Peace AirShed Zone Association

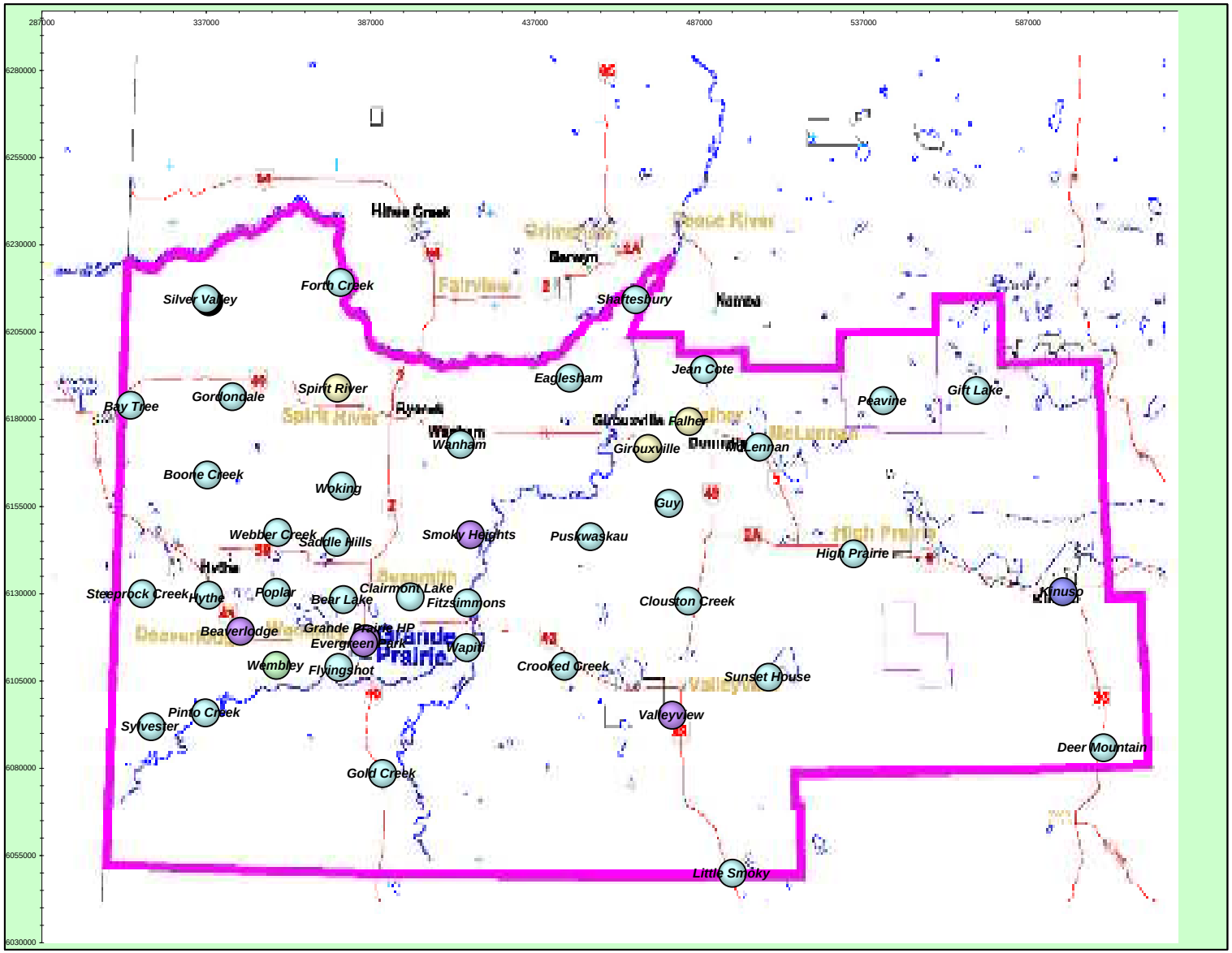
Ambient Air Monitoring Network Summary

Continuous Ambient Air Quality Monitoring Program
Monthly Report
July 2009

Operations and Reporting

FOCUS
AIR QUALITY MONITORING

Location of PASZA Continuous and Passive Monitoring Stations



PASZA
Peace AirShed Zone Association

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August 26, 2009

Alberta Environment
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9820-106 Street
Edmonton Alberta T6B 2X3

RE: Peace Airshed Zone Association (PASZA) – July 2009 Ambient Air Report

Enclosed is the PASZA Ambient Monitoring Network Report for the month of **July 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 June 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 July.

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 July.

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 July.

Beaverlodge Station:

- The measured ambient air quality was within the AAAQO for the Beaverlodge station.
- Due to the location of the meteorological tower and the rewiring of the wind speed and wind direction sensors to the new station shelter the sensors were not in service until July 3rd.
- All analyzers / sensors at the Beaverlodge station had an operational uptime greater than 90% for the month of July.

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 July.

Valleyview Station:

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

Passive Monitoring - 43 Stations throughout the PASZA zone:

There were four duplicate sites sampled in the month of July: Steeprock Creek, Wanham, Wapiti and Clouston Creek. 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 0.3 ppb, with a mean of 0.2 ppb.
- Monthly average concentrations for NO_2 passives ranged from 0.3 ppb to 2.8 ppb, with a mean of 1.2 ppb.
- Monthly average concentrations for O_3 passives ranged from 15.1 ppb to 28.2 ppb, with a mean of 20.2 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 E. Whiteley

Dawn Ewan
PASZA Office Administrator

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

PASZA Monthly Continuous Data Summary

Jul-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	Jul-21 22:00	0.6	Jul-27	100.0%
SO_2 (ppb)	172	57	Evergreen Park	0.3	0	0	9.9	Jul-24 10:00	1.3	Jul-24	100.0%
SO_2 (ppb)	172	57	Smoky Heights	0.3	0	0	5.5	Jul-17 10:00	0.7	Jul-20	100.0%
SO_2 (ppb)	172	57	Beaverlodge	0.2	0	0	1.9	Jul-31 17:00	0.4	Jul-12	99.5%
SO_2 (ppb)	172	57	Portable-Kinuso	0.2	0	0	1.4	Jul-12 11:00	0.4	Jul-12	99.7%
SO_2 (ppb)	172	57	Valleyview	0.3	0	0	10.0	Jul-13 09:00	1.7	Jul-01	100.0%
NO (ppb)			Henry Pirker	0.8	-	-	18.9	Jul-02 08:00	2.6	Jul-02	100.0%
NO_2 (ppb)	212	106	Henry Pirker	2.8	0	0	13.7	Jul-05 01:00	5.7	Jul-02	100.0%
NO_X (ppb)			Henry Pirker	3.7	-	-	30.2	Jul-02 08:00	8.4	Jul-02	100.0%
NO (ppb)			Beaverlodge	0.3	-	-	10.9	Jul-02 07:00	1.2	Jul-02	99.3%
NO_2 (ppb)	212	106	Beaverlodge	1.9	0	0	11.1	Jul-30 06:00	3.5	Jul-03	99.3%
NO_X (ppb)			Beaverlodge	2.3	-	-	17.2	Jul-02 07:00	4.3	Jul-30	99.3%
NO (ppb)			Portable-Kinuso	1.1	-	-	4.9	Jul-09 01:00	2.1	Jul-08	99.7%
NO_2 (ppb)	212	106	Portable-Kinuso	2.4	0	0	6.3	Jul-16 23:00	3.5	Jul-07	99.7%
NO_X (ppb)			Portable-Kinuso	3.5	-	-	10.1	Jul-16 23:00	5.7	Jul-08	99.7%
O_3 (ppb)	82		Henry Pirker	22.1	0	-	47.8	Jul-23 20:00	31.2	Jul-23	100.0%
O_3 (ppb) - 8-hr	65		Henry Pirker		0				46.3	Jul-23	
O_3 (ppb)	82		Beaverlodge	23.6	0	-	52.4	Jul-23 17:00	36.0	Jul-23	99.5%
O_3 (ppb) - 8-hr	65		Beaverlodge		0				47.2	Jul-23	
O_3 (ppb)	82		Portable-Kinuso	21.1	0	-	49.1	Jul-24 21:00	31.8	Jul-12	99.7%
O_3 (ppb) - 8-hr	65		Portable-Kinuso		0				43.7	Jul-23	
CO (ppm)	13		Henry Pirker	0.18	0	-	0.5	Jul-15 09:00	0.3	Jul-11	100.0%
CO (ppm) - 8-hr	5		Henry Pirker		0				0.4	Jul-12	
THC (ppm)			Henry Pirker	2.12	-	-	3.0	Jul-31 08:00	2.4	Jul-30	100.0%
TRS (ppb)			Henry Pirker	0.1	-	-	0.9	Jul-31 05:00	0.3	Jul-27	100.0%
TRS (ppb)			Evergreen Park	0.6	0	0	4.3	Jul-25 09:00	2.0	Jul-25	93.7%
TRS (ppb)			Smoky Heights	0.4	-	-	3.2	Jul-31 03:00	0.9	Jul-31	100.0%
TRS (ppb)			Portable-Kinuso	0.4	-	-	0.7	Jul-16 23:00	0.5	Jul-16	99.7%
H_2S (ppb)	10	3	Valleyview	0.1	0	0	2.9	Jul-13 10:00	0.5	Jul-13	100.0%
$PM_{2.5}$ ($\mu g/m^3$)	80	30	Henry Pirker	5.2	0	0	32.0	Jul-25 23:00	15.7	Jul-30	94.4%
$PM_{2.5}$ ($\mu g/m^3$)	80	30	Evergreen Park	5.5	0	0	33.4	Jul-24 11:00	14.1	Jul-30	97.5%
$PM_{2.5}$ ($\mu g/m^3$)	80	30	Smoky Heights	5.3	0	0	62.7	Jul-29 21:00	14.8	Jul-29	97.2%
$PM_{2.5}$ ($\mu g/m^3$)	80	30	Beaverlodge	7.7	0	0	27.5	Jul-27 21:00	16.5	Jul-30	99.2%

PASZA Monthly Continuous Data Summary - continued

Jul-2009	Peace Airshed Zone Assocation						Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
RH (%)			Henry Pirker	63.7	-	-	93.7	Jul-31 06:00	83.7	Jul-07	100.0%
RH (%)			Beaverlodge	62.4	-	-	95.5	Jul-08 00:00	97.1	Jul-07	99.5%
RH (%)			Valleyview	71.1	-	-	99.8	Jul-31 04:00	88.5	Jul-07	100.0%
SR (W/m^2)			Henry Pirker	201.9	-	-	814.3	Jul-03 14:00	264.3	Jul-23	100.0%
Temp (°C)			Henry Pirker	17.4	-	-	31.1	Jul-27 16:00	22.9	Jul-25	100.0%
Temp (°C)			Evergreen Park	16.9	-	-	29.0	Jul-31 18:00	22.6	Jul-25	100.0%
Temp (°C)			Smoky Heights	16.7	-	-	30.9	Jul-27 17:00	22.5	Jul-25	100.0%
Temp (°C)			Beaverlodge	17.3	-	-	30.9	Jul-27 16:00	23.5	Jul-27	99.5%
Temp (°C)			Portable-Kinuso	16.5	-	-	29.4	Jul-24 15:00	21.9	Jul-25	99.7%
Temp (°C)			Valleyview	15.9	-	-	28.4	Jul-27 16:00	22.0	Jul-25	100.0%
WSPD s (km/hr)			Henry Pirker	8.8	-	-	27.0	Jul-19 15:00	17.6	Jul-19	100.0%
WSPD s (km/hr)			Evergreen Park	5.1	-	-	20.0	Jul-16 12:00	11.9	Jul-19	100.0%
WSPD s (km/hr)			Smoky Heights	10.3	-	-	35.0	Jul-16 12:00	20.0	Jul-19	100.0%
WSPD s (km/hr)			Beaverlodge	10.3	-	-	37.0	Jul-06 12:00	30.1	Jul-06	99.4%
WSPD s (km/hr)			Portable-Kinuso	5.4	-	-	19.0	Jul-07 14:00	8.3	Jul-07	99.7%
WSPD s (km/hr)			Valleyview	5.2	-	-	24.0	Jul-18 21:00	10.2	Jul-19	100.0%
WSPD v (km/hr)			Henry Pirker	2.8	-	-	27.0	Jul-19 15:00	16.8	Jul-19	100.0%
WSPD v (km/hr)			Evergreen Park	1.9	-	-	20.0	Jul-16 12:00	11.1	Jul-19	100.0%
WSPD v (km/hr)			Smoky Heights	3.5	-	-	34.0	Jul-18 20:00	19.0	Jul-19	100.0%
WSPD v (km/hr)			Beaverlodge	1.9	-	-	37.0	Jul-06 12:00	28.5	Jul-06	99.4%
WSPD v (km/hr)			Portable-Kinuso	1.4	-	-	18.0	Jul-07 14:00	5.7	Jul-07	99.7%
WSPD v (km/hr)			Valleyview	2.0	-	-	24.0	Jul-18 21:00	9.1	Jul-19	100.0%
WDIR			Henry Pirker	WNW	-	-	-	-	-	-	100.0%
WDIR			Evergreen Park	WNW	-	-	-	-	-	-	100.0%
WDIR			Smoky Heights	W	-	-	-	-	-	-	100.0%
WDIR			Beaverlodge	N	-	-	-	-	-	-	99.4%
WDIR			Portable-Kinuso	S	-	-	-	-	-	-	99.7%
WDIR			Valleyview	NNW	-	-	-	-	-	-	100.0%

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
July 1, 2009 to August 1, 2009

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 3.3 ppb on Jul 21 22:00 Maximum Daily Average: 0.6 ppb on Jul 27

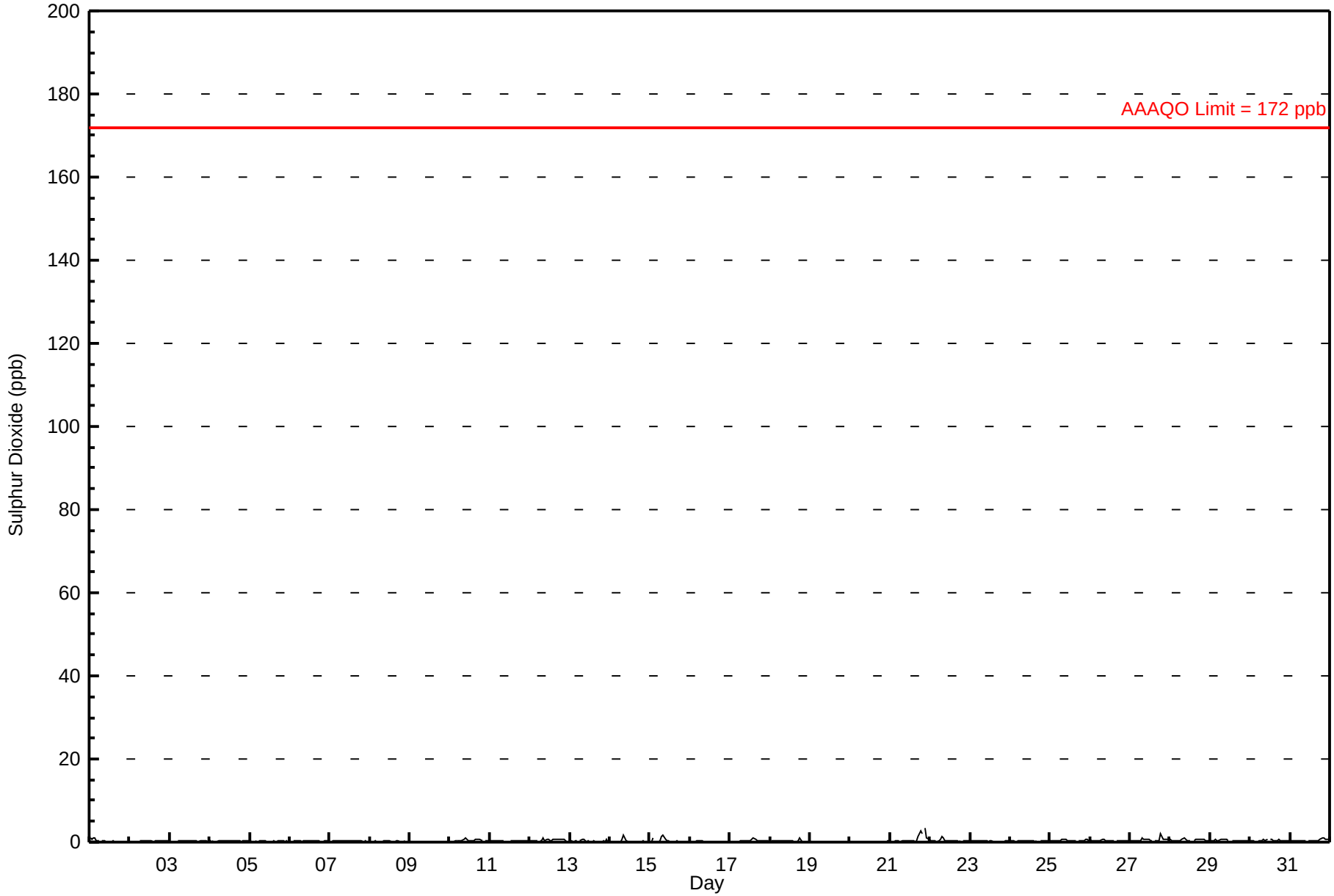
Minimum Value: 0 ppb on Jul 1 17:00 Minimum Daily Average: 0.0 ppb on Jul 19
Maximum Diurnal Average: 0.5 ppb at hour 9 Minimum Diurnal Average: 0.2 ppb at hour 5
Monthly Average: 0.30 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.3 Q_3 = 0.4 P_{90} = 0.6 P_{99} = 1.5

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	1	1	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.0
2-Jul	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
3-Jul	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
4-Jul	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
5-Jul	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
6-Jul	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
7-Jul	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.2	0.4
8-Jul	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
9-Jul	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
10-Jul	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	1	1	1	0	A	0	0	0	0.4	1.1
11-Jul	0	0	0	0	0	0	0	0	0	C	C	A	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
12-Jul	0	0	0	0	0	A	0	0	1	0	1	1	0	0	1	1	1	1	1	1	1	0	0	0	0.5	0.9
13-Jul	0	0	0	0	0	A	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.2	0.8
14-Jul	0	0	0	0	A	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.6
15-Jul	0	0	1	A	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.6
16-Jul	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
17-Jul	0	A	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0.3	0.9
18-Jul	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	A	0.2	0.9
19-Jul	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
20-Jul	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	0.3
21-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	2	A	3	1	1	0.6	3.3
22-Jul	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.4	1.3
23-Jul	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	0.4
24-Jul	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
25-Jul	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	A	0	0	0	0	1	1	0	0.4	0.6
26-Jul	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.4	0.6
27-Jul	0	0	0	0	0	0	0	1	1	1	1	1	0	0	A	0	0	0	2	1	1	1	1	1	0.6	2.1
28-Jul	1	0	0	0	0	0	0	1	1	1	0	0	0	A	0	1	1	1	1	1	1	0	0	0	0.5	1.0
29-Jul	0	0	1	1	0	0	1	1	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0.5	0.8
30-Jul	0	0	0	0	0	0	0	0	1	0	1	A	1	1	0	0	0	1	0	0	0	0	0	0	0.4	0.6
31-Jul	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	1	1	1	1	1	0.5	1.0
	0.3	0.2	0.3	0.2	0.2	0.2	0.3	0.4	0.5	0.4	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.3	0.4	0.3	0.3	0.4	0.3	0.3	Diurnal Average	
	1.0	0.8	1.0	1.0	0.5	0.5	0.7	1.3	1.6	1.1	0.8	0.7	0.6	0.7	0.9	0.7	0.7	1.3	2.9	2.2	0.9	3.3	0.9	0.7	Diurnal Maximum	

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

Hourly Averages for SO_2 at Henry Pirker
July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Sulphur Dioxide (SO_2) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 4.8 ppb on Jul 27 19:00

Maximum Daily Average: 1.2 ppb on Jul 21

Minimum Value: 0 ppb on Jul 1 18:00

Maximum Diurnal Average: 0.9 ppb at hour 19

Monthly Average: 0.62 ppb

Minimum Daily Average: 0.2 ppb on Jul 19

Minimum Diurnal Average: 0.5 ppb at hour 4

Percentiles: P_1 = 0.0 P_{10} = 0.3 Q_1 = 0.4 Median = 0.5 Q_3 = 0.8 P_{90} = 0.9 P_{99} = 3.0

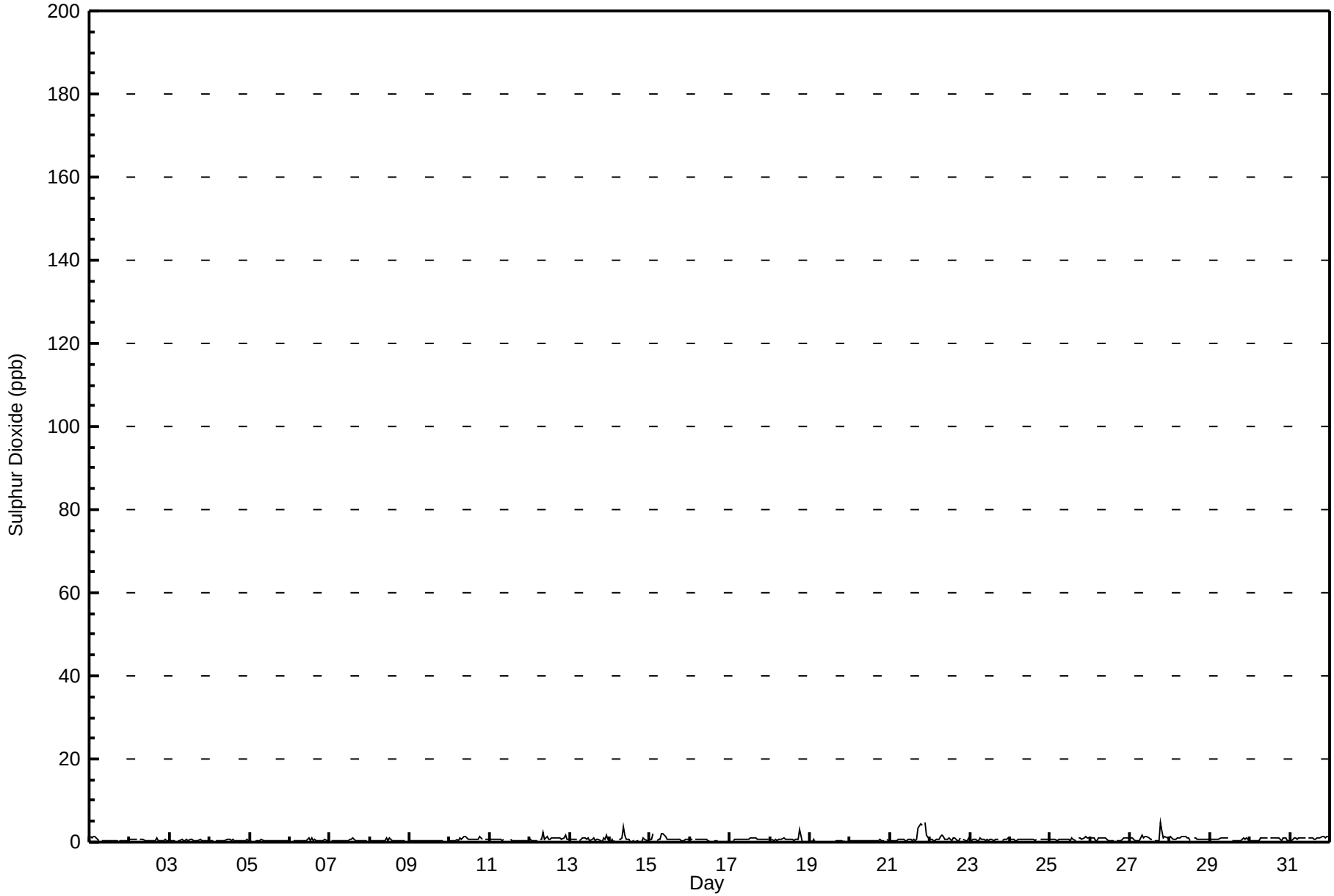
Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	1	1	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.6	1.4
2-Jul	1	1	1	1	1	A	1	1	1	1	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0.5	0.9
3-Jul	0	0	0	0	A	0	0	1	0	0	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0.5	0.8
4-Jul	0	0	0	A	0	0	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0	0	1	0	0.4	0.8
5-Jul	0	0	A	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7
6-Jul	0	A	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	0	0.5	0.9
7-Jul	A	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	A	0.4	0.9
8-Jul	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	A	0	0.4	0.9
9-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.4	0.4
10-Jul	0	0	0	0	1	0	1	1	1	2	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.8	1.5
11-Jul	1	1	1	1	1	1	1	1	1	C	C	A	1	0	0	0	0	0	0	0	0	0	0	0	0.5	0.8
12-Jul	1	0	0	0	0	A	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	0.9	2.3
13-Jul	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0	1	1	0	0	1	1	2	1	0.7	1.5
14-Jul	0	1	0	0	A	1	1	1	4	2	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0.6	3.7
15-Jul	1	1	2	A	0	1	1	2	2	2	1	1	1	1	1	1	1	1	1	0	0	1	1	1	0.7	2.1
16-Jul	1	1	A	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
17-Jul	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.2
18-Jul	A	1	0	1	0	1	1	1	1	1	1	1	1	1	0	1	1	1	3	0	0	0	0	A	0.6	3.1
19-Jul	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.2	0.6
20-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	A	1	0	0.3	0.6
21-Jul	0	0	0	0	0	1	1	1	1	0	0	1	1	0	1	0	1	3	4	4	A	5	2	1	1.2	4.7
22-Jul	1	1	0	0	1	1	1	2	1	1	1	1	1	0	1	1	0	0	1	A	1	0	0	1	0.8	1.8
23-Jul	0	0	1	1	0	0	1	1	1	0	1	0	1	1	0	1	1	1	A	0	1	1	1	1	0.6	1.0
24-Jul	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	0	1	A	1	1	1	1	1	1	0.7	0.8
25-Jul	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	0	A	1	1	1	1	1	1	1	0.8	1.4
26-Jul	1	1	1	0	0	1	1	1	1	1	1	0	0	0	0	A	0	0	0	1	1	1	1	1	0.7	1.2
27-Jul	1	1	1	0	0	0	1	2	1	1	1	1	1	1	A	0	0	0	5	3	1	1	1	1	1.1	4.8
28-Jul	1	1	1	1	1	1	1	1	1	1	1	1	0	A	1	1	1	1	1	1	1	1	1	1	0.9	1.4
29-Jul	1	1	1	1	1	1	1	1	1	1	1	1	A	0	0	0	0	0	0	1	1	1	1	0	0.7	1.1
30-Jul	0	0	0	0	0	0	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	1	0	0	0.7	1.0
31-Jul	0	0	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.4
	0.6	0.5	0.6	0.5	0.5	0.5	0.6	0.8	0.9	0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.9	0.6	0.6	0.8	0.6	0.6	Diurnal Average	
	1.4	0.9	1.9	1.4	0.9	0.9	1.3	2.1	3.7	1.6	1.3	1.0	0.9	1.1	1.2	1.1	1.0	3.2	4.8	4.2	1.3	4.7	1.7	1.4	Diurnal Maximum	

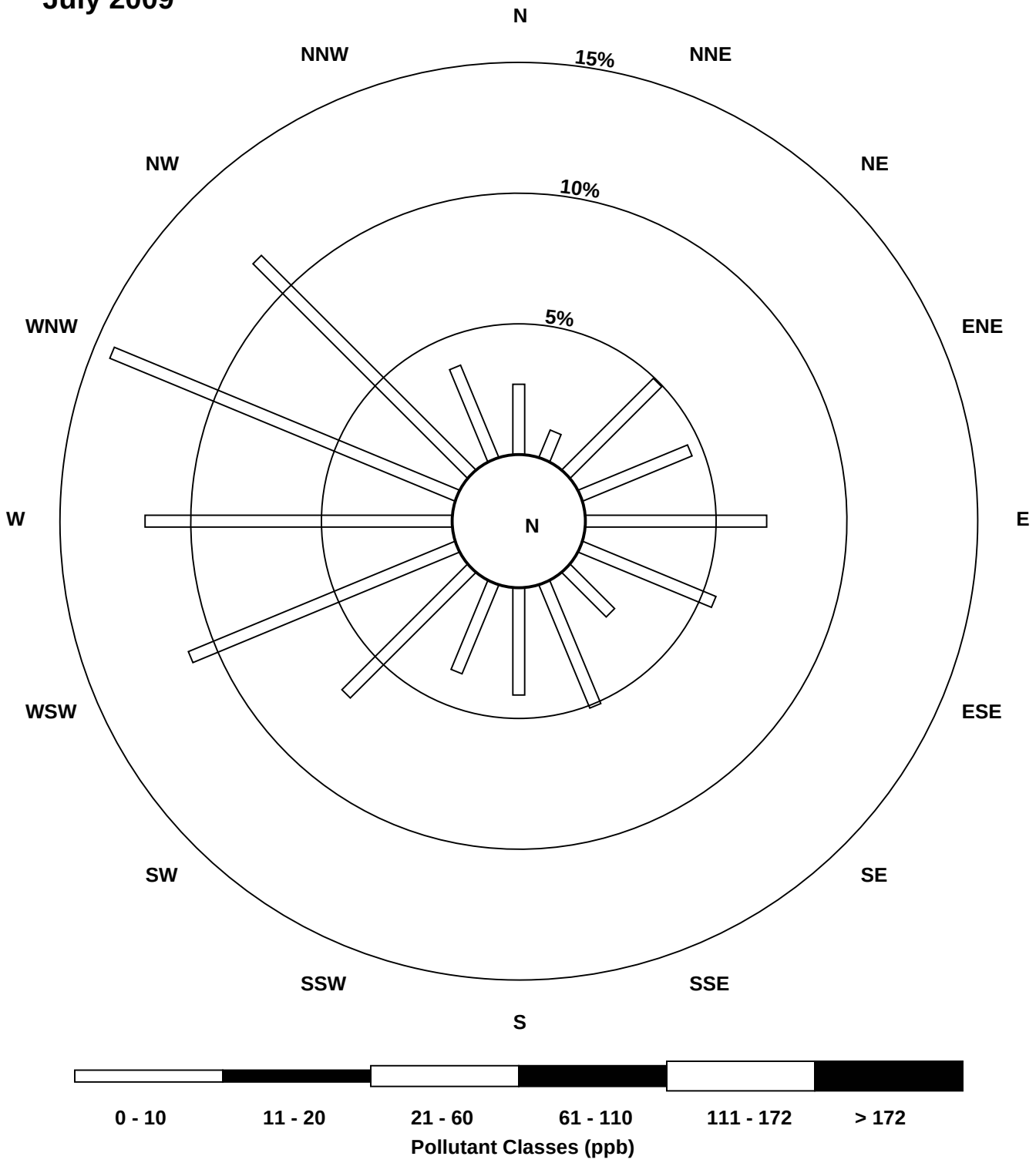
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for SO_2 at Henry Pirker
July 2009



Pollutant Rose for SO_2 at Henry Pirker
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Total Reduced Sulphur (TRS) - ppb
July 1, 2009 to August 1, 2009

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 0.9 ppb on Jul 31 05:00 Maximum Daily Average: 0.3 ppb on Jul 27

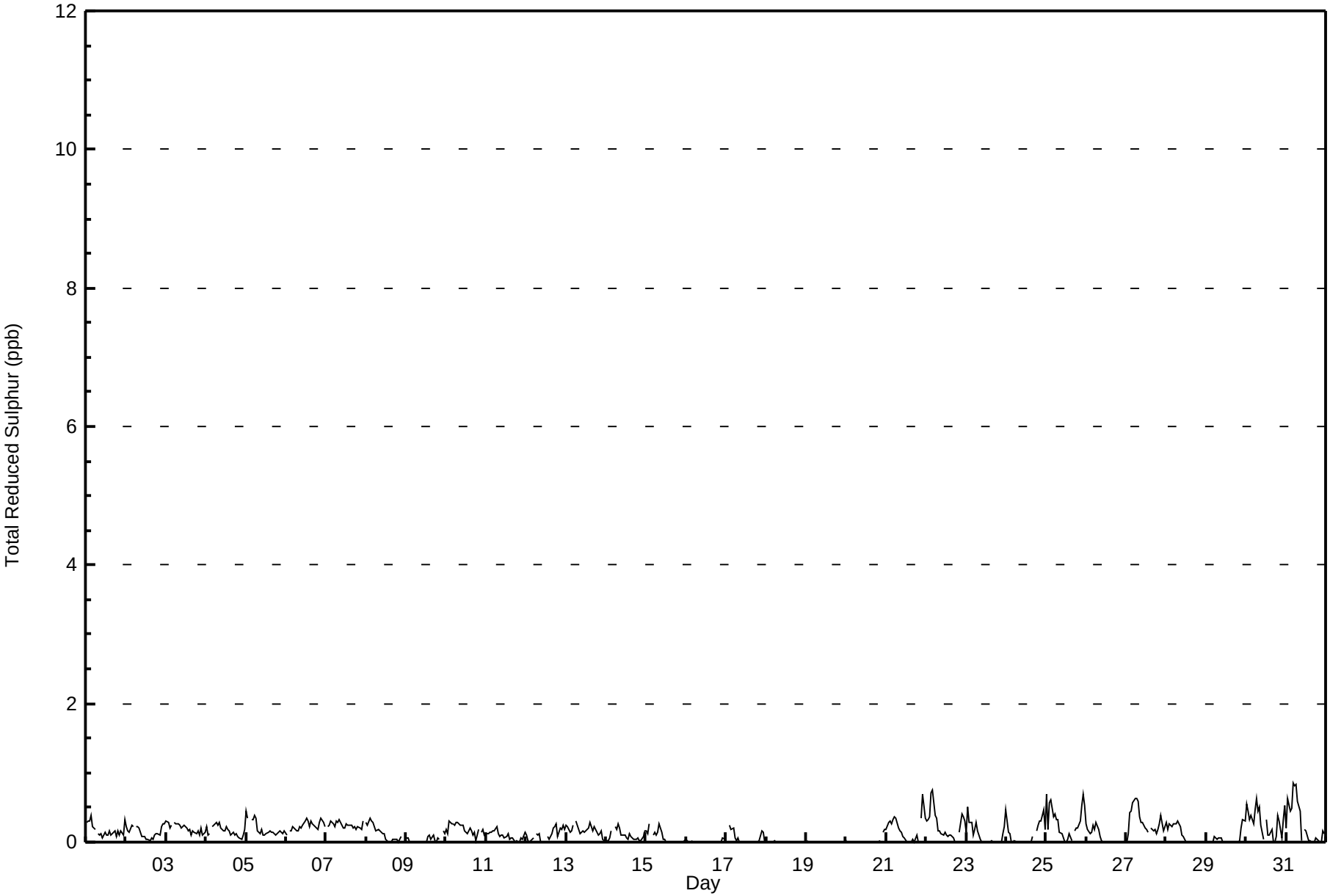
Minimum Value: 0 ppb on Jul 8 14:00 Minimum Daily Average: 0.0 ppb on Jul 18
Maximum Diurnal Average: 0.2 ppb at hour 6 Minimum Diurnal Average: 0.1 ppb at hour 18
Monthly Average: 0.14 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.2 P_{90} = 0.3 P_{99} = 0.7

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

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

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

Hourly Averages for TRS at Henry Pirker
July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Total Reduced Sulphur (TRS) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 3.8 ppb on Jul 30 01:00

Maximum Daily Average: 1.1 ppb on Jul 30

Minimum Value: 0 ppb on Jul 24 10:00

Maximum Diurnal Average: 0.8 ppb at hour 1

Monthly Average: 0.56 ppb

Minimum Daily Average: 0.3 ppb on Jul 19

Minimum Diurnal Average: 0.4 ppb at hour 18

Percentiles: $P_1 = 0.1$ $P_{10} = 0.3$ $Q_1 = 0.4$ Median = 0.5 $Q_3 = 0.6$ $P_{90} = 0.8$ $P_{99} = 2.0$

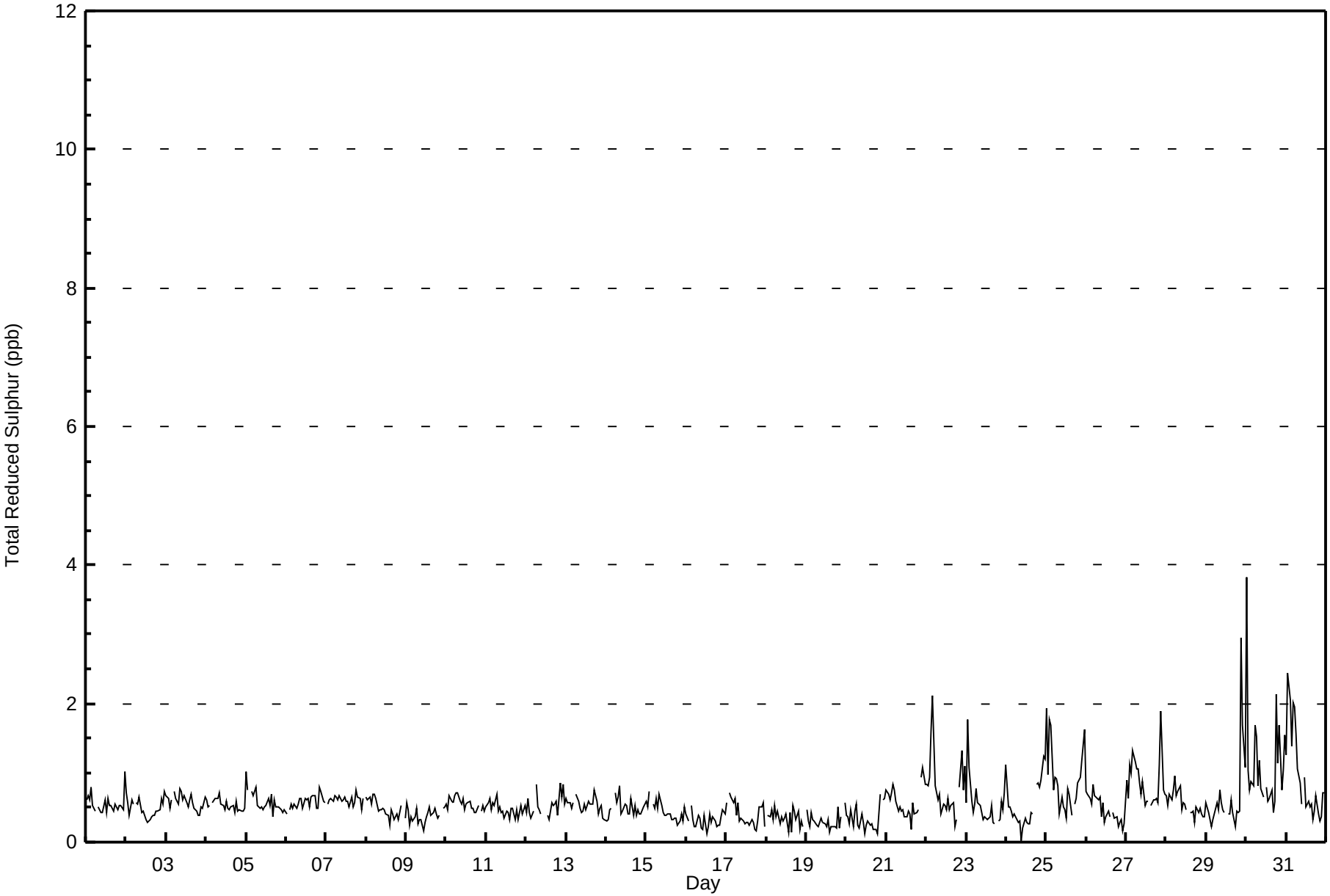
Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	1	1	1	1	1	0	A	1	0	0	0	1	0	1	1	1	0	1	1	0	1	1	0	1	0.6	1.0
2-Jul	1	1	0	1	1	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.5	0.7
3-Jul	1	1	0	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0	1	0.6	0.8
4-Jul	1	1	1	A	1	1	1	1	1	1	1	0	1	0	0	1	1	0	1	0	0	0	0	0	0.5	0.7
5-Jul	1	1	A	1	1	1	1	1	0	1	0	1	1	1	1	1	0	1	1	1	0	0	0	0	0.6	1.0
6-Jul	0	A	0	1	0	1	0	1	1	1	0	1	1	1	1	1	1	1	0	0	1	1	1	1	0.6	0.8
7-Jul	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	A	0.6	0.8
8-Jul	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0	0.5	0.7
9-Jul	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0	1	0.4	0.6
10-Jul	1	0	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0	0	1	A	0	1	0	0.6	0.7
11-Jul	0	1	1	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.5	0.7
12-Jul	0	1	0	0	0	A	1	1	0	0	C	C	A	0	0	1	1	1	1	0	1	1	1	1	0.5	0.9
13-Jul	1	1	1	0	1	A	1	1	0	0	0	1	0	1	1	1	1	1	1	0	0	1	0	0	0.5	0.8
14-Jul	0	0	0	0	A	1	1	1	1	0	0	1	1	0	0	1	0	1	0	0	0	0	1	1	0.5	0.8
15-Jul	1	1	1	A	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	0.7
16-Jul	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
17-Jul	1	A	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0.4	0.7
18-Jul	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0.4	0.5
19-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	A	1	0.3	0.6
20-Jul	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	1	1	0.3	0.7
21-Jul	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	1	0	0	0	A	1	1	1	0.6	1.1
22-Jul	1	1	1	2	2	1	1	1	1	0	1	1	0	1	0	1	1	0	0	A	1	1	1	1	0.8	2.1
23-Jul	1	2	1	1	0	1	1	1	1	0	0	0	0	0	0	1	0	0	A	0	0	1	0	1	0.5	1.8
24-Jul	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	1	1	1	0.5	1.2
25-Jul	2	1	2	2	1	1	1	1	0	1	1	0	0	1	1	0	A	1	1	1	1	1	1	2	0.9	1.9
26-Jul	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0.5	0.8
27-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	2	1	1	0.9	1.9
28-Jul	1	1	1	1	1	1	1	1	1	0	1	1	0	A	0	0	0	0	1	0	0	0	0	0	0.6	1.0
29-Jul	1	0	0	0	0	0	1	0	1	1	0	0	A	0	0	1	0	0	0	0	0	3	2	1	0.6	2.9
30-Jul	4	1	1	1	1	2	2	1	1	1	1	A	1	1	1	1	0	1	2	1	2	1	1	2	1.1	3.8
31-Jul	1	2	2	1	2	2	2	1	1	1	A	1	0	1	1	1	0	0	1	0	0	0	1	1	1.0	2.4
	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.4	0.5	0.4	0.5	0.4	0.4	0.5	0.5	0.6	0.7	0.6	0.7	Diurnal Average	
	3.8	2.4	2.1	1.7	2.1	2.0	1.6	1.1	1.2	0.8	0.9	0.9	0.8	0.8	0.7	0.8	0.7	0.8	2.1	1.1	1.7	2.9	1.7	1.6	Diurnal Maximum	

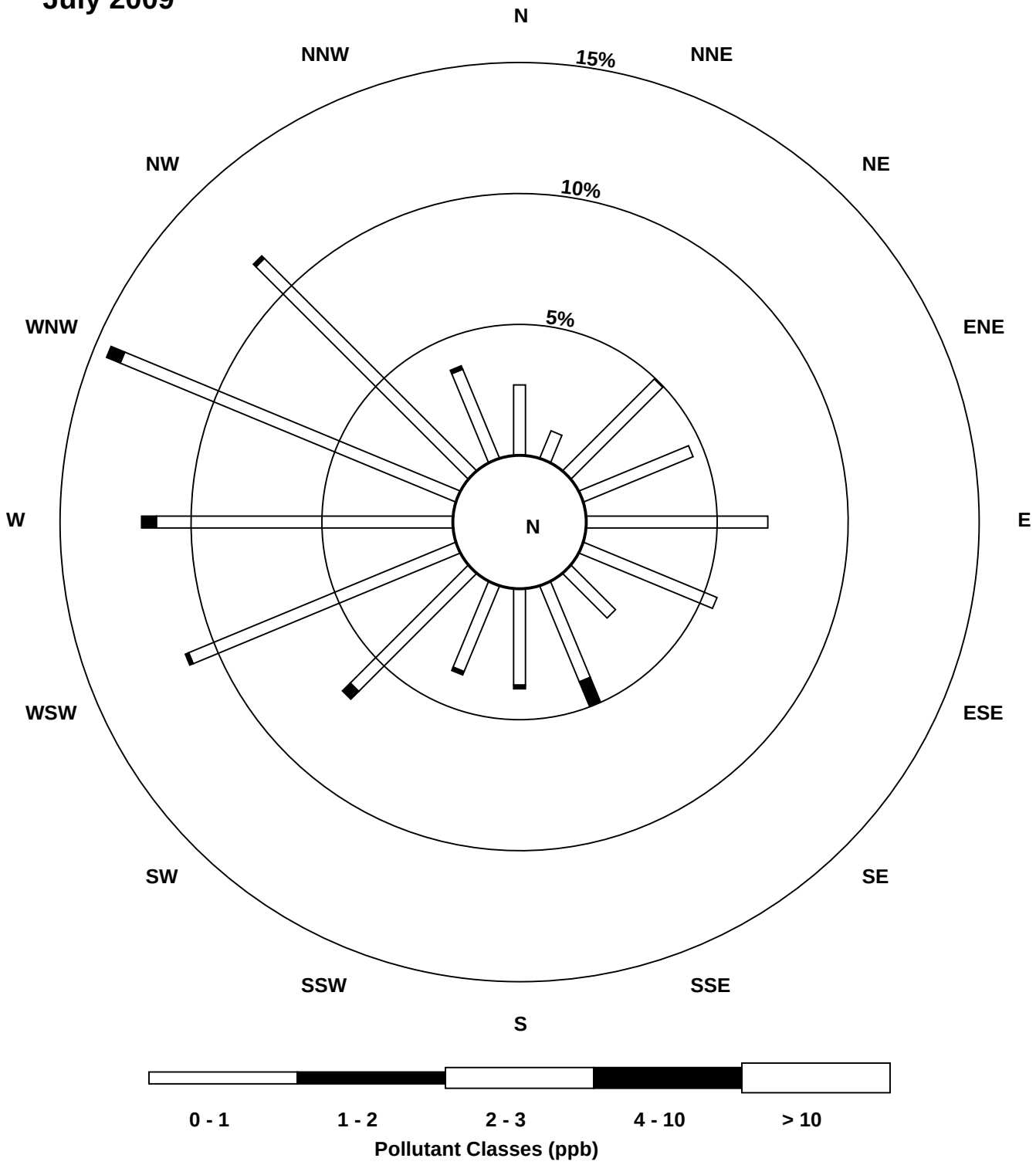
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for TRS at Henry Pirker
July 2009



Pollutant Rose for TRS at Henry Pirker
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Nitrogen Dioxide (NO_2) - ppb
July 1, 2009 to August 1, 2009

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 13.7 ppb on Jul 5 01:00 Maximum Daily Average: 5.7 ppb on Jul 2

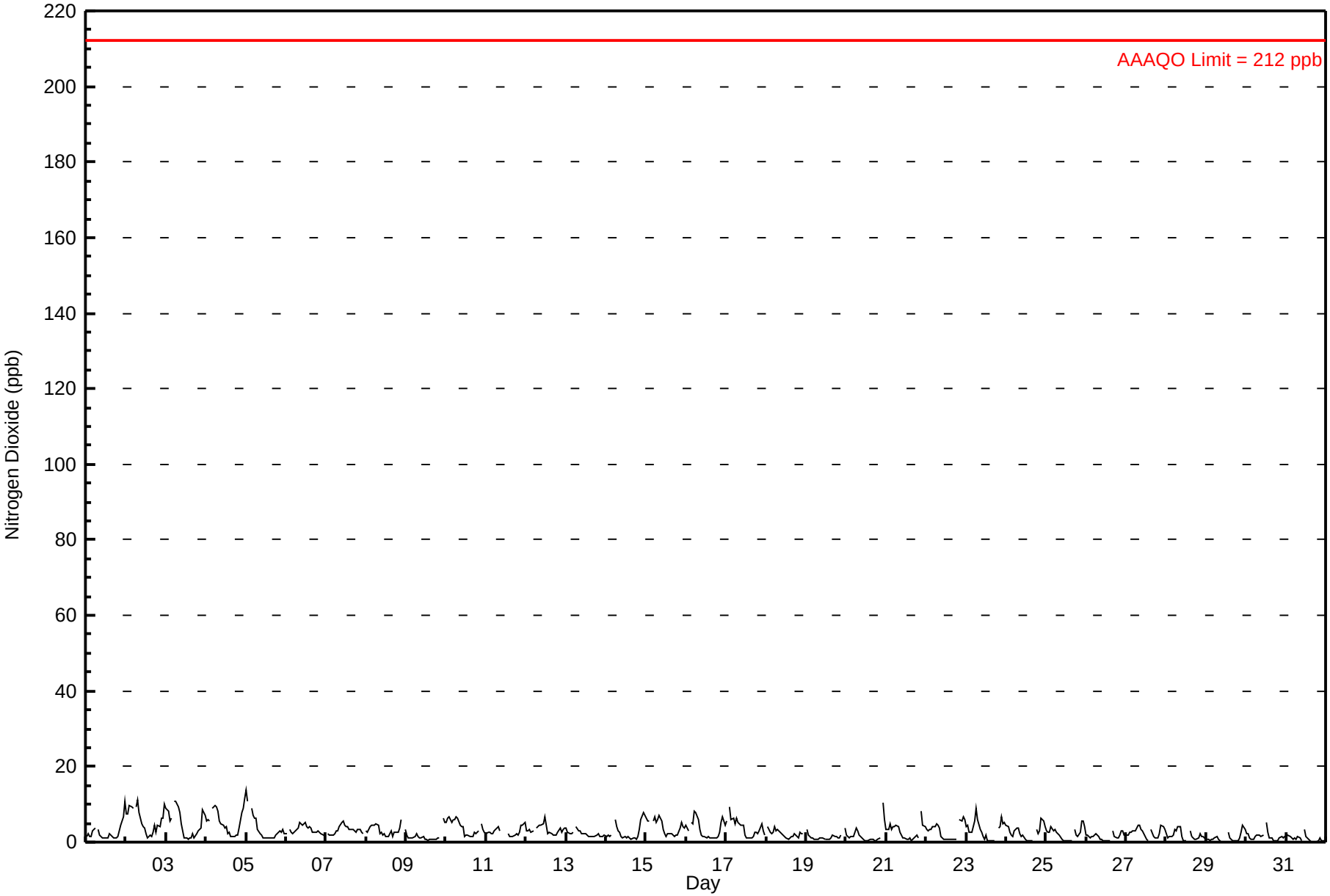
Minimum Value: 0 ppb on Jul 29 11:00 Minimum Daily Average: 0.9 ppb on Jul 31
Maximum Diurnal Average: 4.6 ppb at hour 23 Minimum Diurnal Average: 1.4 ppb at hour 14
Monthly Average: 2.82 ppb Percentiles: $P_1 = 0.2$ $P_{10} = 0.7$ $Q_1 = 1.2$ Median = 2.2 $Q_3 = 3.9$ $P_{90} = 5.8$ $P_{99} = 10.6$

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	2	2	1	2	3	4	A	3	2	2	1	1	1	1	2	2	1	1	1	1	3	4	7	11	2.5	10.7
2-Jul	7	8	10	9	9	A	9	11	8	5	4	4	2	1	2	1	3	5	3	4	4	7	6	10	5.7	11.2
3-Jul	9	8	6	6	A	11	11	9	8	5	3	1	1	1	1	1	2	1	2	3	3	4	9	7	4.8	10.8
4-Jul	6	6	6	A	9	10	10	8	6	5	4	4	4	2	3	2	1	2	2	2	4	8	9	12	5.3	11.7
5-Jul	14	11	A	9	7	6	6	3	2	2	1	1	1	1	1	1	1	1	2	3	3	3	3	2	3.7	13.7
6-Jul	2	A	3	3	2	3	3	4	5	5	5	5	4	4	4	4	3	3	3	3	3	2	2	2	3.3	5.3
7-Jul	A	2	2	2	2	2	3	3	4	5	6	5	4	4	3	3	3	3	3	3	3	3	2	A	3.2	5.7
8-Jul	3	3	4	4	5	5	5	4	2	3	2	2	2	1	2	3	2	3	3	3	4	6	A	3	3.1	6.0
9-Jul	2	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	A	6	5	1.5	6.3
10-Jul	5	6	7	5	6	6	7	6	4	4	4	2	2	2	2	2	2	3	2	3	A	5	3	3	3.9	6.8
11-Jul	2	2	3	2	2	3	4	4	3	C	C	C	C	2	2	1	1	2	2	2	2	4	5	5	2.8	5.4
12-Jul	3	3	3	3	3	A	4	4	4	5	5	7	4	2	3	2	2	2	2	3	4	3	3	4	3.3	6.9
13-Jul	4	3	2	2	3	A	4	3	3	2	2	2	2	2	2	2	2	1	2	2	2	1	1	2	2.2	4.1
14-Jul	2	2	1	2	A	6	4	3	3	2	1	1	1	1	1	1	1	1	1	2	4	6	8	7	2.6	8.0
15-Jul	7	6	6	A	6	7	5	6	7	6	3	2	1	2	2	2	2	1	2	2	4	5	4	4	3.9	7.0
16-Jul	4	3	A	5	5	8	8	6	3	2	2	1	1	1	1	1	1	1	1	1	3	5	7	4	3.3	8.2
17-Jul	6	A	9	6	6	5	7	5	5	4	5	2	1	1	1	1	2	3	3	2	3	5	3	2	3.7	9.4
18-Jul	A	4	3	2	3	4	3	3	3	2	2	1	1	1	1	1	1	2	2	1	3	2	2	A	2.2	4.1
19-Jul	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	2	A	4	1.3	3.6
20-Jul	2	1	1	1	2	3	4	3	2	1	1	1	0	1	1	1	1	0	1	1	1	A	11	6	1.9	10.5
21-Jul	3	3	5	3	4	4	5	4	3	2	1	1	1	1	1	1	1	1	2	1	A	8	5	4	2.8	8.4
22-Jul	3	3	3	3	4	4	5	4	4	2	1	1	1	1	1	1	1	1	1	A	6	5	7	6	2.9	6.8
23-Jul	4	4	2	2	4	5	9	6	3	2	1	1	2	0	0	0	1	0	A	4	4	7	5	5	3.2	8.9
24-Jul	4	4	2	2	2	3	4	4	2	1	2	1	0	0	0	0	1	A	4	2	3	6	6	4	2.5	6.3
25-Jul	3	3	3	4	3	3	3	2	2	1	1	0	0	0	0	0	A	3	2	2	2	5	6	4	2.3	5.7
26-Jul	2	2	1	1	1	2	2	1	1	1	0	0	0	0	0	A	3	2	1	1	2	3	3	2	1.4	3.1
27-Jul	2	2	3	2	3	3	4	5	4	3	3	1	1	0	A	3	2	1	1	1	2	5	4	3	2.6	4.6
28-Jul	2	1	1	1	2	3	3	4	4	1	0	0	0	A	3	2	1	1	1	1	2	2	2	1	1.8	4.2
29-Jul	1	1	0	1	1	1	1	1	0	0	0	0	A	3	1	1	0	0	0	0	1	3	4	3	1.1	4.4
30-Jul	2	2	1	1	1	2	2	2	2	1	2	A	5	2	1	1	1	0	0	0	1	2	1	2	1.5	5.3
31-Jul	2	2	1	1	1	1	1	1	1	1	A	3	1	1	0	0	0	0	0	0	1	1	0	0	0.9	3.2
	3.8	3.4	3.2	3.1	3.4	4.1	4.5	4.1	3.3	2.5	2.2	1.8	1.7	1.4	1.5	1.4	1.4	1.6	1.6	1.9	2.7	4.2	4.6	4.4	Diurnal Average	
	13.7	10.8	9.7	9.3	8.9	10.8	10.8	11.2	7.8	5.5	5.7	6.9	5.3	4.0	4.0	3.7	3.3	4.5	3.5	4.3	5.8	8.4	10.5	11.7	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
July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Nitrogen Dioxide (NO_2) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 18.7 ppb on Jul 23 07:00

Maximum Daily Average: 8.2 ppb on Jul 2

Minimum Value: 0 ppb on Jul 31 18:00

Minimum Daily Average: 1.5 ppb on Jul 31

Maximum Diurnal Average: 7.0 ppb at hour 23

Minimum Diurnal Average: 2.4 ppb at hour 14

Monthly Average: 4.28 ppb

Percentiles: $P_1 = 0.5$ $P_{10} = 1.0$ $Q_1 = 2.0$ Median = 3.5 $Q_3 = 5.9$ $P_{90} = 8.0$ $P_{99} = 15.8$

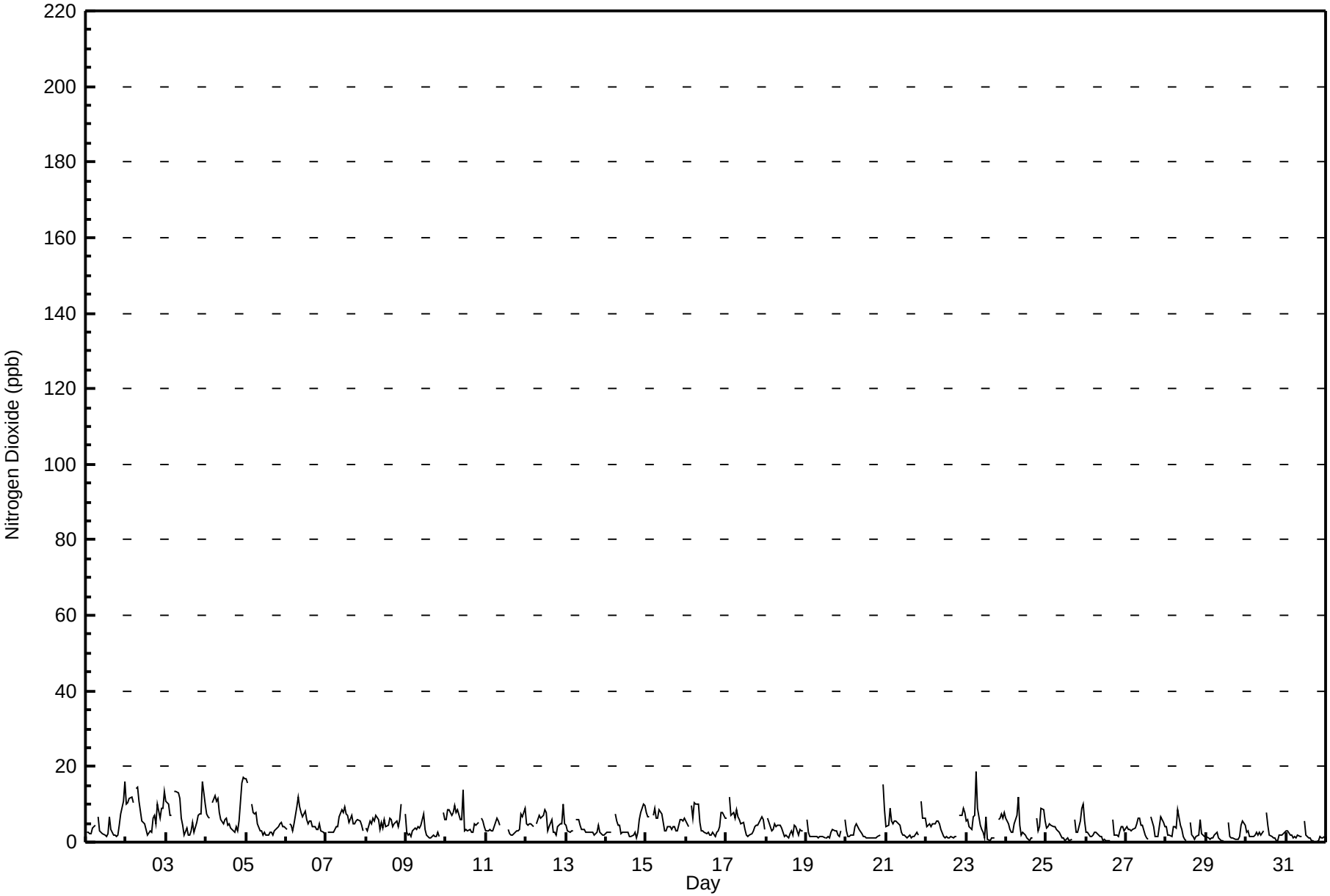
Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	3	3	2	2	4	5	A	7	3	3	2	2	2	2	7	3	2	2	2	2	5	8	11	16	4.1	16.0
2-Jul	10	10	12	12	10	A	14	14	11	6	5	5	4	2	3	3	6	7	5	10	6	9	9	13	8.2	14.5
3-Jul	11	10	7	7	A	14	13	13	11	6	4	2	4	2	2	3	5	2	5	7	7	7	16	10	7.4	16.0
4-Jul	7	7	6	A	10	12	11	11	8	6	5	6	6	4	5	4	3	3	4	3	6	16	17	17	7.8	17.0
5-Jul	17	15	A	10	8	8	8	5	3	3	2	3	2	2	3	3	2	3	3	4	5	5	4	4	5.3	16.8
6-Jul	3	A	5	5	3	5	9	12	9	8	7	8	6	5	6	6	4	4	3	3	5	3	2	2	5.4	11.8
7-Jul	A	3	2	2	2	3	4	4	7	8	8	9	7	7	5	7	5	5	5	6	5	4	3	A	5.2	9.2
8-Jul	4	3	5	5	6	5	7	6	3	5	4	6	4	4	6	6	4	5	5	4	6	10	A	7	5.3	10.0
9-Jul	3	2	2	2	3	4	3	4	4	5	8	3	2	1	1	1	2	2	2	2	2	A	8	6	3.0	8.0
10-Jul	6	8	8	7	8	10	8	8	6	6	14	3	3	3	3	2	2	5	4	5	A	6	5	4	6.0	13.9
11-Jul	3	3	4	3	3	4	6	5	4	C	C	C	C	4	2	2	2	2	3	3	3	7	7	9	4.0	8.9
12-Jul	5	4	5	5	4	A	5	6	7	6	7	8	8	3	4	6	2	3	2	4	5	5	10	5	5.2	9.9
13-Jul	4	3	2	3	3	A	6	6	4	3	3	3	3	2	3	2	2	2	2	5	2	2	2	2	3.2	6.0
14-Jul	2	2	3	2	A	7	5	4	4	2	2	2	2	2	1	1	2	2	1	2	6	8	10	10	3.8	9.9
15-Jul	8	7	7	A	7	9	6	6	8	7	5	3	3	4	4	3	4	4	3	3	6	6	5	6	5.5	8.8
16-Jul	5	4	A	10	6	10	10	10	5	3	3	2	2	2	2	2	2	2	3	3	4	8	8	6	4.9	10.4
17-Jul	6	A	12	7	8	6	8	7	6	5	5	3	2	1	2	2	3	4	4	4	5	7	6	3	5.2	11.9
18-Jul	A	6	4	3	3	5	4	4	4	4	3	2	2	1	2	3	2	4	4	2	4	3	3	A	3.3	6.4
19-Jul	6	3	2	1	2	2	1	1	2	2	2	1	1	2	1	3	3	3	3	2	2	3	A	6	2.2	6.0
20-Jul	3	2	2	2	2	4	5	4	3	2	1	1	1	1	1	1	1	1	1	1	2	A	15	8	2.8	15.3
21-Jul	4	5	9	5	5	5	5	5	4	2	2	2	1	2	2	1	2	2	2	2	A	11	6	6	4.0	10.9
22-Jul	4	4	5	4	5	5	5	5	5	3	1	1	2	1	1	1	1	2	2	A	7	7	9	8	3.9	8.9
23-Jul	5	6	4	4	7	7	19	9	4	3	2	1	7	1	1	1	1	1	A	6	6	8	6	8	5.1	18.7
24-Jul	6	5	3	2	3	5	7	12	4	2	2	2	1	1	0	1	1	A	6	3	4	9	8	5	4.1	12.1
25-Jul	4	4	5	5	4	4	3	3	3	1	1	1	1	1	1	1	A	6	3	3	5	9	10	6	3.5	10.0
26-Jul	3	3	2	2	2	3	3	2	2	2	1	1	1	1	1	A	6	2	2	1	3	4	4	3	2.1	5.9
27-Jul	4	3	3	3	3	4	5	6	6	4	4	2	1	1	A	7	4	1	1	1	4	7	5	4	3.8	6.9
28-Jul	4	2	2	1	4	4	4	9	4	3	1	1	0	A	5	2	1	1	1	2	6	2	2	1	2.8	8.8
29-Jul	1	1	1	1	1	2	3	1	1	0	0	0	A	5	2	1	1	1	1	1	2	5	6	5	1.7	5.5
30-Jul	3	3	2	2	2	2	2	2	3	2	3	A	8	4	2	1	1	1	0	0	2	2	2	2	2.2	7.9
31-Jul	3	3	2	2	1	1	1	2	2	1	A	5	2	1	1	1	0	0	0	0	1	1	1	1	1.5	5.5
	5.1	4.6	4.4	4.1	4.5	5.5	6.5	6.3	4.9	3.9	3.8	3.1	3.0	2.4	2.6	2.7	2.7	2.7	2.8	3.2	4.4	6.3	7.0	6.4	Diurnal Average	
	16.8	15.5	11.9	12.0	10.5	13.6	18.7	14.5	11.5	8.4	13.9	9.2	7.9	7.0	6.8	7.3	6.5	7.2	6.4	10.1	7.3	15.8	17.0	16.8	Diurnal Maximum	

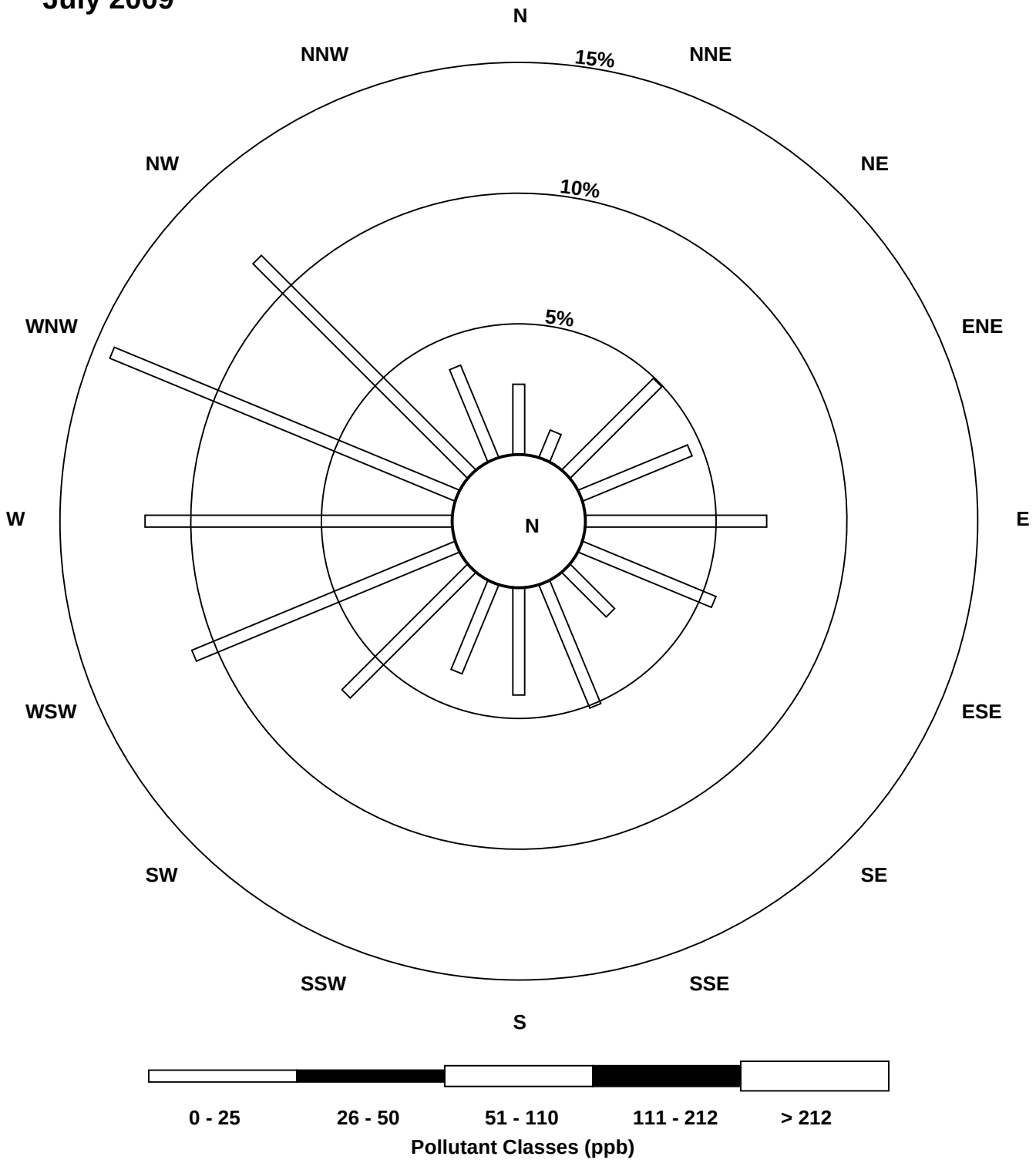
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for NO_2 at Henry Pirker
July 2009



Pollutant Rose for NO_2 at Henry Pirker
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Nitrogen Oxide (NO) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 18.9 ppb on Jul 2 08:00

Maximum Daily Average: 2.6 ppb on Jul 2

Minimum Value: 0 ppb on Jul 9 04:00

Minimum Daily Average: 0.1 ppb on Jul 26

Maximum Diurnal Average: 3.3 ppb at hour 8

Minimum Diurnal Average: 0.2 ppb at hour 1

Monthly Average: 0.81 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.1$ Median = 0.4 $Q_3 = 0.8$ $P_{90} = 2.1$ $P_{99} = 7.3$

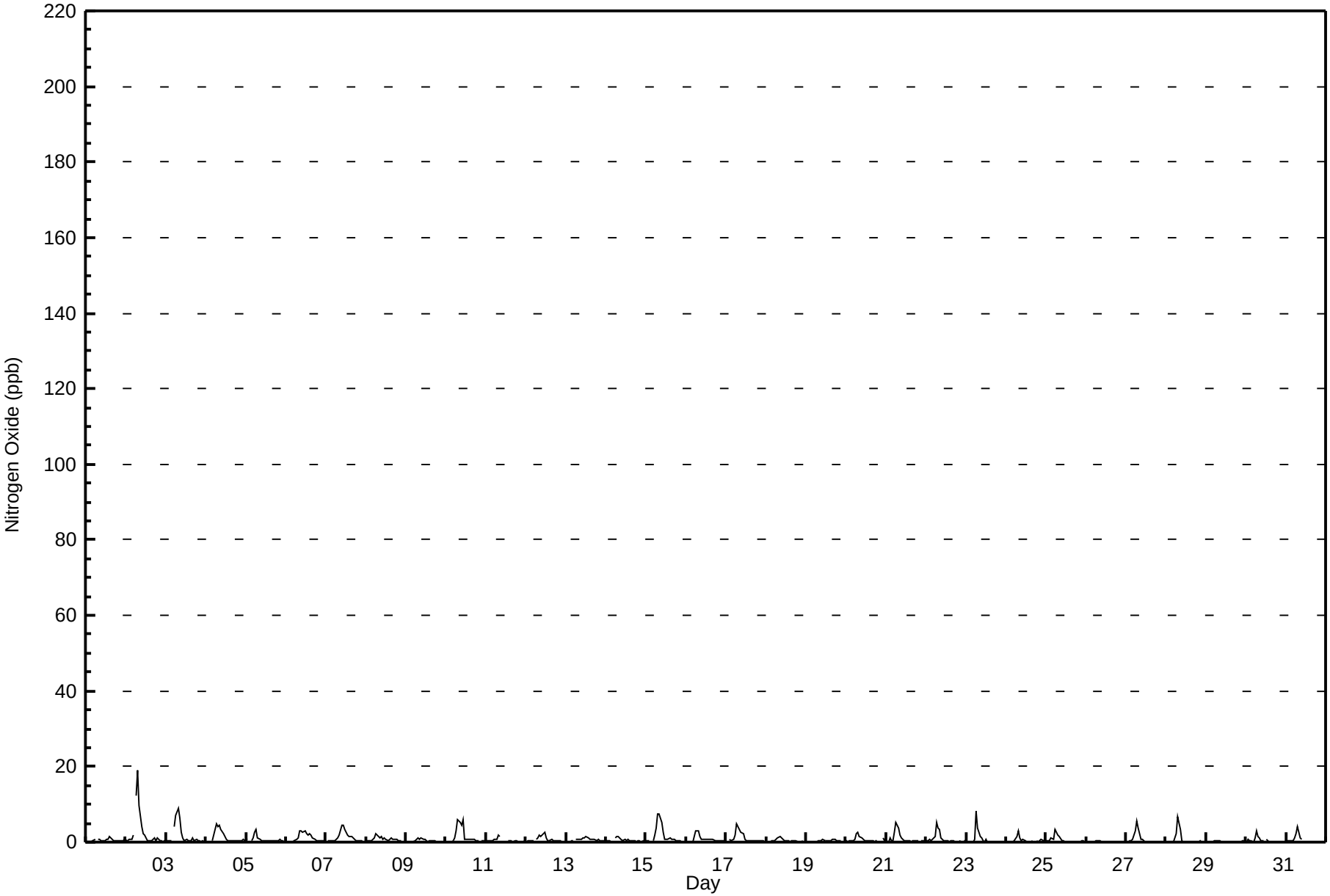
Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	0	0	0	0	0	1	A	1	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	1	0.5	1.4
2-Jul	0	0	1	1	2	A	12	19	10	4	2	2	1	0	1	0	1	1	0	1	1	0	0	0	2.6	18.9
3-Jul	0	0	0	0	A	4	7	9	6	3	1	0	1	0	0	0	1	0	1	0	0	0	0	0	1.6	8.9
4-Jul	0	0	0	A	0	3	5	4	4	3	2	1	1	0	1	1	0	0	0	0	0	1	1	0	1.3	4.7
5-Jul	1	1	A	0	1	3	3	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.7	3.3
6-Jul	0	A	0	0	0	0	1	1	3	3	3	3	2	2	2	2	1	1	0	0	0	0	0	0	1.1	3.1
7-Jul	A	0	0	0	0	1	1	1	2	5	5	3	2	2	1	1	1	1	0	0	0	0	0	A	1.3	4.6
8-Jul	0	0	0	0	1	1	2	2	1	1	1	1	1	0	1	1	1	1	1	0	0	0	A	0	0.7	2.2
9-Jul	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	A	0	0	0.3	1.0
10-Jul	0	0	0	0	0	1	3	6	5	4	6	1	1	1	1	1	1	1	0	0	A	0	0	0	1.4	5.9
11-Jul	0	0	0	0	0	1	1	2	1	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0.5	1.7
12-Jul	0	0	0	0	0	A	1	1	2	2	2	3	1	0	0	1	0	0	0	0	0	0	0	0	0.7	2.8
13-Jul	0	0	0	0	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0.6	1.3
14-Jul	0	0	0	0	A	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.5	1.5
15-Jul	0	0	0	A	0	2	4	7	7	5	3	1	1	1	1	1	1	1	0	0	0	0	0	0	1.6	7.4
16-Jul	0	0	A	0	0	1	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0.8	3.2
17-Jul	0	A	1	0	1	2	5	4	3	3	2	1	0	0	0	0	1	1	0	0	1	0	0	0	1.2	4.9
18-Jul	A	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0.4	1.3
19-Jul	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	A	0	0.3	0.7
20-Jul	0	0	0	0	0	1	2	3	2	1	1	0	0	0	0	0	0	0	0	0	0	A	1	0	0.6	2.5
21-Jul	0	0	1	1	1	3	5	4	2	1	1	0	0	0	0	0	0	0	0	0	A	0	0	0	1.0	5.4
22-Jul	0	0	1	0	1	1	5	4	3	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0.9	5.1
23-Jul	0	0	0	0	0	1	8	4	1	1	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0.7	8.1
24-Jul	0	0	0	0	0	0	1	3	1	0	1	0	0	0	0	0	0	A	0	0	0	1	0	0	0.4	3.0
25-Jul	0	0	0	1	1	3	3	2	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.6	3.2
26-Jul	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
27-Jul	0	0	0	0	1	3	6	4	2	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0.8	5.5
28-Jul	0	0	0	0	0	1	2	7	3	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.6	6.7
29-Jul	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
30-Jul	0	1	0	0	0	1	3	2	1	1	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0.5	2.9
31-Jul	0	0	0	0	0	1	2	4	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	4.1
	0.2	0.2	0.3	0.3	0.4	1.3	3.0	3.3	2.3	1.6	1.3	0.8	0.6	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.2	0.3	0.2	Diurnal Average	
	0.8	0.9	1.2	1.0	1.8	4.1	12.1	18.9	9.9	5.3	5.9	3.4	2.4	2.0	2.2	1.7	1.2	1.0	0.6	1.0	0.6	0.6	1.3	1.0	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

Hourly Averages for NO at Henry Pirker
July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Nitrogen Oxide (NO) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 76.5 ppb on Jul 23 07:00

Maximum Daily Average: 5.7 ppb on Jul 2

Minimum Value: 0 ppb on Jul 31 13:00

Minimum Daily Average: 0.6 ppb on Jul 29

Maximum Diurnal Average: 8.1 ppb at hour 8

Minimum Diurnal Average: 0.6 ppb at hour 2

Monthly Average: 2.27 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.5$ $Q_1 = 0.5$ Median = 1.0 $Q_3 = 2.0$ $P_{90} = 5.4$ $P_{99} = 23.9$

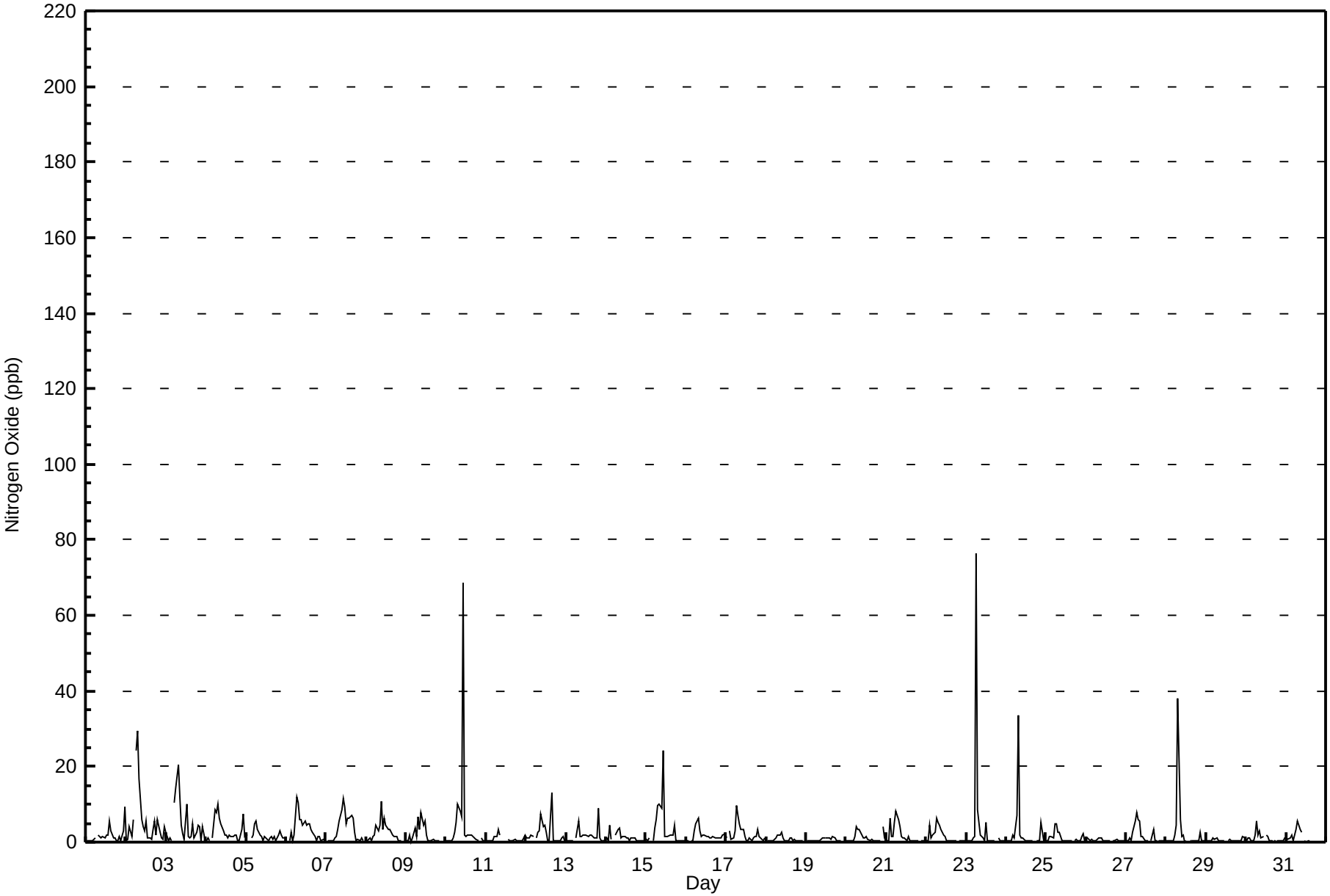
Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	0	0	1	0	1	1	A	2	1	1	1	1	2	2	5	3	1	1	1	1	1	1	3	9	1.7	9.2
2-Jul	1	1	4	1	6	A	24	30	17	6	4	3	5	1	1	1	4	6	2	6	2	1	1	4	5.7	29.5
3-Jul	3	1	1	1	A	11	14	21	12	4	2	1	10	1	1	2	5	1	3	5	4	1	4	0	4.6	20.5
4-Jul	1	1	0	A	1	9	8	10	6	5	3	2	2	1	2	1	1	2	2	1	1	3	7	1	3.1	10.0
5-Jul	2	2	A	1	2	5	6	3	2	1	1	1	1	1	1	2	1	1	1	2	3	2	1	1	1.8	5.5
6-Jul	1	A	0	2	1	2	12	10	6	6	4	5	4	5	5	3	2	1	0	1	2	1	1	1	3.4	12.0
7-Jul	A	1	1	1	1	1	2	3	5	9	12	9	5	6	6	7	6	2	1	1	1	1	0	A	3.6	11.7
8-Jul	1	1	1	1	1	2	4	3	5	11	3	6	4	3	3	2	2	1	1	1	1	1	A	1	2.6	10.8
9-Jul	1	0	2	0	1	4	2	7	3	8	5	6	2	1	1	1	1	1	1	0	0	A	0	0	1.9	7.7
10-Jul	0	0	0	0	1	2	5	10	8	7	68	2	1	2	2	2	1	1	1	1	A	1	1	1	5.2	68.5
11-Jul	1	1	1	1	1	2	2	4	2	C	C	C	C	1	0	0	0	1	0	0	0	0	0	2	0.9	3.5
12-Jul	1	1	1	2	1	A	1	2	3	7	4	4	3	1	1	13	1	1	1	1	1	1	1	0	2.2	13.1
13-Jul	1	1	1	1	1	A	1	6	1	2	2	2	2	2	2	2	1	1	1	9	1	1	1	1	1.7	9.0
14-Jul	1	1	5	1	A	2	2	3	4	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1.4	4.6
15-Jul	1	0	1	A	0	4	6	10	10	9	24	1	1	1	2	2	2	4	1	1	1	1	1	0	3.6	24.1
16-Jul	0	1	A	0	1	3	5	6	3	2	2	2	1	1	1	1	1	1	1	1	1	1	2	2	1.8	6.5
17-Jul	1	A	3	1	1	3	10	7	5	3	4	1	1	1	1	0	1	1	1	3	1	1	1	1	2.3	9.5
18-Jul	A	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	0	0	1	1	A	0.8	2.5
19-Jul	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	A	1	0.7	1.5
20-Jul	1	1	1	1	1	1	4	3	3	2	1	1	1	1	1	1	1	1	1	1	1	A	4	1	1.3	4.2
21-Jul	1	1	6	2	1	5	8	6	4	2	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1.9	8.0
22-Jul	1	1	4	1	2	2	7	5	5	3	2	1	1	1	1	1	1	1	1	A	1	0	1	1	1.7	6.5
23-Jul	0	1	1	1	1	2	77	9	2	2	1	1	5	0	0	0	1	0	A	1	0	1	0	1	4.6	76.5
24-Jul	1	1	0	0	2	1	7	34	2	1	1	1	1	1	1	1	1	A	1	1	1	5	1	1	2.6	33.6
25-Jul	1	1	2	2	1	5	5	3	2	1	1	1	0	1	1	0	A	1	1	0	1	2	2	1	1.3	5.0
26-Jul	1	1	1	1	1	1	1	1	1	1	0	1	0	0	1	A	0	0	1	0	0	0	1	1	0.6	1.0
27-Jul	1	0	1	1	3	6	8	6	6	2	1	1	0	0	A	1	3	0	0	0	1	1	1	1	1.8	8.0
28-Jul	1	1	1	0	1	2	4	38	6	2	2	0	0	A	1	1	0	0	1	1	3	1	1	1	2.8	38.1
29-Jul	0	0	0	0	1	1	1	1	1	1	1	0	A	0	1	0	0	0	1	0	0	1	2	1	0.6	1.5
30-Jul	1	1	1	1	1	2	5	2	3	1	1	A	2	1	1	1	0	0	0	1	1	0	0	1	1.2	5.5
31-Jul	1	1	1	2	1	2	4	6	3	2	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1.0	5.5
	0.7	0.6	1.4	0.8	1.1	2.9	7.8	8.1	4.3	3.4	5.3	2.0	2.1	1.3	1.4	1.7	1.4	1.2	0.7	1.3	0.9	0.9	1.3	1.1	Diurnal Average	
	2.8	2.0	6.5	2.5	5.9	10.5	76.5	38.1	16.9	10.8	68.5	9.1	10.2	6.3	6.3	13.1	6.4	5.6	2.7	9.0	4.0	5.1	7.4	9.2	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for NO at Henry Pirker
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Oxides of Nitrogen (NO_X) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 30.2 ppb on Jul 2 08:00

Maximum Daily Average: 8.4 ppb on Jul 2

Minimum Value: 0 ppb on Jul 29 12:00

Minimum Daily Average: 1.1 ppb on Jul 29

Maximum Diurnal Average: 7.6 ppb at hour 7

Minimum Diurnal Average: 1.8 ppb at hour 17

Monthly Average: 3.65 ppb

Percentiles: $P_1 = 0.1$ $P_{10} = 0.9$ $Q_1 = 1.6$ Median = 2.7 $Q_3 = 4.7$ $P_{90} = 7.5$ $P_{99} = 13.7$

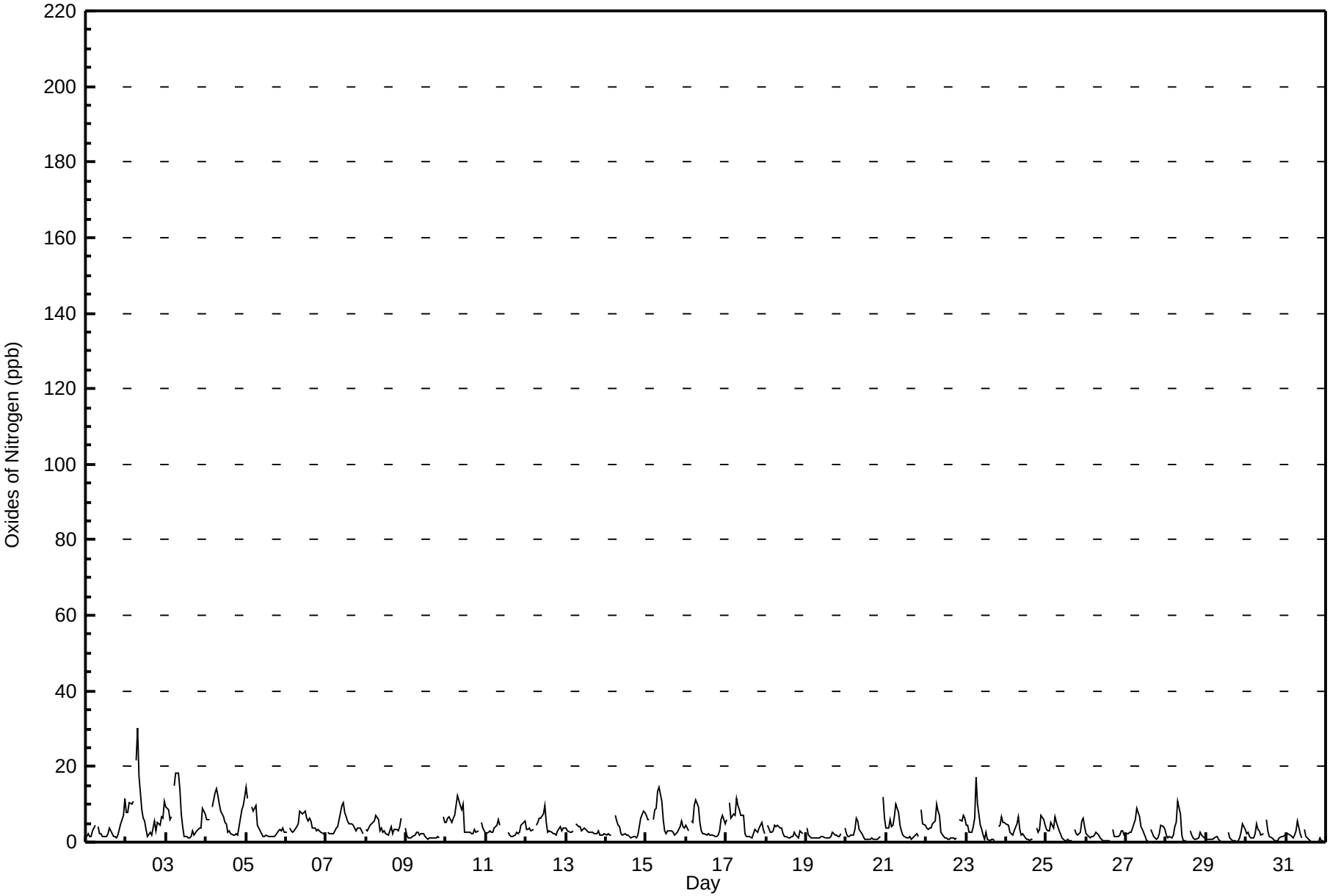
Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	2	2	1	2	3	4	A	4	2	2	2	2	2	2	4	3	2	1	1	2	3	5	7	12	3.0	11.7
2-Jul	8	8	11	10	11	A	22	30	18	9	6	6	3	2	3	2	4	6	3	5	5	7	6	11	8.4	30.2
3-Jul	9	9	6	7	A	15	18	18	14	8	4	2	2	1	1	2	3	2	3	3	4	4	9	7	6.5	18.2
4-Jul	6	6	6	A	9	13	14	12	10	8	7	5	5	3	3	2	2	2	2	2	4	9	10	12	6.6	14.3
5-Jul	15	12	A	9	8	9	10	5	3	2	2	2	2	1	2	2	1	2	2	3	4	3	4	2	4.5	14.6
6-Jul	2	A	4	3	3	3	4	5	8	8	7	8	6	6	6	5	4	4	3	3	3	3	2	2	4.5	8.4
7-Jul	A	3	2	2	2	3	4	4	6	10	10	8	7	6	5	5	4	4	3	4	4	3	2	A	4.6	10.3
8-Jul	3	3	5	5	5	6	7	6	3	4	3	3	2	2	3	4	2	3	3	3	4	6	A	4	3.9	7.2
9-Jul	2	1	1	1	1	2	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	A	7	5	1.9	6.5
10-Jul	5	7	7	5	6	7	10	12	10	9	10	3	3	3	3	2	2	3	2	3	A	5	4	3	5.4	12.4
11-Jul	2	3	3	3	3	4	5	6	5	C	C	C	C	3	2	2	2	2	3	2	3	5	5	6	3.2	6.0
12-Jul	3	3	4	3	3	A	4	5	6	6	7	10	5	3	3	3	2	2	2	3	4	3	4	4	4.0	9.7
13-Jul	4	3	2	2	3	A	5	4	4	3	3	4	3	3	3	2	3	2	2	3	2	2	2	2	2.8	4.7
14-Jul	2	2	2	2	A	7	6	5	4	2	2	2	2	2	1	1	2	1	1	2	4	6	8	8	3.2	8.3
15-Jul	7	6	6	A	6	9	9	13	14	11	6	3	2	3	3	3	2	2	2	2	4	5	4	4	5.6	14.4
16-Jul	5	3	A	5	5	10	11	9	5	3	2	2	2	2	2	2	2	1	2	2	3	6	7	5	4.2	11.0
17-Jul	6	A	10	6	7	7	12	10	8	7	7	2	1	1	1	1	2	3	3	3	4	5	3	2	4.9	11.5
18-Jul	A	4	3	2	3	5	4	4	4	4	2	2	1	1	1	2	2	3	2	1	3	3	2	A	2.6	4.5
19-Jul	4	2	1	1	1	1	1	1	1	1	2	1	1	1	1	1	2	2	2	2	1	2	A	4	1.7	3.9
20-Jul	2	2	2	2	2	3	6	5	3	2	1	1	1	1	1	1	1	1	1	1	1	A	12	6	2.5	11.9
21-Jul	4	4	6	4	5	7	10	8	5	3	2	2	1	1	2	1	1	1	2	2	A	9	5	5	3.8	10.1
22-Jul	4	3	4	4	5	6	10	8	7	3	1	1	1	1	1	1	1	1	1	A	6	6	7	6	3.8	10.1
23-Jul	4	5	3	3	4	6	17	10	5	3	2	1	3	1	1	1	1	1	A	4	4	7	5	5	4.1	17.2
24-Jul	5	4	3	2	2	3	5	7	3	2	2	1	1	1	1	1	1	A	4	2	3	7	6	4	3.0	7.0
25-Jul	3	3	3	5	4	7	5	4	3	1	1	1	1	1	1	1	A	4	2	2	3	6	6	4	3.0	6.8
26-Jul	2	2	1	1	2	2	3	2	1	1	1	1	0	0	0	A	3	2	1	1	2	3	3	2	1.6	3.3
27-Jul	2	2	3	3	4	6	9	8	7	4	3	1	1	0	A	3	2	1	1	1	2	5	4	3	3.2	9.0
28-Jul	2	1	1	1	2	4	5	11	7	2	0	0	0	A	3	2	1	1	1	1	3	2	2	1	2.4	10.8
29-Jul	1	1	1	1	1	1	2	1	1	0	0	0	A	3	1	1	0	0	0	0	1	3	5	4	1.1	4.7
30-Jul	2	3	2	1	1	2	5	3	3	2	2	A	6	3	1	1	1	0	0	0	1	2	1	2	1.9	6.1
31-Jul	2	2	2	2	1	2	3	6	2	1	A	3	1	1	0	0	0	0	0	0	1	1	0	0	1.3	5.5
	4.1	3.7	3.5	3.4	3.8	5.5	7.6	7.4	5.7	4.1	3.5	2.6	2.3	1.9	1.9	1.9	1.8	1.9	1.9	2.1	3.0	4.4	4.9	4.7	Diurnal Average	
	14.6	11.7	10.5	9.9	10.8	14.9	21.6	30.2	17.6	10.9	10.3	9.7	6.7	5.8	6.3	5.5	4.5	5.6	3.8	5.3	6.1	8.7	11.9	12.0	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

Hourly Averages for NO_X at Henry Pirker
July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Oxides of Nitrogen (NO_X) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 95.4 ppb on Jul 23 07:00

Maximum Daily Average: 13.5 ppb on Jul 2

Minimum Value: 0 ppb on Jul 31 18:00

Minimum Daily Average: 2.0 ppb on Jul 29

Maximum Diurnal Average: 14.3 ppb at hour 8

Minimum Diurnal Average: 3.5 ppb at hour 19

Monthly Average: 6.34 ppb

Percentiles: $P_1 = 0.5$ $P_{10} = 1.5$ $Q_1 = 2.7$ Median = 4.5 $Q_3 = 7.8$ $P_{90} = 12.0$ $P_{99} = 31.5$

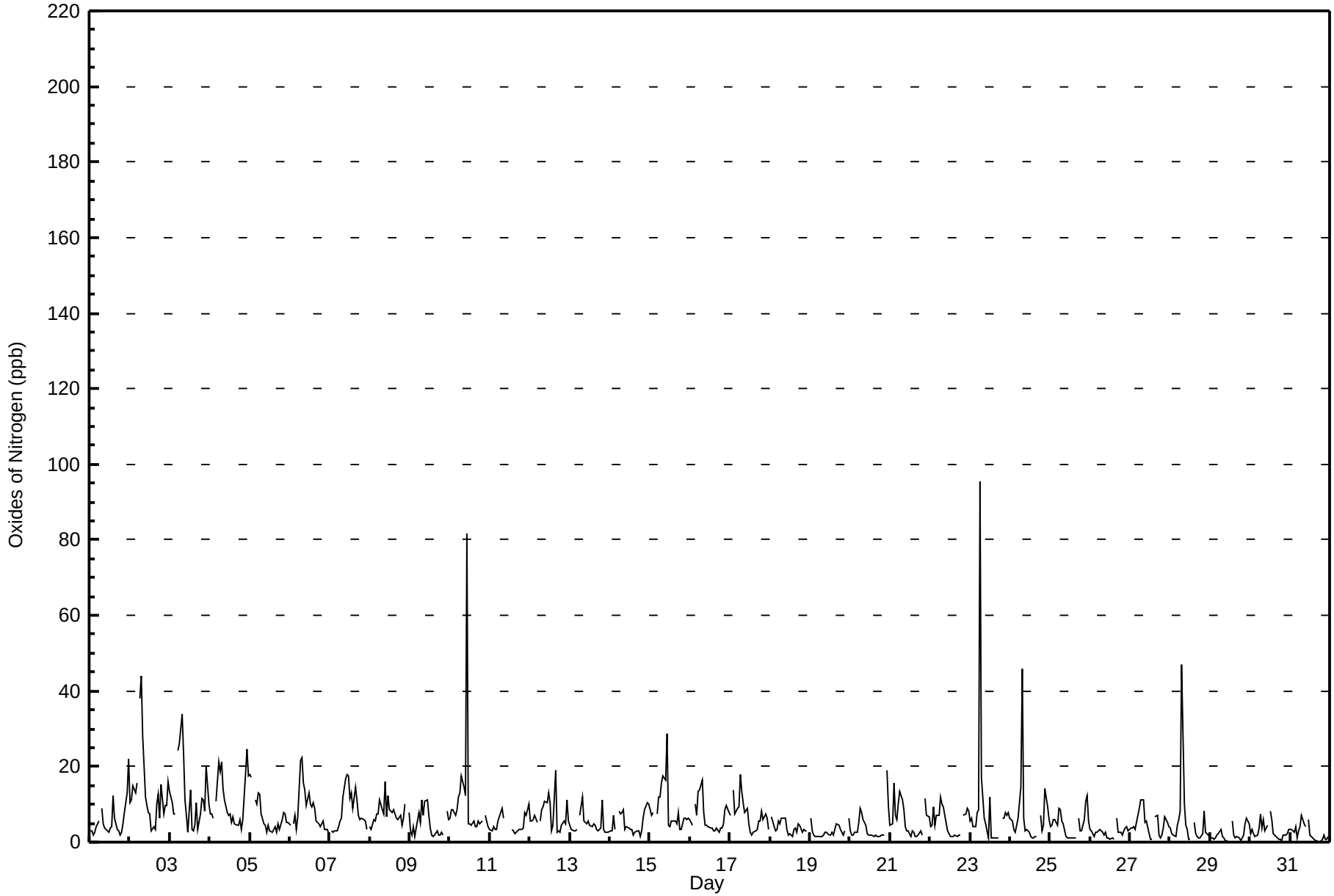
Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	3	3	2	3	4	6	A	9	5	4	3	2	4	4	12	6	3	3	2	3	5	8	13	22	5.6	21.9
2-Jul	11	11	15	13	16	A	38	44	28	12	10	8	7	3	4	4	10	12	6	15	7	10	10	16	13.5	44.0
3-Jul	14	11	8	8	A	24	26	34	23	11	7	2	14	3	3	5	10	3	8	12	11	8	20	10	12.0	34.0
4-Jul	8	8	7	A	11	21	19	21	14	11	8	7	7	5	7	5	4	4	6	4	6	18	25	17	10.6	24.8
5-Jul	18	17	A	11	10	13	13	8	5	4	3	4	3	3	3	4	3	5	4	6	8	7	5	5	7.0	18.1
6-Jul	4	A	5	7	4	7	22	22	15	14	10	13	10	9	10	9	6	5	4	5	6	3	3	2	8.5	22.4
7-Jul	A	3	3	3	3	4	6	6	12	17	18	17	12	13	9	14	11	7	6	7	6	6	3	A	8.4	17.9
8-Jul	4	4	6	6	8	8	11	8	8	16	7	12	8	8	9	8	6	6	7	5	7	10	A	8	7.7	16.0
9-Jul	3	2	4	2	4	8	5	11	7	11	11	7	4	2	2	2	3	2	2	3	2	A	8	6	4.7	11.0
10-Jul	6	9	9	7	9	12	13	18	15	12	82	5	5	4	6	4	4	6	5	6	A	7	6	4	10.9	81.8
11-Jul	4	3	4	4	4	6	8	9	7	C	C	C	C	3	3	2	2	3	3	3	4	8	7	10	4.8	10.0
12-Jul	5	5	6	7	5	A	6	9	9	11	10	13	11	3	4	19	3	3	3	4	5	5	11	5	7.1	19.1
13-Jul	4	3	3	3	3	A	7	12	5	5	5	5	4	4	5	4	3	3	4	11	3	3	3	3	4.7	11.8
14-Jul	3	3	7	3	A	8	8	8	8	3	4	4	3	4	2	3	3	3	2	3	7	8	11	10	5.1	10.5
15-Jul	9	7	8	A	7	12	12	16	18	16	29	5	4	5	6	5	5	8	4	4	6	7	6	6	8.9	28.8
16-Jul	6	4	A	10	7	14	14	16	8	5	4	4	4	4	3	3	4	3	4	4	5	9	10	8	6.5	16.5
17-Jul	7	A	14	8	9	9	18	14	11	8	9	5	2	2	3	3	3	5	6	8	6	7	6	3	7.2	18.0
18-Jul	A	7	4	3	3	6	5	6	7	6	4	2	2	2	3	4	3	5	4	3	4	3	3	A	4.0	6.7
19-Jul	6	3	2	2	2	2	2	2	2	3	3	2	2	2	2	3	5	4	4	3	2	3	A	7	2.8	6.5
20-Jul	3	2	2	3	3	5	9	8	6	4	2	2	2	2	2	2	2	2	2	2	2	A	19	10	4.1	19.1
21-Jul	5	5	16	7	6	10	14	11	8	4	3	3	2	3	3	1	2	2	3	2	A	12	7	7	5.8	15.5
22-Jul	4	5	9	5	7	7	12	10	9	7	3	2	2	2	1	2	2	2	2	A	7	8	9	8	5.4	12.0
23-Jul	6	7	4	4	8	9	95	17	7	5	3	1	12	1	1	1	1	1	A	7	7	8	7	8	9.5	95.4
24-Jul	7	5	4	3	4	6	15	46	7	3	3	2	1	1	1	1	1	A	7	3	4	14	9	6	6.7	45.9
25-Jul	4	4	6	6	4	9	9	6	5	2	1	1	1	1	1	1	A	6	3	3	6	11	12	6	4.7	12.5
26-Jul	3	3	2	2	2	3	3	3	2	2	1	1	1	1	1	A	6	2	2	2	3	4	4	3	2.5	6.5
27-Jul	4	4	4	3	5	9	11	11	11	5	6	2	1	1	A	7	7	2	1	2	4	7	5	4	5.1	11.3
28-Jul	4	2	2	2	4	6	8	47	10	4	3	1	1	A	5	2	1	1	1	2	8	3	2	2	5.3	46.8
29-Jul	1	1	1	1	2	2	3	2	1	1	1	0	A	5	2	1	1	1	0	1	2	5	6	5	2.0	6.4
30-Jul	2	3	2	2	2	4	7	4	6	3	4	A	8	6	2	1	1	1	1	0	2	2	2	3	3.1	8.4
31-Jul	3	3	3	4	1	3	4	7	5	4	A	6	2	1	1	0	0	0	0	1	2	1	1	1	2.3	7.0
	5.5	5.1	5.5	4.7	5.4	8.2	14.1	14.3	9.2	7.1	8.8	4.8	4.8	3.6	3.8	4.3	3.9	3.7	3.5	4.3	5.0	7.0	8.1	7.1	Diurnal Average	
	18.1	17.0	15.5	13.0	15.5	24.4	95.4	46.8	28.0	16.9	81.8	17.5	13.9	13.2	12.2	19.1	11.1	12.5	7.6	15.1	11.2	18.4	24.8	21.9	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for NO_X at Henry Pirker
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Ozone (O_3) - ppb
July 1, 2009 to August 1, 2009

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 47.8 ppb on Jul 23 20:00
Maximum Daily Average: 31.2 ppb on Jul 23

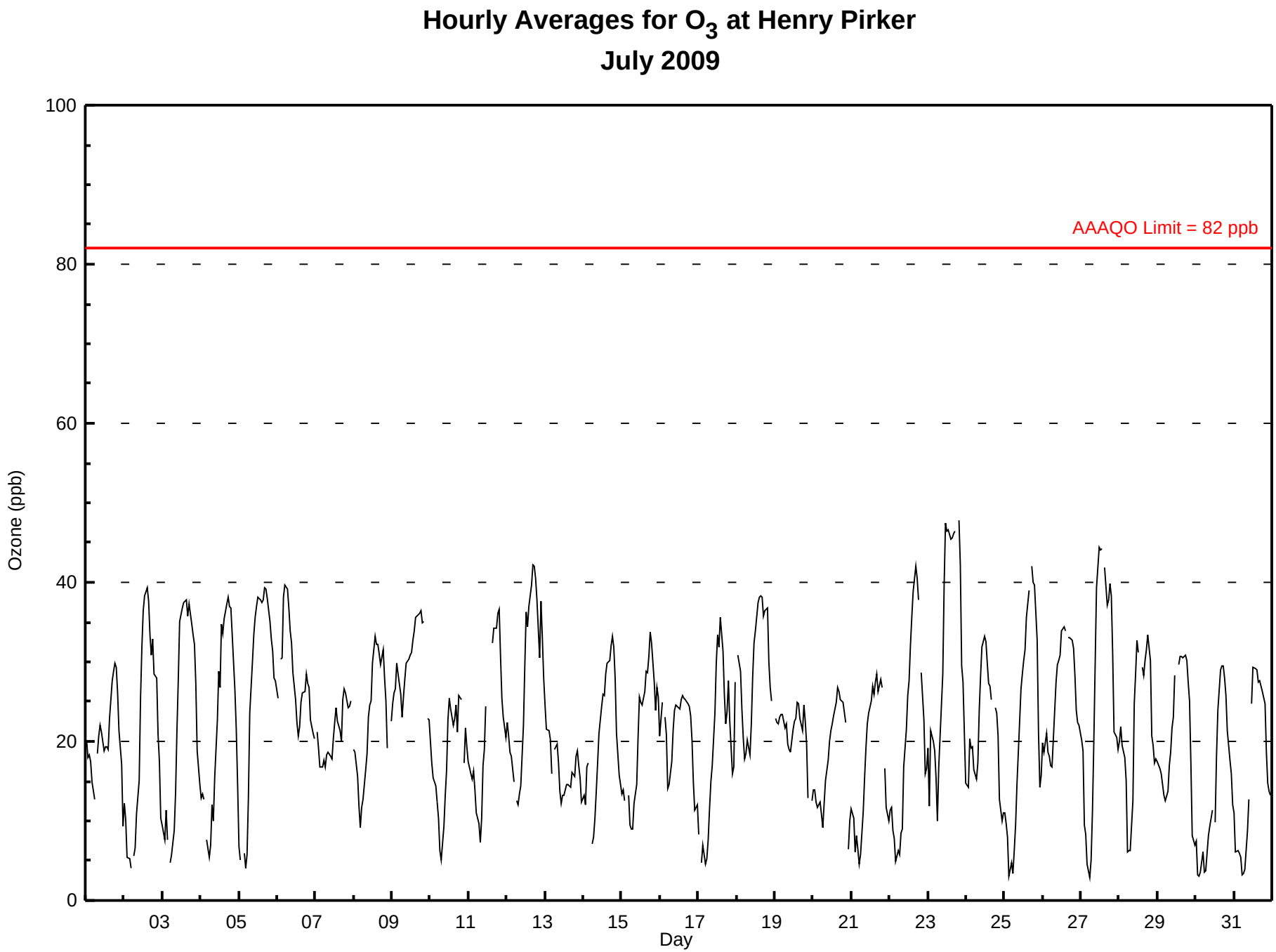
Minimum Value: 3 ppb on Jul 27 06:00
Maximum Diurnal Average: 31.4 ppb at hour 18
Monthly Average: 22.19 ppb

Minimum Daily Average: 14.2 ppb on Jul 30
Minimum Diurnal Average: 11.6 ppb at hour 6
Percentiles: P_1 = 3.5 P_{10} = 8.8 Q_1 = 14.6 Median = 22.2 Q_3 = 29.2 P_{90} = 35.9 P_{99} = 45.3

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	20	18	18	17	15	13	A	18	21	22	21	19	19	19	19	23	28	29	30	29	26	21	17	9	20.5	29.8
2-Jul	12	10	5	5	4	A	6	7	11	15	25	32	36	38	39	38	33	31	33	28	28	21	18	10	21.1	39.4
3-Jul	9	8	11	8	A	5	6	9	14	21	28	35	37	37	38	38	36	37	35	33	32	27	19	14	23.3	37.8
4-Jul	13	13	13	A	8	5	7	12	10	15	23	29	27	35	34	35	37	38	37	37	33	26	21	15	22.7	38.1
5-Jul	7	5	A	6	4	6	13	24	30	33	36	37	38	38	38	38	39	39	38	35	33	31	28	28	27.1	39.3
6-Jul	25	A	30	31	38	40	39	37	34	32	29	25	22	21	22	25	26	26	29	27	27	23	21	20	28.2	39.6
7-Jul	A	21	19	17	17	18	17	18	19	18	18	20	22	24	23	21	20	25	27	26	24	24	25	A	21.1	26.6
8-Jul	19	19	16	12	9	12	13	16	19	23	25	25	30	33	32	32	31	30	31	28	25	19	A	23	22.6	33.2
9-Jul	25	26	27	30	29	26	23	26	28	30	30	31	31	33	34	36	36	36	36	35	35	A	23	23	29.9	36.4
10-Jul	20	17	15	14	12	10	6	5	9	13	16	23	25	24	22	23	25	21	26	25	A	17	22	19	17.9	25.7
11-Jul	17	16	15	16	14	11	10	7	10	17	19	24	C	C	A	32	34	34	36	37	31	25	23	21	21.5	36.5
12-Jul	22	21	19	18	15	A	12	12	13	14	22	29	36	34	37	40	42	42	40	38	30	38	33	28	27.7	42.2
13-Jul	25	22	21	20	16	A	19	20	17	14	12	13	13	15	15	14	14	16	16	18	19	17	15	12	16.6	24.5
14-Jul	13	12	17	17	A	7	8	10	14	17	21	24	26	26	28	30	30	32	33	32	28	21	16	15	20.8	33.2
15-Jul	13	14	13	A	13	10	9	9	12	15	20	26	25	25	26	29	29	31	34	32	27	24	27	26	21.2	33.7
16-Jul	21	25	A	23	21	14	14	17	21	24	25	24	24	25	26	25	25	25	24	23	20	15	11	12	21.1	25.8
17-Jul	8	A	5	7	5	5	8	11	15	17	24	30	33	32	36	31	26	22	24	28	22	16	17	27	19.5	35.6
18-Jul	A	31	29	24	20	18	19	20	18	22	28	32	34	37	38	38	38	36	37	37	30	27	25	A	29.0	38.3
19-Jul	23	22	22	23	23	23	22	22	20	19	19	21	22	23	25	25	23	21	25	23	20	13	A	13	21.4	25.0
20-Jul	14	14	12	12	12	11	9	12	15	18	20	21	22	23	25	27	26	25	25	25	22	A	6	10	17.7	26.7
21-Jul	12	10	6	8	7	5	6	11	15	19	22	24	25	27	26	28	28	26	28	27	A	17	12	10	17.3	28.4
22-Jul	11	12	9	8	5	6	6	8	9	17	22	26	28	32	36	39	42	41	38	A	29	23	16	17	20.7	42.1
23-Jul	19	12	21	20	19	15	10	17	25	29	40	47	46	47	45	46	46	46	A	48	42	30	28	21	31.2	47.8
24-Jul	15	14	20	19	19	16	15	17	24	28	32	33	33	30	27	27	25	A	24	24	21	13	10	11	21.7	33.2
25-Jul	11	10	8	3	5	3	6	10	15	23	27	29	30	32	36	39	A	42	40	40	33	21	14	16	21.3	42.1
26-Jul	20	19	21	19	18	17	17	24	27	30	30	31	34	34	34	A	33	33	33	32	28	24	22	22	26.1	34.4
27-Jul	20	19	10	8	5	3	5	11	20	30	39	44	44	44	A	42	37	38	40	38	31	21	21	19	25.6	44.4
28-Jul	20	22	19	18	15	6	6	6	13	25	28	33	31	A	29	28	30	32	33	30	21	19	17	18	21.8	33.4
29-Jul	18	17	16	15	13	13	14	17	19	22	23	28	A	30	31	31	31	31	30	28	25	17	8	7	20.9	30.8
30-Jul	7	3	3	4	6	4	4	6	8	9	11	A	10	18	24	29	29	30	28	26	21	18	16	12	14.2	29.5
31-Jul	11	6	6	6	5	3	3	4	9	13	A	25	29	29	29	27	28	27	26	25	19	15	14	13	16.2	29.3
	16.3	15.7	15.4	14.8	13.5	11.6	11.7	14.4	17.2	20.8	24.5	28.1	28.8	29.8	30.1	31.2	30.9	31.4	31.2	30.4	27.0	21.5	18.8	16.9	Diurnal Average	
	25.4	30.8	30.3	30.5	38.2	39.6	39.1	36.8	33.9	33.4	39.6	47.5	46.4	46.6	45.5	45.6	46.1	46.4	40.5	47.8	42.1	37.7	33.0	28.0	Diurnal Maximum	

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


Hourly Averages for O_3 at Henry Pirker
July 2009
AAAQO Limit = 82 ppb
Ozone (ppb)
100
80
60
40
20
0
03
05
07
09
11
13
15
17
19
21
23
25
27
29
31
Day

Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Ozone (O_3) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 50.7 ppb on Jul 27 16:00

Maximum Daily Average: 35.9 ppb on Jul 23

Minimum Value: 4 ppb on Jul 27 06:00

Minimum Daily Average: 16.9 ppb on Jul 30

Maximum Diurnal Average: 33.9 ppb at hour 18

Minimum Diurnal Average: 13.9 ppb at hour 6

Monthly Average: 24.92 ppb

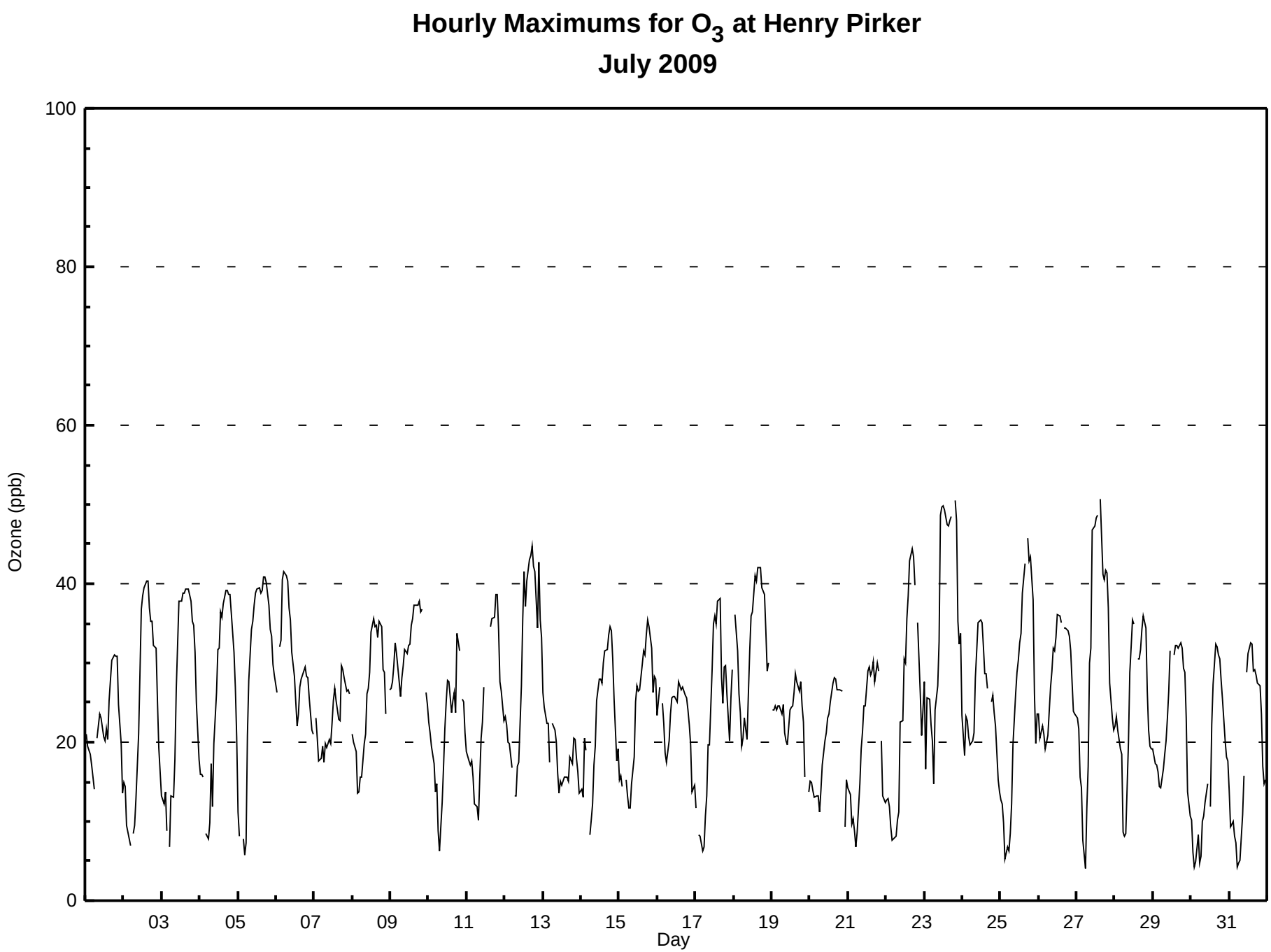
Percentiles: P_1 = 5.1 P_{10} = 11.8 Q_1 = 17.6 Median = 25.1 Q_3 = 31.9 P_{90} = 38.4 P_{99} = 48.6

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

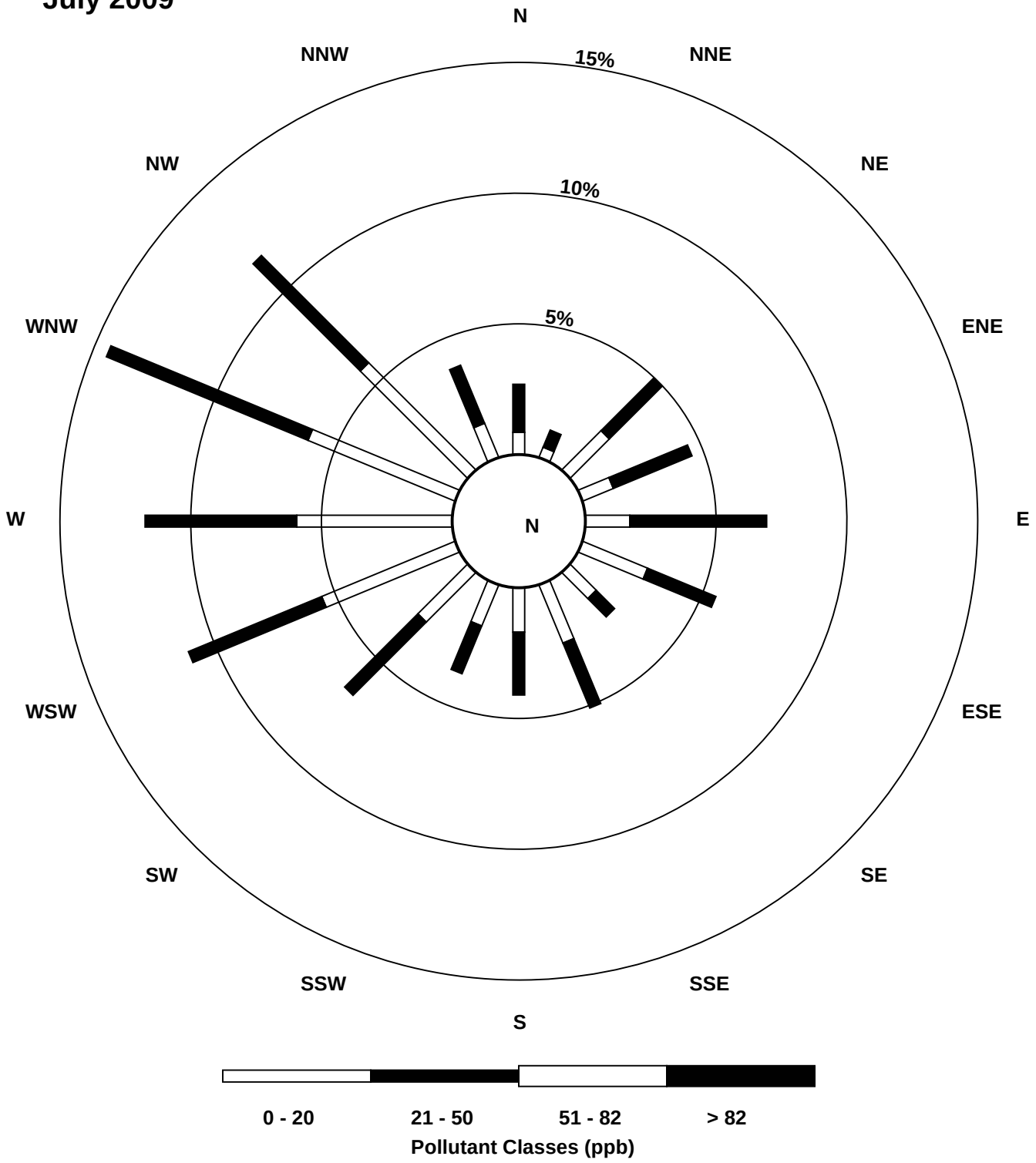
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	21	20	19	19	17	14	A	21	22	24	23	21	20	22	20	25	30	31	31	31	31	25	20	14	22.6	31.1
2-Jul	15	14	9	8	7	A	8	10	13	21	29	37	38	39	40	40	37	35	35	32	32	25	19	16	24.4	40.4
3-Jul	13	12	14	9	A	7	13	13	18	27	32	38	38	39	39	39	39	39	38	35	35	31	25	18	26.5	39.3
4-Jul	16	16	16	A	9	8	10	17	12	20	26	32	32	36	36	37	39	39	39	39	36	31	27	21	25.8	39.2
5-Jul	11	8	A	8	6	7	21	28	34	35	37	39	39	39	39	39	41	41	40	37	34	33	30	28	29.4	40.8
6-Jul	26	A	32	33	40	41	41	40	37	35	31	28	25	22	24	27	28	29	30	28	28	26	22	21	30.2	41.5
7-Jul	A	23	21	18	18	19	17	20	19	20	20	22	25	27	25	23	23	30	29	28	26	27	26	A	23.0	29.7
8-Jul	21	20	19	14	14	16	16	20	21	26	27	29	34	36	35	35	33	35	35	29	29	24	A	27	25.7	35.6
9-Jul	27	28	30	33	31	28	26	28	30	32	31	32	32	35	36	37	37	37	38	37	37	A	26	25	31.8	37.8
10-Jul	23	21	20	17	14	15	9	6	12	17	22	25	28	28	24	25	26	24	34	32	A	25	25	21	21.4	33.8
11-Jul	19	18	17	18	16	12	12	10	16	21	23	27	C	C	A	35	36	36	39	39	34	28	26	23	23.8	38.6
12-Jul	23	22	20	20	17	A	13	13	17	17	27	36	42	37	40	43	44	45	42	42	34	43	36	33	30.7	44.8
13-Jul	26	24	22	22	17	A	22	21	20	16	14	15	15	16	16	16	15	18	17	20	20	18	16	14	18.3	26.3
14-Jul	14	13	21	19	A	8	10	12	17	20	25	28	28	28	30	32	32	34	35	34	31	25	18	19	23.1	34.5
15-Jul	15	16	14	A	15	13	12	12	15	18	25	27	26	27	30	32	31	34	35	35	32	26	28	28	23.7	35.5
16-Jul	23	27	A	25	22	19	18	20	24	26	26	26	25	28	27	27	27	26	26	24	22	20	14	15	23.2	27.6
17-Jul	12	A	8	8	6	7	11	13	20	20	29	35	36	35	38	38	28	25	29	30	26	20	26	29	23.0	38.1
18-Jul	A	36	31	26	24	20	21	23	20	26	31	36	36	41	40	42	42	42	40	39	34	29	30	A	32.2	42.0
19-Jul	24	24	25	24	25	25	24	25	21	20	20	24	24	25	26	29	28	26	28	25	23	16	A	14	23.5	28.6
20-Jul	15	15	14	13	13	13	11	14	17	20	21	23	24	25	27	28	28	27	27	27	26	A	9	15	19.7	28.1
21-Jul	14	13	10	10	9	7	9	15	19	21	25	25	29	30	29	29	30	28	30	29	A	20	13	12	19.8	30.2
22-Jul	13	13	12	9	8	8	8	10	11	22	23	30	30	36	38	43	44	43	40	A	35	26	21	24	23.8	44.4
23-Jul	28	17	26	26	22	20	15	24	27	33	49	50	50	49	47	47	48	48	A	50	48	35	32	34	35.9	50.5
24-Jul	23	18	23	23	21	20	20	21	28	32	35	35	35	32	29	29	27	A	25	26	24	22	15	14	25.1	35.4
25-Jul	13	12	10	5	7	6	9	12	20	26	29	30	33	34	39	42	A	46	43	43	38	26	20	24	24.6	45.8
26-Jul	24	21	22	21	19	20	21	27	29	32	32	33	36	36	35	A	34	34	34	33	32	28	24	23	28.3	36.1
27-Jul	23	22	16	14	8	4	12	17	30	32	47	47	48	49	A	51	41	40	42	41	37	27	23	22	30.1	50.7
28-Jul	22	23	22	19	19	9	8	9	20	29	32	35	35	A	31	31	32	34	36	34	26	22	19	19	24.6	36.0
29-Jul	19	17	17	16	14	14	17	18	20	23	26	32	A	31	32	32	32	33	32	29	29	23	14	11	23.1	32.5
30-Jul	10	6	4	5	8	5	6	10	11	12	15	A	12	22	27	32	32	31	31	28	25	20	18	18	16.9	32.3
31-Jul	14	9	10	8	7	4	5	5	11	16	A	29	31	33	32	29	29	28	27	27	24	17	15	15	18.5	32.6
	18.9	18.2	18.0	16.9	15.6	13.9	14.7	17.3	20.3	23.8	27.7	30.9	31.3	32.2	32.1	33.8	33.1	33.9	33.5	32.8	30.6	25.5	22.0	20.5	Diurnal Average	
	27.6	36.1	32.0	33.0	40.5	41.5	41.1	40.3	36.9	35.5	48.6	49.7	49.8	49.3	47.4	50.7	48.0	48.4	42.9	50.5	48.0	42.7	35.5	33.8	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span


Hourly Maximums for O_3 at Henry Pirker
July 2009
Ozone (ppb)
100
80
60
40
20
0
03
05
07
09
11
13
15
17
19
21
23
25
27
29
31
Day

Pollutant Rose for O_3 at Henry Pirker
July 2009



Peace Airshed Zone Association
Summary of Eight Hour Running Averages

Henry Pirker - Ozone (O_3) - ppb
July 1, 2009 to August 1, 2009

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 46.3 ppb on Jul 23 20:00

Minimum Value: 4.6 ppb on Jul 30 08:00

Percentiles: P_1 = 6.2 P_{10} = 11.4 Q_1 = 16.0 Median = 22.1 Q_3 = 27.8 P_{90} = 33.6 P_{99} = 39.6

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

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jul	21	20	19	19	18	17	17	17	17	18	18	18	19	20	20	20	21	22	23	24	25	26	25	24	25.6
2-Jul	22	19	16	13	11	9	7	7	7	8	10	14	19	21	26	29	32	34	35	35	34	31	29	25	35.1
3-Jul	22	19	17	14	12	10	8	8	8	10	13	17	19	23	27	31	34	36	37	36	36	35	32	29	36.6
4-Jul	26	23	21	19	15	12	10	10	10	10	11	14	16	20	23	26	29	32	34	35	36	35	33	31	35.8
5-Jul	27	23	21	16	12	9	8	9	12	16	19	23	27	31	34	36	37	38	38	38	37	36	35	34	38.1
6-Jul	32	31	30	29	30	31	33	34	35	35	35	34	32	30	28	26	25	24	24	25	25	26	25	25	35.5
7-Jul	25	24	23	21	20	19	18	18	18	18	18	18	19	20	20	21	21	22	23	24	24	24	24	25	24.7
8-Jul	24	23	22	20	18	16	14	14	14	15	16	18	20	23	25	27	29	30	31	31	30	29	28	27	30.9
9-Jul	26	25	25	25	25	26	26	26	27	27	28	28	28	29	30	32	33	33	34	35	35	35	34	32	35.4
10-Jul	30	27	24	21	18	17	15	13	11	11	11	12	14	15	17	20	21	22	24	24	24	23	23	22	29.7
11-Jul	21	20	19	18	17	16	15	13	12	13	13	14	14	15	N	N	N	N	N	N	34	33	32	30	34.0
12-Jul	29	27	25	22	20	20	18	17	16	15	15	17	20	22	25	28	32	35	38	39	38	38	38	36	38.7
13-Jul	34	32	29	27	25	23	21	20	19	18	17	16	15	15	15	14	14	14	14	15	16	16	16	16	34.2
14-Jul	16	15	15	15	15	13	12	12	12	13	14	15	16	18	21	23	25	27	29	30	30	29	28	26	29.9
15-Jul	24	21	19	17	15	13	12	11	11	11	13	14	16	18	20	22	24	26	28	29	29	29	29	29	29.0
16-Jul	28	27	26	25	24	22	21	19	19	19	20	20	21	22	23	24	25	25	25	25	24	23	21	19	27.6
17-Jul	17	16	14	11	9	8	7	7	8	9	11	14	18	21	25	27	29	29	29	29	28	26	23	23	29.3
18-Jul	22	24	24	24	23	24	24	23	22	21	21	22	24	26	29	31	34	35	36	37	36	35	33	33	36.9
19-Jul	31	29	27	25	24	23	23	23	22	22	21	21	21	21	21	22	22	22	23	23	23	22	21	20	30.5
20-Jul	18	17	15	14	13	13	12	12	12	13	14	15	16	18	20	21	23	24	24	25	25	25	22	20	25.1
21-Jul	18	16	13	11	8	8	8	8	9	10	12	14	16	19	21	23	25	26	26	27	27	26	24	21	27.1
22-Jul	19	17	14	11	10	9	8	8	8	9	10	12	15	18	22	26	30	33	35	36	36	35	32	29	36.5
23-Jul	26	22	19	20	18	17	17	17	17	19	22	25	29	32	37	41	43	45	46	46	46	43	41	37	46.3
24-Jul	33	28	27	24	21	19	18	17	18	20	21	23	25	27	28	29	29	30	29	27	25	23	21	18	32.8
25-Jul	16	15	13	11	9	8	7	7	7	9	11	15	18	21	25	29	31	33	35	37	37	36	33	29	37.2
26-Jul	28	25	23	20	18	18	18	19	20	22	23	24	26	28	31	31	32	33	33	33	32	31	29	28	33.2
27-Jul	27	25	22	19	16	14	11	10	10	11	15	20	25	30	33	38	40	41	41	40	39	35	33	31	41.3
28-Jul	28	26	24	21	19	17	16	14	13	14	15	17	19	20	24	27	29	30	31	31	29	28	26	25	30.9
29-Jul	23	22	19	17	17	16	15	15	15	16	17	19	19	22	24	26	28	29	30	30	29	28	25	22	30.1
30-Jul	19	16	12	9	7	5	5	5	5	5	6	7	7	9	12	16	19	22	24	24	26	26	25	22	25.7
31-Jul	20	17	15	12	10	8	7	6	5	6	6	9	12	16	20	23	26	28	28	28	26	24	23	21	27.7
	34.2	31.7	30.1	29.4	30.2	31.4	33.0	34.3	35.5	35.1	34.9	34.2	32.3	32.5	36.9	40.5	43.2	45.5	46.3	46.3	45.7	43.3	40.7	37.2	
	Diurnal Maximums																								

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

Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Carbon Monoxide (CO) - ppm
July 1, 2009 to August 1, 2009

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 0.45 ppm on Jul 15 09:00 Maximum Daily Average: 0.32 ppm on Jul 11

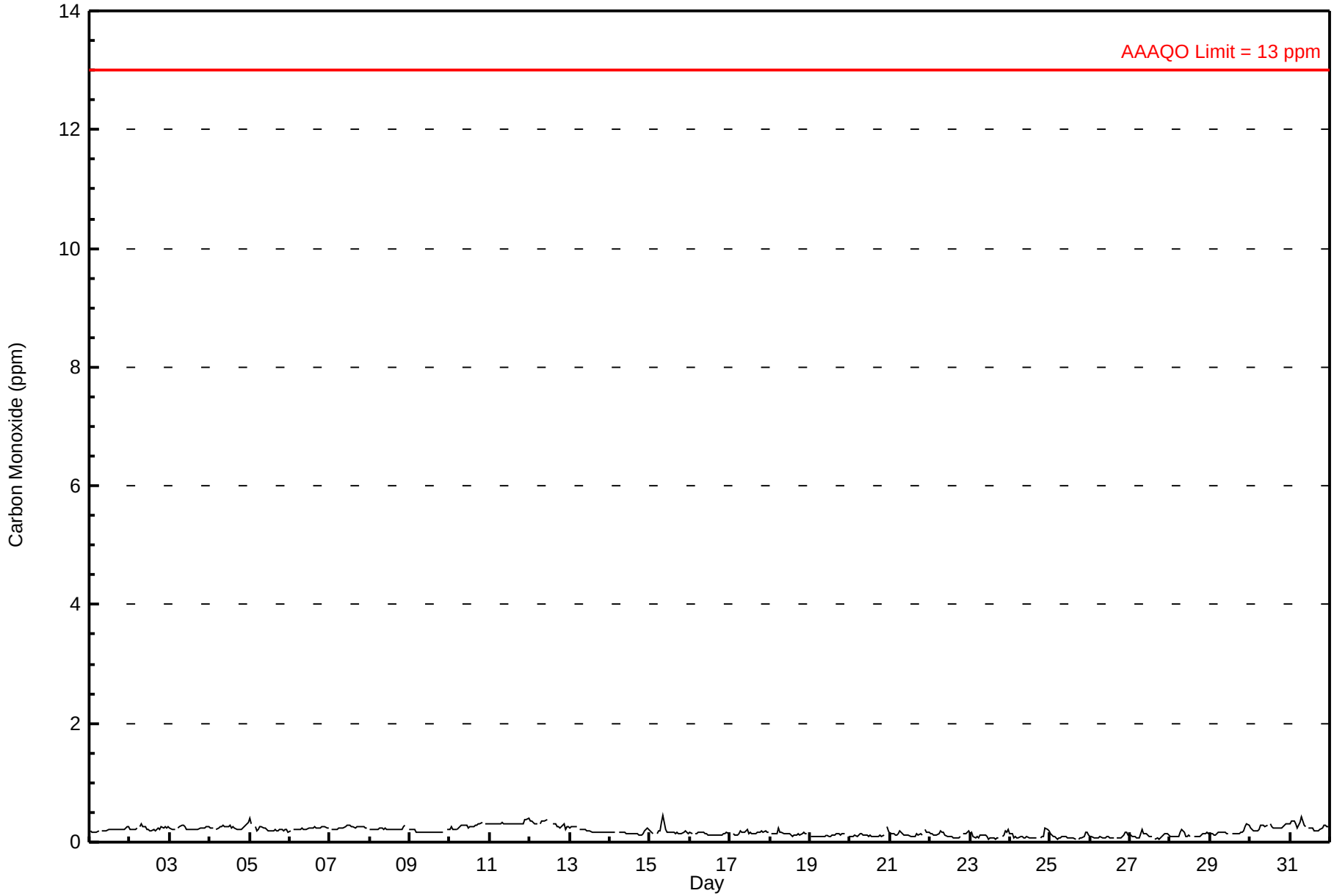
Minimum Value: 0.1 ppm on Jul 25 16:00 Minimum Daily Average: 0.09 ppm on Jul 25
Maximum Diurnal Average: 0.22 ppm at hour 23 Minimum Diurnal Average: 0.16 ppm at hour 5
Monthly Average: 0.183 ppm Percentiles: P_1 = 0.06 P_{10} = 0.09 Q_1 = 0.12 Median = 0.17 Q_3 = 0.24 P_{90} = 0.28 P_{99} = 0.37

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.20	0.27
2-Jul	0.2	0.2	0.2	0.2	0.2	A	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	0.3	0.2	0.3	0.23	0.31
3-Jul	0.2	0.2	0.2	0.2	A	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	0.2	0.2	0.2	0.3	0.3	0.23	0.29
4-Jul	0.2	0.2	0.2	A	0.2	0.2	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	0.3	0.3	0.3	0.25	0.34
5-Jul	0.4	0.3	A	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	0.2	0.2	0.2	0.2	0.2	0.22	0.39
6-Jul	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	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.23	0.26
7-Jul	A	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	0.3	0.3	0.3	0.3	0.3	0.2	0.2	A	0.25	0.29
8-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	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	A	0.2	0.22	0.28
9-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.17	0.21
10-Jul	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	A	0.3	0.3	0.3	0.27	0.33
11-Jul	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.32	0.40
12-Jul	0.4	0.4	0.3	0.3	0.3	A	0.3	0.3	0.3	0.3	0.4	C	C	A	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.3	0.3	0.30	0.38
13-Jul	0.2	0.3	0.3	0.3	0.3	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.26
14-Jul	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.15	0.23
15-Jul	0.2	0.2	0.1	A	0.1	0.2	0.2	0.3	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.18	0.45
16-Jul	0.2	0.2	A	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.14	0.17
17-Jul	0.2	A	0.2	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.16	0.20
18-Jul	A	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1	A	0.15	0.23
19-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	A	0.1	0.11	0.15
20-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.2	0.2	0.12	0.25
21-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.2	0.2	0.2	0.13	0.20
22-Jul	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.2	0.2	0.2	0.12	0.19
23-Jul	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.2	0.2	0.2	0.10	0.21
24-Jul	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	A	0.1	0.1	0.1	0.2	0.2	0.2	0.10	0.23
25-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.09	0.18
26-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.09	0.16
27-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.11	0.21
28-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.12	0.22
29-Jul	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.17	0.30
30-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	A	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.25	0.30
31-Jul	0.3	0.3	0.4	0.3	0.2	0.3	0.3	0.4	0.3	0.3	A	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	0.27	0.44
	0.19	0.19	0.17	0.17	0.16	0.17	0.20	0.21	0.20	0.19	0.18	0.16	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.18	0.19	0.22	0.22	0.21	Diurnal Average	
	0.39	0.35	0.35	0.32	0.30	0.31	0.34	0.44	0.45	0.35	0.38	0.30	0.30	0.31	0.31	0.31	0.30	0.30	0.32	0.33	0.32	0.37	0.38	0.40	Diurnal Maximum	

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

Hourly Averages for CO at Henry Pirker
July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Carbon Monoxide (CO) - ppm
July 1, 2009 to August 1, 2009

Maximum Value: 2.01 ppm on Jul 1 23:00

Maximum Daily Average: 0.39 ppm on Jul 12

Minimum Value: 0.1 ppm on Jul 23 16:00

Minimum Daily Average: 0.14 ppm on Jul 19

Maximum Diurnal Average: 0.33 ppm at hour 23

Minimum Diurnal Average: 0.20 ppm at hour 14

Monthly Average: 0.236 ppm

Percentiles: $P_1 = 0.11$ $P_{10} = 0.11$ $Q_1 = 0.16$ Median = 0.21 $Q_3 = 0.29$ $P_{90} = 0.35$ $P_{99} = 0.76$

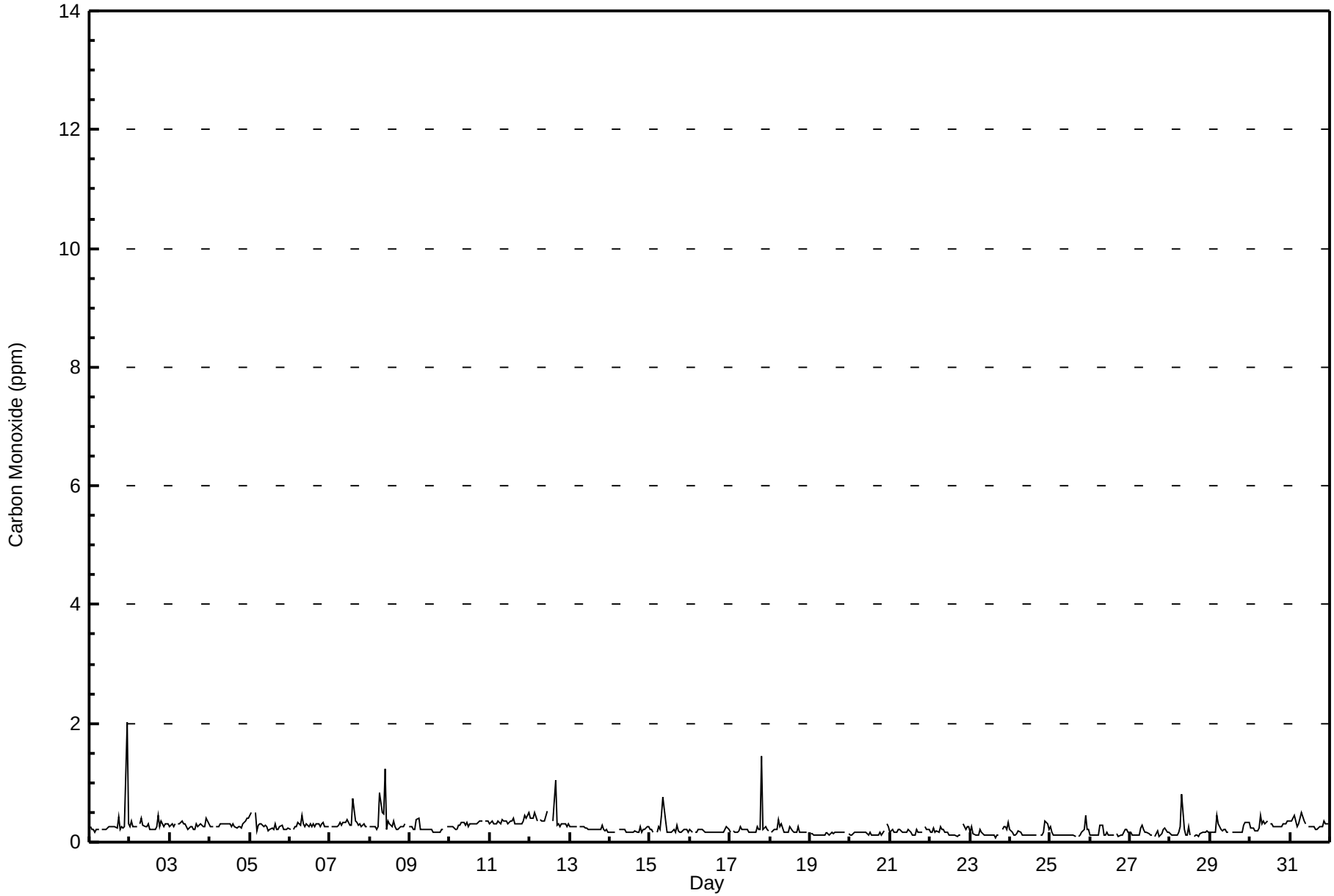
Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	0.3	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.4	0.2	0.3	0.2	0.3	2.0	0.3	0.32	2.01
2-Jul	0.3	0.4	0.3	0.3	0.3	A	0.3	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.5	0.3	0.4	0.3	0.3	0.3	0.3	0.28	0.46
3-Jul	0.3	0.3	0.3	0.3	A	0.3	0.3	0.4	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.28	0.39
4-Jul	0.3	0.3	0.3	A	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.3	0.4	0.4	0.4	0.29	0.40
5-Jul	0.4	0.5	A	0.5	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.28	0.49
6-Jul	0.2	A	0.2	0.3	0.3	0.3	0.3	0.5	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	0.29	0.46
7-Jul	A	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.7	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	A	0.32	0.73
8-Jul	0.3	0.3	0.3	0.3	0.2	0.3	0.8	0.5	0.5	1.2	0.2	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.3	0.3	0.3	A	0.3	0.35	1.25
9-Jul	0.3	0.3	0.2	0.2	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	0.2	0.2	A	0.3	0.3	0.22	0.41
10-Jul	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	A	0.3	0.3	0.4	0.30	0.36
11-Jul	0.3	0.4	0.3	0.3	0.3	0.4	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.4	0.5	0.35	0.50
12-Jul	0.4	0.4	0.4	0.5	0.4	A	0.4	0.4	0.4	0.4	0.5	C	C	A	0.4	1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.39	1.03
13-Jul	0.3	0.3	0.3	0.3	0.3	A	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.23	0.30
14-Jul	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.19	0.26
15-Jul	0.2	0.2	0.2	A	0.2	0.3	0.2	0.5	0.8	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24	0.77
16-Jul	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.18	0.26
17-Jul	0.2	A	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	1.4	0.2	0.3	0.2	0.2	0.25	1.44
18-Jul	A	0.2	0.2	0.2	0.2	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	A	0.20	0.39
19-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.14	0.17
20-Jul	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	A	0.3	0.3	0.15	0.30
21-Jul	0.2	0.2	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	0.2	0.2	0.2	0.2	A	0.3	0.2	0.2	0.17	0.25
22-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.3	0.2	0.3	0.3	0.18	0.31
23-Jul	0.2	0.3	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.2	0.3	0.2	0.2	0.3	0.16	0.33
24-Jul	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.2	0.4	0.3	0.2	0.15	0.36
25-Jul	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.2	0.2	0.4	0.2	0.2	0.15	0.44
26-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.1	A	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.14	0.29
27-Jul	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.1	A	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.16	0.27
28-Jul	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.8	0.2	0.1	0.1	0.3	0.1	A	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.17	0.80
29-Jul	0.2	0.2	0.2	0.2	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.21	0.44
30-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.3	0.4	0.3	0.3	A	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.28	0.45
31-Jul	0.4	0.4	0.5	0.4	0.3	0.3	0.4	0.5	0.3	0.3	A	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.31	0.50
	0.23	0.23	0.21	0.21	0.21	0.23	0.28	0.30	0.26	0.25	0.22	0.20	0.20	0.20	0.22	0.22	0.21	0.21	0.21	0.26	0.24	0.27	0.33	0.26	Diurnal Average	
	0.45	0.49	0.45	0.49	0.44	0.41	0.84	0.80	0.77	1.25	0.53	0.35	0.34	0.35	0.73	1.03	0.32	0.46	0.36	1.44	0.36	0.45	2.01	0.50	Diurnal Maximum	

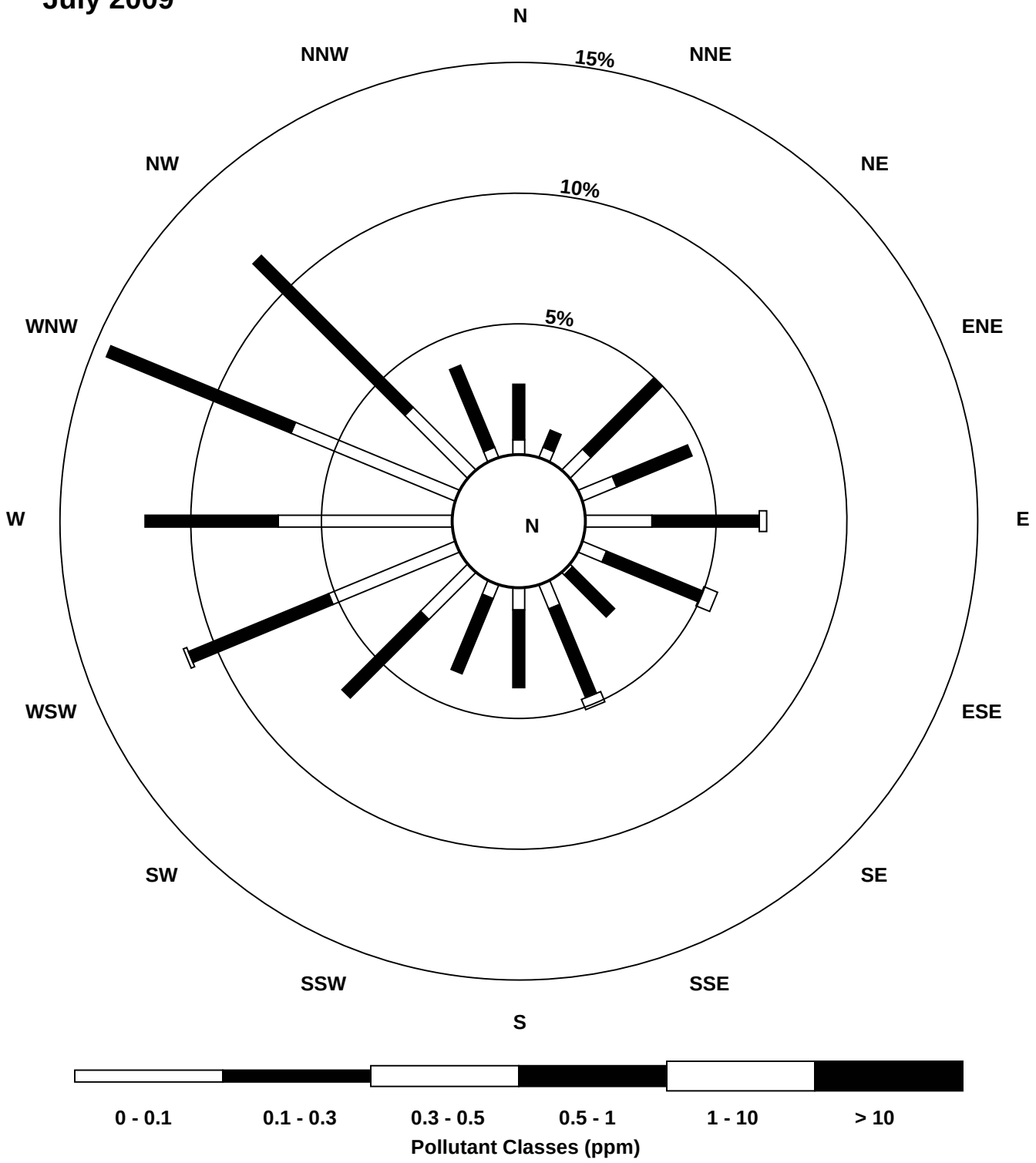
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for CO at Henry Pirker
July 2009



Pollutant Rose for CO at Henry Pirker
July 2009



Peace Airshed Zone Association
Summary of Eight Hour Running Averages

Henry Pirker - Carbon Monoxide (CO) - ppm
July 1, 2009 to August 1, 2009

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 0.35 ppm on Jul 12 04:00

Minimum Value: 0.06 ppm on Jul 23 19:00

Percentiles: P_1 = 0.07 P_{10} = 0.10 Q_1 = 0.13 Median = 0.17 Q_3 = 0.23 P_{90} = 0.27 P_{99} = 0.34

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

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
2-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25
3-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25
4-Jul	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	0.3	0.26
5-Jul	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.31
6-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25
7-Jul	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	0.3	0.3	0.2	0.2	0.27
8-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24
9-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.23
10-Jul	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	0.3	0.3	0.3	0.3	0.3	0.31
11-Jul	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.33
12-Jul	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	N	N	N	N	N	N	N	0.3	0.3	0.3	0.3	0.3	0.35
13-Jul	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.26
14-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.16
15-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24
16-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.16
17-Jul	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.17
18-Jul	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.17
19-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.14
20-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.14
21-Jul	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.16
22-Jul	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.16
23-Jul	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.15
24-Jul	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	0.15
25-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.15
26-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.11
27-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.13
28-Jul	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.14
29-Jul	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	0.2	0.2	0.2	0.2	0.2	0.2	0.21
30-Jul	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	0.2	0.3	0.3	0.3	0.28
31-Jul	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	0.2	0.2	0.2	0.33
Diurnal Maximums	0.34	0.35	0.35	0.35	0.35	0.35	0.34	0.33	0.33	0.33	0.34	0.34	0.31	0.31	0.31	0.31	0.30	0.30	0.30	0.30	0.30	0.31	0.32	0.33	

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
July 1, 2009 to August 1, 2009

Maximum Value: 3.02 ppm on Jul 31 08:00

Maximum Daily Average: 2.44 ppm on Jul 30

Minimum Value: 1.9 ppm on Jul 24 17:00

Minimum Daily Average: 1.97 ppm on Jul 19

Maximum Diurnal Average: 2.26 ppm at hour 6

Minimum Diurnal Average: 2.01 ppm at hour 16

Monthly Average: 2.118 ppm

Percentiles: P_1 = 1.95 P_{10} = 1.99 Q_1 = 2.02 Median = 2.05 Q_3 = 2.16 P_{90} = 2.36 P_{99} = 2.73

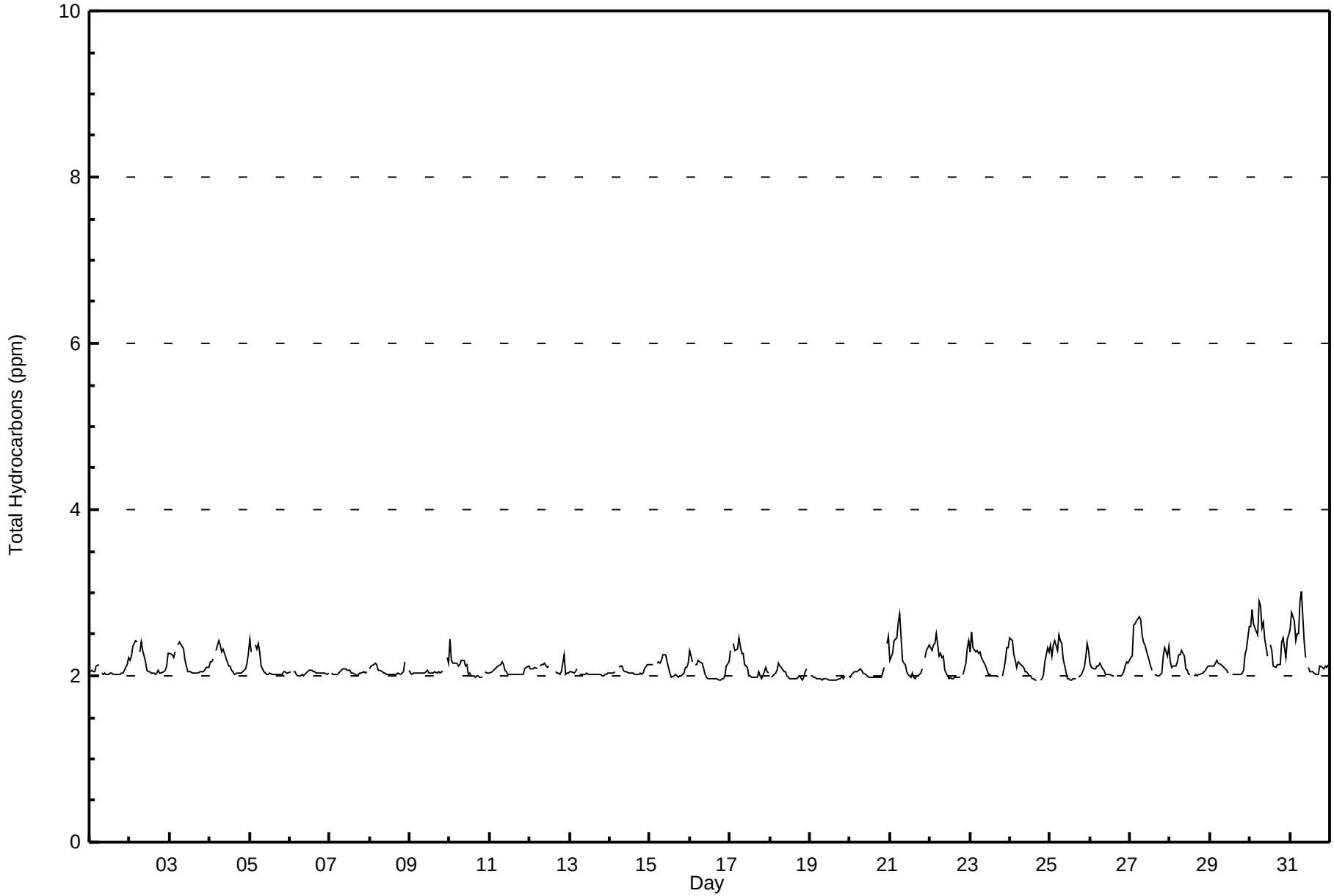
Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	2.1	2.1	2.1	2.0	2.1	2.1	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.05	2.22
2-Jul	2.2	2.2	2.4	2.4	2.4	A	2.3	2.4	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	2.1	2.1	2.3	2.16	2.42
3-Jul	2.3	2.3	2.2	2.3	A	2.4	2.4	2.4	2.3	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.15	2.40
4-Jul	2.2	2.2	2.2	A	2.3	2.4	2.4	2.3	2.3	2.3	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.3	2.16	2.42
5-Jul	2.4	2.3	A	2.4	2.3	2.4	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	2.0	2.0	2.0	2.0	2.12	2.44
6-Jul	2.0	A	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.04	2.07
7-Jul	A	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	A	2.04	2.08
8-Jul	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	2.2	A	2.1	2.06	2.16
9-Jul	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	A	2.2	2.2	2.05	2.21
10-Jul	2.4	2.2	2.2	2.2	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.1	2.0	2.0	2.09	2.44
11-Jul	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.2	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	2.1	2.1	2.1	2.06	2.17
12-Jul	2.1	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.2	2.1	2.1	C	C	C	2.0	2.0	2.0	2.0	2.1	2.3	2.0	2.0	2.0	2.09	2.26
13-Jul	2.1	2.1	2.0	2.1	2.1	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.03	2.08
14-Jul	2.0	2.0	2.0	2.0	A	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	2.1	2.1	2.1	2.06	2.14
15-Jul	2.1	2.1	2.1	A	2.1	2.2	2.2	2.2	2.2	2.3	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.10	2.26
16-Jul	2.3	2.2	A	2.1	2.1	2.2	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.06	2.31
17-Jul	2.3	A	2.4	2.3	2.3	2.5	2.4	2.3	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	2.1	2.1	2.0	2.13	2.46
18-Jul	A	2.0	2.0	2.0	2.1	2.2	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	2.1	2.1	A	2.02	2.16
19-Jul	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	1.97	2.00
20-Jul	2.0	2.0	2.0	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	2.1	A	2.4	2.5	2.05	2.47
21-Jul	2.2	2.3	2.4	2.4	2.5	2.6	2.7	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	A	2.2	2.3	2.4	2.21	2.74
22-Jul	2.3	2.3	2.4	2.4	2.5	2.2	2.3	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.1	2.3	2.4	2.16	2.52
23-Jul	2.3	2.5	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.1	2.2	2.3	2.3	2.17	2.53
24-Jul	2.5	2.4	2.2	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	1.9	1.9	A	1.9	2.0	2.0	2.2	2.3	2.3	2.11	2.46
25-Jul	2.4	2.2	2.4	2.4	2.3	2.5	2.4	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	2.1	2.2	2.4	2.3	2.18	2.49
26-Jul	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.07	2.18
27-Jul	2.2	2.2	2.6	2.6	2.7	2.7	2.7	2.5	2.4	2.4	2.3	2.2	2.1	2.1	A	2.0	2.0	2.0	2.0	2.0	2.2	2.3	2.2	2.4	2.30	2.71
28-Jul	2.2	2.1	2.1	2.1	2.2	2.3	2.3	2.3	2.2	2.1	2.1	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	2.10	2.30
29-Jul	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.3	2.6	2.12	2.60
30-Jul	2.6	2.8	2.6	2.6	2.5	2.9	2.9	2.6	2.7	2.4	2.2	A	2.4	2.3	2.1	2.1	2.1	2.1	2.1	2.4	2.5	2.2	2.4	2.5	2.44	2.90
31-Jul	2.6	2.8	2.7	2.4	2.5	2.5	2.9	3.0	2.4	2.2	A	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.30	3.02
	2.21	2.20	2.21	2.21	2.22	2.26	2.26	2.21	2.17	2.11	2.07	2.03	2.03	2.02	2.01	2.01	2.01	2.01	2.02	2.03	2.07	2.11	2.17	2.20	Diurnal Average	
	2.59	2.80	2.66	2.62	2.65	2.90	2.90	3.02	2.65	2.45	2.30	2.19	2.38	2.30	2.11	2.10	2.13	2.13	2.14	2.41	2.45	2.33	2.44	2.60	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

Hourly Averages for THC at Henry Pirker
July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Henry Pirker - Total Hydrocarbons (THC) - ppm
July 1, 2009 to August 1, 2009

Maximum Value: 4.79 ppm on Jul 31 02:00

Maximum Daily Average: 2.94 ppm on Jul 30

Minimum Value: 2.0 ppm on Jul 24 17:00

Minimum Daily Average: 2.00 ppm on Jul 19

Maximum Diurnal Average: 2.49 ppm at hour 1

Minimum Diurnal Average: 2.04 ppm at hour 15

Monthly Average: 2.242 ppm

Percentiles: P_1 = 1.97 P_{10} = 2.01 Q_1 = 2.04 Median = 2.11 Q_3 = 2.31 P_{90} = 2.65 P_{99} = 3.55

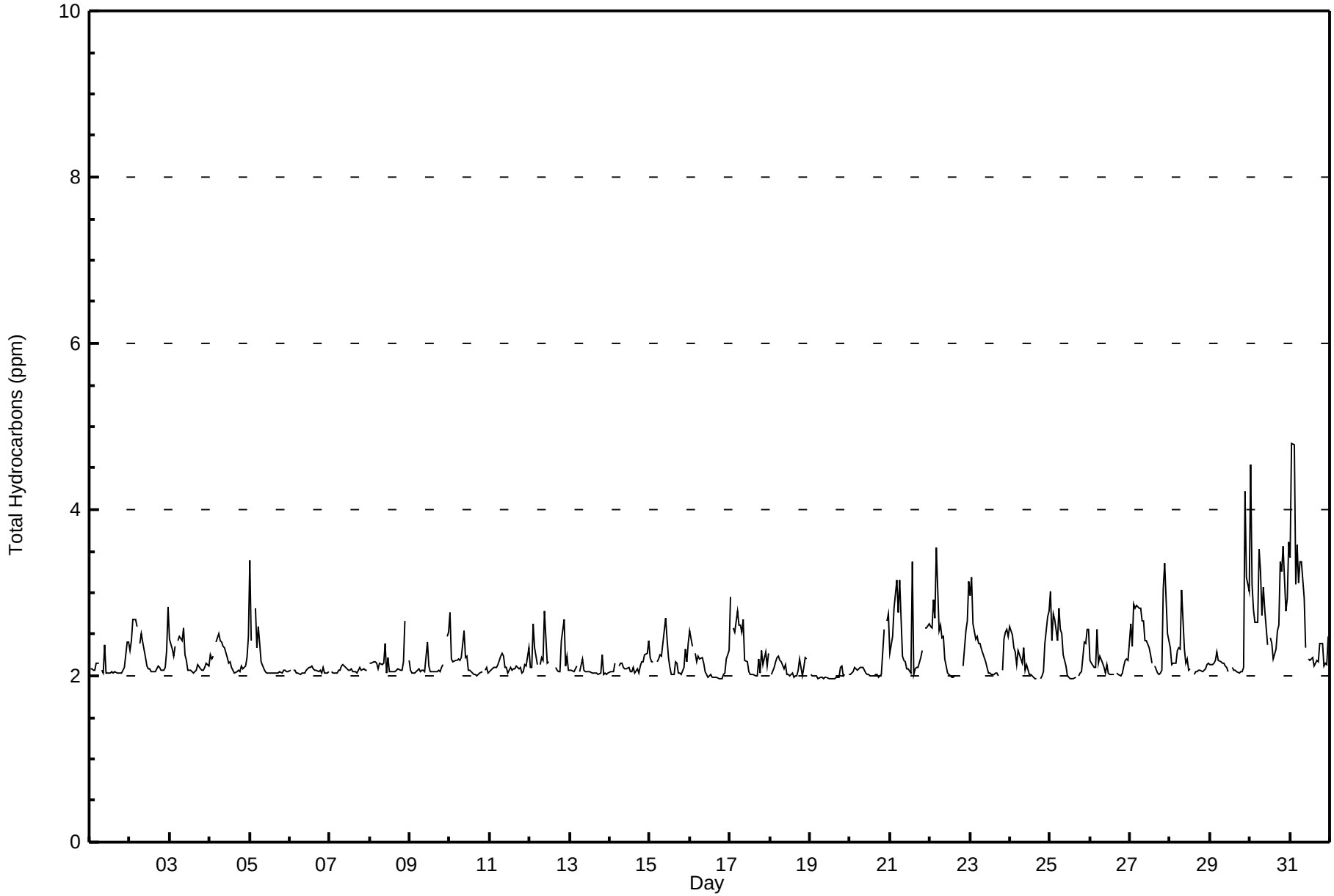
Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	2.1	2.1	2.1	2.1	2.2	2.2	A	2.1	2.0	2.4	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.4	2.4	2.11	2.41
2-Jul	2.3	2.4	2.7	2.7	2.6	A	2.4	2.5	2.4	2.2	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.8	2.27	2.83
3-Jul	2.4	2.3	2.2	2.4	A	2.4	2.5	2.4	2.6	2.2	2.2	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.21	2.58
4-Jul	2.2	2.2	2.2	A	2.4	2.5	2.4	2.4	2.4	2.3	2.2	2.2	2.2	2.1	2.1	2.0	2.1	2.1	2.0	2.1	2.1	2.1	2.2	2.5	2.22	2.50
5-Jul	3.4	2.4	A	2.8	2.3	2.6	2.4	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.21	3.39
6-Jul	2.1	A	2.1	2.1	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	2.0	2.1	2.0	2.1	2.0	2.0	2.0	2.06	2.12
7-Jul	A	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	2.0	2.1	2.1	2.1	2.1	2.1	2.1	A	2.07	2.14
8-Jul	2.2	2.2	2.2	2.2	2.2	2.1	2.2	2.1	2.2	2.4	2.0	2.2	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.7	A	2.2	2.15	2.67
9-Jul	2.1	2.0	2.0	2.0	2.1	2.1	2.0	2.1	2.1	2.1	2.4	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	A	2.5	2.5	2.12	2.52
10-Jul	2.8	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.5	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.1	2.1	2.0	2.16	2.77
11-Jul	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.2	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.3	2.12	2.34
12-Jul	2.1	2.1	2.6	2.3	2.1	A	2.1	2.2	2.2	2.8	2.2	2.2	C	C	C	2.1	2.1	2.0	2.1	2.4	2.7	2.1	2.2	2.1	2.24	2.78
13-Jul	2.1	2.1	2.1	2.1	2.1	A	2.0	2.2	2.1	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.0	2.0	2.0	2.0	2.06	2.25
14-Jul	2.0	2.0	2.1	2.2	A	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.0	2.1	2.0	2.1	2.2	2.2	2.3	2.3	2.4	2.12	2.43
15-Jul	2.2	2.2	2.2	A	2.2	2.2	2.3	2.2	2.4	2.7	2.4	2.2	2.1	2.0	2.0	2.2	2.2	2.0	2.0	2.0	2.1	2.3	2.2	2.4	2.20	2.69
16-Jul	2.5	2.3	A	2.3	2.2	2.2	2.2	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.3	2.11	2.54
17-Jul	3.0	A	2.6	2.5	2.8	2.6	2.6	2.5	2.7	2.2	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.0	2.3	2.1	2.3	2.1	2.3	2.31	2.95
18-Jul	A	2.0	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.0	2.1	2.2	2.2	A	2.10	2.23
19-Jul	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	A	2.0	2.00	2.12
20-Jul	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.6	A	2.7	2.7	2.12	2.74
21-Jul	2.3	2.5	2.8	3.0	3.2	2.8	3.2	2.2	2.2	2.2	2.1	2.1	2.0	3.4	2.0	2.1	2.1	2.1	2.2	2.3	A	2.6	2.6	2.6	2.45	3.37
22-Jul	2.6	2.6	2.9	2.7	3.5	2.5	2.6	2.5	2.5	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.1	2.5	2.7	3.1	2.39	3.54
23-Jul	3.0	3.2	2.6	2.4	2.5	2.4	2.4	2.3	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.1	2.4	2.5	2.6	2.5	2.33	3.18
24-Jul	2.6	2.5	2.3	2.3	2.1	2.3	2.2	2.2	2.3	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.1	2.4	2.7	2.8	2.21	2.77
25-Jul	3.0	2.4	2.8	2.7	2.4	2.8	2.6	2.5	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.1	2.4	2.4	2.6	2.6	2.32	3.02
26-Jul	2.2	2.2	2.1	2.1	2.6	2.2	2.2	2.2	2.1	2.0	2.1	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.2	2.12	2.56
27-Jul	2.6	2.4	2.9	2.8	2.9	2.8	2.8	2.7	2.7	2.4	2.4	2.3	2.3	2.1	A	2.1	2.0	2.0	2.0	2.1	3.0	3.4	2.5	2.4	2.51	3.36
28-Jul	2.3	2.1	2.2	2.2	2.3	2.3	2.3	3.0	2.3	2.1	2.2	2.1	2.1	A	2.0	2.0	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.19	3.03
29-Jul	2.1	2.1	2.1	2.2	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.0	A	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1	4.2	3.2	3.0	2.29	4.21
30-Jul	4.5	3.1	2.8	2.6	2.6	3.5	3.3	2.7	3.1	2.8	2.4	A	2.5	2.4	2.2	2.3	2.5	2.6	3.4	3.3	3.6	2.8	2.9	3.6	2.94	4.55
31-Jul	3.4	4.8	4.8	3.1	3.6	3.1	3.4	3.4	2.9	2.3	A	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.4	2.4	2.1	2.1	2.1	2.5	2.77	4.79
	2.49	2.37	2.40	2.35	2.40	2.38	2.37	2.32	2.29	2.22	2.14	2.08	2.07	2.10	2.04	2.06	2.06	2.07	2.11	2.14	2.23	2.34	2.34	2.44	Diurnal Average	
	4.55	4.79	4.78	3.10	3.57	3.52	3.37	3.36	3.07	2.79	2.44	2.35	2.46	3.37	2.20	2.33	2.55	2.61	3.38	3.25	3.56	4.21	3.18	3.60	Diurnal Maximum	

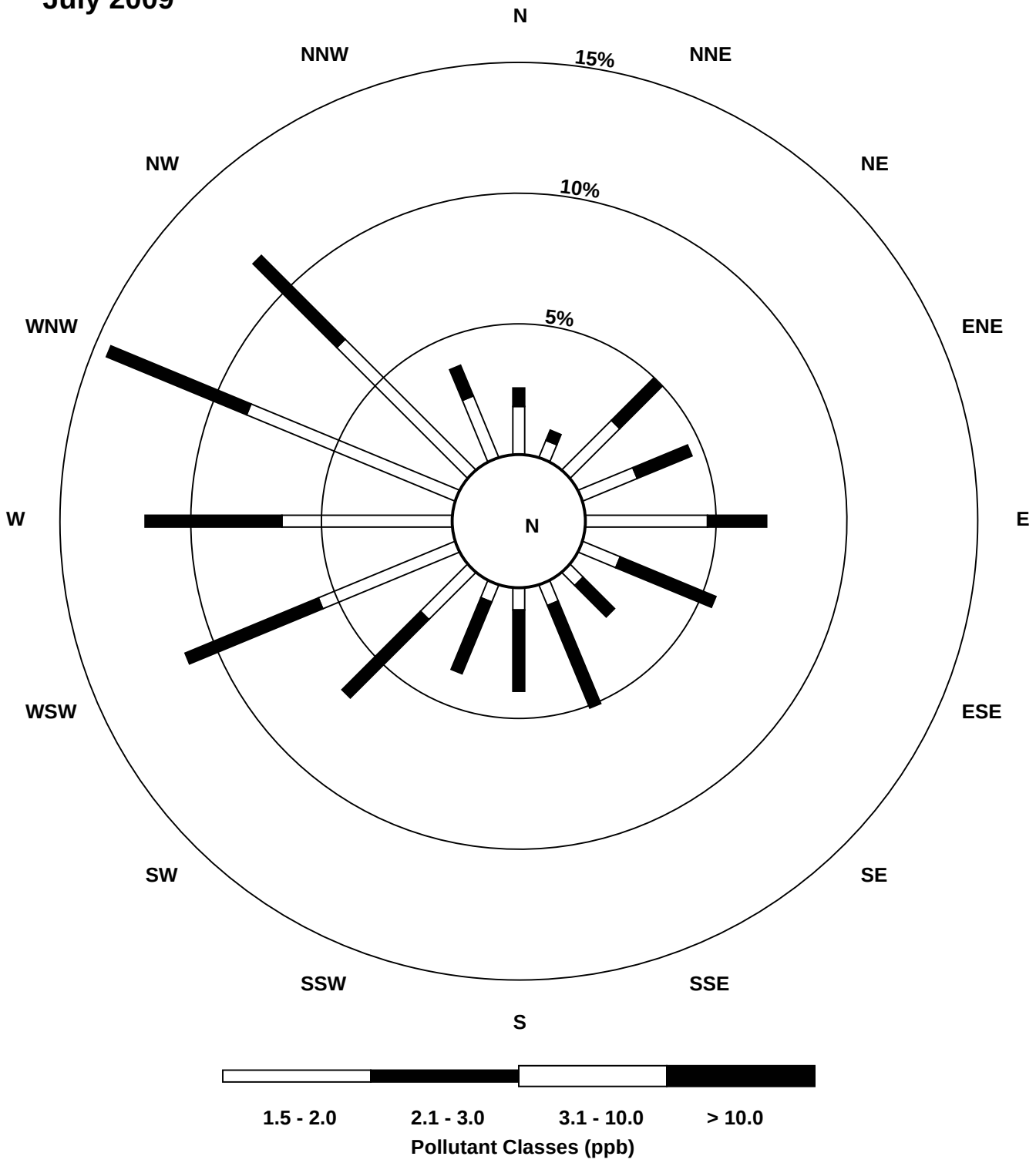
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for THC at Henry Pirker
July 2009



Pollutant Rose for THC at Henry Pirker
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 32.0 $\mu g/m^3$ on Jul 25 23:00 Maximum Daily Average: 15.7 $\mu g/m^3$ on Jul 30

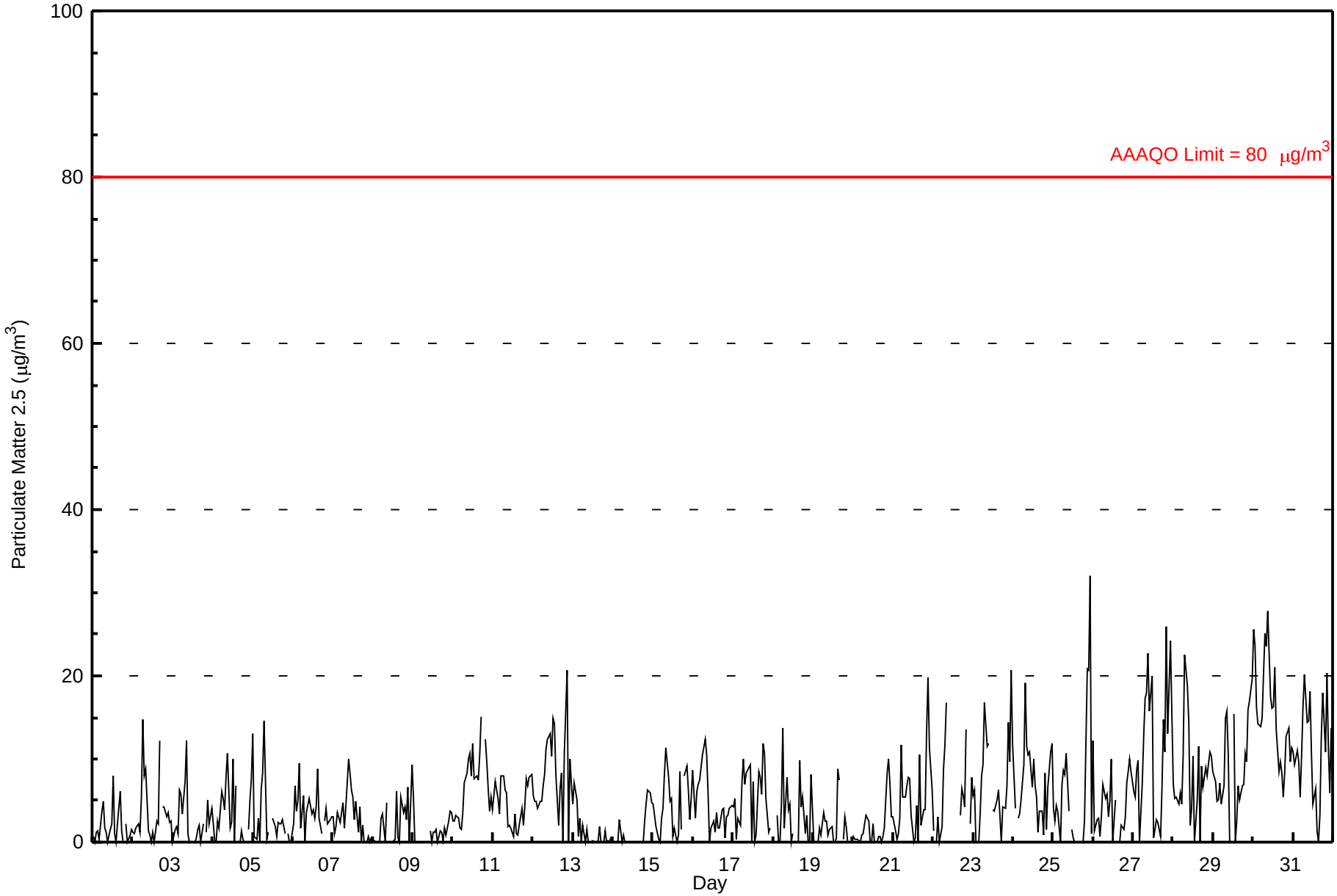
Minimum Value: 0 $\mu g/m^3$ on Jul 1 10:00 Minimum Daily Average: 1.2 $\mu g/m^3$ on Jul 14
Maximum Diurnal Average: 8.6 $\mu g/m^3$ at hour 8 Minimum Diurnal Average: 2.9 $\mu g/m^3$ at hour 14
Monthly Average: 5.24 $\mu g/m^3$ Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 1.1 Median = 3.8 Q_3 = 7.9 P_{90} = 12.2 P_{99} = 23.2

Hours in Service:	744
Hours of Data:	702
Hours of Missing Data:	42
Hours of Calibration:	0
Percent Operational Time:	94.4

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	1	0	1	1	0	4	5	2	1	0	1	2	8	1	0	2	6	1	0	BD	2	0	1	1	1.8	7.9
2-Jul	1	1	2	2	1	5	15	8	9	1	1	0	1	0	2	2	12	BD	4	4	3	3	2	3	3.7	14.8
3-Jul	0	2	2	1	6	6	3	7	12	1	0	BD	0	0	1	2	2	0	2	BD	1	5	2	4	2.7	12.1
4-Jul	2	0	0	3	2	6	5	4	8	11	2	2	10	0	7	BD	0	1	0	0	BD	1	5	8	3.5	10.7
5-Jul	13	1	0	3	0	6	8	15	0	1	BD	BD	3	2	1	2	2	2	3	1	BD	1	0	0	3.1	14.6
6-Jul	2	7	4	5	9	2	6	0	3	4	5	3	4	3	4	9	3	1	BD	3	4	2	3	3	3.9	9.5
7-Jul	3	1	2	4	2	3	5	2	4	10	8	6	5	3	5	1	4	0	2	0	0	1	0	1	3.0	10.0
8-Jul	0	0	0	0	0	3	3	0	5	BD	5	BD	0	0	6	1	0	5	4	4	3	7	0	9	2.5	9.3
9-Jul	5	0	0	BD	0	BD	0	BD	0	BD	1	0	1	1	1	0	1	1	0	2	1	3	4	4	1.3	5.2
10-Jul	3	3	3	3	2	1	4	7	8	10	11	8	12	8	8	7	11	15	P	12	10	6	4	5	7.0	15.0
11-Jul	4	7	6	5	3	8	8	6	6	2	2	2	1	3	1	1	2	4	2	4	8	7	8	8	4.5	8.1
12-Jul	6	5	5	4	5	5	7	8	11	12	13	10	15	14	8	2	6	8	0	11	21	0	10	7	8.1	20.7
13-Jul	5	7	5	1	3	0	2	0	2	0	BD	0	0	0	0	0	2	0	0	1	0	0	0	0	1.2	7.2
14-Jul	0	0	0	0	3	0	1	0	0	0	BD	0	0	0	0	0	0	0	0	3	5	6	6	5	1.2	6.3
15-Jul	5	3	2	0	0	3	4	8	11	8	5	5	1	2	0	1	9	2	BD	8	9	6	3	5	4.3	11.3
16-Jul	9	3	6	7	8	9	10	12	11	6	0	2	3	1	4	2	2	4	4	0	3	3	4	4	4.8	12.4
17-Jul	4	5	0	3	2	7	10	7	8	9	9	0	7	0	1	8	8	6	12	11	5	1	2	BD	5.5	11.9
18-Jul	11	BD	3	0	0	5	14	2	8	4	5	0	1	BD	BD	0	10	4	5	1	3	0	0	8	4.0	13.8
19-Jul	0	0	BD	0	2	1	3	3	3	1	2	2	0	0	0	9	7	BD	0	3	2	0	0	0	1.7	8.8
20-Jul	1	0	0	0	0	1	1	2	3	3	0	0	2	0	0	1	1	0	1	2	8	10	7	3	1.9	9.9
21-Jul	3	1	0	1	3	12	5	5	7	8	8	3	0	0	4	0	10	2	4	4	13	20	11	6	5.5	19.8
22-Jul	1	BD	0	3	0	2	9	12	17	BD	3	BD	6	BD	0	BD	3	6	6	4	14	BD	2	8	5.3	16.8
23-Jul	6	6	0	0	3	8	9	17	12	12	BD	BD	4	4	5	6	3	0	4	4	7	14	10	21	7.0	20.7
24-Jul	12	4	BD	3	3	5	9	19	12	10	11	7	10	7	5	1	4	4	1	8	2	7	11	12	7.2	19.2
25-Jul	4	3	4	4	0	7	9	8	11	4	BD	2	0	0	BD	BD	0	BD	0	3	21	21	32	1	6.6	32.0
26-Jul	12	1	3	3	1	3	7	5	6	3	5	10	0	5	BD	BD	0	2	2	3	7	8	10	8	4.7	12.2
27-Jul	6	6	9	10	0	7	13	17	18	23	16	20	1	2	3	2	1	7	15	11	26	13	24	15	10.9	26.0
28-Jul	7	5	5	5	6	5	10	23	19	14	2	4	10	0	5	11	0	9	7	9	8	9	11	10	8.1	22.6
29-Jul	8	7	5	5	7	5	7	15	16	10	0	BD	15	0	3	7	5	7	7	11	10	16	17	20	8.8	19.7
30-Jul	26	24	16	14	14	15	20	25	24	28	17	16	16	21	13	8	10	8	5	8	13	14	10	11	15.7	27.8
31-Jul	11	9	11	10	5	10	16	20	14	15	18	11	5	6	1	0	3	13	18	11	20	12	6	14	10.8	20.4
	5.5	3.8	3.3	3.3	2.9	5.1	7.4	8.6	8.6	7.5	5.7	4.6	4.5	2.9	3.2	3.2	4.1	4.0	3.9	5.0	7.8	6.6	6.6	6.8	Diurnal Average	
	25.6	23.5	16.2	14.2	13.8	15.0	20.2	25.2	23.5	27.8	18.2	20.0	16.4	21.1	13.5	11.5	12.3	15.0	18.0	12.3	26.0	20.7	32.0	20.7	Diurnal Maximum	

P - Power Failure 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 Henry Pirker
July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 175.2 $\mu g/m^3$ on Jul 27 22:00

Maximum Daily Average: 41.3 $\mu g/m^3$ on Jul 27

Minimum Value: 0 $\mu g/m^3$ on Jul 9 06:00

Maximum Diurnal Average: 27.8 $\mu g/m^3$ at hour 21

Monthly Average: 17.89 $\mu g/m^3$

Minimum Daily Average: 6.1 $\mu g/m^3$ on Jul 9

Minimum Diurnal Average: 9.8 $\mu g/m^3$ at hour 5

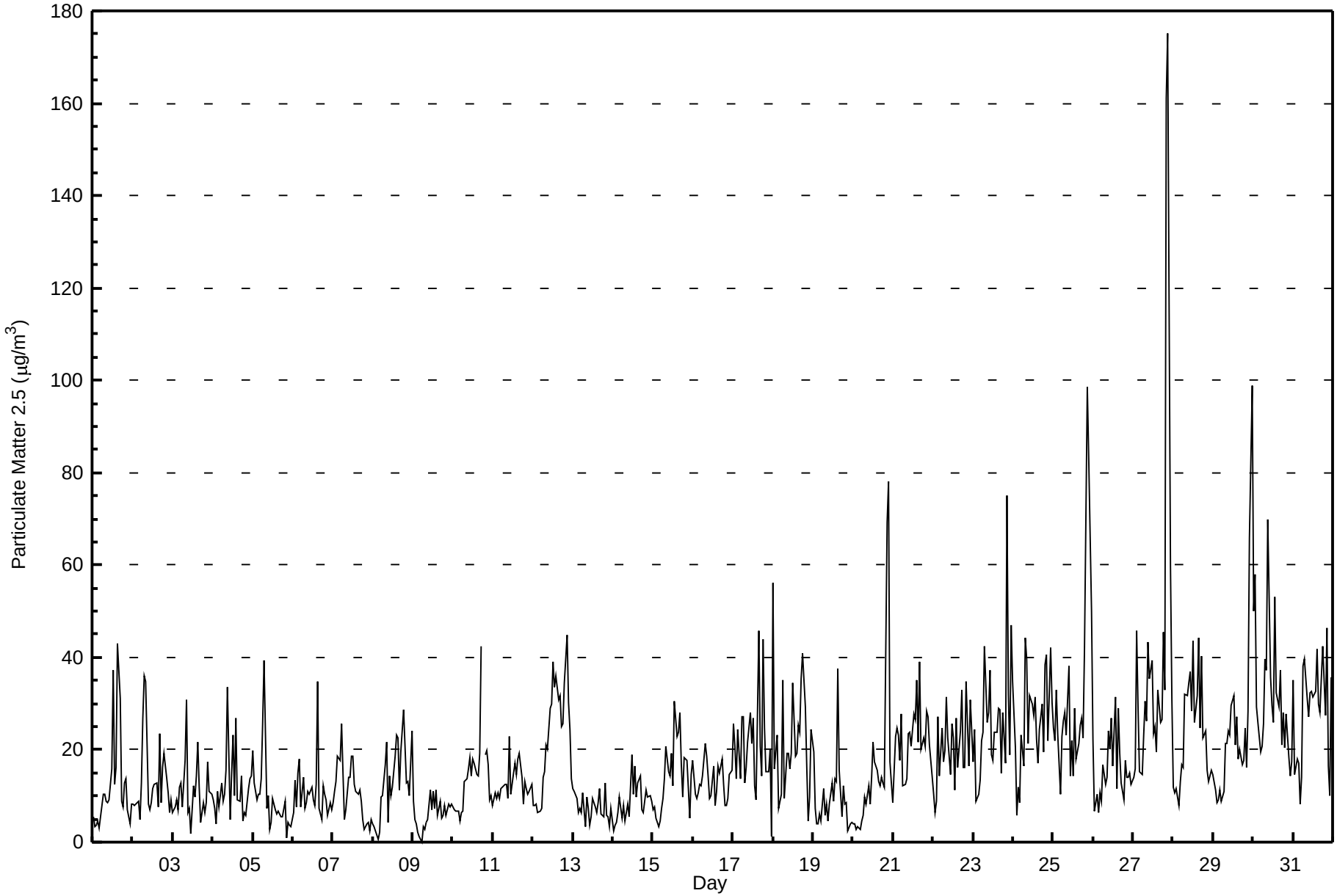
Percentiles: P_1 = 2.0 P_{10} = 5.6 Q_1 = 8.7 Median = 14.1 Q_3 = 23.7 P_{90} = 32.5 P_{99} = 72.5

Hours in Service:	744
Hours of Data:	743
Hours of Missing Data:	1
Hours of Calibration:	0
Percent Operational Time:	99.9

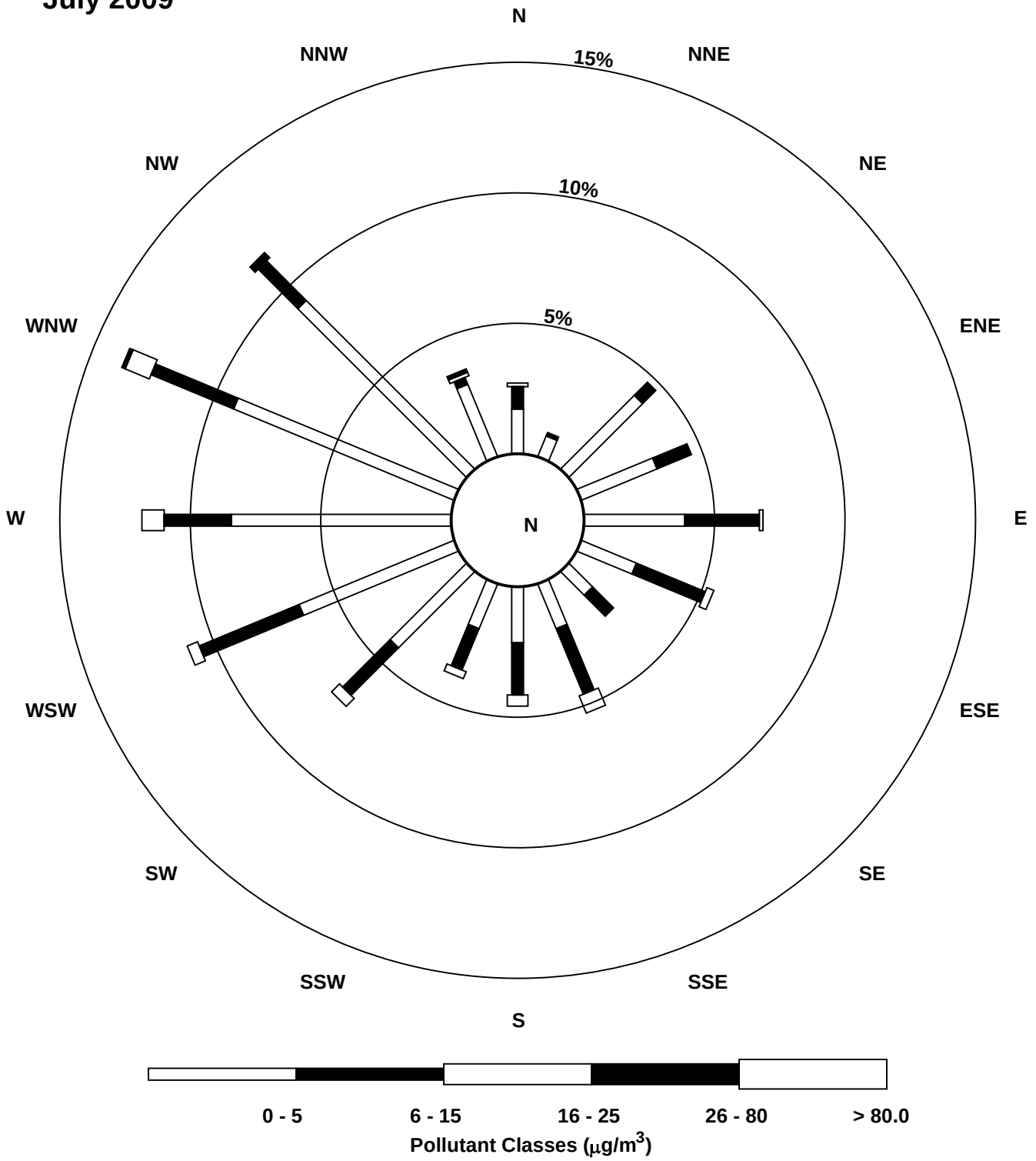
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	5	3	4	5	3	8	10	10	9	9	9	16	37	12	16	43	31	9	8	13	14	7	4	8	12.2	42.9
2-Jul	8	8	8	9	5	13	27	36	35	8	7	9	12	12	13	8	24	8	16	19	14	11	6	9	13.5	35.9
3-Jul	7	8	9	7	12	13	8	18	31	7	7	2	12	10	14	22	12	4	9	6	8	17	11	10	11.0	30.8
4-Jul	9	7	4	11	8	13	9	10	16	34	5	15	23	10	27	9	9	14	5	6	6	12	14	14	12.1	33.6
5-Jul	20	13	9	10	10	14	26	39	7	10	3	4	9	7	6	7	6	6	6	9	1	4	4	3	9.7	39.4
6-Jul	6	14	8	15	18	8	14	7	8	11	10	12	9	8	13	35	7	5	12	10	9	6	8	7	10.9	34.9
7-Jul	8	11	13	19	18	26	15	5	7	14	14	19	19	12	11	10	11	9	5	3	4	4	2	5	11.0	25.5
8-Jul	4	3	2	1	2	10	10	17	22	4	14	10	12	19	23	23	11	20	29	21	13	13	10	24	13.1	28.6
9-Jul	9	5	4	2	1	0	3	3	4	5	11	7	11	7	11	6	9	5	6	8	6	8	8	8	6.1	11.4
10-Jul	8	7	7	7	5	6	7	13	14	16	18	14	18	17	15	14	19	42	P	19	20	17	9	10	14.0	42.4
11-Jul	8	11	10	11	9	12	12	13	12	9	23	10	15	17	15	18	19	14	8	13	12	10	11	12	12.7	22.9
12-Jul	8	8	8	7	7	7	14	15	21	20	29	30	39	33	36	31	32	25	26	35	45	30	25	14	22.6	44.7
13-Jul	12	11	9	6	7	6	11	3	10	7	4	6	9	8	7	8	12	6	6	13	6	6	3	7	7.6	12.9
14-Jul	3	4	4	6	10	5	8	4	6	8	5	19	10	16	10	13	14	7	7	9	11	10	10	9	8.7	18.8
15-Jul	7	8	5	3	5	7	10	14	21	15	14	19	12	31	23	24	28	17	10	18	18	12	5	15	14.1	30.7
16-Jul	18	10	10	11	12	12	14	21	19	14	9	10	16	8	11	16	15	18	12	8	8	9	15	15	13.1	21.4
17-Jul	26	21	14	24	14	27	27	13	16	22	28	21	27	12	9	46	21	14	44	25	15	15	20	1	21.0	45.9
18-Jul	56	16	23	7	9	10	35	9	19	19	16	19	35	19	19	25	24	35	41	29	16	5	10	24	21.7	56.2
19-Jul	20	7	4	4	6	5	12	6	8	4	8	13	9	14	13	38	16	6	12	8	8	2	4	4	9.6	37.6
20-Jul	4	4	3	3	3	5	6	10	8	12	8	14	22	17	16	13	12	14	13	12	69	78	17	13	15.7	78.1
21-Jul	9	23	25	23	18	28	12	12	14	24	24	21	28	27	35	22	39	20	23	21	28	27	21	14	22.3	39.0
22-Jul	10	6	9	27	14	25	17	20	32	23	15	26	23	11	27	16	24	33	16	16	35	16	31	24	20.7	34.8
23-Jul	17	24	9	10	13	22	24	43	26	28	37	19	18	24	24	29	29	15	28	17	75	32	19	47	26.2	75.2
24-Jul	35	21	6	12	9	23	17	44	40	21	32	30	27	32	22	17	25	30	20	39	41	22	42	30	26.4	44.3
25-Jul	25	22	33	24	10	23	26	28	23	38	14	22	14	29	18	21	25	27	23	42	99	83	67	50	32.8	98.6
26-Jul	22	7	10	6	11	9	17	13	14	24	20	27	16	31	11	29	19	13	9	18	14	14	15	13	15.9	31.4
27-Jul	14	16	46	29	15	15	23	30	26	43	36	40	24	25	20	33	26	26	45	33	161	175	60	31	41.3	175.2
28-Jul	12	11	11	8	13	17	16	32	32	34	37	28	44	26	32	44	25	40	23	24	15	13	14	15	23.7	44.4
29-Jul	15	11	9	9	11	9	11	21	21	24	23	30	32	21	27	18	20	17	18	25	16	28	66	99	24.2	98.9
30-Jul	50	58	29	26	20	21	26	40	37	70	36	30	26	53	32	29	37	21	28	21	28	18	14	17	32.0	69.8
31-Jul	35	15	18	17	8	14	38	40	31	27	32	33	31	33	42	30	28	35	42	27	46	17	10	36	28.6	46.3
	15.8	12.6	11.7	11.6	9.8	13.2	16.3	19.0	19.0	19.6	17.7	18.5	20.6	19.4	19.3	22.5	20.3	18.0	18.2	18.2	27.8	23.3	17.9	19.1	Diurnal Average	
	56.2	58.0	45.7	28.8	19.6	27.8	38.1	44.3	39.7	69.8	37.2	39.5	43.6	53.0	41.7	45.9	39.0	42.4	45.4	41.9	161.1	175.2	66.6	98.9	Diurnal Maximum	

P - Power Failure

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



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



Peace Airshed Zone Association
Summary of Hourly Averages

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

Maximum Value: 31.1 ^{o}C on Jul 27 16:00

Maximum Daily Average: 22.9 ^{o}C on Jul 25

Minimum Value: 4 ^{o}C on Jul 2 05:00

Minimum Daily Average: 11.7 ^{o}C on Jul 9

Maximum Diurnal Average: 22.9 ^{o}C at hour 16

Minimum Diurnal Average: 11.3 ^{o}C at hour 6

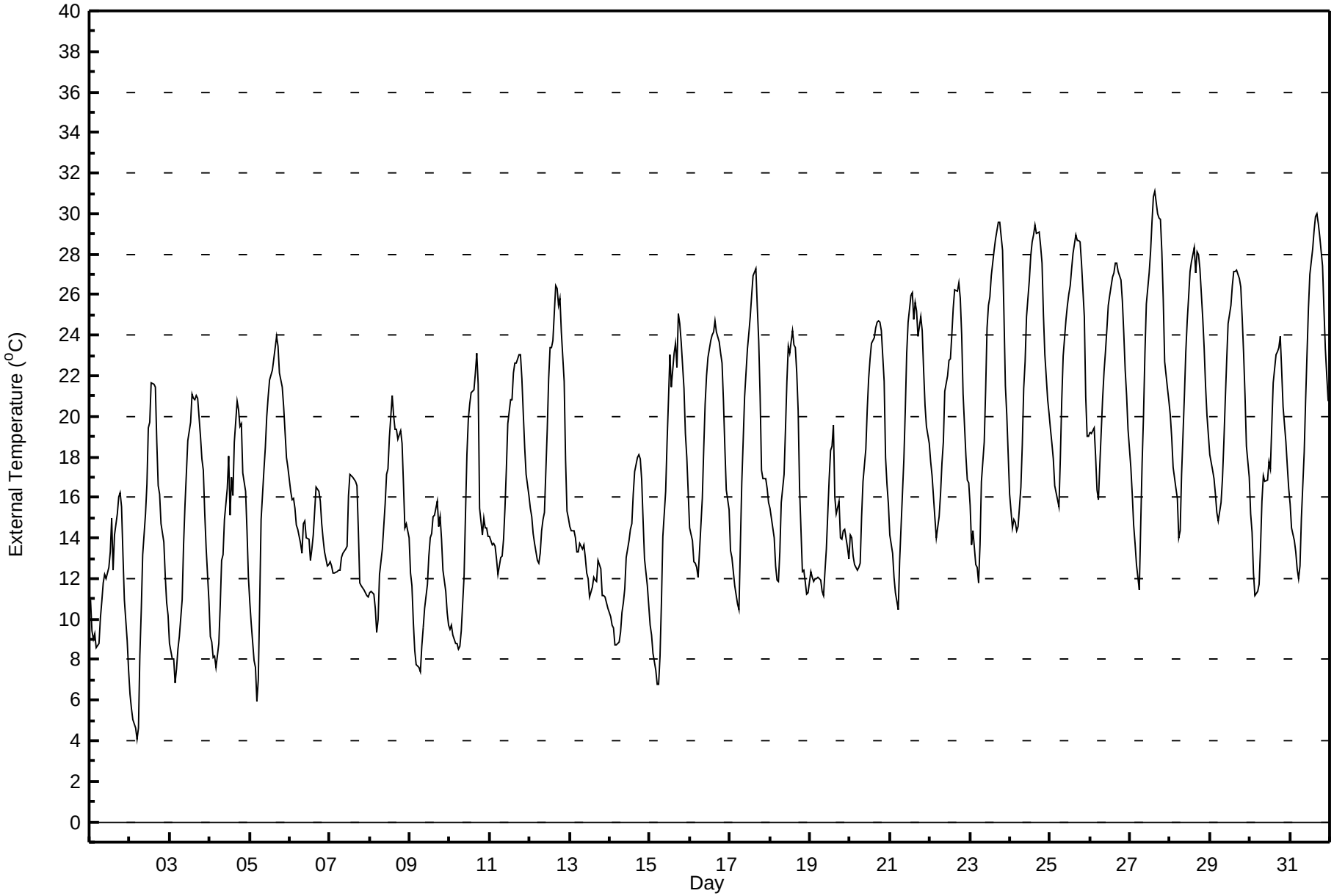
Monthly Average: 17.43 ^{o}C

Percentiles: P_1 = 6.8 P_{10} = 10.7 Q_1 = 13.0 Median = 16.5 Q_3 = 22.0 P_{90} = 25.9 P_{99} = 29.6

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

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jul	11	9	9	9	9	9	10	11	12	12	12	13	13	15	12	14	15	16	16	16	13	11	9	7	11.8	16.2
2-Jul	6	6	5	5	4	5	8	10	13	15	17	19	20	22	22	21	19	17	16	15	14	12	11	10	13.0	21.6
3-Jul	9	8	8	7	8	9	9	11	14	16	17	19	20	21	21	21	21	21	19	18	17	15	13	11	14.6	21.1
4-Jul	9	9	8	8	8	9	11	13	13	15	16	18	15	17	16	19	21	20	20	20	17	16	14	12	14.3	20.7
5-Jul	11	10	8	8	6	7	11	15	17	18	20	21	22	22	23	23	24	23	22	21	20	19	18	17	17.0	23.9
6-Jul	16	16	16	15	15	14	14	13	15	15	14	14	13	13	14	15	16	16	16	15	14	13	13	13	14.5	16.5
7-Jul	13	13	12	12	12	12	12	13	13	13	14	16	17	17	17	17	17	14	12	12	11	11	11	11	13.5	17.2
8-Jul	11	11	11	11	9	10	12	13	15	16	17	17	19	21	20	19	19	19	19	19	17	14	15	14	15.4	21.0
9-Jul	12	12	10	8	8	8	7	9	10	11	12	13	14	14	15	15	16	15	15	14	12	11	10	10	11.7	15.8
10-Jul	9	10	9	9	9	9	9	9	12	15	18	20	21	21	21	22	23	22	15	14	15	15	14	14	14.8	23.1
11-Jul	14	14	14	14	13	12	13	13	14	15	17	20	21	21	22	23	23	23	23	22	20	18	17	16	17.6	23.0
12-Jul	15	15	14	14	13	13	13	14	15	15	19	22	23	23	24	26	26	26	26	24	22	18	15	15	18.8	26.5
13-Jul	15	14	14	14	13	13	14	13	14	13	12	12	11	12	12	12	12	13	12	11	11	11	11	11	12.5	14.6
14-Jul	10	10	10	9	9	9	9	10	11	11	13	14	14	15	16	17	18	18	18	17	15	13	12	11	12.8	18.1
15-Jul	10	9	8	7	7	7	8	11	14	16	19	21	23	21	23	24	22	25	25	24	21	19	18	16	16.6	25.1
16-Jul	15	14	13	13	13	12	13	16	18	21	22	23	24	24	24	25	24	24	23	23	21	18	16	15	18.9	24.7
17-Jul	13	13	12	12	11	10	14	17	19	21	23	24	25	26	27	27	25	24	21	17	17	17	16	16	18.7	27.3
18-Jul	15	15	14	13	12	12	13	16	17	19	22	23	23	24	24	23	22	20	16	12	12	12	11	11	16.8	24.3
19-Jul	12	12	12	12	12	12	12	11	11	12	13	17	18	19	20	16	15	16	14	14	14	14	13	13	14.0	19.5
20-Jul	14	14	13	13	12	13	13	15	17	18	20	22	23	24	24	24	25	25	25	24	22	18	17	16	18.7	24.7
21-Jul	14	13	12	11	11	10	13	16	18	20	23	25	26	26	25	26	25	24	25	24	22	21	20	19	19.5	26.1
22-Jul	18	17	16	15	14	15	16	18	19	21	22	23	23	24	25	26	26	27	26	24	21	18	17	17	20.3	26.6
23-Jul	16	14	14	13	13	12	14	17	19	21	24	25	26	27	28	29	29	30	30	28	25	22	20	18	21.3	29.6
24-Jul	16	15	15	15	14	15	17	19	21	23	25	27	28	29	29	29	29	29	28	28	25	23	21	20	22.4	29.5
25-Jul	19	19	18	17	16	16	18	21	23	25	25	26	26	27	28	29	29	29	29	28	25	21	19	19	22.9	29.0
26-Jul	19	19	19	18	16	16	18	21	22	23	24	25	26	27	27	28	28	27	27	26	24	22	21	19	22.6	27.5
27-Jul	17	16	15	14	13	11	15	18	20	23	26	27	28	30	31	31	30	30	30	28	26	23	21	21	22.6	31.1
28-Jul	20	19	17	16	16	14	14	17	21	23	25	26	27	28	28	27	28	28	27	25	23	22	20	19	22.2	28.4
29-Jul	18	17	17	16	15	15	16	17	19	21	23	25	26	26	27	27	27	27	26	25	23	21	19	17	21.2	27.2
30-Jul	15	14	12	11	11	12	14	16	17	17	17	18	17	20	22	23	23	23	24	22	20	19	18	16	17.6	23.9
31-Jul	16	14	14	13	12	12	13	15	18	21	23	25	27	28	29	30	30	30	29	27	25	23	22	21	21.6	30.0
	13.9	13.2	12.6	12.0	11.4	11.3	12.6	14.5	16.1	17.7	19.2	20.6	21.3	22.0	22.5	22.9	22.8	22.5	21.7	20.5	18.9	17.2	15.9	15.0	Diurnal Average	
	20.0	19.1	19.5	18.0	16.4	15.9	18.0	20.9	23.0	24.8	25.5	27.1	28.1	29.6	30.8	31.1	30.0	29.8	29.7	28.2	25.8	23.3	22.0	20.8	Diurnal Maximum	

Hourly Averages for External Temperature at Henry Pirker
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Relative Humidity (RH) - %
July 1, 2009 to August 1, 2009

Maximum Value: 93.7 % on Jul 31 06:00

Maximum Daily Average: 83.7 % on Jul 7

Minimum Value: 26 % on Jul 27 16:00

Minimum Daily Average: 49.2 % on Jul 26

Maximum Diurnal Average: 81.8 % at hour 5

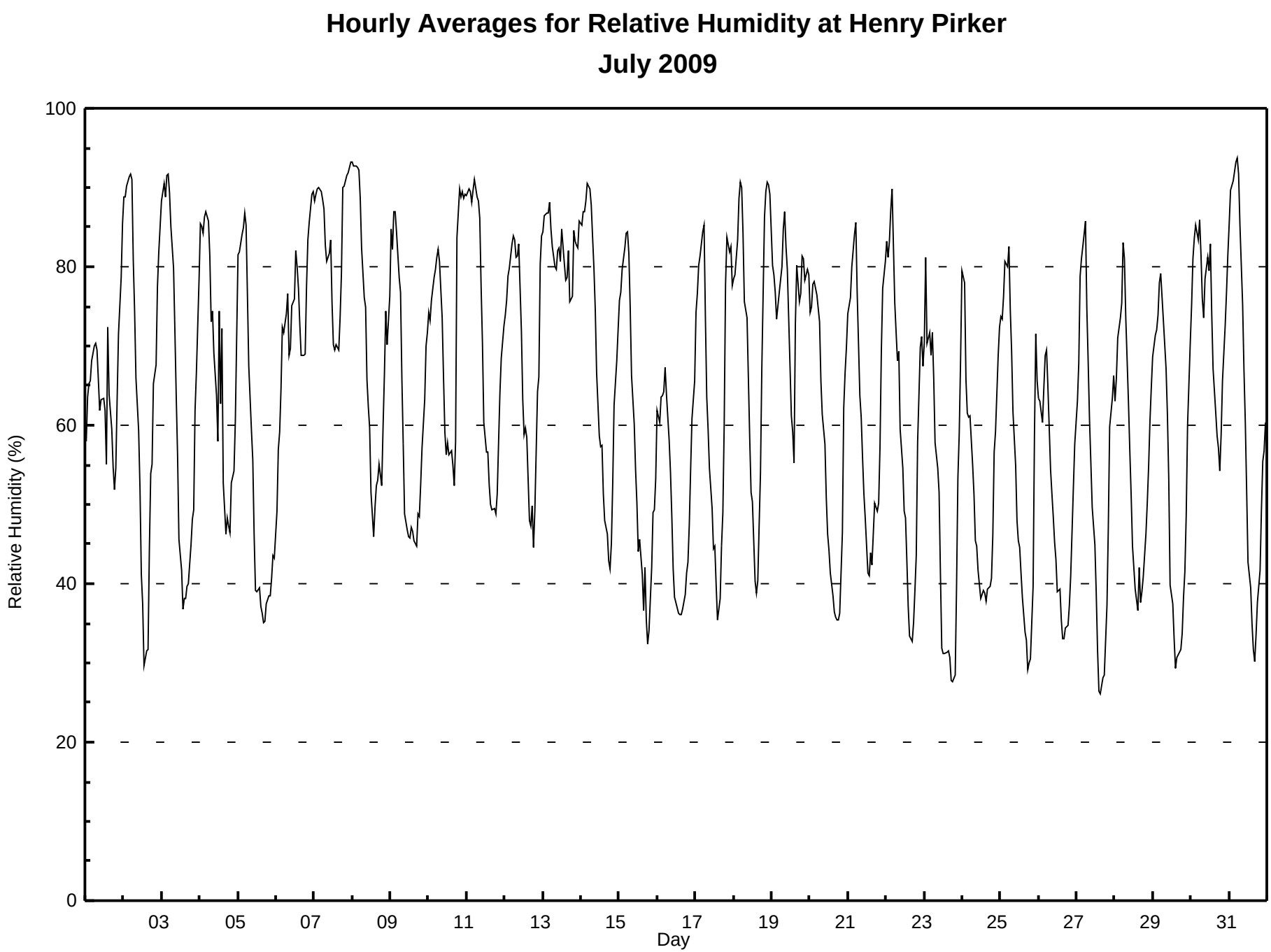
Minimum Diurnal Average: 45.4 % at hour 16

Monthly Average: 63.66 %

Percentiles: P_1 = 29.1 P_{10} = 38.2 Q_1 = 48.4 Median = 65.6 Q_3 = 79.7 P_{90} = 86.7 P_{99} = 92.5

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

Day	Hourly Period Ending At (MST) 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-Jul	58	64	65	66	68	70	70	70	66	62	63	63	62	55	72	64	59	55	52	55	63	72	79	85	64.9	85.4
2-Jul	89	89	90	91	92	91	81	74	66	59	52	41	38	30	31	32	44	54	55	65	68	77	82	85	65.7	91.8
3-Jul	88	90	89	92	92	89	85	80	72	64	56	46	42	37	38	38	40	40	45	48	49	62	67	79	63.6	91.8
4-Jul	86	85	84	86	87	86	81	73	74	69	64	58	74	63	72	53	46	48	47	46	53	54	61	71	67.6	87.0
5-Jul	81	82	84	85	87	85	76	67	59	56	46	39	39	39	37	36	35	35	38	38	39	41	44	43	54.7	86.9
6-Jul	49	57	59	65	72	72	74	77	69	70	75	76	82	80	77	73	69	69	69	78	83	86	89	90	73.3	89.6
7-Jul	88	89	90	90	90	88	87	83	81	82	83	75	70	69	70	70	74	79	90	90	92	92	93	93	83.7	93.2
8-Jul	93	93	93	93	92	89	82	76	75	66	62	60	51	46	50	52	53	55	52	60	66	74	70	76	70.0	93.2
9-Jul	85	82	87	87	84	79	77	66	58	49	47	46	46	47	47	45	45	49	48	53	57	63	70	72	62.0	87.0
10-Jul	74	73	76	79	80	81	82	81	74	66	59	56	58	56	57	55	52	58	84	90	89	89	89	89	72.8	89.7
11-Jul	89	90	89	88	90	91	89	88	86	77	70	60	57	57	53	50	49	49	49	51	58	64	68	72	70.2	91.1
12-Jul	74	76	79	80	83	84	83	81	81	83	72	63	59	60	59	48	47	50	45	49	64	66	80	84	68.7	83.9
13-Jul	84	87	87	87	88	85	83	80	80	82	82	81	85	80	78	79	82	76	76	85	83	83	82	86	82.5	88.2
14-Jul	85	87	87	88	91	90	88	84	80	75	67	59	57	57	51	48	46	43	42	45	53	63	68	72	67.7	90.5
15-Jul	76	77	80	82	84	84	82	75	66	60	54	50	44	46	41	37	42	35	32	34	42	49	49	53	57.3	84.5
16-Jul	62	60	63	64	64	67	64	58	54	49	42	38	37	36	36	36	37	39	41	43	47	54	61	66	50.8	67.3
17-Jul	74	77	80	81	84	85	74	64	60	55	49	44	45	40	35	38	45	49	60	78	84	82	82	78	64.3	85.3
18-Jul	79	79	83	89	91	90	84	76	74	66	58	51	50	40	39	40	47	54	67	86	90	91	90	89	71.0	90.7
19-Jul	80	79	77	73	75	77	80	85	87	83	80	68	61	59	55	73	80	76	77	81	81	78	80	79	75.9	86.9
20-Jul	74	75	78	78	76	75	73	66	61	58	51	46	44	41	38	36	36	35	35	36	46	62	67	70	56.6	78.2
21-Jul	74	76	80	82	84	86	77	64	61	56	51	48	41	41	44	42	46	50	49	50	57	69	77	81	62.0	85.6
22-Jul	83	81	83	87	90	75	72	68	69	60	55	49	48	43	37	33	33	35	39	44	58	70	71	67	60.5	89.8
23-Jul	70	81	70	72	69	72	66	58	55	52	41	32	31	31	31	32	31	28	28	29	40	53	59	68	49.9	81.2
24-Jul	79	78	66	62	61	61	55	51	45	45	42	38	39	39	39	38	39	40	41	46	57	59	69	72	52.5	79.5
25-Jul	74	73	76	81	80	83	75	69	62	55	48	45	45	41	38	34	33	29	30	30	40	59	71	66	55.7	82.5
26-Jul	63	63	60	65	69	70	65	54	51	49	45	43	39	39	35	33	33	34	35	37	41	47	52	58	49.2	69.5
27-Jul	63	68	79	81	83	86	75	68	61	55	50	45	39	31	26	26	28	29	33	37	47	60	63	66	54.1	85.7
28-Jul	63	66	71	74	75	83	81	74	63	57	51	45	42	39	37	42	38	39	41	46	50	55	60	65	56.5	83.0
29-Jul	69	71	72	74	78	79	73	70	67	61	53	40	37	33	29	31	31	32	34	38	41	49	60	70	53.9	79.1
30-Jul	75	81	84	85	83	86	82	76	73	79	81	79	83	74	67	62	59	57	54	59	66	73	77	81	74.0	85.9
31-Jul	85	90	91	92	93	94	92	85	75	67	60	52	43	40	35	32	30	34	38	42	49	56	57	60	62.1	93.7
	76.4	78.0	79.1	80.5	81.8	81.7	77.6	72.2	67.9	63.3	58.4	52.8	51.2	48.1	47.0	45.4	46.1	46.9	49.2	53.9	59.8	66.1	70.6	73.8	Diurnal Average	
	93.2	92.7	92.8	92.6	93.3	93.7	91.8	88.4	86.9	82.9	83.4	80.6	84.8	80.4	78.3	78.6	82.1	79.2	90.0	90.2	91.6	91.9	92.5	93.2	Diurnal Maximum	


Hourly Averages for Relative Humidity at Henry Pirker
July 2009
Relative Humidity (%)
100
80
60
40
20
0
03
05
07
09
11
13
15
17
19
21
23
25
27
29
31
Day

Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker - Solar Radiation (SR) - W/m^2
July 1, 2009 to August 1, 2009

Maximum Value: 814.3 W/m^2 on Jul 3 14:00

Maximum Daily Average: 264.3 W/m^2 on Jul 23

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

Maximum Diurnal Average: 553.7 W/m^2 at hour 14

Monthly Average: 201.94 W/m^2

Minimum Daily Average: 57.7 W/m^2 on Jul 13

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

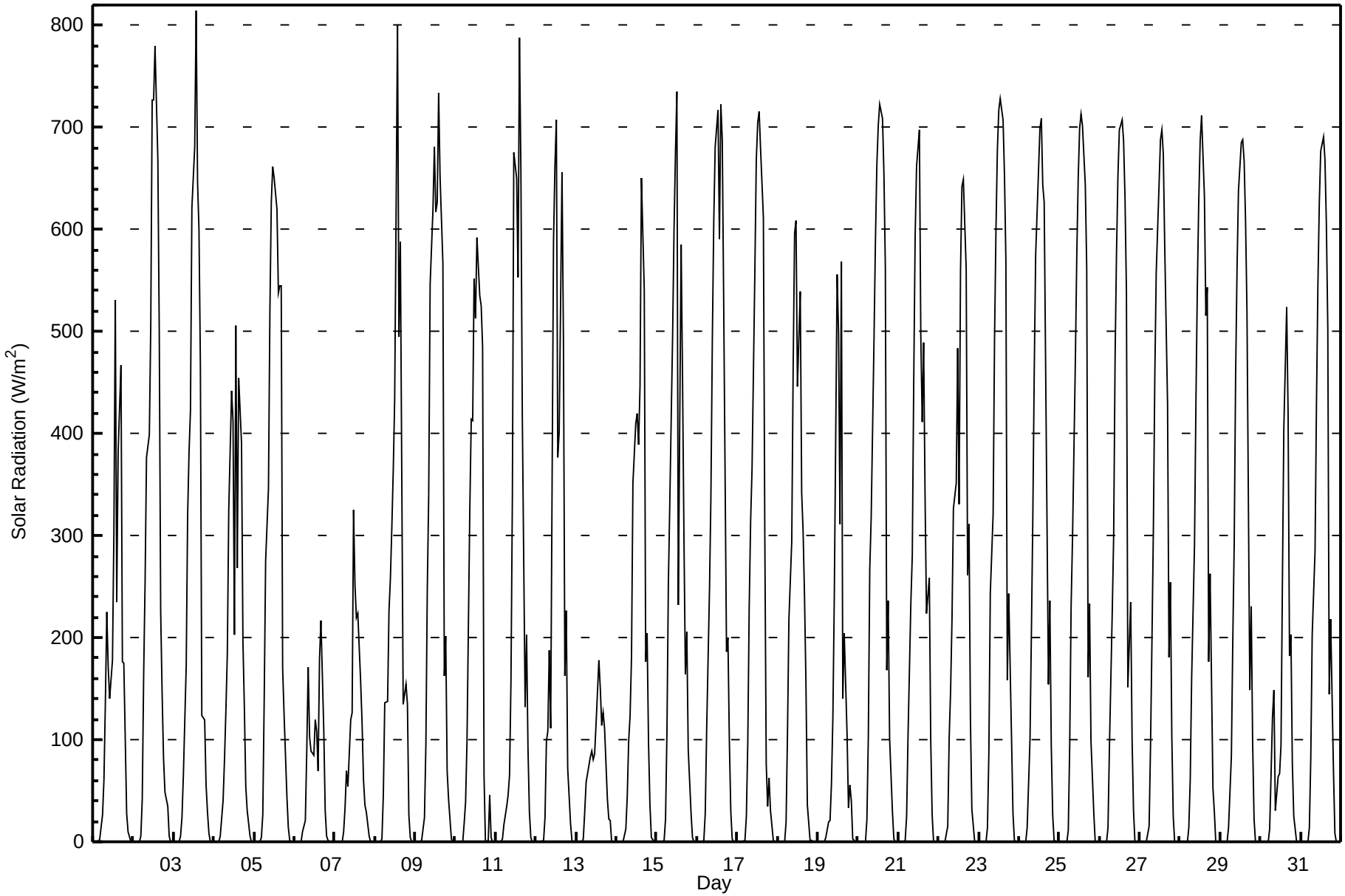
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 91.1 Q_3 = 375.8 P_{90} = 625.0 P_{99} = 722.3

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

Day	Hourly Period Ending At (MST)																								Daily	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-Jul	0	0	0	0	3	26	61	138	225	171	141	178	303	531	235	382	467	177	176	102	28	10	0	0	139.7	530.6
2-Jul	0	0	0	0	5	42	163	255	377	399	506	728	726	780	669	498	225	146	81	49	35	6	0	0	237.0	780.2
3-Jul	0	0	0	0	5	24	65	173	319	382	423	621	681	814	646	601	467	123	119	56	29	8	0	0	231.5	814.3
4-Jul	0	0	0	0	6	40	81	129	185	325	442	413	203	507	268	454	391	196	132	54	30	5	0	0	160.9	506.6
5-Jul	0	0	0	0	4	27	140	275	346	518	626	661	651	620	538	544	544	170	125	44	13	1	0	0	243.7	661.1
6-Jul	0	0	0	0	0	9	20	89	171	103	89	85	120	108	70	180	216	110	31	5	2	0	0	0	58.7	216.2
7-Jul	0	0	0	0	0	9	34	70	54	120	127	325	251	220	224	156	117	61	36	29	6	0	0	0	76.6	324.6
8-Jul	0	0	0	0	3	46	136	137	227	259	308	365	434	800	495	588	360	135	155	135	26	4	0	0	192.2	800.5
9-Jul	0	0	0	0	2	24	95	248	340	547	620	681	617	627	734	652	567	163	201	70	42	3	0	0	259.6	733.9
10-Jul	0	0	0	0	1	18	39	99	328	414	413	552	513	592	535	525	485	65	0	1	46	4	0	0	192.9	591.9
11-Jul	0	0	0	0	3	16	35	46	65	157	339	675	651	553	788	658	419	132	203	91	29	4	0	0	202.7	788.3
12-Jul	0	0	0	0	2	23	99	109	188	111	588	662	708	376	401	656	492	163	227	73	19	1	0	0	204.0	708.0
13-Jul	0	0	0	0	2	30	59	75	83	89	81	87	115	179	150	113	127	111	42	23	20	0	0	0	57.7	178.5
14-Jul	0	0	0	0	1	12	45	99	124	181	352	410	420	390	446	651	541	177	204	97	36	4	0	0	174.6	650.7
15-Jul	0	0	0	0	2	22	109	253	333	497	600	676	736	232	586	452	296	164	206	91	28	4	0	0	220.2	735.8
16-Jul	0	0	0	0	2	28	110	248	339	492	608	681	718	591	722	688	529	187	200	98	31	3	0	0	261.4	722.2
17-Jul	0	0	0	0	2	24	97	230	314	366	561	668	705	715	680	611	300	77	35	63	31	1	0	0	228.4	715.3
18-Jul	0	0	0	0	0	20	106	218	295	466	597	609	446	540	341	304	241	156	36	0	1	0	0	0	182.3	609.3
19-Jul	0	0	0	0	0	4	19	21	57	122	240	555	498	312	568	140	205	106	33	56	41	2	0	0	124.2	568.3
20-Jul	0	0	0	0	0	22	103	266	317	492	588	663	702	723	708	655	562	169	236	101	29	3	0	0	264.1	722.6
21-Jul	0	0	0	0	1	25	105	235	280	449	592	662	698	497	411	489	338	223	259	100	27	0	0	0	224.6	697.5
22-Jul	0	0	0	0	0	15	101	147	218	327	351	484	331	559	642	649	562	262	311	119	33	1	0	0	213.0	648.7
23-Jul	0	0	0	0	0	14	88	243	322	493	599	679	717	728	707	654	570	159	244	100	27	1	0	0	264.3	728.0
24-Jul	0	0	0	0	0	14	100	206	319	461	576	657	699	709	644	627	470	155	236	95	26	1	0	0	249.8	709.1
25-Jul	0	0	0	0	0	12	95	231	299	472	576	651	699	713	702	644	561	161	233	98	28	0	0	0	257.3	713.0
26-Jul	0	0	0	0	0	14	92	225	300	474	577	652	698	707	686	631	540	151	235	100	30	0	0	0	254.7	706.9
27-Jul	0	0	0	0	0	15	94	198	306	455	557	644	688	698	675	583	429	180	255	104	25	0	0	0	246.1	698.2
28-Jul	0	0	0	0	0	14	61	161	291	429	544	628	686	712	632	516	543	176	262	52	30	0	0	0	239.1	711.9
29-Jul	0	0	0	0	0	13	84	198	292	458	561	638	685	687	668	609	519	149	230	97	22	0	0	0	246.3	687.3
30-Jul	0	0	0	0	0	13	66	123	148	31	64	67	95	256	405	524	419	182	203	76	25	0	0	0	112.4	523.5
31-Jul	0	0	0	0	0	14	82	203	285	428	544	626	677	690	669	604	504	145	218	70	9	0	0	0	240.3	690.4
	0.0	0.0	0.0	0.0	1.4	20.3	83.3	172.5	249.9	344.8	444.8	538.1	544.2	553.7	536.9	517.3	419.5	152.6	166.6	72.6	25.9	2.1	0.0	0.0	Diurnal Average	
	0.0	0.0	0.0	0.0	5.9	45.7	163.4	275.3	377.0	546.6	626.3	727.5	735.8	814.3	788.3	688.1	569.6	261.9	310.7	135.4	45.7	9.7	0.0	0.0	Diurnal Maximum	

Hourly Averages for Solar Radiation at Henry Pirker

July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker
July 1, 2009 to August 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	17	11	14	11	12	11	15	19	19	21	19	18	19	20	15	20	20	16	16	12	10	7	5	3	14.0	20.9
Dir	253	260	248	254	243	245	261	274	272	281	285	291	297	273	282	280	290	295	288	291	299	294	295	318	277.1	281.1
2 Spd	3	3	1	3	2	1	2	5	5	4	2	3	6	4	4	5	14	6	7	7	6	2	1	3	1.4	13.8
Dir	282	284	293	226	261	3	260	240	223	253	167	225	172	237	216	228	340	36	25	359	59	317	279	232	283.4	340.5
3 Spd	5	6	6	6	4	4	5	5	5	5	5	5	9	7	9	7	9	5	7	5	5	4	4	4	3.9	9.1
Dir	298	341	330	321	321	264	251	242	232	236	269	276	305	289	291	328	10	357	15	53	66	322	331	315	312.2	9.7
4 Spd	6	6	6	8	4	2	2	3	5	6	6	4	9	8	1	5	1	4	5	3	5	4	4	2	0.4	8.8
Dir	310	327	327	330	293	257	245	303	223	207	162	143	191	164	240	239	325	71	81	100	114	68	61	67	210.9	191.0
5 Spd	1	4	3	2	4	1	1	3	6	10	11	12	12	11	11	10	11	12	12	11	10	10	12	12	6.6	12.1
Dir	248	289	331	304	314	234	154	65	89	108	103	91	107	116	99	82	95	99	89	80	61	66	77	84	88.0	83.6
6 Spd	10	10	10	10	17	16	15	13	14	16	17	14	17	15	15	16	18	16	14	13	12	15	16	14	13.9	17.5
Dir	79	78	77	72	77	74	70	52	60	61	57	55	40	41	41	41	43	44	44	47	45	43	39	47	54.0	42.9
7 Spd	13	11	12	12	13	14	13	13	14	13	11	6	11	13	15	16	17	8	5	7	8	7	10	9	8.5	16.6
Dir	52	53	49	43	48	49	42	47	50	57	68	46	39	32	4	348	354	80	179	278	308	315	313	325	28.8	354.4
8 Spd	8	5	7	7	5	6	4	5	7	9	8	9	7	9	13	8	13	11	9	11	8	4	3	17	6.3	17.3
Dir	318	320	309	308	304	316	317	335	294	347	321	331	314	330	1	270	284	282	262	240	235	188	237	359	307.0	358.6
9 Spd	14	19	18	15	15	16	10	15	15	16	12	8	7	9	10	9	9	9	8	8	7	4	5	6	7.6	19.4
Dir	17	347	356	357	350	338	321	340	341	341	340	344	318	285	283	268	285	289	257	226	228	183	171	153	325.8	346.7
10 Spd	5	4	6	6	6	7	6	5	5	6	4	12	12	18	15	12	14	14	19	11	3	6	11	10	4.4	19.5
Dir	155	123	122	120	114	120	145	140	113	146	199	250	249	248	237	232	240	242	309	306	2	276	301	308	242.7	309.4
11 Spd	8	7	6	7	6	5	2	4	4	5	2	7	7	8	8	4	4	3	3	7	8	8	7	7	1.9	8.4
Dir	294	308	266	267	294	300	277	204	242	300	266	258	254	260	229	224	250	189	107	110	95	102	102	89	251.9	94.8
12 Spd	9	8	7	6	5	5	6	4	5	3	1	4	3	3	1	5	6	7	5	4	6	15	7	6	0.2	15.1
Dir	104	90	84	81	89	90	100	149	246	291	156	180	170	261	357	300	298	298	291	270	191	339	185	321	33.2	338.7
13 Spd	10	10	11	12	11	10	8	11	10	14	15	14	17	16	14	15	14	12	12	9	10	12	10	8	11.7	17.0
Dir	310	309	314	318	321	335	299	315	316	312	309	315	314	317	315	305	299	304	314	340	305	310	315	323	313.3	313.6
14 Spd	6	6	7	1	5	4	5	6	8	8	8	9	10	10	5	7	6	6	3	5	8	7	6	6	3.3	9.5
Dir	331	311	356	55	297	308	297	299	308	284	274	249	261	270	263	287	229	277	204	150	144	155	144	143	268.6	270.1
15 Spd	6	5	6	5	5	6	6	4	3	6	7	7	8	11	11	15	10	5	10	12	9	6	7	7	4.1	14.7
Dir	145	119	104	106	110	106	130	132	159	186	200	202	211	270	250	236	300	315	245	254	236	212	218	212	215.6	236.1
16 Spd	6	7	8	7	7	6	8	7	11	19	25	26	25	24	25	24	25	24	19	17	14	9	3	4	14.2	25.9
Dir	204	221	218	218	232	231	230	246	249	244	252	251	251	248	259	264	254	268	278	263	270	267	237	281	252.6	251.3
17 Spd	1	3	2	3	2	5	3	5	5	3	3	4	5	5	3	5	11	9	8	8	5	3	9	8	0.7	10.9
Dir	188	235	280	293	284	153	214	248	239	268	240	142	133	142	54	91	86	63	327	325	358	18	311	0	353.2	85.6
18 Spd	8	2	11	6	5	5	6	5	7	7	6	5	7	6	7	4	12	6	12	13	3	7	7	10	3.4	12.9
Dir	216	13	234	210	192	171	182	207	278	243	235	281	303	307	317	83	105	130	279	295	151	177	178	192	228.7	294.7
19 Spd	14	14	17	19	20	27	22	20	22	22	22	23	25	23	27	16	10	19	15	10	9	8	6	7	16.8	26.8
Dir	232	234	235	243	253	257	269	274	261	266	266	278	279	273	271	287	280	279	254	252	256	260	262	269	263.5	257.3
20 Spd	17	13	11	10	9	10	10	11	11	13	13	11	10	11	11	11	10	9	7	4	3	4	6	4	8.5	16.7
Dir	250	248	241	262	262	246	247	252	258	264	281	291	295	264	256	254	276	309	317	306	294	190	176	205	262.1	250.5
21 Spd	4	1	4	5	3	4	3	7	9	7	7	7	8	9	10	6	7	9	6	6	5	6	6	4	5.1	9.7
Dir	277	241	182	187	216	178	185	236	232	234	244	216	219	230	220	158	171	164	168	168	168	162	163	194	200.7	219.9
22 Spd	4	4	3	4	3	7	4	7	4	11	13	16	14	16	19	17	20	17	14	12	7	2	3	3	8.4	19.9
Dir	213	217	308	282	222	245	239	241	245	283	291	283	290	285	289	286	283	288	303	311	304	235	204	142	280.6	283.0

Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker
July 1, 2009 to August 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	4	5	6	4	5	5	7	6	6	8	12	13	9	6	3	3	4	3	3	3	6	6	2	3.6	12.8
Dir	139	193	253	273	246	278	281	259	230	234	279	293	316	317	303	281	295	301	296	44	123	163	163	285	272.9	316.1
24 Spd	5	4	5	5	5	4	6	9	9	13	15	16	12	12	11	12	12	12	11	7	5	4	4	4	7.2	15.8
Dir	256	286	257	258	293	298	284	237	238	242	245	279	291	306	300	312	314	314	314	301	281	282	197	175	279.8	279.3
25 Spd	4	5	4	3	5	5	4	6	8	11	13	14	16	15	14	11	13	15	12	9	5	4	3	4	7.9	15.7
Dir	229	279	277	261	286	291	289	273	285	297	301	309	313	304	305	301	319	325	350	337	328	298	320	348	306.8	312.5
26 Spd	7	8	9	6	4	4	4	6	8	10	10	9	9	7	10	7	8	8	8	9	7	6	8	6	6.8	10.3
Dir	50	62	61	51	69	9	318	51	58	83	86	80	92	90	92	96	86	83	86	97	99	104	106	102	79.4	86.4
27 Spd	4	3	1	1	3	3	2	3	4	3	3	4	6	4	3	5	7	8	7	5	4	4	4	4	1.9	8.1
Dir	103	99	45	359	283	278	242	191	263	278	201	193	163	181	219	278	301	310	305	305	313	294	300	1	276.8	310.0
28 Spd	8	8	5	5	3	5	5	3	4	5	3	5	4	6	6	10	6	6	8	10	9	9	8	8	1.9	9.8
Dir	51	64	38	21	11	314	318	297	250	275	278	320	283	280	298	297	293	283	102	96	86	86	86	89	11.9	296.9
29 Spd	7	8	9	8	6	4	7	7	7	8	9	6	6	6	5	6	5	6	5	8	6	4	2	3	5.7	9.0
Dir	90	80	75	76	66	68	80	103	112	101	102	113	101	76	68	88	81	96	110	97	102	111	160	284	91.6	101.8
30 Spd	1	2	4	4	5	3	3	4	7	5	5	1	9	6	3	5	6	5	4	4	5	5	4	4	2.1	8.7
Dir	302	286	289	281	306	297	263	270	217	344	4	188	229	280	320	152	163	177	227	196	178	167	156	147	232.0	229.1
31 Spd	3	4	3	5	3	4	4	4	7	8	7	7	8	8	7	7	7	8	8	8	7	8	8	5	4.5	8.5
Dir	166	147	106	118	157	158	165	163	233	225	231	194	178	202	204	203	182	148	166	140	97	102	106	110	166.3	106.5
Spd	1.2	1.5	1.8	1.9	2.0	1.8	2.2	2.9	3.8	4.1	4.1	4.8	5.0	6.0	5.8	5.1	4.7	3.7	3.8	2.3	0.3	0.1	0.6	1.0	Diurnal Average	
Dir	276.9	316.6	304.6	301.1	298.8	288.0	270.7	273.4	266.1	275.9	276.2	278.1	279.6	278.3	285.8	282.0	299.8	301.1	300.7	299.6	310.8	313.7	168.5	10.9		
Spd	16.7	19.4	18.1	19.3	20.0	26.8	21.7	19.8	21.9	21.9	25.0	25.9	25.4	23.5	26.6	24.2	25.4	24.4	19.5	17.4	14.1	15.2	15.6	17.3	Diurnal Maximum	
Dir	250.5	346.7	355.6	243.2	252.9	257.3	269.3	273.8	260.9	266.1	252.2	251.3	279.3	247.9	270.5	264.4	253.6	267.6	278.3	263.1	269.8	43.5	38.6	358.6		

Maximum Speed Value: 27 km/h on Jul 19 06:00
Maximum Daily Speed Average: 16.8 km/h on Jul 19
Maximum Diurnal Speed Average: 6.0 km/h at hour 14

Minimum Speed Value: 1 km/h on Jul 12 11:00
Minimum Daily Speed Average: 0.2 km/h on Jul 27
Minimum Diurnal Speed Average: 0.1 km/h at hour 22

Monthly Average Velocity: 2.81 km/h 285.96 deg

Speed Percentiles: P_1 = 1.1 P_{10} = 3.2 Q_1 = 4.6 Median = 6.8 Q_3 = 10.8 P_{90} = 15.1 P_{99} = 24.7

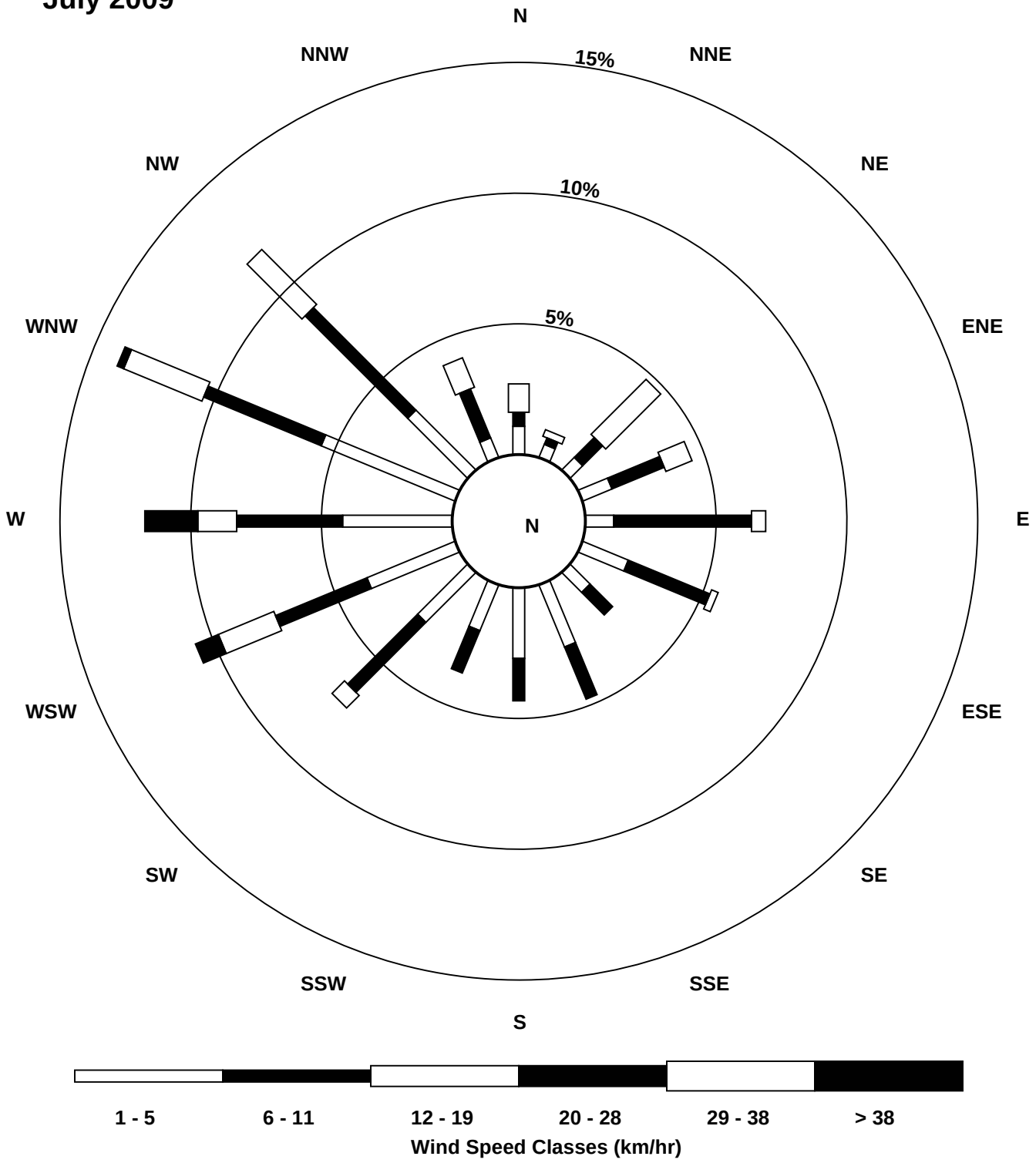
All monthly, daily, and diurnal averages have been calculated using vector methods

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

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	1.61	1.61	2.28	0.13	0.00	0.00	5.65
NorthEast	1.21	2.42	3.76	0.00	0.00	0.00	7.39
East	2.02	9.27	1.61	0.00	0.00	0.00	12.90
SouthEast	2.42	3.36	0.13	0.00	0.00	0.00	5.91
South	4.30	4.70	0.00	0.00	0.00	0.00	9.01
SouthWest	5.11	7.26	1.75	0.27	0.00	0.00	14.38
West	6.85	8.06	5.11	3.76	0.00	0.00	23.79
NorthWest	5.91	10.22	4.57	0.27	0.00	0.00	20.97
Total	29.44	46.91	19.22	4.44	0.00	0.00	100.00

Wind Rose for WS at Henry Pirker
July 2009



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

Henry Pirker - Wind Speed (WS) - km/h
July 1, 2009 to August 1, 2009

Maximum Speed: 27 km/h on Jul 19 15:00

Maximum Daily Speed Average: 17.6 km/h on Jul 19

Minimum Speed: 2 km/h on Jul 2 05:00

Minimum Daily Speed Average: 4.7 km/h on Jul 27

Maximum Diurnal Speed Average: 11.6 km/h at hour 14

Minimum Diurnal Speed Average: 6.8 km/h at hour 23

Monthly Average Speed: 8.82 km/h

Percentiles: $P_1 = 2.4$ $P_{10} = 4.1$ $Q_1 = 5.3$ Median = 7.4 $Q_3 = 11.2$ $P_{90} = 15.6$ $P_{99} = 25.2$

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	17	11	14	11	12	11	15	19	20	21	19	19	20	20	16	21	20	16	16	12	10	7	5	4	14.9	21.2
2-Jul	4	4	3	3	2	2	3	5	5	5	6	6	7	6	8	7	16	8	7	9	6	4	4	4	5.6	15.9
3-Jul	5	6	6	6	5	4	6	5	6	6	6	7	10	9	11	10	10	7	8	6	5	6	4	5	6.6	10.8
4-Jul	6	6	6	8	4	4	4	4	6	6	7	6	10	9	4	6	5	6	6	5	5	4	4	2	5.6	10.5
5-Jul	2	4	4	4	4	2	3	4	6	10	12	12	13	12	11	11	12	12	12	11	10	11	12	12	8.6	12.6
6-Jul	10	10	10	10	18	16	15	13	14	16	17	14	17	15	15	17	18	16	14	13	13	15	16	14	14.4	17.7
7-Jul	13	11	12	12	13	14	13	13	14	13	11	7	11	14	15	16	17	15	6	8	8	7	10	9	11.8	16.9
8-Jul	8	6	7	7	5	7	5	6	7	10	9	10	8	10	13	10	14	11	9	11	9	5	5	19	8.7	19.5
9-Jul	15	20	18	15	15	16	10	15	15	16	12	9	9	11	11	9	9	9	9	9	7	5	5	6	11.5	19.5
10-Jul	5	4	6	6	6	7	6	6	6	7	5	12	13	19	16	13	14	14	20	11	8	8	12	11	9.8	20.3
11-Jul	8	8	6	7	6	5	3	4	6	5	5	8	8	9	9	7	6	5	5	7	9	8	7	7	6.6	9.0
12-Jul	9	8	8	6	5	6	7	5	6	5	4	5	6	6	3	7	7	7	6	5	7	16	8	6	6.6	16.1
13-Jul	10	11	11	12	11	10	8	11	11	14	16	14	17	16	15	15	14	12	12	9	10	12	10	8	12.0	17.2
14-Jul	6	6	7	3	5	4	5	6	8	8	9	10	10	10	7	8	8	7	5	7	8	7	6	6	7.0	10.2
15-Jul	6	6	6	5	5	6	6	4	4	7	8	9	9	12	12	15	13	6	11	12	9	6	7	7	7.9	15.2
16-Jul	6	7	8	7	8	6	8	8	12	19	25	26	25	24	26	25	26	25	20	18	14	9	4	5	15.0	26.2
17-Jul	4	3	3	4	3	5	4	5	5	4	4	6	7	7	6	7	11	10	15	11	6	4	10	9	6.4	15.2
18-Jul	11	9	11	7	6	5	6	6	8	8	7	7	7	7	7	6	13	10	21	14	5	7	8	10	8.5	20.9
19-Jul	14	14	17	19	20	27	22	20	22	22	22	23	26	24	27	17	10	20	15	10	9	9	6	7	17.6	26.9
20-Jul	17	14	11	10	9	10	10	11	11	14	13	11	11	11	12	12	11	9	7	5	3	4	6	5	9.9	16.8
21-Jul	4	3	5	5	3	4	4	7	9	7	8	8	9	10	11	7	7	9	7	6	5	6	6	5	6.5	11.2
22-Jul	5	4	4	4	4	7	5	7	4	11	14	17	14	16	19	17	20	17	15	12	7	3	4	3	9.6	20.0
23-Jul	3	5	6	6	4	5	5	7	7	7	9	13	13	10	7	5	5	5	4	4	4	6	7	3	6.3	13.2
24-Jul	6	5	5	6	6	4	7	9	10	14	16	16	12	12	12	12	12	12	11	8	5	4	5	5	8.8	16.3
25-Jul	5	5	5	4	5	6	4	6	8	11	13	14	16	16	15	12	14	15	12	10	6	5	4	5	8.9	16.0
26-Jul	7	8	9	6	5	5	5	7	8	10	11	9	10	8	11	9	9	9	9	9	7	6	8	6	7.9	10.8
27-Jul	4	3	2	2	4	3	2	4	4	4	4	6	7	6	4	6	7	8	7	5	4	4	4	4	4.7	8.3
28-Jul	8	8	5	5	4	5	5	4	4	6	5	6	6	8	8	10	7	7	9	10	9	9	8	8	6.9	10.5
29-Jul	8	8	9	8	6	5	7	8	7	8	10	7	8	8	7	7	7	7	6	8	7	5	3	4	6.9	9.5
30-Jul	2	3	4	5	5	4	4	6	8	10	7	7	9	7	5	7	7	6	5	5	5	5	5	5	5.6	10.0
31-Jul	3	4	3	5	3	5	4	4	7	8	8	7	9	10	9	8	8	9	9	9	7	8	9	5	6.6	9.7
	7.5	7.2	7.4	7.1	6.8	7.1	6.8	7.8	8.6	10.1	10.3	10.7	11.5	11.6	11.3	10.9	11.4	10.7	10.3	8.9	7.3	6.9	6.8	6.8	Diurnal Average	
	16.8	19.5	18.3	19.4	20.1	26.9	21.8	20.0	22.0	22.0	25.4	26.2	25.6	23.8	26.9	24.7	25.9	24.8	20.9	17.8	14.2	16.1	15.8	19.5	Diurnal Maximum	

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
July 1, 2009 to August 1, 2009

Maximum Value: 92.6 deg on Jul 12 11:00

Minimum Value: 3.6 deg on Jul 26 23:00

Percentiles: P_1 = 5.3 P_{10} = 7.8 Q_1 = 10.7 Median = 18.2 Q_3 = 33.6 P_{90} = 52.4 P_{99} = 81.9

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

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jul	6	14	5	9	8	8	6	9	12	11	9	8	12	10	22	18	8	9	10	8	10	10	18	31	30.5
2-Jul	35	58	76	24	52	77	57	18	32	36	83	75	45	68	69	53	42	49	25	39	28	68	87	56	86.8
3-Jul	17	20	14	8	26	27	24	19	21	33	44	59	23	38	36	55	30	56	23	26	35	53	27	18	59.3
4-Jul	16	10	9	6	24	59	68	55	41	22	35	69	35	15	82	22	83	67	28	49	16	16	10	27	82.8
5-Jul	78	23	44	73	26	65	83	39	30	16	18	18	21	22	23	24	22	17	14	9	8	9	6	7	83.3
6-Jul	7	6	6	10	7	8	13	9	10	8	7	10	10	9	9	9	8	10	11	10	10	9	9	8	13.5
7-Jul	11	9	10	9	11	8	9	9	7	9	10	31	14	14	13	9	11	61	29	30	11	16	12	9	60.8
8-Jul	11	23	7	12	21	19	24	27	16	19	30	24	37	27	21	42	9	7	22	15	17	30	67	36	67.3
9-Jul	11	7	9	10	8	9	12	13	12	10	19	38	39	31	23	28	21	29	23	21	23	28	11	14	38.8
10-Jul	12	16	11	12	20	17	20	28	26	27	49	15	18	14	16	20	15	12	16	19	78	40	14	9	77.7
11-Jul	12	13	17	13	6	19	52	41	48	27	85	27	34	23	27	57	54	71	77	24	11	6	9	11	84.9
12-Jul	8	7	11	16	18	27	20	42	32	58	93	51	69	69	73	49	40	30	28	40	16	33	34	46	92.6
13-Jul	6	7	6	7	7	10	11	13	12	9	7	8	7	8	10	7	7	14	14	23	8	7	8	10	23.1
14-Jul	16	11	16	72	8	23	17	18	11	15	16	27	19	21	53	42	40	42	58	40	14	7	8	8	72.4
15-Jul	6	21	7	8	10	7	17	29	47	36	32	36	34	17	17	14	40	47	32	9	17	9	9	7	47.1
16-Jul	11	7	6	10	12	14	12	21	15	10	11	10	11	9	12	12	10	11	7	12	6	12	24	38	38.0
17-Jul	86	45	52	37	52	9	27	18	21	43	55	57	53	52	69	61	16	19	71	51	41	47	38	36	85.6
18-Jul	54	89	17	26	24	18	25	27	14	18	32	50	25	31	17	64	18	64	76	40	56	16	17	11	89.2
19-Jul	9	7	9	7	6	6	5	8	5	5	5	8	7	9	9	22	10	9	9	11	17	15	20	19	21.7
20-Jul	5	8	7	7	9	6	6	10	13	14	11	16	21	19	24	22	19	20	19	21	21	20	15	44	44.5
21-Jul	16	93	22	25	20	14	32	13	13	24	23	28	35	27	32	26	14	10	23	8	11	5	8	33	92.5
22-Jul	20	21	31	21	41	13	33	15	36	17	9	6	7	6	8	7	6	8	8	6	11	42	16	51	51.1
23-Jul	75	26	40	15	31	24	16	19	20	26	25	18	13	21	37	71	67	44	35	48	30	8	12	65	75.3
24-Jul	25	17	18	29	18	32	31	13	20	10	13	14	14	17	18	14	14	15	10	11	6	8	21	35	34.8
25-Jul	39	16	18	35	14	13	14	12	12	14	13	13	12	11	13	16	13	10	15	11	27	14	36	42	41.8
26-Jul	15	11	11	17	31	32	25	27	15	18	17	24	26	35	27	38	30	23	16	11	9	5	4	8	38.3
27-Jul	15	24	81	56	25	23	43	49	26	48	64	48	44	49	64	48	27	14	13	12	17	17	12	42	81.2
28-Jul	14	9	25	17	37	24	27	27	21	31	60	52	48	40	56	21	40	40	53	11	9	9	6	10	60.3
29-Jul	17	9	7	8	22	17	11	15	22	27	19	44	53	41	45	45	40	44	38	15	9	22	61	29	61.3
30-Jul	52	52	18	12	11	67	50	37	34	60	39	80	13	29	67	48	40	33	35	31	17	12	16	16	79.8
31-Jul	35	16	20	15	20	14	15	16	15	15	20	22	27	38	36	45	38	21	13	26	9	6	7	42	44.6
	85.6	92.5	81.2	72.5	51.9	77.0	83.3	55.4	48.0	60.3	92.6	79.8	69.2	69.0	81.7	70.5	82.8	70.7	76.6	51.2	77.7	68.1	86.8	65.0	

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
July 1, 2009 to August 1, 2009

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 9.9 ppb on Jul 24 10:00 Maximum Daily Average: 1.3 ppb on Jul 24

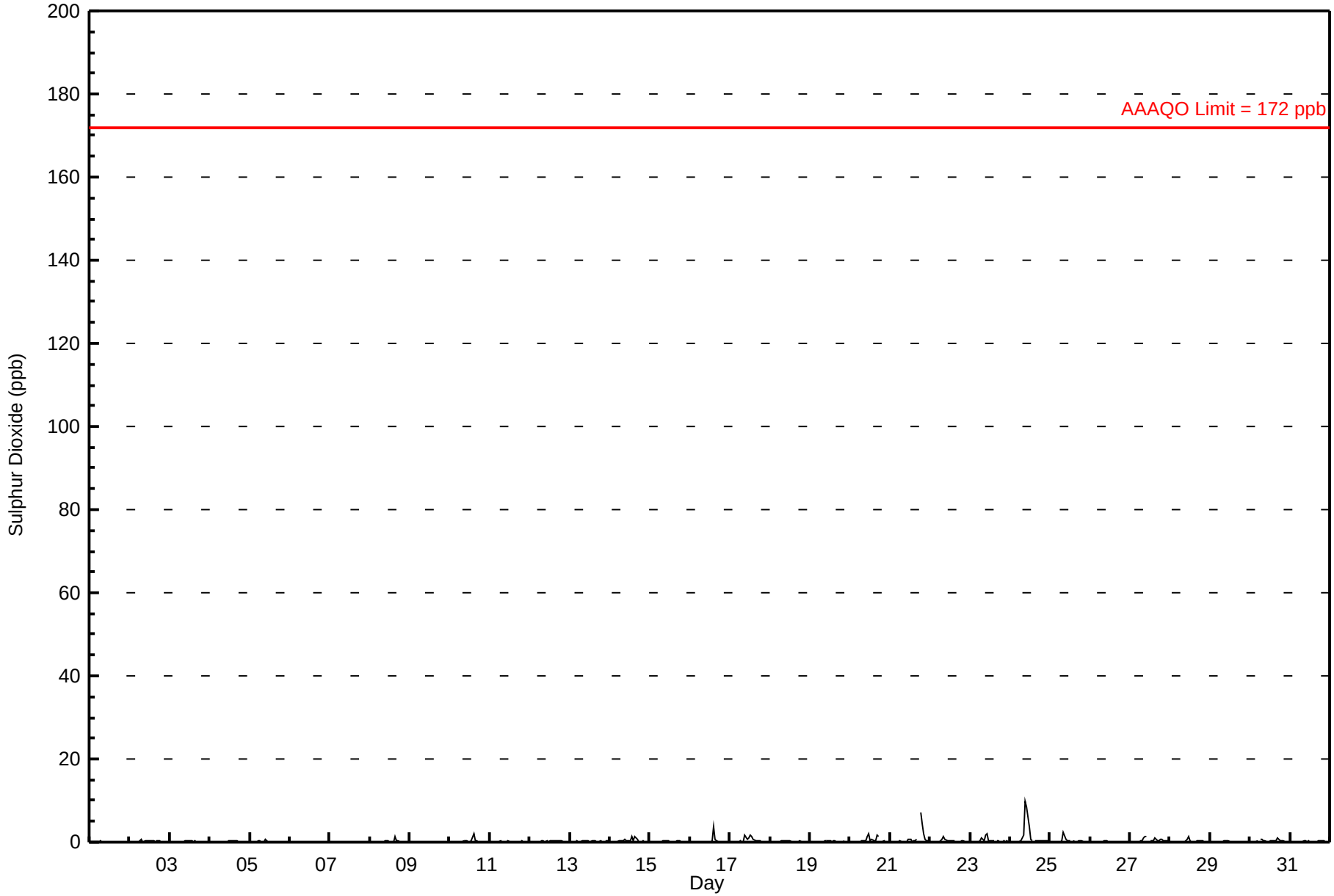
Minimum Value: 0 ppb on Jul 9 12:00 Minimum Daily Average: 0.0 ppb on Jul 9
Maximum Diurnal Average: 0.7 ppb at hour 10 Minimum Diurnal Average: 0.1 ppb at hour 2
Monthly Average: 0.26 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.1 Q_3 = 0.2 P_{90} = 0.4 P_{99} = 1.6

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
2-Jul	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
3-Jul	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
4-Jul	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
5-Jul	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.1	0.6
6-Jul	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	0.2
7-Jul	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
8-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	A	0	0	0	0.2	1.2
9-Jul	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
10-Jul	0	0	0	0	0	A	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0.2	2.0
11-Jul	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
12-Jul	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
13-Jul	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
14-Jul	0	A	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0.3	1.3
15-Jul	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
16-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	0	A	0	0.3	3.9
17-Jul	0	0	0	0	0	0	0	0	0	2	1	1	2	1	1	0	0	0	0	0	0	A	0	0	0.4	1.9
18-Jul	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
19-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.1	0.4
20-Jul	0	0	0	0	0	0	0	0	0	0	1	2	0	1	0	0	2	1	A	0	0	0	0	0	0.4	2.0
21-Jul	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	A	7	5	2	1	0	0	0.8	7.3
22-Jul	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.3	1.4
23-Jul	0	0	0	0	0	0	0	1	0	2	2	0	0	0	0	A	0	0	0	0	0	0	0	0	0.4	1.9
24-Jul	0	0	0	0	0	0	0	1	2	10	9	4	1	0	A	0	0	0	0	0	0	0	0	0	1.3	9.9
25-Jul	0	0	0	0	0	0	0	0	2	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	2.3
26-Jul	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	0.4
27-Jul	0	0	0	0	0	0	0	0	1	1	1	A	0	0	0	1	0	0	1	1	0	0	0	0	0.4	1.5
28-Jul	0	0	0	0	0	A	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.2
29-Jul	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
30-Jul	0	0	0	0	0	A	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0.3	1.1
31-Jul	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
	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.7	0.6	0.4	0.3	0.3	0.4	0.3	0.3	0.2	0.4	0.3	0.2	0.1	0.1	0.1	Diurnal Average	
	0.2	0.2	0.2	0.2	0.2	0.2	0.5	1.2	2.3	9.9	8.6	3.6	1.9	1.3	3.9	1.3	1.6	1.3	7.3	4.6	2.1	0.6	0.4	0.3	Diurnal Maximum	

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

Hourly Averages for SO_2 at Evergreen Park
July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Evergreen Park - Sulphur Dioxide (SO_2) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 28.8 ppb on Jul 24 10:00

Maximum Daily Average: 3.9 ppb on Jul 24

Minimum Value: 0 ppb on Jul 9 12:00

Minimum Daily Average: 0.3 ppb on Jul 9

Maximum Diurnal Average: 2.1 ppb at hour 10

Minimum Diurnal Average: 0.4 ppb at hour 1

Monthly Average: 0.93 ppb

Percentiles: $P_1 = 0.3$ $P_{10} = 0.3$ $Q_1 = 0.4$ Median = 0.4 $Q_3 = 0.5$ $P_{90} = 1.2$ $P_{99} = 10.7$

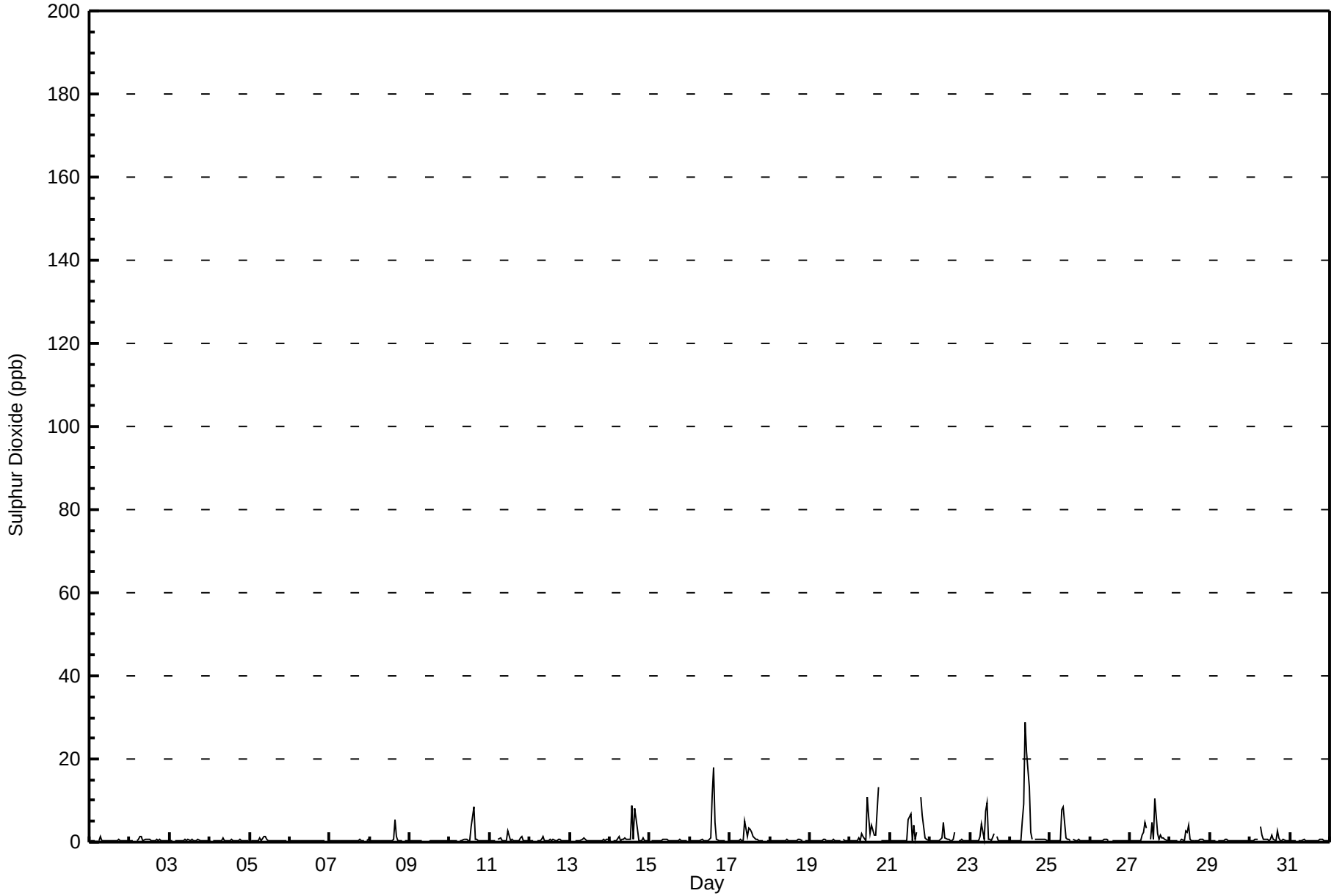
Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.4	1.2
2-Jul	0	0	0	A	0	1	1	1	0	1	1	1	1	0	0	0	1	0	1	1	0	0	0	0	0.5	1.3
3-Jul	0	0	A	0	0	0	0	0	0	1	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0.4	0.7
4-Jul	0	A	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0.4	0.9
5-Jul	A	0	0	0	0	0	1	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0.5	1.5
6-Jul	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
7-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	A	0	1	0.4	0.6
8-Jul	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	5	1	0	0	0	A	0	0	0	0.7	5.5
9-Jul	0	0	0	0	0	0	0	0	C	C	C	0	0	0	1	0	0	0	0	0	0	0	0	0	0.3	0.5
10-Jul	0	0	0	0	0	A	0	0	1	1	1	0	0	4	9	1	1	0	0	0	0	0	0	0	0.9	8.6
11-Jul	0	0	0	0	A	1	1	0	0	0	0	3	0	1	0	0	0	0	1	1	0	0	0	0	0.6	2.7
12-Jul	0	0	0	A	0	0	0	1	1	0	0	0	1	0	1	0	0	1	1	0	0	0	0	0	0.5	1.3
13-Jul	0	0	A	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0.5	1.0
14-Jul	0	A	0	0	0	1	0	1	1	1	1	1	1	9	1	8	3	0	0	0	1	0	0	0	1.4	8.7
15-Jul	A	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	0	1	0	0	0	0	A	0.4	0.6
16-Jul	0	0	0	0	0	0	0	1	0	0	0	0	1	11	18	5	1	0	0	0	0	0	A	0	1.8	17.8
17-Jul	0	0	0	0	0	0	1	0	0	5	1	3	3	2	1	1	1	0	0	0	0	A	0	0	1.1	5.1
18-Jul	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	A	0	0	0	0.5	0.8
19-Jul	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	A	1	0	0	0	0.5	0.7
20-Jul	0	0	0	0	0	1	0	2	1	0	11	6	2	4	2	2	7	13	A	0	0	0	0	0	2.5	13.4
21-Jul	0	0	0	0	0	0	1	0	0	0	0	5	7	0	4	1	2	A	11	6	4	1	1	0	2.1	10.8
22-Jul	0	0	0	0	0	0	1	1	5	1	1	1	0	0	1	2	A	0	0	1	0	0	0	0	0.8	4.9
23-Jul	0	0	0	0	0	0	1	5	1	7	10	1	1	1	2	A	1	0	0	0	0	0	0	0	1.5	9.6
24-Jul	0	0	0	0	0	0	0	5	9	29	22	13	2	1	A	1	1	1	1	1	1	1	0	0	3.9	28.8
25-Jul	0	0	0	0	0	0	0	8	8	1	1	1	0	A	1	0	0	1	0	0	0	0	0	0	1.1	8.5
26-Jul	0	0	0	0	0	0	0	0	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0.5	0.7
27-Jul	0	0	0	0	0	0	0	2	3	5	3	A	1	5	1	11	2	1	2	1	1	1	0	0	1.7	10.6
28-Jul	0	0	0	0	0	A	0	1	0	3	2	4	1	0	0	0	0	0	1	1	0	0	0	0	0.8	4.0
29-Jul	0	0	0	0	A	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6
30-Jul	0	0	0	1	1	A	4	2	1	1	1	0	1	2	1	0	3	1	0	0	1	0	0	0	0.9	3.8
31-Jul	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0.5	0.7
	0.4	0.4	0.4	0.4	0.4	0.5	0.7	1.1	1.4	2.1	2.0	1.5	0.9	1.5	1.6	1.5	1.0	0.9	0.9	0.7	0.6	0.4	0.4	0.4	Diurnal Average	
	0.5	0.5	0.5	0.7	0.6	1.3	3.8	7.8	9.0	28.8	21.6	13.1	6.9	11.2	17.8	10.6	7.4	13.4	10.8	6.4	3.7	1.0	0.7	0.6	Diurnal Maximum	

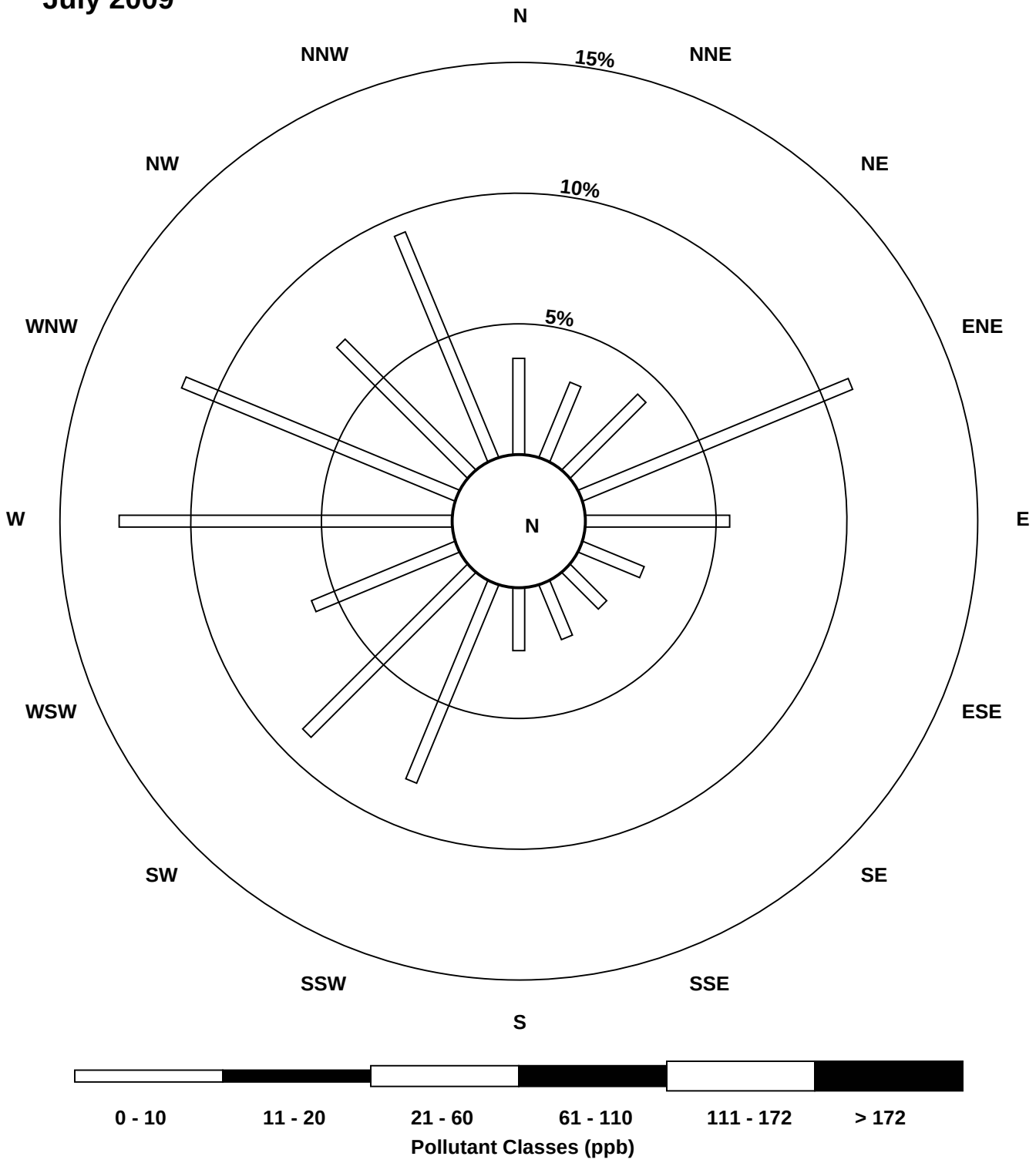
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for SO_2 at Evergreen Park
July 2009



Pollutant Rose for SO_2 at Evergreen Park
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Evergreen Park - Total Reduced Sulphur (TRS) - ppb
July 1, 2009 to August 1, 2009

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 4.3 ppb on Jul 25 09:00 Maximum Daily Average: 2.0 ppb on Jul 25

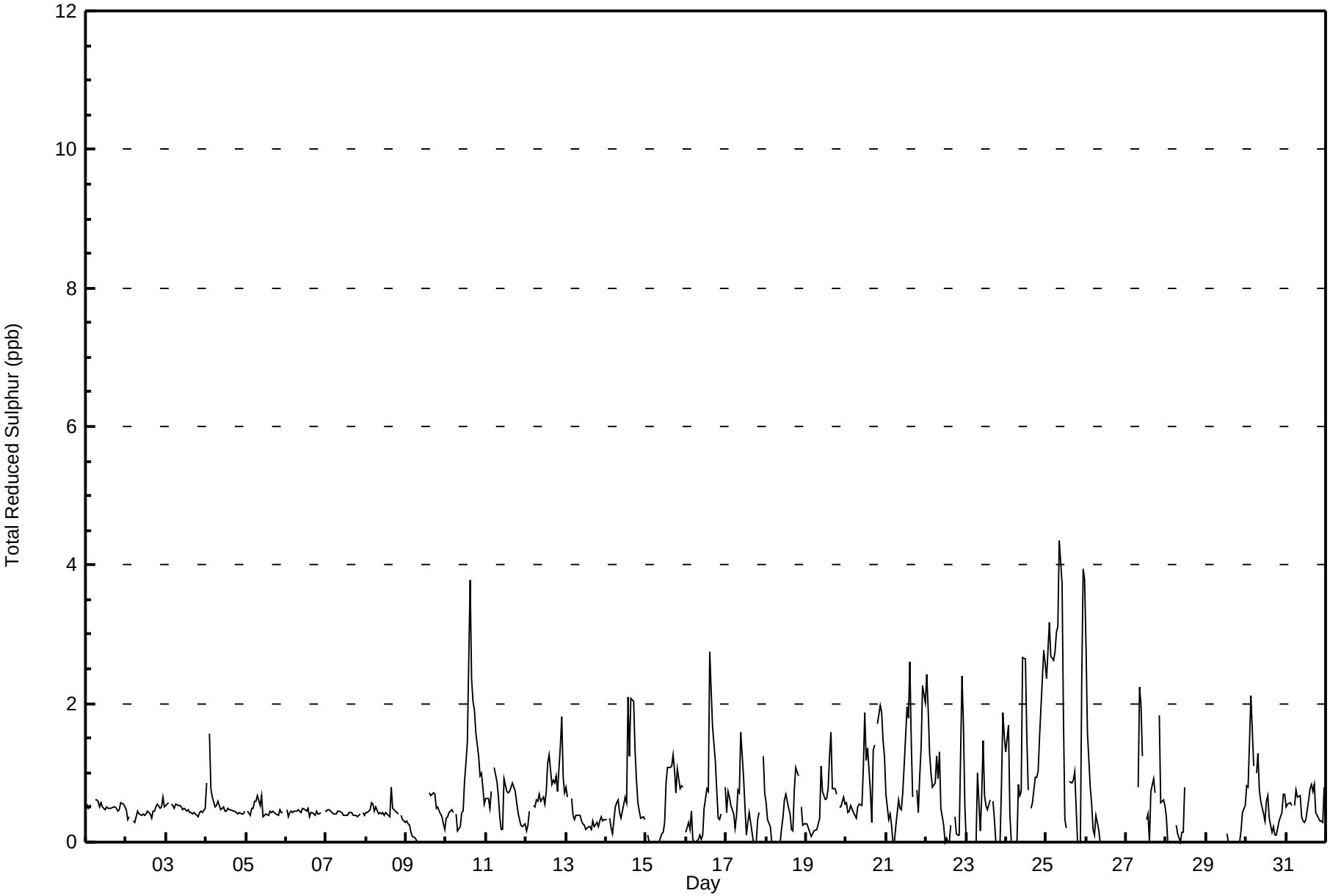
Minimum Value: 0 ppb on Jul 9 08:00 Minimum Daily Average: 0.3 ppb on Jul 9
Maximum Diurnal Average: 0.9 ppb at hour 23 Minimum Diurnal Average: 0.4 ppb at hour 5
Monthly Average: 0.64 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.1$ $Q_1 = 0.3$ Median = 0.5 $Q_3 = 0.7$ $P_{90} = 1.4$ $P_{99} = 3.1$

Hours in Service:	744
Hours of Data:	663
Hours of Missing Data:	81
Hours of Calibration:	34
Percent Operational Time:	93.7

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-Jul	1	0	1	1	A	1	1	1	1	1	1	0	1	0	0	0	1	1	0	0	0	1	1	1	0.5	0.6
2-Jul	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1	0.4	0.6
3-Jul	1	1	A	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.6
4-Jul	1	A	2	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	1.6
5-Jul	A	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.5	0.7
6-Jul	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
7-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.4	0.5
8-Jul	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	A	0	0	0	0.4	0.8
9-Jul	0	0	0	0	0	0	0	0	0	0	C	C	C	C	1	1	1	1	0	1	0	0	0	0	0.3	0.7
10-Jul	0	0	0	0	0	A	0	0	0	0	0	1	1	1	4	2	2	2	2	1	1	1	1	1	1.0	3.8
11-Jul	1	1	0	1	A	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0.6	1.1
12-Jul	0	0	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	0.8	1.8
13-Jul	1	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
14-Jul	0	A	0	0	0	1	1	1	0	0	0	1	1	2	1	2	2	1	1	1	0	0	0	0	0.7	2.1
15-Jul	A	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	A	0.5	1.3
16-Jul	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	2	2	1	1	0	0	0	A	1	0.6	2.7
17-Jul	0	1	1	1	0	0	0	1	1	2	1	1	0	0	0	0	0	0	0	0	0	A	1	1	0.5	1.6
18-Jul	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	1	A	1	0	0	0.3	1.1
19-Jul	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	2	1	1	1	A	1	1	1	1	0.6	1.6
20-Jul	1	0	0	1	0	0	0	1	1	1	1	2	1	1	1	0	1	1	A	2	2	2	1	1	1.0	2.0
21-Jul	1	0	0	0	0	0	0	1	0	0	1	1	2	2	3	1	1	A	1	0	1	1	2	2	0.9	2.6
22-Jul	2	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0	A	0	0	0	0	2	2	1	0.8	2.4
23-Jul	0	0	0	0	0	0	0	1	0	1	1	1	1	0	1	A	1	0	0	0	0	1	2	2	0.5	1.9
24-Jul	1	2	0	0	0	0	0	1	1	1	3	3	2	1	A	0	1	1	1	1	2	2	3	3	1.1	2.8
25-Jul	2	3	3	3	3	3	3	3	4	4	2	0	0	A	1	1	1	1	0	0	0	2	4	4	2.0	4.3
26-Jul	3	2	1	1	0	0	0	0	0	0	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	2.8
27-Jul	N	N	N	N	N	N	N	1	2	2	1	A	0	0	0	1	1	1	M	M	2	1	1	1	--	2.2
28-Jul	0	0	0	0	0	A	0	0	0	0	0	1	N	N	N	N	N	N	N	N	N	N	N	N	--	0.8
29-Jul	N	N	N	N	N	N	N	N	N	N	N	N	0	0	0	0	0	0	0	0	0	0	0	1	--	0.5
30-Jul	1	1	1	2	1	A	1	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0.7	2.1
31-Jul	1	1	1	1	A	1	1	1	1	0	0	0	0	1	1	1	1	1	0	0	0	0	0	1	0.5	0.8
	0.7	0.6	0.6	0.5	0.4	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.8	0.7	0.7	0.7	0.5	0.5	0.6	0.8	0.9	0.8	Diurnal Average	
	2.8	2.8	3.2	2.7	2.6	2.7	3.0	3.1	4.3	3.7	2.7	2.7	1.9	2.1	3.8	2.4	2.0	1.9	1.6	1.7	2.0	2.4	3.9	3.8	Diurnal Maximum	

C - Calibration M - Maintenance 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 Evergreen Park
July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Evergreen Park - Total Reduced Sulphur (TRS) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 7.1 ppb on Jul 10 15:00

Maximum Daily Average: 2.9 ppb on Jul 25

Minimum Value: 0 ppb on Jul 23 20:00

Maximum Diurnal Average: 1.5 ppb at hour 15

Monthly Average: 1.18 ppb

Minimum Daily Average: 0.6 ppb on Jul 9

Minimum Diurnal Average: 0.7 ppb at hour 6

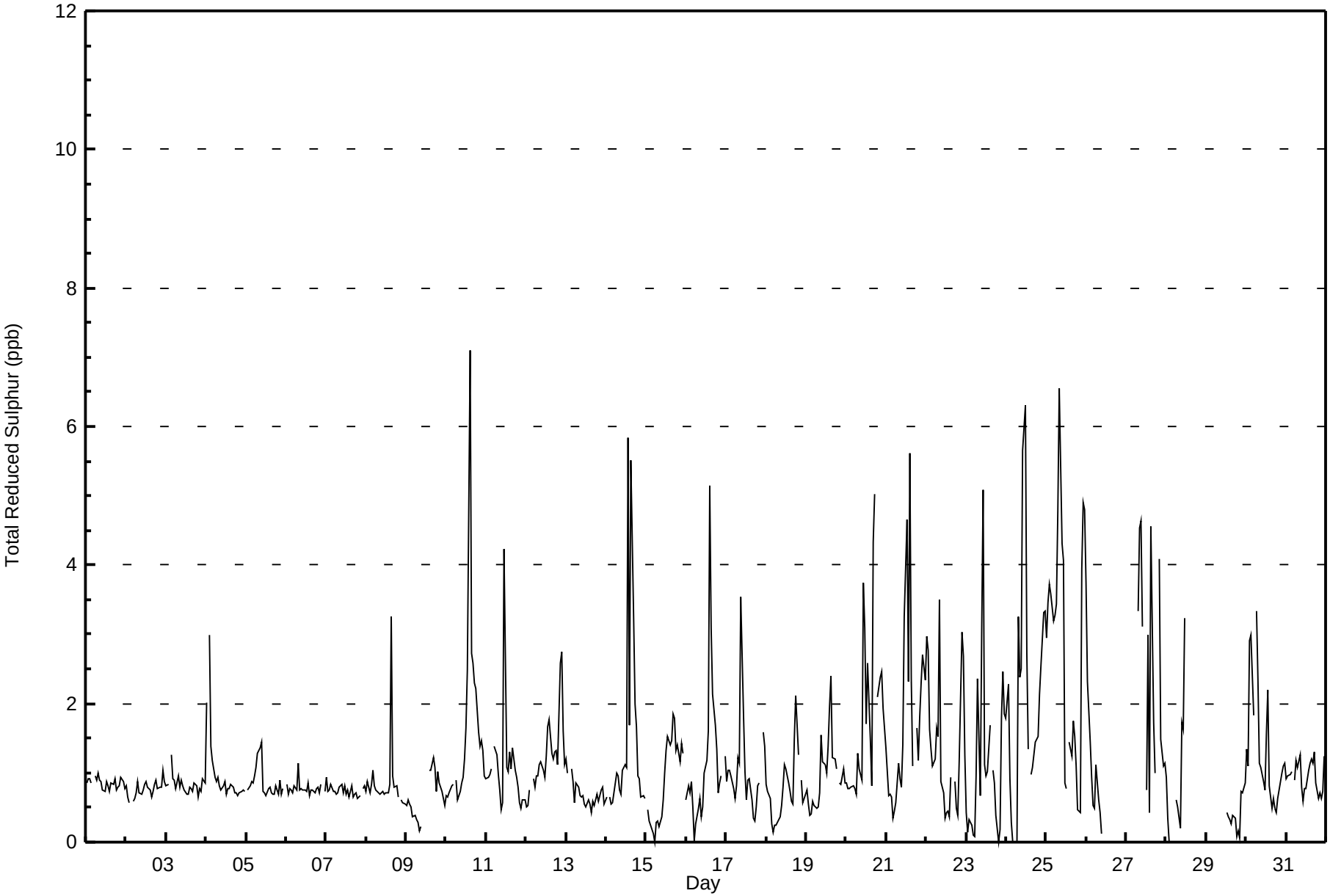
Percentiles: $P_1 = 0.0$ $P_{10} = 0.4$ $Q_1 = 0.7$ Median = 0.8 $Q_3 = 1.2$ $P_{90} = 2.4$ $P_{99} = 5.5$

Hours in Service:	744
Hours of Data:	663
Hours of Missing Data:	81
Hours of Calibration:	34
Percent Operational Time:	93.7

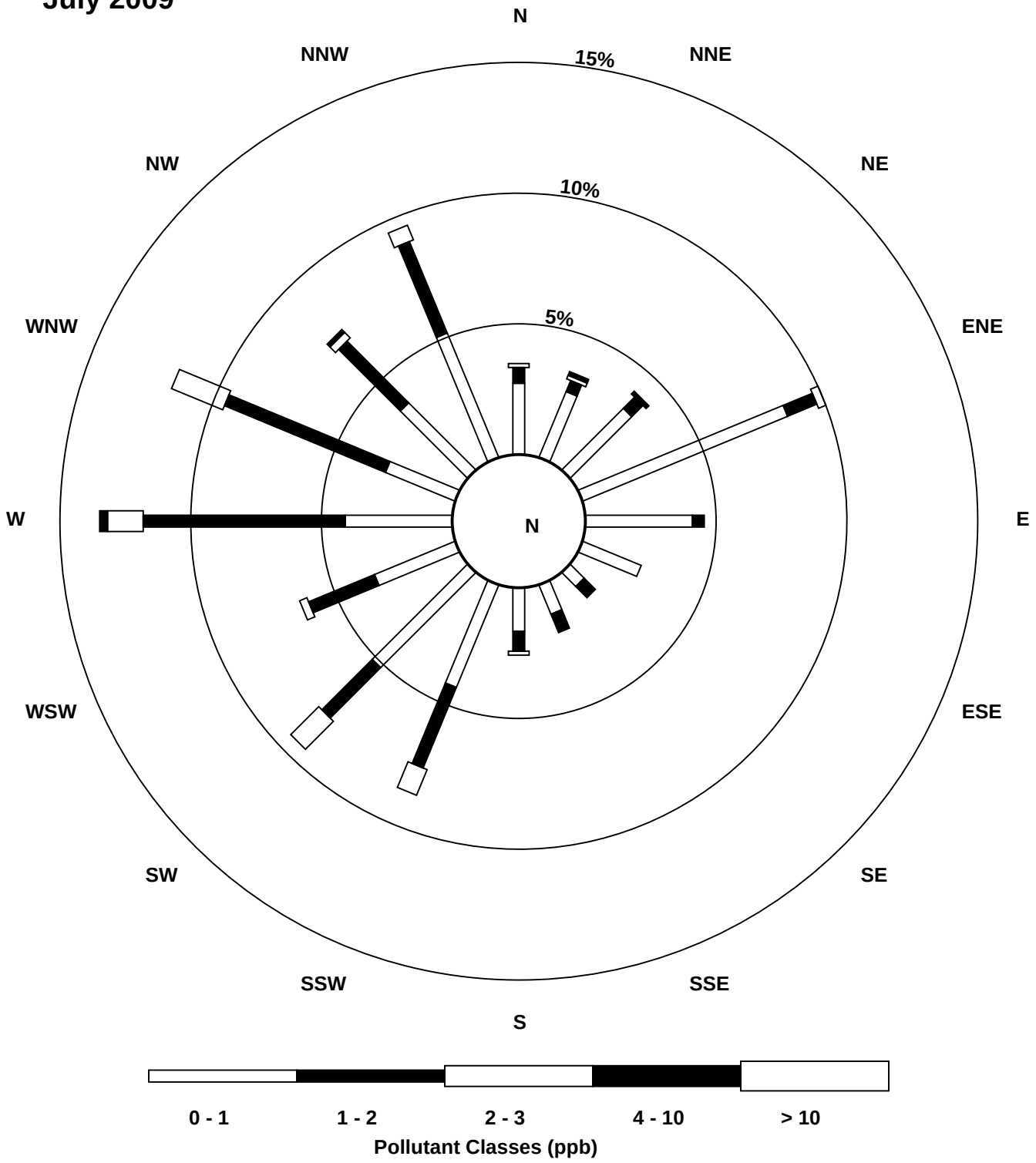
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.0
2-Jul	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
3-Jul	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.3
4-Jul	2	A	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	3.0
5-Jul	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.9	1.5
6-Jul	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	1.1
7-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.7	0.9
8-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	1	1	1	A	1	1	1	0.9	3.3
9-Jul	1	1	1	1	0	0	0	0	0	0	C	C	C	C	1	1	1	1	1	1	1	1	1	1	0.6	1.2
10-Jul	1	1	1	1	1	A	1	1	1	1	1	1	2	2	7	3	3	2	2	2	1	1	1	1	1.6	7.1
11-Jul	1	1	1	1	A	1	1	1	1	0	1	4	1	1	1	1	1	1	1	1	1	0	1	1	1.1	4.2
12-Jul	1	1	1	A	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	3	3	2	1	1.2	2.7
13-Jul	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0.7	1.2
14-Jul	1	A	1	1	1	1	1	1	1	1	1	1	1	6	2	6	3	2	2	1	1	1	1	1	1.5	5.8
15-Jul	A	0	0	0	0	0	0	0	0	0	1	1	1	2	1	1	2	2	1	1	1	1	1	A	0.9	1.9
16-Jul	1	1	1	1	1	0	0	0	1	0	1	1	1	2	5	3	2	2	1	1	1	1	A	1	1.2	5.2
17-Jul	1	1	1	1	1	1	1	1	1	4	2	1	1	1	1	1	0	0	1	1	1	A	2	1	1.0	3.5
18-Jul	1	1	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	2	1	A	1	1	1	0.7	2.1
19-Jul	1	1	0	0	1	1	0	1	1	2	1	1	1	1	2	2	1	1	1	A	1	1	1	1	1.0	2.4
20-Jul	1	1	1	1	1	1	1	1	1	1	4	3	2	3	1	1	4	5	A	2	2	2	2	2	1.8	5.0
21-Jul	1	1	1	1	0	0	1	1	1	1	1	3	5	2	6	2	1	A	2	1	2	2	3	2	1.7	5.6
22-Jul	3	3	2	1	1	1	2	2	3	1	1	0	0	0	0	1	A	1	0	0	1	3	3	1	1.4	3.5
23-Jul	0	0	0	0	0	0	1	2	1	3	5	1	1	1	2	A	1	1	0	0	0	2	2	2	1.2	5.1
24-Jul	2	2	1	0	0	0	0	3	2	2	6	6	3	1	A	1	1	1	1	2	2	3	3	3	2.1	6.3
25-Jul	3	3	4	4	3	3	3	5	7	4	4	1	1	A	1	1	2	2	1	0	0	4	5	5	2.9	6.5
26-Jul	4	2	1	1	1	0	1	1	0	0	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	3.7
27-Jul	N	N	N	N	N	N	N	3	5	5	3	A	1	3	0	5	2	1	M	M	4	1	1	1	--	4.6
28-Jul	1	0	0	0	0	A	1	1	0	2	2	3	N	N	N	N	N	N	N	N	N	N	N	N	--	3.2
29-Jul	N	N	N	N	N	N	N	N	N	N	N	N	0	0	0	0	0	0	0	0	0	1	1	1	--	0.9
30-Jul	1	1	3	3	2	A	3	2	1	1	1	1	2	2	1	0	1	0	0	1	1	1	1	1	1.3	3.3
31-Jul	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3
	1.2	1.0	1.0	0.9	0.8	0.7	0.9	1.2	1.2	1.3	1.5	1.5	1.1	1.4	1.5	1.5	1.3	1.2	1.0	0.9	1.1	1.3	1.4	1.2	Diurnal Average	
	3.7	3.4	3.7	3.6	3.2	3.3	3.4	4.8	6.5	4.6	5.7	6.3	4.7	5.8	7.1	5.5	4.3	5.0	2.2	2.1	4.1	3.9	4.9	4.8	Diurnal Maximum	

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

Hourly Maximums for TRS at Evergreen Park
July 2009



Pollutant Rose for TRS at Evergreen Park
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 33.4 $\mu g/m^3$ on Jul 24 11:00
Maximum Daily Average: 14.1 $\mu g/m^3$ on Jul 30

Minimum Value: 0 $\mu g/m^3$ on Jul 1 10:00
Maximum Diurnal Average: 10.0 $\mu g/m^3$ at hour 7
Monthly Average: 5.51 $\mu g/m^3$

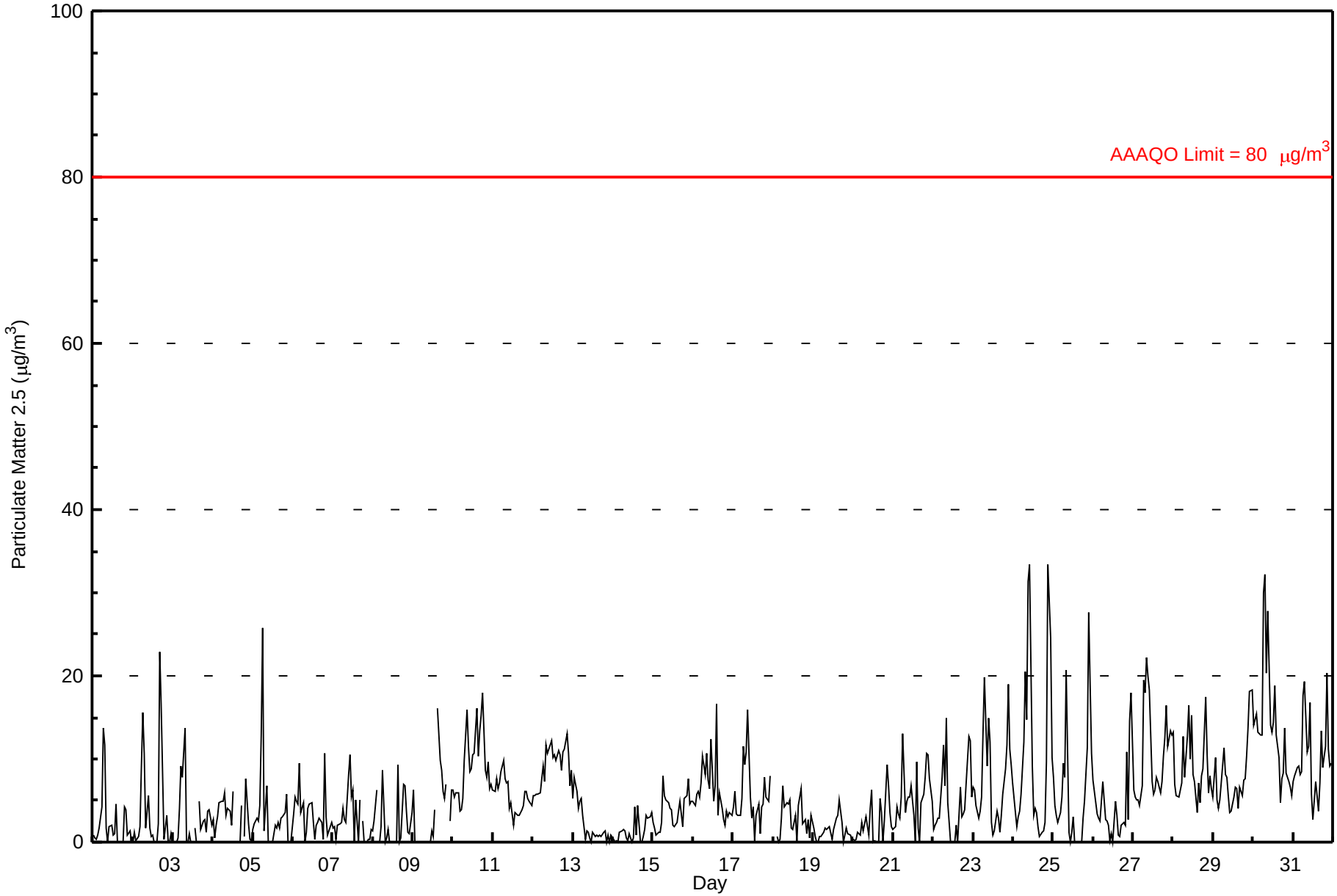
Minimum Daily Average: 1.4 $\mu g/m^3$ on Jul 14
Minimum Diurnal Average: 3.4 $\mu g/m^3$ at hour 13
Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 1.6 Median = 4.2 Q_3 = 7.7 P_{90} = 12.6 P_{99} = 27.5

Hours in Service:	744
Hours of Data:	724
Hours of Missing Data:	20
Hours of Calibration:	1
Percent Operational Time:	97.5

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	1	1	0	1	2	4	14	12	2	0	2	2	1	1	5	0	0	0	0	4	4	1	1	0	2.4	13.7
2-Jul	0	1	0	1	2	9	16	11	2	6	2	1	1	0	0	2	23	17	8	0	3	0	0	1	4.4	22.8
3-Jul	0	0	0	0	4	9	8	14	0	0	1	0	BD	2	0	BD	5	1	3	3	1	4	4	2	2.7	13.8
4-Jul	3	0	2	3	5	5	5	6	3	4	4	2	6	BD	3	BD	0	4	BD	1	8	2	0	0	3.2	7.6
5-Jul	2	2	3	3	4	13	26	1	7	0	BD	BD	0	2	2	2	2	3	3	4	6	0	BD	0	4.0	25.7
6-Jul	3	5	5	5	9	4	5	0	1	4	5	5	2	0	2	2	3	2	0	11	3	1	2	2	3.4	10.7
7-Jul	2	2	0	2	2	2	4	3	2	8	11	5	6	0	5	0	5	BD	3	0	0	0	0	2	2.8	10.5
8-Jul	1	2	6	BD	0	2	9	0	0	2	0	0	0	0	0	9	0	1	7	7	4	1	1	4	2.4	9.3
9-Jul	6	0	0	BD	0	BD	0	BD	BD	BD	0	1	1	4	C	16	10	9	6	5	7	BD	3	6	--	16.0
10-Jul	6	5	6	6	4	4	5	10	16	12	8	9	11	11	16	10	13	15	18	9	8	10	6	7	9.4	17.9
11-Jul	6	6	8	6	7	8	10	8	7	7	4	5	2	4	3	3	3	4	4	6	6	5	5	4	5.6	9.8
12-Jul	6	6	6	6	6	8	9	7	12	11	12	12	10	11	10	11	11	9	11	11	13	11	7	9	9.2	13.0
13-Jul	5	8	6	4	5	5	3	0	1	1	0	0	1	1	1	1	1	1	1	1	0	1	0	1	2.0	7.8
14-Jul	0	0	0	0	1	1	2	1	0	0	1	0	0	4	1	4	0	0	1	1	3	3	3	4	1.4	4.4
15-Jul	2	2	1	1	1	2	8	6	5	5	4	4	2	2	2	4	5	3	2	5	6	8	5	5	3.7	8.0
16-Jul	5	4	6	6	5	7	10	8	11	7	6	12	5	7	17	3	6	4	3	2	4	3	4	3	6.2	16.6
17-Jul	4	6	3	3	3	5	12	9	11	16	5	3	4	0	3	5	1	4	5	8	5	5	8	BD	5.6	15.9
18-Jul	5	BD	1	0	0	3	7	4	5	5	5	2	2	3	0	4	5	6	2	3	1	3	0	3	3.0	6.8
19-Jul	2	1	0	0	1	1	1	2	1	2	2	0	2	2	3	3	5	2	0	1	2	1	1	0	1.4	5.1
20-Jul	0	0	0	1	1	2	1	2	3	1	4	6	0	0	0	0	5	4	0	3	9	7	4	2	2.4	9.4
21-Jul	2	2	4	3	3	5	13	4	5	5	5	7	3	0	10	2	0	5	6	8	11	10	8	5	5.2	13.0
22-Jul	2	2	2	3	3	8	12	7	15	5	0	0	0	0	2	0	7	3	3	4	7	13	12	5	4.8	14.9
23-Jul	7	6	4	3	4	5	13	20	9	15	12	2	1	1	4	3	1	3	6	9	12	19	11	9	7.5	19.9
24-Jul	7	4	2	3	4	6	12	20	15	31	33	9	3	4	4	2	1	1	1	2	10	33	25	10	10.1	33.4
25-Jul	8	4	3	2	4	5	9	8	21	1	0	1	3	0	0	BD	0	0	3	5	11	28	19	11	6.4	27.6
26-Jul	7	6	3	3	2	5	7	3	3	2	0	1	0	5	3	1	1	2	2	2	11	3	15	18	4.4	18.0
27-Jul	6	5	5	5	4	7	20	18	22	20	18	7	6	6	8	7	6	7	10	13	16	12	13	13	10.7	22.3
28-Jul	13	7	6	5	6	7	13	8	13	16	10	15	8	7	4	7	5	8	9	17	11	6	8	7	9.0	17.4
29-Jul	5	10	5	4	5	7	11	8	8	6	4	4	5	7	6	4	7	6	7	8	10	14	18	18	7.8	18.3
30-Jul	14	15	16	13	13	13	30	32	20	28	14	13	14	19	13	10	5	8	8	14	8	7	7	6	14.1	32.3
31-Jul	7	8	9	9	8	8	18	19	11	11	17	6	3	7	6	4	7	13	9	12	20	11	9	10	10.1	20.3
	4.5	4.1	3.6	3.5	3.8	5.8	10.0	8.3	7.7	7.7	6.3	4.5	3.4	3.7	4.4	4.3	4.6	4.8	4.7	5.7	7.1	7.3	6.6	5.5	Diurnal Average	
	14.1	14.8	15.5	13.1	12.9	12.9	30.0	32.3	22.3	31.4	33.4	15.3	14.4	18.8	16.6	16.0	22.8	16.7	17.9	17.4	20.3	33.3	24.5	18.3	Diurnal Maximum	

C - Calibration 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
July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 69.4 $\mu g/m^3$ on Jul 24 22:00

Maximum Daily Average: 22.5 $\mu g/m^3$ on Jul 30

Minimum Value: 0 $\mu g/m^3$ on Jul 8 04:00

Maximum Diurnal Average: 16.8 $\mu g/m^3$ at hour 7

Monthly Average: 11.86 $\mu g/m^3$

Minimum Daily Average: 4.1 $\mu g/m^3$ on Jul 13

Minimum Diurnal Average: 5.9 $\mu g/m^3$ at hour 4

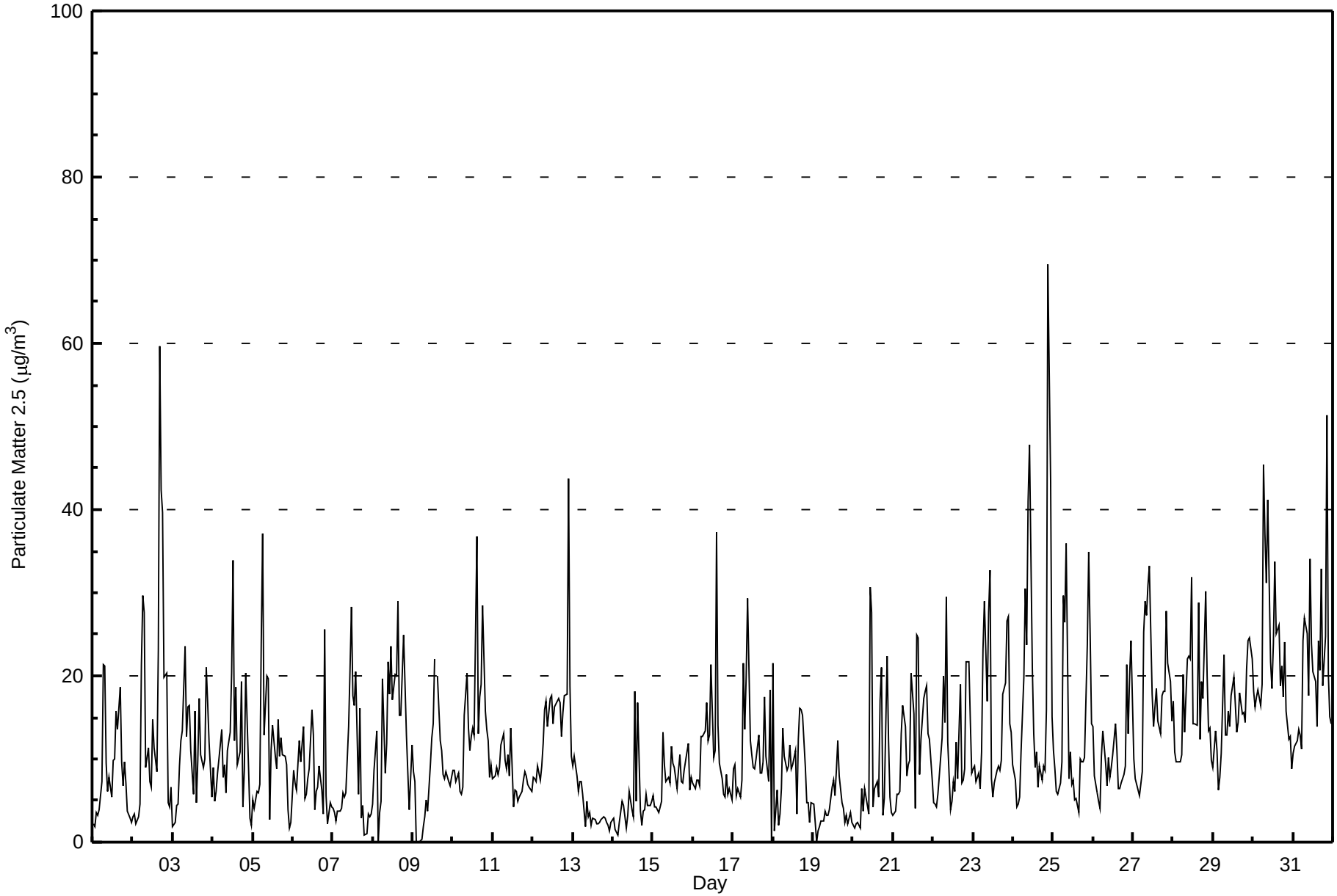
Percentiles: P_1 = 0.8 P_{10} = 3.2 Q_1 = 5.8 Median = 9.4 Q_3 = 16.1 P_{90} = 22.1 P_{99} = 42.6

Hours in Service:	744
Hours of Data:	743
Hours of Missing Data:	1
Hours of Calibration:	1
Percent Operational Time:	100.0

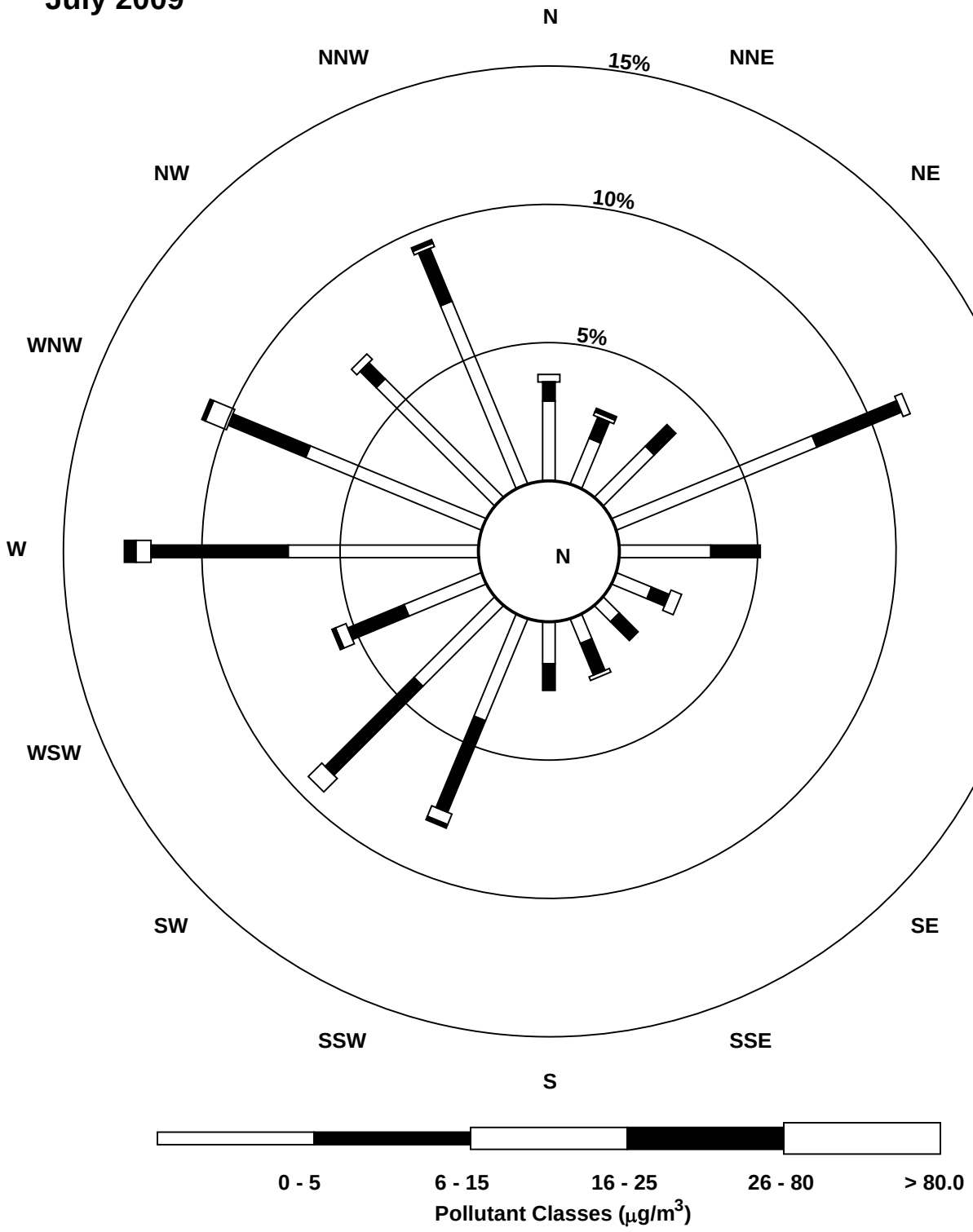
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	2	2	4	3	4	7	21	21	9	6	8	5	10	10	16	14	19	10	7	10	7	4	3	2	8.5	21.3
2-Jul	3	3	2	3	5	21	30	28	9	11	7	7	15	11	8	23	60	42	40	20	20	5	4	7	16.0	59.7
3-Jul	2	2	4	5	9	12	13	24	13	16	16	11	6	16	5	10	17	11	9	10	21	17	12	5	11.1	23.6
4-Jul	9	5	6	8	10	14	8	9	6	11	13	20	34	12	19	9	11	19	4	9	20	9	3	2	11.3	33.9
5-Jul	5	4	6	6	7	24	37	13	20	20	3	11	14	10	9	15	10	12	11	10	9	4	2	2	11.0	37.0
6-Jul	9	7	6	9	12	10	14	5	6	8	9	16	13	4	6	7	9	6	3	26	6	2	5	4	8.4	25.6
7-Jul	4	4	2	4	4	4	6	5	6	14	21	28	18	16	20	6	16	3	4	1	1	3	3	3	8.2	28.2
8-Jul	5	9	13	0	4	5	20	8	12	22	18	24	17	20	20	29	15	15	25	19	13	8	4	12	14.0	29.0
9-Jul	8	7	0	0	0	0	2	3	5	4	9	13	14	22	C	20	12	11	8	8	9	7	7	8	7.7	22.0
10-Jul	9	9	7	8	6	6	7	15	20	14	11	13	14	13	37	13	18	19	29	16	14	12	8	9	13.5	36.8
11-Jul	8	8	9	8	9	12	13	10	9	10	8	14	4	6	6	5	5	6	8	9	8	7	7	6	8.1	13.7
12-Jul	8	8	7	9	7	9	12	16	17	14	17	18	14	16	17	17	17	13	16	18	18	44	19	10	15.0	43.8
13-Jul	9	10	8	6	7	7	6	2	5	3	4	2	3	3	2	2	2	3	3	3	2	2	1	2	4.1	10.4
14-Jul	3	2	1	1	2	5	4	3	2	3	6	4	3	18	5	17	4	2	4	4	6	4	4	5	4.7	18.2
15-Jul	6	4	4	3	4	5	13	9	7	8	7	12	9	9	6	9	10	7	7	9	11	12	6	8	7.8	13.3
16-Jul	7	7	8	7	7	13	13	13	17	12	13	21	10	11	37	14	9	8	6	5	8	6	7	5	11.0	37.3
17-Jul	9	9	6	6	5	8	21	14	20	29	12	11	9	9	10	13	8	8	10	18	10	7	18	0	11.3	29.3
18-Jul	22	1	6	2	3	6	14	10	9	9	12	9	9	11	3	12	16	16	15	9	5	5	2	5	8.9	21.6
19-Jul	5	2	0	1	2	3	3	4	3	3	4	7	8	6	9	12	8	5	4	2	3	2	4	2	4.2	12.2
20-Jul	2	2	2	2	2	6	4	6	5	3	31	28	4	6	7	5	17	21	3	5	22	12	5	4	8.6	30.7
21-Jul	3	4	6	6	6	13	16	14	8	9	10	20	15	4	25	25	8	12	17	18	19	13	12	7	12.1	25.0
22-Jul	5	5	4	6	8	13	20	14	30	12	4	5	7	6	12	8	19	7	7	9	22	22	15	8	11.1	29.5
23-Jul	9	9	7	8	6	11	23	29	17	28	33	8	5	7	9	9	9	10	18	19	27	27	14	13	14.8	32.6
24-Jul	9	7	4	5	5	11	20	31	24	41	48	21	13	9	11	7	9	7	9	9	16	69	43	15	18.5	69.4
25-Jul	11	9	6	6	7	10	30	26	36	8	11	7	7	5	5	4	10	10	10	10	24	35	25	14	13.5	35.9
26-Jul	14	8	6	5	4	10	13	10	7	10	8	9	10	14	11	6	6	7	8	9	21	13	20	24	10.7	24.3
27-Jul	10	8	7	6	6	8	25	29	27	31	33	18	14	16	18	15	13	18	18	18	28	21	19	15	17.6	33.3
28-Jul	17	11	10	10	10	10	20	13	22	22	22	32	14	14	14	29	12	19	17	30	20	13	14	10	16.9	31.9
29-Jul	9	13	11	6	8	11	23	13	13	16	14	18	20	17	13	14	18	15	16	14	21	24	25	22	15.5	24.6
30-Jul	18	16	17	18	17	19	45	37	31	41	22	18	24	34	25	26	19	21	17	24	16	12	13	9	22.5	45.4
31-Jul	11	12	12	14	13	11	24	27	25	18	34	24	20	19	14	24	21	33	19	25	51	20	15	14	20.8	51.4
	8.0	6.6	6.2	5.9	6.4	9.8	16.8	14.9	14.2	14.7	15.0	14.5	12.2	12.1	13.3	13.5	13.9	12.8	12.0	12.7	15.4	14.3	10.9	8.2	Diurnal Average	
	21.6	16.3	17.4	18.4	16.5	23.9	45.4	37.1	35.9	41.2	47.8	31.9	33.9	33.7	37.3	29.0	59.7	42.3	39.7	30.2	51.4	69.4	43.2	24.3	Diurnal Maximum	

C - Calibration

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



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



Peace Airshed Zone Association
Summary of Hourly Averages

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

Maximum Value: 29.6 ^{o}C on Jul 31 18:00

Maximum Daily Average: 22.6 ^{o}C on Jul 25

Minimum Value: 3 ^{o}C on Jul 2 05:00

Minimum Daily Average: 11.0 ^{o}C on Jul 9

Maximum Diurnal Average: 22.1 ^{o}C at hour 17

Minimum Diurnal Average: 10.9 ^{o}C at hour 5

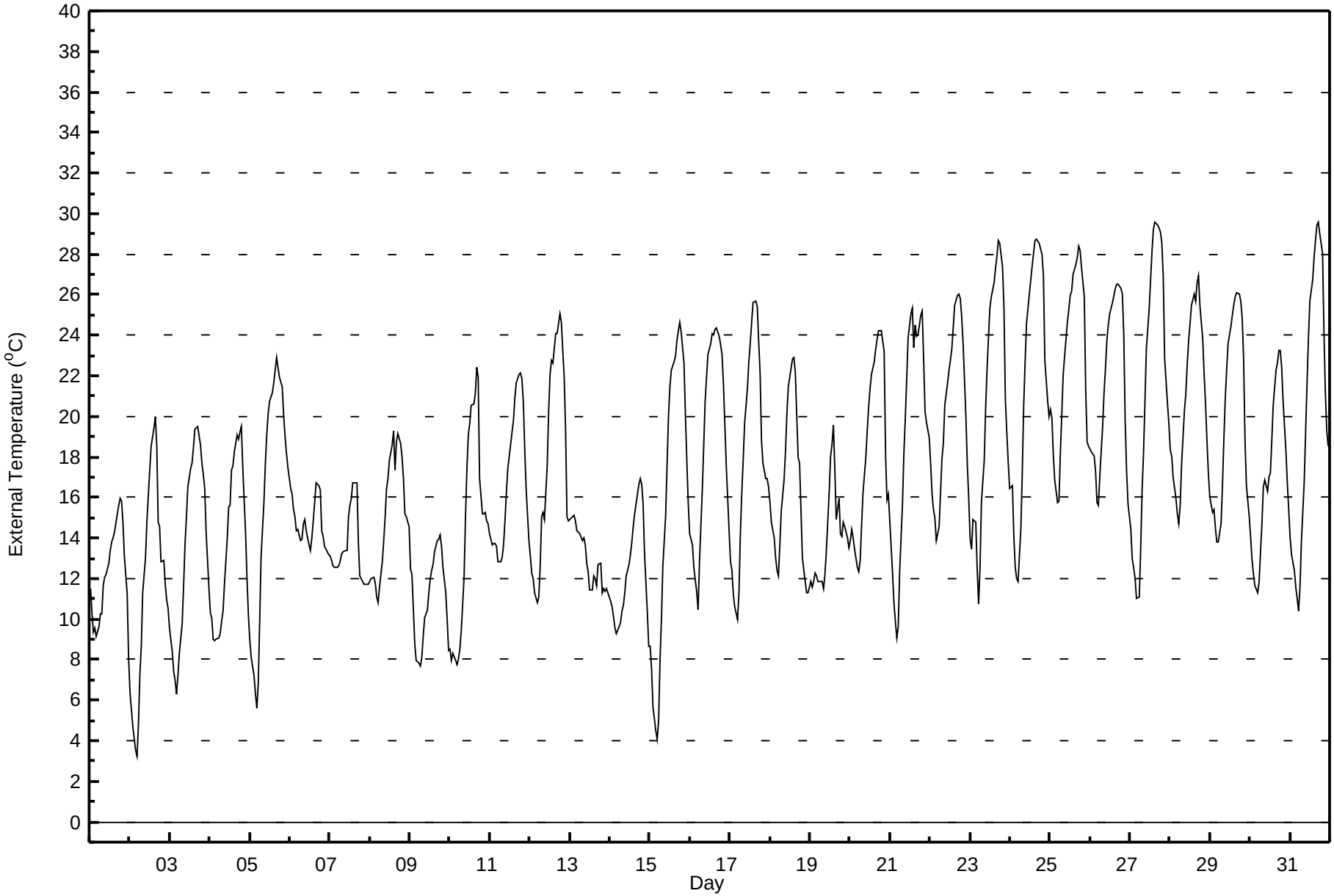
Monthly Average: 16.90 ^{o}C

Percentiles: P_1 = 5.5 P_{10} = 10.3 Q_1 = 12.6 Median = 16.0 Q_3 = 21.2 P_{90} = 25.2 P_{99} = 29.0

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

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jul	12	10	9	10	9	10	10	10	12	12	12	13	13	14	14	14	15	16	16	16	15	13	11	8	12.2	15.9
2-Jul	6	6	5	4	3	5	7	9	11	13	15	16	17	19	19	20	19	15	15	13	13	12	11	11	11.7	20.0
3-Jul	10	8	7	7	6	7	8	10	12	14	15	17	17	18	18	19	19	19	19	18	17	16	14	12	13.7	19.5
4-Jul	10	10	9	9	9	9	9	10	10	12	14	16	16	17	18	18	19	19	19	20	17	14	12	10	13.6	19.5
5-Jul	9	8	7	6	6	7	10	13	16	18	19	20	21	21	22	22	23	22	22	21	20	19	18	18	16.2	22.9
6-Jul	16	16	15	15	14	14	14	14	15	15	14	14	13	14	15	16	17	17	16	14	14	14	13	13	14.7	16.7
7-Jul	13	13	13	13	13	13	13	13	13	13	13	15	16	16	17	17	17	14	12	12	12	12	12	12	13.5	16.7
8-Jul	12	12	12	12	11	11	12	13	14	15	16	17	18	19	19	17	19	19	19	18	17	15	15	15	15.2	19.3
9-Jul	12	12	11	9	8	8	8	8	9	10	10	11	12	12	13	13	14	14	14	14	13	11	10	8	11.0	14.2
10-Jul	9	8	8	8	8	8	9	9	12	15	17	19	20	21	21	21	22	22	17	15	15	15	15	15	14.5	22.4
11-Jul	14	14	14	14	14	13	13	13	14	15	16	17	19	19	20	21	22	22	22	22	21	18	16	14	16.9	22.1
12-Jul	13	12	12	11	11	11	13	15	15	15	18	20	22	23	23	24	24	25	25	25	22	19	15	15	17.8	25.0
13-Jul	15	15	15	15	14	14	14	14	14	14	13	12	11	11	12	12	12	13	13	11	11	11	11	11	12.9	15.1
14-Jul	11	11	10	10	9	10	10	10	11	11	12	13	13	14	15	15	16	17	17	17	16	13	10	9	12.4	17.0
15-Jul	9	8	6	4	4	5	8	10	13	15	18	20	21	22	23	23	24	24	25	24	23	20	18	16	15.9	24.7
16-Jul	14	14	13	12	11	10	13	16	19	21	22	23	24	24	24	24	24	24	24	23	22	20	18	14	18.8	24.3
17-Jul	13	12	11	11	10	11	14	16	18	20	21	23	24	25	26	26	25	24	22	19	18	17	17	16	18.3	25.7
18-Jul	16	15	14	13	12	12	14	15	17	18	20	21	22	23	23	22	20	18	18	13	12	12	11	11	16.4	22.9
19-Jul	12	12	12	12	12	12	12	12	11	12	13	16	18	19	20	17	15	16	14	14	15	15	14	14	14.1	19.6
20-Jul	14	14	14	13	13	12	13	15	16	18	19	20	21	22	23	23	24	24	24	24	23	18	16	16	18.4	24.2
21-Jul	15	12	11	10	9	10	12	16	18	20	22	24	25	25	23	24	24	24	25	25	23	20	20	19	19.0	25.4
22-Jul	18	16	15	15	14	15	16	18	19	21	22	22	23	23	24	25	26	26	26	25	24	20	18	16	20.2	26.1
23-Jul	14	13	15	15	13	11	12	16	18	20	22	24	25	26	27	27	28	29	29	27	25	21	19	18	20.6	28.6
24-Jul	16	17	14	13	12	12	14	17	21	23	25	26	27	27	28	29	29	29	28	28	27	23	21	20	21.8	28.8
25-Jul	20	20	18	17	16	16	18	20	22	24	25	25	26	26	27	27	28	28	28	27	26	21	19	19	22.6	28.4
26-Jul	18	18	18	17	16	16	17	20	21	22	24	25	25	26	26	26	26	26	26	26	24	20	17	16	21.5	26.5
27-Jul	14	13	13	12	11	11	14	16	18	21	23	25	27	28	29	30	29	29	29	29	27	23	21	20	21.3	29.6
28-Jul	18	18	17	16	15	15	16	18	20	21	23	24	25	25	26	26	27	27	25	24	22	21	19	17	21.0	26.9
29-Jul	16	15	15	15	14	14	15	17	19	21	22	24	24	25	25	26	26	26	26	25	23	19	17	15	20.1	26.1
30-Jul	14	13	12	12	11	12	13	15	17	17	16	17	17	19	21	22	23	23	23	22	21	18	17	15	17.1	23.3
31-Jul	14	13	12	12	11	10	12	14	17	19	22	24	26	27	28	29	29	30	29	28	24	21	19	19	20.3	29.6
	13.5	12.9	12.2	11.6	10.9	11.0	12.3	13.9	15.5	16.9	18.2	19.4	20.3	21.0	21.5	21.9	22.1	21.9	21.5	20.6	19.4	17.2	15.6	14.5	Diurnal Average	
	20.3	19.9	18.1	17.3	15.7	15.8	18.2	20.1	22.0	23.8	24.7	26.1	26.7	28.1	29.3	29.6	29.4	29.6	29.1	28.6	26.9	22.8	20.8	20.0	Diurnal Maximum	

Hourly Averages for External Temperature at Evergreen Park
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Evergreen Park
July 1, 2009 to August 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	5	6	8	6	8	9	10	12	14	12	12	12	11	10	10	14	12	10	7	8	4	1	1	8.1	14.4
Dir	265	273	264	262	266	269	277	287	287	288	295	296	316	306	311	299	336	332	310	314	335	332	293	209	297.4	288.1
2 Spd	0	3	1	0	2	1	3	4	3	4	3	4	4	5	5	4	3	2	1	3	2	2	1	2	1.4	5.5
Dir	171	209	203	233	215	209	229	259	244	314	270	273	271	280	339	257	324	121	130	45	159	354	218	238	268.1	339.2
3 Spd	1	1	1	1	2	3	4	4	5	3	4	4	4	5	6	4	4	4	3	3	2	2	0	1	1.3	5.8
Dir	336	241	316	285	201	249	268	260	253	272	274	272	300	306	336	340	48	76	99	89	121	1	41	253	299.5	335.9
4 Spd	2	1	2	2	1	3	1	2	5	5	2	6	2	1	2	3	1	5	4	2	1	1	0	0	0.6	6.1
Dir	326	323	334	321	311	270	346	248	264	242	224	213	211	245	20	285	47	63	97	119	92	58	234	209	264.8	213.3
5 Spd	0	0	1	0	0	0	1	2	2	4	6	6	6	6	5	5	5	5	5	4	3	4	5	4	3.0	6.0
Dir	353	247	44	204	196	208	18	45	146	133	87	104	120	85	97	96	116	86	104	94	74	82	84	91	97.0	120.0
6 Spd	4	3	2	3	6	7	7	8	7	8	10	9	9	9	9	10	13	11	11	9	8	10	10	10	8.0	12.9
Dir	92	78	73	80	88	80	77	69	78	78	75	72	63	65	64	63	64	63	64	65	67	61	69	72	69.8	63.9
7 Spd	7	7	7	7	9	8	7	7	7	6	4	2	3	5	6	6	8	5	2	4	6	4	8	7	4.3	8.8
Dir	75	71	70	65	69	70	70	75	73	78	72	72	219	42	46	23	34	132	224	315	338	330	345	353	51.8	68.6
8 Spd	4	4	4	2	3	3	3	4	3	3	5	6	5	6	7	6	8	8	7	8	6	4	4	8	3.4	8.5
Dir	352	339	337	310	339	12	21	23	351	17	351	359	344	339	28	282	297	304	272	262	237	222	245	28	324.7	261.8
9 Spd	10	8	9	8	6	7	8	8	8	7	7	6	4	7	8	6	6	7	5	7	4	2	2	1	4.0	9.7
Dir	48	32	36	38	32	16	358	3	24	23	23	359	342	318	283	321	309	303	288	236	230	208	209	209	354.9	48.1
10 Spd	1	0	1	2	2	1	2	2	1	5	4	10	12	13	12	12	10	9	13	7	2	6	6	4	4.1	13.0
Dir	188	163	123	103	101	120	181	169	122	214	230	267	269	263	269	266	271	270	339	337	264	294	316	299	275.1	263.2
11 Spd	4	3	3	4	3	3	4	3	2	1	4	5	6	4	4	4	2	2	1	3	3	3	1	2	1.8	5.6
Dir	265	250	274	273	281	269	261	257	176	158	257	268	276	302	299	264	287	340	93	141	118	111	110	78	265.0	275.6
12 Spd	1	2	1	1	0	1	1	0	3	2	0	1	2	4	1	0	4	4	0	2	5	3	4	1	0.8	4.7
Dir	73	75	78	70	288	70	56	336	257	329	39	235	264	296	338	257	211	235	329	252	215	18	227	251	257.8	215.3
13 Spd	1	6	7	8	7	2	5	8	7	10	12	11	14	11	11	9	8	6	8	3	5	6	6	6	7.2	14.1
Dir	308	331	346	348	350	340	329	344	339	339	340	347	340	347	343	327	321	322	336	29	325	314	340	350	338.9	340.4
14 Spd	1	4	4	1	1	2	3	3	4	4	6	7	8	8	6	5	5	4	3	3	2	2	1	0	2.6	8.0
Dir	26	340	11	63	300	314	305	292	315	322	287	279	286	280	272	255	284	268	190	182	172	181	239	208	283.8	286.2
15 Spd	0	2	1	0	0	1	1	2	3	5	5	6	8	7	6	8	9	2	6	7	6	4	3	2	2.9	8.6
Dir	205	68	76	51	110	99	188	225	241	223	217	243	253	286	311	262	312	4	274	262	238	229	218	204	258.5	312.4
16 Spd	3	3	2	2	1	0	2	3	8	15	17	20	15	15	17	16	16	16	11	9	6	3	1	0	7.9	19.7
Dir	210	226	231	224	217	87	213	266	267	262	266	273	287	285	288	277	281	295	294	287	282	287	221	77	276.4	272.9
17 Spd	0	1	0	1	3	2	0	2	3	2	1	3	3	2	2	6	4	4	6	4	2	1	4	4	0.6	5.9
Dir	194	208	190	209	204	209	28	297	278	262	42	183	118	239	56	49	101	82	347	346	61	360	319	26	22.1	347.3
18 Spd	9	3	6	2	3	2	0	2	3	4	2	4	2	1	4	3	3	1	9	5	2	3	3	7	1.8	9.3
Dir	259	42	233	219	227	201	188	237	294	301	288	300	326	66	40	71	130	127	292	289	179	209	201	218	257.2	291.5
19 Spd	7	9	12	16	16	18	15	14	15	13	13	14	16	16	17	14	6	10	10	7	7	3	3	6	11.1	17.6
Dir	229	237	252	261	265	267	272	288	274	277	277	289	288	288	280	313	276	280	265	261	268	287	265	271	274.1	267.1
20 Spd	8	9	9	5	1	3	3	5	5	10	10	8	8	8	8	8	8	7	7	3	0	1	2	2	5.3	10.5
Dir	272	274	266	273	310	332	314	296	309	292	284	288	287	316	301	305	295	305	296	299	218	208	204	200	289.8	283.6
21 Spd	1	0	1	0	1	1	2	3	5	7	7	3	6	5	4	4	6	4	2	2	2	2	2	2	2.0	7.0
Dir	198	144	220	81	219	226	218	271	284	278	285	272	230	260	282	164	155	165	164	161	203	210	212	222	235.6	284.9
22 Spd	1	1	1	3	2	2	5	4	4	5	9	10	10	12	10	12	11	10	10	9	4	1	2	1	5.0	12.1
Dir	224	222	202	207	217	246	274	302	299	310	304	310	318	333	317	306	300	320	328	342	342	219	208	90	309.5	305.5

Peace Airshed Zone Association
Summary of Hourly Averages

Evergreen Park
July 1, 2009 to August 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	1	3	2	1	1	3	6	8	7	6	5	5	5	3	4	4	2	2	2	1	2	2	3	2.2	8.1
Dir	72	222	234	281	257	216	250	283	266	273	276	285	325	359	348	321	334	354	64	68	151	214	220	221	287.7	265.5
24 Spd	1	1	0	1	1	0	2	5	8	11	12	11	10	6	6	3	7	9	7	5	2	2	1	1	3.5	11.8
Dir	308	300	165	98	182	18	215	268	257	268	273	289	303	309	341	343	346	348	348	348	334	210	196	200	300.9	273.1
25 Spd	1	2	1	2	0	1	3	7	6	6	8	8	8	10	9	9	9	8	6	4	1	0	0	1	3.7	10.1
Dir	285	310	242	207	187	219	293	291	273	324	341	328	338	338	346	343	349	350	44	48	45	299	23	42	335.0	337.6
26 Spd	2	3	3	2	2	0	1	4	4	5	5	6	6	5	5	6	7	6	5	3	1	0	0	0	3.3	6.6
Dir	58	75	73	61	48	10	10	86	72	77	74	64	62	69	56	63	68	61	68	99	89	163	208	66	68.0	67.8
27 Spd	1	1	1	0	0	0	1	2	3	3	2	4	5	4	1	5	4	5	6	3	1	1	0	0	1.2	5.8
Dir	49	61	70	4	5	167	227	234	283	293	248	219	238	208	201	287	324	337	346	332	3	221	179	129	285.4	345.9
28 Spd	2	2	2	1	1	1	1	1	2	3	3	4	3	4	4	3	4	3	4	1	2	2	2	2	0.4	4.4
Dir	62	74	55	42	351	10	3	336	239	288	261	273	264	297	293	29	287	127	167	114	80	94	87	95	326.6	286.9
29 Spd	1	2	3	3	1	2	2	3	2	3	5	2	2	4	3	4	4	4	4	3	1	1	0	0	2.1	4.7
Dir	70	79	82	83	70	70	78	129	134	108	144	139	141	86	67	65	51	63	79	83	115	217	160	10	90.9	144.0
30 Spd	0	0	1	2	2	3	5	5	6	3	1	4	5	3	2	2	4	3	3	2	2	1	1	1	2.0	6.3
Dir	157	64	212	222	212	225	253	279	254	332	50	235	251	292	292	207	207	221	221	209	210	205	219	191	242.0	253.9
31 Spd	0	1	1	1	1	1	2	3	4	5	3	5	5	7	6	6	5	5	4	2	1	0	1	1	2.3	7.2
Dir	80	216	62	205	221	202	222	206	272	263	251	210	205	221	222	208	214	195	183	152	76	1	11	69	215.1	221.2
Spd	0.6	0.7	0.7	0.8	0.6	0.8	1.5	2.2	2.9	3.2	3.3	4.0	4.1	4.3	4.0	3.5	3.1	2.4	2.3	1.4	0.5	0.5	0.5	0.4	Diurnal Average	
Dir	290.4	321.4	312.2	296.7	293.1	286.5	290.4	296.7	283.3	292.1	293.8	288.7	295.1	309.3	319.6	310.1	319.3	331.3	322.1	317.7	279.6	297.9	277.6	359.1		
Spd	9.7	9.3	11.9	15.5	16.1	17.6	15.4	13.5	15.2	14.5	16.7	19.7	16.3	16.3	17.4	15.8	16.2	15.6	12.7	9.3	8.2	9.7	10.0	9.8	Diurnal Maximum	
Dir	265.5	236.8	252.0	261.3	265.1	267.1	272.2	287.8	273.9	261.7	266.2	272.9	288.2	287.7	280.2	277.0	281.0	294.5	338.6	341.7	66.7	60.8	68.5	71.7		

Maximum Speed Value: 20 km/h on Jul 16 12:00
Maximum Daily Speed Average: 11.1 km/h on Jul 19
Maximum Diurnal Speed Average: 4.3 km/h at hour 14

Minimum Speed Value: 0 km/h on Jul 15 05:00
Minimum Daily Speed Average: 0.4 km/h on Jul 12
Minimum Diurnal Speed Average: 0.4 km/h at hour 24

Monthly Average Velocity: 1.94 km/h 303.59 deg

Speed Percentiles: $P_1 = 0.2$ $P_{10} = 0.7$ $Q_1 = 1.6$ Median = 3.6 $Q_3 = 6.4$ $P_{90} = 9.6$ $P_{99} = 16.2$

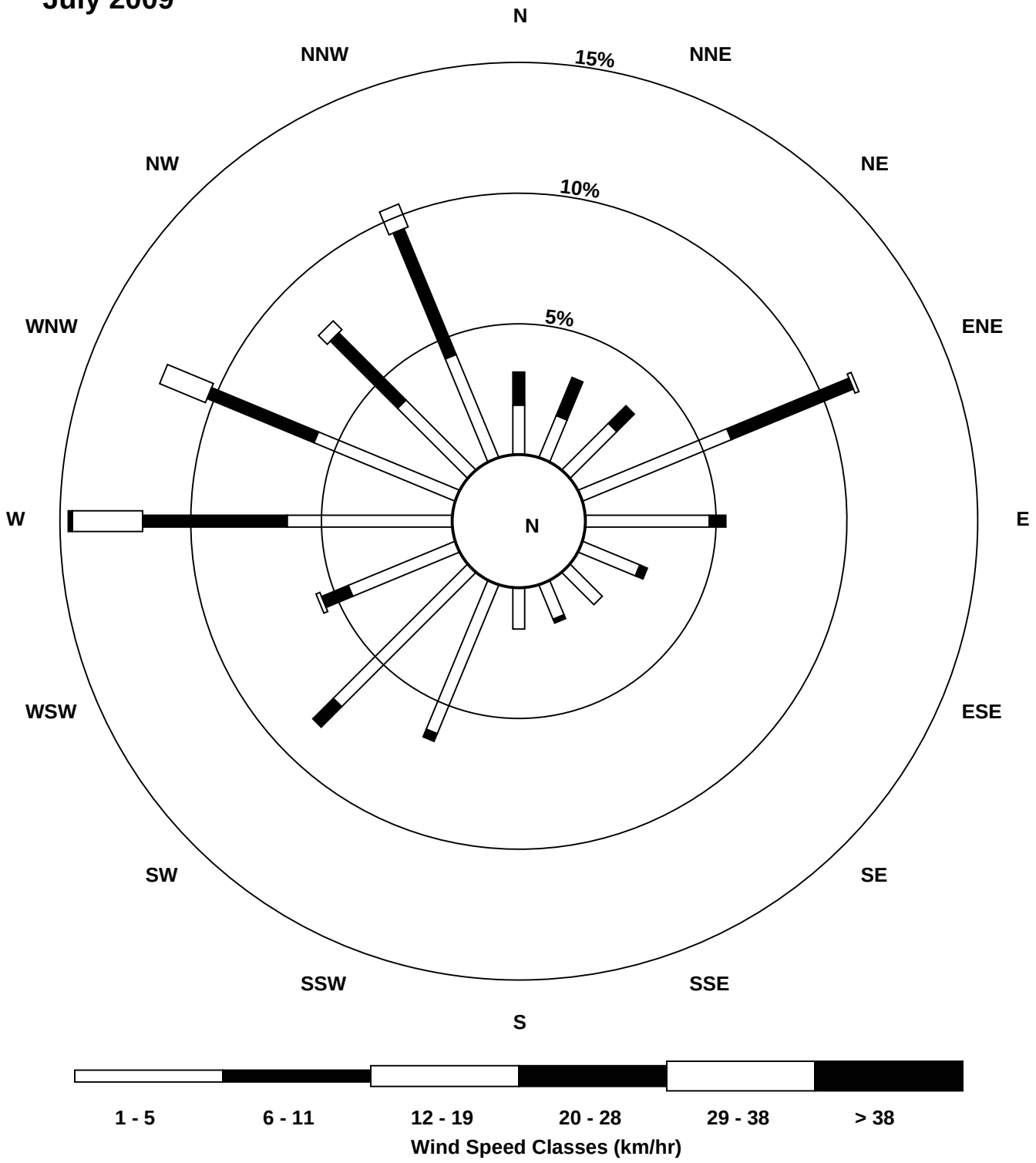
All monthly, daily, and diurnal averages have been calculated using vector methods

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

Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	42	35	5	0	0	0	82
NorthEast	45	31	1	0	0	0	77
East	71	27	0	0	0	0	98
SouthEast	27	4	0	0	0	0	31
South	44	0	0	0	0	0	44
SouthWest	118	15	0	0	0	0	133
West	73	63	27	1	0	0	164
NorthWest	59	47	9	0	0	0	115
Total	479	222	42	1	0	0	744

Wind Rose for WS at Evergreen Park
July 2009



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

Evergreen Park - Wind Speed (WS) - km/h
July 1, 2009 to August 1, 2009

Maximum Speed: 20 km/h on Jul 16 12:00

Maximum Daily Speed Average: 11.9 km/h on Jul 19

Minimum Speed: 1 km/h on Jul 5 01:00

Minimum Daily Speed Average: 2.9 km/h on Jul 27

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

Minimum Diurnal Speed Average: 3.0 km/h at hour 23

Monthly Average Speed: 5.13 km/h

Percentiles: $P_1 = 0.9$ $P_{10} = 1.3$ $Q_1 = 2.2$ Median = 4.4 $Q_3 = 7.1$ $P_{90} = 9.8$ $P_{99} = 16.6$

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

Percent Operational Time: 100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	10	5	7	8	6	8	9	10	13	15	12	12	12	12	12	12	15	12	11	7	8	4	2	1	9.3	14.8
2-Jul	1	3	1	1	2	1	3	4	4	5	4	4	5	6	6	6	7	3	2	5	3	3	2	2	3.6	6.6
3-Jul	1	1	1	1	2	3	4	5	5	4	6	5	6	6	7	6	5	5	4	3	2	3	1	1	3.7	7.3
4-Jul	2	1	2	2	2	4	2	3	5	5	3	6	5	3	3	3	4	5	4	3	2	1	1	1	3.0	6.4
5-Jul	1	1	1	1	1	1	1	2	4	6	7	7	7	7	6	6	6	6	5	4	3	4	5	4	4.0	7.4
6-Jul	4	3	2	3	7	8	7	8	7	8	10	9	10	10	9	10	13	11	11	9	8	10	10	10	8.2	13.1
7-Jul	7	7	8	7	9	8	7	8	8	6	4	2	4	6	6	6	8	9	3	4	6	4	8	7	6.4	9.3
8-Jul	4	5	4	2	3	3	4	4	3	4	5	7	7	7	8	8	8	8	8	9	6	4	4	10	5.6	9.9
9-Jul	10	8	9	9	7	7	8	9	8	7	8	8	5	9	10	7	7	8	6	7	4	2	2	1	7.0	9.9
10-Jul	1	1	2	2	2	2	3	2	2	5	5	10	12	13	12	12	11	9	13	7	5	6	6	4	6.2	13.3
11-Jul	4	4	4	4	3	3	4	3	3	3	5	6	6	5	5	5	4	3	3	4	3	3	2	2	3.8	6.3
12-Jul	1	2	1	1	1	1	1	2	4	3	3	3	3	5	2	3	5	5	3	3	5	9	6	2	3.2	9.4
13-Jul	2	6	7	8	7	3	5	8	7	10	13	12	14	12	11	10	8	7	8	4	5	6	6	6	7.6	14.3
14-Jul	2	4	4	2	1	2	3	4	4	4	7	8	9	9	7	6	6	5	4	3	3	2	1	1	4.1	8.7
15-Jul	1	2	1	1	1	1	2	2	3	5	6	7	9	9	7	8	11	3	7	7	6	4	3	2	4.5	11.1
16-Jul	3	3	2	2	2	1	2	4	8	15	17	20	16	16	17	17	17	16	11	9	6	3	2	1	8.7	20.0
17-Jul	2	2	1	2	3	3	1	3	3	3	3	5	5	5	4	6	6	5	8	6	2	2	6	5	3.8	8.1
18-Jul	11	5	6	2	3	2	1	2	4	4	4	5	3	3	4	3	4	5	11	6	3	3	3	7	4.5	11.1
19-Jul	7	9	12	16	16	18	16	14	15	13	13	15	17	17	18	16	6	10	10	7	7	3	3	6	11.9	17.9
20-Jul	8	9	9	5	2	3	3	6	6	10	11	8	9	8	9	9	9	7	7	4	1	1	2	2	6.2	11.0
21-Jul	2	1	1	1	1	2	2	3	5	7	7	4	6	6	6	4	6	4	3	2	2	2	2	3	3.5	7.4
22-Jul	1	1	2	3	2	3	5	5	5	5	9	11	10	13	10	13	11	10	11	9	4	1	2	2	6.2	13.1
23-Jul	2	3	3	4	2	2	3	6	8	7	7	7	6	6	4	5	5	3	3	2	1	2	2	3	4.1	8.3
24-Jul	2	2	1	1	1	1	2	5	8	11	12	11	11	7	7	5	8	9	7	5	2	2	1	1	5.1	12.1
25-Jul	2	2	2	2	1	1	4	7	6	6	8	9	9	11	10	10	10	9	6	4	1	1	1	1	5.1	10.7
26-Jul	2	3	3	2	2	1	2	4	5	6	6	6	7	6	6	7	7	6	5	3	2	1	1	1	3.9	7.2
27-Jul	1	1	1	1	1	1	2	3	3	3	3	4	5	5	3	6	4	6	6	4	1	1	1	2	2.9	6.0
28-Jul	2	3	2	2	1	1	1	1	2	4	4	5	5	6	6	4	5	4	4	2	2	2	2	2	3.0	6.2
29-Jul	2	2	3	3	1	2	2	3	3	4	5	4	5	5	5	5	5	4	4	3	1	1	1	1	3.2	5.5
30-Jul	1	1	1	2	2	3	5	6	7	8	2	5	6	4	3	4	5	4	3	2	2	1	1	1	3.3	7.8
31-Jul	1	1	1	1	1	1	2	3	5	5	5	5	6	8	7	7	5	6	5	3	1	1	1	2	3.4	7.7
	3.2	3.3	3.4	3.2	3.1	3.3	3.7	4.7	5.7	6.5	6.9	7.5	7.7	7.8	7.5	7.4	7.5	6.7	6.3	4.9	3.5	3.0	3.0	3.1	Diurnal Average	
	10.6	9.4	12.0	15.6	16.2	17.8	15.5	13.9	15.3	14.8	17.1	20.0	16.7	16.7	17.9	16.5	16.7	16.0	13.2	9.5	8.4	9.8	10.3	10.0	Diurnal Maximum	

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

Peace Airshed Zone Association
Summary of Hourly Standard Deviations

Evergreen Park - Wind Direction (WD) - deg
July 1, 2009 to August 1, 2009

Maximum Value: 95.6 deg on Jul 24 03:00

Minimum Value: 6.0 deg on Jul 19 05:00

Percentiles: P_1 = 7.7 P_{10} = 12.6 Q_1 = 18.0 Median = 32.4 Q_3 = 53.5 P_{90} = 76.5 P_{99} = 92.8

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

Day	Hourly Period Ending At (MST)																								Daily
	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-Jul	9	12	9	8	9	11	12	13	16	12	18	20	19	22	38	32	19	19	20	21	12	14	71	73	73.0
2-Jul	89	40	67	93	58	56	30	18	37	40	52	46	52	45	37	63	68	57	80	45	64	77	79	53	93.3
3-Jul	59	88	67	69	30	19	15	20	16	45	43	45	60	38	44	53	53	37	31	23	39	59	92	79	91.7
4-Jul	21	45	22	32	72	62	72	59	24	21	52	21	89	90	71	45	87	32	37	49	35	37	90	85	90.3
5-Jul	90	73	70	86	90	88	22	45	63	53	34	35	41	37	39	42	41	24	22	23	12	15	16	18	89.6
6-Jul	12	14	13	16	16	17	21	22	25	22	16	14	12	12	17	15	12	13	13	11	11	12	13	14	24.5
7-Jul	15	13	12	14	17	13	14	15	16	17	18	49	63	41	17	16	15	62	48	23	12	22	10	12	62.5
8-Jul	27	32	14	18	14	20	15	22	33	32	25	31	48	28	31	53	20	19	24	10	20	18	20	57	56.6
9-Jul	12	15	12	14	17	19	21	24	21	24	26	41	59	42	39	39	29	33	38	13	10	34	23	47	59.4
10-Jul	62	76	42	22	36	61	31	34	68	37	44	19	14	13	13	14	20	15	18	26	85	17	21	22	85.1
11-Jul	17	22	13	11	32	22	16	22	49	74	41	35	31	35	45	42	65	71	77	30	14	10	46	21	77.0
12-Jul	71	75	33	60	90	69	57	90	61	48	94	90	63	41	76	95	42	52	95	78	7	88	88	79	95.4
13-Jul	55	12	9	12	14	39	15	11	13	15	10	11	9	9	13	17	15	17	22	39	15	14	17	11	55.5
14-Jul	64	17	22	50	64	17	20	17	23	31	27	31	24	24	36	49	40	50	34	22	19	27	67	93	93.0
15-Jul	80	39	35	88	92	42	85	29	20	23	27	38	33	42	35	20	42	72	39	16	10	11	9	11	92.3
16-Jul	9	10	34	38	75	74	43	48	22	10	12	11	15	15	14	17	14	14	16	14	15	29	43	75	74.8
17-Jul	88	72	87	73	43	58	79	57	27	49	82	54	68	77	68	33	38	35	64	52	41	41	69	45	88.2
18-Jul	59	62	19	35	14	24	83	16	38	33	63	42	44	88	30	25	69	79	47	61	53	20	41	8	88.3
19-Jul	11	8	8	7	6	7	8	14	8	11	10	16	13	13	13	30	24	14	13	14	13	22	18	14	30.4
20-Jul	21	9	7	10	65	14	21	26	29	18	19	28	24	26	34	32	28	26	19	22	74	35	25	12	73.7
21-Jul	38	80	71	80	77	68	29	24	17	19	20	58	36	43	58	35	19	27	52	70	34	75	10	35	80.3
22-Jul	48	52	56	33	41	23	16	21	26	23	18	18	18	16	25	22	16	16	15	12	25	80	11	71	80.3
23-Jul	78	72	23	50	50	68	34	18	12	20	37	43	40	34	66	41	50	76	54	20	65	49	31	40	77.6
24-Jul	42	51	96	56	53	87	26	18	10	10	12	19	25	37	38	52	26	18	23	19	34	11	43	61	95.6
25-Jul	50	46	65	17	93	87	39	14	30	29	27	28	27	21	27	17	17	21	20	12	84	77	86	79	92.5
26-Jul	22	10	14	27	7	76	55	19	25	33	33	29	29	35	38	31	22	24	25	27	33	86	93	88	93.0
27-Jul	66	68	27	90	83	69	51	33	30	37	61	28	37	56	85	34	47	28	15	20	43	58	83	80	89.5
28-Jul	14	15	24	22	56	58	64	47	61	53	58	38	67	58	59	40	44	53	32	49	13	13	16	40	67.3
29-Jul	53	14	18	15	15	23	28	34	46	51	39	72	86	43	55	53	43	34	27	19	64	86	74	82	86.2
30-Jul	82	65	68	23	45	32	21	35	23	73	77	44	29	42	69	71	35	41	36	14	18	66	82	81	82.0
31-Jul	95	89	34	65	31	48	20	19	26	21	58	35	31	26	35	34	39	34	20	28	65	88	76	88	94.8
	94.8	89.4	95.6	93.3	92.5	87.8	84.9	89.5	67.9	73.6	94.0	89.8	89.2	90.3	85.0	95.4	87.2	78.5	95.4	77.8	85.1	88.5	93.0	93.0	

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
July 1, 2009 to August 1, 2009

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 5.5 ppb on Jul 17 09:00 Maximum Daily Average: 0.7 ppb on Jul 20

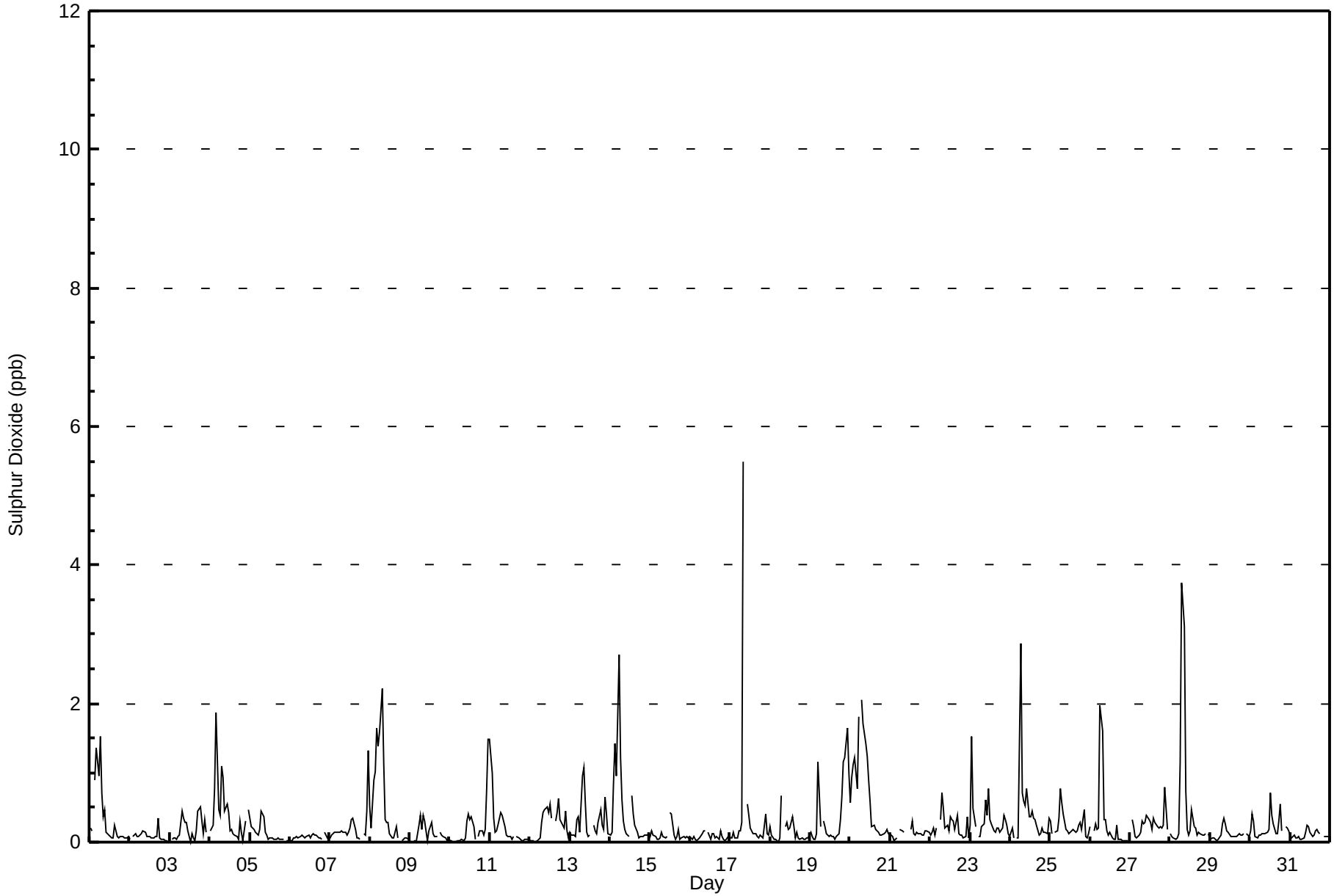
Minimum Value: 0 ppb on Jul 3 00:00 Minimum Daily Average: 0.1 ppb on Jul 6
Maximum Diurnal Average: 0.7 ppb at hour 9 Minimum Diurnal Average: 0.1 ppb at hour 20
Monthly Average: 0.27 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.1 Q_3 = 0.3 P_{90} = 0.6 P_{99} = 2.0

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	0	0	A	1	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.5
2-Jul	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
3-Jul	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	A	0.2	0.5
4-Jul	0	0	0	1	2	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0.4	1.9
5-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.4
6-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.1	0.1
7-Jul	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	1.3
8-Jul	1	0	1	1	2	1	2	2	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.5	2.2
9-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.1	0.4
10-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	1	0.2	1.5
11-Jul	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	1.5
12-Jul	0	0	0	0	0	0	0	0	0	0	1	0	1	0	A	0	0	1	0	0	0	0	0	0	0.3	0.6
13-Jul	0	0	0	0	0	0	0	1	1	1	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0.3	1.1
14-Jul	0	0	1	1	1	3	1	1	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0.5	2.7
15-Jul	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
16-Jul	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
17-Jul	0	0	0	0	0	0	0	0	5	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	5.5
18-Jul	0	0	0	0	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
19-Jul	0	0	0	0	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	1	0.4	1.7
20-Jul	1	1	1	1	1	2	A	2	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.7	2.1
21-Jul	0	0	0	0	0	A	0	0	0	C	C	A	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
22-Jul	0	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
23-Jul	0	2	0	0	A	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.5
24-Jul	0	0	0	A	0	0	3	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.9
25-Jul	0	0	A	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
26-Jul	0	A	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.0
27-Jul	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	A	0.3	0.8
28-Jul	0	0	0	0	0	0	1	4	3	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.5	3.7
29-Jul	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	0.3
30-Jul	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	A	0	0	0	0.2	0.7
31-Jul	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
	0.2	0.2	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	Diurnal Average	
	1.5	1.5	1.1	1.4	1.9	2.7	2.9	3.7	5.5	1.4	1.2	0.9	0.7	0.7	0.4	0.3	0.4	0.6	0.5	0.6	1.2	1.2	1.7	1.5	Diurnal Maximum	

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

Hourly Averages for SO_2 at Smoky Heights
July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Smoky Heights - Sulphur Dioxide (SO_2) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 10.7 ppb on Jul 24 07:00

Maximum Daily Average: 1.3 ppb on Jul 20

Minimum Value: 0 ppb on Jul 16 06:00

Minimum Daily Average: 0.4 ppb on Jul 6

Maximum Diurnal Average: 1.4 ppb at hour 8

Minimum Diurnal Average: 0.5 ppb at hour 16

Monthly Average: 0.72 ppb

Percentiles: $P_1 = 0.2$ $P_{10} = 0.3$ $Q_1 = 0.4$ Median = 0.4 $Q_3 = 0.7$ $P_{90} = 1.4$ $P_{99} = 4.1$

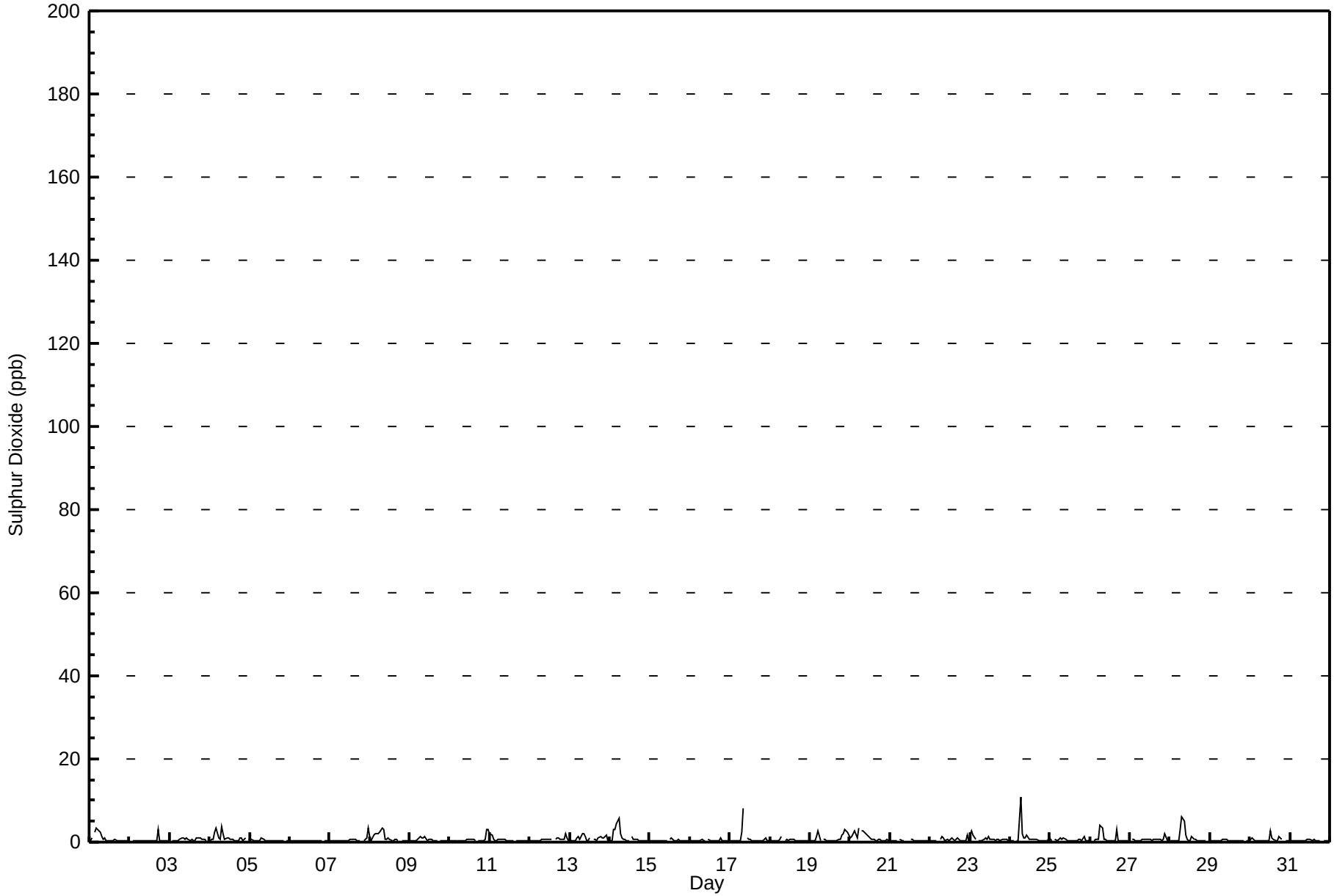
Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	0	1	A	2	3	3	2	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0.9	3.4
2-Jul	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0.5	3.1
3-Jul	A	0	0	0	0	0	1	1	1	1	1	1	0	1	0	0	1	1	1	1	1	1	1	A	0.6	1.1
4-Jul	0	1	1	2	4	1	1	4	2	1	1	1	1	1	1	0	0	0	1	1	0	1	A	1	1.1	3.8
5-Jul	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.4	0.9
6-Jul	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	0.4
7-Jul	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	A	0	1	1	4	0.6	3.5
8-Jul	1	0	2	2	2	2	2	4	3	1	1	1	1	0	0	1	1	0	A	0	0	0	0	0	1.1	3.6
9-Jul	0	0	0	0	0	1	1	1	1	1	0	1	1	1	0	0	0	A	1	0	0	0	0	0	0.6	1.5
10-Jul	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	A	0	0	0	0	1	3	3	0.7	3.0
11-Jul	2	2	1	0	0	1	1	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.6	2.2
12-Jul	0	0	0	0	0	0	0	1	1	1	1	1	1	1	A	1	1	1	1	1	1	2	1	0	0.7	2.0
13-Jul	1	0	0	0	1	1	1	2	2	1	0	1	1	A	1	1	0	1	1	1	1	1	2	0	1.0	2.1
14-Jul	0	0	3	3	4	6	2	1	1	1	0	0	A	1	1	1	1	0	0	0	0	0	0	0	1.2	5.8
15-Jul	0	0	0	1	0	0	0	0	0	0	0	A	1	1	0	0	1	1	0	0	0	0	0	0	0.4	0.9
16-Jul	0	0	1	0	0	0	0	1	1	0	A	1	0	0	0	0	0	0	1	0	0	0	0	0	0.4	0.9
17-Jul	0	0	0	0	0	1	0	2	8	A	1	1	1	0	0	1	0	0	0	0	0	1	0	0	0.9	8.0
18-Jul	1	0	0	0	0	0	1	1	A	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0.5	1.4
19-Jul	0	0	0	0	1	3	1	A	1	1	0	0	0	0	0	0	0	1	1	2	2	3	2	2	1.0	3.1
20-Jul	1	1	2	3	1	4	A	3	3	2	2	1	1	1	1	0	0	1	1	0	1	0	1	0	1.3	3.5
21-Jul	0	0	0	0	0	A	1	0	0	C	C	A	1	1	0	0	0	0	0	0	0	0	1	0	0.4	0.8
22-Jul	0	1	0	0	1	A	1	1	1	0	1	0	1	1	1	0	1	1	0	0	0	0	2	0	0.6	1.7
23-Jul	2	3	2	1	A	0	0	0	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	0	0.8	2.7
24-Jul	0	0	0	A	0	0	11	2	1	1	2	1	1	1	1	1	1	0	0	0	0	0	0	1	1.2	10.7
25-Jul	1	0	A	1	0	1	1	1	1	1	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0.6	1.4
26-Jul	1	A	0	1	1	1	4	3	1	1	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0.8	4.2
27-Jul	A	1	1	0	0	0	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	2	0	A	0.6	2.1
28-Jul	0	0	0	0	0	0	3	6	5	2	1	0	0	1	1	1	0	0	0	0	0	0	A	0	1.1	6.1
29-Jul	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0.4	0.7
30-Jul	1	1	1	0	0	0	0	0	0	0	0	0	3	1	1	0	0	1	1	1	A	0	0	0	0.7	2.8
31-Jul	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	0	A	0	0	0	0	0.4	0.5
	0.6	0.6	0.6	0.7	0.8	1.0	1.2	1.4	1.3	0.7	0.6	0.6	0.7	0.6	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.7	0.7	0.7	Diurnal Average	
	2.2	2.7	3.0	3.0	4.3	5.8	10.7	6.1	8.0	2.2	1.8	1.2	2.8	1.2	0.8	0.8	3.1	3.1	1.2	1.8	2.2	3.1	3.0	3.5	Diurnal Maximum	

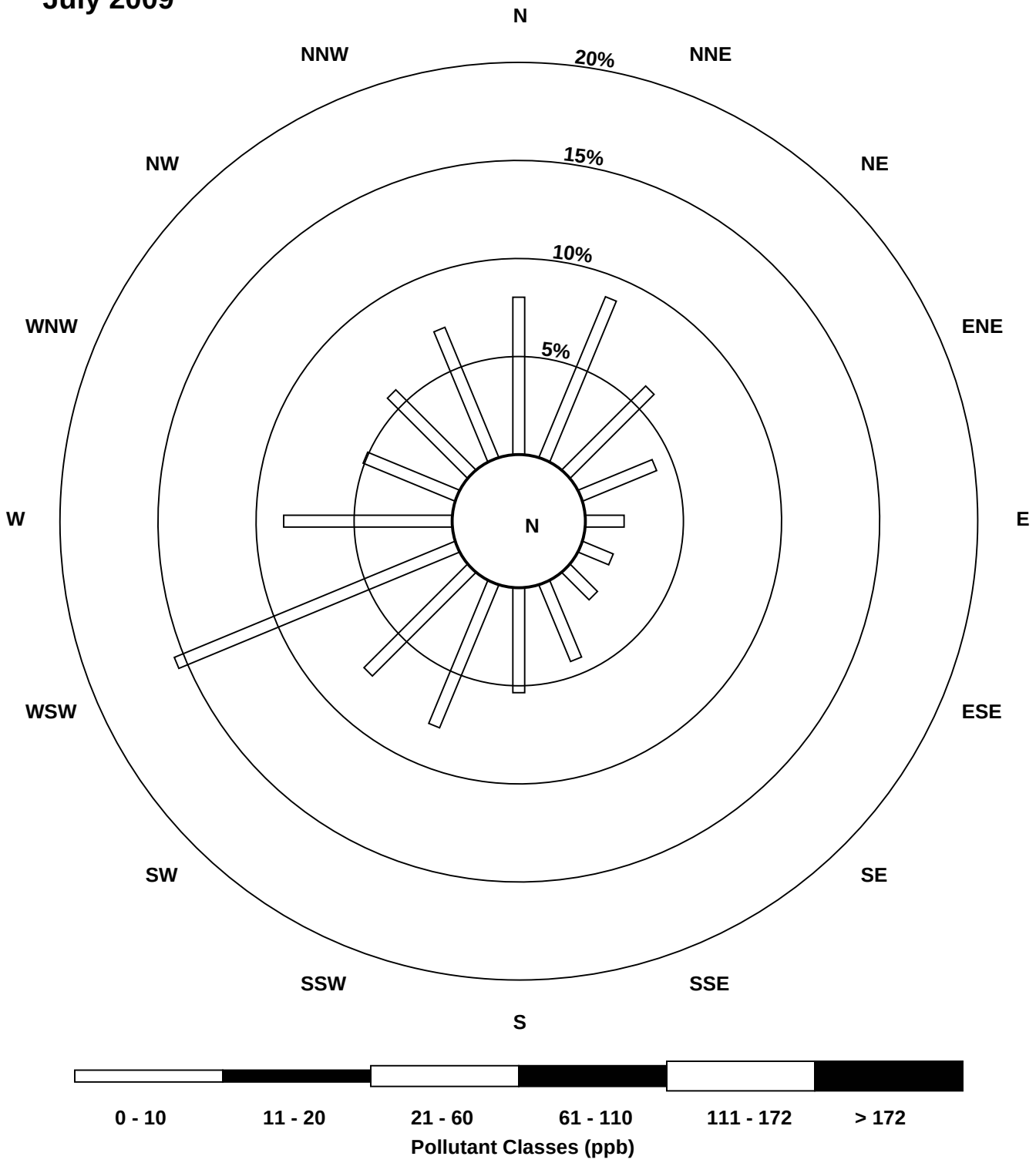
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for SO_2 at Smoky Heights
July 2009



Pollutant Rose for SO_2 at Smoky Heights
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Smoky Heights - Total Reduced Sulphur (TRS) - ppb
July 1, 2009 to August 1, 2009

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 3.2 ppb on Jul 31 03:00 Maximum Daily Average: 0.9 ppb on Jul 31

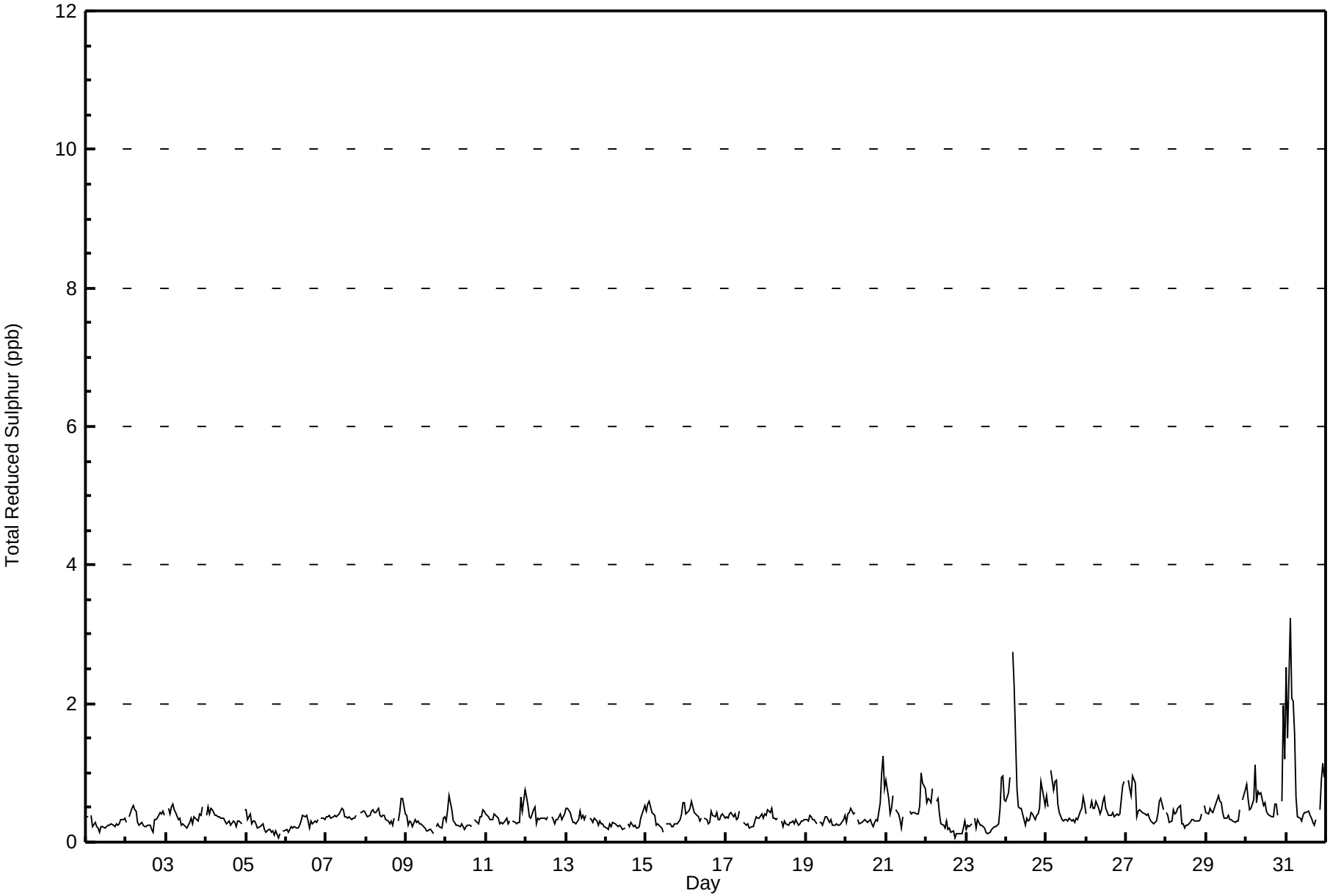
Minimum Value: 0 ppb on Jul 22 18:00 Minimum Daily Average: 0.2 ppb on Jul 5
Maximum Diurnal Average: 0.6 ppb at hour 23 Minimum Diurnal Average: 0.3 ppb at hour 17
Monthly Average: 0.40 ppb Percentiles: $P_1 = 0.1$ $P_{10} = 0.2$ $Q_1 = 0.3$ Median = 0.3 $Q_3 = 0.4$ $P_{90} = 0.6$ $P_{99} = 1.9$

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	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
2-Jul	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
3-Jul	A	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0.4	0.6
4-Jul	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.3	0.5
5-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	0.5
6-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.4
7-Jul	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
8-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	1	0	0.4	0.6
9-Jul	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
10-Jul	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.3	0.7
11-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	0	1	0.4	0.7
12-Jul	1	1	0	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.4	0.6
13-Jul	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
14-Jul	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	0.5
15-Jul	0	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	1	0.3	0.6
16-Jul	0	0	0	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6
17-Jul	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
18-Jul	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
19-Jul	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
20-Jul	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.4	1.3
21-Jul	1	1	0	0	1	A	0	0	0	0	0	C	C	A	0	0	0	0	0	0	1	1	1	1	0.5	1.0
22-Jul	1	1	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
23-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.3	1.0
24-Jul	1	1	1	A	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.7	2.7
25-Jul	1	1	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.5	1.0
26-Jul	0	A	0	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	0.5	0.9
27-Jul	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	A	0.5	0.9
28-Jul	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0.4	0.5
29-Jul	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0.4	0.8
30-Jul	1	1	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	1	1	0	A	1	2	1	0.7	2.0
31-Jul	3	2	3	2	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	1	1	0.9	3.2
	0.5	0.5	0.5	0.5	0.6	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.6	0.5	Diurnal Average	
	2.5	1.5	3.2	2.1	2.7	2.3	0.9	0.7	0.7	0.7	0.6	0.6	0.5	0.4	0.4	0.5	0.4	0.6	0.6	0.4	0.6	1.0	2.0	1.2	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 Smoky Heights
July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Smoky Heights - Total Reduced Sulphur (TRS) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 6.5 ppb on Jul 24 05:00

Maximum Daily Average: 1.7 ppb on Jul 31

Minimum Value: 0 ppb on Jul 22 18:00

Maximum Diurnal Average: 1.2 ppb at hour 5

Monthly Average: 0.84 ppb

Minimum Daily Average: 0.6 ppb on Jul 5

Minimum Diurnal Average: 0.7 ppb at hour 17

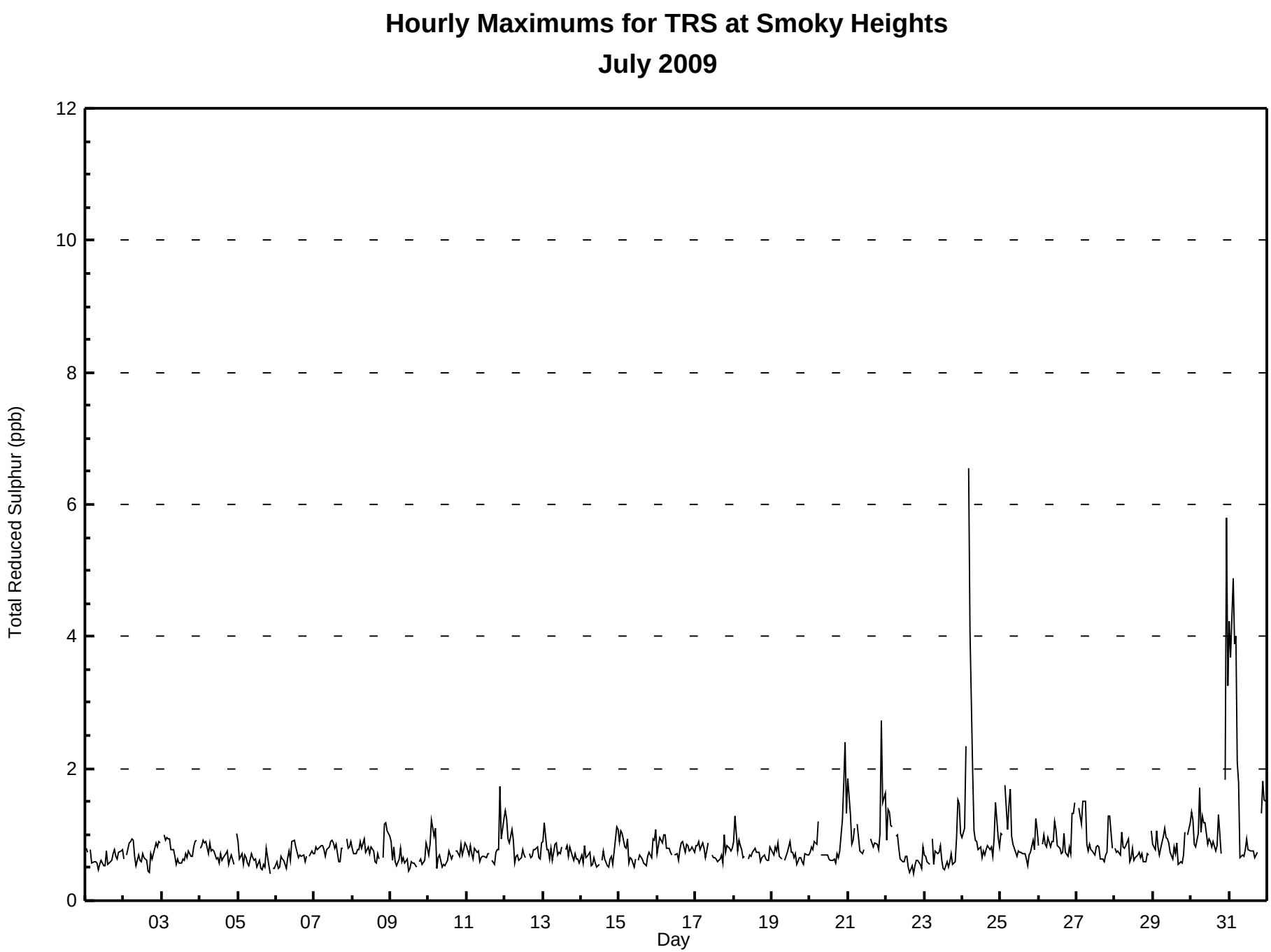
Percentiles: $P_1 = 0.5$ $P_{10} = 0.6$ $Q_1 = 0.6$ Median = 0.7 $Q_3 = 0.9$ $P_{90} = 1.1$ $P_{99} = 3.8$

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	1	1	A	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8
2-Jul	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	0.7	0.9
3-Jul	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	1.0
4-Jul	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	1.0
5-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	A	0	0	0.6	0.9
6-Jul	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.7	0.9
7-Jul	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	0.9
8-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.8	1.2
9-Jul	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	A	1	1	1	1	1	1	0.6	0.9
10-Jul	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.7	1.2
11-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	2	1	1	0.8	1.7
12-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.8	1.4
13-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.7	1.2
14-Jul	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1
15-Jul	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1
16-Jul	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
17-Jul	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
18-Jul	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.3
19-Jul	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
20-Jul	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	0.9	2.4
21-Jul	2	1	1	1	1	A	1	1	1	1	1	C	C	A	1	1	1	1	1	1	1	3	1	2	1.1	2.7
22-Jul	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	0	1	0.8	1.4
23-Jul	1	1	1	1	A	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	2	1	1	0.7	1.5
24-Jul	1	1	2	A	7	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.4	6.5
25-Jul	1	1	A	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.7
26-Jul	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.5
27-Jul	A	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.9	1.5
28-Jul	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	1.1
29-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.8	1.2
30-Jul	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	6	3	1.4	5.8
31-Jul	4	4	5	4	4	2	2	1	1	1	1	1	1	1	1	1	1	1	1	A	1	2	2	2	1.7	4.9
	1.0	1.0	1.1	1.0	1.2	1.0	0.9	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	1.0	1.1	1.0	Diurnal Average	
	4.2	3.7	4.9	3.9	6.5	4.1	1.9	1.3	1.2	1.2	1.2	1.1	0.9	0.8	0.9	0.9	1.0	1.3	1.0	0.8	1.3	2.7	5.8	3.3	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span


Hourly Maximums for TRS at Smoky Heights
July 2009
Total Reduced Sulphur (ppb)
0
2
4
6
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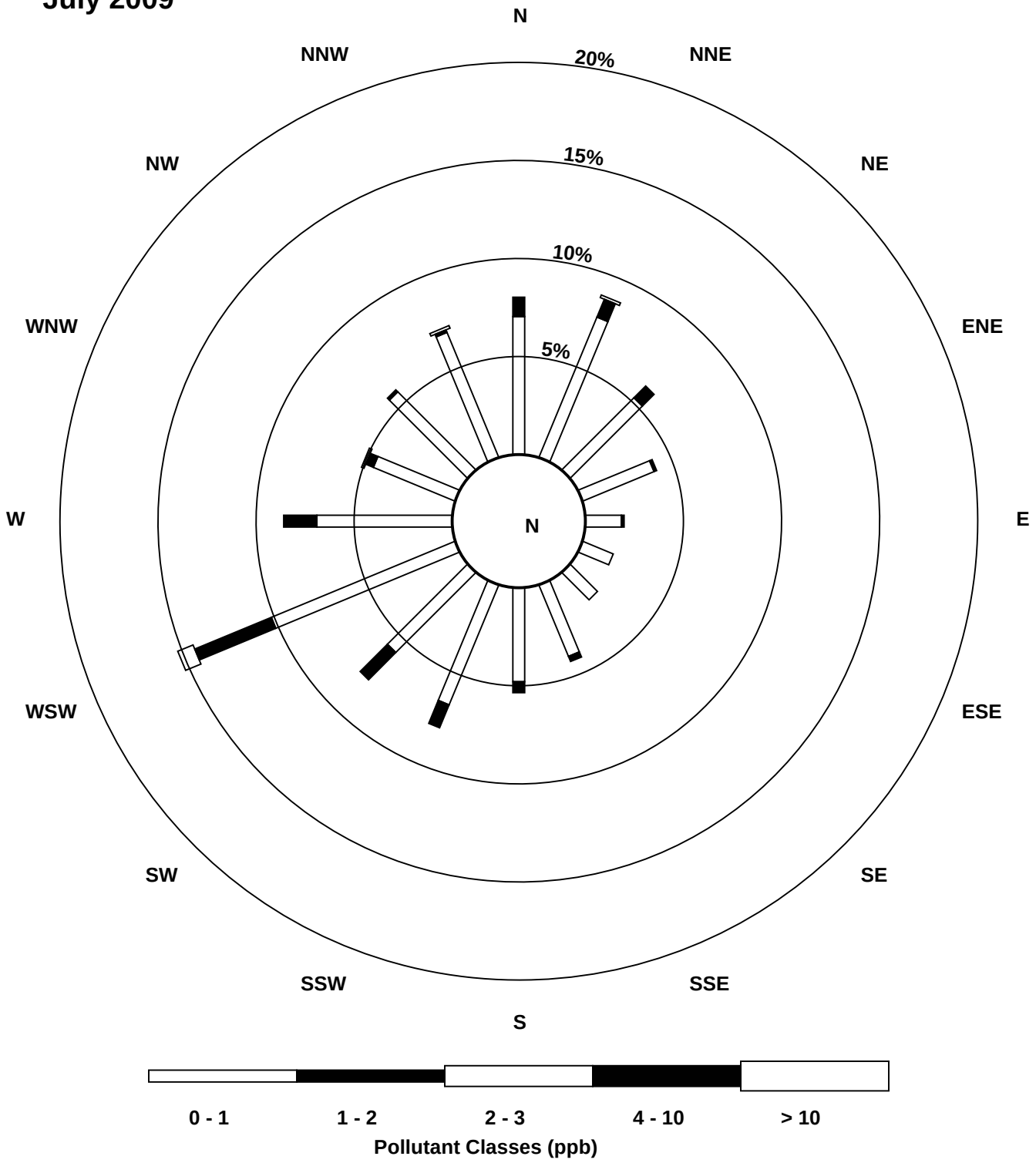
Pollutant Rose for TRS at Smoky Heights
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

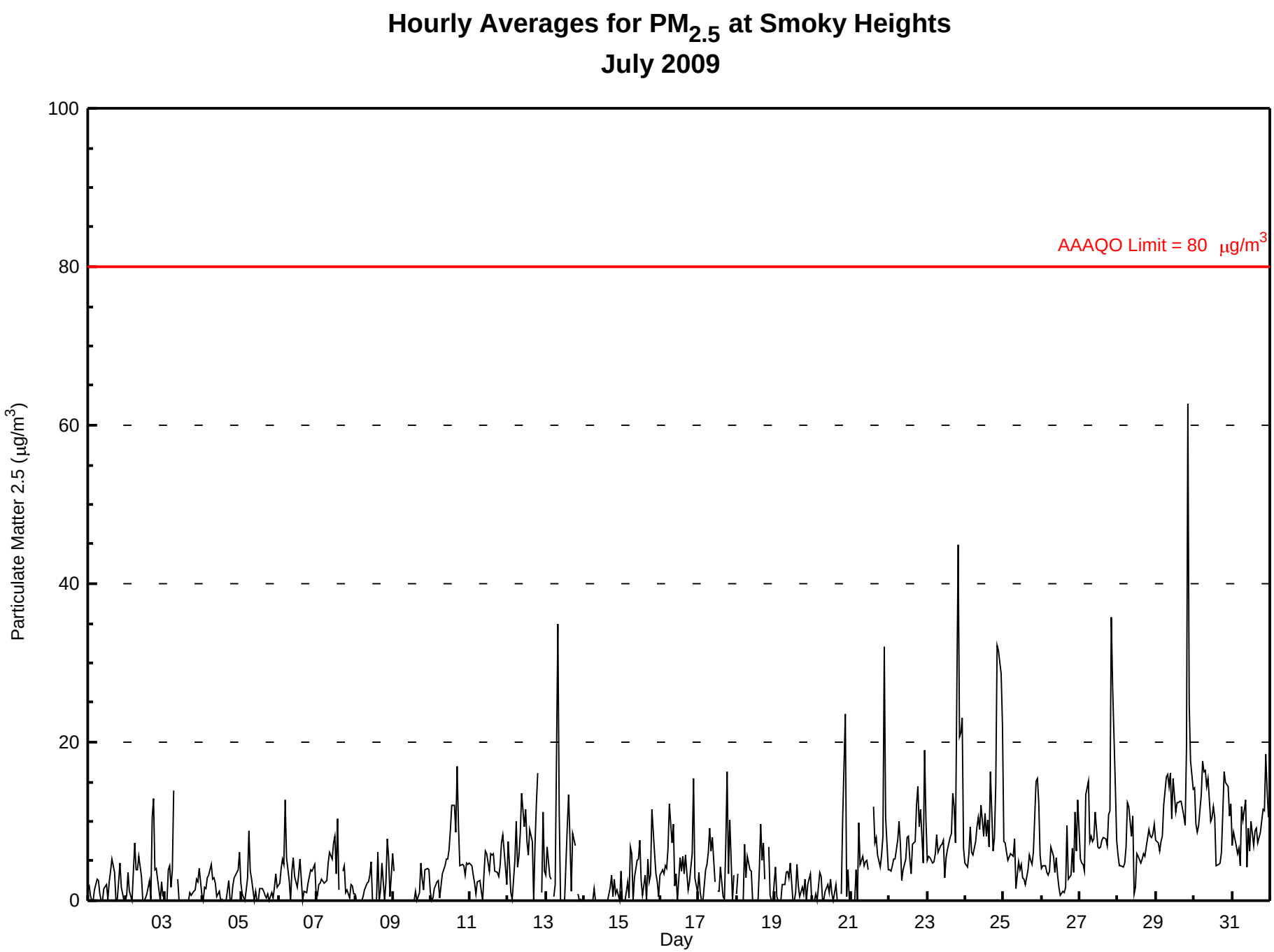
Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 62.7 $\mu g/m^3$ on Jul 29 21:00 Maximum Daily Average: 14.8 $\mu g/m^3$ on Jul 29

Minimum Value: 0 $\mu g/m^3$ on Jul 1 03:00 Minimum Daily Average: 0.7 $\mu g/m^3$ on Jul 14
Maximum Diurnal Average: 10.6 $\mu g/m^3$ at hour 21 Minimum Diurnal Average: 2.9 $\mu g/m^3$ at hour 3
Monthly Average: 5.28 $\mu g/m^3$ Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 1.2 Median = 4.0 Q_3 = 7.3 P_{90} = 11.9 P_{99} = 31.1

Hours in Service:	744
Hours of Data:	721
Hours of Missing Data:	23
Hours of Calibration:	2
Percent Operational Time:	97.2

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-Jul	2	1	0	0	1	3	3	1	0	0	2	2	0	2	4	5	4	0	0	2	5	2	0	0	1.6	5.3
2-Jul	1	4	1	0	4	7	4	4	6	3	0	0	0	1	3	0	11	13	4	4	1	0	2	0	3.0	12.8
3-Jul	BD	0	4	4	2	4	14	BD	3	0	0	0	0	0	0	0	1	1	1	1	3	2	4	1	2.0	13.9
4-Jul	0	2	2	3	3	5	3	3	2	1	1	0	0	0	0	0	3	0	0	2	3	4	4	6	1.9	6.0
5-Jul	2	1	0	1	3	9	4	3	0	1	0	0	1	1	1	1	0	1	0	1	0	2	3	2	1.6	8.8
6-Jul	2	4	5	5	13	5	3	0	4	5	3	2	3	5	3	0	1	1	2	3	4	4	5	1	3.4	12.8
7-Jul	1	2	2	3	2	2	2	5	6	5	7	8	3	10	1	BD	4	4	1	1	0	2	2	1	3.3	10.4
8-Jul	1	0	BD	0	0	1	1	2	2	3	5	0	BD	0	6	0	1	5	0	2	8	5	1	6	2.3	7.8
9-Jul	4	BD	0	BD	0	BD	0	0	0	0	BD	0	0	0	1	0	1	5	3	1	4	4	4	1	1.4	4.7
10-Jul	0	0	2	2	3	0	2	3	4	5	5	6	9	12	12	9	17	10	4	5	4	3	5	5	5.3	17.0
11-Jul	5	4	3	2	1	2	3	1	0	3	6	6	4	6	6	6	4	3	3	4	7	8	6	2	4.1	8.3
12-Jul	7	4	1	0	5	10	4	6	8	14	9	12	7	6	9	8	0	7	12	16	BD	1	11	4	7.0	16.1
13-Jul	3	7	3	3	BD	1	2	35	11	0	BD	0	0	9	13	8	1	8	7	BD	1	0	0	0	5.4	35.0
14-Jul	0	BD	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	3	1	3	1	1	0	4	0.7	3.8
15-Jul	0	0	0	2	0	7	6	0	3	5	5	8	2	1	3	0	5	2	3	12	6	3	2	0	3.2	11.6
16-Jul	3	4	3	4	4	7	12	7	10	2	3	0	5	4	6	3	6	1	2	4	6	15	3	1	4.9	15.4
17-Jul	4	1	0	0	4	5	6	9	6	8	2	BD	1	1	4	1	0	7	16	3	10	0	3	BD	4.2	16.2
18-Jul	1	3	BD	0	0	7	3	6	4	4	0	BD	0	0	4	10	5	7	3	BD	7	1	0	0	3.0	9.6
19-Jul	4	1	0	BD	0	2	2	4	4	3	5	0	0	1	5	2	1	2	1	3	0	2	3	0	1.8	4.8
20-Jul	0	0	1	0	3	3	0	0	1	2	1	3	1	0	2	0	0	BD	1	10	24	0	4	0	2.5	23.6
21-Jul	0	0	0	4	0	10	5	6	4	5	5	4	C	C	12	7	8	6	4	6	8	32	10	4	6.3	32.1
22-Jul	4	4	4	5	5	8	10	7	2	4	5	8	8	5	3	7	7	12	14	9	11	5	19	10	7.5	19.0
23-Jul	5	6	5	5	5	6	8	6	7	7	8	3	5	6	8	9	14	12	7	45	21	21	23	7	10.4	45.0
24-Jul	5	4	6	9	6	6	7	9	10	9	12	8	11	8	10	7	16	6	8	15	32	32	29	22	12.0	32.1
25-Jul	7	7	6	5	6	6	6	8	2	5	4	5	3	3	2	4	6	5	5	6	15	15	12	6	6.2	15.4
26-Jul	4	4	4	4	3	4	7	6	4	5	3	2	1	1	1	2	10	3	3	7	3	11	6	13	4.6	12.7
27-Jul	5	5	5	4	13	15	7	8	7	8	11	7	7	7	8	8	8	7	11	11	36	27	15	8	10.3	35.7
28-Jul	6	4	4	4	5	7	12	12	8	11	1	2	6	6	5	5	6	6	7	9	8	8	8	10	6.6	12.3
29-Jul	8	7	6	7	8	12	16	16	14	16	10	15	11	12	12	13	13	11	9	19	63	25	18	14	14.8	62.7
30-Jul	14	10	9	9	13	18	16	17	14	15	10	11	12	10	4	5	5	6	11	16	15	14	11	12	11.6	17.7
31-Jul	7	9	7	6	7	4	12	10	13	4	9	6	10	7	9	9	7	8	9	12	11	19	14	11	9.1	18.5
	3.5	3.4	2.9	3.2	4.0	5.8	5.8	6.4	5.2	5.0	4.6	4.0	3.9	4.2	5.1	4.2	5.3	5.4	5.0	8.0	10.6	8.7	7.4	4.9	Diurnal Average	
	14.2	9.7	8.7	9.4	13.4	17.7	16.3	35.0	14.5	16.1	12.0	15.4	11.8	12.5	13.3	12.6	17.0	12.8	16.2	45.0	62.7	32.1	28.7	22.1	Diurnal Maximum	

C - Calibration 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 PM2.5 at Smoky Heights
July 2009
AAAQO Limit = 80 μg/m3
Particulate Matter 2.5 (μg/m3)
100
80
60
40
20
0
03
05
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11
13
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Day

Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 133.9 $\mu g/m^3$ on Jul 27 21:00

Maximum Daily Average: 29.7 $\mu g/m^3$ on Jul 24

Minimum Value: 0 $\mu g/m^3$ on Jul 8 03:00

Maximum Diurnal Average: 27.8 $\mu g/m^3$ at hour 21

Monthly Average: 13.76 $\mu g/m^3$

Minimum Daily Average: 6.1 $\mu g/m^3$ on Jul 14

Minimum Diurnal Average: 5.9 $\mu g/m^3$ at hour 3

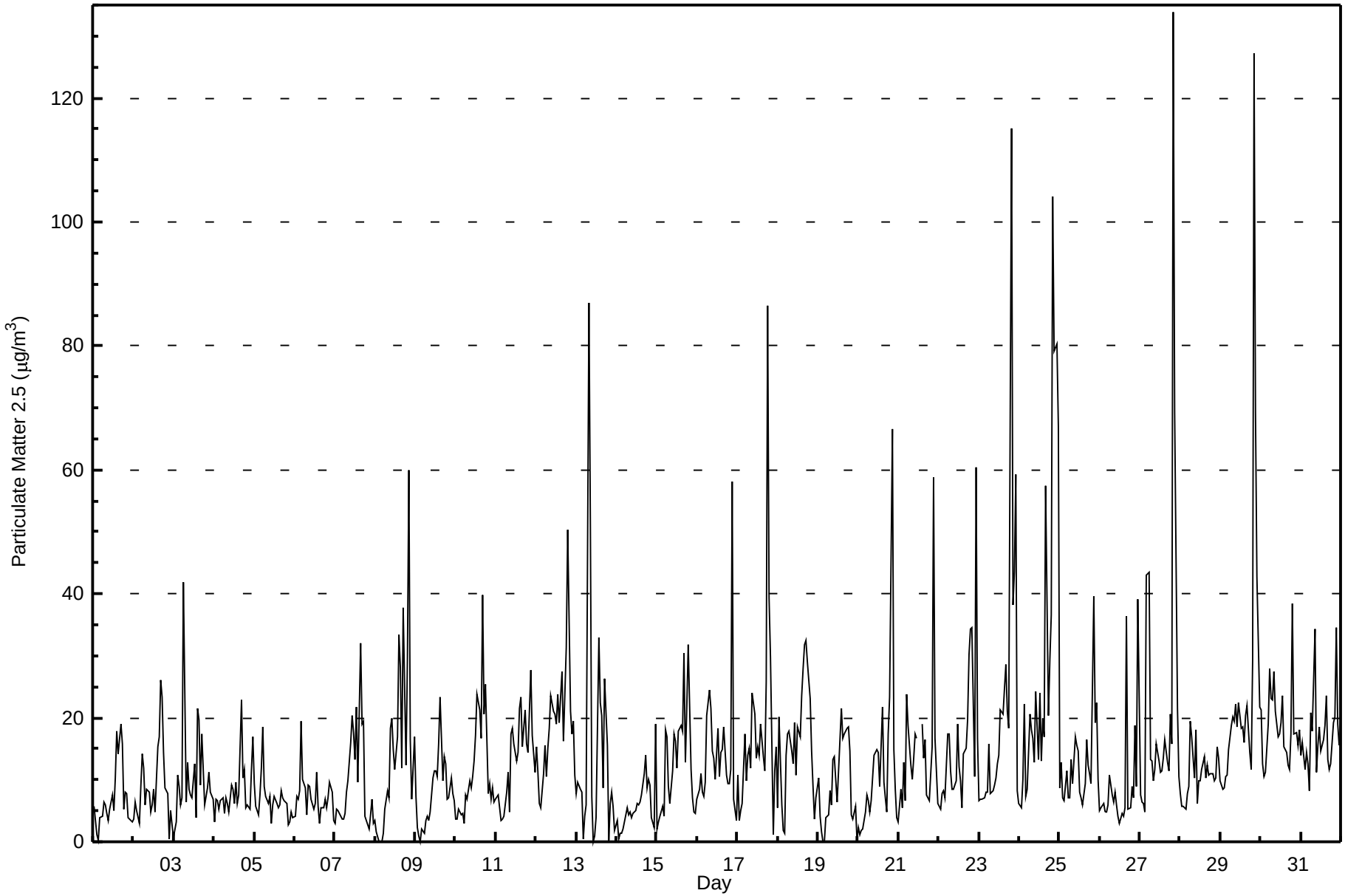
Percentiles: P_1 = 0.2 P_{10} = 3.8 Q_1 = 6.2 Median = 10.3 Q_3 = 17.4 P_{90} = 23.4 P_{99} = 74.4

Hours in Service:	744
Hours of Data:	742
Hours of Missing Data:	2
Hours of Calibration:	2
Percent Operational Time:	100.0

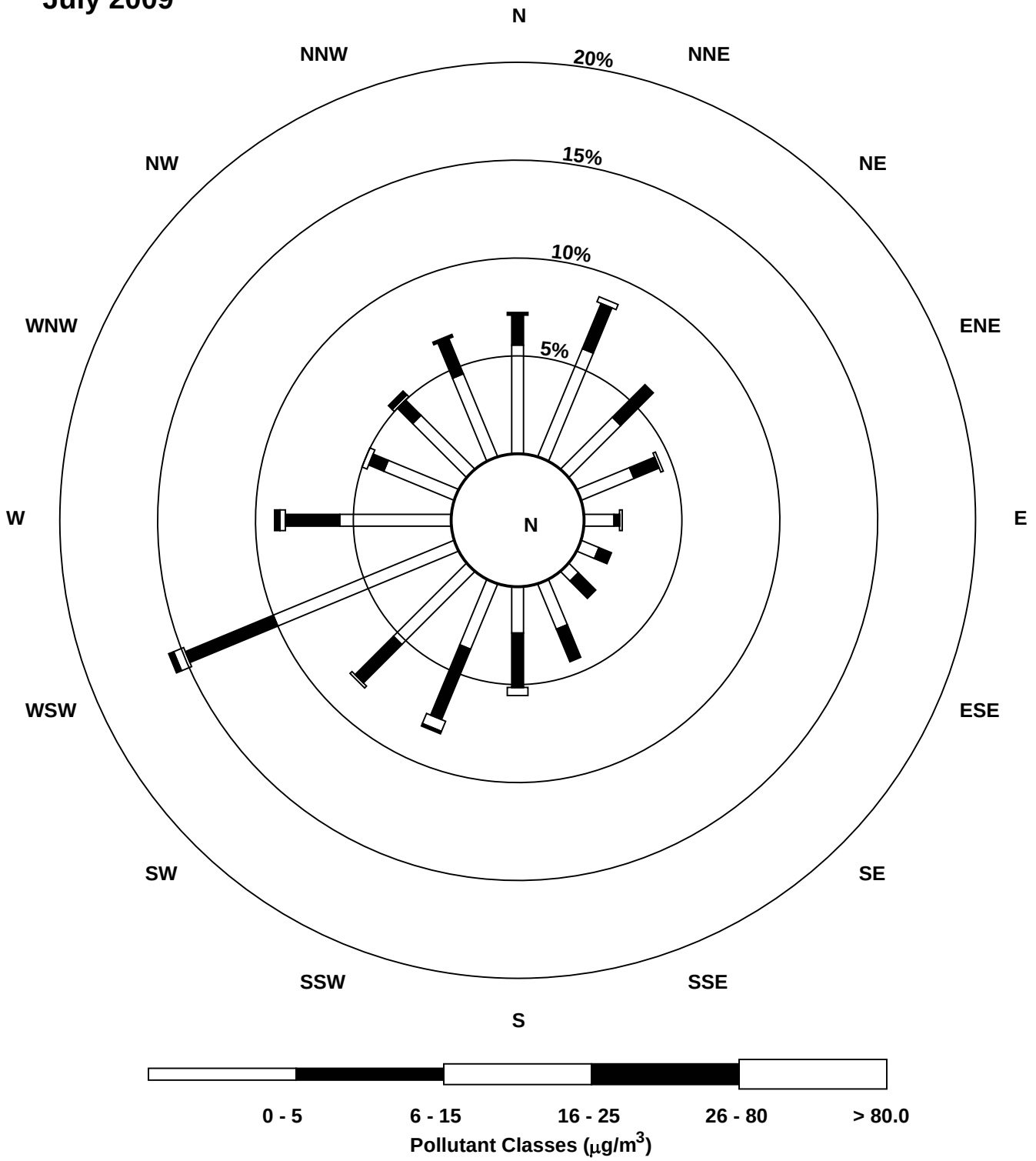
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	6	3	1	0	4	4	6	6	5	3	5	8	5	10	18	14	19	16	5	8	8	4	3	3	6.9	19.0
2-Jul	4	6	5	3	9	14	12	6	8	8	5	6	9	5	15	17	26	23	15	9	8	1	5	3	9.2	26.2
3-Jul	1	3	11	9	6	7	42	6	13	8	8	7	13	4	22	20	9	17	6	7	9	11	8	7	10.6	42.0
4-Jul	3	7	7	5	7	7	5	7	6	5	9	9	6	10	6	8	23	10	12	5	6	5	12	17	8.1	22.8
5-Jul	9	6	4	8	12	19	9	7	6	7	3	6	7	6	5	6	8	7	7	6	3	3	5	4	6.8	18.6
6-Jul	4	7	7	8	19	10	9	4	9	9	7	5	6	11	6	3	6	6	7	5	7	10	8	3	7.4	19.4
7-Jul	3	5	5	5	4	4	4	8	10	16	20	18	13	22	10	32	19	20	4	4	2	4	7	3	10.0	32.0
8-Jul	3	2	0	0	0	1	5	8	7	18	20	15	12	17	33	28	12	38	12	30	60	16	7	17	15.1	60.0
9-Jul	7	2	1	0	2	1	3	4	3	5	10	11	11	11	16	23	10	14	13	7	7	10	8	7	7.8	23.4
10-Jul	4	4	5	4	4	3	8	7	10	9	11	13	17	24	21	17	40	21	25	8	9	7	9	6	11.9	39.9
11-Jul	7	8	5	3	4	4	8	11	5	17	18	16	13	14	21	23	15	21	16	14	21	28	17	11	13.4	27.7
12-Jul	15	11	6	6	11	16	11	15	18	24	21	20	19	24	19	28	16	24	31	50	21	17	19	11	18.9	50.3
13-Jul	8	10	8	8	0	4	6	87	51	7	0	1	4	33	22	20	9	26	16	0	6	8	6	2	14.3	87.0
14-Jul	3	0	1	1	2	4	6	4	5	4	5	5	6	6	6	8	11	14	9	10	9	4	2	19	6.1	18.9
15-Jul	2	3	4	6	4	18	17	9	6	12	17	16	12	18	19	18	30	13	22	32	12	7	5	5	12.7	31.8
16-Jul	7	8	11	8	7	10	20	24	21	15	13	10	18	11	14	15	19	11	9	9	12	58	7	4	14.3	58.2
17-Jul	11	3	5	6	17	10	14	15	12	24	21	14	15	14	19	14	11	26	87	39	30	1	11	15	18.1	86.5
18-Jul	5	20	6	2	1	14	17	18	15	12	19	11	19	17	24	28	32	32	29	23	15	9	4	7	15.8	32.4
19-Jul	10	4	2	0	0	4	4	8	6	13	14	6	12	17	22	17	17	18	18	15	4	4	6	0	9.2	21.5
20-Jul	2	1	2	2	5	8	7	5	7	14	14	15	14	9	22	10	7	5	17	23	67	15	8	4	11.7	66.6
21-Jul	3	8	6	13	7	24	19	12	10	13	17	17	C	C	19	14	16	8	7	11	15	59	17	6	14.6	58.8
22-Jul	6	5	8	8	7	17	17	11	8	9	10	19	12	10	5	14	15	20	30	34	35	10	60	17	16.2	60.4
23-Jul	7	7	7	7	8	8	16	8	8	9	10	13	14	21	21	25	29	21	18	115	38	43	59	8	21.7	115.1
24-Jul	6	5	10	22	7	8	21	18	17	13	24	13	24	13	20	17	57	20	29	37	104	79	80	67	29.7	104.2
25-Jul	9	13	7	7	11	7	7	13	9	17	16	15	8	7	6	9	17	12	11	9	40	19	23	10	12.6	39.6
26-Jul	5	6	6	5	5	6	11	8	6	8	6	4	3	5	4	6	36	5	5	9	7	19	9	39	9.3	39.1
27-Jul	8	6	6	5	43	43	13	13	10	12	16	13	11	11	13	17	13	11	21	16	134	69	22	11	22.4	133.9
28-Jul	8	6	6	5	8	9	19	17	10	18	6	10	10	12	14	10	12	11	11	11	10	10	15	13	10.9	19.4
29-Jul	10	8	9	11	11	15	19	20	19	22	18	22	18	18	16	20	22	15	12	29	127	69	43	22	24.8	127.3
30-Jul	21	13	11	11	19	28	23	23	27	21	17	17	19	23	15	14	12	12	17	38	17	18	16	18	18.9	38.5
31-Jul	14	16	12	14	13	8	21	18	34	11	16	19	15	16	19	24	13	12	12	19	20	35	19	16	17.3	34.6
	6.8	6.7	5.9	6.2	8.3	10.8	12.9	13.6	12.4	12.4	12.8	12.0	12.2	13.9	15.9	16.7	18.8	16.4	17.2	20.5	27.8	21.1	16.8	12.1	Diurnal Average	
	21.3	20.1	11.7	22.1	43.1	43.4	42.0	87.0	51.1	24.1	24.2	22.4	24.0	32.9	33.5	32.0	57.4	37.8	86.5	115.1	133.9	79.3	80.2	67.0	Diurnal Maximum	

C - Calibration

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



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



Peace Airshed Zone Association
Summary of Hourly Averages

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

Maximum Value: 30.9 ^{o}C on Jul 27 17:00

Maximum Daily Average: 22.5 ^{o}C on Jul 25

Minimum Value: 3 ^{o}C on Jul 2 04:00

Minimum Daily Average: 11.0 ^{o}C on Jul 9

Maximum Diurnal Average: 22.5 ^{o}C at hour 16

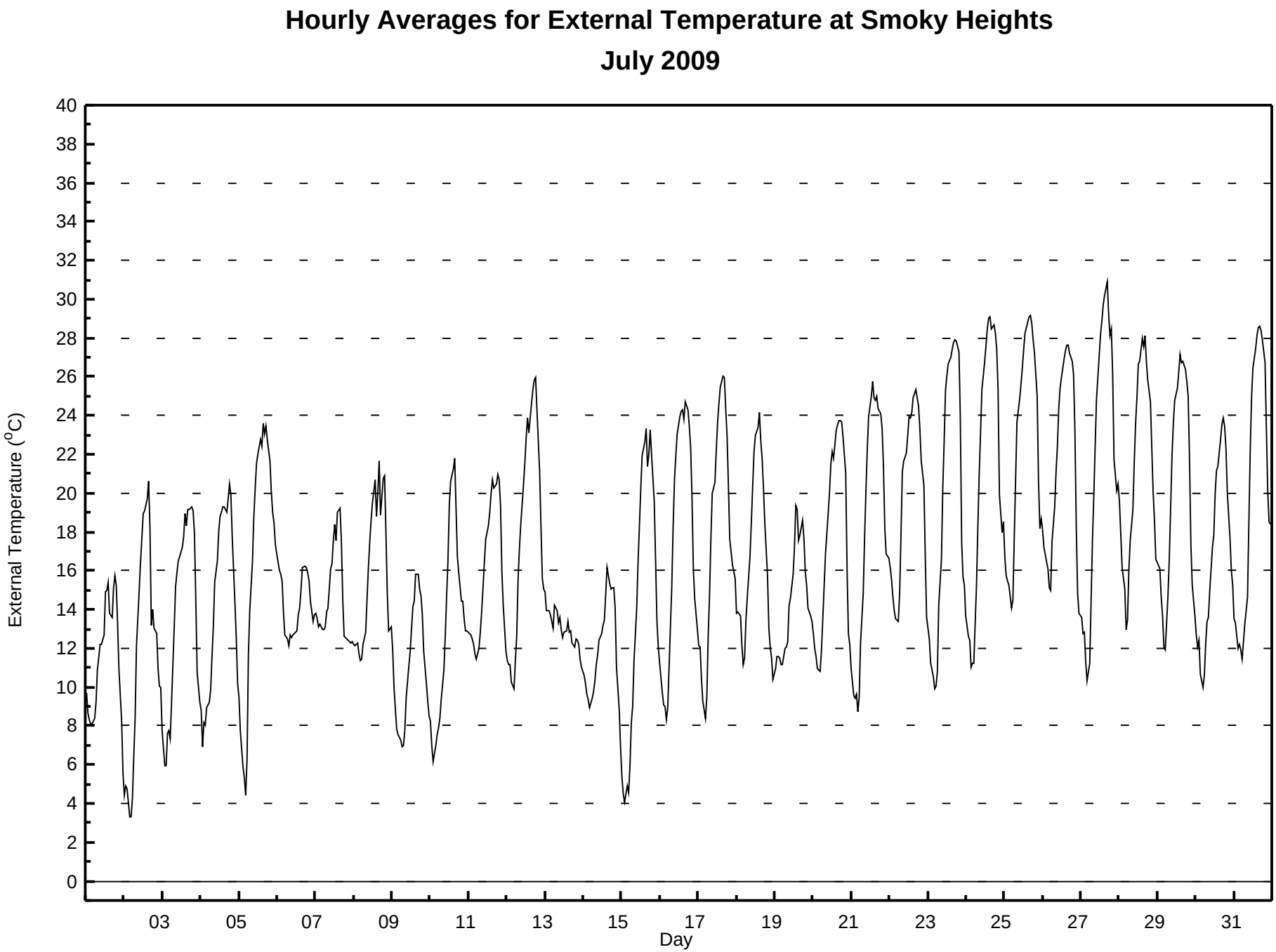
Minimum Diurnal Average: 10.1 ^{o}C at hour 5

Monthly Average: 16.69 ^{o}C

Percentiles: P_1 = 4.6 P_{10} = 9.5 Q_1 = 12.3 Median = 15.8 Q_3 = 21.2 P_{90} = 25.4 P_{99} = 29.0

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

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jul	10	9	8	8	8	8	9	11	12	12	12	13	15	15	15	14	14	15	16	15	13	11	8	6	11.5	15.7
2-Jul	4	5	5	3	3	4	6	8	12	15	16	18	19	19	20	21	18	13	14	13	13	11	10	10	11.7	20.6
3-Jul	8	6	6	8	8	7	9	13	15	16	16	17	17	18	19	18	19	19	19	19	18	14	11	9	13.8	19.3
4-Jul	9	7	8	8	9	9	10	12	13	15	17	18	19	19	19	19	19	20	20	20	18	14	13	10	14.4	20.5
5-Jul	9	8	6	5	4	6	12	14	16	19	20	22	22	23	22	24	23	23	23	22	20	19	18	17	16.6	23.6
6-Jul	16	16	16	15	14	13	12	12	13	13	13	13	13	14	14	15	16	16	16	16	15	14	13	14	14.3	16.5
7-Jul	14	13	13	13	13	13	13	14	14	16	16	18	18	18	19	19	17	14	13	13	12	12	12	12	14.6	19.2
8-Jul	12	12	12	12	11	11	12	13	15	16	17	19	20	21	19	20	22	19	21	21	18	15	13	13	16.0	21.7
9-Jul	12	10	9	8	8	7	7	7	8	9	11	12	13	14	14	16	16	15	15	14	12	10	9	9	11.0	15.9
10-Jul	8	7	6	7	8	8	8	9	11	13	15	16	19	21	21	22	19	17	16	14	14	14	13	13	13.3	21.8
11-Jul	13	13	12	12	12	11	12	13	14	15	16	18	18	19	20	21	20	20	21	21	19	16	14	12	15.9	21.0
12-Jul	11	11	11	10	10	11	13	16	17	18	20	22	23	24	23	25	25	26	26	24	21	18	16	15	18.2	26.0
13-Jul	15	14	14	14	13	13	14	14	13	14	13	13	13	13	13	13	13	12	12	12	12	12	11	11	13.0	14.9
14-Jul	11	10	10	9	9	9	10	10	11	12	12	13	13	13	15	16	15	15	15	15	14	11	9	7	11.9	16.2
15-Jul	5	4	4	5	5	6	8	9	11	14	16	18	20	22	23	23	21	22	23	22	20	17	13	12	14.4	23.3
16-Jul	11	10	9	9	8	9	11	15	18	21	22	23	24	24	24	24	25	24	23	22	20	16	15	13	17.5	24.7
17-Jul	12	12	10	9	8	10	13	15	18	20	21	22	24	25	25	26	26	24	23	20	18	16	16	16	17.9	26.0
18-Jul	14	14	14	12	11	12	13	15	17	18	20	22	23	23	24	23	22	20	18	16	13	12	11	10	16.6	24.1
19-Jul	11	12	12	11	11	11	12	12	12	14	15	16	17	19	19	18	18	19	18	16	15	14	14	13	14.5	19.3
20-Jul	13	12	12	11	11	12	14	15	17	19	20	22	22	22	23	24	24	24	24	23	21	16	13	12	17.6	23.8
21-Jul	11	10	9	10	9	9	12	15	18	20	22	24	25	26	25	25	25	24	24	23	21	18	17	17	18.3	25.7
22-Jul	16	16	15	14	14	13	15	18	21	22	22	23	24	24	24	25	25	25	25	23	22	20	17	14	19.8	25.3
23-Jul	13	12	11	11	10	10	11	14	17	20	23	25	26	27	27	27	28	28	28	27	24	17	16	15	19.5	27.9
24-Jul	14	13	12	11	11	11	15	18	21	23	25	27	28	28	29	29	28	29	28	27	25	20	18	19	21.3	29.1
25-Jul	17	16	15	15	14	15	18	21	24	25	26	26	27	28	29	29	29	29	28	27	25	21	18	19	22.5	29.2
26-Jul	18	17	16	16	15	15	17	19	21	22	24	25	26	27	27	28	28	27	27	26	23	18	15	14	21.4	27.7
27-Jul	14	13	13	11	10	11	15	18	20	22	25	27	28	29	30	30	31	29	28	28	26	22	20	20	21.7	30.9
28-Jul	20	18	16	15	13	13	16	18	19	22	24	25	27	27	28	28	28	27	26	25	22	20	19	17	21.2	28.1
29-Jul	16	16	15	14	12	12	15	17	19	22	24	25	25	26	27	27	27	26	26	25	22	17	15	14	20.1	27.1
30-Jul	13	12	12	11	10	11	12	13	14	15	17	18	20	21	21	23	24	24	23	22	20	18	16	15	16.9	23.9
31-Jul	14	13	12	12	12	11	12	13	15	18	22	25	26	27	28	29	29	28	28	27	23	20	19	18	20.1	28.6
	12.4	11.6	11.1	10.7	10.1	10.5	12.2	13.9	15.6	17.4	18.8	20.1	21.1	21.8	22.2	22.5	22.4	21.8	21.5	20.7	18.7	16.0	14.2	13.4	Diurnal Average	
	19.6	17.9	16.4	16.1	15.1	15.0	17.7	20.7	23.7	24.8	25.6	27.1	28.2	28.9	29.7	30.2	30.9	29.2	28.2	28.4	26.1	21.7	20.1	20.5	Diurnal Maximum	


Hourly Averages for External Temperature at Smoky Heights
July 2009
External Temperature (°C)
40
38
36
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
03
05
07
09
11
13
15
17
19
21
23
25
27
29
31
Day

Peace Airshed Zone Association
Summary of Hourly Averages

Smoky Heights
July 1, 2009 to August 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	7	8	12	14	16	14	15	23	22	22	23	24	27	25	26	14	16	15	17	14	8	8	7	7	14.7	26.9
Dir	267	222	237	242	254	253	255	263	259	258	274	282	269	281	288	323	291	313	315	313	298	297	297	260	275.5	269.4
2 Spd	9	14	8	8	7	7	8	9	7	9	9	9	10	4	2	4	13	17	7	3	7	7	3	3	3.9	16.7
Dir	259	266	227	198	246	194	176	184	176	167	195	206	192	238	129	141	343	329	40	153	289	289	224	183	226.5	328.6
3 Spd	4	5	3	1	1	3	2	3	6	4	7	7	8	9	9	14	10	9	5	6	6	4	5	3	4.7	13.9
Dir	274	258	293	3	158	230	214	31	9	358	320	322	316	324	294	320	344	335	341	342	326	344	294	302	321.4	320.2
4 Spd	3	2	3	5	4	4	1	8	10	10	8	6	7	8	9	7	7	5	8	8	6	5	4	1	4.4	10.4
Dir	325	29	345	15	54	119	98	357	15	36	43	39	356	322	324	306	234	340	351	350	357	335	337	305	355.8	14.5
5 Spd	4	2	2	4	4	2	1	3	6	8	9	7	10	9	9	9	12	12	14	14	12	11	10	7	6.8	14.2
Dir	294	343	44	19	330	12	77	100	62	62	58	80	61	74	68	79	58	60	52	51	57	60	65	44	57.2	51.3
6 Spd	7	11	12	11	12	12	14	16	15	15	14	15	15	16	19	22	21	17	17	16	18	20	19	16	14.4	21.6
Dir	18	42	49	59	121	91	65	22	32	34	22	23	21	21	32	29	32	36	35	35	31	33	33	36	36.6	29.0
7 Spd	17	15	14	17	15	14	16	16	15	17	14	13	17	13	14	15	15	7	7	9	8	3	8	9	10.4	17.3
Dir	36	33	26	30	30	29	30	32	35	50	57	39	34	18	11	31	2	150	203	272	284	340	350	343	25.8	33.8
8 Spd	7	7	12	12	13	12	10	12	11	12	13	14	13	12	15	7	8	5	4	3	4	3	4	15	8.5	15.0
Dir	337	326	345	350	348	351	353	348	3	3	359	354	355	23	327	333	4	62	63	244	42	270	266	359	352.9	327.4
9 Spd	12	21	14	16	16	16	14	14	15	11	10	8	6	6	3	1	6	11	15	15	11	9	6	4	6.8	20.6
Dir	6	11	11	356	352	344	347	354	336	354	6	352	7	3	305	329	263	241	239	234	230	237	259	240	331.4	11.0
10 Spd	4	3	1	1	3	4	5	6	7	6	9	10	10	10	13	18	10	7	12	3	6	8	5	3	2.5	18.3
Dir	176	230	186	230	208	178	180	164	154	143	165	185	206	235	235	217	256	37	23	20	12	343	356	4	208.2	216.8
11 Spd	5	4	3	6	5	4	2	4	5	4	4	3	5	5	8	7	8	7	8	7	6	4	5	4	1.6	7.8
Dir	21	29	25	48	46	51	2	257	208	180	198	153	203	212	229	182	148	99	118	97	83	51	28	12	110.4	117.8
12 Spd	4	5	6	4	5	4	6	4	5	7	6	7	6	7	6	4	6	4	3	5	9	20	3	6	0.7	19.6
Dir	8	10	11	15	1	24	28	38	129	166	178	145	161	187	192	198	241	306	45	181	291	343	3	297	339.3	342.8
13 Spd	10	9	10	12	15	11	10	12	11	14	15	16	16	19	16	15	12	12	8	11	9	6	7	7	11.4	19.2
Dir	305	310	322	326	342	343	322	343	342	334	321	319	323	318	330	327	325	329	342	315	326	341	8	357	328.7	318.3
14 Spd	5	8	8	7	6	2	4	3	4	7	6	5	3	8	8	7	7	9	11	10	8	6	5	5	1.9	10.7
Dir	13	2	343	347	348	339	318	2	350	274	293	267	219	234	241	238	175	149	164	162	171	173	217	252	242.7	164.0
15 Spd	5	6	4	6	7	4	8	11	8	8	11	10	12	12	13	19	16	12	10	10	9	8	8	9	8.0	18.9
Dir	255	251	225	238	252	241	205	185	171	162	158	171	200	214	221	214	265	218	204	163	179	201	256	256	210.8	213.7
16 Spd	10	8	8	9	9	8	9	11	18	28	33	34	31	28	28	30	28	26	26	21	12	12	11	10	18.3	34.3
Dir	252	209	223	241	226	246	216	221	242	240	243	252	262	250	252	246	253	249	254	259	262	263	278	271	248.8	251.7
17 Spd	12	4	3	8	7	4	5	7	7	3	6	6	8	8	5	7	6	4	2	11	5	7	3	16	1.8	15.9
Dir	273	339	263	253	229	234	213	252	245	183	145	171	159	165	152	103	132	113	71	315	330	26	56	314	235.4	313.8
18 Spd	5	15	1	5	7	9	9	11	14	14	14	12	9	7	4	9	10	7	5	34	12	4	9	8	7.5	34.4
Dir	80	236	348	221	202	223	215	196	223	222	236	239	237	239	153	130	149	159	171	277	255	224	222	202	223.5	276.8
19 Spd	11	15	17	20	23	22	20	23	23	23	22	22	25	28	26	23	17	21	19	17	17	15	14	15	19.0	27.5
Dir	202	243	240	248	252	257	259	266	263	270	286	285	289	281	284	279	265	275	260	252	255	250	258	261	264.9	281.0
20 Spd	13	14	16	7	2	3	9	12	14	14	14	9	10	13	14	17	17	15	13	8	4	4	7	7	10.4	16.8
Dir	258	264	270	272	196	231	245	253	254	238	236	241	219	238	245	254	244	252	264	268	241	275	258	247	250.4	253.6
21 Spd	5	7	8	9	8	9	10	12	14	14	16	15	18	18	17	13	12	13	13	8	5	5	6	7	10.1	17.6
Dir	242	213	214	208	225	212	205	211	217	221	229	225	238	249	246	256	205	181	185	183	203	249	246	251	222.2	238.2
22 Spd	6	5	7	8	8	5	6	7	13	15	17	14	11	15	12	13	18	22	14	12	8	10	1	8	9.1	21.9
Dir	238	203	243	210	226	237	207	247	276	284	285	306	294	270	286	295	262	271	279	310	328	350	230	247	275.0	270.7

Peace Airshed Zone Association
Summary of Hourly Averages

Smoky Heights
July 1, 2009 to August 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	9	6	9	8	5	7	8	7	9	12	16	16	19	19	13	9	8	5	2	6	7	7	7.0	19.0
Dir	268	260	197	213	192	192	182	146	159	143	101	250	252	254	252	259	261	269	255	247	306	252	249	247	237.0	259.4
24 Spd	7	7	7	5	12	8	10	14	17	21	22	20	17	14	17	18	16	13	12	10	4	5	10	11	10.9	21.6
Dir	224	225	219	236	251	241	242	214	228	238	249	259	259	265	270	295	303	315	306	300	309	272	266	277	261.3	248.9
25 Spd	12	8	11	12	8	9	11	11	14	15	14	15	14	13	12	10	11	12	13	8	6	5	5	8	8.8	15.5
Dir	265	248	259	255	215	255	255	261	283	285	295	277	270	306	302	309	328	317	316	331	9	6	17	360	289.3	284.8
26 Spd	7	8	8	7	6	7	10	8	8	8	9	8	8	7	5	5	3	7	7	6	7	1	5	6	4.5	9.9
Dir	12	17	18	11	4	10	4	16	35	55	50	76	85	84	78	60	20	111	122	106	86	160	270	241	46.3	4.4
27 Spd	5	6	8	9	5	6	8	9	8	9	7	8	8	9	10	2	4	8	7	3	2	6	7	12	2.9	11.9
Dir	238	249	249	247	220	221	201	198	184	191	190	168	182	174	239	193	58	136	54	32	326	359	32	45	198.1	45.0
28 Spd	11	6	5	6	3	5	7	4	4	7	6	2	3	3	7	8	9	12	12	9	7	7	6	6	5.6	12.3
Dir	48	37	12	338	1	9	351	22	23	52	70	118	75	24	10	50	27	74	63	65	74	57	65	43	43.9	62.9
29 Spd	8	8	6	7	6	7	7	8	4	4	5	5	6	6	3	6	5	7	9	8	6	6	8	6	1.5	8.5
Dir	51	52	26	25	9	17	16	31	41	82	72	123	117	131	133	160	142	192	186	190	201	273	282	280	81.1	186.2
30 Spd	6	7	7	7	7	7	8	5	5	11	23	9	7	7	7	6	7	6	6	5	7	3	4	4	3.4	23.3
Dir	253	241	235	195	186	193	189	204	51	277	285	339	0	20	102	173	241	260	222	196	239	178	254	41	243.2	285.4
31 Spd	1	3	4	5	5	5	8	8	9	9	11	14	12	12	12	11	14	14	13	10	7	4	6	6	7.0	14.0
Dir	327	17	288	253	250	237	211	198	180	179	200	210	208	199	211	216	172	158	154	155	151	211	226	227	196.0	172.1
Spd	3.2	3.1	3.1	3.1	2.9	2.5	2.6	2.9	3.2	3.6	4.5	5.0	5.0	5.8	6.5	4.8	4.6	2.8	2.1	3.5	2.4	3.0	3.0	3.8	Diurnal Average	
Dir	297.1	291.1	289.7	285.4	271.2	270.0	258.1	263.7	267.7	257.8	268.7	267.5	267.2	271.4	274.3	273.5	280.6	274.9	275.4	277.2	295.7	315.5	296.5	300.9		
Spd	16.9	20.6	17.1	20.0	23.0	21.5	20.2	22.8	23.0	28.5	32.8	34.3	31.0	28.0	27.9	30.1	27.6	26.2	26.4	34.4	17.7	19.6	19.1	15.9	Diurnal Maximum	
Dir	35.7	11.0	240.0	247.6	252.3	256.5	259.4	266.4	263.3	240.1	243.0	251.7	262.5	249.7	252.2	246.2	253.3	249.3	253.6	276.8	31.3	32.5	32.7	313.8		

Maximum Speed Value: 34 km/h on Jul 18 20:00
Maximum Daily Speed Average: 19.0 km/h on Jul 19
Maximum Diurnal Speed Average: 6.5 km/h at hour 15

Minimum Speed Value: 1 km/h on Jul 9 16:00
Minimum Daily Speed Average: 0.7 km/h on Jul 11
Minimum Diurnal Speed Average: 2.1 km/h at hour 19

Monthly Average Velocity: 3.52 km/h 277.66 deg

Speed Percentiles: $P_1 = 1.3$ $P_{10} = 3.8$ $Q_1 = 5.8$ Median = 8.2 $Q_3 = 12.6$ $P_{90} = 16.5$ $P_{99} = 27.6$

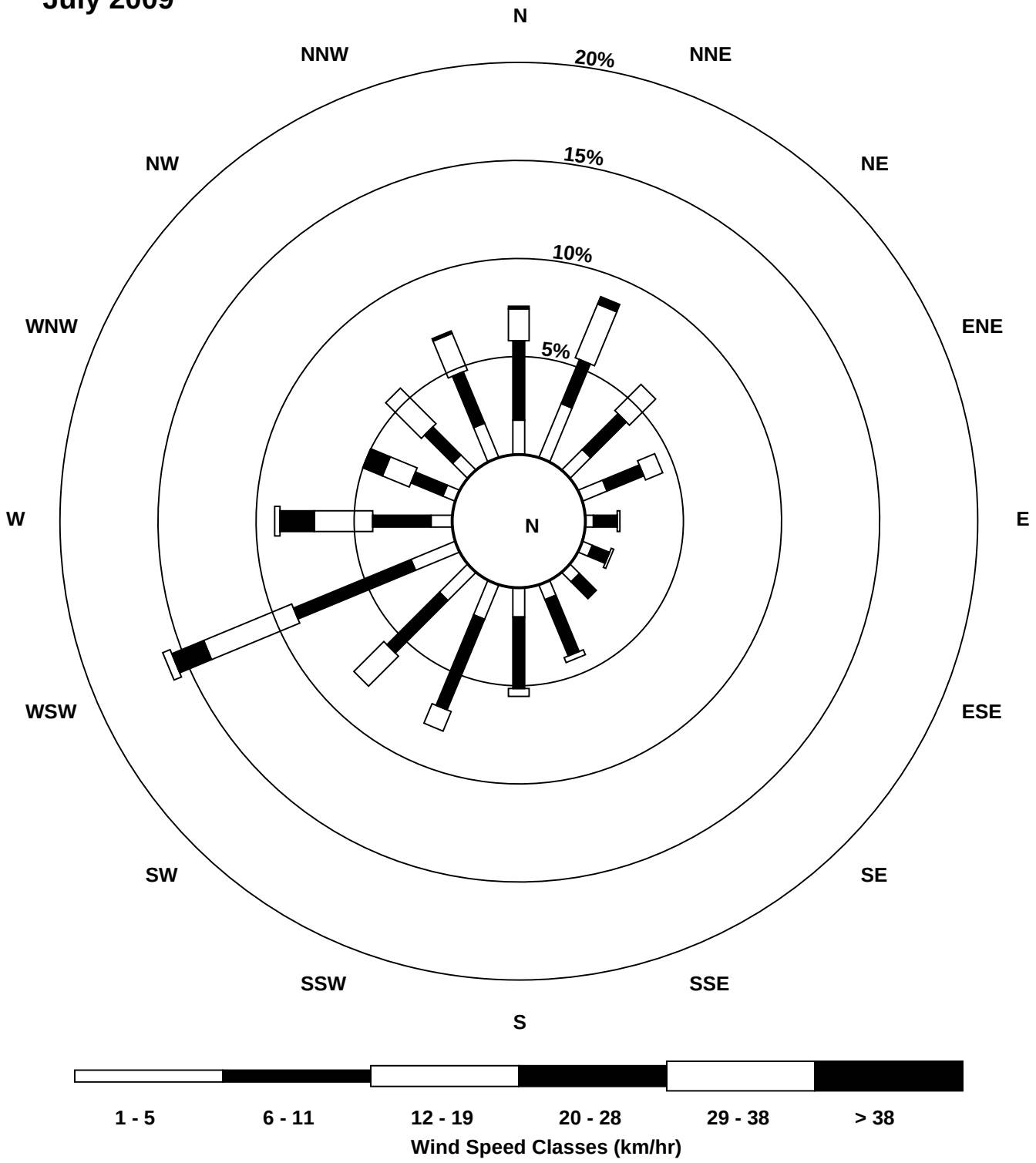
All monthly, daily, and diurnal averages have been calculated using vector methods

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

Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	31	56	30	2	0	0	119
NorthEast	21	39	35	4	0	0	99
East	7	20	2	0	0	0	29
SouthEast	11	21	2	0	0	0	34
South	14	66	9	0	0	0	89
SouthWest	24	82	36	1	3	0	146
West	12	49	51	32	4	0	148
NorthWest	18	28	33	1	0	0	80
Total	138	361	198	40	7	0	744

Wind Rose for WS at Smoky Heights
July 2009



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

Smoky Heights - Wind Speed (WS) - km/h
July 1, 2009 to August 1, 2009

Maximum Speed: 35 km/h on Jul 16 12:00

Maximum Daily Speed Average: 20.0 km/h on Jul 19

Minimum Speed: 2 km/h on Jul 10 04:00

Minimum Daily Speed Average: 5.7 km/h on Jul 11

Maximum Diurnal Speed Average: 13.2 km/h at hour 15

Minimum Diurnal Speed Average: 7.6 km/h at hour 23

Monthly Average Speed: 10.31 km/h

Percentiles: $P_1 = 2.7$ $P_{10} = 4.7$ $Q_1 = 6.6$ Median = 8.9 $Q_3 = 13.3$ $P_{90} = 16.9$ $P_{99} = 28.1$

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	8	8	12	14	16	14	15	23	22	23	23	25	27	26	26	14	16	16	17	14	9	8	7	8	16.3	27.2
2-Jul	9	14	10	8	8	7	8	9	8	9	10	10	11	8	6	8	14	18	8	5	7	7	6	3	8.8	17.5
3-Jul	5	6	4	2	3	3	3	5	7	6	8	8	9	10	11	14	11	10	6	6	6	4	5	4	6.5	14.4
4-Jul	5	4	4	5	4	5	3	8	11	11	9	7	8	9	10	10	10	7	9	9	7	5	5	3	6.9	10.8
5-Jul	4	2	2	4	4	3	2	4	6	8	10	9	11	11	11	11	13	13	14	14	12	11	10	7	8.1	14.3
6-Jul	7	11	12	11	13	12	15	16	15	15	14	15	16	16	19	22	22	17	17	16	18	20	19	16	15.5	21.7
7-Jul	17	15	14	17	15	14	16	17	15	17	14	13	18	14	14	16	16	14	8	10	8	5	8	9	13.5	17.6
8-Jul	7	7	12	13	13	12	10	12	12	12	13	14	14	13	17	8	11	7	5	3	4	4	5	15	10.0	16.7
9-Jul	13	21	14	17	17	16	14	14	16	12	12	9	8	8	7	6	8	11	16	15	11	9	6	4	11.8	20.8
10-Jul	5	3	2	2	4	4	6	7	8	7	10	10	11	11	14	19	16	8	13	4	6	8	6	4	7.7	19.0
11-Jul	5	4	4	6	5	4	3	4	5	5	5	5	6	7	9	8	8	7	8	8	6	4	5	4	5.7	9.0
12-Jul	4	6	6	5	5	4	6	5	6	8	7	7	8	8	7	6	8	6	4	6	12	20	10	8	7.1	20.0
13-Jul	10	9	10	12	15	11	10	12	12	14	15	16	16	19	16	15	12	13	8	11	10	6	7	7	12.0	19.4
14-Jul	6	8	8	8	7	4	5	4	5	7	7	6	5	9	10	8	8	9	11	10	8	6	5	5	7.0	10.8
15-Jul	6	6	4	6	7	4	8	11	9	8	11	11	13	13	14	19	17	13	11	10	9	8	9	9	9.9	19.4
16-Jul	10	8	9	10	10	8	9	11	18	29	33	35	31	28	28	30	28	27	27	21	12	12	11	10	19.0	34.7
17-Jul	12	7	5	8	7	4	5	7	7	5	7	7	10	10	8	9	7	6	4	12	9	7	8	17	7.9	16.6
18-Jul	7	16	8	9	8	9	9	11	14	15	14	13	10	8	6	9	10	11	11	35	16	12	10	9	11.6	34.7
19-Jul	11	15	17	20	23	22	20	23	23	24	23	22	25	28	26	23	17	21	19	17	18	15	14	15	20.0	27.8
20-Jul	13	14	16	8	3	4	10	12	14	14	14	10	12	14	15	17	17	16	13	8	4	4	8	7	11.1	17.4
21-Jul	5	7	9	9	8	9	10	12	14	14	17	16	18	18	18	14	12	13	13	8	5	5	6	7	11.1	18.3
22-Jul	6	6	8	8	8	5	7	7	13	16	18	14	12	16	13	13	19	22	15	13	9	10	5	8	11.2	22.3
23-Jul	10	9	9	7	9	8	6	7	8	7	10	15	16	17	19	19	13	10	8	5	3	6	7	7	9.9	19.5
24-Jul	8	7	7	6	12	8	11	14	18	21	22	21	18	16	17	18	16	14	13	10	5	5	10	11	12.8	22.0
25-Jul	12	9	11	12	9	9	11	11	15	16	14	16	16	14	13	12	12	13	13	9	6	5	5	9	11.3	16.2
26-Jul	7	8	8	7	6	7	10	9	8	9	9	10	10	9	8	7	7	8	7	6	7	3	5	7	7.6	10.1
27-Jul	6	7	8	9	5	6	8	9	8	9	7	9	11	11	11	7	6	9	8	3	4	6	8	12	7.8	12.0
28-Jul	11	6	5	6	5	5	7	4	4	7	7	6	5	5	10	9	10	13	12	9	7	7	6	6	7.2	12.7
29-Jul	9	8	6	7	6	7	7	8	4	5	6	6	8	8	6	7	7	8	9	9	6	6	8	6	7.0	8.9
30-Jul	6	7	7	8	7	8	8	7	9	13	24	10	7	8	8	7	7	7	7	7	7	3	5	5	8.0	23.6
31-Jul	3	4	5	5	5	5	8	8	9	10	12	14	13	14	14	12	14	14	13	10	7	4	6	6	9.0	14.4
	8.0	8.4	8.3	8.6	8.6	7.9	8.7	10.0	11.0	12.1	13.0	12.6	13.0	13.0	13.2	12.9	12.7	12.2	11.2	10.4	8.2	7.7	7.6	8.0	Diurnal Average	
	17.0	20.8	17.2	20.0	23.1	21.6	20.3	22.9	23.0	28.7	33.1	34.7	31.5	28.4	28.3	30.5	28.0	26.5	26.6	34.7	17.8	20.0	19.1	16.6	Diurnal Maximum	

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
July 1, 2009 to August 1, 2009

Maximum Value: 91.1 deg on Jul 28 12:00

Minimum Value: 2.0 deg on Jul 20 03:00

Percentiles: P_1 = 3.6 P_{10} = 6.8 Q_1 = 9.6 Median = 16.6 Q_3 = 29.7 P_{90} = 51.0 P_{99} = 82.5

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

Day	Hourly Period Ending At (MST)																								Daily 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-Jul	22	8	6	6	3	5	6	5	8	9	9	11	10	12	10	19	10	19	10	9	12	17	12	15	22.4
2-Jul	7	6	37	11	16	12	10	7	15	19	30	29	26	69	79	77	41	24	34	47	24	7	50	51	79.3
3-Jul	60	19	26	68	78	27	64	56	21	58	38	40	39	26	42	15	26	31	40	26	10	13	17	36	78.4
4-Jul	70	77	44	21	25	31	76	17	16	18	25	47	49	38	26	53	58	42	32	22	11	7	64	77	77.0
5-Jul	17	29	23	15	26	45	78	29	17	18	23	49	31	45	39	39	21	22	9	7	6	5	9	18	77.7
6-Jul	14	10	9	15	21	14	14	10	10	9	7	7	8	8	5	5	6	6	5	5	6	6	5	5	20.7
7-Jul	5	5	6	4	5	4	4	4	5	9	9	13	11	17	12	12	13	70	31	25	15	55	17	12	69.7
8-Jul	17	9	8	7	7	7	12	7	13	13	12	19	18	18	33	31	37	57	30	42	33	57	49	21	56.7
9-Jul	13	8	7	11	9	8	10	12	12	26	29	32	53	53	75	91	58	29	17	7	5	8	22	38	91.0
10-Jul	28	38	50	43	39	30	37	17	17	19	17	17	30	27	23	15	59	32	9	32	14	8	25	70	70.3
11-Jul	16	28	53	13	26	13	50	26	24	40	59	68	48	52	32	37	26	21	21	20	6	15	11	20	68.4
12-Jul	12	11	12	22	22	19	7	35	30	26	35	30	42	39	22	56	40	64	61	40	48	12	83	51	82.6
13-Jul	8	13	8	9	12	15	21	13	12	10	10	8	11	9	12	9	11	23	18	8	15	8	23	13	23.1
14-Jul	19	13	11	13	23	73	46	53	38	32	34	41	68	19	33	37	38	12	9	9	4	12	9	8	72.9
15-Jul	11	8	15	8	11	11	16	6	15	16	15	20	24	29	25	13	14	20	13	6	22	21	10	6	29.1
16-Jul	6	13	16	17	16	11	6	17	7	8	7	9	10	9	9	9	10	10	7	4	4	3	6	5	17.2
17-Jul	7	73	56	17	25	17	14	14	22	57	38	35	37	36	57	41	37	55	70	23	59	10	67	26	73.1
18-Jul	52	24	88	54	11	15	20	14	9	11	15	20	20	28	47	19	11	48	61	6	49	83	37	14	88.2
19-Jul	8	10	6	4	5	4	7	5	4	9	7	7	8	8	10	7	13	11	7	8	8	3	7	3	12.8
20-Jul	3	5	2	55	54	83	10	8	9	11	14	32	29	16	15	15	15	17	14	8	11	8	7	29	83.4
21-Jul	15	10	9	11	5	12	3	7	7	11	14	14	13	17	8	21	10	12	7	10	10	21	16	19	20.7
22-Jul	20	23	25	21	16	28	12	12	18	12	10	11	21	15	19	16	19	11	19	7	14	9	85	14	85.2
23-Jul	8	21	10	14	19	9	37	21	15	24	25	48	20	17	15	11	22	23	21	8	48	22	10	10	48.0
24-Jul	26	18	18	28	7	12	15	8	15	7	12	13	20	25	19	18	16	22	17	12	18	11	10	4	28.1
25-Jul	7	15	10	5	29	7	4	7	17	13	18	18	28	28	25	38	25	19	10	9	19	20	14	12	38.0
26-Jul	6	7	9	7	9	12	9	14	12	20	22	34	45	52	78	63	78	28	18	9	7	66	15	17	77.7
27-Jul	24	20	6	5	12	6	9	8	11	16	32	29	48	48	30	83	61	28	21	19	70	20	13	7	83.3
28-Jul	8	22	20	20	55	13	9	20	26	19	43	91	66	62	50	38	31	20	11	17	12	8	14	44	91.1
29-Jul	13	9	18	7	13	5	12	10	31	36	37	48	54	53	76	48	48	41	16	8	17	8	4	14	75.6
30-Jul	21	15	11	17	7	9	8	64	68	50	10	29	21	24	33	38	21	32	34	43	9	54	39	54	68.1
31-Jul	74	30	23	7	15	12	11	13	10	12	26	13	20	29	31	31	15	17	9	7	22	18	8	18	74.1
	74.1	77.0	88.2	68.3	78.4	83.4	77.7	63.6	68.1	57.8	58.7	91.1	67.7	69.5	79.3	91.0	77.6	69.7	69.8	47.3	69.9	82.9	85.2	76.8	

PASZA
Beaverlodge Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge - Sulphur Dioxide (SO_2) - ppb
July 1, 2009 to August 1, 2009

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.9 ppb on Jul 31 17:00 Maximum Daily Average: 0.4 ppb on Jul 12

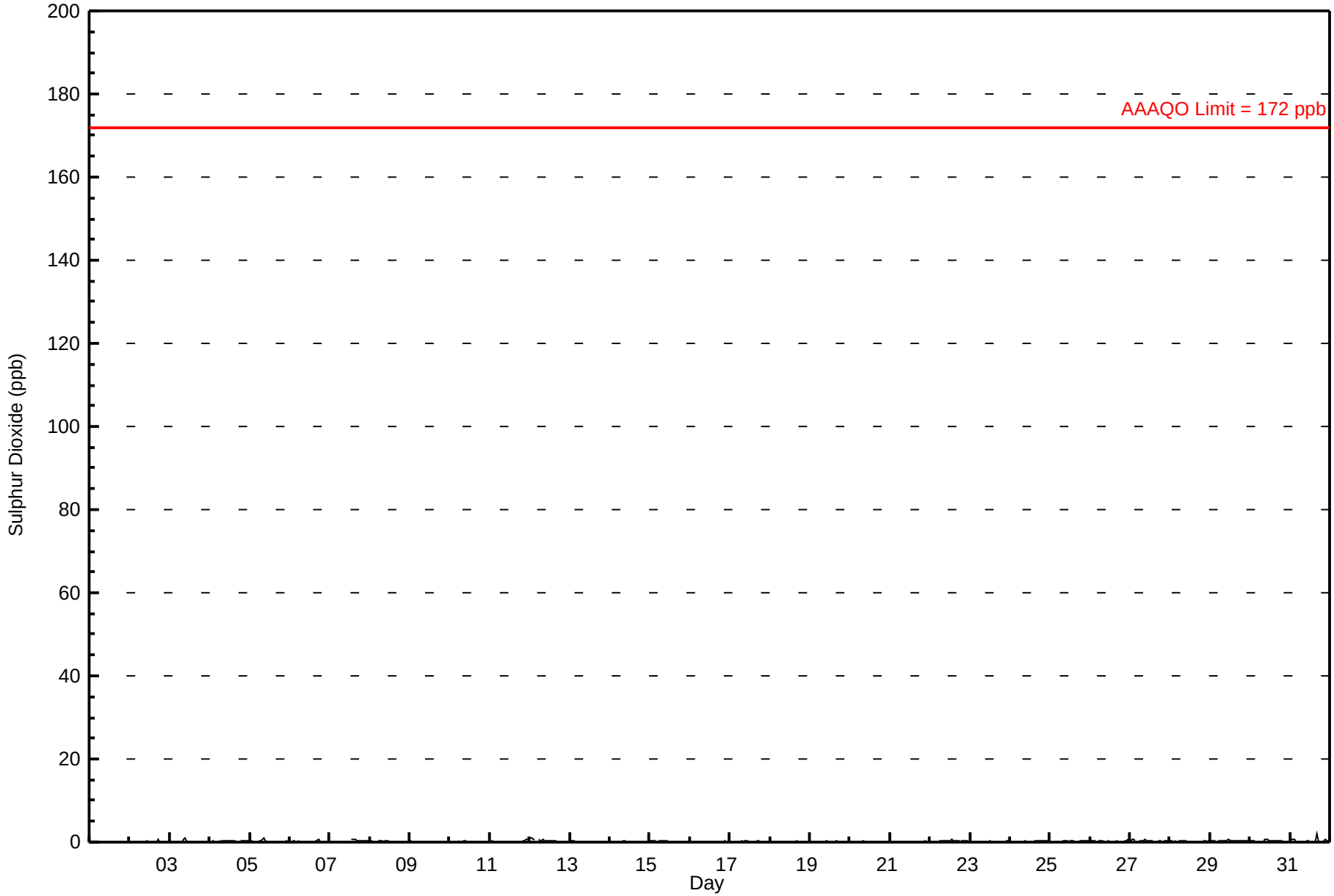
Minimum Value: 0 ppb on Jul 9 04:00 Minimum Daily Average: 0.0 ppb on Jul 9
Maximum Diurnal Average: 0.2 ppb at hour 9 Minimum Diurnal Average: 0.1 ppb at hour 5
Monthly Average: 0.17 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.1 Q_3 = 0.2 P_{90} = 0.4 P_{99} = 0.8

Hours in Service:	744
Hours of Data:	701
Hours of Missing Data:	43
Hours of Calibration:	39
Percent Operational Time:	99.5

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

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

Hourly Averages for SO_2 at Beaverlodge
July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Beaverlodge - Sulphur Dioxide (SO_2) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 8.6 ppb on Jul 17 08:00

Maximum Daily Average: 0.9 ppb on Jul 31

Minimum Value: 0 ppb on Jul 2 23:00

Maximum Diurnal Average: 0.6 ppb at hour 9

Monthly Average: 0.33 ppb

Minimum Daily Average: 0.1 ppb on Jul 9

Minimum Diurnal Average: 0.1 ppb at hour 5

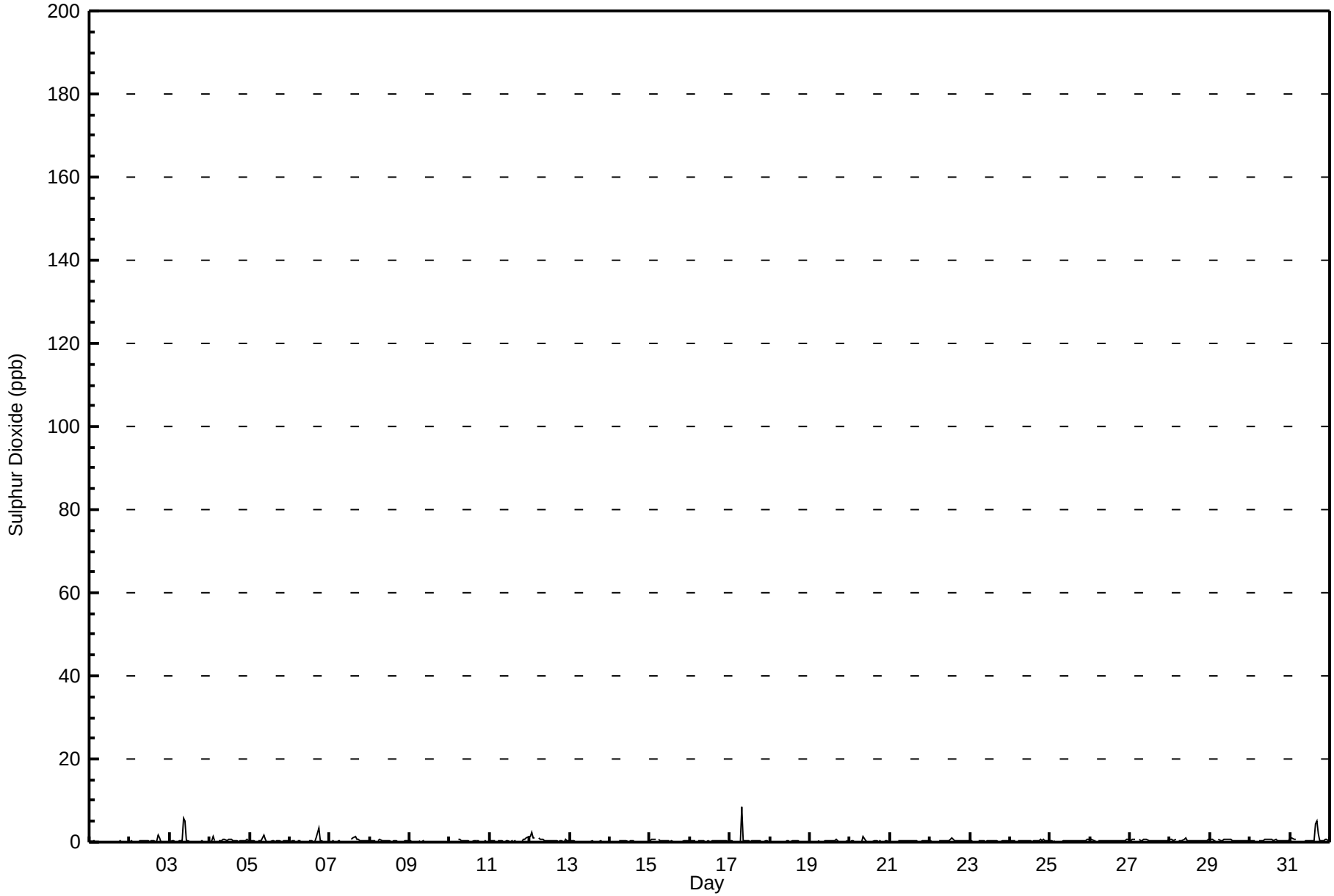
Percentiles: $P_1 = 0.1$ $P_{10} = 0.1$ $Q_1 = 0.2$ Median = 0.2 $Q_3 = 0.3$ $P_{90} = 0.6$ $P_{99} = 1.7$

Hours in Service:	744
Hours of Data:	701
Hours of Missing Data:	43
Hours of Calibration:	39
Percent Operational Time:	99.5

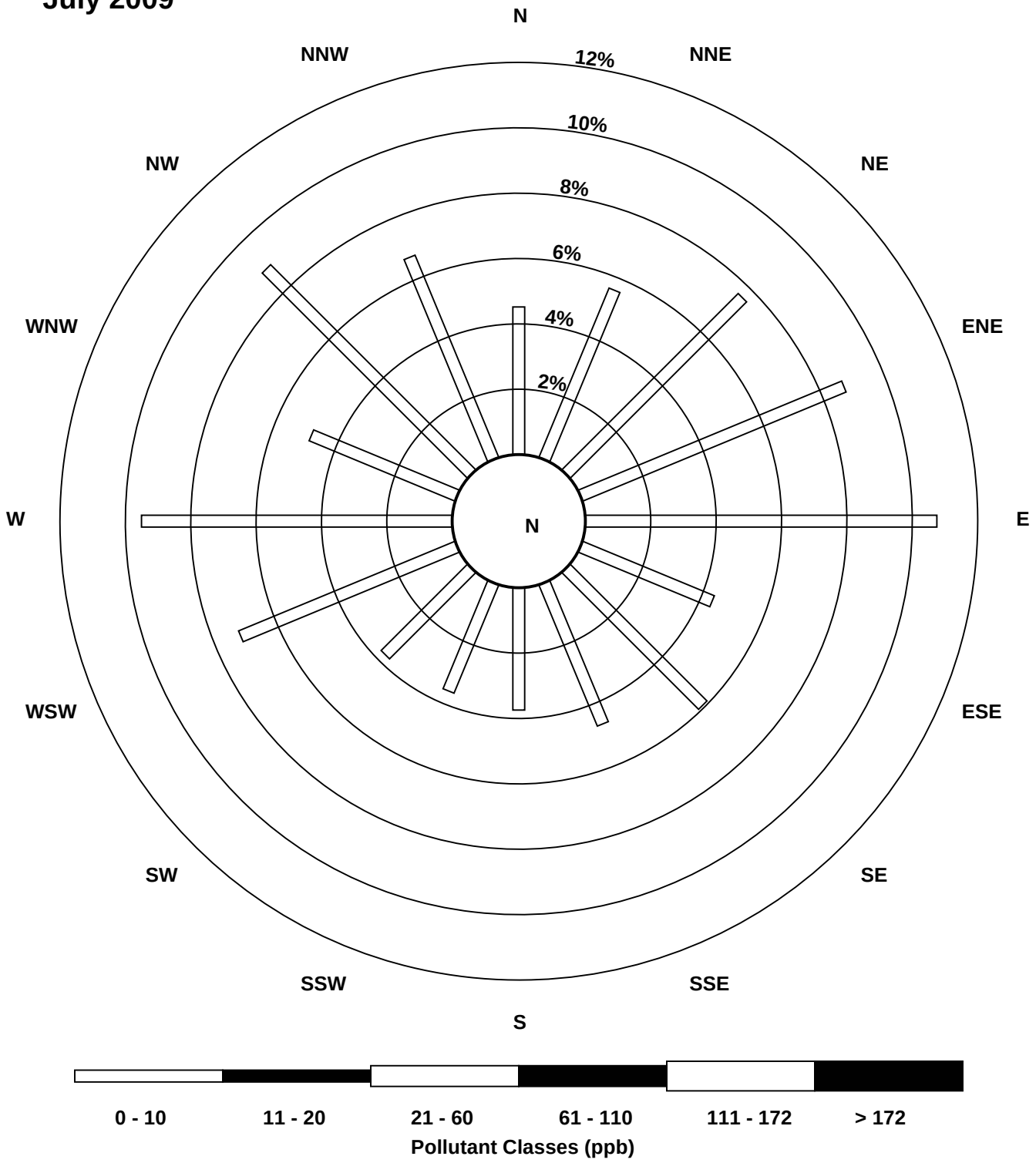
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
2-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0.3	1.7
3-Jul	0	0	0	0	A	0	0	0	6	5	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.6	5.6
4-Jul	0	0	1	0	A	0	0	0	1	1	0	1	1	1	0	0	0	0	0	0	0	0	1	0	0.4	1.4
5-Jul	0	0	0	0	A	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.6
6-Jul	0	0	0	0	A	0	0	P	P	P	P	0	0	0	0	0	1	3	0	0	0	0	0	0	0.4	3.4
7-Jul	0	0	0	0	0	0	0	A	A	0	C	C	C	1	1	1	1	1	0	0	0	0	0	0	0.4	1.3
8-Jul	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
9-Jul	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
10-Jul	0	0	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
11-Jul	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	1.4
12-Jul	1	2	1	1	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.6	2.3
13-Jul	0	0	0	0	A	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
14-Jul	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
15-Jul	0	1	1	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
16-Jul	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
17-Jul	0	0	0	0	A	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	8.6
18-Jul	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
19-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.2	0.5
20-Jul	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.4
21-Jul	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
22-Jul	0	0	0	0	A	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0.4	1.0
23-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
24-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0.3	0.6
25-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.3	0.7
26-Jul	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.3	0.7
27-Jul	0	1	1	1	A	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	0.8
28-Jul	1	1	0	1	A	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	0.9
29-Jul	1	1	0	0	A	1	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.5	0.8
30-Jul	0	0	0	0	A	0	0	0	0	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0.4	0.7
31-Jul	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	5	5	2	0	0	0	1	1	0	0.9	5.0
	0.3	0.4	0.3	0.3	0.1	0.3	0.3	0.5	0.6	0.5	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.2	0.2	0.2	0.3	0.3	0.3	Diurnal Average	
	1.3	2.3	1.4	1.1	0.1	1.1	0.8	8.6	5.6	4.9	0.7	0.8	0.6	1.0	1.0	4.6	5.0	3.4	1.0	0.4	0.6	0.8	0.9	1.4	Diurnal Maximum	

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

Hourly Maximums for SO_2 at Beaverlodge
July 2009



Pollutant Rose for SO_2 at Beaverlodge
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge - Nitrogen Dioxide (NO_2) - ppb
July 1, 2009 to August 1, 2009

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 11.1 ppb on Jul 30 06:00
Maximum Daily Average: 3.5 ppb on Jul 3

Minimum Value: 0 ppb on Jul 20 16:00
Maximum Diurnal Average: 5.6 ppb at hour 6
Monthly Average: 1.94 ppb

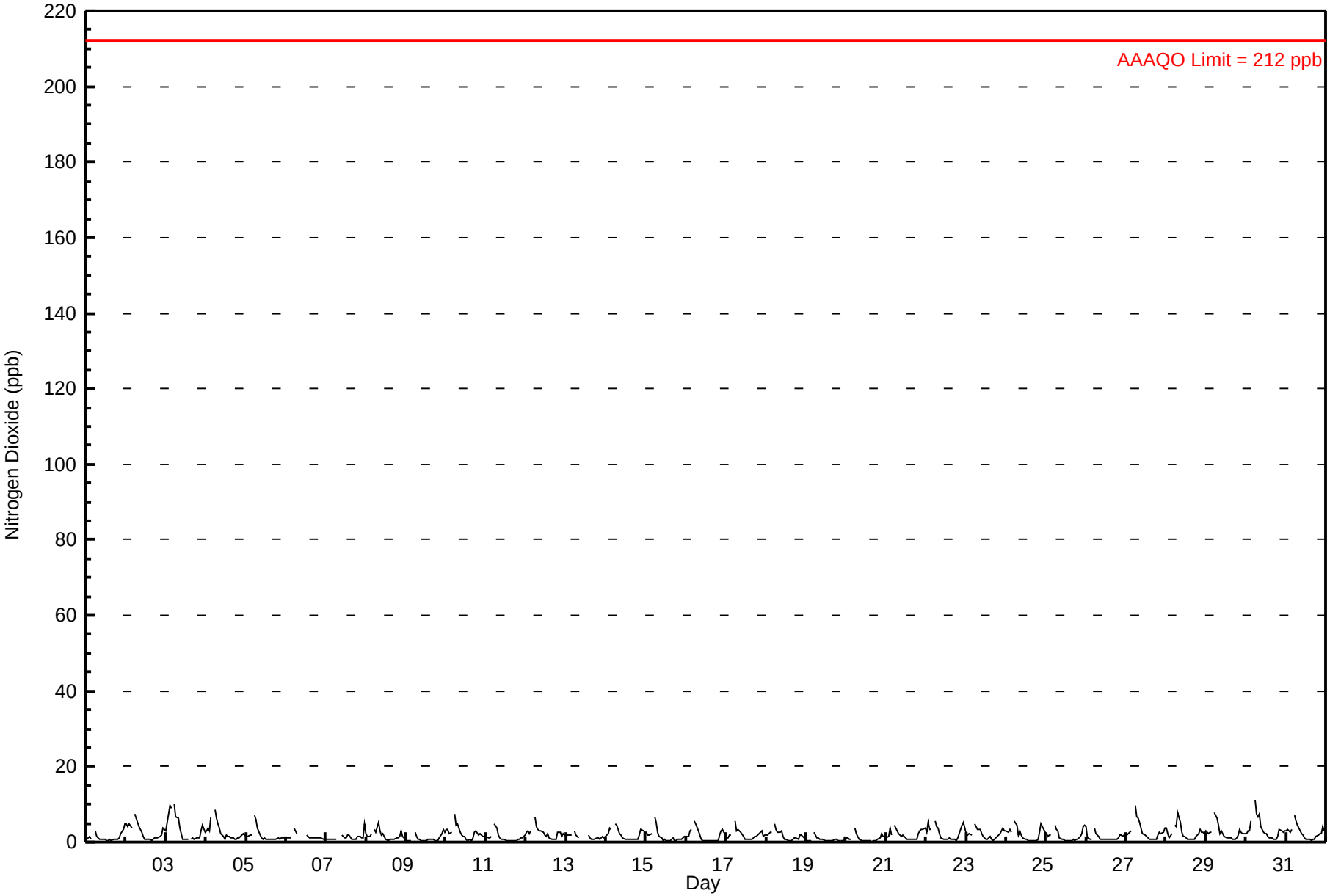
Minimum Daily Average: 0.7 ppb on Jul 19
Minimum Diurnal Average: 0.6 ppb at hour 5
Percentiles: $P_1 = 0.3$ $P_{10} = 0.5$ $Q_1 = 0.7$ Median = 1.4 $Q_3 = 2.7$ $P_{90} = 4.0$ $P_{99} = 7.6$

Hours in Service:	744
Hours of Data:	701
Hours of Missing Data:	43
Hours of Calibration:	38
Percent Operational Time:	99.3

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-Jul	1	1	2	1	A	3	2	1	1	1	1	1	1	0	1	0	1	1	1	1	1	2	3	5	1.3	4.8
2-Jul	5	4	5	4	A	8	6	5	4	3	2	1	1	1	1	0	1	1	1	1	2	2	4	3	2.7	7.6
3-Jul	3	7	10	9	A	10	7	6	4	2	1	1	1	1	A	1	1	1	1	1	1	3	4	2	3.5	10.3
4-Jul	3	4	3	7	A	9	6	5	4	2	1	1	2	2	1	1	1	1	1	1	1	2	2	2	2.6	8.7
5-Jul	2	2	2	2	A	7	6	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.7	7.2
6-Jul	1	1	1	1	A	4	2	P	P	P	P	P	2	1	1	1	1	1	1	1	1	1	1	1	1.3	3.7
7-Jul	1	1	1	1	1	1	1	A	A	2	1	1	1	2	2	1	1	1	1	1	2	1	1	5	1.2	4.8
8-Jul	2	2	2	2	A	3	3	5	3	2	2	1	1	0	1	1	1	1	1	1	1	3	1	1	1.7	5.0
9-Jul	1	0	0	0	A	3	1	1	1	1	0	0	1	1	1	1	1	0	0	0	1	2	3	3	0.9	3.2
10-Jul	3	3	2	3	A	7	4	5	3	2	1	1	1	0	1	1	1	3	3	2	2	2	1	1	2.3	7.4
11-Jul	2	1	1	2	A	5	4	2	1	1	1	1	1	0	0	0	0	0	1	1	1	1	1	2	1.2	4.7
12-Jul	3	3	2	3	A	7	4	3	3	3	2	2	1	2	1	1	1	1	1	3	3	2	2	2	2.3	6.8
13-Jul	2	2	2	2	A	3	2	1	C	C	C	C	A	2	1	1	1	1	1	1	1	1	1	1	1.4	2.8
14-Jul	2	2	4	3	A	5	4	3	2	2	1	1	1	1	1	1	1	1	1	1	2	3	3	2	2.0	4.8
15-Jul	2	2	2	2	A	7	5	3	1	1	1	1	1	0	0	1	1	0	0	1	1	1	1	1	1.6	6.7
16-Jul	1	2	3	3	A	5	5	3	2	1	1	0	0	0	0	0	0	0	0	0	2	3	3	2	1.7	5.4
17-Jul	1	1	2	2	A	6	3	3	3	3	1	1	1	1	1	1	1	2	1	2	2	3	1	2	1.9	5.8
18-Jul	2	2	3	3	A	5	3	3	3	3	1	1	1	0	0	0	1	1	1	1	2	2	2	1	1.7	5.0
19-Jul	0	0	0	0	A	3	1	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	1	1	0.7	2.6
20-Jul	1	1	1	1	A	4	2	1	1	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	1.0	3.6
21-Jul	1	2	4	2	A	4	4	2	2	2	2	1	1	1	1	1	1	1	1	2	3	3	3	4	2.0	4.5
22-Jul	3	5	3	4	A	6	4	4	2	1	1	1	1	1	1	1	1	1	1	1	2	5	5	4	2.4	5.7
23-Jul	2	2	2	2	A	5	4	3	3	2	2	1	1	1	1	1	0	1	1	2	2	3	4	3	2.1	5.0
24-Jul	3	3	3	3	A	6	5	2	3	2	1	1	1	1	1	1	1	1	0	1	3	5	4	3	2.1	5.7
25-Jul	2	1	2	2	A	4	3	3	1	1	1	0	1	0	1	0	1	1	1	1	1	2	4	5	1.7	4.5
26-Jul	4	1	1	1	A	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1.4	4.2
27-Jul	2	2	3	3	A	10	7	6	5	4	2	2	1	1	1	1	1	1	1	2	3	2	3	4	2.8	9.6
28-Jul	4	2	1	2	A	4	4	8	5	2	1	1	1	1	1	1	1	1	1	2	3	2	3	2	2.4	7.8
29-Jul	3	2	3	3	A	8	6	5	2	3	2	1	1	1	1	1	1	1	1	2	3	2	2	2	2.5	8.0
30-Jul	2	3	3	6	A	11	8	7	8	4	3	2	2	1	1	1	1	1	1	1	3	3	3	3	3.4	11.1
31-Jul	3	3	3	3	A	7	6	5	3	2	2	1	1	1	1	1	1	1	1	2	2	2	4	3	2.5	7.1
	2.1	2.2	2.4	2.5	0.6	5.6	4.0	3.5	2.6	1.9	1.3	1.0	0.8	0.8	0.8	0.7	0.7	0.8	0.9	1.2	1.8	2.2	2.4	2.4	Diurnal Average	
	4.9	7.3	9.6	9.0	0.6	11.1	7.5	7.8	7.5	4.0	2.5	2.3	2.2	2.1	2.0	1.2	1.2	2.5	2.9	2.6	3.4	4.7	5.1	4.8	Diurnal Maximum	

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

Hourly Averages for NO_2 at Beaverlodge
July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Beaverlodge - Nitrogen Dioxide (NO_2) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 21.6 ppb on Jul 26 00:00

Maximum Daily Average: 6.3 ppb on Jul 3

Minimum Value: 0 ppb on Jul 19 03:00

Maximum Diurnal Average: 8.0 ppb at hour 6

Monthly Average: 3.30 ppb

Minimum Daily Average: 1.2 ppb on Jul 19

Minimum Diurnal Average: 0.9 ppb at hour 5

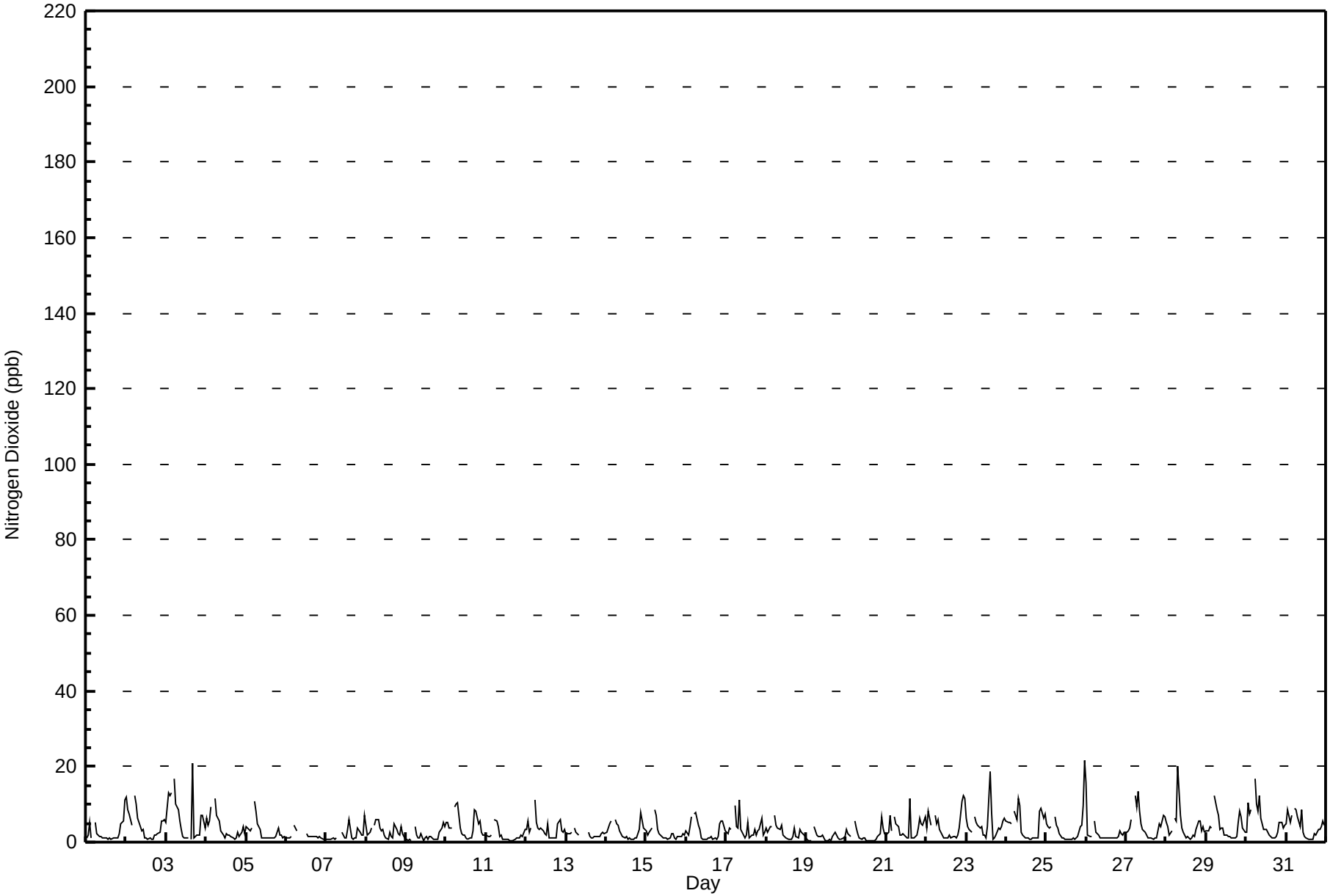
Percentiles: $P_1 = 0.5$ $P_{10} = 0.7$ $Q_1 = 1.2$ Median = 2.2 $Q_3 = 4.3$ $P_{90} = 7.0$ $P_{99} = 15.0$

Hours in Service:	744
Hours of Data:	701
Hours of Missing Data:	43
Hours of Calibration:	38
Percent Operational Time:	99.3

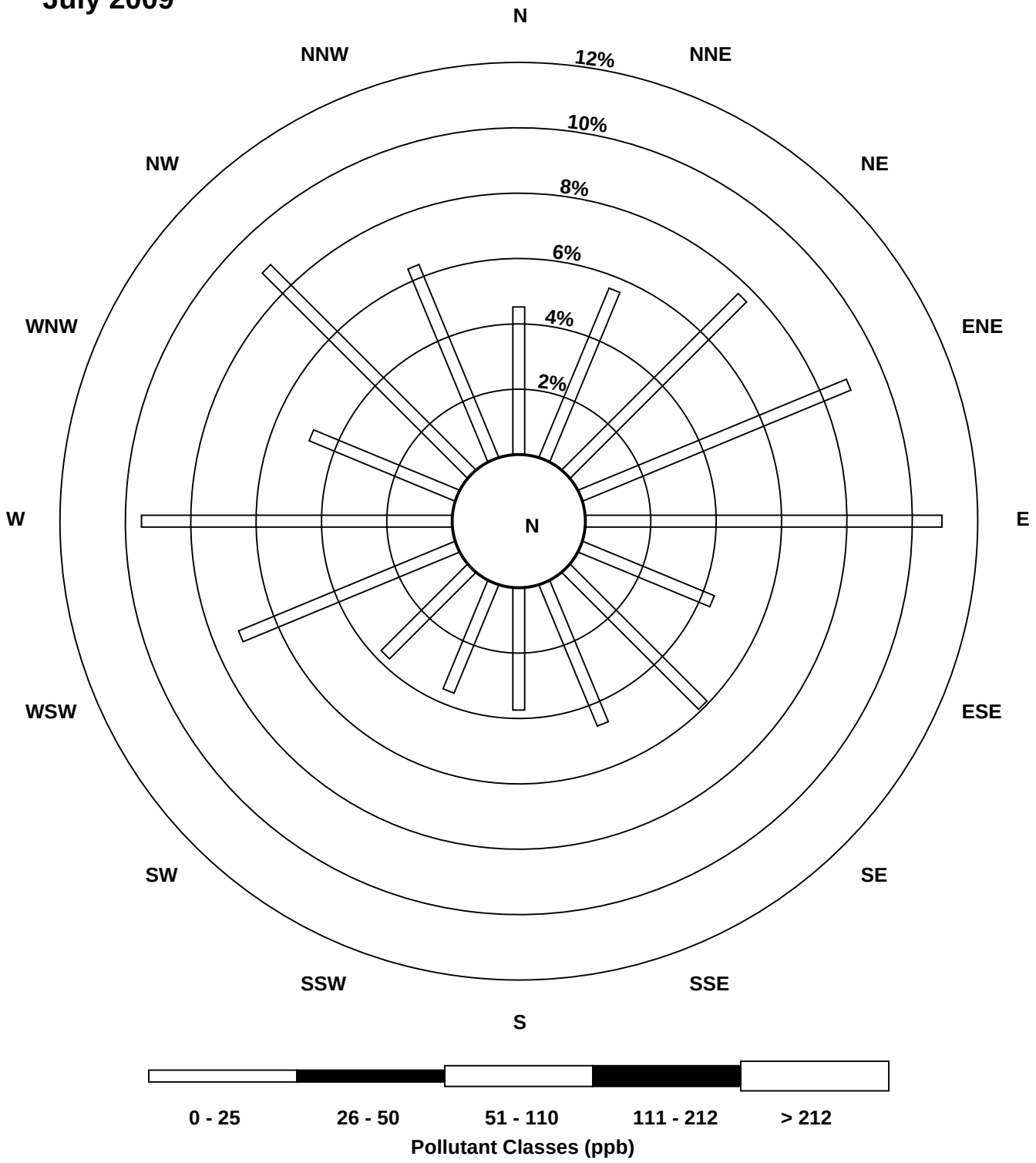
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	1	2	5	1	A	5	2	2	2	1	1	1	1	1	1	1	1	1	1	1	2	5	6	11	2.4	11.3
2-Jul	12	9	8	5	A	12	10	7	5	3	3	1	1	1	1	1	1	2	2	2	3	6	5	6	4.5	12.5
3-Jul	5	13	12	13	A	17	10	9	6	3	1	1	1	1	A	1	21	1	2	2	2	7	7	4	6.3	20.9
4-Jul	6	5	5	9	A	12	7	6	5	3	2	1	2	2	2	1	1	1	1	3	1	3	4	2	3.7	11.7
5-Jul	4	4	3	4	A	11	8	5	3	1	1	1	1	1	1	1	1	1	1	4	2	2	1	1	2.7	10.9
6-Jul	1	1	1	1	A	4	3	P	P	P	P	P	2	1	1	1	1	1	1	1	1	1	1	1	1.6	4.4
7-Jul	1	1	1	1	1	1	1	A	A	2	2	1	1	3	6	1	1	1	1	4	3	2	2	7	1.9	7.0
8-Jul	4	2	3	4	A	4	6	6	4	3	3	2	1	1	3	2	1	5	3	2	2	4	2	1	3.0	6.1
9-Jul	1	0	1	0	A	4	2	1	1	2	0	1	2	1	1	1	1	1	1	1	3	4	5	4	1.6	5.2
10-Jul	5	5	4	4	A	9	10	10	4	2	2	2	1	1	1	1	3	9	8	5	6	3	2	2	4.3	10.4
11-Jul	2	1	2	2	A	6	6	4	2	2	1	1	1	1	0	0	0	1	1	1	1	2	1	3	1.8	5.9
12-Jul	3	5	3	4	A	11	5	4	3	4	3	2	2	5	1	1	1	1	1	5	6	3	3	3	3.4	11.2
13-Jul	2	2	2	3	A	4	2	2	C	C	C	C	A	3	1	1	1	1	2	1	1	2	3	2	2.0	3.8
14-Jul	3	4	5	5	A	6	5	4	3	2	1	1	1	1	1	1	1	1	1	2	3	8	4	3	2.9	7.7
15-Jul	3	2	3	4	A	9	7	3	2	2	1	1	1	1	1	2	2	1	1	1	1	1	2	2	2.3	8.6
16-Jul	3	2	4	7	A	8	8	4	3	1	1	1	1	1	1	2	1	1	1	2	5	5	6	3	3.0	7.8
17-Jul	3	2	4	3	A	10	4	4	11	3	2	1	2	5	1	2	2	3	2	3	3	6	2	3	3.5	11.2
18-Jul	4	3	4	4	A	7	4	4	4	4	2	2	1	1	1	1	1	4	1	1	3	3	2	2	2.7	7.2
19-Jul	1	0	0	0	A	4	2	1	1	2	2	0	0	0	1	0	1	2	2	1	1	1	1	1	1.2	4.1
20-Jul	4	2	2	1	A	6	4	2	1	1	1	1	0	0	0	0	0	0	1	2	2	7	4	2	1.9	6.9
21-Jul	2	2	7	3	A	7	5	4	2	2	2	2	1	1	12	1	1	1	2	4	6	5	4	7	3.6	11.5
22-Jul	4	8	6	4	A	7	5	6	3	3	1	1	1	1	2	1	1	2	1	2	4	11	12	11	4.3	12.4
23-Jul	6	4	4	3	A	7	5	4	4	4	2	2	1	4	19	8	1	1	2	4	3	4	6	6	4.5	18.8
24-Jul	6	5	5	5	A	8	6	11	10	3	2	1	1	1	1	1	1	1	1	1	8	9	6	8	4.4	11.4
25-Jul	5	4	4	4	A	7	4	4	2	1	1	1	1	1	1	1	1	1	1	1	4	4	10	22	3.6	21.6
26-Jul	16	2	1	1	A	6	3	2	1	1	1	1	1	1	1	1	1	1	1	1	3	2	2	3	2.3	15.6
27-Jul	2	3	4	6	A	12	9	14	8	5	3	3	2	1	1	1	1	1	1	3	5	4	7	7	4.5	13.6
28-Jul	5	4	2	3	A	6	6	20	7	4	3	2	1	1	1	1	2	1	3	5	6	3	4	3	4.0	20.0
29-Jul	3	3	4	4	A	12	9	7	3	4	4	2	2	1	1	1	1	1	2	5	8	7	4	3	3.9	12.3
30-Jul	3	10	7	9	A	17	10	8	12	6	3	4	3	3	2	1	1	1	1	3	5	5	4	4	5.4	16.7
31-Jul	5	8	5	7	A	9	9	7	4	9	3	2	1	1	1	1	1	2	2	4	4	4	5	5	4.2	8.9
	4.0	3.9	3.9	4.0	0.9	8.0	5.7	5.7	4.2	2.9	1.9	1.4	1.3	1.5	2.2	1.3	1.8	1.7	1.6	2.5	3.5	4.3	4.1	4.6	Diurnal Average	
	15.6	13.2	12.4	13.0	0.9	16.8	10.1	20.0	12.2	8.7	3.8	3.5	3.3	5.3	18.8	7.9	20.9	8.7	8.3	5.5	8.4	10.7	12.4	21.6	Diurnal Maximum	

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

Hourly Maximums for NO_2 at Beaverlodge
July 2009



Pollutant Rose for NO_2 at Beaverlodge
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge - Nitrogen Oxide (NO) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 10.9 ppb on Jul 2 07:00

Maximum Daily Average: 1.2 ppb on Jul 2

Minimum Value: 0 ppb on Jul 2 23:00

Minimum Daily Average: 0.0 ppb on Jul 26

Maximum Diurnal Average: 2.1 ppb at hour 8

Minimum Diurnal Average: 0.1 ppb at hour 5

Monthly Average: 0.34 ppb

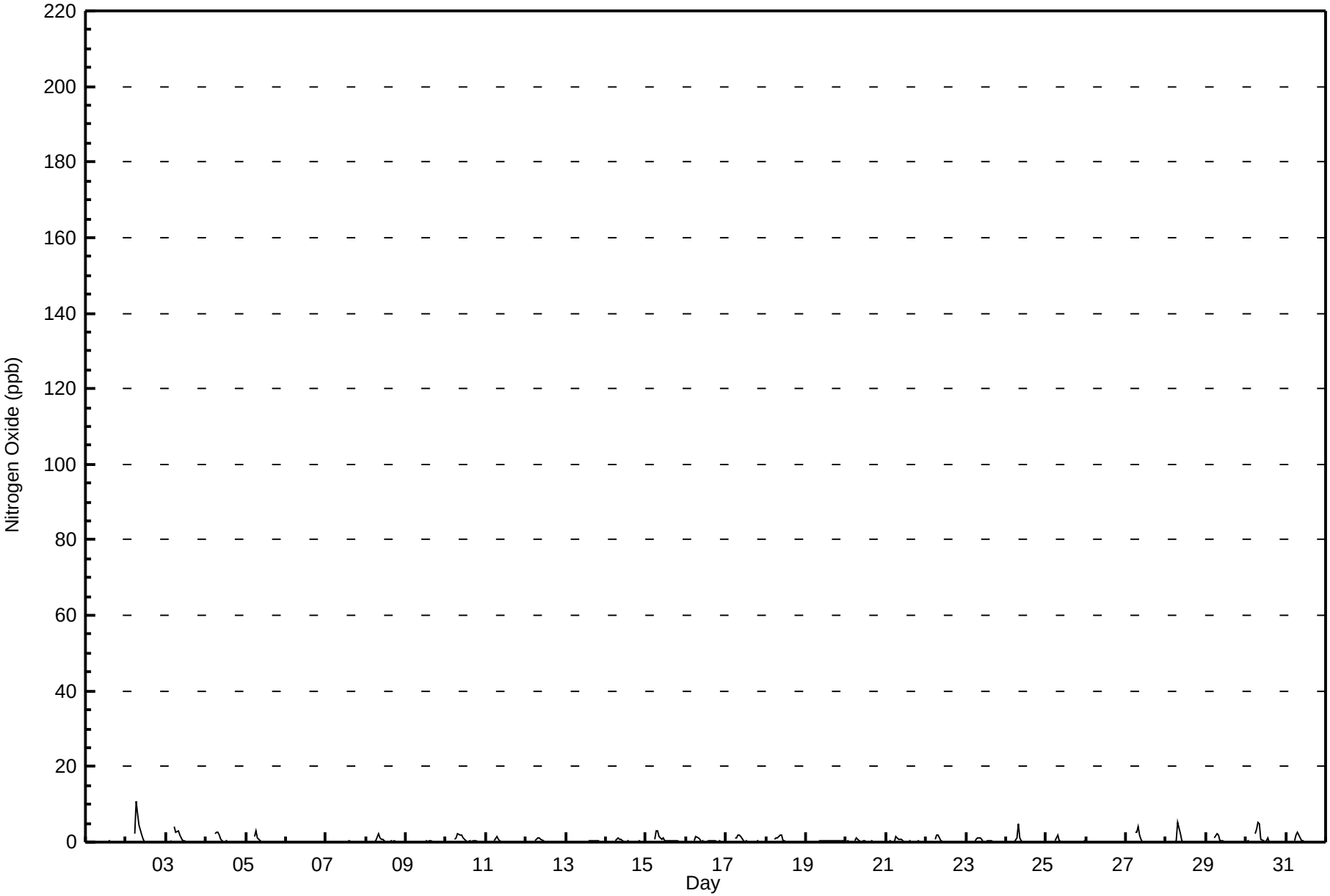
Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.1 $Q_3 = 0.2$ $P_{90} = 1.0$ $P_{99} = 4.1$

Hours in Service:	744
Hours of Data:	701
Hours of Missing Data:	43
Hours of Calibration:	38
Percent Operational Time:	99.3

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	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
2-Jul	0	0	0	0	A	2	11	8	4	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1.2	10.9
3-Jul	0	0	0	0	A	4	3	3	2	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.6	4.1
4-Jul	0	0	0	0	A	2	3	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	2.7
5-Jul	0	0	0	0	A	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	3.0
6-Jul	0	0	0	0	A	0	0	P	P	P	P	P	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
7-Jul	0	0	0	0	0	0	0	A	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
8-Jul	0	0	0	0	A	0	1	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.3
9-Jul	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
10-Jul	0	0	0	0	A	1	1	2	2	2	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0.5	2.3
11-Jul	0	0	0	0	A	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.4
12-Jul	0	0	0	0	A	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.3
13-Jul	0	0	0	0	A	0	0	0	C	C	C	C	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
14-Jul	0	0	0	0	A	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.1
15-Jul	0	0	0	0	A	1	3	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	3.0
16-Jul	0	0	0	0	A	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.4
17-Jul	0	0	0	0	A	1	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.0
18-Jul	0	0	0	0	A	1	1	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.0
19-Jul	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
20-Jul	0	0	0	0	A	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.0
21-Jul	0	0	0	0	A	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.5
22-Jul	0	0	0	0	A	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.9
23-Jul	0	0	0	0	A	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.3
24-Jul	0	0	0	0	A	0	1	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	4.8
25-Jul	0	0	0	0	A	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.8
26-Jul	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	0.4
27-Jul	0	0	0	0	A	3	3	4	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	4.2
28-Jul	0	0	0	0	A	0	0	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	5.1
29-Jul	0	0	0	0	A	1	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.4
30-Jul	0	0	0	0	A	2	3	5	5	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.8	5.1
31-Jul	0	0	0	0	A	1	2	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.8
	0.1	0.1	0.1	0.1	0.1	0.7	1.6	2.1	1.2	0.6	0.3	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	
	0.4	0.2	0.2	0.2	0.1	4.1	10.9	7.6	5.0	2.0	1.1	0.6	0.4	1.2	0.4	0.4	0.4	0.6	0.4	0.2	0.2	0.2	0.2	0.4	Diurnal Maximum	

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

Hourly Averages for NO at Beaverlodge
July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Beaverlodge - Nitrogen Oxide (NO) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 65.0 ppb on Jul 24 08:00

Maximum Daily Average: 4.4 ppb on Jul 30

Minimum Value: 0 ppb on Jul 23 02:00

Minimum Daily Average: 0.2 ppb on Jul 6

Maximum Diurnal Average: 6.5 ppb at hour 8

Minimum Diurnal Average: 0.1 ppb at hour 5

Monthly Average: 1.13 ppb

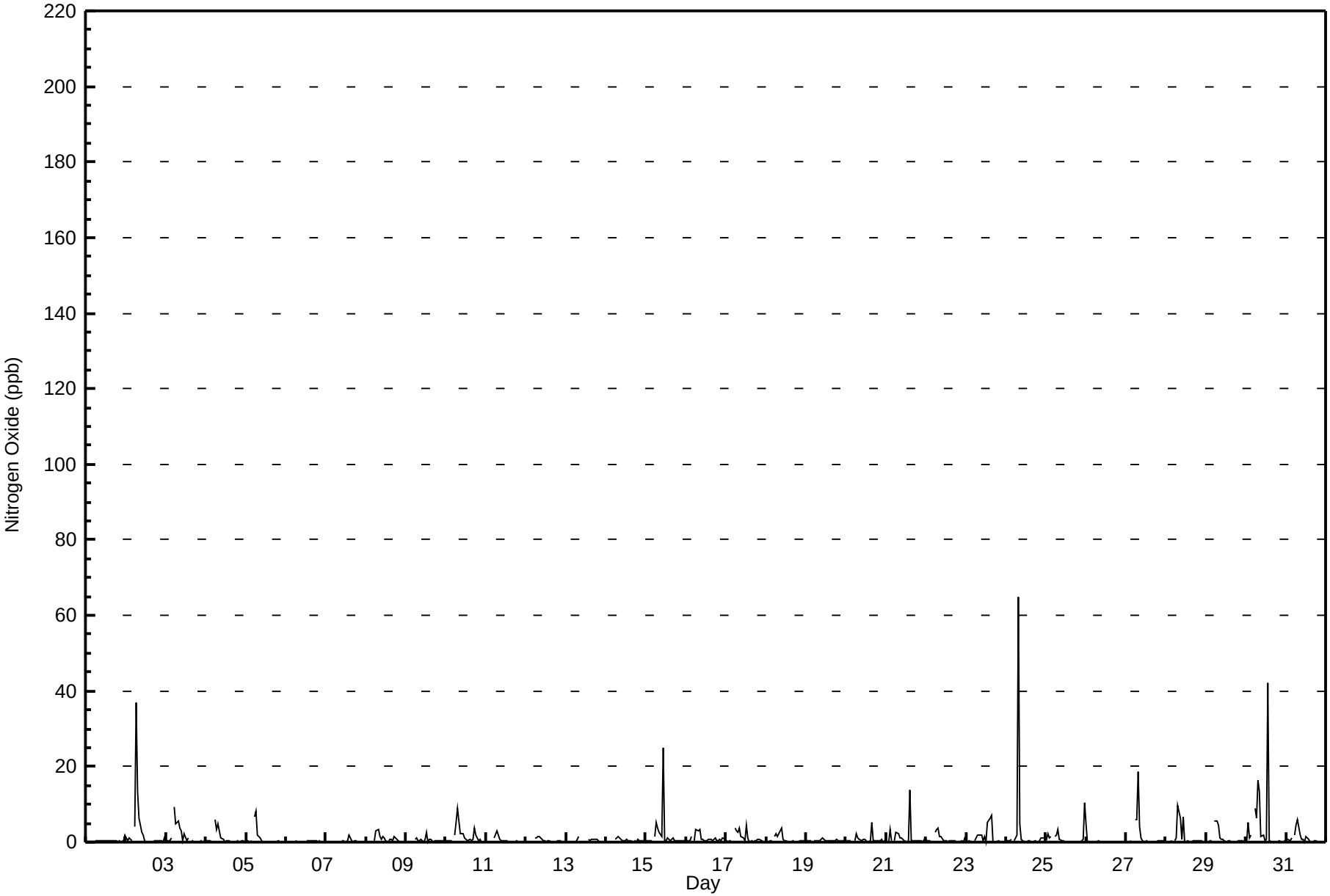
Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.1$ Median = 0.3 $Q_3 = 0.7$ $P_{90} = 2.3$ $P_{99} = 12.7$

Hours in Service:	744
Hours of Data:	701
Hours of Missing Data:	43
Hours of Calibration:	38
Percent Operational Time:	99.3

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	0	0	0	0	A	0	0	0	1	0	1	0	0	0	1	0	0	1	0	0	0	0	0	2	0.3	2.0
2-Jul	1	0	1	1	A	4	37	13	6	3	2	0	0	0	0	0	0	1	0	0	0	0	0	1	3.1	36.8
3-Jul	0	0	0	1	A	9	5	6	4	3	1	2	0	1	A	0	0	0	0	0	0	0	0	0	1.5	9.3
4-Jul	0	1	0	0	A	6	3	5	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1.0	5.8
5-Jul	0	0	0	0	A	7	8	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.9	8.3
6-Jul	0	0	0	0	A	0	0	P	P	P	P	P	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
7-Jul	0	0	0	0	0	0	0	A	A	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0.2	1.8
8-Jul	0	0	0	0	A	0	3	3	2	1	2	1	0	0	1	1	0	1	1	0	0	0	0	0	0.8	3.4
9-Jul	0	0	0	0	A	1	1	0	0	1	0	1	2	0	1	1	0	0	0	0	0	0	0	0	0.4	2.4
10-Jul	0	0	0	0	A	2	5	9	2	2	2	1	1	0	1	0	1	4	2	0	1	0	0	0	1.5	8.8
11-Jul	0	0	0	0	A	1	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.9
12-Jul	0	0	0	0	A	1	1	2	2	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0.4	1.5
13-Jul	0	0	0	0	A	0	0	2	C	C	C	C	A	1	0	1	1	1	1	0	0	0	0	0	0.4	1.5
14-Jul	0	0	0	0	A	1	1	2	1	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0.5	1.6
15-Jul	0	0	0	0	A	1	5	4	3	1	25	0	0	1	0	1	1	1	0	0	0	0	0	0	2.0	25.1
16-Jul	0	0	0	1	A	0	3	3	3	1	1	0	0	1	1	1	0	1	0	0	1	0	1	1	0.9	3.2
17-Jul	0	0	1	0	A	4	3	3	4	2	1	0	4	1	0	0	0	0	0	1	1	0	0	0	1.1	4.5
18-Jul	0	0	0	0	A	1	2	2	3	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	3.7
19-Jul	0	0	0	0	A	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0.4	1.0
20-Jul	0	0	0	0	A	0	2	1	1	0	1	1	0	0	0	5	0	0	0	0	0	1	0	0	0.7	5.3
21-Jul	0	0	3	0	A	1	3	2	1	1	1	1	0	0	14	0	0	0	0	0	1	0	0	1	1.3	13.9
22-Jul	1	1	1	0	A	3	3	4	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.8	3.9
23-Jul	0	0	0	0	A	0	1	2	2	2	0	1	0	5	6	7	0	0	0	0	0	0	0	0	1.2	7.2
24-Jul	0	0	1	1	A	1	2	65	5	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3.5	65.0
25-Jul	1	2	1	1	A	1	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11	1.1	10.5
26-Jul	5	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	5.0
27-Jul	0	0	0	0	A	6	6	19	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.7	18.6
28-Jul	0	0	0	0	A	0	1	10	6	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	1.2	9.5
29-Jul	0	0	0	0	A	6	6	4	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.9	5.7
30-Jul	0	5	1	2	A	9	6	16	13	1	2	0	1	42	0	0	0	0	0	0	0	0	0	0	4.4	42.3
31-Jul	0	1	0	1	A	2	4	6	2	1	1	0	2	1	0	0	0	0	0	0	0	0	0	0	0.9	5.8
	0.4	0.4	0.4	0.4	0.1	2.2	3.8	6.5	2.6	1.1	1.8	0.4	0.5	1.9	1.0	0.6	0.2	0.4	0.3	0.2	0.2	0.2	0.2	0.7	Diurnal Average	
	5.0	5.1	3.4	1.7	0.1	9.3	36.8	65.0	13.5	3.7	25.1	2.2	4.5	42.3	13.9	7.2	0.9	3.6	1.9	0.7	0.6	1.0	1.1	10.5	Diurnal Maximum	

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

Hourly Maximums for NO at Beaverlodge
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge - Oxides of Nitrogen (NO_X) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 17.2 ppb on Jul 2 07:00

Maximum Daily Average: 4.3 ppb on Jul 30

Minimum Value: 0 ppb on Jul 19 04:00

Maximum Diurnal Average: 6.3 ppb at hour 6

Monthly Average: 2.27 ppb

Minimum Daily Average: 0.7 ppb on Jul 19

Minimum Diurnal Average: 0.6 ppb at hour 5

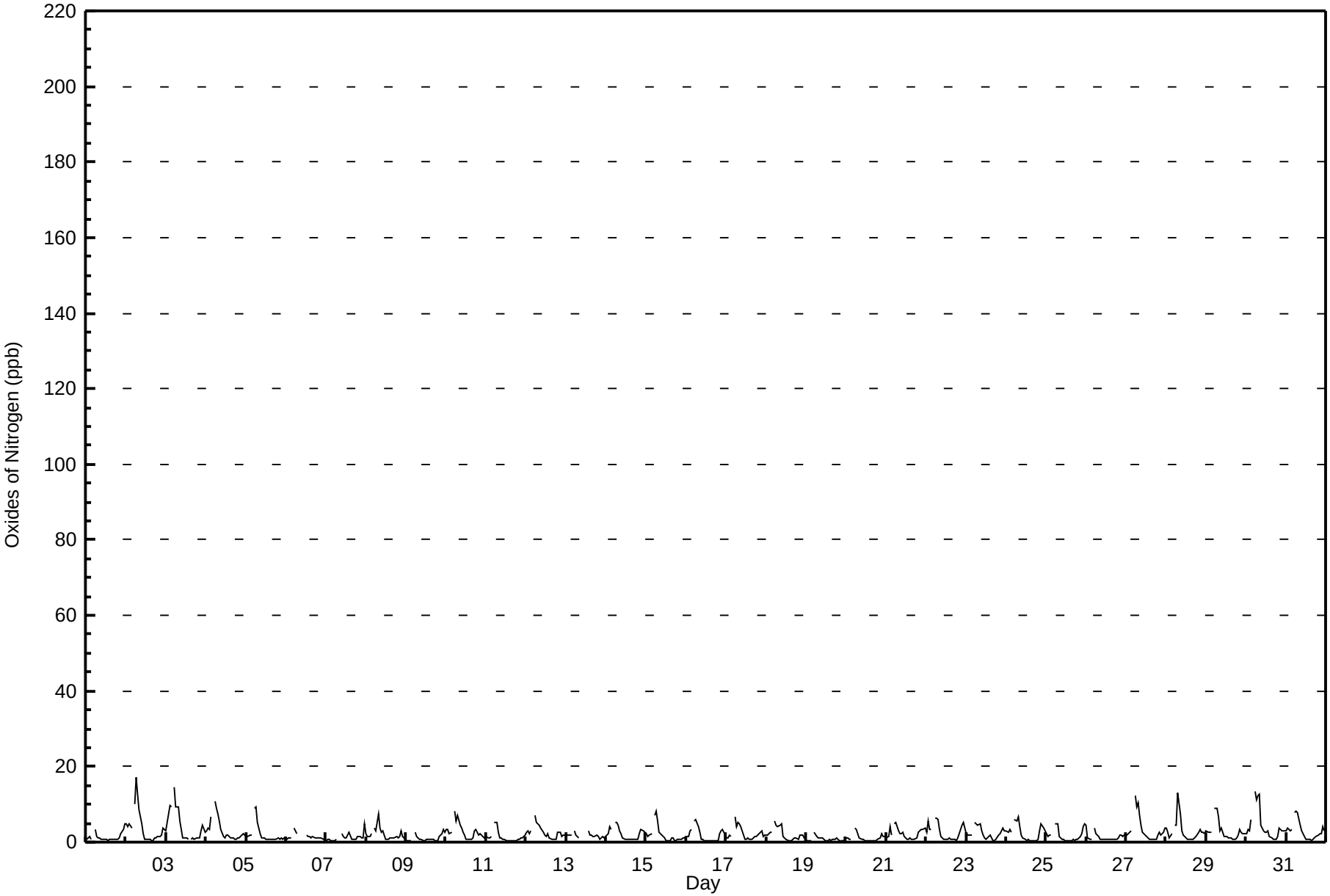
Percentiles: $P_1 = 0.3$ $P_{10} = 0.6$ $Q_1 = 0.8$ Median = 1.5 $Q_3 = 2.9$ $P_{90} = 4.9$ $P_{99} = 12.2$

Hours in Service:	744
Hours of Data:	701
Hours of Missing Data:	43
Hours of Calibration:	38
Percent Operational Time:	99.3

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	1	1	1	1	A	3	2	1	1	1	1	1	1	0	1	1	1	1	1	1	1	2	3	5	1.3	4.9
2-Jul	5	4	5	4	A	10	17	13	9	5	2	1	1	1	1	0	1	1	1	1	2	2	4	3	4.0	17.2
3-Jul	3	7	10	9	A	14	9	9	6	3	1	1	1	1	A	1	1	1	1	1	1	3	4	2	4.2	14.4
4-Jul	3	4	3	7	A	11	9	8	6	3	2	1	2	2	1	1	1	1	1	1	1	2	2	2	3.1	10.9
5-Jul	2	1	2	2	A	9	9	5	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2.0	9.2
6-Jul	1	1	1	1	A	4	2	P	P	P	P	P	2	1	1	1	1	1	1	1	1	1	1	0	1.4	3.8
7-Jul	0	1	1	1	1	1	1	A	A	2	2	1	1	2	2	1	1	1	1	1	2	1	1	5	1.2	4.9
8-Jul	2	2	2	2	A	4	3	8	4	3	3	2	1	1	1	1	1	1	1	1	2	3	1	1	2.1	7.5
9-Jul	0	0	0	0	A	3	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	2	3	3	1.0	3.3
10-Jul	3	3	2	3	A	8	6	7	5	4	3	2	1	1	1	1	1	3	3	2	2	2	1	1	2.8	8.2
11-Jul	2	1	1	2	A	5	5	3	1	1	1	1	1	0	0	0	0	0	1	1	1	1	1	2	1.4	5.2
12-Jul	3	3	2	3	A	7	5	5	4	4	3	2	1	2	1	1	1	1	1	3	3	1	2	2	2.6	7.2
13-Jul	2	2	2	2	A	3	2	1	C	C	C	C	A	3	2	2	2	1	2	2	1	1	2	1	1.7	2.9
14-Jul	2	2	4	3	A	5	5	4	3	2	1	1	1	1	1	1	1	1	1	1	2	3	3	2	2.2	5.1
15-Jul	2	2	2	2	A	7	8	6	3	2	2	1	1	1	0	1	1	0	0	1	1	1	1	1	2.0	8.0
16-Jul	1	2	3	3	A	6	6	4	3	1	1	0	0	1	0	0	0	0	0	0	2	3	3	2	1.9	6.1
17-Jul	1	1	2	2	A	7	4	5	5	4	2	1	1	1	1	1	1	2	1	2	2	3	1	2	2.2	6.8
18-Jul	2	2	3	3	A	6	4	4	5	5	2	1	1	0	0	0	1	1	1	1	2	2	2	1	2.1	5.6
19-Jul	0	0	0	0	A	3	1	1	1	1	1	1	1	0	1	0	1	1	1	1	0	0	1	1	0.7	2.6
20-Jul	1	1	1	1	A	4	3	2	1	1	1	0	0	0	0	0	0	0	0	1	1	2	2	2	1.1	3.9
21-Jul	1	2	4	2	A	5	5	3	2	2	2	2	1	1	1	1	1	1	1	3	3	3	3	4	2.3	5.3
22-Jul	3	5	3	4	A	6	6	6	3	2	1	1	1	1	1	1	1	1	1	1	2	4	5	4	2.7	6.4
23-Jul	2	2	2	2	A	5	5	4	5	3	2	1	1	1	2	1	0	1	1	2	2	3	4	3	2.3	5.1
24-Jul	3	3	4	3	A	6	6	7	4	2	1	1	1	1	1	1	1	1	0	1	3	5	4	3	2.5	6.8
25-Jul	2	2	2	2	A	5	5	5	2	1	1	0	0	0	0	0	1	0	1	1	1	2	4	5	1.9	5.0
26-Jul	5	1	1	1	A	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	2	1.4	4.6
27-Jul	2	2	3	3	A	12	9	11	7	5	3	2	1	1	1	1	1	1	1	2	3	2	3	4	3.4	12.3
28-Jul	4	2	1	2	A	5	5	13	7	3	2	1	1	1	1	1	1	1	1	3	3	2	3	2	2.8	13.0
29-Jul	3	2	3	3	A	9	9	7	3	4	3	2	1	1	1	1	1	1	1	2	3	2	2	2	2.8	9.0
30-Jul	2	3	3	6	A	14	11	12	13	5	3	3	3	3	1	1	1	1	1	1	4	3	3	3	4.3	13.6
31-Jul	3	4	3	3	A	8	8	8	5	3	2	1	1	1	1	1	1	1	2	2	2	2	4	3	2.9	8.0
	2.2	2.2	2.4	2.6	0.6	6.3	5.6	5.6	3.9	2.5	1.6	1.1	0.9	1.0	0.9	0.8	0.8	0.9	1.0	1.3	1.9	2.2	2.4	2.4	Diurnal Average	
	5.0	7.4	9.8	9.3	0.6	14.4	17.2	13.0	12.7	4.9	3.1	2.6	2.6	2.9	2.5	1.7	1.5	3.0	3.2	2.7	3.6	4.8	5.1	4.9	Diurnal Maximum	

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

Hourly Averages for NO_X at Beaverlodge
July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Beaverlodge - Oxides of Nitrogen (NO_X) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 44.3 ppb on Jul 2 07:00

Maximum Daily Average: 8.8 ppb on Jul 30

Minimum Value: 0 ppb on Jul 11 17:00

Maximum Diurnal Average: 10.1 ppb at hour 8

Monthly Average: 4.16 ppb

Minimum Daily Average: 1.5 ppb on Jul 19

Minimum Diurnal Average: 1.0 ppb at hour 5

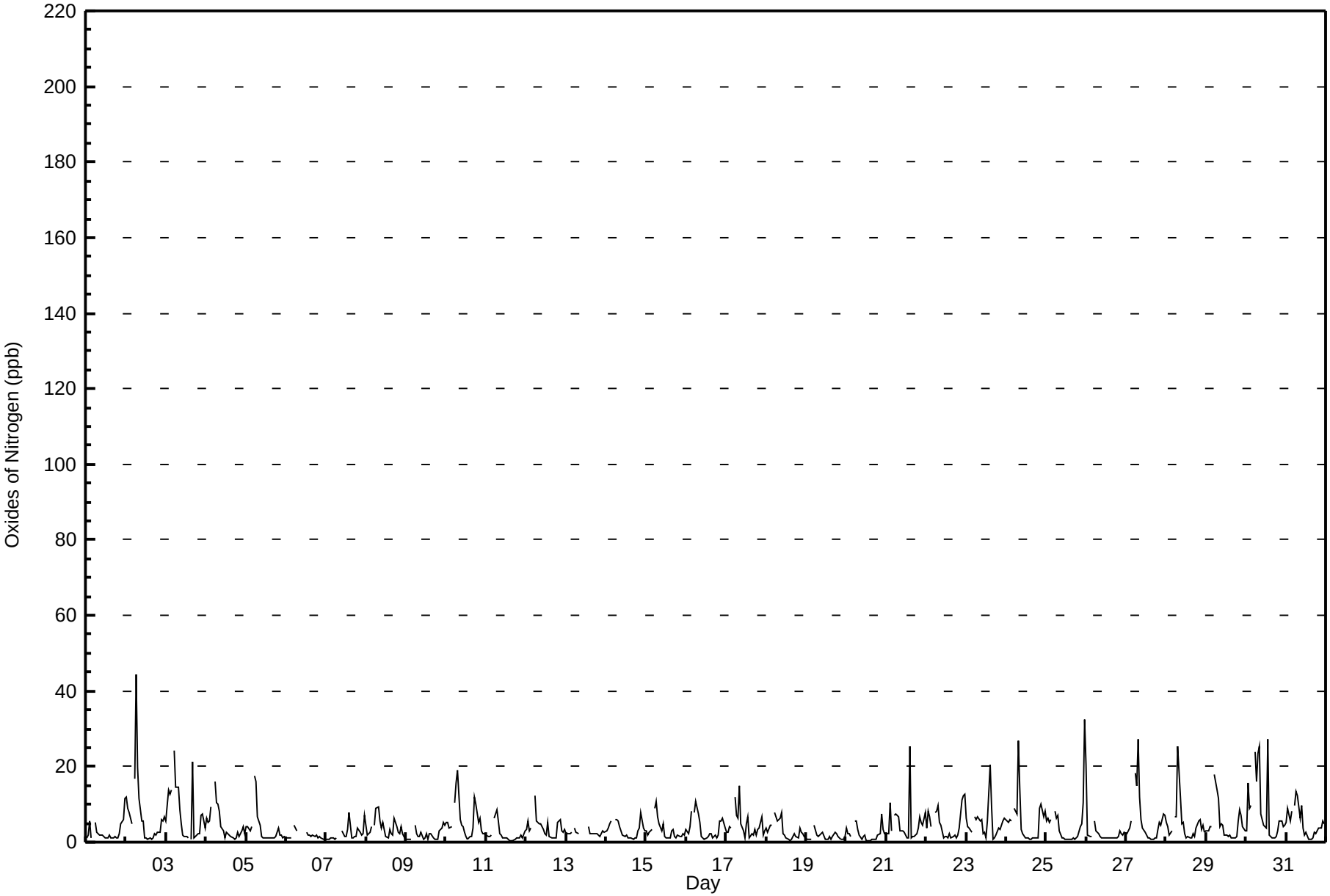
Percentiles: $P_1 = 0.6$ $P_{10} = 1.0$ $Q_1 = 1.3$ Median = 2.6 $Q_3 = 5.4$ $P_{90} = 8.8$ $P_{99} = 25.4$

Hours in Service:	744
Hours of Data:	701
Hours of Missing Data:	43
Hours of Calibration:	38
Percent Operational Time:	99.3

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	1	2	5	1	A	5	3	2	2	2	2	1	1	1	2	1	1	2	1	1	2	5	6	11	2.7	11.4
2-Jul	12	9	8	5	A	17	44	20	12	6	6	1	1	1	1	1	1	2	2	3	3	6	6	7	7.4	44.3
3-Jul	5	14	13	14	A	24	15	14	9	5	2	2	1	1	A	1	21	1	2	2	2	7	7	4	7.5	24.2
4-Jul	6	5	6	9	A	16	10	10	8	4	3	1	3	2	2	2	1	1	1	3	2	3	4	2	4.5	16.0
5-Jul	4	4	3	4	A	17	16	7	4	2	1	1	1	1	1	1	1	1	2	4	2	2	1	1	3.6	17.5
6-Jul	1	1	1	1	A	4	3	P	P	P	P	P	3	2	2	2	2	2	2	1	2	1	1	1	1.7	4.5
7-Jul	1	1	1	1	1	1	1	A	A	3	2	1	2	3	8	1	1	1	1	4	3	2	2	7	2.2	7.8
8-Jul	5	2	3	4	A	5	9	9	6	4	5	3	1	1	3	2	2	6	4	3	2	4	2	1	3.8	9.5
9-Jul	1	1	1	1	A	4	2	1	1	3	1	1	2	1	2	2	1	1	1	1	3	4	5	4	1.9	5.4
10-Jul	5	5	4	4	A	10	16	19	6	5	4	3	1	1	2	1	4	12	10	5	6	3	2	2	5.7	18.9
11-Jul	2	2	2	2	A	6	9	6	2	2	1	1	1	1	0	0	0	1	1	1	1	2	1	3	2.0	8.6
12-Jul	3	5	3	4	A	12	6	5	5	5	3	2	2	5	2	1	1	1	1	5	6	3	3	3	3.8	12.2
13-Jul	2	2	2	3	A	4	2	2	C	C	C	C	A	4	2	2	2	2	2	2	2	2	3	3	2.5	4.1
14-Jul	3	4	5	6	A	6	6	5	4	3	2	2	2	1	1	1	1	1	1	3	4	8	4	3	3.2	7.7
15-Jul	3	2	3	3	A	9	11	7	5	3	5	2	1	1	1	3	3	1	1	2	2	2	2	2	3.2	10.7
16-Jul	3	2	4	8	A	8	11	7	5	2	1	1	1	2	2	2	1	2	1	2	5	6	6	4	3.8	11.0
17-Jul	3	2	4	4	A	12	7	6	15	5	3	1	5	7	1	2	2	3	2	3	4	7	2	3	4.5	14.8
18-Jul	4	3	4	4	A	8	7	6	6	8	2	2	1	1	1	1	2	2	1	1	4	2	2	2	3.2	7.9
19-Jul	1	1	1	1	A	4	2	2	2	2	3	1	1	1	1	1	2	3	2	1	1	1	1	2	1.5	4.3
20-Jul	4	2	2	1	A	6	6	3	2	1	1	2	1	1	1	1	1	1	1	2	2	7	3	2	2.3	7.4
21-Jul	2	2	10	3	A	7	7	7	3	3	3	3	1	1	25	1	2	2	2	4	7	5	4	8	4.9	25.4
22-Jul	4	8	7	4	A	8	8	10	5	4	1	1	2	1	2	1	2	2	1	2	4	11	12	13	4.9	12.8
23-Jul	6	4	4	3	A	7	6	7	6	6	2	3	1	6	21	9	1	1	2	4	3	4	6	6	5.1	20.5
24-Jul	6	5	6	6	A	9	8	27	14	3	2	1	1	1	1	1	1	1	1	1	9	10	7	8	5.6	26.8
25-Jul	6	6	5	6	A	8	6	7	3	1	1	1	1	1	1	1	1	1	1	2	4	5	10	32	4.8	32.3
26-Jul	20	2	2	2	A	6	3	2	1	1	1	1	1	1	1	1	1	1	1	2	3	2	2	3	2.6	20.5
27-Jul	2	3	4	6	A	18	15	27	12	6	4	3	2	1	1	1	1	1	1	3	5	4	7	7	5.9	27.3
28-Jul	5	4	2	3	A	7	7	25	12	5	5	2	1	2	1	1	2	2	4	6	6	3	4	3	4.8	25.4
29-Jul	3	3	4	4	A	18	14	12	4	5	5	2	2	2	2	1	1	1	2	5	9	7	4	3	4.9	17.9
30-Jul	3	16	9	10	A	24	16	23	25	8	4	4	4	27	2	1	1	1	2	3	6	5	4	5	8.8	27.3
31-Jul	5	9	6	8	A	10	13	12	6	10	4	2	3	1	1	1	1	3	2	4	4	4	6	5	5.1	13.4
	4.3	4.2	4.2	4.3	1.0	9.7	9.3	10.1	6.7	3.9	2.8	1.7	1.6	2.6	3.1	1.5	2.0	2.0	1.9	2.7	3.7	4.5	4.3	5.1	Diurnal Average	
	20.5	15.5	12.7	13.6	1.0	24.2	44.3	27.3	25.2	9.5	5.5	4.1	4.7	27.3	25.4	9.4	21.1	11.9	10.2	5.8	8.8	11.1	12.4	32.3	Diurnal Maximum	

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

Hourly Maximums for NO_X at Beaverlodge
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge - Ozone (O_3) - ppb
July 1, 2009 to August 1, 2009

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 52.4 ppb on Jul 23 17:00
Maximum Daily Average: 36.0 ppb on Jul 23

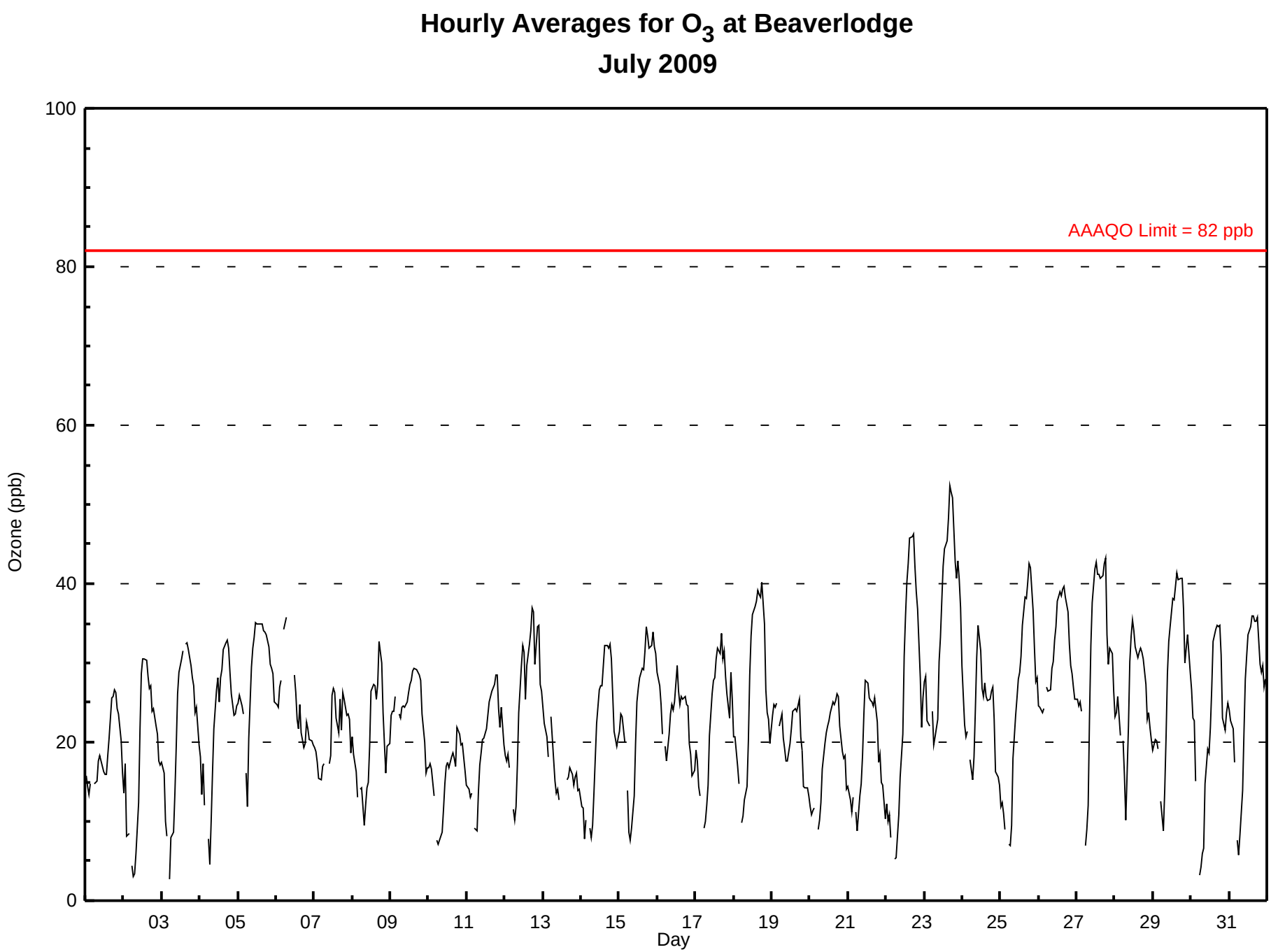
Minimum Value: 3 ppb on Jul 3 06:00
Maximum Diurnal Average: 31.5 ppb at hour 18
Monthly Average: 23.55 ppb

Minimum Daily Average: 15.7 ppb on Jul 10
Minimum Diurnal Average: 12.7 ppb at hour 7
Percentiles: P_1 = 5.1 P_{10} = 11.8 Q_1 = 17.1 Median = 23.8 Q_3 = 29.4 P_{90} = 34.8 P_{99} = 45.6

Hours in Service:	744
Hours of Data:	703
Hours of Missing Data:	41
Hours of Calibration:	37
Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	16	14	13	15	A	15	15	15	18	18	18	16	16	16	18	21	26	26	27	26	24	24	20	16	18.8	26.6
2-Jul	14	17	8	8	A	4	3	3	6	12	22	29	30	31	30	28	27	27	24	24	22	21	18	17	18.5	30.5
3-Jul	18	16	10	8	A	3	8	9	14	20	26	29	31	31	A	32	33	32	30	28	27	24	24	20	21.4	32.6
4-Jul	18	13	17	12	A	8	4	10	16	22	27	28	25	28	29	32	33	33	32	29	26	23	24	25	22.3	33.0
5-Jul	25	26	25	24	A	16	12	20	30	32	33	35	35	35	35	35	34	34	34	32	30	29	29	25	28.8	35.1
6-Jul	25	24	27	28	A	34	36	P	P	P	P	29	26	23	22	25	21	19	20	22	22	20	20	20	24.3	35.7
7-Jul	19	19	17	15	15	17	17	A	A	17	18	26	27	26	23	21	25	21	26	25	23	24	23	19	21.2	26.8
8-Jul	21	19	16	13	A	14	14	10	12	14	15	19	26	27	27	25	27	33	30	24	20	16	20	20	20.1	32.7
9-Jul	23	24	24	26	A	24	23	24	25	24	25	26	27	28	29	29	29	29	29	28	24	20	16	17	24.9	29.2
10-Jul	17	17	17	13	A	8	7	8	9	11	15	17	18	17	18	19	18	17	22	21	20	20	18	17	15.7	21.8
11-Jul	14	14	13	14	A	9	9	14	17	19	20	21	22	23	25	26	26	27	29	28	24	22	24	20	20.0	28.5
12-Jul	18	18	18	17	A	11	10	12	17	24	30	32	31	25	30	32	34	37	36	30	35	35	27	27	25.5	36.9
13-Jul	24	22	21	18	A	23	21	15	13	14	13	C	C	C	A	15	16	17	16	15	16	16	14	14	17.0	24.4
14-Jul	12	12	8	10	A	9	8	10	14	18	22	27	27	27	30	32	32	32	32	31	26	21	20	21	20.8	32.4
15-Jul	21	24	23	20	A	14	9	8	9	13	20	25	27	28	29	29	32	35	33	32	32	34	32	31	24.3	34.6
16-Jul	29	27	25	21	A	19	18	21	24	25	24	25	30	26	25	26	25	26	25	25	20	19	16	16	23.3	29.6
17-Jul	19	18	14	13	A	9	10	12	15	21	26	28	28	31	32	31	34	30	31	28	26	23	29	25	23.2	33.7
18-Jul	21	21	17	15	A	10	11	13	14	20	29	33	36	37	38	39	39	38	40	35	27	24	23	20	26.0	40.1
19-Jul	23	25	24	25	A	22	24	20	19	18	18	20	22	24	24	24	24	25	21	19	14	14	14	13	20.7	25.4
20-Jul	12	11	11	12	A	9	10	12	17	20	21	22	23	24	25	25	25	26	26	22	19	18	18	14	18.3	26.1
21-Jul	14	13	11	13	A	11	9	13	15	18	24	28	27	26	25	25	25	26	23	18	18	15	15	10	18.3	27.7
22-Jul	12	10	11	8	A	5	5	8	11	16	21	31	36	40	42	46	46	46	42	39	37	28	22	26	25.6	46.2
23-Jul	28	28	23	22	A	24	20	21	23	30	33	38	42	44	45	48	52	52	51	43	41	43	41	37	36.0	52.4
24-Jul	30	22	21	21	A	18	15	18	24	31	35	31	27	26	27	26	25	25	26	27	23	16	16	15	23.7	34.8
25-Jul	12	12	11	9	A	7	7	10	18	23	26	28	29	31	35	38	38	40	43	42	37	32	28	28	25.3	42.5
26-Jul	25	24	24	24	A	27	27	27	29	30	33	35	38	39	38	39	40	38	36	32	30	29	27	25	31.1	39.6
27-Jul	26	25	25	24	A	7	9	12	23	32	38	42	43	41	41	41	41	43	43	34	30	32	31	26	30.8	43.1
28-Jul	23	24	26	21	A	20	16	10	22	30	33	35	34	32	31	31	32	31	30	27	23	24	22	20	26.0	35.5
29-Jul	19	20	20	19	A	13	9	14	21	29	33	35	38	38	40	41	41	41	41	37	30	32	34	29	29.2	41.4
30-Jul	27	23	23	15	A	3	4	6	7	15	19	19	22	27	33	34	35	35	35	31	23	22	24	25	21.9	34.8
31-Jul	24	23	22	17	A	8	6	8	14	21	28	31	34	35	36	36	35	35	36	30	29	30	27	28	25.7	35.9
	20.2	19.5	18.2	16.8	15.2	13.6	12.7	13.2	17.0	21.2	24.7	28.0	29.2	29.5	30.4	30.8	31.3	31.5	31.2	28.5	25.7	24.1	23.0	21.4	Diurnal Average	
	29.7	28.4	27.0	27.7	15.2	34.2	35.7	26.7	29.5	32.2	37.7	41.8	42.7	44.5	45.4	48.3	52.4	51.6	50.9	42.7	40.6	43.0	40.5	36.9	Diurnal Maximum	

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


Hourly Averages for O_3 at Beaverlodge
July 2009
AAAQO Limit = 82 ppb
Ozone (ppb)
100
80
60
40
20
0
03
05
07
09
11
13
15
17
19
21
23
25
27
29
31
Day

Peace Airshed Zone Association
Summary of Hourly Maximums

Beaverlodge - Ozone (O_3) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 54.7 ppb on Jul 23 18:00

Maximum Daily Average: 40.0 ppb on Jul 23

Minimum Value: 5 ppb on Jul 3 06:00

Minimum Daily Average: 17.8 ppb on Jul 10

Maximum Diurnal Average: 33.8 ppb at hour 18

Minimum Diurnal Average: 15.3 ppb at hour 7

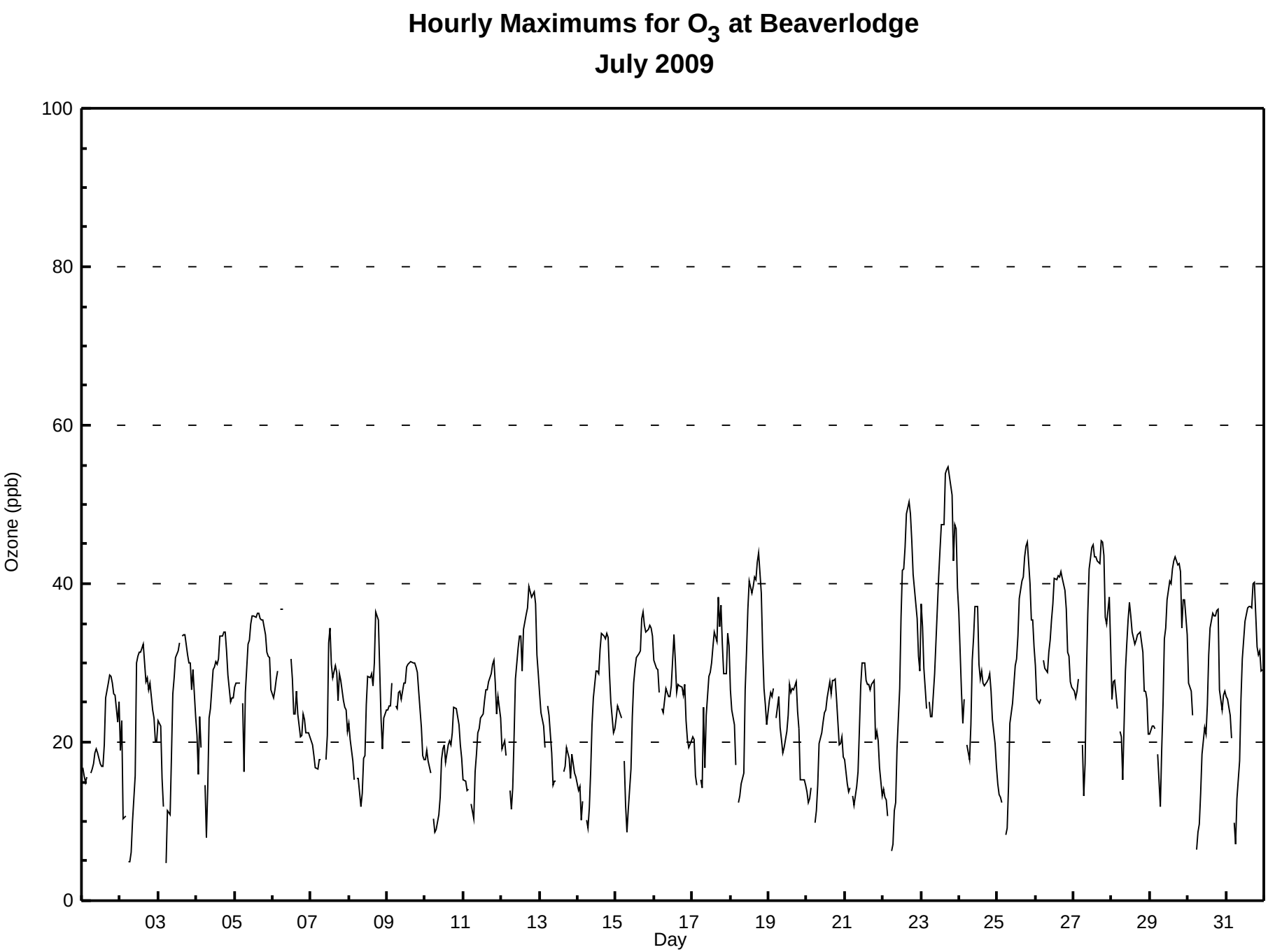
Monthly Average: 26.21 ppb

Percentiles: P_1 = 6.8 P_{10} = 14.3 Q_1 = 19.7 Median = 26.4 Q_3 = 31.9 P_{90} = 38.1 P_{99} = 48.0

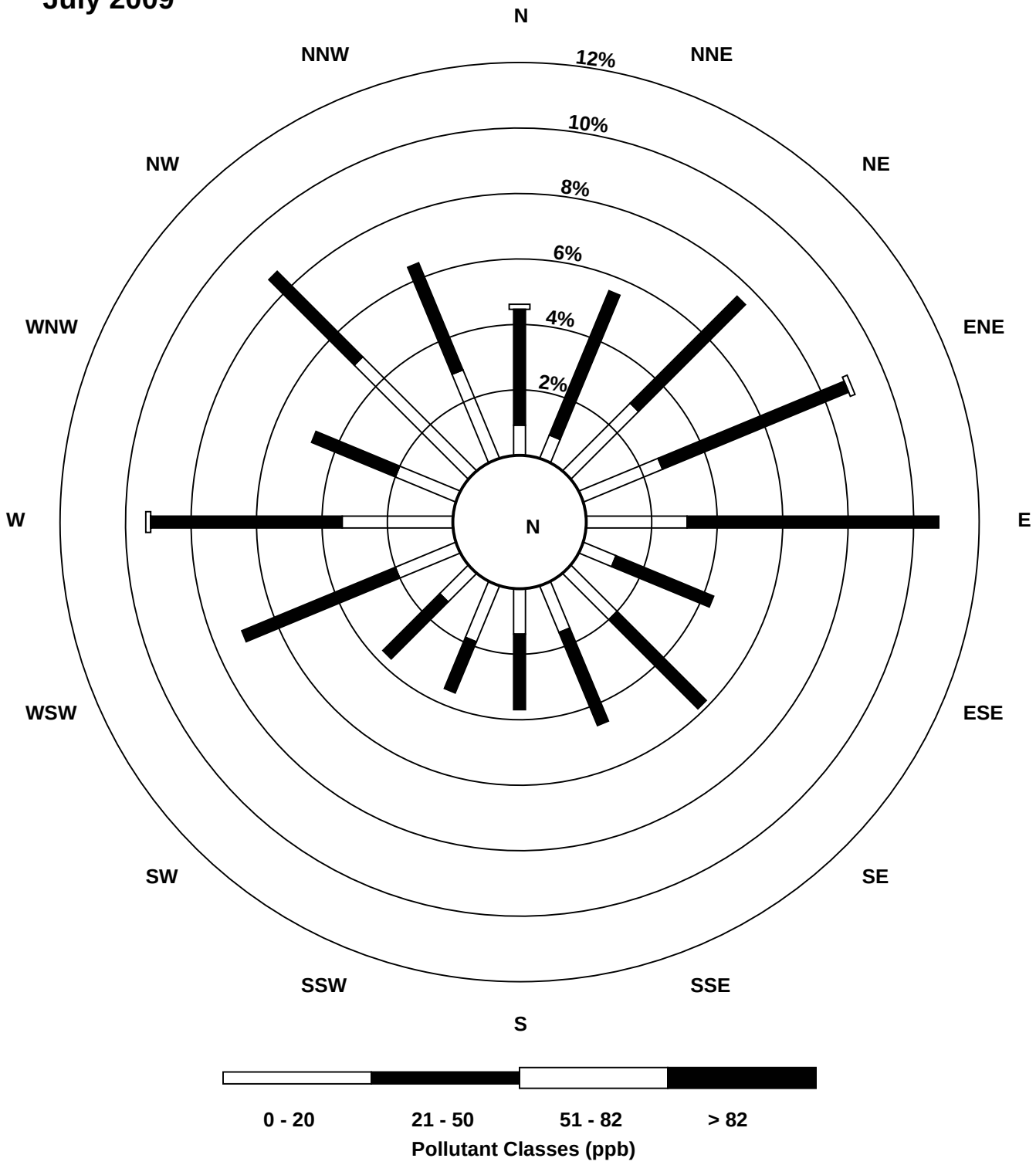
Hours in Service:	744
Hours of Data:	703
Hours of Missing Data:	41
Hours of Calibration:	37
Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	17	16	15	16	A	16	17	17	19	19	19	17	17	17	20	26	28	28	28	28	26	26	23	25	20.8	28.4
2-Jul	19	23	10	11	A	5	5	6	10	16	30	31	31	31	32	30	28	28	27	27	24	23	20	20	21.2	32.3
3-Jul	23	22	15	12	A	5	11	11	18	26	28	31	32	32	A	33	33	33	31	30	30	27	29	23	24.4	33.5
4-Jul	21	16	23	19	A	15	8	14	23	24	29	30	30	30	31	33	33	34	34	31	29	25	26	26	25.4	33.9
5-Jul	27	28	28	28	A	25	16	26	32	33	35	36	36	36	36	36	36	35	35	34	31	31	31	27	31.2	36.4
6-Jul	26	27	28	29	A	37	37	P	P	P	P	30	28	24	24	26	24	21	21	24	23	21	21	21	25.8	36.8
7-Jul	20	20	18	17	17	18	18	A	A	18	21	32	34	30	28	30	29	25	29	28	25	24	24	21	23.9	34.5
8-Jul	22	20	18	15	A	15	15	12	13	18	18	25	28	28	29	27	30	36	35	29	23	19	23	24	22.8	36.4
9-Jul	24	25	25	27	A	25	24	26	26	25	28	28	29	30	30	30	30	30	30	29	26	22	18	18	26.3	30.2
10-Jul	18	19	18	16	A	10	9	9	11	13	18	19	20	17	20	20	20	21	24	24	23	22	20	18	17.8	24.5
11-Jul	15	15	14	14	A	12	10	16	19	21	22	23	24	25	27	27	28	29	30	30	27	24	26	23	21.8	30.4
12-Jul	19	20	20	18	A	14	12	14	21	28	32	33	33	29	34	36	37	40	39	38	39	37	31	29	28.4	39.6
13-Jul	26	24	22	19	A	25	23	19	15	15	15	C	C	C	A	16	17	19	18	15	18	17	16	16	18.7	26.1
14-Jul	14	14	10	13	A	10	9	12	16	22	26	29	29	29	32	34	33	33	34	33	29	25	21	22	23.0	33.7
15-Jul	23	25	24	23	A	18	12	9	11	17	23	27	29	31	31	31	36	36	35	34	34	35	34	33	26.6	36.4
16-Jul	30	29	29	26	A	24	24	27	26	26	26	27	33	30	26	27	27	27	26	27	23	20	19	20	26.2	33.5
17-Jul	21	20	16	15	A	15	14	24	17	23	28	29	30	32	34	33	38	35	37	32	29	29	34	32	26.8	38.3
18-Jul	27	24	22	17	A	12	13	15	16	27	31	37	40	39	40	41	41	43	44	39	32	27	25	22	29.2	44.0
19-Jul	25	26	26	27	A	23	26	22	20	19	19	21	23	27	26	27	27	28	24	22	15	15	15	15	22.5	27.6
20-Jul	14	12	13	14	A	10	11	15	20	21	23	24	24	26	28	26	28	28	28	26	20	20	21	18	20.3	28.0
21-Jul	18	15	14	14	A	13	12	14	16	21	27	30	30	28	27	27	27	27	28	20	21	20	17	13	20.9	30.1
22-Jul	14	13	13	11	A	6	7	11	12	19	27	36	42	42	45	49	50	49	45	41	39	36	31	29	29.0	50.3
23-Jul	38	35	29	24	A	25	23	23	29	33	37	41	44	47	47	54	54	55	54	51	43	47	47	39	40.0	54.7
24-Jul	36	26	22	25	A	20	18	22	30	33	37	37	30	28	29	27	27	28	28	29	26	23	20	17	26.9	37.1
25-Jul	15	13	13	12	A	8	9	14	22	25	27	30	30	33	38	40	41	43	45	45	40	35	35	32	28.2	45.3
26-Jul	30	25	25	25	A	30	29	29	31	33	35	37	41	41	41	41	41	41	39	37	31	31	28	27	33.4	41.5
27-Jul	26	26	26	28	A	20	13	17	29	36	42	45	45	43	43	43	43	45	45	44	36	35	38	32	34.8	45.5
28-Jul	25	28	28	24	A	21	21	15	29	32	35	38	36	34	32	33	33	34	34	31	26	26	25	21	28.9	37.7
29-Jul	21	22	22	22	A	19	12	19	25	33	34	38	40	40	42	43	43	42	43	42	34	38	38	33	32.4	43.4
30-Jul	28	27	26	23	A	6	9	10	14	18	22	21	25	31	34	36	36	36	37	37	27	24	26	26	25.2	36.8
31-Jul	26	25	23	20	A	10	7	13	18	25	30	33	35	37	37	37	37	40	40	32	31	32	29	29	28.2	40.2
	22.8	21.9	20.5	19.6	16.6	16.5	15.3	16.6	20.3	24.0	27.5	30.5	31.7	31.6	32.5	33.0	33.3	33.8	33.7	31.9	28.5	27.0	26.2	24.3	Diurnal Average	
	37.5	34.7	29.3	29.0	16.6	36.8	36.7	28.8	32.4	36.4	41.8	44.5	44.8	47.4	47.4	53.9	54.4	54.7	53.6	51.1	43.0	47.4	46.9	39.4	Diurnal Maximum	

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


Hourly Maximums for O_3 at Beaverlodge
July 2009
Ozone (ppb)
100
80
60
40
20
0
03
05
07
09
11
13
15
17
19
21
23
25
27
29
31
Day

Pollutant Rose for O_3 at Beaverlodge
July 2009



Peace Airshed Zone Association
Summary of Eight Hour Running Averages

Beaverlodge - Ozone (O_3) - ppb
July 1, 2009 to August 1, 2009

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 47.2 ppb on Jul 23 20:00

Minimum Value: 6.5 ppb on Jul 2 10:00

Percentiles: P_1 = 9.1 P_{10} = 13.6 Q_1 = 17.2 Median = 23.0 Q_3 = 28.3 P_{90} = 33.6 P_{99} = 44.1

Hours in Service:	744
Hours of Data:	729
Hours of Missing Data:	15
Hours of Calibration:	11
Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jul	18	18	17	16	16	15	15	15	15	16	16	16	16	16	17	18	19	19	21	22	23	24	24	24	24.1
2-Jul	22	21	19	16	15	13	10	8	7	7	8	11	14	17	20	24	26	28	28	28	27	25	24	22	28.3
3-Jul	21	20	18	16	15	13	11	10	10	10	12	15	17	21	23	26	29	31	31	31	30	29	29	27	31.0
4-Jul	25	23	21	19	18	16	13	12	12	13	14	16	18	20	23	26	28	29	30	30	30	30	29	28	30.2
5-Jul	27	26	25	25	24	23	22	21	22	23	24	25	27	29	32	34	34	34	35	34	34	33	32	31	34.5
6-Jul	30	28	28	27	27	27	28	29	N	N	N	N	N	N	N	N	24	24	23	22	22	21	21	21	29.6
7-Jul	20	20	20	19	18	18	17	17	17	17	17	18	20	22	23	23	23	24	25	24	24	24	24	23	24.6
8-Jul	23	22	21	20	19	18	17	15	14	13	13	14	16	17	19	21	23	25	27	27	27	25	24	24	27.5
9-Jul	23	22	21	22	22	23	23	24	24	24	24	24	25	25	26	27	27	28	28	28	28	27	25	24	28.4
10-Jul	22	21	19	18	17	15	14	12	11	10	10	11	11	13	14	15	17	17	18	19	19	19	19	19	22.3
11-Jul	19	18	17	16	16	14	13	12	13	13	14	15	16	18	20	22	23	24	25	26	26	26	26	25	26.2
12-Jul	24	23	22	20	20	18	16	15	15	16	17	19	21	23	25	28	30	31	32	32	32	34	33	33	33.6
13-Jul	31	30	28	26	25	23	22	21	19	18	17	17	17	N	N	N	N	N	N	N	16	16	15	15	31.3
14-Jul	15	14	13	13	12	11	10	10	10	11	13	15	17	19	22	25	27	29	30	30	30	30	28	27	30.4
15-Jul	25	24	23	22	21	20	19	17	15	14	13	14	16	17	20	23	25	28	30	31	31	32	32	33	32.6
16-Jul	32	31	30	29	28	26	24	23	22	22	22	22	23	24	25	26	26	26	26	26	25	24	23	21	32.3
17-Jul	21	20	18	17	16	15	14	14	13	13	15	17	19	21	24	26	29	30	31	31	30	30	29	28	30.7
18-Jul	27	26	24	22	22	20	17	15	14	14	16	19	21	24	28	31	34	36	38	38	37	35	33	31	37.8
19-Jul	29	27	25	24	23	23	23	23	23	22	21	20	20	20	21	21	22	23	23	23	22	21	20	18	28.7
20-Jul	17	15	14	13	12	12	11	11	12	13	14	16	17	19	20	22	23	24	24	24	24	23	22	21	24.4
21-Jul	20	18	16	15	15	14	12	12	12	13	15	17	18	20	22	23	25	26	25	24	23	22	20	19	25.6
22-Jul	17	15	14	12	12	10	9	9	8	9	11	14	17	21	26	30	35	39	41	42	42	41	38	36	42.3
23-Jul	33	31	29	27	25	25	24	24	23	23	25	27	29	31	35	38	42	44	47	47	47	47	46	45	47.2
24-Jul	42	38	35	32	31	27	23	21	20	21	23	25	25	26	27	28	29	28	27	26	26	25	23	22	42.0
25-Jul	20	18	16	14	13	12	10	10	11	12	14	17	18	21	25	28	31	33	35	37	38	38	37	36	38.1
26-Jul	34	32	30	28	26	26	25	25	26	27	28	30	31	32	34	35	36	38	38	38	37	35	34	32	37.9
27-Jul	30	29	27	26	26	23	20	18	18	19	21	23	26	30	34	38	40	41	42	41	39	38	37	35	41.8
28-Jul	33	30	28	27	26	24	22	20	20	21	22	24	25	27	28	31	32	33	32	31	30	29	28	26	32.7
29-Jul	25	23	22	21	21	19	17	16	17	18	19	22	24	27	31	34	37	38	39	39	38	38	37	35	39.5
30-Jul	34	31	29	26	26	22	18	14	12	10	10	10	12	15	18	22	25	28	30	31	31	31	30	29	33.6
31-Jul	27	26	24	22	22	20	18	15	14	14	15	17	19	22	26	29	32	34	35	35	34	33	32	31	34.6
Diurnal Maximums	42.0	38.3	34.6	31.9	30.6	27.4	28.4	29.0	26.0	26.8	28.1	29.6	30.6	32.1	34.6	38.0	41.7	44.4	46.6	47.2	47.0	46.9	46.2	44.8	

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

Peace Airshed Zone Association
Summary of Hourly Averages

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

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 27.5 $\mu g/m^3$ on Jul 27 21:00
Maximum Daily Average: 16.5 $\mu g/m^3$ on Jul 30

Minimum Value: 0 $\mu g/m^3$ on Jul 17 23:00
Maximum Diurnal Average: 8.7 $\mu g/m^3$ at hour 21
Monthly Average: 7.68 $\mu g/m^3$

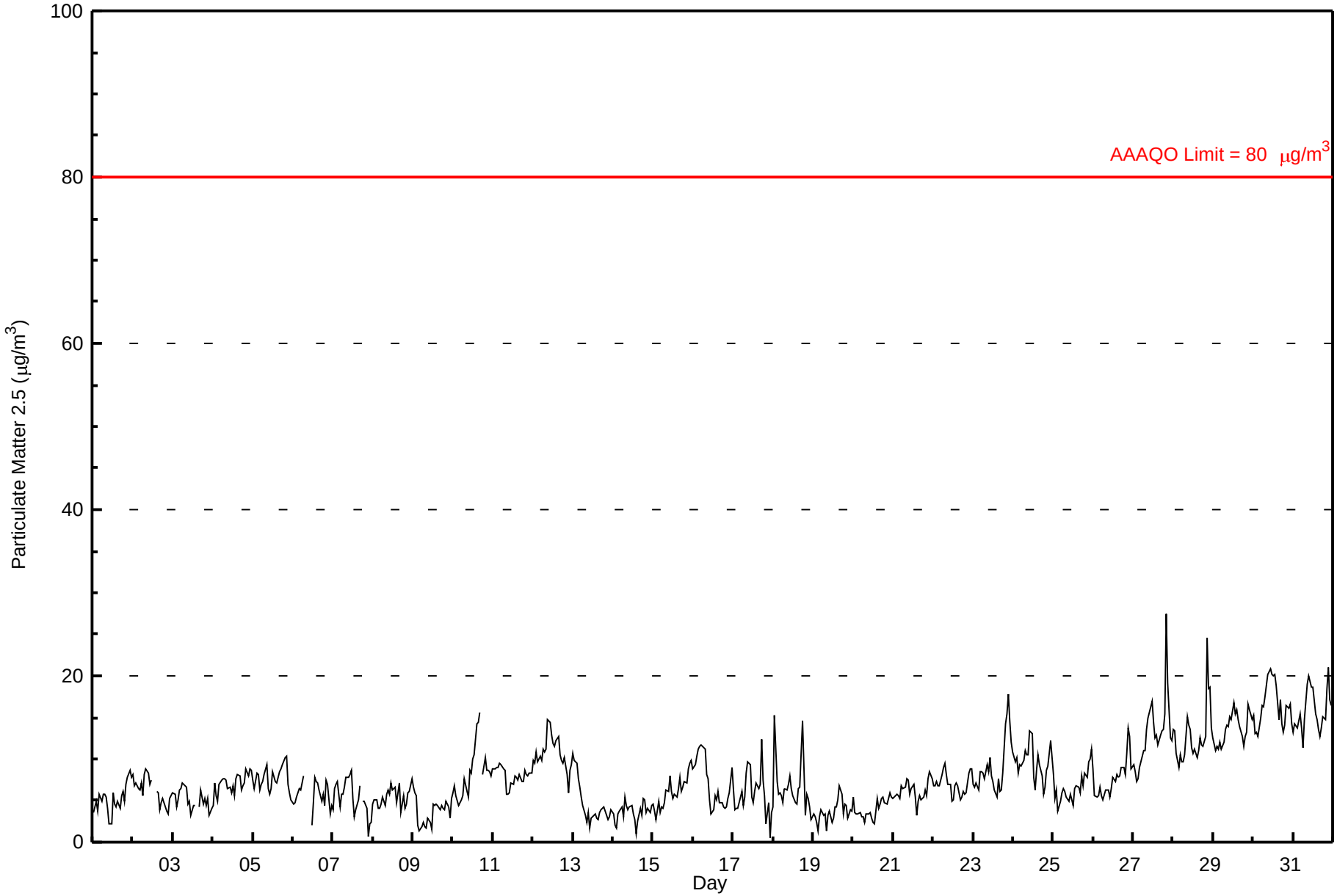
Minimum Daily Average: 3.6 $\mu g/m^3$ on Jul 19
Minimum Diurnal Average: 6.6 $\mu g/m^3$ at hour 4
Percentiles: P_1 = 1.7 P_{10} = 3.5 Q_1 = 4.9 Median = 6.7 Q_3 = 9.5 P_{90} = 13.6 P_{99} = 20.2

Hours in Service:	744
Hours of Data:	734
Hours of Missing Data:	10
Hours of Calibration:	4
Percent Operational Time:	99.2

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-Jul	4	4	5	4	6	5	6	6	5	4	2	2	6	5	4	5	4	6	6	5	7	8	9	8	5.2	8.7
2-Jul	8	7	7	6	6	7	6	8	9	8	7	7	C	C	6	6	4	5	5	5	4	3	5	6	6.2	8.7
3-Jul	6	6	4	5	6	6	7	7	7	5	5	3	4	4	C	C	4	6	5	5	4	5	3	4	5.1	7.0
4-Jul	4	7	6	5	7	7	8	8	8	6	7	6	7	6	8	8	8	6	7	7	9	8	9	9	7.0	8.8
5-Jul	7	6	8	8	6	7	7	8	9	6	6	6	8	7	7	8	8	9	9	10	10	7	6	5	7.6	10.3
6-Jul	5	5	5	6	6	6	8	P	P	P	P	2	5	8	7	7	6	5	6	4	8	7	3	4	5.7	7.9
7-Jul	4	7	7	7	4	6	6	7	8	8	8	9	5	3	4	5	7	P	5	5	4	1	2	2	5.3	8.6
8-Jul	5	5	5	4	4	5	5	4	6	6	6	7	6	7	5	6	7	4	6	4	5	6	6	8	5.4	7.7
9-Jul	7	6	6	2	1	2	2	2	2	3	2	2	5	4	5	4	4	4	4	4	5	4	3	5	3.6	6.6
10-Jul	6	7	6	4	5	5	6	8	6	6	9	8	10	11	14	14	16	P	8	10	9	9	9	8	8.3	15.6
11-Jul	9	9	9	9	10	9	9	9	6	6	6	7	7	8	8	7	8	7	7	9	8	8	8	8	8.0	9.5
12-Jul	10	10	11	10	10	10	11	11	11	15	14	13	12	11	12	13	11	10	10	10	8	6	9	9	10.6	14.7
13-Jul	11	10	10	8	7	5	4	3	2	4	2	3	3	3	3	3	4	4	4	4	3	3	3	4	4.5	10.7
14-Jul	3	2	2	3	4	4	3	5	4	4	4	4	3	3	1	2	4	3	5	5	4	4	4	4	3.6	5.4
15-Jul	5	4	3	5	4	4	4	5	6	6	8	6	5	6	5	6	8	6	7	7	7	9	9	10	6.0	9.8
16-Jul	9	9	10	11	12	12	12	11	8	8	5	3	4	6	5	6	5	5	4	4	4	5	6	9	7.2	11.7
17-Jul	6	4	4	4	5	6	4	5	8	10	9	5	5	6	7	6	7	12	8	6	2	5	0	4	5.8	12.3
18-Jul	4	15	7	6	6	6	5	7	6	7	8	6	6	5	5	6	7	11	15	3	6	5	4	3	6.6	15.3
19-Jul	3	3	2	1	3	4	3	3	1	3	4	2	3	4	4	5	7	6	3	5	4	3	4	4	3.6	6.8
20-Jul	5	4	3	3	4	3	3	2	3	3	4	3	2	2	5	4	5	5	5	5	5	5	6	5	4.0	5.9
21-Jul	5	6	6	6	5	7	6	7	8	7	6	6	7	5	3	5	6	5	5	6	6	8	8	8	6.1	8.4
22-Jul	7	7	7	7	7	8	9	9	8	7	7	5	5	7	7	7	5	6	6	6	6	8	9	9	7.0	9.5
23-Jul	7	7	7	6	8	8	8	8	9	9	10	8	7	6	5	8	6	6	8	14	15	18	15	12	9.1	17.8
24-Jul	11	10	10	8	9	9	10	11	10	10	13	13	8	6	9	11	9	8	6	7	9	9	12	10	9.5	13.4
25-Jul	8	5	6	4	5	6	6	6	5	5	6	5	4	6	7	7	6	8	7	8	8	10	10	11	6.6	11.2
26-Jul	9	6	5	6	7	6	5	6	6	6	6	6	8	7	8	8	8	9	9	8	11	14	13	9	7.7	13.7
27-Jul	9	8	7	8	9	10	11	11	14	15	16	17	14	12	13	12	13	13	14	15	28	19	13	12	13.1	27.5
28-Jul	14	13	11	9	11	10	10	10	15	14	14	11	11	11	10	11	13	12	12	13	25	19	19	14	12.8	24.5
29-Jul	13	11	11	11	12	11	12	14	14	14	15	15	17	15	16	15	14	13	11	13	13	17	16	15	13.6	16.8
30-Jul	15	13	13	13	15	16	16	17	19	20	21	20	20	20	19	15	17	14	13	14	16	16	17	14	16.5	20.8
31-Jul	13	14	14	15	15	14	11	15	19	20	19	19	19	15	15	14	13	14	15	15	18	21	17	16	15.8	21.0
	7.5	7.4	7.1	6.6	7.1	7.3	7.3	7.8	8.2	8.2	8.2	7.5	7.5	7.4	7.6	7.8	7.8	7.6	7.6	7.6	8.7	8.7	8.3	8.0	Diurnal Average	
	15.3	15.3	13.8	14.6	15.5	16.4	16.3	17.5	19.1	20.2	20.8	20.2	19.9	20.2	18.8	14.8	17.0	14.3	15.1	15.5	27.5	21.0	18.6	16.5	Diurnal Maximum	

C - Calibration P - Power Failure
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
July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 30.1 $\mu g/m^3$ on Jul 27 21:00

Maximum Daily Average: 17.5 $\mu g/m^3$ on Jul 30

Minimum Value: 2 $\mu g/m^3$ on Jul 14 15:00

Maximum Diurnal Average: 10.3 $\mu g/m^3$ at hour 21

Monthly Average: 8.76 $\mu g/m^3$

Minimum Daily Average: 4.3 $\mu g/m^3$ on Jul 14

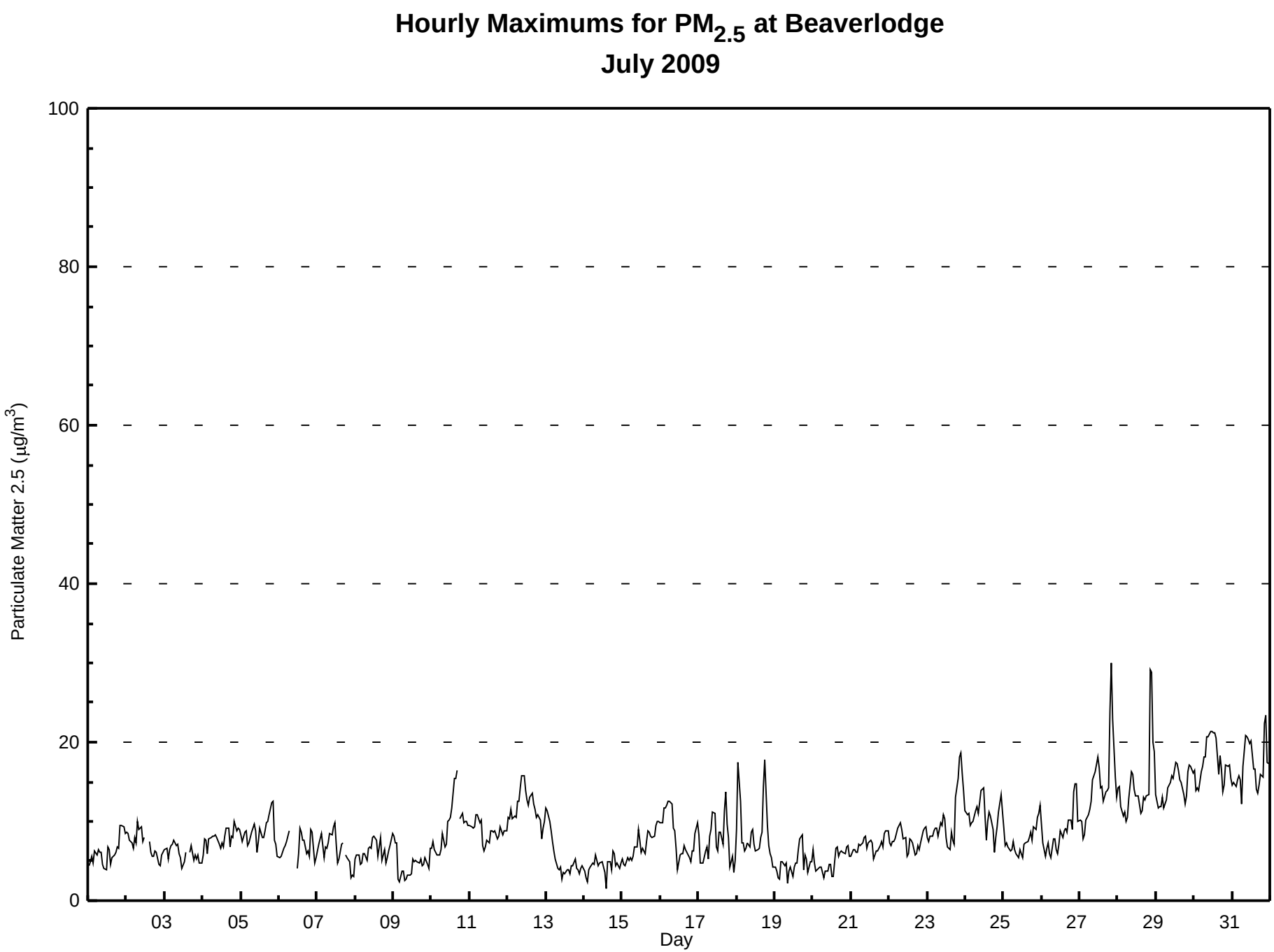
Minimum Diurnal Average: 7.5 $\mu g/m^3$ at hour 4

Percentiles: P_1 = 2.7 P_{10} = 4.5 Q_1 = 5.8 Median = 7.7 Q_3 = 10.6 P_{90} = 14.7 P_{99} = 21.9

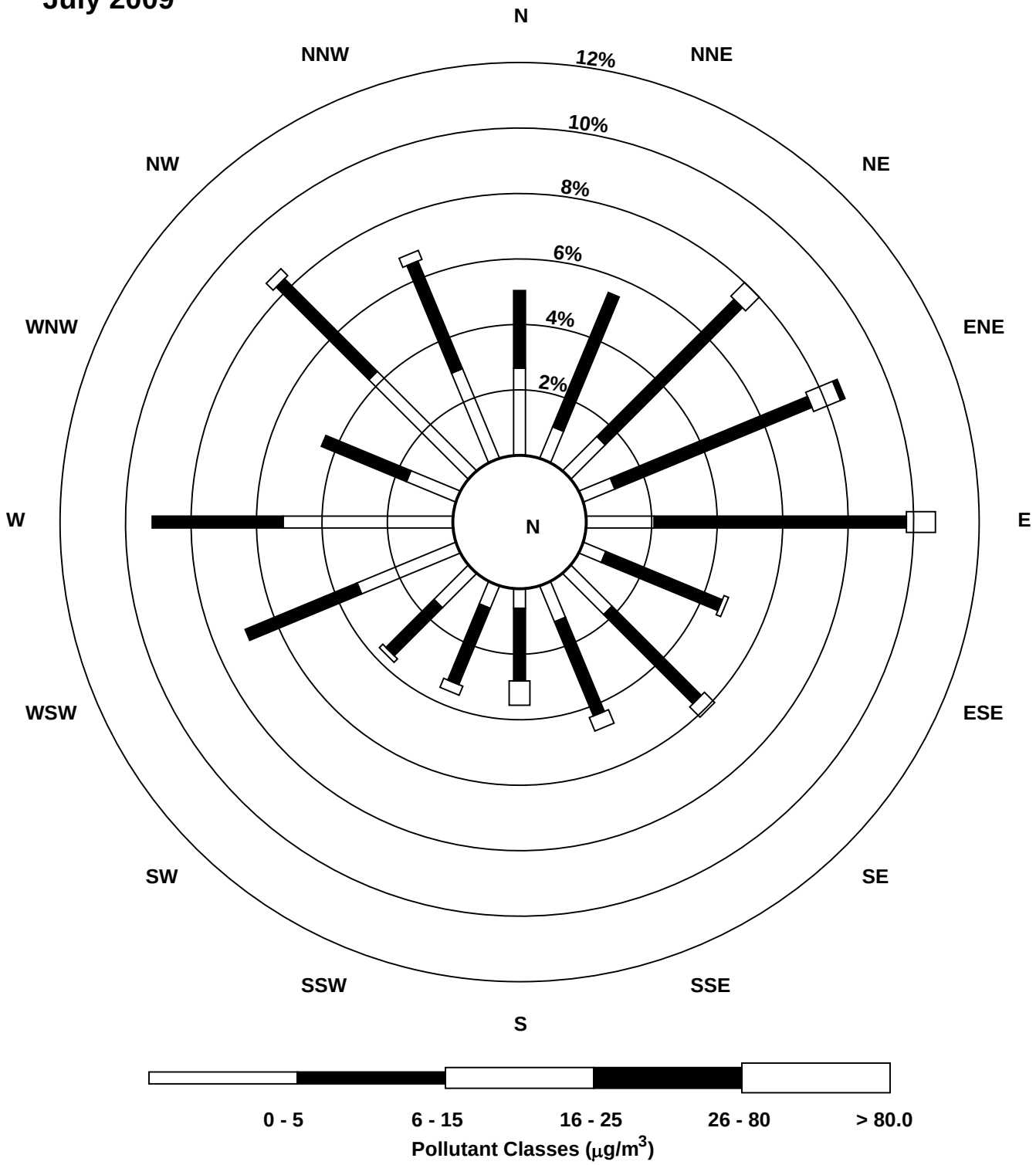
Hours in Service:	744
Hours of Data:	734
Hours of Missing Data:	10
Hours of Calibration:	4
Percent Operational Time:	99.2

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-Jul	4	5	6	5	6	6	6	6	6	5	4	4	7	6	5	5	6	6	7	7	10	9	9	8	6.2	9.6
2-Jul	9	8	8	7	7	8	7	10	9	9	7	8	C	C	7	6	6	6	6	6	4	4	6	6	7.1	10.0
3-Jul	7	7	5	6	7	7	8	7	7	6	5	4	5	6	C	C	6	7	5	6	5	6	5	5	6.0	7.6
4-Jul	6	8	8	6	8	8	8	8	8	8	7	7	7	7	8	9	9	7	8	8	10	9	9	9	7.9	10.1
5-Jul	8	8	9	9	7	7	8	9	10	9	6	7	9	8	8	9	10	10	11	12	13	8	7	6	8.6	12.6
6-Jul	5	6	6	7	7	8	9	P	P	P	P	4	6	9	9	8	8	6	6	6	9	9	5	5	6.8	9.1
7-Jul	6	7	8	8	5	7	7	7	9	8	9	10	7	5	5	7	7	P	6	5	5	3	3	3	6.4	9.8
8-Jul	5	6	6	5	5	6	6	5	7	7	7	8	8	8	6	7	8	5	6	5	5	6	7	8	6.3	8.5
9-Jul	8	7	7	3	2	4	4	3	3	3	3	3	5	5	5	5	5	5	4	5	5	5	4	7	4.6	8.2
10-Jul	7	7	6	6	6	6	6	9	7	7	10	10	11	12	15	15	16	P	10	11	10	10	10	10	9.4	16.4
11-Jul	10	9	9	9	11	11	10	10	7	6	7	8	7	9	9	9	9	8	8	9	9	8	9	9	8.7	10.8
12-Jul	11	10	12	10	11	11	13	13	14	16	16	14	13	12	13	14	12	11	10	11	10	8	9	10	11.7	15.7
13-Jul	12	11	10	9	7	6	5	4	4	4	3	4	3	4	4	3	4	4	5	4	4	3	4	4	5.3	11.7
14-Jul	4	3	2	4	4	5	5	6	5	4	5	5	4	4	2	5	5	4	6	6	4	5	4	5	4.3	6.2
15-Jul	5	5	4	5	5	5	5	6	7	7	9	8	6	7	6	7	9	9	8	8	8	10	10	10	7.0	10.1
16-Jul	10	10	12	12	12	13	12	12	9	9	7	4	6	6	6	7	6	6	6	5	6	6	9	10	8.3	12.5
17-Jul	8	5	5	5	6	7	5	8	9	11	11	7	6	9	9	7	11	14	10	8	4	6	4	5	7.5	13.8
18-Jul	9	17	12	7	7	6	7	7	7	9	9	7	6	7	7	8	9	14	18	9	7	6	5	4	8.6	17.9
19-Jul	4	4	3	3	5	5	4	5	2	4	4	3	4	5	5	6	8	8	4	6	5	4	5	5	4.6	8.4
20-Jul	6	5	4	4	4	4	4	3	4	4	5	5	3	3	7	7	6	6	6	6	6	7	7	6	5.0	7.0
21-Jul	6	7	6	6	6	7	7	7	8	8	7	7	8	7	5	6	6	6	7	8	7	8	9	9	7.0	8.8
22-Jul	7	7	8	8	8	9	10	10	9	8	8	6	6	8	8	7	6	6	7	6	7	9	9	9	7.7	9.8
23-Jul	8	7	8	8	9	9	9	8	10	10	11	10	8	7	6	9	8	7	13	15	18	19	16	14	10.3	18.7
24-Jul	11	11	11	10	10	10	11	12	11	12	14	14	11	8	10	11	11	9	6	8	9	11	13	11	10.7	14.2
25-Jul	9	7	7	7	6	6	7	7	6	5	6	6	5	7	7	8	8	9	8	9	9	11	11	12	7.7	12.0
26-Jul	10	7	6	7	7	6	5	8	8	7	6	7	9	8	9	9	9	10	10	9	14	15	15	10	8.7	14.7
27-Jul	10	10	8	8	10	11	12	13	15	16	16	18	17	14	14	13	14	14	14	24	30	23	16	13	14.7	30.1
28-Jul	14	14	12	11	11	10	10	13	16	16	14	13	13	13	11	11	13	13	13	13	29	29	20	19	14.7	29.2
29-Jul	13	12	12	12	13	12	13	14	15	15	16	15	17	17	16	15	15	13	12	13	16	17	17	16	14.5	17.4
30-Jul	17	14	14	14	16	17	18	18	21	21	21	21	21	21	21	16	18	17	14	15	17	17	17	15	17.5	21.4
31-Jul	15	15	14	15	16	15	12	17	21	21	20	20	20	17	17	14	14	14	16	16	22	23	17	17	17.0	23.3
	8.5	8.3	8.0	7.5	7.9	8.1	8.2	8.8	9.1	9.1	9.1	8.6	8.7	8.5	8.6	8.8	9.0	8.8	8.8	9.0	10.3	10.1	9.4	9.1	Diurnal Average	
	16.5	17.4	14.4	15.3	16.2	16.9	18.1	18.1	20.8	20.7	21.4	21.4	21.2	21.1	20.6	15.9	18.3	16.6	17.9	23.9	30.1	28.8	20.1	18.8	Diurnal Maximum	

C - Calibration P - Power Failure


Hourly Maximums for PM2.5 at Beaverlodge
July 2009
Particulate Matter 2.5 (µg/m3)
100
80
60
40
20
0
03
05
07
09
11
13
15
17
19
21
23
25
27
29
31
Day

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



Peace Airshed Zone Association
Summary of Hourly Averages

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

Maximum Value: 30.9 ^{o}C on Jul 27 16:00

Maximum Daily Average: 23.5 ^{o}C on Jul 27

Minimum Value: 4 ^{o}C on Jul 2 04:00

Minimum Daily Average: 10.7 ^{o}C on Jul 9

Maximum Diurnal Average: 22.5 ^{o}C at hour 16

Minimum Diurnal Average: 11.6 ^{o}C at hour 6

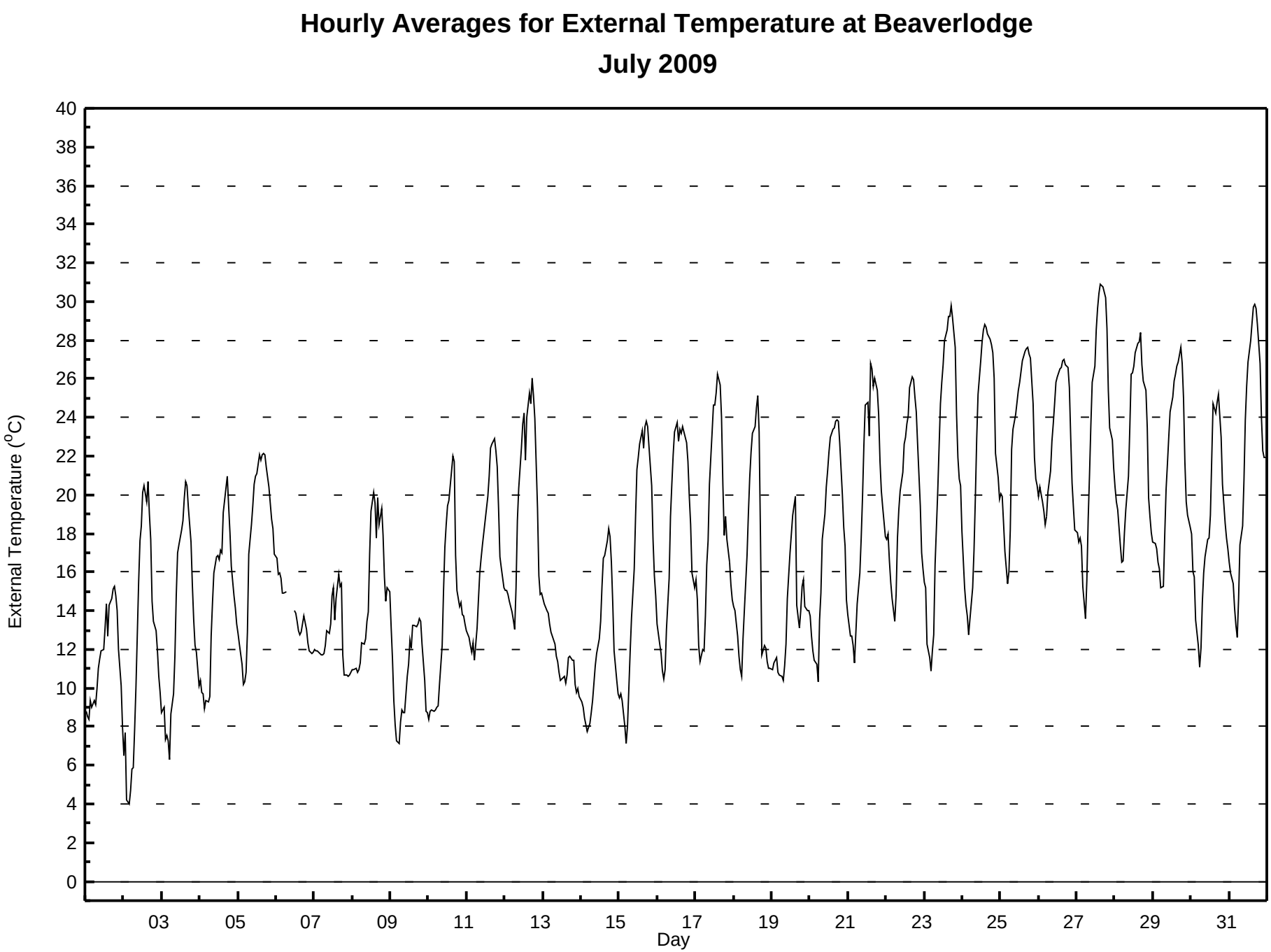
Monthly Average: 17.25 ^{o}C

Percentiles: P_1 = 7.1 P_{10} = 10.2 Q_1 = 12.3 Median = 16.7 Q_3 = 21.9 P_{90} = 25.8 P_{99} = 29.8

Hours in Service:	744
Hours of Data:	740
Hours of Missing Data:	4
Hours of Calibration:	0
Percent Operational Time:	99.5

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-Jul	9	8	8	9	9	9	9	10	11	12	12	12	13	14	13	14	15	15	15	15	14	12	10	8	11.6	15.2
2-Jul	7	8	4	4	5	6	6	8	10	15	18	18	20	20	20	21	19	18	14	13	13	12	11	10	12.5	20.7
3-Jul	9	9	7	8	7	6	9	10	12	15	17	17	18	19	20	21	20	19	18	15	14	12	12	10	13.5	20.7
4-Jul	10	10	10	9	9	9	10	13	14	16	17	17	17	17	17	19	20	21	19	18	16	15	14	13	14.6	20.9
5-Jul	13	12	11	10	10	11	13	17	18	19	21	21	21	22	22	22	22	22	21	20	20	19	18	17	17.6	22.1
6-Jul	17	16	16	16	15	15	15	P	P	P	P	14	14	13	13	13	13	14	13	13	12	12	12	12	13.9	16.7
7-Jul	12	12	12	12	12	12	12	12	13	13	13	15	15	13	15	16	15	15	12	11	11	11	11	11	12.7	15.9
8-Jul	11	11	11	11	11	11	12	12	13	13	14	17	19	20	20	18	20	18	19	18	16	15	15	15	15.0	20.1
9-Jul	13	12	9	8	7	7	8	9	9	9	11	11	12	12	13	13	13	13	14	13	12	10	9	9	10.7	13.6
10-Jul	8	9	9	9	9	9	9	10	12	15	17	18	19	20	21	22	22	17	15	14	14	14	14	13	14.2	22.0
11-Jul	13	13	12	12	12	11	13	15	16	17	17	18	19	20	21	22	23	23	22	21	19	17	16	15	17.0	22.9
12-Jul	15	15	15	14	14	14	13	15	19	20	22	24	24	22	24	25	25	26	25	24	19	16	15	15	19.2	26.1
13-Jul	15	14	14	14	13	13	13	12	12	11	11	10	10	11	10	11	12	12	11	11	10	10	10	10	11.7	14.6
14-Jul	9	9	8	8	8	8	9	9	10	11	12	13	13	15	17	17	18	18	18	17	14	12	10	10	12.2	18.3
15-Jul	9	10	9	8	7	8	10	12	14	16	19	21	22	23	23	22	24	24	24	22	20	18	16	15	16.5	23.8
16-Jul	13	12	12	11	10	11	13	16	19	21	22	23	24	23	23	23	24	23	23	22	20	18	16	15	18.2	23.8
17-Jul	16	15	12	11	12	12	14	16	18	21	23	25	25	25	26	26	24	21	18	19	18	16	15	15	18.4	26.3
18-Jul	14	14	13	12	11	11	13	14	17	19	21	22	23	24	25	25	23	18	12	12	12	11	11	11	16.1	25.1
19-Jul	11	11	11	12	11	11	11	10	11	12	15	17	18	19	19	20	14	13	14	15	16	14	14	14	13.9	19.9
20-Jul	14	13	12	11	11	10	14	15	18	19	20	21	22	23	23	23	24	24	24	23	20	18	17	15	18.1	23.9
21-Jul	14	13	13	12	11	13	14	16	18	20	23	25	25	23	27	27	26	26	25	24	22	20	19	18	19.7	26.8
22-Jul	18	18	17	15	15	13	15	18	19	20	21	23	23	24	24	26	26	26	25	24	23	19	17	16	20.2	26.1
23-Jul	15	15	12	12	11	12	13	16	20	23	25	26	27	28	29	29	29	30	29	28	24	22	21	20	21.5	29.8
24-Jul	18	15	14	14	13	14	15	17	20	23	25	27	28	29	29	29	28	28	28	27	26	22	21	20	22.0	28.8
25-Jul	20	20	19	17	15	16	18	22	23	24	25	25	26	26	27	27	28	28	27	27	25	22	21	20	22.9	27.6
26-Jul	20	20	20	19	18	19	20	21	23	24	25	26	26	27	27	27	27	27	27	26	23	21	19	18	22.8	27.0
27-Jul	18	18	18	17	15	14	16	19	21	24	26	27	29	30	30	31	31	31	30	29	25	23	23	21	23.5	30.9
28-Jul	20	20	19	17	17	17	18	19	21	23	26	26	27	27	28	28	28	27	26	25	23	20	19	18	22.5	28.4
29-Jul	18	18	17	16	16	15	15	18	20	22	23	24	25	26	26	27	27	28	27	25	22	20	19	18	21.3	27.6
30-Jul	18	16	16	13	12	11	12	14	16	17	18	18	19	22	25	24	25	25	24	23	21	19	18	17	18.4	25.2
31-Jul	17	16	15	14	13	13	15	17	18	21	24	26	27	28	29	30	30	30	29	27	24	22	22	22	22.0	29.9
	14.0	13.5	12.8	12.1	11.6	11.6	12.7	14.5	16.1	17.8	19.4	20.2	21.0	21.4	22.1	22.5	22.4	21.9	20.9	20.1	18.3	16.5	15.6	14.9	Diurnal Average	
	20.4	20.4	19.6	19.1	18.4	18.9	20.1	22.3	23.4	24.1	26.2	26.9	28.5	29.6	30.4	30.9	30.8	30.5	30.2	28.6	26.0	23.4	22.8	21.9	Diurnal Maximum	

P - Power Failure


Hourly Averages for External Temperature at Beaverlodge
July 2009
External Temperature (°C)
40
38
36
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
03
05
07
09
11
13
15
17
19
21
23
25
27
29
31
Day

Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge - Relative Humidity (RH) - %
July 1, 2009 to August 1, 2009

Maximum Value: 95.5 % on Jul 8 00:00

Maximum Daily Average: 87.1 % on Jul 7

Minimum Value: 20 % on Jul 23 17:00

Minimum Daily Average: 45.5 % on Jul 26

Maximum Diurnal Average: 81.2 % at hour 5

Minimum Diurnal Average: 43.1 % at hour 16

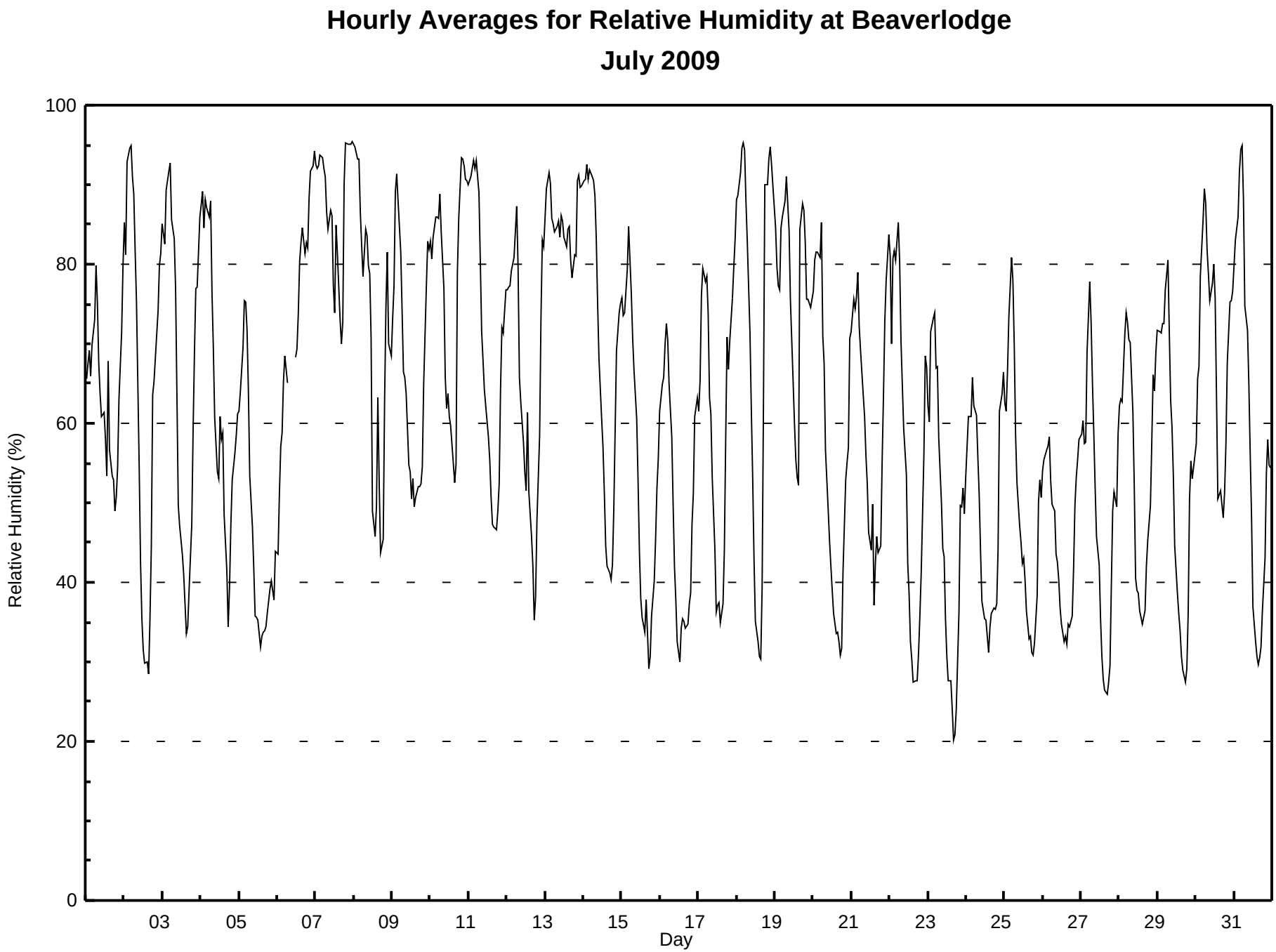
Monthly Average: 62.37 %

Percentiles: P_1 = 27.4 P_{10} = 35.0 Q_1 = 45.7 Median = 62.7 Q_3 = 79.8 P_{90} = 88.7 P_{99} = 95.0

Hours in Service:	744
Hours of Data:	740
Hours of Missing Data:	4
Hours of Calibration:	0
Percent Operational Time:	99.5

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-Jul	66	68	69	66	70	73	80	75	68	64	61	61	58	53	68	57	53	53	49	51	54	63	71	80	63.8	79.8
2-Jul	85	81	93	95	95	91	89	82	75	54	43	35	31	30	30	28	35	44	64	65	71	74	80	81	64.7	94.9
3-Jul	85	83	89	90	92	93	86	83	77	63	50	47	44	41	37	34	34	39	47	59	69	77	77	86	65.9	92.7
4-Jul	88	89	85	88	87	86	88	77	70	61	54	53	61	58	59	49	42	34	39	47	53	56	58	61	64.2	89.1
5-Jul	61	64	69	75	75	72	64	53	47	42	36	36	35	32	33	34	34	34	36	39	40	39	38	44	47.2	75.4
6-Jul	44	51	57	59	65	68	65	P	P	P	P	68	69	74	80	83	85	81	83	82	88	92	92	94	74.0	94.2
7-Jul	92	92	92	94	93	92	91	87	84	87	86	77	74	85	81	73	70	73	90	95	95	95	95	95	87.1	95.5
8-Jul	95	95	93	93	87	82	78	84	84	80	79	71	49	46	50	63	53	44	45	63	75	81	70	69	72.0	95.1
9-Jul	73	77	89	91	88	81	74	66	66	64	55	54	51	53	50	51	52	52	52	55	65	77	83	82	66.7	91.4
10-Jul	83	81	83	86	86	86	89	84	77	66	62	64	61	60	55	53	55	79	86	93	93	92	91	90	77.2	93.4
11-Jul	90	91	92	93	92	93	89	80	72	68	64	62	58	55	51	47	47	47	49	52	64	72	71	77	69.9	93.1
12-Jul	77	77	77	79	81	84	87	80	66	63	58	54	52	61	51	46	42	35	38	48	58	73	83	82	64.7	87.3
13-Jul	86	90	92	90	86	85	84	85	85	83	86	85	83	82	84	85	80	78	81	81	91	91	90	90	85.6	91.5
14-Jul	91	91	93	91	92	91	91	89	83	75	68	60	57	51	45	42	41	40	42	49	59	69	74	75	69.1	92.5
15-Jul	76	74	74	79	85	80	76	71	67	61	53	44	38	36	34	38	34	29	31	36	40	45	52	56	54.4	84.7
16-Jul	62	65	66	70	72	71	65	58	50	42	38	33	30	34	35	35	34	35	37	39	47	51	61	63	49.7	72.5
17-Jul	61	65	76	80	78	78	74	63	61	53	44	36	37	37	35	37	44	58	71	67	70	76	80	83	61.1	83.2
18-Jul	88	89	92	95	95	94	88	83	71	62	53	43	35	33	31	30	39	62	90	90	93	95	93	90	72.2	95.2
19-Jul	85	80	77	77	85	86	88	91	88	84	75	65	60	55	53	52	84	88	87	83	76	76	75	76	76.8	91.0
20-Jul	77	80	82	82	81	85	71	67	57	49	45	42	39	36	34	34	33	31	32	41	53	55	57	71	55.5	85.2
21-Jul	72	76	74	76	79	72	69	64	61	56	52	46	44	50	37	42	46	44	45	55	63	73	78	84	60.7	83.7
22-Jul	81	70	81	82	80	85	80	70	65	59	54	42	39	33	30	27	28	28	31	36	41	56	68	67	55.6	85.2
23-Jul	62	60	72	73	74	67	67	58	50	44	43	35	31	28	28	24	20	21	24	36	50	49	52	49	46.5	73.9
24-Jul	53	61	61	61	66	62	61	56	51	44	38	35	35	33	31	34	36	37	37	37	44	62	64	67	48.6	66.5
25-Jul	63	62	67	73	81	78	70	58	52	47	45	42	43	40	36	33	33	31	31	32	38	50	53	51	50.5	80.9
26-Jul	54	55	57	57	58	53	50	49	44	42	40	37	35	33	33	32	35	34	36	42	50	53	55	58	45.5	58.4
27-Jul	59	60	57	58	69	78	73	65	59	52	46	42	35	31	28	26	26	27	29	40	49	51	50	59	48.7	77.8
28-Jul	62	63	63	71	74	73	70	70	61	52	41	39	39	36	35	36	36	42	45	50	58	66	64	69	54.8	74.0
29-Jul	72	71	71	73	73	77	81	71	63	60	53	45	39	36	34	31	29	27	29	36	50	55	53	56	53.5	80.5
30-Jul	58	66	67	78	85	89	88	82	79	75	78	80	76	63	51	51	50	48	51	57	68	75	75	77	69.5	89.5
31-Jul	80	83	86	92	94	95	88	75	72	65	56	48	37	33	31	30	30	32	36	43	54	58	55	54	59.4	95.0
	73.5	74.5	77.3	79.6	81.2	80.7	77.9	72.6	66.8	60.6	55.2	51.1	47.6	46.1	44.2	43.1	43.9	45.4	49.8	54.8	61.9	67.8	69.6	72.0	Diurnal Average	
	95.1	94.8	93.2	94.7	95.2	95.0	91.1	91.0	87.6	86.8	86.2	85.4	83.3	84.9	84.4	84.7	84.6	87.6	90.2	95.2	95.1	95.0	95.1	95.5	Diurnal Maximum	

P - Power Failure


Hourly Averages for Relative Humidity at Beaverlodge
July 2009
Relative Humidity (%)
100
80
60
40
20
0
03
05
07
09
11
13
15
17
19
21
23
25
27
29
31
Day

Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge
July 1, 2009 to August 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	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
Dir	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
2 Spd	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
Dir	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
3 Spd	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	7	4	7	9	7	9	9	10	3	5	8	10	--	10.0
Dir	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	355	348	340	22	25	31	38	332	31	321	326	321	--	320.9
4 Spd	12	10	5	6	7	3	4	6	10	10	8	8	10	7	11	4	5	5	9	7	8	9	10	8	4.1	12.1
Dir	333	344	355	338	350	27	311	333	343	22	36	36	160	181	185	152	12	346	51	76	46	37	32	46	19.0	332.8
5 Spd	6	6	5	5	6	2	1	3	9	12	14	15	16	16	16	18	17	19	17	14	17	22	25	20	12.0	25.3
Dir	52	48	38	34	30	20	138	83	100	100	87	73	88	114	86	87	88	85	81	74	71	68	83	87	80.7	83.3
6 Spd	22	20	21	22	25	32	35	P	P	P	P	37	36	36	22	28	34	34	33	34	29	27	34	37	28.5	36.9
Dir	81	81	87	84	80	91	90	P	P	P	P	68	62	59	50	41	40	39	42	50	50	44	50	52	60.5	68.5
7 Spd	33	26	29	27	28	31	31	31	30	28	24	20	7	7	8	17	18	22	13	3	9	13	13	12	16.0	32.7
Dir	52	54	53	48	48	52	48	50	54	56	68	78	80	241	335	22	7	22	122	242	287	318	322	325	43.2	52.2
8 Spd	6	12	13	12	13	14	8	6	12	11	9	5	10	8	9	9	1	13	7	12	5	3	13	22	6.3	22.2
Dir	322	315	323	324	358	8	345	290	306	319	295	205	23	14	302	80	282	359	265	171	215	124	352	5	336.6	4.6
9 Spd	26	24	18	18	17	16	13	12	13	10	2	4	3	4	4	7	5	7	8	6	6	5	4	6	6.3	25.7
Dir	358	358	6	11	358	359	356	9	17	16	47	7	354	3	296	235	246	261	219	200	185	155	88	84	358.5	358.5
10 Spd	4	5	6	5	6	4	5	7	5	7	9	14	23	22	15	13	14	12	14	5	9	11	12	12	4.9	23.5
Dir	122	98	134	141	107	136	166	163	153	161	199	220	233	235	246	243	236	286	10	26	283	277	309	308	237.7	232.6
11 Spd	12	10	7	7	8	4	7	10	7	7	7	5	5	4	6	6	5	5	7	8	8	6	8	9	1.4	11.8
Dir	307	318	311	337	345	299	276	313	323	278	259	238	251	264	222	150	155	138	125	124	98	77	79	90	304.7	307.2
12 Spd	9	9	7	6	4	4	5	3	1	5	1	3	5	7	7	5	3	5	3	2	15	12	8	10	1.7	15.1
Dir	89	79	100	102	107	219	212	266	241	273	295	260	310	298	305	312	255	291	342	255	9	20	239	307	331.7	9.2
13 Spd	7	9	8	10	18	14	13	11	13	12	13	13	13	16	15	13	14	13	12	9	10	10	9	8	11.5	17.6
Dir	307	306	314	345	354	355	349	347	347	351	329	331	328	326	325	324	319	327	313	328	339	331	318	324	332.2	354.4
14 Spd	8	5	7	8	8	8	7	7	7	7	7	7	6	4	3	6	4	4	7	10	8	5	5	7	2.5	9.9
Dir	339	321	308	322	322	320	312	307	309	303	300	290	292	275	292	245	274	136	137	157	145	105	85	82	305.0	157.1
15 Spd	7	6	6	4	3	2	4	4	6	8	9	14	20	22	25	13	11	22	23	15	17	14	4	2	7.7	24.5
Dir	87	84	96	125	150	156	136	151	165	180	195	236	261	245	231	279	261	241	245	251	261	250	245	54	235.7	231.1
16 Spd	4	4	4	2	2	1	5	10	16	30	28	33	32	28	25	32	32	30	23	22	13	6	4	3	14.6	32.6
Dir	58	56	149	89	152	141	189	228	231	244	248	260	267	246	247	258	263	266	257	259	267	284	227	297	254.0	259.9
17 Spd	7	2	2	4	4	1	2	3	5	5	4	6	7	6	6	10	12	4	10	5	6	10	10	8	2.2	12.5
Dir	294	203	128	65	43	134	69	146	176	160	140	131	147	129	94	89	81	0	48	27	23	309	352	314	66.1	81.5
18 Spd	5	9	3	5	2	2	5	3	3	4	6	9	6	4	5	9	15	1	21	3	7	5	8	9	1.5	20.6
Dir	270	347	249	242	114	86	163	193	181	209	269	305	309	350	15	92	110	324	301	5	189	179	218	222	257.0	301.2
19 Spd	9	6	11	21	26	25	27	26	24	24	26	30	32	32	27	22	16	10	7	5	9	9	8	3	16.8	32.2
Dir	238	225	235	255	264	264	267	264	272	274	274	277	278	267	272	277	348	296	225	201	254	262	273	324	269.1	278.2
20 Spd	3	7	8	2	1	3	2	5	12	18	15	14	12	10	15	13	17	16	16	10	9	9	5	3	8.6	17.9
Dir	252	254	258	261	195	62	148	207	263	270	277	275	257	243	242	243	253	253	259	241	248	274	275	51	256.6	270.0
21 Spd	3	3	4	4	3	2	3	5	5	6	7	8	8	12	4	8	9	4	4	1	3	3	3	3	2.4	12.4
Dir	81	83	61	69	112	120	93	139	172	190	202	201	194	247	226	114	126	132	351	57	63	108	194	84	150.9	247.1
22 Spd	2	1	3	2	1	2	5	4	9	17	20	24	21	24	23	29	25	22	16	7	4	3	3	4	9.1	28.8
Dir	81	303	65	48	131	78	42	292	284	268	268	263	259	269	282	275	280	294	309	329	346	224	55	53	281.9	275.1

Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge
July 1, 2009 to August 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	5	5	3	4	6	5	6	3	1	4	4	3	6	4	6	6	10	3	8	5	7	5	1	5	2.0	10.2
Dir	25	354	72	84	52	60	53	107	186	270	200	284	30	28	74	266	268	3	75	75	77	64	280	304	38.1	268.4
24 Spd	3	3	3	3	3	4	3	5	6	10	13	12	10	12	20	14	13	11	10	7	1	2	1	1	3.6	20.0
Dir	250	144	90	38	138	74	69	172	203	232	239	270	327	307	288	340	341	345	324	335	224	120	200	211	300.8	287.5
25 Spd	4	5	1	2	2	6	4	3	11	15	15	15	12	13	13	12	14	13	11	6	6	4	3	6	6.5	15.1
Dir	279	291	277	173	130	48	62	309	313	313	316	315	330	328	331	347	26	14	22	13	353	39	20	15	343.2	314.6
26 Spd	11	9	14	11	7	7	9	11	13	13	9	10	11	12	13	11	11	13	11	11	6	7	7	5	9.4	14.2
Dir	30	75	69	70	18	43	96	74	84	80	120	106	105	112	88	93	103	96	94	89	71	77	77	96	84.1	69.3
27 Spd	7	7	6	5	3	3	3	1	3	4	4	5	5	6	4	4	6	1	5	4	4	6	2	9	1.8	9.3
Dir	93	90	70	57	251	278	357	109	167	196	172	185	150	128	141	118	84	334	22	163	74	40	348	326	93.6	326.2
28 Spd	11	12	8	11	14	10	4	2	5	4	1	4	6	3	3	6	10	11	8	7	5	7	11	9	4.1	14.1
Dir	343	57	63	25	22	17	29	247	279	303	235	210	159	149	21	95	103	125	124	109	47	75	84	87	65.5	22.1
29 Spd	8	9	9	7	7	0	6	2	6	8	11	11	8	7	8	6	7	4	5	5	4	6	5	6	4.8	11.2
Dir	89	72	73	66	55	340	260	259	147	150	130	120	140	123	129	127	143	132	102	115	61	44	59	68	106.0	120.0
30 Spd	4	2	3	2	1	1	1	1	2	8	7	3	6	2	4	6	5	5	5	6	4	4	5	4	1.2	8.3
Dir	82	76	42	14	224	89	40	83	313	340	343	322	198	183	112	131	158	162	175	175	141	79	70	76	111.0	339.7
31 Spd	5	4	4	3	2	2	1	2	5	6	6	9	10	9	9	8	10	10	11	7	9	7	3	2	4.2	10.9
Dir	52	66	61	94	90	141	74	117	178	181	166	169	193	203	186	184	156	137	133	111	79	89	95	82	142.5	133.5
Spd	4.5	4.3	3.7	3.9	4.3	3.6	2.4	1.2	1.9	3.2	3.4	2.9	3.1	3.9	3.9	1.8	1.9	3.1	2.0	1.1	2.0	2.9	3.3	4.5	Diurnal Average	
Dir	24.7	30.9	46.2	32.6	25.6	32.9	36.5	325.4	304.7	281.7	261.7	269.5	272.3	264.2	275.5	313.9	346.6	339.7	6.7	75.7	27.3	25.2	26.8	24.8		
Spd	32.7	26.2	28.8	27.0	28.1	31.7	35.2	31.3	30.4	30.0	28.2	36.9	36.2	36.3	26.6	32.2	34.4	33.7	33.0	33.7	29.0	27.2	34.3	36.6	Diurnal Maximum	
Dir	52.2	53.9	53.0	47.9	48.5	91.0	89.6	49.8	54.0	244.3	248.3	68.5	62.3	58.6	272.1	257.5	39.8	39.5	41.8	49.7	50.4	44.1	49.9	51.8		

Maximum Speed Value: 37 km/h on Jul 6 12:00
Maximum Daily Speed Average: 28.5 km/h on Jul 6
Maximum Diurnal Speed Average: 4.5 km/h at hour 1

Minimum Speed Value: 0 km/h on Jul 29 06:00
Minimum Daily Speed Average: 1.2 km/h on Jul 30
Minimum Diurnal Speed Average: 1.1 km/h at hour 20

Monthly Average Velocity: 1.86 km/h 354.55 deg

Speed Percentiles: $P_1 = 0.7$ $P_{10} = 2.7$ $Q_1 = 4.3$ Median = 7.2 $Q_3 = 12.1$ $P_{90} = 21.7$ $P_{99} = 34.3$

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

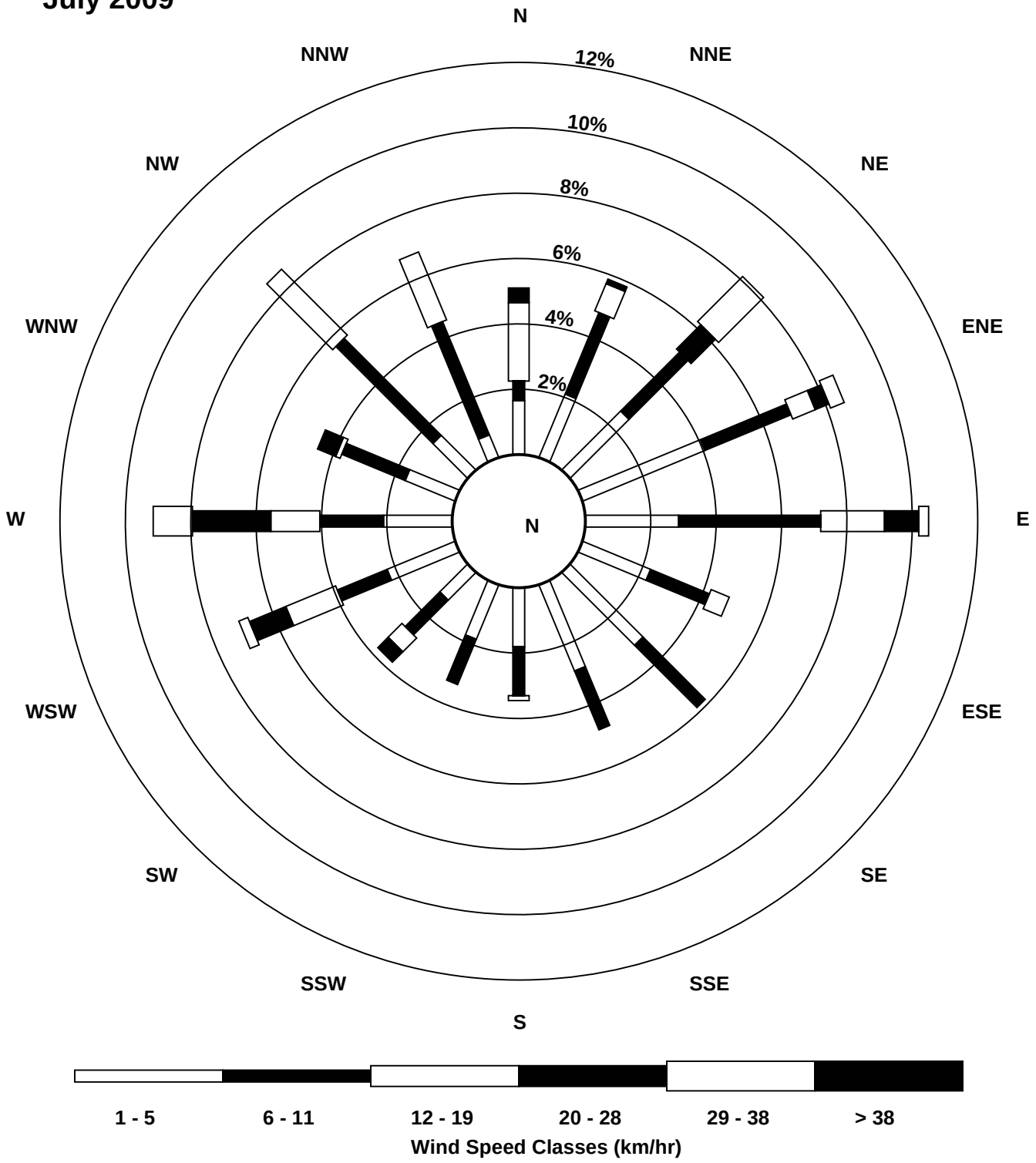
Hours in Service:	684
Hours of Data:	680
Hours of Missing Data:	4
Percent Operational Time:	99.4

P - Power Failure NS - Not in service

Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	23	26	30	4	0	0	83
NorthEast	34	32	3	4	18	0	91
East	38	53	24	10	3	0	128
SouthEast	41	28	4	0	0	0	73
South	22	30	1	0	0	0	53
SouthWest	19	20	11	8	1	0	59
West	27	25	18	20	10	0	100
NorthWest	16	46	29	2	0	0	93
Total	220	260	120	48	32	0	680

Wind Rose for WS at Beaverlodge
July 2009



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

Beaverlodge - Wind Speed (WS) - km/h
July 1, 2009 to August 1, 2009

Maximum Speed: 37 km/h on Jul 6 12:00

Maximum Daily Speed Average: 30.1 km/h on Jul 6

Minimum Speed: 2 km/h on Jul 21 20:00

Minimum Daily Speed Average: 4.6 km/h on Jul 30

Maximum Diurnal Speed Average: 13.4 km/h at hour 18

Minimum Diurnal Speed Average: 7.5 km/h at hour 8

Monthly Average Speed: 10.28 km/h

Percentiles: $P_1 = 1.9$ $P_{10} = 3.6$ $Q_1 = 5.4$ Median = 7.8 $Q_3 = 12.8$ $P_{90} = 21.8$ $P_{99} = 34.4$

Hours in Service: 684
Hours of Data: 680
Hours of Missing Data: 4

Percent Operational Time: 99.4

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
2-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
3-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	9	8	8	11	9	10	9	11	6	6	8	10	--	10.6
4-Jul	12	10	5	7	9	7	6	8	11	11	9	9	12	7	11	7	7	7	10	7	8	9	10	8	8.6	12.1
5-Jul	7	6	5	5	6	5	2	3	10	13	15	16	17	17	17	18	18	19	17	14	17	22	26	21	13.1	25.5
6-Jul	22	20	22	22	25	32	35	P	P	P	P	37	36	36	23	28	34	34	33	34	29	27	34	37	30.1	37.1
7-Jul	33	26	29	27	28	31	31	31	30	28	24	21	9	8	11	17	18	22	17	3	9	13	13	12	20.6	32.7
8-Jul	7	12	13	12	13	14	9	6	12	11	10	8	11	9	13	10	10	14	7	13	6	3	13	22	10.8	22.3
9-Jul	26	24	18	18	17	16	13	13	13	10	4	6	5	6	5	9	6	8	9	6	6	5	4	6	10.7	25.8
10-Jul	4	5	6	5	6	4	5	7	5	7	10	14	24	22	16	13	15	15	15	12	12	11	12	12	10.7	23.7
11-Jul	12	10	7	8	9	5	7	10	8	7	8	6	6	6	7	7	6	6	8	9	8	6	8	9	7.7	12.1
12-Jul	9	10	8	7	5	4	5	5	3	6	4	7	6	7	8	6	4	6	4	2	16	13	9	10	6.8	16.3
13-Jul	8	9	9	10	18	15	14	12	13	12	14	13	14	17	16	13	14	13	12	9	10	10	9	8	12.1	17.8
14-Jul	8	6	7	8	8	8	7	7	7	7	7	7	7	5	5	8	6	6	7	10	9	5	6	7	7.0	10.1
15-Jul	7	6	6	5	3	2	4	4	6	8	10	15	20	23	25	15	13	22	23	15	17	14	6	2	11.3	24.9
16-Jul	4	4	4	4	3	2	6	10	17	30	29	33	33	28	25	32	33	30	23	22	13	6	6	5	16.9	33.0
17-Jul	8	4	4	4	4	3	3	3	5	5	4	6	8	8	7	11	13	15	12	9	7	12	14	10	7.5	15.1
18-Jul	13	12	6	6	2	3	5	4	4	5	6	9	7	5	6	10	16	23	21	6	7	5	8	9	8.3	23.2
19-Jul	9	6	11	21	26	25	27	26	24	25	26	30	32	32	27	25	18	12	7	6	9	9	8	4	18.5	32.5
20-Jul	4	8	8	3	3	3	3	5	12	18	16	15	12	11	16	14	18	16	16	10	9	10	6	4	10.0	18.1
21-Jul	4	3	4	4	4	3	3	5	5	7	7	9	9	13	7	10	9	5	4	2	3	4	3	4	5.4	13.2
22-Jul	3	2	4	3	2	3	5	5	10	17	20	24	21	24	23	29	26	22	16	7	4	3	3	4	11.7	29.2
23-Jul	6	6	4	4	6	5	6	3	3	5	5	6	8	6	7	8	11	6	8	6	7	6	2	5	5.8	10.8
24-Jul	6	4	3	5	4	4	4	5	6	10	13	15	12	14	21	15	13	12	10	7	4	5	2	2	8.1	20.6
25-Jul	5	5	2	3	3	6	4	4	11	15	15	15	13	13	14	13	14	13	12	6	7	4	4	7	8.6	15.4
26-Jul	12	9	14	11	7	7	9	11	13	13	10	11	12	13	14	12	12	13	12	11	7	7	7	6	10.5	14.3
27-Jul	7	7	6	6	3	4	4	3	3	4	4	6	6	7	5	6	7	4	5	4	6	6	3	10	5.3	9.8
28-Jul	12	14	8	11	14	10	4	4	5	5	3	5	7	7	6	7	10	11	8	7	5	7	11	9	8.0	14.1
29-Jul	9	9	9	7	7	5	6	4	6	8	11	12	9	8	9	8	8	5	6	5	4	6	6	6	7.1	11.9
30-Jul	4	2	4	3	3	2	2	2	4	9	7	5	6	4	6	7	6	5	5	6	5	4	5	4	4.6	8.6
31-Jul	5	4	4	3	3	2	2	3	5	6	7	9	10	10	10	9	10	10	11	8	10	7	3	2	6.4	10.9
	9.6	8.7	8.2	8.2	8.6	8.2	8.3	7.5	9.3	11.1	10.9	13.1	13.2	12.9	12.7	13.1	13.3	13.4	12.0	9.2	8.9	8.5	8.5	8.7	Diurnal Average	
	32.7	26.3	28.9	27.1	28.2	31.8	35.3	31.4	30.5	30.1	28.5	37.1	36.3	36.4	26.8	32.4	34.4	33.7	33.0	33.8	29.1	27.3	34.4	36.6	Diurnal Maximum	

P - Power Failure NS - Not in service

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
July 1, 2009 to August 1, 2009

Maximum Value: 89.7 deg on Jul 12 11:00

Minimum Value: 2.5 deg on Jul 15 21:00

Percentiles: P_1 = 3.1 P_{10} = 6.1 Q_1 = 10.2 Median = 19.2 Q_3 = 39.6 P_{90} = 62.6 P_{99} = 85.3

Hours in Service:	684
Hours of Data:	680
Hours of Missing Data:	4
Hours of Calibration:	0
Percent Operational Time:	99.4

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
2-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
3-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	50	69	35	34	48	40	17	23	67	46	13	25	69.4
4-Jul	4	26	62	41	36	74	61	63	23	18	22	29	40	29	13	70	53	58	29	10	10	5	5	8	73.8
5-Jul	40	9	10	44	10	86	54	31	16	20	17	19	24	18	19	17	16	8	9	4	3	3	8	5	85.5
6-Jul	3	5	4	6	7	4	4	P	P	P	P	5	4	4	43	10	3	3	4	4	3	3	4	3	42.7
7-Jul	3	3	3	5	5	3	3	3	4	4	7	8	58	36	40	7	13	10	46	63	15	6	8	8	62.8
8-Jul	64	5	4	5	14	7	23	11	5	10	20	63	17	28	49	29	86	34	17	20	53	33	52	6	86.3
9-Jul	6	6	5	7	10	8	14	27	14	12	68	52	74	70	46	54	40	33	39	27	12	10	13	14	74.1
10-Jul	22	29	10	19	18	23	31	10	16	12	23	13	8	8	19	13	16	42	22	79	61	15	4	10	79.4
11-Jul	13	6	11	12	21	35	14	14	29	21	30	50	42	61	39	22	41	35	16	17	7	10	9	4	60.8
12-Jul	7	8	24	17	27	31	23	71	74	54	90	80	52	21	24	49	53	44	59	43	57	51	32	5	89.7
13-Jul	13	7	14	8	8	9	11	14	10	10	17	11	12	9	9	9	12	10	13	16	14	10	9	7	17.2
14-Jul	9	15	10	11	7	5	7	8	16	16	13	21	38	50	64	51	79	49	20	11	9	24	11	10	78.8
15-Jul	9	18	12	23	15	20	25	19	15	19	20	22	14	10	11	31	40	9	5	6	3	4	88	56	88.1
16-Jul	22	17	38	73	66	74	28	15	10	5	9	7	8	9	11	7	11	9	8	5	10	20	70	62	74.0
17-Jul	29	64	47	11	16	64	41	29	19	22	33	29	48	48	36	19	12	78	37	65	43	43	44	47	78.2
18-Jul	68	38	81	45	51	33	30	27	49	27	25	17	31	53	44	26	15	85	20	59	10	20	17	11	85.4
19-Jul	5	15	5	9	4	6	5	5	5	5	6	7	8	6	7	47	30	39	29	22	10	10	10	51	51.2
20-Jul	60	14	8	89	72	23	53	10	21	9	12	20	22	30	25	20	14	14	7	10	5	15	16	66	89.1
21-Jul	44	32	16	10	30	45	31	15	24	17	22	24	24	20	67	40	11	30	41	44	14	42	32	23	67.3
22-Jul	45	85	28	58	75	51	13	46	10	8	6	7	7	8	8	9	9	11	11	9	12	37	67	10	84.8
23-Jul	48	45	24	20	12	30	13	39	76	39	50	69	49	58	51	63	25	72	11	30	15	13	73	22	76.2
24-Jul	68	40	24	62	34	24	28	24	18	14	15	42	30	27	15	25	16	22	13	11	74	65	77	73	76.6
25-Jul	69	17	63	66	56	12	32	79	10	8	11	12	16	16	19	22	14	10	10	12	30	20	29	13	78.5
26-Jul	14	19	5	13	19	18	11	8	11	9	19	20	23	18	19	21	25	17	9	4	6	7	7	15	24.6
27-Jul	5	11	7	57	21	62	46	63	25	33	24	34	38	38	45	54	60	88	37	54	55	9	43	27	88.4
28-Jul	18	23	26	9	4	4	19	72	16	24	72	45	43	65	70	46	25	15	14	19	17	11	6	4	72.3
29-Jul	7	7	9	9	12	82	13	68	25	14	12	19	29	40	35	44	27	50	18	14	11	8	14	14	82.4
30-Jul	20	37	73	54	81	76	82	68	90	18	24	53	16	75	52	46	38	32	15	12	30	11	11	13	89.5
31-Jul	9	18	6	19	40	36	68	39	20	26	18	19	21	22	24	22	20	8	4	17	8	11	31	51	67.6
	69.2	84.8	81.0	89.1	80.7	85.5	81.8	78.5	89.5	53.7	89.7	80.4	74.1	74.8	69.5	69.5	86.3	88.4	58.6	79.4	73.9	64.7	88.1	73.3	

P - Power Failure NS - Not in service

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
July 1, 2009 to August 1, 2009

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.4 ppb on Jul 12 11:00 Maximum Daily Average: 0.4 ppb on Jul 12

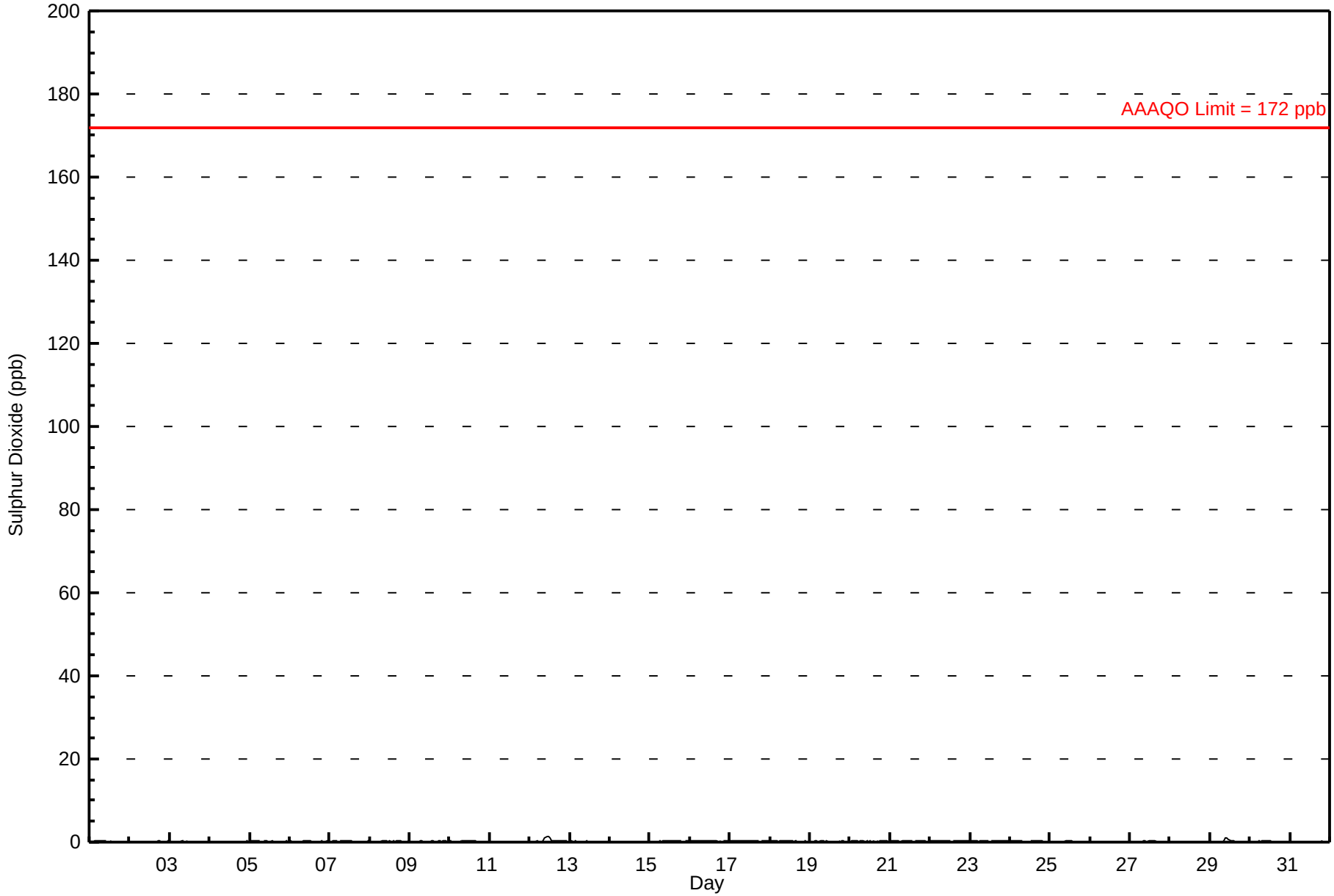
Minimum Value: 0 ppb on Jul 2 06:00 Minimum Daily Average: 0.0 ppb on Jul 11
Maximum Diurnal Average: 0.3 ppb at hour 11 Minimum Diurnal Average: 0.1 ppb at hour 24
Monthly Average: 0.17 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.1 Q_3 = 0.2 P_{90} = 0.3 P_{99} = 0.3

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	36
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-Jul	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	0.4
2-Jul	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
3-Jul	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
4-Jul	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
5-Jul	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
6-Jul	0	0	0	0	0	0	A	0	0	0	0	0	0	0	P	P	0	0	0	0	0	0	0	0	0.2	0.3
7-Jul	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
8-Jul	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
9-Jul	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
10-Jul	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
11-Jul	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
12-Jul	A	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0.4	1.4
13-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.3
14-Jul	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
15-Jul	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
16-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	0.4
17-Jul	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
18-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.3
19-Jul	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
20-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	0.3
21-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.2	0.4
22-Jul	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
23-Jul	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
24-Jul	0	0	0	0	0	0	0	0	C	C	C	A	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
25-Jul	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	0.5
26-Jul	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	0.1
27-Jul	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
28-Jul	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
29-Jul	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0.2	1.1
30-Jul	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.5
31-Jul	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	0.2
	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	Diurnal Average	
	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	1.1	1.4	1.3	0.9	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.5	0.4	Diurnal Maximum	

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

Hourly Averages for SO_2 at Portable-Kinuso
July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Portable-Kinuso - Sulphur Dioxide (SO_2) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 4.3 ppb on Jul 23 16:00

Maximum Daily Average: 0.7 ppb on Jul 12

Minimum Value: 0 ppb on Jul 29 06:00

Minimum Daily Average: 0.2 ppb on Jul 11

Maximum Diurnal Average: 0.6 ppb at hour 10

Minimum Diurnal Average: 0.4 ppb at hour 6

Monthly Average: 0.45 ppb

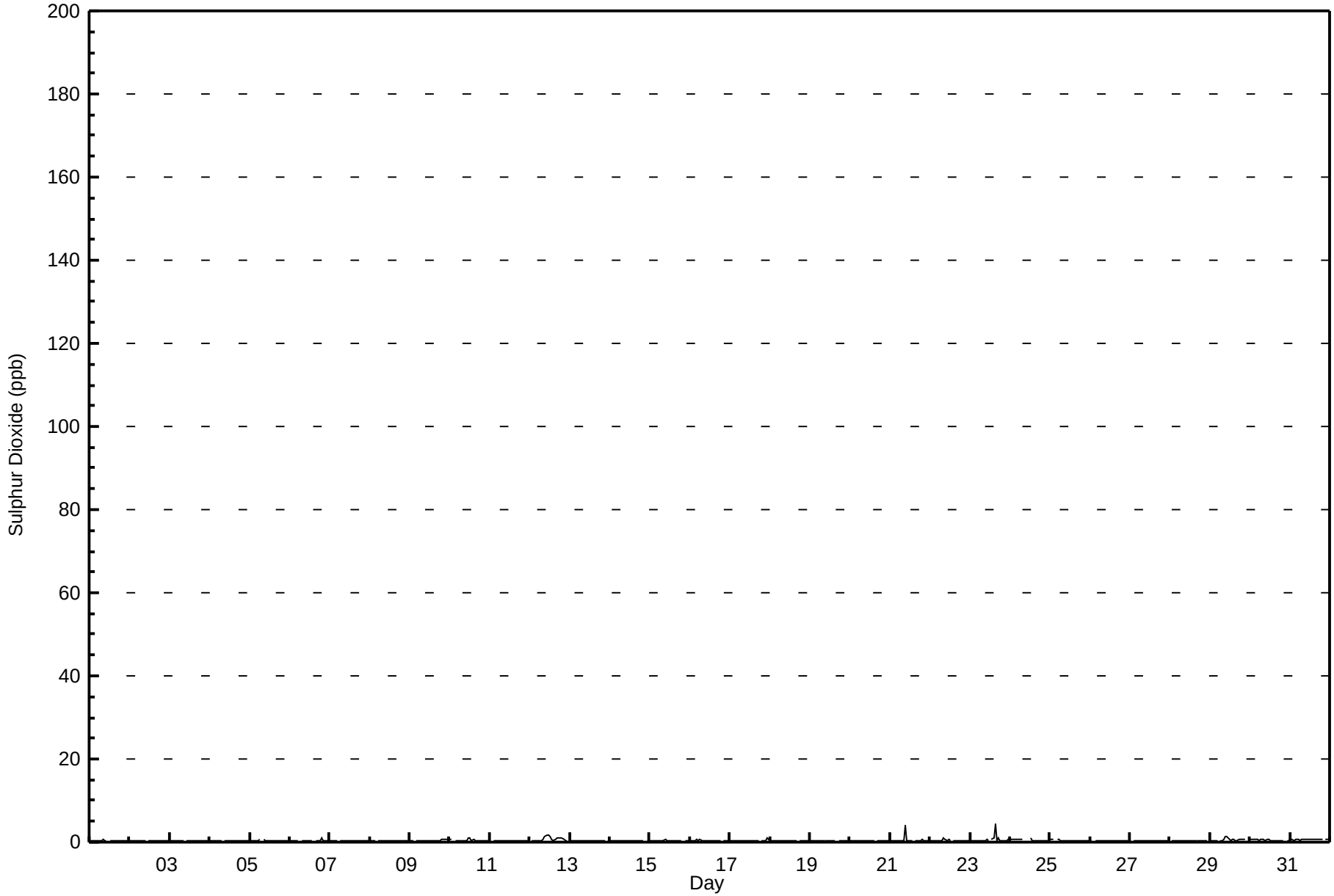
Percentiles: P_1 = 0.2 P_{10} = 0.3 Q_1 = 0.4 Median = 0.4 Q_3 = 0.5 P_{90} = 0.5 P_{99} = 1.2

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	36
Percent Operational Time:	99.7

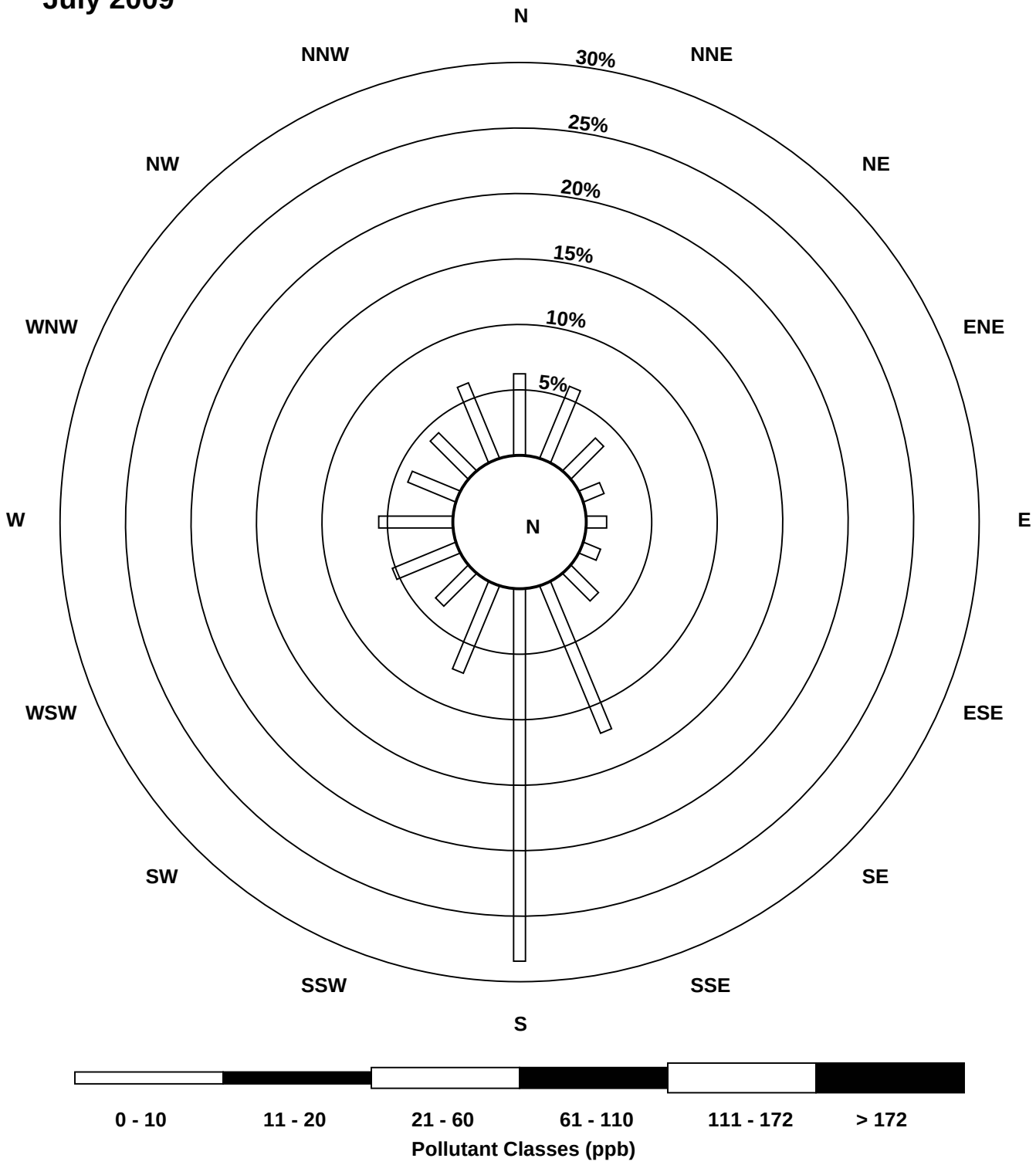
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	0	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6
2-Jul	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.4
3-Jul	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.4
4-Jul	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
5-Jul	0	0	0	0	0	1	1	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.5
6-Jul	0	0	0	0	0	0	A	0	0	0	0	0	0	0	P	P	0	0	0	1	0	0	0	0	0.4	0.9
7-Jul	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
8-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.5
9-Jul	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	1	0.5	0.5
10-Jul	1	1	A	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0.4	0.9
11-Jul	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	0.2
12-Jul	A	0	0	0	0	0	0	0	1	1	2	2	1	1	0	1	1	1	1	1	1	0	0	A	0.7	1.8
13-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.4	0.4
14-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	0.4
15-Jul	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.4	0.8
16-Jul	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.4	0.6
17-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	1	0.5	0.9
18-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.4	0.5
19-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.4	0.4
20-Jul	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	0.4
21-Jul	0	0	0	0	0	0	0	0	0	4	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0.5	4.0
22-Jul	0	0	0	0	0	0	0	0	1	1	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0.4	0.9
23-Jul	0	0	0	0	0	0	0	0	0	0	1	0	A	1	1	4	0	1	0	0	0	1	1	1	0.7	4.3
24-Jul	1	1	1	1	1	1	1	1	C	C	C	A	1	0	0	0	0	0	0	1	0	1	1	1	0.5	1.0
25-Jul	1	1	1	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.5
26-Jul	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.5
27-Jul	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.5
28-Jul	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.4	0.5
29-Jul	0	0	0	0	0	0	0	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	A	1	0.6	1.5
30-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	A	1	1	0.5	0.8
31-Jul	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.5	0.5
	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.5	0.5	0.5	0.4	0.5	0.6	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	Diurnal Average	
	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.9	4.0	1.8	1.8	1.3	0.8	0.9	4.3	0.9	0.9	0.9	0.9	0.6	0.5	0.9	0.6	Diurnal Maximum	

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

Hourly Maximums for SO_2 at Portable-Kinuso
July 2009



Pollutant Rose for SO_2 at Portable-Kinuso
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Kinuso - Total Reduced Sulphur (TRS) - ppb
July 1, 2009 to August 1, 2009

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 0.7 ppb on Jul 16 23:00 Maximum Daily Average: 0.5 ppb on Jul 16

Minimum Value: 0 ppb on Jul 5 06:00 Minimum Daily Average: 0.3 ppb on Jul 11
Maximum Diurnal Average: 0.4 ppb at hour 22 Minimum Diurnal Average: 0.3 ppb at hour 6
Monthly Average: 0.35 ppb Percentiles: $P_1 = 0.2$ $P_{10} = 0.3$ $Q_1 = 0.3$ Median = 0.3 $Q_3 = 0.4$ $P_{90} = 0.4$ $P_{99} = 0.6$

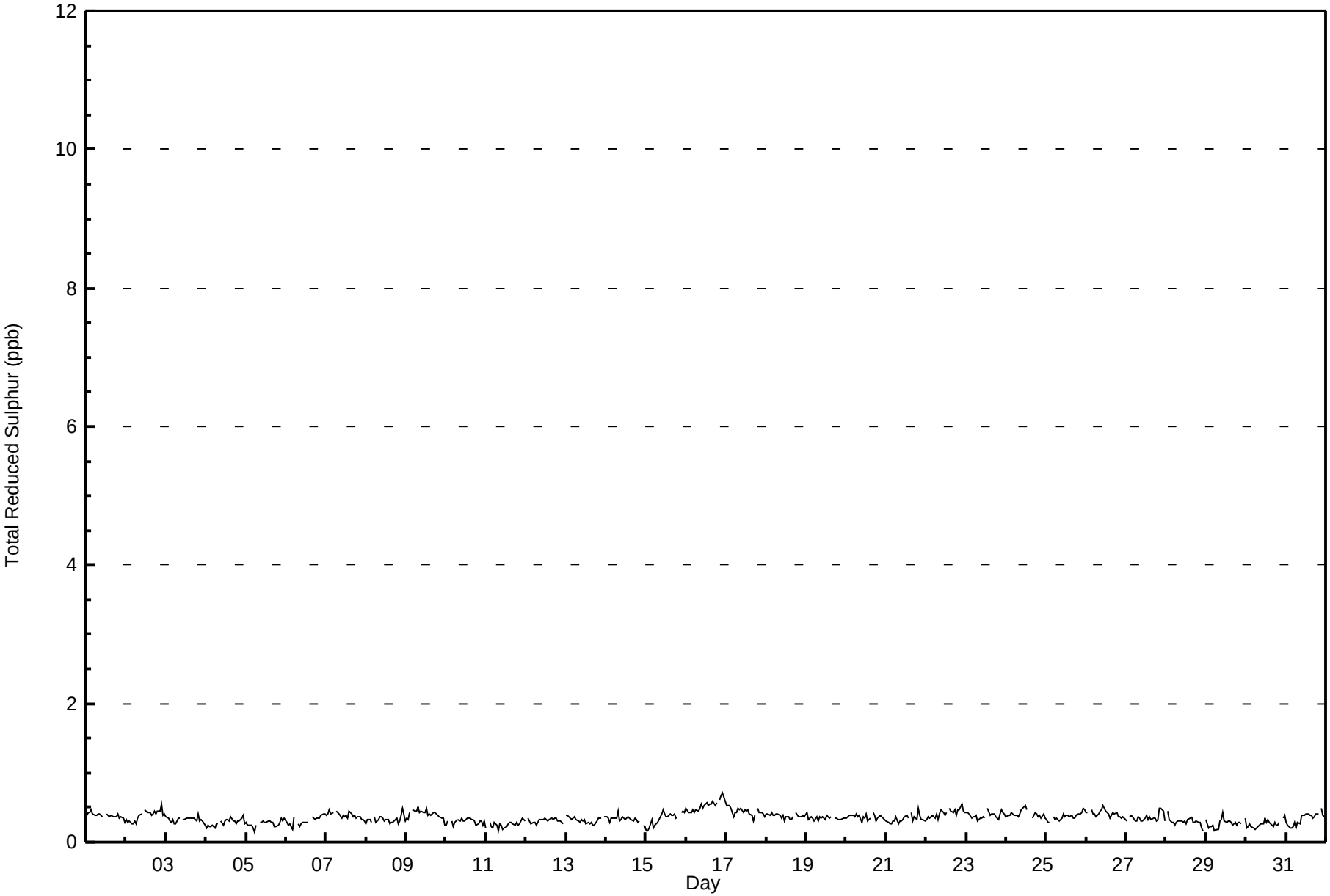
Hours in Service:	744
Hours of Data:	707
Hours of Missing Data:	37
Hours of Calibration:	35
Percent Operational Time:	99.7

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-Jul	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
2-Jul	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0.4	0.5
3-Jul	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
4-Jul	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
5-Jul	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
6-Jul	0	0	0	0	0	0	A	0	0	0	0	0	0	0	P	P	0	0	0	0	0	0	0	0	0.3	0.4
7-Jul	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
8-Jul	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
9-Jul	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
10-Jul	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	0.3
11-Jul	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.3
12-Jul	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.3	0.4
13-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.3	0.4
14-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	0.4
15-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.5
16-Jul	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	1	A	1	1	1	1	0.5	0.7
17-Jul	1	1	1	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
18-Jul	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	0.4
19-Jul	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
20-Jul	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	0.4
21-Jul	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
22-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0.4	0.5
23-Jul	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
24-Jul	0	0	0	0	0	0	0	0	0	0	0	1	0	C	C	A	0	0	0	0	0	0	0	0	0.4	0.5
25-Jul	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
26-Jul	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
27-Jul	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
28-Jul	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
29-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.3	0.4
30-Jul	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
31-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.5
	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.4	0.4	0.4	0.3	Diurnal Average	
	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.6	0.6	0.6	0.5	0.6	0.5	0.6	0.7	0.7	0.6	Diurnal Maximum	

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

Hourly Averages for TRS at Portable-Kinuso

July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Portable-Kinuso - Total Reduced Sulphur (TRS) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 4.1 ppb on Jul 6 06:00

Maximum Daily Average: 0.8 ppb on Jul 16

Minimum Value: 0 ppb on Jul 15 01:00

Maximum Diurnal Average: 0.8 ppb at hour 23

Monthly Average: 0.67 ppb

Minimum Daily Average: 0.6 ppb on Jul 11

Minimum Diurnal Average: 0.6 ppb at hour 5

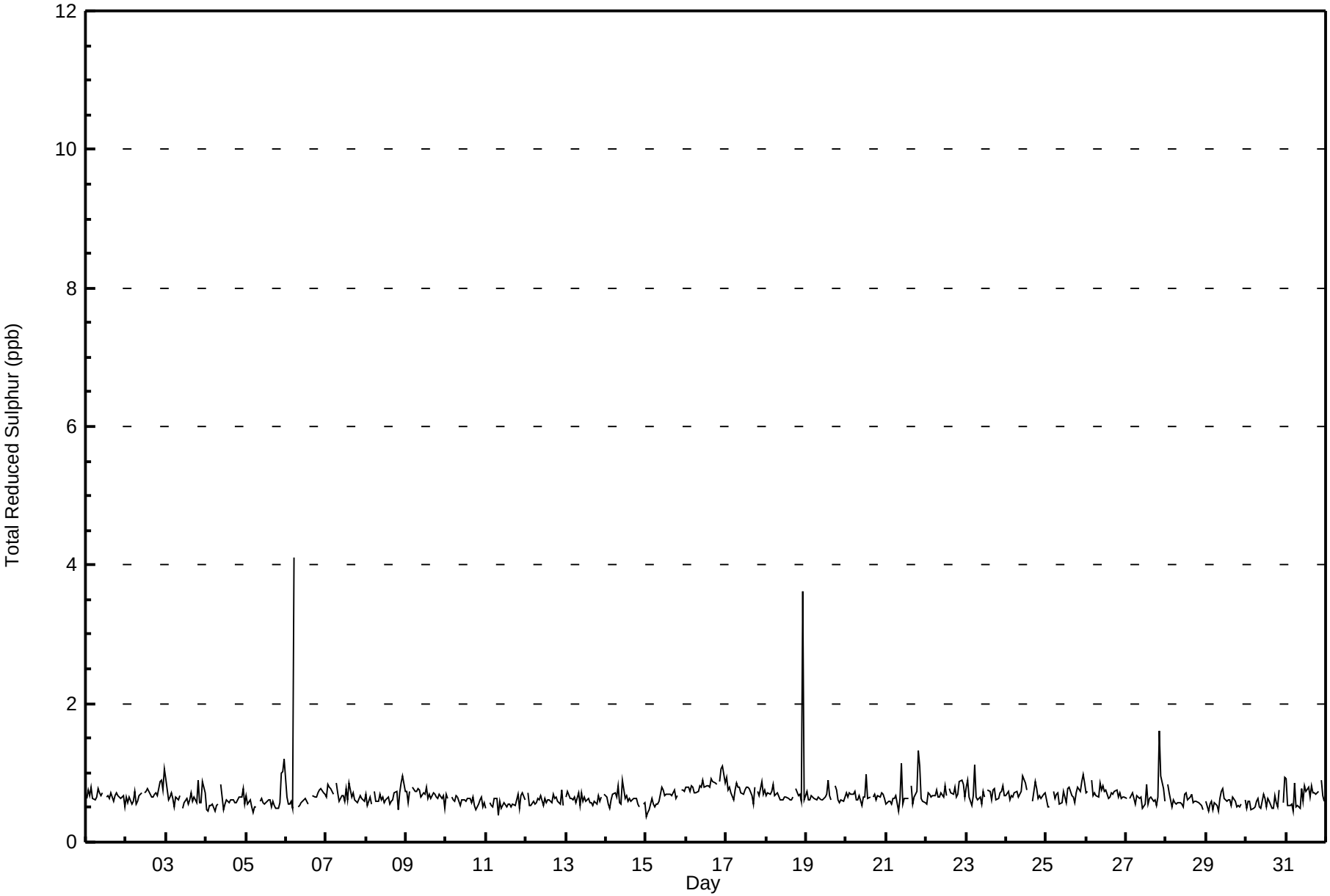
Percentiles: $P_1 = 0.4$ $P_{10} = 0.5$ $Q_1 = 0.6$ Median = 0.6 $Q_3 = 0.7$ $P_{90} = 0.8$ $P_{99} = 1.1$

Hours in Service:	744
Hours of Data:	707
Hours of Missing Data:	37
Hours of Calibration:	35
Percent Operational Time:	99.7

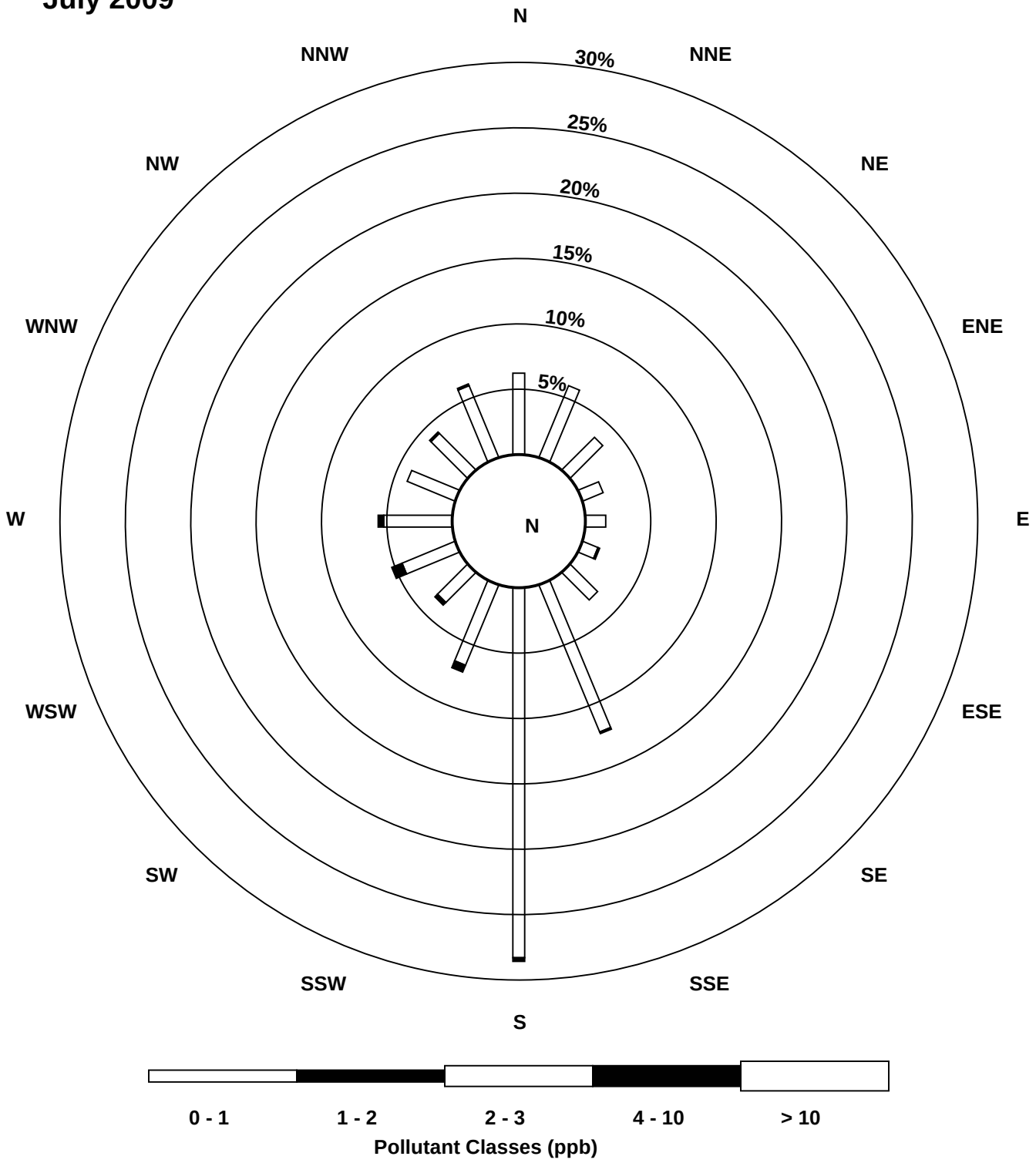
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.8
2-Jul	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1
3-Jul	1	1	1	1	1	0	1	1	1	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
4-Jul	0	0	1	1	1	0	1	1	A	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8
5-Jul	1	1	1	1	0	0	1	A	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0.6	1.2
6-Jul	1	1	1	1	0	4	A	1	1	1	1	1	1	1	P	P	1	1	1	1	1	1	1	1	0.8	4.1
7-Jul	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	0.9
8-Jul	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0.7	1.0
9-Jul	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0.7	0.8
10-Jul	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0.6	0.7
11-Jul	0	A	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0.6	0.7
12-Jul	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.6	0.8
13-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.6	0.7
14-Jul	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.6	0.9
15-Jul	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.6	0.8
16-Jul	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
17-Jul	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
18-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	4	1	0.8	3.6
19-Jul	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	0.9
20-Jul	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	1.0
21-Jul	1	1	1	1	1	1	1	0	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.7	1.3
22-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.7	0.9
23-Jul	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1
24-Jul	1	1	1	1	1	1	1	1	1	1	1	1	1	C	C	A	1	1	1	1	1	1	1	1	0.7	0.9
25-Jul	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
26-Jul	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	0.9
27-Jul	1	A	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	2	1	1	1	0.7	1.6
28-Jul	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	A	0.6	0.8
29-Jul	1	0	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	A	1	0.6	0.8
30-Jul	0	1	1	0	0	1	1	1	1	0	1	1	1	1	1	0	0	1	1	1	1	A	1	1	0.6	0.9
31-Jul	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.7	0.9
	0.7	0.6	0.6	0.6	0.6	0.8	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.7	0.6	0.7	0.7	0.7	0.8	0.7	Diurnal Average	
	0.9	0.9	0.8	0.9	0.8	4.1	0.9	0.8	0.9	1.1	0.9	0.9	1.0	0.9	0.8	0.9	0.9	0.9	0.8	1.3	1.6	1.1	3.6	1.2	Diurnal Maximum	

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

Hourly Maximums for TRS at Portable-Kinuso
July 2009



Pollutant Rose for TRS at Portable-Kinuso
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Kinuso - Nitrogen Dioxide (NO_2) - ppb
July 1, 2009 to August 1, 2009

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 6.3 ppb on Jul 16 23:00 Maximum Daily Average: 3.5 ppb on Jul 7

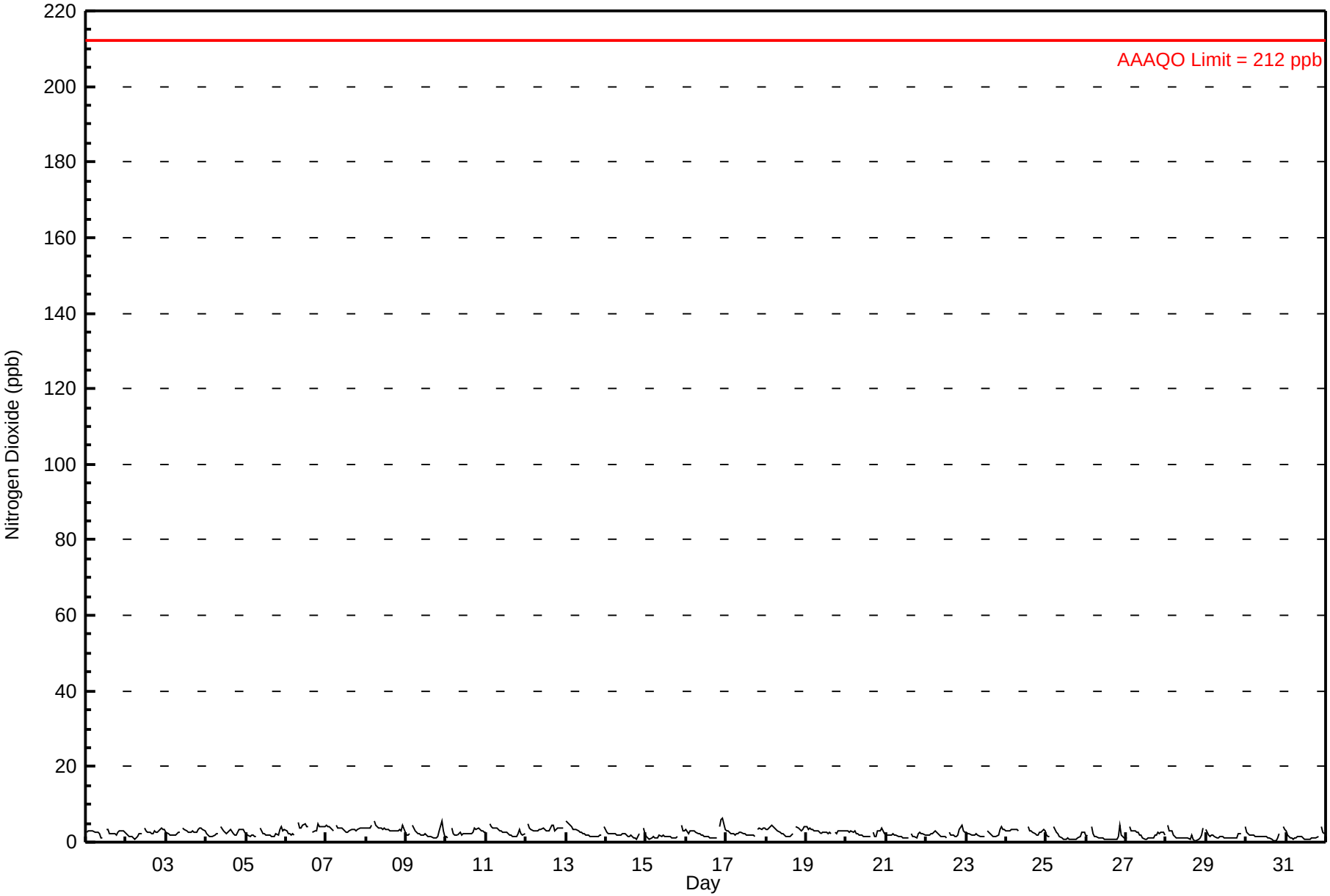
Minimum Value: 0 ppb on Jul 30 18:00 Minimum Daily Average: 1.4 ppb on Jul 31
Maximum Diurnal Average: 3.4 ppb at hour 22 Minimum Diurnal Average: 1.7 ppb at hour 18
Monthly Average: 2.37 ppb Percentiles: $P_1 = 0.6$ $P_{10} = 1.1$ $Q_1 = 1.6$ Median = 2.3 $Q_3 = 3.1$ $P_{90} = 3.8$ $P_{99} = 5.0$

Hours in Service:	744
Hours of Data:	705
Hours of Missing Data:	39
Hours of Calibration:	37
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-Jul	3	3	3	3	3	2	2	3	2	1	1	A	3	3	2	2	2	2	2	2	3	3	3	3	2.5	3.4
2-Jul	2	2	2	1	1	1	1	2	2	2	A	4	3	3	2	2	2	3	3	3	3	4	3	3	2.4	3.8
3-Jul	3	2	2	2	2	2	2	3	3	A	4	3	3	3	3	3	3	3	3	3	4	4	3	3	2.7	3.9
4-Jul	2	2	2	2	2	2	2	2	A	4	3	3	2	3	3	3	2	2	2	2	3	3	3	3	2.5	4.0
5-Jul	2	2	2	2	2	2	2	A	4	3	2	2	2	2	2	2	1	1	2	2	3	4	3	3	2.2	4.1
6-Jul	3	2	2	2	2	2	A	5	4	4	4	5	4	4	P	P	3	3	3	5	4	4	4	4	3.5	5.0
7-Jul	4	4	4	4	3	A	5	4	4	4	3	3	3	2	3	3	3	3	3	3	4	4	4	4	3.5	4.6
8-Jul	4	4	4	4	A	6	4	4	4	4	3	4	3	3	3	3	3	3	3	3	3	3	4	3	3.5	5.7
9-Jul	2	2	2	A	4	3	3	2	2	2	2	2	2	2	2	2	1	1	1	2	3	6	3	2	2.2	5.7
10-Jul	1	1	A	4	2	2	2	2	3	2	2	2	2	2	2	2	3	4	3	4	3	3	3	3	2.5	3.9
11-Jul	2	A	5	4	4	4	4	3	3	3	3	3	2	2	2	2	2	1	1	2	3	2	2	2	2.7	4.8
12-Jul	A	5	4	3	3	3	3	3	3	3	4	4	3	3	3	4	4	3	3	4	4	4	4	A	3.5	4.8
13-Jul	6	5	5	4	3	4	3	3	3	3	2	2	2	2	2	1	1	1	1	2	2	2	A	4	2.7	5.7
14-Jul	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	2	2	A	4	2	2.0	3.5
15-Jul	2	1	1	1	1	1	1	1	2	2	2	2	2	1	1	1	1	1	1	1	A	4	3	3	1.6	4.5
16-Jul	3	2	3	3	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	A	4	6	6	3	2.5	6.3
17-Jul	3	3	3	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	A	3	4	3	4	4	2.5	3.9
18-Jul	3	3	4	4	4	4	3	3	3	2	2	2	2	2	2	2	2	A	4	4	3	3	3	4	3.0	4.5
19-Jul	4	3	4	3	3	3	3	3	3	2	3	3	3	2	3	2	A	2	2	3	3	3	3	3	2.9	4.0
20-Jul	3	3	3	3	3	3	2	2	2	2	2	2	2	1	1	A	2	2	2	3	3	4	3	2	2.3	3.7
21-Jul	2	2	2	2	2	2	2	2	2	1	1	1	1	1	A	2	1	1	1	2	2	2	2	2	1.7	2.4
22-Jul	2	2	2	2	2	3	3	2	2	2	1	1	1	A	3	2	2	2	2	2	4	5	3	3	2.2	4.6
23-Jul	2	2	2	2	2	2	2	2	2	2	1	1	A	3	2	2	2	1	1	2	3	4	4	3	2.2	4.1
24-Jul	3	3	3	3	3	3	3	3	C	C	C	C	C	4	3	3	3	2	2	2	3	3	3	3	2.9	4.1
25-Jul	2	2	1	A	4	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	2	3	3	2	1.6	4.2
26-Jul	1	2	A	4	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	4	2	1	1	1.5	4.4
27-Jul	1	A	4	3	3	3	3	3	2	2	1	1	1	1	1	1	1	2	2	2	2	3	3	2	2.0	4.0
28-Jul	A	5	3	3	2	1	1	1	1	1	1	1	1	1	1	2	1	1	0	1	1	2	4	A	1.6	4.6
29-Jul	3	2	2	2	2	2	1	1	2	2	1	1	1	1	1	1	1	1	1	2	2	2	A	4	1.7	4.0
30-Jul	3	2	2	2	2	2	1	2	2	1	2	2	1	1	1	1	1	0	0	1	2	A	4	3	1.6	4.1
31-Jul	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	A	4	2	2	1.4	3.9
	2.7	2.5	2.6	2.7	2.5	2.4	2.3	2.4	2.3	2.2	2.1	2.1	2.0	2.0	1.9	1.9	1.8	1.7	1.8	2.4	3.1	3.4	3.3	2.9	Diurnal Average	
	5.7	5.1	4.8	4.5	4.3	5.7	4.6	5.0	3.9	4.0	4.4	4.7	4.2	4.1	3.1	4.5	4.3	3.9	4.2	5.0	4.4	6.1	6.3	4.1	Diurnal Maximum	

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

Hourly Averages for NO_2 at Portable-Kinuso
July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Portable-Kinuso - Nitrogen Dioxide (NO_2) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 29.4 ppb on Jul 6 20:00

Maximum Daily Average: 5.4 ppb on Jul 6

Minimum Value: 0 ppb on Jul 30 18:00

Maximum Diurnal Average: 4.6 ppb at hour 21

Monthly Average: 3.09 ppb

Minimum Daily Average: 2.0 ppb on Jul 15

Minimum Diurnal Average: 2.3 ppb at hour 15

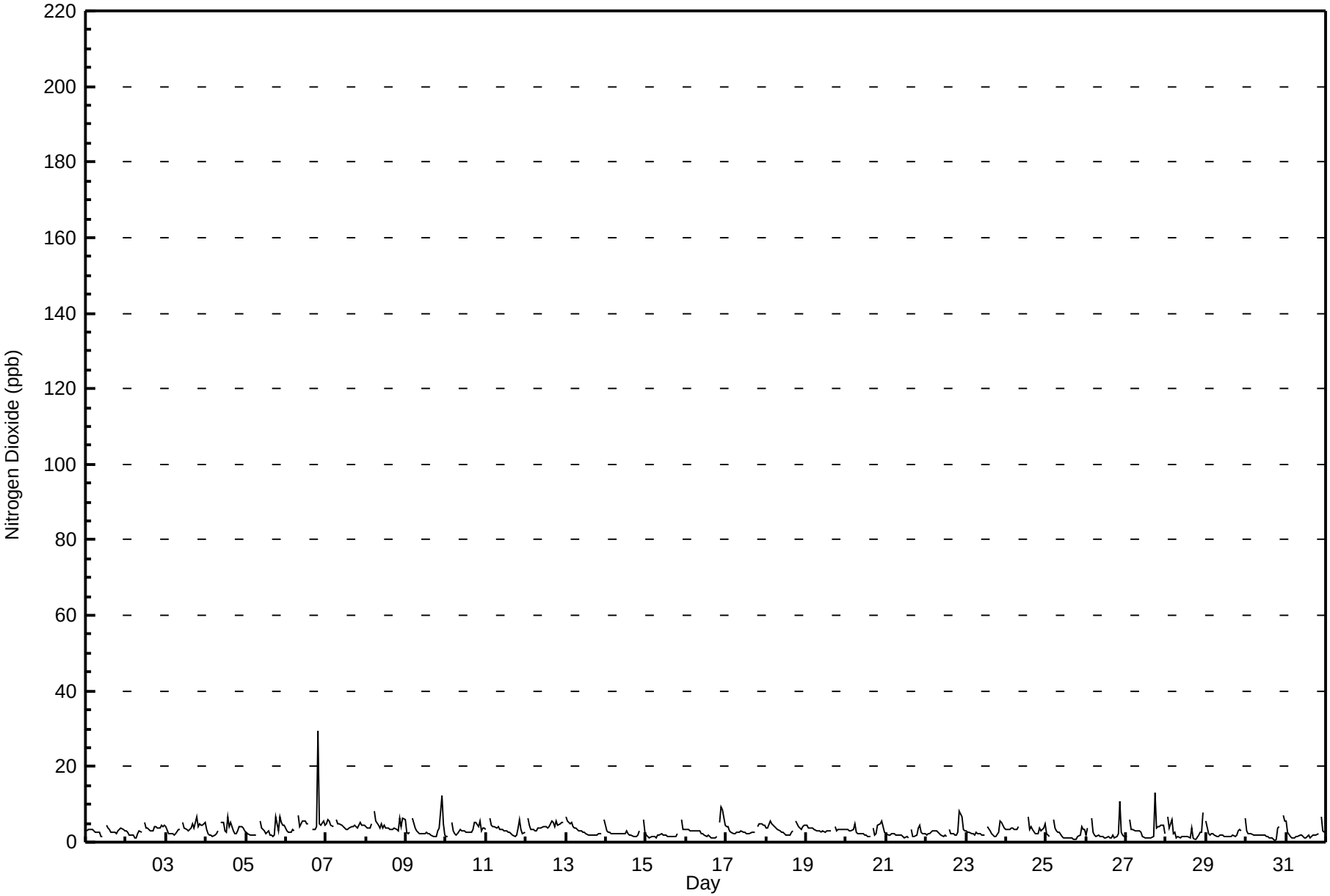
Percentiles: P_1 = 0.8 P_{10} = 1.5 Q_1 = 1.9 Median = 2.8 Q_3 = 3.8 P_{90} = 5.0 P_{99} = 8.3

Hours in Service:	744
Hours of Data:	705
Hours of Missing Data:	39
Hours of Calibration:	37
Percent Operational Time:	99.7

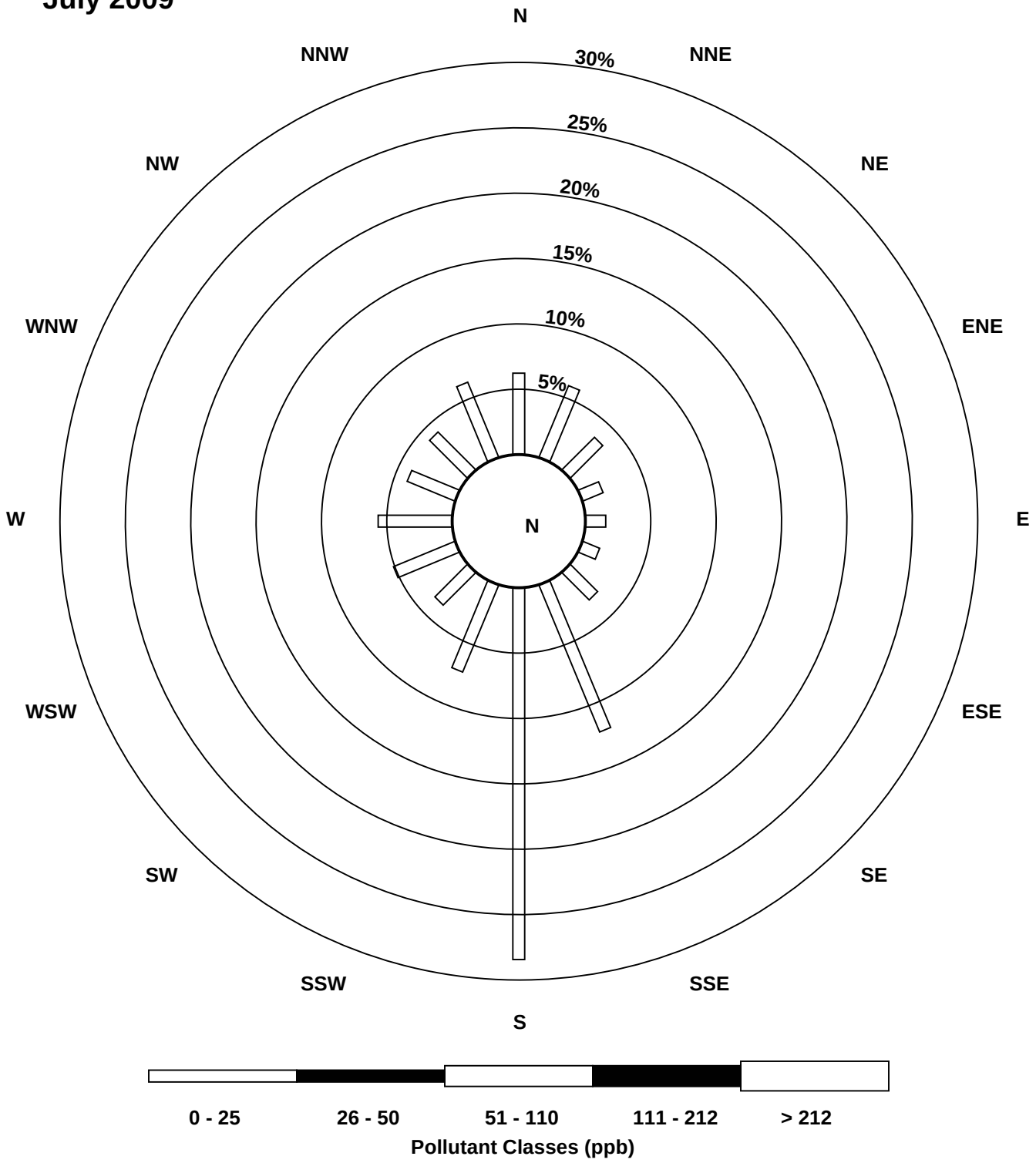
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	3	3	3	4	3	3	3	3	3	1	1	A	5	4	3	3	3	3	2	3	3	4	4	3	3.0	4.6
2-Jul	3	3	2	2	2	1	1	2	3	3	A	5	4	4	3	3	3	4	4	4	4	5	4	5	3.1	5.2
3-Jul	4	2	2	2	2	2	2	3	3	A	5	4	3	3	3	4	5	4	7	4	5	5	5	5	3.7	6.6
4-Jul	3	2	2	2	2	2	2	3	A	5	5	3	3	7	4	5	3	2	2	3	4	4	4	3	3.3	6.8
5-Jul	3	2	2	2	2	2	2	A	6	4	3	3	2	3	2	2	2	2	7	3	7	5	5	5	3.2	6.8
6-Jul	3	3	3	2	3	3	A	7	4	5	6	6	5	5	P	P	3	3	4	29	5	5	6	5	5.4	29.4
7-Jul	5	6	6	4	4	A	6	5	5	4	4	4	3	3	4	4	4	5	4	4	5	4	5	4	4.5	6.0
8-Jul	4	4	4	5	A	8	6	4	4	5	4	4	4	4	3	3	4	4	3	3	6	4	7	6	4.5	8.4
9-Jul	2	2	2	A	6	4	3	2	2	2	2	2	2	2	2	2	2	1	1	3	4	12	5	2	3.0	12.1
10-Jul	2	2	A	5	3	2	2	2	3	3	3	3	3	3	3	3	3	5	5	4	6	3	4	4	3.2	5.6
11-Jul	3	A	6	4	4	4	4	4	3	3	3	3	3	3	2	2	2	2	2	4	6	3	2	3	3.3	6.3
12-Jul	A	6	5	3	3	3	3	4	4	4	4	4	4	4	4	6	5	4	5	5	5	5	5	A	4.3	6.2
13-Jul	7	5	5	5	4	4	4	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	A	6	3.2	6.9
14-Jul	3	3	3	2	2	2	2	2	2	2	2	2	3	2	2	2	2	1	1	2	3	A	6	3	2.4	5.8
15-Jul	2	2	1	1	2	2	1	2	2	2	2	2	2	2	2	1	1	1	2	2	A	6	3	3	2.0	5.9
16-Jul	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	1	1	1	1	A	5	9	8	4	3.1	9.4
17-Jul	4	4	3	3	2	2	2	3	3	3	3	3	2	2	2	3	3	3	A	4	5	5	4	5	3.1	4.9
18-Jul	4	4	6	5	4	4	4	3	3	3	3	2	2	2	2	3	3	A	6	4	4	3	4	4	3.5	5.6
19-Jul	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	A	4	3	3	3	3	3	3	3.3	4.5
20-Jul	3	3	3	3	3	5	3	2	2	2	2	2	2	2	2	A	4	2	2	5	5	5	4	3	3.0	5.5
21-Jul	2	2	2	2	2	2	2	2	2	2	1	1	1	1	A	3	2	2	2	4	4	2	2	2	2.1	4.5
22-Jul	2	2	2	3	3	3	3	3	2	2	2	2	2	A	3	2	2	2	2	2	8	7	4	3	2.8	8.1
23-Jul	3	3	3	2	2	2	3	2	2	2	2	2	A	4	3	2	2	1	2	3	6	5	4	4	2.7	5.6
24-Jul	3	3	3	4	4	4	3	4	C	C	C	C	C	7	3	4	3	2	2	2	4	3	4	5	3.6	6.9
25-Jul	2	2	2	A	6	4	3	3	2	1	1	1	1	1	1	1	1	1	1	2	2	4	3	3	2.1	5.8
26-Jul	2	4	A	6	3	2	2	2	1	1	1	1	1	1	1	1	2	1	1	2	11	2	2	1	2.3	10.7
27-Jul	1	A	6	3	3	3	3	3	3	3	2	1	1	1	1	1	1	13	4	4	4	5	5	2	3.2	13.1
28-Jul	A	7	4	6	2	2	1	1	1	1	2	2	2	1	1	4	1	1	1	2	3	3	8	A	2.5	7.9
29-Jul	5	2	2	2	2	2	1	1	2	2	2	2	2	1	1	2	2	2	2	3	3	3	A	6	2.3	6.3
30-Jul	3	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	0	1	4	4	A	7	6	2.3	7.2
31-Jul	6	3	1	1	1	1	2	2	2	2	1	1	1	2	1	1	2	2	2	2	A	7	3	3	2.1	6.6
	3.3	3.2	3.1	3.2	3.0	2.9	2.7	2.9	2.8	2.7	2.6	2.5	2.4	2.7	2.3	2.6	2.4	2.7	2.8	4.0	4.6	4.6	4.4	3.8	Diurnal Average	
	6.9	6.9	6.3	6.3	6.2	8.4	5.9	6.9	5.8	5.2	5.6	5.7	4.9	6.9	4.3	5.7	5.2	13.1	6.8	29.4	10.7	12.1	8.5	6.3	Diurnal Maximum	

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

Hourly Maximums for NO_2 at Portable-Kinuso
July 2009



Pollutant Rose for NO_2 at Portable-Kinuso
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Kinuso - Nitrogen Oxide (NO) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 4.9 ppb on Jul 9 01:00

Maximum Daily Average: 2.1 ppb on Jul 8

Minimum Value: 0 ppb on Jul 23 20:00

Minimum Daily Average: 0.5 ppb on Jul 30

Maximum Diurnal Average: 1.9 ppb at hour 23

Minimum Diurnal Average: 0.4 ppb at hour 17

Monthly Average: 1.12 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.2$ $Q_1 = 0.5$ Median = 0.9 $Q_3 = 1.6$ $P_{90} = 2.2$ $P_{99} = 3.9$

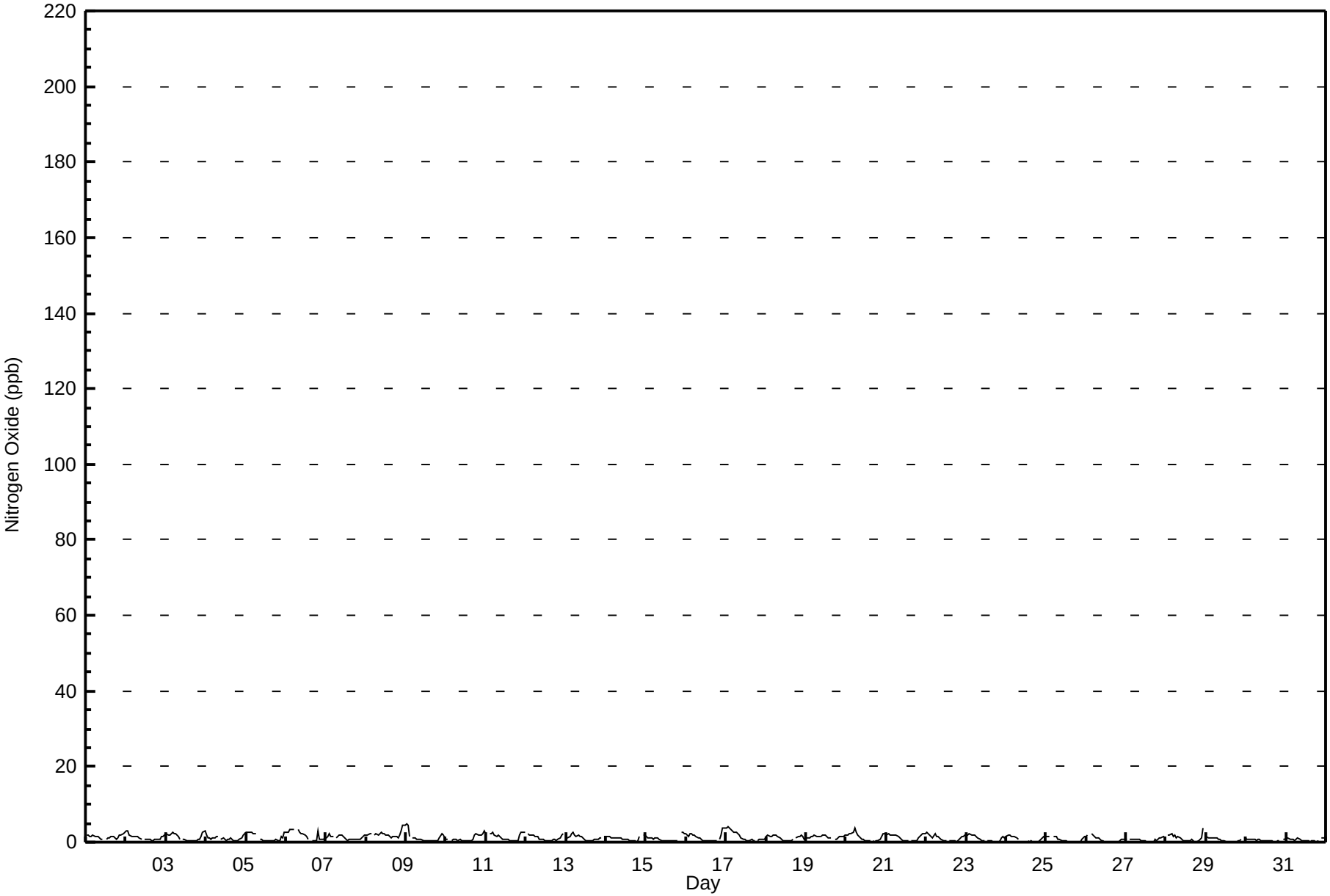
Hours in Service:	744
Hours of Data:	705
Hours of Missing Data:	39
Hours of Calibration:	37
Percent Operational Time:	99.7

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-Jul	2	2	1	2	2	2	1	1	1	1	1	A	1	1	1	1	1	1	1	1	2	2	2	3	1.4	2.7
2-Jul	3	3	2	2	1	1	1	1	1	1	A	1	1	1	1	0	0	1	1	1	1	1	2	2	1.2	2.9
3-Jul	2	2	2	2	3	2	2	2	1	A	1	1	0	0	0	1	0	0	0	1	1	2	3	3	1.3	3.0
4-Jul	2	1	1	1	1	1	1	1	A	1	1	1	0	1	1	1	0	0	0	1	1	1	2	2	1.0	2.1
5-Jul	2	3	3	2	2	2	2	A	1	1	1	0	0	0	0	0	0	0	1	0	0	1	1	3	1.2	2.8
6-Jul	3	3	3	3	3	3	A	3	3	2	2	2	1	1	P	P	0	0	1	3	1	1	1	1	2.0	3.5
7-Jul	1	1	2	2	1	A	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1	2.1
8-Jul	2	2	2	2	A	2	2	2	2	2	2	2	2	2	1	1	1	2	1	1	2	3	5	5	2.1	4.6
9-Jul	5	5	2	A	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	1	2	2	1	1.1	4.9
10-Jul	1	1	A	1	1	1	1	1	1	1	0	0	0	0	0	0	1	2	2	2	2	2	2	3	1.0	2.9
11-Jul	2	A	2	2	2	2	2	2	1	1	1	1	1	1	0	0	0	0	0	1	2	3	3	3	1.4	2.6
12-Jul	A	2	2	2	2	2	2	1	1	1	1	0	0	0	0	0	1	1	0	1	1	2	2	A	1.1	2.3
13-Jul	1	1	1	2	3	2	2	2	2	1	1	1	1	1	1	0	1	1	1	1	1	1	A	2	1.2	2.7
14-Jul	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	A	2	2	1.0	2.0
15-Jul	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	A	2	3	2	0.9	2.6
16-Jul	2	1	2	2	2	2	2	1	1	1	0	0	0	0	0	0	0	0	0	A	1	2	4	4	1.3	3.7
17-Jul	4	4	4	3	3	3	3	2	2	1	1	1	1	1	1	1	1	1	A	0	1	1	1	1	1.6	3.9
18-Jul	2	2	2	2	2	2	2	1	1	1	1	0	0	0	0	0	1	A	1	1	2	2	1	1	1.2	2.0
19-Jul	1	1	1	1	1	2	2	2	2	1	2	2	1	1	1	1	A	1	1	1	1	1	2	2	1.4	1.9
20-Jul	2	2	2	2	3	4	3	2	1	1	1	0	0	0	0	A	0	0	0	0	1	2	2	2	1.4	3.9
21-Jul	2	2	2	2	2	2	2	1	1	1	0	0	0	0	A	0	0	0	0	1	2	2	2	2	1.2	2.3
22-Jul	2	2	2	2	1	2	2	2	1	1	0	0	0	A	0	0	0	0	0	0	1	1	2	2	1.1	2.5
23-Jul	2	2	2	2	2	2	2	1	1	0	0	0	A	0	0	0	0	0	0	0	0	1	2	1	0.9	2.1
24-Jul	1	2	2	2	1	1	1	1	C	C	C	C	C	0	0	0	0	0	0	0	0	1	1	2	0.9	1.8
25-Jul	1	1	2	A	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0.7	1.7
26-Jul	2	2	A	2	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.7	2.1
27-Jul	1	A	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0	1	1	1	2	1	0.6	1.6
28-Jul	A	2	2	2	2	2	1	1	1	1	0	0	0	0	0	1	0	0	0	0	1	1	4	A	1.0	3.9
29-Jul	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	A	1	0.6	1.4
30-Jul	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0.5	0.9
31-Jul	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	0.6	1.1
	1.9	1.9	1.8	1.7	1.7	1.7	1.4	1.4	1.1	0.8	0.7	0.6	0.5	0.5	0.4	0.5	0.4	0.4	0.5	0.7	1.0	1.5	1.9	1.9	Diurnal Average	
	4.9	4.5	3.6	3.5	3.5	3.9	2.7	3.4	2.6	2.4	2.3	2.1	1.9	1.8	1.3	1.4	1.5	1.8	2.2	2.9	2.0	2.8	4.6	4.6	Diurnal Maximum	

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

Hourly Averages for NO at Portable-Kinuso

July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Portable-Kinuso - Nitrogen Oxide (NO) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 50.5 ppb on Jul 6 20:00

Maximum Daily Average: 4.9 ppb on Jul 6

Minimum Value: 0 ppb on Jul 24 20:00

Maximum Diurnal Average: 2.6 ppb at hour 20

Monthly Average: 1.65 ppb

Minimum Daily Average: 0.7 ppb on Jul 30

Minimum Diurnal Average: 0.7 ppb at hour 15

Percentiles: $P_1 = 0.2$ $P_{10} = 0.4$ $Q_1 = 0.7$ Median = 1.3 $Q_3 = 2.1$ $P_{90} = 2.9$ $P_{99} = 6.8$

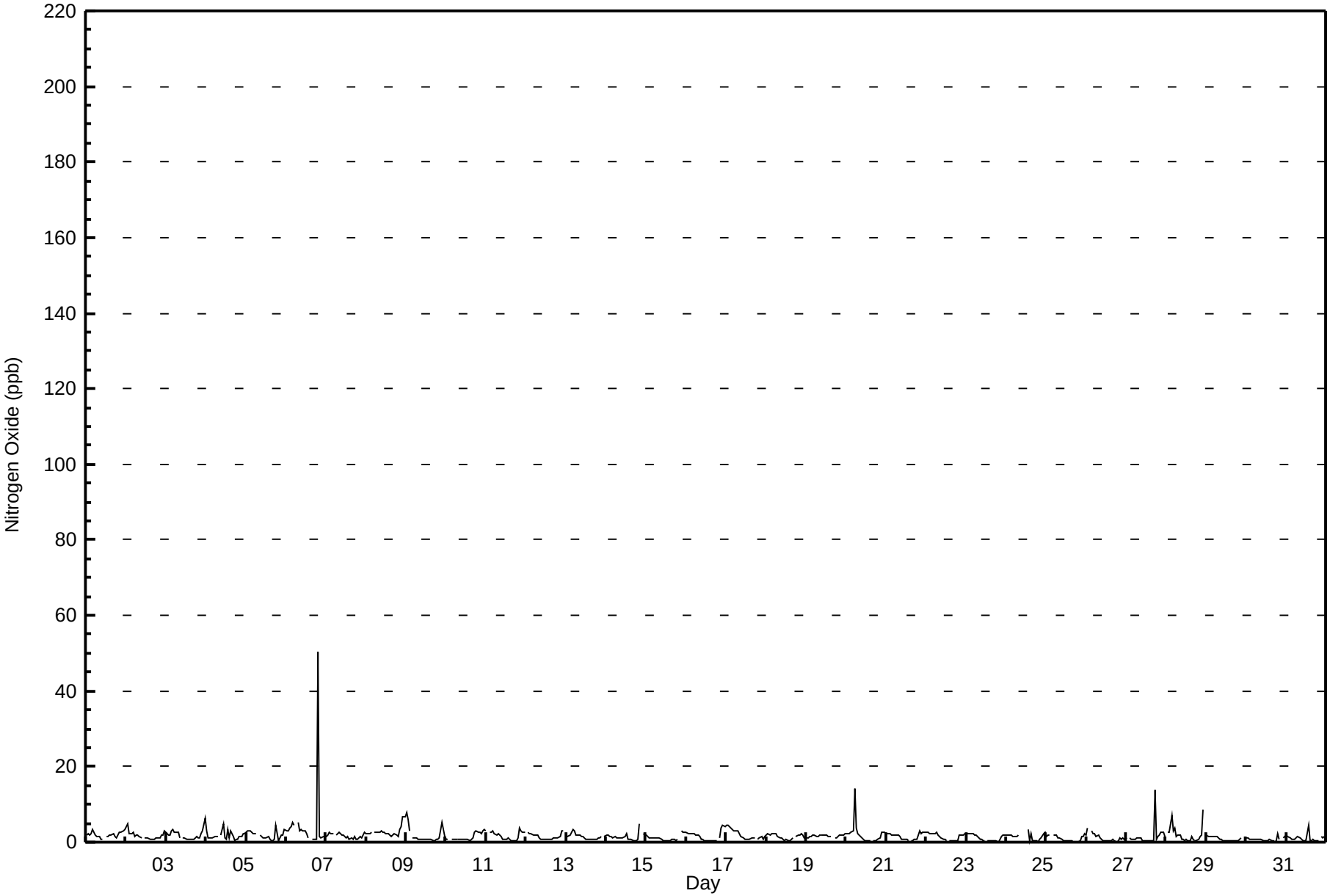
Hours in Service:	744
Hours of Data:	705
Hours of Missing Data:	39
Hours of Calibration:	37
Percent Operational Time:	99.7

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-Jul	2	2	2	2	3	2	1	2	2	1	1	A	2	2	2	2	2	2	1	2	3	3	3	3	1.9	3.3
2-Jul	4	5	2	2	2	2	2	2	2	1	A	1	1	1	1	1	1	1	1	1	1	2	2	3	1.7	4.9
3-Jul	3	2	2	3	4	3	3	3	1	A	1	1	1	1	1	1	1	1	1	1	1	2	3	6	1.9	6.2
4-Jul	3	1	1	1	1	1	2	2	A	2	5	1	1	3	1	3	2	1	1	1	1	1	2	2	1.7	5.0
5-Jul	3	3	3	3	2	2	2	A	2	1	1	1	1	2	1	1	1	1	4	0	1	2	2	3	1.8	4.4
6-Jul	3	3	4	4	5	4	A	5	3	3	3	3	2	1	P	P	1	1	1	50	2	1	1	2	4.9	50.5
7-Jul	2	2	3	2	2	A	2	2	3	2	2	2	1	1	1	1	1	1	1	1	2	1	2	2	1.6	2.8
8-Jul	2	2	2	2	A	2	3	2	3	3	3	3	2	2	2	2	2	2	2	2	4	4	7	7	2.8	6.8
9-Jul	8	6	3	A	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	5	3	1	1.7	7.7
10-Jul	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	2	3	3	1.4	3.2
11-Jul	3	A	3	3	3	2	2	2	2	2	1	1	1	1	1	0	0	0	0	1	4	3	3	3	1.8	3.8
12-Jul	A	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	A	1.5	3.1
13-Jul	1	1	2	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	A	2	1.5	3.3
14-Jul	2	2	2	1	1	1	1	1	1	1	1	1	2	1	1	1	0	0	0	1	5	A	2	2	1.4	5.0
15-Jul	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	A	3	3	3	1.1	2.9
16-Jul	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	0	0	0	0	A	1	4	4	4	1.6	4.3
17-Jul	4	5	4	4	3	3	3	3	2	1	1	1	1	1	1	1	1	1	A	1	1	1	1	2	2.0	4.6
18-Jul	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	A	1	2	2	2	2	1	1.5	2.2
19-Jul	1	1	2	2	2	2	2	2	2	2	2	2	2	1	1	2	A	1	1	2	2	2	2	2	1.6	2.2
20-Jul	2	2	2	3	3	14	4	2	2	1	1	1	1	0	0	A	0	0	0	1	1	2	3	3	2.1	14.1
21-Jul	2	2	2	2	2	2	2	2	1	1	1	1	1	0	A	0	0	1	1	2	3	2	3	3	1.5	2.9
22-Jul	3	2	2	2	2	2	2	2	2	1	1	1	1	A	0	0	0	0	0	0	2	2	2	2	1.4	2.7
23-Jul	2	2	2	2	2	2	2	1	1	1	0	0	A	1	0	0	0	0	0	0	1	2	2	2	1.2	2.4
24-Jul	2	2	2	2	2	1	1	2	C	C	C	C	C	3	0	2	0	0	0	0	1	1	2	3	1.4	3.3
25-Jul	2	2	2	A	2	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	2	1	2	0.9	2.1
26-Jul	2	4	A	3	2	2	1	2	1	1	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1.1	3.9
27-Jul	1	A	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	14	1	2	2	2	3	1	1.6	13.8
28-Jul	A	2	3	7	3	4	2	2	2	1	1	0	1	1	1	1	1	0	0	1	1	2	9	A	2.0	8.7
29-Jul	2	1	1	1	1	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	A	1	0.9	1.8
30-Jul	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0	0	0	0	2	1	A	1	1	0.7	2.4
31-Jul	2	1	1	1	1	1	1	1	1	1	0	0	0	5	0	0	1	0	0	0	A	1	1	1	1.0	4.6
	2.4	2.4	2.1	2.3	2.1	2.4	1.8	1.8	1.5	1.2	1.1	0.9	0.9	1.1	0.7	0.9	0.7	1.2	0.9	2.6	1.7	2.1	2.6	2.5	Diurnal Average	
	7.7	6.0	3.9	7.0	5.2	14.1	3.8	5.3	3.1	3.2	5.0	3.1	2.3	4.6	2.0	2.9	2.2	13.8	4.4	50.5	5.0	5.1	8.7	6.8	Diurnal Maximum	

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

Hourly Maximums for NO at Portable-Kinuso

July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Kinuso - Oxides of Nitrogen (NO_X) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 10.1 ppb on Jul 16 23:00

Maximum Daily Average: 5.7 ppb on Jul 8

Minimum Value: 0 ppb on Jul 30 18:00

Minimum Daily Average: 1.9 ppb on Jul 31

Maximum Diurnal Average: 5.2 ppb at hour 23

Minimum Diurnal Average: 2.1 ppb at hour 18

Monthly Average: 3.48 ppb

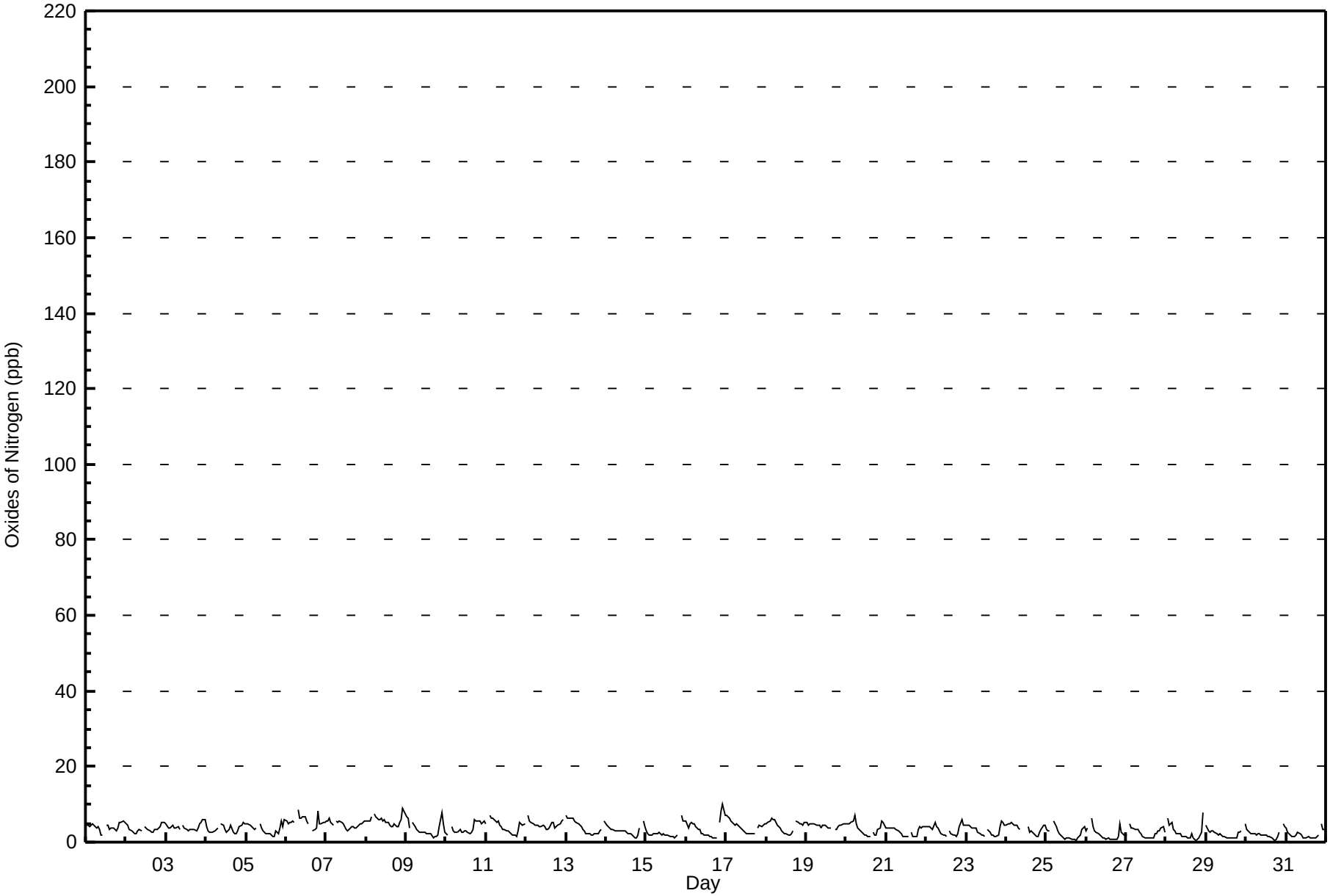
Percentiles: $P_1 = 0.7$ $P_{10} = 1.4$ $Q_1 = 2.2$ Median = 3.4 $Q_3 = 4.7$ $P_{90} = 5.5$ $P_{99} = 7.5$

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	36
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-Jul	4	5	4	5	5	4	4	4	3	2	2	A	4	4	3	4	4	3	3	4	5	5	5	5	4.0	5.5
2-Jul	5	5	3	3	3	2	2	3	3	3	A	4	4	3	3	3	3	3	3	3	4	5	5	5	3.6	5.3
3-Jul	5	4	4	4	4	4	4	4	4	A	5	4	3	3	3	3	3	3	3	4	5	5	6	6	4.1	6.0
4-Jul	4	3	3	2	2	3	3	4	A	5	4	3	3	3	3	4	3	2	2	3	4	4	5	5	3.5	5.3
5-Jul	5	5	4	4	4	4	4	A	5	4	3	3	2	2	2	2	2	2	3	2	4	6	4	6	3.4	6.1
6-Jul	5	5	5	5	6	5	A	9	6	6	7	7	6	5	P	P	3	3	4	8	5	5	5	5	5.5	8.5
7-Jul	6	6	6	5	5	A	6	5	6	5	5	4	3	3	4	4	4	4	4	4	5	5	5	5	4.7	6.4
8-Jul	6	6	6	7	A	8	7	6	6	6	6	6	5	5	4	4	4	5	4	4	5	6	9	7	5.7	9.1
9-Jul	7	6	4	A	5	4	3	3	3	3	3	3	2	2	2	2	1	1	1	2	4	8	5	3	3.3	8.0
10-Jul	2	2	A	4	3	3	2	3	3	2	3	3	3	3	2	3	4	6	5	6	5	5	5	6	3.6	5.8
11-Jul	5	A	7	6	6	6	5	5	5	4	3	3	3	3	2	2	2	2	2	3	5	5	5	5	4.1	7.0
12-Jul	A	7	6	5	5	5	5	4	4	4	4	4	3	3	4	5	5	4	4	5	5	6	6	A	4.7	7.0
13-Jul	7	6	6	6	6	5	5	5	4	4	3	3	2	2	2	2	2	2	2	2	3	3	A	6	4.0	7.0
14-Jul	4	4	4	3	3	3	3	3	3	3	3	3	3	2	2	2	2	1	1	2	4	A	6	4	3.0	5.6
15-Jul	3	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	1	1	1	2	A	7	6	5	2.5	7.0
16-Jul	5	4	5	5	5	5	4	3	3	2	2	2	2	2	2	1	1	1	1	A	5	8	10	7	3.8	10.1
17-Jul	7	7	6	6	5	5	5	5	4	4	3	3	2	2	2	2	2	2	A	4	4	4	5	5	4.0	7.0
18-Jul	5	5	6	6	6	6	5	4	4	3	3	2	2	2	2	2	3	A	5	5	5	5	5	5	4.2	6.2
19-Jul	5	4	5	5	5	5	5	4	4	4	4	4	4	4	4	4	A	3	3	4	4	4	5	5	4.3	5.2
20-Jul	5	5	5	5	5	7	5	4	3	3	2	2	2	2	2	A	3	2	2	3	4	5	5	4	3.7	7.0
21-Jul	4	4	4	4	4	4	3	3	3	2	2	1	1	1	A	3	2	2	2	3	4	4	4	4	2.9	4.2
22-Jul	4	4	4	4	3	5	4	4	3	2	2	2	2	A	3	2	2	2	2	2	4	6	5	5	3.2	6.1
23-Jul	4	4	4	4	4	4	4	3	2	2	2	2	A	3	3	2	2	1	1	2	4	5	5	5	3.1	5.4
24-Jul	5	5	5	5	5	5	4	4	3	C	C	C	C	4	3	3	2	2	2	2	3	3	5	5	3.7	5.1
25-Jul	3	3	3	A	6	5	4	3	2	1	1	1	1	1	1	1	1	1	1	1	2	3	4	4	2.2	5.7
26-Jul	3	4	A	6	4	3	3	2	2	1	1	1	1	1	1	1	1	1	1	2	5	3	2	2	2.2	6.2
27-Jul	2	A	5	4	4	4	3	3	3	2	1	1	1	1	1	1	1	2	2	3	3	4	4	3	2.5	4.9
28-Jul	A	6	4	5	3	3	2	2	2	2	1	1	2	1	1	2	1	1	0	1	2	3	8	A	2.5	7.7
29-Jul	5	3	3	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	2	2	3	A	5	2.2	4.9
30-Jul	3	3	3	2	2	2	2	2	2	2	2	2	2	2	1	1	1	0	1	1	3	A	5	4	2.1	4.8
31-Jul	4	3	2	2	1	1	2	3	2	2	1	1	1	1	1	1	1	1	1	2	A	5	3	3	1.9	5.0
	4.6	4.4	4.4	4.4	4.2	4.1	3.7	3.7	3.4	3.0	2.8	2.7	2.5	2.5	2.3	2.4	2.2	2.1	2.3	3.0	4.0	4.9	5.2	4.8	Diurnal Average	
	7.0	7.0	7.0	6.6	6.3	7.5	6.7	8.5	6.4	6.4	6.8	6.7	5.7	5.1	4.4	5.1	5.1	5.8	5.5	8.0	5.4	8.0	10.1	7.3	Diurnal Maximum	

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

Hourly Averages for NO_X at Portable-Kinuso
July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Portable-Kinuso - Oxides of Nitrogen (NO_X) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 75.7 ppb on Jul 6 20:00

Maximum Daily Average: 10.1 ppb on Jul 6

Minimum Value: 1 ppb on Jul 30 18:00

Maximum Diurnal Average: 6.9 ppb at hour 23

Monthly Average: 4.60 ppb

Minimum Daily Average: 2.8 ppb on Jul 31

Minimum Diurnal Average: 2.9 ppb at hour 15

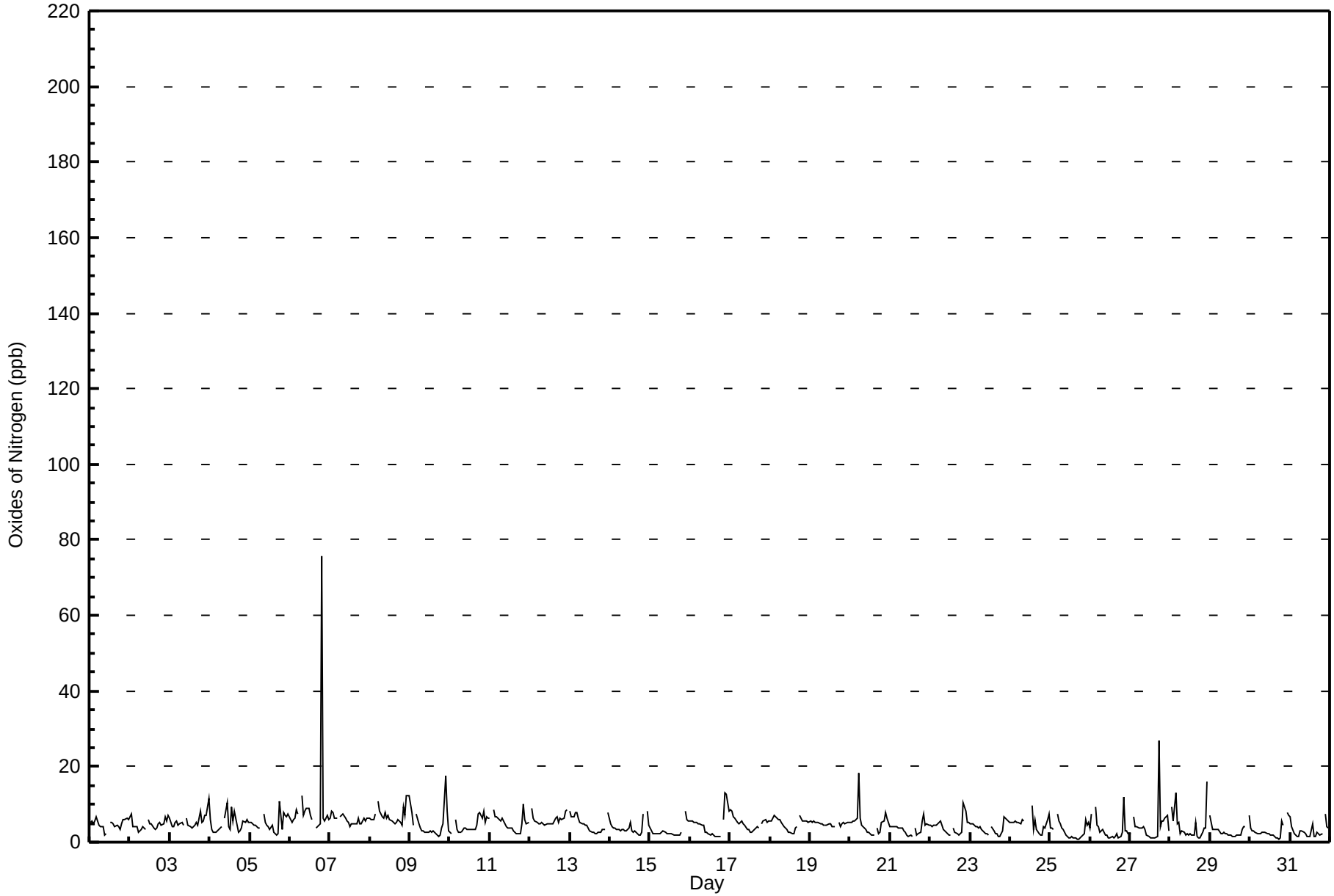
Percentiles: P_1 = 1.1 P_{10} = 1.9 Q_1 = 2.7 Median = 4.3 Q_3 = 5.7 P_{90} = 7.2 P_{99} = 12.7

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	36
Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	5	5	5	6	7	5	4	4	4	2	2	A	5	5	5	4	5	4	3	5	6	6	6	6	4.8	6.6
2-Jul	7	7	4	4	4	3	3	4	4	4	A	6	5	5	4	3	4	5	5	4	5	7	6	7	4.7	7.5
3-Jul	6	4	4	5	6	4	5	5	4	A	6	5	4	4	4	4	5	4	8	5	6	7	7	12	5.5	11.7
4-Jul	6	3	3	3	2	3	4	4	A	6	11	4	3	9	6	8	5	3	3	4	6	5	6	5	4.9	10.5
5-Jul	5	5	5	5	4	4	4	A	8	5	5	4	3	5	3	2	2	2	11	3	8	7	7	7	4.9	11.0
6-Jul	6	5	6	6	8	7	A	12	7	8	9	9	7	6	P	P	4	4	5	76	6	6	7	6	10.1	75.7
7-Jul	6	8	8	7	6	A	7	7	8	6	6	5	4	5	5	5	5	6	5	5	6	6	6	6	6.0	8.0
8-Jul	6	6	6	7	A	11	8	7	6	8	6	7	6	6	5	5	5	6	5	5	9	7	12	12	7.1	12.3
9-Jul	10	8	4	A	7	5	4	3	3	3	3	3	3	3	3	3	2	2	2	4	5	18	8	3	4.6	17.6
10-Jul	2	2	A	6	3	3	3	3	4	4	3	4	3	3	3	3	4	7	8	6	8	5	7	6	4.4	8.3
11-Jul	6	A	9	7	7	6	6	6	5	5	4	4	4	4	3	2	2	2	2	5	10	6	5	5	5.0	9.9
12-Jul	A	9	6	5	5	5	5	5	5	5	5	5	5	5	5	7	7	5	6	6	6	8	9	A	5.8	8.9
13-Jul	8	7	7	8	8	7	5	5	5	4	4	4	3	3	2	2	2	3	3	3	3	3	A	8	4.6	8.3
14-Jul	5	4	4	4	3	3	3	3	3	3	3	4	5	3	2	3	2	2	2	3	7	A	8	4	3.7	8.0
15-Jul	4	3	2	2	2	2	2	3	3	3	2	2	2	2	2	2	2	2	2	3	A	8	6	6	2.9	8.2
16-Jul	6	6	5	5	5	5	5	5	5	3	3	2	2	2	2	2	1	1	2	A	6	13	13	8	4.6	12.9
17-Jul	9	8	7	6	5	5	5	6	5	4	4	3	3	3	3	4	4	4	A	5	6	6	5	6	5.0	8.5
18-Jul	6	6	7	7	6	6	6	5	4	4	3	3	2	2	2	4	4	A	7	6	6	6	6	5	4.9	7.1
19-Jul	6	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4	A	5	4	5	5	5	5	5	4.9	5.7
20-Jul	5	5	6	6	6	18	6	5	4	3	3	2	2	2	2	A	4	2	3	5	6	8	6	5	5.0	18.4
21-Jul	4	4	4	4	4	4	4	4	3	3	2	2	2	2	A	4	2	2	2	6	7	4	5	5	3.5	7.4
22-Jul	5	4	5	5	5	5	6	5	4	3	2	2	2	A	4	3	2	2	2	3	10	8	5	5	4.1	10.3
23-Jul	5	5	5	4	4	4	4	3	3	2	2	2	A	4	3	2	2	1	2	3	7	6	6	5	3.7	6.6
24-Jul	5	5	5	5	5	5	5	6	6	C	C	C	C	10	3	6	3	2	2	2	4	4	6	7	4.9	9.7
25-Jul	4	4	3	A	8	6	5	4	3	2	1	1	1	1	1	1	1	1	1	2	2	6	4	5	2.9	7.6
26-Jul	4	8	A	9	5	4	3	3	2	2	2	1	1	1	1	2	2	1	2	3	12	3	3	2	3.3	11.8
27-Jul	2	A	7	4	4	4	4	4	4	3	2	1	1	1	1	1	1	27	4	5	6	6	7	3	4.5	26.8
28-Jul	A	9	6	13	5	5	2	3	3	2	2	2	2	2	2	5	2	1	1	3	4	4	16	A	4.2	15.9
29-Jul	7	4	3	3	4	3	2	2	3	2	2	2	2	1	1	2	2	2	2	3	4	4	A	7	3.0	7.2
30-Jul	4	3	3	3	2	2	2	3	3	2	2	2	2	2	2	1	1	1	1	6	5	A	8	7	2.9	8.0
31-Jul	7	4	2	2	2	2	3	3	3	2	2	1	2	5	1	2	3	2	2	2	A	8	4	4	2.8	7.6
	5.5	5.4	5.0	5.4	4.9	5.1	4.3	4.5	4.2	3.7	3.6	3.3	3.2	3.6	2.9	3.3	3.0	3.7	3.5	6.4	6.2	6.5	6.9	6.1	Diurnal Average	
	10.0	9.3	8.6	13.1	8.5	18.4	8.4	12.5	7.6	8.3	10.5	8.9	7.2	9.7	5.6	8.1	6.5	26.8	11.0	75.7	11.8	17.6	15.9	12.2	Diurnal Maximum	

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

Hourly Maximums for NO_X at Portable-Kinuso
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Kinuso - Ozone (O_3) - ppb
July 1, 2009 to August 1, 2009

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 49.1 ppb on Jul 24 21:00
Maximum Daily Average: 31.8 ppb on Jul 12

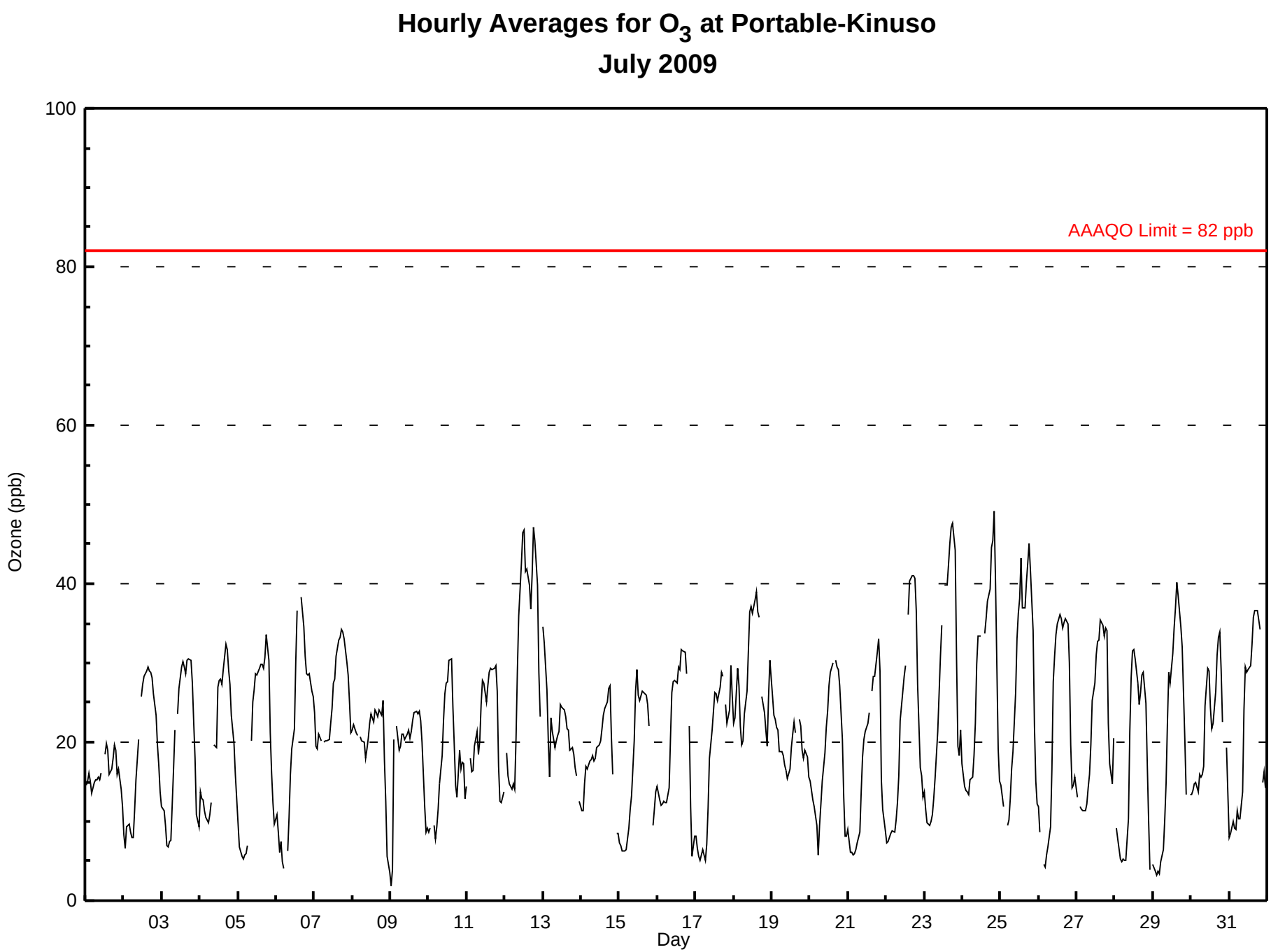
Minimum Value: 2 ppb on Jul 9 01:00
Maximum Diurnal Average: 31.2 ppb at hour 17
Monthly Average: 21.09 ppb

Minimum Daily Average: 16.2 ppb on Jul 1
Minimum Diurnal Average: 11.2 ppb at hour 5
Percentiles: P_1 = 3.8 P_{10} = 8.5 Q_1 = 13.4 Median = 20.4 Q_3 = 28.4 P_{90} = 34.4 P_{99} = 44.9

Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	34
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-Jul	15	15	16	15	13	15	15	15	16	15	16	A	18	20	19	16	17	18	20	19	16	17	14	12	16.2	19.9
2-Jul	8	7	9	10	9	8	8	11	15	20	A	26	27	28	29	30	29	29	28	26	23	20	17	14	18.7	29.5
3-Jul	12	11	9	7	7	8	8	17	21	A	24	27	29	30	29	29	30	31	30	28	23	18	11	9	19.4	30.5
4-Jul	14	13	13	11	11	10	11	12	A	20	19	27	28	28	27	29	32	32	29	27	23	20	16	13	20.2	32.4
5-Jul	10	7	6	5	6	6	7	A	20	25	27	29	28	29	30	30	29	31	34	30	21	16	12	10	19.5	33.6
6-Jul	11	9	6	7	5	4	A	6	11	16	19	22	30	37	P	P	38	35	31	29	28	29	26	26	20.2	38.4
7-Jul	24	19	19	21	20	A	20	20	20	20	22	24	28	28	31	33	33	34	34	33	30	28	25	21	25.7	34.3
8-Jul	22	22	21	21	A	21	20	20	18	19	20	22	24	23	24	24	23	24	23	25	18	12	6	4	19.8	25.2
9-Jul	2	4	20	A	22	19	20	21	21	20	21	22	20	21	23	24	24	24	24	23	20	12	9	9	18.4	23.9
10-Jul	9	9	A	9	8	9	12	15	18	23	26	27	28	30	31	24	20	15	13	19	17	17	17	13	17.8	30.5
11-Jul	14	A	18	16	16	19	21	19	20	25	28	27	25	27	29	29	29	29	30	26	17	13	12	14	22.0	29.6
12-Jul	A	19	16	15	14	15	14	20	29	36	43	46	47	42	42	40	37	41	47	45	40	29	23	A	31.8	47.1
13-Jul	35	33	27	20	16	23	21	19	20	21	21	25	24	24	23	22	21	19	19	19	17	16	A	13	21.6	34.5
14-Jul	11	11	15	17	17	18	18	18	18	18	19	20	20	22	23	24	25	27	27	21	16	A	9	8	18.3	27.1
15-Jul	7	7	6	6	6	8	9	12	13	20	26	29	26	25	27	26	26	26	25	22	A	9	11	14	16.9	29.2
16-Jul	14	13	12	12	13	12	12	14	21	26	28	28	27	29	29	32	32	31	29	A	22	12	6	8	20.1	31.7
17-Jul	8	7	6	5	6	6	5	7	12	18	22	24	26	26	25	27	29	28	A	25	22	24	30	26	18.0	29.7
18-Jul	22	23	29	27	22	20	20	23	26	31	37	37	36	38	39	37	36	A	26	24	22	20	26	30	28.3	39.1
19-Jul	26	23	23	22	22	19	19	18	17	17	15	17	19	21	23	21	A	23	22	19	18	19	18	16	19.8	25.8
20-Jul	15	14	13	12	10	6	10	12	15	19	22	24	27	29	30	A	30	29	29	27	20	13	8	8	18.3	30.4
21-Jul	9	6	6	6	6	6	7	9	14	18	20	21	22	24	A	26	28	28	31	33	29	15	11	9	16.8	33.0
22-Jul	7	7	8	8	9	9	10	12	16	23	26	28	30	A	36	40	41	41	41	37	27	17	16	13	21.8	41.0
23-Jul	14	11	10	10	10	11	13	15	21	26	31	35	A	40	40	42	45	47	48	44	30	19	18	21	26.2	47.6
24-Jul	17	14	14	14	13	15	16	18	22	30	33	33	C	A	34	36	38	39	45	46	49	40	19	15	27.3	49.1
25-Jul	15	13	12	A	10	10	13	17	19	26	33	36	38	43	37	37	40	43	45	42	34	22	15	12	26.6	45.0
26-Jul	12	9	A	5	4	6	7	9	17	28	31	33	35	36	36	34	35	36	35	30	20	14	15	16	21.8	36.1
27-Jul	13	A	12	11	11	11	12	14	16	20	25	28	31	33	33	35	35	33	34	34	22	17	15	20	22.5	35.4
28-Jul	A	9	8	5	5	5	5	5	10	21	28	32	32	30	27	25	26	28	29	25	17	10	4	A	17.6	31.8
29-Jul	5	4	3	4	3	5	6	10	15	22	29	27	31	34	37	40	38	35	32	26	20	13	A	13	19.8	40.2
30-Jul	13	14	15	15	14	16	16	16	17	25	29	29	24	22	22	26	31	33	34	29	22	A	19	14	21.5	34.0
31-Jul	8	9	10	9	9	11	10	10	14	24	30	29	29	30	32	36	37	37	37	34	A	15	16	14	21.3	36.7
	13.5	12.5	13.1	11.9	11.2	11.7	12.8	14.6	17.7	22.4	25.7	27.8	28.0	29.3	29.9	30.2	31.2	30.8	31.0	28.9	23.6	18.2	15.3	14.3	Diurnal Average	
	34.5	32.5	29.4	27.1	22.1	23.0	21.4	23.5	29.0	36.0	42.6	46.5	46.8	43.3	41.8	42.3	45.0	47.2	47.6	45.5	49.1	40.4	29.7	30.4	Diurnal Maximum	

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


Hourly Averages for O_3 at Portable-Kinuso
July 2009
AAAQO Limit = 82 ppb
Ozone (ppb)
100
80
60
40
20
0
03
05
07
09
11
13
15
17
19
21
23
25
27
29
31
Day

Peace Airshed Zone Association
Summary of Hourly Maximums

Portable-Kinuso - Ozone (O_3) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 53.9 ppb on Jul 24 22:00

Maximum Daily Average: 35.5 ppb on Jul 12

Minimum Value: 4 ppb on Jul 9 01:00

Minimum Daily Average: 18.0 ppb on Jul 1

Maximum Diurnal Average: 33.5 ppb at hour 19

Minimum Diurnal Average: 12.9 ppb at hour 5

Monthly Average: 23.68 ppb

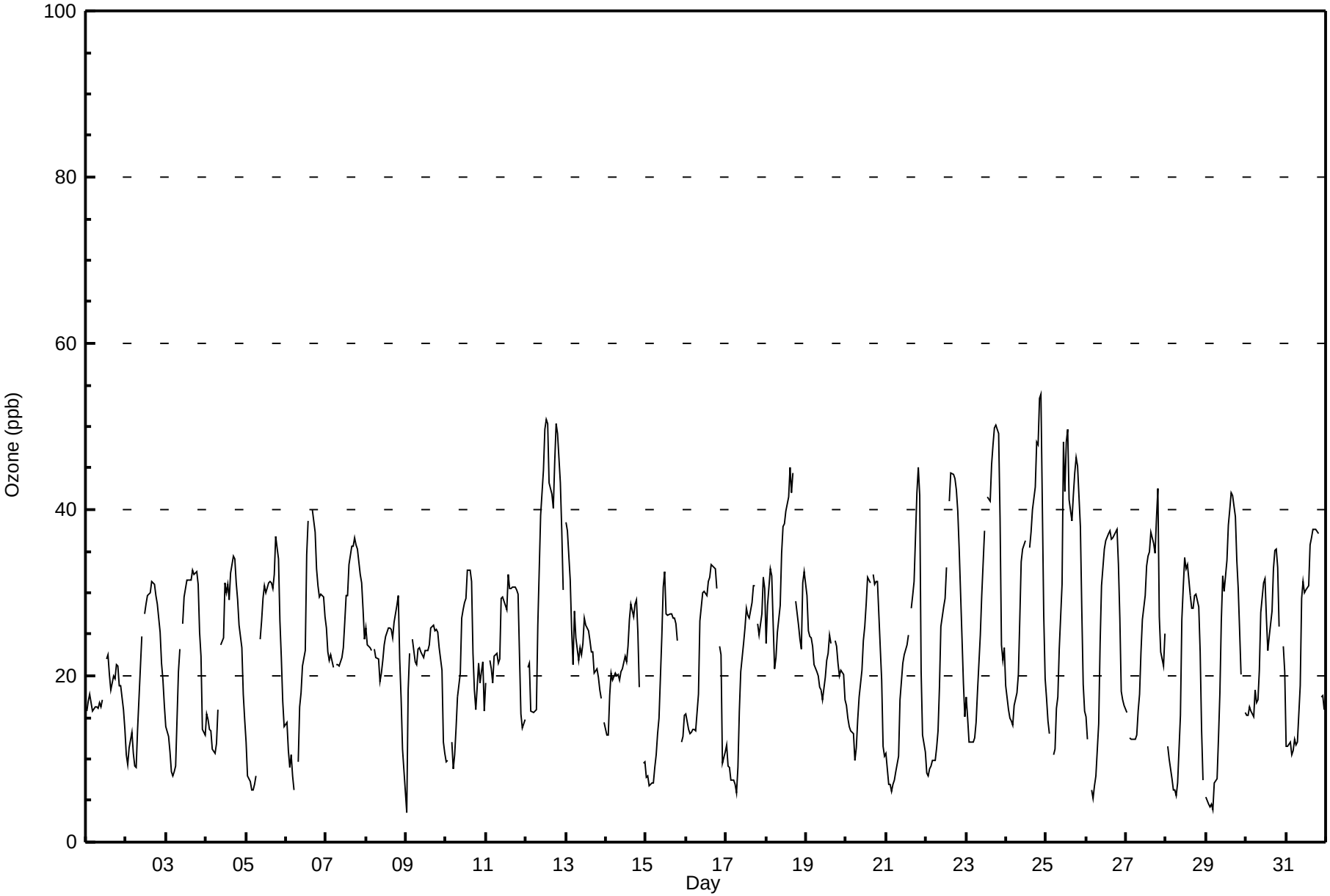
Percentiles: P_1 = 5.4 P_{10} = 10.5 Q_1 = 15.8 Median = 23.3 Q_3 = 30.7 P_{90} = 37.4 P_{99} = 49.7

Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	34
Percent Operational Time:	99.7

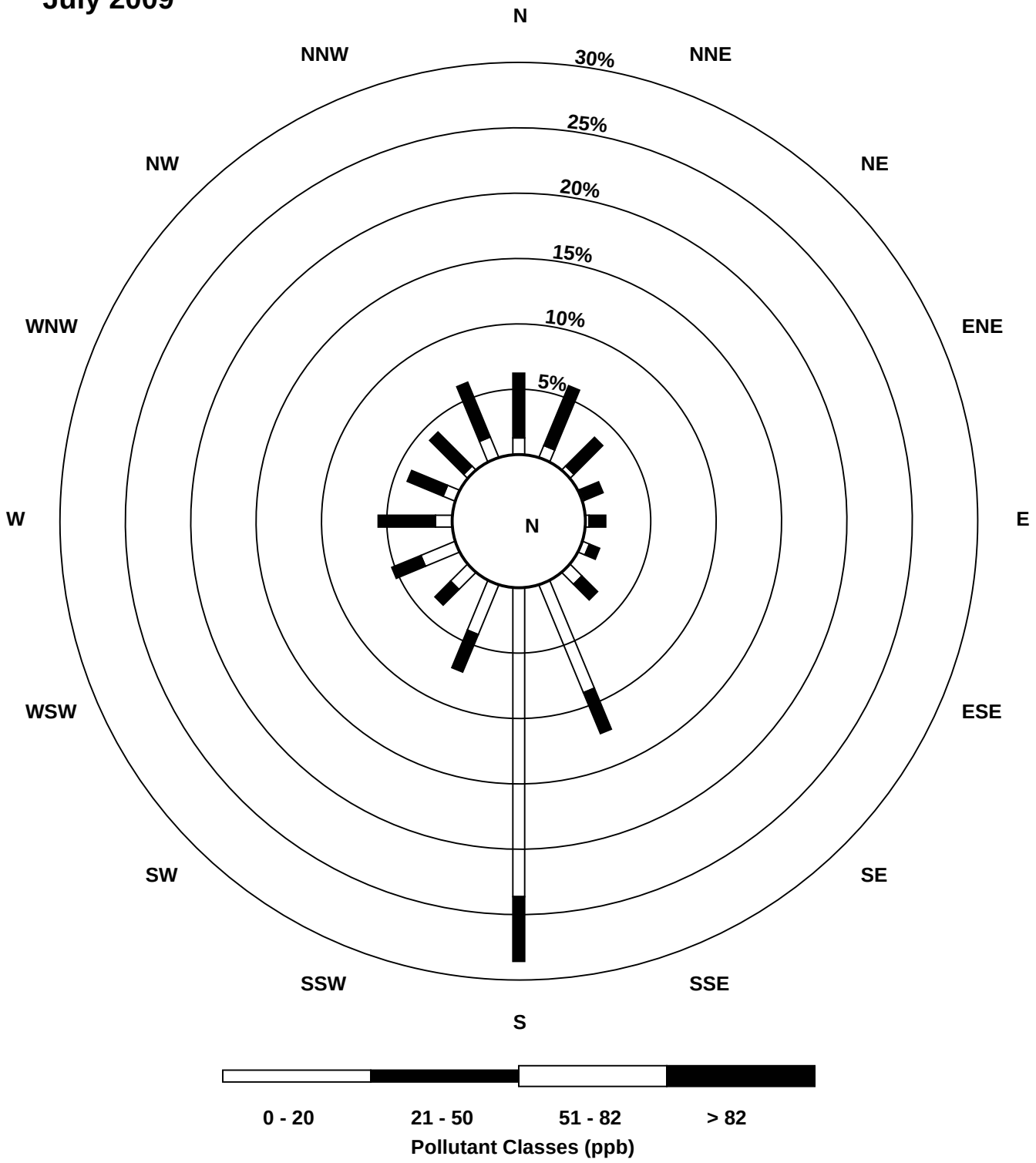
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	16	17	18	17	16	16	16	16	17	16	17	A	22	23	20	18	20	20	21	21	19	19	16	14	18.0	22.6
2-Jul	11	9	11	13	11	9	9	14	17	25	A	27	29	30	30	31	31	31	30	29	25	21	19	17	20.8	31.4
3-Jul	14	13	11	8	8	8	9	20	23	A	26	29	31	31	31	31	33	32	33	31	25	22	14	13	21.7	32.7
4-Jul	15	15	14	13	11	11	12	16	A	24	25	31	30	31	29	32	34	34	31	29	26	23	18	15	22.6	34.4
5-Jul	12	8	7	6	6	7	8	A	24	27	29	31	30	31	31	31	30	32	37	34	27	22	17	14	21.9	36.8
6-Jul	14	11	9	11	8	6	A	10	16	18	21	23	34	39	P	P	40	37	33	31	30	30	29	27	22.8	40.0
7-Jul	26	23	22	23	21	A	21	21	21	22	23	26	30	30	33	36	36	37	36	35	32	31	28	24	27.7	36.5
8-Jul	26	24	23	23	A	23	22	22	19	20	22	24	25	26	26	26	25	27	28	30	22	17	11	6	22.5	29.7
9-Jul	4	18	23	A	24	22	21	23	23	23	22	23	23	23	24	26	26	25	26	25	23	21	12	11	21.4	26.0
10-Jul	10	10	A	12	9	11	14	17	20	27	28	29	29	33	33	31	23	18	16	21	19	20	22	16	20.3	32.7
11-Jul	19	A	22	21	19	22	23	21	22	29	29	29	28	32	30	31	31	31	30	30	23	15	14	15	24.6	32.1
12-Jul	A	21	22	16	16	16	16	26	33	39	45	50	51	50	43	42	40	46	50	49	43	37	30	A	35.5	50.9
13-Jul	39	38	32	26	21	28	25	22	23	23	24	27	26	25	24	23	23	20	21	20	18	17	A	14	24.3	38.5
14-Jul	13	13	18	20	20	20	20	20	19	20	21	22	22	23	27	29	27	29	29	25	19	A	10	10	20.7	29.1
15-Jul	8	8	7	7	7	9	11	13	15	25	31	33	27	27	27	27	27	27	26	24	A	12	13	15	18.5	32.6
16-Jul	15	14	13	13	14	14	13	18	27	28	30	30	30	31	32	33	33	33	30	A	24	23	10	11	22.5	33.5
17-Jul	12	9	9	7	7	7	6	9	16	21	24	26	28	27	27	29	31	31	A	26	25	27	32	30	20.3	31.8
18-Jul	24	29	33	32	26	21	22	25	28	35	38	38	40	41	45	42	44	A	29	26	24	23	31	33	31.8	45.1
19-Jul	30	25	25	25	24	21	21	20	19	18	17	20	22	23	25	24	A	24	24	22	20	21	20	17	21.9	29.6
20-Jul	16	15	14	13	13	10	11	15	17	21	24	26	29	32	31	A	32	31	31	31	23	19	11	10	20.8	32.1
21-Jul	11	7	7	6	7	7	8	10	17	19	22	23	24	25	A	28	30	31	42	45	42	20	13	11	19.8	45.0
22-Jul	8	8	9	9	10	10	11	13	19	26	28	29	33	A	41	44	44	44	42	40	35	25	19	15	24.5	44.3
23-Jul	18	15	12	12	12	13	14	18	25	30	34	37	A	41	41	45	48	50	50	49	39	24	22	23	29.2	50.1
24-Jul	19	16	15	15	14	16	18	20	27	34	35	36	C	A	35	37	40	43	48	48	53	54	27	20	30.5	53.9
25-Jul	17	15	13	A	10	11	16	18	23	31	48	42	48	50	41	39	42	44	46	45	38	28	19	16	30.5	49.7
26-Jul	15	12	A	6	5	7	8	14	24	31	33	35	36	37	37	36	37	37	38	33	27	18	17	16	24.4	37.6
27-Jul	16	A	13	12	12	12	13	16	18	23	27	30	33	34	35	37	36	35	39	43	27	23	21	25	25.2	42.6
28-Jul	A	11	10	8	6	6	6	7	15	27	31	34	33	33	30	28	28	30	30	28	23	14	7	A	20.2	34.2
29-Jul	5	5	4	5	4	7	8	13	18	27	32	30	34	38	40	42	42	39	34	31	25	20	A	16	22.5	42.0
30-Jul	15	15	16	16	15	18	17	17	21	28	31	32	27	23	25	28	33	35	35	33	26	A	23	21	23.9	35.2
31-Jul	12	12	12	11	11	12	12	12	19	29	31	30	30	31	36	37	38	38	38	37	A	17	18	16	23.3	37.6
	15.8	14.9	15.2	14.0	12.9	13.4	14.4	16.9	20.9	25.5	28.3	30.1	30.5	31.8	32.1	32.6	33.4	33.0	33.5	32.4	27.7	23.0	18.7	16.9	Diurnal Average	
	38.5	37.5	32.9	32.1	26.3	27.8	24.6	26.1	32.7	39.3	48.1	49.6	50.9	50.4	45.1	45.5	47.8	49.8	50.4	49.2	53.4	53.9	31.8	32.6	Diurnal Maximum	

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

Hourly Maximums for O_3 at Portable-Kinuso
July 2009



Pollutant Rose for O_3 at Portable-Kinuso
July 2009



Peace Airshed Zone Association
Summary of Eight Hour Running Averages

Portable-Kinuso - Ozone (O_3) - ppb
July 1, 2009 to August 1, 2009

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 43.7 ppb on Jul 23 20:00

Minimum Value: 3.9 ppb on Jul 29 06:00

Percentiles: P_1 = 6.4 P_{10} = 10.6 Q_1 = 15.0 Median = 20.8 Q_3 = 26.5 P_{90} = 32.1 P_{99} = 41.3

Hours in Service:	744
Hours of Data:	739
Hours of Missing Data:	5
Hours of Calibration:	0
Percent Operational Time:	99.3

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-Jul	N	N	N	N	N	15	15	15	15	15	15	15	16	17	17	17	17	18	18	18	18	18	17	16	18.3
2-Jul	15	14	13	12	11	10	9	9	10	11	12	14	17	20	22	25	27	28	28	28	28	27	25	23	28.3
3-Jul	21	19	17	14	12	11	9	10	11	11	13	16	19	22	25	27	28	29	29	30	29	27	25	22	29.6
4-Jul	20	18	16	14	12	11	11	12	11	12	13	16	18	21	23	25	26	28	29	29	29	28	26	24	29.1
5-Jul	21	18	15	12	10	9	7	7	8	11	14	17	20	24	27	27	28	29	30	30	29	28	25	23	30.2
6-Jul	21	18	14	12	10	8	7	7	7	8	10	12	15	20	20	22	27	30	32	33	33	32	31	30	33.2
7-Jul	28	26	25	24	23	22	21	21	20	20	21	21	22	23	24	26	27	29	31	32	32	32	31	30	32.1
8-Jul	28	27	25	24	23	22	21	21	20	20	20	20	21	21	21	22	22	23	23	24	23	22	19	17	28.5
9-Jul	14	12	11	9	10	11	13	15	18	20	21	21	20	21	21	22	22	22	23	23	23	22	20	18	22.8
10-Jul	16	14	13	11	9	9	9	10	12	13	15	17	20	22	25	26	26	25	23	22	21	19	18	16	26.1
11-Jul	16	16	17	16	16	16	17	18	19	19	21	22	23	24	25	26	27	28	28	28	27	25	23	21	28.2
12-Jul	20	19	17	15	15	15	15	16	18	20	23	27	31	35	38	41	41	42	43	43	42	40	38	37	42.7
13-Jul	37	36	33	29	26	25	25	24	22	21	20	21	22	22	22	23	23	22	22	21	21	19	19	18	37.1
14-Jul	16	15	14	14	14	14	15	16	16	17	18	18	19	19	20	21	21	23	24	24	23	23	21	19	23.7
15-Jul	16	14	11	9	7	7	7	8	8	10	13	15	18	20	22	24	26	26	26	25	25	23	21	19	26.5
16-Jul	17	16	14	12	12	13	13	13	14	15	17	19	21	23	25	27	29	30	30	30	29	27	23	20	29.9
17-Jul	17	13	10	9	7	6	6	6	7	8	10	12	15	17	20	22	25	26	27	27	26	26	26	26	26.6
18-Jul	25	25	25	25	25	25	24	23	24	25	26	27	29	31	34	35	36	37	35	34	31	29	27	26	37.0
19-Jul	25	24	24	24	24	24	23	21	20	19	19	18	18	18	18	19	19	20	21	21	21	21	20	19	24.6
20-Jul	19	18	16	15	14	13	12	11	11	12	13	15	17	20	22	24	26	27	28	29	28	26	23	21	28.9
21-Jul	18	15	12	10	8	7	7	7	7	9	11	13	15	17	18	21	23	24	26	28	29	27	25	23	28.6
22-Jul	21	18	15	12	9	9	8	9	10	12	14	17	19	21	24	28	32	35	37	38	38	35	32	29	37.9
23-Jul	26	22	18	15	13	12	11	12	13	15	17	20	22	26	30	34	37	40	42	44	42	40	37	34	43.7
24-Jul	31	27	22	19	16	16	16	15	16	18	20	23	24	25	29	31	34	36	37	39	41	41	39	36	40.8
25-Jul	33	30	26	23	18	13	12	13	13	15	18	20	24	28	31	34	36	38	40	41	40	37	35	32	40.6
26-Jul	28	24	21	15	11	9	8	7	8	11	13	17	21	24	28	31	34	35	35	35	33	30	27	25	35.0
27-Jul	22	20	17	14	13	13	12	12	13	13	15	17	20	22	25	28	30	32	33	34	32	31	28	26	33.6
28-Jul	25	22	18	14	11	10	8	6	7	8	11	14	17	20	23	26	28	29	29	28	26	23	21	20	28.7
29-Jul	17	13	10	7	5	4	4	5	6	9	12	15	18	22	26	30	32	34	34	34	33	30	29	25	34.4
30-Jul	22	19	16	15	14	14	14	15	15	17	18	20	21	22	23	24	26	27	28	28	28	28	28	26	28.4
31-Jul	23	19	16	13	11	11	10	10	10	12	15	17	20	22	25	28	31	32	33	34	35	32	30	27	34.6
Diurnal Maximums	37.1	35.9	33.0	29.4	26.0	25.1	24.9	24.2	23.9	25.0	25.9	27.2	31.3	34.6	38.1	40.5	41.5	42.1	42.7	43.7	42.1	40.8	38.9	37.4	

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

Peace Airshed Zone Association
Summary of Hourly Averages

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

Maximum Value: 29.4 ^{o}C on Jul 24 15:00

Maximum Daily Average: 21.9 ^{o}C on Jul 25

Minimum Value: 2 ^{o}C on Jul 10 05:00

Minimum Daily Average: 10.0 ^{o}C on Jul 9

Maximum Diurnal Average: 21.8 ^{o}C at hour 15

Minimum Diurnal Average: 10.5 ^{o}C at hour 5

Monthly Average: 16.47 ^{o}C

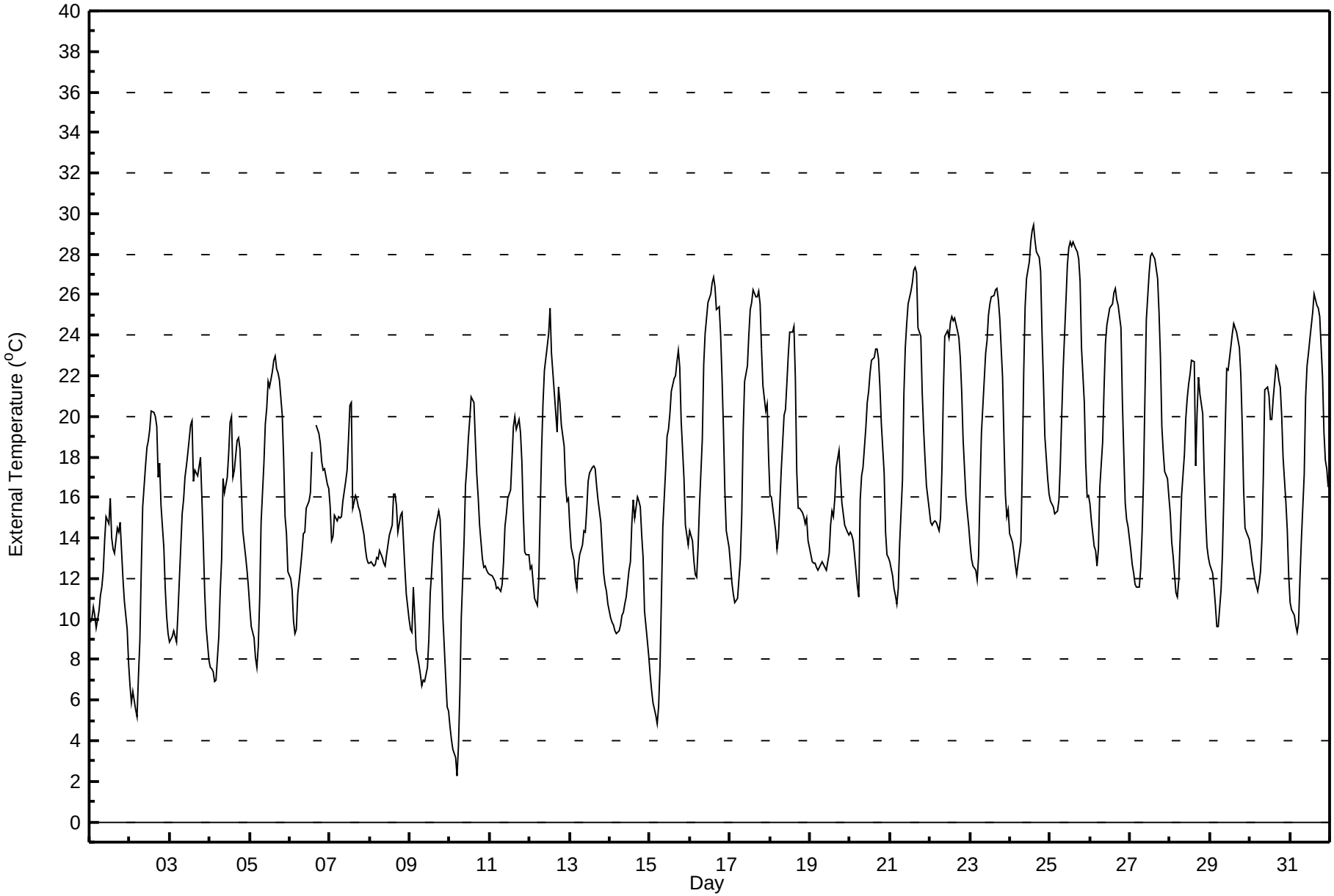
Percentiles: P_1 = 5.2 P_{10} = 10.0 Q_1 = 12.6 Median = 15.5 Q_3 = 20.6 P_{90} = 24.6 P_{99} = 28.2

Hours in Service:	744
Hours of Data:	742
Hours of Missing Data:	2
Hours of Calibration:	0
Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jul	10	10	11	10	10	10	11	12	12	14	15	15	16	14	13	13	14	14	15	13	12	11	10	8	12.2	16.0
2-Jul	7	6	6	6	5	7	9	13	16	18	18	19	19	20	20	20	19	17	18	16	13	11	10	9	13.5	20.3
3-Jul	9	9	9	9	9	10	12	15	16	17	18	18	20	20	17	17	17	17	18	16	14	11	10	8	14.0	19.8
4-Jul	8	8	7	7	7	9	11	13	17	16	17	18	20	20	17	17	19	19	18	16	14	13	12	12	14.0	20.0
5-Jul	11	10	9	8	8	9	11	15	18	20	20	22	21	22	23	23	22	22	22	20	18	15	14	12	16.4	23.0
6-Jul	12	11	10	9	9	11	13	13	14	14	15	16	16	18	P	P	20	19	19	18	17	17	17	16	14.8	19.5
7-Jul	16	14	14	15	15	15	15	15	16	17	17	19	21	21	15	16	16	16	15	15	14	13	13	13	15.6	20.7
8-Jul	13	13	13	13	13	13	13	13	13	13	13	14	14	15	16	16	16	14	15	15	14	12	11	10	13.5	16.2
9-Jul	9	9	12	10	9	8	7	7	7	7	8	9	11	12	14	14	15	15	15	13	10	7	6	5	10.0	15.4
10-Jul	5	4	4	3	2	4	6	10	14	17	18	19	20	21	21	19	17	16	15	13	13	13	12	12	12.3	20.9
11-Jul	12	12	12	12	12	12	11	12	13	15	15	16	16	18	20	20	19	20	19	18	15	13	13	13	14.9	20.0
12-Jul	12	13	12	11	11	12	15	18	21	22	23	24	25	23	22	20	19	21	21	20	19	17	16	16	18.1	25.4
13-Jul	15	14	13	12	11	13	13	14	14	14	15	17	17	17	18	17	17	16	15	13	12	12	11	11	14.2	17.6
14-Jul	10	10	10	9	9	9	10	10	10	11	11	12	13	15	16	15	16	16	16	14	13	10	9	8	11.8	16.0
15-Jul	7	7	6	5	5	6	8	11	15	17	19	19	20	21	22	22	23	23	22	20	17	15	14	14	14.9	23.2
16-Jul	14	14	13	12	12	14	16	19	23	24	25	26	26	27	27	26	25	25	24	22	19	16	14	13	19.9	26.9
17-Jul	13	12	11	11	11	12	13	15	19	22	22	24	25	26	26	26	26	26	26	23	21	20	21	18	19.6	26.2
18-Jul	16	16	15	14	13	14	16	17	20	20	22	23	24	24	24	22	17	15	15	15	15	15	15	14	17.7	24.4
19-Jul	13	13	13	13	13	12	13	13	13	13	12	13	15	15	15	16	17	18	17	16	15	15	14	14	14.2	18.3
20-Jul	14	14	14	13	12	11	16	17	17	19	21	21	22	23	23	23	23	23	21	20	17	14	13	13	17.8	23.3
21-Jul	13	12	12	11	11	12	14	17	21	23	25	26	26	27	27	27	27	24	24	21	19	18	17	15	19.5	27.3
22-Jul	15	15	15	15	15	14	15	17	21	24	24	24	25	25	25	25	24	24	23	21	19	16	15	15	19.6	24.9
23-Jul	14	13	13	12	12	13	16	19	22	23	24	25	26	26	26	26	26	26	25	22	19	16	15	15	19.7	26.3
24-Jul	14	14	13	13	12	13	14	17	22	25	27	28	29	29	29	29	28	28	27	24	22	19	17	16	21.2	29.4
25-Jul	16	16	16	15	15	16	18	20	22	26	27	28	29	28	29	28	28	28	27	23	21	18	16	16	21.9	28.6
26-Jul	16	15	14	13	13	13	17	19	21	24	24	25	25	26	26	26	26	25	24	21	18	16	15	15	19.8	26.3
27-Jul	13	13	12	12	12	12	13	14	17	21	25	27	28	28	28	28	27	25	23	20	18	17	17	16	19.3	28.0
28-Jul	15	14	13	11	11	12	14	16	18	20	21	22	22	23	23	18	20	22	21	20	17	15	14	13	17.3	22.7
29-Jul	13	12	12	11	10	10	11	13	16	19	22	22	23	24	25	24	24	23	22	20	16	14	14	14	17.3	24.6
30-Jul	13	13	12	12	11	12	12	14	17	21	21	21	20	20	21	22	22	22	21	20	18	16	14	12	17.1	22.5
31-Jul	11	10	10	10	9	10	12	14	17	21	22	23	24	25	26	26	25	25	25	22	19	18	17	16	18.3	26.0
	12.2	11.7	11.4	10.9	10.5	11.2	12.7	14.6	16.8	18.6	19.6	20.5	21.2	21.7	21.8	21.5	21.2	20.9	20.3	18.4	16.5	14.7	13.8	13.0	Diurnal Average	
	16.1	16.0	15.5	15.2	15.4	15.9	17.7	20.1	22.5	25.7	27.5	28.3	28.6	29.2	29.4	28.7	28.1	27.8	27.2	24.1	21.7	20.3	20.6	18.0	Diurnal Maximum	

P - Power Failure

Hourly Averages for External Temperature at Portable-Kinuso
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Kinuso
July 1, 2009 to August 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	4	3	3	2	3	3	4	4	5	4	5	4	4	4	1	3	4	4	4	1	3	3	3	3	3.1	5.3
Dir	182	188	206	187	176	214	208	192	211	225	227	235	249	250	215	265	249	240	239	296	205	227	204	181	219.1	227.3
2 Spd	2	3	4	3	4	4	6	6	4	3	2	2	2	1	4	6	6	7	10	7	6	5	4	3	1.3	10.3
Dir	186	187	177	167	183	178	171	160	161	201	241	310	42	74	20	3	354	339	16	129	168	164	188	164	154.4	15.9
3 Spd	4	7	7	3	4	6	3	1	1	2	2	3	3	5	3	3	2	4	1	5	1	2	2	1	1.5	6.9
Dir	185	178	182	169	161	181	166	192	316	286	268	301	265	317	296	238	304	200	19	31	330	193	197	152	209.8	178.5
4 Spd	4	8	9	7	6	5	7	7	5	2	5	2	4	3	6	7	3	1	6	7	5	6	7	6	3.2	9.1
Dir	166	174	181	179	187	165	166	170	169	299	353	322	199	185	348	16	351	288	170	171	165	168	160	181	174.9	181.2
5 Spd	7	7	9	9	9	8	6	5	3	1	3	2	5	5	3	7	11	12	11	7	4	2	2	1	1.2	12.2
Dir	176	172	178	179	177	174	169	166	138	145	29	356	47	5	23	30	9	16	22	24	21	214	217	180	94.8	16.3
6 Spd	4	4	0	1	1	1	0	1	2	8	13	8	9	13	P	P	11	11	11	8	6	8	4	6	4.5	13.4
Dir	189	205	159	117	158	179	176	61	296	21	35	22	98	81	P	P	85	79	57	47	63	74	49	46	65.0	81.4
7 Spd	4	1	2	4	6	5	4	7	11	11	13	15	18	18	9	8	8	11	7	3	5	6	5	3	5.7	18.3
Dir	47	234	341	52	54	88	84	40	30	14	2	15	39	43	136	127	111	121	114	74	53	41	7	327	51.3	42.6
8 Spd	5	4	9	4	5	1	6	9	11	11	11	11	7	1	2	2	1	3	2	1	1	1	2	2	3.6	11.3
Dir	345	337	0	355	33	334	11	4	1	5	357	356	351	260	191	201	338	23	211	310	190	187	129	177	358.3	5.3
9 Spd	2	1	8	9	6	5	6	7	7	8	8	4	3	5	3	4	2	3	3	2	2	2	3	7	3.0	8.9
Dir	188	239	349	346	343	337	339	336	346	347	351	318	303	333	324	320	294	259	261	246	170	173	188	182	325.9	345.9
10 Spd	8	10	11	12	9	8	9	7	7	6	5	5	4	3	2	2	1	3	4	9	4	5	2	1	4.1	11.8
Dir	178	173	162	171	180	178	178	164	159	136	128	138	94	95	26	239	208	136	22	11	169	192	193	359	160.1	171.1
11 Spd	3	3	1	1	2	4	2	2	3	6	5	5	4	3	3	2	3	1	3	3	2	4	6	7	2.5	6.7
Dir	108	123	166	34	99	154	170	138	155	149	168	157	182	173	193	209	346	49	60	62	126	163	153	148	147.7	147.9
12 Spd	6	8	5	8	7	7	5	6	7	7	9	9	8	6	7	4	3	7	1	3	2	3	3	3	4.7	8.8
Dir	153	144	178	180	179	173	181	163	164	168	169	169	157	137	108	136	170	148	197	27	182	218	192	321	162.1	168.8
13 Spd	3	5	3	2	2	4	2	2	4	3	4	4	4	3	6	6	7	6	6	6	6	6	4	3	2.6	6.5
Dir	141	190	196	170	171	233	232	228	267	275	275	285	284	289	323	323	330	336	338	335	334	348	324	293	301.8	330.0
14 Spd	2	2	2	3	1	3	3	2	1	2	3	2	4	3	4	6	4	3	2	2	3	2	4	5	0.9	5.7
Dir	286	278	321	330	268	326	338	327	288	262	242	22	110	81	321	343	308	319	276	210	168	170	175	170	293.8	343.3
15 Spd	6	7	7	9	10	11	11	8	7	7	5	3	1	1	4	5	4	3	4	2	1	4	7	7	4.3	11.3
Dir	174	177	174	172	170	167	163	166	162	158	177	92	5	308	354	18	66	112	115	149	192	179	156	154	159.0	167.3
16 Spd	8	7	7	9	8	6	6	5	4	3	5	4	5	5	5	4	5	5	4	3	2	2	2	3	3.8	8.6
Dir	159	198	195	177	180	181	180	170	176	217	230	258	254	259	270	272	258	255	251	254	221	192	196	183	209.3	176.8
17 Spd	1	3	3	5	8	9	8	5	4	2	4	4	3	2	4	11	11	7	4	4	4	5	8	5	1.7	11.3
Dir	179	194	199	190	180	176	180	174	175	142	24	42	23	75	31	21	23	44	74	131	151	157	155	335	119.1	23.2
18 Spd	5	6	8	3	8	9	8	9	2	3	2	2	3	6	6	5	2	4	6	1	3	4	6	5	0.8	8.7
Dir	16	15	7	195	156	162	159	161	187	349	1	36	357	3	352	348	195	127	170	158	207	192	261	191	148.4	160.9
19 Spd	6	6	5	4	2	2	3	4	4	4	4	4	5	5	5	4	5	5	3	2	4	3	3	1	3.2	5.8
Dir	177	178	175	187	194	191	217	244	254	253	266	264	263	262	269	259	269	271	268	254	241	244	246	243	239.0	176.5
20 Spd	2	4	3	2	2	2	3	3	2	2	2	3	4	4	4	4	3	3	3	2	2	2	2	5	1.6	5.0
Dir	244	248	255	213	151	129	146	232	281	227	269	273	302	283	301	281	282	284	334	8	188	173	193	181	252.4	181.1
21 Spd	8	9	8	8	7	8	8	7	5	2	3	2	3	2	2	2	2	1	2	2	3	6	7	5	4.3	8.9
Dir	177	170	169	173	173	175	179	172	156	172	204	234	219	278	227	254	228	204	194	171	175	178	172	185	180.9	170.4
22 Spd	9	10	11	10	9	7	6	6	5	3	3	3	4	4	5	4	3	4	2	1	2	1	4	4	3.6	10.6
Dir	175	177	174	174	173	185	179	177	173	253	265	255	274	280	274	276	287	280	232	177	178	114	179	190	198.5	174.1

Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Kinuso
July 1, 2009 to August 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	5	3	6	6	6	6	2	3	2	4	7	6	4	3	3	2	2	2	2	5	9	1.6	9.2
Dir	185	191	189	186	193	185	178	170	163	196	198	213	353	358	357	345	334	334	354	188	192	180	188	175	192.8	175.1
24 Spd	8	10	11	11	9	9	8	8	6	4	3	4	3	4	4	5	4	3	1	2	2	3	2	3	4.0	10.8
Dir	175	171	174	177	183	184	179	180	161	189	240	252	236	239	257	337	329	307	270	177	202	190	181	165	191.8	174.2
25 Spd	4	7	10	10	10	10	11	7	4	1	3	3	3	5	5	5	6	4	1	1	2	1	1	2	2.4	10.6
Dir	187	187	171	173	171	175	169	179	168	232	242	256	303	340	335	332	330	316	287	214	198	130	163	246	198.2	168.8
26 Spd	4	2	2	3	3	5	4	5	1	1	3	5	6	9	4	4	6	6	1	2	2	2	5	7	0.2	9.0
Dir	239	200	196	188	175	181	167	168	305	309	325	353	356	15	347	355	357	18	8	171	150	196	182	182	293.7	15.1
27 Spd	9	9	10	10	10	8	9	9	7	6	2	2	3	3	2	3	1	2	2	4	2	1	4	2	3.0	9.6
Dir	179	183	179	173	178	183	181	175	174	164	159	260	278	295	289	327	271	22	356	25	71	155	18	183	182.2	179.0
28 Spd	2	2	3	2	2	3	5	5	5	1	2	4	3	3	5	3	6	3	5	3	2	2	2	3	1.6	5.6
Dir	107	161	180	174	165	157	167	159	172	54	348	19	38	350	38	45	179	169	172	161	168	173	160	189	150.9	179.2
29 Spd	5	7	6	8	7	6	6	7	7	6	4	3	2	1	2	4	4	7	8	2	2	3	6	7	2.5	8.2
Dir	176	174	177	169	169	162	176	162	165	161	156	21	310	285	325	17	10	17	22	46	184	183	181	166	159.7	168.8
30 Spd	8	10	10	8	8	7	7	7	5	1	3	3	2	2	3	4	3	3	2	4	4	2	1	2	2.3	9.6
Dir	177	167	171	176	180	176	179	182	167	339	307	321	307	309	270	265	286	288	301	349	30	12	232	202	197.4	171.5
31 Spd	2	4	6	9	10	8	6	7	7	4	0	2	1	1	1	6	6	3	3	2	2	4	7	8	3.0	9.6
Dir	181	187	168	173	170	173	150	169	157	154	271	69	43	96	325	359	4	34	156	179	184	184	171	173	163.0	169.9
Spd	3.7	4.5	4.0	4.5	4.8	5.0	4.5	3.9	2.4	0.5	0.9	1.4	0.9	1.6	1.9	2.4	1.9	1.2	0.9	0.8	1.3	2.0	2.6	2.9	Diurnal Average	
Dir	174.5	179.0	178.7	175.6	171.8	175.5	172.9	170.8	168.8	188.6	313.6	334.3	347.9	356.6	328.3	341.4	345.8	14.5	33.8	61.3	164.7	172.9	177.8	178.2		
Spd	8.9	10.5	11.5	11.8	10.5	11.3	11.0	9.4	10.7	11.3	13.5	15.4	18.1	18.3	8.5	11.1	11.3	12.2	11.4	9.0	6.1	8.0	7.8	9.2	Diurnal Maximum	
Dir	178.8	173.3	162.0	171.1	170.8	167.3	162.8	3.7	0.7	5.3	2.4	15.1	38.5	42.6	136.1	20.6	23.2	16.3	22.2	10.6	168.3	74.2	154.5	175.1		

Maximum Speed Value: 18 km/h on Jul 7 14:00
Maximum Daily Speed Average: 5.7 km/h on Jul 7
Maximum Diurnal Speed Average: 5.0 km/h at hour 6

Minimum Speed Value: 0 km/h on Jul 31 11:00
Minimum Daily Speed Average: 0.2 km/h on Jul 20
Minimum Diurnal Speed Average: 0.5 km/h at hour 10

Monthly Average Velocity: 1.42 km/h 176.58 deg

Speed Percentiles: $P_1 = 0.6$ $P_{10} = 1.6$ $Q_1 = 2.5$ Median = 4.0 $Q_3 = 6.4$ $P_{90} = 8.5$ $P_{99} = 11.2$

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

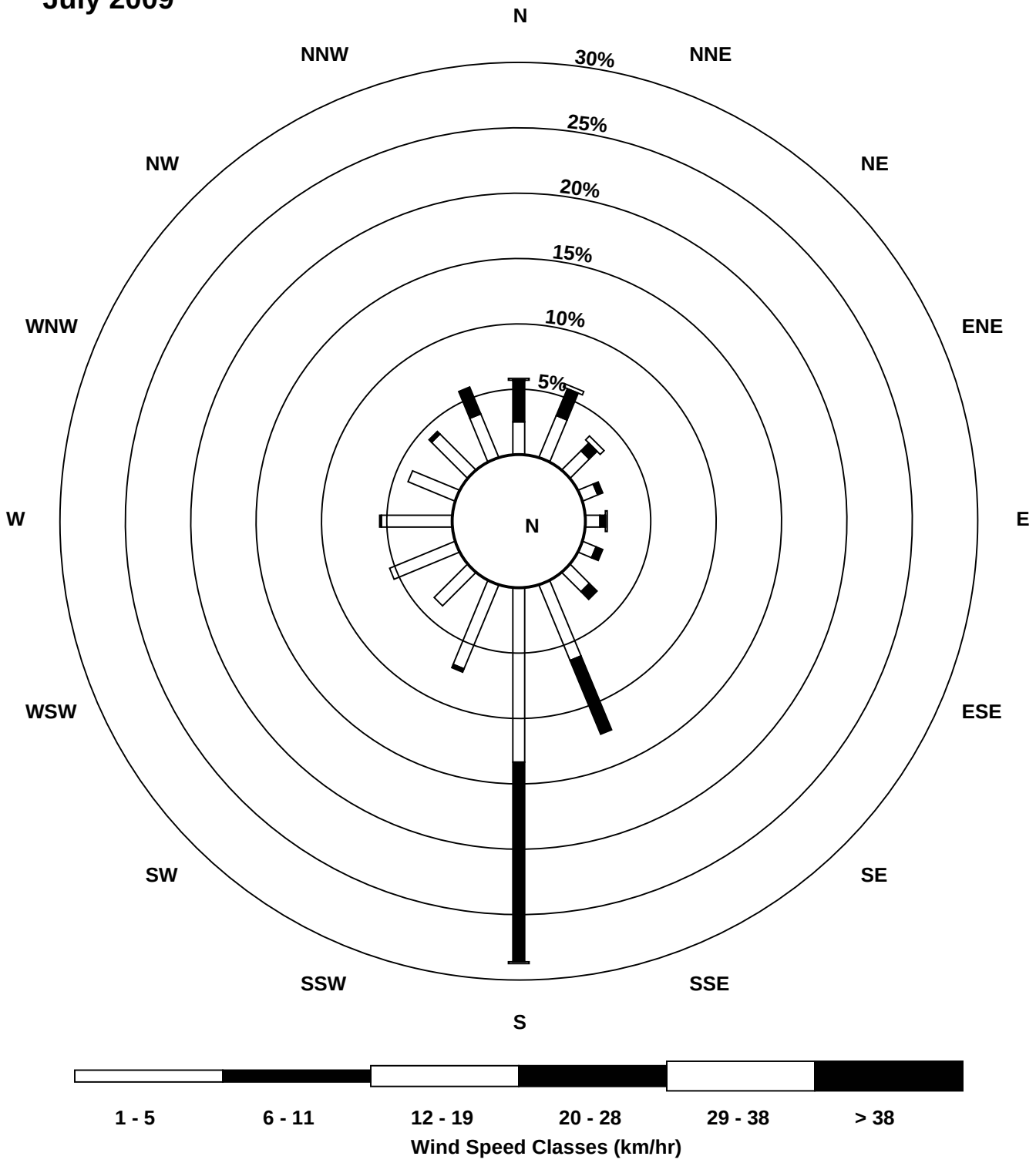
Hours in Service:	744
Hours of Data:	742
Hours of Missing Data:	2
Percent Operational Time:	99.7

P - Power Failure

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	41	46	7	0	0	0	94
NorthEast	32	12	4	0	0	0	48
East	18	5	2	0	0	0	25
SouthEast	32	22	1	0	0	0	55
South	152	155	4	0	0	0	311
SouthWest	61	1	0	0	0	0	62
West	76	4	0	0	0	0	80
NorthWest	54	13	0	0	0	0	67
Total	466	258	18	0	0	0	742

Wind Rose for WS at Portable-Kinuso
July 2009



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

Portable-Kinuso - Wind Speed (WS) - km/h
July 1, 2009 to August 1, 2009

Maximum Speed: 19 km/h on Jul 7 14:00

Maximum Daily Speed Average: 8.3 km/h on Jul 7

Minimum Speed: 1 km/h on Jul 8 22:00

Minimum Daily Speed Average: 3.6 km/h on Jul 20

Maximum Diurnal Speed Average: 6.4 km/h at hour 3

Minimum Diurnal Speed Average: 3.4 km/h at hour 21

Monthly Average Speed: 5.44 km/h

Percentiles: $P_1 = 1.7$ $P_{10} = 2.5$ $Q_1 = 3.7$ Median = 5.0 $Q_3 = 6.8$ $P_{90} = 8.8$ $P_{99} = 11.9$

Hours in Service: 744
Hours of Data: 742
Hours of Missing Data: 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-Jul	4	3	3	3	3	4	4	5	6	5	6	5	6	5	4	5	5	5	5	4	3	4	3	4	4.3	6.3
2-Jul	3	3	4	4	5	5	6	6	5	4	5	4	5	6	6	7	6	7	11	8	6	5	4	4	5.5	11.2
3-Jul	5	7	7	4	4	6	4	3	4	4	4	5	5	6	4	4	4	4	5	5	2	2	2	2	4.3	7.1
4-Jul	5	8	9	7	7	6	7	7	5	3	6	4	5	5	6	7	4	3	6	7	5	6	7	6	5.9	9.2
5-Jul	8	7	9	9	9	8	6	5	4	4	6	5	7	7	6	8	12	13	12	7	5	2	3	2	6.8	12.6
6-Jul	4	4	3	2	2	2	2	2	3	9	13	8	10	14	P	P	12	11	11	8	6	8	5	6	6.6	13.8
7-Jul	4	2	3	4	7	5	5	8	11	11	14	16	19	19	10	9	9	12	8	5	5	6	6	3	8.3	18.6
8-Jul	5	5	9	4	5	2	7	10	11	11	11	11	7	3	3	4	4	6	3	3	2	1	2	3	5.5	11.5
9-Jul	2	3	8	9	6	5	7	7	7	8	9	5	5	6	5	6	4	4	4	3	2	2	3	7	5.4	9.4
10-Jul	8	11	12	12	10	8	9	8	7	6	7	6	6	6	5	2	2	4	6	10	5	5	3	3	6.6	11.9
11-Jul	4	3	2	3	4	4	3	3	4	6	5	6	4	5	4	4	4	4	4	3	2	4	7	7	4.1	6.7
12-Jul	6	8	5	8	7	7	5	6	7	8	9	10	9	7	7	5	3	8	2	4	3	3	4	5	6.1	9.5
13-Jul	4	5	3	2	2	4	3	3	4	4	5	5	5	5	7	7	7	7	7	7	6	6	5	4	4.9	7.2
14-Jul	3	3	3	4	2	3	3	3	3	3	4	5	6	6	5	7	5	5	3	2	4	2	4	6	3.8	6.9
15-Jul	6	7	7	9	10	11	11	8	8	7	6	5	5	4	6	6	5	4	4	2	1	4	7	7	6.4	11.4
16-Jul	8	7	7	9	8	6	7	5	5	4	5	5	6	6	6	5	5	5	5	3	2	2	2	4	5.3	8.9
17-Jul	2	4	3	5	8	9	8	6	4	3	6	5	5	4	6	12	12	8	5	5	5	6	8	7	6.0	11.7
18-Jul	7	10	9	4	9	9	8	9	4	4	4	4	5	7	7	6	5	6	7	5	4	5	7	5	6.3	9.9
19-Jul	6	6	5	5	3	2	4	5	5	5	5	5	6	6	6	5	6	6	4	3	4	4	4	2	4.7	6.3
20-Jul	3	4	4	3	3	2	3	3	3	4	4	4	5	5	5	5	5	4	4	3	2	2	2	5	3.6	5.2
21-Jul	8	9	8	8	7	8	8	7	6	4	4	4	5	4	4	4	3	2	2	2	3	6	7	5	5.4	9.1
22-Jul	9	10	11	10	9	7	7	6	5	4	4	4	5	5	6	5	4	5	3	1	2	3	5	4	5.6	10.7
23-Jul	3	3	3	5	4	6	6	6	6	4	4	4	5	8	7	5	4	4	3	2	2	2	5	9	4.6	9.3
24-Jul	9	10	11	11	10	10	9	8	6	5	4	5	5	5	5	6	5	4	2	2	3	4	3	4	6.0	10.9
25-Jul	5	7	10	10	11	10	11	7	4	3	4	4	5	6	6	6	6	5	3	2	2	2	2	3	5.5	10.8
26-Jul	4	3	2	3	3	5	5	5	3	4	4	6	7	10	6	6	6	7	3	2	2	2	5	7	4.6	9.6
27-Jul	9	9	10	10	10	8	9	9	8	6	5	4	4	5	4	4	2	3	3	6	5	3	5	4	6.0	9.7
28-Jul	3	2	3	2	3	3	5	5	5	4	4	5	5	5	8	6	6	4	5	4	2	2	2	4	4.0	8.1
29-Jul	6	7	7	8	7	6	6	8	8	6	5	5	4	4	4	5	6	8	8	3	2	4	6	7	5.8	8.4
30-Jul	9	10	10	8	8	8	7	8	6	4	4	4	3	4	4	5	4	4	3	5	4	3	2	2	5.4	9.7
31-Jul	3	4	7	9	10	8	6	7	7	4	4	4	4	5	4	6	7	5	3	2	2	5	7	8	5.5	9.7
	5.3	5.9	6.4	6.2	6.2	6.2	6.1	6.1	5.6	5.3	5.8	5.6	5.9	6.1	5.6	5.7	5.6	5.6	4.9	4.2	3.4	3.8	4.4	4.8	Diurnal Average	
	9.0	10.6	11.6	11.9	10.6	11.4	11.1	9.6	10.9	11.5	13.6	15.7	18.5	18.6	10.0	11.6	11.7	12.6	11.5	9.9	6.4	8.3	8.1	9.3	Diurnal Maximum	

P - Power Failure
All monthly, daily, and diurnal averages have been calculated using scalar methods

Peace Airshed Zone Association
Summary of Hourly Standard Deviations

Portable-Kinuso - Wind Direction (WD) - deg
July 1, 2009 to August 1, 2009

Maximum Value: 99.2 deg on Jul 11 00:00

Minimum Value: 5.6 deg on Jul 6 11:00

Percentiles: P_1 = 7.6 P_{10} = 10.9 Q_1 = 16.8 Median = 34.2 Q_3 = 54.9 P_{90} = 70.9 P_{99} = 93.5

Hours in Service:	744
Hours of Data:	742
Hours of Missing Data:	2
Hours of Calibration:	0
Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jul	10	24	32	22	19	36	34	27	41	50	39	45	50	55	86	60	55	50	46	76	28	38	31	19	85.8
2-Jul	30	24	27	42	31	25	22	18	47	63	79	73	79	94	58	43	31	32	29	38	14	16	18	40	93.5
3-Jul	27	11	13	21	21	16	21	80	91	76	65	57	72	44	47	54	65	34	90	14	83	16	25	45	90.6
4-Jul	21	11	9	13	13	16	14	16	28	53	46	62	49	66	27	33	57	88	15	15	13	13	9	11	87.8
5-Jul	10	12	12	11	12	9	20	22	48	83	75	83	59	63	79	51	26	15	8	6	67	24	48	55	83.1
6-Jul	18	13	84	37	48	47	71	87	71	21	6	19	32	15	P	P	17	18	15	18	22	21	60	19	86.7
7-Jul	36	71	77	36	15	26	37	15	6	14	9	11	12	11	34	28	27	19	26	62	30	16	26	46	77.3
8-Jul	34	29	9	49	34	85	32	11	11	9	11	12	32	70	42	69	94	84	52	70	70	41	36	40	94.3
9-Jul	39	70	15	25	23	34	20	19	20	18	37	58	55	45	62	49	72	54	59	56	19	24	24	13	71.6
10-Jul	10	7	8	8	9	10	11	16	17	33	43	41	59	66	88	43	57	26	73	44	43	13	42	99	99.2
11-Jul	38	42	25	85	55	15	44	39	33	26	25	28	29	58	50	59	58	96	57	38	36	19	9	8	96.0
12-Jul	17	9	17	9	10	10	16	19	22	21	20	23	26	22	20	23	30	20	53	39	69	22	34	67	69.0
13-Jul	59	21	40	36	19	31	47	50	39	64	45	51	59	54	29	38	27	28	28	27	26	22	35	55	64.0
14-Jul	59	69	58	49	73	59	50	57	65	59	53	82	52	81	46	44	56	59	58	36	15	18	17	14	82.2
15-Jul	11	12	12	9	9	8	8	11	16	25	45	74	97	82	60	53	54	62	26	18	16	16	9	10	97.3
16-Jul	12	11	11	14	14	18	16	15	33	48	45	48	48	47	48	59	41	31	46	36	38	13	16	30	58.8
17-Jul	64	33	42	27	14	11	11	19	26	45	57	58	74	76	65	18	15	31	34	22	15	40	20	53	76.5
18-Jul	72	59	47	52	12	13	12	19	83	62	71	84	75	57	43	47	79	50	24	82	32	47	44	37	83.8
19-Jul	13	19	15	28	53	33	48	48	47	54	48	47	45	38	43	43	54	35	45	47	33	40	53	77	77.2
20-Jul	44	34	45	61	67	41	26	42	68	62	60	56	53	57	53	51	64	53	64	85	33	24	20	21	85.0
21-Jul	11	11	13	14	11	9	10	14	18	61	61	73	64	67	70	71	47	39	45	26	24	11	11	21	73.0
22-Jul	9	8	8	10	16	18	18	16	20	50	55	56	46	47	45	50	58	52	67	47	32	63	32	19	66.6
23-Jul	29	27	31	13	22	12	15	14	21	65	59	66	63	39	38	53	49	43	60	33	12	23	18	8	66.0
24-Jul	10	7	8	9	11	12	14	11	18	39	56	54	53	48	47	41	42	53	89	44	16	15	19	37	88.8
25-Jul	38	12	8	9	8	8	9	13	21	84	58	48	62	49	41	29	32	49	78	60	14	75	54	30	83.6
26-Jul	16	46	48	40	19	17	26	18	80	81	62	43	51	23	61	69	37	30	96	20	26	46	19	10	95.5
27-Jul	9	9	10	9	10	11	10	11	14	13	85	70	55	55	61	59	75	59	56	70	70	71	75	55	85.1
28-Jul	49	34	18	22	21	17	15	21	23	87	75	48	70	68	75	89	23	38	17	23	30	11	21	23	88.8
29-Jul	21	12	18	12	11	20	23	13	12	22	46	76	75	87	79	56	55	19	9	64	17	13	9	12	86.7
30-Jul	10	7	8	11	12	14	14	17	27	91	59	51	68	62	51	52	60	56	67	40	51	85	65	44	91.1
31-Jul	35	25	12	9	10	13	16	14	20	46	94	65	90	85	84	41	24	71	23	15	15	11	9	9	93.6
	72.2	70.9	84.2	84.9	73.4	85.5	70.9	86.7	90.6	91.1	93.6	83.8	97.3	93.5	87.9	88.8	94.3	96.0	95.5	85.0	83.2	85.4	74.9	99.2	

P - Power Failure

PASZA
Valleyview Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association
Summary of Hourly Averages

Valleyview - Sulphur Dioxide (SO_2) - ppb
July 1, 2009 to August 1, 2009

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 10.0 ppb on Jul 13 09:00
Maximum Daily Average: 1.7 ppb on Jul 1

Minimum Value: 0 ppb on Jul 2 21:00
Maximum Diurnal Average: 0.6 ppb at hour 10
Monthly Average: 0.29 ppb

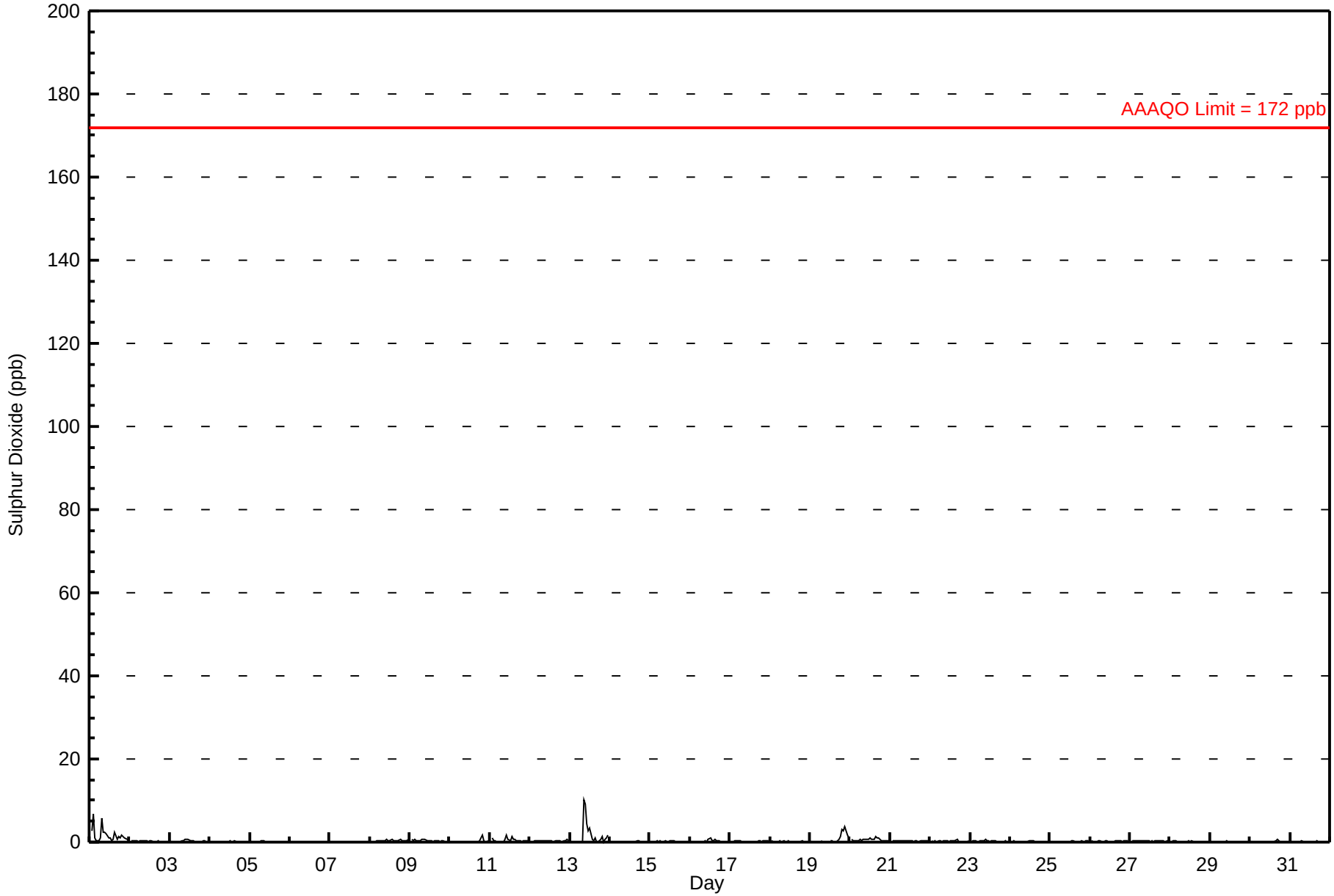
Minimum Daily Average: 0.0 ppb on Jul 7
Minimum Diurnal Average: 0.1 ppb at hour 5
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.3 P_{90} = 0.6 P_{99} = 3.1

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	A	3	7	1	0	0	1	6	2	2	2	1	1	0	1	3	1	1	1	2	1	1	1	0	1.7	6.8
2-Jul	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-Jul	A	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
4-Jul	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
5-Jul	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
6-Jul	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
7-Jul	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-Jul	A	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	1	0.4	0.6
9-Jul	A	1	0	1	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
10-Jul	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0.2	1.8
11-Jul	A	1	0	0	0	0	0	0	0	1	2	1	0	1	1	1	0	0	0	0	0	0	0	0	0.4	1.7
12-Jul	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.3	0.8
13-Jul	A	0	0	0	0	0	0	0	10	9	4	3	3	1	0	1	0	0	1	1	0	1	1	2	1.6	10.0
14-Jul	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
15-Jul	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
16-Jul	A	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0.2	0.9
17-Jul	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
18-Jul	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
19-Jul	A	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	0	1	1	3	3	4	2	1	0.8	3.7
20-Jul	A	1	0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0.6	1.5
21-Jul	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
22-Jul	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.2	0.5
23-Jul	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
24-Jul	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
25-Jul	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
26-Jul	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
27-Jul	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
28-Jul	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-Jul	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
30-Jul	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.1	0.7
31-Jul	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
	--	0.3	0.3	0.2	0.1	0.1	0.2	0.3	0.6	0.6	0.4	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.4	0.3	0.3	0.2	0.2	Diurnal Average	
	--	2.7	6.8	1.0	0.5	0.5	1.0	5.9	10.0	9.3	4.2	2.7	3.3	1.4	0.6	2.5	1.0	1.2	1.2	3.1	2.5	3.7	1.7	1.7	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
July 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

Valleyview - Sulphur Dioxide (SO_2) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 21.4 ppb on Jul 13 09:00

Maximum Daily Average: 5.0 ppb on Jul 13

Minimum Value: 0 ppb on Jul 7 08:00

Minimum Daily Average: 0.5 ppb on Jul 29

Maximum Diurnal Average: 1.9 ppb at hour 9

Minimum Diurnal Average: 0.9 ppb at hour 5

Monthly Average: 1.32 ppb

Percentiles: $P_1 = 0.2$ $P_{10} = 0.6$ $Q_1 = 0.8$ Median = 1.0 $Q_3 = 1.3$ $P_{90} = 1.8$ $P_{99} = 13.2$

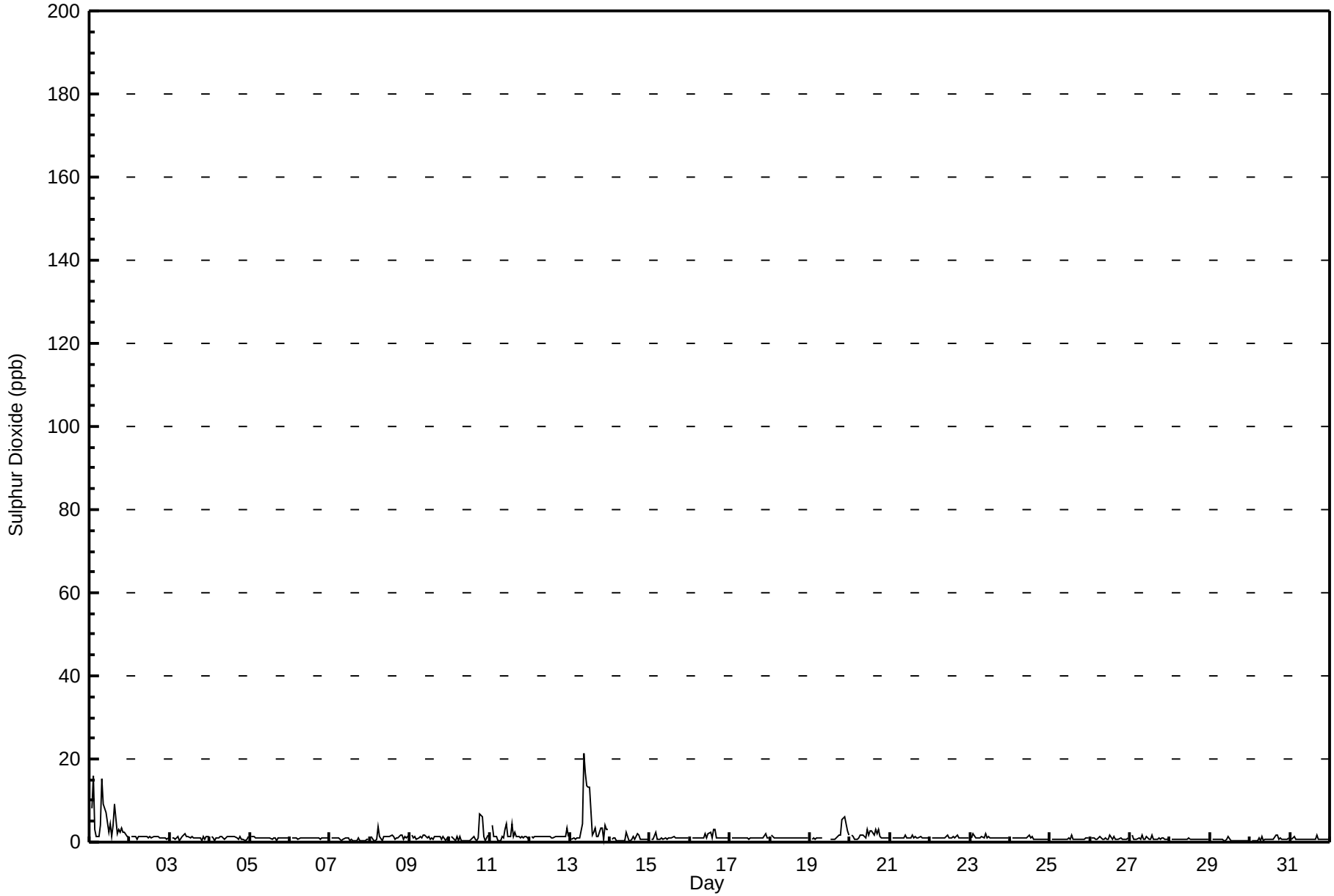
Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	A	8	16	3	1	1	4	15	9	8	7	2	4	1	4	9	2	3	2	3	2	2	1	1	4.9	16.0
2-Jul	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	1.4
3-Jul	A	1	1	1	1	1	0	1	2	2	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1.1	2.2
4-Jul	A	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1.0	1.3
5-Jul	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1.0	1.2
6-Jul	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.1
7-Jul	A	1	1	1	1	1	1	0	1	1	1	1	0	1	0	0	0	1	0	0	0	0	1	1	0.7	1.2
8-Jul	A	1	1	0	1	4	1	0	1	1	2	2	2	2	1	1	1	1	2	2	1	1	1	2	1.3	3.8
9-Jul	A	2	1	1	1	1	1	1	2	2	1	1	1	1	1	2	1	1	1	1	1	0	1	1	1.2	1.9
10-Jul	A	1	1	0	1	0	1	0	0	0	0	0	0	1	1	1	0	1	7	6	1	0	1	2	1.2	6.9
11-Jul	A	4	1	1	1	0	0	1	1	3	4	1	1	4	1	2	1	1	1	1	1	1	2	1	1.7	4.3
12-Jul	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	1.4	3.2
13-Jul	A	1	1	1	1	1	1	5	21	17	14	13	13	2	3	3	1	1	3	3	1	4	3	3	5.0	21.4
14-Jul	A	1	1	1	0	0	0	0	0	0	2	0	0	1	1	1	2	2	1	1	1	1	1	1	0.8	2.3
15-Jul	A	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.4
16-Jul	A	1	1	1	1	1	1	1	1	2	1	2	2	1	3	3	1	1	1	1	1	1	1	1	1.3	2.9
17-Jul	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1.0	2.0
18-Jul	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.8
19-Jul	A	1	1	1	1	1	1	1	C	C	C	C	1	1	1	1	1	2	2	5	6	6	3	2	1.9	6.1
20-Jul	A	2	1	1	1	1	2	2	2	1	3	2	3	3	2	3	2	3	1	1	1	1	1	1	1.7	3.2
21-Jul	A	1	1	1	1	1	1	1	1	2	1	1	1	2	1	2	1	1	1	1	1	1	1	1	1.0	1.7
22-Jul	A	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	2	1	1	1	1	1	1	1	1.0	1.6
23-Jul	A	1	2	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	2.0
24-Jul	A	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.8
25-Jul	A	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	0.8	1.8
26-Jul	A	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	0.9	1.5
27-Jul	A	2	1	1	1	1	1	2	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1.0	1.8
28-Jul	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1
29-Jul	A	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.5
30-Jul	A	0	0	0	0	1	0	1	0	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	0.8	1.7
31-Jul	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	0.8	1.7
	--	1.4	1.5	1.0	0.9	1.0	1.1	1.6	1.9	1.9	1.9	1.6	1.5	1.2	1.2	1.5	1.1	1.1	1.3	1.3	1.1	1.2	1.1	1.1	Diurnal Average	
	--	8.1	16.0	3.2	1.5	3.8	4.2	15.1	21.4	16.6	13.6	13.2	13.3	4.3	3.9	9.1	2.1	2.9	6.9	6.1	5.8	6.1	3.2	3.1	Diurnal Maximum	

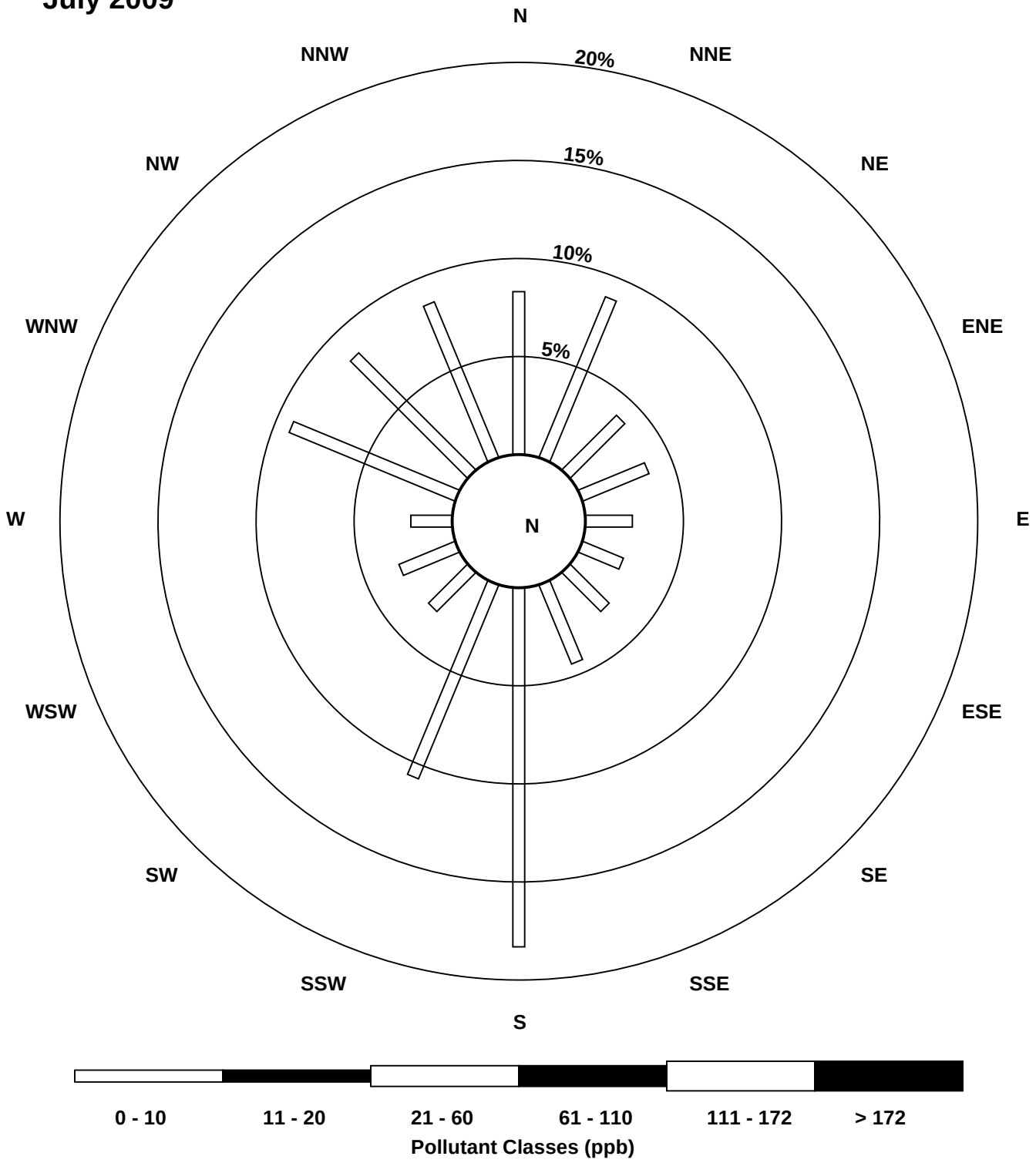
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for SO_2 at Valleyview
July 2009



Pollutant Rose for SO_2 at Valleyview
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Valleyview - Hydrogen Sulphide (H_2S) - ppb
July 1, 2009 to August 1, 2009

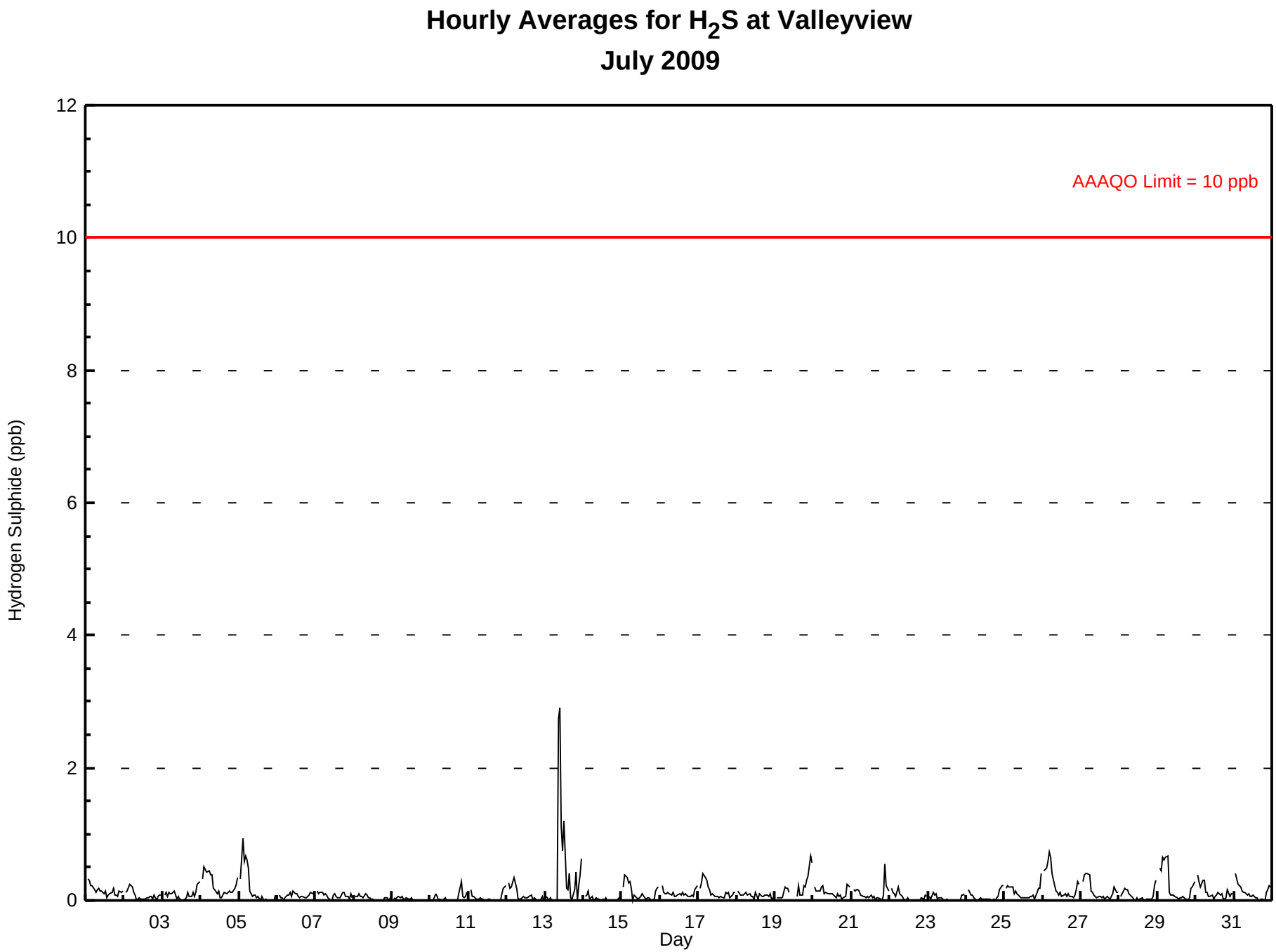
Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 2.9 ppb on Jul 13 10:00 Maximum Daily Average: 0.5 ppb on Jul 13

Minimum Value: 0 ppb on Jul 3 13:00 Minimum Daily Average: 0.0 ppb on Jul 9
Maximum Diurnal Average: 0.2 ppb at hour 4 Minimum Diurnal Average: 0.0 ppb at hour 14
Monthly Average: 0.12 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.1 P_{90} = 0.3 P_{99} = 0.7

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	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
2-Jul	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
3-Jul	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
4-Jul	A	0	1	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
5-Jul	A	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.9
6-Jul	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
7-Jul	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
8-Jul	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
9-Jul	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
10-Jul	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	0.3
11-Jul	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
12-Jul	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
13-Jul	A	0	0	0	0	0	0	0	3	3	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0.5	2.9
14-Jul	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
15-Jul	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
16-Jul	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
17-Jul	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
18-Jul	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
19-Jul	A	0	0	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	1	1	0.2	0.7
20-Jul	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
21-Jul	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.1	0.6
22-Jul	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
23-Jul	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
24-Jul	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
25-Jul	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
26-Jul	A	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
27-Jul	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-Jul	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-Jul	A	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
30-Jul	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
31-Jul	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
	--	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	Diurnal Average	
	--	0.5	0.9	0.7	0.7	0.6	0.7	0.4	2.7	2.9	1.1	0.7	1.2	0.2	0.2	0.4	0.1	0.2	0.2	0.4	0.3	0.6	0.7	0.6	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
July 2009
AAAQO Limit = 10 ppb
Hydrogen Sulphide (ppb)
0
2
4
6
8
10
12
03
05
07
09
11
13
15
17
19
21
23
25
27
29
31
Day

Peace Airshed Zone Association
Summary of Hourly Maximums

Valleyview - Hydrogen Sulphide (H_2S) - ppb
July 1, 2009 to August 1, 2009

Maximum Value: 9.6 ppb on Jul 13 09:00

Maximum Daily Average: 2.1 ppb on Jul 13

Minimum Value: 0 ppb on Jul 11 16:00

Maximum Diurnal Average: 0.7 ppb at hour 9

Monthly Average: 0.51 ppb

Minimum Daily Average: 0.3 ppb on Jul 9

Minimum Diurnal Average: 0.4 ppb at hour 18

Percentiles: P_1 = 0.2 P_{10} = 0.3 Q_1 = 0.3 Median = 0.4 Q_3 = 0.5 P_{90} = 0.7 P_{99} = 1.3

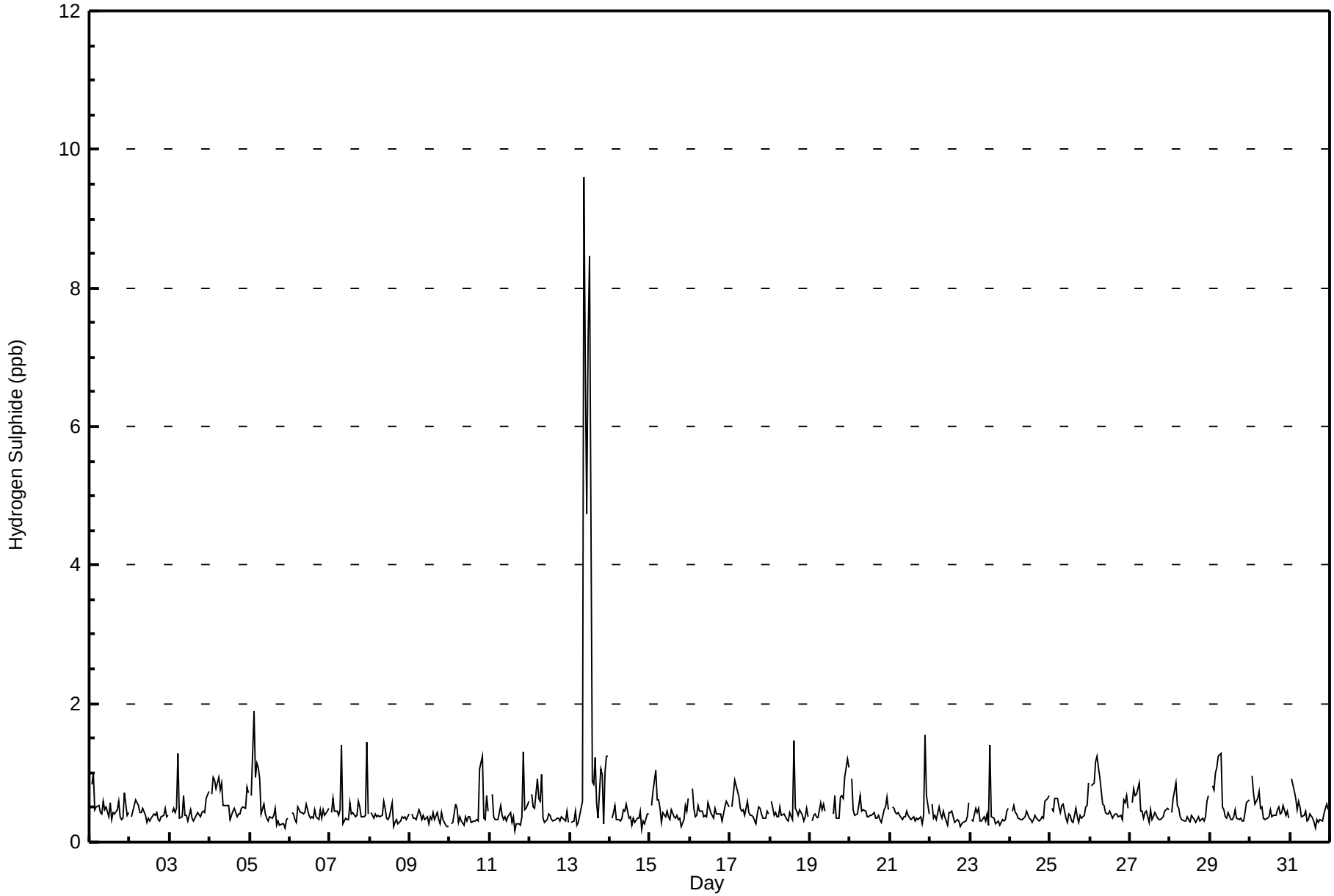
Hours in Service:	744
Hours of Data:	709
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jul	A	1	1	0	1	1	0	0	1	0	1	0	1	0	0	0	0	1	0	0	0	1	0	0	0.5	1.0
2-Jul	A	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6
3-Jul	A	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.5	1.3
4-Jul	A	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0	1	1	0.6	0.9
5-Jul	A	1	2	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.9
6-Jul	A	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
7-Jul	A	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	1	0	0	0	1	0	0.5	1.4
8-Jul	A	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.4	0.6
9-Jul	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
10-Jul	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0.4	1.2
11-Jul	A	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.4	1.3
12-Jul	A	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.0
13-Jul	A	0	0	0	0	0	0	1	10	7	5	7	8	1	1	1	1	0	1	1	0	1	1	1	2.1	9.6
14-Jul	A	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6
15-Jul	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.5	1.0
16-Jul	A	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	0.4	0.8
17-Jul	A	1	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0.5	0.9
18-Jul	A	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.4	1.5
19-Jul	A	0	0	0	0	0	1	0	1	0	C	C	C	C	0	1	0	0	1	1	1	1	1	1	0.6	1.2
20-Jul	A	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0.5	0.9
21-Jul	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0.4	1.5
22-Jul	A	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	0.6
23-Jul	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.4	1.4
24-Jul	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.4	0.7
25-Jul	A	0	0	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.5	0.8
26-Jul	A	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0.6	1.2
27-Jul	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.9
28-Jul	A	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.4	0.9
29-Jul	A	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.6	1.3
30-Jul	A	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0.5	1.0
31-Jul	A	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.4	0.9
	--	0.6	0.6	0.6	0.5	0.6	0.5	0.5	0.7	0.6	0.5	0.6	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.5	Diurnal Average	
	--	1.0	1.9	1.2	1.2	1.3	1.3	1.4	9.6	6.9	4.7	7.3	8.5	0.9	1.5	1.2	0.6	0.6	1.1	1.2	1.3	1.5	1.4	1.2	Diurnal Maximum	

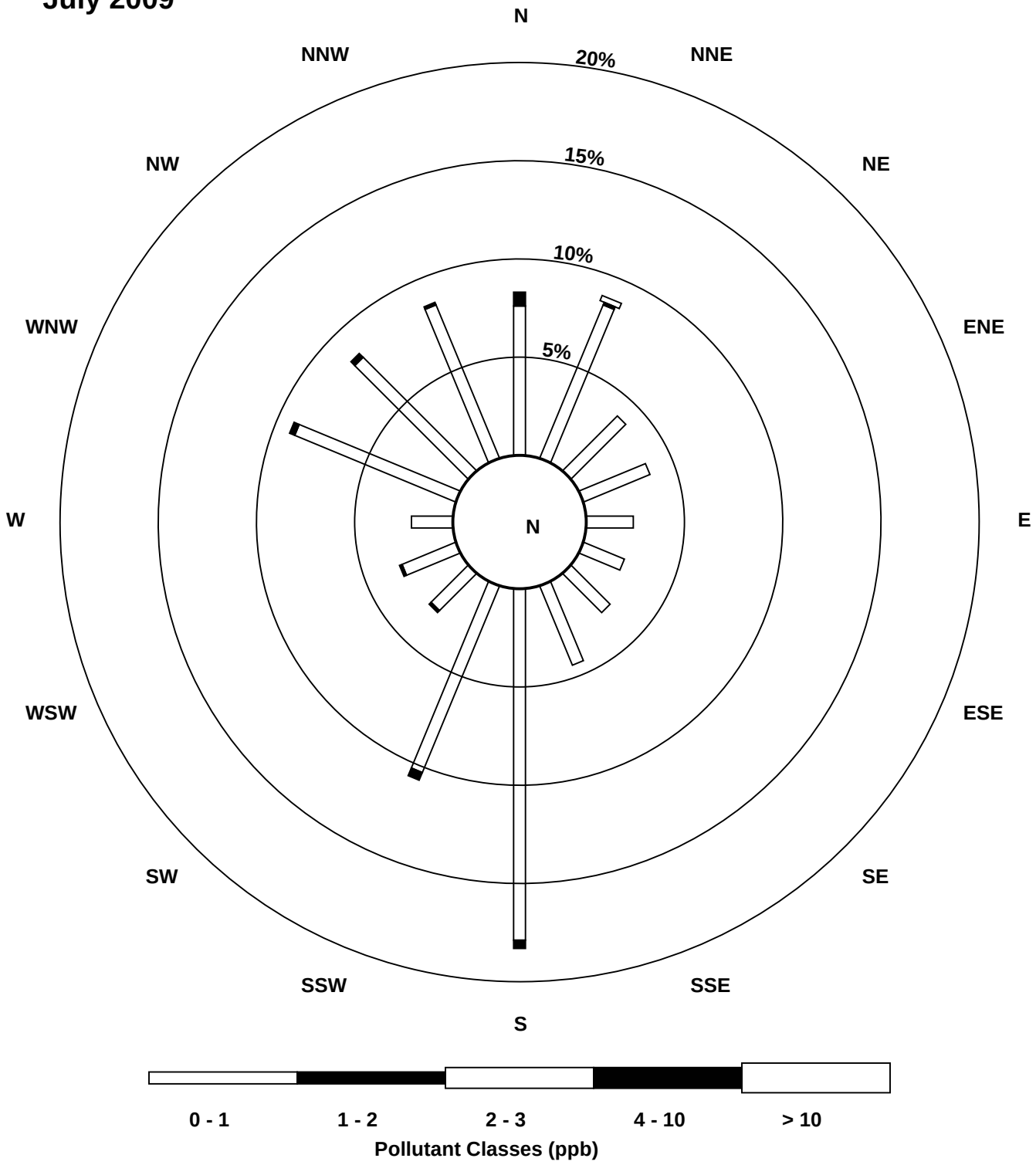
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for H_2S at Valleyview
July 2009



Pollutant Rose for H_2S at Valleyview
July 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Maximum Value: 28.4 ^{o}C on Jul 27 16:00

Maximum Daily Average: 22.0 ^{o}C on Jul 25

Minimum Value: 2 ^{o}C on Jul 15 05:00

Minimum Daily Average: 9.8 ^{o}C on Jul 9

Maximum Diurnal Average: 21.1 ^{o}C at hour 16

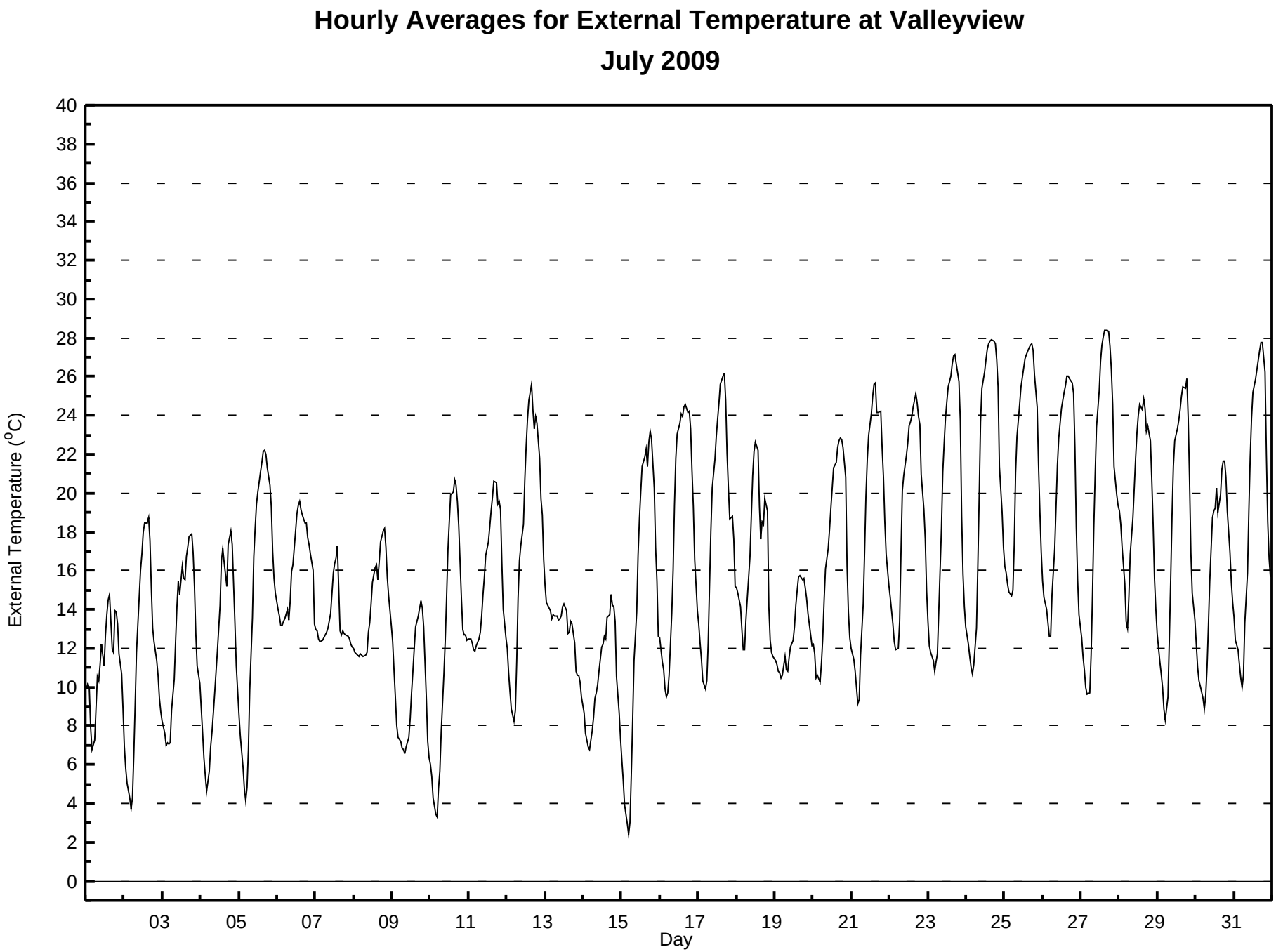
Minimum Diurnal Average: 9.4 ^{o}C at hour 5

Monthly Average: 15.91 ^{o}C

Percentiles: $P_1 = 4.1$ $P_{10} = 8.9$ $Q_1 = 11.8$ Median = 14.8 $Q_3 = 20.2$ $P_{90} = 24.6$ $P_{99} = 27.7$

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

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jul	10	10	10	8	7	7	9	11	10	11	12	11	13	14	14	15	12	12	14	14	13	12	11	9	11.2	14.8
2-Jul	7	6	5	4	4	4	6	9	12	15	16	17	18	18	18	19	18	15	13	12	11	11	9	9	11.5	18.8
3-Jul	8	8	7	7	7	7	9	10	12	14	15	15	16	16	16	17	17	18	18	17	15	13	11	10	12.6	17.9
4-Jul	9	8	6	5	5	6	7	8	9	10	12	13	14	16	17	16	15	17	18	18	17	13	11	10	11.7	18.0
5-Jul	9	7	6	5	4	5	7	10	14	17	18	19	20	21	22	22	22	22	21	20	19	17	16	15	14.9	22.2
6-Jul	14	14	13	13	13	14	14	13	14	16	16	18	19	19	20	19	19	18	18	18	17	17	16	13	16.1	19.6
7-Jul	13	13	13	12	12	13	13	13	13	14	15	16	16	17	17	13	13	13	13	13	13	12	12	12	13.4	17.3
8-Jul	12	12	12	12	12	12	12	12	12	13	13	14	15	16	16	16	16	17	18	18	17	16	15	13	14.2	18.2
9-Jul	12	11	9	8	7	7	7	7	7	7	7	8	10	11	12	13	14	14	14	14	13	9	7	6	9.8	14.4
10-Jul	6	5	4	3	3	5	6	8	11	12	15	17	19	20	20	21	20	20	18	15	13	13	13	12	12.4	20.7
11-Jul	13	12	12	12	12	12	13	13	14	15	16	17	17	18	19	20	21	21	19	20	19	16	14	13	15.7	20.6
12-Jul	12	11	10	9	8	9	11	15	17	17	18	21	22	24	25	26	24	23	24	24	22	20	19	17	17.7	25.6
13-Jul	15	14	14	14	13	14	14	14	13	14	14	14	14	14	13	13	13	13	12	11	11	11	10	10	13.0	15.3
14-Jul	9	8	7	7	7	8	8	9	10	10	11	12	12	13	12	14	14	15	14	14	13	11	9	7	10.6	14.8
15-Jul	6	5	4	3	2	3	5	8	11	14	17	19	20	21	22	22	21	23	23	23	20	17	15	13	14.1	23.2
16-Jul	13	11	11	10	9	10	11	14	16	19	22	23	24	24	24	24	25	24	24	23	21	19	17	14	18.0	24.6
17-Jul	13	12	11	10	10	10	12	15	18	20	22	23	24	25	26	26	26	25	22	20	19	19	18	15	18.4	26.1
18-Jul	15	15	14	13	12	12	13	15	17	19	21	22	23	22	19	18	19	18	20	19	14	12	12	12	16.5	22.6
19-Jul	11	11	11	11	10	11	12	11	11	12	12	12	13	14	15	16	16	16	16	15	15	14	13	12	12.8	15.8
20-Jul	12	12	10	11	10	11	13	14	16	17	18	19	20	21	22	22	23	23	23	22	21	16	14	13	16.8	22.8
21-Jul	12	11	11	10	9	9	12	14	17	20	22	23	24	25	26	26	24	24	24	22	21	19	17	15	18.2	25.7
22-Jul	15	14	13	12	12	12	13	17	20	21	22	23	23	24	24	24	25	25	24	24	21	19	18	15	19.1	25.1
23-Jul	13	12	12	11	11	11	12	14	18	21	23	24	25	25	26	27	27	27	27	26	24	19	16	14	19.3	27.1
24-Jul	13	12	12	11	11	11	13	16	20	24	25	26	27	27	28	28	28	28	28	27	25	21	19	17	20.7	27.9
25-Jul	16	16	15	15	15	15	17	21	23	25	25	26	26	27	27	27	28	28	27	26	24	21	19	17	22.0	27.7
26-Jul	15	15	14	13	13	13	15	17	19	21	23	24	24	25	26	26	26	26	26	25	22	18	16	14	19.8	26.0
27-Jul	13	12	11	10	10	10	12	15	18	21	23	25	27	28	28	28	28	28	28	26	25	21	20	19	20.2	28.4
28-Jul	19	18	17	15	13	13	15	17	19	20	22	23	24	25	24	25	24	23	23	23	21	18	16	14	19.7	24.9
29-Jul	13	11	11	10	9	8	9	12	15	19	21	23	23	24	24	25	26	25	26	24	21	17	15	13	17.7	25.9
30-Jul	12	11	10	10	9	9	10	11	13	15	19	19	19	20	19	20	21	22	22	21	19	17	15	14	15.8	21.6
31-Jul	14	12	12	11	10	10	11	13	16	19	22	24	25	26	26	27	27	28	28	26	22	19	17	16	19.2	27.8
	12.1	11.3	10.6	9.9	9.4	9.7	10.9	12.8	14.7	16.5	18.0	19.0	20.0	20.7	20.9	21.1	21.0	21.0	20.8	20.0	18.4	16.0	14.4	13.0	Diurnal Average	
	19.1	18.4	17.2	15.4	14.7	15.0	17.4	21.0	22.9	24.6	25.5	26.3	26.9	27.6	28.0	28.4	28.4	28.3	27.8	26.9	25.5	21.5	19.9	19.4	Diurnal Maximum	


Hourly Averages for External Temperature at Valleyview
July 2009
External Temperature (°C)
40
38
36
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
03
05
07
09
11
13
15
17
19
21
23
25
27
29
31
Day

Peace Airshed Zone Association
Summary of Hourly Averages

Valleyview - Relative Humidity (RH) - %
July 1, 2009 to August 1, 2009

Maximum Value: 99.8 % on Jul 31 04:00

Maximum Daily Average: 88.5 % on Jul 7

Minimum Value: 22 % on Jul 23 15:00

Minimum Daily Average: 58.5 % on Jul 23

Maximum Diurnal Average: 95.0 % at hour 5

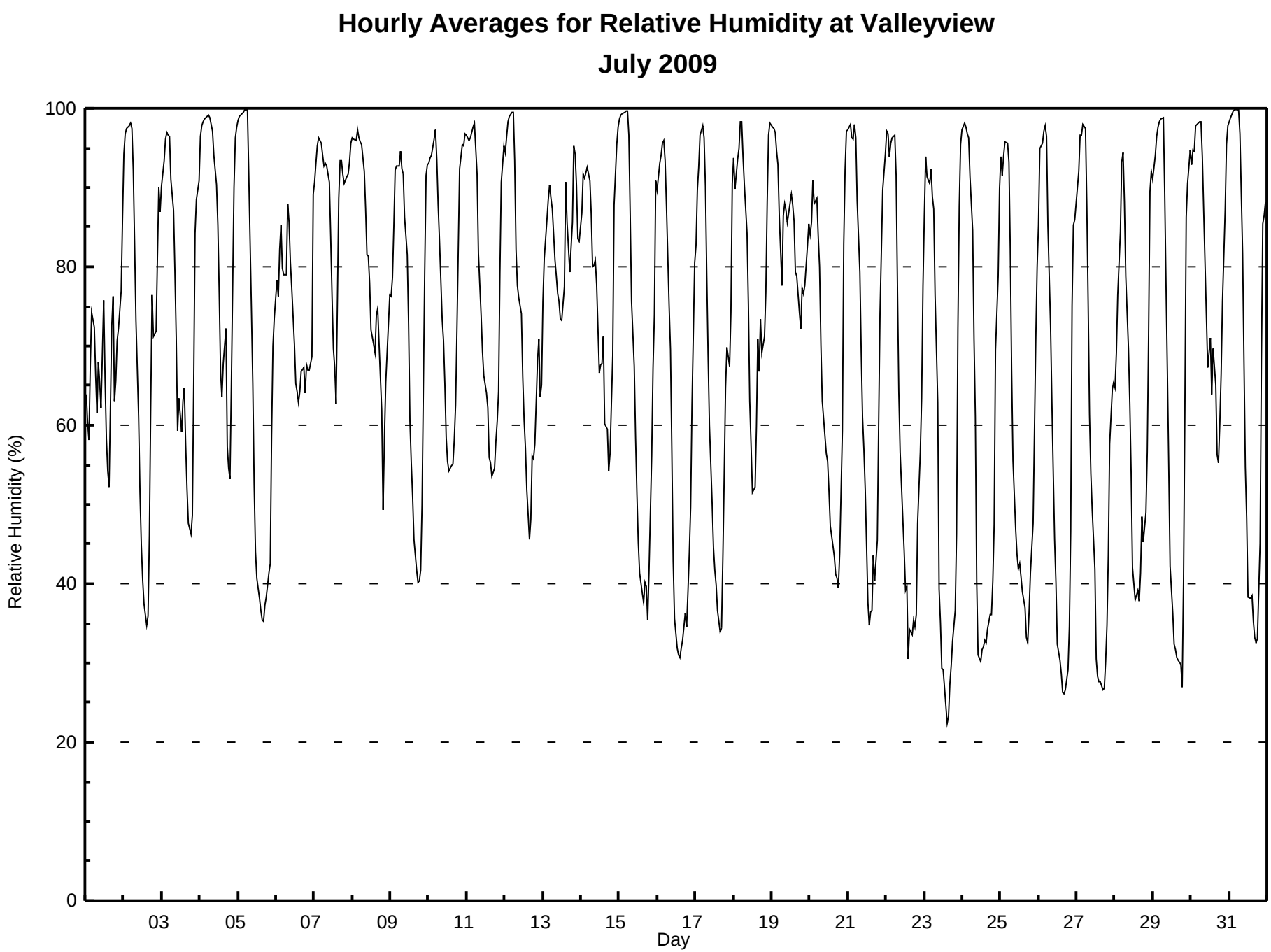
Minimum Diurnal Average: 48.6 % at hour 16

Monthly Average: 71.05 %

Percentiles: P_1 = 26.9 P_{10} = 36.7 Q_1 = 54.4 Median = 74.1 Q_3 = 91.7 P_{90} = 96.7 P_{99} = 99.7

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

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jul	64	60	58	67	74	72	66	61	68	65	62	76	66	58	54	52	72	76	63	66	71	72	77	86	67.1	86.1
2-Jul	94	97	97	98	98	98	92	83	73	61	52	45	40	38	35	36	46	62	76	71	72	81	90	87	71.8	98.1
3-Jul	90	93	96	97	97	97	91	87	79	71	59	63	59	63	65	58	52	48	46	49	65	84	88	91	74.6	96.9
4-Jul	96	98	98	99	99	99	99	98	97	94	90	85	77	67	64	68	72	57	55	53	65	90	96	98	83.9	99.1
5-Jul	99	99	99	99	100	100	100	92	74	65	53	44	41	38	37	35	35	37	38	41	42	59	70	74	65.5	99.8
6-Jul	78	76	82	85	80	79	79	88	86	81	77	70	65	64	63	64	67	67	64	68	67	67	69	89	74.0	89.2
7-Jul	91	93	95	96	96	94	93	93	93	91	84	76	70	67	63	89	93	93	92	91	91	92	93	96	88.5	96.4
8-Jul	96	96	96	97	96	96	95	92	87	81	81	78	72	70	69	74	75	70	62	49	58	65	69	76	79.3	97.3
9-Jul	76	79	85	92	93	93	95	92	92	86	82	73	61	55	51	46	42	40	40	42	50	79	91	93	71.9	94.7
10-Jul	93	94	94	96	97	94	88	83	73	71	65	58	55	54	55	55	58	62	72	92	94	95	95	97	78.9	97.2
11-Jul	97	96	96	97	98	98	92	82	78	74	69	66	64	62	56	55	54	54	58	60	64	79	91	95	76.5	98.1
12-Jul	94	96	98	99	99	100	93	82	78	76	74	66	61	57	52	46	48	56	56	58	68	71	63	65	73.2	99.5
13-Jul	76	81	86	88	90	89	87	81	79	77	76	73	73	77	91	86	83	79	86	95	94	90	83	83	83.5	95.2
14-Jul	87	92	91	92	93	91	87	80	80	81	78	67	68	68	71	60	59	54	56	63	69	88	95	98	77.8	97.6
15-Jul	99	99	99	99	100	100	97	87	76	67	58	51	45	41	39	38	40	40	35	41	56	67	74	91	68.3	99.7
16-Jul	90	93	94	96	96	93	88	75	70	57	43	36	32	31	31	32	33	36	35	39	44	50	63	81	59.7	96.0
17-Jul	83	90	93	97	98	96	90	79	69	60	50	45	42	40	37	34	34	43	54	65	70	68	74	90	66.6	97.8
18-Jul	94	90	94	95	98	98	94	90	84	75	63	57	51	52	60	71	67	73	69	71	77	88	97	98	79.5	98.4
19-Jul	98	98	97	95	93	86	78	86	88	87	86	88	89	88	86	79	79	74	72	77	77	78	83	85	85.2	97.7
20-Jul	84	86	91	88	89	84	80	70	63	59	56	55	52	47	45	43	41	41	39	44	59	83	92	97	66.2	97.2
21-Jul	97	98	96	96	98	96	88	79	69	61	57	52	38	35	36	37	44	40	45	60	74	82	90	94	69.3	98.0
22-Jul	97	97	94	96	96	97	92	77	64	57	48	44	39	40	31	34	34	35	35	36	48	57	63	78	61.9	97.1
23-Jul	86	94	91	90	92	89	87	76	63	39	35	29	29	27	22	23	27	30	33	37	46	72	88	95	58.5	95.4
24-Jul	97	98	98	97	96	91	85	71	61	40	31	30	32	32	33	33	34	36	36	40	47	69	79	90	60.7	98.1
25-Jul	94	92	94	96	96	93	82	67	56	47	44	42	43	41	39	37	33	32	36	41	48	59	71	80	60.9	95.7
26-Jul	85	95	96	97	98	97	85	73	63	54	46	40	32	30	29	26	26	27	29	35	47	75	85	86	60.6	97.8
27-Jul	90	92	97	97	98	97	88	75	61	54	49	42	30	28	28	28	27	27	30	35	44	58	65	65	58.5	98.0
28-Jul	65	69	77	84	93	94	88	79	70	63	54	42	40	38	39	38	41	48	45	49	57	72	89	92	63.6	94.5
29-Jul	91	94	97	98	98	99	99	89	77	66	55	42	36	32	32	31	30	30	27	40	62	86	91	95	66.5	98.8
30-Jul	93	95	95	98	98	98	98	94	87	81	67	69	71	64	70	65	56	55	60	66	76	87	95	98	80.7	98.4
31-Jul	98	99	100	100	100	100	100	97	82	68	55	48	38	38	38	35	33	32	33	45	68	85	86	88	69.5	99.8
	89.4	91.2	92.7	94.2	95.0	93.8	89.5	82.6	75.5	68.0	61.3	56.6	52.0	49.8	48.9	48.6	49.6	50.3	50.9	55.5	63.5	75.8	82.5	88.1	Diurnal Average	
	98.6	99.2	99.6	99.8	99.8	99.8	99.8	97.9	97.2	94.1	90.3	88.0	89.2	87.7	90.7	88.7	93.4	93.4	91.7	95.2	94.2	95.4	96.6	98.1	Diurnal Maximum	


Hourly Averages for Relative Humidity at Valleyview
July 2009
Relative Humidity (%)
100
80
60
40
20
0
03
05
07
09
11
13
15
17
19
21
23
25
27
29
31
Day

Peace Airshed Zone Association
Summary of Hourly Averages

Valleyview
July 1, 2009 to August 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	2	5	8	3	3	3	3	14	13	16	15	11	16	18	16	14	10	7	8	7	4	4	1	2	7.9	18.0
Dir	211	278	278	241	196	177	249	291	288	292	296	299	293	304	304	289	316	289	293	287	285	294	282	248	290.3	304.0
2 Spd	1	2	2	1	1	1	3	3	3	2	2	1	2	3	3	2	2	3	2	9	12	1	2	2	0.2	11.9
Dir	190	191	193	183	185	203	177	170	177	188	178	215	88	31	335	195	74	43	230	351	16	57	206	252	45.3	16.1
3 Spd	2	2	1	2	1	2	2	1	1	2	2	2	3	4	4	3	4	6	6	3	1	1	0	1	0.7	6.4
Dir	178	58	306	199	194	189	186	155	354	342	11	208	185	68	84	128	50	23	13	43	148	182	283	139	73.7	23.3
4 Spd	1	1	1	0	2	2	1	1	1	2	2	2	4	3	4	2	4	3	2	2	0	1	1	1	1.1	4.5
Dir	178	193	348	9	358	203	298	120	168	174	171	183	187	181	189	257	125	94	89	37	205	171	190	181	164.6	124.6
5 Spd	1	0	1	2	1	0	1	2	1	1	4	4	4	3	4	3	4	4	5	5	5	6	5	4	2.3	5.6
Dir	188	221	9	350	211	320	268	182	168	103	66	77	60	70	53	87	56	128	68	64	90	117	93	96	85.4	117.3
6 Spd	3	2	4	5	3	3	3	3	5	6	7	7	8	8	9	10	7	6	6	5	6	7	11	10	5.1	10.9
Dir	39	47	165	110	1	78	26	33	48	48	40	75	109	97	101	93	76	101	91	68	78	94	127	116	86.2	126.9
7 Spd	8	5	5	5	5	3	3	3	3	4	7	7	10	11	6	7	4	8	9	10	10	10	12	12	5.9	11.9
Dir	89	71	35	38	33	35	59	70	95	26	30	33	31	32	55	164	331	1	13	15	16	16	17	16	31.4	16.4
8 Spd	10	10	10	9	7	7	7	9	10	10	11	8	7	4	4	3	5	4	1	5	3	4	5	6	5.3	10.7
Dir	16	15	16	8	4	359	6	15	14	18	10	15	19	19	34	138	181	192	329	31	312	317	310	310	8.1	9.9
9 Spd	18	15	17	16	13	15	15	16	16	14	12	9	7	6	5	6	7	7	5	5	2	2	2	3	8.8	17.5
Dir	5	11	8	8	1	355	353	352	352	357	355	352	350	356	341	345	324	336	336	307	257	184	188	186	354.0	4.5
10 Spd	4	2	0	0	0	2	3	3	5	4	4	3	4	2	5	5	5	3	3	8	2	3	2	3	1.1	8.2
Dir	184	175	137	343	159	188	174	182	179	183	180	170	162	184	263	257	247	239	16	21	355	328	319	28	215.7	21.2
11 Spd	2	4	2	2	1	1	2	2	1	1	3	3	4	2	3	1	2	3	3	3	2	1	1	1	0.8	4.1
Dir	32	15	336	33	324	114	4	37	187	169	336	332	342	301	294	172	145	88	117	113	127	65	341	68	22.3	14.6
12 Spd	0	1	1	1	1	1	0	1	3	5	3	2	2	2	1	2	7	6	6	1	2	5	9	6	1.0	8.8
Dir	40	332	335	327	180	178	325	194	193	173	182	209	161	178	42	316	304	339	359	121	234	260	336	4	306.5	336.4
13 Spd	1	1	3	5	6	4	8	13	12	11	11	10	9	13	11	11	10	9	9	8	8	8	7	8	7.9	12.6
Dir	191	323	320	309	341	338	350	0	12	18	360	357	358	349	350	359	347	343	346	3	343	0	19	12	354.9	0.4
14 Spd	5	3	3	3	4	5	6	9	10	6	8	8	9	6	6	7	6	2	4	3	2	1	2	1	4.1	10.0
Dir	8	342	347	345	321	322	322	334	345	346	351	328	351	349	12	314	296	341	5	125	153	167	193	195	339.8	345.4
15 Spd	1	1	0	1	1	1	1	3	4	4	3	3	4	6	7	4	5	2	4	2	2	2	1	3	1.9	6.6
Dir	185	195	289	206	230	220	193	190	189	185	185	187	280	265	291	280	298	233	238	203	155	184	249	175	232.1	290.5
16 Spd	3	1	4	2	3	5	5	4	3	3	12	15	16	13	12	11	12	11	11	8	7	3	1	2	4.9	16.4
Dir	189	201	190	196	194	186	186	189	189	254	267	273	288	289	302	300	321	340	310	326	333	307	286	180	284.8	288.4
17 Spd	2	2	1	1	1	1	1	2	2	2	2	1	2	3	1	1	2	3	2	3	7	7	4	5	0.7	7.5
Dir	199	177	199	17	185	195	179	174	160	159	164	182	184	144	216	107	19	8	40	137	137	342	43	358	123.1	136.7
18 Spd	7	10	5	1	2	2	2	2	3	4	3	2	1	2	7	5	3	2	5	2	24	9	3	2	1.2	23.7
Dir	356	17	38	146	205	194	186	144	157	162	186	122	44	122	310	134	98	319	28	30	312	304	168	207	337.3	312.0
19 Spd	5	4	4	3	2	5	12	17	18	18	20	16	12	11	10	6	12	13	12	12	12	7	5	6	9.1	19.9
Dir	187	188	188	197	205	263	287	290	291	293	292	290	303	300	305	298	304	291	290	285	288	282	290	284	287.3	292.1
20 Spd	4	2	2	2	2	1	1	8	12	11	10	8	8	7	7	9	8	7	6	3	1	2	2	3	4.4	11.9
Dir	277	252	209	223	227	253	254	304	302	305	305	304	294	296	306	288	303	325	337	357	175	198	187	185	295.4	301.6
21 Spd	2	2	3	1	2	1	1	3	4	3	3	3	3	2	3	3	7	4	1	1	1	1	2	1	1.5	6.7
Dir	194	194	191	202	186	203	198	179	181	176	176	177	259	286	202	226	311	317	245	157	260	212	192	206	215.4	310.8
22 Spd	2	2	2	2	2	0	2	2	3	8	9	11	12	15	14	13	11	10	10	8	8	1	2	2	4.9	14.6
Dir	194	194	196	217	191	228	184	178	288	298	309	312	311	336	319	335	318	330	335	333	349	208	191	193	315.7	335.6

Peace Airshed Zone Association
Summary of Hourly Averages

Valleyview
July 1, 2009 to August 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	2	2	4	4	2	2	2	3	2	9	7	11	13	11	10	8	8	6	7	4	1	2	2	1	3.1	13.1
Dir	190	189	191	188	190	186	191	192	184	299	297	294	303	315	328	326	323	344	357	357	254	191	194	180	299.7	302.5
24 Spd	1	1	2	2	3	3	3	4	3	7	11	12	11	10	11	13	13	13	9	6	1	1	2	1	4.1	13.4
Dir	183	182	192	209	212	197	183	181	187	303	300	295	300	293	295	318	332	345	336	352	287	180	203	175	302.0	331.7
25 Spd	2	2	2	2	2	2	3	2	9	8	7	9	9	11	13	13	13	10	8	8	3	2	1	0	4.2	13.1
Dir	183	192	198	187	188	187	176	281	299	319	320	294	315	310	331	324	338	348	8	22	34	354	317	207	323.0	323.7
26 Spd	0	1	1	1	1	2	1	4	4	4	6	7	7	5	6	6	7	7	5	2	1	1	1	2	2.6	7.4
Dir	111	166	214	173	181	196	339	21	25	23	30	11	20	34	24	34	31	27	35	46	56	200	185	193	28.3	11.1
27 Spd	1	1	1	1	1	1	1	4	3	2	3	3	3	4	3	2	7	8	6	4	2	3	3	5	0.3	8.2
Dir	200	204	200	215	185	192	191	186	183	187	187	163	159	139	130	28	339	354	344	331	68	12	21	26	11.3	353.9
28 Spd	3	2	1	2	3	3	2	3	3	2	1	2	3	5	4	8	8	7	5	3	2	1	1	0	2.4	8.0
Dir	82	94	154	73	348	354	9	32	27	49	10	326	20	47	27	17	40	78	61	65	103	162	174	161	42.2	40.0
29 Spd	1	1	0	1	1	0	1	2	2	1	2	2	3	2	3	3	1	2	1	2	1	1	2	1	1.1	3.3
Dir	352	329	208	185	318	236	239	183	173	176	181	185	177	143	151	157	226	155	174	125	154	169	173	206	173.4	151.4
30 Spd	1	1	1	1	1	2	2	2	3	1	5	10	10	11	9	2	5	10	9	6	4	2	2	1	2.4	10.8
Dir	208	206	196	195	187	198	198	187	190	191	328	321	321	8	23	303	299	312	329	305	270	219	159	109	316.4	7.6
31 Spd	1	1	2	1	1	1	1	3	3	3	4	4	3	4	3	5	3	2	1	1	1	1	1	1	1.7	4.5
Dir	206	2	178	195	238	206	187	186	180	184	181	189	290	247	233	267	253	247	233	172	136	200	208	198	215.7	267.1
Spd	0.5	0.8	0.4	0.5	0.5	0.5	0.9	1.4	1.7	2.6	3.4	3.4	3.8	3.7	3.9	3.0	4.3	3.9	3.7	2.9	1.9	0.9	0.3	0.4	Diurnal Average	
Dir	32.4	9.8	321.3	352.4	311.7	279.2	301.1	310.1	310.4	316.1	318.4	312.5	319.3	331.2	329.4	318.8	329.1	342.2	348.2	359.7	340.3	323.0	11.5	29.2		
Spd	17.5	15.4	16.8	15.8	12.7	14.8	14.8	16.6	17.8	17.9	19.9	15.7	16.4	18.0	16.4	14.3	13.4	13.4	12.1	12.0	23.7	10.5	11.6	11.9	Diurnal Maximum	
Dir	4.5	10.9	7.6	8.3	1.0	354.6	353.2	289.9	290.6	292.6	292.1	290.3	288.4	304.0	304.1	289.1	331.7	344.8	289.5	284.6	312.0	16.0	17.1	16.4		

Maximum Speed Value: 24 km/h on Jul 18 21:00
Maximum Daily Speed Average: 9.1 km/h on Jul 19
Maximum Diurnal Speed Average: 4.3 km/h at hour 17

Minimum Speed Value: 0 km/h on Jul 5 06:00
Minimum Daily Speed Average: 0.2 km/h on Jul 29
Minimum Diurnal Speed Average: 0.3 km/h at hour 23

Monthly Average Velocity: 1.96 km/h 329.43 deg

Speed Percentiles: $P_1 = 0.3$ $P_{10} = 1.0$ $Q_1 = 1.7$ Median = 3.1 $Q_3 = 6.8$ $P_{90} = 10.8$ $P_{99} = 16.2$

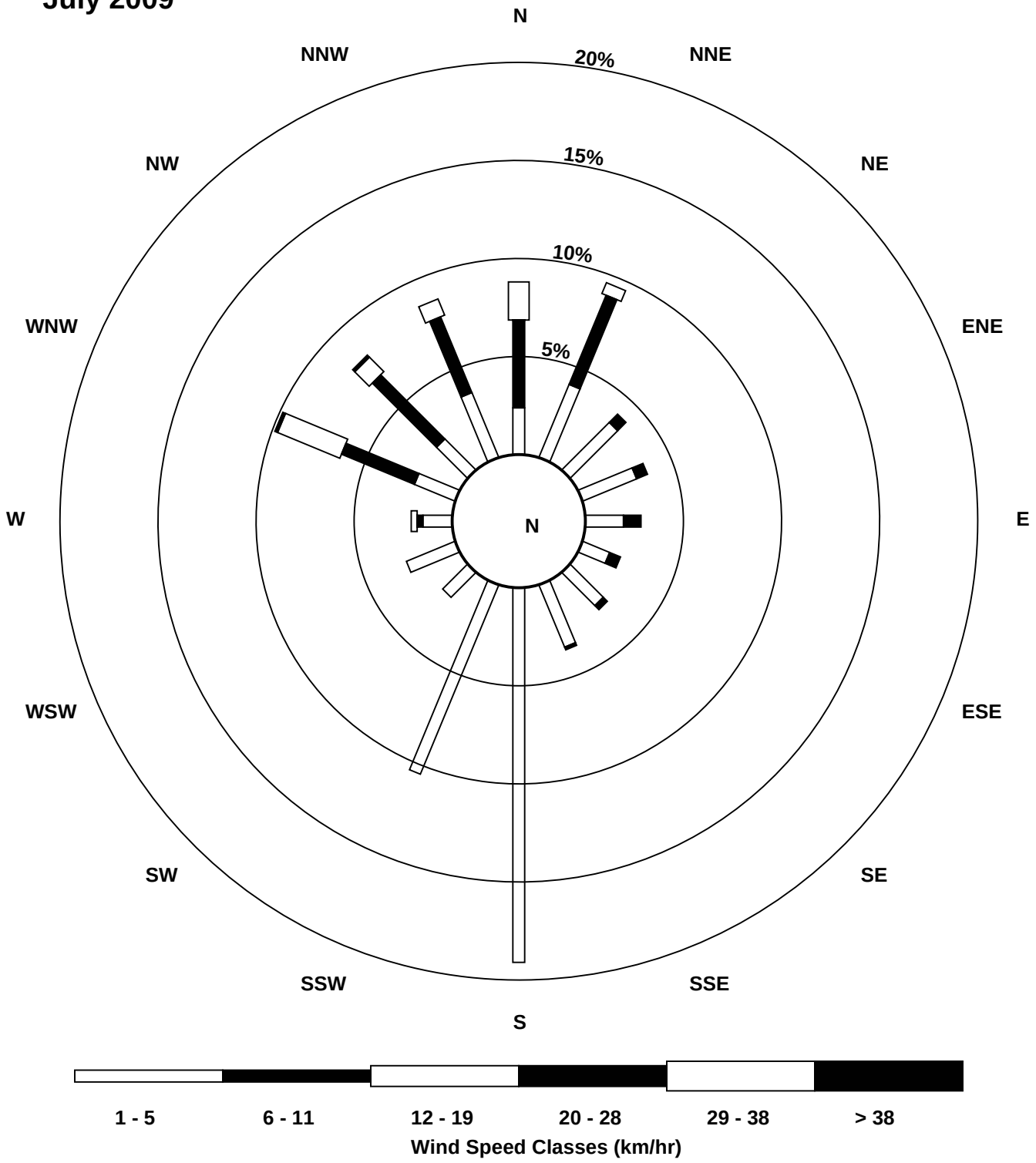
All monthly, daily, and diurnal averages have been calculated using vector methods

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

Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	41	67	22	0	0	0	130
NorthEast	49	19	1	0	0	0	69
East	28	15	0	0	0	0	43
SouthEast	36	5	0	0	0	0	41
South	211	3	0	0	0	0	214
SouthWest	58	1	0	0	0	0	59
West	35	9	16	1	0	0	61
NorthWest	35	63	28	1	0	0	127
Total	493	182	67	2	0	0	744

Wind Rose for WS at Valleyview
July 2009



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

Valleyview - Wind Speed (WS) - km/h
July 1, 2009 to August 1, 2009

Maximum Speed: 24 km/h on Jul 18 21:00

Maximum Daily Speed Average: 10.2 km/h on Jul 19

Minimum Speed: 1 km/h on Jul 15 06:00

Minimum Daily Speed Average: 2.2 km/h on Jul 29

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

Minimum Diurnal Speed Average: 2.8 km/h at hour 5

Monthly Average Speed: 5.15 km/h

Percentiles: $P_1 = 0.9$ $P_{10} = 1.4$ $Q_1 = 2.2$ Median = 3.8 $Q_3 = 7.2$ $P_{90} = 11.3$ $P_{99} = 16.2$

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

Percent Operational Time: 100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jul	2	6	8	3	3	3	4	15	14	16	15	11	17	18	17	15	11	7	8	7	4	4	3	2	8.8	18.3
2-Jul	2	2	2	1	1	1	3	3	3	2	3	3	4	5	5	2	5	5	3	12	12	3	2	3	3.7	12.1
3-Jul	2	3	2	2	2	2	2	2	2	3	3	5	4	5	4	4	5	7	6	3	1	1	2	1	3.0	7.0
4-Jul	1	2	2	1	2	3	3	2	2	2	2	3	4	4	4	4	5	3	3	2	1	1	1	1	2.4	4.9
5-Jul	2	1	2	2	1	1	1	2	2	2	5	6	6	5	5	5	4	5	5	5	6	6	5	4	3.7	5.9
6-Jul	3	3	5	5	4	4	4	4	5	7	7	8	8	8	9	10	8	6	6	6	7	7	11	10	6.4	11.3
7-Jul	8	5	5	6	5	3	3	3	4	4	7	8	10	12	7	8	4	8	9	10	10	11	12	12	7.2	12.0
8-Jul	11	10	10	10	7	7	7	9	10	10	11	8	7	5	8	3	6	4	6	6	3	5	6	6	7.3	10.9
9-Jul	18	16	17	16	13	15	15	16	16	14	12	10	8	7	6	7	8	8	5	5	2	2	2	3	10.1	17.9
10-Jul	4	2	1	1	2	2	3	3	5	5	4	3	4	3	6	6	6	4	4	9	3	3	3	3	3.6	8.6
11-Jul	3	4	2	2	1	1	3	3	1	2	3	4	5	3	4	3	4	3	3	3	2	1	2	2	2.7	4.6
12-Jul	2	2	2	2	1	1	1	2	3	5	3	3	3	3	3	4	7	6	6	2	3	5	11	7	3.5	10.8
13-Jul	2	3	4	6	6	4	8	13	12	11	12	10	9	13	11	11	10	9	10	9	8	8	7	8	8.6	12.8
14-Jul	5	3	3	3	4	5	7	9	10	7	8	9	9	7	7	8	6	4	4	3	2	2	2	1	5.4	10.2
15-Jul	1	1	1	1	1	1	2	3	4	4	4	4	6	7	8	5	6	3	4	2	2	2	2	3	3.2	7.9
16-Jul	3	2	4	2	4	5	5	4	4	5	12	15	17	14	13	12	14	11	11	9	7	3	3	2	7.5	16.9
17-Jul	2	2	1	2	1	1	2	2	2	2	3	3	4	4	3	3	3	3	5	4	8	8	6	5	3.2	7.7
18-Jul	9	11	8	2	3	2	2	3	3	4	4	3	4	3	9	5	6	5	5	4	24	11	3	2	5.6	24.1
19-Jul	5	4	4	3	2	5	13	17	18	18	20	16	13	12	10	7	12	13	12	12	13	7	5	6	10.2	20.0
20-Jul	5	3	3	3	3	2	3	8	12	12	11	9	8	8	8	9	9	7	6	3	1	2	2	3	5.8	12.2
21-Jul	2	2	3	1	2	1	2	3	4	3	4	4	4	4	3	4	7	5	2	1	1	2	2	2	2.8	7.3
22-Jul	2	2	3	2	2	1	2	2	4	8	10	12	13	15	15	14	12	11	10	8	8	2	2	2	6.8	15.5
23-Jul	2	2	4	4	2	2	2	3	3	9	8	11	14	12	11	9	9	7	7	4	2	2	2	1	5.5	13.6
24-Jul	1	2	2	2	3	3	3	4	3	9	12	12	12	11	12	14	14	14	9	6	2	2	2	2	6.4	14.2
25-Jul	2	2	2	2	2	2	3	4	9	9	8	9	10	12	13	14	13	10	8	8	3	2	2	1	6.3	13.7
26-Jul	1	1	1	2	1	2	2	4	5	5	7	8	7	6	7	7	7	7	5	2	2	1	1	2	3.9	8.2
27-Jul	1	1	1	1	1	1	2	4	3	2	3	3	4	4	4	3	8	9	6	5	2	3	3	5	3.3	8.5
28-Jul	3	3	2	2	3	3	2	3	4	2	2	2	5	6	5	8	10	7	5	4	2	1	1	1	3.6	9.7
29-Jul	2	2	1	1	1	1	1	2	2	2	3	3	4	4	5	4	3	3	2	2	1	1	2	1	2.2	4.6
30-Jul	1	1	1	1	1	2	2	3	3	2	6	10	10	12	9	3	6	11	9	7	4	2	2	2	4.6	11.6
31-Jul	1	1	2	1	1	1	2	3	4	4	4	4	5	5	4	5	4	3	2	1	1	1	1	1	2.6	5.4
	3.4	3.3	3.4	3.0	2.8	2.8	3.6	5.0	5.7	6.2	6.9	7.1	7.6	7.6	7.6	7.0	7.5	6.7	6.1	5.2	4.7	3.6	3.5	3.4	Diurnal Average	
	17.9	15.7	17.0	16.0	12.8	15.0	14.9	16.7	17.9	18.1	20.0	15.8	16.9	18.3	17.0	14.8	14.0	13.6	12.2	12.1	24.1	10.6	11.7	12.0	Diurnal Maximum	

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

Peace Airshed Zone Association
Summary of Hourly Standard Deviations

Valleyview - Wind Direction (WD) - deg
July 1, 2009 to August 1, 2009

Maximum Value: 98.9 deg on Jul 4 04:00

Minimum Value: 4.4 deg on Jul 16 03:00

Percentiles: P_1 = 5.7 P_{10} = 10.3 Q_1 = 16.0 Median = 26.3 Q_3 = 47.9 P_{90} = 71.0 P_{99} = 89.3

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

Day	Hourly Period Ending At (MST)																								Daily
	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-Jul	19	41	8	23	10	15	49	11	12	10	13	15	14	12	15	16	26	15	17	12	13	13	69	25	68.9
2-Jul	29	9	21	19	66	63	16	36	42	43	53	89	63	81	62	21	78	64	45	64	10	90	45	48	90.2
3-Jul	20	48	79	20	15	12	20	50	75	68	76	75	51	35	34	53	53	27	17	27	65	26	80	62	79.6
4-Jul	18	48	86	99	44	38	88	51	60	26	33	30	15	36	24	53	28	33	38	17	74	30	66	48	98.9
5-Jul	60	83	91	57	73	94	71	26	67	74	48	45	54	62	50	60	38	24	22	18	31	19	18	18	93.9
6-Jul	18	75	36	31	31	29	64	47	19	16	11	23	24	24	18	16	18	16	21	19	25	18	17	18	75.0
7-Jul	16	26	13	12	9	18	26	28	35	27	14	13	13	9	34	29	42	13	7	6	7	6	6	6	41.7
8-Jul	7	6	7	9	8	7	14	9	10	12	13	17	22	64	76	39	22	16	74	28	23	64	22	20	76.2
9-Jul	13	10	9	10	7	8	7	8	6	10	13	17	37	33	42	42	30	26	26	22	19	21	11	6	42.4
10-Jul	11	24	85	89	79	30	23	19	17	14	20	34	27	42	39	32	35	30	87	18	41	26	37	21	89.0
11-Jul	44	26	43	26	61	63	28	56	37	76	47	53	45	71	62	75	80	48	12	32	25	50	93	76	92.7
12-Jul	88	79	49	46	82	52	83	71	24	19	26	58	65	62	84	79	14	13	15	57	19	33	39	47	87.7
13-Jul	47	72	29	21	8	10	12	11	11	12	12	13	12	10	18	12	11	9	27	16	8	17	8	9	71.6
14-Jul	6	18	25	14	11	11	11	14	11	20	14	22	16	31	32	27	22	67	36	12	28	44	13	25	67.3
15-Jul	35	46	92	78	62	27	23	15	17	21	29	37	62	39	47	46	29	46	38	29	10	32	35	14	92.0
16-Jul	17	61	4	16	21	8	7	10	14	58	14	15	16	18	22	17	27	18	13	15	14	14	75	21	74.7
17-Jul	25	17	28	87	52	39	41	21	23	26	52	71	77	54	74	83	69	34	89	43	11	42	38	31	89.0
18-Jul	65	14	55	87	17	18	22	19	21	20	47	58	83	40	59	18	55	85	32	80	10	55	38	30	87.2
19-Jul	11	8	8	12	22	34	9	8	7	9	8	9	18	18	13	20	14	9	8	10	8	11	14	11	34.0
20-Jul	15	47	38	35	26	61	63	15	14	16	17	24	29	30	33	26	25	27	21	29	53	19	13	7	62.8
21-Jul	7	5	6	25	12	17	29	16	15	32	21	44	52	79	38	38	28	29	73	58	49	62	30	20	79.4
22-Jul	22	42	44	24	25	88	50	14	57	13	18	19	17	21	19	17	20	15	10	10	6	81	27	13	87.9
23-Jul	23	8	5	5	36	23	20	13	39	16	20	20	14	24	20	26	20	23	13	11	71	20	16	45	71.0
24-Jul	76	61	22	22	26	24	6	10	18	79	15	14	21	26	21	23	18	10	14	12	65	84	23	52	84.4
25-Jul	50	5	24	28	13	9	10	67	17	18	30	25	25	25	18	17	13	14	16	9	39	39	66	86	86.1
26-Jul	76	76	60	71	63	31	73	18	27	46	27	31	24	44	30	31	29	22	18	25	70	74	45	19	76.1
27-Jul	21	30	29	55	31	55	42	11	16	41	29	38	43	38	50	71	40	16	15	8	39	22	9	11	71.1
28-Jul	36	69	66	42	24	17	21	26	28	66	94	60	73	46	43	31	35	23	23	22	43	70	48	85	94.4
29-Jul	62	61	83	22	77	62	50	34	43	63	66	49	58	82	58	55	68	57	38	27	51	50	45	60	83.0
30-Jul	71	20	46	23	46	14	25	37	36	83	48	15	13	23	12	77	36	21	21	18	16	34	31	52	82.9
31-Jul	50	55	18	82	42	18	32	23	19	21	28	26	76	50	40	46	40	42	42	12	49	45	20	18	81.6
	87.7	82.6	92.0	98.9	82.2	93.9	87.7	71.0	74.5	82.9	94.4	89.2	82.7	81.6	84.4	83.0	80.2	84.6	89.0	80.3	74.5	90.2	92.7	86.1	

PASZA

Monthly Passive Data Summary

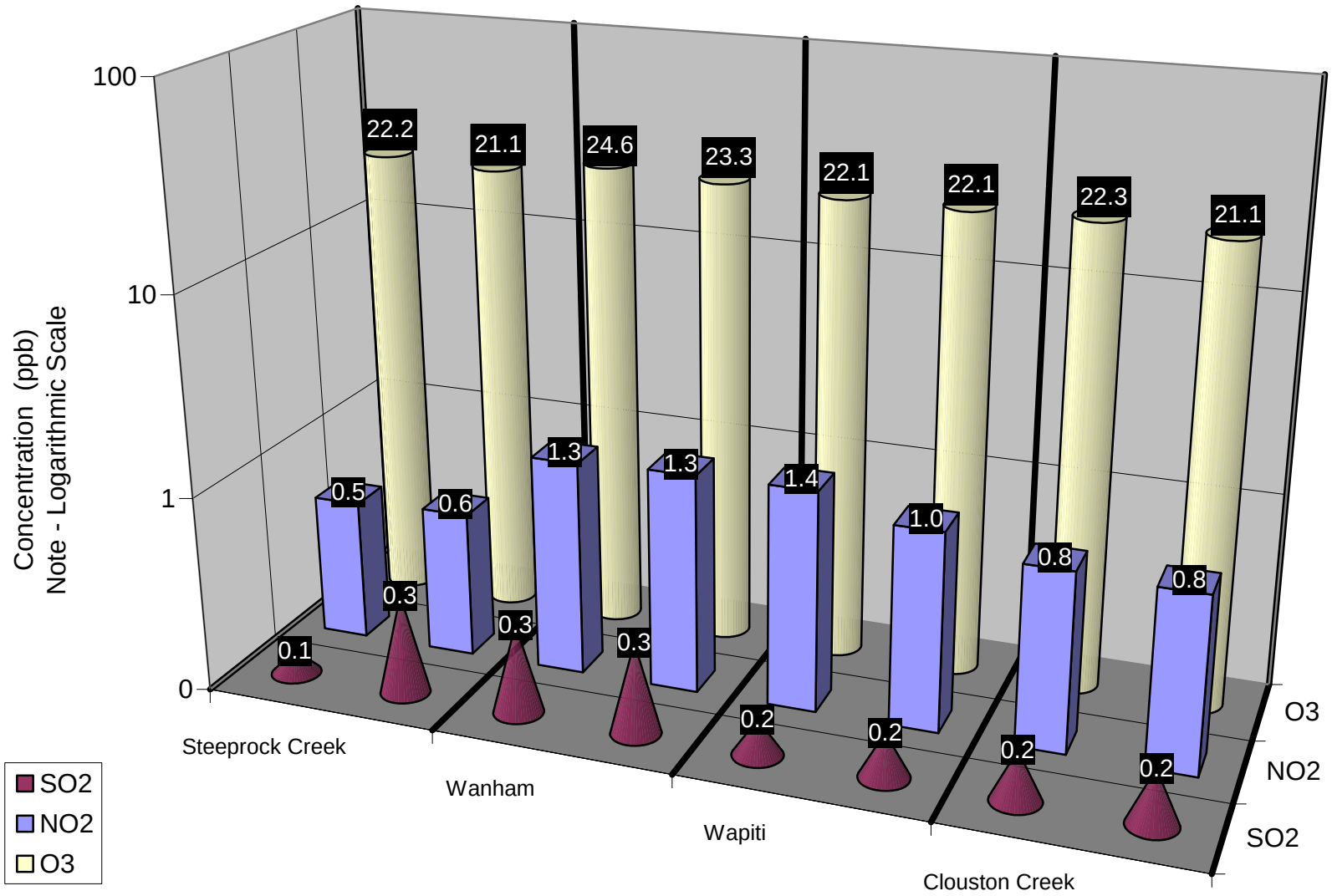
PASZA Passive Results for July 2009

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	Site Legal
Duplicates					
7a	Steeprock Creek	**0.1**	**22.2**	**0.5**	
7b	Steeprock Creek	**0.3**	**21.1**	**0.6**	
19a	Wanham	**0.3**	**24.6**	**1.3**	
19b	Wanham	**0.3**	**23.3**	**1.3**	
33a	Wapiti	**0.2**	**22.1**	**1.4**	
33b	Wapiti	**0.2**	**22.1**	**1.0**	
39a	Clouston Creek	**0.2**	**22.3**	**0.8**	
39b	Clouston Creek	**0.2**	**21.1**	**0.8**	
1	Silver Valley	**0.2**	**18.5**	**2.0**	08-27-081-11 W6M
2	Bay Tree	**0.1**	**18.8**	**0.5**	13-16-078-13 W6M
3	Forth Creek	**0.2**	**25.1**	**0.8**	04-13-082-07 W6M
4	Gordondale	**0.2**	**20.9**	**1.0**	04-34-078-10 W6M
5	Boone Creek	**0.1**	**16.3**	**0.9**	01-23-076-11 W6M
7	Steeprock Creek	**0.2**	**21.7**	**0.5**	09-35-072-13 W6M
9	Spirit River	**0.2**	**20.4**	**2.3**	08-12-079-07 W6M
10	Woking	**0.2**	**18.8**	**1.2**	01-13-076-07 W6M
11	Webber Creek	**0.2**	**20.0**	**1.2**	09-36-074-09 W6M
12	Hythe	**0.2**	**18.8**	**1.1**	14-36-072-11 W6M
14	Sylvester	**0.1**	**15.7**	**0.6**	08-06-069-12 W6M
16	Beaverlodge	**0.1**	**26.5**	**1.6**	15-36-071-10 W6M
17	Poplar	**0.2**	**18.4**	**1.7**	13-06-073-08 W6M
18	Saddle Hills	**0.2**	**19.7**	**0.8**	04-25-074-07 W6M
19	Wanham	**0.3**	**23.9**	**1.3**	16-22-077-03 W6M
20	Shaftesbury	**0.2**	**23.2**	**0.8**	04-03-082-23 W5M
21	Eaglesham	**0.2**	**18.2**	**1.0**	16-21-079-25 W5M
23	Bear Lake	**0.2**	**18.3**	**2.2**	15-31-072-06 W6M

PASZA Passive Results for July 2009 (Continued)

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	Site Legal
24	Wembley	**0.1**	**19.0**	**1.5**	12-31-070-08 W6M
25	Pinto Creek	**0.1**	**20.9**	**0.7**	04-24-069-11 W6M
26	Flyingshot	**0.2**	**18.6**	**1.0**	15-36-070-07 W6M
27	Grande Prairie I	**0.2**	**22.1**	**2.6**	08-15-071-06 W6M
28	Clairmont Lake	**0.2**	**25.6**	**1.5**	09-06-073-04 W6M
29	Smoky Heights	**0.3**	**28.2**	**2.2**	04-06-075-02 W6M
30	Fitzsimmons	**0.1**	**19.8**	**0.9**	15-36-072-03 W6M
32	Gold Creek	**0.2**	**16.6**	**0.8**	06-33-067-05 W6M
33	Wapiti	**0.2**	**22.1**	**1.2**	02-25-071-03 W6M
34	Puskwaskau	**0.1**	**17.6**	**0.3**	15-35-074-25 W5M
35	Jean Cote	**0.2**	**19.9**	**2.3**	12-35-079-21 W5M
36	Guy	**0.2**	**20.2**	**2.6**	03-04-076-22 W5M
37	Crooked Creek	**0.2**	**18.4**	**1.0**	16-01-071-26 W5M
38	Karr Creek	**0.1**	**16.1**	**0.3**	10-16-065-02 W6M
39	Clouston Creek	**0.2**	**21.7**	**0.8**	12-01-073-22 W5M
40	McLennan	**0.3**	**21.1**	**2.1**	03-29-077-19 W5M
41	Valleyview	**0.1**	**21.5**	**0.7**	09-30-069-22 W5M
42	Sunset House	**0.2**	**22.4**	**0.5**	05-32-070-19 W5M
43	High Prairie	**0.1**	**19.4**	**1.0**	16-13-074-17 W5M
44	Peavine	**0.2**	**18.0**	**0.3**	03-05-079-15 W5M
45	Gift Lake	**0.1**	**15.2**	**0.4**	10-07-079-12 W5M
46	Little Smoky	**0.1**	**19.8**	**1.1**	12-01-065-21 W5M
47	Kinuso	**0.1**	**15.1**	**0.4**	12-10-073-10 W5M
48	Deer Mountain	**0.1**	**17.0**	**0.5**	15-22-068-09 W5M
49	Grande Prairie HP	**0.2**	**27.4**	**2.8**	17-26-071-06 W6M

*BDL = Below Detection Level



Duplicate Summary Chart

Passive Summary for July 2009

Stats	Sulphur Dioxide SO_2	Ozone O_3	Nitrogen Dioxide NO_2
	ppb	ppb	ppb
	Passive Summary for July 2009 (PASZA Zone)		
Mean	**0.2**	**20.2**	**1.2**
Standard Deviation	**0.1**	**3.2**	**0.7**
Minimum	**0.1**	**15.1**	**0.3**
Minimum At	**Sylvester (#14)**	**Kinuso (#47)**	**Peavine (#44)**
Maximum	**0.3**	**28.2**	**2.8**
Maximum At	**McLennan (#40)**	**Smoky Heights (#29)**	**Grande Prairie HP (#49)**

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

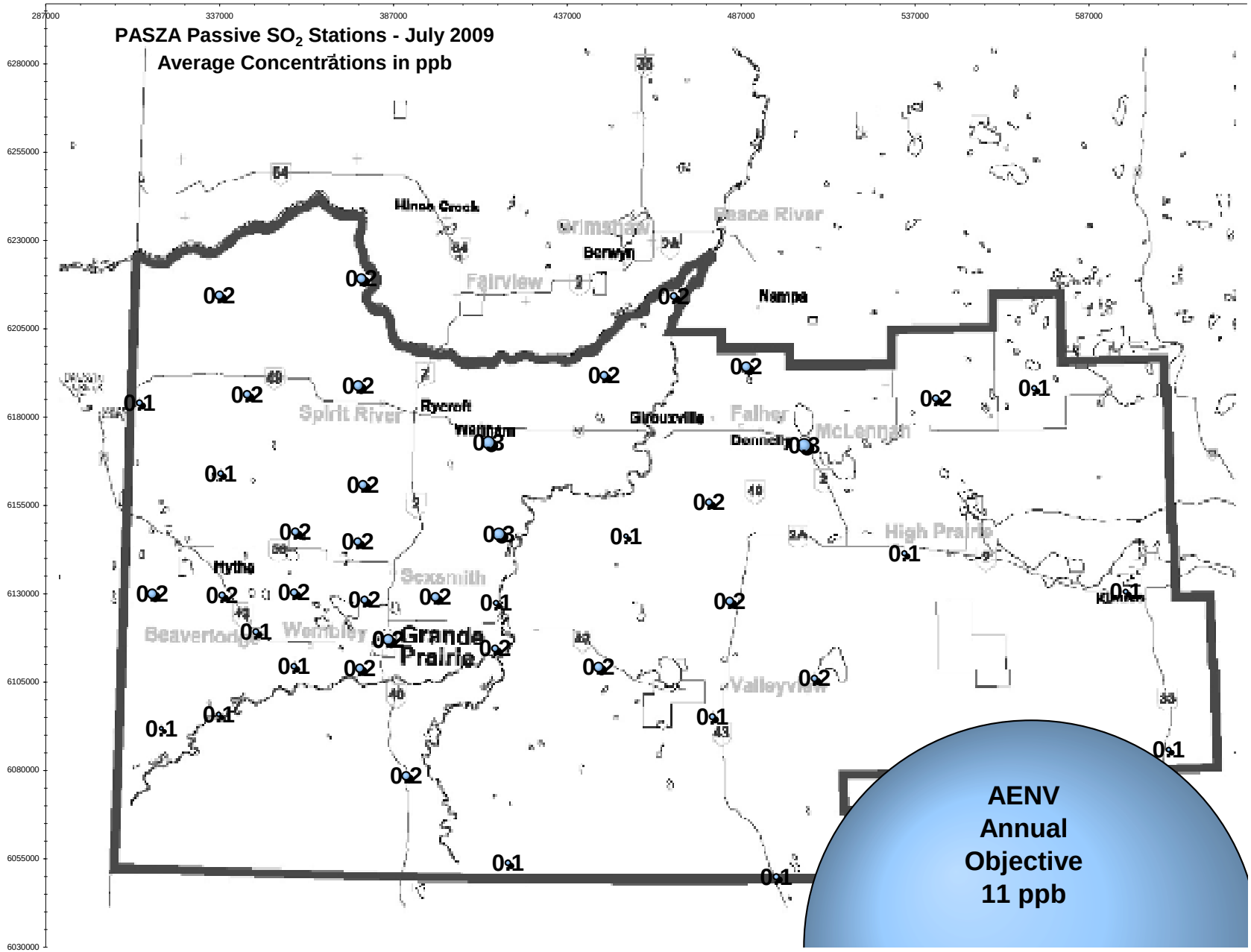
	SO_2	O_3	NO_2
PASZA Beaverlodge station	**0.2**	**23.6**	**1.9**
PASZA Beaverlodge passive	**0.1**	**26.5**	**1.6**

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

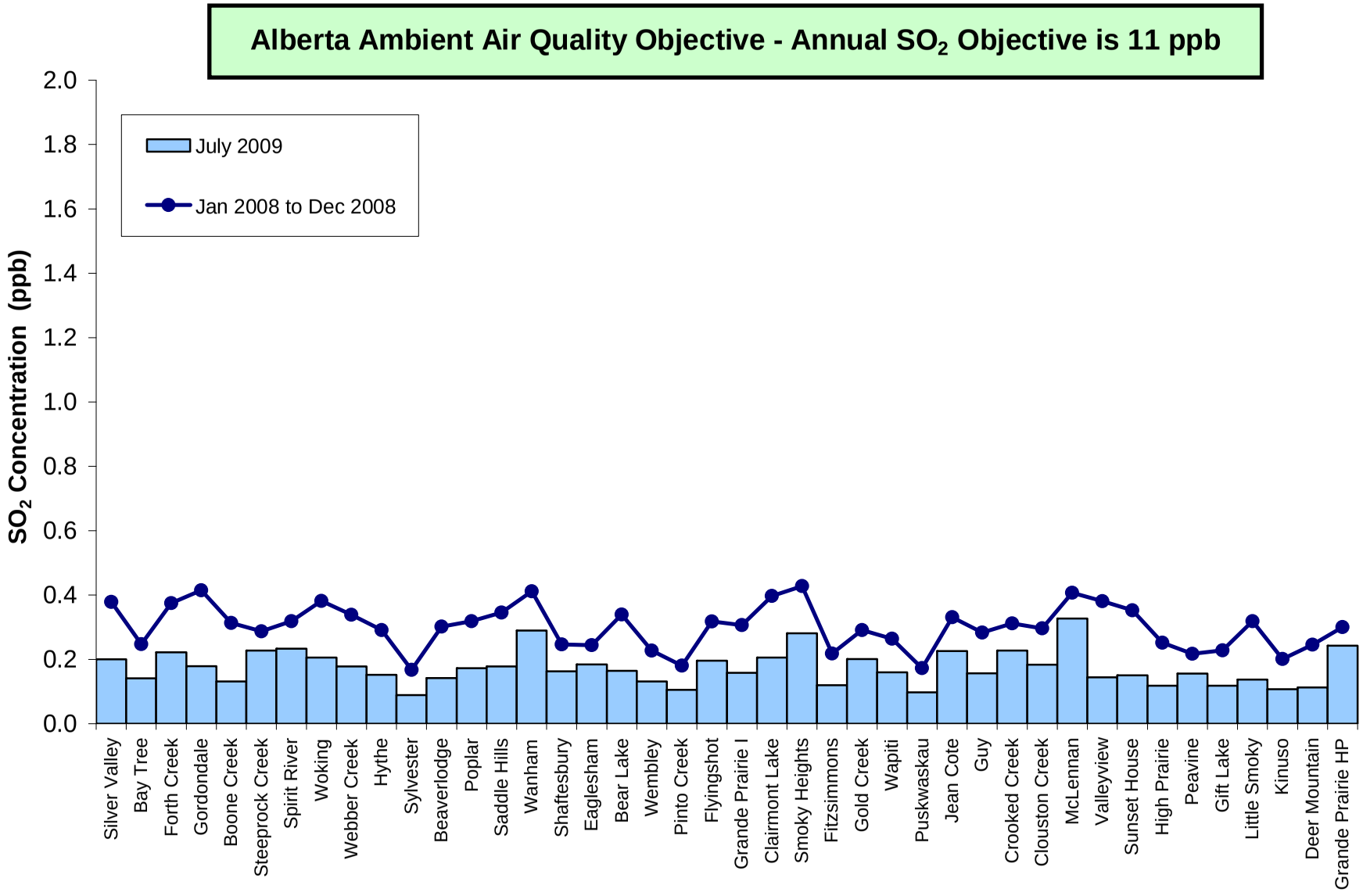
	SO_2	O_3	NO_2
PASZA Henry Pirker station	**0.3**	**22.2**	**2.8**
PASZA Grande Prairie passive	**0.2**	**27.4**	**2.8**

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

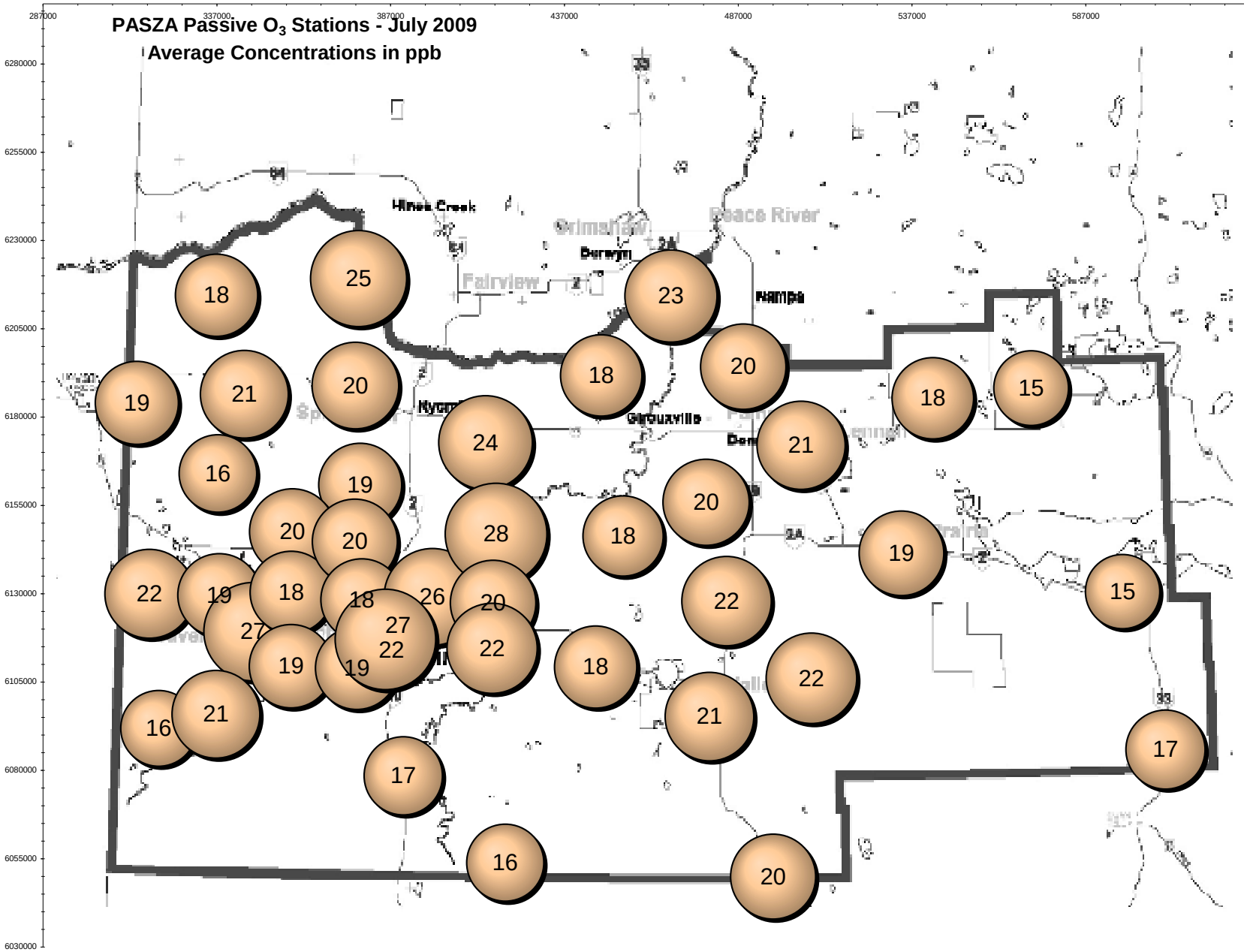
	SO_2	O_3	NO_2
PASZA Portable Kinuso station	**0.2**	**21.1**	**2.4**
PASZA Kinuso passive	**0.1**	**15.1**	**0.4**



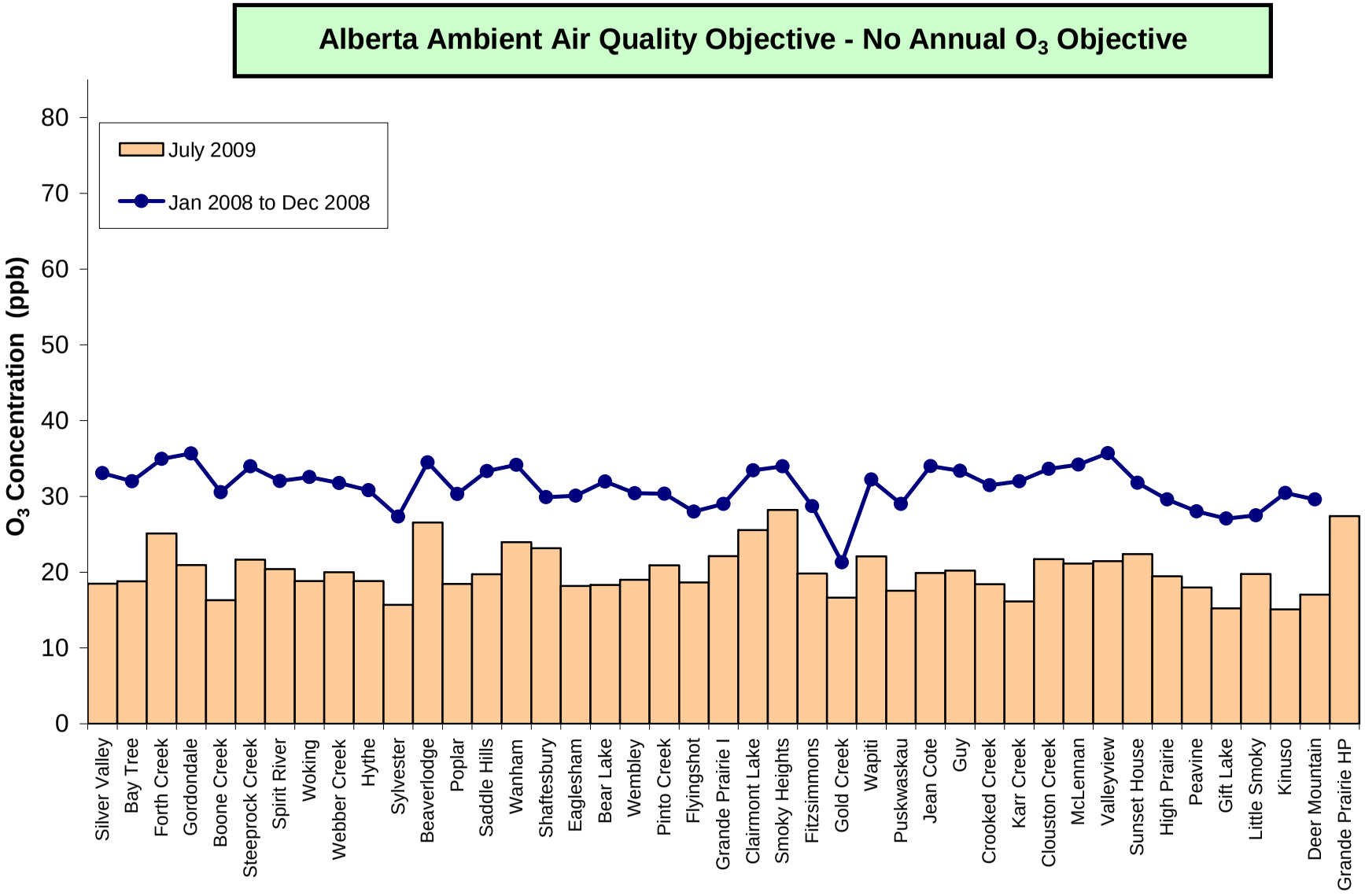
SO_2 Bubble Chart



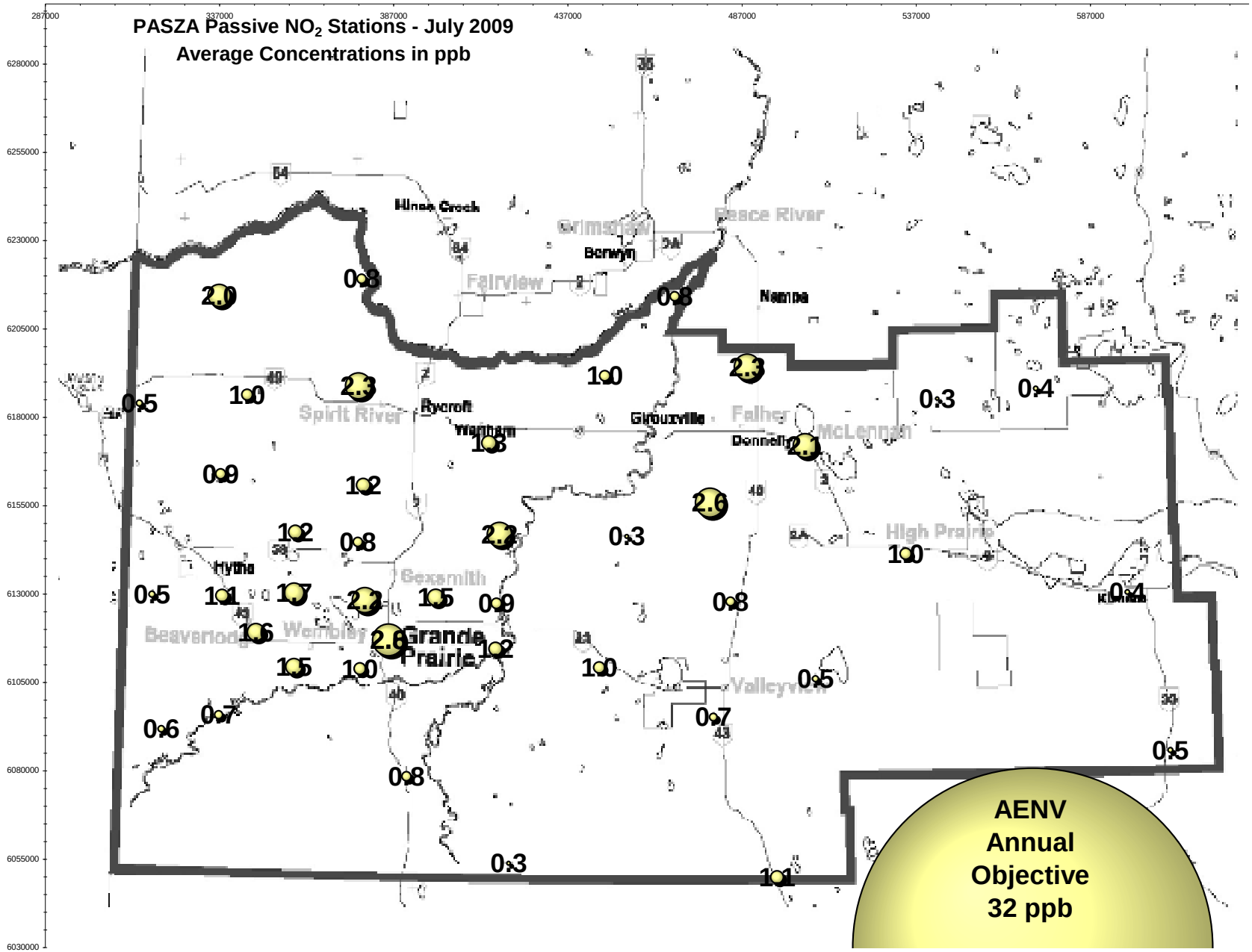
SO_2 Summary Chart



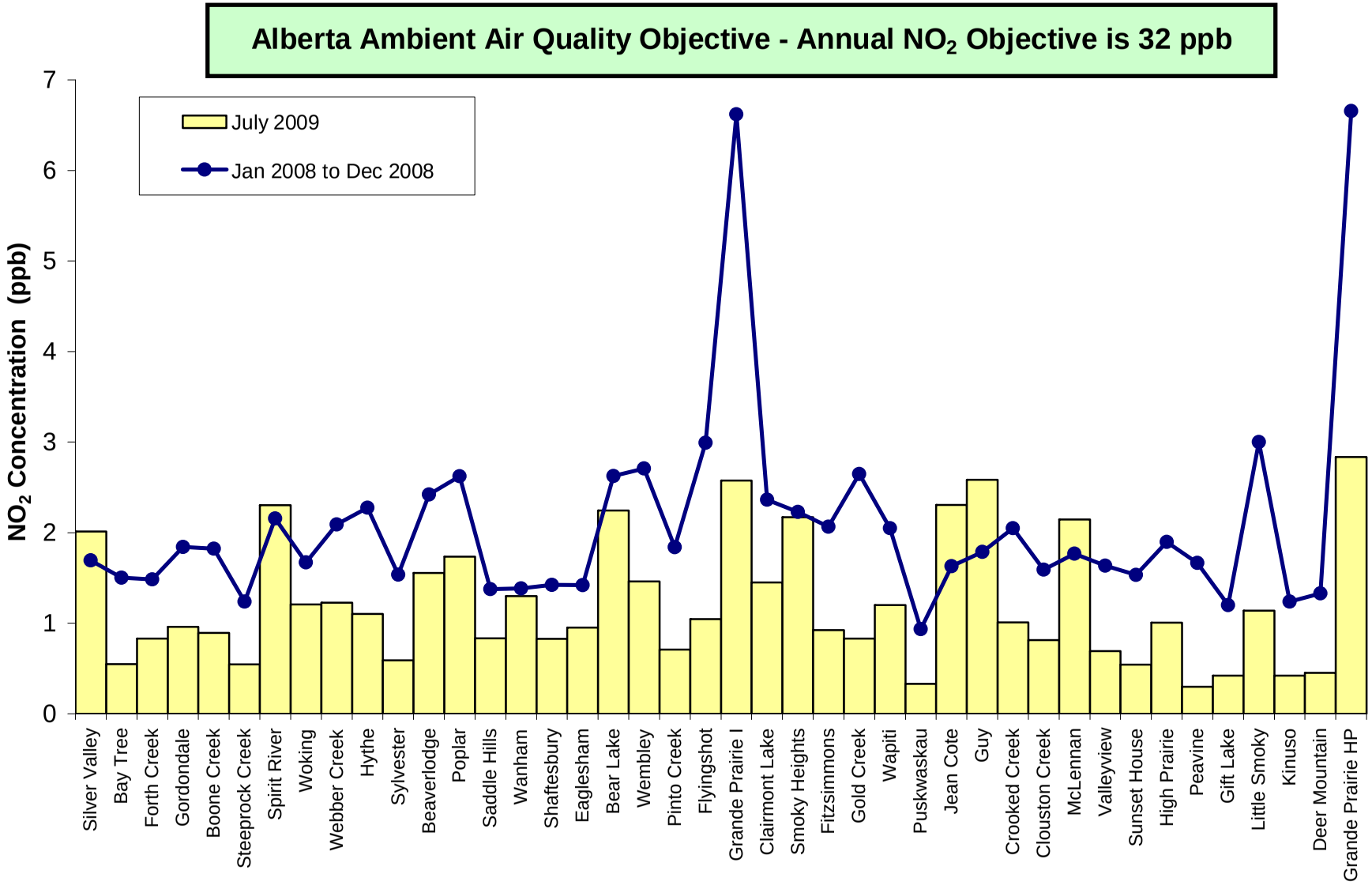
O_3 Bubble Chart



O_3 Summary Chart



NO_2 Bubble Chart



NO_2 Summary Chart

July 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

FOCUS
AIR QUALITY MONITORING

Parameter: **SO2**

Air Monitoring Network: **PASZA**

Station Information

Calibration Date	July 11, 2009	Previous Calibration	June 6, 2009
Station Number	1	Station Location	Henry Pirker
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	9:25	End Time (MST)	12:04
Barometric Pressure	0.938 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	1.001119	Calculated slope	1.004815
Calculated intercept	-1.049193	Calculated intercept	-1.473407
Analyzer make	TEI 43C	Analyzer serial #	610816292

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	8.1		8.2	
Coefficient	.823		.823	
Pressure	657.6	mm Hg	657.1	mm Hg
Flow	0.517	lpm	0.521	lpm
Lamp Voltage	44406	Hz	44450	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	400.0	1.0020
4991	19.91	201.1	201.7	0.9967
4991	9.95	100.7	102.7	0.9801
4989	0.00	0.0	1.0	As Found Zero
4991	39.85	400.8	388.6	As Found Span
			Average Correction Factor	0.9929

Calculated value of As Found Response: 387.1 ppb Percent Change of As Found: 3.4%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.1	ppb
Auto span	262.3	ppb	315.6	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

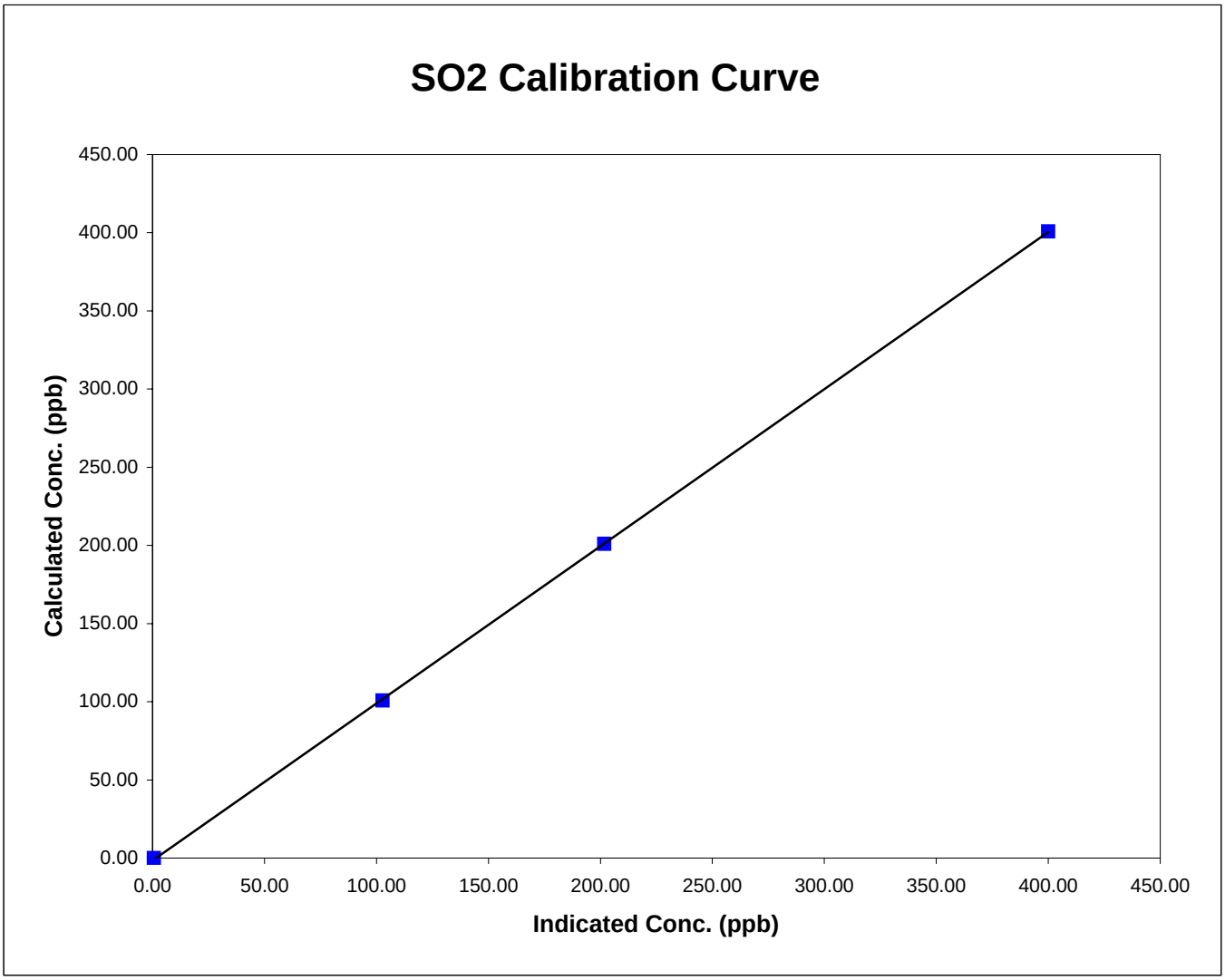
Air Monitoring Network **PASZA**

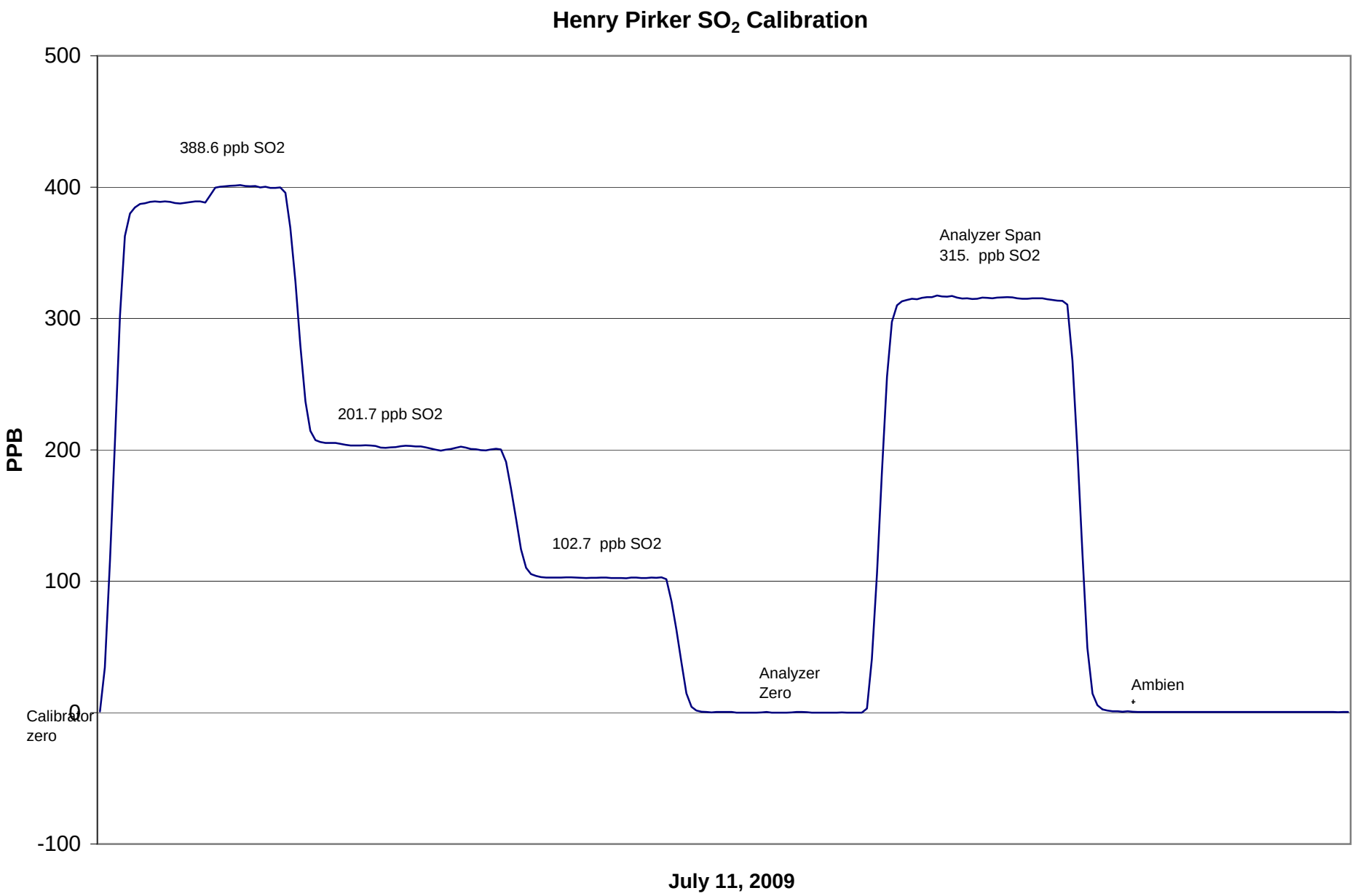
Station Information

Calibration Date	July 11, 2009	Previous Calibration	June 6, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:25	End Time (MST)	12:04
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	400.0	1.0020	Correlation Coefficient	0.999976
201.1	201.7	0.9967		
100.7	102.7	0.9801	Slope	1.004815
			Intercept	-1.473407




Henry Pirker SO_2 Calibration
500
400
300
200
100
0
-100
PPB
388.6 ppb SO2
201.7 ppb SO2
102.7 ppb SO2
Analyzer Zero
Analyzer Span
315. ppb SO2
Ambien
Calibrator zero
July 11, 2009

Calibration Report

Parameter **TRS**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	July 12, 2009	Previous Calibration	June 8, 2009
Station Number	1	Station Location	Henry Pirker

Reason: Routine | Install | Removal | Other:

Start Time (MST)	9:50	End Time (MST)	12:32
Barometric Pressure	0.932 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	1.006951	Calculated slope	1.006013
Calculated intercept	-0.461283	Calculated intercept	-0.328338
Analyzer make	TEI 45C	Analyzer serial #	630718528

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Coefficient	0.847		.847	
Background	16.6		17.1	
Pressure	657.8	mm Hg	659	mm Hg
Flow	464	ccm	465	ccm
Lamp Voltage	847	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	80.02	1.0039
4988	39.81	40.38	40.71	0.9920
4988	9.92	10.12	10.66	0.9495
4988	0.00	0.00	0.07	As Found Zero
4988	79.77	80.28	79.77	As Found Span
			Average Correction Factor	0.9818

Calculated value of As Found Response: 79.8 ppb Percent Change of As Found: 0.6%

	before calibration		after calibration	
Auto zero	-0.29	ppb	-0.05	ppb
Auto span	27.12	ppb	27.03	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **TRS**

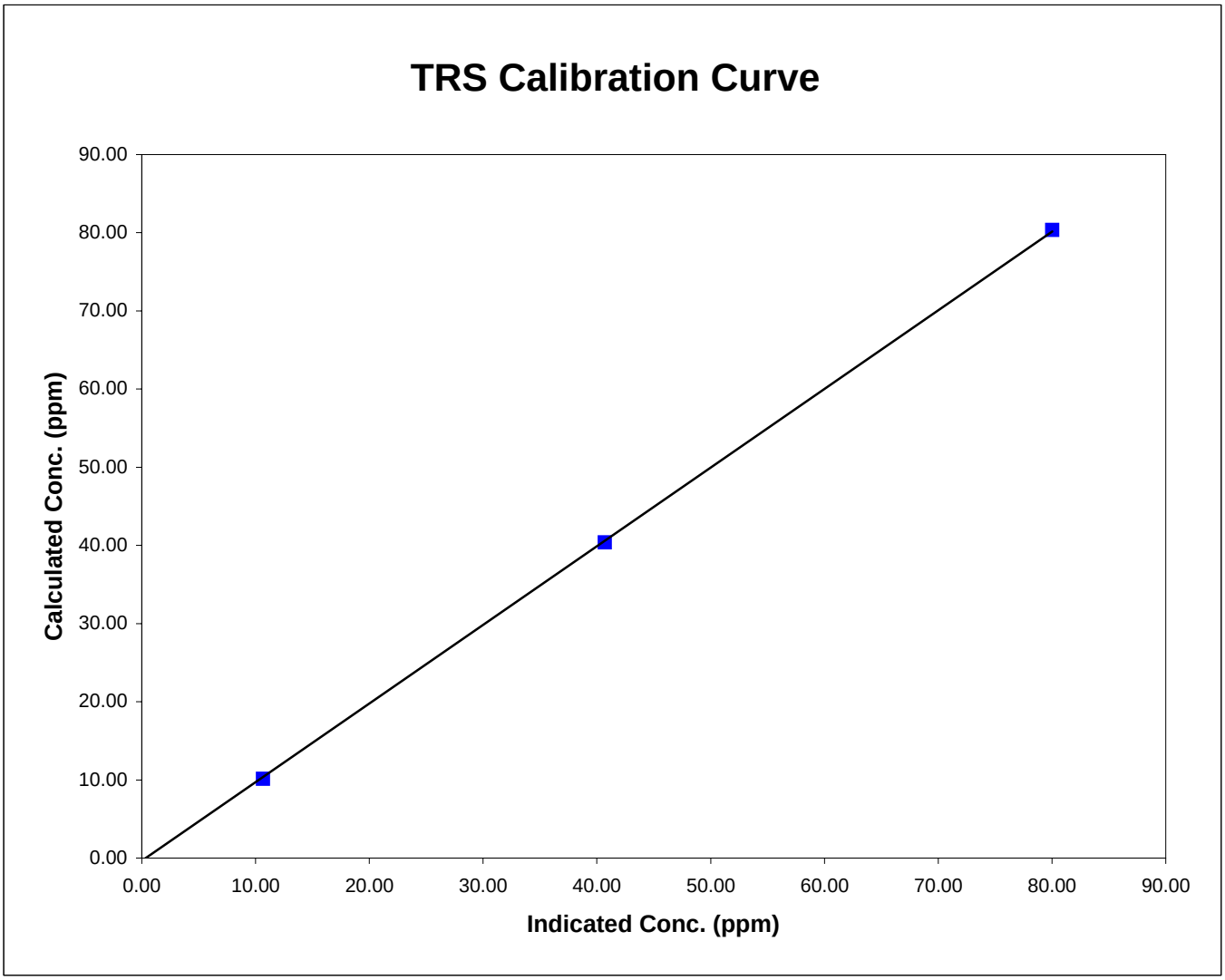
Air Monitoring Network **PASZA**

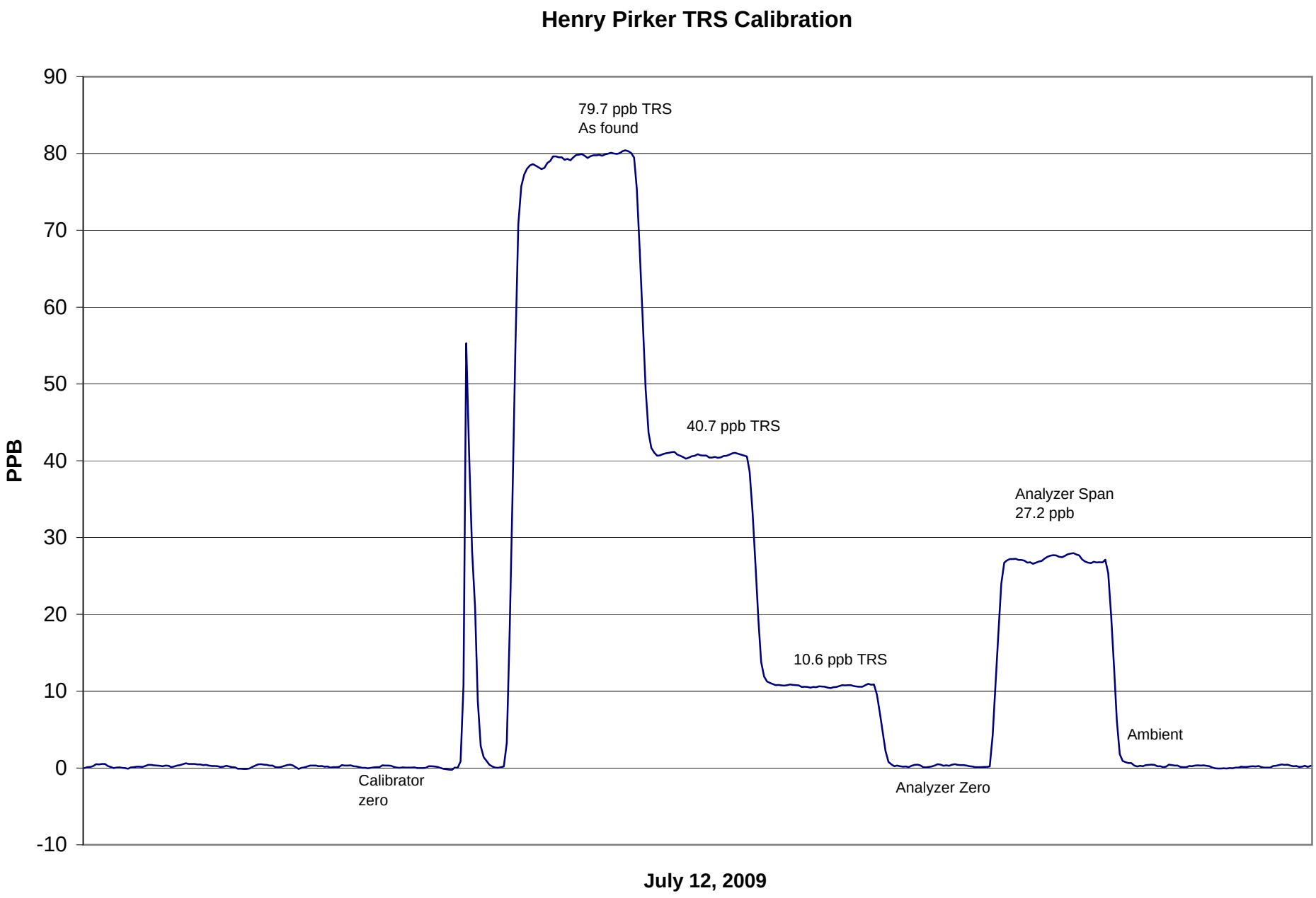
Station Information

Calibration Date	July 12, 2009	Previous Calibration	June 8, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:50	End Time (MST)	12:32
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	80.025	1.0039	Correlation Coefficient	0.999927
40.382	40.706	0.9920		
10.123	10.661	0.9495	Slope	1.006013
			Intercept	-0.328338




Henry Pirker TRS Calibration
PPB
90
80
70
60
50
40
30
20
10
0
-10
79.7 ppb TRS
As found
40.7 ppb TRS
10.6 ppb TRS
Analyzer Span
27.2 ppb
Ambient
Calibrator
zero
Analyzer Zero
July 12, 2009

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	July 11, 2009	Previous Calibration	June 6, 2009
Station Number	1	Station Location	Henry Pirker

Reason: Routine Installation Removal Other:

Start Time (MST)	9:30		End Time (MST)	13:22	
Barometric Pressure	0.938	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	0.998958	1.005221	1.003475
	Data Offset	-0.081391	-2.612536	-2.396706
After	Data Slope	0.993599	1.004722	1.004855
	Data Offset	-0.621402	-2.739205	-2.459801
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	10.2	mV	11.0	mV
NOx bkgnd	10.6	mV	11.4	mV
NO coefficient	0.815		0.878	
NOx coefficient	1.000		0.998	
NO2 conv temp	319.0	Deg C	319.0	Deg C
PMT Temp	-2.5	Deg C	-2.4	Deg C
PMT Volt	-787.0	mV	-787.0	mV
R Cell Press	206.8	in Hg	206.8	in Hg

Calibration Report

Parameter **NOx-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: July 11, 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	0.1	0.0	0.0	N/A	N/A
1	4989	39.84	392.9	392.9	0.0	392.3	392.1	0.2	1.0016	1.0021
2	4989	19.87	196.8	196.8	0.0	200.3	199.7	0.6	0.9824	0.9851
3	4989	9.91	98.3	98.3	0.0	103.0	102.6	0.5	0.9543	0.9580
AFZ	4989	0.00	0.0	0.0	0.0	0.1	0.0	0.0	0.0000	0.0000
AFS	4989	39.84	392.9	392.9	0.0	366.7	366.1	0.7	1.0715	1.0734
							Average Correction Factor		0.9794	0.9817

As Found Concentrations: NO_X= 364.0 NO= 363.7 As Found Percent Change NO_X= -7.4% NO= -7.4%

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	0.1	0.0	0.0	N/A	N/A	N/A	N/A
NO point	392.9	392.9	0.0	392.5	392.9	-0.3	1.0010	1.0000	N/A	N/A
300	392.9	148.2	244.6	394.0	148.2	246.3	0.9972	1.0000	0.9931	100.7%
200	392.9	226.0	166.8	394.5	226.0	168.8	0.9957	1.0000	0.9881	101.2%
100	392.9	302.9	90.0	394.6	302.9	92.0	0.9956	1.0000	0.9785	102.2%
					Average Correction Factor		0.9962	1.0000	0.9866	101.4%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.1	0.0	0.0	ppb	0.1	0.0	0.0	ppb
Auto span	164.1	163.5	1.0	ppb	157.8	156.7	1.0	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

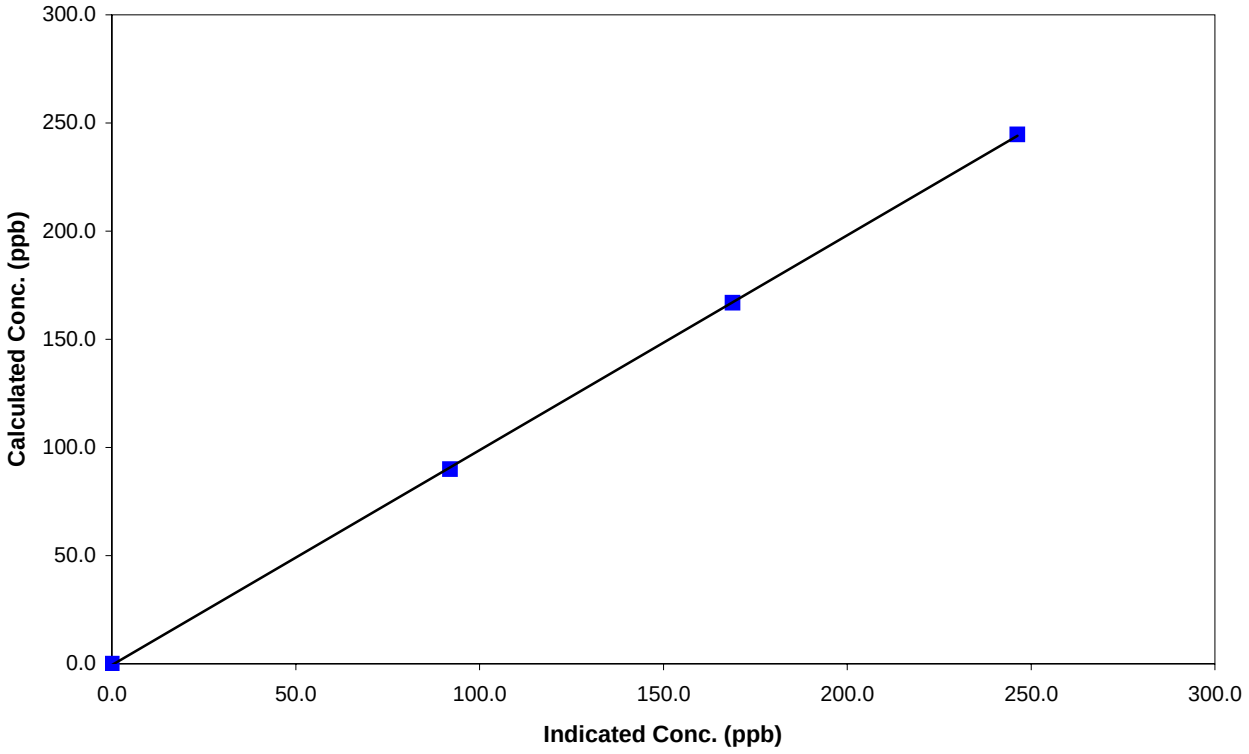
Station Information

Calibration Date	July 11, 2009	Previous Calibration	June 6, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:30	End Time (MST)	13:22
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		
244.6	246.3	0.9931	Correlation Coefficient	0.999961
166.8	168.8	0.9881		
90.0	92.0	0.9785	Slope	0.993599
			Intercept	-0.621402

NO_2 Calibration Curve



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

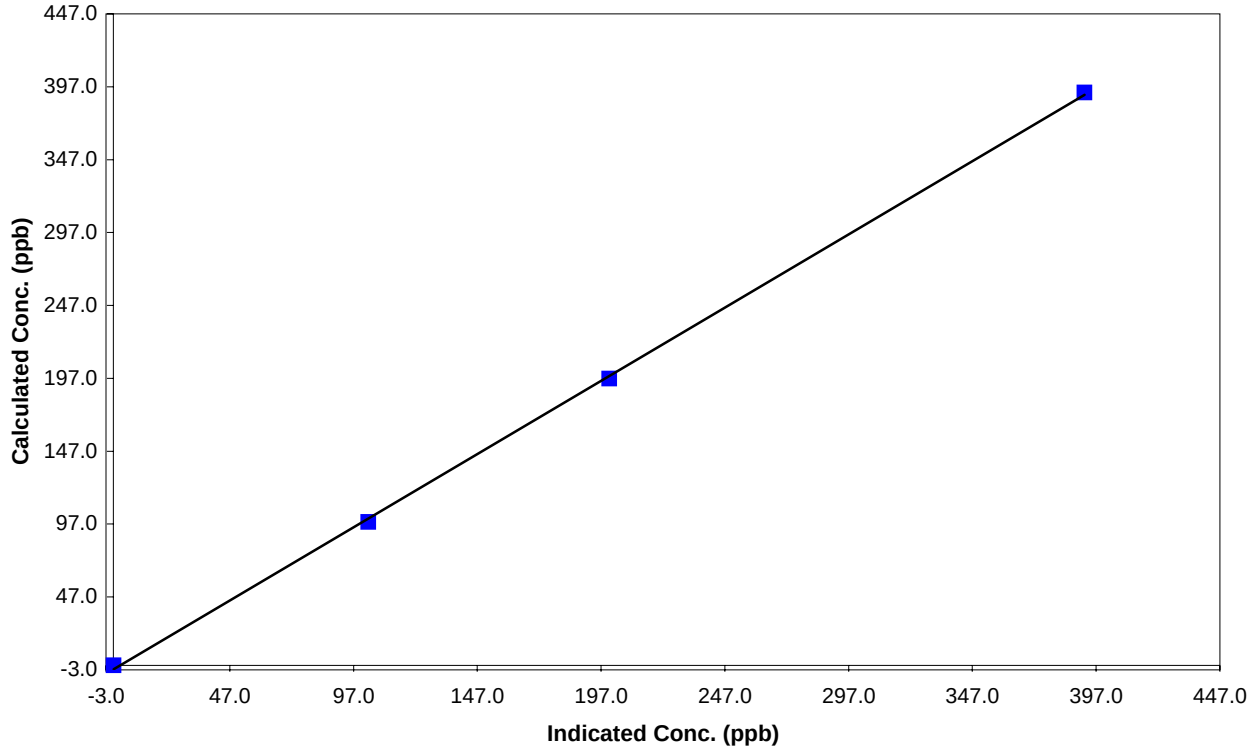
Station Information

Calibration Date	July 11, 2009	Previous Calibration	June 6, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:30	End Time (MST)	13:22
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	0.1	N/A		
392.9	392.3	1.0016	Correlation Coefficient	0.999782
196.8	200.3	0.9824		
98.3	103.0	0.9543	Slope	1.004722
			Intercept	-2.739205

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

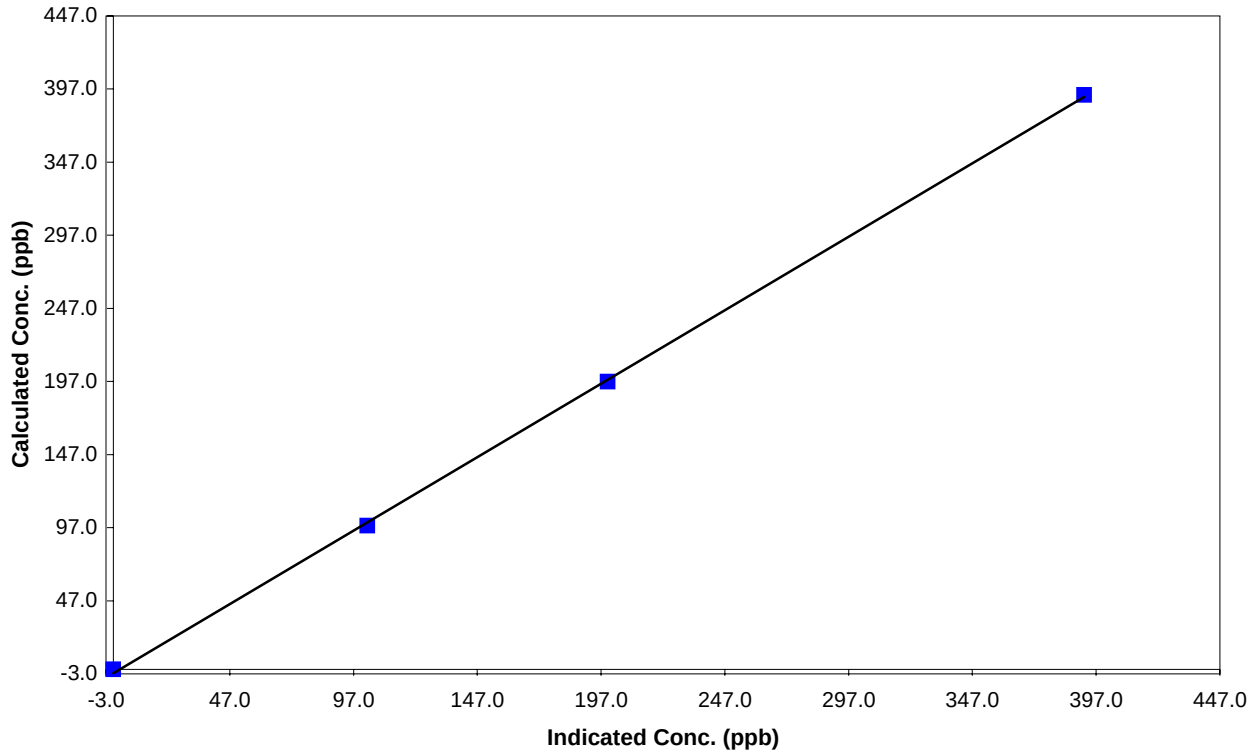
Station Information

Calibration Date	July 11, 2009	Previous Calibration	June 6, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:30	End Time (MST)	13:22
Analyzer make	TEI 42C	Analyzer serial #	508011073

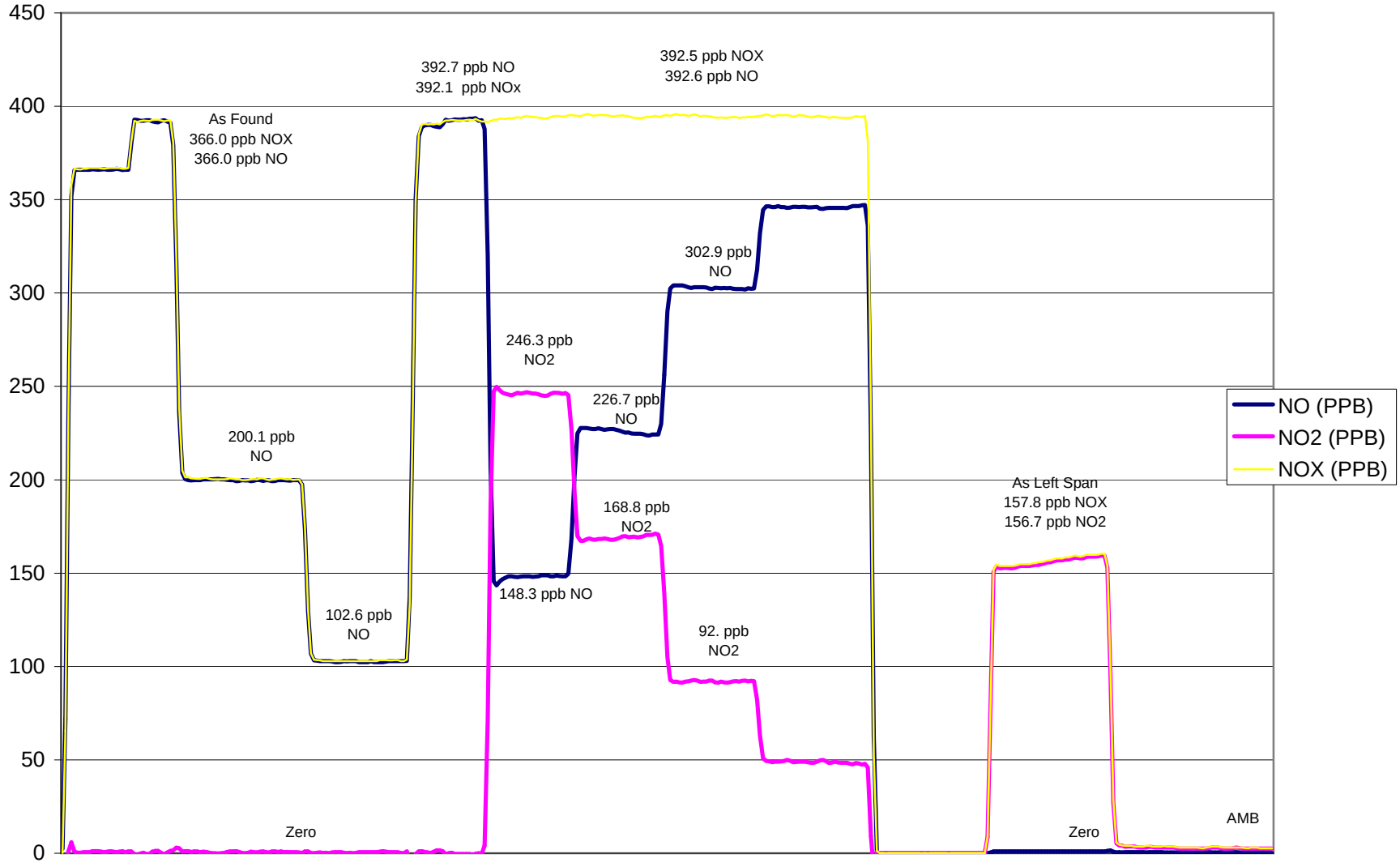
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
392.9	392.1	1.0021	Correlation Coefficient	0.999815
196.8	199.7	0.9851		
98.3	102.6	0.9580	Slope	1.004855
			Intercept	-2.459801

NO Calibration Curve



Henry Pirker NO_X Calibration



July 11, 2009

Calibration Report

Parameter **O3**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	July 11, 2009	Previous Calibration	June 6, 2009
Station Number	1	Station Location	Henry Pirker
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	12:00	End Time (MST)	14:30
Barometric Pressure	0.938 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	0.999946	Calculated slope	0.993383
Calculated intercept	-3.557560	Calculated intercept	0.486977
Analyzer make	TECO 49C	Analyzer serial #	607415761

	before		after	
Concentration range	500	ppb	500	ppb
offset	-1.2	ppb	-1.3	ppb
slope	1.1		1.014	
O3 Lamp temp	71	Deg C	71	Deg C
Intensities	90903/75527	mV	90903/75527	mV
Pressure	703.2	inches Hg	661.2	inches Hg
Flow A	0.721	ccm	0.721	ccm
Flow B	0.732	Deg C	0.732	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	4988	0.0	0.1	N/A
300	4989	246.0	248.3	0.9908
200	4989	169.0	168.0	1.0059
100	4989	92.0	92.0	0.9998
0	4988	0.0	0.5	As found zero
300	4988	246.0	262.4	As found span
			Average Correction Factor	0.9988

Calculated value of As Found Response: 258.4 ppm Percent Change of As Found: 5.0%

	before calibration		after calibration	
Auto zero	0.3	ppb	0.3	ppb
Auto span	164.6	ppb	149.7	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **O3**

Air Monitoring Network **PASZA**

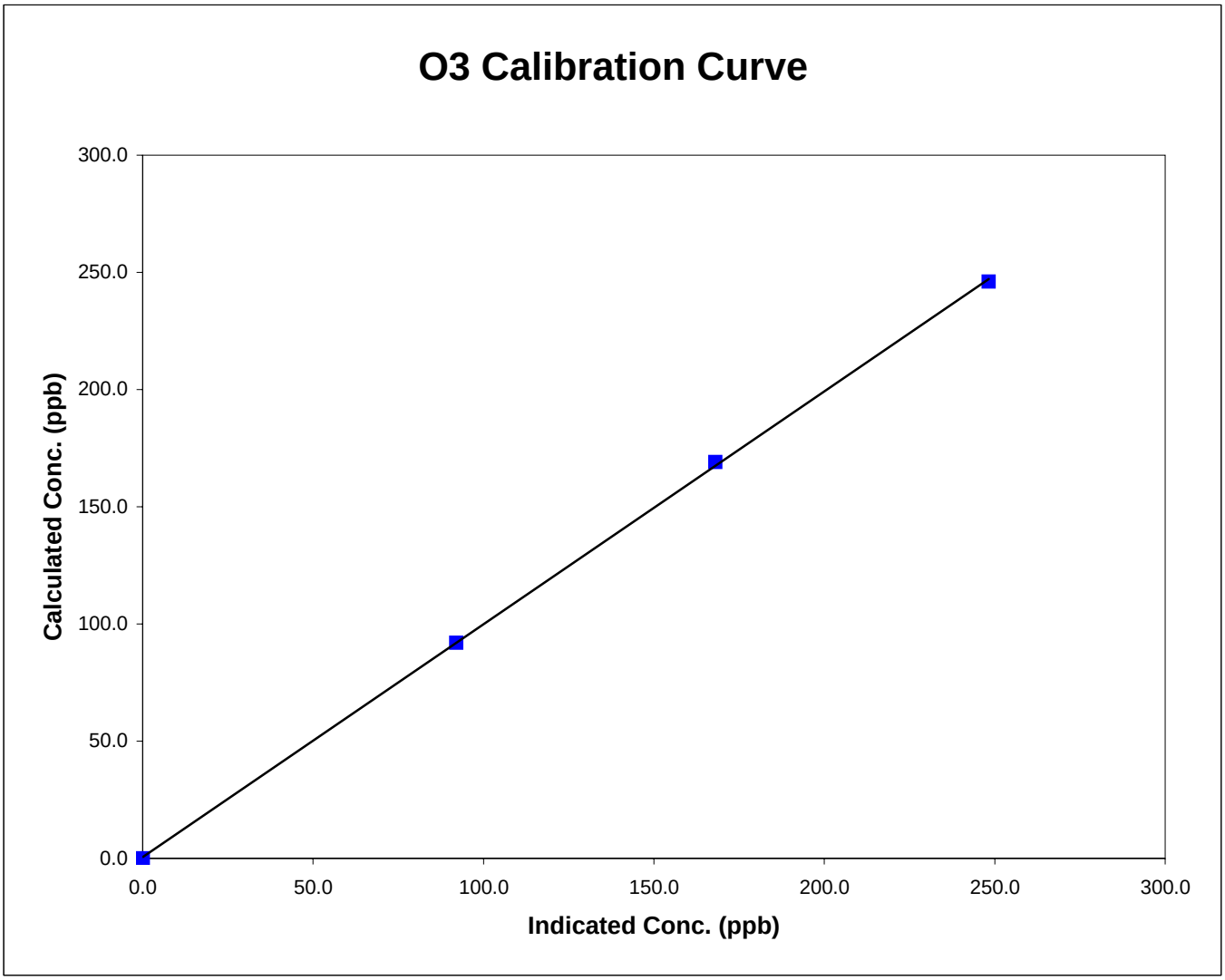
FOCUS AIR QUALITY MONITORING

Station Information

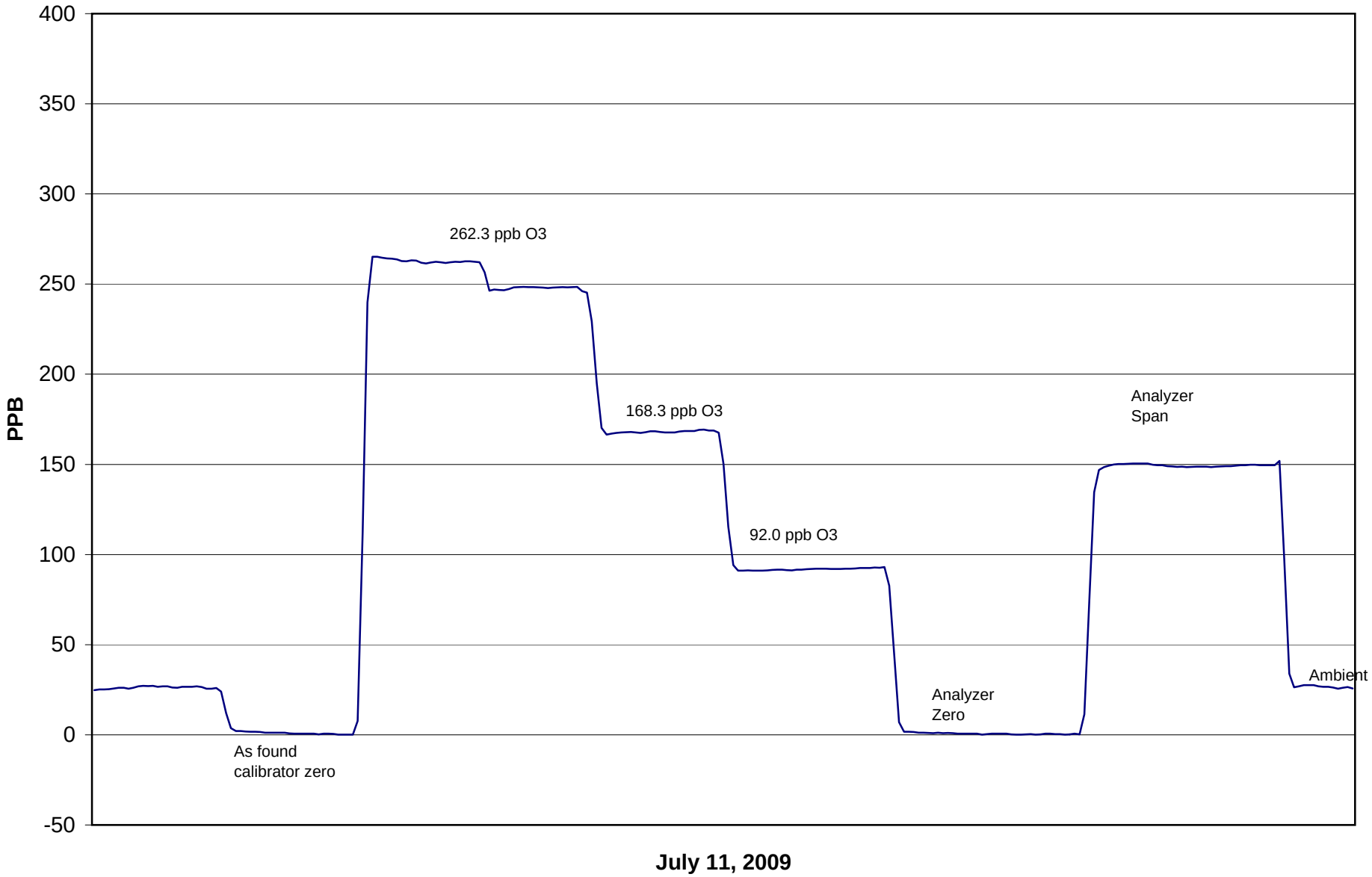
Calibration Date	July 11, 2009	Previous Calibration	June 6, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:00	End Time (MST)	14:03
Analyzer make/model	TECO 49C	Analyzer serial #	607415761

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	NA		
246.0	248.3	0.9908	Correlation Coefficient	0.999873
169.0	168.0	1.0059		
92.0	92.0	0.9998	Slope	0.993383
			Intercept	0.486977



Henry Pirker O_3 Calibration



Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter: **CO**

Air Monitoring Network: **PASZA**

Station Information

Calibration Date	July 12, 2009	Previous Calibration	June 8, 2009
Station Number	1	Station Location	Henry Pirker

Reason: Routine | Install | Removal | Other:

Start Time (MST)	11:10	End Time (MST)	13:32
Barometric Pressure	0.932 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	1.013058	Calculated slope	1.011803
Calculated intercept	-0.213636	Calculated intercept	-0.239982

Analyzer make	TEI Model 48C	Analyzer serial #	508011062

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO span setting	1.039		1.044	
CO zero setting	7.510		7.805	
Sample pressure	481.8	mm Hg	482.5	mm Hg
Sample Flow	0.936	LPM	0.936	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	0.23	N/A
4991	39.85	23.76	23.72	1.0017
4991	19.88	11.90	11.99	0.9923
4991	9.94	5.96	6.14	0.9707
4990	0.00	0.00	0.36	As Found Zero
4990	39.86	23.77	23.56	As Found Span
			Average Correction Factor	0.9882

Calculated value of As Found Response: 23.288 ppm Percent Change of As Found: 2.0%

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	19.40	ppm	19.34	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **CO**

Air Monitoring Network **PASZA**

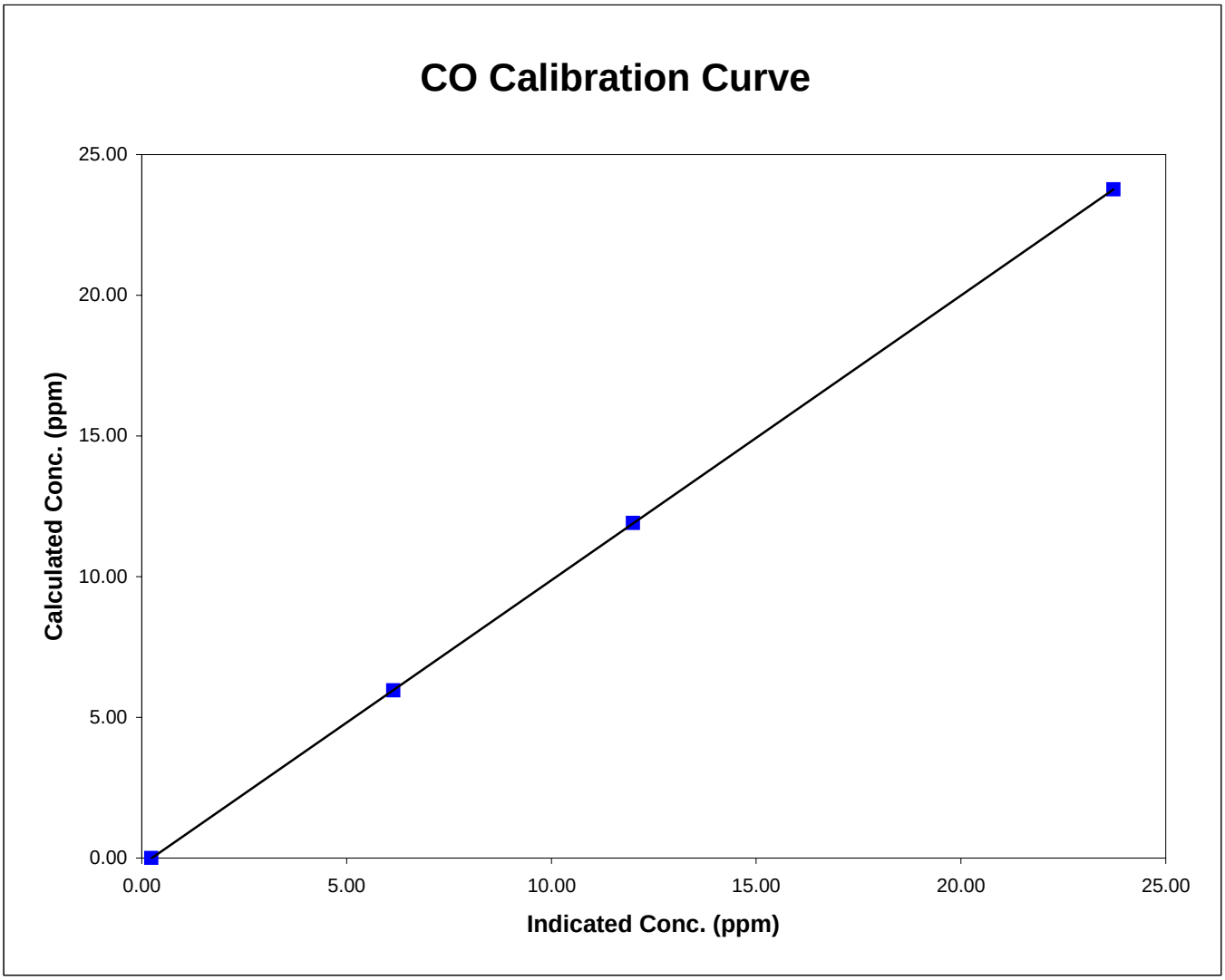
FOCUS AIR QUALITY MONITORING

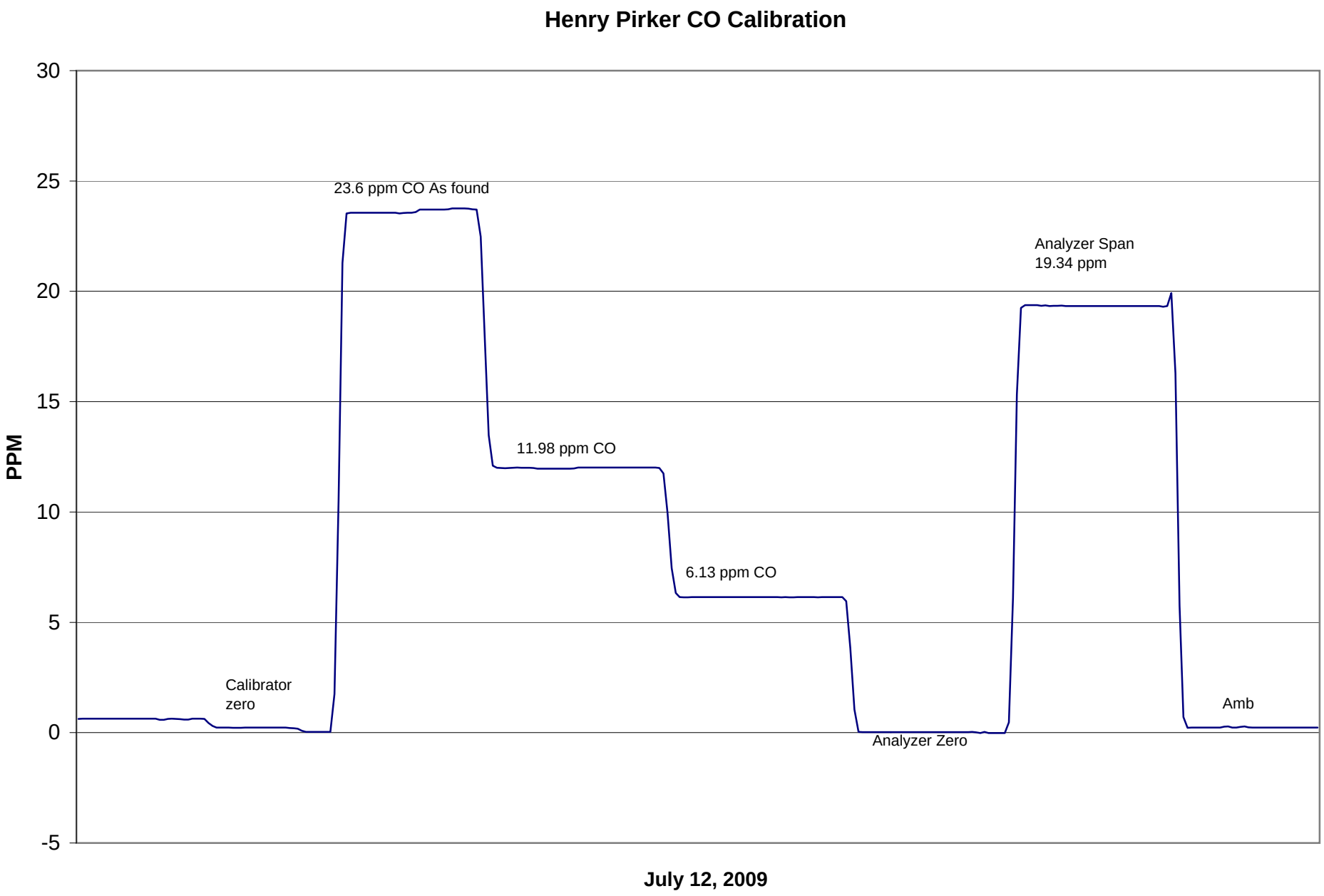
Station Information

Calibration Date	July 12, 2009	Previous Calibration	June 8, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:10	End Time (MST)	13:32:00 PM
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	0.231	N/A		
23.763	23.723	1.0017	Correlation Coefficient	0.999999
11.902	11.995	0.9923		
5.960	6.140	0.9707	Slope	1.011803
			Intercept	-0.239982




Henry Pirker CO Calibration
30
25
20
15
10
5
0
-5
PPM
23.6 ppm CO As found
Analyzer Span
19.34 ppm
11.98 ppm CO
6.13 ppm CO
Calibrator
zero
Analyzer Zero
Amb
July 12, 2009

Calibration Report

FOCUS
AIR QUALITY MONITORING

Parameter **THC**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	July 12, 2009	Previous Calibration	June 8, 2009
Station Number	1	Station Location	Henry Pirker

Reason: [Routine] [Install] [Removal] [Other:]

Start Time (MST)	12:30	End Time (MST)	14:48
Barometric Pressure	0.933 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 005412
DACS make	Focus AP1000	DACS serial No.	1
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	1.022437	Calculated slope	1.017242
Calculated intercept	-0.078440	Calculated intercept	-0.058044

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	7170	capture	7205	capture
THC zero counts	1121	capture	1166	capture

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4988	0.00	0.00	0.07	N/A
4990	69.80	21.01	20.74	1.0131
4989	29.88	9.07	8.90	1.0194
4988	9.92	3.02	3.06	0.9876
4988	0.00	0.00	0.05	As Found Zero
4988	69.82	21.03	20.73	As Found Span
			Average Correction Factor	1.0067

Calculated value of As Found Response: 21.068 ppm Percent Change of As Found: -0.2%

	before calibration		after calibration	
Auto zero	-0.02	ppm	-0.02	ppm
Auto span	23.09	ppm	23.14	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **THC**

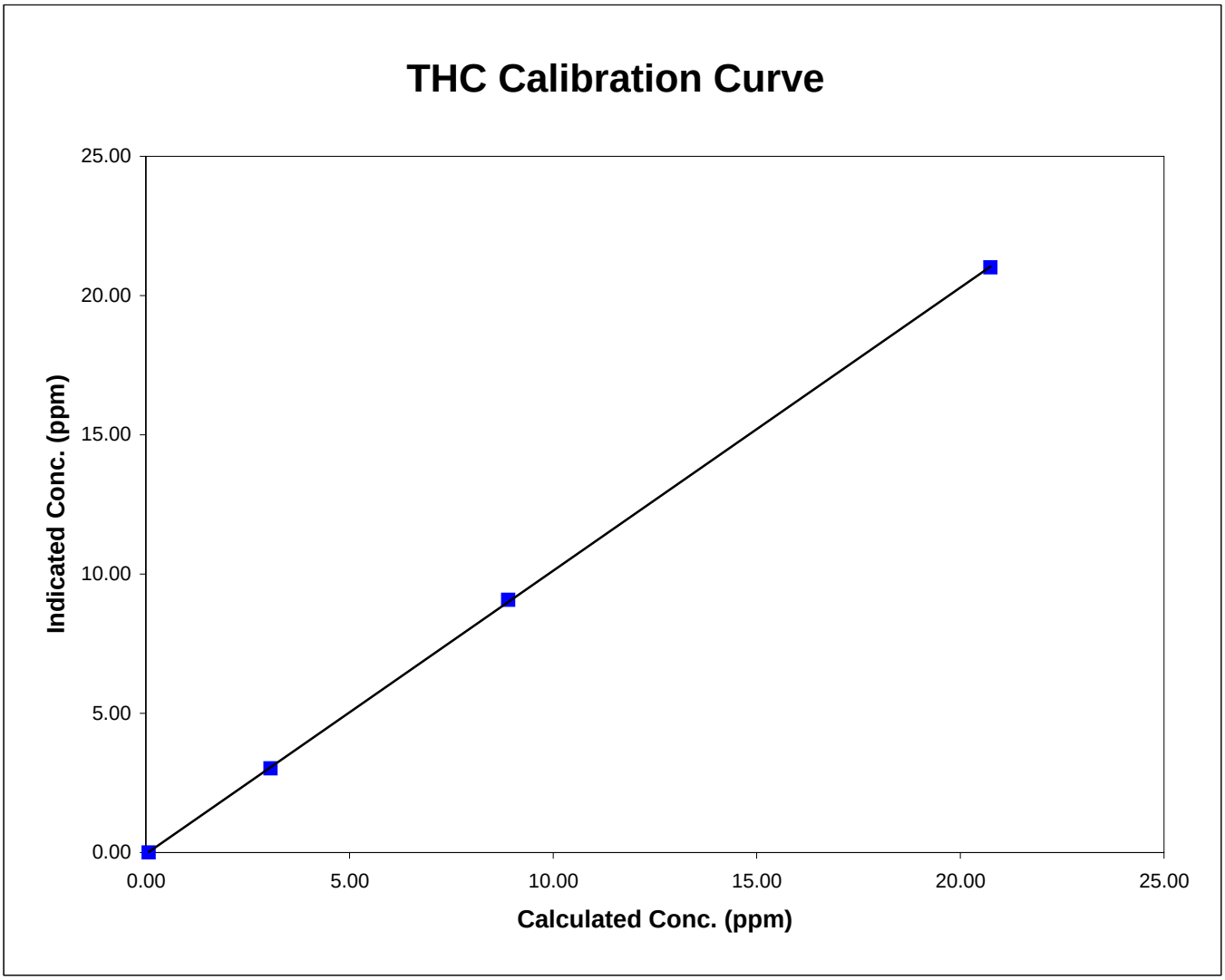
Air Monitoring Network **PASZA**

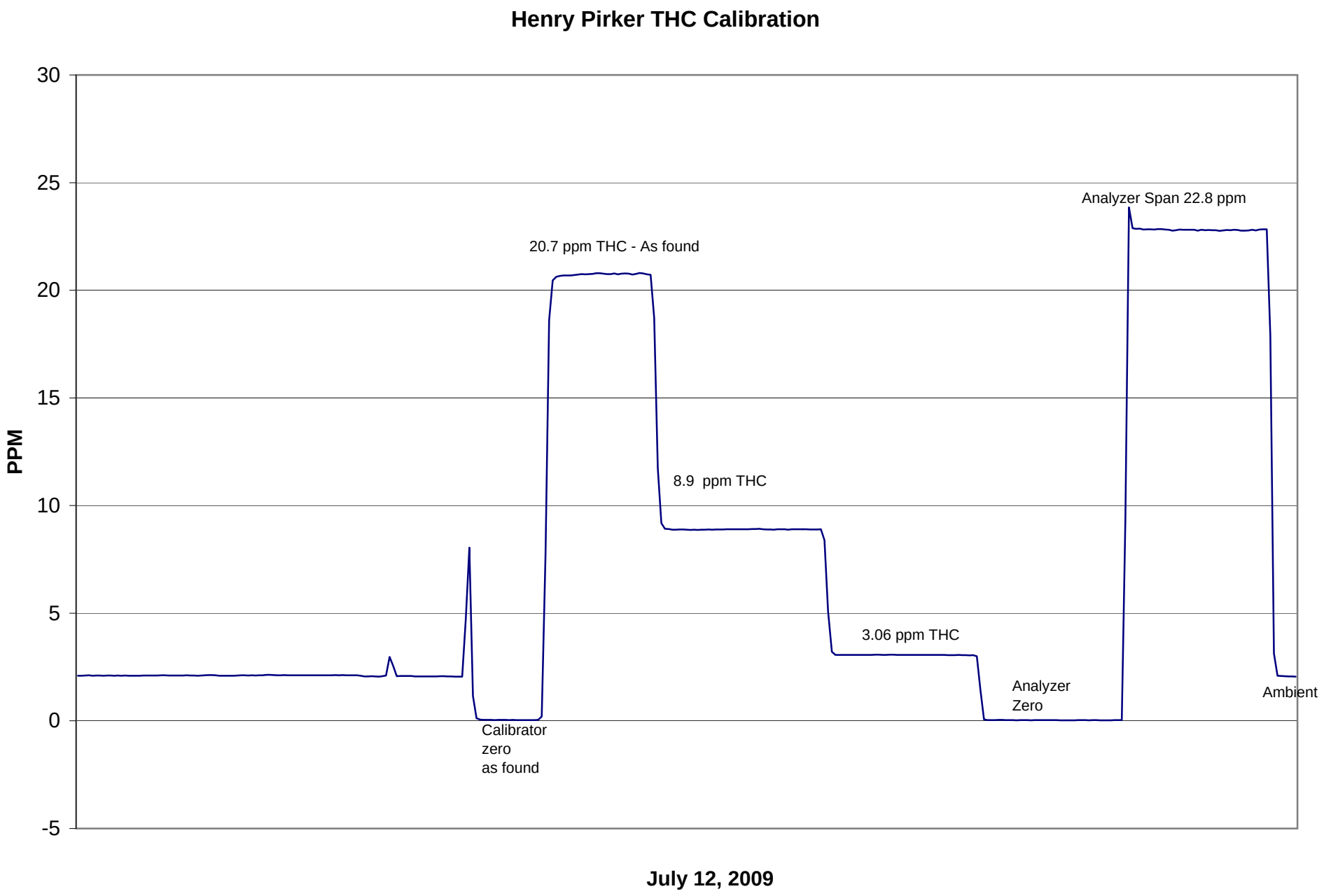
Station Information

Calibration Date	July 12, 2009	Previous Calibration	March 24, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:30	End Time (MST)	14:48:00 PM
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	0.073	N/A		
21.013	20.742	1.0131	Correlation Coefficient	0.999968
9.069	8.896	1.0194		
3.023	3.061	0.9876	Slope	1.017242
			Intercept	-0.058044




Henry Pirker THC Calibration
30
25
20
15
10
5
0
-5
PPM
20.7 ppm THC - As found
8.9 ppm THC
3.06 ppm THC
Analyzer Span 22.8 ppm
Analyzer
Zero
Ambient
Calibrator
zero
as found
July 12, 2009

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **SO_2**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	July 9, 2009	Previous Calibration	June 3, 2009
Station Number	2	Station Location	Evergreen Park
Reason: Routine	Install	Removal	Other:

Start Time (MST)	8:30	End Time (MST)	12:20
Barometric Pressure	0.937 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	0.031851	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	1.012572	Calculated slope	1.002548
Calculated intercept	-2.163380	Calculated intercept	-1.737454

Analyzer make	Teco 43i	Analyzer serial #	701120008

	before		after	
Concentration range	0 - 1000	ppb	0 - 1000	ppb
Background	10		10	
coefficient	1		1	
Lamp Voltage	832	volts	836	volts
Chamber Temp	45	Deg C	45.3	Deg C
Perm Gas Temp	45	Deg C	44.99	Deg C
Pressure	672.8	mm Hg	673.5	mm Hg
Sample Flow	451	ccm	451	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	400.8	1.0003
4989	19.88	200.83	202.8	0.9902
4989	9.93	100.51	103.8	0.9686
4990	0.0	0.00	0.8	As Found Zero
4988	39.82	400.75	388.6	As Found Span
			Average Correction Factor	0.9864

Calculated value of As Found Response: 390.515 ppm Percent Change of As Found: 2.6%

	before calibration		after calibration	
Auto zero	1.1	ppm	0.7	ppm
Auto span	272.0	ppm	272.0	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

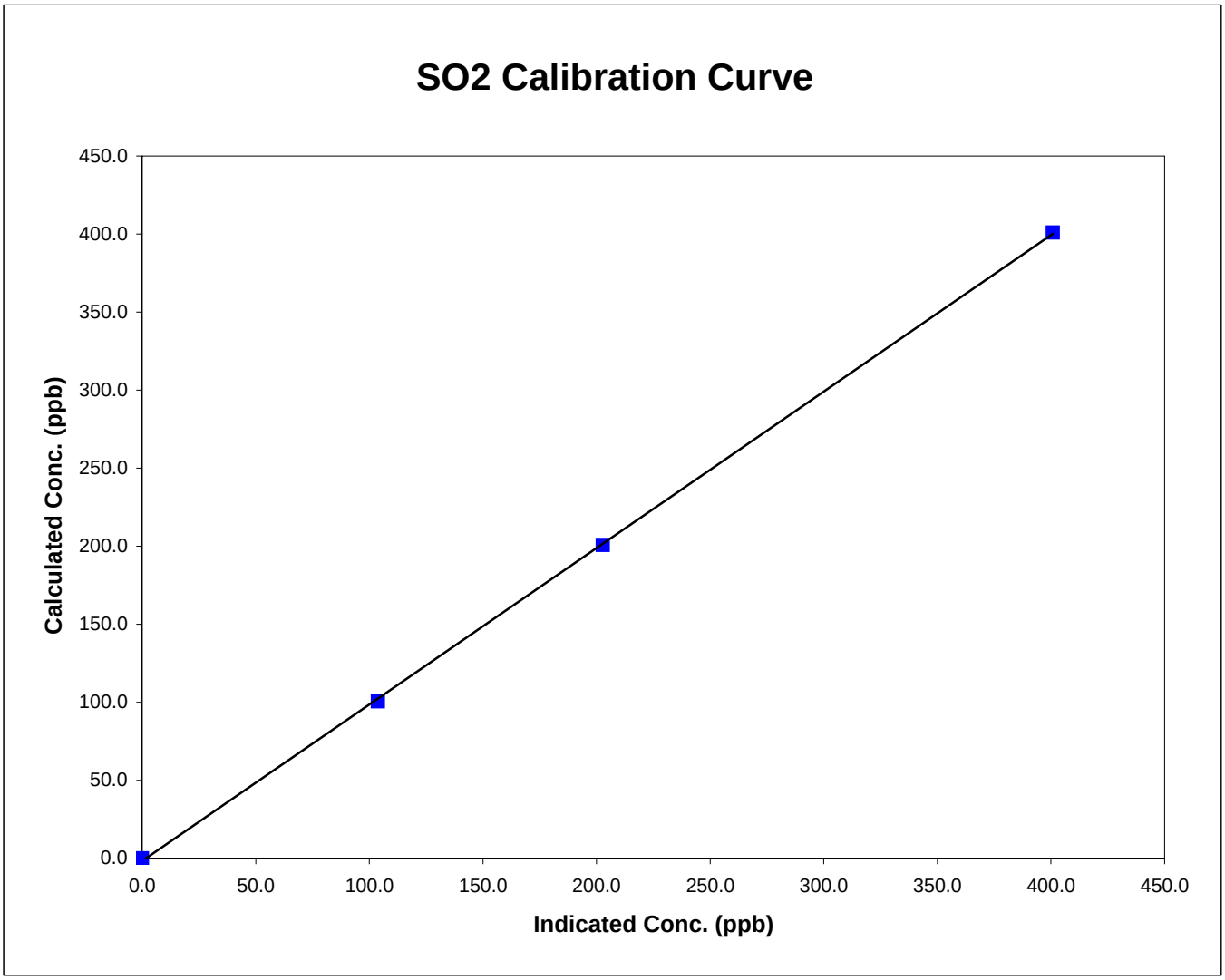
Air Monitoring Network **PASZA**

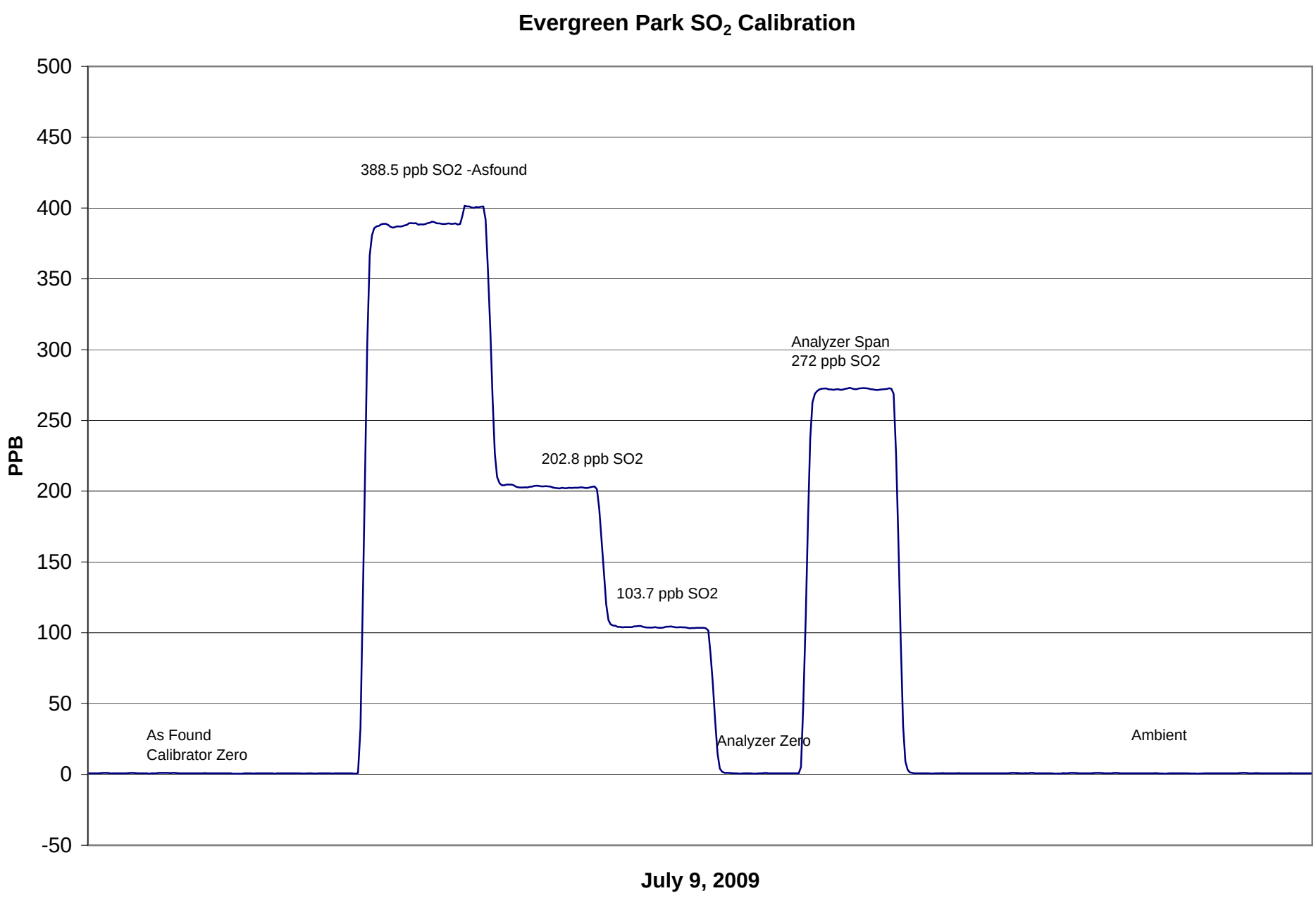
Station Information

Calibration Date	July 9, 2009	Previous Calibration	June 3, 2009
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	8:30	End Time (MST)	12:20
Analyzer make/model	Teco 43i	Analyzer serial #	701120008

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
401.0	400.8	1.0003	Correlation Coefficient	0.999916
200.8	202.8	0.9902		
100.5	103.8	0.9686	Slope	1.002548
			Intercept	-1.737454




Evergreen Park SO_2 Calibration
500
450
400
350
300
250
200
150
100
50
0
-50
PPB
388.5 ppb SO2 -Asfound
Analyzer Span
272 ppb SO2
202.8 ppb SO2
103.7 ppb SO2
As Found
Calibrator Zero
Analyzer Zero
Ambient
July 9, 2009

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **TRS**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	July 9, 2009	Previous Calibration	June 3, 2009
Station Number	2	Station Location	Evergreen Park
Reason: Routine	Install	Removal	Other:

Start Time (MST)	10:00	End Time (MST)	14:05
Barometric Pressure	0.937 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	0.031851	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	1.008452	Calculated slope	0.999775
Calculated intercept	0.006557	Calculated intercept	-0.408929

Analyzer make	TEI Model 43C	Analyzer serial #	436610005

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	15	ppb	15.1	ppb
coefficient	0.586		0.586	
Lamp Voltage	814	volts	817	volts
Chamber Temp	44.2	Deg C	44.3	Deg C
Perm Gas Temp	45.3	Deg C	45	Deg C
Pressure	637.8	mm Hg	635.8	mm Hg
Sample Flow	0.456	ccm	0.462	ccm
Lamp Intensity	45,747	mv	45,455	mv

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4990	0.00	0.00	0.2	N/A
4989	79.80	80.29	80.7	0.9949
4989	39.84	40.40	40.8	0.9909
4990	9.89	10.09	10.8	0.9320
4990	0.00	0.00	-0.3	As Found Zero
4987	79.91	80.43	76.4	As Found Span
			Average Correction Factor	0.9726

Calculated value of As Found Response: 77.35 ppm Percent Change of As Found: 3.8%

	before calibration		after calibration	
Auto zero	0.0	ppm	-0.1	ppm
Auto span	67.3	ppm	67.0	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **TRS**

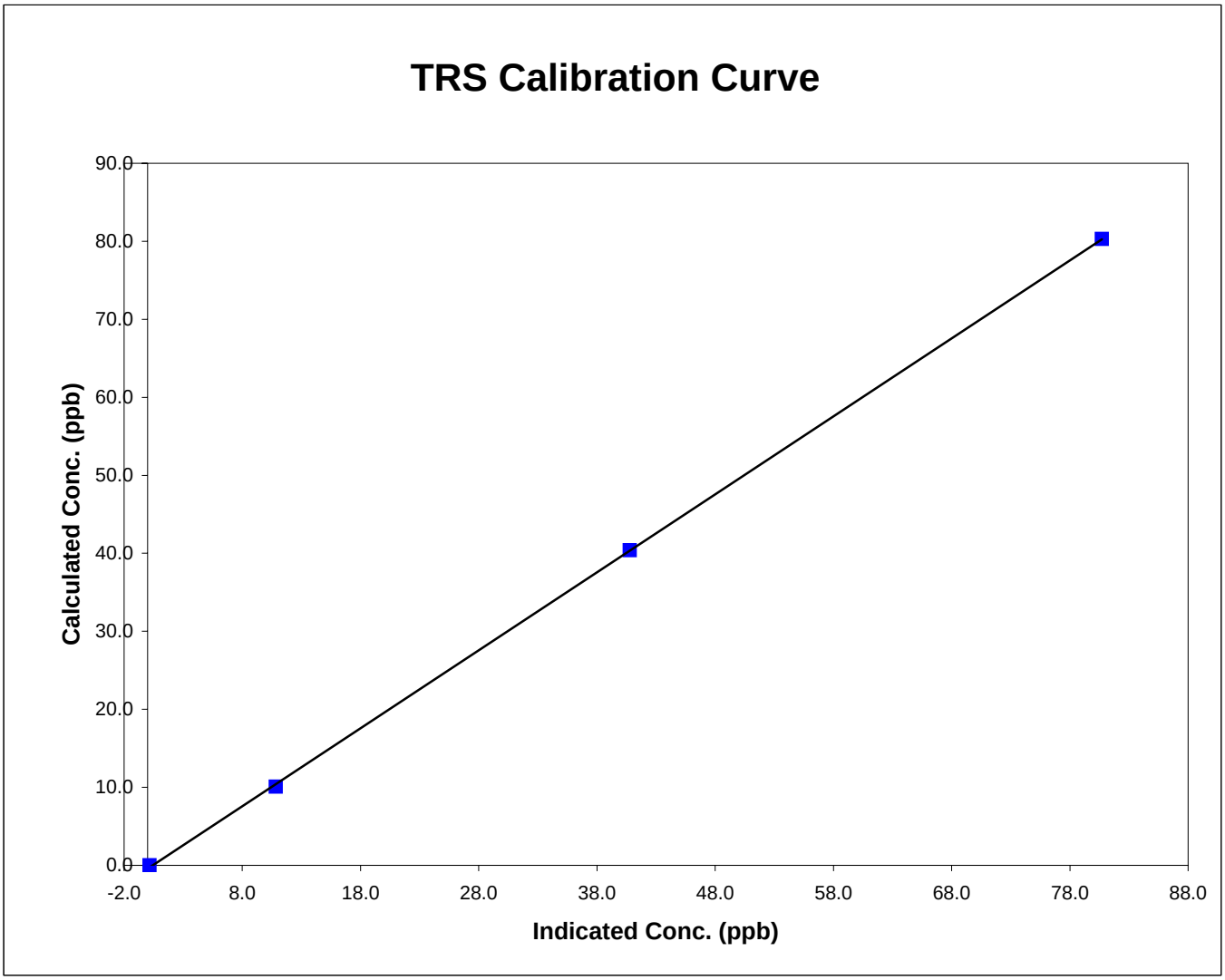
Air Monitoring Network **PASZA**

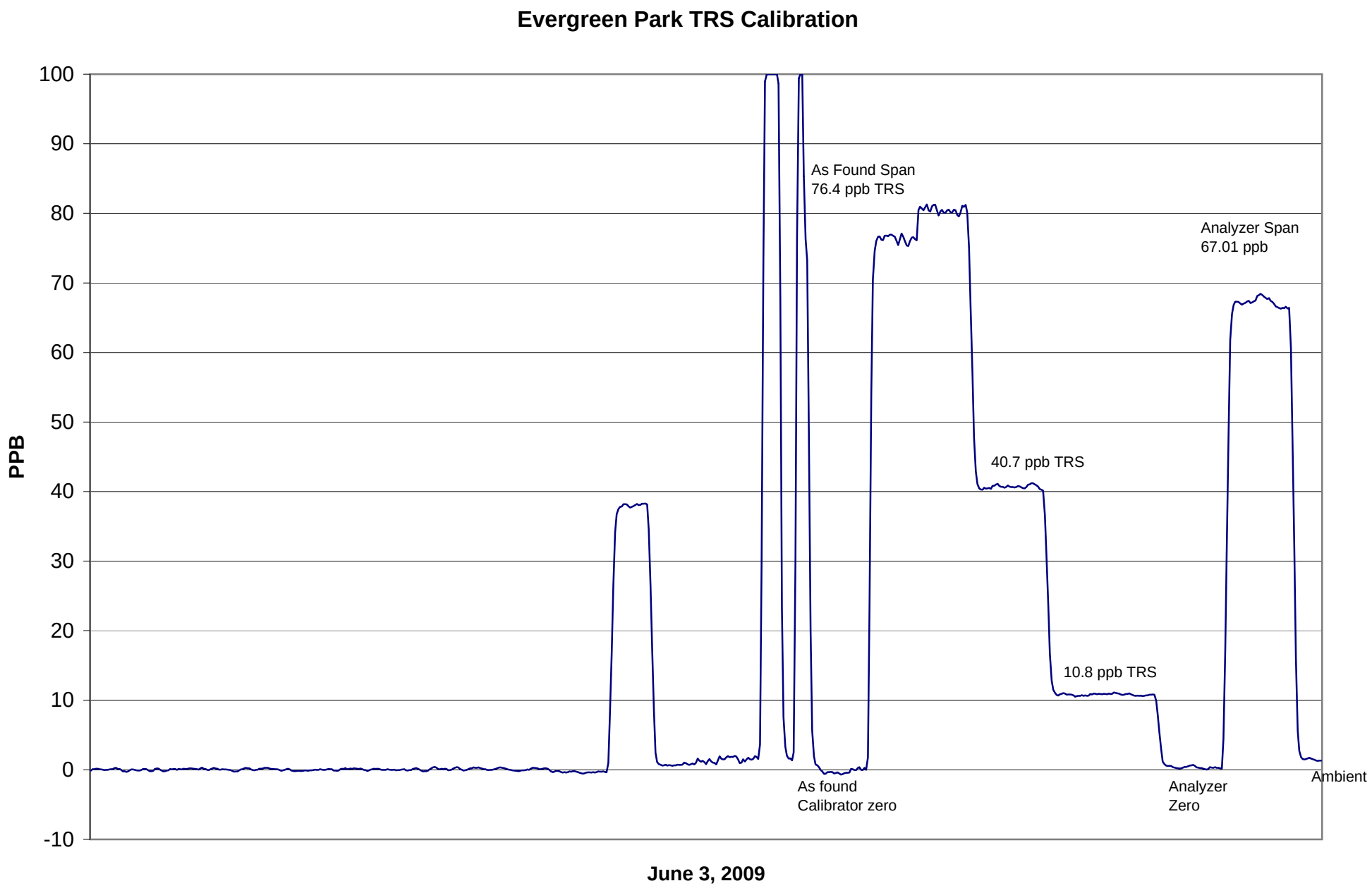
Station Information

Calibration Date	July 9, 2009	Previous Calibration	June 3, 2009
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	10:00	End Time (MST)	14:05
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		
80.3	80.7	0.9949	Correlation Coefficient	0.999955
40.4	40.8	0.9909		
10.1	10.8	0.9320	Slope	0.999775
			Intercept	-0.408929




Evergreen Park TRS Calibration
PPB
100
90
80
70
60
50
40
30
20
10
0
-10
As Found Span
76.4 ppb TRS
Analyzer Span
67.01 ppb
40.7 ppb TRS
10.8 ppb TRS
As found
Calibrator zero
Analyzer
Zero
Ambient
June 3, 2009

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **SO_2**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	July 21, 2009	Previous Calibration	June 4, 2009
Station Number	3	Station Location	Smoky Heights
Reason: Routine	Install	Removal	Other:

Start Time (MST)	9:20	End Time (MST)	11:57
Barometric Pressure	0.934 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	0.031749	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	1.002861	Calculated slope	1.001333
Calculated intercept	-2.113548	Calculated intercept	-1.713132

Analyzer make	Teco 43i	Analyzer serial #	701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	7.7		7.7	
coefficient	0.708		0.708	
Lamp Voltage	921	volts	922	volts
Chamber Temp	45	Deg C	45.1	Deg C
Perm Gas Temp	44.99	Deg C	45	Deg C
Pressure	671.7	mm Hg	672.1	mm Hg
Sample Flow	444	ccm	446	ccm
Lamp Intensity	88	%	88	%

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4988	0.0	0.00	0.2	N/A
4988	39.80	400.55	401.1	0.9987
4988	19.92	201.27	203.2	0.9907
4988	9.92	100.43	103.8	0.9680
4988	0.0	0.00	0.3	As Found Zero
4988	39.81	400.65	406.6	As Found Span
			Average Correction Factor	0.9858

Calculated value of As Found Response: 405.328 ppm Percent Change of As Found: -1.2%

	before calibration		after calibration	
Auto zero	-0.9	ppm	-1.3	ppm
Auto span	305.5	ppm	307.4	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

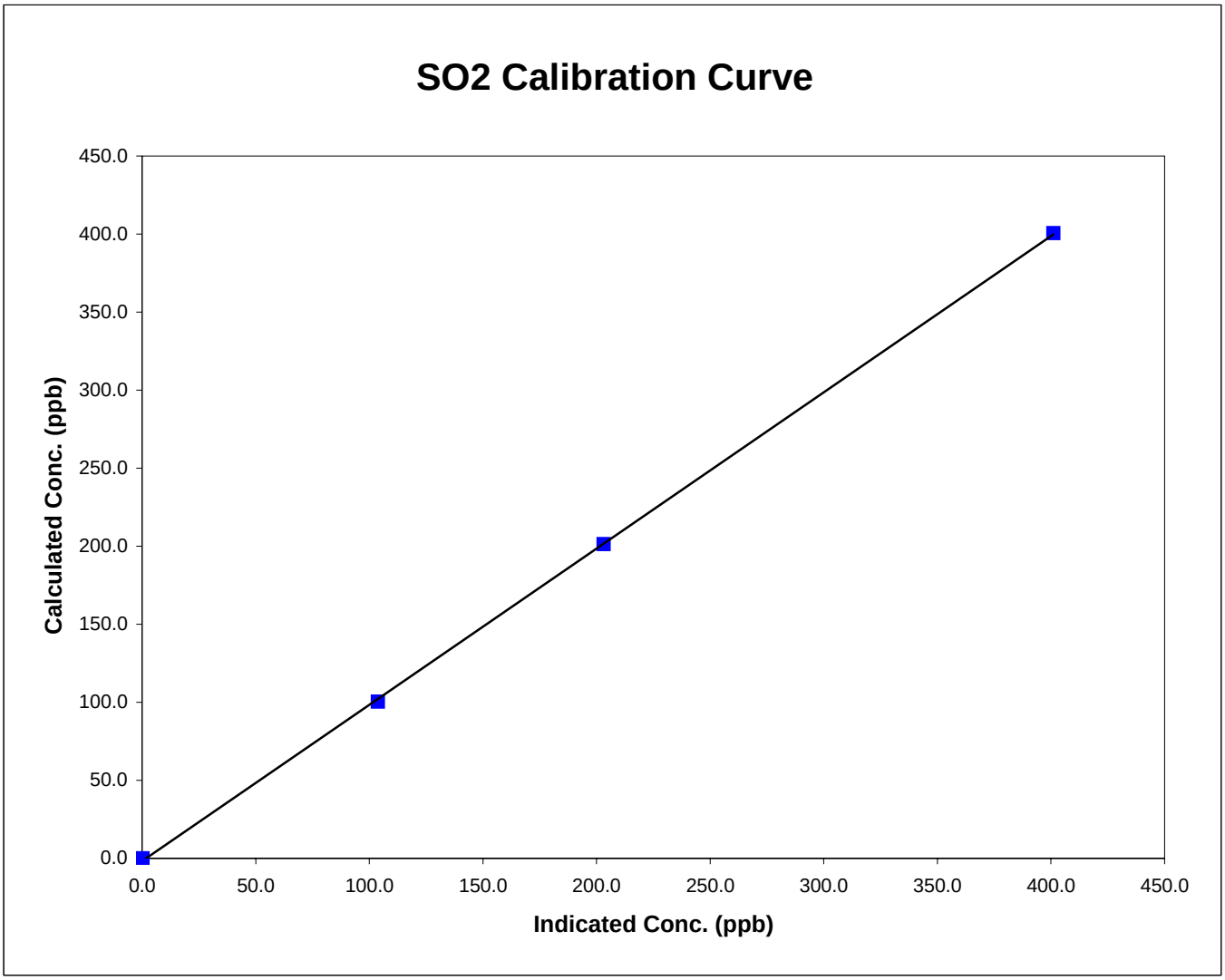
Air Monitoring Network **PASZA**

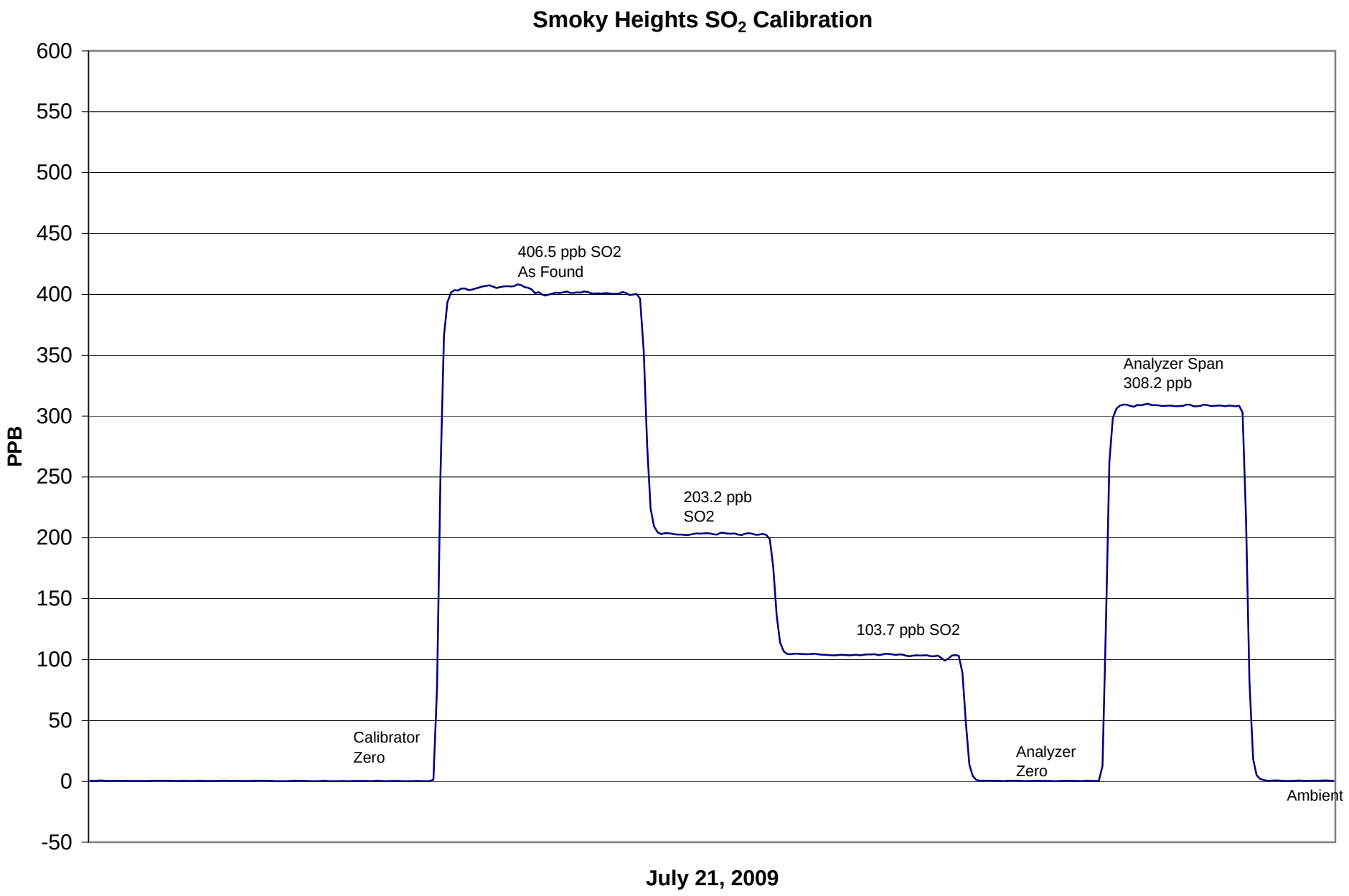
Station Information

Calibration Date	July 21, 2009	Previous Calibration	June 4, 2009
Station Number	3	Station Location	Smoky Heights
Start Time (MST)	9:20	End Time (MST)	11:57
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		
400.5	401.1	0.9987	Correlation Coefficient	0.999932
201.3	203.2	0.9907		
100.4	103.8	0.9680	Slope	1.001333
			Intercept	-1.713132




Smoky Heights SO_2 Calibration
600
550
500
450
400
350
300
250
200
150
100
50
0
-50
PPB
406.5 ppb SO2
As Found
203.2 ppb
SO2
103.7 ppb SO2
Analyzer Span
308.2 ppb
Calibrator
Zero
Analyzer
Zero
Ambient
July 21, 2009

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **TRS**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	July 21, 2009	Previous Calibration	June 4, 2009
Station Number	3	Station Location	Smoky Heights
Reason:	Routine / Install	Removal	Other:

Start Time (MST)	10:40	End Time (MST)	13:43
Barometric Pressure	0.926 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	0.031477	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	0.999918	Calculated slope	1.012002
Calculated intercept	-0.280283	Calculated intercept	-0.452403

Analyzer make	TEI Model 43C	Analyzer serial #	0436610005

	before		after	
Concentration range	100	ppb	100	ppb
Background	13.8	ppb	13.9	ppb
coefficient	1.027		1.027	
Lamp Voltage	760	volts	762	volts
Chamber Temp	43.7	Deg C	44	Deg C
Perm Gas Temp	45	Deg C	44.9	Deg C
Pressure	476.8	mm Hg	477	mm Hg
Sample Flow	0.726	ccm	756	ccm
Lamp Intensity	32,521	mv	32,341	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
4988	79.76	80.27	79.7	1.0072
4988	39.85	40.42	40.5	0.9980
4988	9.93	10.13	10.6	0.9586
4990	0.0	0.00	0.0	As Found Zero
4990	79.71	80.19	79.7	As Found Span
			Average Correction Factor	0.9880

Calculated value of As Found Response: 79.37 ppm Percent Change of As Found: 1.0%

	before calibration		after calibration	
Auto zero	-0.4	ppm	-0.4	ppm
Auto span	41.7	ppm	42.5	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **TRS**

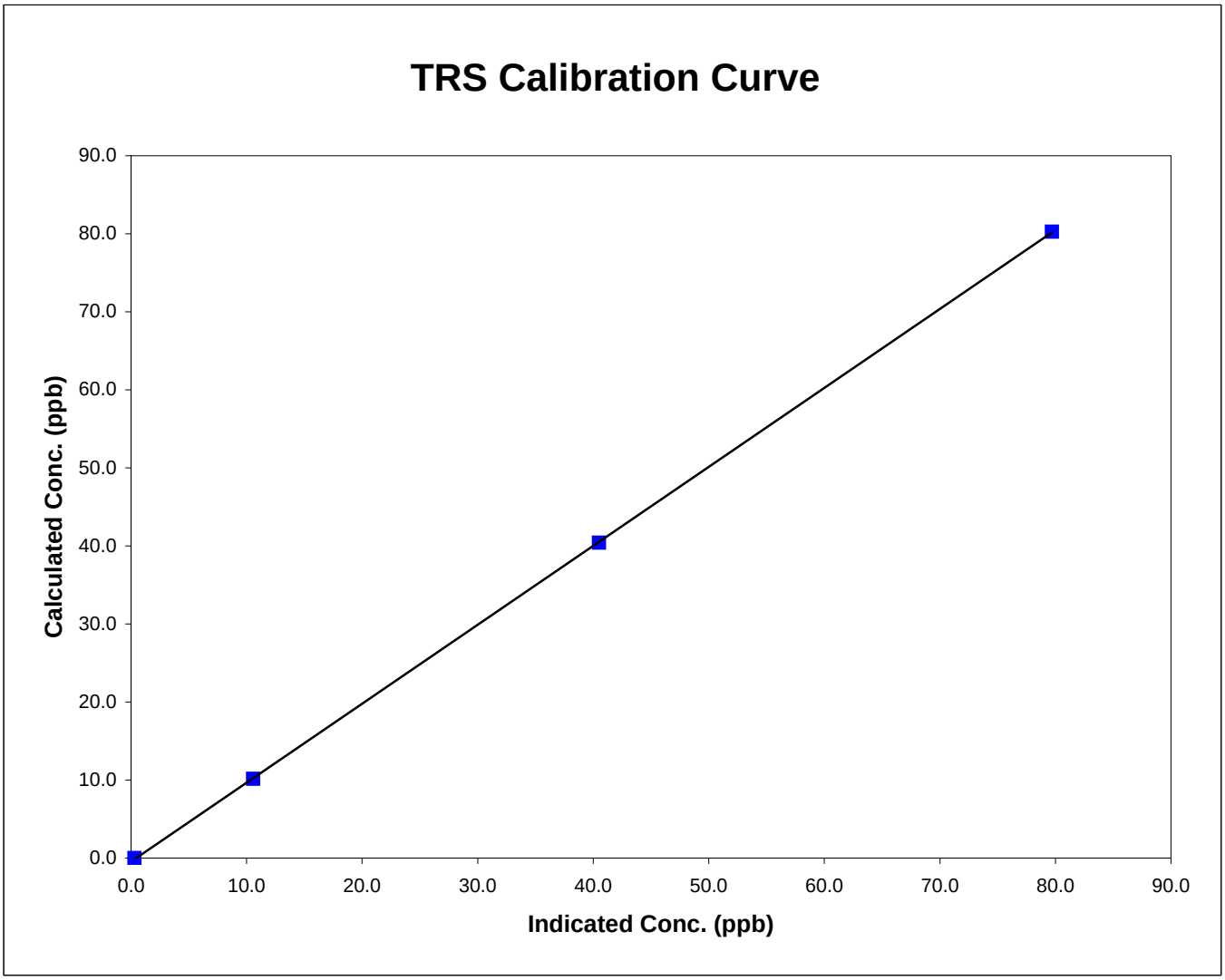
Air Monitoring Network **PASZA**

Station Information

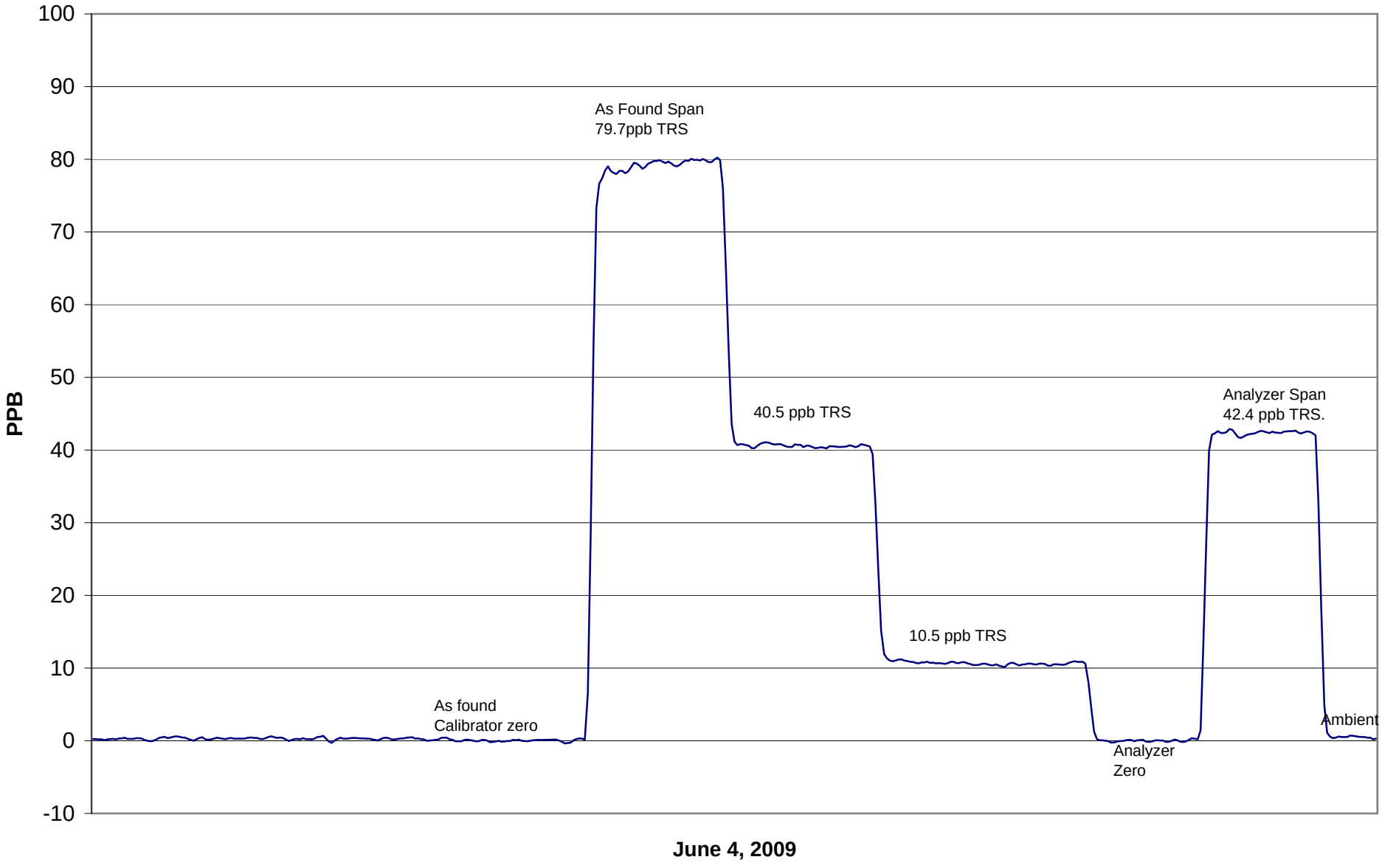
Calibration Date	July 21, 2009	Previous Calibration	June 4, 2009
Station Number	3	Station Location	Smoky Heights
Start Time (MST)	10:40	End Time (MST)	13:43
Analyzer make/model	TEI Model 43C	Analyzer serial #	0436610005

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A		
80.3	79.7	1.0072	Correlation Coefficient	0.999986
40.4	40.5	0.9980		
10.1	10.6	0.9586	Slope	1.012002
			Intercept	-0.452403



Smoky Heights TRS Calibration



PERFORMANCE AUDIT
OF
PM 2.5 MONITOR

STATION: Smoky Heights OPERATOR: Grover Christiansen DATE: 21/07/2009

LOCATION: PASZA - Grande Prairie

MONITOR INFO / PARAMETER VALUES:

Make/Model	TEOM AB
Configuration	PM2.5
Serial Number	24634
Site Number	3
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	21/07/2009
Audit	PASS
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	0.01	0.01
PUMP OFF	0.00	0
NET	0.01	0.01
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)	25.8	940	12122	13.67	3.00
MEASURED (M)	25.0	941	12190	13.70	3.006
	(M - I)				
DIFFERENCE	-0.8	1.000	0.6	0.2	0.2
LIMITS	***± 5 ^{0} C***	***± 0.013 atm***	***± 2.5 %***	***± 10 %***	***± 10 %***

COMMENTS: Pass - Monitor is within limits.

Measured barometric pressure of 940 hPa = .928 converted to atm.

Calibration Report

Parameter **SO2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	July 7, 2009	Previous Calibration	June 22, 2009
Station Number	4	Station Location	Beaverlodge
Reason: Routine	Install	Removal	Other:
Start Time (MST)	10:00	End Time (MST)	13:00
Barometric Pressure	0.911 atm	Station Temperature	23.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentratior	10.06 ppm	Cal Gas Expiry Date	7/27/2009
Gas Cert Reference	CC 114395		
DACS make	Focus AP1000	DACS serial No.	45269
DACS voltage range	0 - 10 volt	DACS channel #	4
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.004035	Calculated slope	1.001861
Calculated intercept	-0.553695	Calculated intercept	-0.003252
Analyzer make	TEI Model 43CTL	Analyzer serial #	43CTL-74200-376

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.43		2.43	
Coefficient	0.885		0.892	
PMT	-813.3	V	-813	V
UV Lamp Voltage	1054	V	1062	V
Chamber Temp	45.1	Deg C	45.1	Deg C
Pressure	664.3	mm Hg	662.5	mm Hg
Sample Flow	0.453	LPM	0.456	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	79.5	1.0024
4988	19.87	39.9	39.9	0.9992
4988	9.91	19.9	19.9	1.0022
4988	0.00	0.0	0.0	As found zero
4988	39.90	79.8	78.5	As found span
			Average Correction Factor	1.0013

Calculated value of As Found Response: 78.323 ppm Percent Change of As Found: 1.9%

	before calibration		after calibration	
Auto zero	-0.3	ppm	0.0	ppm
Auto span	54.9	ppm	58.5	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

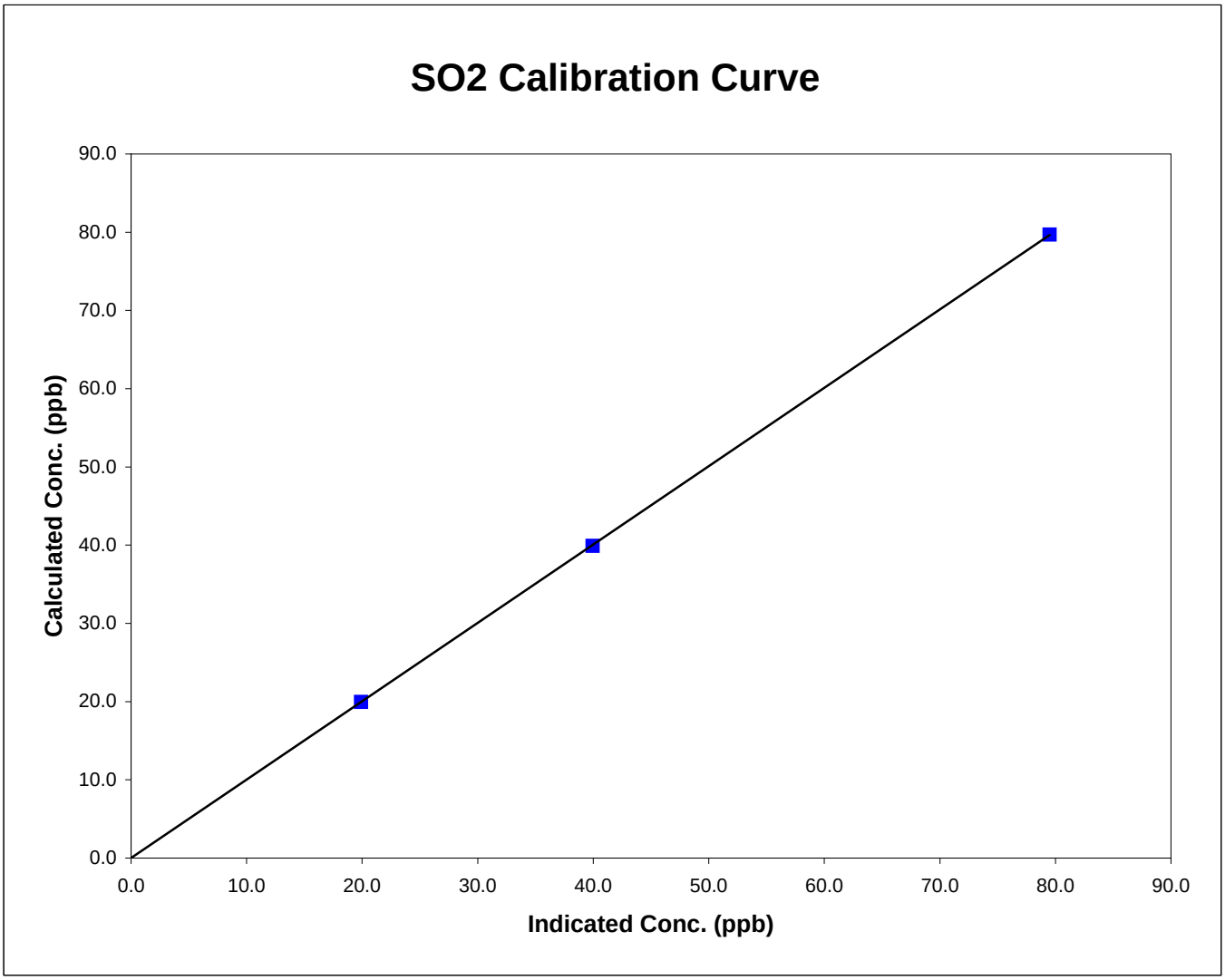
Air Monitoring Network **PASZA**

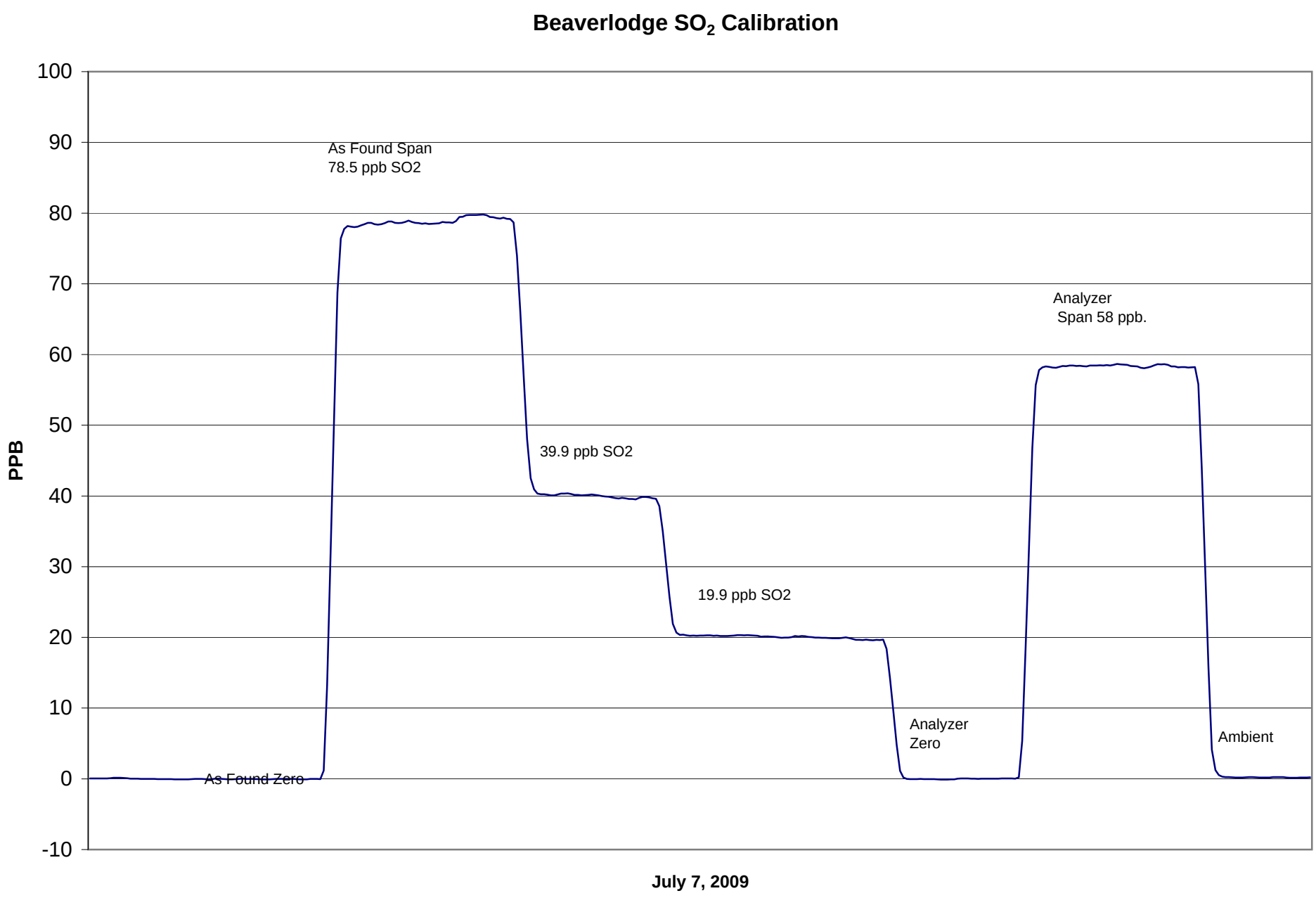
Station Information

Calibration Date	July 7, 2009	Previous Calibration	June 22, 2009
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	10:00	End Time (MST)	13:00
Analyzer make/model	TEI Model 43CTL	Analyzer serial #	43CTL-74200-376

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
79.7	79.5	1.0024	Correlation Coefficient	0.999996
39.9	39.9	0.9992		
19.9	19.9	1.0022	Slope	1.001861
			Intercept	-0.003252




Beaverlodge SO2 Calibration
PPB
100
90
80
70
60
50
40
30
20
10
0
-10
As Found Span
78.5 ppb SO2
39.9 ppb SO2
19.9 ppb SO2
Analyzer
Span 58 ppb.
Analyzer
Zero
Ambient
As Found Zero
July 7, 2009

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **SO2**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	July 13, 2009	Previous Calibration	July 7, 2009
Station Number	4	Station Location	Beaverlodge
Reason: Routine	Install	Removal	Other:

Start Time (MST)	8:00	End Time (MST)	10:47
Barometric Pressure	0.917 atm	Station Temperature	23.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentratior	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	1.001861	Calculated slope	0.998950
Calculated intercept	-0.003252	Calculated intercept	-0.238475

Analyzer make	TEI Model 43CTL	Analyzer serial #	43CTL-74200-376

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.35		2.35	
Coefficient	0.892		0.892	
PMT	-813.6	V	-813	V
UV Lamp Voltage	1054	V	1054	V
Chamber Temp	45.1	Deg C	45.1	Deg C
Pressure	671.3	mm Hg	672.5	mm Hg
Sample Flow	0.459	LPM	0.459	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	79.8	0.9981
4988	19.87	39.9	40.4	0.9875
4988	9.91	19.9	20.4	0.9763
4988	0.00	0.0	0.0	As found zero
4988	39.90	79.8	79.8	As found span
			Average Correction Factor	0.9873

Calculated value of As Found Response: 79.945 ppm Percent Change of As Found: -0.1%

	before calibration		after calibration	
Auto zero	-0.3	ppm	-0.2	ppm
Auto span	54.9	ppm	57.6	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

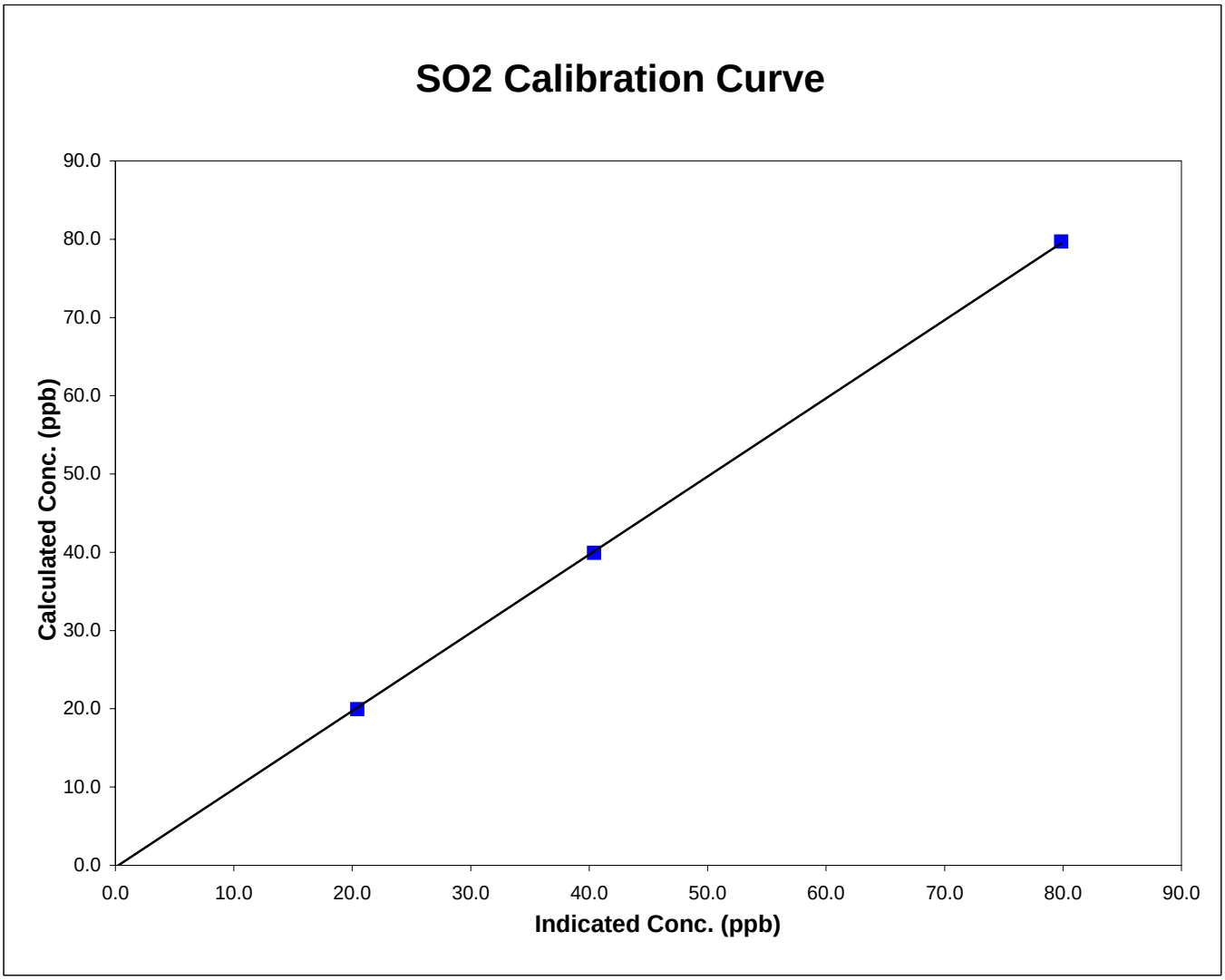
Air Monitoring Network **PASZA**

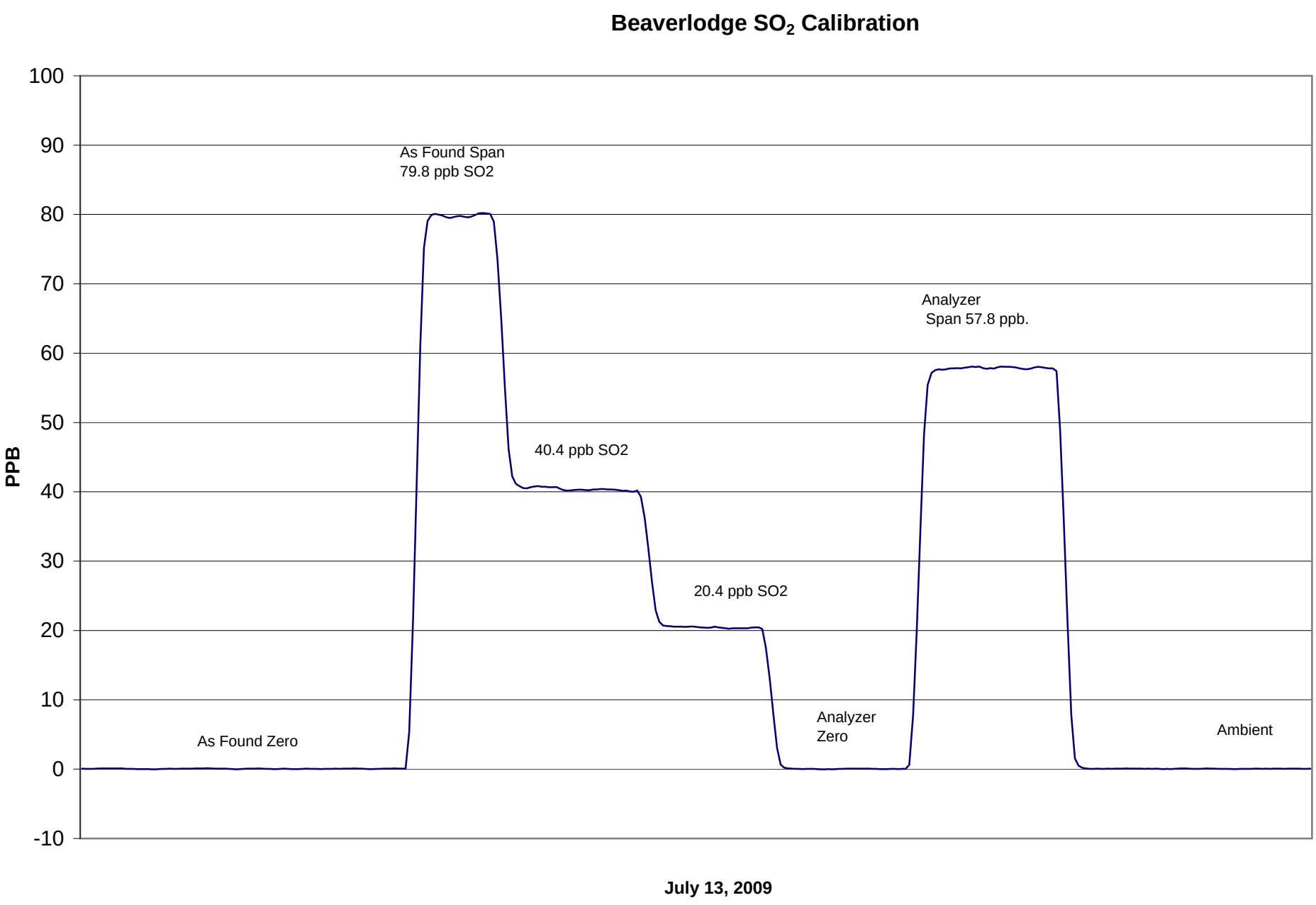
Station Information

Calibration Date	July 13, 2009	Previous Calibration	July 7, 2009
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	8:00	End Time (MST)	13:00
Analyzer make/model	TEI Model 43CTL	Analyzer serial #	43CTL-74200-376

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
79.7	79.8	0.9981	Correlation Coefficient	0.999940
39.9	40.4	0.9875		
19.9	20.4	0.9763	Slope	0.998950
			Intercept	-0.238475




Beaverlodge SO_2 Calibration
PPB
100
90
80
70
60
50
40
30
20
10
0
-10
As Found Span
79.8 ppb SO2
40.4 ppb SO2
20.4 ppb SO2
Analyzer
Span 57.8 ppb.
As Found Zero
Analyzer
Zero
Ambient
July 13, 2009

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	July 13,2009	Previous Calibration	June 26,2009
Station Number	4	Station Location	BeaverLodge

Reason: Routine Installation Removal Other:

Start Time (MST)	8:00		End Time (MST)	12:28	
Barometric Pressure	0.917	Atm	Station Temperature	25.0	Deg C
Calibrator	Environics		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.

Parameter		NO2	NOx	NO
Before	Data Slope	0.990628	1.001275	1.003145
	Data Offset	0.242592	-2.351816	-2.313299
After	Data Slope	0.993183	1.002022	1.002529
	Data Offset	-0.273855	-2.149931	-1.175494
Channel #		8	6	7
Voltage Range		0 - 10 VDC	0 - 10 VDC	0 - 10 VDC

Analyzer Information

Analyzer make/model TEI 42C Analyzer serial # 42C-60475-327

Test Point	before		after	
Concentration range	0 - 1000	ppb	0 - 1000	ppb
NO offset	2.0	mV	2.0	mV
NOx bkgnd	2.4	mV	3.7	mV
NO coefficient	1.059		1.059	
NOx coefficient	1.000		1.002	
NO2 conv temp	322.9	Deg C	322.4	Deg C
PMT Temp	-2.7	Deg C	-3.2	Deg C
PMT Volt	-676.0	mV	-676.4	mV
R Cell Press	147.4	in Hg	146.2	in Hg
Sample Flow	0.934	ccm	0.961	ccm

Notes:

Calibration Report

Parameter **NOx-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: July 13, 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	4988	0.00	0.0	0.0	0.0	0.3	-0.1	0.2	N/A	N/A
1	4988	39.84	393.0	393.0	0.0	393.4	392.6	0.0	0.9991	1.0012
2	4988	19.87	196.8	196.8	0.0	199.6	198.1	1.0	0.9859	0.9934
3	4988	9.91	98.3	98.3	0.0	102.0	100.6	1.1	0.9639	0.9777
AFZ	4988	0.00	0.0	0.0	0.0	0.3	-0.1	0.2	0.0000	0.0000
AFS	4988	39.84	393.0	393.0	0.0	393.5	388.9	3.2	0.9988	1.0107
							Average Correction Factor		0.9830	0.9908

As Found Concentrations: NO_X= 390.8 NO= 386.7 As Found Percent Change NO_X= -0.6% NO= -1.6%

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	-0.1	-0.1	0.0	0.3	-0.1	0.2	N/A	N/A	N/A	N/A
NO point	392.4	392.4	0.0	393.5	392.4	-0.2	0.9971	1.0000	N/A	N/A
300	392.4	176.3	216.1	394.6	176.3	217.7	0.9944	1.0000	0.9928	100.7%
200	392.4	244.1	148.3	394.8	244.1	149.8	0.9940	1.0000	0.9895	101.1%
100	392.4	311.4	80.9	394.2	311.4	81.8	0.9953	1.0000	0.9899	101.0%
					Average Correction Factor		0.9946	1.0000	0.9908	100.9%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.1	-0.1	-0.2	ppb	0.1	0.0	-0.1	ppb
Auto span	483.9	2.9	480.5	ppb	189.7	187.7	2.2	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

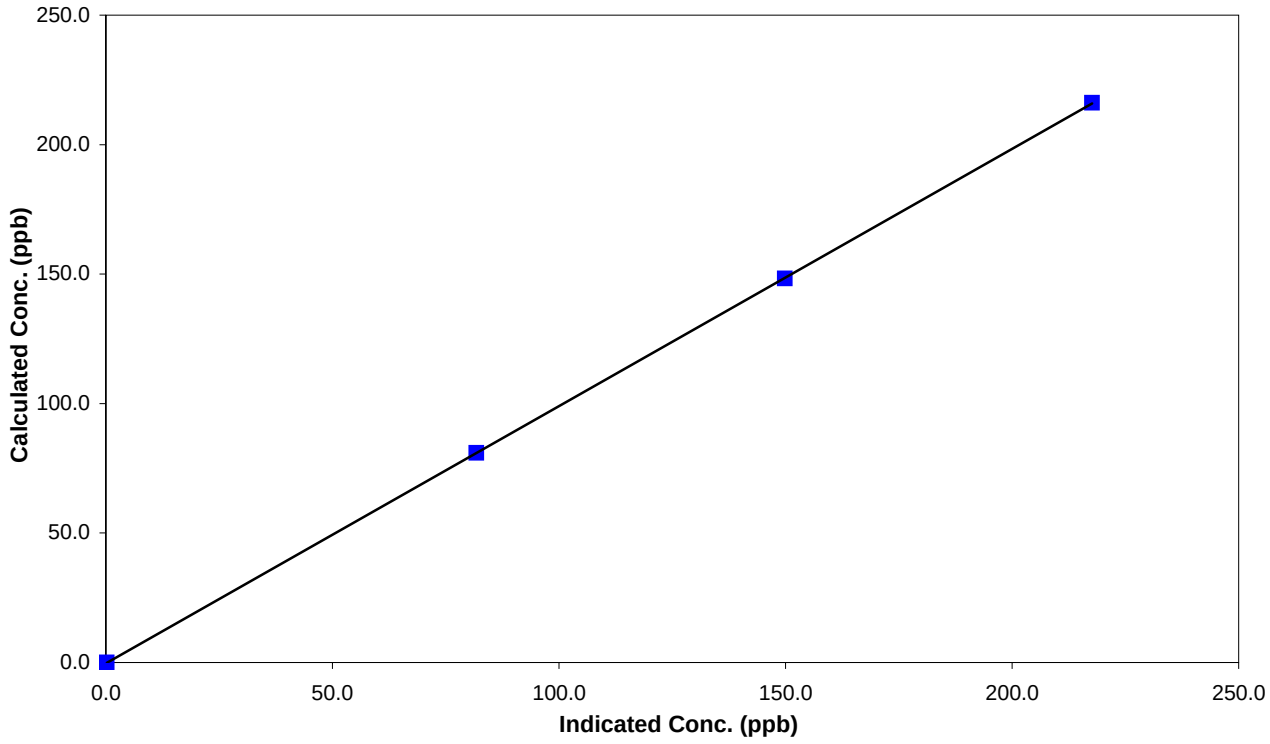
Station Information

Calibration Date	July 13,2009	Previous Calibration	June 26,2009
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	8:00	End Time (MST)	12:28
Analyzer make	TEI 42C	Analyzer serial #	60475-327

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
216.1	217.7	0.9928	Correlation Coefficient	0.999996
148.3	149.8	0.9895		
80.9	81.8	0.9899	Slope	0.993183
			Intercept	-0.273855

NO_2 Calibration Curve



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

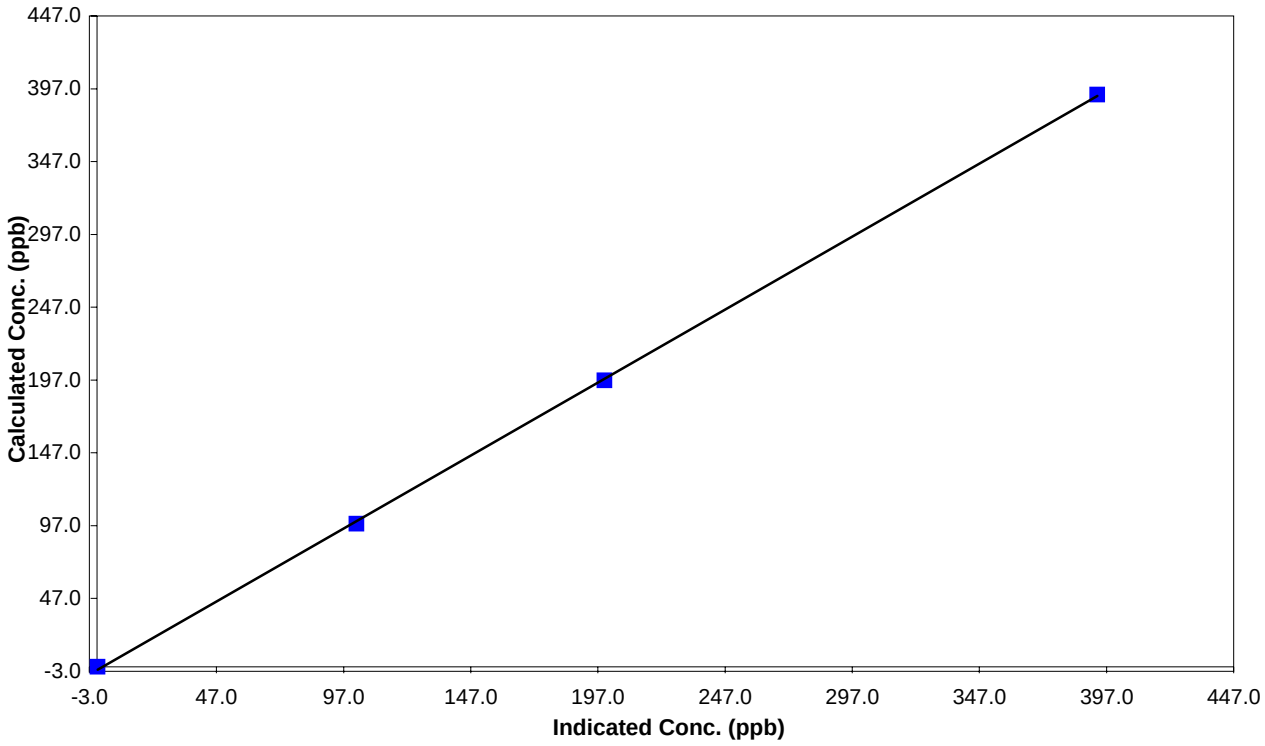
Station Information

Calibration Date	July 13,2009	Previous Calibration	June 26,2009
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	8:00	End Time (MST)	12:28
Analyzer make	TEI 42C	Analyzer serial #	42C-60475-327

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A		
393.0	393.4	0.9991	Correlation Coefficient	0.999900
196.8	199.6	0.9859		
98.3	102.0	0.9639	Slope	1.002022
			Intercept	-2.149931

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

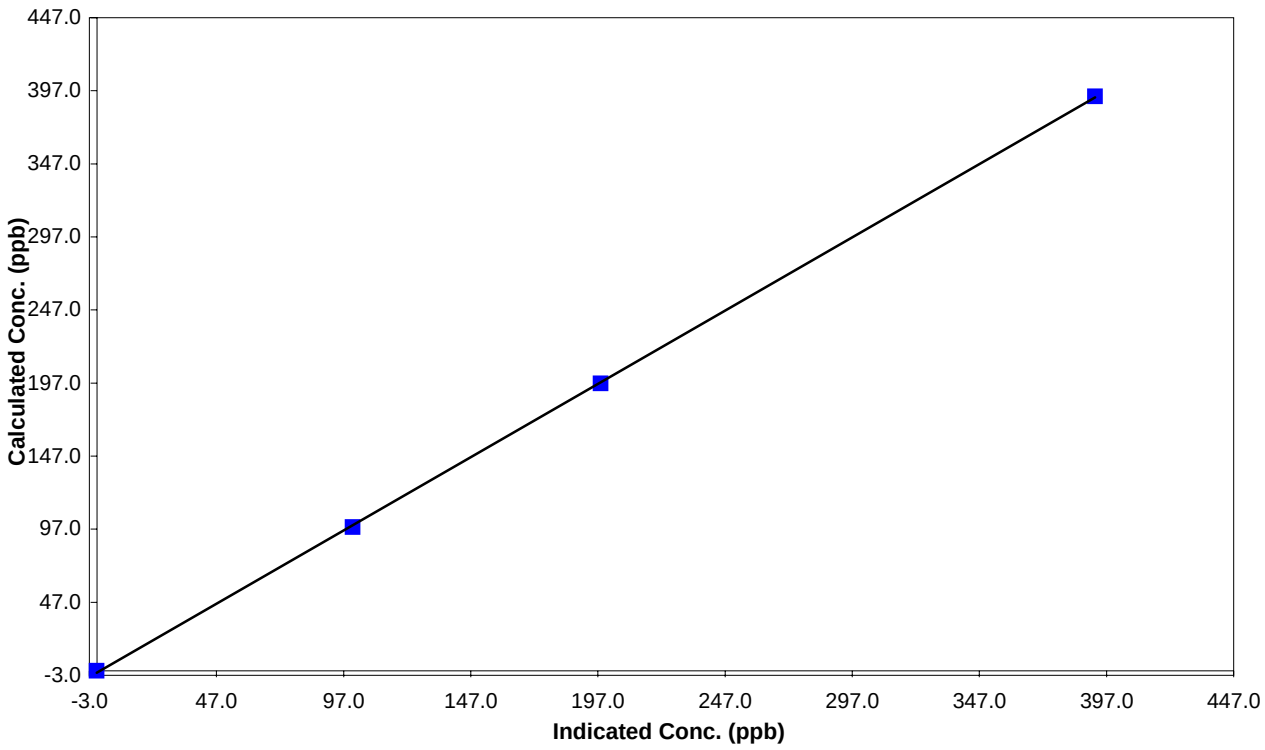
Station Information

Calibration Date	July 13,2009	Previous Calibration	June 26,2009
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	8:00	End Time (MST)	12:28
Analyzer make	TEI 42C	Analyzer serial #	60475-327

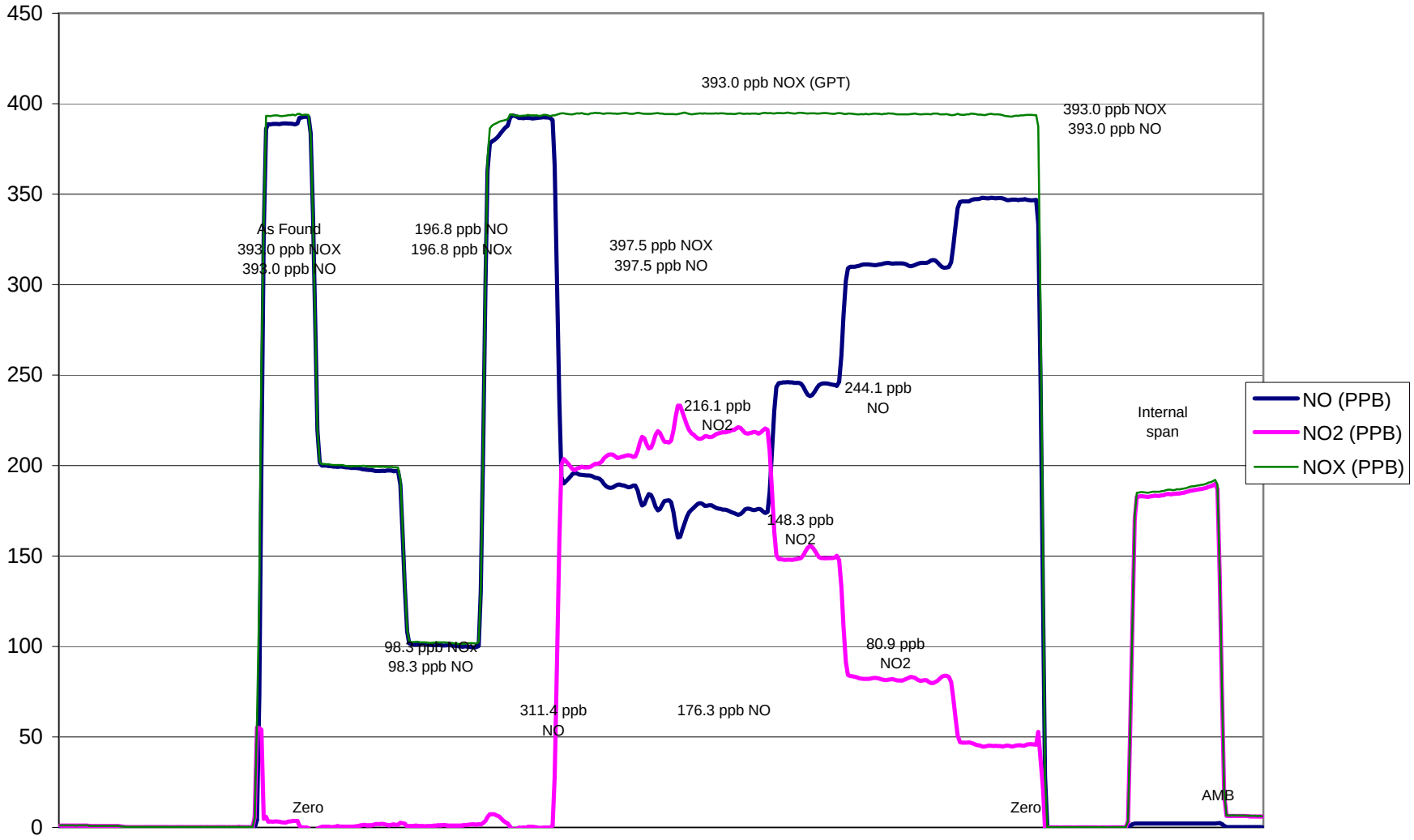
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
393.0	392.6	1.0012	Correlation Coefficient	0.999950
196.8	198.1	0.9934		
98.3	100.6	0.9777	Slope	1.002529
			Intercept	-1.175494

NO Calibration Curve



Beaverlodge NO_X Calibration



July 13, 2009

Calibration Report

Parameter **O3**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	July 13, 2009	Previous Calibration	June 26, 2009
Station Number	4	Station Location	Beaverlodge
Reason: Routine	Install	Removal	Other:
Start Time (MST)	11:30	End Time (MST)	14:03
Barometric Pressure	0.917 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	1.003270	Calculated slope	1.004187
Calculated intercept	0.179024	Calculated intercept	0.443142
Analyzer make	Teco 49C	Analyzer serial #	49C-76443-383

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-0.40	ppb	-0.20	ppb
slope	0.994		1.020	
Lamp temp	56.3	mV	56.2	mV
Lamp Intensity A/B	70235/70284	mV	71405/70750	mV
Pressure	684.8	mm Hg	692	mm Hg
Flow A	705	ccm	744	ccm
Flow B	656	ccm	695	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	216.0	214.8	1.0055
4990	0.00	148.0	146.7	1.0092
4990	0.00	80.9	80.2	1.0085
			-0.4	
4990	0.00	0.0	0.2	As found zero
4990	0.00	216.0	200.1	As found span
			Average Correction Factor	1.0077

Calculated value of As Found Response: 200.1 ppm Percent Change of As Found: -7.4%

	before calibration		after calibration	
Auto zero	-0.2	ppb	-0.2	ppb
Auto span	115.8	ppb	122.8	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **O3**

Air Monitoring Network **PASZA**

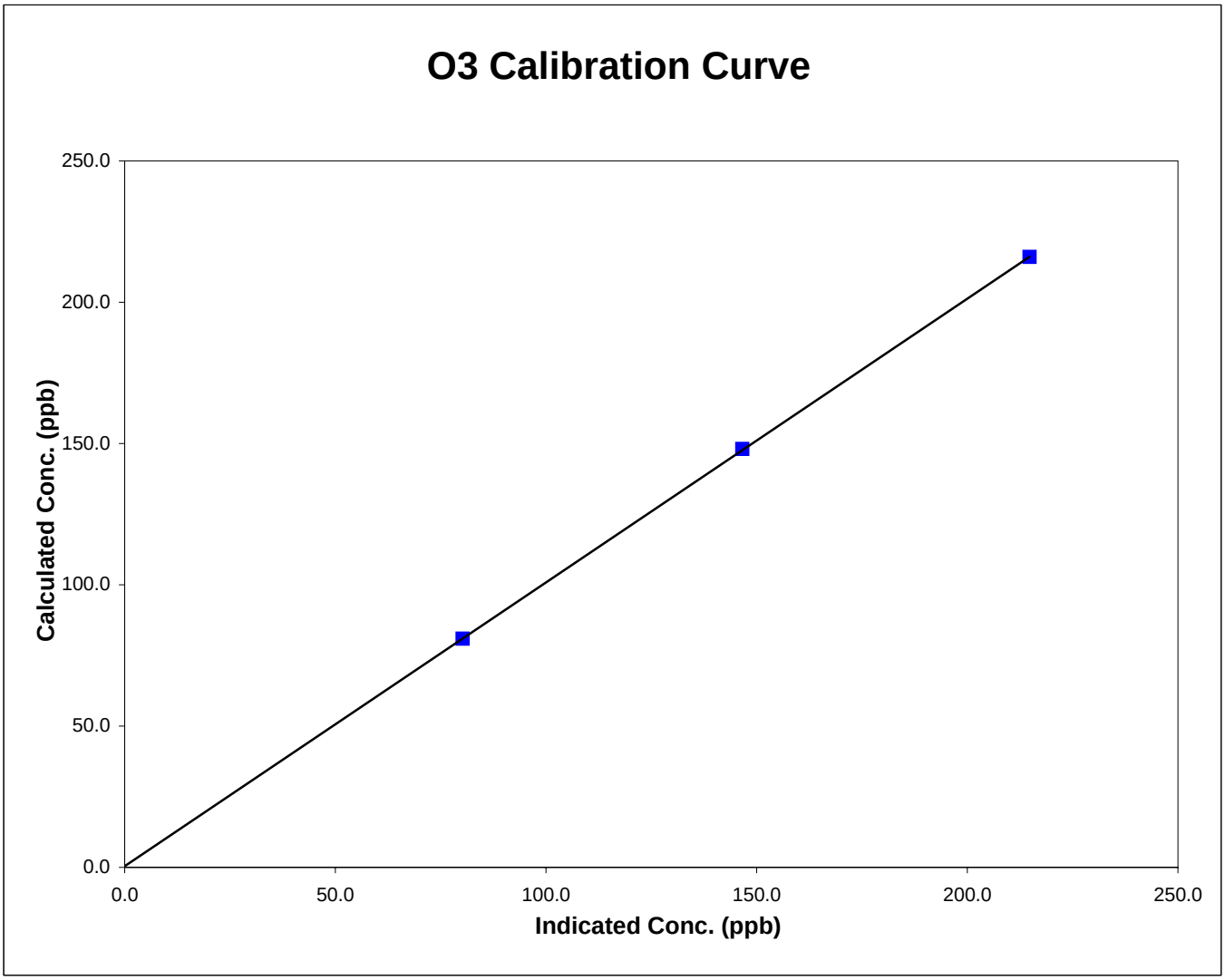
FOCUS AIR QUALITY MONITORING

Station Information

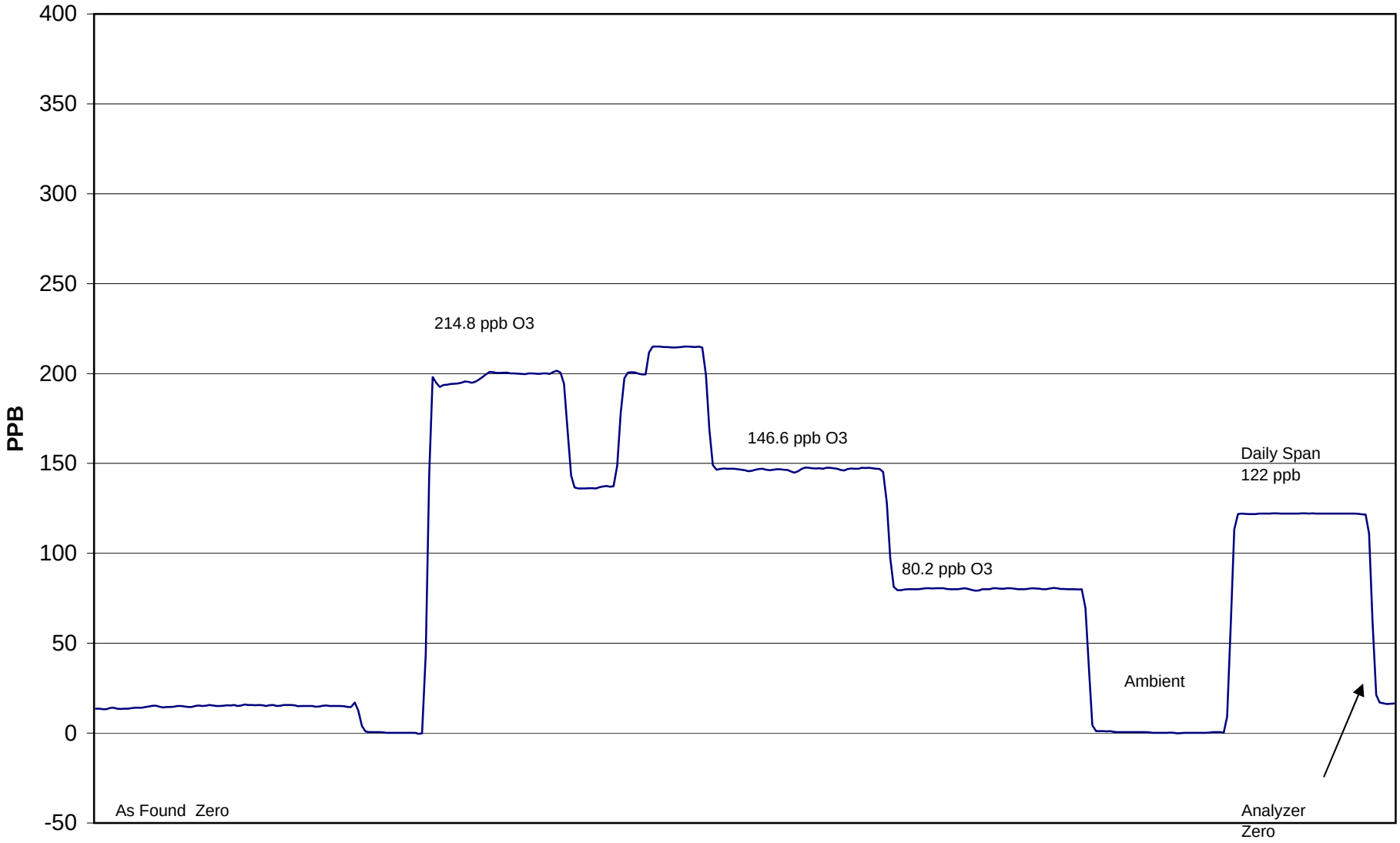
Calibration Date	July 13, 2009	Previous Calibration	June 26, 2009
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	11:30	End Time (MST)	14:03:00 PM
Analyzer make/model	Teco 49C	Analyzer serial #	49C-76443-383

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.4	NA		
216.0	214.8	1.0055	Correlation Coefficient	0.999995
148.0	146.7	1.0092		
80.9	80.2	1.0085	Slope	1.004187
	-0.4			
			Intercept	0.443142



Beaverlodge O_3 Calibration



July 13, 2009

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **SO2**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	July 24, 2009	Previous Calibration	June 15, 2009
Station Number	9	Station Location	Rover - Kinuso
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	8:42	End Time (MST)	11:57
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	1.003707	Calculated slope	1.003476
Calculated intercept	-2.241820	Calculated intercept	-1.764799
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	8.5		8.6	
Coefficient	0.876		0.864	
UV Lamp Voltage	799	V	799	V
Chamber Temp	44.5	C	44.6	C
Perm Gas Temp	45	C	45	C
Pressure	680.5	mm Hg	680.6	mm Hg
Sample Flow	0.492	LPM	0.492	LPM
Lamp Intesity	47528	Hz	47696	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	202.6	0.9914
4989	9.92	100.4	103.3	0.9725
4988	0.00	0.0	0.0	As found zero
4990	39.89	401.3	405.8	As found span
			Average Correction Factor	0.9882

Calculated value of As Found Response: 405.080 ppm Percent Change of As Found: -0.9%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.3	ppm
Auto span	259.0	ppm	254.1	ppm

Notes: Internal Pump Replaced

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

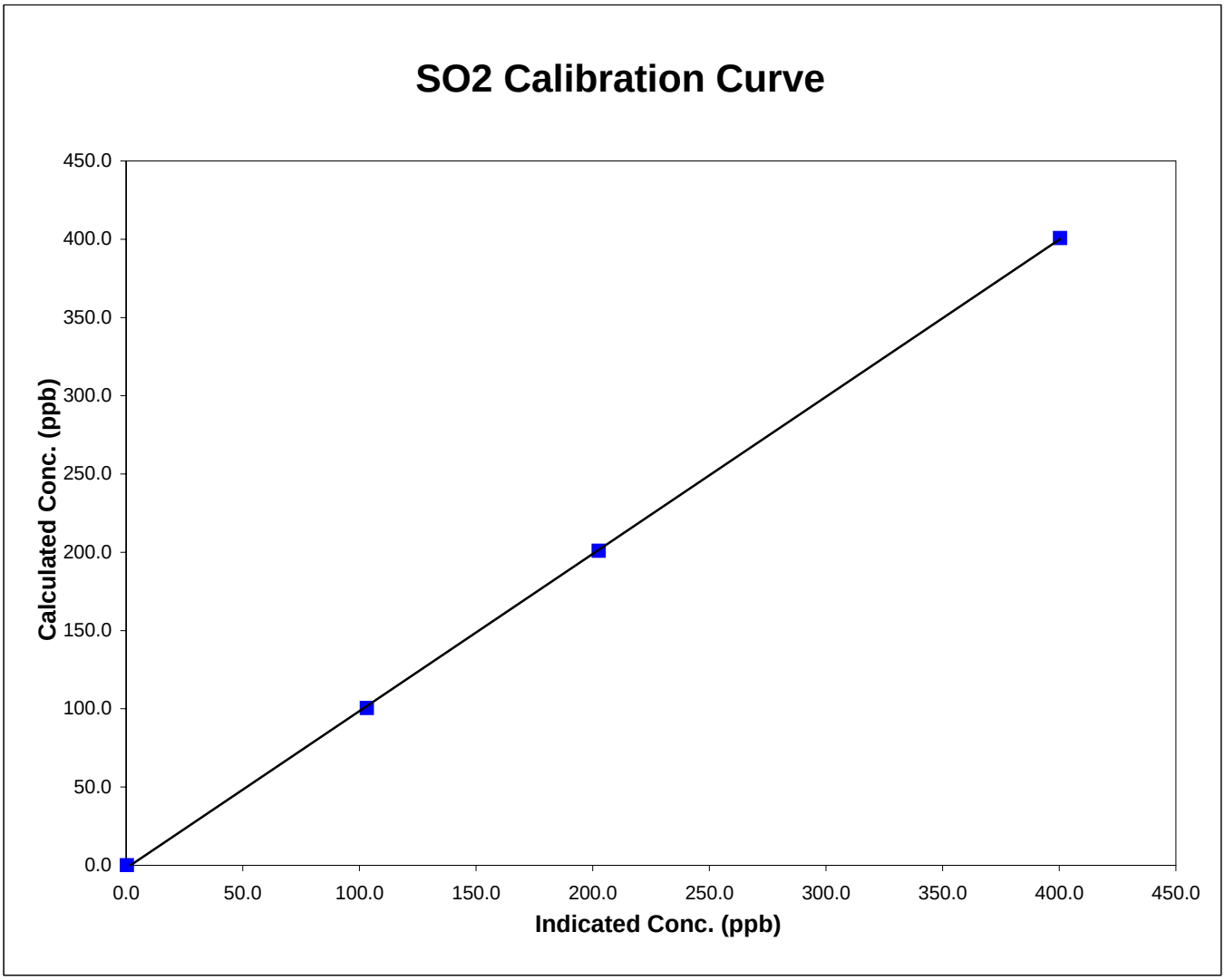
Air Monitoring Network **PASZA**

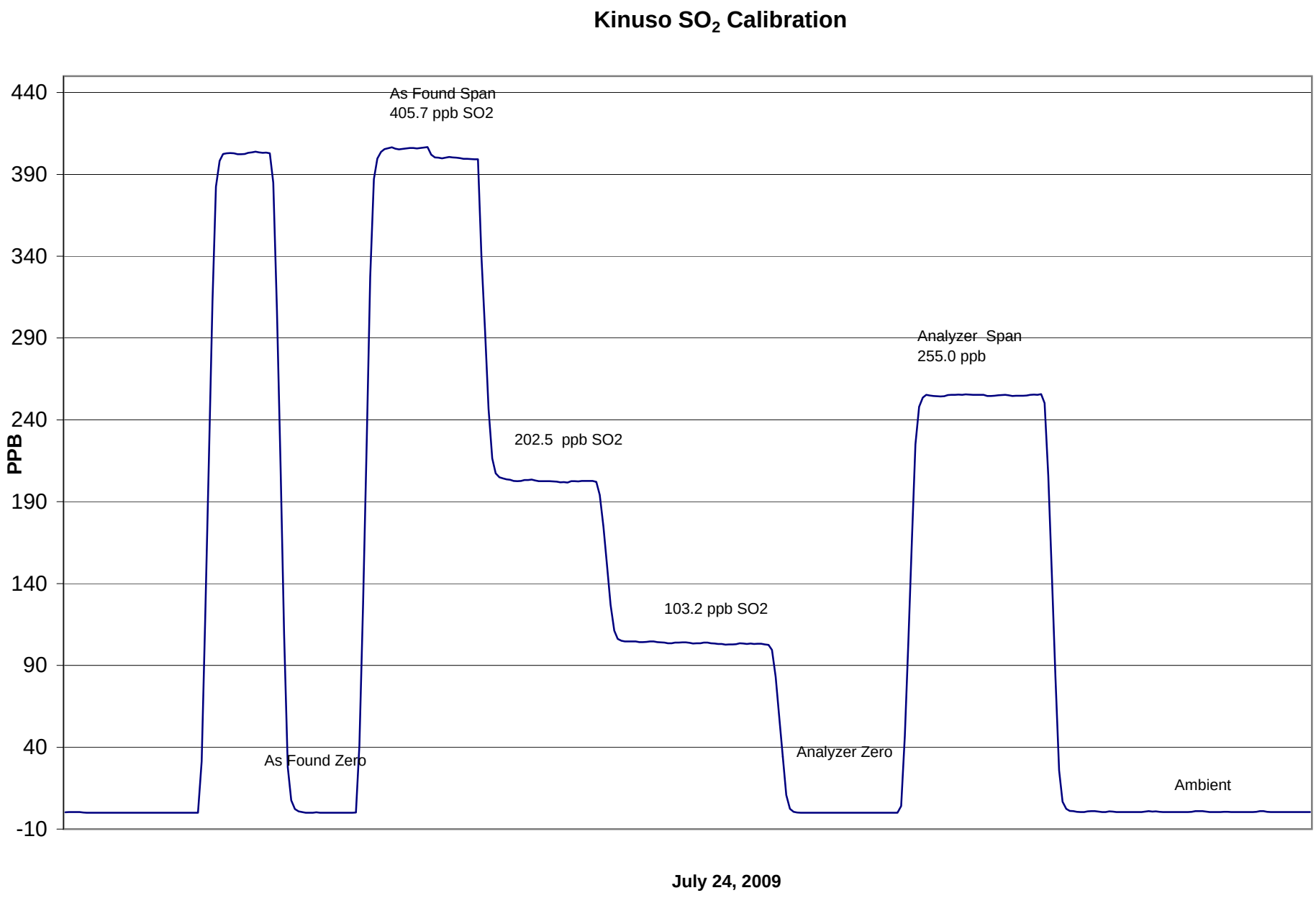
Station Information

Calibration Date	July 24, 2009	Previous Calibration	June 15, 2009
Station Number	9	Station Location	Rover - Kinuso
Start Time (MST)	8:42	End Time (MST)	11:57
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	0.999943
200.8	202.6	0.9914		
100.4	103.3	0.9725	Slope	1.003476
			Intercept	-1.764799




Kinuso SO2 Calibration
440
390
340
290
240
190
140
90
40
-10
PPB
As Found Span
405.7 ppb SO2
202.5 ppb SO2
103.2 ppb SO2
Analyzer Span
255.0 ppb
As Found Zero
Analyzer Zero
Ambient
July 24, 2009

Calibration Report

Parameter **TRS**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	July 24, 2009	Previous Calibration	June 15, 2009
Station Number	9	Station Location	Rover-Kinuso
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	13:10	End Time (MST)	15:19
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	0.997714	Calculated slope	0.998116
Calculated intercept	0.000046	Calculated intercept	0.021943
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	10.2	ppb	10.7	ppb
Coefficient	1.447		1.454	
Lamp Voltage	790	V	798	V
Chamber Temp	43.6	C	44.0	C
Perm gas Temp	45.	C	45	C
Pressure	664	mmHg	664	mmHg
Sample Flow	438	ccm	436	ccm
Lamp Intensity	39201.0	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	40.0	1.0110
4988	9.92	10.1	10.0	1.0079
4988	0.00	0.0	-0.6	As found zero
4988	79.88	80.4	79.1	As found span
			Average Correction Factor	1.0047

Calculated value of As Found Response: 79.49 ppm Percent Change of As Found: 1.1%

	before calibration		after calibration	
Auto zero	-0.7	ppm	-0.4	ppm
Auto span	67.5	ppm	66.6	ppm

Notes:

Calibration Summary

Parameter **TRS**

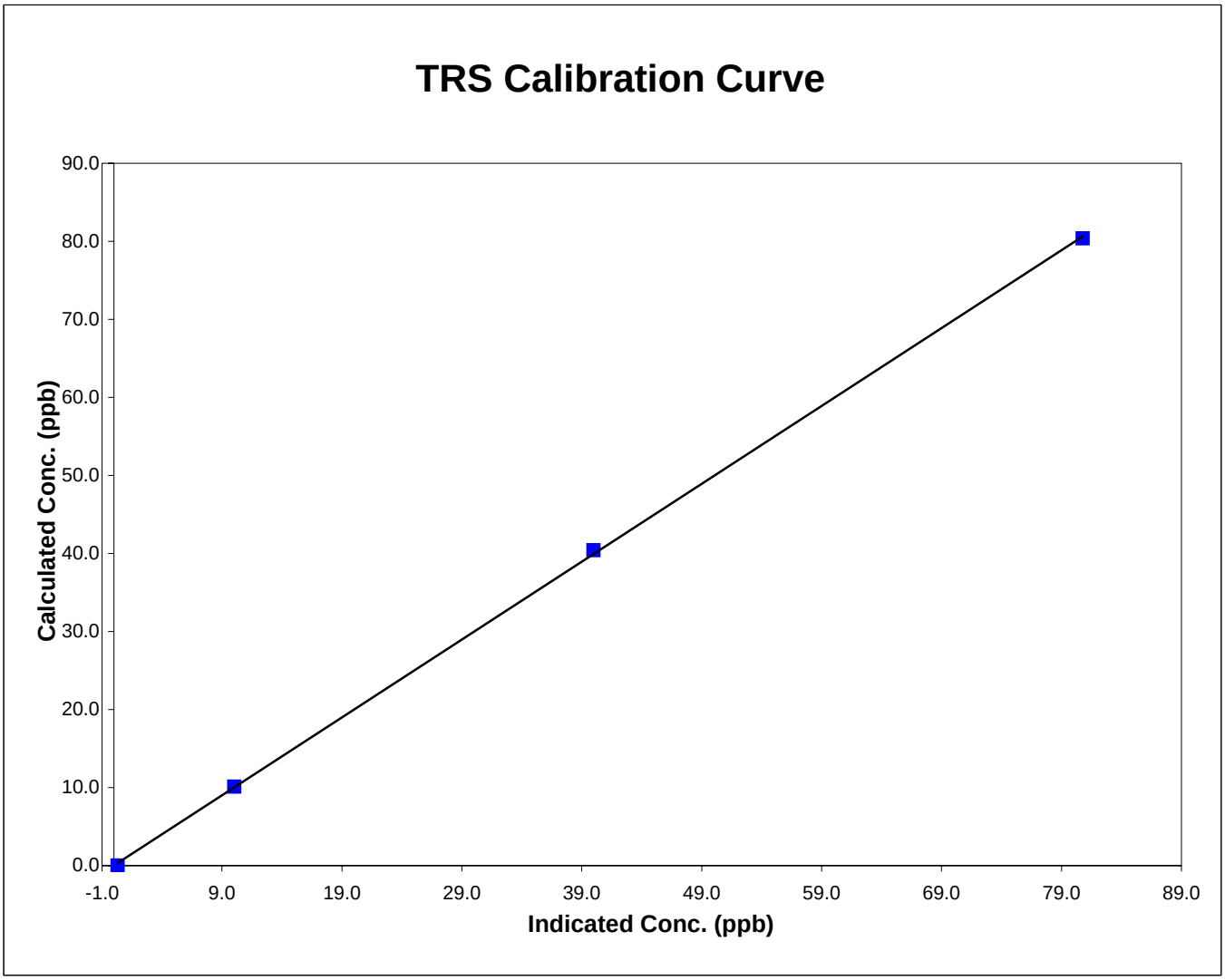
Air Monitoring Network **PASZA**

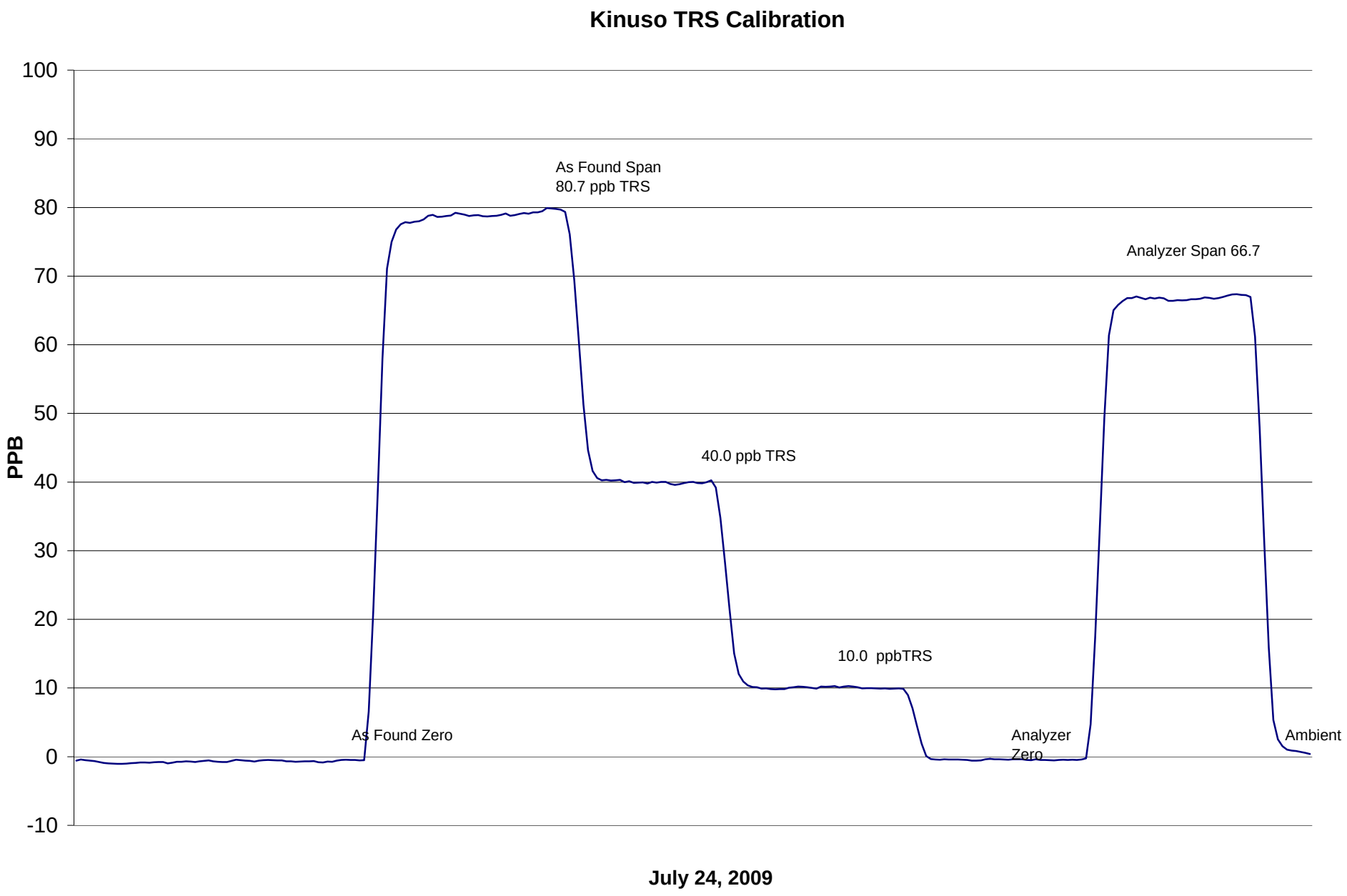
Station Information

Calibration Date	July 24, 2009	Previous Calibration	June 15, 2009
Station Number	9	Station Location	Rover-Kinuso
Start Time (MST)	13:10	End Time (MST)	15:19
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	0.999895
40.4	40.0	1.0110		
10.1	10.0	1.0079	Slope	0.998116
			Intercept	0.021943




Kinuso TRS Calibration
100
90
80
70
60
50
40
30
20
10
0
-10
PPB
As Found Span
80.7 ppb TRS
Analyzer Span 66.7
40.0 ppb TRS
10.0 ppbTRS
As Found Zero
Analyzer
Zero
Ambient
July 24, 2009

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	July 24, 2009	Previous Calibration	June 15, 2009
Station Number	9	Station Location	Rover Kinuso

Reason: Routine Installation Removal Other:

Start Time (MST)	8:42		End Time (MST)	13:09	
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	0.983759	1.001616	1.005572
	Data Offset	1.063947	-3.279686	-3.654987
After	Data Slope	1.006984	0.999418	1.005747
	Data Offset	1.785104	-2.945602	-3.638597
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	4.6	mV	4.9	mV
NOx bkgnd	4.8	mV	5.3	mV
NO coefficient	0.857		0.895	
NOx coefficient	0.996		1.000	
NO2 conv temp	324.2	Deg C	325.3	Deg C
PMT Temp	-3.2	Deg C	-3.1	Deg C
PMT Volt	-829.9	mV	-830.0	mV
R Cell Press	158.1	in Hg	158.2	in Hg
Sample Flow	0.500	ccm	0.500	ccm

Notes:

Calibration Report

Parameter **NOx-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: July 24, 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	4988	0.00	0.0	0.0	0.0	0.2	0.5	-0.7	N/A	N/A
1	4988	39.84	393.0	393.0	0.0	394.4	392.5	-1.0	0.9964	1.0014
2	4988	19.87	196.8	196.8	0.0	202.2	201.7	-1.3	0.9735	0.9759
3	4988	9.91	98.3	98.3	0.0	103.6	104.1	-1.2	0.9497	0.9449
AFZ	4988	0.00	0.0	0.0	0.0	0.2	0.7	0.2	0.0000	0.0000
AFS	4988	39.84	393.0	393.0	0.0	376.5	375.7	-2.1	1.0439	1.0461
							Average Correction Factor		0.9732	0.9741

As Found Concentrations: NO_X= 373.0 NO= 371.4 As Found Percent Change NO_X= -5.1% NO= -5.5%

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	393.6	393.6	0.0	395.3	393.6	-1.2	0.9956	1.0000	N/A	N/A
300	393.6	124.4	269.2	392.8	124.4	266.6	1.0020	1.0000	1.0099	99.0%
200	393.6	209.2	184.4	392.3	209.2	180.6	1.0034	1.0000	1.0212	97.9%
100	393.6	293.6	100.0	392.5	293.6	96.3	1.0028	1.0000	1.0391	96.2%
					Average Correction Factor		1.0027	1.0000	1.0234	97.7%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.1	-1.0	0.6	ppb	0.1	-1.0	0.6	ppb
Auto span	310.5	306.0	3.0	ppb	305.0	300.2	3.0	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PASZA**

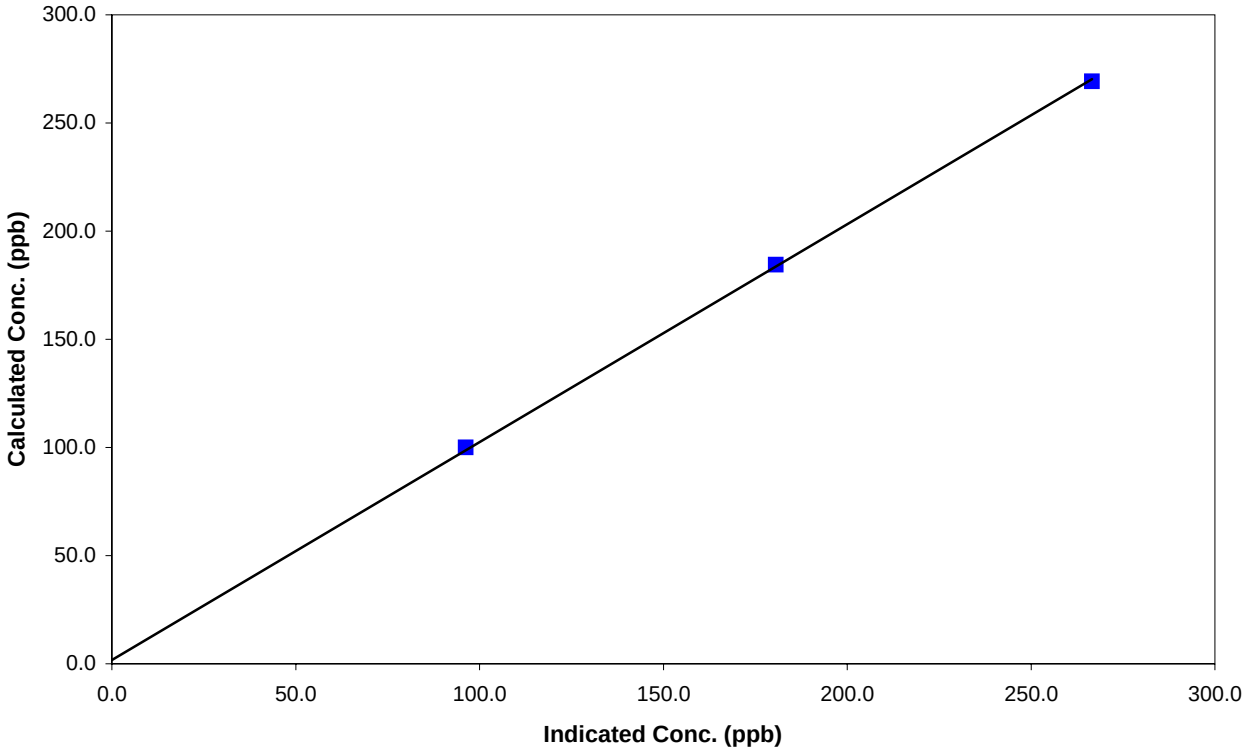
Station Information

Calibration Date	July 24, 2009	Previous Calibration	June 15, 2009
Station Number	9	Station Location	Rover Kinuso
Start Time (MST)	8:42	End Time (MST)	13:09
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		
269.2	266.6	1.0099	Correlation Coefficient	0.999888
184.4	180.6	1.0212		
100.0	96.3	1.0391	Slope	1.006984
			Intercept	1.785104

NO_2 Calibration Curve



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

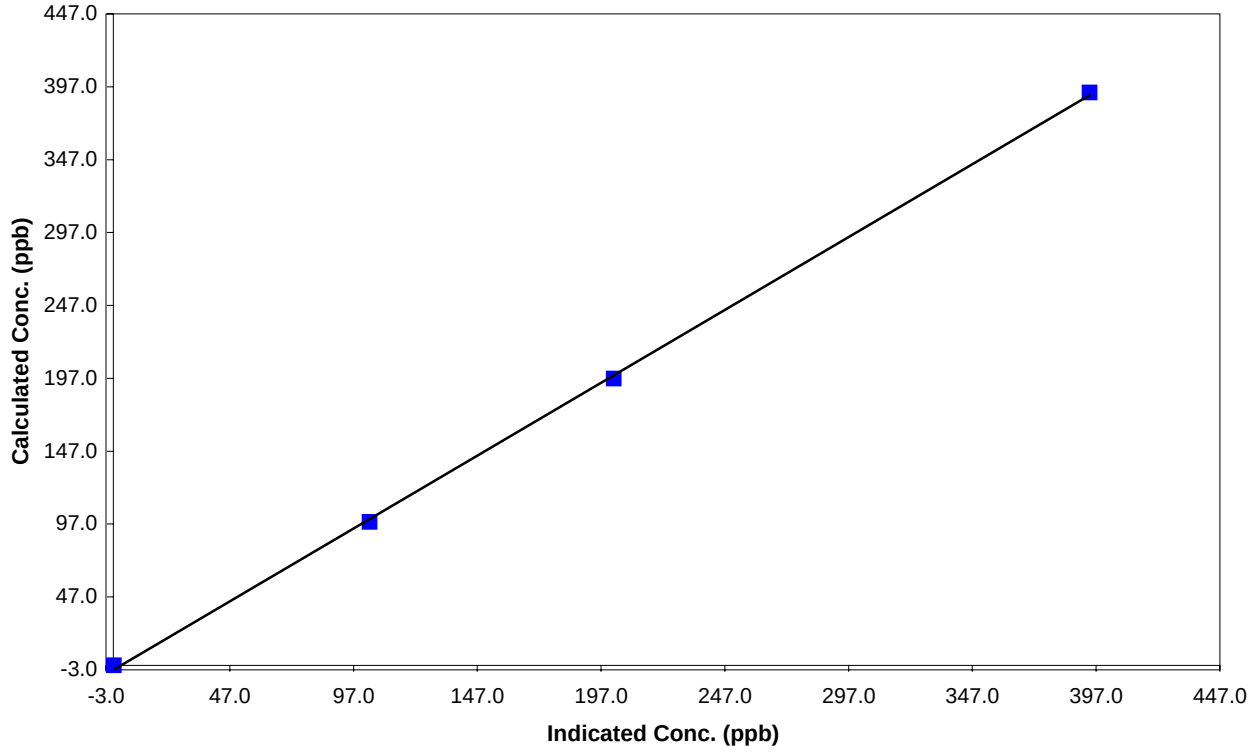
Station Information

Calibration Date	July 24, 2009	Previous Calibration	June 15, 2009
Station Number	9	Station Location	Rover Kinuso
Start Time (MST)	8:42	End Time (MST)	13:09
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	394.4	0.9964	Correlation Coefficient	0.999755
196.8	202.2	0.9735		
98.3	103.6	0.9497	Slope	0.999418
			Intercept	-2.945602

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PASZA**

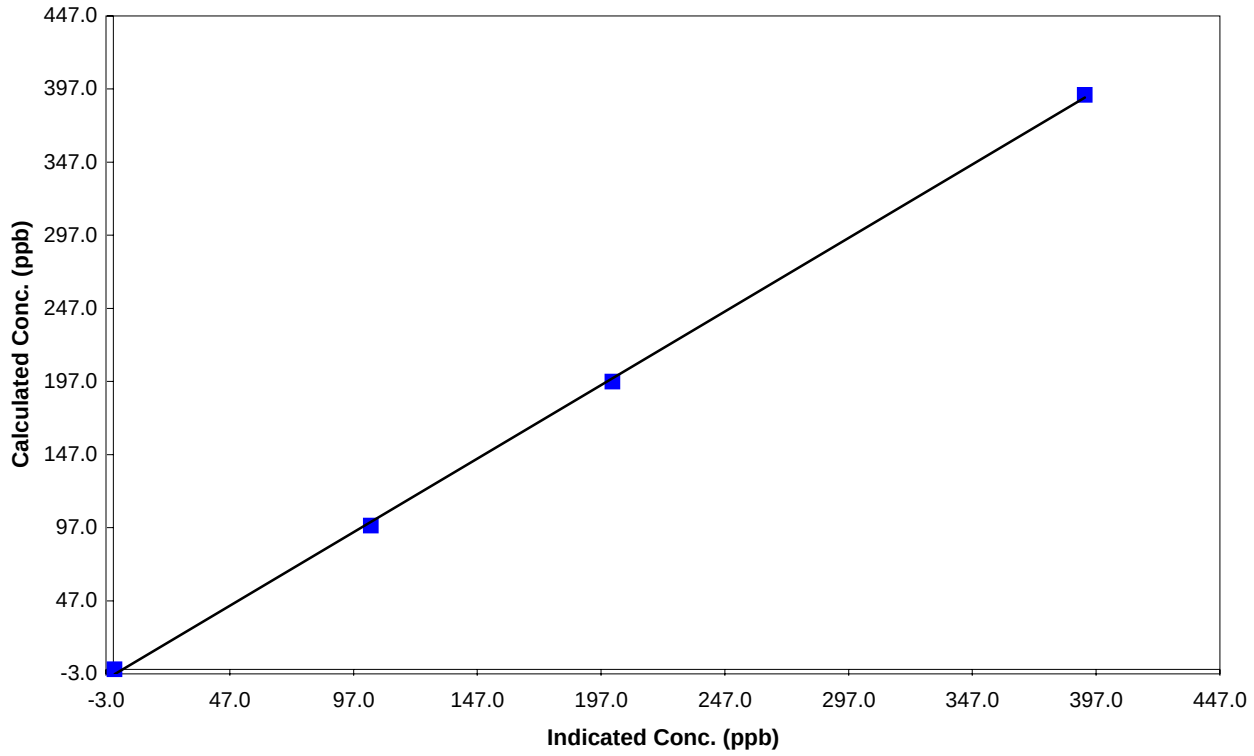
Station Information

Calibration Date	July 24, 2009	Previous Calibration	June 15, 2009
Station Number	9	Station Location	Rover Kinuso
Start Time (MST)	8:42	End Time (MST)	13:09
Analyzer make	TEI 42i	Analyzer serial #	701120011

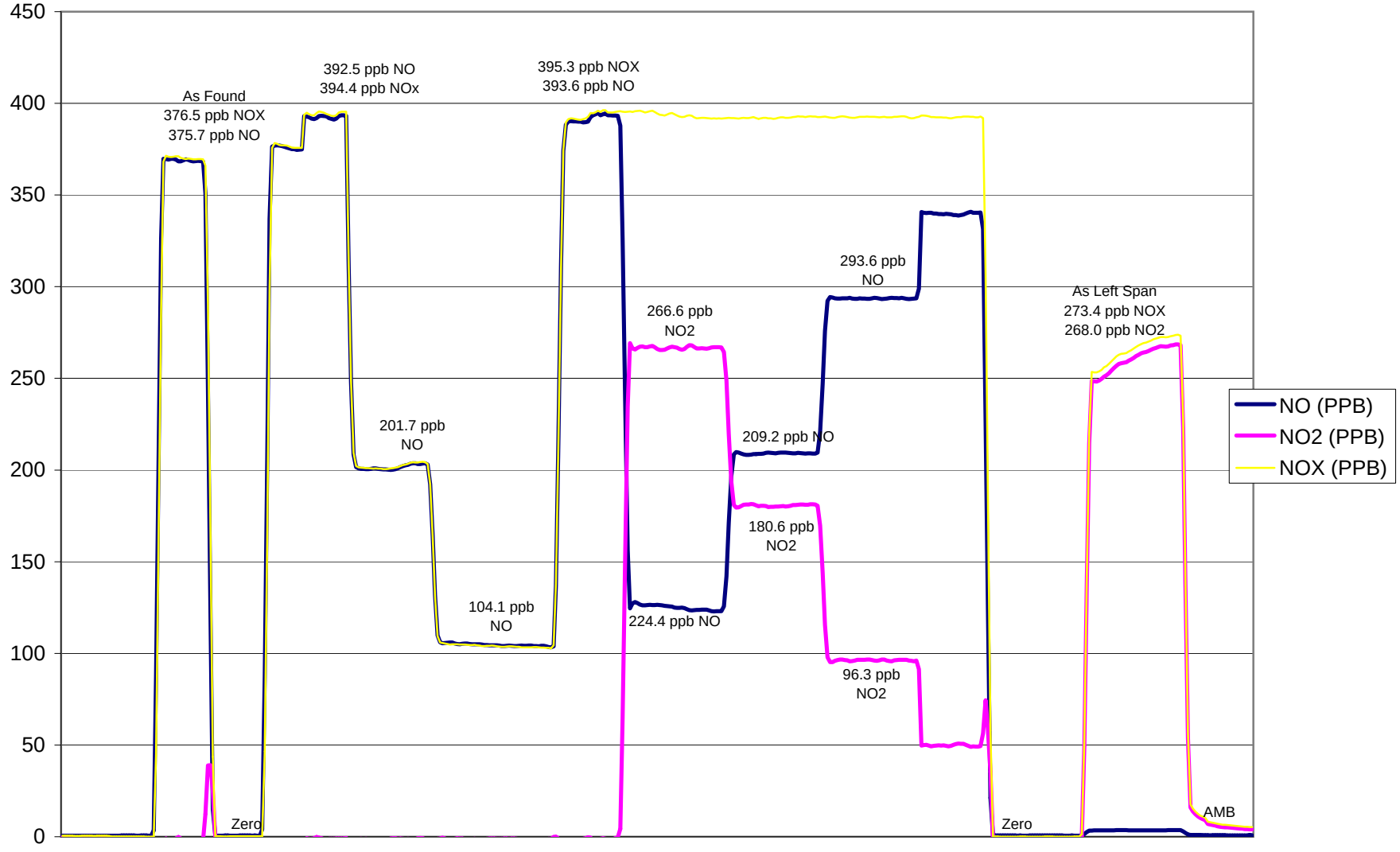
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.5	N/A		
393.0	392.5	1.0014	Correlation Coefficient	0.999687
196.8	201.7	0.9759		
98.3	104.1	0.9449	Slope	1.005747
			Intercept	-3.638597

NO Calibration Curve



Henry Pirker NO_X Calibration



July 24, 2009

Calibration Report

Parameter **O3**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	July 24, 2009	Previous Calibration	June 15, 2009
Station Number	9	Station Location	Rover - Kinuso
Reason: Routine	Install	Removal	Other:
Start Time (MST)		End Time (MST)	14:11
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	1.003319	Calculated slope	1.003263
Calculated intercept	-0.361440	Calculated intercept	0.409852
Analyzer make	TEI Model 49C	Analyzer serial #	609-716240

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Offset	-3.4	ppb	-2.9	ppb
Span	1.543		1.558	
Cell A	92753	Hz	96244	Hz
Cell B	103779	Hz	107778	Hz
Pressure	694	in Hg	694	in Hg
CellA Flow	720	ccm	719	ccm
Cell B Flow	687	cmm	712	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	267.0	266.4	1.0021
4990	0.00	181.2	179.2	1.0111
4990	0.00	96.5	95.6	1.0093
4990	0.00	0.0	0.5	As found zero
4990	0.00	267.0	264.1	As found span
			Average Correction Factor	1.0075

Calculated value of As Found Response: 264.1 ppm Percent Change of As Found: -1.1%

	before calibration		after calibration	
Auto zero	0.3	ppb	0.0	ppb
Auto span	294.5	ppb	286.6	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **O3**

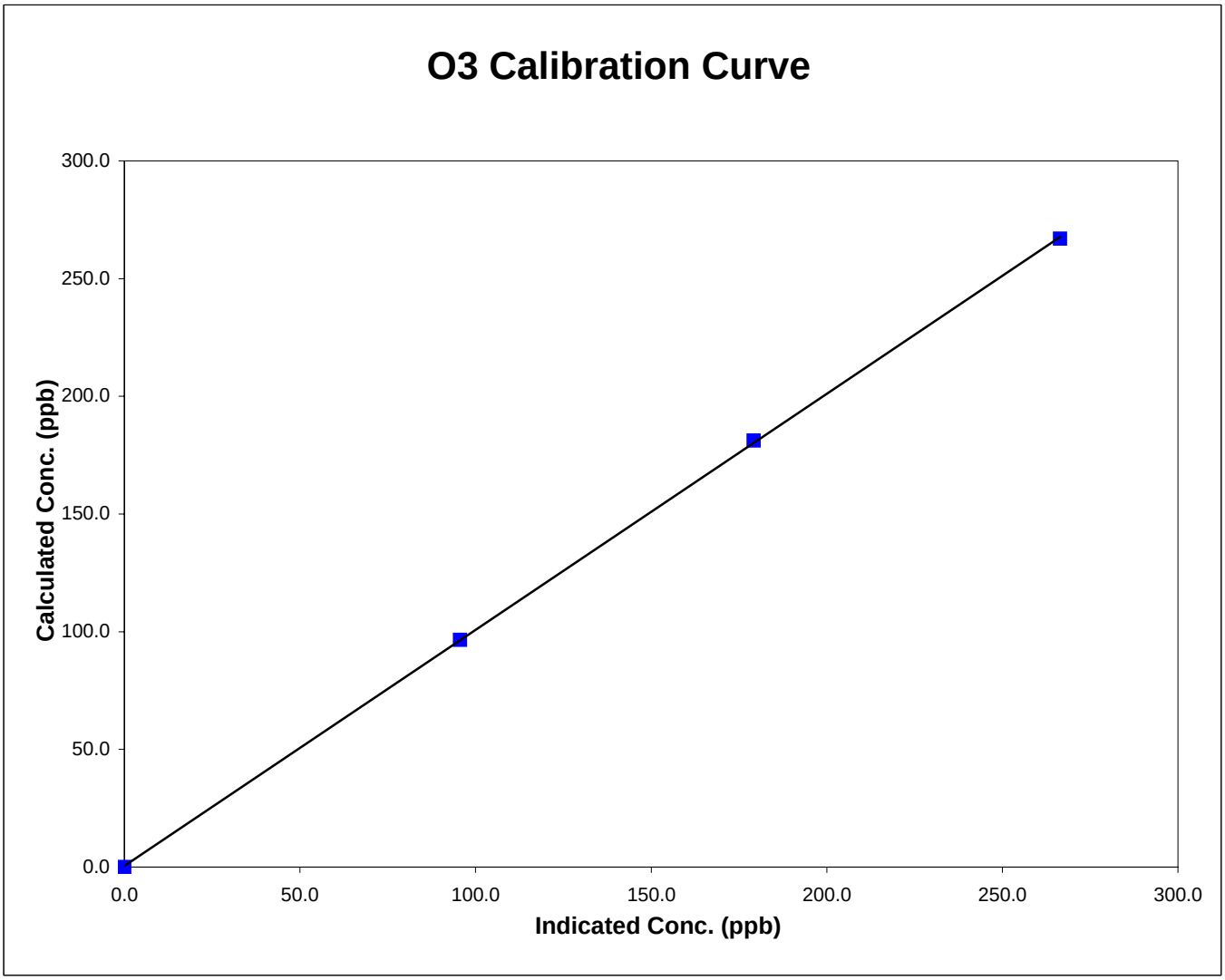
Air Monitoring Network **PASZA**

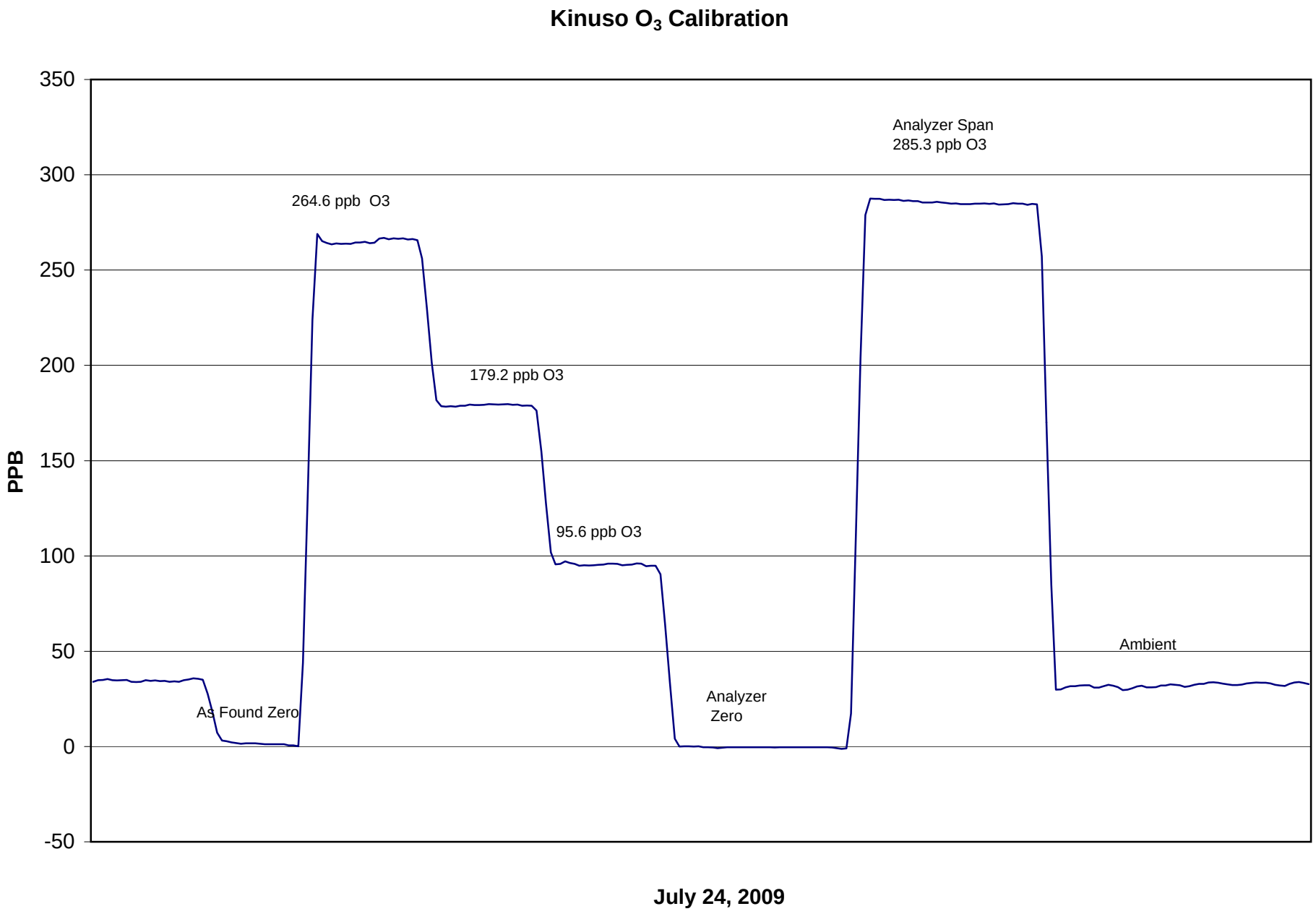
Station Information

Calibration Date	July 24, 2009	Previous Calibration	June 15, 2009
Station Number	9	Station Location	Rover - Kinuso
Start Time (MST)	0:00	End Time (MST)	14:11
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		
267.0	266.4	1.0021	Correlation Coefficient	0.999956
181.2	179.2	1.0111		
96.5	95.6	1.0093	Slope	1.003263
			Intercept	0.409852




Kinuso O3 Calibration
350
300
250
200
150
100
50
0
-50
PPB
Analyzer Span
285.3 ppb O3
264.6 ppb O3
179.2 ppb O3
95.6 ppb O3
Ambient
Analyzer
Zero
As Found Zero
July 24, 2009

Calibration Report

Parameter **SO2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	July 19, 2009	Previous Calibration	June 10, 2009
Station Number	6	Station Location	Valleyview
Reason: Routine	Install	Removal	Other:
Start Time (MST)	8:40	End Time (MST)	11:15
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	0.985961	Calculated slope	1.006665
Calculated intercept	-1.953631	Calculated intercept	-1.579462
Analyzer make	TEI 45C	Analyzer serial #	43C-57531-313

	before		after	
Concentration range	0 - 1000	ppb	0 - 1000	ppb
Background	29		28	
Coefficient	0.729		0.726	
UV Lamp Voltage	695	LPM	695	LPM
Chamber Temp	44	V	44.2	V
Perm Gas Temp	35	C	35.1	C
Pressure	618.7	in Hg	619.3	in Hg
Sample Flow	0.468	LPM	0.468	LPM
Lamp Intesity	45528	Hz	45247	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	0.2	N/A
4989	39.84	400.9	399.2	1.0043
4988	19.92	201.3	201.9	0.9968
4988	9.90	100.2	102.8	0.9754
4988	0.00	0.0	-0.2	As found zero
4988	39.88	401.3	407.0	As found span
			Average Correction Factor	0.9922

Calculated value of As Found Response: 399.502 ppm Percent Change of As Found: 0.5%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.0	ppm
Auto span	167.3	ppm	162.8	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

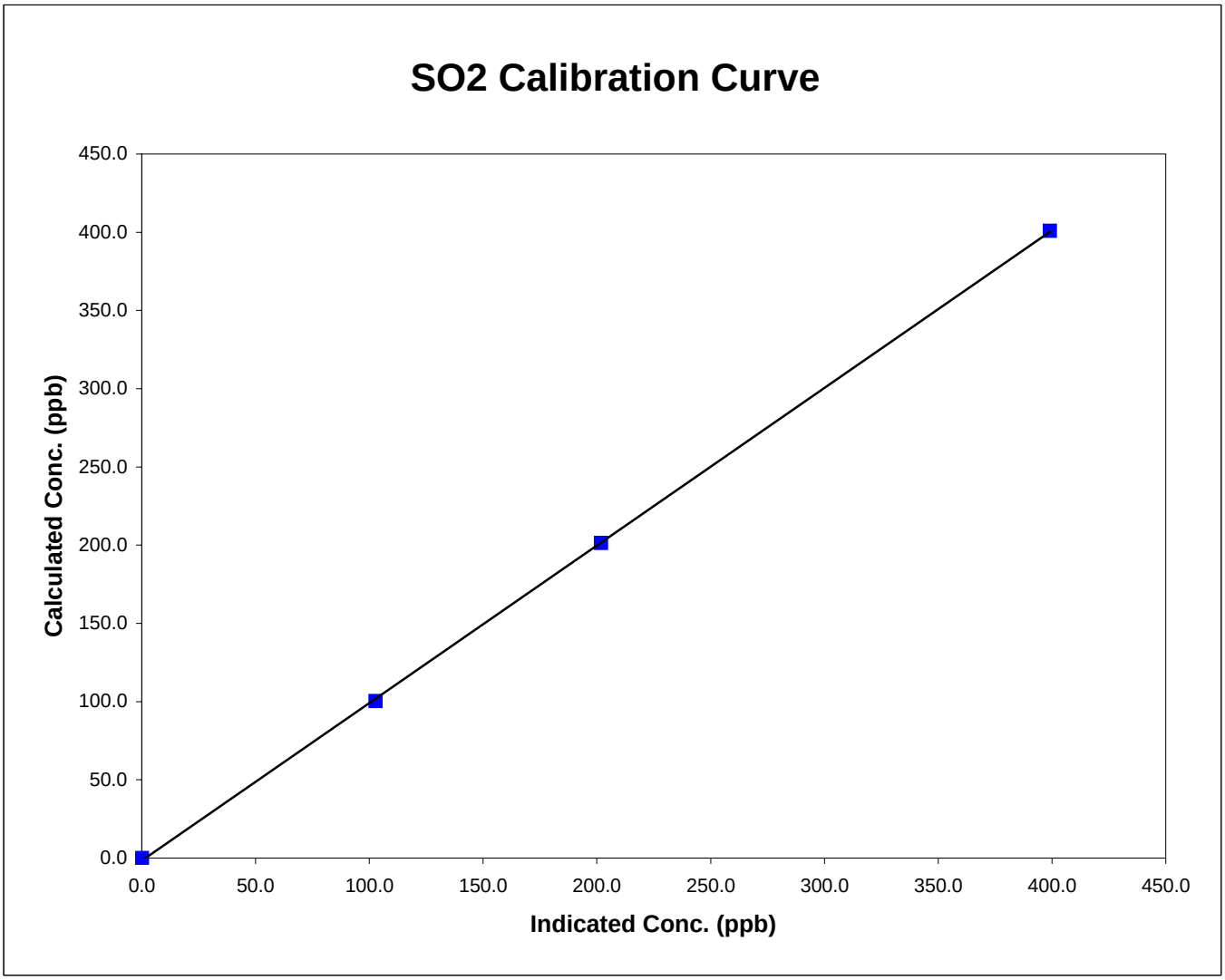
Air Monitoring Network **PASZA**

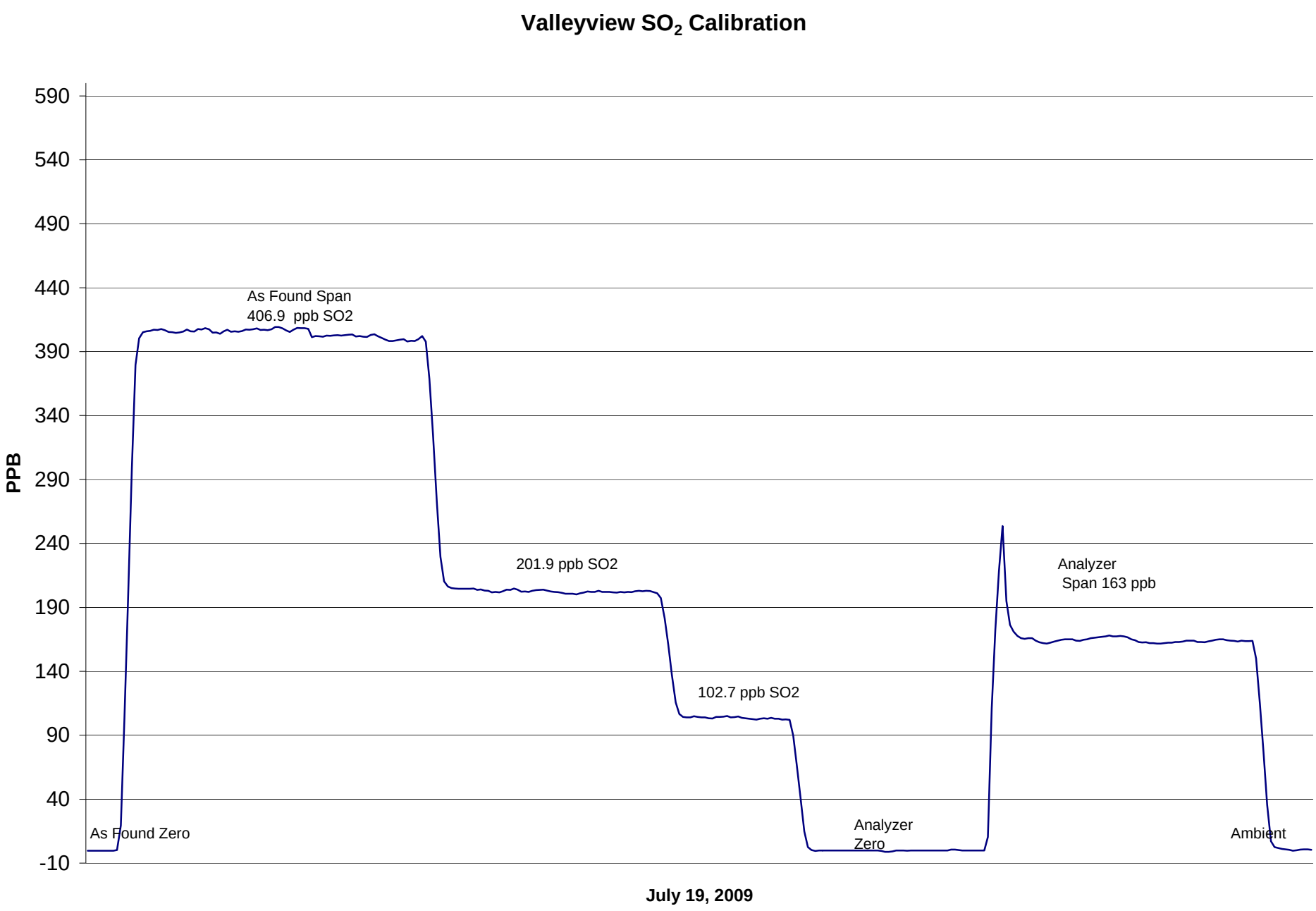
Station Information

Calibration Date	July 19, 2009	Previous Calibration	June 10, 2009
Station Number	6	Station Location	Valleyview
Start Time (MST)	8:40	End Time (MST)	11:15
Analyzer make/model	TEI 45C	Analyzer serial #	43C-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	399.2	1.0043	Correlation Coefficient	0.999940
201.3	201.9	0.9968		
100.2	102.8	0.9754	Slope	1.006665
			Intercept	-1.579462




Valleyview SO_2 Calibration
590
540
490
440
390
340
290
240
190
140
90
40
-10
PPB
As Found Span
406.9 ppb SO2
201.9 ppb SO2
102.7 ppb SO2
Analyzer
Span 163 ppb
As Found Zero
Analyzer
Zero
Ambient
July 19, 2009

Calibration Report

Parameter **H2S**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	July 19, 2009	Previous Calibration	June 10, 2009
Station Number	5	Station Location	Valleyview
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	11:00	End Time (MST)	14:15
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	0.998451	Calculated slope	0.996322
Calculated intercept	-0.202442	Calculated intercept	0.033510
Analyzer make	TEI Model 43A	Analyzer serial #	43A-25575-221

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Back Ground	4.9	ppb	4.9	ppb
Coefficient	1.070		1.070	
Lamp Voltage	788	V	791	V
Chamber Temp	45.1	c	45	c
Perm Oven Temp	45.00	c	45	c
Pressure	636	mm Hg	638	mm Hg
Sample Flow	426	ccm	456	ccm
Lamp Intensity	91.0	%	91.0	%

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	79.74	80.2	80.7	0.9943
4988	39.88	40.5	40.2	1.0065
4988	9.93	10.1	10.1	1.0064
4988	0.00	0.0	-0.2	As found zero
4988	79.81	80.3	79.9	As found span
			Average Correction Factor	1.0024

Calculated value of As Found Response: 79.78 ppm Percent Change of As Found: 0.7%

	before calibration		after calibration	
Auto zero	0.1	ppm	-0.1	ppm
Auto span	67.4	ppm	62.0	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **H2S**

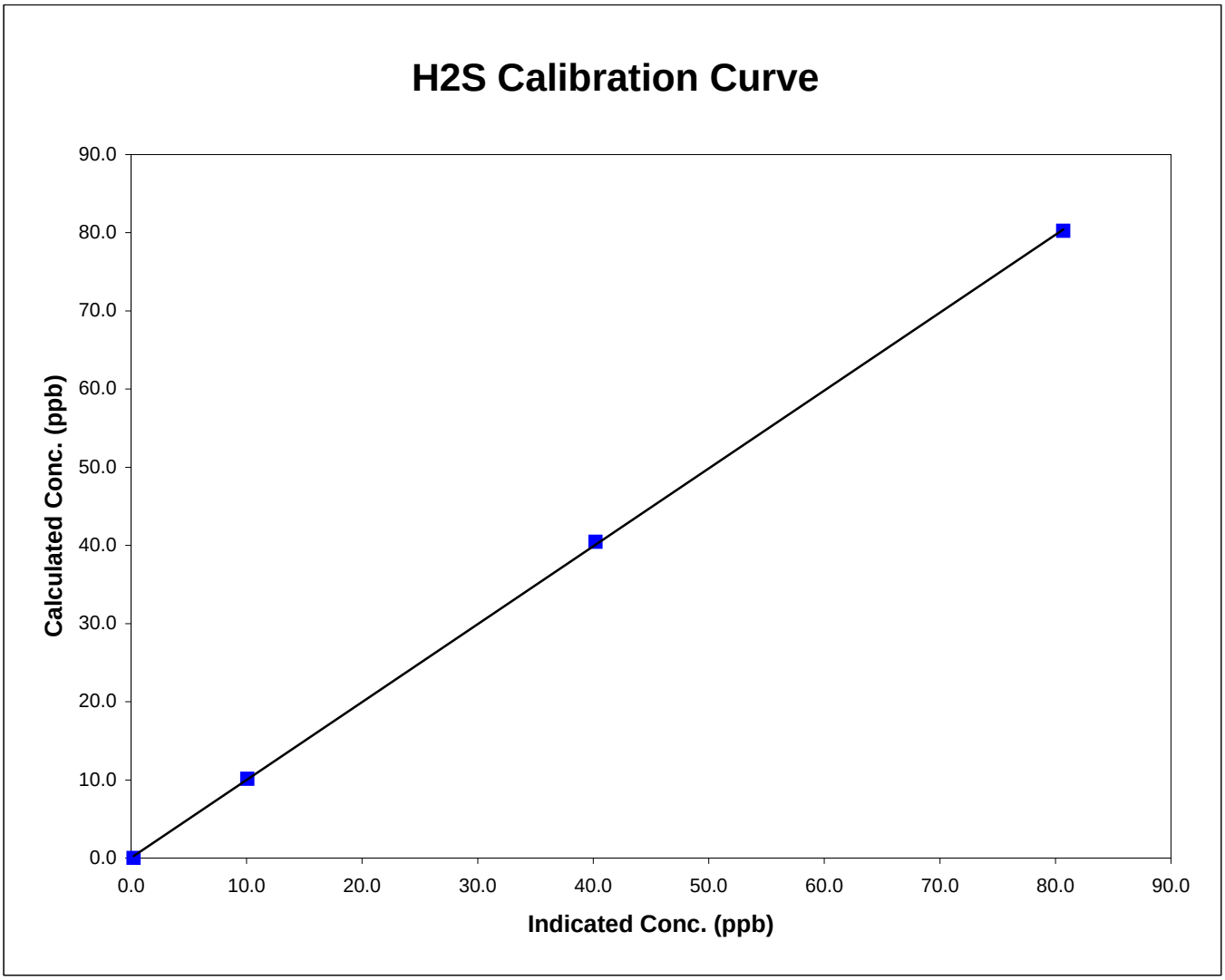
Air Monitoring Network **PASZA**

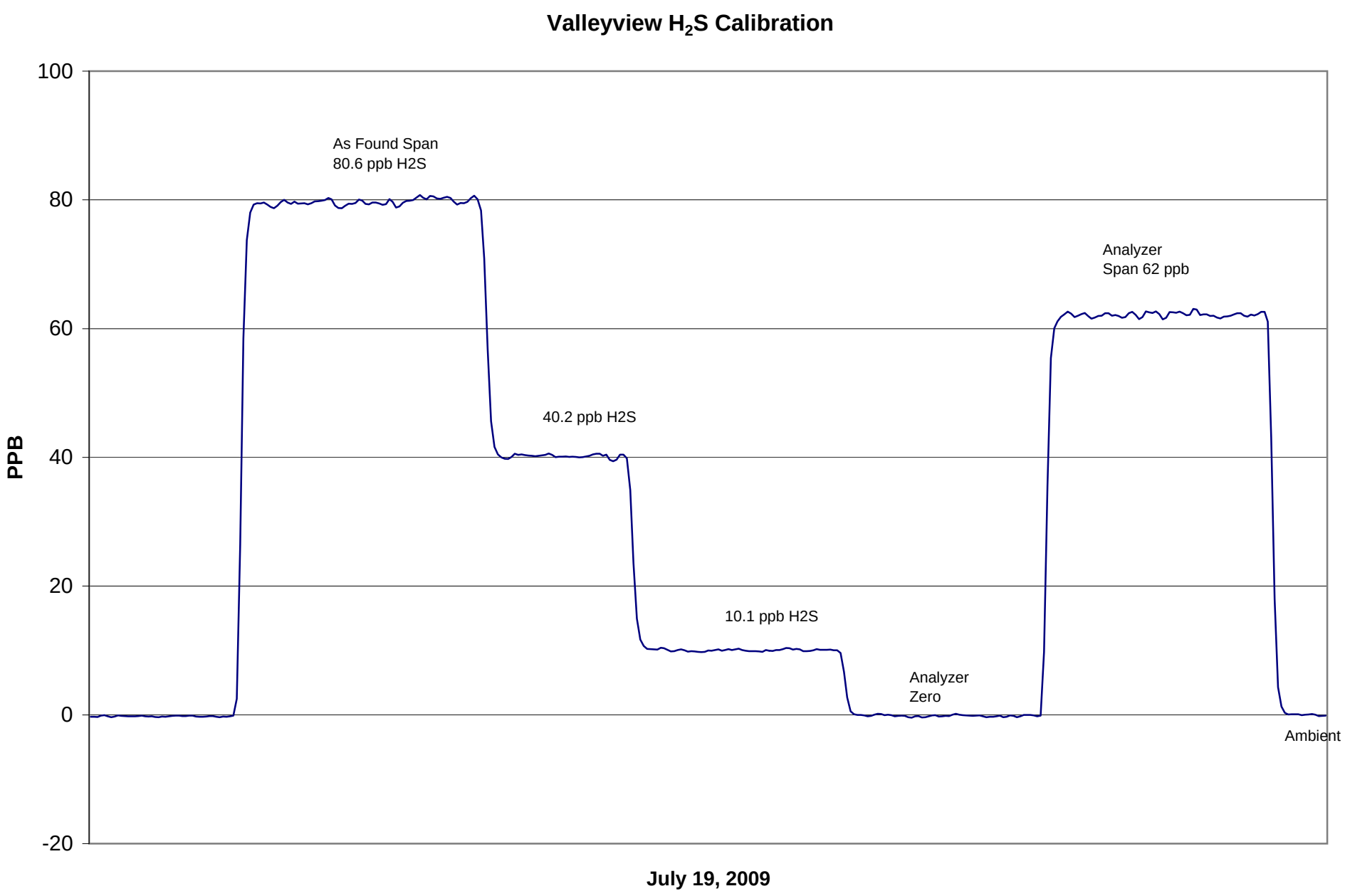
Station Information

Calibration Date	July 19, 2009	Previous Calibration	June 10, 2009
Station Number	5	Station Location	Valleyview
Start Time (MST)	11:00	End Time (MST)	14:15
Analyzer make/model	TEI Model 43A	Analyzer serial #	43A-25575-221

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
80.2	80.7	0.9943	Correlation Coefficient	0.999937
40.5	40.2	1.0065		
10.1	10.1	1.0064	Slope	0.996322
			Intercept	0.033510




Valleyview H2S Calibration
100
80
60
40
20
0
-20
PPB
As Found Span
80.6 ppb H2S
40.2 ppb H2S
10.1 ppb H2S
Analyzer
Zero
Analyzer
Span 62 ppb
Ambient
July 19, 2009