Peace AirShed Zone Association

Ambient Air Monitoring Network Summary

Continuous Ambient Air Quality Monitoring Program
Monthly Report
June 2009

Operations and Reporting

FOCUS
AIR QUALITY MONITORING

PASZA
Peace AirShed Zone Association

P.O. Box 21135
Grande Prairie, AB
T8V 6W7
Phone: (780) 539-2298

August 5, 2009

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

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

Enclosed is the PASZA Ambient Monitoring Network Report for the month of **June 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; except for $PM_{2.5}$ - **Alberta Environment reference # 216238**.
  - 1-hr Guideline: June 30: 24:00: 200.9 µg/m^3
- All analyzers and sensors at the Henry Pirker station had an operational uptime greater than 90% for the month of June.

Evergreen Park Station:

- The measured ambient air quality was within the AAAQO for the Evergreen Park station, except for $PM_{2.5}$ - **Alberta Environment reference # 216187**.
  - 1-hr Guideline June 28: 18:00: 123 µg/m^3
- All analyzers / sensors at the Evergreen Park station had an operational uptime greater than 90% for the month of June.

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 June.

Beaverlodge Station:

- The measured ambient air quality was within the AAAQO for the Beaverlodge station.
- The Beaverlodge station shelter was replaced with a new shelter on June 23rd. On June 22nd all analyzers went through removal calibrations, station equipment was removed and set into new shelter and on June 26th installation calibrations were performed.
- 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 June.

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 June.
- A communication error has resulted in the inability to retrieve data at the end of June – as soon as this error is fixed the data will be updated and revised tables and graphs will be issued.

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 June.

Passive Monitoring - 43 Stations throughout the PASZA zone:

There were four duplicate sites sampled in the month of June: Boone Creek, Eaglesham, Gold Creek and Valleyview. At the Grande Prairie I site all three samplers had been tampered with, consequently the results for these samples have been invalidated. The SO_2 sample at Karr Creek had a small tear in it; and the NO_2 sampler at Sylvester broke apart when collected – these sample results have also been invalidated. There was one one NO_2 passive sample that was missing (Forth Creek), consequently there is no result for said NO_2 sample. The passive sample analyses were performed by MAXXAM Analytics Inc.

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

- Monthly average concentrations for SO_2 passives ranged from 0.1 ppb to 0.4 ppb, with a mean of 0.2 ppb.
- Monthly average concentrations for NO_2 passives ranged from 0.3 ppb to 8.3 ppb, with a mean of 1.8 ppb.
- Monthly average concentrations for O_3 passives ranged from 22.8 ppb to 35.7 ppb, with a mean of 27.4 ppb.

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

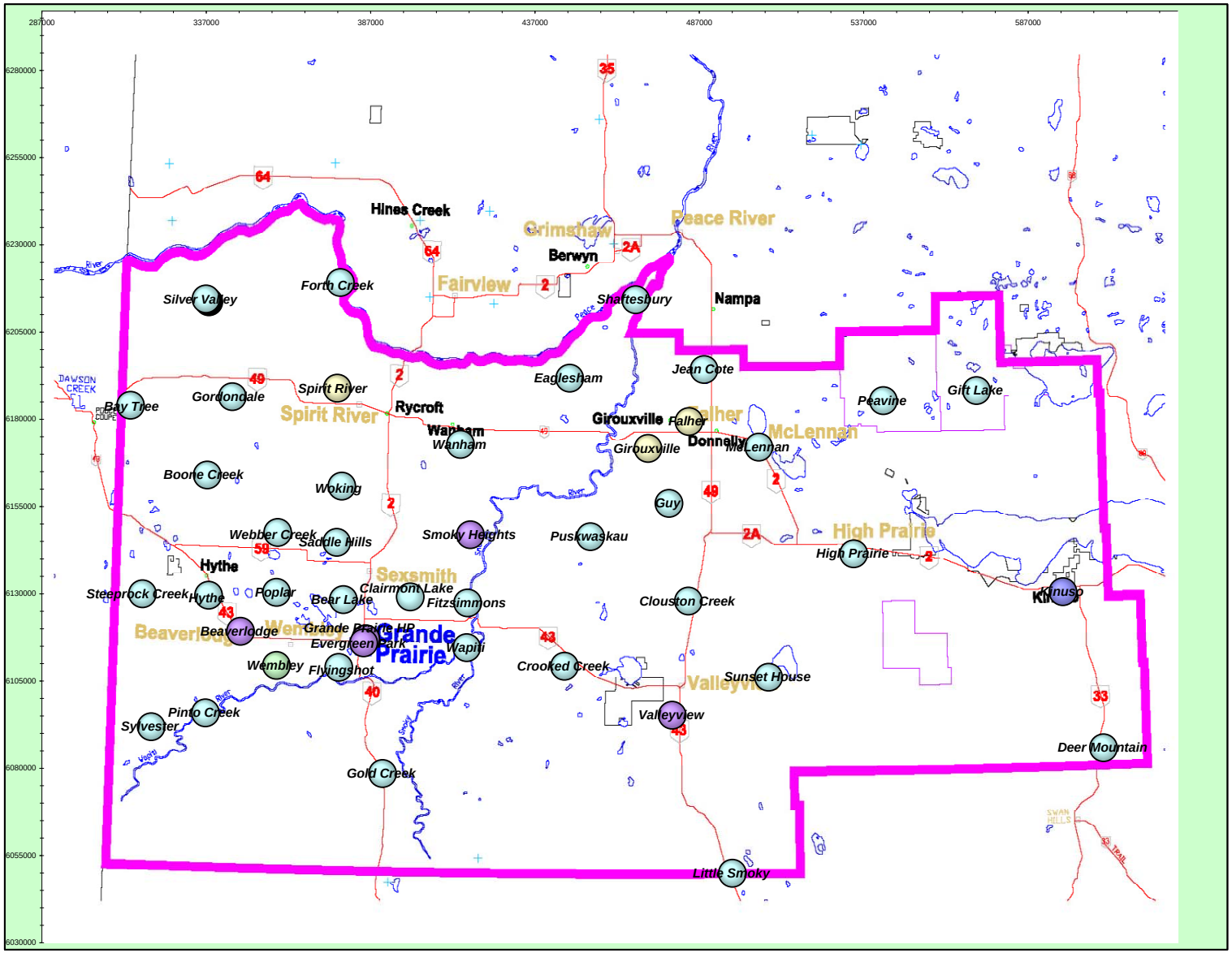
On Behalf of the,
Peace Airshed Zone Association

Sharon E. Whiteley

Dawn Ewan
PASZA Office Administrator

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

Location of PASZA Continuous and Passive Monitoring Stations



PASZA Monthly Continuous Data Summary

Jun-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	4.6	Jul-01 00:00	0.8	Jun-27	100.0%
SO_2 (ppb)	172	57	Evergreen Park	0.6	0	0	12.9	Jun-26 13:00	2.6	Jun-23	99.6%
SO_2 (ppb)	172	57	Smoky Heights	0.3	0	0	4.8	Jun-15 06:00	0.9	Jun-23	99.9%
SO_2 (ppb)	172	57	Beaverlodge	0.3	0	0	16.8	Jun-27 12:00	3.5	Jun-27	100.0%
SO_2 (ppb)	172	57	Portable-Kinuso	0.2	0	0	1.8	Jun-02 10:00	0.5	Jun-02	93.8%
SO_2 (ppb)	172	57	Valleyview	0.5	0	0	15.4	Jun-23 06:00	2.8	Jun-23	99.3%
NO (ppb)			Henry Pirker	0.9	-	-	26.0	Jul-01 00:00	2.8	Jun-03	100.0%
NO_2 (ppb)	212	106	Henry Pirker	4.3	0	0	29.1	Jun-02 23:00	8.8	Jun-03	100.0%
NO_X (ppb)			Henry Pirker	5.2	-	-	41.7	Jun-15 09:00	11.3	Jun-03	100.0%
NO (ppb)			Beaverlodge	0.1	-	-	15.3	Jun-15 10:00	0.8	Jun-15	100.0%
NO_2 (ppb)	212	106	Beaverlodge	3.7	0	0	21.4	Jun-15 10:00	7.1	Jun-02	100.0%
NO_X (ppb)			Beaverlodge	3.8	-	-	36.1	Jun-15 10:00	7.5	Jun-02	100.0%
NO (ppb)			Portable-Kinuso	0.4	-	-	2.8	Jun-01 19:00	0.9	Jun-28	93.8%
NO_2 (ppb)	212	106	Portable-Kinuso	1.9	0	0	5.0	Jun-04 01:00	2.6	Jun-28	93.8%
NO_X (ppb)			Portable-Kinuso	2.3	-	-	6.7	Jun-27 22:00	3.5	Jun-28	93.8%
O_3 (ppb)	82		Henry Pirker	33.9	0	-	64.2	Jun-10 18:00	49.2	Jun-09	100.0%
O_3 (ppb) - 8-hr	65		Henry Pirker		0				63.3	Jun-10	
O_3 (ppb)	82		Beaverlodge	34.7	0	-	55.1	Jun-10 18:00	45.2	Jun-09	100.0%
O_3 (ppb) - 8-hr	65		Beaverlodge		0				51.5	Jun-10	
O_3 (ppb)	82		Portable-Kinuso	29.3	0	-	55.0	Jun-10 17:00	38.2	Jun-09	93.8%
O_3 (ppb) - 8-hr	65		Portable-Kinuso		0				51.0	Jun-10	
CO (ppm)	13		Henry Pirker	0.21	0	-	0.5	Jun-02 23:00	0.3	Jun-11	100.0%
CO (ppm) - 8-hr	5		Henry Pirker		0				0.3	Jun-03	
THC (ppm)			Henry Pirker	2.08	-	-	2.7	Jun-10 07:00	2.2	Jun-03	100.0%
TRS (ppb)			Henry Pirker	0.2	-	-	1.4	Jul-01 00:00	0.3	Jun-15	100.0%
TRS (ppb)			Evergreen Park	0.5	0	0	3.1	Jun-23 09:00	0.9	Jun-23	99.6%
TRS (ppb)			Smoky Heights	0.3	-	-	0.8	Jun-25 01:00	0.5	Jun-25	99.9%
TRS (ppb)			Portable-Kinuso	0.4	-	-	0.7	Jun-25 23:00	0.5	Jun-11	93.8%
H_2S (ppb)	10	3	Valleyview	0.1	0	0	0.4	Jun-12 02:00	0.2	Jun-30	99.3%
$PM_{2.5}$ ($\mu g/m^3$)	80	30	Henry Pirker	4.7	1	0	200.9	Jul-01 00:00	14.1	Jun-11	97.8%
$PM_{2.5}$ ($\mu g/m^3$)	80	30	Evergreen Park	6.0	1	0	123.5	Jun-28 18:00	13.5	Jun-11	96.4%
$PM_{2.5}$ ($\mu g/m^3$)	80	30	Smoky Heights	5.0	0	0	77.0	Jun-10 22:00	13.3	Jun-10	98.1%
$PM_{2.5}$ ($\mu g/m^3$)	80	30	Beaverlodge	5.3	0	0	44.5	Jun-09 21:00	11.8	Jun-11	97.2%

PASZA Monthly Continuous Data Summary - continued

Jun-2009	Peace Airshed Zone Assocation						Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
RH (%)			Henry Pirker	48.5	-	-	92.1	Jun-12 05:00	61.9	Jun-25	100.0%
RH (%)			Beaverlodge	45.7	-	-	93.5	Jun-12 05:00	59.6	Jun-01	100.0%
RH (%)			Valleyview	55.9	-	-	99.8	Jun-12 07:00	74.4	Jun-04	99.3%
SR (W/m^2)			Henry Pirker	232.9	-	-	822.7	Jun-07 15:00	280.0	Jun-08	100.0%
Temp (°C)			Henry Pirker	15.1	-	-	28.6	Jun-12 16:00	20.9	Jun-13	100.0%
Temp (°C)			Evergreen Park	14.6	-	-	26.9	Jun-12 17:00	21.0	Jun-13	99.7%
Temp (°C)			Smoky Heights	14.2	-	-	27.4	Jun-14 15:00	19.6	Jun-15	99.9%
Temp (°C)			Beaverlodge	14.5	-	-	27.9	Jun-12 16:00	20.3	Jun-13	100.0%
Temp (°C)			Portable-Kinuso	14.4	-	-	28.0	Jun-13 15:00	20.6	Jun-13	93.8%
Temp (°C)			Valleyview	13.5	-	-	26.7	Jun-14 19:00	18.9	Jun-13	99.3%
WSPD s (km/hr)			Henry Pirker	11.9	-	-	38.0	Jun-26 17:00	28.4	Jun-26	100.0%
WSPD s (km/hr)			Evergreen Park	7.7	-	-	30.0	Jun-26 14:00	18.4	Jun-26	99.7%
WSPD s (km/hr)			Smoky Heights	14.2	-	-	43.0	Jun-25 16:00	28.7	Jun-26	99.9%
WSPD s (km/hr)			Beaverlodge	9.0	-	-	32.0	Jun-16 12:00	17.5	Jun-16	100.0%
WSPD s (km/hr)			Portable-Kinuso	5.5	-	-	17.0	Jun-03 21:00	8.3	Jun-08	93.8%
WSPD s (km/hr)			Valleyview	6.0	-	-	22.0	Jun-25 17:00	11.9	Jun-28	99.3%
WSPD v (km/hr)			Henry Pirker	5.3	-	-	38.0	Jun-26 17:00	27.9	Jun-26	100.0%
WSPD v (km/hr)			Evergreen Park	4.3	-	-	30.0	Jun-26 14:00	17.8	Jun-26	99.7%
WSPD v (km/hr)			Smoky Heights	7.4	-	-	43.0	Jun-25 16:00	28.0	Jun-26	99.9%
WSPD v (km/hr)			Beaverlodge	1.2	-	-	32.0	Jun-16 12:00	16.9	Jun-16	100.0%
WSPD v (km/hr)			Portable-Kinuso	1.9	-	-	17.0	Jun-03 21:00	7.1	Jun-08	93.8%
WSPD v (km/hr)			Valleyview	2.2	-	-	22.0	Jun-26 18:00	10.9	Jun-28	99.3%
WDIR			Henry Pirker	WSW	-	-	-	-	-	-	100.0%
WDIR			Evergreen Park	W	-	-	-	-	-	-	99.7%
WDIR			Smoky Heights	WSW	-	-	-	-	-	-	99.9%
WDIR			Beaverlodge	SW	-	-	-	-	-	-	100.0%
WDIR			Portable-Kinuso	S	-	-	-	-	-	-	93.8%
WDIR			Valleyview	WNW	-	-	-	-	-	-	99.3%

Continuous Network Equipment Summary

PASZA – Henry Pirker Station

General Station Issues

Routine monthly calibrations were performed on June 6th (SO_2, NO_X & O_3) and June 8th (THC, CO, TRS & $PM_{2.5}$).

Parameter	Make	Model	Notes
SO_2	TEI	43C	No operational issues observed.
NOx/NO/NO_2	TEI	42C	No operational issues observed.
O_3	TEI	49C	No operational issues observed.
CO	TEI	48C	No operational issues observed.
THC	TEI	51-CLT	No operational issues observed.
TRS	TEI	43C	No operational issues observed.
$PM_{2.5}$	R&P	1400AB	There was one (1) exceedance of the Alberta Air Quality Guideline on June 30th 24:00 of 200.9 µg/m^3 – **AE Reference # 216238**. A total of sixteen (16) hours were flagged invalid due to baseline drift for the month of June.
RH	Met One	083D	No operational issues observed.
ET	Met One	083D	No operational issues observed.
SR	Met One	096-1	No operational issues observed.
WS	Met One	010C	No operational issues observed.
WD	Met One	020C	No operational issues observed.

PASZA – Evergreen Park Station

General Station Issues

Routine monthly calibrations were performed on June 3rd (SO_2 & TRS). On June 6th a power failure resulted in several hours of invalid data for all parameters.

Parameter	Make	Model	Notes
SO_2	TEI	43i	No operational issues observed.
TRS	TEI	43C	No operational issues observed.
$PM_{2.5}$	R&P	1400AB	There was one (1) exceedance of the Alberta Air Quality Guideline on June 28th 18:00 of 123.5 µg/m^3 – **AE Reference # 216187**. Twenty-three (23) hours were flagged invalid due to baseline drift.
ET	Met One/Gill	083D	No operational issues observed.
WS	Met One/ Gill	010C	No operational issues observed.
WD	Met One/ Gill	020C	No operational issues observed.

PASZA – Smoky Heights Station

General Station Issues

Routine monthly calibrations were performed on June 4th (TRS & SO_2). On June 19th a power failure resulted in one (1) hour of invalid data for all parameters.

Parameter	Make	Model	Notes
SO_2	TEI	43C	No operational issues observed.
TRS	TEI	43C	No operational issues observed.
$PM_{2.5}$	R&P	1400AB	No operational issues observed.
ET	Met One	083D	No operational issues observed.
WS	Met One	010C	No operational issues observed.
WD	Met One	020C	No operational issues observed.

PASZA – Beaverlodge Station

General Station Issues

Removal calibrations were performed on June 22nd and installation calibrations were performed on June 26th (SO_2, O3 & NO_X). The station shelter was changed out on June 23rd – Alberta Environment provided PASZA with a new station shelter for the Beaverlodge site.

Parameter	Make	Model	Notes
SO_2	TEI	43CTL	No operational issues observed.
NOx/NO/NO_2	TEI	42C	No operational issues observed. There was a high maximum NO_2 reading on June 15th (10:00) – possible vehicle idling in the vicinity.
O_3	TEI	49C	No operational issues observed.
$PM_{2.5}$	R&P	1400AB	During the shelter upgrade the TEOM was upgraded to FDMS. Eight (8) hours were flagged invalid due to baseline drift. Nine (9) hours were flagged invalid due to a flow leak in the TEOM.
ET	n/a	n/a	No operational issues observed.
RH	n/a	n/a	No operational issues observed.
WS	Blue Sky	857	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.
WD	Blue Sky	857	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.

PASZA – Kinuso (Portable) Station

General Station Issues

Routine monthly calibrations were performed on June 15th (SO_2, TRS, NO_X & O_3). A communication error on June 29th resulted in forty-five (45) hours of invalid data for all parameters; as soon as the error is fixed the data will be retrived and updated tables and graphs will be issued.

Parameter	Make	Model	Notes
SO_2	TEI	43C	No operational issues observed.
NOx/NO/NO_2	TEI	42i	No operational issues observed.
TRS	TEI	43C	No operational issues observed.
O_3	TEI	49C	No operational issues observed.
ET	Gill	Met Pak 3	No operational issues observed.
RH	Gill	Met Pak 3	No operational issues observed.
WS	Met One		No operational issues observed.
WD	Met One		No operational issues observed.

PASZA – Valleyview Station

General Station Issues

Routine monthly calibrations were performed on June 10th (SO_2 & H_2S).). A power failure on June 22nd resulted in five (5) hours of invalid data for all parameters.

Parameter	Make	Model	Notes
SO_2	TEI	43i	No operational issues observed.
H_2S	TEI	43A	No operational issues observed.
ET	Gill	Met Pak 3	No operational issues observed.
RH	Gill	Met Pak 3	No operational issues observed.
WS	Gill	Met Pak 3	No operational issues observed.
WD	Gill	Met Pak 3	No operational issues observed.

PASZA
Henry Pirker Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association
Summary of Hourly Averages

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

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 4.6 ppb on Jul 1 00:00 Maximum Daily Average: 0.8 ppb on Jun 27

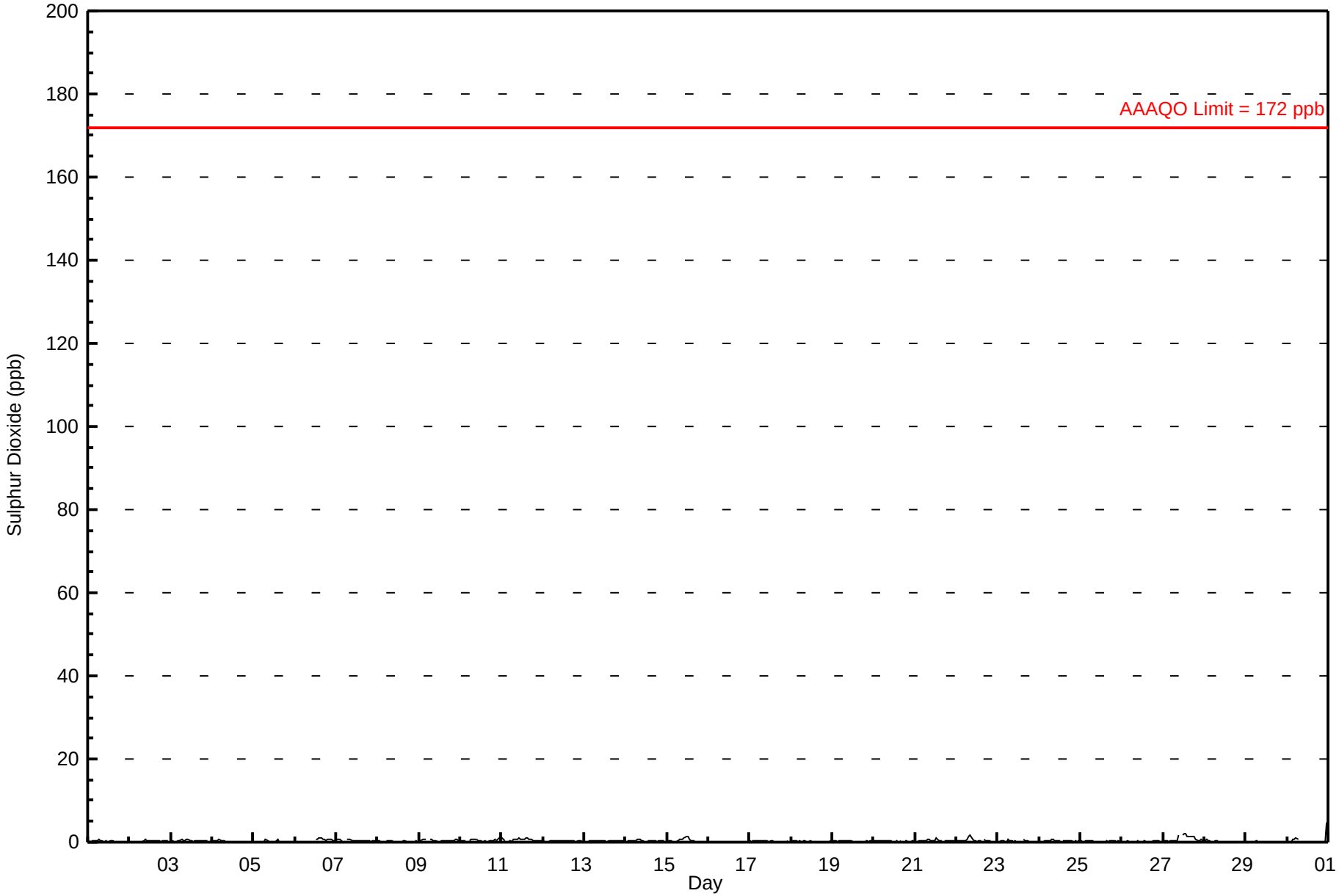
Minimum Value: 0 ppb on Jun 1 13:00 Minimum Daily Average: 0.0 ppb on Jun 16
Maximum Diurnal Average: 0.4 ppb at hour 8 Minimum Diurnal Average: 0.2 ppb at hour 21
Monthly Average: 0.27 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.2 Q_3 = 0.3 P_{90} = 0.6 P_{99} = 1.5

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

Day	Hourly Period Ending At (MST)																								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-Jun	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
2-Jun	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.2	0.5
3-Jun	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0.3	0.7
4-Jun	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	0.7
5-Jun	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0.1	0.6
6-Jun	0	0	0	0	0	0	0	0	C	C	C	C	1	1	1	1	1	1	1	1	1	1	0	0	0.4	0.9
7-Jun	1	1	1	0	0	A	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.4	0.8
8-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
9-Jun	0	1	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0.4	0.6
10-Jun	0	0	0	0	A	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0.4	1.5
11-Jun	1	1	0	A	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0.6	1.0
12-Jun	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
13-Jun	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
14-Jun	A	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.3	0.7
15-Jun	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	A	0	0.4	1.5
16-Jun	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
17-Jun	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
18-Jun	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
19-Jun	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
20-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.4
21-Jun	0	0	0	0	0	1	0	1	1	0	0	0	1	1	0	0	A	0	0	0	0	0	0	0	0.4	1.1
22-Jun	0	0	0	0	0	0	1	1	2	1	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0.4	1.6
23-Jun	0	0	0	0	0	0	1	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0.2	0.8
24-Jun	0	0	0	0	0	0	0	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	0.7
25-Jun	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
26-Jun	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
27-Jun	0	0	0	0	0	0	0	0	0	2	A	2	2	2	1	1	1	1	1	1	0	0	1	0	0.8	2.1
28-Jun	0	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
29-Jun	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.3
30-Jun	0	0	0	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0.4	4.6
	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	Diurnal Average	
	0.9	0.7	0.6	0.8	0.8	1.0	0.7	1.4	1.6	1.6	1.0	1.7	2.1	2.1	1.4	1.2	1.2	1.4	1.5	0.6	0.7	0.6	0.7	4.6	Diurnal Maximum	

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

Hourly Averages for SO_2 at Henry Pirker
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 31.6 ppb on Jul 1 00:00

Maximum Daily Average: 1.9 ppb on Jun 30

Minimum Value: 0 ppb on Jun 5 01:00

Minimum Daily Average: 0.3 ppb on Jun 16

Maximum Diurnal Average: 1.7 ppb at hour 24

Minimum Diurnal Average: 0.5 ppb at hour 20

Monthly Average: 0.65 ppb

Percentiles: P_1 = 0.0 P_{10} = 0.3 Q_1 = 0.4 Median = 0.5 Q_3 = 0.7 P_{90} = 1.0 P_{99} = 2.7

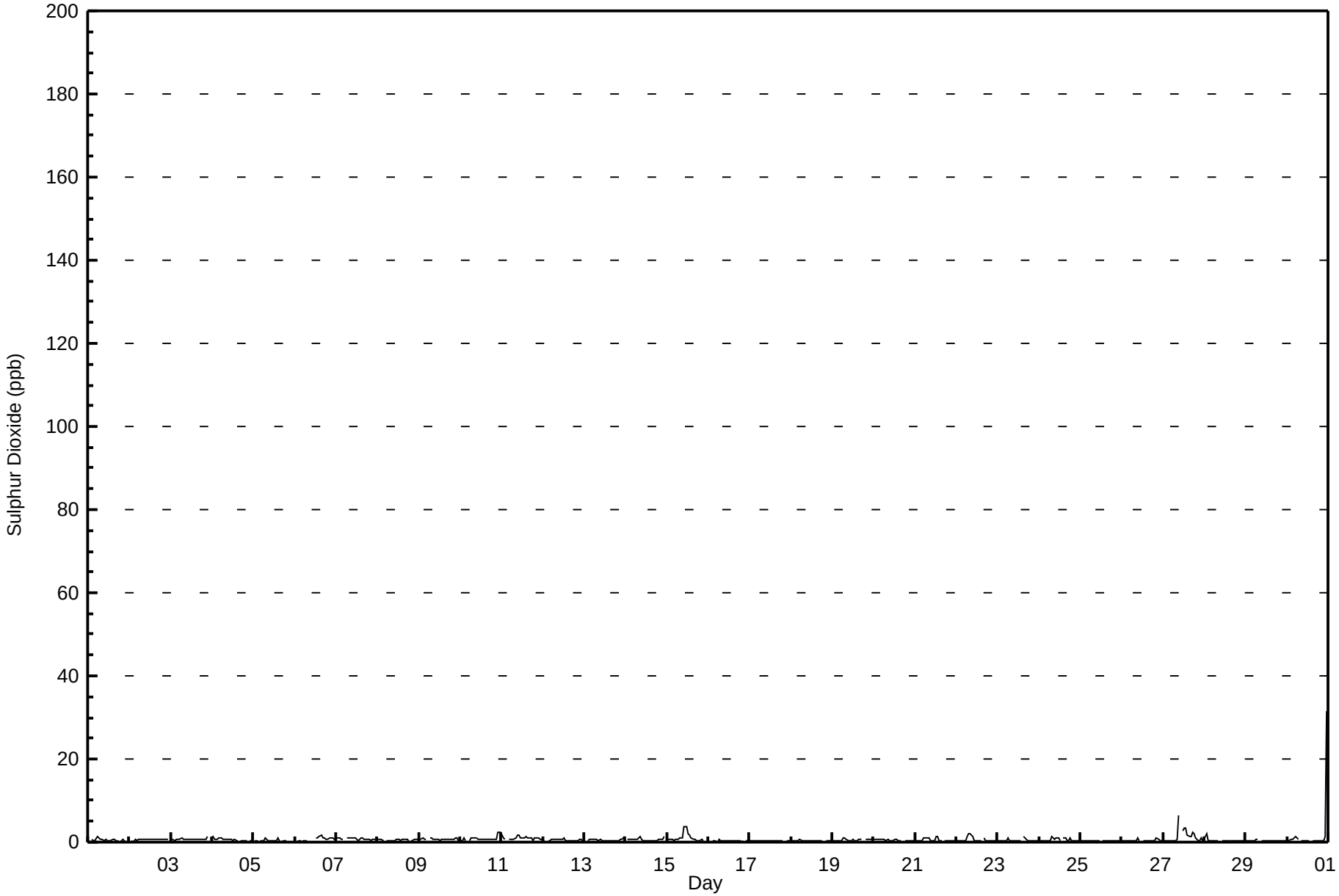
Hours in Service:	720
Hours of Data:	685
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								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-Jun	0	A	1	0	0	1	1	1	1	0	1	0	0	0	1	1	0	0	0	0	1	0	0	0	0.5	1.3
2-Jun	A	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.6	0.7
3-Jun	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.7	1.2
4-Jun	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	A	0	0	0.5	1.2
5-Jun	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0.4	1.0
6-Jun	0	0	0	0	0	0	0	0	C	C	C	C	1	1	1	2	1	1	1	1	1	1	1	1	0.7	1.6
7-Jun	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	0.8	1.2
8-Jun	1	1	1	1	A	0	0	0	0	0	0	1	1	0	1	1	1	1	0	0	0	1	1	1	0.5	0.6
9-Jun	1	1	1	1	1	A	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1
10-Jun	1	0	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	0.9	2.5
11-Jun	2	1	1	A	1	1	1	1	1	2	2	1	1	1	2	1	1	1	0	1	1	1	1	1	1.0	1.8
12-Jun	0	0	A	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	0	0.5	1.1
13-Jun	0	A	0	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.5	1.3
14-Jun	A	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	A	0.6	1.3
15-Jun	1	1	1	1	0	1	1	1	1	1	4	4	2	2	1	1	1	0	0	1	1	0	A	0	1.0	3.6
16-Jun	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	0.7
17-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.4	0.5
18-Jun	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.4	0.6
19-Jun	0	0	0	0	0	0	1	1	1	0	0	0	1	1	0	1	1	1	A	1	1	1	1	1	0.5	1.0
20-Jun	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	A	0	0	0	0	0	0	0.5	0.5
21-Jun	0	0	0	0	0	1	1	1	1	0	0	0	1	1	0	0	A	0	0	0	0	0	0	0	0.6	1.5
22-Jun	0	0	0	0	0	0	1	2	2	1	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0.7	1.9
23-Jun	0	0	0	0	0	0	1	0	0	0	0	0	0	0	A	1	1	0	0	0	0	0	0	0	0.5	1.4
24-Jun	0	0	0	0	0	0	0	1	1	1	1	1	0	A	1	1	0	0	1	0	0	0	0	0	0.6	1.4
25-Jun	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
26-Jun	0	0	0	0	0	0	0	0	0	1	0	A	0	0	0	0	0	0	0	0	1	1	0	0	0.5	1.0
27-Jun	0	0	0	0	0	0	0	0	1	6	A	3	3	3	2	1	1	2	2	1	0	0	1	0	1.4	6.3
28-Jun	1	2	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.9
29-Jun	0	0	0	0	0	0	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
30-Jun	0	0	1	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	32	1.9	31.6
	0.5	0.6	0.5	0.5	0.5	0.6	0.7	0.7	0.7	0.9	0.7	0.7	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.6	0.7	1.7	Diurnal Average	
	1.8	1.9	1.2	0.8	1.2	1.3	1.4	1.9	1.9	6.3	3.6	3.6	3.4	3.3	1.9	1.6	1.4	2.4	1.9	0.9	1.1	1.2	2.5	31.6	Diurnal Maximum	

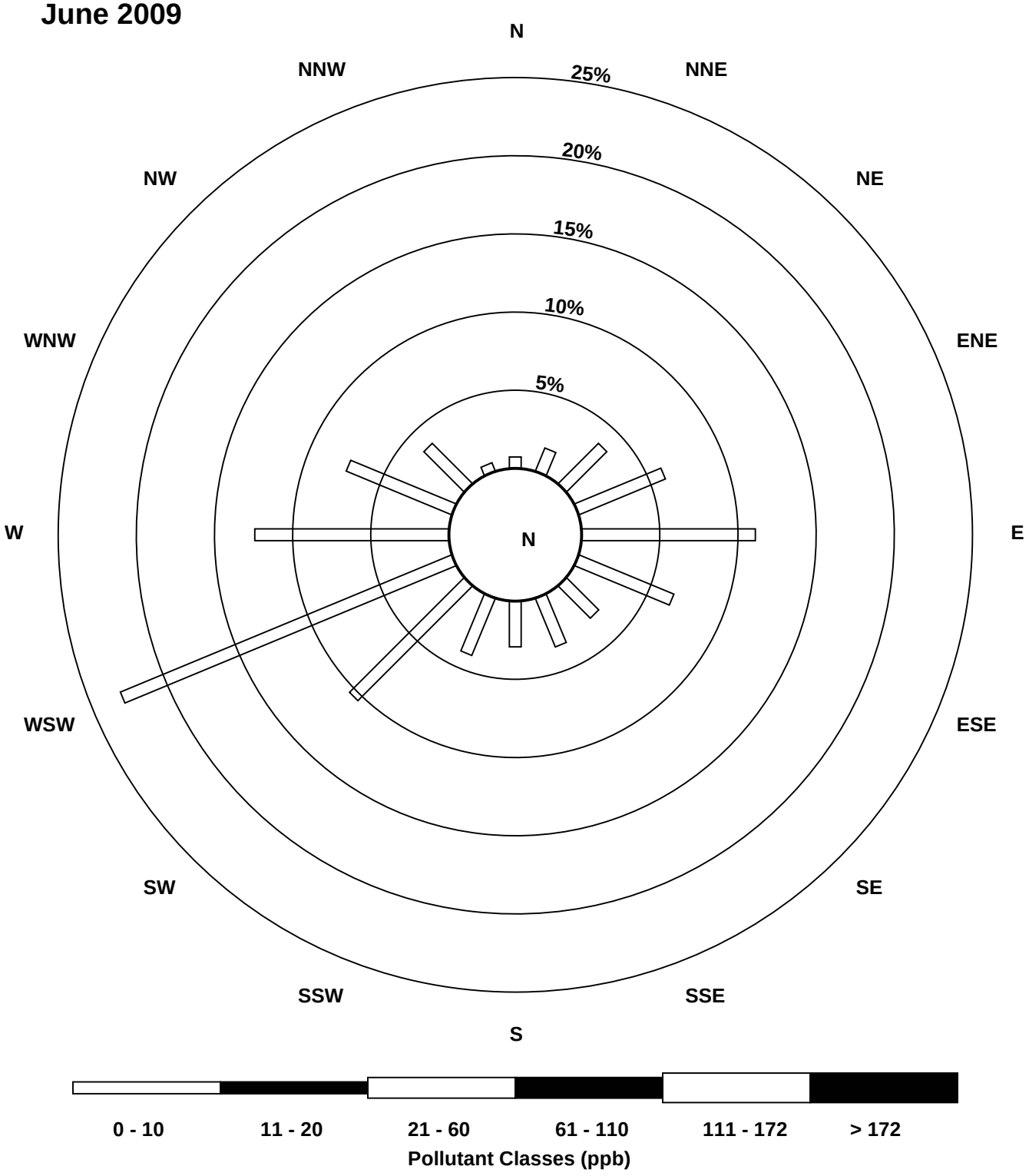
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for SO_2 at Henry Pirker
June 2009



Pollutant Rose for SO_2 at Henry Pirker
June 2009



Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.4 ppb on Jul 1 00:00 Maximum Daily Average: 0.3 ppb on Jun 15

Minimum Value: 0 ppb on Jun 3 13:00 Minimum Daily Average: 0.0 ppb on Jun 29
Maximum Diurnal Average: 0.2 ppb at hour 6 Minimum Diurnal Average: 0.1 ppb at hour 20
Monthly Average: 0.18 ppb Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 0.1 Median = 0.2 Q_3 = 0.2 P_{90} = 0.3 P_{99} = 0.4

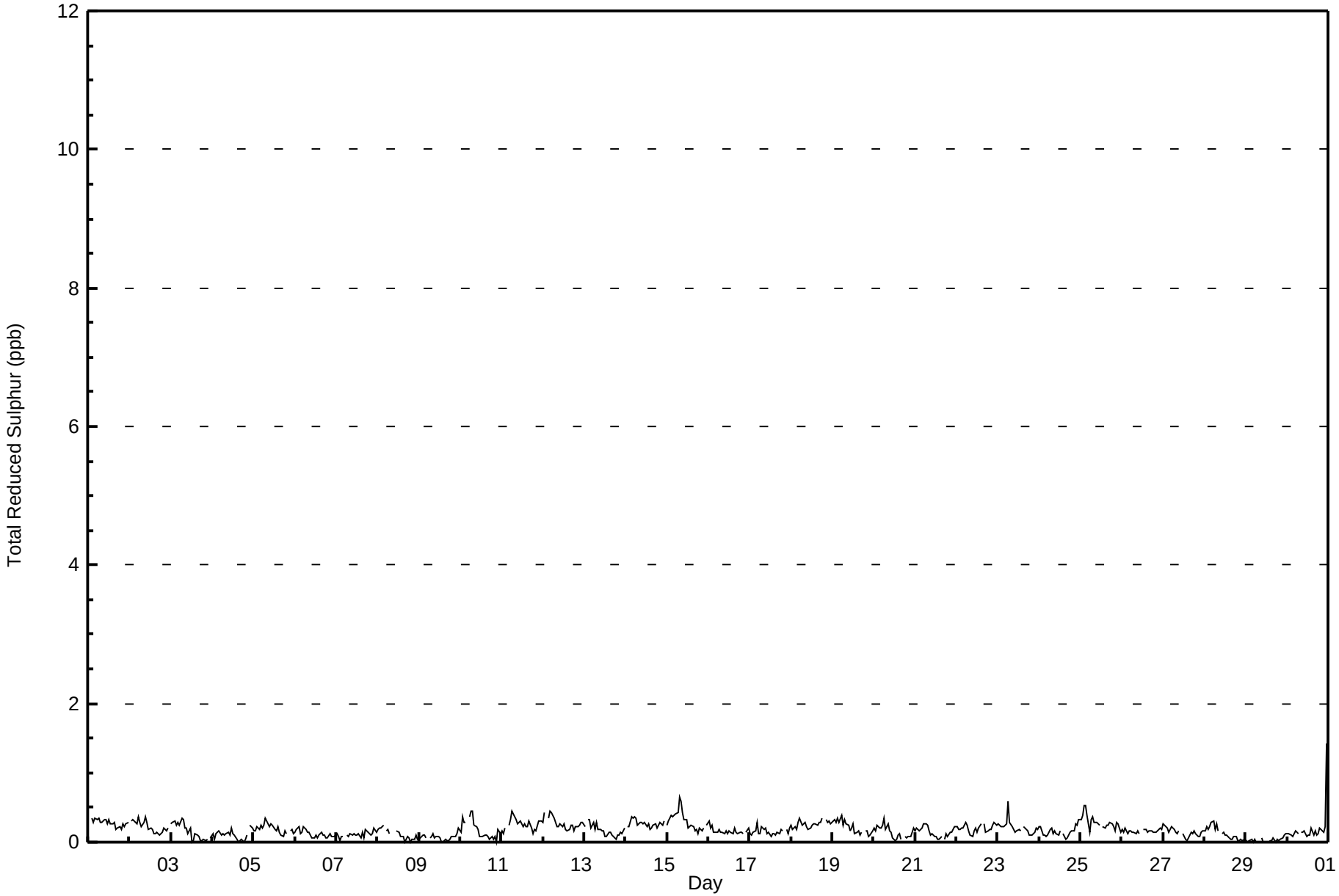
Hours in Service:	720
Hours of Data:	686
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								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-Jun	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
2-Jun	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
3-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.2	0.4
4-Jun	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
5-Jun	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
6-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
7-Jun	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
8-Jun	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
9-Jun	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
10-Jun	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
11-Jun	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
12-Jun	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
13-Jun	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
14-Jun	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
15-Jun	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.3	0.6
16-Jun	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	0.3
17-Jun	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
18-Jun	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	0.3
19-Jun	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
20-Jun	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	0.3
21-Jun	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
22-Jun	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
23-Jun	0	0	0	0	0	0	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.2	0.6
24-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.3
25-Jun	0	0	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
26-Jun	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	0.2
27-Jun	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
28-Jun	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
29-Jun	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
30-Jun	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	1.4
	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	Diurnal Average	
	0.4	0.4	0.5	0.5	0.4	0.4	0.6	0.6	0.6	0.4	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	1.4	Diurnal Maximum	

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

Hourly Averages for TRS at Henry Pirker

June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 7.1 ppb on Jul 1 00:00

Maximum Daily Average: 0.8 ppb on Jun 30

Minimum Value: 0 ppb on Jun 29 15:00

Minimum Daily Average: 0.4 ppb on Jun 29

Maximum Diurnal Average: 0.8 ppb at hour 24

Minimum Diurnal Average: 0.5 ppb at hour 14

Monthly Average: 0.55 ppb

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

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

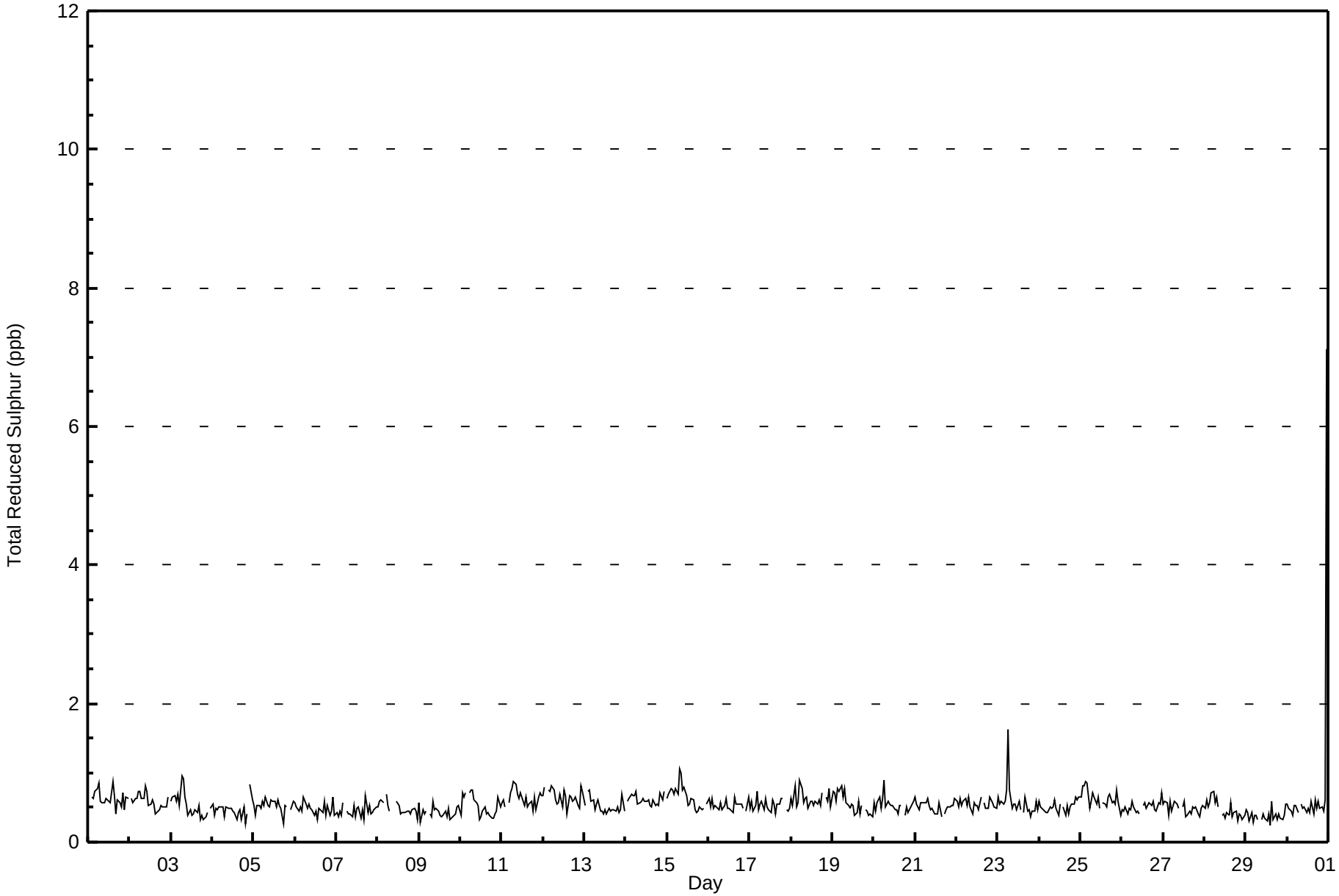
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jun	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	0.6	0.9
2-Jun	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	0	1	1	A	0.6	0.8
3-Jun	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0.5	1.0
4-Jun	1	0	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	A	1	1	0.5	0.8
5-Jun	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	A	0	1	1	0.5	0.7
6-Jun	1	1	0	1	0	1	1	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0.5	0.7
7-Jun	0	0	0	0	1	A	0	0	0	0	1	0	0	1	0	0	0	1	0	1	0	0	0	1	0.4	0.7
8-Jun	1	1	1	1	A	1	1	0	C	C	C	1	1	0	0	0	0	0	0	0	0	0	0	0	0.5	0.7
9-Jun	1	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	0.6
10-Jun	0	1	1	1	A	1	1	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	1	1	0.5	0.7
11-Jun	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	0.6	0.9
12-Jun	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	0.7	0.8
13-Jun	1	A	1	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0.5	0.8
14-Jun	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.6	0.7
15-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	A	1	0.7	1.1
16-Jun	1	1	1	0	1	0	0	1	0	1	1	0	0	0	0	1	1	1	1	1	0	A	0	1	0.5	0.7
17-Jun	0	1	0	1	1	0	1	1	0	1	1	0	0	1	1	0	1	1	1	1	A	0	0	0	0.5	0.7
18-Jun	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	A	1	1	1	0	0.6	0.9
19-Jun	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	1	0	1	A	0	0	0	0	0	0.6	0.8
20-Jun	1	0	1	1	0	1	1	1	1	1	1	1	0	0	0	1	1	A	0	1	0	1	1	1	0.5	0.9
21-Jun	1	1	0	1	1	1	1	1	1	0	0	0	0	0	1	0	A	0	0	1	1	1	1	1	0.5	0.6
22-Jun	1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	A	1	0	0	1	1	1	1	0	0.6	0.7
23-Jun	1	1	1	1	1	1	2	1	0	1	1	0	1	0	A	0	1	0	0	0	0	0	1	0	0.6	1.6
24-Jun	1	1	0	0	0	0	1	0	1	1	0	0	1	A	1	0	1	0	1	1	1	1	1	1	0.5	0.7
25-Jun	1	1	1	1	1	0	1	1	1	1	1	0	A	1	1	1	1	1	1	1	1	1	1	0	0.6	0.9
26-Jun	0	0	1	0	0	0	1	1	0	0	0	A	1	1	0	1	1	1	1	0	0	1	1	1	0.5	0.7
27-Jun	1	1	1	0	1	0	1	1	1	0	A	1	1	0	0	0	0	1	0	1	0	0	0	1	0.5	0.6
28-Jun	0	1	1	1	1	1	1	1	1	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.5	0.7
29-Jun	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.4	0.6
30-Jun	1	0	0	0	1	1	0	A	1	0	1	0	0	0	1	0	1	0	1	0	1	0	1	7	0.8	7.1
	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.8	Diurnal Average	
	0.9	0.8	0.8	0.9	0.8	0.9	1.6	1.1	1.0	0.8	0.8	0.7	0.8	0.7	0.9	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	7.1	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

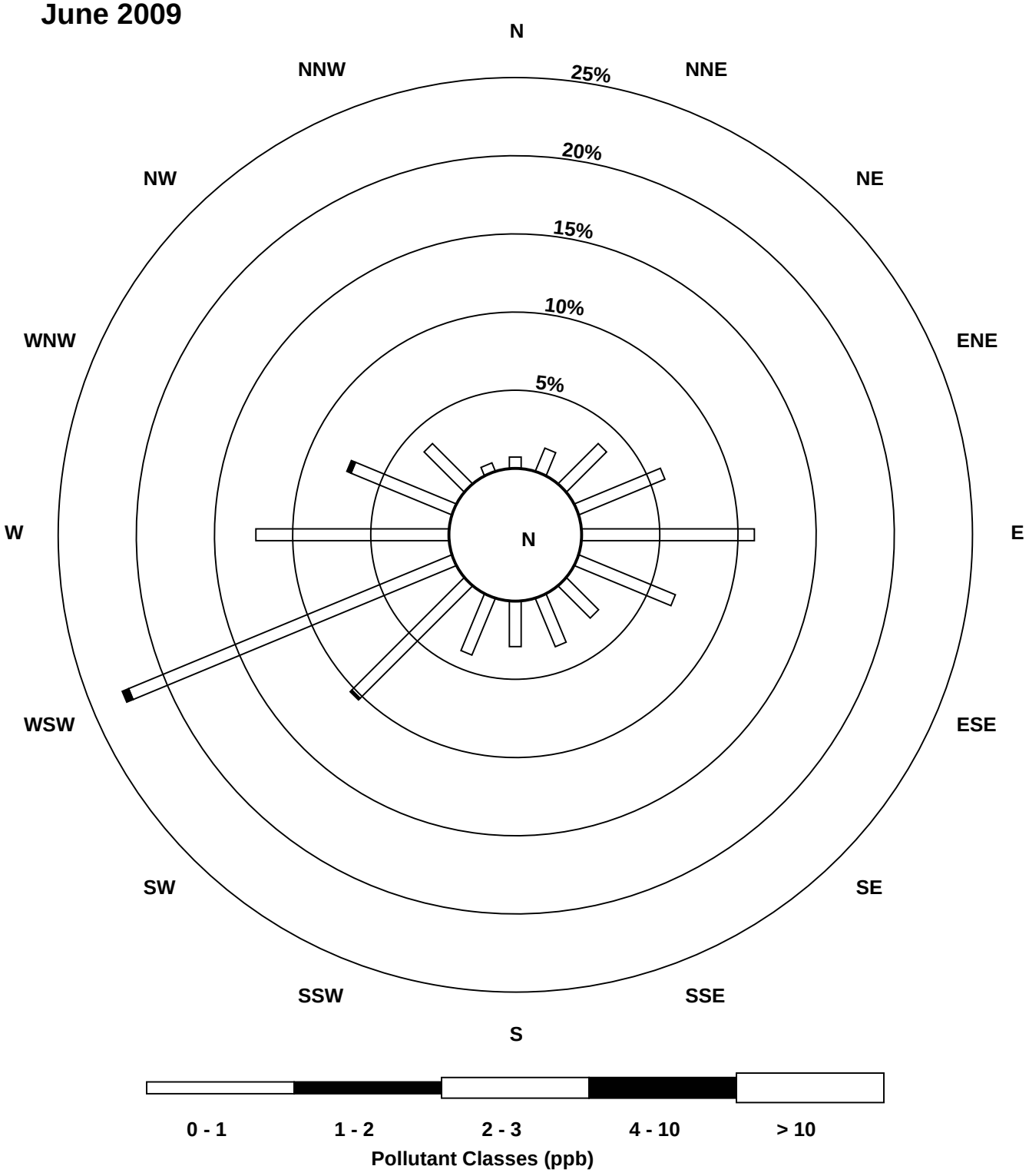
Hourly Maximums for TRS at Henry Pirker

June 2009



Pollutant Rose for TRS at Henry Pirker

June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 29.1 ppb on Jun 2 23:00 Maximum Daily Average: 8.8 ppb on Jun 3

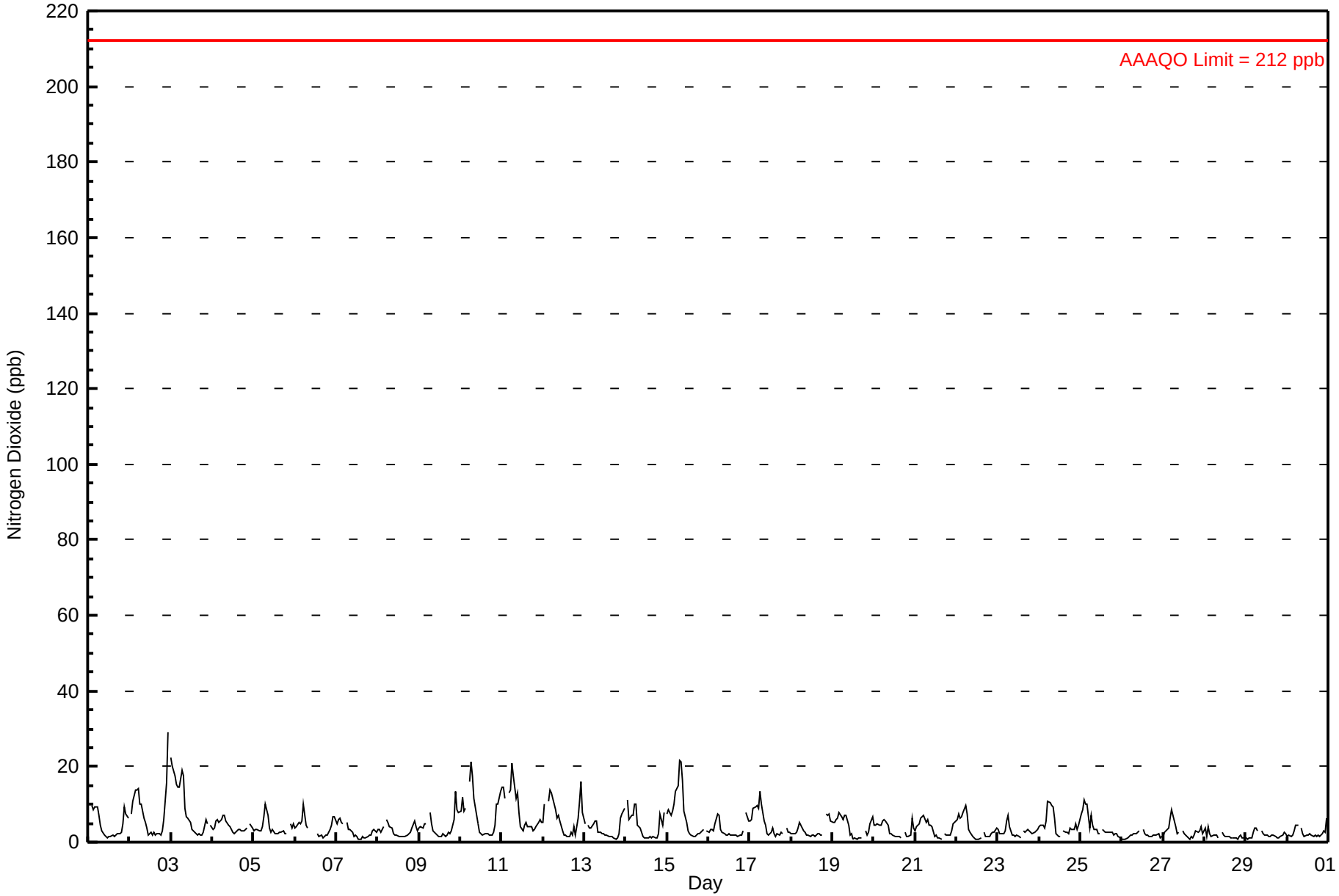
Minimum Value: 1 ppb on Jun 26 03:00 Minimum Daily Average: 1.7 ppb on Jun 28
Maximum Diurnal Average: 8.2 ppb at hour 7 Minimum Diurnal Average: 1.8 ppb at hour 16
Monthly Average: 4.31 ppb Percentiles: P_1 = 0.8 P_{10} = 1.4 Q_1 = 1.9 Median = 2.9 Q_3 = 5.4 P_{90} = 9.2 P_{99} = 19.9

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

Day	Hourly Period Ending At (MST)																								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-Jun	10	A	10	9	9	9	7	5	3	2	2	1	1	2	2	2	2	2	2	3	5	9	7	6	4.8	10.3
2-Jun	A	7	11	14	14	14	10	10	6	5	4	2	3	2	2	2	2	2	2	3	6	16	29	A	7.6	29.1
3-Jun	22	20	17	15	15	15	19	17	9	7	6	5	3	3	2	2	2	2	2	3	6	5	A	4	8.8	22.5
4-Jun	3	4	5	6	5	6	7	7	6	4	4	3	3	2	3	3	3	3	3	3	4	A	5	4	4.2	7.1
5-Jun	3	3	3	3	3	4	7	10	7	4	2	3	2	2	2	3	3	3	2	2	A	5	4	5	3.8	10.1
6-Jun	4	4	5	5	6	10	4	4	C	C	C	C	C	2	2	2	1	1	2	2	3	5	7	7	4.0	10.1
7-Jun	5	6	6	5	5	A	5	4	3	2	1	2	1	1	1	1	1	1	2	2	2	3	4	3	2.9	6.2
8-Jun	3	3	3	4	A	6	5	4	4	2	2	2	1	2	2	1	1	2	2	3	4	5	4	3	3.0	6.1
9-Jun	4	4	4	5	5	A	8	5	3	3	2	2	2	1	2	2	2	3	2	3	6	13	9	8	4.2	13.3
10-Jun	8	12	8	9	A	16	21	18	12	7	5	3	2	2	2	2	2	2	2	3	5	10	10	13	7.6	21.1
11-Jun	14	15	12	A	13	14	21	18	12	13	8	4	3	4	5	4	4	4	3	3	4	5	6	5	8.4	20.8
12-Jun	5	10	A	11	14	13	10	9	6	7	6	3	2	2	2	1	3	2	4	2	7	11	16	8	6.6	16.1
13-Jun	5	A	4	4	4	5	6	6	3	3	2	2	2	2	2	1	2	1	1	1	2	6	7	9	3.4	9.1
14-Jun	A	11	6	7	7	10	10	5	4	3	2	1	1	1	1	1	2	1	1	2	8	4	8	A	4.3	11.1
15-Jun	8	9	7	8	10	14	15	22	21	16	8	5	3	2	2	1	2	2	2	2	3	3	A	3	7.3	21.7
16-Jun	3	3	3	3	5	8	7	3	3	2	2	2	2	2	2	2	2	2	2	2	3	A	8	5	3.3	7.8
17-Jun	6	6	9	9	10	9	13	10	5	4	2	2	2	4	2	2	2	2	2	2	A	4	3	3	4.9	13.4
18-Jun	2	2	2	3	4	5	4	3	3	2	2	1	2	2	2	2	2	2	2	A	7	7	7	6	3.2	7.5
19-Jun	5	5	6	6	8	7	6	7	7	5	2	2	1	1	1	1	1	1	A	3	2	3	5	7	4.0	7.6
20-Jun	5	4	5	4	4	5	6	5	4	2	2	2	2	1	1	1	1	A	3	2	1	2	6	4	3.3	6.4
21-Jun	3	4	5	6	7	7	5	6	5	4	4	1	2	1	1	1	A	2	2	2	2	3	5	5	3.6	7.2
22-Jun	6	7	6	7	8	10	7	4	3	2	1	1	1	1	1	A	3	2	2	2	2	3	3	4	3.6	9.6
23-Jun	3	2	2	2	3	5	7	4	2	2	1	2	1	1	A	3	3	3	3	2	2	3	3	4	2.8	7.2
24-Jun	4	5	4	4	5	11	10	10	9	6	2	2	2	A	3	2	3	2	4	4	3	5	3	5	4.7	10.9
25-Jun	7	8	11	10	10	4	7	4	3	3	2	2	A	3	3	3	3	3	3	2	2	2	1	1	4.3	11.2
26-Jun	1	1	1	1	2	2	2	2	2	3	3	A	3	2	2	2	2	2	2	2	2	2	1	1	1.8	3.3
27-Jun	2	3	3	4	6	8	6	4	2	3	A	3	2	2	1	1	1	1	2	3	3	3	4	2	3.0	8.4
28-Jun	4	2	4	2	2	2	2	2	1	A	3	2	2	1	1	1	1	1	1	1	1	2	1	1	1.7	3.9
29-Jun	1	1	1	1	3	4	4	3	A	3	2	2	2	1	1	2	2	1	1	1	2	2	3	2	1.9	3.7
30-Jun	2	2	1	2	3	4	5	A	4	2	2	2	2	2	2	2	2	1	2	2	2	3	3	6	2.4	6.3
	5.3	5.9	5.8	5.8	6.7	8.1	8.2	7.2	5.4	4.3	3.0	2.3	2.0	2.0	1.9	1.8	2.0	1.9	2.1	2.2	3.5	5.1	6.1	4.8	Diurnal Average	
	22.5	20.1	17.4	15.2	14.6	16.0	21.1	21.7	21.1	16.3	8.4	5.2	3.4	4.3	5.4	4.1	4.2	3.9	4.1	3.5	7.6	15.5	29.1	13.3	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
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 41.7 ppb on Jun 2 11:00

Maximum Daily Average: 13.3 ppb on Jun 2

Minimum Value: 1 ppb on Jun 26 03:00

Minimum Daily Average: 3.1 ppb on Jun 26

Maximum Diurnal Average: 11.6 ppb at hour 7

Minimum Diurnal Average: 3.8 ppb at hour 14

Monthly Average: 6.94 ppb

Percentiles: P_1 = 1.6 P_{10} = 2.6 Q_1 = 3.5 Median = 5.2 Q_3 = 8.8 P_{90} = 13.4 P_{99} = 24.5

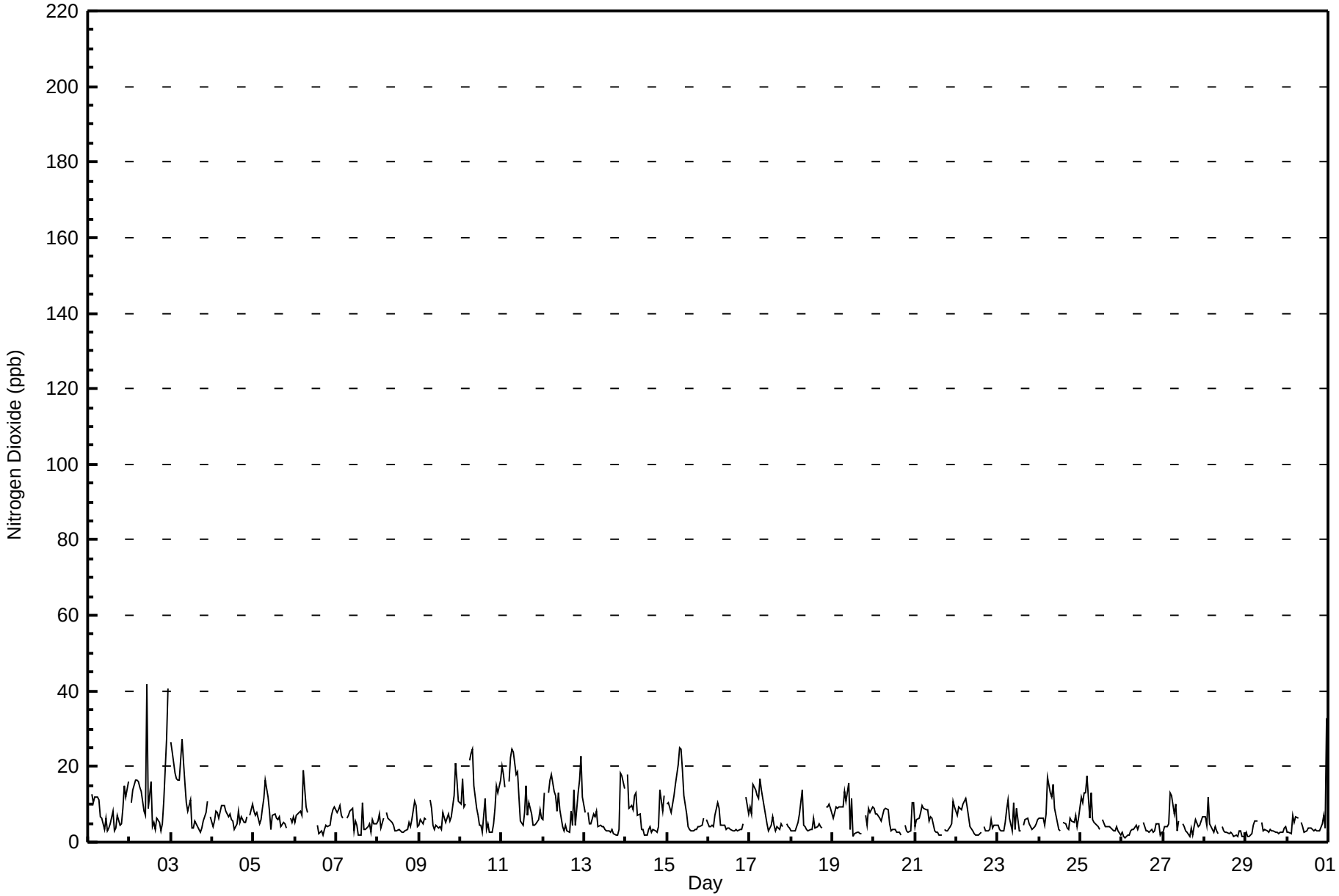
Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								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-Jun	13	A	13	10	12	12	11	7	6	3	6	3	4	5	8	3	4	7	4	5	9	15	12	16	8.2	15.9
2-Jun	A	10	14	16	16	16	14	13	8	7	42	9	16	4	5	3	6	5	3	5	11	27	40	A	13.3	41.7
3-Jun	26	24	18	17	16	16	27	21	16	10	8	11	4	4	6	4	3	3	4	5	8	11	A	7	11.7	27.3
4-Jun	4	6	8	8	6	10	10	10	8	7	7	6	6	3	5	8	5	7	5	5	7	A	7	10	6.9	10.2
5-Jun	8	7	8	5	6	9	12	16	12	8	3	7	8	6	6	7	4	5	5	4	A	6	5	7	7.1	16.3
6-Jun	5	7	8	8	7	19	9	8	C	C	C	C	C	4	2	3	2	3	5	4	4	7	9	9	6.6	18.9
7-Jun	8	8	10	7	6	A	6	7	8	9	3	6	4	2	2	10	3	3	4	5	3	6	5	5	5.7	10.4
8-Jun	5	7	4	6	A	8	6	6	5	4	3	3	3	3	3	3	3	4	5	4	6	11	10	4	5.1	10.7
9-Jun	5	6	5	7	6	A	11	9	5	4	4	4	4	3	8	5	6	8	5	7	12	21	16	11	7.5	20.8
10-Jun	10	17	9	10	A	22	24	24	15	9	7	4	4	2	12	3	5	3	3	5	9	15	13	16	10.5	24.4
11-Jun	20	18	14	A	16	22	25	24	18	19	12	6	4	8	15	7	10	7	4	4	5	6	8	6	12.2	24.8
12-Jun	6	13	A	13	16	18	13	12	8	13	8	4	3	4	3	2	8	4	14	4	13	16	23	12	10.2	22.9
13-Jun	8	A	8	5	5	7	7	8	4	4	4	4	3	3	3	3	3	2	2	2	3	18	17	14	6.1	18.4
14-Jun	A	18	9	10	8	12	13	7	7	3	3	2	2	3	4	2	3	3	2	4	14	8	12	A	7.0	18.0
15-Jun	10	10	8	10	12	15	20	25	24	19	12	7	4	3	3	3	3	3	4	4	4	6	A	6	9.6	24.9
16-Jun	4	4	4	4	7	10	9	4	4	4	3	4	4	3	3	3	3	3	3	3	5	A	12	7	5.0	11.9
17-Jun	9	7	15	14	12	11	17	14	9	7	5	3	4	7	4	3	4	3	5	4	A	5	4	4	7.5	16.6
18-Jun	3	3	3	4	5	7	14	4	4	3	3	3	4	6	4	4	5	4	4	A	9	9	10	9	5.5	13.6
19-Jun	7	8	9	9	9	9	9	14	11	16	3	12	2	2	3	3	2	2	A	7	4	9	8	9	7.3	15.8
20-Jun	9	7	7	6	5	7	9	9	8	5	3	3	3	3	3	3	2	A	5	3	3	3	10	10	5.5	10.5
21-Jun	4	6	7	8	10	9	8	8	5	7	6	3	3	2	2	2	A	3	3	3	4	5	11	9	5.6	10.7
22-Jun	7	9	9	8	10	11	9	7	4	3	2	2	2	2	3	A	4	3	3	4	6	4	4	5	5.3	11.5
23-Jun	5	4	3	3	5	9	11	6	3	10	3	9	3	3	A	5	6	7	5	4	4	4	5	6	5.3	11.0
24-Jun	6	7	7	5	7	17	13	12	15	9	7	3	3	A	5	5	4	3	6	6	5	7	4	6	7.1	17.3
25-Jun	12	10	13	13	17	6	13	6	5	4	4	3	A	6	4	4	4	4	3	3	3	4	3	2	6.5	17.4
26-Jun	2	1	1	2	2	3	3	3	4	3	4	A	5	4	3	3	3	3	2	3	5	5	2	2	3.1	5.3
27-Jun	3	4	4	5	13	12	7	10	3	5	A	5	4	3	3	2	4	2	4	6	4	5	6	7	5.2	13.0
28-Jun	7	5	12	5	4	3	4	3	2	A	4	3	3	3	2	3	2	2	2	2	3	3	2	2	3.4	12.0
29-Jun	3	2	2	2	4	6	6	6	A	5	3	4	3	3	3	3	3	3	3	2	3	3	4	4	3.3	5.7
30-Jun	3	3	2	7	5	7	6	A	5	4	3	3	4	4	4	3	3	3	3	3	5	7	4	33	5.3	32.6
	7.5	8.3	8.1	7.8	9.0	11.3	11.6	10.5	8.2	7.4	6.4	4.9	4.1	3.8	4.4	3.8	4.2	3.9	4.2	4.1	6.1	8.8	9.5	8.6	Diurnal Average	
	26.4	23.7	18.4	16.9	17.4	22.4	27.3	24.9	24.4	18.9	41.7	11.6	15.9	7.7	15.1	10.4	10.4	7.6	13.8	7.0	13.8	27.3	40.5	32.6	Diurnal Maximum	

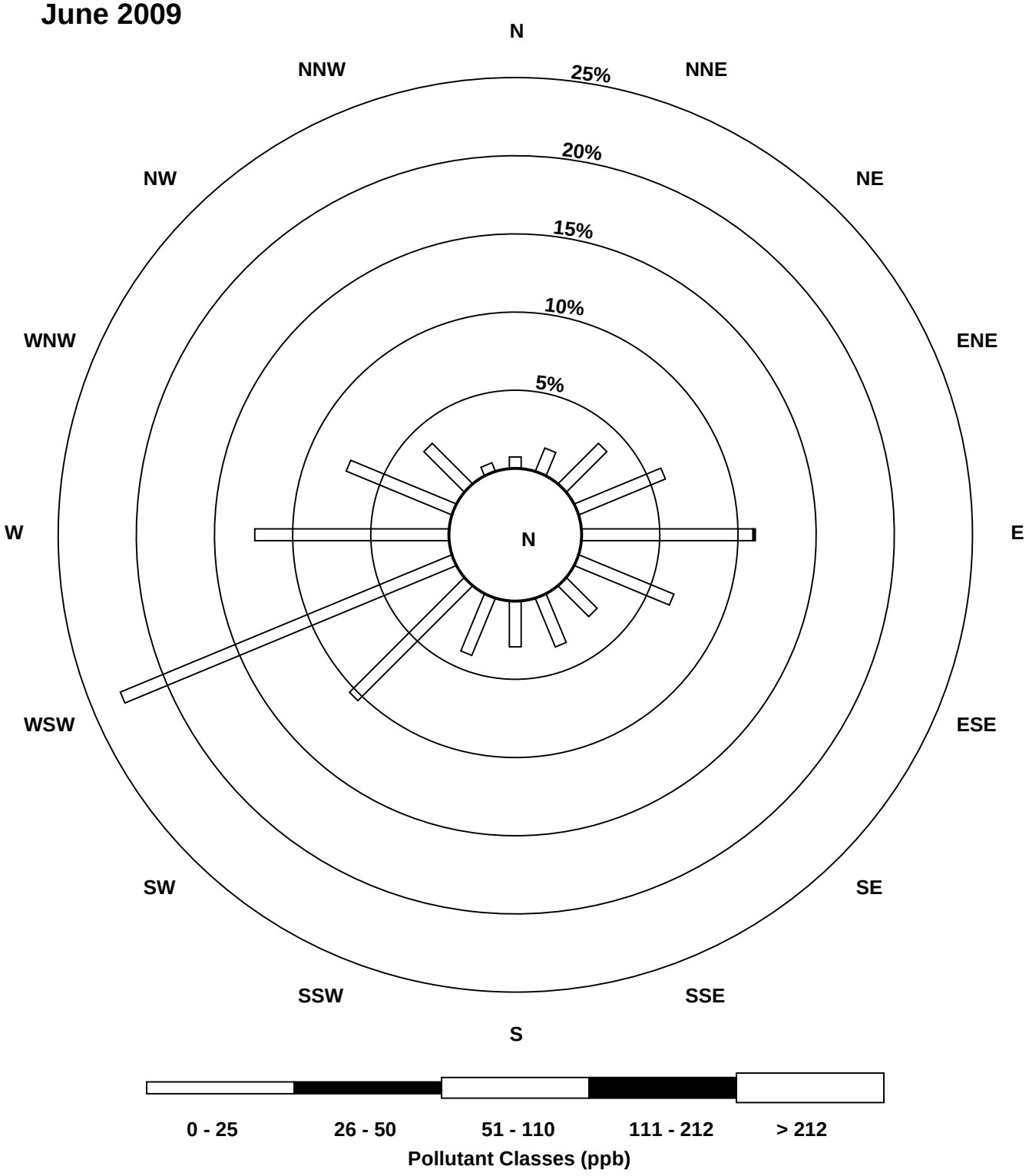
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for NO_2 at Henry Pirker
June 2009



Pollutant Rose for NO_2 at Henry Pirker
June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Maximum Value: 26.0 ppb on Jul 1 00:00

Maximum Daily Average: 2.8 ppb on Jun 3

Minimum Value: 0 ppb on Jun 10 02:00

Minimum Daily Average: 0.3 ppb on Jun 13

Maximum Diurnal Average: 3.3 ppb at hour 8

Minimum Diurnal Average: 0.1 ppb at hour 1

Monthly Average: 0.86 ppb

Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.4 Q_3 = 0.8 P_{90} = 1.7 P_{99} = 11.9

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

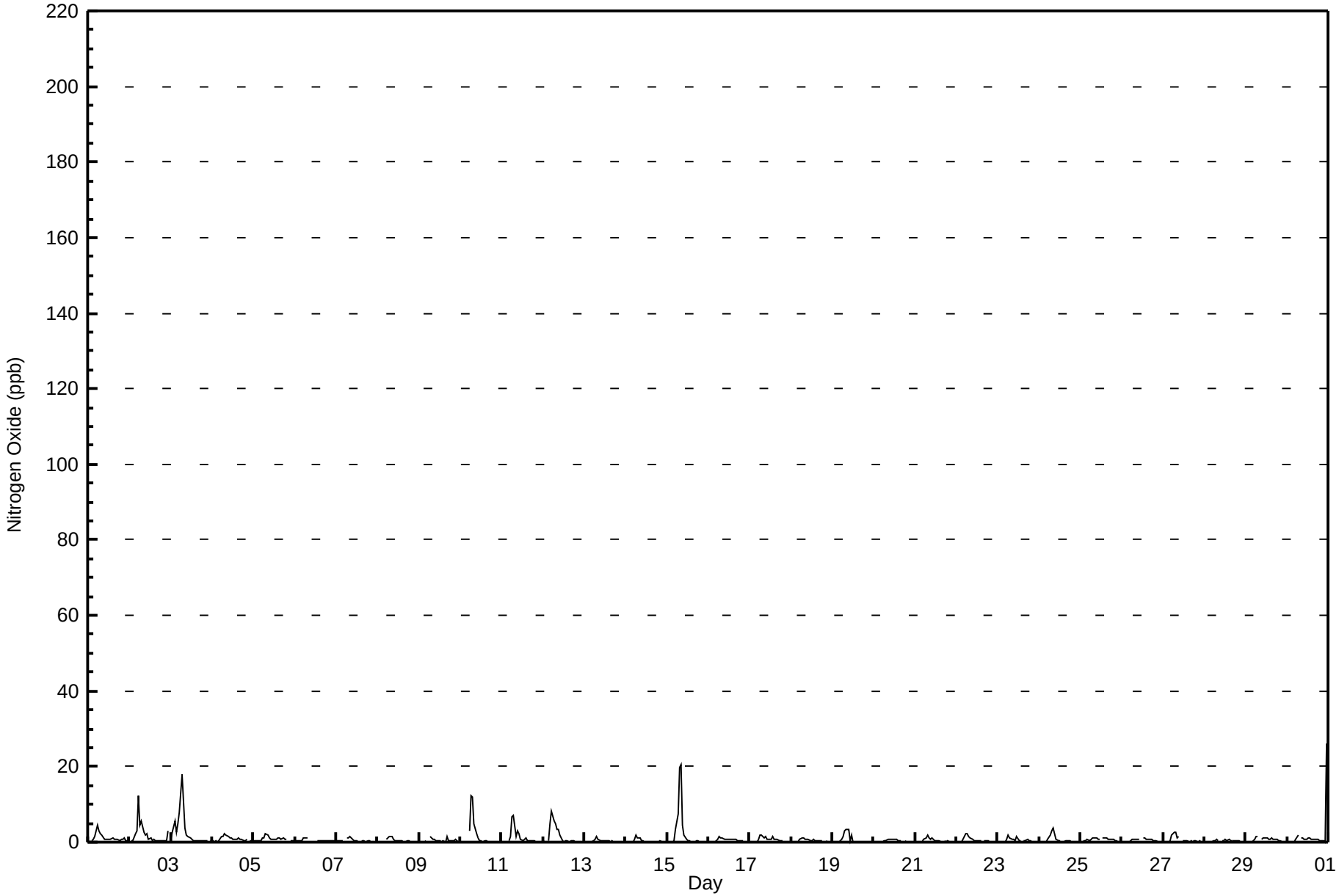
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	0	A	1	1	2	5	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1.1	4.5
2-Jun	A	0	0	2	3	12	5	6	3	2	2	1	1	0	1	0	0	0	0	0	0	1	3	A	2.0	12.4
3-Jun	1	3	6	3	5	8	18	11	4	2	2	1	1	0	0	0	0	0	0	0	0	0	A	0	2.8	17.8
4-Jun	0	0	0	0	0	1	2	2	2	1	1	1	1	1	1	1	1	1	1	0	1	A	0	0	0.8	2.1
5-Jun	0	0	0	1	0	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	A	0	0	0	0.8	2.1
6-Jun	0	1	0	1	0	1	1	1	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0.5	1.3
7-Jun	0	0	0	0	0	A	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.4
8-Jun	0	0	0	0	A	1	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.5
9-Jun	0	0	0	0	0	A	1	1	1	1	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0.4	1.5
10-Jun	0	0	0	0	A	3	12	12	5	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1.6	12.3
11-Jun	0	0	0	A	0	2	7	7	1	3	2	1	0	1	1	0	0	0	0	0	0	0	0	0	1.2	7.2
12-Jun	0	0	A	0	5	8	6	5	3	3	2	0	0	0	0	0	0	0	1	0	0	0	0	0	1.6	8.4
13-Jun	0	A	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.5
14-Jun	A	0	0	0	0	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.3	2.0
15-Jun	0	0	0	0	0	3	7	20	20	5	2	1	0	0	0	0	0	0	0	0	0	0	A	0	2.6	20.3
16-Jun	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	A	0	0	0.5	1.5
17-Jun	0	0	0	0	0	1	2	2	1	1	1	1	1	1	1	1	1	1	1	0	A	0	0	0	0.7	1.8
18-Jun	0	0	0	0	0	1	1	1	1	1	1	0	0	1	0	1	1	0	0	A	0	0	0	0	0.4	1.0
19-Jun	0	0	0	0	0	1	2	3	3	3	0	2	0	0	0	0	0	0	A	0	0	0	0	0	0.7	3.5
20-Jun	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	A	0	0	0	0	0	0	0.3	0.9
21-Jun	0	0	0	0	0	1	1	2	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0.4	2.0
22-Jun	0	0	0	0	1	2	2	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.5	2.4
23-Jun	0	0	0	0	0	1	2	1	1	1	1	1	1	0	A	0	1	1	0	0	0	0	0	0	0.5	1.9
24-Jun	0	0	0	0	0	1	2	3	4	2	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0.6	3.6
25-Jun	0	0	0	0	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	0	0	0	0.6	1.3
26-Jun	0	0	0	0	0	0	1	1	1	1	1	A	1	1	1	1	1	1	1	0	0	0	0	0	0.5	1.1
27-Jun	0	0	0	0	0	2	2	3	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	2.5
28-Jun	0	0	0	0	0	0	0	1	1	A	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0.3	0.7
29-Jun	0	0	0	0	0	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0.6	1.3
30-Jun	0	0	0	0	0	1	2	A	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	26	1.7	26.0
	0.1	0.2	0.3	0.3	0.7	2.1	3.0	3.3	2.4	1.4	0.9	0.7	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.2	0.2	0.2	1.0	Diurnal Average	
	0.6	2.7	5.7	2.7	4.9	12.4	17.8	19.6	20.3	4.5	2.4	2.0	1.2	1.5	1.2	1.1	1.3	1.2	0.9	0.7	0.8	1.0	2.9	26.0	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

Hourly Averages for NO at Henry Pirker

June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 385.8 ppb on Jul 1 00:00

Maximum Daily Average: 18.5 ppb on Jun 30

Minimum Value: 0 ppb on Jun 14 03:00

Minimum Daily Average: 0.8 ppb on Jun 28

Maximum Diurnal Average: 14.4 ppb at hour 24

Minimum Diurnal Average: 0.7 ppb at hour 1

Monthly Average: 3.22 ppb

Percentiles: P_1 = 0.0 P_{10} = 0.2 Q_1 = 0.5 Median = 1.0 Q_3 = 2.5 P_{90} = 6.5 P_{99} = 31.7

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

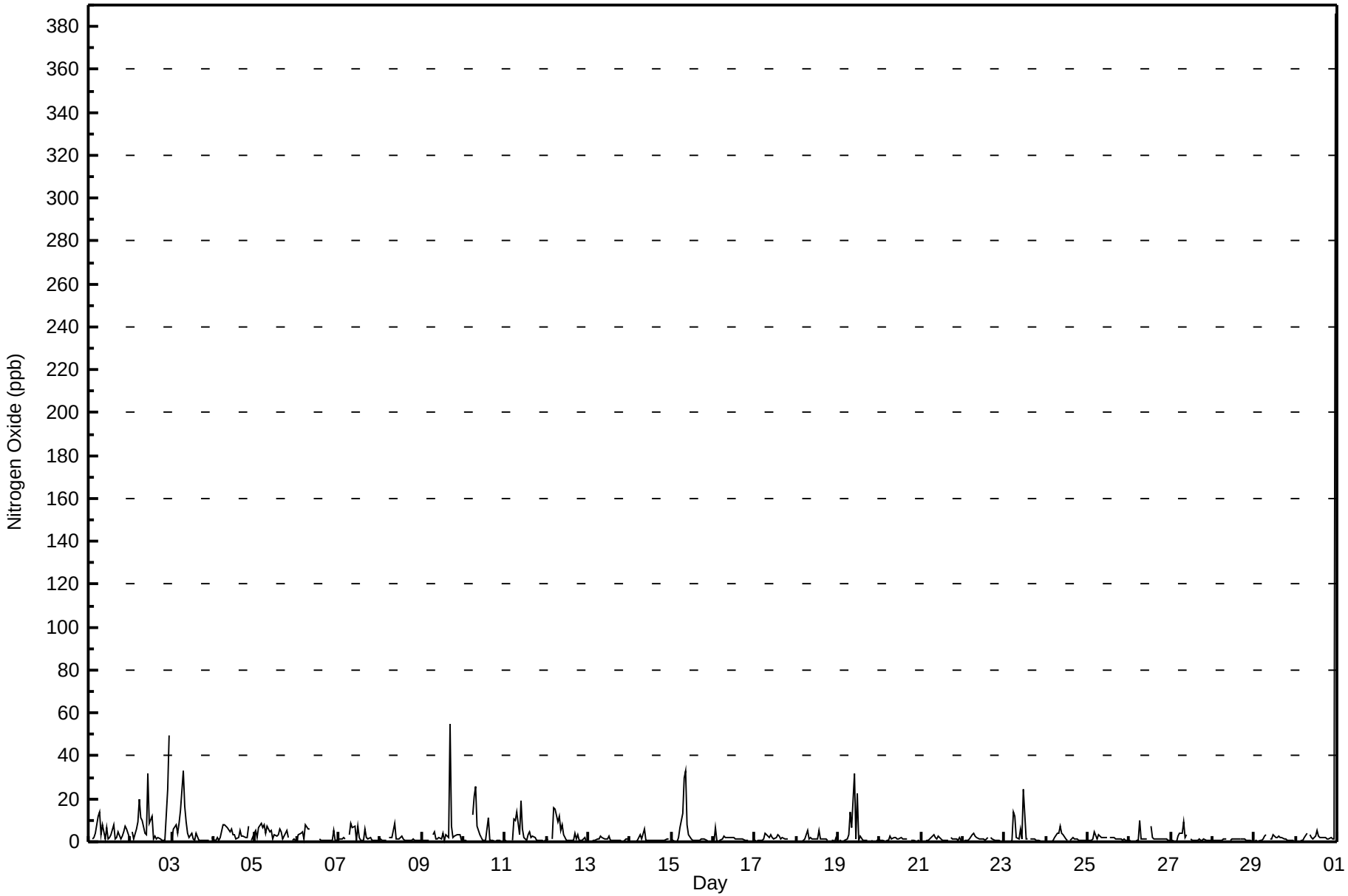
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	1	A	1	2	4	12	14	3	8	1	7	1	2	3	8	1	2	5	1	2	5	7	6	2	4.4	13.8
2-Jun	A	5	1	6	9	20	11	10	4	3	32	9	12	1	3	1	2	1	1	1	1	25	49	A	9.4	49.4
3-Jun	2	6	8	4	8	14	33	16	9	4	2	4	1	1	4	1	1	1	1	1	1	1	A	2	5.3	32.8
4-Jun	1	1	2	0	2	8	8	7	7	4	6	3	3	1	2	5	3	2	2	2	8	A	1	4	3.5	7.7
5-Jun	6	2	7	8	7	8	4	7	4	5	1	4	2	4	6	5	2	4	5	2	A	1	1	1	4.1	8.3
6-Jun	1	4	4	4	1	8	6	6	C	C	C	C	C	1	1	1	1	1	1	1	1	5	1	1	2.4	7.8
7-Jun	1	1	1	2	1	A	3	9	7	7	1	7	2	1	0	6	2	1	2	1	1	1	0	0	2.4	8.7
8-Jun	1	1	0	1	A	2	2	2	9	1	1	1	3	1	1	1	0	1	1	1	0	1	1	1	1.4	8.8
9-Jun	1	1	0	1	1	A	3	4	2	2	2	1	4	1	3	2	55	8	2	2	3	3	3	0	4.5	54.7
10-Jun	1	0	0	0	A	13	21	26	7	3	2	1	1	0	11	1	1	0	0	1	0	0	0	0	3.9	25.7
11-Jun	0	0	0	A	1	11	10	14	3	19	6	2	1	3	5	2	3	2	1	1	0	0	0	0	3.6	18.9
12-Jun	0	1	A	2	16	15	10	12	5	8	3	1	1	1	1	1	4	1	3	0	1	1	2	0	3.9	16.0
13-Jun	0	A	0	0	0	1	1	2	2	1	1	1	2	1	1	1	1	0	0	0	0	1	1	1	0.9	2.5
14-Jun	A	0	0	0	0	2	3	1	6	1	1	0	0	1	1	0	1	1	1	1	1	1	1	A	1.0	5.7
15-Jun	1	0	0	0	2	6	14	30	33	8	3	1	1	1	0	1	1	1	1	1	0	0	A	0	4.6	33.1
16-Jun	0	6	0	0	0	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	A	0	0	1.4	6.4
17-Jun	1	0	0	0	1	2	4	3	2	3	2	1	2	3	3	1	2	1	1	1	A	0	0	0	1.5	4.0
18-Jun	0	0	0	0	1	2	5	2	2	1	1	1	1	5	1	1	1	1	1	A	1	0	0	2	1.3	5.5
19-Jun	0	0	0	0	1	2	3	14	6	32	1	23	0	2	0	1	0	0	A	0	0	0	0	1	3.8	32.0
20-Jun	0	1	0	0	0	0	3	1	2	2	1	1	2	1	1	1	1	A	1	1	0	0	0	0	0.9	2.9
21-Jun	0	0	0	1	1	1	2	3	2	2	2	1	1	1	1	1	A	2	1	1	1	1	2	1	1.2	3.5
22-Jun	0	1	0	1	2	3	4	3	2	1	1	1	1	1	2	A	2	1	1	1	1	0	0	0	1.3	4.1
23-Jun	0	0	0	0	0	14	12	2	1	6	1	25	1	1	A	1	1	1	1	1	0	0	0	0	3.1	24.7
24-Jun	0	0	0	0	0	2	4	4	7	4	3	1	1	A	1	2	1	1	1	1	0	0	0	0	1.6	7.0
25-Jun	1	0	1	1	5	1	3	3	2	2	2	2	A	2	2	2	1	1	1	1	1	1	1	0	1.5	4.8
26-Jun	1	0	0	0	1	1	10	1	1	1	1	A	7	2	1	1	1	1	1	1	1	1	0	0	1.6	9.7
27-Jun	0	0	0	0	2	4	4	9	2	4	A	1	1	1	1	1	1	0	1	1	1	1	1	1	1.5	8.9
28-Jun	0	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0.8	1.5
29-Jun	0	0	0	0	1	1	2	3	A	1	2	3	2	2	2	2	2	1	1	1	1	1	0	0	1.3	3.4
30-Jun	0	0	0	0	1	2	4	A	3	2	2	3	5	2	2	2	2	2	1	1	2	1	1	386	18.5	385.8
	0.7	1.2	0.9	1.2	2.4	5.5	6.9	6.9	5.1	4.7	3.3	3.7	2.2	1.7	2.3	1.6	3.3	1.6	1.2	0.9	1.1	1.9	2.6	14.4	Diurnal Average	
	5.5	6.4	7.9	8.3	16.0	19.5	32.8	29.8	33.1	32.0	31.7	24.7	11.6	5.5	11.1	5.7	54.7	7.6	5.5	2.5	7.6	24.6	49.4	385.8	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for NO at Henry Pirker

June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Maximum Value: 41.7 ppb on Jun 15 09:00

Maximum Daily Average: 11.3 ppb on Jun 3

Minimum Value: 1 ppb on Jun 26 03:00

Minimum Daily Average: 2.0 ppb on Jun 28

Maximum Diurnal Average: 11.2 ppb at hour 7

Minimum Diurnal Average: 2.3 ppb at hour 16

Monthly Average: 5.15 ppb

Percentiles: P_1 = 1.0 P_{10} = 1.7 Q_1 = 2.3 Median = 3.3 Q_3 = 5.9 P_{90} = 10.3 P_{99} = 29.2

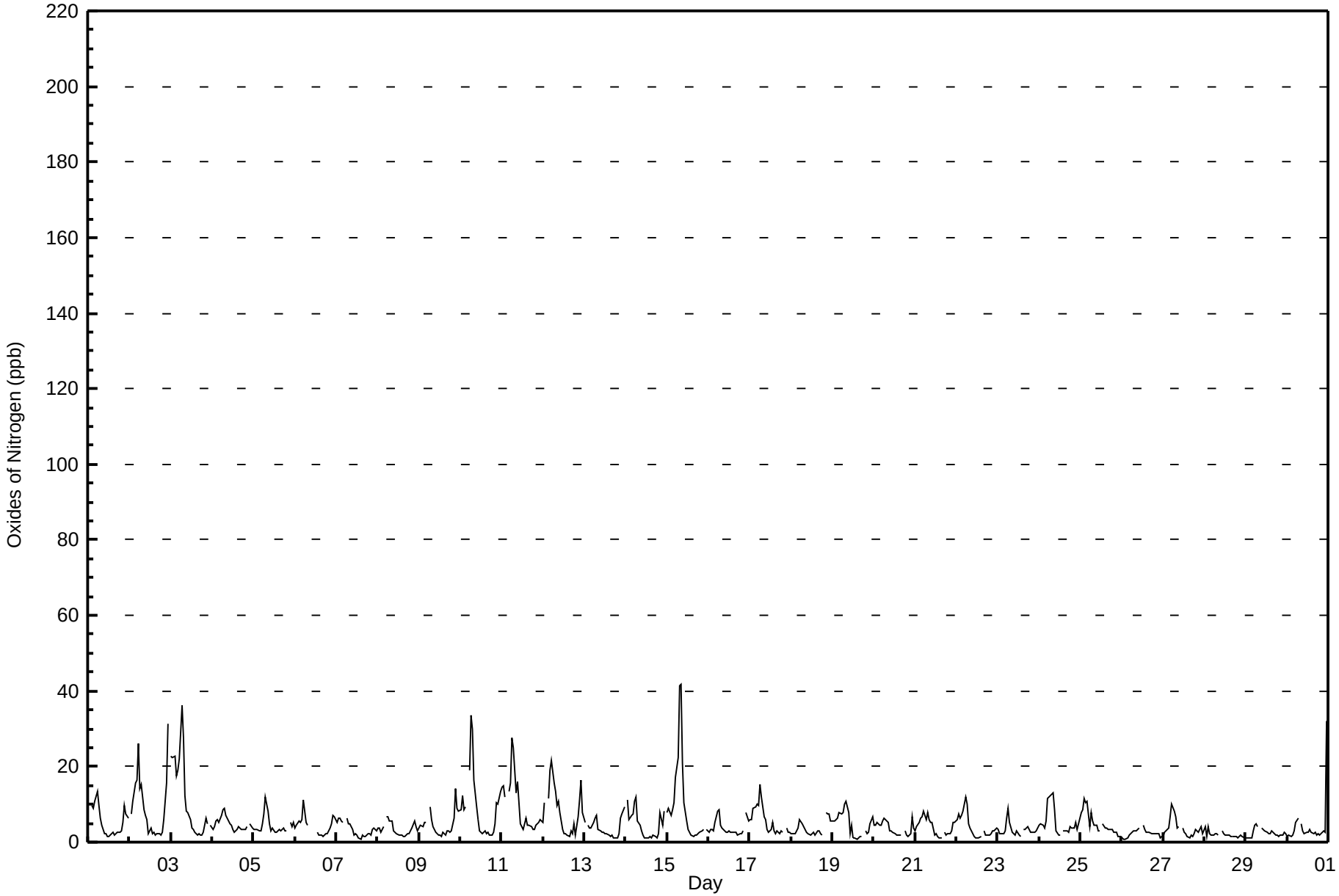
Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jun	10	A	10	9	11	13	10	6	4	2	2	1	2	2	2	2	2	2	2	3	5	10	8	6	5.5	13.4
2-Jun	A	7	11	16	16	26	14	15	9	7	6	2	4	2	3	2	2	2	2	3	6	16	31	A	9.2	31.4
3-Jun	23	22	23	17	19	22	36	28	12	8	8	6	4	3	3	2	2	2	2	3	6	5	A	5	11.3	36.3
4-Jun	3	4	6	6	5	7	8	9	7	5	5	4	3	3	3	4	4	3	3	3	4	A	5	4	4.8	8.9
5-Jun	3	3	4	3	3	5	8	12	8	5	3	4	3	3	3	3	3	4	3	3	A	5	4	5	4.3	12.0
6-Jun	4	5	5	5	6	11	5	5	C	C	C	C	C	3	2	2	2	2	2	2	4	5	7	7	4.4	11.3
7-Jun	5	6	7	5	5	A	6	5	5	3	2	2	2	1	1	2	1	1	2	2	2	3	4	3	3.3	6.5
8-Jun	4	4	3	4	A	7	7	6	5	3	2	2	2	2	2	2	2	1	2	2	3	4	6	4	3.4	6.9
9-Jun	4	4	4	5	5	A	9	6	4	3	2	2	2	2	3	2	3	3	3	3	6	14	9	8	4.6	14.1
10-Jun	8	12	8	9	A	19	34	30	17	9	6	3	3	2	3	2	3	2	2	3	5	10	10	13	9.3	33.6
11-Jun	15	15	12	A	13	16	28	25	13	16	10	5	3	5	6	5	5	4	3	3	4	5	6	6	9.7	27.6
12-Jun	5	10	A	11	19	22	16	13	10	11	8	3	2	2	2	2	3	2	5	2	7	11	16	8	8.3	21.6
13-Jun	5	A	4	4	4	5	6	7	3	3	3	3	2	2	2	2	2	1	1	1	2	6	8	9	3.7	9.2
14-Jun	A	11	6	7	7	11	12	6	5	3	2	1	1	1	2	1	2	1	1	2	8	5	8	A	4.7	12.0
15-Jun	8	9	7	8	10	17	22	42	42	21	10	6	3	3	2	2	2	2	2	3	3	3	A	3	10.0	41.7
16-Jun	3	3	3	3	5	8	9	5	4	3	3	3	3	3	3	3	3	2	2	2	3	A	8	6	3.8	8.6
17-Jun	6	6	9	9	10	10	15	12	7	6	3	3	3	5	3	2	3	2	3	3	A	4	3	3	5.7	15.3
18-Jun	2	2	2	3	4	6	5	4	3	3	2	2	2	3	2	3	3	2	2	A	8	7	8	6	3.7	7.8
19-Jun	5	5	6	6	8	8	8	10	11	8	2	4	1	1	1	1	1	1	A	3	2	3	5	7	4.7	10.6
20-Jun	5	4	5	4	4	6	6	6	5	3	3	3	2	2	2	2	2	A	3	2	2	2	7	4	3.6	6.6
21-Jun	3	4	5	6	7	8	6	8	6	5	5	2	2	2	1	1	A	3	2	2	2	3	5	5	4.1	8.2
22-Jun	6	8	6	7	8	12	10	5	4	2	1	1	1	1	1	A	3	2	2	2	2	3	3	4	4.1	11.8
23-Jun	3	2	2	2	3	6	9	5	3	2	2	3	2	2	A	3	3	4	3	3	2	3	3	4	3.3	9.1
24-Jun	4	5	4	4	6	12	12	13	13	9	3	2	2	A	3	3	3	3	4	4	4	5	3	5	5.4	13.1
25-Jun	8	9	12	11	11	4	8	6	5	4	3	3	A	5	4	4	3	3	3	2	3	3	1	1	5.0	11.5
26-Jun	1	1	1	1	2	2	3	3	3	3	4	A	4	3	3	3	2	2	2	2	2	2	1	2	2.3	4.5
27-Jun	2	3	3	4	7	10	8	7	4	4	A	4	3	2	2	1	2	1	2	3	3	3	4	2	3.6	10.2
28-Jun	4	2	4	2	2	2	2	2	2	A	3	2	2	2	2	2	2	1	1	1	1	2	1	1	2.0	4.1
29-Jun	1	1	1	1	3	4	5	4	A	4	3	3	3	2	2	3	3	2	2	1	2	2	3	2	2.5	5.0
30-Jun	2	2	1	2	3	5	6	A	5	3	2	3	3	3	3	2	3	2	2	2	3	3	3	32	4.1	32.2
	5.4	6.1	6.0	6.1	7.4	10.2	11.2	10.4	7.7	5.7	3.9	2.9	2.5	2.4	2.4	2.3	2.5	2.3	2.4	2.5	3.7	5.3	6.3	5.8	Diurnal Average	
	22.6	22.4	22.6	17.5	19.0	25.9	36.3	41.5	41.7	20.9	10.4	6.1	4.5	5.3	6.4	4.6	4.7	4.2	4.7	3.8	7.9	15.6	31.4	32.2	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

Hourly Averages for NO_X at Henry Pirker
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 405.0 ppb on Jul 1 00:00

Maximum Daily Average: 22.8 ppb on Jun 30

Minimum Value: 1 ppb on Jun 26 03:00

Minimum Daily Average: 3.9 ppb on Jun 28

Maximum Diurnal Average: 22.3 ppb at hour 24

Minimum Diurnal Average: 4.8 ppb at hour 20

Monthly Average: 9.80 ppb

Percentiles: P_1 = 2.0 P_{10} = 3.2 Q_1 = 4.5 Median = 6.5 Q_3 = 11.2 P_{90} = 17.4 P_{99} = 48.5

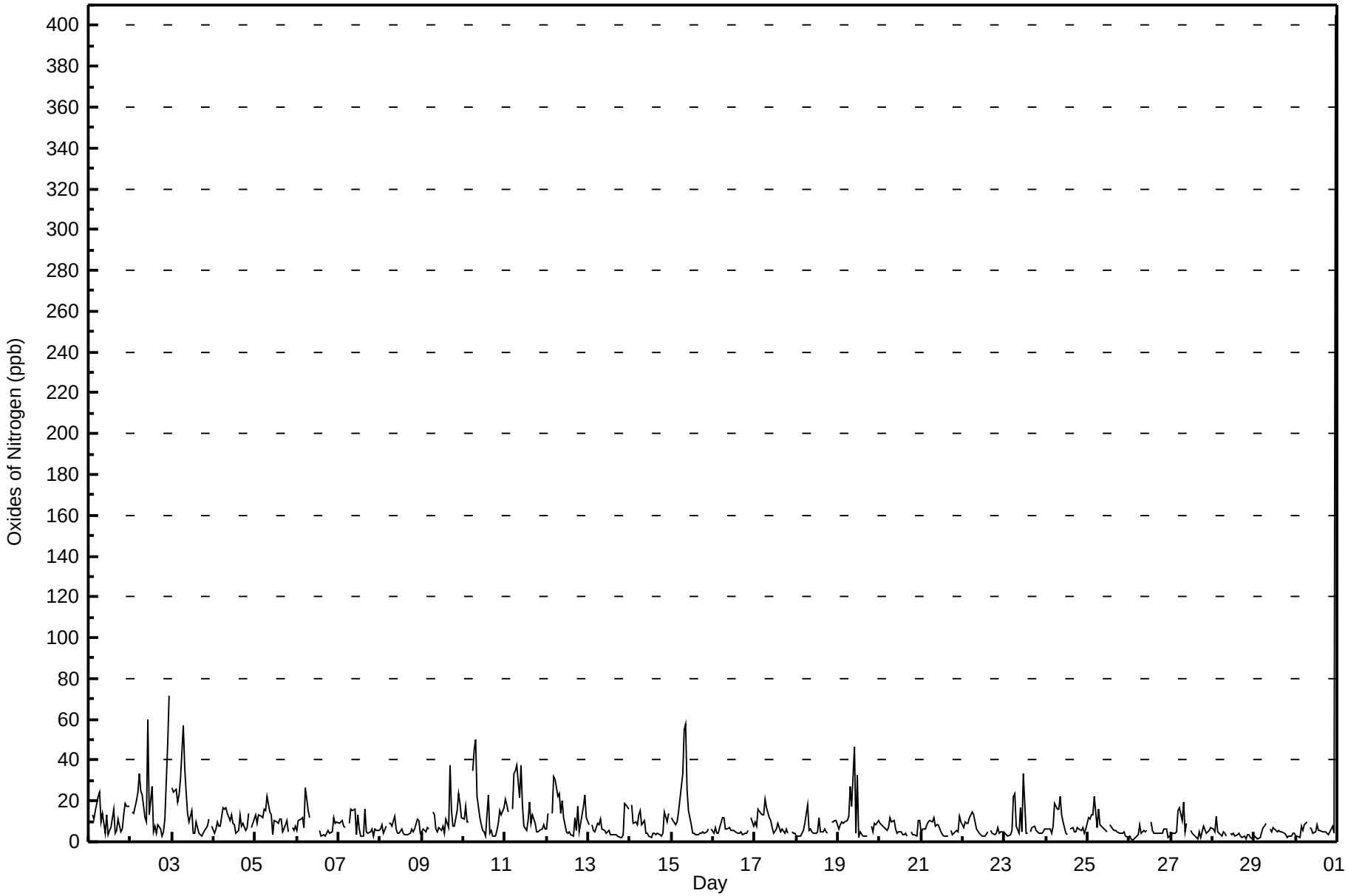
Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	36
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								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-Jun	14	A	13	11	15	22	24	9	14	4	13	4	5	7	16	4	5	11	5	6	13	19	18	17	11.8	24.3
2-Jun	A	15	14	20	24	33	25	23	12	10	60	13	27	5	8	4	8	6	3	5	11	48	71	A	20.3	71.4
3-Jun	26	25	25	20	23	30	57	36	24	14	10	15	4	4	9	4	3	3	4	5	8	11	A	7	16.1	57.0
4-Jun	4	6	9	8	8	17	16	17	14	11	13	9	8	4	6	13	8	9	6	7	14	A	7	11	9.8	16.8
5-Jun	13	9	13	13	12	16	15	22	15	13	4	11	10	9	11	11	5	9	10	5	A	7	6	7	10.6	22.3
6-Jun	6	10	11	12	7	26	15	12	C	C	C	C	C	5	3	4	3	4	5	4	5	12	9	10	8.7	26.4
7-Jun	9	10	11	8	7	A	9	16	15	16	4	13	7	3	3	16	5	4	5	6	3	7	6	6	8.1	16.3
8-Jun	6	9	4	8	A	9	9	8	12	6	4	4	6	4	3	3	3	4	6	5	6	11	10	5	6.4	12.5
9-Jun	5	7	5	7	6	A	14	13	6	5	7	5	7	4	11	7	37	15	7	8	15	24	19	12	10.8	37.2
10-Jun	11	17	10	10	A	34	45	50	23	12	9	5	5	3	23	4	5	3	3	6	9	15	13	17	14.4	50.2
11-Jun	21	18	15	A	16	33	35	38	21	38	18	8	6	10	20	9	13	9	5	5	6	6	9	7	15.8	37.8
12-Jun	6	14	A	14	32	31	22	23	14	20	12	5	4	5	3	3	12	6	18	5	14	17	23	12	13.7	32.1
13-Jun	8	A	8	6	5	9	8	11	6	5	5	5	6	4	4	3	4	3	2	2	4	19	18	16	6.9	19.0
14-Jun	A	18	9	10	9	14	16	9	10	4	4	3	2	4	4	3	4	4	3	4	15	10	14	A	7.8	18.0
15-Jun	12	11	8	10	15	21	34	55	58	26	16	9	4	4	4	3	4	4	5	5	5	7	A	6	14.0	57.7
16-Jun	4	7	5	4	7	12	12	6	6	7	5	5	5	5	5	4	5	4	4	4	6	A	12	8	6.1	12.0
17-Jun	10	8	16	14	13	13	21	17	12	11	7	4	6	9	7	5	6	4	6	5	A	5	4	4	8.9	20.9
18-Jun	3	3	3	4	6	9	18	6	6	5	4	5	5	12	5	5	6	5	5	A	10	10	11	10	6.7	18.4
19-Jun	7	8	9	9	10	11	13	27	18	46	4	33	2	5	3	3	3	3	A	7	5	9	8	11	10.9	46.2
20-Jun	9	8	8	7	6	7	12	10	10	7	5	5	5	3	4	4	3	A	5	4	3	3	11	11	6.4	11.6
21-Jun	4	6	7	8	10	11	10	12	8	9	8	5	4	3	3	3	A	6	4	5	6	5	12	10	6.7	12.4
22-Jun	7	10	9	9	12	15	13	10	6	4	4	3	3	3	5	A	6	4	4	4	7	4	5	5	6.4	14.5
23-Jun	5	4	3	3	6	22	23	8	4	17	5	34	4	4	A	5	7	8	5	5	4	4	5	6	8.3	33.6
24-Jun	7	7	7	5	8	19	16	16	22	13	10	4	4	A	6	7	5	5	7	6	6	7	5	7	8.5	22.4
25-Jun	12	11	14	14	22	7	16	8	7	6	6	5	A	8	6	6	5	5	5	4	4	5	3	2	7.9	22.3
26-Jun	3	2	1	2	3	4	8	4	5	5	6	A	10	6	4	4	4	4	4	4	6	6	2	3	4.3	10.0
27-Jun	3	4	5	5	15	17	11	19	5	9	A	6	5	4	3	2	5	2	5	8	5	5	6	7	6.6	19.2
28-Jun	7	5	13	5	4	3	5	4	3	A	5	3	4	3	3	4	3	2	3	2	4	3	2	2	3.9	12.5
29-Jun	3	2	2	2	5	7	8	9	A	7	5	7	5	5	6	5	5	4	4	2	3	3	4	4	4.5	8.8
30-Jun	3	3	2	8	6	8	10	A	7	6	4	5	8	6	6	5	5	5	4	4	6	8	5	405	22.8	405.0
	8.1	9.0	8.9	8.8	11.1	16.5	18.0	17.2	12.9	11.9	9.0	8.2	6.2	5.2	6.6	5.3	6.5	5.3	5.2	4.8	7.1	10.3	11.3	22.3	Diurnal Average	
	26.4	24.6	25.4	20.4	32.1	34.5	57.0	55.1	57.7	46.2	59.5	33.6	27.1	11.9	22.7	16.3	37.2	15.0	17.6	8.0	15.1	47.9	71.4	405.0	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for NO_X at Henry Pirker
June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 64.2 ppb on Jun 10 18:00 Maximum Daily Average: 49.2 ppb on Jun 9

Minimum Value: 1 ppb on Jun 3 03:00
Maximum Diurnal Average: 43.8 ppb at hour 16
Monthly Average: 33.88 ppb

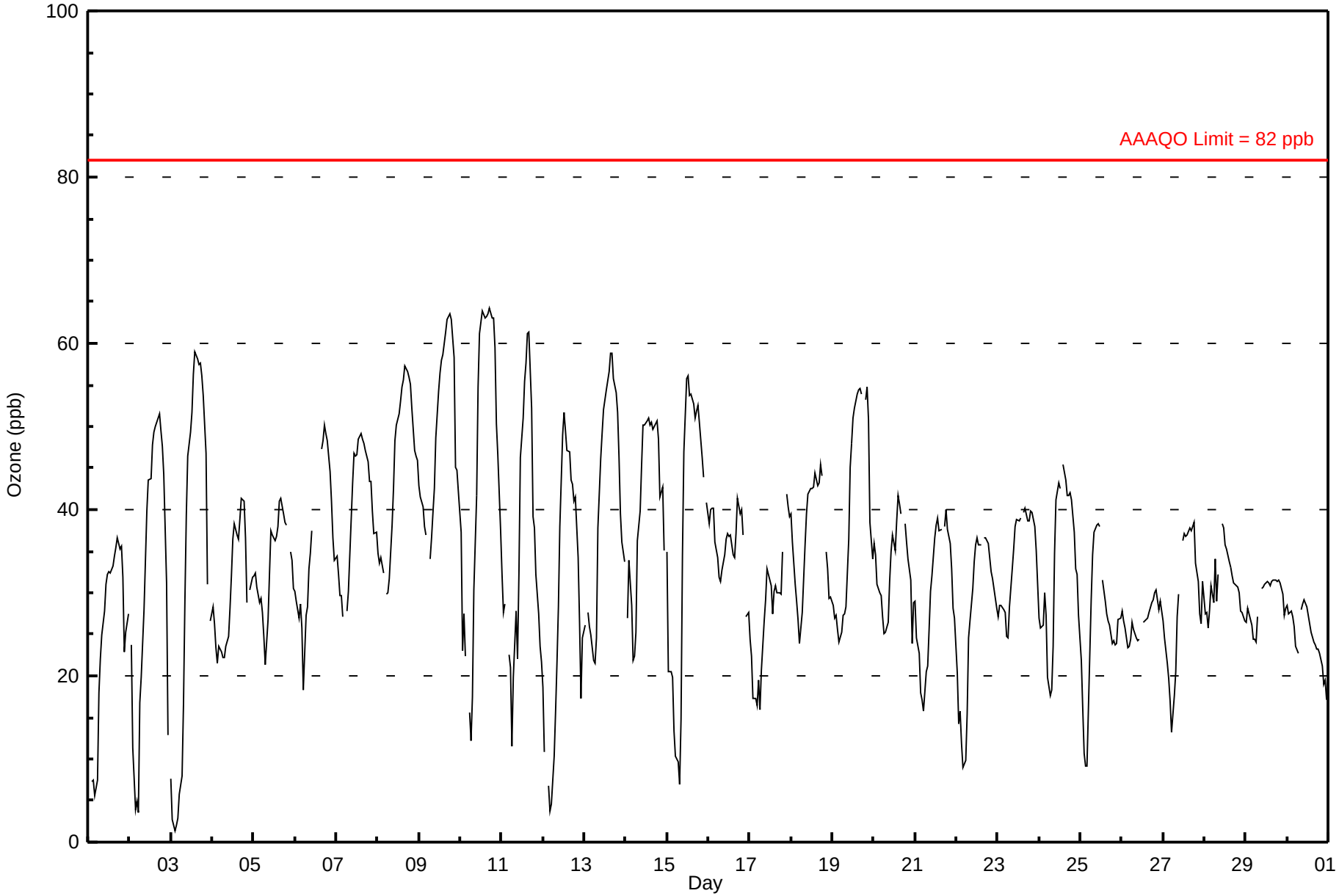
Minimum Daily Average: 24.8 ppb on Jun 30
Minimum Diurnal Average: 19.6 ppb at hour 6
Percentiles: P_1 = 4.3 P_{10} = 19.9 Q_1 = 26.6 Median = 32.2 Q_3 = 41.2 P_{90} = 51.1 P_{99} = 63.1

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

Day	Hourly Period Ending At (MST)																								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-Jun	10	A	7	7	6	7	18	22	25	28	31	32	33	32	33	34	35	37	35	36	32	23	25	27	25.1	36.6
2-Jun	A	24	11	4	5	4	17	20	28	34	40	44	44	48	49	50	50	52	49	48	44	31	13	A	32.2	51.5
3-Jun	8	3	1	2	3	6	8	17	29	39	46	49	52	56	59	58	58	58	56	54	47	31	A	27	33.3	59.0
4-Jun	28	26	23	22	24	23	22	22	24	25	28	32	36	38	37	36	39	41	41	37	29	A	30	32	30.3	41.3
5-Jun	32	32	31	29	29	28	25	21	27	32	37	37	36	37	38	41	41	39	38	38	A	35	34	30	33.5	41.4
6-Jun	30	29	27	29	26	18	27	28	33	35	37	C	C	C	C	47	48	50	49	48	45	41	37	34	35.9	50.2
7-Jun	34	32	30	30	27	A	28	30	35	43	47	46	47	49	49	49	48	47	46	43	43	40	37	37	39.9	49.2
8-Jun	35	34	34	32	A	30	30	32	38	43	48	50	51	53	55	56	57	57	56	55	52	47	46	46	45.1	57.3
9-Jun	43	42	40	38	37	A	34	37	40	43	49	54	56	58	59	61	63	63	64	63	58	45	45	42	49.2	63.6
10-Jun	37	23	27	22	A	16	12	17	30	42	55	61	63	64	63	63	64	64	63	63	60	50	47	37	45.4	64.2
11-Jun	32	28	29	A	23	21	12	20	28	22	32	46	51	55	58	61	61	52	39	38	32	27	24	22	35.3	61.3
12-Jun	19	11	A	7	4	5	10	16	22	28	38	49	52	49	47	47	44	43	41	42	34	26	17	25	29.3	51.6
13-Jun	26	A	28	26	25	22	22	25	38	46	49	52	53	54	57	59	59	56	54	52	46	40	36	34	41.6	58.9
14-Jun	A	27	34	28	22	22	25	36	40	45	50	50	51	51	50	50	50	50	51	48	42	43	35	A	41.0	51.0
15-Jun	35	20	21	20	13	10	10	7	15	34	47	56	56	54	54	53	51	52	53	51	46	44	A	41	36.6	56.0
16-Jun	38	40	40	40	36	34	32	31	33	35	37	37	37	37	35	34	37	41	39	40	37	A	27	28	35.9	41.4
17-Jun	24	22	17	17	16	19	16	21	27	29	33	32	31	27	30	31	30	30	30	35	A	42	40	39	27.8	41.9
18-Jun	40	36	31	29	27	24	28	32	36	39	42	43	43	43	44	43	43	45	44	A	35	33	29	30	36.4	45.5
19-Jun	28	27	27	26	24	25	27	27	28	36	45	48	51	52	54	54	55	54	A	53	55	51	39	34	40.1	54.7
20-Jun	36	35	31	30	30	27	25	25	26	31	35	37	35	39	42	41	40	A	38	36	34	32	24	29	32.9	41.8
21-Jun	29	25	23	18	17	16	21	21	26	30	32	37	38	39	38	38	A	38	40	38	36	33	28	27	29.8	39.9
22-Jun	20	14	16	12	9	10	15	25	27	31	34	36	37	36	36	A	37	37	36	34	33	32	30	28	27.0	36.7
23-Jun	27	29	28	28	28	25	25	28	33	35	38	39	39	39	A	40	40	39	39	40	40	38	35	31	33.9	40.3
24-Jun	27	26	26	30	27	20	18	18	24	35	41	43	43	A	45	44	42	42	42	41	37	33	32	27	33.2	45.5
25-Jun	22	16	11	9	9	23	29	35	37	38	38	38	A	32	29	28	27	26	24	24	24	24	27	27	25.9	38.4
26-Jun	28	27	26	23	24	24	26	26	25	24	24	A	26	27	27	27	28	29	29	30	30	28	29	28	26.7	30.4
27-Jun	27	25	21	20	17	13	18	20	27	30	A	36	37	37	37	38	37	38	38	34	31	28	26	31	29.0	38.4
28-Jun	28	28	26	28	31	29	34	29	32	A	38	38	36	35	34	33	32	31	31	31	30	28	28	27	31.1	38.4
29-Jun	26	28	27	26	24	24	24	27	A	31	31	31	31	31	31	31	32	32	31	31	31	30	27	28	29.0	31.6
30-Jun	28	27	28	27	26	24	23	A	28	29	29	28	27	26	25	24	24	23	23	23	21	19	20	17	24.8	29.1
	28.5	26.2	24.9	22.7	21.0	19.6	22.0	24.7	29.6	34.2	39.0	42.2	42.5	42.8	43.3	43.8	43.8	43.6	42.1	41.5	38.7	34.7	31.0	30.9	Diurnal Average	
	42.9	41.5	40.3	40.2	37.0	34.3	34.0	36.7	39.8	46.1	54.8	61.1	62.6	63.9	63.0	63.2	63.5	64.2	63.6	63.1	59.5	50.8	46.6	45.9	Diurnal Maximum	

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

Hourly Averages for O_3 at Henry Pirker
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 66.5 ppb on Jun 9 20:00

Maximum Daily Average: 52.0 ppb on Jun 9

Minimum Value: 2 ppb on Jun 3 03:00

Minimum Daily Average: 26.6 ppb on Jun 30

Maximum Diurnal Average: 46.0 ppb at hour 18

Minimum Diurnal Average: 23.2 ppb at hour 6

Monthly Average: 36.74 ppb

Percentiles: P_1 = 8.4 P_{10} = 23.7 Q_1 = 28.9 Median = 35.3 Q_3 = 43.9 P_{90} = 53.8 P_{99} = 65.2

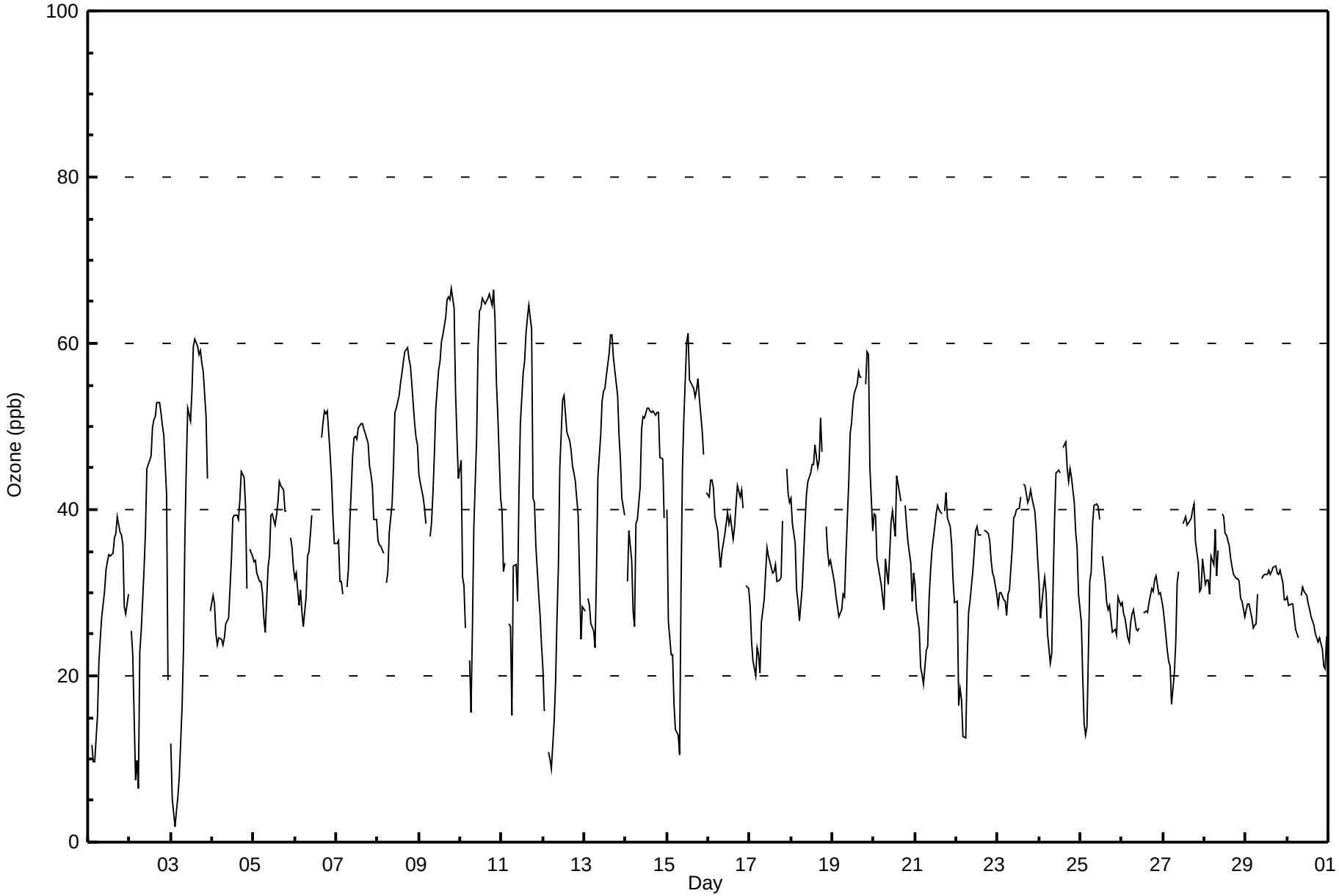
Hours in Service:	720
Hours of Data:	685
Hours of Missing Data:	35
Hours of Calibration:	35
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								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-Jun	12	A	12	10	10	15	22	25	27	30	33	34	35	34	35	37	37	39	37	37	36	28	27	30	27.9	39.2
2-Jun	A	25	23	7	10	6	23	25	33	37	45	45	46	50	51	51	53	53	52	50	49	42	19	A	36.2	52.9
3-Jun	12	5	2	4	5	8	16	23	37	45	52	51	54	60	60	60	59	59	58	57	51	44	A	28	36.9	60.4
4-Jun	30	29	25	24	25	24	24	25	26	27	30	34	39	39	39	39	41	45	44	40	30	A	35	34	32.6	44.6
5-Jun	34	34	32	31	31	30	27	25	33	34	39	40	38	39	41	43	43	42	40	40	A	37	35	33	35.8	43.3
6-Jun	32	32	29	30	28	26	30	34	35	37	39	C	C	C	C	49	51	52	52	52	47	44	39	36	38.6	51.9
7-Jun	36	36	31	31	30	A	31	33	38	46	49	49	49	50	50	50	50	49	48	45	44	43	39	39	42.0	50.3
8-Jun	36	36	36	35	A	31	33	37	41	45	52	52	54	55	56	58	59	59	58	57	55	50	49	48	47.5	59.5
9-Jun	44	43	42	40	38	A	37	38	42	47	52	57	58	60	61	63	65	66	65	67	64	54	49	44	52.0	66.5
10-Jun	46	32	31	26	A	22	16	26	38	49	60	64	64	65	65	65	65	66	65	66	63	55	51	41	49.6	66.4
11-Jun	40	33	34	A	26	26	15	33	33	29	42	50	56	58	61	63	65	62	41	41	36	30	27	24	40.2	64.5
12-Jun	21	16	A	11	10	9	15	19	27	33	45	53	54	51	49	48	47	45	44	43	39	32	24	28	33.3	53.8
13-Jun	28	A	29	28	26	25	23	32	44	49	53	54	55	56	59	61	61	58	55	54	49	46	41	39	44.7	61.1
14-Jun	A	31	37	34	28	26	38	39	43	50	51	51	52	52	52	52	52	51	52	52	46	46	39	A	44.3	52.3
15-Jun	40	27	23	23	17	14	13	10	30	45	51	60	61	56	55	55	53	54	56	53	49	47	A	42	40.6	61.2
16-Jun	41	43	43	42	39	37	35	33	35	37	38	40	38	39	36	38	40	43	41	42	40	A	31	30	38.5	43.5
17-Jun	28	24	22	20	23	23	20	26	29	32	35	34	33	32	33	33	31	32	32	39	A	45	42	41	30.9	44.8
18-Jun	41	38	36	30	29	27	31	35	38	42	43	44	45	45	48	45	46	51	47	A	38	35	33	34	39.3	50.9
19-Jun	32	31	29	28	27	28	30	30	34	43	49	50	53	54	55	57	56	56	A	55	59	59	45	37	43.4	59.0
20-Jun	40	39	34	32	31	30	28	34	31	35	38	40	37	44	43	42	41	A	41	38	36	34	29	32	36.0	44.0
21-Jun	31	28	26	21	20	19	23	24	29	33	35	38	39	41	40	40	A	40	42	39	38	36	32	29	32.2	42.0
22-Jun	29	17	19	17	13	13	21	28	29	32	35	37	38	37	37	A	37	37	37	36	34	32	32	30	29.5	38.0
23-Jun	28	30	30	29	29	27	30	30	35	39	39	40	40	42	A	43	43	41	41	42	41	40	37	34	36.2	43.1
24-Jun	31	27	30	32	30	25	22	23	31	39	44	45	44	A	48	48	45	43	45	44	41	37	35	30	36.5	48.2
25-Jun	26	20	14	13	14	31	33	38	41	41	40	39	A	34	31	29	28	28	25	25	26	25	29	28	28.7	40.7
26-Jun	29	27	27	25	24	27	28	28	26	25	26	A	28	28	28	28	29	31	30	32	32	30	30	29	28.0	32.1
27-Jun	28	27	23	22	21	17	20	24	31	33	A	38	39	39	38	39	39	40	41	36	34	30	31	34	31.4	40.6
28-Jun	31	31	32	30	34	33	38	32	35	A	39	39	37	37	36	34	33	32	32	32	31	29	29	27	33.2	39.4
29-Jun	28	29	29	27	26	26	26	30	A	32	32	32	32	33	32	32	33	33	32	32	33	31	29	29	30.4	33.2
30-Jun	29	29	29	29	27	26	25	A	30	31	30	30	29	28	27	26	25	25	24	25	23	21	21	25	26.6	30.6
	31.6	29.3	27.8	25.2	24.0	23.2	25.7	29.0	33.9	37.8	42.1	44.3	44.6	45.0	45.2	45.7	45.8	46.0	44.0	43.8	41.6	38.6	34.3	33.4	Diurnal Average	
	45.9	43.5	43.5	42.5	39.2	37.5	38.3	38.8	44.0	49.7	59.7	63.9	64.2	65.4	64.7	65.1	65.4	65.9	65.3	66.5	64.3	58.7	51.4	47.7	Diurnal Maximum	

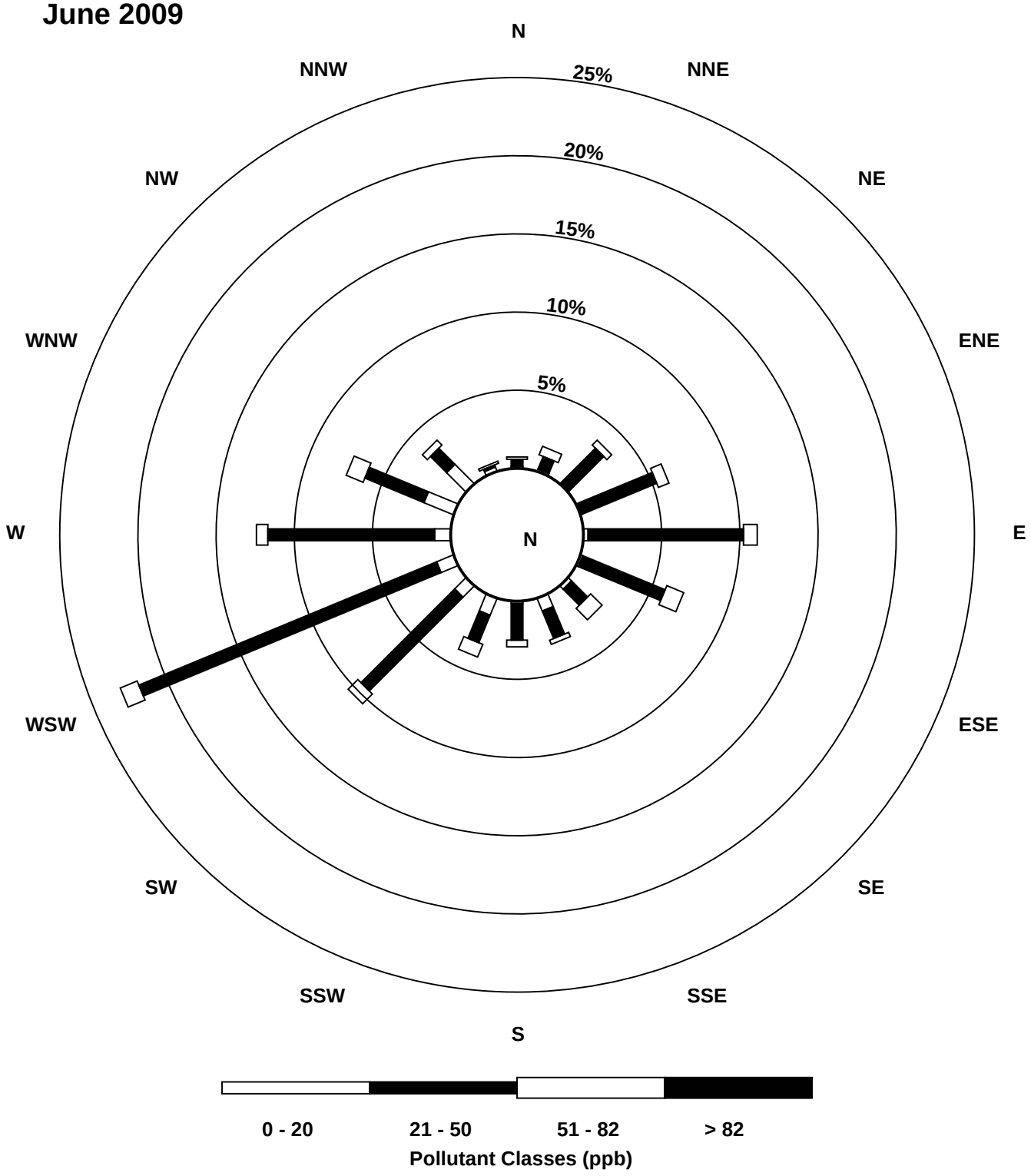
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums for O_3 at Henry Pirker
June 2009



Pollutant Rose for O_3 at Henry Pirker
June 2009



Peace Airshed Zone Association
Summary of Eight Hour Running Averages

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

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 63.3 ppb on Jun 10 20:00

Minimum Value: 4.3 ppb on Jun 3 07:00

Percentiles: P_1 = 10.4 P_{10} = 22.1 Q_1 = 27.0 Median = 32.6 Q_3 = 39.2 P_{90} = 48.6 P_{99} = 60.7

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

Day	Hourly Period Ending At (MST)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Jun	24	23	19	16	13	10	10	11	13	15	18	21	24	28	29	31	32	33	34	34	34	33	32	31	34.4
2-Jun	31	29	25	21	17	14	13	12	14	15	19	24	29	34	38	42	45	47	48	49	49	47	42	41	48.8
3-Jun	35	28	21	15	9	5	4	6	9	13	19	25	31	37	43	49	52	55	56	56	56	52	52	47	56.3
4-Jun	43	38	34	29	26	25	24	24	23	23	24	25	27	28	30	32	34	36	38	38	37	37	36	36	42.9
5-Jun	35	33	32	31	31	30	30	28	28	28	29	30	30	32	33	36	38	38	39	39	39	39	38	37	39.0
6-Jun	35	34	32	31	30	28	27	27	27	28	29	29	30	N	N	N	N	N	N	N	48	47	46	44	48.0
7-Jun	42	40	38	35	33	32	31	30	30	32	34	37	39	40	43	45	47	48	48	47	47	46	44	43	47.6
8-Jun	41	39	38	37	36	34	33	32	33	34	36	39	40	43	46	49	52	53	54	55	55	54	53	52	55.1
9-Jun	50	48	46	44	42	42	40	39	38	38	39	42	45	46	49	52	55	58	60	61	61	59	58	55	61.1
10-Jun	52	47	43	38	35	30	26	22	21	24	28	33	37	43	49	55	59	62	63	63	63	61	59	56	63.3
11-Jun	52	47	43	40	35	31	26	23	23	22	22	25	29	33	39	44	48	52	53	52	50	46	42	37	53.0
12-Jun	32	26	25	20	16	13	11	10	11	13	16	21	27	33	38	42	44	46	46	46	43	41	37	34	46.5
13-Jun	32	30	28	26	25	24	25	25	26	29	31	35	38	42	47	51	54	55	55	55	55	53	50	47	55.4
14-Jun	45	41	38	35	31	29	28	28	29	32	34	36	40	44	47	48	50	50	50	50	49	48	46	45	50.4
15-Jun	43	39	35	31	27	22	18	17	14	16	20	24	29	35	40	46	51	53	53	53	52	50	50	48	53.4
16-Jun	46	45	43	41	40	39	38	37	36	35	35	34	34	35	35	35	36	37	37	38	38	38	37	36	46.3
17-Jun	34	31	28	25	22	21	20	19	19	20	22	24	26	27	29	30	30	31	30	31	30	33	34	35	35.2
18-Jun	37	37	38	37	35	33	32	31	30	31	32	34	36	38	40	42	42	43	43	44	43	41	39	37	43.6
19-Jun	35	32	30	29	28	27	27	27	27	28	30	33	36	39	43	46	49	52	53	53	54	54	51	49	53.8
20-Jun	46	43	42	39	36	33	31	30	29	28	29	30	30	32	34	36	37	38	39	39	38	37	35	33	45.9
21-Jun	32	31	29	27	24	22	22	21	21	21	23	25	28	30	33	35	36	37	38	38	38	37	36	34	38.2
22-Jun	32	30	27	23	20	17	15	15	16	18	20	23	27	30	32	34	35	36	36	36	35	35	34	33	36.2
23-Jun	32	31	30	29	29	28	27	27	28	29	30	31	33	34	36	37	38	39	39	39	39	39	39	38	39.3
24-Jun	36	34	33	32	30	28	26	24	24	25	27	28	30	32	36	39	42	43	43	43	42	41	39	37	42.9
25-Jun	35	31	27	23	20	19	18	19	21	24	27	31	34	35	35	34	33	31	29	27	27	26	25	25	35.3
26-Jun	25	26	26	26	26	26	26	25	25	25	25	25	25	25	26	26	26	27	27	28	28	28	29	29	28.9
27-Jun	29	28	27	26	24	22	21	20	20	21	21	23	26	29	32	35	36	37	37	37	36	35	34	33	37.4
28-Jun	32	30	29	28	28	28	29	29	30	30	32	33	34	35	35	35	35	35	34	33	32	31	30	30	35.1
29-Jun	29	29	28	28	27	26	26	26	26	26	27	27	28	29	30	31	31	31	31	31	31	31	31	30	31.3
30-Jun	30	29	29	28	28	27	26	26	26	26	26	27	27	27	28	27	27	26	25	24	24	23	22	21	29.9
	52.1	48.4	46.5	44.3	42.4	41.7	39.9	38.6	38.2	38.3	39.5	41.8	44.6	46.3	49.4	55.1	59.2	62.0	63.1	63.3	62.9	61.2	59.2	56.0	
	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
June 1, 2009 to July 1, 2009

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 0.53 ppm on Jun 2 23:00 Maximum Daily Average: 0.28 ppm on Jun 11

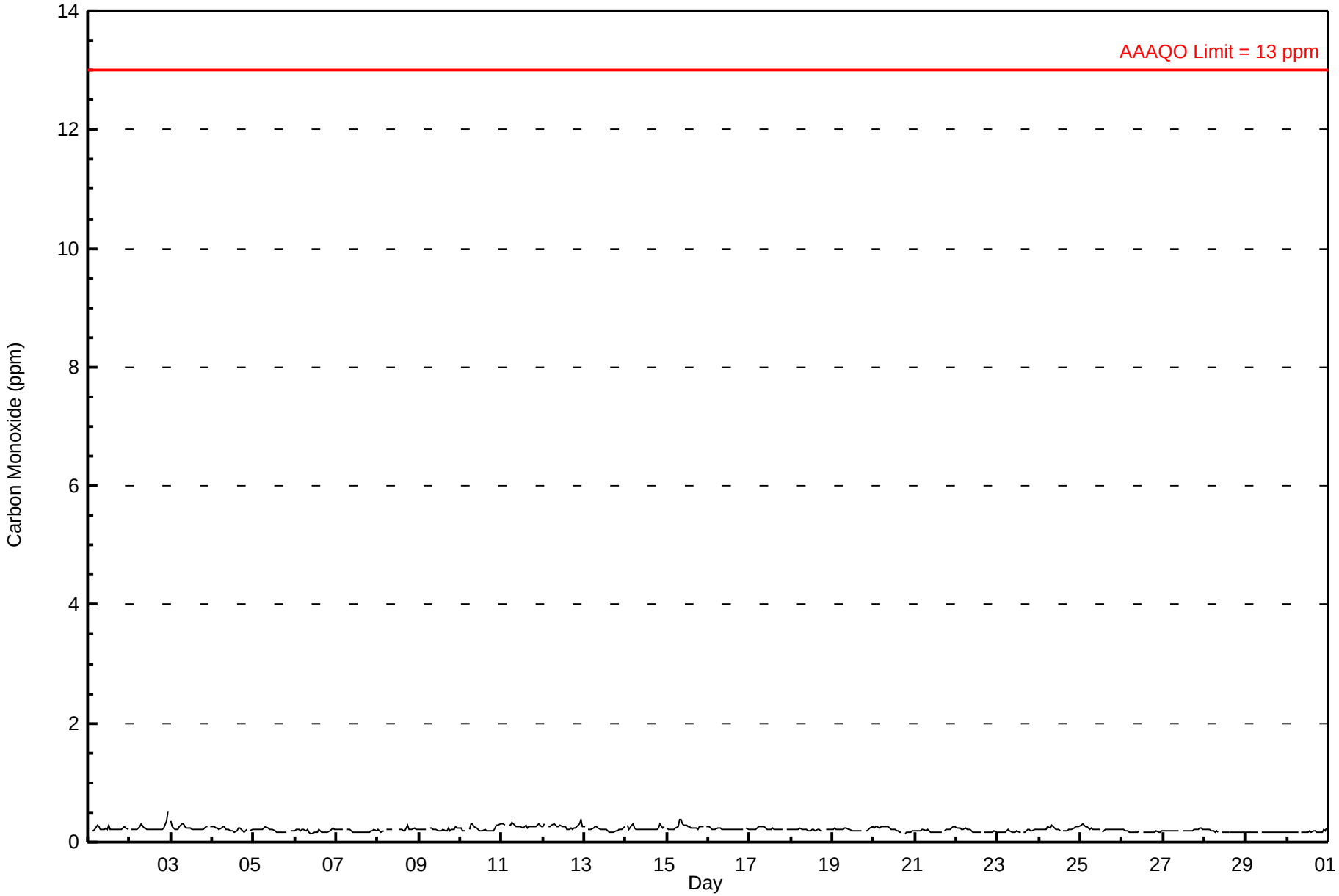
Minimum Value: 0.2 ppm on Jun 20 19:00 Minimum Daily Average: 0.17 ppm on Jun 29
Maximum Diurnal Average: 0.24 ppm at hour 8 Minimum Diurnal Average: 0.19 ppm at hour 16
Monthly Average: 0.212 ppm Percentiles: P_1 = 0.15 P_{10} = 0.16 Q_1 = 0.18 Median = 0.21 Q_3 = 0.23 P_{90} = 0.26 P_{99} = 0.32

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	0.3	A	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.22	0.28
2-Jun	A	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.5	A	0.24	0.53
3-Jun	0.4	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	A	0.2	0.24	0.36
4-Jun	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.21	0.25
5-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.20	0.26
6-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.23
7-Jun	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	0.2	0.2	0.2	0.18	0.22
8-Jun	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	C	C	A	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.29
9-Jun	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	0.2	0.2	0.22	0.25
10-Jun	0.2	0.2	0.2	0.2	A	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	0.3	0.3	0.3	0.23	0.32
11-Jun	0.3	0.3	0.3	A	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.28	0.33
12-Jun	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	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.3	0.26	0.39
13-Jun	0.3	A	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.21	0.26
14-Jun	A	0.3	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	0.3	0.2	0.3	A	0.23	0.32
15-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	A	0.3	0.26	0.39
16-Jun	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.22	0.25
17-Jun	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.22	0.27
18-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.21	0.23
19-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.3	0.21	0.26
20-Jun	0.2	0.3	0.3	0.2	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	A	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.26
21-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.20	0.26
22-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.24
23-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18	0.21
24-Jun	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.22	0.28
25-Jun	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.31
26-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18	0.21
27-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20	0.23
28-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.17	0.22
29-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.17	0.17
30-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.17	0.25
	0.23	0.22	0.21	0.21	0.21	0.23	0.23	0.24	0.22	0.21	0.20	0.20	0.20	0.20	0.19	0.19	0.19	0.20	0.19	0.20	0.22	0.23	0.24	0.22	Diurnal Average	
	0.36	0.31	0.29	0.29	0.32	0.29	0.33	0.38	0.39	0.31	0.29	0.28	0.28	0.27	0.28	0.25	0.25	0.29	0.27	0.27	0.30	0.35	0.53	0.32	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
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 2.09 ppm on Jun 9 18:00

Maximum Daily Average: 0.41 ppm on Jun 1

Minimum Value: 0.2 ppm on Jun 22 19:00

Minimum Daily Average: 0.18 ppm on Jun 29

Maximum Diurnal Average: 0.35 ppm at hour 22

Minimum Diurnal Average: 0.22 ppm at hour 16

Monthly Average: 0.271 ppm

Percentiles: P_1 = 0.16 P_{10} = 0.19 Q_1 = 0.21 Median = 0.25 Q_3 = 0.28 P_{90} = 0.36 P_{99} = 0.93

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

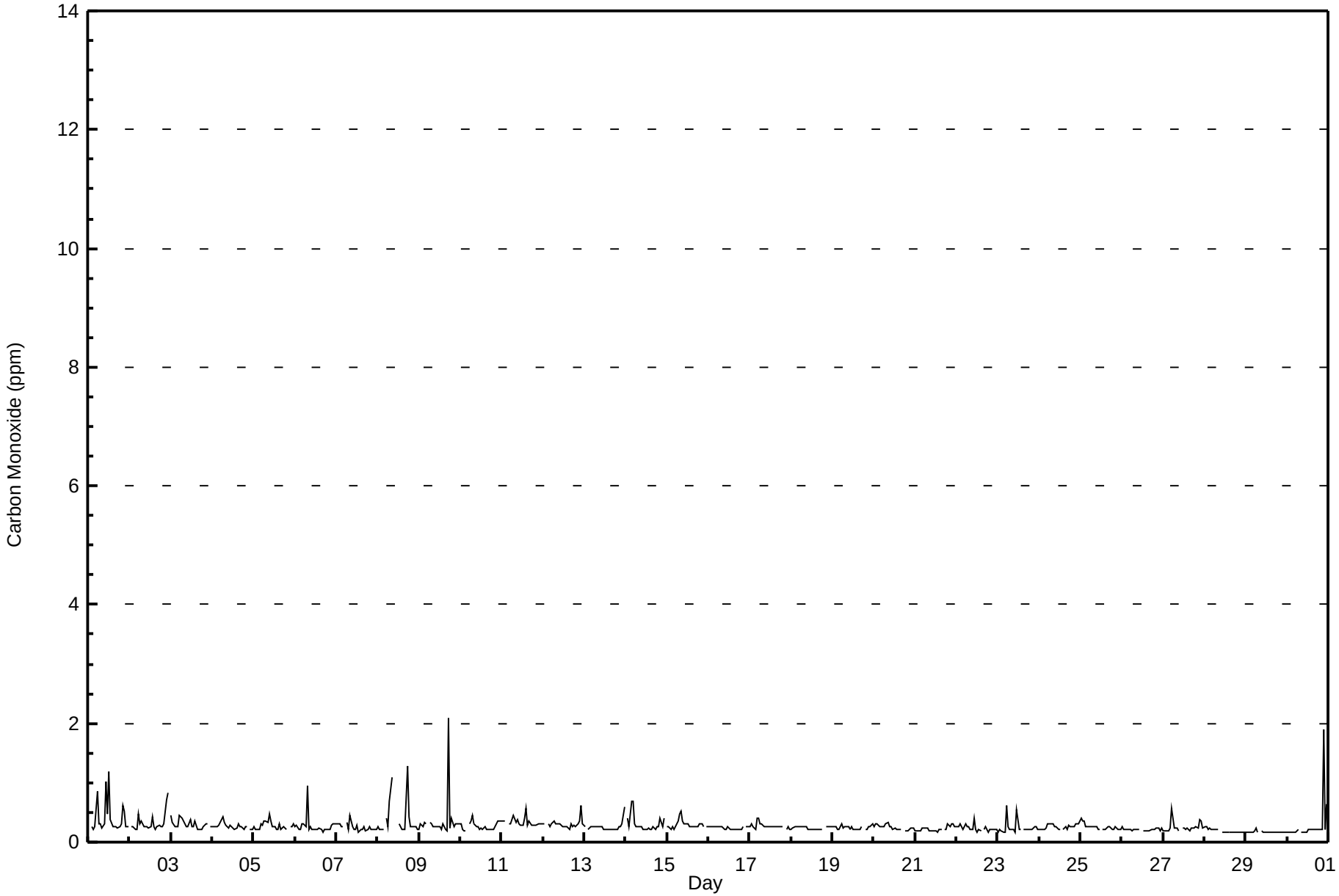
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	0.4	A	0.3	0.2	0.3	0.9	0.3	0.3	0.2	0.3	1.0	0.5	1.2	0.4	0.2	0.3	0.3	0.2	0.3	0.3	0.6	0.5	0.3	0.3	0.41	1.19
2-Jun	A	0.3	0.3	0.2	0.2	0.5	0.3	0.4	0.3	0.3	0.3	0.2	0.3	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.7	0.8	A	0.33	0.84
3-Jun	0.5	0.3	0.3	0.3	0.3	0.5	0.4	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.4	0.2	0.2	0.2	0.2	0.3	0.3	0.3	A	0.3	0.30	0.46
4-Jun	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.3	A	0.2	0.2	0.27	0.43
5-Jun	0.3	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.3	0.5	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	A	0.3	0.3	0.3	0.28	0.48
6-Jun	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.9	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	0.3	0.3	0.3	0.27	0.95
7-Jun	0.3	0.3	0.3	0.3	0.3	A	0.3	0.2	0.5	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.25	0.45
8-Jun	0.3	0.2	0.2	0.2	A	0.4	0.3	0.7	1.1	C	C	A	0.3	0.3	0.2	0.2	0.2	1.3	0.4	0.3	0.3	0.3	0.3	0.2	0.37	1.29
9-Jun	0.2	0.3	0.3	0.3	0.3	A	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.2	2.1	0.2	0.4	0.2	0.3	0.3	0.3	0.35	2.09
10-Jun	0.3	0.2	0.2	0.2	A	0.3	0.3	0.5	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.26	0.45
11-Jun	0.4	0.4	0.4	A	0.3	0.3	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.4	0.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.34	0.57
12-Jun	0.3	0.3	A	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.6	0.3	0.30	0.61
13-Jun	0.3	A	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.6	0.25	0.59
14-Jun	A	0.4	0.3	0.7	0.7	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.4	0.3	0.4	A	0.31	0.70
15-Jun	0.3	0.3	0.2	0.3	0.2	0.3	0.4	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	A	0.3	0.29	0.51
16-Jun	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	A	0.3	0.3	0.24	0.27
17-Jun	0.3	0.3	0.3	0.2	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	A	0.2	0.3	0.2	0.27	0.41
18-Jun	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.3	0.3	0.3	0.3	0.24	0.26
19-Jun	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	A	0.2	0.2	0.3	0.3	0.3	0.24	0.31
20-Jun	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	A	0.2	0.2	0.2	0.2	0.2	0.2	0.25	0.32
21-Jun	0.2	0.2	0.2	0.2	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	0.3	0.3	0.3	0.3	0.3	0.22	0.31
22-Jun	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.4	0.2	0.2	0.2	0.2	A	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.23	0.41
23-Jun	0.2	0.2	0.2	0.2	0.2	0.6	0.3	0.2	0.2	0.2	0.2	0.5	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.24	0.61
24-Jun	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	A	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.26	0.31
25-Jun	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	A	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.25	0.41
26-Jun	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.26
27-Jun	0.2	0.2	0.2	0.2	0.2	0.6	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	0.3	0.2	0.4	0.4	0.2	0.25	0.57
28-Jun	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.27
29-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18	0.23
30-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.9	0.2	0.6	0.29	1.91
	0.27	0.26	0.24	0.25	0.27	0.34	0.29	0.33	0.30	0.26	0.27	0.25	0.26	0.23	0.24	0.22	0.23	0.33	0.23	0.24	0.26	0.35	0.30	0.28	Diurnal Average	
	0.46	0.40	0.36	0.69	0.70	0.85	0.43	0.95	1.10	0.48	1.01	0.54	1.19	0.43	0.57	0.31	0.35	2.09	0.43	0.40	0.62	1.91	0.84	0.65	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

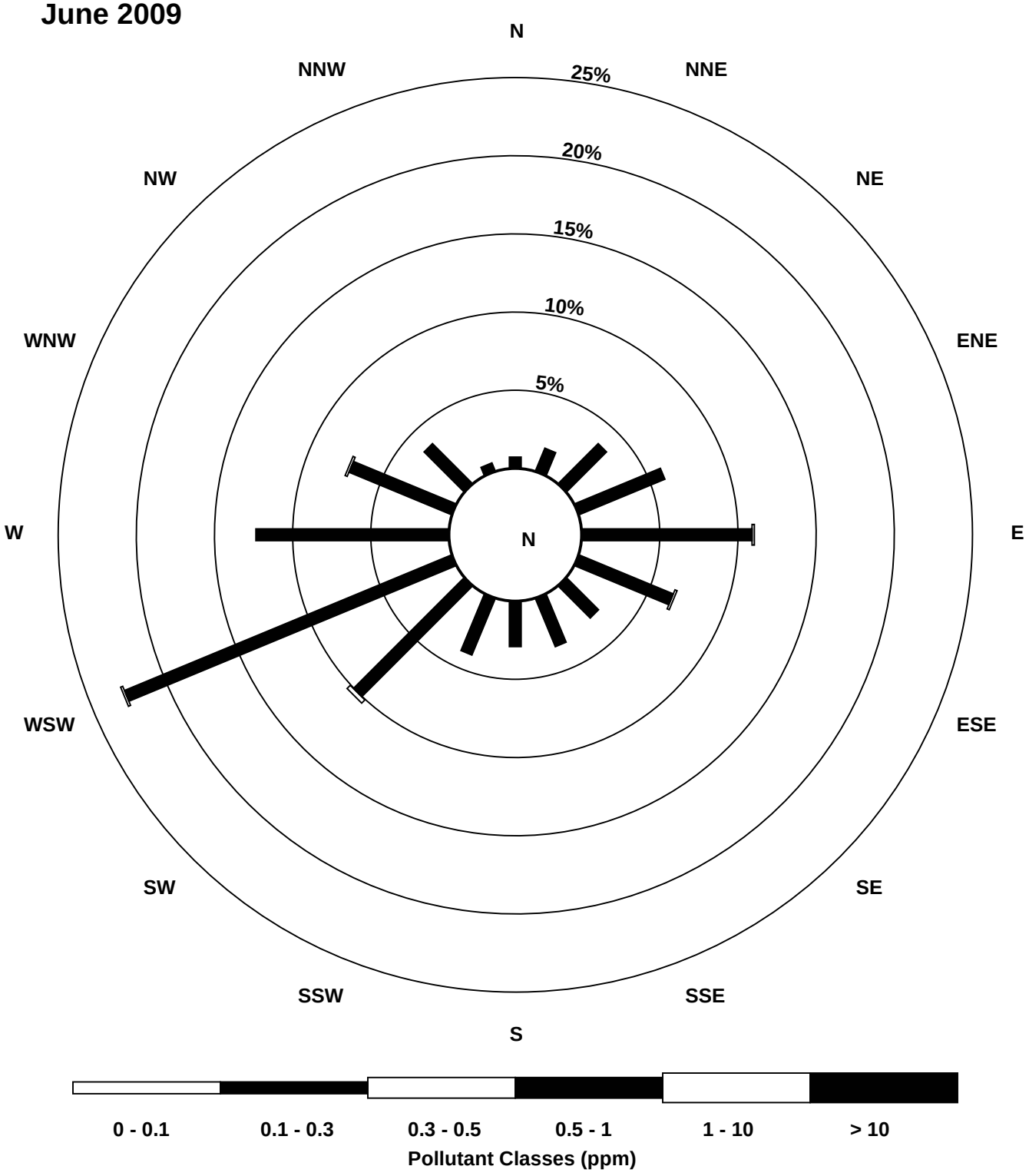
Hourly Maximums for CO at Henry Pirker

June 2009



Pollutant Rose for CO at Henry Pirker

June 2009



Peace Airshed Zone Association
Summary of Eight Hour Running Averages

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

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 0.31 ppm on Jun 3 04:00

Minimum Value: 0.16 ppm on Jun 22 19:00

Percentiles: P_1 = 0.16 P_{10} = 0.17 Q_1 = 0.19 Median = 0.21 Q_3 = 0.23 P_{90} = 0.26 P_{99} = 0.30

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

Day	Hourly Period Ending At (MST)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Jun	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	0.28
2-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	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	0.28
3-Jun	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.31
4-Jun	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25
5-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
6-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20
7-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
8-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	N	N	N	N	N	N	N	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
9-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
10-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25
11-Jun	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	0.30
12-Jun	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	0.3	0.3	0.28
13-Jun	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	0.2	0.2	0.28
14-Jun	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.26
15-Jun	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	0.2	0.2	0.2	0.2	0.2	0.2	0.30
16-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25
17-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25
18-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21
19-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
20-Jun	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.26
21-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.23
22-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24
23-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20
24-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24
25-Jun	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.27
26-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21
27-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21
28-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
29-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.17
30-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.19
	0.30	0.31	0.31	0.31	0.30	0.30	0.30	0.30	0.30	0.29	0.29	0.30	0.30	0.30	0.30	0.28	0.26	0.26	0.26	0.26	0.26	0.27	0.27	0.28	
	Diurnal Maximums																								

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
June 1, 2009 to July 1, 2009

Maximum Value: 2.68 ppm on Jun 10 07:00

Maximum Daily Average: 2.23 ppm on Jun 3

Minimum Value: 2.0 ppm on Jun 17 17:00

Minimum Daily Average: 2.01 ppm on Jun 26

Maximum Diurnal Average: 2.21 ppm at hour 6

Minimum Diurnal Average: 2.02 ppm at hour 17

Monthly Average: 2.081 ppm

Percentiles: P_1 = 1.97 P_{10} = 1.99 Q_1 = 2.01 Median = 2.06 Q_3 = 2.10 P_{90} = 2.23 P_{99} = 2.57

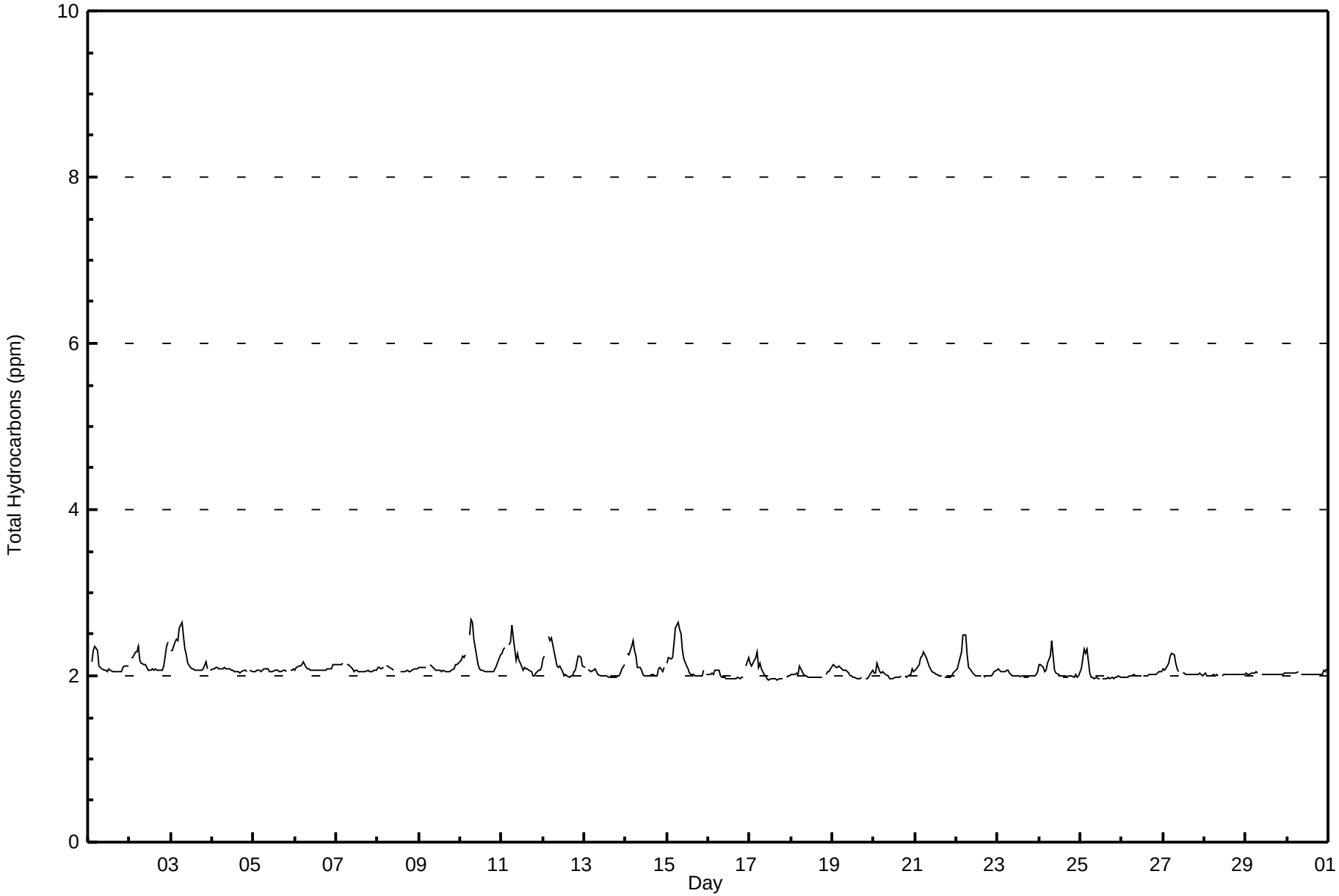
Hours in Service:	720
Hours of Data:	686
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	2.2	A	2.2	2.3	2.4	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.12	2.35
2-Jun	A	2.2	2.2	2.3	2.3	2.4	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.4	2.4	A	2.16	2.41
3-Jun	2.3	2.3	2.4	2.4	2.4	2.6	2.7	2.5	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	A	2.1	2.23	2.65
4-Jun	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	A	2.1	2.1	2.07	2.11
5-Jun	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	2.1	2.1	2.1	A	2.1	2.1	2.1	2.06	2.09
6-Jun	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.09	2.17
7-Jun	2.1	2.1	2.1	2.1	2.2	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.09	2.16
8-Jun	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.1	C	C	C	2.0	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.08	2.12
9-Jun	2.1	2.1	2.1	2.1	2.1	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.09	2.16
10-Jun	2.2	2.2	2.2	2.2	A	2.5	2.7	2.6	2.4	2.2	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.0	2.1	2.0	2.1	2.1	2.2	2.3	2.20	2.68
11-Jun	2.3	2.3	2.3	A	2.4	2.4	2.6	2.5	2.2	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.19	2.62
12-Jun	2.2	2.2	A	2.5	2.4	2.5	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	2.1	2.2	2.2	2.2	2.1	2.16	2.48
13-Jun	2.1	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	2.0	2.0	2.0	2.0	2.1	2.1	2.03	2.13
14-Jun	A	2.3	2.2	2.4	2.4	2.3	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	A	2.11	2.42
15-Jun	2.1	2.2	2.2	2.2	2.4	2.6	2.6	2.6	2.5	2.3	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	2.0	2.19	2.65
16-Jun	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.1	2.2	2.01	2.23
17-Jun	2.1	2.1	2.2	2.2	2.3	2.1	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	A	2.0	2.0	2.0	2.04	2.29
18-Jun	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.1	2.1	2.01	2.12
19-Jun	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.1	2.03	2.13
20-Jun	2.0	2.0	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	A	2.0	2.0	2.0	2.0	2.1	2.1	2.02	2.15
21-Jun	2.1	2.1	2.1	2.2	2.2	2.3	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.08	2.29
22-Jun	2.1	2.2	2.2	2.3	2.5	2.5	2.3	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	2.0	2.0	2.1	2.10	2.49
23-Jun	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.02	2.08
24-Jun	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.4	2.2	2.1	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.07	2.42
25-Jun	2.1	2.2	2.3	2.3	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.04	2.32
26-Jun	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.01	2.05
27-Jun	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.2	2.1	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.07	2.27
28-Jun	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.01	2.04
29-Jun	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.02	2.05
30-Jun	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.03	2.08
	2.10	2.12	2.13	2.16	2.19	2.21	2.19	2.16	2.11	2.07	2.05	2.03	2.03	2.02	2.02	2.02	2.02	2.02	2.02	2.03	2.04	2.07	2.08	2.08	Diurnal Average	
	2.31	2.33	2.40	2.48	2.49	2.58	2.68	2.64	2.50	2.31	2.20	2.15	2.08	2.11	2.09	2.08	2.07	2.07	2.07	2.09	2.23	2.35	2.41	2.26	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

Hourly Averages for THC at Henry Pirker
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 3.09 ppm on Jun 1 13:00

Maximum Daily Average: 2.32 ppm on Jun 3

Minimum Value: 2.0 ppm on Jun 17 12:00

Minimum Daily Average: 2.02 ppm on Jun 26

Maximum Diurnal Average: 2.31 ppm at hour 6

Minimum Diurnal Average: 2.04 ppm at hour 17

Monthly Average: 2.145 ppm

Percentiles: P_1 = 1.98 P_{10} = 2.00 Q_1 = 2.03 Median = 2.09 Q_3 = 2.17 P_{90} = 2.38 P_{99} = 2.90

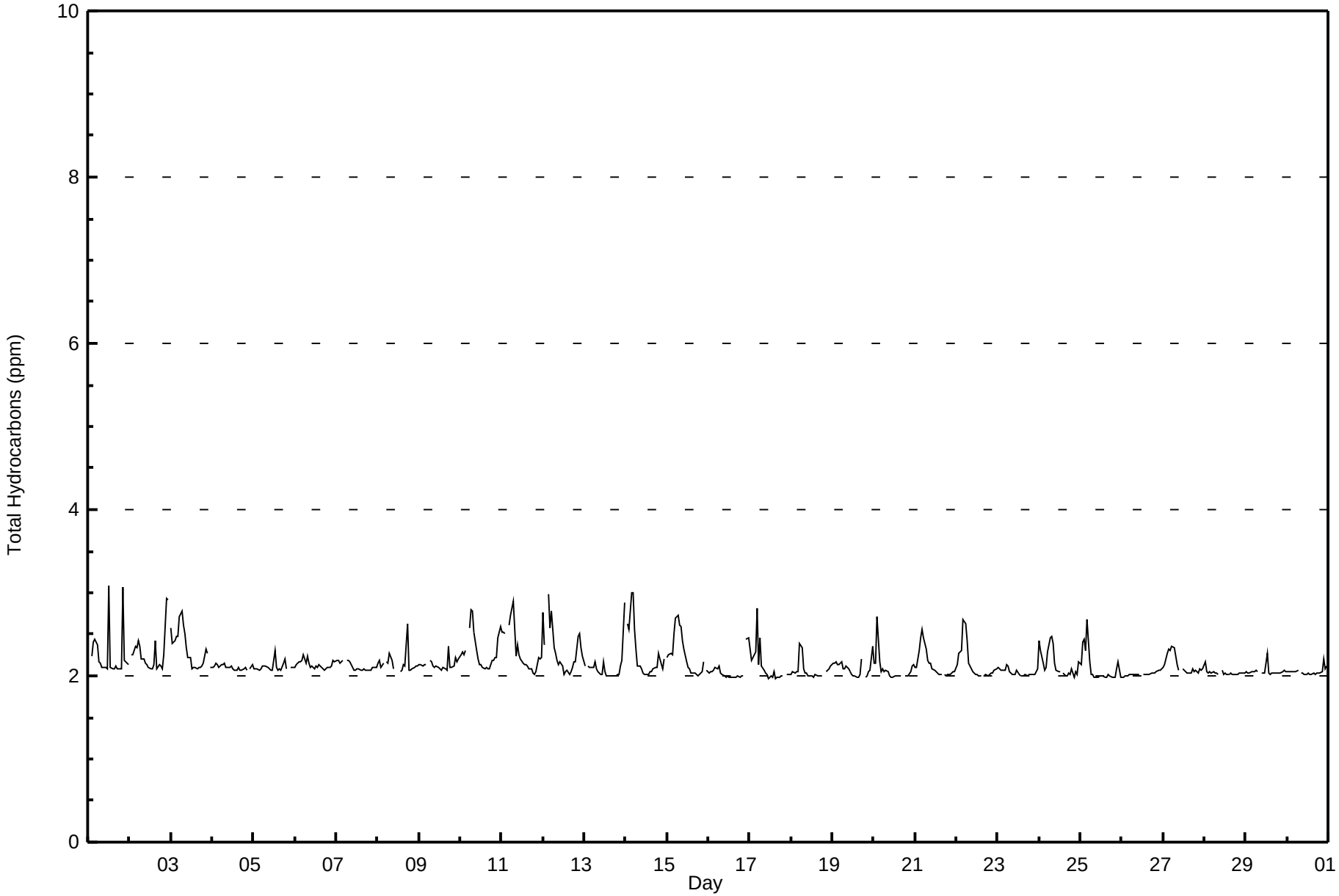
Hours in Service:	720
Hours of Data:	686
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	2.3	A	2.2	2.4	2.4	2.4	2.2	2.2	2.1	2.1	2.1	2.1	3.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	3.1	2.2	2.2	2.1	2.25	3.09
2-Jun	A	2.2	2.3	2.4	2.3	2.4	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.4	2.1	2.1	2.1	2.1	2.2	2.9	2.9	A	2.27	2.94
3-Jun	2.6	2.4	2.4	2.5	2.5	2.7	2.8	2.6	2.5	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	A	2.1	2.32	2.78
4-Jun	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	A	2.1	2.1	2.10	2.16
5-Jun	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.1	2.1	2.1	2.1	2.1	2.2	2.1	A	2.1	2.1	2.1	2.11	2.31
6-Jun	2.1	2.1	2.2	2.2	2.2	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.14	2.25
7-Jun	2.2	2.2	2.2	2.2	2.2	A	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.11	2.19
8-Jun	2.2	2.2	2.1	2.2	A	2.2	2.2	2.3	2.2	2.1	C	C	C	2.1	2.1	2.1	2.1	2.6	2.1	2.1	2.1	2.1	2.1	2.1	2.15	2.62
9-Jun	2.1	2.1	2.1	2.1	2.1	A	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.4	2.1	2.1	2.1	2.2	2.2	2.2	2.13	2.36
10-Jun	2.2	2.3	2.3	2.3	A	2.6	2.8	2.8	2.5	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.5	2.6	2.30	2.79
11-Jun	2.5	2.5	2.5	A	2.6	2.7	2.8	2.9	2.2	2.4	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.2	2.2	2.2	2.31	2.89
12-Jun	2.8	2.4	A	3.0	2.6	2.8	2.3	2.3	2.2	2.1	2.2	2.1	2.0	2.0	2.1	2.0	2.1	2.1	2.2	2.2	2.5	2.5	2.3	2.2	2.30	2.98
13-Jun	2.1	A	2.1	2.1	2.1	2.1	2.2	2.1	2.0	2.0	2.0	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.9	2.10	2.87
14-Jun	A	2.6	2.6	3.0	3.0	2.6	2.3	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.3	2.2	2.1	2.2	A	2.26	3.00
15-Jun	2.2	2.3	2.3	2.2	2.5	2.7	2.7	2.6	2.6	2.4	2.3	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	A	2.1	2.25	2.72
16-Jun	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	2.0	2.0	A	2.4	2.5	2.06	2.46
17-Jun	2.3	2.2	2.2	2.3	2.8	2.1	2.5	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	A	2.0	2.0	2.0	2.12	2.82
18-Jun	2.0	2.0	2.0	2.0	2.1	2.4	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.1	2.1	2.1	2.06	2.40
19-Jun	2.2	2.2	2.2	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	A	2.0	2.0	2.1	2.1	2.4	2.09	2.36
20-Jun	2.2	2.2	2.7	2.2	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	A	2.0	2.0	2.0	2.1	2.1	2.1	2.08	2.71
21-Jun	2.1	2.1	2.3	2.5	2.6	2.5	2.3	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.14	2.56
22-Jun	2.1	2.3	2.3	2.3	2.7	2.6	2.4	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.15	2.67
23-Jun	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	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	2.05	2.14
24-Jun	2.4	2.3	2.2	2.1	2.1	2.3	2.5	2.5	2.4	2.2	2.1	2.1	2.1	A	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.2	2.15	2.48
25-Jun	2.1	2.4	2.4	2.3	2.7	2.2	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.0	2.10	2.68
26-Jun	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.02	2.08
27-Jun	2.1	2.1	2.3	2.3	2.3	2.4	2.3	2.2	2.1	2.1	A	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.0	2.1	2.1	2.1	2.13	2.36
28-Jun	2.2	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	A	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	2.04	2.17
29-Jun	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	A	2.0	2.0	2.0	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.05	2.28
30-Jun	2.0	2.0	2.0	2.0	2.0	2.0	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	2.2	2.1	2.1	2.05	2.20
	2.19	2.20	2.21	2.24	2.30	2.31	2.28	2.22	2.16	2.11	2.08	2.07	2.11	2.04	2.05	2.05	2.04	2.09	2.06	2.06	2.12	2.15	2.16	2.17	Diurnal Average	
	2.77	2.62	2.71	3.00	3.00	2.78	2.82	2.89	2.60	2.43	2.33	2.22	3.09	2.14	2.13	2.42	2.12	2.62	2.20	2.27	3.07	2.94	2.91	2.87	Diurnal Maximum	

C - Calibration

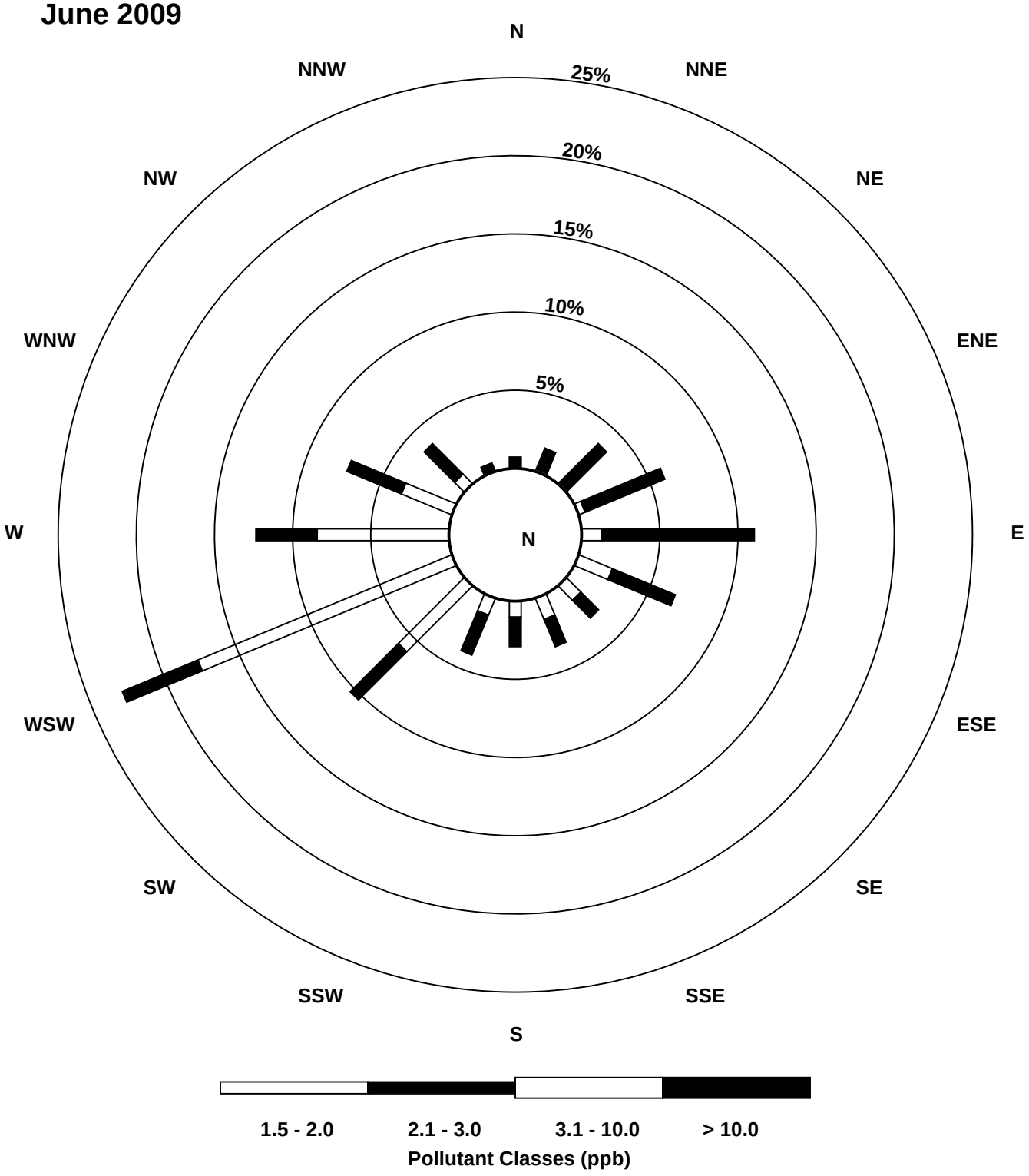
A - Automated Daily Zero Span

Hourly Maximums for THC at Henry Pirker
June 2009



Pollutant Rose for THC at Henry Pirker

June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Number of Exceedances (AAAQO): 1-hr: 1 24-hr: 0
Maximum Value: 200.9 $\mu g/m^3$ on Jul 1 00:00 Maximum Daily Average: 14.1 $\mu g/m^3$ on Jun 11

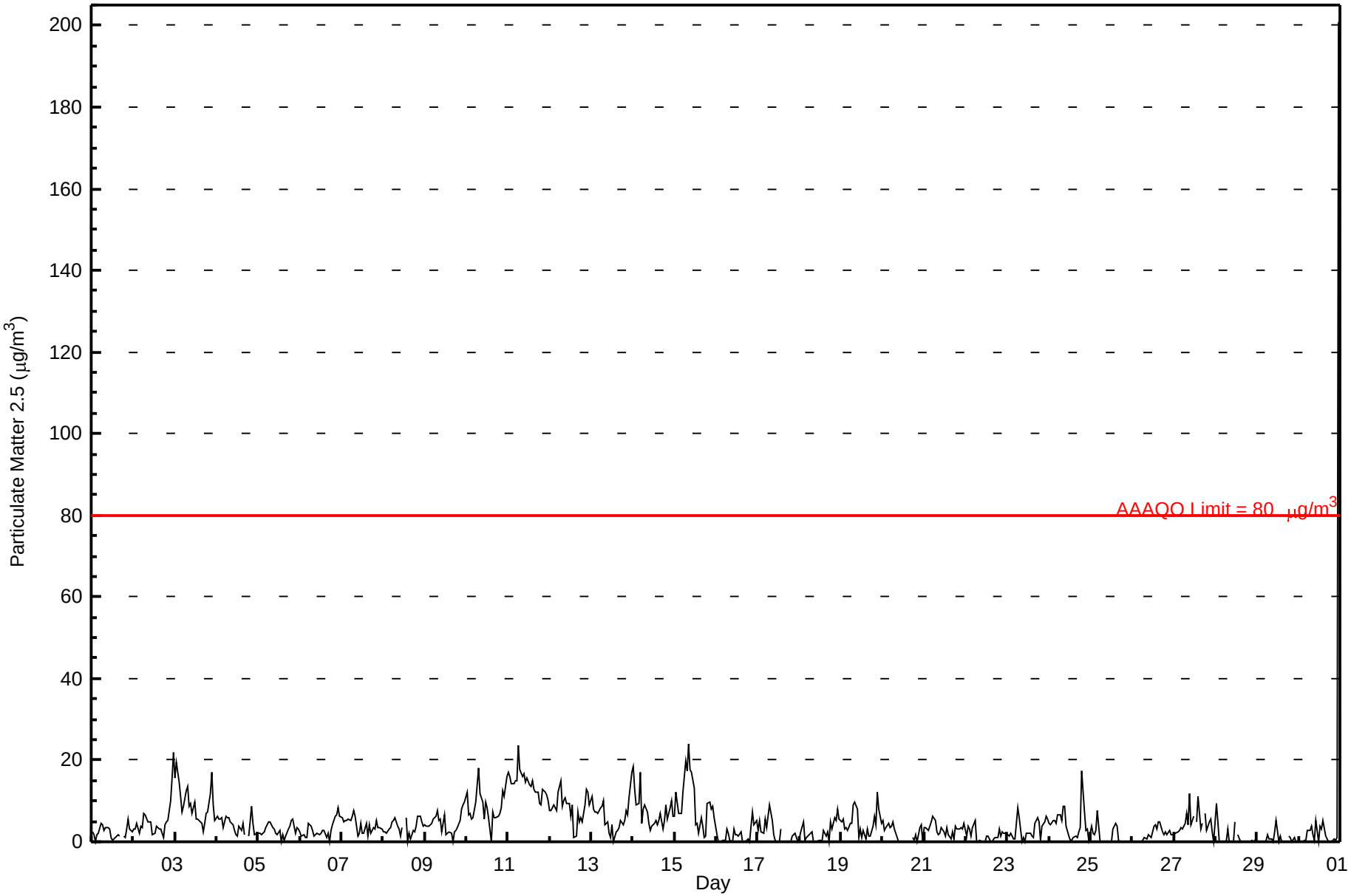
Minimum Value: 0 $\mu g/m^3$ on Jun 1 03:00 Minimum Daily Average: 0.8 $\mu g/m^3$ on Jun 29
Maximum Diurnal Average: 11.8 $\mu g/m^3$ at hour 24 Minimum Diurnal Average: 2.5 $\mu g/m^3$ at hour 18
Monthly Average: 4.65 $\mu g/m^3$ Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 1.3 Median = 3.4 Q_3 = 5.9 P_{90} = 9.9 P_{99} = 17.7

Hours in Service:	720
Hours of Data:	703
Hours of Missing Data:	17
Hours of Calibration:	1
Percent Operational Time:	97.8

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	3	2	0	2	2	4	4	3	3	4	3	1	0	1	1	2	1	BD	1	1	3	6	3	2	2.3	5.6
2-Jun	3	3	4	2	4	4	7	7	5	5	5	2	2	4	4	3	3	1	4	5	5	10	16	22	5.3	21.9
3-Jun	16	19	15	11	7	9	13	14	9	9	7	10	6	5	5	4	2	5	7	7	12	17	9	5	9.3	19.3
4-Jun	6	6	6	6	3	6	6	6	5	4	3	2	1	4	3	5	2	BD	1	5	9	5	2	2	4.2	8.7
5-Jun	2	2	2	3	3	4	5	5	3	3	2	2	3	0	2	0	1	3	4	5	5	2	3	3	2.9	5.5
6-Jun	2	1	2	1	1	4	4	3	2	2	2	2	2	3	3	1	2	0	3	4	6	7	8	6	2.9	8.3
7-Jun	6	5	5	5	6	5	6	8	6	1	2	4	2	2	5	1	4	2	3	3	5	3	4	3	4.1	7.8
8-Jun	2	2	2	3	4	5	5	6	4	3	1	4	C	6	0	2	1	3	2	4	6	6	5	4	3.5	6.3
9-Jun	4	4	4	4	5	5	6	7	5	5	2	6	2	2	2	2	0	3	3	3	5	8	9	10	4.5	9.6
10-Jun	12	7	7	6	6	10	14	18	12	10	5	10	8	6	0	7	6	6	6	7	8	13	11	16	8.8	17.9
11-Jun	17	16	14	14	15	15	23	18	16	17	14	16	14	14	15	13	12	12	9	9	13	12	11	10	14.1	23.5
12-Jun	8	8	9	8	8	12	15	9	10	11	10	10	6	9	1	2	7	5	6	5	9	13	12	9	8.3	14.8
13-Jun	11	8	7	7	7	8	9	10	4	5	2	1	4	0	3	3	4	5	4	5	8	6	11	17	6.3	17.0
14-Jun	18	13	9	9	17	5	8	9	7	5	3	4	4	5	4	5	7	3	5	9	6	8	10	6	7.5	18.3
15-Jun	6	12	7	7	7	12	20	17	24	18	17	13	4	5	2	6	4	1	1	9	10	8	9	6	9.4	24.0
16-Jun	2	0	0	0	0	0	3	2	0	0	3	2	2	1	2	0	0	0	1	0	4	7	4	5	1.7	7.2
17-Jun	3	5	2	2	5	4	6	9	5	2	0	0	0	3	BD	0	0	0	0	0	1	2	1	0	2.3	8.9
18-Jun	1	2	5	0	1	1	2	2	0	0	0	0	0	0	3	1	2	0	5	3	6	5	8	6	2.3	7.9
19-Jun	5	6	3	3	3	5	5	9	10	8	1	3	1	3	1	3	1	1	4	6	4	12	8	5	4.6	12.1
20-Jun	5	3	3	4	4	4	5	3	1	0	BD	BD	1	BD	0	0	BD	1	1	2	0	3	4	0	2.2	5.1
21-Jun	3	3	3	4	5	6	5	2	2	2	4	3	1	3	2	1	2	1	4	3	3	3	3	4	3.0	6.1
22-Jun	2	4	3	1	4	5	0	0	0	0	0	0	1	1	0	0	1	1	1	3	1	2	2	2	1.5	5.2
23-Jun	2	1	2	1	1	5	8	6	0	1	0	2	2	2	1	1	5	6	5	1	4	5	6	5	3.0	8.2
24-Jun	5	4	5	5	5	7	7	5	9	9	4	2	0	0	1	1	1	3	3	17	7	3	3	0	4.4	17.5
25-Jun	4	2	2	3	8	0	0	0	0	BD	0	0	0	3	4	4	0	0	0	0	0	0	0	0	1.3	7.7
26-Jun	0	0	0	0	0	0	0	1	1	2	1	1	4	4	3	5	5	3	2	2	2	3	2	2	1.7	5.0
27-Jun	2	2	2	3	4	3	4	7	4	12	4	6	BD	5	11	3	4	BD	7	3	5	6	2	0	4.5	12.0
28-Jun	9	5	0	0	BD	0	0	3	0	BD	0	5	BD	2	0	0	BD	0	0	0	0	0	0	1	1.3	9.2
29-Jun	0	0	0	0	0	0	2	1	1	0	2	5	0	1	0	0	BD	BD	1	1	0	1	0	0	0.8	5.4
30-Jun	0	0	0	0	0	3	3	4	2	0	5	0	4	3	5	1	1	0	0	0	1	0	1	201	9.8	200.9
	5.3	4.8	4.1	3.9	4.6	5.1	6.5	6.4	5.0	4.9	3.6	3.9	2.8	3.4	2.9	2.6	2.9	2.5	3.2	4.1	5.0	5.9	5.6	11.8	Diurnal Average	
	18.3	19.3	14.6	14.2	17.1	15.0	23.5	17.9	24.0	17.7	16.9	15.5	13.8	13.6	15.0	13.0	12.0	12.3	9.2	17.5	12.8	16.9	15.8	200.9	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 Henry Pirker
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 450.0 $\mu g/m^3$ on Jul 1 00:00

Maximum Daily Average: 27.0 $\mu g/m^3$ on Jun 30

Minimum Value: 0 $\mu g/m^3$ on Jun 26 06:00

Minimum Daily Average: 5.8 $\mu g/m^3$ on Jun 26

Maximum Diurnal Average: 25.1 $\mu g/m^3$ at hour 24

Minimum Diurnal Average: 7.8 $\mu g/m^3$ at hour 4

Monthly Average: 11.23 $\mu g/m^3$

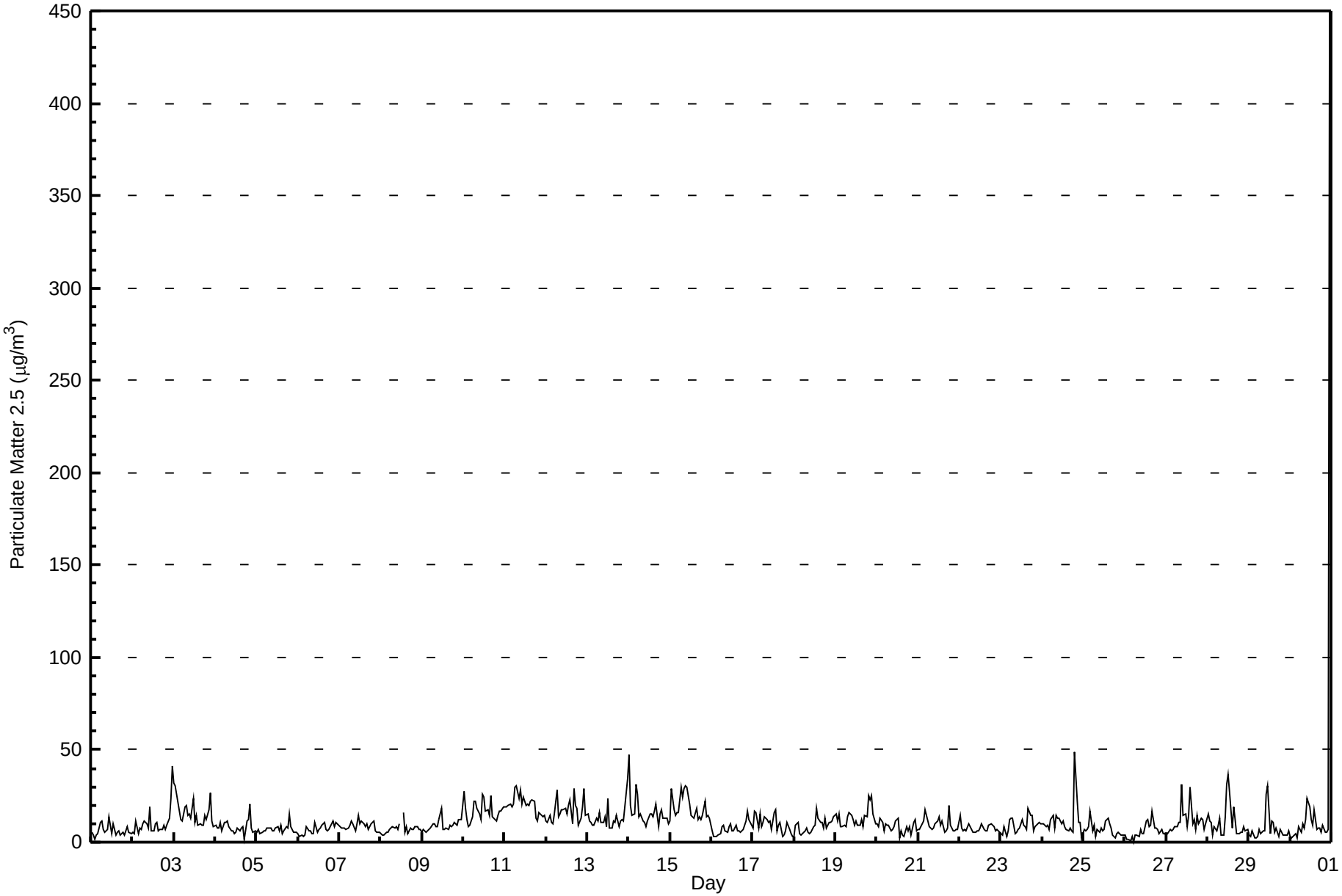
Percentiles: P_1 = 2.1 P_{10} = 4.4 Q_1 = 6.4 Median = 9.0 Q_3 = 13.1 P_{90} = 19.0 P_{99} = 30.8

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

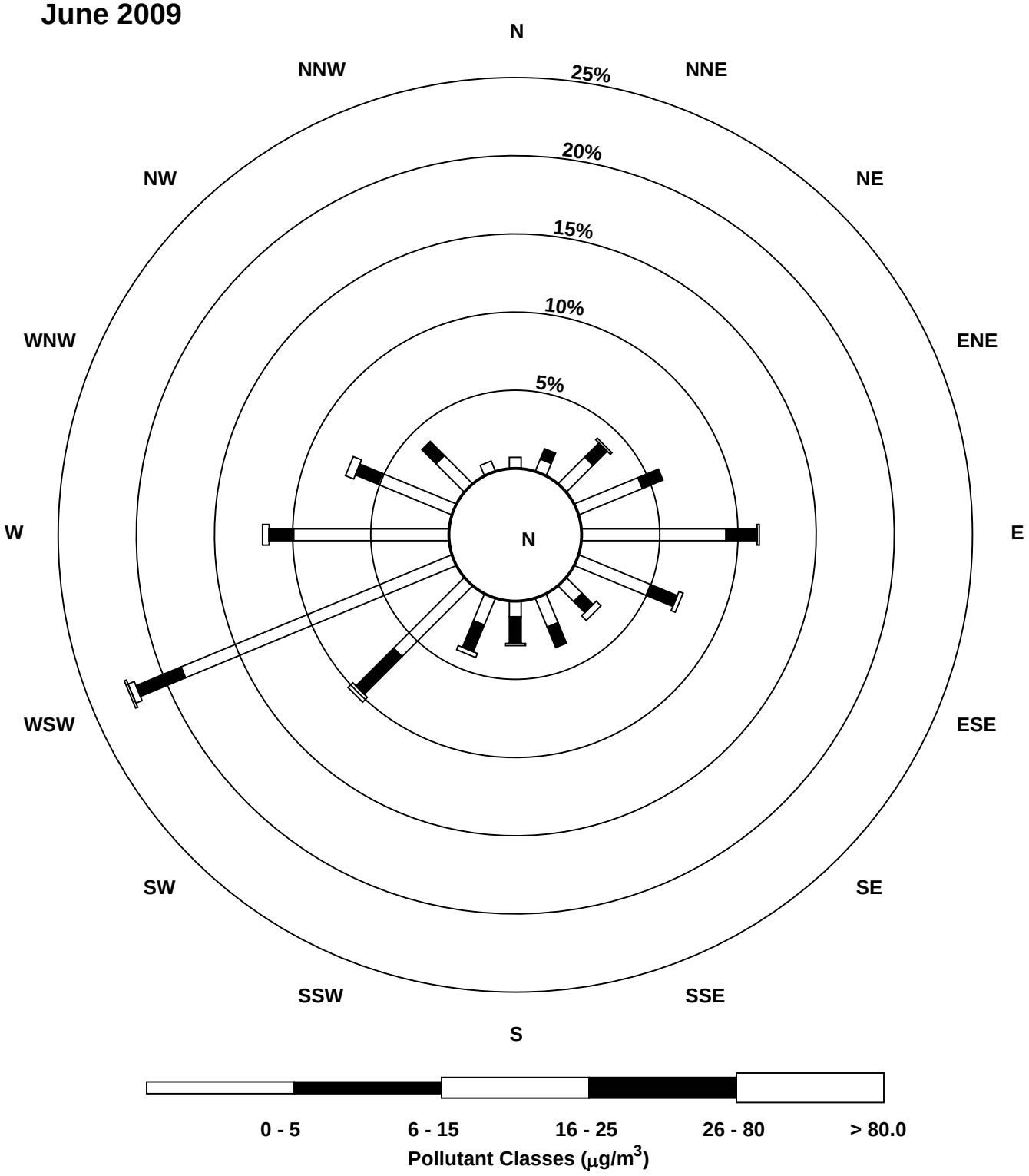
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jun	5	4	1	4	5	11	11	7	6	7	14	9	5	10	4	5	6	4	5	4	6	8	5	5	6.2	13.6
2-Jun	6	5	11	4	7	7	10	11	10	8	19	6	6	10	11	6	7	7	9	7	9	13	24	41	10.5	41.4
3-Jun	32	30	21	16	12	11	19	20	15	15	13	24	10	14	9	10	9	9	14	12	17	27	11	8	15.9	32.3
4-Jun	9	8	8	11	6	10	11	11	8	6	6	5	5	7	6	8	8	1	11	12	21	7	6	6	8.3	20.5
5-Jun	5	7	4	5	6	6	8	7	7	6	6	7	9	6	9	5	6	9	8	15	9	6	6	5	7.0	14.9
6-Jun	5	3	4	3	4	8	6	6	4	4	10	5	7	7	9	11	7	6	7	9	11	8	11	10	6.9	11.1
7-Jun	8	8	7	8	7	8	9	12	10	6	10	14	10	11	10	8	10	7	10	11	11	6	5	5	8.8	14.4
8-Jun	5	4	4	5	5	7	8	8	7	9	7	10	C	16	5	8	4	8	7	7	8	8	7	7	7.2	16.0
9-Jun	6	7	6	6	7	7	10	10	8	9	12	18	7	7	7	7	9	9	9	10	9	12	13	12	9.1	18.4
10-Jun	28	18	12	9	9	14	22	22	18	15	12	26	24	17	18	14	25	14	12	11	14	16	17	19	17.0	27.7
11-Jun	19	19	20	21	19	20	30	31	24	28	21	24	20	20	20	22	23	22	13	12	16	14	14	15	20.2	30.6
12-Jun	11	10	14	11	10	16	28	14	15	18	18	19	15	20	23	10	29	20	19	9	13	19	29	14	16.8	29.2
13-Jun	15	12	11	9	9	13	11	16	11	11	14	9	24	8	8	11	11	14	9	11	12	12	19	35	13.1	34.5
14-Jun	47	20	14	15	31	26	14	15	12	11	8	12	15	15	14	17	21	8	16	17	13	13	13	10	16.5	46.9
15-Jun	12	29	18	15	16	16	30	25	29	30	29	21	14	14	13	19	12	14	12	15	22	14	15	13	18.5	30.2
16-Jun	6	3	3	3	4	4	8	9	6	5	8	10	6	6	9	6	6	6	7	9	11	17	12	9	7.3	16.9
17-Jun	8	17	16	8	15	9	10	14	12	10	12	7	16	18	6	9	11	3	4	6	11	7	4	3	9.8	17.8
18-Jun	3	9	11	4	4	5	6	8	5	4	5	8	9	18	13	11	11	8	13	8	11	10	12	14	8.7	18.1
19-Jun	15	11	15	8	9	9	9	14	16	15	12	9	11	9	9	12	8	14	14	25	23	25	15	10	13.3	25.1
20-Jun	10	8	13	10	6	10	9	9	6	7	8	11	13	2	6	4	3	8	6	8	4	10	12	6	8.0	12.9
21-Jun	7	7	10	12	17	14	9	7	7	8	10	11	13	9	12	6	6	8	20	9	6	6	7	7	9.5	19.8
22-Jun	14	7	6	7	6	10	8	7	5	6	6	6	7	10	7	6	6	9	10	9	9	6	7	6	7.5	14.2
23-Jun	4	4	8	3	6	12	13	13	4	5	7	8	12	9	8	7	18	14	15	6	9	10	11	10	9.1	18.1
24-Jun	10	10	8	9	7	12	15	8	14	13	13	10	11	8	7	6	7	6	6	49	22	10	11	2	11.5	48.9
25-Jun	7	6	7	8	17	6	9	3	7	6	8	6	7	11	13	10	8	4	2	4	5	4	4	4	6.9	16.7
26-Jun	4	2	1	1	3	0	4	4	3	7	5	5	11	12	8	9	17	7	8	7	4	7	5	5	5.8	16.7
27-Jun	4	5	7	6	7	8	9	11	10	31	14	15	9	14	30	10	12	6	14	10	13	12	7	10	11.4	31.1
28-Jun	15	11	10	4	9	6	9	13	4	4	14	31	36	28	8	19	12	5	4	5	5	8	6	7	11.4	36.3
29-Jun	4	3	6	2	3	3	7	5	6	6	26	30	4	11	11	5	8	3	7	6	4	4	4	6	7.3	30.3
30-Jun	3	2	4	5	3	8	5	10	8	12	24	19	12	9	17	7	8	8	5	9	6	6	7	450	27.0	450.0
	10.9	9.7	9.4	7.8	8.9	9.9	11.9	11.6	10.0	10.7	12.4	13.2	12.1	12.0	11.0	9.6	10.9	8.7	9.9	11.1	11.2	11.0	10.5	25.1	Diurnal Average	
	46.9	30.2	21.0	20.9	31.0	25.7	29.9	30.6	28.7	31.1	29.5	31.0	36.3	27.7	29.9	21.8	29.2	21.8	19.8	48.9	22.5	27.0	28.8	450.0	Diurnal Maximum	

C - Calibration

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



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



Maximum Value: 28.6 ^{o}C on Jun 12 16:00

Maximum Daily Average: 20.9 ^{o}C on Jun 13

Minimum Value: 2 ^{o}C on Jun 6 05:00

Minimum Daily Average: 8.5 ^{o}C on Jun 6

Maximum Diurnal Average: 20.6 ^{o}C at hour 16

Minimum Diurnal Average: 8.0 ^{o}C at hour 5

Monthly Average: 15.05 ^{o}C

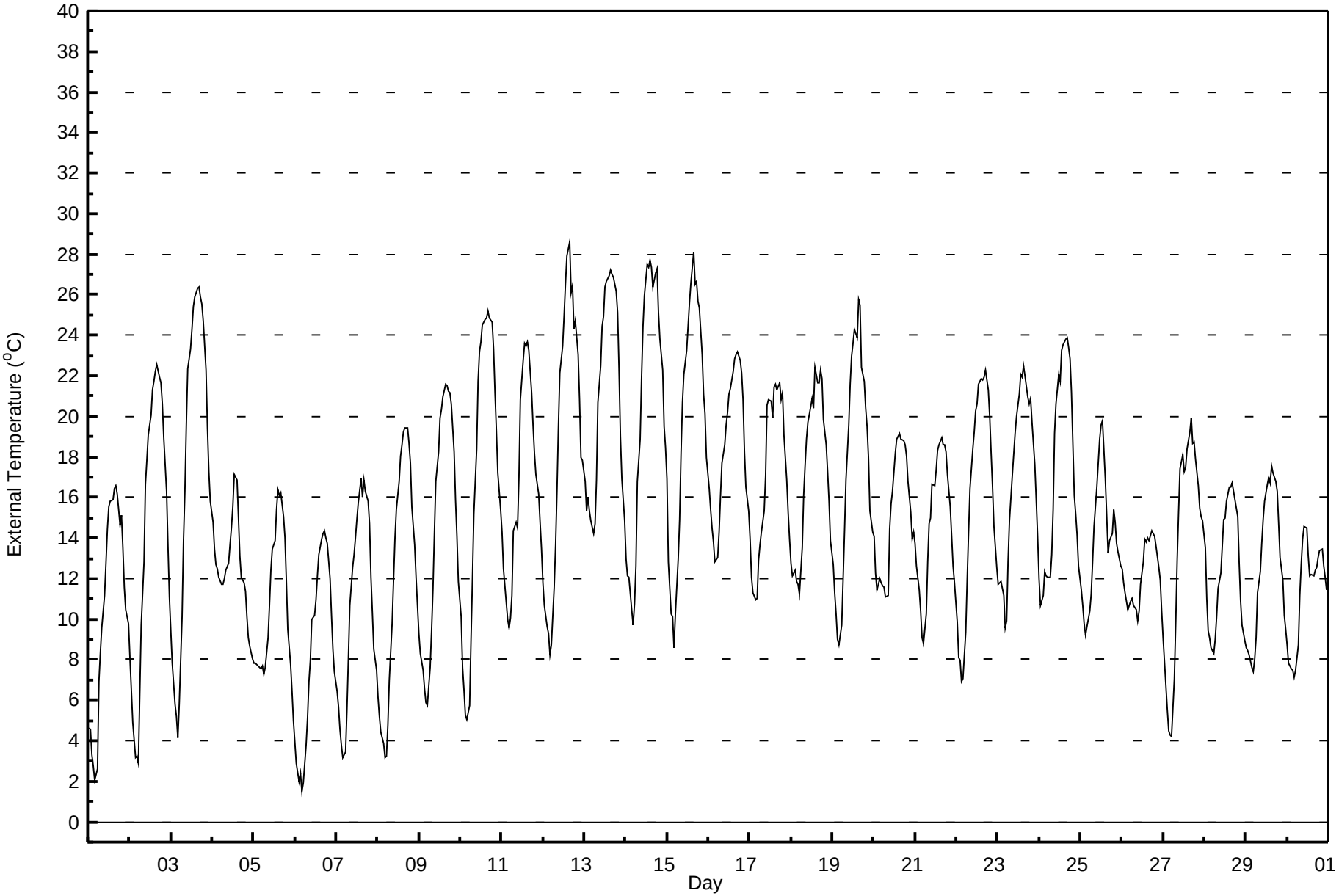
Percentiles: P_1 = 2.8 P_{10} = 7.7 Q_1 = 11.1 Median = 14.5 Q_3 = 19.3 P_{90} = 23.2 P_{99} = 27.3

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

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jun	5	5	3	3	2	3	7	8	10	11	13	14	16	16	16	16	17	16	15	15	14	12	10	10	10.6	16.6
2-Jun	8	7	5	3	3	3	6	10	13	17	18	19	20	21	22	22	23	22	22	21	19	16	14	11	14.3	22.5
3-Jun	9	8	6	5	4	6	10	14	16	20	22	23	24	25	26	26	26	26	26	25	22	19	17	16	17.6	26.3
4-Jun	15	13	13	12	12	12	12	12	12	13	14	15	16	17	17	15	13	12	12	11	10	9	9	8	12.6	17.1
5-Jun	8	8	8	8	8	8	7	8	9	11	12	13	14	15	16	16	16	15	14	12	9	8	6	5	10.6	16.4
6-Jun	4	3	2	2	2	2	4	5	7	8	10	10	11	12	13	14	14	14	14	14	12	10	9	7	8.5	14.4
7-Jun	6	6	5	4	3	3	6	8	11	13	13	14	15	16	17	16	17	16	16	15	12	10	9	7	10.7	16.9
8-Jun	6	5	4	4	3	3	5	7	10	12	14	15	17	18	19	19	19	19	19	18	16	14	12	11	12.0	19.4
9-Jun	9	8	7	7	6	6	8	9	11	14	17	18	20	20	21	22	22	21	21	21	18	16	14	12	14.5	21.6
10-Jun	10	8	7	5	5	6	9	12	15	18	22	23	24	25	25	25	25	25	25	23	21	19	17	15	17.0	25.2
11-Jun	14	12	12	10	10	10	11	14	15	14	17	21	23	24	23	24	23	21	20	18	17	16	15	13	16.6	23.7
12-Jun	12	11	10	9	8	9	12	14	16	19	22	23	25	27	28	29	26	26	24	25	23	21	18	18	18.9	28.6
13-Jun	17	15	16	15	15	14	15	17	21	22	24	25	26	27	27	27	27	27	26	25	22	19	17	15	20.9	27.2
14-Jun	13	12	12	10	10	11	13	17	19	22	24	26	27	27	28	27	26	27	27	25	24	22	19	18	20.4	27.7
15-Jun	17	13	10	10	9	10	13	15	18	21	22	23	24	26	27	28	26	27	26	25	23	21	20	18	19.7	28.1
16-Jun	16	15	14	14	13	13	14	16	18	19	20	20	21	21	22	23	23	23	23	22	21	18	17	15	18.4	23.2
17-Jun	14	12	11	11	11	13	14	14	15	17	21	21	21	20	21	22	21	22	21	21	19	17	15	14	17.0	21.6
18-Jun	13	12	12	12	12	11	14	16	18	19	20	20	21	20	22	22	22	22	22	20	19	17	16	14	17.3	22.4
19-Jun	13	11	10	9	9	10	12	14	17	20	22	23	24	24	24	26	25	22	22	20	20	18	15	14	17.7	25.8
20-Jun	14	12	11	12	12	12	12	11	11	14	16	16	18	19	19	19	19	19	19	18	17	15	14	14	15.1	19.1
21-Jun	14	13	11	10	9	9	10	13	15	15	17	17	17	18	19	19	19	19	18	17	16	14	13	12	14.7	18.9
22-Jun	10	8	8	7	7	9	12	14	16	18	19	20	21	22	22	22	22	22	21	20	18	16	15	13	16.0	22.3
23-Jun	12	12	12	11	10	10	13	15	17	18	19	20	21	22	22	22	22	21	21	21	20	18	16	14	17.0	22.5
24-Jun	12	11	11	12	12	12	12	13	15	19	21	22	22	23	24	24	24	23	23	21	16	15	14	13	17.3	23.9
25-Jun	11	11	10	9	10	10	11	13	15	16	18	19	20	20	17	15	13	14	14	15	15	14	13	13	14.0	19.8
26-Jun	12	12	11	10	11	11	11	11	10	10	10	12	13	14	14	14	14	14	14	14	14	13	12	10	12.1	14.4
27-Jun	9	8	6	4	4	4	7	10	13	15	17	18	17	17	18	19	20	19	19	18	17	15	15	15	13.6	19.9
28-Jun	14	11	9	9	9	8	9	10	12	12	14	15	15	16	17	17	17	16	15	15	13	11	10	9	12.5	16.7
29-Jun	9	8	8	8	7	8	9	11	12	14	15	16	17	17	17	18	17	17	16	15	13	12	10	10	12.6	17.5
30-Jun	9	8	8	7	7	7	9	11	13	14	15	14	13	12	12	12	12	13	13	13	13	13	12	11	11.3	14.6
	11.1	9.9	9.1	8.5	8.0	8.4	10.1	12.1	14.0	15.9	17.5	18.6	19.4	20.1	20.4	20.6	20.4	20.1	19.5	18.8	17.0	15.3	13.7	12.5	Diurnal Average	
	16.9	15.4	16.0	15.4	14.8	14.2	14.7	16.9	20.7	22.5	24.4	25.9	27.5	27.4	27.9	28.6	27.0	27.1	27.3	25.4	23.8	22.3	20.2	18.4	Diurnal Maximum	

Hourly Averages for External Temperature at Henry Pirker

June 2009



Maximum Value: 92.1 % on Jun 12 05:00

Maximum Daily Average: 61.9 % on Jun 25

Minimum Value: 12 % on Jun 13 16:00

Minimum Daily Average: 34.0 % on Jun 13

Maximum Diurnal Average: 71.1 % at hour 5

Minimum Diurnal Average: 30.9 % at hour 16

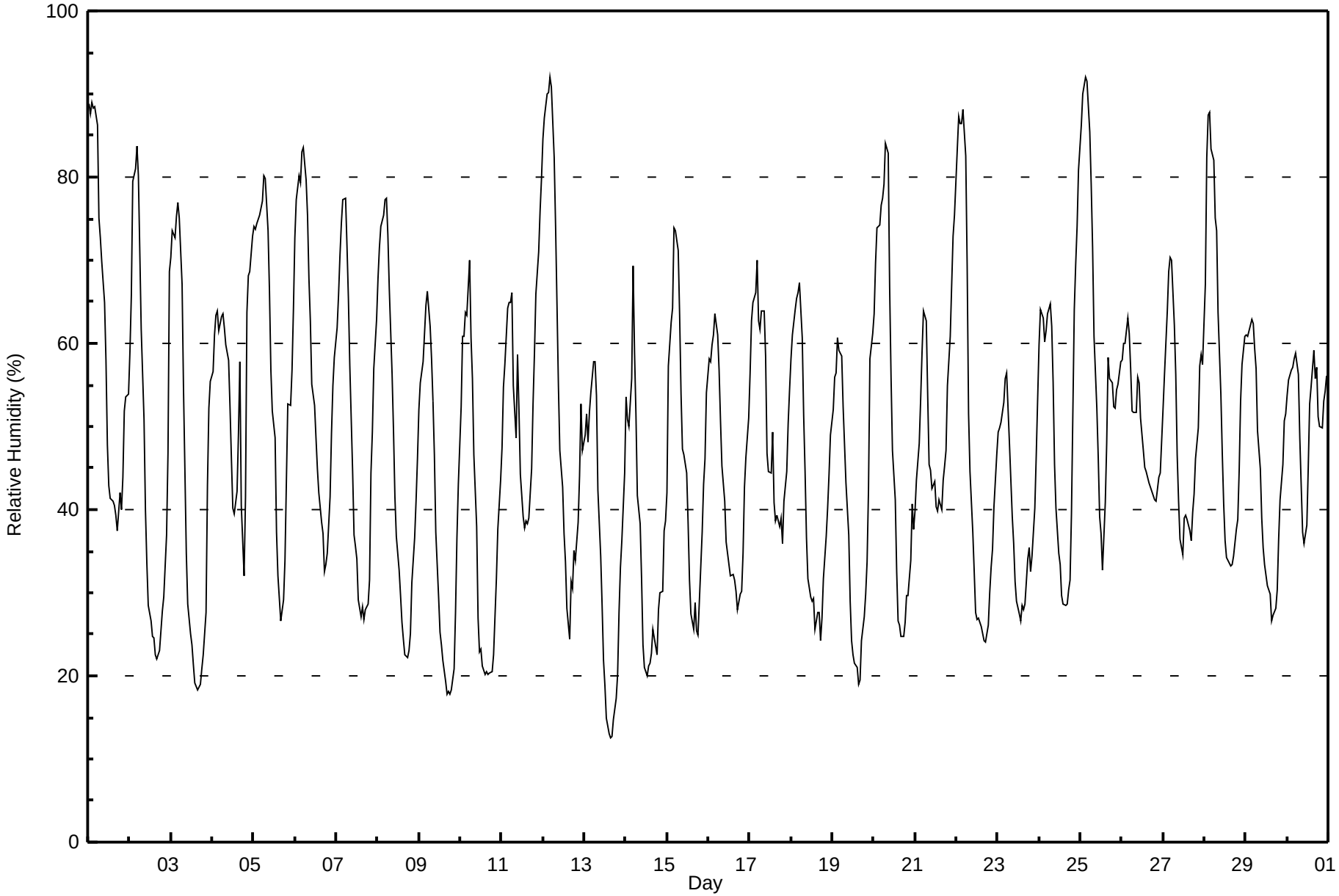
Monthly Average: 48.45 %

Percentiles: P_1 = 17.8 P_{10} = 25.6 Q_1 = 33.9 Median = 47.1 Q_3 = 60.9 P_{90} = 74.0 P_{99} = 89.8

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

Day	Hourly Period Ending At (MST)																								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-Jun	89	88	89	88	89	86	75	73	70	65	58	48	43	41	41	41	39	37	42	40	44	52	54	54	60.2	88.9
2-Jun	59	66	79	81	84	80	71	62	51	40	34	28	27	25	25	23	22	23	25	28	29	37	47	69	46.4	83.7
3-Jun	70	74	73	75	77	75	67	55	45	35	29	25	24	21	19	18	19	19	21	23	28	43	52	55	43.4	77.0
4-Jun	57	61	63	64	62	63	64	62	60	58	52	46	40	39	42	49	58	40	32	42	64	68	69	73	55.3	72.9
5-Jun	74	74	74	75	76	77	80	80	74	66	57	52	49	37	32	29	27	29	34	43	53	53	57	64	56.9	80.2
6-Jun	73	77	80	79	83	84	80	75	68	63	55	53	49	45	42	38	37	33	33	35	42	49	55	58	57.7	83.6
7-Jun	62	66	71	74	77	77	72	65	57	45	37	36	34	29	27	28	27	28	29	32	44	49	57	63	49.4	77.5
8-Jun	68	72	74	75	77	77	73	67	56	50	42	37	33	30	26	24	23	22	23	25	31	37	41	46	47.0	77.4
9-Jun	52	55	58	61	65	66	62	58	53	47	37	29	25	24	22	19	18	18	18	18	21	28	37	43	38.9	66.2
10-Jun	52	61	61	64	63	70	61	56	47	38	27	23	23	21	20	21	20	20	20	22	27	32	38	44	38.8	70.0
11-Jun	47	55	57	64	65	65	66	55	49	59	52	44	39	38	39	38	39	45	53	59	66	71	76	80	55.0	79.8
12-Jun	85	87	90	90	92	91	82	74	65	55	47	43	37	34	28	24	31	30	35	34	39	44	53	47	55.7	92.1
13-Jun	49	51	48	52	54	58	58	54	42	34	29	22	19	15	13	12	13	15	17	20	28	33	36	44	34.0	57.8
14-Jun	54	51	50	56	69	59	52	42	38	32	24	21	20	21	22	23	26	24	23	28	30	30	38	39	36.2	69.4
15-Jun	42	57	63	64	74	74	71	63	54	47	47	44	38	32	28	26	29	25	25	29	37	43	46	54	46.3	73.9
16-Jun	58	58	60	61	64	61	57	51	45	41	36	35	33	32	32	32	30	28	30	30	35	43	46	51	43.7	63.6
17-Jun	56	63	65	66	70	63	62	64	64	59	47	45	44	49	41	39	39	38	39	36	41	45	50	54	51.6	70.0
18-Jun	58	61	64	65	66	67	61	51	45	37	32	30	29	29	26	28	28	24	27	32	37	40	44	49	42.9	67.3
19-Jun	52	56	56	61	59	58	52	48	43	37	29	24	23	21	21	19	19	24	27	30	34	42	58	61	39.9	61.2
20-Jun	64	70	74	74	77	77	79	84	83	67	56	47	41	33	27	26	25	25	26	30	30	34	41	38	51.1	84.1
21-Jun	40	44	48	53	59	64	63	54	45	45	43	43	40	40	41	40	44	45	47	55	61	67	73	75	51.2	75.5
22-Jun	83	87	87	86	88	82	69	52	45	37	33	28	27	27	26	25	24	24	26	30	33	35	40	47	47.6	88.1
23-Jun	49	50	51	53	56	56	52	48	39	36	31	29	28	27	29	28	29	34	35	33	34	40	46	53	40.3	56.4
24-Jun	60	64	63	60	62	64	65	62	55	45	40	35	33	30	29	28	29	30	32	39	64	69	74	81	50.5	80.8
25-Jun	86	90	91	92	92	85	79	72	61	52	46	39	37	33	41	48	58	56	55	52	52	54	55	58	61.9	92.0
26-Jun	58	60	60	63	61	57	52	52	52	56	55	51	47	45	45	44	43	42	42	41	41	44	44	48	50.1	63.1
27-Jun	52	56	64	69	70	70	62	56	47	41	36	35	39	39	39	37	36	40	42	46	50	57	59	57	50.0	70.3
28-Jun	67	82	87	88	83	82	75	74	64	54	47	41	36	34	34	33	33	34	38	39	45	53	57	61	55.9	87.8
29-Jun	61	61	62	63	62	59	57	49	45	39	35	33	31	30	30	27	27	28	30	36	41	45	51	51	44.0	63.0
30-Jun	54	56	57	57	58	59	56	49	43	37	36	38	45	53	55	59	56	57	51	50	50	53	54	56	51.6	59.1
	61.0	65.0	67.3	69.2	71.1	70.3	65.8	60.1	53.4	47.2	40.9	36.8	34.5	32.5	31.3	30.9	31.6	31.3	32.6	35.2	41.0	46.4	51.6	55.8	Diurnal Average	
	88.8	90.0	91.0	92.0	92.1	90.8	82.3	84.1	82.8	66.7	57.9	52.6	48.7	52.7	54.7	59.1	58.3	57.1	55.2	58.7	65.9	71.0	75.9	80.8	Diurnal Maximum	

Hourly Averages for Relative Humidity at Henry Pirker
June 2009



Maximum Value: 822.7 W/m^2 on Jun 7 15:00

Maximum Daily Average: 280.0 W/m^2 on Jun 8

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

Minimum Daily Average: 105.1 W/m^2 on Jun 26

Maximum Diurnal Average: 631.5 W/m^2 at hour 14

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

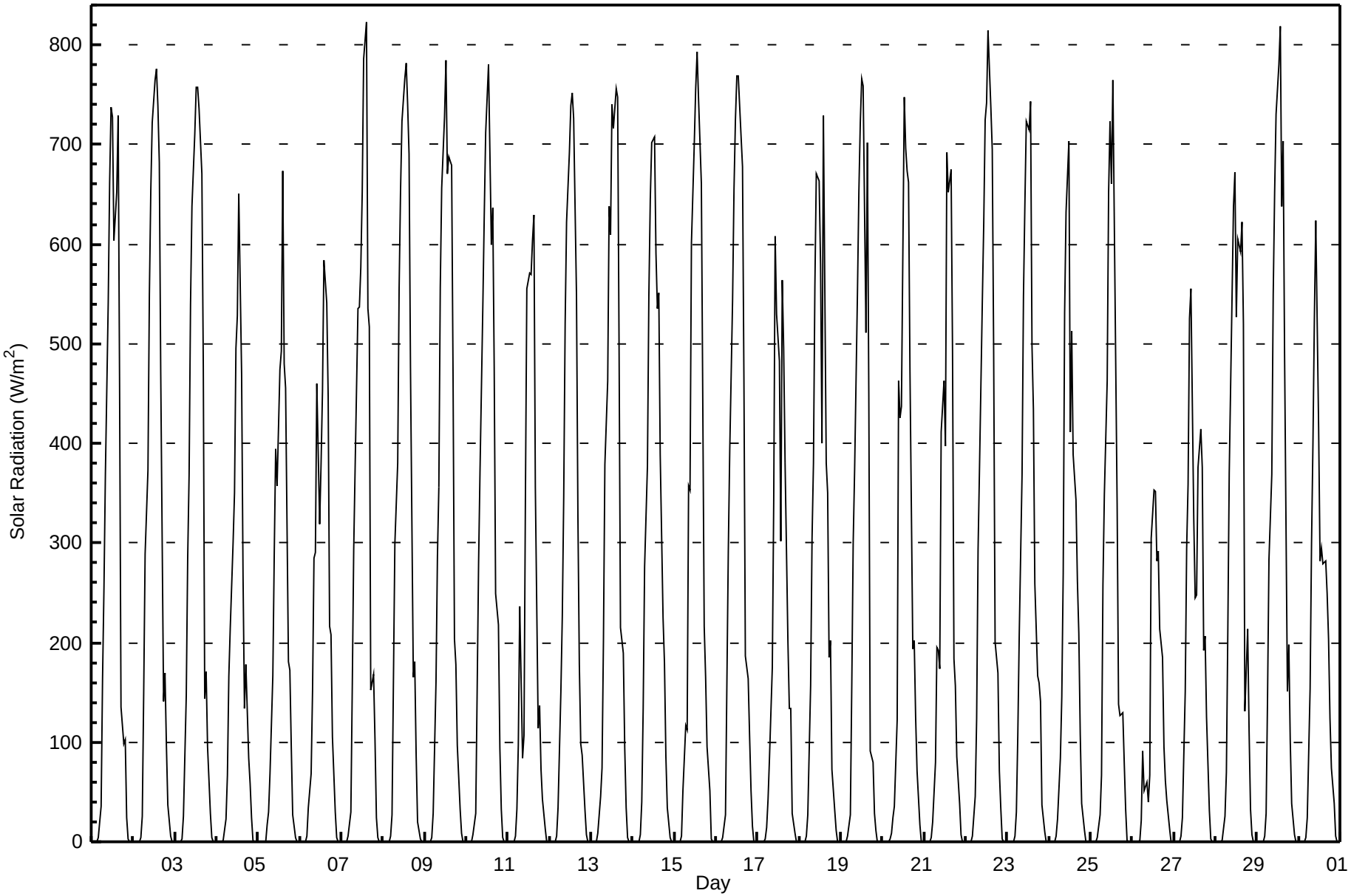
Monthly Average: 232.88 W/m^2

Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = -0.1 Median = 122.2 Q_3 = 459.5 P_{90} = 671.4 P_{99} = 780.6

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

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jun	0	0	0	0	5	36	163	255	369	541	662	738	727	604	652	729	460	136	98	102	25	3	0	0	262.7	738.2
2-Jun	0	0	0	0	4	26	150	289	374	549	653	721	765	776	739	683	471	141	169	97	37	6	0	0	277.0	775.7
3-Jun	0	0	0	0	3	25	147	285	368	539	637	711	757	757	736	670	477	143	170	96	29	4	0	0	273.2	757.4
4-Jun	0	0	0	0	1	23	67	166	214	300	351	495	528	650	469	268	134	178	84	58	24	1	0	0	167.2	650.4
5-Jun	0	0	0	0	0	18	30	69	166	290	395	357	474	492	673	480	456	180	173	96	27	4	0	0	182.4	673.3
6-Jun	0	0	0	0	5	33	69	153	285	290	460	319	380	453	583	541	447	216	207	106	30	5	0	0	190.9	583.4
7-Jun	0	0	0	0	5	30	156	293	375	536	537	577	651	786	823	535	517	152	167	102	25	4	0	0	261.4	822.7
8-Jun	0	0	0	0	6	27	163	299	379	556	654	724	766	782	741	690	477	166	181	86	20	3	0	0	280.0	782.0
9-Jun	0	0	0	0	5	29	161	286	356	556	657	728	784	670	688	679	471	204	178	97	33	8	0	0	274.6	784.0
10-Jun	0	0	0	0	7	29	152	279	372	538	630	712	747	781	599	636	478	249	218	94	32	4	0	0	273.1	780.6
11-Jun	0	0	0	0	6	33	97	236	84	107	345	555	571	569	604	629	356	113	137	73	43	13	0	0	190.5	629.5
12-Jun	0	0	0	0	6	35	150	226	346	520	622	691	739	752	726	549	327	179	98	86	32	7	0	0	253.9	751.8
13-Jun	0	0	0	0	9	45	74	202	378	463	638	609	740	717	756	747	497	216	189	94	34	5	0	0	267.1	755.6
14-Jun	0	0	0	0	7	40	133	277	377	548	645	702	708	591	535	552	388	225	179	85	34	4	0	0	251.2	707.5
15-Jun	0	0	0	0	6	51	117	112	357	354	600	701	757	793	746	661	442	217	165	95	51	3	0	0	259.5	793.4
16-Jun	0	0	0	0	4	27	161	293	392	544	656	725	768	769	708	678	463	186	163	106	51	16	0	0	279.6	769.2
17-Jun	0	0	0	0	2	15	43	84	175	344	608	529	483	302	563	496	380	201	133	133	29	9	0	0	188.7	607.8
18-Jun	0	0	0	0	5	27	156	304	380	558	670	664	580	401	729	380	350	185	202	72	31	12	0	0	237.7	729.2
19-Jun	0	0	0	0	5	28	157	301	373	551	652	722	766	759	512	702	449	91	79	28	11	0	0	0	257.7	766.1
20-Jun	0	0	0	0	2	9	25	35	123	462	426	437	748	697	673	662	474	193	202	126	71	17	0	0	224.3	748.1
21-Jun	0	0	0	0	4	20	80	194	192	173	411	463	398	692	652	675	493	183	157	86	39	7	0	0	205.0	691.5
22-Jun	0	0	0	0	6	46	123	293	375	542	620	724	741	815	737	695	490	200	170	71	34	3	0	0	278.6	814.9
23-Jun	0	0	0	0	6	29	106	206	369	548	641	724	715	743	499	434	260	166	160	142	37	10	0	0	241.4	742.7
24-Jun	0	0	0	0	5	23	83	145	269	531	632	703	412	513	389	344	262	210	108	39	11	0	0	0	195.0	703.3
25-Jun	0	0	0	0	4	27	67	258	349	462	652	724	661	764	481	339	139	126	129	80	33	2	0	0	220.7	764.5
26-Jun	0	0	0	0	1	22	91	51	60	40	67	305	352	352	282	291	213	185	96	61	41	12	0	0	105.1	352.4
27-Jun	0	0	0	0	5	25	151	294	359	526	556	324	245	247	376	415	375	192	206	125	31	2	0	0	185.6	555.5
28-Jun	0	0	0	0	1	25	70	211	370	549	638	672	526	606	593	622	519	131	213	111	33	6	0	0	245.7	672.1
29-Jun	0	0	0	0	6	28	145	284	368	549	652	730	780	819	638	703	489	152	198	101	38	6	0	0	278.6	818.9
30-Jun	0	0	0	0	5	25	153	300	401	526	623	415	281	295	279	282	249	204	123	74	38	6	0	0	178.3	623.3
	0.0	0.0	0.0	0.0	4.5	28.5	114.8	222.7	311.8	453.1	566.3	606.7	618.4	631.5	606.0	558.9	400.0	177.3	158.5	90.7	33.4	6.1	0.0	0.0	Diurnal Average	
	0.0	0.0	0.0	0.0	9.0	51.4	163.3	304.4	400.8	557.8	670.3	738.2	784.0	818.9	822.7	746.8	519.0	249.0	217.8	141.6	71.2	17.0	0.0	0.0	Diurnal Maximum	

Hourly Averages for Solar Radiation at Henry Pirker
June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker
June 1, 2009 to July 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	4	5	5	3	2	7	9	10	9	8	7	5	6	9	10	9	7	9	10	8	6	8	7	5.5	10.2
Dir	305	333	306	328	308	15	86	98	102	100	93	101	91	97	87	83	82	73	79	81	80	67	78	81	79.2	101.9
2 Spd	5	3	2	2	0	3	4	4	4	2	4	3	4	2	2	1	3	2	4	8	6	3	3	2	1.8	7.6
Dir	70	54	270	329	199	261	135	117	98	68	111	52	37	344	5	121	5	189	88	96	101	103	84	275	83.9	96.5
3 Spd	3	3	4	4	5	4	3	5	6	5	2	2	2	3	3	4	6	5	6	7	7	11	10	11	1.4	11.0
Dir	295	288	299	289	283	308	271	217	226	241	241	53	141	249	287	218	227	202	202	199	188	36	53	67	243.3	36.3
4 Spd	8	6	6	5	8	8	9	11	12	13	15	16	17	15	16	15	14	16	17	14	12	9	10	9	11.5	16.7
Dir	65	56	55	52	51	59	67	63	63	67	68	71	75	82	79	66	56	61	74	89	69	69	85	84	69.1	74.1
5 Spd	7	5	9	9	9	9	8	6	5	4	1	3	4	8	10	11	13	15	15	18	15	10	10	9	8.0	18.2
Dir	72	50	63	70	66	65	45	47	60	73	21	44	289	351	19	30	47	50	49	75	82	81	79	87	57.2	75.3
6 Spd	9	6	5	6	3	3	4	7	9	8	8	9	12	10	11	10	9	8	11	13	12	10	7	9	7.2	13.0
Dir	80	62	43	72	73	308	56	72	112	121	111	106	142	150	153	119	118	117	92	93	95	101	91	91	103.6	93.1
7 Spd	9	7	7	6	6	4	4	6	8	11	9	10	9	11	9	11	10	11	10	15	17	11	9	11	9.0	16.8
Dir	96	93	81	72	78	84	96	93	74	87	97	82	70	106	118	103	93	98	85	94	111	102	101	102	94.2	111.0
8 Spd	7	8	8	8	8	9	10	10	9	11	10	11	10	11	12	9	9	10	13	15	12	10	11	12	10.0	14.9
Dir	95	98	103	96	97	96	109	107	118	117	112	108	116	108	126	108	136	90	90	86	97	96	94	95	103.6	86.2
9 Spd	11	11	12	13	11	9	10	11	8	7	8	8	5	7	5	3	7	9	6	6	5	4	6	4	6.6	12.7
Dir	94	91	88	90	85	80	92	96	95	106	96	104	67	97	40	7	13	347	38	33	37	55	46	51	74.8	89.9
10 Spd	1	5	3	5	4	3	4	5	6	6	4	4	6	5	2	5	6	3	5	4	8	6	5	5	2.3	8.3
Dir	33	324	315	317	321	283	237	229	226	240	248	233	215	205	286	216	192	202	190	144	123	119	127	136	213.8	123.1
11 Spd	4	3	4	4	4	2	2	6	8	5	8	12	10	8	11	8	6	3	11	8	6	4	4	5	1.4	12.4
Dir	123	115	99	106	115	164	143	229	248	261	263	296	306	31	58	56	28	165	220	226	225	218	225	244	243.3	296.1
12 Spd	1	3	1	1	3	3	5	7	6	4	4	7	8	6	4	1	7	12	14	11	8	5	3	7	4.5	14.1
Dir	287	272	243	206	272	165	195	212	188	191	171	152	154	182	190	163	105	163	175	168	180	208	235	232	181.9	175.1
13 Spd	8	6	13	14	11	8	7	6	19	19	17	21	19	21	28	25	22	20	19	16	10	10	8	3	13.9	27.6
Dir	226	256	244	234	249	255	235	266	243	249	243	257	255	262	271	270	268	290	286	286	284	281	289	278	262.6	271.5
14 Spd	2	4	5	1	2	6	4	9	13	15	16	15	8	8	9	12	12	9	3	4	4	7	4	6	4.5	16.1
Dir	209	203	234	247	242	276	280	248	240	251	271	286	248	251	198	177	180	205	248	171	97	28	79	47	236.7	270.6
15 Spd	4	6	4	4	4	4	5	3	3	2	7	9	11	10	7	3	9	9	9	10	12	10	9	15	2.2	15.4
Dir	24	313	320	304	299	301	292	217	239	197	129	131	135	136	116	111	103	73	78	88	129	200	226	250	141.3	250.1
16 Spd	15	12	13	13	11	10	12	17	19	27	34	31	27	32	27	27	21	18	17	19	15	5	5	5	17.8	34.2
Dir	249	250	247	250	247	234	242	251	240	246	254	251	249	252	255	256	254	248	242	249	262	256	170	198	248.7	254.2
17 Spd	2	3	5	4	4	9	7	12	12	9	9	15	17	16	19	23	20	17	12	19	23	21	17	12	12.3	23.4
Dir	279	292	304	319	256	222	253	259	270	250	240	252	225	228	256	265	257	248	238	257	251	246	242	234	250.4	251.4
18 Spd	12	9	10	8	10	8	13	19	25	25	25	23	19	19	19	17	17	18	17	14	10	8	7	5	14.6	25.2
Dir	236	283	274	246	257	250	267	251	246	260	263	269	260	275	263	272	259	259	263	239	247	231	229	272	258.6	260.1
19 Spd	4	6	5	5	6	7	10	11	9	8	8	5	6	4	6	6	2	1	6	14	15	11	8	4	6.3	14.8
Dir	264	268	289	275	277	268	257	241	222	228	234	261	319	305	283	270	296	189	291	303	251	233	263	266	263.3	251.4
20 Spd	12	4	3	7	10	9	9	14	10	14	16	21	18	20	24	24	24	21	20	16	14	9	6	11	13.5	24.1
Dir	259	302	269	243	239	234	254	261	288	287	268	268	254	249	253	249	257	256	267	279	291	291	287	251	262.4	253.4
21 Spd	10	6	4	1	4	5	3	3	3	2	4	8	8	9	11	12	12	10	9	12	10	8	6	5	4.4	12.2
Dir	251	275	282	149	151	175	208	273	285	186	167	168	127	127	108	117	109	109	98	105	106	103	97	98	127.1	117.2
22 Spd	3	3	6	5	4	5	7	12	12	13	12	14	16	16	15	17	16	15	14	13	20	18	13	11	10.6	19.6
Dir	282	349	323	317	299	311	281	293	300	288	295	291	279	292	311	313	313	303	301	300	253	247	237	231	288.3	252.6

Peace Airshed Zone Association
Summary of Hourly Averages

Henry Pirker
June 1, 2009 to July 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
23 Spd	11	14	10	8	6	3	12	12	20	21	22	22	20	20	17	16	20	17	16	19	20	16	14	10	14.8	21.7
Dir	229	238	259	252	293	308	243	270	264	257	265	260	266	270	270	269	264	242	249	248	253	250	252	243	257.4	265.1
24 Spd	5	3	4	7	7	5	5	6	6	3	5	7	9	3	6	6	8	10	8	7	15	5	7	3	2.9	14.6
Dir	224	228	272	222	215	200	159	153	173	168	166	185	194	146	140	83	83	97	82	184	241	300	322	322	182.0	241.3
25 Spd	2	1	3	4	8	16	11	12	16	18	19	21	20	28	29	26	18	15	14	14	16	15	19	18	14.7	28.7
Dir	307	191	292	290	228	244	247	239	244	237	236	241	229	232	228	230	212	225	239	228	230	224	239	240	234.5	227.6
26 Spd	22	22	22	15	18	24	34	33	31	31	31	33	35	37	37	37	38	34	31	30	28	19	21	17	27.9	37.8
Dir	244	241	244	234	237	241	245	247	246	249	249	249	248	257	257	259	260	263	264	265	266	257	256	260	252.6	260.5
27 Spd	13	9	4	5	5	2	6	6	8	10	10	9	9	8	9	7	6	8	9	13	12	12	10	8	5.4	12.8
Dir	261	244	253	240	244	208	206	163	160	136	156	226	222	219	211	208	199	161	148	121	113	111	131	141	177.8	261.2
28 Spd	9	17	13	11	14	17	16	15	21	27	28	28	31	29	28	32	31	32	32	29	24	17	15	11	21.2	32.3
Dir	156	246	279	256	273	257	275	258	248	257	260	254	256	256	258	257	249	246	246	248	243	231	226	225	251.4	257.1
29 Spd	12	14	15	13	14	14	12	19	26	29	28	27	26	27	27	25	24	25	28	30	26	23	11	12	20.8	29.6
Dir	228	228	232	227	226	234	234	237	242	247	247	249	250	248	257	245	250	253	256	253	245	244	229	220	243.9	252.7
30 Spd	12	13	12	11	13	13	14	19	25	30	28	27	29	25	25	21	21	19	20	19	17	11	15	19	18.2	29.7
Dir	214	219	221	221	226	234	237	241	244	260	257	257	268	254	279	280	271	277	254	270	271	264	252	251	254.7	259.9
Spd	2.9	3.2	3.3	2.7	3.3	4.0	4.5	5.8	7.4	8.0	8.1	8.3	8.3	8.1	7.5	7.0	6.0	5.4	5.0	4.4	5.1	3.5	2.9	3.0	Diurnal Average	
Dir	228.8	251.4	263.6	248.3	246.4	243.5	240.1	239.6	238.5	243.9	244.6	249.4	243.6	244.7	251.6	253.2	249.4	245.7	244.9	237.0	229.2	228.2	221.3	218.7		
Spd	21.9	21.8	21.9	15.1	18.3	24.1	33.9	32.9	30.7	30.9	34.2	32.9	35.1	37.2	36.5	37.4	37.8	33.7	31.7	29.6	28.2	22.8	21.0	18.5	Diurnal Maximum	
Dir	243.7	240.9	243.9	234.2	237.4	240.8	245.4	246.8	245.8	248.7	254.2	249.1	248.3	256.8	257.1	258.9	260.5	263.4	245.5	252.7	265.9	244.3	256.5	251.3		

Maximum Speed Value: 38 km/h on Jun 26 17:00
Minimum Speed Value: 0 km/h on Jun 2 05:00
Maximum Daily Speed Average: 27.9 km/h on Jun 26
Minimum Daily Speed Average: 1.4 km/h on Jun 2
Maximum Diurnal Speed Average: 8.3 km/h at hour 12
Minimum Diurnal Speed Average: 2.7 km/h at hour 4

Monthly Average Velocity: 5.27 km/h 243.17 deg
Speed Percentiles: P_1 = 1.2 P_{10} = 3.3 Q_1 = 5.4 Median = 9.3 Q_3 = 15.0 P_{90} = 21.6 P_{99} = 33.7
All monthly, daily, and diurnal averages have been calculated using vector methods

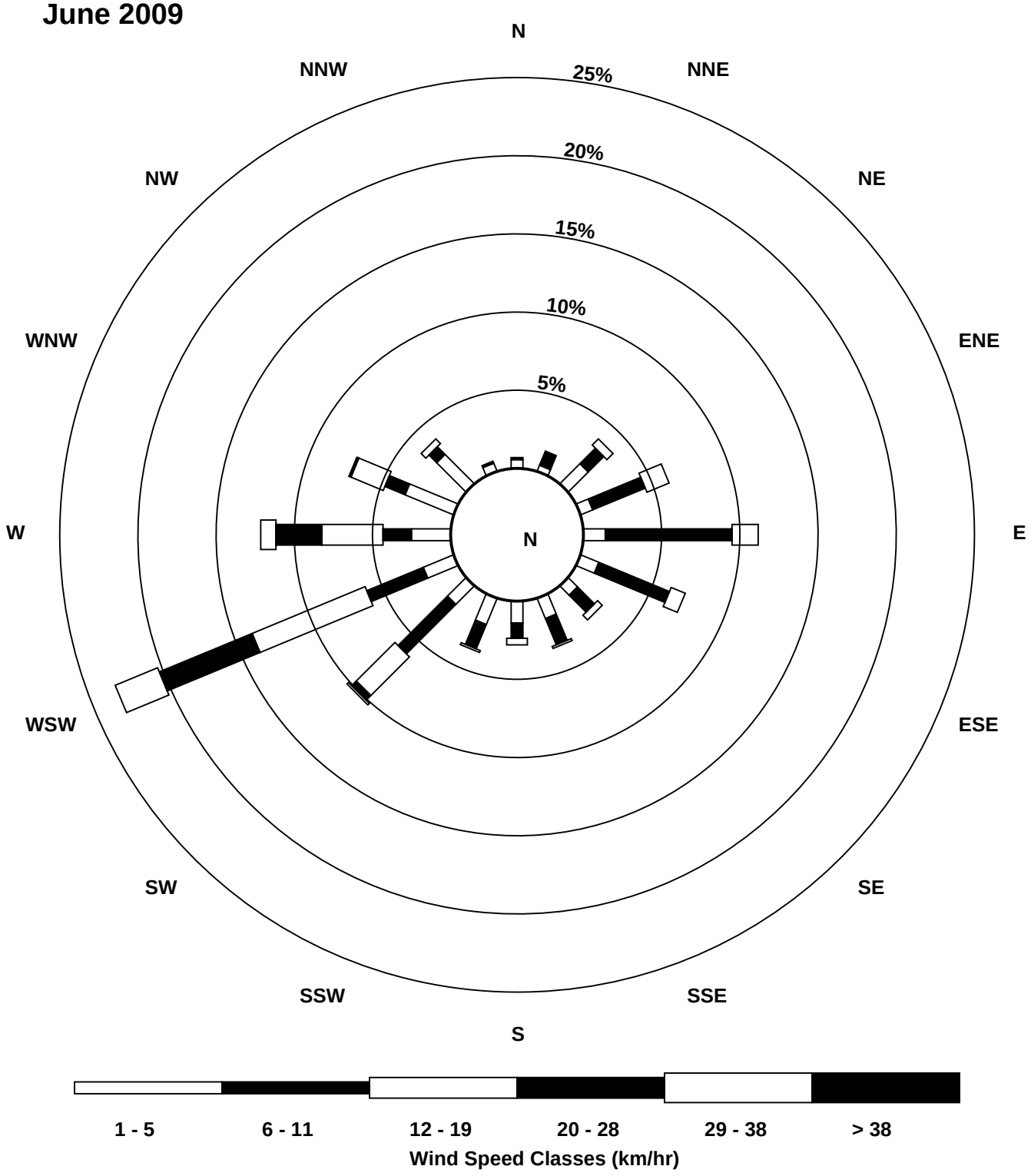
Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Percent Operational Time:	100.0

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	0.97	0.56	0.00	0.00	0.00	0.00	1.53
NorthEast	1.67	4.31	1.25	0.00	0.00	0.00	7.22
East	2.22	12.22	4.58	0.00	0.00	0.00	19.03
SouthEast	1.81	4.17	0.97	0.00	0.00	0.00	6.94
South	2.92	3.33	0.56	0.00	0.00	0.00	6.81
SouthWest	3.19	6.81	8.06	2.78	1.11	0.00	21.94
West	4.86	5.69	7.92	7.78	3.75	0.00	30.00
NorthWest	3.47	1.53	1.53	0.00	0.00	0.00	6.53
Total	21.11	38.61	24.86	10.56	4.86	0.00	100.00

Wind Rose for WS at Henry Pirker

June 2009



Maximum Speed: 38 km/h on Jun 26 17:00

Maximum Daily Speed Average: 28.4 km/h on Jun 26

Minimum Speed: 2 km/h on Jun 25 02:00

Minimum Daily Speed Average: 5.0 km/h on Jun 2

Maximum Diurnal Speed Average: 15.9 km/h at hour 15

Minimum Diurnal Speed Average: 7.2 km/h at hour 4

Monthly Average Speed: 11.93 km/h

Percentiles: P_1 = 2.9 P_{10} = 4.4 Q_1 = 6.5 Median = 10.0 Q_3 = 15.4 P_{90} = 22.3 P_{99} = 33.6

Hours in Service: 720
Hours of Data: 720
Hours of Missing Data: 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-Jun	5	4	5	5	4	4	7	9	10	9	9	8	7	8	10	10	10	8	10	10	8	6	8	7	7.7	10.5
2-Jun	5	3	3	3	3	3	5	5	5	4	7	7	8	6	7	6	6	6	7	8	6	4	3	3	5.0	7.9
3-Jun	3	4	4	4	5	4	4	5	7	6	4	6	6	6	6	6	7	7	7	7	7	11	10	11	6.1	11.3
4-Jun	9	6	6	7	9	8	9	11	12	13	15	16	17	16	17	16	14	16	17	14	12	9	10	10	12.0	17.0
5-Jun	8	6	9	9	9	10	9	6	5	5	5	6	7	10	12	12	14	15	15	19	16	10	10	9	9.7	18.5
6-Jun	9	6	5	6	3	4	5	7	10	9	9	10	13	11	12	12	10	9	12	13	12	10	8	9	8.9	13.3
7-Jun	9	7	7	6	7	5	5	6	8	11	11	11	10	12	10	13	11	12	11	15	17	11	9	11	9.8	16.9
8-Jun	7	8	8	8	8	9	10	11	10	11	11	12	11	12	14	11	10	11	14	15	13	11	11	12	10.8	15.1
9-Jun	11	11	12	13	11	9	10	11	9	8	9	9	8	8	8	7	9	10	7	6	6	4	6	5	8.6	12.8
10-Jun	4	5	4	5	4	4	4	6	7	7	5	6	8	7	7	7	8	7	6	6	9	6	6	5	5.9	8.6
11-Jun	4	3	4	4	4	3	3	7	8	7	8	13	12	8	11	9	8	8	11	8	6	4	4	5	6.9	12.9
12-Jun	3	3	2	3	3	3	6	7	6	6	6	8	9	7	7	5	9	12	14	11	8	5	3	7	6.5	14.3
13-Jun	8	7	13	14	12	9	8	7	19	19	18	22	20	22	28	25	23	21	19	16	10	10	9	4	15.1	28.1
14-Jun	3	4	5	3	3	6	5	9	13	15	17	15	10	9	10	14	13	10	6	5	5	7	5	6	8.3	16.5
15-Jun	5	6	4	4	5	4	5	3	4	4	8	10	12	11	8	7	10	9	9	10	14	10	9	16	7.8	15.7
16-Jun	15	12	14	13	11	10	12	17	20	27	35	31	28	32	28	27	21	19	18	20	15	6	6	6	18.5	34.6
17-Jun	4	4	6	4	5	9	7	12	12	10	10	16	18	16	21	24	21	17	13	20	24	21	17	12	13.4	23.7
18-Jun	12	11	11	8	10	8	13	20	25	26	26	24	20	20	19	18	18	19	18	14	10	8	7	6	15.4	25.6
19-Jun	5	7	5	5	6	7	10	11	9	9	9	8	9	9	7	8	6	4	8	15	17	14	9	5	8.4	16.8
20-Jun	13	5	4	8	10	9	10	15	10	14	16	21	18	21	25	25	24	21	20	16	14	9	6	11	14.4	25.0
21-Jun	10	7	4	3	4	6	4	4	3	3	5	8	9	11	12	13	13	11	9	12	10	8	6	5	7.6	13.4
22-Jun	4	4	6	6	5	5	7	12	12	14	13	15	16	16	16	18	17	16	15	14	20	19	13	11	12.2	19.9
23-Jun	11	14	11	8	6	4	12	13	20	22	22	22	20	21	18	17	20	19	16	19	20	16	14	10	15.7	22.5
24-Jun	6	3	4	7	7	5	5	6	6	5	7	8	10	7	8	8	9	10	8	14	15	8	7	4	7.4	14.8
25-Jun	4	2	3	5	8	17	11	12	17	19	19	22	21	29	29	26	18	16	14	14	16	15	19	18	15.6	29.4
26-Jun	22	22	22	15	18	24	34	33	31	31	31	33	35	38	37	38	38	34	31	30	28	19	21	17	28.4	38.2
27-Jun	13	9	4	5	5	4	6	6	8	11	11	12	11	9	10	8	8	9	10	13	12	12	11	9	9.0	13.0
28-Jun	9	19	13	12	14	17	17	15	21	27	29	29	31	30	28	33	31	33	32	30	24	17	15	11	22.4	32.9
29-Jun	12	14	15	13	14	14	12	19	26	30	28	27	26	28	27	26	24	25	29	30	26	23	11	12	21.4	29.9
30-Jun	12	13	12	11	13	14	14	20	26	30	29	27	30	26	25	21	21	20	21	19	17	11	15	19	19.4	30.3
	8.2	7.7	7.6	7.2	7.6	7.9	9.0	10.8	12.7	13.7	14.3	15.4	15.3	15.6	15.9	15.6	15.0	14.5	14.2	14.8	13.9	10.9	9.6	9.1	Diurnal Average	
	22.0	21.9	22.0	15.2	18.5	24.2	34.0	33.0	30.9	31.0	34.6	33.0	35.3	37.9	36.8	37.7	38.2	33.9	32.0	29.9	28.3	22.9	21.1	18.6	Diurnal Maximum	

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

Maximum Value: 91.8 deg on Jun 19 17:00

Minimum Value: 3.8 deg on Jun 13 21:00

Percentiles: P_1 = 4.5 P_{10} = 7.1 Q_1 = 10.3 Median = 15.9 Q_3 = 29.7 P_{90} = 52.1 P_{99} = 84.7

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

Day	Hourly Period Ending At (MST)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Jun	30	36	24	17	45	58	14	14	12	20	32	36	56	47	25	30	32	36	26	17	12	9	6	5	58.1
2-Jun	10	26	81	58	79	34	22	25	56	78	71	77	61	84	86	90	77	77	67	19	9	26	11	56	90.1
3-Jun	29	40	15	22	13	16	32	21	21	23	67	70	75	71	73	70	53	64	33	16	19	15	9	9	74.6
4-Jun	13	15	18	38	18	16	12	12	10	11	11	11	13	14	17	12	11	10	10	9	11	12	10	8	38.2
5-Jun	18	27	16	11	10	11	12	26	24	44	89	79	73	49	32	23	16	12	12	11	9	11	9	8	89.3
6-Jun	9	12	15	9	52	38	30	23	24	27	33	35	23	36	29	35	33	30	17	12	9	6	7	7	51.7
7-Jun	7	9	5	13	6	31	20	20	25	14	32	33	28	28	36	30	30	22	26	15	7	7	6	8	36.1
8-Jun	10	6	5	8	8	9	12	14	18	20	24	27	30	31	27	44	35	23	15	10	7	7	6	6	43.7
9-Jun	6	5	4	4	6	8	10	13	18	23	29	43	54	45	58	76	48	28	33	24	18	10	13	14	75.8
10-Jun	87	20	25	13	14	22	18	16	17	21	44	64	52	68	75	54	54	71	50	64	15	12	19	18	87.0
11-Jun	20	33	6	11	14	68	64	37	26	49	23	16	44	28	23	31	47	74	10	12	9	17	29	30	74.1
12-Jun	66	40	85	70	17	40	41	17	28	52	52	39	31	56	62	85	58	25	10	9	8	21	47	8	85.2
13-Jun	9	34	8	8	18	32	20	23	8	10	19	13	19	17	12	14	15	8	6	5	4	4	20	54	54.1
14-Jun	69	24	18	77	39	28	33	24	13	13	13	17	43	52	36	29	22	32	72	44	42	22	37	16	76.7
15-Jun	28	16	34	21	25	22	14	30	39	68	27	23	23	23	47	86	32	24	17	17	25	21	13	13	86.2
16-Jun	6	10	8	7	9	11	11	9	12	10	9	10	11	11	12	10	15	17	16	9	13	29	26	15	28.9
17-Jun	52	27	17	24	28	9	22	10	11	15	18	19	16	14	21	15	14	16	20	20	10	5	6	9	52.2
18-Jun	7	34	16	15	8	16	15	20	9	10	13	16	16	9	18	12	17	14	15	10	11	8	8	30	34.4
19-Jun	37	28	14	12	9	13	11	12	16	31	32	61	60	81	53	39	92	72	49	27	34	38	24	43	91.8
20-Jun	21	45	40	14	8	9	20	13	11	13	13	13	15	16	16	15	11	13	14	7	7	4	16	8	45.4
21-Jun	8	32	21	84	15	27	48	35	42	59	52	30	25	30	28	25	23	23	22	17	10	11	14	7	83.5
22-Jun	51	36	19	20	16	14	13	15	12	13	20	22	18	21	16	15	17	13	12	12	10	5	8	7	51.5
23-Jun	8	7	27	14	14	39	9	12	14	14	13	16	15	15	17	18	18	22	18	13	7	7	10	11	38.7
24-Jun	16	33	26	9	8	31	17	11	25	68	62	42	35	69	45	46	51	15	13	60	9	57	27	27	69.1
25-Jun	70	78	48	21	31	12	16	12	9	12	14	12	14	13	12	13	10	11	11	12	10	10	11	9	77.5
26-Jun	6	6	5	7	7	6	5	5	6	4	5	6	6	10	7	7	8	7	7	6	6	5	6	6	10.3
27-Jun	8	14	38	27	48	55	19	25	21	21	15	42	37	32	25	32	40	21	22	14	9	6	12	23	55.1
28-Jun	25	28	7	14	12	11	14	12	9	8	12	10	10	9	10	10	9	8	7	7	6	7	8	9	27.5
29-Jun	8	7	7	6	7	11	13	10	9	9	9	10	13	10	11	15	14	12	9	7	6	5	11	7	14.5
30-Jun	7	6	8	8	7	7	8	8	8	12	11	10	11	14	12	12	13	11	8	10	6	16	7	6	15.9
	87.0	77.5	84.9	83.5	79.4	67.8	64.5	37.2	56.1	78.0	89.3	78.7	74.6	84.3	85.8	90.1	91.8	77.2	71.6	63.8	41.9	56.5	46.6	56.3	

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
June 1, 2009 to July 1, 2009

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 12.9 ppb on Jun 26 13:00 Maximum Daily Average: 2.6 ppb on Jun 23

Minimum Value: 0 ppb on Jun 1 01:00
Maximum Diurnal Average: 1.7 ppb at hour 13
Monthly Average: 0.62 ppb

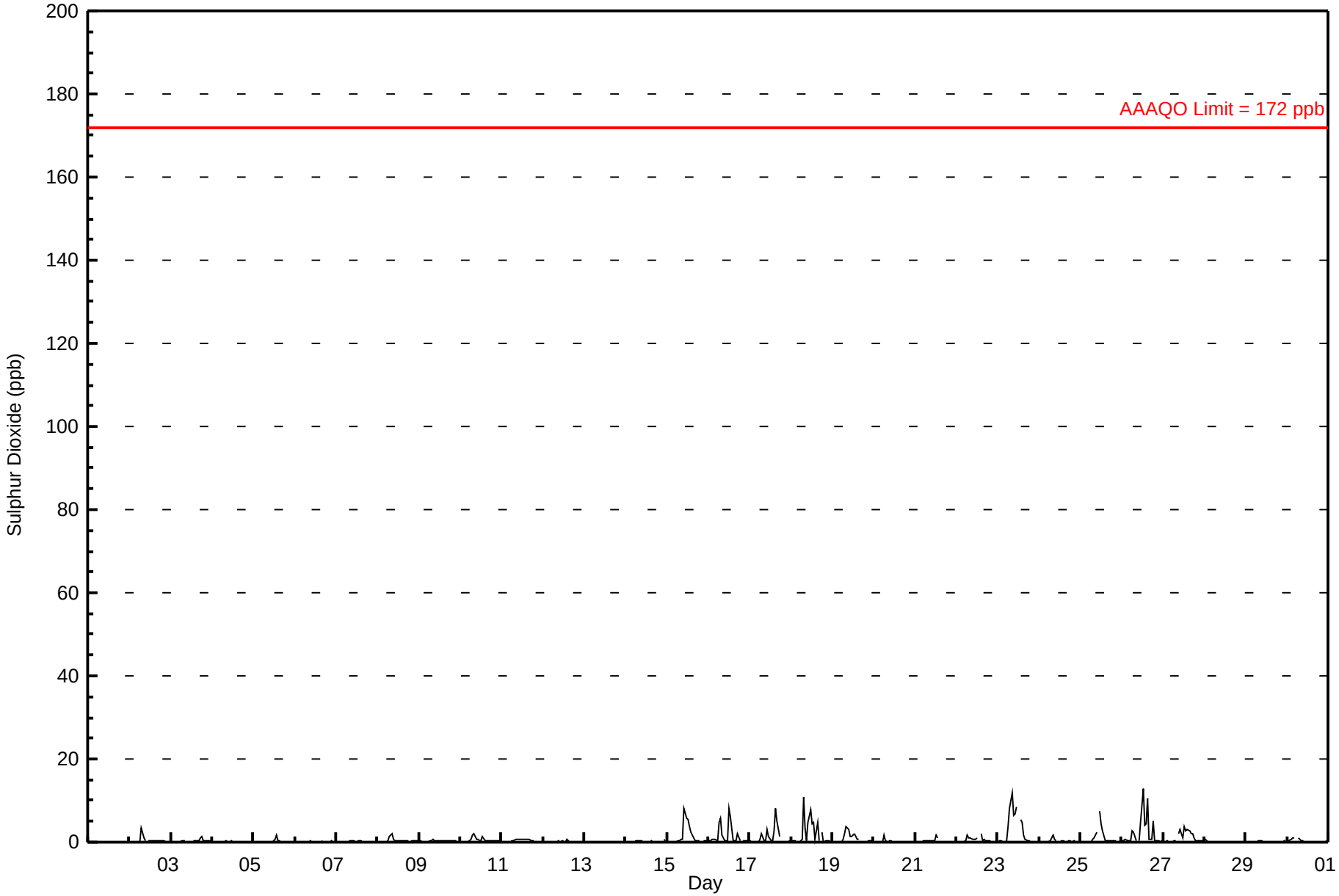
Minimum Daily Average: 0.0 ppb on Jun 1
Minimum Diurnal Average: 0.1 ppb at hour 2
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.2 Q_3 = 0.3 P_{90} = 1.6 P_{99} = 8.3

Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	34
Percent Operational Time:	99.6

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
2-Jun	0	0	0	0	0	0	0	3	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	3.4
3-Jun	0	0	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	1	1	0	0	0	0	0	0.3	1.3
4-Jun	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
5-Jun	0	0	0	0	A	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0.1	1.6
6-Jun	0	0	0	A	0	0	0	0	0	0	0	0	P	P	P	0	0	0	0	0	0	0	0	0	0.1	0.4
7-Jun	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
8-Jun	0	0	0	0	A	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.9
9-Jun	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
10-Jun	0	0	A	0	0	0	1	2	2	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0.5	2.0
11-Jun	0	A	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.4	0.8
12-Jun	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	A	0.1	0.6
13-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.1
14-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0.1	0.5
15-Jun	0	0	0	0	0	0	0	0	1	1	8	6	5	4	2	1	0	0	0	0	A	0	0	0	1.3	8.3
16-Jun	0	0	1	1	1	0	5	6	2	0	0	0	8	6	0	0	0	2	0	A	0	0	0	0	1.5	8.1
17-Jun	0	0	0	0	0	0	1	2	0	0	3	1	0	0	3	8	5	1	A	0	0	0	0	0	1.2	8.1
18-Jun	0	0	0	0	0	0	1	11	3	0	5	8	4	5	1	5	0	A	2	0	0	0	0	0	2.0	11.0
19-Jun	0	0	0	0	0	0	1	2	4	3	1	1	2	2	1	1	A	0	0	0	0	0	0	0	0.8	3.9
20-Jun	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	1.6
21-Jun	0	0	0	0	0	0	0	0	0	0	0	0	2	1	A	0	0	0	0	0	0	0	0	0	0.2	1.9
22-Jun	0	0	0	0	0	0	2	1	1	1	1	1	1	A	2	0	1	0	0	0	0	0	0	0	0.5	2.1
23-Jun	0	0	0	0	0	0	4	8	12	7	7	9	A	5	5	2	1	0	0	0	0	0	0	0	2.6	11.7
24-Jun	0	0	0	0	0	0	0	1	2	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.6
25-Jun	0	0	0	0	0	0	0	1	1	2	A	8	4	3	0	0	0	0	0	0	0	0	0	0	1.0	7.6
26-Jun	0	0	1	0	0	0	3	2	0	A	0	5	13	4	4	11	1	1	5	0	0	0	0	0	2.3	12.9
27-Jun	0	0	0	0	0	0	1	0	A	2	3	1	4	3	3	3	2	2	1	0	0	0	0	0	1.2	3.6
28-Jun	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
29-Jun	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
30-Jun	0	0	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.1
	0.1	0.1	0.1	0.1	0.1	0.1	0.7	1.5	1.2	0.8	1.2	1.6	1.7	1.4	0.9	1.2	0.5	0.4	0.5	0.2	0.1	0.1	0.2	0.1	Diurnal Average	
	0.6	0.4	0.7	1.1	1.1	0.5	4.7	11.0	11.7	6.6	8.3	8.6	12.9	6.1	4.7	10.6	5.1	2.0	5.2	0.4	0.5	0.3	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 Evergreen Park
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 30.7 ppb on Jun 18 16:00

Maximum Daily Average: 8.4 ppb on Jun 18

Minimum Value: 0 ppb on Jun 1 10:00

Minimum Daily Average: 0.2 ppb on Jun 1

Maximum Diurnal Average: 5.6 ppb at hour 12

Minimum Diurnal Average: 0.4 ppb at hour 2

Monthly Average: 2.28 ppb

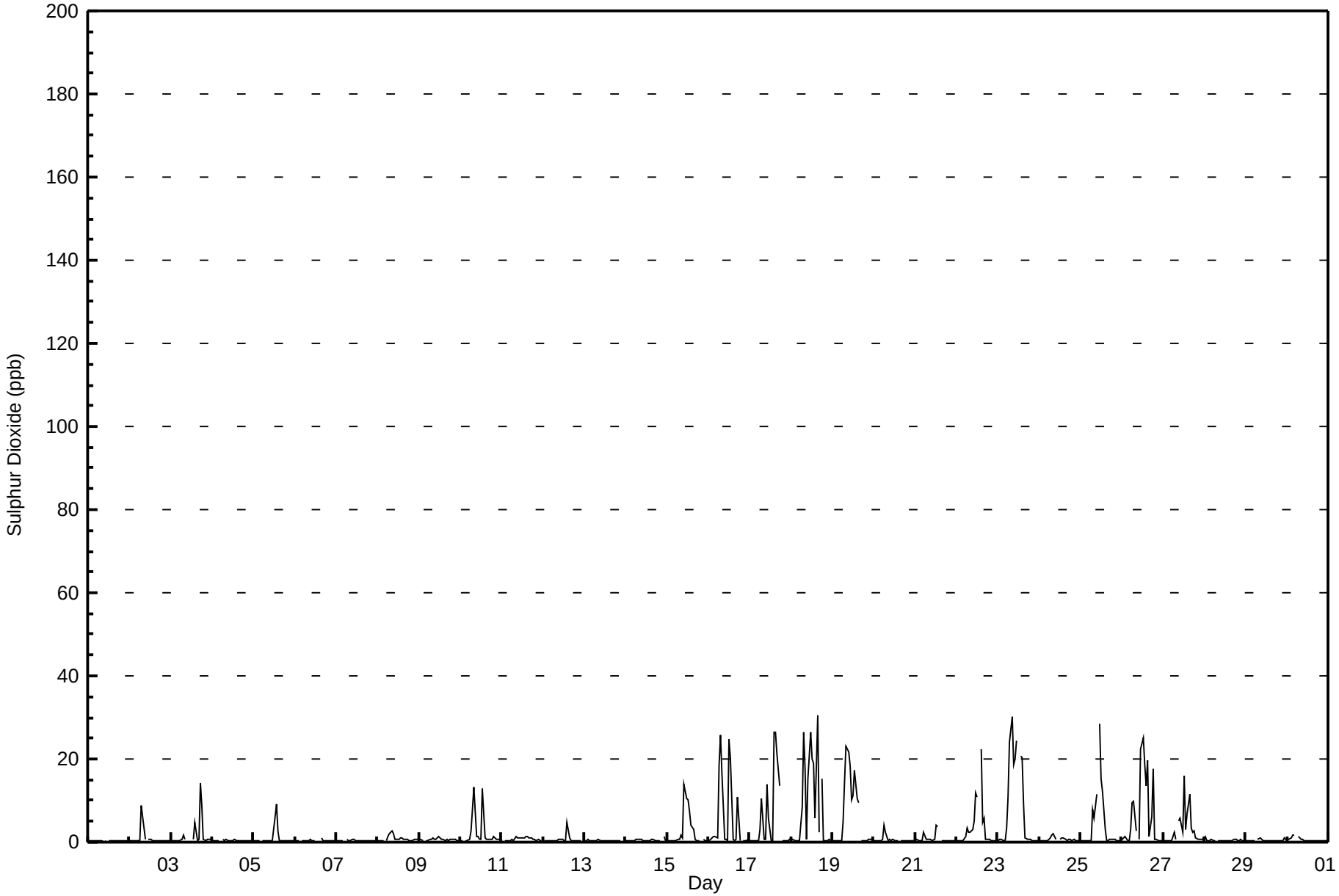
Percentiles: $P_1 = 0.2$ $P_{10} = 0.3$ $Q_1 = 0.3$ Median = 0.4 $Q_3 = 0.7$ $P_{90} = 7.0$ $P_{99} = 26.3$

Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	34
Percent Operational Time:	99.6

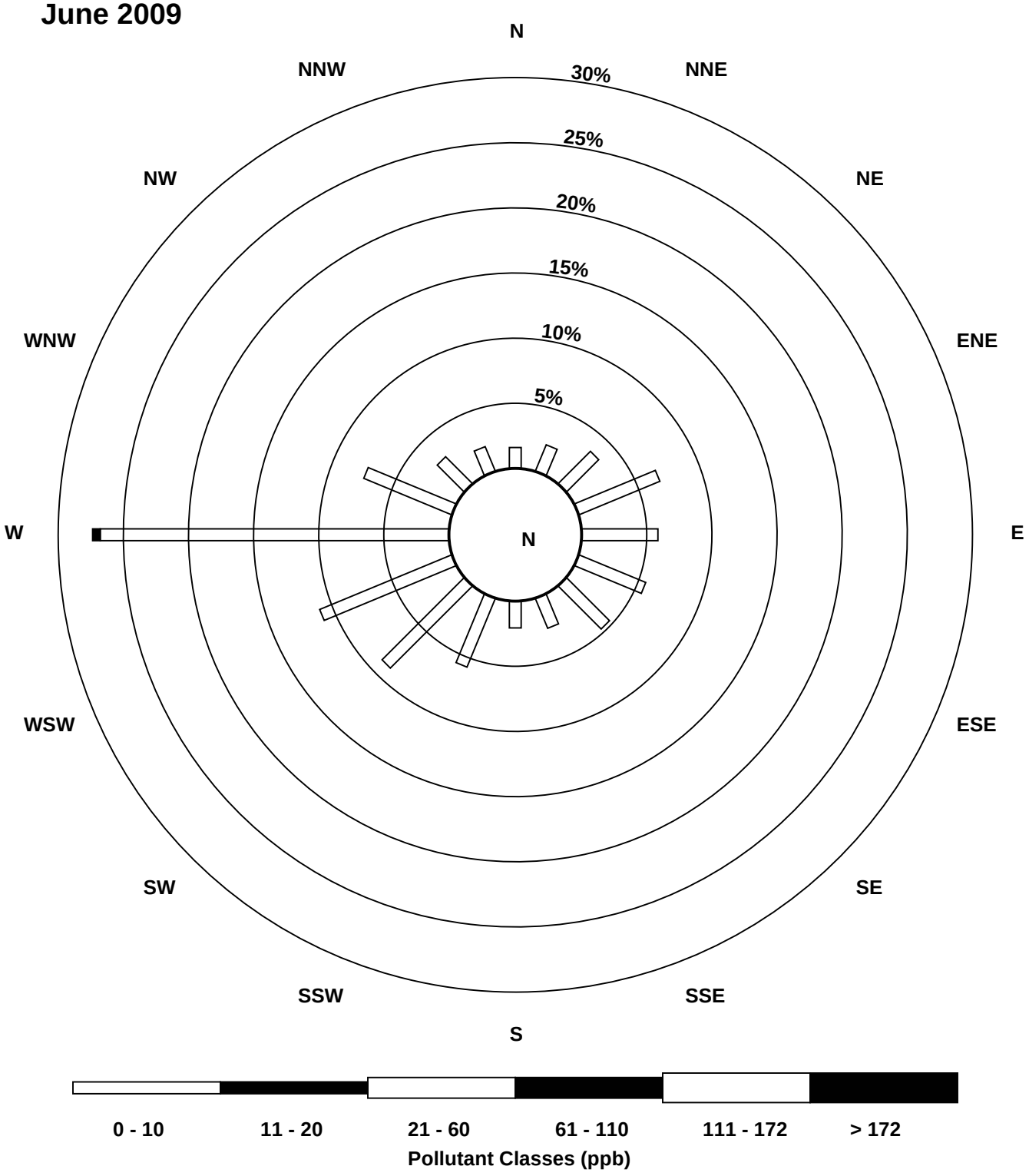
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
2-Jun	0	0	0	0	0	0	0	9	3	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0.9	8.8
3-Jun	0	0	0	0	0	0	1	2	1	C	C	C	C	1	5	0	1	14	9	1	1	1	1	1	1.8	14.3
4-Jun	0	0	0	0	0	A	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.4	0.6
5-Jun	0	0	0	0	A	0	0	0	0	0	0	0	6	9	3	0	0	0	0	0	0	0	0	0	1.0	9.3
6-Jun	0	0	0	A	0	0	0	0	0	1	0	0	P	P	P	1	0	0	0	0	0	1	0	0	0.4	1.1
7-Jun	0	0	0	0	0	A	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
8-Jun	0	0	0	0	A	0	1	2	3	2	1	1	1	1	1	1	1	1	0	0	0	1	1	1	0.8	2.7
9-Jun	1	1	0	A	0	0	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	0	0	0.6	1.2
10-Jun	0	0	A	0	0	1	3	8	13	1	2	1	1	13	1	1	1	1	1	1	1	1	1	1	2.2	13.2
11-Jun	0	A	0	0	0	0	1	0	2	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0.7	1.5
12-Jun	A	0	0	0	0	0	0	0	0	1	1	1	0	0	5	1	0	0	0	0	0	0	0	A	0.6	4.7
13-Jun	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.4	0.6
14-Jun	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	1	0	0	0	0	A	1	0	0.5	1.5
15-Jun	0	0	0	0	0	0	1	1	2	1	14	10	10	7	4	3	1	0	0	0	A	1	0	0	2.5	14.0
16-Jun	0	1	1	1	1	1	19	26	16	1	1	0	25	20	1	0	1	11	0	A	0	0	0	1	5.6	25.8
17-Jun	0	0	0	0	0	0	3	11	1	1	14	6	0	0	26	26	21	14	A	0	0	0	0	1	5.6	26.4
18-Jun	1	1	0	0	0	0	8	27	18	1	15	26	20	19	6	31	2	A	15	0	0	1	1	0	8.4	30.7
19-Jun	0	0	0	0	0	0	5	15	23	22	18	10	11	17	11	9	A	0	0	0	0	1	1	1	6.4	23.0
20-Jun	0	0	0	0	0	1	4	3	0	1	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0.6	4.1
21-Jun	0	1	0	0	0	2	1	1	1	1	0	1	4	4	A	0	0	0	0	0	0	0	0	0	0.8	3.9
22-Jun	0	0	0	0	0	1	4	2	2	3	5	12	11	A	22	5	6	1	1	1	0	0	0	0	3.4	22.3
23-Jun	0	1	1	0	0	3	11	24	30	19	20	24	A	21	20	9	1	1	1	1	0	0	0	1	8.2	30.0
24-Jun	0	0	0	0	0	0	1	2	2	1	1	A	1	1	1	1	0	1	1	0	1	0	0	0	0.7	2.1
25-Jun	0	0	0	0	0	0	0	8	6	11	A	28	15	12	3	0	0	1	1	1	1	0	0	0	4.0	28.4
26-Jun	1	1	1	0	0	3	10	10	3	A	1	22	25	19	14	20	1	6	18	1	1	0	0	0	6.8	25.1
27-Jun	0	0	0	0	0	0	2	1	A	5	6	3	16	3	7	12	3	2	3	1	1	1	1	1	3.0	15.9
28-Jun	1	0	0	0	1	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0.5	1.5
29-Jun	0	0	0	0	0	0	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.4	1.0
30-Jun	0	1	1	2	2	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.6	1.6
	0.4	0.4	0.4	0.4	0.4	0.7	2.7	5.3	4.5	2.7	3.8	5.6	5.6	5.5	4.8	4.3	1.6	2.0	1.9	0.5	0.4	0.4	0.5	0.4	Diurnal Average	
	1.5	0.9	1.2	1.5	1.6	3.2	18.6	26.5	30.0	21.7	19.9	28.4	25.1	20.6	26.3	30.7	21.3	14.3	17.6	1.4	0.9	0.7	1.5	0.7	Diurnal Maximum	

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

Hourly Maximums for SO_2 at Evergreen Park
June 2009



Pollutant Rose for SO_2 at Evergreen Park
June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 3.1 ppb on Jun 23 09:00 Maximum Daily Average: 0.9 ppb on Jun 23

Minimum Value: 0 ppb on Jun 14 20:00 Minimum Daily Average: 0.4 ppb on Jun 14
Maximum Diurnal Average: 0.7 ppb at hour 8 Minimum Diurnal Average: 0.4 ppb at hour 20
Monthly Average: 0.51 ppb Percentiles: P_1 = 0.3 P_{10} = 0.4 Q_1 = 0.4 Median = 0.5 Q_3 = 0.5 P_{90} = 0.6 P_{99} = 1.8

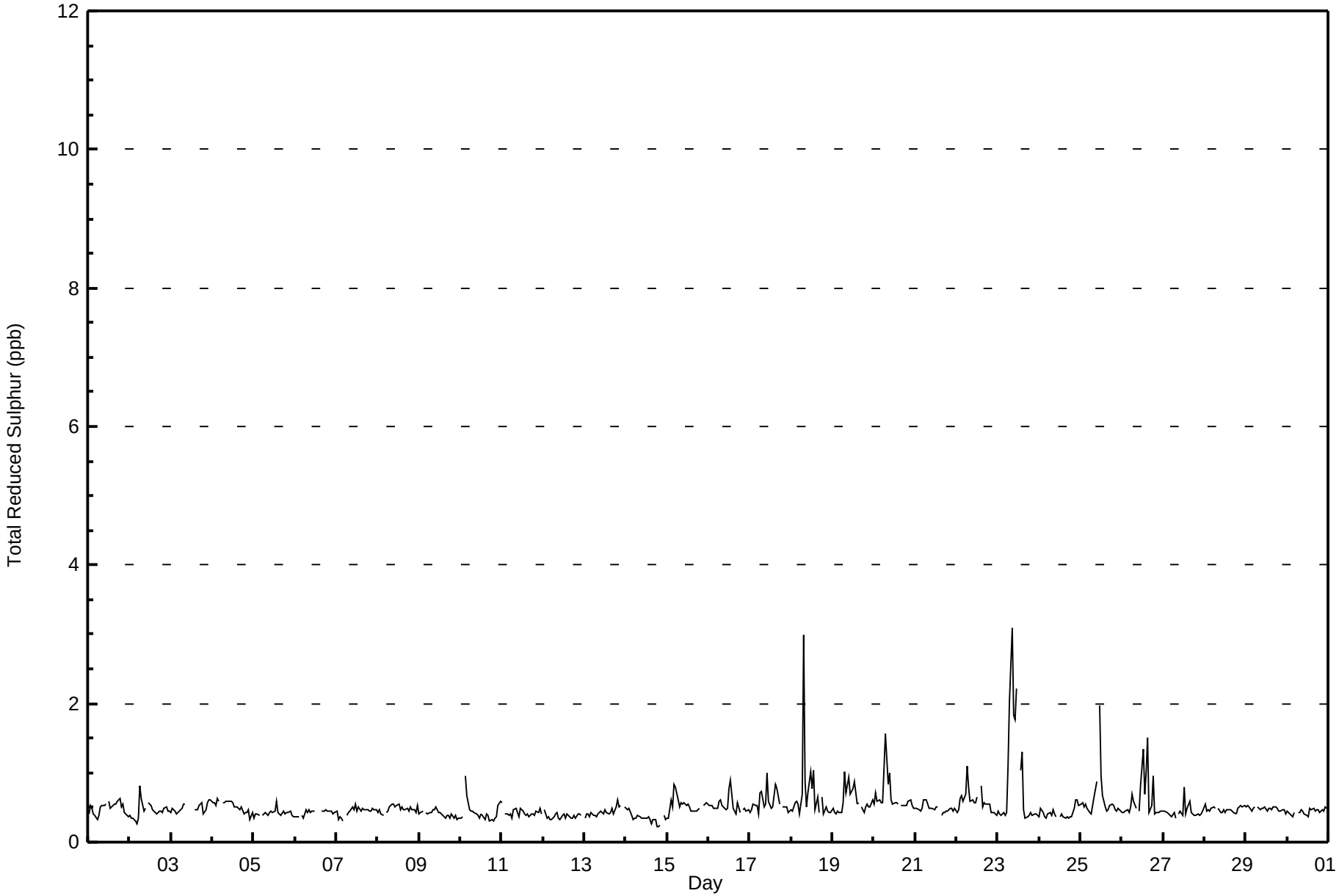
Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	34
Percent Operational Time:	99.6

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jun	0	1	0	0	0	0	0	1	1	1	1	A	1	0	1	1	1	1	1	1	1	0	0	0	0.5	0.6
2-Jun	0	0	0	0	0	0	1	1	0	0	A	1	1	0	0	0	0	0	0	0	0	1	0	0	0.5	0.8
3-Jun	0	0	0	0	0	0	0	1	1	A	1	C	C	A	0	0	1	1	1	0	0	1	1	1	0.5	0.7
4-Jun	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0.5	0.6
5-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.4	0.6
6-Jun	0	0	0	A	0	0	0	0	0	0	0	0	P	P	P	0	0	0	0	0	0	0	0	0	0.4	0.5
7-Jun	0	0	0	0	0	A	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0.4	0.6
8-Jun	0	0	0	0	A	0	0	1	1	1	1	1	1	0	1	0	0	0	0	1	0	0	0	1	0.5	0.6
9-Jun	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
10-Jun	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.4	1.0
11-Jun	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6
12-Jun	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
13-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	A	0	0.4	0.6
14-Jun	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
15-Jun	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	A	1	1	1	0.5	0.8
16-Jun	1	1	1	0	0	0	1	1	1	0	0	0	1	1	0	0	0	1	0	A	0	0	0	0	0.5	0.9
17-Jun	0	0	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	A	1	1	1	0	0	0.6	1.0
18-Jun	0	0	1	1	1	0	1	3	1	1	1	1	1	1	0	1	0	A	1	0	1	0	0	0	0.7	3.0
19-Jun	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	A	1	0	1	1	1	1	1	0.6	1.0
20-Jun	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	0.7	1.6
21-Jun	0	0	0	0	0	1	1	1	0	0	0	0	1	1	A	0	0	0	0	0	0	0	0	0	0.5	0.6
22-Jun	0	0	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0	0	0	0	0.6	1.1
23-Jun	0	0	0	0	0	0	1	2	3	2	2	2	A	1	1	0	0	0	0	0	0	0	0	0	0.9	3.1
24-Jun	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	1	0.4	0.6
25-Jun	1	1	1	1	0	0	0	1	1	1	A	2	1	1	1	0	0	1	1	1	0	0	0	0	0.6	2.0
26-Jun	0	0	0	0	0	1	1	1	0	A	0	1	1	1	1	2	0	1	1	0	0	0	0	0	0.6	1.5
27-Jun	0	0	0	0	0	0	0	0	A	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0.4	0.8
28-Jun	1	0	0	0	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.5	0.5
29-Jun	1	1	1	0	0	1	A	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0.5	0.5
30-Jun	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.4	0.5
	0.4	0.5	0.5	0.5	0.5	0.4	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.4	0.5	0.5	0.4	0.5	0.5	0.5	0.5	Diurnal Average	
	0.6	0.7	0.6	1.0	0.8	0.8	1.1	3.0	3.1	1.8	1.8	2.2	1.3	1.0	1.3	1.5	0.8	0.6	0.9	0.6	0.6	0.6	0.6	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 Evergreen Park

June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 6.7 ppb on Jun 23 09:00

Maximum Daily Average: 2.2 ppb on Jun 23

Minimum Value: 1 ppb on Jun 14 20:00

Minimum Daily Average: 0.7 ppb on Jun 14

Maximum Diurnal Average: 1.5 ppb at hour 8

Minimum Diurnal Average: 0.8 ppb at hour 1

Monthly Average: 0.99 ppb

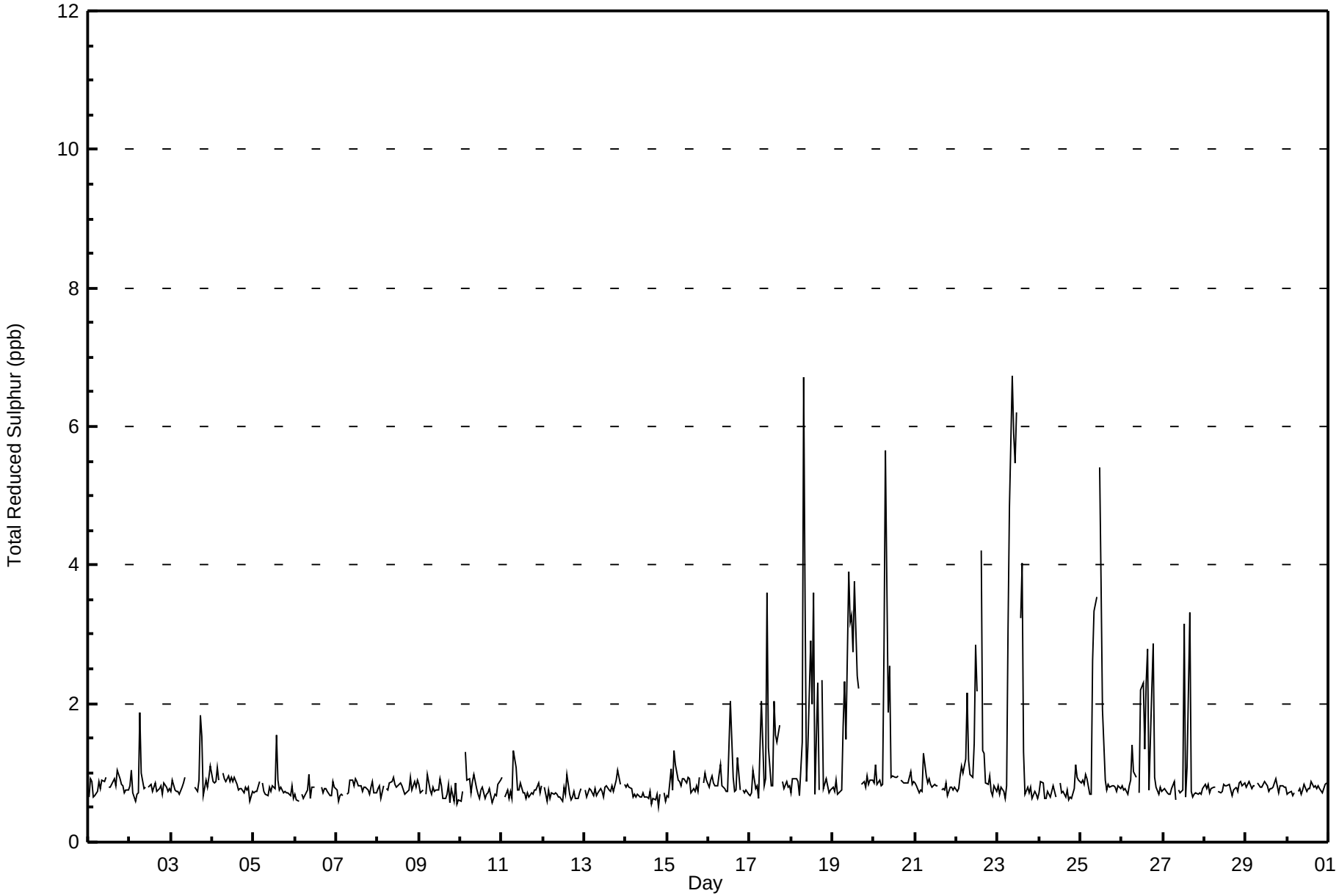
Percentiles: P_1 = 0.6 P_{10} = 0.7 Q_1 = 0.7 Median = 0.8 Q_3 = 0.9 P_{90} = 1.3 P_{99} = 5.4

Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	34
Percent Operational Time:	99.6

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
2-Jun	1	1	1	1	1	1	2	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.9
3-Jun	1	1	1	1	1	1	1	1	1	A	2	C	C	A	1	1	1	2	2	1	1	1	1	1	0.9	1.8
4-Jun	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1
5-Jun	1	1	1	1	A	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	0.8	1.6
6-Jun	1	1	1	A	1	1	1	1	1	1	1	1	P	P	P	1	1	1	1	1	1	1	1	1	0.7	1.0
7-Jun	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	0.9
8-Jun	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	0.9
9-Jun	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
10-Jun	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
11-Jun	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.3
12-Jun	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.7	1.0
13-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.8	1.0
14-Jun	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	0.8
15-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.9	1.3
16-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	A	1	1	1	1	0.9	2.0
17-Jun	1	1	1	1	1	1	1	2	1	1	4	1	1	1	2	2	1	2	A	1	1	1	1	1	1.2	3.6
18-Jun	1	1	1	1	1	1	1	7	3	1	1	3	2	4	1	2	1	A	2	1	1	1	1	1	1.6	6.7
19-Jun	1	1	1	1	1	1	2	2	1	4	3	3	3	4	2	2	A	1	1	1	1	1	1	1	1.6	3.9
20-Jun	1	1	1	1	1	1	3	6	2	3	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1.3	5.7
21-Jun	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	1.3
22-Jun	1	1	1	1	1	1	2	1	1	1	1	3	2	A	4	1	1	1	1	1	1	1	1	1	1.3	4.2
23-Jun	1	1	1	1	1	1	3	5	7	6	5	6	A	3	4	1	1	1	1	1	1	1	1	1	2.2	6.7
24-Jun	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1
25-Jun	1	1	1	1	1	1	1	3	3	4	A	5	4	2	1	1	1	1	1	1	1	1	1	1	1.5	5.4
26-Jun	1	1	1	1	1	1	1	1	1	A	1	2	2	1	2	3	1	2	3	1	1	1	1	1	1.3	2.9
27-Jun	1	1	1	1	1	1	1	1	A	1	1	1	3	1	1	3	1	1	1	1	1	1	1	1	1.0	3.3
28-Jun	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	0.9
29-Jun	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	0.9
30-Jun	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	0.9
	0.8	0.8	0.8	0.8	0.8	0.8	1.1	1.5	1.3	1.3	1.2	1.5	1.3	1.2	1.2	1.1	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.8	Diurnal Average	
	0.9	1.1	1.1	1.3	1.3	1.3	3.1	6.7	6.7	5.9	5.5	6.2	3.7	3.8	4.2	3.3	1.4	2.2	2.9	1.0	0.9	1.1	1.0	1.1	Diurnal Maximum	

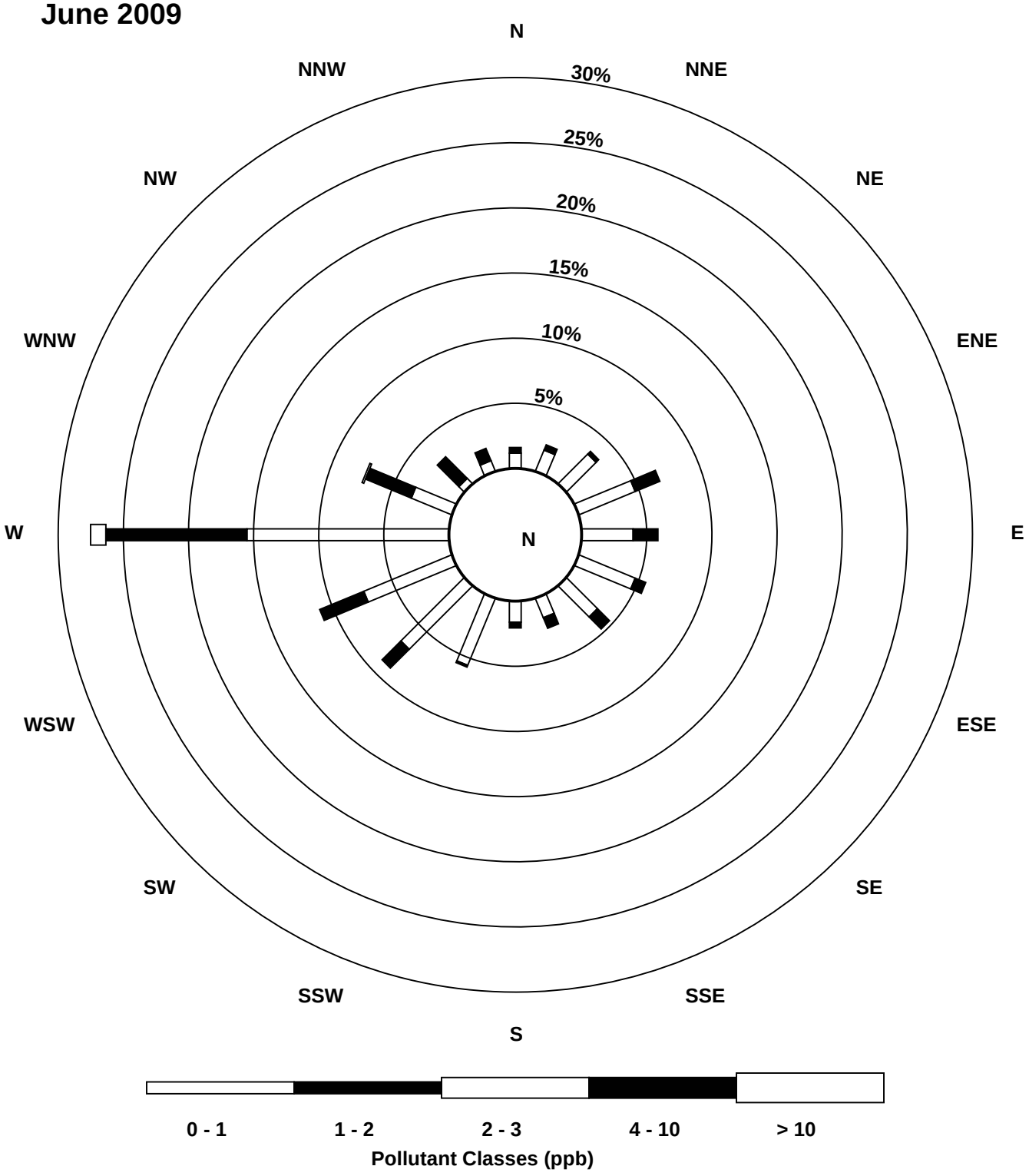
C - Calibration P - Power Failure A - Automated Daily Zero Span

Hourly Maximums for TRS at Evergreen Park
June 2009



Pollutant Rose for TRS at Evergreen Park

June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Number of Exceedances (AAAQO): 1-hr: 1 24-hr: 0
Maximum Value: 123.5 $\mu g/m^3$ on Jun 28 18:00 Maximum Daily Average: 13.5 $\mu g/m^3$ on Jun 11

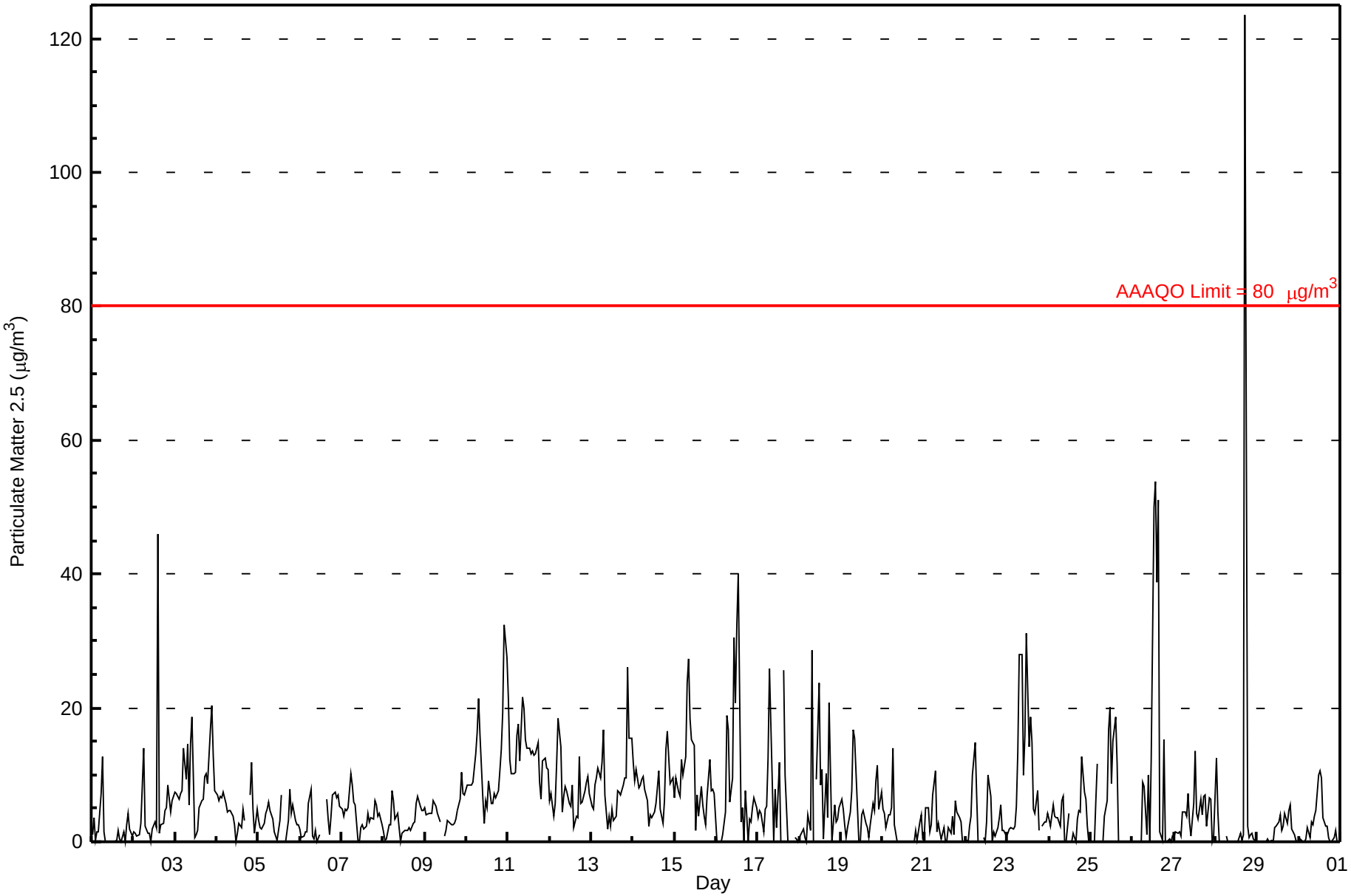
Minimum Value: 0 $\mu g/m^3$ on Jun 1 09:00 Minimum Daily Average: 1.5 $\mu g/m^3$ on Jun 29
Maximum Diurnal Average: 9.0 $\mu g/m^3$ at hour 8 Minimum Diurnal Average: 3.4 $\mu g/m^3$ at hour 3
Monthly Average: 6.01 $\mu g/m^3$ Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 1.4 Median = 4.2 Q_3 = 7.6 P_{90} = 13.7 P_{99} = 38.3

Hours in Service:	720
Hours of Data:	694
Hours of Missing Data:	26
Hours of Calibration:	0
Percent Operational Time:	96.4

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-Jun	1	4	0	1	1	7	13	2	0	0	0	0	0	0	0	2	0	0	1	0	3	4	2	1	1.8	12.7
2-Jun	1	1	1	1	3	8	14	2	1	1	0	2	3	2	46	1	3	3	5	5	8	4	6	7	5.4	45.9
3-Jun	7	7	6	7	8	14	9	15	6	15	19	1	1	2	5	6	6	10	10	9	17	20	13	8	9.2	20.3
4-Jun	7	6	7	7	7	6	4	5	5	4	3	0	1	3	2	5	3	BD	BD	7	12	5	1	5	4.7	12.0
5-Jun	3	2	2	3	4	5	6	5	3	1	1	0	3	7	BD	0	0	3	8	4	6	3	3	3	3.2	7.8
6-Jun	2	1	1	1	2	6	8	1	0	2	0	1	P	P	P	6	3	1	4	7	7	7	7	5	3.4	7.8
7-Jun	5	4	5	5	5	10	8	6	6	0	0	2	3	2	2	4	3	4	3	6	5	4	4	3	4.1	10.2
8-Jun	1	0	1	3	2	8	6	3	4	2	0	1	2	2	2	2	2	3	3	6	7	5	5	5	3.1	7.6
9-Jun	5	4	4	4	4	6	5	4	4	3	BD	1	2	3	3	3	2	3	3	5	6	10	7	7	4.3	10.3
10-Jun	8	9	8	8	9	13	16	21	16	7	3	6	5	9	6	6	7	7	8	11	14	19	32	28	11.5	32.4
11-Jun	21	12	10	10	10	16	18	12	22	20	15	14	14	13	14	13	13	15	9	6	12	13	11	11	13.5	21.6
12-Jun	6	7	4	6	12	18	14	4	7	8	8	6	5	8	2	4	4	13	6	6	8	9	10	7	7.5	18.4
13-Jun	5	5	8	9	11	9	12	17	7	2	4	2	5	3	4	8	7	7	8	10	9	26	15	15	8.8	26.0
14-Jun	12	9	11	8	8	9	10	8	6	2	4	4	5	6	8	11	5	3	6	14	17	9	9	9	8.0	16.6
15-Jun	7	10	7	7	12	10	13	24	27	19	15	14	2	7	4	8	6	4	3	7	12	8	8	7	10.0	27.2
16-Jun	0	0	0	0	1	4	19	17	6	9	30	21	32	40	3	5	0	8	0	3	3	5	6	5	9.1	40.1
17-Jun	4	5	4	1	5	5	12	26	9	0	8	2	12	0	BD	26	10	0	0	BD	BD	1	0	0	6.2	25.8
18-Jun	1	1	2	1	0	4	2	29	0	BD	9	24	8	11	0	10	4	21	10	0	5	3	3	5	6.6	28.6
19-Jun	6	5	3	1	2	4	8	17	15	5	0	0	4	5	3	2	1	3	6	5	9	11	5	7	5.2	16.7
20-Jun	5	4	2	4	4	5	14	3	0	BD	BD	0	BD	BD	BD	0	0	0	0	2	0	3	4	1	2.7	13.9
21-Jun	1	5	5	2	3	7	11	1	3	1	0	2	0	0	2	1	4	1	6	5	4	3	0	0	2.7	10.7
22-Jun	0	0	2	4	10	15	7	0	BD	BD	1	0	3	10	7	0	1	1	2	4	6	2	2	1	3.5	14.9
23-Jun	1	2	2	2	2	5	13	28	28	10	16	31	14	19	15	5	4	8	2	BD	2	3	3	4	9.5	31.1
24-Jun	3	2	6	4	3	4	2	6	7	0	0	4	BD	0	1	0	3	5	5	13	7	6	2	0	3.7	12.7
25-Jun	0	0	0	6	12	BD	0	0	4	6	17	20	9	15	19	12	0	0	0	0	0	0	0	0	5.2	20.1
26-Jun	0	0	0	0	0	0	9	8	1	10	0	12	50	54	39	51	2	0	15	0	0	0	0	1	10.5	53.8
27-Jun	1	1	1	1	1	4	4	4	7	3	1	6	13	4	3	6	4	7	7	2	7	6	0	1	4.0	13.5
28-Jun	13	4	0	0	0	BD	1	0	BD	BD	BD	BD	0	0	1	0	1	123	2	1	1	1	0	0	7.9	123.5
29-Jun	0	0	0	0	0	0	0	0	0	0	2	2	3	4	2	2	4	3	5	6	2	1	0	0	1.5	5.6
30-Jun	0	0	0	0	0	2	1	3	2	4	5	10	11	10	4	2	2	1	0	0	1	2	0	0	2.5	10.6
	4.2	3.7	3.4	3.5	4.8	7.4	8.6	9.0	7.0	5.2	5.9	6.5	7.8	8.5	7.5	6.7	3.5	8.7	4.7	5.0	6.5	6.5	5.3	4.8	Diurnal Average	
	21.3	12.4	10.8	10.3	12.4	18.4	18.8	28.6	27.9	20.0	30.4	31.1	50.1	53.8	45.9	51.1	13.2	123.5	15.2	13.8	16.6	26.0	32.4	27.5	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 Evergreen Park
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 450.0 $\mu g/m^3$ on Jun 28 18:00

Maximum Daily Average: 26.2 $\mu g/m^3$ on Jun 16

Minimum Value: 0 $\mu g/m^3$ on Jun 26 02:00

Minimum Daily Average: 5.9 $\mu g/m^3$ on Jun 29

Maximum Diurnal Average: 30.6 $\mu g/m^3$ at hour 18

Minimum Diurnal Average: 6.5 $\mu g/m^3$ at hour 4

Monthly Average: 14.67 $\mu g/m^3$

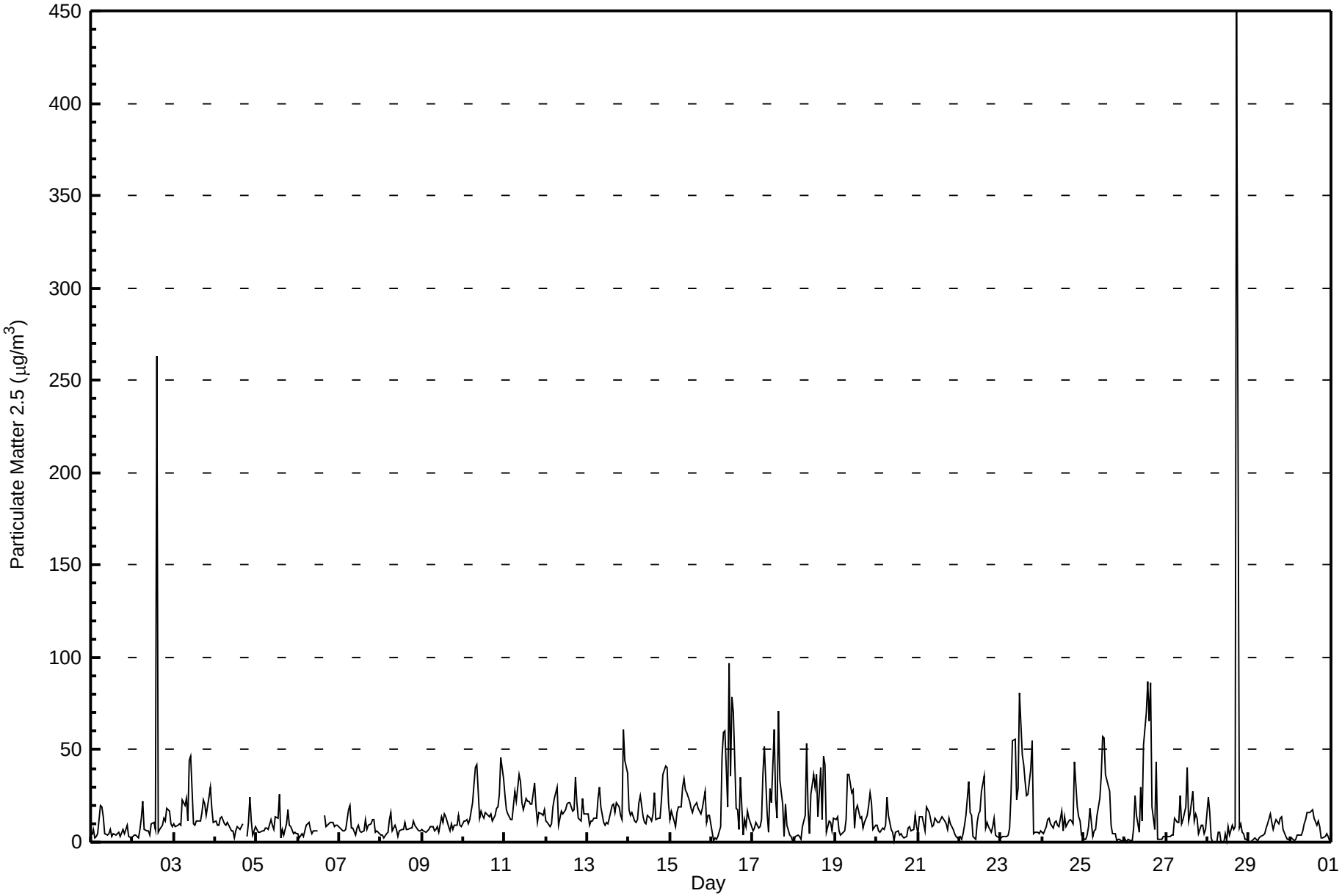
Percentiles: $P_1 = 0.3$ $P_{10} = 2.8$ $Q_1 = 5.9$ Median = 10.1 $Q_3 = 16.6$ $P_{90} = 29.3$ $P_{99} = 76.8$

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

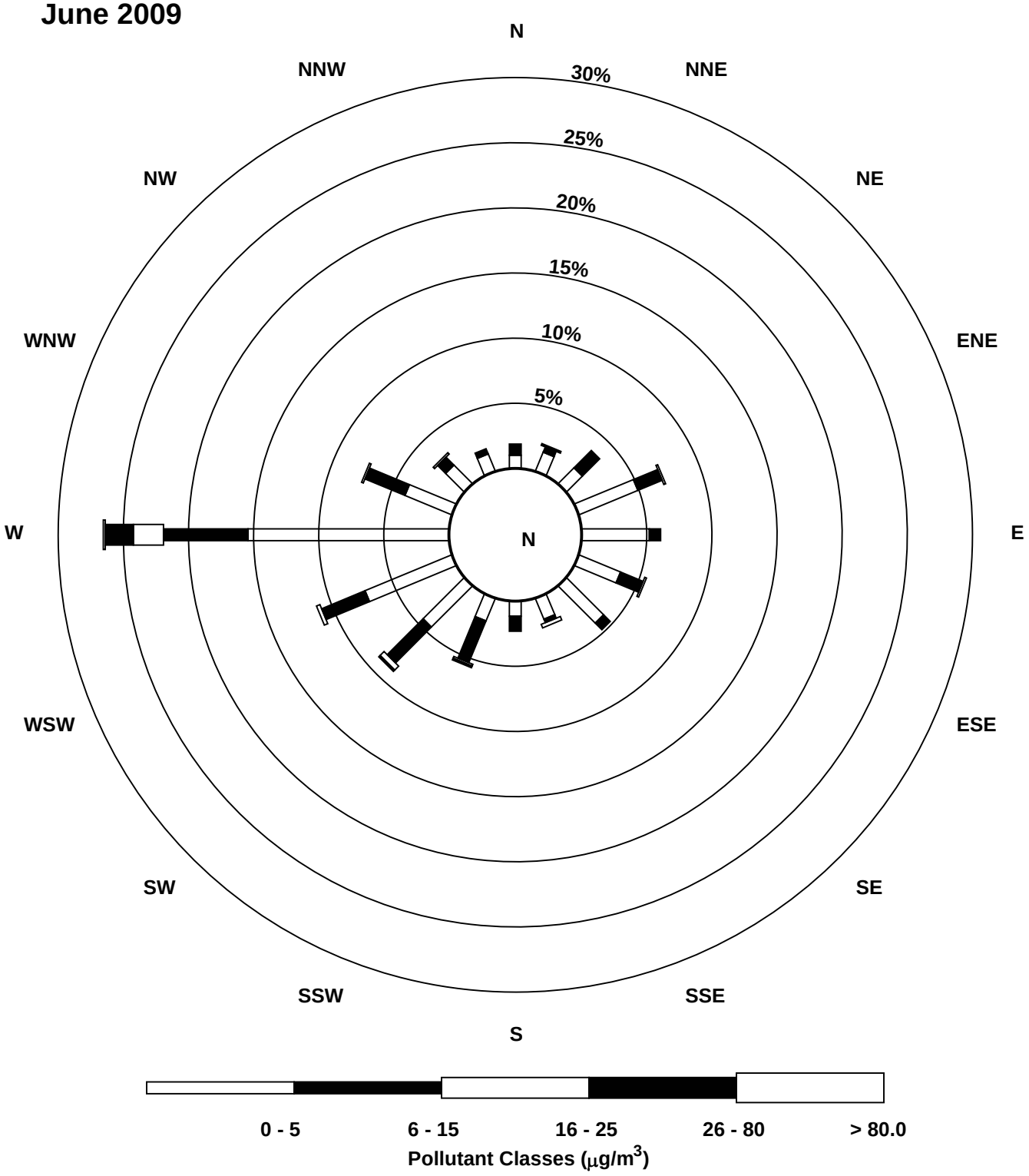
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jun	4	7	3	3	5	20	19	14	4	4	4	7	3	4	4	5	6	3	7	5	7	9	3	3	6.3	19.5
2-Jun	3	4	3	3	7	13	22	7	6	6	4	10	11	7	263	6	7	9	13	11	18	17	10	8	19.5	263.3
3-Jun	10	9	9	10	9	23	19	24	12	44	46	10	9	12	12	12	16	23	21	14	24	30	19	10	17.8	46.4
4-Jun	11	9	9	13	14	10	9	10	9	6	6	2	6	8	7	8	10	BD	3	11	25	11	4	8	9.2	24.6
5-Jun	7	5	5	6	6	7	8	7	12	9	7	14	13	26	2	7	3	10	18	9	9	5	5	5	8.6	25.7
6-Jun	4	2	5	3	6	9	11	7	5	6	6	6	P	P	P	15	8	10	10	11	11	8	9	9	7.7	14.6
7-Jun	7	7	6	6	7	18	20	8	8	4	8	9	6	5	6	12	7	9	10	12	12	5	6	4	8.5	19.8
8-Jun	4	4	2	4	5	12	16	6	9	7	3	6	7	7	10	7	7	7	7	12	9	7	6	6	7.1	16.3
9-Jun	7	6	6	6	7	8	8	6	7	8	6	14	10	16	14	9	6	10	7	9	9	14	9	9	8.8	15.6
10-Jun	12	11	12	10	12	21	31	40	42	13	17	14	13	16	14	14	15	11	15	18	19	26	46	34	19.9	45.9
11-Jun	25	17	15	12	12	20	28	22	36	33	21	18	24	22	22	21	21	32	19	11	16	15	14	18	20.6	36.3
12-Jun	11	10	9	10	19	23	30	9	13	17	15	18	20	22	22	16	17	35	21	13	12	24	15	16	17.4	35.2
13-Jun	15	9	12	12	13	13	24	30	19	11	9	11	10	13	20	20	16	21	19	14	12	61	44	37	19.3	61.1
14-Jun	17	15	16	11	11	12	21	25	14	10	10	14	13	12	15	27	12	13	13	23	36	41	40	21	18.4	41.1
15-Jun	12	17	11	9	16	19	19	30	35	28	27	22	18	16	19	21	19	16	15	18	27	11	15	15	18.9	34.5
16-Jun	6	1	2	2	3	8	46	60	61	19	97	36	78	70	18	17	7	35	4	12	8	17	13	9	26.2	96.7
17-Jun	6	7	11	7	9	12	37	52	15	6	29	21	61	23	13	71	34	20	3	20	9	4	3	0	19.8	70.9
18-Jun	2	3	4	3	1	9	15	53	18	5	26	37	30	37	14	41	12	46	42	6	11	11	6	13	18.4	53.1
19-Jun	12	14	6	4	4	6	12	37	37	27	28	8	17	20	13	14	7	11	15	20	27	22	7	9	15.6	36.7
20-Jun	9	6	5	8	6	9	24	15	7	6	1	5	6	4	4	3	2	3	7	9	6	7	14	8	7.3	24.0
21-Jun	4	14	14	10	6	19	16	12	8	9	13	11	11	12	14	11	10	7	13	10	7	5	3	2	10.0	19.2
22-Jun	3	2	5	9	15	33	16	15	3	2	11	15	17	27	36	7	10	8	5	9	13	4	3	2	11.2	36.2
23-Jun	3	3	3	3	4	7	26	55	55	23	29	80	47	42	33	25	26	40	55	4	5	5	5	6	24.3	80.5
24-Jun	5	5	8	12	13	10	8	10	11	9	8	17	6	14	9	12	12	12	10	43	19	14	11	4	11.8	43.4
25-Jun	2	1	4	8	18	3	6	7	15	24	36	57	56	37	30	27	9	4	5	1	1	1	1	1	14.9	57.4
26-Jun	1	0	1	1	1	8	25	15	6	30	11	53	70	87	66	86	19	7	44	2	2	2	3	3	22.5	86.7
27-Jun	3	3	3	4	4	13	10	11	25	10	12	19	40	11	15	28	11	15	13	5	9	9	5	7	11.9	40.2
28-Jun	24	16	2	0	0	0	6	5	0	0	5	1	8	4	9	7	9	450	8	10	5	5	2	1	24.0	450.0
29-Jun	0	0	1	2	2	1	3	3	4	5	8	10	15	11	7	10	13	10	13	14	7	3	1	1	5.9	15.2
30-Jun	2	2	1	2	4	4	4	6	10	12	16	16	17	17	13	9	12	8	2	3	3	5	3	1	7.1	17.2
	7.7	6.9	6.5	6.5	8.0	12.3	17.9	20.0	16.9	13.0	17.3	18.7	22.2	20.7	25.0	18.9	12.1	30.6	14.5	11.9	12.6	13.2	10.8	9.1	Diurnal Average	
	25.0	17.4	15.8	12.8	19.3	32.5	46.3	59.8	60.6	44.5	96.7	80.5	78.3	86.7	263.3	86.2	33.9	450.0	55.1	43.4	36.3	61.1	45.9	37.4	Diurnal Maximum	

P - Power Failure BD - Baseline Drift

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



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



Peace Airshed Zone Association
Summary of Hourly Averages

Evergreen Park - External Temperature (ET) - °C
June 1, 2009 to July 1, 2009

Maximum Value: 26.9 °C on Jun 12 17:00

Maximum Daily Average: 21.0 °C on Jun 13

Minimum Value: 0 °C on Jun 7 05:00

Minimum Daily Average: 7.5 °C on Jun 6

Maximum Diurnal Average: 19.6 °C at hour 17

Minimum Diurnal Average: 7.6 °C at hour 5

Monthly Average: 14.58 °C

Percentiles: P_1 = 1.0 P_{10} = 7.4 Q_1 = 10.9 Median = 14.4 Q_3 = 18.6 P_{90} = 22.3 P_{99} = 26.5

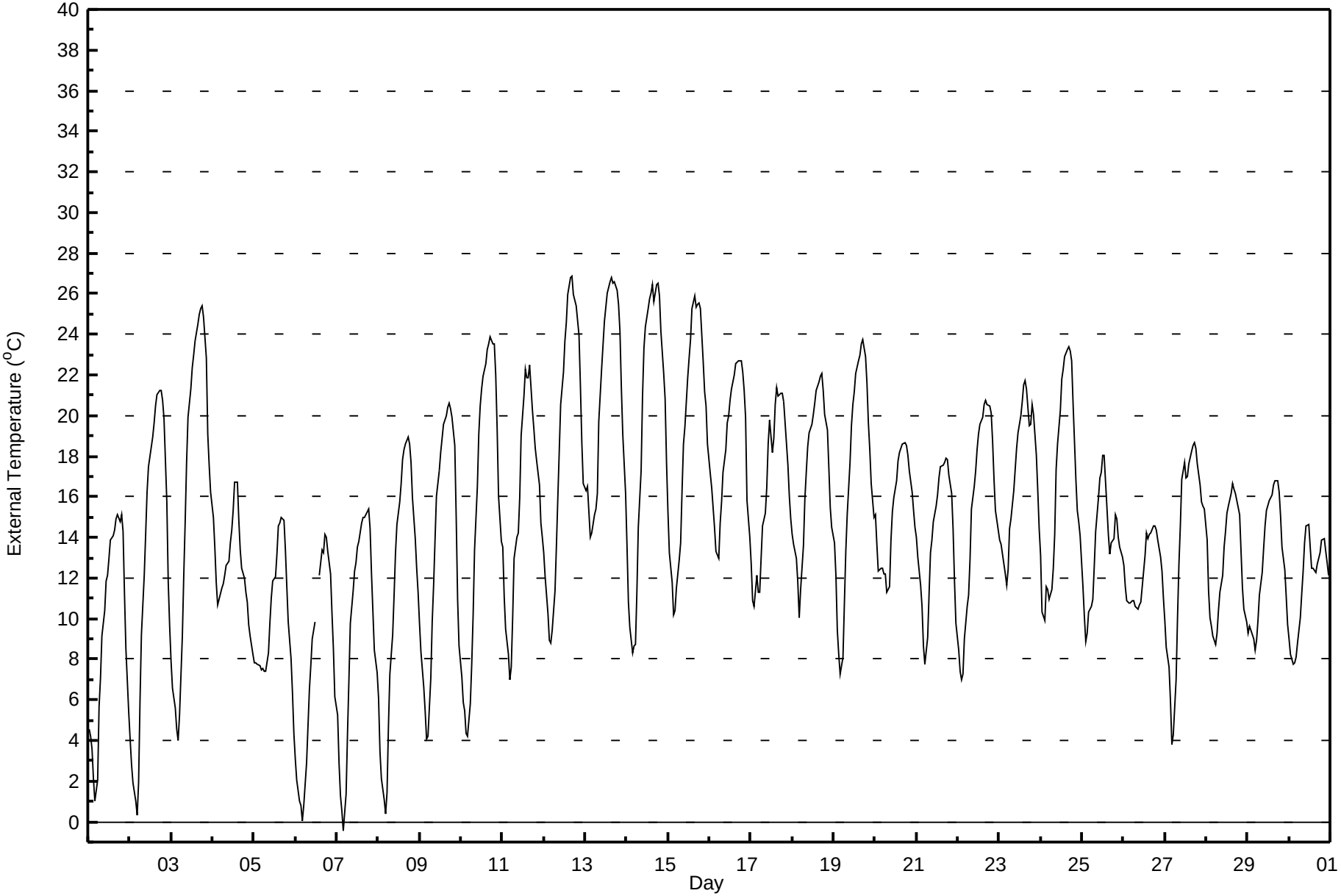
Hours in Service:	720
Hours of Data:	718
Hours of Missing Data:	2
Hours of Calibration:	0
Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST)																								Daily	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-Jun	5	4	4	2	1	2	6	7	9	10	12	12	13	14	14	14	15	15	15	15	14	11	9	5	9.5	15.1
2-Jun	4	3	2	1	0	2	6	9	12	14	16	17	18	19	20	20	21	21	21	21	20	16	12	10	12.8	21.3
3-Jun	8	7	6	5	4	5	9	12	15	18	20	21	22	23	24	24	25	25	25	25	23	19	18	16	16.6	25.4
4-Jun	15	14	12	11	11	12	12	12	13	13	14	14	15	17	17	15	13	12	12	11	11	10	9	8	12.6	16.7
5-Jun	8	8	8	8	7	8	7	7	8	10	11	12	12	13	15	15	15	15	13	12	10	8	6	4	10.0	15.0
6-Jun	3	2	1	1	0	1	3	5	7	8	9	10	P	P	12	13	13	14	14	13	12	10	9	6	7.5	14.1
7-Jun	5	3	1	0	0	1	4	7	10	11	12	13	13	14	15	15	15	15	15	14	12	10	8	7	9.3	15.4
8-Jun	6	3	2	1	0	1	5	7	9	11	13	15	16	17	18	18	19	19	19	18	16	14	13	11	11.3	19.0
9-Jun	10	8	7	5	4	4	7	10	12	14	16	17	18	19	20	20	20	21	20	20	19	15	11	9	13.6	20.6
10-Jun	7	6	5	4	4	6	8	10	13	17	19	20	21	22	23	23	24	24	24	24	22	19	16	14	15.6	23.9
11-Jun	13	11	9	8	7	8	10	13	14	14	16	19	21	22	22	22	22	20	19	18	18	17	15	14	15.6	22.5
12-Jun	13	12	10	9	9	9	11	14	16	18	21	22	24	25	26	27	27	26	26	25	24	21	19	17	18.8	26.9
13-Jun	16	16	15	14	14	15	15	16	20	22	23	25	25	26	27	27	27	27	26	25	24	21	19	16	21.0	26.8
14-Jun	14	11	10	8	9	9	11	14	17	21	23	24	25	26	26	26	26	26	27	26	24	22	21	18	19.3	26.5
15-Jun	15	13	12	10	10	11	13	14	16	19	19	22	23	24	25	26	25	25	26	25	23	21	20	19	19.1	25.9
16-Jun	17	16	15	15	13	13	15	16	17	18	20	20	21	21	22	23	23	23	23	22	21	20	16	14	18.5	22.7
17-Jun	13	11	11	12	11	11	13	15	15	16	19	20	18	19	21	21	21	21	21	21	20	18	16	15	16.6	21.3
18-Jun	14	14	13	12	10	11	14	16	17	18	19	20	20	21	21	22	22	22	21	20	19	17	15	14	17.2	22.1
19-Jun	14	12	9	8	7	8	11	13	15	18	19	21	21	22	23	23	24	24	23	22	20	18	17	15	16.9	23.8
20-Jun	15	14	12	13	12	12	12	11	12	14	15	16	17	18	18	18	19	19	19	18	17	16	15	14	15.3	18.7
21-Jun	14	13	12	11	9	8	9	11	13	14	15	16	16	17	18	18	18	18	18	17	16	14	12	10	13.9	17.9
22-Jun	8	7	7	7	9	11	11	13	15	17	17	18	19	20	20	21	21	21	20	20	19	17	15	14	15.3	20.8
23-Jun	14	14	13	12	12	12	14	15	16	17	18	19	20	21	22	22	21	20	20	21	20	18	16	14	17.1	21.7
24-Jun	13	10	10	12	11	11	11	12	14	17	19	20	22	22	23	23	23	23	23	21	17	15	15	14	16.8	23.4
25-Jun	12	10	9	9	10	11	11	13	14	16	17	17	18	18	15	14	13	14	14	15	15	14	14	13	13.6	18.1
26-Jun	13	12	11	11	11	11	11	11	10	11	11	12	13	14	14	14	14	15	15	14	14	13	12	11	12.3	14.6
27-Jun	10	9	8	6	4	4	7	10	13	15	17	18	17	17	18	18	19	19	18	18	17	16	16	15	13.6	18.7
28-Jun	14	11	10	10	9	9	9	10	11	12	13	14	15	16	16	17	16	16	15	15	13	12	10	10	12.7	16.6
29-Jun	9	10	9	9	8	9	10	11	12	13	15	15	16	16	16	17	17	17	16	15	14	12	11	10	12.8	16.8
30-Jun	9	8	8	8	8	9	10	11	12	14	15	15	14	12	13	12	13	13	13	14	14	13	13	12	11.7	14.7
	11.0	9.7	8.7	8.0	7.6	8.1	9.9	11.5	13.3	15.0	16.5	17.5	18.4	19.1	19.3	19.6	19.6	19.6	19.4	18.8	17.5	15.6	13.9	12.4	Diurnal Average	
	17.1	16.5	15.5	14.5	14.2	15.1	15.4	16.1	19.7	22.3	23.5	24.6	25.4	26.0	26.6	26.8	26.9	26.6	26.5	25.9	24.2	22.1	20.9	18.6	Diurnal Maximum	

P - Power Failure

Hourly Averages for External Temperature at Evergreen Park

June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Evergreen Park
June 1, 2009 to July 1, 2009
WS (km/h), WD (deg)

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1 Spd	1	1	0	1	0	0	2	2	5	5	5	3	3	5	6	5	4	4	4	4	2	2	1	0	2.3	5.5
Dir	247	333	215	208	226	174	106	161	117	131	134	94	73	57	73	73	78	90	87	79	95	70	70	11	93.5	73.1
2 Spd	0	0	0	1	1	0	1	0	2	3	4	4	5	4	3	2	3	2	3	3	2	0	1	1	1.4	5.0
Dir	236	28	203	50	218	228	8	125	347	358	43	13	18	10	31	34	4	20	87	84	102	118	34	197	31.0	17.6
3 Spd	0	0	1	2	1	1	5	4	4	3	3	3	4	6	5	3	3	3	4	5	3	4	4	4	1.4	5.9
Dir	205	232	217	217	203	212	247	240	263	292	273	320	351	332	347	351	315	238	284	238	218	59	69	83	288.7	331.6
4 Spd	2	2	1	0	2	4	4	5	5	7	8	10	8	8	8	9	10	9	7	6	4	5	4	3	5.3	10.1
Dir	69	60	32	40	63	75	84	80	84	80	73	79	76	97	78	76	71	73	88	101	85	80	100	90	79.9	70.8
5 Spd	3	3	4	3	3	4	4	2	3	2	2	2	3	4	6	8	10	10	10	10	8	3	3	2	3.7	10.3
Dir	77	65	77	86	74	76	64	60	76	57	342	12	259	255	44	49	49	59	82	95	102	113	113	76	70.0	49.3
6 Spd	2	2	1	2	0	1	1	3	4	4	5	6	P	P	6	4	5	5	5	5	6	4	2	2	2.9	6.3
Dir	77	60	67	91	320	2	46	83	139	158	135	136	P	P	196	141	131	124	117	101	110	112	105	95	120.7	135.6
7 Spd	2	1	2	0	0	1	2	3	4	8	5	7	6	4	6	6	5	5	6	7	8	4	4	4	3.9	8.3
Dir	98	77	72	28	356	9	53	70	90	79	105	92	88	111	128	126	109	102	101	129	126	122	111	116	104.4	126.4
8 Spd	3	2	1	1	1	2	2	5	5	6	7	7	7	7	6	5	7	6	8	8	6	5	7	6	4.7	7.8
Dir	110	68	89	69	59	57	111	134	152	126	150	137	137	127	144	119	117	127	120	110	114	107	115	114	122.9	110.2
9 Spd	5	4	3	3	3	3	3	5	4	4	6	4	6	3	4	5	5	4	6	4	3	1	1	0	2.5	5.6
Dir	109	104	91	90	84	77	98	131	157	149	153	154	168	145	87	28	33	39	45	52	51	57	36	33	96.7	153.1
10 Spd	1	1	0	1	1	3	5	5	5	5	3	3	3	4	5	2	4	5	5	3	2	1	1	1	2.2	5.0
Dir	229	6	322	234	214	241	257	263	269	286	252	294	308	249	268	265	289	299	239	199	146	151	199	226	261.2	257.2
11 Spd	1	1	2	1	1	0	1	5	5	5	6	7	7	6	7	7	4	7	9	7	4	3	3	2	1.5	9.4
Dir	110	57	53	44	123	315	196	249	278	270	268	300	338	46	74	49	45	228	245	251	260	210	221	268	280.9	244.9
12 Spd	2	3	3	2	4	4	4	4	4	4	4	5	6	7	3	3	8	9	10	7	5	3	3	1	4.4	9.7
Dir	295	232	213	206	209	216	233	226	219	229	227	183	211	223	240	203	209	201	211	212	213	211	215	205	214.8	210.9
13 Spd	3	5	4	4	7	5	2	3	9	15	15	15	14	12	14	16	15	13	10	8	5	2	3	0	8.1	15.7
Dir	229	261	259	273	257	242	258	266	263	267	262	253	262	280	287	280	289	288	298	304	301	265	267	195	273.2	280.4
14 Spd	1	0	0	0	1	3	2	5	11	11	10	10	8	9	12	11	10	6	5	2	1	3	2	2	4.1	11.5
Dir	200	201	223	198	227	212	241	242	263	269	301	280	276	260	235	211	225	242	221	215	162	40	95	53	250.1	235.4
15 Spd	0	1	1	1	1	2	5	2	2	3	4	6	7	6	3	2	5	6	5	5	7	5	5	11	1.4	11.1
Dir	29	340	219	232	308	285	271	298	274	217	173	169	155	165	169	207	63	63	65	117	180	237	250	271	197.4	271.1
16 Spd	9	9	7	7	2	2	8	12	15	22	22	23	21	21	18	18	16	13	14	14	8	3	1	1	11.8	22.7
Dir	273	263	277	266	253	242	265	264	263	261	270	275	273	267	276	269	264	266	273	273	272	262	186	217	268.5	275.3
17 Spd	1	1	1	3	5	3	4	7	7	7	10	10	9	11	14	17	16	14	10	11	17	15	11	12	8.5	17.4
Dir	197	35	272	263	230	230	308	280	291	289	273	259	252	264	273	271	278	262	268	264	273	263	254	260	267.7	272.8
18 Spd	13	12	4	1	1	3	5	16	19	20	19	20	14	16	15	17	15	13	11	10	4	3	3	2	10.4	19.8
Dir	260	263	309	286	234	263	299	269	266	272	278	265	282	281	277	269	274	280	286	261	260	227	220	262	271.7	272.2
19 Spd	2	1	0	2	3	3	5	6	8	7	6	6	6	6	4	4	5	2	4	2	8	11	4	3	3.8	11.3
Dir	265	272	12	216	214	223	269	272	260	257	272	264	322	293	318	308	293	263	335	233	285	250	248	4	275.0	250.0
20 Spd	7	2	4	3	6	6	5	8	5	9	13	14	13	14	16	17	15	13	12	10	7	4	2	3	8.4	17.5
Dir	269	292	223	269	259	247	274	289	300	293	279	283	282	274	271	275	276	276	286	292	320	317	283	265	279.2	274.8
21 Spd	4	1	1	1	0	1	1	3	1	1	4	3	4	7	7	7	6	4	5	6	4	2	1	0	2.1	7.3
Dir	265	278	53	132	216	225	242	271	42	63	219	184	188	142	146	150	133	118	118	128	124	110	82	91	148.7	150.3
22 Spd	1	1	0	1	3	3	6	5	7	8	9	10	10	10	9	8	11	9	8	8	16	11	8	12	6.3	16.4
Dir	232	80	275	241	280	278	278	304	330	325	327	323	320	303	322	334	332	332	331	314	270	265	255	260	303.8	269.6

Peace Airshed Zone Association
Summary of Hourly Averages

Evergreen Park
June 1, 2009 to July 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
23 Spd	11	12	8	3	8	9	14	13	16	17	17	16	15	15	12	12	12	9	10	13	10	8	6	3	11.1	17.1
Dir	257	261	266	287	263	263	263	265	269	265	268	267	271	271	277	281	281	251	276	267	275	272	270	261	268.7	265.3
24 Spd	1	0	1	2	2	3	3	4	3	2	5	4	4	3	3	5	5	4	3	10	9	3	1	1	1.9	10.2
Dir	313	50	209	226	213	205	202	209	206	221	224	219	213	170	170	129	115	89	77	232	265	301	286	4	209.4	231.8
25 Spd	0	0	0	0	7	13	6	8	13	14	13	14	13	25	29	25	15	12	11	11	13	11	11	15	11.6	29.2
Dir	262	35	214	72	249	264	252	265	258	260	267	268	263	255	253	252	242	254	261	252	252	246	256	255	255.9	252.8
26 Spd	16	12	14	14	15	19	20	17	14	13	14	16	26	30	29	26	24	21	20	19	19	15	13	10	17.8	29.7
Dir	254	251	250	251	254	257	261	261	255	260	259	262	269	271	270	277	282	284	283	278	279	276	274	276	268.0	271.2
27 Spd	8	4	3	1	1	2	1	2	5	6	5	7	6	7	3	4	4	3	5	6	5	4	5	3	2.5	8.5
Dir	274	274	281	233	31	207	206	204	175	172	162	261	287	259	246	226	186	180	143	145	131	135	180	189	208.2	274.1
28 Spd	6	9	6	6	8	12	9	11	16	20	19	23	22	22	23	20	25	23	22	20	19	16	14	12	15.6	24.9
Dir	226	257	302	273	270	276	279	275	277	279	282	274	277	275	279	276	273	276	266	259	263	252	244	245	270.2	272.6
29 Spd	12	13	14	11	7	9	9	17	19	19	22	20	20	20	19	20	17	19	20	20	18	13	11	10	15.4	21.7
Dir	239	251	251	254	249	250	259	255	260	262	272	276	277	273	275	270	278	272	282	276	264	262	239	235	264.8	272.3
30 Spd	11	11	10	11	12	12	12	15	16	16	18	20	18	21	13	15	13	13	14	12	11	5	9	11	12.5	20.5
Dir	238	235	231	236	239	247	253	263	268	272	286	287	291	278	298	301	286	294	275	275	276	283	272	272	271.4	278.0
Spd	3.0	2.6	2.1	2.0	2.7	3.3	3.6	4.9	5.5	6.0	6.3	6.5	6.7	7.3	6.2	5.7	5.0	4.5	4.1	4.2	4.2	3.0	2.7	2.7	Diurnal Average	
Dir	251.1	258.1	256.1	249.5	248.5	251.9	263.1	260.8	261.7	265.4	266.9	268.4	275.1	268.8	271.5	273.2	278.1	272.4	273.6	255.8	257.9	253.5	242.0	254.5		
Spd	16.3	13.4	14.3	14.1	14.7	18.5	20.1	17.3	19.1	21.7	22.4	22.7	26.2	29.7	29.2	26.3	24.9	23.5	22.0	20.1	19.1	15.7	13.9	15.1	Diurnal Maximum	
Dir	253.7	250.6	250.7	250.7	254.4	256.9	261.0	260.6	260.3	261.0	269.7	275.3	269.5	271.2	252.8	277.2	272.6	275.6	265.9	276.3	262.8	252.1	244.4	255.5		

Maximum Speed Value: 30 km/h on Jun 26 14:00
Minimum Speed Value: 0 km/h on Jun 10 03:00
Maximum Daily Speed Average: 17.8 km/h on Jun 26
Minimum Daily Speed Average: 1.4 km/h on Jun 2
Maximum Diurnal Speed Average: 7.3 km/h at hour 14
Minimum Diurnal Speed Average: 2.0 km/h at hour 4

Monthly Average Velocity: 4.31 km/h 264.21 deg
Speed Percentiles: P_1 = 0.2 P_{10} = 1.0 Q_1 = 2.7 Median = 5.1 Q_3 = 10.5 P_{90} = 15.8 P_{99} = 24.5
All monthly, daily, and diurnal averages have been calculated using vector methods

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

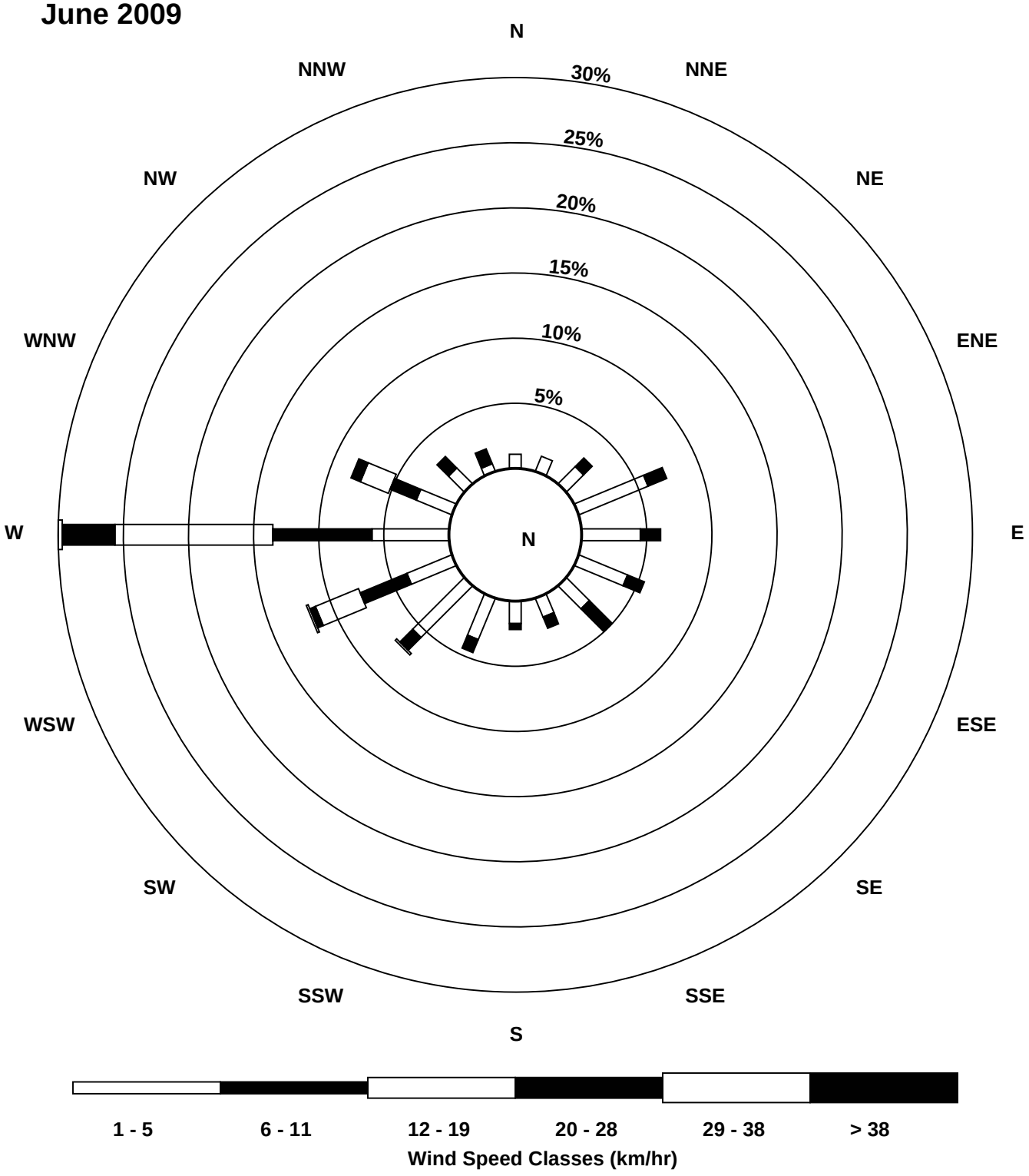
P - Power Failure

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	22	1	0	0	0	0	23
NorthEast	44	11	0	0	0	0	55
East	65	29	0	0	0	0	94
SouthEast	27	34	0	0	0	0	61
South	25	10	0	0	0	0	35
SouthWest	89	21	9	0	0	0	119
West	59	71	107	41	3	0	281
NorthWest	21	25	4	0	0	0	50
Total	352	202	120	41	3	0	718

Wind Rose for WS at Evergreen Park

June 2009



Maximum Speed: 30 km/h on Jun 26 14:00

Maximum Daily Speed Average: 18.4 km/h on Jun 26

Minimum Speed: 1 km/h on Jun 7 05:00

Minimum Daily Speed Average: 2.9 km/h on Jun 2

Maximum Diurnal Speed Average: 11.9 km/h at hour 14

Minimum Diurnal Speed Average: 3.4 km/h at hour 4

Monthly Average Speed: 7.69 km/h

Percentiles: P_1 = 0.9 P_{10} = 1.5 Q_1 = 3.2 Median = 6.0 Q_3 = 10.9 P_{90} = 16.4 P_{99} = 24.7

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

Day	Hourly Period Ending At (MST)																								Daily 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-Jun	2	1	1	1	1	1	2	3	6	6	6	5	5	6	6	6	5	5	4	5	3	2	1	1	3.5	6.3
2-Jun	1	1	1	2	1	1	1	2	2	4	5	6	7	6	5	5	5	4	4	3	2	1	1	1	2.9	6.5
3-Jun	1	1	1	2	1	1	5	5	5	4	4	5	5	7	6	5	5	5	5	6	3	4	4	4	4.0	7.1
4-Jun	3	2	1	3	2	4	4	5	6	7	8	10	9	9	8	9	10	9	7	6	4	5	4	3	5.8	10.4
5-Jun	3	3	4	4	4	4	5	3	3	3	3	3	6	6	7	9	11	11	10	10	8	3	3	2	5.3	10.7
6-Jun	2	2	1	2	1	1	2	4	5	5	6	7	P	P	7	6	6	6	6	6	6	4	3	2	4.2	7.2
7-Jun	2	2	2	1	1	1	2	3	5	8	6	8	7	7	7	7	6	6	6	8	8	4	4	4	4.8	8.5
8-Jun	3	2	1	1	1	2	2	5	6	7	8	8	8	8	8	7	8	7	8	8	7	5	7	6	5.6	8.4
9-Jun	5	4	3	3	3	3	3	6	5	5	7	6	7	6	5	7	6	5	6	4	3	1	1	1	4.4	6.8
10-Jun	1	1	1	1	1	3	5	5	5	5	4	5	6	6	8	6	6	6	5	3	3	2	1	1	3.8	7.9
11-Jun	2	2	2	1	1	1	2	5	5	6	6	8	7	7	8	7	6	9	10	7	4	3	3	2	4.7	9.6
12-Jun	2	3	3	2	4	4	5	5	4	5	5	7	8	8	6	5	9	10	10	7	5	3	3	1	5.1	10.0
13-Jun	3	5	4	4	7	5	2	4	9	15	16	16	15	13	15	16	16	14	11	9	5	2	3	2	8.8	16.4
14-Jun	2	1	2	1	1	3	2	6	11	11	11	11	9	10	12	12	11	7	6	2	2	4	3	2	5.9	12.0
15-Jun	1	1	1	2	2	2	5	3	3	3	5	7	7	7	6	6	6	6	5	6	8	5	5	11	4.7	11.2
16-Jun	9	9	7	7	2	2	9	12	16	22	23	23	22	21	19	19	17	14	14	14	8	4	2	1	12.3	23.4
17-Jun	1	2	2	3	5	4	4	7	7	7	11	11	9	11	14	18	16	14	10	11	18	15	11	12	9.3	17.8
18-Jun	13	12	5	2	1	3	6	16	19	20	20	20	15	16	16	17	15	14	12	10	4	4	3	2	11.1	20.2
19-Jun	3	2	1	2	3	3	5	7	8	7	7	8	9	7	7	6	6	5	5	4	12	12	5	3	5.6	11.6
20-Jun	8	4	4	3	6	6	6	8	6	10	13	15	14	15	17	18	16	14	12	11	7	5	2	3	9.3	18.2
21-Jun	4	2	1	2	1	2	1	4	2	2	4	3	5	8	8	8	7	6	6	6	4	2	1	1	3.8	8.0
22-Jun	1	2	1	2	3	3	6	6	8	8	10	11	12	12	11	9	13	9	8	9	17	11	8	12	8.0	16.6
23-Jun	11	12	9	4	8	9	14	13	17	18	18	17	15	16	14	13	13	11	12	13	10	8	6	3	11.7	17.8
24-Jun	2	1	2	2	2	3	3	4	3	3	6	6	6	6	5	6	5	5	3	12	10	4	2	1	4.2	11.9
25-Jun	1	1	1	1	8	14	6	8	13	14	14	14	13	25	29	25	15	12	11	12	13	11	12	15	12.1	29.5
26-Jun	16	12	14	14	15	19	20	17	14	13	14	16	26	30	29	27	24	21	21	19	19	15	13	10	18.4	30.1
27-Jun	9	4	4	2	1	2	2	2	5	7	6	8	7	8	4	6	5	4	5	6	5	4	6	3	4.8	8.6
28-Jun	6	9	6	7	8	12	10	12	17	20	20	23	23	23	24	21	25	24	22	20	19	16	14	12	16.4	25.5
29-Jun	12	14	14	11	7	10	9	17	19	20	22	20	21	20	19	20	18	20	20	20	18	13	11	10	16.0	22.2
30-Jun	11	11	10	11	12	12	12	15	16	17	18	20	19	21	14	16	15	13	14	13	11	5	9	11	13.6	21.2
	4.7	4.2	3.7	3.4	3.9	4.6	5.4	7.0	8.3	9.4	10.2	11.0	11.1	11.9	11.5	11.4	10.8	9.9	9.3	9.1	8.2	5.9	5.0	4.9	Diurnal Average	
	16.4	13.5	14.4	14.2	14.8	18.6	20.2	17.4	19.5	22.0	23.0	23.4	26.4	30.1	29.5	26.6	25.5	24.0	22.2	20.3	19.4	15.9	14.0	15.3	Diurnal Maximum	

P - Power Failure

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

Maximum Value: 99.2 deg on Jun 10 03:00

Minimum Value: 3.3 deg on Jun 30 03:00

Percentiles: P_1 = 5.6 P_{10} = 9.5 Q_1 = 13.9 Median = 23.3 Q_3 = 44.3 P_{90} = 69.1 P_{99} = 91.8

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

Day	Hourly Period Ending At (MST)																								Daily
	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-Jun	75	55	92	39	89	74	39	58	29	35	43	45	58	32	32	33	41	49	25	24	26	12	69	88	91.6
2-Jun	91	77	70	82	50	88	43	90	67	59	54	69	45	54	75	81	78	90	45	31	21	80	76	63	91.1
3-Jun	79	68	22	11	54	27	20	26	44	57	66	61	45	38	54	77	74	67	37	26	16	16	13	14	79.4
4-Jun	21	26	69	89	33	20	24	22	22	20	18	16	21	26	22	18	13	18	17	16	34	19	25	21	88.7
5-Jun	22	32	27	25	25	19	18	44	29	63	71	71	84	56	41	22	16	25	22	17	19	19	15	23	84.1
6-Jun	11	8	15	39	72	43	42	30	38	48	40	32	P	P	42	66	53	39	44	22	16	11	24	24	71.8
7-Jun	30	69	19	75	58	42	23	36	35	23	48	33	43	56	40	33	44	29	36	28	13	11	9	10	75.3
8-Jun	26	22	37	34	25	10	41	32	33	38	35	37	37	37	48	59	38	35	23	19	14	13	13	12	59.2
9-Jun	11	8	8	8	8	14	28	32	35	45	36	57	42	77	52	53	33	46	24	20	8	36	22	76	77.5
10-Jun	85	66	99	65	44	19	16	21	20	28	52	78	66	65	58	86	46	46	29	41	24	18	65	51	99.2
11-Jun	73	56	13	54	64	75	72	19	29	42	18	38	34	36	32	28	54	57	12	13	16	11	23	44	74.9
12-Jun	33	24	27	41	6	12	29	33	35	35	52	44	42	50	74	57	22	19	12	12	7	15	15	46	74.1
13-Jun	22	9	7	17	6	15	32	30	13	12	19	15	17	22	21	19	14	19	21	16	10	16	15	87	87.3
14-Jun	87	87	80	76	72	31	47	43	11	16	21	32	24	31	20	16	16	30	30	15	57	63	40	21	86.8
15-Jun	94	68	76	75	64	35	18	32	50	67	44	31	28	34	71	89	22	24	27	37	33	21	20	9	93.6
16-Jun	10	9	18	16	55	59	14	12	15	10	14	13	11	13	16	14	18	21	12	13	13	46	92	55	91.8
17-Jun	54	58	76	26	22	51	31	14	18	21	26	23	21	21	17	13	17	15	18	21	8	6	9	7	76.1
18-Jun	5	10	36	72	57	27	24	10	9	12	17	12	18	18	20	17	20	17	20	7	11	9	8	48	72.4
19-Jun	35	54	75	36	7	12	21	19	14	24	40	58	60	56	59	53	55	84	25	77	50	13	39	31	83.6
20-Jun	37	54	23	26	10	13	22	19	22	23	16	18	24	25	19	16	14	14	17	15	16	15	31	28	54.1
21-Jun	21	76	77	64	85	46	77	39	59	64	31	49	32	38	38	30	34	51	35	19	17	18	79	76	84.6
22-Jun	84	96	81	81	23	18	12	22	23	22	34	33	30	32	41	33	28	23	20	21	7	6	7	6	96.5
23-Jun	6	6	13	27	6	5	6	10	11	14	18	17	17	25	25	23	23	41	53	7	10	13	16	10	52.7
24-Jun	33	92	66	16	19	20	17	15	25	62	41	63	54	66	64	38	29	23	23	55	19	55	82	49	91.5
25-Jun	86	94	99	92	22	10	26	18	13	14	22	12	19	12	8	9	10	12	12	12	9	10	8	7	98.6
26-Jun	7	7	9	7	7	7	7	7	9	9	10	13	8	10	10	10	10	10	10	10	9	7	8	8	13.5
27-Jun	10	14	24	71	74	61	58	37	35	31	39	41	38	30	59	52	37	45	25	15	15	20	19	36	73.8
28-Jun	17	19	17	16	13	14	19	15	14	13	15	11	13	14	15	16	12	12	9	14	9	8	7	8	19.3
29-Jun	8	7	7	9	11	10	12	10	11	12	13	16	15	13	13	15	13	15	11	10	6	10	6	6	15.5
30-Jun	4	4	3	5	7	8	12	9	11	18	14	15	13	15	21	20	24	20	11	11	9	13	9	11	23.9
	93.6	96.5	99.2	91.9	89.2	87.8	76.6	90.1	66.6	67.1	70.7	77.9	84.1	77.5	75.5	89.1	77.7	90.1	52.7	76.8	56.5	80.2	91.8	88.4	

P - Power Failure

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
June 1, 2009 to July 1, 2009

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 4.8 ppb on Jun 15 06:00 Maximum Daily Average: 0.9 ppb on Jun 23

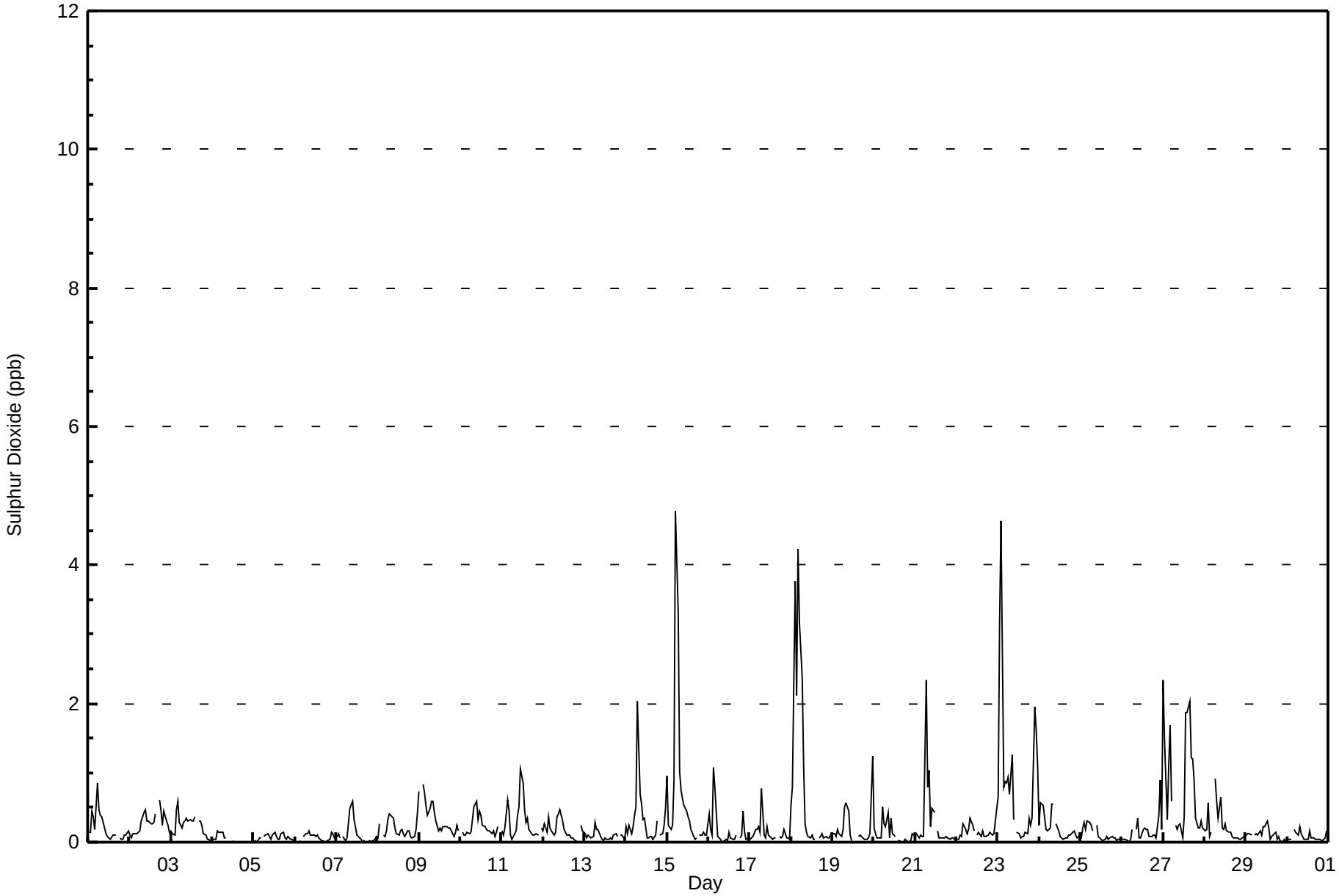
Minimum Value: 0 ppb on Jun 4 14:00 Minimum Daily Average: 0.0 ppb on Jun 4
Maximum Diurnal Average: 0.5 ppb at hour 6 Minimum Diurnal Average: 0.1 ppb at hour 20
Monthly Average: 0.26 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.1$ Median = 0.1 $Q_3 = 0.3$ $P_{90} = 0.5$ $P_{99} = 3.1$

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

Day	Hourly Period Ending At (MST)																								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-Jun	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.9
2-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0.3	0.6
3-Jun	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	0.6
4-Jun	0	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
5-Jun	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
6-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
7-Jun	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
8-Jun	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
9-Jun	1	A	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
10-Jun	A	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.2	0.6
11-Jun	0	0	0	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	A	0	0.3	1.1
12-Jun	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
13-Jun	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
14-Jun	0	0	0	0	0	0	1	2	1	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	2.0
15-Jun	1	0	0	0	1	5	3	1	1	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0.7	4.8
16-Jun	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	1.1
17-Jun	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.1	0.8
18-Jun	1	1	4	2	4	3	2	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.8	4.2
19-Jun	0	0	0	0	0	0	0	1	1	0	0	0	P	0	A	0	0	0	0	0	0	0	0	1	0.2	1.2
20-Jun	0	0	0	0	0	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.1	0.5
21-Jun	0	0	0	0	0	0	2	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	2.3
22-Jun	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
23-Jun	1	3	5	1	1	1	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	2	2	1	0.9	4.6
24-Jun	0	1	1	0	0	0	0	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
25-Jun	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
26-Jun	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.2	0.9
27-Jun	2	1	0	1	2	1	A	0	0	0	0	0	0	2	2	2	1	1	1	0	0	0	0	0	0.8	2.3
28-Jun	0	0	1	0	0	A	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.9
29-Jun	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-Jun	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
	0.3	0.3	0.5	0.4	0.5	0.5	0.5	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.2	Diurnal Average	
	2.3	3.1	4.6	2.1	4.2	4.8	3.3	2.0	1.3	0.7	0.5	1.1	0.9	1.9	1.9	2.0	1.2	1.2	0.9	0.3	0.5	1.9	1.6	1.2	Diurnal Maximum	

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

Hourly Averages for SO_2 at Smoky Heights
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 9.7 ppb on Jun 23 03:00

Maximum Daily Average: 2.3 ppb on Jun 23

Minimum Value: 0 ppb on Jun 7 19:00

Minimum Daily Average: 0.3 ppb on Jun 4

Maximum Diurnal Average: 1.2 ppb at hour 5

Minimum Diurnal Average: 0.4 ppb at hour 17

Monthly Average: 0.76 ppb

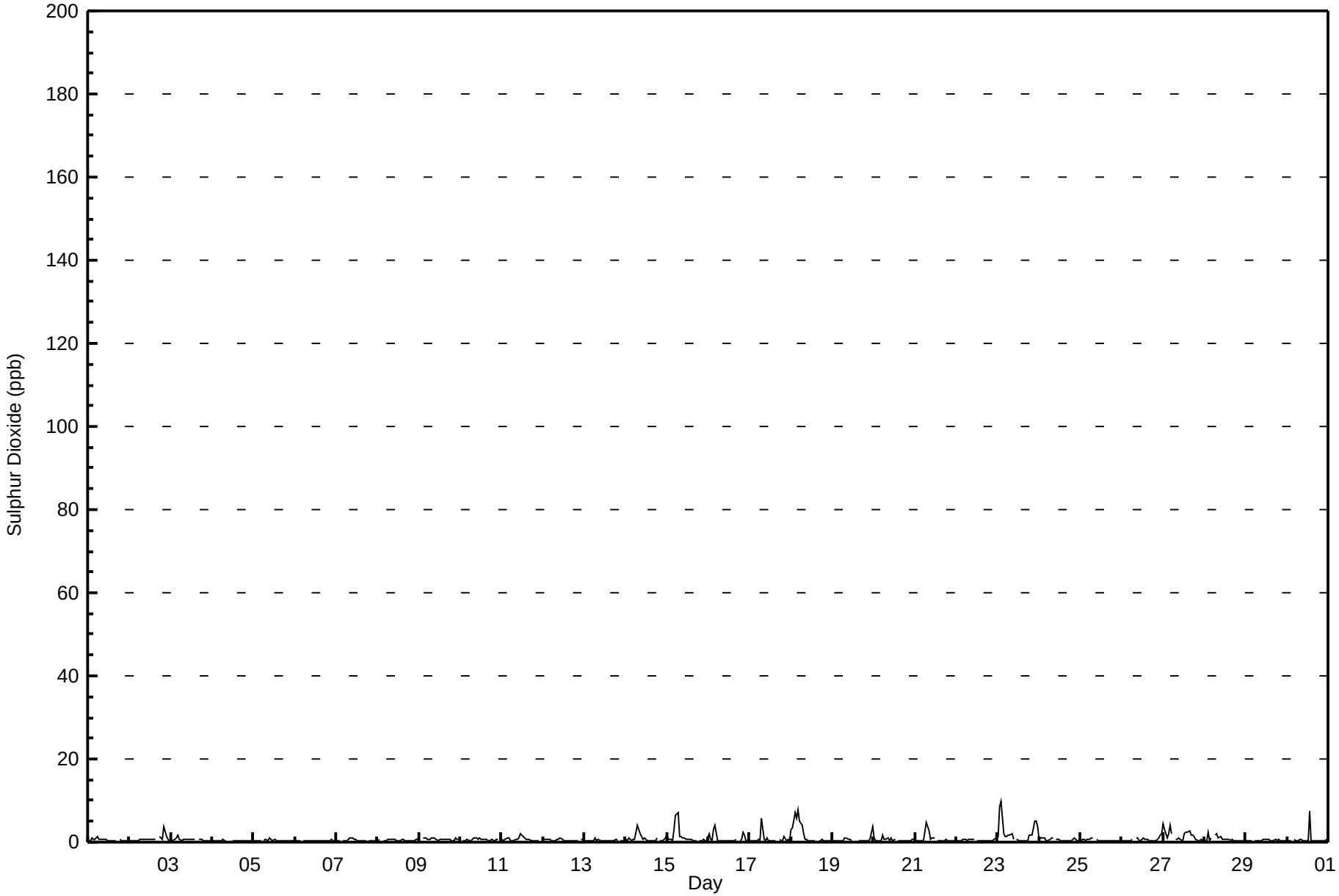
Percentiles: $P_1 = 0.2$ $P_{10} = 0.3$ $Q_1 = 0.4$ Median = 0.5 $Q_3 = 0.7$ $P_{90} = 1.3$ $P_{99} = 6.3$

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

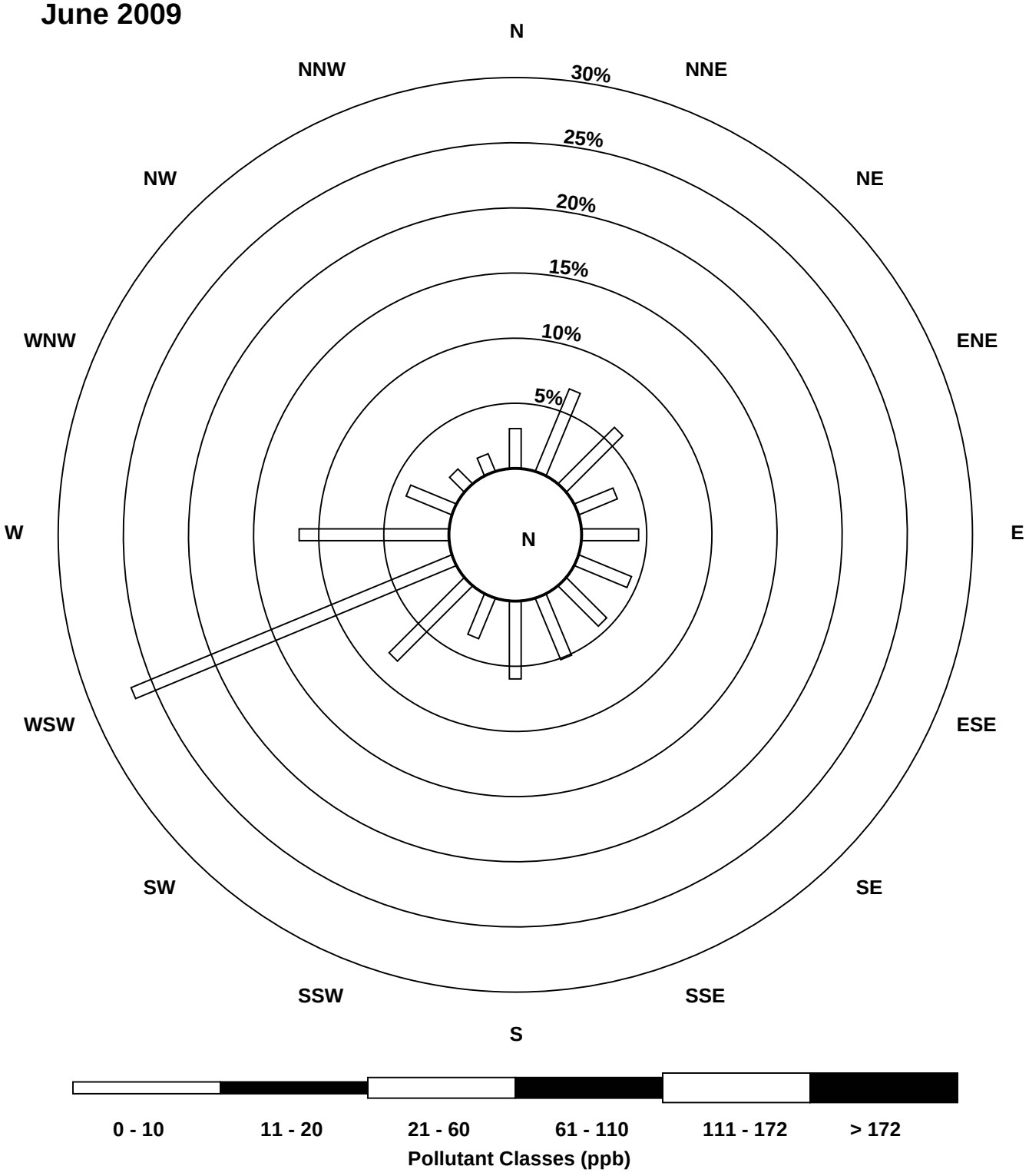
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	A	1	0	0	0	0	0	0.6	1.4
2-Jun	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	A	1	1	1	4	1	1	0	0.8	3.7
3-Jun	0	0	1	1	2	1	0	1	1	1	1	1	1	1	1	A	1	1	1	0	0	0	0	0	0.6	1.7
4-Jun	0	0	0	0	0	0	1	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
5-Jun	0	0	0	0	0	A	0	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9
6-Jun	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.4	0.5
7-Jun	0	0	0	A	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.0
8-Jun	0	1	A	0	0	0	1	1	1	1	1	0	0	0	1	1	0	0	0	0	0	0	1	1	0.5	0.8
9-Jun	1	A	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	0	1	1	1	0.7	1.1
10-Jun	A	0	0	0	1	0	0	1	1	1	1	1	1	1	1	1	0	0	1	0	0	1	1	A	0.6	1.1
11-Jun	1	1	1	1	1	0	0	0	1	1	1	2	1	1	1	1	1	0	0	0	0	0	A	1	0.7	1.9
12-Jun	1	1	1	1	1	0	0	0	1	1	1	1	0	0	1	0	0	0	0	0	0	A	1	1	0.5	0.9
13-Jun	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	A	0	0	0	0.4	0.9
14-Jun	1	0	1	0	1	1	2	4	2	1	1	1	0	0	0	0	0	0	1	A	0	0	1	1	0.9	4.2
15-Jun	2	1	1	0	3	6	7	1	1	1	1	1	1	1	1	0	0	0	A	0	0	1	0	0	1.3	7.1
16-Jun	2	1	0	3	4	0	0	0	0	0	0	0	0	0	0	0	1	A	0	1	2	2	0	0	0.9	4.0
17-Jun	0	0	0	0	0	1	0	6	1	0	1	0	0	0	0	0	A	1	0	0	1	0	1	0	0.7	5.6
18-Jun	3	3	7	6	8	5	4	2	1	1	0	0	0	0	0	A	0	0	1	0	0	0	0	0	1.9	7.9
19-Jun	0	0	0	0	0	0	0	1	1	1	1	0	P	1	A	0	0	0	0	0	0	0	1	4	0.6	3.7
20-Jun	1	0	0	0	0	2	1	1	1	0	1	0	1	A	0	0	0	0	0	0	0	0	1	1	0.5	1.8
21-Jun	0	0	0	0	0	0	5	4	3	1	1	1	A	0	0	0	0	0	1	0	0	0	0	0	0.9	4.6
22-Jun	0	0	0	0	1	1	0	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	1	1	0.5	1.1
23-Jun	1	9	10	2	1	1	2	2	2	1	A	1	0	0	0	0	0	0	2	2	2	5	5	4	2.3	9.7
24-Jun	1	1	1	1	0	0	1	1	1	A	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0.6	1.2
25-Jun	0	1	1	1	1	1	1	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.9
26-Jun	0	0	0	0	0	0	1	A	1	1	0	0	1	1	1	1	1	0	0	0	0	1	2	2	0.7	2.1
27-Jun	4	3	1	2	4	2	A	1	1	1	1	0	2	2	2	3	2	2	1	1	0	0	1	0	1.6	4.4
28-Jun	0	0	2	0	1	A	2	2	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0.7	2.4
29-Jun	0	0	0	0	A	0	0	1	0	0	1	1	1	1	0	0	0	1	0	1	0	0	0	0	0.4	0.7
30-Jun	0	0	0	A	1	0	0	1	1	0	0	0	0	7	0	0	0	0	0	0	0	0	0	1	0.7	7.5
	0.8	0.9	1.1	0.9	1.2	1.0	1.2	1.2	0.9	0.7	0.6	0.6	0.6	0.8	0.5	0.5	0.4	0.5	0.5	0.4	0.6	0.7	0.7	0.7	Diurnal Average	
	4.4	8.6	9.7	5.9	7.9	6.5	7.1	5.6	2.7	1.5	1.2	1.9	2.2	7.5	2.2	2.6	1.8	1.5	1.8	1.6	3.7	5.1	5.0	3.7	Diurnal Maximum	

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

Hourly Maximums for SO_2 at Smoky Heights
June 2009



Pollutant Rose for SO_2 at Smoky Heights
June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 0.8 ppb on Jun 25 01:00 Maximum Daily Average: 0.5 ppb on Jun 25

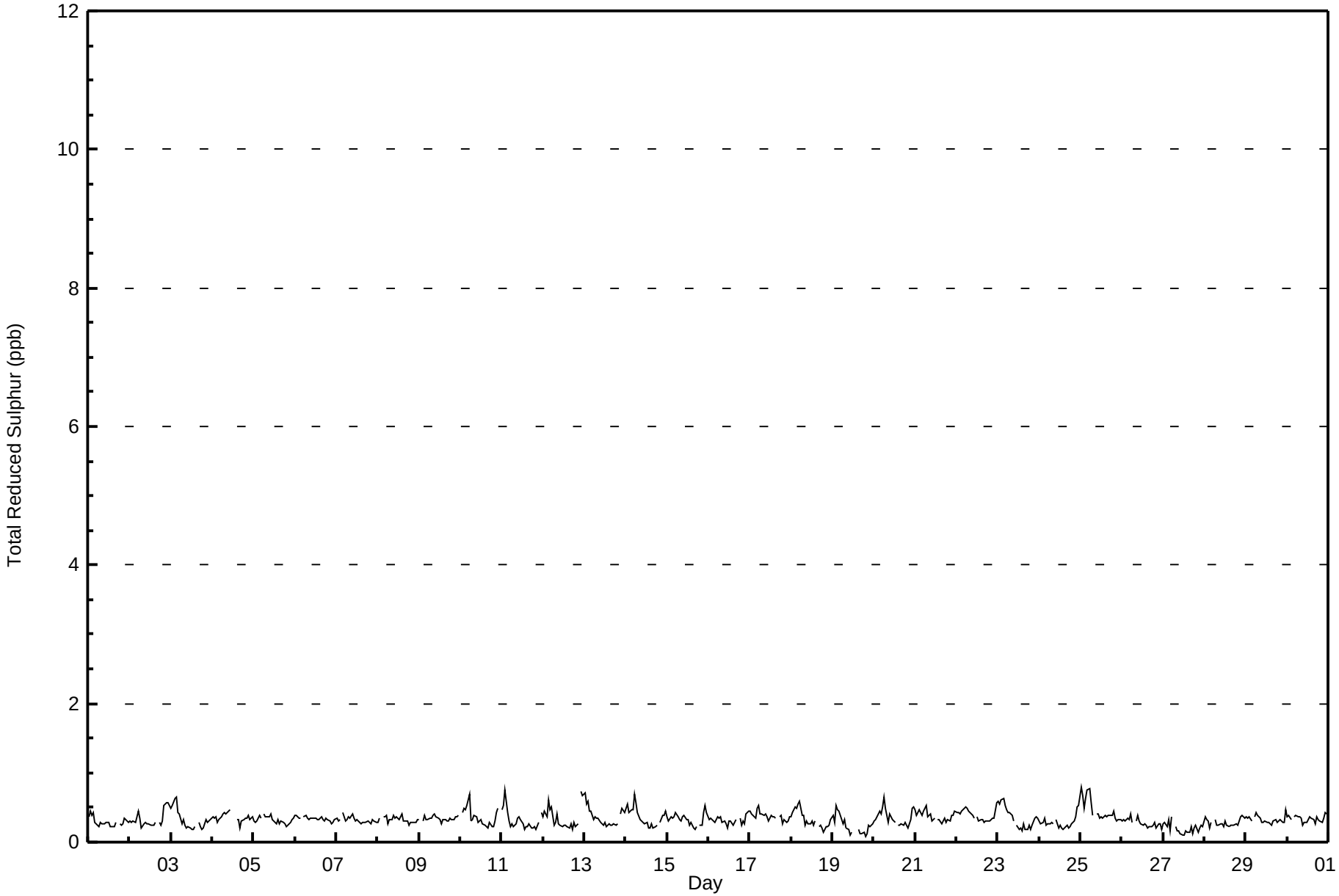
Minimum Value: 0 ppb on Jun 19 20:00 Minimum Daily Average: 0.2 ppb on Jun 27
Maximum Diurnal Average: 0.4 ppb at hour 6 Minimum Diurnal Average: 0.3 ppb at hour 17
Monthly Average: 0.33 ppb Percentiles: P_1 = 0.1 P_{10} = 0.2 Q_1 = 0.3 Median = 0.3 Q_3 = 0.4 P_{90} = 0.5 P_{99} = 0.7

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

Day	Hourly Period Ending At (MST)																								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-Jun	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	0.5
2-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	1	1	1	0.3	0.6
3-Jun	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.3	0.6
4-Jun	0	0	0	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0.4	0.5
5-Jun	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
6-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
7-Jun	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
8-Jun	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
9-Jun	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
10-Jun	A	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.4	0.7
11-Jun	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.3	0.7
12-Jun	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0.3	0.7
13-Jun	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.4	0.7
14-Jun	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.4	0.7
15-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	0	0.3	0.5
16-Jun	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
17-Jun	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.4	0.5
18-Jun	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.3	0.6
19-Jun	0	0	1	0	0	0	0	0	0	0	0	0	P	0	A	0	0	0	0	0	0	0	0	0	0.3	0.5
20-Jun	0	0	0	0	0	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0.4	0.7
21-Jun	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
22-Jun	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0.4	0.6
23-Jun	1	1	1	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
24-Jun	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.3	0.5
25-Jun	1	1	0	1	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.8
26-Jun	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
27-Jun	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
28-Jun	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
29-Jun	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
30-Jun	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	Diurnal Average	
	0.8	0.7	0.7	0.6	0.8	0.8	0.7	0.5	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.7	0.7	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 Smoky Heights
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 2.7 ppb on Jun 1 02:00

Maximum Daily Average: 0.9 ppb on Jun 25

Minimum Value: 0 ppb on Jun 27 12:00

Minimum Daily Average: 0.6 ppb on Jun 27

Maximum Diurnal Average: 0.9 ppb at hour 2

Minimum Diurnal Average: 0.6 ppb at hour 18

Monthly Average: 0.73 ppb

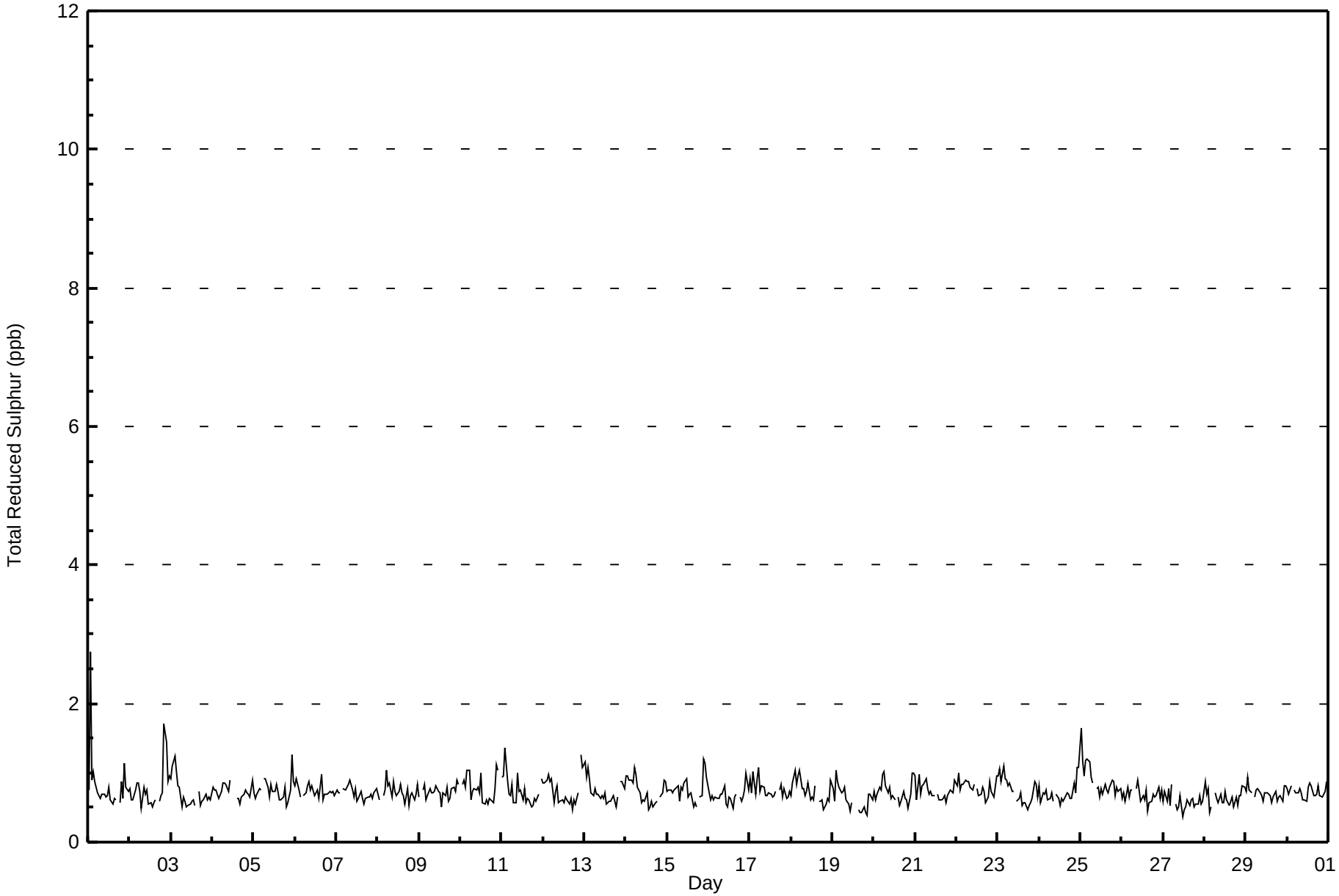
Percentiles: P_1 = 0.4 P_{10} = 0.6 Q_1 = 0.6 Median = 0.7 Q_3 = 0.8 P_{90} = 0.9 P_{99} = 1.3

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

Day	Hourly Period Ending At (MST)																								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-Jun	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.8	2.7
2-Jun	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	A	1	1	1	2	1	1	1	0.8	1.7
3-Jun	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	1.3
4-Jun	1	1	1	1	1	1	1	1	1	1	1	C	C	C	1	1	1	1	1	1	1	1	1	1	0.7	0.9
5-Jun	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.3
6-Jun	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
7-Jun	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
8-Jun	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
9-Jun	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
10-Jun	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.8	1.1
11-Jun	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	1.4
12-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	A	1	1	0.7	1.3
13-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.7	1.2
14-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	A	1	1	1	1	0.7	1.1
15-Jun	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
16-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	A	1	1	1	1	1	1	0.7	1.0
17-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.8	1.1
18-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0	1	1	1	1	0.7	1.0
19-Jun	1	1	1	1	1	1	1	1	1	1	0	1	P	1	A	0	0	0	1	0	0	1	1	1	0.6	1.0
20-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0	1	1	1	0.7	1.0
21-Jun	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
22-Jun	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
23-Jun	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0	1	1	1	1	1	1	0.7	1.1
24-Jun	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	1.1
25-Jun	2	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.7
26-Jun	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0.7	0.9
27-Jun	1	1	1	1	1	1	A	1	0	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8
28-Jun	1	1	1	0	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.9
29-Jun	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
30-Jun	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
	0.8	0.9	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.8	0.8	0.8	Diurnal Average	
	1.7	2.7	1.4	1.2	1.2	1.2	1.0	0.9	0.9	1.0	0.9	0.9	1.0	1.0	0.8	1.0	0.8	0.8	0.9	0.9	1.7	1.4	1.3	1.1	Diurnal Maximum	

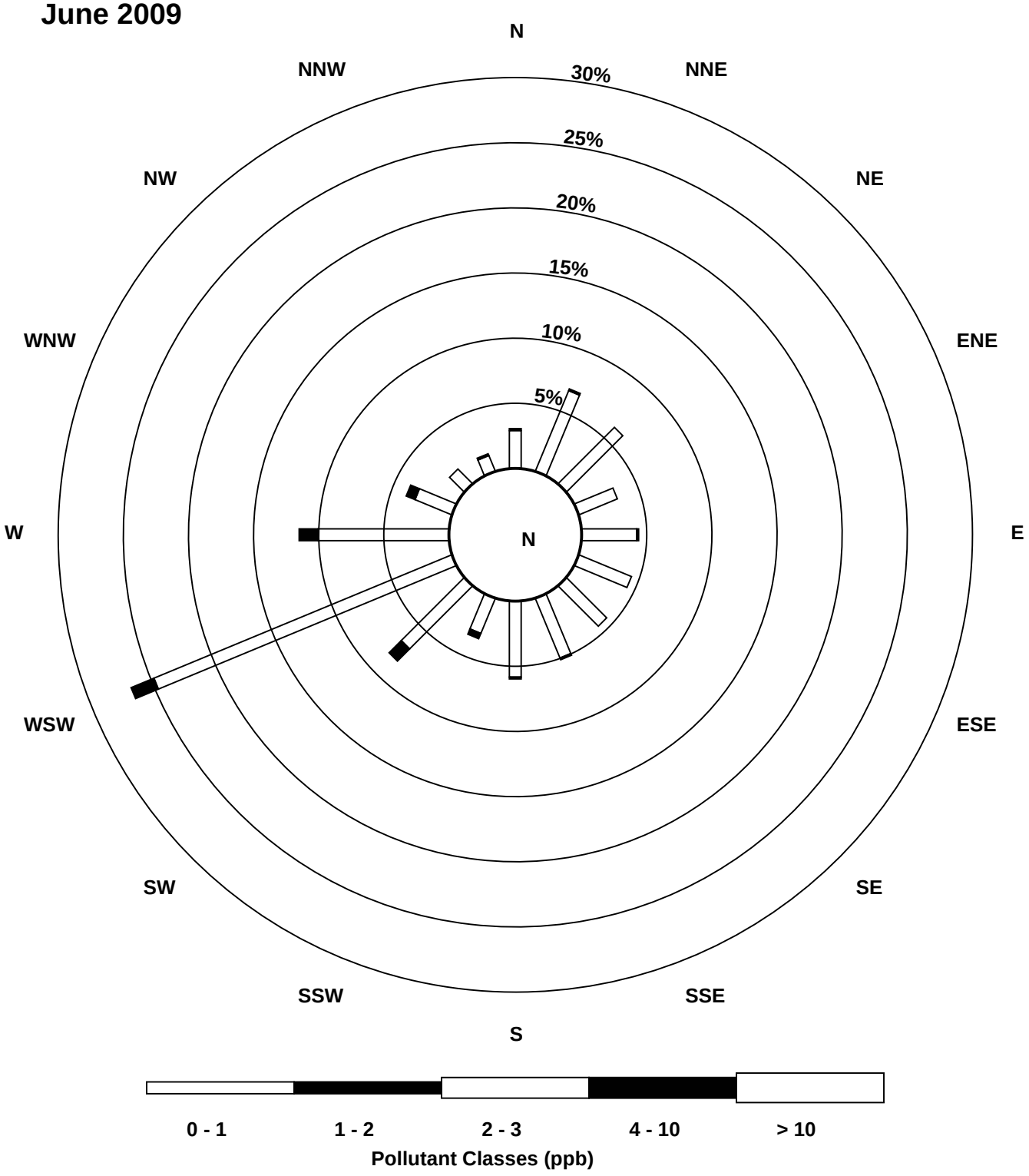
C - Calibration P - Power Failure A - Automated Daily Zero Span

Hourly Maximums for TRS at Smoky Heights
June 2009



Pollutant Rose for TRS at Smoky Heights

June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 77.0 $\mu g/m^3$ on Jun 10 22:00 Maximum Daily Average: 13.3 $\mu g/m^3$ on Jun 10

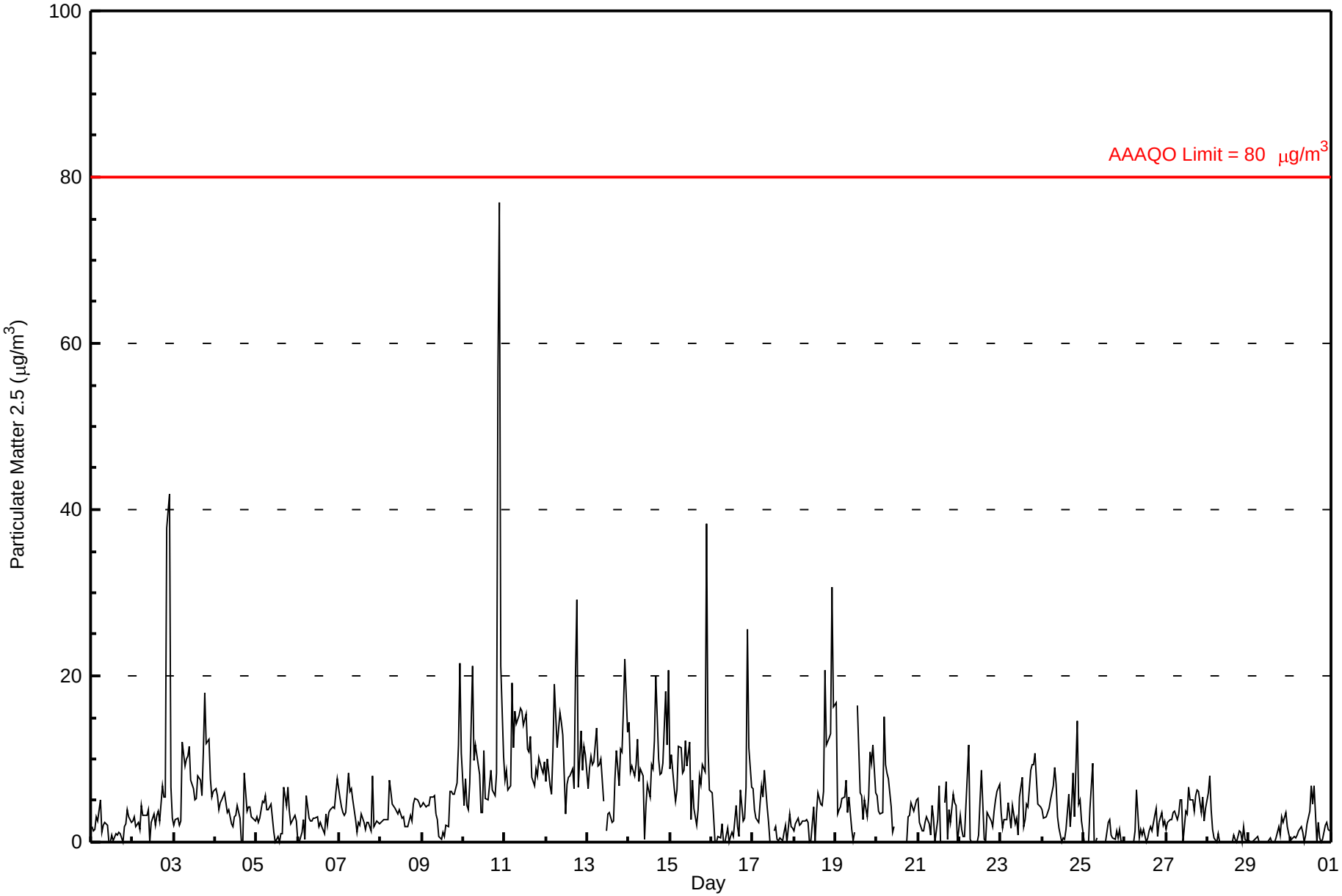
Minimum Value: 0 $\mu g/m^3$ on Jun 1 11:00 Minimum Daily Average: 0.8 $\mu g/m^3$ on Jun 29
Maximum Diurnal Average: 11.4 $\mu g/m^3$ at hour 22 Minimum Diurnal Average: 2.7 $\mu g/m^3$ at hour 11
Monthly Average: 5.03 $\mu g/m^3$ Percentiles: P_1 = 0.0 P_{10} = 0.2 Q_1 = 1.7 Median = 3.6 Q_3 = 6.7 P_{90} = 10.8 P_{99} = 28.2

Hours in Service:	720
Hours of Data:	706
Hours of Missing Data:	14
Hours of Calibration:	0
Percent Operational Time:	98.1

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-Jun	2	1	2	3	3	5	1	2	2	2	0	0	1	0	1	1	1	1	0	2	2	4	3	2	1.8	5.1
2-Jun	3	3	2	2	1	4	3	3	3	4	0	2	3	2	3	4	3	7	5	5	38	42	7	3	6.4	41.9
3-Jun	2	3	3	2	3	12	9	10	10	12	7	6	5	5	8	7	6	11	18	12	12	8	5	6	7.6	17.9
4-Jun	7	6	4	5	5	6	5	4	4	2	2	3	3	4	3	0	0	8	4	4	4	3	3	3	3.8	8.3
5-Jun	3	2	3	5	5	6	4	4	5	3	1	0	1	0	1	1	7	4	7	4	2	3	3	3	3.1	6.7
6-Jun	0	0	1	3	0	6	3	3	3	3	3	3	2	2	2	1	3	2	4	4	4	4	6	8	2.9	7.6
7-Jun	5	4	3	3	4	8	6	6	5	3	1	2	2	3	2	1	2	2	1	8	2	2	2	2	3.5	8.4
8-Jun	2	2	3	3	3	8	6	5	4	4	3	4	3	3	2	2	2	3	3	5	5	5	5	4	3.7	7.5
9-Jun	4	5	4	4	4	5	5	6	3	3	1	0	1	1	2	2	6	6	6	6	7	12	22	11	5.3	21.6
10-Jun	4	8	4	4	7	21	10	12	10	8	4	4	11	5	5	7	9	6	6	8	57	77	21	10	13.3	77.0
11-Jun	7	9	6	7	19	11	16	14	15	16	16	14	15	11	11	13	8	7	9	8	10	9	8	10	11.2	19.1
12-Jun	7	10	7	6	11	19	11	14	16	14	13	3	7	8	8	9	6	20	29	7	13	9	12	11	11.2	29.1
13-Jun	7	9	10	9	10	14	9	9	10	5	BD	1	3	4	2	2	8	11	7	11	11	16	22	13	8.9	22.1
14-Jun	14	8	9	8	9	12	7	9	8	0	4	7	5	9	9	12	20	10	8	8	9	18	12	21	10.0	20.7
15-Jun	9	10	7	5	6	12	11	8	9	12	9	12	3	7	4	2	4	8	7	9	8	38	12	6	9.1	38.3
16-Jun	6	3	0	0	1	1	2	0	0	2	0	1	1	1	4	2	1	6	3	3	7	26	11	7	3.5	25.6
17-Jun	6	4	3	2	5	7	5	9	4	2	0	BD	1	2	0	0	0	0	1	2	0	3	2	2	2.7	8.6
18-Jun	1	2	3	2	2	3	3	3	2	0	0	4	0	4	6	5	4	6	21	12	12	13	31	16	6.5	30.7
19-Jun	17	3	4	4	5	5	7	4	5	1	0	1	P	16	6	6	3	5	3	5	11	10	12	6	6.1	16.8
20-Jun	6	4	3	4	15	9	8	8	4	1	2	BD	BD	BD	BD	0	0	0	3	3	5	4	4	5	4.4	15.1
21-Jun	5	2	1	1	2	3	2	1	4	3	0	3	7	0	BD	5	7	0	4	2	6	5	4	0	3.0	7.3
22-Jun	3	1	1	1	4	12	0	0	BD	0	0	1	5	9	0	0	4	3	2	2	4	5	6	7	3.1	11.7
23-Jun	3	2	3	3	5	3	2	4	2	3	1	5	8	2	3	5	4	9	9	9	11	5	4	4	4.5	10.7
24-Jun	4	3	3	4	4	5	7	9	7	3	2	0	0	0	2	6	2	4	8	3	15	5	5	2	4.3	14.6
25-Jun	0	0	0	0	4	10	0	0	0	BD	BD	0	BD	0	2	3	1	0	0	1	1	2	0	0	1.2	9.5
26-Jun	0	0	0	0	0	0	1	6	1	1	1	2	0	1	1	2	1	3	4	1	2	4	2	3	1.5	6.2
27-Jun	2	2	3	3	4	4	3	3	5	5	0	4	3	7	5	5	4	6	6	6	4	5	3	4	3.9	6.6
28-Jun	6	8	4	2	1	0	1	0	0	0	0	0	BD	0	0	1	0	0	1	1	0	2	0	0	1.2	8.0
29-Jun	0	0	0	0	0	1	0	0	0	0	BD	0	1	0	0	0	1	2	1	3	2	4	2	1	0.8	3.6
30-Jun	0	0	1	1	1	1	2	1	0	1	2	4	7	5	7	0	2	0	0	0	2	2	2	1	1.8	6.8
	4.6	3.9	3.2	3.2	4.8	7.1	5.0	5.2	4.9	3.9	2.7	3.1	3.8	3.8	3.6	3.4	4.0	5.1	6.0	5.2	8.9	11.4	7.7	5.7	Diurnal Average	
	16.8	10.4	10.4	9.4	19.1	21.1	15.8	14.2	15.7	16.2	15.7	14.0	15.5	16.5	10.8	12.8	20.0	20.0	29.1	11.8	56.7	77.0	30.7	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 Smoky Heights
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 183.1 $\mu g/m^3$ on Jun 2 21:00

Maximum Daily Average: 32.1 $\mu g/m^3$ on Jun 10

Minimum Value: 0 $\mu g/m^3$ on Jun 16 03:00

Minimum Daily Average: 4.0 $\mu g/m^3$ on Jun 29

Maximum Diurnal Average: 31.1 $\mu g/m^3$ at hour 22

Minimum Diurnal Average: 5.8 $\mu g/m^3$ at hour 4

Monthly Average: 12.46 $\mu g/m^3$

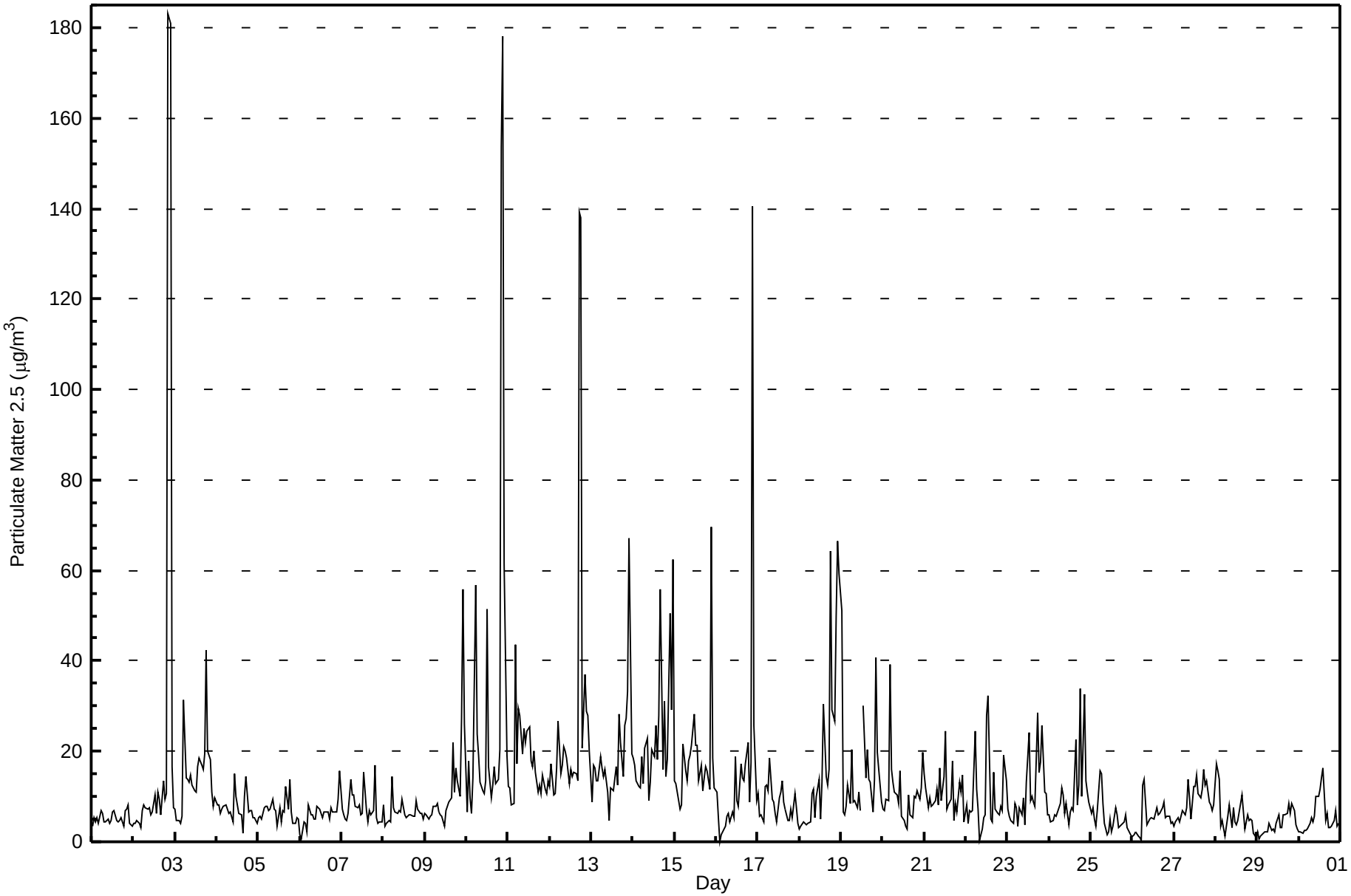
Percentiles: P_1 = 1.3 P_{10} = 3.8 Q_1 = 5.5 Median = 8.0 Q_3 = 13.8 P_{90} = 20.8 P_{99} = 137.0

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

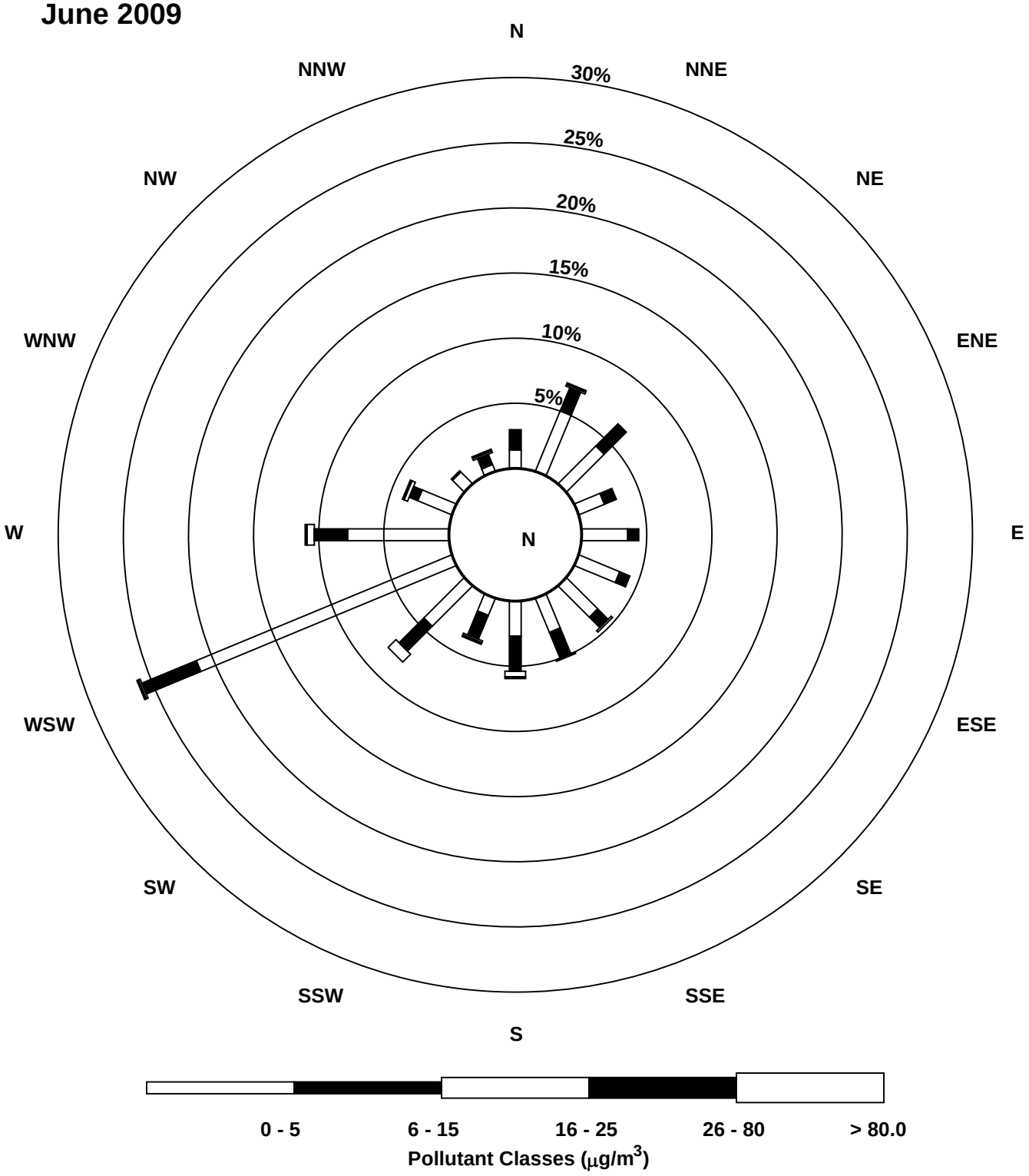
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	3	5	4	5	4	7	6	4	4	5	4	5	6	7	5	5	5	5	3	7	7	8	4	3	5.2	8.2
2-Jun	4	4	5	4	3	7	8	8	7	8	6	7	10	6	11	9	6	13	9	11	183	181	17	8	22.3	183.1
3-Jun	7	5	5	4	6	31	14	14	13	15	12	11	11	17	18	17	16	20	42	20	18	11	8	10	14.4	42.4
4-Jun	8	8	6	7	8	8	7	6	7	4	15	10	8	6	6	2	10	14	7	7	7	5	5	4	7.3	14.9
5-Jun	5	6	5	7	8	8	7	7	9	7	7	4	8	4	7	7	12	7	14	7	4	4	5	5	6.8	13.8
6-Jun	1	1	4	4	2	8	6	6	5	5	8	7	6	5	7	7	6	5	8	7	6	7	9	16	6.1	15.7
7-Jun	7	6	5	5	6	14	10	10	8	7	8	6	6	16	7	4	7	6	7	17	5	4	4	4	7.6	17.0
8-Jun	8	4	4	5	4	14	7	7	6	7	7	10	6	5	6	6	6	6	6	9	7	6	6	5	6.5	14.5
9-Jun	6	6	5	6	6	8	8	8	7	6	6	3	7	8	9	10	22	11	16	13	10	27	56	26	12.1	55.7
10-Jun	6	18	10	6	14	57	24	19	13	11	11	13	52	17	10	13	17	13	14	20	154	178	62	19	32.1	178.2
11-Jun	12	12	8	8	44	17	30	28	19	25	22	24	26	18	16	20	15	11	12	11	15	12	11	13	17.9	43.6
12-Jun	12	17	10	11	16	27	15	17	21	20	18	13	16	14	15	15	13	139	138	21	37	29	28	20	28.5	139.4
13-Jun	9	17	16	13	13	19	16	15	16	11	5	12	12	11	17	13	28	22	14	26	27	33	67	20	18.8	67.0
14-Jun	18	17	14	12	12	19	13	21	23	9	13	20	19	26	18	28	56	16	31	14	18	51	29	63	23.3	62.5
15-Jun	13	13	9	7	8	22	16	13	18	19	21	28	21	21	13	17	11	14	17	16	12	70	18	12	17.9	69.8
16-Jun	11	5	0	2	2	3	6	6	4	6	5	19	9	8	17	14	14	17	22	9	18	141	26	9	15.6	140.6
17-Jun	11	6	6	4	12	13	11	19	9	9	6	4	10	11	14	9	7	5	5	7	5	11	8	4	8.5	18.6
18-Jun	3	4	4	4	4	4	4	11	12	5	10	14	5	13	30	15	12	16	64	29	27	50	67	59	19.4	66.6
19-Jun	51	7	6	8	13	9	21	9	9	8	11	7	P	30	14	20	14	13	7	14	41	20	16	9	15.4	51.1
20-Jun	7	7	9	9	39	16	13	11	10	9	16	6	5	3	3	10	6	5	10	10	11	9	12	20	10.7	39.3
21-Jun	15	12	8	10	8	8	9	12	8	16	9	15	24	7	8	9	18	5	8	7	13	11	15	5	10.8	24.5
22-Jun	8	4	7	6	7	25	12	7	0	3	5	6	28	32	5	4	15	7	6	6	8	7	19	14	10.1	32.4
23-Jun	7	6	5	4	8	7	3	8	6	10	4	13	24	9	10	9	8	29	16	17	26	11	11	6	10.7	28.7
24-Jun	6	4	5	6	6	7	9	12	10	6	9	4	7	8	7	23	8	12	34	10	33	13	11	9	10.7	33.8
25-Jun	6	8	5	3	7	16	15	9	4	2	2	5	2	4	7	6	3	3	4	4	6	3	3	1	5.4	15.7
26-Jun	1	2	2	1	1	0	13	14	4	5	5	5	5	6	7	6	6	8	9	5	6	6	4	4	5.2	13.7
27-Jun	3	5	5	4	6	7	6	8	14	10	5	12	12	15	11	10	11	16	12	13	9	8	7	8	9.0	15.9
28-Jun	17	16	14	4	5	1	3	6	8	3	8	4	4	5	8	10	7	3	6	5	5	5	2	1	6.2	17.1
29-Jun	2	1	1	2	2	2	2	4	2	3	2	4	6	3	3	6	6	6	8	6	8	7	4	3	4.0	8.5
30-Jun	2	2	2	3	2	3	4	5	4	6	10	10	12	14	16	5	6	3	3	3	5	7	3	4	5.6	16.3
	9.2	7.5	6.3	5.8	9.2	12.9	10.6	10.7	9.4	8.6	9.0	10.0	12.6	11.7	10.9	10.9	12.4	15.1	18.4	11.7	24.4	31.1	17.9	12.8	Diurnal Average	
	51.1	17.9	16.2	13.5	43.6	56.7	29.6	28.0	22.9	25.0	21.8	28.2	51.5	32.4	30.4	28.0	55.7	139.4	138.0	29.3	183.1	181.1	67.0	62.5	Diurnal Maximum	

P - Power Failure

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



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



Peace Airshed Zone Association
Summary of Hourly Averages

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

Maximum Value: 27.4 ^{o}C on Jun 14 15:00

Maximum Daily Average: 19.6 ^{o}C on Jun 15

Minimum Value: 0 ^{o}C on Jun 8 05:00

Minimum Daily Average: 8.0 ^{o}C on Jun 6

Maximum Diurnal Average: 19.9 ^{o}C at hour 17

Minimum Diurnal Average: 6.6 ^{o}C at hour 5

Monthly Average: 14.16 ^{o}C

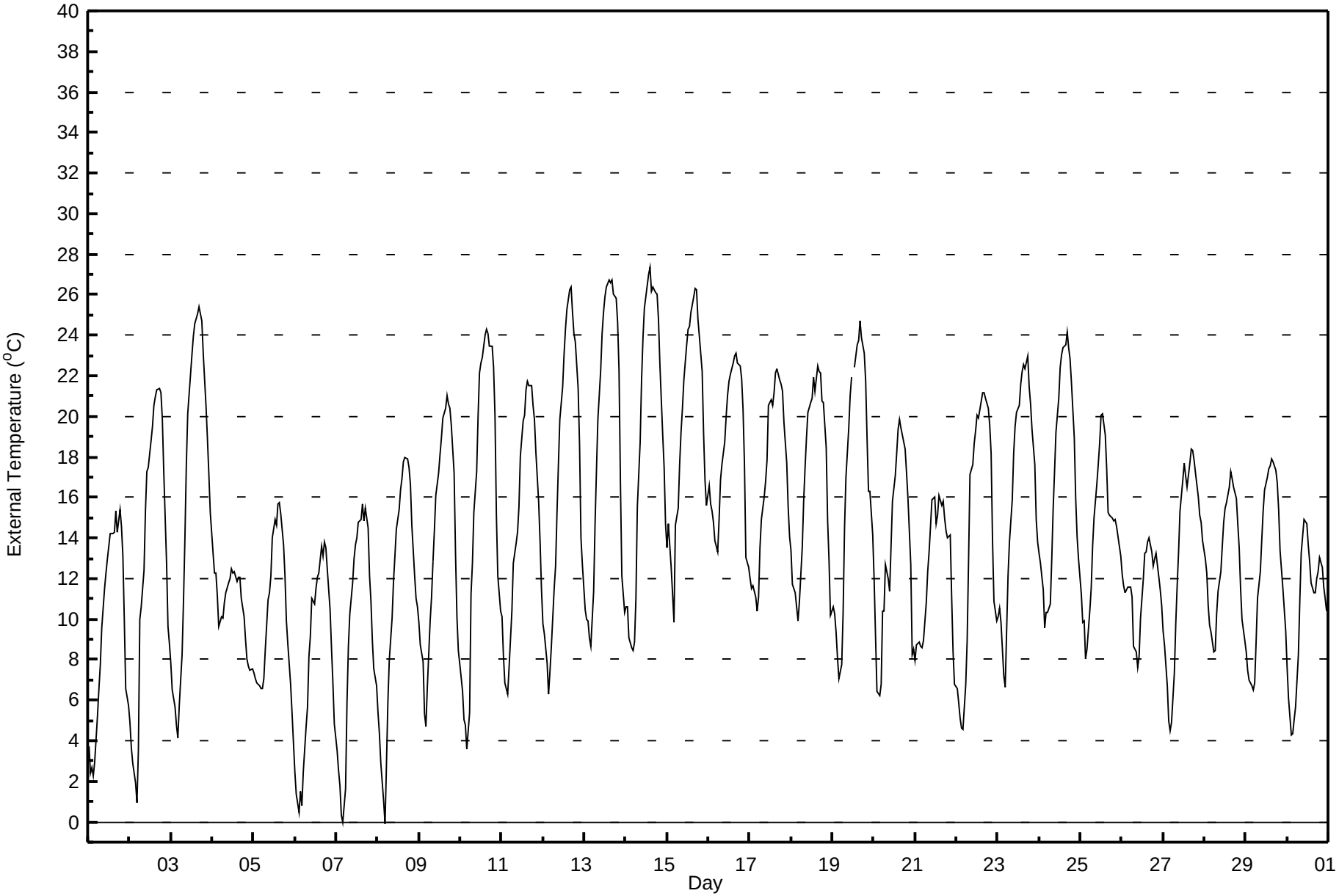
Percentiles: P_1 = 1.4 P_{10} = 6.6 Q_1 = 10.0 Median = 13.7 Q_3 = 18.7 P_{90} = 22.4 P_{99} = 26.3

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

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jun	4	2	3	2	3	5	7	8	10	12	12	13	14	14	14	14	15	14	15	15	13	10	7	6	9.6	15.4
2-Jun	5	4	3	2	1	3	10	11	12	15	17	18	19	19	21	21	21	21	21	20	17	13	10	9	13.0	21.4
3-Jun	8	6	6	5	4	6	8	11	14	18	20	22	23	24	25	25	25	25	25	23	20	19	17	15	16.4	25.4
4-Jun	13	12	12	11	10	10	10	11	11	12	12	12	12	12	12	12	12	11	10	9	8	8	7	8	10.8	13.3
5-Jun	7	7	7	7	7	7	7	8	11	11	12	14	15	15	16	16	15	14	12	10	9	7	5	4	10.1	15.8
6-Jun	2	1	0	1	1	2	5	6	8	9	11	11	12	12	12	14	13	14	14	12	10	9	7	5	8.0	13.8
7-Jun	4	3	2	0	0	2	6	9	10	12	13	14	14	15	15	16	15	15	14	12	11	9	8	7	9.3	15.7
8-Jun	5	4	3	1	0	3	6	8	10	12	13	14	15	16	17	18	18	18	17	17	15	12	11	11	11.0	18.0
9-Jun	10	9	8	5	5	7	10	11	13	14	16	17	18	19	20	20	21	21	20	20	17	13	10	8	13.9	21.0
10-Jun	7	6	5	5	4	5	11	13	15	17	20	22	23	23	24	24	24	23	23	22	20	15	12	10	15.7	24.3
11-Jun	10	8	7	6	8	9	10	13	14	14	16	18	20	20	21	22	22	22	21	20	18	16	14	11	14.9	21.7
12-Jun	10	9	8	6	7	9	12	13	15	18	20	21	23	24	25	26	26	25	24	24	21	19	14	13	17.2	26.4
13-Jun	10	10	10	9	9	11	15	17	20	22	24	25	26	26	27	27	27	26	26	25	22	17	12	10	18.9	26.7
14-Jun	11	11	9	9	8	9	11	16	19	22	24	25	26	27	27	26	26	26	26	25	23	19	17	15	19.0	27.4
15-Jun	14	15	13	11	10	15	15	18	19	20	22	24	24	24	25	26	26	26	25	24	22	19	17	16	19.6	26.3
16-Jun	17	16	15	15	14	13	15	17	18	19	20	21	22	22	23	23	23	23	23	22	20	18	13	13	18.4	23.1
17-Jun	12	12	12	11	10	11	14	15	16	17	18	21	21	21	21	22	22	22	22	21	20	18	16	14	16.9	22.4
18-Jun	13	12	11	11	10	11	14	16	18	19	20	21	21	22	21	22	22	22	21	21	18	15	13	10	16.8	22.5
19-Jun	11	10	9	8	7	8	10	15	17	19	21	22	P	22	24	24	25	24	23	22	19	16	16	14	16.8	24.7
20-Jun	12	9	6	6	7	10	10	13	12	11	14	16	17	18	19	20	19	19	18	17	16	13	8	9	13.4	19.8
21-Jun	8	9	9	9	9	9	11	12	13	15	16	16	15	15	16	16	16	15	14	14	14	11	8	7	12.3	16.1
22-Jun	7	6	5	5	5	7	9	13	17	18	19	19	20	20	21	21	21	21	20	20	18	14	11	10	14.4	21.2
23-Jun	10	11	10	7	7	9	12	14	16	18	19	20	21	22	22	23	22	23	21	21	19	18	15	14	16.4	23.0
24-Jun	13	13	11	10	10	10	11	13	15	17	19	21	22	23	23	24	24	23	23	22	19	16	14	13	17.1	24.2
25-Jun	11	10	10	8	9	10	12	14	15	17	18	19	20	20	19	17	15	15	15	15	15	15	14	13	14.4	20.1
26-Jun	12	12	11	12	12	12	11	9	8	8	8	10	12	13	13	14	14	13	13	13	13	12	11	11	11.5	14.0
27-Jun	9	9	7	5	4	5	7	10	12	13	15	17	18	17	17	18	18	18	18	17	16	15	15	14	13.1	18.4
28-Jun	13	12	11	10	9	8	8	10	11	12	14	15	15	16	16	17	17	17	16	15	14	12	10	9	12.8	17.3
29-Jun	8	8	7	7	6	7	9	11	12	14	15	16	17	17	18	18	18	17	17	15	13	12	10	9	12.6	17.9
30-Jun	8	6	4	4	5	6	8	11	13	14	15	15	14	13	12	11	11	12	12	13	13	12	11	10	10.5	14.9
	9.5	8.7	7.8	6.9	6.6	8.0	10.1	12.0	13.9	15.3	16.8	18.0	18.6	19.1	19.5	19.9	19.9	19.5	19.0	18.1	16.5	13.9	11.8	10.6	Diurnal Average	
	16.6	15.7	15.3	14.8	13.9	14.7	15.5	17.6	19.9	22.3	24.1	25.4	26.5	27.0	27.4	26.6	26.7	26.2	26.0	24.8	22.5	19.1	17.5	15.6	Diurnal Maximum	

P - Power Failure

Hourly Averages for External Temperature at Smoky Heights
June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Smoky Heights
June 1, 2009 to July 1, 2009
WS (km/h), WD (deg)

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1 Spd	6	1	3	4	5	6	8	9	8	7	6	6	8	9	5	5	5	7	3	7	5	5	5	5	4.1	8.7
Dir	258	269	7	31	29	13	34	36	90	64	43	71	64	115	118	53	22	82	29	123	101	48	18	10	56.6	115.2
2 Spd	5	5	4	3	2	2	1	6	6	3	3	5	5	4	3	4	3	10	10	8	4	4	4	5	1.7	9.8
Dir	2	14	3	9	277	18	214	172	173	103	168	193	262	96	34	39	29	10	12	25	13	340	295	297	7.8	9.7
3 Spd	6	6	6	7	6	7	9	8	8	7	9	5	4	3	3	6	5	8	8	0	16	15	13	11	2.0	16.2
Dir	290	267	262	275	185	179	183	176	173	169	165	194	151	185	189	204	164	205	226	133	38	42	38	48	172.2	38.3
4 Spd	8	8	8	10	8	9	10	13	14	16	18	18	15	17	14	14	16	15	11	11	10	8	4	2	11.3	18.1
Dir	25	20	19	16	27	22	29	36	47	45	56	55	56	54	49	54	61	54	45	42	40	51	30	32	44.0	56.0
5 Spd	6	8	6	9	10	7	7	6	8	7	11	11	12	13	16	17	22	21	20	19	14	9	9	7	10.8	21.8
Dir	20	22	32	32	48	34	24	23	23	10	13	29	28	12	31	30	37	48	63	74	67	72	64	71	40.6	37.2
6 Spd	5	6	6	6	5	7	8	7	6	6	5	6	5	7	6	7	10	12	10	13	9	5	5	2	4.9	13.2
Dir	49	30	18	8	31	30	33	50	27	112	73	112	158	182	137	147	91	96	89	84	86	105	116	234	81.2	84.2
7 Spd	3	1	3	4	5	6	5	7	9	8	11	9	9	4	7	8	11	12	14	24	16	12	12	11	6.1	24.1
Dir	182	4	313	301	285	25	24	41	40	53	64	82	111	80	88	109	87	81	88	138	142	123	129	138	97.3	138.3
8 Spd	7	7	3	3	3	2	8	12	13	15	18	18	15	17	15	12	13	14	15	14	14	9	11	14	10.6	17.8
Dir	151	146	148	336	56	116	140	147	156	141	138	132	138	122	115	128	125	108	99	110	113	113	117	127	126.5	131.7
9 Spd	16	15	12	1	5	4	5	7	11	12	10	10	8	7	4	3	4	6	4	7	7	5	5	3	4.8	16.0
Dir	130	139	138	139	112	67	96	104	126	132	123	124	141	115	135	97	332	350	22	34	29	18	348	355	107.2	129.7
10 Spd	5	5	4	5	2	3	2	8	8	8	8	4	6	6	7	3	5	1	3	5	3	2	2	4	1.0	8.3
Dir	339	343	324	310	87	221	193	195	190	171	168	342	315	354	324	352	333	257	51	89	159	237	275	242	276.7	170.9
11 Spd	6	5	6	7	7	9	9	7	6	3	6	8	9	9	10	13	11	10	8	10	6	7	5	1	2.2	12.9
Dir	251	236	221	216	222	202	220	171	173	174	131	68	44	37	45	43	48	43	37	32	59	82	44	30	71.1	42.9
12 Spd	1	3	2	3	4	5	6	7	9	9	9	12	10	9	10	7	13	11	12	11	9	6	6	7	6.6	12.7
Dir	235	291	358	228	251	232	188	145	173	166	162	168	174	168	165	158	170	172	190	182	188	201	208	243	181.5	169.6
13 Spd	5	9	9	8	12	11	12	15	19	21	26	30	30	26	29	29	32	24	23	16	6	6	3	8	16.0	31.7
Dir	219	230	249	210	208	219	225	224	235	244	239	238	251	254	243	254	266	268	257	277	332	292	248	241	247.2	266.1
14 Spd	9	12	7	12	10	10	10	12	15	17	19	18	18	22	14	11	10	14	6	7	9	6	6	2	8.7	21.8
Dir	252	270	215	251	248	235	212	225	222	238	251	265	272	268	282	270	225	198	343	28	3	16	355	298	255.5	267.9
15 Spd	6	8	4	5	5	6	3	6	6	8	8	12	17	12	7	10	6	7	11	12	8	5	2	11	3.8	17.1
Dir	347	356	357	25	10	353	76	61	59	62	105	137	153	160	117	134	105	111	133	143	150	200	173	250	117.1	153.4
16 Spd	20	21	25	24	15	12	12	29	40	41	37	37	37	37	36	36	30	26	25	17	13	10	7	8	24.7	40.6
Dir	250	250	247	250	239	241	226	244	242	239	248	245	248	250	246	247	248	247	255	260	252	260	237	253	246.8	239.5
17 Spd	10	11	13	13	8	8	10	17	19	20	13	13	17	17	18	24	23	24	20	20	19	23	23	21	16.3	23.7
Dir	262	271	277	264	213	200	233	262	262	262	246	236	245	268	229	255	251	248	240	247	237	244	247	252	249.3	254.9
18 Spd	22	23	24	21	20	20	24	28	32	30	25	22	24	25	21	22	20	20	17	14	8	7	8	7	20.0	31.9
Dir	255	257	254	255	256	258	256	255	254	253	259	261	256	249	261	246	254	254	274	280	301	253	282	269	257.7	253.9
19 Spd	12	14	11	2	6	7	10	13	12	11	9	7	P	5	6	5	4	7	9	6	2	4	15	13	4.8	14.7
Dir	266	261	263	168	202	188	190	222	223	230	211	203	P	200	137	225	45	94	83	81	49	83	258	254	222.0	257.8
20 Spd	7	5	6	6	4	10	9	18	29	15	12	22	24	22	25	31	32	29	23	21	6	7	3	6	15.1	31.8
Dir	247	247	215	258	218	249	256	246	255	263	257	264	251	254	246	249	249	248	256	276	300	310	278	257	254.7	249.3
21 Spd	7	5	3	4	3	8	5	8	7	6	4	5	11	9	11	14	14	13	8	6	5	6	8	8	2.7	14.4
Dir	265	291	250	170	202	265	230	244	223	182	254	103	107	126	120	101	100	98	79	87	149	216	256	273	153.3	100.4
22 Spd	9	2	1	5	7	2	7	6	11	17	19	18	17	15	19	19	21	17	20	17	10	8	10	13	10.5	20.8
Dir	268	223	338	294	267	157	143	167	317	312	302	303	293	284	289	293	290	302	312	313	318	301	260	259	293.2	290.2

Peace Airshed Zone Association
Summary of Hourly Averages

Smoky Heights
June 1, 2009 to July 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
23 Spd	14	19	19	17	15	19	23	22	25	24	22	21	22	23	19	18	17	16	19	23	16	15	17	18	19.0	24.9
Dir	248	247	259	264	259	254	252	248	251	254	246	255	256	264	269	285	278	280	263	245	250	249	255	256	257.2	250.9
24 Spd	18	16	14	9	7	6	7	7	9	11	11	10	11	10	9	6	8	8	9	6	14	18	3	2	5.6	18.3
Dir	262	259	257	213	173	177	193	178	185	203	183	179	173	161	172	172	80	67	91	68	237	258	295	251	204.4	257.5
25 Spd	1	10	7	1	4	15	25	23	27	24	24	27	29	33	40	43	42	35	30	30	28	28	28	27	23.7	43.0
Dir	350	283	302	283	273	238	257	258	242	245	237	240	237	241	245	238	233	232	235	244	240	240	240	241	242.4	237.5
26 Spd	25	25	25	28	29	35	35	27	26	30	26	24	33	35	35	38	40	37	35	30	26	16	15	15	28.0	40.0
Dir	243	239	234	244	249	249	249	247	247	245	230	239	249	256	258	258	266	272	271	269	274	274	265	255	253.8	265.9
27 Spd	20	20	14	13	13	6	9	9	9	9	10	10	9	21	10	7	8	11	11	11	9	9	11	7	8.5	21.0
Dir	254	255	244	253	243	208	190	192	162	156	170	170	222	246	214	164	187	166	168	163	156	142	148	165	201.8	245.6
28 Spd	3	12	29	23	14	19	22	23	24	27	31	31	35	34	33	33	33	35	33	35	34	30	22	21	26.2	35.0
Dir	223	260	256	265	251	243	249	262	260	250	248	262	254	261	254	252	247	242	240	240	242	244	234	233	249.7	253.7
29 Spd	19	18	20	20	20	20	22	27	34	31	32	31	32	35	33	32	30	31	30	34	30	26	25	21	27.1	35.0
Dir	233	241	240	243	241	241	234	238	244	251	251	253	243	242	240	240	247	240	242	244	245	239	238	237	242.5	241.7
30 Spd	15	14	12	14	15	13	16	19	29	30	31	33	36	32	33	36	34	29	24	22	17	12	11	8	21.3	36.1
Dir	236	228	220	223	226	215	217	226	251	256	255	261	264	255	264	265	269	263	262	272	276	264	261	247	253.6	265.0
Spd	6.8	7.1	7.3	6.8	5.8	6.2	7.1	8.3	10.2	9.6	9.0	8.7	10.4	10.4	9.5	9.7	8.3	6.8	6.1	4.9	4.1	4.5	5.0	6.2	Diurnal Average	
Dir	252.2	256.8	254.1	257.7	242.3	240.7	232.8	233.7	237.5	239.2	234.8	239.1	242.2	245.9	245.3	247.7	252.8	246.4	253.2	246.6	248.0	248.1	247.7	244.8		
Spd	24.8	25.0	29.1	27.6	28.8	34.7	35.2	29.0	39.7	40.6	37.1	37.3	37.0	36.7	40.1	43.0	41.7	36.5	34.7	34.5	34.0	29.6	27.8	26.6	Diurnal Maximum	
Dir	242.9	238.8	255.9	243.6	249.4	249.4	249.5	243.6	242.1	239.5	247.6	244.7	247.8	250.3	245.0	237.5	233.0	272.0	270.9	240.4	241.9	244.2	239.9	241.3		

Maximum Speed Value: 43 km/h on Jun 25 16:00
Minimum Speed Value: 0 km/h on Jun 3 20:00
Maximum Daily Speed Average: 28.0 km/h on Jun 26
Minimum Daily Speed Average: 1.0 km/h on Jun 2
Maximum Diurnal Speed Average: 10.4 km/h at hour 14
Minimum Diurnal Speed Average: 4.1 km/h at hour 21

Monthly Average Velocity: 7.39 km/h 244.83 deg
Speed Percentiles: P_1 = 1.2 P_{10} = 4.1 Q_1 = 6.3 Median = 10.5 Q_3 = 19.1 P_{90} = 29.0 P_{99} = 36.6
All monthly, daily, and diurnal averages have been calculated using vector methods

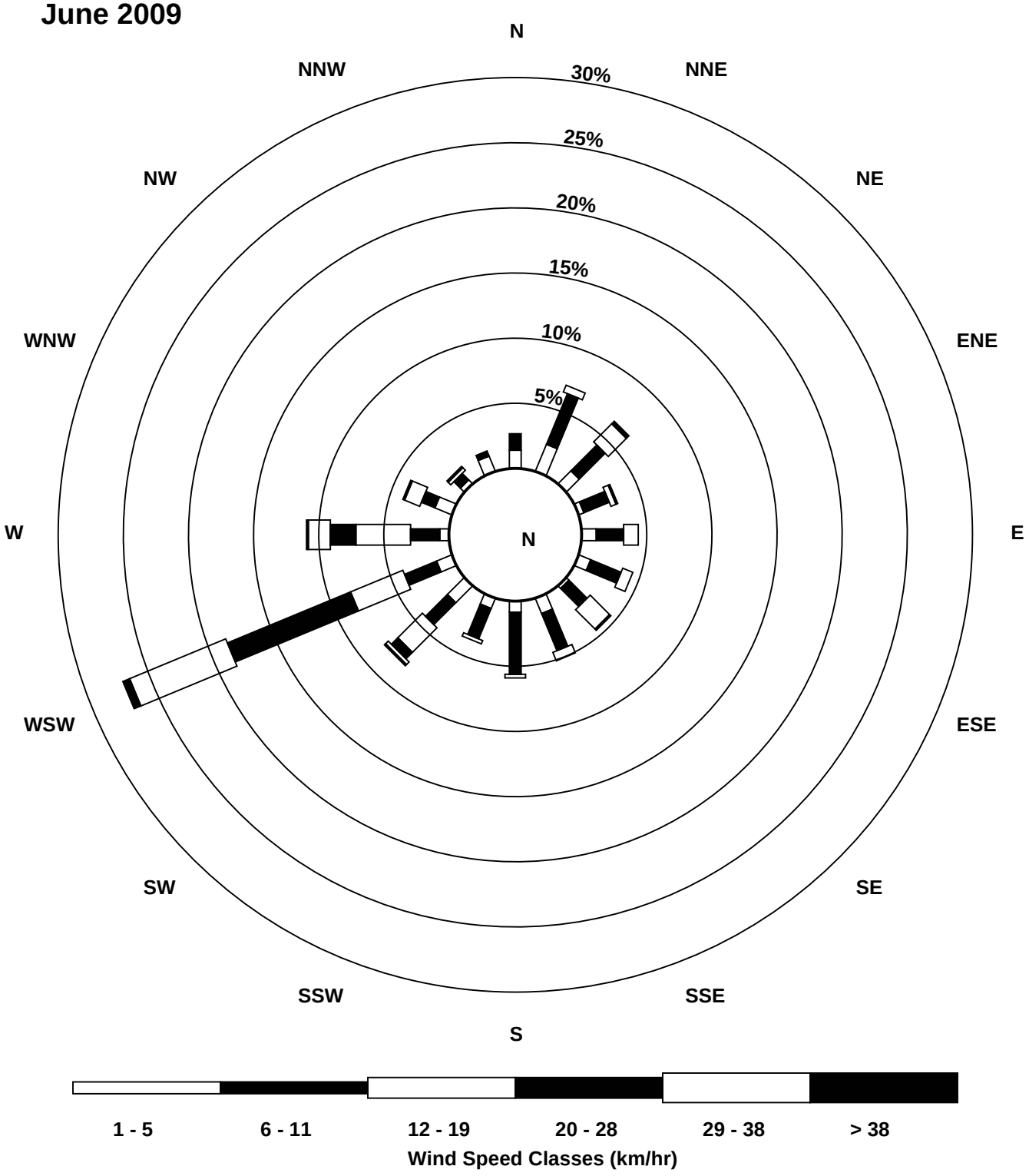
Hours in Service:	720
Hours of Data:	719
Hours of Missing Data:	1
Percent Operational Time:	99.9

P - Power Failure

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	24	23	1	0	0	0	48
NorthEast	20	44	24	3	0	0	91
East	9	35	11	0	0	0	55
SouthEast	10	27	24	1	0	0	62
South	14	53	12	0	0	0	79
SouthWest	14	34	34	42	28	5	157
West	15	32	48	57	44	1	197
NorthWest	12	9	8	1	0	0	30
Total	118	257	162	104	72	6	719

Wind Rose for WS at Smoky Heights
June 2009



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

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

Maximum Speed: 43 km/h on Jun 25 16:00

Maximum Daily Speed Average: 28.7 km/h on Jun 26

Minimum Speed: 2 km/h on Jun 2 06:00

Minimum Daily Speed Average: 5.7 km/h on Jun 2

Maximum Diurnal Speed Average: 18.6 km/h at hour 14

Minimum Diurnal Speed Average: 9.4 km/h at hour 5

Monthly Average Speed: 14.15 km/h

Percentiles: P_1 = 2.6 P_{10} = 5.0 Q_1 = 7.3 Median = 11.0 Q_3 = 19.8 P_{90} = 29.0 P_{99} = 36.6

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

Percent Operational Time: 99.9

Day	Hourly Period Ending At (MST)																								Daily 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-Jun	6	4	4	4	5	6	8	9	9	8	8	7	9	10	7	6	7	8	4	8	6	5	5	5	6.5	9.6
2-Jun	5	5	4	3	3	2	2	6	6	4	6	8	7	9	7	7	8	11	10	8	4	4	5	5	5.7	10.8
3-Jun	6	6	6	7	6	7	9	8	8	7	9	7	8	8	7	8	7	9	8	9	16	15	13	11	8.6	16.3
4-Jun	8	8	8	10	8	9	11	14	14	16	18	18	16	17	14	14	17	15	12	11	10	8	4	3	11.9	18.4
5-Jun	6	8	6	9	10	7	7	6	8	8	11	12	13	15	17	18	22	22	21	19	14	9	9	7	11.9	22.2
6-Jun	5	6	6	7	5	7	8	7	6	8	7	7	6	8	8	9	12	13	11	13	9	6	5	3	7.6	13.4
7-Jun	4	2	4	4	5	7	5	7	9	9	12	11	10	7	8	10	12	13	14	24	17	12	12	11	9.5	24.4
8-Jun	8	7	4	4	3	3	8	13	14	16	18	19	16	17	16	14	15	15	15	14	14	9	11	14	12.0	18.8
9-Jun	16	15	12	3	6	5	5	8	11	12	11	11	11	10	9	7	7	9	6	7	7	5	5	3	8.4	16.1
10-Jun	5	5	4	5	2	3	3	8	8	8	9	7	8	9	9	6	8	5	4	5	4	3	3	5	5.8	9.4
11-Jun	6	5	6	7	7	9	9	7	6	6	7	8	10	10	10	14	11	10	9	10	7	7	6	3	7.9	13.6
12-Jun	2	4	3	3	4	5	6	7	9	10	9	12	11	11	11	9	13	12	13	11	9	7	6	7	8.2	13.4
13-Jun	6	9	9	8	12	11	12	15	19	21	26	31	30	27	30	29	32	26	24	17	7	6	5	8	17.5	32.1
14-Jun	9	12	8	13	11	11	10	12	15	18	20	18	19	23	16	11	11	15	10	8	9	6	6	6	12.4	22.8
15-Jun	6	8	4	5	5	6	4	6	6	9	9	13	18	13	8	11	9	9	12	12	8	5	4	11	8.4	18.2
16-Jun	20	21	25	24	15	12	12	29	40	41	38	38	37	37	36	37	31	26	26	18	13	10	8	8	25.1	40.8
17-Jun	10	11	14	14	9	9	11	18	19	20	13	14	17	17	19	25	24	24	21	20	19	23	23	21	17.2	24.5
18-Jun	22	23	24	21	20	20	24	28	32	30	26	23	24	26	22	23	21	21	18	15	8	9	8	7	20.7	32.1
19-Jun	12	14	13	4	7	7	10	13	12	12	10	10	P	9	8	11	6	9	9	6	2	6	15	13	9.4	15.0
20-Jun	10	6	6	7	5	10	9	18	29	15	12	22	24	22	26	32	32	30	24	22	6	7	4	6	16.0	32.2
21-Jun	7	5	3	5	5	8	6	8	9	7	5	8	11	9	12	14	15	13	8	6	6	6	8	8	8.1	14.8
22-Jun	9	5	4	5	8	6	8	8	12	18	19	18	18	16	20	20	22	18	20	17	10	8	11	13	13.0	21.6
23-Jun	14	19	19	17	16	19	23	22	25	25	23	22	23	23	20	19	17	17	20	23	17	15	17	18	19.7	25.1
24-Jun	18	16	14	10	7	6	7	8	10	12	12	12	13	12	11	9	9	8	9	7	22	18	9	4	10.8	21.6
25-Jun	4	10	7	4	5	16	25	24	27	24	25	28	30	34	41	43	42	35	31	30	28	28	28	27	24.7	43.5
26-Jun	25	25	25	28	29	35	35	27	26	30	26	24	33	35	35	38	40	37	35	30	27	16	15	15	28.7	40.2
27-Jun	20	20	15	13	13	7	9	9	10	10	11	10	11	21	11	9	10	12	11	11	9	10	11	7	11.6	21.5
28-Jun	5	12	29	24	15	19	22	23	25	28	32	31	35	35	34	34	34	35	34	35	34	30	22	21	26.9	35.3
29-Jun	19	18	20	20	20	20	22	27	34	32	32	32	33	35	33	33	31	31	31	34	30	26	25	21	27.5	35.4
30-Jun	16	14	12	14	16	13	16	20	30	31	31	33	36	32	33	36	34	29	24	22	17	12	11	8	22.5	36.3
	10.3	10.8	10.6	10.0	9.4	10.1	11.6	13.8	16.3	16.5	16.5	17.2	18.6	18.6	18.0	18.5	18.6	17.8	16.5	15.7	12.9	11.1	10.4	10.0	Diurnal Average	
	24.9	25.0	29.2	27.7	28.9	34.8	35.4	29.2	40.0	40.8	37.7	38.0	37.4	37.3	40.6	43.5	42.0	36.8	34.8	34.7	34.1	29.7	27.9	26.6	Diurnal Maximum	

P - Power Failure

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

Maximum Value: 87.4 deg on Jun 9 04:00

Minimum Value: 1.7 deg on Jun 18 02:00

Percentiles: P_1 = 2.9 P_{10} = 5.3 Q_1 = 8.2 Median = 13.7 Q_3 = 24.0 P_{90} = 50.0 P_{99} = 80.9

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

Day	Hourly Period Ending At (MST)																								Daily
	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-Jun	11	83	49	50	12	9	9	15	18	37	43	48	34	28	56	48	43	32	44	20	21	16	23	7	83.1
2-Jun	12	10	9	20	67	29	56	15	26	60	73	62	56	68	77	67	79	26	19	16	14	25	14	9	78.7
3-Jun	10	21	7	15	21	9	7	12	15	18	21	56	74	72	65	51	56	27	13	82	6	10	7	9	81.8
4-Jun	13	8	17	11	13	13	7	10	8	11	10	12	13	10	14	13	11	8	9	9	12	8	22	40	40.1
5-Jun	13	7	18	7	8	9	11	11	16	23	19	22	28	26	19	17	12	12	17	11	9	6	7	9	28.0
6-Jun	17	10	8	16	14	13	14	19	36	47	56	39	49	41	39	47	31	23	20	9	7	11	20	71	70.9
7-Jun	44	78	31	15	20	36	28	17	11	23	29	46	31	73	40	50	22	18	19	9	6	8	7	13	77.6
8-Jun	35	10	69	33	39	52	10	10	13	18	16	19	23	15	22	36	28	26	17	12	5	7	8	6	68.6
9-Jun	6	6	8	87	15	29	19	17	17	22	38	26	50	58	74	84	77	52	57	15	6	13	7	54	87.4
10-Jun	19	18	18	19	53	36	42	14	21	13	23	60	58	56	58	77	63	84	45	21	50	52	31	18	83.8
11-Jun	9	14	8	6	9	4	7	20	24	74	37	33	20	23	23	18	17	16	19	6	20	6	15	81	81.1
12-Jun	62	55	52	37	39	21	22	17	16	17	20	19	27	40	38	54	22	15	27	5	11	22	13	13	61.7
13-Jun	13	17	20	15	7	8	9	11	8	8	10	10	12	15	12	10	9	18	12	24	12	28	49	20	48.6
14-Jun	18	6	28	30	15	20	21	17	14	10	14	15	20	18	32	20	19	15	60	11	14	14	13	80	80.0
15-Jun	13	9	25	21	28	14	33	11	21	29	22	23	21	22	39	33	54	48	14	7	4	30	66	17	66.2
16-Jun	6	5	3	4	6	4	9	7	6	6	10	11	8	10	10	11	10	11	12	9	9	9	24	15	23.8
17-Jun	13	5	13	8	28	16	23	6	6	5	12	22	17	11	15	15	17	11	14	11	8	4	4	3	27.9
18-Jun	3	2	3	4	4	3	4	5	6	9	14	18	16	16	12	15	18	16	8	17	9	36	10	30	35.6
19-Jun	5	6	48	71	11	9	9	12	13	17	39	53	P	66	62	70	51	50	25	20	40	42	13	11	71.1
20-Jun	46	39	24	34	56	14	11	6	6	8	18	9	9	13	12	11	8	10	14	9	22	11	22	17	55.7
21-Jun	15	45	50	30	50	11	36	16	35	41	38	71	6	19	22	11	12	11	14	14	39	8	8	5	71.3
22-Jun	7	69	77	20	13	78	19	43	14	12	17	14	30	24	18	20	17	21	12	9	6	14	16	10	78.2
23-Jun	6	4	4	2	4	3	3	4	7	11	14	16	20	15	16	20	16	17	13	6	15	6	3	4	20.1
24-Jun	4	3	4	28	7	10	7	10	17	16	22	35	38	43	38	47	28	18	15	12	85	7	69	72	84.6
25-Jun	75	11	21	85	38	20	6	8	6	12	13	12	13	11	9	8	7	7	8	5	6	4	4	4	84.8
26-Jun	4	4	4	5	5	4	5	6	6	5	5	6	5	7	5	5	6	7	5	4	5	3	4	5	7.1
27-Jun	3	4	11	9	6	27	13	16	26	20	26	19	31	12	28	35	48	15	7	7	6	10	10	18	47.5
28-Jun	53	20	5	8	21	6	5	9	10	8	11	10	7	8	11	10	7	8	7	6	5	5	4	6	52.6
29-Jun	5	5	3	3	3	3	7	7	8	10	9	13	12	8	9	10	9	10	7	5	5	4	3	3	13.3
30-Jun	4	5	5	10	10	12	5	13	10	12	12	9	8	8	9	6	5	5	6	7	7	6	5	10	13.5
	75.4	83.1	77.4	87.4	67.3	78.2	56.5	43.2	35.7	74.3	72.6	71.3	74.3	73.3	76.7	83.5	78.7	83.8	60.0	81.8	84.6	51.9	69.4	81.1	

P - Power Failure

PASZA
Beaverlodge Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association
Summary of Hourly Averages

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

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 16.8 ppb on Jun 27 12:00 Maximum Daily Average: 3.5 ppb on Jun 27

Minimum Value: 0 ppb on Jun 16 12:00
Maximum Diurnal Average: 0.8 ppb at hour 12
Monthly Average: 0.31 ppb

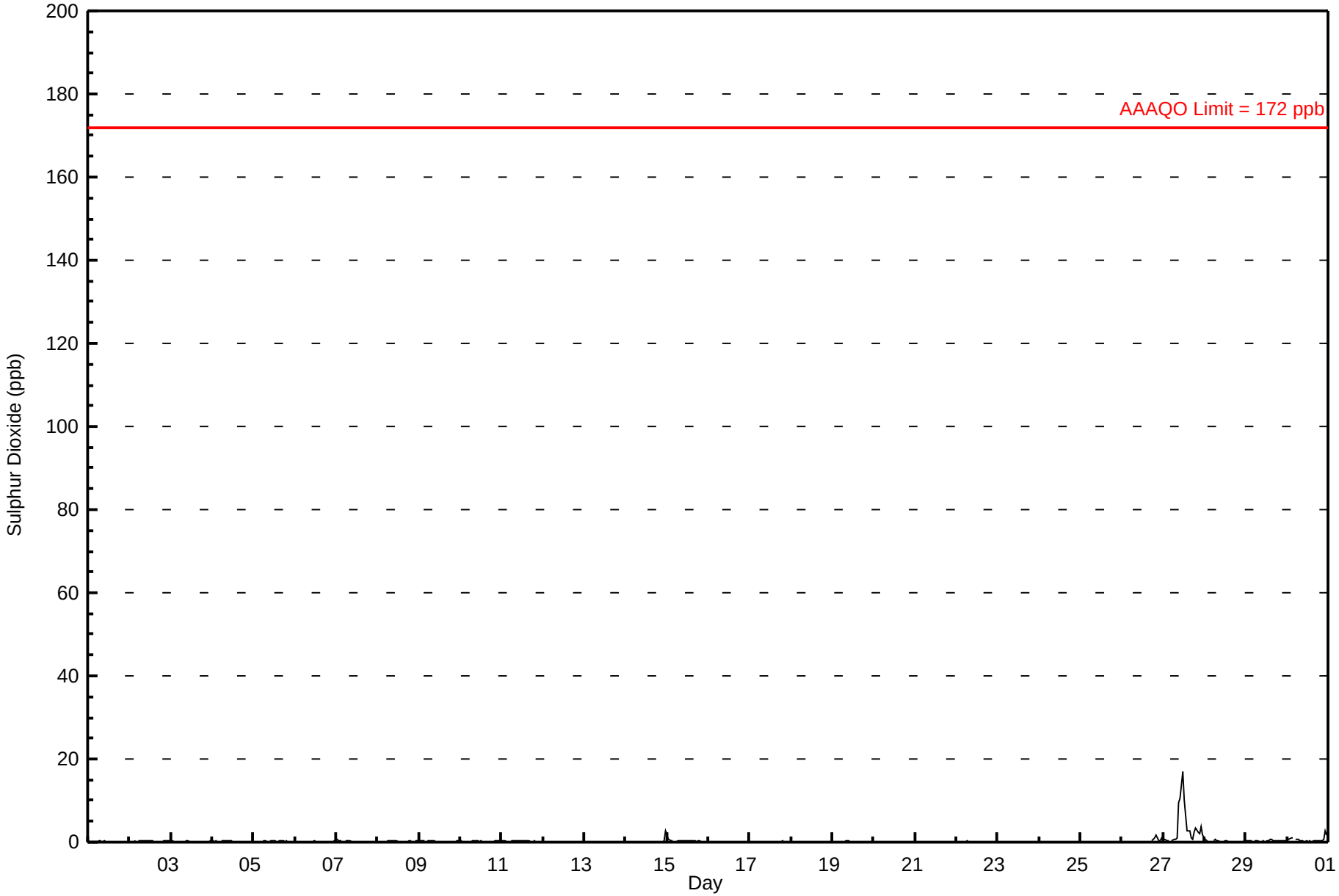
Minimum Daily Average: 0.1 ppb on Jun 16
Minimum Diurnal Average: 0.2 ppb at hour 18
Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 0.1 Median = 0.1 Q_3 = 0.2 P_{90} = 0.4 P_{99} = 2.6

Hours in Service:	622
Hours of Data:	591
Hours of Missing Data:	31
Hours of Calibration:	31
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-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
2-Jun	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
3-Jun	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
4-Jun	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
5-Jun	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
6-Jun	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
7-Jun	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
8-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
9-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
10-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
11-Jun	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
12-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
13-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
14-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.2	2.6
15-Jun	2	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.8
16-Jun	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-Jun	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
18-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
19-Jun	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-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
21-Jun	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-Jun	0	0	0	0	A	0	0	0	0	0	C	C	C	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	0.3
23-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
24-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
25-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
26-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	0	1	1	2	1	0	1	--	1.6
27-Jun	0	1	0	0	A	0	1	1	1	10	11	17	10	6	3	3	1	1	2	3	2	2	4	2	3.5	16.8
28-Jun	1	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
29-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0.3	0.8
30-Jun	0	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	2	0.6	2.7
	0.3	0.2	0.2	0.2	--	0.2	0.3	0.2	0.2	0.5	0.6	0.8	0.5	0.4	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.4	0.4	Diurnal Average	
	1.8	0.7	1.0	1.0	--	0.5	0.7	0.7	0.9	9.6	10.5	16.8	10.3	6.5	2.6	2.7	1.1	0.8	2.2	3.3	2.3	1.9	3.7	2.6	Diurnal Maximum	

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

Hourly Averages for SO_2 at Beaverlodge
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 23.7 ppb on Jun 27 12:00

Maximum Daily Average: 5.7 ppb on Jun 27

Minimum Value: 0 ppb on Jun 16 12:00

Minimum Daily Average: 0.2 ppb on Jun 20

Maximum Diurnal Average: 1.2 ppb at hour 12

Minimum Diurnal Average: 0.3 ppb at hour 18

Monthly Average: 0.57 ppb

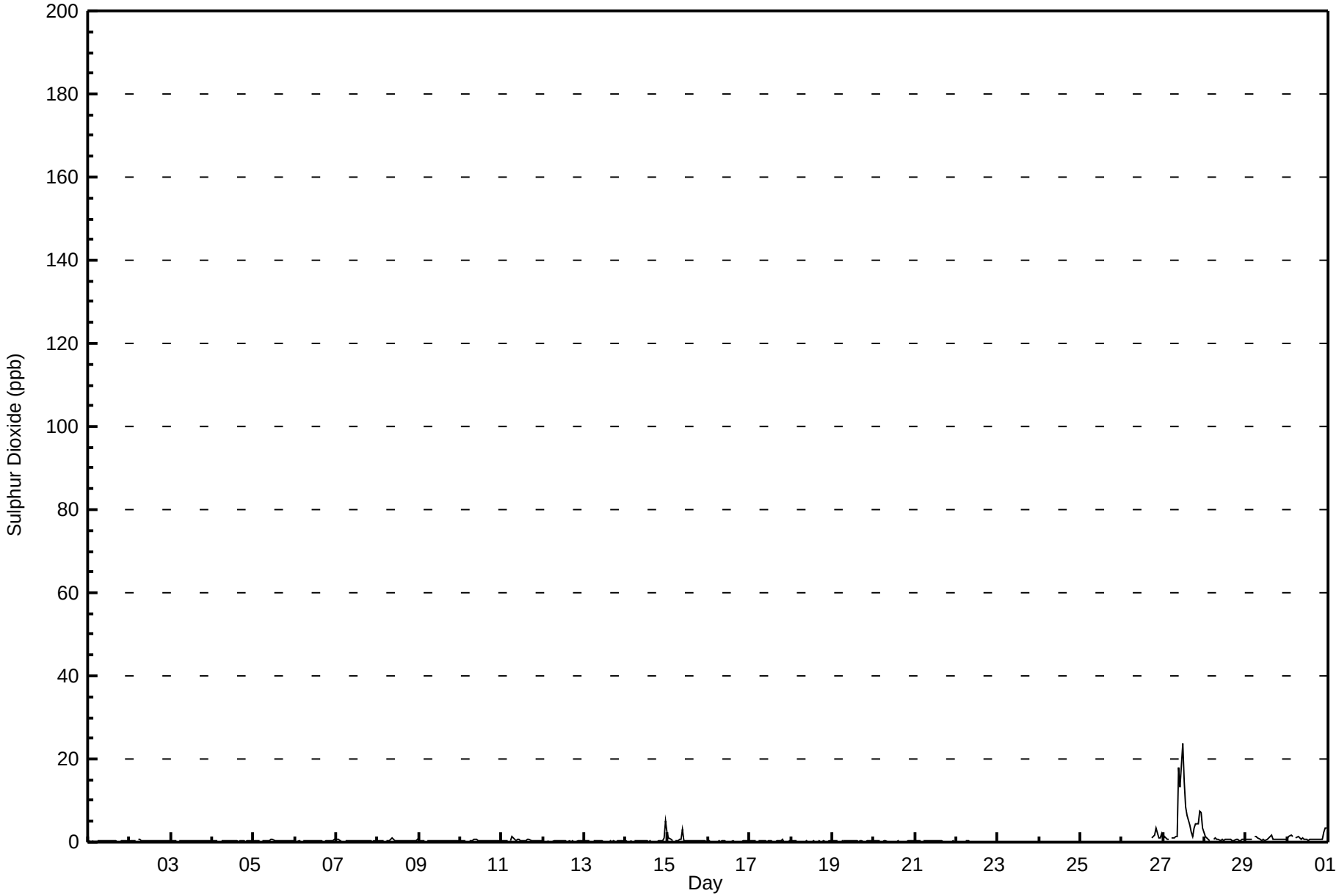
Percentiles: $P_1 = 0.1$ $P_{10} = 0.2$ $Q_1 = 0.2$ Median = 0.2 $Q_3 = 0.4$ $P_{90} = 0.8$ $P_{99} = 7.2$

Hours in Service:	622
Hours of Data:	591
Hours of Missing Data:	31
Hours of Calibration:	31
Percent Operational Time:	100.0

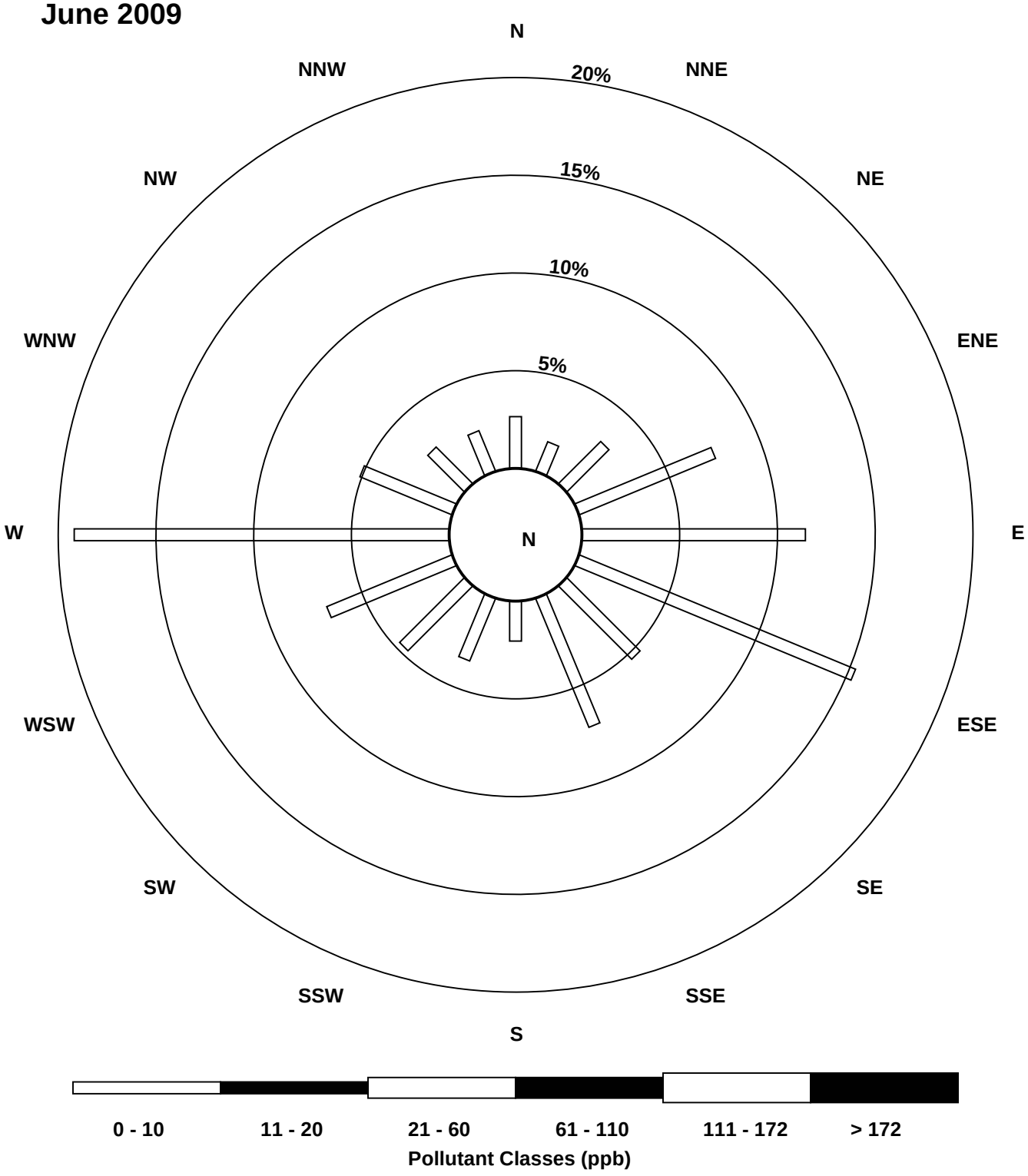
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
2-Jun	0	0	0	0	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
3-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.3
4-Jun	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
5-Jun	0	0	0	0	A	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
6-Jun	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	0.6
7-Jun	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
8-Jun	0	0	0	0	A	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	1.2
9-Jun	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
10-Jun	0	0	0	0	A	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
11-Jun	0	0	0	0	A	0	1	1	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0.4	1.3
12-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
13-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
14-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0.4	4.9
15-Jun	2	1	1	0	A	0	0	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	3.1
16-Jun	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
17-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.2	0.6
18-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.2
19-Jun	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
20-Jun	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
21-Jun	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-Jun	0	0	0	0	A	0	0	0	0	0	C	C	C	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	0.5
23-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
24-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
25-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
26-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	1	1	2	3	1	1	2	--	3.3
27-Jun	1	1	1	1	A	1	1	1	1	18	13	24	15	9	6	4	2	1	3	4	4	8	7	4	5.7	23.7
28-Jun	1	1	1	0	A	1	1	1	1	0	1	0	1	1	1	1	0	0	1	1	1	0	1	1	0.6	1.4
29-Jun	1	1	1	1	A	1	1	1	1	0	1	0	1	1	1	2	1	1	1	1	1	1	1	1	0.8	1.6
30-Jun	1	1	2	1	A	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	2	4	3	1.1	3.6
	0.4	0.4	0.3	0.3	--	0.4	0.5	0.4	0.4	1.1	0.8	1.2	0.9	0.6	0.5	0.5	0.4	0.3	0.4	0.5	0.6	0.6	0.7	0.8	Diurnal Average	
	2.3	1.4	1.5	1.4	--	1.3	1.3	1.3	1.4	17.9	13.3	23.7	14.7	8.6	6.3	4.0	2.5	1.3	3.3	4.4	4.2	7.6	7.2	4.9	Diurnal Maximum	

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

Hourly Maximums for SO_2 at Beaverlodge
June 2009



Pollutant Rose for SO_2 at Beaverlodge
June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 21.4 ppb on Jun 15 10:00 Maximum Daily Average: 7.1 ppb on Jun 2

Minimum Value: 0 ppb on Jun 28 19:00
Maximum Diurnal Average: 6.2 ppb at hour 7
Monthly Average: 3.65 ppb

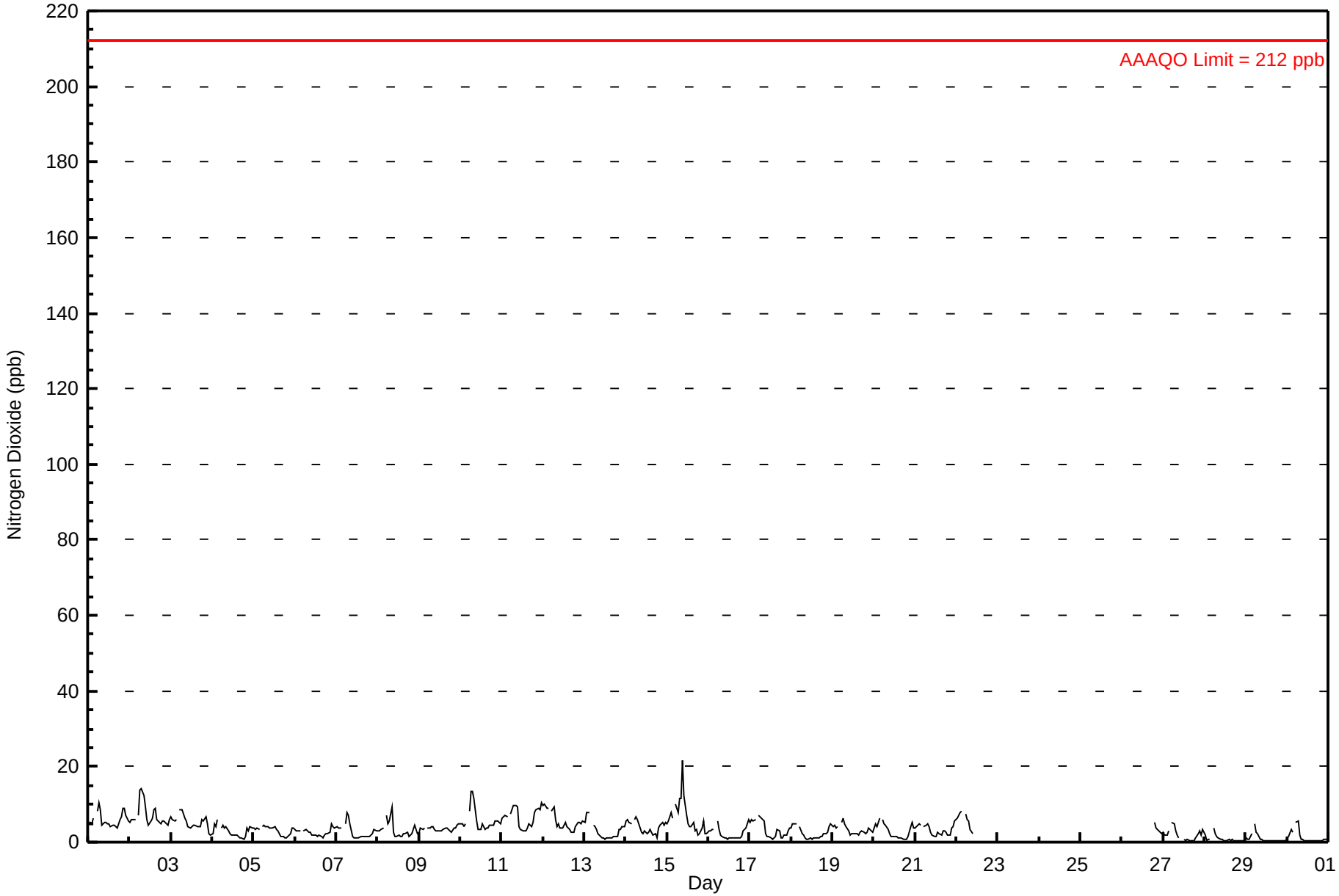
Minimum Daily Average: 0.8 ppb on Jun 28
Minimum Diurnal Average: 2.2 ppb at hour 19
Percentiles: P_1 = 0.3 P_{10} = 0.9 Q_1 = 1.7 Median = 3.4 Q_3 = 4.9 P_{90} = 6.9 P_{99} = 11.9

Hours in Service:	629
Hours of Data:	587
Hours of Missing Data:	42
Hours of Calibration:	42
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-Jun	5	5	5	6	A	8	10	9	5	5	5	5	5	4	4	4	4	4	6	7	9	9	7	6	5.9	10.3
2-Jun	5	6	6	6	A	7	14	14	12	9	6	5	5	6	8	9	6	5	5	6	5	5	5	6	7.1	14.1
3-Jun	7	6	5	6	A	9	9	7	6	6	4	4	4	4	4	4	4	4	6	6	7	5	2	2	5.3	8.7
4-Jun	2	5	4	6	A	4	4	4	4	3	2	2	2	2	2	2	1	1	1	2	4	3	4	4	2.9	6.1
5-Jun	4	3	4	4	A	4	4	4	4	4	4	4	4	3	3	2	1	1	1	1	2	2	4	4	3.1	4.3
6-Jun	4	3	3	3	A	3	4	3	3	2	2	2	2	1	2	1	1	2	2	2	3	5	4	4	2.6	4.9
7-Jun	4	4	4	4	A	5	8	7	5	1	1	1	1	1	2	1	1	1	2	1	2	2	3	3	2.9	7.9
8-Jun	3	3	3	4	A	7	5	6	9	3	2	1	2	2	2	2	2	3	2	2	2	4	3	2	3.2	9.3
9-Jun	2	4	3	4	A	4	4	4	4	3	3	3	3	3	3	4	4	3	3	2	4	4	4	5	3.5	4.9
10-Jun	5	5	4	5	A	8	14	13	11	6	3	3	3	5	3	4	4	4	4	5	6	5	6	5	5.7	13.6
11-Jun	6	7	7	7	A	7	8	10	10	9	4	3	3	3	3	4	5	4	5	8	8	9	9	11	6.5	10.5
12-Jun	10	10	9	9	A	8	9	6	4	5	4	4	4	5	4	3	3	3	3	4	5	5	5	6	5.6	10.1
13-Jun	5	8	8	8	A	5	4	3	2	1	1	1	1	1	1	1	1	1	1	2	3	3	4	4	3.1	8.0
14-Jun	6	6	5	5	A	6	7	6	4	3	2	3	2	3	3	3	2	2	1	4	4	5	4	5	4.0	6.6
15-Jun	5	6	8	6	A	10	8	12	12	21	12	7	5	4	4	5	3	3	2	2	4	5	2	2	6.5	21.4
16-Jun	3	3	3	3	A	6	3	2	2	1	1	1	1	1	1	1	1	1	1	1	3	4	4	6	2.3	6.0
17-Jun	5	6	6	6	A	7	7	6	6	2	1	1	1	1	1	2	3	3	1	1	2	2	3	4	3.4	7.1
18-Jun	4	5	5	5	A	4	2	2	1	1	1	1	1	1	1	1	1	1	2	2	2	3	4	5	2.4	4.9
19-Jun	4	4	4	4	A	5	6	5	4	3	2	2	2	2	2	2	2	3	2	2	3	4	3	3	3.3	6.2
20-Jun	4	5	4	6	A	6	5	5	3	2	1	2	2	1	1	1	1	1	1	1	1	4	5	4	2.9	6.4
21-Jun	4	4	5	4	A	4	5	5	4	3	2	1	2	3	2	2	3	3	3	2	2	4	4	6	3.2	5.6
22-Jun	6	7	8	8	A	7	6	6	4	2	C	C	C	C	C	C	C	NS	NS	NS	NS	NS	NS	NS	--	8.3
23-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
24-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
25-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
26-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	C	C	C	C	C	5	4	3	3	2	--	5.0
27-Jun	3	2	2	3	A	5	5	3	2	1	A	A	1	1	1	0	0	0	1	1	2	3	2	3	1.9	5.2
28-Jun	2	0	1	1	A	4	2	1	1	1	1	1	0	0	1	0	1	0	0	0	0	0	0	0	0.8	3.6
29-Jun	1	1	1	2	A	5	3	2	1	1	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0.9	4.9
30-Jun	1	2	3	2	A	5	5	2	1	1	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1.3	5.4
	4.2	4.6	4.6	4.9	--	5.9	6.2	5.6	4.7	3.9	2.8	2.4	2.3	2.4	2.4	2.4	2.3	2.2	2.2	2.7	3.4	3.8	3.7	3.9	Diurnal Average	
	9.6	10.1	9.0	9.0	--	10.0	13.7	14.1	12.2	21.4	12.3	7.1	5.4	6.4	8.4	9.1	6.1	5.3	6.0	7.7	8.8	8.9	8.5	10.5	Diurnal Maximum	

C - Calibration NS - Not in service 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
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 465.2 ppb on Jun 15 10:00

Maximum Daily Average: 28.5 ppb on Jun 15

Minimum Value: 0 ppb on Jun 28 21:00

Minimum Daily Average: 1.5 ppb on Jun 28

Maximum Diurnal Average: 22.2 ppb at hour 10

Minimum Diurnal Average: 3.5 ppb at hour 18

Monthly Average: 5.85 ppb

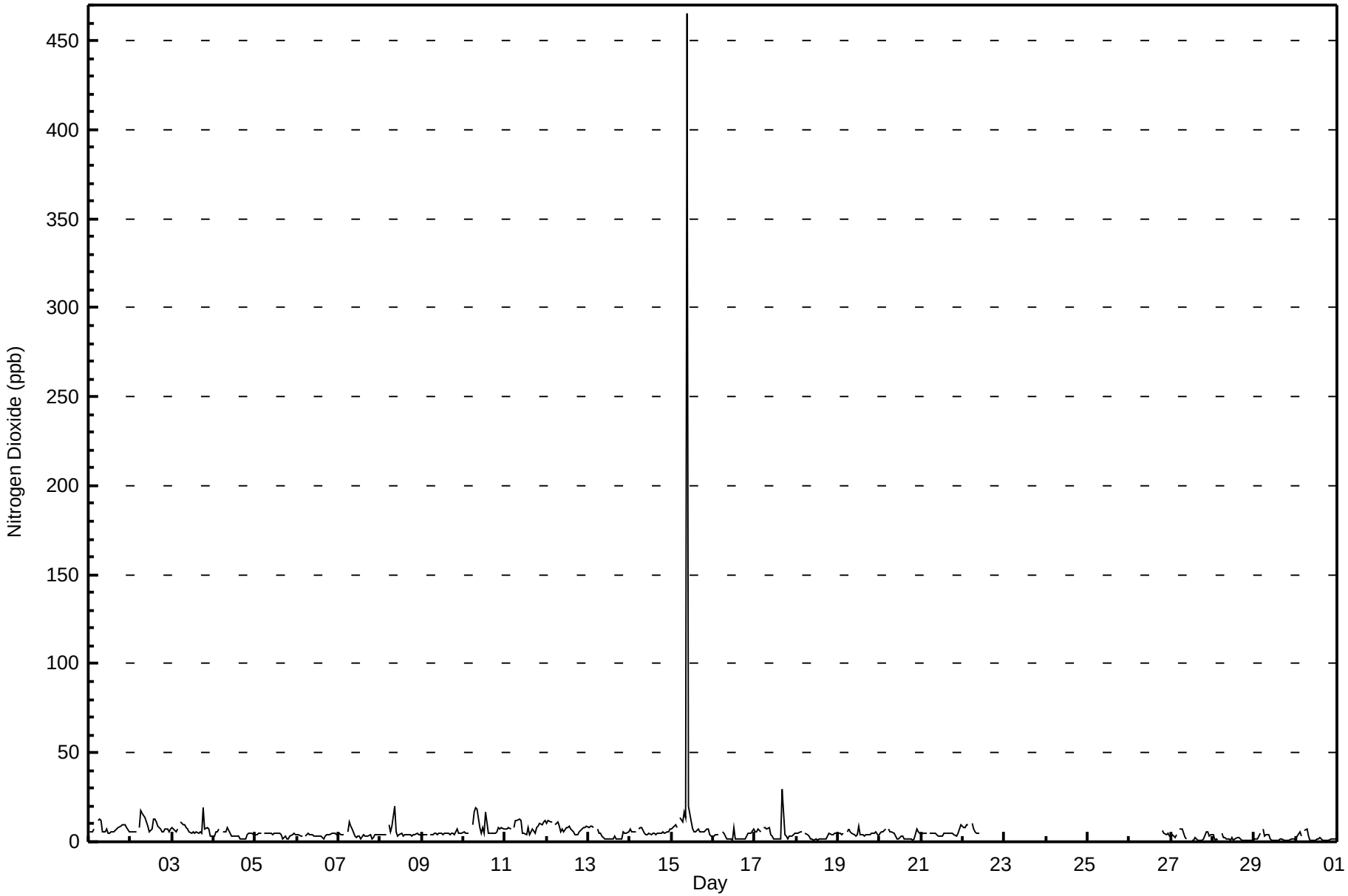
Percentiles: P_1 = 0.7 P_{10} = 1.7 Q_1 = 2.9 Median = 4.9 Q_3 = 6.0 P_{90} = 8.9 P_{99} = 18.9

Hours in Service:	629
Hours of Data:	587
Hours of Missing Data:	42
Hours of Calibration:	42
Percent Operational Time:	100.0

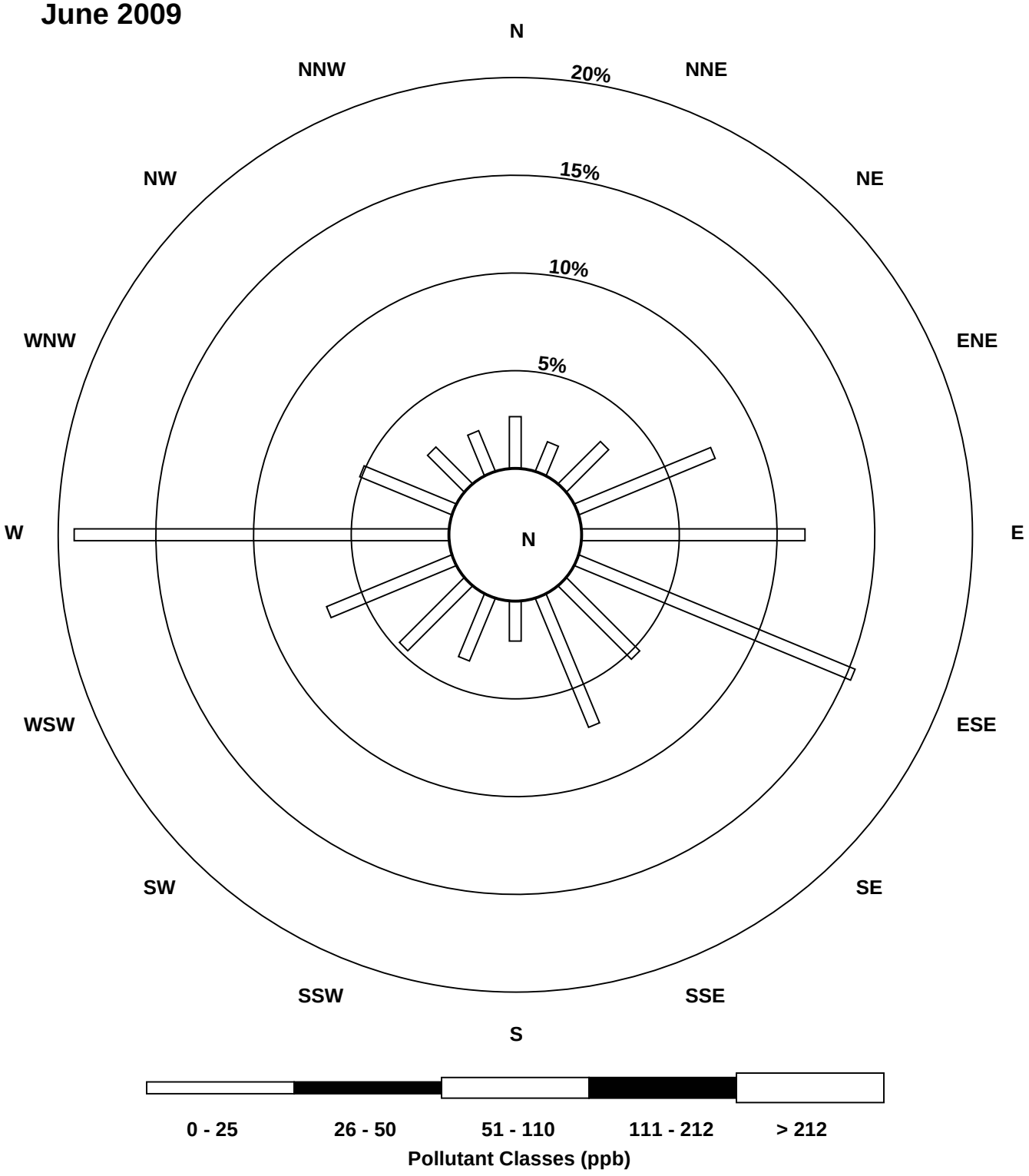
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jun	6	6	6	7	A	12	13	12	6	6	7	5	5	6	6	6	7	8	9	10	10	10	8	6	7.6	12.9
2-Jun	6	6	6	6	A	8	18	16	14	11	9	6	7	13	12	11	9	7	6	6	7	7	6	7	8.8	17.9
3-Jun	8	7	6	7	A	11	10	10	8	7	6	5	6	5	5	5	6	5	19	7	8	7	3	3	7.1	18.9
4-Jun	3	6	6	7	A	6	6	6	8	5	3	3	3	3	3	2	2	2	2	4	5	5	5	4	4.2	7.9
5-Jun	4	4	5	5	A	5	5	5	5	5	4	5	5	5	5	4	2	3	2	2	3	4	5	4	4.1	4.9
6-Jun	4	4	3	3	A	3	5	4	4	4	3	3	3	3	3	2	3	4	4	4	5	5	5	4	3.6	4.9
7-Jun	5	4	4	4	A	6	11	9	7	3	2	3	3	2	4	3	3	3	4	2	2	4	4	4	4.1	10.9
8-Jun	4	4	4	4	A	10	6	9	20	6	3	4	5	3	4	4	4	4	3	4	4	5	4	4	5.2	19.9
9-Jun	3	4	4	4	A	4	4	5	5	4	5	5	4	5	5	5	4	5	5	4	7	5	5	5	4.5	7.0
10-Jun	5	5	5	5	A	10	17	19	18	8	5	8	5	17	5	5	5	5	5	6	8	7	8	7	8.1	18.9
11-Jun	7	7	8	7	A	8	12	12	13	12	5	5	4	8	4	6	7	5	8	9	10	10	11	12	8.2	12.9
12-Jun	10	12	11	11	A	10	11	9	6	7	6	8	8	9	7	6	4	4	4	6	7	8	8	9	7.8	11.9
13-Jun	8	9	9	8	A	7	5	5	3	2	2	2	2	2	2	3	2	2	2	2	6	5	5	6	4.2	8.9
14-Jun	7	6	6	6	A	7	8	8	5	4	4	5	4	5	5	4	5	5	5	6	5	6	6	7	5.5	7.9
15-Jun	7	8	10	8	A	14	11	17	14	465	20	11	7	6	6	7	6	6	6	6	7	7	4	3	28.5	465.2
16-Jun	3	4	4	4	A	6	5	3	2	2	2	1	8	2	2	2	2	2	2	3	5	5	5	7	3.4	7.9
17-Jun	6	6	7	6	A	8	8	7	8	4	3	2	2	2	2	2	29	4	3	2	3	3	4	5	5.4	29.3
18-Jun	5	5	6	6	A	5	4	3	2	2	1	2	1	2	2	2	2	2	3	5	4	4	5	5	3.3	5.9
19-Jun	5	5	4	5	A	6	7	6	5	4	3	4	9	4	4	3	4	4	4	5	5	5	6	3	4.7	9.1
20-Jun	5	6	6	7	A	7	6	6	5	3	2	2	3	3	2	2	2	2	2	1	2	7	6	5	3.9	6.9
21-Jun	4	5	5	5	A	5	5	5	5	4	3	3	3	5	5	5	5	5	5	4	3	5	7	10	4.7	9.9
22-Jun	8	8	10	10	A	10	7	6	5	5	C	C	C	C	C	C	C	NS	NS	NS	NS	NS	NS	NS	--	10.4
23-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
24-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
25-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
26-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	C	C	C	C	C	6	5	4	5	3	--	6.2
27-Jun	3	4	2	4	A	7	7	5	3	2	A	A	1	1	2	1	1	1	1	2	5	6	3	4	3.1	7.1
28-Jun	4	1	1	1	A	5	3	2	2	1	1	2	1	1	2	2	1	1	0	1	0	1	1	1	1.5	4.6
29-Jun	2	1	2	5	A	7	4	4	4	1	1	1	0	1	1	2	2	1	1	1	1	1	1	2	1.9	6.8
30-Jun	2	3	5	3	A	6	7	3	1	1	1	1	1	1	2	1	1	1	1	1	1	2	1	2	2.1	7.5
	5.1	5.3	5.5	5.6	--	7.4	7.8	7.5	6.7	22.2	4.1	3.9	3.9	4.5	4.0	3.7	4.7	3.5	4.2	4.1	4.9	5.2	5.0	5.0	Diurnal Average	
	10.5	11.9	10.9	11.0	--	13.9	17.9	18.9	19.9	465.2	19.9	10.9	9.1	17.1	12.5	11.3	29.3	8.0	18.9	9.9	10.2	9.9	10.9	11.9	Diurnal Maximum	

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

Hourly Maximums for NO_2 at Beaverlodge
June 2009



Pollutant Rose for NO_2 at Beaverlodge
June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Maximum Value: 15.3 ppb on Jun 15 10:00

Maximum Daily Average: 0.8 ppb on Jun 15

Minimum Value: 0 ppb on Jun 1 01:00

Minimum Daily Average: 0.0 ppb on Jun 4

Maximum Diurnal Average: 0.6 ppb at hour 10

Minimum Diurnal Average: 0.0 ppb at hour 1

Monthly Average: 0.10 ppb

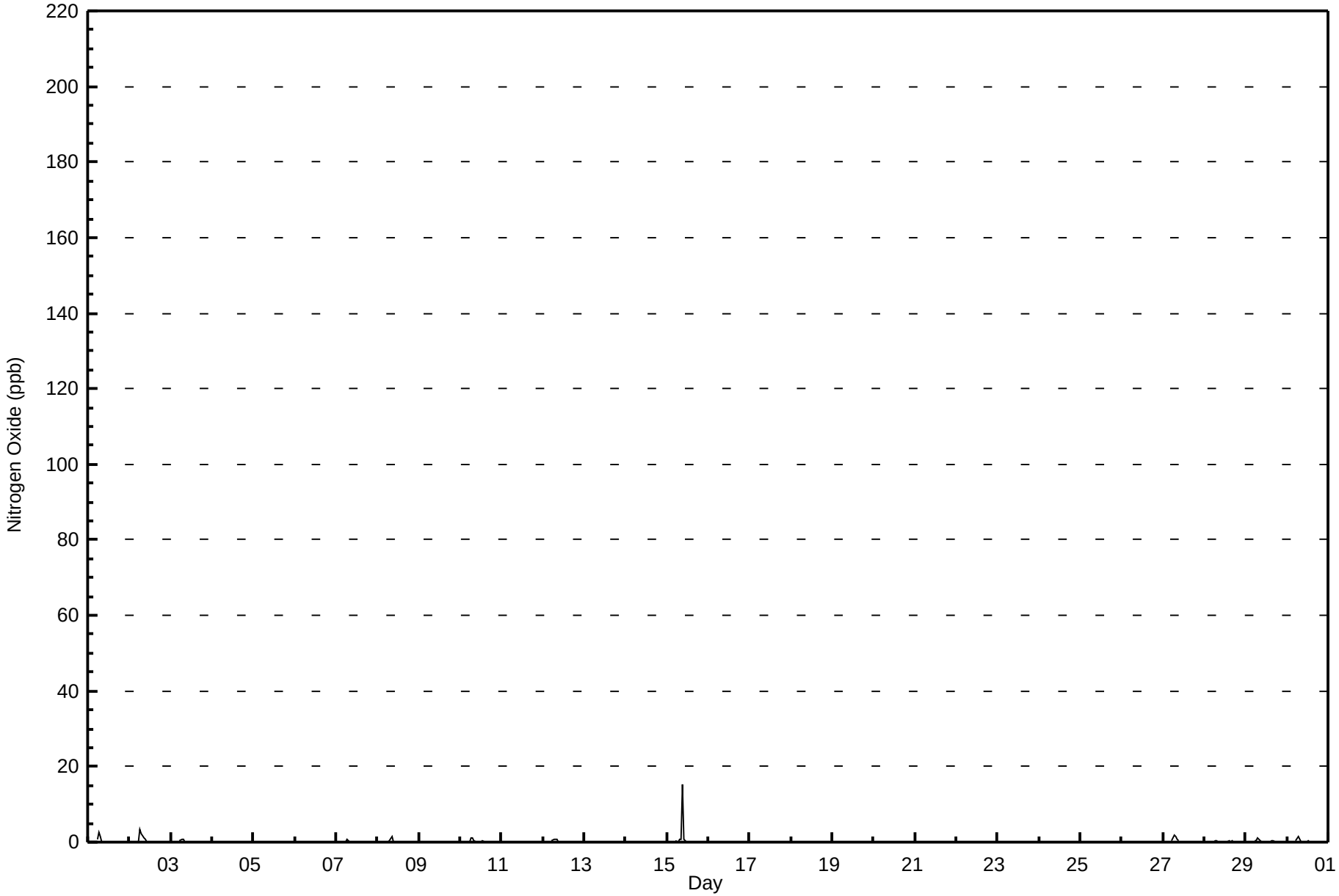
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.0 Q_3 = 0.0 P_{90} = 0.1 P_{99} = 1.6

Hours in Service:	629
Hours of Data:	587
Hours of Missing Data:	42
Hours of Calibration:	42
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-Jun	0	0	0	0	A	1	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	2.6
2-Jun	0	0	0	0	A	0	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	3.4
3-Jun	0	0	0	0	A	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
4-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
5-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
6-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
7-Jun	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.7
8-Jun	0	0	0	0	A	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.7
9-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
10-Jun	0	0	0	0	A	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.3
11-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
12-Jun	0	0	0	0	A	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.9
13-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
14-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
15-Jun	0	0	0	0	A	0	0	1	1	15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	15.3
16-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
17-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
18-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
19-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
20-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
21-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
22-Jun	0	0	0	0	A	0	0	0	0	0	C	C	C	C	C	C	C	NS	NS	NS	NS	NS	NS	NS	--	0.0
23-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
24-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
25-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
26-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	C	C	C	C	C	0	0	0	0	0	--	0.0
27-Jun	0	0	0	0	A	0	2	1	1	0	A	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.7
28-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
29-Jun	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.1
30-Jun	0	0	0	0	A	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.6
	0.0	0.0	0.0	0.0	--	0.1	0.5	0.4	0.3	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Diurnal Average	
	0.0	0.2	0.2	0.2	--	0.7	3.4	2.3	1.7	15.3	0.7	0.1	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	Diurnal Maximum	

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

Hourly Averages for NO at Beaverlodge
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 591.4 ppb on Jun 15 10:00

Maximum Daily Average: 26.6 ppb on Jun 15

Minimum Value: 0 ppb on Jun 1 01:00

Minimum Daily Average: 0.0 ppb on Jun 6

Maximum Diurnal Average: 23.3 ppb at hour 10

Minimum Diurnal Average: 0.0 ppb at hour 1

Monthly Average: 1.36 ppb

Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.0 Q_3 = 0.1 P_{90} = 0.9 P_{99} = 6.4

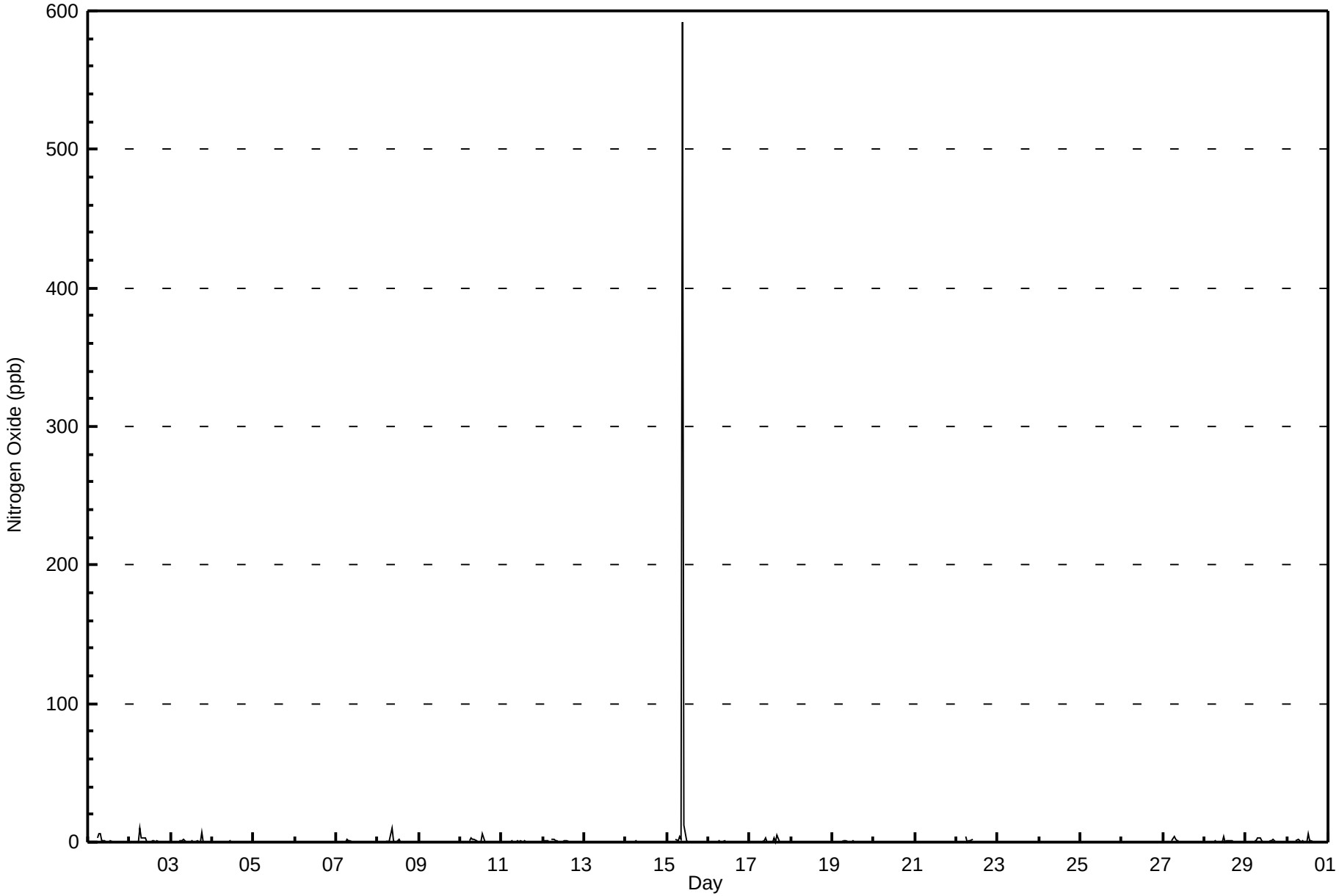
Hours in Service:	629
Hours of Data:	587
Hours of Missing Data:	42
Hours of Calibration:	42
Percent Operational Time:	100.0

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-Jun	0	0	0	0	A	3	6	6	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.8	5.9
2-Jun	0	0	0	0	A	0	11	3	3	3	0	0	0	1	1	0	1	0	0	0	0	0	0	0	1.0	10.6
3-Jun	0	0	0	0	A	1	1	2	1	0	0	0	1	0	0	1	0	0	7	0	0	0	0	0	0.6	7.2
4-Jun	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.9
5-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
6-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
7-Jun	0	0	0	0	A	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.9
8-Jun	0	0	0	0	A	1	0	1	10	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0.6	9.9
9-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
10-Jun	0	0	0	0	A	1	3	2	2	1	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0.6	5.8
11-Jun	0	0	0	0	A	0	1	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0.2	0.9
12-Jun	0	1	1	1	A	2	2	1	1	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0.5	1.8
13-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
14-Jun	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.9
15-Jun	0	0	0	0	A	2	1	4	2	591	12	1	0	0	0	0	0	0	0	0	0	0	0	0	26.6	591.4
16-Jun	0	0	0	0	A	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.9
17-Jun	0	0	0	0	A	0	0	0	1	3	0	0	0	0	3	0	5	0	0	0	0	0	0	0	0.5	5.2
18-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
19-Jun	0	0	0	0	A	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.9
20-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
21-Jun	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
22-Jun	0	0	0	0	A	4	0	1	1	2	C	C	C	C	C	C	C	NS	NS	NS	NS	NS	NS	NS	--	3.8
23-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
24-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
25-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
26-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	C	C	C	C	C	0	0	0	0	0	--	0.4
27-Jun	0	0	0	0	A	1	4	2	1	1	A	A	0	0	0	0	0	0	0	0	0	0	0	0	0.6	3.8
28-Jun	0	0	0	0	A	0	1	0	0	0	0	4	0	1	1	1	1	0	0	0	0	0	0	0	0.5	4.3
29-Jun	0	0	0	0	A	1	1	3	3	1	0	0	1	1	1	1	2	1	0	0	0	0	0	0	0.7	3.3
30-Jun	0	0	0	0	A	1	2	1	0	1	0	0	7	1	1	0	0	0	0	0	0	0	0	0	0.7	6.6
	0.0	0.0	0.0	0.1	--	0.6	1.4	1.1	1.1	23.3	0.6	0.3	0.5	0.5	0.3	0.1	0.4	0.0	0.3	0.0	0.0	0.1	0.0	0.0	Diurnal Average	
	0.1	0.9	0.9	1.2	--	3.8	10.6	5.9	9.9	591.4	11.9	4.3	6.6	5.8	2.9	1.2	5.2	0.5	7.2	0.3	0.3	0.4	0.3	0.2	Diurnal Maximum	

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

Hourly Maximums for NO at Beaverlodge

June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Maximum Value: 36.1 ppb on Jun 15 10:00

Maximum Daily Average: 7.5 ppb on Jun 2

Minimum Value: 0 ppb on Jun 28 21:00

Minimum Daily Average: 0.9 ppb on Jun 28

Maximum Diurnal Average: 6.8 ppb at hour 7

Minimum Diurnal Average: 2.2 ppb at hour 19

Monthly Average: 3.76 ppb

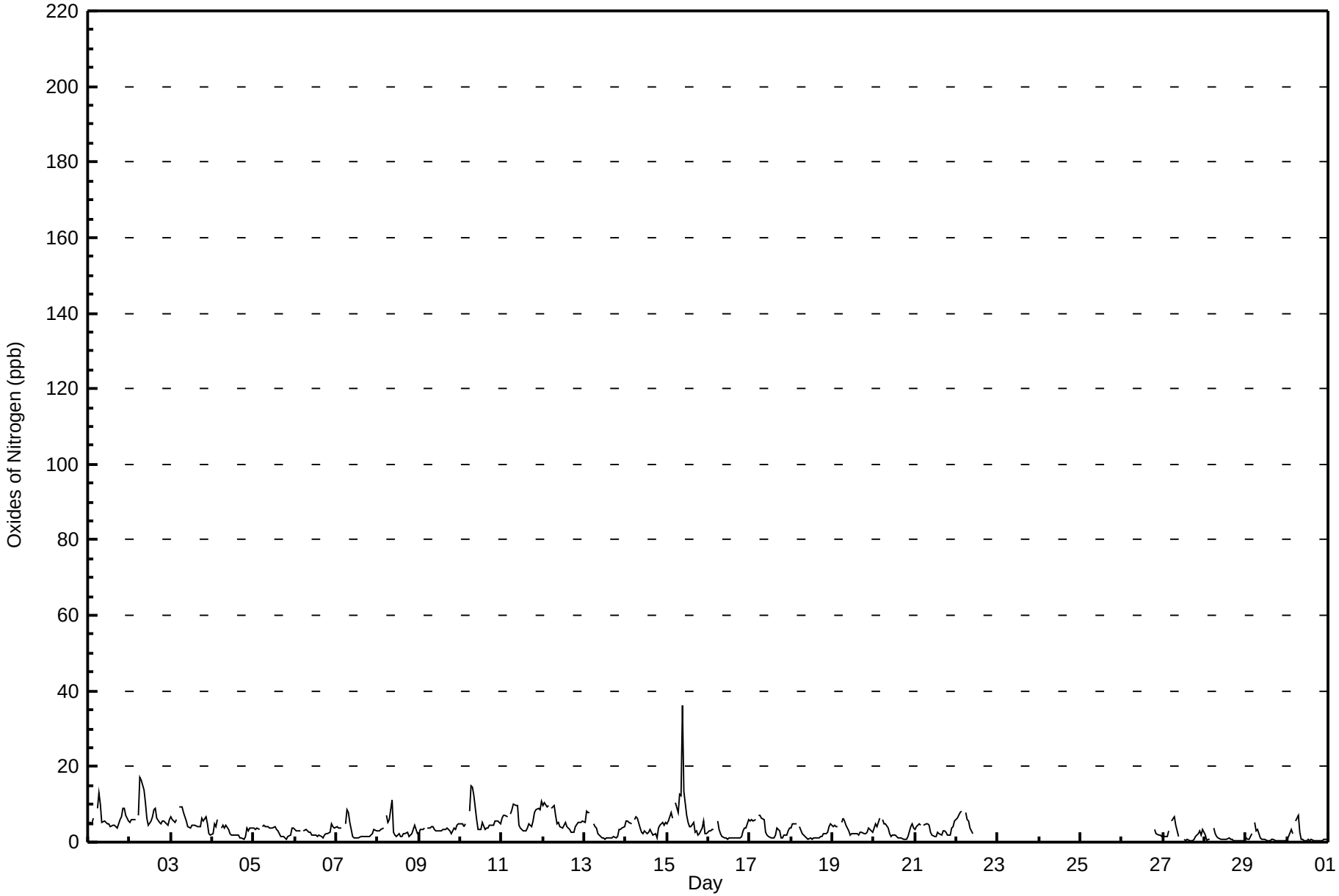
Percentiles: P_1 = 0.3 P_{10} = 0.9 Q_1 = 1.7 Median = 3.4 Q_3 = 5.0 P_{90} = 6.9 P_{99} = 13.6

Hours in Service:	629
Hours of Data:	587
Hours of Missing Data:	42
Hours of Calibration:	42
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-Jun	5	5	5	6	A	9	13	10	5	6	5	5	5	4	4	4	4	4	6	7	9	9	7	6	6.2	13.0
2-Jun	5	6	6	6	A	7	17	17	14	10	6	5	5	7	9	9	6	5	5	6	5	5	5	6	7.5	17.2
3-Jun	7	6	5	6	A	9	9	8	7	6	4	4	4	5	4	4	4	4	6	6	7	5	2	2	5.4	9.3
4-Jun	2	5	4	6	A	4	5	4	4	3	2	2	2	2	2	2	1	1	1	2	4	3	4	4	2.9	6.1
5-Jun	4	3	4	4	A	4	4	4	4	4	4	4	4	3	3	2	1	1	1	1	2	2	4	4	3.1	4.3
6-Jun	3	3	3	3	A	3	4	3	3	2	2	2	2	1	2	1	1	2	2	2	3	5	4	4	2.6	4.8
7-Jun	4	4	4	4	A	5	9	8	5	1	1	1	1	1	1	1	1	1	1	1	2	2	3	3	2.9	8.6
8-Jun	3	3	3	4	A	7	5	6	11	3	2	1	2	2	2	2	2	3	2	2	2	4	3	2	3.3	11.1
9-Jun	2	3	3	4	A	4	4	4	4	3	3	3	3	3	3	4	4	3	3	2	4	3	4	5	3.5	4.9
10-Jun	5	5	4	5	A	8	15	14	12	6	3	3	3	5	3	4	4	4	4	5	6	5	6	5	5.9	14.9
11-Jun	6	7	7	7	A	7	9	10	10	10	5	4	3	3	3	4	5	4	6	8	9	9	9	11	6.7	10.8
12-Jun	10	10	9	10	A	9	10	7	5	5	4	4	4	5	4	3	3	3	3	4	5	5	5	6	5.8	10.5
13-Jun	5	8	8	8	A	5	4	4	2	1	1	1	1	1	1	1	1	1	1	2	3	3	4	4	3.1	8.1
14-Jun	6	6	5	5	A	6	7	6	4	3	2	3	2	3	3	3	2	2	1	4	4	5	4	5	4.0	6.7
15-Jun	5	6	8	6	A	11	8	13	12	36	13	7	5	4	4	5	3	3	2	2	4	6	2	2	7.3	36.1
16-Jun	3	3	3	3	A	6	4	2	2	1	1	1	1	1	1	1	1	1	1	1	3	4	4	6	2.3	6.0
17-Jun	5	6	6	6	A	7	7	6	6	2	2	2	1	1	1	2	4	3	1	1	2	2	3	4	3.5	7.3
18-Jun	4	5	5	5	A	4	2	2	1	1	1	1	1	1	1	1	1	1	2	2	2	3	4	5	2.4	4.9
19-Jun	4	4	4	4	A	5	6	6	4	3	2	2	2	2	2	2	2	3	2	2	3	4	3	3	3.3	6.4
20-Jun	4	5	4	6	A	6	5	5	4	2	2	2	2	2	1	1	1	1	1	1	1	4	5	4	3.0	6.5
21-Jun	4	4	5	4	A	4	5	5	4	3	2	1	1	3	2	2	3	3	2	2	2	4	4	6	3.2	5.6
22-Jun	6	7	8	8	A	8	6	6	4	2	C	C	C	C	C	C	C	NS	NS	NS	NS	NS	NS	NS	--	8.3
23-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
24-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
25-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
26-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	C	C	C	C	C	3	2	2	2	1	--	3.4
27-Jun	2	1	1	3	A	6	7	5	3	1	A	A	1	1	1	0	0	0	1	1	2	3	2	3	2.1	6.7
28-Jun	2	0	1	1	A	4	2	2	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.9	3.7
29-Jun	1	1	1	2	A	5	3	3	1	1	1	1	0	0	0	1	1	0	0	0	0	0	0	0	1.1	5.3
30-Jun	1	2	3	2	A	6	7	3	1	1	0	1	1	1	1	0	0	0	0	0	0	1	1	1	1.4	7.2
	4.2	4.5	4.6	4.9	--	6.1	6.8	6.2	5.2	4.6	2.9	2.5	2.3	2.5	2.4	2.5	2.3	2.2	2.2	2.6	3.3	3.8	3.6	3.9	Diurnal Average	
	9.8	10.5	9.4	9.5	--	10.6	17.2	16.5	13.8	36.1	13.3	7.2	5.5	6.5	8.5	9.1	6.2	5.3	6.3	7.7	8.8	9.1	8.7	10.8	Diurnal Maximum	

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

Hourly Averages for NO_X at Beaverlodge
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 1000.9 ppb on Jun 15 10:00

Maximum Daily Average: 52.2 ppb on Jun 15

Minimum Value: 1 ppb on Jun 28 21:00

Minimum Daily Average: 2.1 ppb on Jun 28

Maximum Diurnal Average: 43.2 ppb at hour 10

Minimum Diurnal Average: 3.6 ppb at hour 18

Monthly Average: 7.02 ppb

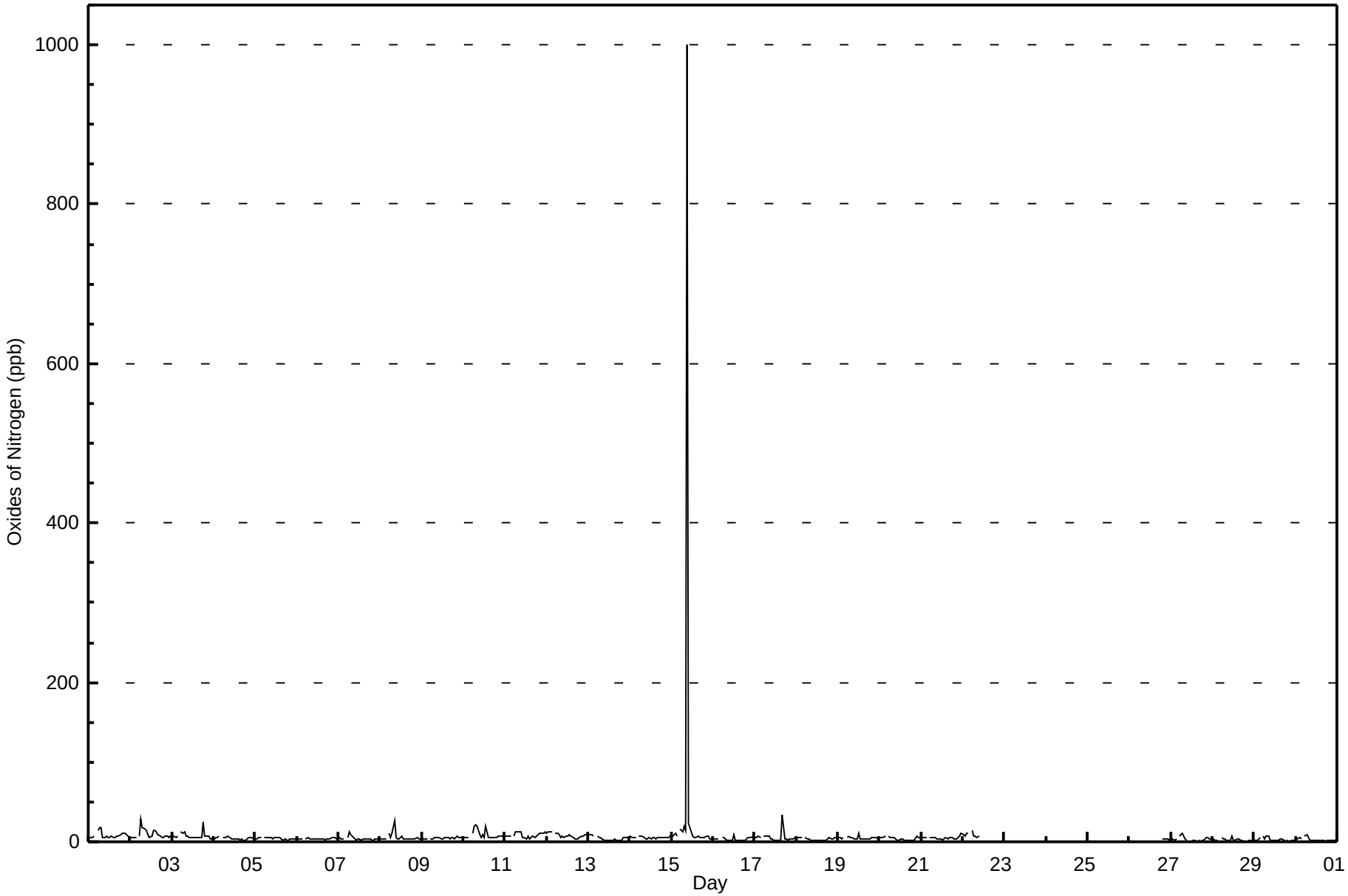
Percentiles: $P_1 = 0.7$ $P_{10} = 1.9$ $Q_1 = 2.9$ Median = 4.9 $Q_3 = 6.9$ $P_{90} = 8.9$ $P_{99} = 22.5$

Hours in Service:	629
Hours of Data:	587
Hours of Missing Data:	42
Hours of Calibration:	42
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-Jun	6	6	6	7	A	14	18	18	6	6	7	5	5	7	6	6	7	8	9	10	10	10	9	6	8.3	17.9
2-Jun	6	6	6	6	A	8	29	18	16	14	9	6	7	14	13	12	9	7	6	6	7	7	6	7	9.7	29.0
3-Jun	7	7	6	7	A	12	11	12	8	7	6	5	6	5	6	5	6	5	25	7	8	7	3	3	7.5	24.9
4-Jun	3	6	6	7	A	6	6	6	8	5	4	3	3	4	3	2	3	2	2	3	5	5	5	4	4.3	7.9
5-Jun	4	4	5	5	A	5	5	5	5	5	4	5	5	5	5	4	2	3	2	2	3	4	4	4	4.0	4.9
6-Jun	4	4	3	3	A	3	5	4	4	4	3	3	3	3	3	3	2	4	4	4	5	5	5	4	3.6	4.9
7-Jun	5	4	4	4	A	6	13	9	7	3	2	3	3	2	4	4	3	3	4	2	2	4	4	4	4.2	12.9
8-Jun	4	4	4	4	A	10	6	10	26	6	3	4	7	3	4	4	4	4	3	4	4	5	4	4	5.6	26.3
9-Jun	3	4	4	4	A	4	4	5	5	5	5	4	4	5	5	5	4	5	5	4	7	5	5	5	4.5	6.9
10-Jun	5	5	5	5	A	11	20	21	20	9	5	9	5	20	5	5	5	5	5	6	8	7	8	7	8.6	20.9
11-Jun	7	7	8	7	A	8	13	13	13	13	5	5	4	8	4	6	8	6	8	9	11	10	11	12	8.4	12.9
12-Jun	11	13	12	13	A	11	11	9	6	8	6	8	8	9	8	6	4	4	4	6	7	8	9	9	8.2	12.9
13-Jun	9	9	9	8	A	7	5	5	3	2	2	2	2	2	2	3	2	2	2	2	6	5	5	6	4.3	8.9
14-Jun	7	6	6	5	A	7	8	8	5	4	4	5	4	5	5	4	5	5	5	6	5	6	6	7	5.5	7.9
15-Jun	7	8	10	8	A	16	12	20	14	1001	23	12	7	6	6	7	6	6	6	6	7	7	4	3	52.2	1000.9
16-Jun	3	4	4	4	A	6	5	3	2	2	2	1	9	2	2	2	2	2	2	3	5	5	6	7	3.5	8.9
17-Jun	6	6	7	6	A	8	8	7	8	4	3	2	2	2	2	2	34	4	3	2	3	3	4	5	5.6	33.8
18-Jun	5	5	6	6	A	5	4	3	2	2	1	2	1	2	2	2	2	2	3	5	4	4	5	5	3.3	5.9
19-Jun	5	5	4	5	A	6	7	6	6	4	3	4	10	4	3	3	4	4	4	5	5	5	6	3	4.7	9.8
20-Jun	5	6	6	7	A	7	6	6	5	3	2	2	3	3	2	2	2	2	2	1	2	7	6	5	3.9	6.9
21-Jun	4	5	5	5	A	6	5	6	5	4	3	3	2	4	5	4	5	5	5	4	3	5	7	10	4.7	9.9
22-Jun	8	8	10	10	A	14	7	7	5	7	C	C	C	C	C	C	C	NS	NS	NS	NS	NS	NS	NS	--	14.0
23-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
24-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
25-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
26-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	C	C	C	C	C	4	3	4	4	2	--	4.4
27-Jun	3	3	2	4	A	7	11	7	4	3	A	A	1	1	2	1	1	1	1	2	6	6	3	4	3.5	11.1
28-Jun	4	1	1	1	A	5	3	3	2	2	1	7	1	3	3	3	3	1	1	1	1	1	1	1	2.1	7.0
29-Jun	2	2	2	5	A	7	4	8	7	2	1	1	1	1	2	3	3	2	1	1	1	2	2	2	2.6	7.7
30-Jun	2	3	5	3	A	7	9	5	2	2	1	1	2	2	2	1	1	1	1	1	1	2	2	2	2.5	9.1
	5.1	5.4	5.6	5.7	--	7.9	9.0	8.5	7.4	43.2	4.3	4.2	4.1	4.8	4.1	3.9	5.0	3.6	4.4	4.0	4.9	5.3	5.0	5.0	Diurnal Average	
	10.9	12.5	11.9	12.9	--	15.9	29.0	20.9	26.3	1000.9	23.2	11.9	9.8	19.5	13.5	11.9	33.8	7.9	24.9	9.9	10.5	9.9	10.9	11.9	Diurnal Maximum	

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

Hourly Maximums for NO_X at Beaverlodge
June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 55.1 ppb on Jun 10 16:00 Maximum Daily Average: 45.2 ppb on Jun 9

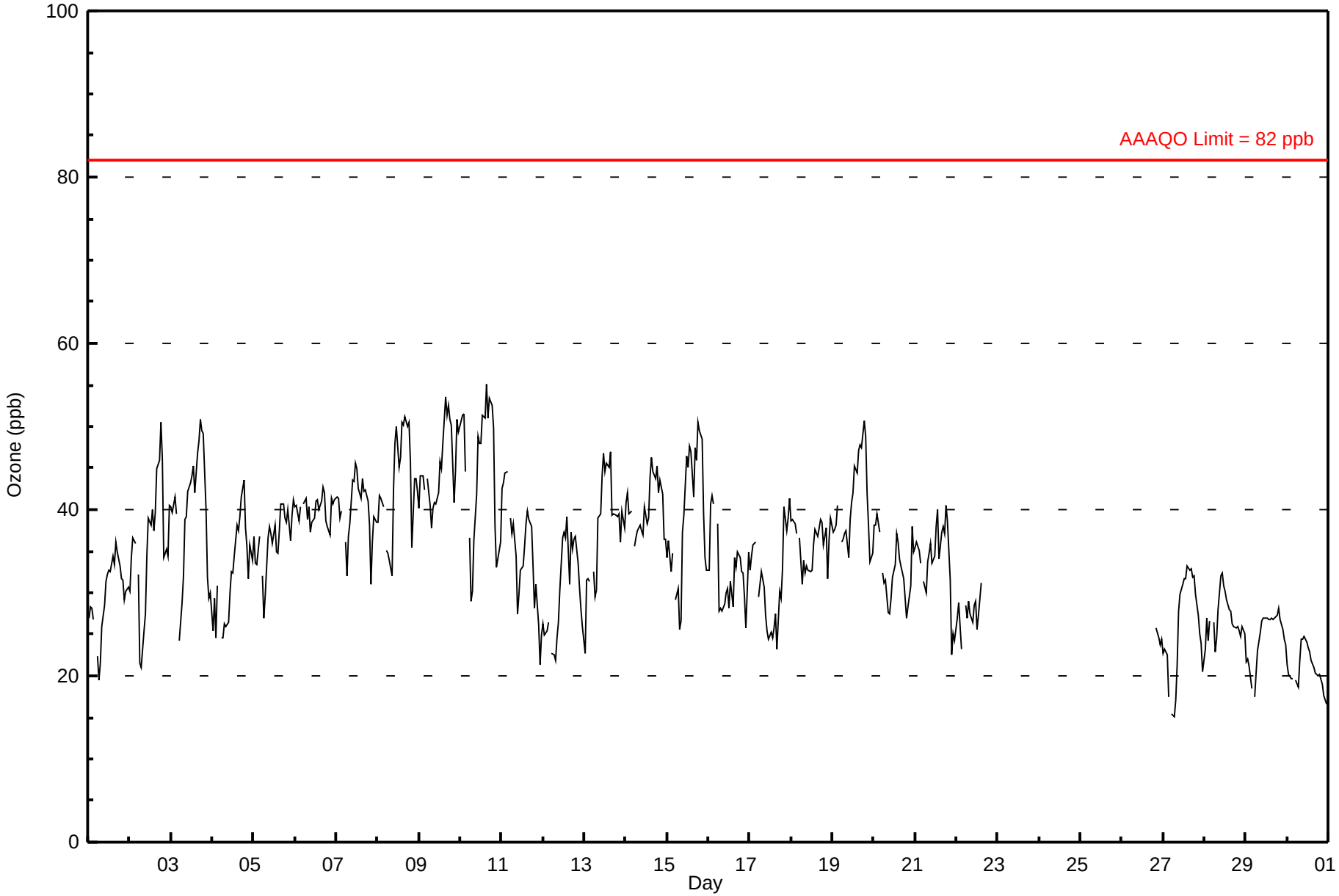
Minimum Value: 15 ppb on Jun 27 07:00 Minimum Daily Average: 20.8 ppb on Jun 30
Maximum Diurnal Average: 39.3 ppb at hour 18 Minimum Diurnal Average: 28.7 ppb at hour 7
Monthly Average: 34.74 ppb Percentiles: P_1 = 17.4 P_{10} = 24.4 Q_1 = 28.3 Median = 35.0 Q_3 = 40.3 P_{90} = 45.2 P_{99} = 51.0

Hours in Service:	623
Hours of Data:	593
Hours of Missing Data:	30
Hours of Calibration:	30
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-Jun	27	28	28	27	A	22	20	22	26	29	31	32	33	32	34	33	36	35	33	32	32	29	30	31	29.7	36.1
2-Jun	30	34	37	36	A	32	22	21	25	27	34	39	38	40	38	40	45	46	50	46	34	35	34	41	35.9	50.5
3-Jun	40	40	41	40	A	24	29	32	39	39	42	43	44	45	42	47	48	51	49	49	40	32	29	30	39.9	50.9
4-Jun	25	29	25	31	A	25	25	26	26	26	30	33	32	34	38	38	39	42	44	38	36	32	36	34	32.3	43.5
5-Jun	37	34	33	37	A	32	27	30	37	38	37	36	38	35	35	37	41	41	39	38	40	36	39	41	36.4	41.2
6-Jun	40	41	39	40	A	41	41	39	40	37	39	39	41	41	40	41	43	42	39	38	37	41	41	41	40.0	42.7
7-Jun	41	41	39	40	A	36	32	37	38	44	43	46	45	43	41	44	42	42	41	38	31	36	39	38	39.9	45.6
8-Jun	38	42	41	40	A	35	35	34	32	42	48	50	45	46	51	50	51	50	51	46	35	44	44	42	43.1	51.1
9-Jun	40	44	44	42	A	44	41	38	40	41	41	42	46	45	48	53	51	53	51	50	41	45	51	49	45.2	53.5
10-Jun	51	51	51	45	A	37	29	30	36	42	49	48	48	51	51	55	51	53	53	50	38	33	34	36	44.4	55.1
11-Jun	43	43	44	45	A	39	37	38	34	27	30	33	33	36	38	40	39	38	33	28	31	26	21	25	34.9	44.6
12-Jun	26	25	25	26	A	23	23	22	25	26	30	37	37	37	39	31	37	35	37	37	34	30	28	26	30.3	39.2
13-Jun	23	32	32	31	A	33	29	30	39	40	44	47	45	46	45	47	39	39	39	39	39	36	40	38	37.9	47.0
14-Jun	41	42	39	40	A	36	37	37	38	37	37	40	38	39	44	46	45	44	45	42	44	42	36	36	40.2	46.2
15-Jun	34	36	33	35	A	29	31	26	27	37	39	46	45	48	47	42	47	46	51	49	49	39	34	33	39.2	50.5
16-Jun	33	41	42	41	A	38	28	28	28	29	30	31	28	31	28	34	33	35	34	33	32	30	26	35	32.4	41.7
17-Jun	33	34	36	36	A	30	31	33	31	27	25	24	25	25	26	27	23	30	29	33	40	37	39	41	31.2	41.4
18-Jun	39	39	38	37	A	37	31	34	32	33	33	33	33	36	38	37	38	39	38	36	38	32	36	39	35.8	39.0
19-Jun	37	38	38	40	A	36	36	37	37	34	39	41	42	45	44	47	48	47	51	49	42	38	34	35	40.7	50.7
20-Jun	38	38	40	37	A	32	31	31	28	27	29	32	33	37	36	34	33	32	29	27	28	31	38	35	33.0	39.5
21-Jun	35	36	35	34	A	31	30	34	35	36	34	34	38	40	34	37	38	37	41	39	32	23	25	24	34.0	40.5
22-Jun	27	29	26	23	A	28	27	29	28	27	28	29	26	27	31	C	C	NS	NS	NS	NS	NS	NS	NS	--	31.1
23-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
24-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
25-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
26-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	26	25	24	24	--	25.8
27-Jun	23	23	23	17	A	15	15	17	21	28	30	31	32	32	33	33	33	32	32	30	27	25	24	21	25.9	33.2
28-Jun	23	27	24	27	A	26	23	25	28	32	32	31	30	29	28	28	26	26	26	26	25	25	26	25	26.9	32.3
29-Jun	22	22	21	18	A	18	20	23	25	27	27	27	27	27	27	27	27	27	27	28	27	26	24	24	24.7	28.2
30-Jun	21	20	20	20	A	19	19	22	24	24	25	24	23	23	22	21	20	20	20	20	19	18	17	17	20.8	24.7
	33.4	35.0	34.4	34.0	--	30.7	28.7	29.7	31.5	33.0	34.9	36.4	36.4	37.3	37.6	38.8	39.0	39.3	39.3	37.6	34.5	32.5	32.7	33.1	Diurnal Average	
	50.7	51.3	51.5	44.6	--	43.7	41.3	38.7	40.4	43.5	48.8	50.0	47.9	51.4	51.0	55.1	51.4	53.4	52.6	50.1	48.5	44.8	50.9	49.3	Diurnal Maximum	

C - Calibration NS - Not in service A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na

Hourly Averages for O_3 at Beaverlodge
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 62.2 ppb on Jun 9 18:00

Maximum Daily Average: 52.7 ppb on Jun 9

Minimum Value: 17 ppb on Jun 27 06:00

Minimum Daily Average: 22.0 ppb on Jun 30

Maximum Diurnal Average: 44.9 ppb at hour 18

Minimum Diurnal Average: 33.0 ppb at hour 7

Monthly Average: 39.69 ppb

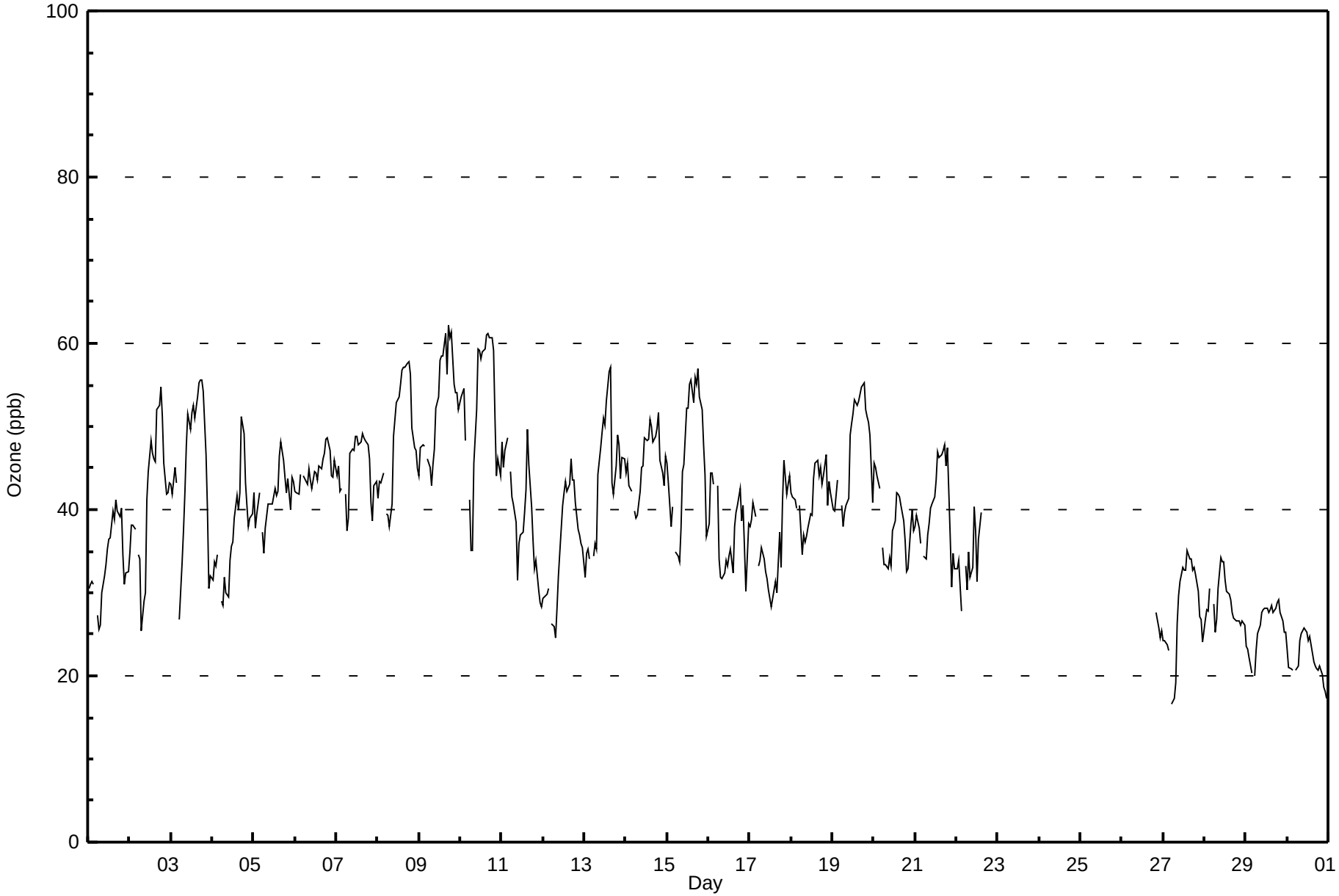
Percentiles: P_1 = 20.0 P_{10} = 26.7 Q_1 = 32.9 Median = 40.4 Q_3 = 45.9 P_{90} = 52.1 P_{99} = 60.6

Hours in Service:	623
Hours of Data:	593
Hours of Missing Data:	30
Hours of Calibration:	30
Percent Operational Time:	100.0

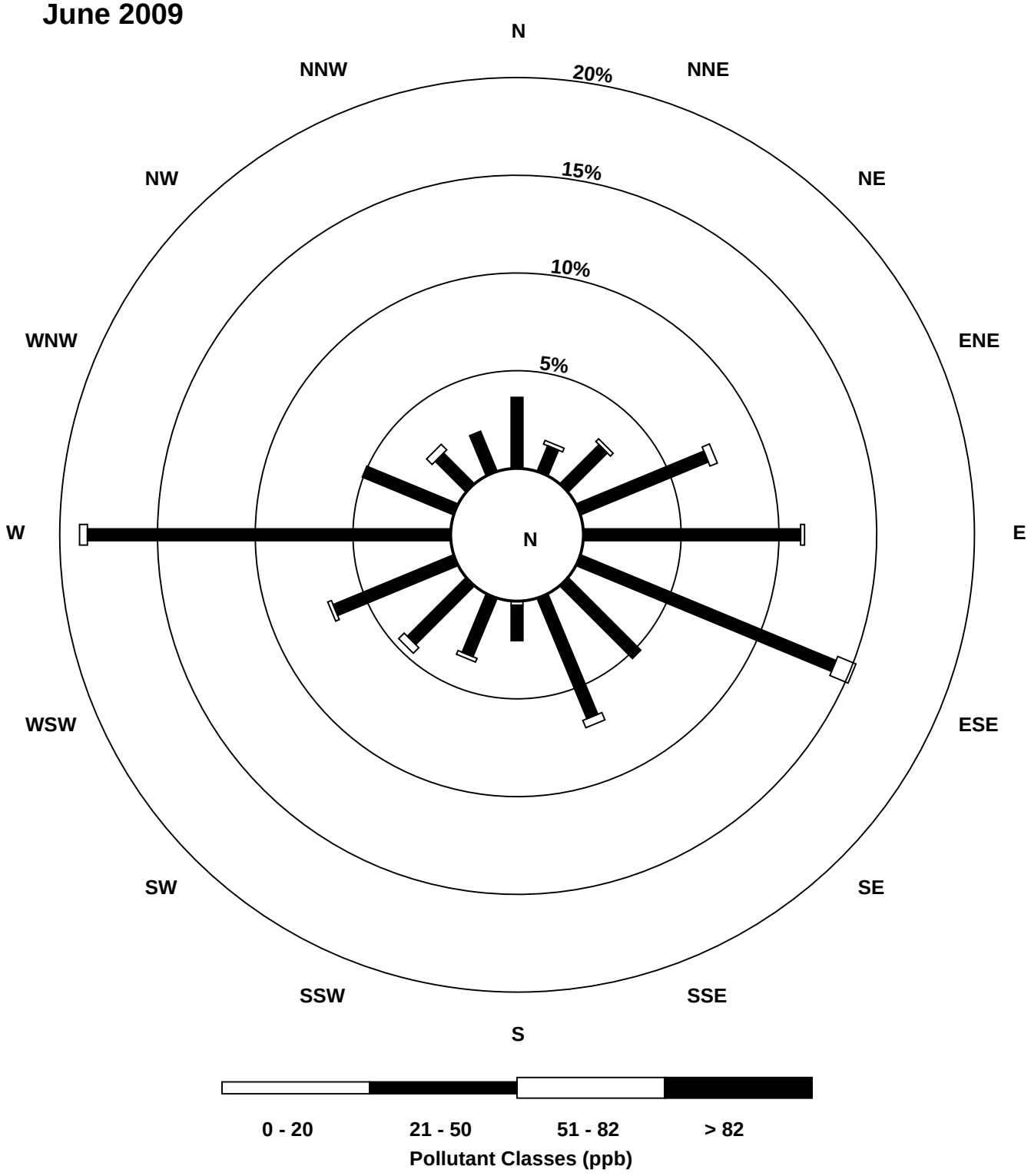
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jun	30	31	31	31	A	27	26	26	30	32	33	35	37	37	40	39	41	40	39	40	35	31	32	33	33.7	41.1
2-Jun	35	38	38	38	A	35	34	25	29	30	41	45	48	47	46	46	52	53	55	51	46	42	42	43	41.7	54.7
3-Jun	43	42	45	43	A	27	33	38	42	48	52	50	52	52	51	54	55	56	56	54	47	40	31	32	45.3	55.7
4-Jun	32	34	33	35	A	29	28	32	30	29	34	36	36	39	42	40	42	51	49	43	41	38	39	40	37.0	51.2
5-Jun	42	38	40	42	A	37	35	38	41	41	41	41	43	42	42	46	48	46	44	42	44	40	44	43	41.6	48.1
6-Jun	42	42	42	44	A	44	43	43	45	44	43	45	44	44	45	45	46	47	49	49	47	44	44	46	44.6	48.6
7-Jun	44	45	42	42	A	42	37	39	47	47	47	49	49	48	48	49	49	48	48	46	41	39	43	43	44.9	49.1
8-Jun	41	43	43	44	A	39	39	38	41	49	51	53	54	55	57	57	57	58	58	56	50	47	47	45	48.8	57.8
9-Jun	44	47	48	48	A	46	45	43	45	47	52	54	58	59	58	61	56	62	61	61	55	54	54	52	52.7	62.2
10-Jun	54	54	55	48	A	41	35	35	46	52	59	59	58	59	59	61	61	61	61	59	51	44	46	44	52.3	61.2
11-Jun	48	45	47	49	A	45	42	41	38	32	36	37	37	40	42	50	45	40	36	33	34	30	29	28	39.3	49.6
12-Jun	29	29	30	31	A	26	26	25	28	32	35	40	42	43	42	43	46	43	44	41	38	37	36	35	35.7	46.1
13-Jun	32	35	35	34	A	34	36	35	44	47	49	51	50	53	57	57	43	42	45	49	48	44	46	46	44.1	57.1
14-Jun	44	46	43	42	A	40	39	39	42	45	45	49	48	48	51	50	48	49	50	52	46	44	43	47	45.7	51.7
15-Jun	46	43	38	40	A	35	34	34	38	45	45	52	52	55	56	53	56	55	57	54	52	48	44	37	46.4	56.9
16-Jun	38	44	44	43	A	43	34	32	32	32	34	33	34	35	32	38	40	40	42	39	40	35	30	38	37.2	44.4
17-Jun	38	39	41	39	A	33	34	35	34	33	32	30	28	29	30	31	30	37	33	41	46	42	43	44	35.8	45.8
18-Jun	42	41	41	40	A	40	35	37	36	37	38	39	39	44	46	46	44	45	43	44	47	41	43	42	41.3	46.5
19-Jun	40	40	42	44	A	40	38	40	41	41	49	50	52	53	53	53	54	55	55	52	51	50	49	41	47.0	55.2
20-Jun	46	45	44	42	A	35	33	33	33	34	33	37	39	42	42	41	41	39	36	33	33	38	40	37	38.2	45.6
21-Jun	38	39	38	36	A	34	34	37	38	40	41	41	44	47	46	47	47	48	45	47	37	31	35	33	40.1	47.7
22-Jun	33	34	31	28	A	33	30	35	32	33	40	37	31	36	40	C	C	NS	NS	NS	NS	NS	NS	NS	--	40.3
23-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
24-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
25-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
26-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	28	26	25	25	--	27.7
27-Jun	24	24	24	23	A	17	17	19	26	30	31	33	33	33	35	34	34	33	33	32	30	27	27	24	28.0	35.1
28-Jun	27	28	28	31	A	29	25	27	31	34	34	34	32	30	30	29	28	27	27	27	27	26	27	26	28.7	34.2
29-Jun	24	23	22	20	A	20	23	25	26	28	28	28	28	28	28	29	28	28	29	29	28	27	25	25	26.0	29.2
30-Jun	23	21	21	21	A	21	21	24	25	25	26	25	24	25	24	22	21	21	21	21	20	19	18	17	22.0	25.7
	37.6	38.2	37.9	37.6	--	34.4	33.0	33.6	36.1	38.0	40.3	41.7	42.0	43.2	43.9	44.8	44.5	44.9	44.6	43.8	40.7	37.9	37.8	37.2	Diurnal Average	
	53.6	54.1	54.6	48.6	--	46.2	45.2	43.0	46.8	52.0	59.3	59.1	58.2	59.0	59.4	61.1	61.2	62.2	60.7	61.4	55.1	54.1	54.1	52.1	Diurnal Maximum	

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

Hourly Maximums for O_3 at Beaverlodge
June 2009



Pollutant Rose for O_3 at Beaverlodge
June 2009



Peace Airshed Zone Association
Summary of Eight Hour Running Averages

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

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 51.5 ppb on Jun 10 20:00

Minimum Value: 18.9 ppb on Jun 27 09:00

Percentiles: P_1 = 20.1 P_{10} = 25.0 Q_1 = 29.4 Median = 35.0 Q_3 = 39.8 P_{90} = 43.5 P_{99} = 49.2

Hours in Service:	623
Hours of Data:	616
Hours of Missing Data:	7
Hours of Calibration:	7
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Jun	29	28	28	28	28	27	26	25	25	25	25	26	27	28	30	31	33	33	34	34	33	33	33	32	33.7
2-Jun	31	31	32	32	32	33	32	30	30	29	28	29	30	31	33	35	38	40	42	43	42	42	41	41	42.8
3-Jun	41	40	39	38	39	37	36	35	35	35	35	35	37	39	41	43	44	45	46	47	46	45	43	41	47.0
4-Jun	38	36	32	30	29	28	27	27	27	26	27	27	28	29	31	32	34	36	37	38	38	38	38	37	38.5
5-Jun	37	36	35	35	35	35	33	33	33	33	34	34	34	35	36	37	37	37	38	38	38	38	39	39	39.5
6-Jun	39	39	39	40	40	40	40	40	40	40	40	39	40	40	40	40	40	41	41	41	40	40	40	40	40.7
7-Jun	40	40	40	40	41	40	39	38	38	38	39	39	40	41	42	43	43	43	43	42	40	39	39	39	43.4
8-Jun	38	38	38	38	39	39	39	38	37	37	38	39	40	42	44	46	48	49	49	49	47	47	46	45	49.2
9-Jun	44	43	42	42	43	43	42	42	42	41	41	41	41	42	43	44	46	47	49	50	49	49	49	49	49.6
10-Jun	49	49	49	48	49	48	45	42	40	39	38	39	40	42	44	48	49	51	51	52	50	48	46	44	51.5
11-Jun	42	41	40	40	40	41	41	41	40	38	36	34	34	34	34	34	35	36	36	36	35	34	32	30	42.5
12-Jun	29	27	26	26	25	25	25	24	24	24	25	26	28	30	32	33	34	35	36	36	36	35	34	33	36.3
13-Jun	31	31	30	29	29	29	29	30	32	33	35	37	38	40	42	44	44	44	43	42	42	41	40	39	44.0
14-Jun	39	39	39	39	39	39	39	39	38	38	37	37	38	38	39	40	41	42	43	43	44	44	43	42	43.9
15-Jun	40	40	38	37	36	34	33	32	31	31	32	34	35	37	39	41	44	45	46	47	47	46	45	44	47.2
16-Jun	42	41	40	39	37	37	36	36	35	33	32	30	30	29	29	30	31	31	32	32	33	32	32	32	41.7
17-Jun	32	32	32	33	33	33	34	33	33	32	30	29	28	28	27	26	25	26	26	27	29	31	32	34	34.2
18-Jun	36	37	38	39	39	39	37	36	35	35	34	33	33	33	34	34	35	36	36	37	37	37	37	37	38.9
19-Jun	37	37	37	37	37	38	38	38	38	37	37	37	38	39	40	41	43	44	46	47	47	46	44	43	46.7
20-Jun	42	41	39	38	37	36	36	35	34	32	31	30	31	31	32	32	33	33	33	33	32	31	32	32	41.7
21-Jun	32	32	33	34	35	35	34	34	34	34	33	33	34	35	36	36	36	37	37	38	37	35	34	32	37.9
22-Jun	31	30	28	26	25	26	26	27	27	27	27	28	28	28	28	28	28	N	N	N	N	N	N	N	30.8
23-Jun	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
24-Jun	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
25-Jun	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
26-Jun	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
27-Jun	N	24	24	23	23	21	20	19	19	20	21	23	24	26	28	30	31	32	32	32	31	31	29	28	32.2
28-Jun	27	26	25	25	24	25	24	25	26	26	28	28	28	29	29	30	30	29	28	27	27	26	26	26	29.8
29-Jun	25	25	24	23	23	22	21	21	21	22	23	24	24	25	26	27	27	27	27	27	27	27	27	26	27.1
30-Jun	26	25	24	23	22	21	20	20	21	21	22	22	23	23	23	23	23	22	22	21	21	20	19	19	25.6
	48.8	48.6	48.7	48.0	49.0	47.8	44.7	42.0	41.8	41.4	40.9	40.8	41.4	41.7	44.4	47.5	49.4	50.8	51.3	51.5	50.3	49.0	49.4	48.8	
	Diurnal Maximums																								

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

Peace Airshed Zone Association
Summary of Hourly Averages

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

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 44.5 $\mu g/m^3$ on Jun 9 21:00 Maximum Daily Average: 11.8 $\mu g/m^3$ on Jun 11

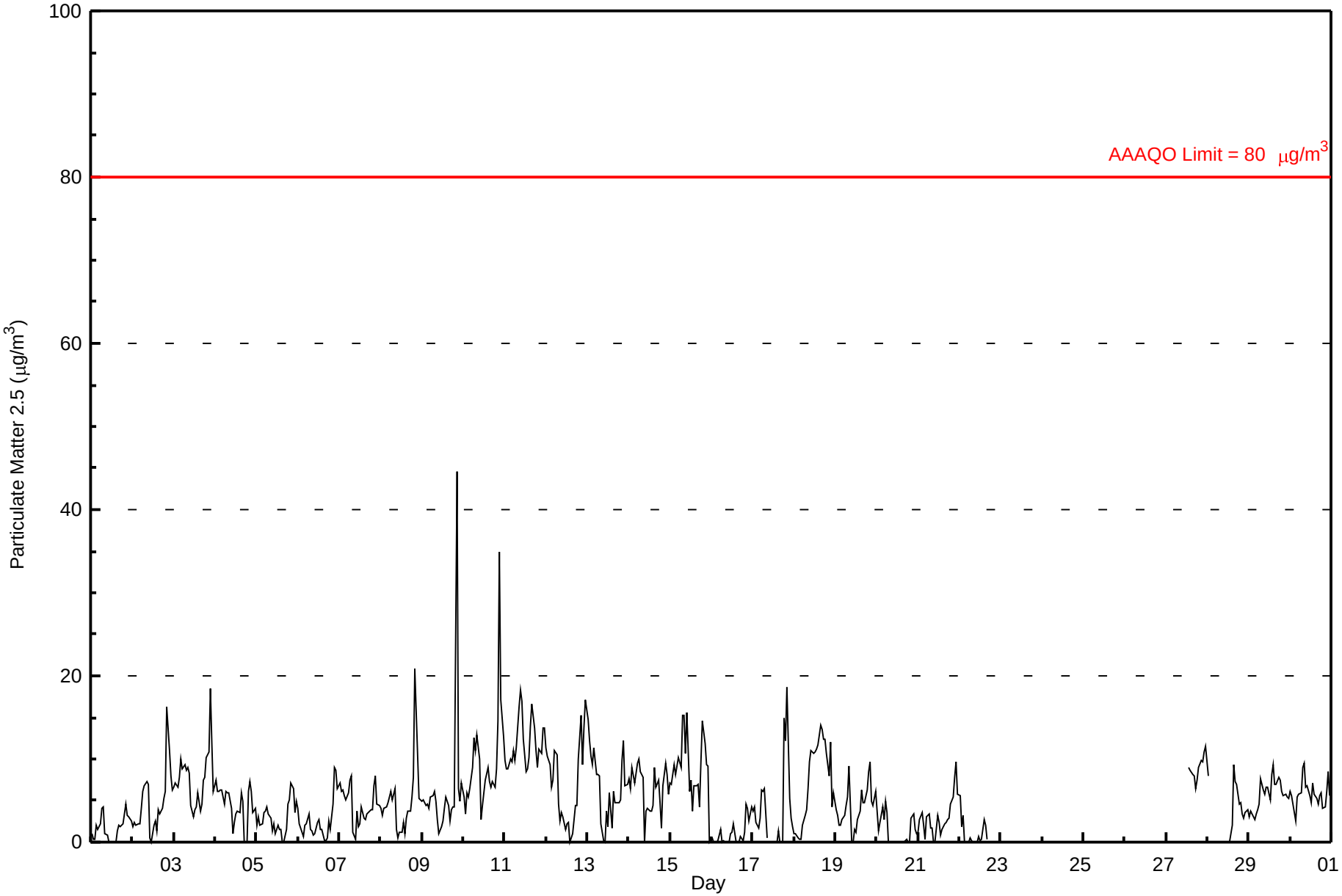
Minimum Value: 0 $\mu g/m^3$ on Jun 1 12:00 Minimum Daily Average: 1.0 $\mu g/m^3$ on Jun 16
Maximum Diurnal Average: 10.6 $\mu g/m^3$ at hour 21 Minimum Diurnal Average: 3.1 $\mu g/m^3$ at hour 13
Monthly Average: 5.31 $\mu g/m^3$ Percentiles: P_1 = 0.0 P_{10} = 0.3 Q_1 = 2.2 Median = 4.6 Q_3 = 7.5 P_{90} = 10.6 P_{99} = 18.2

Hours in Service:	607
Hours of Data:	584
Hours of Missing Data:	23
Hours of Calibration:	6
Percent Operational Time:	97.2

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-Jun	1	0	0	2	2	2	4	4	1	1	0	0	0	0	0	1	2	2	2	3	5	3	3	2	1.8	4.6
2-Jun	2	2	2	2	2	4	6	7	7	7	1	0	2	3	1	4	3	4	5	6	16	11	8	6	4.7	16.3
3-Jun	7	7	7	8	10	9	9	9	9	8	4	3	4	4	6	4	5	8	8	10	11	19	12	6	7.7	18.5
4-Jun	8	6	6	6	6	5	6	6	6	4	1	2	3	4	4	6	5	0	0	6	7	6	4	4	4.6	7.5
5-Jun	2	3	2	2	4	4	4	3	3	1	2	1	2	1	1	0	0	2	4	5	7	6	3	5	2.9	7.1
6-Jun	4	2	1	1	2	2	3	1	1	1	1	2	3	2	2	0	0	0	2	1	5	9	9	6	2.6	9.1
7-Jun	7	6	6	6	5	6	7	8	1	0	4	2	2	4	3	3	3	4	4	4	7	8	5	4	4.5	7.9
8-Jun	4	3	4	4	5	5	6	5	6	2	1	1	1	2	1	3	4	4	5	8	21	11	5	5	4.8	20.8
9-Jun	5	5	4	4	4	5	6	6	5	3	1	2	3	4	5	4	3	4	4	4	44	6	5	7	6.0	44.5
10-Jun	5	3	6	5	7	9	13	11	13	10	3	4	6	7	9	7	7	7	7	9	15	35	17	13	9.5	34.8
11-Jun	10	9	9	10	10	11	10	11	16	18	17	12	8	9	10	14	17	14	11	9	11	11	14	14	11.8	18.3
12-Jun	11	10	9	7	7	11	10	5	2	4	3	1	2	2	0	1	3	4	4	10	15	9	14	17	6.9	17.2
13-Jun	15	12	10	9	11	8	8	8	2	0	0	4	2	6	2	6	5	5	5	5	10	12	7	7	6.6	14.7
14-Jun	8	6	9	7	8	9	10	8	8	0	4	4	4	4	4	9	7	7	5	2	7	9	8	6	6.4	9.9
15-Jun	7	7	9	8	9	10	9	15	15	11	16	6	8	4	7	7	7	4	10	15	12	9	9	0	8.9	15.6
16-Jun	1	0	0	0	0	1	0	0	0	0	0	1	1	2	0	0	0	1	0	1	5	4	3	4	1.0	4.6
17-Jun	4	4	2	2	3	6	6	6	0	BD	0	BD	0	0	0	1	0	0	15	12	19	5	3	2	4.2	18.7
18-Jun	1	1	0	0	0	2	3	4	6	10	11	11	11	11	12	14	14	12	12	11	8	12	4	6	7.4	14.1
19-Jun	4	3	2	2	3	3	4	5	9	0	0	2	1	3	4	6	5	5	6	8	10	5	4	6	4.2	9.7
20-Jun	4	1	2	4	3	5	4	0	0	BD	BD	BD	0	BD	BD	0	0	0	0	0	3	3	1	1	1.7	5.0
21-Jun	1	3	4	2	0	3	3	2	2	0	0	3	2	1	2	2	2	3	3	5	5	8	10	6	2.9	9.6
22-Jun	6	2	3	0	BD	0	1	0	0	0	0	1	0	0	3	2	0	C	C	NS	NS	NS	NS	NS	--	5.6
23-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
24-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
25-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
26-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
27-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	9	9	8	8	6	7	9	10	10	11	12	--	11.5
28-Jun	8	N	N	N	N	N	N	N	N	N	C	C	C	0	2	9	7	7	5	5	3	3	4	4	--	9.3
29-Jun	3	4	3	3	3	4	5	8	6	6	7	7	5	8	9	7	7	8	8	6	6	6	5	5	5.7	9.3
30-Jun	6	6	4	3	5	6	6	9	9	7	7	6	5	7	6	5	5	6	6	4	4	6	8	6	5.8	9.5
	5.3	4.5	4.5	4.1	4.8	5.5	6.0	5.9	5.4	4.2	3.5	3.4	3.1	3.9	4.0	4.8	4.5	4.6	5.6	6.3	10.6	9.1	7.0	6.2	Diurnal Average	
	14.7	12.2	10.3	9.9	11.4	11.0	12.6	15.3	16.3	18.3	16.9	12.3	10.9	11.3	11.6	14.1	16.5	13.7	14.9	14.5	44.5	34.8	17.1	17.2	Diurnal Maximum	

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

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



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 144.6 $\mu g/m^3$ on Jun 9 21:00

Maximum Daily Average: 18.0 $\mu g/m^3$ on Jun 15

Minimum Value: 0 $\mu g/m^3$ on Jun 16 02:00

Minimum Daily Average: 5.1 $\mu g/m^3$ on Jun 16

Maximum Diurnal Average: 23.3 $\mu g/m^3$ at hour 21

Minimum Diurnal Average: 6.6 $\mu g/m^3$ at hour 4

Monthly Average: 9.96 $\mu g/m^3$

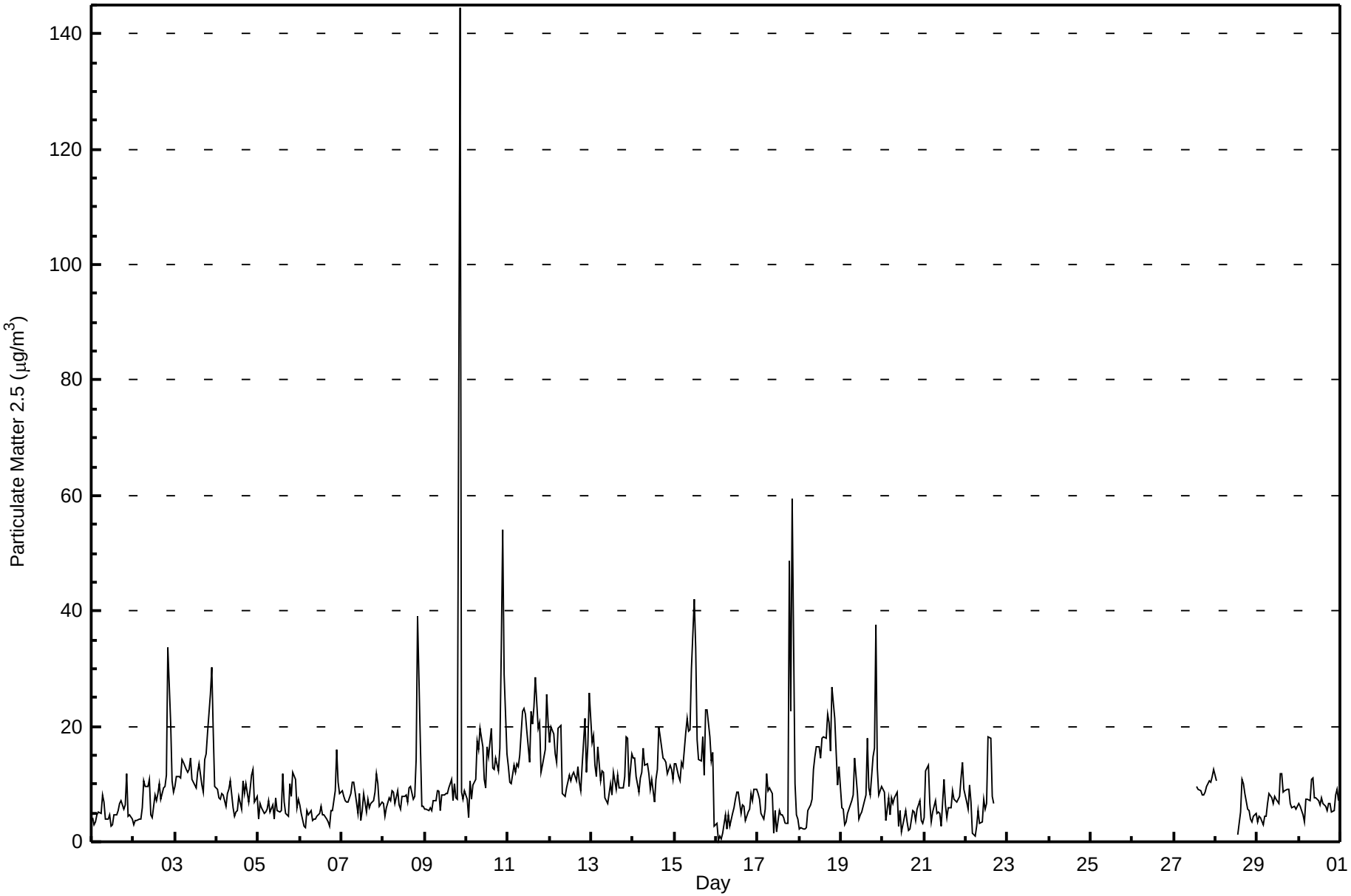
Percentiles: P_1 = 1.5 P_{10} = 3.9 Q_1 = 5.5 Median = 8.2 Q_3 = 12.0 P_{90} = 17.9 P_{99} = 37.8

Hours in Service:	607
Hours of Data:	592
Hours of Missing Data:	15
Hours of Calibration:	6
Percent Operational Time:	98.5

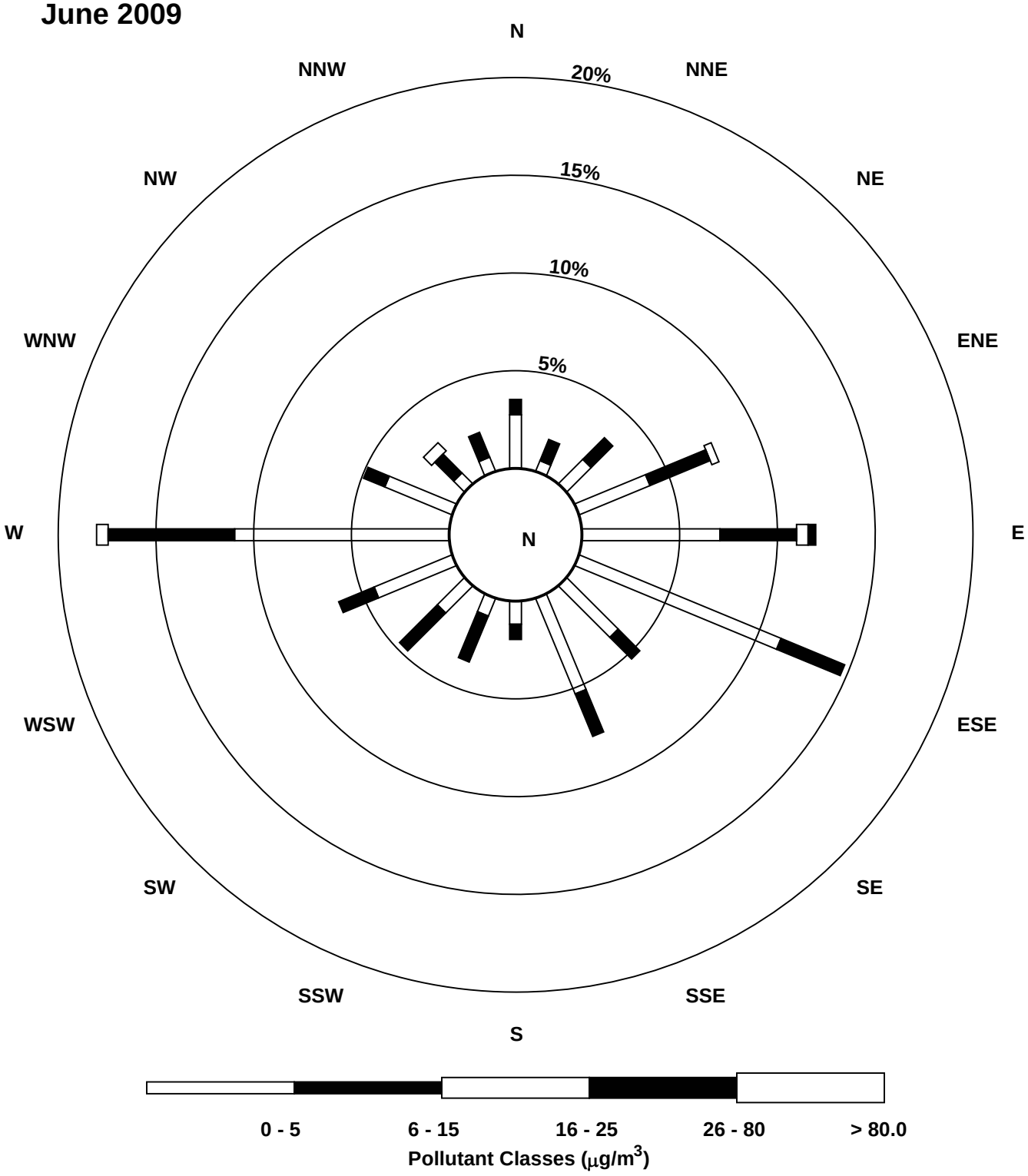
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jun	4	3	3	5	5	5	8	7	4	4	5	3	3	5	5	5	7	7	6	6	12	4	5	4	5.2	11.7
2-Jun	3	4	4	4	4	6	11	10	9	11	5	4	8	7	8	10	7	9	10	12	34	21	10	9	9.1	33.6
3-Jun	10	11	11	11	14	14	13	12	13	15	11	10	9	12	13	10	9	14	15	19	26	30	19	10	13.8	30.3
4-Jun	9	8	7	8	8	6	8	9	11	6	4	5	6	8	6	11	8	10	7	9	12	13	7	8	8.1	12.6
5-Jun	4	7	6	5	5	6	7	5	6	4	8	5	5	5	12	7	5	4	10	8	12	11	6	7	6.7	12.0
6-Jun	6	5	3	2	6	5	5	4	4	4	4	5	6	5	5	4	3	3	5	5	9	16	10	8	5.5	16.1
7-Jun	9	8	7	7	7	8	10	10	9	5	8	4	5	8	5	7	6	7	7	9	12	10	6	7	7.6	11.8
8-Jun	7	4	6	8	7	9	9	7	9	6	6	8	8	8	7	9	10	7	8	14	39	17	6	6	9.3	39.1
9-Jun	6	6	5	6	5	7	7	9	9	6	8	8	8	8	9	11	7	10	8	7	145	9	7	9	13.3	144.6
10-Jun	7	4	11	7	10	11	17	16	20	16	11	9	17	15	20	13	12	15	12	16	33	54	29	15	16.3	54.1
11-Jun	13	10	10	13	12	13	13	15	23	23	22	19	14	23	20	23	28	20	21	12	13	16	26	21	17.6	28.4
12-Jun	17	20	19	15	14	20	20	8	8	8	9	11	11	12	12	11	13	10	9	13	21	12	17	26	14.0	25.9
13-Jun	17	18	13	11	17	11	12	12	8	7	8	10	8	12	9	12	9	9	9	11	18	18	10	15	11.9	18.3
14-Jun	14	15	11	9	11	12	16	13	13	12	9	11	7	11	12	20	18	15	14	14	12	13	13	11	12.8	19.9
15-Jun	14	13	11	11	14	13	19	21	19	19	30	42	34	18	14	14	18	11	23	23	18	14	15	3	18.0	42.1
16-Jun	3	0	1	1	2	5	2	5	3	5	6	7	9	9	5	6	6	4	5	6	8	7	9	9	5.1	9.2
17-Jun	8	7	5	4	6	12	9	9	8	1	5	2	6	5	5	4	3	3	49	23	59	10	5	4	10.5	59.4
18-Jun	2	2	2	2	2	5	6	7	12	15	17	16	15	18	18	18	22	21	16	27	21	16	10	13	12.7	26.7
19-Jun	6	6	3	3	5	6	7	8	15	8	4	5	5	6	8	18	9	8	15	16	38	13	8	10	9.6	37.5
20-Jun	9	9	4	8	5	8	7	8	9	3	5	2	4	5	3	2	2	5	5	4	6	7	4	3	5.2	9.2
21-Jun	4	12	13	7	4	5	7	5	5	5	3	11	6	4	6	6	9	7	7	7	8	11	14	9	7.3	13.7
22-Jun	7	6	10	7	1	1	3	5	3	3	7	6	7	18	18	8	7	C	C	NS	NS	NS	NS	NS	--	18.1
23-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
24-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
25-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
26-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
27-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	10	9	9	8	8	9	10	11	10	11	13	--	12.5
28-Jun	11	N	N	N	N	N	N	N	N	N	C	C	C	1	5	11	10	8	6	5	4	3	4	5	--	10.8
29-Jun	4	4	4	3	4	4	7	8	8	7	8	7	7	12	12	9	9	9	9	7	6	6	6	6	6.9	11.8
30-Jun	7	6	5	3	7	7	7	11	11	8	8	7	6	8	7	6	5	7	7	5	5	8	9	7	7.0	11.0
	8.0	7.9	7.3	6.6	7.3	8.3	9.6	9.4	9.9	8.3	8.8	9.1	8.9	9.7	9.8	10.1	9.7	9.3	11.6	11.5	23.3	14.0	10.6	9.5	Diurnal Average	
	17.2	19.9	18.6	15.2	16.5	19.7	20.3	21.4	22.6	23.0	30.1	42.1	33.6	22.5	20.4	23.3	28.4	20.7	48.7	26.7	144.6	54.1	29.1	25.9	Diurnal Maximum	

C - Calibration N - Not Valid NS - Not in service

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



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



Peace Airshed Zone Association
Summary of Hourly Averages

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

Maximum Value: 27.9 ^{o}C on Jun 12 16:00

Maximum Daily Average: 20.3 ^{o}C on Jun 13

Minimum Value: 2 ^{o}C on Jun 6 05:00

Minimum Daily Average: 7.9 ^{o}C on Jun 6

Maximum Diurnal Average: 19.6 ^{o}C at hour 16

Minimum Diurnal Average: 7.7 ^{o}C at hour 5

Monthly Average: 14.53 ^{o}C

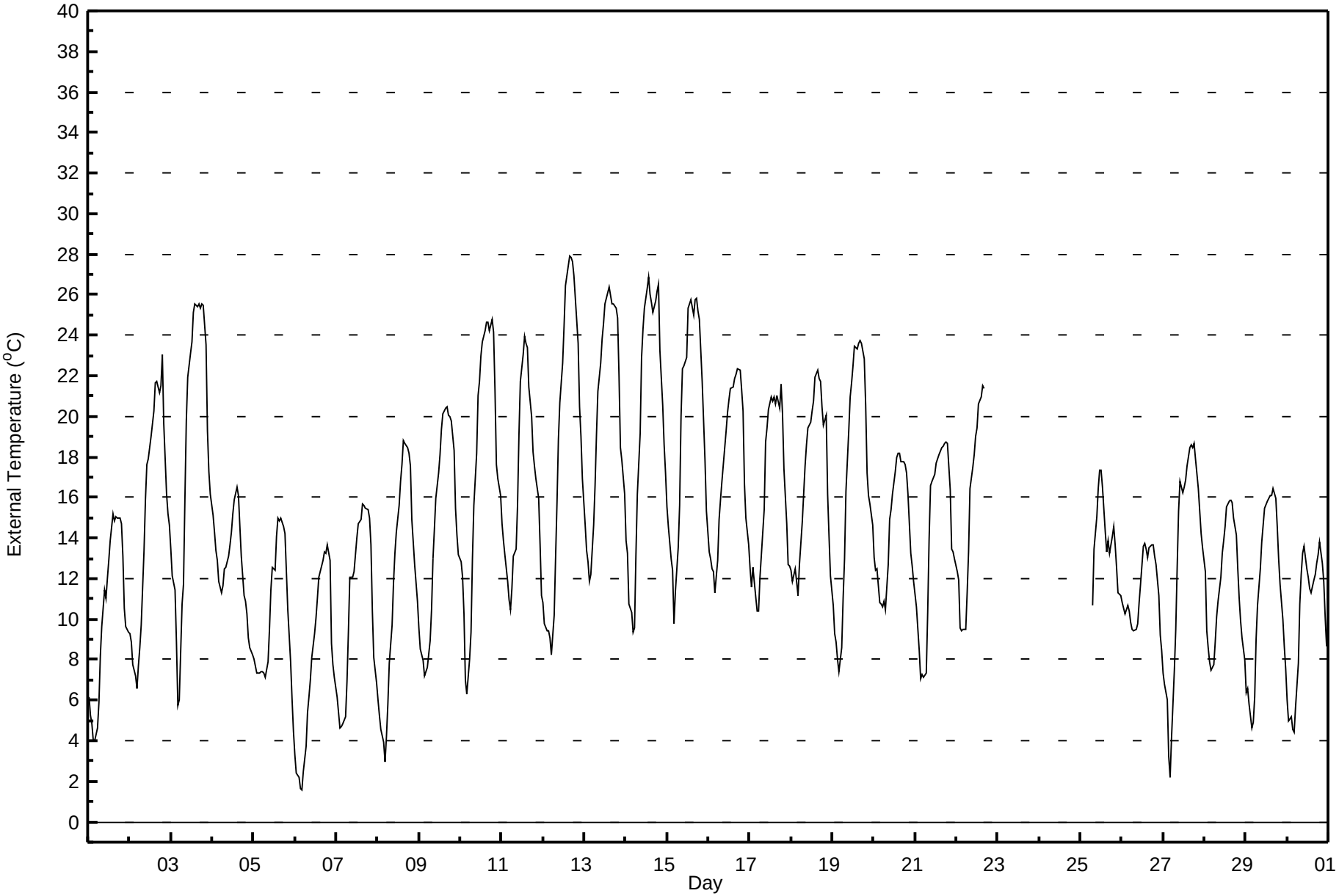
Percentiles: P_1 = 3.2 P_{10} = 7.3 Q_1 = 10.5 Median = 13.7 Q_3 = 18.5 P_{90} = 22.9 P_{99} = 26.5

Hours in Service:	658
Hours of Data:	658
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-Jun	6	5	5	4	4	5	6	8	10	11	11	12	13	14	15	15	15	15	15	15	13	11	10	9	10.3	15.2
2-Jun	9	9	8	7	7	8	9	10	13	16	18	18	19	20	20	22	22	21	22	23	20	16	15	15	15.2	23.1
3-Jun	13	12	11	9	6	6	11	12	16	20	22	23	24	25	26	25	26	25	26	26	24	19	17	16	18.3	25.6
4-Jun	15	14	13	13	12	11	12	12	13	13	14	14	15	16	17	16	15	13	11	11	10	9	9	8	12.8	16.5
5-Jun	8	8	7	7	7	7	7	7	8	9	11	13	12	14	15	15	15	15	14	12	10	8	6	5	10.1	15.0
6-Jun	3	2	2	2	2	2	4	5	6	7	8	9	10	11	12	13	13	13	13	14	13	9	8	7	7.9	13.6
7-Jun	6	5	5	5	5	5	7	9	12	12	12	13	14	15	15	16	16	15	15	15	14	10	8	7	10.7	15.7
8-Jun	6	5	5	4	3	4	6	8	10	12	13	14	16	17	18	19	19	18	18	18	15	13	12	11	11.7	18.8
9-Jun	10	9	8	7	7	8	9	10	13	14	16	17	18	19	20	20	20	20	20	20	18	15	14	13	14.5	20.4
10-Jun	13	12	10	7	6	8	9	13	16	18	21	22	23	24	24	25	25	24	25	24	21	18	17	16	17.5	24.8
11-Jun	15	14	13	12	11	10	11	13	13	16	19	22	23	24	24	23	21	20	18	18	17	16	14	11	16.6	24.0
12-Jun	11	10	9	9	9	8	10	13	16	19	21	23	24	26	27	28	28	28	27	26	24	20	19	17	18.8	27.9
13-Jun	15	13	13	12	12	15	17	19	21	23	24	25	26	26	26	26	26	26	25	25	22	18	18	16	20.3	26.4
14-Jun	14	13	11	10	9	10	13	16	19	23	24	25	26	27	26	26	25	26	26	27	23	21	19	17	19.8	26.8
15-Jun	16	15	13	12	10	11	14	16	20	22	22	23	25	26	26	25	26	26	25	25	22	20	18	15	19.6	25.8
16-Jun	13	13	12	12	11	13	15	16	17	18	19	20	21	21	21	22	22	22	22	21	20	17	15	14	17.5	22.3
17-Jun	13	12	13	11	10	10	12	13	15	19	19	20	21	21	21	21	21	20	22	20	17	15	13	13	16.3	21.6
18-Jun	12	12	12	12	11	13	15	16	18	19	19	20	20	21	22	22	22	22	20	20	20	16	14	12	17.1	22.3
19-Jun	11	9	9	8	7	9	11	13	16	19	21	22	22	23	23	24	24	24	23	21	17	16	16	15	16.8	23.7
20-Jun	13	12	12	11	11	11	11	10	13	15	15	16	17	18	18	18	18	18	18	17	16	13	13	12	14.4	18.2
21-Jun	11	11	8	7	7	7	7	10	14	17	17	17	18	18	18	18	19	19	19	19	16	13	13	13	14.0	18.7
22-Jun	12	12	10	9	9	10	11	13	16	18	18	19	19	21	21	22	21	NS	NS	NS	NS	NS	NS	NS	--	21.5
23-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
24-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
25-Jun	NS	NS	NS	NS	NS	NS	NS	11	13	15	16	17	17	16	14	13	14	13	14	15	14	13	11	11	--	17.4
26-Jun	11	11	10	11	10	10	9	9	9	10	11	12	14	14	13	13	13	14	14	13	13	11	9	8	11.4	13.7
27-Jun	7	7	6	3	2	4	7	9	13	15	17	16	17	17	18	18	19	18	19	18	16	15	14	14	12.9	18.7
28-Jun	12	9	9	8	7	8	9	10	11	12	13	14	15	16	16	16	16	15	14	12	11	10	9	8	11.7	15.9
29-Jun	6	7	6	5	5	6	9	11	12	14	15	15	16	16	16	16	16	16	15	13	12	10	9	8	11.3	16.4
30-Jun	6	5	5	5	4	6	8	11	12	13	14	12	12	11	11	12	12	13	13	14	13	12	10	9	10.1	13.8
	10.7	9.8	9.1	8.2	7.7	8.3	10.0	11.6	13.8	15.7	16.8	17.6	18.5	19.1	19.4	19.6	19.5	19.2	19.0	18.5	16.7	14.2	12.9	11.8	Diurnal Average	
	15.6	14.6	13.4	12.9	12.2	14.6	16.6	19.1	21.2	22.9	24.3	25.3	26.3	26.8	26.9	27.9	27.9	27.6	26.9	26.5	23.6	20.6	19.0	17.2	Diurnal Maximum	

NS - Not in service

Hourly Averages for External Temperature at Beaverlodge
June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Maximum Value: 93.5 % on Jun 12 05:00

Maximum Daily Average: 59.6 % on Jun 1

Minimum Value: 13 % on Jun 13 15:00

Minimum Daily Average: 31.6 % on Jun 13

Maximum Diurnal Average: 69.5 % at hour 5

Minimum Diurnal Average: 28.6 % at hour 16

Monthly Average: 45.72 %

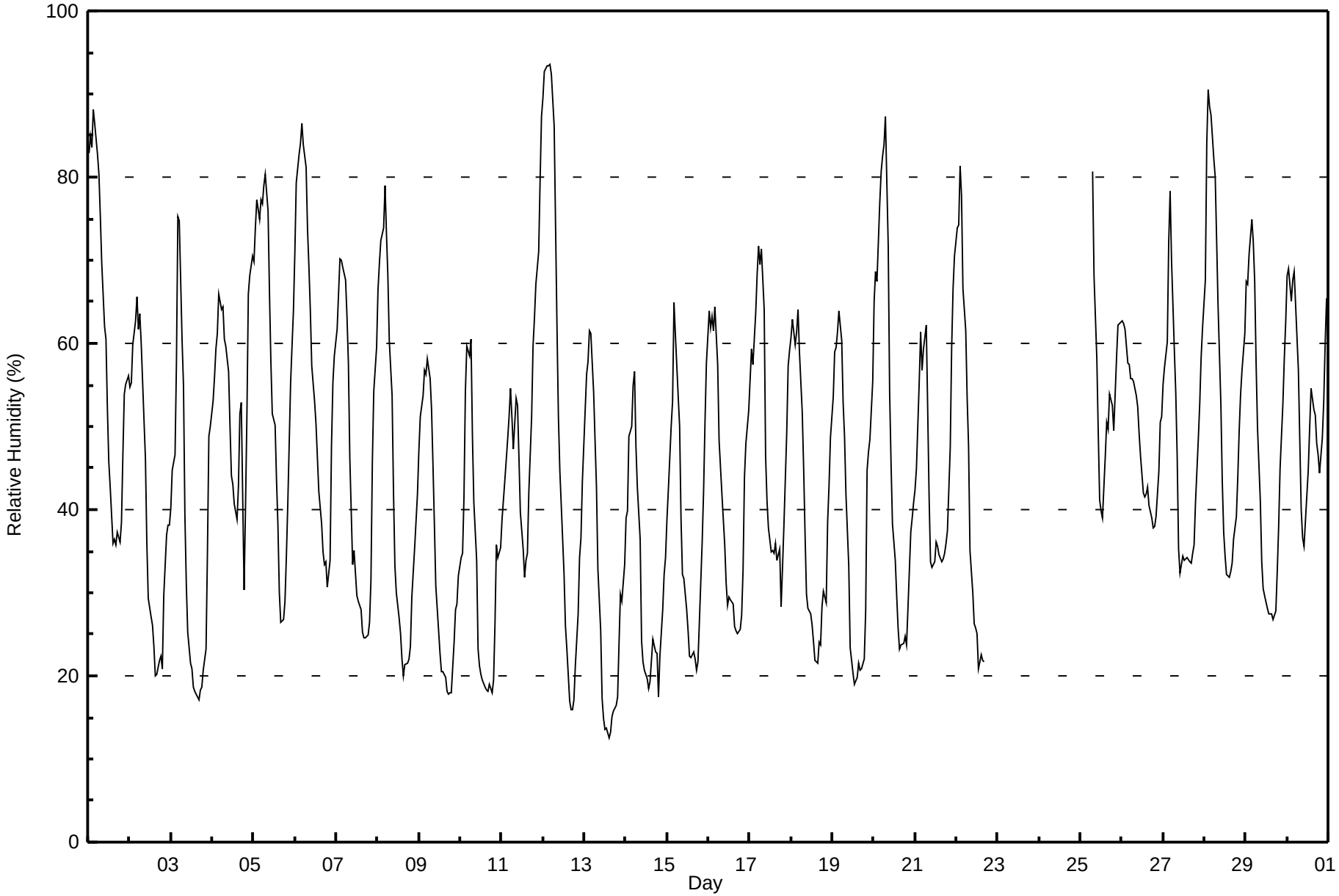
Percentiles: P_1 = 16.0 P_{10} = 21.9 Q_1 = 30.2 Median = 44.4 Q_3 = 59.4 P_{90} = 70.7 P_{99} = 89.5

Hours in Service:	658
Hours of Data:	658
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-Jun	83	85	84	88	86	83	80	75	70	62	61	52	46	43	36	37	36	37	36	38	47	54	55	56	59.6	88.2
2-Jun	55	55	60	63	66	62	64	60	51	46	36	29	27	26	24	20	20	22	22	21	30	37	38	38	40.4	65.6
3-Jun	40	45	47	58	75	75	60	55	39	31	25	22	21	19	18	18	17	18	19	21	23	35	49	50	36.6	75.2
4-Jun	53	56	59	61	66	64	64	61	60	57	50	44	43	41	39	43	51	53	30	40	51	66	68	71	53.8	70.5
5-Jun	70	74	77	75	77	77	79	80	76	66	58	52	50	44	38	30	26	27	29	34	41	55	60	64	56.6	80.3
6-Jun	71	79	83	84	86	84	81	74	69	64	57	53	50	46	42	38	35	33	34	31	34	48	55	58	57.9	86.4
7-Jun	62	66	70	70	69	68	63	58	46	33	35	32	30	29	28	25	25	25	25	26	32	46	54	59	44.8	70.2
8-Jun	66	70	72	74	79	73	68	60	54	42	33	30	27	25	22	20	21	22	22	24	29	35	39	42	43.7	79.0
9-Jun	47	51	54	57	56	58	56	52	45	38	31	25	23	21	20	20	18	18	18	18	24	28	29	32	35.0	58.1
10-Jun	34	35	41	54	60	58	61	49	41	34	23	21	20	19	19	18	18	19	18	20	26	36	34	35	33.1	60.6
11-Jun	39	41	44	48	51	55	51	47	53	52	46	40	35	32	34	35	42	51	60	63	67	71	79	87	51.0	87.2
12-Jun	90	93	93	93	94	92	86	74	62	51	45	36	32	26	23	17	16	16	17	21	27	34	37	43	50.8	93.5
13-Jun	52	56	58	62	61	54	48	43	33	25	17	15	14	14	13	13	15	16	16	17	24	30	29	33	31.6	61.5
14-Jun	39	40	49	50	55	57	48	43	36	24	22	21	20	19	19	22	24	23	23	18	22	28	32	34	31.9	56.6
15-Jun	39	42	50	53	65	61	54	50	39	32	32	28	25	22	22	23	22	21	22	26	36	42	50	58	38.1	65.0
16-Jun	64	62	63	62	64	58	48	45	42	36	31	28	29	29	29	26	25	25	26	27	33	44	48	52	41.5	64.4
17-Jun	56	59	57	64	68	72	69	71	64	47	41	38	35	35	35	36	34	35	28	33	38	49	57	59	49.2	71.7
18-Jun	61	63	60	61	64	59	52	45	37	30	28	27	26	24	22	21	24	24	28	30	29	38	43	49	39.4	64.1
19-Jun	54	59	59	61	64	60	53	49	42	33	23	22	20	19	20	22	21	21	22	28	45	47	48	55	39.5	63.9
20-Jun	65	69	67	77	81	82	84	87	72	54	46	38	34	30	26	23	24	24	25	24	28	37	39	41	49.0	87.2
21-Jun	42	45	55	61	57	59	62	52	42	34	33	34	36	36	35	34	34	35	36	37	47	59	67	70	46.0	70.5
22-Jun	74	74	81	78	67	61	53	48	35	30	26	26	25	21	23	22	22	NS	NS	NS	NS	NS	NS	NS	--	81.4
23-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
24-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
25-Jun	NS	NS	NS	NS	NS	NS	NS	81	68	58	49	41	40	39	46	51	50	54	53	49	54	58	62	63	--	80.8
26-Jun	63	62	62	58	57	56	56	55	54	52	49	46	42	41	42	43	40	39	38	38	39	45	50	51	49.1	62.8
27-Jun	55	57	60	72	78	70	59	54	46	35	32	34	34	34	34	34	34	35	36	41	49	53	58	62	48.2	78.3
28-Jun	68	84	91	88	87	82	80	72	65	53	43	37	34	32	32	33	34	36	39	44	49	54	57	61	56.5	90.5
29-Jun	67	67	71	75	72	68	58	50	41	34	31	30	28	27	27	27	27	28	32	38	45	53	58	63	46.5	75.0
30-Jun	68	69	65	68	69	65	57	48	40	37	36	42	45	50	55	52	51	48	47	44	49	53	60	65	53.4	69.0
	58.4	61.4	64.2	67.2	69.5	67.1	62.8	58.5	50.7	42.5	37.1	33.7	31.9	30.1	29.3	28.6	28.8	29.8	29.6	31.6	37.7	45.7	50.2	53.8	Diurnal Average	
	89.5	92.7	93.4	93.3	93.5	92.3	86.0	87.2	76.0	66.2	60.5	53.1	50.3	49.8	54.6	52.1	51.5	53.9	59.7	63.1	67.1	71.1	79.4	87.2	Diurnal Maximum	

NS - Not in service

Hourly Averages for Relative Humidity at Beaverlodge
June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge
June 1, 2009 to July 1, 2009
WS (km/h), WD (deg)

Day	Hourly Period Ending At (MST)																							Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1 Spd	1	2	4	1	4	4	1	4	8	6	4	5	6	9	6	10	9	13	11	11	9	7	7	7	5.1	13.1
Dir	46	49	38	339	23	42	171	172	148	141	20	88	83	89	104	107	114	115	101	95	101	72	77	79	95.6	115.0
2 Spd	7	6	5	6	3	3	2	4	2	1	2	4	5	4	5	3	3	4	3	2	6	5	5	4	2.3	7.3
Dir	80	91	110	107	135	251	274	305	287	192	133	134	112	137	96	44	267	140	214	63	96	66	72	81	102.1	80.2
3 Spd	2	3	4	0	0	1	1	4	3	2	3	4	3	1	3	3	4	4	3	3	3	8	17	17	1.0	17.0
Dir	90	62	62	41	219	61	145	204	236	203	217	254	256	298	10	227	245	228	217	236	237	72	78	80	108.0	77.9
4 Spd	13	7	9	5	8	11	11	12	14	16	20	23	23	20	19	20	25	23	18	13	8	9	9	9	14.1	24.8
Dir	74	82	78	96	53	66	83	96	103	100	96	101	110	102	109	95	86	81	88	105	101	74	103	97	92.7	85.8
5 Spd	6	7	8	7	7	7	10	11	5	4	4	5	4	5	6	11	16	16	19	23	17	13	8	8	8.5	22.9
Dir	73	64	63	82	66	63	78	90	71	62	51	46	53	339	350	60	66	69	90	99	101	119	115	105	79.0	99.1
6 Spd	8	9	8	8	5	4	4	8	8	10	11	11	11	13	11	14	14	10	9	9	8	8	11	10	8.4	14.0
Dir	110	106	90	93	81	86	90	119	118	134	146	148	159	157	153	149	158	155	121	122	121	102	112	116	129.1	158.3
7 Spd	10	8	7	5	3	1	3	2	3	12	16	15	14	12	13	13	13	14	13	14	11	13	9	11	9.2	16.2
Dir	116	107	96	83	76	264	265	215	154	121	108	110	129	112	101	122	108	109	114	116	116	127	121	119	114.7	108.1
8 Spd	11	10	9	4	1	3	8	8	9	11	14	14	12	11	9	7	8	8	13	13	12	12	14	15	9.4	15.0
Dir	118	115	116	102	240	148	116	151	139	137	135	134	134	134	150	141	114	108	108	99	97	107	112	117	122.2	117.0
9 Spd	14	12	11	7	7	8	8	7	6	8	9	7	7	6	6	5	5	7	8	8	4	4	6	7	6.8	13.6
Dir	118	113	115	95	93	113	117	133	115	117	111	95	127	115	87	88	26	102	108	114	91	63	49	55	103.4	118.0
10 Spd	4	1	2	0	0	1	3	5	5	4	4	3	1	4	5	2	4	1	2	3	4	4	4	4	0.7	5.1
Dir	74	67	308	62	192	31	286	302	272	240	243	235	274	236	271	213	304	155	273	162	141	94	95	98	238.1	270.9
11 Spd	4	4	3	3	2	3	1	2	2	7	10	12	13	13	13	10	3	10	9	4	2	2	1	1	1.5	13.3
Dir	98	103	142	194	160	158	215	238	316	312	311	331	323	355	23	48	60	229	199	154	209	65	204	61	337.9	322.6
12 Spd	1	2	3	1	2	2	2	6	8	5	9	8	7	5	9	13	14	15	15	12	11	9	8	1	4.8	15.4
Dir	74	56	54	327	82	181	139	207	214	185	168	189	200	242	239	295	267	275	270	267	275	284	278	267	251.0	274.6
13 Spd	3	1	3	2	1	11	10	13	21	24	24	27	27	23	22	20	19	19	17	15	9	9	8	5	12.8	26.8
Dir	77	129	212	186	166	242	256	264	261	273	272	265	275	273	280	272	293	297	289	285	271	271	324	315	274.7	274.5
14 Spd	1	1	4	3	2	1	2	3	7	10	11	6	10	8	5	8	12	9	9	6	9	9	9	7	0.9	12.3
Dir	66	177	92	80	99	151	102	234	232	286	285	280	286	290	229	193	173	164	152	327	25	36	41	18	262.6	173.3
15 Spd	5	4	9	10	1	3	5	5	2	2	4	4	5	3	3	4	7	7	9	7	9	6	13	13	1.0	12.8
Dir	23	13	339	345	36	338	340	309	281	245	265	200	160	167	154	93	109	103	111	150	227	268	274	275	288.2	275.5
16 Spd	10	13	12	11	7	4	16	22	25	27	31	32	25	25	28	27	23	19	19	15	9	10	3	2	16.9	31.8
Dir	265	263	260	261	259	260	265	258	263	266	273	282	281	263	270	265	275	274	274	278	269	273	275	84	269.4	282.3
17 Spd	2	2	2	2	2	4	2	5	7	13	18	20	25	23	23	19	15	9	22	25	19	16	9	7	11.0	25.0
Dir	94	88	256	128	148	155	235	216	241	264	269	269	268	274	267	264	282	268	280	267	260	260	259	241	264.6	266.8
18 Spd	7	3	2	1	2	4	18	23	27	28	22	20	20	19	19	20	18	18	17	9	10	8	6	0	12.9	27.6
Dir	248	209	219	58	83	257	264	258	267	275	276	282	278	271	272	274	267	268	261	270	268	269	272	337	269.1	275.2
19 Spd	4	2	3	4	1	2	2	3	5	6	7	8	8	7	6	11	6	5	9	10	13	5	1	11	3.8	13.1
Dir	76	106	80	220	157	92	169	181	218	278	306	309	304	281	294	254	261	278	254	193	251	209	253	279	260.9	251.5
20 Spd	5	5	4	2	3	6	6	6	9	16	21	22	18	19	22	21	20	19	18	17	12	7	3	6	11.7	21.9
Dir	237	297	329	236	271	250	267	279	286	277	274	259	258	250	257	263	263	274	275	289	276	272	252	277	268.5	257.2
21 Spd	6	5	3	4	6	3	4	2	1	4	5	9	10	4	8	8	4	5	8	9	10	6	6	0	3.3	9.9
Dir	290	316	132	224	324	118	156	239	205	256	168	149	164	152	115	155	162	151	149	146	148	111	87	0	154.2	164.1
22 Spd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	0.0
Dir	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	0.0

Peace Airshed Zone Association
Summary of Hourly Averages

Beaverlodge
June 1, 2009 to July 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
23 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	--	--
24 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	--	--
25 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	--	--
26 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	--	--
27 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	--	--
28 Spd	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
Dir	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
29 Spd	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
Dir	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
30 Spd	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
Dir	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
Spd	2.8	2.3	2.3	1.1	1.3	0.8	1.0	2.9	3.9	4.1	3.8	3.4	3.8	3.4	3.1	2.9	2.0	1.6	2.2	1.9	1.8	1.2	2.3	2.4	Diurnal Average	
Dir	97.7	94.8	84.0	100.1	70.4	129.5	226.1	227.9	235.6	249.1	254.3	248.2	244.8	247.2	252.9	234.2	239.8	207.7	202.4	179.9	190.2	104.3	87.4	89.0		
Spd	13.6	13.4	12.4	11.3	8.2	11.3	18.3	22.6	26.6	27.6	31.4	31.8	26.8	24.6	28.1	26.6	24.8	22.9	21.5	25.0	18.7	15.8	17.0	16.8	Diurnal Maximum	
Dir	118.0	263.1	259.6	261.4	53.1	65.5	263.7	257.9	267.1	275.2	272.9	282.3	274.5	263.0	270.5	264.9	85.8	80.7	279.7	266.8	260.2	260.2	77.9	79.9		

Maximum Speed Value: 32 km/h on Jun 16 12:00
Minimum Speed Value: 0 km/h on Jun 22 00:00
Maximum Daily Speed Average: 16.9 km/h on Jun 16
Minimum Daily Speed Average: 0.7 km/h on Jun 10
Maximum Diurnal Speed Average: 4.1 km/h at hour 10
Minimum Diurnal Speed Average: 0.8 km/h at hour 6

Monthly Average Velocity: 1.18 km/h 216.00 deg
Speed Percentiles: P_1 = 0.0 P_{10} = 1.5 Q_1 = 3.5 Median = 7.1 Q_3 = 11.5 P_{90} = 18.8 P_{99} = 26.9
All monthly, daily, and diurnal averages have been calculated using vector methods

Hours in Service:	519
Hours of Data:	519
Hours of Missing Data:	0
Percent Operational Time:	100.0

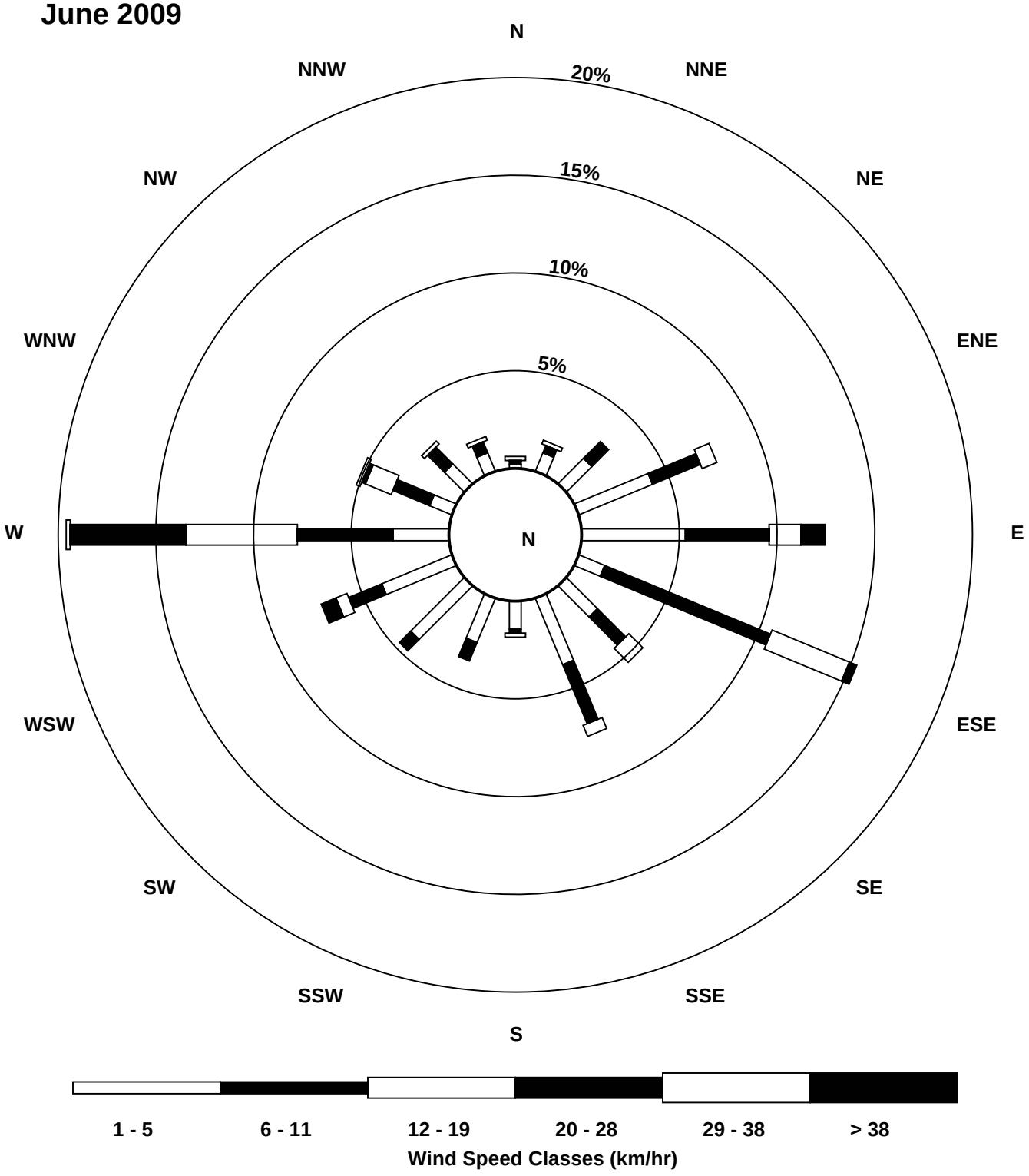
NS - Not in service

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	22	5	1	0	0	0	28
NorthEast	27	14	4	0	0	0	45
East	34	53	22	9	0	0	118
SouthEast	25	41	22	0	0	0	88
South	19	10	2	0	0	0	31
SouthWest	40	9	0	0	0	0	49
West	23	35	36	36	3	0	133
NorthWest	12	10	5	0	0	0	27
Total	202	177	92	45	3	0	519

Wind Rose for WS at Beaverlodge

June 2009



Maximum Speed: 32 km/h on Jun 16 12:00

Maximum Daily Speed Average: 17.5 km/h on Jun 16

Minimum Speed: 0 km/h on Jun 22 00:00

Minimum Daily Speed Average: 3.9 km/h on Jun 10

Maximum Diurnal Speed Average: 12.7 km/h at hour 16

Minimum Diurnal Speed Average: 3.8 km/h at hour 5

Monthly Average Speed: 8.97 km/h

Percentiles: P_1 = 0.0 P_{10} = 2.4 Q_1 = 4.2 Median = 7.5 Q_3 = 12.0 P_{90} = 19.1 P_{99} = 27.3

Hours in Service: 519
Hours of Data: 519
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-Jun	2	2	5	3	6	5	2	6	8	6	5	6	6	10	7	10	10	13	11	11	9	7	7	7	6.8	13.3
2-Jun	7	6	5	6	4	3	3	5	3	3	4	6	6	6	6	5	4	5	4	2	6	6	5	4	4.7	7.3
3-Jun	2	3	4	1	0	2	1	4	3	2	3	5	4	3	5	5	5	4	3	3	4	8	17	17	4.6	17.0
4-Jun	13	7	9	6	8	11	11	12	14	16	21	23	23	20	19	21	25	23	18	14	9	10	9	9	14.7	25.0
5-Jun	6	7	9	7	7	7	10	11	5	5	5	6	5	6	8	12	16	16	20	23	18	13	8	8	9.9	23.1
6-Jun	8	9	8	8	5	4	4	8	8	10	11	11	11	14	12	15	14	12	10	9	8	8	11	10	9.4	14.7
7-Jun	10	8	7	5	3	2	3	2	4	12	17	15	15	13	14	13	14	14	14	14	11	13	9	11	10.1	16.8
8-Jun	11	10	9	4	2	4	8	8	9	12	14	14	13	12	10	8	10	9	13	13	12	12	14	15	10.3	15.0
9-Jun	14	12	11	7	8	8	8	7	6	9	10	8	8	7	7	7	7	8	9	8	5	4	6	7	7.9	13.6
10-Jun	4	1	2	0	0	2	3	5	5	5	5	6	5	6	7	4	6	3	3	4	5	4	4	4	3.9	6.9
11-Jun	4	4	3	3	2	3	2	2	3	7	11	13	14	15	14	12	8	10	9	4	3	2	2	1	6.4	14.5
12-Jun	2	2	3	2	3	4	3	6	8	6	9	9	8	6	10	13	15	16	15	12	11	9	8	2	7.6	15.8
13-Jun	3	3	4	4	4	11	10	13	21	24	25	27	27	23	22	20	19	19	17	15	9	9	8	6	14.3	27.0
14-Jun	2	2	4	3	4	4	3	3	7	11	11	7	11	9	7	9	13	10	10	9	9	9	9	8	7.3	13.0
15-Jun	6	5	10	10	3	5	6	5	4	3	4	4	6	7	6	4	8	8	9	9	10	6	13	13	6.9	13.2
16-Jun	10	13	13	11	7	4	16	22	25	27	32	32	25	25	28	27	23	19	19	15	9	10	5	2	17.5	32.1
17-Jun	3	3	3	2	2	4	4	5	7	14	19	21	25	23	24	19	15	9	22	25	19	16	9	7	12.4	25.4
18-Jun	7	4	2	1	2	4	18	23	27	28	23	20	20	19	20	20	19	18	17	10	11	8	6	3	13.8	27.8
19-Jun	4	3	3	4	2	2	2	3	5	7	9	9	10	9	8	13	8	6	9	15	14	7	3	12	6.9	14.8
20-Jun	7	6	5	4	3	6	6	7	10	17	21	22	18	20	23	22	21	20	19	17	12	7	4	6	12.5	22.6
21-Jun	6	6	3	5	7	4	5	3	3	5	7	10	11	5	9	9	6	5	8	9	10	6	6	0	6.1	10.6
22-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	0.0
23-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
24-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
25-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
26-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
27-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
28-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
29-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
30-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
	5.9	5.3	5.5	4.4	3.8	4.5	5.9	7.2	8.5	10.4	12.0	12.5	12.3	11.8	12.0	12.7	12.6	11.9	12.4	11.5	9.6	8.3	7.8	7.2	Diurnal Average	
	13.6	13.4	12.5	11.3	8.3	11.4	18.3	22.7	26.7	27.8	31.6	32.1	27.0	25.0	28.4	26.9	25.0	23.1	21.7	25.2	18.8	15.8	17.0	17.0	Diurnal Maximum	

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
June 1, 2009 to July 1, 2009

Maximum Value: 95.6 deg on Jun 10 06:00

Minimum Value: 2.0 deg on Jun 8 00:00

Percentiles: P_1 = 2.6 P_{10} = 6.5 Q_1 = 10.3 Median = 18.0 Q_3 = 41.2 P_{90} = 64.7 P_{99} = 85.3

Hours in Service:	519
Hours of Data:	519
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-Jun	82	51	23	63	43	54	74	44	16	24	52	32	23	27	45	19	27	10	18	13	9	5	4	4	81.8
2-Jun	5	7	7	8	42	18	30	17	58	80	75	56	46	63	40	65	62	41	61	38	10	11	14	9	80.0
3-Jun	23	10	12	81	27	59	69	15	32	47	47	51	57	78	73	67	52	41	34	15	53	56	4	9	81.5
4-Jun	11	16	9	16	6	7	19	9	6	10	8	9	7	9	11	13	6	6	5	11	20	22	10	12	22.3
5-Jun	16	9	17	13	10	12	12	7	18	28	51	41	35	54	48	23	12	13	15	7	10	6	10	5	54.4
6-Jun	5	5	4	7	15	19	12	12	17	13	13	15	17	18	17	19	12	28	23	20	18	4	4	3	28.1
7-Jun	4	7	10	7	19	45	23	38	59	14	16	17	17	20	19	21	16	15	15	10	10	3	6	2	59.2
8-Jun	3	3	4	43	77	37	21	13	12	12	11	14	22	24	32	35	39	26	11	10	4	3	3	3	77.2
9-Jun	3	4	4	14	13	4	13	15	27	16	20	37	36	34	43	62	43	53	18	12	11	10	3	11	61.8
10-Jun	9	38	73	79	88	96	48	16	18	23	40	69	93	58	49	73	77	77	69	66	28	7	8	12	95.6
11-Jun	12	12	32	35	21	19	75	70	55	18	16	19	19	27	19	33	85	10	14	10	67	35	66	85	84.6
12-Jun	83	66	43	68	65	58	59	17	14	26	16	38	39	69	28	19	18	12	10	7	6	2	4	87	86.6
13-Jun	19	63	65	57	73	7	12	12	5	8	10	9	8	13	12	14	8	8	11	7	7	13	16	42	73.2
14-Jun	71	62	18	9	57	78	37	49	13	33	16	41	26	31	62	22	23	15	13	54	9	7	11	23	78.0
15-Jun	47	43	20	45	86	73	41	13	59	67	20	30	51	82	74	40	28	24	19	36	21	15	19	10	85.8
16-Jun	5	5	6	4	9	25	7	6	7	8	6	8	10	10	10	9	11	10	10	4	9	11	74	47	74.4
17-Jun	41	46	83	43	26	31	80	9	17	14	14	12	10	11	9	10	13	21	9	6	7	3	5	8	83.0
18-Jun	10	41	74	46	65	55	5	5	6	7	11	13	11	14	13	12	14	13	9	14	19	4	10	81	81.4
19-Jun	21	23	23	30	56	18	28	27	27	30	38	45	43	49	40	49	52	53	24	49	31	47	84	12	84.3
20-Jun	44	48	27	69	20	8	11	16	14	12	7	12	14	13	14	14	14	14	9	8	7	6	12	13	68.7
21-Jun	19	50	16	42	46	44	27	40	81	51	75	28	24	51	23	15	47	38	23	21	7	14	11	41	81.0
22-Jun	79	10	38	33	14	11	7	13	20	23	18	29	19	22	32	NS	NS	NS	NS	NS	NS	NS	NS	NS	78.6
23-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
24-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
25-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
26-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
27-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
28-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
29-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
30-Jun	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
	83.2	65.8	83.0	81.5	87.8	95.6	80.1	69.6	81.0	80.0	75.1	69.0	92.7	82.0	73.6	72.6	84.6	76.6	68.8	65.7	67.4	56.1	84.3	86.6	

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
June 1, 2009 to July 1, 2009

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.8 ppb on Jun 2 10:00 Maximum Daily Average: 0.5 ppb on Jun 2

Minimum Value: 0 ppb on Jun 1 01:00
Maximum Diurnal Average: 0.4 ppb at hour 10
Monthly Average: 0.20 ppb

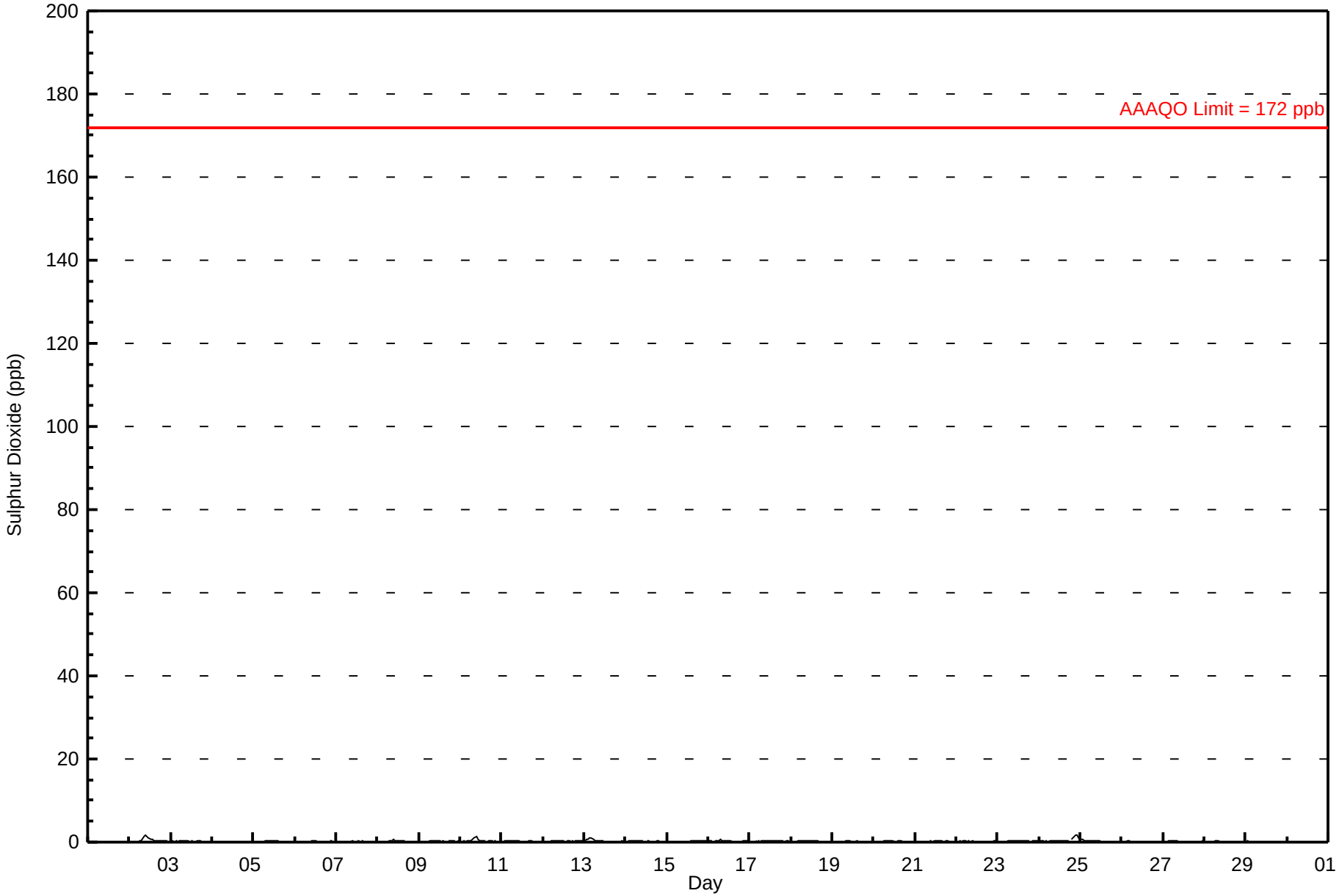
Minimum Daily Average: 0.0 ppb on Jun 4
Minimum Diurnal Average: 0.1 ppb at hour 1
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.2 Q_3 = 0.3 P_{90} = 0.4 P_{99} = 1.3

Hours in Service:	720
Hours of Data:	643
Hours of Missing Data:	77
Hours of Calibration:	32
Percent Operational Time:	93.8

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

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

Hourly Averages for SO_2 at Portable-Kinuso
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 2.5 ppb on Jun 2 09:00

Maximum Daily Average: 0.8 ppb on Jun 2

Minimum Value: 0 ppb on Jun 15 09:00

Minimum Daily Average: 0.4 ppb on Jun 22

Maximum Diurnal Average: 0.6 ppb at hour 10

Minimum Diurnal Average: 0.4 ppb at hour 16

Monthly Average: 0.49 ppb

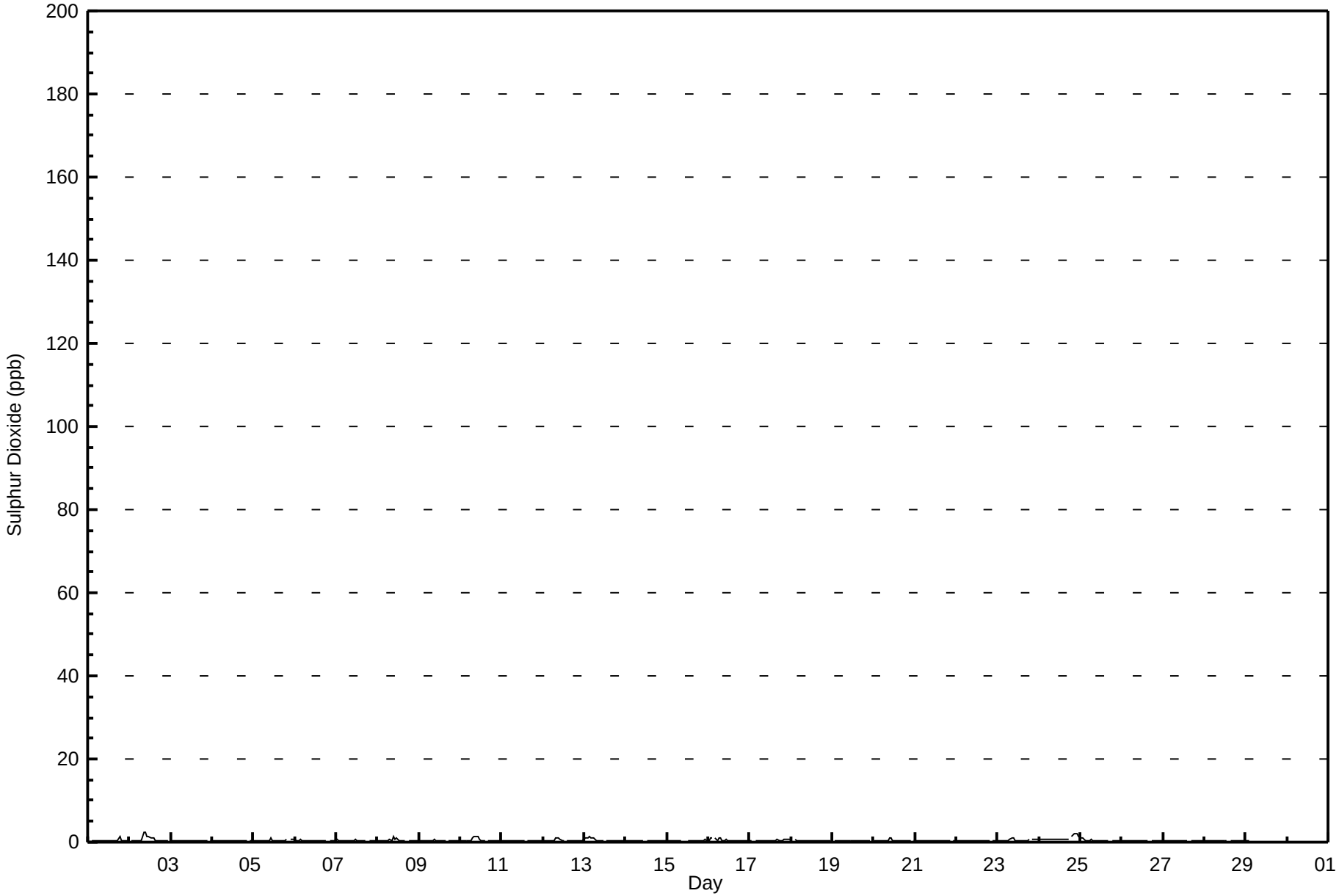
Percentiles: $P_1 = 0.3$ $P_{10} = 0.4$ $Q_1 = 0.4$ Median = 0.4 $Q_3 = 0.5$ $P_{90} = 0.5$ $P_{99} = 1.1$

Hours in Service:	720
Hours of Data:	643
Hours of Missing Data:	77
Hours of Calibration:	32
Percent Operational Time:	93.8

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.4	1.3
2-Jun	A	0	0	0	0	0	0	0	2	2	1	1	1	1	1	0	0	0	0	0	0	0	0	A	0.8	2.5
3-Jun	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
4-Jun	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
5-Jun	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	1	A	1	1	1	0.5	1.0
6-Jun	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	A	1	1	1	1	0.5	0.5
7-Jun	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	0	1	A	0	0	0	0	0	0.5	0.5
8-Jun	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0.5	1.4
9-Jun	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.4	0.6
10-Jun	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	A	0	0	0	0	0	1	0	1	0.6	1.5
11-Jun	0	1	1	0	1	0	0	0	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.5	0.5
12-Jun	0	0	0	0	0	0	0	1	1	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0.5	1.0
13-Jun	1	1	1	1	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.6	1.2
14-Jun	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
15-Jun	0	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	1	0	0.4	0.8
16-Jun	0	1	1	A	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	1.0
17-Jun	0	0	A	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	0.5
18-Jun	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
19-Jun	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
20-Jun	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0.4	0.9
21-Jun	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
22-Jun	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
23-Jun	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1	1	A	1	1	1	1	0.5	0.9
24-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	2	2	2	2	0.8	2.0
25-Jun	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.5	1.0
26-Jun	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
27-Jun	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
28-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.4	0.4
29-Jun	0	0	0	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	0.4
30-Jun	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	Diurnal Average	
	1.0	1.0	1.0	1.2	1.0	1.0	1.0	1.0	2.5	2.5	1.5	1.5	1.0	1.0	1.0	0.5	0.5	0.5	1.3	1.5	2.0	2.0	2.0	1.5	Diurnal Maximum	

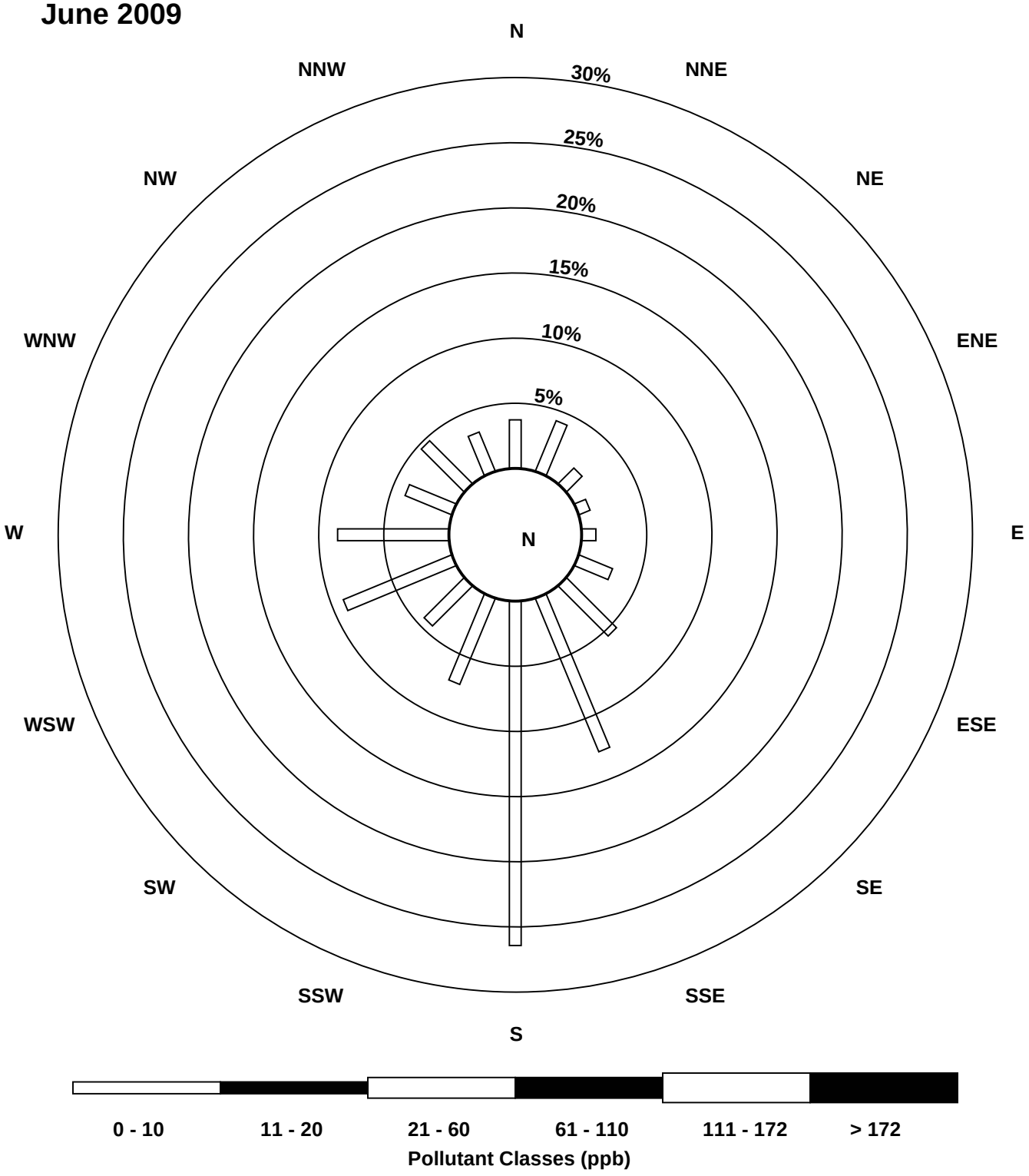
C - Calibration N - Not Valid A - Automated Daily Zero Span

Hourly Maximums for SO_2 at Portable-Kinuso
June 2009



Pollutant Rose for SO_2 at Portable-Kinuso

June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 0.7 ppb on Jun 25 23:00 Maximum Daily Average: 0.5 ppb on Jun 11

Minimum Value: 0 ppb on Jun 15 07:00 Minimum Daily Average: 0.3 ppb on Jun 15
Maximum Diurnal Average: 0.4 ppb at hour 22 Minimum Diurnal Average: 0.4 ppb at hour 5
Monthly Average: 0.39 ppb Percentiles: P_1 = 0.2 P_{10} = 0.3 Q_1 = 0.4 Median = 0.4 Q_3 = 0.4 P_{90} = 0.5 P_{99} = 0.5

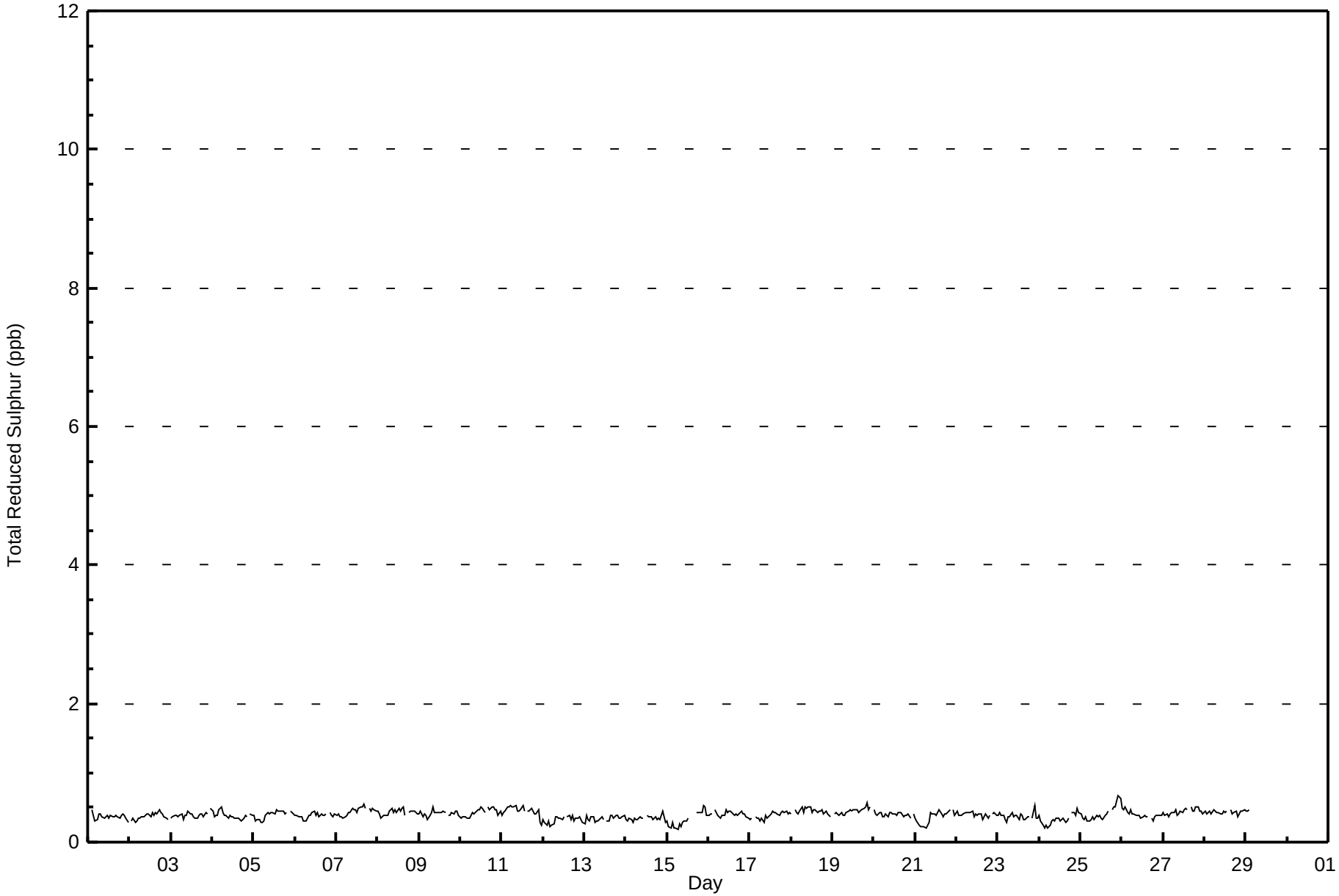
Hours in Service:	720
Hours of Data:	642
Hours of Missing Data:	78
Hours of Calibration:	33
Percent Operational Time:	93.8

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

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

Hourly Averages for TRS at Portable-Kinuso

June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 1.5 ppb on Jun 15 22:00

Maximum Daily Average: 0.8 ppb on Jun 11

Minimum Value: 0 ppb on Jun 15 05:00

Minimum Daily Average: 0.6 ppb on Jun 12

Maximum Diurnal Average: 0.8 ppb at hour 22

Minimum Diurnal Average: 0.6 ppb at hour 4

Monthly Average: 0.70 ppb

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

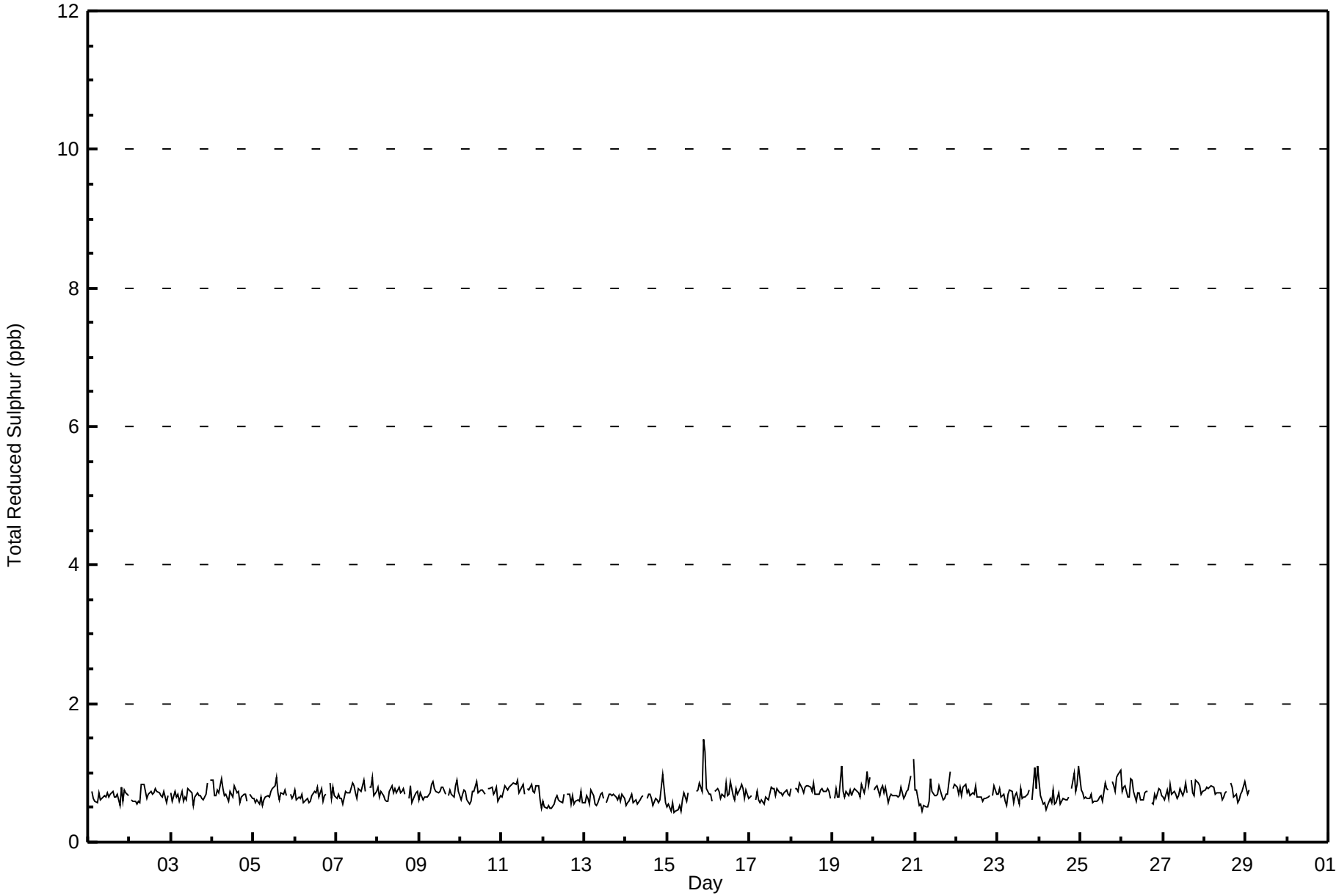
Hours in Service:	720
Hours of Data:	642
Hours of Missing Data:	78
Hours of Calibration:	33
Percent Operational Time:	93.8

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

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

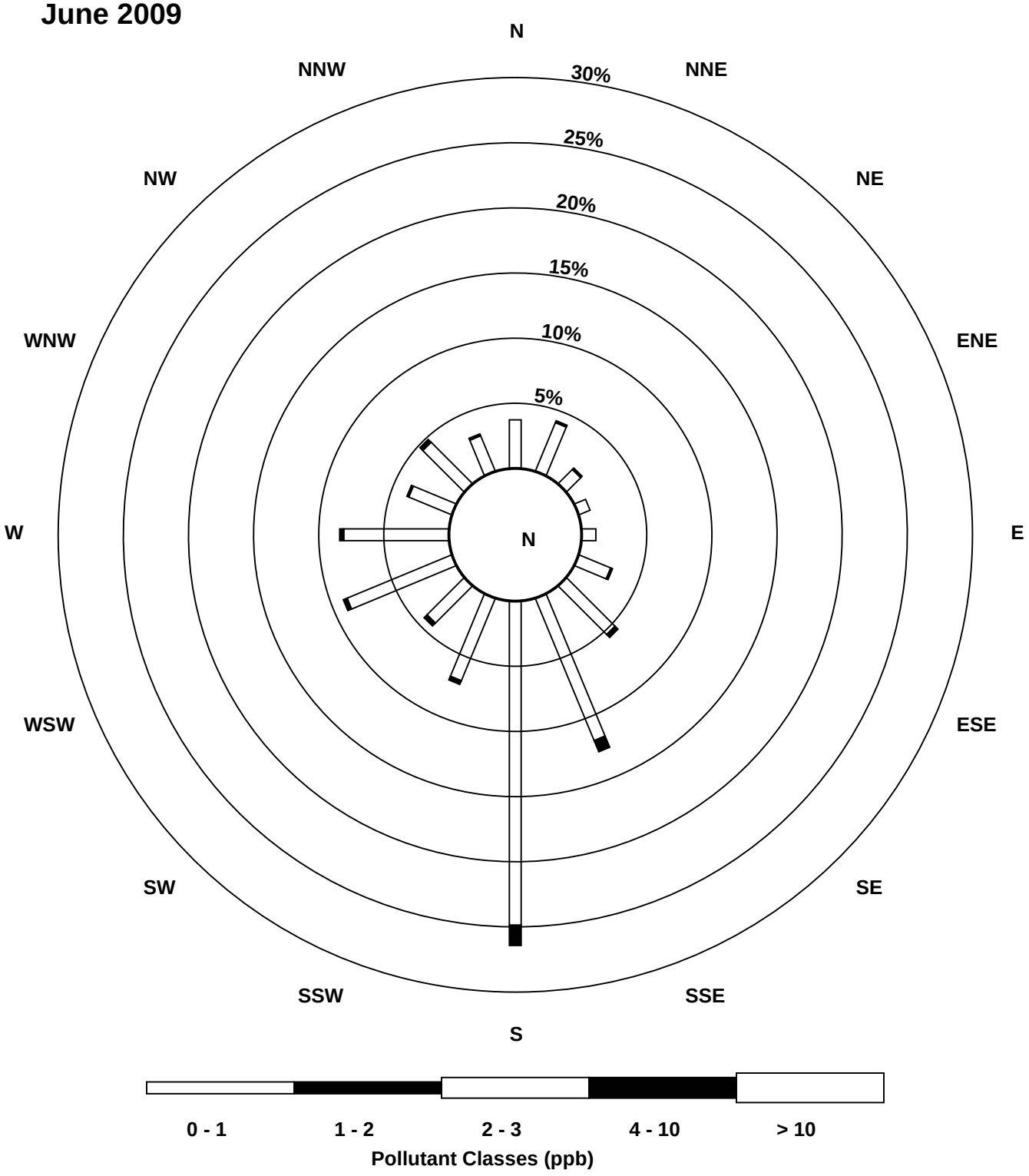
Hourly Maximums for TRS at Portable-Kinuso

June 2009



Pollutant Rose for TRS at Portable-Kinuso

June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 5.0 ppb on Jun 4 01:00 Maximum Daily Average: 2.6 ppb on Jun 28

Minimum Value: 0 ppb on Jun 4 12:00
Maximum Diurnal Average: 3.1 ppb at hour 22
Monthly Average: 1.92 ppb

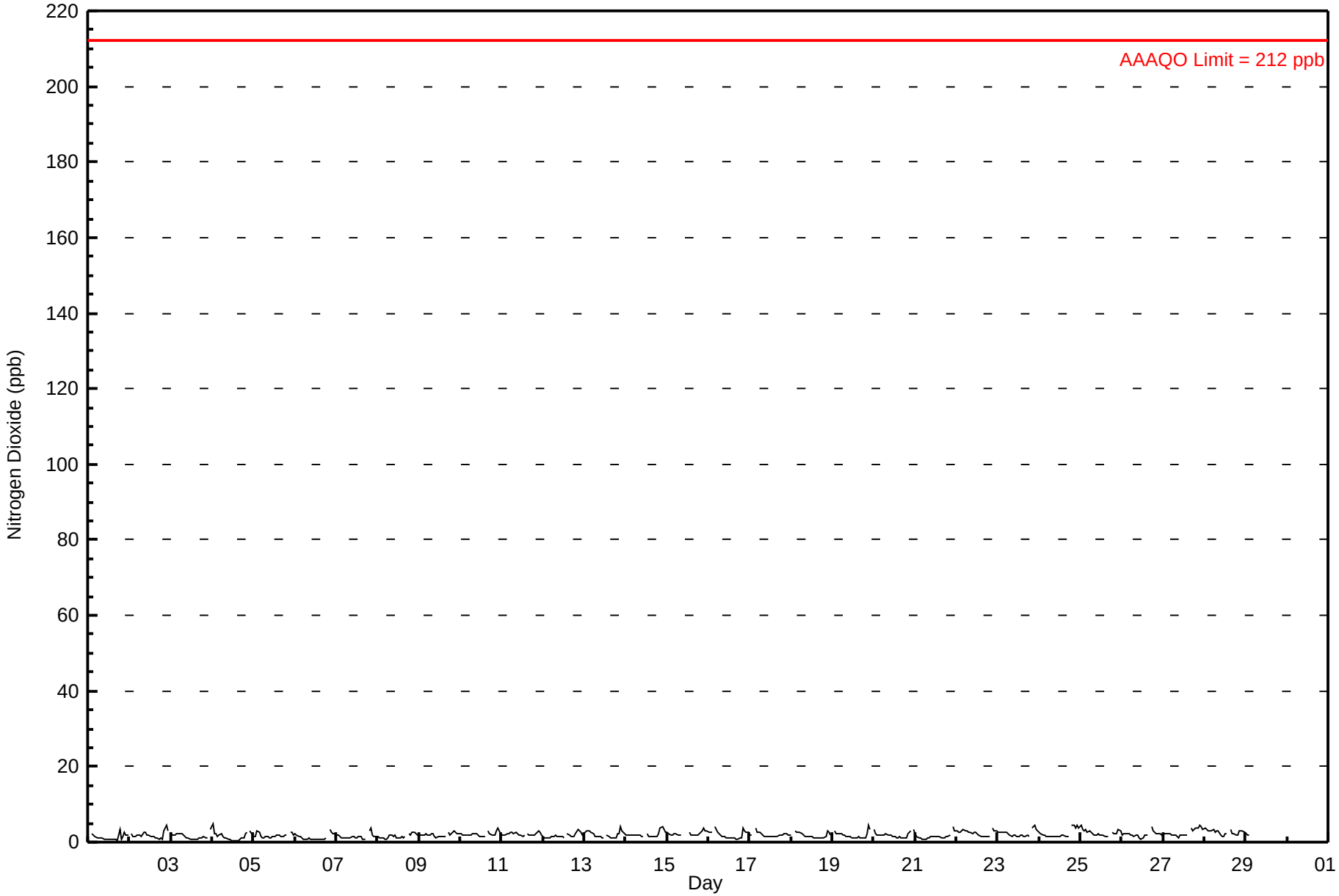
Minimum Daily Average: 1.3 ppb on Jun 1
Minimum Diurnal Average: 1.4 ppb at hour 12
Percentiles: P_1 = 0.6 P_{10} = 1.0 Q_1 = 1.4 Median = 1.8 Q_3 = 2.3 P_{90} = 3.0 P_{99} = 4.4

Hours in Service:	720
Hours of Data:	642
Hours of Missing Data:	78
Hours of Calibration:	33
Percent Operational Time:	93.8

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	1	A	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	2	2	2	2	1.3	3.4
2-Jun	A	2	1	2	2	2	2	2	3	3	2	2	2	1	1	1	1	1	1	1	3	4	3	A	1.9	4.3
3-Jun	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	3	1.5	3.4
4-Jun	5	2	2	1	2	2	2	1	1	1	1	0	0	0	1	1	1	1	1	2	3	A	3	2	1.5	5.0
5-Jun	2	1	3	2	1	1	1	1	2	1	1	1	1	2	2	2	1	1	2	2	A	3	3	2	1.7	3.0
6-Jun	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	3	3	2	2	1.3	3.2
7-Jun	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	3	4	2	2	1	1.4	3.6
8-Jun	1	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	A	2	2	2	3	2	2	1.6	2.6
9-Jun	2	2	2	2	2	2	2	2	2	2	1	1	2	2	1	2	A	3	2	2	3	3	2	2	2.0	2.8
10-Jun	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	A	3	2	2	2	2	3	4	2	2.1	3.6
11-Jun	2	2	2	2	2	3	3	2	3	2	2	2	2	2	A	2	2	2	2	2	2	3	3	2	2.1	3.1
12-Jun	1	1	1	1	1	1	2	2	1	2	1	1	1	A	2	2	1	1	1	2	3	3	3	2	1.7	3.4
13-Jun	3	3	3	3	3	2	1	2	2	1	1	1	A	2	1	1	1	1	1	2	2	4	3	2	2.0	4.2
14-Jun	2	2	2	2	2	2	2	2	2	1	1	A	2	2	2	1	1	1	2	2	4	4	3	3	2.0	4.2
15-Jun	3	2	2	2	2	2	2	2	2	C	C	C	C	2	2	2	2	2	2	2	3	4	3	3	2.3	3.8
16-Jun	3	3	3	A	4	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	4	3	2	3	1.9	4.1
17-Jun	2	2	A	4	3	3	3	2	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	1.9	3.7
18-Jun	2	A	3	2	3	3	2	2	2	1	1	2	1	1	1	1	1	1	1	1	2	3	3	2	1.8	3.0
19-Jun	A	3	2	2	2	2	2	2	1	2	1	1	1	1	1	1	1	1	1	1	2	4	3	A	1.8	4.4
20-Jun	3	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	2	3	A	3	1.8	3.5
21-Jun	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	A	4	3	1.5	4.1
22-Jun	3	3	3	3	3	3	3	3	3	2	2	3	2	2	2	2	2	2	2	1	A	4	3	3	2.4	3.7
23-Jun	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	A	4	4	3	3	2.3	4.3
24-Jun	3	2	2	2	2	1	2	2	2	2	1	1	1	2	2	2	2	2	A	4	5	4	5	4	2.2	4.6
25-Jun	4	4	3	3	3	3	3	2	2	2	2	2	2	2	2	1	2	A	3	2	2	2	3	3	2.4	4.4
26-Jun	2	2	2	2	2	2	2	1	2	2	1	1	1	2	2	2	A	4	3	3	2	2	2	2	2.0	4.2
27-Jun	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	A	4	3	3	4	4	4	4	3	2.5	4.4
28-Jun	4	3	3	3	3	3	3	3	3	2	2	1	2	2	A	4	2	2	2	2	3	3	3	3	2.6	3.6
29-Jun	2	2	2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	2.1
30-Jun	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
	2.4	2.2	2.1	2.1	2.1	2.0	1.8	1.8	1.8	1.6	1.5	1.4	1.4	1.5	1.4	1.4	1.5	1.5	1.7	1.9	2.7	3.1	2.9	2.5	Diurnal Average	
	5.0	3.5	3.0	3.7	4.1	3.3	2.9	2.9	2.8	2.7	2.5	2.6	2.3	2.5	2.1	3.5	3.8	4.2	3.4	4.5	4.6	4.4	4.6	3.8	Diurnal Maximum	

C - Calibration N - Not Valid A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 212 ppb 24-hr 106 ppb

Hourly Averages for NO_2 at Portable-Kinuso
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 63.3 ppb on Jun 1 19:00

Maximum Daily Average: 5.0 ppb on Jun 1

Minimum Value: 1 ppb on Jun 4 12:00

Minimum Daily Average: 2.0 ppb on Jun 21

Maximum Diurnal Average: 5.1 ppb at hour 22

Minimum Diurnal Average: 1.8 ppb at hour 12

Monthly Average: 2.80 ppb

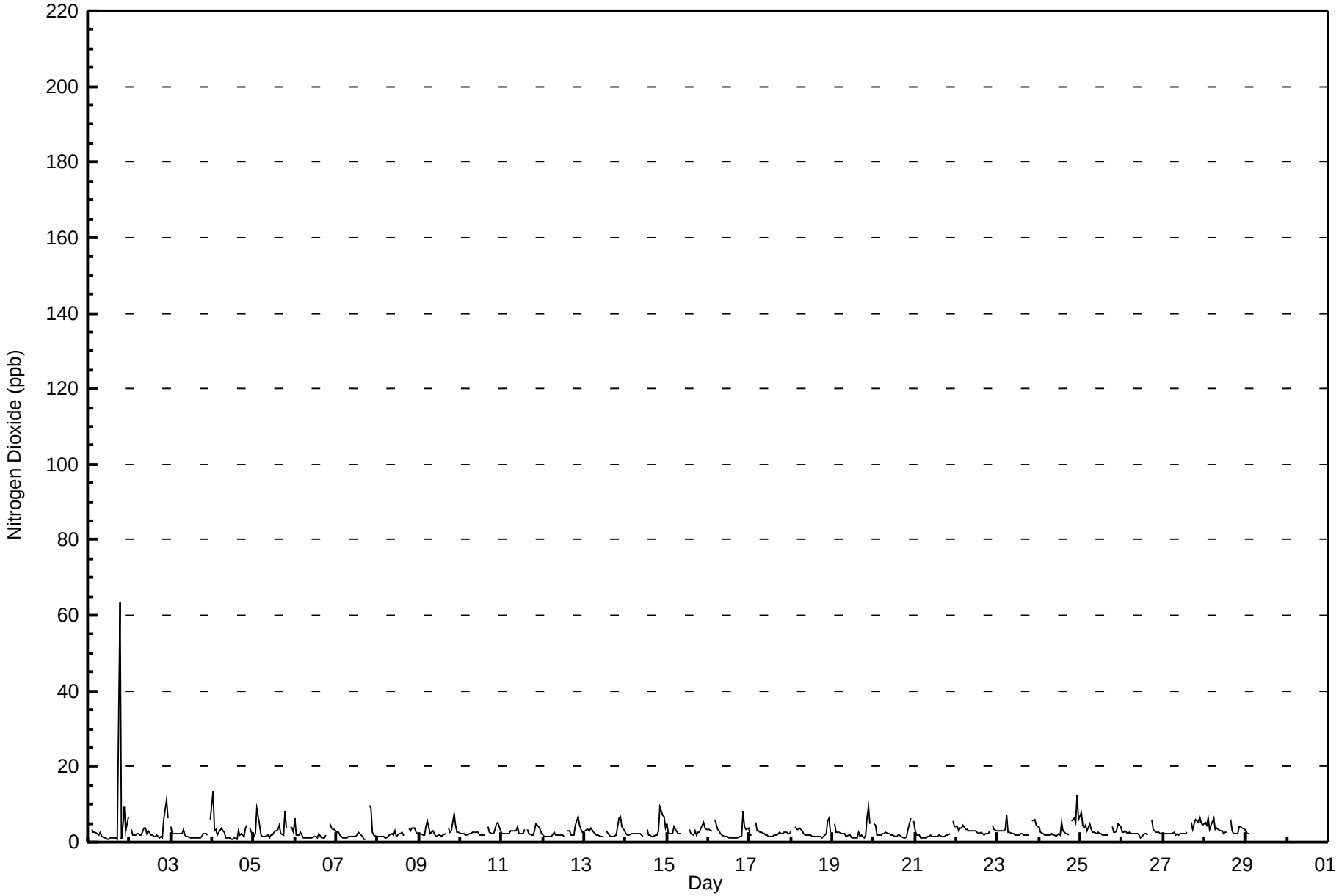
Percentiles: P_1 = 0.9 P_{10} = 1.3 Q_1 = 1.7 Median = 2.2 Q_3 = 3.1 P_{90} = 4.6 P_{99} = 8.8

Hours in Service:	720
Hours of Data:	642
Hours of Missing Data:	78
Hours of Calibration:	33
Percent Operational Time:	93.8

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	1	A	4	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	63	1	4	9	3	7	5.0	63.3
2-Jun	A	3	2	2	2	2	2	2	4	4	2	3	2	2	2	1	2	1	1	1	6	11	6	A	2.9	11.3
3-Jun	4	2	2	2	2	2	2	3	2	1	1	1	1	1	1	1	1	1	2	2	2	2	A	6	2.0	6.1
4-Jun	13	3	3	2	3	4	3	3	1	1	1	1	1	1	1	3	2	2	1	4	5	A	4	2	2.7	13.4
5-Jun	2	2	9	4	2	2	1	2	2	1	2	2	3	3	3	4	2	2	8	4	A	4	4	3	3.1	9.0
6-Jun	6	2	2	3	2	1	1	1	1	1	1	1	1	1	2	1	1	1	2	A	5	4	4	3	2.1	6.3
7-Jun	3	3	2	1	1	1	1	1	1	2	2	1	2	3	2	1	1	1	A	10	9	2	2	2	2.3	9.8
8-Jun	2	1	1	1	1	1	2	2	2	2	3	2	2	2	3	2	2	A	4	3	4	4	2	2	2.2	3.9
9-Jun	2	2	2	2	4	6	2	3	3	2	2	2	2	2	2	2	A	4	3	3	7	4	3	3	2.8	7.4
10-Jun	2	2	2	2	2	2	2	2	3	2	2	2	2	2	2	A	4	3	2	2	3	5	5	3	2.6	5.4
11-Jun	2	2	2	2	2	3	3	3	3	4	2	2	2	3	A	3	2	2	2	3	5	4	3	2	2.8	4.8
12-Jun	2	1	2	1	2	2	2	2	2	2	2	2	2	A	3	3	2	2	2	5	7	4	3	3	2.4	6.6
13-Jun	3	3	3	3	4	3	2	2	2	2	1	1	A	3	2	2	1	2	2	4	6	7	4	3	2.8	6.6
14-Jun	2	2	2	2	2	2	2	2	2	2	2	A	4	2	2	2	2	2	2	3	9	7	7	4	2.9	9.3
15-Jun	5	2	2	2	4	3	2	2	2	C	C	C	C	3	2	2	3	2	3	3	5	5	4	3	3.0	5.1
16-Jun	3	3	3	A	6	4	3	2	2	2	2	1	1	1	1	1	1	1	1	2	8	4	3	4	2.6	8.3
17-Jun	2	2	A	5	3	3	3	3	2	2	2	2	2	1	2	2	2	3	2	2	3	3	2	2	2.3	5.1
18-Jun	3	A	4	3	3	4	3	2	2	2	2	2	2	1	1	1	1	1	1	2	2	6	6	3	2.6	6.2
19-Jun	A	5	3	3	2	2	2	2	2	2	2	1	1	1	1	3	2	2	1	2	7	9	5	A	2.7	9.1
20-Jun	5	4	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	1	1	2	3	7	A	6	2.5	6.5
21-Jun	3	2	2	1	1	1	1	1	2	2	2	2	2	2	2	2	1	2	2	2	2	A	6	4	2.0	5.6
22-Jun	4	3	4	4	4	3	3	3	3	3	3	3	3	2	2	2	2	2	2	3	A	5	3	3	3.1	4.6
23-Jun	3	3	3	3	3	7	3	3	2	2	2	2	2	2	2	2	2	2	2	A	6	6	5	4	3.0	7.1
24-Jun	4	3	2	2	2	2	2	2	2	2	2	2	2	5	3	2	2	2	A	6	6	5	12	6	3.4	12.3
25-Jun	8	5	4	5	3	5	4	3	2	2	2	2	2	2	2	2	2	A	4	3	3	3	5	4	3.3	7.8
26-Jun	3	3	3	2	2	2	2	2	2	2	2	1	2	2	2	2	A	6	3	3	3	2	2	2	2.5	6.1
27-Jun	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	A	5	3	5	6	5	7	5	5	3.2	6.6
28-Jun	5	5	6	3	4	6	3	4	3	3	3	2	3	3	A	6	3	2	2	2	4	4	4	3	3.7	6.4
29-Jun	3	2	2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	2.6
30-Jun	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
	3.6	2.7	2.9	2.6	2.7	2.8	2.3	2.3	2.2	2.0	1.9	1.8	1.8	2.1	2.0	2.1	2.0	2.0	4.8	3.1	5.0	5.1	4.3	3.4	Diurnal Average	
	13.4	4.9	9.0	5.1	6.1	7.1	3.5	3.7	3.8	4.0	3.2	3.1	3.5	5.2	3.3	5.8	5.1	6.1	63.3	9.8	9.3	11.3	12.3	6.7	Diurnal Maximum	

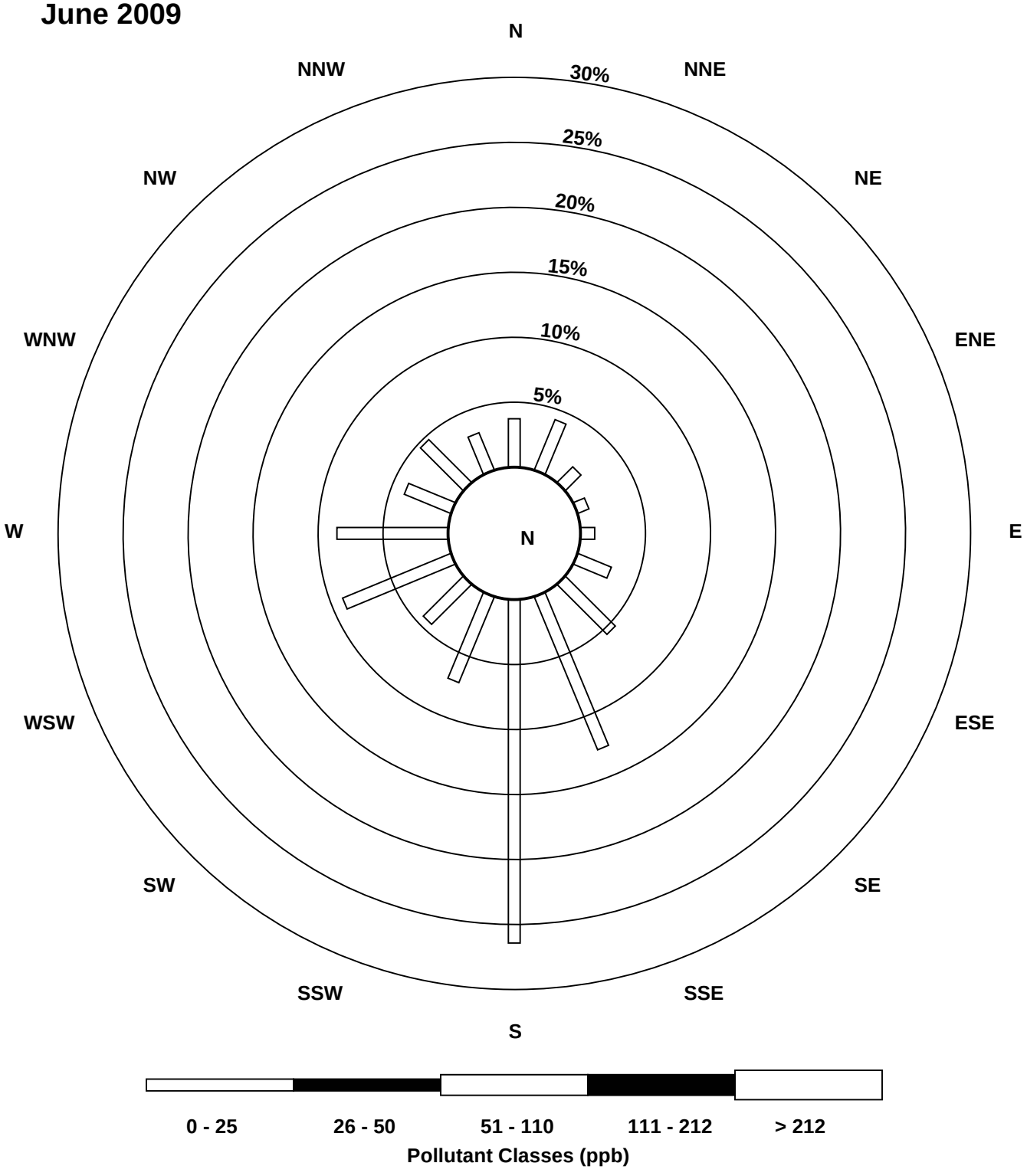
C - Calibration N - Not Valid A - Automated Daily Zero Span

Hourly Maximums for NO_2 at Portable-Kinuso
June 2009



Pollutant Rose for NO_2 at Portable-Kinuso

June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Maximum Value: 2.8 ppb on Jun 1 19:00

Maximum Daily Average: 0.9 ppb on Jun 28

Minimum Value: 0 ppb on Jun 2 18:00

Minimum Daily Average: 0.1 ppb on Jun 3

Maximum Diurnal Average: 0.6 ppb at hour 23

Minimum Diurnal Average: 0.2 ppb at hour 17

Monthly Average: 0.39 ppb

Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 0.2 Median = 0.3 Q_3 = 0.5 P_{90} = 0.7 P_{99} = 1.6

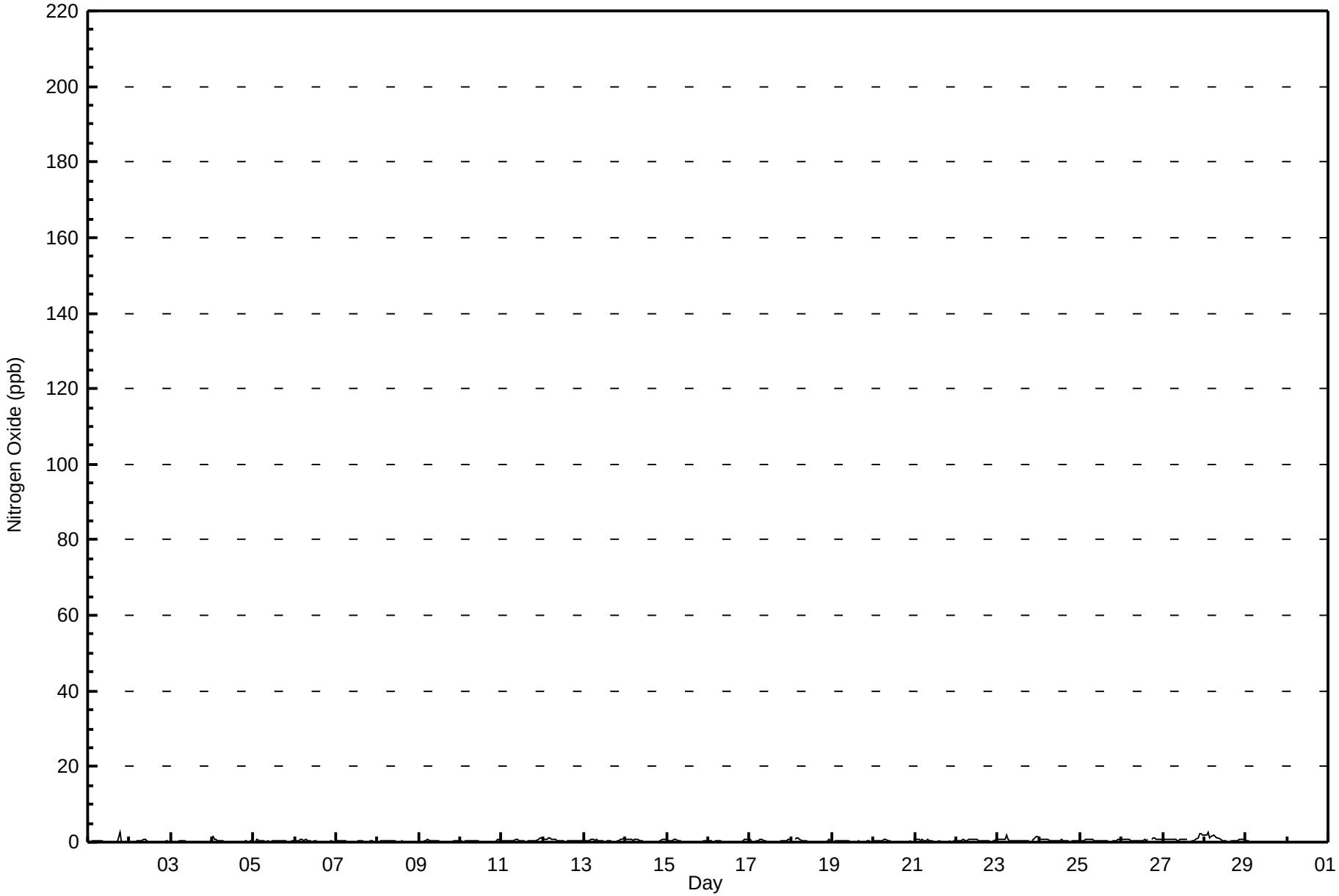
Hours in Service:	720
Hours of Data:	642
Hours of Missing Data:	78
Hours of Calibration:	33
Percent Operational Time:	93.8

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0.3	2.8
2-Jun	A	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.2	0.7
3-Jun	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	0.5
4-Jun	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	1.3
5-Jun	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.6
6-Jun	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	0.6
7-Jun	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	0.5
8-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.4
9-Jun	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.3	0.6
10-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0	0.2	0.6
11-Jun	0	0	0	0	0	0	0	0	1	1	0	0	0	0	A	0	0	0	0	0	0	1	1	1	0.5	1.2
12-Jun	1	1	1	1	1	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.5	1.0
13-Jun	0	0	0	0	1	1	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	0.4	1.0
14-Jun	1	1	1	1	1	1	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	1	0.4	0.8
15-Jun	1	0	0	0	1	1	1	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	1	0	0.3	0.7
16-Jun	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.3	0.8
17-Jun	1	1	A	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.4	0.7
18-Jun	1	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.4	1.0
19-Jun	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0.2	0.5
20-Jun	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0.3	0.6
21-Jun	1	1	1	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.4	0.8
22-Jun	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	A	0	1	1	0.5	0.8
23-Jun	1	1	1	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	1	0.6	1.7
24-Jun	1	1	1	1	1	1	1	1	0	0	0	0	0	1	0	0	0	0	A	0	0	0	0	0	0.5	1.0
25-Jun	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	A	0	0	0	1	1	1	0.5	0.9
26-Jun	1	1	1	1	1	1	1	0	1	1	0	0	0	1	1	1	A	1	1	1	1	1	1	1	0.6	1.1
27-Jun	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	A	0	0	1	1	1	2	2	2	0.8	2.3
28-Jun	2	2	3	1	1	2	1	1	1	1	0	0	1	0	A	0	0	0	0	0	1	1	1	1	0.9	2.6
29-Jun	0	0	0	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	0.5
30-Jun	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
	0.6	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.5	0.6	0.6	Diurnal Average	
	1.7	1.9	2.6	1.1	1.5	1.8	1.4	1.2	1.2	0.7	0.7	0.8	0.7	0.7	0.6	0.6	0.4	0.9	2.8	1.1	1.1	2.3	2.2	1.8	Diurnal Maximum	

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

Hourly Averages for NO at Portable-Kinuso

June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 60.0 ppb on Jun 1 19:00

Maximum Daily Average: 3.1 ppb on Jun 1

Minimum Value: 0 ppb on Jun 2 20:00

Minimum Daily Average: 0.4 ppb on Jun 3

Maximum Diurnal Average: 2.8 ppb at hour 19

Minimum Diurnal Average: 0.4 ppb at hour 18

Monthly Average: 0.81 ppb

Percentiles: P_1 = 0.0 P_{10} = 0.2 Q_1 = 0.3 Median = 0.5 Q_3 = 0.9 P_{90} = 1.3 P_{99} = 4.3

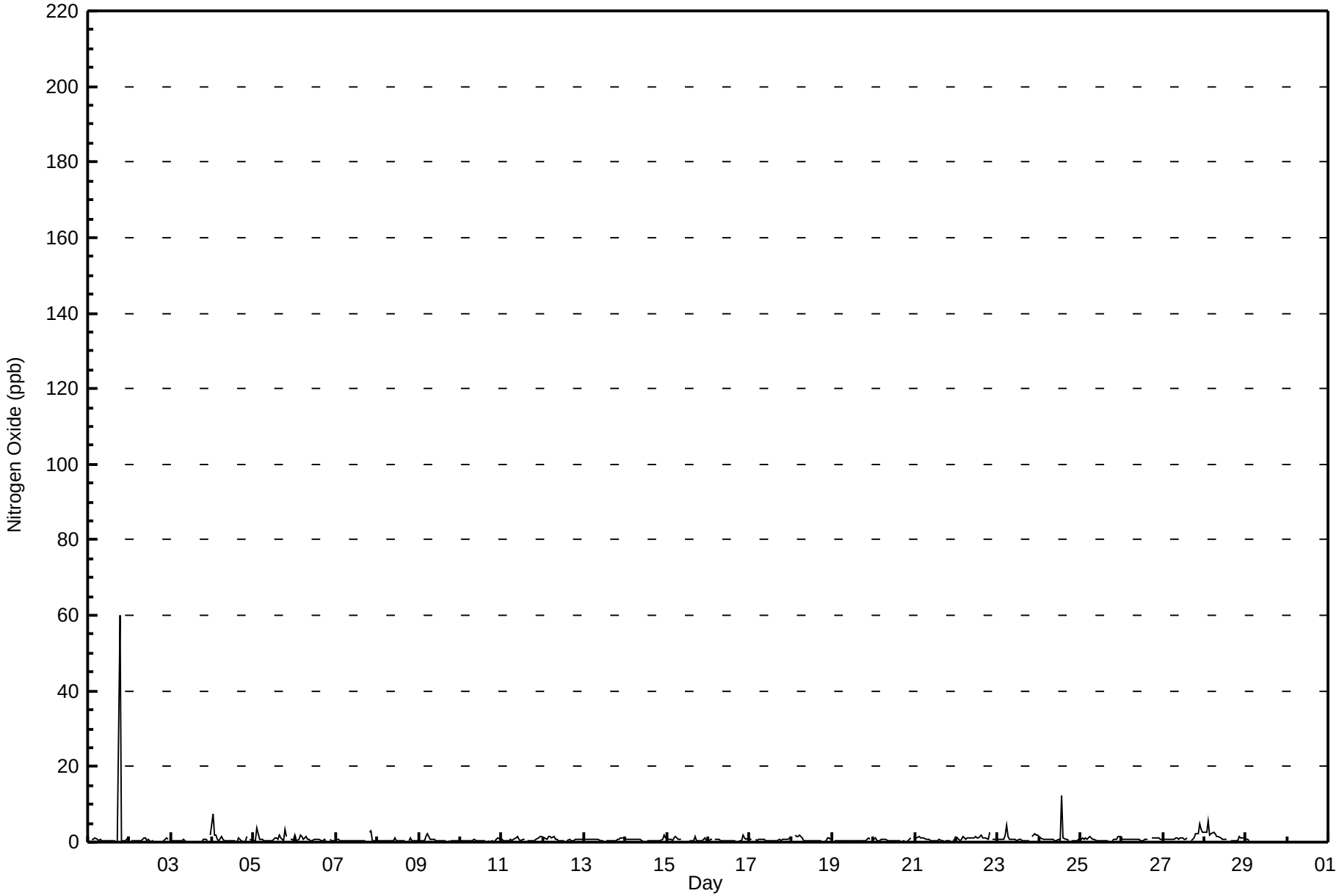
Hours in Service:	720
Hours of Data:	642
Hours of Missing Data:	78
Hours of Calibration:	33
Percent Operational Time:	93.8

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	0	A	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	60	0	0	0	0	1	3.1	60.0
2-Jun	A	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	1	1	A	0.4	1.2
3-Jun	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	A	2	0.4	1.8
4-Jun	7	2	2	1	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	2	A	1	0	0.9	7.3
5-Jun	0	0	4	1	1	1	0	0	0	0	0	0	1	1	1	2	1	0	3	1	A	1	1	0	1.0	3.7
6-Jun	2	0	1	2	2	1	1	1	1	0	0	1	1	1	1	0	0	1	0	A	1	0	0	0	0.7	1.9
7-Jun	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	3	3	0	0	0	0.6	3.2
8-Jun	0	0	0	0	0	1	1	1	0	1	1	0	1	0	1	0	0	A	0	1	0	0	0	0	0.4	1.2
9-Jun	0	0	0	0	1	2	1	1	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.5	2.3
10-Jun	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0	0	0	0	0	1	1	1	0.4	1.3
11-Jun	1	0	0	0	0	1	1	1	1	1	1	0	1	1	A	0	0	0	0	0	1	1	1	1	0.7	1.4
12-Jun	1	1	1	1	1	1	1	1	1	0	0	0	0	A	0	1	0	0	0	1	1	1	1	1	0.7	1.5
13-Jun	1	1	1	1	1	1	1	1	1	0	0	0	A	0	0	0	0	0	0	1	1	1	1	1	0.6	1.3
14-Jun	1	1	1	1	1	1	1	1	1	0	0	A	0	0	0	0	0	0	0	0	0	1	2	1	0.6	1.8
15-Jun	1	1	1	1	1	2	1	1	1	C	C	C	C	0	0	0	1	0	0	0	0	1	1	0	0.7	1.6
16-Jun	0	1	1	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	1	0.5	1.7
17-Jun	1	1	A	1	0	1	1	1	1	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	0.6	1.1
18-Jun	1	A	2	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.7	1.8
19-Jun	A	0	1	0	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	A	0.4	1.2
20-Jun	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	2	0.5	1.5
21-Jun	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	A	0	1	0.6	1.4
22-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	3	A	1	1	1	1.1	2.8
23-Jun	1	1	1	1	2	4	2	1	1	1	1	1	1	1	0	0	0	1	0	A	1	2	2	2	1.1	4.5
24-Jun	2	1	1	1	1	1	1	1	1	1	0	1	1	12	1	1	1	1	A	0	1	0	0	1	1.2	12.3
25-Jun	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	A	0	1	1	1	2	1	0.8	1.6
26-Jun	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	A	1	1	1	1	1	1	1	0.8	1.3
27-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	2	2	5	3	2	1.3	4.7
28-Jun	3	3	6	2	2	3	2	2	2	1	1	1	1	1	A	0	0	0	0	1	1	1	1	1	1.5	5.7
29-Jun	1	1	1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	0.7
30-Jun	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
	1.1	0.8	1.0	0.8	0.9	1.1	0.8	0.7	0.6	0.6	0.5	0.4	0.5	0.9	0.4	0.5	0.4	0.4	2.8	0.7	0.8	1.0	0.9	0.9	Diurnal Average	
	7.3	2.6	5.7	1.8	2.1	4.5	2.4	1.5	1.5	1.3	1.3	1.4	1.3	12.3	1.7	2.0	1.4	1.1	60.0	2.8	3.2	4.7	3.3	2.5	Diurnal Maximum	

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

Hourly Maximums for NO at Portable-Kinuso

June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Maximum Value: 6.7 ppb on Jun 27 22:00

Maximum Daily Average: 3.5 ppb on Jun 28

Minimum Value: 0 ppb on Jun 4 12:00

Minimum Daily Average: 1.5 ppb on Jun 1

Maximum Diurnal Average: 3.6 ppb at hour 22

Minimum Diurnal Average: 1.6 ppb at hour 16

Monthly Average: 2.27 ppb

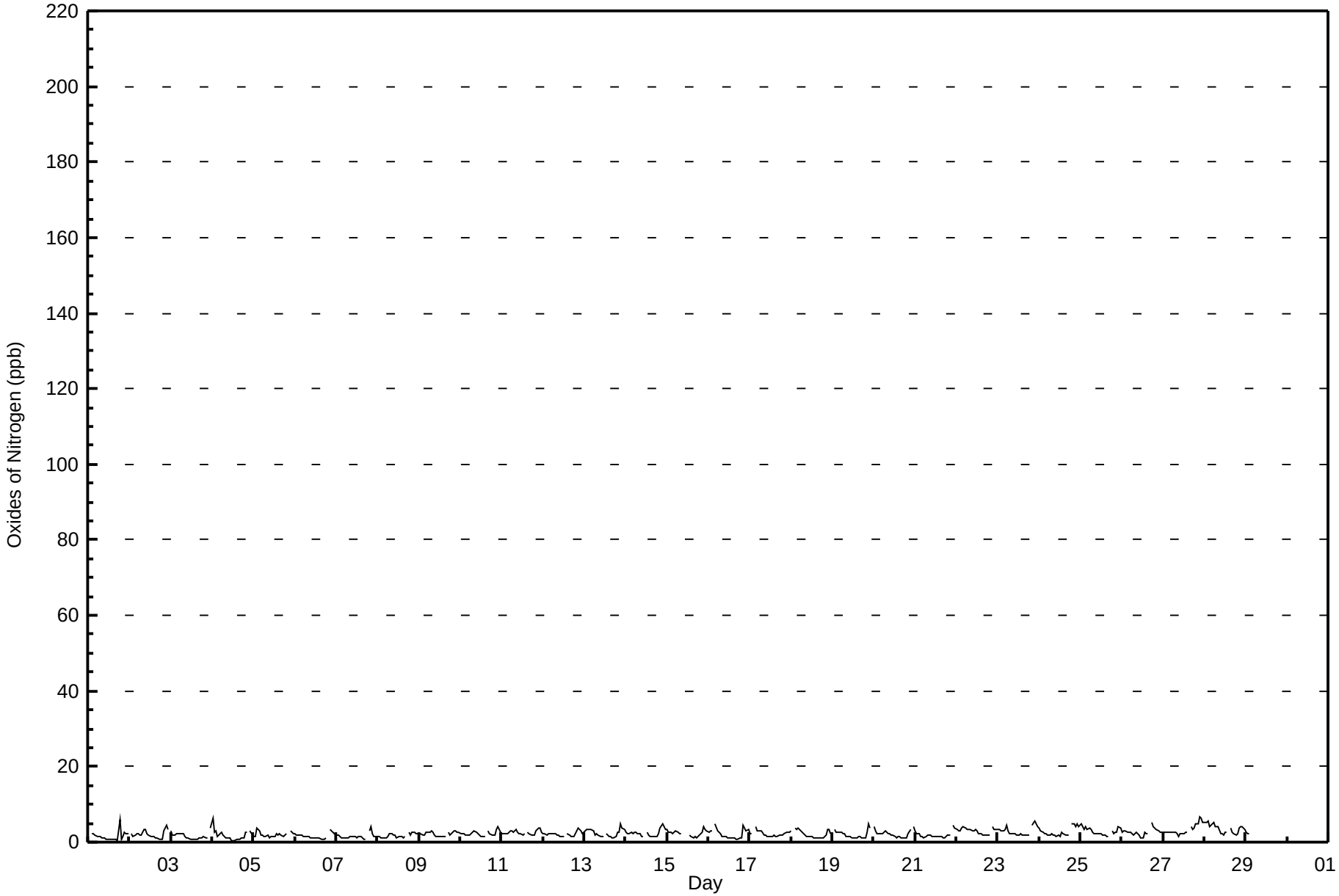
Percentiles: P_1 = 0.6 P_{10} = 1.2 Q_1 = 1.5 Median = 2.1 Q_3 = 2.8 P_{90} = 3.6 P_{99} = 5.5

Hours in Service:	720
Hours of Data:	642
Hours of Missing Data:	78
Hours of Calibration:	33
Percent Operational Time:	93.8

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jun	1	A	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	0	6	1	2	3	2	2	1.5	6.1
2-Jun	A	2	2	2	2	2	2	2	3	3	2	2	2	1	1	1	1	1	1	1	3	5	3	A	2.0	4.6
3-Jun	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	A	4	1.6	3.9
4-Jun	6	3	3	2	2	3	2	1	1	1	1	0	0	0	1	1	1	1	1	3	3	A	3	2	1.8	6.4
5-Jun	2	2	4	3	2	2	2	1	2	1	1	2	2	2	2	2	2	2	2	2	A	3	3	2	1.9	3.6
6-Jun	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	4	3	2	2	1.6	3.5
7-Jun	2	2	2	1	1	1	1	1	1	1	2	1	1	2	2	1	1	1	A	3	4	2	2	2	1.6	4.0
8-Jun	1	1	1	1	1	1	2	2	2	2	2	1	1	1	2	1	1	A	2	2	3	3	2	2	1.7	2.7
9-Jun	2	2	2	2	3	3	2	3	3	2	1	2	2	2	2	2	A	3	2	2	3	3	3	2	2.2	3.0
10-Jun	2	2	2	2	2	2	2	3	3	3	2	2	2	1	2	A	3	2	2	2	2	3	4	3	2.3	4.2
11-Jun	2	2	2	2	2	3	3	3	3	3	2	2	2	2	A	3	2	2	2	2	3	4	4	3	2.5	3.8
12-Jun	2	2	2	2	2	2	2	2	2	2	2	1	1	A	2	2	2	2	2	2	4	3	3	2	2.1	3.7
13-Jun	3	3	3	3	3	3	2	2	2	2	1	1	A	2	2	1	1	1	1	3	3	5	4	3	2.4	4.9
14-Jun	3	2	2	3	2	3	3	2	2	2	1	A	2	2	2	1	1	1	2	2	4	5	4	3	2.4	4.8
15-Jun	3	3	2	2	3	3	2	2	2	C	C	C	C	2	1	1	2	1	2	2	3	4	3	3	2.4	4.0
16-Jun	3	3	3	A	5	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	4	4	3	3	2.2	4.8
17-Jun	2	2	A	4	3	3	3	3	2	2	2	1	1	1	2	2	2	2	2	2	2	3	2	2	2.2	4.2
18-Jun	3	A	4	3	4	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	2	3	3	2	2.1	3.8
19-Jun	A	3	3	3	2	2	2	2	2	2	1	1	1	1	1	2	1	1	1	1	2	5	4	A	2.1	4.8
20-Jun	4	3	2	2	2	2	3	3	2	2	2	2	2	1	1	2	1	1	1	1	2	3	A	4	2.1	4.0
21-Jun	3	2	2	2	1	1	1	2	2	2	2	2	2	2	2	1	1	1	2	2	2	A	5	4	1.9	4.6
22-Jun	3	3	3	4	4	4	4	4	3	3	3	3	3	2	2	2	2	2	2	2	A	4	3	3	3.0	4.1
23-Jun	3	3	3	3	3	4	3	2	2	2	2	2	2	2	2	2	2	2	2	A	4	6	5	4	2.9	5.7
24-Jun	4	3	3	2	2	2	2	2	2	2	2	2	2	3	2	2	2	2	A	5	5	4	5	4	2.7	5.0
25-Jun	5	4	3	4	3	4	3	3	2	2	2	2	2	2	2	2	2	A	3	2	3	3	4	4	2.9	5.0
26-Jun	2	3	3	3	3	2	2	2	2	2	2	1	1	3	2	2	A	5	4	4	3	3	3	3	2.7	5.2
27-Jun	3	3	3	3	3	3	3	2	2	1	2	2	2	2	3	A	4	3	4	5	5	7	6	5	3.3	6.7
28-Jun	5	5	6	4	4	5	4	4	4	2	2	2	3	3	A	4	3	2	2	2	4	4	4	3	3.5	5.6
29-Jun	3	2	2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	2.6
30-Jun	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
	2.9	2.6	2.6	2.5	2.6	2.6	2.3	2.3	2.2	1.9	1.7	1.6	1.6	1.7	1.6	1.6	1.6	1.6	2.0	2.1	3.0	3.6	3.5	3.0	Diurnal Average	
	6.4	5.4	5.6	4.2	4.8	5.1	4.1	4.1	4.0	3.4	3.1	3.4	2.9	2.6	2.6	3.8	4.2	5.2	6.1	4.8	5.0	6.7	6.2	5.2	Diurnal Maximum	

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

Hourly Averages for NO_X at Portable-Kinuso
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 124.2 ppb on Jun 1 19:00

Maximum Daily Average: 8.0 ppb on Jun 1

Minimum Value: 1 ppb on Jun 4 12:00

Minimum Daily Average: 2.3 ppb on Jun 3

Maximum Diurnal Average: 7.5 ppb at hour 19

Minimum Diurnal Average: 2.1 ppb at hour 12

Monthly Average: 3.49 ppb

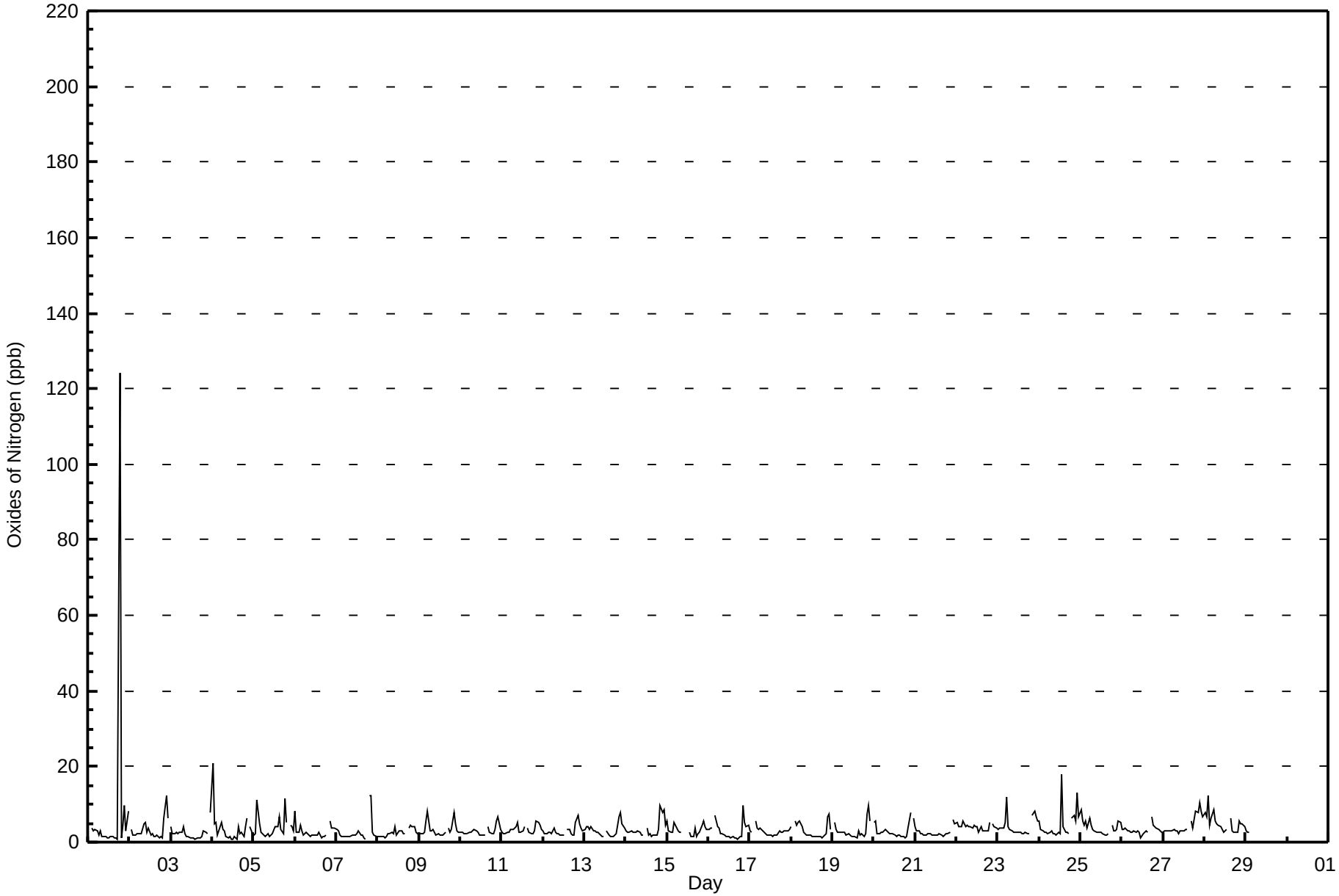
Percentiles: P_1 = 0.9 P_{10} = 1.5 Q_1 = 2.0 Median = 2.7 Q_3 = 3.9 P_{90} = 5.6 P_{99} = 12.4

Hours in Service:	720
Hours of Data:	642
Hours of Missing Data:	78
Hours of Calibration:	33
Percent Operational Time:	93.8

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	2	A	4	3	3	3	2	3	2	1	1	1	1	2	1	1	1	1	124	1	5	10	3	8	8.0	124.2
2-Jun	A	4	2	2	2	2	2	2	5	5	3	4	2	2	2	1	2	1	1	1	6	12	6	A	3.2	12.2
3-Jun	4	2	2	3	2	3	3	4	2	1	2	1	1	1	1	1	1	1	2	3	3	2	A	8	2.3	7.7
4-Jun	21	5	5	2	3	5	3	3	1	1	1	1	1	2	1	4	2	2	2	4	6	A	4	2	3.6	21.0
5-Jun	2	2	11	5	3	2	2	2	2	1	2	2	4	4	4	7	3	2	12	5	A	4	4	3	3.8	11.5
6-Jun	8	2	2	4	3	2	3	2	2	2	2	2	2	2	3	1	1	2	2	A	6	4	4	4	2.8	8.3
7-Jun	3	3	2	2	1	2	1	1	2	2	2	2	2	3	2	2	1	1	A	12	12	3	2	2	2.8	12.4
8-Jun	2	2	2	1	1	1	2	2	3	2	4	2	3	3	3	2	2	A	4	4	4	4	3	2	2.5	4.3
9-Jun	2	2	2	2	6	8	3	3	3	3	2	2	2	2	2	2	A	4	3	3	8	5	3	3	3.3	8.0
10-Jun	3	2	2	2	2	2	2	3	3	3	3	2	2	2	2	A	4	3	2	2	4	5	7	3	2.8	6.5
11-Jun	3	2	2	3	3	3	3	3	4	5	3	3	3	4	A	4	2	2	2	3	5	5	4	3	3.3	5.4
12-Jun	3	2	2	3	3	2	4	3	2	2	2	2	2	A	3	3	2	2	2	5	7	5	4	3	3.0	7.1
13-Jun	3	4	4	4	4	3	3	3	3	2	2	2	A	3	2	2	1	2	2	5	7	8	5	4	3.3	7.8
14-Jun	3	3	3	3	3	3	3	3	3	2	2	A	4	2	2	2	2	2	2	3	10	8	8	5	3.4	9.7
15-Jun	6	3	3	3	5	4	3	3	3	C	C	C	C	3	2	1	4	2	2	3	5	5	4	3	3.3	5.7
16-Jun	3	4	4	A	7	4	4	2	2	2	2	1	1	1	1	1	1	1	1	2	10	5	4	5	3.0	9.6
17-Jun	3	2	A	6	4	4	4	3	3	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	2.8	5.7
18-Jun	4	A	6	4	5	6	4	3	2	2	2	2	2	2	1	1	1	1	1	1	2	7	7	3	3.1	7.3
19-Jun	A	5	3	3	3	3	3	3	2	2	2	1	1	1	1	3	2	2	1	2	7	10	6	A	3.0	9.8
20-Jun	5	6	2	2	3	3	3	3	3	2	2	2	2	2	2	2	2	1	1	2	4	8	A	6	2.9	7.9
21-Jun	4	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	3	A	6	5	2.5	6.1
22-Jun	5	4	4	4	5	4	5	4	4	4	4	4	4	3	4	3	3	3	3	5	A	5	4	4	4.0	5.5
23-Jun	4	4	4	4	5	12	4	3	3	3	3	2	2	3	2	2	2	2	2	A	7	8	7	6	4.1	11.8
24-Jun	6	4	3	3	3	2	2	3	2	2	2	3	2	18	4	3	3	2	A	6	7	6	13	7	4.6	17.8
25-Jun	9	6	5	5	4	6	4	3	3	3	3	2	2	2	2	2	2	A	4	3	3	4	6	5	3.8	8.6
26-Jun	4	3	4	3	3	3	3	3	3	3	3	1	2	3	3	3	A	7	5	4	4	3	3	3	3.2	6.9
27-Jun	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	A	6	4	6	8	8	10	8	7	4.4	10.5
28-Jun	8	7	12	5	6	9	6	5	5	4	4	3	3	3	A	6	3	3	3	2	6	5	5	4	5.0	12.4
29-Jun	3	3	3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	3.1
30-Jun	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
	4.6	3.4	3.7	3.1	3.5	3.8	3.0	2.9	2.7	2.4	2.3	2.1	2.2	2.9	2.2	2.4	2.3	2.2	7.5	3.7	5.7	5.9	5.1	4.2	Diurnal Average	
	21.0	6.8	12.4	5.7	7.2	11.8	5.6	5.0	4.8	5.2	4.4	4.2	4.0	17.8	4.1	6.5	5.6	6.9	124.2	12.4	12.1	12.2	13.1	8.2	Diurnal Maximum	

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

Hourly Maximums for NO_X at Portable-Kinuso
June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 55.0 ppb on Jun 10 17:00 Maximum Daily Average: 38.2 ppb on Jun 9

Minimum Value: 7 ppb on Jun 12 04:00
Maximum Diurnal Average: 39.7 ppb at hour 17
Monthly Average: 29.28 ppb

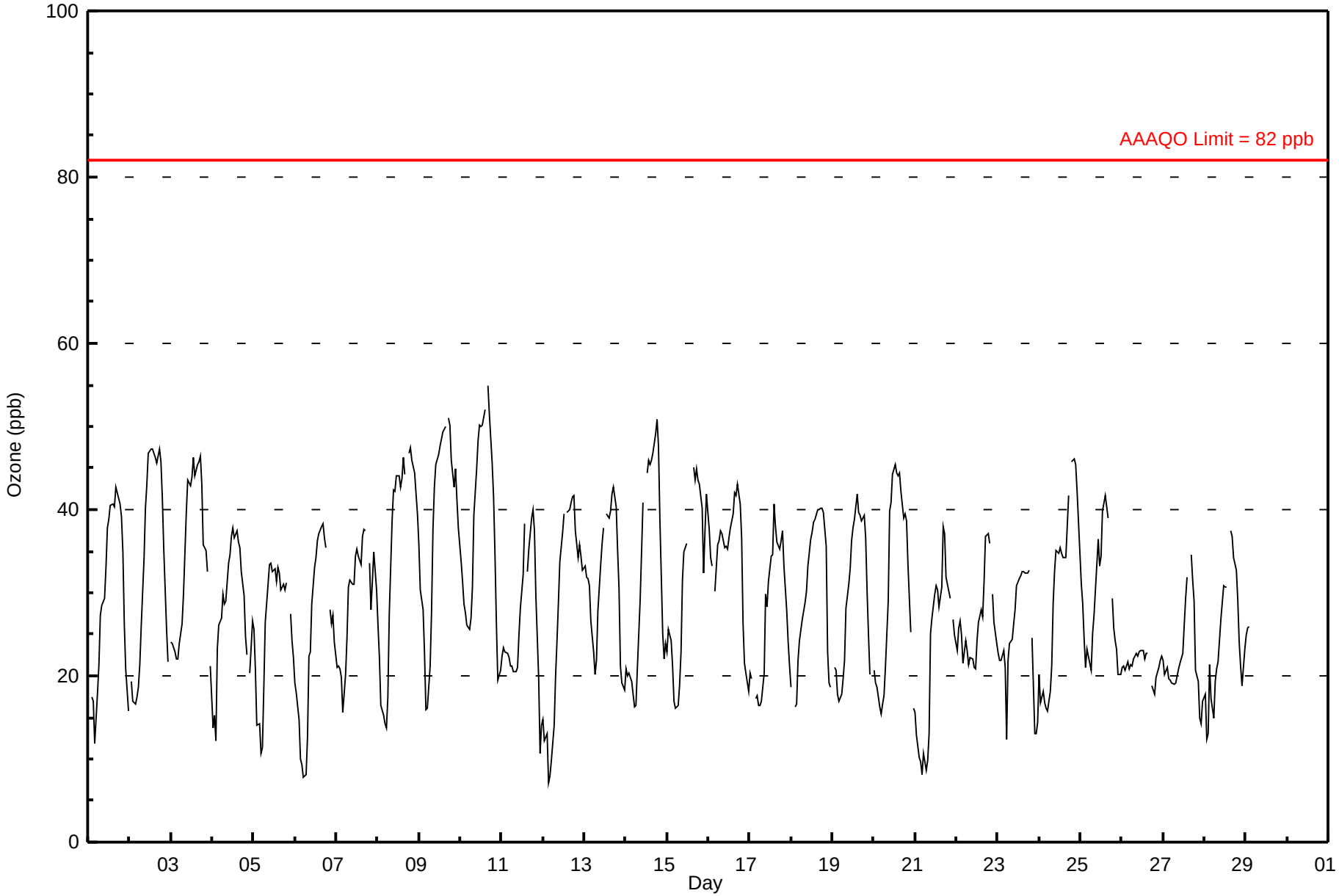
Minimum Daily Average: 21.4 ppb on Jun 26
Minimum Diurnal Average: 18.2 ppb at hour 5
Percentiles: P_1 = 9.2 P_{10} = 16.7 Q_1 = 21.1 Median = 28.9 Q_3 = 37.4 P_{90} = 42.9 P_{99} = 49.6

Hours in Service:	720
Hours of Data:	643
Hours of Missing Data:	77
Hours of Calibration:	32
Percent Operational Time:	93.8

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jun	22	A	17	17	12	18	21	27	28	29	33	38	39	40	41	40	43	42	41	39	35	26	21	16	29.8	42.7
2-Jun	A	19	17	17	17	19	21	26	34	40	43	47	47	47	47	46	46	47	46	41	35	26	22	A	34.1	47.4
3-Jun	24	24	23	22	22	24	26	30	35	40	43	43	44	46	44	45	46	46	43	36	35	33	A	21	34.6	46.4
4-Jun	14	15	12	23	26	27	30	29	29	34	35	37	38	37	37	36	35	33	30	25	23	A	20	27	28.3	37.9
5-Jun	26	21	14	14	11	11	19	26	31	33	34	33	33	31	33	32	30	31	30	31	A	27	24	22	26.0	33.6
6-Jun	19	18	15	10	9	8	8	13	22	23	29	33	34	36	37	38	38	37	35	A	28	26	27	24	24.7	38.3
7-Jun	21	21	21	20	16	20	25	31	32	31	31	34	35	34	33	37	38	37	A	34	28	31	35	30	29.3	37.6
8-Jun	26	22	16	15	14	14	17	27	39	42	42	44	44	43	44	46	44	A	47	47	46	44	42	40	35.1	47.4
9-Jun	36	30	28	23	16	16	21	28	38	43	45	47	48	49	49	50	A	51	50	46	43	45	41	38	38.2	51.0
10-Jun	34	31	29	28	26	26	27	31	39	45	48	50	50	50	52	A	55	52	46	42	35	26	19	21	37.4	55.0
11-Jun	22	23	23	23	22	21	21	21	21	21	25	28	32	38	A	32	35	39	40	37	30	20	11	14	26.1	39.9
12-Jun	15	12	13	7	8	10	14	20	24	29	34	37	39	A	40	40	41	41	42	38	34	36	34	33	27.9	41.8
13-Jun	33	32	32	31	27	23	20	22	28	33	36	38	A	40	39	40	42	43	40	35	31	21	19	18	31.4	42.6
14-Jun	21	20	20	19	18	16	16	21	29	35	41	A	44	46	45	46	47	49	51	48	39	25	22	24	32.3	50.8
15-Jun	23	26	24	21	17	16	16	19	23	32	35	36	C	C	C	45	44	45	44	43	40	32	37	42	31.4	45.1
16-Jun	38	34	33	A	30	36	36	38	37	35	36	35	37	38	39	42	42	43	41	37	26	21	20	18	34.4	43.0
17-Jun	20	20	A	17	18	16	16	17	20	30	28	31	34	35	41	38	36	35	36	37	33	28	24	21	27.5	40.6
18-Jun	19	A	16	17	22	24	27	28	29	30	33	36	37	38	39	40	40	40	40	40	36	23	19	19	30.1	40.2
19-Jun	A	21	21	18	17	18	20	22	28	31	33	36	38	39	42	40	39	39	39	37	30	25	20	A	29.6	41.9
20-Jun	21	19	19	16	15	17	18	21	29	40	41	44	45	44	44	44	42	39	39	39	33	25	A	16	30.9	45.4
21-Jun	16	13	10	10	8	11	9	10	13	25	27	30	31	30	28	31	38	37	32	31	29	A	27	25	22.6	37.9
22-Jun	23	26	27	25	22	24	23	21	22	22	21	21	24	26	28	27	31	37	37	36	A	30	26	24	26.2	37.1
23-Jun	23	22	22	23	21	12	22	24	24	26	28	31	32	32	33	33	32	32	33	A	25	13	13	14	24.8	32.7
24-Jun	20	17	18	17	16	16	18	21	29	33	35	35	35	35	34	34	38	42	A	46	46	45	42	38	30.9	46.1
25-Jun	31	29	24	21	23	22	21	25	27	33	36	33	34	40	42	40	39	A	29	26	24	23	20	20	28.9	41.8
26-Jun	21	21	21	22	21	21	21	22	23	22	23	23	23	22	23	23	A	19	18	18	20	21	22	22	21.4	23.1
27-Jun	22	20	21	20	19	19	19	19	20	21	22	23	26	29	32	A	35	32	29	21	19	15	14	17	22.3	34.5
28-Jun	18	12	13	21	17	15	19	21	22	27	29	31	31	31	A	38	37	34	33	29	24	21	19	23	24.5	37.5
29-Jun	25	26	26	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	25.9
30-Jun	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
	23.3	22.0	20.5	19.1	18.2	18.5	20.4	23.5	27.7	31.6	33.8	35.3	36.8	37.6	38.6	38.6	39.7	39.3	38.1	36.0	31.8	27.3	24.7	24.1	Diurnal Average	
	37.6	34.2	33.2	30.8	30.2	35.8	36.2	37.5	39.3	44.9	48.3	50.2	50.0	50.2	52.1	50.0	55.0	51.6	50.8	47.6	46.1	45.4	42.2	41.9	Diurnal Maximum	

C - Calibration N - Not Valid A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na

Hourly Averages for O_3 at Portable-Kinuso
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 57.5 ppb on Jun 10 17:00

Maximum Daily Average: 41.3 ppb on Jun 9

Minimum Value: 8 ppb on Jun 12 04:00

Minimum Daily Average: 22.7 ppb on Jun 26

Maximum Diurnal Average: 42.2 ppb at hour 17

Minimum Diurnal Average: 20.9 ppb at hour 5

Monthly Average: 32.24 ppb

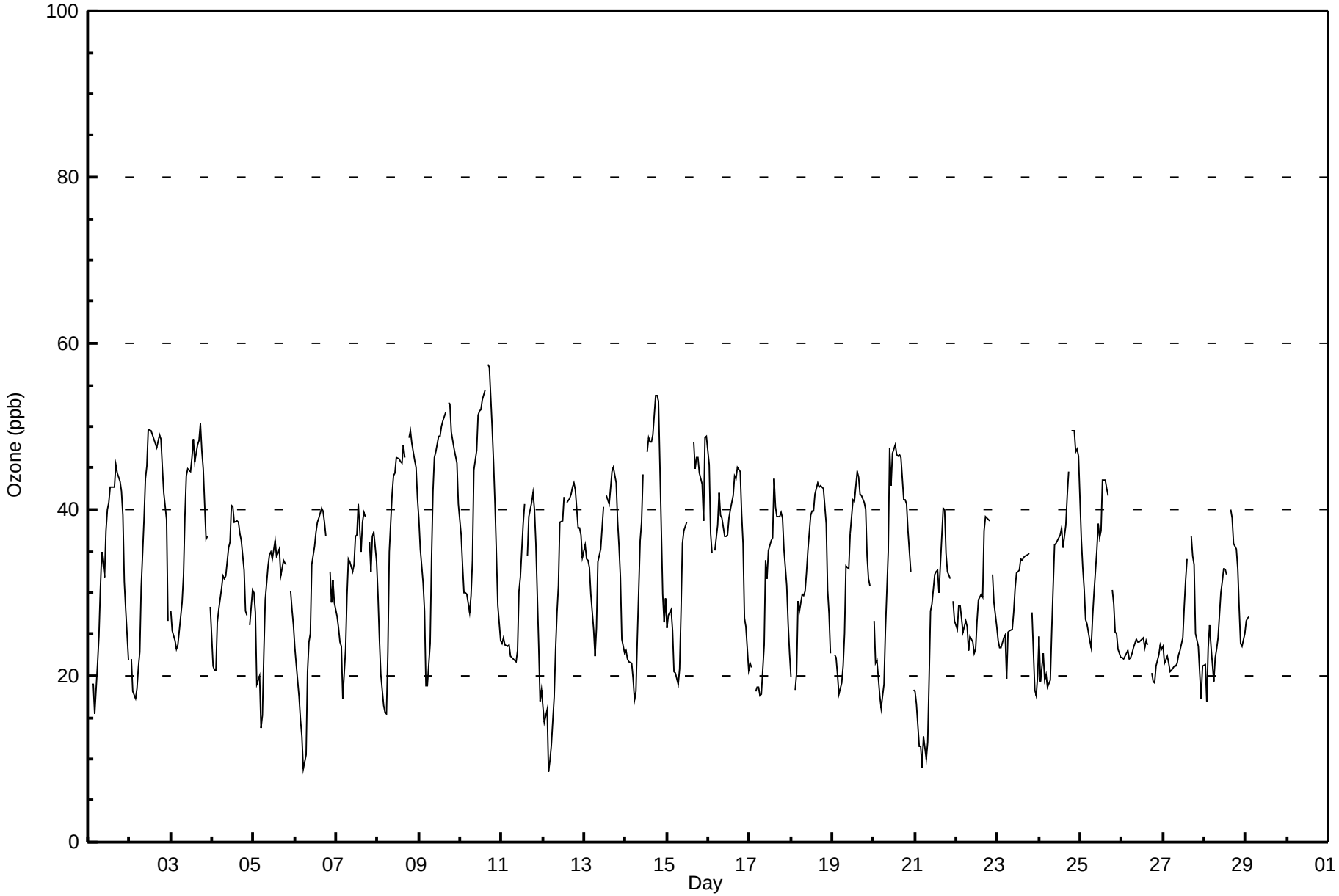
Percentiles: P_1 = 11.5 P_{10} = 19.6 Q_1 = 23.7 Median = 32.4 Q_3 = 40.0 P_{90} = 46.2 P_{99} = 52.6

Hours in Service:	720
Hours of Data:	643
Hours of Missing Data:	77
Hours of Calibration:	32
Percent Operational Time:	93.8

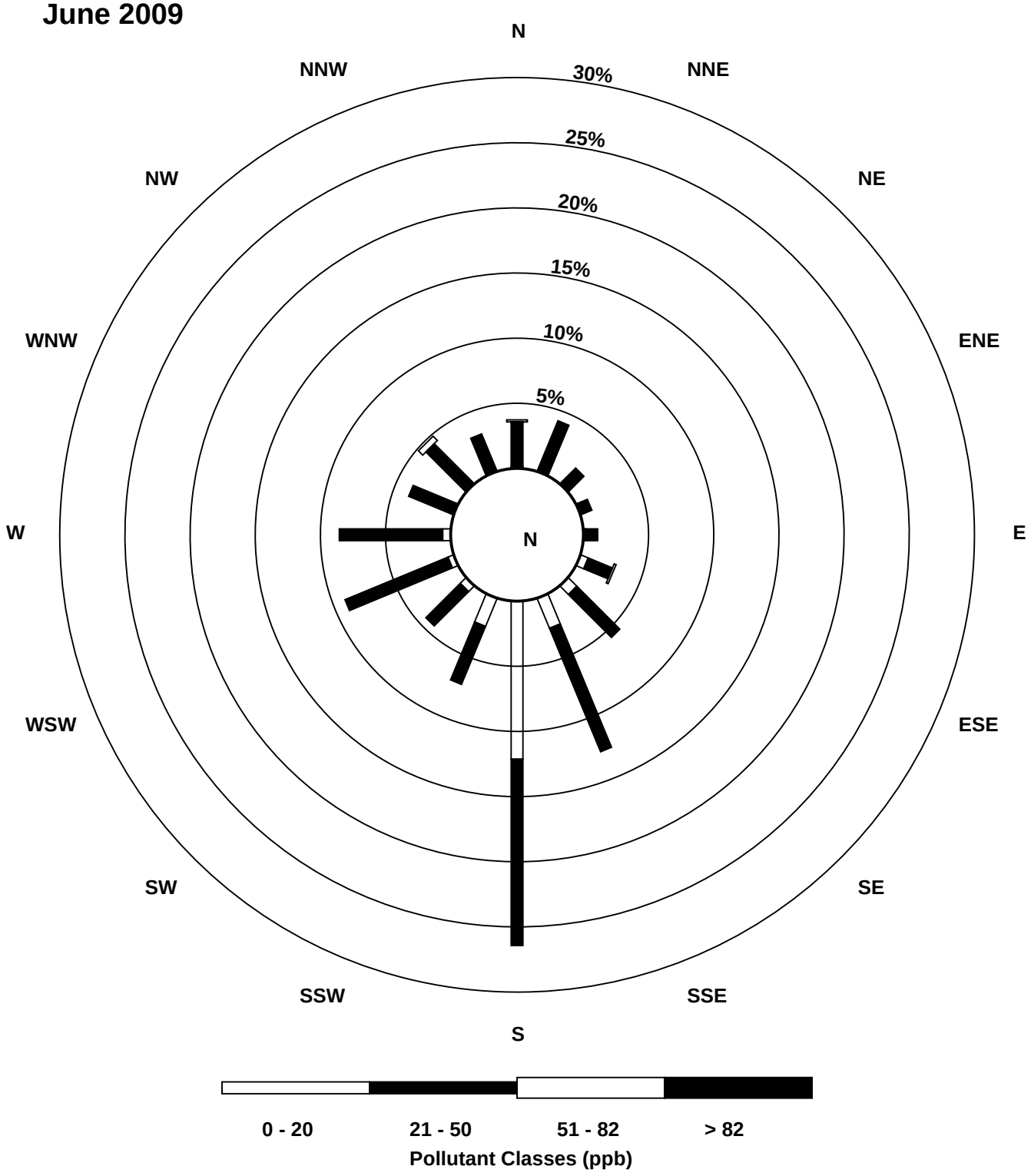
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jun	25	A	19	19	15	21	25	30	35	32	37	40	41	43	43	43	45	44	43	42	39	31	28	22	33.2	45.4
2-Jun	A	22	18	17	19	21	23	31	39	44	45	50	50	49	49	48	47	49	48	45	42	39	27	A	37.3	49.6
3-Jun	28	25	24	23	24	25	29	32	39	44	45	45	46	48	46	48	48	50	47	45	36	37	A	28	37.5	50.3
4-Jun	21	21	21	26	28	30	32	32	32	35	36	41	40	38	39	38	37	36	33	28	27	A	26	30	31.7	40.6
5-Jun	30	28	19	20	14	15	23	29	33	35	35	34	36	34	35	35	32	34	34	33	A	30	28	26	29.2	36.2
6-Jun	23	21	17	15	13	9	10	20	24	25	33	36	37	38	39	40	40	38	37	A	33	29	32	29	27.8	40.2
7-Jun	27	26	24	24	17	23	30	34	34	33	33	37	37	41	35	38	40	39	A	36	33	37	37	34	32.5	40.7
8-Jun	30	24	20	16	16	15	23	35	42	44	44	46	46	46	46	48	46	A	49	50	48	46	45	41	37.7	49.6
9-Jun	39	35	31	28	19	19	24	34	42	46	47	49	49	50	51	52	A	53	53	49	47	46	46	41	41.3	52.8
10-Jun	37	33	30	30	30	28	30	34	45	47	51	52	52	53	54	A	57	57	50	46	41	35	28	24	41.1	57.5
11-Jun	24	25	24	24	24	22	22	22	22	23	30	32	38	41	A	34	39	41	42	40	36	24	17	18	28.8	42.0
12-Jun	16	14	16	8	10	12	17	23	28	31	39	39	41	A	41	41	42	43	43	42	38	38	37	34	30.2	43.2
13-Jun	36	34	34	33	30	26	22	26	34	35	38	40	A	42	41	43	45	45	43	39	36	32	24	23	34.7	45.1
14-Jun	23	22	22	21	20	17	18	25	36	38	44	A	47	49	48	48	49	54	54	53	45	30	26	29	35.6	53.8
15-Jun	26	27	28	25	21	20	19	21	28	36	37	38	C	C	C	48	45	46	46	44	43	39	49	49	35.0	48.8
16-Jun	45	37	35	A	35	38	42	39	39	37	37	37	39	40	42	44	44	45	45	39	36	27	26	21	37.8	45.5
17-Jun	22	21	A	18	19	19	18	18	24	34	32	35	36	37	44	40	39	39	40	39	35	31	26	23	29.9	43.7
18-Jun	20	A	18	20	29	28	30	30	30	32	35	39	40	40	42	43	43	43	43	43	38	30	27	23	33.3	43.1
19-Jun	A	23	22	20	18	19	21	25	33	33	37	39	41	41	45	44	42	42	41	40	34	32	31	A	32.8	44.6
20-Jun	27	21	22	18	16	18	19	25	35	47	43	47	48	47	46	47	46	41	41	41	38	32	A	18	34.1	47.8
21-Jun	18	17	12	12	9	13	10	12	20	28	29	32	33	33	30	37	40	40	35	33	32	A	29	27	25.1	40.2
22-Jun	26	29	28	27	25	27	26	23	25	24	23	23	27	29	30	29	37	39	39	39	A	32	29	26	28.7	39.2
23-Jun	24	23	23	25	25	20	25	25	26	28	31	32	33	34	34	34	34	35	35	A	28	18	18	20	27.4	34.8
24-Jun	25	19	23	20	20	19	19	25	31	36	36	37	37	38	35	38	42	45	A	49	49	47	47	46	34.1	49.5
25-Jun	36	33	31	27	26	24	23	27	30	35	38	37	38	43	44	43	42	A	30	29	25	25	23	22	31.8	43.5
26-Jun	22	22	22	23	22	22	23	23	24	24	24	24	25	23	24	24	A	20	19	19	21	22	24	23	22.7	24.6
27-Jun	24	21	22	22	20	21	21	21	21	23	23	25	28	32	34	A	37	34	33	25	24	20	17	21	24.8	36.8
28-Jun	21	17	23	26	23	19	22	23	25	30	31	33	33	32	A	40	39	36	35	33	28	24	24	25	28.0	40.0
29-Jun	27	27	27	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	27.0
30-Jun	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
	26.7	24.8	23.4	21.7	20.9	21.1	23.1	26.7	31.2	34.3	36.2	37.7	39.1	40.0	40.6	41.1	42.2	41.9	40.7	39.3	35.9	32.1	29.7	27.8	Diurnal Average	
	45.5	37.2	34.7	33.0	35.1	38.1	42.0	39.4	44.7	47.5	51.4	51.8	52.0	53.2	54.4	51.6	57.5	57.1	53.8	53.0	49.5	46.9	48.7	48.8	Diurnal Maximum	

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

Hourly Maximums for O_3 at Portable-Kinuso
June 2009



Pollutant Rose for O_3 at Portable-Kinuso
June 2009



Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 51.0 ppb on Jun 10 18:00

Minimum Value: 10.4 ppb on Jun 21 09:00

Percentiles: P_1 = 12.4 P_{10} = 19.2 Q_1 = 22.3 Median = 28.7 Q_3 = 35.6 P_{90} = 40.7 P_{99} = 48.2

Hours in Service:	720
Hours of Data:	671
Hours of Missing Data:	49
Hours of Calibration:	6
Percent Operational Time:	94.0

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-Jun	27	27	25	23	20	19	19	19	20	21	23	26	29	32	34	36	38	40	40	41	40	38	36	33	40.6
2-Jun	31	28	25	22	19	18	18	19	21	24	27	31	35	38	41	44	45	46	47	46	44	42	39	37	46.7
3-Jun	34	31	28	25	23	23	24	24	26	28	30	33	36	38	41	43	44	45	45	44	43	41	41	37	44.8
4-Jun	33	28	24	22	21	20	21	22	24	26	29	31	32	33	34	35	36	36	35	34	32	31	29	27	36.1
5-Jun	26	24	22	21	19	18	18	18	18	20	22	25	27	30	32	33	32	32	32	32	31	31	30	28	32.5
6-Jun	27	25	22	19	18	16	14	12	13	13	15	18	21	25	28	32	34	35	36	37	36	34	33	31	36.6
7-Jun	28	26	24	24	22	21	21	22	23	24	26	27	30	32	33	33	34	35	36	35	34	34	34	33	35.6
8-Jun	32	29	28	26	24	22	19	19	21	23	26	30	34	37	41	43	44	44	45	45	45	46	45	44	45.6
9-Jun	43	41	39	36	32	29	26	25	25	27	29	32	36	40	43	46	47	48	49	49	48	48	47	45	49.0
10-Jun	43	41	38	36	34	31	30	29	30	31	34	36	39	43	46	48	50	51	51	49	47	44	39	37	51.0
11-Jun	33	29	26	24	22	22	22	22	22	22	22	22	24	26	27	28	30	33	35	36	36	33	31	28	36.4
12-Jun	26	22	19	15	12	11	12	12	14	16	18	22	26	28	32	35	37	39	40	40	39	39	38	37	40.1
13-Jun	36	35	34	33	32	31	29	27	27	27	27	28	29	31	34	36	38	39	40	40	39	36	34	31	40.1
14-Jun	28	26	23	21	20	19	19	19	20	22	24	25	29	33	37	41	43	46	47	47	46	44	41	38	47.0
15-Jun	35	32	29	25	23	22	21	20	20	21	22	24	25	27	N	N	N	N	N	N	43	42	41	41	43.4
16-Jun	40	39	37	37	35	36	36	35	35	35	35	35	36	36	37	37	38	39	40	40	38	36	34	31	40.1
17-Jun	28	25	23	20	19	19	18	18	18	19	20	22	24	27	30	32	34	35	36	37	36	36	34	31	36.6
18-Jun	29	28	26	23	21	20	21	22	23	24	26	29	31	32	34	35	37	38	39	39	39	37	35	32	39.3
19-Jun	31	28	25	22	20	19	19	19	21	22	23	26	28	31	34	36	37	38	39	39	38	36	34	33	39.0
20-Jun	30	27	24	21	19	18	18	18	19	22	25	28	32	35	39	42	43	43	43	42	41	38	37	33	43.2
21-Jun	30	26	22	18	14	12	11	11	10	12	14	17	19	22	24	27	30	31	32	32	32	32	32	31	32.3
22-Jun	29	28	27	26	25	25	24	24	24	23	23	22	22	23	23	24	25	27	29	31	32	32	32	32	32.3
23-Jun	30	28	26	24	24	22	21	21	21	22	23	24	25	27	29	30	31	32	32	32	31	29	26	23	32.3
24-Jun	21	19	17	17	16	16	17	18	19	21	23	25	28	30	32	34	35	36	36	38	39	41	42	43	42.5
25-Jun	42	40	38	35	32	29	26	24	24	25	26	28	29	31	34	36	37	38	37	36	34	32	29	26	41.5
26-Jun	23	23	22	21	21	21	21	21	21	22	22	22	22	22	23	23	23	22	22	21	20	20	20	20	23.4
27-Jun	20	20	21	21	21	21	20	20	20	20	20	20	21	22	24	25	27	28	29	29	28	26	23	23	29.3
28-Jun	21	18	16	16	16	16	17	17	18	19	21	23	24	26	27	30	32	33	33	33	32	31	29	28	33.4
29-Jun	26	25	24	23	23	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	26.0
30-Jun	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
	43.4	41.5	39.1	36.7	35.3	35.8	35.6	34.9	34.9	35.1	35.4	36.5	39.5	42.5	45.7	47.8	50.1	51.0	50.7	49.4	48.2	47.7	46.6	44.8	
	Diurnal Maximums																								

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) - °C
June 1, 2009 to July 1, 2009

Maximum Value: 28.0 °C on Jun 13 15:00

Maximum Daily Average: 20.6 °C on Jun 13

Minimum Value: 0 °C on Jun 6 06:00

Minimum Daily Average: 6.4 °C on Jun 5

Maximum Diurnal Average: 19.7 °C at hour 16

Minimum Diurnal Average: 7.7 °C at hour 5

Monthly Average: 14.44 °C

Percentiles: P_1 = 1.2 P_{10} = 6.8 Q_1 = 9.9 Median = 13.7 Q_3 = 19.6 P_{90} = 22.6 P_{99} = 27.5

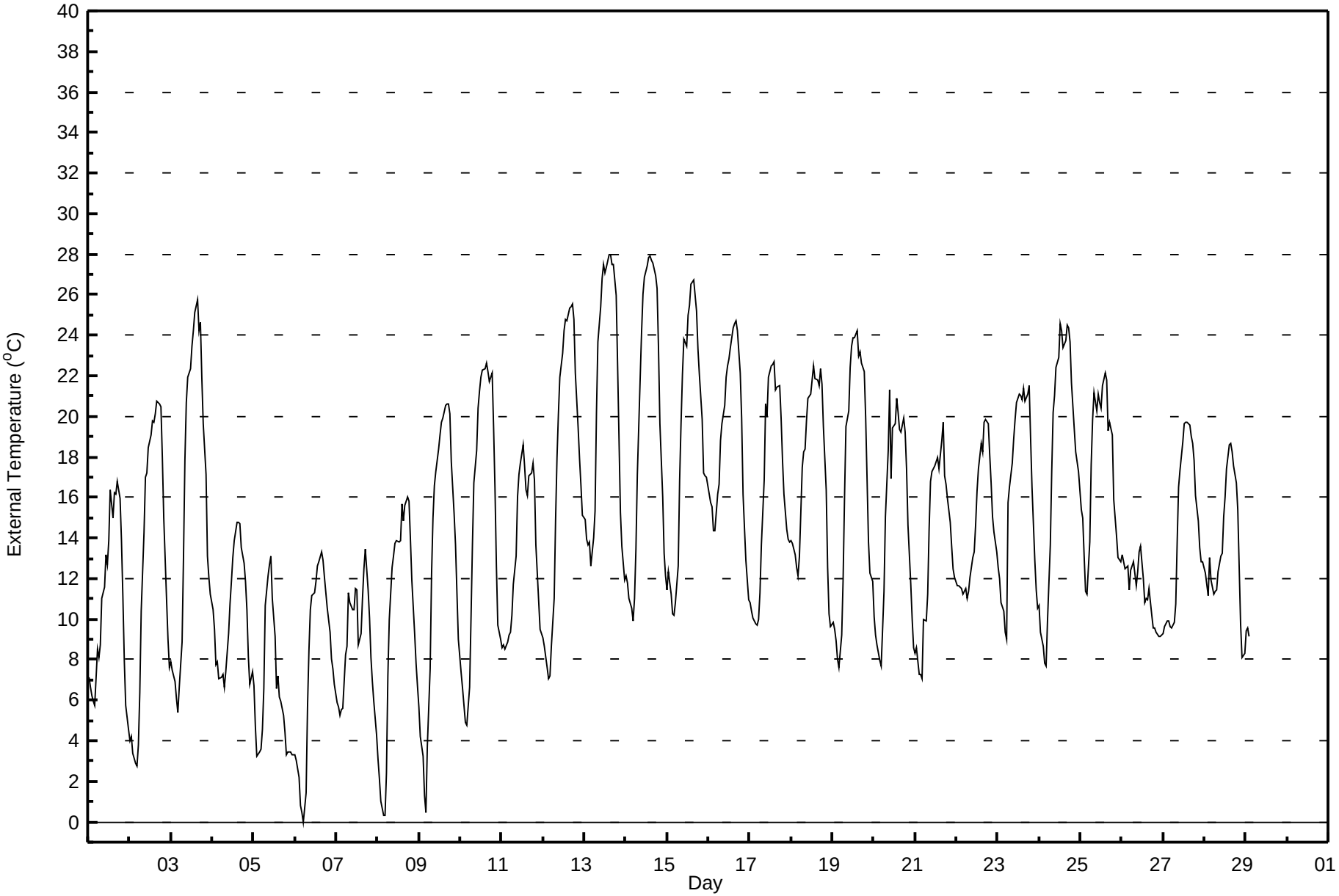
Hours in Service:	720
Hours of Data:	675
Hours of Missing Data:	45
Hours of Calibration:	0
Percent Operational Time:	93.8

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jun	7	7	6	6	6	9	8	9	11	12	13	13	14	16	15	16	16	17	16	14	11	8	6	5	10.8	16.8
2-Jun	4	4	3	3	3	4	6	10	14	17	17	18	19	20	20	20	21	21	20	18	15	11	9	8	12.7	20.8
3-Jun	8	7	7	6	5	7	9	13	18	21	22	22	23	24	25	26	24	25	22	20	17	13	12	11	16.2	25.8
4-Jun	10	9	8	8	7	7	7	7	7	9	11	12	13	14	15	15	15	14	13	12	10	8	7	7	10.2	14.8
5-Jun	7	5	3	3	4	5	7	11	12	13	13	11	9	7	7	6	6	5	4	3	3	3	3	3	6.4	13.1
6-Jun	3	3	2	1	0	0	1	6	8	10	11	11	12	13	13	13	13	12	11	11	9	8	8	7	7.8	13.3
7-Jun	6	6	5	6	6	8	9	11	11	10	10	12	11	9	9	11	12	13	11	10	8	7	6	4	8.9	13.5
8-Jun	3	2	1	0	0	2	7	10	13	13	14	14	14	14	16	15	16	16	16	14	12	9	8	7	9.8	16.0
9-Jun	6	4	3	1	0	4	8	12	15	17	17	18	19	20	20	21	21	21	20	18	15	14	11	9	13.0	20.6
10-Jun	7	7	6	5	5	7	10	14	17	18	20	21	22	22	22	23	22	22	22	20	16	13	10	9	15.0	22.6
11-Jun	9	9	9	9	9	9	10	12	13	16	17	18	19	18	16	16	17	17	18	17	14	11	9	9	13.3	18.6
12-Jun	9	9	8	7	7	9	11	15	18	20	22	23	24	25	25	25	25	26	25	22	19	18	17	15	17.6	25.5
13-Jun	15	14	14	14	13	14	15	20	24	25	27	28	27	27	28	28	27	27	26	22	19	15	14	12	20.6	28.0
14-Jun	12	12	11	11	10	11	13	17	22	24	26	27	27	28	28	28	28	27	26	23	20	16	13	12	19.7	27.9
15-Jun	11	12	11	10	10	11	13	17	20	22	24	23	25	25	27	27	26	25	23	22	20	17	17	17	19.0	26.7
16-Jun	16	16	16	14	14	16	17	19	20	21	22	22	23	23	24	25	25	24	22	20	16	14	13	11	18.9	24.7
17-Jun	11	10	10	10	10	10	11	14	17	21	20	22	22	23	23	21	21	21	20	18	16	14	14	14	16.4	22.7
18-Jun	14	14	13	13	12	13	17	18	18	20	21	21	22	22	22	22	21	22	22	19	16	13	10	10	17.3	22.5
19-Jun	10	9	9	8	8	9	12	16	20	20	22	23	24	24	24	23	23	23	22	20	17	14	12	12	16.9	24.2
20-Jun	10	9	9	8	8	10	11	15	18	21	17	19	20	21	20	19	19	20	19	17	15	12	10	9	14.9	21.3
21-Jun	8	9	7	7	7	10	10	11	14	17	17	18	18	18	17	19	20	17	17	16	15	14	13	12	13.7	19.7
22-Jun	12	12	12	11	11	12	11	11	12	13	13	15	16	17	19	18	20	20	20	18	17	15	14	13	14.7	19.8
23-Jun	13	12	11	10	9	9	16	17	18	19	20	21	21	21	21	21	21	21	21	19	16	13	11	11	16.3	21.5
24-Jun	11	9	9	8	8	10	14	17	20	21	22	23	25	24	23	24	25	24	24	22	19	18	18	17	18.1	24.6
25-Jun	15	15	13	11	11	14	18	20	21	20	21	21	20	22	22	22	19	20	19	16	15	14	13	13	17.3	22.1
26-Jun	13	13	12	13	11	12	13	13	12	12	13	14	12	11	11	11	12	10	10	10	9	9	9	9	11.4	13.6
27-Jun	9	10	10	10	10	10	10	11	14	17	17	19	20	20	20	20	19	19	18	16	15	14	13	13	14.6	19.7
28-Jun	12	12	11	13	12	11	11	11	12	13	13	15	16	17	19	19	18	18	17	15	13	10	8	8	13.6	18.7
29-Jun	9	10	9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	9.6
30-Jun	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
	9.7	9.3	8.5	8.1	7.7	9.0	10.9	13.4	15.7	17.2	18.0	18.7	19.2	19.4	19.7	19.7	19.7	19.5	18.7	16.8	14.6	12.3	11.0	10.2	Diurnal Average	
	16.1	15.7	15.5	14.3	14.3	16.2	17.6	20.2	23.7	25.4	26.8	27.5	27.4	27.8	28.0	28.0	27.6	27.5	26.3	23.4	19.8	18.2	17.7	17.3	Diurnal Maximum	

N - Not Valid

Hourly Averages for External Temperature at Portable-Kinuso

June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Kinuso
June 1, 2009 to July 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	2	2	1	2	1	0	3	2	2	0	6	3	2	6	3	5	2	3	0	1	1	3	2	0.8	6.4
Dir	318	237	267	211	105	200	24	39	174	203	269	349	353	13	1	300	359	267	349	344	159	142	201	204	329.8	1.2
2 Spd	5	9	9	10	12	11	12	9	7	4	6	4	10	8	11	7	5	5	3	2	1	1	4	4	1.6	11.7
Dir	177	180	175	181	171	175	166	164	159	106	21	41	4	354	358	346	320	318	304	249	88	179	190	182	168.6	166.3
3 Spd	7	10	10	12	12	12	11	8	5	2	5	5	4	4	4	4	3	3	4	15	17	3	3	1	1.6	17.0
Dir	176	177	178	171	170	169	174	171	170	330	309	316	300	307	279	277	293	294	333	19	28	312	246	216	199.9	28.1
4 Spd	1	1	2	7	5	4	9	3	1	7	10	9	11	10	9	9	11	5	1	1	2	1	3	6	4.1	11.0
Dir	120	180	349	3	21	19	12	350	306	354	360	358	16	4	17	27	27	5	211	76	169	99	184	149	14.2	26.7
5 Spd	5	3	1	1	2	4	5	6	3	7	10	6	5	9	5	9	10	9	7	8	3	3	2	3	2.5	10.3
Dir	160	192	201	193	175	195	179	156	106	2	358	119	107	58	90	52	56	41	49	13	327	312	23	170	64.3	358.2
6 Spd	3	3	2	1	3	1	2	4	2	4	2	7	9	8	6	11	13	11	9	5	2	2	4	1	2.9	13.5
Dir	168	170	160	297	170	139	157	165	97	174	93	43	25	15	29	21	24	20	36	55	74	63	163	147	48.1	23.6
7 Spd	2	3	5	6	6	5	7	7	5	3	3	3	3	4	13	13	7	6	5	1	1	8	5	6	5.0	13.1
Dir	112	149	143	176	185	180	180	166	173	188	186	169	95	135	153	138	153	137	151	207	131	145	186	183	158.8	137.5
8 Spd	6	6	7	8	8	7	4	6	9	10	7	7	6	9	15	8	8	9	7	9	9	6	6	8	7.1	14.7
Dir	172	179	181	175	183	174	141	167	167	154	112	170	141	102	123	158	118	146	159	138	133	146	170	165	151.3	122.9
9 Spd	8	7	7	2	1	3	6	5	5	6	8	8	8	7	6	7	5	5	1	1	4	6	6	5	4.9	8.5
Dir	173	185	188	197	155	174	187	175	163	152	168	149	156	142	146	131	150	122	171	356	144	143	168	172	159.9	149.1
10 Spd	6	8	9	8	10	8	5	5	1	2	2	1	6	4	4	5	4	2	2	1	1	2	3	4	2.0	9.6
Dir	185	189	189	192	182	177	166	162	115	316	341	95	328	321	324	327	317	320	296	231	144	208	190	186	204.7	182.4
11 Spd	8	10	10	10	11	11	10	6	8	3	4	10	17	13	3	4	5	4	6	4	1	1	2	5	3.5	16.7
Dir	178	169	179	174	177	171	178	171	161	137	352	22	37	34	337	185	172	181	177	174	179	183	198	179	157.9	37.0
12 Spd	5	6	3	6	9	9	7	5	6	5	5	5	6	6	6	6	5	5	5	1	3	7	8	6	5.5	9.2
Dir	179	172	175	167	181	174	142	138	144	153	164	171	149	135	155	141	142	156	166	168	149	140	150	171	157.9	181.1
13 Spd	7	8	10	9	7	7	7	6	4	4	3	5	5	4	4	3	5	4	3	2	0	2	3	3	3.6	10.3
Dir	166	183	173	172	176	181	183	166	171	253	248	262	264	239	262	274	272	258	221	179	175	187	199	187	201.8	173.4
14 Spd	7	8	9	8	9	10	8	7	4	2	2	2	3	2	4	5	4	3	4	2	2	2	0	4	2.7	9.7
Dir	182	184	178	175	181	183	172	166	181	227	212	262	244	278	334	330	332	320	350	21	183	215	245	201	196.6	183.4
15 Spd	4	8	6	7	3	4	6	5	4	2	4	5	5	6	3	3	3	3	1	1	1	1	6	3	1.4	8.0
Dir	169	179	166	189	134	172	182	155	162	128	347	315	332	337	303	277	328	306	277	227	203	203	144	167	195.1	179.3
16 Spd	4	6	5	1	1	2	1	3	3	4	3	3	3	3	2	3	2	2	1	1	1	1	1	1	1.9	5.8
Dir	179	158	162	168	198	235	211	228	254	259	256	245	243	272	255	254	258	264	243	196	178	192	192	185	222.4	157.7
17 Spd	5	7	11	10	10	6	6	7	4	0	1	1	2	3	4	3	2	2	6	6	7	8	7	6	3.7	10.8
Dir	179	175	169	177	182	184	171	172	172	189	15	308	46	315	320	328	335	12	173	178	156	154	159	164	173.3	169.3
18 Spd	4	5	3	3	4	3	3	3	5	5	4	4	4	4	3	3	2	1	1	1	2	1	3	5	1.8	4.9
Dir	163	165	186	178	170	169	197	243	260	264	279	315	286	299	309	315	285	265	264	246	188	156	185	188	231.5	165.3
19 Spd	9	10	8	9	9	10	8	6	2	1	2	2	3	4	2	7	6	4	6	5	3	3	3	7	4.1	10.2
Dir	172	175	176	183	179	174	176	167	164	351	229	276	350	335	306	144	105	136	176	175	148	140	193	174	171.0	175.3
20 Spd	4	6	8	9	8	5	7	6	4	2	3	2	3	4	4	4	5	3	3	2	0	2	3	3	2.4	9.0
Dir	186	172	174	174	176	143	170	149	167	227	268	338	227	238	312	319	303	287	294	266	57	155	193	180	196.4	173.6
21 Spd	3	4	3	4	5	4	4	2	1	3	3	3	2	2	6	2	3	3	3	3	2	3	3	2	1.5	5.6
Dir	179	171	160	197	175	178	182	159	187	337	328	313	314	281	354	268	300	290	269	271	264	235	246	214	239.0	354.4
22 Spd	2	2	2	2	1	2	3	2	3	3	5	4	4	4	4	3	4	6	6	6	5	4	5	4	3.2	6.2
Dir	206	216	213	205	154	228	220	222	238	245	248	249	271	278	287	266	281	283	268	257	259	254	240	254	253.1	257.3

Peace Airshed Zone Association
Summary of Hourly Averages

Portable-Kinuso
June 1, 2009 to July 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
23 Spd	3	3	3	4	2	3	3	4	5	5	5	7	6	4	5	4	3	2	2	1	3	2	3	3	2.7	6.7
Dir	254	247	234	236	209	114	177	259	254	264	276	276	290	296	275	254	254	302	245	198	182	187	193	175	248.9	276.4
24 Spd	3	4	4	3	3	4	7	6	5	3	2	3	3	7	14	9	3	8	8	7	6	5	4	3	2.8	14.2
Dir	166	186	182	188	181	185	176	165	157	133	211	114	198	35	23	2	142	162	156	138	133	167	158	176	148.4	23.2
25 Spd	1	3	2	4	6	4	4	5	2	6	6	5	5	4	5	4	6	6	7	7	5	2	3	3	3.4	7.2
Dir	76	205	166	183	179	173	162	170	288	274	260	263	259	252	257	261	256	253	261	254	244	226	184	190	234.0	260.5
26 Spd	4	4	4	5	4	5	5	4	4	6	5	7	8	6	6	6	6	4	5	4	6	7	8	9	5.2	8.5
Dir	213	231	230	236	214	229	241	247	237	246	257	251	246	249	241	226	238	225	211	215	247	250	262	259	240.3	259.4
27 Spd	7	6	6	4	4	2	2	3	3	3	3	3	3	4	5	4	2	1	2	1	3	2	4	4	1.9	6.6
Dir	266	266	268	272	266	239	227	211	224	242	266	256	308	331	346	334	324	261	24	109	171	175	154	152	262.5	266.4
28 Spd	3	1	4	4	2	1	4	2	3	6	6	6	5	4	5	6	7	4	3	3	2	3	2	3	2.6	6.5
Dir	155	156	113	181	162	97	246	206	202	244	264	272	283	263	258	259	264	269	283	249	188	184	198	195	239.1	263.6
29 Spd	4	5	4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	5.3
Dir	218	212	192	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	212.4
30 Spd	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Dir	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
Spd	3.9	4.9	4.8	4.8	5.0	4.7	4.5	4.0	3.0	1.4	1.5	1.2	1.5	1.9	1.5	0.8	0.9	0.6	1.0	0.5	1.2	2.1	3.0	3.6	Diurnal Average	
Dir	180.8	183.9	180.4	183.9	177.7	177.3	176.8	171.6	179.0	226.6	286.4	295.5	331.7	348.0	344.4	324.9	333.1	267.5	213.9	187.6	155.4	174.5	185.3	183.4		
Spd	9.0	10.2	10.8	11.6	12.3	12.5	11.7	8.6	9.4	10.1	10.3	10.0	16.7	13.2	14.7	13.1	13.5	11.0	9.1	15.4	17.0	8.0	7.8	8.5	Diurnal Maximum	
Dir	171.9	169.4	169.3	170.6	169.7	169.3	166.3	163.7	167.3	153.9	358.2	22.5	37.0	33.5	122.9	137.5	23.6	19.9	35.9	18.8	28.1	154.2	150.5	259.4		

Maximum Speed Value: 17 km/h on Jun 3 21:00
Minimum Speed Value: 0 km/h on Jun 1 11:00
Maximum Daily Speed Average: 7.1 km/h on Jun 8
Minimum Daily Speed Average: 0.8 km/h on Jun 1
Maximum Diurnal Speed Average: 5.0 km/h at hour 5
Minimum Diurnal Speed Average: 0.5 km/h at hour 20

Monthly Average Velocity: 1.89 km/h 188.13 deg
Speed Percentiles: P_1 = 0.4 P_{10} = 1.5 Q_1 = 2.7 Median = 4.2 Q_3 = 6.3 P_{90} = 8.7 P_{99} = 13.1
All monthly, daily, and diurnal averages have been calculated using vector methods

Hours in Service:	720
Hours of Data:	675
Hours of Missing Data:	45
Percent Operational Time:	93.8

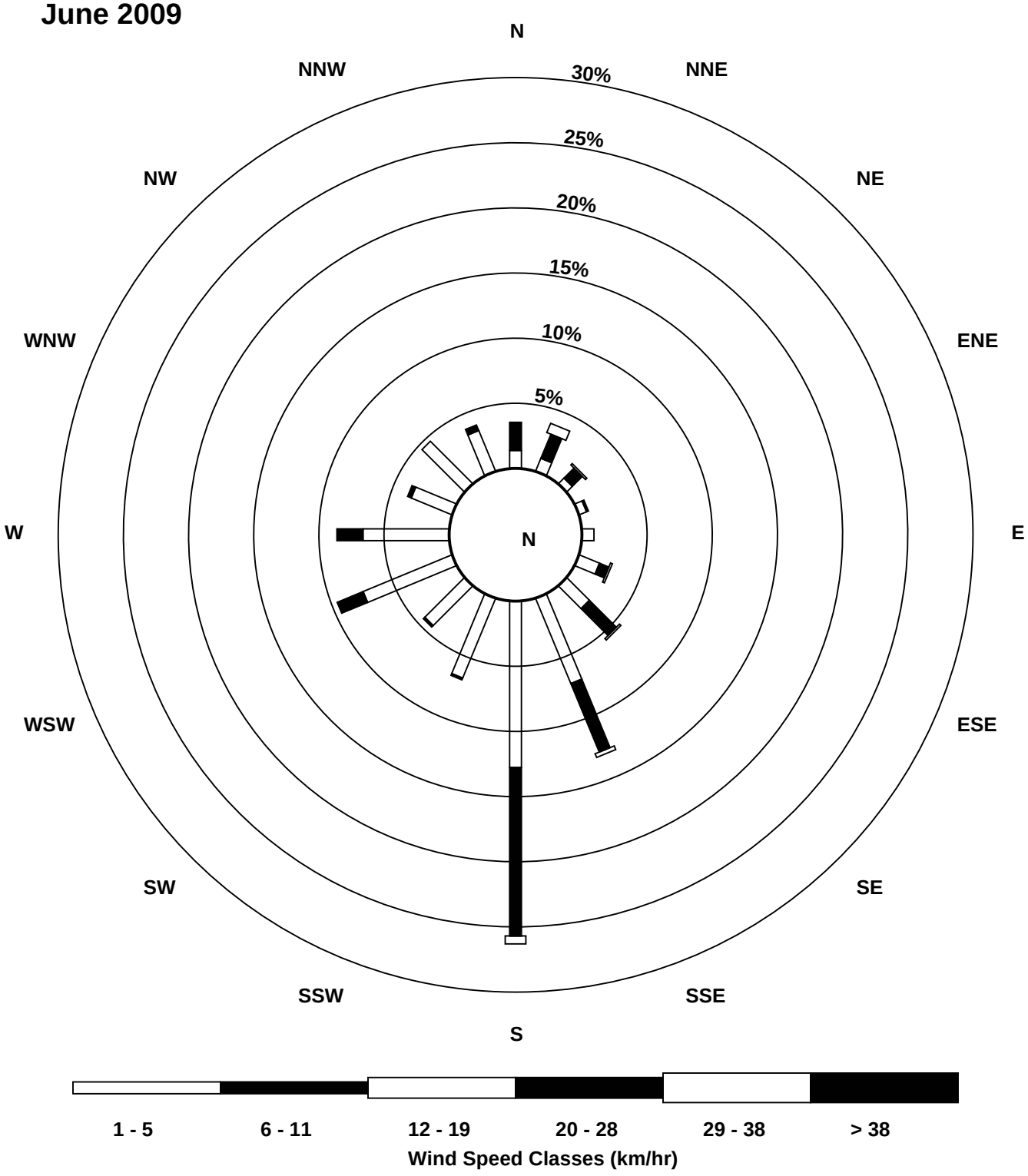
N - Not Valid

Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	20	24	3	0	0	0	47
NorthEast	9	12	5	0	0	0	26
East	16	4	0	0	0	0	20
SouthEast	37	42	3	0	0	0	82
South	124	122	7	0	0	0	253
SouthWest	74	8	0	0	0	0	82
West	71	31	0	0	0	0	102
NorthWest	58	5	0	0	0	0	63
Total	409	248	18	0	0	0	675

Wind Rose for WS at Portable-Kinuso

June 2009



Maximum Speed: 17 km/h on Jun 3 21:00

Maximum Daily Speed Average: 8.3 km/h on Jun 8

Minimum Speed: 1 km/h on Jun 17 10:00

Minimum Daily Speed Average: 2.9 km/h on Jun 16

Maximum Diurnal Speed Average: 7.1 km/h at hour 15

Minimum Diurnal Speed Average: 3.7 km/h at hour 22

Monthly Average Speed: 5.53 km/h

Percentiles: P_1 = 1.3 P_{10} = 2.5 Q_1 = 3.6 Median = 5.1 Q_3 = 6.9 P_{90} = 9.2 P_{99} = 13.9

Hours in Service:	720
Hours of Data:	675
Hours of Missing Data:	45
Percent Operational Time:	93.8

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	3	2	2	2	2	3	3	5	4	4	4	7	5	5	8	5	7	4	4	2	2	2	4	2	3.8	7.5
2-Jun	6	9	9	10	12	11	12	9	8	6	7	7	11	9	12	8	6	6	4	3	3	2	4	4	7.3	11.8
3-Jun	7	10	10	12	12	13	11	9	5	4	6	6	6	6	6	5	4	4	5	16	17	4	3	2	7.6	17.3
4-Jun	2	2	3	7	5	4	9	4	3	8	11	10	11	11	10	10	11	6	2	2	2	2	4	7	6.1	11.5
5-Jun	6	3	2	2	2	4	5	6	5	7	11	12	11	10	6	10	11	9	7	9	4	4	5	4	6.4	12.4
6-Jun	3	3	3	3	3	1	2	4	4	5	4	8	10	9	9	12	14	12	9	5	3	2	4	2	5.6	14.0
7-Jun	2	4	5	6	6	6	7	7	6	3	3	4	6	7	13	14	8	7	6	3	2	8	6	6	5.9	14.0
8-Jun	6	6	7	8	8	7	4	6	10	11	8	9	8	10	16	9	9	10	7	10	9	6	6	8	8.3	15.6
9-Jun	8	7	7	3	2	4	6	5	6	7	9	10	9	9	8	9	7	6	3	3	4	7	6	5	6.2	9.8
10-Jun	6	8	9	8	10	8	5	5	3	4	4	6	7	6	6	6	5	3	3	2	2	2	3	4	5.2	9.7
11-Jun	8	10	10	10	11	11	10	6	8	4	5	10	17	13	5	4	6	5	6	4	2	1	2	5	7.3	16.9
12-Jun	6	6	4	6	9	9	8	6	6	6	6	6	7	8	8	7	6	6	5	2	3	7	8	6	6.4	9.3
13-Jun	7	8	11	10	7	7	7	6	5	4	5	7	7	5	5	4	5	5	3	2	2	2	3	3	5.4	10.6
14-Jun	7	8	9	9	9	10	9	7	4	3	4	5	5	5	5	6	5	4	5	4	2	2	4	4	5.7	9.9
15-Jun	5	8	7	7	4	4	7	5	4	3	6	6	6	7	5	5	5	3	2	1	1	2	6	3	4.7	8.2
16-Jun	4	6	5	2	2	3	1	3	4	5	4	4	4	4	3	3	3	3	2	1	1	1	1	1	2.9	6.0
17-Jun	5	7	11	11	10	6	6	7	4	1	1	2	3	4	4	4	3	3	7	6	7	8	7	6	5.5	10.9
18-Jun	4	5	4	4	4	3	4	5	6	6	5	6	5	6	4	4	3	3	2	2	2	2	3	5	4.0	6.0
19-Jun	9	10	8	9	9	10	8	6	5	4	4	4	6	6	5	7	8	5	6	5	3	3	3	7	6.3	10.3
20-Jun	4	7	8	9	8	5	8	6	5	4	4	4	4	5	5	5	6	4	4	3	2	2	3	4	5.0	9.2
21-Jun	4	5	3	4	6	5	4	3	3	5	4	3	4	3	6	4	4	4	4	4	3	3	4	3	3.9	6.4
22-Jun	2	2	3	2	2	3	3	3	4	4	5	5	5	5	5	4	5	7	6	7	5	5	5	5	4.3	7.0
23-Jun	4	4	4	4	3	3	4	4	5	6	6	8	7	5	6	5	4	4	3	2	3	2	4	3	4.3	7.7
24-Jun	4	4	4	4	4	5	7	7	6	5	4	6	5	11	14	9	7	8	9	7	6	5	5	4	6.1	14.5
25-Jun	4	4	4	4	6	5	5	5	4	6	7	6	6	6	6	6	7	6	8	8	6	3	3	4	5.3	8.2
26-Jun	4	4	5	5	5	5	6	6	5	7	7	8	8	7	7	7	7	5	6	5	6	8	8	9	6.3	9.1
27-Jun	7	7	7	5	5	4	3	3	4	4	5	5	6	5	6	5	3	2	3	3	3	3	4	5	4.5	7.3
28-Jun	3	3	5	6	3	3	4	3	4	7	7	7	6	6	6	8	7	6	4	4	2	3	2	3	4.6	7.6
29-Jun	5	6	5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	6.0
30-Jun	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
	5.0	5.8	6.0	6.2	6.0	5.7	6.0	5.4	5.0	5.2	5.7	6.4	6.9	6.8	7.1	6.6	6.3	5.3	4.9	4.4	3.8	3.7	4.2	4.4	Diurnal Average	
	9.2	10.3	10.9	11.7	12.4	12.6	11.8	8.7	9.9	10.7	10.9	12.4	16.9	13.3	15.6	14.0	14.0	11.5	9.4	15.9	17.3	8.2	8.4	9.1	Diurnal Maximum	

N - Not Valid

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

Peace Airshed Zone Association
Summary of Hourly Standard Deviations

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

Maximum Value: 98.3 deg on Jun 1 11:00

Minimum Value: 6.1 deg on Jun 3 05:00

Percentiles: P_1 = 7.0 P_{10} = 11.5 Q_1 = 19.8 Median = 37.5 Q_3 = 52.7 P_{90} = 65.0 P_{99} = 91.3

Hours in Service:	720
Hours of Data:	675
Hours of Missing Data:	45
Hours of Calibration:	0
Percent Operational Time:	93.8

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-Jun	58	43	45	58	34	62	92	59	71	68	98	30	74	91	41	55	66	72	67	95	48	48	27	37	98.3
2-Jun	41	8	9	9	7	8	6	11	17	46	44	66	27	29	19	38	37	38	44	51	82	53	24	24	81.8
3-Jun	14	8	10	8	6	8	12	11	18	92	42	35	46	55	47	61	46	48	45	16	12	43	15	58	92.3
4-Jun	61	72	89	15	39	53	11	62	66	31	24	25	26	27	33	26	13	45	52	68	40	56	31	19	88.6
5-Jun	19	47	63	76	29	18	14	24	57	36	21	65	60	19	29	17	19	14	18	18	35	60	71	53	75.9
6-Jun	33	26	35	83	30	26	31	21	59	56	64	32	40	37	58	30	16	17	14	12	39	49	27	43	83.1
7-Jun	34	18	21	10	11	12	14	20	20	20	12	34	61	86	16	22	31	36	36	74	49	11	13	11	85.9
8-Jun	10	10	16	12	7	14	17	19	18	20	31	39	47	25	21	27	30	26	24	16	9	11	10	7	47.1
9-Jun	9	12	13	61	55	31	21	15	22	41	39	32	25	48	53	40	51	43	90	97	29	11	12	13	96.9
10-Jun	9	7	7	8	10	14	15	16	69	67	78	92	35	53	61	53	39	65	74	58	52	24	32	19	92.4
11-Jun	10	8	9	9	9	9	11	21	15	67	61	16	7	9	51	39	19	20	14	14	19	23	20	13	67.0
12-Jun	15	16	33	16	8	8	33	20	17	39	35	40	33	58	55	36	51	33	23	74	35	8	7	13	73.7
13-Jun	13	19	13	24	15	10	10	18	40	47	58	39	45	52	54	63	41	53	44	28	77	21	25	28	76.7
14-Jun	14	20	12	31	9	10	12	15	29	65	68	73	64	67	60	49	44	52	46	62	33	24	77	27	76.8
15-Jun	42	12	39	26	51	32	23	18	51	50	66	33	31	34	54	57	57	49	64	42	60	44	20	11	66.3
16-Jun	10	16	17	37	43	50	44	46	53	39	52	52	51	49	54	54	54	48	47	39	20	21	38	25	54.0
17-Jun	11	12	7	8	7	16	15	11	23	86	85	70	81	46	38	46	64	94	19	21	13	11	10	13	94.2
18-Jun	17	19	25	23	13	25	57	57	43	42	52	47	53	51	57	65	71	70	63	60	23	56	41	17	71.0
19-Jun	12	10	18	12	12	10	11	16	88	85	79	73	81	54	84	24	35	36	15	13	19	33	22	11	88.0
20-Jun	27	21	9	10	21	42	17	20	27	72	57	77	53	50	52	49	45	55	60	73	76	41	23	43	77.5
21-Jun	32	45	32	26	17	28	22	27	62	60	56	51	59	56	40	58	63	50	49	49	58	47	40	43	62.6
22-Jun	50	48	44	51	53	49	32	58	34	51	42	46	52	54	53	64	63	40	37	30	38	36	29	42	64.0
23-Jun	42	36	40	32	45	29	40	53	41	41	42	38	41	55	47	54	51	64	58	40	17	12	21	26	63.7
24-Jun	29	27	20	25	25	19	16	13	25	65	67	68	71	76	11	29	70	17	13	11	10	13	29	57	75.8
25-Jun	79	32	55	22	21	31	27	23	55	44	40	49	37	45	50	50	32	43	35	34	42	46	23	30	79.5
26-Jun	40	43	37	43	36	41	47	53	44	42	54	37	31	40	43	42	36	48	31	41	42	41	28	23	54.5
27-Jun	31	30	41	52	56	63	58	45	52	51	61	62	66	45	48	47	63	62	67	65	35	37	35	25	67.5
28-Jun	25	63	42	38	57	80	39	72	52	44	42	43	44	56	46	40	37	48	62	53	31	17	38	28	80.2
29-Jun	39	33	54	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	53.7
30-Jun	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--
	79.5	71.7	88.6	83.1	57.0	80.2	91.5	72.2	88.0	92.3	98.3	92.4	81.2	90.7	84.2	65.0	71.0	94.2	89.8	96.9	81.8	60.4	76.8	57.6	

N - Not Valid

PASZA
Valleyview Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association
Summary of Hourly Averages

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

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 15.4 ppb on Jun 23 06:00 Maximum Daily Average: 2.8 ppb on Jun 23

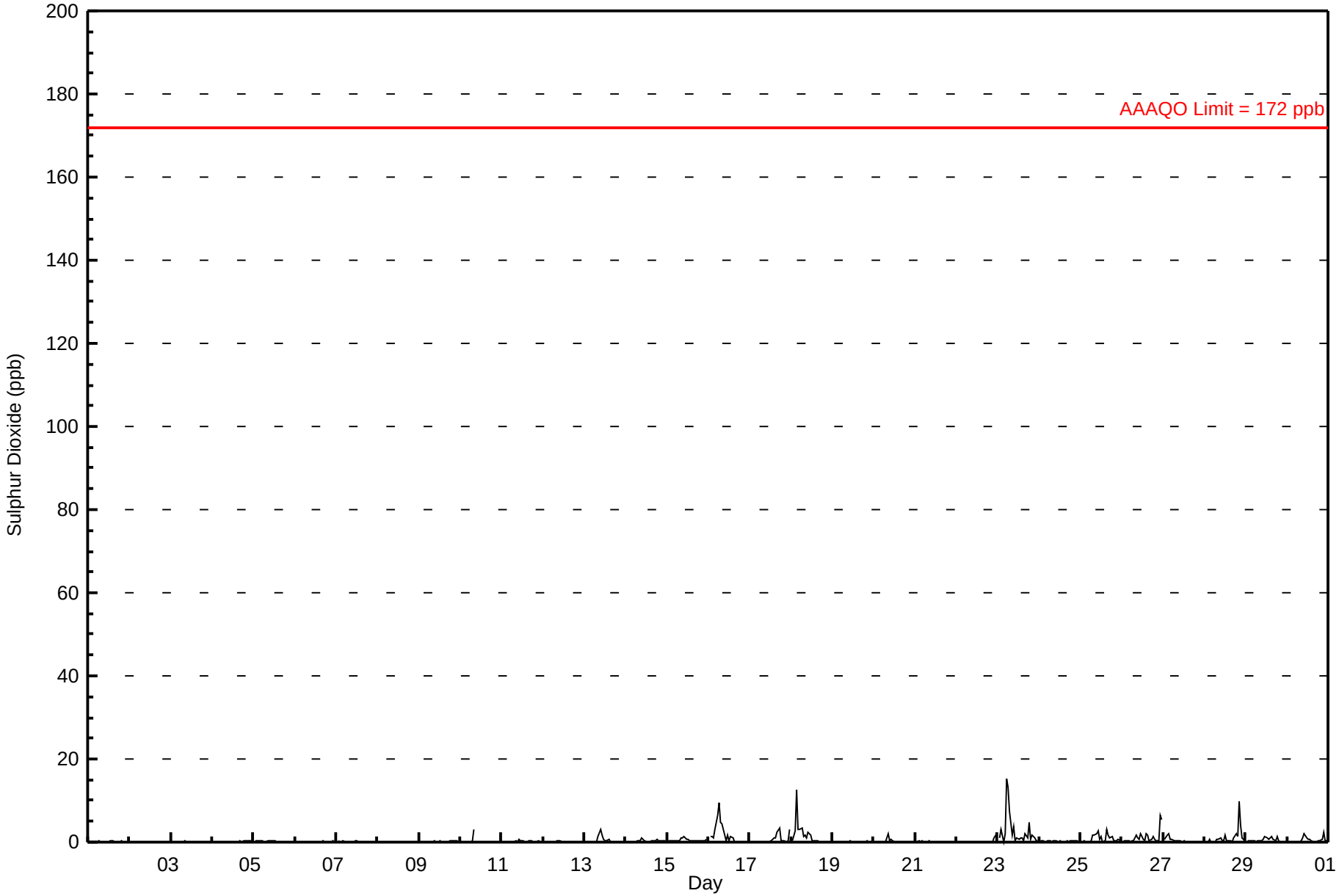
Minimum Value: 0 ppb on Jun 1 03:00 Minimum Daily Average: 0.0 ppb on Jun 2
Maximum Diurnal Average: 1.0 ppb at hour 7 Minimum Diurnal Average: 0.2 ppb at hour 20
Monthly Average: 0.47 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.1 $Q_3 = 0.3$ $P_{90} = 1.1$ $P_{99} = 6.3$

Hours in Service:	720
Hours of Data:	680
Hours of Missing Data:	40
Hours of Calibration:	35
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-Jun	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
2-Jun	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
3-Jun	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
4-Jun	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
5-Jun	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
6-Jun	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
7-Jun	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
8-Jun	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-Jun	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
10-Jun	A	0	0	0	0	0	0	0	3	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0.2	2.9
11-Jun	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
12-Jun	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-Jun	A	0	0	0	0	0	0	0	1	3	2	1	0	0	1	0	0	0	0	0	0	0	0	0	0.4	3.0
14-Jun	A	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0.3	0.9
15-Jun	A	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0.5	1.3
16-Jun	A	1	1	1	3	7	10	5	4	2	0	2	0	1	1	0	0	0	0	0	0	0	0	0	1.7	9.6
17-Jun	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	4	0	0	0	0	0	3	0.6	3.5
18-Jun	A	0	3	13	3	3	3	1	2	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	1.5	12.5
19-Jun	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
20-Jun	A	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	2.0
21-Jun	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
22-Jun	A	0	0	0	0	0	0	0	P	P	P	P	P	0	0	0	0	0	0	0	0	0	1	2	0.2	2.1
23-Jun	A	1	3	0	2	15	13	7	2	4	0	1	1	1	1	0	2	1	5	1	2	1	0	0	2.8	15.4
24-Jun	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
25-Jun	A	0	0	0	0	0	0	2	2	2	3	1	1	0	0	3	2	1	1	0	0	0	1	0	0.9	2.9
26-Jun	A	0	0	0	0	0	0	0	2	1	1	2	1	0	2	2	0	1	1	1	0	0	7	6	1.2	6.5
27-Jun	A	1	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.1
28-Jun	A	0	0	1	0	0	0	1	1	1	0	0	2	0	0	0	0	1	2	1	10	4	1	0	1.1	9.7
29-Jun	A	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0.5	1.4
30-Jun	A	0	0	0	0	0	0	0	0	1	2	1	1	1	0	0	0	0	0	0	1	2	0	0	0.5	2.4
	--	0.2	0.4	0.6	0.4	0.9	1.0	0.6	0.8	0.7	0.6	0.5	0.4	0.2	0.3	0.3	0.3	0.3	0.4	0.2	0.5	0.4	0.4	0.5	Diurnal Average	
	--	1.4	2.9	12.5	3.1	15.4	13.2	7.3	4.5	3.6	2.8	2.0	1.8	1.3	2.2	2.9	2.3	3.5	4.8	1.5	9.7	4.2	6.5	5.5	Diurnal Maximum	

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

Hourly Averages for SO_2 at Valleyview
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 22.1 ppb on Jun 23 06:00

Maximum Daily Average: 7.6 ppb on Jun 23

Minimum Value: 0 ppb on Jun 10 18:00

Minimum Daily Average: 0.5 ppb on Jun 2

Maximum Diurnal Average: 3.1 ppb at hour 9

Minimum Diurnal Average: 1.2 ppb at hour 2

Monthly Average: 1.95 ppb

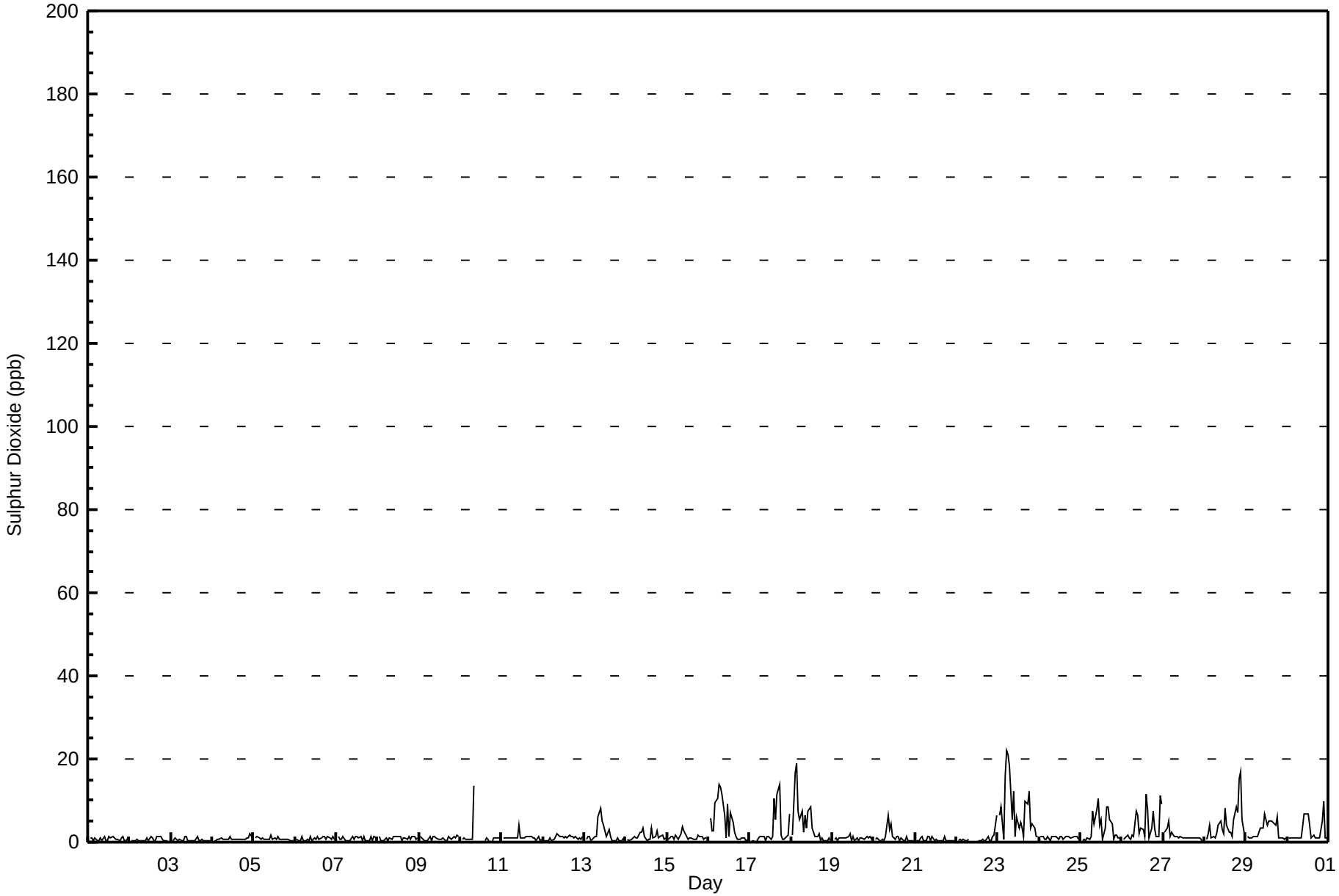
Percentiles: $P_1 = 0.2$ $P_{10} = 0.4$ $Q_1 = 0.6$ Median = 1.0 $Q_3 = 1.4$ $P_{90} = 5.1$ $P_{99} = 15.6$

Hours in Service:	720
Hours of Data:	680
Hours of Missing Data:	40
Hours of Calibration:	35
Percent Operational Time:	99.3

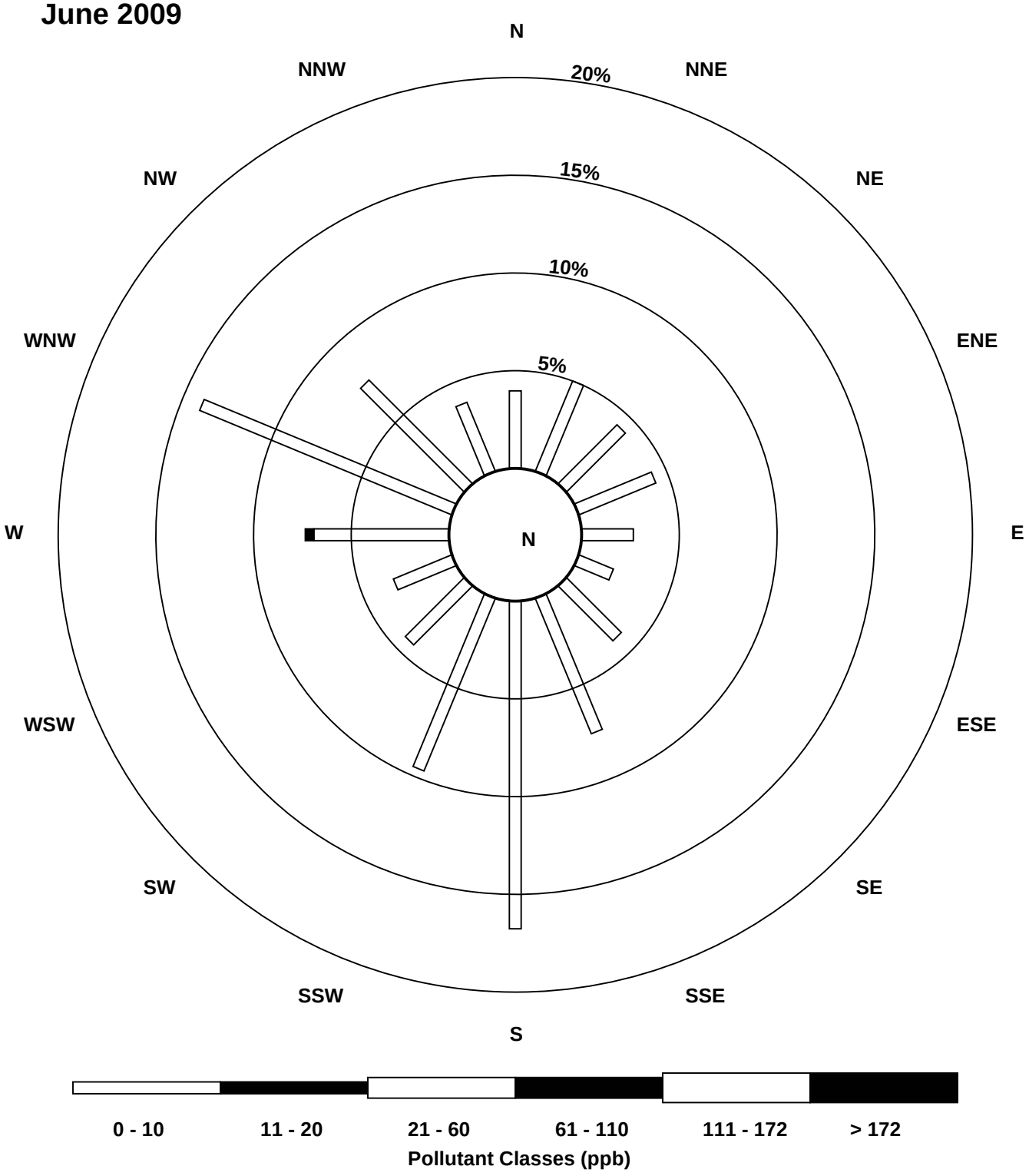
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jun	A	1	1	0	1	0	0	1	0	1	0	0	1	1	1	1	1	1	0	1	1	0	0	1	0.8	1.3
2-Jun	A	0	0	0	1	0	0	0	0	0	1	0	1	1	0	0	1	1	1	1	0	0	0	0	0.5	1.3
3-Jun	A	0	1	1	0	1	0	0	1	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0.5	1.3
4-Jun	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	0.8	1.9
5-Jun	A	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	0	0	0.8	1.7
6-Jun	A	1	0	0	1	1	0	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.5
7-Jun	A	1	1	1	1	1	0	0	0	1	1	1	1	1	1	0	1	0	0	0	1	0	1	1	0.9	1.4
8-Jun	A	1	0	0	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0.9	1.2
9-Jun	A	1	1	0	0	0	1	0	1	1	1	1	1	1	1	0	0	1	1	1	2	1	2	1	0.9	1.6
10-Jun	A	1	1	1	1	1	1	1	14	C	C	C	C	C	0	1	1	0	0	1	1	1	1	1	1.4	13.5
11-Jun	A	1	1	1	1	1	1	1	1	1	4	1	1	1	1	1	1	1	1	1	1	1	0	1	1.1	3.9
12-Jun	A	0	0	0	1	0	1	1	2	2	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1.1	2.0
13-Jun	A	1	1	1	1	1	1	1	6	8	5	4	3	1	3	1	0	0	0	1	0	0	0	1	1.9	8.1
14-Jun	A	1	0	1	1	1	1	1	2	2	3	1	0	1	1	3	1	2	3	1	1	2	1	1	1.4	3.5
15-Jun	A	1	1	1	1	2	1	1	2	4	3	1	1	1	1	1	1	1	2	1	1	1	1	1	1.3	3.7
16-Jun	A	6	3	3	10	11	14	13	11	6	1	9	1	7	5	2	1	1	1	1	1	1	0	1	4.7	13.8
17-Jun	A	0	0	0	0	1	1	1	1	0	1	1	1	1	10	5	11	14	2	1	1	1	2	7	2.8	13.8
18-Jun	A	2	17	19	8	6	8	2	7	4	7	8	3	2	1	1	2	0	1	0	0	0	1	0	4.4	18.9
19-Jun	A	1	1	0	1	1	1	1	1	1	2	0	1	0	1	0	1	1	1	1	1	1	1	0	0.9	1.9
20-Jun	A	1	1	0	0	1	0	1	6	3	4	1	1	1	1	0	1	0	0	1	0	0	0	0	1.2	6.3
21-Jun	A	0	0	1	1	0	0	1	1	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0.6	1.4
22-Jun	A	0	1	0	1	0	0	1	P	P	P	P	P	0	0	1	0	0	1	0	0	1	2	6	1.0	6.4
23-Jun	A	6	8	1	16	22	21	18	5	12	1	6	3	5	3	1	10	9	12	3	4	3	1	1	7.6	22.1
24-Jun	A	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.4
25-Jun	A	0	1	0	1	1	1	7	4	8	11	4	5	1	4	8	8	6	5	1	2	2	1	1	3.5	10.7
26-Jun	A	1	1	2	1	1	2	1	7	6	2	4	3	1	11	8	1	3	7	3	1	1	11	9	3.9	11.4
27-Jun	A	2	3	5	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1.4	4.9
28-Jun	A	1	2	4	1	1	1	2	4	5	3	2	8	4	2	2	1	6	9	7	15	17	5	1	4.6	17.1
29-Jun	A	1	1	1	1	1	1	1	3	3	3	7	4	5	5	5	5	4	6	1	1	1	1	1	2.8	6.8
30-Jun	A	1	1	1	1	1	1	1	1	4	7	7	7	4	1	2	1	1	1	1	5	10	1	1	2.6	9.9
	--	1.2	1.8	1.6	1.9	2.1	2.1	2.2	3.1	2.9	2.6	2.4	2.0	1.7	2.1	1.9	2.0	2.1	2.1	1.2	1.6	1.8	1.4	1.5	Diurnal Average	
	--	6.4	16.5	18.9	15.8	22.1	21.2	18.2	13.5	12.3	10.7	9.3	8.1	7.3	11.4	8.4	11.4	13.8	12.2	7.2	15.2	17.1	11.0	9.3	Diurnal Maximum	

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

Hourly Maximums for SO_2 at Valleyview
June 2009



Pollutant Rose for SO_2 at Valleyview
June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Number of Exceedances (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 0.4 ppb on Jun 12 02:00 Maximum Daily Average: 0.2 ppb on Jun 30

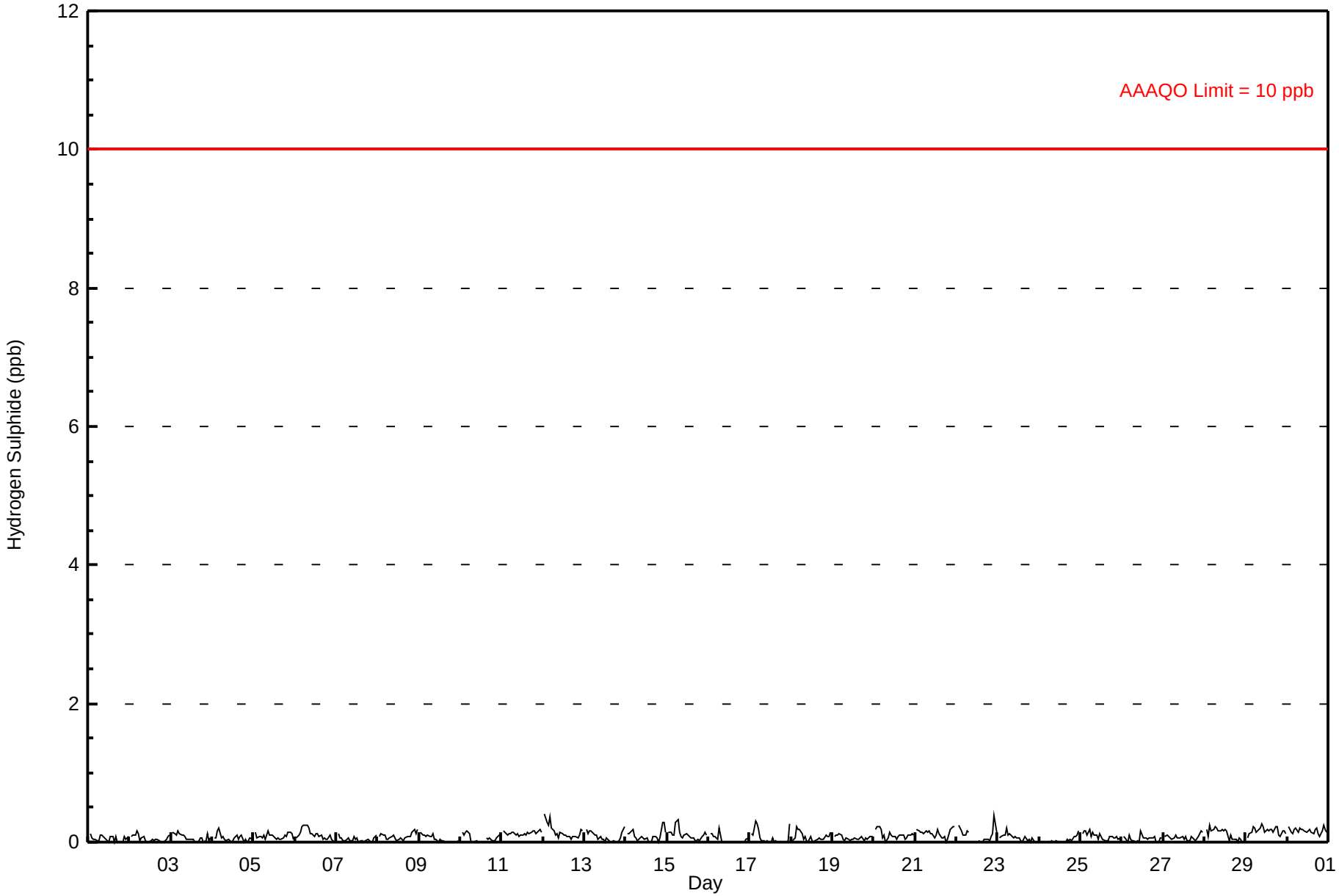
Minimum Value: 0 ppb on Jun 1 13:00 Minimum Daily Average: 0.0 ppb on Jun 24
Maximum Diurnal Average: 0.1 ppb at hour 5 Minimum Diurnal Average: 0.0 ppb at hour 20
Monthly Average: 0.08 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.1 P_{90} = 0.2 P_{99} = 0.3

Hours in Service:	720
Hours of Data:	682
Hours of Missing Data:	38
Hours of Calibration:	33
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-Jun	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
2-Jun	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
3-Jun	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
4-Jun	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-Jun	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
6-Jun	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
7-Jun	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-Jun	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
9-Jun	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-Jun	A	0	0	0	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0.1	0.2
11-Jun	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
12-Jun	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-Jun	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
14-Jun	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
15-Jun	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
16-Jun	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
17-Jun	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
18-Jun	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
19-Jun	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
20-Jun	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-Jun	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
22-Jun	A	0	0	0	0	0	0	0	P	P	P	P	P	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
23-Jun	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
24-Jun	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
25-Jun	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
26-Jun	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
27-Jun	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
28-Jun	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
29-Jun	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
30-Jun	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.2
	--	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	Diurnal Average	
	--	0.4	0.3	0.3	0.4	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3	Diurnal Maximum	

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

Hourly Averages for H_2S at Valleyview
June 2009



Peace Airshed Zone Association
Summary of Hourly Maximums

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

Maximum Value: 1.5 ppb on Jun 26 12:00

Maximum Daily Average: 0.5 ppb on Jun 30

Minimum Value: 0 ppb on Jun 16 19:00

Minimum Daily Average: 0.4 ppb on Jun 24

Maximum Diurnal Average: 0.5 ppb at hour 5

Minimum Diurnal Average: 0.4 ppb at hour 20

Monthly Average: 0.44 ppb

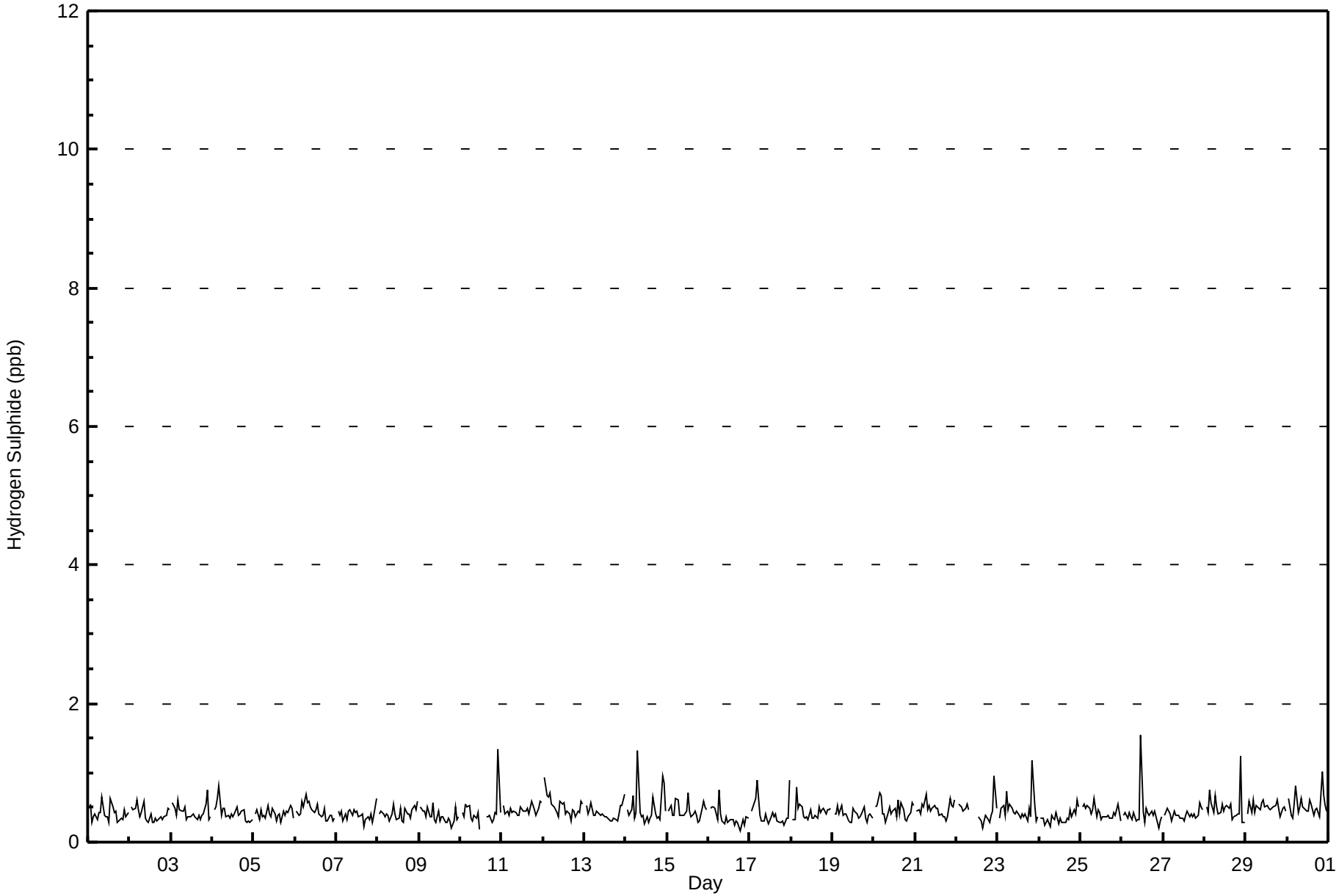
Percentiles: P_1 = 0.2 P_{10} = 0.3 Q_1 = 0.4 Median = 0.4 Q_3 = 0.5 P_{90} = 0.6 P_{99} = 0.9

Hours in Service:	720
Hours of Data:	682
Hours of Missing Data:	38
Hours of Calibration:	33
Percent Operational Time:	99.3

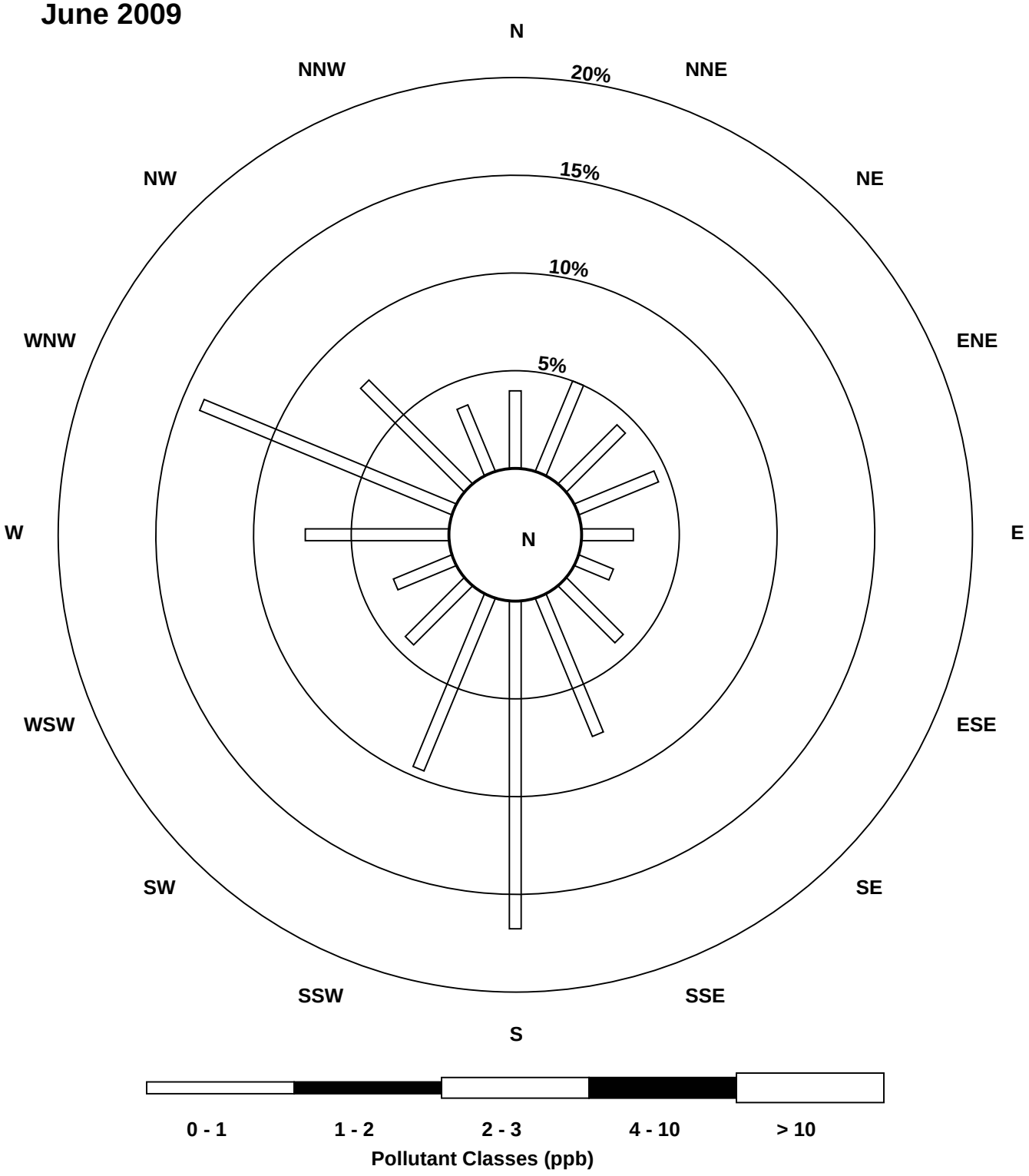
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jun	A	1	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0.4	0.7
2-Jun	A	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6
3-Jun	A	1	0	0	1	0	0	0	1	0	0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

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

Hourly Maximums for H_2S at Valleyview
June 2009



Pollutant Rose for H_2S at Valleyview
June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Valleyview - External Temperature (ET) - °C
June 1, 2009 to July 1, 2009

Maximum Value: 26.7 °C on Jun 14 19:00

Maximum Daily Average: 18.9 °C on Jun 13

Minimum Value: -1 °C on Jun 8 05:00

Minimum Daily Average: 7.3 °C on Jun 6

Maximum Diurnal Average: 18.2 °C at hour 17

Minimum Diurnal Average: 6.8 °C at hour 5

Monthly Average: 13.50 °C

Percentiles: P_1 = 1.0 P_{10} = 6.2 Q_1 = 9.5 Median = 13.1 Q_3 = 17.8 P_{90} = 21.3 P_{99} = 25.8

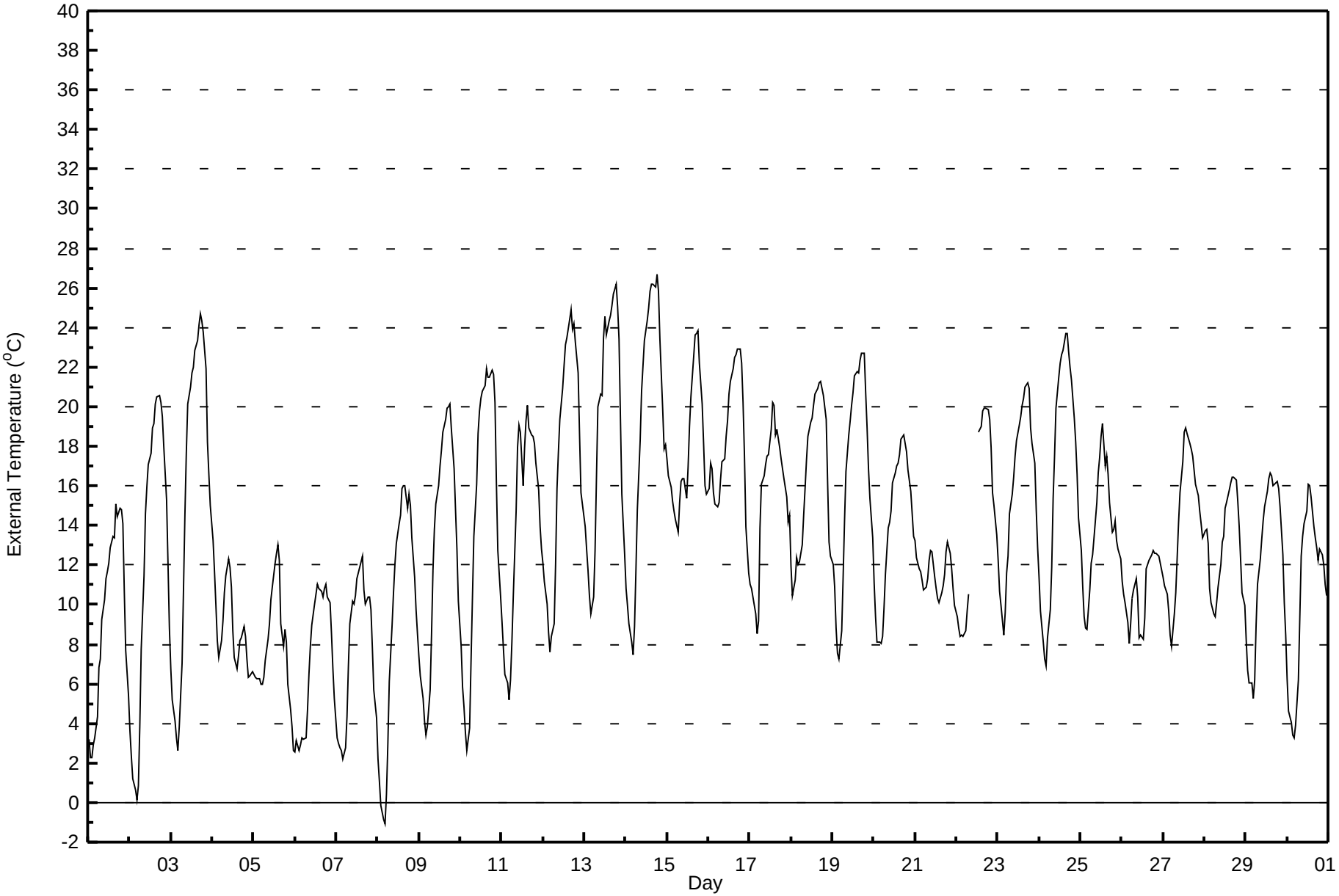
Hours in Service:	720
Hours of Data:	715
Hours of Missing Data:	5
Hours of Calibration:	0
Percent Operational Time:	99.3

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-Jun	3	2	2	3	3	4	7	7	9	10	11	12	12	13	13	13	15	14	15	15	14	11	8	5	9.3	15.1
2-Jun	4	2	1	1	0	1	4	8	11	15	16	17	18	19	19	20	21	21	20	19	18	15	12	9	12.1	20.6
3-Jun	7	5	4	3	3	4	7	11	14	18	20	21	22	22	23	23	24	25	24	24	22	18	17	15	15.6	24.7
4-Jun	13	12	10	8	7	8	9	11	11	12	12	11	9	7	7	7	8	8	9	8	7	6	6	7	9.0	13.2
5-Jun	6	6	6	6	6	6	6	7	8	9	10	11	12	13	13	12	9	8	9	8	6	5	4	3	7.9	13.0
6-Jun	3	3	3	3	3	3	3	5	6	8	9	10	11	11	11	11	10	11	11	10	10	9	7	5	7.3	11.0
7-Jun	3	3	3	3	2	3	4	7	9	10	10	10	11	12	12	12	11	10	10	10	10	8	6	4	7.7	12.4
8-Jun	2	1	0	-1	-1	0	3	6	9	11	12	13	14	15	16	16	16	15	16	15	13	11	10	9	9.2	16.0
9-Jun	7	6	5	4	3	4	6	9	12	14	15	16	17	18	19	19	20	20	20	19	17	15	13	10	12.8	20.1
10-Jun	8	6	5	4	3	4	7	10	13	16	19	20	20	21	21	22	22	22	22	22	20	16	13	10	14.3	21.9
11-Jun	9	8	6	6	5	6	8	10	15	18	19	19	16	18	19	20	19	19	18	18	17	16	14	13	14.0	20.0
12-Jun	12	11	10	9	8	8	9	12	16	18	19	21	22	23	23	24	25	24	24	23	22	19	16	15	17.2	24.9
13-Jun	14	13	12	10	10	10	13	16	20	21	21	23	25	24	24	25	25	26	26	25	23	19	16	13	18.9	26.2
14-Jun	11	10	9	8	7	9	12	15	18	21	22	23	24	25	26	26	26	26	27	26	23	20	18	18	18.8	26.7
15-Jun	17	17	16	15	15	14	14	15	16	16	16	15	17	19	21	23	24	24	24	22	20	18	16	16	17.9	23.8
16-Jun	16	17	17	16	15	15	15	16	17	17	19	19	21	21	22	22	23	23	23	22	20	18	14	12	18.3	22.9
17-Jun	11	11	10	10	9	9	14	16	16	17	18	18	19	20	20	19	19	18	17	17	16	15	14	14	15.3	20.2
18-Jun	12	10	11	12	12	12	13	15	16	17	18	19	19	20	21	21	21	21	21	21	19	16	13	12	16.4	21.3
19-Jun	12	11	9	8	7	9	11	14	17	19	19	20	21	22	22	22	22	23	23	21	19	17	15	13	16.4	22.7
20-Jun	11	9	8	8	8	8	10	11	14	14	15	16	17	17	17	18	18	19	18	18	17	16	15	13	14.0	18.6
21-Jun	13	12	12	12	11	11	11	11	12	13	13	11	11	10	10	11	11	12	13	13	13	12	11	10	11.6	13.3
22-Jun	9	9	8	8	8	9	10	11	P	P	P	P	P	19	19	20	20	20	20	19	18	16	15	13	14.3	19.9
23-Jun	12	11	10	8	10	12	12	15	16	16	17	18	19	20	20	20	21	21	21	19	18	17	15	13	15.9	21.2
24-Jun	11	10	8	7	7	8	10	12	15	17	20	21	22	23	23	24	24	23	22	21	19	18	17	14	16.6	23.7
25-Jun	13	11	9	9	9	11	12	13	13	15	17	17	19	19	17	18	17	15	14	14	14	13	13	12	13.9	19.2
26-Jun	11	10	10	9	8	9	10	11	11	10	8	8	8	9	12	12	12	13	13	13	13	12	12	12	10.7	12.8
27-Jun	11	11	11	10	8	8	10	11	12	14	16	17	19	19	19	18	18	18	17	16	15	15	14	13	14.1	18.9
28-Jun	14	14	13	11	10	10	9	10	11	12	13	13	15	15	16	16	16	16	16	15	14	12	11	10	13.1	16.5
29-Jun	8	7	6	6	5	6	9	11	12	13	14	15	16	16	17	17	16	16	16	16	15	13	10	8	12.0	16.7
30-Jun	6	5	4	3	3	4	6	9	12	13	14	15	16	16	15	14	13	13	12	13	13	12	11	10	10.6	16.1
	9.7	8.8	8.0	7.3	6.8	7.5	9.1	11.1	13.3	14.7	15.6	16.3	16.9	17.5	17.9	18.2	18.2	18.0	18.0	17.4	16.2	14.2	12.4	11.1	Diurnal Average	
	17.4	17.1	16.9	15.6	15.1	14.9	15.1	16.5	20.0	20.8	22.1	23.5	24.6	25.0	25.8	26.2	26.2	26.0	26.7	25.9	23.4	19.9	17.9	18.1	Diurnal Maximum	

P - Power Failure

Hourly Averages for External Temperature at Valleyview

June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

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

Maximum Value: 99.8 % on Jun 12 07:00

Maximum Daily Average: 74.4 % on Jun 4

Minimum Value: 21 % on Jun 9 17:00

Minimum Daily Average: 42.5 % on Jun 23

Maximum Diurnal Average: 83.6 % at hour 5

Minimum Diurnal Average: 37.0 % at hour 16

Monthly Average: 55.85 %

Percentiles: P_1 = 21.7 P_{10} = 26.9 Q_1 = 37.0 Median = 53.6 Q_3 = 74.0 P_{90} = 88.7 P_{99} = 97.3

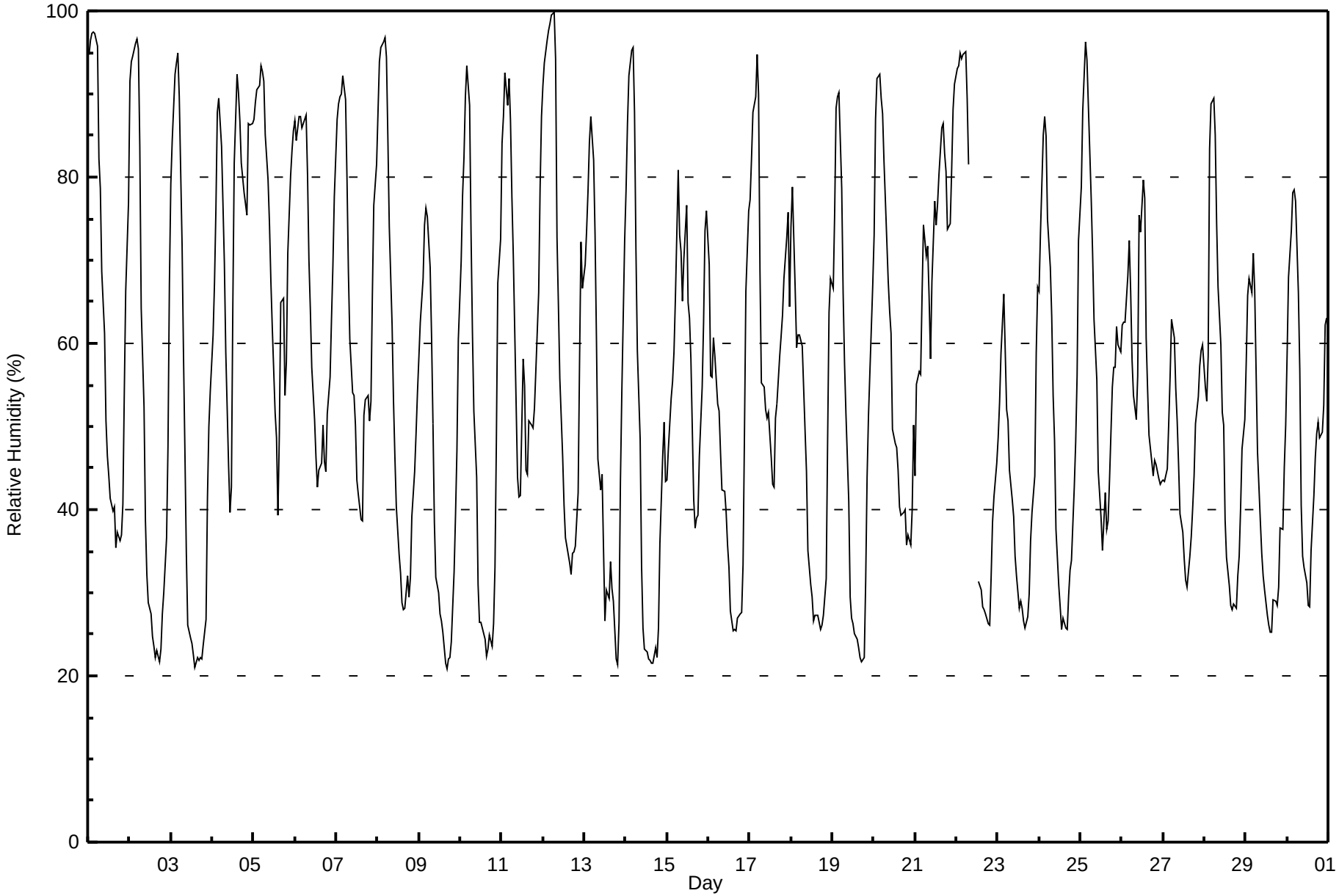
Hours in Service:	720
Hours of Data:	715
Hours of Missing Data:	5
Hours of Calibration:	0
Percent Operational Time:	99.3

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-Jun	95	96	97	97	97	96	82	79	69	61	51	46	44	41	40	40	35	37	36	37	41	54	66	77	63.2	97.4
2-Jun	92	94	95	96	97	95	84	64	52	39	32	29	27	25	24	22	23	22	23	27	30	37	48	67	51.8	96.6
3-Jun	79	84	92	94	95	90	72	59	47	35	26	25	24	23	21	22	22	22	22	24	27	41	50	54	47.9	94.8
4-Jun	61	67	76	88	90	84	77	70	59	45	40	43	64	82	92	90	87	82	78	77	75	87	86	86	74.4	92.3
5-Jun	87	89	90	91	93	93	92	85	80	74	67	62	52	49	39	49	65	65	54	58	71	80	83	86	73.1	93.4
6-Jun	87	84	87	87	86	86	88	80	70	64	57	51	46	43	45	46	50	46	45	52	56	63	69	78	65.2	87.5
7-Jun	87	89	90	90	92	89	80	69	60	54	54	50	44	42	39	39	51	53	54	51	53	66	77	82	64.7	92.2
8-Jun	88	94	96	96	97	94	85	74	62	53	46	40	35	32	29	28	28	32	29	32	39	45	49	54	56.6	96.7
9-Jun	58	63	68	74	76	75	69	61	50	38	32	30	28	27	25	22	21	22	22	24	33	39	47	60	44.4	76.3
10-Jun	70	78	82	90	93	89	73	61	52	44	31	26	26	26	24	22	23	25	24	26	33	48	67	73	50.3	93.4
11-Jun	84	87	93	89	92	87	78	71	53	44	41	42	58	55	45	44	51	50	50	52	57	66	79	87	64.7	92.5
12-Jun	91	94	96	98	99	100	100	94	73	65	56	47	40	37	36	34	32	35	35	36	42	58	72	67	63.9	99.8
13-Jun	69	74	78	84	87	82	73	60	46	42	44	35	27	30	29	34	30	29	22	21	26	43	54	72	49.8	87.3
14-Jun	78	86	92	95	96	88	71	59	48	33	26	23	23	22	22	22	22	23	22	26	36	46	51	43	48.1	95.6
15-Jun	44	47	53	55	59	65	81	73	71	65	70	77	65	63	58	41	38	39	39	46	55	63	74	76	59.1	80.8
16-Jun	69	56	56	61	58	53	52	47	42	42	40	36	33	28	25	26	25	27	27	28	33	49	66	76	44.0	75.9
17-Jun	77	82	88	90	95	90	69	55	55	52	51	52	46	43	43	51	53	58	61	63	68	73	76	64	64.8	94.7
18-Jun	74	79	66	59	61	61	60	55	49	45	35	31	30	27	27	27	27	26	26	27	32	48	64	68	46.0	78.8
19-Jun	67	76	88	90	90	79	66	58	52	41	29	27	26	25	24	23	22	22	22	31	44	51	57	67	49.0	90.1
20-Jun	73	87	92	92	90	88	82	77	67	64	61	50	48	48	45	40	39	40	40	36	37	36	40	50	59.2	92.4
21-Jun	44	55	57	56	66	74	71	72	66	58	67	77	74	77	80	86	86	83	81	74	74	81	88	91	72.4	91.2
22-Jun	93	93	95	94	95	95	90	82	P	P	P	P	P	31	30	28	28	27	26	26	32	39	42	46	57.5	95.1
23-Jun	49	53	59	66	59	52	51	45	41	39	34	32	28	29	28	27	26	27	30	36	40	44	59	67	42.5	66.7
24-Jun	66	73	85	87	85	75	69	63	54	48	38	31	28	26	27	26	26	30	33	34	43	48	56	72	50.9	87.3
25-Jun	79	88	92	96	94	83	77	71	63	56	45	42	39	35	42	38	39	44	55	57	57	62	60	59	61.3	96.2
26-Jun	62	62	63	68	72	66	58	54	51	56	75	73	80	77	61	55	49	46	44	46	45	44	43	43	58.1	79.6
27-Jun	44	43	45	50	56	63	61	55	51	45	39	37	34	31	31	34	37	40	44	50	54	57	59	60	46.7	63.0
28-Jun	55	53	58	83	89	89	85	74	67	60	52	50	39	34	31	28	28	29	28	32	34	40	47	51	51.6	89.5
29-Jun	58	66	68	66	71	66	57	47	39	35	32	30	27	26	25	25	29	29	28	31	38	38	45	50	42.7	70.9
30-Jun	59	68	74	78	78	77	66	57	41	34	33	31	28	28	35	42	46	49	51	49	49	53	62	63	52.1	78.5
	71.3	75.4	79.1	82.1	83.6	80.8	73.9	65.6	56.2	49.4	45.0	42.2	40.1	38.7	37.4	37.0	37.9	38.6	38.4	40.3	45.1	53.3	61.2	66.3	Diurnal Average	
	94.8	96.4	97.3	97.7	98.5	99.5	99.8	94.2	79.7	74.5	75.4	77.1	79.6	81.7	92.3	90.2	86.8	82.8	80.7	76.7	75.4	86.5	88.2	91.2	Diurnal Maximum	

P - Power Failure

Hourly Averages for Relative Humidity at Valleyview

June 2009



Peace Airshed Zone Association
Summary of Hourly Averages

Valleyview
June 1, 2009 to July 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	2	2	1	2	1	2	2	2	2	2	3	2	3	3	2	1	3	3	3	1	2	1	1	1.1	3.2
Dir	190	161	181	179	173	171	38	30	353	351	34	56	107	47	63	3	323	80	27	30	44	359	352	348	44.9	47.1
2 Spd	1	1	1	1	1	1	1	1	1	4	2	3	2	0	6	4	3	5	7	8	5	3	0	1	1.0	7.7
Dir	191	218	200	207	205	276	191	106	164	188	123	98	339	66	334	329	37	348	29	26	36	17	290	172	15.2	25.8
3 Spd	2	2	2	2	2	2	3	2	1	0	1	2	2	4	5	5	3	1	6	5	4	8	9	8	1.2	9.0
Dir	199	184	185	196	198	188	191	187	135	15	180	135	62	354	320	307	354	324	342	313	289	14	35	32	350.3	34.5
4 Spd	5	4	0	1	4	4	7	7	6	9	9	9	6	4	4	4	4	6	2	7	5	8	6	4	4.1	9.4
Dir	32	22	24	65	355	12	19	30	58	42	62	58	70	65	46	43	28	27	51	48	112	129	137	169	54.7	58.4
5 Spd	3	1	2	1	2	1	1	1	2	2	0	3	7	8	13	11	17	11	10	7	7	6	5	6	4.1	16.9
Dir	179	31	67	69	36	81	43	152	161	169	348	355	344	319	15	46	55	68	53	66	69	60	40	37	44.7	55.1
6 Spd	6	6	5	4	2	4	5	2	1	1	3	5	4	2	4	4	7	5	4	7	3	4	4	2	2.3	6.8
Dir	50	42	48	59	42	20	16	84	33	269	157	179	165	160	136	137	130	126	122	135	146	143	158	184	113.3	134.7
7 Spd	1	1	0	0	1	1	1	1	0	0	3	3	5	5	2	5	7	11	6	5	5	3	3	1	2.6	11.0
Dir	99	211	158	248	198	183	75	102	97	91	169	136	130	139	63	142	142	146	167	137	137	148	161	252	143.1	145.7
8 Spd	2	0	1	1	1	1	2	3	8	11	10	9	9	9	8	9	8	10	10	9	7	5	6	6	5.7	11.2
Dir	343	173	205	216	256	197	193	180	181	174	183	178	175	159	170	166	156	136	143	158	149	153	149	157	164.2	174.2
9 Spd	6	5	3	2	2	2	2	2	3	9	8	8	6	5	4	4	2	3	2	2	3	3	2	0	3.0	9.3
Dir	156	171	186	179	234	215	247	191	160	162	161	168	152	170	153	156	175	87	95	73	58	78	118	195	156.7	162.2
10 Spd	1	2	1	1	1	2	1	2	1	2	1	3	3	7	9	7	9	6	7	2	1	1	2	2	1.3	8.9
Dir	207	348	185	212	188	189	196	172	201	151	130	67	345	330	348	16	27	27	348	57	158	216	195	194	7.8	26.8
11 Spd	2	1	2	2	1	2	1	1	2	1	4	5	5	4	4	5	7	5	4	1	3	1	2	1	0.9	7.4
Dir	178	224	195	196	221	195	218	184	185	206	315	354	17	105	142	21	59	80	60	91	28	122	152	191	77.9	58.8
12 Spd	0	2	1	0	1	1	2	2	2	3	4	3	2	2	2	2	2	4	5	6	3	2	3	5	2.2	6.4
Dir	155	42	169	278	180	189	163	173	190	185	173	193	166	183	133	178	145	150	187	195	188	170	179	183	176.7	194.8
13 Spd	3	3	2	2	2	2	3	3	5	6	2	2	6	9	6	7	6	3	6	4	1	2	1	1	2.0	8.9
Dir	189	192	192	192	201	207	198	194	279	272	189	230	298	309	278	188	178	196	343	7	228	195	215	182	242.2	309.0
14 Spd	2	3	2	2	2	2	3	4	3	4	9	8	7	6	6	7	6	7	4	2	1	1	2	7	2.7	8.8
Dir	206	185	192	186	200	187	191	183	202	295	295	302	300	308	325	299	309	317	275	227	196	354	290	359	288.7	295.5
15 Spd	2	3	2	4	0	1	2	2	3	1	2	4	1	2	1	3	3	4	4	3	2	3	2	2	0.8	4.3
Dir	19	265	63	358	218	291	164	147	187	247	214	299	39	96	99	76	89	76	53	100	115	144	183	172	100.2	299.2
16 Spd	3	7	3	3	5	6	5	7	13	10	10	15	10	13	13	14	12	11	11	8	4	1	2	2	6.9	14.7
Dir	200	281	296	251	275	271	284	294	289	271	261	274	275	285	286	300	313	315	316	334	2	191	189	195	288.5	273.6
17 Spd	2	2	1	1	1	3	1	8	5	10	9	8	6	6	8	7	10	6	3	3	4	3	3	5	3.3	10.3
Dir	196	189	179	224	196	185	225	331	333	323	311	315	325	311	313	293	278	269	230	198	195	189	232	273	287.2	322.7
18 Spd	3	3	5	11	14	9	11	16	15	14	15	14	14	13	12	14	12	12	10	7	3	2	2	2	8.9	15.7
Dir	198	194	262	281	291	287	287	292	292	296	295	286	306	300	297	318	310	315	314	314	291	217	197	196	294.4	291.5
19 Spd	2	2	2	2	3	4	3	3	4	1	6	5	4	3	4	3	4	2	2	3	6	6	5	2	1.8	5.9
Dir	191	189	188	190	184	188	191	190	191	169	293	260	267	285	306	333	323	14	101	147	178	171	173	194	213.7	171.4
20 Spd	2	1	1	1	1	3	3	2	10	13	10	12	14	11	10	7	6	3	2	7	4	4	4	1	3.9	14.2
Dir	310	163	329	209	217	190	185	164	290	308	304	303	316	310	328	346	13	64	81	344	7	7	355	192	319.6	316.0
21 Spd	3	2	2	2	1	2	2	1	1	3	2	3	2	5	4	3	3	2	1	3	3	1	1	1	1.1	5.0
Dir	339	202	285	313	148	184	152	277	328	1	98	33	24	349	353	338	43	82	110	4	356	301	232	205	1.1	349.1
22 Spd	1	1	2	2	2	2	4	4	P	P	P	P	P	16	17	16	16	17	15	12	8	6	9	9	7.2	17.0
Dir	210	236	185	238	183	216	268	307	P	P	P	P	P	342	334	318	313	323	314	322	336	298	282	274	313.4	334.4

Peace Airshed Zone Association
Summary of Hourly Averages

Valleyview
June 1, 2009 to July 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
23 Spd	7	5	2	3	5	9	11	16	18	16	15	14	14	13	12	13	12	10	11	11	7	4	2	2	9.2	18.2
Dir	268	266	246	220	269	279	277	288	294	288	312	296	295	288	293	310	292	308	286	264	282	272	167	210	287.5	294.4
24 Spd	3	3	2	3	2	4	4	3	2	4	5	7	7	7	7	9	9	7	7	7	9	3	3	1	4.5	9.4
Dir	200	186	182	183	194	188	189	187	164	135	171	180	163	174	147	154	169	149	135	147	191	207	2	175	167.8	153.9
25 Spd	1	1	2	2	2	1	8	8	11	8	13	11	9	5	16	20	22	18	6	4	2	2	3	5	6.7	21.6
Dir	179	227	211	212	219	204	290	292	297	290	288	310	288	253	306	280	285	294	266	187	215	230	253	262	282.8	284.9
26 Spd	3	5	5	3	4	4	6	10	11	20	11	13	7	4	10	16	22	22	19	20	16	16	12	11	10.4	21.9
Dir	230	256	249	211	191	237	261	265	275	296	272	285	252	203	291	300	302	295	295	296	302	301	287	285	285.2	294.5
27 Spd	15	12	6	3	2	2	2	4	4	4	4	4	3	1	4	8	8	4	2	2	3	1	2	3	1.1	14.7
Dir	291	296	294	253	249	221	189	187	180	178	168	182	162	119	357	350	28	51	47	116	7	63	29	16	304.7	290.7
28 Spd	2	2	5	10	7	6	10	14	14	15	15	15	16	16	16	16	16	14	17	15	15	9	6	5	10.9	16.9
Dir	109	167	251	296	302	276	280	291	299	297	303	302	289	302	300	303	300	289	289	295	282	272	262	252	291.7	289.3
29 Spd	3	3	5	6	4	4	4	10	14	15	14	14	11	11	12	15	16	13	12	4	2	7	3	2	6.9	15.5
Dir	207	190	187	186	174	189	204	257	265	269	270	276	290	288	289	293	309	307	283	235	211	269	224	203	269.5	308.9
30 Spd	3	3	4	3	2	3	4	5	8	13	14	13	9	13	20	20	17	14	11	12	8	3	2	2	6.5	20.4
Dir	206	190	189	193	191	179	180	188	254	276	280	291	272	296	332	321	324	314	305	306	297	258	198	203	291.5	332.3
Spd	1.1	1.2	1.2	1.4	1.4	1.6	1.9	2.6	3.7	4.2	3.8	4.0	3.4	3.9	5.1	5.0	4.2	3.2	2.9	1.7	1.0	0.7	0.8	1.1	Diurnal Average	
Dir	222.9	232.5	219.1	235.2	244.5	233.7	251.4	267.2	273.3	279.1	277.2	285.0	289.8	300.7	317.1	313.0	321.7	323.7	314.3	312.4	292.1	254.9	225.6	241.4		
Spd	14.7	11.8	5.8	10.8	13.8	9.1	11.2	16.5	18.2	20.2	15.4	14.8	16.3	16.5	20.4	20.5	21.8	21.9	19.0	19.7	16.1	16.2	11.8	11.4	Diurnal Maximum	
Dir	290.7	296.5	293.6	280.9	291.2	287.4	276.9	288.4	294.4	296.2	295.3	302.0	288.7	341.6	332.3	280.5	302.3	294.5	294.7	296.1	302.1	301.1	287.5	285.4		

Maximum Speed Value: 22 km/h on Jun 26 18:00
Minimum Speed Value: 0 km/h on Jun 7 04:00
Maximum Daily Speed Average: 10.9 km/h on Jun 28
Minimum Daily Speed Average: 0.8 km/h on Jun 1
Maximum Diurnal Speed Average: 5.1 km/h at hour 15
Minimum Diurnal Speed Average: 0.7 km/h at hour 22

Monthly Average Velocity: 2.20 km/h 286.70 deg
Speed Percentiles: P_1 = 0.3 P_{10} = 1.2 Q_1 = 1.9 Median = 3.7 Q_3 = 7.4 P_{90} = 12.9 P_{99} = 20.1
All monthly, daily, and diurnal averages have been calculated using vector methods

Hours in Service:	720
Hours of Data:	715
Hours of Missing Data:	5
Percent Operational Time:	99.3

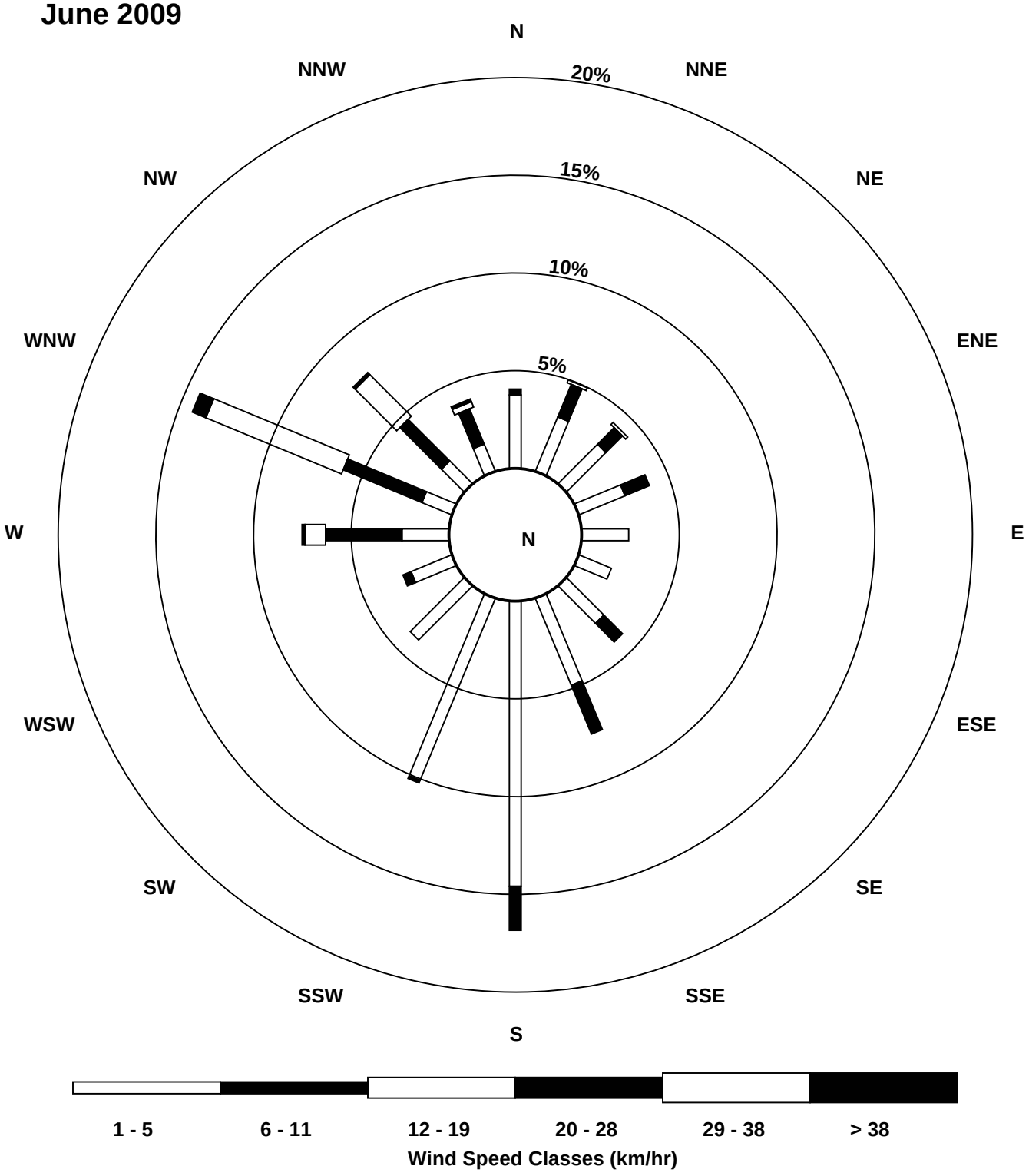
P - Power Failure

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	42	16	2	0	0	0	60
NorthEast	45	24	2	0	0	0	71
East	31	4	0	0	0	0	35
SouthEast	37	21	1	0	0	0	59
South	173	26	1	0	0	0	200
SouthWest	62	0	0	0	0	0	62
West	32	44	35	2	0	0	113
NorthWest	20	39	49	7	0	0	115
Total	442	174	90	9	0	0	715

Wind Rose for WS at Valleyview

June 2009



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

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

Maximum Speed: 22 km/h on Jun 25 17:00

Maximum Daily Speed Average: 11.9 km/h on Jun 28

Minimum Speed: 1 km/h on Jun 8 03:00

Minimum Daily Speed Average: 2.7 km/h on Jun 21

Maximum Diurnal Speed Average: 9.8 km/h at hour 17

Minimum Diurnal Speed Average: 2.9 km/h at hour 5

Monthly Average Speed: 5.95 km/h

Percentiles: P_1 = 1.1 P_{10} = 1.8 Q_1 = 2.5 Median = 4.3 Q_3 = 8.0 P_{90} = 13.3 P_{99} = 20.4

Hours in Service: 720
Hours of Data: 715
Hours of Missing Data: 5

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-Jun	2	2	2	1	2	1	2	2	3	4	4	5	4	5	5	4	4	4	4	4	2	2	2	1	2.8	4.9
2-Jun	2	2	1	1	1	1	1	1	2	5	5	4	6	4	8	6	4	6	7	8	5	3	1	2	3.7	7.8
3-Jun	2	2	2	2	2	2	3	3	2	2	2	4	4	7	6	6	4	3	7	5	4	9	9	8	4.1	9.2
4-Jun	5	4	1	2	4	4	7	7	6	9	10	10	7	5	4	5	4	6	2	8	5	8	6	4	5.6	9.8
5-Jun	3	2	2	1	2	2	2	2	2	3	3	4	8	9	15	12	18	11	10	8	8	6	6	7	6.1	17.6
6-Jun	6	6	5	4	2	4	5	2	2	3	3	6	5	4	5	4	7	5	4	7	3	4	4	2	4.3	6.9
7-Jun	1	2	2	1	1	1	2	2	3	3	3	4	5	5	4	6	9	11	6	5	5	3	3	3	3.9	11.3
8-Jun	2	1	1	2	2	2	2	4	8	12	11	9	10	9	9	9	9	10	11	10	8	5	6	7	6.5	11.5
9-Jun	6	6	3	2	2	2	3	2	5	10	9	9	7	7	6	5	4	4	3	3	3	3	2	1	4.5	9.8
10-Jun	2	2	1	1	1	2	2	2	2	2	2	4	6	8	9	9	10	7	7	3	2	2	2	2	3.7	9.6
11-Jun	2	2	2	2	1	2	2	2	3	2	4	6	6	5	5	7	8	6	4	2	3	2	2	1	3.4	7.7
12-Jun	1	2	1	1	1	1	2	3	3	4	5	4	4	3	5	4	3	4	5	6	3	2	3	5	3.1	6.5
13-Jun	4	3	2	2	2	2	3	3	7	7	3	4	8	10	8	7	6	4	7	4	2	2	2	2	4.3	10.0
14-Jun	2	3	2	2	2	2	4	4	3	5	9	9	8	8	7	8	7	7	4	3	1	2	4	8	4.7	9.5
15-Jun	3	4	5	4	2	3	2	2	3	3	3	6	7	4	2	4	4	4	4	3	3	3	2	2	3.5	6.5
16-Jun	3	7	4	3	5	6	5	7	13	10	10	15	11	14	14	15	12	12	11	8	5	1	2	2	8.2	15.2
17-Jun	3	2	2	1	1	4	3	8	6	11	9	8	8	7	9	8	10	7	4	4	4	3	3	6	5.4	10.7
18-Jun	3	3	5	11	14	9	11	16	15	14	16	15	15	14	13	15	12	12	10	7	3	2	2	2	10.0	15.9
19-Jun	2	2	2	2	3	4	3	3	4	4	7	6	6	6	6	5	5	3	3	4	6	6	5	2	4.1	7.0
20-Jun	3	2	2	1	2	3	3	3	10	13	10	13	15	12	11	8	7	4	2	7	4	4	4	2	6.1	15.1
21-Jun	3	2	3	3	1	2	2	2	2	3	3	4	2	5	5	3	4	3	2	3	4	1	2	2	2.7	5.1
22-Jun	2	1	2	2	2	2	4	5	P	P	P	P	P	17	18	17	17	17	16	12	9	6	9	9	8.7	17.6
23-Jun	7	5	3	3	6	9	11	17	18	17	16	15	15	14	13	13	12	10	12	11	7	5	2	3	10.2	18.4
24-Jun	3	3	2	3	2	5	5	4	2	5	6	7	8	8	7	10	9	7	7	7	9	5	3	2	5.4	10.1
25-Jun	2	2	2	2	2	3	8	8	11	8	14	12	10	7	17	21	22	18	7	4	2	2	4	5	8.1	22.3
26-Jun	3	5	5	3	4	4	6	10	11	21	11	13	8	5	11	16	22	22	19	20	16	16	12	12	11.5	22.2
27-Jun	15	12	6	4	3	2	2	4	4	4	5	5	3	3	5	9	8	4	3	2	3	2	2	3	4.8	14.9
28-Jun	3	2	6	10	7	7	10	14	15	15	16	15	17	17	17	17	16	14	17	15	15	9	7	6	11.9	17.2
29-Jun	3	3	5	6	4	4	4	11	15	15	14	14	12	12	12	15	16	13	13	5	3	7	3	2	8.9	16.5
30-Jun	3	3	4	3	2	3	4	5	9	13	14	14	10	14	21	21	17	15	12	13	8	3	2	2	9.0	20.9
	3.4	3.2	2.9	3.0	2.9	3.2	4.1	5.2	6.5	7.8	7.8	8.4	8.1	8.2	9.2	9.7	9.8	8.5	7.4	6.6	5.1	4.3	3.8	3.8	Diurnal Average	
	14.9	11.9	6.4	10.9	13.9	9.3	11.3	16.7	18.4	20.6	16.0	15.2	17.1	16.7	20.9	20.9	22.3	22.2	19.3	20.0	16.3	16.5	12.0	11.6	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

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

Maximum Value: 96.4 deg on Jun 7 10:00

Minimum Value: 5.6 deg on Jun 30 04:00

Percentiles: P_1 = 6.7 P_{10} = 11.2 Q_1 = 15.2 Median = 25.9 Q_3 = 47.6 P_{90} = 67.5 P_{99} = 92.1

Hours in Service:	720
Hours of Data:	715
Hours of Missing Data:	5
Hours of Calibration:	0
Percent Operational Time:	99.3

Day	Hourly Period Ending At (MST)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Jun	20	13	15	46	41	60	53	35	67	71	68	59	63	74	74	57	78	39	56	44	68	18	53	66	77.8
2-Jun	40	35	26	20	34	48	30	78	79	28	88	66	87	92	44	67	68	41	19	13	8	29	74	48	91.5
3-Jun	28	13	11	7	9	10	11	28	61	95	94	66	79	75	46	56	64	94	23	11	9	31	11	7	95.0
4-Jun	10	10	90	84	41	14	12	13	25	20	18	18	27	32	30	40	31	17	37	28	22	10	13	19	89.6
5-Jun	19	85	34	64	22	46	76	49	57	50	95	58	49	28	34	24	17	21	18	27	18	15	22	11	94.9
6-Jun	14	13	17	24	38	14	15	53	88	85	47	26	50	85	31	34	13	23	26	9	14	10	11	75	87.9
7-Jun	55	79	86	92	48	41	82	67	91	96	49	53	38	50	60	45	55	14	23	14	12	16	15	81	96.4
8-Jun	79	93	70	53	63	30	24	36	14	14	15	21	19	21	29	22	30	13	12	13	11	10	8	11	93.1
9-Jun	12	15	22	25	42	49	43	68	61	20	23	32	34	53	58	48	67	48	43	41	25	22	39	83	83.0
10-Jun	28	33	54	49	34	23	42	26	66	34	80	57	87	49	25	36	25	27	27	39	43	34	20	14	86.9
11-Jun	12	43	45	24	60	40	36	40	47	62	61	43	43	33	31	57	21	25	24	61	12	56	35	24	61.8
12-Jun	74	42	54	81	30	49	25	33	24	34	30	40	65	63	78	59	59	23	16	8	18	24	13	7	81.5
13-Jun	14	10	16	21	16	14	9	16	51	41	65	71	46	35	48	24	21	43	71	21	66	53	55	74	73.9
14-Jun	28	21	24	24	45	37	12	13	46	38	28	34	41	60	52	40	27	24	39	37	23	64	59	15	63.8
15-Jun	78	70	63	28	93	69	61	19	22	70	58	64	85	58	55	50	42	30	29	21	35	14	45	33	92.5
16-Jun	27	31	36	30	18	14	19	18	14	18	22	17	34	18	20	17	20	19	18	11	20	82	28	11	81.7
17-Jun	20	30	52	60	51	9	56	14	37	15	21	23	36	53	37	33	17	34	36	13	8	7	29	35	59.9
18-Jun	15	7	30	9	6	15	15	9	12	11	14	16	20	21	17	21	22	15	16	14	17	21	44	44	43.7
19-Jun	53	19	15	20	10	7	13	15	12	74	42	45	55	69	76	71	58	80	51	47	11	10	13	20	80.4
20-Jun	58	56	86	58	68	13	22	51	28	16	29	20	20	18	23	38	40	51	43	32	20	25	26	82	85.6
21-Jun	51	47	62	78	68	33	49	72	86	45	28	30	56	15	23	34	27	54	59	39	25	68	54	53	85.7
22-Jun	59	69	27	28	13	17	14	32	P	P	P	P	P	11	16	18	15	17	15	8	6	25	10	7	69.5
23-Jun	7	15	54	24	18	8	7	10	10	16	16	18	22	20	20	16	18	21	16	10	16	32	37	28	53.9
24-Jun	17	9	11	16	15	8	9	12	36	24	30	24	24	23	28	20	19	15	6	16	14	65	42	57	65.4
25-Jun	73	54	35	28	51	72	38	24	13	26	20	28	29	54	27	12	15	10	36	16	21	24	25	15	72.8
26-Jun	18	16	15	26	10	26	22	12	13	12	10	11	33	18	27	13	7	9	9	9	10	12	11	11	33.4
27-Jun	9	15	23	27	26	35	23	20	28	33	37	34	51	74	36	32	12	23	35	31	31	65	36	18	74.0
28-Jun	43	56	48	14	13	19	12	14	13	14	14	11	17	17	18	17	13	15	10	10	7	17	30	34	56.2
29-Jun	19	13	7	9	15	14	21	22	12	12	14	20	30	26	21	18	20	15	17	31	23	9	25	11	31.4
30-Jun	14	13	7	6	13	9	11	14	29	16	14	25	32	21	13	13	14	15	18	15	14	33	10	14	32.8
	78.6	93.1	89.6	91.6	92.5	72.0	81.6	77.8	90.8	96.4	94.9	70.9	87.2	91.5	78.0	70.9	77.8	93.7	70.5	60.9	67.6	81.7	73.7	83.0	

P - Power Failure

PASZA

Monthly Passive Data Summary

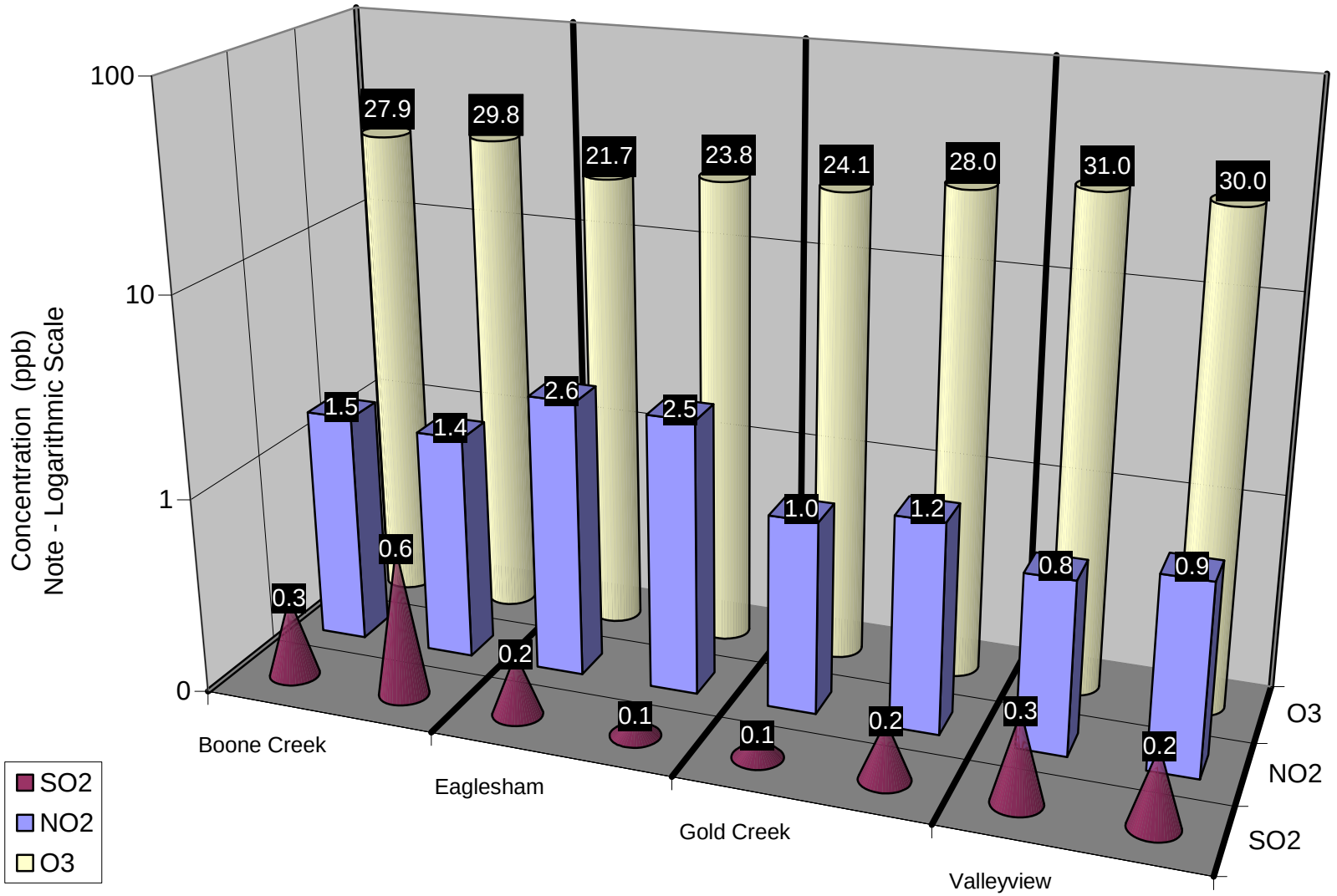
PASZA Passive Results for June 2009

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	Site Legal
Duplicates					
5a	Boone Creek	**0.3**	**27.9**	**1.5**	
5b	Boone Creek	**0.6**	**29.8**	**1.4**	
21a	Eaglesham	**0.2**	**21.7**	**2.6**	
21b	Eaglesham	**0.1**	**23.8**	**2.5**	
32a	Gold Creek	**0.1**	**24.1**	**1.0**	
32b	Gold Creek	**0.2**	**28.0**	**1.2**	
41a	Valleyview	**0.3**	**31.0**	**0.8**	
41b	Valleyview	**0.2**	**30.0**	**0.9**	
1	Silver Valley	**0.3**	**27.2**	**1.5**	08-27-081-11 W6M
2	Bay Tree	**0.1**	**28.9**	**0.5**	13-16-078-13 W6M
3	Forth Creek	**0.2**	**31.3**	**N/A**	04-13-082-07 W6M
4	Gordondale	**0.2**	**31.5**	**0.7**	04-34-078-10 W6M
5	Boone Creek	**0.4**	**28.9**	**1.5**	01-23-076-11 W6M
7	Steeprock Creek	**0.1**	**28.7**	**0.5**	09-35-072-13 W6M
9	Spirit River	**0.3**	**28.2**	**2.5**	08-12-079-07 W6M
10	Woking	**0.2**	**27.1**	**0.8**	01-13-076-07 W6M
11	Webber Creek	**0.2**	**30.1**	**2.1**	09-36-074-09 W6M
12	Hythe	**0.1**	**25.4**	**2.0**	14-36-072-11 W6M
14	Sylvester	**0.1**	**24.6**	**N/A**	08-06-069-12 W6M
16	Beaverlodge	**0.2**	**30.2**	**1.3**	15-36-071-10 W6M
17	Poplar	**0.2**	**24.9**	**2.7**	13-06-073-08 W6M
18	Saddle Hills	**0.1**	**26.9**	**1.0**	04-25-074-07 W6M
19	Wanham	**0.3**	**28.7**	**0.9**	16-22-077-03 W6M
20	Shaftesbury	**0.2**	**27.2**	**1.2**	04-03-082-23 W5M
21	Eaglesham	**0.2**	**22.8**	**2.6**	16-21-079-25 W5M
23	Bear Lake	**0.2**	**25.8**	**2.4**	15-31-072-06 W6M

PASZA Passive Results for June 2009 (Continued)

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	Site Legal
24	Wembley	**0.1**	**24.3**	**2.3**	12-31-070-08 W6M
25	Pinto Creek	**0.1**	**26.9**	**0.9**	04-24-069-11 W6M
26	Flyingshot	**0.2**	**28.1**	**1.1**	15-36-070-07 W6M
27	Grande Prairie I	**N/A**	**N/A**	**N/A**	08-15-071-06 W6M
28	Clairmont Lake	**0.2**	**26.5**	**1.4**	09-06-073-04 W6M
29	Smoky Heights	**0.2**	**31.7**	**2.9**	04-06-075-02 W6M
30	Fitzsimmons	**0.1**	**26.8**	**0.9**	15-36-072-03 W6M
32	Gold Creek	**0.2**	**26.0**	**1.1**	06-33-067-05 W6M
33	Wapiti	**0.2**	**26.8**	**0.8**	02-25-071-03 W6M
34	Puskwaskau	**0.2**	**23.7**	**0.3**	15-35-074-25 W5M
35	Jean Cote	**0.3**	**30.0**	**5.3**	12-35-079-21 W5M
36	Guy	**0.1**	**25.5**	**8.2**	03-04-076-22 W5M
37	Crooked Creek	**0.1**	**29.3**	**1.0**	16-01-071-26 W5M
38	Karr Creek	**N/A**	**22.8**	**0.5**	10-16-065-02 W6M
39	Clouston Creek	**0.1**	**24.9**	**1.1**	12-01-073-22 W5M
40	McLennan	**0.2**	**24.8**	**8.3**	03-29-077-19 W5M
41	Valleyview	**0.3**	**30.5**	**0.8**	09-30-069-22 W5M
42	Sunset House	**0.2**	**34.3**	**0.8**	05-32-070-19 W5M
43	High Prairie	**0.1**	**27.1**	**2.1**	16-13-074-17 W5M
44	Peavine	**0.1**	**25.4**	**0.4**	03-05-079-15 W5M
45	Gift Lake	**0.1**	**22.8**	**0.5**	10-07-079-12 W5M
46	Little Smoky	**0.2**	**28.5**	**1.2**	12-01-065-21 W5M
47	Kinuso	**0.1**	**24.0**	**0.8**	12-10-073-10 W5M
48	Deer Mountain	**0.1**	**27.3**	**0.7**	15-22-068-09 W5M
49	Grande Prairie HP	**0.1**	**35.7**	**3.0**	17-26-071-06 W6M

*BDL = Below Detection Level



Duplicate Summary Chart

Passive Summary for June 2009

Stats	Sulphur Dioxide SO_2	Ozone O_3	Nitrogen Dioxide NO_2
	ppb	ppb	ppb
	Passive Summary for June 2009 (PASZA Zone)		
Mean	**0.2**	**27.4**	**1.8**
Standard Deviation	**0.1**	**3.0**	**1.8**
Minimum	**0.1**	**22.8**	**0.3**
Minimum At	**Deer Mountain (#48)**	**Eaglesham (#21)**	**Puskwaskau (#34)**
Maximum	**0.4**	**35.7**	**8.3**
Maximum At	**Boone Creek (#5)**	**Grande Prairie HP (#49)**	**McLennan (#40)**

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

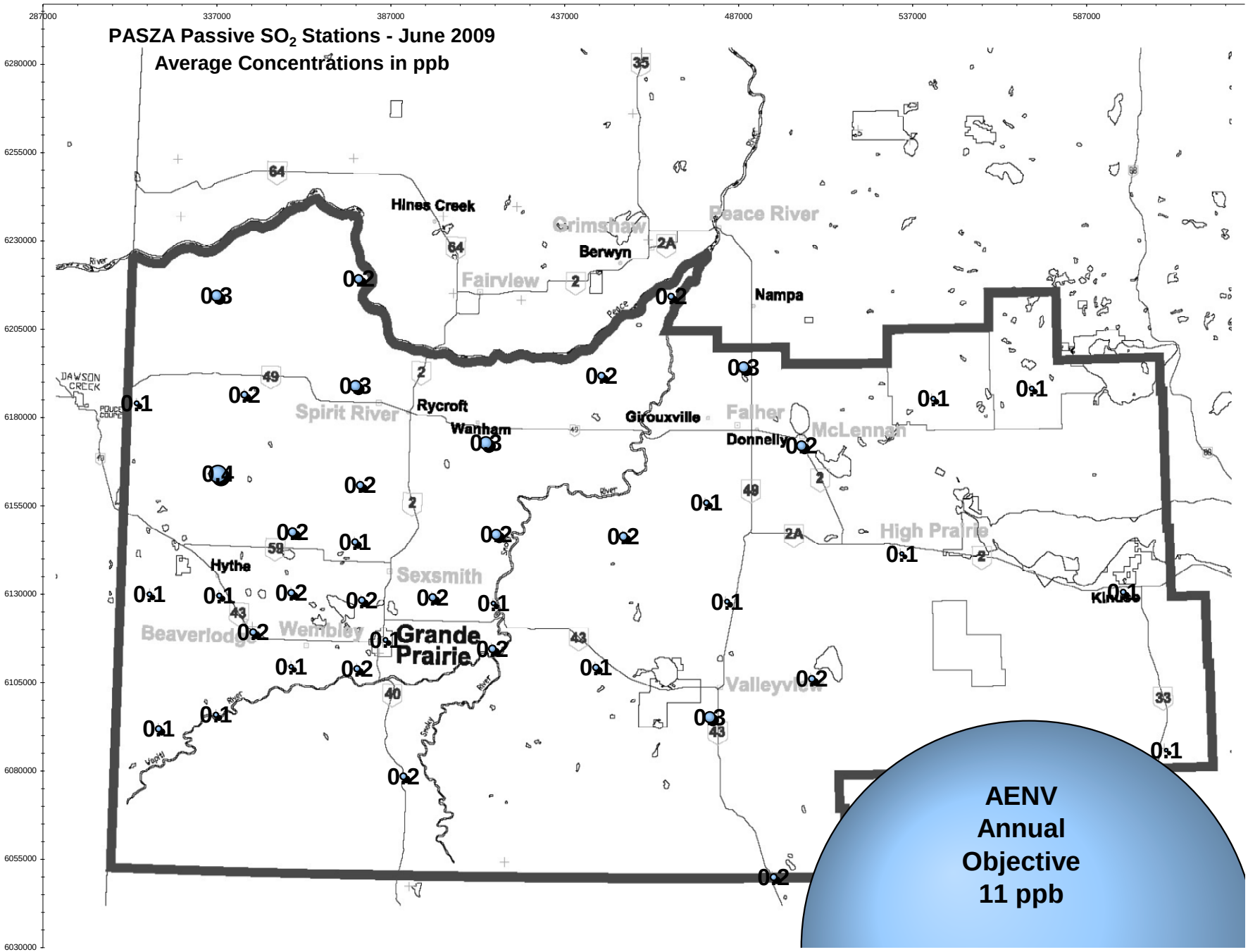
	SO_2	O_3	NO_2
PASZA Beaverlodge station	**0.3**	**34.7**	**3.7**
PASZA Beaverlodge passive	**0.2**	**30.2**	**1.3**

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**	**33.9**	**4.3**
PASZA Grande Prairie passive	**0.1**	**35.7**	**3.0**

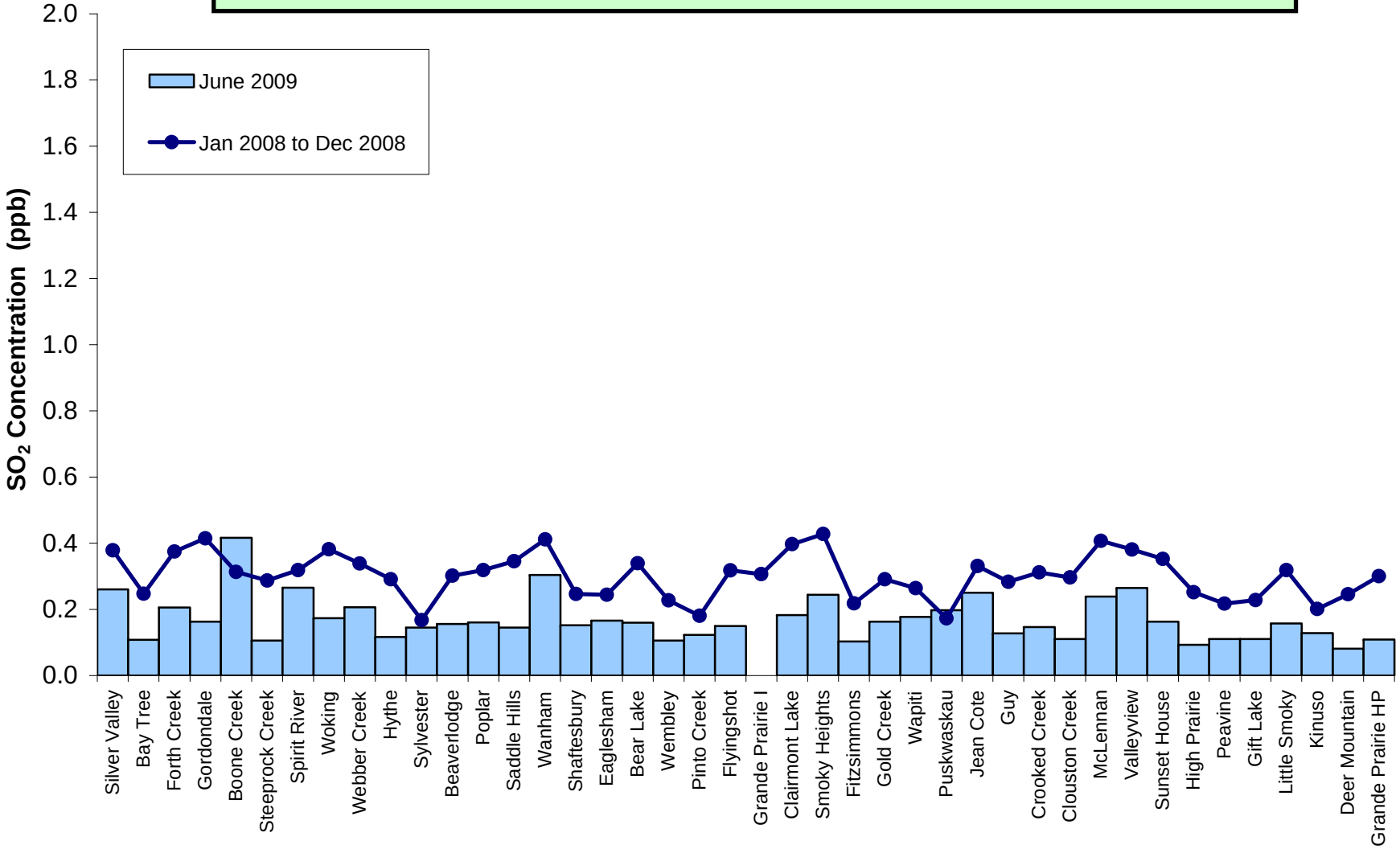
Comparison between Continuous and Passive monitoring at Kinuso (passive #47 Kinuso)

	SO_2	O_3	NO_2
PASZA Portable Kinuso station	**0.2**	**29.3**	**1.9**
PASZA Kinuso passive	**0.1**	**24.0**	**0.8**

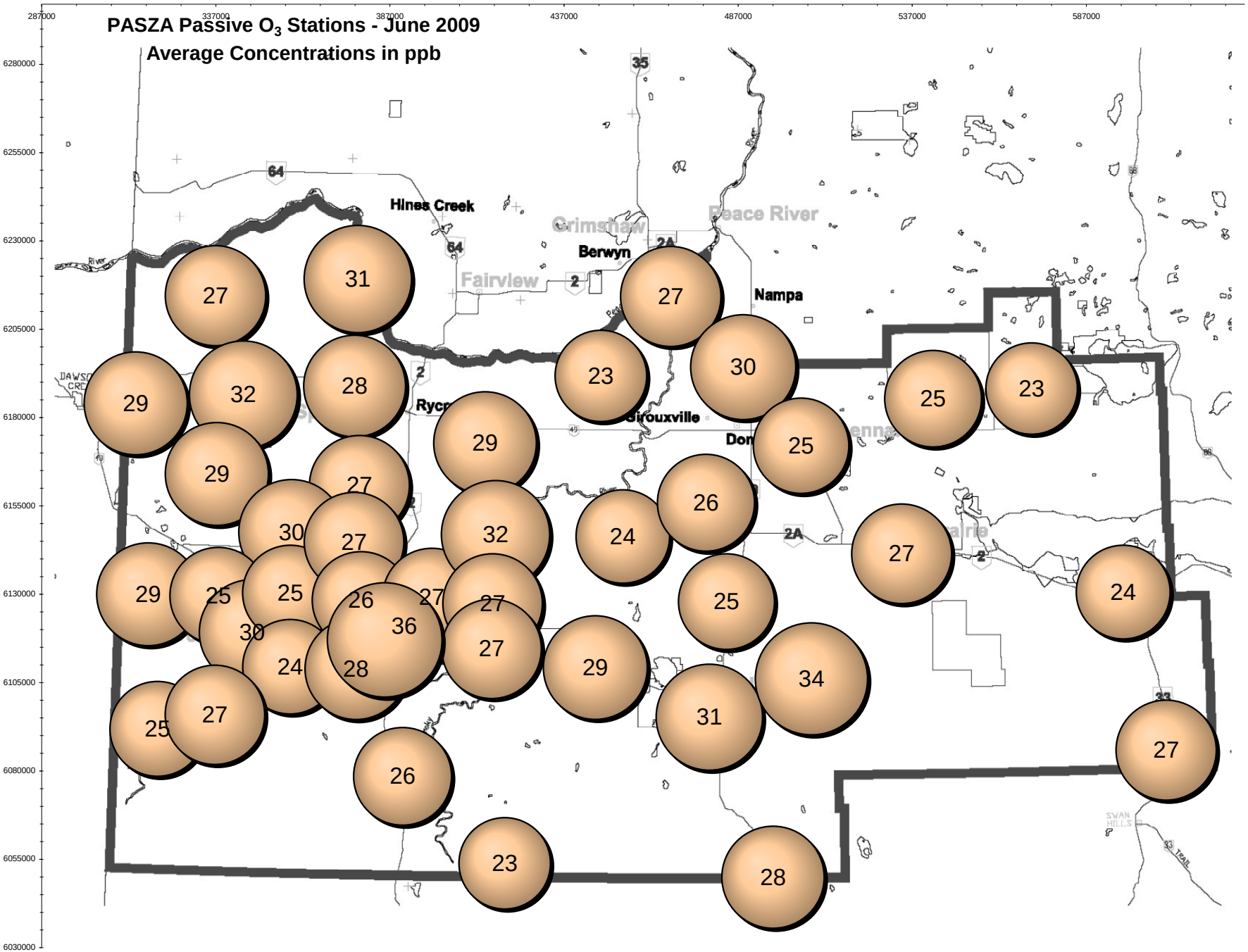


SO_2 Bubble Chart

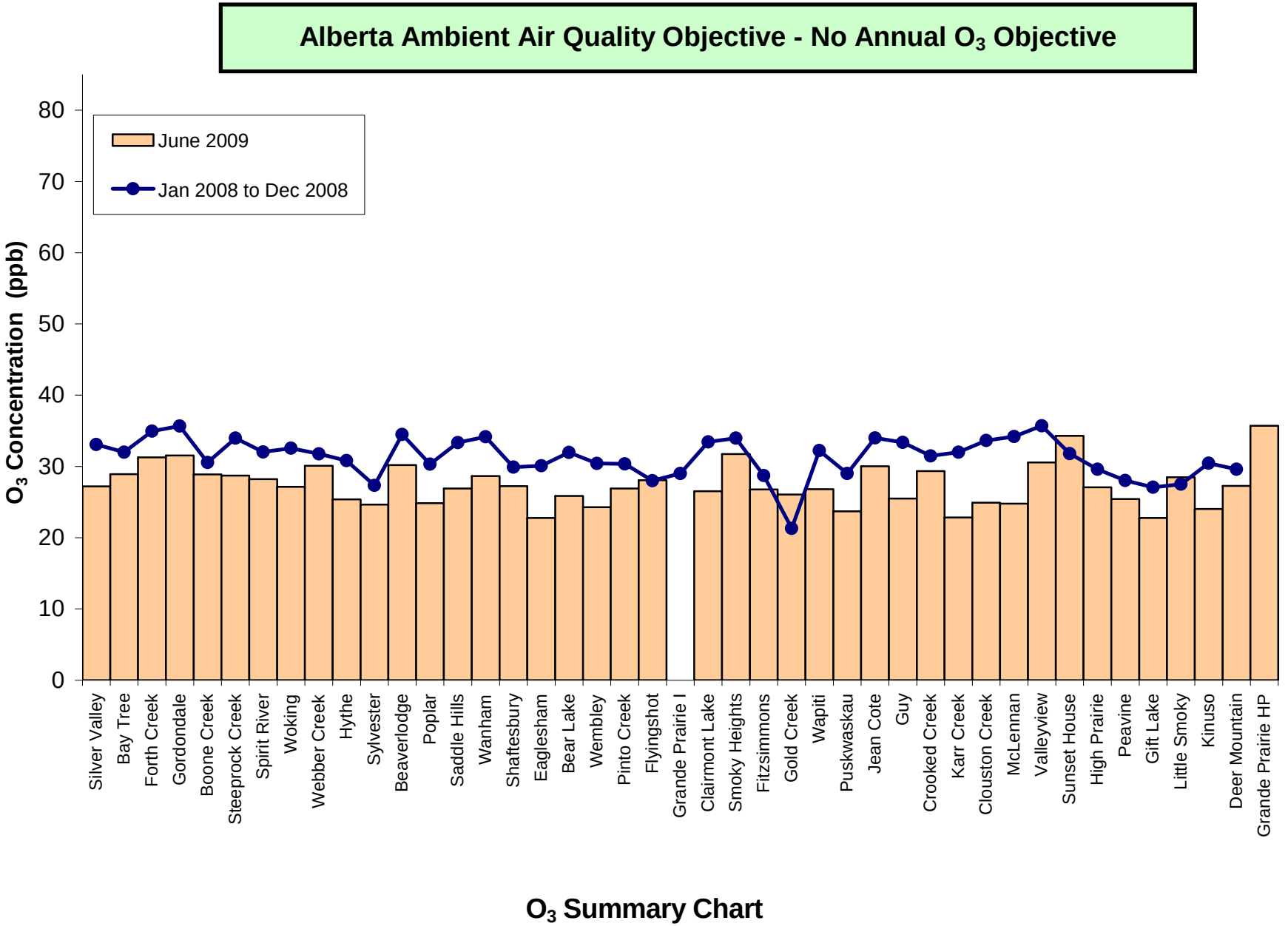
Alberta Ambient Air Quality Objective - Annual SO_2 Objective is 11 ppb



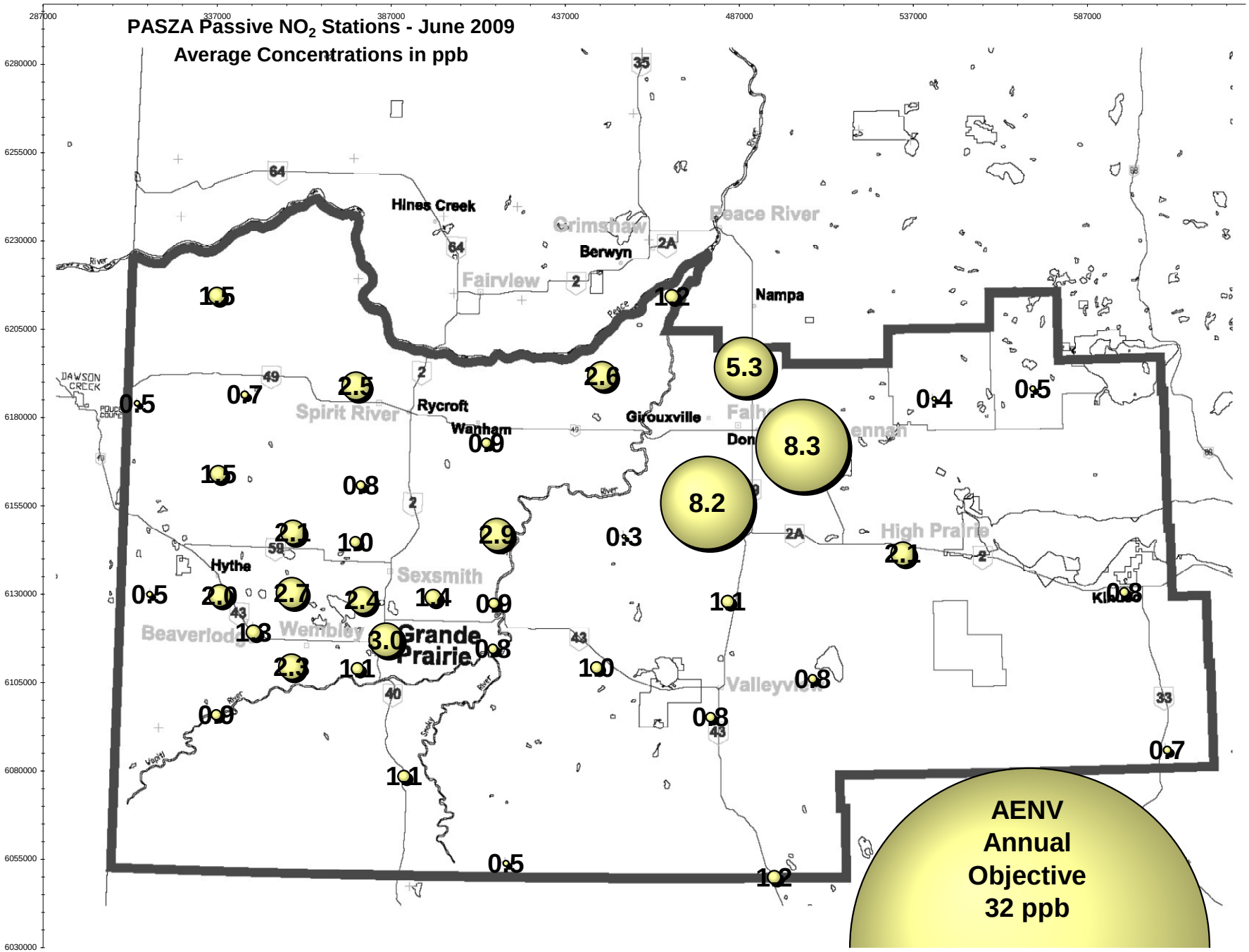
SO_2 Summary Chart



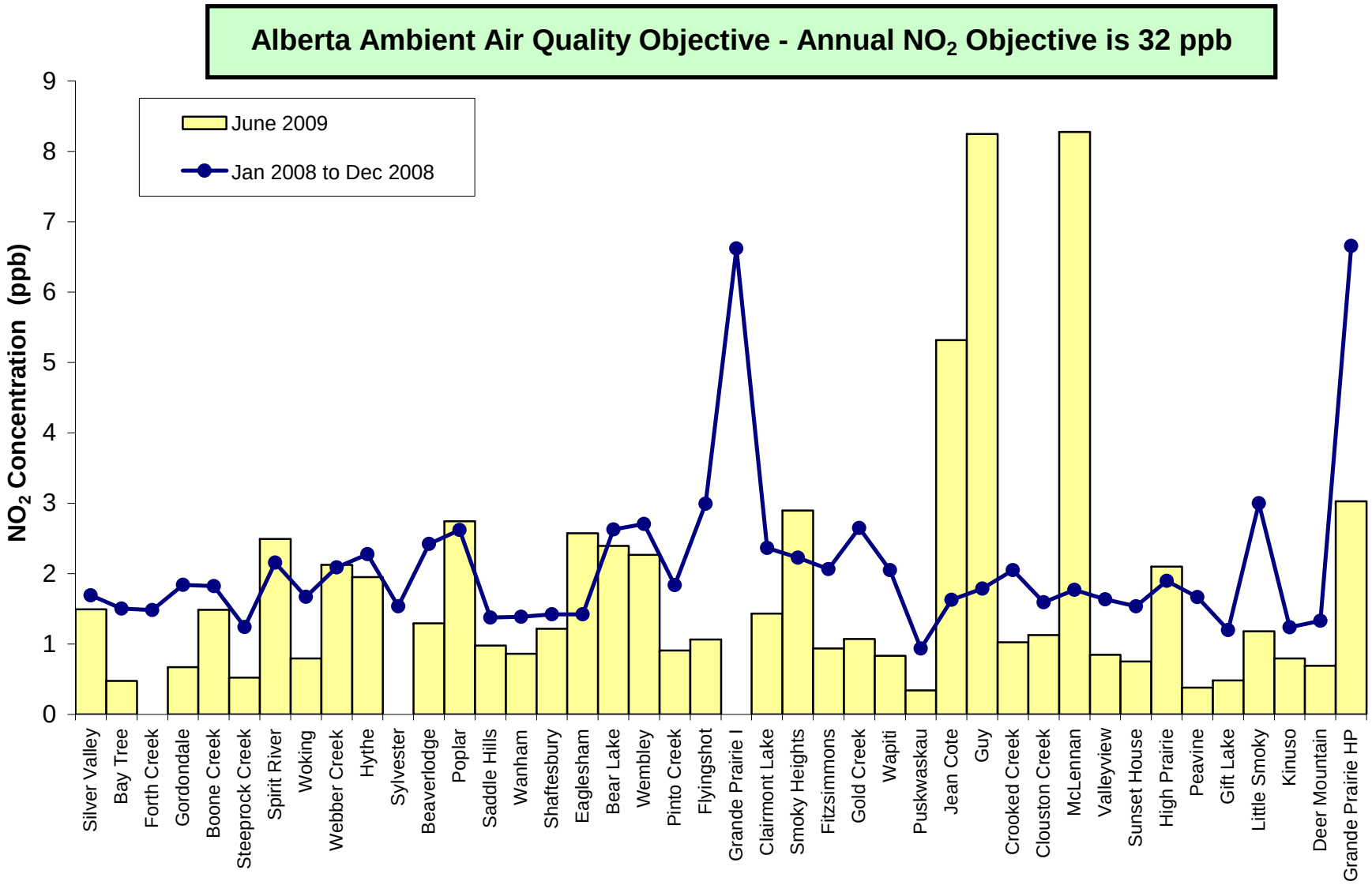
O_3 Bubble Chart



O_3 Summary Chart



NO_2 Bubble Chart



NO_2 Summary Chart

June 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	June 6, 2009	Previous Calibration	May 26, 2009
Station Number	1	Station Location	Henry Pirker

Reason: Routine | Install | Removal | Other:

Start Time (MST)	8:30	End Time (MST)	12:00
Barometric Pressure	0.933 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	1.030565	Calculated slope	1.001119
Calculated intercept	-2.351758	Calculated intercept	-1.049193

Analyzer make	TEI 43C	Analyzer serial # 610816292

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	8.0		8.2	
Coefficient	.799		.823	
Pressure	652.5	mm Hg	651.1	mm Hg
Flow	0.531	lpm	0.531	lpm
Lamp Voltage	43739	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	401.0	0.9995
4991	19.91	201.1	202.6	0.9922
4991	9.95	100.7	101.7	0.9897
4989	0.00	0.0	0.0	As Found Zero
4991	39.85	400.8	385.8	As Found Span
			Average Correction Factor	0.9938

Calculated value of As Found Response: 395.3 ppb Percent Change of As Found: 1.4%

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

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter	SO2
Air Monitoring Network	PASZA

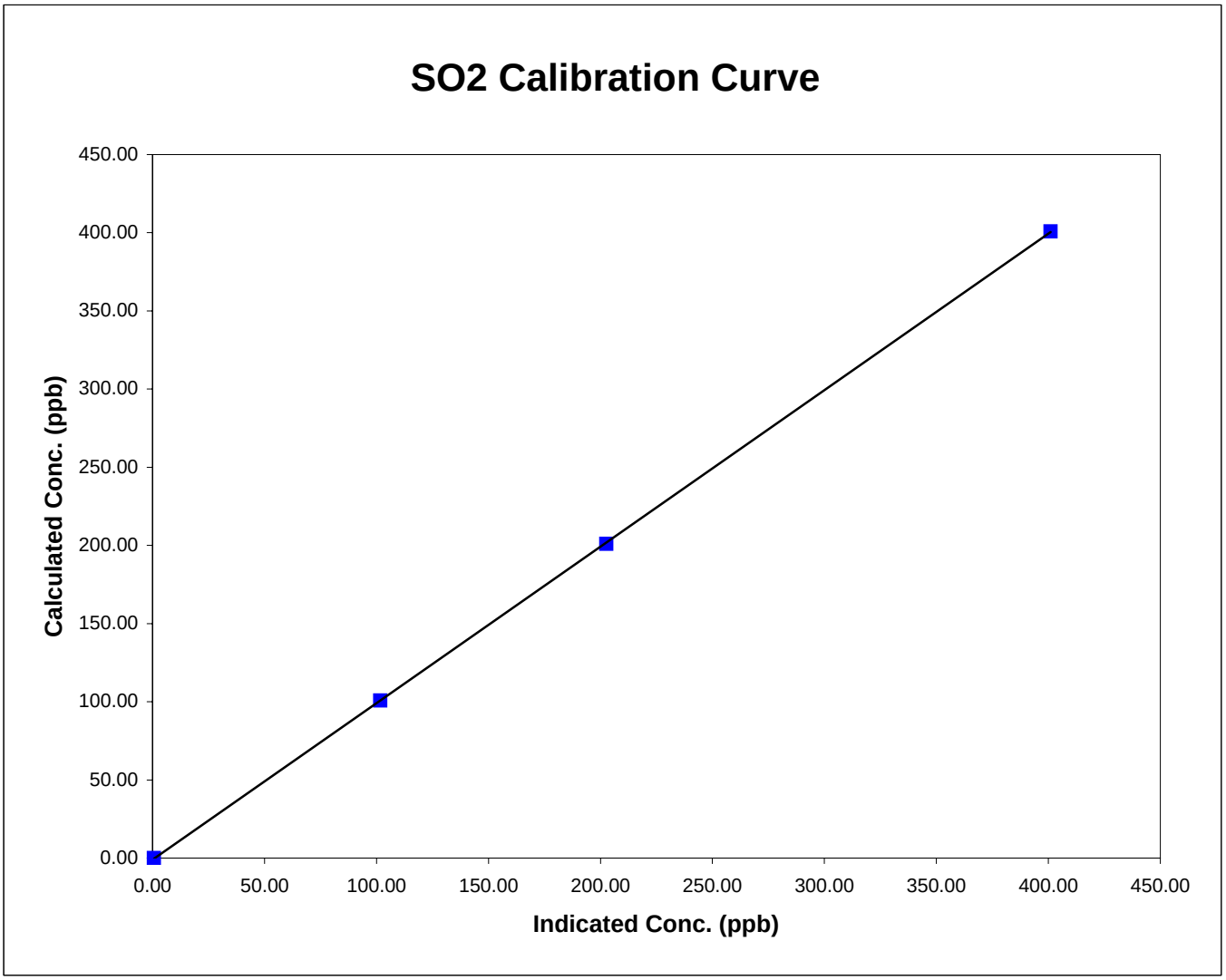
FOCUS AIR QUALITY MONITORING

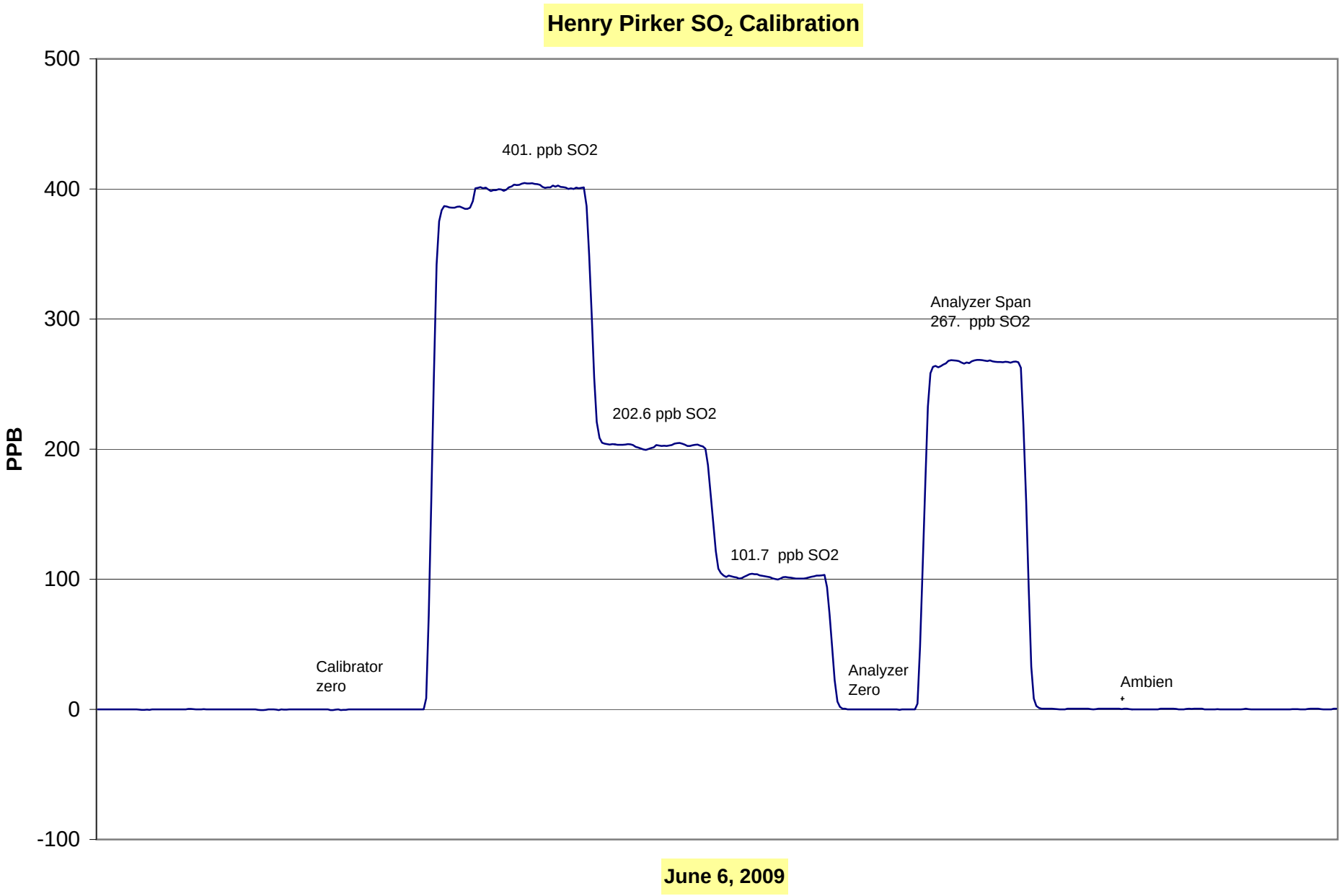
Station Information

Calibration Date	June 6, 2009	Previous Calibration	May 26, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:30	End Time (MST)	12:00
Analyzer make/model	TEI 43C	Analyzer serial #	610816292

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.6	N/A		
400.8	401.0	0.9995	Correlation Coefficient	0.999989
201.1	202.6	0.9922		
100.7	101.7	0.9897	Slope	1.001119
			Intercept	-1.049193




Henry Pirker SO2 Calibration
500
400
300
200
100
0
-100
PPB
401. ppb SO2
202.6 ppb SO2
101.7 ppb SO2
Analyzer Span
267. ppb SO2
Calibrator
zero
Analyzer
Zero
Ambien
t
June 6, 2009

Calibration Report

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

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 8, 2009	Previous Calibration	May 27, 2009
Station Number	1	Station Location	Henry Pirker
Reason:	Routine ☐ Install ☐	Removal ☐	Other: ☐
Start Time (MST)	8:00	End Time (MST)	10:48
Barometric Pressure	0.929 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	1.006037	Calculated slope	1.006951
Calculated intercept	-0.582610	Calculated intercept	-0.461283
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	658.3	mm Hg	659	mm Hg
Flow	464	ccm	465	ccm
Lamp Voltage	848	V	848	V

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)
4988	0.00	0.00	-0.03	N/A
4988	79.83	80.34	80.02	1.0039
4988	39.81	40.38	40.88	0.9878
4988	9.92	10.12	10.89	0.9294
4988	0.00	0.00	0.20	As Found Zero
4988	79.77	80.28	79.77	As Found Span
			Average Correction Factor	0.9737

Calculated value of As Found Response: 79.5 ppb Percent Change of As Found: 1.0%

	before calibration		after calibration	
Auto zero	-0.29	ppb	-0.16	ppb
Auto span	27.12	ppb	26.85	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter	TRS
Air Monitoring Network	PASZA

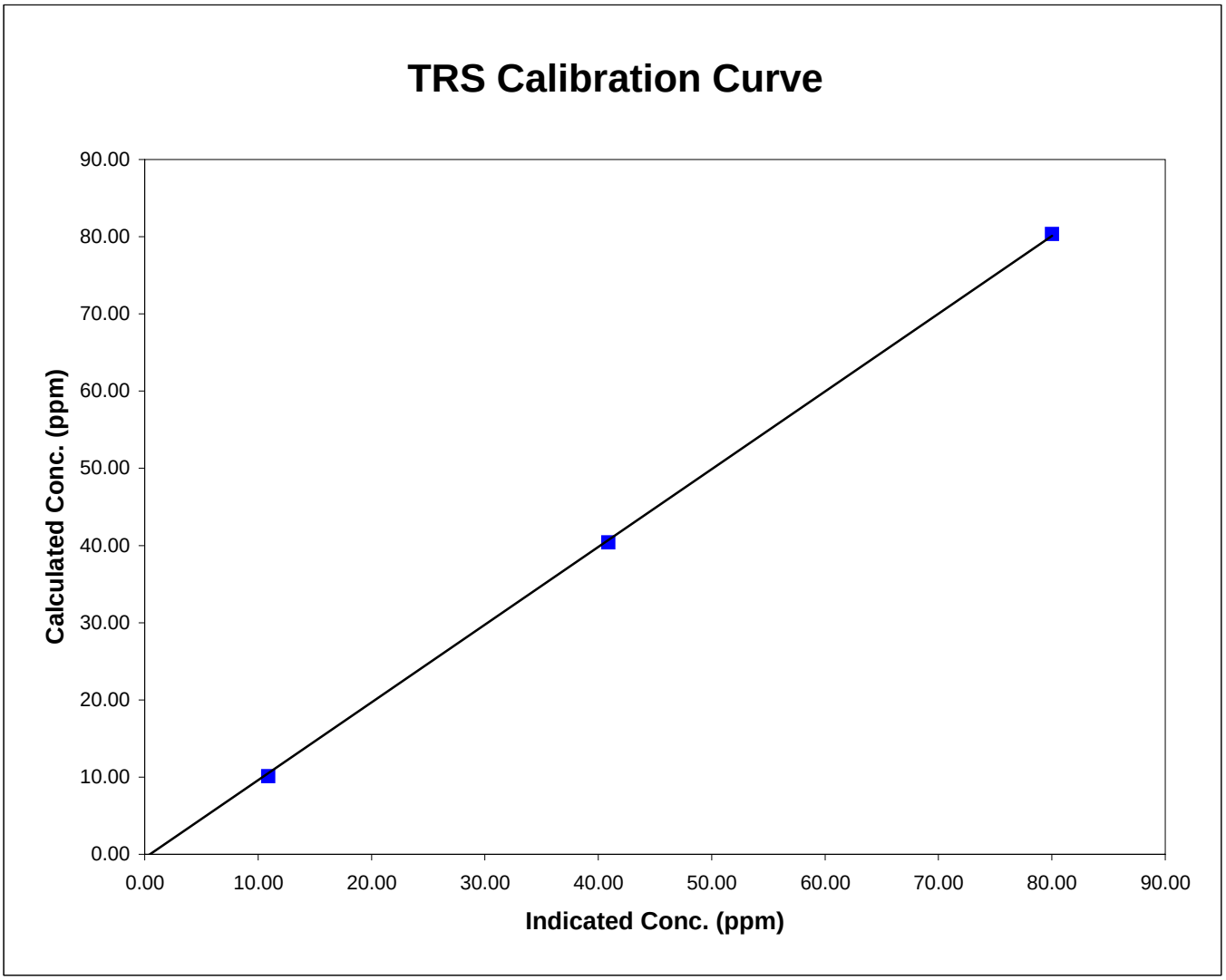
FOCUS AIR QUALITY MONITORING

Station Information

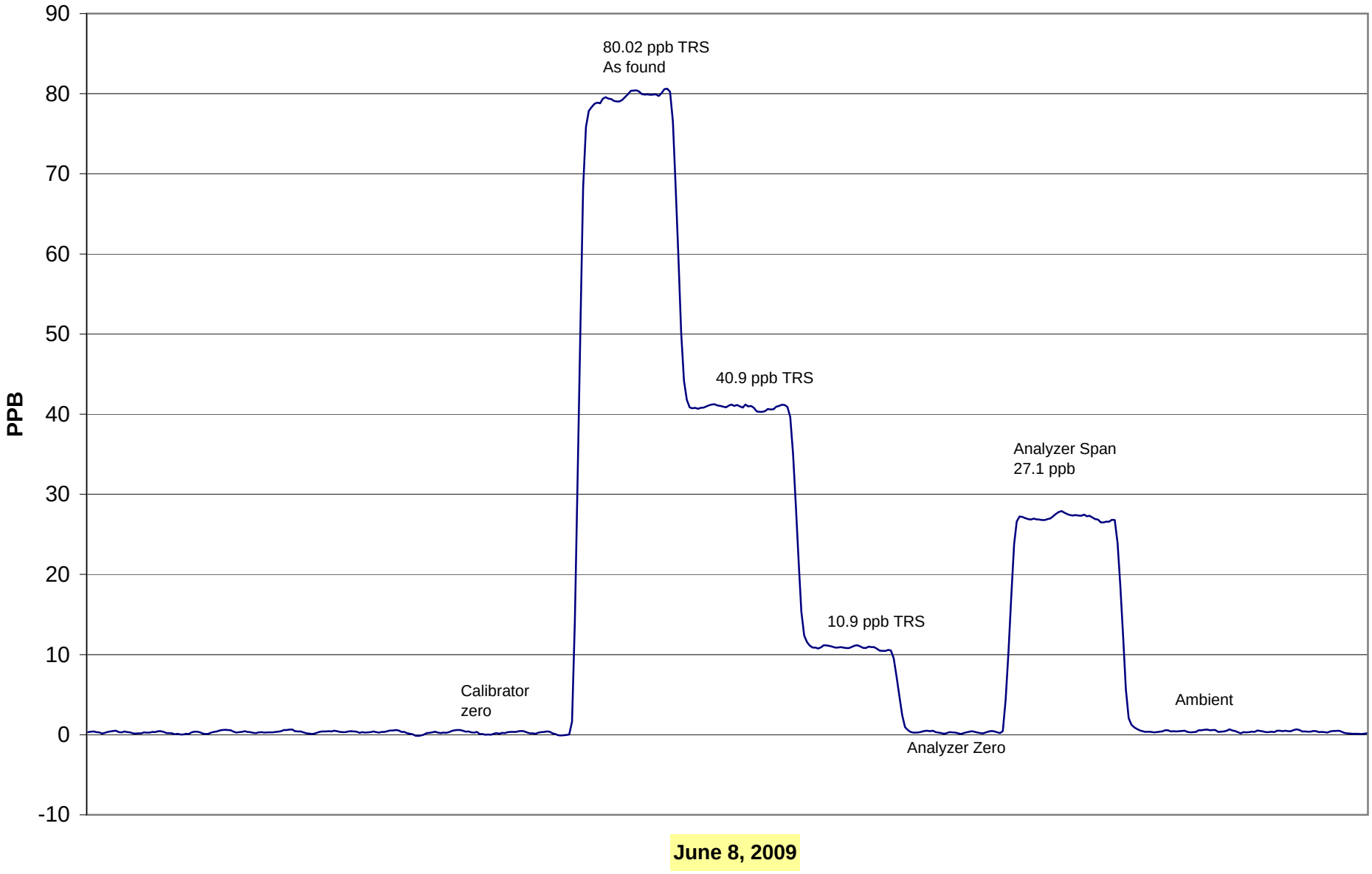
Calibration Date	June 8, 2009	Previous Calibration	May 27, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:00	End Time (MST)	10:48
Analyzer make/model	TEI 45C	Analyzer serial #	630718528

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	0.999863
40.382	40.881	0.9878		
10.123	10.891	0.9294	Slope	1.006951
			Intercept	-0.461283



Henry Pirker TRS Calibration



June 8, 2009

Calibration Report

Parameter	NO_X-NO-NO_2
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 6, 2009	Previous Calibration	May 26, 2009
Station Number	1	Station Location	Henry Pirker

Reason: Routine | Installation | Removal | Other:

Start Time (MST)	8:30		End Time (MST)	12:53	
Barometric Pressure	0.927	Atm	Station Temperature	25.0	Deg C
Calibrator	Environics		Serial Number	3474	
NO Cal Gas Conc	49.6	ppm	Cal Gas Expiry Date	June 8, 2008	
NOx Cal Gas Conc	49.6	ppm	Cal Gas Serial #	AAL 15377	

DACS Information

DACS make	Focus AP1000	DACS serial No.	

Parameter		NO2	NOx	NO
Before	Data Slope	1.000073	0.995083	0.996918
	Data Offset	0.014076	-2.605134	-2.704311
After	Data Slope	0.998958	1.005221	1.003475
	Data Offset	-0.081391	-2.612536	-2.396706
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	9.9	mV	9.8	mV
NOx bkgnd	10.6	mV	10.4	mV
NO coefficient	0.804		0.792	
NOx coefficient	1.000		1.001	
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	196.1	in Hg	192.1	in Hg
Sample Flow	0.703	ccm	0.714	ccm

Notes:

Calibration Report

Parameter	**$NOx\text{-}NO\text{-}NO_2$**
Air Monitoring Network	**PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: June 6, 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	0.1	N/A	N/A
1	4989	39.84	392.9	392.9	0.0	392.1	392.7	-0.6	1.0022	1.0007
2	4989	19.87	196.8	196.8	0.0	199.8	199.8	0.1	0.9846	0.9846
3	4989	9.91	98.3	98.3	0.0	102.9	102.7	0.1	0.9559	0.9575
AFZ	4989	0.00	0.0	0.0	0.0	0.1	0.0	-0.1	0.0000	0.0000
AFS	4989	39.84	392.9	392.9	0.0	386.2	385.9	0.3	1.0173	1.0183
							Average Correction Factor		0.9809	0.9809

As Found Concentrations: NO_X= 383.6 NO= 383.2 As Found Percent Change NO_X= -2.4% NO= -2.5%

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	0.1	N/A	N/A	N/A	N/A
NO point	392.6	392.6	0.0	392.5	392.6	0.0	1.0001	1.0000	N/A	N/A
300	392.6	177.3	215.3	392.6	177.3	215.6	1.0000	1.0000	0.9988	100.1%
200	392.6	252.7	139.9	392.7	252.7	140.2	0.9996	1.0000	0.9980	100.2%
100	392.6	319.0	73.6	392.5	319.0	73.7	1.0001	1.0000	0.9978	100.2%
					Average Correction Factor		0.9999	1.0000	0.9982	100.2%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.3	-0.4	0.0	ppb	0.1	0.0	0.0	ppb
Auto span	167.9	166.7	1.0	ppb	164.1	163.5	1.0	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter	NO_2
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

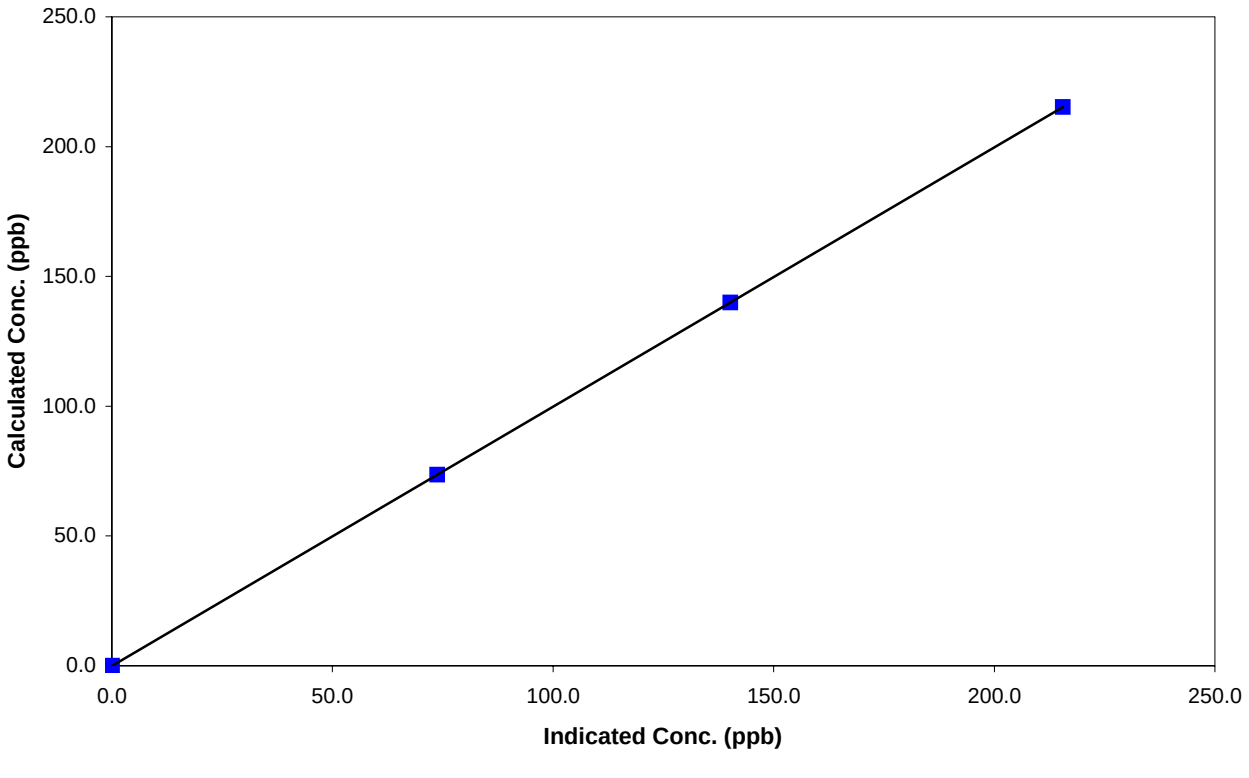
Station Information

Calibration Date	June 6, 2009	Previous Calibration	May 26, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:30	End Time (MST)	12:53
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		
215.3	215.6	0.9988	Correlation Coefficient	1.000000
139.9	140.2	0.9980		
73.6	73.7	0.9978	Slope	0.998958
			Intercept	-0.081391

NO_2 Calibration Curve



Calibration Summary

Parameter	NO_x
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

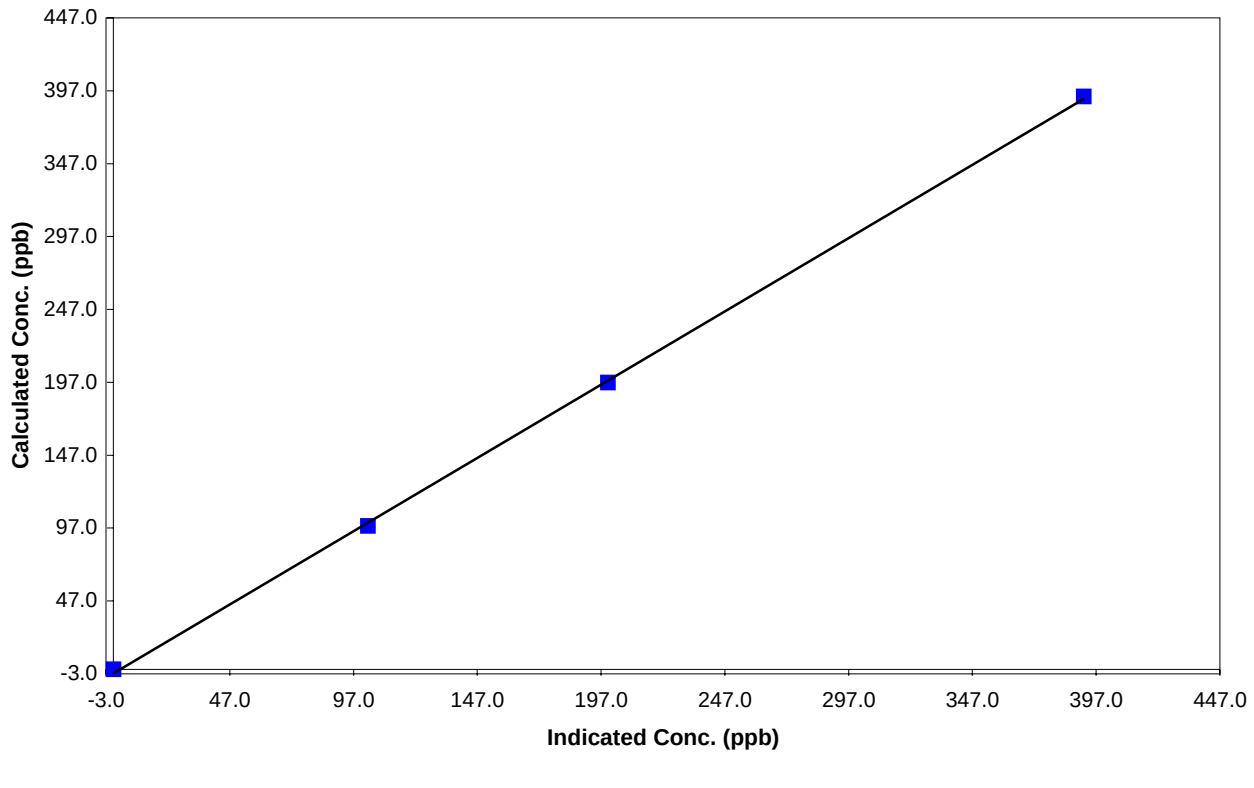
Station Information

Calibration Date	June 6, 2009	Previous Calibration	May 26, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:30	End Time (MST)	12:53
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	392.1	1.0022	Correlation Coefficient	0.999800
196.8	199.8	0.9846		
98.3	102.9	0.9559	Slope	1.005221
			Intercept	-2.612536

NOx Calibration Curve



Calibration Summary

Parameter	**NO**
Air Monitoring Network	**PASZA**

FOCUS AIR QUALITY MONITORING

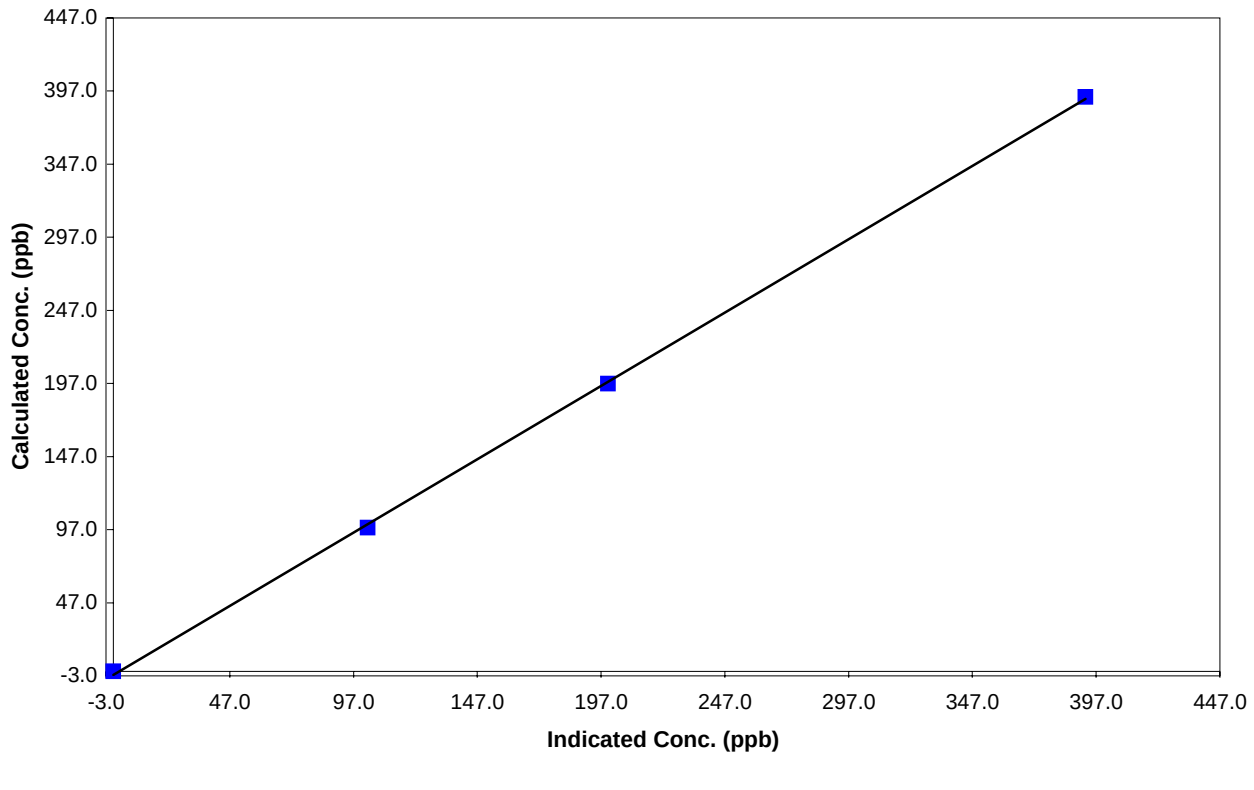
Station Information

Calibration Date	June 6, 2009	Previous Calibration	May 26, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:30	End Time (MST)	12:53
Analyzer make	TEI 42C	Analyzer serial #	508011073

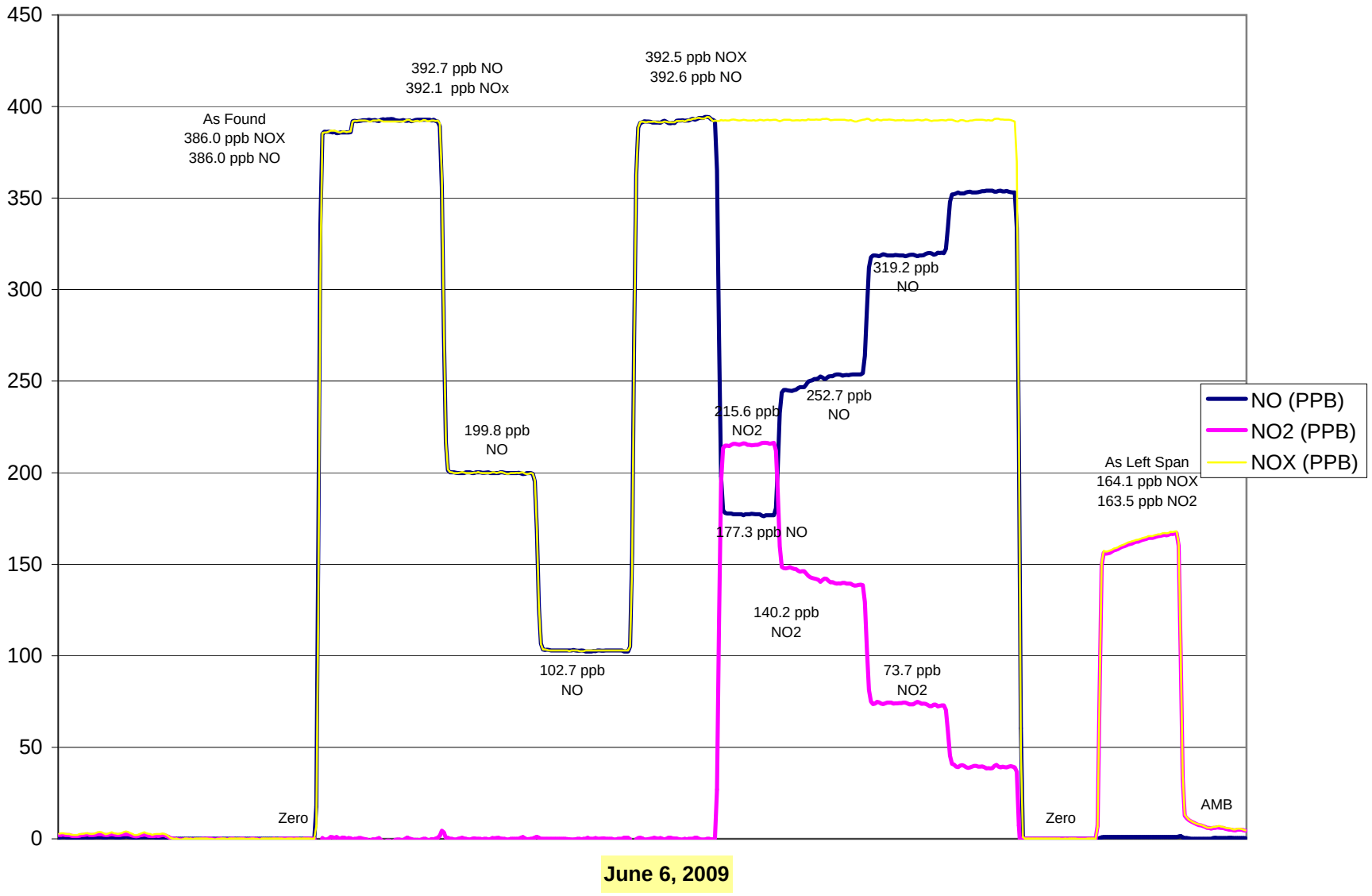
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
392.9	392.7	1.0007	Correlation Coefficient	0.999825
196.8	199.8	0.9846		
98.3	102.7	0.9575	Slope	1.003475
			Intercept	-2.396706

NO Calibration Curve



Henry Pirker NO_X Calibration



June 6, 2009

Calibration Report

Parameter **O3**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 6, 2009	Previous Calibration	May 26, 2009
Station Number	1	Station Location	Henry Pirker

Reason: Routine | Install | Removal | Other:

Start Time (MST)	12:00	End Time (MST)	14:03
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	0.999169	Calculated slope	0.999946	
Calculated intercept	0.220293	Calculated intercept	-3.557560	
Analyzer make	TECO 49C	Analyzer serial #	607415761	

	before		after	
Concentration range	500	ppb	500	ppb
offset	-0.6	ppb	-1.2	ppb
slope	1.0		1.102	
O3 Lamp temp	71	Deg C	71	Deg C
Intensities	92750/76857	mV	92523/76701	mV
Pressure	688.2	inches Hg	689.1	inches Hg
Flow A	0.714	ccm	0.714	ccm
Flow B	0.727	Deg C	0.727	Deg C

Calibration Data

Referenced concentration (ppb)	Dilution air flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0	4988	0.0	0.1	N/A
300	4989	216.0	216.3	0.9987
200	4989	140.0	146.0	0.9586
100	4989	74.0	81.8	0.9043
0	4988	0.0	0.1	As found zero
300	4988	216.0	200.3	As found span
			Average Correction Factor	0.9539

Calculated value of As Found Response: 200.3 ppm Percent Change of As Found: -7.3%

	before calibration		after calibration	
Auto zero	0.3	ppb	0.3	ppb
Auto span	155.7	ppb	155.7	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter	O3
Air Monitoring Network	PASZA

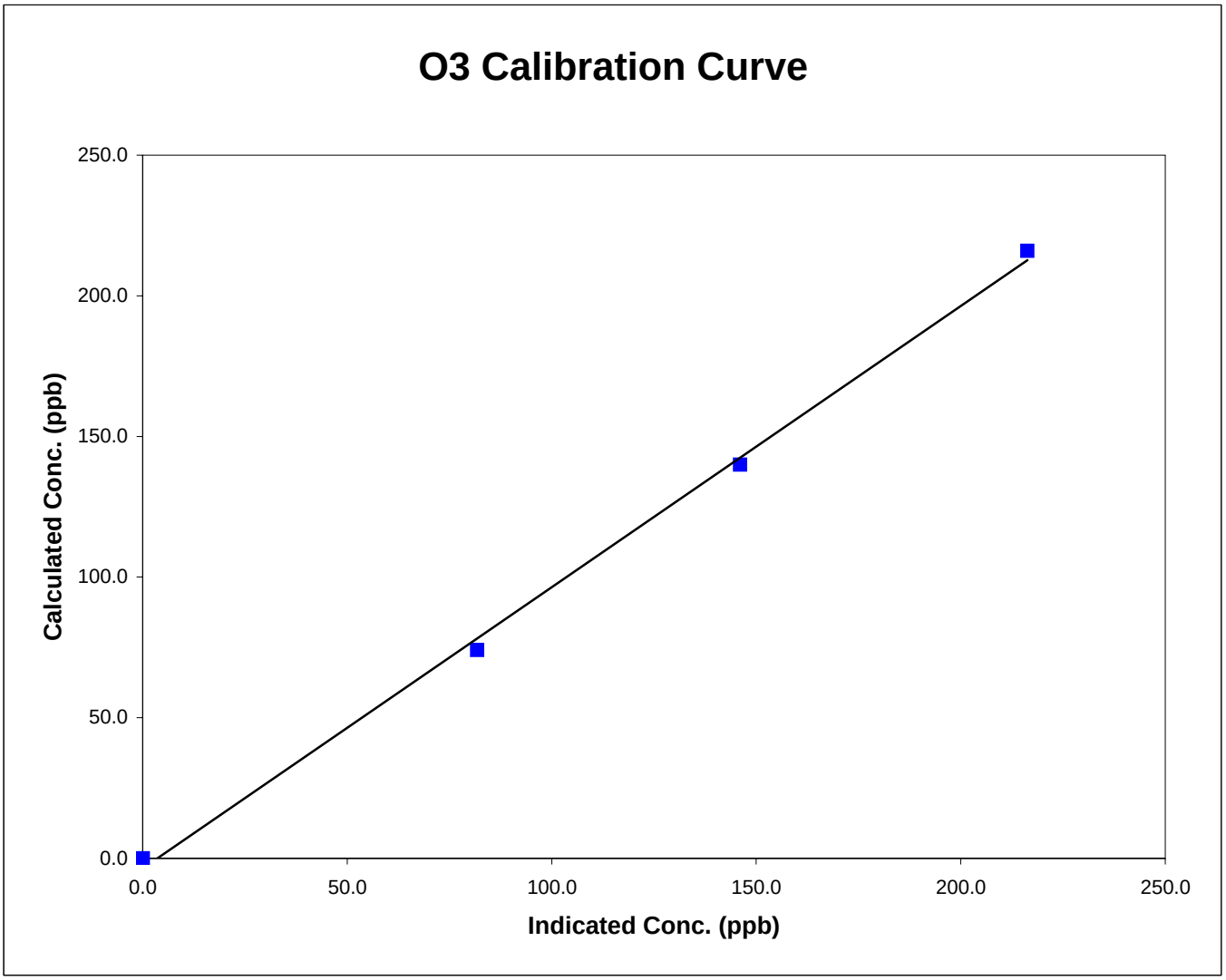
FOCUS AIR QUALITY MONITORING

Station Information

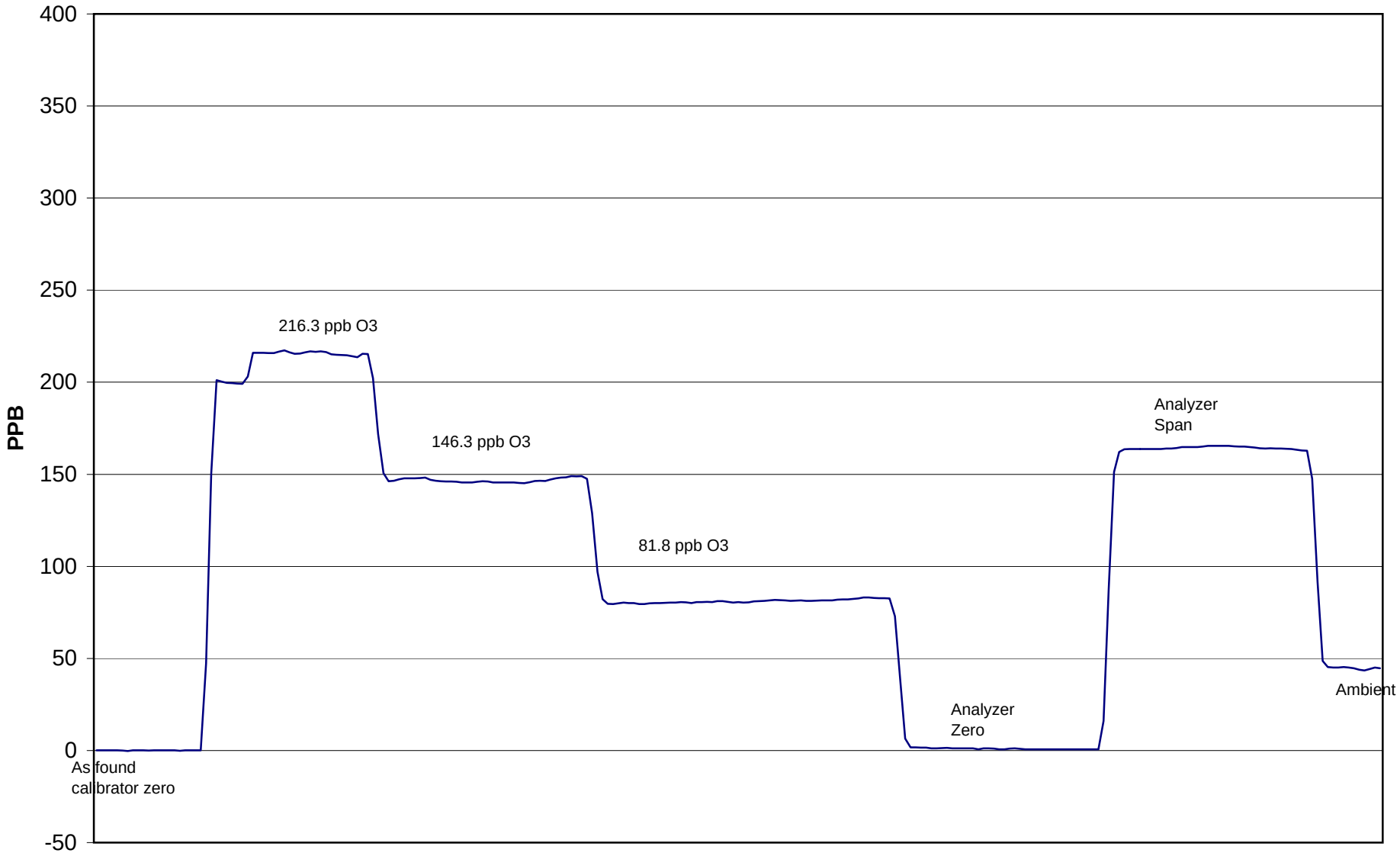
Calibration Date	June 6, 2009	Previous Calibration	May 26, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:00	End Time (MST)	14:03
Analyzer make/model	TECO 49C	Analyzer serial #	607415761

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	NA		
216.0	216.3	0.9987	Correlation Coefficient	0.998154
140.0	146.0	0.9586		
74.0	81.8	0.9043	Slope	0.999946
			Intercept	-3.557560



Henry Pirker O_3 Calibration



June 6, 2009

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter	CO
Air Monitoring Network	PASZA

Station Information

Calibration Date	June 8, 2009	Previous Calibration	May 27, 2009
Station Number	1	Station Location	Henry Pirker

Reason: Routine | Install | Removal | Other:

Start Time (MST)	9:20	End Time (MST)	11:28
Barometric Pressure	0.933 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	1.020079	Calculated slope	1.013058
Calculated intercept	-0.222630	Calculated intercept	-0.213636

Analyzer make	TEI Model 48C	Analyzer serial # 508011062

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO span setting	1.029		1.039	
CO zero setting	6.053		6.270	
Sample pressure	676.8	mm Hg	675.5	mm Hg
Sample Flow	1.14	LPM	1.15	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	0.16	N/A
4991	39.82	23.74	23.62	1.0051
4991	19.88	11.90	11.98	0.9935
4991	9.94	5.96	6.15	0.9686
4990	0.00	0.00	0.16	As Found Zero
4990	39.86	23.77	23.28	As Found Span
			Average Correction Factor	0.9891

Calculated value of As Found Response: 23.359 ppm Percent Change of As Found: 1.7%

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	19.40	ppm	19.38	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter	CO
Air Monitoring Network	PASZA

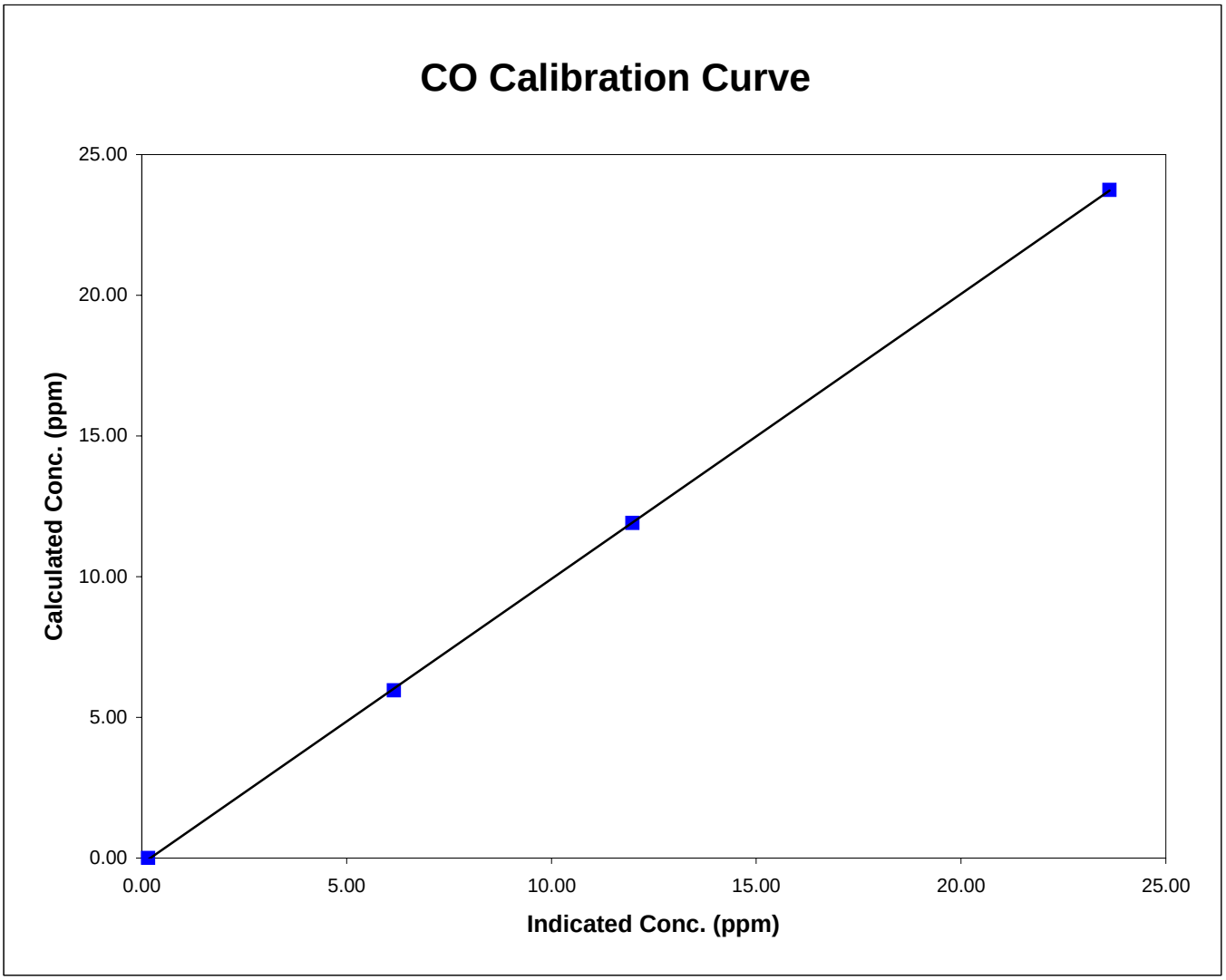
FOCUS AIR QUALITY MONITORING

Station Information

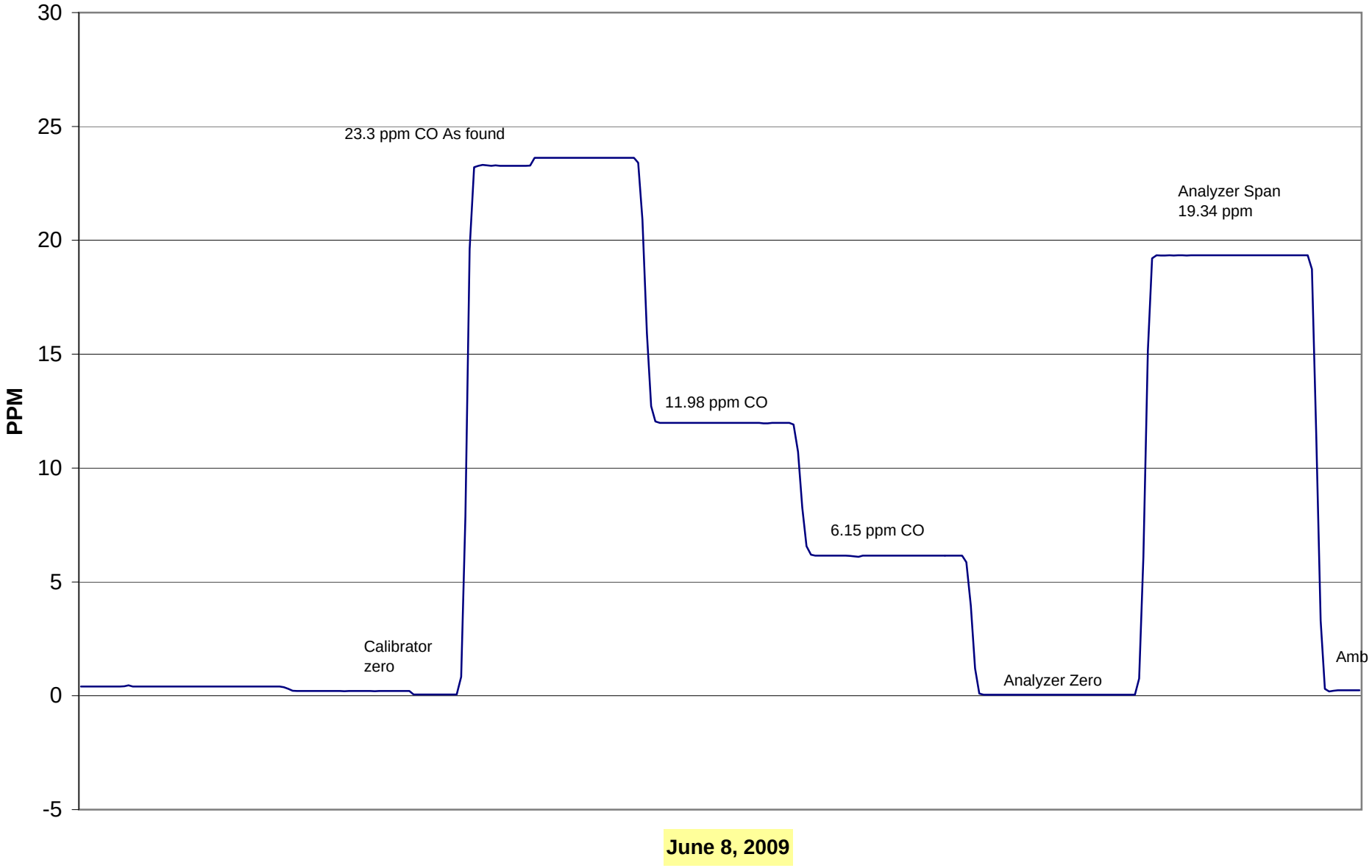
Calibration Date	June 8, 2009	Previous Calibration	May 27, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:20	End Time (MST)	11:28
Analyzer make/model	TEI Model 48C	Analyzer serial #	508011062

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.157	N/A		
23.744	23.623	1.0051	Correlation Coefficient	0.999975
11.902	11.981	0.9935		
5.960	6.153	0.9686	Slope	1.013058
			Intercept	-0.213636



Henry Pirker CO Calibration



June 8, 2009

Calibration Report

Parameter **THC**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 8, 2009	Previous Calibration	May 27, 2009
Station Number	1	Station Location	Henry Pirker

Reason: Routine | Install | Removal | Other:

Start Time (MST)	10:40	End Time (MST)	13:00
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	1.022459	Calculated slope	1.022437
Calculated intercept	-0.047999	Calculated intercept	-0.078440

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	20.64	1.0180
4989	29.88	9.07	8.90	1.0184
4988	9.92	3.02	3.07	0.9863
4988	0.00	0.00	0.04	As Found Zero
4988	69.82	21.03	20.81	As Found Span
			Average Correction Factor	1.0076

Calculated value of As Found Response: 21.196 ppm Percent Change of As Found: -0.8%

	before calibration		after calibration	
Auto zero	-0.02	ppm	-0.05	ppm
Auto span	23.09	ppm	23.19	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter	THC
Air Monitoring Network	PASZA

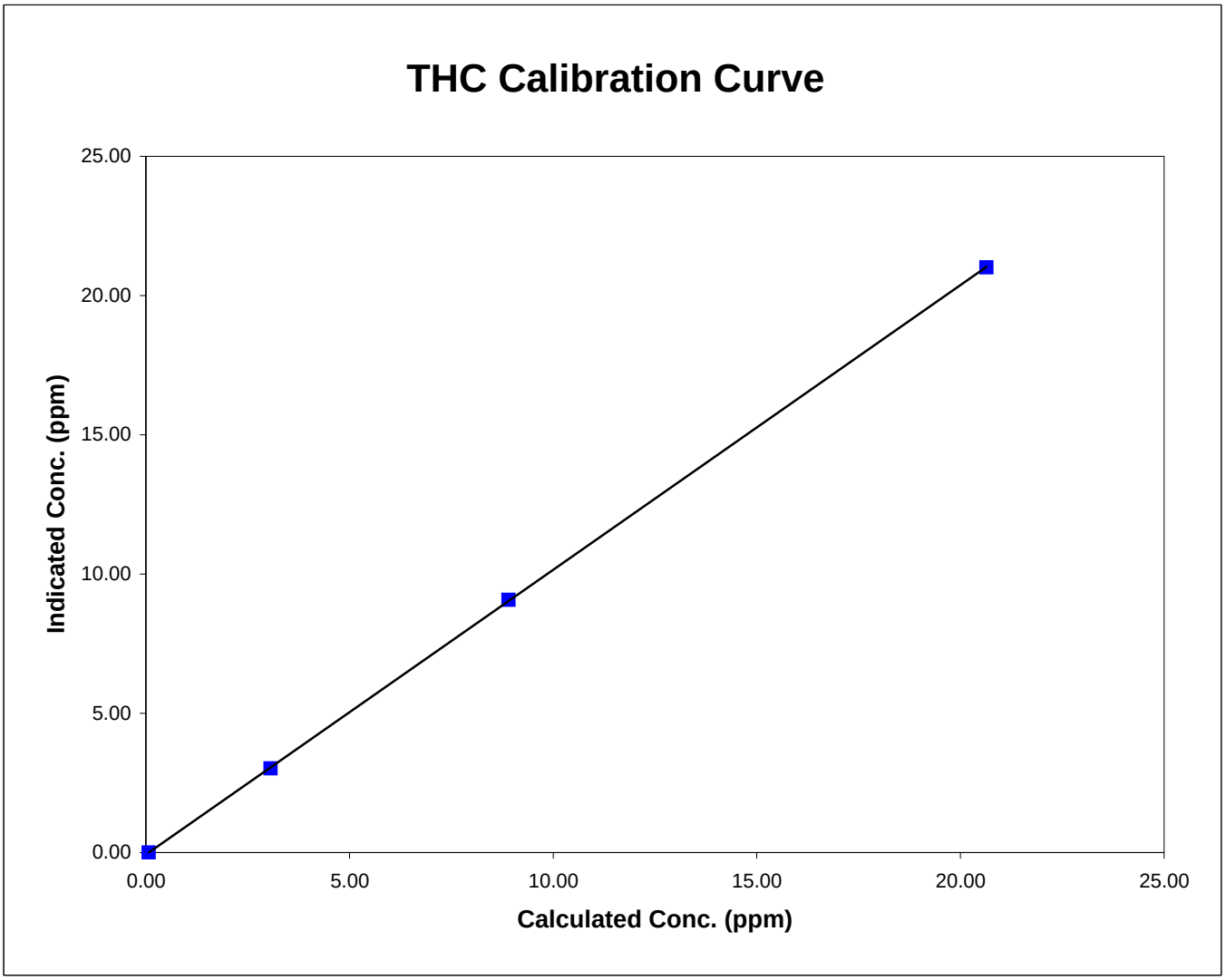
FOCUS AIR QUALITY MONITORING

Station Information

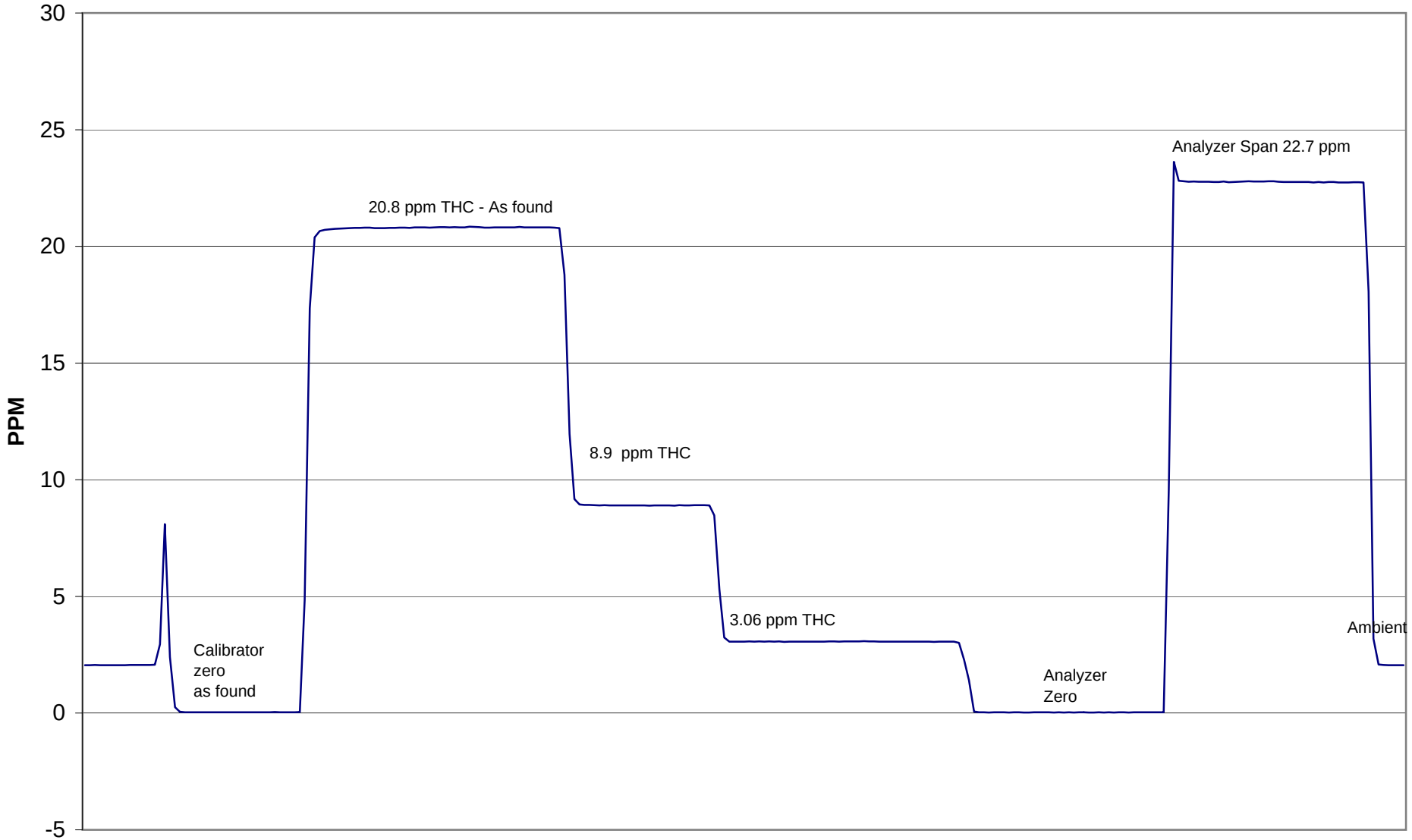
Calibration Date	June 8, 2009	Previous Calibration	March 24, 2009
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:40	End Time (MST)	13:00
Analyzer make/model	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.073	N/A		
21.013	20.642	1.0180	Correlation Coefficient	0.999988
9.069	8.905	1.0184		
3.023	3.065	0.9863	Slope	1.022437
			Intercept	-0.078440



Henry Pirker THC Calibration



June 8, 2009

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter	SO_2
Air Monitoring Network	PASZA

Station Information

Calibration Date	June 3, 2009	Previous Calibration	May 14, 2009
Station Number	2	Station Location	Evergreen Park
Reason:	Routine / Install / Removal / Other:		
Start Time (MST)	10:00	End Time (MST)	12:12
Barometric Pressure	0.926 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	50.6 ppm	Cal Gas Expiry Date	1/2/2009
Correction factor	0.031477	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	1.003456	Calculated slope	1.012572
Calculated intercept	-1.903531	Calculated intercept	-2.163380
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	834	volts	836	volts
Chamber Temp	45	Deg C	45.3	Deg C
Perm Gas Temp	45	Deg C	44.99	Deg C
Pressure	673.7	mm Hg	673.5	mm Hg
Sample Flow	451	ccm	451	ccm
Lamp Intensity	91	%	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	39.83	400.77	396.7	1.0103
4989	19.88	200.83	202.0	0.9944
4989	9.93	100.51	103.3	0.9734
4990	0.0	0.00	0.8	As Found Zero
4988	39.82	400.75	396.7	As Found Span
			Average Correction Factor	0.9927

Calculated value of As Found Response: 395.332 ppm Percent Change of As Found: 1.4%

	before calibration		after calibration	
Auto zero	1.1	ppm	0.7	ppm
Auto span	272.0	ppm	267.0	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter	SO2
Air Monitoring Network	PASZA

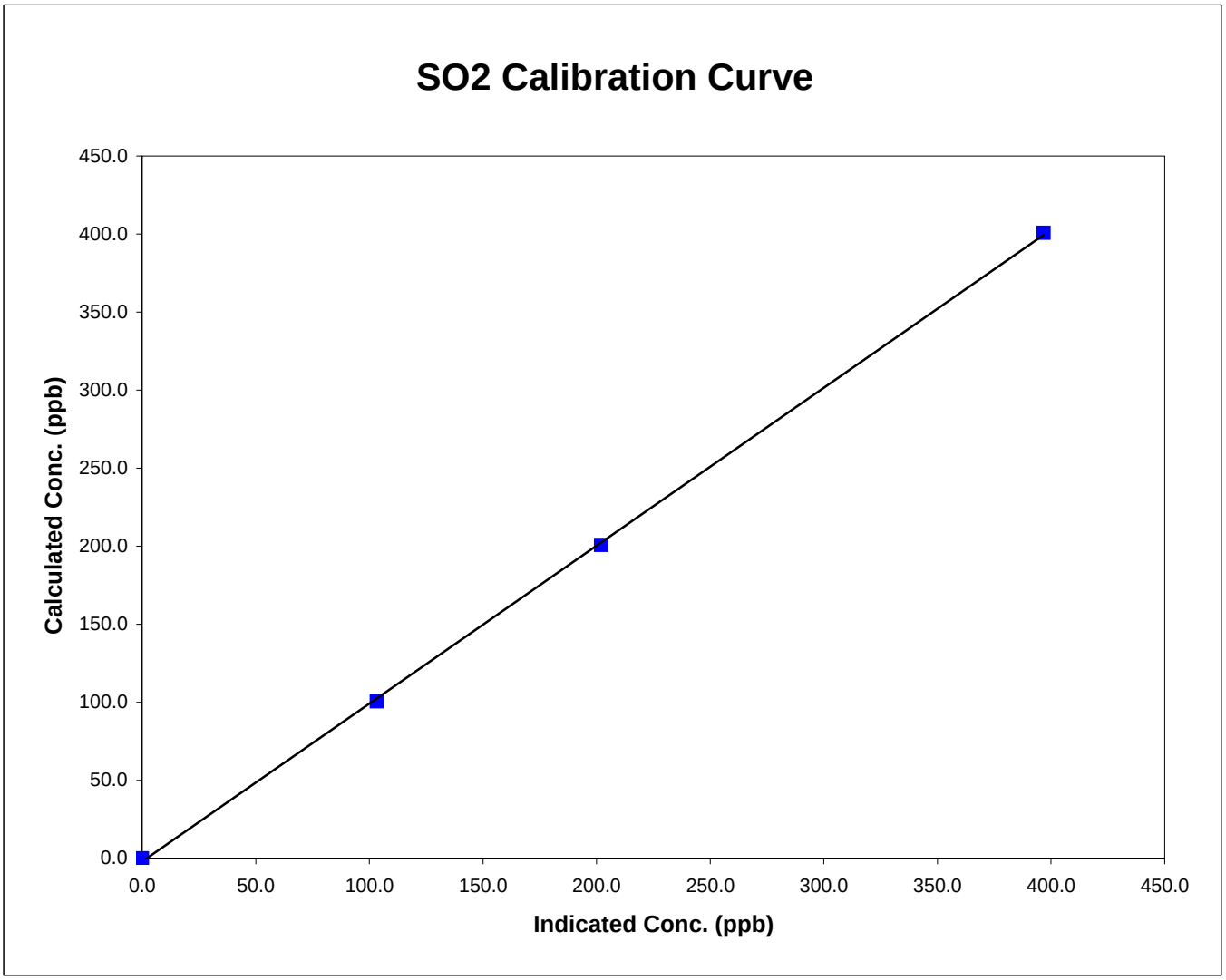
FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 3, 2009	Previous Calibration	May 14, 2009
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	10:00	End Time (MST)	12:12
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		
400.8	396.7	1.0103	Correlation Coefficient	0.999865
200.8	202.0	0.9944		
100.5	103.3	0.9734	Slope	1.012572
			Intercept	-2.163380



Evergreen Park SO_2 Calibration

June 3, 2009

Calibration Report

Parameter **TRS**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 3, 2009	Previous Calibration	May 14, 2009
Station Number	2	Station Location	Evergreen Park

Reason: Routine | Install | Removal | Other:

Start Time (MST)	11:20	End Time (MST)	14:00
Barometric Pressure	0.938 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	0.031885	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	1.010740	Calculated slope	1.007720
Calculated intercept	-0.297606	Calculated intercept	0.015422

Analyzer make: TEI Model 43C | Analyzer serial #: 436610005

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	14.3	ppb	15.1	ppb
coefficient	0.586		0.586	
Lamp Voltage	817	volts	817	volts
Chamber Temp	44.4	Deg C	44.3	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	640.4	mm Hg	635.8	mm Hg
Sample Flow	0.462	ccm	0.462	ccm
Lamp Intensity	45,627	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	79.74	80.23	79.7	1.0067
4989	39.84	40.40	39.9	1.0125
4990	9.89	10.09	9.9	1.0185
4990	0.00	0.00	0.3	As Found Zero
4987	79.91	80.43	79.7	As Found Span
			Average Correction Factor	1.0126

Calculated value of As Found Response: 79.98 ppm Percent Change of As Found: 0.6%

	before calibration		after calibration	
Auto zero	0.0	ppm	-0.3	ppm
Auto span	67.3	ppm	64.0	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter	TRS
Air Monitoring Network	PASZA

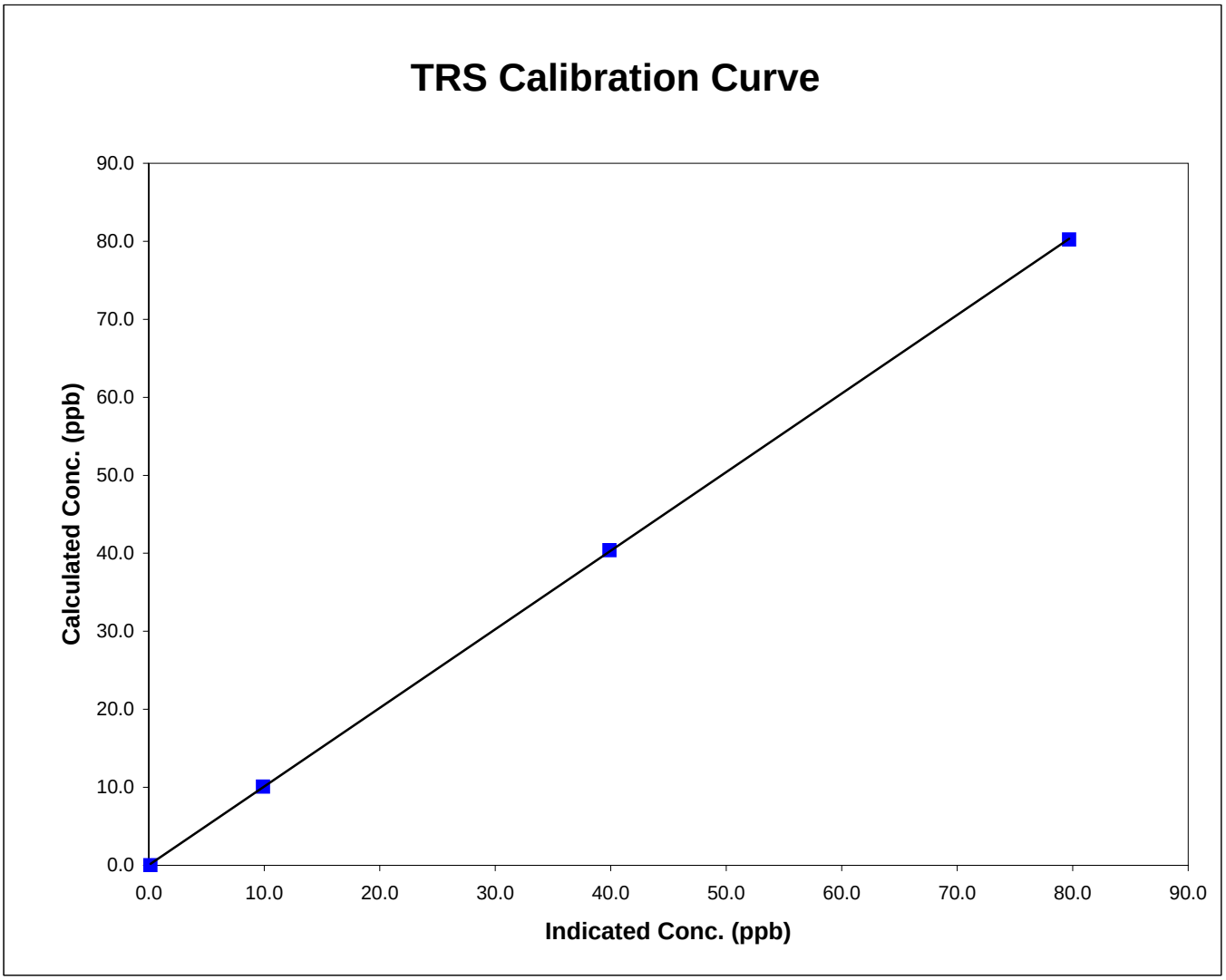
FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 3, 2009	Previous Calibration	May 14, 2009
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	11:20	End Time (MST)	14:00
Analyzer make/model	TEI Model 43C	Analyzer serial #	436610005

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
80.2	79.7	1.0067	Correlation Coefficient	0.999980
40.4	39.9	1.0125		
10.1	9.9	1.0185	Slope	1.007720
			Intercept	0.015422



Evergreen Park TRS Calibration

June 3, 2009

Calibration Report

Parameter **SO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 4, 2009	Previous Calibration	May 20, 2009
Station Number	3	Station Location	Smoky Heights

Reason: Routine | Install | Removal | Other:

Start Time (MST)	8:30	End Time (MST)	11:36
Barometric Pressure	0.934 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	50.6 ppm	Cal Gas Cert Date	6/8/2008
Correction factor	0.031749	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	1.007644	Calculated slope	1.002861
Calculated intercept	-1.536515	Calculated intercept	-2.113548

Analyzer make	Teco 43i	Analyzer serial # 701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	7.1		7.7	
coefficient	0.708		0.708	
Lamp Voltage	924	volts	926	volts
Chamber Temp	45	Deg C	45.1	Deg C
Perm Gas Temp	45.01	Deg C	45	Deg C
Pressure	677.4	mm Hg	677.1	mm Hg
Sample Flow	447	ccm	446	ccm
Lamp Intensity	87	%	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	400.5	1.0001
4988	19.92	201.27	203.8	0.9874
4988	9.92	100.43	104.1	0.9643
4988	0.0	0.00	0.3	As Found Zero
4988	39.81	400.65	400.5	As Found Span
			Average Correction Factor	0.9840

Calculated value of As Found Response: 401.764 ppm Percent Change of As Found: -0.3%

	before calibration		after calibration	
Auto zero	-0.9	ppm	-1.8	ppm
Auto span	309.9	ppm	304.3	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter	SO2
Air Monitoring Network	PASZA

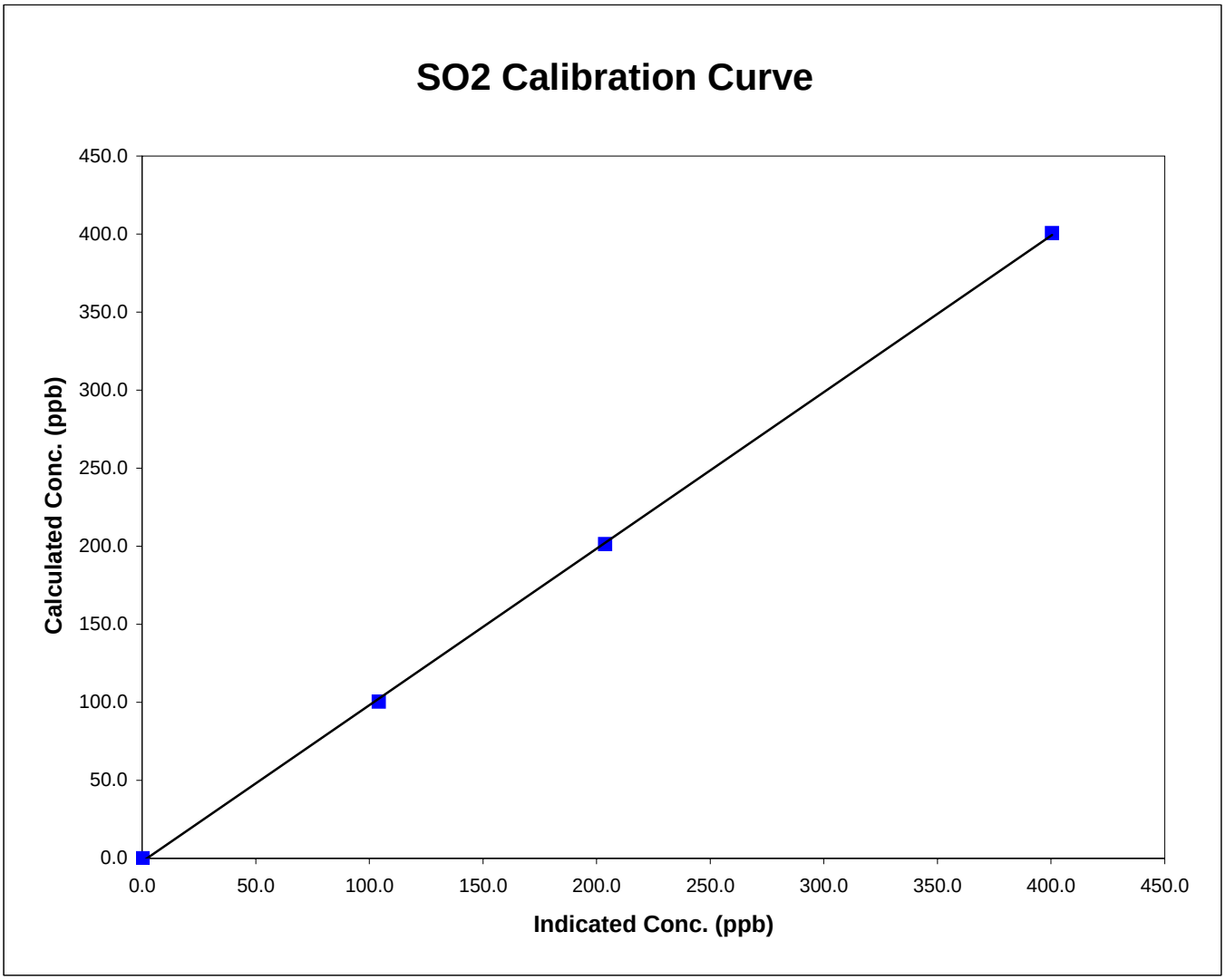
FOCUS AIR QUALITY MONITORING

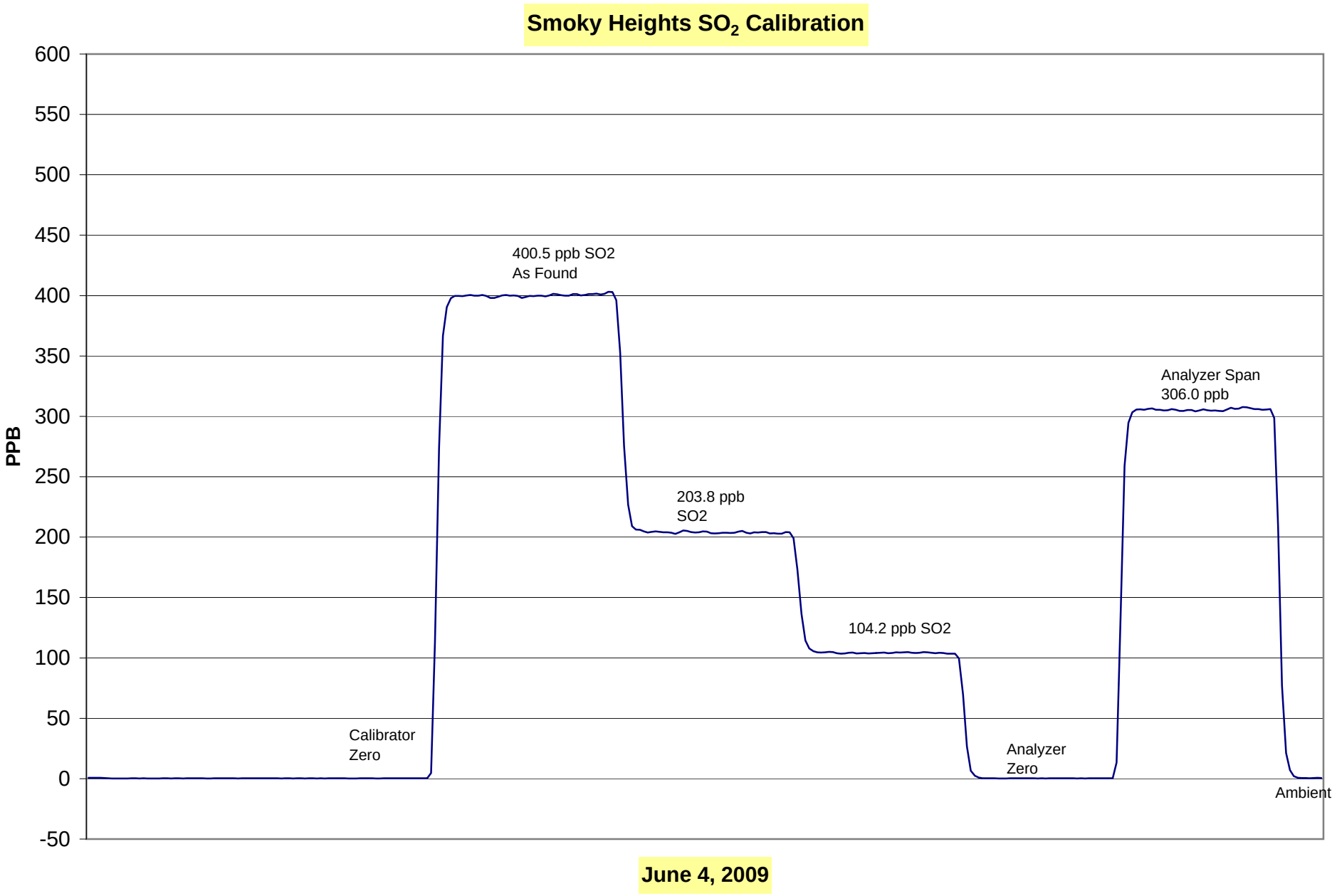
Station Information

Calibration Date	June 4, 2009	Previous Calibration	May 20, 2009
Station Number	3	Station Location	Smoky Heights
Start Time (MST)	8:30	End Time (MST)	11:36
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	400.5	1.0001	Correlation Coefficient	0.999893
201.3	203.8	0.9874		
100.4	104.1	0.9643	Slope	1.002861
			Intercept	-2.113548




Smoky Heights SO2 Calibration
600
550
500
450
400
350
300
250
200
150
100
50
0
-50
PPB
400.5 ppb SO2
As Found
203.8 ppb
SO2
104.2 ppb SO2
Analyzer Span
306.0 ppb
Calibrator
Zero
Analyzer
Zero
Ambient
June 4, 2009

Calibration Report

FOCUS AIR QUALITY MONITORING

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

Station Information

Calibration Date	June 4, 2009	Previous Calibration	May 20, 2009
Station Number	3	Station Location	Smoky Heights

Reason: Routine | Install | Removal | Other:

Start Time (MST)	10:30	End Time (MST)	13:37
Barometric Pressure	0.934 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	0.031749	Cal Gas Cylinder #	ALM013295
DACS make	Focus AP1000	DACS serial No.	52620
DACS voltage range	0 - 10 volt	DACS channel #	5
	Before		After
Calculated slope	1.010665	Calculated slope	0.999918
Calculated intercept	-0.250450	Calculated intercept	-0.280283

Analyzer make	TEI Model 43C	Analyzer serial #	0436610005

	before		after	
Concentration range	100	ppb	100	ppb
Background	13.9	ppb	12.8	ppb
coefficient	1.027		1.027	
Lamp Voltage	765	volts	770	volts
Chamber Temp	44	Deg C	44	Deg C
Perm Gas Temp	45	Deg C	44.9	Deg C
Pressure	475.3	mm Hg	496	mm Hg
Sample Flow	0.73	ccm	756	ccm
Lamp Intensity	32,417	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	80.5	0.9968
4988	39.85	40.42	40.8	0.9912
4988	9.93	10.13	10.4	0.9787
4990	0.0	0.00	-0.1	As Found Zero
4990	79.71	80.19	80.5	As Found Span
			Average Correction Factor	0.9889

Calculated value of As Found Response: 81.23 ppm Percent Change of As Found: -1.3%

	before calibration		after calibration	
Auto zero	-0.4	ppm	-0.4	ppm
Auto span	42.5	ppm	41.4	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter	TRS
Air Monitoring Network	PASZA

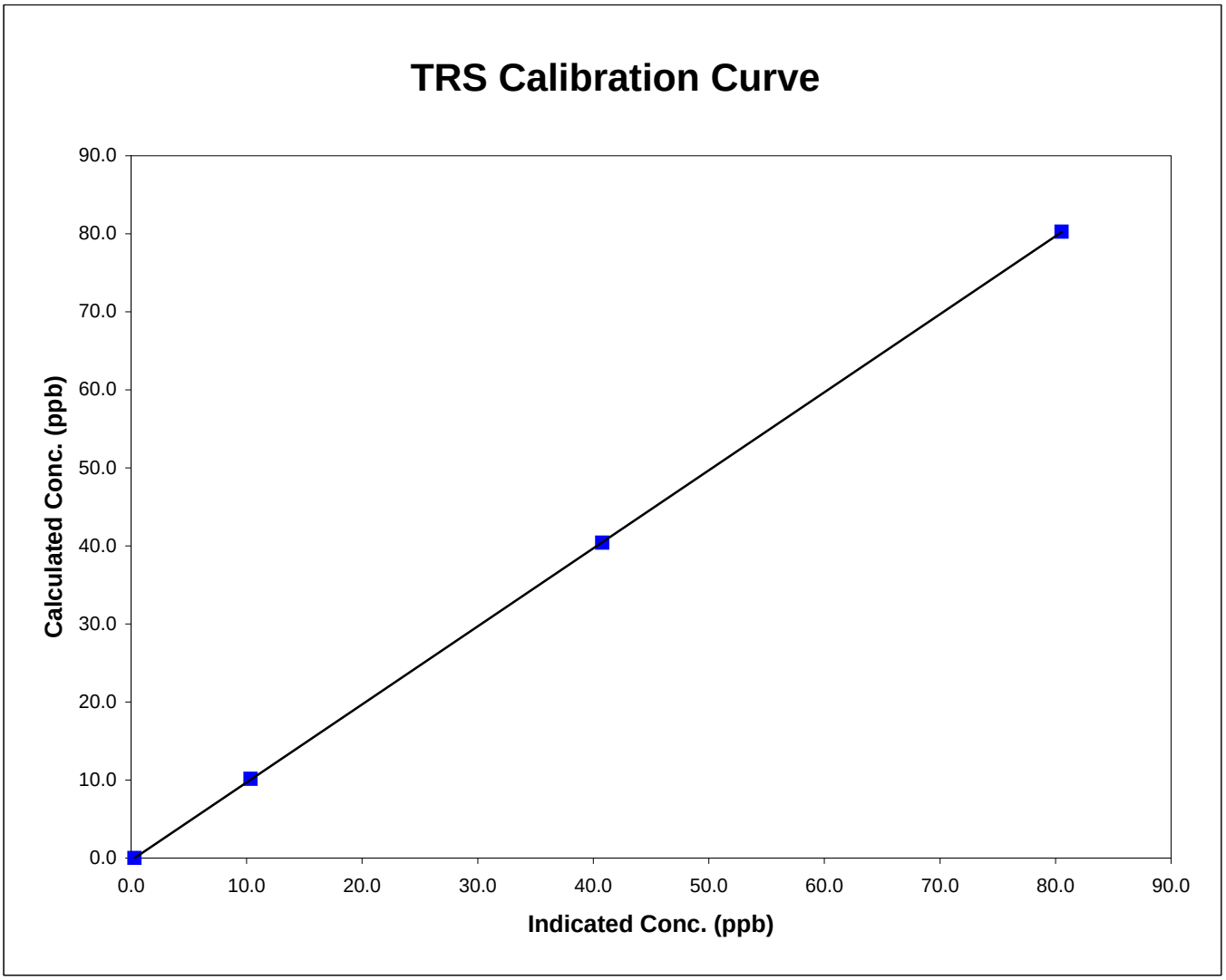
FOCUS AIR QUALITY MONITORING

Station Information

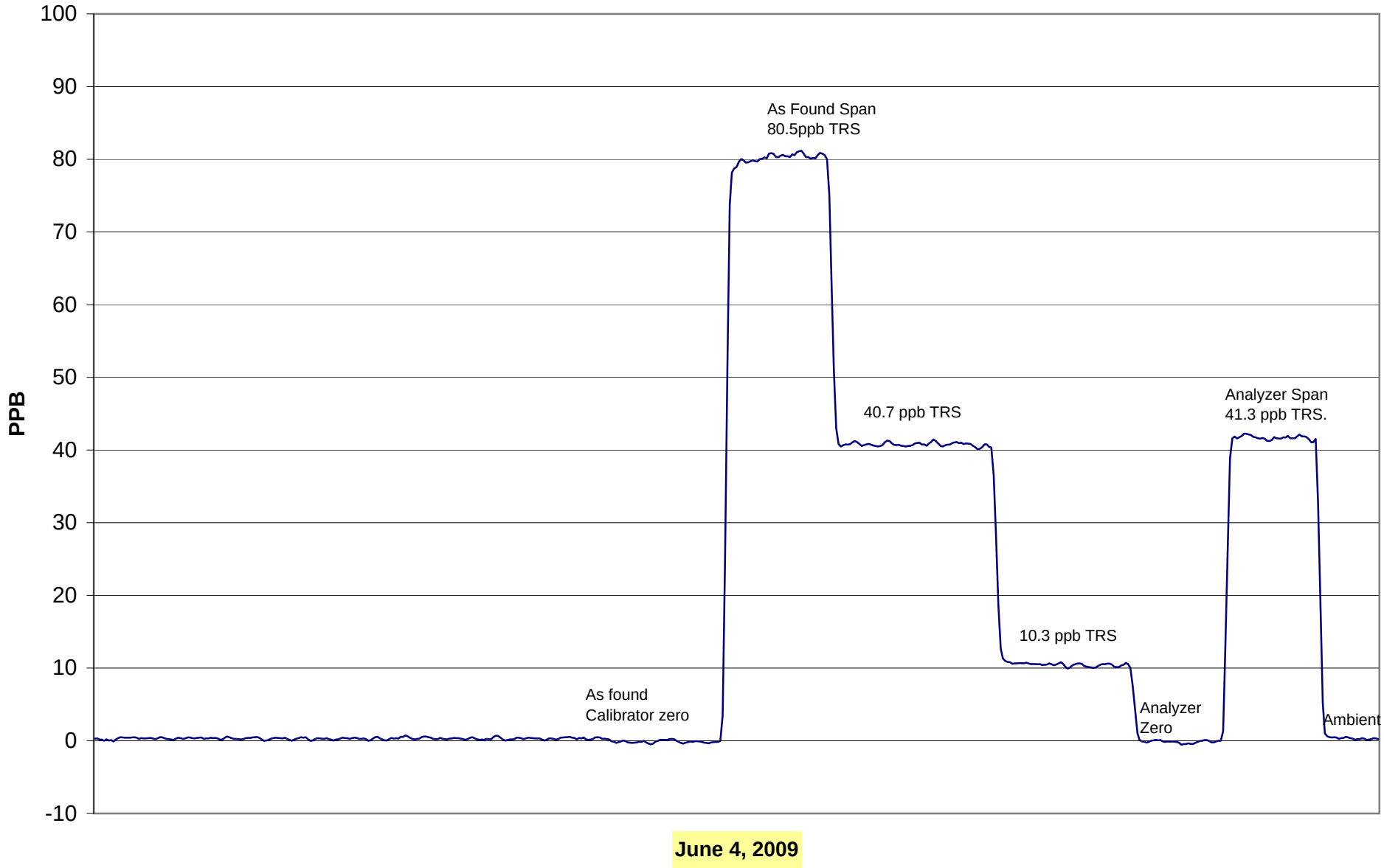
Calibration Date	June 4, 2009	Previous Calibration	May 20, 2009
Station Number	3	Station Location	Smoky Heights
Start Time (MST)	10:30	End Time (MST)	13:37
Analyzer make/model	TEI Model 43C	Analyzer serial #	0436610005

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A		
80.3	80.5	0.9968	Correlation Coefficient	0.999997
40.4	40.8	0.9912		
10.1	10.4	0.9787	Slope	0.999918
			Intercept	-0.280283



Smoky Heights TRS Calibration



June 4, 2009

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter	SO2
Air Monitoring Network	PASZA

Station Information

Calibration Date	June 22, 2009	Previous Calibration	May 21, 2009
Station Number	4	Station Location	Beaverlodge

Reason: Routine | Install | Removal | Other:

Start Time (MST)	10:00	End Time (MST)	15:34
Barometric Pressure	0.908 atm	Station Temperature	25.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	10.06 ppm	Cal Gas Expiry Date	7/27/2009
Gas Cert Reference	CC 114395		
DACS make	Focus AP1000	DACS serial No.	45269
DACS voltage range	0 - 10 volt	DACS channel #	4
	Before		After
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.994336	Calculated slope	1.004035
Calculated intercept	-0.325321	Calculated intercept	-0.553695

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

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.37		2.4	
Coefficient	0.885		0.901	
PMT	-813.3	V	-813	V
UV Lamp Voltage	1062	V	1062	V
Chamber Temp	45	Deg C	45.1	Deg C
Pressure	661.6	mm Hg	670.1	mm Hg
Sample Flow	0.478	LPM	0.482	LPM
Lamp Intesity	84%	%	84%	%

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4988	0.00	0.0	0.0	N/A
4988	39.84	79.7	79.6	1.0016
4988	19.87	39.9	40.7	0.9798
4988	9.91	19.9	20.9	0.9527
4988	0.00	0.0	0.0	As found zero
4988	39.90	79.8	79.8	As found span
			Average Correction Factor	0.9781

Calculated value of As Found Response: 78.958 ppm Percent Change of As Found: 1.1%

	before calibration		after calibration	
Auto zero	-0.3	ppm	-0.5	ppm
Auto span	54.9	ppm	-0.5	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter	SO2
Air Monitoring Network	PASZA

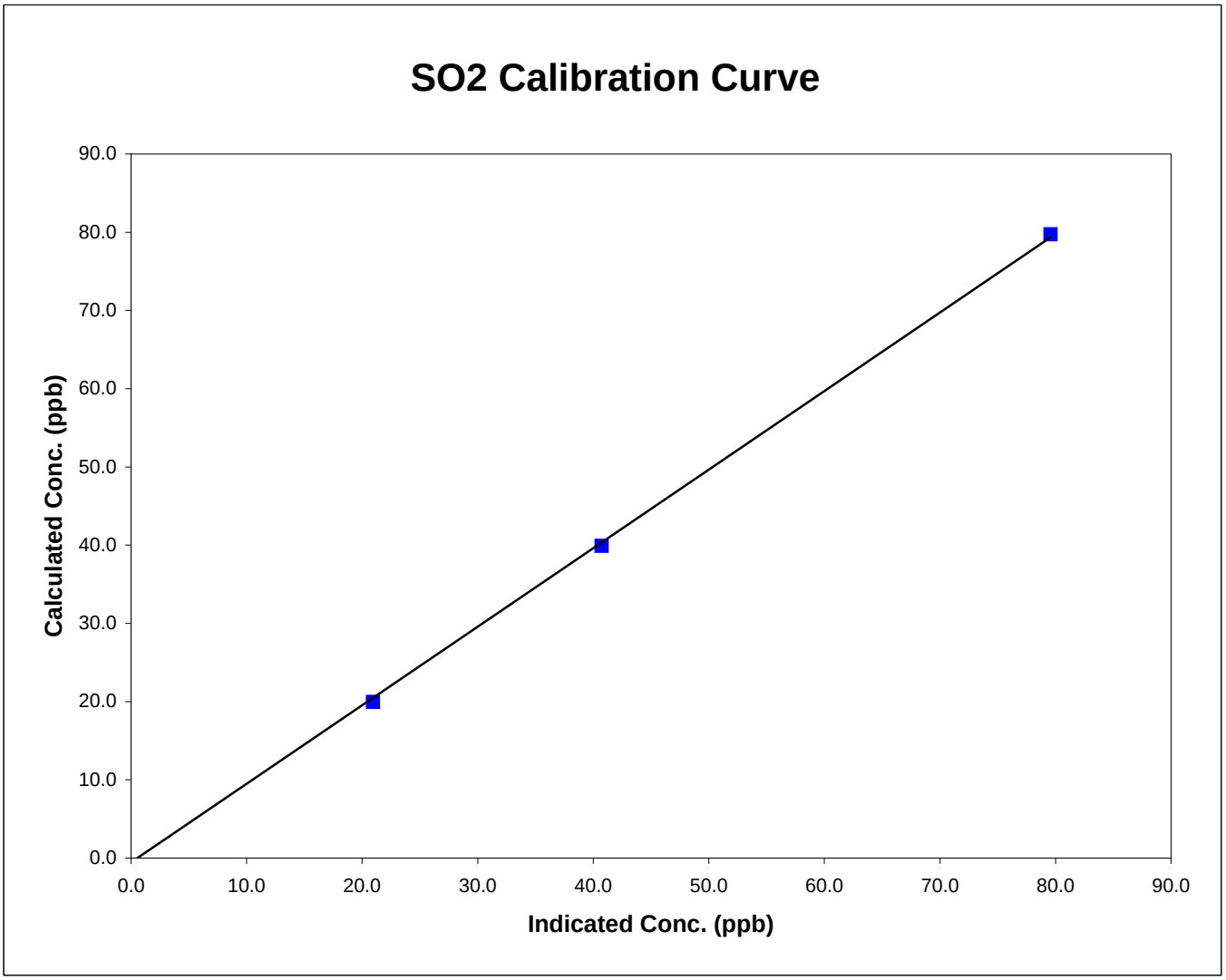
FOCUS AIR QUALITY MONITORING

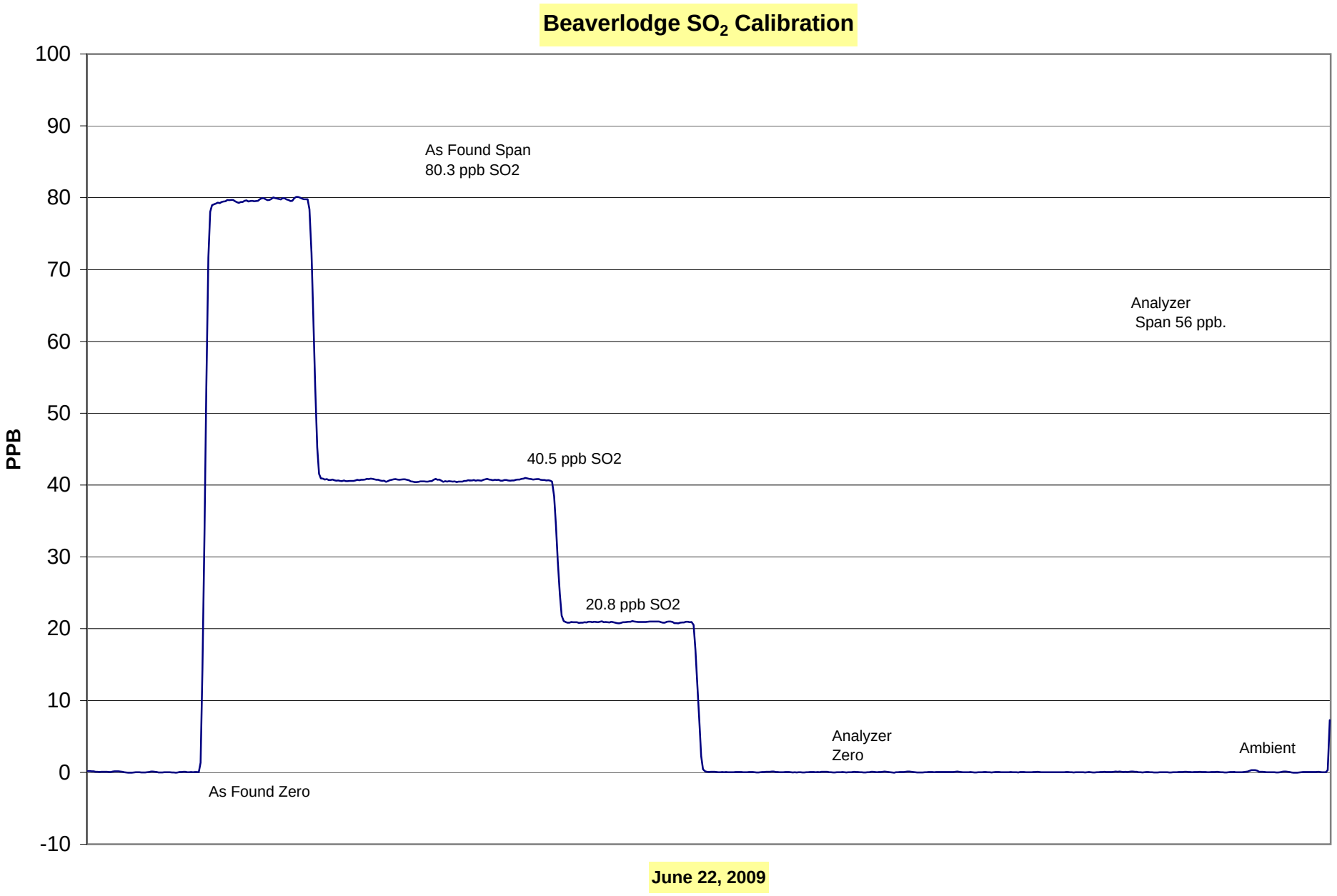
Station Information

Calibration Date	June 22, 2009	Previous Calibration	May 21, 2009
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	10:00	End Time (MST)	14:25:00 PM
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	79.6	1.0016	Correlation Coefficient	0.999730
39.9	40.7	0.9798		
19.9	20.9	0.9527	Slope	1.004035
			Intercept	-0.553695




Beaverlodge SO2 Calibration
100
90
80
70
60
50
40
30
20
10
0
-10
PPB
As Found Span
80.3 ppb SO2
40.5 ppb SO2
20.8 ppb SO2
Analyzer
Span 56 ppb.
Analyzer
Zero
Ambient
As Found Zero
June 22, 2009

Calibration Report

Parameter	SO2
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 26, 2009	Previous Calibration	June 22, 2009
Station Number	4	Station Location	Beaverlodge
Reason: Routine	Install	Removal	Other:
Start Time (MST)	11:30	End Time (MST)	
Barometric Pressure	0.908 atm	Station Temperature	25.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	50.6 ppm	Cal Gas Expiry Date	7/27/2009
Gas Cert Reference	CC 114395		
DACS make	Focus AP1000	DACS serial No.	45269
DACS voltage range	0 - 10 volt	DACS channel #	4
	Before		After
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.994336	Calculated slope	5.050115
Calculated intercept	-0.325321	Calculated intercept	-2.784985
Analyzer make	TEI Model 43CTL	Analyzer serial #	43CTL-74200-376

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.37		2.4	
Coefficient	0.885		0.901	
PMT	-813.3	V	-813	V
UV Lamp Voltage	1062	V	1062	V
Chamber Temp	45	Deg C	45.1	Deg C
Pressure	661.6	mm Hg	670.1	mm Hg
Sample Flow	0.478	LPM	0.482	LPM
Lamp Intesity	84%	%	84%	%

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4988	0.00	0.0	0.0	N/A
4988	39.84	400.9	79.6	5.0378
4988	19.87	200.8	40.7	4.9285
4988	9.91	100.3	20.9	4.7921
4988	0.00	0.0	0.0	As found zero
4988	39.90	401.5	79.8	As found span
			Average Correction Factor	4.9194

Calculated value of As Found Response: 78.958 ppm Percent Change of As Found: 80.3%

	before calibration		after calibration	
Auto zero	-0.3	ppm	-2.5	ppm
Auto span	54.9	ppm	-2.6	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter	SO2
Air Monitoring Network	PASZA

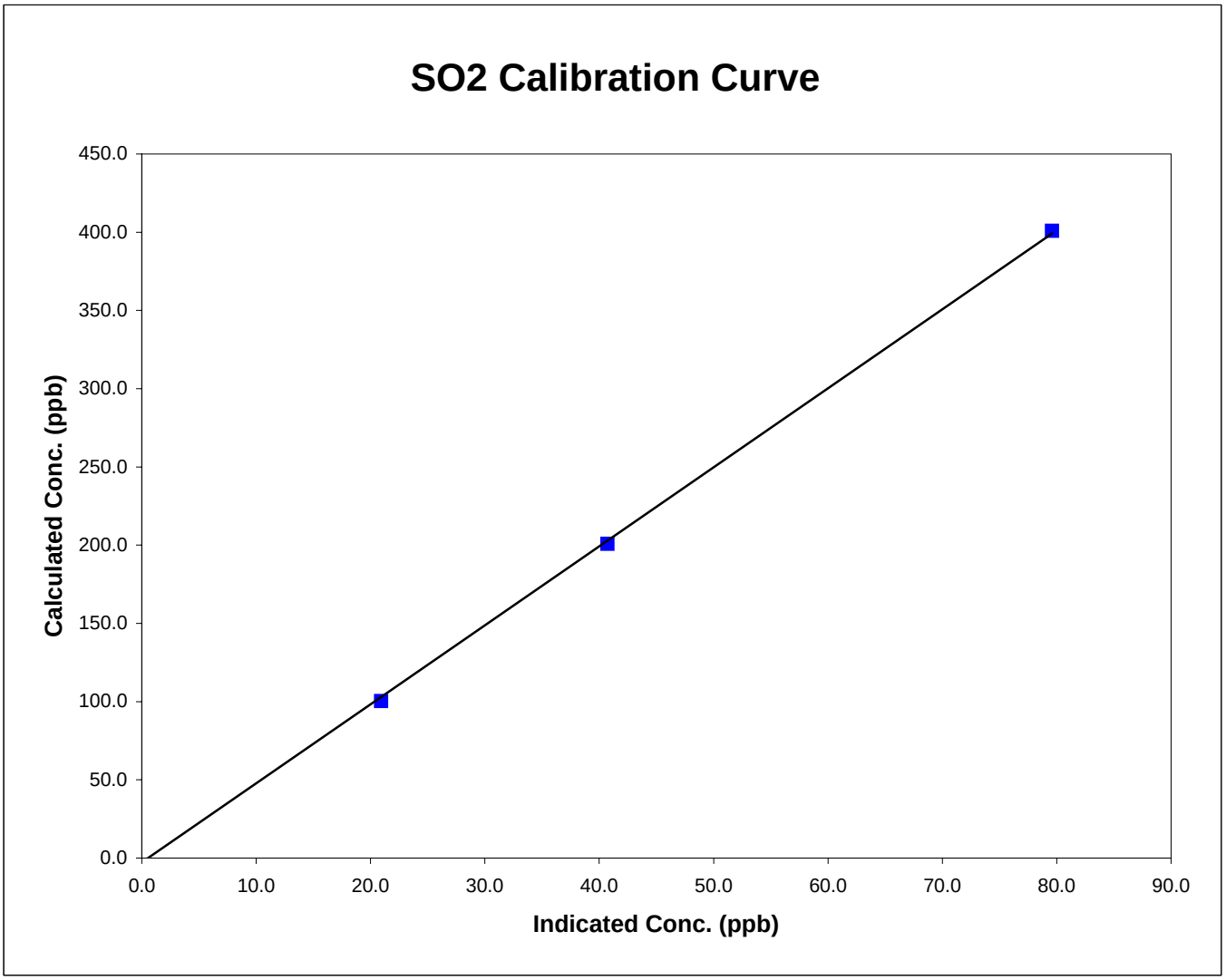
FOCUS AIR QUALITY MONITORING

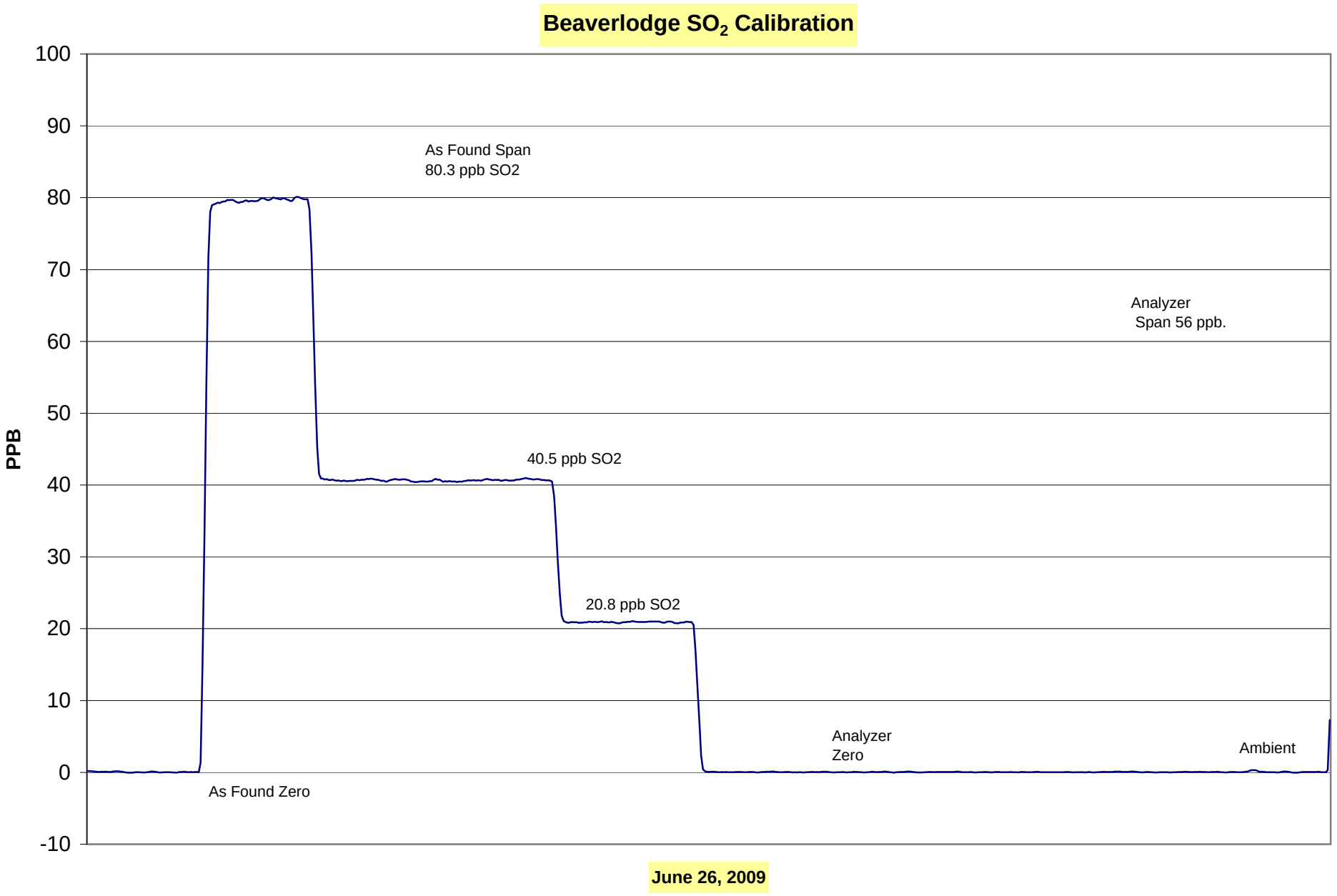
Station Information

Calibration Date	June 26, 2009	Previous Calibration	June 22, 2009
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	11:30	End Time (MST)	14:25:00 PM
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		
400.9	79.6	5.0378	Correlation Coefficient	0.999730
200.8	40.7	4.9285		
100.3	20.9	4.7921	Slope	5.050115
			Intercept	-2.784985




Beaverlodge SO2 Calibration
100
90
80
70
60
50
40
30
20
10
0
-10
PPB
As Found Span
80.3 ppb SO2
40.5 ppb SO2
20.8 ppb SO2
Analyzer
Span 56 ppb.
Analyzer
Zero
Ambient
As Found Zero
June 26, 2009

Calibration Report

Parameter	NO_X-NO-NO_2
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 22, 2009	Previous Calibration	May 21,2009
Station Number	4	Station Location	BeaverLodge

Reason: Routine | Installation | Removal | Other:

Start Time (MST)	10:00		End Time (MST)	15:48	
Barometric Pressure	0.908	Atm	Station Temperature	25.0	Deg C
Calibrator	Environics		Serial Number	3474	
NO Cal Gas Conc	50.1	ppm	Cal Gas Expiry Date	July 2, 2008	
NOx Cal Gas Conc	50.1	ppm	Cal Gas Serial #	CC114395	

DACS Information

DACS make	Focus AP1000
DACS serial No.	

Parameter		NO2	NOx	NO
Before	Data Slope	1.003542	1.002204	1.002205
	Data Offset	0.048696	-2.266596	-1.931588
After	Data Slope	1.005252	1.003249	1.005059
	Data Offset	-1.969383	-2.289740	-2.310344
Channel #				
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	1.3	mV	1.3	mV
NOx bkgnd	1.3	mV	1.3	mV
NO coefficient	1.213		1.213	
NOx coefficient	1.005		1.005	
NO2 conv temp	323.0	Deg C	323.0	Deg C
PMT Temp	-2.2	Deg C	-2.2	Deg C
PMT Volt	-635.0	mV	-636.0	mV
R Cell Press	202.1	in Hg	200.1	in Hg
Sample Flow	0.709	ccm	0.734	ccm

Notes:

Calibration Report

Parameter	**$NOx\text{-}NO\text{-}NO_2$**
Air Monitoring Network	**PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: June 22, 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	-0.2	-0.2	-0.2	N/A	N/A
1	4988	39.84	397.0	397.0	0.0	396.6	395.9	0.3	1.0010	1.0027
2	4988	19.87	198.8	198.8	0.0	201.9	201.5	0.0	0.9846	0.9864
3	4988	9.91	99.3	99.3	0.0	103.7	103.6	-0.2	0.9578	0.9589
AFZ	4988	0.00	0.0	0.0	0.0	-0.1	-0.2	-0.2	0.0000	0.0000
AFS	4988	39.84	397.0	397.0	0.0	386.1	384.7	1.0	1.0282	1.0318
							Average Correction Factor		0.9811	0.9827

As Found Concentrations: NO_X= 384.0 NO= 383.0 As Found Percent Change NO_X= -3.3% NO= -3.5%

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	-0.2	-0.2	0.0	-0.2	-0.2	-0.2	N/A	N/A	N/A	N/A
NO point	395.9	395.9	0.0	396.2	395.9	0.0	0.9992	1.0000	N/A	N/A
300	395.9	236.5	159.4	396.0	236.5	158.9	0.9997	1.0000	1.0030	99.7%
200	395.9	293.4	102.5	398.8	293.4	105.1	0.9929	1.0000	0.9758	102.5%
100	395.9	349.0	46.9	400.6	349.0	51.3	0.9882	1.0000	0.9145	109.4%
					Average Correction Factor		0.9936	1.0000	0.9644	103.8%

AIC Data

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

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter	NO_2
Air Monitoring Network	PASZA

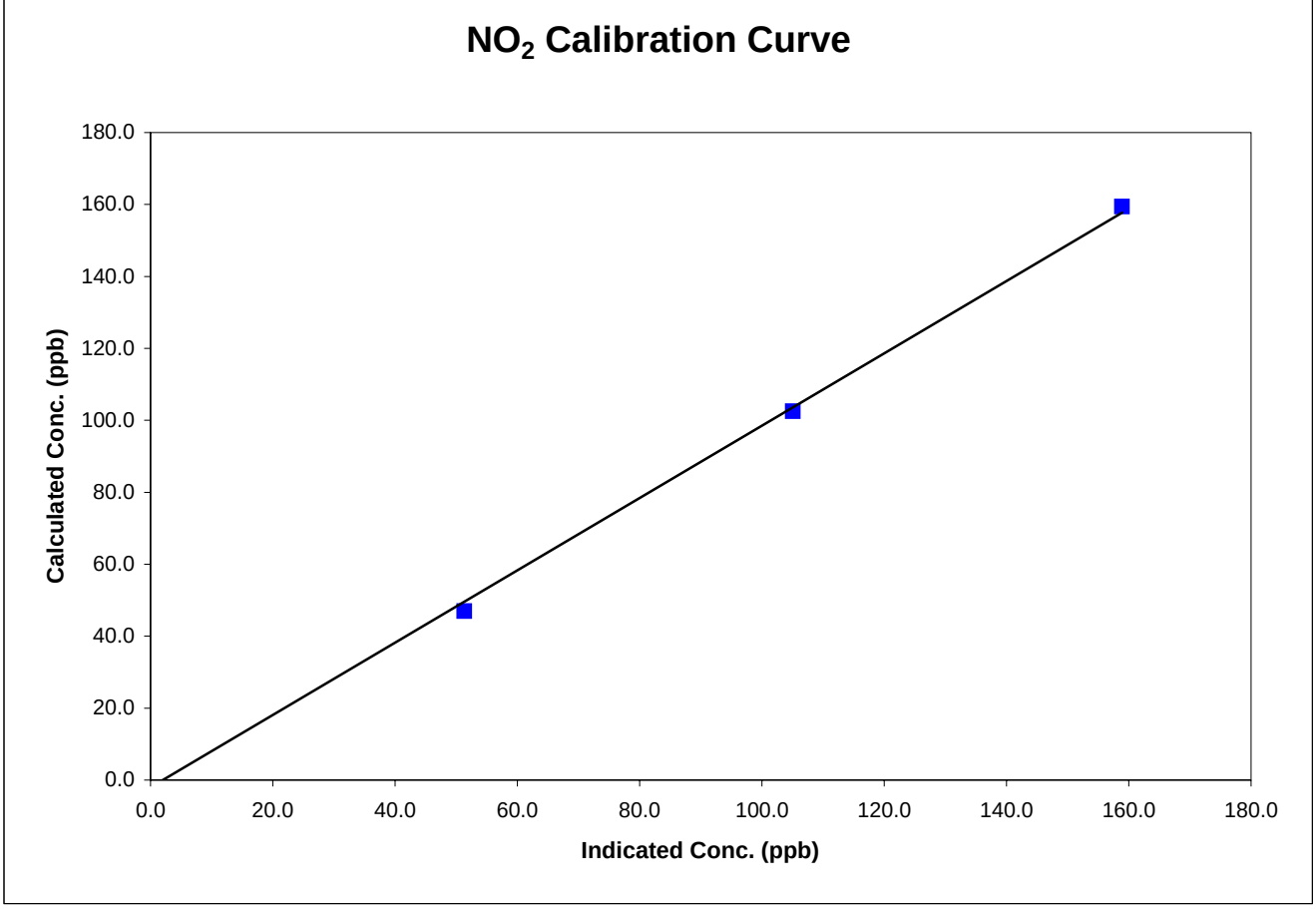
FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 22, 2009	Previous Calibration	May 21,2009
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	10:00	End Time (MST)	15:48
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		
159.4	158.9	1.0030	Correlation Coefficient	0.998883
102.5	105.1	0.9758		
46.9	51.3	0.9145	Slope	1.005252
			Intercept	-1.969383



Calibration Summary

Parameter	NO_x
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

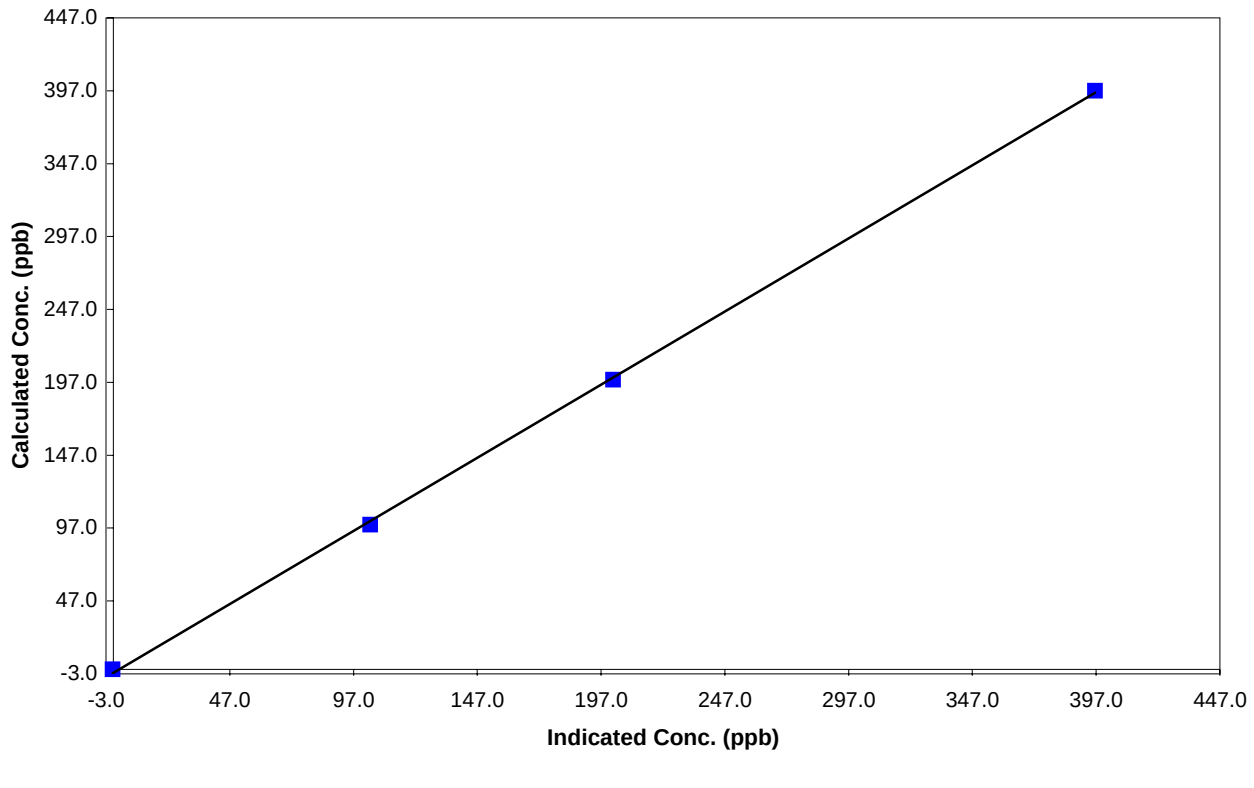
Station Information

Calibration Date	June 22, 2009	Previous Calibration	May 21,2009
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	10:00	End Time (MST)	15:48
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	-0.2	N/A		
397.0	396.6	1.0010	Correlation Coefficient	0.999810
198.8	201.9	0.9846		
99.3	103.7	0.9578	Slope	1.003249
			Intercept	-2.289740

NOx Calibration Curve



Calibration Summary

Parameter	**NO**
Air Monitoring Network	**PASZA**

FOCUS AIR QUALITY MONITORING

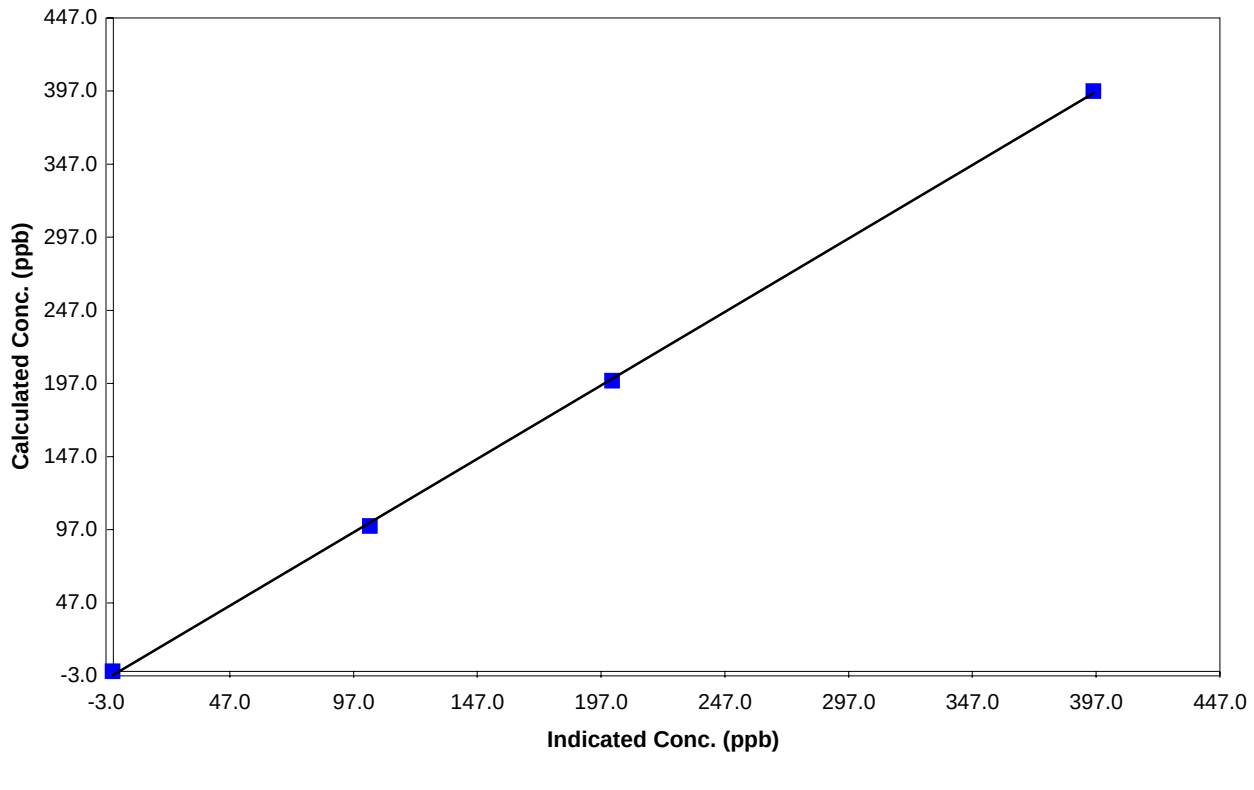
Station Information

Calibration Date	June 22, 2009	Previous Calibration	May 21,2009
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	10:00	End Time (MST)	15:48
Analyzer make	TEI 42C	Analyzer serial #	60475-327

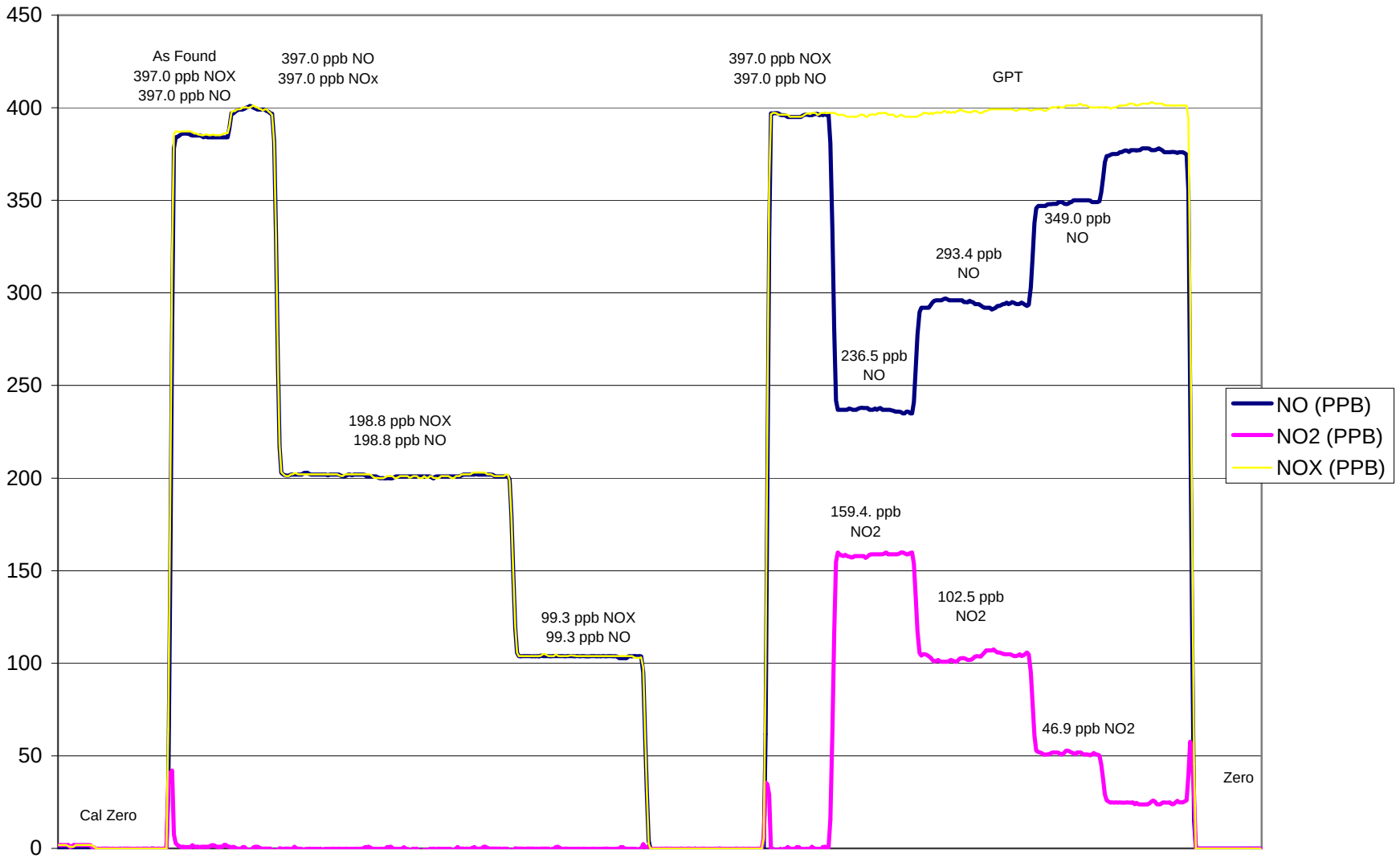
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.2	N/A		
397.0	395.9	1.0027	Correlation Coefficient	0.999807
198.8	201.5	0.9864		
99.3	103.6	0.9589	Slope	1.005059
			Intercept	-2.310344

NO Calibration Curve



Beaverlodge NO_X Calibration



June 22, 2009

Calibration Report

Parameter	NO_X-NO-NO_2
Air Monitoring Network	PASZA

Station Information

Calibration Date	June 26, 2009	Previous Calibration	June 22,2009
Station Number	4	Station Location	BeaverLodge

Reason: Routine | Installation | Removal | Other:

Start Time (MST)	11:30		End Time (MST)	18:45	
Barometric Pressure	0.913	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	1.005252	0.993237	0.995029
	Data Offset	-1.969383	-2.266888	-2.287287
After	Data Slope	0.990628	1.001275	1.003145
	Data Offset	0.242592	-2.351816	-2.313299
Channel #				
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	1.3	mV	2.0	mV
NOx bkgnd	1.3	mV	3.7	mV
NO coefficient	1.213		1.059	
NOx coefficient	1.005		1.002	
NO2 conv temp	323.0	Deg C	322.4	Deg C
PMT Temp	-2.2	Deg C	-3.2	Deg C
PMT Volt	-636.0	mV	-676.4	mV
R Cell Press	200.1	in Hg	146.2	in Hg
Sample Flow	0.734	ccm	0.961	ccm

Notes: Installation calibration post station shelter replacement.

Calibration Report

Parameter	**$NOx\text{-}NO\text{-}NO_2$**
Air Monitoring Network	**PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: June 26, 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	393.7	392.8	0.2	0.9983	1.0006
2	4988	19.87	196.8	196.8	0.0	200.2	199.9	-0.1	0.9830	0.9847
3	4988	9.91	98.3	98.3	0.0	102.5	102.6	-0.6	0.9592	0.9581
AFZ										
AFS										
							Average Correction Factor		0.9802	0.9811

As Found Concentrations: NO_X= NA NO= NA As Found Percent Change NO_X= NA NO= NA

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				0.3	-0.1	0.2	N/A	N/A	N/A	N/A
NO point	392.0	392.0	0.0	393.3	392.0	-0.1	0.9968	1.0000	N/A	N/A
300	392.0	204.0	188.0	394.6	204.0	189.7	0.9934	1.0000	0.9910	100.9%
200	392.0	266.3	125.7	393.7	266.3	126.8	0.9956	1.0000	0.9919	100.8%
100	392.0	326.5	65.5	392.6	326.5	65.2	0.9984	1.0000	1.0048	99.5%
					Average Correction Factor		0.9958	1.0000	0.9959	100.4%

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	198.7	194.2	4.3	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter	NO_2
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

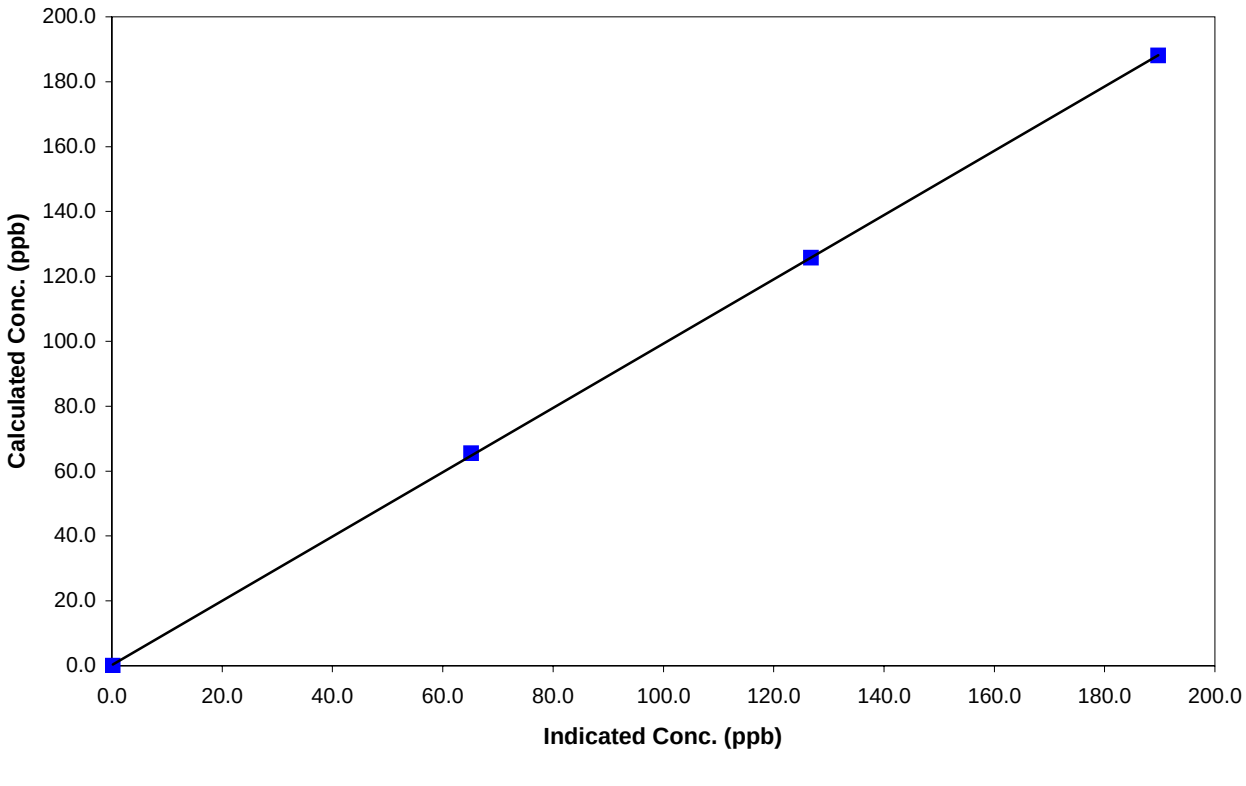
Station Information

Calibration Date	June 26, 2009	Previous Calibration	June 22,2009
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	11:30	End Time (MST)	18:45
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		
188.0	189.7	0.9910	Correlation Coefficient	0.999965
125.7	126.8	0.9919		
65.5	65.2	1.0048	Slope	0.990628
			Intercept	0.242592

NO_2 Calibration Curve



Calibration Summary

Parameter	NO_x
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

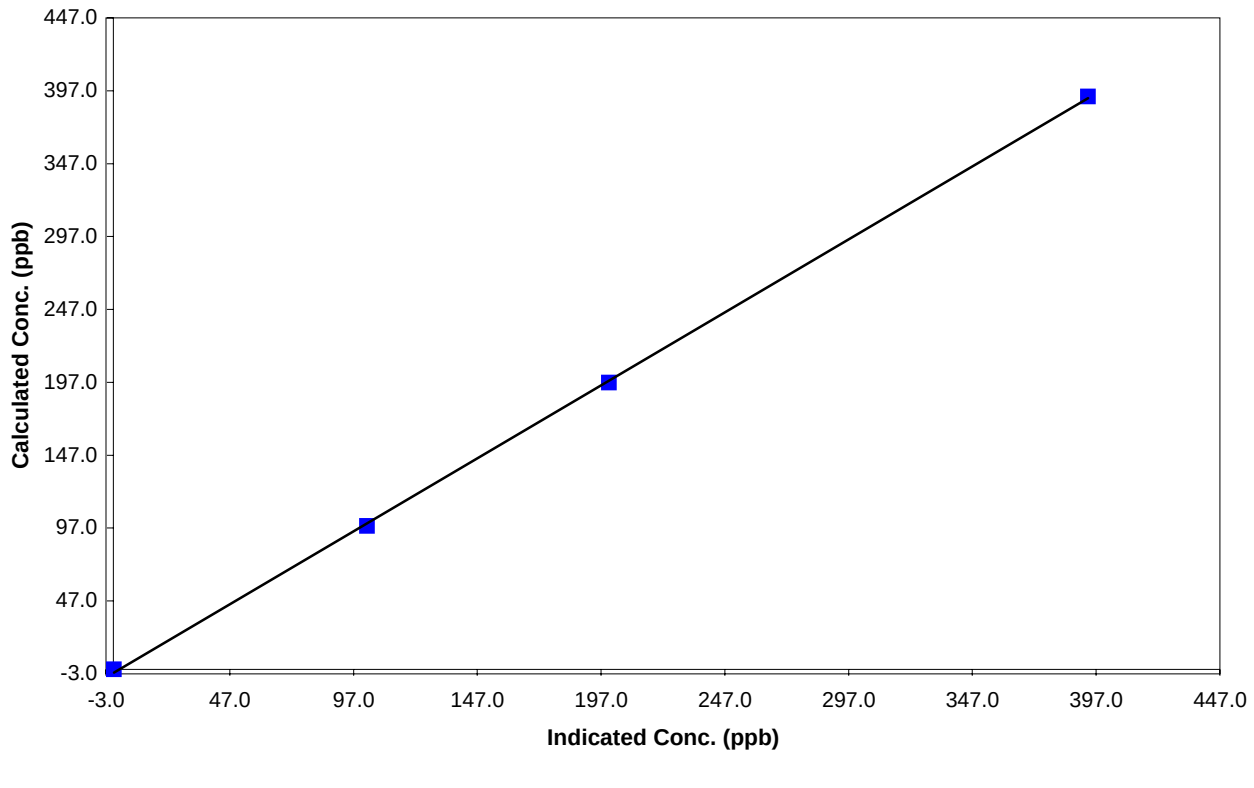
Station Information

Calibration Date	June 26, 2009	Previous Calibration	June 22,2009
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	11:30	End Time (MST)	18:45
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	393.7	0.9983	Correlation Coefficient	0.999866
196.8	200.2	0.9830		
98.3	102.5	0.9592	Slope	1.001275
			Intercept	-2.351816

NOx Calibration Curve



Calibration Summary

Parameter	**NO**
Air Monitoring Network	**PASZA**

FOCUS AIR QUALITY MONITORING

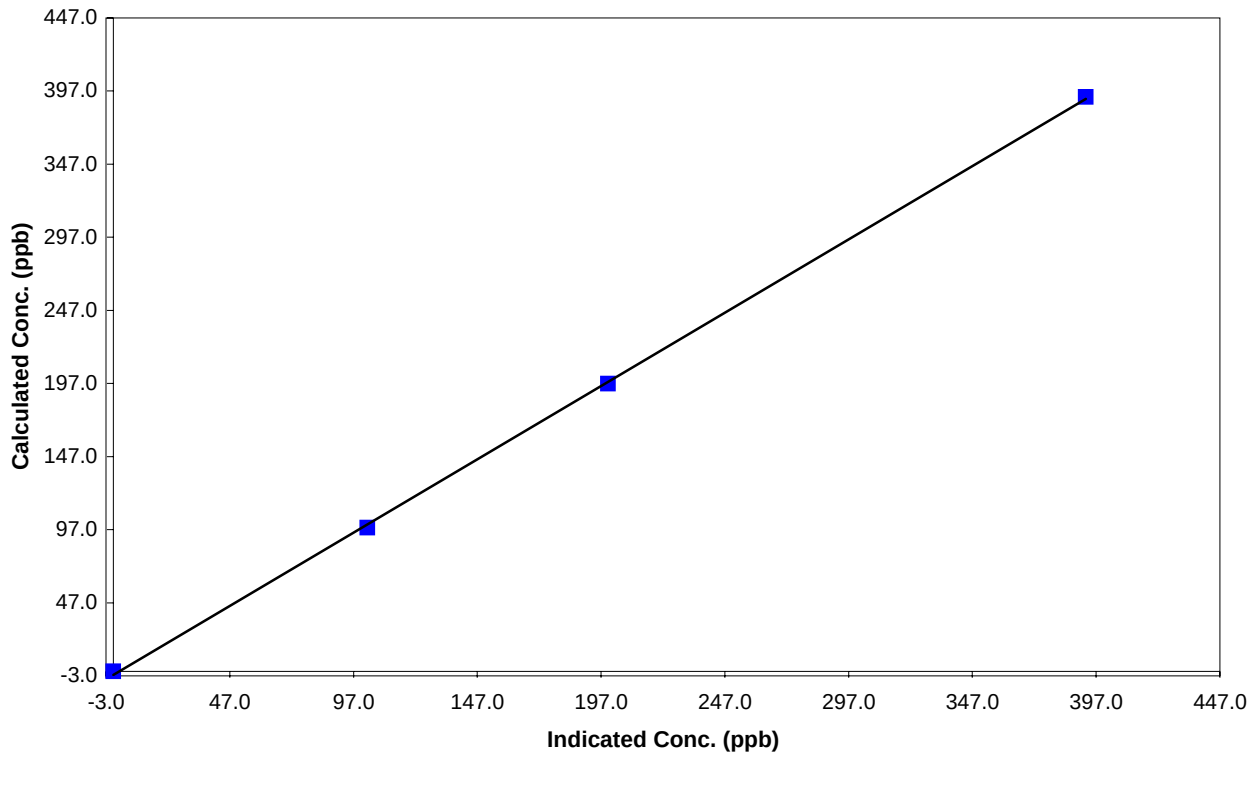
Station Information

Calibration Date	June 26, 2009	Previous Calibration	June 22,2009
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	11:30	End Time (MST)	18:45
Analyzer make	TEI 42C	Analyzer serial #	60475-327

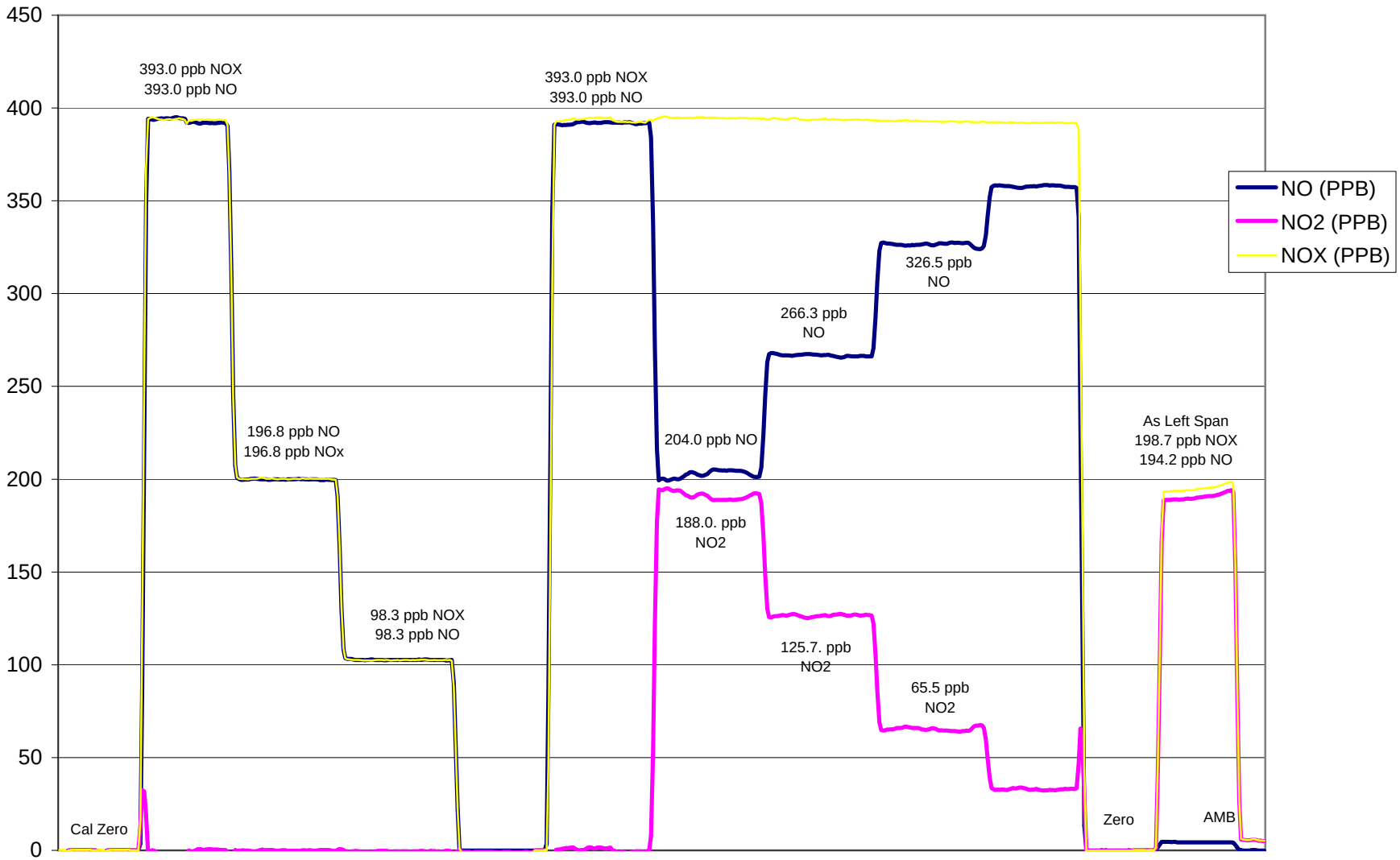
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
393.0	392.8	1.0006	Correlation Coefficient	0.999827
196.8	199.9	0.9847		
98.3	102.6	0.9581	Slope	1.003145
			Intercept	-2.313299

NO Calibration Curve



Beaverlodge NO_X Calibration



June 26, 2009

Calibration Report

Parameter **O3**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 22, 2009	Previous Calibration	May 21, 2009
Station Number	4	Station Location	Beaverlodge

Reason: Routine | Install | Removal | Other:

Start Time (MST)	15:00:00 PM	End Time (MST)	16:53
Barometric Pressure	0.908 atm	Station Temperature	22.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA
DACS make	Focus AP1000	DACS serial No.	45269
DACS voltage range	0 - 1 volt	DACS channel #	5
	Before		After
Calculated slope	1.012229	Calculated slope	0.919625
Calculated intercept	1.844316	Calculated intercept	-0.726959
Analyzer make	Teco 49C	Analyzer serial #	49C-76443-383

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-0.90	ppb	-0.20	ppb
slope	1.056		1.020	
Lamp temp	71	mV	56.2	mV
Lamp Intensity A/B	71455/70790	mV	71405/70750	mV
Pressure	645	mm Hg	692	mm Hg
Flow A	714	ccm	744	ccm
Flow B	666	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	159.4	174.1	0.9156
4990	0.00	102.5	111.2	0.9221
4990	0.00	46.9	54.1	0.8667
4990	0.00	0.0	0.0	As found zero
4990	0.00	159.4	174.1	As found span
			Average Correction Factor	0.9015

Calculated value of As Found Response: 174.1 ppm Percent Change of As Found: 9.2%

	before calibration		after calibration	
Auto zero	-0.2	ppb	-0.2	ppb
Auto span	124.8	ppb	115.8	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter	O3
Air Monitoring Network	PASZA

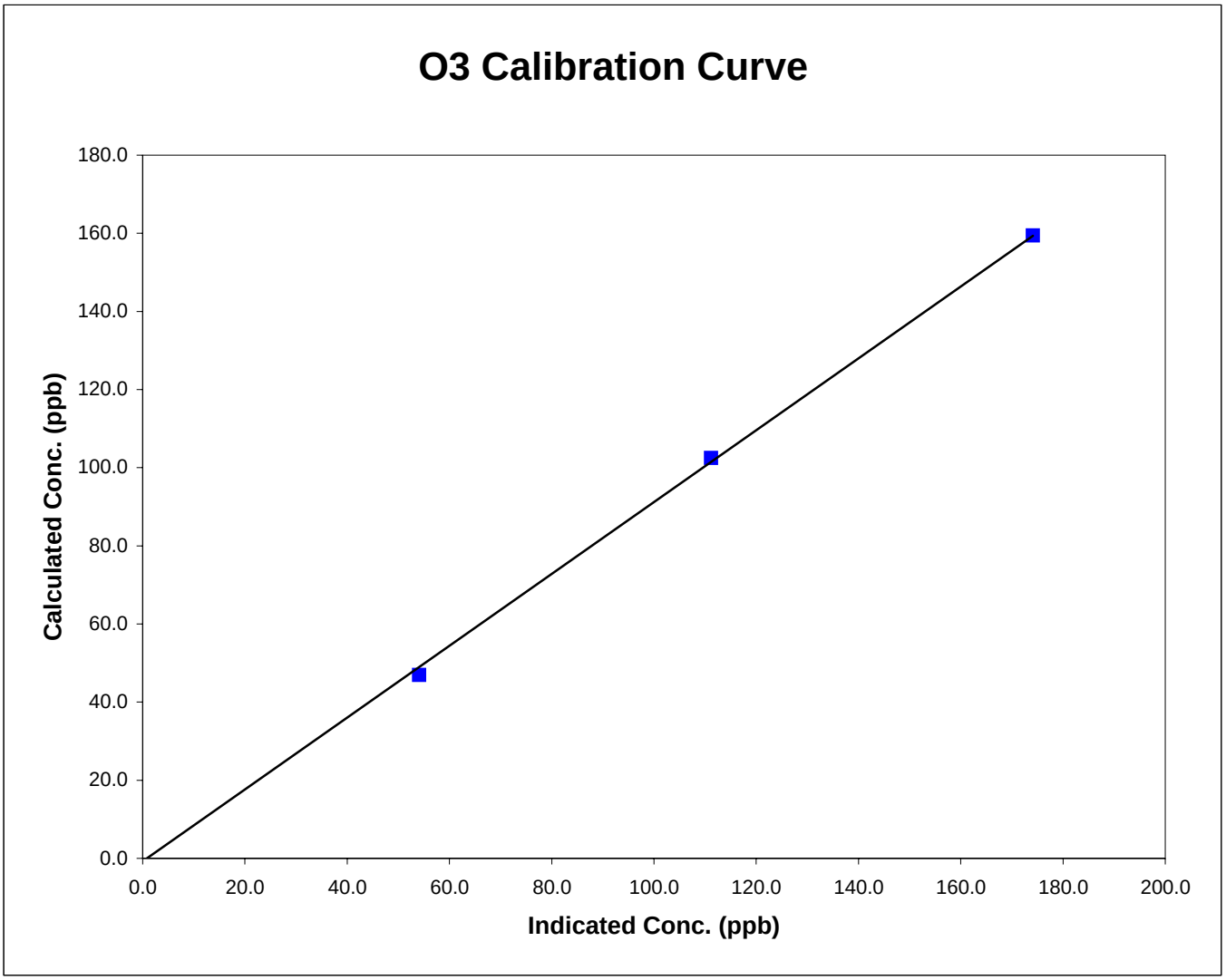
FOCUS AIR QUALITY MONITORING

Station Information

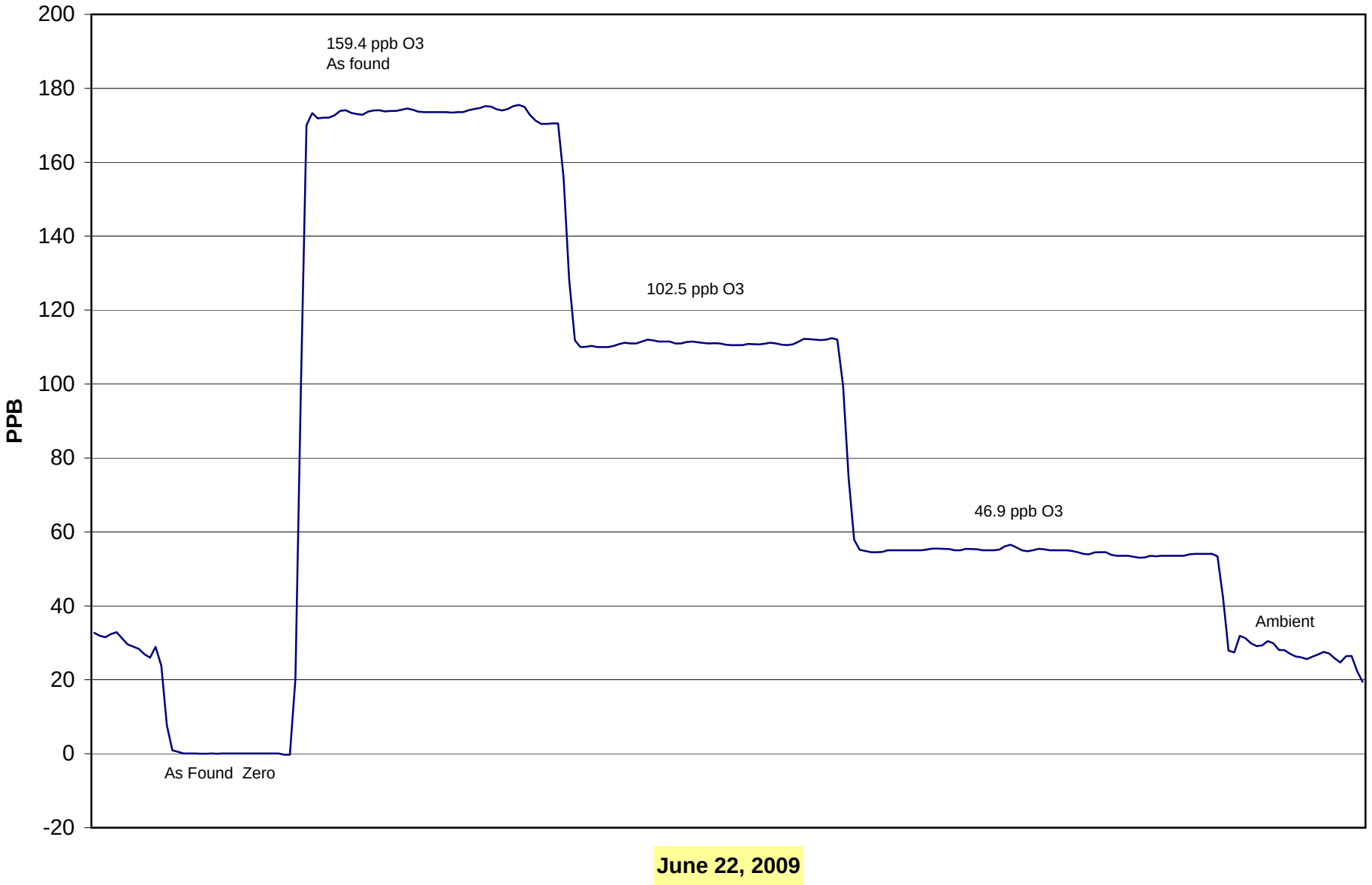
Calibration Date	June 22, 2009	Previous Calibration	May 21, 2009
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	15:00:00 PM	End Time (MST)	16:53
Analyzer make/model	Teco 49C	Analyzer serial #	49C-76443-383

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.4	NA		
159.4	174.1	0.9156	Correlation Coefficient	0.999524
102.5	111.2	0.9221		
46.9	54.1	0.8667	Slope	0.919625
			Intercept	-0.726959



Beaverlodge O_3 Calibration



Calibration Report

Parameter **O3**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 26, 2009	Previous Calibration	June 22, 2009
Station Number	4	Station Location	Beaverlodge

Reason: Routine | Install | Removal | Other:

Start Time (MST)	18:00	End Time (MST)	19:57
Barometric Pressure	0.913 atm	Station Temperature	22.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA
DACS make	Focus AP1000	DACS serial No.	45269
DACS voltage range	0 - 1 volt	DACS channel #	5
	Before		After
Calculated slope	1.097799	Calculated slope	0.981590
Calculated intercept	2.975036	Calculated intercept	1.049595
Analyzer make	Teco 49C	Analyzer serial #	49C-76443-383

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-0.20	ppb	-0.20	ppb
slope	1.020		1.020	
Lamp temp	56.2	mV	56.2	mV
Lamp Intensity A/B	71405/70750	mV	71405/70750	mV
Pressure	692	mm Hg	692	mm Hg
Flow A	744	ccm	744	ccm
Flow B	695	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	188.0	192.0	0.9793
4990	0.00	125.7	124.5	1.0099
4990	0.00	65.5	66.0	0.9923
			-0.4	
4990	0.00	0.0	0.3	As found zero
4990	0.00	192.0	205.8	As found span
			Average Correction Factor	0.9938

Calculated value of As Found Response: 192.1 ppm Percent Change of As Found: 0.1%

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

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter	O3
Air Monitoring Network	PASZA

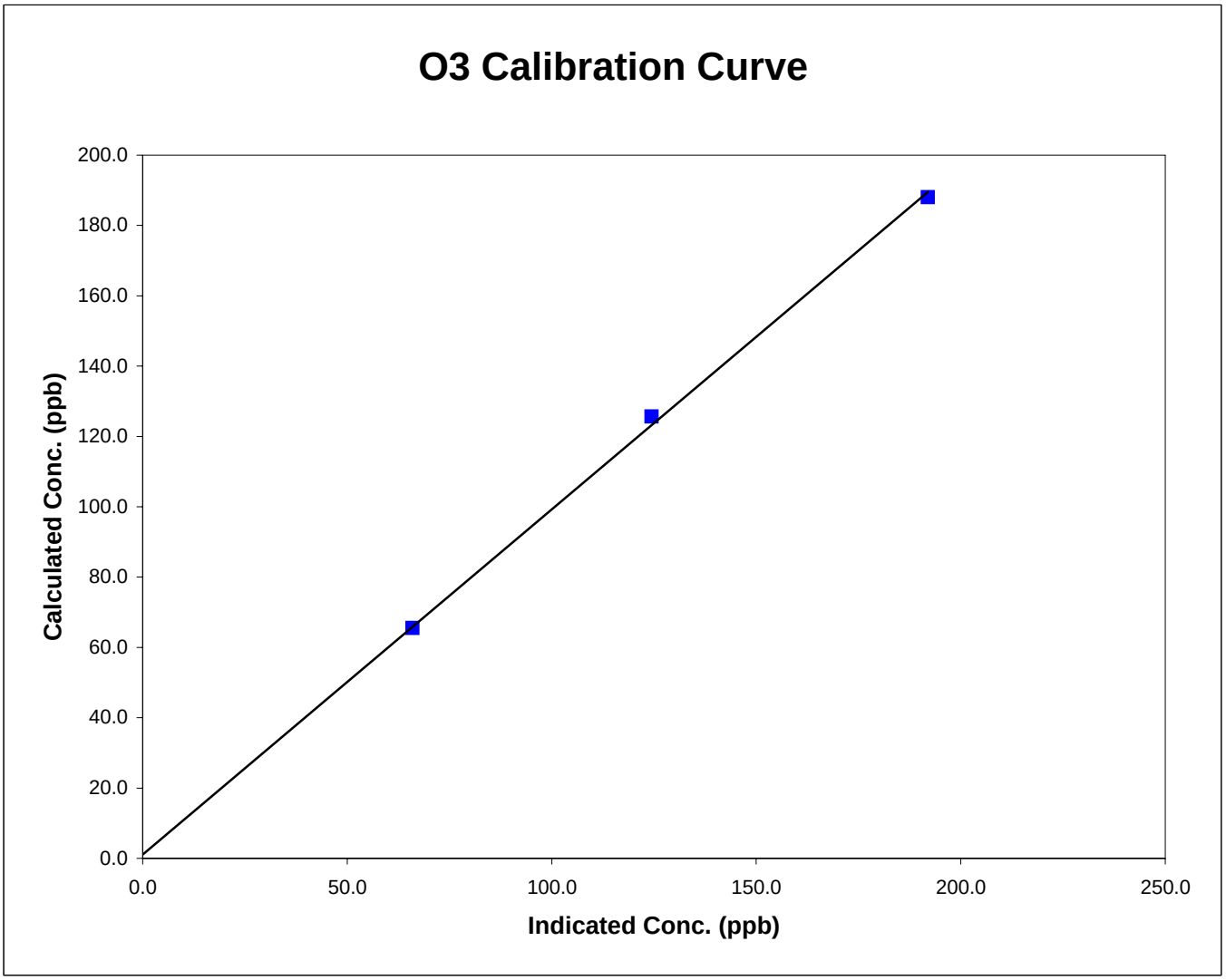
FOCUS AIR QUALITY MONITORING

Station Information

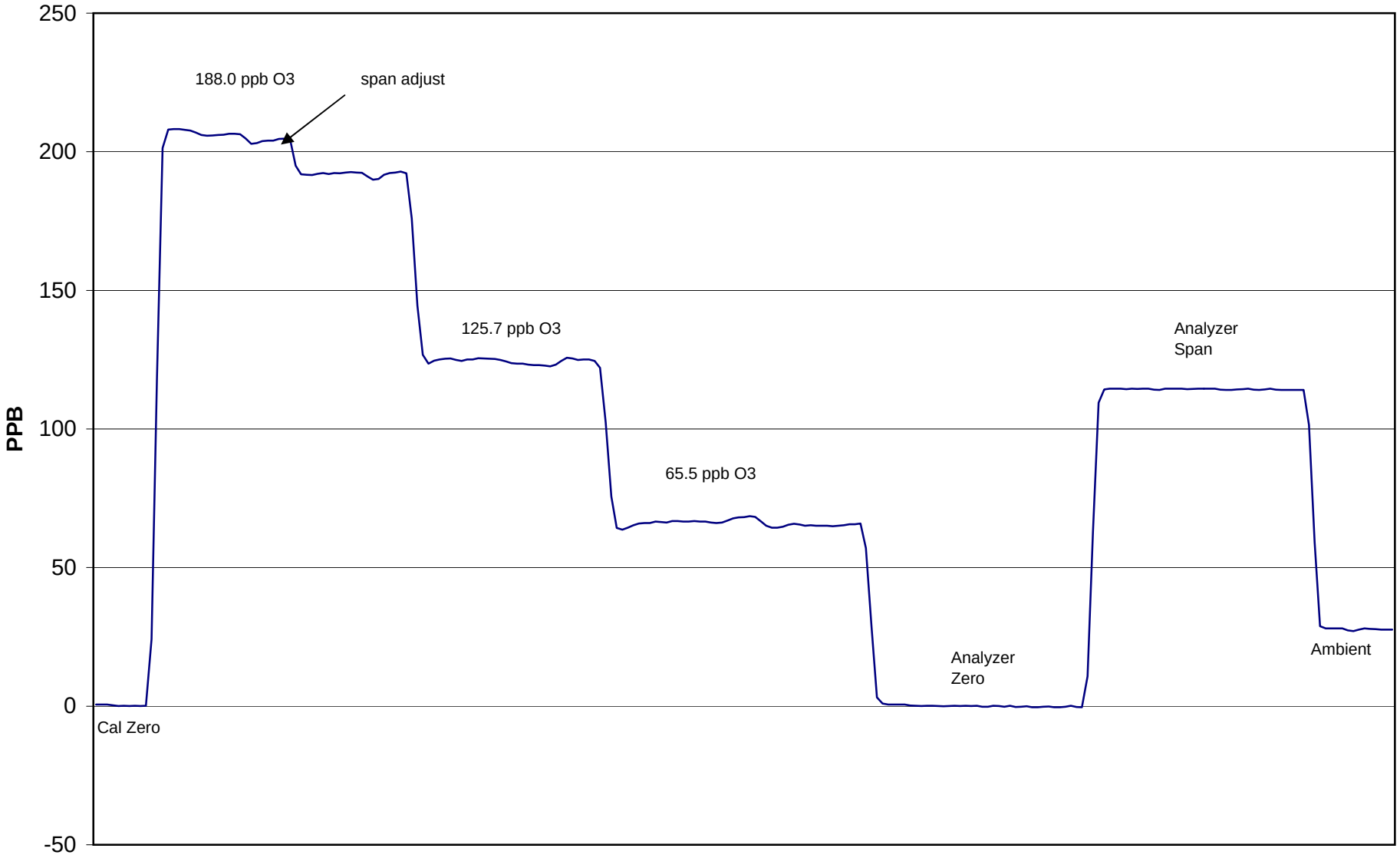
Calibration Date	June 26, 2009	Previous Calibration	June 22, 2009
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	18:00	End Time (MST)	16:53
Analyzer make/model	Teco 49C	Analyzer serial #	49C-76443-383

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.4	NA		
188.0	192.0	0.9793	Correlation Coefficient	0.999545
125.7	124.5	1.0099		
65.5	66.0	0.9923	Slope	0.981590
	-0.4			
			Intercept	1.049595



Beaverlodge O_3 Calibration



June 26, 2009

PERFORMANCE AUDIT
OF
PM 2.5 MONITOR

STATION: Beaverlodge OPERATOR: Grover Christianser DATE: 22-Jun-09

LOCATION: PASZA - Grande Prairie

MONITOR INFO / PARAMETER VALUES:

Make/Model	TEOM AB
Configuration	PM2.5
Serial Number	AMU 1649
Site Number	1
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	
Audit	
Calibration	

PUMP CAPACITY CHECK *	PASS

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

LEAK CHECK	Indicated Flow (lpm)	
	Main	Auxiliary
PUMP ON	0.07	0.3
PUMP OFF	-0.01	-0.01
NET	0.08	0.31
LIMITS	*<0.15*	*<0.65*

	Ambient Temp. (^{0} C)	Ambient Pres. (atm)	Ko *	Bypass flow (lpm)	Sample flow (lpm)
SET POINT (S)	na	na	14287	13.67	3.00
INDICATED (I)	22.0	908	14287	13.67	3.00
MEASURED (M)	23.0	908	14261	13.69	2.999
	(M - I)		(M - S) / S *100		
DIFFERENCE	1.0	0.000	-0.2	0.1	0.0
LIMITS	*± 5 ^{0} C*	*± 0.013 atm*	*± 2.5 %*	*± 10 %*	*± 10 %*

COMMENTS: Pass - Monitor is within limits.

Measured barometric pressure of 920 hPa = .908 converted to atm.

AUDITORS: _____ and _____

PERFORMANCE AUDIT
OF
PM 2.5 MONITOR

STATION: Beaverlodge OPERATOR: Grover Christianser DATE: 27-Jun-09

LOCATION: PASZA - Grande Prairie

MONITOR INFO / PARAMETER VALUES:

Make/Model	TEOM AB
Configuration	PM2.5
Serial Number	AMU 1649
Site Number	1
Inlet Type	PM 10 / SCC
FAdj. Main Setting	1.000
FAdj. Aux. Setting	1.000
T-Case Indicated / Set Point	30/30
T-Air Indicated / Set Point	30/30
T-Cap Indicated / Set Point	30/30
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	
Audit	
Calibration	June 27,2009

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	-0.09	0.28
PUMP OFF	-0.01	-0.01
NET	-0.08	0.29
LIMITS	*<0.15*	*<0.65*

	Ambient Temp. (^{0} C)	Ambient Pres. (atm)	Ko *	Bypass flow (lpm)	Sample flow (lpm)
SET POINT (S)	na	na	14287	13.67	3.00
INDICATED (I)	22.0	913	14287	13.67	3.00
MEASURED (M)	22.0	913	14244	13.69	2.999
	(M - I)		(M - S) / S *100		
DIFFERENCE	0.0	0.000	-0.3	0.1	0.0
LIMITS	*± 5 ^{0} C*	*± 0.013 atm*	*± 2.5 %*	*± 10 %*	*± 10 %*

COMMENTS: Pass - Monitor is within limits.

Measured barometric pressure of 925 hPa = .913 converted to atm.

2009-06-23 : Entire TEOM was transferred to new trailer & FDMS system was added.

2009-06-24: Problems with FDMS software download - Control unit not accepting software.

2009-06-25:Control unit was taken into office again to confirm problem/communications. Solved problem ans re-installed TEOM at site. Allow stabilize overnight.

2009-06-27: Slight problem with leak check proceedure. Faulty fitting was found. Leak check was performed and FDMS TEOM system was re-calibrated.

AUDITORS: _____ and _____

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter	SO2
Air Monitoring Network	PASZA

Station Information

Calibration Date	June 15, 2009	Previous Calibration	May 29, 2009
Station Number	9	Station Location	Rover - Kinuso

Reason: Routine | Install | Removal | Other:

Start Time (MST)	9:00	End Time (MST)	11:35
Barometric Pressure	27.66 inches Hg	Station Temperature	22.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	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	1.001960	Calculated slope	1.003707
Calculated intercept	-2.323805	Calculated intercept	-2.241820

Analyzer make	TEI 43C	Analyzer serial #	609716238	

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	8.5		8.6	
Coefficient	0.871		1.19	
UV Lamp Voltage	804	V	805	V
Chamber Temp	44.5	C	44.6	C
Perm Gas Temp	45	C	45	C
Pressure	674.2	mm Hg	674.1	mm Hg
Sample Flow	0.489	LPM	0.488	LPM
Lamp Intesity	47626	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	203.6	0.9862
4989	9.92	100.4	103.9	0.9661
4988	0.00	0.0	0.0	As found zero
4990	39.89	401.3	400.4	As found span
			Average Correction Factor	0.9844

Calculated value of As Found Response: 398.890 ppm Percent Change of As Found: 0.6%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.3	ppm
Auto span	256.9	ppm	259.0	ppm

Notes: Internal Pump Replaced

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter	SO2
Air Monitoring Network	PASZA

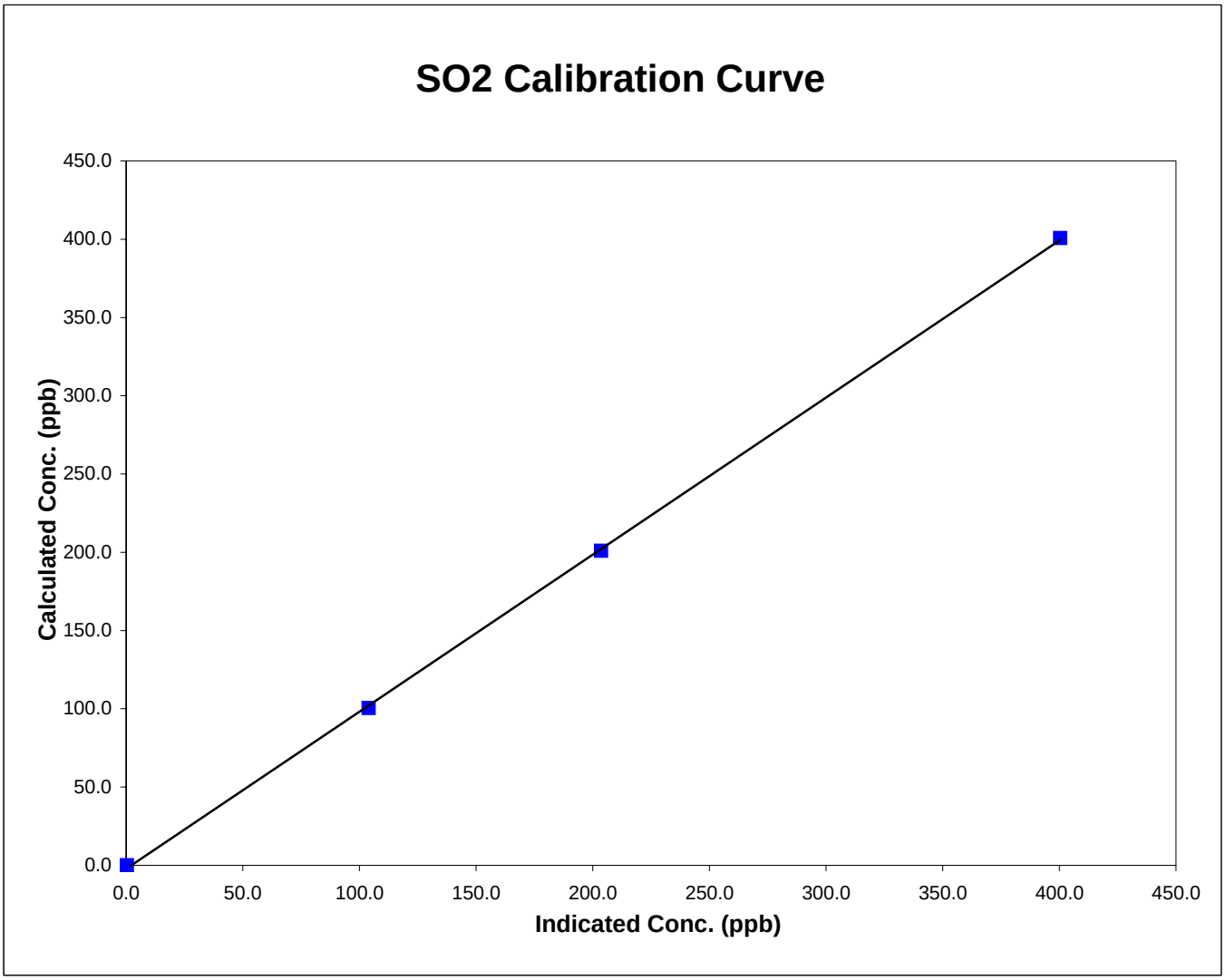
FOCUS AIR QUALITY MONITORING

Station Information

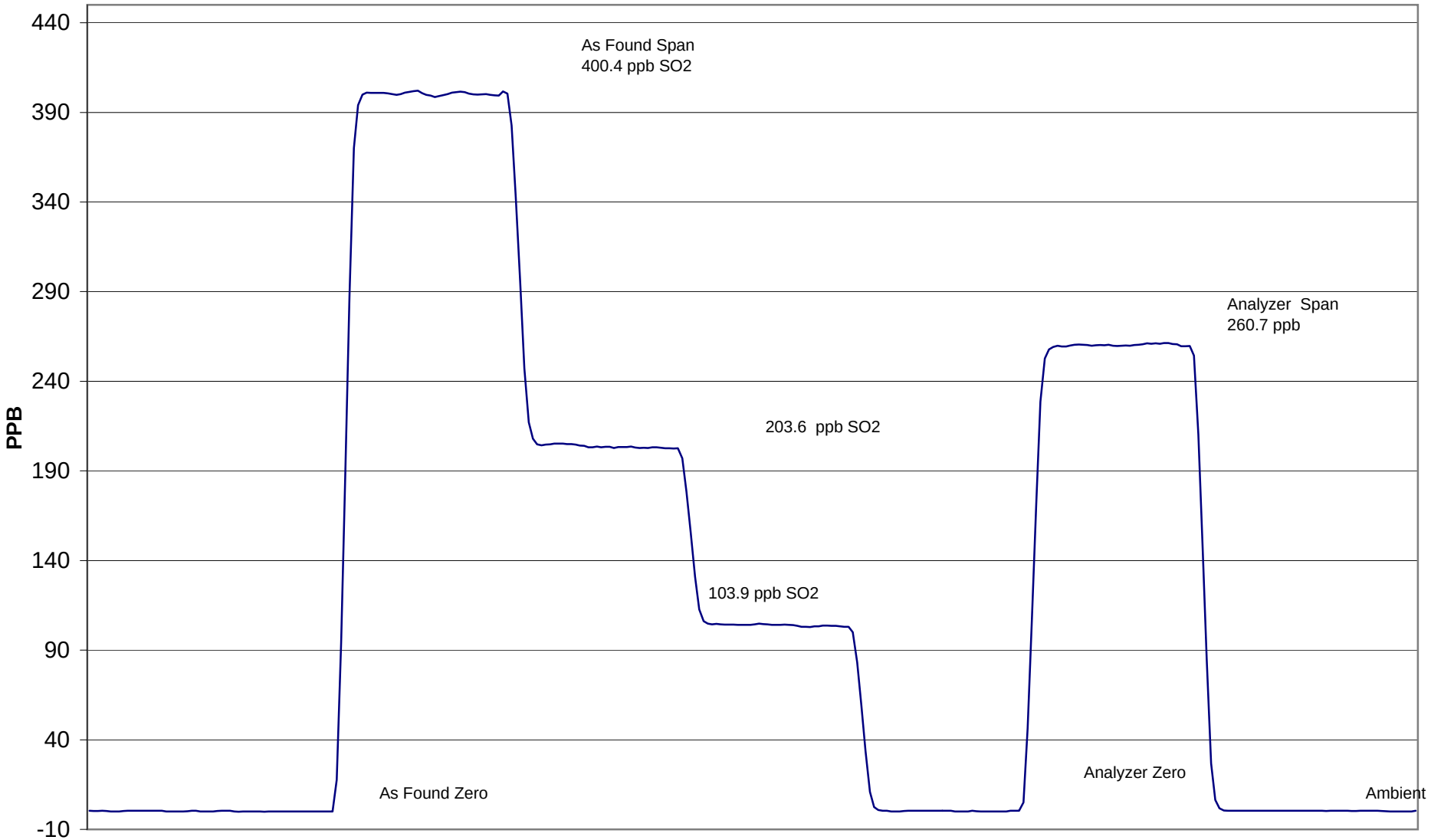
Calibration Date	June 15, 2009	Previous Calibration	May 29, 2009
Station Number	9	Station Location	Rover - Kinuso
Start Time (MST)	9:00	End Time (MST)	11:35
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

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	0.999895
200.8	203.6	0.9862		
100.4	103.9	0.9661	Slope	1.003707
			Intercept	-2.241820



Kinuso SO_2 Calibration



June 15, 2009

Calibration Report

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

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 15, 2009	Previous Calibration	May 29, 2009
Station Number	9	Station Location	Rover-Kinuso
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	13:36	End Time (MST)	16:07
Barometric Pressure	27.5 inches Hg	Station Temperature	21.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	5.1 ppm	Cal Gas Expiry Date	11/15/2005
Gas Cert Reference	ALM013295		
DACS make	Focus AP1000	DACS serial No.	52662
DACS voltage range	0 - 5 volt	DACS channel #	8
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.996274	Calculated slope	0.997714
Calculated intercept	0.137845	Calculated intercept	0.000046
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	1.430		1.454	
Lamp Voltage	793	V	798	V
Chamber Temp	43.6	C	44.0	C
Perm gas Temp	45.	C	45	C
Pressure	660	mmHg	660	mmHg
Sample Flow	438	ccm	436	ccm
Lamp Intensity	39393.0	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	40.1	1.0069
4988	9.92	10.1	10.0	1.0100
4988	0.00	0.0	-0.7	As found zero
4988	79.88	80.4	79.0	As found span
			Average Correction Factor	1.0041

Calculated value of As Found Response: 79.63 ppm Percent Change of As Found: 0.9%

	before calibration		after calibration	
Auto zero	-0.6	ppm	-0.7	ppm
Auto span	66.6	ppm	67.5	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter	TRS
Air Monitoring Network	PASZA

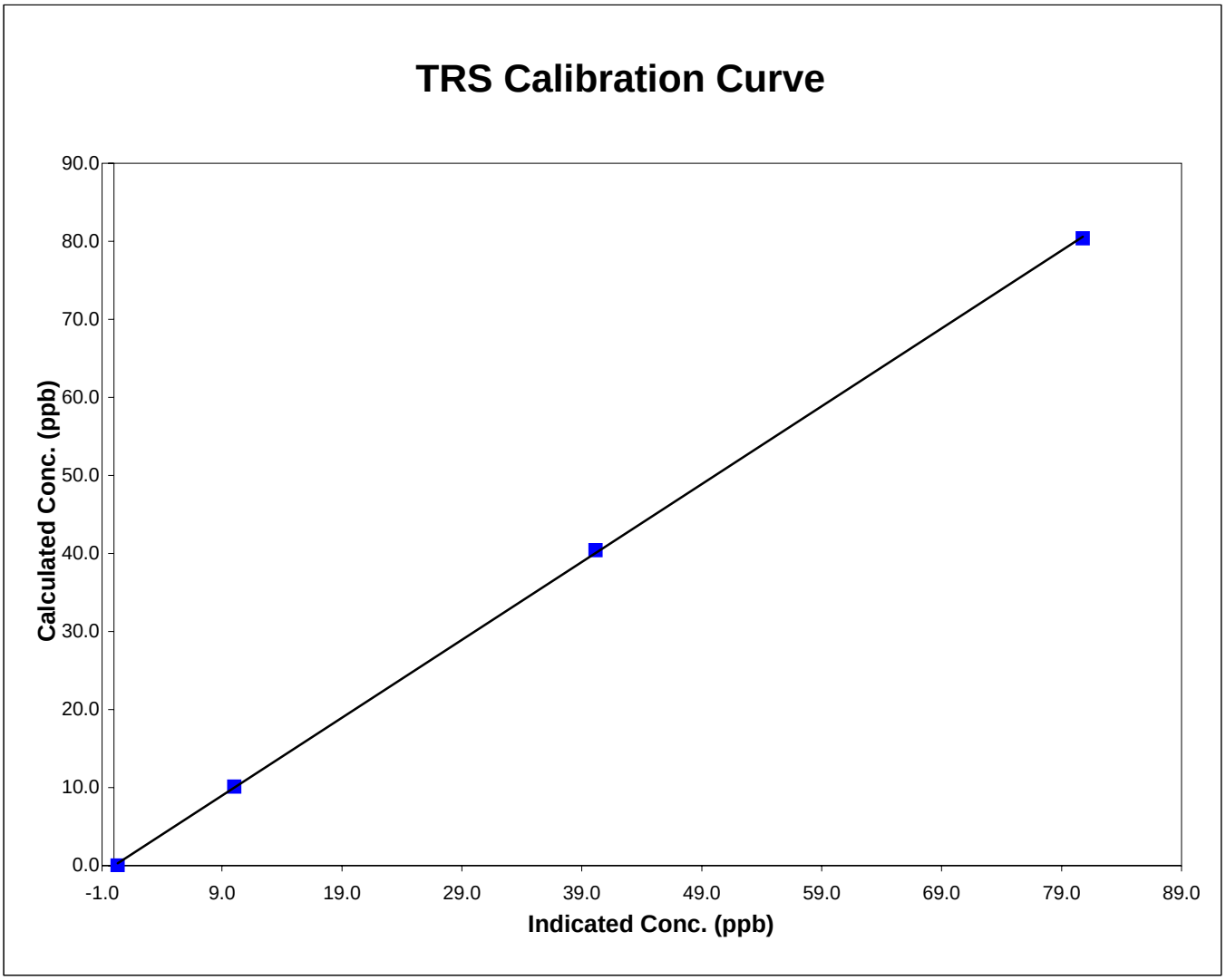
FOCUS AIR QUALITY MONITORING

Station Information

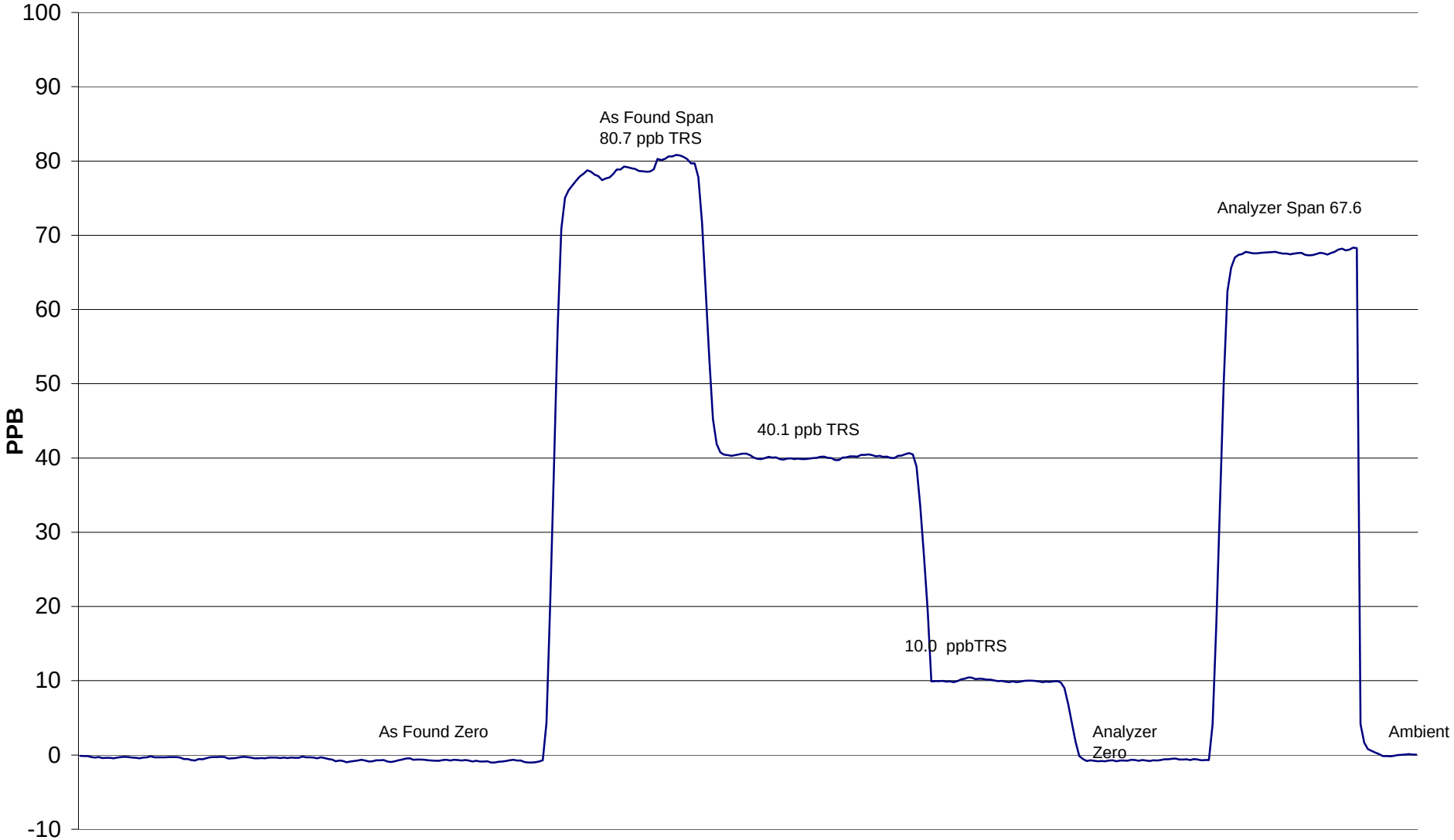
Calibration Date	June 15, 2009	Previous Calibration	May 29, 2009
Station Number	9	Station Location	Rover-Kinuso
Start Time (MST)	13:36	End Time (MST)	16:07
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

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	0.999929
40.4	40.1	1.0069		
10.1	10.0	1.0100	Slope	0.997714
			Intercept	0.000046



Kinuso TRS Calibration



June 15, 2009

Calibration Report

Parameter	NO_X-NO-NO_2
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 15, 2009	Previous Calibration	May 29,2009
Station Number	9	Station Location	Rover Kinuso

Reason: Routine | Installation | Removal | Other:

Start Time (MST)	9:00		End Time (MST)	13:05	
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	0.991466	0.996973	1.003918
	Data Offset	0.714035	-2.839568	-3.362070
After	Data Slope	0.983901	1.001720	1.005489
	Data Offset	1.046171	-3.310080	-3.630937
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	4.7	mV
NOx bkgnd	4.8	mV	4.9	mV
NO coefficient	0.843		0.857	
NOx coefficient	1.000		0.996	
NO2 conv temp	324.7	Deg C	326.3	Deg C
PMT Temp	-2.9	Deg C	-2.7	Deg C
PMT Volt	-829.5	mV	-830.0	mV
R Cell Press	151.8	in Hg	151.2	in Hg

Calibration Report

Parameter	**$NOx\text{-}NO\text{-}NO_2$**
Air Monitoring Network	**PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: June 15, 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	393.7	392.6	-0.5	0.9983	1.0012
2	4988	19.87	196.8	196.8	0.0	202.4	201.7	-1.1	0.9726	0.9758
3	4988	9.91	98.3	98.3	0.0	103.9	104.2	-0.9	0.9463	0.9442
AFZ	4988	0.00	0.0	0.0	0.0	0.2	0.5	-0.7	0.0000	0.0000
AFS	4988	39.84	393.0	393.0	0.0	391.7	388.7	0.0	1.0033	1.0111
							Average Correction Factor		0.9724	0.9737

As Found Concentrations: NO_X= 388.6 NO= 384.9 As Found Percent Change NO_X= -1.1% NO= -2.1%

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	0.5	0.5	0.0	0.2	0.5	-0.7	N/A	N/A	N/A	N/A
NO point	392.8	392.8	0.0	394.6	392.8	-1.1	0.9955	1.0000	N/A	N/A
300	392.8	233.1	159.7	397.3	233.1	161.7	0.9887	1.0000	0.9876	101.3%
200	392.8	285.9	107.0	395.5	285.9	107.1	0.9931	1.0000	0.9984	100.2%
100	392.8	338.3	54.5	395.0	338.3	54.0	0.9944	1.0000	1.0092	99.1%
					Average Correction Factor		0.9921	1.0000	0.9984	100.2%

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

FOCUS AIR QUALITY MONITORING

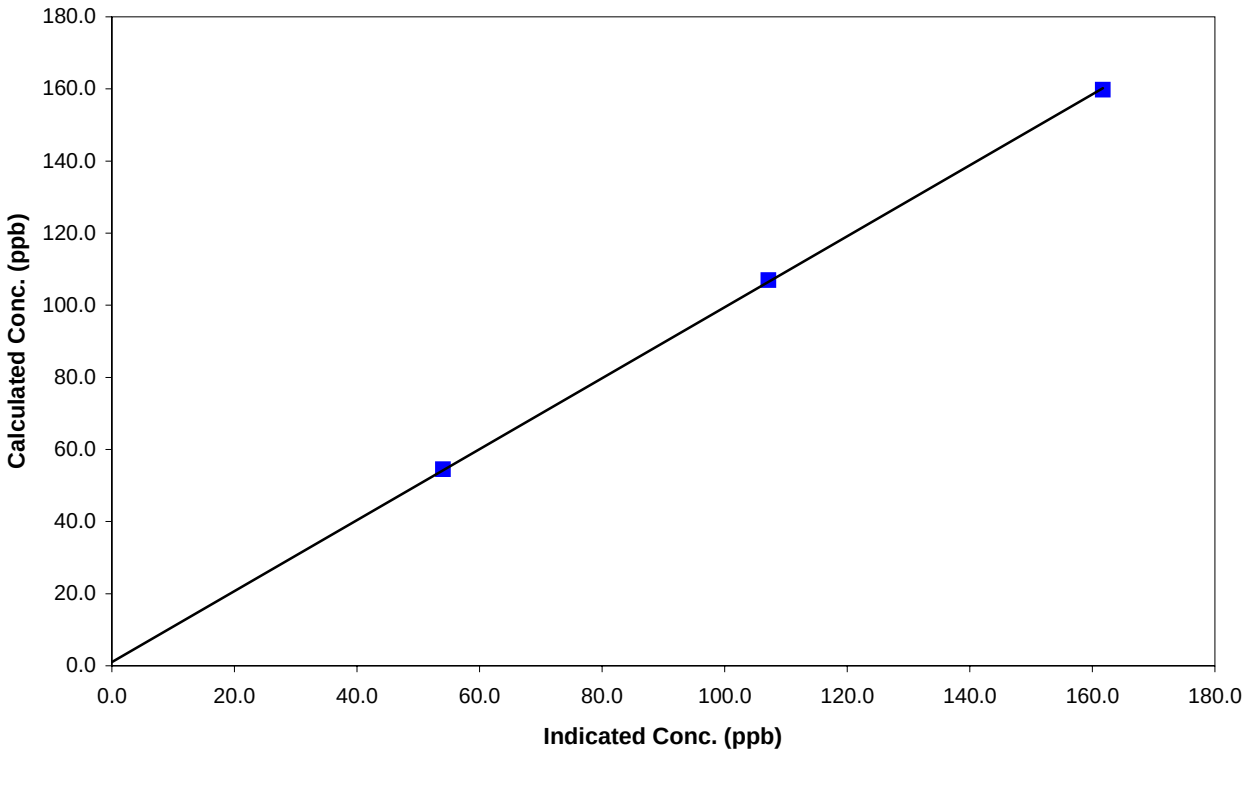
Station Information

Calibration Date	June 15, 2009	Previous Calibration	May 29,2009
Station Number	9	Station Location	Rover Kinuso
Start Time (MST)	9:00	End Time (MST)	13:05
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		
159.7	161.7	0.9876	Correlation Coefficient	0.999950
107.0	107.1	0.9984		
54.5	54.0	1.0092	Slope	0.983901
			Intercept	1.046171

NO_2 Calibration Curve



Calibration Summary

Parameter	NO_x
Air Monitoring Network	PASZA

FOCUS AIR QUALITY MONITORING

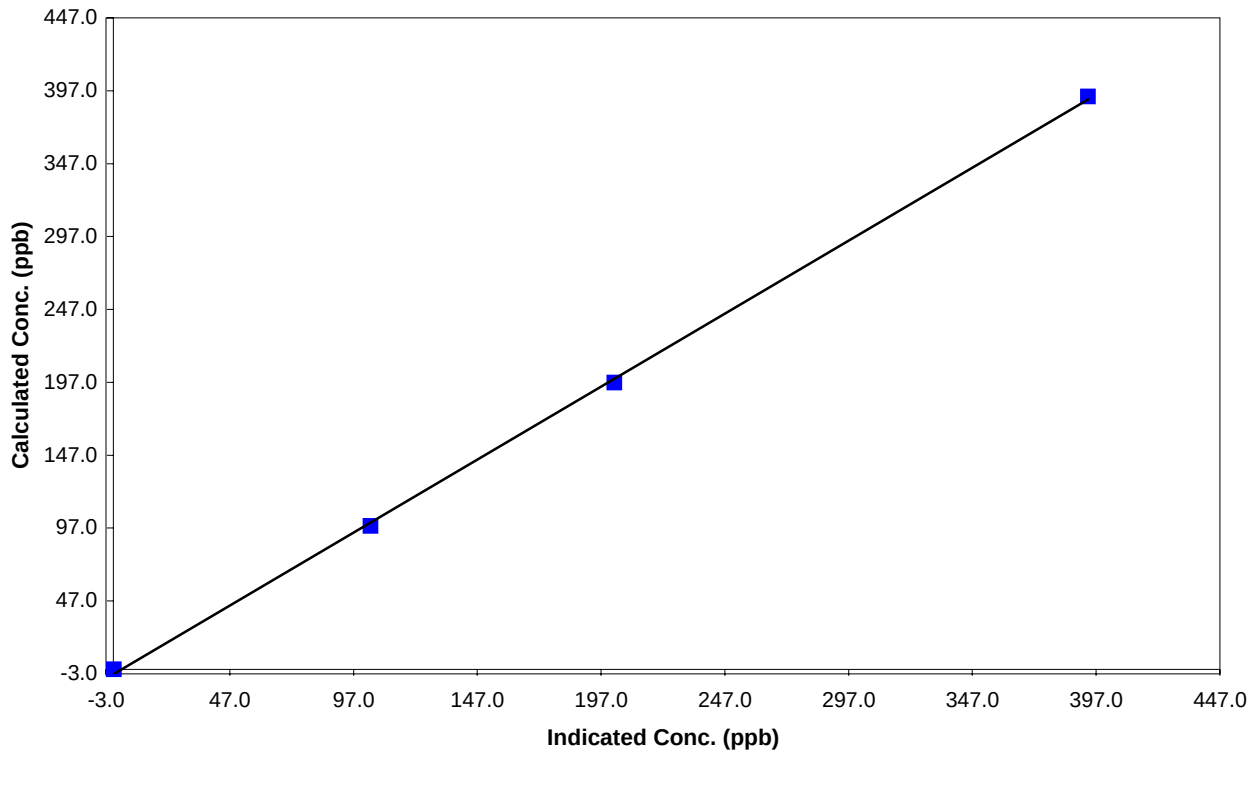
Station Information

Calibration Date	June 15, 2009	Previous Calibration	May 29,2009
Station Number	9	Station Location	Rover Kinuso
Start Time (MST)	9:00	End Time (MST)	13:05
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	393.7	0.9983	Correlation Coefficient	0.999693
196.8	202.4	0.9726		
98.3	103.9	0.9463	Slope	1.001720
			Intercept	-3.310080

NOx Calibration Curve



Calibration Summary

Parameter	**NO**
Air Monitoring Network	**PASZA**

FOCUS AIR QUALITY MONITORING

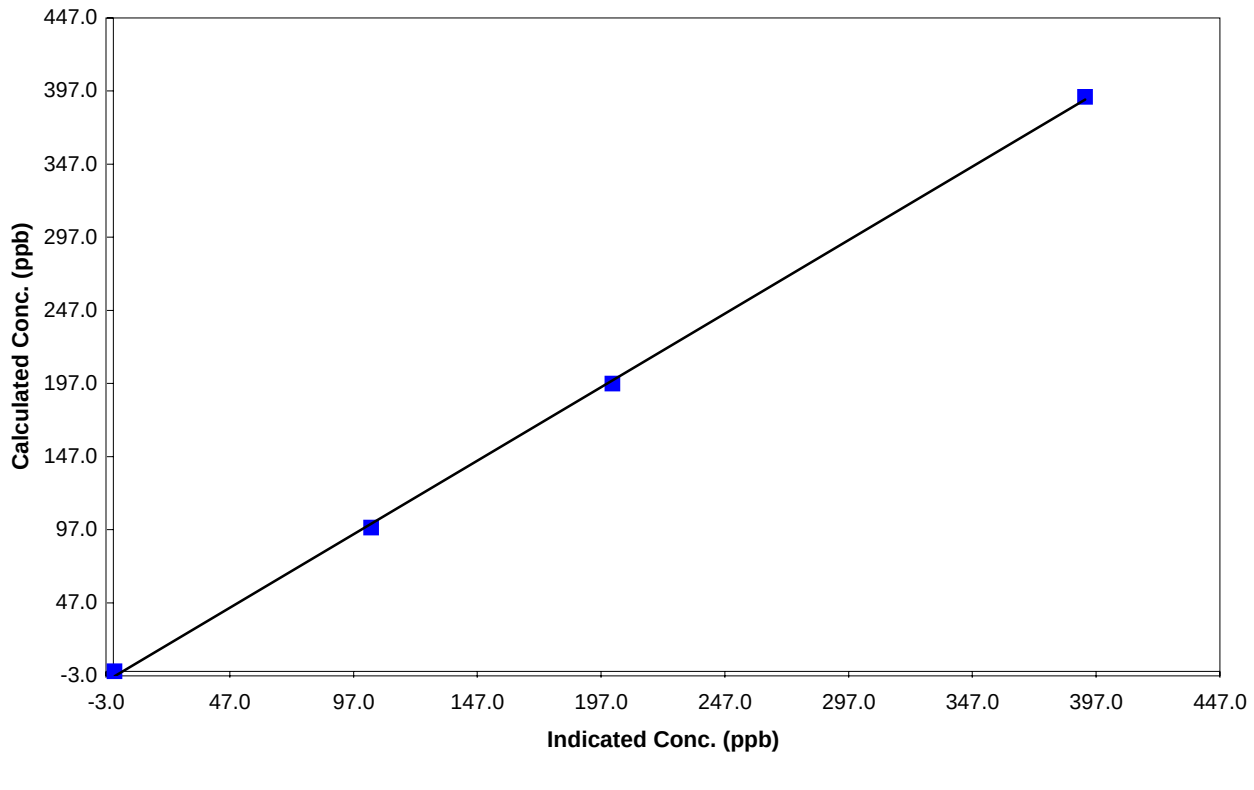
Station Information

Calibration Date	June 15, 2009	Previous Calibration	May 29,2009
Station Number	9	Station Location	Rover Kinuso
Start Time (MST)	9:00	End Time (MST)	13:05
Analyzer make	TEI 42i	Analyzer serial #	701120011

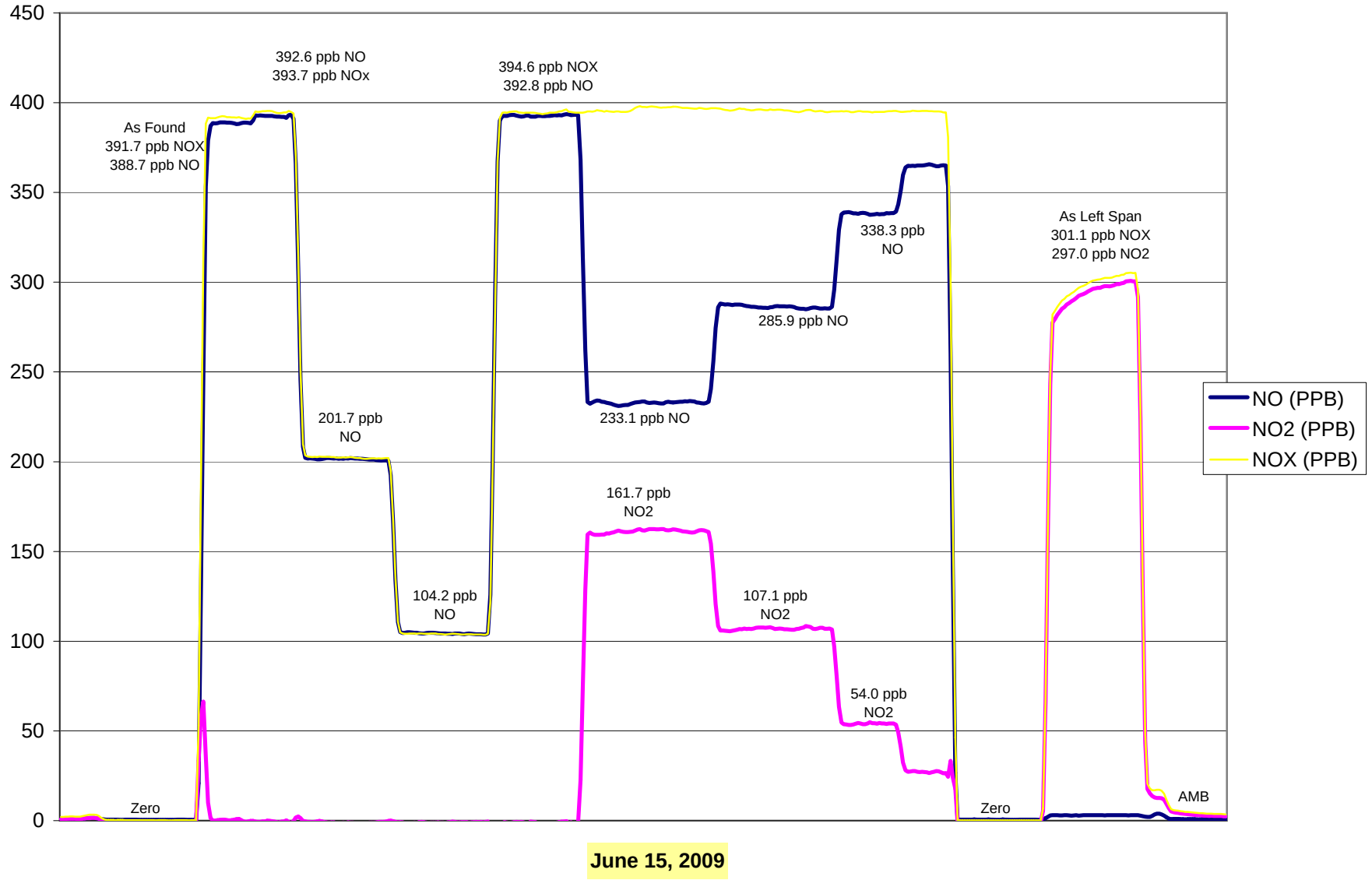
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.5	N/A		
393.0	392.6	1.0012	Correlation Coefficient	0.999682
196.8	201.7	0.9758		
98.3	104.2	0.9442	Slope	1.005489
			Intercept	-3.630937

NO Calibration Curve



Kinuso NO_X Calibration



June 15, 2009

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **O3**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	June 15, 2009	Previous Calibration	May 29, 2009
Station Number	9	Station Location	Rover - Kinuso

Reason: Routine | Install | Removal | Other:

Start Time (MST)	11:56	End Time (MST)	14:40
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	0.993380	Calculated slope	1.003319
Calculated intercept	0.869571	Calculated intercept	-0.361440

Analyzer make	TEI Model 49C	Analyzer serial #	609-716240

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Offset	-3.9	ppb	-4	ppb
Span	1.49		1.49	
Cell A	94205	Hz	94742	Hz
Cell B	104846	Hz	104322	Hz
Pressure	696	in Hg	698	in Hg
CellA Flow	728	ccm	728	ccm
Cell B Flow	715	cmm	715	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	161.7	161.6	1.0003
4990	0.00	107.1	106.5	1.0057
4990	0.00	54.0	55.0	0.9816
4990	0.00	0.0	0.4	As found zero
4990	0.00	161.7	155.5	As found span
			Average Correction Factor	0.9959

Calculated value of As Found Response: 154.9 ppm Percent Change of As Found: -4.2%

	before calibration		after calibration	
Auto zero	-1.1	ppb	0.3	ppb
Auto span	234.0	ppb	294.5	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter	O3
Air Monitoring Network	PASZA

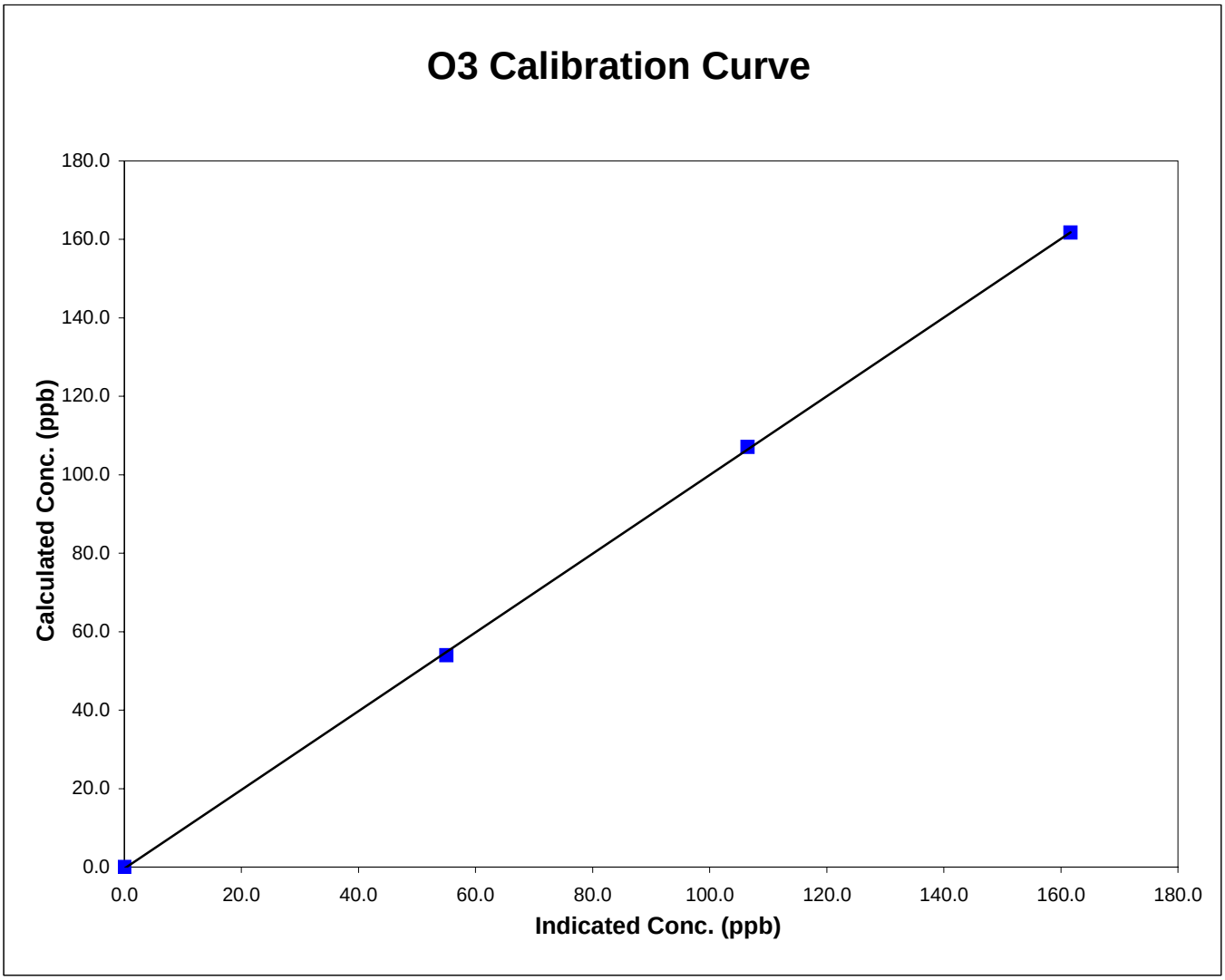
FOCUS AIR QUALITY MONITORING

Station Information

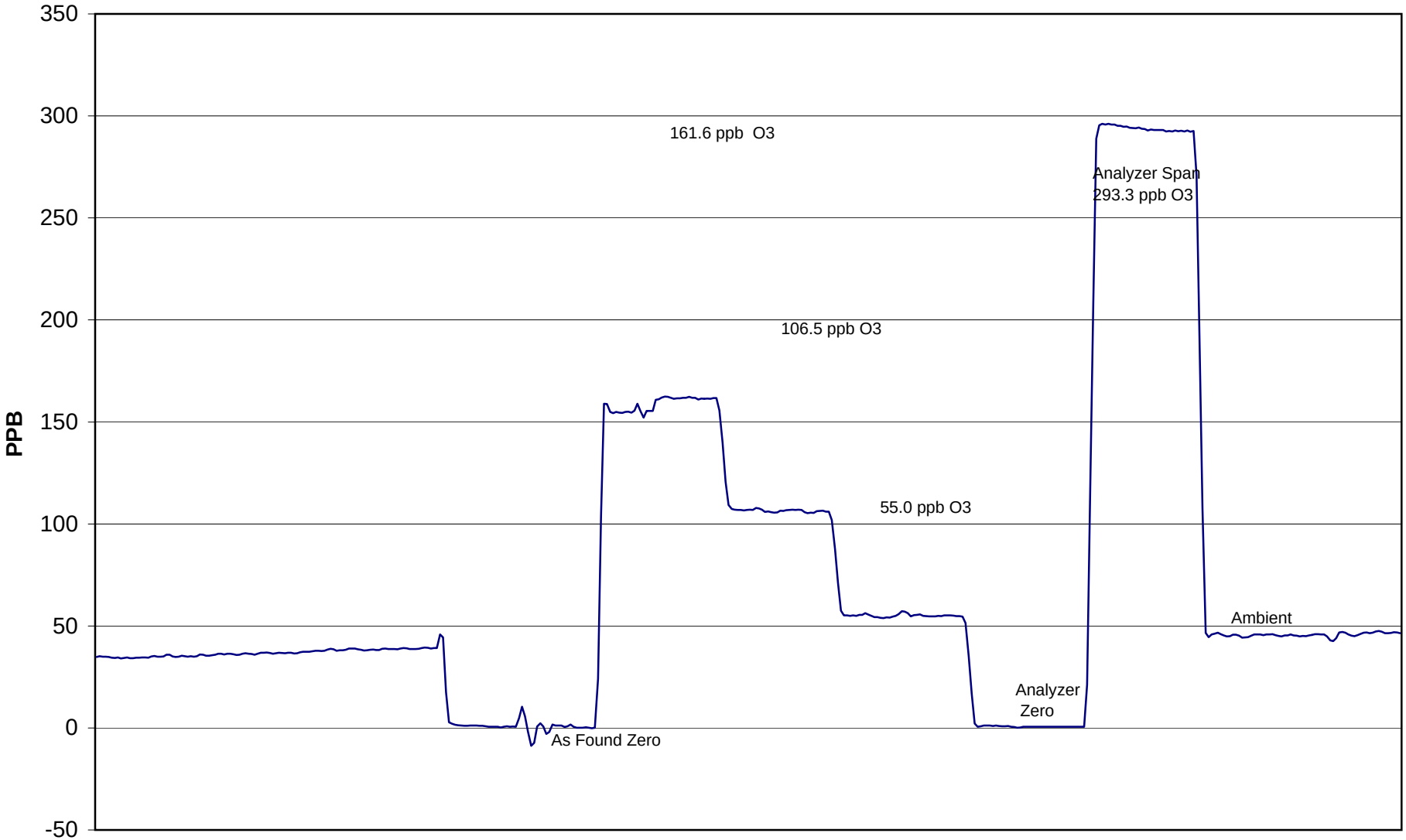
Calibration Date	June 15, 2009	Previous Calibration	May 29, 2009
Station Number	9	Station Location	Rover - Kinuso
Start Time (MST)	11:56	End Time (MST)	14:40
Analyzer make/model	TEI Model 49C	Analyzer serial #	609-716240

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	NA		
161.7	161.6	1.0003	Correlation Coefficient	0.999917
107.1	106.5	1.0057		
54.0	55.0	0.9816	Slope	1.003319
			Intercept	-0.361440



Kinuso O_3 Calibration



June 15, 2009

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter	SO2
Air Monitoring Network	PASZA

Station Information

Calibration Date	June 10, 2009	Previous Calibration	May 15, 2009
Station Number	6	Station Location	Valleyview

Reason: Routine | Install | Removal | Other:

Start Time (MST)	9:30	End Time (MST)	12:38
Barometric Pressure	29.90 inches Hg	Station Temperature	25.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	50.6 ppm	Cal Gas Cert Date	12/3/2009
Gas Cert Reference	AAL 56996		
DACS make	Focus AP1000	DACS serial No.	45274
DACS voltage range	0 - 10 volt	DACS channel #	4
	Before		After
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.000417	Calculated slope	0.985961
Calculated intercept	-2.155050	Calculated intercept	-1.953631

Analyzer make	TEI 45C		Analyzer serial #	43C-57531-313

	before		after	
Concentration range	0 - 1000	ppb	0 - 1000	ppb
Background	28.5		28.3	
Coefficient	0.729		0.729	
UV Lamp Voltage	698	LPM	698	LPM
Chamber Temp	44	V	44.2	V
Perm Gas Temp	35	C	35.1	C
Pressure	620.9	in Hg	620.9	in Hg
Sample Flow	0.47	LPM	0.471	LPM
Lamp Intesity	45415	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	407.7	0.9831
4988	19.92	201.3	206.6	0.9740
4988	9.90	100.2	105.8	0.9478
4988	0.00	0.0	0.2	As found zero
4988	39.88	401.3	407.7	As found span
			Average Correction Factor	0.9683

Calculated value of As Found Response: 405.594 ppm Percent Change of As Found: -1.1%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.0	ppm
Auto span	163.9	ppm	163.0	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter	SO2
Air Monitoring Network	PASZA

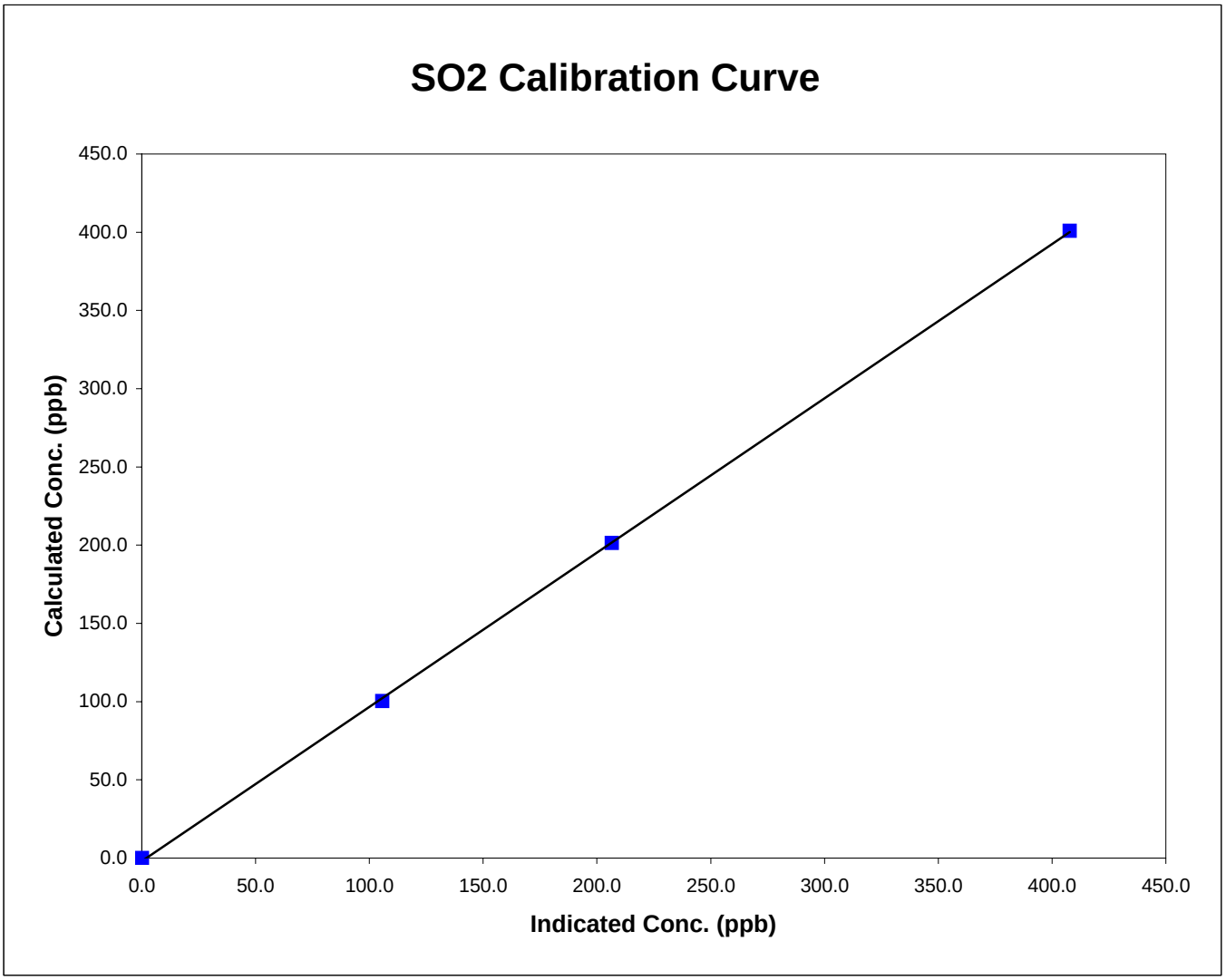
FOCUS AIR QUALITY MONITORING

Station Information

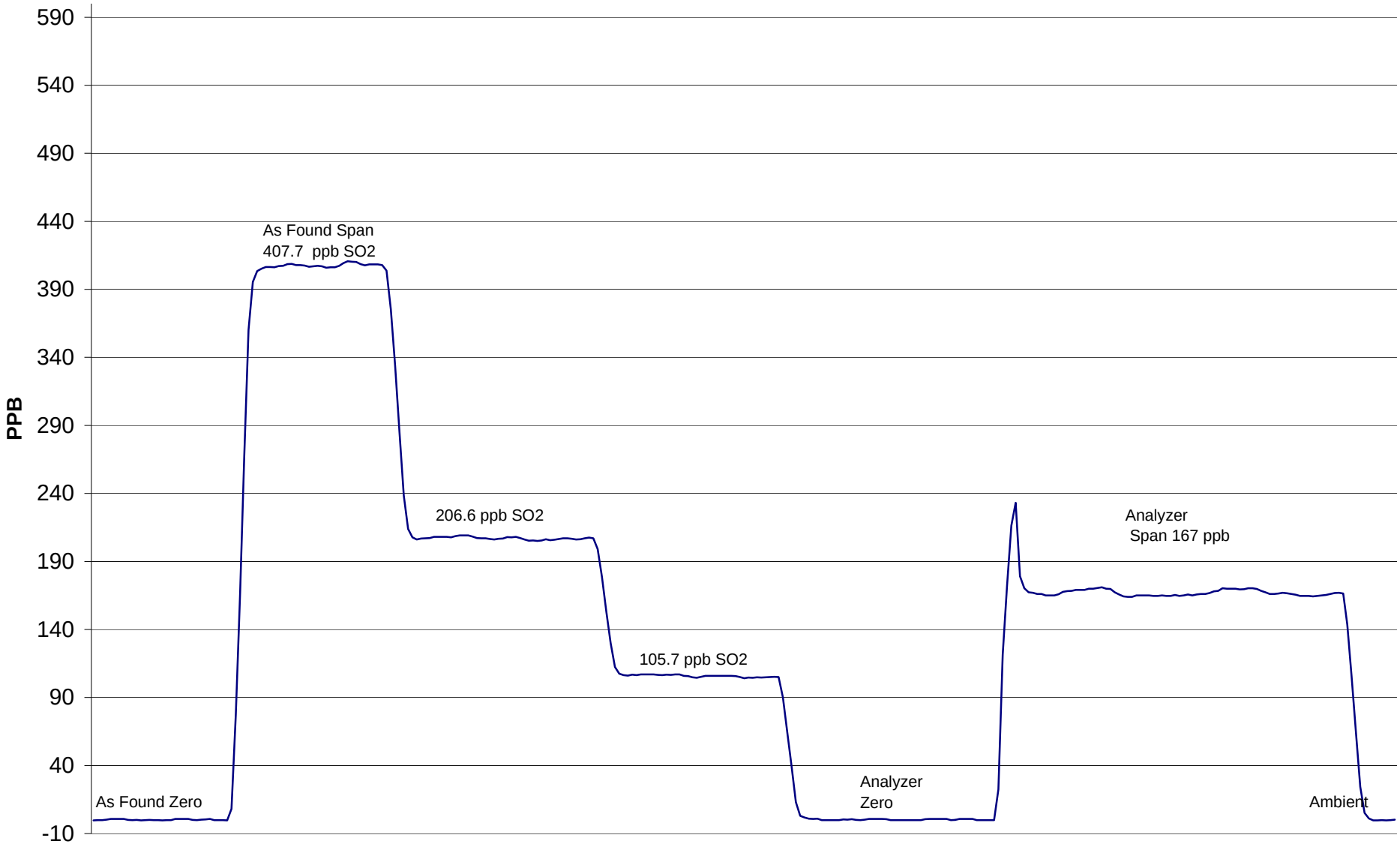
Calibration Date	June 10, 2009	Previous Calibration	May 15, 2009
Station Number	6	Station Location	Valleyview
Start Time (MST)	9:30	End Time (MST)	12:38
Analyzer make/model	TEI 45C	Analyzer serial #	43C-57531-313

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
400.9	407.7	0.9831	Correlation Coefficient	0.999904
201.3	206.6	0.9740		
100.2	105.8	0.9478	Slope	0.985961
			Intercept	-1.953631



Valleyview SO_2 Calibration



Calibration Report

Parameter **H2S**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 10, 2009	Previous Calibration	May 15, 2009
Station Number	5	Station Location	Valleyview

Reason: Routine | Install | Removal | Other:

Start Time (MST)	11:30	End Time (MST)	14:44
Barometric Pressure	27.16 inches Hg	Station Temperature	23.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	5.1 ppm	Cal Gas Expiry Date	4/4/2009
Gas Cert Reference	ALM013295		
DACS make	Focus AP1000	DACS serial No.	1
DACS voltage range	0 - 10 volt	DACS channel #	9
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.011353	Calculated slope	0.998451
Calculated intercept	-0.314377	Calculated intercept	-0.202442

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	791	V	791	V
Chamber Temp	45.1	c	45	c
Perm Oven Temp	44.30	c	45	c
Pressure	636	mm Hg	638	mm Hg
Sample Flow	458	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	40.4	1.0009
4988	9.93	10.1	10.5	0.9641
4988	0.00	0.0	0.0	As found zero
4988	79.81	80.3	80.4	As found span
			Average Correction Factor	0.9865

Calculated value of As Found Response: 81.07 ppm Percent Change of As Found: -0.9%

	before calibration		after calibration	
Auto zero	0.1	ppm	-0.1	ppm
Auto span	67.4	ppm	62.3	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter	H2S
Air Monitoring Network	PASZA

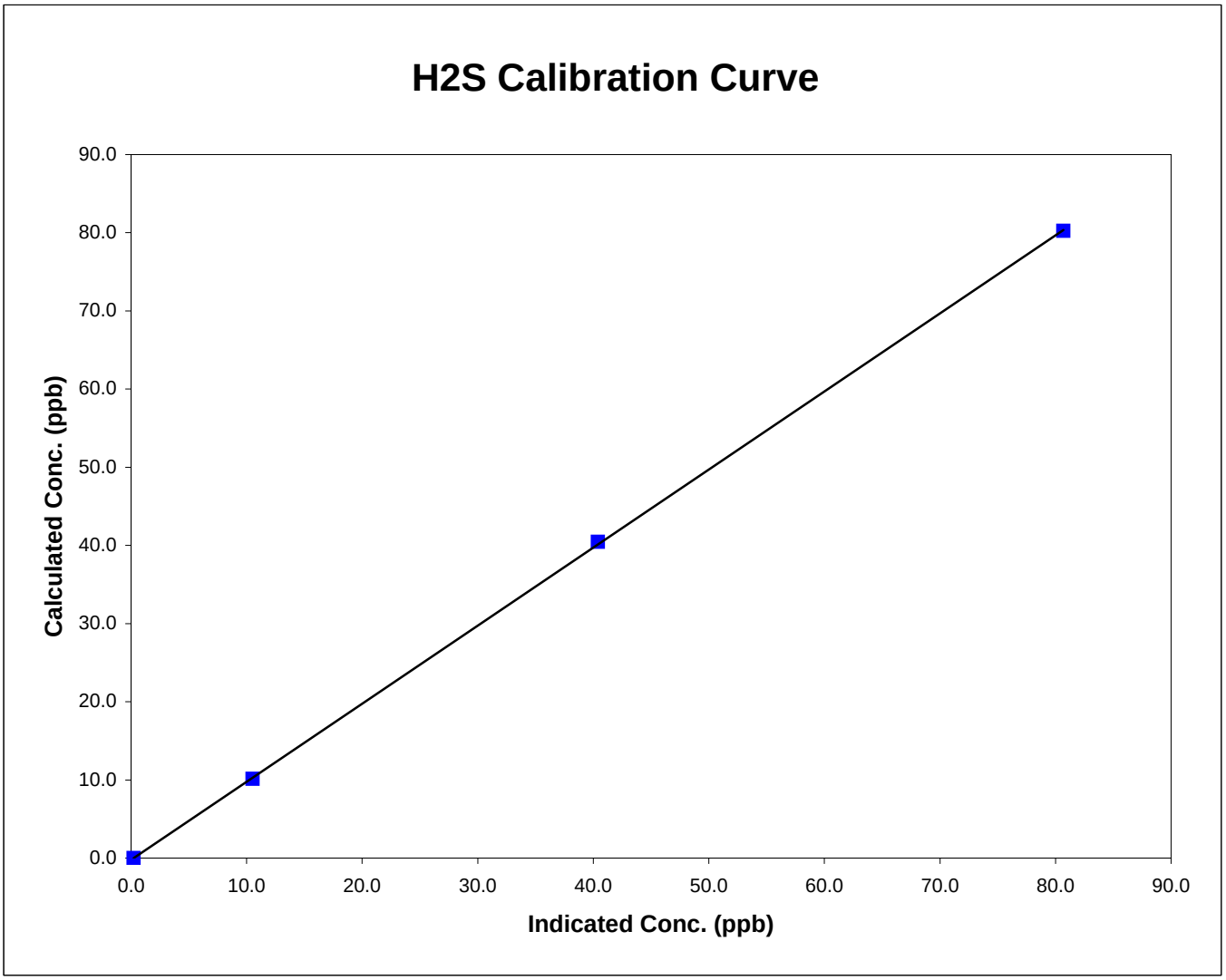
FOCUS AIR QUALITY MONITORING

Station Information

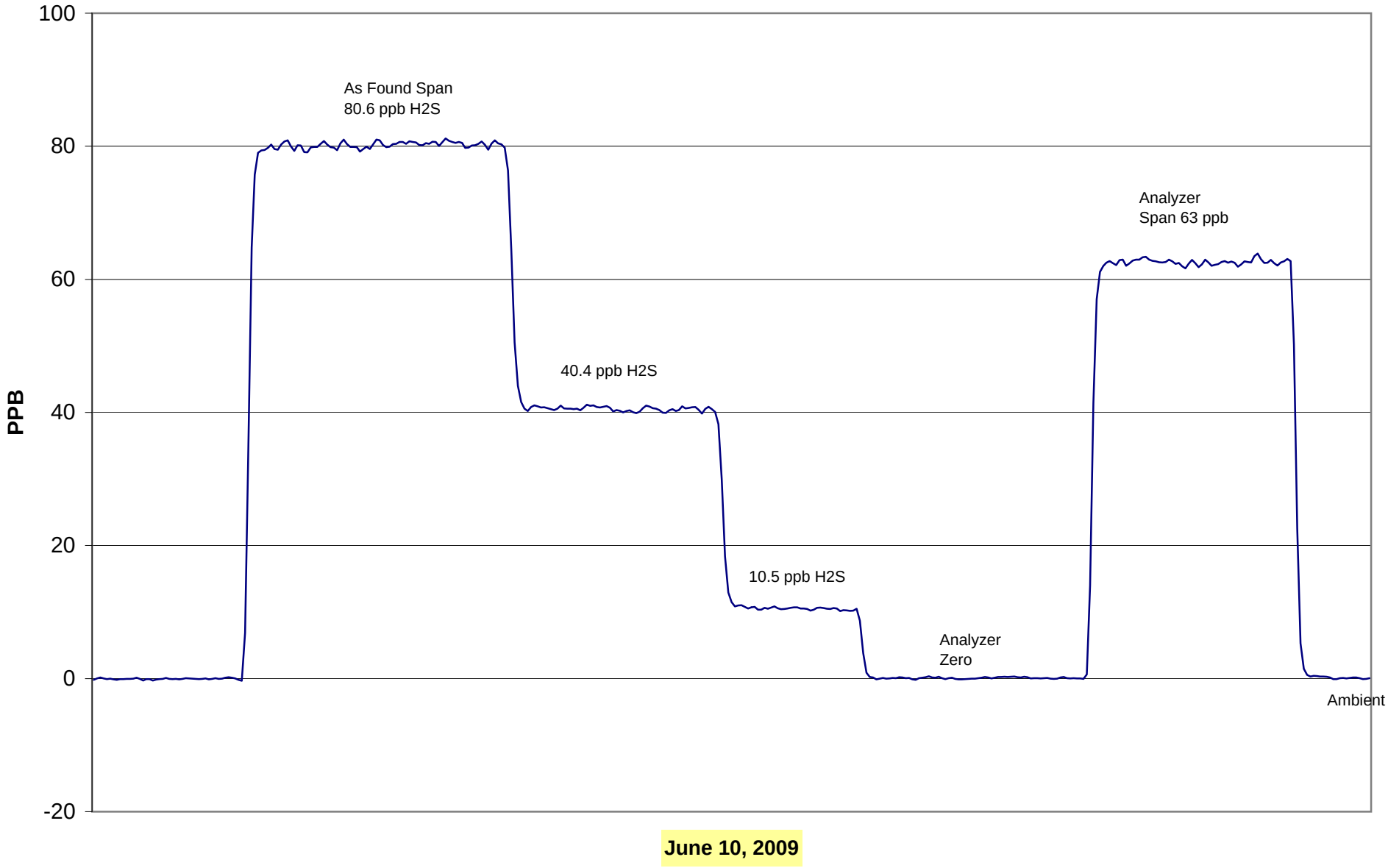
Calibration Date	June 10, 2009	Previous Calibration	May 15, 2009
Station Number	5	Station Location	Valleyview
Start Time (MST)	11:30	End Time (MST)	14:44
Analyzer make/model	TEI Model 43A	Analyzer serial #	43A-25575-221

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	0.999966
40.5	40.4	1.0009		
10.1	10.5	0.9641	Slope	0.998451
			Intercept	-0.202442



Valleyview H_2S Calibration



June 10, 2009