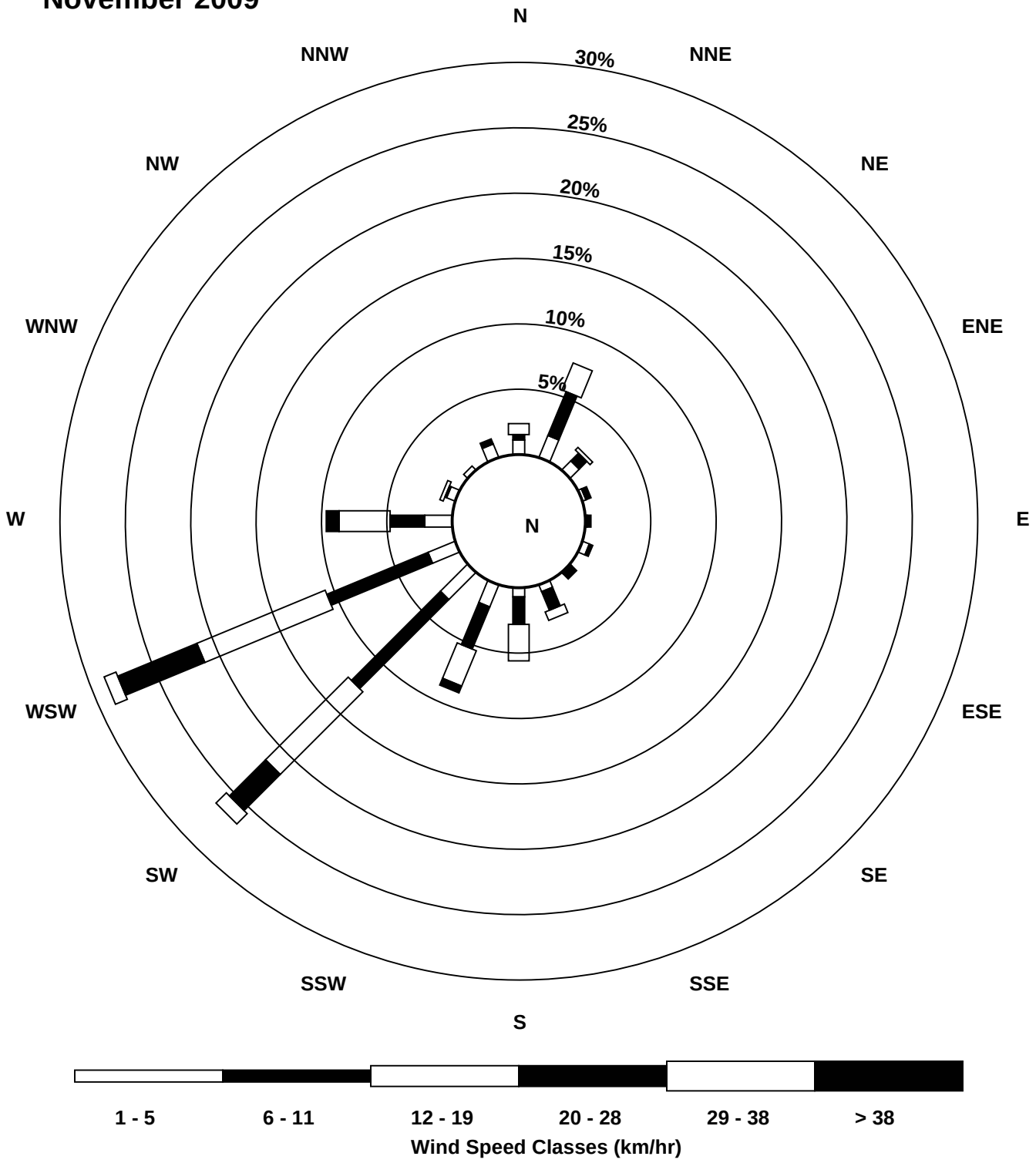
Hours in Service:	720
Hours of Data:	719
Hours of Missing Data:	1
Percent Operational Time:	99.9

N - Not Valid

Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	17	18	18	0	0	0	53
NorthEast	12	20	11	0	0	0	43
East	4	4	0	0	0	0	8
SouthEast	4	8	3	0	0	0	15
South	12	37	34	2	0	0	85
SouthWest	28	120	124	57	15	0	344
West	24	37	65	30	4	0	160
NorthWest	8	2	1	0	0	0	11
Total	109	246	256	89	19	0	719

Wind Rose for WS at Smoky Heights
November 2009



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

Smoky Heights - Wind Speed (WS) - km/h
November 1, 2009 to December 1, 2009

Maximum Speed: 35 km/h on Nov 17 23:00

Maximum Daily Speed Average: 24.7 km/h on Nov 7

Minimum Speed: 2 km/h on Nov 22 13:00

Minimum Daily Speed Average: 5.3 km/h on Nov 1

Maximum Diurnal Speed Average: 13.8 km/h at hour 23

Minimum Diurnal Speed Average: 10.8 km/h at hour 10

Monthly Average Speed: 12.43 km/h

Percentiles: $P_1 = 2.6$ $P_{10} = 4.6$ $Q_1 = 7.5$ Median = 11.4 $Q_3 = 16.0$ $P_{90} = 22.2$ $P_{99} = 31.5$

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	N	9	7	6	4	5	6	8	9	8	7	5	3	3	4	9	5	2	4	3	4	5	6	3	5.3	9.0
2-Nov	3	5	4	3	5	5	8	4	7	8	8	8	9	10	7	9	6	4	4	4	5	4	2	3	5.6	10.1
3-Nov	7	9	11	11	13	13	13	17	19	19	25	24	22	22	25	19	16	14	12	12	10	10	12	10	15.2	25.0
4-Nov	11	11	14	9	11	8	9	10	9	7	6	4	3	3	7	8	5	5	10	9	8	6	9	11	8.0	14.4
5-Nov	7	3	6	9	4	7	7	8	7	3	3	2	4	5	4	4	6	3	6	12	9	13	12	14	6.6	14.1
6-Nov	14	16	14	33	26	26	19	19	22	27	26	26	28	28	26	25	25	21	25	19	13	16	26	30	22.9	32.7
7-Nov	32	27	25	25	27	19	16	22	24	20	20	23	25	30	33	31	31	27	28	23	24	22	20	18	24.7	33.4
8-Nov	15	10	8	6	8	14	18	13	8	15	14	18	20	18	12	8	9	11	12	9	9	4	9	12	11.7	19.6
9-Nov	12	7	10	7	4	6	4	5	3	4	5	8	10	11	11	10	10	11	8	4	3	8	17	28	8.7	28.1
10-Nov	25	19	21	22	21	18	7	6	7	6	6	9	16	17	16	14	13	15	14	16	15	17	15	15	14.5	24.6
11-Nov	16	15	10	7	5	8	6	11	8	10	9	11	15	15	17	13	10	11	11	14	17	16	9	10	11.4	17.2
12-Nov	8	9	13	12	11	10	8	4	4	4	4	12	18	20	24	31	34	30	32	32	27	26	22	19	17.3	34.2
13-Nov	23	23	19	14	14	18	13	12	5	3	7	9	5	6	4	4	9	21	27	28	28	25	19	14	14.5	28.2
14-Nov	15	15	15	13	13	14	10	13	13	12	18	16	14	12	16	17	19	19	17	16	17	18	18	14	15.2	19.2
15-Nov	11	10	7	11	12	11	8	8	5	13	13	11	12	7	8	7	5	13	13	15	14	13	14	15	10.8	15.5
16-Nov	17	16	14	13	13	12	11	10	11	10	9	9	12	7	6	8	6	6	6	8	8	7	8	3	9.5	16.7
17-Nov	5	5	7	5	8	10	9	15	16	12	9	12	13	16	16	14	9	11	17	20	24	26	35	28	14.3	35.3
18-Nov	28	21	18	17	15	19	15	11	12	11	11	11	11	13	16	15	16	14	6	5	7	8	9	6	13.1	28.4
19-Nov	3	5	8	8	8	8	8	5	6	4	6	9	9	11	9	8	8	7	7	5	4	4	4	5	6.6	11.5
20-Nov	12	11	9	14	17	16	19	16	14	13	13	14	11	10	10	8	9	9	6	8	8	5	4	3	10.7	18.8
21-Nov	6	3	3	7	7	11	11	7	9	10	7	11	14	24	18	14	17	15	16	14	16	15	16	19	12.2	24.3
22-Nov	16	14	10	9	9	8	8	9	10	8	7	5	2	3	5	5	6	3	2	3	7	7	9	10	7.3	15.7
23-Nov	10	12	10	7	5	10	13	15	16	12	8	8	6	4	4	7	3	6	3	6	10	12	14	14	8.9	15.6
24-Nov	18	23	24	22	21	21	24	24	26	25	23	22	21	21	16	12	9	10	9	8	3	3	5	5	16.4	25.6
25-Nov	3	2	4	6	6	7	8	7	8	9	10	9	9	7	8	7	3	8	6	7	8	10	13	11	7.3	12.5
26-Nov	13	11	19	19	15	15	14	17	17	6	11	10	11	15	15	21	16	14	12	14	16	13	21	19	14.7	21.1
27-Nov	17	18	20	20	20	18	11	13	14	14	17	21	21	17	21	15	13	10	18	14	14	15	15	12	16.2	21.2
28-Nov	18	12	12	14	17	12	15	10	9	8	9	8	8	8	9	10	8	5	6	5	6	8	9	12	9.7	17.7
29-Nov	12	13	13	15	13	12	12	9	13	12	11	15	15	17	20	22	19	18	23	25	28	29	29	20	17.4	29.0
30-Nov	19	15	19	24	18	15	14	13	11	14	14	16	19	18	15	16	15	16	14	15	17	13	13	15	15.7	24.4
	13.6	12.3	12.5	13.0	12.3	12.5	11.5	11.4	11.4	10.8	11.2	12.1	12.8	13.3	13.3	13.0	12.0	12.0	12.4	12.5	12.6	12.6	13.8	13.3	Diurnal Average	
	31.5	27.3	25.3	32.7	26.9	26.2	24.0	23.8	25.6	26.7	26.2	25.5	28.3	30.5	33.4	31.4	34.2	29.6	31.5	31.9	28.1	29.0	35.3	29.7	Diurnal Maximum	

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, 2009 to December 1, 2009

Maximum Value: 92.5 deg on Nov 22 14:00

Minimum Value: 1.5 deg on Nov 24 09:00

Percentiles: P_1 = 2.4 P_{10} = 4.0 Q_1 = 5.9 Median = 9.9 Q_3 = 18.1 P_{90} = 36.3 P_{99} = 82.5

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

Day	Hourly Period Ending At (MST)																								Daily
	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	N	6	38	15	83	30	17	46	9	8	10	15	65	30	54	8	16	42	32	32	22	14	24	75	82.8
2-Nov	29	12	16	82	26	44	16	15	10	16	10	25	20	8	11	6	30	67	14	18	10	83	57	20	83.0
3-Nov	14	17	6	8	7	12	13	6	4	6	3	4	5	4	3	4	7	19	16	9	9	7	10	13	18.9
4-Nov	5	9	4	24	3	18	18	13	7	7	11	27	30	35	9	8	24	13	6	9	14	41	14	11	40.7
5-Nov	11	84	18	39	78	20	26	13	36	42	65	75	17	31	40	17	11	57	66	9	18	9	12	13	83.6
6-Nov	12	9	12	20	13	3	5	7	5	3	7	6	5	6	5	4	4	7	3	5	34	30	9	5	33.6
7-Nov	3	4	6	4	2	7	6	5	5	4	5	5	5	4	4	5	4	4	5	5	3	2	2	3	7.0
8-Nov	5	7	4	18	12	5	6	6	15	6	6	5	6	5	4	10	12	21	30	11	34	41	19	6	41.5
9-Nov	7	29	9	15	18	24	24	19	59	49	50	15	7	9	16	12	6	9	36	21	30	9	10	6	59.3
10-Nov	4	4	5	3	6	8	24	87	23	12	15	9	4	8	8	9	8	8	25	11	5	4	8	8	87.0
11-Nov	5	14	15	60	45	15	30	15	21	13	15	9	4	8	7	8	7	11	6	3	4	3	15	7	59.9
12-Nov	35	13	12	6	10	6	12	24	40	41	25	17	10	6	5	4	4	7	3	4	4	5	6	6	41.0
13-Nov	4	4	4	9	4	8	7	8	40	26	22	13	31	63	35	77	16	9	4	3	5	10	15	8	77.0
14-Nov	3	4	3	7	7	5	9	5	9	6	3	8	8	6	6	5	4	4	4	3	6	6	6	6	8.9
15-Nov	6	12	9	7	6	25	11	15	19	16	8	8	6	10	16	20	91	8	5	4	6	4	5	7	90.6
16-Nov	7	8	8	12	10	13	13	7	9	12	17	37	6	10	15	9	9	79	21	14	16	66	26	27	79.5
17-Nov	88	21	15	44	35	40	11	4	9	18	39	9	16	8	7	10	11	22	7	2	3	7	3	5	87.9
18-Nov	5	9	6	6	11	5	16	24	12	16	13	10	12	13	6	4	7	10	62	44	19	7	6	28	61.9
19-Nov	30	15	19	19	10	16	20	41	34	67	15	18	27	8	11	15	8	12	18	36	24	34	62	21	66.9
20-Nov	12	7	6	7	6	4	4	8	5	8	7	6	7	10	11	10	30	40	31	27	18	48	37	56	56.2
21-Nov	22	76	18	16	11	15	7	9	5	10	14	9	5	6	9	12	11	9	7	3	4	6	4	6	76.4
22-Nov	2	6	20	22	15	18	10	10	14	11	8	22	65	92	9	8	10	33	38	11	10	9	15	7	92.5
23-Nov	12	15	29	21	50	19	10	14	5	52	16	10	27	58	63	16	54	12	63	27	22	19	21	6	63.2
24-Nov	12	6	3	5	4	4	2	2	1	2	2	5	5	4	9	6	12	8	22	15	45	91	10	15	91.3
25-Nov	44	35	34	20	50	12	7	12	11	10	5	11	12	34	12	26	55	20	41	44	20	10	17	24	55.0
26-Nov	16	23	7	6	16	16	22	18	34	55	41	18	32	7	7	5	14	8	5	7	4	6	6	5	54.5
27-Nov	6	5	5	5	7	5	13	15	7	7	7	4	7	8	4	4	7	11	4	7	5	7	8	14	15.1
28-Nov	8	12	10	14	6	15	8	9	6	10	13	14	12	28	9	12	7	19	11	21	18	22	20	11	28.3
29-Nov	10	4	6	6	8	17	20	12	6	15	10	3	5	10	5	3	8	10	3	3	3	3	3	7	20.2
30-Nov	4	8	4	4	17	10	7	4	9	7	5	5	17	8	12	8	12	3	3	4	5	6	9	4	17.4
	87.9	83.6	37.9	81.8	82.8	43.9	30.5	87.0	59.3	66.9	64.8	75.0	65.1	92.5	62.9	77.0	90.6	79.5	66.2	44.2	44.9	91.3	62.1	74.5	

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, 2009 to December 1, 2009

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.4 ppb on Nov 20 13:00
Maximum Daily Average: 0.7 ppb on Nov 20

Minimum Value: 0 ppb on Nov 27 02:00
Maximum Diurnal Average: 0.3 ppb at hour 21
Monthly Average: 0.23 ppb

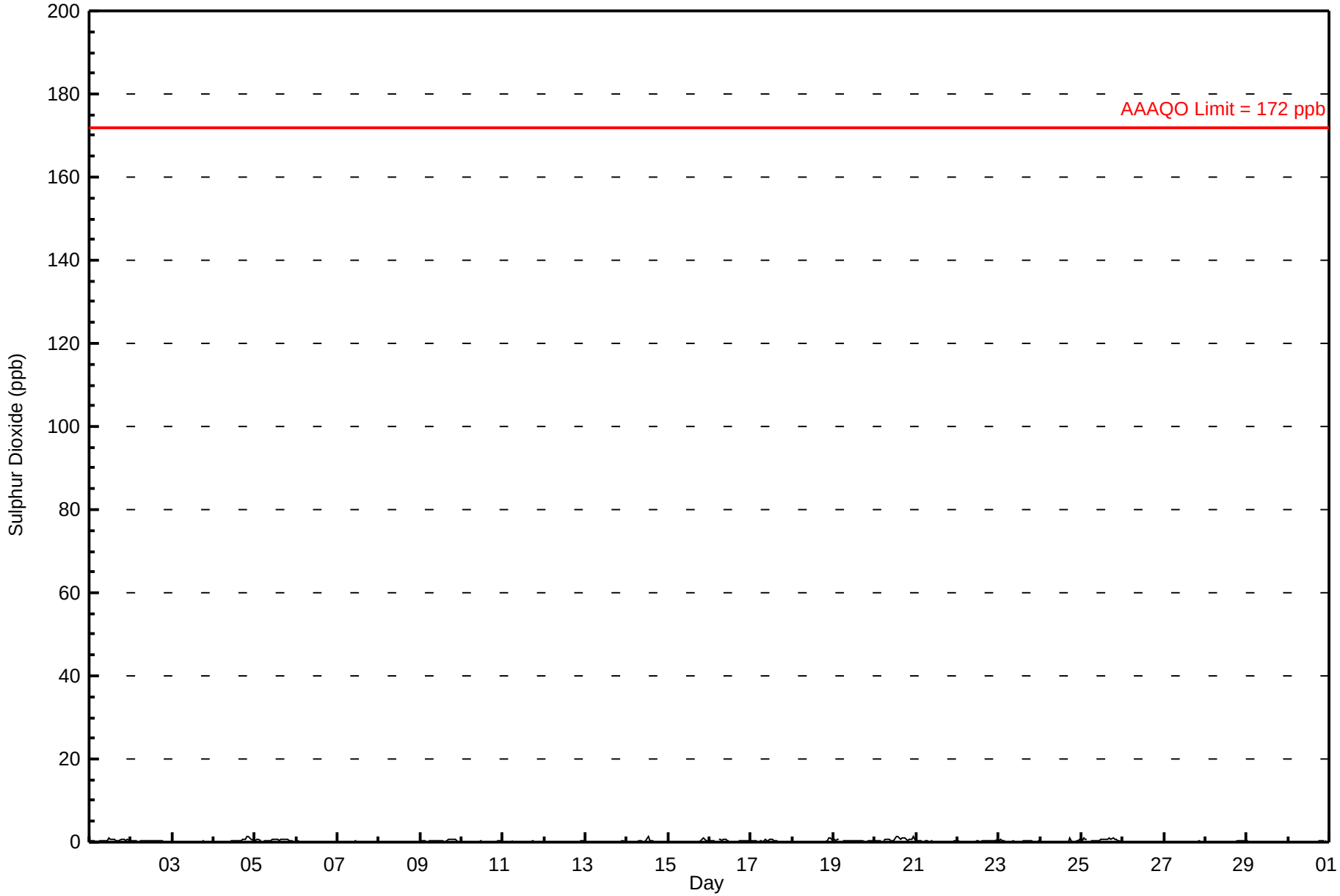
Minimum Daily Average: 0.1 ppb on Nov 27
Minimum Diurnal Average: 0.2 ppb at hour 8
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.1 Q_3 = 0.3 P_{90} = 0.6 P_{99} = 1.1

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

Day	Hourly Period Ending At (MST) 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	1	1	1	1	0	0	0	1	1	1	0	1	0	0.5	0.9
2-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
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	0	0	0	0	0	1	1	1	1	1	1	0	0.4	1.3
5-Nov	0	1	1	0	A	0	0	0	0	0	1	1	1	1	0	1	1	1	1	1	0	0	0	0	0.5	0.7
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	0.1	0.2
7-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
8-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	0.1
9-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0.4	0.8
10-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
11-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
12-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
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	0.2
14-Nov	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.2	1.2
15-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0.2	0.9
16-Nov	0	0	0	0	A	1	1	0	1	1	0	0	C	C	C	1	A	0	0	0	0	0	0	0	0.4	0.8
17-Nov	0	0	0	0	A	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
18-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.2	0.9
19-Nov	1	0	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
20-Nov	0	0	0	0	A	0	1	1	1	0	0	0	1	1	1	1	1	1	1	0	1	1	1	1	0.7	1.4
21-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
22-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0.3	0.6
23-Nov	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
24-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.2	1.1
25-Nov	1	1	1	1	A	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0.5	1.0
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	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
28-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	0.5
29-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
30-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N	0.1	0.3
	0.2	0.2	0.2	0.2	--	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	Diurnal Average	
	0.6	1.0	0.7	0.7	--	0.6	0.7	0.7	0.8	0.7	0.6	0.9	1.4	1.3	1.0	0.8	1.0	1.1	1.0	1.2	1.3	1.0	1.3	0.7	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 Beaverlodge
November 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Beaverlodge - Sulphur Dioxide (SO_2) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 4.1 ppb on Nov 24 18:00

Maximum Daily Average: 1.1 ppb on Nov 20

Minimum Value: 0 ppb on Nov 27 04:00

Minimum Daily Average: 0.1 ppb on Nov 27

Maximum Diurnal Average: 0.6 ppb at hour 19

Minimum Diurnal Average: 0.3 ppb at hour 8

Monthly Average: 0.38 ppb

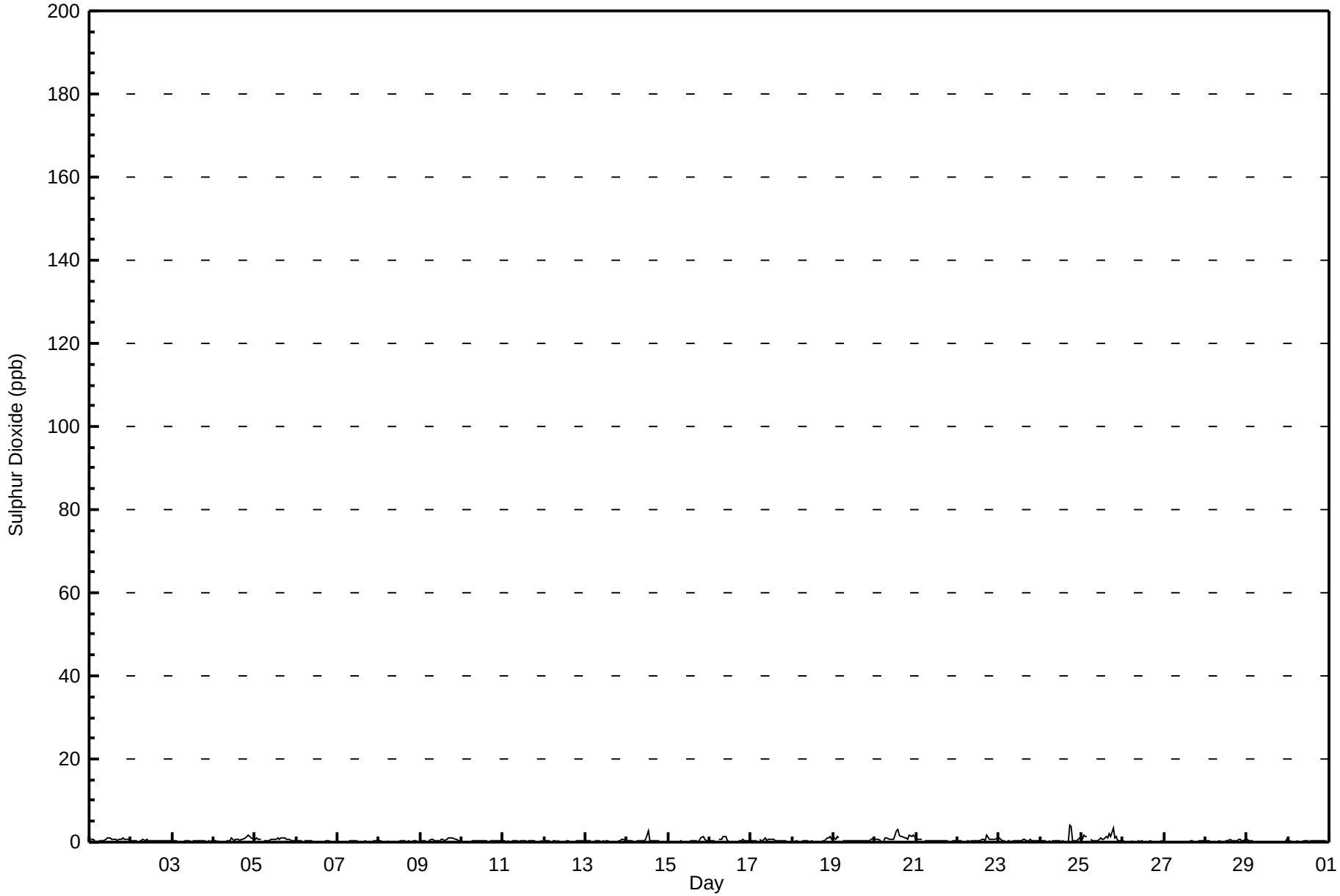
Percentiles: $P_1 = 0.1$ $P_{10} = 0.1$ $Q_1 = 0.2$ Median = 0.2 $Q_3 = 0.5$ $P_{90} = 0.8$ $P_{99} = 1.8$

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

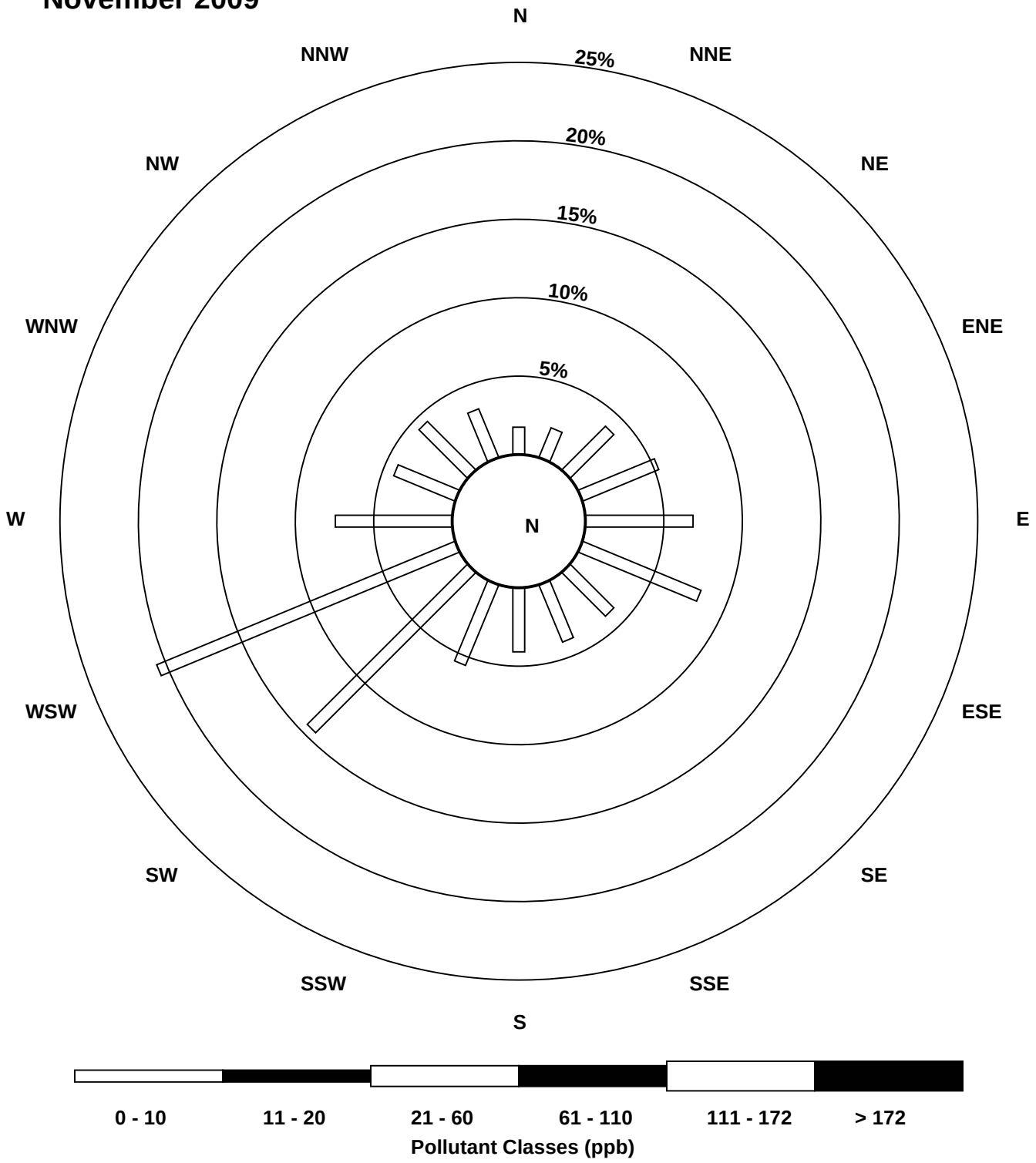
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	1	1	1	1	A	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.2
2-Nov	0	0	0	0	A	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
3-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.2	0.5
4-Nov	0	0	0	0	A	0	0	0	0	0	1	1	0	1	1	0	1	1	1	1	2	1	1	1	0.6	1.6
5-Nov	1	1	1	1	A	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0.6	1.0
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	0.3
7-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
8-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	0.2
9-Nov	0	0	0	0	A	0	1	1	0	0	0	0	1	1	0	1	1	1	1	1	1	1	0	0	0.5	1.1
10-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
11-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
12-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
13-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0.2	0.6
14-Nov	0	0	0	0	A	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0.4	2.7
15-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0.3	1.4
16-Nov	0	0	0	0	A	1	1	1	1	1	0	0	C	C	C	1	A	0	0	1	0	1	0	0	0.5	1.3
17-Nov	0	0	0	0	A	1	1	0	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.4	0.9
18-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.3	1.2
19-Nov	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.5	1.3
20-Nov	1	1	1	0	A	0	1	1	1	1	1	1	3	3	2	1	1	1	1	1	2	1	2	1	1.1	3.1
21-Nov	0	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
22-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	2	1	1	1	1	1	1	0.5	1.7
23-Nov	1	1	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0.4	1.1
24-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	1	1	0.6	4.1
25-Nov	1	2	1	1	A	1	0	0	0	0	1	1	1	1	1	1	2	1	3	1	1	0	0	0	1.0	3.3
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	0.2	0.4
27-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
28-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	1	0.3	0.7
29-Nov	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	0.6
30-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N	0.2	0.4
	0.4	0.4	0.4	0.3	--	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.4	0.4	0.4	0.4	0.5	0.6	0.4	0.5	0.4	0.4	0.4	Diurnal Average	
	1.1	1.6	1.3	1.3	--	0.7	1.0	0.9	1.3	1.2	0.9	1.2	2.9	3.1	1.6	1.3	2.0	4.1	3.7	1.5	1.6	1.4	1.7	1.3	Diurnal Maximum	

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

Hourly Maximums for SO_2 at Beaverlodge
November 2009



Pollutant Rose for SO_2 at Beaverlodge
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge - Nitrogen Dioxide (NO_2) - ppb
November 1, 2009 to December 1, 2009

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 30.2 ppb on Nov 22 22:00
Maximum Daily Average: 16.0 ppb on Nov 25

Minimum Value: 0 ppb on Nov 7 14:00
Maximum Diurnal Average: 7.1 ppb at hour 19
Monthly Average: 5.22 ppb

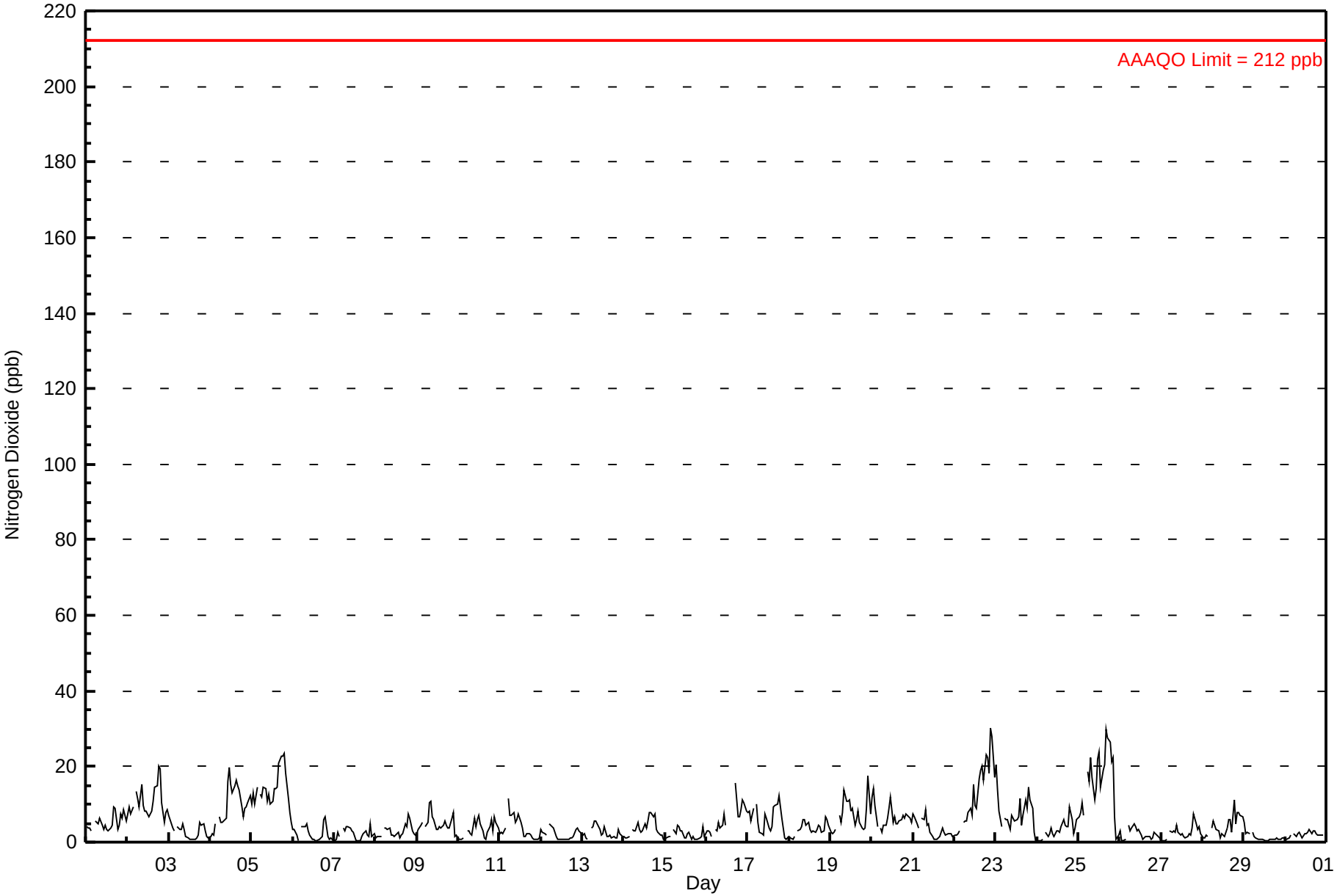
Minimum Daily Average: 1.3 ppb on Nov 29
Minimum Diurnal Average: 3.3 ppb at hour 4
Percentiles: $P_1 = 0.4$ $P_{10} = 0.9$ $Q_1 = 1.8$ Median = 3.6 $Q_3 = 6.7$ $P_{90} = 11.5$ $P_{99} = 23.2$

Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	35
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	4	4	4	3	A	6	5	5	6	4	3	4	3	3	4	4	9	9	3	5	7	6	9	5	5.1	9.2
2-Nov	8	9	7	9	A	13	12	9	15	10	8	8	7	7	8	11	15	15	20	19	10	5	8	9	10.6	20.0
3-Nov	7	6	4	3	A	4	3	3	5	3	2	1	1	1	1	1	1	2	5	4	5	3	1	1	2.9	7.2
4-Nov	2	2	2	5	A	7	5	5	6	6	16	20	15	13	15	17	15	14	9	7	9	9	10	12	9.6	19.8
5-Nov	10	13	10	15	A	13	12	14	14	11	13	10	11	14	14	14	21	23	23	23	18	12	8	5	14.0	23.3
6-Nov	3	3	2	1	A	4	4	4	5	3	2	1	1	1	1	1	1	1	6	7	1	1	1	1	2.3	6.9
7-Nov	1	1	3	1	A	4	3	4	4	4	3	3	1	0	0	1	2	2	3	2	1	5	2	2	2.2	5.0
8-Nov	1	2	1	2	A	4	4	3	4	2	2	2	2	3	1	2	2	5	4	7	6	3	2	2	2.9	7.4
9-Nov	2	3	4	5	A	4	5	10	11	7	6	3	3	4	4	4	5	5	4	4	6	8	1	2	4.9	10.8
10-Nov	1	1	1	1	A	3	3	2	2	6	4	6	7	5	3	1	1	3	4	6	3	7	5	4	3.4	7.2
11-Nov	2	3	2	4	A	12	7	7	8	5	6	7	5	4	1	1	2	2	2	1	1	1	1	1	3.7	11.6
12-Nov	3	3	2	2	A	5	4	4	3	1	1	1	1	1	1	1	1	1	1	2	3	4	3	3	2.1	4.7
13-Nov	2	2	1	1	A	4	4	6	6	4	3	2	2	4	1	2	2	1	1	1	1	4	2	1	2.5	5.7
14-Nov	1	1	1	1	A	3	3	3	5	3	3	3	5	4	6	8	8	7	7	3	3	2	2	1	3.6	7.9
15-Nov	1	1	2	1	A	3	2	4	4	3	3	1	1	2	3	1	1	1	1	1	1	1	4	1	1.9	4.3
16-Nov	3	3	2	1	A	3	3	5	4	5	7	4	C	C	C	C	C	16	7	7	8	11	11	8	6.0	15.8
17-Nov	8	8	5	9	A	10	5	3	2	2	8	6	4	3	4	9	10	10	12	9	6	1	1	1	6.0	12.3
18-Nov	1	1	1	1	A	3	3	4	6	6	5	5	3	2	3	3	3	4	4	3	3	7	6	5	3.6	6.6
19-Nov	3	2	3	3	A	7	5	8	14	11	11	11	8	9	5	6	8	5	4	3	4	9	18	8	7.1	17.5
20-Nov	12	14	10	4	A	4	2	4	5	6	9	12	5	7	5	5	6	6	7	6	8	7	6	5	6.7	14.0
21-Nov	8	7	5	4	A	6	6	8	4	5	3	1	1	1	1	1	3	4	3	2	2	2	2	2	3.5	8.4
22-Nov	2	2	2	3	A	5	6	6	8	9	7	15	10	9	17	19	20	16	23	22	18	30	28	17	12.8	30.2
23-Nov	21	14	8	4	A	6	6	6	3	7	6	6	6	7	11	5	7	11	9	15	11	9	3	0	7.9	20.5
24-Nov	0	1	1	1	A	3	1	2	4	2	2	3	3	3	4	6	5	4	4	9	6	2	4	6	3.2	9.5
25-Nov	7	8	10	7	A	19	16	22	17	11	14	22	24	15	19	21	30	28	27	21	22	7	1	2	16.0	29.7
26-Nov	3	0	0	1	A	5	3	4	5	4	3	3	2	1	1	1	1	2	1	1	3	2	2	1	2.1	5.0
27-Nov	0	0	0	1	A	3	3	3	3	4	3	2	2	2	1	1	2	2	4	7	5	4	4	2	2.5	7.5
28-Nov	1	1	2	1	A	4	6	5	4	3	1	2	2	1	4	6	6	3	11	5	8	8	7	7	4.2	11.1
29-Nov	5	2	3	2	A	2	2	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1.3	5.2
30-Nov	1	1	1	2	A	2	2	2	3	2	1	2	2	3	3	2	3	3	2	2	2	2	2	N	2.0	3.2
	4.1	3.9	3.4	3.3	--	5.7	4.9	5.6	5.9	5.1	5.1	5.6	4.8	4.4	4.8	5.3	6.6	6.8	7.1	6.9	6.2	5.7	5.1	4.0	Diurnal Average	
	20.5	14.0	10.4	14.5	--	18.6	15.9	22.3	17.2	11.1	15.9	21.8	23.8	14.5	19.0	20.5	29.7	27.5	26.7	23.3	22.2	30.2	27.9	17.3	Diurnal Maximum	

C - Calibration N - Not Valid 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 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Beaverlodge - Nitrogen Dioxide (NO_2) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 57.7 ppb on Nov 24 08:00

Maximum Daily Average: 23.0 ppb on Nov 25

Minimum Value: 1 ppb on Nov 7 14:00

Minimum Daily Average: 2.7 ppb on Nov 29

Maximum Diurnal Average: 12.2 ppb at hour 19

Minimum Diurnal Average: 5.2 ppb at hour 3

Monthly Average: 8.83 ppb

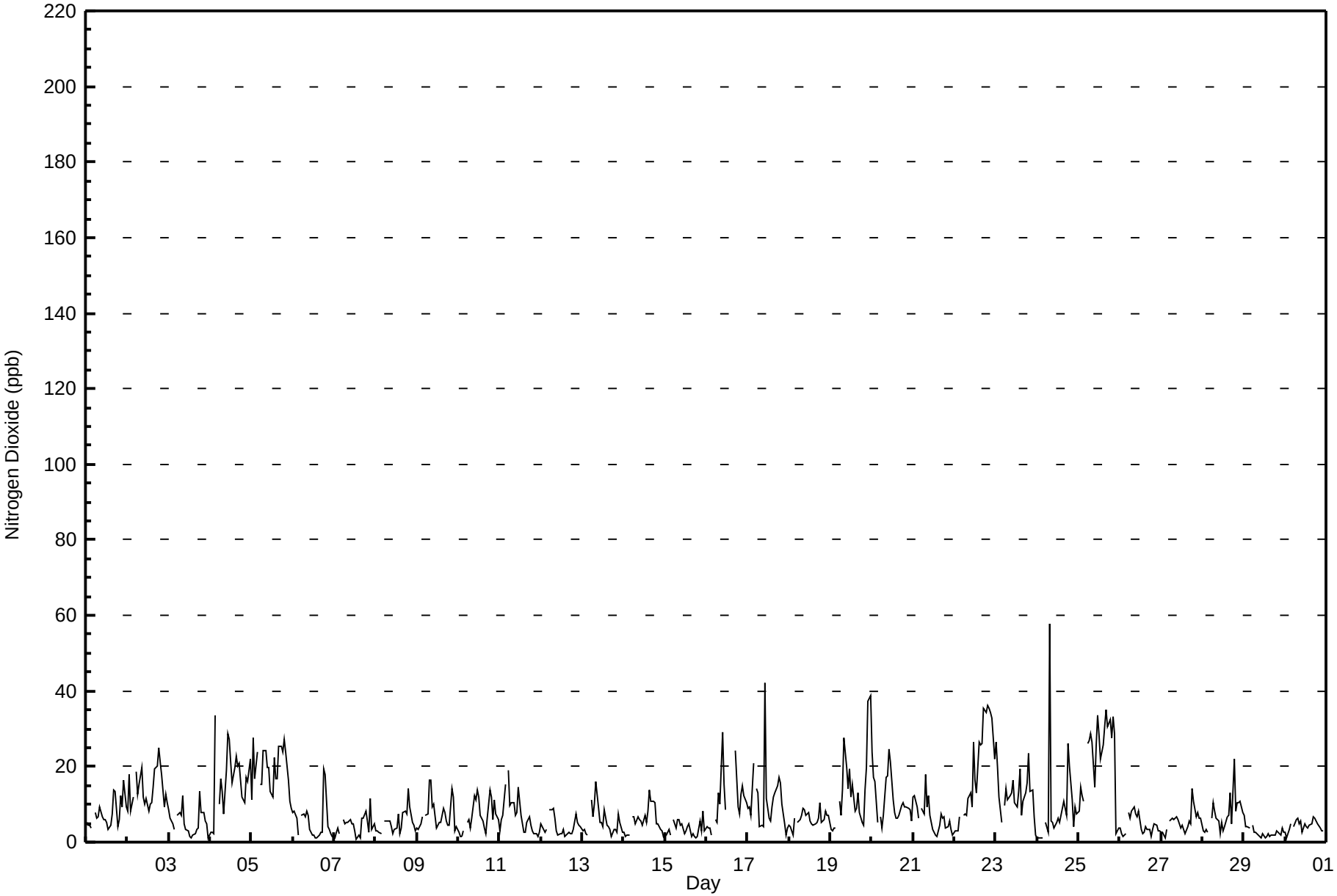
Percentiles: P_1 = 1.2 P_{10} = 2.1 Q_1 = 3.6 Median = 6.5 Q_3 = 11.2 P_{90} = 19.8 P_{99} = 35.3

Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	35
Percent Operational Time:	99.9

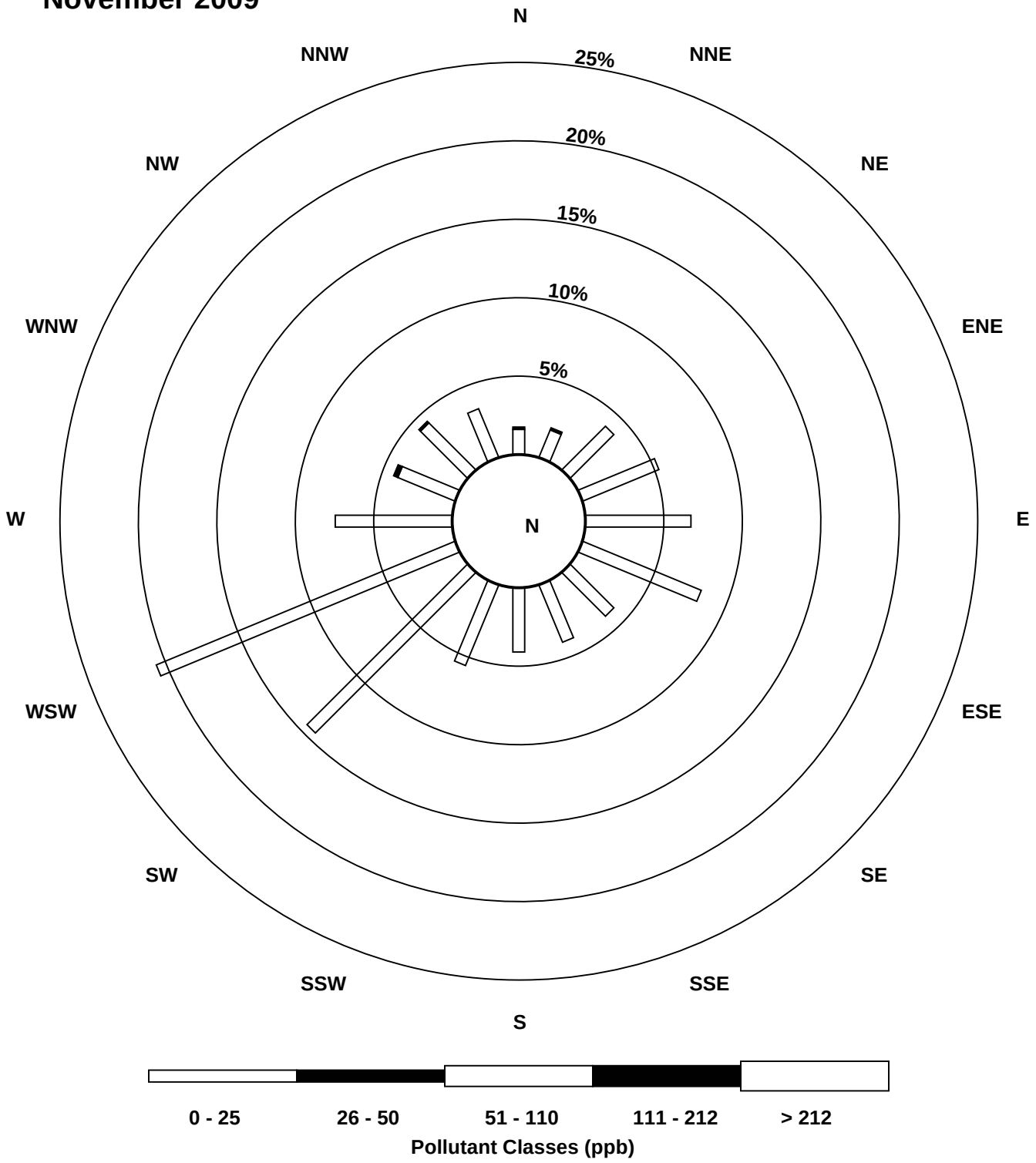
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	5	5	4	4	A	8	6	7	9	7	6	6	5	3	5	7	14	14	4	6	12	9	16	9	7.5	16.5
2-Nov	8	18	8	12	A	19	13	15	20	12	10	12	8	10	10	15	19	20	25	21	18	9	13	11	14.2	25.1
3-Nov	9	6	5	3	A	7	8	7	12	5	3	3	2	1	2	2	3	4	14	8	8	6	5	1	5.3	13.5
4-Nov	3	3	2	34	A	10	17	14	7	19	29	27	21	16	20	23	20	21	12	11	10	17	16	22	16.2	33.7
5-Nov	11	27	17	24	A	15	15	24	24	20	20	13	12	23	17	17	25	25	24	27	24	16	11	9	19.2	27.5
6-Nov	8	8	7	2	A	7	7	7	8	7	3	2	2	1	1	2	3	3	19	18	4	3	2	2	5.5	19.3
7-Nov	1	3	4	2	A	6	5	5	5	6	5	5	3	1	2	1	6	7	8	6	3	12	3	5	4.4	11.5
8-Nov	3	3	3	2	A	6	6	6	6	4	2	3	4	8	2	4	8	8	8	14	9	5	4	3	5.2	14.0
9-Nov	4	3	5	7	A	7	8	16	16	9	10	4	4	5	5	9	8	6	4	4	14	12	3	4	7.3	16.5
10-Nov	3	2	2	3	A	5	6	4	6	12	11	14	12	7	6	4	2	6	14	12	6	11	7	6	6.9	13.9
11-Nov	3	6	7	15	A	19	10	10	10	7	8	15	7	5	3	3	5	7	4	3	2	2	2	3	6.8	19.0
12-Nov	5	4	3	3	A	8	9	9	7	3	2	2	2	3	2	2	3	2	2	3	8	5	4	4	4.1	8.8
13-Nov	3	3	2	2	A	11	7	10	16	9	5	5	4	9	4	4	4	2	4	4	3	7	5	2	5.4	16.1
14-Nov	2	1	2	2	A	7	7	5	7	6	6	4	7	5	8	14	11	11	10	5	5	3	3	2	5.8	13.8
15-Nov	2	2	3	2	A	6	4	6	6	5	5	2	3	4	5	1	2	1	1	1	6	3	8	3	3.5	8.2
16-Nov	4	4	4	2	A	6	5	13	10	29	15	9	C	C	C	C	C	24	9	8	13	15	12	10	10.7	29.2
17-Nov	9	9	7	21	A	14	13	4	5	4	42	11	6	6	9	12	13	15	17	16	10	5	2	4	11.1	42.3
18-Nov	4	4	2	6	A	5	6	7	9	9	7	8	6	5	4	5	5	6	10	5	6	8	7	7	6.2	10.3
19-Nov	3	3	4	4	A	11	7	14	28	20	14	19	12	15	8	9	13	8	5	4	14	20	37	39	13.5	38.7
20-Nov	24	17	16	5	A	7	4	7	17	18	25	21	11	8	6	6	7	10	10	9	9	9	9	6	11.3	24.5
21-Nov	12	12	9	6	A	9	8	18	9	12	7	3	3	2	2	5	8	6	7	4	4	5	3	2	6.8	17.8
22-Nov	3	3	3	7	A	7	7	7	11	13	9	26	16	13	26	26	26	35	34	36	35	34	33	22	18.9	36.0
23-Nov	27	20	12	5	A	10	14	11	12	13	16	10	9	13	19	7	11	13	16	23	13	14	7	2	12.9	26.6
24-Nov	1	1	1	1	A	5	3	58	6	5	4	5	6	5	7	11	9	7	26	20	11	4	9	8	9.3	57.7
25-Nov	8	15	12	11	A	26	27	29	27	14	26	34	28	22	26	31	35	31	33	28	33	29	2	4	23.0	35.2
26-Nov	4	2	1	2	A	8	7	8	9	7	7	8	3	2	3	4	3	3	2	3	5	5	3	3	4.5	9.3
27-Nov	3	3	1	3	A	5	6	6	7	7	6	4	5	3	2	4	6	5	14	11	7	8	7	7	5.6	14.1
28-Nov	3	3	3	3	A	6	11	8	6	6	2	5	3	4	7	7	13	5	22	8	11	11	11	8	7.2	22.2
29-Nov	7	4	4	4	A	4	3	3	2	2	1	2	1	1	2	1	2	2	2	3	3	2	4	3	2.7	7.0
30-Nov	3	1	4	5	A	4	6	6	5	5	3	5	4	4	5	5	7	6	6	5	4	3	3	N	4.4	6.8
	6.1	6.5	5.2	6.7	--	8.9	8.4	11.5	10.8	9.8	10.3	9.6	7.2	7.1	7.5	8.3	10.0	10.4	12.2	10.9	10.3	9.8	8.4	7.1	Diurnal Average	
	26.6	27.5	16.9	33.7	--	26.0	27.0	57.7	27.5	29.2	42.3	33.6	28.2	22.5	26.3	30.6	35.2	35.5	34.2	36.0	35.3	34.1	37.3	38.7	Diurnal Maximum	

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

Hourly Maximums for NO_2 at Beaverlodge
November 2009



Pollutant Rose for NO_2 at Beaverlodge
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge - Nitrogen Oxide (NO) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 51.4 ppb on Nov 4 12:00

Maximum Daily Average: 6.8 ppb on Nov 25

Minimum Value: 0 ppb on Nov 1 06:00

Minimum Daily Average: 0.0 ppb on Nov 29

Maximum Diurnal Average: 5.7 ppb at hour 12

Minimum Diurnal Average: 0.0 ppb at hour 3

Monthly Average: 1.24 ppb

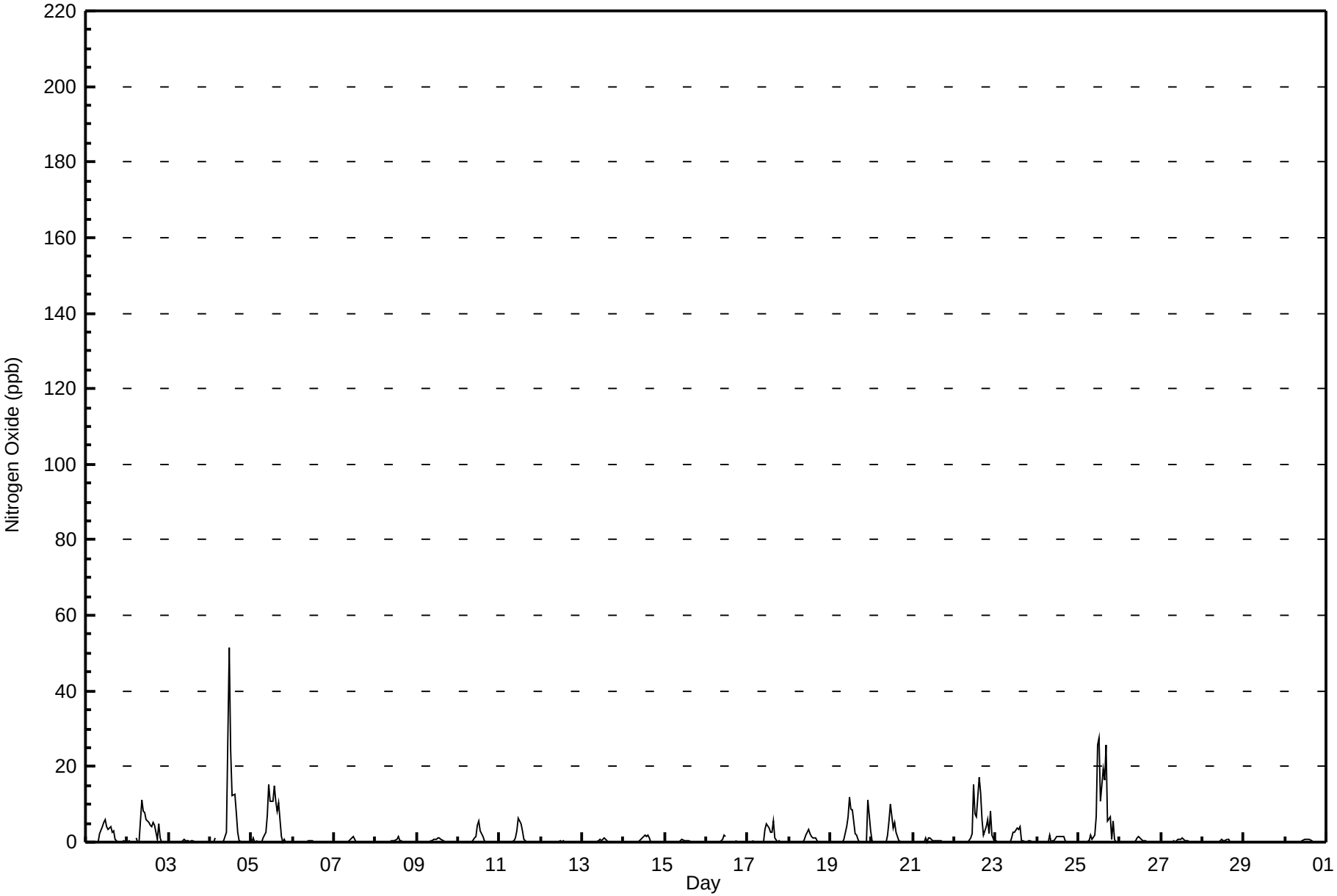
Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.0 $Q_3 = 0.6$ $P_{90} = 3.5$ $P_{99} = 17.9$

Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	35
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	A	0	0	0	2	4	5	6	4	4	4	3	3	1	0	0	0	0	0	0	1.6	6.0
2-Nov	0	0	0	0	A	1	0	0	11	8	8	6	5	5	4	5	4	1	5	1	0	0	0	0	2.8	11.4
3-Nov	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.8
4-Nov	0	0	0	1	A	0	0	0	0	3	27	51	24	12	13	8	3	0	0	0	0	0	0	0	6.2	51.4
5-Nov	0	1	0	0	A	0	0	1	3	7	15	11	11	15	11	8	10	1	0	1	0	0	0	0	4.2	15.3
6-Nov	0	0	0	0	A	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
7-Nov	0	0	0	0	A	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.2	1.5
8-Nov	0	0	0	0	A	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0.2	1.5
9-Nov	0	0	0	0	A	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.3	1.1
10-Nov	0	0	0	0	A	0	0	0	0	1	2	5	6	3	1	0	0	0	0	0	0	0	0	0	0.8	5.5
11-Nov	0	0	0	0	A	0	0	0	0	1	3	6	5	3	1	0	0	0	0	0	0	0	0	0	0.9	6.5
12-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	0.2
13-Nov	0	0	0	0	A	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0.2	1.2
14-Nov	0	0	0	0	A	0	0	0	0	0	1	1	2	1	2	1	0	0	0	0	0	0	0	0	0.4	1.8
15-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
16-Nov	0	0	0	0	A	0	0	0	0	1	2	2	C	C	C	C	C	0	0	0	0	0	0	0	0.3	1.9
17-Nov	0	0	0	0	A	0	0	0	0	0	3	5	4	2	3	5	1	0	0	0	0	0	0	0	1.1	5.5
18-Nov	0	0	0	0	A	0	0	0	0	1	2	3	2	2	1	1	0	0	0	0	0	0	0	0	0.5	3.2
19-Nov	0	0	0	0	A	0	0	0	1	4	7	12	9	9	2	2	1	0	0	0	0	0	11	3	2.6	11.8
20-Nov	0	0	0	0	A	0	0	0	0	2	5	10	4	5	2	2	1	0	0	0	0	0	0	0	1.4	10.1
21-Nov	0	0	0	0	A	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.1
22-Nov	0	0	0	0	A	0	0	0	0	1	2	15	7	7	17	13	6	2	4	6	2	8	2	0	4.0	17.0
23-Nov	0	0	0	0	A	0	0	0	0	1	3	3	4	4	4	1	0	0	0	0	0	0	0	0	0.9	4.2
24-Nov	0	0	0	0	A	0	0	2	0	0	0	1	2	1	2	1	0	0	0	0	0	0	0	0	0.4	2.0
25-Nov	0	0	0	0	A	0	0	2	1	2	7	26	28	11	19	16	26	5	7	1	6	1	0	0	6.8	27.5
26-Nov	0	0	0	0	A	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0.2	1.6
27-Nov	0	0	0	0	A	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.2	1.1
28-Nov	0	0	0	0	A	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0.1	0.7
29-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	0.2
30-Nov	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	N	0.2	0.7
	0.0	0.0	0.0	0.1	--	0.1	0.0	0.2	0.7	1.4	3.3	5.7	4.2	3.1	3.1	2.4	2.0	0.4	0.5	0.3	0.3	0.3	0.4	0.1	Diurnal Average	
	0.3	0.9	0.1	1.1	--	1.2	0.4	2.0	11.4	8.2	27.0	51.4	27.5	14.8	19.5	16.3	25.7	5.4	6.6	5.9	5.6	8.2	11.1	3.0	Diurnal Maximum	

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

Hourly Averages for NO at Beaverlodge
November 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Beaverlodge - Nitrogen Oxide (NO) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 102.0 ppb on Nov 4 11:00

Maximum Daily Average: 17.0 ppb on Nov 25

Minimum Value: 0 ppb on Nov 1 20:00

Minimum Daily Average: 0.3 ppb on Nov 29

Maximum Diurnal Average: 12.1 ppb at hour 12

Minimum Diurnal Average: 0.1 ppb at hour 3

Monthly Average: 3.50 ppb

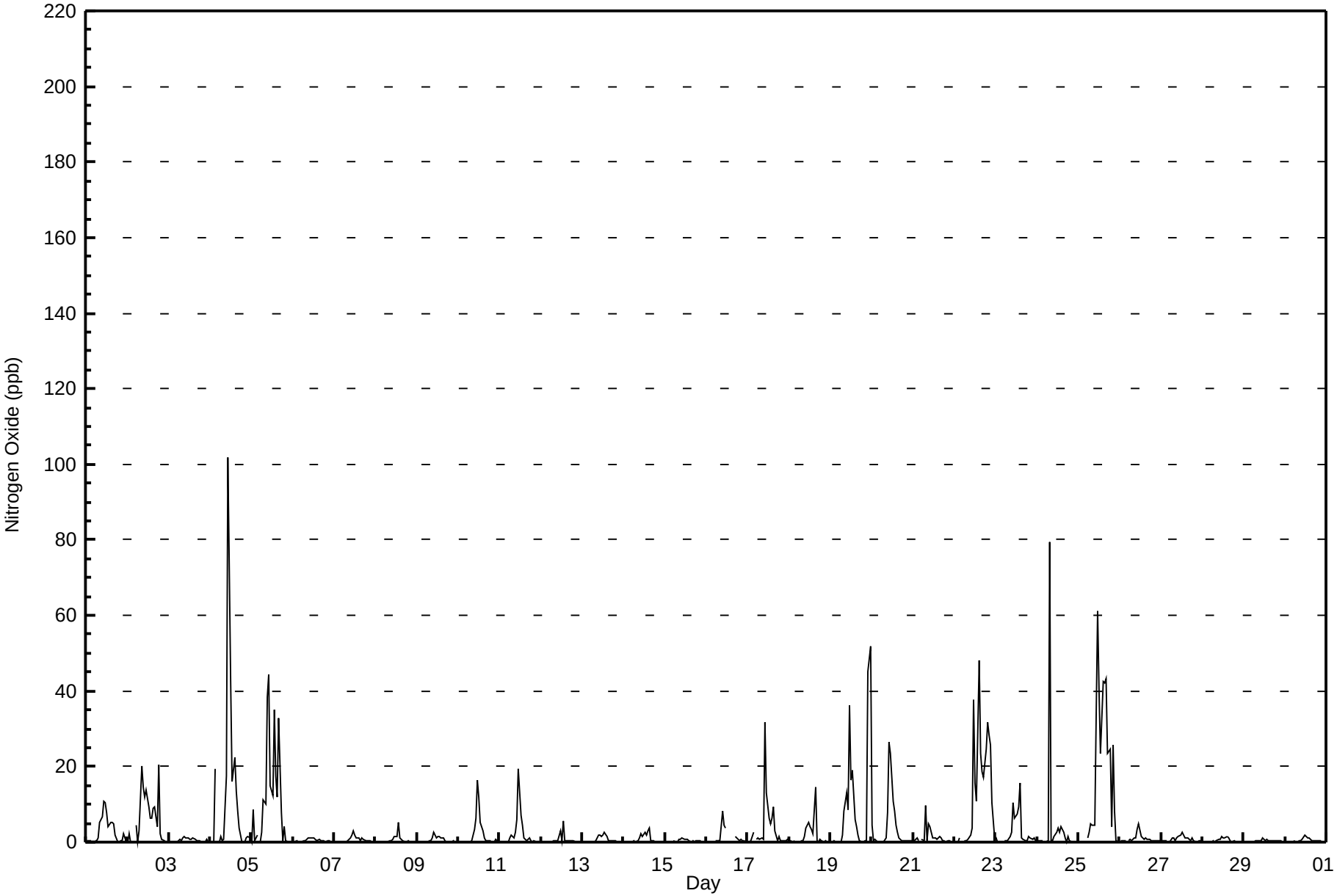
Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.5 $Q_3 = 1.5$ $P_{90} = 9.3$ $P_{99} = 43.9$

Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	35
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	A	0	0	1	5	7	11	10	8	4	5	5	5	2	0	0	0	0	2	0	3.0	10.9
2-Nov	0	2	0	0	A	4	0	3	20	14	12	14	9	6	7	9	9	4	20	2	1	0	0	0	6.0	20.4
3-Nov	0	0	0	0	A	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	0	0.5	1.5
4-Nov	0	0	0	19	A	0	2	0	1	17	102	73	42	16	22	13	8	4	0	0	0	1	1	1	14.1	102.0
5-Nov	0	9	0	2	A	0	2	11	10	38	44	15	12	35	17	12	33	8	0	4	0	0	0	0	11.1	44.4
6-Nov	0	0	0	0	A	0	0	0	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0.4	1.2
7-Nov	0	0	0	0	A	0	0	0	0	1	2	3	2	1	1	0	1	1	0	0	0	0	0	0	0.6	3.0
8-Nov	0	0	0	0	A	0	0	0	0	0	1	1	1	5	1	1	0	0	0	0	0	0	0	0	0.5	5.3
9-Nov	0	0	0	0	A	0	0	0	0	1	3	1	1	1	1	1	0	0	0	0	0	0	0	0	0.5	2.5
10-Nov	0	0	0	0	A	0	0	0	0	3	6	16	12	5	3	1	0	0	0	0	0	0	1	0	2.2	16.5
11-Nov	0	0	0	0	A	0	1	2	1	2	6	19	7	4	1	1	1	1	0	0	0	0	0	0	2.1	19.2
12-Nov	0	0	0	0	A	0	0	0	0	0	0	3	1	6	0	0	0	0	0	0	0	0	0	0	0.6	5.5
13-Nov	0	0	0	0	A	0	0	0	0	2	2	1	2	3	1	1	0	0	0	0	0	0	0	0	0.6	2.8
14-Nov	0	0	0	0	A	0	0	0	0	1	2	1	3	2	3	4	0	0	0	0	0	0	0	0	0.8	3.8
15-Nov	0	0	0	0	A	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.3	1.2
16-Nov	0	0	0	0	A	0	0	0	0	8	4	4	C	C	C	C	C	1	1	0	1	0	0	0	1.2	8.1
17-Nov	0	0	0	2	A	1	1	1	1	1	32	13	6	5	6	9	3	0	1	0	0	0	0	1	3.7	31.7
18-Nov	0	0	0	0	A	0	0	0	0	1	4	5	4	3	2	15	1	0	1	0	0	0	0	0	1.7	14.5
19-Nov	0	0	0	0	A	0	0	2	8	13	9	36	16	19	6	4	2	0	0	0	0	0	45	52	9.3	52.0
20-Nov	5	0	1	0	A	0	0	0	1	8	27	24	11	8	5	2	1	0	0	0	0	0	0	0	4.1	26.6
21-Nov	0	0	1	0	A	1	0	10	0	5	4	1	1	1	1	1	1	0	0	0	0	0	0	0	1.3	9.6
22-Nov	0	0	0	1	A	0	0	0	1	2	4	38	16	11	48	24	19	17	24	32	28	26	11	1	13.1	48.1
23-Nov	1	0	0	0	A	0	0	0	2	2	11	6	7	9	16	1	1	0	0	1	1	1	1	0	2.7	15.6
24-Nov	0	0	0	0	A	0	0	79	0	0	1	2	4	2	4	3	1	0	1	0	0	0	0	0	4.4	79.3
25-Nov	0	0	0	0	A	1	3	5	4	5	34	61	40	23	43	42	43	24	25	4	26	8	0	0	17.0	61.2
26-Nov	0	0	0	0	A	0	1	0	1	1	3	5	1	1	1	1	1	1	0	0	0	0	0	0	0.9	4.9
27-Nov	0	0	0	0	A	0	1	1	0	1	1	2	3	2	1	1	1	0	1	0	0	0	0	0	0.8	2.5
28-Nov	0	0	0	0	A	0	0	0	0	1	1	1	1	1	2	1	0	0	0	0	0	0	0	0	0.4	1.5
29-Nov	0	0	0	0	A	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0.3	1.0
30-Nov	0	0	0	0	A	0	0	0	0	0	1	2	1	1	1	0	0	0	0	0	0	0	0	N	0.4	1.7
	0.3	0.5	0.1	0.9	--	0.3	0.5	3.9	2.1	4.7	11.0	12.1	7.4	6.2	6.9	5.4	4.6	2.2	2.7	1.6	2.0	1.3	2.1	1.9	Diurnal Average	
	4.6	8.6	1.0	19.3	--	4.4	2.6	79.3	20.1	38.5	102.0	73.1	42.5	35.0	48.1	42.0	43.2	23.5	24.7	31.6	28.3	25.7	44.9	52.0	Diurnal Maximum	

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

Hourly Maximums for NO at Beaverlodge
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge - Oxides of Nitrogen (NO_X) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 71.2 ppb on Nov 4 12:00

Maximum Daily Average: 23.0 ppb on Nov 25

Minimum Value: 0 ppb on Nov 27 02:00

Minimum Daily Average: 1.4 ppb on Nov 29

Maximum Diurnal Average: 11.5 ppb at hour 12

Minimum Diurnal Average: 3.4 ppb at hour 4

Monthly Average: 6.59 ppb

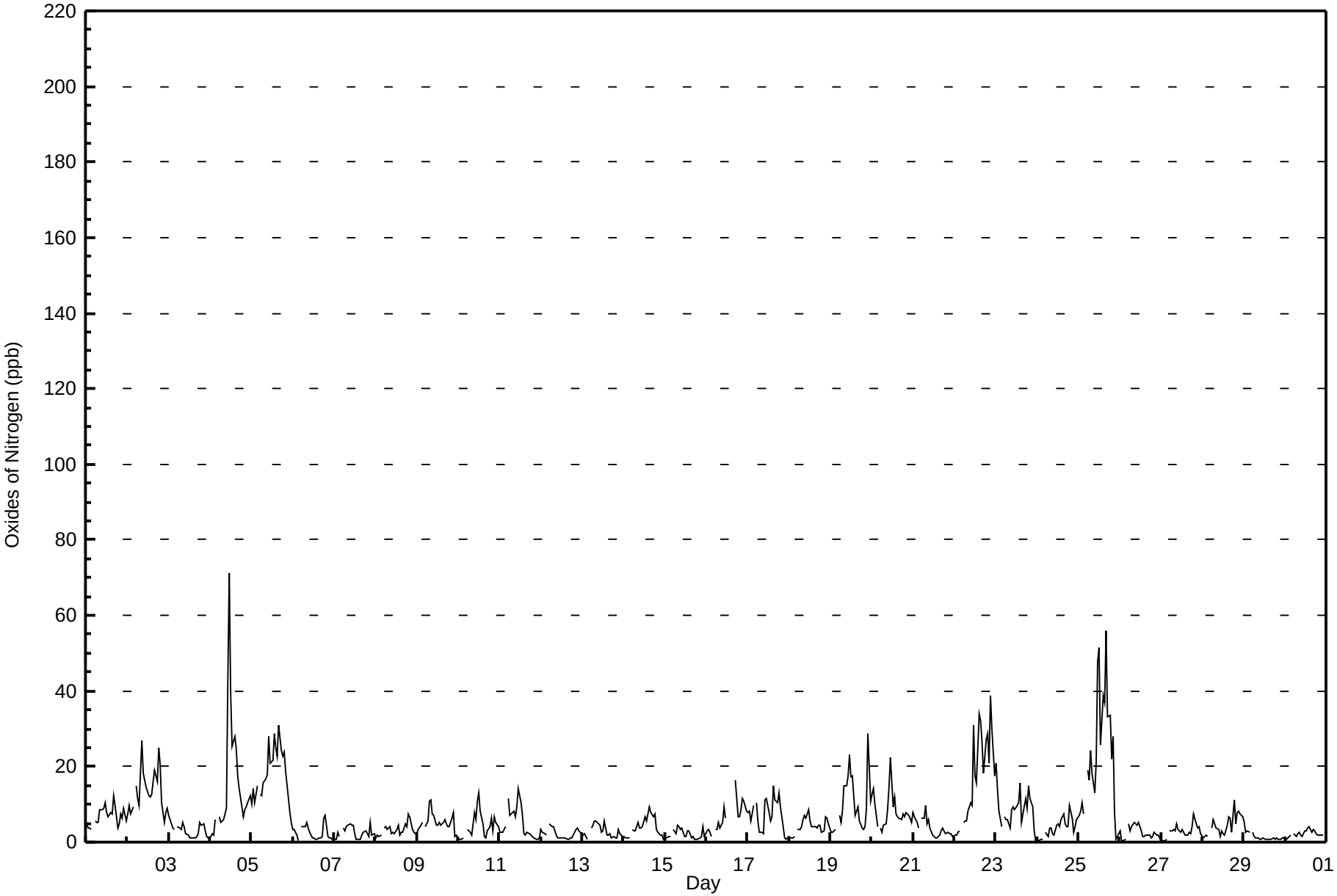
Percentiles: $P_1 = 0.5$ $P_{10} = 1.1$ $Q_1 = 2.0$ Median = 4.1 $Q_3 = 7.7$ $P_{90} = 14.8$ $P_{99} = 38.4$

Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	35
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	5	4	4	3	A	6	5	5	8	9	9	11	8	7	8	7	12	10	4	5	7	6	9	6	6.8	12.4
2-Nov	8	10	7	9	A	15	12	10	27	18	16	14	12	12	13	16	19	16	25	20	11	5	8	9	13.6	26.7
3-Nov	7	6	4	3	A	4	4	3	5	4	2	2	1	1	1	1	2	2	5	5	5	3	2	1	3.2	7.2
4-Nov	2	2	2	6	A	7	5	6	6	9	43	71	40	25	28	25	18	14	9	7	9	9	11	12	15.9	71.2
5-Nov	10	14	10	15	A	13	12	16	17	18	28	21	22	29	25	23	31	24	23	24	19	12	8	5	18.1	31.1
6-Nov	3	3	2	1	A	4	4	4	5	4	2	1	1	1	1	1	1	2	6	7	1	1	1	1	2.5	7.0
7-Nov	1	1	3	2	A	4	3	4	5	5	4	4	2	1	1	1	2	2	3	2	2	5	2	2	2.6	5.2
8-Nov	1	2	2	2	A	4	4	3	4	2	3	2	3	4	2	3	3	5	4	8	7	3	2	2	3.3	7.6
9-Nov	2	3	5	5	A	4	5	11	11	8	7	5	5	5	5	5	6	5	4	4	6	8	2	2	5.3	11.2
10-Nov	1	1	1	1	A	3	3	2	2	8	6	11	13	8	5	2	1	3	4	6	3	7	5	4	4.3	13.0
11-Nov	2	3	3	4	A	12	7	7	8	7	9	14	10	7	2	2	3	2	2	1	1	1	1	1	4.8	14.0
12-Nov	3	3	2	2	A	5	4	4	3	2	1	1	1	1	1	1	1	1	1	2	3	4	3	3	2.3	4.7
13-Nov	2	2	1	1	A	4	4	6	6	5	4	3	3	6	2	2	2	1	2	1	1	4	2	1	2.8	5.8
14-Nov	1	1	1	1	A	3	3	3	5	4	4	4	7	5	8	9	8	7	7	3	3	2	2	1	4.0	9.3
15-Nov	1	1	2	2	A	3	2	4	4	3	4	2	2	3	3	1	2	1	1	1	1	1	4	2	2.1	4.4
16-Nov	3	3	3	2	A	3	3	5	4	5	9	6	C	C	C	C	C	16	7	7	9	11	11	8	6.5	16.5
17-Nov	8	8	6	10	A	10	5	3	2	2	11	11	8	6	7	15	11	10	13	9	7	1	1	1	7.2	14.8
18-Nov	1	1	1	2	A	3	3	4	6	7	7	9	6	4	4	4	4	4	4	3	3	7	6	5	4.3	8.6
19-Nov	3	2	3	3	A	7	5	8	15	15	17	23	17	18	7	8	9	6	4	3	4	9	29	11	9.9	28.9
20-Nov	13	14	10	4	A	4	3	4	5	8	15	22	9	12	7	7	6	6	7	7	8	7	6	5	8.3	22.3
21-Nov	8	7	5	4	A	6	6	10	5	6	4	2	1	1	1	2	3	4	3	2	2	2	2	2	3.8	9.7
22-Nov	2	2	3	3	A	5	6	6	8	10	10	31	17	16	34	32	26	18	27	29	21	39	30	17	17.0	38.7
23-Nov	21	14	8	4	A	7	6	6	4	8	9	9	10	10	16	5	7	11	9	15	11	9	3	1	8.9	20.8
24-Nov	0	1	1	1	A	3	2	4	4	2	2	5	5	4	6	7	5	4	4	10	6	2	4	6	3.8	9.6
25-Nov	7	8	10	7	A	19	17	24	18	13	21	48	52	26	39	37	56	33	33	22	28	8	1	2	23.0	55.8
26-Nov	3	0	1	1	A	5	3	4	5	5	4	5	3	1	1	2	2	2	1	1	3	2	2	1	2.5	5.2
27-Nov	1	0	0	1	A	3	3	3	3	5	3	3	3	3	2	2	2	2	4	8	5	4	4	2	2.8	7.6
28-Nov	1	1	2	1	A	4	6	5	4	3	2	3	2	2	5	7	6	3	11	5	8	8	7	7	4.4	11.3
29-Nov	5	2	3	2	A	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.4	5.3
30-Nov	1	1	1	2	A	2	2	2	3	2	2	3	3	4	4	3	3	3	2	2	2	2	2	N	2.2	4.0
	4.2	4.1	3.5	3.4	--	5.8	5.0	5.9	6.8	6.6	8.7	11.5	9.2	7.7	8.1	7.9	8.7	7.3	7.7	7.3	6.6	6.1	5.7	4.2	Diurnal Average	
	20.8	14.2	10.5	14.8	--	19.0	16.5	24.3	26.7	18.2	43.0	71.2	51.6	28.9	38.7	37.1	55.8	33.1	33.5	28.6	28.1	38.7	29.9	17.5	Diurnal Maximum	

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

Hourly Averages for NO_X at Beaverlodge
November 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Beaverlodge - Oxides of Nitrogen (NO_X) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 128.6 ppb on Nov 4 11:00

Maximum Daily Average: 39.7 ppb on Nov 25

Minimum Value: 1 ppb on Nov 7 01:00

Maximum Diurnal Average: 21.6 ppb at hour 12

Monthly Average: 12.14 ppb

Minimum Daily Average: 3.0 ppb on Nov 29

Minimum Diurnal Average: 5.4 ppb at hour 3

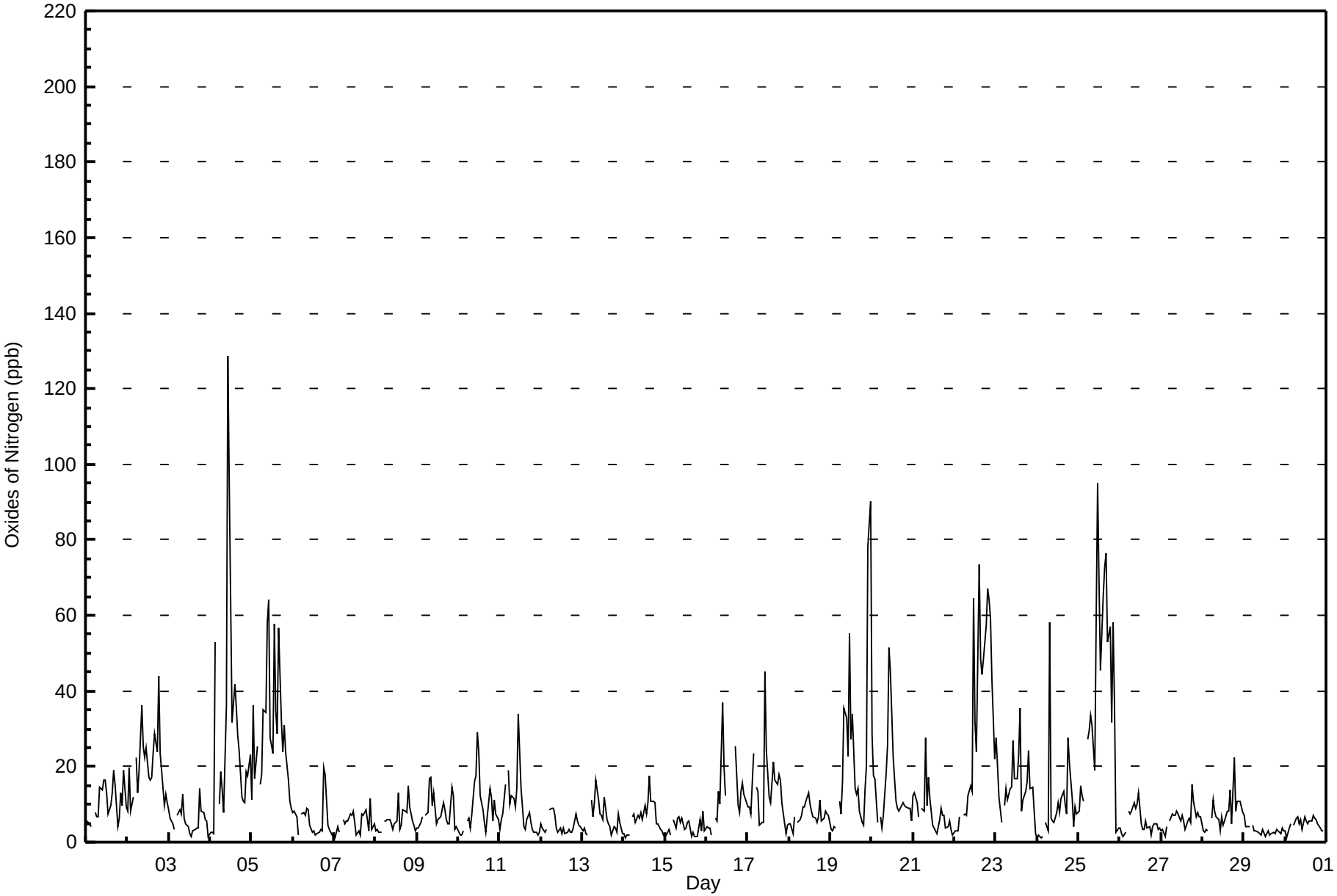
Percentiles: P_1 = 1.5 P_{10} = 2.6 Q_1 = 4.1 Median = 7.2 Q_3 = 13.4 P_{90} = 27.4 P_{99} = 72.3

Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	35
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	4	A	8	7	7	14	14	16	17	13	8	10	13	19	15	4	6	13	10	19	10	10.5	19.2
2-Nov	8	20	8	12	A	22	13	18	36	25	22	25	17	17	17	23	29	24	44	23	19	10	13	11	19.9	44.0
3-Nov	9	6	5	4	A	7	9	8	13	6	5	4	2	2	3	3	4	4	14	8	8	6	6	1	5.9	14.3
4-Nov	3	3	2	53	A	10	19	14	8	36	129	95	64	32	42	36	28	24	12	11	10	18	18	23	30.0	128.6
5-Nov	11	36	17	25	A	15	18	35	34	58	64	28	24	58	35	29	57	32	24	31	24	17	11	9	30.1	64.1
6-Nov	8	8	7	2	A	7	8	7	9	9	5	3	3	2	2	2	3	3	20	18	4	3	2	2	6.0	19.6
7-Nov	1	3	4	2	A	6	5	5	5	7	7	8	5	2	3	2	8	7	8	6	3	12	3	5	5.2	11.7
8-Nov	3	3	3	3	A	6	6	6	6	5	3	5	5	13	3	5	8	8	8	15	9	5	4	3	5.9	14.8
9-Nov	4	4	5	7	A	7	8	17	17	10	13	5	6	6	7	10	9	6	5	5	15	12	3	4	8.0	17.2
10-Nov	3	2	2	3	A	5	6	4	7	16	18	29	24	12	9	5	3	7	14	12	6	11	8	6	9.2	29.2
11-Nov	3	6	7	15	A	19	10	12	12	9	14	34	14	9	4	4	6	8	5	3	3	3	2	3	8.9	34.1
12-Nov	5	4	3	3	A	9	9	9	7	4	3	4	2	4	2	3	3	3	3	4	8	5	5	4	4.5	9.1
13-Nov	3	4	2	2	A	11	7	10	16	11	7	7	6	12	6	5	4	2	4	4	3	8	5	2	6.1	16.4
14-Nov	2	1	2	2	A	7	7	5	7	6	8	6	10	7	10	18	11	11	11	5	5	3	3	2	6.5	17.7
15-Nov	2	2	3	2	A	6	4	7	7	5	6	3	4	5	5	1	3	1	1	1	6	3	8	3	3.9	8.3
16-Nov	4	4	4	2	A	6	5	13	10	37	20	12	C	C	C	C	C	25	10	8	14	16	13	10	11.9	36.8
17-Nov	9	9	7	24	A	15	14	5	5	5	45	24	12	11	16	21	16	15	18	16	10	5	2	5	13.5	45.3
18-Nov	5	5	2	7	A	5	6	7	9	9	11	13	10	8	7	6	5	7	11	6	6	8	7	7	7.3	13.0
19-Nov	3	3	4	4	A	11	7	16	36	33	23	55	27	34	14	13	14	8	5	5	14	20	78	90	22.5	90.3
20-Nov	28	18	17	5	A	7	4	7	18	26	52	45	22	16	11	9	8	10	11	10	9	9	9	6	15.5	51.6
21-Nov	12	13	10	7	A	9	8	28	10	17	11	5	4	3	2	6	9	7	7	4	4	6	3	2	8.2	27.7
22-Nov	3	3	3	7	A	7	8	7	12	15	13	64	32	24	73	49	44	48	57	67	64	59	43	22	31.5	73.3
23-Nov	27	20	12	5	A	10	14	11	14	14	27	17	17	23	35	8	11	13	16	24	14	15	8	2	15.6	35.2
24-Nov	1	2	1	2	A	5	3	58	6	6	5	8	10	8	11	14	10	7	28	21	11	4	9	8	10.4	58.0
25-Nov	8	15	12	11	A	27	29	34	31	19	60	95	69	45	65	73	76	53	57	32	58	36	3	4	39.7	95.1
26-Nov	4	2	2	3	A	8	7	8	10	9	10	13	5	3	3	6	4	4	2	4	5	5	4	4	5.4	13.1
27-Nov	3	3	2	4	A	5	8	7	7	8	8	6	7	6	3	5	6	5	15	11	7	8	7	7	6.4	15.3
28-Nov	3	3	3	3	A	6	11	8	7	6	3	7	4	5	8	8	14	5	22	8	11	11	11	8	7.7	22.4
29-Nov	7	4	4	4	A	4	3	3	3	2	2	3	2	2	3	2	2	3	2	3	3	2	4	3	3.0	7.1
30-Nov	3	1	4	5	A	4	6	7	5	6	3	7	6	5	6	6	7	6	6	5	4	3	3	N	4.8	7.1
	6.4	7.0	5.4	7.7	--	9.2	8.9	12.8	12.7	14.5	20.4	21.6	14.7	13.1	14.4	13.2	14.6	12.4	14.8	12.5	12.3	11.1	10.5	9.1	Diurnal Average	
	28.4	36.1	17.0	53.0	--	27.3	29.3	58.0	36.2	58.3	128.6	95.2	68.6	57.7	73.3	72.9	76.4	53.0	57.4	67.1	64.0	59.3	78.5	90.3	Diurnal Maximum	

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

Hourly Maximums for NO_X at Beaverlodge
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge - Ozone (O_3) - ppb
November 1, 2009 to December 1, 2009

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 39.9 ppb on Nov 6 04:00
Maximum Daily Average: 35.5 ppb on Nov 12

Minimum Value: 3 ppb on Nov 25 18:00
Maximum Diurnal Average: 29.3 ppb at hour 24
Monthly Average: 27.59 ppb

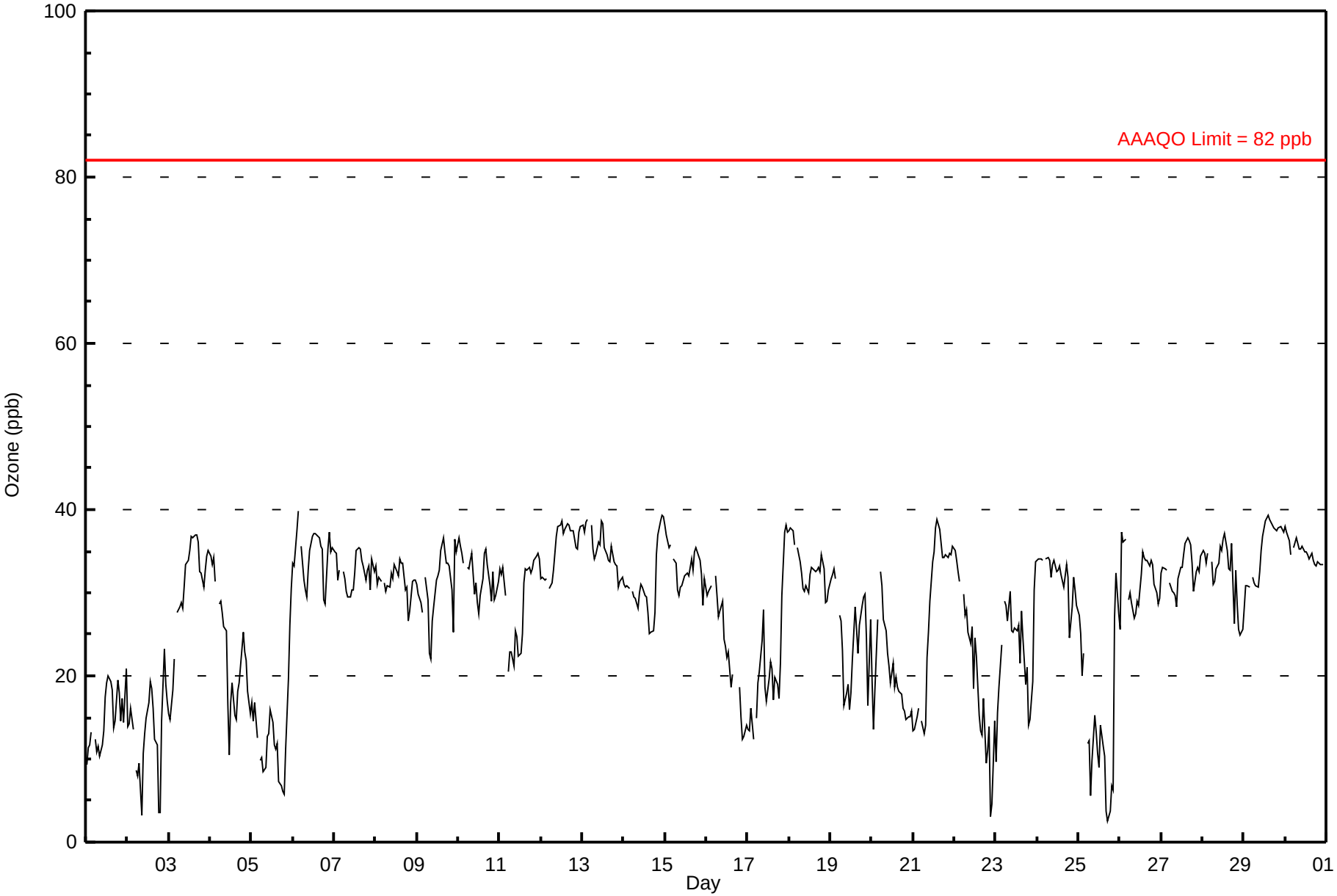
Minimum Daily Average: 13.1 ppb on Nov 2
Minimum Diurnal Average: 25.7 ppb at hour 9
Percentiles: P_1 = 3.9 P_{10} = 14.0 Q_1 = 21.7 Median = 30.7 Q_3 = 33.9 P_{90} = 36.4 P_{99} = 38.8

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	9	11	12	13	A	12	11	11	10	12	13	17	19	20	19	18	14	15	20	18	15	17	14	21	14.9	20.9
2-Nov	14	14	16	14	A	9	8	9	3	11	13	15	17	19	18	16	12	12	4	4	15	23	19	17	13.1	23.2
3-Nov	15	15	18	22	A	28	28	29	28	31	33	34	35	37	37	37	37	36	33	32	31	33	34	35	30.3	37.0
4-Nov	34	33	34	31	A	29	29	28	26	25	17	11	17	19	15	15	18	19	23	25	23	22	18	15	22.9	34.3
5-Nov	17	15	17	13	A	10	10	8	9	13	13	16	14	12	11	12	7	7	6	6	11	20	26	30	13.1	30.5
6-Nov	34	33	37	40	A	36	32	30	30	33	35	37	37	37	37	37	36	35	29	29	35	37	35	35	34.6	39.9
7-Nov	35	35	32	33	A	33	32	30	30	29	30	30	32	35	35	35	34	33	32	33	33	30	34	33	32.5	35.4
8-Nov	33	31	32	31	A	31	30	31	31	32	32	33	33	32	34	33	34	30	31	27	28	31	32	31	31.4	34.1
9-Nov	31	30	29	28	A	32	29	23	22	27	28	31	32	33	35	37	35	34	34	33	30	25	36	35	30.8	36.6
10-Nov	37	36	35	34	A	33	33	34	35	30	31	29	28	30	32	35	35	33	31	29	32	29	30	31	32.2	36.6
11-Nov	33	32	33	30	A	21	23	23	21	25	25	22	23	25	31	33	33	33	32	33	34	34	35	34	29.0	34.8
12-Nov	32	32	32	32	A	31	31	33	35	37	38	38	39	37	38	38	38	37	37	37	35	35	37	38	35.5	38.6
13-Nov	38	37	39	39	A	38	35	34	35	36	36	39	38	35	35	34	34	36	34	33	33	31	31	32	35.3	38.9
14-Nov	31	31	31	30	A	30	29	29	28	30	31	31	30	30	28	25	25	25	28	35	37	39	39	39	30.9	39.3
15-Nov	38	37	35	36	A	34	34	30	30	31	31	32	32	32	32	34	33	35	35	35	34	32	29	32	33.1	38.2
16-Nov	30	30	30	31	A	32	30	27	28	29	24	24	22	23	19	20	C	C	C	19	15	12	13	14	23.6	32.0
17-Nov	14	13	16	12	A	15	19	21	24	28	19	17	20	22	21	17	20	19	17	22	30	37	38	37	21.6	38.1
18-Nov	37	38	37	36	A	35	34	32	30	30	31	30	32	33	33	32	33	33	32	35	33	29	29	30	32.9	37.8
19-Nov	32	32	33	32	A	27	27	23	16	18	19	16	18	22	28	26	23	26	28	29	30	25	16	27	24.9	32.8
20-Nov	20	14	18	27	A	32	31	27	25	23	21	19	22	19	20	19	18	18	16	16	15	15	15	16	20.2	32.5
21-Nov	13	14	15	16	A	15	13	14	22	25	29	34	35	38	39	38	36	34	34	35	34	35	35	36	27.7	38.8
22-Nov	35	34	32	31	A	30	27	28	25	24	26	18	25	22	15	13	13	17	9	11	14	3	5	14	20.6	35.1
23-Nov	10	16	19	24	A	29	28	27	30	25	25	26	25	26	22	28	25	19	21	14	15	19	30	34	23.3	33.7
24-Nov	34	34	34	34	A	34	34	34	32	33	34	33	33	33	32	31	32	33	32	25	28	32	30	28	32.2	34.2
25-Nov	27	25	20	23	A	12	12	6	10	15	13	11	9	14	12	10	4	3	4	7	6	27	32	27	14.3	32.4
26-Nov	26	37	36	36	A	29	30	29	27	28	29	29	32	35	34	34	34	33	34	33	31	30	29	29	31.5	37.3
27-Nov	32	33	33	33	A	31	30	30	30	28	32	33	33	35	36	37	36	36	34	30	33	33	33	34	32.8	36.6
28-Nov	35	35	34	35	A	34	31	31	33	34	36	35	36	37	35	33	33	36	26	33	29	26	25	26	32.4	37.1
29-Nov	28	31	31	31	A	32	31	31	31	33	35	37	39	39	39	39	38	38	38	37	38	38	38	37	35.1	39.2
30-Nov	38	37	36	35	A	35	37	36	35	35	36	35	35	34	34	35	34	33	33	34	33	33	33	N	34.9	38.0
	28.0	28.1	28.5	28.6	--	27.6	26.9	25.9	25.7	27.0	27.2	27.0	28.0	28.8	28.5	28.3	27.7	27.5	26.4	26.2	27.0	27.8	28.4	29.3	Diurnal Average	
	38.2	37.8	38.5	39.9	--	38.2	36.6	35.9	35.2	36.7	38.0	38.6	38.6	39.0	39.2	38.8	38.4	37.8	37.6	37.4	37.9	38.7	39.3	39.2	Diurnal Maximum	

C - Calibration N - Not Valid 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 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Beaverlodge - Ozone (O_3) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 42.8 ppb on Nov 6 03:00

Maximum Daily Average: 37.5 ppb on Nov 13

Minimum Value: 7 ppb on Nov 5 19:00

Minimum Daily Average: 16.8 ppb on Nov 5

Maximum Diurnal Average: 31.3 ppb at hour 24

Minimum Diurnal Average: 28.6 ppb at hour 8

Monthly Average: 30.11 ppb

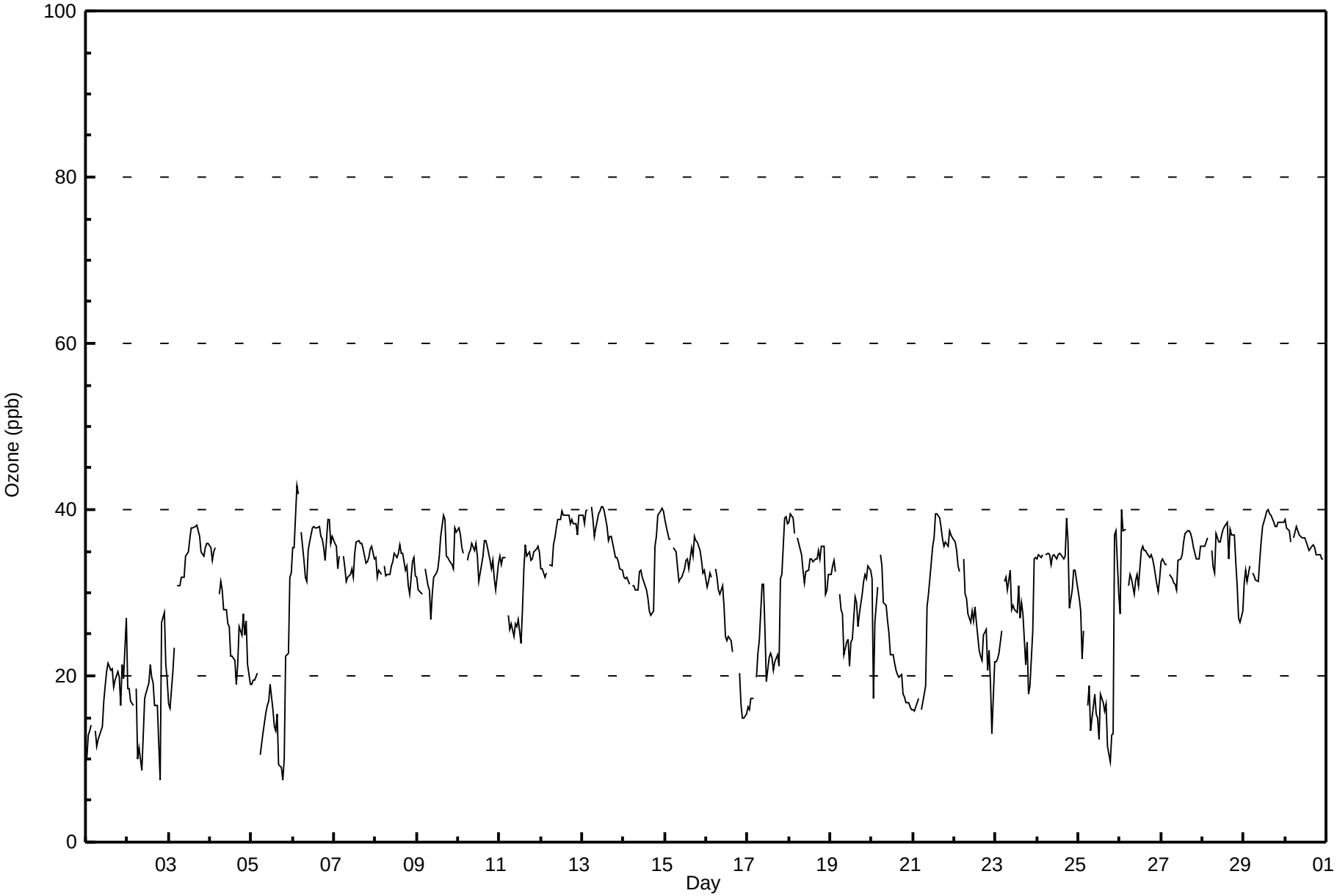
Percentiles: P_1 = 9.8 P_{10} = 17.3 Q_1 = 25.9 Median = 32.7 Q_3 = 35.6 P_{90} = 37.9 P_{99} = 40.0

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

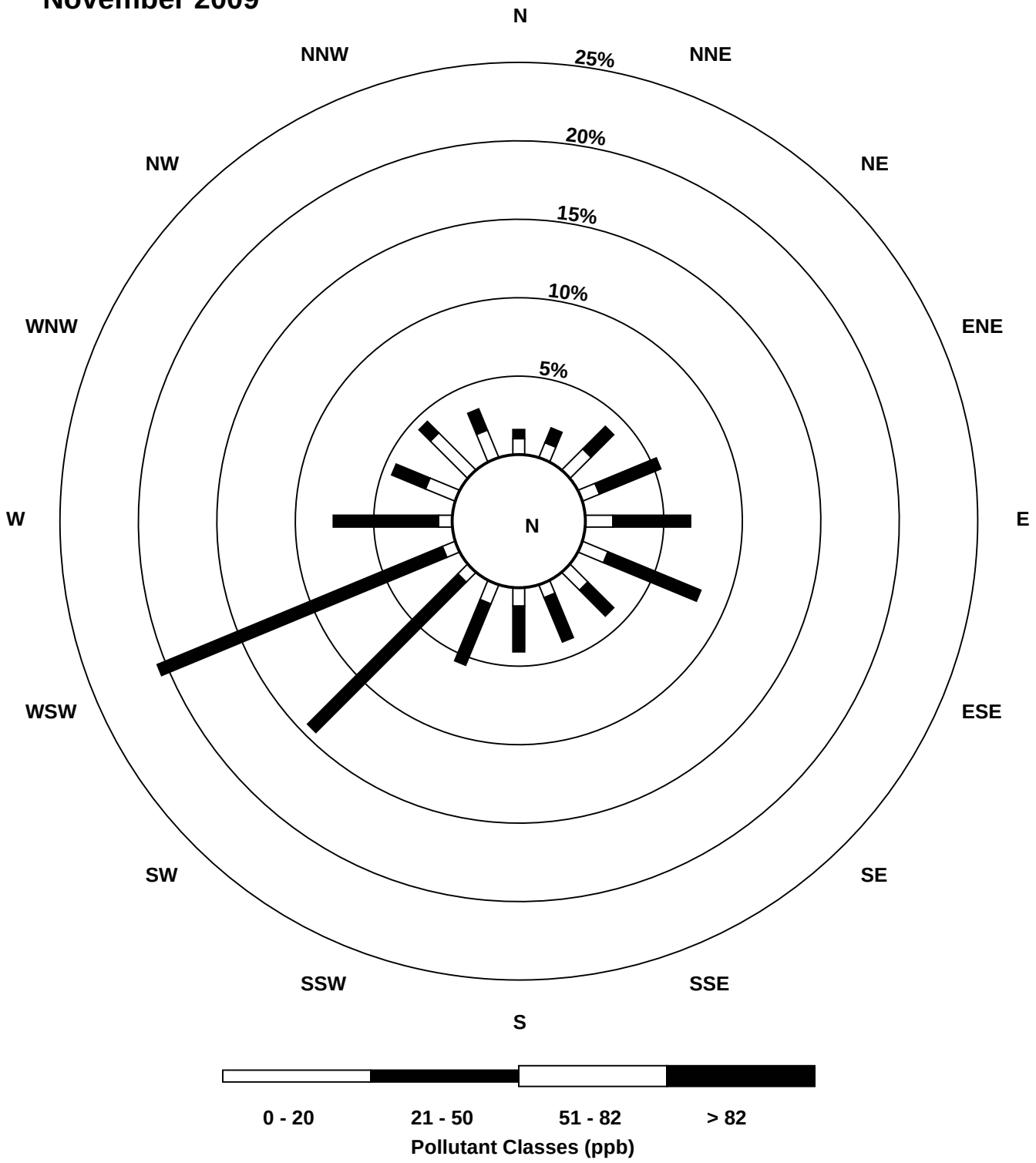
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	10	13	13	14	A	13	11	12	13	14	17	19	20	22	21	21	19	19	20	20	16	21	20	27	17.3	26.9
2-Nov	18	18	17	16	A	18	10	11	9	13	17	18	19	21	20	19	16	16	12	7	26	28	21	19	17.1	27.6
3-Nov	17	16	21	23	A	31	31	32	32	32	34	35	36	38	38	38	38	37	37	35	34	35	36	36	32.3	38.1
4-Nov	35	34	35	35	A	30	31	30	28	28	26	26	22	22	22	19	21	26	25	27	25	27	21	19	26.8	35.4
5-Nov	19	19	19	20	A	10	12	13	16	16	17	19	16	14	13	15	9	9	7	10	22	23	32	32	16.8	32.4
6-Nov	35	35	43	42	A	37	34	32	31	35	36	38	38	38	38	38	37	36	35	34	39	39	36	37	36.7	42.8
7-Nov	36	36	33	34	A	34	33	31	32	32	33	32	35	36	36	36	36	35	34	34	34	35	36	34	34.2	36.3
8-Nov	34	32	33	32	A	33	32	32	32	33	34	35	34	35	36	35	35	33	33	31	30	34	34	32	33.2	35.7
9-Nov	32	30	30	30	A	33	31	30	27	30	32	32	33	34	37	39	39	34	34	34	33	33	38	37	33.2	39.3
10-Nov	38	37	35	35	A	34	35	35	36	35	36	34	31	32	34	36	36	36	34	33	34	32	30	34	34.5	37.9
11-Nov	34	33	34	34	A	27	26	26	25	26	26	27	24	28	33	36	34	35	34	34	35	35	36	35	31.2	35.8
12-Nov	33	33	32	32	A	33	33	36	37	38	39	39	40	39	39	39	39	38	39	38	38	37	39	39	37.0	39.8
13-Nov	39	38	40	40	A	40	39	37	38	39	40	40	40	40	38	36	37	37	35	34	34	34	33	33	37.5	40.4
14-Nov	32	32	32	31	A	31	31	30	30	33	33	32	31	30	29	28	27	28	36	37	39	40	40	40	32.7	40.1
15-Nov	39	38	36	36	A	35	35	33	31	32	32	33	34	34	33	35	34	37	36	36	35	34	32	33	34.5	38.9
16-Nov	31	31	32	32	A	33	32	30	30	31	28	25	24	25	24	23	C	C	C	20	17	15	15	15	25.7	32.8
17-Nov	16	16	17	17	A	20	23	24	31	31	26	19	22	23	22	21	22	22	21	32	32	39	39	38	25.0	39.2
18-Nov	38	39	39	37	A	37	35	35	33	31	33	33	34	34	34	34	34	35	34	36	36	30	30	32	34.5	39.5
19-Nov	32	33	34	33	A	30	28	27	23	24	24	21	24	24	30	29	26	27	30	31	32	32	33	33	28.7	33.8
20-Nov	32	17	26	31	A	35	33	29	28	27	25	23	23	22	21	20	20	20	18	17	17	17	16	16	23.1	34.5
21-Nov	16	16	17	17	A	16	18	19	28	30	32	36	37	39	39	39	38	36	36	36	36	37	37	37	30.0	39.4
22-Nov	36	35	33	33	A	34	30	29	27	26	28	27	28	26	23	22	22	25	26	21	23	19	13	22	26.5	36.0
23-Nov	22	22	23	25	A	31	32	30	33	28	28	28	28	31	27	29	27	21	24	18	19	25	34	34	26.9	34.2
24-Nov	34	35	34	35	A	35	35	35	33	34	35	34	35	35	35	34	34	39	36	28	30	33	33	32	34.0	38.9
25-Nov	29	28	22	25	A	16	19	13	15	18	15	15	12	18	17	16	17	12	10	13	13	37	37	30	19.4	37.4
26-Nov	27	40	38	38	A	31	32	32	30	32	32	31	35	36	35	35	35	34	35	34	33	31	30	32	33.3	40.0
27-Nov	34	34	33	33	A	32	32	31	31	30	34	34	35	36	37	38	38	37	36	35	34	34	34	36	34.3	37.5
28-Nov	36	36	36	37	A	35	33	32	37	36	36	37	38	38	39	34	38	37	37	34	31	27	26	28	34.6	38.5
29-Nov	31	33	31	33	A	32	32	32	31	34	36	38	39	40	40	39	39	38	38	38	38	38	38	38	36.1	39.9
30-Nov	39	38	38	36	A	37	38	37	37	37	37	37	36	36	35	36	36	35	35	35	34	34	34	N	36.1	38.9
	30.2	29.9	30.2	30.6	--	29.8	29.1	28.6	28.8	29.5	30.0	29.8	30.1	30.9	30.8	30.7	30.5	30.3	29.9	29.1	30.1	31.2	31.2	31.3	Diurnal Average	
	39.3	40.0	42.8	41.8	--	40.3	38.8	37.5	37.8	39.4	39.8	40.4	40.3	39.8	39.9	39.5	39.4	38.9	38.8	38.3	39.3	39.9	40.1	39.9	Diurnal Maximum	

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

Hourly Maximums for O_3 at Beaverlodge
November 2009



Pollutant Rose for O_3 at Beaverlodge
November 2009



Peace Airshed Zone Association
Summary of Eight Hour Running Averages

Beaverlodge - Ozone (O_3) - ppb
November 1, 2009 to December 1, 2009

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 38.4 ppb on Nov 29 20:00

Minimum Value: 7.4 ppb on Nov 25 21:00

Percentiles: P_1 = 9.4 P_{10} = 14.3 Q_1 = 21.7 Median = 31.0 Q_3 = 33.4 P_{90} = 35.5 P_{99} = 37.9

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	25	22	19	16	13	11	11	11	12	12	12	13	13	14	15	16	17	17	18	18	17	17	16	17	24.7
2-Nov	17	17	16	16	16	15	14	12	10	10	9	10	11	12	13	14	15	15	14	13	12	13	13	13	16.6
3-Nov	14	14	16	18	19	19	20	22	24	26	28	30	31	32	33	34	35	36	36	35	35	34	34	34	35.7
4-Nov	34	33	33	33	34	33	32	31	30	29	26	23	23	21	20	18	17	16	17	19	20	20	20	20	33.7
5-Nov	20	20	19	17	17	15	14	13	12	11	11	11	12	12	12	12	12	12	11	9	9	10	12	14	20.3
6-Nov	17	21	25	29	31	34	35	35	34	34	34	33	34	34	34	35	36	36	36	35	34	34	34	34	36.3
7-Nov	34	34	34	35	35	34	33	33	32	31	31	31	31	31	32	32	33	33	33	34	34	33	33	33	34.6
8-Nov	33	32	32	32	32	32	32	31	31	31	31	31	32	32	32	33	33	33	33	32	31	31	31	30	32.9
9-Nov	30	30	30	30	30	30	30	29	27	27	27	27	28	28	29	31	32	33	34	34	34	33	33	33	34.0
10-Nov	33	33	33	33	34	35	34	34	34	33	33	32	31	31	31	31	31	32	32	32	32	32	32	31	35.0
11-Nov	31	31	31	31	31	30	29	28	26	25	24	23	23	23	24	26	27	28	29	30	32	33	33	34	33.6
12-Nov	33	33	33	33	33	32	32	32	32	33	34	35	35	36	37	37	38	38	38	38	37	37	37	37	37.9
13-Nov	37	37	37	37	38	38	38	37	37	37	36	36	36	36	36	36	36	36	35	35	34	34	33	33	38.0
14-Nov	33	32	32	31	31	31	31	30	30	30	30	30	30	30	30	29	29	28	28	28	29	30	32	33	33.4
15-Nov	35	36	37	38	38	37	36	35	34	33	32	32	32	31	31	32	32	33	33	34	34	34	33	33	37.6
16-Nov	33	32	31	31	31	30	31	30	30	30	29	28	27	26	24	24	23	22	N	N	N	N	N	N	32.7
17-Nov	14	14	15	14	14	14	15	16	17	19	20	20	20	21	21	21	20	19	19	20	21	23	25	27	27.5
18-Nov	30	32	35	36	37	37	36	36	35	34	33	32	32	32	31	32	32	32	32	33	33	32	32	32	37.3
19-Nov	32	31	32	31	31	31	30	29	27	25	23	21	21	20	20	20	21	22	23	25	27	27	25	26	31.6
20-Nov	25	24	22	22	21	22	24	24	25	26	27	26	25	23	22	21	20	19	19	18	17	17	16	16	26.6
21-Nov	15	15	15	15	15	15	15	14	16	17	19	22	23	26	29	32	34	35	36	36	36	36	35	35	36.0
22-Nov	35	35	34	34	34	33	32	31	30	28	27	26	25	24	23	21	20	19	17	16	14	12	11	11	34.7
23-Nov	10	10	11	13	13	17	20	22	25	26	27	27	27	27	26	26	25	24	24	22	21	20	21	22	27.2
24-Nov	23	25	27	29	31	33	34	34	34	34	34	33	33	33	33	33	33	33	32	31	31	31	30	30	34.0
25-Nov	30	28	27	27	27	24	21	18	15	14	13	11	11	11	11	12	11	9	8	8	7	9	12	14	29.5
26-Nov	16	21	25	29	32	32	32	32	32	31	30	29	29	30	30	31	32	33	33	34	34	33	32	32	33.7
27-Nov	31	31	31	31	31	31	32	32	31	31	31	31	31	31	32	33	34	35	35	35	34	34	34	34	34.9
28-Nov	33	33	33	34	34	34	34	33	33	33	33	33	34	34	35	35	35	35	34	34	33	31	30	29	35.1
29-Nov	28	28	28	28	28	29	30	31	31	31	32	33	33	34	35	36	37	38	38	38	38	38	38	38	38.4
30-Nov	38	38	37	37	37	37	36	36	36	36	36	36	36	35	35	35	35	35	34	34	34	34	34	33	37.7
Diurnal Maximums	37.7	37.6	37.5	37.6	37.6	38.0	37.7	37.2	36.7	36.5	36.1	36.1	36.4	36.0	36.7	37.4	37.8	38.0	38.3	38.4	38.3	38.1	37.9	37.7	

N - Not Valid

Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge - Particulate Matter 2.5 ($PM_{2.5}$) - $\mu g/m^3$
November 1, 2009 to December 1, 2009

Number of Exceedences: 1-hr: 0 24-hr: 0
Maximum Value: 24.0 $\mu g/m^3$ on Nov 25 19:00
Maximum Daily Average: 14.5 $\mu g/m^3$ on Nov 25

Minimum Value: 1 $\mu g/m^3$ on Nov 12 14:00
Maximum Diurnal Average: 6.9 $\mu g/m^3$ at hour 19
Monthly Average: 5.57 $\mu g/m^3$

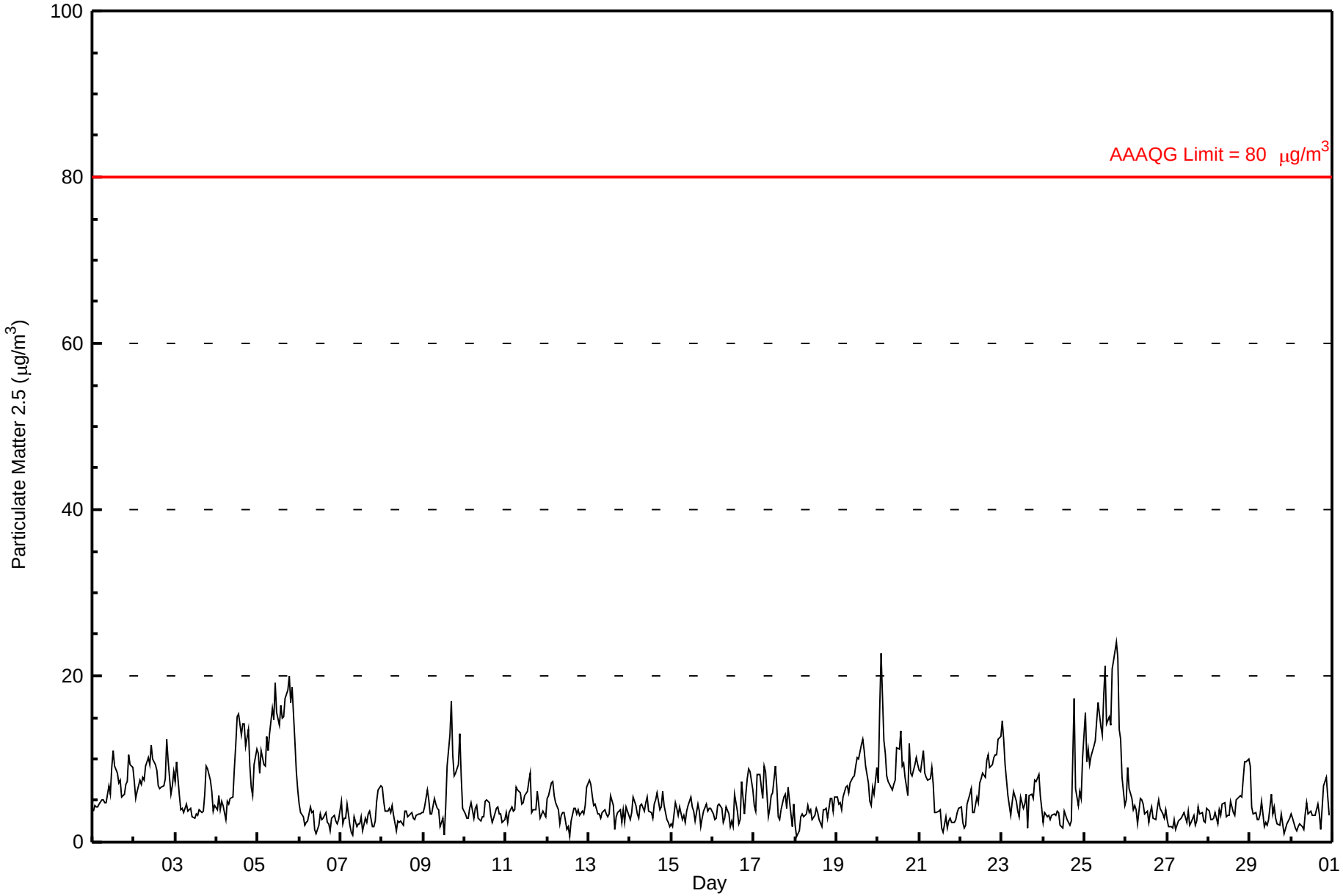
Minimum Daily Average: 2.7 $\mu g/m^3$ on Nov 27
Minimum Diurnal Average: 4.5 $\mu g/m^3$ at hour 6
Percentiles: P_1 = 1.3 P_{10} = 2.3 Q_1 = 3.1 Median = 4.2 Q_3 = 7.1 P_{90} = 10.6 P_{99} = 19.4

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

Day	Hourly Period Ending At (MST) 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	5	5	5	5	5	7	6	9	11	9	8	7	8	5	6	7	7	11	9	9	6.6	11.1
2-Nov	7	5	6	7	7	8	8	9	10	9	12	10	9	9	7	6	7	7	8	12	10	6	7	8	8.1	12.4
3-Nov	7	10	6	4	4	4	5	4	4	4	3	3	3	3	4	4	4	6	9	9	8	6	4	4	5.0	9.6
4-Nov	4	6	4	5	4	3	5	5	5	5	9	12	15	15	13	14	14	12	14	9	7	6	9	11	8.5	15.5
5-Nov	11	8	11	9	9	13	11	13	16	15	19	16	14	16	15	15	17	18	20	17	19	12	9	6	13.7	20.0
6-Nov	5	4	3	2	2	2	4	4	4	2	1	2	3	3	3	3	2	2	1	3	3	3	2	3	2.8	4.5
7-Nov	5	2	3	3	5	2	1	1	3	2	2	2	3	1	3	2	3	4	2	2	2	5	6	7	3.0	6.8
8-Nov	7	5	4	4	4	4	4	3	1	3	2	3	2	4	4	3	3	4	3	3	3	3	3	4	3.4	6.7
9-Nov	3	4	6	5	3	3	5	5	4	4	2	3	1	4	9	13	17	11	8	8	9	13	8	4	6.4	17.0
10-Nov	3	3	3	4	5	3	4	4	3	3	3	3	5	5	5	3	2	3	4	4	3	3	2	3	3.5	5.0
11-Nov	4	2	4	4	4	4	7	6	6	5	5	6	6	7	8	4	4	4	6	5	3	4	3	3	4.7	8.3
12-Nov	5	6	7	7	6	5	4	2	3	4	3	1	2	1	2	4	4	3	4	3	4	3	4	7	4.0	7.3
13-Nov	7	7	6	4	5	3	3	3	4	4	3	3	3	6	4	2	3	4	4	2	4	2	4	3	3.9	7.4
14-Nov	3	4	5	4	3	3	4	5	4	5	5	4	4	3	5	5	6	4	4	6	4	3	2	2	4.0	6.2
15-Nov	2	2	5	4	3	4	3	3	2	4	4	5	4	4	3	5	4	2	3	4	5	4	4	4	3.6	5.5
16-Nov	3	3	3	4	5	4	2	3	4	3	2	2	2	6	4	2	3	7	3	6	8	9	9	6	4.3	8.9
17-Nov	4	4	8	8	7	5	9	9	3	4	6	6	9	7	3	3	4	5	6	4	7	3	2	5	5.4	9.2
18-Nov	2	1	1	3	3	3	3	4	4	4	3	3	4	4	3	2	4	4	4	3	5	5	4	5	3.4	5.4
19-Nov	5	5	5	4	5	7	7	6	7	8	8	9	10	10	12	12	11	9	7	5	4	7	6	9	7.4	12.4
20-Nov	7	16	23	12	11	8	7	7	6	7	8	11	11	13	9	10	8	6	12	8	8	9	10	9	9.9	22.7
21-Nov	9	8	11	8	8	7	8	9	7	4	4	4	4	2	1	3	2	3	3	2	2	3	4	4	4.9	11.0
22-Nov	4	2	2	2	5	6	6	4	4	5	5	7	8	8	8	10	10	9	9	10	11	11	12	13	7.1	12.6
23-Nov	15	12	9	6	4	3	5	6	5	4	3	5	4	5	6	2	6	6	5	7	7	8	6	4	5.9	14.5
24-Nov	2	4	3	3	3	3	3	3	4	4	2	2	4	3	3	2	2	10	17	6	4	6	5	10	4.6	17.2
25-Nov	16	10	11	9	10	12	12	15	17	14	13	18	21	14	15	14	21	22	24	22	14	12	8	4	14.5	24.0
26-Nov	5	9	6	5	4	4	4	2	5	5	4	3	4	2	4	4	3	3	4	5	4	3	3	4	4.2	8.9
27-Nov	3	2	2	2	3	2	2	3	3	3	4	2	4	2	2	3	2	3	4	3	4	3	2	4	2.7	4.2
28-Nov	4	3	3	3	4	2	4	3	5	5	3	3	3	5	4	3	5	5	6	5	8	10	10	10	4.8	10.0
29-Nov	9	4	3	4	3	3	3	5	2	2	2	3	6	3	4	3	2	2	3	2	1	2	2	3	3.3	9.2
30-Nov	3	3	2	1	2	2	2	2	3	5	3	4	3	3	3	5	3	2	4	7	8	5	3	N	3.4	7.8
	5.6	5.2	5.6	4.9	4.8	4.5	5.1	5.0	5.1	5.0	4.9	5.5	6.1	5.9	5.7	5.6	6.1	6.1	6.9	6.4	6.2	6.0	5.5	5.8	Diurnal Average	
	15.6	15.9	22.7	12.2	10.6	12.6	12.2	14.6	16.7	14.8	19.2	17.6	21.2	16.4	15.0	15.1	20.8	21.9	24.0	22.2	18.7	13.1	12.4	12.6	Diurnal Maximum	

N - Not Valid
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Hourly Averages for $PM_{2.5}$ at Beaverlodge
November 2009



Maximum Value: 27.7 $\mu g/m^3$ on Nov 25 20:00

Maximum Daily Average: 16.8 $\mu g/m^3$ on Nov 25

Minimum Value: 2 $\mu g/m^3$ on Nov 6 11:00

Maximum Diurnal Average: 8.2 $\mu g/m^3$ at hour 19

Monthly Average: 6.73 $\mu g/m^3$

Minimum Daily Average: 3.5 $\mu g/m^3$ on Nov 27

Minimum Diurnal Average: 5.6 $\mu g/m^3$ at hour 6

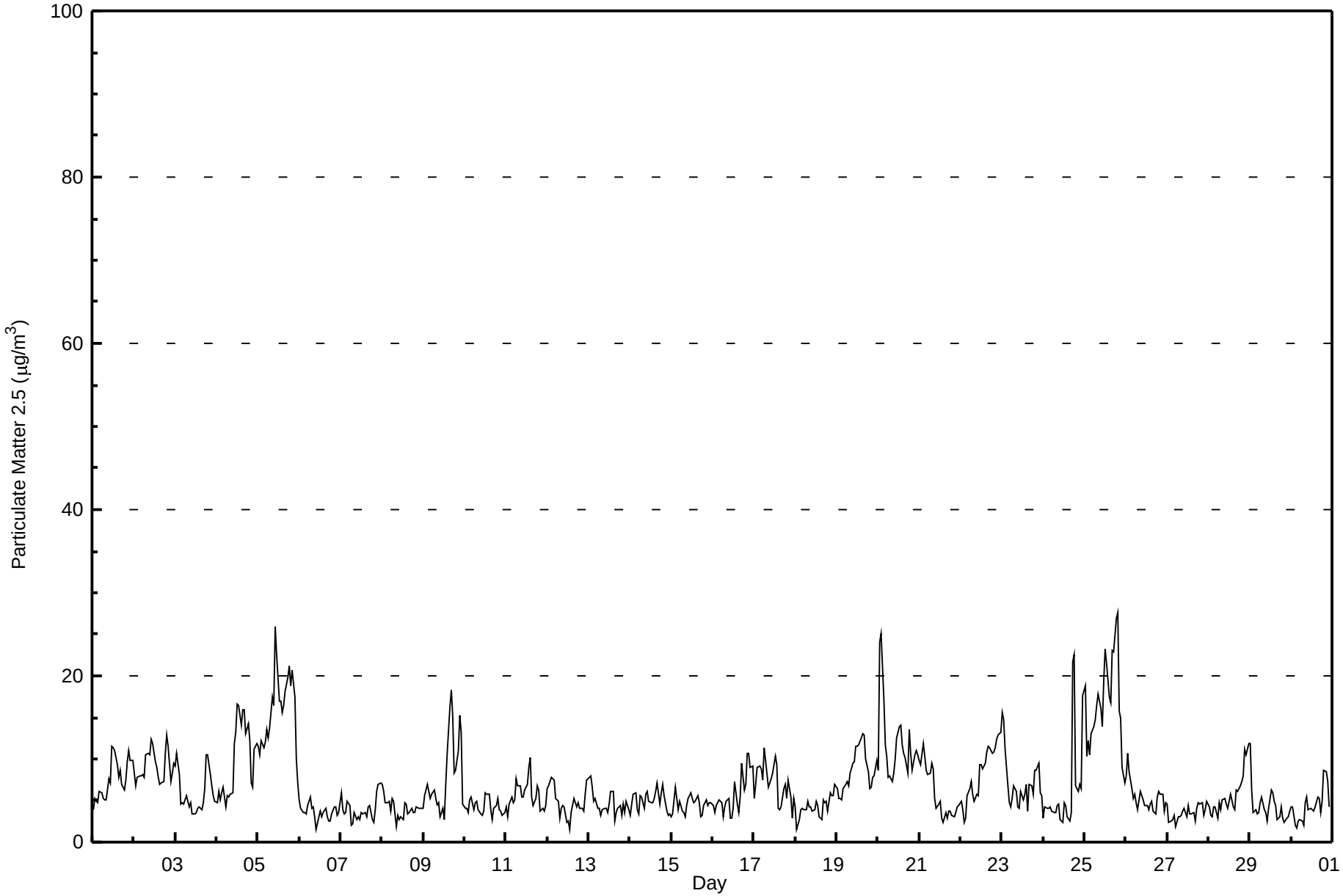
Percentiles: P_1 = 2.0 P_{10} = 3.1 Q_1 = 4.0 Median = 5.2 Q_3 = 8.1 P_{90} = 12.1 P_{99} = 23.0

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

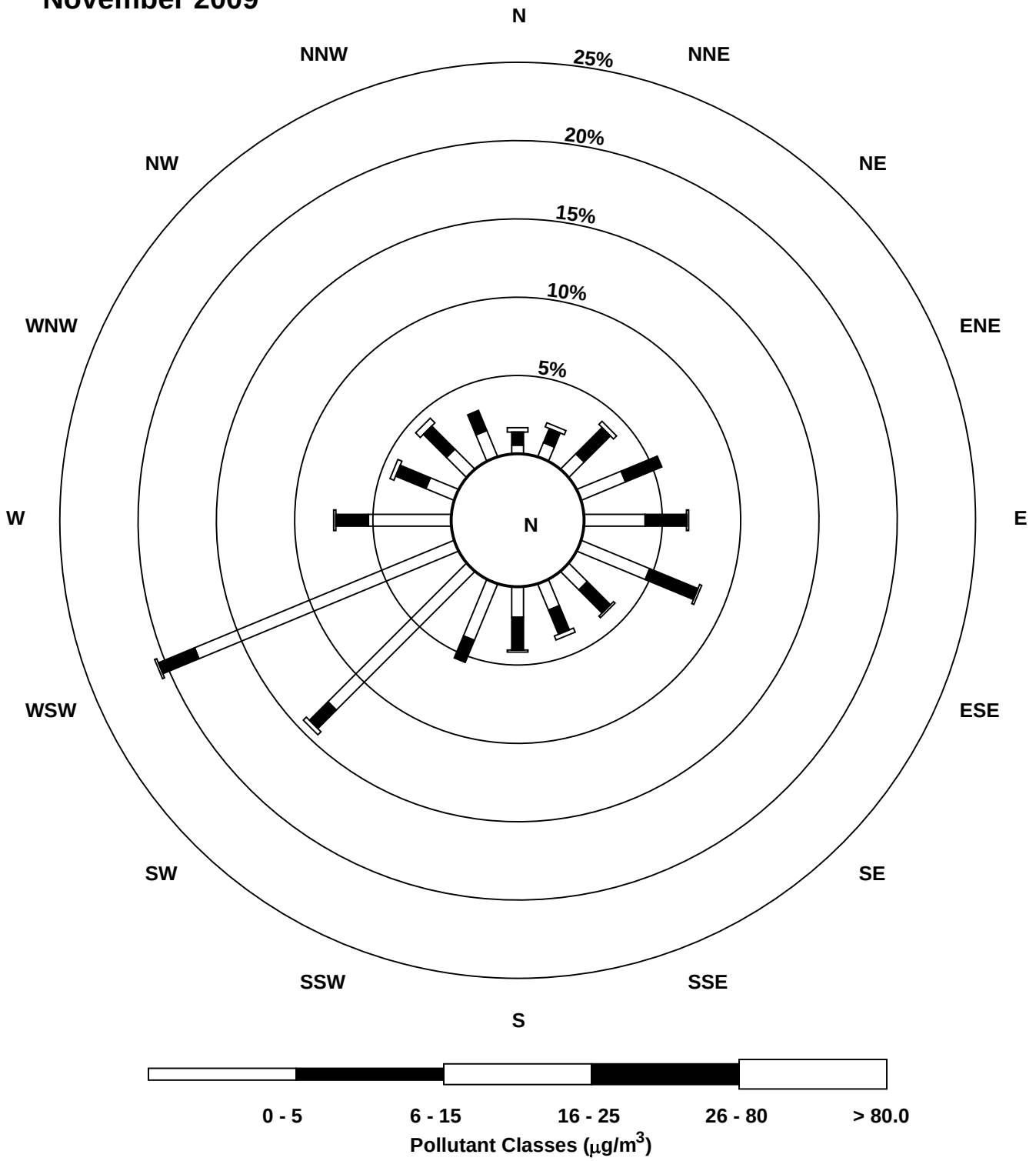
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	4	5	5	5	6	6	5	5	5	8	7	12	11	11	9	8	9	7	6	7	10	11	10	10	7.6	11.6
2-Nov	8	7	8	8	8	8	8	11	11	10	12	12	10	9	8	7	7	7	11	13	12	7	8	9	9.1	12.9
3-Nov	9	11	8	5	5	4	6	5	4	5	3	3	4	4	4	4	5	7	10	10	8	7	6	5	5.9	10.7
4-Nov	5	6	5	6	7	4	6	5	6	6	12	13	17	16	14	16	16	13	14	12	7	7	11	12	9.8	16.6
5-Nov	11	11	12	11	12	14	12	14	17	16	26	22	17	17	16	16	18	20	21	19	21	17	10	7	15.8	25.9
6-Nov	5	4	4	4	3	4	5	4	4	3	2	3	4	3	4	4	3	3	2	3	4	4	3	3	3.6	5.4
7-Nov	6	4	3	4	5	4	2	2	4	3	3	3	4	3	4	3	4	4	3	2	4	6	7	7	3.9	7.1
8-Nov	7	6	5	5	5	4	5	5	2	3	3	3	3	5	5	3	4	4	4	4	4	4	4	4	4.1	7.0
9-Nov	4	6	7	6	5	6	6	5	4	5	3	4	3	7	10	16	18	15	8	9	11	15	13	5	8.0	18.3
10-Nov	4	4	3	5	5	4	5	5	4	3	3	4	6	6	6	4	3	4	4	5	4	4	3	4	4.2	5.9
11-Nov	4	3	5	5	5	5	8	7	7	6	5	6	7	9	10	5	4	5	7	6	4	4	4	4	5.7	10.2
12-Nov	6	7	8	8	8	5	5	3	4	4	4	2	3	2	4	5	5	4	5	4	4	4	6	8	4.8	7.8
13-Nov	8	8	7	5	5	4	4	3	4	4	4	4	5	6	6	3	3	4	4	3	5	4	5	4	4.6	8.0
14-Nov	3	5	6	6	4	3	6	5	4	6	6	5	5	5	5	6	7	5	6	7	6	4	3	3	5.0	7.2
15-Nov	3	3	7	5	4	5	4	4	3	4	5	6	5	5	5	6	5	3	3	4	5	4	5	5	4.5	6.6
16-Nov	4	4	4	5	5	5	3	4	5	5	3	3	4	7	5	4	5	10	6	7	11	11	9	9	5.7	10.7
17-Nov	5	7	9	9	9	7	11	10	7	7	8	8	10	9	4	4	4	7	7	5	7	5	3	5	7.0	11.3
18-Nov	4	2	3	4	4	4	4	5	4	4	4	4	5	4	3	3	5	5	5	4	6	6	6	7	4.3	6.9
19-Nov	6	5	5	5	6	7	7	7	8	9	10	12	12	12	13	13	13	10	9	7	7	8	8	10	8.6	13.0
20-Nov	9	24	25	17	12	10	8	8	7	8	10	12	14	14	12	11	10	8	14	11	9	10	11	11	11.9	25.0
21-Nov	10	9	12	10	9	8	8	9	9	5	4	5	5	3	2	4	3	4	4	3	3	4	4	4	5.9	11.9
22-Nov	5	4	2	3	6	6	7	6	5	6	6	9	9	9	10	11	12	11	11	11	11	12	13	13	8.2	13.2
23-Nov	16	15	11	7	5	4	5	7	6	4	4	6	5	6	7	4	7	7	6	9	9	9	6	6	7.0	15.6
24-Nov	3	4	4	4	4	4	4	4	4	5	3	2	5	4	3	2	4	22	23	7	6	7	6	18	6.3	22.5
25-Nov	19	10	12	10	13	14	15	16	18	16	14	19	23	22	17	17	23	23	27	28	16	15	9	7	16.8	27.7
26-Nov	8	11	8	6	5	6	5	4	6	6	5	4	4	4	5	5	4	3	5	6	6	6	4	5	5.4	10.6
27-Nov	5	2	3	3	3	2	3	3	3	4	4	3	4	3	3	4	3	4	5	5	5	3	4	5	3.5	4.9
28-Nov	4	3	3	4	4	3	5	4	5	5	5	4	5	6	4	4	6	6	7	7	8	11	11	12	5.7	11.9
29-Nov	12	6	4	4	3	3	5	6	4	4	3	4	6	6	5	4	3	3	4	3	2	3	3	4	4.3	11.9
30-Nov	4	4	2	2	3	3	3	2	5	5	4	4	4	4	4	5	5	4	5	9	9	7	4	N	4.4	8.6
	6.7	6.7	6.7	6.0	5.9	5.6	6.0	5.9	6.0	6.0	6.1	6.8	7.2	7.3	6.9	6.7	7.2	7.7	8.2	7.7	7.4	7.3	6.6	7.0	Diurnal Average	
	18.8	24.0	25.0	17.1	13.1	13.9	14.7	16.4	17.8	16.4	25.9	22.5	23.1	21.6	17.4	16.8	23.1	22.8	27.0	27.7	20.7	17.5	13.2	17.6	Diurnal Maximum	

N - Not Valid

Hourly Maximums for $PM_{2.5}$ at Beaverlodge
November 2009



Pollutant Rose for $PM_{2.5}$ at Beaverlodge
November 2009



Beaverlodge - External Temperature (ET) - ^{o}C
November 1, 2009 to December 1, 2009

Maximum Value: 6.0 ^{o}C on Nov 6 01:00

Maximum Daily Average: 2.9 ^{o}C on Nov 6

Minimum Value: -12 ^{o}C on Nov 22 06:00

Minimum Daily Average: -9.5 ^{o}C on Nov 22

Maximum Diurnal Average: 1.3 ^{o}C at hour 14

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

Monthly Average: -1.48 ^{o}C

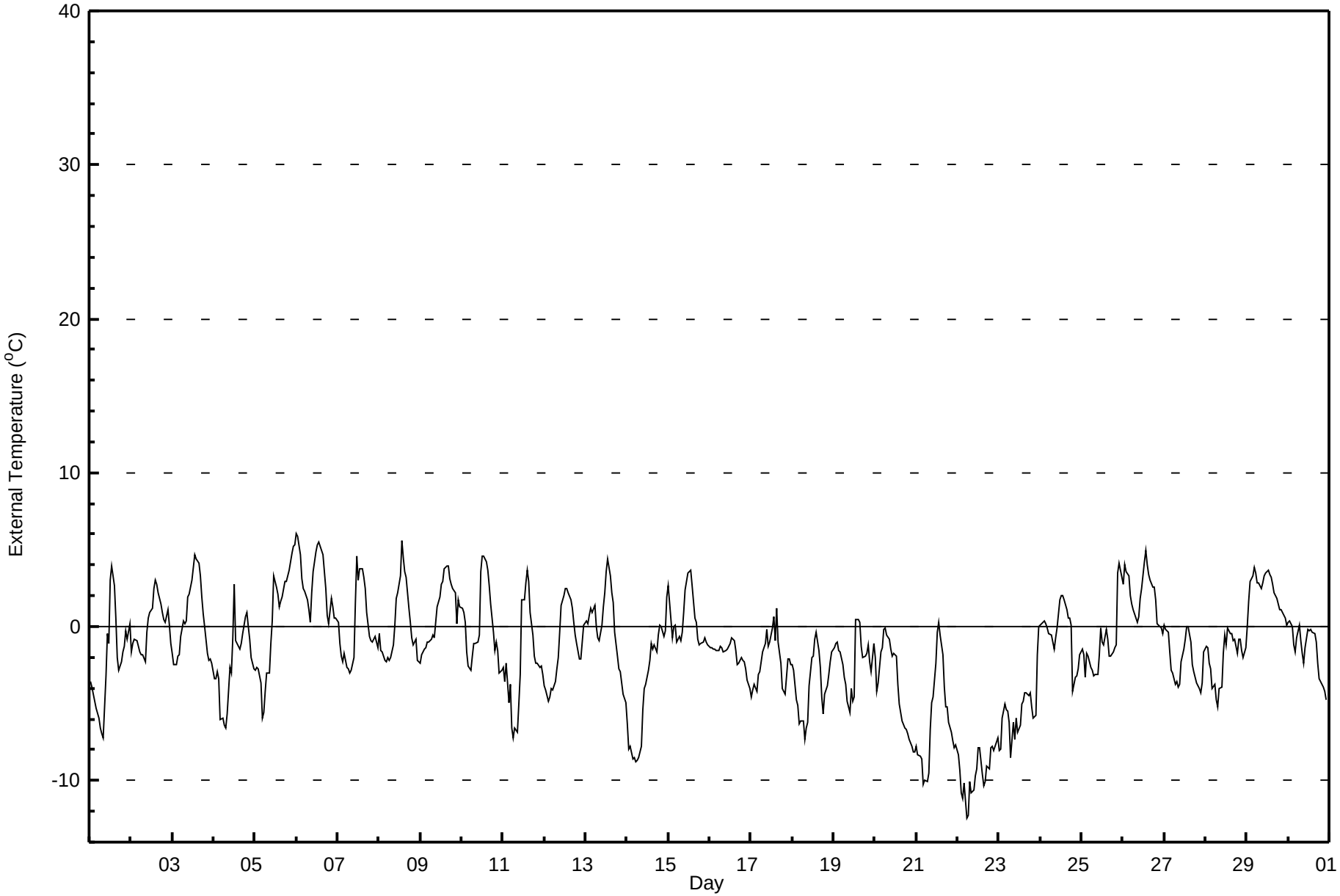
Percentiles: P_1 = -10.2 P_{10} = -6.3 Q_1 = -3.3 Median = -1.3 Q_3 = 0.6 P_{90} = 2.9 P_{99} = 5.2

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) 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	-5	-5	-6	-7	-7	-7	-3	0	-1	3	4	3	1	-2	-3	-2	-2	-1	0	-1	0	-2.3	4.0
2-Nov	-2	-1	-1	-1	-1	-2	-2	-2	-2	0	1	1	1	2	3	3	2	1	1	0	0	1	0	-1	0.1	3.0
3-Nov	-2	-2	-3	-2	-2	-1	0	0	0	2	2	3	4	5	4	4	3	2	1	0	-2	-2	-2	-2	0.5	4.7
4-Nov	-3	-3	-3	-3	-6	-6	-6	-7	-6	-3	-3	-1	3	-1	-1	-1	-1	0	1	1	0	-1	-2	-3	-2.4	2.8
5-Nov	-3	-3	-3	-4	-6	-6	-4	-3	-3	-1	0	3	3	2	1	2	2	3	3	3	4	5	5	5	0.3	5.3
6-Nov	6	6	5	3	2	2	2	1	0	2	4	5	5	5	5	5	4	2	1	0	2	1	1	1	2.9	6.0
7-Nov	0	-1	-2	-2	-2	-3	-3	-3	-3	-2	2	5	3	4	4	3	2	1	-1	-1	-1	-1	-1	-1	-0.1	4.6
8-Nov	0	-2	-2	-2	-2	-2	-2	-2	-1	0	2	2	3	6	5	4	3	1	0	-1	-1	-1	-2	-2	0.1	5.6
9-Nov	-2	-2	-1	-1	-1	-1	-1	-1	-1	0	1	2	3	3	4	4	4	3	3	2	2	0	2	1	1.0	3.9
10-Nov	1	1	0	-2	-3	-3	-2	-1	-1	-1	-1	4	5	5	4	4	3	1	0	-2	-1	-2	-3	-3	0.2	4.6
11-Nov	-3	-4	-2	-5	-4	-7	-7	-7	-7	-5	-3	2	2	3	4	3	1	-1	-2	-2	-2	-3	-3	-3	-2.3	3.7
12-Nov	-4	-4	-5	-5	-4	-4	-4	-3	-2	0	1	2	2	3	2	2	1	0	-1	-1	-2	-2	-1	0	-1.1	2.5
13-Nov	0	0	1	1	1	1	0	-1	-1	0	1	2	4	4	3	2	2	0	-2	-3	-3	-4	-4	-5	0.0	4.4
14-Nov	-6	-8	-8	-9	-9	-9	-9	-9	-8	-5	-4	-4	-3	-2	-1	-1	-1	-2	-1	0	0	-1	0	2	-4.0	1.9
15-Nov	3	2	-1	0	0	-1	-1	-1	0	1	2	3	4	4	3	1	0	-1	-1	-1	-1	-1	-1	-1	0.5	3.7
16-Nov	-1	-1	-1	-1	-2	-2	-1	-1	-2	-2	-1	-1	-1	-1	-1	-2	-2	-2	-2	-2	-2	-3	-3	-4	-1.8	-0.7
17-Nov	-5	-4	-4	-4	-3	-3	-2	-2	-1	0	-1	-1	0	1	-1	1	-1	-2	-4	-4	-4	-2	-2	-2	-2.2	1.2
18-Nov	-2	-3	-5	-5	-6	-6	-6	-7	-7	-6	-4	-2	-2	-1	0	-2	-3	-5	-6	-4	-4	-3	-2	-2	-3.9	-0.4
19-Nov	-1	-1	-1	-2	-2	-2	-3	-4	-5	-6	-4	-5	-5	0	0	0	-1	-2	-2	-2	-1	-2	-3	-1	-2.2	0.4
20-Nov	-2	-4	-4	-2	-1	0	0	-1	-1	-1	-2	-2	-2	-4	-5	-6	-6	-7	-7	-7	-7	-8	-8	-8	-3.9	-0.1
21-Nov	-8	-8	-8	-9	-10	-10	-10	-9	-7	-5	-5	-2	0	0	-1	-2	-4	-5	-5	-6	-7	-7	-8	-8	-6.0	0.3
22-Nov	-8	-9	-11	-11	-10	-12	-12	-10	-11	-11	-10	-9	-8	-8	-10	-10	-10	-9	-9	-8	-8	-8	-8	-7	-9.5	-7.2
23-Nov	-8	-8	-6	-5	-5	-5	-6	-9	-6	-7	-6	-7	-6	-5	-5	-4	-4	-4	-4	-5	-6	-6	-2	0	-5.5	0.0
24-Nov	0	0	0	0	0	0	-1	-1	-1	-1	0	2	2	2	2	1	1	1	0	-4	-3	-3	-3	-2	-0.4	2.0
25-Nov	-1	-2	-3	-2	-2	-3	-3	-3	-3	-3	-2	0	-1	-1	0	-1	-2	-2	-2	-1	-1	3	4	3	-1.1	4.1
26-Nov	3	4	4	3	2	1	1	1	0	1	2	2	4	5	4	3	3	3	3	2	0	0	0	0	2.1	5.0
27-Nov	0	0	0	-2	-3	-3	-4	-4	-4	-4	-2	-1	-1	0	0	-1	-2	-3	-3	-4	-4	-4	-4	-2	-2.3	0.1
28-Nov	-1	-1	-2	-3	-4	-4	-5	-5	-4	-4	-2	-1	-1	0	0	0	-1	-1	-2	-1	-1	-2	-2	-1	-2.0	-0.1
29-Nov	0	2	3	3	4	4	3	3	2	3	3	4	4	3	3	3	2	2	1	1	1	1	1	0	2.3	3.9
30-Nov	0	0	0	-1	-2	-1	0	-1	-2	-2	-1	0	0	0	0	0	-1	-2	-3	-4	-4	-4	-5	N	-1.5	0.4
	-1.8	-2.0	-2.2	-2.5	-2.8	-3.1	-3.1	-3.2	-3.1	-2.1	-1.0	0.1	0.8	1.3	0.9	0.5	-0.3	-1.0	-1.5	-1.8	-1.9	-1.9	-1.9	-1.6	Diurnal Average	
	6.0	5.9	4.7	3.3	3.9	3.5	2.8	2.9	2.5	2.8	3.6	4.8	5.3	5.6	5.2	4.7	3.9	3.1	2.9	3.3	3.7	4.8	5.3	5.3	Diurnal Maximum	

N - Not Valid

Hourly Averages for External Temperature at Beaverlodge
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge - Relative Humidity (RH) - %
November 1, 2009 to December 1, 2009

Maximum Value: 96.5 % on Nov 16 02:00

Maximum Daily Average: 94.5 % on Nov 16

Minimum Value: 38 % on Nov 14 19:00

Minimum Daily Average: 52.2 % on Nov 13

Maximum Diurnal Average: 78.2 % at hour 6

Minimum Diurnal Average: 60.0 % at hour 14

Monthly Average: 71.14 %

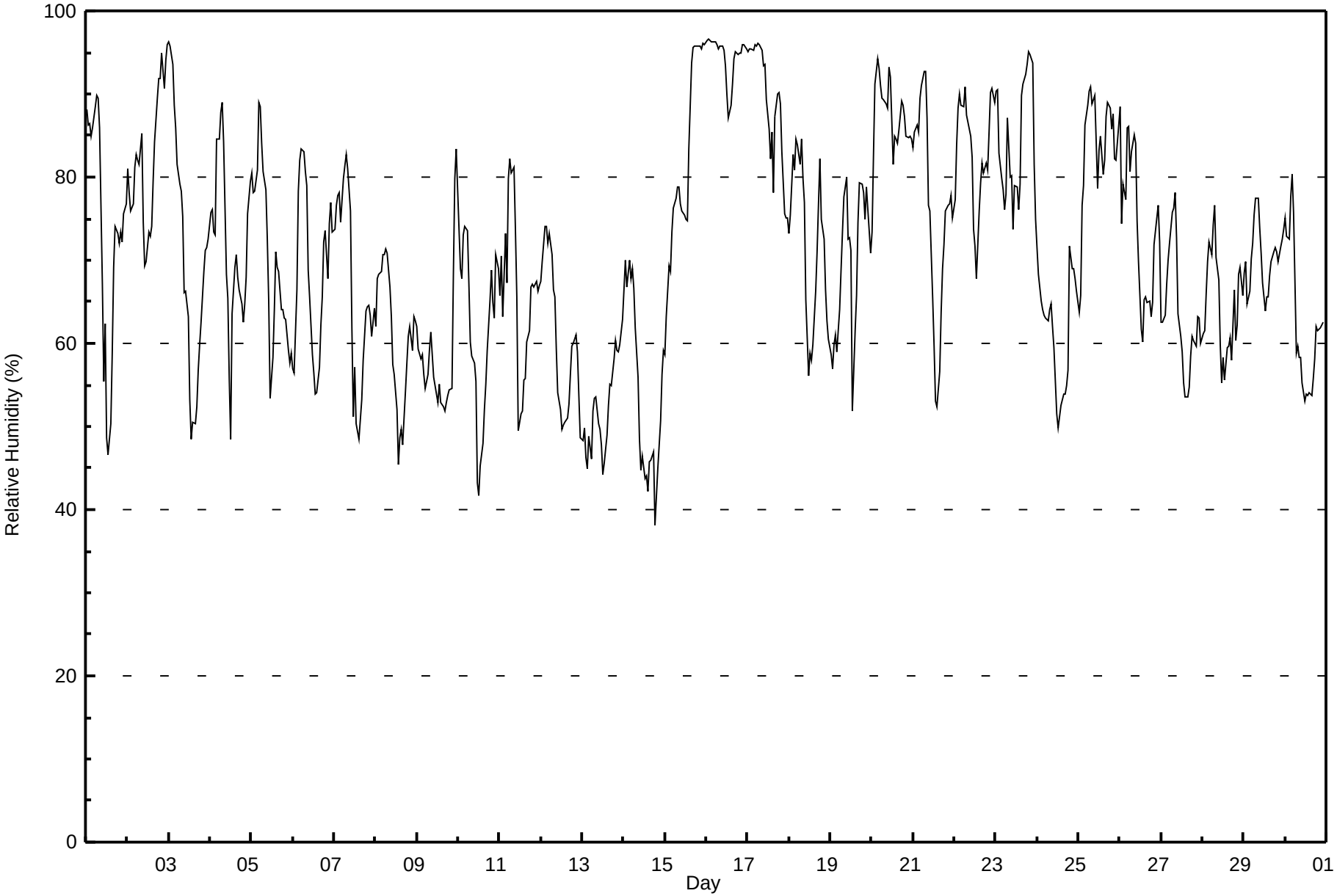
Percentiles: P_1 = 44.0 P_{10} = 53.2 Q_1 = 60.1 Median = 70.9 Q_3 = 81.7 P_{90} = 90.2 P_{99} = 96.2

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) 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	88	86	86	85	86	88	90	90	86	67	55	62	49	47	50	59	69	74	73	72	73	72	76	77	73.4	89.8
2-Nov	81	78	76	77	81	83	82	81	85	75	69	70	73	73	74	79	84	90	92	92	95	91	94	96	82.2	95.9
3-Nov	96	96	94	89	86	82	79	78	75	66	66	63	53	49	51	50	52	57	60	62	69	71	71	72	70.3	96.3
4-Nov	76	76	73	73	85	85	88	89	84	68	65	56	49	64	69	71	68	66	65	63	65	68	76	79	71.6	89.0
5-Nov	81	78	78	81	89	88	84	81	79	73	65	53	58	64	71	69	69	64	64	63	63	59	58	59	70.4	89.0
6-Nov	57	56	66	78	82	83	83	81	79	69	66	59	56	54	54	57	62	66	72	74	68	74	77	73	68.6	83.4
7-Nov	74	77	78	78	75	80	81	83	81	76	62	51	57	50	48	51	53	58	64	64	65	63	61	64	66.4	82.7
8-Nov	62	68	68	69	71	71	71	71	67	63	57	56	52	45	49	50	48	54	58	61	62	59	63	63	60.7	71.3
9-Nov	62	59	58	59	56	55	56	59	61	59	56	54	53	55	53	52	52	53	54	54	55	68	80	83	58.6	83.3
10-Nov	74	69	68	73	74	74	67	60	59	58	55	43	42	45	48	52	55	59	65	69	65	63	71	69	61.5	74.0
11-Nov	66	71	63	73	67	80	82	81	81	74	66	49	52	52	56	56	60	61	67	67	67	68	66	67	66.3	82.2
12-Nov	68	70	74	74	72	73	71	66	66	59	54	52	50	50	50	51	53	56	60	60	61	59	54	49	60.5	74.1
13-Nov	48	50	46	45	49	46	52	53	54	50	50	48	44	46	49	53	55	55	58	60	59	59	60	63	52.2	62.9
14-Nov	66	70	67	70	68	69	67	62	56	49	45	46	44	44	42	46	46	47	38	42	45	51	56	59	53.9	70.0
15-Nov	59	63	69	69	73	76	77	79	79	77	76	75	75	75	83	94	96	96	96	96	96	95	96	96	81.9	96.1
16-Nov	96	97	96	96	96	96	96	95	96	96	95	93	90	87	89	91	94	95	95	95	95	96	96	95	94.5	96.5
17-Nov	95	95	95	95	96	96	96	96	95	93	94	89	86	82	85	78	87	90	90	89	83	76	75	75	88.9	96.0
18-Nov	73	75	83	81	85	84	82	85	80	77	65	56	59	58	60	66	71	77	82	75	72	66	63	61	72.3	84.7
19-Nov	59	57	60	61	59	64	69	73	78	80	73	73	71	52	62	66	75	79	79	78	75	79	76	71	69.5	80.0
20-Nov	73	83	91	94	93	91	89	89	89	88	93	92	81	85	85	84	86	89	89	87	85	85	85	85	87.1	94.2
21-Nov	84	85	86	85	90	91	93	93	87	77	76	65	60	53	52	57	64	69	72	76	77	77	78	75	75.8	92.8
22-Nov	77	84	88	90	89	89	91	87	87	85	82	74	72	68	76	79	82	81	82	81	85	90	91	89	83.2	90.9
23-Nov	90	90	83	80	78	76	78	87	80	80	74	79	79	76	79	90	91	92	94	95	95	94	82	75	84.1	95.1
24-Nov	71	68	65	64	63	63	63	64	65	62	59	51	50	51	53	54	54	55	57	72	69	69	68	66	61.5	71.7
25-Nov	64	66	77	79	86	89	90	91	89	90	84	79	83	85	80	82	87	89	88	86	88	82	82	86	83.4	90.9
26-Nov	89	74	79	77	86	86	81	83	85	84	75	70	62	60	65	66	65	65	63	65	72	75	77	72	74.0	88.5
27-Nov	63	63	63	67	70	72	76	76	78	73	63	61	59	55	54	54	55	58	61	60	60	63	63	60	63.6	78.1
28-Nov	61	61	66	70	72	71	74	77	70	68	60	55	58	56	60	60	61	58	66	60	62	68	69	66	64.5	76.6
29-Nov	68	70	65	66	70	72	75	77	77	74	71	67	64	66	66	68	70	71	72	71	70	72	72	74	70.3	77.4
30-Nov	75	73	73	78	80	76	59	60	58	58	55	53	54	54	54	54	56	58	62	62	62	62	62	N	62.5	80.3
	73.2	73.6	74.5	75.9	77.6	78.2	78.1	78.2	76.8	72.2	67.6	63.2	61.1	60.0	62.2	64.6	67.3	69.4	71.2	71.7	71.8	72.5	73.2	73.1	Diurnal Average	
	96.4	96.5	96.4	96.3	96.3	96.2	96.0	95.9	95.8	95.8	95.3	93.3	90.0	87.2	88.6	93.7	95.6	95.7	95.7	95.8	95.7	95.9	96.1	96.0	Diurnal Maximum	

N - Not Valid

Hourly Averages for Relative Humidity at Beaverlodge
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge
November 1, 2009 to December 1, 2009
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	8	10	10	10	11	11	12	5	1	2	4	2	1	3	4	4	4	5	7	4	6	2	7	2.9	11.7
Dir	338	335	330	335	323	326	323	320	312	55	340	312	229	191	65	137	132	98	86	93	99	61	83	88	355.4	320.3
2 Spd	4	4	1	3	1	2	3	2	2	3	1	3	5	2	1	2	1	4	4	3	3	4	3	4	1.7	4.7
Dir	190	144	102	249	57	180	192	210	89	111	102	71	62	118	169	44	47	45	191	140	145	165	154	151	136.6	62.1
3 Spd	3	3	2	4	2	5	16	12	14	10	12	14	31	29	28	24	20	19	11	10	2	2	3	5	10.1	31.2
Dir	135	138	110	190	198	240	241	250	239	240	241	242	266	264	258	264	265	262	254	236	215	8	61	58	252.4	265.6
4 Spd	2	3	4	1	3	3	2	3	2	2	3	1	1	2	6	3	1	2	7	11	6	4	4	1	1.5	10.9
Dir	117	77	68	137	81	139	145	103	114	52	252	247	242	282	262	292	305	98	122	103	130	139	201	295	125.6	103.1
5 Spd	3	7	12	5	7	4	5	2	1	1	4	2	1	2	3	1	1	2	2	3	6	5	8	8	0.6	11.8
Dir	23	306	335	12	180	89	56	122	322	26	249	231	224	316	267	21	16	218	133	147	90	111	147	132	91.1	334.7
6 Spd	12	7	33	17	18	14	11	12	8	13	22	30	27	31	30	29	24	24	6	1	31	33	27	26	19.2	32.9
Dir	138	195	270	236	241	234	233	246	216	215	218	232	242	244	238	238	242	233	227	248	233	226	227	231	233.9	226.0
7 Spd	18	2	5	1	12	2	2	3	2	4	4	5	18	38	33	28	20	19	13	18	20	11	8	4	10.8	37.7
Dir	246	169	184	75	221	188	119	83	186	34	179	196	228	245	249	245	245	242	226	224	226	236	216	226	233.6	245.0
8 Spd	8	3	5	8	2	7	5	4	6	6	4	8	4	5	14	10	11	8	6	5	4	4	3	6	5.2	13.7
Dir	264	193	207	199	236	225	195	208	220	251	235	230	209	224	226	238	234	223	221	215	191	178	96	95	219.7	226.3
9 Spd	8	7	7	6	6	7	7	6	9	11	8	18	17	16	15	13	11	10	10	9	3	16	15	10	6.7	17.9
Dir	94	93	99	109	76	83	99	126	122	118	120	112	109	112	115	114	105	94	82	101	99	289	272	249	108.9	112.4
10 Spd	13	13	15	6	7	2	4	5	4	3	1	4	3	5	9	22	25	17	8	4	5	5	3	3	6.3	25.0
Dir	241	245	244	240	244	37	224	246	237	167	225	105	154	169	194	241	247	261	227	212	220	223	49	45	235.3	247.5
11 Spd	3	4	1	3	2	4	4	3	6	5	4	1	2	2	8	11	11	16	15	13	14	7	7	8	3.5	16.2
Dir	227	62	323	118	34	207	74	71	55	56	63	165	87	69	243	246	245	252	242	242	241	240	227	214	236.5	251.9
12 Spd	7	5	3	3	9	7	7	15	16	15	22	24	33	41	42	37	34	28	21	15	4	9	8	9	16.3	41.5
Dir	207	217	55	50	240	231	227	243	244	239	250	243	249	246	247	251	257	253	244	230	172	209	219	217	243.1	246.8
13 Spd	8	4	8	9	6	10	3	3	2	2	2	1	1	2	22	21	23	30	23	23	22	8	11	7	9.2	29.6
Dir	196	181	237	242	218	218	172	146	72	69	322	253	85	176	257	254	252	259	265	263	265	283	264	260	252.3	259.2
14 Spd	6	3	6	1	2	1	3	3	3	5	8	8	10	10	6	4	5	7	5	12	7	8	6	19	4.6	18.5
Dir	230	224	215	100	216	102	75	154	102	198	160	122	117	107	111	145	117	167	158	180	163	161	148	210	159.8	209.6
15 Spd	19	19	5	4	4	2	4	10	18	16	12	12	15	10	11	13	6	19	22	14	5	2	5	10	3.6	21.7
Dir	222	201	164	79	180	112	226	222	233	235	249	242	247	278	323	332	6	20	30	33	22	313	315	345	275.2	30.2
16 Spd	10	7	8	8	8	6	2	3	8	7	9	10	6	4	3	3	5	5	5	9	8	5	3	4	4.0	9.9
Dir	327	327	344	356	17	25	86	345	327	322	279	289	282	259	73	93	112	84	352	3	357	279	6	46	342.8	326.7
17 Spd	3	4	6	3	7	3	7	12	11	8	13	4	7	7	6	6	5	4	9	9	17	31	24	26	4.0	30.5
Dir	130	92	30	296	118	318	71	30	66	123	283	269	176	159	80	103	138	181	209	227	219	226	227	221	203.0	226.4
18 Spd	22	16	16	19	1	4	7	1	3	4	2	3	9	8	3	6	3	3	7	9	14	16	18	15	3.9	21.7
Dir	229	237	214	220	58	194	225	83	162	84	104	166	214	210	231	230	162	212	63	68	92	99	102	108	172.1	228.9
19 Spd	16	16	14	12	9	3	3	1	2	1	4	1	5	4	6	2	4	4	4	6	6	5	3	8	4.9	16.3
Dir	104	106	109	104	112	173	249	87	190	62	61	117	143	73	75	109	102	84	73	58	55	57	87	43	94.7	105.7
20 Spd	3	5	7	13	20	6	10	6	2	3	6	6	7	16	21	17	14	8	7	7	7	6	9	7	5.4	20.7
Dir	273	282	43	27	38	86	125	145	139	125	281	291	329	308	311	314	305	318	331	320	337	322	325	316	331.8	311.3
21 Spd	4	2	3	4	3	3	1	11	9	12	16	23	23	27	29	20	17	14	13	7	3	1	2	2	9.0	28.9
Dir	302	7	333	357	141	106	167	209	245	232	242	254	264	263	261	245	240	231	237	251	247	243	348	323	251.3	261.3
22 Spd	2	2	5	2	5	3	6	5	2	1	0	1	2	2	1	3	5	2	2	2	4	5	1	1	1.5	6.0
Dir	76	141	57	48	44	169	56	56	37	97	2	173	263	60	299	332	36	35	313	297	40	288	291	34	36.6	55.7

Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge
November 1, 2009 to December 1, 2009
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	4	10	13	11	12	11	3	4	3	2	2	5	6	6	17	17	12	6	7	14	13	26	37	3.3	37.1
Dir	218	43	301	293	290	289	290	207	296	136	110	70	79	88	121	99	110	102	121	212	209	226	248	251	234.8	250.9
24 Spd	31	30	29	31	30	24	23	17	11	20	17	8	6	12	11	9	13	11	6	2	3	8	5	5	13.0	30.6
Dir	251	254	266	262	264	264	264	264	251	265	267	257	258	257	237	218	251	269	289	147	98	79	99	103	258.2	262.4
25 Spd	3	4	4	4	5	5	2	2	4	1	1	1	3	6	3	2	3	3	3	2	3	19	23	9	2.5	23.4
Dir	154	172	203	108	278	302	346	156	171	333	310	3	273	327	305	105	306	27	353	40	237	250	228	227	247.4	228.1
26 Spd	5	26	28	22	9	5	14	8	9	12	15	10	8	25	23	25	20	26	29	24	8	12	21	18	16.6	29.2
Dir	209	238	236	234	251	198	224	233	206	226	237	240	222	237	235	242	241	237	247	253	235	236	238	248	237.1	247.1
27 Spd	26	24	26	18	12	12	16	21	14	1	9	14	12	16	20	22	19	17	13	6	4	5	7	12	14.0	25.8
Dir	252	252	261	246	254	247	244	247	255	240	233	237	237	240	237	239	235	240	230	208	185	196	210	226	241.6	260.8
28 Spd	11	9	8	8	12	9	10	1	5	6	7	5	3	7	1	3	3	4	8	7	5	4	5	3	3.9	12.0
Dir	247	236	221	222	232	242	215	88	243	236	235	234	215	216	196	99	75	75	110	104	146	185	182	158	209.9	231.6
29 Spd	3	8	13	12	18	13	12	25	27	27	30	34	35	33	30	28	26	29	29	22	21	17	16	18	21.7	34.9
Dir	249	210	244	240	247	260	248	246	244	249	245	239	242	244	250	248	249	243	242	247	254	250	263	263	246.6	242.3
30 Spd	17	16	6	7	9	17	20	17	18	19	21	19	16	12	14	15	16	15	16	16	15	12	10	N	14.1	20.5
Dir	257	262	331	229	216	248	272	277	276	264	272	287	291	294	288	288	281	268	270	272	280	304	284	N	274.1	271.9
Spd	5.7	4.8	5.0	3.9	3.7	3.8	3.9	4.1	4.3	4.2	6.6	6.4	7.1	8.9	9.8	8.9	7.9	7.2	5.2	4.1	4.3	5.2	5.7	5.2	Diurnal Average	
Dir	233.1	233.0	258.9	247.8	247.3	245.3	240.6	243.4	239.6	234.8	245.0	240.5	241.8	246.6	249.1	247.2	245.8	247.0	242.4	234.9	227.3	233.8	232.6	229.4		
Spd	30.6	30.0	32.8	30.6	30.3	24.4	23.4	25.0	26.6	27.0	30.3	33.8	34.9	41.4	41.5	37.5	34.2	29.6	29.3	24.1	30.7	32.9	27.0	37.1	Diurnal Maximum	
Dir	251.3	253.7	270.0	262.4	263.9	264.1	264.3	246.0	244.4	249.3	244.6	239.0	242.3	245.6	246.8	251.3	256.7	259.2	241.7	252.8	232.9	226.0	226.7	250.9		

Maximum Speed Value: 42 km/h on Nov 12 15:00
Maximum Daily Speed Average: 21.7 km/h on Nov 29
Maximum Diurnal Speed Average: 9.8 km/h at hour 15

Minimum Speed Value: 0 km/h on Nov 22 11:00
Minimum Daily Speed Average: 0.6 km/h on Nov 22
Minimum Diurnal Speed Average: 3.7 km/h at hour 5

Monthly Average Velocity: 5.62 km/h 241.90 deg

Speed Percentiles: $P_1 = 0.7$ $P_{10} = 1.9$ $Q_1 = 3.4$ Median = 6.7 $Q_3 = 13.6$ $P_{90} = 22.4$ $P_{99} = 33.7$

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

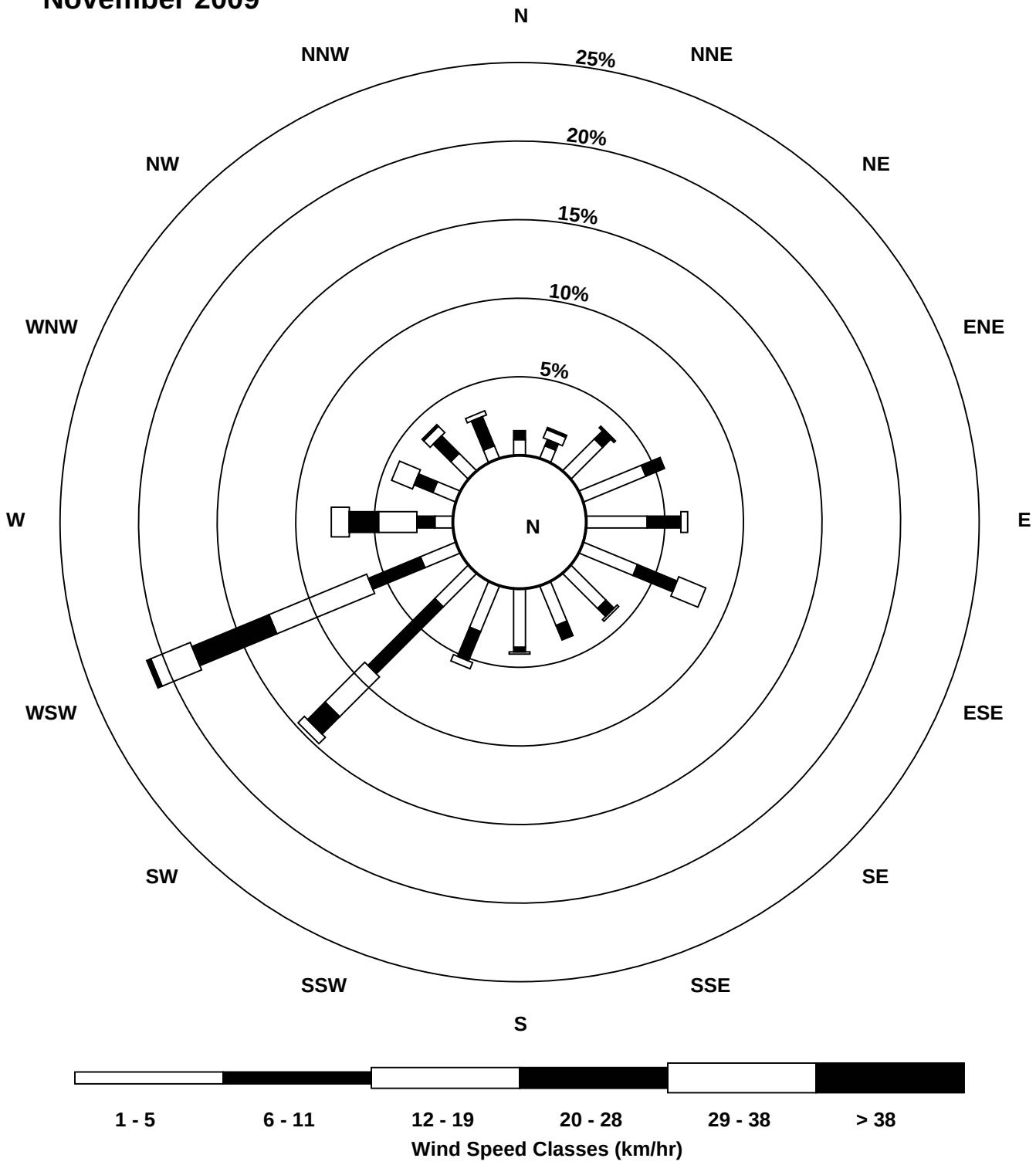
Hours in Service:	720
Hours of Data:	719
Hours of Missing Data:	1
Percent Operational Time:	99.9

N - Not Valid

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	15	9	0	1	0	0	25
NorthEast	36	15	4	2	0	0	57
East	63	31	15	0	0	0	109
SouthEast	39	17	3	0	0	0	59
South	46	15	2	0	0	0	63
SouthWest	36	72	63	34	16	2	223
West	19	23	36	29	18	0	125
NorthWest	23	24	10	1	0	0	58
Total	277	206	133	67	34	2	719

Wind Rose for WS at Beaverlodge
November 2009



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

Beaverlodge - Wind Speed (WS) - km/h
November 1, 2009 to December 1, 2009

Maximum Speed: 42 km/h on Nov 12 15:00

Maximum Daily Speed Average: 22.1 km/h on Nov 29

Minimum Speed: 1 km/h on Nov 22 11:00

Minimum Daily Speed Average: 3.3 km/h on Nov 2

Maximum Diurnal Speed Average: 14.2 km/h at hour 15

Minimum Diurnal Speed Average: 7.8 km/h at hour 6

Monthly Average Speed: 10.27 km/h

Percentiles: $P_1 = 1.7$ $P_{10} = 3.1$ $Q_1 = 4.5$ Median = 7.4 $Q_3 = 14.0$ $P_{90} = 22.8$ $P_{99} = 33.7$

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	8	10	10	10	11	11	12	7	2	3	5	2	2	4	5	4	5	5	7	6	8	5	7	6.4	11.8
2-Nov	4	5	2	3	2	3	3	2	3	4	2	3	5	3	1	2	1	4	5	4	5	6	4	4	3.3	6.0
3-Nov	4	4	2	5	3	7	16	12	14	10	12	14	31	29	28	24	20	19	12	11	5	3	3	5	12.2	31.3
4-Nov	3	3	4	2	3	4	4	3	3	3	3	2	2	4	7	4	2	3	7	11	6	6	5	5	4.1	11.2
5-Nov	5	8	12	6	8	5	6	4	4	4	4	2	2	4	4	4	4	2	3	4	6	5	8	9	5.0	11.9
6-Nov	13	11	33	18	18	15	12	12	9	14	22	30	27	32	30	29	24	24	7	4	31	33	27	26	20.8	33.2
7-Nov	18	5	6	2	13	8	3	4	3	5	5	6	18	38	33	28	20	19	13	18	20	11	8	5	12.8	37.9
8-Nov	8	4	5	8	4	7	5	4	7	6	4	8	5	5	14	10	11	8	7	6	4	4	5	6	6.4	13.9
9-Nov	8	7	7	6	6	7	7	7	9	11	9	18	17	16	15	13	12	11	11	9	5	17	15	11	10.5	18.0
10-Nov	13	14	16	7	8	5	4	6	5	4	4	4	4	5	9	22	25	18	10	5	5	6	3	4	8.4	25.1
11-Nov	3	5	3	4	4	4	4	4	6	5	4	2	2	4	9	12	11	16	15	13	14	8	7	9	6.9	16.4
12-Nov	7	5	3	4	9	7	7	15	16	15	22	24	33	41	42	38	34	28	21	16	5	9	8	9	17.4	41.6
13-Nov	8	4	9	9	6	10	5	3	3	3	5	3	2	2	22	21	23	30	23	23	23	8	11	8	11.0	29.7
14-Nov	6	3	6	2	3	2	3	3	3	7	8	8	10	10	6	5	5	7	6	12	7	8	6	19	6.5	18.7
15-Nov	19	19	6	5	4	3	5	10	18	16	12	12	15	11	11	13	6	19	22	14	5	3	6	10	11.0	21.7
16-Nov	10	8	8	8	8	6	3	4	8	8	9	10	6	5	3	3	5	6	7	9	11	5	5	4	6.6	10.9
17-Nov	4	5	6	4	9	5	9	12	15	14	13	6	7	8	6	6	5	5	10	9	17	31	24	26	10.7	30.6
18-Nov	22	16	16	19	3	5	7	3	4	4	2	4	9	8	4	6	4	4	7	9	14	16	18	16	9.2	21.8
19-Nov	16	16	14	12	9	5	4	2	4	3	4	3	5	5	6	4	5	4	4	6	6	5	6	9	6.6	16.3
20-Nov	7	6	7	13	20	8	10	6	3	4	6	7	8	16	21	17	14	8	8	8	8	6	9	7	9.4	21.1
21-Nov	4	3	4	6	3	3	3	11	9	13	16	23	23	27	29	20	17	14	13	7	6	5	5	4	11.2	29.0
22-Nov	3	3	7	3	6	4	6	5	3	2	1	2	2	2	6	5	5	3	5	2	5	6	6	3	4.0	6.7
23-Nov	3	4	10	13	11	12	11	4	5	3	2	4	5	7	7	17	17	12	6	9	15	13	26	37	10.6	37.1
24-Nov	31	30	29	31	30	24	23	18	11	20	17	9	6	12	11	9	13	11	7	3	4	8	5	5	15.4	30.6
25-Nov	3	4	5	4	5	5	4	3	4	4	3	2	5	8	4	2	4	3	5	3	4	19	24	9	5.8	23.5
26-Nov	6	26	28	23	11	7	15	9	9	12	16	10	9	25	23	25	20	26	29	24	9	12	21	18	17.3	29.3
27-Nov	26	24	26	18	12	12	16	21	14	5	10	14	12	16	20	22	19	17	13	6	5	5	7	12	14.6	25.8
28-Nov	11	9	8	9	12	10	10	4	8	8	7	5	8	8	5	3	4	4	9	7	5	4	6	4	6.9	12.1
29-Nov	6	8	13	12	19	13	12	25	27	27	30	34	35	33	30	28	26	29	29	23	21	17	16	18	22.1	35.0
30-Nov	17	16	7	8	10	17	20	17	18	19	21	19	16	12	14	15	16	15	16	16	15	13	10	N	15.1	20.5
	9.8	9.5	10.4	9.1	9.0	7.8	8.2	8.1	8.4	8.4	9.2	9.8	11.0	13.3	14.2	13.7	12.6	12.4	11.1	10.0	9.7	10.0	10.3	10.6	Diurnal Average	
	30.6	30.2	33.2	30.6	30.3	24.4	23.4	25.0	26.6	27.0	30.5	33.9	35.0	41.4	41.6	37.5	34.2	29.7	29.3	24.2	30.9	33.0	27.0	37.1	Diurnal Maximum	

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, 2009 to December 1, 2009

Maximum Value: 93.5 deg on Nov 5 00:00

Minimum Value: 1.8 deg on Nov 11 19:00

Percentiles: P_1 = 2.4 P_{10} = 4.1 Q_1 = 7.2 Median = 16.7 Q_3 = 43.8 P_{90} = 66.9 P_{99} = 88.9

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	13	5	6	7	5	3	8	4	82	76	65	85	82	66	28	44	22	22	11	12	53	42	73	31	84.5
2-Nov	24	20	81	34	45	69	23	20	52	36	61	38	15	49	81	23	89	14	42	43	49	41	13	13	89.3
3-Nov	35	26	56	53	74	78	5	10	8	12	11	10	5	5	5	6	3	3	22	9	84	62	53	8	84.1
4-Nov	30	25	14	56	41	29	50	22	32	64	60	82	82	64	66	60	88	68	11	14	12	42	41	94	93.5
5-Nov	67	43	7	44	31	36	11	77	93	88	20	47	77	72	33	90	80	52	38	68	27	31	9	30	92.8
6-Nov	11	47	12	15	9	19	9	13	26	10	7	3	5	5	3	3	3	4	54	83	12	5	3	3	82.9
7-Nov	5	64	52	71	50	78	57	67	54	42	35	31	10	4	4	3	9	3	7	4	3	7	9	31	77.8
8-Nov	27	22	25	6	91	15	25	35	23	20	19	9	15	24	10	10	4	14	18	40	13	23	55	10	90.8
9-Nov	7	12	13	28	11	11	14	18	14	12	21	5	4	5	6	5	6	9	13	12	68	18	12	24	67.7
10-Nov	5	7	5	35	63	78	27	12	26	44	88	35	31	12	34	4	5	17	32	30	7	51	40	58	87.7
11-Nov	24	51	71	34	80	44	23	34	9	7	12	60	31	85	10	12	6	9	2	4	6	52	18	12	85.0
12-Nov	25	43	15	41	7	10	12	6	6	3	7	4	7	3	4	4	4	5	3	8	44	16	18	14	43.5
13-Nov	19	21	18	12	36	11	50	34	37	62	72	84	75	56	12	7	12	4	6	3	4	23	7	20	84.1
14-Nov	8	71	8	52	75	34	31	27	28	62	25	14	6	8	13	27	32	22	36	7	8	10	18	9	74.9
15-Nov	4	13	38	29	39	51	56	11	7	8	8	3	4	20	8	12	12	6	3	10	27	89	26	9	89.1
16-Nov	8	14	12	9	6	7	45	44	8	9	9	15	17	54	27	46	11	23	48	31	38	34	49	13	53.7
17-Nov	52	40	10	57	47	59	51	16	52	63	8	48	14	10	26	22	15	14	12	7	13	3	9	3	63.1
18-Nov	4	17	5	8	77	62	14	83	55	22	34	50	16	24	56	33	45	64	8	6	8	3	5	7	82.7
19-Nov	8	4	5	5	6	43	44	58	59	87	29	63	32	27	16	57	37	31	11	15	12	60	63	55	87.4
20-Nov	83	61	23	9	3	46	11	16	49	54	13	30	33	4	11	14	12	14	11	14	17	9	8	13	83.4
21-Nov	20	46	77	65	39	39	71	10	20	17	7	5	3	5	3	6	7	5	9	41	78	91	58	64	91.1
22-Nov	64	61	46	68	42	56	13	10	59	75	88	77	49	29	88	61	11	62	79	52	44	51	89	86	89.1
23-Nov	26	42	9	5	6	4	37	30	35	45	54	79	21	34	33	4	5	6	22	34	13	14	8	3	79.1
24-Nov	4	7	5	3	2	3	3	4	4	5	3	54	58	6	14	10	8	6	28	58	47	6	21	15	57.7
25-Nov	23	23	42	20	33	18	51	41	25	83	90	70	82	47	66	48	52	53	60	76	65	17	6	14	89.9
26-Nov	29	11	5	10	40	60	12	30	19	11	14	24	21	3	2	4	5	4	5	5	39	7	5	4	59.7
27-Nov	3	3	3	5	10	5	3	2	5	88	55	3	7	3	2	2	4	6	8	32	14	17	12	8	87.7
28-Nov	6	19	24	33	10	13	6	69	73	76	13	26	77	39	78	18	26	14	22	22	19	15	10	41	77.8
29-Nov	69	23	9	19	8	10	6	3	3	2	6	4	4	3	3	3	2	2	3	2	4	6	5	6	68.9
30-Nov	5	9	33	34	11	6	8	6	5	3	3	8	4	5	4	3	6	8	6	7	4	8	6	N	33.5
	83.4	70.8	80.8	70.8	90.8	78.2	71.0	82.7	92.8	87.7	89.9	84.5	82.0	85.0	88.4	90.3	89.3	68.4	79.2	82.9	84.1	91.1	89.1	93.5	

N - Not Valid

PASZA
Portable – Kinuso Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Kinuso - Sulphur Dioxide (SO_2) - ppb
November 1, 2009 to December 1, 2009

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 5.3 ppb on Nov 23 01:00
Maximum Daily Average: 0.8 ppb on Nov 23

Minimum Value: 0 ppb on Nov 1 12:00
Maximum Diurnal Average: 0.3 ppb at hour 1
Monthly Average: 0.15 ppb

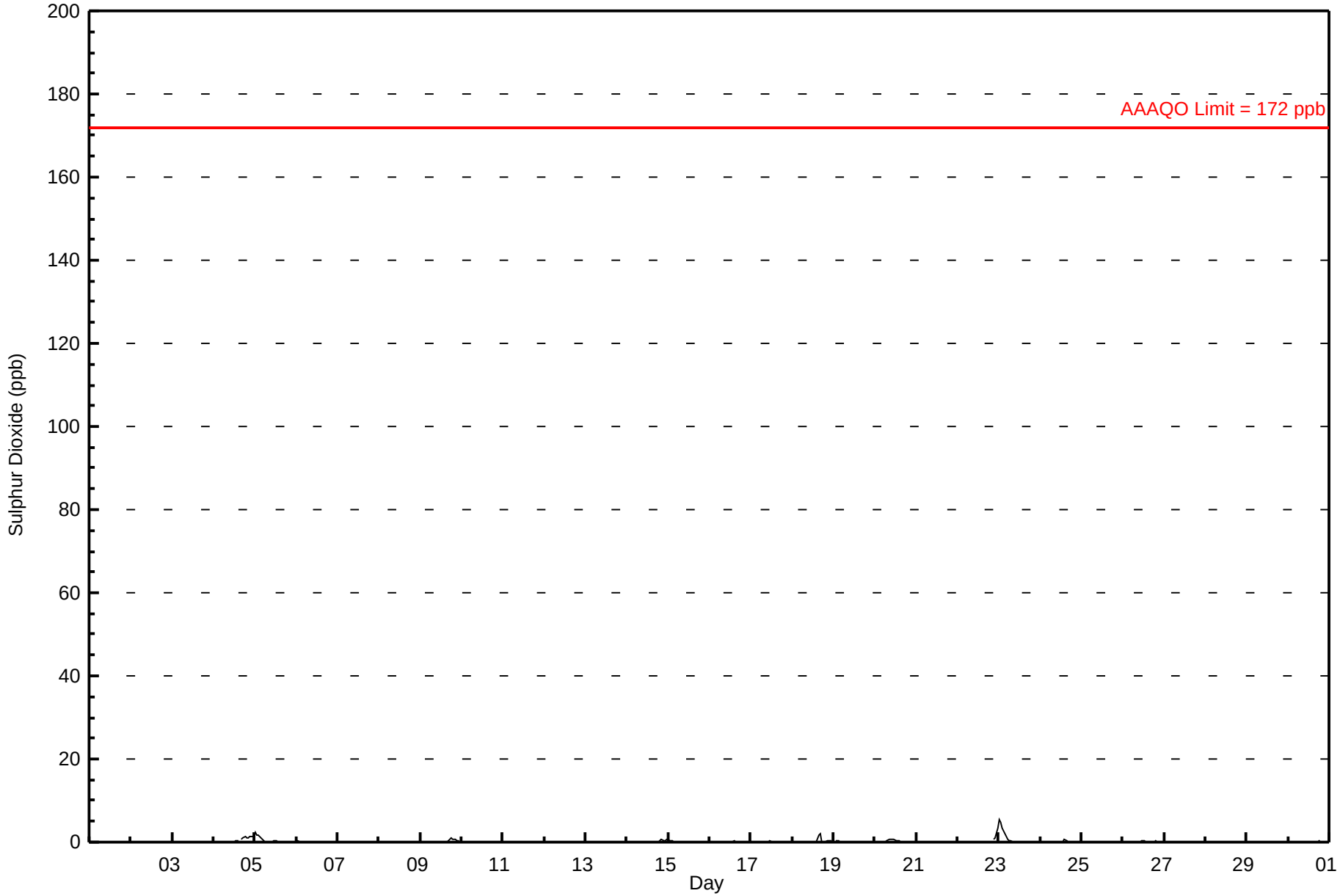
Minimum Daily Average: 0.0 ppb on Nov 3
Minimum Diurnal Average: 0.1 ppb at hour 7
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.1 P_{90} = 0.2 P_{99} = 2.2

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	0	0	0	0	0	0	A	0	0	0	0	0	0.1	0.1
2-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	0.0	0.1
3-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	0.0	0.1
4-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	0.4	1.5
5-Nov	3	2	2	1	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.4	2.5
6-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.0	0.2
7-Nov	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
8-Nov	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
9-Nov	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	0	0	0	0.2	0.9
10-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	0.1	0.1
11-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	0.1	0.2
12-Nov	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
13-Nov	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
14-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.1	0.5
15-Nov	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
16-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
17-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	0.5
18-Nov	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0.3	2.2
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	A	0.1	0.2
20-Nov	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	A	0	0.2	0.6
21-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.2
22-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	3	0.3	3.3
23-Nov	5	5	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.8	5.3
24-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0	0	0	0	0.1	0.5
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	0.0	0.2
26-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	0.2
27-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.2
28-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	0.1
29-Nov	0	0	0	0	0	0	0	0	0	N	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
30-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	0.0	0.2
	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	Diurnal Average	
	5.3	4.7	3.2	2.2	1.4	0.8	0.4	0.4	0.6	0.6	0.6	0.6	0.5	0.4	0.5	1.7	2.2	1.0	1.2	1.1	1.0	1.2	1.3	3.3	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 Portable-Kinuso
November 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Portable-Kinuso - Sulphur Dioxide (SO_2) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 11.0 ppb on Nov 18 16:00

Maximum Daily Average: 1.2 ppb on Nov 23

Minimum Value: 0 ppb on Nov 30 07:00

Minimum Daily Average: 0.1 ppb on Nov 3

Maximum Diurnal Average: 0.7 ppb at hour 16

Minimum Diurnal Average: 0.2 ppb at hour 8

Monthly Average: 0.36 ppb

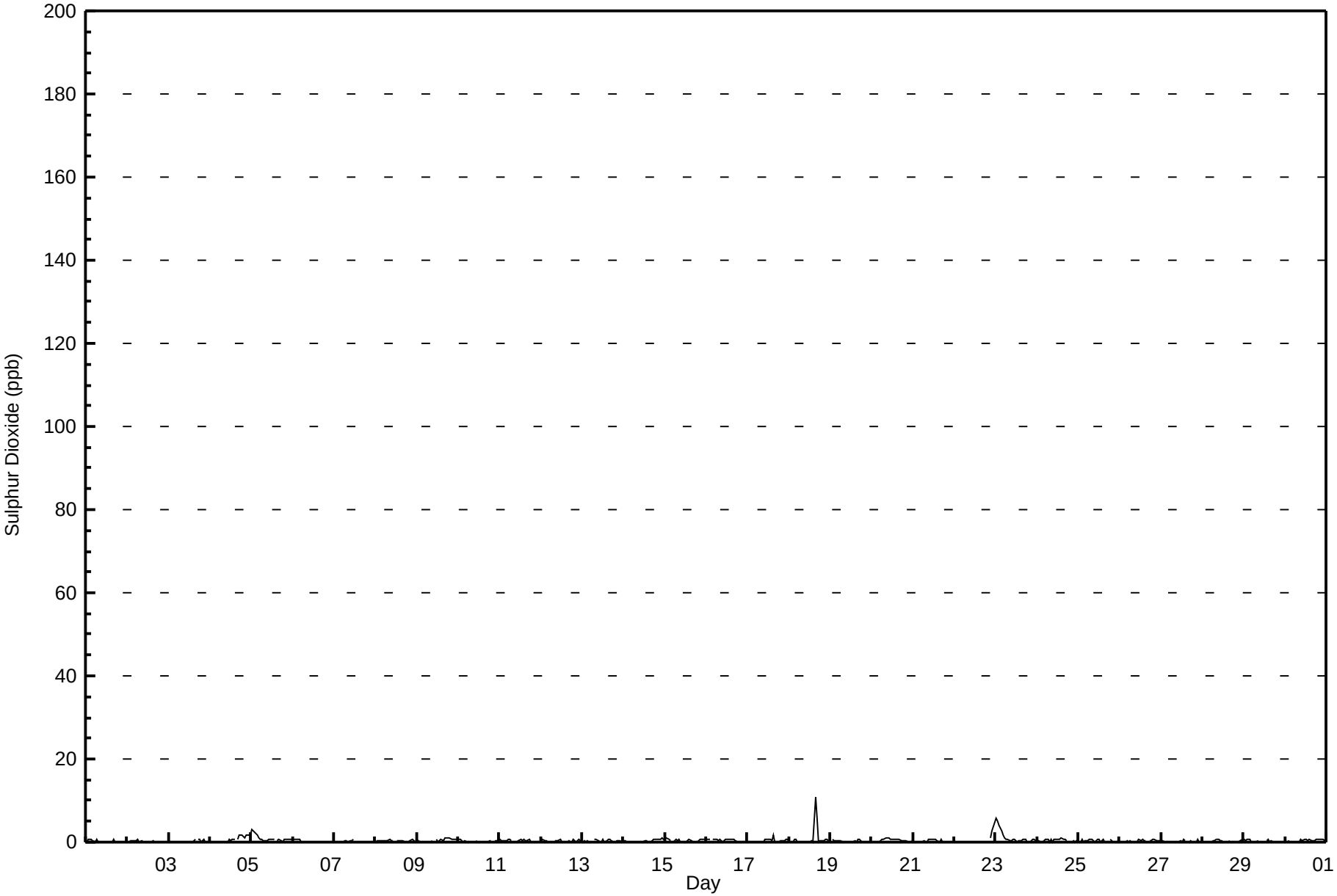
Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 0.1 Median = 0.2 Q_3 = 0.5 P_{90} = 0.6 P_{99} = 2.8

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

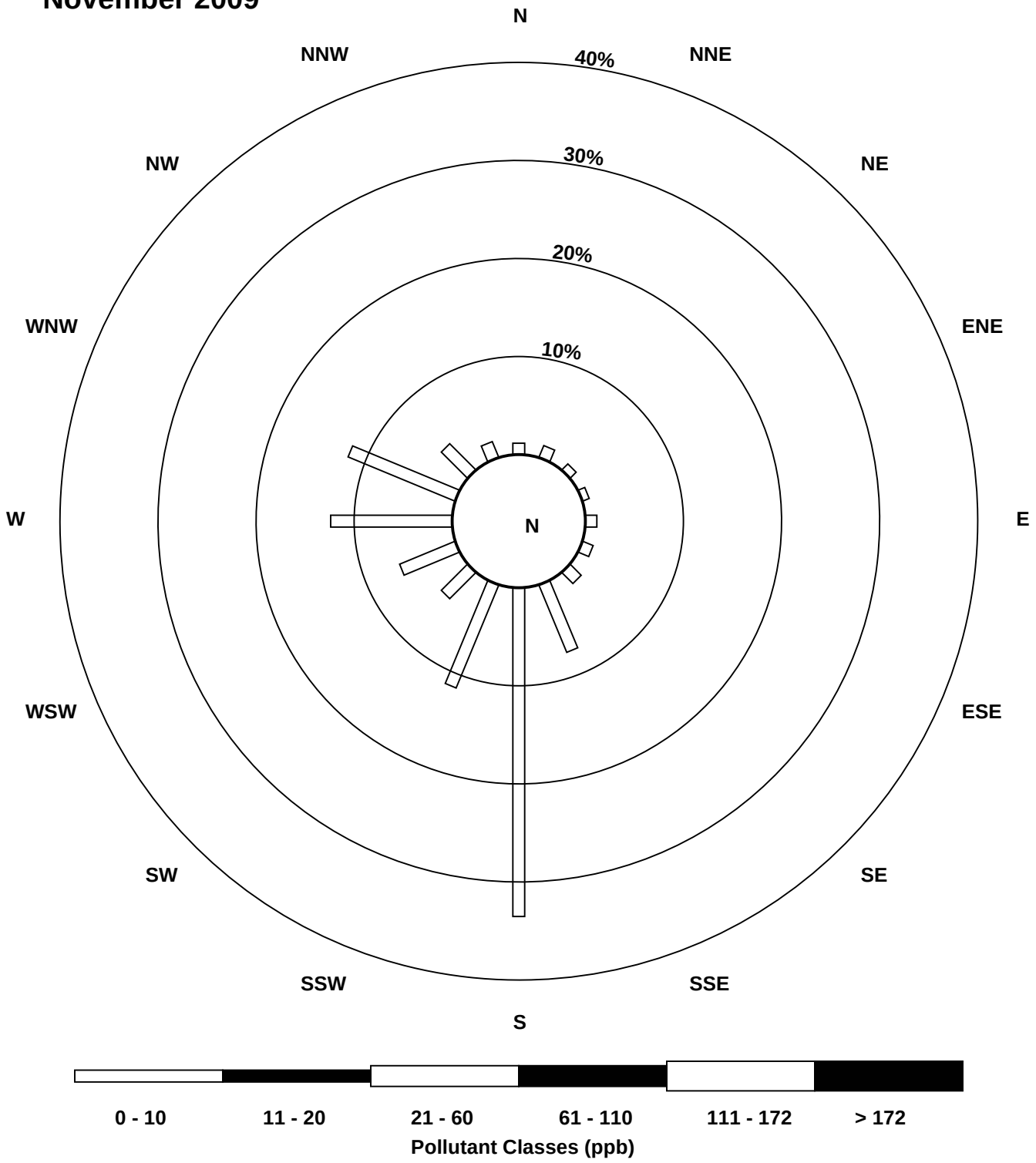
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	A	0	0	0	0	0	0.2	0.6
2-Nov	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.1	0.6
3-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	1	1	0	1	0	0	0	0.1	0.5
4-Nov	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	A	1	2	2	1	1	2	2	2	0.7	1.7
5-Nov	3	3	2	2	1	1	1	0	0	0	1	1	1	1	A	0	1	0	0	1	1	1	1	1	0.8	3.1
6-Nov	1	1	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.6
7-Nov	0	0	0	0	0	0	0	0	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
8-Nov	0	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0.2	0.7
9-Nov	1	0	0	0	0	0	0	0	0	0	A	1	0	0	1	0	1	1	1	1	1	1	1	1	0.4	1.2
10-Nov	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
11-Nov	1	0	0	0	0	1	1	0	A	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0.3	0.7
12-Nov	0	1	0	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0.3	0.6
13-Nov	0	0	0	0	0	0	A	1	1	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0.3	0.6
14-Nov	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0.3	1.0
15-Nov	1	1	1	0	A	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	0.3	0.9
16-Nov	1	1	1	A	1	1	1	0	1	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0.4	0.6
17-Nov	0	0	A	0	0	0	0	0	0	0	1	1	1	1	0	2	0	0	0	0	0	0	1	1	0.3	1.6
18-Nov	0	A	0	1	1	0	0	0	0	0	0	0	0	0	0	11	6	0	0	0	0	1	1	1	1.0	11.0
19-Nov	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	A	0.2	0.7
20-Nov	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	A	0	0.4	1.1
21-Nov	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	1	0	0	0	0	A	0	0	0.3	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	1	3	5	0.5	4.6
23-Nov	6	5	4	3	2	1	1	1	0	0	1	1	0	0	0	0	1	1	0	A	0	1	1	0	1.2	5.6
24-Nov	0	0	0	0	0	1	1	0	1	0	1	1	1	1	1	1	1	0	A	0	0	0	0	0	0.4	1.0
25-Nov	0	0	1	0	0	0	1	1	1	0	0	1	1	0	1	0	0	A	1	0	0	0	0	0	0.3	0.6
26-Nov	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	A	0	0	1	1	0	0	0	0.3	0.7
27-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	A	0	0	0	0	0	1	0	0	0.2	0.6
28-Nov	0	0	0	0	0	0	0	0	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	1	0.2	0.6
29-Nov	1	0	1	1	0	0	0	0	0	N	C	C	C	0	1	0	0	0	0	0	0	0	0	0	0.2	0.6
30-Nov	0	0	0	A	0	0	0	0	0	1	0	1	1	0	1	0	0	0	1	1	1	1	1	0	0.3	0.5
	0.5	0.5	0.5	0.3	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.4	0.3	0.3	0.4	0.7	0.5	0.3	0.3	0.3	0.3	0.4	0.4	0.5	Diurnal Average	
	5.6	5.1	4.1	2.6	1.6	1.1	0.7	0.6	1.1	1.0	1.1	0.7	0.7	0.7	1.0	11.0	5.9	1.7	1.7	1.3	1.2	1.7	2.6	4.6	Diurnal Maximum	

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

Hourly Maximums for SO_2 at Portable-Kinuso
November 2009



Pollutant Rose for SO_2 at Portable-Kinuso
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Kinuso - Total Reduced Sulphur (TRS) - ppb
November 1, 2009 to December 1, 2009

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 0.6 ppb on Nov 5 16:00 Maximum Daily Average: 0.5 ppb on Nov 29

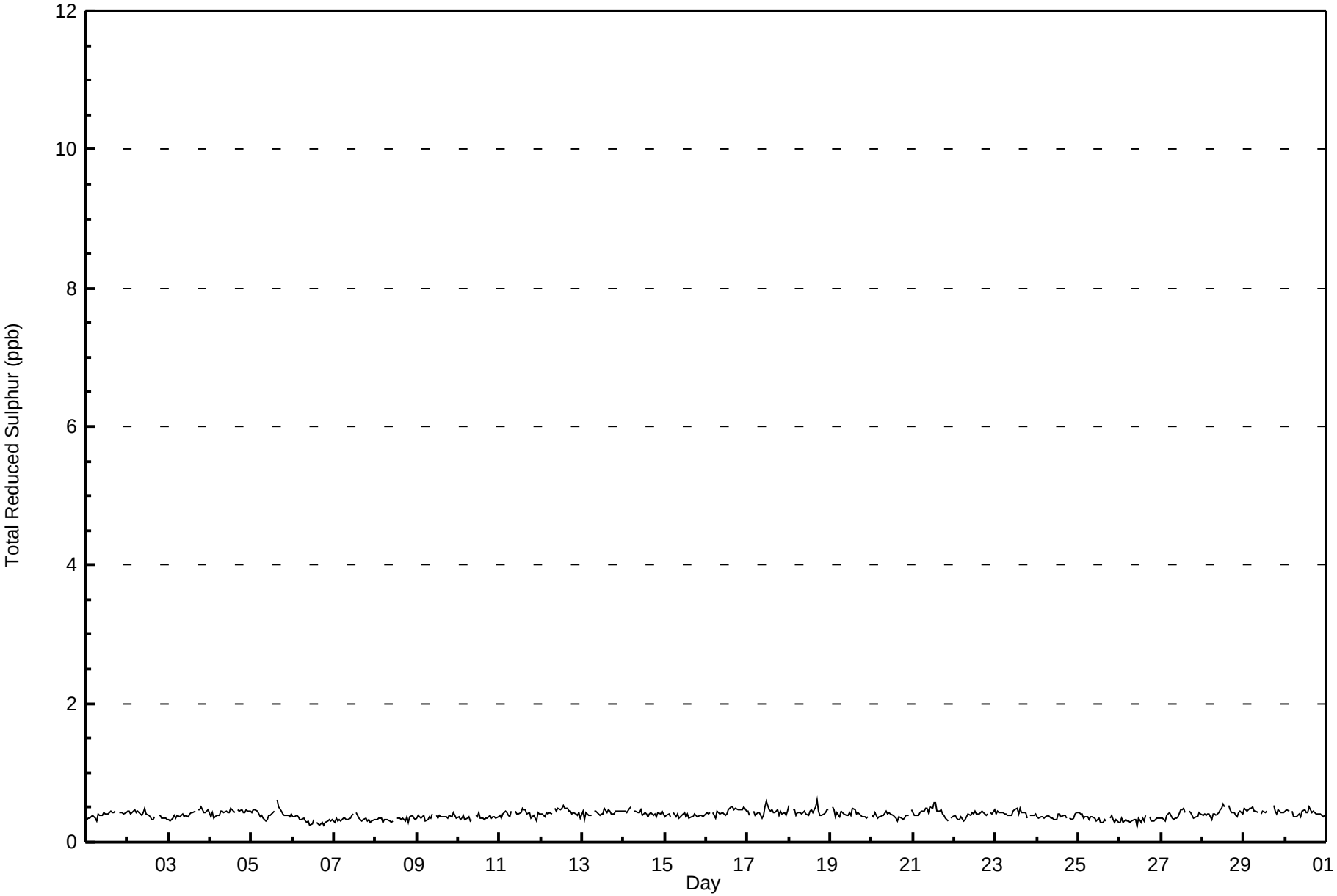
Minimum Value: 0 ppb on Nov 26 11:00 Minimum Daily Average: 0.3 ppb on Nov 6
Maximum Diurnal Average: 0.4 ppb at hour 14 Minimum Diurnal Average: 0.4 ppb at hour 6
Monthly Average: 0.40 ppb Percentiles: $P_1 = 0.3$ $P_{10} = 0.3$ $Q_1 = 0.4$ Median = 0.4 $Q_3 = 0.4$ $P_{90} = 0.5$ $P_{99} = 0.5$

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	0	0	0	0	0	0	A	0	0	0	0	0	0.4	0.5
2-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
3-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	0	0	0	0	0.4	0.5
4-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.4	0.5
5-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0	0	0	0	0	0	0	0.4	0.6
6-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	0.4
7-Nov	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
8-Nov	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
9-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	0.4	0.4
10-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	0.4	0.4
11-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	0.4	0.5
12-Nov	0	0	0	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.4	0.5
13-Nov	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
14-Nov	0	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	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	0.4	0.4
16-Nov	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0.4	0.5
17-Nov	0	0	A	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6
18-Nov	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0.4	0.6
19-Nov	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.4	0.5
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	0.5
21-Nov	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	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	0.4	0.5
23-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	0.5
24-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.4	0.4
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	0.3	0.4
26-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	0.3	0.4
27-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.4	0.5
28-Nov	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	1	0	0	0	0	0	0	0	0	0.4	0.5
29-Nov	0	0	0	0	0	0	0	0	0	N	0	0	0	0	C	C	C	1	0	0	0	0	0	0	0.5	0.5
30-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
	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	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	Diurnal Average	
	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	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 Portable-Kinuso
November 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Portable-Kinuso - Total Reduced Sulphur (TRS) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 1.4 ppb on Nov 25 20:00

Maximum Daily Average: 0.8 ppb on Nov 29

Minimum Value: 0 ppb on Nov 26 11:00

Minimum Daily Average: 0.6 ppb on Nov 26

Maximum Diurnal Average: 0.7 ppb at hour 17

Minimum Diurnal Average: 0.7 ppb at hour 6

Monthly Average: 0.71 ppb

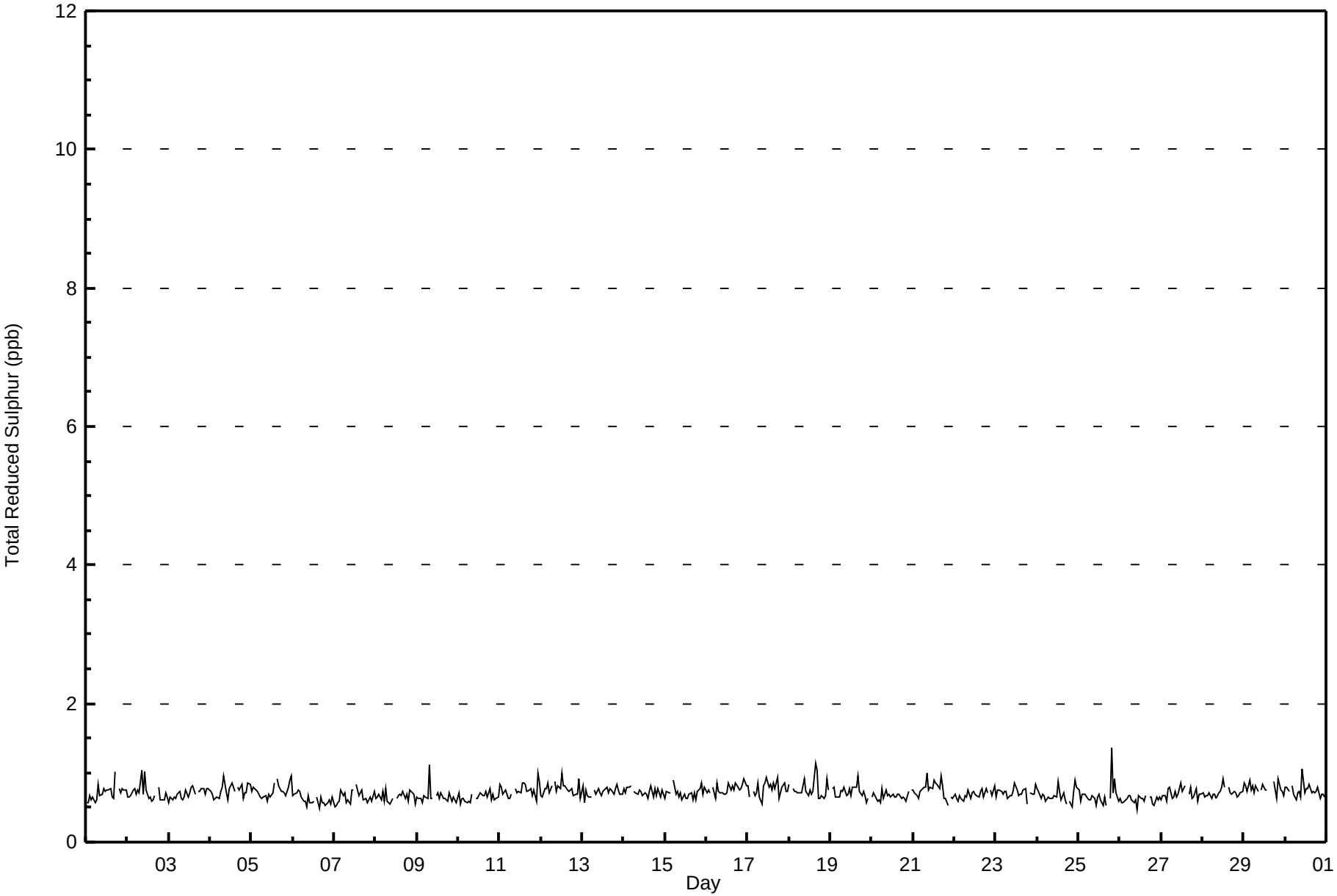
Percentiles: $P_1 = 0.5$ $P_{10} = 0.6$ $Q_1 = 0.6$ Median = 0.7 $Q_3 = 0.8$ $P_{90} = 0.8$ $P_{99} = 1.0$

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

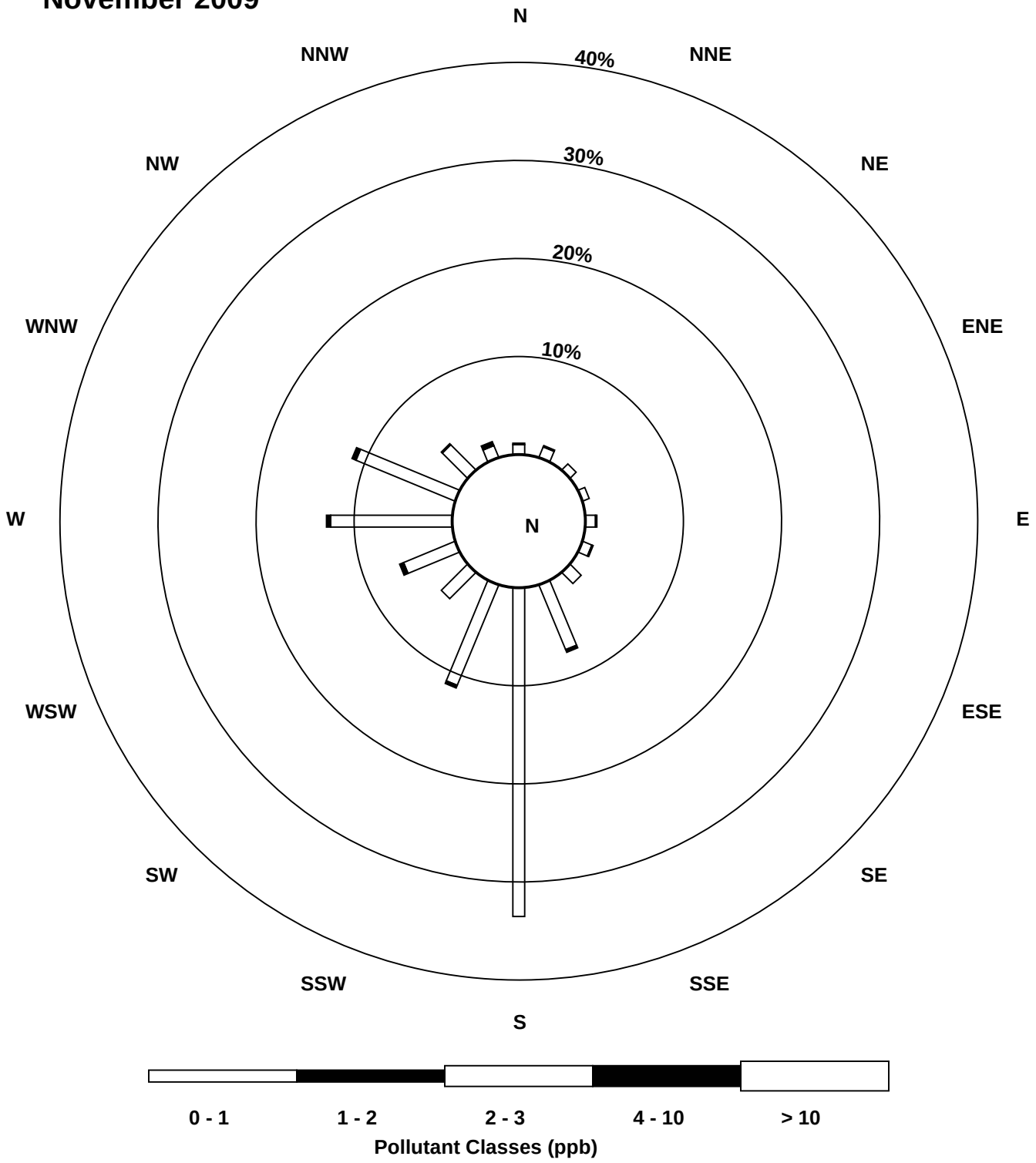
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.7	1.0
2-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.7	1.0
3-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1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

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

Hourly Maximums for TRS at Portable-Kinuso
November 2009



Pollutant Rose for TRS at Portable-Kinuso
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Kinuso - Nitrogen Dioxide (NO_2) - ppb
November 1, 2009 to December 1, 2009

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 21.4 ppb on Nov 23 17:00
Maximum Daily Average: 5.6 ppb on Nov 23

Minimum Value: 0 ppb on Nov 1 13:00
Maximum Diurnal Average: 4.4 ppb at hour 17
Monthly Average: 2.06 ppb

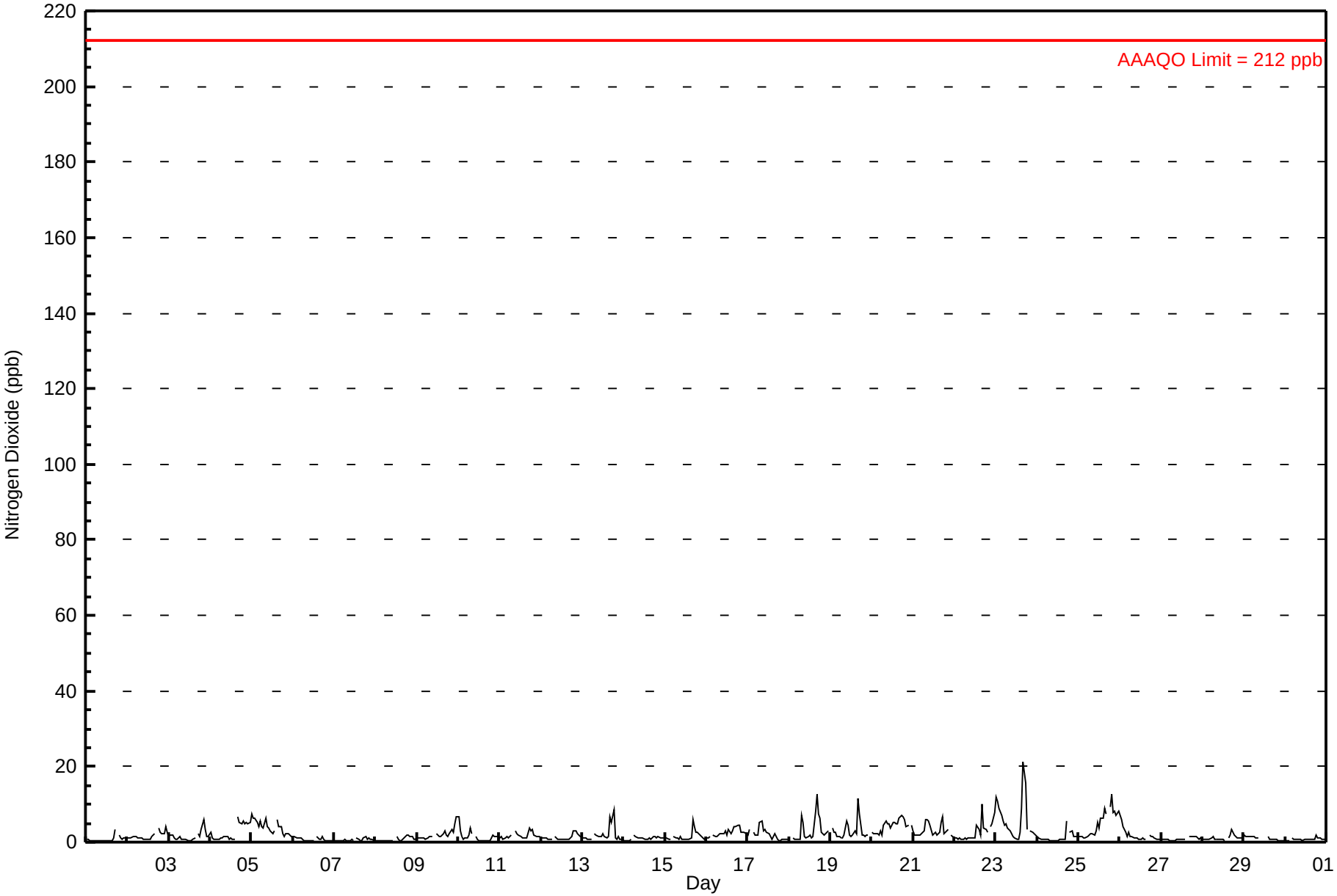
Minimum Daily Average: 0.7 ppb on Nov 7
Minimum Diurnal Average: 1.4 ppb at hour 5
Percentiles: P_1 = 0.3 P_{10} = 0.5 Q_1 = 0.8 Median = 1.3 Q_3 = 2.3 P_{90} = 4.9 P_{99} = 10.7

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

Day	Hourly Period Ending At (MST) 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	0	0	0	0	0	0	0	0	0	0	0	0	1	3	A	2	1	1	1	1	0.7	3.3
2-Nov	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	2	2	A	4	3	2	2	4	3	1.6	4.0
3-Nov	1	2	2	1	1	1	1	1	1	1	1	0	0	1	1	1	A	2	1	3	6	3	2	1	1.5	6.1
4-Nov	3	1	1	1	1	1	1	1	2	2	1	1	1	1	1	A	7	5	5	5	5	5	5	5	2.6	6.8
5-Nov	7	6	6	5	4	6	4	4	7	4	4	3	2	3	A	6	4	4	2	2	2	2	2	2	4.0	7.5
6-Nov	2	2	1	1	1	1	0	0	0	0	0	0	0	A	1	1	1	1	1	1	1	1	0	1	0.8	1.5
7-Nov	1	1	0	0	0	1	1	1	1	1	1	0	A	1	1	1	1	1	2	1	1	1	1	0	0.7	1.7
8-Nov	1	1	0	0	0	0	0	0	0	0	0	A	1	1	1	0	1	2	2	2	2	1	1	1	0.8	1.7
9-Nov	1	1	1	1	1	1	1	1	1	1	A	2	2	1	2	2	3	2	2	2	3	3	5	7	2.0	6.6
10-Nov	7	3	2	1	1	1	2	4	2	A	2	1	1	0	0	1	1	0	0	1	2	2	2	2	1.6	6.6
11-Nov	1	2	1	1	1	1	2	2	A	3	2	2	2	1	1	1	1	4	3	3	2	2	1	1	1.7	3.7
12-Nov	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	3	3	2	2	2	1.2	3.1
13-Nov	1	1	1	1	1	1	A	2	2	2	1	1	2	1	1	1	7	5	8	1	1	1	1	1	2.0	8.5
14-Nov	1	1	0	0	1	A	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.9
15-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	6	4	3	3	2	1	1	1	1.5	5.8
16-Nov	1	1	1	A	2	2	2	2	2	2	2	3	2	3	2	3	4	4	4	5	2	3	3	2	2.5	4.6
17-Nov	2	3	A	3	2	2	2	5	6	3	3	3	2	1	1	1	2	1	1	0	1	1	1	1	2.0	5.6
18-Nov	1	A	1	1	1	1	1	7	5	1	1	1	2	1	1	8	13	8	6	3	2	2	3	3	3.1	12.8
19-Nov	A	4	3	3	2	1	1	1	2	6	5	2	2	2	3	2	12	7	2	2	1	2	2	A	2.9	11.6
20-Nov	3	2	2	2	2	3	2	5	6	5	5	4	5	5	5	5	6	7	7	6	4	5	A	5	4.3	7.2
21-Nov	3	2	2	2	2	2	3	6	6	6	4	2	2	3	2	3	5	7	2	3	3	A	2	1	3.1	6.8
22-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	5	3	2	10	4	3	3	A	4	5	8	2.6	10.0
23-Nov	12	11	9	7	6	4	5	4	3	2	1	1	1	1	3	9	21	16	3	A	3	2	2	2	5.6	21.4
24-Nov	2	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	6	A	3	3	2	2	2	1.2	5.8
25-Nov	1	2	1	1	1	1	2	2	2	2	3	5	4	6	6	9	7	A	9	13	8	8	7	8	4.8	12.6
26-Nov	7	6	4	3	2	3	1	1	1	1	1	1	1	1	1	1	A	2	2	1	1	1	1	1	1.9	6.9
27-Nov	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	A	2	1	1	1	2	1	1	1	0.9	1.6
28-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	2	3	2	1	1	1	1	1	1.1	3.3
29-Nov	2	2	2	2	2	1	1	1	1	N	C	C	C	C	1	1	1	1	1	1	0	0	0	0	1.1	1.8
30-Nov	0	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	0.8	1.8
	2.2	2.0	1.7	1.5	1.4	1.4	1.4	2.0	2.0	1.8	1.6	1.4	1.4	1.6	1.5	2.3	4.4	3.7	2.9	2.6	2.3	2.1	2.0	2.2	Diurnal Average	
	11.8	10.9	9.0	7.2	5.7	5.5	4.7	7.0	6.5	5.6	4.7	5.4	5.2	6.3	6.4	9.1	21.4	15.8	9.3	12.6	7.9	8.0	7.2	8.2	Diurnal Maximum	

C - Calibration N - Not Valid 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-Kinuso
November 2009



Maximum Value: 49.6 ppb on Nov 18 16:00

Maximum Daily Average: 9.0 ppb on Nov 23

Minimum Value: 0 ppb on Nov 1 13:00

Maximum Diurnal Average: 10.8 ppb at hour 17

Monthly Average: 3.70 ppb

Minimum Daily Average: 1.1 ppb on Nov 27

Minimum Diurnal Average: 2.1 ppb at hour 5

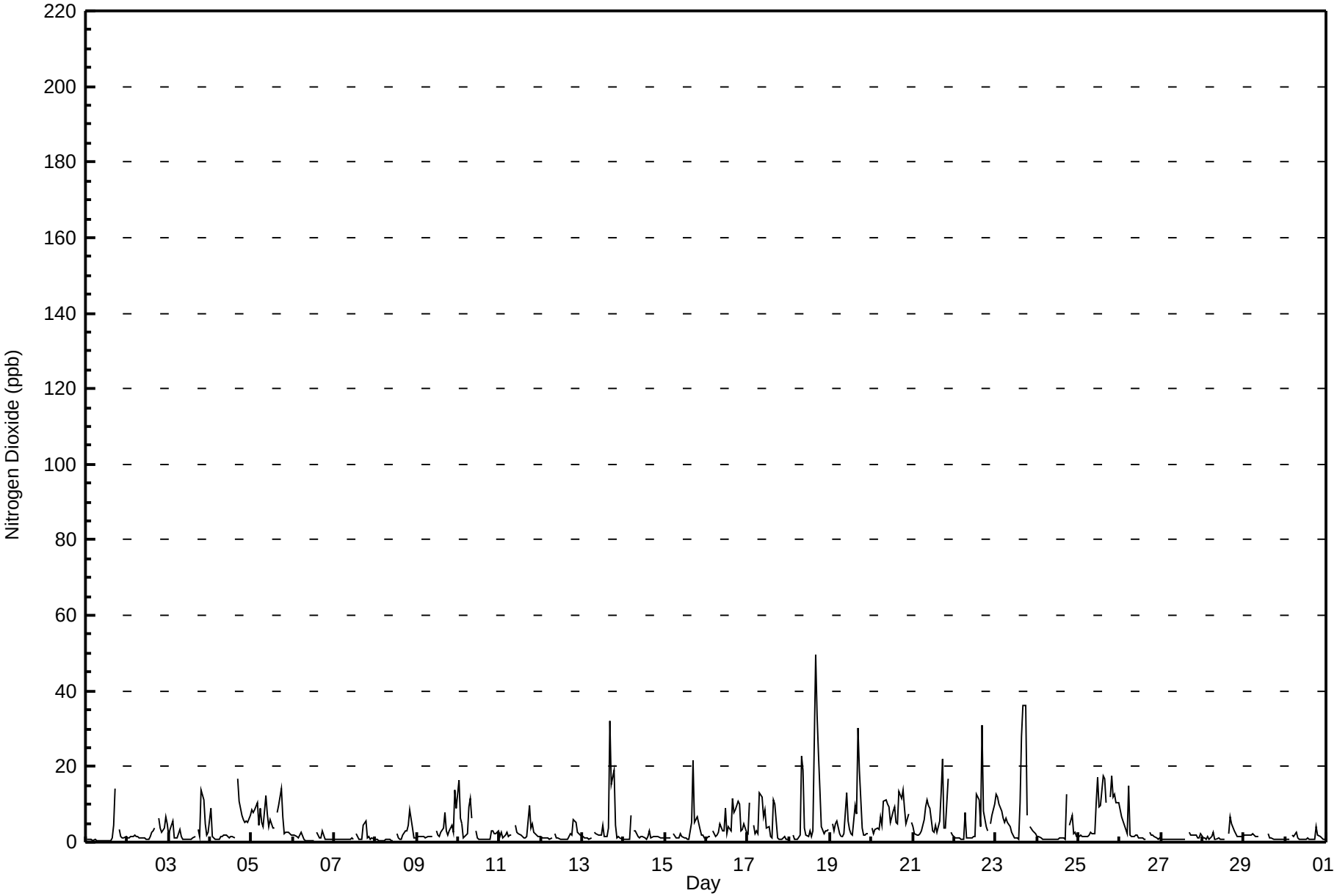
Percentiles: $P_1 = 0.4$ $P_{10} = 0.7$ $Q_1 = 1.0$ Median = 1.8 $Q_3 = 3.9$ $P_{90} = 9.5$ $P_{99} = 29.8$

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

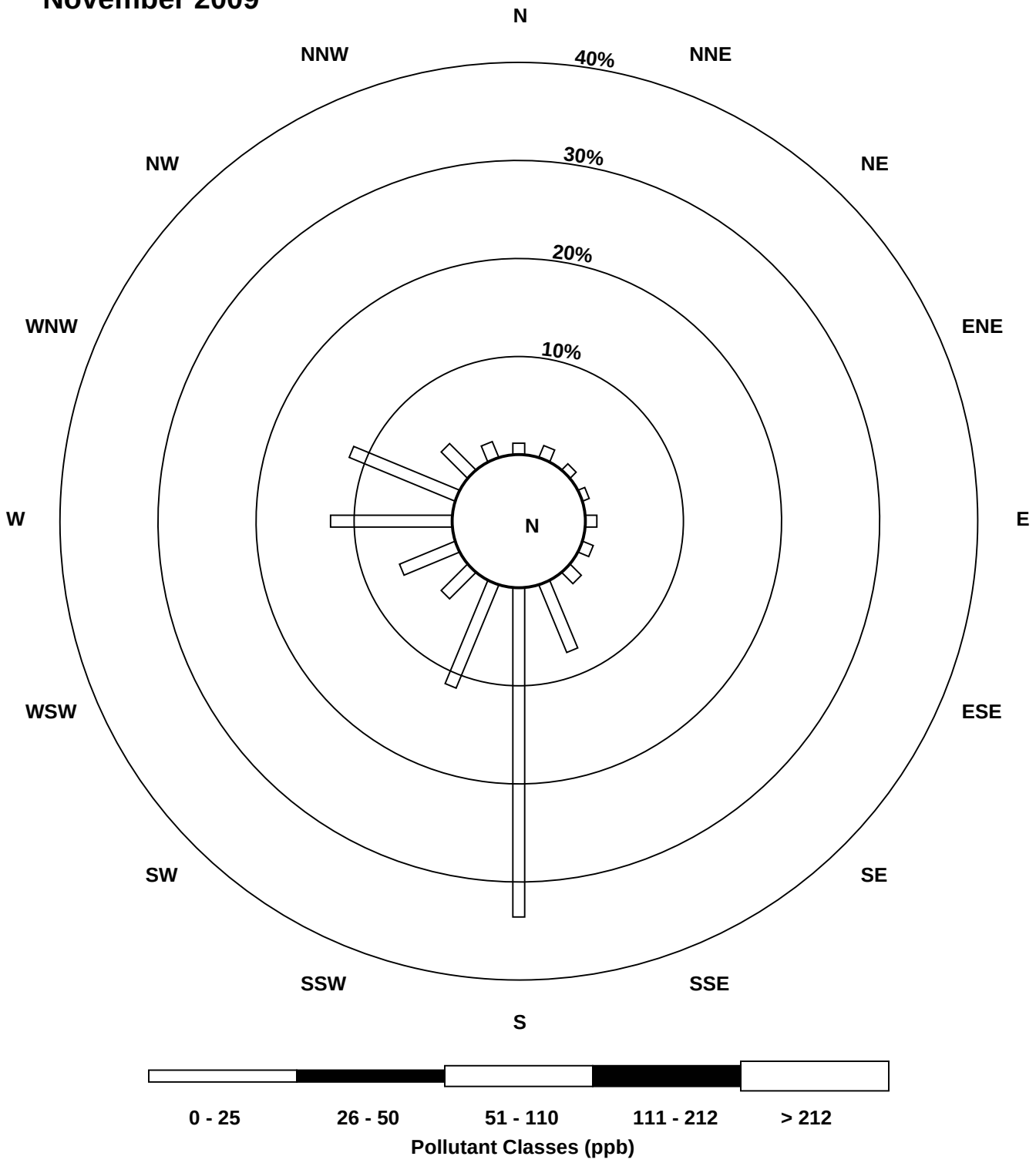
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	1	5	14	A	3	2	1	1	2	1.6	14.2
2-Nov	1	1	1	2	2	2	1	1	1	1	1	1	1	1	2	3	4	A	6	4	2	4	7	5	2.4	6.7
3-Nov	2	3	6	1	1	1	3	1	1	1	1	1	1	1	1	1	A	3	2	14	11	5	2	3	2.8	13.7
4-Nov	9	2	1	1	1	1	1	2	2	2	2	1	1	1	1	A	17	11	7	6	5	6	5	7	4.0	16.9
5-Nov	9	8	9	10	5	9	5	4	12	8	4	6	4	4	A	8	10	14	7	2	3	2	2	2	6.3	14.1
6-Nov	2	2	2	1	2	3	1	1	0	1	1	1	1	A	2	1	1	3	2	1	1	1	1	1	1.2	3.2
7-Nov	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	4	6	1	1	1	1	1	1.2	5.5
8-Nov	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	2	3	3	4	9	4	1	1	1.6	8.6
9-Nov	1	1	1	1	2	1	1	1	2	2	A	3	2	2	2	4	8	3	2	3	4	3	14	9	3.1	13.7
10-Nov	16	6	5	1	1	2	9	11	6	A	3	1	1	1	1	1	1	1	1	3	3	2	2	3	3.5	16.3
11-Nov	2	3	1	2	3	1	2	2	A	4	3	2	2	2	1	1	1	10	4	5	2	2	2	1	2.5	9.5
12-Nov	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	2	2	6	5	3	2	2	1.7	6.1
13-Nov	2	1	1	1	1	1	A	3	2	2	2	2	4	2	1	4	32	15	19	4	1	2	1	1	4.5	32.2
14-Nov	1	1	1	1	7	A	3	3	2	1	1	1	1	1	1	3	1	2	2	1	1	1	1	1	1.7	7.1
15-Nov	1	1	1	1	A	2	1	1	1	2	2	1	1	1	1	5	22	5	6	7	3	2	2	1	3.0	21.6
16-Nov	1	2	2	A	3	2	2	3	5	3	3	9	2	4	3	11	8	9	11	10	3	3	5	3	4.6	11.4
17-Nov	2	10	A	4	2	3	2	13	12	7	9	4	4	2	1	11	10	1	1	1	1	1	1	1	4.5	12.9
18-Nov	1	A	2	1	1	1	2	23	19	4	2	2	3	1	3	50	33	23	14	4	2	3	3	3	8.7	49.6
19-Nov	A	5	3	5	6	2	2	2	2	13	6	4	2	2	10	8	30	19	4	2	2	2	2	A	5.9	30.0
20-Nov	4	2	3	4	3	7	5	11	11	10	9	5	8	9	5	5	14	12	14	9	5	7	A	5	7.3	13.8
21-Nov	4	2	2	2	2	3	6	9	11	10	9	3	2	4	2	6	13	22	4	4	17	A	3	2	6.2	22.2
22-Nov	1	1	1	1	1	1	8	1	1	1	1	1	2	13	11	4	31	8	4	3	A	5	7	10	5.1	30.8
23-Nov	13	12	10	8	6	5	6	5	4	3	2	1	1	1	10	28	36	36	7	A	4	3	3	2	9.0	36.1
24-Nov	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13	A	4	7	2	2	2	2.0	12.8
25-Nov	2	2	2	1	1	2	2	3	2	2	11	17	9	10	17	17	10	A	12	18	12	13	10	11	8.0	17.7
26-Nov	9	7	5	3	2	15	2	2	1	2	2	1	1	1	1	1	A	2	2	2	1	1	1	1	2.8	14.7
27-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	3	2	2	2	2	1	1	2	1.1	2.5
28-Nov	1	1	1	1	1	2	3	1	1	1	1	1	1	1	A	2	7	5	3	2	1	1	1	2	1.7	6.6
29-Nov	2	2	2	2	2	2	2	1	1	N	C	C	C	C	2	1	1	1	1	1	1	1	1	1	1.3	2.4
30-Nov	1	1	1	A	2	2	3	1	1	1	1	1	1	1	1	1	1	1	4	2	2	1	1	1	1.2	3.9
	3.1	2.8	2.3	2.1	2.1	2.5	2.6	3.7	3.7	3.0	2.8	2.5	2.1	2.5	3.1	6.4	10.8	8.7	5.3	4.4	3.9	2.8	2.9	2.9	Diurnal Average	
	16.3	11.9	10.2	10.4	7.1	14.7	9.2	22.9	19.0	13.2	10.6	17.2	9.5	12.8	17.4	49.6	36.1	36.1	19.1	17.7	16.6	12.8	13.7	10.5	Diurnal Maximum	

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

Hourly Maximums for NO_2 at Portable-Kinuso
November 2009



Pollutant Rose for NO_2 at Portable-Kinuso
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Kinuso - Nitrogen Oxide (NO) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 6.1 ppb on Nov 23 17:00

Maximum Daily Average: 0.6 ppb on Nov 23

Minimum Value: 0 ppb on Nov 2 01:00

Minimum Daily Average: 0.0 ppb on Nov 6

Maximum Diurnal Average: 0.6 ppb at hour 17

Minimum Diurnal Average: 0.0 ppb at hour 7

Monthly Average: 0.18 ppb

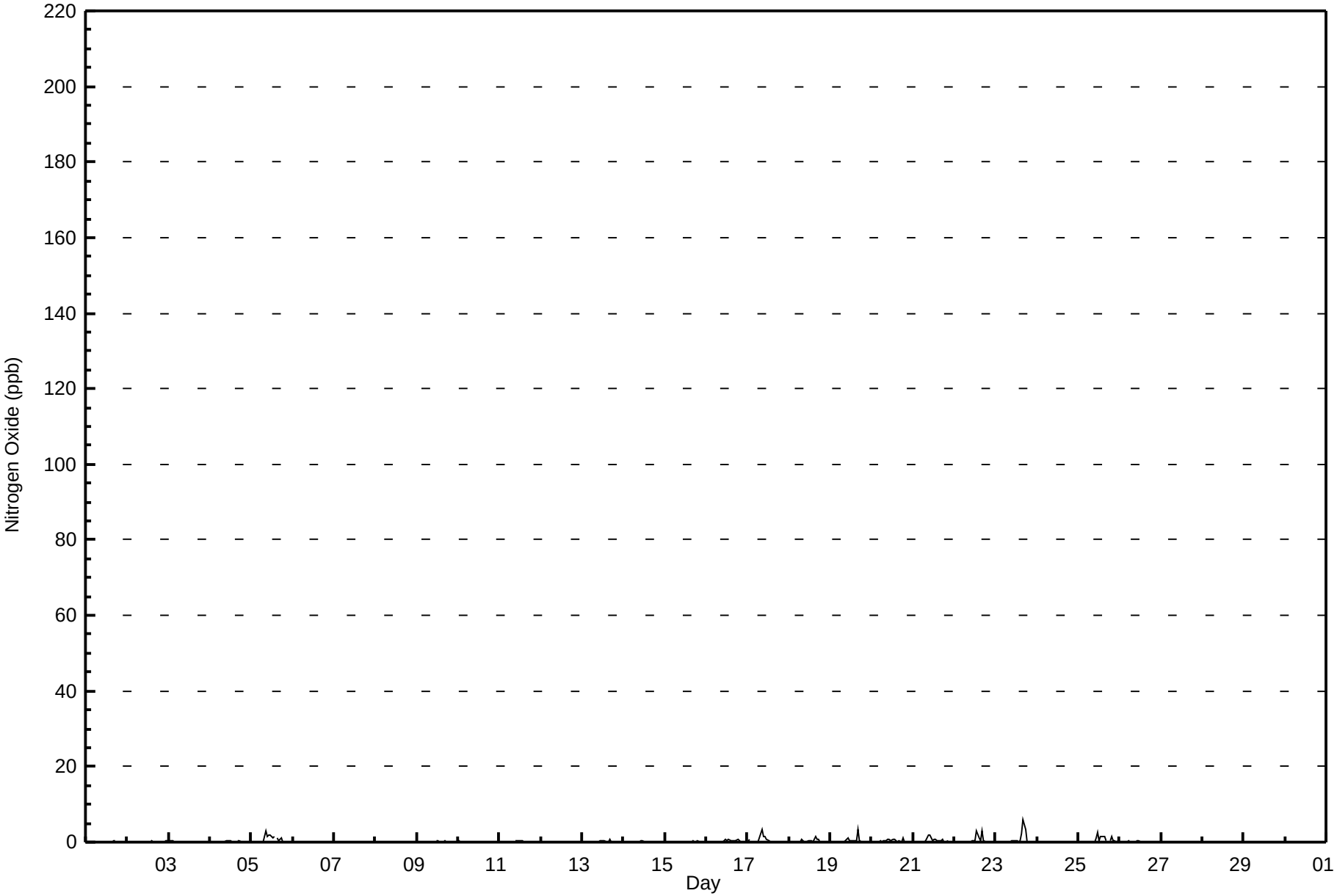
Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.0 $Q_3 = 0.1$ $P_{90} = 0.4$ $P_{99} = 2.9$

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

Day	Hourly Period Ending At (MST) 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	A	0	0	0	0	0	0.1	0.4
2-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	0.5
3-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
4-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.5
5-Nov	0	0	0	0	0	0	0	0	3	1	2	2	1	1	A	1	0	1	0	0	0	0	0	0	0.6	2.9
6-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.0	0.0
7-Nov	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
8-Nov	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
9-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	0.1	0.4
10-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	0.1	0.3
11-Nov	0	0	0	0	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
12-Nov	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
13-Nov	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.1	0.6
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	0.1	0.3
15-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.1	0.5
16-Nov	0	0	0	A	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0.2	0.7
17-Nov	0	1	A	0	0	0	0	1	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	3.2
18-Nov	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0.2	1.3
19-Nov	A	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	3	0	0	0	0	0	0	A	0.4	3.3
20-Nov	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	1	0	0	0	A	0	0.3	1.3
21-Nov	0	0	0	0	0	0	0	1	1	2	2	1	1	1	0	0	0	1	0	0	0	A	0	0	0.4	2.0
22-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	3	0	0	0	A	0	0	0	0.4	3.0
23-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	6	3	0	A	0	0	0	0	0.6	6.1
24-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.0	0.1
25-Nov	0	0	0	0	0	0	0	0	0	0	1	3	0	1	1	1	0	A	0	2	0	1	0	0	0.5	2.6
26-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
27-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.0	0.1
28-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	0.0	0.1
29-Nov	0	0	0	0	0	0	0	0	0	N	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0.0	0.1
30-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	0.0	0.0
	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.3	0.4	0.4	0.3	0.4	0.2	0.3	0.6	0.3	0.1	0.1	0.1	0.1	0.0	0.1	Diurnal Average	
	0.3	0.7	0.3	0.2	0.1	0.3	0.1	1.2	3.2	1.7	2.0	2.6	1.0	3.0	1.4	2.1	6.1	3.5	1.3	1.6	0.4	0.6	0.3	0.5	Diurnal Maximum	

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

Hourly Averages for NO at Portable-Kinuso
November 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Portable-Kinuso - Nitrogen Oxide (NO) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 27.4 ppb on Nov 22 17:00

Maximum Daily Average: 3.4 ppb on Nov 23

Minimum Value: 0 ppb on Nov 29 18:00

Minimum Daily Average: 0.1 ppb on Nov 29

Maximum Diurnal Average: 4.1 ppb at hour 17

Minimum Diurnal Average: 0.2 ppb at hour 3

Monthly Average: 0.95 ppb

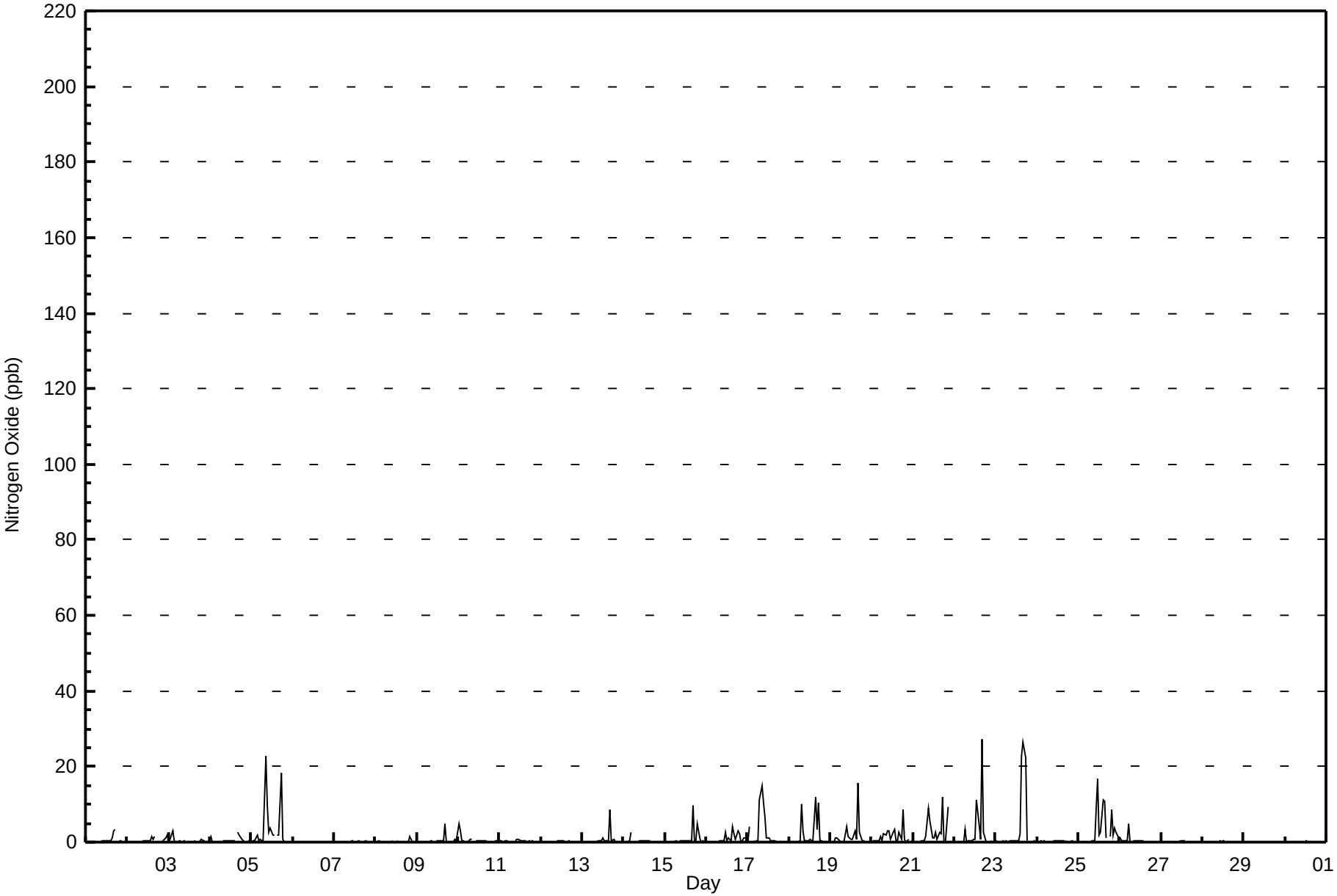
Percentiles: $P_1 = 0.0$ $P_{10} = 0.1$ $Q_1 = 0.1$ Median = 0.2 $Q_3 = 0.4$ $P_{90} = 2.0$ $P_{99} = 16.5$

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

Day	Hourly Period Ending At (MST) 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	1	3	3	A	0	0	0	0	0	0.4	3.5
2-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	A	0	0	0	1	1	2	0.4	2.0
3-Nov	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	0	0	0	0	0.3	2.9
4-Nov	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	3	2	1	0	0	0	0	1	0.5	2.7
5-Nov	0	0	0	2	0	1	0	0	23	10	3	4	2	2	A	2	2	18	1	0	0	0	0	0	3.0	22.8
6-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.1	0.2
7-Nov	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
8-Nov	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	2	0	0	0	0.2	1.7
9-Nov	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	5	0	0	0	0	0	1	0	0.4	4.7
10-Nov	5	3	0	0	0	0	0	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	4.9
11-Nov	0	0	0	0	0	0	0	0	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
12-Nov	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
13-Nov	0	0	0	0	0	0	A	0	0	0	0	0	1	0	0	0	9	0	1	0	0	0	0	0	0.6	8.8
14-Nov	0	0	0	0	2	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.4
15-Nov	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	10	0	0	5	1	0	0	0	0.8	9.7
16-Nov	0	0	0	A	0	0	0	0	0	0	0	3	1	1	0	4	2	1	3	2	0	0	1	1	1.0	4.3
17-Nov	0	4	A	0	0	0	0	11	15	10	7	1	1	0	0	0	0	0	0	0	0	0	0	0	2.3	15.1
18-Nov	0	A	0	0	0	0	0	10	3	0	0	1	1	0	0	12	3	11	0	0	0	0	0	0	1.9	11.8
19-Nov	A	0	0	1	1	0	0	0	0	4	2	1	1	1	3	1	16	3	0	0	0	0	0	A	1.5	15.6
20-Nov	0	0	0	1	0	1	0	2	2	3	3	1	3	4	1	0	2	1	9	1	0	1	A	0	1.5	8.6
21-Nov	0	0	0	0	0	0	0	2	5	9	6	1	1	3	1	3	2	12	0	0	9	A	0	0	2.4	11.9
22-Nov	0	0	0	0	0	0	3	0	0	0	0	1	1	11	5	1	27	3	0	0	A	0	0	0	2.3	27.4
23-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	23	26	22	0	A	0	0	0	0	3.4	26.4
24-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.2	0.3
25-Nov	0	0	0	0	0	0	0	0	0	0	9	17	2	3	11	11	1	A	1	9	2	4	3	1	3.2	17.0
26-Nov	1	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.4	4.7
27-Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.2
28-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	0.2
29-Nov	0	0	0	0	0	0	0	0	0	N	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0.1	0.2
30-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	0.2
	0.4	0.4	0.2	0.2	0.2	0.3	0.3	1.0	1.8	1.5	1.2	1.2	0.6	1.0	1.0	2.2	4.1	2.8	0.6	0.7	0.6	0.3	0.3	0.3	Diurnal Average	
	4.9	4.1	2.9	1.9	2.4	4.7	3.5	11.3	22.8	10.3	8.8	17.0	2.6	11.3	11.1	22.8	27.4	22.5	8.6	8.5	9.2	3.8	2.7	2.0	Diurnal Maximum	

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

Hourly Maximums for NO at Portable-Kinuso
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Kinuso - Oxides of Nitrogen (NO_X) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 27.7 ppb on Nov 23 17:00

Maximum Daily Average: 6.2 ppb on Nov 23

Minimum Value: 0 ppb on Nov 1 10:00

Maximum Diurnal Average: 5.0 ppb at hour 17

Monthly Average: 2.19 ppb

Minimum Daily Average: 0.7 ppb on Nov 7

Minimum Diurnal Average: 1.3 ppb at hour 5

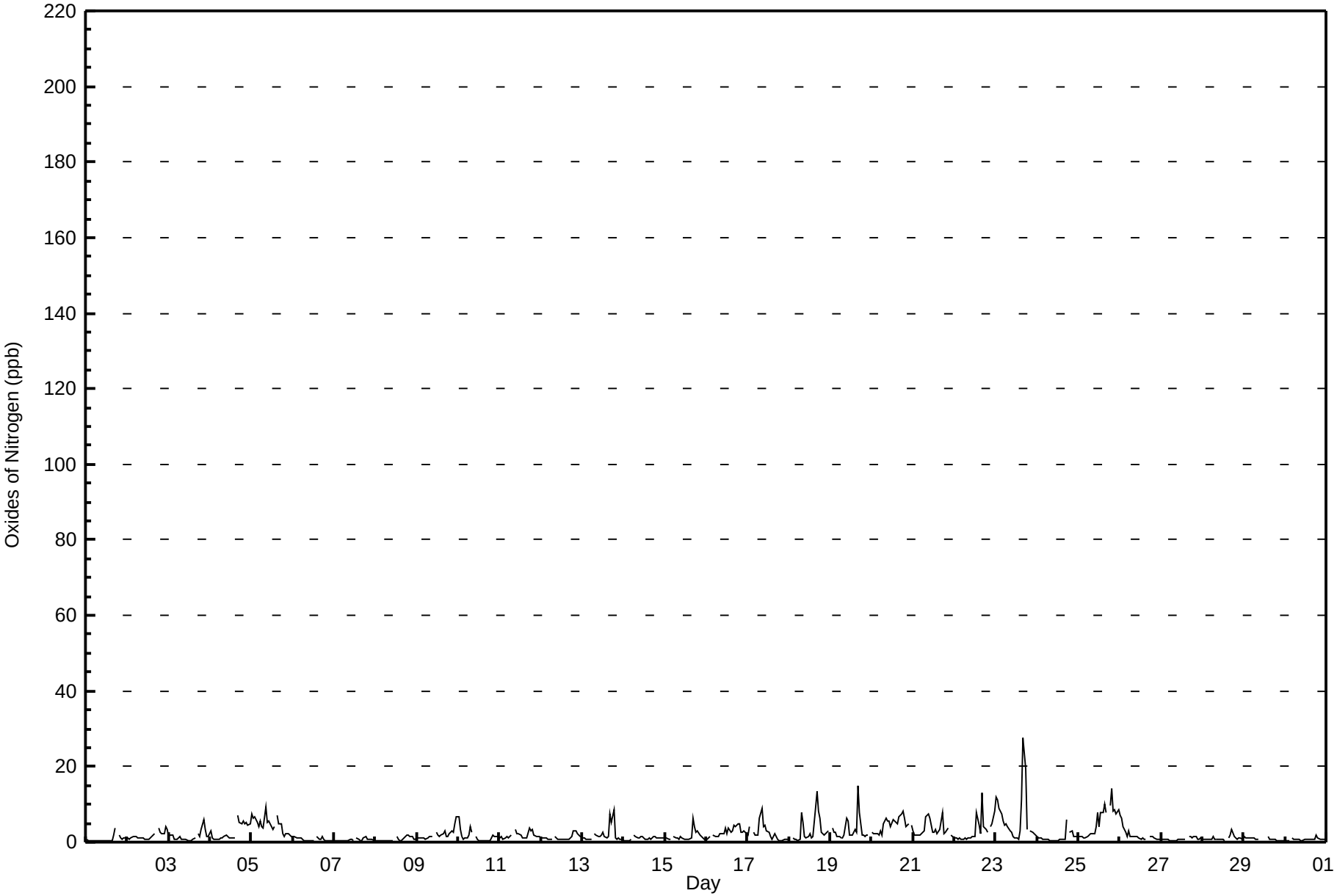
Percentiles: $P_1 = 0.3$ $P_{10} = 0.5$ $Q_1 = 0.8$ Median = 1.3 $Q_3 = 2.5$ $P_{90} = 5.2$ $P_{99} = 11.5$

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

Day	Hourly Period Ending At (MST) 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	0	0	0	0	0	0	0	0	0	0	0	0	2	4	A	2	1	1	1	1	0.8	3.7
2-Nov	1	1	1	1	2	1	1	1	1	1	1	1	1	1	2	2	2	A	4	3	2	2	4	3	1.7	4.3
3-Nov	1	2	2	1	1	1	1	1	1	1	1	0	0	1	1	1	A	2	1	3	6	3	2	1	1.5	6.1
4-Nov	3	1	1	1	1	1	1	1	2	2	2	1	1	1	1	A	7	5	5	5	5	5	5	5	2.7	7.2
5-Nov	7	6	7	5	4	6	4	4	9	5	6	5	3	4	A	7	5	5	2	2	2	2	2	2	4.5	9.5
6-Nov	1	1	1	1	1	1	0	0	0	0	0	0	0	A	1	1	1	1	1	1	0	1	0	0	0.8	1.5
7-Nov	0	0	0	0	0	1	1	1	1	1	1	0	A	1	1	0	0	1	2	1	1	1	1	0	0.7	1.6
8-Nov	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	0	1	2	2	2	2	1	1	1	0.8	1.7
9-Nov	1	1	1	1	1	1	1	1	1	2	A	3	2	1	2	2	3	2	2	2	3	3	5	7	2.1	6.7
10-Nov	7	3	2	1	1	1	2	4	2	A	2	1	1	1	0	1	1	0	0	1	2	2	2	2	1.6	6.9
11-Nov	1	2	1	1	1	1	1	2	A	3	2	2	2	1	1	1	1	4	3	3	2	2	1	1	1.8	3.8
12-Nov	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	3	3	2	2	2	1.2	3.1
13-Nov	1	1	1	1	1	1	A	2	2	2	2	2	2	2	1	1	7	5	9	1	1	1	1	1	2.0	8.6
14-Nov	0	0	0	0	1	A	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.9
15-Nov	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	6	4	3	3	2	1	1	1	1.5	6.4
16-Nov	1	1	1	A	2	1	1	2	2	2	2	4	2	4	2	3	4	4	5	5	2	3	3	2	2.6	4.9
17-Nov	2	4	A	3	2	2	2	6	9	4	5	3	3	1	1	1	2	1	0	0	1	1	1	1	2.4	8.8
18-Nov	1	A	1	1	1	1	1	8	5	2	1	2	2	1	1	9	13	8	6	3	2	2	3	3	3.3	13.5
19-Nov	A	4	3	3	2	1	1	1	2	6	6	2	2	2	3	3	15	8	2	2	1	2	2	A	3.2	14.9
20-Nov	3	2	2	2	2	3	2	5	6	6	6	4	6	6	5	5	7	7	8	6	4	5	A	5	4.6	8.0
21-Nov	3	2	2	2	2	2	3	7	7	7	6	3	3	3	2	3	6	8	2	3	4	A	2	1	3.6	7.7
22-Nov	1	1	1	1	1	1	1	1	1	1	1	2	2	8	4	2	13	4	3	3	A	4	5	8	2.9	13.0
23-Nov	12	11	9	7	6	4	5	4	3	2	2	1	1	1	3	11	28	19	3	A	3	3	2	2	6.2	27.7
24-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	A	3	3	2	2	1	1.3	5.8
25-Nov	1	2	1	1	1	1	2	2	2	2	4	8	4	8	8	10	8	A	10	14	8	9	7	9	5.3	14.3
26-Nov	7	6	4	3	2	3	1	1	1	1	1	1	1	1	1	1	A	2	2	1	1	1	1	1	1.9	7.1
27-Nov	1	1	1	1	1	0	0	0	0	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	0.8	1.5
28-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	2	3	2	1	1	1	1	1	1.0	3.2
29-Nov	1	1	1	1	1	1	1	1	1	N	C	C	C	C	1	1	1	1	1	1	0	0	0	0	0.8	1.4
30-Nov	0	0	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	0.8	1.8
	2.2	2.1	1.7	1.5	1.3	1.4	1.4	2.1	2.3	2.0	2.0	1.8	1.6	1.9	1.7	2.6	5.0	3.9	2.9	2.6	2.3	2.1	2.0	2.2	Diurnal Average	
	11.8	11.0	9.1	7.3	5.7	5.6	4.7	7.7	9.5	7.3	6.5	8.0	5.9	7.7	7.8	11.3	27.7	19.3	9.5	14.3	8.2	8.6	7.4	8.5	Diurnal Maximum	

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

Hourly Averages for NO_X at Portable-Kinuso
November 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Portable-Kinuso - Oxides of Nitrogen (NO_X) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 61.4 ppb on Nov 23 17:00

Maximum Daily Average: 12.2 ppb on Nov 23

Minimum Value: 0 ppb on Nov 6 09:00

Minimum Daily Average: 1.1 ppb on Nov 27

Maximum Diurnal Average: 14.5 ppb at hour 17

Minimum Diurnal Average: 2.2 ppb at hour 5

Monthly Average: 4.46 ppb

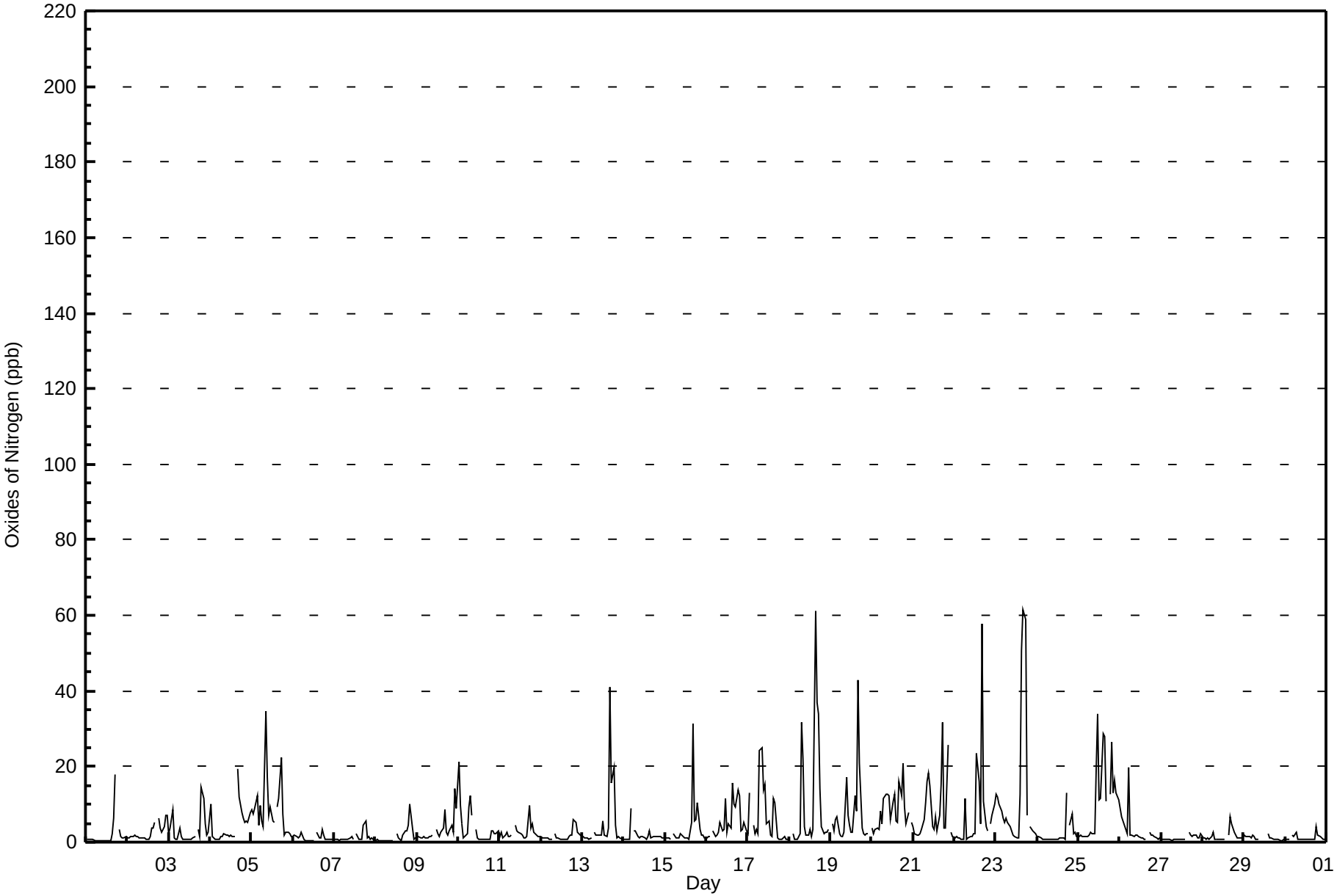
Percentiles: $P_1 = 0.4$ $P_{10} = 0.6$ $Q_1 = 1.0$ Median = 1.8 $Q_3 = 4.4$ $P_{90} = 11.5$ $P_{99} = 40.6$

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

Day	Hourly Period Ending At (MST) 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	0	0	0	0	0	0	0	1	0	2	6	18	A	3	2	1	1	2	1.9	17.8
2-Nov	1	1	1	2	2	2	1	1	1	1	1	1	1	1	4	4	5	A	6	4	3	4	7	7	2.7	7.1
3-Nov	2	4	8	1	1	1	4	1	1	1	1	1	1	1	1	2	A	3	2	15	11	5	2	3	3.0	14.6
4-Nov	10	2	1	1	1	1	1	1	2	2	2	1	2	2	1	A	19	12	8	6	5	6	5	8	4.3	19.4
5-Nov	9	8	9	12	5	10	6	4	35	17	7	10	6	5	A	9	11	22	7	2	3	2	2	2	8.8	34.8
6-Nov	2	2	1	1	2	2	1	1	0	0	0	0	1	A	3	1	1	3	2	1	1	1	1	1	1.1	3.2
7-Nov	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	4	6	1	1	1	1	1	1.2	5.5
8-Nov	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	2	3	3	4	10	4	1	1	1.7	10.2
9-Nov	1	1	1	1	2	1	1	1	2	2	A	3	2	2	3	4	8	3	2	3	4	3	14	9	3.2	14.2
10-Nov	21	10	5	1	1	2	9	12	7	A	3	1	1	1	1	1	1	1	1	3	3	2	2	3	4.0	21.4
11-Nov	1	3	1	2	3	1	2	2	A	4	3	3	2	2	1	1	1	10	4	5	3	2	2	1	2.5	9.6
12-Nov	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	2	2	6	5	3	2	2	1.7	6.1
13-Nov	1	1	1	1	1	1	A	2	2	2	2	2	6	2	1	4	41	16	20	5	1	2	1	1	5.0	41.2
14-Nov	1	1	1	1	9	A	3	3	2	1	2	2	1	1	1	3	1	1	1	1	1	1	1	1	1.8	9.1
15-Nov	1	1	1	1	A	2	1	1	1	2	2	1	1	1	1	5	31	5	6	11	3	2	2	1	3.7	31.4
16-Nov	1	1	2	A	3	2	2	3	5	3	3	12	3	5	4	16	10	9	14	12	3	3	5	3	5.3	15.7
17-Nov	2	13	A	4	2	3	2	24	25	14	15	5	5	2	1	12	11	1	1	1	1	1	1	1	6.4	25.1
18-Nov	1	A	2	1	1	1	2	32	22	4	2	2	3	2	3	61	37	34	14	4	2	3	3	3	10.4	61.0
19-Nov	A	5	3	6	7	2	2	2	3	17	7	4	3	3	12	8	43	21	4	2	2	2	2	A	7.2	42.9
20-Nov	4	2	3	4	4	8	5	12	13	13	12	6	11	13	6	5	16	12	21	9	5	8	A	5	8.5	20.9
21-Nov	4	2	2	2	2	3	6	11	16	18	15	4	3	7	3	7	15	32	4	4	26	A	3	2	8.2	31.6
22-Nov	1	1	1	1	1	1	11	1	1	1	1	2	2	24	16	5	58	11	4	3	A	5	7	10	7.3	57.8
23-Nov	13	12	10	8	6	5	6	5	4	3	2	1	1	1	13	51	61	59	7	A	4	3	3	2	12.2	61.4
24-Nov	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13	A	4	7	2	3	2	2.0	13.1
25-Nov	2	2	1	1	1	1	2	3	2	2	20	34	11	12	29	28	11	A	13	26	13	16	13	11	11.1	34.0
26-Nov	9	7	5	3	2	20	2	2	1	2	2	1	1	1	1	1	A	2	2	2	1	1	1	1	3.1	19.6
27-Nov	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	2	2	2	2	1	1	2	1.1	2.5
28-Nov	1	1	1	1	1	2	3	1	1	1	1	1	1	1	A	2	7	5	3	2	1	1	1	1	1.6	6.6
29-Nov	2	2	2	1	1	2	1	1	1	N	C	C	C	C	2	1	1	1	1	1	1	1	1	1	1.1	2.3
30-Nov	1	1	1	A	2	2	3	1	1	1	1	1	1	1	1	1	1	1	4	2	2	1	1	1	1.1	4.0
	3.3	3.0	2.4	2.2	2.2	2.7	2.7	4.4	5.3	4.2	3.9	3.6	2.6	3.3	4.0	8.4	14.5	10.9	5.7	4.9	4.3	3.0	3.0	3.0	Diurnal Average	
	21.4	13.2	10.2	12.2	9.1	19.6	11.4	31.8	34.8	18.4	19.5	34.0	11.3	23.7	28.6	61.0	61.4	58.9	20.9	26.3	25.8	16.3	14.2	11.2	Diurnal Maximum	

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

Hourly Maximums for NO_X at Portable-Kinuso
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Kinuso - Ozone (O_3) - ppb
November 1, 2009 to December 1, 2009

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 41.0 ppb on Nov 17 16:00
Maximum Daily Average: 34.9 ppb on Nov 6

Minimum Value: 5 ppb on Nov 3 02:00
Maximum Diurnal Average: 30.8 ppb at hour 15
Monthly Average: 26.88 ppb

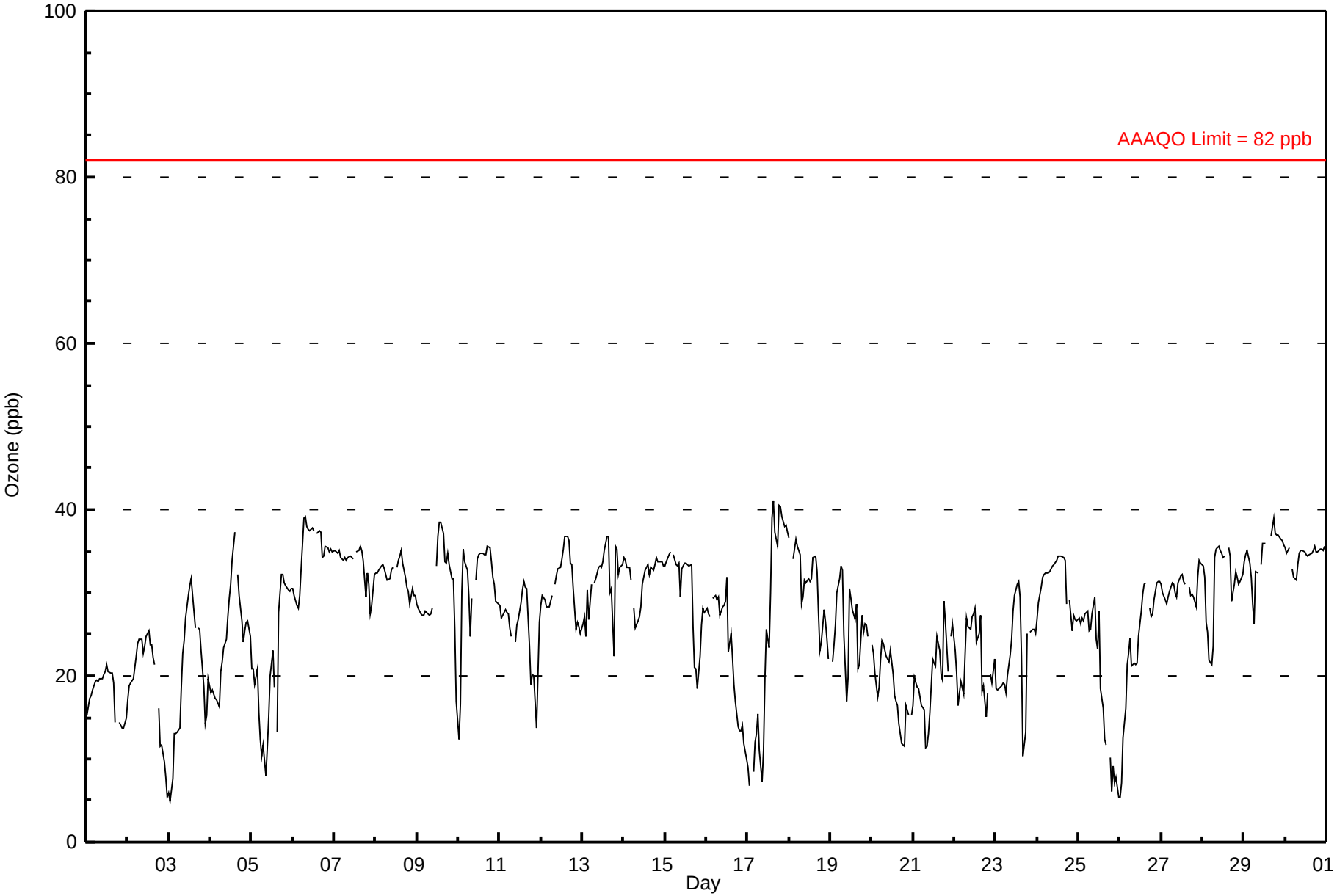
Minimum Daily Average: 17.8 ppb on Nov 1
Minimum Diurnal Average: 24.2 ppb at hour 2
Percentiles: P_1 = 7.0 P_{10} = 15.3 Q_1 = 21.5 Median = 28.4 Q_3 = 33.1 P_{90} = 35.1 P_{99} = 38.9

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	15	16	17	18	18	19	19	19	20	20	20	20	21	21	20	20	19	14	A	14	14	14	14	15	17.8	21.3
2-Nov	17	19	19	20	21	22	24	24	24	23	24	25	25	24	24	22	21	A	16	12	12	10	8	5	19.1	25.5
3-Nov	6	5	8	13	13	13	14	19	23	24	27	30	31	32	30	26	A	26	26	23	19	14	15	20	19.7	31.6
4-Nov	18	18	18	17	17	16	20	22	23	24	27	29	31	34	37	A	32	30	27	24	25	26	27	25	24.8	37.3
5-Nov	21	21	19	21	16	12	10	12	8	11	15	20	23	19	A	13	28	32	32	31	31	30	30	30	21.1	32.2
6-Nov	31	30	28	28	30	33	39	39	38	38	38	38	37	A	37	37	37	34	34	36	35	35	35	35	34.9	39.2
7-Nov	35	35	35	35	34	34	34	34	34	34	34	34	A	35	35	36	35	34	29	32	31	27	29	32	33.4	35.6
8-Nov	32	32	33	33	33	33	32	32	32	33	33	A	33	34	34	35	34	32	31	30	29	30	30	30	32.2	35.1
9-Nov	29	28	27	27	27	28	27	27	27	28	A	33	37	38	39	37	34	33	35	33	32	32	26	17	30.5	38.6
10-Nov	12	17	30	35	34	33	29	25	29	A	31	34	35	35	35	35	35	36	35	34	32	31	29	29	30.8	35.6
11-Nov	29	27	27	28	28	28	26	25	A	24	26	27	29	30	31	31	31	24	19	20	20	14	20	26	25.6	31.3
12-Nov	28	30	29	28	28	28	30	A	31	32	33	33	34	35	37	37	36	34	33	31	26	26	26	25	30.9	36.9
13-Nov	26	27	25	30	27	31	A	31	32	33	33	33	34	35	37	37	30	30	22	36	35	32	33	33	31.4	36.9
14-Nov	34	34	33	33	32	A	28	26	27	27	28	31	33	33	33	32	33	33	33	34	34	34	34	33	31.8	34.2
15-Nov	33	34	35	35	A	35	33	33	34	29	33	34	34	33	33	33	26	21	21	19	22	26	28	28	30.1	35.0
16-Nov	28	27	27	A	29	30	29	30	27	28	28	29	32	23	25	22	19	17	14	13	13	14	12	10	23.0	31.9
17-Nov	9	7	A	8	12	13	15	11	7	11	20	26	23	30	39	41	37	36	41	40	39	38	38	37	25.2	41.0
18-Nov	37	A	34	35	36	36	35	29	29	31	31	32	31	32	34	34	33	27	23	24	28	26	24	22	30.6	36.7
19-Nov	A	22	24	26	30	32	33	33	25	17	20	31	29	28	27	29	21	21	27	25	26	26	25	A	26.2	33.1
20-Nov	24	23	20	17	19	22	24	24	22	22	22	23	20	18	17	16	14	12	12	12	17	15	A	15	18.7	24.2
21-Nov	16	20	19	18	18	16	16	11	11	13	16	22	21	21	25	23	20	19	29	27	21	A	25	26	19.7	29.0
22-Nov	23	20	16	18	19	18	23	27	26	26	27	27	28	24	25	27	18	19	15	18	A	20	19	22	22.0	28.1
23-Nov	18	18	18	19	19	19	18	20	23	24	28	30	31	31	29	22	10	13	25	A	25	26	26	25	22.6	31.4
24-Nov	27	29	31	32	32	32	32	32	33	33	33	34	34	34	34	34	34	29	A	29	25	27	27	27	31.1	34.4
25-Nov	27	26	27	27	28	28	25	26	28	30	24	23	28	19	16	12	12	A	10	6	9	7	8	5	19.6	29.5
26-Nov	5	7	13	16	21	23	25	21	21	21	21	25	28	30	31	31	A	28	27	27	29	31	31	31	23.7	31.4
27-Nov	31	30	29	29	30	30	31	31	30	30	31	32	32	31	31	A	31	30	30	29	28	32	34	34	30.7	33.9
28-Nov	33	32	26	25	22	21	24	34	35	36	35	35	34	34	A	35	34	29	31	33	32	31	31	32	31.1	35.6
29-Nov	34	35	35	34	32	29	26	33	32	N	33	36	36	C	C	C	37	39	37	37	37	36	36	36	34.5	39.1
30-Nov	35	35	35	A	33	32	31	33	35	35	35	35	35	34	35	35	35	36	35	35	35	35	35	36	34.6	35.6
	24.6	24.2	25.5	25.2	25.4	25.7	26.0	26.3	26.5	26.4	27.9	29.6	30.3	29.6	30.8	29.4	28.1	27.4	26.8	26.4	26.3	25.8	26.0	25.6	Diurnal Average	
	36.7	35.0	35.4	35.3	36.4	35.6	39.0	39.2	38.0	37.6	37.5	37.8	37.5	38.5	38.9	41.0	37.3	39.1	40.5	40.3	39.2	38.0	38.1	37.3	Diurnal Maximum	

C - Calibration N - Not Valid 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-Kinuso
November 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Portable-Kinuso - Ozone (O_3) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 67.1 ppb on Nov 4 18:00

Maximum Daily Average: 36.9 ppb on Nov 6

Minimum Value: 7 ppb on Nov 26 00:00

Minimum Daily Average: 19.2 ppb on Nov 1

Maximum Diurnal Average: 33.1 ppb at hour 18

Minimum Diurnal Average: 26.8 ppb at hour 2

Monthly Average: 29.49 ppb

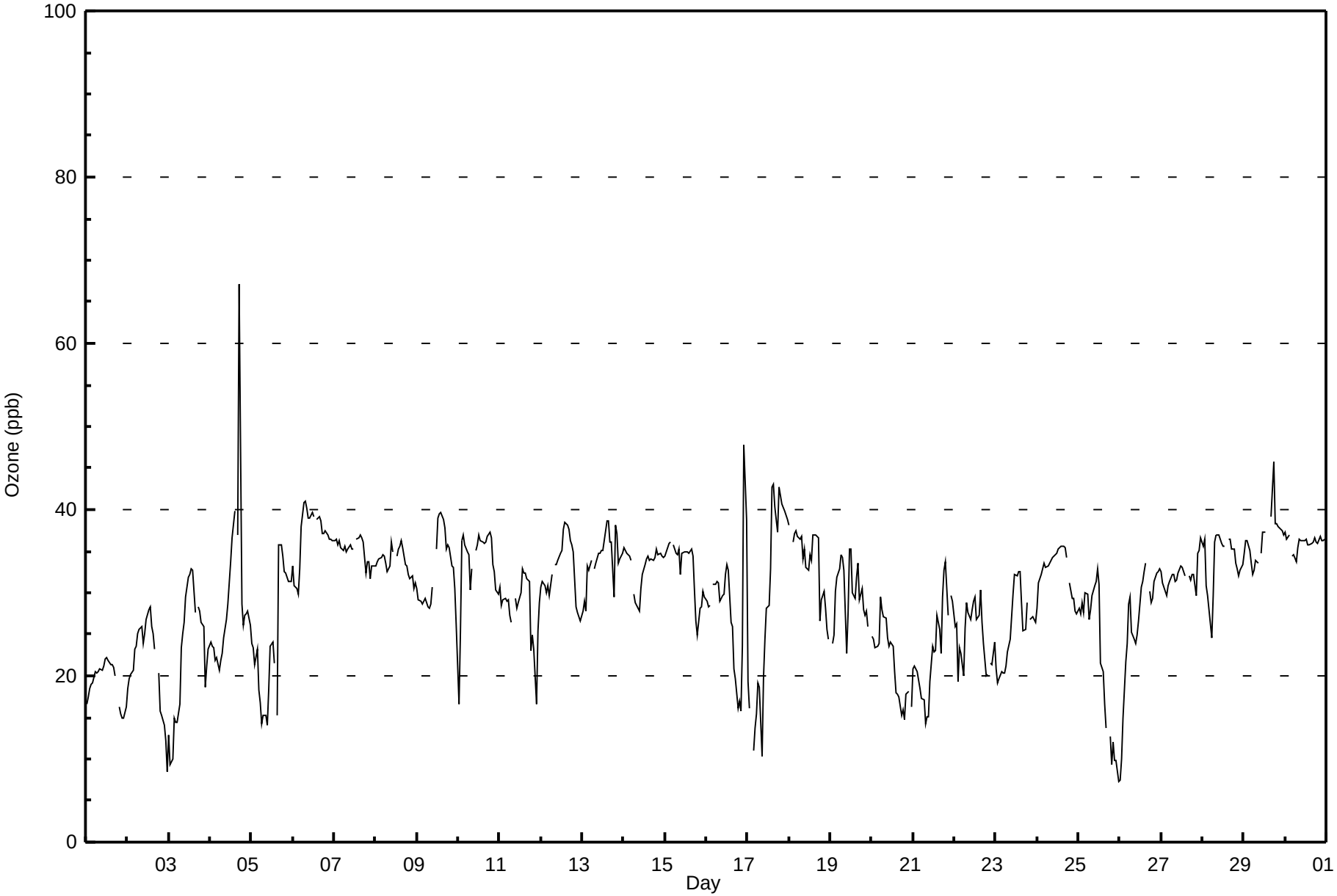
Percentiles: P_1 = 10.0 P_{10} = 19.2 Q_1 = 25.1 Median = 31.0 Q_3 = 34.9 P_{90} = 36.8 P_{99} = 41.2

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

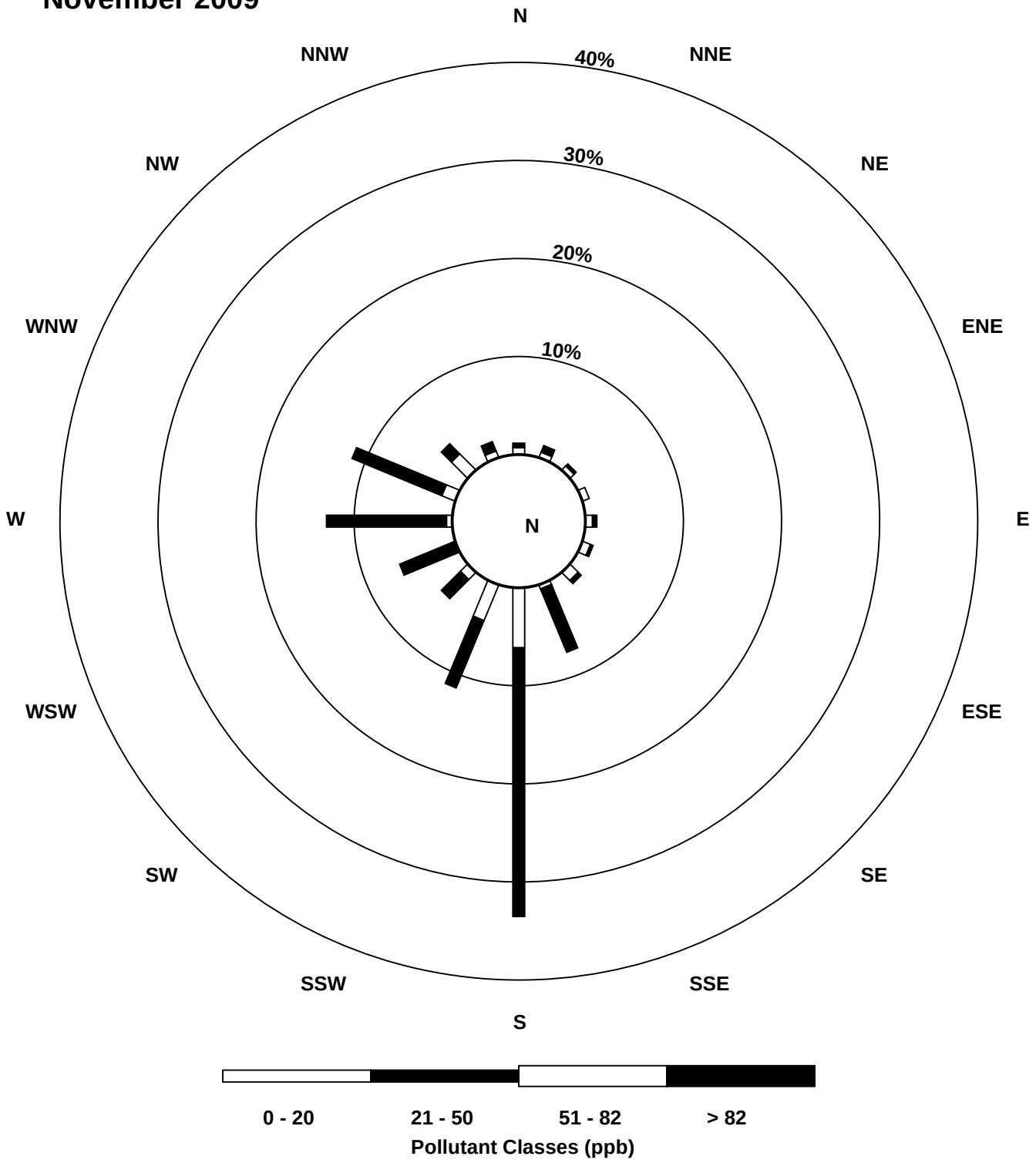
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	17	17	18	19	19	21	20	21	21	21	21	22	22	22	21	21	21	20	A	16	15	15	15	16	19.2	22.2
2-Nov	19	20	20	21	23	24	25	26	26	24	25	27	28	28	26	25	23	A	20	16	15	14	12	8	21.5	28.3
3-Nov	13	9	10	15	14	14	17	23	25	26	29	32	32	33	33	28	A	28	28	27	26	19	21	23	22.9	32.9
4-Nov	24	23	23	22	22	21	22	23	25	27	29	31	34	37	40	A	37	67	29	26	27	28	28	26	29.1	67.1
5-Nov	24	23	21	23	18	17	14	15	15	14	18	24	24	21	A	15	36	36	34	33	32	31	31	31	24.1	35.8
6-Nov	33	31	31	30	33	38	41	41	40	39	39	40	39	A	39	39	39	37	37	37	37	36	36	36	36.9	41.0
7-Nov	36	36	36	36	35	35	36	35	35	36	35	35	A	36	37	37	37	36	32	34	34	32	33	33	35.1	36.9
8-Nov	33	34	34	34	35	34	34	33	33	36	35	A	34	35	36	36	36	33	33	32	32	32	31	31	33.7	36.2
9-Nov	31	29	29	29	29	29	28	28	29	31	A	35	39	40	40	39	38	35	36	35	33	33	31	26	32.6	39.7
10-Nov	17	25	36	37	36	35	35	30	33	A	35	36	37	36	36	36	36	37	37	37	33	32	30	30	33.6	37.3
11-Nov	31	28	29	29	29	29	27	27	A	29	28	29	30	33	32	32	32	31	23	25	23	17	25	29	28.2	32.9
12-Nov	31	31	31	30	31	30	32	A	33	33	34	35	35	38	39	38	38	36	36	35	28	28	27	27	32.8	38.5
13-Nov	28	29	28	33	33	34	A	33	34	35	35	35	35	36	39	39	36	36	29	38	37	34	34	35	34.0	38.7
14-Nov	35	35	35	34	34	A	30	29	28	28	30	32	33	34	34	34	34	34	34	35	35	35	34	34	33.1	35.4
15-Nov	34	35	36	36	A	36	35	35	35	32	35	35	35	35	35	35	34	30	27	25	28	28	30	30	32.9	36.1
16-Nov	29	28	29	A	31	31	31	31	29	30	30	32	33	33	26	26	21	20	16	17	16	24	48	39	28.2	47.7
17-Nov	19	16	A	11	14	15	19	19	10	20	24	28	28	33	43	43	40	37	43	42	41	40	39	39	28.9	43.1
18-Nov	38	A	36	37	37	37	36	37	34	35	33	33	35	34	37	37	37	37	27	29	30	28	26	24	33.7	38.2
19-Nov	A	24	25	30	32	33	35	34	33	23	28	35	35	30	29	32	34	29	30	28	27	28	26	A	30.0	35.3
20-Nov	25	24	23	23	24	29	28	27	27	25	24	24	24	20	18	18	17	15	16	15	18	18	A	16	21.7	29.5
21-Nov	21	21	20	20	18	17	17	14	15	15	19	24	23	23	27	26	23	29	33	34	27	A	30	29	22.8	33.7
22-Nov	26	26	19	23	23	20	26	29	28	27	28	29	30	27	27	30	26	24	20	20	A	22	21	24	25.0	30.3
23-Nov	21	19	20	21	20	20	21	23	24	27	30	32	32	33	33	29	25	26	29	A	27	27	27	26	25.7	32.6
24-Nov	28	31	32	33	34	33	33	34	34	34	34	35	35	35	36	36	35	34	A	31	29	29	28	28	32.7	35.6
25-Nov	28	27	29	28	30	30	27	28	30	31	31	33	31	22	20	17	14	A	13	9	12	10	10	7	22.4	32.8
26-Nov	8	10	15	22	24	29	30	25	24	24	25	27	31	31	33	34	A	30	29	29	31	32	32	33	26.4	33.5
27-Nov	32	31	30	30	31	31	32	32	31	32	32	33	33	33	32	A	32	32	32	32	30	35	35	37	32.2	36.6
28-Nov	36	36	31	30	28	24	30	36	37	37	36	36	36	36	A	36	36	35	35	33	33	32	33	33	33.7	36.9
29-Nov	35	36	36	35	34	32	33	34	34	N	35	37	37	C	C	C	39	46	38	38	38	38	37	37	36.4	45.7
30-Nov	37	36	37	A	34	35	34	35	36	36	36	36	36	36	36	36	36	37	36	36	37	36	36	37	36.0	37.3
	27.2	26.8	27.6	27.5	27.8	28.0	28.5	28.8	28.9	28.8	30.2	31.8	32.3	31.7	32.7	31.6	31.9	33.1	29.7	29.1	28.7	28.0	29.2	28.4	Diurnal Average	
	38.2	36.5	37.0	37.1	37.5	38.0	40.8	41.0	40.1	38.9	38.9	39.7	39.2	39.5	42.7	43.1	40.4	67.1	42.7	41.6	40.7	39.8	47.7	38.8	Diurnal Maximum	

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

Hourly Maximums for O_3 at Portable-Kinuso
November 2009



Pollutant Rose for O_3 at Portable-Kinuso
November 2009



Peace Airshed Zone Association
Summary of Eight Hour Running Averages

Portable-Kinuso - Ozone (O_3) - ppb
November 1, 2009 to December 1, 2009

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 38.9 ppb on Nov 17 22:00

Minimum Value: 7.3 ppb on Nov 26 02:00

Percentiles: P_1 = 8.8 P_{10} = 16.6 Q_1 = 21.9 Median = 28.2 Q_3 = 32.5 P_{90} = 34.4 P_{99} = 37.7

Hours in Service:	720
Hours of Data:	713
Hours of Missing Data:	7
Hours of Calibration:	4
Percent Operational Time:	99.6

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	24	21	19	19	17	17	17	18	18	19	19	20	20	20	20	20	20	20	19	19	18	17	16	15	23.6
2-Nov	15	15	16	16	17	18	20	21	22	22	23	23	24	24	24	24	23	24	22	21	19	17	14	12	24.1
3-Nov	10	9	8	8	8	9	10	11	13	16	18	20	22	25	27	28	28	29	28	27	26	23	21	20	28.6
4-Nov	20	19	18	17	17	17	18	18	19	20	21	22	24	26	29	30	31	32	31	31	30	29	27	27	31.5
5-Nov	26	24	23	23	22	20	18	16	15	14	13	13	14	15	15	16	18	21	24	25	27	28	29	31	30.7
6-Nov	31	31	30	30	30	30	31	32	33	34	35	36	37	38	38	38	37	37	37	36	36	36	36	35	38.1
7-Nov	35	35	35	35	35	35	35	34	34	34	34	34	34	34	34	35	35	35	34	34	33	32	32	31	35.1
8-Nov	31	31	31	31	32	32	33	33	33	33	33	33	32	33	33	33	34	34	33	33	32	32	31	31	33.7
9-Nov	30	30	29	29	29	28	28	28	28	28	28	28	30	31	33	34	35	36	36	36	35	34	33	30	35.9
10-Nov	27	25	25	25	25	25	26	27	29	31	31	31	31	31	32	33	34	34	35	35	34	34	33	32	34.8
11-Nov	32	31	30	29	28	28	28	27	27	26	26	26	26	27	27	28	29	29	28	27	26	24	22	22	31.7
12-Nov	21	22	23	24	25	27	28	29	29	30	30	31	32	33	34	34	35	35	35	35	34	32	31	30	34.9
13-Nov	28	28	26	26	27	27	27	28	29	30	31	31	32	33	33	34	34	34	32	33	33	32	32	32	34.2
14-Nov	32	32	34	34	33	33	32	31	30	29	29	28	29	29	30	31	31	32	33	33	33	33	33	33	33.8
15-Nov	34	34	34	34	34	34	34	34	34	33	33	33	33	33	33	33	32	31	29	27	26	25	25	24	34.0
16-Nov	24	25	26	27	28	28	28	29	29	29	29	29	29	28	28	27	26	24	23	21	18	17	16	14	29.2
17-Nov	13	12	11	10	10	10	11	11	11	11	12	14	16	18	21	25	28	31	34	36	38	39	39	38	38.9
18-Nov	38	39	38	37	37	36	36	34	33	33	33	32	32	31	31	32	32	32	31	30	29	29	28	26	38.6
19-Nov	25	24	24	25	25	26	27	28	28	27	27	27	27	27	26	26	25	26	27	26	26	25	25	25	28.4
20-Nov	25	25	24	23	22	21	21	22	21	21	22	22	22	22	21	20	19	18	17	15	15	14	14	14	25.1
21-Nov	14	15	16	17	17	18	17	17	16	15	15	15	16	17	18	19	20	21	23	23	23	23	23	24	23.8
22-Nov	24	24	23	21	21	21	20	21	21	22	23	24	25	26	26	26	25	24	23	22	21	20	20	19	26.3
23-Nov	19	19	19	19	19	19	19	19	19	20	21	23	24	26	27	27	26	24	24	23	22	22	21	21	27.3
24-Nov	24	26	27	27	28	29	30	31	32	32	33	33	33	33	34	34	34	33	33	33	31	30	29	28	34.0
25-Nov	27	27	27	27	27	27	27	27	27	27	27	26	26	25	24	22	20	19	17	15	12	10	9	8	27.3
26-Nov	7	7	8	9	10	12	14	16	18	20	21	22	23	24	25	26	27	28	29	29	29	29	29	29	29.4
27-Nov	30	30	30	30	30	30	30	30	30	30	30	31	31	31	31	31	31	31	31	31	30	30	31	31	31.1
28-Nov	31	32	31	31	30	28	27	27	27	28	29	30	32	33	35	35	35	34	33	33	33	32	32	32	35.0
29-Nov	32	32	33	33	33	33	32	32	32	31	31	32	32	33	N	N	N	N	N	N	N	37	37	37	37.2
30-Nov	37	36	36	36	35	35	34	34	34	34	34	34	34	34	35	35	35	35	35	35	35	35	35	35	36.7
Diurnal Maximums	38.2	38.6	37.7	36.9	36.5	36.2	35.7	34.5	34.4	34.3	35.2	36.4	37.4	38.1	37.8	37.6	37.5	37.0	36.5	36.2	37.9	38.9	38.8	38.3	

N - Not Valid

Portable-Kinuso - External Temperature (ET) - ^{o}C
November 1, 2009 to December 1, 2009

Maximum Value: 13.2 ^{o}C on Nov 5 15:00

Maximum Daily Average: 6.4 ^{o}C on Nov 6

Minimum Value: -14 ^{o}C on Nov 22 06:00

Minimum Daily Average: -7.5 ^{o}C on Nov 22

Maximum Diurnal Average: 4.9 ^{o}C at hour 14

Minimum Diurnal Average: -1.3 ^{o}C at hour 3

Monthly Average: 0.50 ^{o}C

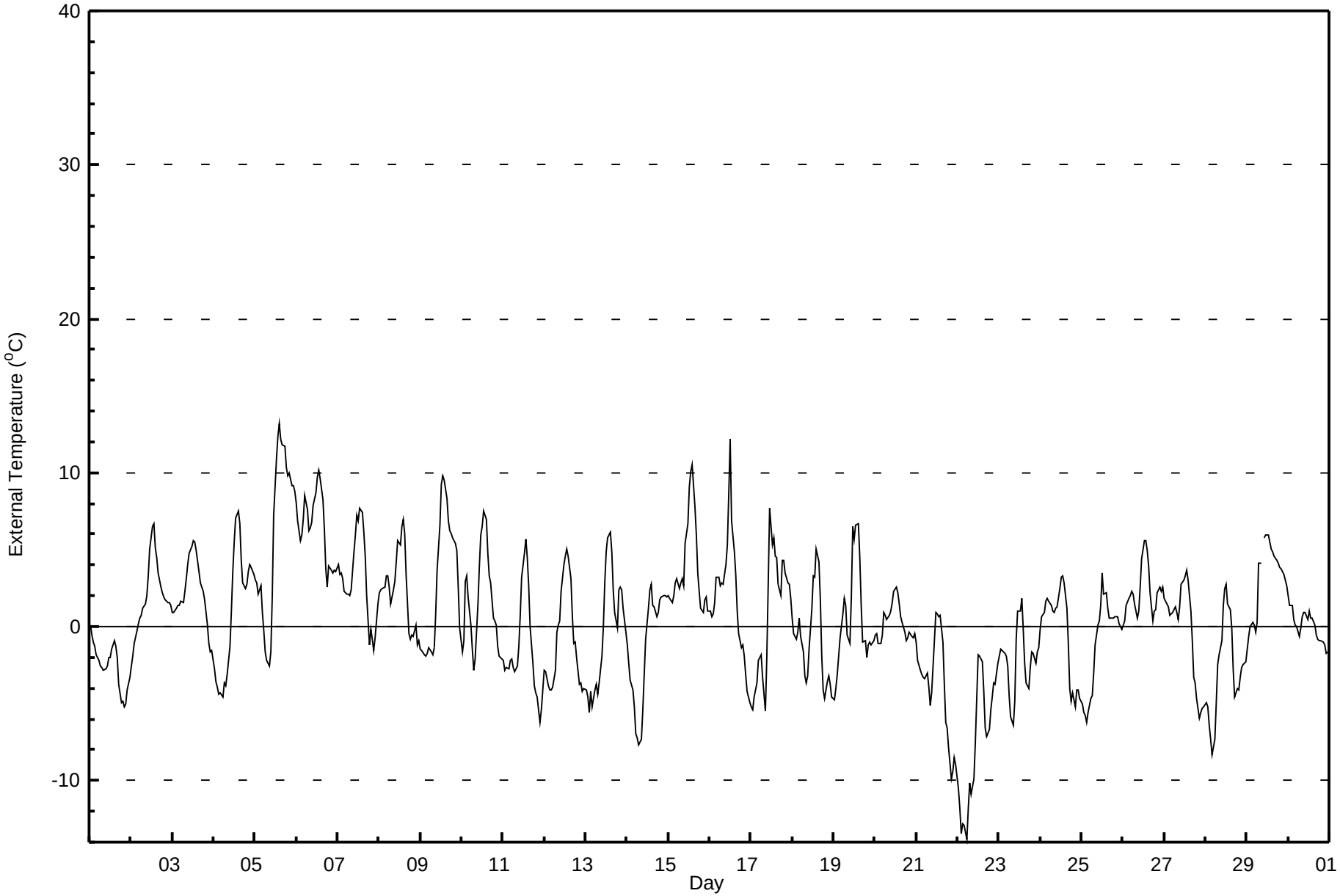
Percentiles: P_1 = -10.6 P_{10} = -4.5 Q_1 = -2.2 Median = 0.7 Q_3 = 2.9 P_{90} = 5.7 P_{99} = 10.3

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

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Nov	0	-1	-1	-1	-2	-2	-3	-3	-3	-3	-3	-2	-2	-1	-1	-1	-2	-4	-5	-5	-5	-5	-4	-3	-2.5	0.1
2-Nov	-3	-2	-1	0	0	1	1	1	1	2	3	5	7	7	5	5	3	3	2	2	2	2	2	1	2.0	6.7
3-Nov	1	1	1	1	1	2	2	2	3	4	5	5	6	6	5	4	3	3	2	2	0	-1	-2	-2	2.2	5.6
4-Nov	-3	-4	-4	-4	-4	-5	-4	-4	-3	-1	1	4	5	7	7	7	4	3	3	3	4	4	4	3	1.0	7.5
5-Nov	3	3	2	3	1	0	-2	-2	-3	-2	2	7	11	12	13	12	12	12	10	10	10	9	9	9	5.9	13.2
6-Nov	8	7	6	6	7	9	8	6	6	7	8	9	10	10	10	8	6	4	3	4	4	4	4	4	6.4	10.2
7-Nov	4	3	3	3	2	2	2	2	2	5	6	7	7	8	7	6	5	2	-1	0	-1	-2	-1	1	3.1	7.7
8-Nov	2	2	2	3	3	3	3	1	2	3	4	6	5	7	7	6	3	0	-1	-1	-1	0	-1	-1	2.5	7.0
9-Nov	-1	-2	-2	-2	-2	-1	-2	-2	-1	1	4	7	9	10	10	8	7	6	6	6	5	5	3	0	3.0	9.8
10-Nov	-2	-1	3	3	2	0	-1	-3	-2	1	4	6	7	8	7	5	3	3	1	0	0	-1	-2	-2	1.6	7.5
11-Nov	-2	-3	-3	-3	-2	-2	-3	-3	-3	-1	1	3	5	6	4	3	0	-2	-4	-4	-5	-6	-5	-4	-1.4	5.7
12-Nov	-3	-3	-4	-4	-4	-4	-3	0	0	0	2	4	5	5	5	3	1	-1	-1	-2	-4	-4	-4	-4	-0.8	5.1
13-Nov	-4	-5	-6	-4	-5	-4	-4	-4	-4	-2	0	3	5	6	6	5	2	1	0	2	3	2	1	0	-0.2	6.1
14-Nov	-1	-2	-4	-4	-5	-7	-7	-8	-7	-5	-3	-1	1	2	3	1	1	1	1	2	2	2	2	2	-1.5	2.7
15-Nov	2	2	2	2	3	3	2	3	3	3	5	7	9	10	10	8	6	4	2	1	1	2	2	1	3.9	10.5
16-Nov	1	1	1	2	3	3	3	3	3	4	5	9	12	7	5	3	1	0	-1	-1	-2	-3	-4	-5	2.0	12.1
17-Nov	-5	-5	-5	-4	-2	-2	-2	-3	-6	-2	3	8	5	6	5	5	3	2	4	4	3	3	3	2	0.8	7.7
18-Nov	1	0	-1	0	1	-1	-2	-3	-4	-3	-1	1	3	3	5	4	2	-2	-4	-5	-4	-3	-4	-5	-0.9	5.0
19-Nov	-5	-4	-3	-2	-1	1	2	1	-1	-1	2	7	6	7	7	4	1	-1	-1	-2	-1	-1	-1	-1	0.5	6.6
20-Nov	-1	0	-1	-1	-1	1	1	0	1	1	2	2	3	2	1	1	0	0	-1	-1	0	-1	-1	0	0.3	2.6
21-Nov	-1	-2	-3	-3	-3	-3	-3	-4	-5	-4	-3	1	1	1	1	-1	-4	-6	-7	-8	-10	-9	-8	-9	-3.9	0.9
22-Nov	-11	-12	-13	-13	-13	-14	-12	-10	-11	-10	-7	-5	-2	-2	-2	-4	-7	-7	-7	-5	-5	-4	-4	-2	-7.5	-1.8
23-Nov	-2	-1	-2	-2	-2	-3	-4	-6	-6	-5	-1	1	1	2	0	-2	-4	-4	-3	-2	-2	-2	-2	-1	-2.1	1.8
24-Nov	0	1	1	2	2	2	1	1	1	1	1	2	3	3	3	1	-1	-4	-5	-4	-5	-4	-4	-5	-0.3	3.3
25-Nov	-5	-6	-6	-6	-6	-5	-4	-3	-1	0	0	1	3	2	2	1	1	1	1	1	1	1	0	0	-1.1	3.4
26-Nov	0	0	1	2	2	2	2	1	1	1	3	4	6	6	5	4	2	0	1	1	2	3	2	3	2.3	5.6
27-Nov	2	2	1	1	1	1	1	1	1	1	3	3	3	4	3	1	-1	-3	-4	-5	-6	-6	-5	-5	-0.3	3.7
28-Nov	-5	-5	-6	-7	-8	-7	-5	-2	-2	-1	1	2	3	1	1	0	-3	-5	-4	-4	-3	-3	-2	-2	-2.8	2.7
29-Nov	-1	-1	0	0	0	0	0	4	4	N	6	6	6	6	5	5	5	4	4	4	4	3	3	3	3.0	5.9
30-Nov	2	1	1	0	0	0	-1	0	1	1	1	0	1	1	1	0	-1	-1	-1	-1	-1	-1	-2	-2	0.0	2.0
	-1.0	-1.2	-1.3	-1.1	-1.1	-1.0	-1.1	-1.1	-1.1	-0.2	1.8	3.8	4.8	4.9	4.6	3.4	1.7	0.2	-0.3	-0.3	-0.4	-0.6	-0.7	-0.8	Diurnal Average	
	8.1	6.9	5.6	5.9	6.9	8.5	7.6	6.3	6.4	6.8	7.9	8.7	12.1	12.3	13.2	12.2	11.8	11.7	10.4	9.8	10.0	9.2	9.2	8.8	Diurnal Maximum	

N - Not Valid

Hourly Averages for External Temperature at Portable-Kinuso
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Kinuso
November 1, 2009 to December 1, 2009
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	9	10	9	9	9	8	8	7	6	7	7	7	7	4	4	2	3	2	3	7	8	10	12	13	3.5	12.7
Dir	300	301	304	303	300	301	304	302	308	307	309	326	332	328	322	341	24	90	176	176	180	183	185	171	282.6	171.0
2 Spd	11	10	11	7	7	6	10	9	8	7	7	6	3	3	5	4	2	1	2	3	3	1	1	1	4.2	11.3
Dir	179	177	173	176	171	189	175	181	178	191	191	188	186	335	16	15	15	206	208	201	208	201	196	159	181.2	179.0
3 Spd	2	2	4	8	10	8	6	3	3	5	6	8	8	9	7	6	4	3	2	0	2	4	4	4	2.8	10.2
Dir	174	142	184	178	179	179	180	219	239	260	276	287	295	300	306	312	316	290	279	346	183	192	186	190	238.5	178.8
4 Spd	3	3	3	3	4	6	12	12	13	11	9	5	3	3	6	6	6	8	11	11	15	17	17	14	8.2	17.1
Dir	170	182	183	188	200	196	180	178	174	184	182	190	172	142	171	173	151	150	165	164	167	165	167	161	171.5	167.0
5 Spd	17	11	6	5	2	1	2	2	2	3	4	3	2	4	2	1	7	10	9	10	11	11	9	9	4.6	16.5
Dir	163	156	121	155	319	26	294	225	201	184	170	143	46	2	352	24	166	150	161	162	161	172	173	183	162.1	162.7
6 Spd	8	10	8	11	9	5	9	5	6	8	10	10	9	10	10	7	3	3	4	6	5	6	6	7	5.6	10.7
Dir	186	192	193	187	179	274	274	254	284	280	285	286	289	288	288	288	268	249	246	263	265	263	257	265	255.8	187.3
7 Spd	9	7	9	9	7	6	7	6	5	7	8	7	8	8	9	9	6	2	5	7	7	6	4	5	6.0	8.9
Dir	266	265	264	264	260	260	259	254	251	256	260	276	281	279	276	277	277	241	198	189	185	193	232	259	255.2	276.3
8 Spd	5	6	7	8	8	7	5	5	5	6	6	6	5	5	7	7	3	4	7	9	9	10	9	10	4.4	10.1
Dir	258	253	262	271	270	276	261	258	268	278	273	273	248	266	284	275	244	190	170	161	159	170	175	171	235.3	171.1
9 Spd	10	11	11	10	12	12	12	12	11	8	11	12	15	13	13	8	10	17	15	11	12	5	0	1	10.4	16.5
Dir	174	174	172	167	165	176	185	182	181	180	167	171	174	166	166	166	158	167	170	165	159	183	97	3	170.8	167.4
10 Spd	1	3	2	2	3	3	6	5	5	6	4	5	6	6	5	4	5	6	6	6	8	9	9	7	4.0	9.4
Dir	225	309	264	247	197	196	191	190	190	197	245	286	280	282	266	251	223	205	194	194	175	185	177	169	210.7	176.7
11 Spd	8	9	7	10	12	13	12	13	15	14	14	8	5	4	7	4	2	4	5	6	7	7	5	4	7.0	15.0
Dir	177	180	187	167	169	177	180	175	185	179	173	172	190	317	327	317	225	208	204	193	197	195	192	207	185.4	184.6
12 Spd	4	4	5	5	6	5	5	4	4	5	6	6	7	7	8	6	3	7	7	6	7	9	9	10	4.8	10.1
Dir	254	234	211	194	195	204	215	235	236	252	264	267	275	283	283	278	220	196	187	190	191	182	179	188	221.9	188.2
13 Spd	11	10	5	8	7	13	13	12	11	11	11	11	9	5	3	3	4	4	1	7	7	8	10	8	6.1	13.3
Dir	182	178	195	175	189	184	180	179	188	185	183	175	165	185	231	229	166	170	282	275	272	285	284	284	197.5	180.3
14 Spd	9	8	5	5	2	5	7	8	10	12	12	12	11	11	10	11	15	16	17	16	14	14	11	10	8.9	17.3
Dir	289	291	286	275	242	169	169	179	178	179	179	180	176	181	168	157	173	176	174	174	170	167	175	175	180.8	173.9
15 Spd	10	9	9	9	10	9	8	8	8	8	10	9	6	4	4	2	2	2	3	3	8	7	11	12	6.6	12.1
Dir	176	181	184	183	181	184	187	186	178	188	175	175	198	253	246	247	86	166	212	131	161	187	164	177	181.6	176.5
16 Spd	13	13	12	11	13	12	12	10	8	8	4	3	7	9	4	5	5	3	4	4	3	2	2	3	4.2	12.9
Dir	174	173	181	179	182	183	188	179	164	175	195	165	192	306	315	9	37	56	73	6	331	289	207	215	182.3	173.0
17 Spd	1	3	2	7	11	7	10	4	5	4	6	2	10	7	9	6	6	6	10	8	7	6	7	6	4.0	10.6
Dir	216	109	228	191	185	171	195	149	88	119	108	208	304	280	259	240	177	194	221	236	252	252	241	259	217.1	185.0
18 Spd	4	4	5	6	7	6	4	3	3	7	9	8	6	8	8	6	3	1	3	6	10	13	12	12	5.1	12.6
Dir	253	269	279	266	260	265	271	156	157	180	178	183	177	184	171	262	252	180	204	193	180	177	180	183	201.0	176.5
19 Spd	11	12	11	10	7	9	6	3	3	1	3	5	6	2	1	2	5	5	9	7	13	13	13	9	5.8	13.4
Dir	189	161	172	155	156	180	185	213	296	92	184	242	321	357	33	202	168	179	182	198	181	183	181	191	182.0	180.5
20 Spd	9	6	1	2	2	5	5	6	7	7	5	8	3	3	4	2	1	2	2	2	4	1	2	5	1.7	9.5
Dir	191	186	133	77	43	97	178	132	149	147	144	174	137	346	323	279	307	241	139	265	275	16	355	325	166.0	191.5
21 Spd	4	5	4	3	3	2	1	1	1	1	2	5	5	4	5	5	2	2	3	4	3	4	5	5	1.1	5.3
Dir	299	298	313	308	325	326	307	106	160	85	96	308	334	339	323	11	123	191	190	184	189	202	189	194	284.5	11.3
22 Spd	6	5	6	6	6	6	11	12	12	12	13	10	5	3	4	2	3	4	7	7	10	9	7	9	6.9	12.6
Dir	188	187	196	203	204	208	187	177	184	186	184	180	182	110	112	206	135	171	198	192	176	175	195	176	183.1	184.2

Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Kinuso
November 1, 2009 to December 1, 2009
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	10	9	7	5	8	6	3	4	3	3	3	4	5	3	3	4	2	2	8	9	7	4	7	6	3.9	10.4
Dir	175	186	176	193	182	185	193	206	211	219	251	282	283	269	11	48	44	224	174	173	180	176	187	193	191.6	174.9
24 Spd	6	8	9	9	11	10	9	10	9	9	10	10	10	8	8	5	3	4	6	8	7	11	12	13	5.5	12.7
Dir	271	282	278	280	283	291	296	294	287	291	295	296	298	302	299	296	271	188	186	177	183	180	176	176	265.0	175.9
25 Spd	13	14	13	11	13	13	9	8	10	9	4	5	3	2	2	0	3	1	0	2	1	3	2	1	5.0	14.1
Dir	183	183	181	185	183	188	195	196	183	186	169	171	200	60	351	234	326	199	72	124	179	350	271	188	185.2	182.8
26 Spd	2	6	10	9	6	5	5	6	6	9	9	6	5	4	4	3	4	5	4	5	7	6	5	7	4.3	10.3
Dir	53	180	181	179	170	165	191	186	183	180	185	186	217	260	251	239	235	209	229	263	275	280	271	276	209.0	181.0
27 Spd	5	6	6	6	7	6	6	4	2	4	6	8	7	5	5	5	3	3	5	5	4	4	3	4	4.3	7.9
Dir	250	278	274	275	276	282	289	275	231	265	284	292	288	284	277	279	264	225	202	197	210	238	222	196	263.1	291.6
28 Spd	4	5	7	6	6	5	5	5	5	4	5	6	6	5	5	4	3	5	8	9	10	11	12	11	4.8	11.8
Dir	197	190	184	173	189	204	200	255	268	250	258	271	278	283	274	271	199	188	184	172	170	175	173	178	204.4	172.7
29 Spd	13	13	13	9	7	6	4	6	4	N	8	8	9	9	7	8	8	7	8	8	9	8	7	6	5.5	13.0
Dir	181	180	181	190	192	188	217	270	247	N	279	279	279	282	282	284	285	284	285	291	292	289	291	285	253.4	180.3
30 Spd	4	3	4	2	5	4	3	4	4	6	8	7	7	6	7	7	8	8	9	10	12	12	12	12	6.2	12.5
Dir	274	256	259	218	193	194	214	259	273	291	297	300	296	293	294	296	295	296	298	303	302	302	302	301	289.3	302.0
Spd	5.5	5.2	4.9	5.1	5.2	4.9	5.4	4.8	4.5	4.9	4.4	4.0	3.5	3.3	3.1	2.5	1.8	3.6	4.8	4.8	5.5	5.6	5.6	5.3	Diurnal Average	
Dir	199.2	198.5	202.5	200.0	199.4	201.1	204.6	201.7	199.6	204.1	212.0	227.7	250.8	275.9	274.0	271.3	210.2	191.4	192.1	193.1	192.0	195.0	195.6	197.8		
Spd	16.5	14.1	12.9	11.5	12.6	13.2	13.3	13.3	15.0	14.3	13.9	12.4	15.1	13.4	13.1	11.3	15.2	16.5	17.3	16.2	15.1	16.9	17.1	14.3	Diurnal Maximum	
Dir	162.7	182.8	180.8	179.2	182.8	177.3	180.3	175.1	184.6	179.4	172.7	170.9	174.0	166.0	166.2	157.3	173.3	167.4	173.9	173.8	166.9	165.0	167.0	160.9		

Maximum Speed Value: 17 km/h on Nov 14 19:00
Maximum Daily Speed Average: 10.4 km/h on Nov 9
Maximum Diurnal Speed Average: 5.6 km/h at hour 23

Minimum Speed Value: 0 km/h on Nov 9 23:00
Minimum Daily Speed Average: 1.1 km/h on Nov 21
Minimum Diurnal Speed Average: 1.8 km/h at hour 17

Monthly Average Velocity: 4.18 km/h 206.66 deg
Speed Percentiles: $P_1 = 0.7$ $P_{10} = 2.5$ $Q_1 = 4.0$ Median = 6.3 $Q_3 = 9.0$ $P_{90} = 11.6$ $P_{99} = 16.2$
All monthly, daily, and diurnal averages have been calculated using vector methods

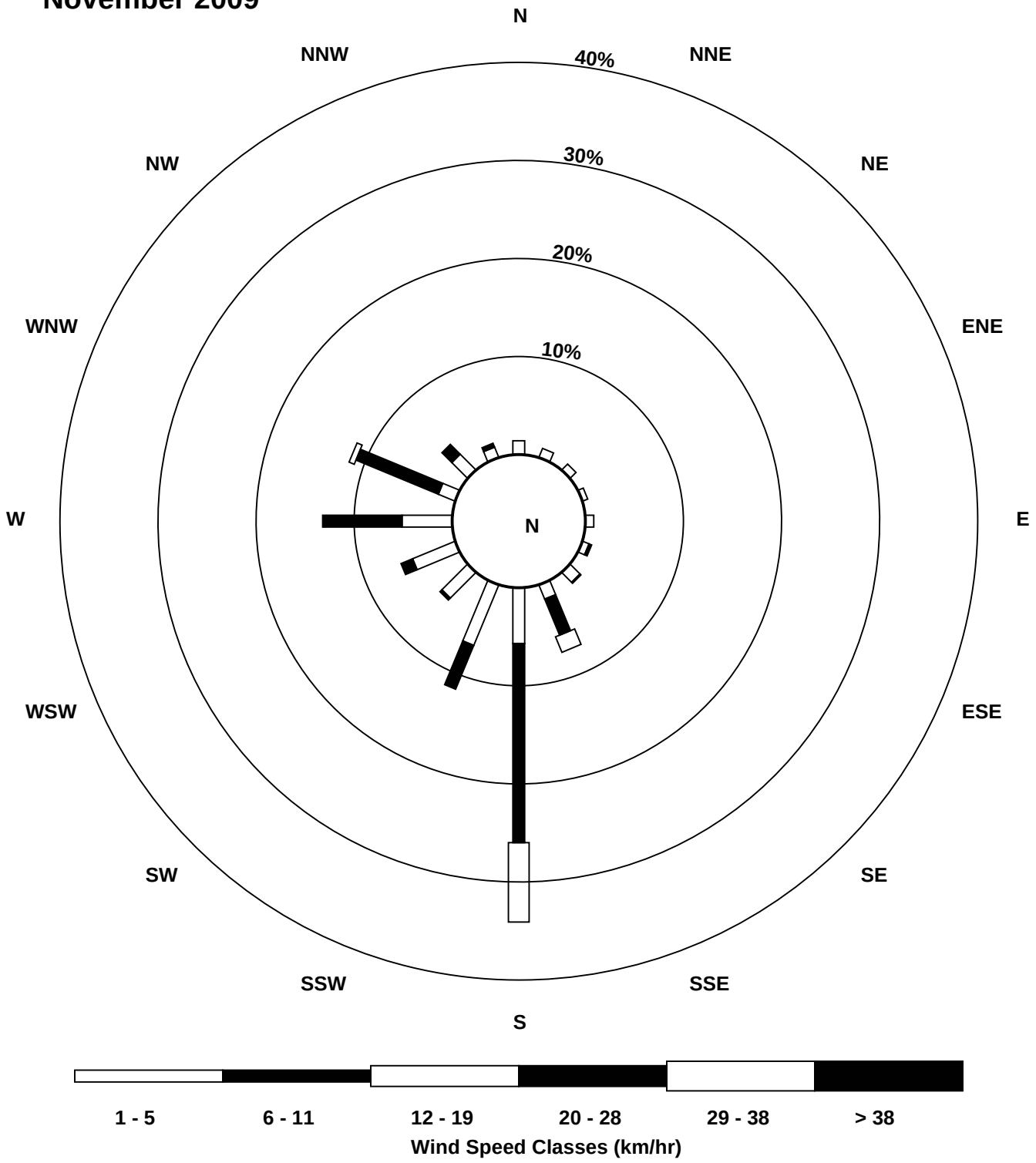
Hours in Service:	720
Hours of Data:	719
Hours of Missing Data:	1
Percent Operational Time:	99.9

N - Not Valid

Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	17	2	0	0	0	0	19
NorthEast	11	1	0	0	0	0	12
East	15	1	0	0	0	0	16
SouthEast	15	11	1	0	0	0	27
South	67	188	85	0	0	0	340
SouthWest	58	11	0	0	0	0	69
West	46	121	0	0	0	0	167
NorthWest	25	40	4	0	0	0	69
Total	254	375	90	0	0	0	719

Wind Rose for WS at Portable-Kinuso
November 2009



Maximum Speed: 18 km/h on Nov 14 19:00

Maximum Daily Speed Average: 10.9 km/h on Nov 9

Minimum Speed: 2 km/h on Nov 2 18:00

Minimum Daily Speed Average: 3.9 km/h on Nov 21

Maximum Diurnal Speed Average: 8.0 km/h at hour 21

Minimum Diurnal Speed Average: 4.9 km/h at hour 17

Monthly Average Speed: 7.05 km/h

Percentiles: $P_1 = 2.1$ $P_{10} = 3.3$ $Q_1 = 4.5$ Median = 6.5 $Q_3 = 9.2$ $P_{90} = 11.7$ $P_{99} = 16.4$

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	9	10	9	9	9	8	8	7	6	7	7	8	7	5	4	2	3	3	3	7	8	11	12	13	7.3	12.8
2-Nov	11	10	11	8	7	6	10	9	8	7	7	6	4	4	6	5	3	2	2	3	3	2	2	2	5.7	11.3
3-Nov	4	3	4	8	10	9	6	4	3	6	7	8	8	9	7	6	4	4	2	2	2	4	4	4	5.3	10.4
4-Nov	3	3	3	4	4	6	12	12	13	11	9	6	4	4	7	6	7	8	12	11	15	17	17	15	8.6	17.3
5-Nov	17	11	6	6	2	3	3	3	3	4	5	4	3	4	3	2	7	10	9	10	11	11	9	9	6.4	16.7
6-Nov	8	10	9	11	9	7	9	5	6	8	10	10	10	10	10	7	4	3	4	6	5	6	7	7	7.6	10.8
7-Nov	9	7	9	9	7	7	7	6	6	7	8	7	8	9	9	9	6	3	5	7	8	6	5	5	7.0	9.2
8-Nov	5	6	7	8	8	7	5	5	5	6	6	6	5	6	8	7	3	4	7	9	9	10	9	10	6.8	10.2
9-Nov	10	11	11	11	12	12	12	12	11	8	11	13	15	14	13	8	11	17	15	12	12	7	2	3	10.9	16.8
10-Nov	3	4	5	3	4	4	6	5	5	6	5	6	6	6	6	4	5	7	7	7	9	9	9	7	5.7	9.4
11-Nov	8	9	8	10	12	13	12	13	15	14	14	8	5	4	7	5	2	4	5	6	7	7	5	4	8.3	15.1
12-Nov	4	4	5	5	6	5	5	5	5	5	7	7	7	7	8	6	4	7	7	6	7	9	9	10	6.3	10.1
13-Nov	11	10	6	8	8	13	13	12	11	11	11	11	9	6	4	4	4	4	3	7	7	8	10	8	8.2	13.4
14-Nov	9	8	5	5	4	5	7	8	10	12	12	12	11	11	10	11	15	17	18	16	15	14	11	10	10.7	17.6
15-Nov	10	9	9	9	10	9	9	8	8	9	10	9	7	5	4	2	4	3	4	5	8	8	11	12	7.6	12.2
16-Nov	13	13	12	12	13	12	12	10	8	8	5	4	7	10	6	6	6	4	5	4	4	3	3	3	7.5	12.9
17-Nov	2	4	3	7	11	8	11	5	5	5	6	5	11	8	10	6	6	6	11	9	7	6	7	6	6.9	10.9
18-Nov	5	5	5	6	7	6	4	4	4	8	9	8	7	8	9	6	4	2	3	7	11	13	12	13	6.9	12.7
19-Nov	11	12	11	10	8	9	7	4	3	3	3	6	6	3	2	4	5	5	10	7	13	13	13	9	7.6	13.4
20-Nov	10	7	2	4	4	6	6	6	7	7	6	8	6	3	4	3	3	3	4	4	4	2	3	5	5.0	9.5
21-Nov	4	5	4	3	3	3	2	2	2	2	3	5	5	5	5	6	4	3	3	4	4	4	5	5	3.9	5.7
22-Nov	6	5	6	6	6	6	11	12	12	12	13	10	5	3	4	2	3	5	7	7	10	9	7	9	7.4	12.6
23-Nov	10	9	7	5	8	6	3	4	4	4	3	4	5	3	4	4	2	2	8	9	7	5	8	6	5.6	10.5
24-Nov	6	8	9	9	11	10	9	10	9	9	10	10	10	9	8	5	4	4	6	8	7	11	12	13	8.6	12.9
25-Nov	14	14	13	11	13	13	9	8	10	10	5	6	5	4	3	3	3	3	3	4	4	4	3	2	6.9	14.1
26-Nov	3	6	11	9	7	5	6	6	6	9	9	6	6	5	4	4	4	5	5	5	7	6	5	7	6.1	10.7
27-Nov	6	6	6	6	7	6	6	5	3	4	6	8	7	5	5	5	3	4	5	5	5	4	4	5	5.2	8.1
28-Nov	4	5	7	6	6	6	5	5	5	5	6	6	6	6	5	4	3	5	8	9	10	11	12	11	6.5	11.8
29-Nov	13	13	13	9	7	6	5	6	4	N	8	8	9	9	7	9	8	8	9	8	9	8	7	6	8.2	13.2
30-Nov	4	3	4	3	5	4	3	4	5	7	8	7	7	7	7	7	9	8	9	10	13	12	12	12	7.1	12.6
	7.8	7.7	7.3	7.4	7.5	7.3	7.5	6.9	6.7	7.4	7.6	7.5	7.1	6.3	6.3	5.2	4.9	5.4	6.6	7.2	8.0	7.9	7.9	7.8	Diurnal Average	
	16.7	14.1	13.1	11.6	12.8	13.3	13.4	13.3	15.1	14.4	14.0	12.5	15.2	13.5	13.3	11.3	15.3	16.8	17.6	16.5	15.2	17.0	17.3	14.7	Diurnal Maximum	

N - Not Valid

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

Maximum Value: 95.3 deg on Nov 25 19:00

Minimum Value: 4.0 deg on Nov 25 02:00

Percentiles: P_1 = 4.7 P_{10} = 6.9 Q_1 = 10.4 Median = 15.4 Q_3 = 24.2 P_{90} = 47.5 P_{99} = 87.6

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

Day	Hourly Period Ending At (MST)																								Daily 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	13	13	14	12	11	12	12	13	15	15	15	14	13	22	22	36	17	34	30	12	10	6	6	5	35.9
2-Nov	6	7	6	13	6	18	8	9	10	10	11	13	39	43	23	22	42	64	18	13	20	51	46	64	64.3
3-Nov	62	49	29	9	9	7	21	30	27	20	22	17	13	12	17	15	16	17	26	81	30	17	22	17	81.5
4-Nov	24	24	19	26	16	16	6	5	7	6	7	21	42	51	18	20	12	7	8	10	8	8	9	13	51.4
5-Nov	9	13	14	51	39	77	52	42	45	53	36	58	60	28	36	63	15	8	9	7	6	9	14	10	77.3
6-Nov	13	8	19	9	18	63	19	25	21	15	14	17	13	15	13	15	15	12	20	14	16	13	16	14	62.8
7-Nov	11	16	12	12	15	18	17	18	21	18	17	18	14	15	14	13	14	28	11	6	7	10	28	14	28.1
8-Nov	14	22	17	14	15	16	23	15	18	22	17	18	25	26	16	14	19	15	10	5	5	8	6	7	26.2
9-Nov	6	5	5	5	5	9	8	6	6	12	8	7	8	8	9	9	8	10	9	10	8	56	95	84	95.3
10-Nov	83	53	70	41	39	24	12	21	19	20	32	28	18	18	19	15	16	10	12	30	15	8	7	12	83.2
11-Nov	10	11	11	5	6	6	6	5	5	7	8	11	22	36	11	38	22	18	17	8	4	6	15	22	37.8
12-Nov	18	20	12	12	12	21	19	20	23	18	17	23	22	20	18	18	38	6	8	5	6	6	7	7	38.0
13-Nov	8	8	42	10	22	6	7	7	6	10	8	10	13	22	34	29	23	20	90	13	17	15	10	15	90.2
14-Nov	13	12	18	11	63	21	9	11	6	6	8	9	11	12	10	6	7	8	12	10	9	7	14	7	63.0
15-Nov	11	10	7	10	13	11	16	11	12	12	8	6	37	27	27	29	83	47	54	64	21	19	15	7	82.8
16-Nov	6	5	8	7	5	6	6	13	11	17	26	52	20	24	48	47	30	48	33	33	29	39	60	37	59.7
17-Nov	37	68	50	22	7	29	17	48	25	73	28	77	16	27	26	19	18	19	14	17	16	22	24	16	76.9
18-Nov	14	12	13	15	18	13	19	48	52	19	13	12	23	13	30	16	35	64	25	26	5	6	6	7	63.8
19-Nov	14	5	10	13	26	16	46	44	42	88	46	42	18	51	78	78	21	37	13	15	5	9	5	6	87.6
20-Nov	7	32	62	86	81	44	59	17	12	12	23	15	72	39	27	39	88	53	77	66	27	82	59	19	87.6
21-Nov	26	13	20	25	23	41	61	92	82	91	70	29	30	26	15	24	55	27	14	29	38	16	24	8	92.2
22-Nov	7	7	11	12	12	10	9	8	5	5	6	7	17	24	18	19	33	36	6	8	7	12	12	8	35.7
23-Nov	7	14	8	14	9	11	28	13	21	22	27	26	21	32	61	27	31	47	15	8	13	23	24	34	61.5
24-Nov	19	13	11	14	12	11	11	11	15	12	11	10	12	12	13	16	30	9	12	8	9	7	6	10	30.1
25-Nov	8	4	7	7	10	4	10	12	11	8	46	42	81	66	52	82	30	67	95	61	86	56	62	80	95.3
26-Nov	71	44	22	10	22	33	22	15	20	9	12	16	32	22	26	23	24	12	21	14	12	14	17	17	70.9
27-Nov	26	17	18	14	14	16	15	39	26	22	20	16	16	17	18	14	22	18	13	12	11	16	47	21	47.0
28-Nov	22	22	11	17	12	19	20	14	17	16	21	16	17	16	15	19	33	12	8	4	4	6	5	8	33.0
29-Nov	15	9	10	11	13	16	44	14	19	N	13	14	14	10	13	13	11	13	12	12	11	12	13	16	44.5
30-Nov	18	24	14	40	15	22	24	17	10	13	11	13	15	15	13	13	11	12	9	12	9	10	10	9	40.5
	83.2	68.3	69.6	86.3	80.6	77.3	61.0	92.2	82.4	90.9	69.8	76.9	81.0	66.0	77.8	81.8	87.6	67.3	95.3	81.5	86.2	82.1	95.3	83.9	

N - Not Valid

PASZA
Valleyview Station
Monthly Summary Tables, Graphs and Roses

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 2.4 ppb on Nov 3 13:00 Maximum Daily Average: 0.5 ppb on Nov 11

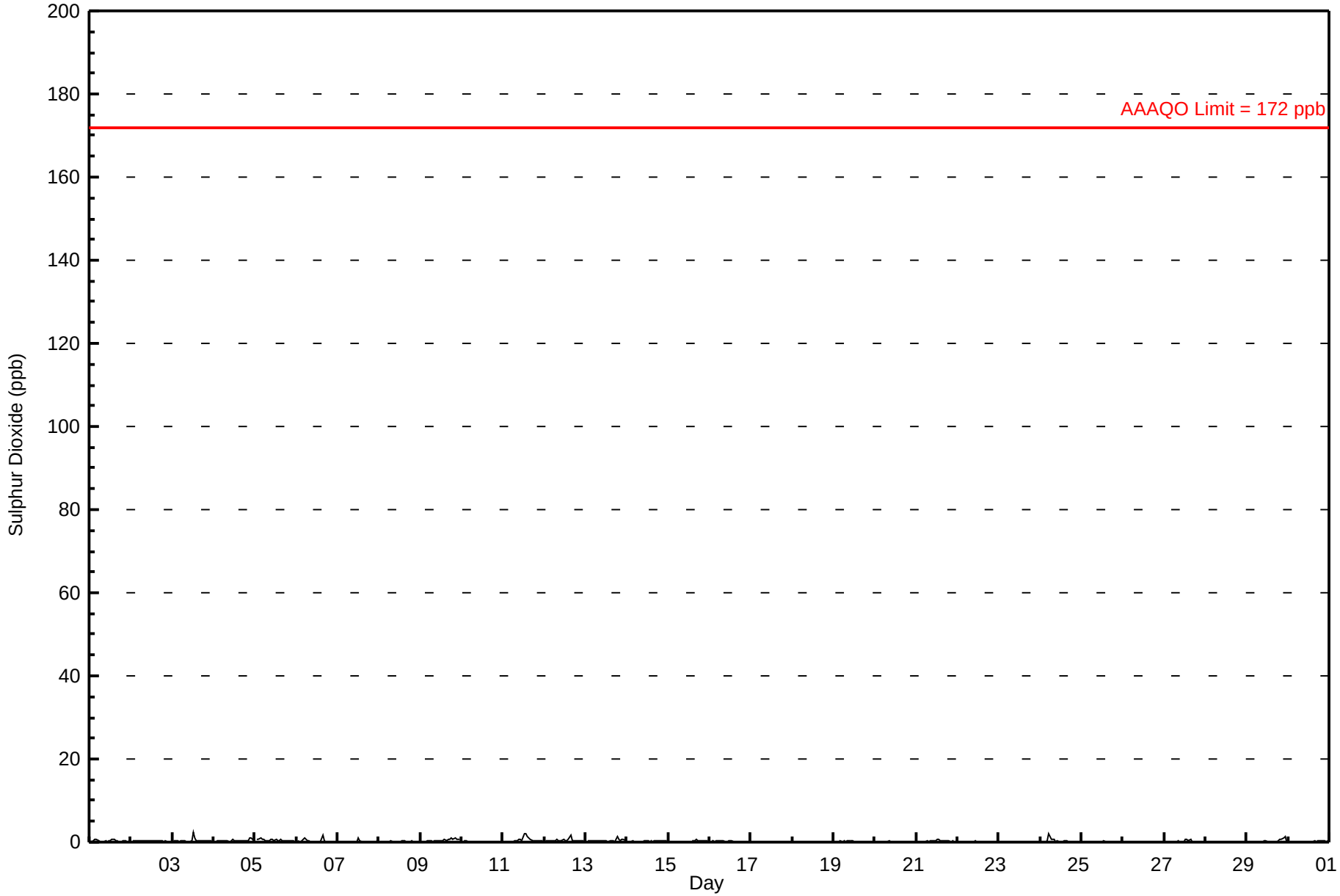
Minimum Value: 0 ppb on Nov 6 14:00 Minimum Daily Average: 0.0 ppb on Nov 23
Maximum Diurnal Average: 0.4 ppb at hour 13 Minimum Diurnal Average: 0.1 ppb at hour 3
Monthly Average: 0.20 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.3 P_{90} = 0.5 P_{99} = 1.5

Hours in Service:	720
Hours of Data:	687
Hours of Missing Data:	33
Hours of Calibration:	33
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	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0.3	0.8
2-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
3-Nov	A	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0.4	2.4
4-Nov	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	1	0	0.4	1.0
5-Nov	A	1	1	1	1	1	1	0	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0.5	0.9
6-Nov	A	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0.2	1.6
7-Nov	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.9
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	0.1	0.4
9-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	1	0.5	0.9
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	0.3
11-Nov	A	0	0	0	0	0	0	0	0	1	1	0	2	2	1	1	1	0	0	0	0	0	0	0	0.5	2.2
12-Nov	A	0	0	0	0	0	0	1	0	0	0	1	0	0	1	2	1	0	0	0	0	0	0	0	0.5	1.7
13-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0.4	1.4
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	0.2	0.5
15-Nov	A	0	0	0	0	0	0	0	0	0	0	C	C	C	0	0	1	0	0	0	0	0	0	0	0.2	0.5
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	0	0	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	0.1
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	0.0	0.2
21-Nov	A	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0.2	0.8
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	0.0	0.2
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	0.0	0.0
24-Nov	A	0	0	0	0	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.9
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	0.0	0.2
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	0.0	0.1
27-Nov	A	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0.1	0.6
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	0.1
29-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	0	0.2	1.5
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	0.3
	--	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	Diurnal Average	
	--	0.6	0.6	0.9	0.8	1.9	0.7	0.8	0.6	0.5	0.6	0.6	2.4	1.9	1.4	1.7	0.6	0.8	1.4	0.7	0.9	1.0	1.5	0.6	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 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Valleyview - Sulphur Dioxide (SO_2) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 7.3 ppb on Nov 3 14:00

Maximum Daily Average: 1.7 ppb on Nov 3

Minimum Value: 0 ppb on Nov 24 00:00

Minimum Daily Average: 0.5 ppb on Nov 17

Maximum Diurnal Average: 1.6 ppb at hour 13

Minimum Diurnal Average: 0.9 ppb at hour 18

Monthly Average: 1.11 ppb

Percentiles: P_1 = 0.1 P_{10} = 0.4 Q_1 = 0.8 Median = 1.1 Q_3 = 1.2 P_{90} = 1.5 P_{99} = 4.3

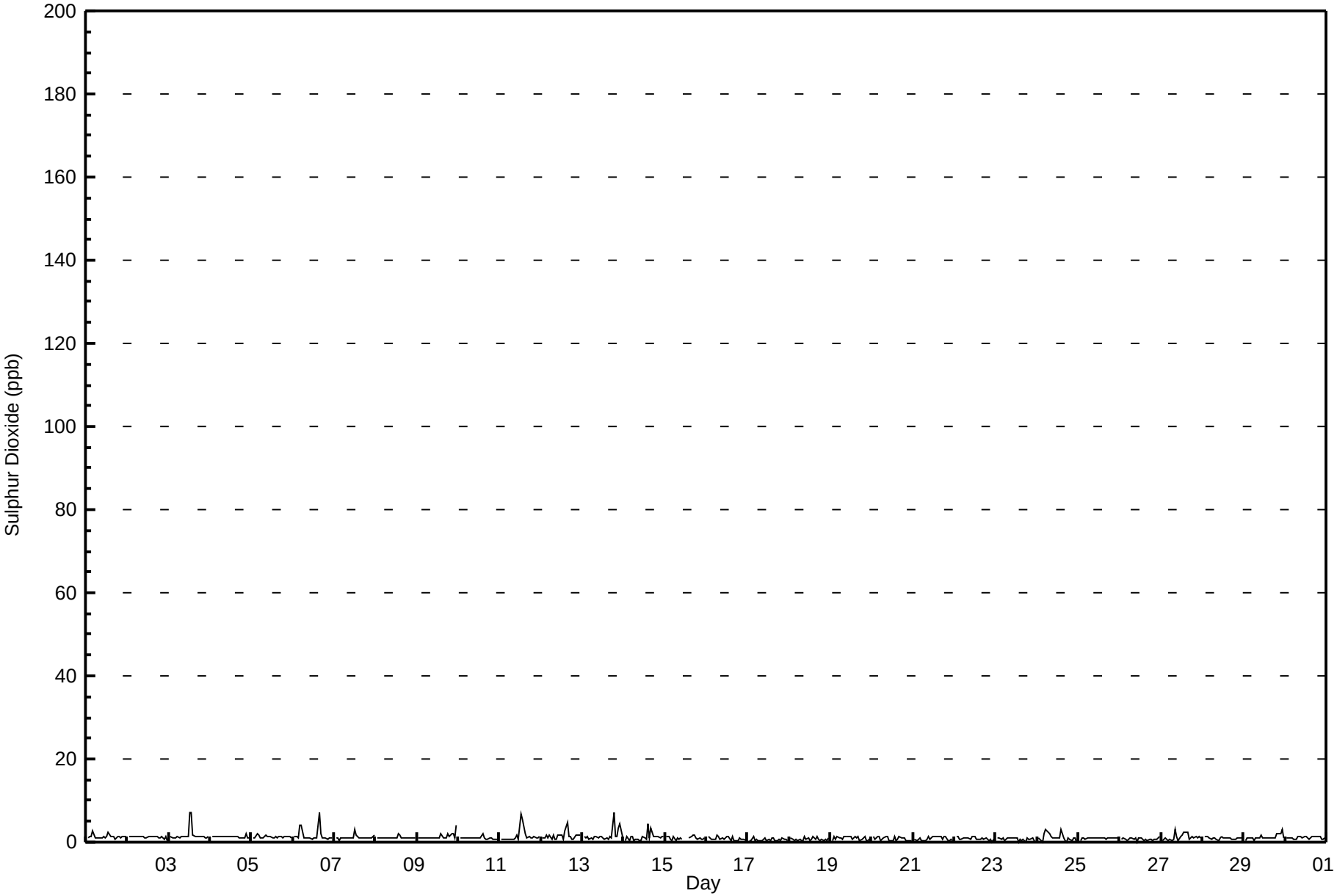
Hours in Service:	720
Hours of Data:	687
Hours of Missing Data:	33
Hours of Calibration:	33
Percent Operational Time:	100.0

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	3	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1.3	2.8
2-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1.2	1.4
3-Nov	A	1	1	1	1	1	1	1	1	1	1	1	7	7	2	1	1	1	1	1	1	1	1	1	1.7	7.3
4-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1.2	2.1
5-Nov	A	1	1	2	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.3	2.2
6-Nov	A	1	1	1	4	4	1	1	1	1	1	1	1	1	1	7	2	1	1	1	1	1	1	1	1.6	7.0
7-Nov	A	1	1	0	1	1	1	1	1	1	1	1	3	2	1	1	1	1	1	1	1	1	1	2	1.1	3.0
8-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1.1	2.0
9-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	2	1	2	2	1	4	1.4	4.1
10-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1.0	1.9
11-Nov	A	1	1	1	1	1	1	1	1	1	2	1	7	6	4	2	1	1	1	1	1	1	1	1	1.6	6.9
12-Nov	A	1	1	2	1	2	1	2	1	1	2	2	2	1	3	5	1	1	1	1	2	2	2	2	1.5	4.7
13-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7	1	1	3	4	1	1.7	7.0
14-Nov	A	0	1	0	1	1	0	1	1	0	0	1	1	1	4	1	3	1	1	1	1	1	1	1	1.2	4.4
15-Nov	A	1	1	1	0	1	0	1	1	1	1	C	C	C	1	1	2	2	1	1	1	1	1	1	1.0	1.7
16-Nov	A	1	1	1	1	1	2	1	1	1	1	1	2	1	0	1	0	0	0	1	1	1	1	0	0.9	1.6
17-Nov	A	0	0	1	0	1	0	0	0	1	1	0	1	0	1	1	0	0	1	0	1	1	1	0	0.5	1.3
18-Nov	A	1	1	0	1	0	1	0	0	1	1	1	0	1	1	1	1	1	0	1	0	1	0	1	0.6	1.2
19-Nov	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	1	1.0	1.3
20-Nov	A	1	1	1	1	0	1	1	1	1	0	0	0	1	0	1	1	1	1	1	0	0	0	0	0.8	1.4
21-Nov	A	1	0	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0.9	1.4
22-Nov	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0.9	1.4
23-Nov	A	1	1	1	1	0	1	1	1	1	1	1	1	0	1	0	1	0	1	1	1	1	0	0	0.7	1.0
24-Nov	A	1	0	0	2	3	2	2	1	1	1	1	1	1	3	1	0	0	1	1	0	1	1	0	1.1	3.1
25-Nov	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.1
26-Nov	A	1	1	1	0	1	1	1	1	1	0	1	1	1	0	1	0	1	1	0	1	1	1	1	0.8	1.2
27-Nov	A	0	1	1	0	1	0	1	3	1	0	1	2	2	2	2	1	1	1	1	1	1	1	1	1.1	2.9
28-Nov	A	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.2
29-Nov	A	0	1	1	1	1	0	1	1	1	2	1	1	1	1	1	1	1	1	2	2	2	3	1	1.3	3.0
30-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	1.3
	--	0.9	1.0	1.0	1.1	1.1	0.9	1.0	1.0	1.0	1.0	1.1	1.6	1.5	1.4	1.4	1.1	0.9	1.2	1.0	1.0	1.1	1.1	1.0	Diurnal Average	
	--	1.4	1.5	2.2	4.2	4.1	2.3	2.0	2.9	1.3	1.8	1.7	7.1	7.3	4.4	7.0	3.3	1.7	7.0	2.1	2.1	3.4	4.4	4.1	Diurnal Maximum	

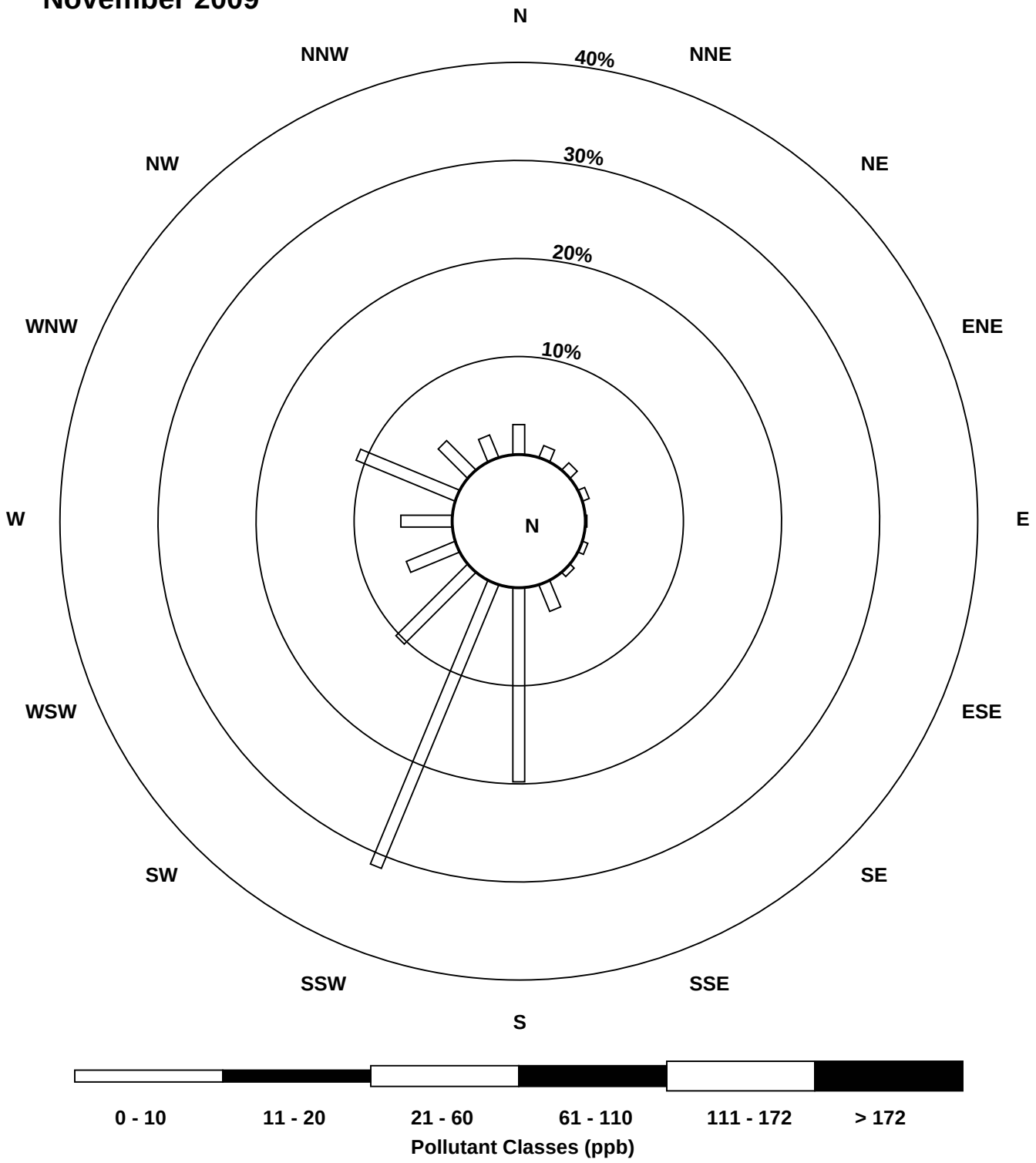
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for SO_2 at Valleyview
November 2009



Pollutant Rose for SO_2 at Valleyview
November 2009



Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 0.5 ppb on Nov 18 23:00 Maximum Daily Average: 0.2 ppb on Nov 26

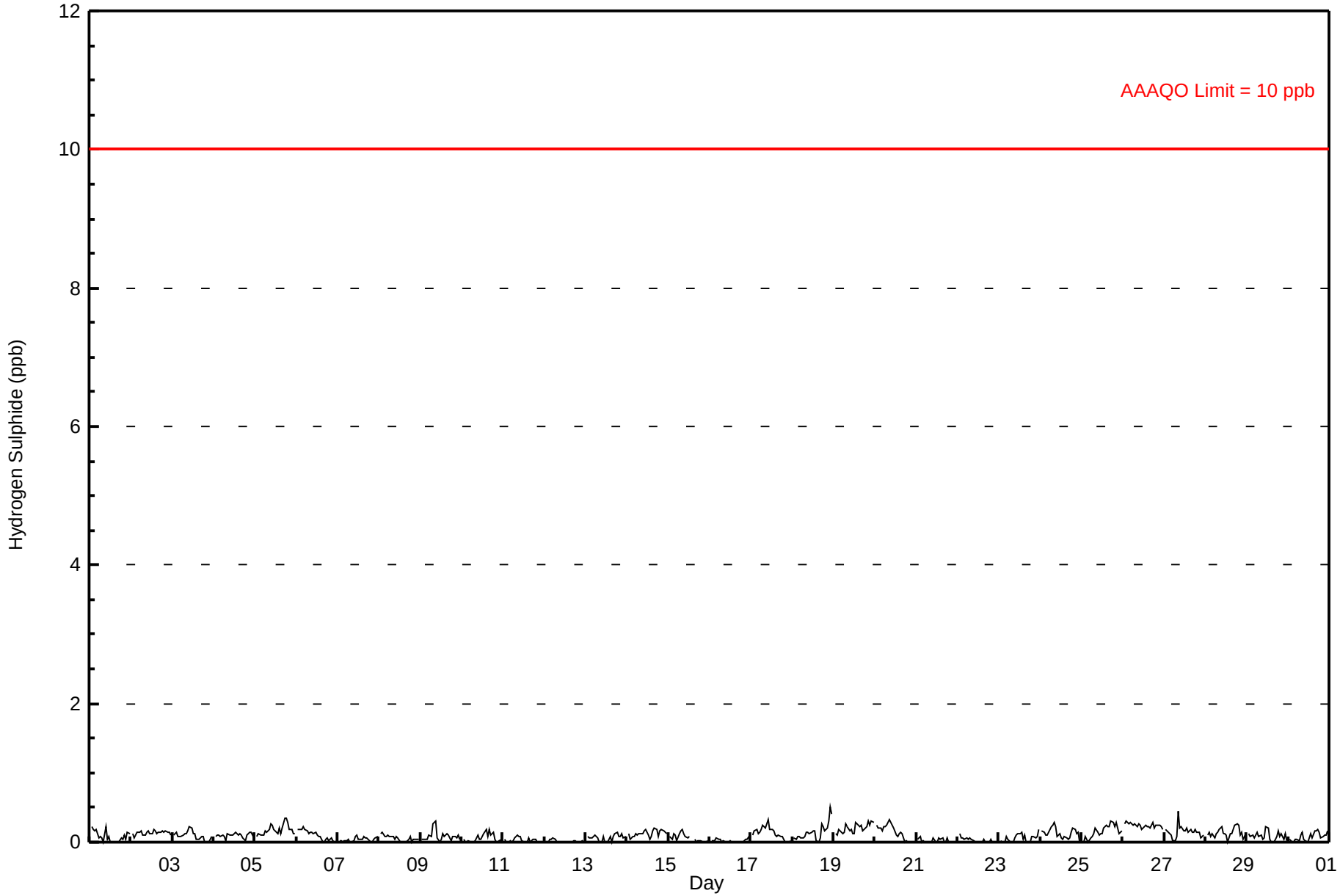
Minimum Value: 0 ppb on Nov 1 13:00 Minimum Daily Average: 0.0 ppb on Nov 12
Maximum Diurnal Average: 0.1 ppb at hour 9 Minimum Diurnal Average: 0.1 ppb at hour 22
Monthly Average: 0.10 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.1 P_{90} = 0.2 P_{99} = 0.3

Hours in Service:	720
Hours of Data:	688
Hours of Missing Data:	32
Hours of Calibration:	32
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	0.1	0.2
2-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
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	0.1	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	0.1	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	0.2	0.4
6-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
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	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
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	0.1	0.3
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	0.0	0.1
13-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	0.1
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	0	0	0	0	0	C	C	0	0	0	0	0	0	0	0	0	0.1	0.2
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	0.1
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	0	0.1	0.3
18-Nov	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.2	0.5
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	0.2	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	0.0	0.1
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	0.0	0.1
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	0.1	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	0.1	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	0.3
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
	--	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	Diurnal Average	
	--	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.4	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.4	0.4	0.3	0.3	0.3	0.5	0.4	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 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Valleyview - Hydrogen Sulphide (H_2S) - ppb
November 1, 2009 to December 1, 2009

Maximum Value: 2.5 ppb on Nov 27 09:00

Maximum Daily Average: 0.7 ppb on Nov 19

Minimum Value: 0 ppb on Nov 20 22:00

Minimum Daily Average: 0.4 ppb on Nov 16

Maximum Diurnal Average: 0.6 ppb at hour 9

Minimum Diurnal Average: 0.4 ppb at hour 24

Monthly Average: 0.49 ppb

Percentiles: $P_1 = 0.2$ $P_{10} = 0.3$ $Q_1 = 0.4$ Median = 0.5 $Q_3 = 0.6$ $P_{90} = 0.6$ $P_{99} = 1.4$

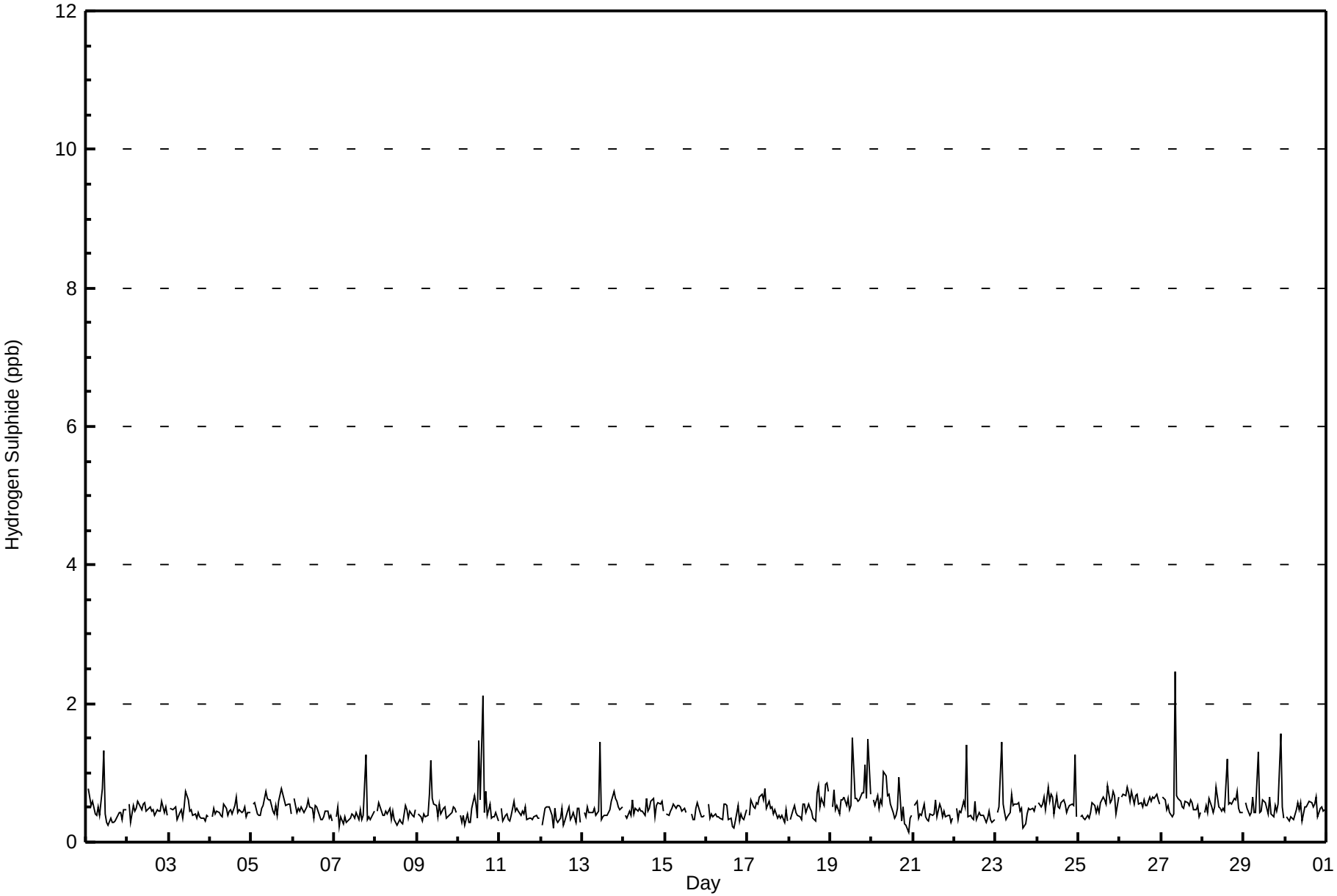
Hours in Service:	720
Hours of Data:	688
Hours of Missing Data:	32
Hours of Calibration:	32
Percent Operational Time:	100.0

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	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.3
2-Nov	A	1	0	1	0	0	1	1	0	1	1	0	0	1	0	0	0	0	0	0	1	0	1	0	0.5	0.6
3-Nov	A	0	0	0	1	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7
4-Nov	A	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0.4	0.6
5-Nov	A	1	1	0	0	0	0	1	1	1	1	1	0	0	1	0	1	1	1	1	1	1	1	0	0.5	0.8
6-Nov	A	1	0	0	0	1	0	0	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0.4	0.6
7-Nov	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.4	1.3
8-Nov	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.4	0.6
9-Nov	A	0	0	0	0	0	0	1	1	1	1	1	0	1	0	0	1	0	0	0	0	1	0	0	0.5	1.2
10-Nov	A	0	0	0	0	0	0	0	0	1	1	0	1	1	2	0	1	0	1	0	0	0	0	0	0.5	2.1
11-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	0.4	0.6
12-Nov	A	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.4	0.5
13-Nov	A	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	0	1	0.5	1.4
14-Nov	A	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	1	0	1	1	1	1	0	0.5	0.6
15-Nov	A	0	0	0	0	1	0	1	1	1	0	0	0	C	C	0	0	0	0	1	0	0	0	0	0.4	0.6
16-Nov	A	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0.4	0.6
17-Nov	A	0	1	1	0	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.5	0.8
18-Nov	A	0	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	1	1	1	1	1	1	0.5	0.8
19-Nov	A	1	1	0	1	0	1	1	1	1	1	0	1	2	1	1	1	1	1	1	1	1	1	1	0.7	1.5
20-Nov	A	1	1	1	0	1	1	1	1	1	1	1	0	0	0	0	1	0	1	0	0	0	0	0	0.5	1.0
21-Nov	A	1	1	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0.4	0.6
22-Nov	A	0	0	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.4	1.4
23-Nov	A	0	1	1	1	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0.5	1.4
24-Nov	A	1	1	1	1	0	1	1	1	1	0	1	1	0	1	1	1	0	0	1	1	1	1	0	0.6	1.3
25-Nov	A	0	0	0	0	0	0	0	1	1	0	1	0	1	1	1	1	1	1	1	1	1	0	1	0.5	0.8
26-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	0.6	0.8
27-Nov	A	1	1	0	1	0	0	0	2	1	1	1	1	0	1	1	1	1	1	0	0	1	0	0	0.6	2.5
28-Nov	A	0	1	0	1	1	0	1	1	1	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0.6	1.2
29-Nov	A	1	0	0	0	1	0	0	1	0	0	1	1	0	0	1	0	0	1	0	1	2	1	0	0.6	1.6
30-Nov	A	0	0	0	0	0	0	1	0	1	0	1	0	1	1	1	1	1	1	0	0	1	0	0	0.5	0.6
	--	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	Diurnal Average	
	--	0.8	0.8	1.4	0.8	0.7	0.8	1.4	2.5	0.8	1.4	0.7	1.5	1.5	2.1	0.6	0.9	0.8	1.3	0.7	1.1	1.6	1.5	0.7	Diurnal Maximum	

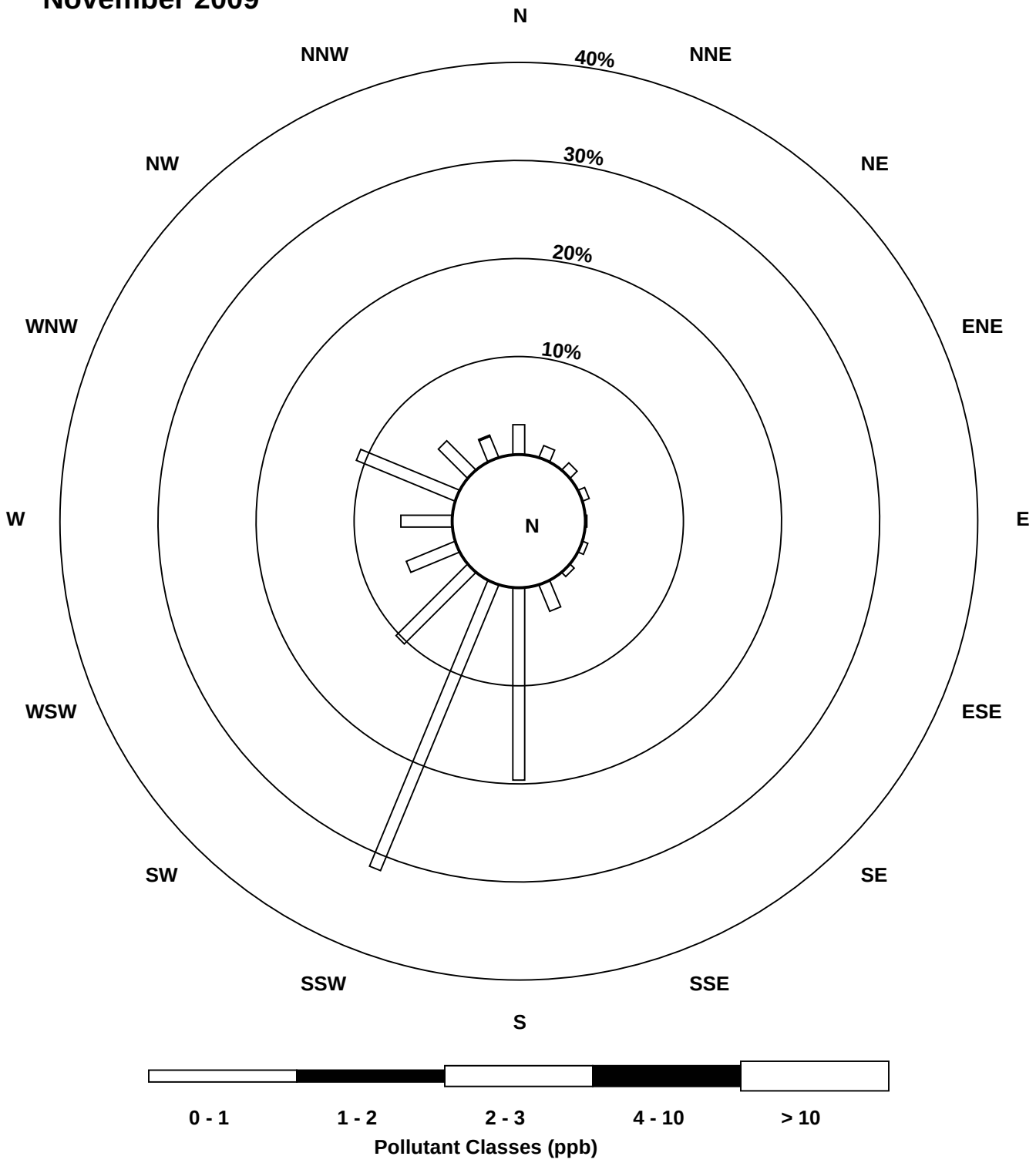
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for H_2S at Valleyview
November 2009



Pollutant Rose for H_2S at Valleyview
November 2009



Valleyview - External Temperature (ET) - ^{o}C
November 1, 2009 to December 1, 2009

Maximum Value: 12.4 ^{o}C on Nov 5 15:00

Maximum Daily Average: 5.9 ^{o}C on Nov 5

Minimum Value: -13 ^{o}C on Nov 22 09:00

Minimum Daily Average: -7.8 ^{o}C on Nov 22

Maximum Diurnal Average: 3.2 ^{o}C at hour 15

Minimum Diurnal Average: -3.3 ^{o}C at hour 9

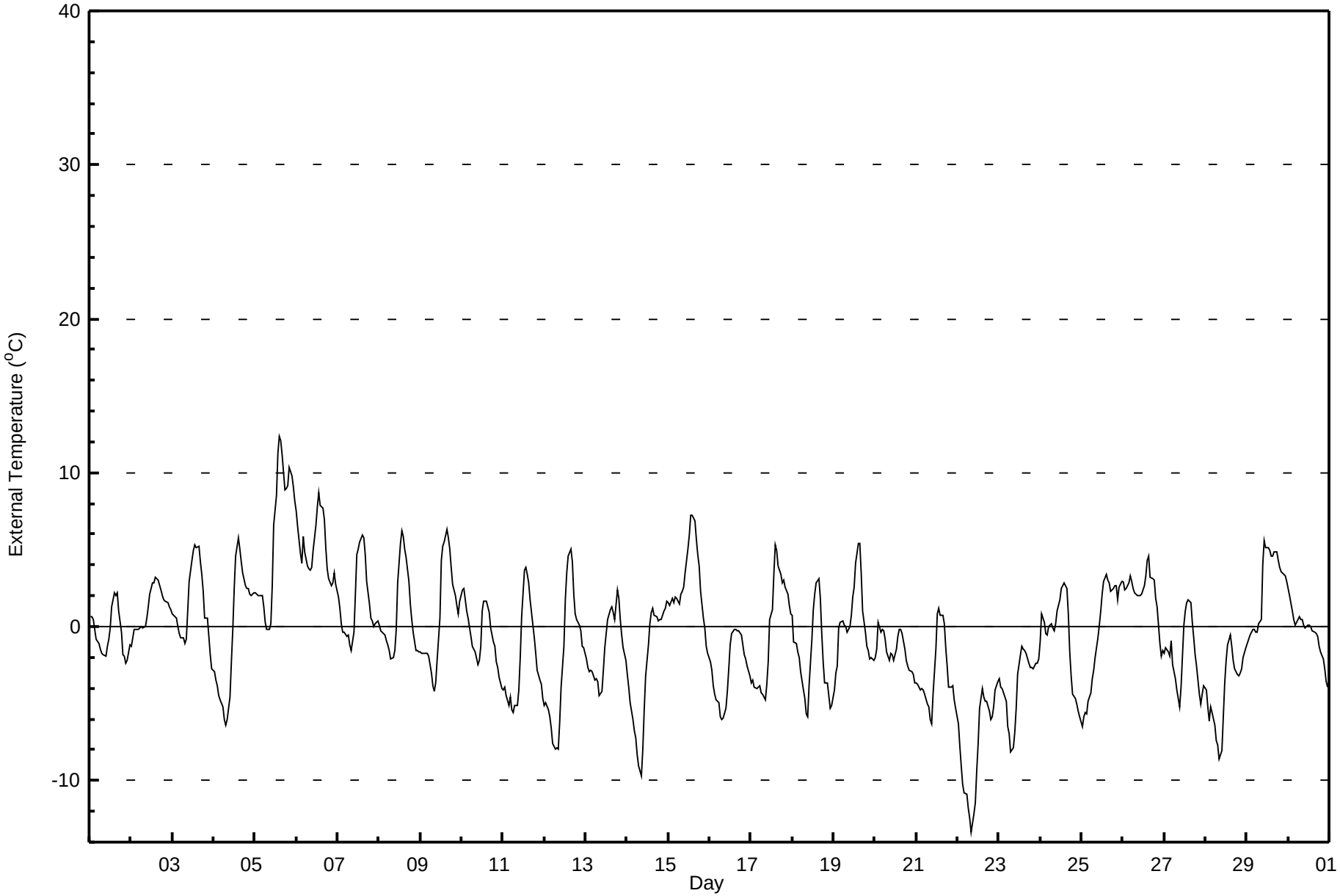
Monthly Average: -0.47 ^{o}C

Percentiles: P_1 = -10.4 P_{10} = -5.2 Q_1 = -3.0 Median = -0.3 Q_3 = 2.1 P_{90} = 4.3 P_{99} = 8.8

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	1	1	0	0	-1	-1	-1	-2	-2	-2	-1	-1	0	1	2	2	2	1	0	-2	-2	-2	-2	-1	-0.4	2.2
2-Nov	-1	-1	0	0	0	0	0	0	0	1	1	2	3	3	3	3	3	2	2	2	2	2	1	1	1.2	3.2
3-Nov	1	1	1	0	0	-1	-1	-1	-1	1	3	4	5	5	5	5	4	3	2	1	1	-1	-2	-3	1.4	5.3
4-Nov	-3	-4	-4	-4	-5	-5	-6	-6	-6	-5	-2	0	3	5	6	5	4	3	3	2	2	2	2	2	-0.4	5.7
5-Nov	2	2	2	2	2	1	0	0	0	0	3	7	9	11	12	12	11	9	9	9	10	10	9	8	5.9	12.4
6-Nov	8	6	5	4	6	5	4	4	4	4	5	7	8	9	8	8	7	5	4	3	3	3	4	3	5.1	8.7
7-Nov	2	1	0	0	0	-1	-1	-1	-2	0	2	5	5	5	6	6	5	3	1	1	0	0	0	0	1.6	6.0
8-Nov	0	0	0	-1	-1	-1	-2	-2	-2	-2	0	3	5	6	6	5	4	3	1	0	0	-2	-2	-2	0.8	6.2
9-Nov	-2	-2	-2	-2	-2	-2	-3	-4	-4	-4	-2	1	4	5	6	6	6	5	4	3	2	1	1	2	0.7	6.3
10-Nov	2	3	2	1	1	-1	-1	-1	-2	-2	-2	-1	1	2	2	1	1	0	-1	-1	-2	-3	-3	-4	-0.4	2.5
11-Nov	-4	-4	-5	-5	-5	-5	-6	-5	-5	-4	-2	1	4	4	3	3	2	0	-1	-2	-3	-3	-4	-5	-2.1	3.9
12-Nov	-5	-5	-5	-6	-7	-8	-8	-8	-8	-6	-4	-1	2	4	5	5	4	2	1	1	0	0	-1	-1	-2.1	5.0
13-Nov	-2	-3	-3	-3	-3	-3	-3	-4	-5	-4	-3	-1	0	0	1	1	1	0	2	2	0	-1	-1	-2	-1.3	2.4
14-Nov	-3	-4	-5	-6	-7	-7	-8	-9	-10	-8	-5	-3	-1	0	1	1	1	1	0	0	0	1	1	2	-2.8	1.6
15-Nov	2	1	2	2	2	2	1	2	2	3	4	5	6	7	7	7	6	5	4	2	1	0	-1	-2	2.8	7.3
16-Nov	-2	-3	-4	-4	-5	-5	-6	-6	-6	-5	-4	-3	-1	0	0	0	0	0	-1	-1	-2	-2	-3	-3	-2.8	-0.2
17-Nov	-4	-3	-4	-4	-4	-4	-4	-4	-5	-4	-2	0	1	3	5	5	4	3	3	3	3	2	1	1	-0.3	5.3
18-Nov	1	-1	-1	-2	-2	-3	-4	-5	-6	-6	-4	-1	1	2	3	3	2	0	-2	-4	-4	-4	-5	-5	-1.9	3.2
19-Nov	-4	-3	-3	0	0	0	0	0	0	0	1	2	3	4	5	5	3	1	0	-1	-2	-2	-2	-2	0.2	5.4
20-Nov	-2	-1	0	0	0	0	-1	-2	-2	-2	-2	-2	-1	-1	0	0	0	-1	-2	-3	-3	-3	-3	-4	-1.5	0.2
21-Nov	-4	-4	-4	-4	-4	-4	-5	-5	-6	-6	-4	-1	1	1	1	1	0	-1	-3	-4	-4	-4	-5	-5	-3.1	1.2
22-Nov	-6	-8	-9	-10	-11	-11	-12	-12	-13	-12	-11	-9	-8	-5	-4	-5	-5	-5	-5	-6	-6	-5	-4	-4	-7.8	-3.5
23-Nov	-3	-4	-4	-5	-5	-6	-7	-8	-8	-7	-5	-3	-2	-1	-1	-2	-2	-2	-3	-3	-3	-2	-2	-2	-3.8	-1.3
24-Nov	-1	1	0	0	-1	0	0	0	0	0	1	2	2	3	3	2	1	-2	-3	-4	-5	-5	-5	-6	-0.7	2.9
25-Nov	-7	-6	-6	-6	-5	-4	-3	-3	-2	-1	0	1	2	3	3	3	3	2	2	3	3	2	3	3	-0.4	3.4
26-Nov	3	2	2	3	3	3	2	2	2	2	2	2	3	3	4	5	3	3	3	2	1	-1	-2	-2	2.2	4.6
27-Nov	-2	-1	-2	-2	-1	-2	-3	-4	-5	-5	-4	0	1	2	2	2	0	-1	-2	-3	-4	-5	-4	-4	-2.0	1.8
28-Nov	-4	-5	-6	-5	-6	-6	-7	-8	-9	-8	-6	-4	-2	-1	-1	-1	-2	-3	-3	-3	-3	-3	-2	-1	-4.2	-0.6
29-Nov	-1	-1	-1	0	0	0	0	0	0	4	6	5	5	5	5	5	5	5	4	4	4	3	3	3	2.6	5.6
30-Nov	2	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	-1	-1	-2	-2	-3	-4	-4	-0.4	2.4
	-1.2	-1.4	-1.7	-1.9	-2.0	-2.4	-2.8	-3.1	-3.3	-2.6	-1.3	0.5	1.9	2.8	3.2	3.1	2.4	1.4	0.6	0.0	-0.4	-0.8	-1.1	-1.2	Diurnal Average	
	7.5	6.5	4.8	4.2	5.9	4.9	3.9	3.7	3.7	4.0	5.6	6.6	8.5	11.3	12.4	12.1	11.2	8.9	9.0	9.2	10.4	9.8	9.0	8.1	Diurnal Maximum	

Hourly Averages for External Temperature at Valleyview
November 2009



Maximum Value: 97.4 % on Nov 3 01:00

Maximum Daily Average: 90.5 % on Nov 16

Minimum Value: 26 % on Nov 14 16:00

Minimum Daily Average: 45.1 % on Nov 14

Maximum Diurnal Average: 73.2 % at hour 9

Minimum Diurnal Average: 49.7 % at hour 15

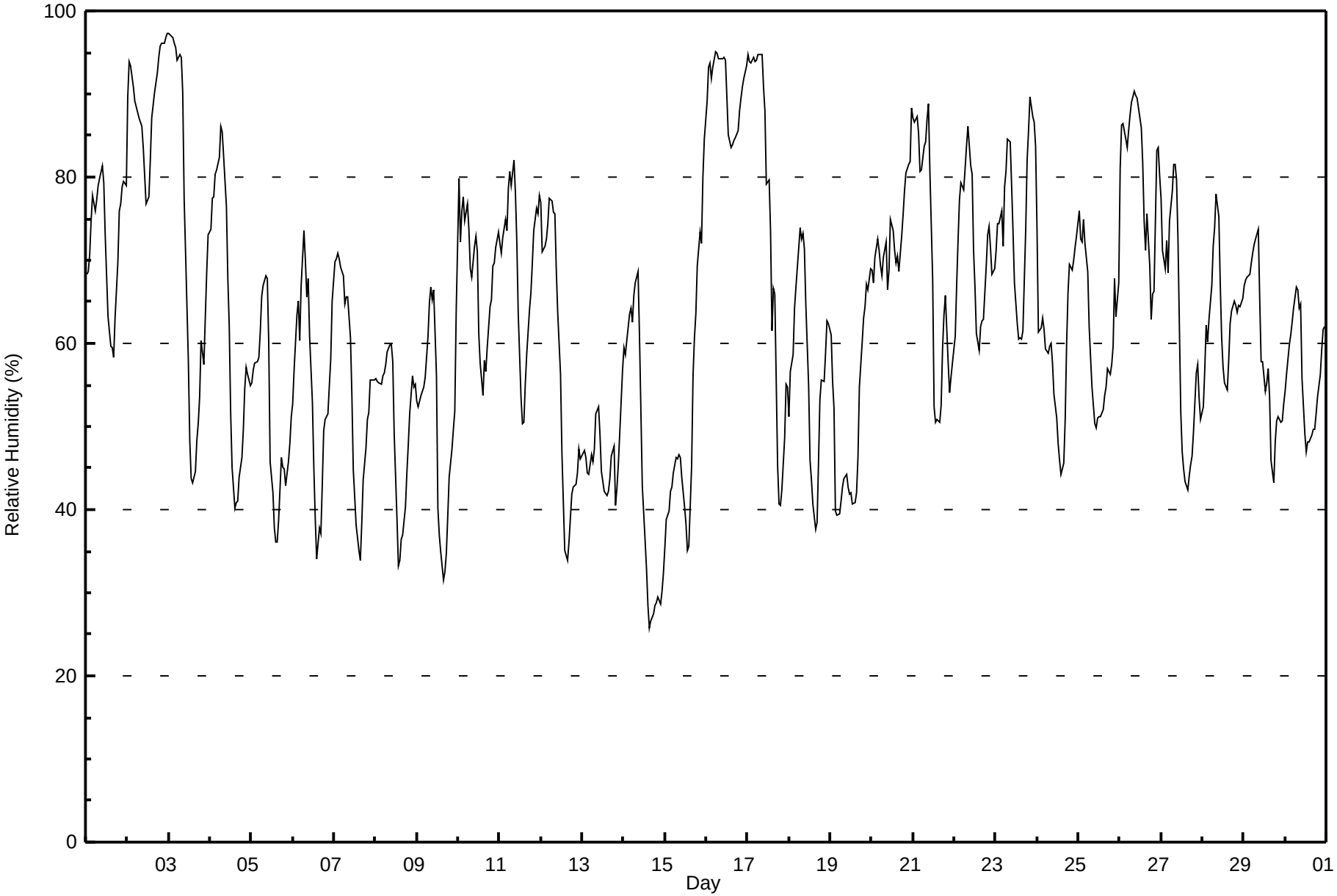
Monthly Average: 63.31 %

Percentiles: P_1 = 29.4 P_{10} = 42.2 Q_1 = 50.9 Median = 63.0 Q_3 = 74.7 P_{90} = 86.3 P_{99} = 96.1

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	68	69	71	75	78	76	77	79	80	81	79	73	68	63	60	59	58	63	70	76	77	79	80	79	72.4	81.3
2-Nov	90	94	93	91	89	89	88	87	86	84	80	77	78	82	87	89	90	93	94	96	96	96	97	97	89.2	97.3
3-Nov	97	97	97	96	96	94	95	94	90	78	71	58	48	44	43	45	48	50	54	60	57	63	68	73	71.6	97.4
4-Nov	74	77	78	80	81	82	86	85	83	76	68	62	52	45	40	41	41	44	46	50	55	57	56	55	63.1	86.1
5-Nov	55	57	58	58	58	61	66	67	68	68	60	46	42	38	36	36	39	46	45	45	43	46	48	51	51.5	68.2
6-Nov	53	57	63	65	60	67	74	70	66	68	61	53	45	39	34	38	37	43	49	51	52	55	58	65	55.1	73.6
7-Nov	70	70	71	70	69	68	65	66	66	61	54	45	42	38	35	34	38	44	47	51	52	56	56	56	55.0	70.8
8-Nov	56	55	55	55	56	56	57	59	60	60	58	49	39	33	34	36	37	40	44	48	52	56	55	55	50.3	59.9
9-Nov	53	52	54	54	55	56	61	65	67	65	66	56	40	37	35	32	33	35	39	44	47	50	52	64	50.5	66.7
10-Nov	80	72	76	78	75	77	74	69	68	72	73	71	61	58	54	58	57	59	64	65	69	70	71	73	68.5	79.9
11-Nov	72	71	73	75	74	79	81	79	82	78	72	64	53	50	50	55	59	64	66	70	74	76	76	78	69.6	82.0
12-Nov	77	71	72	73	74	77	77	76	76	69	64	56	47	41	35	34	36	39	42	43	43	44	47	46	56.6	77.4
13-Nov	47	47	46	44	44	47	46	47	51	52	49	45	43	42	42	42	44	46	48	41	43	45	49	57	46.2	56.8
14-Nov	60	59	60	64	64	63	66	67	69	61	52	43	36	33	29	26	27	28	29	29	30	29	30	32	45.1	68.7
15-Nov	35	39	40	42	43	44	46	46	47	46	44	40	38	35	36	45	56	61	64	69	73	72	80	85	51.1	84.6
16-Nov	89	93	94	92	93	95	95	94	94	94	94	94	90	85	84	84	84	85	86	88	90	91	92	93	90.5	95.1
17-Nov	95	94	94	94	94	94	95	95	95	91	88	79	80	73	62	67	66	45	41	40	42	49	55	55	74.2	94.8
18-Nov	51	57	59	64	67	69	74	73	73	71	65	55	46	44	41	38	38	46	53	56	55	59	63	62	57.4	74.0
19-Nov	61	55	52	40	39	40	41	43	44	44	43	42	42	41	41	42	46	55	60	63	64	67	66	69	50.0	68.9
20-Nov	69	67	70	72	71	69	68	70	72	66	69	75	74	71	70	71	69	73	75	78	81	81	82	88	73.0	88.4
21-Nov	87	87	87	85	81	81	84	84	87	89	81	68	52	50	51	50	53	59	63	66	58	54	56	58	69.6	88.8
22-Nov	61	67	72	77	79	78	81	84	86	81	80	71	67	61	59	62	63	63	69	73	74	72	68	69	71.6	86.0
23-Nov	71	74	74	76	72	79	81	85	84	79	73	67	62	61	61	61	62	74	82	86	90	87	87	84	75.4	89.6
24-Nov	74	61	62	63	62	59	59	60	60	58	54	51	48	46	44	46	51	60	66	69	69	70	72	73	59.8	74.0
25-Nov	76	73	72	75	72	69	62	58	55	50	50	51	51	51	52	54	55	57	56	57	60	68	63	67	60.6	75.9
26-Nov	81	86	86	85	84	86	87	89	90	90	89	88	86	82	75	71	76	69	63	66	66	83	84	80	80.9	90.4
27-Nov	78	71	69	72	68	75	78	82	82	80	73	52	47	45	43	42	44	46	46	49	56	57	53	51	60.8	81.6
28-Nov	52	57	62	60	63	67	72	74	78	75	67	61	57	55	54	58	62	64	65	65	64	65	64	65	63.6	78.0
29-Nov	67	68	68	68	70	71	72	73	74	65	58	58	54	55	57	54	46	43	48	51	51	51	51	53	59.3	73.7
30-Nov	54	56	60	61	63	64	67	67	64	65	56	49	47	48	48	49	50	50	52	54	56	59	62	62	56.7	66.7
	68.4	68.5	69.6	70.2	69.8	71.1	72.4	72.9	73.2	70.6	66.4	59.9	54.5	51.6	49.7	50.6	52.1	54.8	57.6	59.9	61.3	63.5	64.7	66.5	Diurnal Average	
	97.4	97.2	96.8	96.1	95.6	95.1	95.0	94.8	94.8	94.2	94.4	94.0	89.6	85.1	87.2	88.7	90.1	92.5	94.3	95.8	96.1	96.2	96.8	97.3	Diurnal Maximum	

Hourly Averages for Relative Humidity at Valleyview
November 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Valleyview
November 1, 2009 to December 1, 2009
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	10	8	7	9	8	4	5	4	5	5	3	4	5	3	1	2	2	3	2	2	0	1	2	4	2.6	9.7
Dir	292	293	283	284	291	318	343	310	312	348	35	339	346	337	346	59	102	159	186	198	244	245	192	196	303.4	291.6
2 Spd	5	5	4	8	8	6	4	4	4	2	2	3	2	2	4	3	2	3	2	2	1	1	3	3	2.7	8.2
Dir	171	161	171	189	188	186	189	198	197	200	178	188	231	251	291	306	285	299	241	227	240	224	169	178	199.3	187.9
3 Spd	3	4	5	6	5	3	3	4	4	5	8	17	19	20	18	13	9	5	4	3	3	4	4	5	5.2	20.1
Dir	194	188	189	192	192	191	174	202	213	253	273	285	282	292	293	314	318	293	269	212	221	203	209	199	263.8	292.2
4 Spd	5	4	5	3	4	2	1	4	4	2	3	1	3	3	2	6	8	5	6	8	10	9	7	9	4.5	10.2
Dir	192	186	201	201	195	195	207	207	196	190	158	114	158	174	179	138	139	150	149	164	177	179	177	185	173.8	176.6
5 Spd	14	11	10	9	7	4	3	3	2	2	3	8	5	5	5	7	4	1	4	6	7	8	8	7	5.8	13.8
Dir	183	186	188	191	193	205	223	206	206	207	197	199	200	198	195	185	200	291	200	208	196	203	198	193	195.5	183.1
6 Spd	7	4	2	5	24	7	4	4	4	5	4	7	7	11	23	14	14	5	4	3	6	6	12	5	6.7	24.2
Dir	192	211	196	253	291	260	216	225	223	211	230	235	236	249	264	272	269	237	229	152	197	248	267	227	250.2	290.6
7 Spd	6	5	5	6	7	7	7	6	4	6	6	14	13	14	15	17	9	4	4	4	4	3	4	6	6.2	16.9
Dir	186	179	184	191	194	198	197	188	195	199	204	262	274	269	263	261	258	244	239	217	228	222	203	206	231.3	260.8
8 Spd	5	5	5	6	5	6	6	6	6	5	5	6	7	13	10	3	5	5	5	4	4	5	5	6	5.1	13.4
Dir	198	191	192	199	210	195	203	199	203	182	187	194	239	264	261	200	187	190	210	213	197	195	195	185	208.3	264.1
9 Spd	7	7	7	7	7	5	2	1	2	1	1	5	9	8	8	11	11	11	12	9	7	7	5	16	6.0	15.6
Dir	177	185	184	185	186	196	214	290	253	285	218	184	186	188	190	187	192	189	186	187	183	190	200	290	195.5	290.4
10 Spd	11	4	5	4	4	4	5	4	3	1	2	3	3	1	1	2	2	3	2	4	5	4	4	4	3.1	11.1
Dir	283	233	206	211	208	197	187	168	172	322	222	205	192	226	227	185	208	211	228	201	212	207	215	217	213.7	283.3
11 Spd	3	3	3	4	3	1	1	2	1	0	1	3	3	9	10	7	2	3	3	3	3	4	4	5	2.5	9.9
Dir	220	216	221	215	212	261	244	251	322	261	75	169	268	288	293	288	236	212	217	210	197	173	202	197	237.4	292.6
12 Spd	4	5	5	5	4	5	6	4	5	6	6	6	6	5	5	2	1	3	5	7	6	6	7	8	4.8	7.6
Dir	183	189	189	198	210	218	213	215	208	194	191	189	195	199	256	273	262	231	190	200	210	204	188	196	203.1	195.6
13 Spd	8	10	10	9	8	7	8	7	5	5	5	6	6	6	5	3	4	3	14	19	19	17	14	10	5.8	19.2
Dir	193	190	187	190	191	193	195	202	213	214	202	197	197	199	196	203	194	276	294	293	294	290	295	293	239.7	294.4
14 Spd	6	4	2	4	5	5	6	5	5	6	10	10	11	11	11	14	14	16	16	14	13	15	14	13	9.2	16.1
Dir	272	243	231	183	197	205	194	199	208	188	188	188	186	181	183	185	182	185	184	186	183	185	189	188	189.7	183.6
15 Spd	11	11	11	9	10	8	8	8	8	7	9	9	7	5	4	8	7	3	1	2	5	2	1	2	4.0	11.4
Dir	186	189	193	199	193	194	189	189	190	194	189	193	194	191	189	338	359	44	66	6	355	33	34	43	193.2	193.2
16 Spd	1	1	1	1	2	2	5	1	2	1	4	12	8	7	3	3	3	2	0	4	7	5	2	2	1.4	12.5
Dir	330	291	160	348	134	11	345	316	202	229	293	294	280	266	248	185	160	100	49	32	23	26	284	194	304.5	294.0
17 Spd	3	2	1	3	6	1	3	0	3	1	4	1	2	3	7	7	7	7	6	9	8	8	8	8	2.8	9.0
Dir	198	317	342	116	356	272	3	188	351	351	348	274	173	175	193	186	187	204	209	210	216	221	218	244	216.1	210.1
18 Spd	6	7	6	6	5	4	4	5	4	3	3	7	5	3	3	3	3	2	1	0	3	1	2	3	3.0	6.7
Dir	231	207	245	213	208	157	180	185	183	206	206	193	198	194	199	197	224	193	175	316	174	5	342	347	204.0	193.3
19 Spd	1	2	2	10	9	8	7	4	4	8	8	8	5	5	4	3	4	3	2	0	3	2	2	1	3.8	9.5
Dir	253	352	195	191	191	193	194	195	197	186	193	200	201	199	200	192	158	187	232	183	356	198	252	305	196.1	190.6
20 Spd	1	2	6	5	6	4	5	3	2	1	1	3	3	3	3	3	4	13	10	5	4	3	4	4	3.2	13.3
Dir	246	40	50	4	3	26	15	349	216	191	67	20	26	24	5	356	337	305	307	321	309	359	9	357	348.5	304.6
21 Spd	4	6	5	2	4	1	3	3	4	4	2	4	14	17	13	9	4	3	3	3	3	3	4	5	3.6	17.2
Dir	349	332	329	315	298	274	141	223	224	212	184	256	282	286	292	296	284	233	226	220	230	223	208	195	271.8	286.0
22 Spd	3	4	3	4	1	3	3	3	2	1	1	1	1	2	1	2	3	1	2	1	1	2	4	3	1.6	4.1
Dir	222	214	198	209	161	213	216	215	188	230	201	198	194	189	327	7	349	323	198	209	231	221	207	198	213.8	208.8

Peace Airshed Zone Association
Summary of Hourly Averages

Valleyview
November 1, 2009 to December 1, 2009
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	1	2	1	3	4	3	5	5	5	3	4	4	4	4	5	4	6	7	3	0	2	8	6	6	3.4	8.0
Dir	0	250	304	234	275	176	168	166	167	178	183	187	178	187	177	176	177	180	150	70	230	203	182	162	185.0	203.2
24 Spd	6	12	8	10	11	14	14	13	13	13	17	18	15	17	13	5	2	2	1	2	4	1	2	1	8.1	17.5
Dir	246	267	263	269	274	280	288	284	286	286	288	287	295	297	293	287	179	171	248	209	187	208	213	247	278.9	287.4
25 Spd	1	2	1	1	1	1	2	3	4	8	10	10	7	8	2	3	1	2	3	3	2	3	4	1	2.9	9.9
Dir	260	244	237	182	306	103	204	197	206	193	191	188	195	188	225	201	307	214	213	239	246	238	288	276	207.6	187.8
26 Spd	2	5	5	5	5	4	4	7	5	6	2	4	5	5	4	5	4	4	2	4	4	4	3	5	4.1	6.7
Dir	268	199	202	203	200	191	190	199	197	198	217	196	182	186	200	189	185	214	252	214	240	219	178	215	202.4	199.0
27 Spd	4	4	5	4	3	5	4	5	2	4	3	10	13	11	8	6	3	4	3	5	5	5	7	7	4.2	12.7
Dir	220	210	224	205	289	203	208	193	206	200	217	274	287	283	283	272	235	212	212	190	191	192	182	187	232.0	286.9
28 Spd	6	4	5	6	5	4	4	3	2	4	3	4	3	3	2	2	1	1	2	2	1	3	5	4	3.1	6.1
Dir	195	200	209	194	207	197	213	218	227	218	193	186	196	194	194	211	187	242	248	176	206	210	209	199	203.6	194.1
29 Spd	4	3	3	6	5	4	2	3	3	7	15	10	13	7	4	5	12	17	18	19	17	18	15	8	8.0	18.7
Dir	204	205	204	207	212	213	209	223	187	264	289	284	288	295	301	312	299	290	287	283	283	279	284	304	277.5	282.6
30 Spd	6	3	3	2	3	4	6	4	9	11	13	17	18	18	16	13	11	11	12	12	13	9	7	11	9.0	18.4
Dir	278	300	194	178	205	243	307	291	294	294	303	306	310	317	306	291	298	288	289	296	296	308	305	292	296.9	310.2
Spd	3.7	3.5	3.5	4.2	3.9	3.3	2.7	3.2	3.0	3.2	3.2	4.6	4.8	5.0	4.9	3.3	2.6	3.0	3.3	3.3	3.3	3.6	3.7	3.6	Diurnal Average	
Dir	216.5	212.8	207.1	207.6	227.1	212.1	213.9	213.4	218.9	222.7	230.5	241.3	251.7	257.2	258.9	249.7	234.9	230.0	234.7	230.8	235.5	228.1	225.0	224.5		
Spd	13.8	12.0	11.4	9.5	24.2	13.9	13.7	12.6	12.8	13.4	17.1	17.5	18.7	20.1	22.6	16.9	14.4	16.8	18.3	19.1	19.2	18.2	14.8	15.6	Diurnal Maximum	
Dir	183.1	267.2	193.2	190.6	290.6	279.6	288.1	283.7	285.7	285.9	287.7	287.4	282.5	292.2	264.3	260.8	181.9	290.3	286.7	292.8	294.4	278.7	284.3	290.4		

Maximum Speed Value: 24 km/h on Nov 6 05:00
Maximum Daily Speed Average: 9.2 km/h on Nov 30
Maximum Diurnal Speed Average: 5.0 km/h at hour 14

Minimum Speed Value: 0 km/h on Nov 16 19:00
Minimum Daily Speed Average: 1.4 km/h on Nov 22
Minimum Diurnal Speed Average: 2.6 km/h at hour 17

Monthly Average Velocity: 3.46 km/h 229.86 deg

Speed Percentiles: $P_1 = 0.5$ $P_{10} = 1.6$ $Q_1 = 2.8$ Median = 4.4 $Q_3 = 7.1$ $P_{90} = 11.2$ $P_{99} = 18.7$

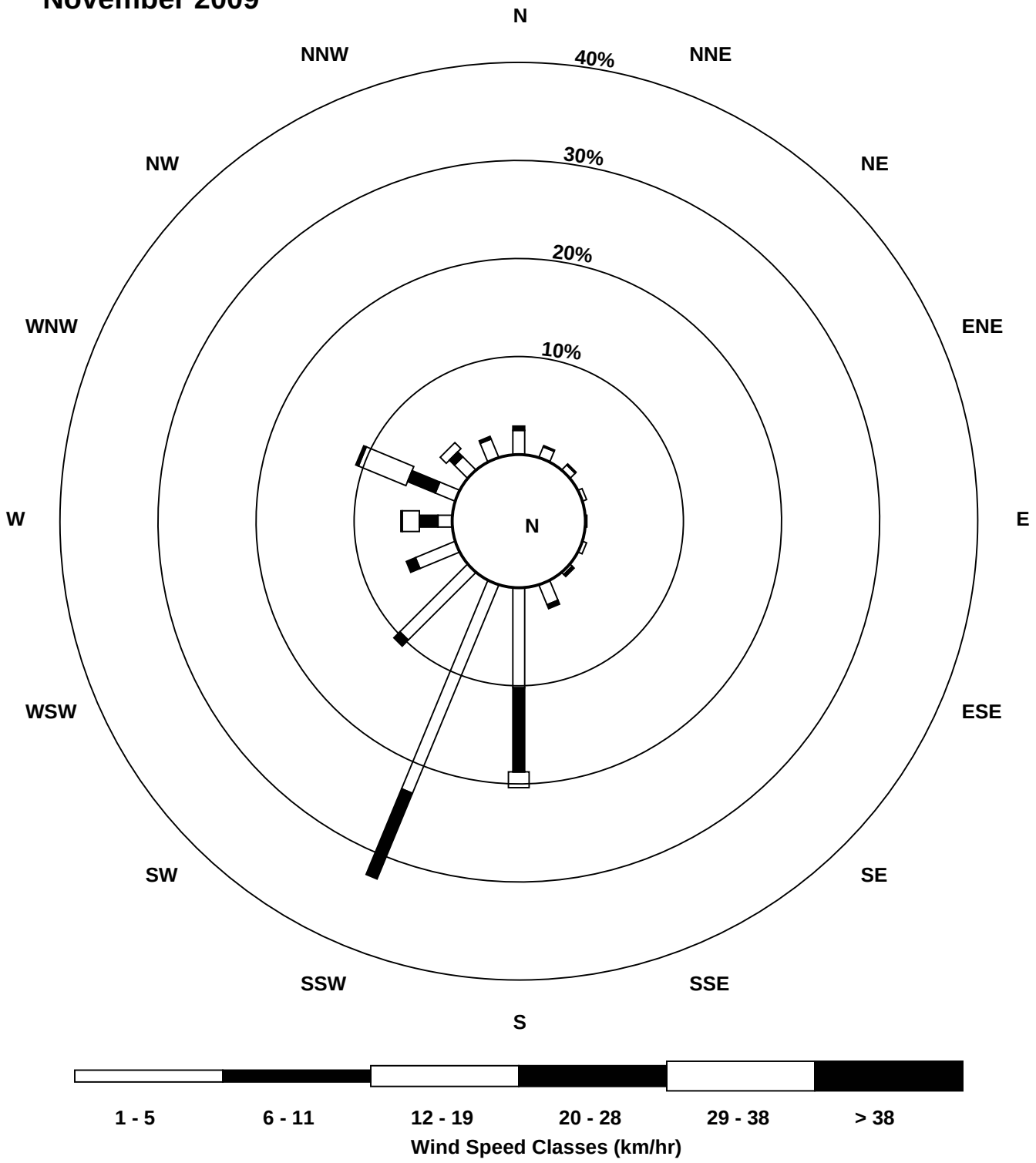
All monthly, daily, and diurnal averages have been calculated using vector methods

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

Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	29	8	0	0	0	0	37
NorthEast	15	2	0	0	0	0	17
East	5	0	0	0	0	0	5
SouthEast	7	4	0	0	0	0	11
South	148	134	15	0	0	0	297
SouthWest	148	36	0	0	0	0	184
West	39	26	38	3	0	0	106
NorthWest	28	15	18	2	0	0	63
Total	419	225	71	5	0	0	720

Wind Rose for WS at Valleyview
November 2009



Maximum Speed: 24 km/h on Nov 6 05:00

Maximum Daily Speed Average: 9.9 km/h on Nov 30

Minimum Speed: 1 km/h on Nov 11 06:00

Minimum Daily Speed Average: 2.4 km/h on Nov 22

Maximum Diurnal Speed Average: 7.8 km/h at hour 14

Minimum Diurnal Speed Average: 4.4 km/h at hour 9

Monthly Average Speed: 5.76 km/h

Percentiles: $P_1 = 1.2$ $P_{10} = 2.0$ $Q_1 = 3.1$ Median = 4.6 $Q_3 = 7.2$ $P_{90} = 11.3$ $P_{99} = 18.8$

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Nov	10	8	7	9	8	4	5	4	5	5	3	5	5	3	2	2	2	3	2	2	1	1	3	4	4.3	9.9
2-Nov	5	5	4	8	8	6	5	4	4	2	2	3	3	2	4	3	2	3	2	2	1	1	3	3	3.6	8.3
3-Nov	4	4	6	6	5	3	3	4	4	6	9	17	19	20	18	13	9	5	4	3	3	4	4	5	7.4	20.2
4-Nov	5	4	5	3	5	2	1	4	4	2	3	2	3	4	3	6	8	6	6	9	10	9	8	9	5.0	10.4
5-Nov	14	11	10	9	7	5	4	3	2	2	3	8	5	5	5	7	5	3	4	6	7	8	8	7	6.2	13.9
6-Nov	7	4	2	6	24	8	4	4	4	5	4	7	8	12	23	14	14	6	4	4	6	7	12	5	8.0	24.4
7-Nov	6	5	5	6	7	7	7	6	4	6	6	14	13	14	15	17	9	4	4	4	4	3	4	6	7.5	17.0
8-Nov	5	5	5	6	5	6	6	7	6	5	5	6	8	14	10	3	5	5	5	4	4	5	5	6	5.8	13.6
9-Nov	7	8	7	7	7	5	2	1	2	2	2	6	9	9	8	11	11	11	12	9	7	7	5	16	7.1	16.1
10-Nov	12	4	6	4	4	4	5	4	3	1	2	3	3	2	2	3	2	3	4	4	5	4	4	4	3.8	11.8
11-Nov	3	3	3	4	3	1	2	2	2	1	1	3	5	9	10	7	2	3	3	3	3	4	4	5	3.6	10.0
12-Nov	4	5	5	5	4	5	6	5	5	6	6	6	6	5	5	3	1	4	5	7	6	6	7	8	5.1	7.7
13-Nov	8	10	10	9	8	7	8	7	5	5	5	6	6	6	5	3	4	5	15	19	19	17	14	11	8.9	19.4
14-Nov	6	4	3	4	5	5	6	6	5	6	10	10	11	11	11	14	14	16	16	14	13	15	14	13	9.6	16.2
15-Nov	11	11	11	9	10	8	8	8	8	7	9	9	7	5	4	9	8	5	2	3	5	2	2	2	6.8	11.4
16-Nov	2	1	1	2	2	3	5	2	2	1	4	13	9	7	3	3	4	3	3	4	8	5	4	2	3.9	12.6
17-Nov	3	2	2	4	6	2	4	2	4	2	4	4	3	3	8	8	7	7	6	9	8	9	8	8	5.1	9.0
18-Nov	6	7	6	6	6	4	4	5	4	3	3	7	5	3	3	3	3	2	2	1	3	2	2	4	3.9	6.8
19-Nov	4	3	4	10	9	8	7	4	5	8	8	8	5	5	4	3	4	3	2	2	4	3	2	1	4.8	9.6
20-Nov	2	3	6	5	7	4	5	3	2	2	2	3	3	4	4	3	5	13	11	5	4	4	4	4	4.5	13.5
21-Nov	4	6	5	2	5	2	3	4	4	4	3	6	14	17	13	9	4	3	3	3	3	3	4	5	5.3	17.4
22-Nov	3	4	3	4	2	3	3	3	2	1	1	1	2	2	2	3	3	1	2	2	2	2	4	3	2.4	4.3
23-Nov	3	3	4	3	5	4	5	5	5	4	4	4	4	4	5	4	6	7	4	2	3	8	6	6	4.6	8.4
24-Nov	6	12	8	10	11	14	14	13	13	14	17	18	16	17	13	5	3	2	2	3	4	2	2	2	9.1	17.6
25-Nov	1	2	2	2	2	1	2	3	4	8	10	10	7	8	2	3	2	2	4	3	3	3	4	3	3.8	10.0
26-Nov	4	5	5	5	5	4	4	7	6	6	3	4	5	5	4	5	5	4	2	5	5	4	3	5	4.5	6.8
27-Nov	4	5	5	4	5	5	4	5	3	4	3	10	13	11	8	6	3	4	3	5	5	5	7	7	5.6	12.9
28-Nov	6	4	5	6	6	4	4	3	2	4	3	4	3	3	2	2	2	2	2	2	2	3	5	4	3.4	6.2
29-Nov	4	3	3	6	5	4	2	3	3	8	15	10	13	7	4	5	12	17	18	19	17	18	15	8	9.2	18.8
30-Nov	6	3	3	3	4	4	8	4	9	11	13	17	19	18	16	13	12	11	12	12	13	9	7	11	9.9	18.6
	5.5	5.1	5.1	5.6	6.3	4.8	4.8	4.4	4.4	4.7	5.5	7.4	7.7	7.8	7.1	6.4	5.6	5.4	5.5	5.6	6.0	5.8	5.8	5.9	Diurnal Average	
	13.9	12.0	11.4	9.6	24.4	14.0	13.8	12.7	12.9	13.5	17.2	17.6	18.9	20.2	22.7	17.0	14.5	16.9	18.5	19.2	19.4	18.3	14.9	16.1	Diurnal Maximum	

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

Maximum Value: 93.3 deg on Nov 16 19:00

Minimum Value: 3.7 deg on Nov 29 06:00

Percentiles: P_1 = 4.8 P_{10} = 6.6 Q_1 = 8.2 Median = 13.1 Q_3 = 24.6 P_{90} = 51.7 P_{99} = 87.7

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
	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	10	10	10	11	12	17	14	16	16	14	25	40	16	32	74	23	29	18	36	31	67	66	35	24	73.9
2-Nov	16	18	14	8	8	15	13	7	11	43	46	21	37	33	24	21	21	12	17	24	40	29	14	9	46.3
3-Nov	30	13	17	7	8	32	11	6	17	15	13	8	8	7	8	14	6	14	19	15	11	7	6	6	31.9
4-Nov	6	21	7	9	8	38	13	14	8	25	24	66	24	21	33	11	8	12	11	11	13	10	15	8	66.3
5-Nov	7	14	8	8	9	16	18	6	45	42	31	9	7	9	12	6	42	77	60	5	6	6	7	10	77.4
6-Nov	8	19	57	34	7	26	13	15	11	14	16	19	18	20	6	10	7	18	12	50	13	22	14	29	56.7
7-Nov	12	18	13	5	5	6	7	12	13	7	7	16	8	8	8	7	12	11	9	6	9	10	7	6	17.5
8-Nov	11	11	7	8	4	7	8	8	6	11	7	9	28	9	13	17	9	8	5	6	20	15	7	7	27.7
9-Nov	10	9	9	11	8	18	46	53	50	64	48	26	13	11	7	7	6	6	7	7	10	9	14	32	64.0
10-Nov	26	17	7	5	11	21	13	19	49	68	31	12	17	37	71	34	14	7	55	9	5	12	8	14	71.3
11-Nov	9	9	9	6	19	51	51	25	72	74	58	22	62	12	9	15	13	14	9	14	24	15	9	6	74.2
12-Nov	11	19	9	12	13	7	4	4	7	7	6	8	10	11	35	37	44	22	10	10	6	8	8	9	43.8
13-Nov	5	5	6	7	6	7	7	5	5	7	8	9	9	10	8	15	14	50	14	8	9	7	8	11	49.8
14-Nov	9	23	13	21	13	7	10	10	12	13	6	9	8	9	9	7	6	6	6	6	6	6	5	5	22.9
15-Nov	6	7	6	7	6	5	6	7	7	5	6	7	9	13	11	49	17	61	58	54	15	37	41	44	61.3
16-Nov	79	60	81	75	70	32	9	66	19	57	22	10	18	15	31	24	25	36	93	24	11	22	75	49	93.3
17-Nov	41	45	91	58	11	57	79	90	65	89	60	79	45	52	15	8	12	11	8	5	10	12	10	11	90.5
18-Nov	14	7	18	9	26	11	46	14	13	15	24	10	17	29	23	15	17	22	45	73	19	59	35	44	73.4
19-Nov	81	57	83	6	7	7	6	27	14	7	7	7	8	9	11	14	7	22	45	84	24	76	27	73	83.6
20-Nov	35	68	17	30	17	11	17	44	37	38	53	28	34	39	24	34	21	10	12	15	15	34	20	12	68.1
21-Nov	18	8	14	20	16	74	15	42	13	10	19	60	10	9	7	14	23	23	15	8	10	6	8	6	73.6
22-Nov	16	12	23	13	65	9	10	7	15	28	44	61	51	23	70	21	13	56	20	44	38	16	16	26	70.0
23-Nov	91	44	79	33	31	29	20	7	8	21	14	13	24	14	13	18	16	11	26	88	77	18	22	17	91.1
24-Nov	32	7	6	6	7	6	7	7	7	7	7	6	9	8	10	64	18	37	52	33	14	70	21	55	70.5
25-Nov	53	54	41	66	88	66	47	23	12	8	7	8	17	9	48	21	79	36	16	23	68	30	39	64	88.2
26-Nov	73	15	11	9	11	15	25	9	10	10	41	16	16	12	11	9	13	19	41	21	22	12	50	8	73.2
27-Nov	12	24	21	8	51	10	21	14	55	14	11	10	11	12	16	14	12	9	16	10	13	16	15	10	55.1
28-Nov	6	17	9	12	8	10	4	9	20	8	13	12	9	11	14	16	62	42	18	30	37	12	11	20	62.2
29-Nov	8	11	13	7	6	4	13	7	27	21	7	8	7	13	10	10	12	8	8	8	7	8	8	13	27.0
30-Nov	18	29	21	24	20	25	35	29	7	7	10	9	8	6	11	8	15	13	7	8	6	9	10	5	34.7
	91.1	68.1	90.5	74.8	88.2	73.6	78.8	90.3	71.8	89.3	59.9	79.0	62.1	52.0	73.9	63.6	78.8	77.4	93.3	87.9	76.5	76.3	75.0	73.0	

PASZA

Monthly Passive Data Summary

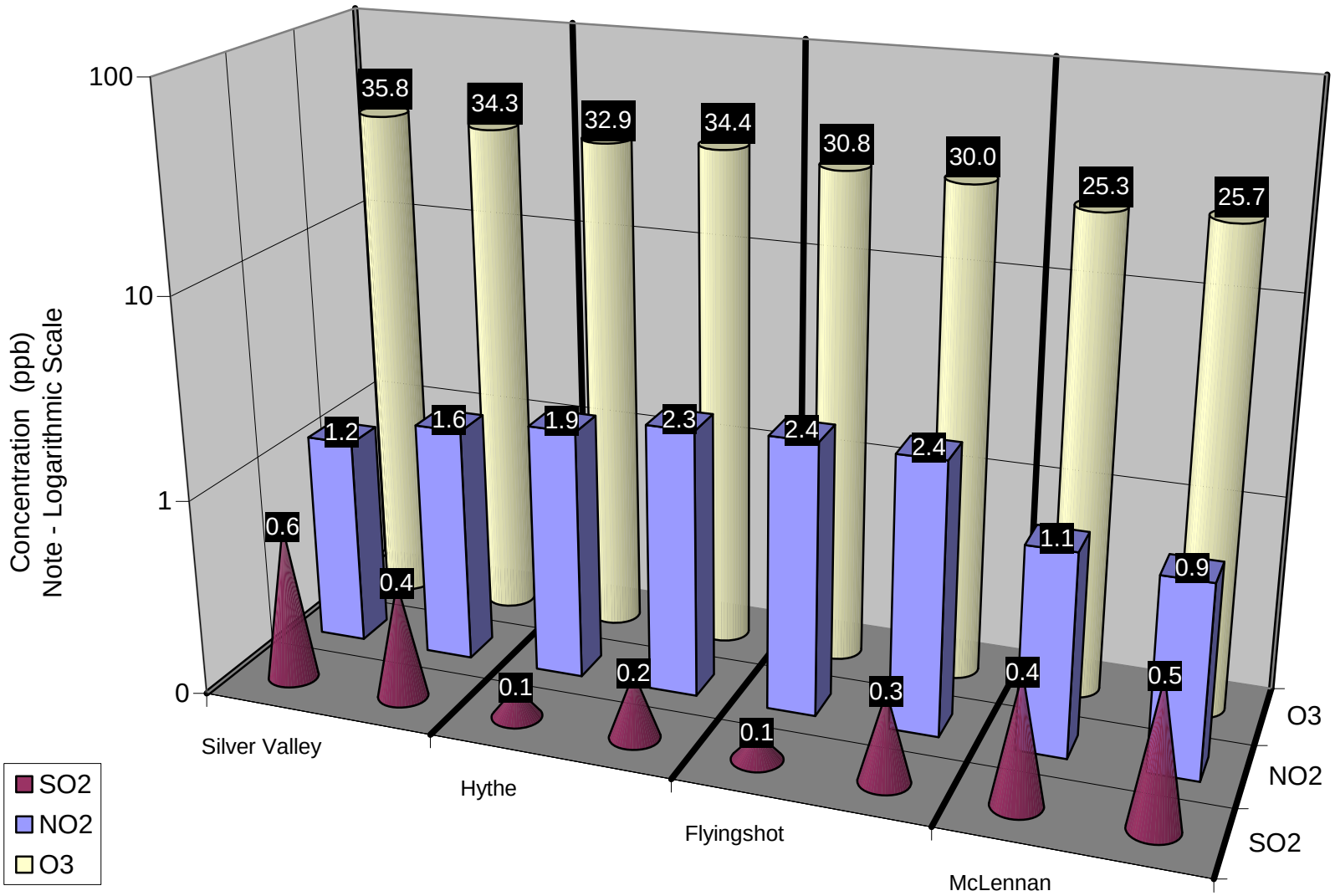
PASZA Passive Results for November 2009

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	Site Legal
Duplicates					
1a	Silver Valley	**0.6**	**35.8**	**1.2**	
1b	Silver Valley	**0.4**	**34.3**	**1.6**	
12a	Hythe	**0.1**	**32.9**	**1.9**	
12b	Hythe	**0.2**	**34.4**	**2.3**	
26a	Flyingshot	**0.1**	**30.8**	**2.4**	
26b	Flyingshot	**0.3**	**30.0**	**2.4**	
40a	McLennan	**0.4**	**25.3**	**1.1**	
40b	McLennan	**0.5**	**25.7**	**0.9**	
1	Silver Valley	**0.5**	**35.1**	**1.4**	08-27-081-11 W6M
2	Bay Tree	**0.2**	**36.4**	**1.2**	13-16-078-13 W6M
3	Forth Creek	**0.3**	**36.7**	**0.8**	04-13-082-07 W6M
4	Gordondale	**0.2**	**36.6**	**1.0**	04-34-078-10 W6M
5	Boone Creek	**0.2**	**33.4**	**2.0**	01-23-076-11 W6M
7	Steeprock Creek	**0.1**	**39.6**	**0.9**	09-35-072-13 W6M
9	Spirit River	**0.3**	**31.8**	**1.5**	08-12-079-07 W6M
10	Woking	**0.5**	**34.0**	**1.1**	01-13-076-07 W6M
11	Webber Creek	**0.3**	**33.1**	**1.6**	09-36-074-09 W6M
12	Hythe	**0.2**	**33.7**	**2.1**	14-36-072-11 W6M
14	Sylvester	**0.1**	**30.7**	**1.2**	08-06-069-12 W6M
16	Beaverlodge	**0.2**	**33.5**	**2.8**	15-36-071-10 W6M
17	Poplar	**0.2**	**32.1**	**2.0**	13-06-073-08 W6M
18	Saddle Hills	**0.2**	**34.0**	**1.0**	04-25-074-07 W6M
19	Wanham	**0.5**	**32.8**	**1.2**	16-22-077-03 W6M
20	Shaftesbury	**0.2**	**27.9**	**1.1**	04-03-082-23 W5M
21	Eaglesham	**0.2**	**24.4**	**1.1**	16-21-079-25 W5M
23	Bear Lake	**0.2**	**32.4**	**1.9**	15-31-072-06 W6M

PASZA Passive Results for November 2009 (Continued)

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	Site Legal
24	Wembley	**0.1**	**31.6**	**1.9**	12-31-070-08 W6M
25	Pinto Creek	**0.1**	**32.3**	**1.4**	04-24-069-11 W6M
26	Flyingshot	**0.2**	**30.4**	**2.4**	15-36-070-07 W6M
27	Grande Prairie I	**0.2**	**24.5**	**9.5**	08-15-071-06 W6M
28	Clairmont Lake	**0.2**	**31.4**	**2.3**	09-06-073-04 W6M
29	Smoky Heights	**0.4**	**30.3**	**2.3**	04-06-075-02 W6M
30	Fitzsimmons	**0.2**	**26.9**	**1.5**	15-36-072-03 W6M
32	Gold Creek	**0.1**	**24.2**	**3.1**	06-33-067-05 W6M
33	Wapiti	**0.1**	**28.9**	**1.3**	02-25-071-03 W6M
34	Puskwaskau	**0.2**	**25.9**	**0.6**	15-35-074-25 W5M
35	Jean Cote	**0.3**	**25.3**	**1.5**	12-35-079-21 W5M
36	Guy	**0.2**	**25.8**	**1.1**	03-04-076-22 W5M
37	Crooked Creek	**0.2**	**25.7**	**1.3**	16-01-071-26 W5M
38	Karr Creek	**0.1**	**26.3**	**0.9**	10-16-065-02 W6M
39	Clouston Creek	**0.2**	**24.8**	**1.3**	12-01-073-22 W5M
40	McLennan	**0.5**	**25.5**	**1.0**	03-29-077-19 W5M
41	Valleyview	**0.3**	**27.9**	**1.1**	09-30-069-22 W5M
42	Sunset House	**0.4**	**32.1**	**0.9**	05-32-070-19 W5M
43	High Prairie	**0.2**	**24.8**	**1.6**	16-13-074-17 W5M
44	Peavine	**0.2**	**24.0**	**1.1**	03-05-079-15 W5M
45	Gift Lake	**0.1**	**22.5**	**1.4**	10-07-079-12 W5M
46	Little Smoky	**0.3**	**22.4**	**3.0**	12-01-065-21 W5M
47	Kinuso	**0.3**	**21.5**	**0.9**	12-10-073-10 W5M
48	Deer Mountain	**0.2**	**25.7**	**0.6**	15-22-068-09 W5M
49	Grande Prairie HP	**0.2**	**23.0**	**9.6**	17-26-071-06 W6M

*BDL = Below Detection Level



Duplicate Summary Chart

Passive Summary for November 2009

Stats	Sulphur Dioxide SO_2	Ozone O_3	Nitrogen Dioxide NO_2
	ppb	ppb	ppb
	Passive Summary for November 2009 (PASZA Zone)		
Mean	**0.2**	**29.3**	**1.9**
Standard Deviation	**0.1**	**4.7**	**1.8**
Minimum	**0.1**	**21.5**	**0.6**
Minimum At	**Sylvester (#14)**	**Kinuso (#47)**	**Deer Mountain (#48)**
Maximum	**0.5**	**39.6**	**9.6**
Maximum At	**Silver Valley (#1)**	**Steeprock Creek (#7)**	**Grande Prairie HP (#49)**

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

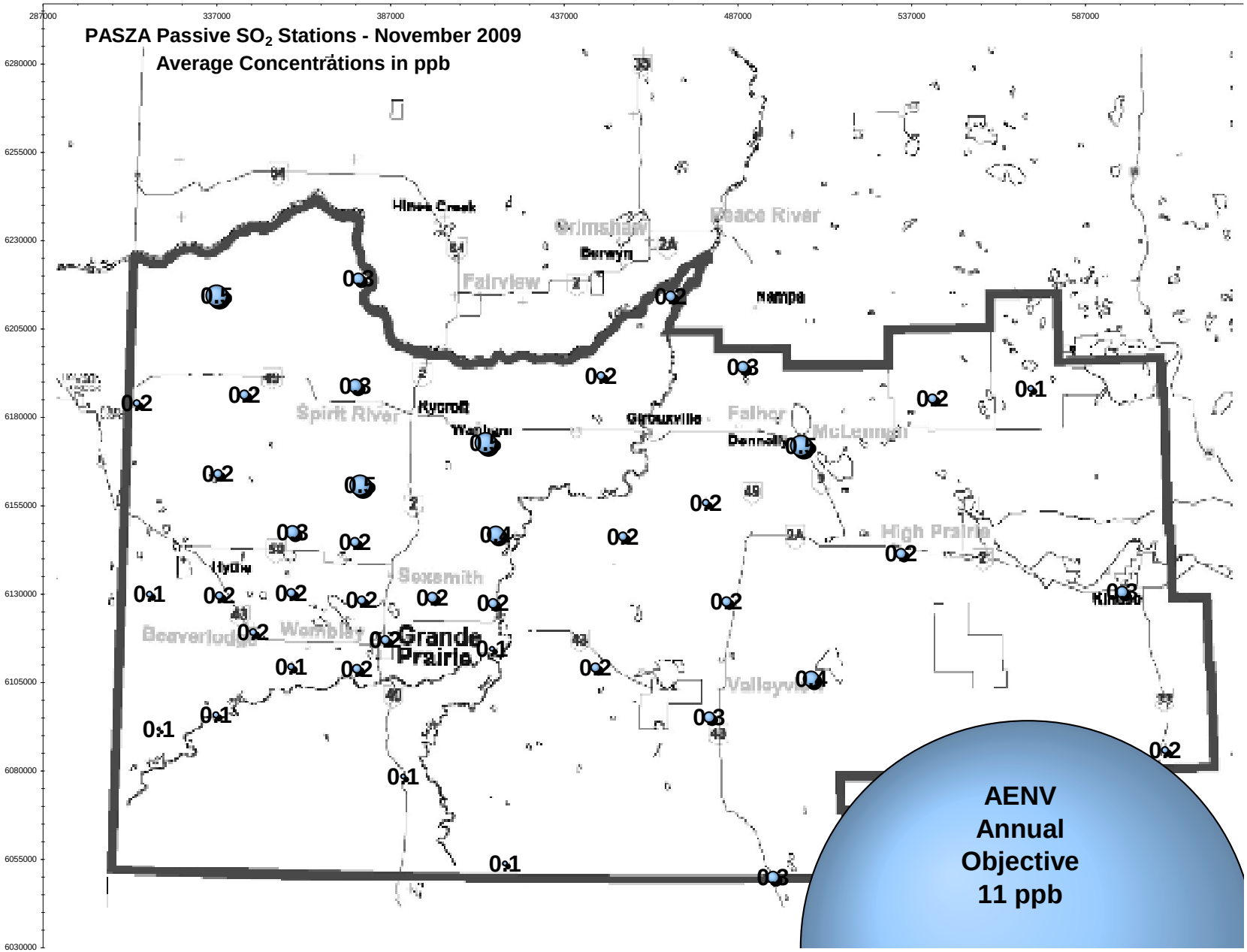
	SO_2	O_3	NO_2
PASZA Beaverlodge station	**0.2**	**27.6**	**5.2**
PASZA Beaverlodge passive	**0.2**	**33.5**	**2.8**

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

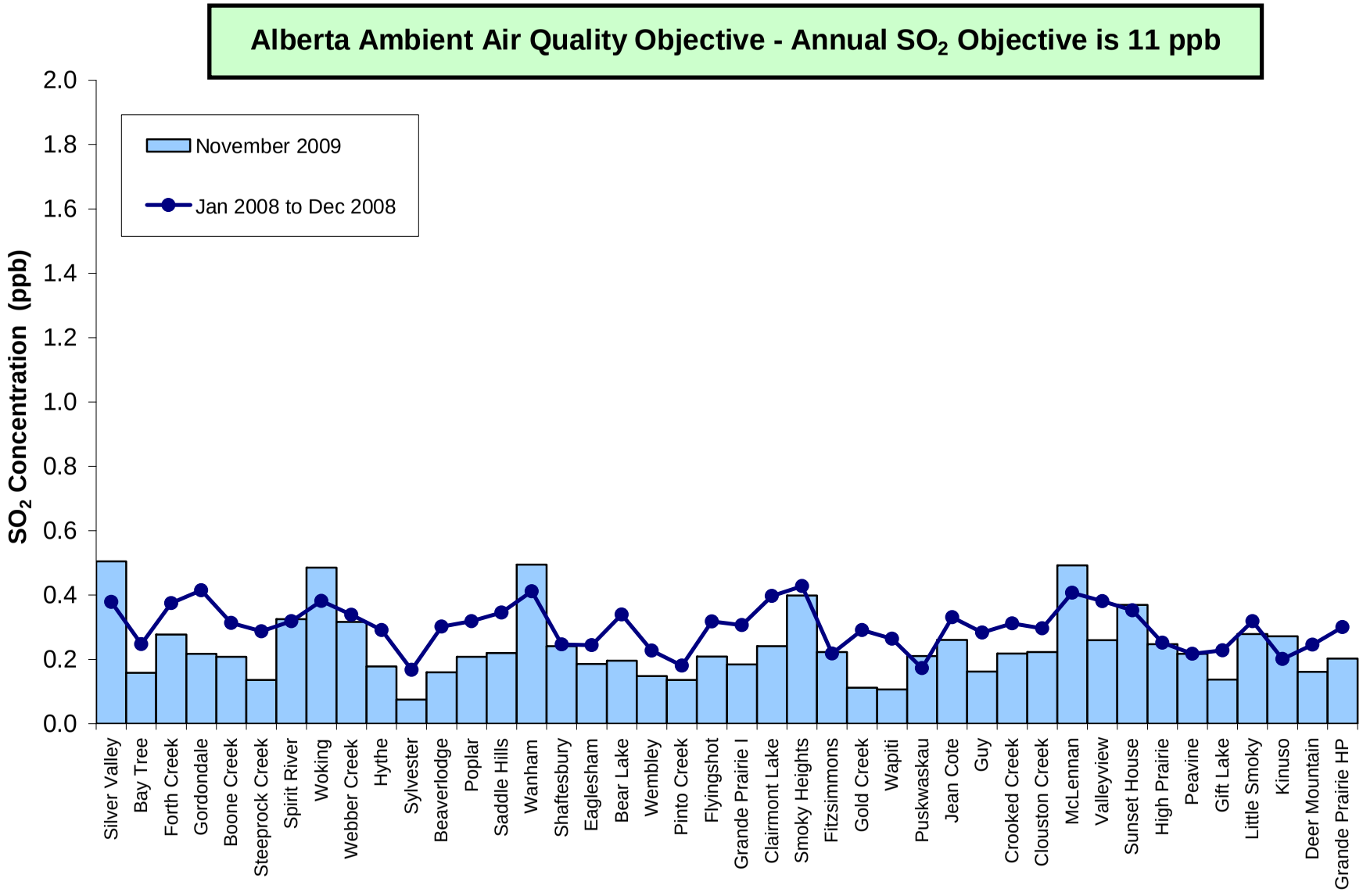
	SO_2	O_3	NO_2
PASZA Henry Pirker station	**0.3**	**15.9**	**15.6**
PASZA Grande Prairie passive	**0.2**	**23.0**	**9.6**

Comparison between Continuous and Passive monitoring at Kinuso (passive #47 Kinuso)

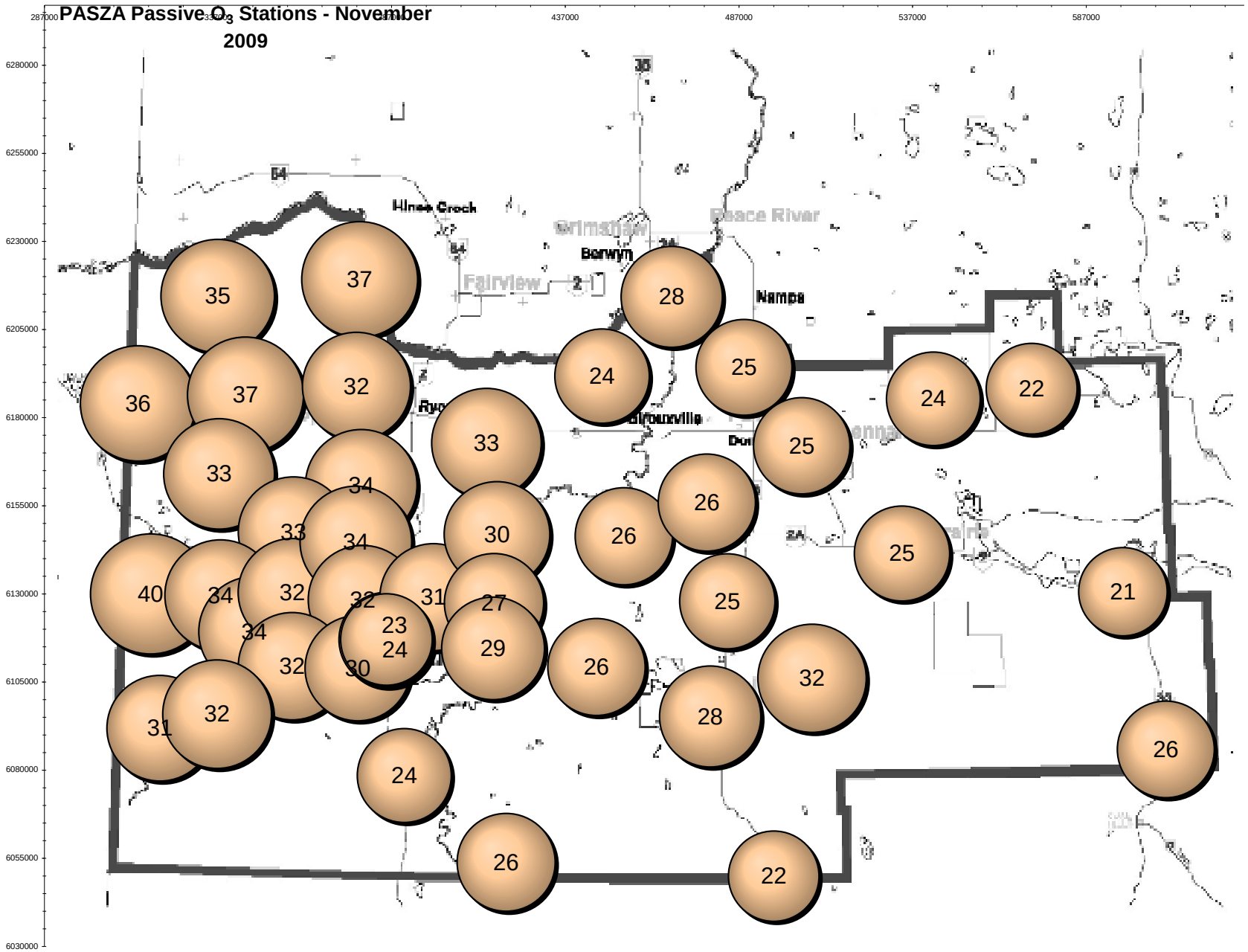
	SO_2	O_3	NO_2
PASZA Portable Kinuso station	**0.2**	**26.9**	**2.1**
PASZA Kinuso passive	**0.3**	**21.5**	**0.9**



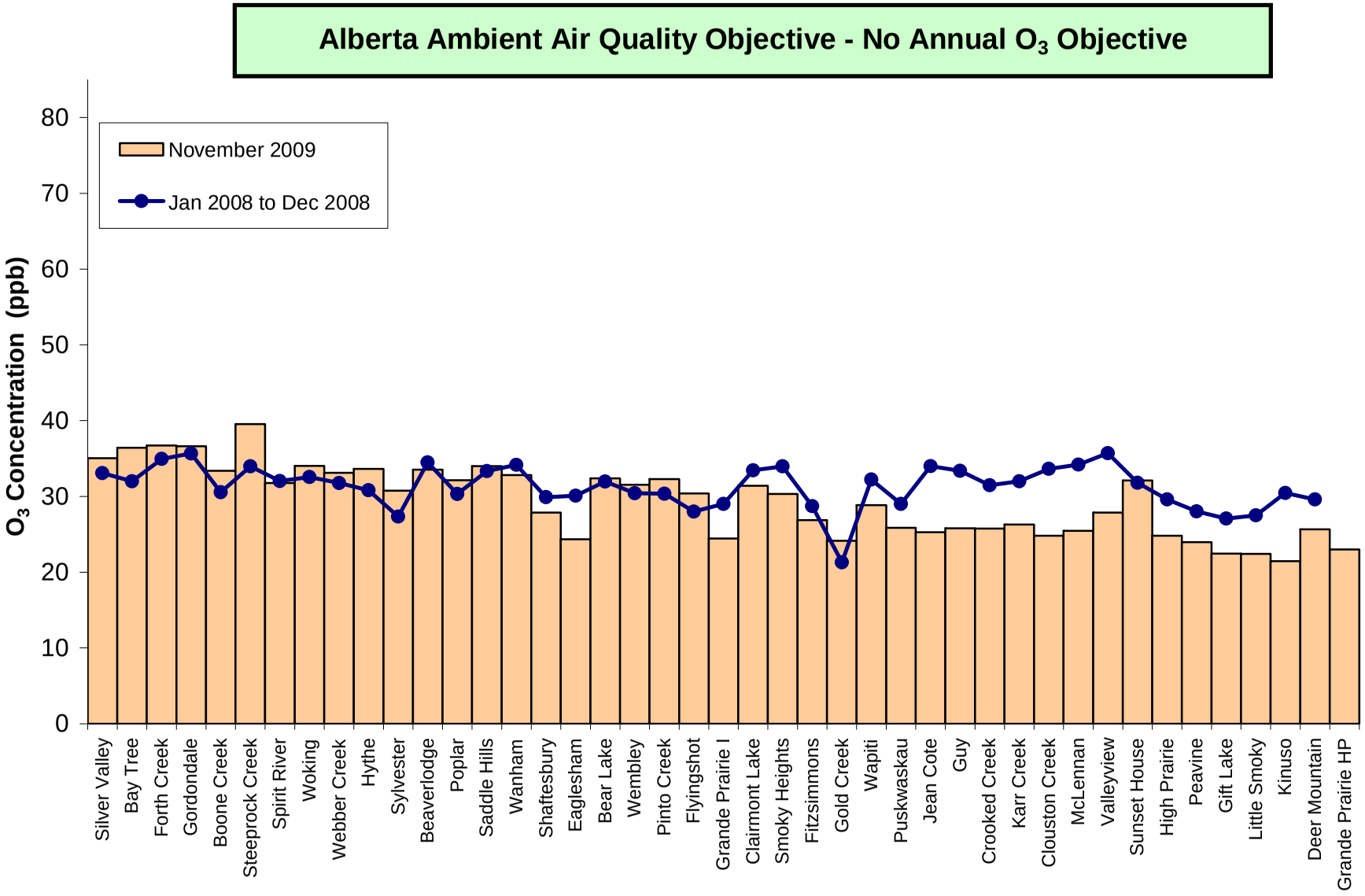
SO_2 Bubble Chart



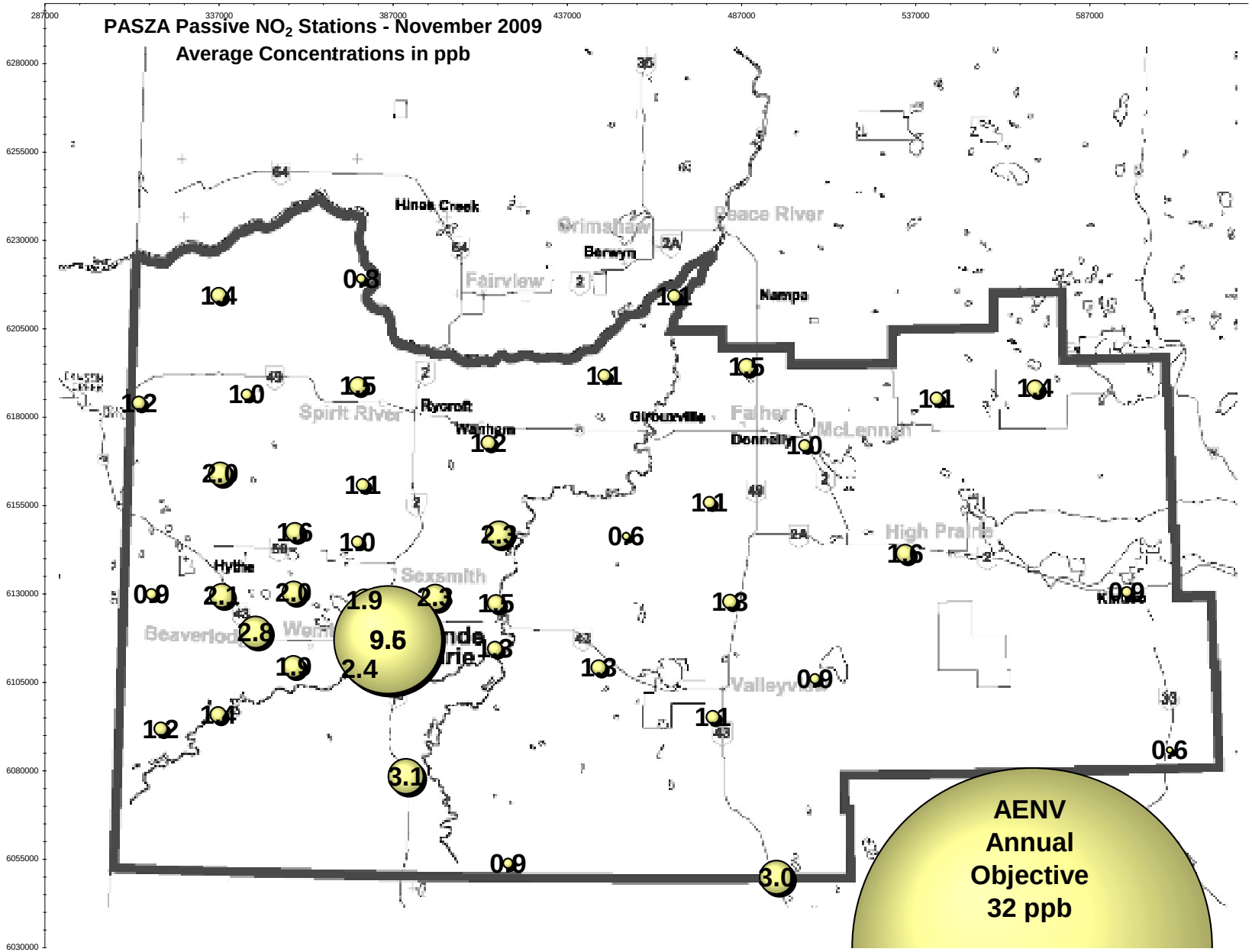
SO_2 Summary Chart



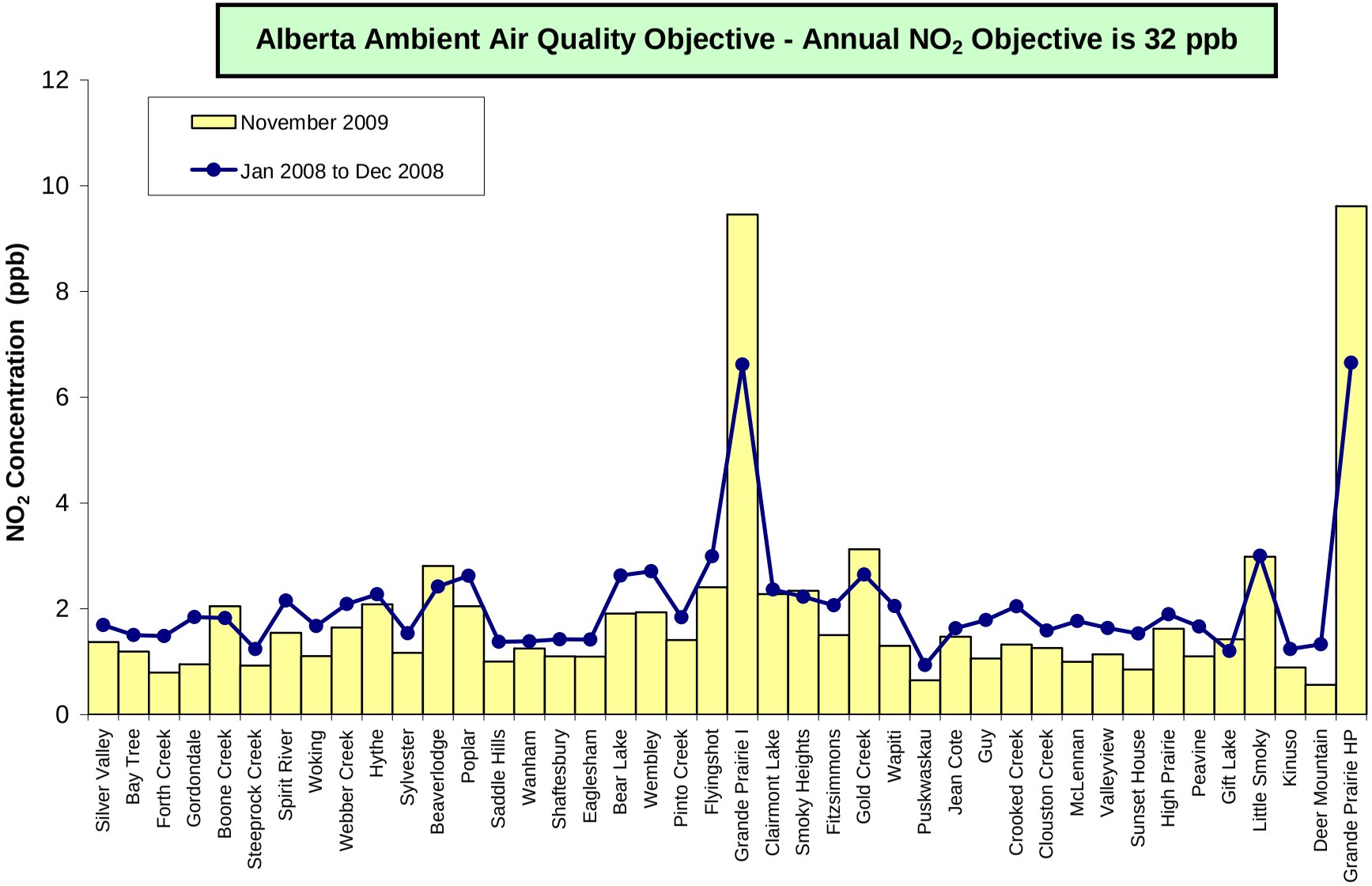
O_3 Bubble Chart



O_3 Summary Chart



NO_2 Bubble Chart



NO_2 Summary Chart

November 2009 Calibration Reports

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

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

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

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

PASZA – Kinuso (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 5, 2009	Previous Calibration	October 15, 2009
Station Number	1	Station Location	Henry Pirker

Reason: Routine | Install | Removal | Other:

Start Time (MST)	11:54	End Time (MST)	15:47
Barometric Pressure	0.910 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Conc	50.6 ppb	Cal Gas Cert Date	13/3/2009
		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	0.999899	Calculated slope	1.002763
Calculated intercept	-1.975636	Calculated intercept	-2.767206

Analyzer make	TEI 43C	Analyzer serial #	610816292

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	8.7		8.7	
Coefficient	.820		.823	
Pressure	628.3	mm Hg	625.1	mm Hg
Flow	0.475	lpm	0.475	lpm
Lamp Voltage	45599	Hz	44501	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)
4989	0.00	0.0	0.6	N/A
4991	39.85	400.8	401.2	0.9991
4991	19.91	201.1	204.8	0.9816
4991	9.95	100.7	105.0	0.9584
4989	0.00	0.0	0.2	As Found Zero
4991	39.85	400.8	401.6	As Found Span
			Average Correction Factor	0.9797

Calculated value of As Found Response: 399.4 ppb Percent Change of As Found: 0.4%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.1	ppb
Auto span	311.6	ppb	262.0	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

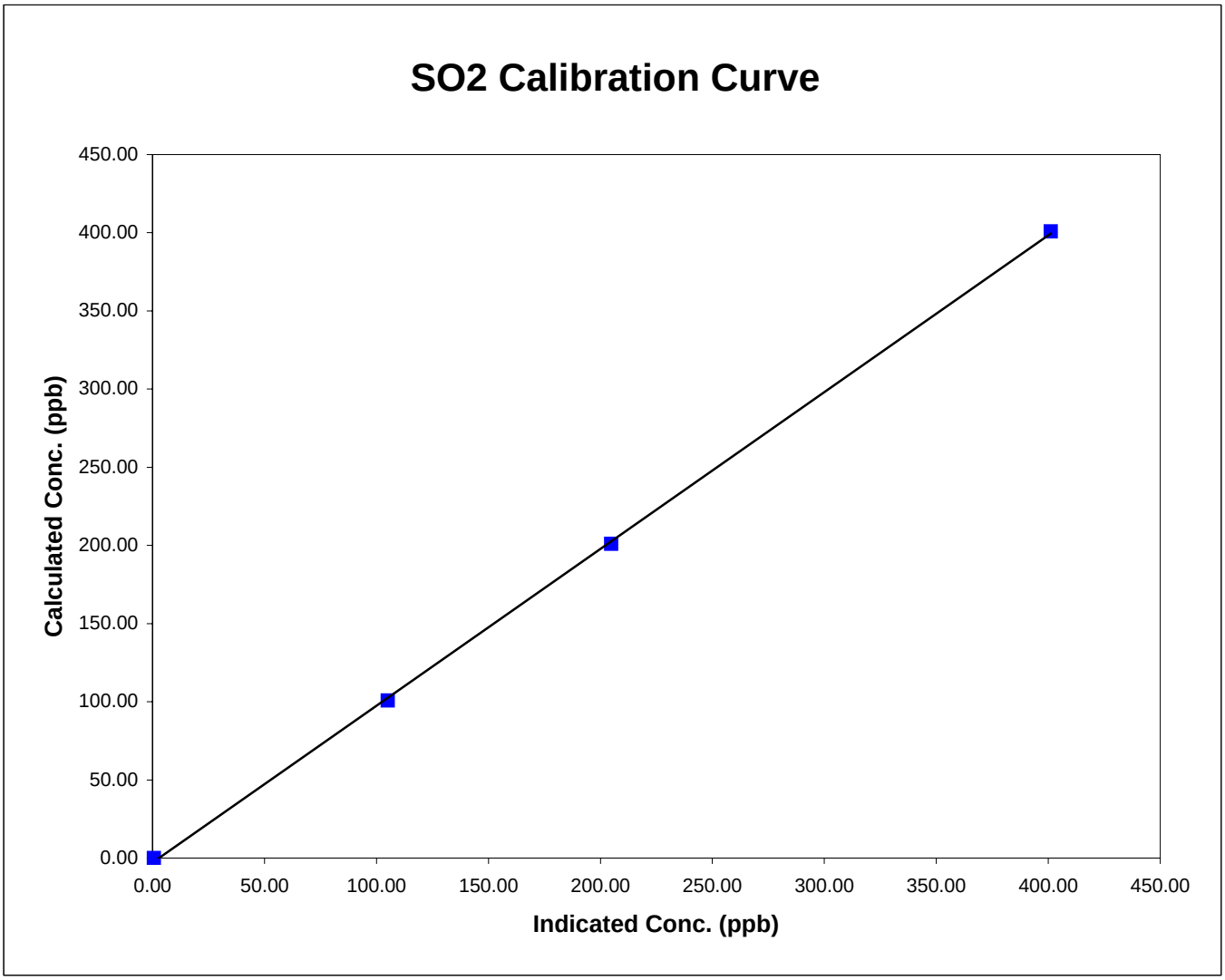
Air Monitoring Network **PASZA**

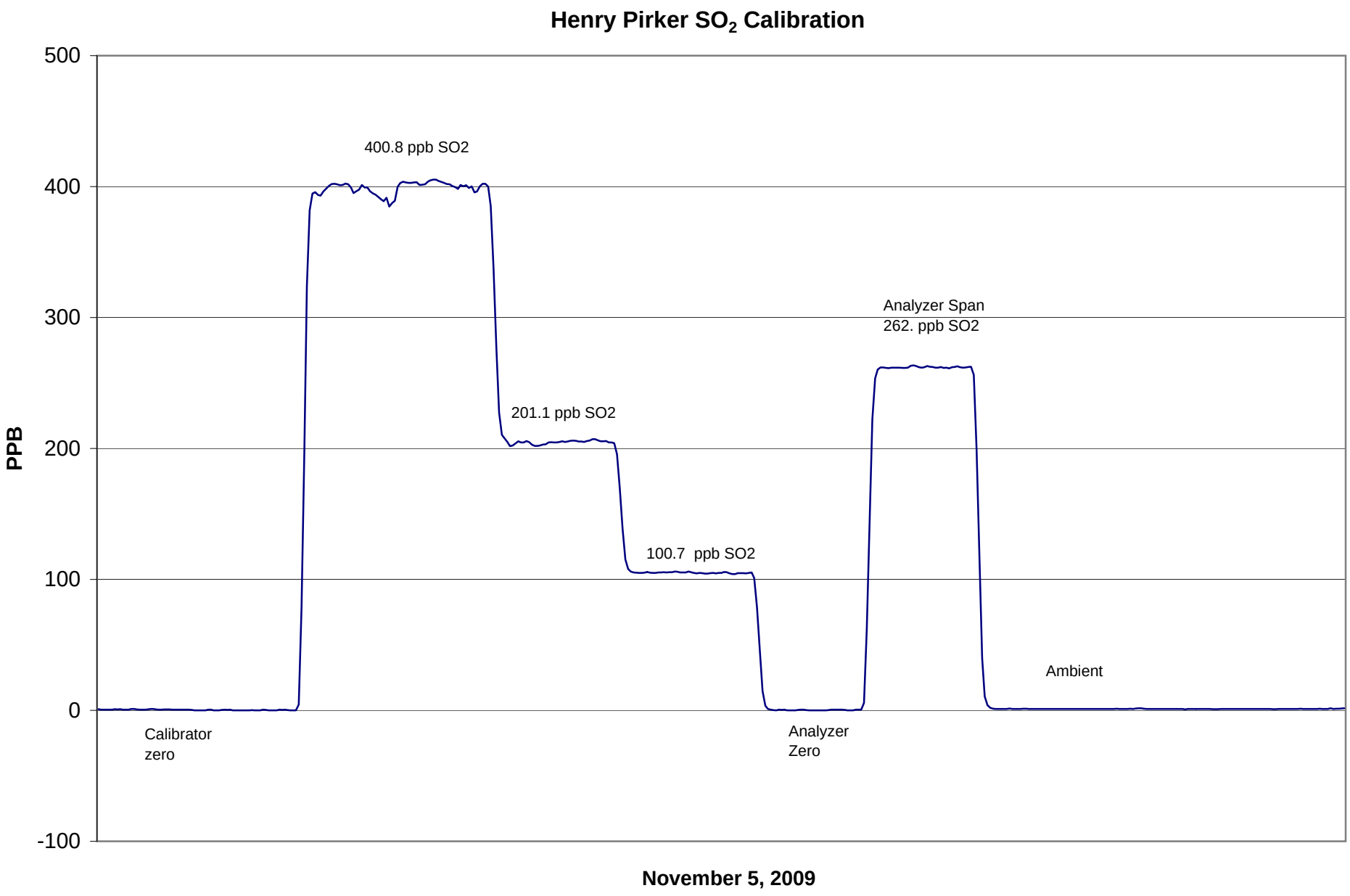
Station Information

Calibration Date	November 5, 2009	Previous Calibration	October 15, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:54	End Time (MST)	15:47
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	0.6	N/A		
400.8	401.2	0.9991	Correlation Coefficient	0.999858
201.1	204.8	0.9816		
100.7	105.0	0.9584	Slope	1.002763
			Intercept	-2.767206




Henry Pirker SO_2 Calibration
500
400
300
200
100
0
-100
PPB
400.8 ppb SO2
201.1 ppb SO2
100.7 ppb SO2
Analyzer Span
262. ppb SO2
Ambient
Calibrator
zero
Analyzer
Zero
November 5, 2009

Calibration Report

Parameter **TRS**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 8, 2009	Previous Calibration	October 17, 2009
Station Number	1	Station Location	Henry Pirker
Reason: Routine	Install	Removal	Other:
Start Time (MST)	10:10	End Time (MST)	12:57
Barometric Pressure	0.923 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	1.001331	Calculated slope	1.000817
Calculated intercept	-0.065148	Calculated intercept	-0.012110
Analyzer make	TEI 45C	Analyzer serial #	630718528

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Coefficient	0.835		.847	
Background	17.0		17.2	
Pressure	650.7	mm Hg	655.1	mm Hg
Flow	461	ccm	464	ccm
Lamp Voltage	848	V	848	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)
4988	0.00	0.00	-0.03	N/A
4988	79.83	80.34	80.33	1.0000
4988	39.81	40.38	40.23	1.0038
4988	9.92	10.12	10.25	0.9878
4988	0.00	0.00	-0.04	As Found Zero
4988	79.77	80.28	77.18	As Found Span
			Average Correction Factor	0.9972

Calculated value of As Found Response: 77.3 ppb Percent Change of As Found: 3.8%

	before calibration		after calibration	
Auto zero	-0.29	ppb	0.11	ppb
Auto span	27.12	ppb	27.00	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **TRS**

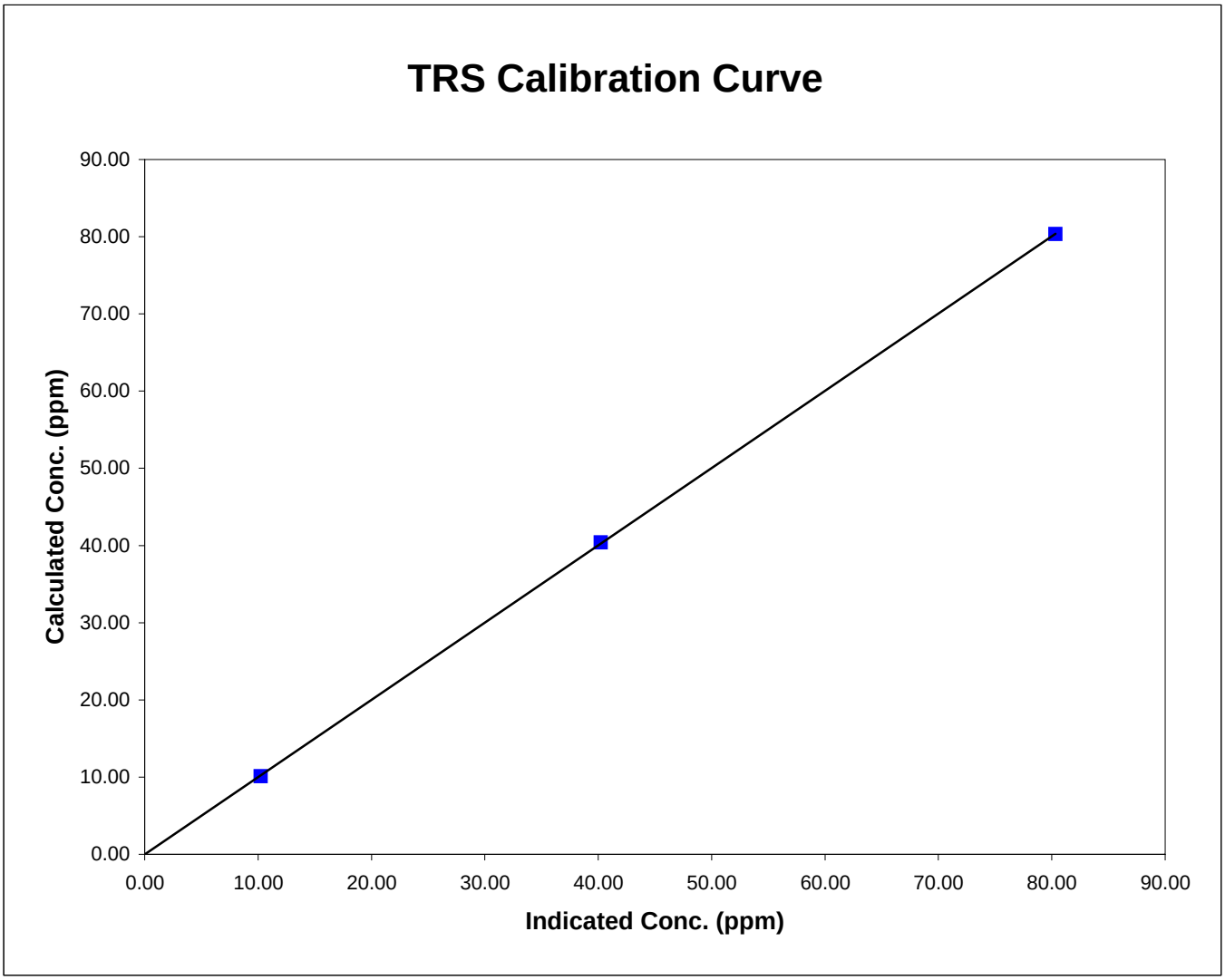
Air Monitoring Network **PASZA**

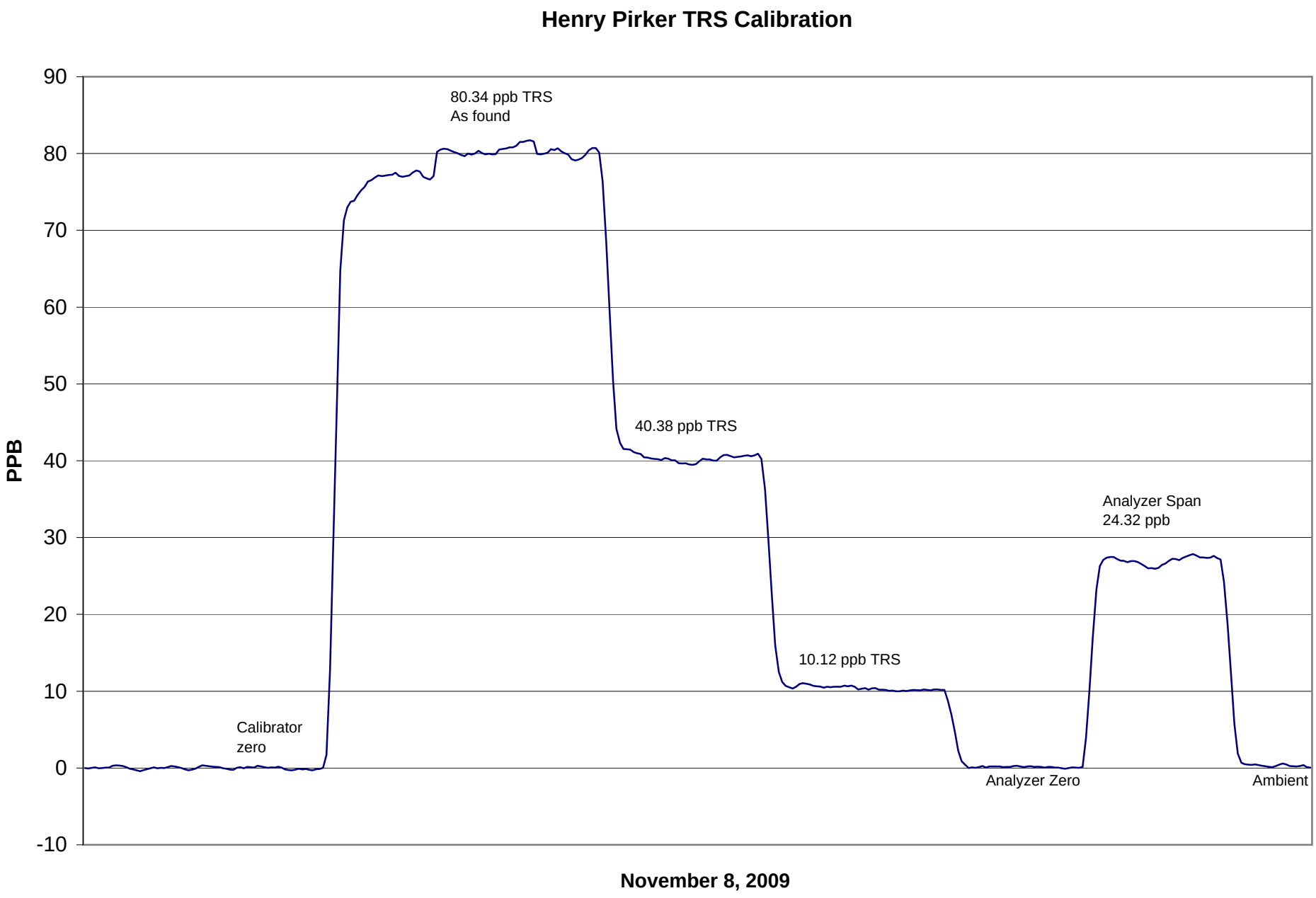
Station Information

Calibration Date	November 8, 2009	Previous Calibration	October 17, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:10	End Time (MST)	12:57
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	-0.027	N/A		
80.337	80.335	1.0000	Correlation Coefficient	0.999991
40.382	40.227	1.0038		
10.123	10.248	0.9878	Slope	1.000817
			Intercept	-0.012110




Henry Pirker TRS Calibration
PPB
90
80
70
60
50
40
30
20
10
0
-10
80.34 ppb TRS
As found
40.38 ppb TRS
10.12 ppb TRS
Analyzer Span
24.32 ppb
Calibrator
zero
Analyzer Zero
Ambient
November 8, 2009

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 5, 2009	Previous Calibration	October 15, 2009
Station Number	1	Station Location	Henry Pirker

Reason: **Routine** Installation Removal Other:

Start Time (MST)	11:54		End Time (MST)	16:38	
Barometric Pressure	0.910	Atm	Station Temperature	25.0	Deg C
Calibrator	Environics		Serial Number	3474	
NO Cal Gas Conc	49.6	ppm	Cal Gas Expiry Date	June 8, 2008	
NOx Cal Gas Conc	49.6	ppm	Cal Gas Serial #	AAL 15377	

DACS Information

DACS make: Focus AP1000 DACS serial No.:

Parameter		NO2	NOx	NO
Before	Data Slope	1.000314	1.003953	1.004884
	Data Offset	-0.138155	-2.526037	-2.626780
After	Data Slope	0.997445	1.004540	1.003656
	Data Offset	-0.433103	-2.863358	-2.244783
Channel #		8	6	7
Voltage Range		0 - 10 VDC	0 - 10 VDC	0 - 10 VDC

Analyzer Information

Analyzer make/model: TEI 42C Analyzer serial #: 508011073

Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	8.9	mV	9.1	mV
NOx bkgnd	9.2	mV	9.4	mV
NO coefficient	0.692		0.705	
NOx coefficient	1.002		1.002	
NO2 conv temp	319.0	Deg C	319.0	Deg C
PMT Temp	-2.5	Deg C	-2.5	Deg C
PMT Volt	-786.0	mV	-787.0	mV
R Cell Press	164.5	in Hg	163.4	in Hg
Sample Flow	0.763	ccm	0.759	ccm

Notes:

Calibration Report

Parameter **NOx-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: November 5, 2009 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	4989	0.00	0.0	0.0	0.0	0.6	0.0	0.5	N/A	N/A
1	4991	39.85	392.9	392.9	0.0	392.8	392.5	0.2	1.0003	1.0010
2	4991	19.87	196.7	196.7	0.0	199.9	199.4	0.5	0.9840	0.9864
3	4991	9.91	98.3	98.3	0.0	102.9	102.4	0.6	0.9548	0.9599
AFZ	4991	0.00	0.0	0.0	0.0	0.8	0.0	0.6	0.0000	0.0000
AFS	4991	39.84	392.8	392.8	0.0	385.6	384.5	1.1	1.0186	1.0215
							Average Correction Factor		0.9797	0.9824

As Found Concentrations: NO_X= 382.3 NO= 381.9 As Found Percent Change NO_X= -2.7% NO= -2.8%

GPT Calibration Data

Dilution Flow 4989 ccm Source Gas Flow 39.84 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	0.0	0.0	0.0	0.6	0.0	0.5	N/A	N/A	N/A	N/A
NO point	392.3	392.3	0.0	393.1	392.3	0.5	0.9981	1.0000	N/A	N/A
300	392.3	191.6	200.7	393.0	191.6	201.8	0.9985	1.0000	0.9946	100.5%
200	392.3	258.2	134.1	392.8	258.2	134.7	0.9988	1.0000	0.9955	100.5%
100	392.3	315.6	76.8	392.7	315.6	77.3	0.9991	1.0000	0.9929	100.7%
					Average Correction Factor		0.9988	1.0000	0.9943	100.6%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.1	0.0	0.0	ppb	0.1	0.1	0.0	ppb
Auto span	154.9	153.6	1.2	ppb	171.5	170.6	1.0	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PASZA**

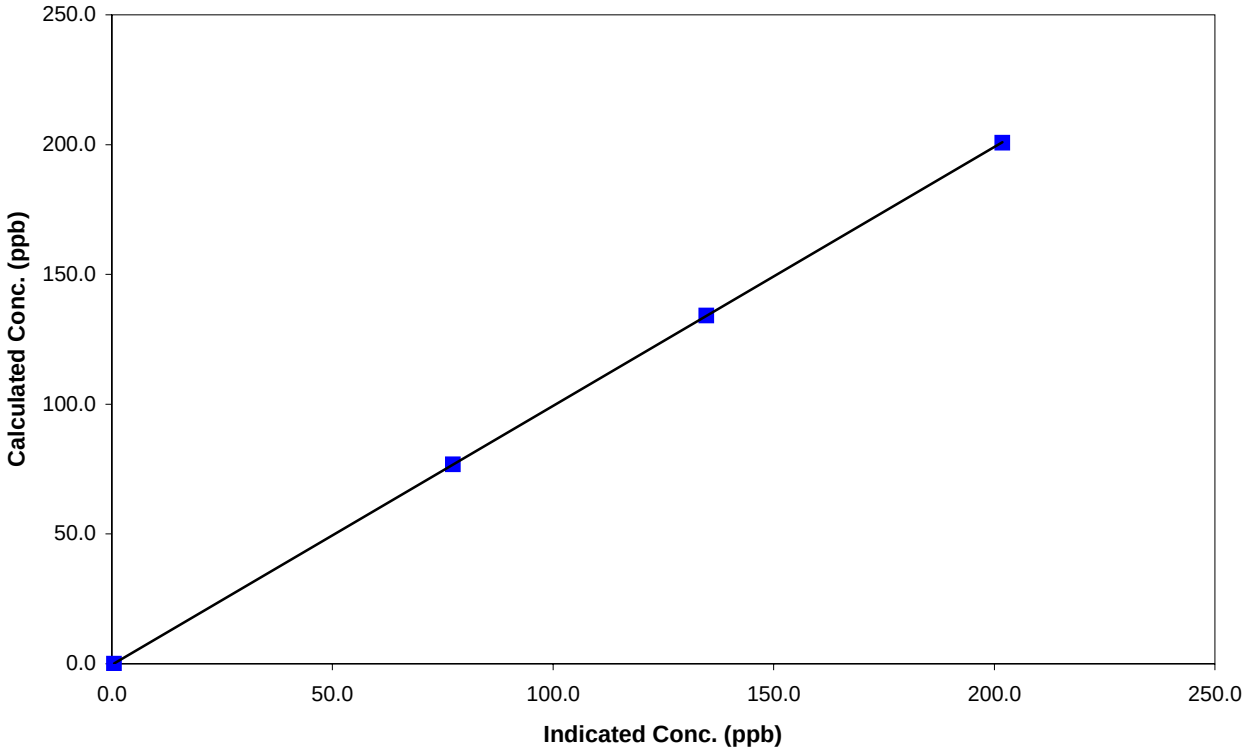
Station Information

Calibration Date	November 5, 2009	Previous Calibration	October 15, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:54	End Time (MST)	16:38
Analyzer make	TEI 42C	Analyzer serial #	508011073

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.5	N/A		
200.7	201.8	0.9946	Correlation Coefficient	0.999997
134.1	134.7	0.9955		
76.8	77.3	0.9929	Slope	0.997445
			Intercept	-0.433103

NO_2 Calibration Curve



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PASZA**

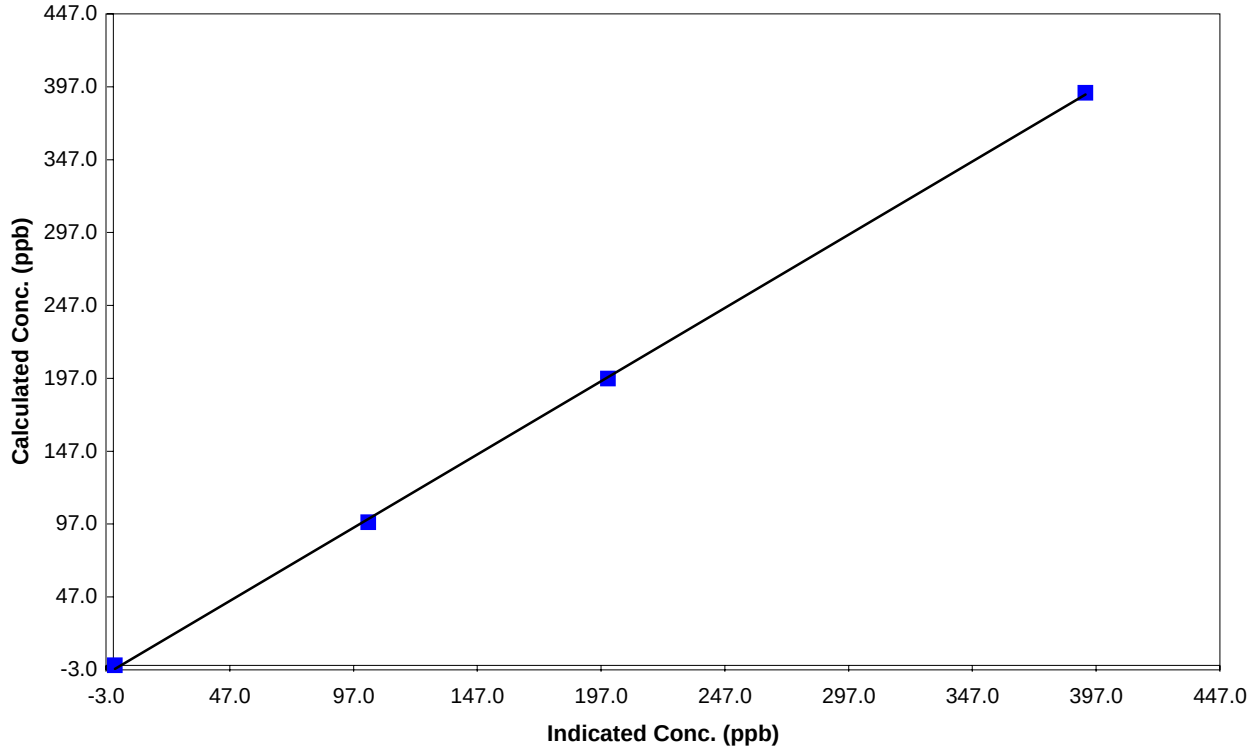
Station Information

Calibration Date	November 5, 2009	Previous Calibration	October 15, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:54	End Time (MST)	16:38
Analyzer make	TEI 42C	Analyzer serial #	508011073

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.6	N/A		
392.9	392.8	1.0003	Correlation Coefficient	0.999843
196.7	199.9	0.9840		
98.3	102.9	0.9548	Slope	1.004540
			Intercept	-2.863358

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PASZA**

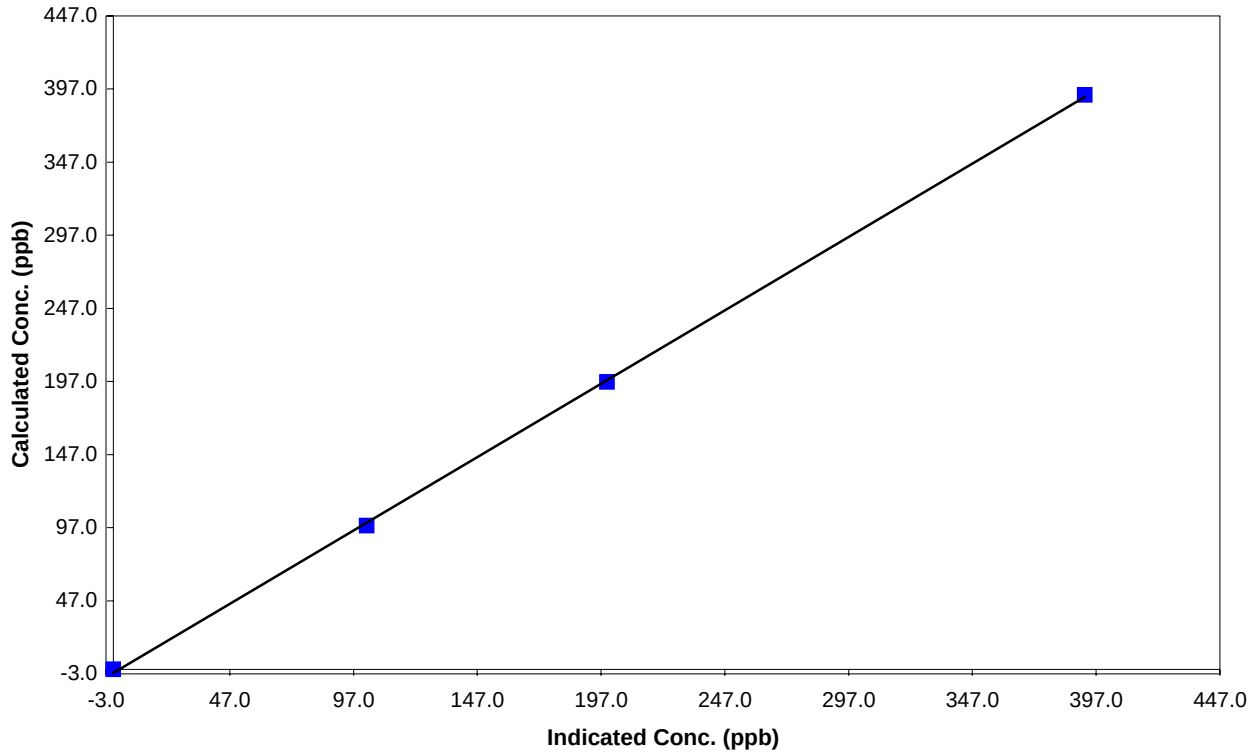
Station Information

Calibration Date	November 5, 2009	Previous Calibration	October 15, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:54	End Time (MST)	16:38
Analyzer make	TEI 42C	Analyzer serial #	508011073

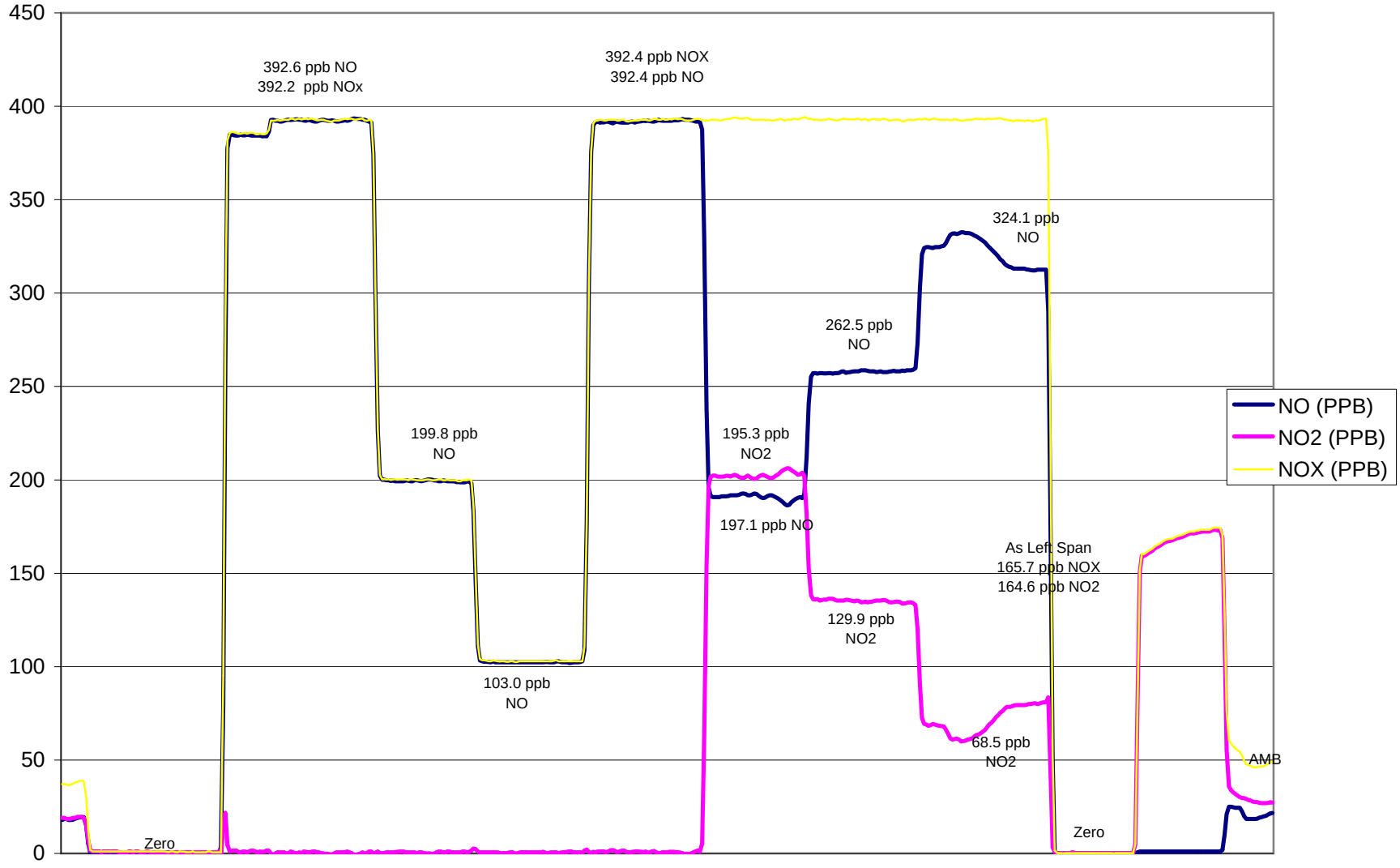
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
392.9	392.5	1.0010	Correlation Coefficient	0.999847
196.7	199.4	0.9864		
98.3	102.4	0.9599	Slope	1.003656
			Intercept	-2.244783

NO Calibration Curve



Henry Pirker NO_X Calibration



November 5, 2009

Calibration Report

Parameter **O3**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 5, 2009	Previous Calibration	October 15, 2009
Station Number	1	Station Location	Henry Pirker
Reason: Routine	Install	Removal	Other:
Start Time (MST)	15:50:00 PM	End Time (MST)	18:10
Barometric Pressure	0.931 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	0.994874	Calculated slope	0.862538
Calculated intercept	0.505078	Calculated intercept	1.494055
Analyzer make	TECO 49C	Analyzer serial #	607415761

	before		after	
Concentration range	500	ppb	500	ppb
offset	-1.0	ppb	-1.3	ppb
slope	1.014		1.014	
O3 Lamp temp	71.1	Deg C	71	Deg C
Intensities	91845/76847	mV	90903/75527	mV
Pressure	681.4	inches Hg	661.2	inches Hg
Flow A	0.700	ccm	0.716	ccm
Flow B	0.720	Deg C	0.727	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	4991	0.0	0.1	N/A
300	4991	200.7	230.1	0.8723
200	4991	134.0	157.4	0.8514
100	4991	76.8	82.6	0.9298
0	4991	0.0	0.2	As found zero
300	4991	200.7	230.1	As found span
			Average Correction Factor	0.8845

Calculated value of As Found Response: 229.1 ppm Percent Change of As Found: 14.2%

	before calibration		after calibration	
Auto zero	0.3	ppb	0.3	ppb
Auto span	160.6	ppb	155.6	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **O3**

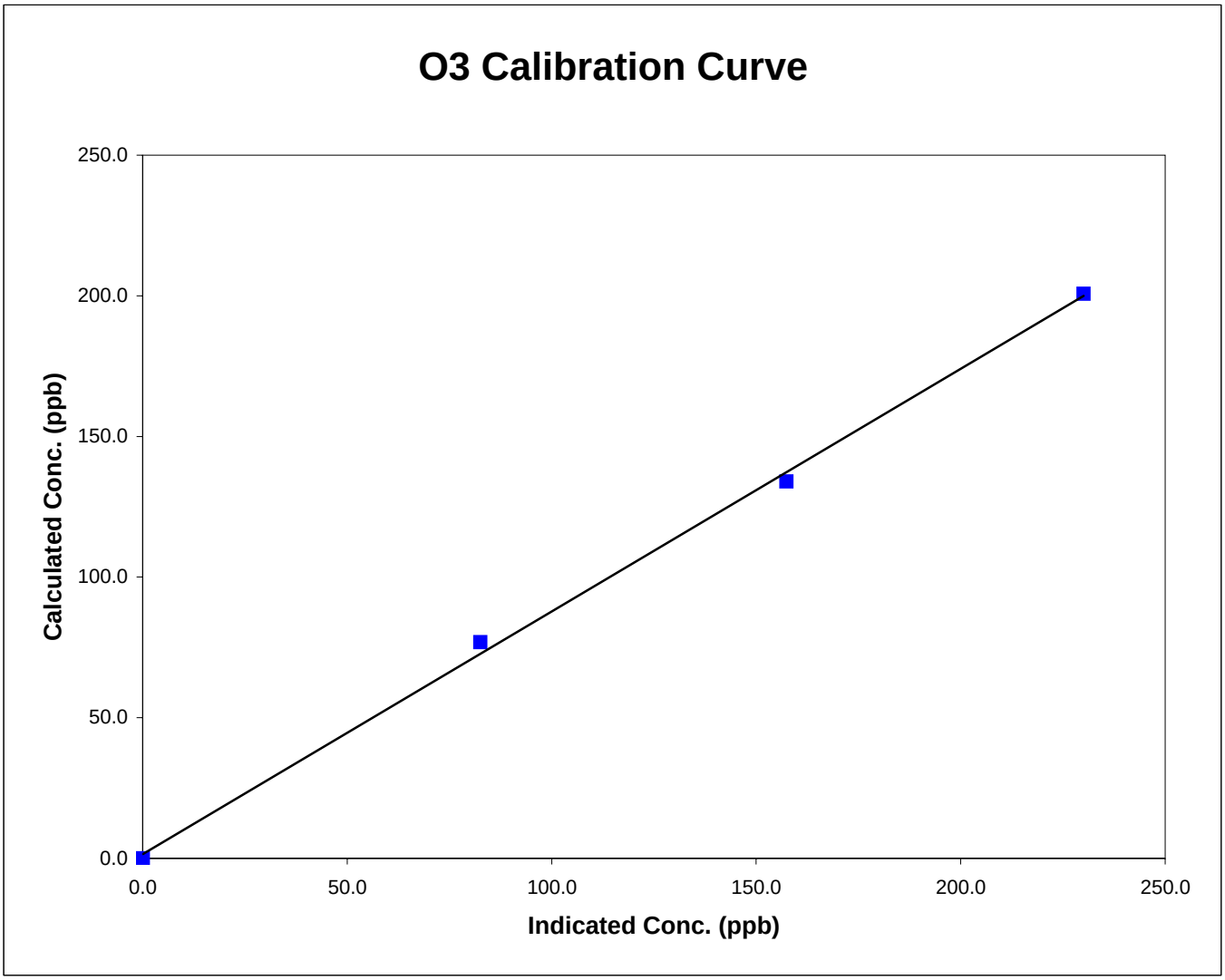
Air Monitoring Network **PASZA**

Station Information

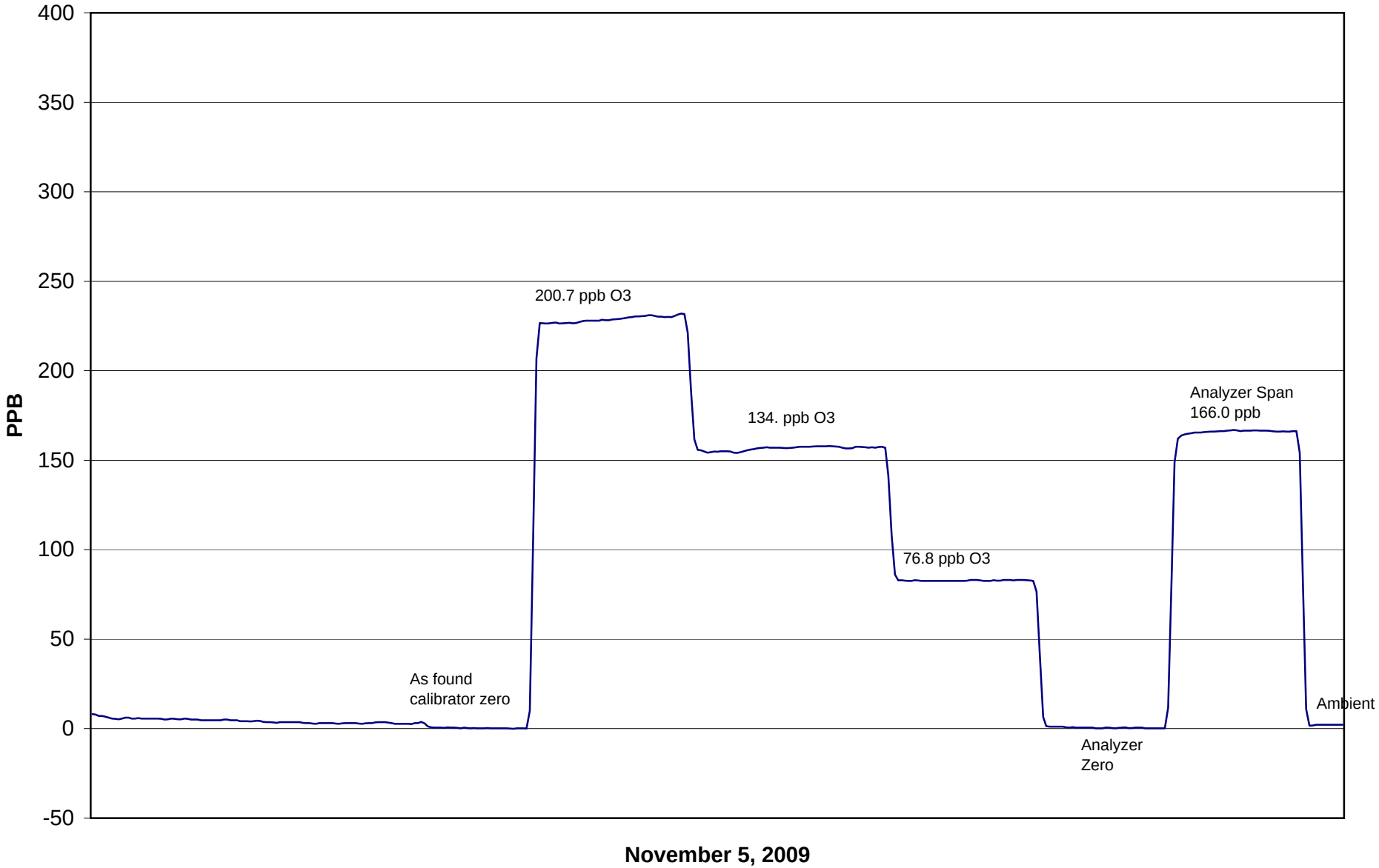
Calibration Date	November 5, 2009	Previous Calibration	October 15, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	15:50:00 PM	End Time (MST)	
Analyzer make/model	TECO 49C	Analyzer serial #	607415761

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	NA		
200.7	230.1	0.8723	Correlation Coefficient	0.998618
134.0	157.4	0.8514		
76.8	82.6	0.9298	Slope	0.862538
			Intercept	1.494055



Henry Pirker O_3 Calibration



Calibration Report

Parameter **CO**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 8, 2009	Previous Calibration	October 17, 2009
Station Number	1	Station Location	Henry Pirker
Reason: Routine	Install	Removal	Other:
Start Time (MST)	12:08	End Time (MST)	15:22
Barometric Pressure	0.929 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	1.016983	Calculated slope	1.017246
Calculated intercept	-0.142541	Calculated intercept	-0.334835
Analyzer make	TEI Model 48C	Analyzer serial #	508011062

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO span setting	1.044		1.054	
CO zero setting	7.194		7.599	
Sample pressure	679.3	mm Hg	681.3	mm Hg
Sample Flow	1.131	LPM	1.134	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)
4991	0.00	0.00	0.39	N/A
4991	39.85	23.76	23.72	1.0019
4991	19.88	11.90	12.00	0.9918
4991	9.94	5.96	6.13	0.9721
4990	0.00	0.00	0.18	As Found Zero
4991	39.85	23.76	23.37	As Found Span
			Average Correction Factor	0.9886

Calculated value of As Found Response: 23.441 ppm Percent Change of As Found: 1.4%

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	18.92	ppm	18.86	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **CO**

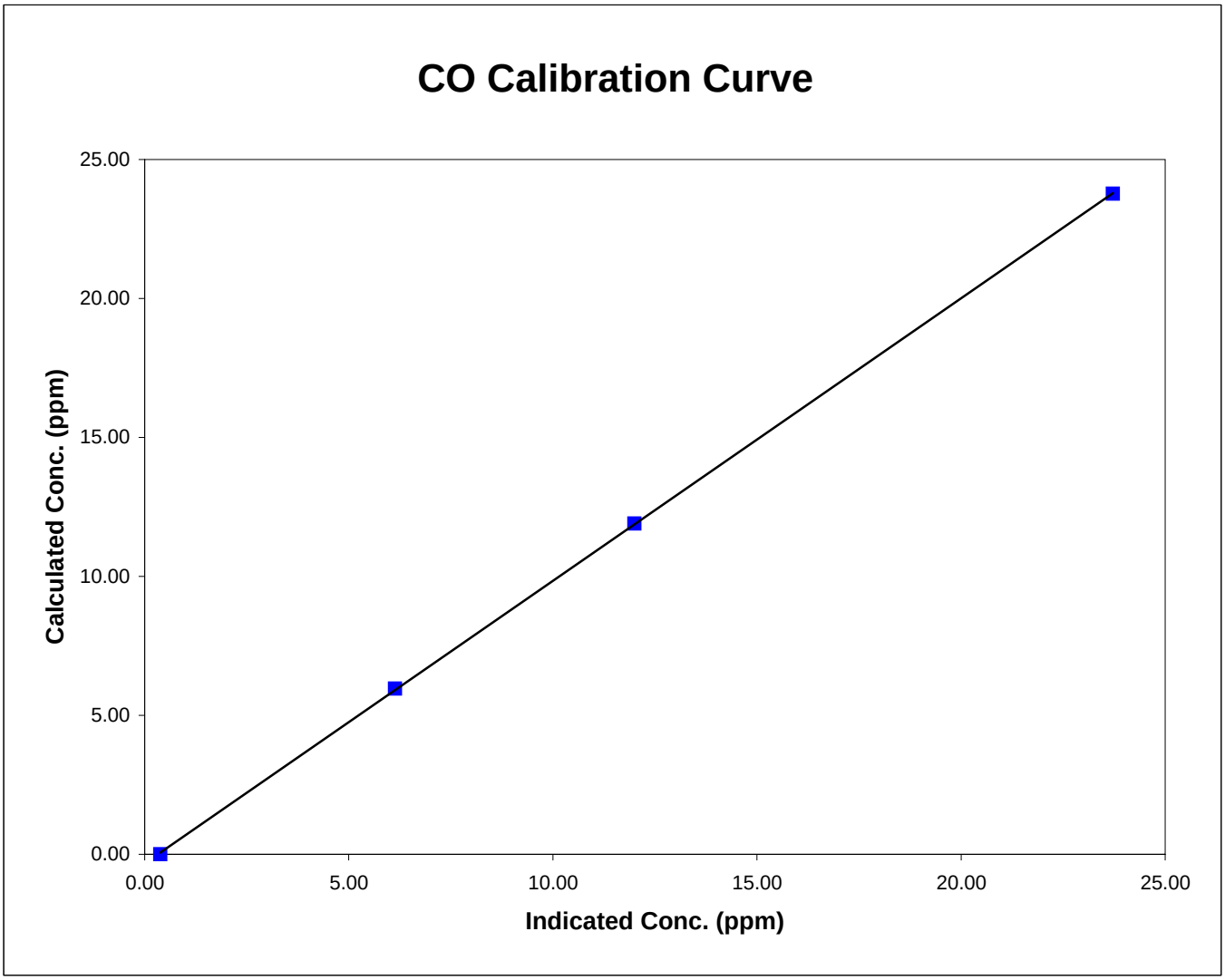
Air Monitoring Network **PASZA**

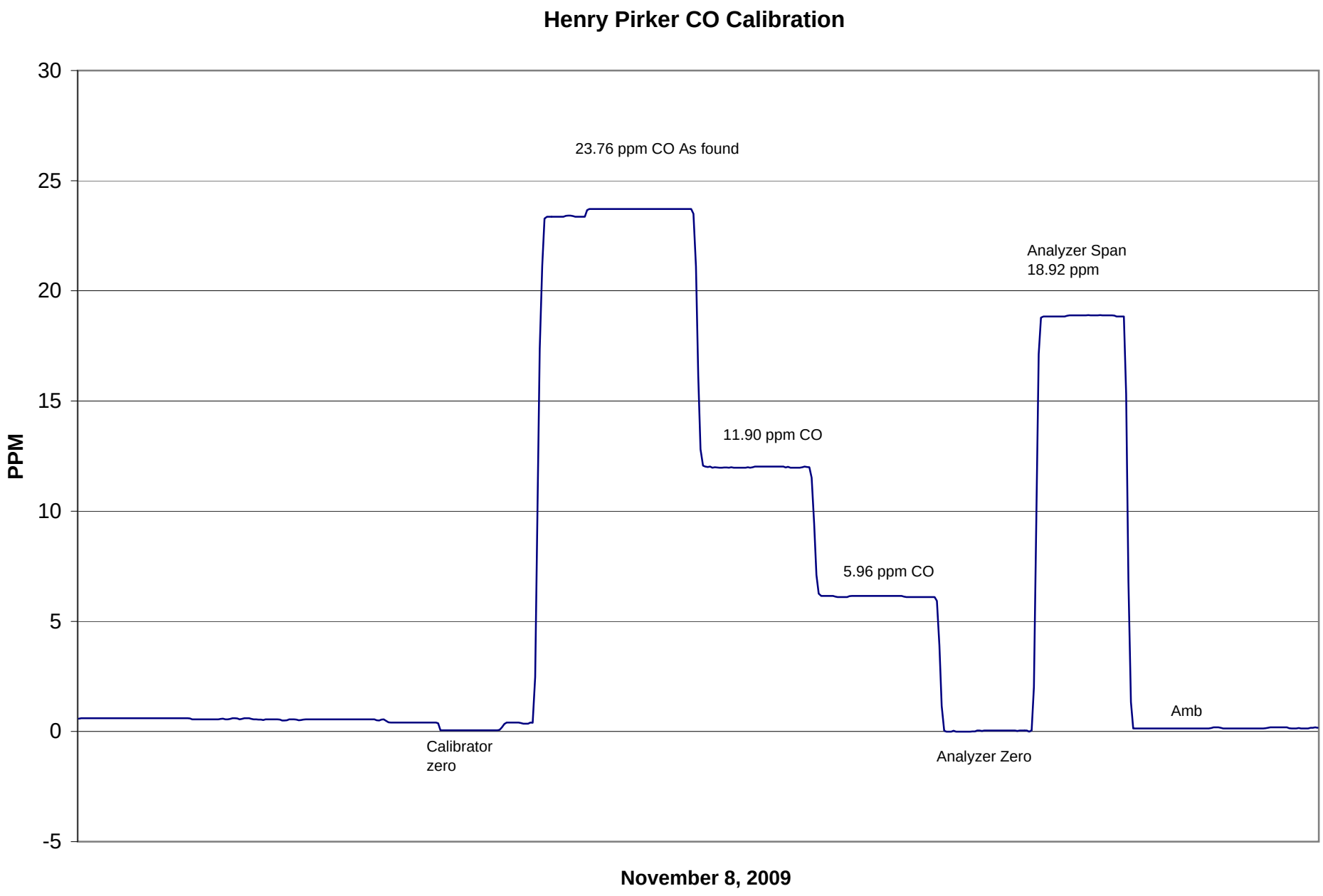
Station Information

Calibration Date	November 8, 2009	Previous Calibration	October 17, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:08	End Time (MST)	15:22
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	0.387	N/A		
23.763	23.718	1.0019	Correlation Coefficient	0.999973
11.902	12.001	0.9918		
5.960	6.131	0.9721	Slope	1.017246
			Intercept	-0.334835




Henry Pirker CO Calibration
30
25
20
15
10
5
0
-5
PPM
23.76 ppm CO As found
Analyzer Span
18.92 ppm
11.90 ppm CO
5.96 ppm CO
Amb
Calibrator
zero
Analyzer Zero
November 8, 2009

Calibration Report

Parameter **THC**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 23, 2009	Previous Calibration	October 17, 2009
Station Number	1	Station Location	Henry Pirker
Reason: Routine	Install	Removal	Other:
Start Time (MST)	15:10	End Time (MST)	17:39
Barometric Pressure	0.925 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	2/4/2010
Cal Gas CH4 equiv	1523.25 ppm	Cal Gas Cylinder #	ALM 004476
DACS make	Focus AP1000	DACS serial No.	1
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	1.009624	Calculated slope	1.028802
Calculated intercept	0.083386	Calculated intercept	-0.024193
Analyzer make	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

	before		after	
Concentration range	0 - 25	ppm	0 - 25	ppm
THC sample pressure	6.50	psi	6.50	psi
THC span counts	9615	capture		capture
THC zero counts	431	capture		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	0.05	N/A
4990	69.50	20.92	20.40	1.0256
4989	29.94	9.09	8.75	1.0386
4988	9.92	3.02	3.01	1.0051
4988	0.00	0.00	0.05	As Found Zero
4988	69.82	21.03	20.40	As Found Span
			Average Correction Factor	1.0231

Calculated value of As Found Response: 20.635 ppm Percent Change of As Found: 1.9%

	before calibration		after calibration	
Auto zero	0.10	ppm	0.00	ppm
Auto span	21.34	ppm	21.62	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **THC**

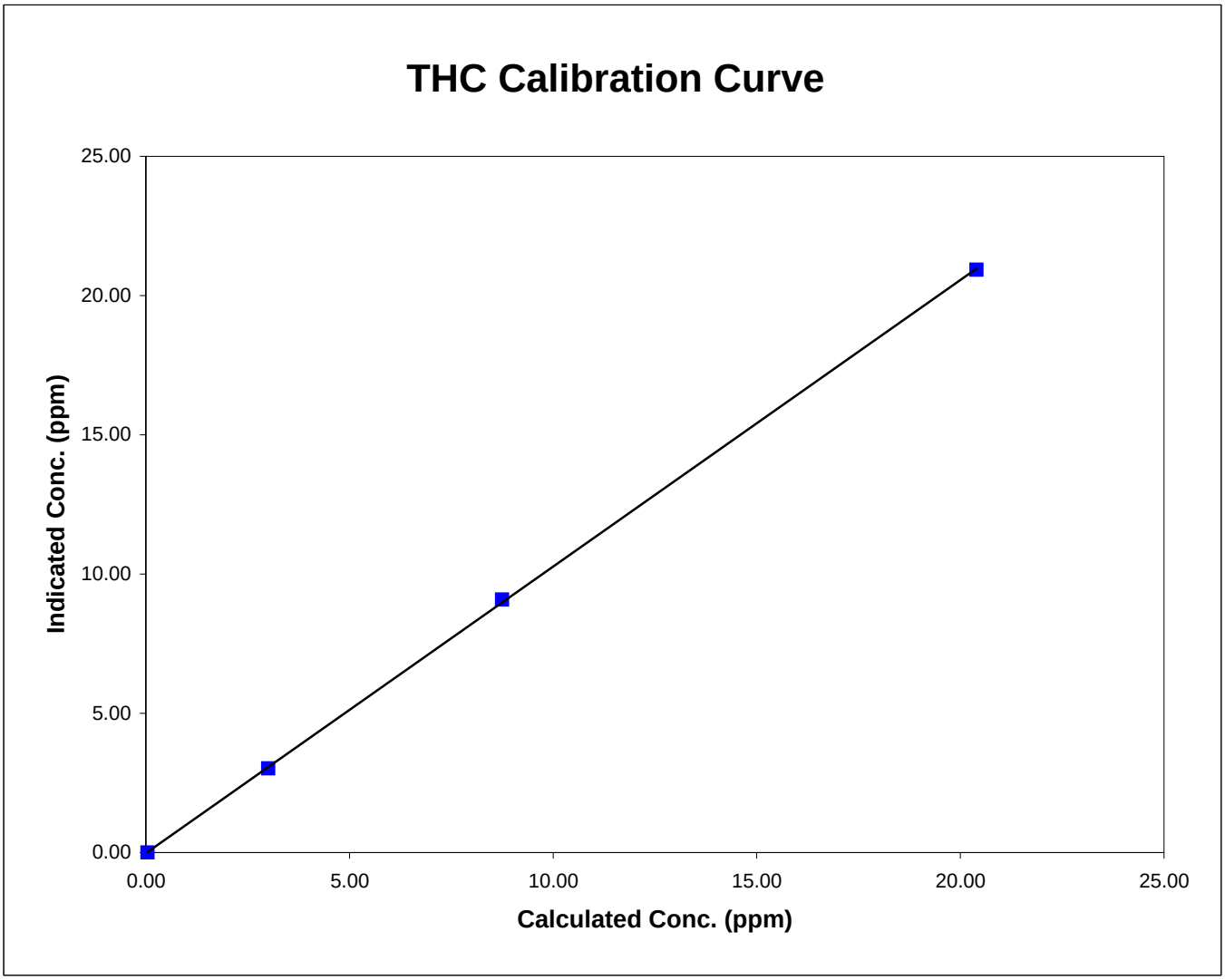
Air Monitoring Network **PASZA**

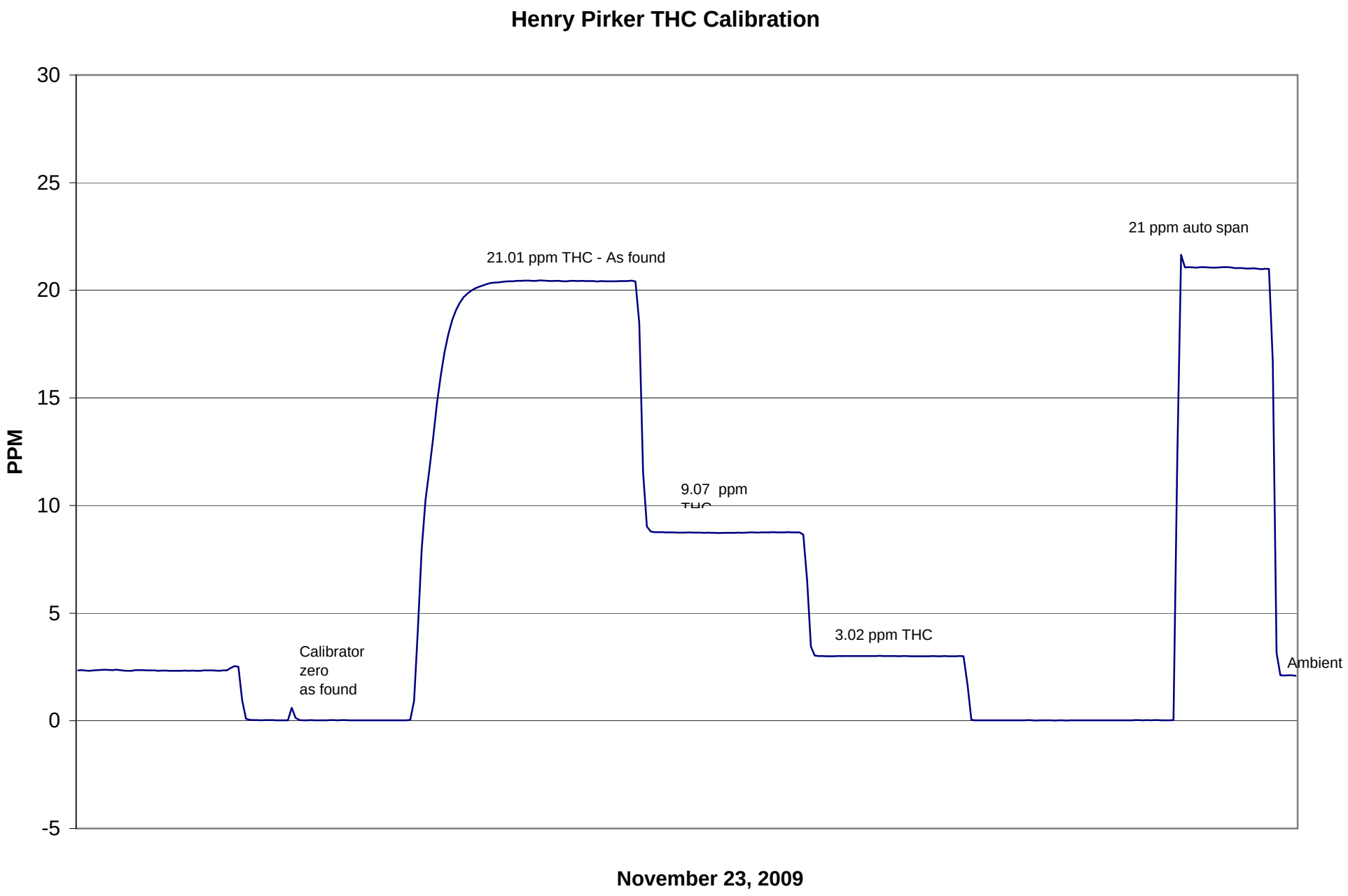
Station Information

Calibration Date	November 23, 2009	Previous Calibration	October 17, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	15:10	End Time (MST)	17:39
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	0.046	N/A		
20.924	20.401	1.0256	Correlation Coefficient	0.999936
9.087	8.749	1.0386		
3.023	3.008	1.0051	Slope	1.028802
			Intercept	-0.024193




Henry Pirker THC Calibration
30
25
20
15
10
5
0
-5
PPM
21.01 ppm THC - As found
21 ppm auto span
9.07 ppm
3.02 ppm THC
Calibrator
zero
as found
Ambient
November 23, 2009

Calibration Report

Parameter **SO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 21, 2009	Previous Calibration	October 25, 2009
Station Number	2	Station Location	Evergreen Park
Reason: Routine	Install	Removal	Other:

Start Time (MST)	11:40	End Time (MST)	14:15
Barometric Pressure	0.925 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentratior	50.6 ppm	Cal Gas Expiry Date	1/2/2009
Correction factor	0.031443	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	1.001658	Calculated slope	1.003442
Calculated intercept	-2.081025	Calculated intercept	-2.264644

Analyzer make	Teco 43i	Analyzer serial #	701120008

	before		after	
Concentration range	0 - 1000	ppb	0 - 1000	ppb
Background	10.5		10.5	
coefficient	1.034		1.034	
Lamp Voltage	834	volts	830	volts
Chamber Temp	45	Deg C	45.3	Deg C
Perm Gas Temp	45	Deg C	44.99	Deg C
Pressure	658	mm Hg	658.3	mm Hg
Sample Flow	446	ccm	447	ccm
Lamp Intensity	90	%	90	%

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	0.0	N/A
4989	39.85	400.97	400.6	1.0008
4989	19.88	200.83	203.7	0.9859
4989	9.93	100.51	104.6	0.9613
4990	0.0	0.00	0.9	As Found Zero
4988	39.82	400.75	400.6	As Found Span
			Average Correction Factor	0.9827

Calculated value of As Found Response: 398.327 ppm Percent Change of As Found: 0.6%

	before calibration		after calibration	
Auto zero	0.7	ppm	0.9	ppm
Auto span	272.0	ppm	276.6	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

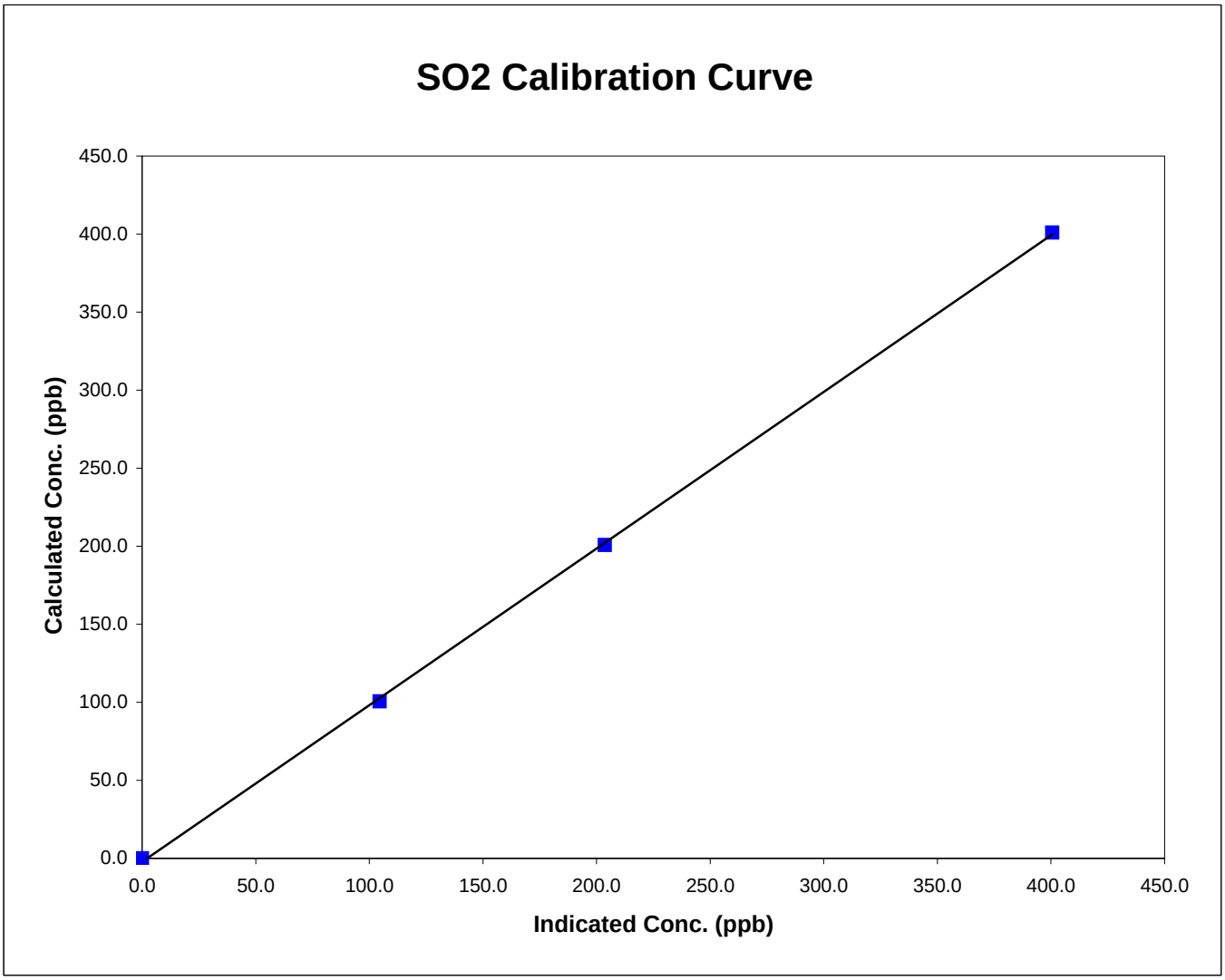
Air Monitoring Network **PASZA**

Station Information

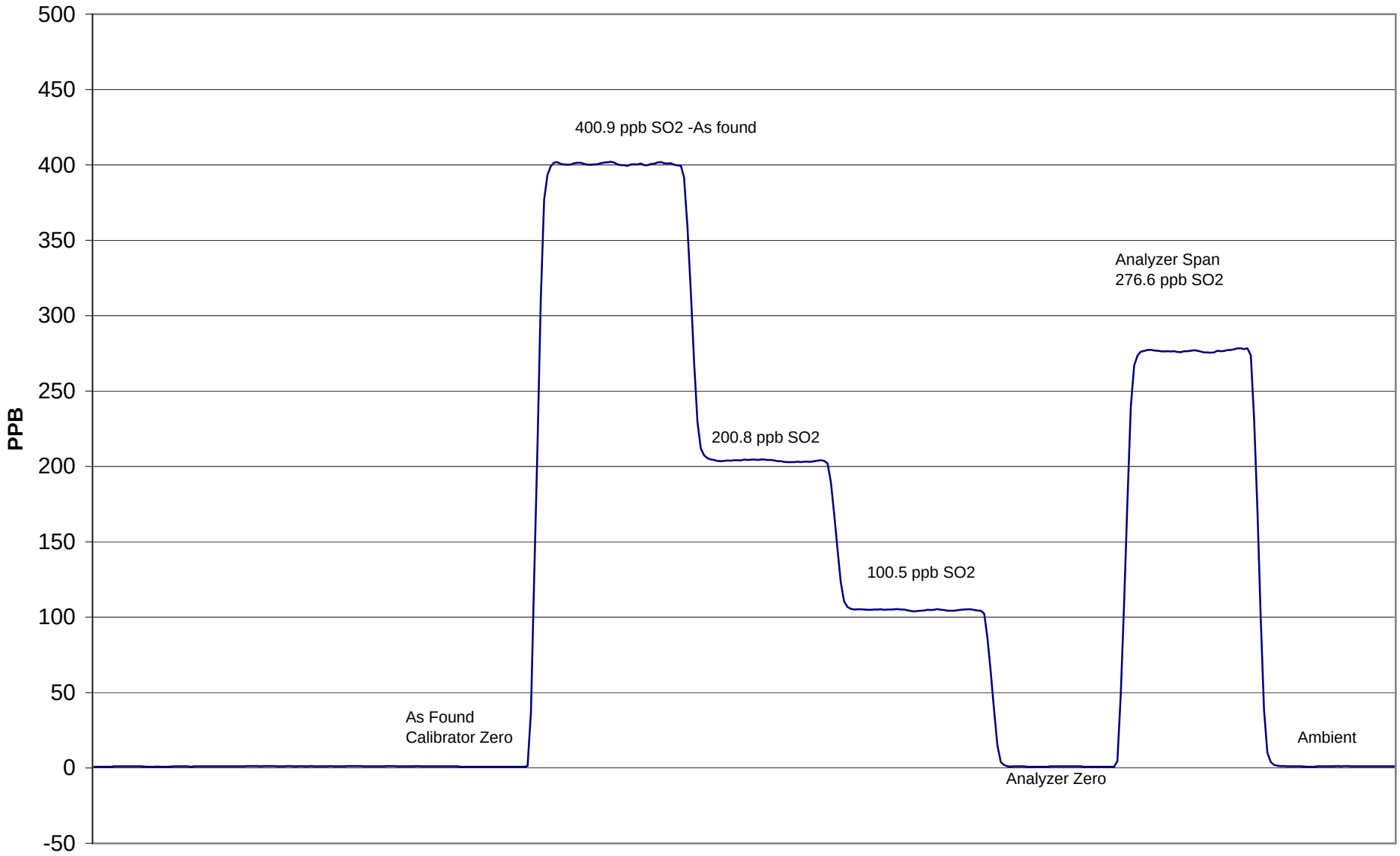
Calibration Date	November 21, 2009	Previous Calibration	October 25, 2009
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	11:40	End Time (MST)	14:15
Analyzer make/model	Teco 43i	Analyzer serial #	701120008

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
401.0	400.6	1.0008	Correlation Coefficient	0.999855
200.8	203.7	0.9859		
100.5	104.6	0.9613	Slope	1.003442
			Intercept	-2.264644



Evergreen Park SO_2 Calibration



November 21, 2009

Calibration Report

Parameter **TRS**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 21, 2009	Previous Calibration	October 25, 2009
Station Number	2	Station Location	Evergreen Park
Reason: Routine	Install	Removal	Other:

Start Time (MST)	13:16	End Time (MST)	15:38
Barometric Pressure	0.917 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	0.031171	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	1.001395	Calculated slope	1.002132
Calculated intercept	-0.190446	Calculated intercept	-0.331791

Analyzer make	TEI Model 43C	Analyzer serial #	436610005

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	15.8	ppb	15.8	ppb
coefficient	0.889		0.889	
Lamp Voltage	819	volts	817	volts
Chamber Temp	44.3	Deg C	44.3	Deg C
Perm Gas Temp	45	Deg C	45.3	Deg C
Pressure	634.7	mm Hg	632.8	mm Hg
Sample Flow	0.476	ccm	0.475	ccm
Lamp Intensity	45,634	mv	45,443	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
4991	79.78	80.24	80.3	0.9987
4991	39.87	40.42	40.7	0.9923
4990	9.89	10.09	10.6	0.9548
4990	0.00	0.00	0.0	As Found Zero
4987	79.91	80.43	80.5	As Found Span
			Average Correction Factor	0.9819

Calculated value of As Found Response: 80.43 ppm Percent Change of As Found: 0.0%

	before calibration		after calibration	
Auto zero	-0.5	ppm	-0.2	ppm
Auto span	67.0	ppm	62.2	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **TRS**

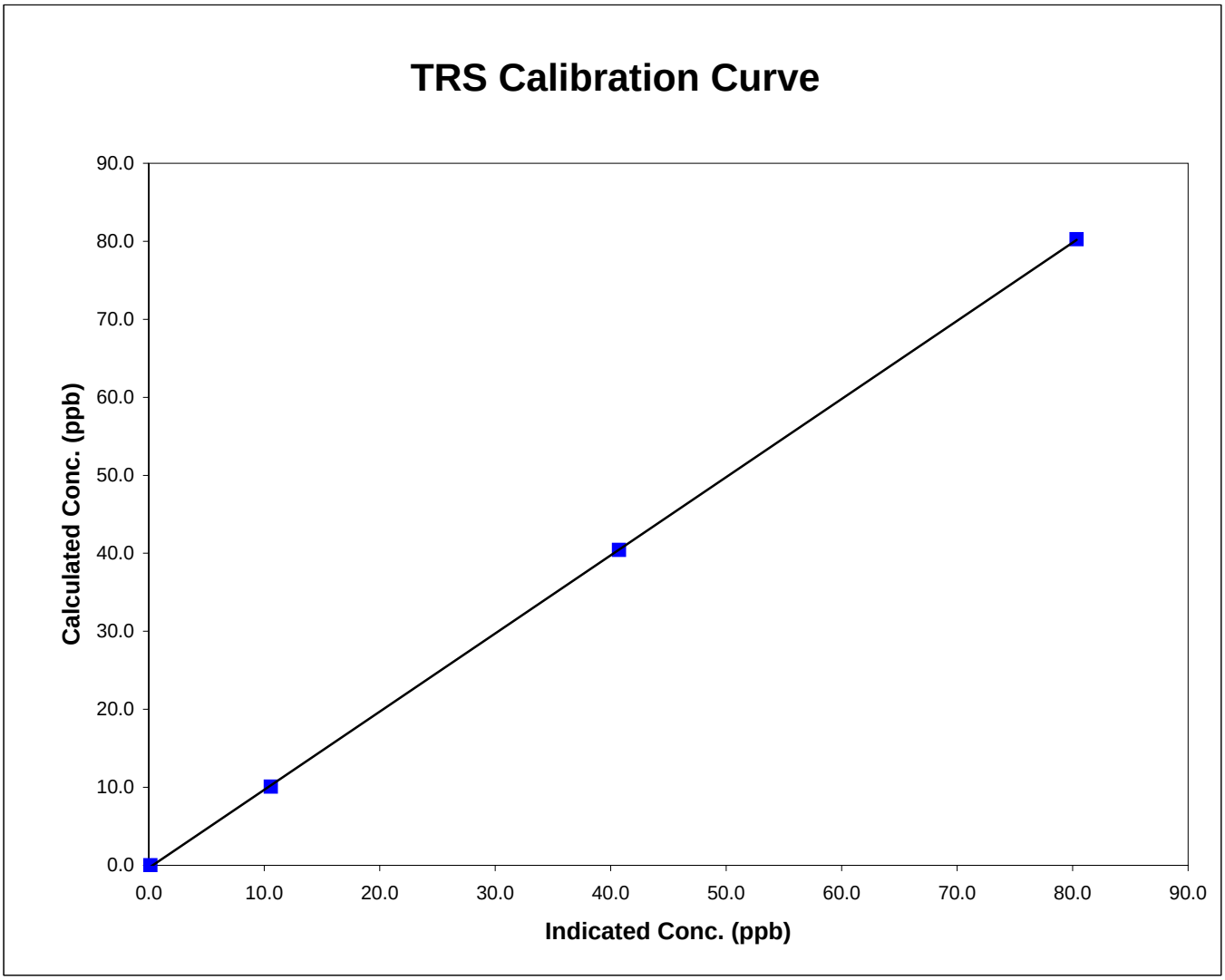
Air Monitoring Network **PASZA**

Station Information

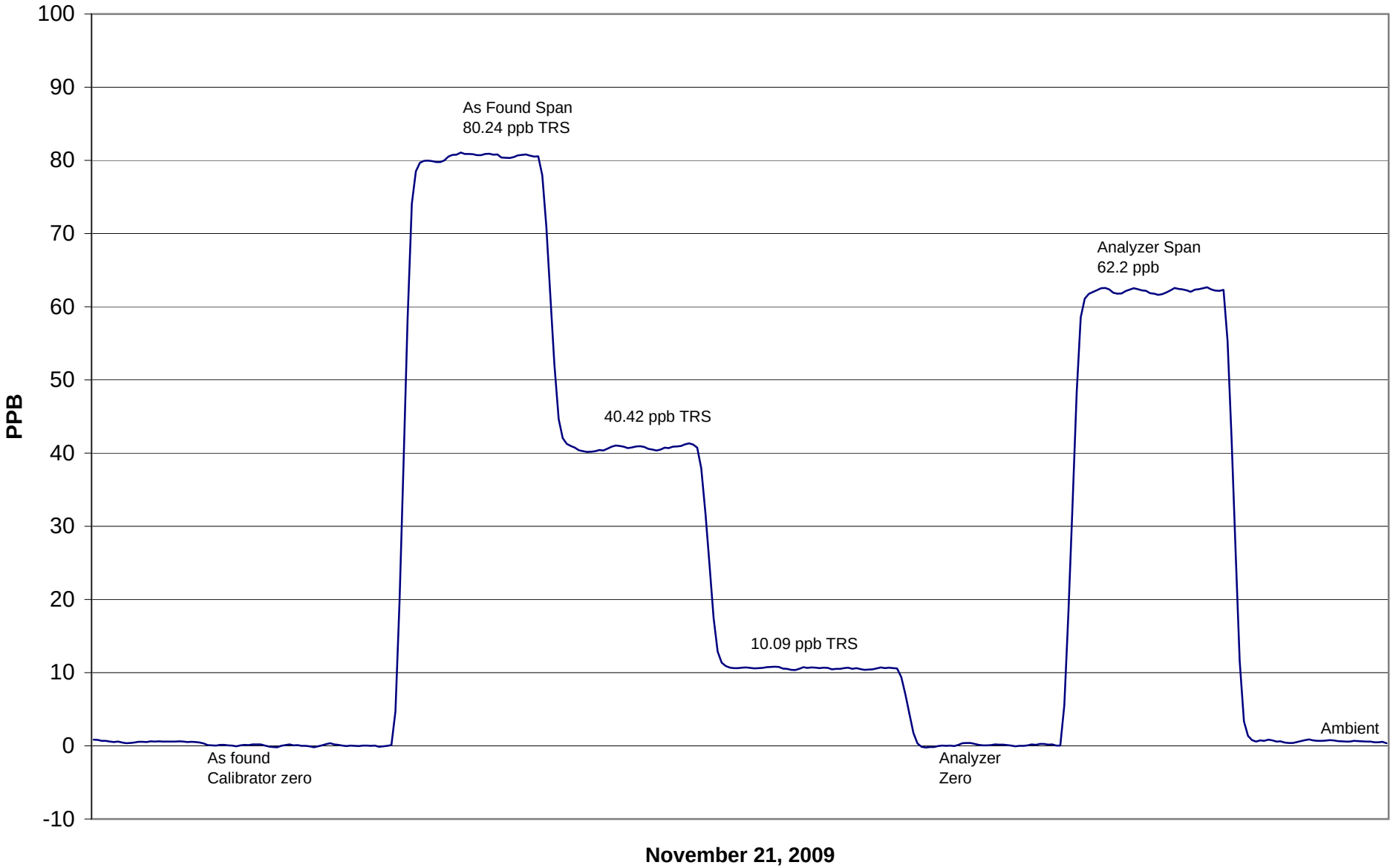
Calibration Date	November 21, 2009	Previous Calibration	October 25, 2009
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	13:16	End Time (MST)	15:38
Analyzer make/model	TEI Model 43C	Analyzer serial #	436610005

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
80.2	80.3	0.9987	Correlation Coefficient	0.999982
40.4	40.7	0.9923		
10.1	10.6	0.9548	Slope	1.002132
			Intercept	-0.331791



Evergreen Park TRS Calibration



PERFORMANCE AUDIT
OF
PM 2.5 MONITOR

STATION: Evergreen Park OPERATOR: Grover Christiansen DATE: 21-Nov-09

LOCATION: PASZA - Grande Prairie

MONITOR INFO / PARAMETER VALUES:

Make/Model	TEOM
Configuration	PM2.5
Serial Number	140AB215519705
Site Number	2
Inlet Type	PM 10 / SCC
FAdj. Main Setting	1.000
FAdj. Aux. Setting	1.000
T-Case Indicated / Set Point	40/40
T-Air Indicated / Set Point	40/40
T-Cap Indicated / Set Point	40/40
Splitter Assembly Alignment (cm)	15.5

(vs. specified depth of 15.5 cm from top of flow tube to top of concentric 1/2 in. tube)

RECENT CALIBRATION AND AUDIT HISTORY

Audit	21-Nov-09
Audit	
Calibration	

PUMP CAPACITY CHECK *	PASS

* capacity to maintain flow rate at or near set point at simulated 90% filter loading. "FAIL" indicates that pump requires service.

LEAK CHECK	Indicated Flow (lpm)	
	Main	Auxiliary
PUMP ON	-0.05	-0.11
PUMP OFF	-0.06	-0.24
NET	0.01	0.13
LIMITS	***<0.15***	***<0.65***

	Ambient Temp. (^{0} C)	Ambient Pres. (atm)	Ko *	Bypass flow (lpm)	Sample flow (lpm)
SET POINT (S)	na	na	10124	13.67	3.00
INDICATED (I)	1.2	0.918	10124	13.67	3.00
MEASURED (M)	0.8	0.913	10022	13.70	3.005
	(M - I)		(M - S) / S *100		
DIFFERENCE	-0.4	-0.005	-1.0	0.2	0.2
LIMITS	***± 2 ^{0} C***	***± 0.013 atm***	***± 2.5 %***	***± 10 %***	***± 10 %***

COMMENTS: Pass - Monitor is within limits.

Measured barometric pressure of 0925 mb = .913 converted to atm.

Both TEOM sample heads were cleaned.

Auditor: Grover Christiansen

Calibration Report

Parameter **SO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 26, 2009	Previous Calibration	October 29, 2009
Station Number	3	Station Location	Smoky Heights
Reason: Routine	Install	Removal	Other:

Start Time (MST)	10:15	End Time (MST)	13:13
Barometric Pressure	0.917 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentratior	50.6 ppm	Cal Gas Cert Date	6/8/2008
Correction factor	0.031171	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	1.004309	Calculated slope	1.006614
Calculated intercept	-1.812020	Calculated intercept	-1.942168

Analyzer make	Teco 43i	Analyzer serial #	701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	8.5		8.6	
coefficient	0.701		0.701	
Lamp Voltage	918	volts	919	volts
Chamber Temp	45.4	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	640.7	mm Hg	640.7	mm Hg
Sample Flow	424	ccm	423	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	0.2	N/A
4990	39.85	400.89	399.3	1.0040
4990	19.95	201.49	202.9	0.9930
4990	9.95	100.70	103.8	0.9704
4990	0.0	0.00	0.3	As Found Zero
4990	39.85	400.89	399.3	As Found Span
			Average Correction Factor	0.9891

Calculated value of As Found Response: 398.936 ppm Percent Change of As Found: 0.5%

	before calibration		after calibration	
Auto zero	0.7	ppb	0.7	ppb
Auto span	309.5	ppb	315.9	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

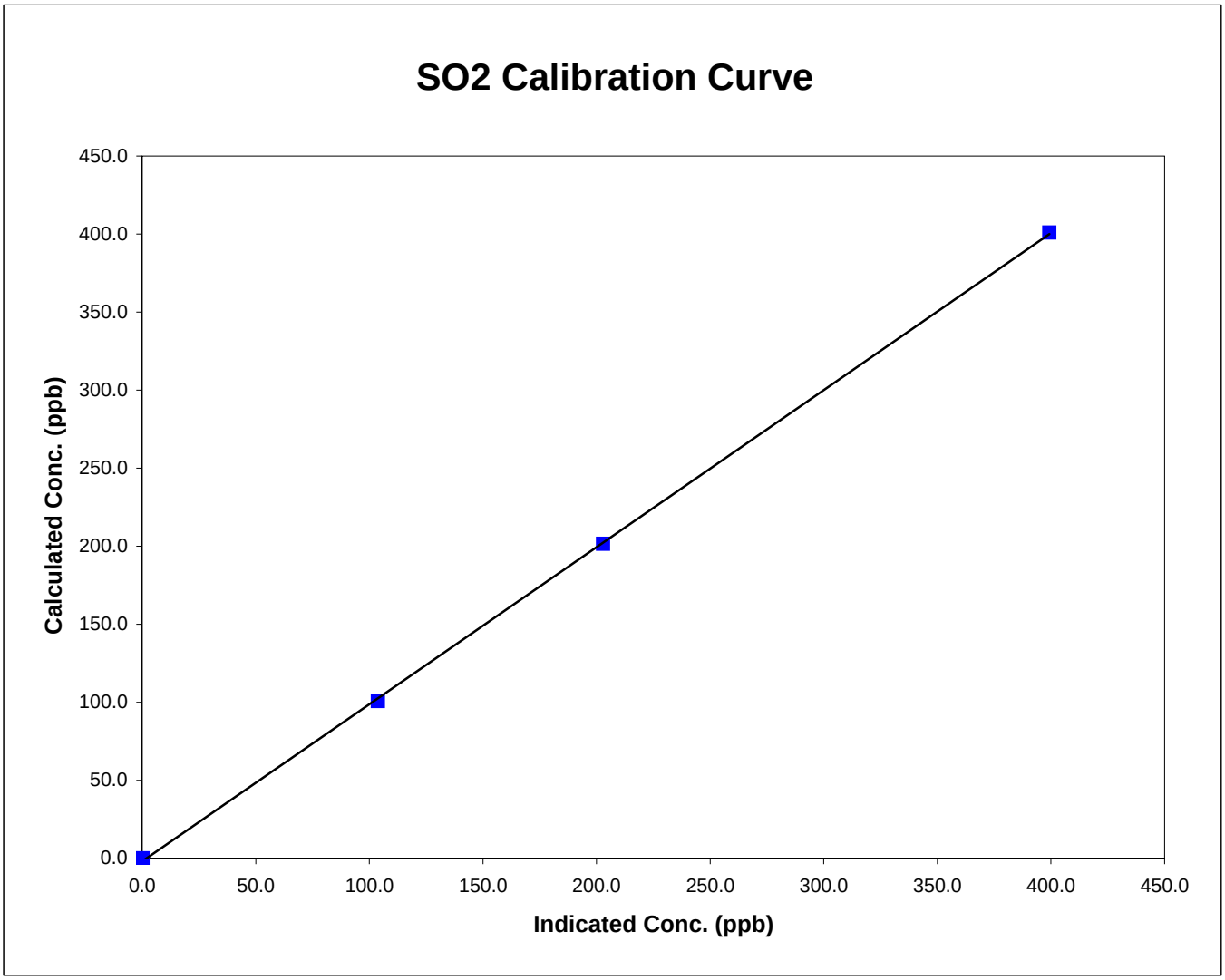
Air Monitoring Network **PASZA**

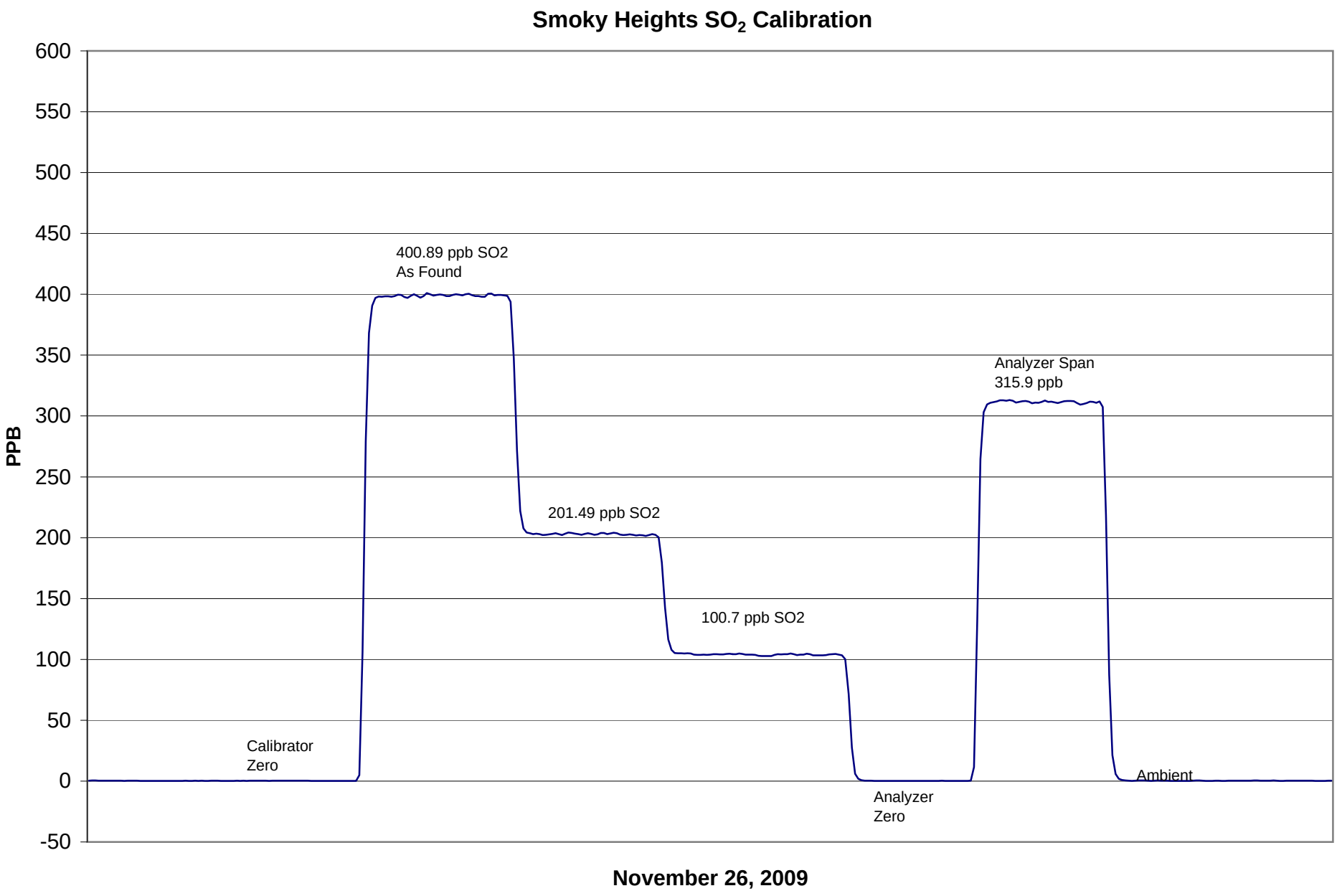
Station Information

Calibration Date	November 26, 2009	Previous Calibration	October 29, 2009
Station Number	3	Station Location	Smoky Heights
Start Time (MST)	10:15	End Time (MST)	13:13
Analyzer make/model	Teco 43i	Analyzer serial #	701120009

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
400.9	399.3	1.0040	Correlation Coefficient	0.999912
201.5	202.9	0.9930		
100.7	103.8	0.9704	Slope	1.006614
			Intercept	-1.942168




Smoky Heights SO_2 Calibration
600
550
500
450
400
350
300
250
200
150
100
50
0
-50
PPB
400.89 ppb SO2
As Found
201.49 ppb SO2
100.7 ppb SO2
Analyzer Span
315.9 ppb
Calibrator
Zero
Analyzer
Zero
Ambient
November 26, 2009

Calibration Report

Parameter **TRS**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 26, 2009	Previous Calibration	October 29, 2009
Station Number	3	Station Location	Smoky Heights
Reason: Routine	Install	Removal	Other:

Start Time (MST)	11:38	End Time (MST)	14:39
Barometric Pressure	0.917 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	0.031171	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	1.001368	Calculated slope	0.999133
Calculated intercept	-0.214765	Calculated intercept	-0.211652

Analyzer make	TEI Model 43C	Analyzer serial #	0436610005

	before		after	
Concentration range	100	ppb	100	ppb
Background	15	ppb	15	ppb
coefficient	1.043		1.043	
Lamp Voltage	765	volts	764	volts
Chamber Temp	43.9	Deg C	43.9	Deg C
Perm Gas Temp	45	Deg C	44.9	Deg C
Pressure	452.7	mm Hg	451.9	mm Hg
Sample Flow	693	ccm	693	ccm
Lamp Intensity	32,467	mv	32,291	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	0.3	N/A
4990	79.76	80.24	80.6	0.9958
4990	39.85	40.41	40.5	0.9965
4990	9.93	10.13	10.3	0.9822
4990	0.0	0.00	-0.2	As Found Zero
4990	79.71	80.19	80.6	As Found Span
			Average Correction Factor	0.9915

Calculated value of As Found Response: 80.71 ppm Percent Change of As Found: -0.7%

	before calibration		after calibration	
Auto zero	-0.4	ppm	-0.3	ppm
Auto span	41.7	ppm	42.9	ppm

Notes: No adj.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **TRS**

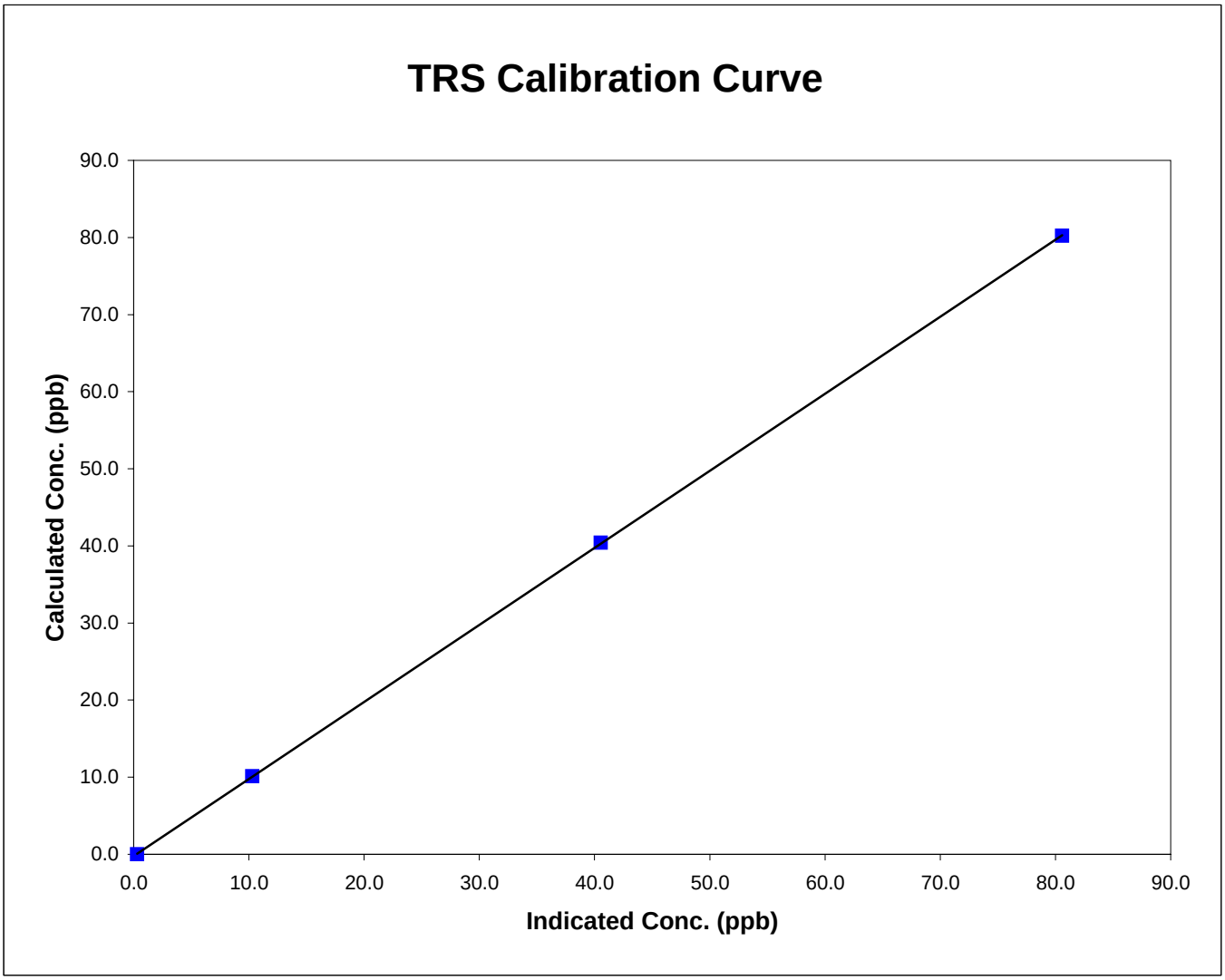
Air Monitoring Network **PASZA**

Station Information

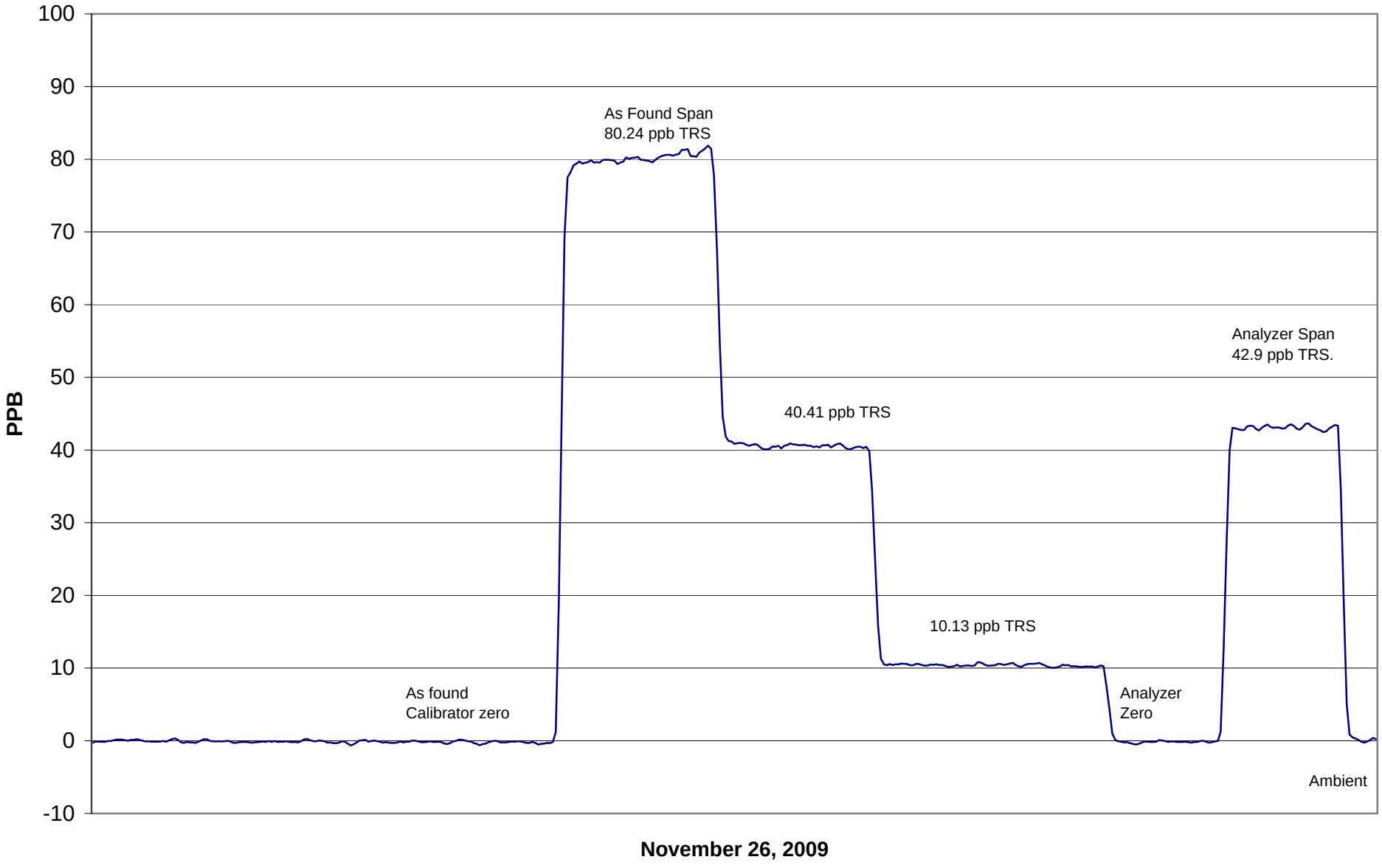
Calibration Date	November 26, 2009	Previous Calibration	October 29, 2009
Station Number	3	Station Location	Smoky Heights
Start Time (MST)	11:38	End Time (MST)	14:39
Analyzer make/model	TEI Model 43C	Analyzer serial #	0436610005

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A		
80.2	80.6	0.9958	Correlation Coefficient	0.999994
40.4	40.5	0.9965		
10.1	10.3	0.9822	Slope	0.999133
			Intercept	-0.211652



Smoky Heights TRS Calibration



PERFORMANCE AUDIT
OF
PM 2.5 MONITOR

STATION: Smoky Heights OPERATOR: Grover Christiansen DATE: 26-Nov-09

LOCATION: PASZA - Grande Prairie

MONITOR INFO / PARAMETER VALUES:

Make/Model	TEOM AB
Configuration	PM2.5
Serial Number	140AB246340306
Site Number	3
Inlet Type	PM 10 / SCC
FAdj. Main Setting	1.000
FAdj. Aux. Setting	1.025
T-Case Indicated / Set Point	40/40
T-Air Indicated / Set Point	40/40
T-Cap Indicated / Set Point	40/40
Splitter Assembly Alignment (cm)	15.5

(vs. specified depth of 15.5 cm from top of flow tube to top of concentric 1/2 in. tube)

RECENT CALIBRATION AND AUDIT HISTORY

Audit	26-Nov-09
Audit	
Calibration	

PUMP CAPACITY CHECK *	PASS

* capacity to maintain flow rate at or near set point at simulated 90% filter loading. "FAIL" indicates that pump requires service.

LEAK CHECK	Indicated Flow (lpm)	
	Main	Auxiliary
PUMP ON	-0.04	-0.18
PUMP OFF	-0.04	-0.18
NET	0.00	0.00
LIMITS	***<0.15***	***<0.65***

	Ambient Temp. (^{0} C)	Ambient Pres. (atm)	Ko *	Bypass flow (lpm)	Sample flow (lpm)
SET POINT (S)	na	na	12122	13.67	3.00
INDICATED (I)	-1.1	0.916	12122	13.67	3.00
MEASURED (M)	-1.0	0.917	12156	13.76	3.008
	(M - I)		(M - S) / S *100		
DIFFERENCE	0.1	0.001	0.3	0.7	0.3
LIMITS	***± 5 ^{0} C***	***± 0.013 atm***	***± 2.5 %***	***± 10 %***	***± 10 %***

COMMENTS: Pass - Monitor is within limits.

Measured barometric pressure of 0929 mbar = .917 converted to atm.

New sample pump installed. Both sample heads cleaned.

AUDITORS: Grover

Calibration Report

Parameter **SO2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 16, 2009	Previous Calibration	October 21, 2009
Station Number	4	Station Location	Beaverlodge
Reason: Routine	Install	Removal	Other:
Start Time (MST)	12:03	End Time (MST)	16:04
Barometric Pressure	0.896 atm	Station Temperature	23.0 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 #	5
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.001985	Calculated slope	0.996245
Calculated intercept	-0.271499	Calculated intercept	-0.219410
Analyzer make	TEI Model 43i-TLE	Analyzer serial #	713021137

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.5		2.53	
Coefficient	0.894		0.906	
PMT	-812.9	V	-812.9	V
UV Lamp Voltage	1066	V	1065	V
Chamber Temp	45	Deg C	45.1	Deg C
Pressure	652.2	mm Hg	655	mm Hg
Sample Flow	0.474	LPM	0.476	LPM
Lamp Intesity	85%	%	85%	%

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
4989	39.84	79.7	80.1	0.9956
4988	19.87	39.9	40.5	0.9853
4988	9.91	19.9	20.4	0.9757
4988	0.00	0.0	0.0	As found zero
4988	39.90	79.8	78.1	As found span
			Average Correction Factor	0.9855

Calculated value of As Found Response: 77.902 ppm Percent Change of As Found: 2.4%

	before calibration		after calibration	
Auto zero	-0.3	ppb	-0.2	ppb
Auto span	57.8	ppb	59.2	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

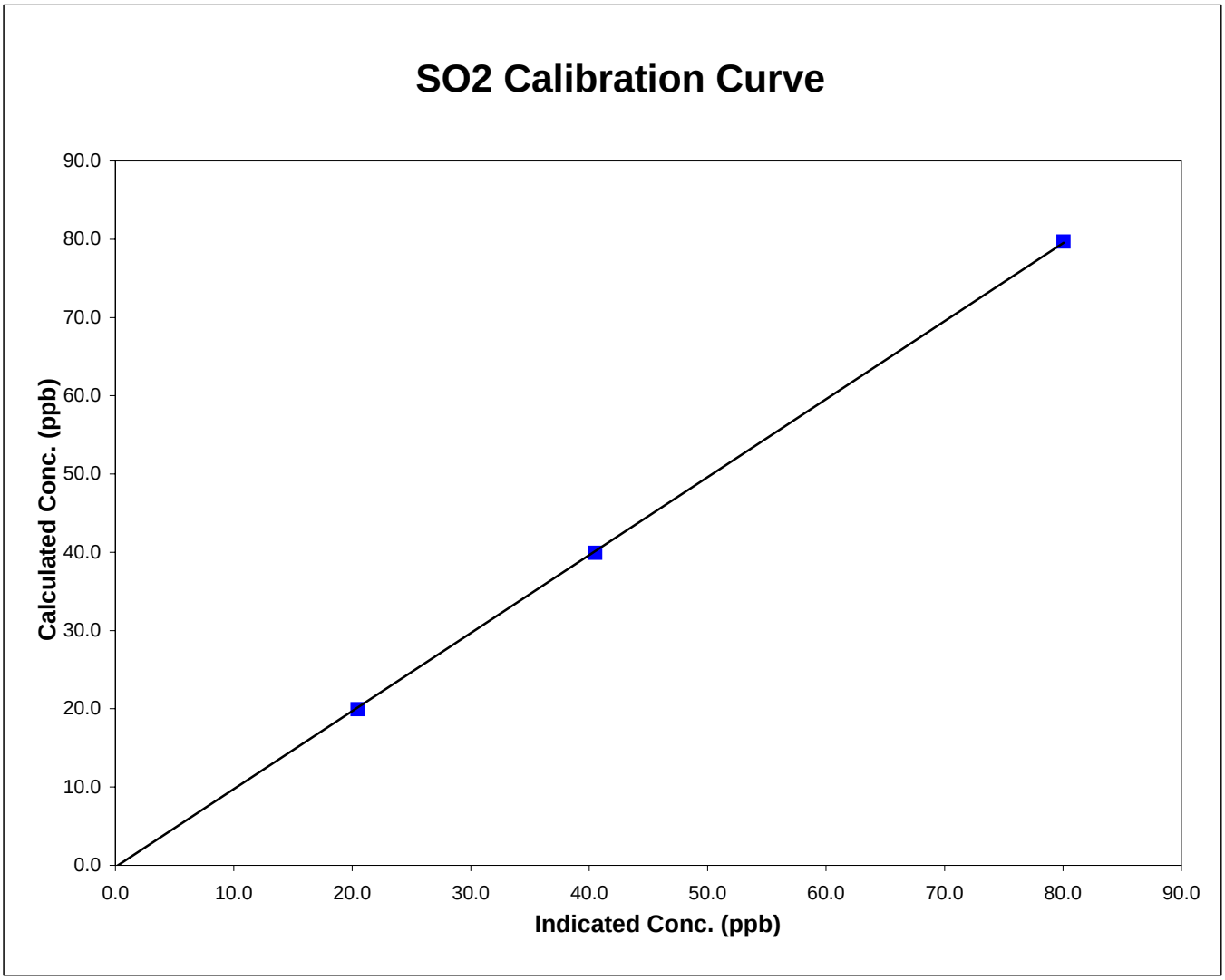
Air Monitoring Network **PASZA**

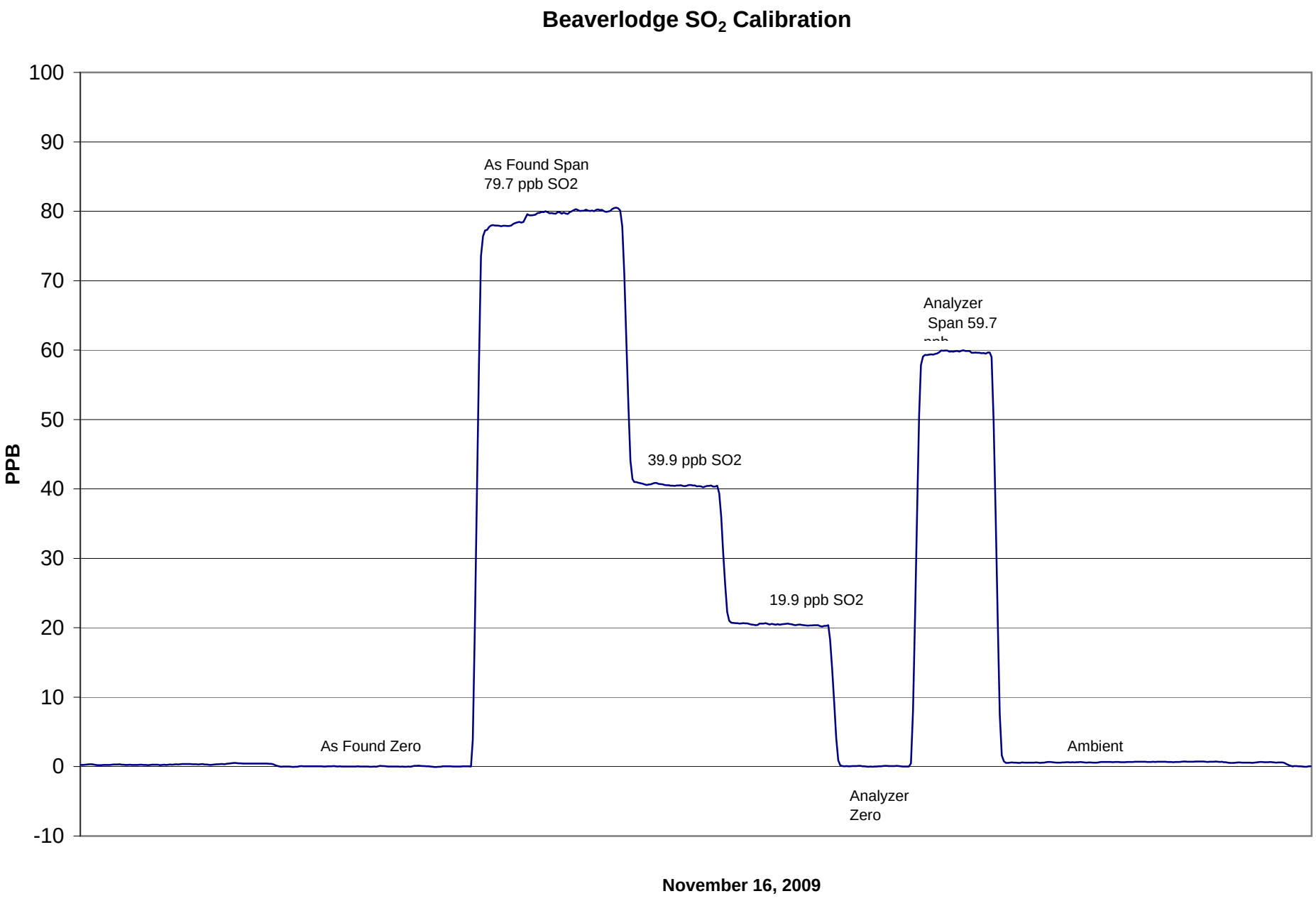
Station Information

Calibration Date	November 16, 2009	Previous Calibration	October 21, 2009
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	12:03	End Time (MST)	16:04
Analyzer make/model	TEI Model 43i-TLE	Analyzer serial #	713021137

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
79.7	80.1	0.9956	Correlation Coefficient	0.999947
39.9	40.5	0.9853		
19.9	20.4	0.9757	Slope	0.996245
			Intercept	-0.219410




Beaverlodge SO_2 Calibration
100
90
80
70
60
50
40
30
20
10
0
-10
PPB
As Found Span
79.7 ppb SO2
39.9 ppb SO2
19.9 ppb SO2
Analyzer
Span 59.7
As Found Zero
Analyzer
Zero
Ambient
November 16, 2009

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 16, 2009	Previous Calibration	October 21, 2009
Station Number	4	Station Location	BeaverLodge

Reason: **Routine** Installation Removal Other:

Start Time (MST)	12:03		End Time (MST)	16:53	
Barometric Pressure	0.896	Atm	Station Temperature	20.0	Deg C
Calibrator	Environics		Serial Number	2844	
NO Cal Gas Conc	50.1	ppm	Cal Gas Expiry Date		
NOx Cal Gas Conc	50.2	ppm	Cal Gas Serial #	CC-114395	

DACS Information

DACS make: AP1000 DACS serial No.:

Parameter		NO2	NOx	NO
Before	Data Slope	0.999681	1.000136	1.002025
	Data Offset	0.450848	-1.300667	-0.479319
After	Data Slope	0.991082	1.001077	1.001016
	Data Offset	-0.078111	-1.736487	-0.857415
Channel #		8	6	7
Voltage Range		0 - 10 VDC	0 - 10 VDC	0 - 10 VDC

Analyzer Information

Analyzer make/model: TEI 42i Analyzer serial #: 906535068

Test Point	before		after	
Concentration range	0 - 1000	ppb	0 - 1000	ppb
NO offset	2.4	mV	2.3	mV
NOx bkgnd	2.7	mV	2.6	mV
NO coefficient	1.413		1.438	
NOx coefficient	0.991		0.993	
NO2 conv temp	325.3	Deg C	326.8	Deg C
PMT Temp	-3.1	Deg C	-3.0	Deg C
PMT Volt	-676.4	mV	-676.6	mV
R Cell Press	175.6	in Hg	175.9	in Hg
Sample Flow	0.738	ccm	0.738	ccm

Notes:

Calibration Report

Parameter **NOX-NO-NO2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: November 16, 2009 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	4989	0.00	0.0	0.0	0.0	-0.1	-0.1	-0.1	N/A	N/A
1	4989	39.84	397.7	396.9	0.8	398.0	396.8	-0.2	0.9991	1.0003
2	4989	19.87	199.1	198.7	0.4	201.6	200.1	1.1	0.9877	0.9932
3	4989	9.91	99.5	99.3	0.2	103.0	100.9	1.7	0.9665	0.9846
AFZ	4988	0.00	0.0	0.0	0.0	0.1	-0.1	-0.1	0.0000	0.0000
AFS	4988	39.84	397.8	397.0	0.8	390.6	390.3	-1.1	1.0183	1.0173
							Average Correction Factor		0.9845	0.9927

As Found Concentrations: NO_X= 389.3 NO= 389.9 As Found Percent Change NO_X= -2.1% NO= -1.8%

GPT Calibration Data

Dilution Flow 4989 ccm Source Gas Flow 39.84 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	-0.1	-0.1	0.0	-0.1	-0.1	-0.1	N/A	N/A	N/A	N/A
NO point	397.2	397.2	0.0	398.7	397.2	0.2	0.9960	1.0000	N/A	N/A
400	397.2	190.1	207.0	399.6	190.1	208.8	0.9938	1.0000	0.9918	100.8%
200	397.2	260.6	136.6	399.4	260.6	138.1	0.9944	1.0000	0.9886	101.2%
100	397.2	326.7	70.4	399.1	326.7	71.3	0.9951	1.0000	0.9882	101.2%
					Average Correction Factor		0.9944	1.0000	0.9895	101.1%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.2	-0.3	-0.2	ppb	0.1	-0.2	-0.1	ppb
Auto span	175.3	173.3	2.1	ppb	223.7	221.6	2.0	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PASZA**

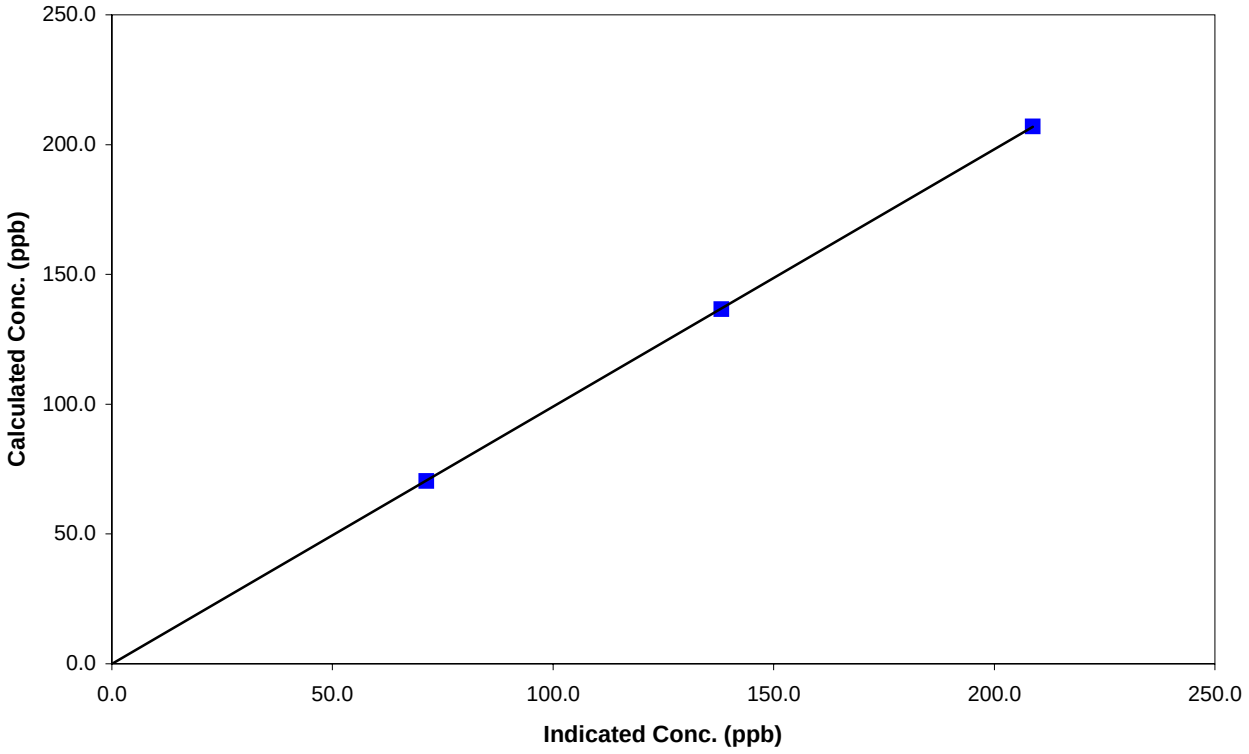
Station Information

Calibration Date	November 16, 2009	Previous Calibration	October 21, 2009
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	12:03	End Time (MST)	16:53
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
207.0	208.8	0.9918	Correlation Coefficient	0.999993
136.6	138.1	0.9886		
70.4	71.3	0.9882	Slope	0.991082
			Intercept	-0.078111

NO_2 Calibration Curve



Calibration Summary

Parameter **NO_x**

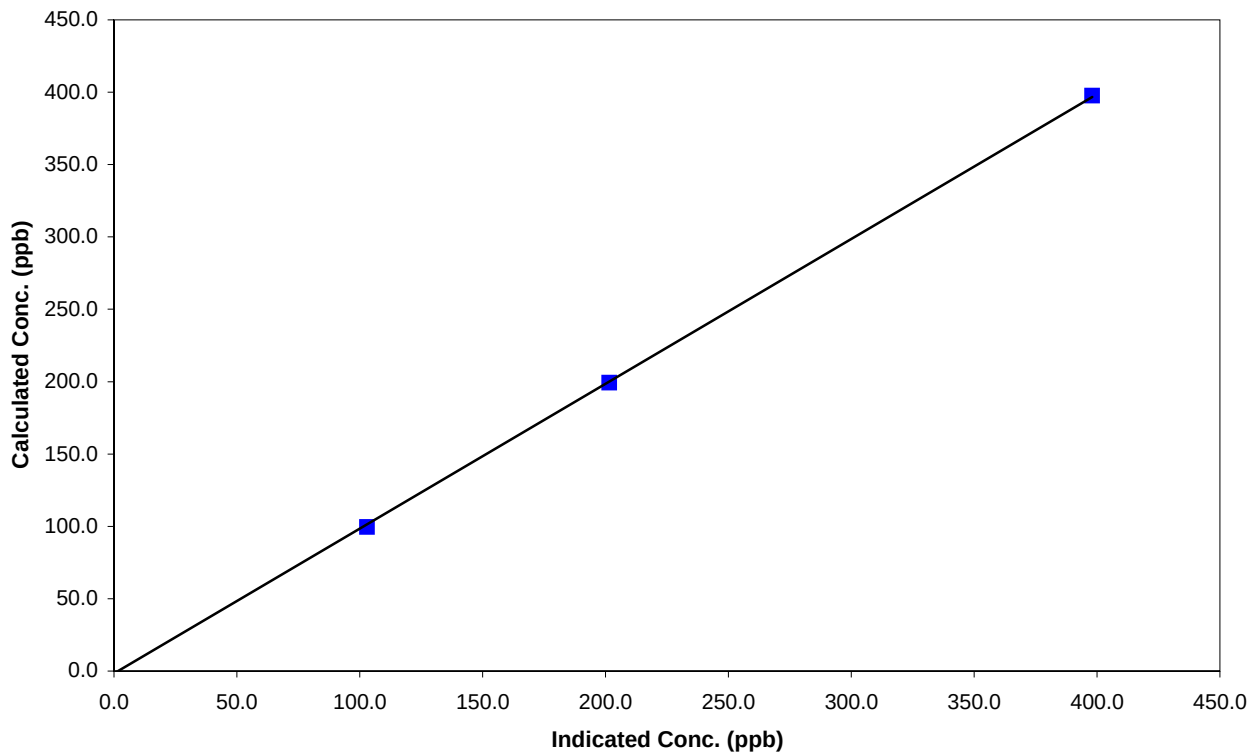
Air Monitoring Network **PASZA**

Station Information

Calibration Date	November 16, 2009	Previous Calibration	October 21, 2009
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	12:03	End Time (MST)	16:53
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
397.7	398.0	0.9991	Correlation Coefficient	0.999902
199.1	201.6	0.9877		
99.5	103.0	0.9665	Slope	1.001077
			Intercept	-1.736487



Calibration Summary

Parameter **NO**

Air Monitoring Network **PASZA**

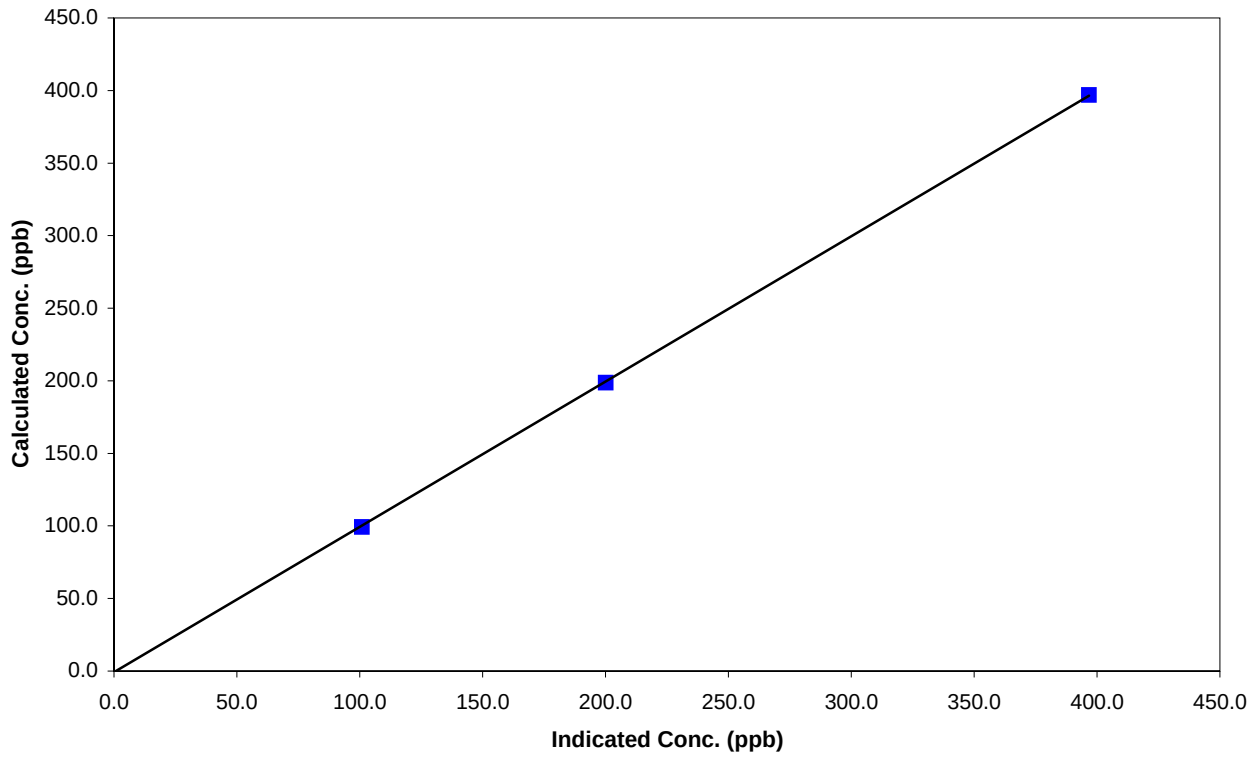
Station Information

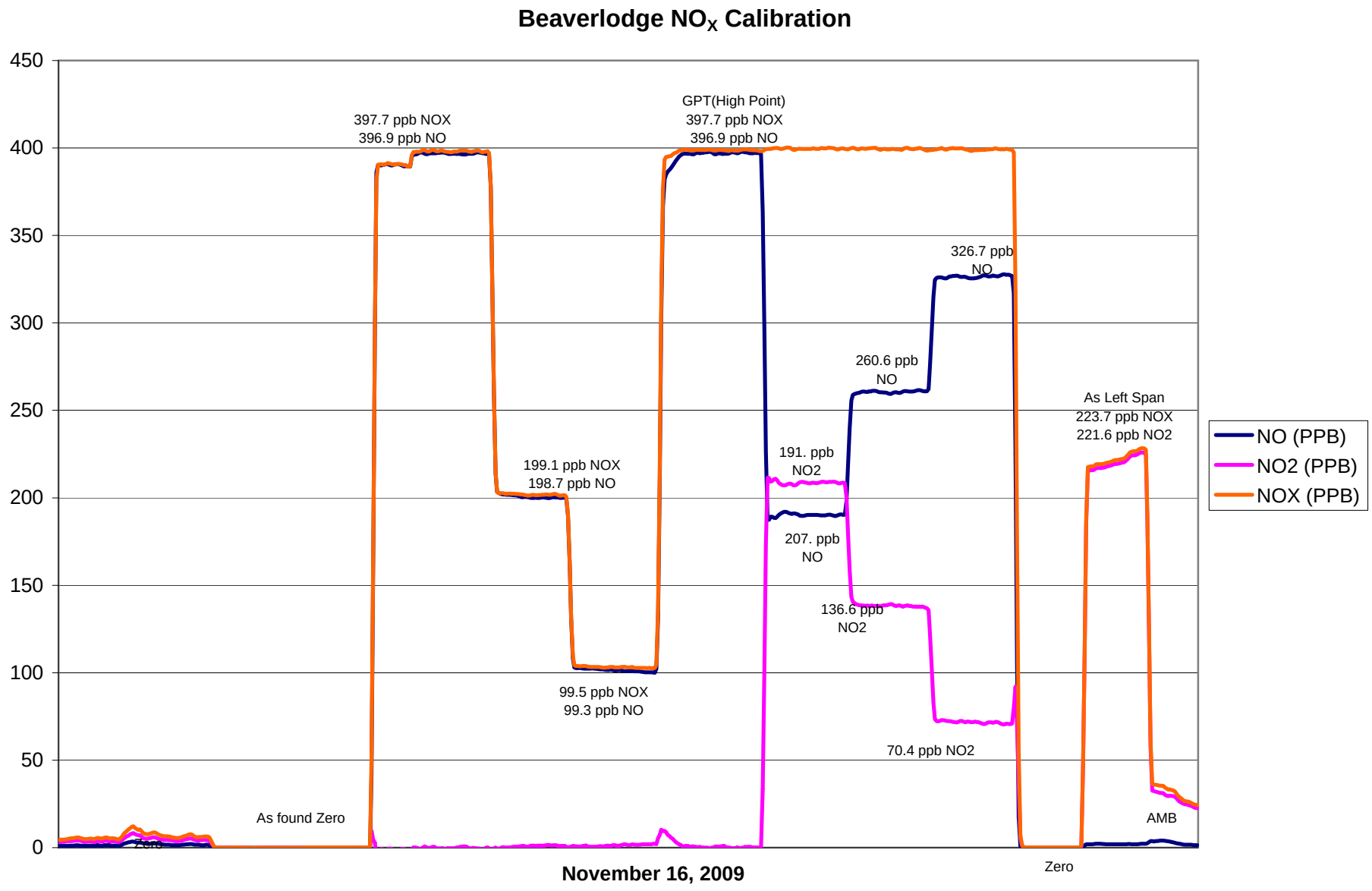
Calibration Date	November 16, 2009	Previous Calibration	October 21, 2009
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	12:03	End Time (MST)	16:53
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
396.9	396.8	1.0003	Correlation Coefficient	0.999973
198.7	200.1	0.9932		
99.3	100.9	0.9846	Slope	1.001016
			Intercept	-0.857415

NO Calibration Curve




Beaverlodge NOX Calibration
450
400
350
300
250
200
150
100
50
0
397.7 ppb NOX
396.9 ppb NO
GPT(High Point)
397.7 ppb NOX
396.9 ppb NO
326.7 ppb
NO
260.6 ppb
NO
As Left Span
223.7 ppb NOX
221.6 ppb NO2
191. ppb
NO2
199.1 ppb NOX
198.7 ppb NO
207. ppb
NO
136.6 ppb
NO2
99.5 ppb NOX
99.3 ppb NO
70.4 ppb NO2
As found Zero
AMB
Zero
Zero
NO (PPB)
NO2 (PPB)
NOX (PPB)
November 16, 2009

Calibration Report

Parameter **O3**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 16, 2009	Previous Calibration	October 21, 2009
Station Number	4	Station Location	Beaverlodge
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	15:53:00 PM	End Time (MST)	18:14
Barometric Pressure	0.896 atm	Station Temperature	21.0 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 #	9
	Before		After
Calculated slope	0.997237	Calculated slope	0.963684
Calculated intercept	0.825292	Calculated intercept	-0.971981
Analyzer make	Teco 49C	Analyzer serial #	49C-76443-383

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-0.80	ppb	-0.80	ppb
slope	1.027		1.027	
Lamp temp	56.4	mV	56.2	mV
Lamp Intensity A/B	70585 / 70550	mV	71405 / 70750	mV
Pressure	678.6	mm Hg	651.8	mm Hg
Flow A	709	ccm	688	ccm
Flow B	659	ccm	636	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	-0.4	N/A
4990	0.00	207.0	214.5	0.9650
4990	0.00	136.6	143.8	0.9499
4990	0.00	70.4	75.7	0.9296
4990	0.00	0.0	0.1	As found zero
4990	0.00	207.0	214.5	As found span
			Average Correction Factor	0.9482

Calculated value of As Found Response: 214.7 ppm Percent Change of As Found: 3.7%

	before calibration		after calibration	
Auto zero	0.1	ppb	-0.9	ppb
Auto span	114.3	ppb	118.2	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **O3**

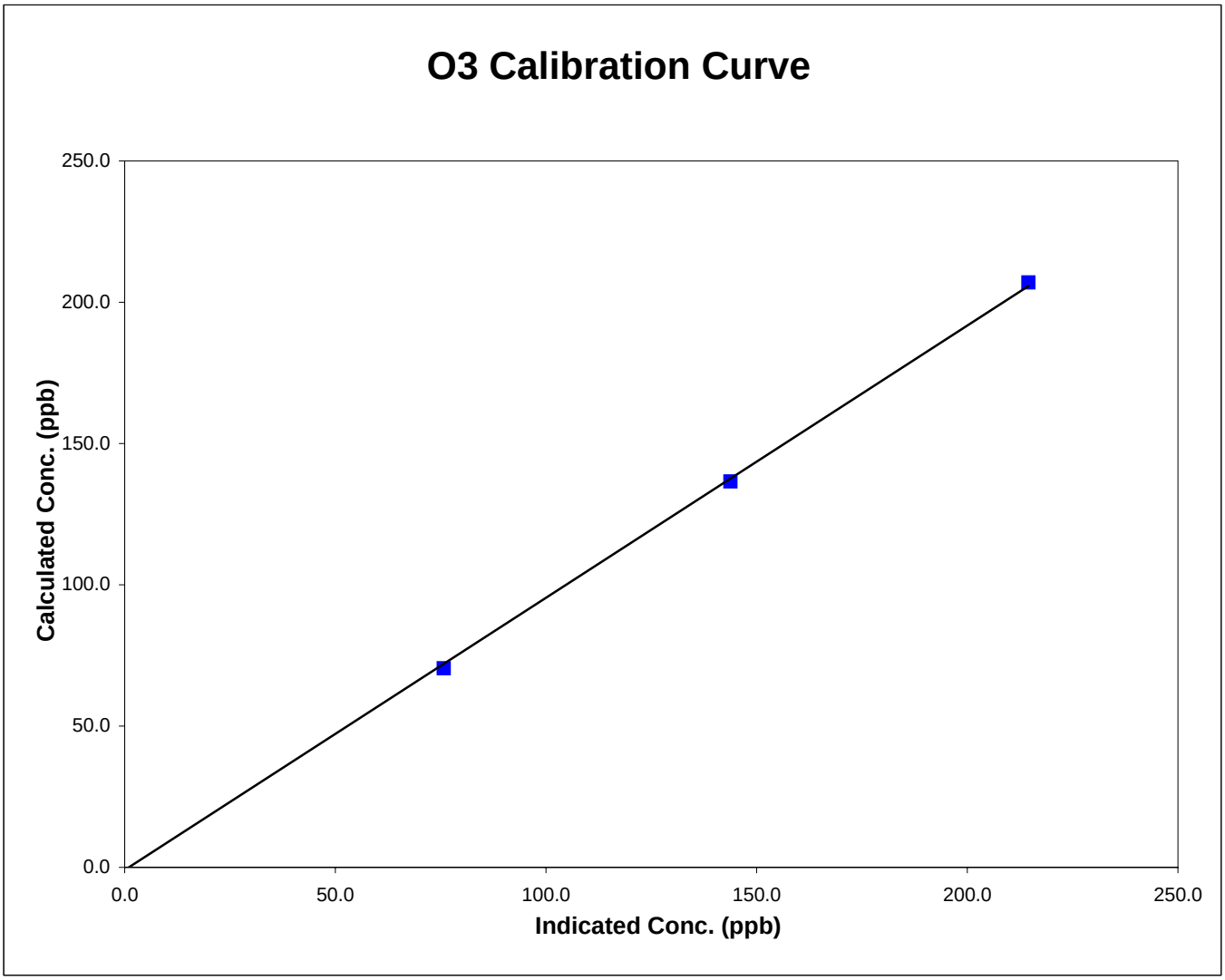
Air Monitoring Network **PASZA**

Station Information

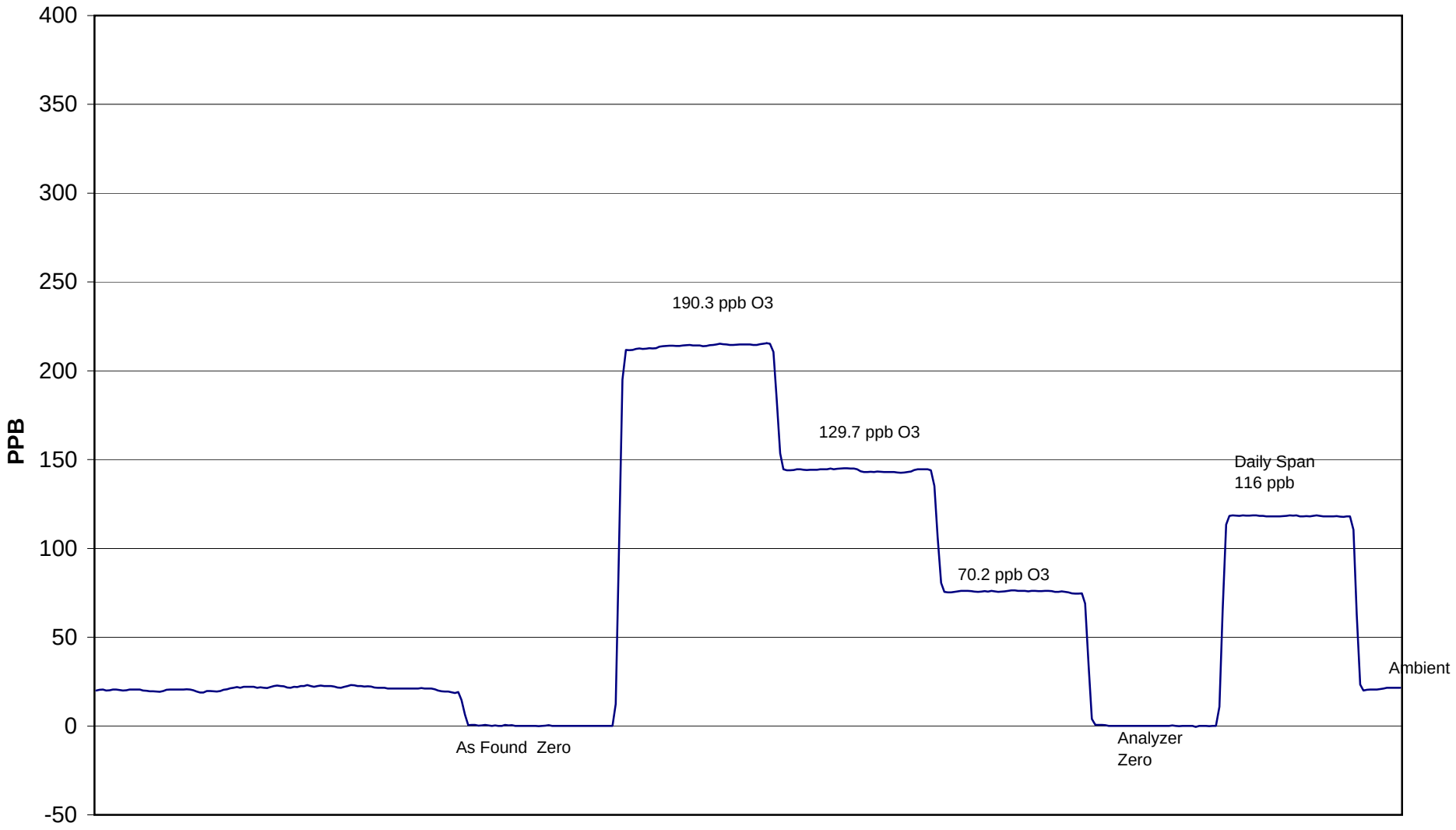
Calibration Date	November 16, 2009	Previous Calibration	October 21, 2009
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	15:53:00 PM	End Time (MST)	18:14
Analyzer make/model	Teco 49C	Analyzer serial #	49C-76443-383

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.4	NA		
207.0	214.5	0.9650	Correlation Coefficient	0.999702
136.6	143.8	0.9499		
70.4	75.7	0.9296	Slope	0.963684
			Intercept	-0.971981



Beaverlodge O_3 Calibration



November 16, 2009

Calibration Report

Parameter **SO2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 29, 2009	Previous Calibration	October 23, 2009
Station Number	9	Station Location	Rover - Kinuso
Reason: Routine	Install	Removal	Other:
Start Time (MST)	9:50	End Time (MST)	12:55
Barometric Pressure	27.66 inches Hg	Station Temperature	22.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentratior	50.6 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	1.003400	Calculated slope	1.003897
Calculated intercept	-2.067565	Calculated intercept	-2.076803
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	8.9		8.9	
Coefficient	0.866		0.866	
UV Lamp Voltage	803	V	802	V
Chamber Temp	44.5	C	44.6	C
Perm Gas Temp	45	C	45	C
Pressure	673.1	mm Hg	672	mm Hg
Sample Flow	0.487	LPM	0.486	LPM
Lamp Intesity	47110	Hz	476486	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	0.4	N/A
4989	39.83	400.8	400.4	1.0009
4989	19.88	200.8	202.9	0.9898
4989	9.92	100.4	103.9	0.9666
4988	0.00	0.0	-0.1	As found zero
4990	39.89	401.3	399.4	As found span
			Average Correction Factor	0.9858

Calculated value of As Found Response: 398.764 ppm Percent Change of As Found: 0.6%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.3	ppm
Auto span	258.2	ppm	260.9	ppm

Notes: Internal Pump Replaced

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

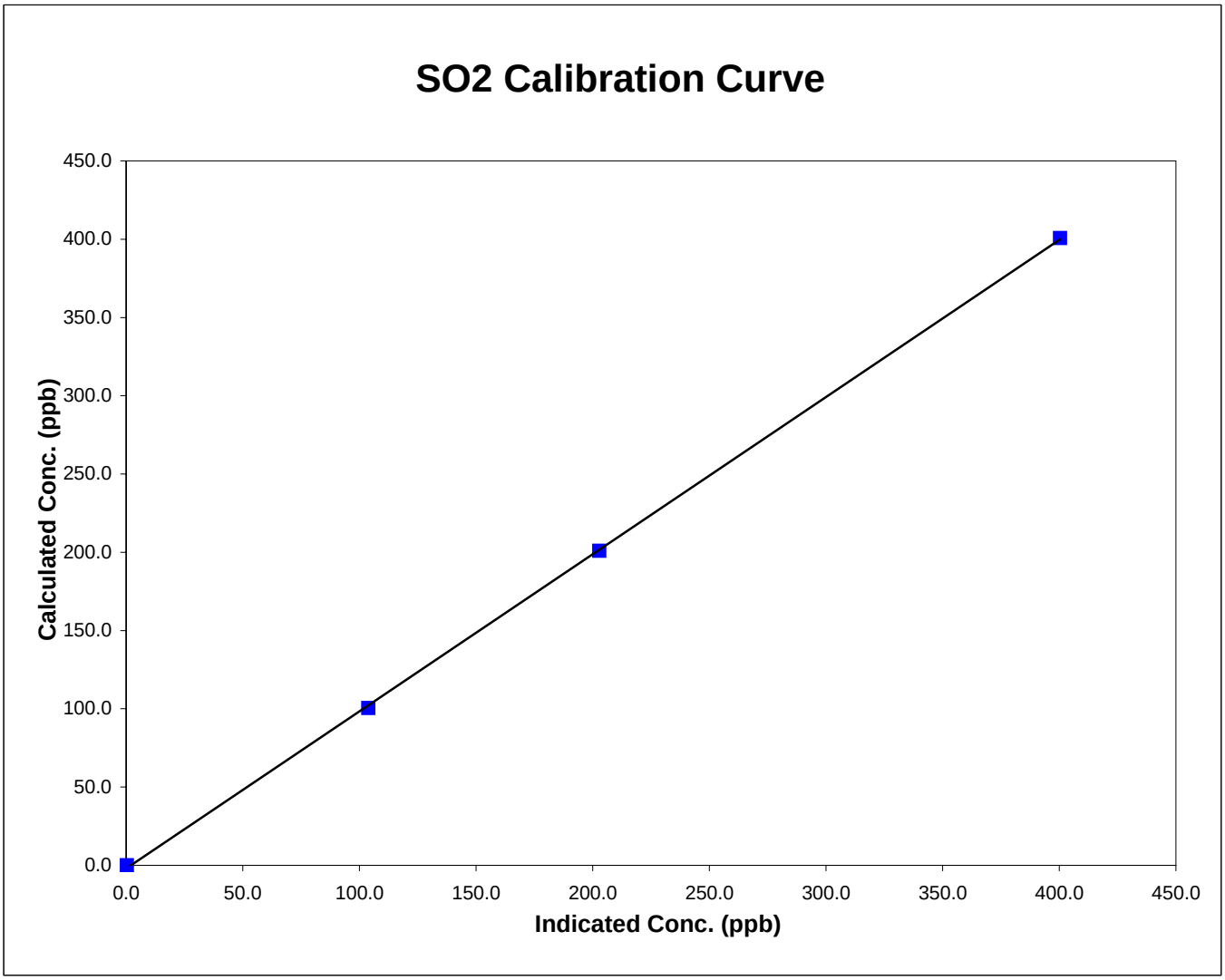
Air Monitoring Network **PASZA**

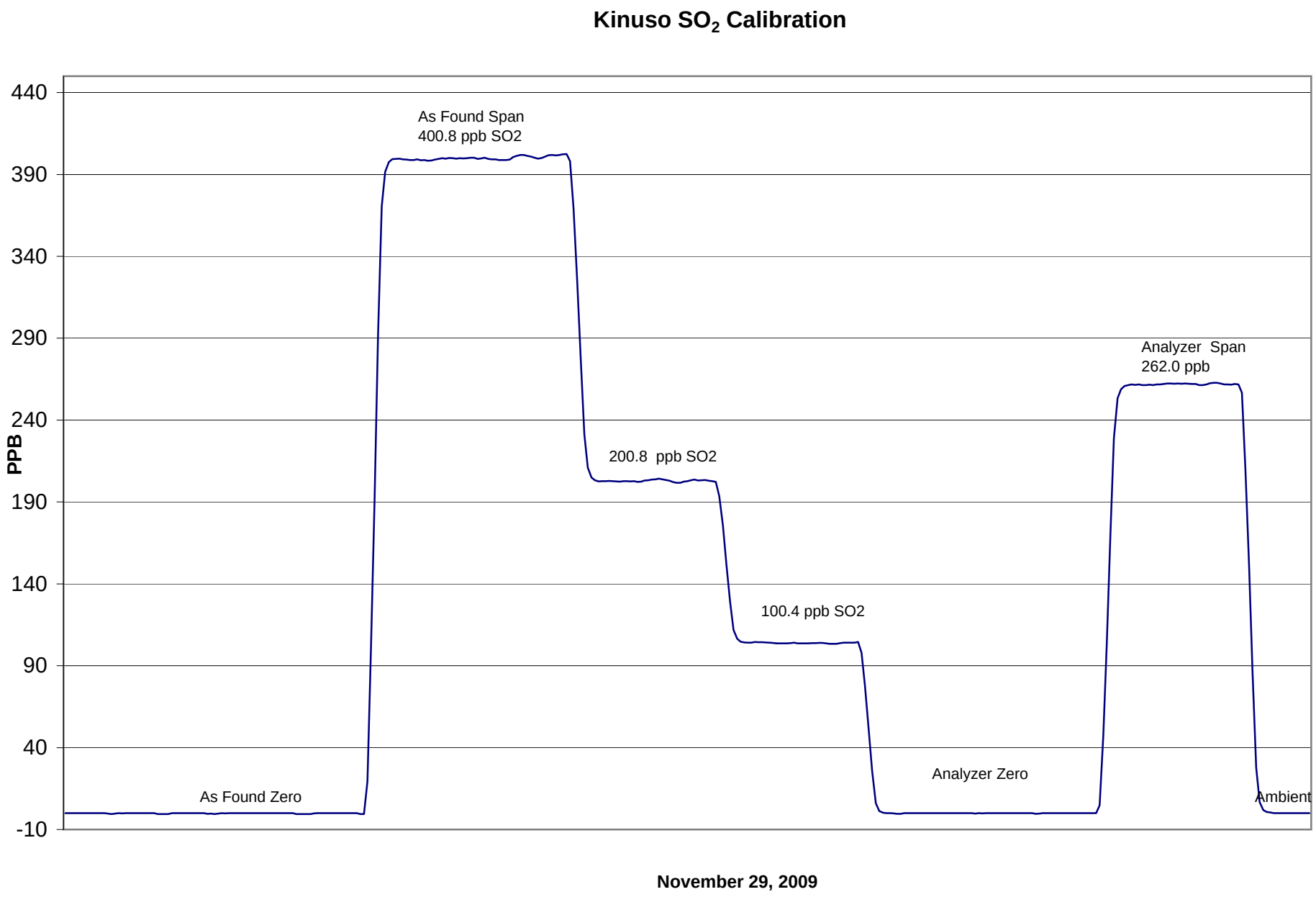
Station Information

Calibration Date	November 29, 2009	Previous Calibration	October 23, 2009
Station Number	9	Station Location	Rover - Kinuso
Start Time (MST)	9:50	End Time (MST)	12:55
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	0.4	N/A		
400.8	400.4	1.0009	Correlation Coefficient	0.999914
200.8	202.9	0.9898		
100.4	103.9	0.9666	Slope	1.003897
			Intercept	-2.076803




Kinuso SO2 Calibration
440
390
340
290
240
190
140
90
40
-10
PPB
As Found Span
400.8 ppb SO2
200.8 ppb SO2
100.4 ppb SO2
Analyzer Span
262.0 ppb
As Found Zero
Analyzer Zero
Ambient
November 29, 2009

Calibration Report

Parameter **TRS**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 29, 2009	Previous Calibration	October 23, 2009
Station Number	9	Station Location	Rover-Kinuso
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	14:25	End Time (MST)	17:00
Barometric Pressure	27.5 inches Hg	Station Temperature	21.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentratior	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	0.995988	Calculated slope	0.997254
Calculated intercept	0.241565	Calculated intercept	-0.055531
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	10.4	ppb	10.4	ppb
Coefficient	1.448		1.448	
Lamp Voltage	794	V	795	V
Chamber Temp	43.8	C	44.0	C
Perm gas Temp	45.	C	45	C
Pressure	657	mmHg	664	mmHg
Sample Flow	435	ccm	436	ccm
Lamp Intensity	39227.0	Hz	38687.0	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	0.3	N/A
4988	79.88	80.4	80.8	0.9953
4988	39.85	40.4	40.4	1.0000
4988	9.92	10.1	10.0	1.0093
4988	0.00	0.0	-0.4	As found zero
4988	79.88	80.4	79.7	As found span
			Average Correction Factor	1.0015

Calculated value of As Found Response: 79.97 ppm Percent Change of As Found: 0.5%

	before calibration		after calibration	
Auto zero	-0.4	ppm	-0.4	ppm
Auto span	66.6	ppm	67.7	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **TRS**

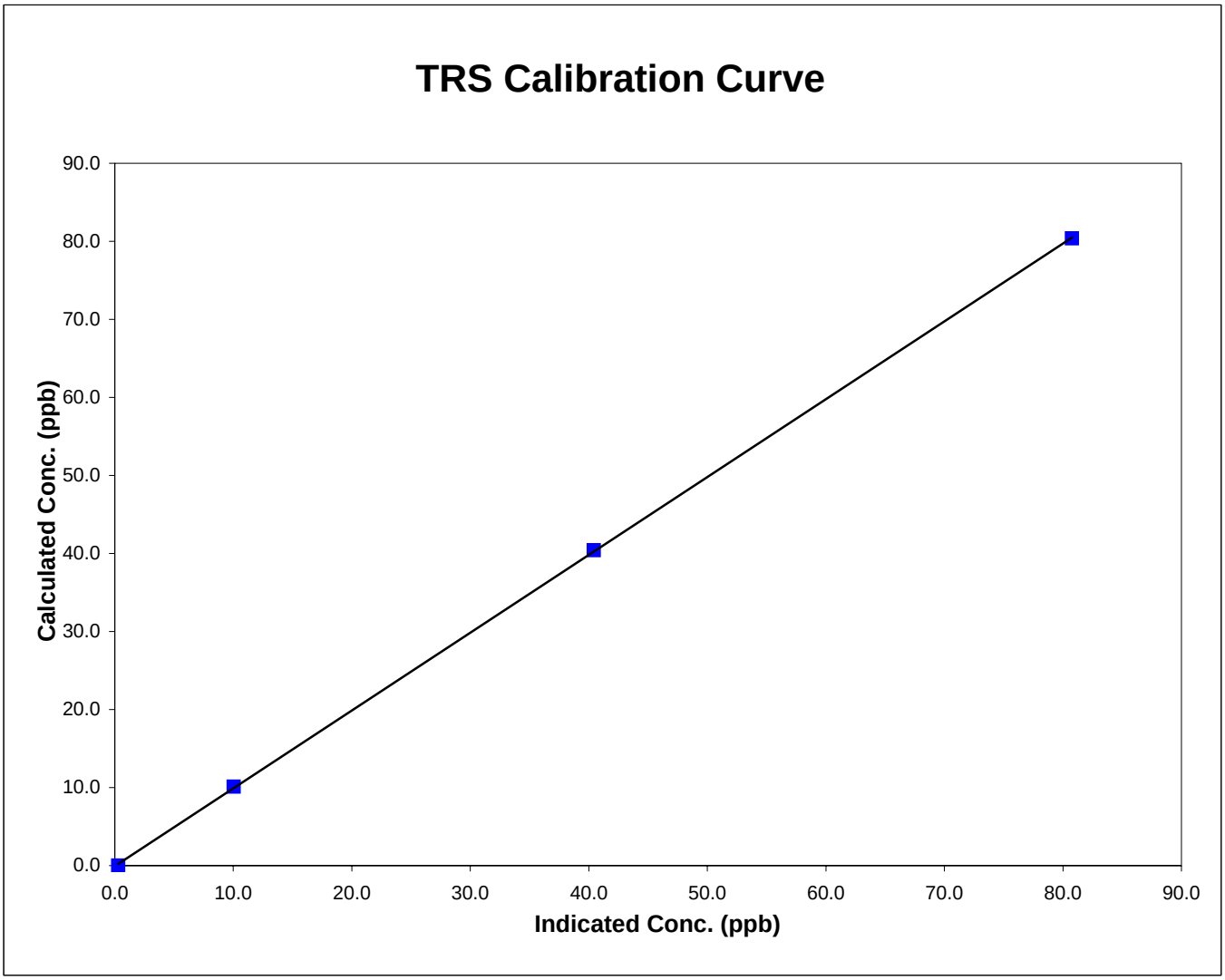
Air Monitoring Network **PASZA**

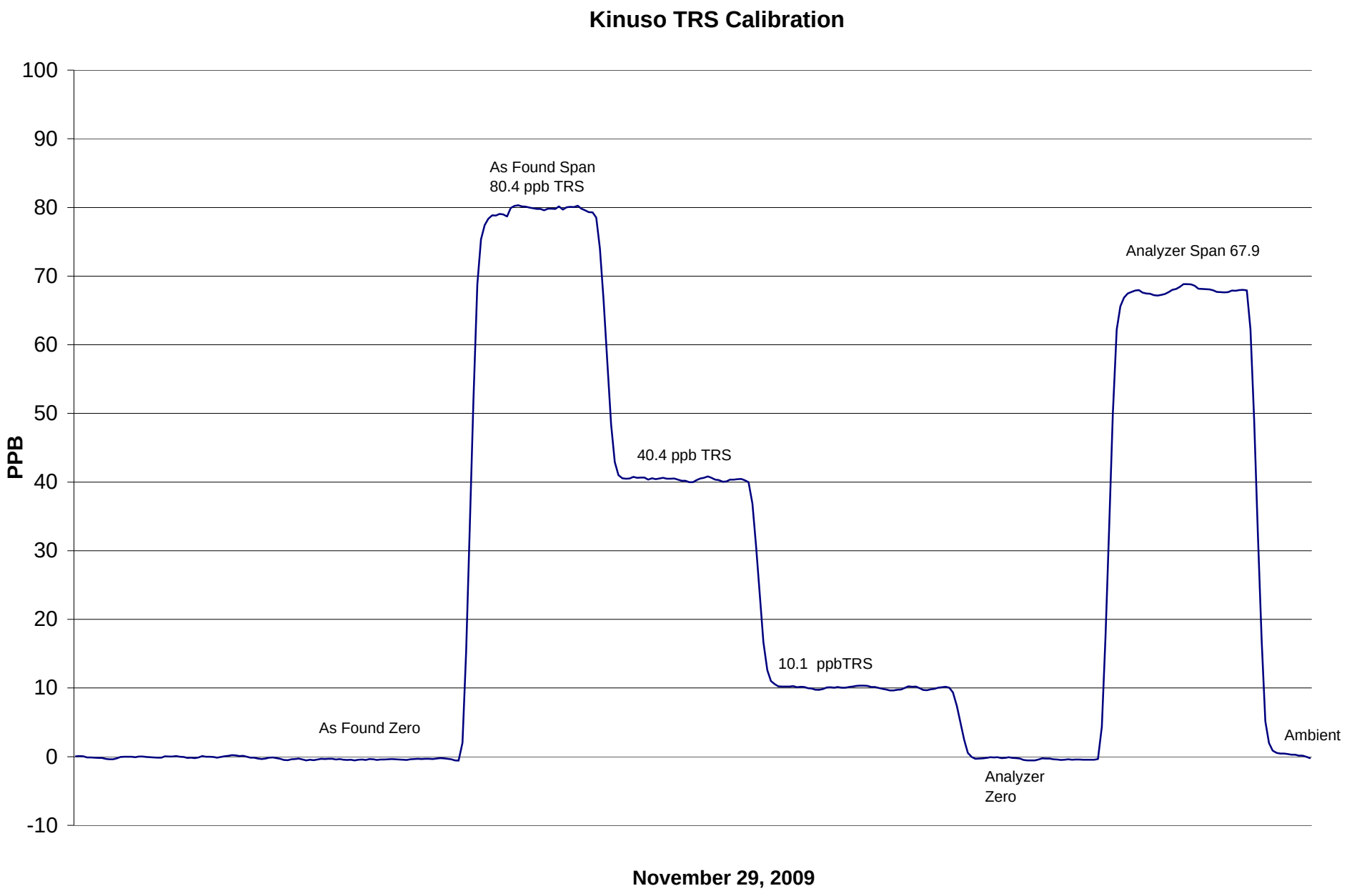
Station Information

Calibration Date	November 29, 2009	Previous Calibration	October 23, 2009
Station Number	9	Station Location	Rover-Kinuso
Start Time (MST)	14:25	End Time (MST)	17:00
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	0.3	N/A		
80.4	80.8	0.9953	Correlation Coefficient	0.999967
40.4	40.4	1.0000		
10.1	10.0	1.0093	Slope	0.997254
			Intercept	-0.055531




Kinuso TRS Calibration
100
90
80
70
60
50
40
30
20
10
0
-10
PPB
As Found Span
80.4 ppb TRS
Analyzer Span 67.9
40.4 ppb TRS
10.1 ppbTRS
As Found Zero
Ambient
Analyzer
Zero
November 29, 2009

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 29, 2009	Previous Calibration	October 23, 2009
Station Number	9	Station Location	Rover Kinuso

Reason: Routine Installation Removal Other:

Start Time (MST)	9:50		End Time (MST)	14:20	
Barometric Pressure	0.916	Atm	Station Temperature	25.0	Deg C
Calibrator	Environics 6100		Serial Number	3474	
NO Cal Gas Conc	49.6	ppm	Cal Gas Expiry Date	July 2, 2007	
NOx Cal Gas Conc	49.6	ppm	Cal Gas Serial #	CC114395	

DACS Information

DACS make	Focus AP1000	DACS serial No.	52662

Parameter		NO2	NOx	NO
Before	Data Slope	1.006612	1.000569	1.004580
	Data Offset	0.906676	-2.654634	-3.023382
After	Data Slope	0.994673	0.998746	1.004635
	Data Offset	0.304286	-2.580672	-3.094886
Channel #		8	6	7
Voltage Range		0 - 10 VDC	0 - 10 VDC	0 - 10 VDC

Analyzer Information

Analyzer make/model	TEI 42i	Analyzer serial #	701120011

Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	4.4	mV	4.3	mV
NOx bkgnd	4.5	mV	4.3	mV
NO coefficient	0.810		0.788	
NOx coefficient	0.997		0.999	
NO2 conv temp	326.0	Deg C	325.5	Deg C
PMT Temp	-3.1	Deg C	-3.1	Deg C
PMT Volt	-829.2	mV	-829.5	mV
R Cell Press	143.3	in Hg	143.4	in Hg
Sample Flow	0.564	ccm	0.588	ccm

Notes:

Calibration Report

Parameter **NOx-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: November 29, 2009 Station Location: Rover Kinuso

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	0.2	0.5	-0.7	N/A	N/A
1	4990	39.85	393.0	393.0	0.0	394.7	392.8	-1.0	0.9955	1.0003
2	4990	19.87	196.7	196.7	0.0	200.9	200.3	-1.1	0.9791	0.9820
3	4990	9.91	98.3	98.3	0.0	103.3	103.5	-0.8	0.9513	0.9500
AFZ	4990	0.00	0.0	0.0	0.0	0.2	0.7	-0.9	0.0000	0.0000
AFS	4990	39.84	392.9	392.9	0.0	404.9	403.8	-1.8	0.9703	0.9730
							Average Correction Factor		0.9753	0.9774

As Found Concentrations: NO_X= 402.0 NO= 400.1 As Found Percent Change NO_X= 2.3% NO= 1.8%

GPT Calibration Data

Dilution Flow 4988 ccm Source Gas Flow 39.84 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	0.7	0.7	0.0	0.2	0.5	-0.7	N/A	N/A	N/A	N/A
NO point	392.3	392.3	0.0	394.4	392.3	-0.8	0.9947	1.0000	N/A	N/A
300	392.3	150.5	241.8	395.0	150.5	242.6	0.9933	1.0000	0.9970	100.3%
200	392.3	229.5	162.9	395.5	229.5	163.5	0.9920	1.0000	0.9960	100.4%
100	392.3	309.0	83.3	395.5	309.0	84.0	0.9919	1.0000	0.9916	100.8%
					Average Correction Factor		0.9924	1.0000	0.9949	100.5%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.1	-1.0	0.6	ppb	0.3	-0.9	0.7	ppb
Auto span	305.0	300.2	3.0	ppb	318.4	313.9	3.0	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PASZA**

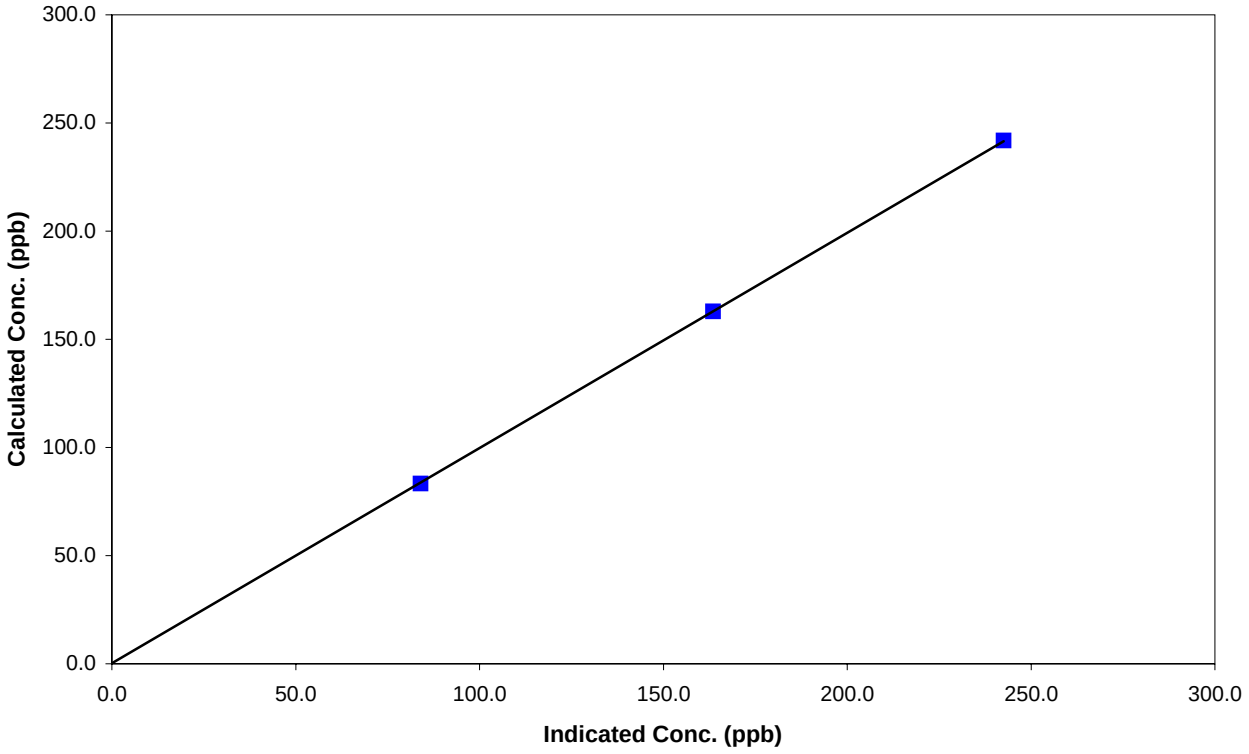
Station Information

Calibration Date	November 29, 2009	Previous Calibration	October 23, 2009
Station Number	9	Station Location	Rover Kinuso
Start Time (MST)	9:50	End Time (MST)	14:20
Analyzer make	TEI 42i	Analyzer serial #	701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.7	N/A		
241.8	242.6	0.9970	Correlation Coefficient	0.999983
162.9	163.5	0.9960		
83.3	84.0	0.9916	Slope	0.994673
			Intercept	0.304286

NO_2 Calibration Curve



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PASZA**

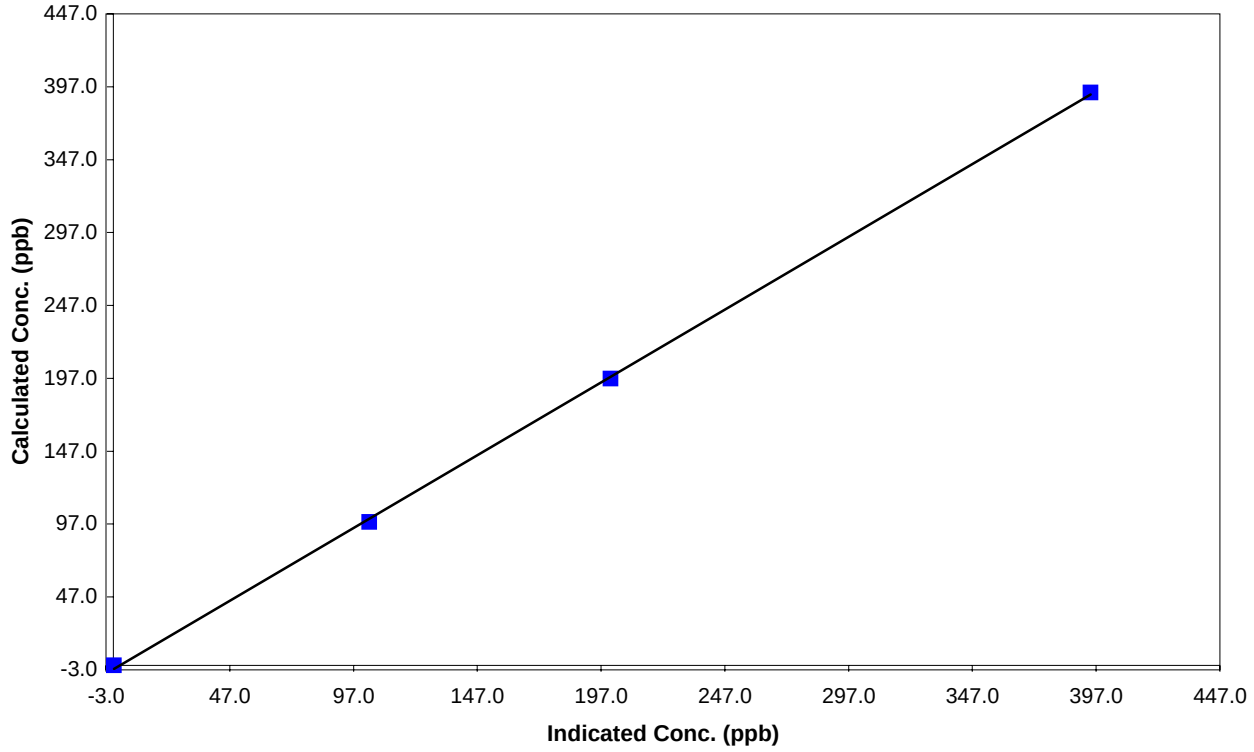
Station Information

Calibration Date	November 29, 2009	Previous Calibration	October 23, 2009
Station Number	9	Station Location	Rover Kinuso
Start Time (MST)	9:50	End Time (MST)	14:20
Analyzer make	TEI 42i	Analyzer serial #	701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
393.0	394.7	0.9955	Correlation Coefficient	0.999827
196.7	200.9	0.9791		
98.3	103.3	0.9513	Slope	0.998746
			Intercept	-2.580672

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PASZA**

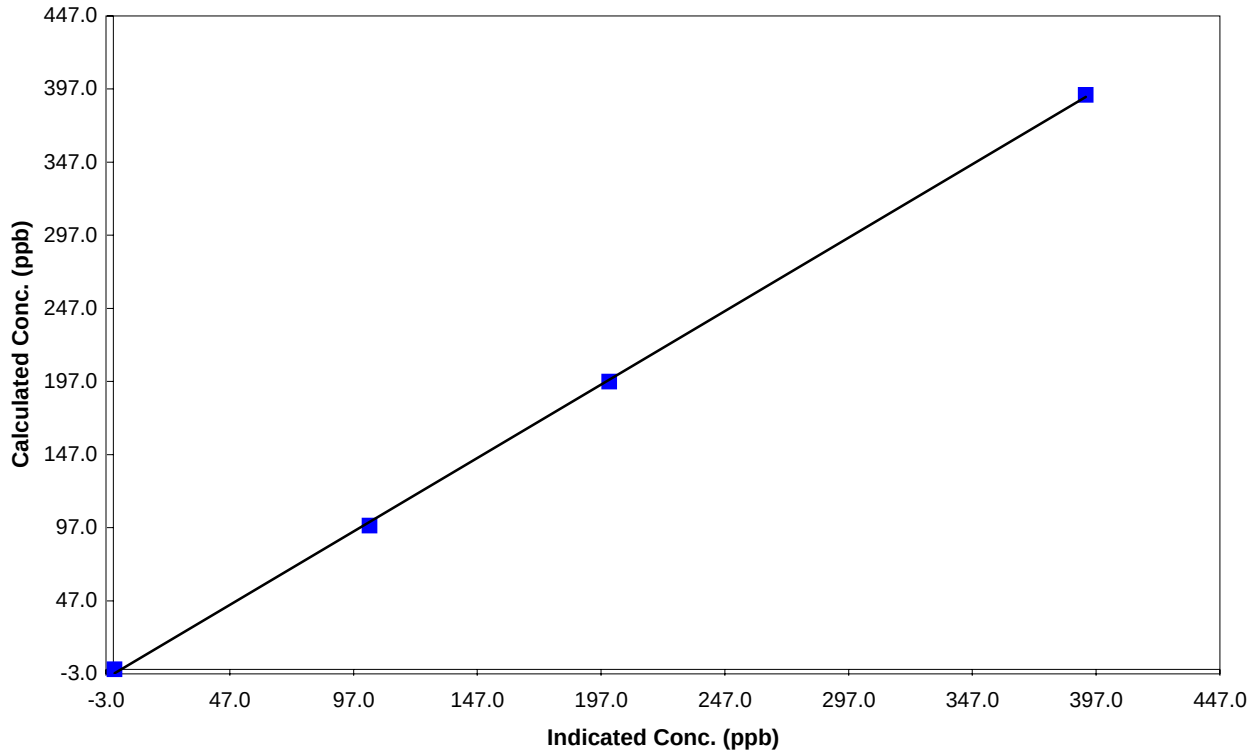
Station Information

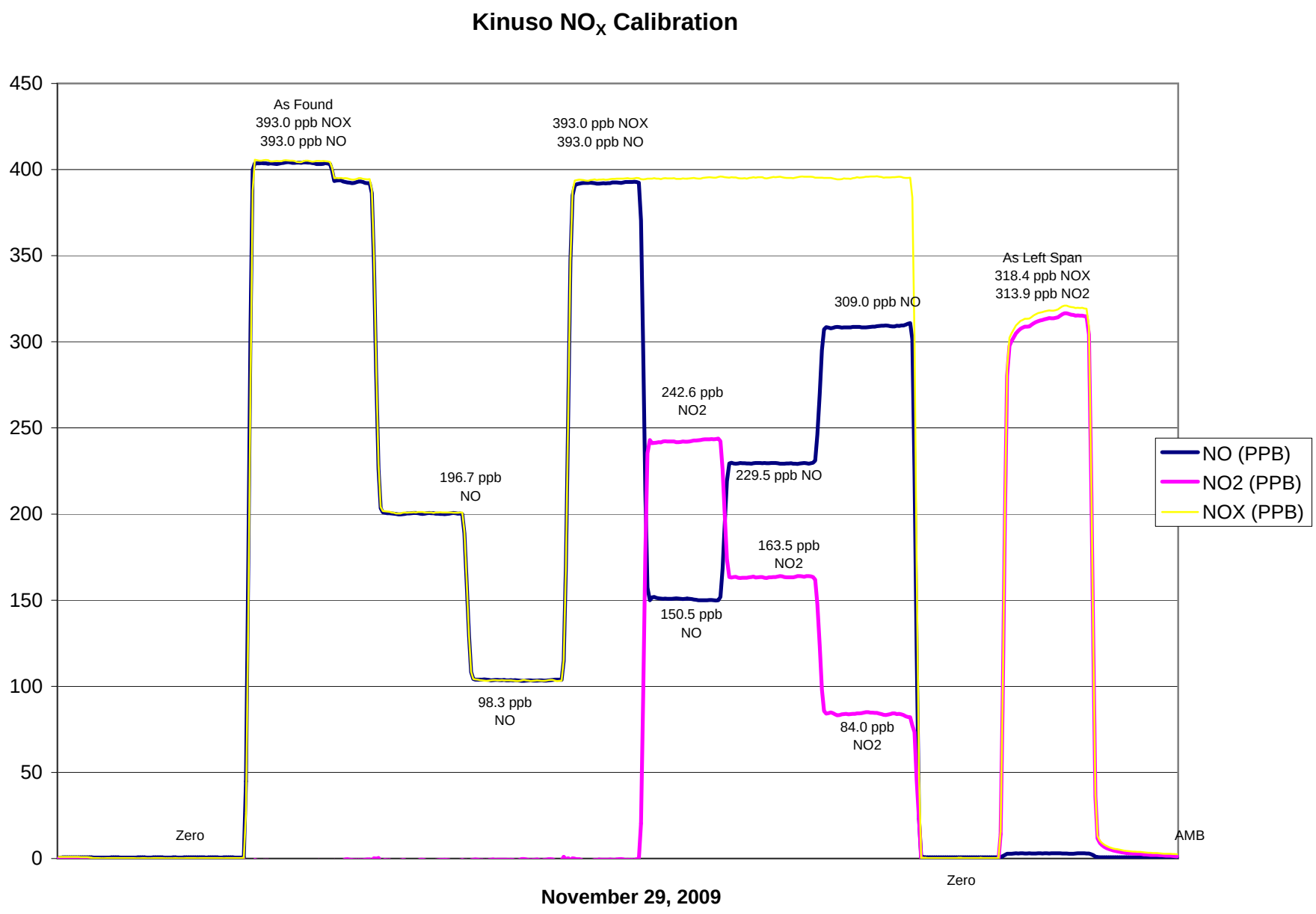
Calibration Date	November 29, 2009	Previous Calibration	October 23, 2009
Station Number	9	Station Location	Rover Kinuso
Start Time (MST)	9:50	End Time (MST)	14:20
Analyzer make	TEI 42i	Analyzer serial #	701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.5	N/A		
393.0	392.8	1.0003	Correlation Coefficient	0.999795
196.7	200.3	0.9820		
98.3	103.5	0.9500	Slope	1.004635
			Intercept	-3.094886

NO Calibration Curve




Kinuso NOX Calibration
450
400
350
300
250
200
150
100
50
0
As Found
393.0 ppb NOX
393.0 ppb NO
393.0 ppb NOX
393.0 ppb NO
196.7 ppb
NO
98.3 ppb
NO
242.6 ppb
NO2
150.5 ppb
NO
229.5 ppb NO
163.5 ppb
NO2
309.0 ppb NO
84.0 ppb
NO2
As Left Span
318.4 ppb NOX
313.9 ppb NO2
Zero
Zero
AMB
NO (PPB)
NO2 (PPB)
NOX (PPB)
November 29, 2009

Calibration Report

Parameter **O3**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 29, 2009	Previous Calibration	October 23, 2009
Station Number	9	Station Location	Rover - Kinuso
Reason: Routine	Install	Removal	Other:
Start Time (MST)	13:10	End Time (MST)	15:41
Barometric Pressure	0.935 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	1.005479	Calculated slope	0.999357
Calculated intercept	1.012052	Calculated intercept	-0.249974
Analyzer make	TEI Model 49C	Analyzer serial #	609-716240

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Offset	-15.7	ppb	-16	ppb
Span	1.489		1.489	
Cell A	90475	Hz	90644	Hz
Cell B	98674	Hz	98378	Hz
Pressure	693	in Hg	694	in Hg
CellA Flow	717	ccm	719	ccm
Cell B Flow	685	cmm	683	cmm

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4990	0.00	0.0	0.0	N/A
4990	0.00	241.8	242.3	0.9981
4990	0.00	162.9	162.9	1.0000
4990	0.00	83.3	84.1	0.9901
4990	0.00	0.0	0.1	As found zero
4990	0.00	241.8	242.3	As found span
			Average Correction Factor	0.9961

Calculated value of As Found Response: 244.5 ppm Percent Change of As Found: 1.1%

	before calibration		after calibration	
Auto zero	1.2	ppb	0.2	ppb
Auto span	275.5	ppb	314.6	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **O3**

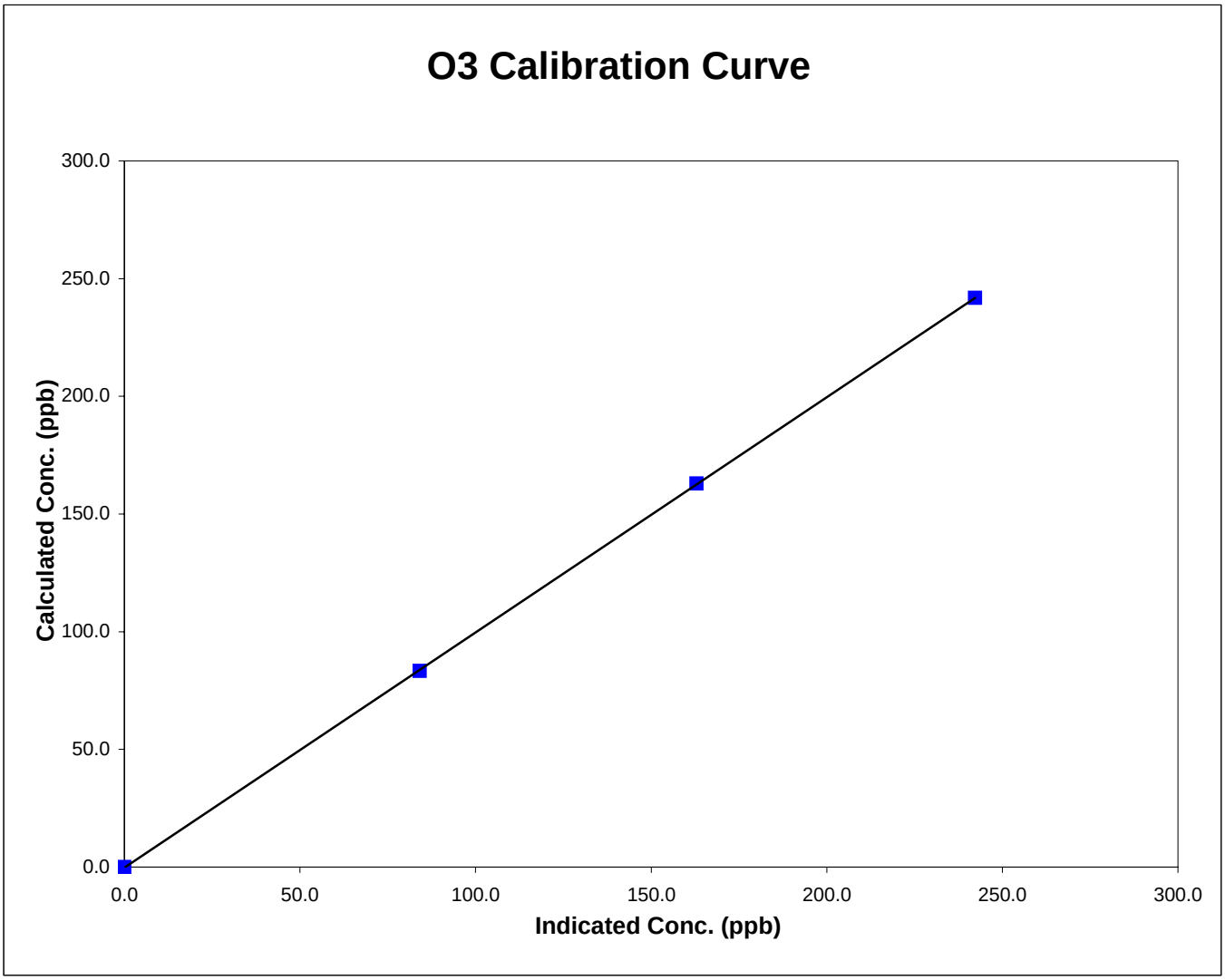
Air Monitoring Network **PASZA**

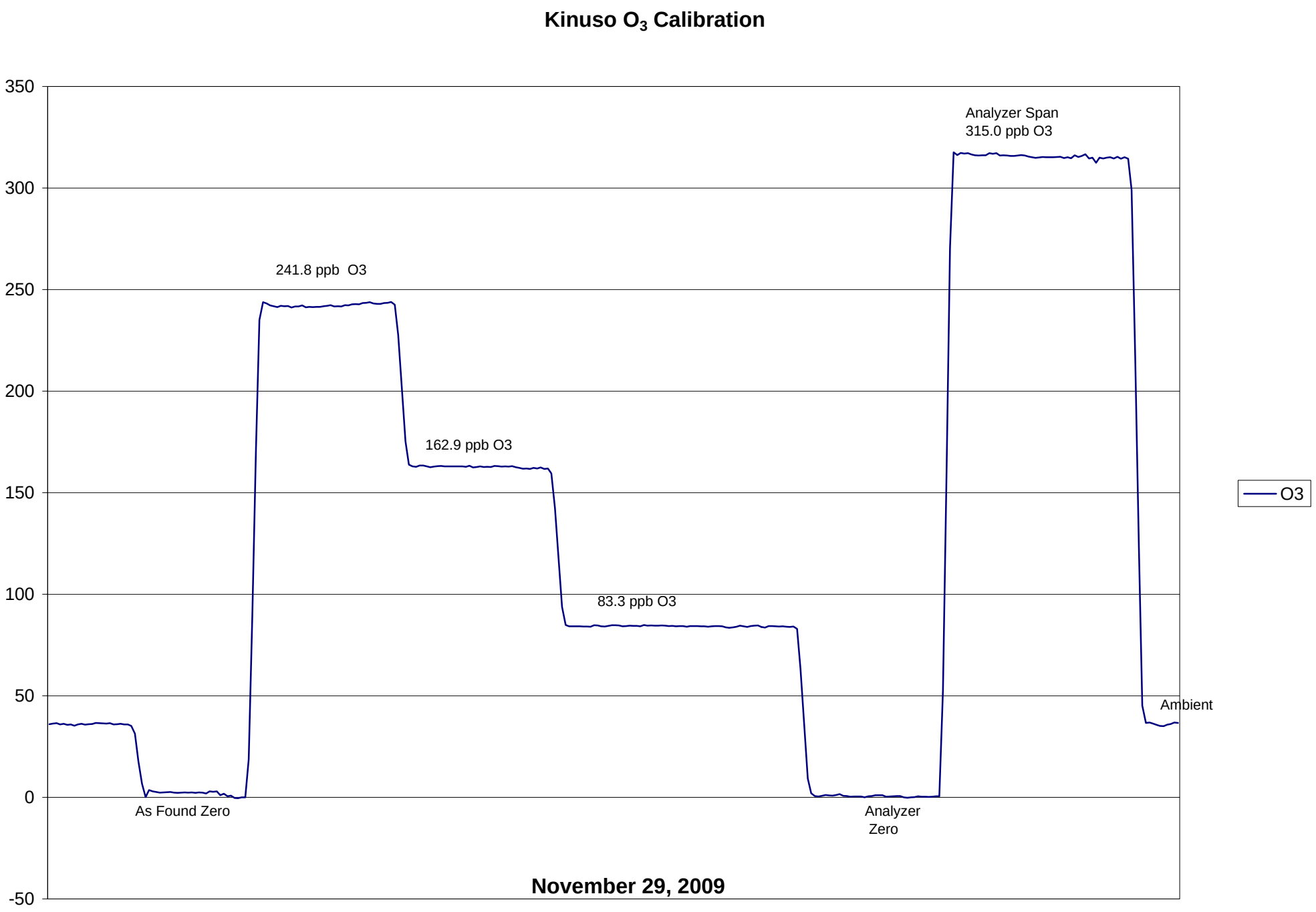
Station Information

Calibration Date	November 29, 2009	Previous Calibration	October 23, 2009
Station Number	9	Station Location	Rover - Kinuso
Start Time (MST)	13:10	End Time (MST)	15:41
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		
241.8	242.3	0.9981	Correlation Coefficient	0.999986
162.9	162.9	1.0000		
83.3	84.1	0.9901	Slope	0.999357
			Intercept	-0.249974




Kinuso O_3 Calibration
350
300
250
200
150
100
50
0
-50
Analyzer Span
315.0 ppb O3
241.8 ppb O3
162.9 ppb O3
83.3 ppb O3
Ambient
As Found Zero
Analyzer
Zero
November 29, 2009
O3

Calibration Report

Parameter **SO2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 15, 2009	Previous Calibration	October 30, 2009
Station Number	6	Station Location	Valleyview
Reason: Routine	Install	Removal	Other:
Start Time (MST)	11:15	End Time (MST)	13:30
Barometric Pressure	29.90 inches Hg	Station Temperature	25.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentratior	50.6 ppm	Cal Gas Cert Date	12/3/2009
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	1.002069	Calculated slope	1.003473
Calculated intercept	-1.900716	Calculated intercept	-1.945767
Analyzer make	TEI 45C	Analyzer serial #	45C-57531-313

	before		after	
Concentration range	0 - 1000	ppb	0 - 1000	ppb
Background	29.1		28.8	
Coefficient	0.717		0.707	
UV Lamp Voltage	700	LPM	699	LPM
Chamber Temp	44.3	V	44.2	V
Perm Gas Temp	35.1	C	35.1	C
Pressure	616.7	in Hg	612.1	in Hg
Sample Flow	0.468	LPM	0.466	LPM
Lamp Intesity	45294	Hz	45466	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)
4990	0.00	0.0	0.2	N/A
4990	39.85	400.9	400.6	1.0007
4990	19.92	201.2	203.1	0.9908
4990	9.90	100.2	103.8	0.9656
4990	0.00	0.0	0.5	As found zero
4990	39.88	401.2	399.0	As found span
			Average Correction Factor	0.9857

Calculated value of As Found Response: 397.447 ppm Percent Change of As Found: 0.9%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.0	ppm
Auto span	167.3	ppm	169.0	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

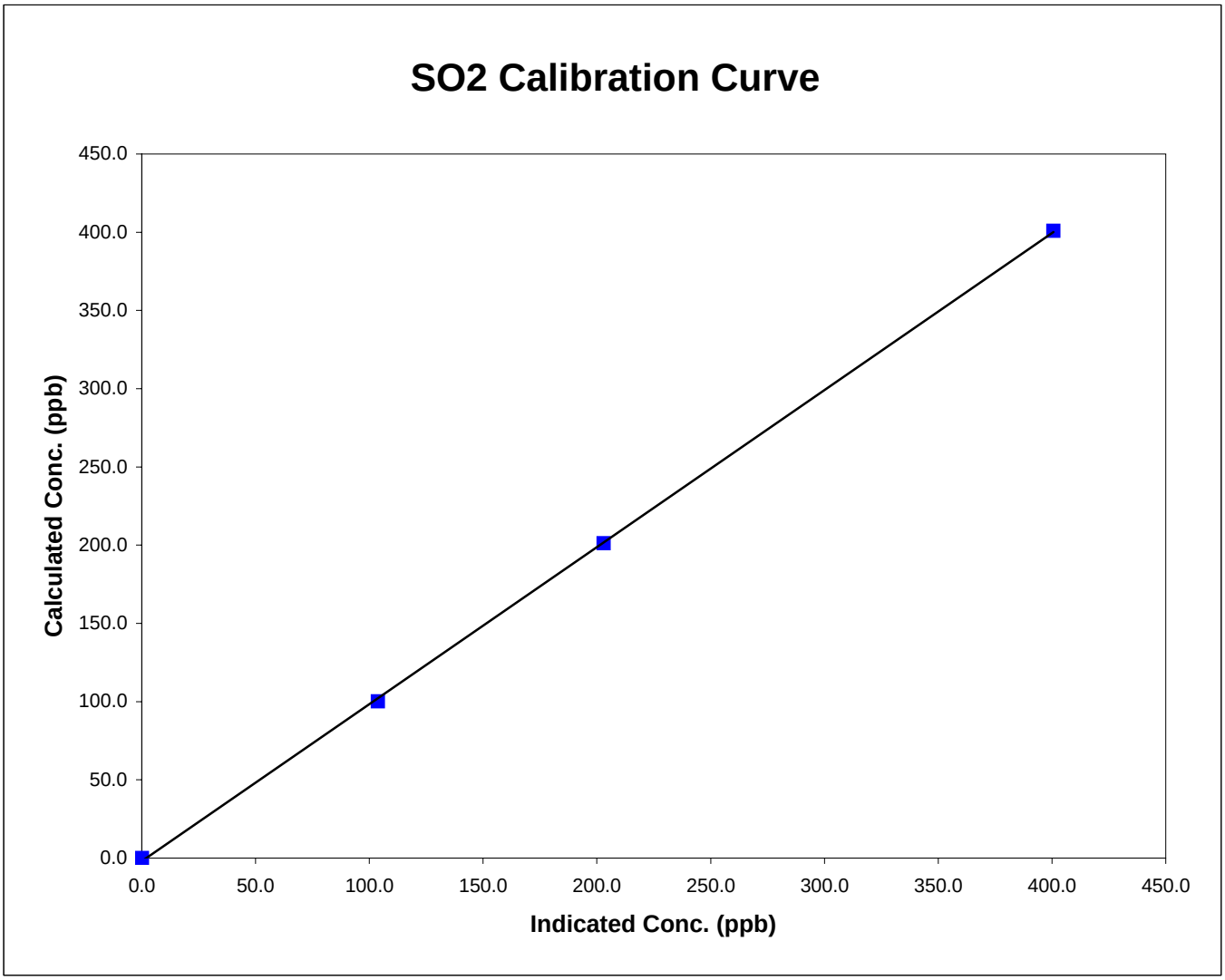
Air Monitoring Network **PASZA**

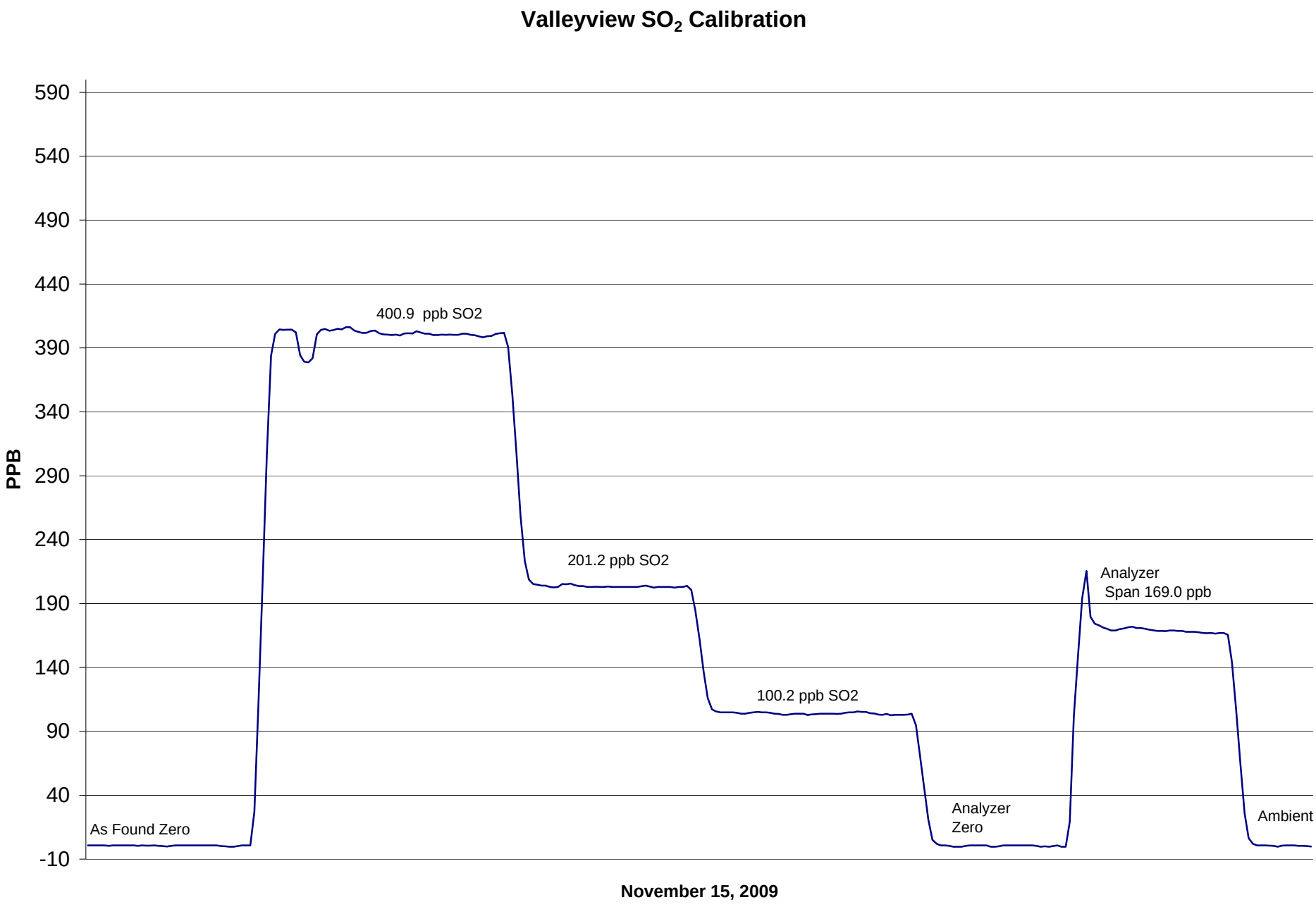
Station Information

Calibration Date	November 15, 2009	Previous Calibration	October 30, 2009
Station Number	6	Station Location	Valleyview
Start Time (MST)	11:15	End Time (MST)	13:30
Analyzer make/model	TEI 45C	Analyzer serial #	45C-57531-313

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
400.9	400.6	1.0007	Correlation Coefficient	0.999906
201.2	203.1	0.9908		
100.2	103.8	0.9656	Slope	1.003473
			Intercept	-1.945767




Valleyview SO_2 Calibration
590
540
490
440
390
340
290
240
190
140
90
40
-10
PPB
400.9 ppb SO2
201.2 ppb SO2
100.2 ppb SO2
Analyzer
Span 169.0 ppb
As Found Zero
Analyzer
Zero
Ambient
November 15, 2009

Calibration Report

Parameter **H2S**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	November 15, 2009	Previous Calibration	October 30, 2009
Station Number	5	Station Location	Valleyview
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	12:50	End Time (MST)	15:00
Barometric Pressure	27.16 inches Hg	Station Temperature	23.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentratior	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	0.998438	Calculated slope	0.997402
Calculated intercept	-0.196898	Calculated intercept	-0.168699
Analyzer make	TEI Model 43i - APSCB	Analyzer serial #	701120010

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Back Ground	5.0	ppb	5.1	ppb
Coefficient	1.094		1.120	
Lamp Voltage	792	V	792	V
Chamber Temp	45.2	c	45	c
Perm Oven Temp	45.01	c	45	c
Pressure	628	mm Hg	629	mm Hg
Sample Flow	419	ccm	421	ccm
Lamp Intensity	90.0	%	92.0	%

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	0.2	N/A
4989	79.75	80.2	80.7	0.9944
4989	39.88	40.4	40.6	0.9968
4989	9.93	10.1	10.4	0.9782
4989	0.00	0.0	0.1	As found zero
4989	79.81	80.3	78.4	As found span
			Average Correction Factor	0.9898

Calculated value of As Found Response: 77.95 ppm Percent Change of As Found: 2.9%

	before calibration		after calibration	
Auto zero	0.1	ppm	0.0	ppm
Auto span	67.4	ppm	64.5	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **H2S**

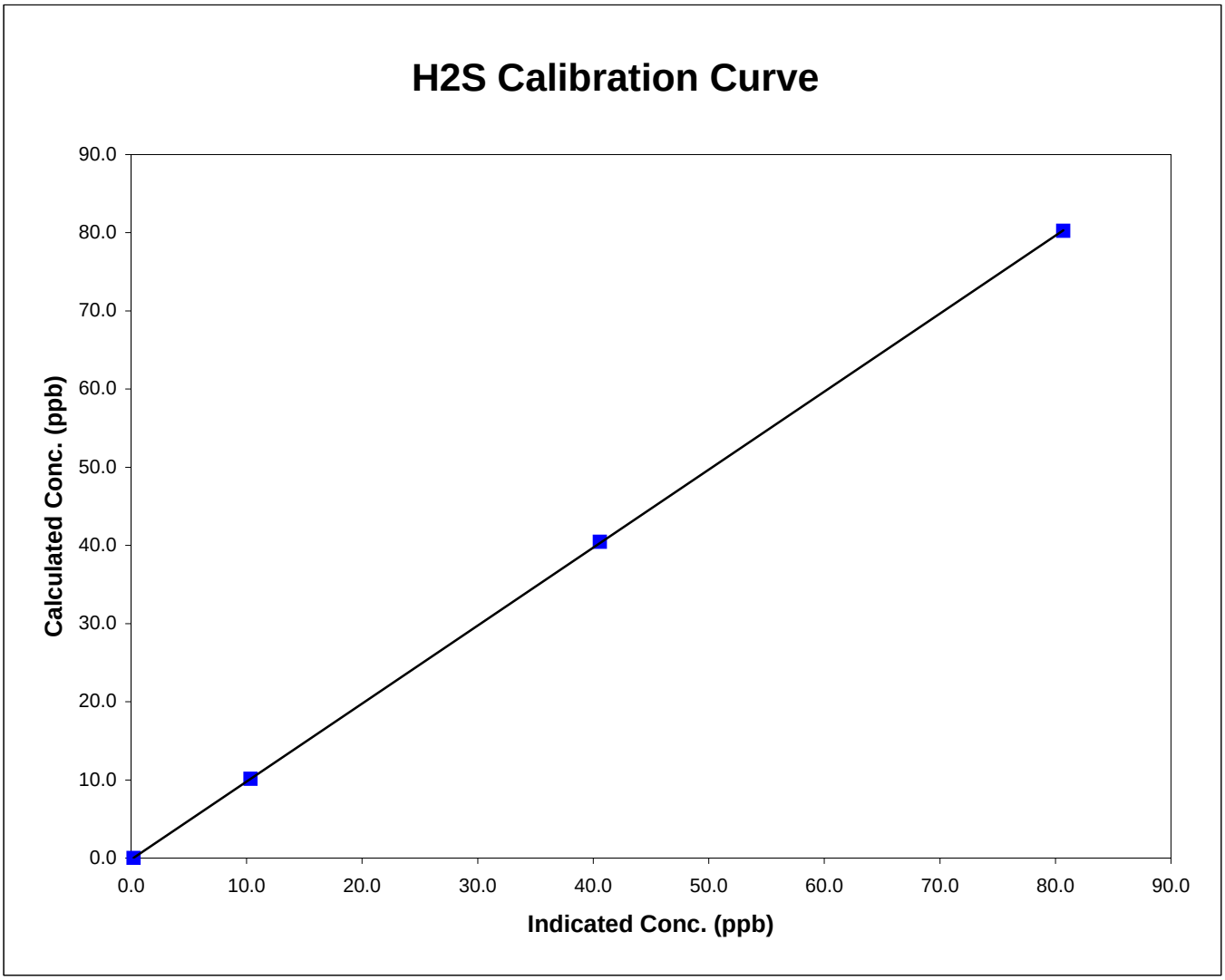
Air Monitoring Network **PASZA**

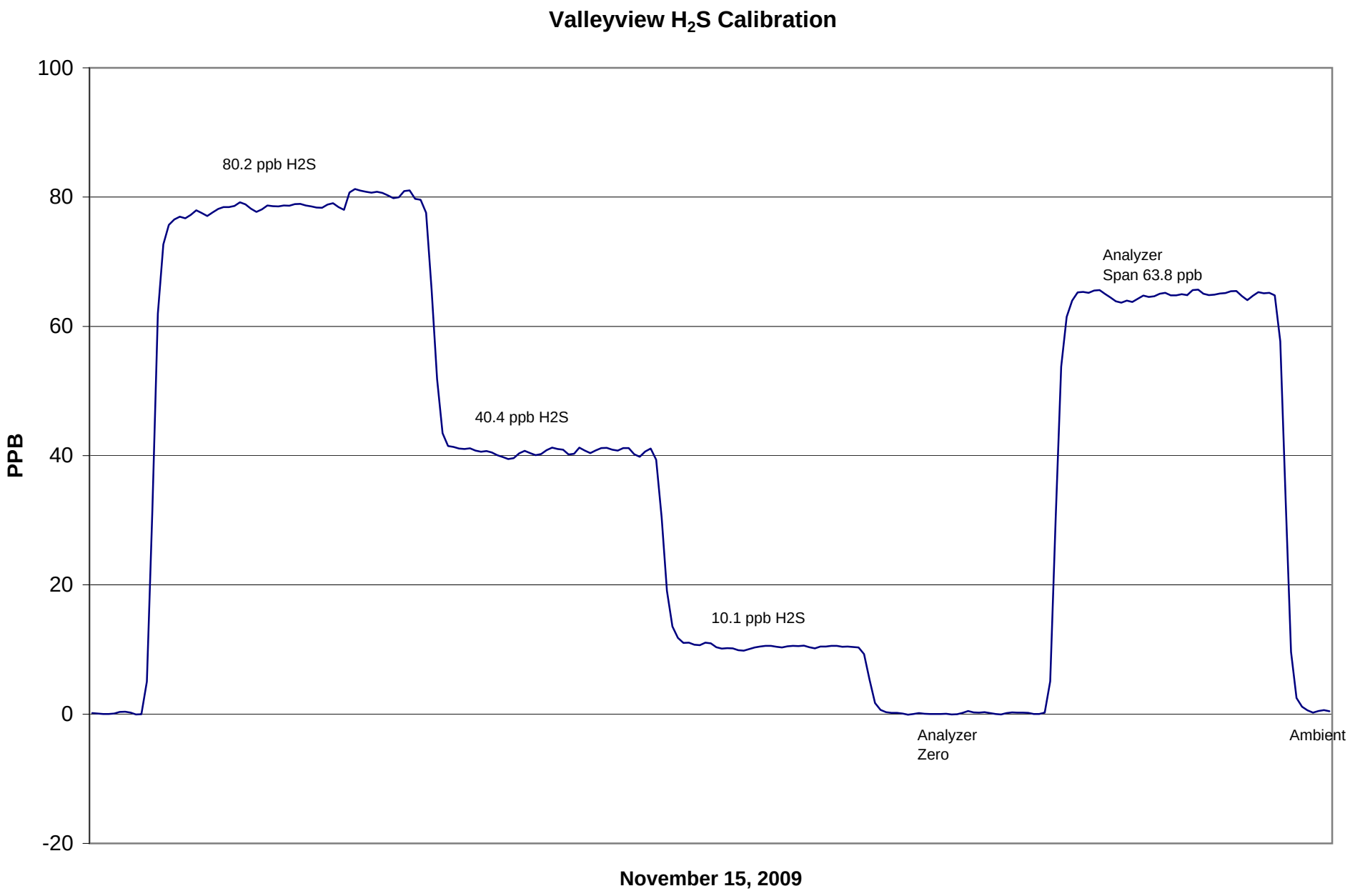
Station Information

Calibration Date	November 15, 2009	Previous Calibration	October 30, 2009
Station Number	5	Station Location	Valleyview
Start Time (MST)	12:50	End Time (MST)	15:00
Analyzer make/model	TEI Model 43i - APSCB	Analyzer serial #	701120010

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
80.2	80.7	0.9944	Correlation Coefficient	0.999992
40.4	40.6	0.9968		
10.1	10.4	0.9782	Slope	0.997402
			Intercept	-0.168699




Valleyview H_2S Calibration
100
80
60
40
20
0
-20
PPB
80.2 ppb H2S
40.4 ppb H2S
10.1 ppb H2S
Analyzer
Zero
Analyzer
Span 63.8 ppb
Ambient
November 15, 2009