Peace AirShed Zone Association

Ambient Air Monitoring Network Summary

Continuous Ambient Air Quality Monitoring Program
Monthly Report
June 2011

Operations and Reporting

FOCUS
AIR QUALITY MONITORING

Peace Airshed Zone Association
Box 21135 Grande Prairie, AB, T8V 6W7
P: 780-833-4343
www.paza.ca

August 9, 2011

Alberta Environment
11th Floor, Oxbridge Place
9820-106 Street
Edmonton Alberta T5K 2J6

RE: Peace Airshed Zone Association (PAZA) – June 2011 Ambient Air Report

Enclosed is the PAZA Ambient Monitoring Network Report for the month of **June 2011**.

This report is submitted by PAZA on behalf of the industrial member companies to satisfy the requirements of the following facility Operating Approvals:

Company	Facility	LSD	AENV Approval Number
Advantage Oil & Gas Ltd.	Sunset House	06-22-0707-20-W5	138884-01-00
	Glacier	05-02-076-13-W6	262479-00-00
AltaGas Ltd.	Pouce Coupe	03-03-081-13-W6	247673-00-00
	Ante Creek	02-26-068-25-W5	266694-00-00
	Gordondale	16-31-78-11-W6M	287474-00-00
Barrick Energy Inc.	Sturgeon/Valleyview	02-02-069-22-W5	1633-02-00
Birchcliff Energy Ltd.	Pouce Coupe	03-22-078-12-W6	252529-00-00
Bonavista Energy Corporation	Rycroft	08-25-077-06-W6	11351-02-00
	Spirit River	08-34-077-06-W6	11096-02-00
Canadian Natural Resources Limited	Bonanza	11-25-081-11-W6	00000029-01-00
	Progress/Gordondale	01-01-077-10-W6	00010036-02-00
	Gold Creek	13-26-067-05-W6	00010446-02-00
	Teepee Creek	SE-2-074-04-W6	00001635-02-00

Conocophillips Canada Energy Partnership	Wembley	06-19-073-08-W6	00000212-01-00
Devon Canada	Tangent	16-20-080-24-W5	00011346-01-00
	NW Belloy (Dunvegan)	16-36-079-03-W6	00009810-02-00
	Eaglesham (South)	02-14-077-25-W5	00047669-01-00
	Puskwaskau	03-26-074-01-W6	00017524-01-00
	North Normanville	03-36-079-23-W5	00047455-01-00
	West Culp	05-34-078-25-W6	00136284-00-00
	Cecil	08-15-084-08-W6	00010032-02-00
EnCana Corporation	Hythe Brainard	11-18-074-12-W6	00010910-02-00
	Sexsmith	04-08-075-07-W6	00010002-01-00
Galleon Energy Inc.	Eaglesham	01-25-076-01-W6	00241532-00-00
	Kakut	14-12-075-03-W6	00248469-00-00
	Donnelly	06-01-077-21-W5	00000087-02-00
Grande Prairie Generation Inc.	Northern Prairie Power Project	04-19-073-08-W6	00238762-00-00
Penn West Petroleum Ltd.	Tangent	13-29-080-23-W5	00001746-02-00
	Pouce Coupe	16-07-078-11-W6	00000614-01-00
Spectra Energy Midstream Corporation	Fourth Creek	16-11-0/82-09-W6	00000263-01-00
Suncor Energy Inc.	Progress	07-22-078-09-W6	00011428-02-00
Taqa North Ltd.	Valhalla	13-21-076-09-W6	00017620-01-00
Weyerhaeuser Canada	Grande Prairie Pulp and Wood Plant	01-14-070-05-W6	00000113-02-00

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 Continuous Data Summary" and "Continuous Network Equipment Summary" pages of the report.

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

During the month of **June** the following events were noted:

Henry Pirker Station:

- The measured ambient air quality was within the Alberta Ambient Air Quality Objectives (AAAQO) for the Henry Pirker station.
- All analyzers and sensors at the Henry Pirker station had an operational uptime greater than 90% for the month of June.

Evergreen Park Station:

- The measured ambient air quality was within the AAAQO for the Evergreen Park station.
- All analyzers / sensors at the Evergreen Park station had an operational uptime greater than 90% for the month of 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.
- All analyzers / sensors at the Beaverlodge station had an operational uptime greater than 90% for the month of June; except the external temperature and relative humidity sensors. Due to power / signal interference issues the external temperature and relative humidity sensors were less than 90% operational – **Alberta Environment Reference #249976**.

Portable – Bonanza Station:

- The measured ambient air quality was within the AAAQO for the Bonanza station.
- All analyzers / sensors at the Bonanza station had an operational uptime greater than 90% for the month of June.
- On June 30th removal calibrations were performed and the portable station was removed from the Bonanza site.

Valleyview Station:

- The measured ambient air quality was within the AAAQO for the Valleyview station.
- All analyzers / sensors at the Valleyview station had an operational uptime of 100% for the month of June.

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Passive Monitoring - 43 Stations throughout the PAZA zone:

There were four duplicate sites sampled in the month of June: Silver Valley, Bay Tree, Little Smoky and Grande Prairie I. There are no SO_2, O_3 and NO_2 sample results for Fourth Creek; sample head was tampered with and all samples damaged. The passive sample analyses were performed by MAXXAM Analytics Inc.

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

- Monthly average concentrations for SO_2 passives ranged from 0.0 ppb to 0.3 ppb, with a mean of 0.1 ppb.
- Monthly average concentrations for NO_2 passives ranged from 0.1 ppb to 2.2 ppb, with a mean of 0.8 ppb.
- Monthly average concentrations for O_3 passives ranged from 22.8 ppb to 39.5 ppb, with a mean of 29.8 ppb.

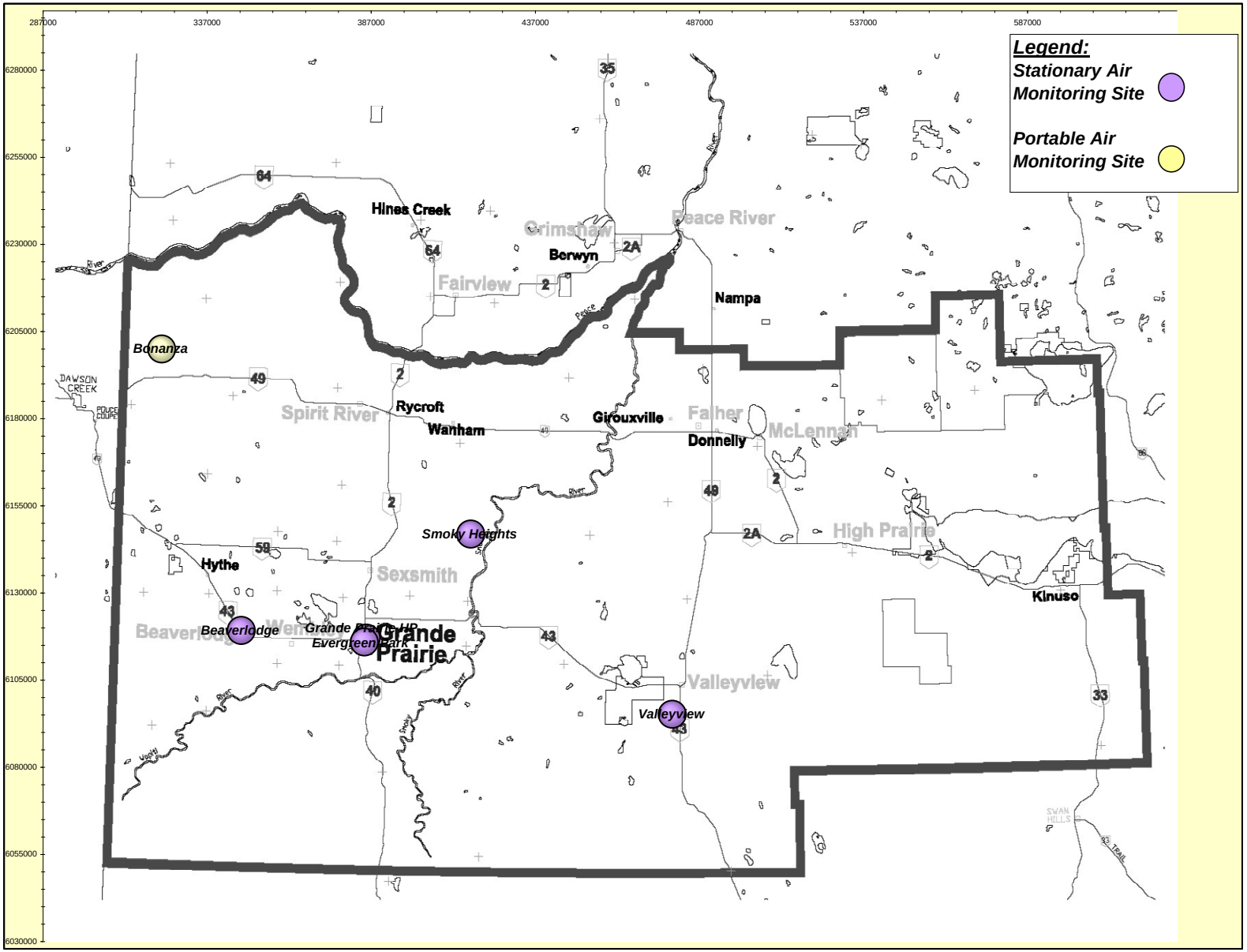
If you have any questions or concerns, please contact Shelly Pruden, PAZA Program Manager at 780.833.4343 or 780.882.4071.

On Behalf of the,
Peace Airshed Zone Association

Shelly Pruden
Program Manager

Sharon Whiteley, B.Sc.
FOCUS AQM Data Specialist

Location of PAZA Continuous Monitoring Stations



PAZA Monthly Continuous Data Summary

Jun-2011	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	48	Henry Pirker	0.2	0	0	5.8	Jun-19 10:00	0.4	Jun-02	100.0%
SO_2 (ppb)	172	48	Evergreen Park	0.3	0	0	7.2	Jun-10 11:00	0.9	Jun-21	100.0%
SO_2 (ppb)	172	48	Smoky Heights	0.3	0	0	4.7	Jun-21 07:00	0.9	Jun-21	94.7%
SO_2 (ppb)	172	48	Beaverlodge	0.3	0	0	18.2	Jun-19 10:00	1.5	Jun-18	100.0%
SO_2 (ppb)	172	48	Portable-Bonanza	0.2	0	0	3.3	Jun-15 10:00	0.7	Jun-15	99.4%
SO_2 (ppb)	172	48	Valleyview	0.6	0	0	16.6	Jun-29 10:00	3.7	Jun-30	100.0%
NO (ppb)			Henry Pirker	0.8	0	0	18.2	Jun-06 07:00	3.2	Jun-06	100.0%
NO_2 (ppb)	212	106	Henry Pirker	4.3	0	0	21.0	Jun-01 01:00	7.9	Jun-01	100.0%
NO_X (ppb)			Henry Pirker	5.1	0	0	30.6	Jun-06 07:00	10.0	Jun-06	100.0%
NO (ppb)			Beaverlodge	0.2	0	0	4.8	Jun-06 08:00	0.8	Jun-06	100.0%
NO_2 (ppb)	212	106	Beaverlodge	1.5	0	0	7.8	Jun-27 06:00	3.0	Jun-01	100.0%
NO_X (ppb)			Beaverlodge	1.7	0	0	12.3	Jun-06 08:00	3.5	Jun-01	100.0%
NO (ppb)			Portable-Bonanza	2.1	0	0	111.3	Jun-27 07:00	14.0	Jun-29	99.4%
NO_2 (ppb)	212	106	Portable-Bonanza	3.0	0	0	63.0	Jun-27 07:00	6.4	Jun-29	99.4%
NO_X (ppb)			Portable-Bonanza	4.8	0	0	96.0	Jun-21 12:00	19.5	Jun-29	99.4%
O_3 (ppb)	82		Henry Pirker	28.6	0	-	64.3	Jun-01 18:00	39.7	Jun-01	100.0%
O_3 (ppb) - 8-hr			Henry Pirker		0				59.8	Jun-01	
O_3 (ppb)	82		Beaverlodge	30.8	0	-	63.1	Jun-01 18:00	45.4	Jun-01	100.0%
O_3 (ppb) - 8-hr			Beaverlodge		0				60.8	Jun-01	
O_3 (ppb)	82		Portable-Bonanza	29.0	0	-	60.2	Jun-01 16:00	43.5	Jun-01	99.4%
O_3 (ppb) - 8-hr			Portable-Bonanza		0				59.3	Jun-01	
CO (ppm)	13		Henry Pirker	0.17	-	-	0.4	Jun-16 05:00	0.3	Jun-16	99.9%
CO (ppm) - 8-hr	5		Henry Pirker		0				0.3	Jun-16	
THC (ppm)			Henry Pirker	1.99	-	-	2.8	Jun-22 04:00	2.1	Jun-06	99.7%
TRS (ppb)			Henry Pirker	0.3	-	-	1.5	Jul-01 00:00	0.4	Jun-13	100.0%
TRS (ppb)			Evergreen Park	0.5	-	-	0.9	Jun-02 06:00	0.6	Jun-15	100.0%
TRS (ppb)			Smoky Heights	0.1	-	-	1.0	Jun-05 23:00	0.4	Jun-05	91.9%
TRS (ppb)			Portable-Bonanza	0.3	-	-	1.8	Jun-11 07:00	0.5	Jun-11	99.4%
H_2S (ppb)	10	3	Valleyview	0.1	0	0	2.3	Jun-23 05:00	0.3	Jun-23	100.0%

PAZA Monthly Continuous Data Summary – continued

Jun-2011	Peace Airshed Zone Assocation						Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
PM2.5 (µg/m3)	80	30	Henry Pirker	6.8			75.0	Jul-01 00:00	19.3	Jun-16	92.2%
PM2.5 (µg/m3)	80	30	Evergreen Park	6.1			69.8	Jun-23 15:00	13.5	Jun-14	95.7%
PM2.5 (µg/m3)	80	30	Smoky Heights	5.4			42.2	Jun-02 18:00	16.9	Jun-09	93.3%
PM2.5 (µg/m3)	80	30	Beaverlodge	8.1			39.4	Jun-16 15:00	26.4	Jun-16	97.1%
RH (%)			Henry Pirker	64.5	-	-	91.1	Jun-19 02:00	85.1	Jun-25	100.0%
RH (%)			Evergreen Park	67.8	-	-	97.7	Jun-18 08:00	93.3	Jun-03	100.0%
RH (%)			Beaverlodge	62.7	-	-	94.5	Jun-18 08:00	86.7	Jun-25	88.5%
RH (%)			Valleyview	72.8	-	-	99.9	Jun-18 10:00	96.4	Jun-18	100.0%
SR (W/m^2)			Henry Pirker	190.3	-	-	810.8	Jun-12 13:00	294.5	Jun-21	100.0%
Temp (°C)			Henry Pirker	13.9	-	-	27.3	Jun-01 14:00	18.3	Jun-22	100.0%
Temp (°C)			Evergreen Park	13.7	-	-	24.2	Jun-22 17:00	17.6	Jun-22	100.0%
Temp (°C)			Smoky Heights	13.4	-	-	24.8	Jun-22 15:00	17.4	Jun-22	94.9%
Temp (°C)			Beaverlodge	13.5	-	-	24.5	Jun-26 11:00	17.5	Jun-26	88.5%
Temp (°C)			Portable-Bonanza	13.8	-	-	26.0	Jun-22 18:00	18.1	Jun-22	99.4%
Temp (°C)			Valleyview	13.6	-	-	25.2	Jun-22 15:00	18.2	Jun-22	100.0%
WSPD s (km/hr)			Henry Pirker	11.0	-	-	34.0	Jun-24 14:00	21.9	Jun-30	98.1%
WSPD s (km/hr)			Evergreen Park	6.9	-	-	24.0	Jun-02 20:00	15.2	Jun-30	100.0%
WSPD s (km/hr)			Smoky Heights	11.8	-	-	37.0	Jun-30 11:00	26.1	Jun-30	94.3%
WSPD s (km/hr)			Beaverlodge	11.8	-	-	38.0	Jun-30 18:00	27.8	Jun-30	100.0%
WSPD s (km/hr)			Portable-Bonanza	11.0	-	-	37.0	Jun-09 17:00	21.3	Jun-10	98.7%
WSPD s (km/hr)			Valleyview	5.6	-	-	22.0	Jun-03 01:00	11.1	Jun-15	100.0%
WSPD v (km/hr)			Henry Pirker	5.6	-	-	34.0	Jun-24 14:00	21.1	Jun-30	98.1%
WSPD v (km/hr)			Evergreen Park	3.8	-	-	24.0	Jun-02 20:00	14.2	Jun-30	100.0%
WSPD v (km/hr)			Smoky Heights	5.3	-	-	37.0	Jun-30 11:00	25.7	Jun-30	94.3%
WSPD v (km/hr)			Beaverlodge	5.1	-	-	37.0	Jun-30 18:00	27.3	Jun-30	100.0%
WSPD v (km/hr)			Portable-Bonanza	4.3	-	-	36.0	Jun-09 17:00	19.2	Jun-10	98.7%
WSPD v (km/hr)			Valleyview	2.5	-	-	21.0	Jun-03 01:00	10.4	Jun-15	100.0%
WDIR			Henry Pirker	W	-	-	-	-	-	-	98.1%
WDIR			Evergreen Park	WNW	-	-	-	-	-	-	100.0%
WDIR			Smoky Heights	WSW	-	-	-	-	-	-	94.3%
WDIR			Beaverlodge	W	-	-	-	-	-	-	100.0%
WDIR			Portable-Bonanza	WSW	-	-	-	-	-	-	98.7%
WDIR			Valleyview	NW	-	-	-	-	-	-	100.0%

Continuous Network Equipment Summary

PAZA – Henry Pirker Station

General Station Issues

Routine monthly calibrations were performed on June 10th (TRS, CO & THC) and June 11th (SO_2, NO_X & O_3).

Parameter	Make	Model	Notes
SO_2	TEI	43C	No operational issues observed.
NOx/NO/NO_2	TEI	42C	No operational issues observed.
O_3	TEI	49C	No operational issues observed.
CO	TEI	48C	One (1) hour was flagged for maintenance on June 1st (cylinder replaced). No other operational issues observed.
THC	TEI	51-CLT	On June 1st one (1) hour was flagged invalid due to power bump and one (1) hour was flagged for maintenance (cylinder replaced). No other operational issues observed.
TRS	TEI	45C/43C	No operational issues observed.
$PM_{2.5}$	R&P	1400AB	One (1) hour flagged invalid due to spiking caused by the case temperature within the FDMS unit. Fifty-five (55) hours were flagged invalid due to baseline drift.
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 / WD	Met One	010C/020C	Two (2) hours were flagged for maintenance (bearings were replaced). Twelve (12) hours were flagged invalid due to flatlining – suspect shaft needs to be replaced.

PAZA – Evergreen Park Station

General Station Issues

Routine monthly calibrations were performed on June 29th (SO_2, TRS & $PM_{2.5}$).

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	Thirty-two (32) hours were flagged invalid due to baseline drift.
ET	Met One/Gill	083D	No operational issues observed.
RH	Met One/Gill		No operational issues observed.
WS / WD	Met One/ Gill		No operational issues observed.

PAZA – Smoky Heights Station

General Station Issues

Routine monthly calibrations were performed on June 8th (SO_2, TRS & $PM_{2.5}$). A power failure on June 15th resulted in thirty-seven (37) hours of invalid data for all parameters.

Parameter	Make	Model	Notes
SO_2	TEI	43C	Spans were outside target range from June 13th to 21st and June 28th (due to power issues). Thirty-seven (37) hours invalid due to power failure and one (1) hour for maintenance (reset breaker).
TRS	TEI	43C	Spans were outside target range from June 5th to 7th – calibration on June 8th to address spans. Thirty-seven (37) hours invalid due to power failure and one (1) hour for maintenance (reset breaker). A total of eighteen (18) hours were flagged invalid – troubleshooting ongoing. A second calibration and maintenance performed on June 17th to replace lamp power supply board.
$PM_{2.5}$	R&P	1400AB	Thirty-seven (37) hours invalid due to power failure and one (1) hour for maintenance (reset breaker). Ten (10) hours were flagged invalid due to baseline drift.
ET	Met One	083D	Thirty-seven (37) hours invalid due to power failure.
WS / WD	Met One	010C/020C	Thirty-seven (37) hours invalid due to power failure.

PAZA – Beaverlodge Station

General Station Issues

Routine monthly calibrations were performed on June 22nd (NO_X & O_3) and June 27th (SO_2).

Parameter	Make	Model	Notes
SO_2	TEI	43CTL	No operational issues observed.
NOx/NO/NO_2	TEI	42C	Spans outside target range June 7th, 16th to 22nd – due to failing sample pump (pump replaced June 22nd).
O_3	TEI	49C	No span on June 23rd – manual span was initiated.
$PM_{2.5}$	R&P	1400AB	Twenty-one (21) hours were flagged for power bumps throughout month.
ET	n/a	n/a	Eighty-eight (88) hours were flagged invalid due to power / signal interference. Less than 90% operational – **AE Reference # 249976**.
RH	n/a	n/a	Eighty-three (83) hours were flagged invalid due to power / signal interference. Less than 90% operational – **AE Reference # 249976**.
WS / WD	Blue Sky	857	No operational issues observed.

PAZA – Bonanza (Portable) Station

General Station Issues

Removal calibrations were performed on June 30th (SO_2, TRS, NO_X & O_3). A power failure on June 25th resulted in four (4) hours of invalid data for all parameters. The Portable-Bonanza station was decommissioned and removed from service on June 30th.

Parameter	Make	Model	Notes
SO_2	TEI	43C	No operational issues observed other than above noted power failure.
TRS	TEI	43C	No operational issues observed other than above noted power failure.
NOx/NO/NO_2	TEI	42I	No operational issues observed other than above noted power failure.
O_3	TEI	49C	No operational issues observed other than above noted power failure.
ET	Met One		No operational issues observed other than above noted power failure.
WS / WD	Met One	010C/020C	Five (5) hours were flagged invalid due to flatlining. Four (4) hours flagged due to above noted power failure.

PAZA – Valleyview Station

General Station Issues

Routine monthly calibrations were performed on June 14th (SO_2 & H_2S).

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

PAZA
Henry Pirker Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 5.8 ppb on Jun 1 09:00 Maximum Daily Average: 0.4 ppb on Jun 2

Minimum Value: 0 ppb on Jun 1 01:00
Minimum Daily Average: 0.0 ppb on Jun 3
Maximum Diurnal Average: 0.6 ppb at hour 9
Minimum Diurnal Average: 0.1 ppb at hour 16
Monthly Average: 0.20 ppb
Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.1 $Q_3 = 0.2$ $P_{90} = 0.4$ $P_{99} = 1.8$

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

Day	Hourly Period Ending At (MST)																								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	6	2	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.4	5.8
2-Jun	0	0	0	0	0	0	0	0	4	2	0	0	0	0	0	0	1	1	0	0	0	A	0	0	0.4	4.4
3-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	0.0	0.0
4-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	A	0	0	0	0	0.1	0.5
5-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
6-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	0.2
7-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	0.2	0.5
8-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	0.4
9-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0.1	0.5
10-Jun	4	4	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.4	4.5
11-Jun	0	0	0	0	0	0	0	1	1	C	C	C	A	0	0	0	0	0	0	0	0	0	0	0	0.3	1.4
12-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
13-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	0.2
14-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
15-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	0.5
16-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	0.2	0.4
17-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
18-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
19-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	1	0	0	0.3	1.7
20-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	0.2	0.4
21-Jun	0	0	A	0	0	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.9
22-Jun	0	A	0	0	0	0	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0.4	1.6
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	A	0.3	0.5
24-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
25-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
26-Jun	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.6
27-Jun	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	A	0	0	0	0	0.3	1.0
28-Jun	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0.3	1.0
29-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
30-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	2	0.2	2.5
	0.3	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.6	0.4	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	Diurnal Average	
	4.5	3.7	0.5	0.5	0.4	1.0	1.0	1.6	5.8	2.5	1.0	1.0	1.0	0.5	0.5	0.3	0.7	0.8	0.5	1.0	1.7	0.6	1.0	2.5	Diurnal Maximum	

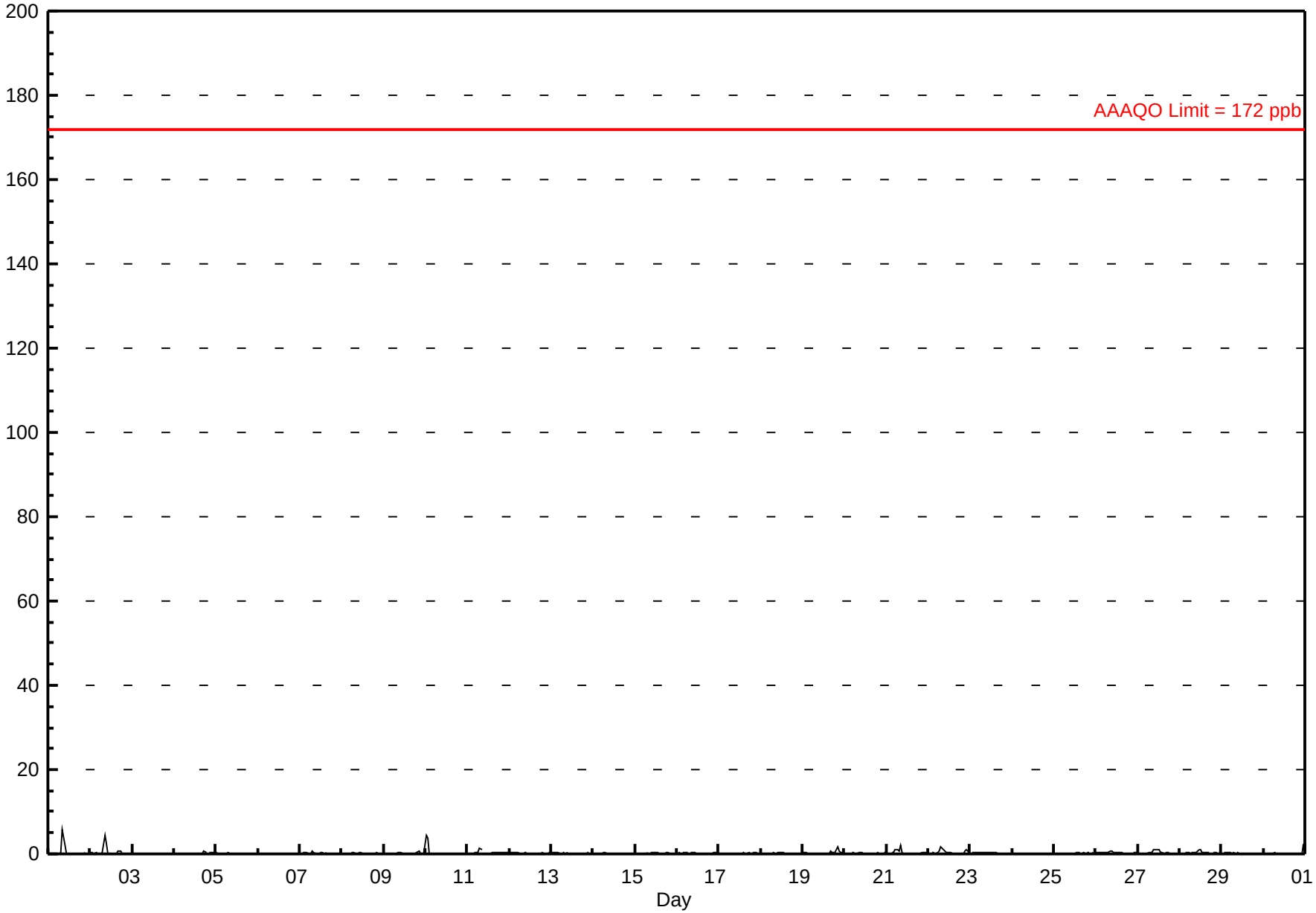
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - June 2011



Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - June 2011

Maximum Value: 33.5 ppb on Jul 1 00:00

Maximum Daily Average: 1.9 ppb on Jun 30

Minimum Value: 0 ppb on Jun 1 16:00

Minimum Daily Average: 0.3 ppb on Jun 3

Maximum Diurnal Average: 1.6 ppb at hour 24

Minimum Diurnal Average: 0.4 ppb at hour 16

Monthly Average: 0.68 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.4$ $Q_1 = 0.5$ Median = 0.5 $Q_3 = 0.5$ $P_{90} = 0.9$ $P_{99} = 6.9$

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)																								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	1	10	8	0	0	0	0	0	0	0	0	0	0	0	1	A	0	1.2	10.3
2-Jun	0	0	0	0	0	0	0	3	6	9	0	0	0	0	0	0	3	3	0	0	0	A	0	0	1.4	8.8
3-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	0.3	0.5
4-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	0	0	0	0	0.5	1.0
5-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	0.4	0.5
6-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	0.4	0.5
7-Jun	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	A	0	0	0	0	1	0	0	0.6	1.4
8-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0.5	1.0
9-Jun	0	0	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0	0	0	1	1	0	0	0	0.5	1.5
10-Jun	8	9	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1.1	8.9
11-Jun	0	0	0	0	0	0	0	5	5	C	C	C	A	0	0	0	0	0	0	0	0	0	1	0	1.0	5.5
12-Jun	0	0	0	1	0	0	0	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.0
13-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	0.5	0.5
14-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	0.5	0.5
15-Jun	0	0	0	0	0	0	0	0	A	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.5	1.0
16-Jun	0	0	0	0	1	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.5	1.0
17-Jun	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.5	0.6
18-Jun	0	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.8
19-Jun	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	7	3	0	0	1.0	7.3
20-Jun	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.5	1.0
21-Jun	0	0	A	0	1	1	1	2	2	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0.8	2.5
22-Jun	0	A	0	1	0	0	2	3	2	1	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0.9	3.5
23-Jun	A	1	1	1	1	0	1	1	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	A	0.7	1.0
24-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	0.5	0.5
25-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	A	0	0	0.5	1.0
26-Jun	0	0	1	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.5	1.0
27-Jun	0	0	0	0	0	0	1	0	1	1	1	1	1	1	0	0	0	0	0	A	0	0	0	0	0.7	1.5
28-Jun	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0.6	1.5
29-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	0.5	0.5
30-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	34	1.9	33.5
	0.8	0.7	0.5	0.5	0.5	0.5	0.6	0.9	1.3	1.1	0.6	0.6	0.5	0.5	0.5	0.4	0.6	0.6	0.5	0.5	0.8	0.6	0.5	1.6	Diurnal Average	
	8.4	8.9	1.0	1.0	1.0	1.5	2.0	5.5	10.3	8.8	1.5	1.5	1.5	1.0	1.0	0.5	3.0	3.0	1.0	1.8	7.3	3.5	1.5	33.5	Diurnal Maximum	

C - Calibration

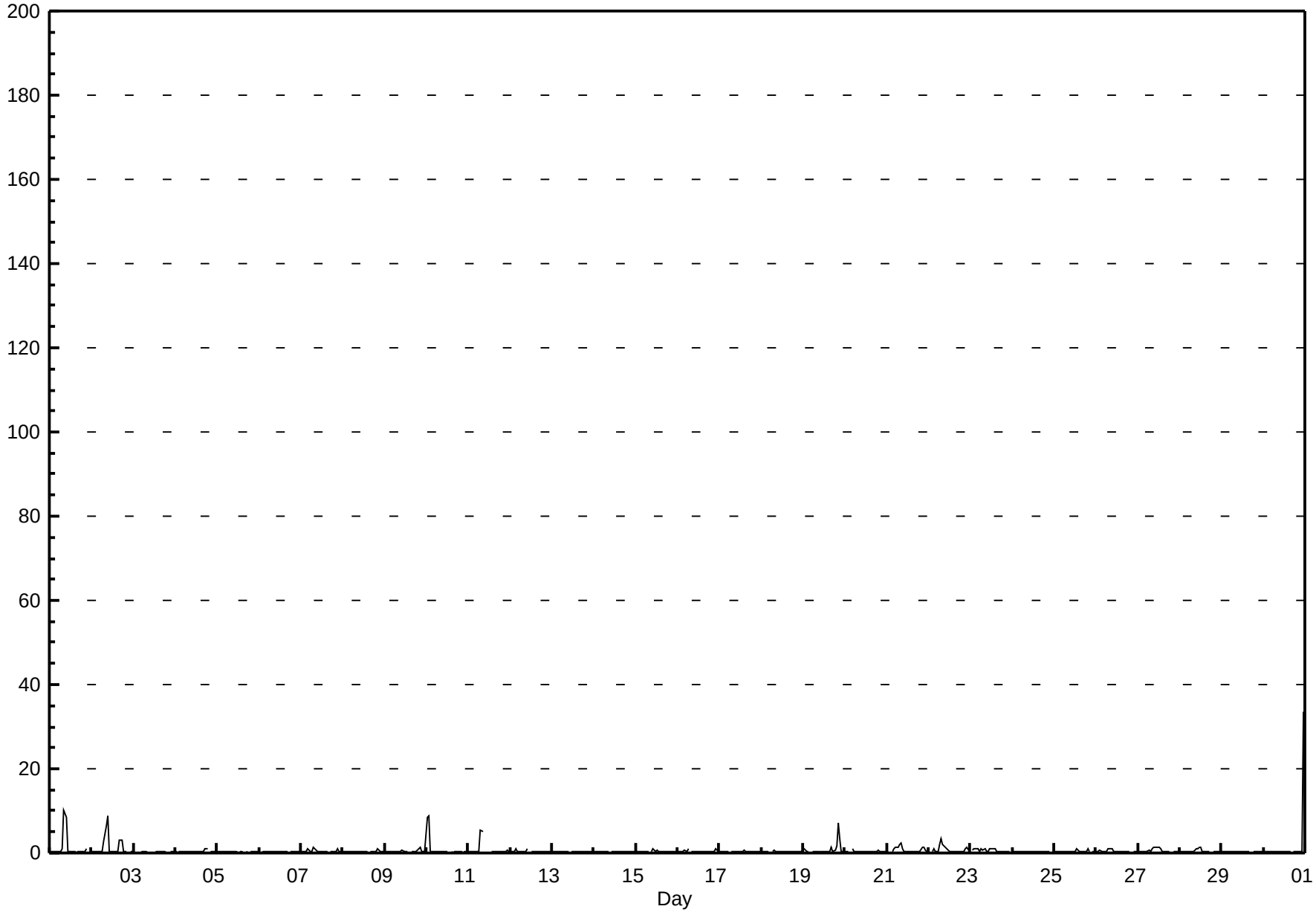
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - June 2011

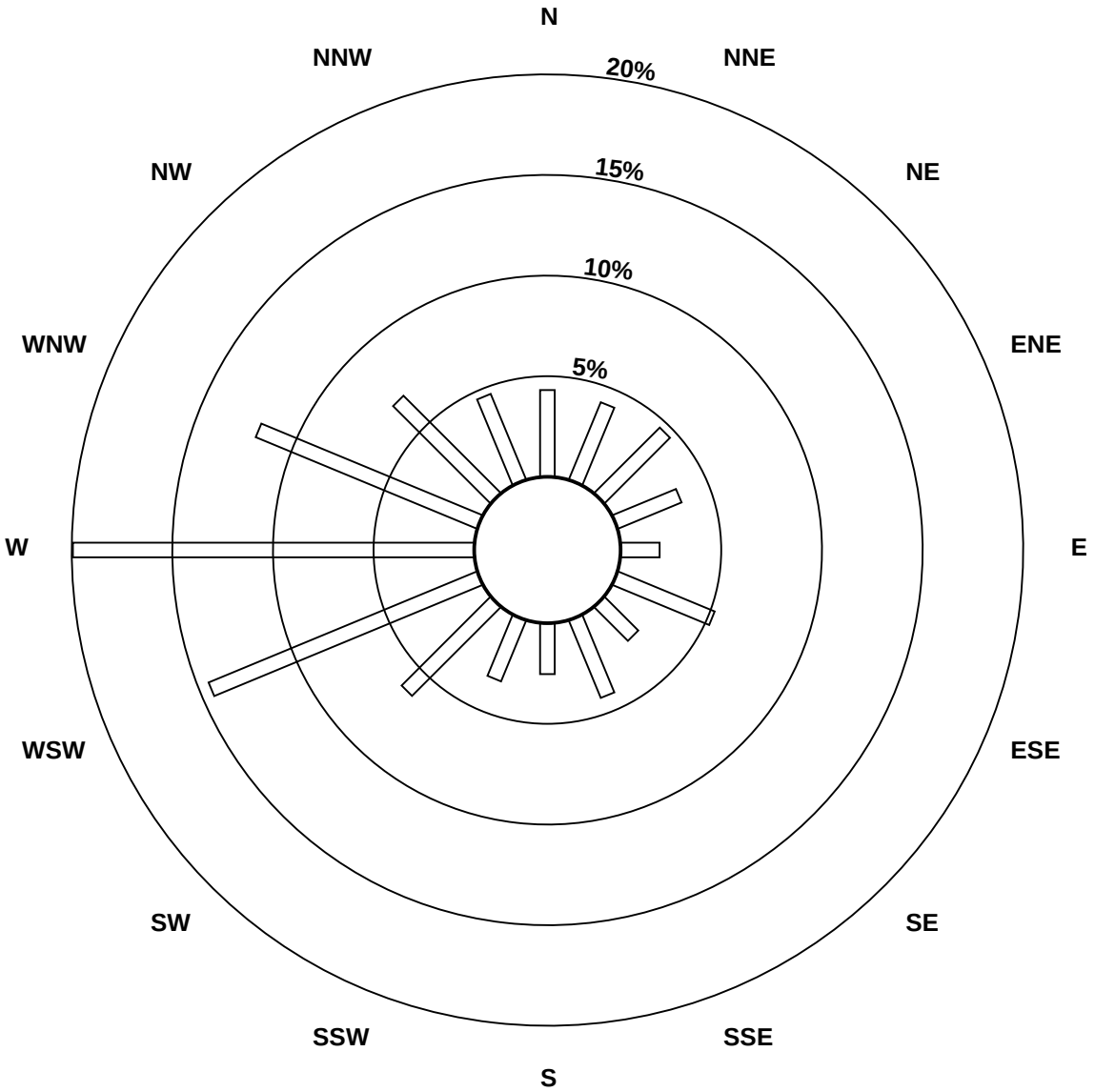


Peace Airshed Zone Association

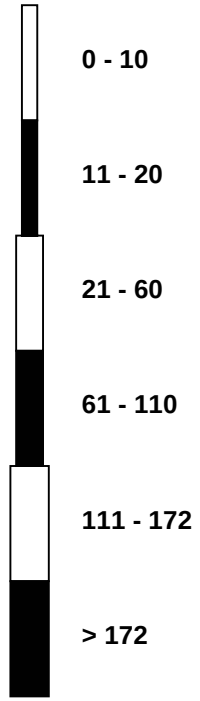
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - June 2011



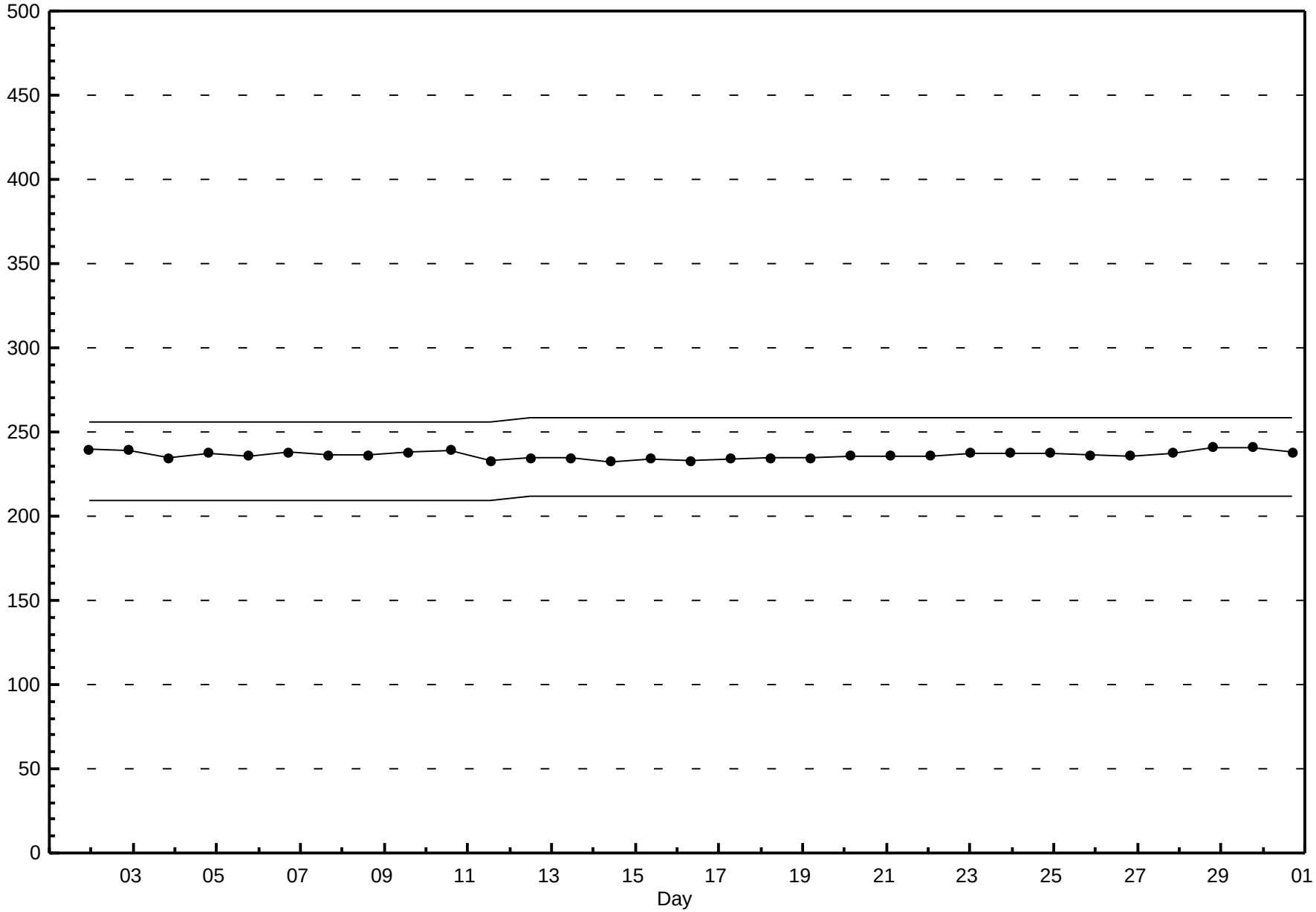
Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO_2)

Henry Pirker - June 2011



Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.5 ppb on Jul 1 00:00 Maximum Daily Average: 0.4 ppb on Jun 13

Minimum Value: 0 ppb on Jun 8 18:00 Minimum Daily Average: 0.2 ppb on Jun 3
Maximum Diurnal Average: 0.4 ppb at hour 5 Minimum Diurnal Average: 0.2 ppb at hour 14
Monthly Average: 0.27 ppb Percentiles: $P_1 = 0.1$ $P_{10} = 0.2$ $Q_1 = 0.2$ Median = 0.3 $Q_3 = 0.3$ $P_{90} = 0.4$ $P_{99} = 0.6$

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

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

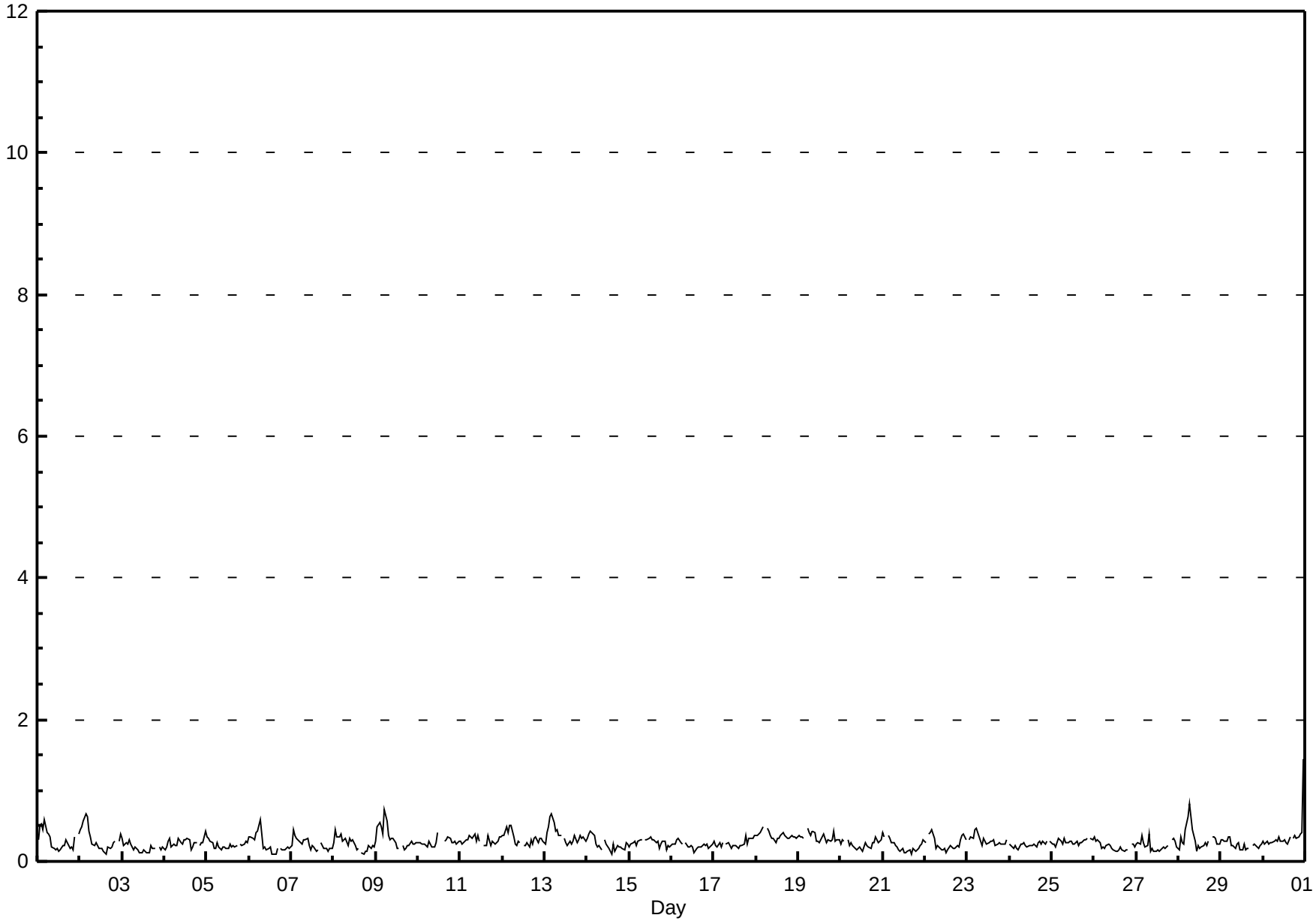
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - June 2011



Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - June 2011

Maximum Value: 4.8 ppb on Jul 1 00:00

Maximum Daily Average: 0.9 ppb on Jun 30

Minimum Value: 0 ppb on Jun 27 12:00

Minimum Daily Average: 0.6 ppb on Jun 3

Maximum Diurnal Average: 0.8 ppb at hour 24

Minimum Diurnal Average: 0.6 ppb at hour 14

Monthly Average: 0.65 ppb

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

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

Day	Hourly Period Ending At (MST)																								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	0	0	1	1	1	1	1	1	1	0	1	0	1	A	1	0.7	1.1
2-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	A	1	1	0.7	1.1
3-Jun	1	1	1	1	1	1	0	1	1	0	0	0	1	0	1	1	1	1	1	1	A	1	0	1	0.6	0.8
4-Jun	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.7	0.9
5-Jun	1	1	1	1	1	1	1	1	0	1	1	0	1	1	0	1	1	1	A	0	1	1	1	1	0.6	0.8
6-Jun	1	1	1	1	1	1	1	1	0	1	1	0	1	0	1	1	1	A	1	0	0	0	1	1	0.6	1.1
7-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	A	1	0	1	1	1	0	1	0.6	1.1
8-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0	0	0	1	1	1	1	1	0.6	0.9
9-Jun	1	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	1	1	0	1	1	0	1	1	0.7	1.5
10-Jun	1	1	1	1	1	1	1	1	1	1	1	1	C	C	C	1	1	1	1	1	1	1	0	1	0.7	0.8
11-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	0.9
12-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	0.7	1.0
13-Jun	1	1	1	1	1	1	1	1	1	1	A	1	1	0	1	1	1	1	1	1	1	1	1	1	0.8	1.1
14-Jun	1	1	1	1	1	1	1	1	1	A	1	1	1	0	1	1	0	1	1	1	0	1	1	1	0.6	0.9
15-Jun	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.7
16-Jun	1	1	1	1	1	1	1	A	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	0.6	0.7
17-Jun	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	0.6	0.8
18-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	0.7	1.0
19-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	1.1
20-Jun	1	1	1	A	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8
21-Jun	1	1	A	1	1	1	1	1	1	1	1	0	1	0	0	0	0	1	1	1	1	1	1	1	0.6	0.8
22-Jun	0	A	1	1	1	1	1	1	1	1	1	0	1	0	0	1	1	1	1	1	1	1	1	1	0.6	0.8
23-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	1.3
24-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	0.6	0.8
25-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	0.6	0.8
26-Jun	1	1	1	1	1	1	0	0	1	1	1	0	0	1	0	1	0	0	1	1	A	1	1	1	0.6	0.9
27-Jun	1	1	1	1	1	1	1	1	0	1	0	0	1	0	1	1	1	1	1	A	1	1	1	1	0.6	0.9
28-Jun	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	A	1	1	1	1	1	0.7	1.3
29-Jun	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	0	A	1	1	1	1	0	1	0.6	0.9
30-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	5	0.9	4.8
	0.7	0.7	0.7	0.7	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.8	Diurnal Average	
	0.9	1.1	1.0	1.1	1.1	1.5	1.3	1.0	0.9	0.9	0.8	0.7	0.9	0.7	1.3	1.0	0.8	0.8	0.8	0.8	0.9	0.8	0.8	4.8	Diurnal Maximum	

C - Calibration

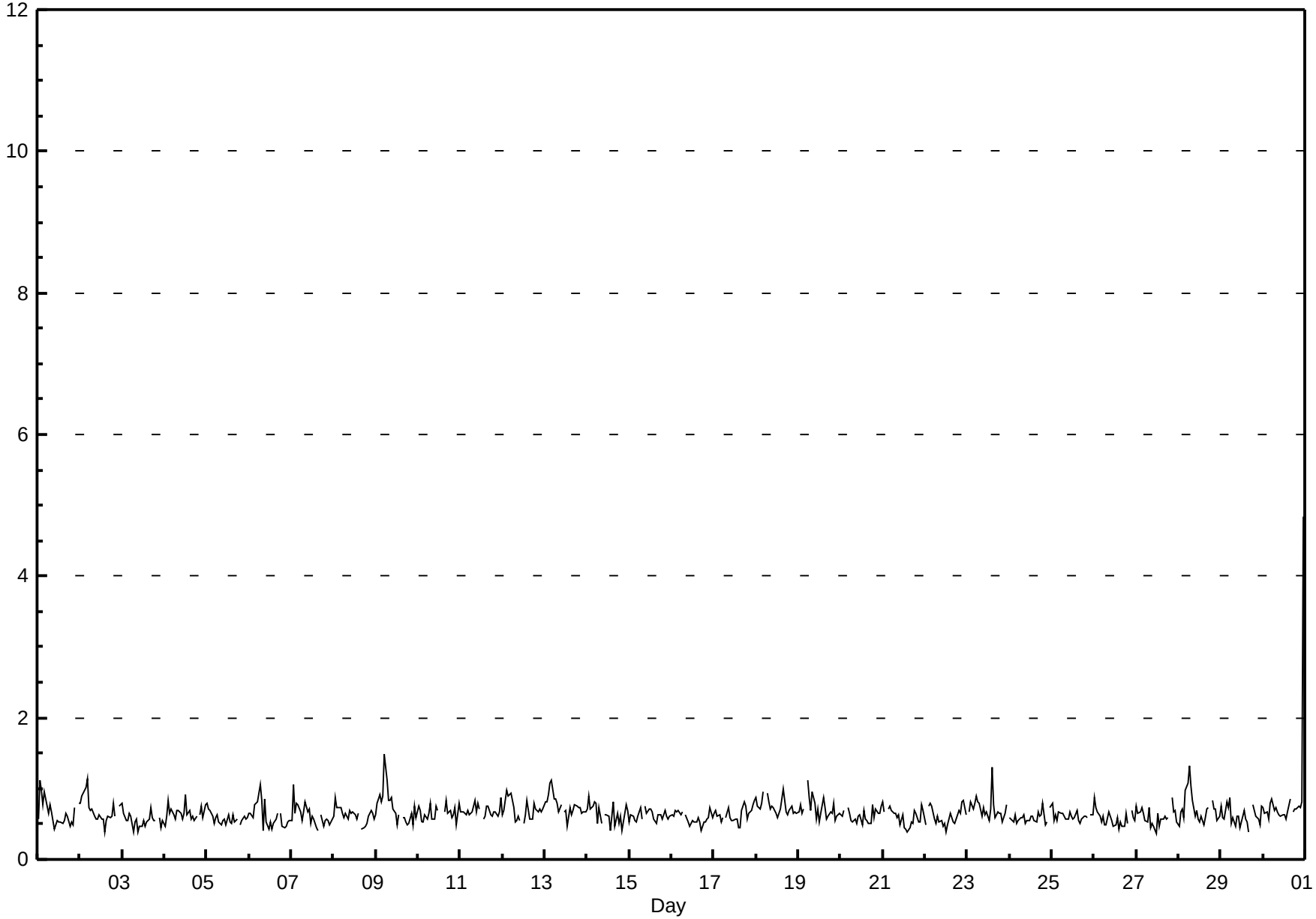
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - June 2011

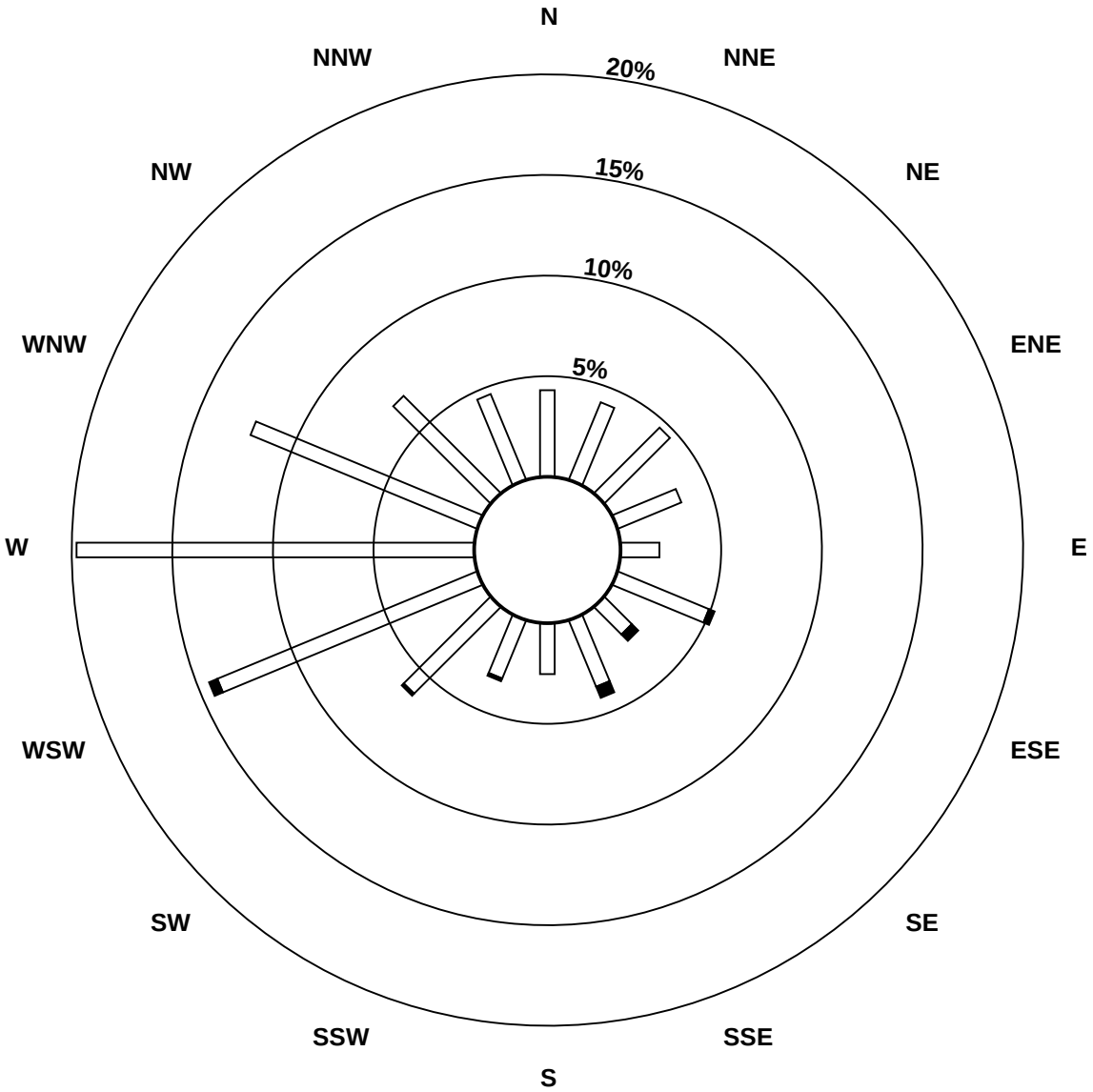


Peace Airshed Zone Association

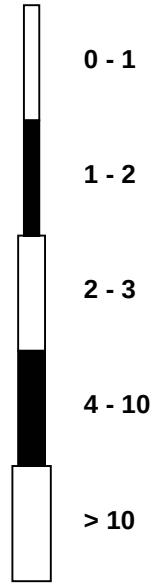
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - June 2011



Pollutant Classes (ppb)

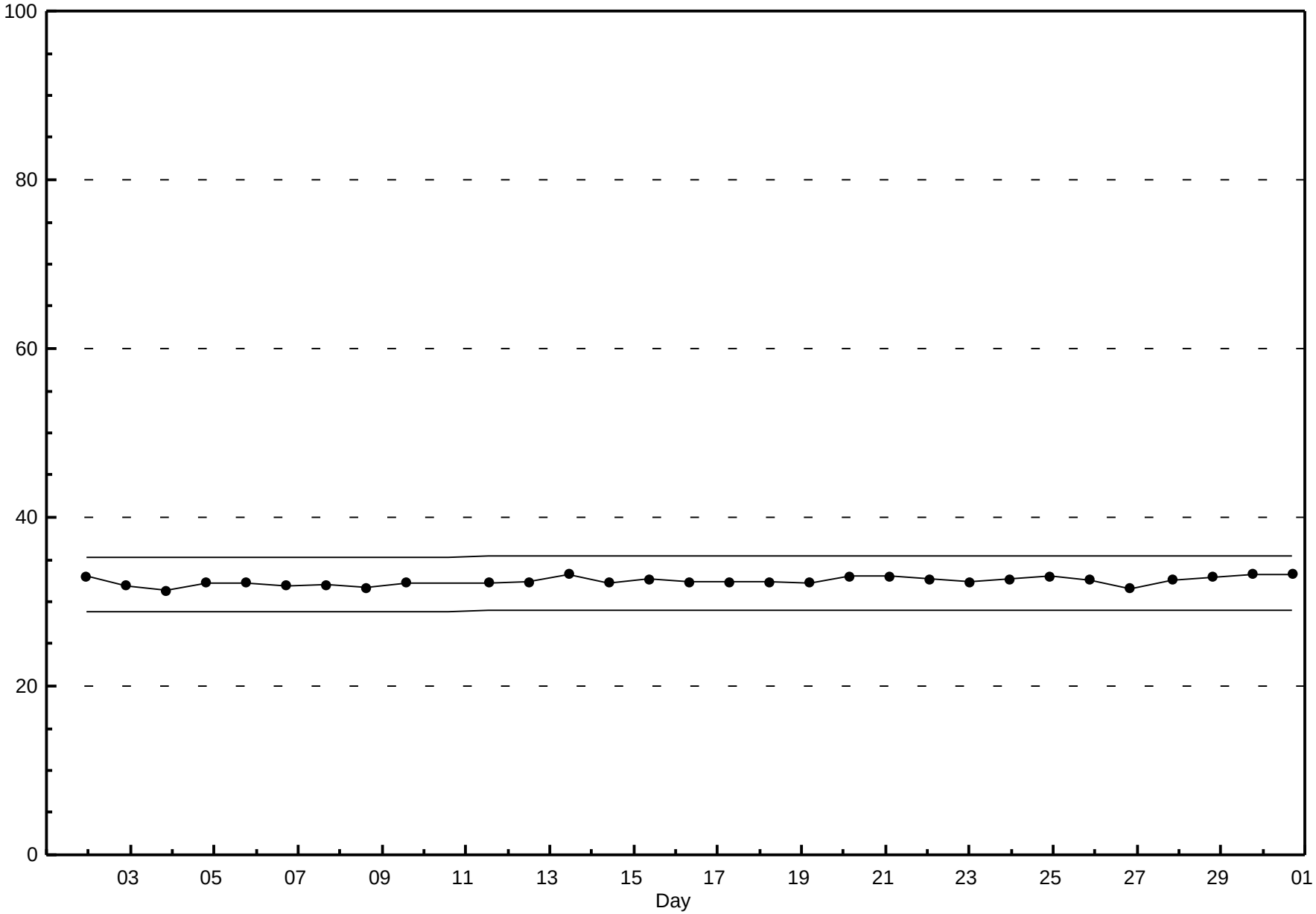


Peace Airshed Zone Association

Span Responses

Total Reduced Sulphur (TRS)

Henry Pirker - June 2011



Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 21.0 ppb on Jun 1 01:00 Maximum Daily Average: 7.9 ppb on Jun 1

Minimum Value: 1 ppb on Jun 5 12:00 Minimum Daily Average: 2.2 ppb on Jun 25
Maximum Diurnal Average: 7.6 ppb at hour 7 Minimum Diurnal Average: 2.4 ppb at hour 14
Monthly Average: 4.25 ppb Percentiles: $P_1 = 1.1$ $P_{10} = 1.6$ $Q_1 = 2.2$ Median = 3.3 $Q_3 = 5.1$ $P_{90} = 8.9$ $P_{99} = 14.2$

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	21	15	10	12	11	14	13	13	8	8	6	5	6	4	3	3	3	3	2	2	4	5	A	9	7.9	21.0
2-Jun	9	9	8	8	10	15	13	9	4	2	1	1	1	1	1	2	4	3	2	2	3	A	4	3	5.1	15.3
3-Jun	2	2	2	2	2	3	4	5	5	5	4	4	3	4	7	5	4	4	3	4	A	4	3	2	3.6	6.9
4-Jun	3	4	4	4	4	3	2	2	2	2	2	2	2	3	3	2	2	4	3	A	7	7	8	9	3.6	9.2
5-Jun	6	4	3	3	3	3	2	3	2	1	1	1	1	2	2	1	1	2	A	2	3	10	10	10	3.4	10.3
6-Jun	11	10	11	12	11	9	12	11	7	6	7	6	3	1	1	2	3	A	5	3	5	8	7	5	6.7	12.4
7-Jun	5	5	5	6	9	10	9	7	5	4	4	4	4	3	4	3	A	4	3	4	4	5	6	8	5.2	10.4
8-Jun	13	11	12	12	12	12	13	10	8	7	4	3	2	2	2	A	3	2	2	2	5	8	6	7	6.8	13.0
9-Jun	5	7	7	9	11	13	15	11	8	5	3	2	2	2	A	3	2	2	2	3	3	3	6	4	5.7	14.8
10-Jun	3	3	5	4	3	5	9	6	5	4	3	3	4	A	4	2	2	2	2	2	3	4	4	3	3.8	9.5
11-Jun	4	4	5	5	4	6	5	5	4	C	C	C	C	C	2	1	1	1	2	3	3	9	12	13	4.7	12.9
12-Jun	8	9	8	8	12	10	8	5	4	3	3	A	3	2	2	1	1	2	2	3	3	4	4	6	4.8	12.1
13-Jun	6	8	9	9	8	15	14	13	13	12	A	5	3	2	2	3	3	4	3	2	4	4	3	4	6.5	15.5
14-Jun	5	5	4	5	6	6	8	5	2	A	4	2	2	3	2	2	2	2	2	2	3	2	2	2	3.4	7.6
15-Jun	2	3	3	2	3	5	6	6	A	3	2	2	3	3	4	4	5	4	3	2	3	4	3	3	3.4	6.2
16-Jun	2	2	2	2	3	3	4	A	4	3	4	6	4	5	5	5	4	4	4	6	4	3	3	3	3.6	6.0
17-Jun	2	2	2	2	3	4	A	7	8	5	4	3	2	2	2	2	3	3	2	2	3	6	6	5	3.5	7.5
18-Jun	6	4	6	7	8	A	7	8	5	4	2	2	2	2	2	2	3	3	2	3	3	3	3	2	3.9	7.8
19-Jun	2	2	2	2	A	5	3	2	3	2	3	4	3	2	2	3	1	2	2	2	4	4	3	3	2.7	4.7
20-Jun	2	2	1	A	3	3	4	4	5	3	2	1	1	1	2	1	1	1	1	2	4	6	6	5	2.7	6.2
21-Jun	4	2	A	4	4	4	4	4	3	2	2	2	2	2	2	2	2	2	2	2	5	9	6	11	3.5	10.8
22-Jun	7	A	13	11	9	10	11	8	11	6	3	4	2	2	2	2	2	3	3	5	6	5	4	3	5.7	13.1
23-Jun	A	4	4	4	5	6	9	6	3	4	4	4	3	4	4	5	7	5	3	3	2	2	2	A	4.2	9.2
24-Jun	3	2	2	1	2	3	5	4	4	4	3	4	3	2	3	3	3	2	2	2	2	2	A	3	2.8	5.1
25-Jun	2	2	1	2	2	2	2	2	1	1	1	2	2	2	3	3	2	3	4	3	2	A	4	3	2.2	4.4
26-Jun	3	3	2	2	3	3	3	2	2	2	1	2	3	2	1	2	2	1	2	3	A	9	6	4	2.7	8.8
27-Jun	3	4	4	5	5	7	9	6	7	4	3	1	1	2	3	7	4	2	2	A	5	8	4	2	4.3	8.6
28-Jun	4	3	3	5	11	10	13	11	10	8	4	4	4	5	5	2	2	2	A	5	4	5	3	2	5.4	12.7
29-Jun	2	2	3	3	3	7	7	9	6	4	3	3	2	2	2	2	2	A	3	4	4	3	2	1	3.4	8.9
30-Jun	2	2	2	2	2	4	4	3	2	2	2	2	1	2	1	2	A	3	2	2	2	3	2	5	2.4	4.6
	5.1	4.6	5.0	5.3	5.8	7.0	7.6	6.4	5.2	4.2	3.2	3.0	2.6	2.4	2.7	2.7	2.7	2.6	2.6	2.9	3.7	5.1	4.7	4.8	Diurnal Average	
	21.0	15.3	13.1	12.4	12.1	15.5	14.8	13.3	13.4	12.3	6.7	6.4	5.7	4.9	6.9	6.6	6.6	4.7	4.6	6.0	7.1	9.7	12.3	12.9	Diurnal Maximum	

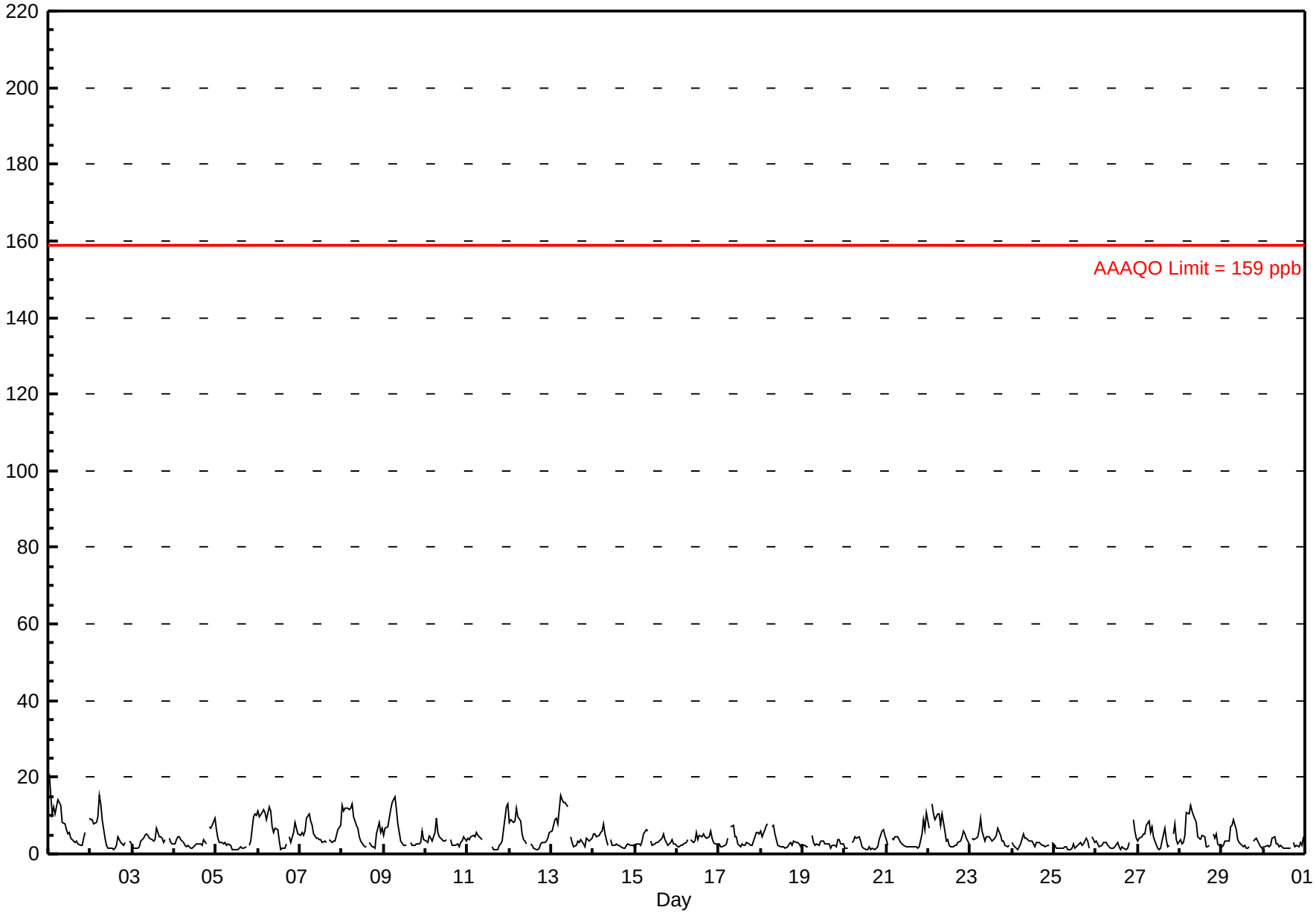
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb

Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - June 2011



FOCUS AIR QUALITY MONITORING

PAZA
Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - June 2011

Maximum Value: 26.0 ppb on Jun 1 01:00

Maximum Daily Average: 11.3 ppb on Jun 1

Minimum Value: 1 ppb on Jun 5 12:00

Minimum Daily Average: 3.7 ppb on Jun 25

Maximum Diurnal Average: 10.3 ppb at hour 7

Minimum Diurnal Average: 4.2 ppb at hour 14

Monthly Average: 6.77 ppb

Percentiles: P_1 = 2.0 P_{10} = 2.8 Q_1 = 3.5 Median = 5.5 Q_3 = 8.4 P_{90} = 13.5 P_{99} = 22.1

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	26	23	14	20	18	22	16	15	11	12	10	8	7	8	5	4	5	3	3	3	6	8	A	13	11.3	26.0
2-Jun	12	12	12	14	15	19	17	16	6	3	3	2	2	3	4	5	9	5	5	3	4	A	5	4	7.8	18.7
3-Jun	5	2	3	2	3	7	6	12	8	7	12	9	5	6	19	11	8	6	4	7	A	5	3	3	6.8	19.2
4-Jun	6	6	7	6	5	4	4	3	3	2	2	2	3	4	4	3	3	6	7	A	9	9	9	12	5.3	12.2
5-Jun	8	5	4	6	3	4	4	4	4	3	2	1	1	3	3	3	3	5	A	3	8	22	13	13	5.5	22.4
6-Jun	17	12	20	14	13	11	15	16	9	8	15	11	7	2	4	5	5	A	12	6	10	14	9	10	10.6	20.3
7-Jun	6	7	6	7	14	14	12	12	7	4	7	7	7	5	8	8	A	7	7	7	7	8	8	11	8.1	14.0
8-Jun	15	13	14	13	13	14	16	12	10	9	7	5	4	4	9	A	7	3	3	2	8	14	9	10	9.2	16.0
9-Jun	8	10	9	14	17	18	18	14	11	17	6	4	5	5	A	4	5	4	6	4	5	5	10	7	9.0	18.0
10-Jun	7	7	7	5	4	9	14	13	6	6	4	6	6	A	7	4	5	6	6	3	4	4	7	4	6.2	14.3
11-Jun	5	7	11	8	6	9	6	6	6	C	C	C	C	C	3	2	2	1	4	5	6	15	16	16	7.0	15.7
12-Jun	13	13	11	12	17	14	10	6	6	4	4	A	5	4	3	3	4	4	9	5	4	4	6	8	7.3	17.2
13-Jun	10	9	12	14	15	21	20	21	16	17	A	8	21	4	4	6	6	6	5	3	6	6	4	5	10.5	21.4
14-Jun	6	6	5	6	8	8	10	9	4	A	6	3	4	5	4	4	3	4	3	4	4	4	3	3	5.0	9.5
15-Jun	2	3	3	3	5	8	9	8	A	6	4	6	19	4	5	7	11	6	4	3	5	7	4	5	5.9	18.9
16-Jun	3	2	3	3	3	4	6	A	6	9	6	11	7	8	8	8	6	6	6	11	8	5	4	4	6.0	11.3
17-Jun	4	2	3	3	3	8	A	14	11	6	7	4	3	4	6	4	6	4	4	4	6	11	7	8	5.9	13.5
18-Jun	8	6	8	11	10	A	10	9	8	5	7	4	3	3	3	3	5	6	5	8	5	6	6	2	6.1	10.8
19-Jun	3	4	2	5	A	7	6	3	5	5	5	4	5	3	4	4	2	3	3	3	6	6	4	4	4.3	7.0
20-Jun	3	2	2	A	4	5	6	6	7	6	3	2	2	3	3	2	3	2	3	4	6	10	9	8	4.5	10.0
21-Jun	6	3	A	6	4	6	6	9	4	4	4	4	4	3	3	3	3	4	3	3	9	12	9	25	6.0	24.9
22-Jun	12	A	19	16	16	14	14	12	17	8	4	6	3	4	5	5	4	6	5	7	9	11	5	4	8.8	18.5
23-Jun	A	6	5	5	7	9	15	8	5	6	7	6	5	6	6	7	10	8	6	7	5	3	3	A	6.6	14.7
24-Jun	6	2	2	2	3	5	7	5	5	6	5	5	4	2	4	4	4	3	3	3	3	4	A	5	4.1	7.0
25-Jun	3	2	2	2	2	2	3	3	2	2	3	5	3	3	4	6	3	5	8	6	2	A	8	5	3.7	7.7
26-Jun	5	4	3	3	5	4	4	8	2	3	4	2	4	3	3	4	2	2	3	4	A	13	10	6	4.5	13.0
27-Jun	4	9	6	7	7	11	14	11	9	7	22	2	1	3	7	13	7	3	3	A	7	12	10	3	7.8	22.1
28-Jun	6	4	4	8	18	19	16	18	17	16	17	6	6	9	8	3	3	4	A	8	7	8	3	3	9.1	18.5
29-Jun	3	3	6	5	8	11	10	11	11	6	7	4	4	4	3	4	4	A	5	5	6	4	2	2	5.6	11.0
30-Jun	4	3	3	2	4	7	6	4	5	3	4	2	3	3	3	3	A	5	3	3	3	4	3	23	4.5	22.9
	7.4	6.4	7.1	7.7	8.7	10.1	10.3	9.9	7.6	6.8	6.6	5.1	5.4	4.2	5.4	4.9	5.0	4.6	5.0	4.9	6.1	8.5	6.7	7.8	Diurnal Average	
	26.0	22.7	20.3	19.9	18.4	22.2	20.2	21.0	16.5	17.2	22.1	11.0	20.7	8.5	19.2	12.5	11.2	7.5	11.7	11.3	9.9	22.4	15.5	24.9	Diurnal Maximum	

C - Calibration

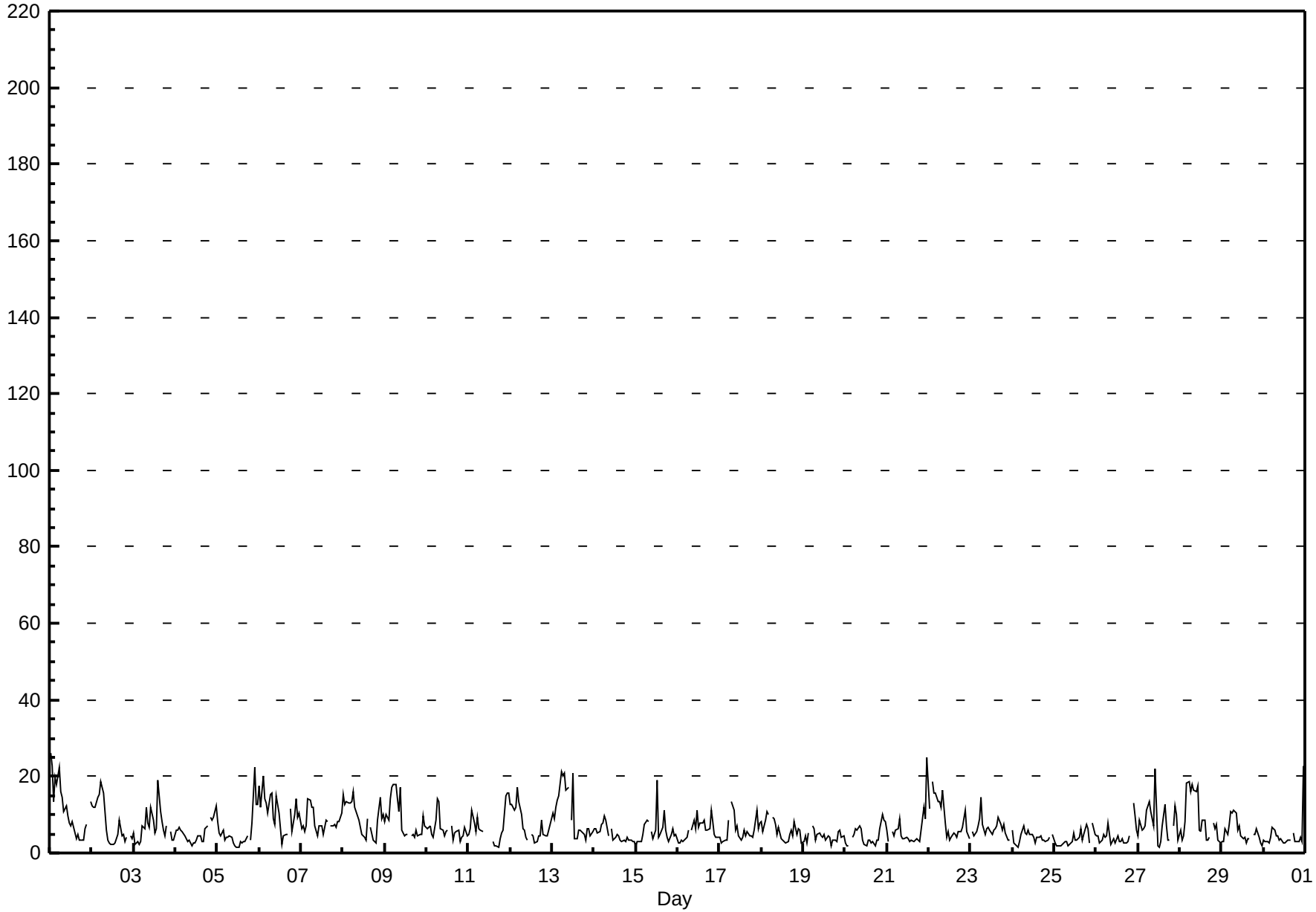
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

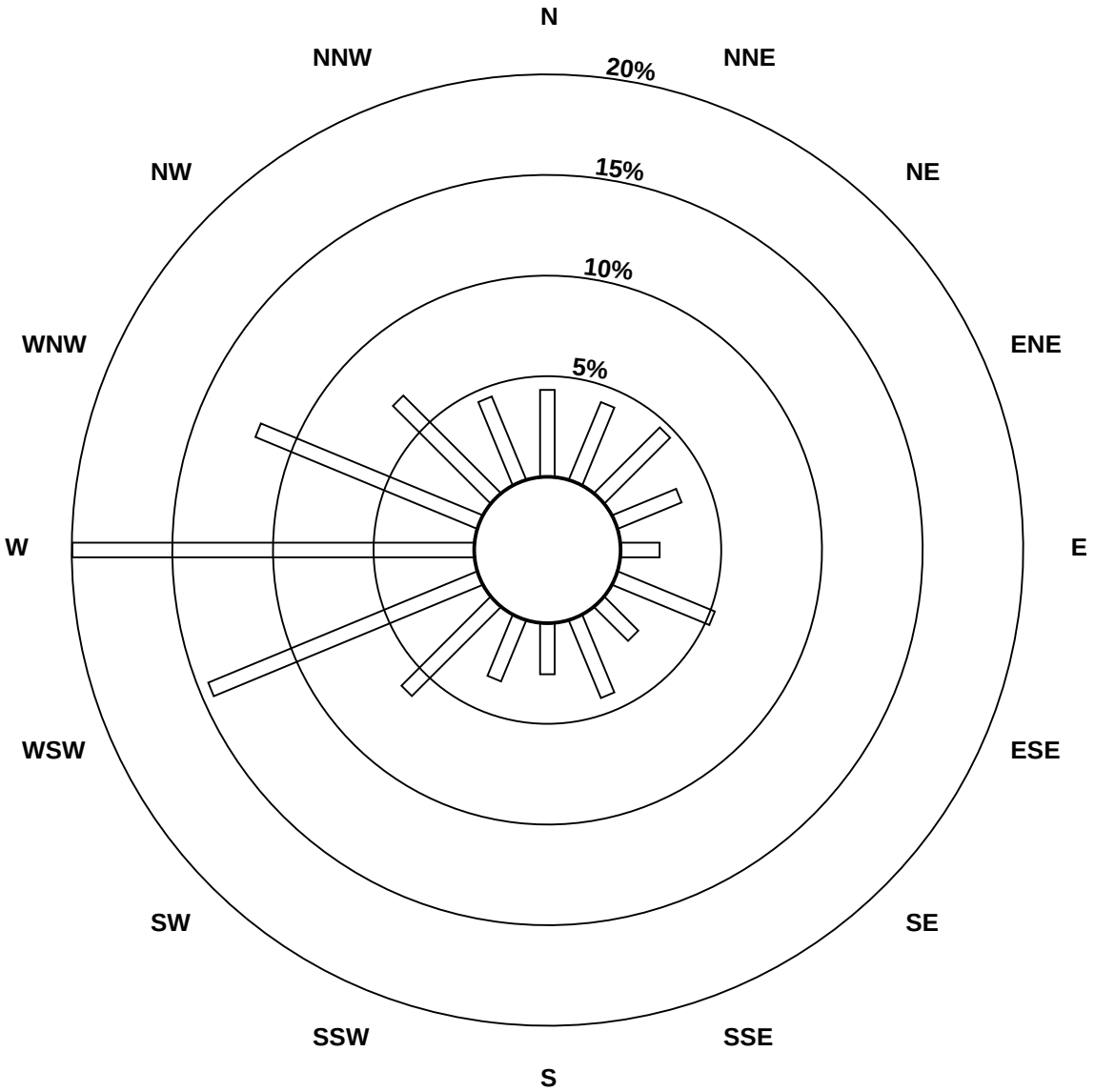
Henry Pirker - June 2011



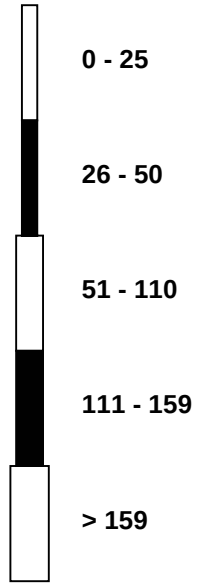
Pollutant Rose

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - June 2011



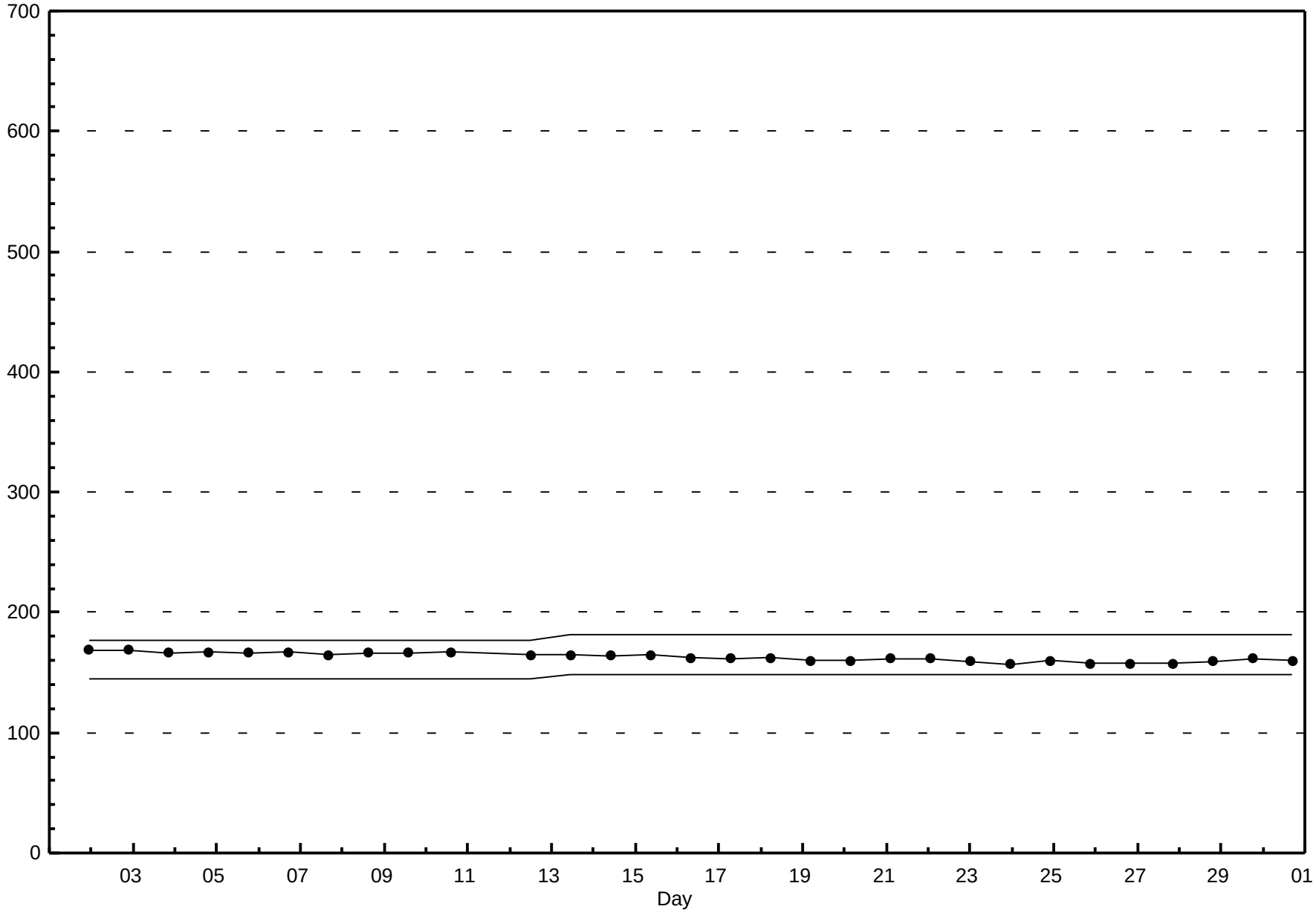
Pollutant Classes (ppb)



Span Responses

Nitrogen Dioxide (NO_2)

Henry Pirker - June 2011



Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Henry Pirker - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 18.2 ppb on Jun 6 07:00 Maximum Daily Average: 3.2 ppb on Jun 6

Minimum Value: 0 ppb on Jun 1 03:00 Minimum Daily Average: 0.3 ppb on Jun 5
Maximum Diurnal Average: 2.8 ppb at hour 7 Minimum Diurnal Average: 0.1 ppb at hour 2
Monthly Average: 0.84 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.1$ Median = 0.5 $Q_3 = 0.9$ $P_{90} = 1.8$ $P_{99} = 7.8$

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	0	0	0	0	2	5	6	3	3	2	1	1	1	1	0	0	0	0	0	0	0	A	0	1.2	6.2
2-Jun	0	0	0	0	0	1	2	2	1	0	0	0	0	0	0	0	1	0	0	0	0	A	0	0	0.5	2.4
3-Jun	0	0	0	0	0	1	1	1	1	1	2	2	1	2	4	2	1	1	0	0	A	0	0	0	0.9	4.2
4-Jun	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0	0	0	0.7	1.4
5-Jun	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	A	0	0	1	0	0	0.3	0.8
6-Jun	0	0	3	3	7	10	18	13	5	3	2	3	1	0	0	0	1	A	1	1	0	0	0	0	3.2	18.2
7-Jun	0	0	0	0	1	1	2	2	1	1	2	1	1	1	1	1	A	1	1	1	0	0	0	0	0.7	1.8
8-Jun	0	0	0	1	2	5	9	8	3	2	1	1	0	0	0	A	0	0	0	0	0	0	0	0	1.5	8.6
9-Jun	0	0	0	0	1	5	8	4	3	3	1	0	0	0	A	0	0	0	0	0	0	0	0	0	1.3	8.4
10-Jun	0	0	0	0	0	0	1	1	1	1	1	1	1	A	1	0	0	0	0	0	0	0	0	0	0.4	1.3
11-Jun	0	0	0	0	0	1	1	1	1	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0.3	1.5
12-Jun	0	0	0	0	1	1	2	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.6
13-Jun	0	0	0	0	0	2	3	4	8	5	A	1	3	0	0	0	0	0	0	0	0	0	0	0	1.3	8.3
14-Jun	0	0	0	0	0	1	2	2	1	A	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.5	2.0
15-Jun	0	0	0	0	0	1	1	2	A	0	1	1	2	1	1	0	1	1	0	0	0	0	0	0	0.6	2.1
16-Jun	0	0	0	0	0	0	1	A	1	1	1	2	1	1	1	1	1	1	1	1	0	0	0	0	0.6	1.5
17-Jun	0	0	0	0	0	0	A	2	2	2	2	1	1	1	1	1	1	0	0	0	0	0	0	0	0.7	2.2
18-Jun	0	0	0	0	1	A	3	6	3	2	1	1	1	1	1	0	1	1	0	1	0	0	0	0	1.0	5.7
19-Jun	0	0	0	0	A	0	1	1	1	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0.4	1.0
20-Jun	0	0	0	A	0	0	1	1	2	2	2	1	1	1	1	1	1	0	1	1	0	0	0	0	0.7	2.4
21-Jun	0	0	A	0	0	1	2	2	2	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.6	2.3
22-Jun	0	A	1	0	1	2	3	4	8	3	1	1	0	0	1	0	0	1	1	1	1	0	0	0	1.2	7.8
23-Jun	A	0	0	0	0	1	1	1	1	1	1	0	1	1	1	0	1	0	0	0	0	0	0	A	0.5	1.5
24-Jun	0	0	0	0	0	0	0	1	1	1	2	2	2	1	1	1	1	1	1	0	0	0	A	0	0.7	1.6
25-Jun	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	0	0	A	0	0	0.4	0.9
26-Jun	0	0	0	0	0	0	1	1	1	0	1	0	1	0	0	1	0	0	0	0	A	0	0	0	0.3	0.7
27-Jun	0	0	0	0	0	1	4	2	3	2	3	0	0	0	1	1	1	1	1	A	0	1	0	0	1.0	3.5
28-Jun	0	0	0	0	1	2	5	7	5	3	2	1	1	1	1	1	1	0	A	0	1	0	0	0	1.5	6.9
29-Jun	0	0	0	0	0	1	2	2	3	2	2	1	1	1	1	1	1	A	0	0	0	0	0	0	0.8	2.9
30-Jun	0	0	0	0	0	1	2	1	1	1	1	1	1	1	1	1	A	1	1	0	0	0	0	7	0.9	7.2
	0.1	0.1	0.2	0.2	0.6	1.5	2.8	2.8	2.2	1.7	1.2	1.0	0.9	0.7	0.8	0.7	0.6	0.5	0.4	0.4	0.3	0.2	0.1	0.3	Diurnal Average	
	0.5	0.4	2.6	3.2	7.5	9.7	18.2	13.0	8.3	4.7	2.7	3.1	3.2	1.7	4.2	1.7	1.3	0.8	0.9	0.9	0.6	0.8	0.4	7.2	Diurnal Maximum	

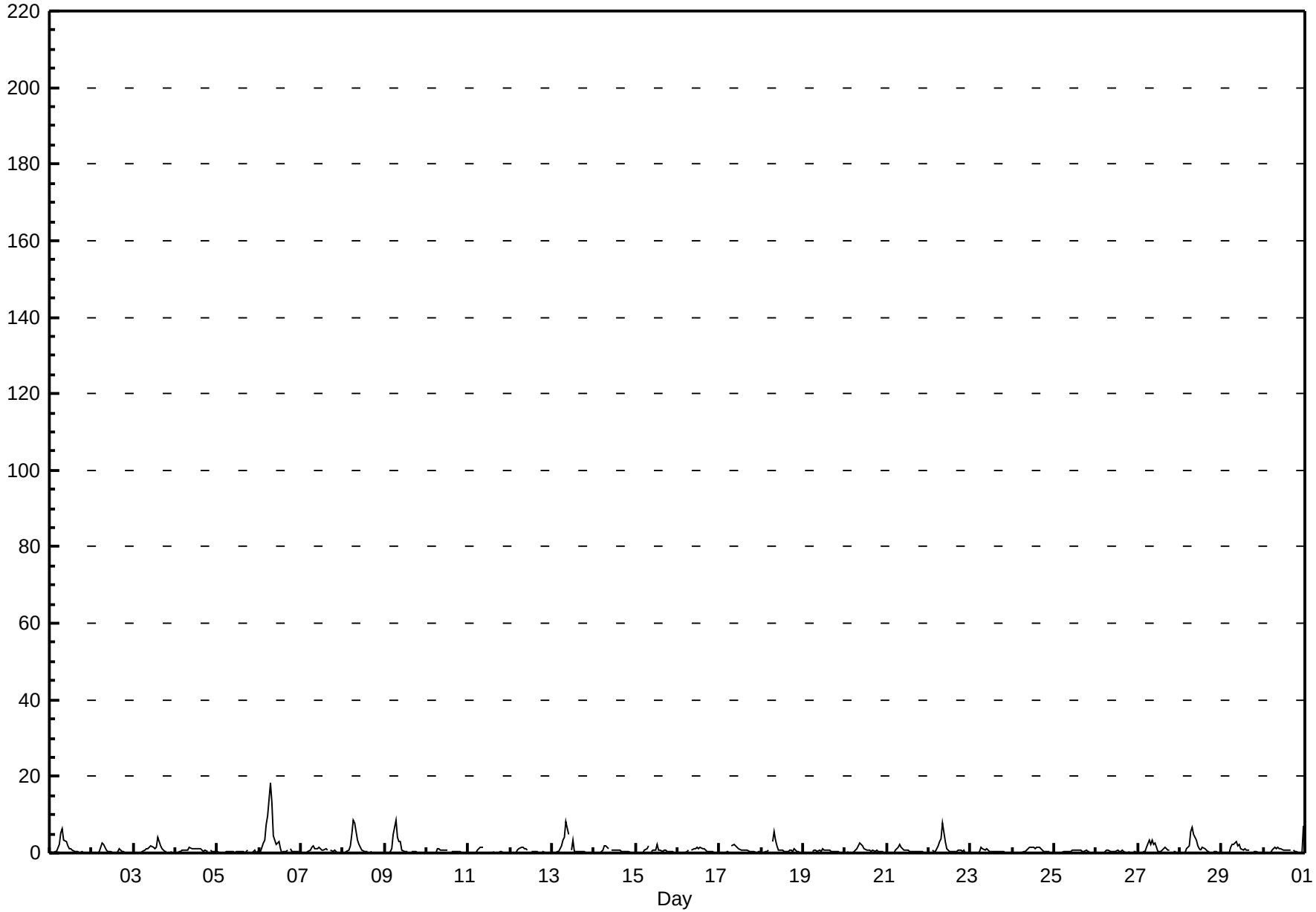
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Henry Pirker - June 2011



PAZA
Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Henry Pirker - June 2011

Maximum Value: 94.4 ppb on Jun 13 13:00

Maximum Daily Average: 8.9 ppb on Jun 6

Minimum Value: 0 ppb on Jun 1 03:00

Minimum Daily Average: 1.0 ppb on Jun 12

Maximum Diurnal Average: 6.5 ppb at hour 11

Minimum Diurnal Average: 0.7 ppb at hour 2

Monthly Average: 2.76 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.5$ $Q_1 = 0.5$ Median = 1.0 $Q_3 = 2.5$ $P_{90} = 5.7$ $P_{99} = 35.5$

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	7	1	0	2	1	6	8	8	5	5	3	2	1	2	1	0	0	0	0	0	0	0	A	0	2.5	8.0
2-Jun	0	0	0	0	1	2	4	4	1	1	0	0	0	1	1	1	2	1	0	0	1	A	0	0	1.1	4.5
3-Jun	5	0	3	1	1	4	4	5	2	4	14	8	4	4	18	8	7	2	0	1	A	0	0	0	4.3	18.4
4-Jun	0	1	1	1	2	2	1	2	2	2	2	2	2	2	2	1	1	1	2	A	3	2	1	3	1.7	2.5
5-Jun	2	1	0	0	0	0	1	1	1	1	0	0	0	3	1	1	1	3	A	1	0	11	1	1	1.5	10.9
6-Jun	4	6	42	9	12	20	27	28	8	6	6	6	2	0	3	3	3	A	7	2	1	4	2	3	8.9	42.2
7-Jun	0	0	1	1	2	3	5	5	2	3	9	4	5	2	5	4	A	3	5	7	4	1	0	0	3.1	8.8
8-Jun	1	1	1	2	3	6	14	14	4	4	3	2	1	1	7	A	1	0	0	0	0	0	0	1	3.0	14.4
9-Jun	1	1	1	2	4	12	13	7	4	44	2	1	1	1	A	0	1	1	5	0	0	0	0	0	4.5	43.8
10-Jun	0	0	0	0	0	0	2	9	1	1	1	1	1	A	1	1	1	1	1	0	0	0	0	0	1.0	9.2
11-Jun	0	0	2	0	0	2	2	2	3	C	C	C	C	C	2	0	0	0	1	1	1	1	1	1	1.1	2.5
12-Jun	1	1	0	0	2	1	2	2	2	1	1	A	0	0	0	0	1	0	1	1	0	0	0	0	1.0	2.5
13-Jun	0	0	0	1	0	4	9	11	10	9	A	2	94	1	0	1	1	1	0	0	0	0	0	0	6.4	94.4
14-Jun	0	0	0	0	0	1	3	3	2	A	2	1	1	1	1	1	1	1	1	1	0	0	0	0	1.1	3.5
15-Jun	0	0	0	0	0	1	3	3	A	1	2	5	36	1	1	1	6	2	1	1	4	1	0	0	3.1	35.8
16-Jun	0	0	0	0	0	1	1	A	2	13	5	8	5	4	4	3	2	1	2	2	1	1	1	0	2.6	13.5
17-Jun	1	0	0	0	1	1	A	9	10	5	4	3	1	2	3	2	1	1	1	0	0	0	1	1	2.1	10.1
18-Jun	3	0	2	2	1	A	4	8	6	3	7	3	3	1	2	1	3	4	2	17	0	1	2	0	3.4	17.3
19-Jun	0	1	0	3	A	1	16	2	1	3	1	1	1	2	1	1	1	1	1	0	0	0	0	0	1.8	16.1
20-Jun	0	0	0	A	0	1	2	2	12	5	3	2	1	2	1	1	1	1	2	3	1	1	0	0	2.0	11.7
21-Jun	0	0	A	0	0	2	3	15	2	2	1	2	1	1	1	1	1	1	0	0	0	0	0	1	1.8	15.4
22-Jun	0	A	2	2	2	3	5	6	15	4	1	2	2	2	1	1	2	2	3	1	3	1	1	1	2.9	15.0
23-Jun	A	1	0	0	0	1	8	2	2	2	2	1	1	1	1	1	1	0	0	3	0	0	0	A	1.4	7.6
24-Jun	0	0	0	0	0	0	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1	A	1	1.2	2.5
25-Jun	1	0	0	0	1	1	1	1	1	1	2	5	1	2	1	5	1	1	2	1	1	A	1	1	1.4	5.2
26-Jun	1	0	0	1	1	1	1	8	1	1	3	0	1	0	2	7	0	1	0	0	A	1	1	1	1.4	8.0
27-Jun	0	1	1	1	1	11	7	5	6	4	45	1	0	3	2	3	3	4	2	A	1	5	1	0	4.6	45.3
28-Jun	3	0	0	1	9	9	8	16	8	6	18	2	1	3	2	1	1	1	A	1	1	0	1	0	4.1	17.6
29-Jun	0	0	0	1	1	2	4	3	5	6	37	2	2	1	1	2	1	A	1	0	0	0	0	0	3.2	36.6
30-Jun	0	0	0	0	1	2	3	2	2	2	2	2	2	2	2	2	A	1	1	0	0	1	1	66	4.1	66.1
	1.2	0.7	2.2	1.1	1.7	3.6	5.6	6.4	4.3	5.1	6.5	2.7	6.2	1.8	2.6	2.0	1.7	1.4	1.6	1.8	1.0	1.4	0.7	3.0	Diurnal Average	
	7.2	6.0	42.2	8.9	11.5	19.9	27.5	27.5	15.0	43.8	45.3	8.3	94.4	3.9	18.4	8.3	6.5	3.8	6.9	17.3	4.3	10.9	2.5	66.1	Diurnal Maximum	

C - Calibration

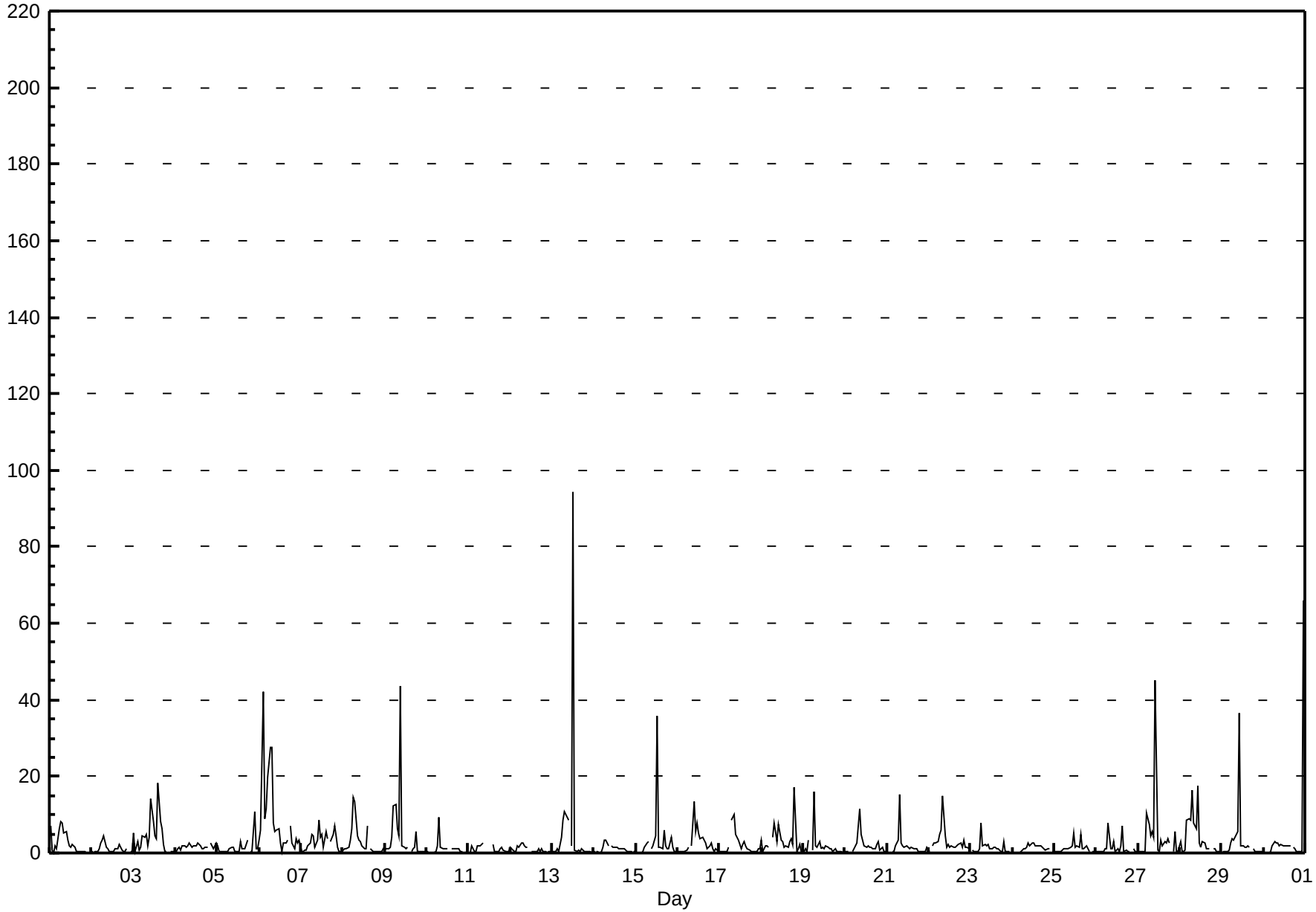
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Henry Pirker - June 2011



Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Henry Pirker - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 30.6 ppb on Jun 6 07:00 Maximum Daily Average: 10.0 ppb on Jun 6

Minimum Value: 1 ppb on Jun 5 12:00 Minimum Daily Average: 2.7 ppb on Jun 25
Maximum Diurnal Average: 10.4 ppb at hour 7 Minimum Diurnal Average: 3.0 ppb at hour 19
Monthly Average: 5.11 ppb Percentiles: P_1 = 1.3 P_{10} = 2.0 Q_1 = 2.6 Median = 3.8 Q_3 = 5.9 P_{90} = 10.3 P_{99} = 17.6

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	21	15	11	13	11	16	18	19	12	11	8	6	7	4	4	3	3	3	2	2	4	5	A	9	9.0	21.3
2-Jun	9	9	8	8	10	17	15	11	5	2	2	2	1	1	2	3	5	3	3	2	3	A	4	3	5.5	16.7
3-Jun	2	2	2	2	2	4	5	6	6	6	6	6	5	6	11	6	6	5	3	4	A	4	3	3	4.4	11.1
4-Jun	3	4	5	5	4	4	3	3	4	2	3	3	4	4	4	3	3	4	3	A	8	7	8	10	4.3	9.6
5-Jun	7	4	3	3	3	3	3	3	3	2	1	1	1	2	2	2	2	3	A	3	4	11	10	10	3.7	10.6
6-Jun	12	10	13	15	18	19	31	24	12	9	9	10	5	1	2	2	3	A	6	4	6	9	7	6	10.0	30.6
7-Jun	5	6	5	6	10	11	10	9	6	5	6	5	5	4	5	4	A	4	3	4	4	5	7	8	5.9	11.3
8-Jun	13	12	12	13	13	17	22	18	11	9	6	4	3	2	3	A	3	2	2	2	5	8	6	7	8.3	21.6
9-Jun	5	7	7	10	13	18	23	16	11	9	4	3	3	3	A	3	3	2	2	3	3	3	6	4	7.0	23.3
10-Jun	3	3	5	4	3	6	10	7	5	4	4	4	4	A	4	3	3	3	3	2	3	4	5	3	4.2	10.5
11-Jun	4	4	5	5	5	6	6	6	5	C	C	C	C	C	2	1	1	1	2	3	4	10	13	13	5.1	13.2
12-Jun	9	9	9	9	13	11	10	7	5	4	3	A	3	3	2	1	1	2	3	3	3	4	4	6	5.3	12.7
13-Jun	6	8	9	9	8	17	18	17	22	17	A	5	6	2	3	4	3	4	3	2	4	4	3	4	7.8	21.7
14-Jun	5	5	4	5	6	7	10	7	3	A	5	3	3	3	3	3	3	2	2	2	3	2	2	2	4.0	9.6
15-Jun	2	3	3	2	4	6	8	8	A	4	3	3	5	3	4	4	6	4	3	3	4	4	3	3	4.0	7.7
16-Jun	2	2	3	2	3	3	4	A	5	4	5	7	5	6	6	6	5	5	5	6	4	3	3	3	4.3	7.3
17-Jun	3	2	2	3	3	5	A	9	10	7	6	4	3	3	3	3	3	3	2	3	4	6	6	6	4.2	9.8
18-Jun	6	5	7	8	9	A	10	13	9	6	3	3	3	2	2	2	3	4	3	4	3	3	3	2	4.9	13.3
19-Jun	2	3	2	2	A	5	4	3	3	3	4	5	4	3	3	4	2	2	3	2	4	4	3	3	3.1	5.1
20-Jun	2	2	2	A	3	4	5	5	7	6	4	3	2	2	3	2	2	2	2	2	4	7	6	5	3.5	7.0
21-Jun	4	2	A	4	4	5	6	6	5	4	3	2	2	2	2	2	3	2	2	2	5	9	7	11	4.2	11.0
22-Jun	7	A	14	11	10	12	14	11	18	9	4	5	3	2	3	3	3	4	4	5	7	5	4	3	6.9	18.4
23-Jun	A	4	4	4	5	7	11	7	4	5	5	5	4	4	5	5	7	5	4	4	2	2	2	A	4.7	10.8
24-Jun	3	2	2	1	2	3	6	5	5	5	5	5	4	3	4	5	4	3	3	3	3	3	A	3	3.5	5.5
25-Jun	2	2	2	2	2	2	2	2	1	2	2	3	2	3	3	4	3	3	5	4	2	A	5	3	2.7	4.7
26-Jun	3	3	2	3	3	3	4	3	2	2	2	2	4	2	2	2	2	1	2	3	A	9	6	4	3.1	9.1
27-Jun	3	4	5	5	5	9	12	8	10	7	6	2	1	2	4	8	5	2	3	A	5	8	4	3	5.4	12.1
28-Jun	4	3	3	5	12	12	18	18	15	12	6	5	4	6	6	3	2	3	A	6	5	6	3	2	6.9	18.2
29-Jun	2	2	3	4	3	8	9	11	9	6	5	4	3	3	2	2	3	A	4	4	4	3	2	1	4.3	11.2
30-Jun	2	2	2	2	2	5	6	4	4	3	3	2	2	2	2	2	A	4	3	2	2	3	2	12	3.3	11.8
	5.3	4.8	5.2	5.6	6.5	8.5	10.4	9.2	7.5	5.8	4.4	4.0	3.5	3.1	3.5	3.3	3.3	3.0	3.0	3.2	4.0	5.4	4.9	5.2	Diurnal Average	
	21.3	15.5	13.7	15.0	18.1	18.6	30.6	24.3	21.7	17.0	8.9	9.5	6.6	6.4	11.1	8.0	7.1	5.1	5.6	6.4	7.7	10.6	12.6	13.2	Diurnal Maximum	

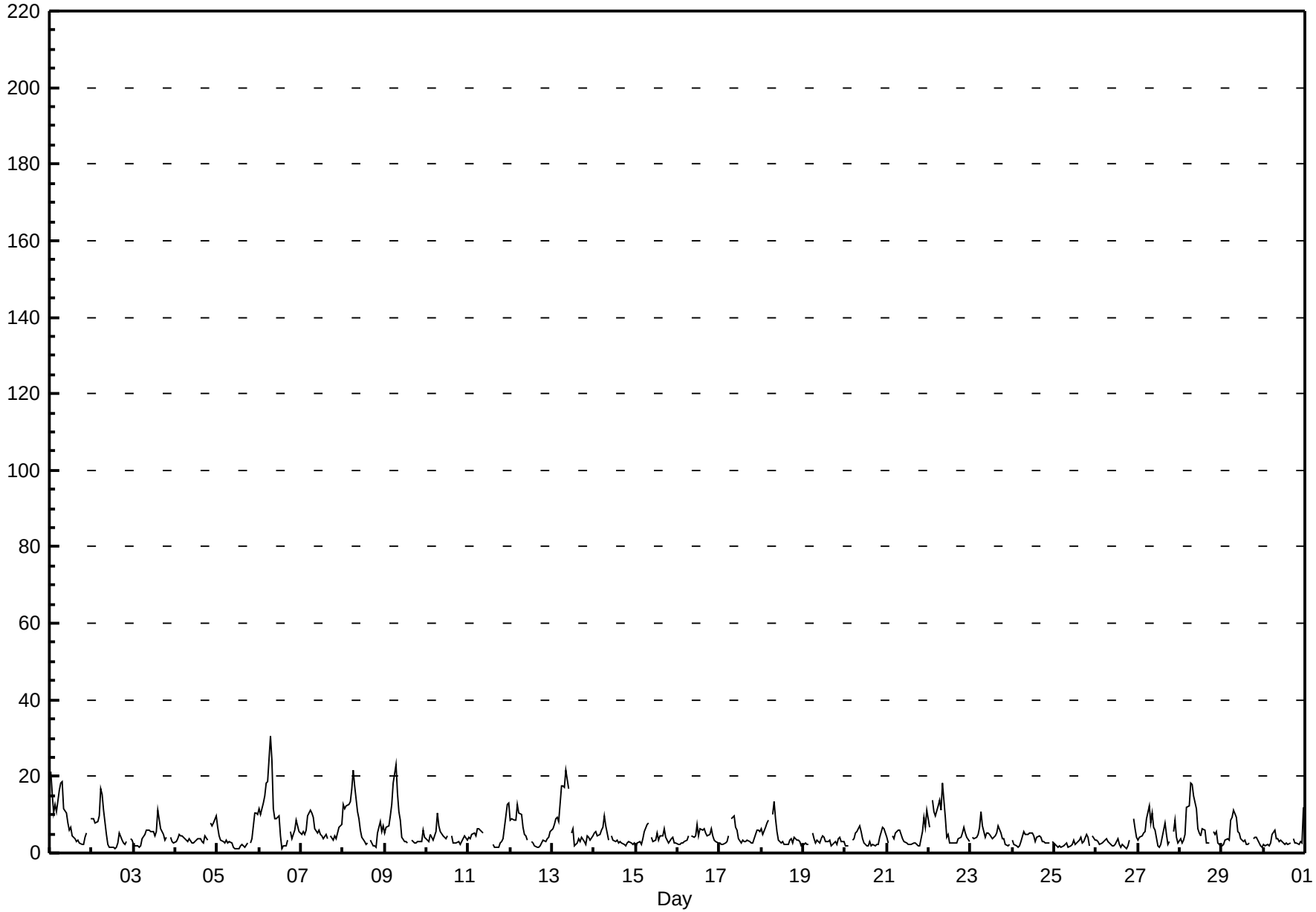
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Henry Pirker - June 2011



Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Henry Pirker - June 2011

Maximum Value: 91.9 ppb on Jun 13 13:00

Maximum Daily Average: 19.1 ppb on Jun 6

Minimum Value: 2 ppb on Jun 11 18:00

Minimum Daily Average: 4.8 ppb on Jun 25

Maximum Diurnal Average: 16.1 ppb at hour 8

Minimum Diurnal Average: 5.8 ppb at hour 18

Monthly Average: 9.21 ppb

Percentiles: P_1 = 2.0 P_{10} = 3.5 Q_1 = 4.5 Median = 6.7 Q_3 = 10.9 P_{90} = 17.2 P_{99} = 42.5

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	33	23	14	21	19	29	24	22	16	18	13	9	9	11	7	4	6	3	3	4	7	7	A	13	13.6	33.5
2-Jun	12	12	12	15	16	20	21	20	7	4	3	3	3	4	5	6	11	5	5	3	5	A	5	4	8.7	20.7
3-Jun	10	2	5	2	5	11	10	17	9	10	26	17	9	10	38	19	15	7	5	8	A	6	3	4	10.8	37.6
4-Jun	7	7	8	6	7	6	5	5	6	3	4	4	5	7	6	4	4	8	9	A	12	11	10	14	7.0	14.5
5-Jun	9	5	4	6	4	4	4	5	5	4	2	2	2	6	3	4	4	8	A	3	8	33	13	14	6.7	32.8
6-Jun	21	17	62	21	23	30	40	43	17	13	20	17	9	3	7	8	8	A	18	8	11	17	12	14	19.1	62.3
7-Jun	7	7	6	7	16	16	16	16	8	8	13	11	12	7	12	12	A	10	12	14	10	9	9	11	10.8	16.4
8-Jun	16	13	14	15	15	20	31	25	14	12	10	7	5	4	15	A	8	4	3	3	9	15	9	10	12.0	30.5
9-Jun	9	11	9	16	21	30	31	20	14	61	8	6	6	6	A	5	6	5	11	5	6	5	10	7	13.3	60.9
10-Jun	7	7	7	5	4	9	16	22	8	7	5	7	7	A	8	4	6	7	7	4	4	5	7	5	7.3	22.2
11-Jun	6	7	13	8	6	11	8	8	8	C	C	C	C	C	5	3	3	2	5	7	6	16	16	16	8.0	16.2
12-Jun	14	14	12	12	19	15	12	9	8	5	5	A	5	5	3	4	6	5	10	5	4	4	6	7	8.3	18.9
13-Jun	10	9	12	14	15	25	29	32	25	25	A	10	92	4	4	6	6	6	5	3	6	6	4	5	15.6	91.9
14-Jun	6	6	5	6	8	9	12	12	6	A	8	4	5	6	6	5	4	4	3	5	4	4	3	3	5.9	12.2
15-Jun	2	3	3	3	5	9	11	11	A	6	5	10	45	6	6	8	17	7	4	4	8	7	5	5	8.3	44.9
16-Jun	3	2	3	3	3	4	7	A	8	20	10	19	12	11	12	10	8	7	8	12	9	5	5	4	8.1	19.5
17-Jun	4	3	3	3	4	10	A	22	22	11	11	7	4	6	9	6	6	5	5	4	7	12	7	9	7.8	22.0
18-Jun	10	6	10	13	11	A	13	17	13	8	14	7	7	4	4	4	8	10	6	26	5	7	8	2	9.3	25.5
19-Jun	3	5	3	9	A	7	18	5	6	8	5	5	6	5	6	5	3	3	4	3	6	6	4	4	5.8	18.0
20-Jun	2	2	2	A	4	5	8	8	17	11	7	4	3	5	5	4	4	3	6	7	7	11	9	9	6.2	16.5
21-Jun	6	3	A	6	5	8	10	23	7	6	5	6	6	4	5	4	4	4	4	3	9	12	9	26	7.7	26.4
22-Jun	12	A	20	18	18	16	18	18	32	13	5	8	5	6	7	6	6	8	8	8	12	13	7	5	11.7	31.9
23-Jun	A	6	5	5	7	10	22	9	7	8	9	7	6	7	7	7	10	8	7	10	6	4	3	A	7.7	22.0
24-Jun	6	2	2	2	3	5	8	6	6	9	7	8	7	4	6	6	6	4	4	3	4	5	A	5	5.2	8.5
25-Jun	3	2	2	2	2	3	3	4	3	3	4	8	5	5	5	10	4	6	9	7	3	A	8	5	4.8	9.5
26-Jun	5	5	2	3	5	5	5	16	3	3	7	3	5	3	4	7	3	3	3	5	A	14	10	6	5.5	15.5
27-Jun	5	9	6	7	8	22	21	16	14	11	46	3	2	5	9	16	9	7	6	A	7	17	11	4	11.3	46.1
28-Jun	6	4	5	9	27	28	24	34	23	22	35	8	7	12	11	4	4	4	A	9	8	8	4	3	13.0	35.0
29-Jun	3	3	7	5	9	13	14	15	15	10	29	6	6	5	4	6	5	A	6	5	7	4	2	2	7.9	28.9
30-Jun	4	3	3	2	4	9	8	7	7	6	6	4	4	5	5	5	A	7	4	3	3	4	3	89	8.6	89.3
	8.4	6.9	9.1	8.5	10.1	13.5	15.5	16.1	11.5	11.7	11.6	7.5	10.3	5.9	7.8	6.7	6.6	5.8	6.5	6.5	6.9	9.5	7.2	10.7	Diurnal Average	
	33.5	22.6	62.3	21.3	27.0	30.1	40.4	43.2	31.9	60.9	46.1	18.8	91.9	11.5	37.6	19.0	17.2	9.8	18.4	25.5	11.8	32.8	16.0	89.3	Diurnal Maximum	

C - Calibration

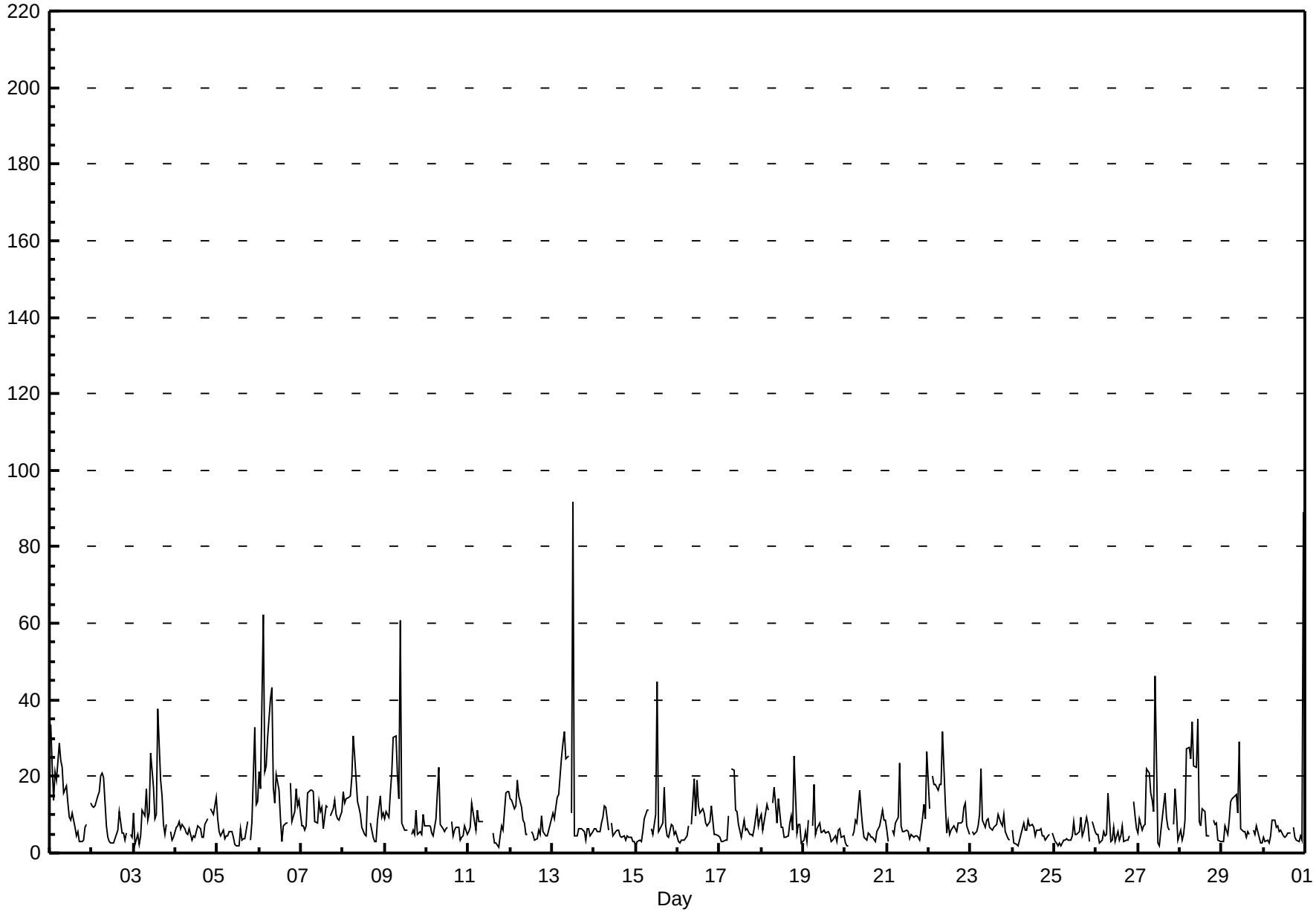
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

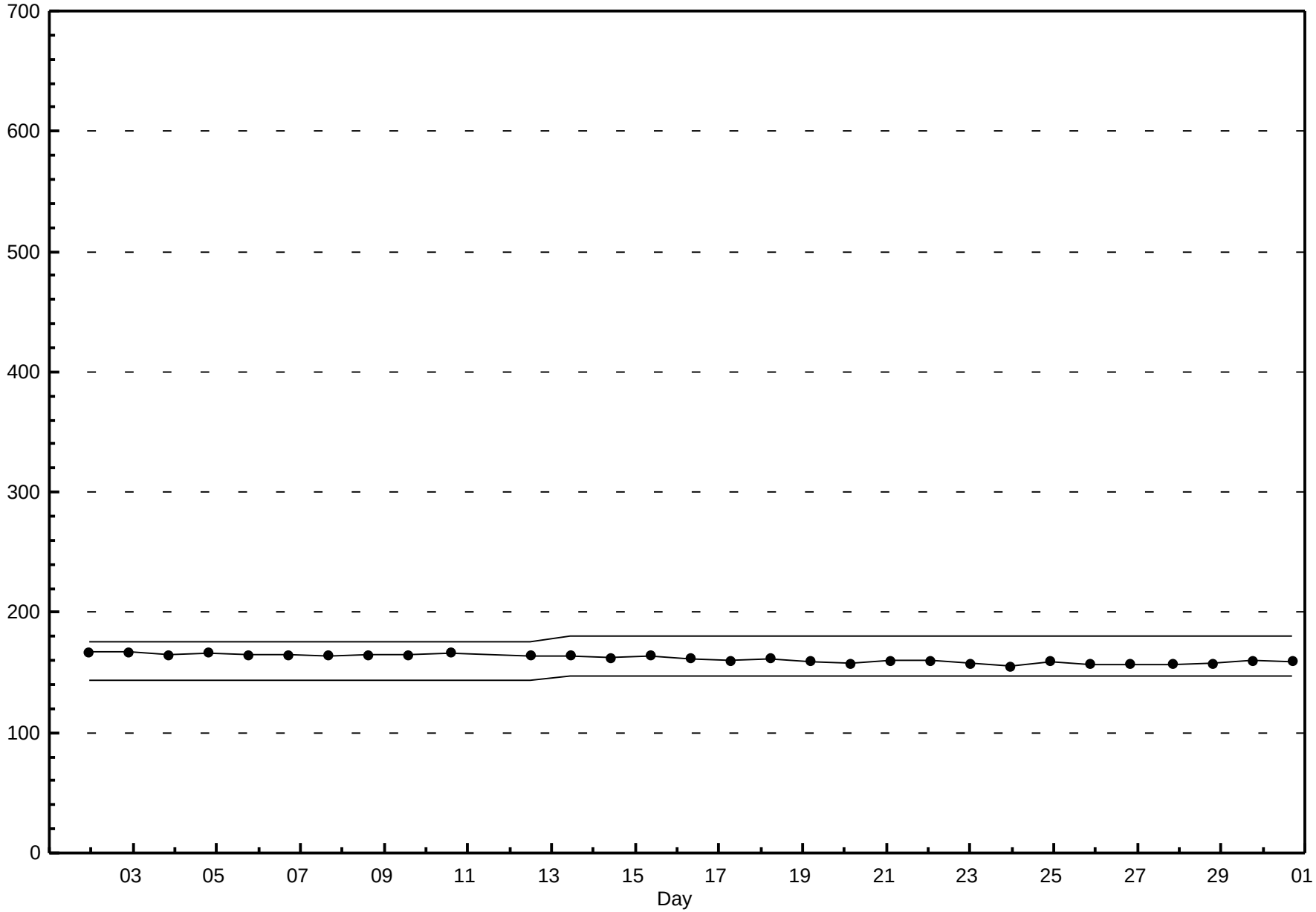
Henry Pirker - June 2011



Span Responses

Oxides of Nitrogen (NO_X)

Henry Pirker - June 2011



Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Henry Pirker - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 64.3 ppb on Jun 1 18:00 Maximum Daily Average: 39.7 ppb on Jun 1

Minimum Value: 1 ppb on Jun 6 05:00 Minimum Daily Average: 17.6 ppb on Jun 20
Maximum Diurnal Average: 37.3 ppb at hour 17 Minimum Diurnal Average: 18.1 ppb at hour 6
Monthly Average: 28.57 ppb Percentiles: P_1 = 6.4 P_{10} = 15.5 Q_1 = 20.8 Median = 27.6 Q_3 = 35.4 P_{90} = 43.2 P_{99} = 55.8

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

Day	Hourly Period Ending At (MST)																								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	17	17	22	16	17	15	15	19	28	34	42	52	57	59	61	63	64	64	54	56	54	49	A	40	39.7	64.3
2-Jun	37	30	26	22	16	21	29	35	43	47	49	50	50	51	52	51	46	46	45	42	40	A	34	22	38.4	52.3
3-Jun	22	23	23	25	25	24	27	26	27	30	32	29	26	26	21	22	24	23	22	21	A	20	20	21	24.5	32.0
4-Jun	20	18	16	15	15	17	18	17	18	20	20	21	22	24	26	28	29	27	27	A	22	20	16	11	20.3	28.5
5-Jun	13	16	23	28	27	26	27	26	31	34	34	35	35	34	33	35	35	35	A	35	33	23	15	14	28.1	35.2
6-Jun	8	8	5	1	1	2	3	8	9	17	28	32	36	40	42	41	41	A	39	40	37	30	29	28	22.9	41.8
7-Jun	28	26	26	25	21	21	21	22	24	27	31	35	41	43	42	43	A	41	43	42	40	37	32	26	31.9	42.9
8-Jun	14	10	7	3	4	6	10	15	28	34	37	43	46	46	46	A	47	48	48	48	42	36	34	31	29.7	48.2
9-Jun	30	27	24	16	9	6	10	20	26	32	40	44	44	43	A	41	41	40	37	35	32	27	22	27	29.3	44.0
10-Jun	29	30	26	28	30	31	25	29	34	39	40	43	42	A	40	45	43	41	40	43	41	38	34	35	35.9	44.6
11-Jun	32	31	30	28	29	25	24	27	28	33	39	C	C	C	44	45	46	48	46	45	43	34	29	25	34.8	47.6
12-Jun	29	26	22	21	15	21	25	27	31	35	41	A	48	47	50	51	52	51	50	47	45	42	41	40	37.4	52.4
13-Jun	36	29	24	22	21	14	17	17	13	18	A	46	48	48	50	46	44	43	44	44	41	39	38	35	33.8	49.8
14-Jun	27	24	25	23	22	21	21	24	27	A	32	35	36	36	39	41	43	43	44	39	36	33	33	31	32.0	43.7
15-Jun	31	28	26	25	23	21	19	19	A	24	25	24	25	24	27	31	30	29	27	26	24	34	38	33	26.8	37.7
16-Jun	37	33	29	29	30	27	24	A	22	26	34	31	33	32	30	32	36	37	35	30	28	29	28	25	30.3	37.4
17-Jun	24	25	22	18	16	15	A	17	16	18	19	27	34	36	37	39	37	38	38	35	35	30	21	18	26.8	38.8
18-Jun	17	18	13	9	9	A	13	13	18	25	33	32	34	34	33	33	30	28	31	29	24	27	26	33	24.5	33.8
19-Jun	29	27	24	22	A	20	24	25	26	27	29	29	27	29	30	31	35	38	34	33	30	29	32	34	28.8	37.9
20-Jun	21	11	10	A	15	14	14	12	8	9	15	19	19	21	24	24	21	22	22	24	23	19	19	19	17.6	24.1
21-Jun	19	24	A	19	18	18	19	21	23	29	33	37	39	41	42	43	43	45	44	40	37	31	32	26	31.4	44.6
22-Jun	25	A	12	9	9	12	15	16	17	25	35	42	47	46	45	46	47	47	43	36	33	34	34	36	31.0	47.5
23-Jun	A	41	39	37	31	23	25	30	35	37	40	41	43	44	38	34	33	36	35	34	43	43	35	A	36.2	44.0
24-Jun	33	32	33	33	32	31	26	20	18	16	16	17	17	18	17	16	17	17	17	17	17	16	A	17	21.6	33.1
25-Jun	16	15	15	14	15	16	16	16	17	16	17	21	24	23	21	28	24	22	15	17	22	A	20	23	18.8	28.2
26-Jun	24	25	22	17	17	16	19	25	27	30	33	36	40	43	40	42	42	43	41	35	A	26	23	23	30.1	43.0
27-Jun	22	20	14	11	15	12	11	16	13	21	30	31	30	30	24	25	28	26	25	A	25	17	28	39	22.2	39.1
28-Jun	32	27	24	19	9	11	10	15	19	22	24	27	29	30	31	34	34	31	A	24	21	16	19	19	22.9	34.3
29-Jun	18	19	17	17	20	16	17	13	15	18	22	25	28	32	32	32	32	A	36	31	29	28	28	28	24.1	35.5
30-Jun	25	24	26	26	25	22	22	25	25	25	26	27	27	28	29	28	A	30	30	28	27	23	23	20	25.8	30.3
	24.7	23.6	21.5	20.0	18.6	18.1	18.9	20.5	23.0	26.6	31.0	33.2	35.4	36.0	36.1	36.9	37.3	37.1	36.2	34.9	33.0	29.7	28.0	26.9	Diurnal Average	
	37.4	40.9	38.8	37.2	31.8	31.1	28.8	34.7	43.1	46.9	48.8	51.6	56.6	59.2	61.2	62.6	64.1	64.3	54.2	56.0	54.4	49.4	41.4	39.7	Diurnal Maximum	

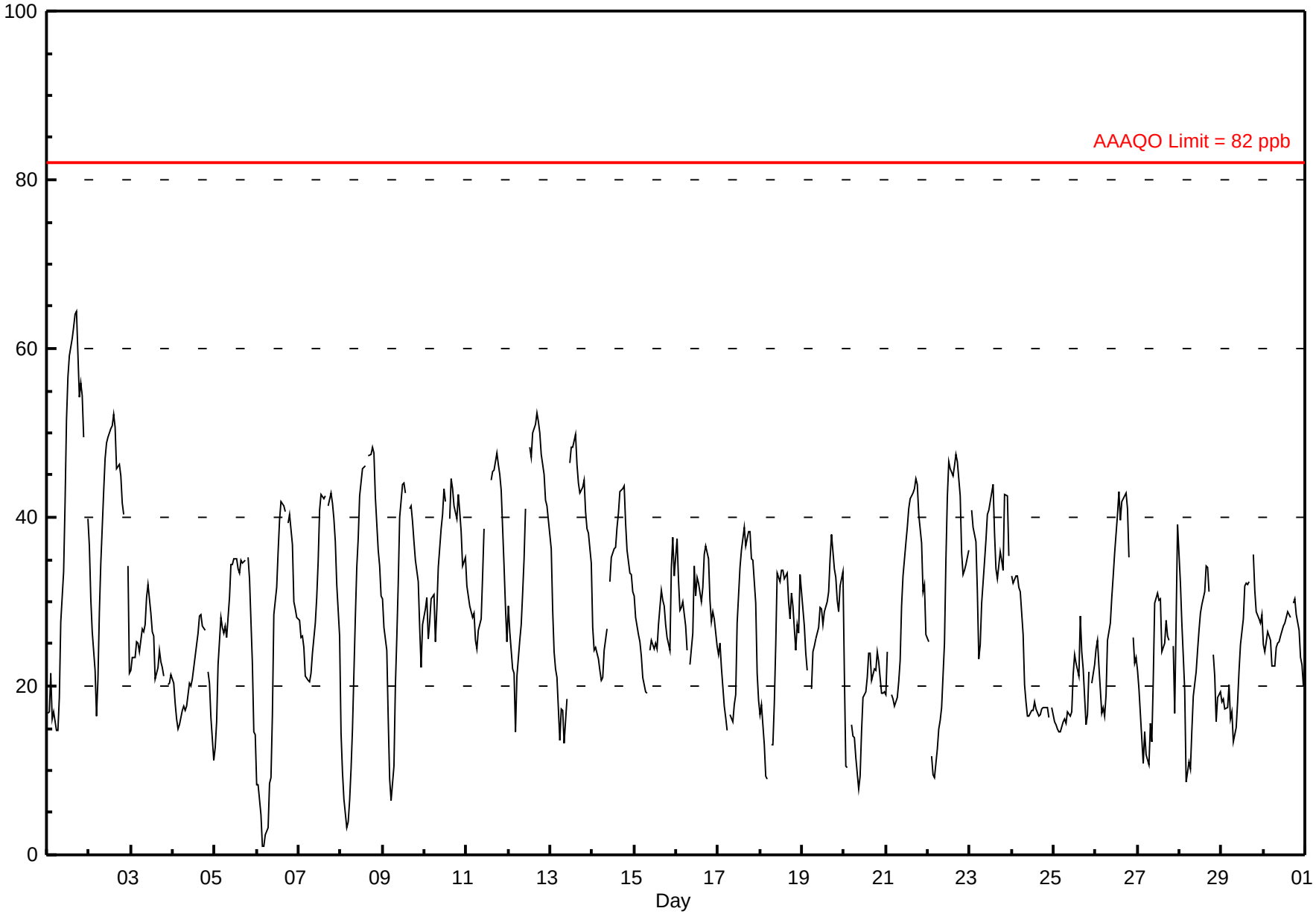
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na

Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Henry Pirker - June 2011



Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

Henry Pirker - June 2011

Maximum Value: 67.8 ppb on Jun 1 18:00

Maximum Daily Average: 43.6 ppb on Jun 1

Minimum Value: 2 ppb on Jun 6 05:00

Minimum Daily Average: 20.4 ppb on Jun 20

Maximum Diurnal Average: 39.9 ppb at hour 17

Minimum Diurnal Average: 21.4 ppb at hour 6

Monthly Average: 31.56 ppb

Percentiles: P_1 = 8.4 P_{10} = 18.3 Q_1 = 23.8 Median = 30.8 Q_3 = 38.8 P_{90} = 46.4 P_{99} = 57.5

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

Day	Hourly Period Ending At (MST)																								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	24	25	26	22	22	19	18	22	32	40	47	55	59	62	63	65	66	68	56	58	57	53	A	43	43.6	67.8
2-Jun	42	36	31	28	22	28	33	41	48	49	51	51	52	53	54	56	48	49	49	44	42	A	44	29	42.6	56.0
3-Jun	26	25	25	27	26	26	30	29	30	32	35	32	30	28	25	27	26	25	25	23	A	23	22	24	27.1	35.0
4-Jun	23	21	20	16	18	19	19	19	20	22	22	22	23	25	29	29	30	29	28	A	25	23	20	15	22.5	30.0
5-Jun	17	19	34	36	31	27	30	31	35	37	36	36	37	36	35	37	37	39	A	38	35	29	18	21	31.8	38.8
6-Jun	13	12	8	2	2	5	5	14	11	32	34	36	39	42	44	43	43	A	42	42	42	32	30	30	26.2	43.6
7-Jun	31	27	27	26	24	24	23	23	27	30	33	39	44	45	44	44	A	44	44	44	42	40	35	31	34.4	44.6
8-Jun	18	13	10	5	6	10	14	26	32	38	40	46	47	48	49	A	49	49	50	49	46	40	36	34	33.0	50.2
9-Jun	32	29	26	22	12	9	15	24	28	38	43	46	46	46	A	43	44	41	40	37	35	29	27	30	32.4	46.5
10-Jun	31	33	28	29	33	34	30	34	38	41	42	47	45	A	44	47	46	43	43	45	43	40	37	37	38.7	46.8
11-Jun	34	34	33	33	31	31	28	30	32	37	41	C	C	C	46	47	48	49	49	47	47	40	31	27	37.9	48.9
12-Jun	32	29	24	24	19	30	28	29	35	38	47	A	50	50	52	53	54	53	54	50	47	44	43	42	40.3	54.4
13-Jun	38	35	30	25	25	18	21	22	19	23	A	52	52	51	52	49	46	46	45	47	46	44	40	38	37.6	52.1
14-Jun	32	26	27	25	23	23	23	27	30	A	35	37	38	38	41	43	46	45	46	42	39	35	34	33	34.2	45.9
15-Jun	31	30	27	26	26	23	21	23	A	28	27	26	26	26	32	34	34	33	29	28	28	41	43	37	29.6	42.9
16-Jun	39	35	31	32	31	30	27	A	26	33	37	36	35	35	34	38	39	40	38	35	30	31	31	27	33.4	40.2
17-Jun	28	28	24	21	18	17	A	21	18	20	24	33	37	38	39	41	39	40	40	39	36	37	25	21	29.8	41.1
18-Jun	19	20	16	13	12	A	17	17	21	30	37	38	37	35	35	36	34	31	33	32	28	33	30	37	27.9	38.4
19-Jun	35	30	25	23	A	24	26	26	28	29	36	33	31	32	34	34	38	42	37	36	35	31	35	37	32.0	41.9
20-Jun	31	12	11	A	17	17	16	15	9	11	18	20	21	23	25	27	22	28	24	26	27	24	24	21	20.4	30.8
21-Jun	24	25	A	21	20	19	20	22	26	33	38	39	41	44	45	45	45	47	47	43	40	37	37	33	34.5	47.5
22-Jun	28	A	20	18	14	19	17	20	24	34	38	47	50	48	47	49	49	49	45	39	35	36	36	37	34.8	49.6
23-Jun	A	43	41	38	36	26	32	32	37	40	43	45	46	47	41	39	38	39	38	38	45	44	40	A	39.5	46.9
24-Jun	34	34	34	34	33	33	32	23	20	19	18	18	18	19	18	18	18	19	19	19	19	17	A	19	23.2	34.5
25-Jun	16	16	16	15	15	17	17	17	18	18	19	24	25	25	25	31	28	25	20	23	23	A	22	25	20.9	31.3
26-Jun	27	32	24	19	19	18	22	28	29	32	35	39	44	46	42	44	44	45	44	39	A	30	25	24	32.7	46.4
27-Jun	24	23	17	16	17	17	13	20	16	28	32	32	32	33	29	33	33	29	27	A	27	22	40	41	26.2	41.0
28-Jun	36	29	26	24	16	15	15	20	21	25	26	29	32	34	34	36	36	34	A	27	23	21	20	20	26.0	36.4
29-Jun	20	20	20	20	23	20	20	16	17	21	25	27	34	34	34	34	35	A	38	33	30	30	29	29	26.5	37.8
30-Jun	27	27	27	27	27	24	24	27	27	27	28	28	29	29	30	30	A	31	32	30	28	25	24	23	27.5	32.4
	28.1	26.5	24.5	23.1	21.4	21.4	22.0	24.1	26.1	30.6	34.0	36.2	38.0	38.3	38.7	39.7	39.9	39.8	38.8	37.6	35.8	33.2	31.3	29.9	Diurnal Average	
	42.3	42.9	41.4	38.4	36.4	34.0	33.3	41.1	47.6	49.3	51.1	55.2	58.9	61.6	63.2	65.3	66.3	67.8	56.0	57.9	56.9	52.7	43.8	43.1	Diurnal Maximum	

C - Calibration

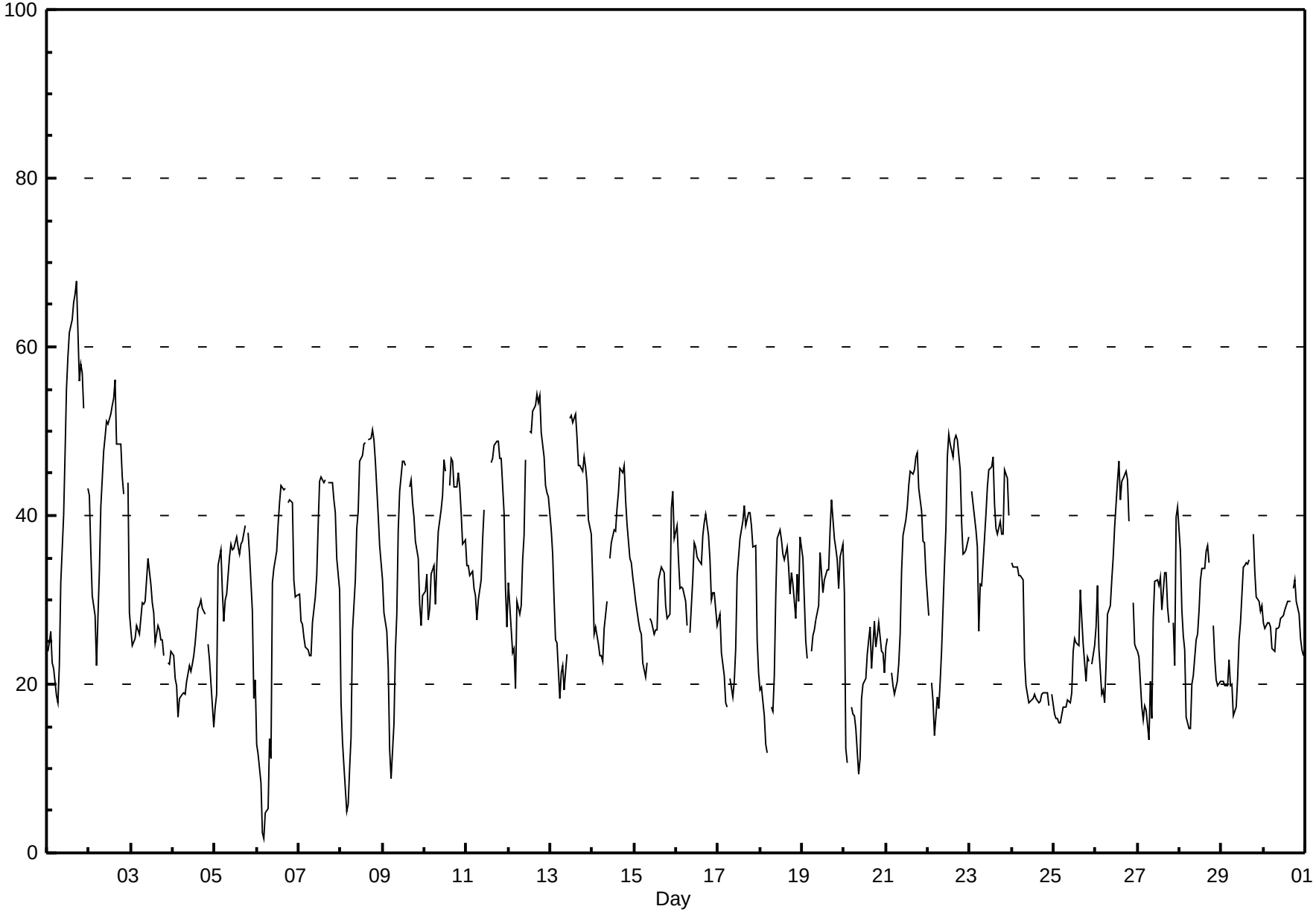
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

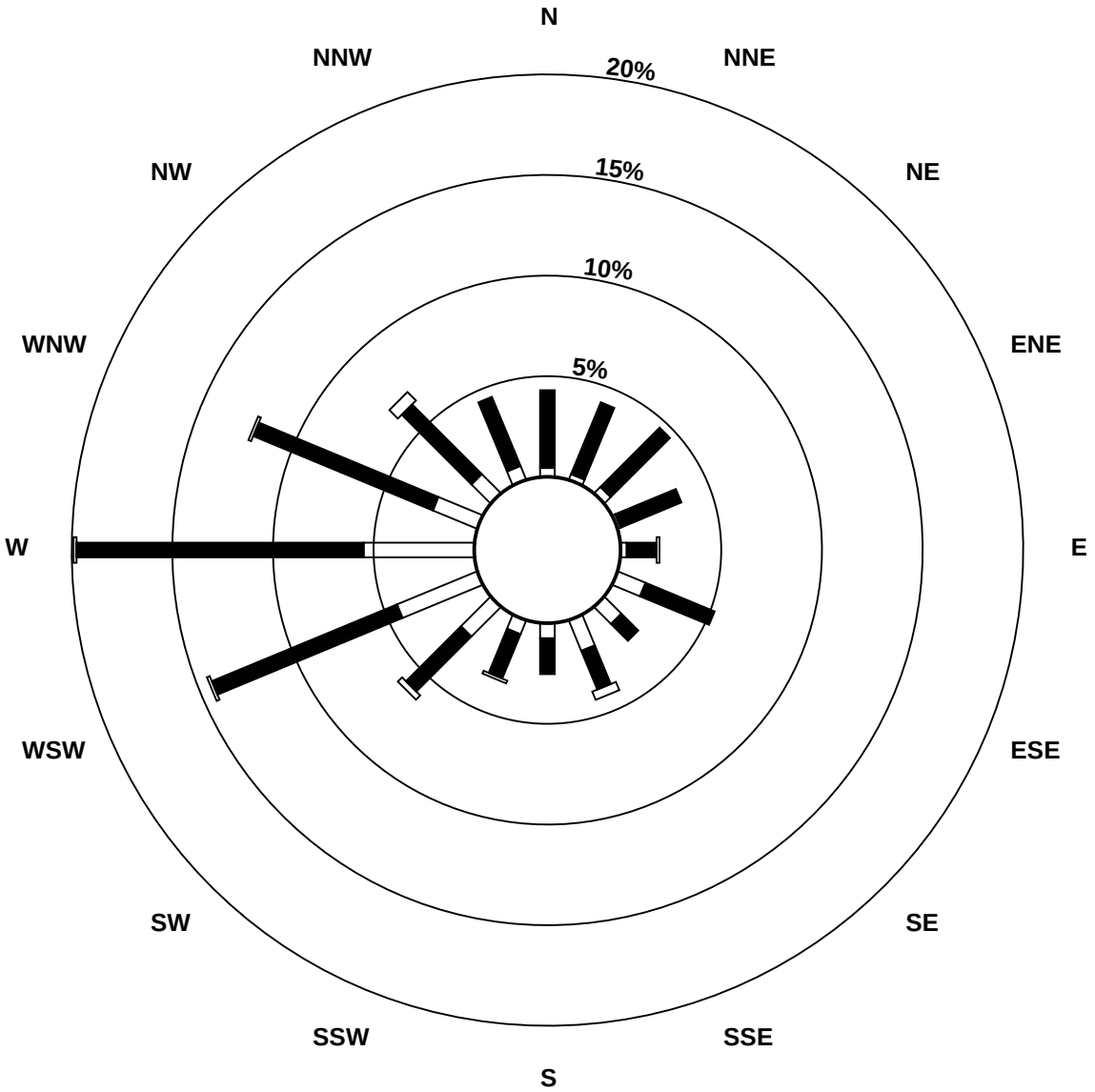
Henry Pirker - June 2011



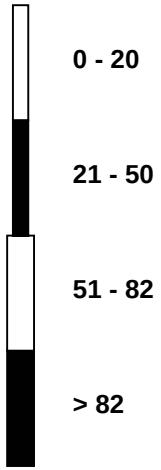
Pollutant Rose

Ozone (O_3) - ppb

Henry Pirker - June 2011



Pollutant Classes (ppb)



PAZA
Peace Airshed Zone Association

Eight Hour Running Averages

Ozone (O_3) - ppb

Henry Pirker - June 2011

Maximum Value: 59.8 ppb on Jun 1 20:00

Minimum Value: 4.7 ppb on Jun 6 08:00

Percentiles: P_1 = 9.1 P_{10} = 17.2 Q_1 = 21.7 Median = 27.7 Q_3 = 34.5 P_{90} = 41.3 P_{99} = 52.6

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

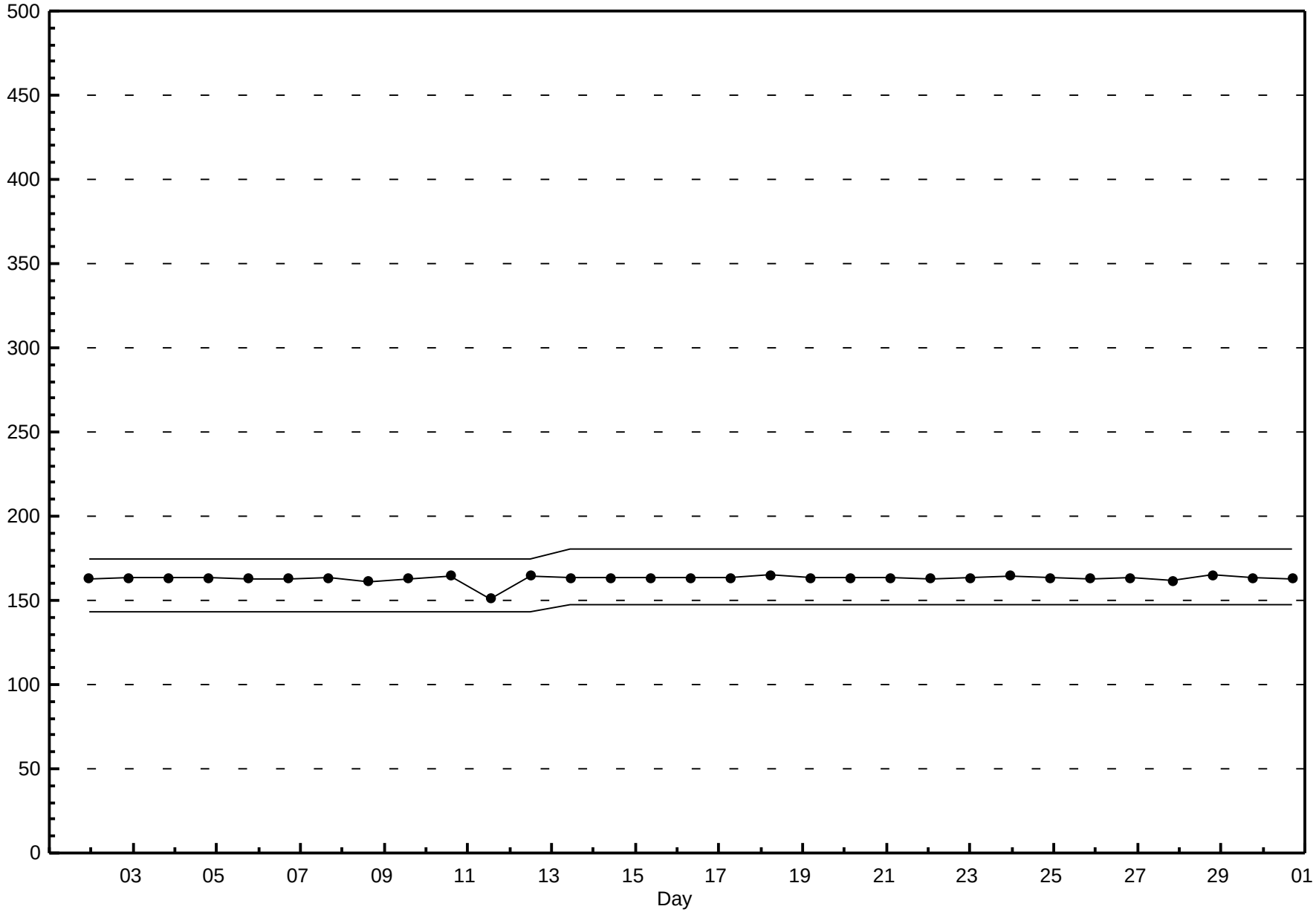
Day	Hourly Period Ending At (MST)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Jun	45	39	34	29	24	19	17	17	18	21	23	27	32	38	44	49	54	58	59	60	60	58	58	55	59.8
2-Jun	51	46	42	37	32	27	28	27	28	30	33	36	40	44	47	49	49	49	49	48	47	46	43	39	50.7
3-Jun	36	33	30	27	25	25	24	25	25	26	27	28	28	28	27	27	26	25	24	23	23	22	22	22	35.9
4-Jun	21	21	20	19	18	18	18	17	17	17	18	18	19	20	21	22	24	25	25	26	26	26	24	22	26.1
5-Jun	19	18	17	19	19	20	21	23	25	28	29	30	31	32	33	34	34	35	35	35	34	33	30	27	34.6
6-Jun	23	19	18	13	9	7	5	5	5	6	9	13	17	22	26	31	35	37	39	40	40	39	37	35	40.0
7-Jun	33	32	30	28	27	25	24	23	23	23	24	25	28	30	33	36	37	39	41	42	42	41	40	37	42.1
8-Jun	34	30	26	21	17	13	10	9	10	13	17	22	27	32	37	40	43	45	46	47	46	45	43	42	46.9
9-Jun	40	37	34	30	26	22	19	18	17	18	20	23	28	32	36	39	41	42	41	40	38	36	34	33	41.8
10-Jun	31	30	29	28	27	28	28	29	29	30	32	34	35	36	38	40	42	42	42	42	42	41	41	39	42.1
11-Jun	38	37	35	34	32	30	29	28	28	28	29	29	29	N	N	N	N	N	N	46	45	44	42	40	45.8
12-Jun	38	35	32	29	25	24	23	23	24	25	27	28	33	36	40	43	46	49	50	50	49	49	48	46	50.0
13-Jun	44	41	38	35	32	28	25	23	20	18	18	21	25	30	35	39	43	47	46	46	45	44	42	41	46.6
14-Jun	39	36	34	31	29	27	25	23	23	23	24	26	28	30	33	35	38	38	40	40	40	40	39	38	40.2
15-Jun	36	34	32	31	29	27	26	24	23	23	23	22	23	23	24	26	27	27	27	28	28	29	30	30	36.4
16-Jun	31	32	32	32	33	32	30	30	28	27	28	28	28	29	30	30	32	33	33	33	32	32	32	31	33.1
17-Jun	29	28	26	25	23	22	21	19	18	17	17	18	21	24	26	28	31	33	36	37	37	36	34	32	36.9
18-Jun	29	27	23	20	17	15	14	13	13	14	17	21	24	25	28	30	32	32	32	31	30	30	29	29	32.2
19-Jun	29	28	28	27	27	26	26	24	24	24	25	26	26	27	28	29	30	31	32	32	32	32	33	33	33.0
20-Jun	31	28	25	24	22	20	17	14	12	12	12	13	14	15	16	17	19	21	21	22	23	22	22	21	31.3
21-Jun	21	21	21	20	20	19	19	20	20	21	22	25	27	30	33	36	38	40	42	42	42	41	39	37	42.1
22-Jun	35	34	29	25	21	18	16	14	13	15	17	22	26	30	34	38	42	44	45	44	43	41	40	39	45.3
23-Jun	37	37	36	36	36	35	33	32	33	32	32	33	34	37	38	39	39	39	38	37	37	37	36	37	39.0
24-Jun	37	36	36	36	34	33	31	30	28	26	24	22	20	19	18	17	17	17	17	17	17	17	17	17	36.9
25-Jun	17	17	16	16	16	15	16	15	15	16	16	17	18	19	19	21	22	23	22	22	21	21	21	20	22.5
26-Jun	20	21	22	22	21	21	21	21	21	22	23	26	28	32	34	36	38	40	41	41	41	38	36	33	40.9
27-Jun	30	27	23	20	19	17	16	15	14	14	16	18	20	23	24	26	27	28	27	27	26	24	25	27	30.4
28-Jun	27	28	27	26	24	24	21	18	17	16	16	17	19	22	24	27	29	30	31	30	29	27	26	23	30.8
29-Jun	21	19	19	18	18	18	18	17	17	17	17	18	19	21	23	26	28	29	31	32	32	31	31	30	32.0
30-Jun	29	29	27	27	26	26	25	25	25	25	25	25	25	26	27	27	27	28	29	29	29	28	27	26	29.2
	50.7	45.8	41.8	37.0	36.0	34.5	33.2	32.3	32.6	32.1	32.7	36.1	40.4	44.1	47.1	49.3	53.8	57.6	59.2	59.8	59.5	58.3	57.9	54.6	
	Diurnal Maximums																								

N - Not Valid

Span Responses

Ozone (O_3)

Henry Pirker - June 2011



Peace Airshed Zone Association

Hourly Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 0.35 ppm on Jun 16 05:00
Maximum Daily Average: 0.27 ppm on Jun 16

Minimum Value: 0.1 ppm on Jun 30 05:00
Maximum Diurnal Average: 0.19 ppm at hour 7
Monthly Average: 0.174 ppm
Minimum Daily Average: 0.09 ppm on Jun 30
Minimum Diurnal Average: 0.17 ppm at hour 19
Percentiles: P_1 = 0.09 P_{10} = 0.11 Q_1 = 0.14 Median = 0.17 Q_3 = 0.21 P_{90} = 0.24 P_{99} = 0.31

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jun	0.3	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	M	0.2	0.2	0.2	0.2	0.2	A	0.2	0.21	0.34
2-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.18	0.21
3-Jun	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.14	0.17
4-Jun	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.16	0.24
5-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	A	0.1	0.2	0.2	0.3	0.2	0.17	0.25
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	A	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.25
7-Jun	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.19	0.28
8-Jun	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.14	0.23
9-Jun	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.18	0.28
10-Jun	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	C	C	C	0.1	A	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.13	0.17
11-Jun	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.13	0.29
12-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.15	0.23
13-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	0.18	0.24
14-Jun	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.13	0.16
15-Jun	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.19	0.32
16-Jun	0.3	0.3	0.3	0.3	0.4	0.3	0.3	A	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.27	0.35
17-Jun	0.3	0.2	0.2	0.2	0.2	0.2	A	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.22	0.26
18-Jun	0.3	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.27
19-Jun	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20	0.22
20-Jun	0.2	0.2	0.2	A	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.16	0.21
21-Jun	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.14	0.19
22-Jun	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.18	0.23
23-Jun	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.20	0.24
24-Jun	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	A	0.1	0.15	0.17
25-Jun	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.17	0.21
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	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.3	0.3	0.3	0.22	0.27
27-Jun	0.3	0.3	0.3	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	A	0.3	0.3	0.2	0.1	0.24	0.29
28-Jun	0.2	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.1	0.1	0.19	0.28
29-Jun	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.12	0.17
30-Jun	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.09	0.11
	0.18	0.17	0.17	0.17	0.17	0.17	0.19	0.19	0.18	0.18	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.18	0.18	0.17	Diurnal Average	
	0.34	0.25	0.25	0.29	0.35	0.33	0.31	0.28	0.28	0.26	0.31	0.34	0.27	0.24	0.28	0.27	0.32	0.30	0.31	0.28	0.27	0.28	0.29	0.29	Diurnal Maximum	

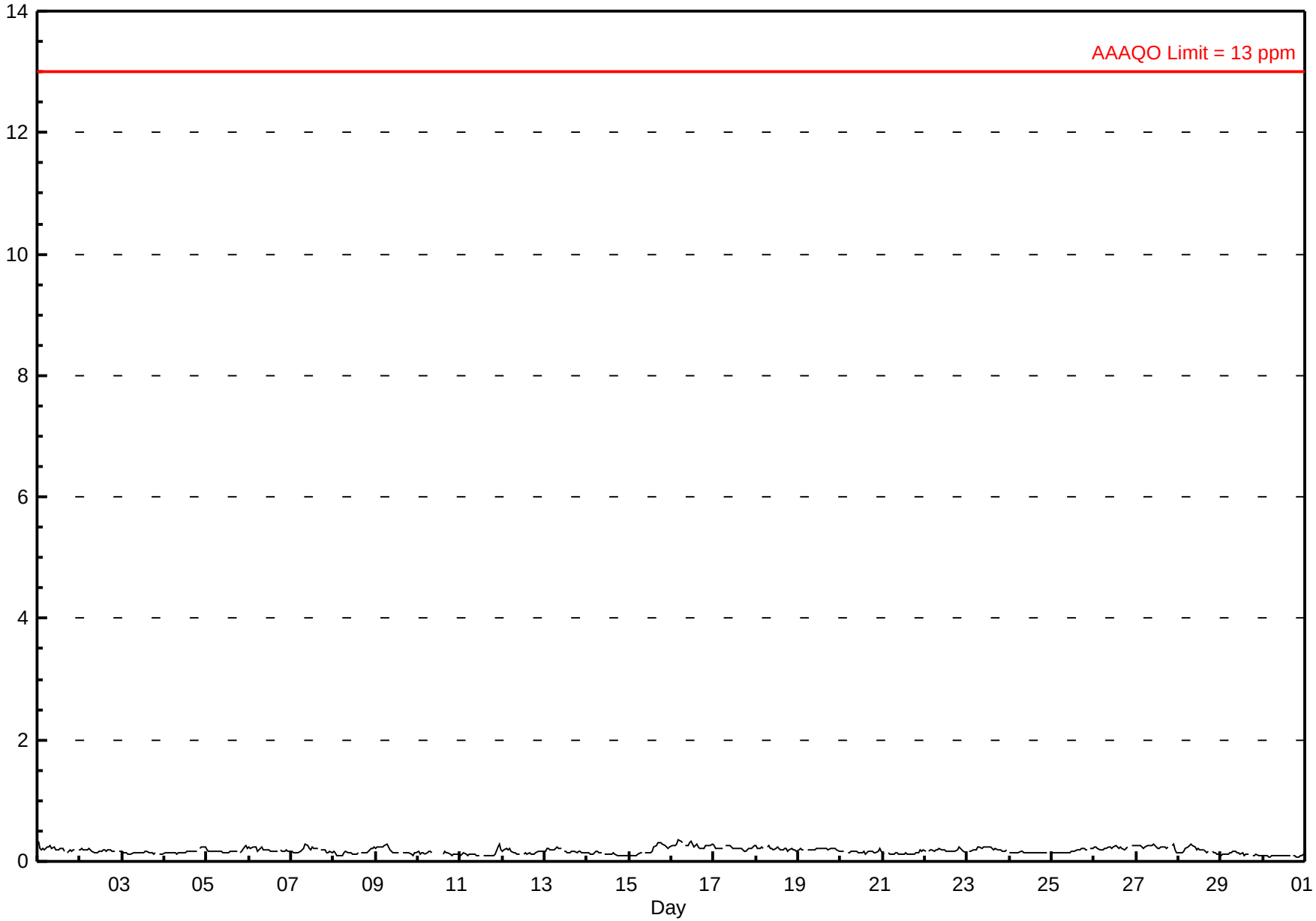
C - Calibration M - Maintenance A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 13 ppm 24-hr na

Peace Airshed Zone Association

Hourly Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - June 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Carbon Monoxide (CO) - ppm

Henry Pirker - June 2011

Maximum Value: 1.14 ppm on Jun 10 16:00

Maximum Daily Average: 0.36 ppm on Jun 27

Minimum Value: 0.1 ppm on Jun 30 19:00

Minimum Daily Average: 0.11 ppm on Jun 30

Maximum Diurnal Average: 0.25 ppm at hour 12

Minimum Diurnal Average: 0.20 ppm at hour 18

Monthly Average: 0.227 ppm

Percentiles: P_1 = 0.10 P_{10} = 0.15 Q_1 = 0.16 Median = 0.20 Q_3 = 0.25 P_{90} = 0.32 P_{99} = 0.72

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	0.6	0.3	0.2	0.3	0.2	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.7	0.9	0.2	M	0.2	0.2	0.2	0.2	0.2	A	0.2	0.31	0.87
2-Jun	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.21	0.30
3-Jun	0.3	0.2	0.2	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.4	0.3	0.3	0.5	0.3	0.2	0.2	0.1	0.2	0.2	A	0.2	0.1	0.1	0.22	0.51
4-Jun	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.3	0.3	0.3	0.3	0.20	0.32
5-Jun	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	A	0.2	0.2	0.4	0.3	0.3	0.22	0.48
6-Jun	0.3	0.3	0.5	0.3	0.5	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.3	A	0.5	0.2	0.3	0.3	0.2	0.2	0.28	0.50
7-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.2	0.3	0.2	A	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.25	0.38
8-Jun	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	A	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.18	0.28
9-Jun	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	A	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.22	0.34
10-Jun	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	C	C	C	0.2	A	0.2	1.1	0.5	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.24	1.14
11-Jun	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	A	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.4	0.3	0.18	0.38
12-Jun	0.2	0.3	0.2	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	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.18	0.31
13-Jun	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.4	A	0.2	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.36
14-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	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.15	0.20
15-Jun	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.23	0.47
16-Jun	0.3	0.3	0.3	0.4	0.4	0.4	0.4	A	0.3	0.3	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	0.33	0.43
17-Jun	0.3	0.3	0.2	0.2	0.2	0.3	A	0.4	0.4	0.3	0.4	0.4	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.28	0.42
18-Jun	0.3	0.3	0.3	0.5	0.3	A	0.3	0.3	0.3	0.3	0.2	0.3	0.4	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.29	0.50
19-Jun	0.2	0.2	0.2	0.7	A	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.26	0.72
20-Jun	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	0.3	0.2	0.18	0.26
21-Jun	0.2	0.2	A	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.18	0.33
22-Jun	0.2	A	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.2	0.2	0.2	0.24	0.36
23-Jun	A	0.2	0.2	0.2	0.2	0.2	0.3	0.4	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	A	0.25	0.39
24-Jun	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.17	0.20
25-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	0.3	0.3	0.2	0.3	0.3	0.2	0.2	A	0.3	0.3	0.20	0.30
26-Jun	0.3	0.3	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	0.4	0.3	0.2	0.2	0.3	A	0.4	0.3	0.3	0.26	0.35
27-Jun	0.5	0.3	0.3	0.3	0.3	0.4	0.8	0.3	0.3	0.3	1.1	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	A	0.4	0.4	0.3	0.2	0.36	1.08
28-Jun	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.2	1.0	0.2	0.3	0.3	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.27	1.01
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	0.1	0.2	0.2	0.2	A	0.2	0.1	0.2	0.1	0.1	0.1	0.15	0.20
30-Jun	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.11	0.24
	0.24	0.21	0.21	0.23	0.21	0.22	0.25	0.25	0.23	0.23	0.25	0.25	0.22	0.24	0.24	0.25	0.22	0.20	0.21	0.21	0.21	0.23	0.22	0.21	Diurnal Average	
	0.65	0.30	0.48	0.72	0.47	0.44	0.76	0.39	0.48	0.38	1.08	1.01	0.44	0.72	0.87	1.14	0.47	0.35	0.50	0.36	0.40	0.40	0.38	0.36	Diurnal Maximum	

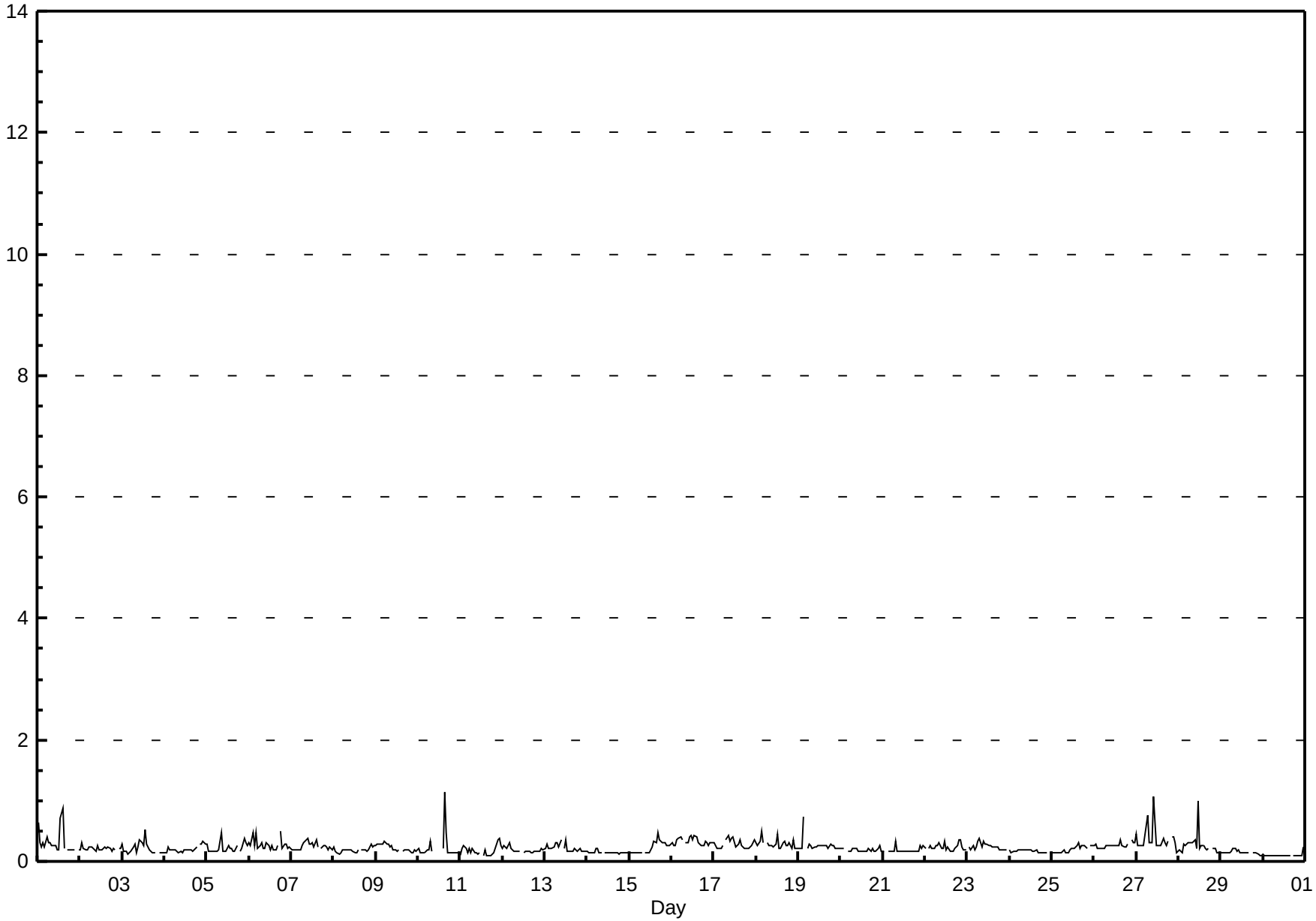
C - Calibration M - Maintenance A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Carbon Monoxide (CO) - ppm

Henry Pirker - June 2011

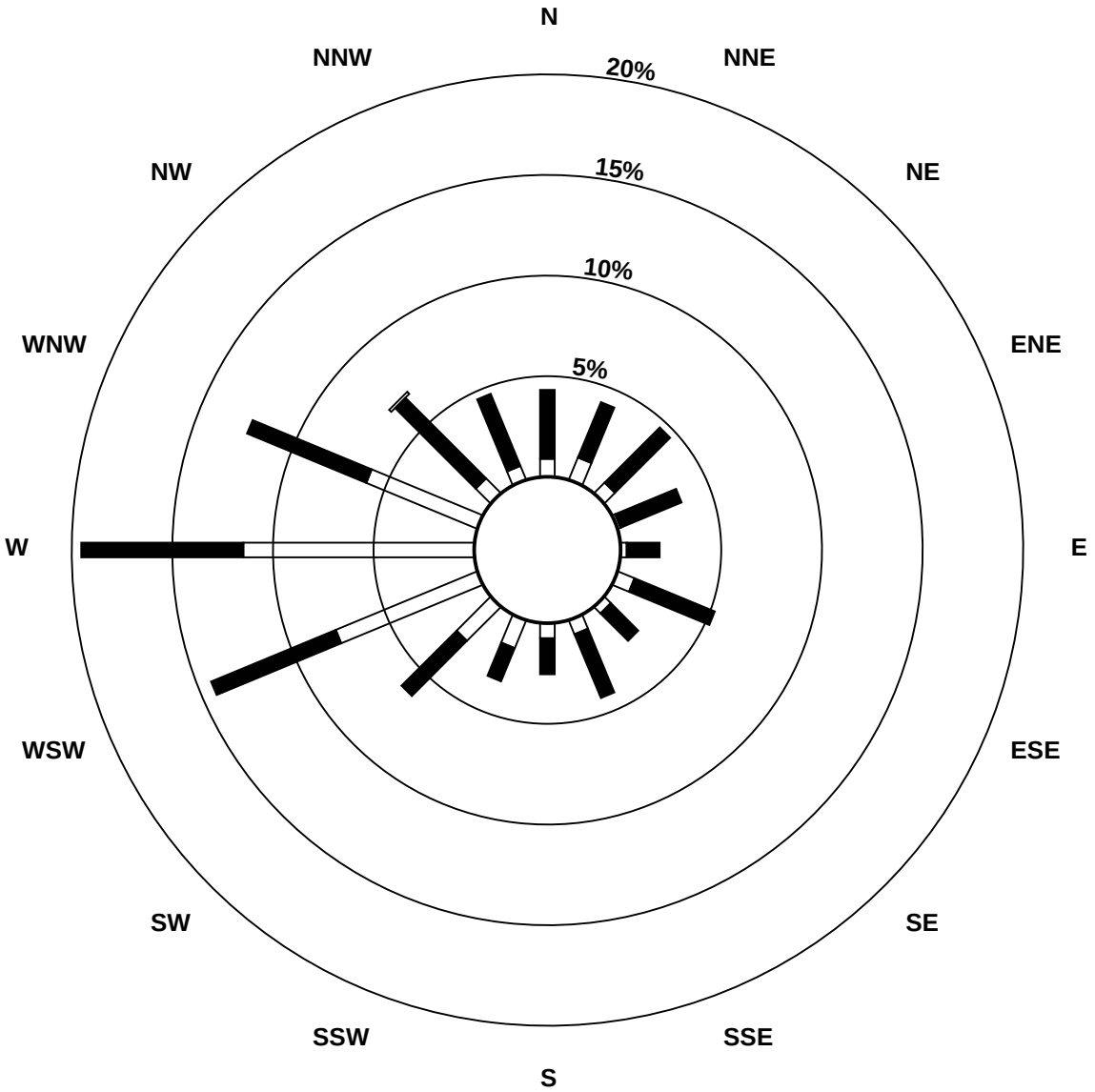


Peace Airshed Zone Association

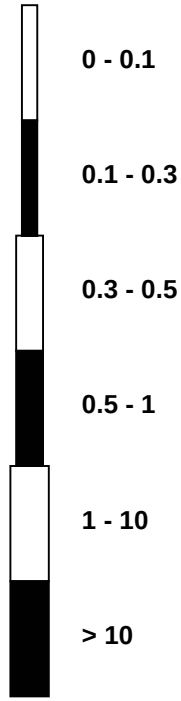
Pollutant Rose

Carbon Monoxide (CO) - ppm

Henry Pirker - June 2011



Pollutant Classes (ppm)



Peace Airshed Zone Association

Eight Hour Running Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - June 2011

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 0.31 ppm on Jun 16 12:00

Minimum Value: 0.09 ppm on Jun 30 21:00

Percentiles: P_1 = 0.09 P_{10} = 0.12 Q_1 = 0.14 Median = 0.17 Q_3 = 0.21 P_{90} = 0.23 P_{99} = 0.28

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

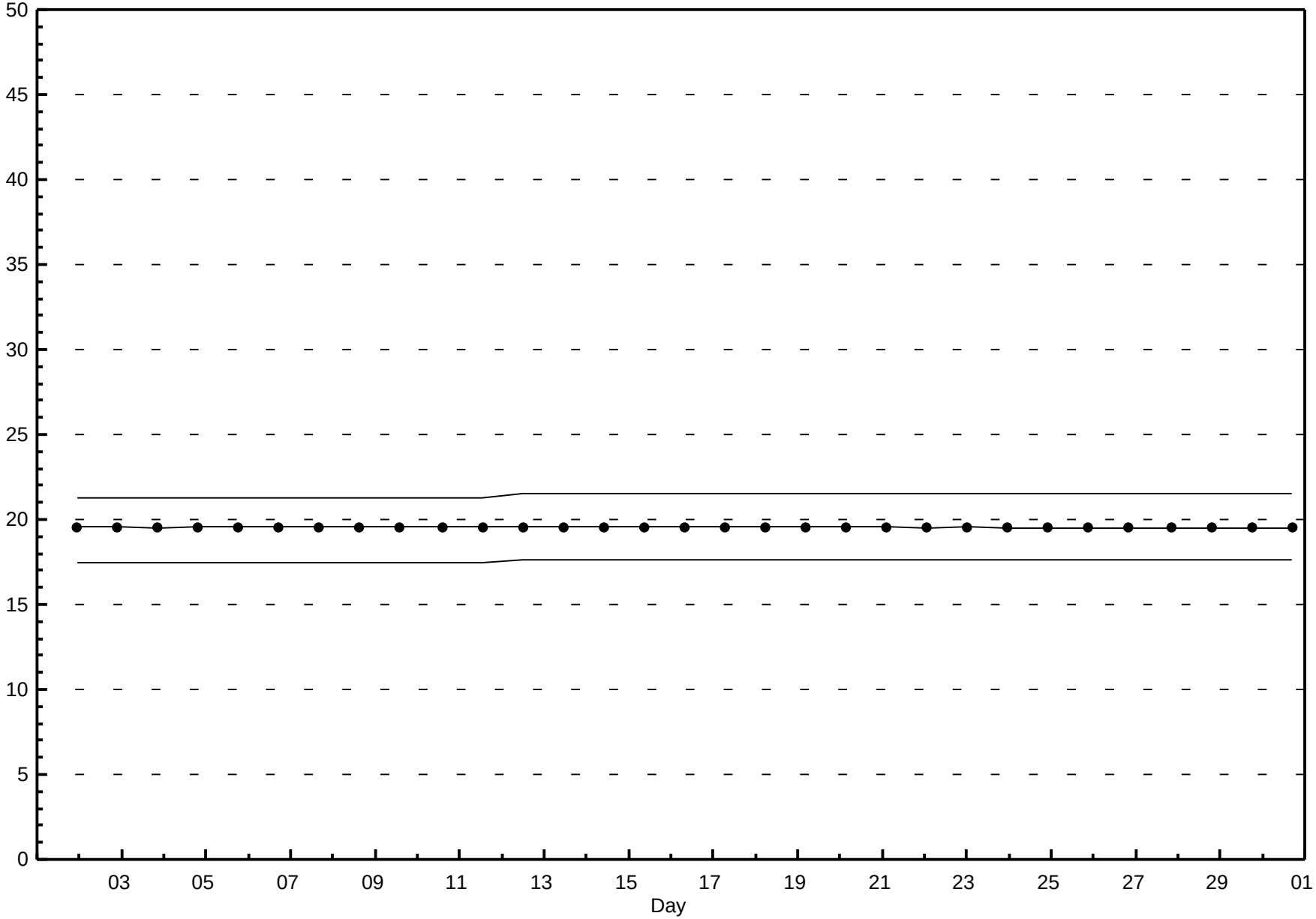
Day	Hourly Period Ending At (MST)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Jun	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25
2-Jun	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20
3-Jun	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.17
4-Jun	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21
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	0.21
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	0.23
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	0.23
8-Jun	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.17
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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.24
10-Jun	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	N	N	N	N	N	N	N	0.1	0.1	0.1	0.1	0.1	0.1	0.15
11-Jun	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.16
12-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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.21
13-Jun	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21
14-Jun	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.16
15-Jun	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.28
16-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	0.2	0.2	0.2	0.2	0.2	0.2	0.31
17-Jun	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	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	0.24
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	0.21
20-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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.19
21-Jun	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.16
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	0.19
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	0.23
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	0.1	0.1	0.1	0.1	0.1	0.1	0.18
25-Jun	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20
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	0.23
27-Jun	0.2	0.3	0.3	0.3	0.3	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	0.26
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	0.1	0.24
29-Jun	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.15
30-Jun	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.10
	0.27	0.26	0.26	0.26	0.27	0.28	0.29	0.29	0.29	0.29	0.30	0.31	0.30	0.28	0.28	0.27	0.27	0.26	0.25	0.25	0.27	0.28	0.28	0.27	
	Diurnal Maximums																								

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

Span Responses

Carbon Monoxide (CO)

Henry Pirker - June 2011



Peace Airshed Zone Association

Hourly Averages

Total Hydrocarbons (THC) - ppm

Henry Pirker - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 2.83 ppm on Jun 22 04:00 Maximum Daily Average: 2.13 ppm on Jun 6

Minimum Value: 1.8 ppm on Jun 1 16:00 Minimum Daily Average: 1.90 ppm on Jun 24
Maximum Diurnal Average: 2.13 ppm at hour 5 Minimum Diurnal Average: 1.93 ppm at hour 16
Monthly Average: 1.993 ppm Percentiles: P_1 = 1.89 P_{10} = 1.91 Q_1 = 1.93 Median = 1.96 Q_3 = 2.01 P_{90} = 2.14 P_{99} = 2.52

Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	34
Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jun	2.2	2.2	2.2	2.3	2.1	2.3	2.2	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.8	P	M	2.0	1.9	1.9	1.9	A	2.0	2.04	2.31
2-Jun	2.2	2.1	2.1	2.2	2.6	2.2	2.1	2.0	2.0	2.4	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	2.03	2.55
3-Jun	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	1.97	2.02
4-Jun	2.0	2.0	2.0	2.0	2.0	2.0	2.0	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	2.1	2.00	2.07
5-Jun	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	2.0	2.3	2.2	1.98	2.28
6-Jun	2.4	2.4	2.5	2.5	2.7	2.4	2.4	2.2	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	2.0	2.0	2.13	2.72
7-Jun	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.00	2.06
8-Jun	2.1	2.1	2.1	2.2	2.1	2.2	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	2.04	2.17
9-Jun	2.0	2.1	2.1	2.3	2.5	2.4	2.4	2.1	2.1	2.0	2.0	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.04	2.50
10-Jun	2.0	1.9	2.0	2.1	2.0	1.9	2.0	1.9	1.9	1.9	C	C	C	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.95	2.06
11-Jun	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.0	1.97	2.05
12-Jun	2.0	2.1	2.3	2.3	2.4	2.3	2.1	2.0	2.0	2.0	2.0	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.0	2.04	2.36
13-Jun	2.1	2.1	2.2	2.1	2.2	2.2	2.1	2.1	2.2	2.2	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.03	2.22
14-Jun	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.95	2.00
15-Jun	2.0	2.0	2.0	2.0	1.9	1.9	2.0	2.0	A	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	2.0	2.0	2.0	1.9	1.9	1.9	1.94	1.97
16-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	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	1.97	2.03
17-Jun	2.0	2.0	1.9	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	1.97	2.02
18-Jun	2.0	2.0	2.1	2.2	2.1	A	2.1	2.2	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.00	2.17
19-Jun	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	1.9	1.9	2.0	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	1.9	1.95	1.99
20-Jun	2.0	2.0	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.0	1.92	2.06
21-Jun	2.1	2.1	A	2.2	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.2	2.2	2.01	2.23
22-Jun	2.2	A	2.6	2.8	2.7	2.3	2.2	2.1	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.11	2.83
23-Jun	A	2.0	2.0	2.0	2.2	2.3	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.98	2.34
24-Jun	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.90	1.92
25-Jun	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	A	2.0	2.0	1.92	1.97
26-Jun	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	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	1.99	2.03
27-Jun	2.0	2.1	2.3	2.2	2.1	2.1	2.2	2.2	2.1	2.0	2.0	2.0	1.9	2.0	1.9	2.0	2.0	1.9	1.9	A	1.9	2.1	2.0	2.0	2.05	2.29
28-Jun	2.0	2.3	2.3	2.2	2.4	2.1	2.1	2.1	2.3	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	2.04	2.39
29-Jun	1.9	1.9	2.0	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.94	2.02
30-Jun	1.9	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.93	1.98
	2.03	2.03	2.08	2.11	2.13	2.08	2.05	2.02	2.01	2.00	1.96	1.94	1.94	1.93	1.93	1.93	1.93	1.93	1.93	1.94	1.94	1.97	2.00	1.99	Diurnal Average	
	2.39	2.45	2.61	2.83	2.74	2.39	2.36	2.19	2.26	2.42	2.02	2.00	2.00	2.01	2.00	2.01	1.98	2.00	1.98	2.03	2.01	2.09	2.28	2.23	Diurnal Maximum	

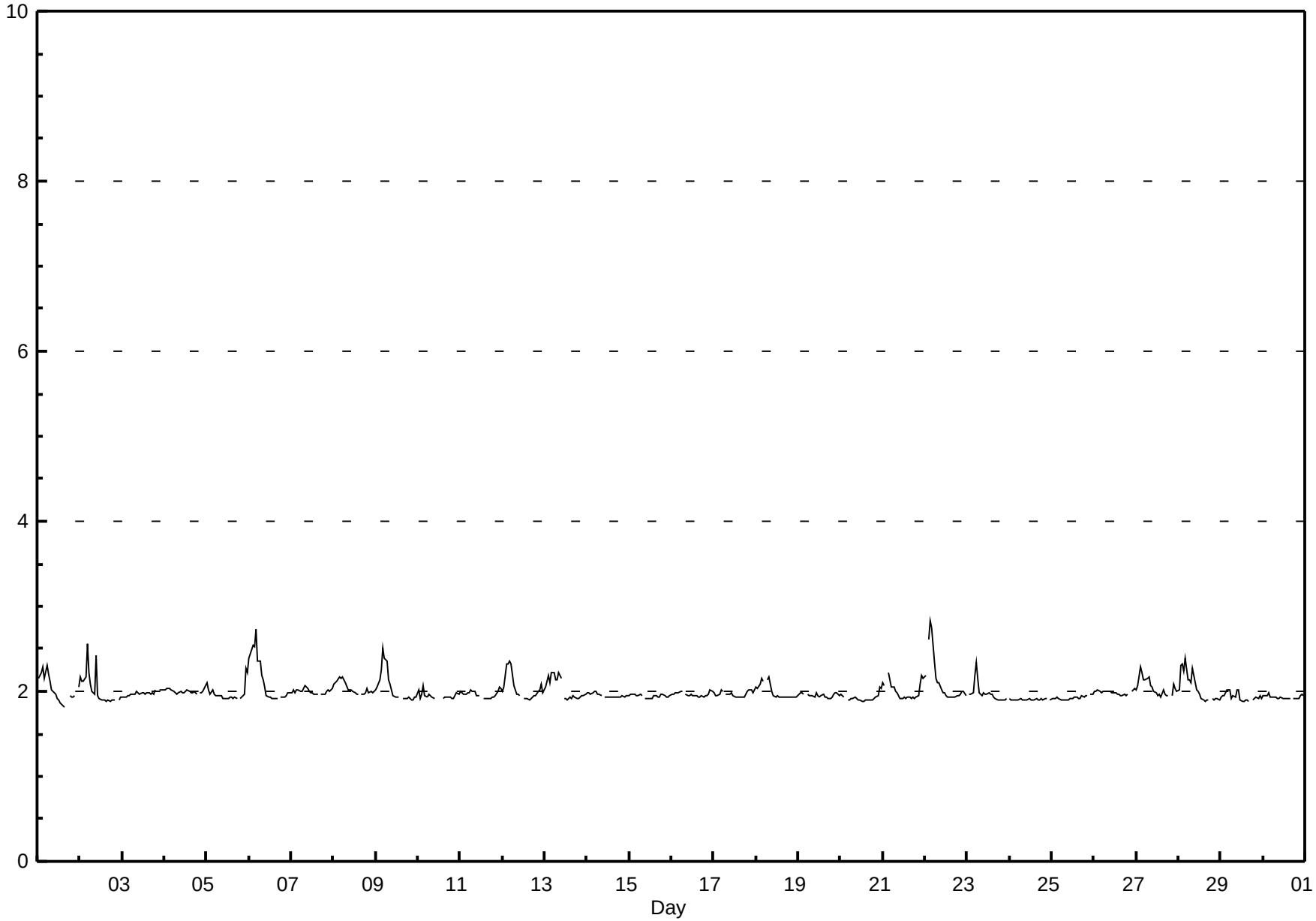
C - Calibration P - Power Failure M - Maintenance A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Total Hydrocarbons (THC) - ppm

Henry Pirker - June 2011



Peace Airshed Zone Association

Hourly Maximums

Total Hydrocarbons (THC) - ppm

Henry Pirker - June 2011

Maximum Value: 3.60 ppm on Jun 2 10:00

Maximum Daily Average: 2.31 ppm on Jun 6

Minimum Value: 1.8 ppm on Jun 1 16:00

Minimum Daily Average: 1.93 ppm on Jun 24

Maximum Diurnal Average: 2.29 ppm at hour 3

Minimum Diurnal Average: 1.98 ppm at hour 17

Monthly Average: 2.089 ppm

Percentiles: P_1 = 1.91 P_{10} = 1.93 Q_1 = 1.96 Median = 2.00 Q_3 = 2.11 P_{90} = 2.36 P_{99} = 3.06

Hours in Service:	720
Hours of Data:	684
Hours of Missing Data:	36
Hours of Calibration:	34
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	2.2	2.5	2.5	2.7	2.4	2.5	2.4	2.3	2.0	2.0	2.0	2.0	1.9	2.0	1.9	1.8	P	M	2.0	2.0	2.0	2.0	A	2.4	2.16	2.66
2-Jun	2.7	2.4	2.8	2.5	2.8	2.6	2.2	2.0	2.1	3.6	2.3	2.0	1.9	1.9	1.9	1.9	2.0	1.9	2.0	1.9	1.9	A	1.9	2.0	2.22	3.60
3-Jun	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	A	2.1	2.1	2.1	2.05	2.19
4-Jun	2.1	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.0	2.0	2.1	2.0	2.0	2.1	2.0	A	2.0	2.0	2.1	2.2	2.06	2.25
5-Jun	2.2	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	A	1.9	2.0	2.0	3.1	2.8	2.08	3.07
6-Jun	2.8	2.8	3.2	2.9	3.1	2.7	2.6	2.3	2.2	2.4	2.0	2.0	2.0	1.9	2.0	1.9	1.9	A	2.0	2.0	2.0	2.1	2.1	2.2	2.31	3.25
7-Jun	2.2	2.2	2.0	2.3	2.1	2.1	2.1	2.4	2.2	2.1	2.0	2.0	2.0	2.1	2.1	2.0	A	2.0	2.0	2.0	2.1	2.2	2.3	2.3	2.12	2.36
8-Jun	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.0	A	2.1	2.0	2.1	2.2	2.1	2.1	2.0	2.0	2.10	2.20
9-Jun	2.1	2.1	2.2	2.6	2.8	2.6	2.4	2.4	2.2	2.1	2.0	2.0	2.0	2.0	A	1.9	1.9	1.9	1.9	2.0	1.9	1.9	2.0	2.0	2.13	2.85
10-Jun	2.1	2.0	2.0	2.3	2.0	2.0	2.1	2.0	2.0	2.0	C	C	C	A	1.9	2.4	2.0	2.0	2.0	1.9	2.0	2.0	2.1	2.0	2.04	2.43
11-Jun	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	A	1.9	1.9	1.9	2.0	2.0	1.9	2.0	2.0	2.1	2.3	2.3	2.02	2.30
12-Jun	2.1	2.4	2.8	2.5	2.6	3.0	2.1	2.1	2.0	2.0	2.0	A	2.0	2.0	1.9	1.9	2.0	2.0	2.0	2.1	2.2	2.2	2.3	2.0	2.19	3.01
13-Jun	2.3	2.3	2.9	2.2	2.7	2.3	2.2	2.2	2.3	2.3	A	1.9	2.0	2.0	2.0	1.9	2.0	2.0	1.9	1.9	2.0	2.0	2.0	2.0	2.16	2.91
14-Jun	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	1.9	1.9	2.0	1.9	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.98	2.04
15-Jun	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.97	2.01
16-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	2.1	2.1	2.0	2.0	2.1	2.0	2.1	2.0	2.01	2.11
17-Jun	2.0	2.0	2.0	2.0	2.1	2.0	A	2.0	2.0	2.0	2.2	2.1	2.0	2.0	1.9	2.0	2.0	2.0	2.1	2.1	2.3	2.3	2.0	2.1	2.05	2.35
18-Jun	2.4	2.2	2.1	2.3	2.2	A	2.2	2.2	2.2	2.1	2.0	2.0	2.0	2.1	2.0	2.0	1.9	2.0	1.9	2.0	1.9	2.0	2.0	2.0	2.07	2.36
19-Jun	2.0	2.0	2.0	2.0	A	2.0	2.0	2.2	2.0	2.0	2.5	2.0	2.0	2.1	2.2	2.0	2.0	2.1	1.9	1.9	2.0	2.0	2.0	2.0	2.04	2.50
20-Jun	2.0	2.0	1.9	A	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.5	2.2	1.97	2.51
21-Jun	2.2	2.1	A	2.3	2.3	2.1	2.1	2.0	2.0	2.0	1.9	1.9	2.0	1.9	1.9	2.0	1.9	1.9	1.9	1.9	2.0	2.6	2.8	3.1	2.13	3.07
22-Jun	2.6	A	3.4	3.5	3.2	2.5	2.2	2.1	2.2	2.1	2.0	2.1	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.25	3.50
23-Jun	A	2.2	2.0	2.0	2.5	2.5	2.5	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	A	2.06	2.51
24-Jun	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.93	2.04
25-Jun	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	2.0	1.9	2.0	2.0	A	2.0	2.0	1.95	2.01
26-Jun	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.1	2.0	A	2.0	2.1	2.1	2.03	2.28
27-Jun	2.1	2.2	3.3	2.4	2.2	2.4	2.2	2.2	2.2	2.1	2.2	2.0	2.0	2.0	2.0	2.8	2.0	2.0	2.0	A	2.0	2.7	2.4	2.4	2.25	3.28
28-Jun	2.4	2.7	3.1	2.9	3.0	2.4	2.3	2.2	2.5	2.6	2.2	2.2	2.1	2.0	1.9	1.9	2.0	2.0	A	2.1	1.9	2.0	1.9	1.9	2.28	3.11
29-Jun	2.0	2.0	2.0	2.4	2.5	2.5	2.0	2.0	2.0	2.1	2.2	2.0	1.9	1.9	1.9	2.0	1.9	A	1.9	1.9	2.0	1.9	2.2	1.9	2.05	2.53
30-Jun	2.0	2.0	2.1	2.2	1.9	1.9	2.0	2.0	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	A	2.1	1.9	1.9	1.9	2.0	2.6	2.0	2.00	2.64
	2.16	2.15	2.29	2.29	2.29	2.22	2.12	2.10	2.07	2.12	2.05	2.00	1.98	1.98	1.98	2.00	1.98	2.00	1.98	1.99	2.00	2.07	2.17	2.14	Diurnal Average	
	2.79	2.84	3.39	3.50	3.24	3.01	2.60	2.36	2.48	3.60	2.50	2.17	2.07	2.15	2.24	2.84	2.11	2.28	2.13	2.16	2.27	2.72	3.07	3.07	Diurnal Maximum	

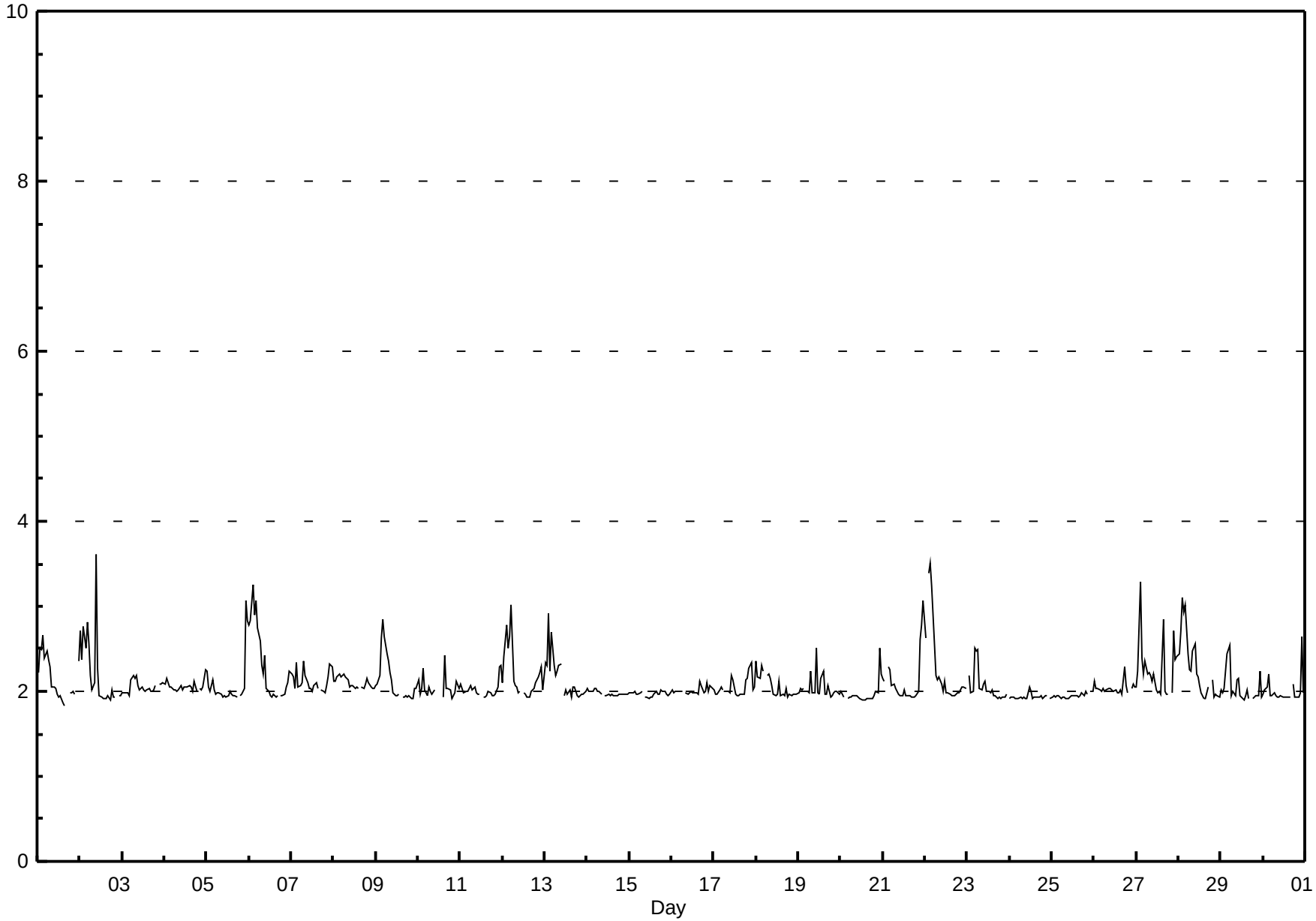
C - Calibration P - Power Failure M - Maintenance A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Total Hydrocarbons (THC) - ppm

Henry Pirker - June 2011

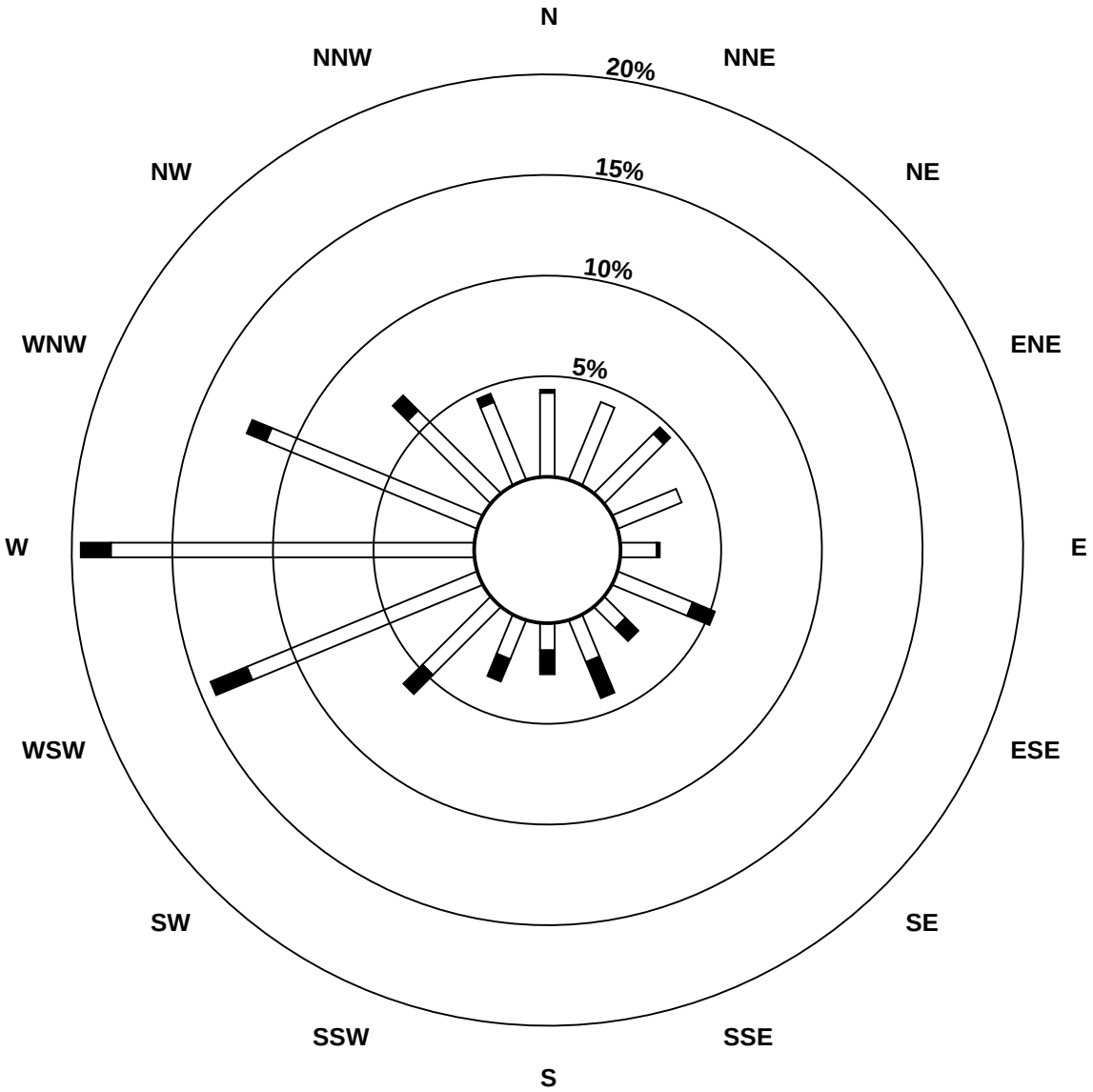


Peace Airshed Zone Association

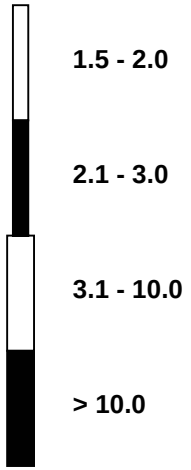
Pollutant Rose

Total Hydrocarbons (THC) - ppm

Henry Pirker - June 2011



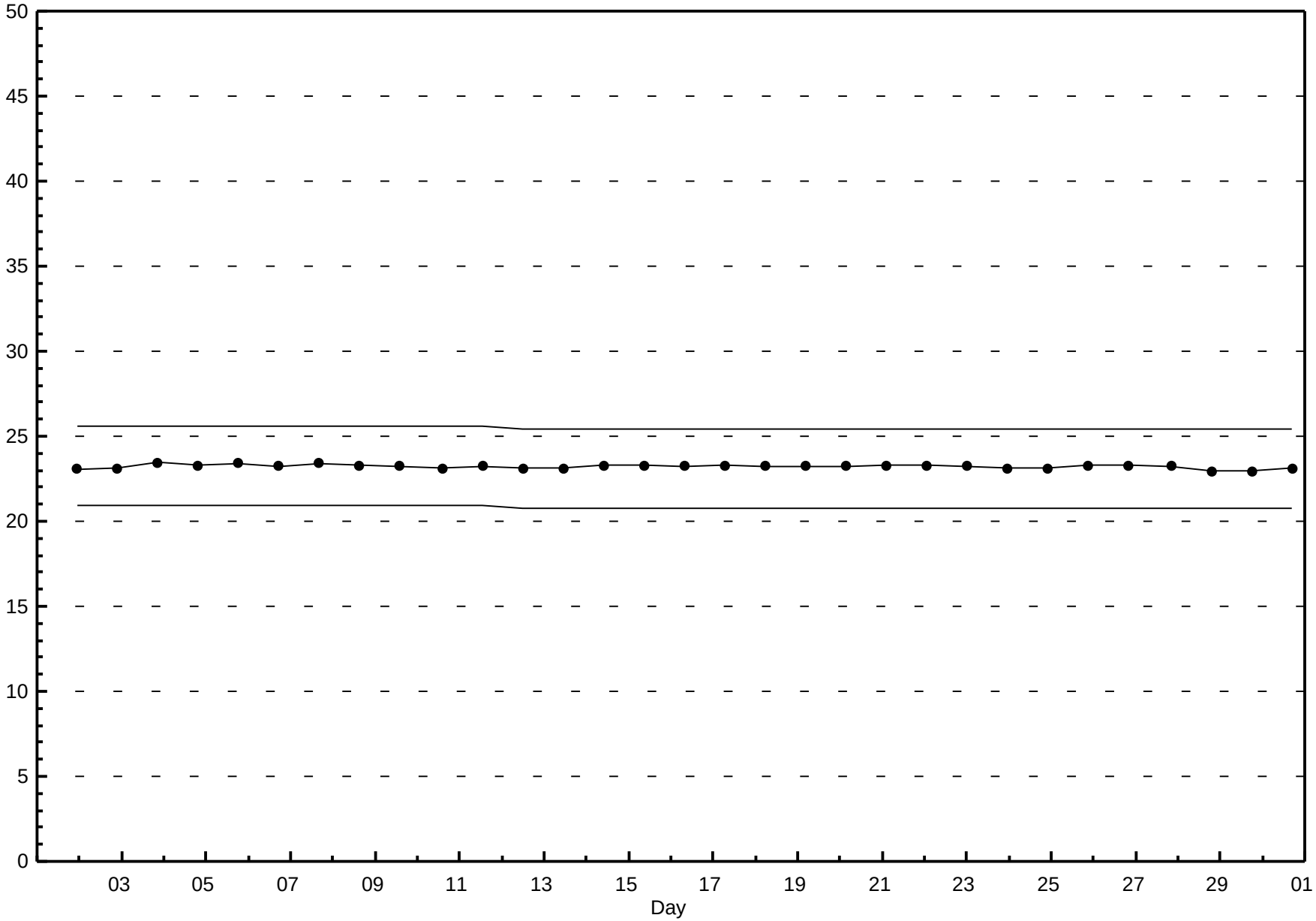
Pollutant Classes (ppm)



Span Responses

Total Hydrocarbons (THC)

Henry Pirker - June 2011



Peace Airshed Zone Association

Hourly Averages

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

Henry Pirker - June 2011

Number of Exceedences: 1-hr: 0 24-hr: 0
Maximum Value: 75.0 $\mu g/m^3$ on Jul 1 00:00
Maximum Daily Average: 19.3 $\mu g/m^3$ on Jun 16

Minimum Value: 0 $\mu g/m^3$ on Jun 3 05:00
Maximum Diurnal Average: 9.0 $\mu g/m^3$ at hour 24
Monthly Average: 6.80 $\mu g/m^3$
Minimum Daily Average: 1.8 $\mu g/m^3$ on Jun 3
Minimum Diurnal Average: 5.6 $\mu g/m^3$ at hour 15
Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 2.2 Median = 5.4 Q_3 = 9.8 P_{90} = 14.6 P_{99} = 26.4

Hours in Service:	720
Hours of Data:	663
Hours of Missing Data:	57
Hours of Calibration:	1
Percent Operational Time:	92.2

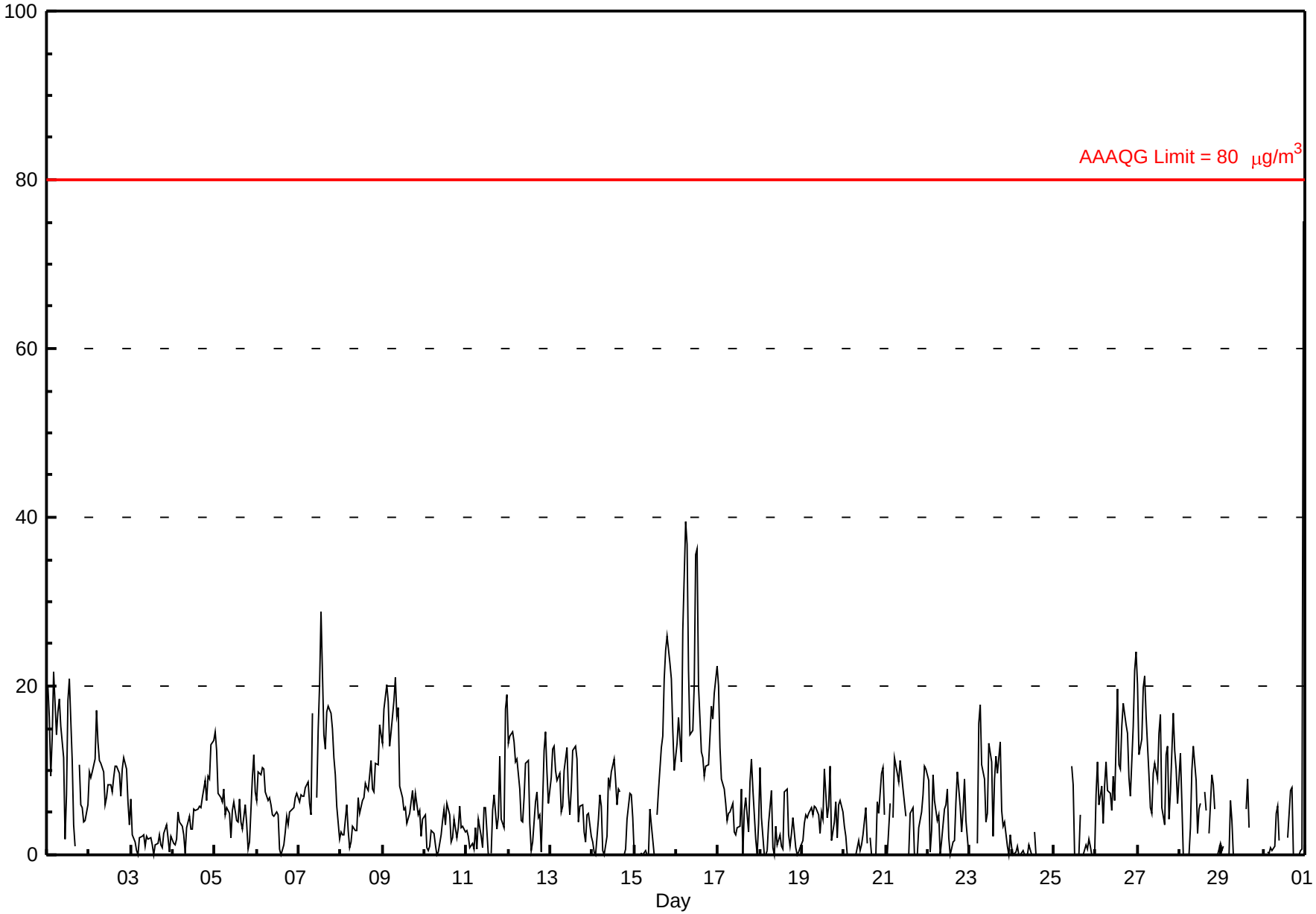
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	20	16	9	14	22	14	17	18	15	11	2	7	18	21	11	4	1	C	11	6	6	4	4	6	11.2	21.6
2-Jun	10	9	10	11	17	13	11	11	10	6	7	8	8	7	9	10	11	10	7	10	12	10	6	4	9.5	17.2
3-Jun	7	2	1	1	0	2	2	2	1	2	2	2	1	0	1	1	2	1	1	2	4	2	0	2	1.8	6.7
4-Jun	1	1	2	5	4	3	2	0	3	5	3	3	5	5	5	6	6	7	9	6	9	9	13	14	5.3	13.6
5-Jun	15	12	7	7	6	8	5	6	5	2	5	6	4	4	7	4	3	6	4	1	2	9	12	7	6.1	14.5
6-Jun	6	10	9	10	10	7	6	7	6	5	5	5	5	1	0	1	3	5	4	5	5	6	7	7	5.6	10.4
7-Jun	6	7	7	7	8	9	6	5	17	N	7	15	20	29	14	13	17	18	17	15	12	10	6	2	11.5	28.8
8-Jun	3	2	2	6	3	1	1	3	3	3	7	5	6	7	9	8	8	11	8	8	11	11	15	14	6.4	15.5
9-Jun	13	17	20	18	13	15	18	21	16	18	8	7	5	6	4	5	6	8	5	7	5	5	2	4	10.3	20.9
10-Jun	5	1	0	1	3	2	1	0	0	2	4	5	4	6	5	1	2	4	2	3	6	3	3	3	2.8	6.1
11-Jun	3	2	1	1	1	3	1	4	2	1	6	6	0	BD	0	5	7	3	5	12	4	3	17	19	4.6	18.9
12-Jun	13	14	15	13	11	11	8	4	4	7	11	11	4	0	2	6	7	4	5	0	12	15	10	6	8.1	14.6
13-Jun	9	13	13	10	9	10	5	6	10	13	7	5	8	12	13	11	4	6	6	3	2	5	5	2	7.7	12.9
14-Jun	2	0	0	4	7	6	1	0	2	9	8	10	11	9	6	8	7	BD	0	1	4	7	7	4	5.0	11.3
15-Jun	0	BD	0	0	0	0	0	0	0	5	4	0	BD	5	8	13	14	21	24	26	23	21	15	10	8.6	25.9
16-Jun	13	16	14	11	27	39	37	22	14	15	20	36	36	20	12	12	9	11	11	14	18	16	19	22	19.3	39.5
17-Jun	20	13	9	8	6	4	5	5	6	3	2	3	3	8	0	5	7	3	9	11	8	2	0	4	6.0	20.0
18-Jun	10	4	0	0	1	4	8	1	0	3	1	2	1	1	8	8	2	1	3	4	1	0	0	1	2.7	10.4
19-Jun	2	4	5	4	5	6	5	6	6	5	3	5	4	10	4	6	11	2	4	6	2	6	6	5	5.0	10.5
20-Jun	3	2	0	0	0	0	0	0	2	1	1	2	6	1	BD	2	0	BD	0	6	5	10	10	5	2.6	10.4
21-Jun	BD	0	6	BD	4	12	10	9	11	10	8	5	BD	0	5	6	0	0	0	3	5	7	10	10	5.7	11.5
22-Jun	9	0	3	10	6	4	5	0	2	5	6	8	2	0	2	2	6	10	6	3	5	9	4	0	4.4	9.8
23-Jun	BD	BD	BD	BD	1	16	18	11	9	4	5	13	11	2	9	12	10	13	5	3	4	1	0	2	7.5	17.9
24-Jun	1	0	0	1	0	0	0	0	0	0	1	0	BD	3	0	0	0	BD	BD	BD	BD	BD	BD	BD	--	2.7
25-Jun	BD	BD	BD	BD	0	0	BD	BD	BD	BD	11	8	0	BD	0	5	N	0	1	1	2	1	0	0	--	10.5
26-Jun	7	11	6	8	4	8	11	8	7	5	9	6	20	11	10	15	18	15	14	9	7	15	22	24	11.3	24.0
27-Jun	20	12	14	20	21	16	10	6	5	10	11	9	14	17	6	4	12	13	4	7	17	12	10	6	11.5	21.2
28-Jun	12	6	0	0	BD	0	3	10	13	9	3	5	6	BD	8	5	BD	3	10	8	5	BD	0	1	5.3	12.8
29-Jun	0	1	BD	BD	0	6	4	0	BD	BD	BD	BD	BD	BD	5	9	3	BD	BD	0	BD	BD	BD	0	--	9.1
30-Jun	BD	BD	0	0	1	1	1	5	6	2	BD	BD	0	BD	2	8	8	0	BD	BD	0	1	1	75	--	75.0
	8.1	6.8	5.7	6.6	6.5	7.3	7.0	5.8	6.3	5.9	5.9	7.1	7.9	7.4	5.6	6.4	6.6	6.9	6.4	6.5	6.9	7.4	7.4	9.0	Diurnal Average	
	20.2	17.2	20.1	19.8	26.6	39.5	36.7	21.9	16.7	17.5	20.1	35.6	36.3	28.8	14.3	15.3	17.9	20.8	24.3	25.9	22.8	20.9	21.9	75.0	Diurnal Maximum	

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

Hourly Averages

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

Henry Pirker - June 2011



Peace Airshed Zone Association

Hourly Maximums

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

Henry Pirker - June 2011

Maximum Value: 115.8 $\mu g/m^3$ on Jul 1 00:00

Maximum Daily Average: 22.6 $\mu g/m^3$ on Jun 16

Minimum Value: 0 $\mu g/m^3$ on Jun 11 14:00

Minimum Daily Average: 1.0 $\mu g/m^3$ on Jun 24

Maximum Diurnal Average: 12.1 $\mu g/m^3$ at hour 24

Minimum Diurnal Average: 7.0 $\mu g/m^3$ at hour 3

Monthly Average: 8.52 $\mu g/m^3$

Percentiles: P_1 = 0.0 P_{10} = 1.2 Q_1 = 3.5 Median = 7.1 Q_3 = 11.5 P_{90} = 17.0 P_{99} = 30.3

Hours in Service:	720
Hours of Data:	694
Hours of Missing Data:	26
Hours of Calibration:	1
Percent Operational Time:	96.5

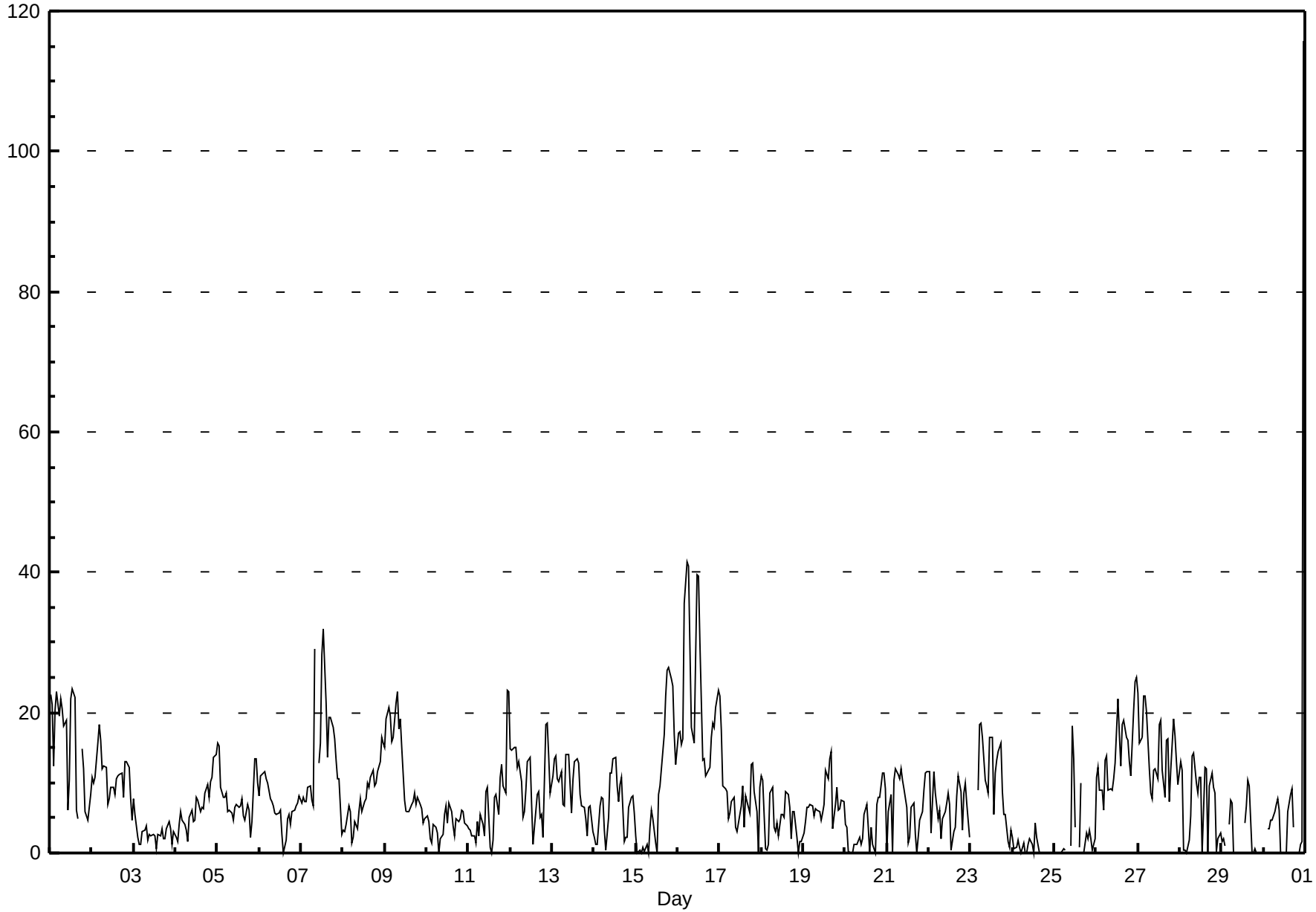
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	23	21	12	20	23	20	22	21	18	19	6	10	22	23	22	6	5	C	15	12	6	5	5	8	15.0	23.5
2-Jun	11	10	11	16	18	16	12	12	12	7	8	9	9	8	11	11	11	11	8	13	13	12	8	5	10.9	18.3
3-Jun	8	5	2	1	1	3	3	4	2	3	3	3	2	1	3	2	3	2	2	3	4	3	1	3	2.9	7.6
4-Jun	2	2	4	6	5	4	3	2	5	6	4	5	8	8	6	6	6	9	10	8	10	11	14	14	6.5	14.0
5-Jun	16	15	9	8	8	9	6	6	6	5	6	7	7	7	8	5	5	7	6	2	4	13	14	10	7.8	15.7
6-Jun	8	11	11	12	11	10	8	7	7	6	5	6	6	3	0	2	5	5	4	6	6	7	7	8	6.7	11.5
7-Jun	7	8	7	7	9	10	8	7	29	N	13	16	28	32	21	14	19	19	18	16	13	11	11	3	14.2	31.9
8-Jun	3	3	4	7	6	2	2	4	3	6	8	6	7	8	10	9	11	12	10	10	12	13	16	16	7.8	16.4
9-Jun	15	19	21	19	16	16	21	23	18	19	15	8	6	6	6	7	7	9	7	8	7	6	4	5	12.0	23.0
10-Jun	5	5	2	1	4	4	3	0	2	3	5	7	4	7	6	4	3	5	4	5	6	6	4	4	4.1	7.1
11-Jun	3	3	2	2	1	5	2	5	4	2	9	9	1	0	2	8	8	5	11	13	10	9	23	23	6.7	23.2
12-Jun	15	15	15	15	12	13	10	5	6	9	13	14	7	1	4	8	9	5	5	2	18	19	14	9	10.1	18.5
13-Jun	11	13	14	11	10	12	7	7	14	14	10	6	10	13	13	13	8	7	7	5	3	7	7	3	9.3	14.0
14-Jun	2	1	1	7	8	8	3	0	5	11	11	13	14	10	7	10	11	2	2	2	6	8	8	6	6.6	13.7
15-Jun	2	0	0	0	1	0	1	0	4	6	5	1	0	8	10	14	17	22	26	26	25	24	17	13	9.3	26.4
16-Jun	17	17	15	16	36	42	41	29	18	16	28	40	39	30	13	13	11	11	12	17	19	18	21	23	22.6	41.6
17-Jun	22	18	10	9	9	5	6	7	8	4	3	4	7	10	4	8	7	6	13	13	9	6	0	9	8.1	22.4
18-Jun	11	10	1	0	1	9	9	4	3	4	2	5	5	5	9	8	6	2	6	6	2	0	2	2	4.7	11.1
19-Jun	3	5	6	6	7	7	5	6	6	6	5	6	7	12	11	13	14	3	7	9	6	6	8	7	7.2	14.5
20-Jun	4	4	0	0	0	1	1	1	2	1	2	5	7	4	0	4	1	0	7	8	8	11	11	9	3.9	11.3
21-Jun	0	6	8	0	10	12	11	11	12	10	9	6	2	2	6	7	3	0	2	5	6	9	11	12	6.7	12.1
22-Jun	12	3	7	12	9	5	6	2	5	6	7	9	7	0	3	4	8	11	9	3	9	10	7	2	6.4	11.6
23-Jun	BD	BD	BD	BD	9	18	19	17	10	10	9	16	16	5	11	13	14	16	9	5	5	2	1	3	10.5	18.6
24-Jun	2	1	1	2	1	0	1	0	0	1	2	1	0	4	2	0	0	0	BD	BD	BD	BD	BD	BD	1.0	4.3
25-Jun	BD	BD	BD	0	0	1	0	BD	BD	1	18	13	4	BD	1	10	N	0	3	2	3	2	0	2	--	18.1
26-Jun	11	12	9	9	6	13	14	9	9	9	11	13	22	17	12	18	19	16	16	13	11	20	24	25	14.1	24.9
27-Jun	23	16	16	22	22	20	12	9	8	12	12	11	18	19	12	8	16	16	7	12	19	17	13	10	14.5	22.7
28-Jun	13	12	0	0	0	2	5	14	14	10	9	11	11	0	12	12	0	10	11	9	9	0	2	3	7.0	14.2
29-Jun	2	2	1	BD	4	8	7	0	BD	0	0	BD	BD	4	7	10	10	0	0	1	0	0	0	0	2.7	10.3
30-Jun	BD	BD	4	3	5	5	6	7	8	6	0	0	0	0	6	8	9	4	BD	0	0	1	2	116	9.0	115.8
	9.3	8.7	7.0	7.6	8.4	9.2	8.5	7.6	8.5	7.3	7.9	9.0	9.6	8.5	7.9	8.6	8.6	7.4	8.5	8.1	8.6	8.8	8.8	12.1	Diurnal Average	
	22.7	21.2	20.8	22.4	35.6	41.6	40.9	29.3	29.1	19.1	28.1	39.6	39.5	31.9	22.2	18.3	19.4	22.5	26.1	26.4	24.9	23.7	24.5	115.8	Diurnal Maximum	

C - Calibration N - Not Valid BD - Baseline Drift

Hourly Maximums

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

Henry Pirker - June 2011

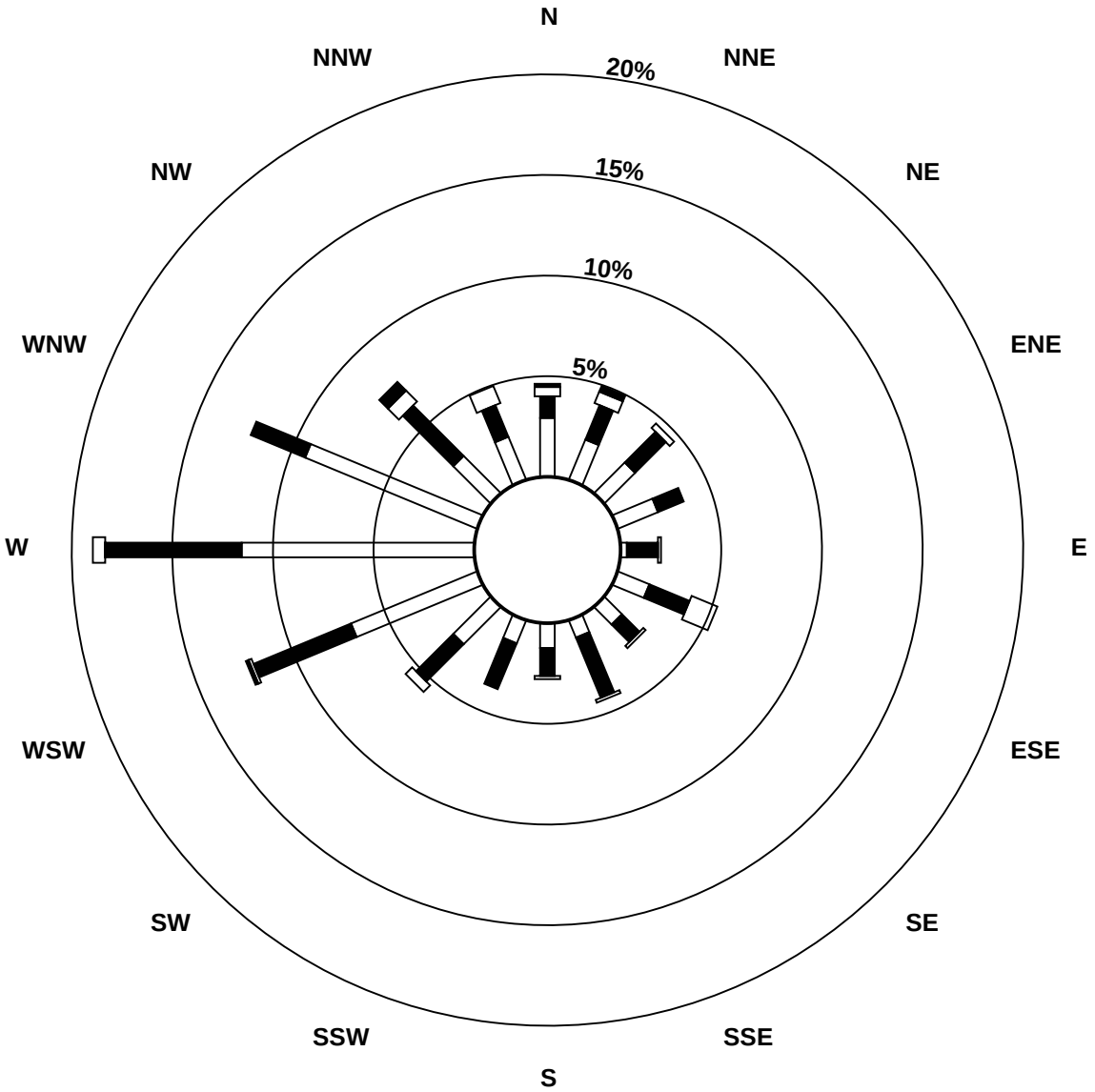


Peace Airshed Zone Association

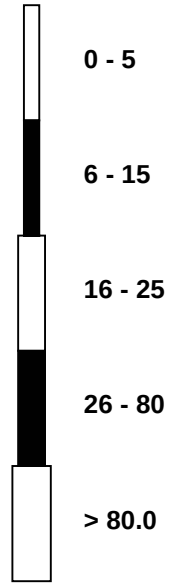
Pollutant Rose

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

Henry Pirker - June 2011



Pollutant Classes ($\mu g/m^3$)



Hourly Averages

External Temperature (ET) - °C

Henry Pirker - June 2011

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

Maximum Value: 27.3 °C on Jun 1 14:00

Maximum Daily Average: 18.3 °C on Jun 22

Minimum Value: 0 °C on Jun 4 05:00

Minimum Daily Average: 3.1 °C on Jun 3

Maximum Diurnal Average: 18.0 °C at hour 15

Minimum Diurnal Average: 8.9 °C at hour 5

Monthly Average: 13.89 °C

Percentiles: $P_1 = 0.5$ $P_{10} = 8.6$ $Q_1 = 10.8$ Median = 13.7 $Q_3 = 17.4$ $P_{90} = 20.2$ $P_{99} = 24.6$

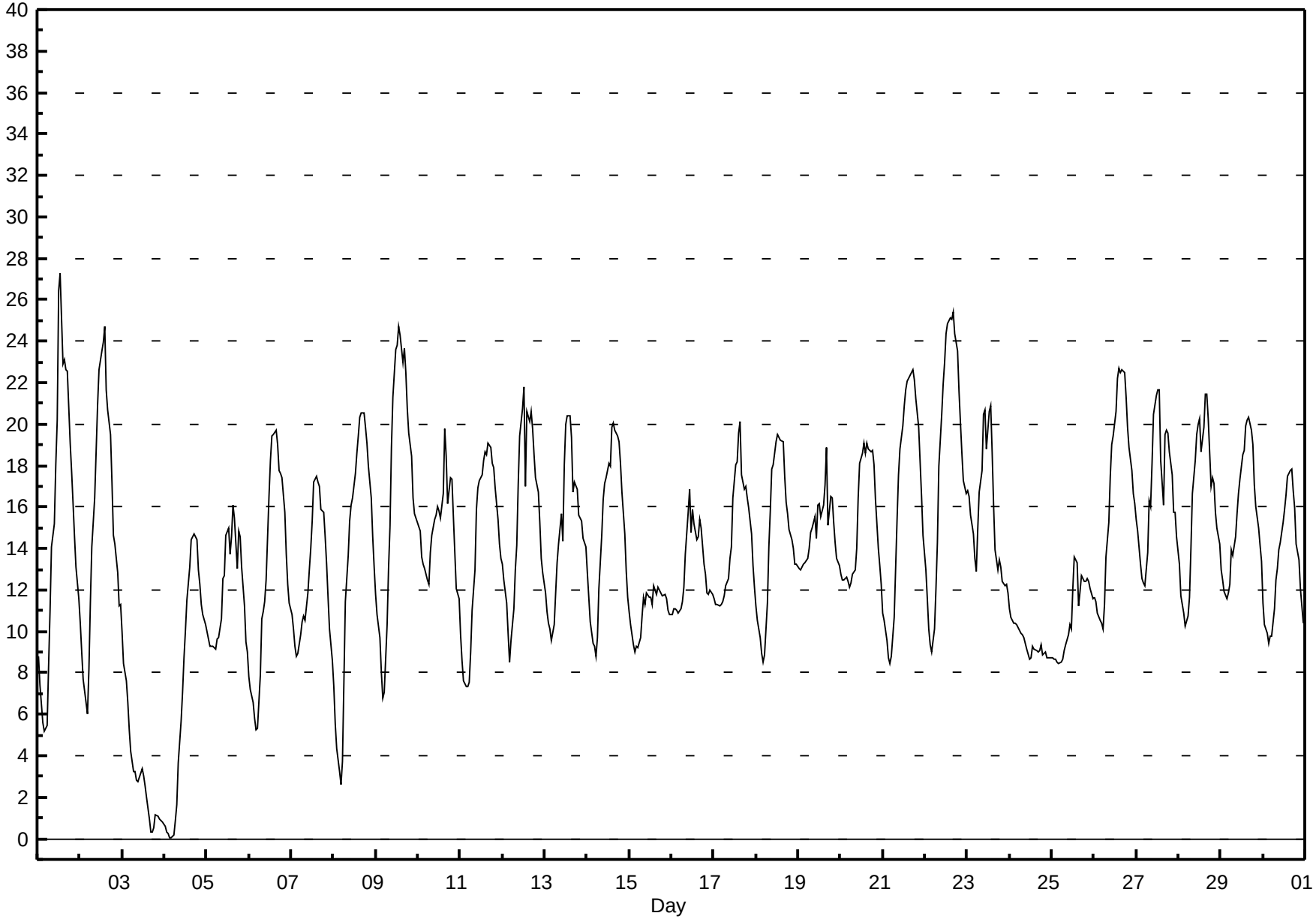
Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

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	9	7	6	6	5	5	8	11	14	15	18	20	26	27	23	23	23	23	19	18	16	15	13	12	15.1	27.3
2-Jun	10	9	8	7	6	8	11	14	16	19	21	23	24	24	25	22	21	20	17	15	14	13	11	11	15.3	24.7
3-Jun	10	8	8	7	5	4	3	3	3	3	3	3	3	3	2	1	0	0	1	1	1	1	1	1	3.1	10.0
4-Jun	1	0	0	0	0	0	1	2	4	6	7	9	10	12	13	14	15	15	14	13	12	11	11	10	7.5	14.7
5-Jun	10	10	9	9	9	9	10	10	11	13	13	15	15	14	15	16	15	13	15	15	13	11	9	9	11.9	16.1
6-Jun	8	7	7	6	5	5	8	11	11	11	13	17	18	19	19	20	19	18	18	17	16	14	12	11	12.9	19.7
7-Jun	11	10	9	9	9	10	10	11	11	12	13	14	15	17	17	17	17	16	16	15	13	12	10	9	12.6	17.5
8-Jun	7	6	4	3	3	4	8	11	14	15	16	16	18	19	19	20	21	21	20	19	18	16	15	13	13.6	20.5
9-Jun	12	11	10	8	7	7	10	13	15	19	21	24	24	25	24	23	24	23	21	20	18	16	16	15	16.9	24.7
10-Jun	15	15	14	13	13	12	12	14	15	15	16	16	16	15	17	20	18	16	17	17	16	14	12	12	15.0	19.8
11-Jun	10	9	8	7	7	8	9	11	13	16	17	17	18	18	19	19	19	19	18	18	17	15	14	14	14.1	19.1
12-Jun	13	12	11	10	9	10	11	13	14	17	19	21	22	17	21	20	21	20	19	17	17	15	14	13	15.6	21.8
13-Jun	12	11	10	10	10	10	12	13	14	16	14	18	20	20	20	19	17	17	17	16	15	15	15	14	14.9	20.4
14-Jun	13	12	10	9	9	9	10	12	15	16	17	17	18	18	20	20	20	19	19	18	17	15	13	12	14.9	20.1
15-Jun	11	10	9	9	9	9	10	11	12	11	12	12	12	11	12	12	12	12	12	12	12	12	11	11	11.0	12.2
16-Jun	11	11	11	11	11	11	11	12	14	16	17	15	16	15	14	15	15	15	13	13	12	12	12	12	13.1	16.9
17-Jun	12	11	11	11	11	11	12	12	13	14	14	16	18	18	20	20	18	17	17	16	16	15	13	12	14.5	20.1
18-Jun	11	11	10	9	9	9	11	14	16	18	18	19	19	19	19	19	17	16	16	15	14	14	13	13	14.6	19.5
19-Jun	13	13	13	13	13	14	14	15	15	16	14	16	16	16	16	17	19	15	17	16	15	14	14	13	14.9	18.9
20-Jun	13	12	12	13	12	12	12	13	13	14	16	18	19	19	19	19	19	19	19	18	16	14	13	12	15.3	19.1
21-Jun	11	11	10	9	8	9	11	13	15	18	19	20	21	22	22	22	22	23	22	21	20	18	17	15	16.5	22.6
22-Jun	13	12	10	9	9	10	12	14	18	20	22	23	24	25	25	25	25	24	24	22	20	19	17	17	18.3	25.4
23-Jun	17	16	16	15	14	13	15	17	18	21	21	19	21	21	19	16	14	13	13	13	12	12	12	12	15.7	20.9
24-Jun	11	11	10	10	10	10	10	10	10	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9.5	11.1
25-Jun	9	9	9	9	8	9	9	9	9	10	10	10	12	14	13	11	12	13	12	12	13	12	12	12	10.7	13.6
26-Jun	12	11	11	11	10	10	11	14	15	18	19	19	21	22	23	23	23	23	21	20	19	18	17	16	16.9	22.7
27-Jun	15	15	13	13	12	12	14	16	16	18	20	21	22	22	18	16	20	20	20	19	18	16	16	15	16.9	21.7
28-Jun	13	12	11	11	10	11	12	14	17	18	19	20	20	19	20	21	21	20	17	17	17	16	15	14	16.1	21.4
29-Jun	13	12	12	12	12	12	14	14	15	16	17	17	19	19	20	20	20	20	19	17	16	15	14	13	15.7	20.4
30-Jun	11	10	10	9	10	10	11	12	13	14	14	15	16	17	17	18	18	17	16	14	13	12	11	10	13.3	17.8
	11.2	10.5	9.8	9.2	8.9	9.1	10.4	11.9	13.2	14.7	15.7	16.7	17.7	17.8	18.0	17.9	17.8	17.1	16.6	15.8	14.9	13.7	12.7	12.0	Diurnal Average	
	16.8	16.5	15.6	14.7	13.5	13.5	14.9	16.7	18.0	20.5	21.9	23.6	26.4	27.3	25.1	25.0	25.4	24.4	23.6	21.6	20.0	18.6	17.3	16.6	Diurnal Maximum	

Hourly Averages

External Temperature (ET) - ^{o}C

Henry Pirker - June 2011



Hourly Averages

Relative Humidity (RH) - %

Henry Pirker - June 2011

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

Maximum Value: 91.1 % on Jun 19 02:00

Maximum Daily Average: 85.1 % on Jun 25

Minimum Value: 23 % on Jun 1 17:00

Minimum Daily Average: 46.3 % on Jun 11

Maximum Diurnal Average: 80.8 % at hour 5

Minimum Diurnal Average: 50.5 % at hour 16

Monthly Average: 64.51 %

Percentiles: P_1 = 25.9 P_{10} = 37.1 Q_1 = 50.2 Median = 66.0 Q_3 = 82.0 P_{90} = 87.7 P_{99} = 90.9

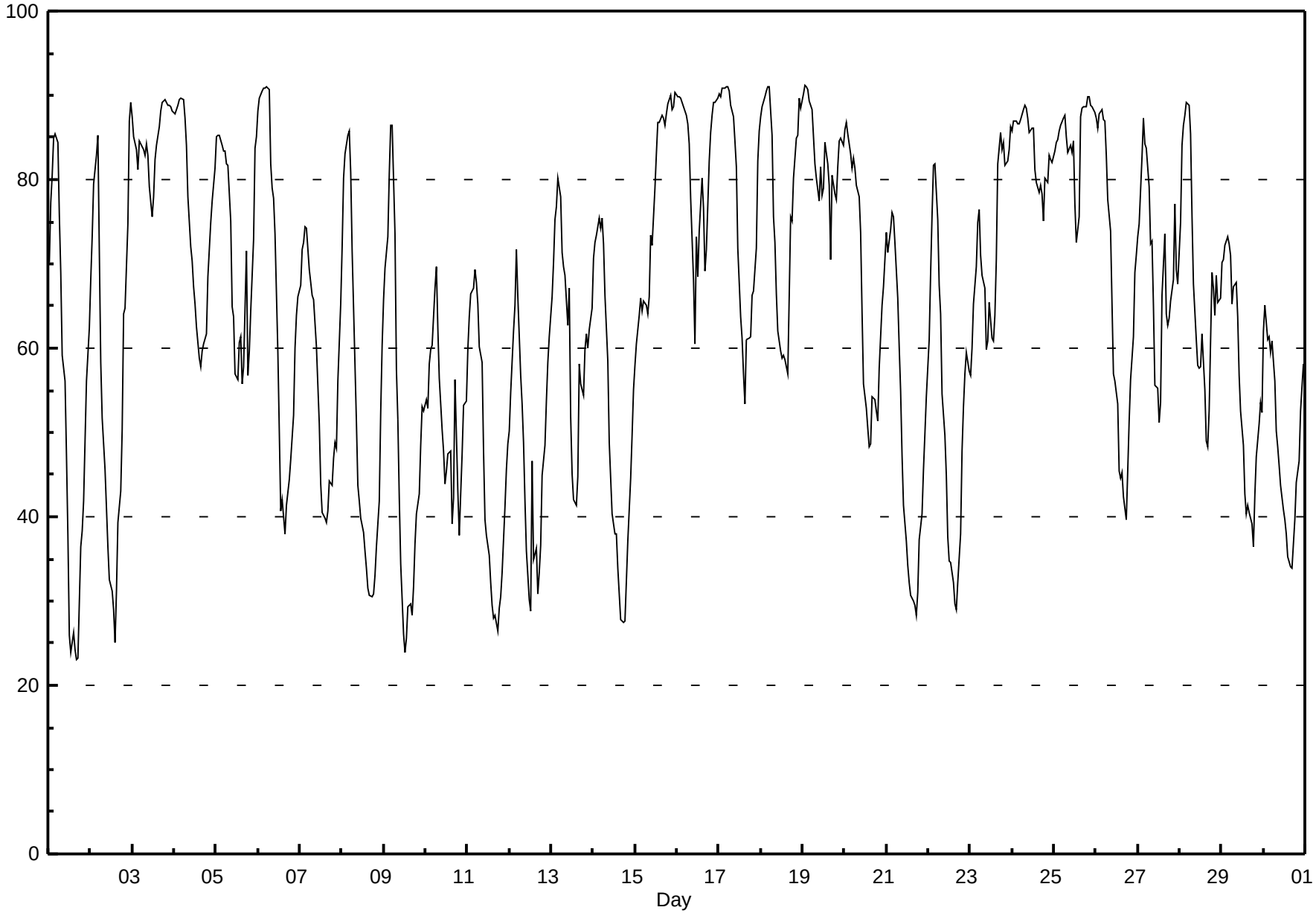
Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jun	70	77	81	85	85	84	76	69	59	56	47	38	26	24	26	24	23	23	36	38	42	49	56	62	52.4	85.4
2-Jun	68	73	79	83	85	71	58	52	46	41	36	33	31	29	25	31	39	43	50	64	65	75	87	89	56.5	89.2
3-Jun	88	85	84	81	85	84	84	83	84	83	79	76	78	82	84	86	88	89	89	89	89	89	89	88	84.8	89.4
4-Jun	88	88	89	90	90	90	87	84	78	72	70	67	65	63	59	58	60	60	62	68	72	75	78	81	74.7	89.7
5-Jun	85	85	85	84	83	83	82	82	75	65	64	57	56	61	61	56	58	72	57	60	64	73	84	85	71.5	85.3
6-Jun	88	90	90	91	91	91	91	82	79	78	74	59	50	41	42	38	41	43	44	47	52	60	64	66	66.3	91.1
7-Jun	67	72	73	74	74	69	68	66	66	60	56	51	44	40	40	39	41	44	44	47	49	48	56	65	56.4	74.4
8-Jun	72	80	83	85	86	81	71	65	51	44	42	40	38	36	34	31	31	30	31	33	36	42	52	60	52.3	85.7
9-Jun	66	69	73	81	87	86	74	57	52	42	34	26	24	26	29	30	28	32	37	40	43	49	53	53	49.6	86.5
10-Jun	54	53	58	60	60	67	70	62	56	50	48	44	46	47	48	39	42	56	43	38	43	47	53	54	51.6	69.7
11-Jun	60	64	66	67	69	68	65	60	58	48	40	38	35	32	30	28	28	26	29	31	33	41	46	49	46.3	69.3
12-Jun	50	55	62	65	72	66	57	53	49	42	36	30	29	47	35	36	31	33	37	45	48	54	58	61	47.9	71.7
13-Jun	66	70	75	77	80	78	71	70	69	63	67	52	45	42	41	45	58	56	54	60	62	60	62	65	62.0	80.1
14-Jun	71	73	73	75	74	75	72	66	58	49	45	40	38	38	34	31	28	27	28	32	37	45	50	55	50.6	75.5
15-Jun	58	61	64	66	64	66	65	64	66	73	72	79	83	87	87	88	87	86	88	89	90	88	89	90	77.1	90.3
16-Jun	90	90	90	89	89	88	87	84	78	68	61	73	68	74	80	77	69	72	82	86	88	89	89	90	81.2	89.8
17-Jun	90	90	91	91	91	91	91	89	87	85	81	72	64	61	57	53	61	61	61	66	67	72	82	86	76.7	91.0
18-Jun	87	89	90	90	91	91	85	76	73	66	62	60	59	59	59	57	66	76	75	80	85	85	90	89	76.6	91.0
19-Jun	90	91	91	91	89	88	85	82	80	77	81	78	79	84	82	79	70	81	78	78	82	85	85	84	83.0	91.1
20-Jun	86	87	85	83	81	82	81	79	78	74	64	56	53	51	48	49	54	54	52	51	58	65	67	70	67.1	86.7
21-Jun	74	71	74	76	76	73	66	60	55	47	41	37	34	32	31	30	30	28	31	37	40	46	50	54	49.7	76.1
22-Jun	61	69	76	82	82	75	67	64	55	50	45	38	35	35	32	30	29	32	38	48	53	57	59	57	52.8	81.9
23-Jun	57	60	65	70	75	76	71	69	67	60	61	65	61	61	64	71	82	86	84	84	82	82	84	86	71.7	86.3
24-Jun	86	87	87	87	87	87	88	89	89	87	86	86	86	81	80	79	79	78	75	80	80	83	82	82	83.7	88.8
25-Jun	83	84	85	86	86	87	88	85	83	84	83	85	77	73	76	87	88	89	89	90	90	89	89	88	85.1	89.9
26-Jun	87	86	88	88	87	87	83	78	74	65	57	56	53	45	45	45	42	40	45	51	56	61	69	71	65.1	88.4
27-Jun	73	75	83	87	84	84	79	72	73	65	56	55	51	53	66	74	64	63	64	66	68	77	69	68	69.5	87.2
28-Jun	75	84	86	88	89	89	85	76	68	61	58	58	58	62	55	49	48	53	69	67	64	69	65	66	68.4	89.2
29-Jun	70	71	72	73	72	71	65	67	68	64	57	53	48	43	40	41	41	39	36	43	47	51	54	52	55.8	73.2
30-Jun	62	65	61	61	60	61	56	50	48	46	44	41	40	38	35	34	34	37	40	44	47	53	55	58	48.7	65.0
	74.1	76.4	78.7	80.2	80.8	79.7	75.6	71.2	67.4	62.2	58.2	54.7	51.8	51.5	50.8	50.5	51.4	53.6	54.9	58.4	61.0	65.2	68.9	70.9	Diurnal Average	
	90.2	91.1	91.1	90.9	91.0	91.1	90.7	88.9	88.5	87.3	85.6	86.2	86.1	86.7	86.9	87.7	88.5	89.2	89.4	89.9	90.1	89.1	89.7	90.3	Diurnal Maximum	

Hourly Averages

Relative Humidity (RH) - %

Henry Pirker - June 2011



Hourly Averages

Solar Radiation (SR) - W/m^2

Henry Pirker - June 2011

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

Maximum Value: 810.8 W/m^2 on Jun 12 13:00

Maximum Daily Average: 294.5 W/m^2 on Jun 21

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

Minimum Daily Average: 48.0 W/m^2 on Jun 24

Maximum Diurnal Average: 511.0 W/m^2 at hour 13

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

Monthly Average: 190.29 W/m^2

Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 83.7 Q_3 = 330.3 P_{90} = 552.1 P_{99} = 755.2

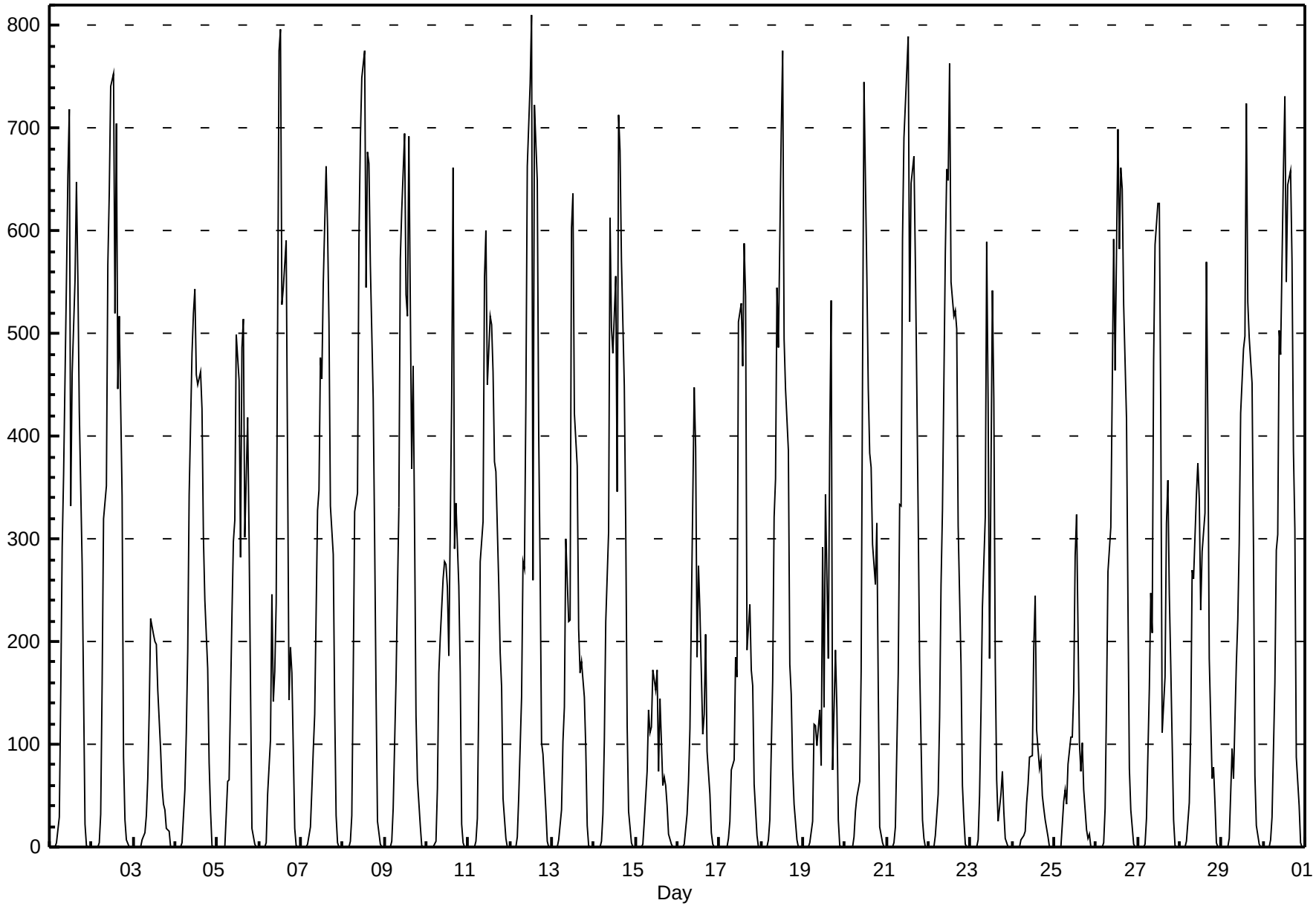
Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

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	4	29	151	292	363	552	654	719	333	461	552	648	553	424	275	151	22	1	0	0	257.6	719.0
2-Jun	0	0	0	0	5	32	159	320	352	567	637	740	753	520	705	446	517	342	87	26	7	0	0	0	259.0	753.2
3-Jun	0	0	0	0	0	7	14	30	66	132	222	207	200	198	153	94	59	42	36	18	16	1	0	0	62.3	222.2
4-Jun	0	0	0	0	5	56	111	190	344	481	520	543	460	450	463	427	301	240	174	82	34	2	0	0	203.5	543.2
5-Jun	0	0	0	0	0	32	64	65	226	297	318	499	455	282	487	514	302	419	302	155	18	3	0	0	184.8	514.0
6-Jun	0	0	0	0	4	52	104	246	142	170	237	776	797	528	545	591	372	143	195	170	18	1	0	0	212.1	796.6
7-Jun	0	0	0	0	3	20	56	95	130	328	347	477	456	549	662	603	510	332	285	137	30	4	0	0	209.4	662.4
8-Jun	0	0	0	0	5	30	166	327	344	590	689	748	775	545	676	666	566	436	301	150	25	3	0	0	293.6	775.2
9-Jun	0	0	0	0	6	38	162	249	331	573	620	695	538	517	692	368	468	310	128	65	21	1	0	0	241.0	694.8
10-Jun	0	0	0	0	0	5	57	169	204	261	278	276	253	186	437	661	290	335	255	170	22	5	0	0	161.0	661.0
11-Jun	0	0	0	0	6	28	146	277	317	554	600	450	517	508	462	375	365	255	188	156	48	8	0	0	219.2	600.1
12-Jun	0	0	0	0	10	49	147	278	271	431	664	744	811	260	722	649	403	269	101	90	36	6	0	0	247.6	810.8
13-Jun	0	0	0	0	6	37	102	136	300	219	220	604	637	422	371	213	170	181	146	95	21	2	0	0	161.8	636.8
14-Jun	0	0	0	0	5	32	102	220	307	613	506	481	555	347	712	678	571	449	313	119	35	5	0	0	252.0	712.4
15-Jun	0	0	0	0	3	25	74	134	111	117	172	153	172	74	144	60	68	60	41	13	3	0	0	0	59.3	172.3
16-Jun	0	0	0	0	2	32	63	115	230	448	389	185	274	230	110	129	207	93	51	14	2	0	0	0	107.3	447.8
17-Jun	0	0	0	0	0	9	24	75	85	185	165	511	529	469	588	536	191	236	172	157	61	11	0	0	166.9	588.0
18-Jun	0	0	0	0	7	26	162	321	359	545	487	697	775	494	446	386	178	149	77	42	7	0	0	0	214.9	775.3
19-Jun	0	0	0	0	4	24	120	118	99	134	80	292	136	343	184	398	532	76	192	135	26	1	0	0	120.6	531.8
20-Jun	0	0	0	0	0	10	35	49	64	171	467	745	555	446	383	370	295	256	316	154	20	5	0	0	180.9	745.3
21-Jun	0	0	0	0	4	20	169	333	332	592	690	756	789	511	646	673	570	449	319	178	27	8	0	0	294.5	789.1
22-Jun	0	0	0	0	11	51	126	256	327	578	660	649	763	550	517	523	505	312	178	60	28	3	0	0	254.1	763.4
23-Jun	0	0	0	0	7	50	132	233	321	589	433	183	542	436	181	66	25	51	73	34	8	0	0	0	140.2	589.1
24-Jun	0	0	0	0	0	7	11	16	43	62	87	89	195	244	114	77	85	49	37	26	10	0	0	0	48.0	244.1
25-Jun	0	0	0	0	0	45	55	42	81	106	107	152	283	323	101	73	101	56	17	9	13	0	0	0	65.2	323.2
26-Jun	0	0	0	0	5	37	142	268	311	448	592	464	700	583	661	641	528	417	240	76	36	3	0	0	256.2	699.5
27-Jun	0	0	0	0	3	28	154	248	209	472	587	626	626	424	112	166	316	357	246	179	27	2	0	0	199.3	626.2
28-Jun	0	0	0	0	6	44	112	270	261	343	374	339	231	288	325	570	415	183	67	78	43	3	0	0	164.7	570.2
29-Jun	0	0	0	0	9	51	95	66	179	221	295	422	485	497	724	531	496	452	292	69	21	2	0	0	204.5	724.2
30-Jun	0	0	0	0	7	29	160	289	305	504	480	660	731	551	645	658	571	386	309	87	41	4	0	0	267.3	731.5
	0.0	0.0	0.0	0.0	4.2	31.1	105.9	190.9	233.8	376.2	419.3	496.1	511.0	407.9	450.7	426.3	351.0	258.7	180.4	96.4	24.2	2.8	0.0	0.0	Diurnal Average	
	0.0	0.0	0.0	0.0	11.5	55.9	169.5	333.3	363.3	612.7	690.2	775.5	810.8	583.0	724.2	678.5	571.0	452.0	319.2	178.5	60.9	11.3	0.0	0.0	Diurnal Maximum	

Hourly Averages

Solar Radiation (SR) - W/m^2

Henry Pirker - June 2011



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Henry Pirker - June 2011

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1 Spd	3	4	1	3	5	4	5	4	4	7	3	1	M	M	2	5	5	3	21	17	13	13	9	6	4.6	21.2
Dir	325	146	155	155	152	158	228	220	278	159	215	266	M	M	86	292	239	235	162	163	155	135	132	158	166.7	162.4
2 Spd	N	N	N	N	N	N	9	12	13	12	8	6	6	8	10	22	23	29	28	30	25	25	19	13	15.0	30.4
Dir	N	N	N	N	N	N	249	255	269	285	281	259	271	326	317	319	256	263	284	313	313	321	311	327	293.5	312.7
3 Spd	12	12	15	16	15	12	8	6	10	12	12	10	9	11	11	11	11	7	6	8	8	8	7	5	7.1	16.1
Dir	30	29	9	10	360	27	48	64	32	23	22	27	18	9	7	9	357	332	302	271	246	223	214	221	8.1	9.7
4 Spd	5	5	6	7	8	9	10	9	7	7	8	6	6	4	2	2	3	2	4	6	6	7	5	1	3.9	9.5
Dir	195	161	139	120	109	120	121	133	143	175	157	161	177	169	268	233	277	224	308	20	107	122	124	196	142.1	120.6
5 Spd	8	5	5	5	6	8	10	12	5	4	7	5	6	8	6	6	13	14	5	7	5	3	3	2	4.9	14.3
Dir	345	319	301	209	243	277	289	321	354	302	290	293	349	16	218	295	300	358	310	287	292	312	220	179	305.0	357.7
6 Spd	3	0	1	2	1	2	2	5	6	7	3	4	5	4	3	7	11	8	9	10	8	7	7	6	1.7	10.6
Dir	169	95	162	126	238	298	250	267	249	270	151	203	280	308	296	326	20	25	64	65	47	48	56	68	17.3	20.3
7 Spd	6	9	7	7	8	8	6	10	11	13	14	15	14	17	18	18	19	20	18	16	14	8	5	3	11.3	19.6
Dir	55	43	51	49	40	42	57	50	50	35	26	17	40	32	29	23	19	9	13	18	15	25	63	360	29.6	9.0
8 Spd	3	3	3	4	5	4	4	2	3	2	4	4	4	4	5	4	6	6	7	7	9	8	10	8	2.1	9.6
Dir	324	304	306	294	313	347	310	302	272	192	113	201	222	162	197	202	200	196	164	179	142	126	118	119	180.7	117.8
9 Spd	7	6	5	4	N	N	N	N	10	9	13	14	14	13	19	15	17	19	16	16	15	11	8	9	9.4	19.2
Dir	117	113	112	117	N	N	N	N	228	259	254	261	267	282	305	287	278	284	294	290	292	303	285	287	278.9	304.7
10 Spd	10	8	6	6	9	14	8	9	20	19	22	21	20	15	11	10	12	14	15	23	20	15	10	15	12.8	23.0
Dir	283	257	227	241	268	258	246	289	256	260	262	263	261	262	287	253	187	184	263	270	261	253	246	253	256.4	269.9
11 Spd	10	7	6	8	8	7	9	7	6	4	5	2	5	13	9	6	2	2	5	7	8	7	6	5	2.9	13.4
Dir	247	303	318	314	272	284	283	297	302	283	294	284	326	329	330	348	313	301	91	85	109	112	102	107	313.6	329.5
12 Spd	7	6	4	1	3	5	5	8	10	4	4	2	5	22	10	15	7	11	12	7	6	7	8	7	4.4	21.8
Dir	116	132	171	199	144	228	240	247	259	250	226	240	274	293	276	307	230	200	216	211	175	171	162	150	230.1	293.4
13 Spd	4	4	3	4	1	3	4	2	5	5	7	9	7	6	8	11	14	13	13	10	2	10	9	9	4.0	14.1
Dir	150	105	140	153	207	259	285	214	167	218	122	132	159	159	204	241	171	230	278	335	292	229	239	251	210.4	171.1
14 Spd	6	8	10	8	10	10	11	12	22	26	24	25	25	21	19	21	21	22	21	18	21	23	23	21	17.7	26.1
Dir	288	269	276	268	252	271	269	273	281	267	265	271	265	262	259	254	262	264	270	270	258	261	259	258	265.3	267.4
15 Spd	16	15	12	12	13	15	17	18	19	19	24	21	23	20	13	11	11	14	14	14	10	12	8	10	13.5	24.2
Dir	267	265	283	282	271	276	270	267	292	296	301	297	297	307	315	319	345	327	322	319	343	14	339	329	300.0	301.2
16 Spd	13	14	14	13	16	16	13	11	14	17	19	15	17	13	12	11	11	11	6	4	5	8	9	7	10.5	18.9
Dir	320	318	314	310	321	320	320	322	328	343	6	16	11	18	353	24	38	45	57	359	10	317	347	340	346.7	6.5
17 Spd	6	7	6	6	6	5	6	8	7	8	7	8	9	10	9	9	13	10	8	6	5	5	8	7	3.2	13.3
Dir	335	333	338	325	332	333	341	349	7	14	50	55	59	36	50	66	125	137	167	211	205	119	103	105	47.2	124.6
18 Spd	5	4	3	2	4	2	2	4	4	4	7	9	10	10	10	9	10	8	11	11	8	8	8	9	4.6	11.3
Dir	83	71	52	5	36	181	207	283	276	253	51	57	68	59	34	28	57	32	5	352	331	354	328	327	20.7	4.5
19 Spd	10	10	8	8	6	6	8	5	5	6	5	2	6	6	4	8	8	8	6	9	7	8	8	9	4.0	10.1
Dir	320	323	333	350	21	20	35	46	9	347	40	121	293	215	242	242	237	265	294	325	275	251	256	269	306.5	323.0
20 Spd	14	12	11	11	11	13	10	9	7	9	13	16	14	13	15	12	10	10	11	8	5	7	7	6	10.0	16.5
Dir	258	262	273	270	273	269	286	280	270	272	277	266	288	292	275	287	315	306	320	324	291	293	272	244	280.8	266.0
21 Spd	6	9	8	8	10	9	12	9	13	22	23	21	23	23	22	22	21	17	16	10	8	6	7	4	13.3	23.2
Dir	283	248	247	248	256	261	255	270	259	254	262	265	267	274	269	272	278	279	284	296	273	236	222	213	265.4	274.0
22 Spd	3	1	3	2	2	5	3	4	3	4	5	4	5	8	9	9	10	11	10	9	9	10	10	10	3.8	11.0
Dir	256	10	165	185	164	213	268	309	279	297	248	83	60	67	63	60	64	69	64	49	33	47	49	52	54.0	69.1

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Henry Pirker - June 2011

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	10	10	9	10	6	5	N	N	8	3	5	10	10	13	27	24	17	17	15	17	19	17	14	13	7.7	26.6
Dir	65	85	116	110	170	169	N	N	107	216	282	262	280	268	251	256	260	278	284	262	287	287	280	281	265.1	250.7
24 Spd	20	19	19	19	16	16	17	18	19	21	26	25	28	34	27	22	20	16	14	15	14	13	17	18	19.5	34.2
Dir	267	260	266	275	272	280	258	260	259	262	257	251	256	260	253	241	234	234	245	245	242	253	258	263	256.4	260.3
25 Spd	14	14	12	12	14	17	17	14	17	15	17	8	9	14	12	10	7	10	12	10	14	10	9	9	11.5	17.2
Dir	258	259	258	264	270	282	279	289	303	300	302	341	276	285	294	355	295	286	257	289	297	294	289	296	286.1	279.4
26 Spd	5	12	13	14	10	9	10	10	11	2	2	4	5	5	5	6	6	4	5	7	7	7	6	7	2.5	14.0
Dir	267	268	257	267	264	263	267	289	303	308	72	272	254	305	359	1	85	121	116	91	101	101	112	119	274.2	267.3
27 Spd	5	0	2	6	6	4	5	6	6	7	6	7	8	10	11	6	3	7	10	12	7	1	14	8	1.6	14.0
Dir	113	195	343	268	269	280	273	275	235	239	291	296	308	345	294	359	97	86	97	113	102	119	218	207	266.7	217.7
28 Spd	0	7	2	1	3	4	4	5	3	5	8	10	7	14	11	14	12	13	11	10	12	8	11	11	6.5	13.9
Dir	59	175	205	166	117	120	137	152	190	241	228	229	249	257	252	248	225	222	213	231	250	265	243	238	229.5	248.2
29 Spd	6	7	6	6	8	8	12	10	10	14	17	16	15	21	17	11	17	23	24	18	16	19	20	23	14.0	24.2
Dir	270	236	232	229	258	228	251	227	242	252	255	265	247	257	260	226	260	270	264	262	258	258	252	254	253.9	264.2
30 Spd	12	10	10	10	12	13	13	21	26	29	31	32	30	28	27	27	30	30	29	27	24	14	16	15	21.1	32.3
Dir	250	239	225	224	254	238	236	256	256	256	254	260	264	260	264	271	271	268	271	264	259	251	251	254	257.9	259.5
Spd	3.5	3.4	3.4	3.6	4.4	4.8	5.6	5.8	6.5	7.3	6.8	6.5	7.4	8.2	7.8	7.4	5.5	6.4	6.3	6.0	5.2	4.0	4.3	4.5	Diurnal Average	
Dir	283.4	273.6	276.7	276.0	278.3	274.8	271.3	277.2	276.6	275.3	278.2	275.0	281.0	290.7	286.1	292.1	272.5	275.8	277.5	288.2	278.5	276.4	256.6	262.7		
Spd	19.8	19.1	18.8	19.3	16.2	16.9	17.3	21.3	25.9	28.7	31.3	32.3	30.3	34.2	27.4	27.4	29.5	29.7	29.2	30.4	25.1	25.0	22.9	22.7	Diurnal Maximum	
Dir	267.0	260.1	265.9	274.7	271.8	282.0	258.1	255.5	256.1	256.5	254.2	259.5	263.8	260.3	263.6	271.0	270.6	267.8	271.3	312.7	313.0	321.0	259.2	253.6		

Maximum Speed Value: 34 km/h on Jun 24 14:00
Maximum Daily Speed Average: 21.1 km/h on Jun 30
Maximum Diurnal Speed Average: 8.2 km/h at hour 14

Minimum Speed Value: 0 km/h on Jun 28 01:00
Minimum Daily Speed Average: 1.6 km/h on Jun 8
Minimum Diurnal Speed Average: 3.4 km/h at hour 2

Monthly Average Velocity: 5.58 km/h 278.23 deg

Speed Percentiles: P_1 = 1.0 P_{10} = 3.6 Q_1 = 5.8 Median = 8.8 Q_3 = 13.7 P_{90} = 19.6 P_{99} = 29.4

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

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

M - Maintenance N - Not Valid

Frequency Distribution

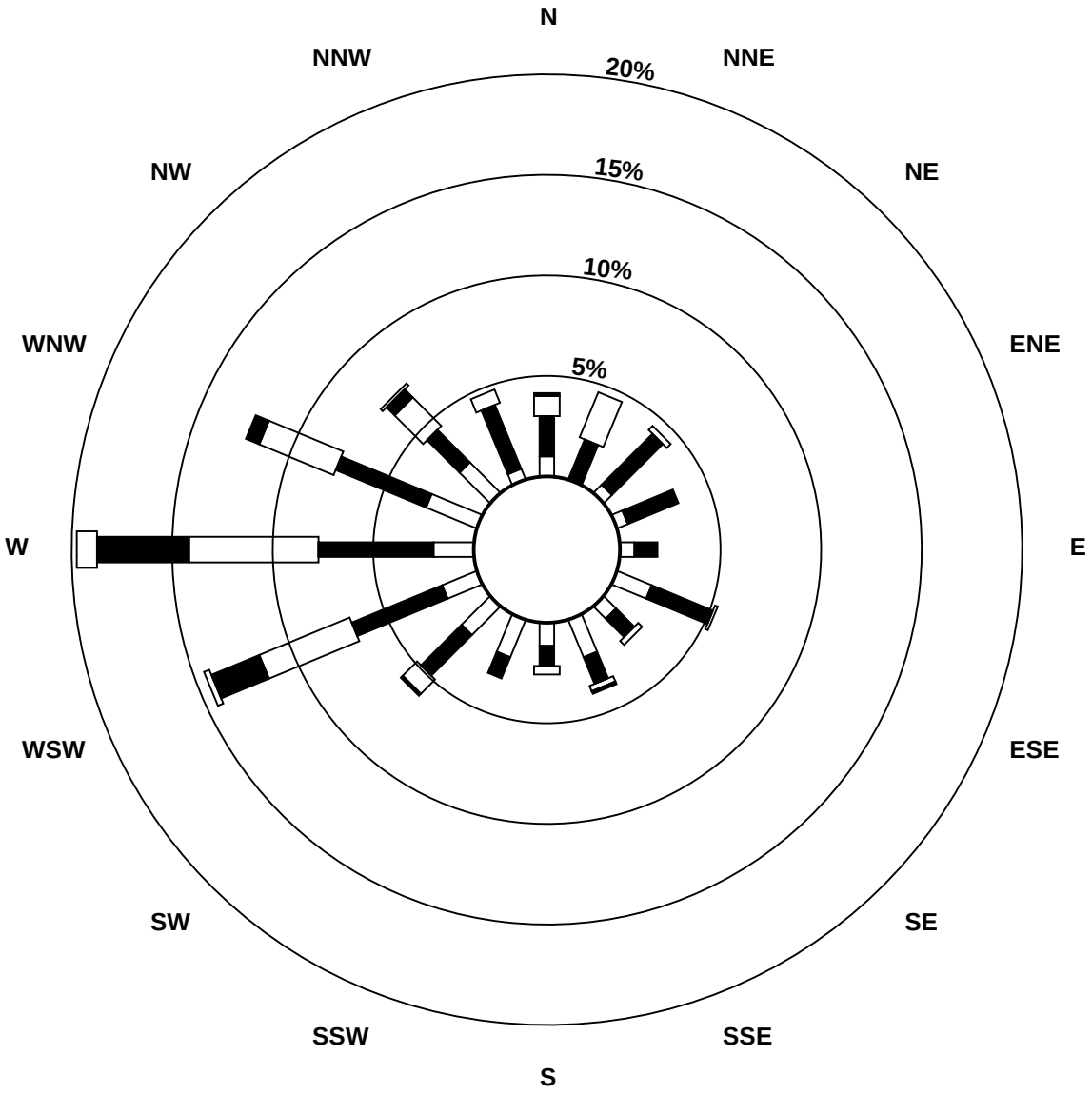
Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	8	32	20	1	0	0	61
NorthEast	4	50	12	0	0	0	66
East	8	25	0	0	0	0	33
SouthEast	19	27	4	0	0	0	50
South	21	21	4	1	0	0	47
SouthWest	25	45	15	2	0	0	87
West	26	75	93	50	12	0	256
NorthWest	22	45	27	11	1	0	106
Total	133	320	175	65	13	0	706

Peace Airshed Zone Association

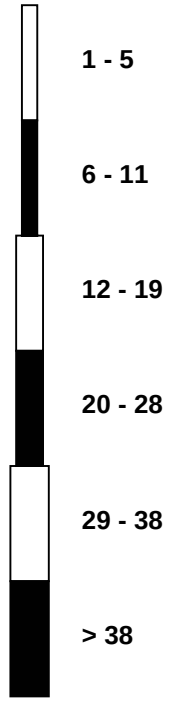
Wind Rose

Wind Speed (WS) (km/h)

Henry Pirker - June 2011



Wind Speed Classes (km/h)



Peace Airshed Zone Association

Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Henry Pirker - June 2011

Maximum Speed: 34 km/h on Jun 24 14:00

Maximum Daily Speed Average: 21.9 km/h on Jun 30

Minimum Speed: 1 km/h on Jun 1 12:00

Minimum Daily Speed Average: 6.0 km/h on Jun 6

Maximum Diurnal Speed Average: 14.2 km/h at hour 14

Minimum Diurnal Speed Average: 7.6 km/h at hour 3

Monthly Average Speed: 10.96 km/h

Percentiles: P_1 = 2.3 P_{10} = 4.5 Q_1 = 6.6 Median = 9.4 Q_3 = 14.1 P_{90} = 20.0 P_{99} = 30.0

Hours in Service:	720
Hours of Data:	706
Hours of Missing Data:	14
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	4	4	2	3	5	4	5	5	4	7	5	1	M	M	3	6	7	7	22	17	13	13	9	6	7.0	21.6
2-Jun	N	N	N	N	N	N	9	12	13	12	9	8	8	9	11	24	23	29	29	31	25	25	19	14	17.4	30.6
3-Jun	12	13	15	16	15	12	8	7	10	13	12	11	10	11	12	11	11	7	6	8	9	8	7	5	10.4	16.3
4-Jun	5	5	6	7	8	9	10	10	8	8	10	8	7	6	6	5	4	4	5	7	6	7	6	4	6.7	9.8
5-Jun	8	6	5	6	7	9	10	12	5	5	7	7	8	8	7	7	13	15	6	7	6	3	4	4	7.3	14.8
6-Jun	3	2	2	2	2	2	3	6	7	7	5	6	7	6	7	8	12	9	9	10	8	7	7	7	6.0	11.6
7-Jun	6	9	7	7	8	8	7	11	12	13	14	16	15	18	18	19	19	20	18	16	14	9	5	4	12.2	20.1
8-Jun	4	3	4	4	5	4	4	4	4	5	7	7	8	7	8	7	8	8	8	7	9	8	10	8	6.3	9.7
9-Jun	7	6	5	4	N	N	N	N	10	9	14	16	16	14	20	16	18	20	17	16	15	11	8	9	12.5	19.7
10-Jun	10	9	6	6	9	14	9	10	20	19	22	22	21	16	11	11	13	14	18	23	20	15	10	15	14.3	23.3
11-Jun	10	9	7	9	8	8	9	8	7	6	7	5	9	14	10	7	5	4	6	8	8	7	6	5	7.6	13.9
12-Jun	7	6	5	2	3	5	5	8	11	5	5	6	7	22	11	16	9	11	13	8	6	7	8	7	8.1	22.4
13-Jun	5	4	3	5	2	4	4	3	5	6	9	9	8	8	9	12	15	15	15	10	4	10	9	9	7.6	14.9
14-Jun	6	8	10	8	10	11	11	12	23	27	24	26	25	21	20	22	22	23	21	18	21	23	23	21	18.2	26.7
15-Jun	17	15	12	12	13	15	17	18	19	20	24	21	23	20	13	12	12	14	14	14	11	12	8	10	15.3	24.4
16-Jun	13	14	14	13	16	16	13	11	14	17	19	15	18	14	13	12	12	11	6	5	6	8	9	7	12.4	19.4
17-Jun	7	7	6	6	6	6	6	8	7	8	8	9	10	11	10	11	15	11	9	7	5	6	9	7	8.0	15.5
18-Jun	5	4	3	3	4	2	3	4	5	5	9	10	11	10	11	10	11	8	12	11	8	9	8	9	7.3	11.5
19-Jun	10	10	8	8	6	6	8	6	5	7	6	3	6	8	5	8	9	9	6	9	8	8	8	9	7.3	10.2
20-Jun	14	12	11	11	11	13	10	9	7	9	13	17	14	13	15	13	11	10	11	8	6	7	7	6	10.8	17.0
21-Jun	6	10	8	8	10	10	12	9	13	23	23	22	23	24	23	22	21	17	16	10	8	6	7	5	14.1	23.7
22-Jun	5	3	3	3	3	5	4	4	4	5	5	6	7	9	10	10	10	11	11	10	10	11	10	11	7.1	11.4
23-Jun	10	10	9	10	6	5	N	N	9	4	7	11	11	14	27	24	18	17	15	17	19	17	14	14	13.2	27.0
24-Jun	20	19	19	19	16	16	17	18	19	22	27	26	29	34	28	23	20	16	15	16	15	13	17	18	20.1	34.4
25-Jun	14	14	12	12	14	17	17	14	17	15	17	8	9	14	13	10	8	10	12	11	14	10	9	9	12.6	17.3
26-Jun	7	13	14	14	10	9	10	10	12	6	6	5	6	6	7	7	7	6	7	8	7	7	6	7	8.1	14.1
27-Jun	5	4	4	7	6	5	5	7	7	7	7	8	9	11	13	11	6	8	11	12	7	3	14	9	7.7	14.5
28-Jun	6	7	4	3	3	5	5	5	4	6	8	10	8	14	11	14	13	13	11	10	12	9	11	12	8.5	14.5
29-Jun	7	7	7	7	9	9	12	10	10	14	17	16	15	21	17	12	18	23	25	18	16	19	20	23	14.7	24.5
30-Jun	12	11	10	11	12	13	13	22	26	29	32	33	31	29	28	28	30	30	30	27	24	14	16	15	21.9	32.6
	8.5	8.5	7.6	7.8	8.2	8.6	8.9	9.4	10.6	11.3	12.6	12.2	13.0	14.2	13.3	13.3	13.3	13.4	13.4	12.7	11.3	10.4	10.2	9.6	Diurnal Average	
	20.0	19.2	19.0	19.5	16.4	17.1	17.5	21.6	26.2	29.1	31.8	32.6	30.8	34.4	28.1	27.9	30.1	30.3	29.6	30.6	25.3	25.1	23.0	22.9	Diurnal Maximum	

M - Maintenance N - Not Valid

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

Peace Airshed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Henry Pirker - June 2011

Maximum Value: 91.5 deg on Jun 28 01:00

Minimum Value: 4.8 deg on Jun 11 22:00

Percentiles: P_1 = 5.9 P_{10} = 8.1 Q_1 = 10.7 Median = 15.0 Q_3 = 26.7 P_{90} = 49.8 P_{99} = 86.2

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 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	35	27	72	28	14	16	27	33	41	34	63	47	M	M	60	57	57	73	10	10	12	8	10	20	73.2
2-Jun	N	N	N	N	N	N	9	11	13	14	29	40	53	29	28	26	11	8	12	8	7	7	10	11	52.5
3-Jun	18	16	10	9	11	19	18	19	15	15	12	17	19	15	12	12	12	16	15	21	20	12	16	24	23.9
4-Jun	33	10	22	13	13	11	14	22	25	33	36	49	38	56	74	76	51	66	56	27	23	10	37	77	77.1
5-Jun	25	29	14	25	34	12	9	15	37	39	31	43	53	39	38	50	30	16	31	15	17	17	33	59	58.7
6-Jun	44	91	73	48	67	26	57	22	19	25	56	51	54	74	76	27	27	26	14	15	20	13	11	13	91.2
7-Jun	17	11	13	15	12	15	27	21	22	18	17	17	18	20	17	17	13	12	13	12	9	15	21	49	48.9
8-Jun	25	39	20	8	13	14	24	65	61	77	81	76	67	64	55	64	51	47	26	13	14	13	8	7	80.7
9-Jun	10	6	6	9	N	N	N	N	14	20	15	24	24	24	13	18	14	12	8	7	9	6	8	8	24.2
10-Jun	7	23	13	17	19	14	26	32	8	12	10	12	13	13	15	27	22	13	37	8	7	9	9	7	36.8
11-Jun	9	36	17	18	17	32	21	32	37	50	50	76	85	16	32	43	87	86	45	16	16	5	14	14	87.1
12-Jun	11	16	23	67	48	26	21	14	15	61	44	84	56	15	31	29	38	21	27	29	12	8	10	10	83.7
13-Jun	24	17	32	19	64	43	25	41	17	55	39	18	42	51	34	14	16	24	30	18	53	13	8	13	64.3
14-Jun	10	20	14	14	12	22	11	16	12	12	10	11	10	11	20	18	14	12	13	13	6	6	7	7	22.1
15-Jun	9	8	20	11	8	8	8	10	11	8	7	7	7	11	7	18	12	11	6	8	30	9	14	8	29.6
16-Jun	8	8	8	7	6	6	7	9	11	9	13	11	11	11	13	21	17	15	19	43	42	8	11	10	42.8
17-Jun	10	12	9	8	8	15	12	15	12	14	31	21	24	22	27	32	32	16	26	29	28	34	8	10	33.7
18-Jun	10	14	31	48	34	39	44	22	32	28	48	21	21	23	19	22	17	23	11	10	9	16	16	8	48.4
19-Jun	8	8	8	19	14	14	15	25	17	31	30	56	26	36	48	20	22	24	10	14	23	12	14	13	56.0
20-Jun	5	7	8	10	9	8	11	14	18	15	14	15	16	15	14	21	15	16	12	13	23	12	17	15	23.3
21-Jun	25	15	11	13	11	14	12	14	17	8	12	13	14	13	14	12	13	12	11	6	12	15	14	28	27.7
22-Jun	59	86	32	55	61	25	39	31	31	42	21	68	58	25	30	20	21	16	13	15	13	12	13	14	86.1
23-Jun	10	19	10	10	19	15	N	N	31	51	50	42	18	24	11	7	17	12	12	10	8	7	10	8	51.3
24-Jun	8	8	8	6	7	9	7	7	7	7	8	9	9	7	10	11	12	10	12	12	11	11	9	8	12.1
25-Jun	8	7	9	10	10	7	7	10	7	9	16	25	11	10	21	21	11	11	8	33	8	8	11	10	33.0
26-Jun	46	12	9	8	11	13	12	12	11	88	88	40	33	46	48	54	34	59	48	13	13	9	16	7	88.0
27-Jun	10	79	86	24	19	37	27	21	25	17	28	32	28	45	27	79	83	29	24	10	14	80	13	26	86.2
28-Jun	92	9	80	65	14	11	19	23	47	36	24	17	23	18	13	17	19	16	13	12	13	14	11	13	91.5
29-Jun	17	10	16	14	21	13	10	17	11	11	9	12	16	9	14	24	26	10	10	8	11	7	8	7	25.8
30-Jun	9	14	14	16	15	12	15	9	9	10	10	9	10	12	13	11	12	11	10	8	6	12	10	9	15.5
	91.5	91.2	86.2	67.1	67.5	42.7	57.4	65.0	60.6	88.0	87.6	83.7	85.0	74.2	76.3	78.9	87.1	86.3	56.5	42.8	52.6	80.1	37.4	77.1	

M - Maintenance N - Not Valid

PAZA
Evergreen Park Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 7.2 ppb on Jun 10 11:00 Maximum Daily Average: 0.9 ppb on Jun 21

Minimum Value: 0 ppb on Jun 2 03:00 Minimum Daily Average: 0.0 ppb on Jun 3
Maximum Diurnal Average: 0.8 ppb at hour 10 Minimum Diurnal Average: 0.1 ppb at hour 1
Monthly Average: 0.27 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.1 $Q_3 = 0.2$ $P_{90} = 0.5$ $P_{99} = 4.2$

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) 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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0	0.2	0.6
2-Jun	0	0	0	0	0	0	0	1	2	1	2	1	1	0	0	0	5	0	1	0	0	A	0	0	0.7	5.3
3-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	0.0	0.0
4-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	0.5
5-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	0.1
6-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	0.1
7-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
8-Jun	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	0.8
9-Jun	0	0	0	0	0	0	0	0	1	0	0	0	1	2	A	0	0	0	0	0	0	0	1	1	0.3	1.8
10-Jun	0	0	0	0	0	0	0	0	0	0	7	0	0	A	0	0	0	0	0	0	0	0	0	0	0.4	7.2
11-Jun	0	0	0	0	0	0	2	1	0	1	2	1	A	1	1	0	0	0	0	0	0	0	0	0	0.5	1.7
12-Jun	0	0	0	0	0	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
13-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	0.4
14-Jun	0	0	0	0	0	0	3	0	0	A	0	0	0	5	0	2	0	0	0	0	0	0	0	0	0.5	4.9
15-Jun	0	0	0	0	0	0	6	2	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	5.7
16-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	0.1	0.2
17-Jun	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.1	0.6
18-Jun	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
19-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.2	1.1
20-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	0.2	1.2
21-Jun	0	0	A	0	0	0	1	1	2	4	3	0	0	1	5	2	0	0	0	0	0	0	0	0	0.9	5.3
22-Jun	0	A	0	0	0	0	0	2	3	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	4.9
23-Jun	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0.3	1.1
24-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	A	0	0.1	0.7
25-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
26-Jun	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	A	0	0	0	0.3	1.2
27-Jun	0	0	0	0	0	0	0	0	1	1	1	1	1	1	2	0	0	0	0	A	0	0	0	0	0.4	2.0
28-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	0.4
29-Jun	0	0	0	0	0	0	0	0	C	C	C	C	0	2	1	0	0	A	2	0	0	0	0	0	0.3	1.8
30-Jun	0	0	0	0	0	0	1	4	4	4	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0.7	3.9
	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	0.6	0.8	0.8	0.2	0.2	0.3	0.6	0.2	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.1	Diurnal Average	
	0.3	0.2	0.4	0.3	0.3	0.5	5.7	3.9	3.7	4.9	7.2	1.1	1.2	1.8	5.3	1.6	5.3	0.7	1.8	0.3	1.1	0.6	1.1	0.6	Diurnal Maximum	

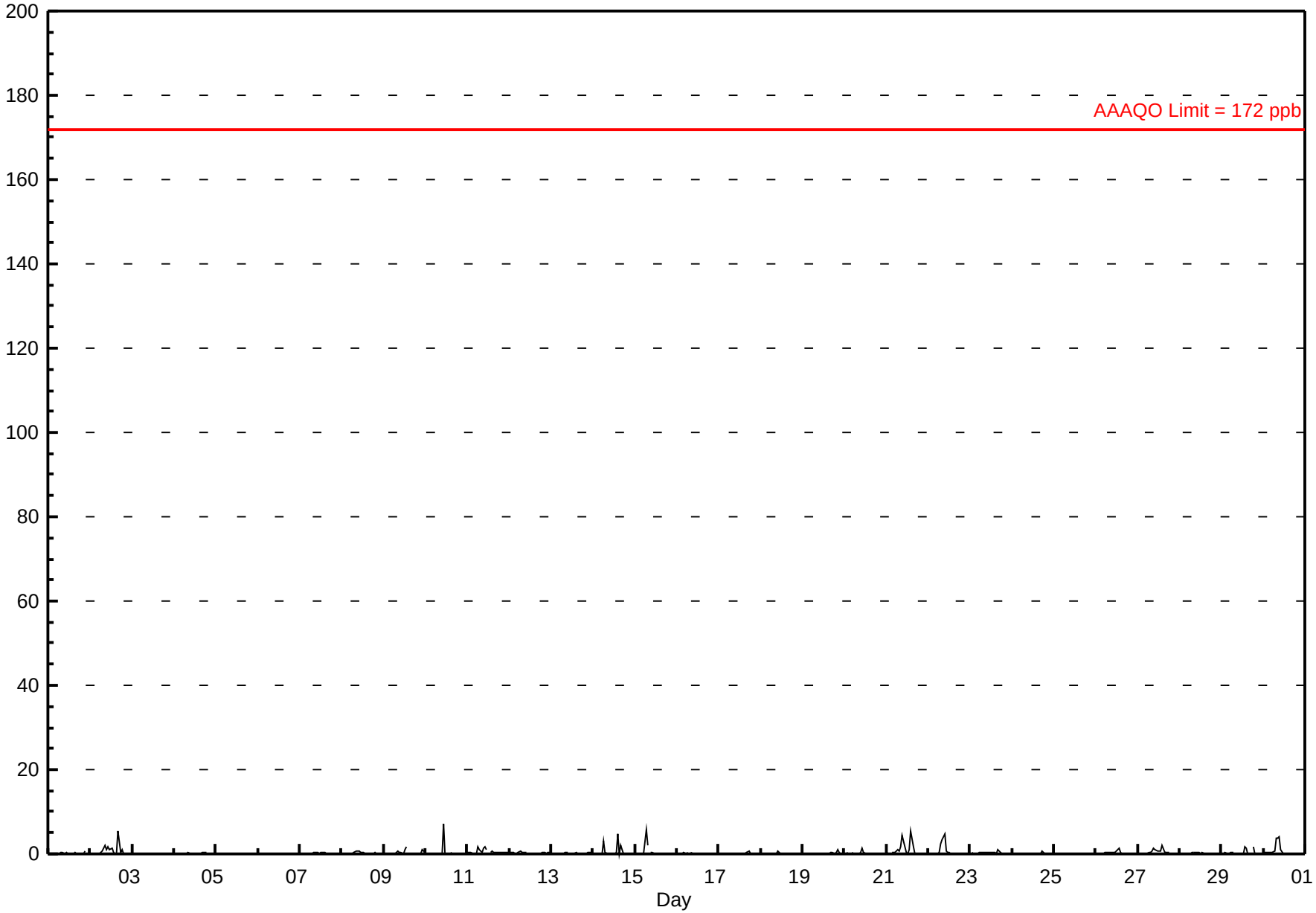
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - June 2011



Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - June 2011

Maximum Value: 41.0 ppb on Jun 10 11:00

Maximum Daily Average: 5.2 ppb on Jun 21

Minimum Value: 0 ppb on Jun 17 05:00

Minimum Daily Average: 0.4 ppb on Jun 3

Maximum Diurnal Average: 3.8 ppb at hour 15

Minimum Diurnal Average: 0.5 ppb at hour 20

Monthly Average: 1.45 ppb

Percentiles: $P_1 = 0.3$ $P_{10} = 0.4$ $Q_1 = 0.5$ Median = 0.5 $Q_3 = 0.7$ $P_{90} = 1.5$ $P_{99} = 18.8$

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	1	1	0	1	0	0	1	1	1	0	1	1	0	1	0	4	0	1	1	0	1	2	A	1	0.8	3.5
2-Jun	0	0	0	0	0	1	1	1	17	3	3	2	2	1	0	1	25	3	4	0	0	A	0	0	2.9	25.0
3-Jun	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0.4	0.6
4-Jun	1	0	0	0	0	0	0	0	1	1	1	0	1	0	1	1	1	1	1	A	1	1	1	1	0.6	0.9
5-Jun	1	1	0	1	1	0	1	0	1	1	1	0	1	0	0	1	0	0	A	0	1	0	0	0	0.5	0.8
6-Jun	0	0	0	1	0	0	1	1	1	0	1	1	0	0	0	1	0	A	0	0	0	1	0	0	0.5	0.7
7-Jun	1	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	A	1	1	0	1	1	0	0	0.6	0.9
8-Jun	0	1	0	0	0	0	1	1	2	1	1	1	1	1	0	A	1	0	1	1	1	0	1	0	0.7	1.7
9-Jun	0	0	0	0	0	1	1	1	1	1	1	1	15	17	A	0	1	0	0	1	1	1	3	2	2.1	16.5
10-Jun	1	0	0	0	0	0	1	1	1	1	41	1	1	A	1	1	1	1	1	0	1	1	1	1	2.3	41.0
11-Jun	1	1	1	1	1	1	10	10	1	2	2	2	A	1	10	1	1	1	1	1	1	1	1	1	2.1	10.1
12-Jun	1	1	1	1	0	1	2	1	1	1	1	A	1	0	0	0	1	1	1	1	1	1	1	1	0.7	1.6
13-Jun	0	0	1	1	1	1	1	1	2	1	A	0	1	0	4	1	1	0	0	1	1	1	1	1	0.8	4.0
14-Jun	1	1	0	1	1	1	13	2	1	A	0	0	0	13	24	1	35	1	0	1	1	0	1	1	4.2	34.9
15-Jun	1	0	0	1	1	1	32	20	A	1	1	1	1	0	0	1	0	1	1	1	0	0	1	0	2.8	32.2
16-Jun	0	0	1	1	1	1	1	A	1	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0.5	0.8
17-Jun	0	0	0	0	0	0	A	0	0	1	0	0	0	1	0	1	2	1	1	1	0	0	0	0	0.5	1.7
18-Jun	0	0	0	0	1	A	0	1	0	1	5	0	1	1	1	0	1	0	1	0	0	0	0	0	0.7	5.0
19-Jun	0	0	1	1	A	0	1	1	0	1	0	1	0	0	1	1	1	1	0	1	2	1	1	0	0.6	1.9
20-Jun	1	0	1	A	1	1	1	0	1	4	9	1	1	0	0	0	1	1	0	0	1	1	0	0	1.1	8.8
21-Jun	1	1	A	1	1	1	5	5	13	19	20	1	1	15	24	9	1	1	1	1	0	1	0	1	5.2	23.8
22-Jun	0	A	0	0	1	1	1	8	7	15	2	1	1	1	1	1	1	0	1	0	1	1	1	0	1.9	15.4
23-Jun	A	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	4	1	0	0	0	1	1	A	0.8	3.8
24-Jun	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2	1	0	1	1	A	0	0.6	1.8
25-Jun	1	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	A	0	0	0.5	0.7
26-Jun	0	0	0	1	0	1	1	1	1	1	1	1	5	8	1	1	1	0	0	1	A	1	1	0	1.1	7.7
27-Jun	1	1	0	1	1	0	1	1	1	2	2	1	1	1	18	3	1	1	1	A	1	1	0	1	1.7	18.4
28-Jun	1	0	0	0	0	0	0	1	1	1	1	1	1	4	1	0	0	0	A	0	0	0	0	0	0.7	4.1
29-Jun	1	1	1	1	0	1	1	1	C	C	C	C	0	18	18	0	0	A	12	0	0	0	1	0	2.9	18.0
30-Jun	1	1	1	1	1	2	2	16	17	16	6	1	1	0	1	1	A	1	0	0	0	0	0	1	3.0	17.2
	0.5	0.5	0.5	0.5	0.5	0.5	2.6	2.6	2.6	2.8	3.7	0.7	1.3	3.1	3.8	1.0	2.8	0.7	1.1	0.5	0.6	0.6	0.6	0.5	Diurnal Average	
	1.4	0.9	0.9	0.8	1.2	1.5	32.2	20.0	17.2	19.3	41.0	1.7	15.5	18.0	23.8	9.4	34.9	2.6	11.7	1.0	1.9	2.2	2.6	1.7	Diurnal Maximum	

C - Calibration

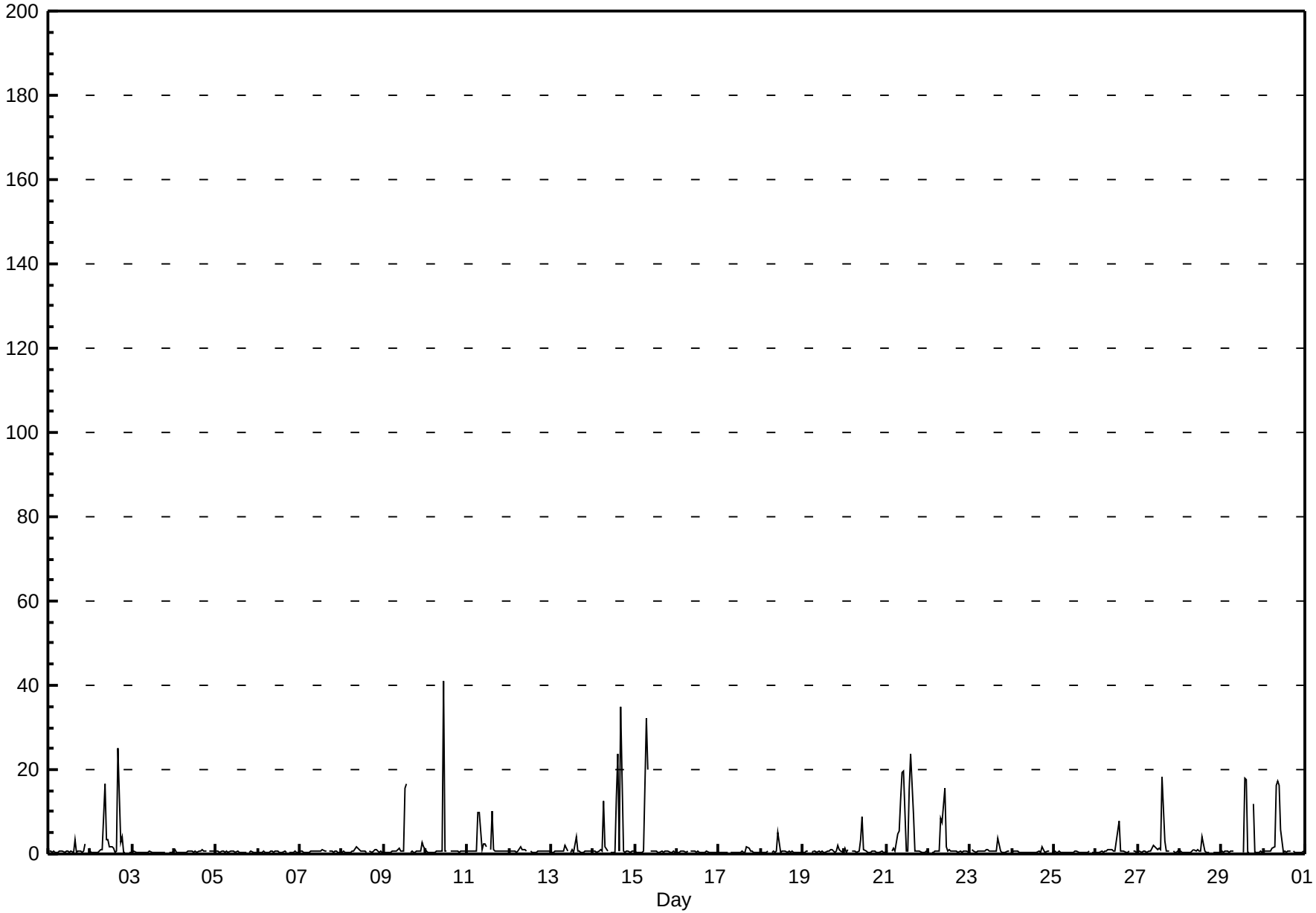
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - June 2011

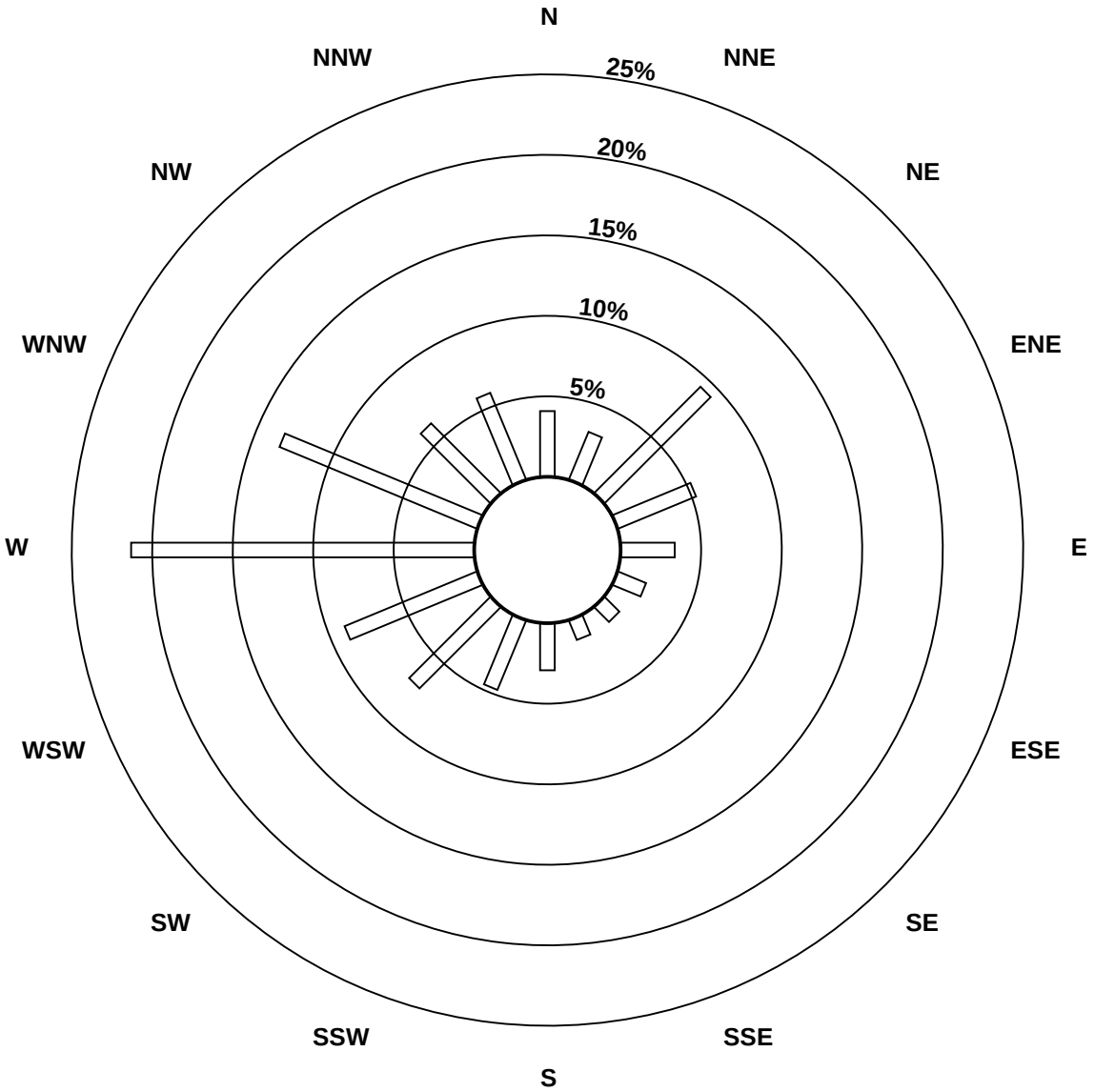


Peace Airshed Zone Association

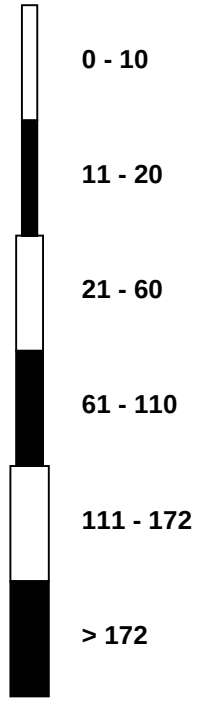
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - June 2011



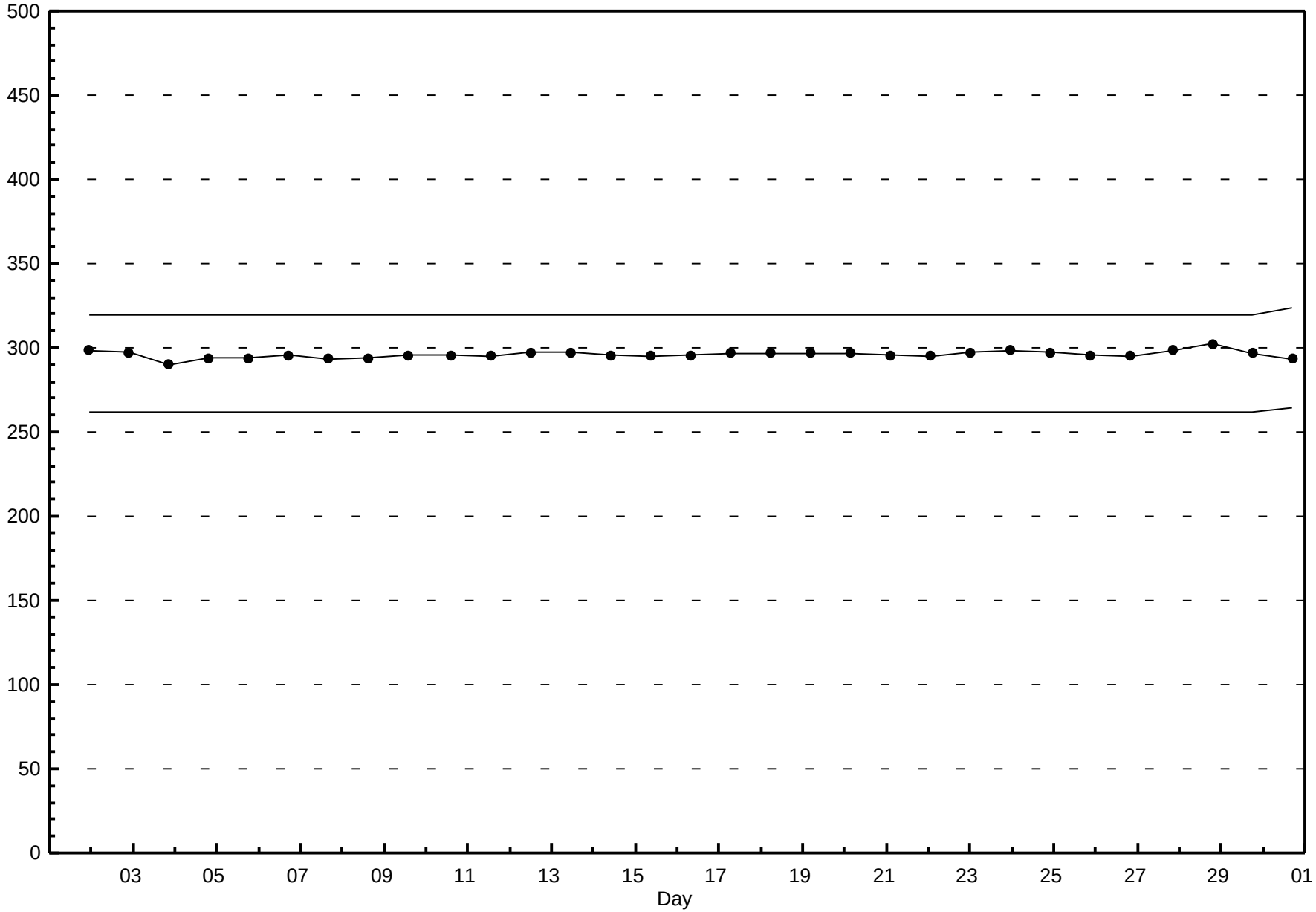
Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO_2)

Evergreen Park - June 2011



Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 0.9 ppb on Jun 2 06:00 Maximum Daily Average: 0.6 ppb on Jun 15

Minimum Value: 0 ppb on Jun 18 04:00
Maximum Diurnal Average: 0.6 ppb at hour 5
Monthly Average: 0.51 ppb

Minimum Daily Average: 0.4 ppb on Jun 18
Minimum Diurnal Average: 0.5 ppb at hour 17
Percentiles: $P_1 = 0.3$ $P_{10} = 0.4$ $Q_1 = 0.5$ Median = 0.5 $Q_3 = 0.6$ $P_{90} = 0.6$ $P_{99} = 0.8$

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

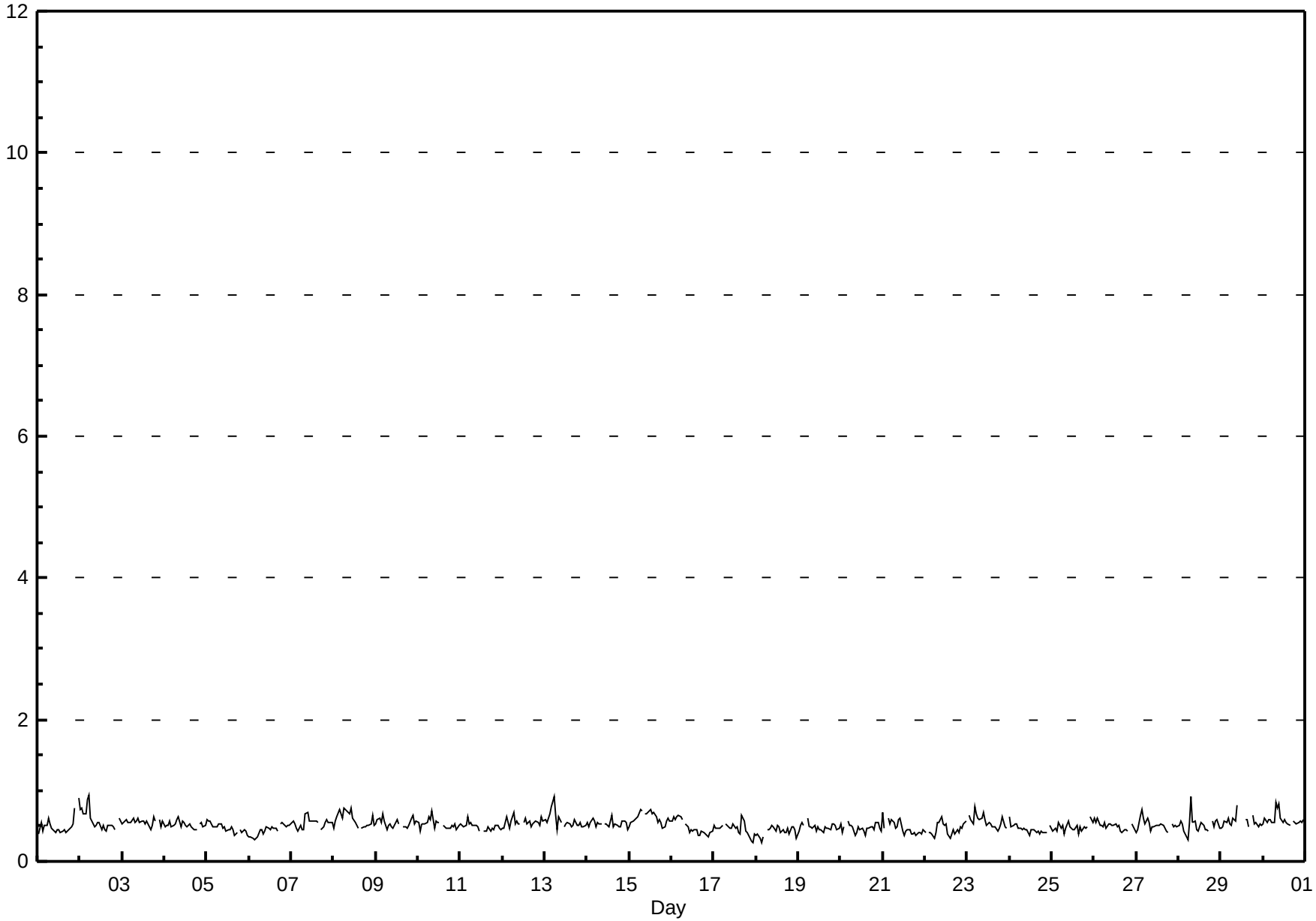
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	0	0	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	1	0.5	0.9
2-Jun	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0	0	1	1	1	0	0	A	1	1	0.6	0.9
3-Jun	1	1	1	1	1	1	1	1	1	1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

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

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - June 2011



Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - June 2011

Maximum Value: 2.6 ppb on Jun 21 11:00

Maximum Daily Average: 1.1 ppb on Jun 30

Minimum Value: 1 ppb on Jun 18 04:00

Minimum Daily Average: 0.8 ppb on Jun 18

Maximum Diurnal Average: 1.0 ppb at hour 10

Minimum Diurnal Average: 0.9 ppb at hour 19

Monthly Average: 0.91 ppb

Percentiles: $P_1 = 0.6$ $P_{10} = 0.8$ $Q_1 = 0.8$ Median = 0.9 $Q_3 = 1.0$ $P_{90} = 1.1$ $P_{99} = 1.4$

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	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.9	1.3
2-Jun	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1.0	1.6
3-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	1.1
4-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	0.9	1.1
5-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	0.9	1.2
6-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	0.8	1.0
7-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	0.9	1.1
8-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	1.0	1.4
9-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	0.9	1.3
10-Jun	1	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	1.4
11-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	0.9	1.0
12-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	0.9	1.1
13-Jun	1	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	1.5
14-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	0.9	1.3
15-Jun	1	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	1.2
16-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	1.1
17-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	0.9	1.3
18-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
19-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	0.9	1.0
20-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	0.9	1.2
21-Jun	1	1	A	1	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.6
22-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	0.9	1.3
23-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	1.0	1.2
24-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
25-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	0.8	1.0
26-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	1.1
27-Jun	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.9	1.6
28-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	0.9	1.5
29-Jun	1	1	1	1	1	1	1	1	1	2	C	C	C	C	1	1	1	A	1	1	1	1	1	1	1.0	1.9
30-Jun	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1.1	1.8
	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	0.9	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	Diurnal Average	
	1.2	1.1	1.1	1.2	1.2	1.6	1.6	1.8	1.4	1.9	2.6	1.2	1.1	1.1	1.3	1.1	1.3	1.1	1.2	1.1	1.3	1.3	1.1	1.3	Diurnal Maximum	

C - Calibration

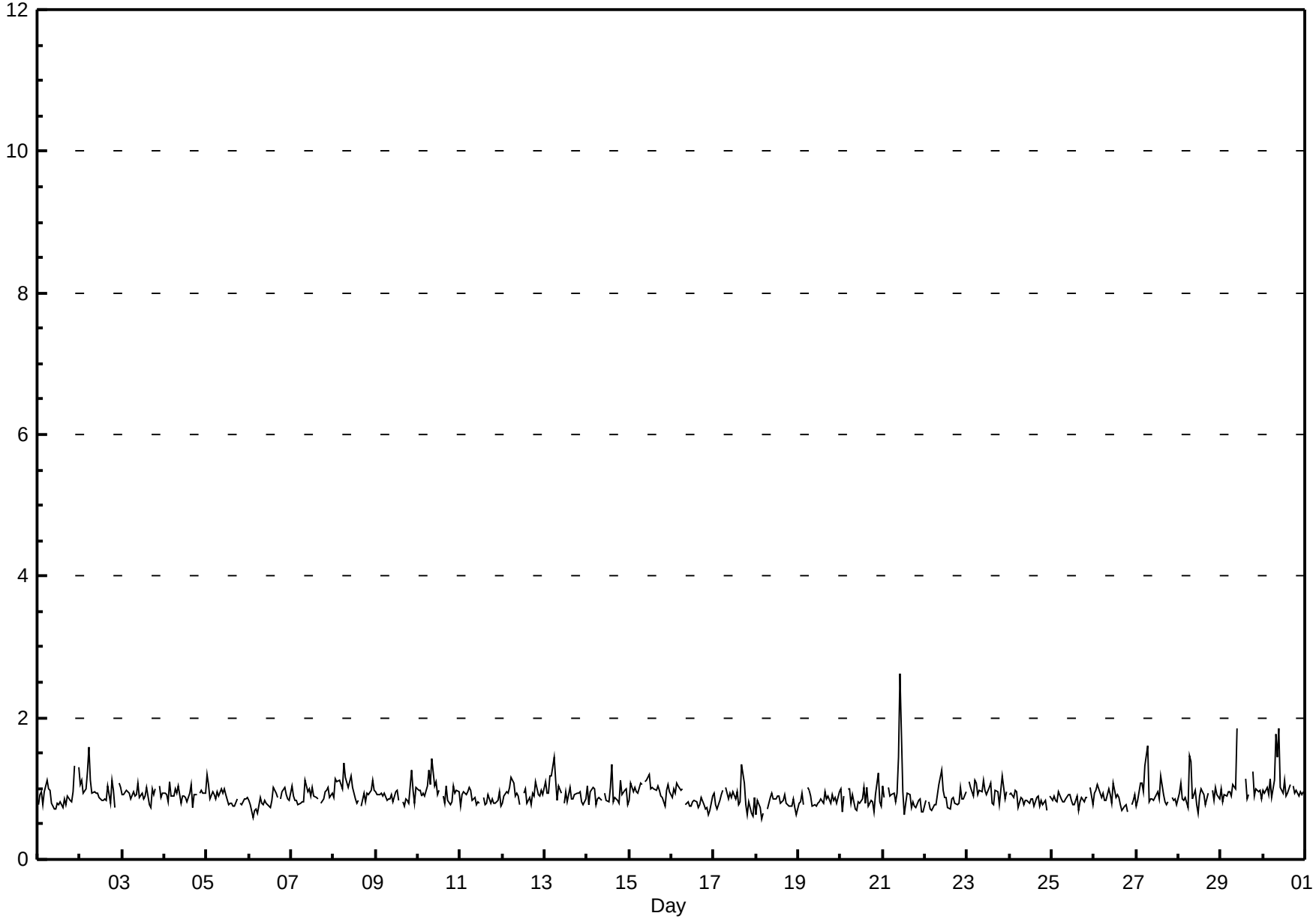
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

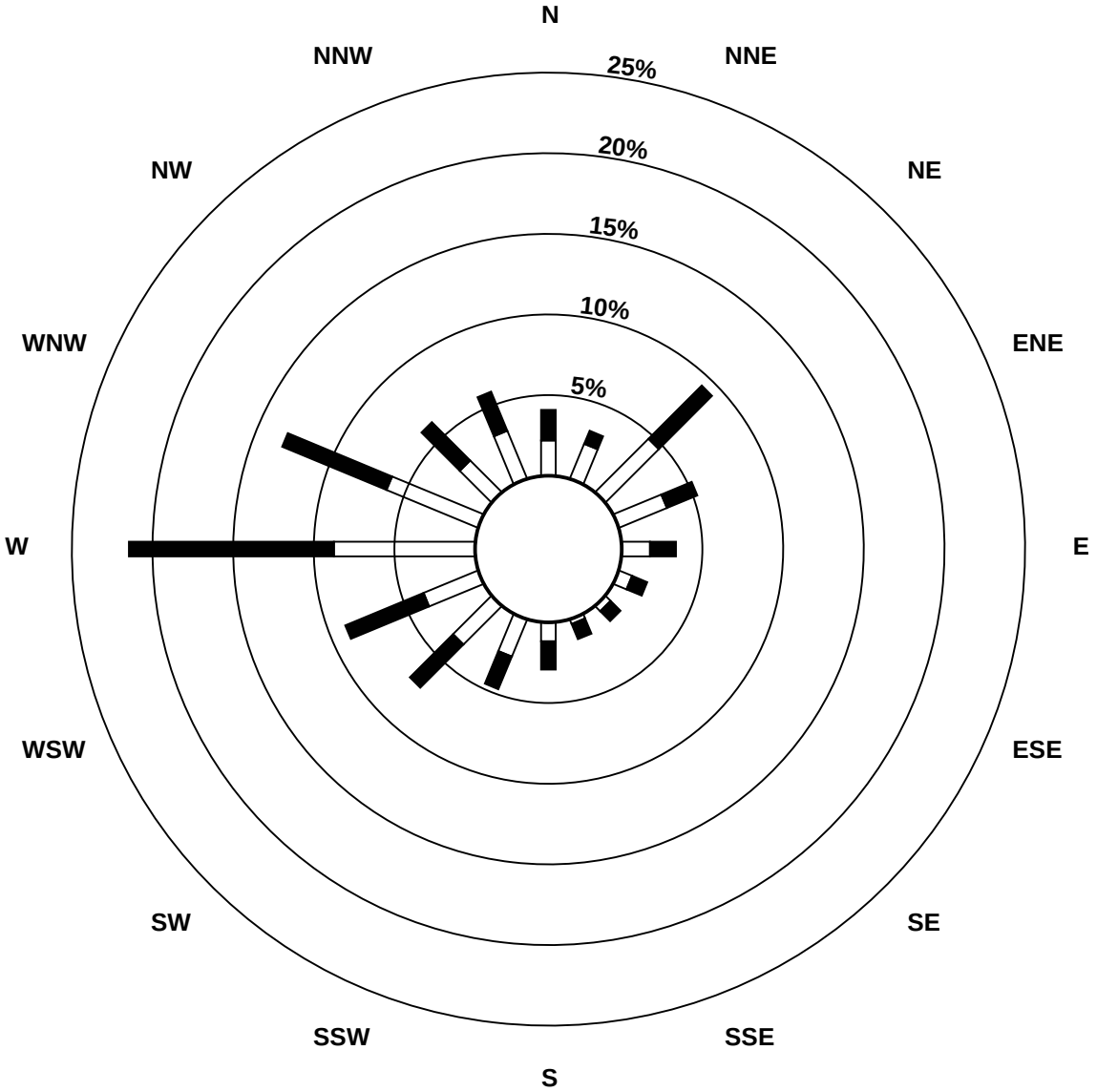
Evergreen Park - June 2011



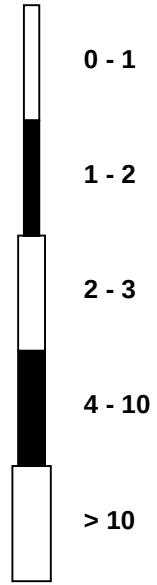
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - June 2011



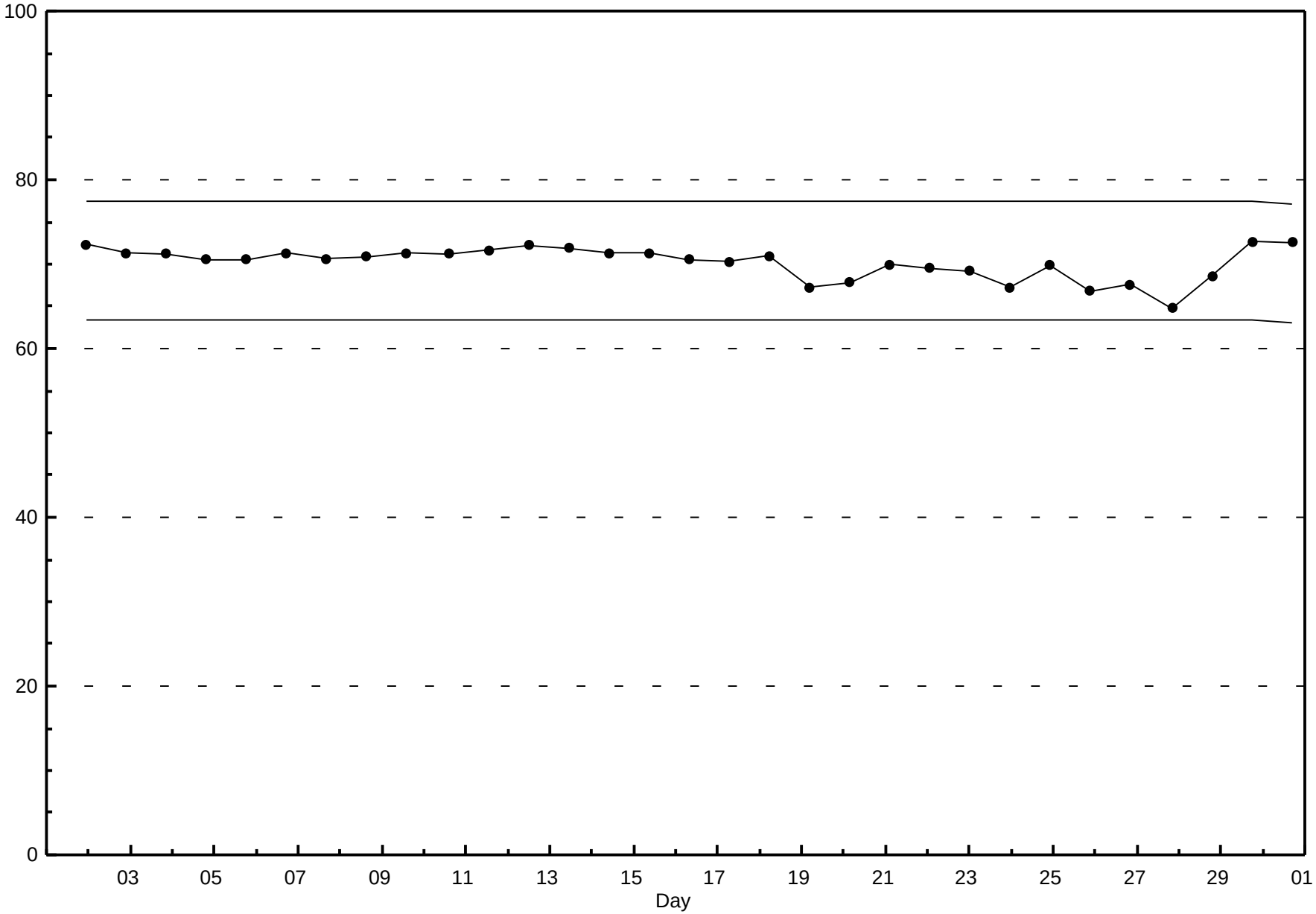
Pollutant Classes (ppb)



Span Responses

Total Reduced Sulphur (TRS)

Evergreen Park - June 2011



Peace Airshed Zone Association

Hourly Averages

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

Evergreen Park - June 2011

Number of Exceedences: 1-hr: 0 24-hr: 0
Maximum Value: 69.8 $\mu g/m^3$ on Jun 23 15:00
Maximum Daily Average: 13.5 $\mu g/m^3$ on Jun 14

Minimum Value: 0 $\mu g/m^3$ on Jun 3 01:00
Maximum Diurnal Average: 10.1 $\mu g/m^3$ at hour 10
Monthly Average: 6.14 $\mu g/m^3$
Minimum Daily Average: 0.0 $\mu g/m^3$ on Jun 3
Minimum Diurnal Average: 3.0 $\mu g/m^3$ at hour 2
Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.9$ Median = 3.8 $Q_3 = 8.9$ $P_{90} = 14.5$ $P_{99} = 31.7$

Hours in Service:	720
Hours of Data:	688
Hours of Missing Data:	32
Hours of Calibration:	1
Percent Operational Time:	95.7

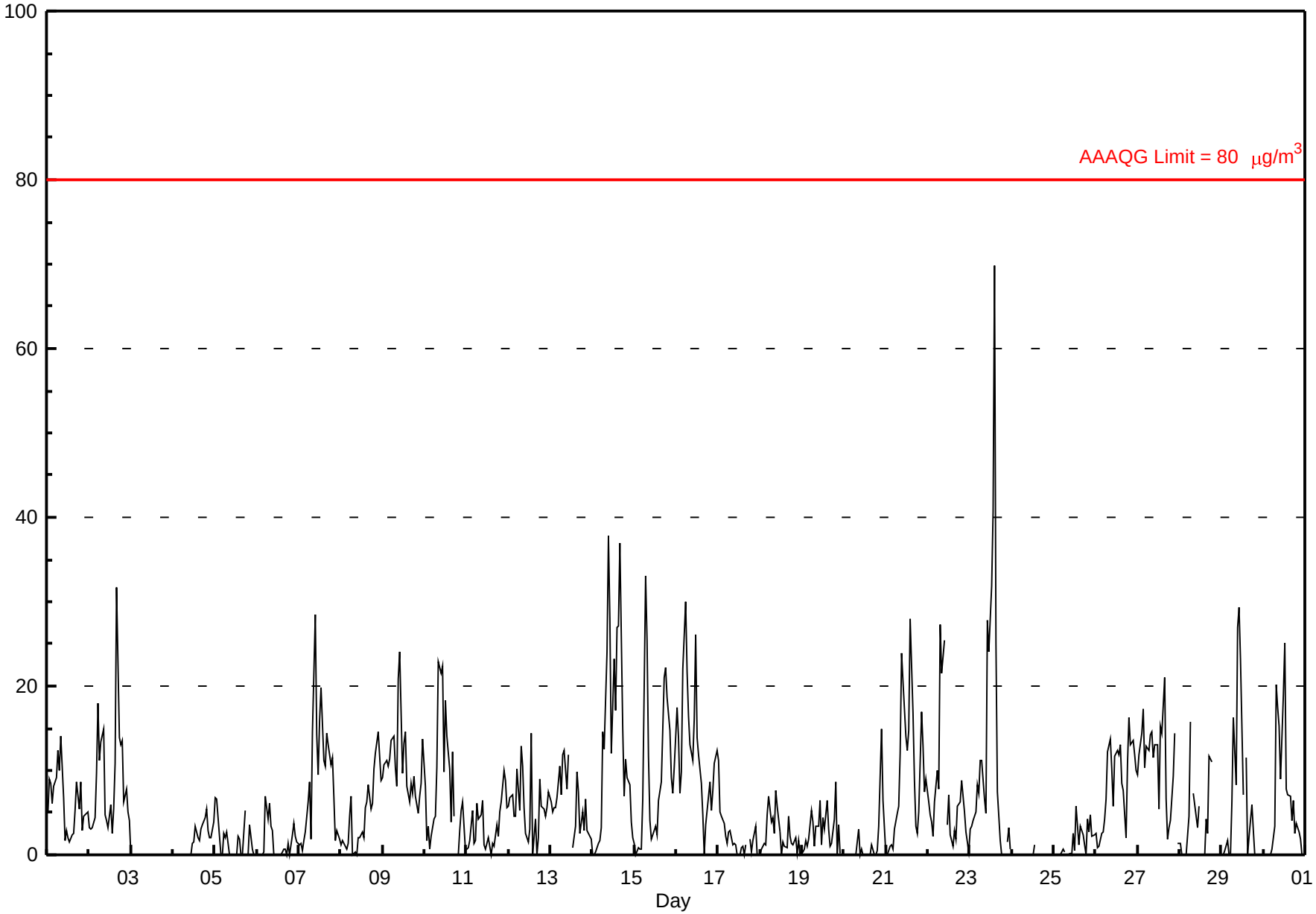
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	5	9	8	6	8	9	12	10	14	7	2	3	2	1	2	3	5	9	5	9	3	5	5	5	6.1	14.0
2-Jun	3	3	3	4	10	18	11	13	15	5	4	3	6	3	6	11	32	14	13	14	6	8	5	4	8.9	31.7
3-Jun	0	BD	BD	BD	0	BD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
4-Jun	0	0	0	0	0	0	0	0	0	0	0	1	1	3	2	2	3	4	4	5	3	2	2	4	1.6	5.5
5-Jun	7	7	4	0	0	3	2	3	0	0	0	0	0	2	2	0	0	5	BD	0	4	1	0	0	1.7	6.7
6-Jun	0	0	0	0	0	7	4	6	3	3	0	BD	0	BD	0	1	1	0	1	0	2	4	2	2	1.7	6.9
7-Jun	1	1	1	2	3	6	9	2	15	29	14	9	16	20	11	10	14	13	11	12	7	2	3	2	8.8	28.5
8-Jun	1	2	1	1	1	5	7	0	0	0	2	2	3	2	6	6	8	5	6	10	12	15	12	9	4.8	14.7
9-Jun	9	11	11	11	11	14	14	10	8	21	24	10	13	15	8	6	9	7	9	7	5	7	8	14	10.9	24.1
10-Jun	8	2	3	1	2	4	5	10	23	22	22	10	18	14	10	4	12	5	BD	0	3	5	6	0	8.3	22.8
11-Jun	1	1	2	5	1	2	6	4	5	6	1	1	2	1	0	1	1	4	2	5	6	10	9	6	3.4	10.1
12-Jun	6	7	7	5	5	10	5	13	10	6	2	2	3	14	0	4	0	2	9	6	5	4	6	8	5.8	14.4
13-Jun	6	5	6	6	7	10	7	12	12	8	12	BD	BD	1	3	10	7	2	5	3	7	3	3	2	6.2	12.4
14-Jun	0	0	0	1	2	3	15	13	24	38	28	12	23	17	27	27	37	15	7	11	9	8	4	2	13.5	37.8
15-Jun	1	0	1	1	1	7	33	25	12	4	2	3	3	2	6	9	15	21	22	19	15	9	7	10	9.5	33.1
16-Jun	17	14	7	10	22	30	22	16	13	11	16	26	14	12	8	5	0	3	7	9	5	8	11	12	12.5	30.0
17-Jun	11	5	5	4	2	1	3	3	1	1	1	0	0	1	1	0	1	BD	2	0	2	3	0	0	2.1	11.2
18-Jun	0	1	1	1	5	7	4	4	3	8	6	3	0	2	1	1	5	2	1	1	2	0	2	0	2.4	7.7
19-Jun	0	1	2	1	2	5	4	1	3	3	6	1	4	3	7	3	1	1	4	9	0	4	0	BD	2.9	8.7
20-Jun	0	0	0	0	0	0	0	0	3	0	1	0	BD	0	0	0	1	0	0	0	3	15	6	3	1.4	14.9
21-Jun	0	0	1	1	1	3	5	6	12	24	21	14	12	15	28	17	9	3	3	5	17	13	8	9	9.4	27.9
22-Jun	6	5	4	2	6	10	8	27	22	25	BD	4	7	2	1	3	2	6	6	9	7	5	3	0	7.4	27.3
23-Jun	3	3	4	5	8	7	11	11	7	5	28	24	32	41	70	25	7	2	0	0	BD	1	3	1	13.0	69.8
24-Jun	BD	0	0	0	0	0	0	0	0	BD	BD	0	0	1	BD	0	0	0	0	0	0	0	0	0	0.1	1.2
25-Jun	0	0	0	0	0	1	0	BD	0	0	0	2	0	6	1	3	3	2	0	4	3	5	2	2	1.6	5.7
26-Jun	3	1	1	3	3	4	7	12	14	10	6	12	12	12	13	9	8	2	11	16	13	14	12	10	8.6	16.2
27-Jun	9	12	14	17	10	13	12	14	15	12	13	13	5	15	14	21	7	2	3	4	9	14	BD	1	11.0	21.1
28-Jun	1	0	0	BD	0	5	16	BD	7	5	3	6	BD	BD	0	4	2	12	11	BD	BD	BD	BD	BD	--	15.8
29-Jun	0	0	0	2	0	0	6	16	8	27	29	23	7	C	12	0	2	6	3	0	0	0	0	0	6.2	29.3
30-Jun	0	0	0	BD	0	1	3	20	17	15	9	19	25	8	7	7	4	6	2	4	3	2	0	0	6.6	25.1
	3.5	3.0	3.0	3.2	3.7	6.4	7.7	9.1	8.9	10.1	9.0	7.2	7.8	7.9	8.5	6.4	6.6	5.3	5.3	5.6	5.4	5.7	4.2	3.8	Diurnal Average	
	17.4	13.9	14.4	17.3	22.0	30.0	33.1	27.3	24.0	37.8	29.3	26.1	31.8	40.6	69.8	27.1	36.9	20.9	22.1	18.6	17.0	14.9	11.9	13.7	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

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

Evergreen Park - June 2011



Peace Airshed Zone Association

Hourly Maximums

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

Evergreen Park - June 2011

Maximum Value: 116.1 $\mu g/m^3$ on Jun 23 15:00

Maximum Daily Average: 26.6 $\mu g/m^3$ on Jun 14

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

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

Maximum Diurnal Average: 20.5 $\mu g/m^3$ at hour 15

Minimum Diurnal Average: 5.5 $\mu g/m^3$ at hour 2

Monthly Average: 13.22 $\mu g/m^3$

Percentiles: $P_1 = 0.0$ $P_{10} = 1.1$ $Q_1 = 4.7$ Median = 9.9 $Q_3 = 16.7$ $P_{90} = 29.2$ $P_{99} = 58.7$

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 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	8	15	11	8	10	15	22	15	19	13	6	9	7	7	8	7	10	20	11	21	5	6	7	7	11.2	22.1
2-Jun	6	6	5	7	14	23	20	23	29	25	9	7	11	7	10	19	60	33	28	27	10	10	10	6	16.9	60.3
3-Jun	4	0	0	0	0	0	0	0	0	0	0	2	1	1	0	0	1	0	0	0	1	0	0	1	0.5	3.6
4-Jun	3	0	0	0	0	0	0	0	1	3	2	5	6	7	7	5	7	6	9	10	5	4	4	8	3.9	10.2
5-Jun	12	10	8	2	3	5	6	8	5	5	1	5	6	9	13	5	4	21	5	3	10	5	3	5	6.5	20.7
6-Jun	3	2	3	1	3	18	15	10	9	9	9	5	5	6	4	9	18	5	6	5	7	7	4	3	6.8	18.2
7-Jun	3	3	6	5	5	9	12	7	32	36	25	13	24	26	16	13	19	21	14	16	9	4	9	5	13.8	35.5
8-Jun	3	4	3	2	3	14	15	9	5	5	7	5	7	8	9	15	20	11	12	16	16	17	14	11	9.6	19.9
9-Jun	11	15	13	13	13	18	30	15	13	41	47	22	44	37	14	11	21	17	18	11	8	22	22	27	21.1	46.8
10-Jun	15	6	7	3	6	9	11	22	46	29	60	17	34	24	16	13	32	27	6	5	11	14	13	3	17.9	59.9
11-Jun	3	4	4	9	6	5	13	10	9	10	6	7	12	11	7	7	7	14	9	10	13	15	14	11	9.0	15.0
12-Jun	10	13	16	15	7	16	15	21	27	13	10	12	8	46	10	17	6	8	26	11	11	11	9	11	14.5	45.8
13-Jun	9	7	7	7	11	14	31	31	22	15	26	24	18	11	14	28	13	16	15	9	12	9	4	4	14.9	31.1
14-Jun	4	1	2	4	4	8	35	34	62	67	48	21	44	30	47	52	61	37	17	24	14	11	7	6	26.6	67.0
15-Jun	7	1	4	3	5	12	93	80	20	7	6	6	7	4	10	14	19	27	24	21	18	13	9	14	17.7	93.1
16-Jun	23	18	12	14	29	32	25	20	18	25	25	34	25	25	15	11	6	12	11	11	10	11	13	16	18.3	33.6
17-Jun	15	9	7	7	4	4	5	4	7	12	10	11	17	16	14	30	16	8	7	8	15	16	2	1	10.2	30.4
18-Jun	5	5	5	7	12	13	9	8	12	15	14	24	10	13	9	10	15	10	7	7	6	3	3	2	9.3	23.6
19-Jun	3	3	4	3	4	8	7	8	12	13	15	19	19	14	20	15	17	11	12	18	7	10	3	0	10.2	19.7
20-Jun	2	1	0	0	0	0	2	6	14	6	20	5	6	6	9	7	8	6	8	8	14	40	14	7	7.9	39.9
21-Jun	5	3	3	3	4	8	7	12	23	48	48	28	30	34	43	39	20	13	13	14	36	19	16	24	20.6	48.2
22-Jun	11	8	8	7	8	15	22	52	43	45	10	14	33	10	13	15	9	13	12	16	11	7	5	3	16.3	51.6
23-Jun	6	5	11	7	13	12	22	19	11	13	48	38	47	82	116	47	16	8	12	0	3	7	7	11	23.3	116.1
24-Jun	0	0	0	1	1	0	1	0	0	0	0	2	1	22	0	0	0	1	1	1	0	0	0	0	1.4	22.3
25-Jun	1	0	0	1	1	3	2	2	2	4	4	10	8	28	6	12	6	5	2	8	5	8	7	4	5.3	28.0
26-Jun	6	4	3	6	5	7	10	20	18	24	16	21	25	34	37	32	22	11	23	30	23	26	18	22	18.4	36.7
27-Jun	14	15	17	21	17	18	19	26	30	18	22	24	28	47	93	49	32	17	14	12	19	27	23	10	25.5	93.4
28-Jun	10	4	2	0	1	9	35	31	12	17	13	16	19	11	13	18	15	30	23	3	2	1	0	1	11.9	35.5
29-Jun	0	0	4	9	5	3	13	27	15	43	37	34	30	C	29	2	13	22	22	2	1	0	0	0	13.5	42.6
30-Jun	0	1	8	0	0	6	8	38	41	25	14	41	45	15	14	14	7	14	5	11	8	8	0	1	13.5	44.8
	6.7	5.5	5.7	5.5	6.4	10.2	16.9	18.6	18.6	19.5	18.6	16.0	19.3	20.4	20.5	17.3	16.6	14.7	12.4	11.4	10.4	10.9	7.9	7.5	Diurnal Average	
	23.0	18.1	17.0	21.3	28.7	32.3	93.1	79.9	62.1	67.0	59.9	41.4	46.8	82.4	116.1	51.9	60.7	36.7	28.2	29.7	35.8	39.9	22.8	27.0	Diurnal Maximum	

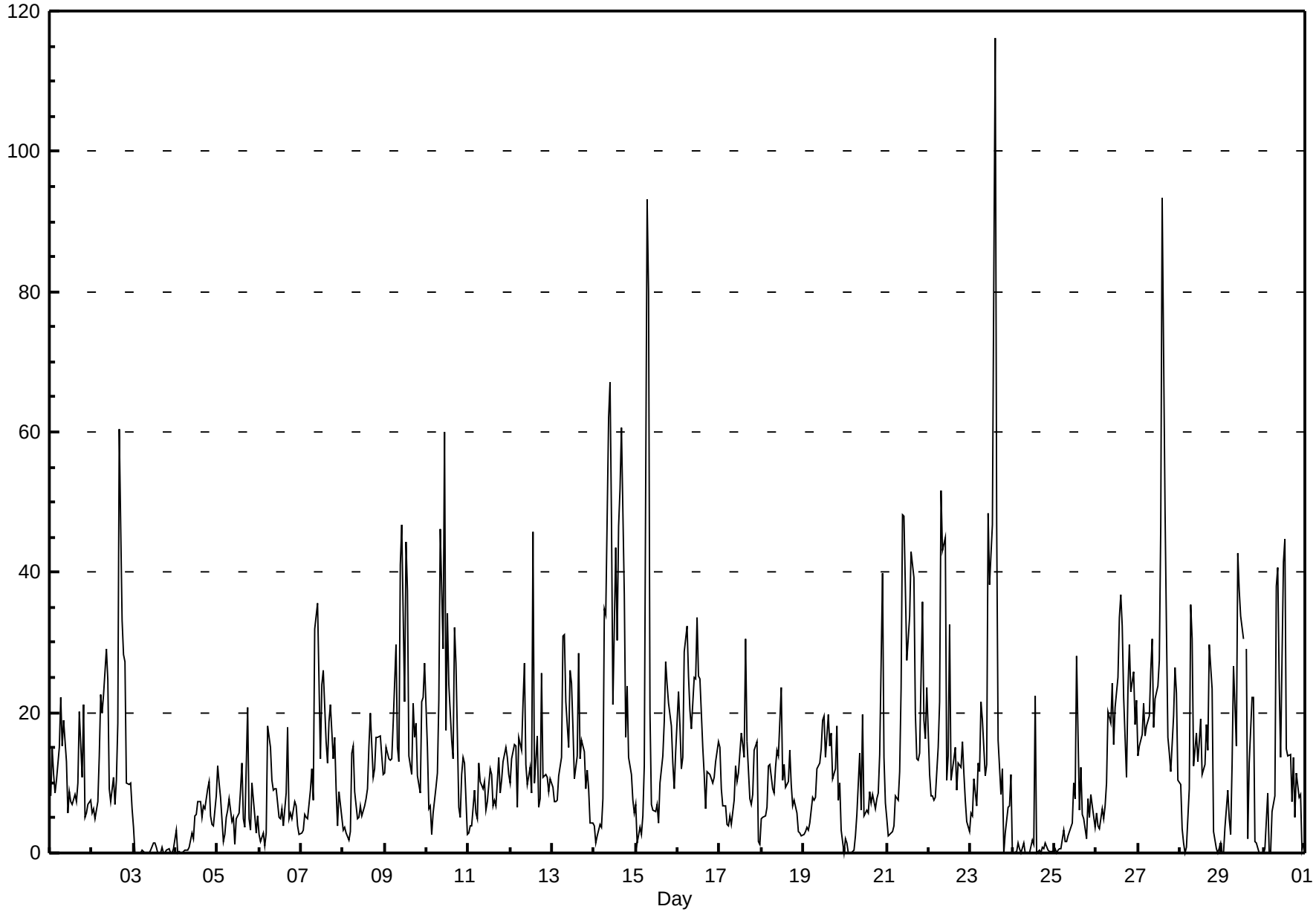
C - Calibration

Peace Airshed Zone Association

Hourly Maximums

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

Evergreen Park - June 2011

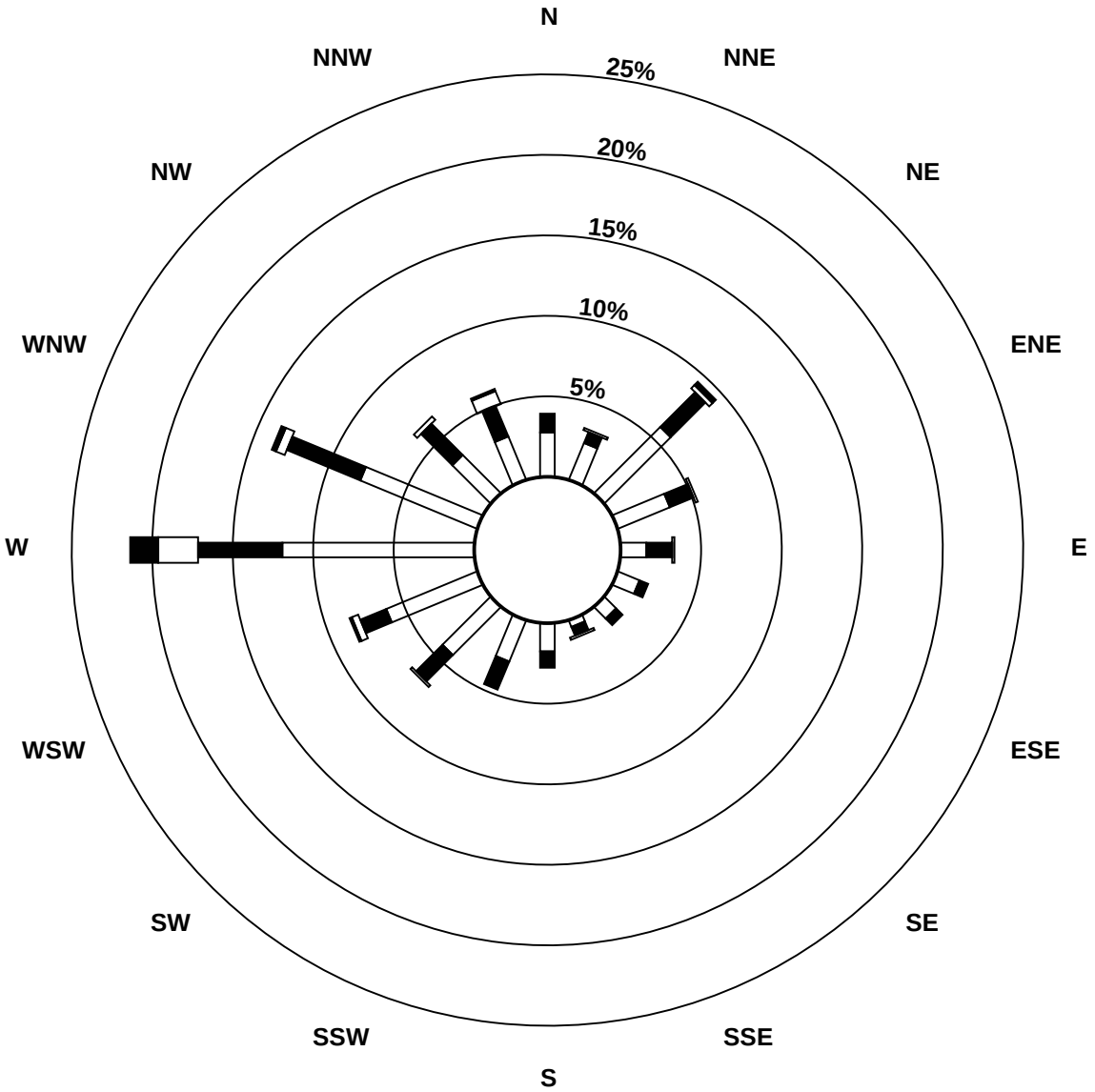


Peace Airshed Zone Association

Pollutant Rose

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

Evergreen Park - June 2011



Pollutant Classes ($\mu g/m^3$)

- 0 - 5
- 6 - 15
- 16 - 25
- 26 - 80
- > 80.0

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - °C

Evergreen Park - June 2011

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

Maximum Value: 24.2 °C on Jun 22 17:00

Maximum Daily Average: 17.6 °C on Jun 22

Minimum Value: 0 °C on Jun 4 05:00

Minimum Daily Average: 3.2 °C on Jun 3

Maximum Diurnal Average: 17.2 °C at hour 15

Minimum Diurnal Average: 8.7 °C at hour 5

Monthly Average: 13.67 °C

Percentiles: P_1 = 0.8 P_{10} = 7.8 Q_1 = 10.8 Median = 13.8 Q_3 = 17.2 P_{90} = 19.5 P_{99} = 23.5

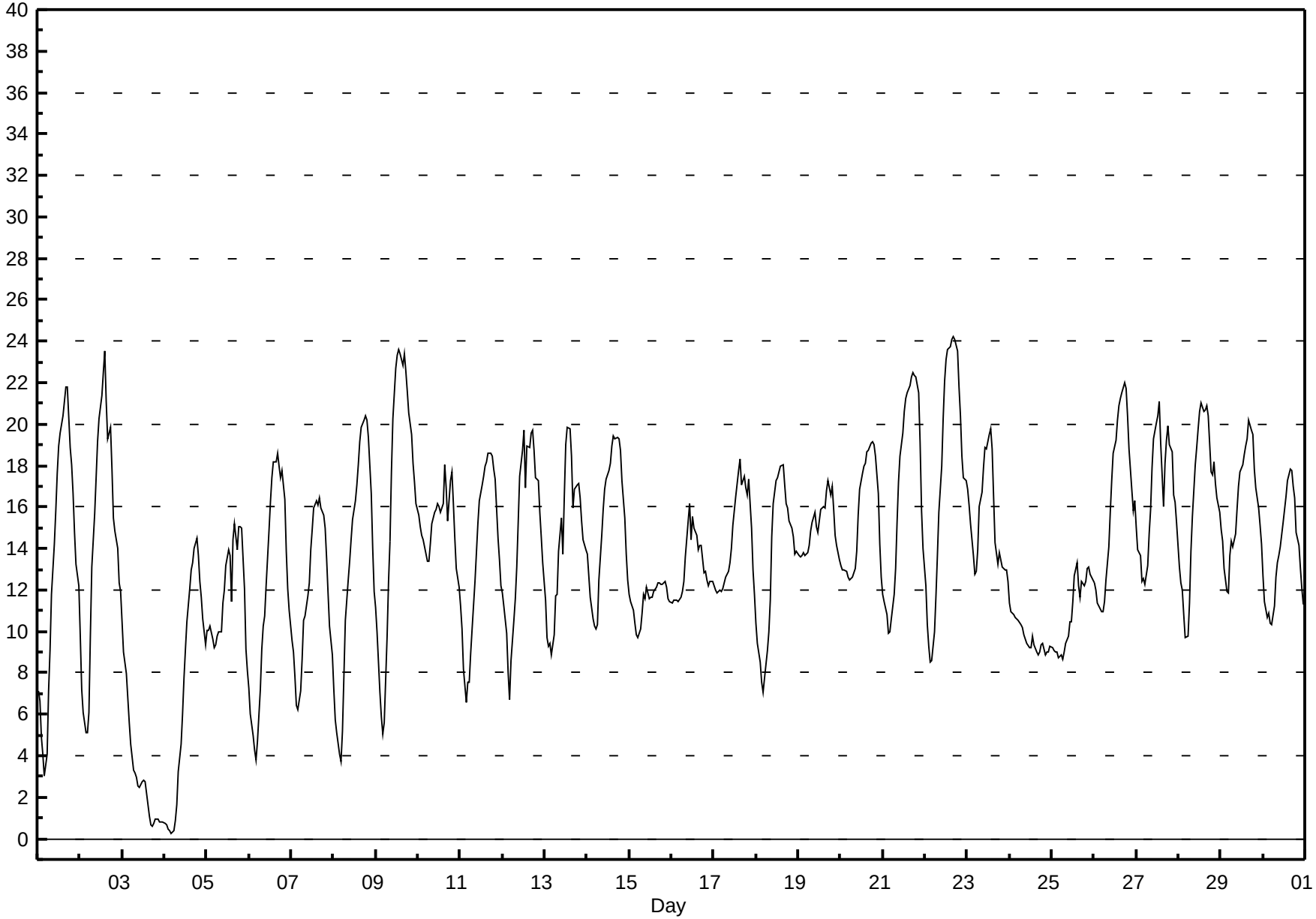
Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								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	5	4	3	4	7	9	12	14	16	18	19	20	20	21	22	22	19	18	17	15	13	12	13.4	21.8
2-Jun	10	7	6	5	5	6	10	13	16	17	19	20	21	22	24	21	19	20	18	15	15	14	12	12	14.5	23.5
3-Jun	10	9	8	7	6	5	3	3	3	3	2	3	3	3	2	1	1	1	1	1	1	1	1	1	3.2	10.4
4-Jun	1	1	0	0	0	0	1	2	3	5	6	8	9	10	12	13	13	14	15	14	12	12	11	9	7.1	14.5
5-Jun	10	10	10	10	9	9	10	10	10	11	12	13	14	14	11	14	15	14	15	15	15	12	9	8	11.7	15.2
6-Jun	7	6	5	4	4	5	7	9	10	11	12	15	16	17	18	18	19	18	17	18	16	14	12	11	12.1	18.6
7-Jun	10	9	8	6	6	7	9	11	11	12	12	14	15	16	16	16	16	16	16	15	14	12	10	9	11.9	16.4
8-Jun	7	6	5	4	4	5	8	11	13	13	14	15	16	17	18	19	20	20	20	20	19	17	14	12	13.3	20.4
9-Jun	11	10	7	6	5	6	10	12	14	18	20	23	23	24	23	23	23	23	22	21	20	18	17	16	16.4	23.6
10-Jun	16	15	15	14	14	13	13	14	15	16	16	16	16	16	16	18	17	15	17	18	16	14	13	12	15.3	18.1
11-Jun	11	10	8	7	8	8	9	10	12	14	15	16	17	18	18	18	19	19	18	18	17	14	13	12	13.7	18.6
12-Jun	12	11	10	8	7	9	11	12	13	15	18	19	20	17	19	19	20	20	19	17	17	16	15	13	14.7	19.7
13-Jun	11	10	9	9	9	10	12	12	14	16	14	16	19	20	20	18	16	17	17	17	16	15	14	14	14.4	19.9
14-Jun	14	13	12	11	10	10	10	12	15	16	17	17	18	18	19	19	19	19	19	19	17	15	14	12	15.3	19.4
15-Jun	12	11	11	10	10	10	10	11	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	11	11.5	12.4
16-Jun	11	12	12	12	11	12	12	12	14	15	16	14	16	15	15	14	14	14	13	13	12	12	12	12	13.1	16.2
17-Jun	12	12	12	12	12	12	12	13	13	13	14	15	17	17	18	18	17	17	17	17	17	15	13	12	14.5	18.3
18-Jun	10	9	9	8	7	8	9	10	11	15	16	17	17	18	18	18	17	16	16	15	15	15	14	14	13.4	18.0
19-Jun	14	14	14	14	14	14	14	15	15	16	15	15	15	16	16	16	17	17	17	17	16	15	14	13	15.0	17.3
20-Jun	13	13	13	13	13	12	13	13	13	14	16	17	18	18	18	19	19	19	19	19	18	17	14	13	15.5	19.2
21-Jun	12	11	11	10	10	11	12	13	15	17	18	20	21	21	21	22	22	22	22	22	22	19	16	14	16.9	22.5
22-Jun	12	10	9	9	9	10	12	14	16	18	20	22	23	24	24	24	24	24	24	22	20	18	17	17	17.6	24.2
23-Jun	17	16	15	14	13	13	14	16	17	18	19	19	19	20	19	17	14	13	14	13	13	13	13	12	15.4	19.8
24-Jun	11	11	11	11	11	11	10	10	10	10	9	9	9	10	9	9	9	9	9	9	9	9	9	9	9.7	11.4
25-Jun	9	9	9	9	9	9	9	9	9	10	10	10	11	13	13	12	12	12	12	12	13	13	13	13	10.9	13.3
26-Jun	12	12	11	11	11	11	11	12	14	16	17	19	19	20	21	21	22	22	22	20	19	17	16	16	16.4	22.0
27-Jun	15	14	14	12	13	12	13	15	16	18	19	20	20	21	19	16	18	19	20	19	19	17	16	15	16.7	21.1
28-Jun	13	12	12	11	10	10	11	14	16	18	19	20	21	21	21	21	21	20	18	18	18	17	16	16	16.3	21.0
29-Jun	15	14	13	12	12	14	14	14	15	16	17	18	18	19	19	19	20	20	20	18	17	16	15	14	16.2	20.2
30-Jun	13	11	11	11	10	10	11	13	13	14	14	15	16	17	17	18	18	17	16	15	14	13	12	11	13.8	17.8
	11.3	10.5	9.8	9.1	8.7	9.1	10.2	11.4	12.6	13.9	14.9	15.8	16.6	17.0	17.2	17.2	17.2	17.1	16.8	16.2	15.6	14.2	13.1	12.3	Diurnal Average	
	16.9	16.1	15.2	14.4	14.1	13.8	14.4	16.0	16.7	18.0	20.3	22.7	23.3	23.6	23.8	24.1	24.2	24.1	23.5	22.3	21.5	19.1	17.4	17.3	Diurnal Maximum	

Hourly Averages

External Temperature (ET) - ^{o}C

Evergreen Park - June 2011



Hourly Averages

Relative Humidity (RH) - %

Evergreen Park - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 97.7 % on Jun 18 08:00 Maximum Daily Average: 93.3 % on Jun 3

Minimum Value: 23 % on Jun 9 13:00 Minimum Daily Average: 45.1 % on Jun 30
Maximum Diurnal Average: 86.0 % at hour 5 Minimum Diurnal Average: 53.0 % at hour 15
Monthly Average: 67.82 % Percentiles: P_1 = 25.8 P_{10} = 35.5 Q_1 = 49.7 Median = 69.1 Q_3 = 88.8 P_{90} = 94.7 P_{99} = 97.1

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

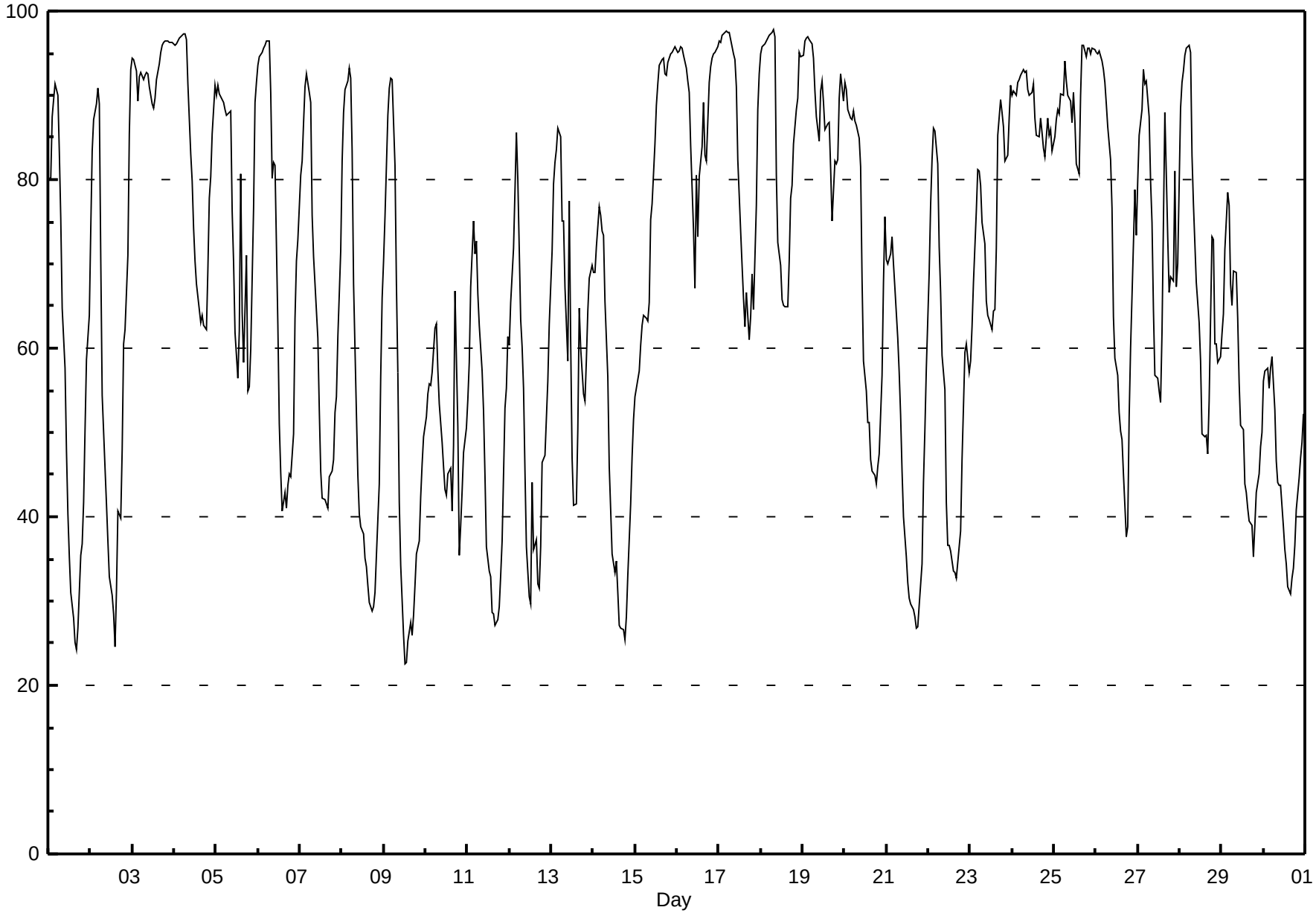
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jun	80	80	87	89	91	90	83	75	65	58	48	40	35	31	28	25	24	27	35	37	42	50	59	64	56.0	91.3
2-Jun	74	83	87	89	91	89	71	54	46	42	37	33	31	28	25	31	41	40	48	60	62	71	85	93	58.8	93.1
3-Jun	94	94	93	89	92	93	92	92	93	93	91	89	88	90	92	94	95	96	96	96	96	96	96	96	93.3	96.4
4-Jun	96	96	96	97	97	97	97	97	91	83	80	74	70	68	65	63	64	63	62	69	78	80	85	91	81.7	97.3
5-Jun	90	91	90	89	89	88	88	88	88	76	70	62	57	62	81	64	58	71	55	55	60	77	89	91	76.3	91.5
6-Jun	94	95	95	96	96	96	97	90	80	82	82	63	51	45	41	43	41	44	45	45	50	63	70	73	69.8	96.5
7-Jun	81	82	87	91	93	90	89	76	71	64	61	53	45	42	42	42	41	45	45	47	52	54	61	72	63.6	92.5
8-Jun	82	88	91	92	93	92	83	68	52	45	40	39	38	35	34	32	30	29	29	31	35	44	57	66	55.2	93.2
9-Jun	70	76	88	91	92	92	82	68	57	42	34	26	23	23	25	28	26	28	32	36	37	42	46	49	50.5	92.0
10-Jun	52	55	56	56	57	62	63	57	53	49	46	43	43	45	46	41	48	67	51	35	39	43	48	50	50.2	66.7
11-Jun	54	58	67	75	71	73	66	63	57	53	45	37	34	33	29	28	27	28	29	33	37	53	55	61	48.6	75.0
12-Jun	60	65	72	79	86	80	63	60	55	45	36	30	30	44	36	37	32	32	36	46	47	52	56	63	51.9	85.6
13-Jun	72	79	82	84	86	85	75	75	67	58	77	61	47	41	41	50	65	60	55	54	59	64	68	70	65.7	86.2
14-Jun	69	69	72	77	76	74	73	66	57	46	41	36	33	35	31	27	27	27	25	28	33	42	47	52	48.4	76.7
15-Jun	54	55	57	60	63	64	64	63	65	75	77	84	89	91	94	94	94	93	92	94	95	95	95	96	79.4	95.8
16-Jun	95	95	96	96	95	93	92	90	84	74	67	80	73	80	84	89	83	82	92	93	94	95	95	96	88.1	95.8
17-Jun	96	96	97	97	98	98	97	97	95	94	91	82	74	70	66	63	67	61	64	69	65	77	88	93	83.1	97.6
18-Jun	95	96	96	96	97	97	98	98	97	80	73	70	66	65	65	65	70	78	79	84	88	90	95	95	84.7	97.7
19-Jun	95	96	97	97	97	96	94	91	88	84	90	92	89	86	87	87	81	75	82	82	82	90	93	89	89.2	96.9
20-Jun	92	91	88	87	87	88	87	86	85	82	68	58	55	51	51	47	45	45	44	46	47	57	68	76	68.0	91.5
21-Jun	71	70	71	73	70	67	61	57	52	45	40	35	32	30	30	29	28	27	27	30	34	44	50	58	47.2	73.2
22-Jun	69	77	82	86	86	82	72	67	59	55	42	37	37	36	34	33	33	35	38	47	53	60	61	57	55.6	86.2
23-Jun	58	63	68	76	81	81	79	75	72	66	64	63	62	64	65	72	85	89	88	86	82	83	87	91	75.1	91.2
24-Jun	90	90	90	92	92	92	93	93	93	91	90	90	91	87	85	85	87	86	84	83	87	85	86	83	88.6	93.1
25-Jun	85	87	88	88	90	90	94	92	90	89	87	90	87	82	81	90	96	96	95	96	96	95	96	95	90.6	96.0
26-Jun	95	95	95	94	93	92	89	86	82	77	64	59	57	52	50	49	45	38	39	52	60	72	79	73	70.3	95.2
27-Jun	80	85	88	93	91	92	87	80	75	65	57	56	55	54	62	88	81	73	67	69	68	81	67	70	74.3	93.0
28-Jun	89	92	93	95	96	96	95	83	77	68	66	63	59	50	49	50	47	54	73	73	61	61	58	59	71.0	95.9
29-Jun	62	64	72	78	77	68	65	69	69	64	56	51	50	44	43	41	39	39	35	39	43	45	48	50	54.6	78.4
30-Jun	56	57	58	55	58	59	53	47	44	44	44	39	36	34	32	31	33	34	37	41	45	47	49	52	45.1	59.1
	78.3	80.7	83.3	85.2	86.0	85.2	81.4	76.7	72.0	66.3	62.1	57.9	54.5	53.3	53.0	53.9	54.5	55.3	56.0	58.5	61.0	66.9	71.3	74.2	Diurnal Average	
	96.4	96.4	97.1	97.5	97.6	97.5	97.5	97.7	96.9	94.3	91.1	91.7	91.3	91.4	93.6	94.3	95.9	96.0	96.3	96.4	96.4	96.3	96.3	96.2	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Evergreen Park - June 2011



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Evergreen Park - June 2011

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	0	0	0	0	0	4	6	4	3	3	3	3	5	4	5	3	2	13	11	6	4	2	3	1.6	12.6
Dir	88	189	300	150	215	98	246	268	265	204	253	334	297	360	358	332	282	146	190	187	184	155	144	208	222.1	189.7
2 Spd	1	1	1	1	4	4	4	6	10	9	6	6	7	5	4	13	15	18	16	24	18	10	12	11	7.2	23.5
Dir	58	80	201	226	218	219	248	273	277	293	295	305	276	338	316	330	276	280	294	341	335	309	324	349	305.0	341.0
3 Spd	8	7	7	9	7	8	5	2	6	6	7	6	5	5	6	6	4	2	3	5	4	5	3	3	3.5	8.6
Dir	55	57	43	36	42	49	61	75	54	49	48	54	55	50	47	48	33	360	297	260	252	234	232	229	42.7	35.9
4 Spd	2	1	2	2	3	4	5	4	3	4	3	4	4	4	2	3	3	2	2	3	2	2	1	1	1.4	5.1
Dir	199	143	125	108	107	117	122	126	183	180	172	162	217	214	205	267	266	282	309	42	111	138	113	358	162.7	121.9
5 Spd	1	2	2	4	6	3	5	5	4	2	4	4	3	3	5	4	6	6	4	5	2	1	1	1	2.5	6.5
Dir	309	306	271	234	236	278	273	320	354	262	283	344	5	2	266	242	314	12	313	280	282	206	220	196	293.0	235.7
6 Spd	1	0	0	1	1	1	4	5	7	5	1	2	4	2	4	4	7	6	5	5	2	2	2	2	0.8	7.0
Dir	208	87	170	222	223	204	245	266	267	281	49	215	266	345	334	54	43	52	60	80	52	57	62	66	8.5	43.3
7 Spd	1	1	0	1	1	1	0	3	8	8	9	11	12	13	13	13	12	11	10	8	6	4	1	1	6.1	13.5
Dir	38	52	310	235	33	225	118	55	58	55	42	52	50	50	48	46	42	41	38	40	44	40	42	12	46.1	49.5
8 Spd	0	1	1	0	1	0	1	1	2	3	2	3	3	5	5	4	3	4	4	3	2	2	2	2	1.5	5.4
Dir	322	235	326	251	340	208	331	345	118	225	183	200	241	246	198	227	181	188	219	156	158	133	108	101	200.5	245.8
9 Spd	1	1	1	0	1	0	2	3	4	9	8	11	10	8	10	8	10	11	9	10	9	5	3	4	5.0	11.3
Dir	112	96	43	73	234	40	200	211	219	273	277	266	262	294	316	312	297	308	302	307	301	313	266	278	289.0	308.3
10 Spd	5	4	4	6	6	7	10	14	15	14	15	13	15	9	8	5	8	7	8	14	12	10	6	9	8.9	15.1
Dir	270	258	259	258	272	265	261	259	263	273	273	271	270	271	290	273	208	209	239	277	270	266	256	258	263.7	272.8
11 Spd	9	5	1	1	3	2	6	7	5	5	4	5	4	1	5	4	2	3	2	3	2	0	0	1	2.2	8.6
Dir	261	272	23	305	299	310	293	299	276	265	320	312	325	54	341	355	11	27	81	82	89	343	137	45	311.2	261.2
12 Spd	1	0	1	1	0	1	2	5	5	5	4	2	3	11	2	10	5	7	8	6	4	6	6	3	2.8	11.4
Dir	92	133	199	82	308	316	298	267	275	293	261	327	327	309	354	309	276	229	252	270	190	201	185	182	267.1	309.3
13 Spd	1	1	1	0	1	1	2	4	2	5	3	3	4	4	5	8	6	9	8	3	1	7	5	5	2.5	9.0
Dir	58	55	189	301	358	301	297	206	249	227	111	91	151	222	249	226	184	249	272	332	229	233	229	235	232.7	249.2
14 Spd	4	4	7	4	7	9	7	11	16	21	17	17	18	14	14	15	16	14	14	11	12	13	15	14	12.2	21.2
Dir	285	283	263	280	264	265	283	269	275	281	280	285	279	282	271	272	280	291	288	282	268	273	271	273	277.3	281.1
15 Spd	11	14	13	8	7	7	12	14	12	9	11	9	12	10	8	8	6	8	10	11	7	6	6	8	8.2	14.2
Dir	280	273	271	285	290	294	280	278	296	300	302	298	305	316	326	339	352	344	337	341	354	29	360	345	308.0	273.4
16 Spd	9	8	8	7	7	9	9	9	11	10	9	9	10	7	3	5	8	5	4	0	3	2	3	2	5.5	10.8
Dir	339	336	329	318	315	336	341	336	343	359	24	35	36	44	59	50	53	58	58	18	357	338	20	359	2.5	343.3
17 Spd	4	4	3	2	3	2	2	3	3	3	4	5	3	5	7	4	8	5	6	4	1	1	2	1	1.3	8.3
Dir	355	3	359	347	360	349	20	15	31	39	64	64	89	38	35	72	181	176	220	241	224	106	99	82	45.5	181.4
18 Spd	1	0	0	0	1	0	1	1	2	4	2	6	7	8	6	6	6	6	4	4	4	5	4	7	2.5	7.7
Dir	53	324	38	44	176	83	111	295	259	250	310	62	61	50	63	67	66	52	42	18	356	14	343	341	35.8	49.9
19 Spd	7	7	6	3	4	3	3	3	2	3	3	1	5	6	2	3	8	6	3	3	5	6	5	6	2.5	7.8
Dir	341	346	353	8	46	41	53	53	25	13	69	195	213	252	329	282	279	300	334	294	303	267	271	278	317.2	278.6
20 Spd	7	7	7	6	8	7	5	4	3	3	9	13	10	10	9	10	9	9	6	5	5	3	1	2	6.4	13.0
Dir	269	272	281	288	283	280	289	300	241	307	289	277	310	282	289	291	298	294	313	300	293	266	272	232	287.4	277.1
21 Spd	5	7	6	6	7	5	10	12	14	17	16	14	14	14	15	13	12	11	10	7	4	2	1	2	8.9	17.0
Dir	223	245	262	266	263	269	261	259	260	262	266	275	292	287	282	293	297	297	295	301	285	225	204	210	274.2	261.9
22 Spd	0	1	0	2	2	1	2	3	4	3	4	3	4	6	7	9	9	9	6	5	4	4	5	6	2.7	8.7
Dir	45	193	18	213	214	318	335	269	307	267	350	32	56	57	64	56	55	55	68	61	52	57	62	71	49.3	54.9

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Evergreen Park - June 2011

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	6	3	1	1	3	2	1	2	4	5	8	10	8	13	20	14	11	10	7	13	11	10	8	8	5.8	19.7
Dir	78	106	157	141	213	208	54	90	203	238	259	255	291	279	265	260	280	288	276	268	303	299	281	273	271.5	265.2
24 Spd	13	13	13	12	10	9	11	14	15	17	19	19	22	19	17	16	14	12	9	11	11	9	14	14	13.7	22.4
Dir	267	267	272	277	278	281	263	269	270	269	259	262	266	262	252	247	239	236	236	245	239	254	257	266	260.3	266.3
25 Spd	11	10	10	8	10	11	11	9	8	9	11	5	5	9	10	5	4	8	9	7	7	6	6	7	7.9	11.3
Dir	267	271	267	270	270	289	283	294	306	304	296	340	307	287	280	340	286	273	272	286	290	289	276	292	285.8	283.0
26 Spd	3	8	9	8	6	6	8	7	8	3	1	2	2	1	4	4	5	4	3	3	2	2	1	1	2.4	9.5
Dir	248	263	268	285	281	278	282	282	274	286	18	300	279	338	18	39	35	30	62	76	91	80	77	151	295.5	267.9
27 Spd	1	0	1	3	4	2	2	5	6	5	4	4	5	5	7	3	4	5	6	6	2	3	12	3	1.2	12.5
Dir	71	311	295	240	266	251	285	255	267	249	305	316	4	358	320	81	90	76	93	126	86	230	236	242	279.0	235.9
28 Spd	2	3	1	1	0	1	1	3	3	3	5	6	8	13	13	12	12	9	6	7	9	9	9	8	5.5	12.9
Dir	188	198	239	79	29	69	156	209	218	211	209	227	214	228	231	243	238	236	244	245	260	261	257	248	235.7	227.6
29 Spd	9	7	5	4	4	8	10	5	7	9	12	11	9	13	13	7	10	14	13	12	10	12	12	17	9.3	17.3
Dir	237	239	216	210	220	252	259	251	245	265	265	274	288	252	251	252	288	286	281	270	267	259	256	257	260.3	257.1
30 Spd	10	7	9	13	15	11	15	16	19	20	19	20	21	18	19	17	16	19	16	15	13	10	9	11	14.2	20.7
Dir	247	242	229	238	236	246	247	263	264	263	259	274	282	288	276	287	295	284	284	283	269	255	254	259	267.0	282.2
Spd	2.3	2.6	2.6	2.6	2.9	2.8	3.8	4.6	5.1	5.5	4.9	4.4	4.8	4.9	4.8	4.2	3.8	4.1	4.1	4.1	3.6	3.1	3.3	3.5	Diurnal Average	
Dir	279.4	276.8	275.0	275.0	270.1	280.2	275.1	275.1	276.4	277.7	283.0	288.8	291.6	295.1	291.7	299.9	291.4	293.3	286.7	293.3	287.9	271.9	265.5	274.7		
Spd	13.1	14.2	12.9	12.5	14.9	10.6	14.9	16.0	19.1	21.2	19.0	20.0	22.4	19.4	19.7	17.4	16.5	18.9	16.4	23.5	17.8	13.4	14.9	17.3	Diurnal Maximum	
Dir	267.0	273.4	272.1	238.2	236.0	288.8	246.7	263.1	263.6	281.1	259.2	273.6	266.3	262.1	265.2	287.1	280.3	283.7	284.4	341.0	335.4	272.6	271.3	257.1		

Maximum Speed Value: 24 km/h on Jun 2 20:00
Minimum Speed Value: 0 km/h on Jun 9 04:00
Maximum Daily Speed Average: 14.2 km/h on Jun 30
Minimum Daily Speed Average: 0.8 km/h on Jun 8
Maximum Diurnal Speed Average: 5.5 km/h at hour 10
Minimum Diurnal Speed Average: 2.3 km/h at hour 1

Monthly Average Velocity: 3.80 km/h 283.29 deg
Speed Percentiles: P_1 = 0.2 P_{10} = 1.2 Q_1 = 2.8 Median = 5.2 Q_3 = 9.1 P_{90} = 13.2 P_{99} = 19.4
All monthly, daily, and diurnal averages have been calculated using vector methods

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

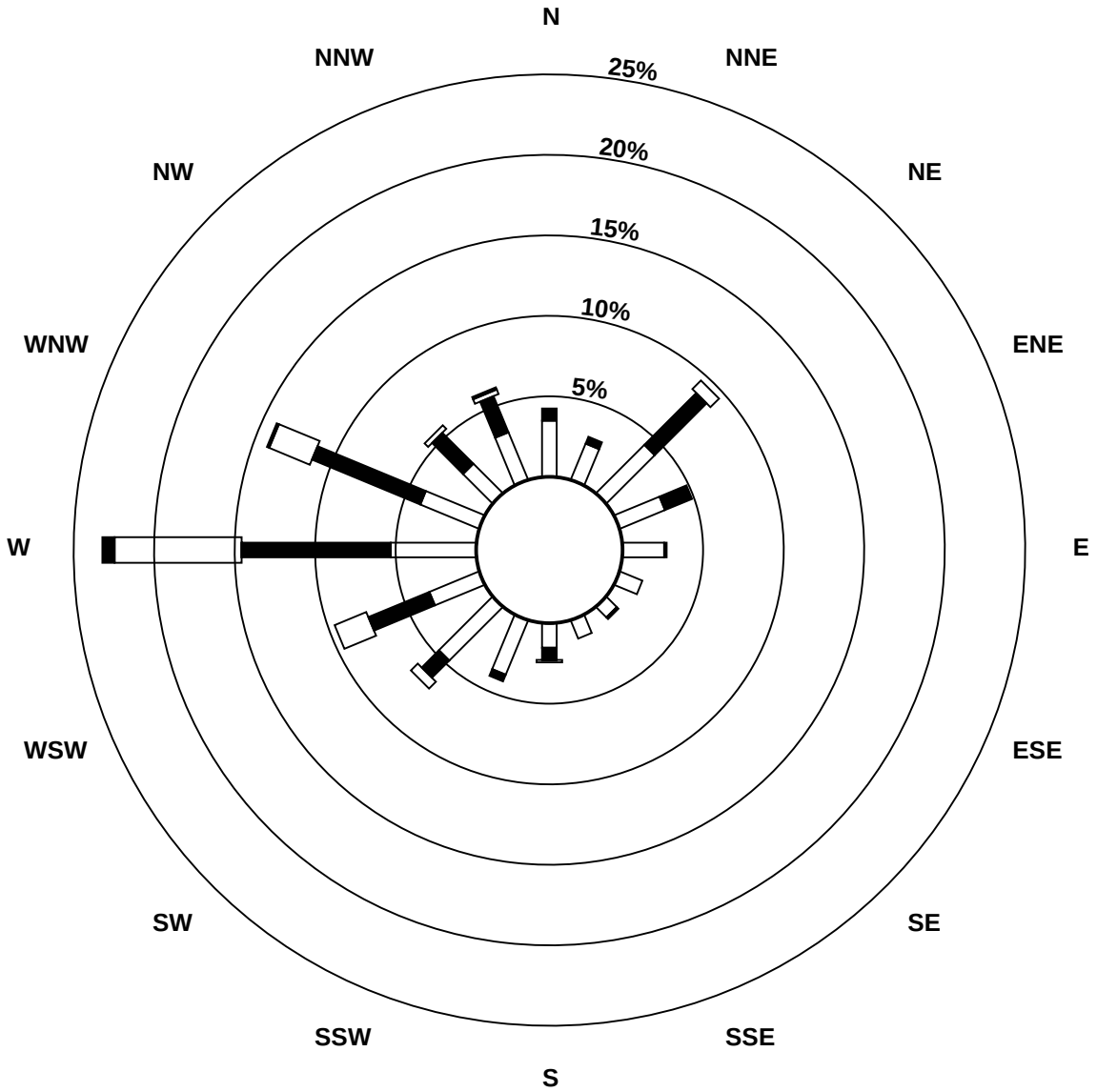
Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	45	17	2	1	0	0	65
NorthEast	53	44	7	0	0	0	104
East	40	6	0	0	0	0	46
SouthEast	21	2	0	0	0	0	23
South	24	8	1	0	0	0	33
SouthWest	63	27	12	0	0	0	102
West	50	105	73	12	0	0	240
NorthWest	48	47	12	0	0	0	107
Total	344	256	107	13	0	0	720

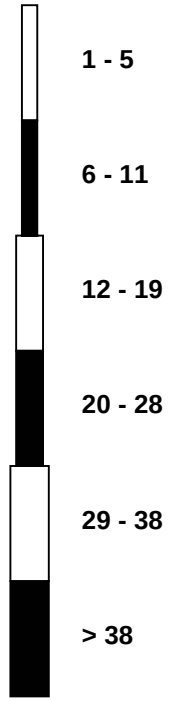
Wind Rose

Wind Speed (WS) (km/h)

Evergreen Park - June 2011



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Evergreen Park - June 2011

Maximum Speed: 24 km/h on Jun 2 20:00

Maximum Daily Speed Average: 15.2 km/h on Jun 30

Minimum Speed: 1 km/h on Jun 9 06:00

Minimum Daily Speed Average: 3.4 km/h on Jun 8

Maximum Diurnal Speed Average: 9.5 km/h at hour 15

Minimum Diurnal Speed Average: 4.3 km/h at hour 4

Monthly Average Speed: 6.90 km/h

Percentiles: P_1 = 1.0 P_{10} = 1.7 Q_1 = 3.5 Median = 5.9 Q_3 = 9.4 P_{90} = 13.4 P_{99} = 19.9

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 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	4	6	4	4	4	5	5	7	6	6	5	7	13	11	7	4	3	3	4.7	12.9
2-Jun	1	1	1	1	4	4	5	6	10	10	7	8	8	7	8	15	16	18	17	24	18	10	12	11	9.3	23.9
3-Jun	8	8	7	9	8	8	5	3	6	7	7	6	5	5	7	6	4	3	3	5	5	5	3	3	5.7	9.0
4-Jun	2	1	2	2	3	5	5	4	4	5	4	5	5	5	4	4	4	3	3	3	2	2	2	2	3.4	5.4
5-Jun	2	2	3	4	7	4	5	6	4	3	4	5	4	6	6	5	7	6	5	6	2	1	1	2	4.2	7.2
6-Jun	1	1	1	1	2	2	4	5	7	6	2	2	5	5	6	5	8	6	5	6	3	2	2	2	3.7	7.7
7-Jun	2	2	1	1	2	2	1	4	8	8	9	12	13	14	13	14	13	12	10	9	6	4	2	1	6.7	13.9
8-Jun	1	1	1	1	1	1	2	2	3	5	5	5	6	7	7	6	6	5	5	4	2	2	3	2	3.4	7.3
9-Jun	2	2	1	1	1	1	2	3	4	9	9	12	11	10	12	9	11	12	9	11	9	5	3	5	6.4	12.2
10-Jun	5	4	4	6	7	7	10	14	15	14	15	13	15	9	9	7	9	7	9	14	12	10	7	9	9.7	15.5
11-Jun	9	6	2	2	3	3	6	7	5	6	6	7	7	5	7	5	3	4	3	3	2	1	1	1	4.3	8.6
12-Jun	2	1	1	1	1	2	3	5	6	6	5	5	5	12	6	11	6	7	9	6	5	6	7	3	5.0	12.4
13-Jun	2	2	1	1	2	2	3	4	3	6	4	4	5	5	6	9	7	10	9	4	2	7	5	5	4.4	9.8
14-Jun	4	5	7	4	7	9	7	11	16	22	18	17	18	14	15	16	17	15	14	12	12	14	15	14	12.6	21.6
15-Jun	12	14	13	9	7	7	12	14	12	10	11	10	12	11	9	8	6	8	10	11	8	6	6	8	9.7	14.3
16-Jun	9	9	8	8	7	9	9	9	11	11	10	9	11	7	4	5	8	5	4	1	4	3	3	2	6.9	11.0
17-Jun	4	4	3	3	3	3	2	4	3	3	4	5	3	6	8	6	9	6	7	4	2	1	2	2	4.0	8.8
18-Jun	1	1	1	1	1	1	1	2	3	4	5	7	8	8	7	7	7	6	5	4	4	5	4	7	4.2	8.4
19-Jun	7	7	6	3	4	3	3	3	3	4	3	3	5	6	4	4	8	7	4	4	5	6	5	6	4.7	8.4
20-Jun	7	7	7	6	8	8	6	5	3	4	10	13	11	10	9	11	10	10	7	6	5	3	2	2	7.0	13.4
21-Jun	5	7	6	6	7	5	10	12	14	17	17	15	15	15	16	14	13	11	11	7	4	2	2	2	9.8	17.2
22-Jun	1	1	2	2	2	1	2	3	5	5	4	5	6	7	8	9	9	9	7	5	4	4	5	6	4.6	9.0
23-Jun	6	3	2	2	3	2	1	3	5	5	8	11	9	13	20	14	11	10	8	13	11	10	8	8	7.9	19.9
24-Jun	13	13	13	13	10	10	11	14	16	17	19	19	23	20	18	16	14	12	9	11	11	9	14	14	14.2	22.6
25-Jun	11	10	10	8	10	11	12	9	9	9	11	6	5	10	10	7	5	8	10	8	8	6	7	7	8.5	11.5
26-Jun	5	8	10	8	7	6	8	8	9	6	4	4	4	4	6	5	5	4	4	3	2	2	2	2	5.2	9.6
27-Jun	2	2	2	4	4	2	3	5	6	6	5	6	6	7	10	3	4	6	6	7	2	3	13	4	4.9	12.6
28-Jun	3	3	2	1	1	1	1	4	3	3	5	6	8	13	13	13	12	9	6	8	9	9	9	8	6.4	13.3
29-Jun	9	7	5	4	5	8	10	6	7	9	13	12	10	14	14	8	11	15	13	12	10	13	12	17	10.1	17.4
30-Jun	10	7	9	13	15	11	15	16	19	20	19	21	21	19	20	18	17	19	17	16	13	10	9	11	15.2	21.2
	4.9	4.7	4.4	4.3	4.7	4.7	5.6	6.5	7.5	8.1	8.2	8.5	8.9	9.4	9.5	8.9	8.9	8.8	8.1	7.9	6.3	5.6	5.6	5.7	Diurnal Average	
	13.3	14.3	13.0	12.6	15.0	10.9	15.2	16.2	19.5	21.6	19.3	20.6	22.6	19.6	19.9	18.1	17.2	19.5	17.0	23.9	18.2	13.5	15.1	17.4	Diurnal Maximum	

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

Peace Airshed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Evergreen Park - June 2011

Maximum Value: 96.8 deg on Jun 9 04:00

Minimum Value: 4.9 deg on Jun 21 01:00

Percentiles: P_1 = 6.4 P_{10} = 9.4 Q_1 = 13.9 Median = 20.9 Q_3 = 43.5 P_{90} = 67.6 P_{99} = 90.1

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

Day	Hourly Period Ending At (MST)																								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	54	91	82	75	85	77	18	19	48	58	52	76	67	63	61	43	62	87	13	12	17	17	48	14	91.4
2-Jun	59	72	54	59	10	13	19	18	18	19	30	41	34	61	64	30	11	11	15	11	12	16	18	14	71.7
3-Jun	21	13	16	21	13	13	23	35	20	18	16	19	23	22	22	18	18	42	19	16	18	11	14	18	42.1
4-Jun	42	53	24	29	18	25	22	25	44	40	42	55	45	47	73	72	55	45	48	25	27	56	75	47	74.8
5-Jun	66	59	32	23	6	37	13	24	49	76	39	59	69	47	58	37	38	31	36	20	56	74	62	61	75.7
6-Jun	62	81	82	68	36	57	19	18	16	33	77	53	53	79	64	46	26	22	23	22	15	10	8	33	82.0
7-Jun	57	77	79	90	47	66	90	23	17	24	16	17	19	16	16	19	17	16	18	17	13	11	23	39	90.1
8-Jun	68	61	77	81	60	87	51	66	65	66	79	73	74	50	54	70	66	60	52	36	18	19	31	29	86.6
9-Jun	39	61	49	97	30	69	31	20	24	18	22	27	25	28	37	28	33	21	18	14	12	16	23	30	96.8
10-Jun	15	9	9	10	18	17	10	8	10	13	12	12	12	19	23	52	30	19	33	12	9	9	7	7	51.6
11-Jun	5	26	53	72	30	65	22	24	32	42	48	51	60	85	66	57	69	42	43	22	18	80	87	32	87.0
12-Jun	27	94	73	58	83	74	26	18	24	36	46	90	64	24	79	23	36	16	16	26	14	9	13	19	93.7
13-Jun	45	57	80	63	38	69	51	21	56	31	42	51	51	51	23	24	26	23	21	54	91	9	6	9	90.6
14-Jun	20	18	11	15	10	16	22	11	14	11	14	14	13	19	14	16	17	18	16	16	8	8	8	9	21.6
15-Jun	10	7	8	13	17	16	12	10	15	15	15	14	12	21	16	14	16	20	12	9	22	17	17	9	22.5
16-Jun	12	14	20	14	12	10	12	9	10	18	22	15	15	17	37	21	14	18	17	88	27	53	35	16	87.7
17-Jun	14	20	23	17	16	24	27	31	24	28	32	26	42	28	25	55	22	27	18	21	45	62	16	40	62.3
18-Jun	46	84	77	91	68	85	67	65	53	38	75	40	29	25	27	28	22	20	16	19	23	30	25	13	91.3
19-Jun	13	20	18	18	15	15	32	32	32	41	20	71	19	19	60	52	23	28	28	24	19	18	27	11	71.1
20-Jun	9	11	15	14	13	13	20	26	56	32	15	15	25	21	19	21	22	21	29	26	17	14	67	34	67.4
21-Jun	5	15	11	9	8	14	9	9	9	10	16	17	21	21	17	19	21	18	19	20	14	15	64	16	63.8
22-Jun	85	60	93	20	23	71	31	28	30	57	40	65	70	34	25	20	20	16	22	17	14	12	11	15	93.4
23-Jun	17	20	40	88	32	42	59	66	47	29	23	25	27	18	8	12	15	17	28	9	14	13	15	11	87.6
24-Jun	8	7	8	9	12	14	8	7	7	8	8	9	6	9	11	10	10	10	10	12	8	12	8	9	14.1
25-Jun	7	9	9	9	11	13	12	16	15	16	13	30	24	17	13	43	26	10	12	17	13	12	13	18	43.5
26-Jun	61	9	9	16	16	12	12	14	14	74	80	83	67	95	63	54	27	40	27	21	17	15	69	28	94.7
27-Jun	84	84	75	28	22	63	44	21	18	40	40	56	44	55	43	60	33	35	31	19	37	64	8	63	84.4
28-Jun	74	28	88	55	78	75	56	29	21	32	19	16	17	15	18	19	17	18	23	13	8	9	8	10	87.5
29-Jun	7	6	8	9	14	9	7	25	12	11	10	18	20	14	14	34	25	21	13	9	8	7	9	7	34.1
30-Jun	9	16	6	7	6	12	10	10	11	11	10	14	13	13	13	17	16	14	15	11	11	10	9	8	17.5
	85.4	93.7	93.4	96.8	84.5	86.6	90.0	66.1	64.8	75.7	79.7	89.9	74.4	94.7	79.5	72.2	69.0	87.0	51.9	87.7	90.6	79.6	87.0	63.4	

PAZA
Smoky Heights Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 4.7 ppb on Jun 21 07:00 Maximum Daily Average: 0.9 ppb on Jun 21

Minimum Value: 0 ppb on Jun 3 05:00 Minimum Daily Average: 0.0 ppb on Jun 23
Maximum Diurnal Average: 0.6 ppb at hour 5 Minimum Diurnal Average: 0.1 ppb at hour 17
Monthly Average: 0.25 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.1 $Q_3 = 0.2$ $P_{90} = 0.6$ $P_{99} = 3.0$

Hours in Service:	720
Hours of Data:	645
Hours of Missing Data:	75
Hours of Calibration:	37
Percent Operational Time:	94.7

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.2
2-Jun	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	0.8
3-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	0	0	0	0.1	0.7
4-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0	0	0	0	0.1	0.7
5-Jun	0	0	0	0	0	1	1	2	1	0	0	0	0	0	0	0	0	0	A	1	1	0	0	0	0.3	1.7
6-Jun	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.1	0.7
7-Jun	1	1	1	1	3	4	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.7	3.8
8-Jun	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0.1	0.4
9-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	0.1	0.7
10-Jun	1	0	0	2	1	1	1	1	1	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0.4	2.2
11-Jun	0	1	0	0	0	0	1	2	1	1	1	1	A	1	1	1	0	0	0	0	0	0	0	0	0.6	2.1
12-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	0.3
13-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
14-Jun	0	0	0	0	3	3	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	1	0	3	0.7	3.1
15-Jun	2	1	2	3	3	1	3	2	A	1	0	0	0	0	0	0	0	0	0	0	0	1	1	P	0.9	2.9
16-Jun	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
17-Jun	P	P	P	P	P	P	P	P	P	P	P	P	M	0	0	0	0	0	0	0	0	0	0	0	--	0.0
18-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
19-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	0.1	0.5
20-Jun	0	0	0	A	0	0	0	1	1	1	1	1	0	0	0	0	0	1	2	0	0	0	0	0	0.5	1.9
21-Jun	0	0	A	2	5	3	5	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0.9	4.7
22-Jun	0	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
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	A	0.0	0.1
24-Jun	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0.1	0.8
25-Jun	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	1.2
26-Jun	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.1	0.8
27-Jun	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0.1	1.8
28-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	0.0	0.1
29-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	0.0	0.4
30-Jun	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0.3	3.6
	0.4	0.4	0.2	0.4	0.6	0.5	0.6	0.4	0.3	0.3	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	Diurnal Average	
	1.9	3.6	1.6	2.6	4.6	3.8	4.7	2.1	1.5	0.8	0.8	0.8	0.5	1.0	1.0	0.6	0.4	0.6	1.9	0.6	0.6	1.0	1.1	3.0	Diurnal Maximum	

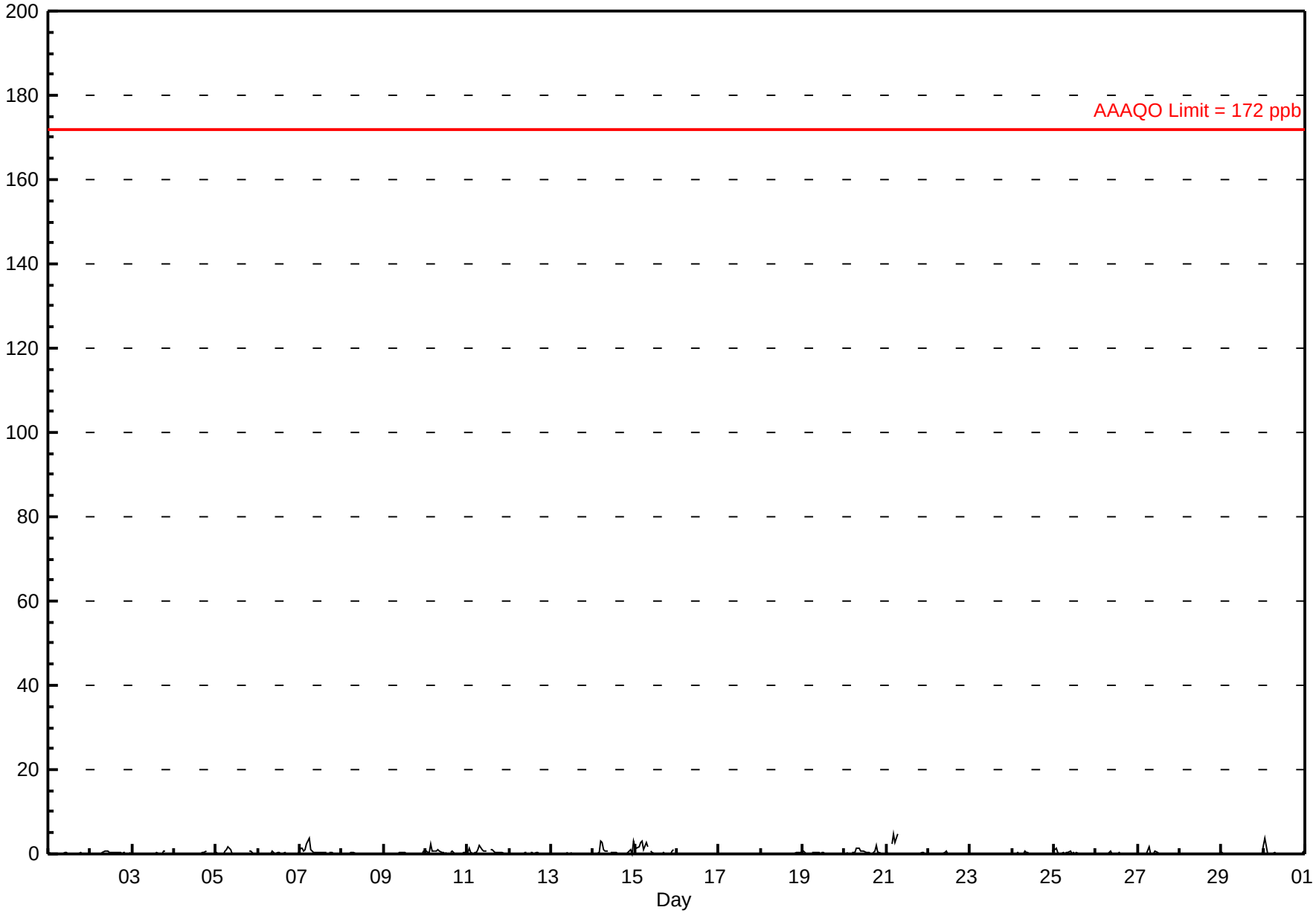
C - Calibration P - Power Failure M - Maintenance A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - June 2011



Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - June 2011

Maximum Value: 33.6 ppb on Jun 21 07:00

Maximum Daily Average: 4.3 ppb on Jun 21

Minimum Value: 0 ppb on Jun 22 16:00

Minimum Daily Average: 0.1 ppb on Jun 23

Maximum Diurnal Average: 2.2 ppb at hour 7

Minimum Diurnal Average: 0.4 ppb at hour 17

Monthly Average: 0.81 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.3$ Median = 0.4 $Q_3 = 0.7$ $P_{90} = 1.6$ $P_{99} = 2.6$

Hours in Service:	720
Hours of Data:	645
Hours of Missing Data:	75
Hours of Calibration:	37
Percent Operational Time:	94.7

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	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	A	0	0.4	0.6
2-Jun	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	A	1	1	0.7	1.3
3-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	1	A	0	0	0	0.5	1.8
4-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	A	0	0	0	1	0.4	1.4
5-Jun	1	1	0	0	0	4	2	2	3	0	0	0	1	0	0	0	0	0	A	2	2	0	0	0	1.0	4.3
6-Jun	0	0	0	0	0	0	0	1	1	1	0	1	1	0	0	2	0	A	0	0	0	0	0	0	0.5	1.9
7-Jun	4	3	1	2	4	7	4	1	1	1	1	1	1	1	1	1	A	1	1	0	0	0	0	0	1.5	6.5
8-Jun	0	0	1	0	0	1	1	1	1	0	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0.4	0.8
9-Jun	0	0	0	0	0	0	0	0	0	1	1	1	1	0	A	0	0	0	0	0	0	0	0	2	0.5	1.9
10-Jun	1	1	1	5	5	3	2	3	1	1	1	1	1	A	1	1	1	0	0	0	1	1	2	1	1.5	5.4
11-Jun	2	2	1	0	1	1	2	3	2	1	1	1	A	1	2	1	1	1	1	1	1	0	0	0	1.1	3.4
12-Jun	0	0	1	0	0	0	0	0	0	1	1	A	1	1	0	1	1	0	0	0	0	1	0	0	0.5	0.8
13-Jun	1	0	1	1	0	0	0	0	0	1	A	1	0	1	0	0	0	0	0	0	0	0	0	0	0.5	0.8
14-Jun	0	0	0	2	6	15	2	1	5	A	1	1	1	1	0	0	1	0	0	1	2	3	0	6	2.1	14.6
15-Jun	3	3	3	3	4	2	5	3	A	2	1	0	1	1	0	0	1	1	0	0	0	2	2	P	1.7	4.7
16-Jun	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
17-Jun	P	P	P	P	P	P	P	P	P	P	P	P	M	0	0	0	0	0	0	0	0	0	0	0	--	0.4
18-Jun	0	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	1	1	1	0.5	1.4
19-Jun	1	1	0	0	A	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.5	1.1
20-Jun	0	0	1	A	1	1	1	2	2	1	1	1	1	1	1	0	0	2	4	1	1	1	0	0	1.0	3.7
21-Jun	1	1	A	4	15	17	34	C	C	C	C	C	0	0	0	0	0	1	0	1	1	2	0	0	4.3	33.6
22-Jun	0	A	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.2
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	A	0.1	0.4
24-Jun	1	0	0	1	1	0	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	A	2	0.5	2.1
25-Jun	2	5	1	0	0	2	1	2	1	3	1	2	1	1	0	0	0	0	0	0	0	A	0	0	0.9	4.6
26-Jun	0	0	0	0	0	0	0	0	4	0	0	0	0	1	1	0	0	0	0	0	A	0	0	0	0.4	3.7
27-Jun	0	0	0	0	0	1	4	1	0	0	1	1	0	0	0	1	1	0	0	A	0	0	0	0	0.5	3.7
28-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	A	0	0	0	0	0	0.2	0.8
29-Jun	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	0	0.2	1.8
30-Jun	6	11	0	0	0	1	1	0	0	0	0	0	0	0	0	0	A	0	0	1	0	0	0	4	1.1	10.7
	1.1	1.2	0.5	0.8	1.5	2.1	2.2	1.0	1.1	0.7	0.6	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.5	0.5	0.5	0.6	0.5	0.8	Diurnal Average	
	6.0	10.7	2.8	4.7	15.4	17.3	33.6	3.4	4.6	3.0	1.4	1.6	1.1	1.4	1.5	1.9	1.2	1.7	3.7	1.6	1.7	3.2	2.1	5.9	Diurnal Maximum	

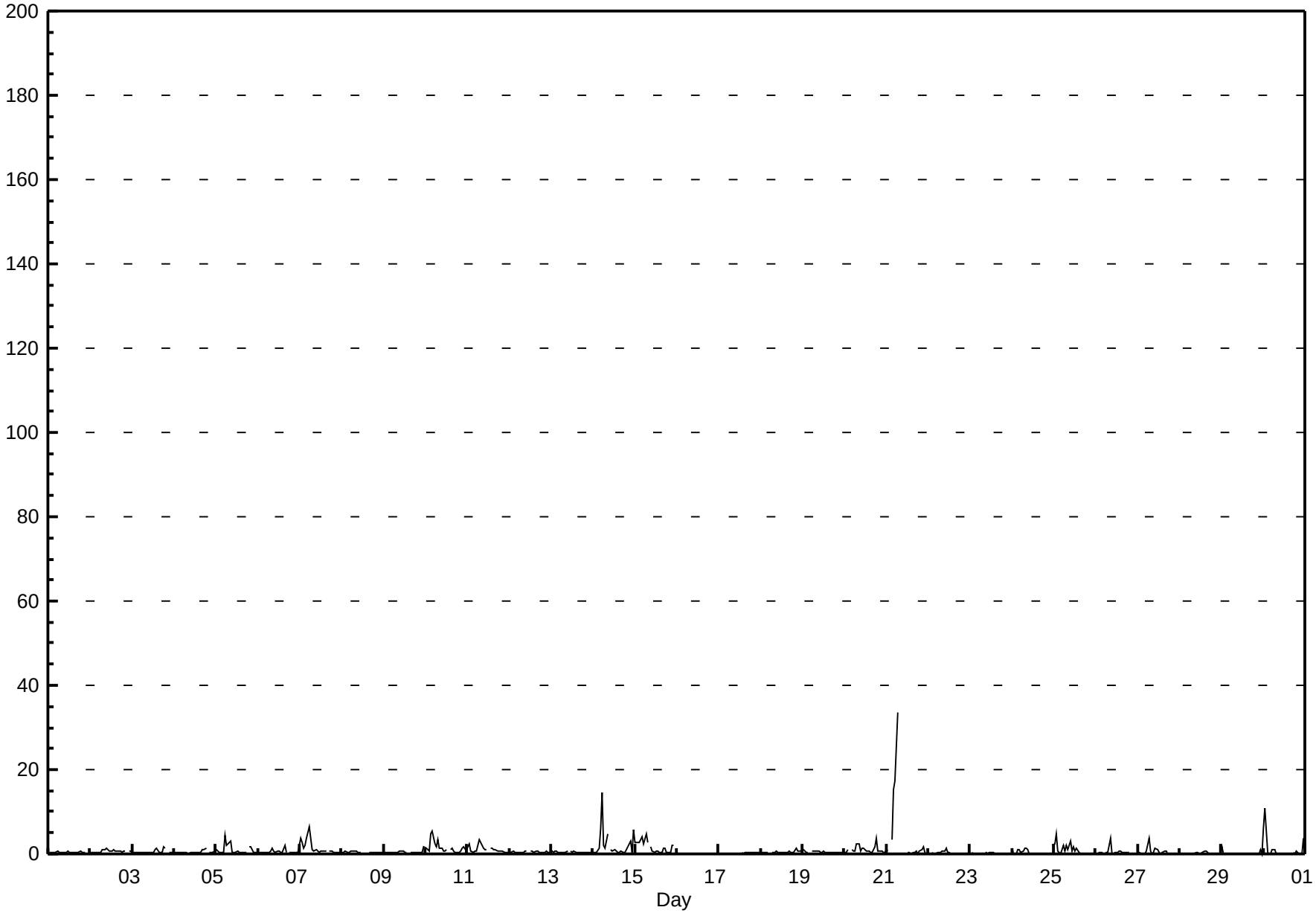
C - Calibration P - Power Failure M - Maintenance A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - June 2011

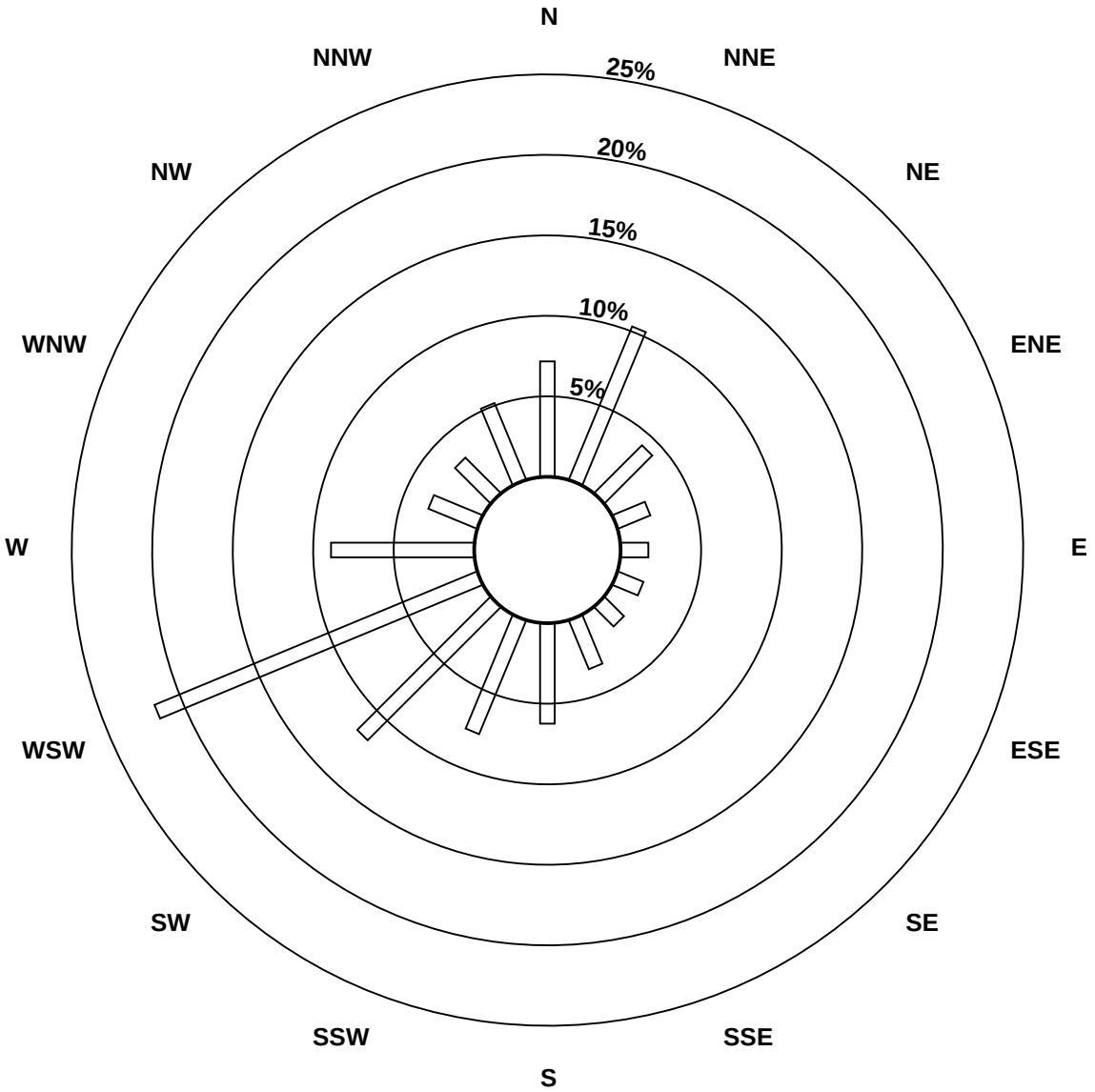


Peace Airshed Zone Association

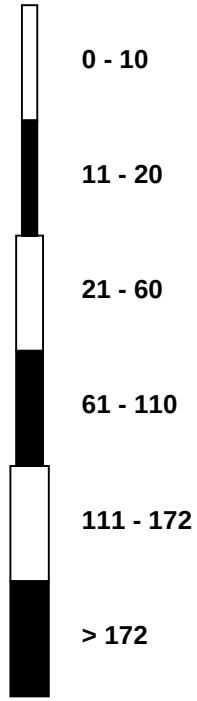
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - June 2011



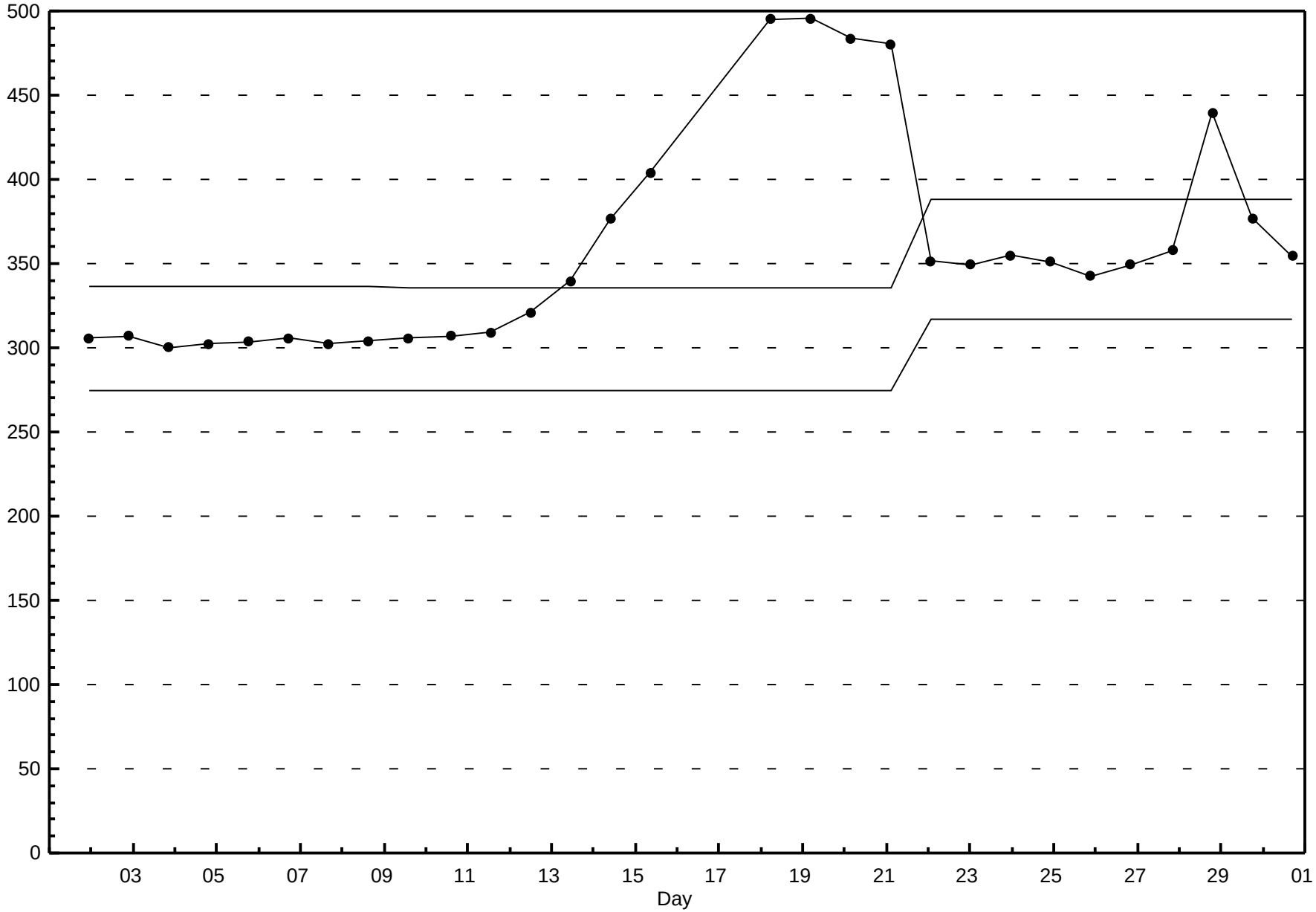
Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO_2)

Smoky Heights - June 2011



Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.0 ppb on Jun 5 23:00 Maximum Daily Average: 0.4 ppb on Jun 5

Minimum Value: 0 ppb on Jun 1 16:00 Minimum Daily Average: 0.0 ppb on Jun 14
Maximum Diurnal Average: 0.2 ppb at hour 6 Minimum Diurnal Average: 0.1 ppb at hour 14
Monthly Average: 0.13 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.0 Q_3 = 0.2 P_{90} = 0.4 P_{99} = 0.8

Hours in Service:	720
Hours of Data:	621
Hours of Missing Data:	99
Hours of Calibration:	41
Percent Operational Time:	91.9

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

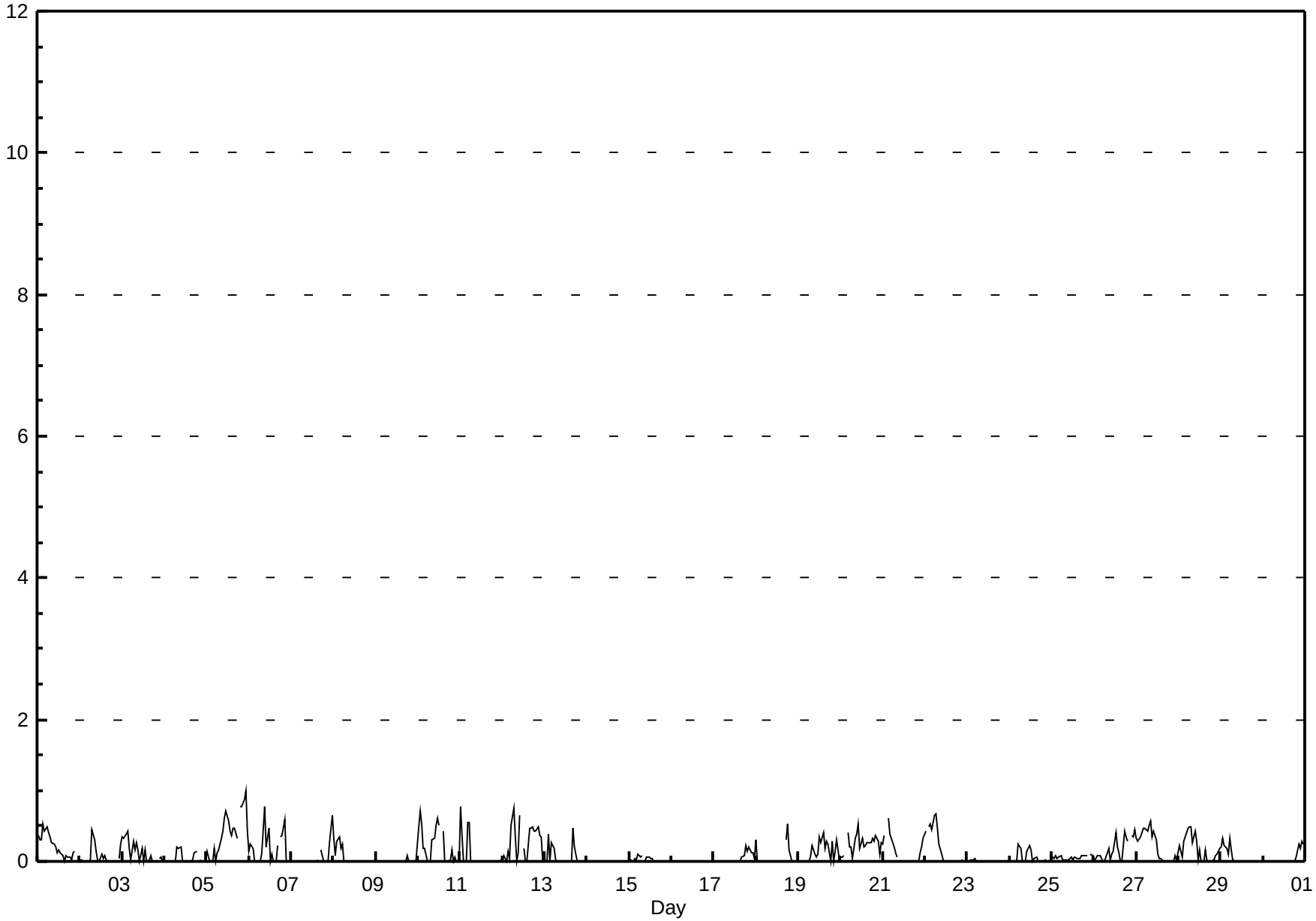
C - Calibration P - Power Failure M - Maintenance N - Not Valid A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - June 2011



Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - June 2011

Maximum Value: 4.2 ppb on Jun 11 01:00

Maximum Daily Average: 2.2 ppb on Jun 10

Minimum Value: 0 ppb on Jun 4 04:00

Minimum Daily Average: 0.4 ppb on Jun 23

Maximum Diurnal Average: 1.0 ppb at hour 7

Minimum Diurnal Average: 0.8 ppb at hour 15

Monthly Average: 0.90 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.3$ $Q_1 = 0.4$ Median = 0.8 $Q_3 = 1.2$ $P_{90} = 1.7$ $P_{99} = 2.7$

Hours in Service:	720
Hours of Data:	621
Hours of Missing Data:	99
Hours of Calibration:	41
Percent Operational Time:	91.9

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	1	1	1	1	0	0	1	0	0	1	1	A	1	0.7	1.0
2-Jun	1	1	0	0	1	0	1	1	1	1	0	0	1	0	0	1	1	0	0	0	1	A	1	1	0.5	1.0
3-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	A	1	0	0	0.7	1.2
4-Jun	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	A	0	0	1	1	0.4	1.0
5-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	2	2	2	1.2	1.9
6-Jun	1	1	1	1	1	0	1	1	2	2	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1.0	1.6
7-Jun	0	1	1	1	1	0	0	1	1	1	0	1	1	0	0	1	A	1	1	1	1	1	1	2	0.8	1.5
8-Jun	1	1	1	1	1	1	1	1	C	C	C	C	C	C	0	A	0	0	0	0	0	0	0	0	--	1.1
9-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	1	1	2	2	2	2	2	1	3	0.8	3.0
10-Jun	4	3	4	3	2	2	2	2	2	2	3	2	2	A	2	2	2	2	2	1	2	3	2	1	2.2	3.8
11-Jun	4	1	0	1	1	1	2	1	0	0	1	2	A	2	1	1	1	2	1	1	1	1	1	1	1.2	4.2
12-Jun	1	1	1	1	2	2	2	2	1	2	2	A	1	1	1	2	1	2	1	2	2	2	1	1	1.5	2.3
13-Jun	1	1	1	2	2	1	3	2	1	1	A	1	2	2	1	2	2	1	1	0	0	0	0	0	1.2	2.9
14-Jun	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0.4	0.7
15-Jun	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	0	0	0	0	0	0	1	0	P	0.6	0.9
16-Jun	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
17-Jun	P	P	P	P	P	P	P	P	P	P	P	P	M	1	1	1	1	2	2	2	2	1	1	1	--	2.4
18-Jun	2	1	0	0	0	A	A	N	N	N	N	N	N	N	N	N	N	2	2	1	1	1	1	1	--	1.6
19-Jun	1	1	1	0	A	1	1	1	1	1	1	1	1	1	2	2	2	2	1	1	2	1	1	1	1.2	2.4
20-Jun	1	1	1	A	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.8
21-Jun	1	1	A	1	1	1	1	1	1	C	C	C	M	M	C	C	0	0	0	0	0	0	1	1	--	1.3
22-Jun	1	A	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.1
23-Jun	A	1	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0.4	1.3
24-Jun	0	0	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	0	0	0	0	A	1	0.6	1.2
25-Jun	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	A	1	0	0.5	1.0
26-Jun	0	0	0	0	0	0	0	1	2	2	2	2	2	1	1	0	1	2	2	1	A	1	1	1	1.1	2.1
27-Jun	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	0	0	A	1	1	1	1	0.9	1.8
28-Jun	2	1	1	1	1	2	1	2	2	2	1	1	1	1	1	1	1	1	A	0	1	1	1	1	1.0	1.9
29-Jun	1	1	1	1	0	2	2	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.9	2.0
30-Jun	1	2	1	0	0	1	1	2	N	N	N	N	N	N	N	N	A	2	1	1	1	1	2	1	--	1.9
	1.0	0.9	0.9	0.8	0.9	0.9	1.0	1.0	1.0	1.0	0.9	0.8	0.9	0.8	0.8	0.9	0.8	1.0	0.9	0.9	0.9	0.8	0.8	1.0	Diurnal Average	
	4.2	2.7	3.8	2.8	2.3	2.0	2.9	1.9	2.4	2.2	2.6	1.8	2.0	1.7	1.8	2.4	2.1	2.4	2.1	2.0	2.4	2.7	2.5	3.0	Diurnal Maximum	

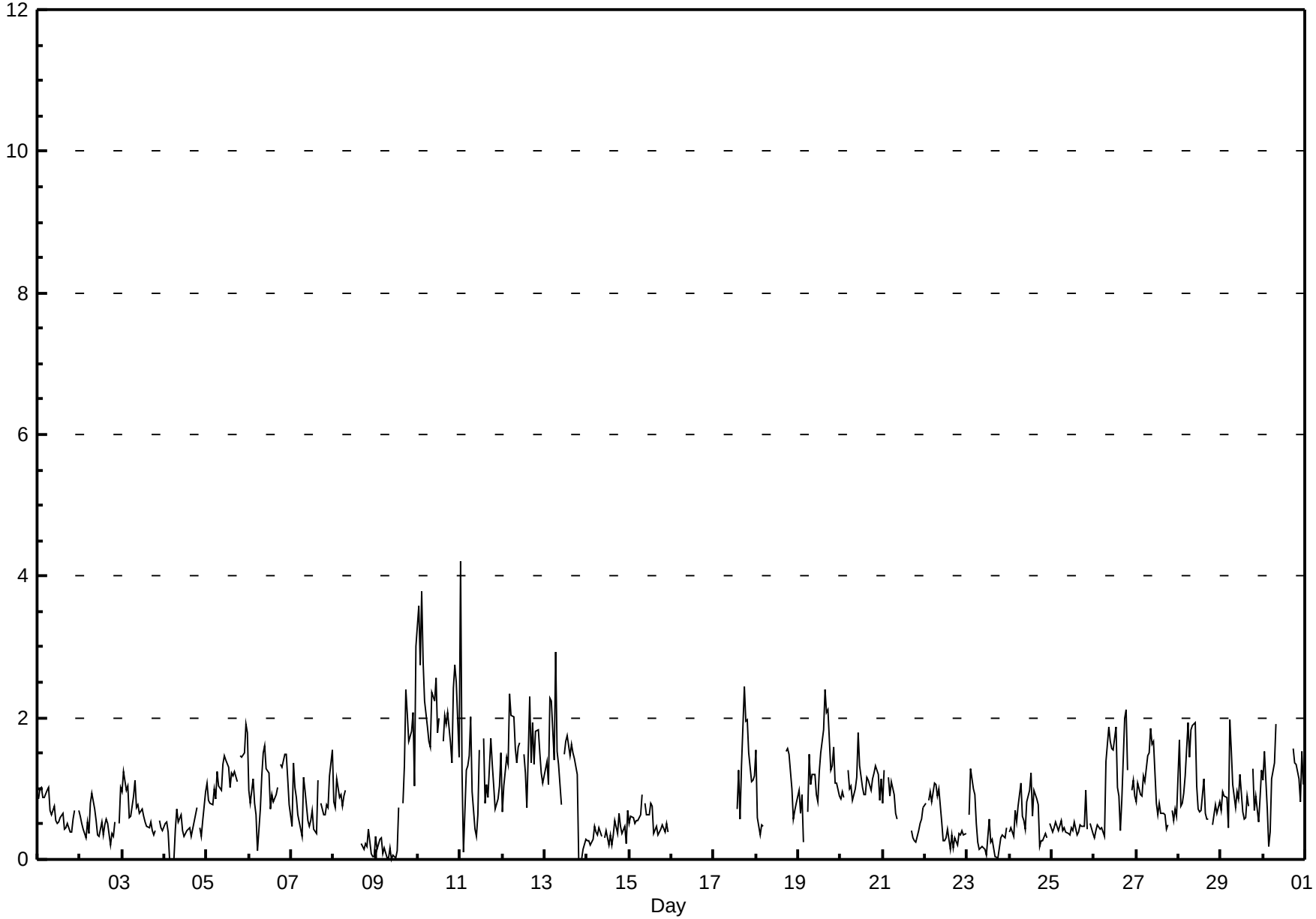
C - Calibration P - Power Failure M - Maintenance N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - June 2011

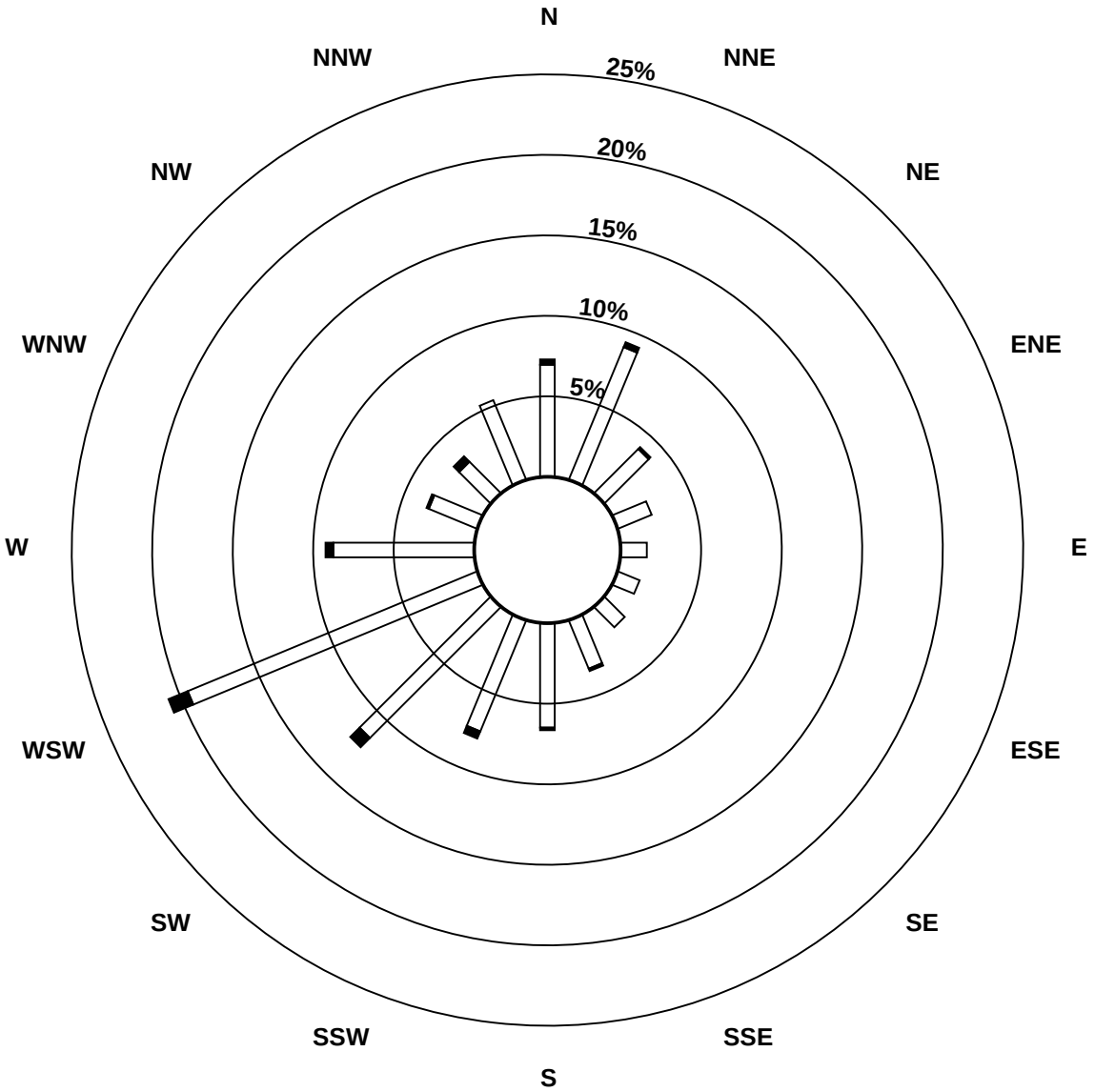


Peace Airshed Zone Association

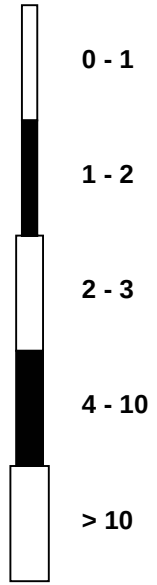
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - June 2011



Pollutant Classes (ppb)

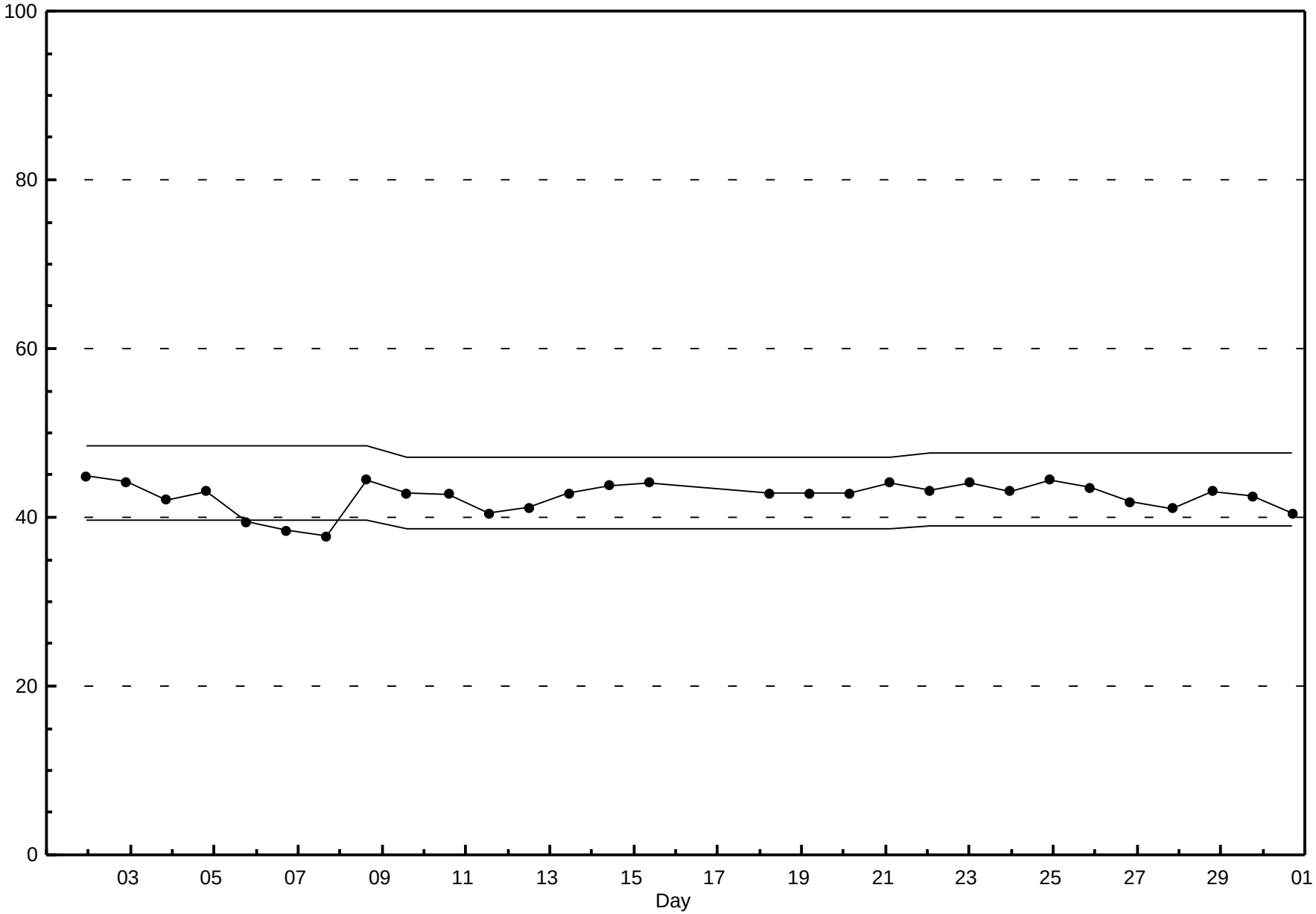


Peace Airshed Zone Association

Span Responses

Total Reduced Sulphur (TRS)

Smoky Heights - June 2011



Peace Airshed Zone Association

Hourly Averages

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

Smoky Heights - June 2011

Number of Exceedences: 1-hr: 0 24-hr: 0
Maximum Value: 42.2 $\mu g/m^3$ on Jun 2 18:00
Maximum Daily Average: 16.9 $\mu g/m^3$ on Jun 9

Minimum Value: 0 $\mu g/m^3$ on Jun 3 01:00
Maximum Diurnal Average: 7.3 $\mu g/m^3$ at hour 19
Monthly Average: 5.38 $\mu g/m^3$
Minimum Daily Average: 0.1 $\mu g/m^3$ on Jun 24
Minimum Diurnal Average: 4.1 $\mu g/m^3$ at hour 12
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 1.3 Median = 3.2 Q_3 = 7.1 P_{90} = 14.3 P_{99} = 24.9

Hours in Service:	720
Hours of Data:	671
Hours of Missing Data:	49
Hours of Calibration:	1
Percent Operational Time:	93.3

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	6	8	7	25	7	10	11	11	13	13	12	16	10	10	10	13	10	20	14	10	10	4	2	2	10.5	24.6
2-Jun	1	5	4	3	6	13	10	15	8	6	6	5	4	21	10	38	29	42	30	33	14	8	8	BD	13.9	42.2
3-Jun	0	BD	0	BD	BD	0	0	0	2	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0.2	1.6
4-Jun	0	0	0	0	0	0	0	2	0	0	1	1	1	3	4	3	4	4	9	7	4	3	1	3	2.1	9.3
5-Jun	1	2	2	2	2	2	2	2	4	2	1	0	5	0	4	3	0	2	4	1	1	2	0	0	1.8	4.9
6-Jun	0	0	0	0	1	8	8	6	4	0	0	BD	BD	0	BD	8	0	0	3	4	3	2	0	1	2.3	7.9
7-Jun	3	3	2	2	3	4	7	25	18	18	16	14	26	19	12	13	15	11	13	8	0	0	0	3	9.9	25.7
8-Jun	0	0	0	0	0	6	1	3	0	0	0	0	3	1	C	14	12	25	14	9	9	13	18	20	6.4	24.8
9-Jun	20	20	22	21	21	18	15	15	14	12	17	8	13	20	12	11	11	24	35	21	7	20	5	24	16.9	34.8
10-Jun	3	2	0	1	1	2	3	3	6	3	2	1	3	2	2	4	4	7	8	1	4	6	20	21	4.6	21.3
11-Jun	11	4	12	2	9	8	22	3	2	3	2	3	2	5	3	2	2	4	3	4	5	24	6	3	6.0	24.1
12-Jun	9	6	5	2	4	7	4	11	5	4	5	1	2	3	4	4	5	3	10	19	10	9	7	4	6.0	19.3
13-Jun	4	4	4	5	7	7	6	5	7	6	6	5	3	2	2	7	5	2	7	3	2	6	3	4	4.8	7.3
14-Jun	4	3	2	2	1	1	2	3	3	3	2	4	5	4	0	0	1	0	0	1	3	3	2	1	2.0	4.9
15-Jun	1	1	1	1	1	2	2	2	4	5	5	3	6	15	20	24	23	18	18	16	9	9	11	P	8.6	24.1
16-Jun	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
17-Jun	P	P	P	P	P	P	P	P	P	P	P	P	M	5	3	4	2	1	1	2	2	2	0	0	--	5.0
18-Jun	1	1	1	1	2	5	5	1	2	5	7	6	6	6	5	5	4	2	3	2	2	2	4	4	3.4	6.7
19-Jun	4	6	6	6	4	6	7	8	8	7	7	5	5	4	4	2	3	4	4	2	5	3	1	2	4.8	7.9
20-Jun	4	4	5	5	6	5	4	2	2	1	2	1	0	2	0	2	0	0	1	3	1	0	1	1	2.2	5.6
21-Jun	0	0	0	1	2	3	3	3	2	2	2	0	1	2	2	3	2	2	2	4	12	10	9	5	3.0	12.2
22-Jun	2	4	4	3	5	6	7	7	5	6	3	0	4	2	3	3	3	5	3	3	5	4	4	3	3.8	7.2
23-Jun	4	6	4	4	4	5	5	5	5	7	8	9	7	9	8	3	2	5	2	5	3	5	3	0	4.9	9.0
24-Jun	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.9
25-Jun	1	1	2	1	1	1	1	1	1	1	1	1	1	2	3	3	3	3	4	3	5	6	8	21	3.1	21.3
26-Jun	20	19	16	17	15	13	14	12	12	13	11	12	13	12	11	8	8	8	10	16	15	16	15	15	13.4	20.4
27-Jun	18	20	21	19	21	20	19	13	11	11	10	7	7	7	7	8	11	8	9	7	9	7	7	7	11.8	21.3
28-Jun	2	2	1	0	1	4	3	3	5	3	3	2	1	2	5	2	1	0	2	0	0	BD	0	BD	1.9	4.7
29-Jun	0	0	0	0	0	3	2	0	0	1	3	BD	0	0	0	0	1	1	0	1	3	9	1	2	1.2	8.8
30-Jun	1	1	2	1	1	3	2	2	1	1	2	2	1	1	2	0	2	3	3	3	2	1	2	1	1.6	3.4
	4.3	4.5	4.4	4.7	4.6	5.8	5.9	5.8	5.1	4.7	4.8	4.1	4.8	5.5	5.0	6.4	5.7	7.1	7.3	6.5	5.0	6.2	4.7	5.6	Diurnal Average	
	20.4	20.3	21.8	24.6	20.8	20.3	22.0	25.3	17.8	18.3	16.9	15.6	25.7	20.7	20.0	37.7	29.4	42.2	34.8	33.2	14.9	24.1	20.4	24.2	Diurnal Maximum	

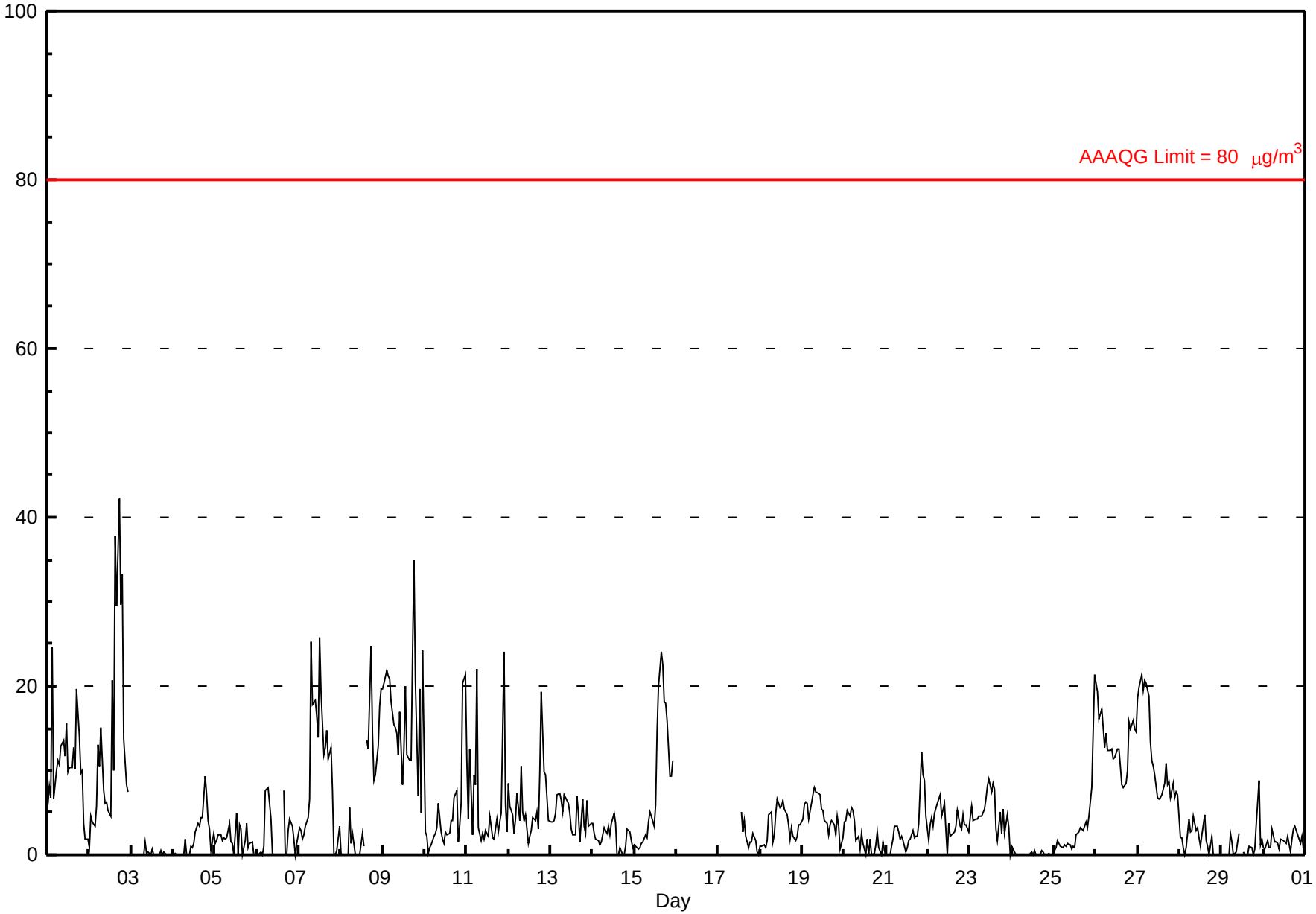
C - Calibration P - Power Failure M - Maintenance BD - Baseline Drift
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

Hourly Averages

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

Smoky Heights - June 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

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

Smoky Heights - June 2011

Maximum Value: 105.2 $\mu g/m^3$ on Jun 2 16:00

Maximum Daily Average: 35.9 $\mu g/m^3$ on Jun 9

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

Minimum Daily Average: 1.7 $\mu g/m^3$ on Jun 24

Maximum Diurnal Average: 17.2 $\mu g/m^3$ at hour 16

Minimum Diurnal Average: 7.9 $\mu g/m^3$ at hour 5

Monthly Average: 12.05 $\mu g/m^3$

Percentiles: $P_1 = 0.0$ $P_{10} = 2.4$ $Q_1 = 4.6$ Median = 7.9 $Q_3 = 15.0$ $P_{90} = 23.2$ $P_{99} = 81.4$

Hours in Service:	720
Hours of Data:	681
Hours of Missing Data:	39
Hours of Calibration:	1
Percent Operational Time:	94.7

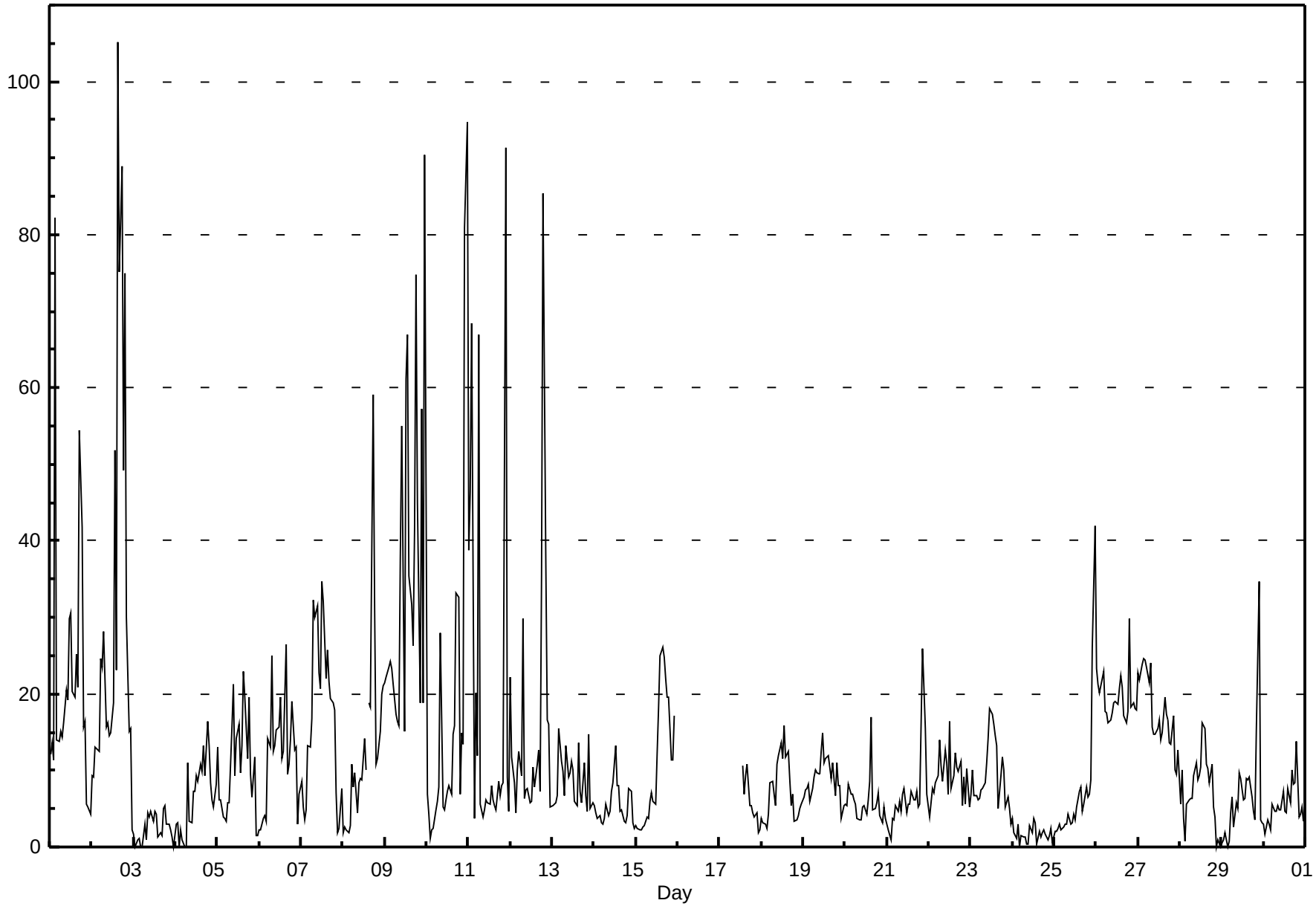
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	12	14	11	82	14	14	15	14	16	21	19	30	31	20	20	25	21	54	42	16	16	6	5	4	21.8	82.3
2-Jun	9	9	13	13	13	25	23	28	16	16	14	15	19	52	23	105	75	89	49	75	30	15	15	2	31.0	105.2
3-Jun	2	0	1	1	0	0	3	1	4	4	5	3	5	4	1	2	1	5	5	3	3	2	1	0	2.4	5.4
4-Jun	3	3	0	2	1	0	0	11	3	3	7	7	9	9	11	10	13	9	16	13	8	6	5	8	6.7	16.4
5-Jun	13	6	6	4	4	3	6	6	16	21	9	14	16	10	13	23	20	12	20	9	6	12	1	1	10.5	22.9
6-Jun	2	2	4	4	3	14	13	25	12	13	15	16	20	12	13	26	10	11	14	19	13	13	3	7	11.8	26.4
7-Jun	9	5	4	5	13	13	17	32	30	31	23	21	35	32	22	26	22	19	19	18	7	2	2	8	17.2	34.7
8-Jun	2	3	2	2	3	11	8	10	4	8	9	9	14	10	C	19	18	59	31	11	12	15	20	21	13.0	59.1
9-Jun	21	22	23	24	23	21	17	16	16	38	55	15	61	67	35	32	26	42	75	45	19	57	19	90	35.9	90.4
10-Jun	7	4	1	2	2	5	6	8	28	5	5	6	7	8	7	15	16	33	33	7	15	14	81	95	17.1	94.7
11-Jun	39	46	68	4	20	12	67	6	4	5	6	6	6	8	6	5	5	9	7	8	8	91	9	5	18.7	91.4
12-Jun	22	12	8	4	10	12	9	30	6	7	8	6	6	11	8	11	13	7	36	85	37	17	16	5	16.1	85.3
13-Jun	5	6	6	7	15	11	10	7	13	9	10	11	10	6	5	14	7	6	11	7	5	15	5	6	8.6	15.4
14-Jun	5	4	4	4	3	3	4	6	4	5	7	8	13	8	8	5	5	3	3	4	8	7	3	2	5.3	13.2
15-Jun	3	2	2	2	3	3	4	4	6	7	6	6	12	18	25	26	25	22	20	20	11	11	17	P	11.1	26.2
16-Jun	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
17-Jun	P	P	P	P	P	P	P	P	P	P	P	P	M	11	7	9	11	5	5	4	4	4	2	2	--	10.8
18-Jun	4	3	3	2	4	8	9	7	5	11	12	14	12	16	12	12	9	5	7	3	4	4	5	6	7.4	15.9
19-Jun	6	7	8	8	6	8	9	10	10	10	12	15	11	12	12	11	9	11	7	11	8	8	4	5	9.0	14.9
20-Jun	6	5	8	7	7	6	6	4	4	3	5	5	4	6	9	17	5	5	6	7	4	3	5	4	5.9	16.9
21-Jun	3	2	1	4	3	5	5	6	5	7	8	4	6	6	7	6	6	7	5	6	26	21	15	7	7.1	26.0
22-Jun	4	6	8	7	8	9	14	11	9	13	11	7	16	8	9	12	11	10	11	5	9	6	10	5	9.1	16.4
23-Jun	7	10	7	7	6	6	7	8	8	11	14	18	17	16	14	13	5	9	12	10	5	7	5	3	9.4	18.1
24-Jun	4	2	1	3	0	1	1	1	0	0	3	2	4	3	0	2	1	2	2	2	1	1	2	1	1.7	3.7
25-Jun	2	2	2	3	2	3	3	3	4	3	3	4	3	5	7	8	5	6	8	7	7	9	26	42	7.0	41.9
26-Jun	23	21	20	22	23	18	18	16	17	18	19	19	19	21	22	21	17	16	18	30	18	19	18	18	19.6	29.8
27-Jun	23	22	24	25	24	24	21	24	16	15	15	15	17	14	15	20	17	17	14	13	17	10	10	13	17.6	24.7
28-Jun	6	10	4	1	6	6	6	6	9	11	9	9	11	16	15	11	10	8	11	5	4	0	1	0	7.3	16.2
29-Jun	0	1	2	0	1	4	7	3	6	5	10	9	6	6	9	9	9	7	5	4	15	35	4	3	6.6	34.8
30-Jun	3	2	4	3	2	6	5	5	5	5	5	7	5	4	8	6	10	8	8	14	4	4	5	3	5.4	13.8
	8.7	8.3	8.7	9.0	7.9	9.0	11.1	10.9	9.9	10.9	11.6	10.8	14.0	14.4	12.3	17.2	13.8	17.1	17.2	15.9	11.2	14.3	10.9	13.1	Diurnal Average	
	38.8	46.5	68.4	82.3	24.5	24.7	67.0	32.2	30.0	37.9	55.0	29.9	61.1	67.0	35.4	105.2	75.2	88.9	74.8	85.3	36.9	91.4	80.9	94.7	Diurnal Maximum	

C - Calibration P - Power Failure M - Maintenance

Hourly Maximums

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

Smoky Heights - June 2011

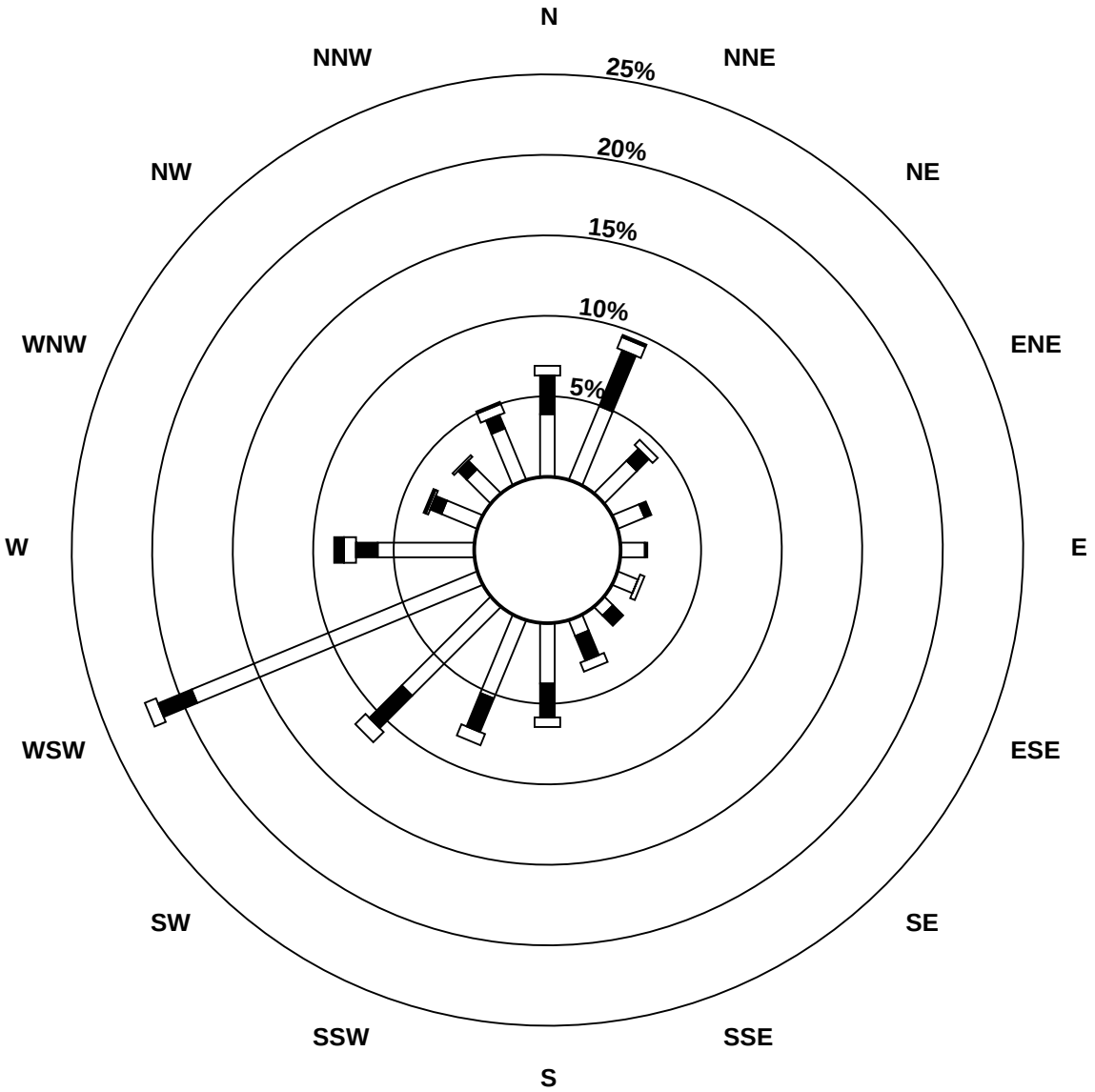


Peace Airshed Zone Association

Pollutant Rose

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

Smoky Heights - June 2011



Pollutant Classes ($\mu g/m^3$)

- 0 - 5
- 6 - 15
- 16 - 25
- 26 - 80
- > 80.0

Hourly Averages

External Temperature (ET) - °C

Smoky Heights - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 24.8 °C on Jun 22 15:00 Maximum Daily Average: 17.4 °C on Jun 22

Minimum Value: 0 °C on Jun 4 06:00 Minimum Daily Average: 2.1 °C on Jun 3
Maximum Diurnal Average: 17.5 °C at hour 16 Minimum Diurnal Average: 8.2 °C at hour 5
Monthly Average: 13.36 °C Percentiles: P_1 = 0.1 P_{10} = 7.5 Q_1 = 10.0 Median = 13.4 Q_3 = 17.1 P_{90} = 19.7 P_{99} = 24.0

Hours in Service:	720
Hours of Data:	683
Hours of Missing Data:	37
Hours of Calibration:	0
Percent Operational Time:	94.9

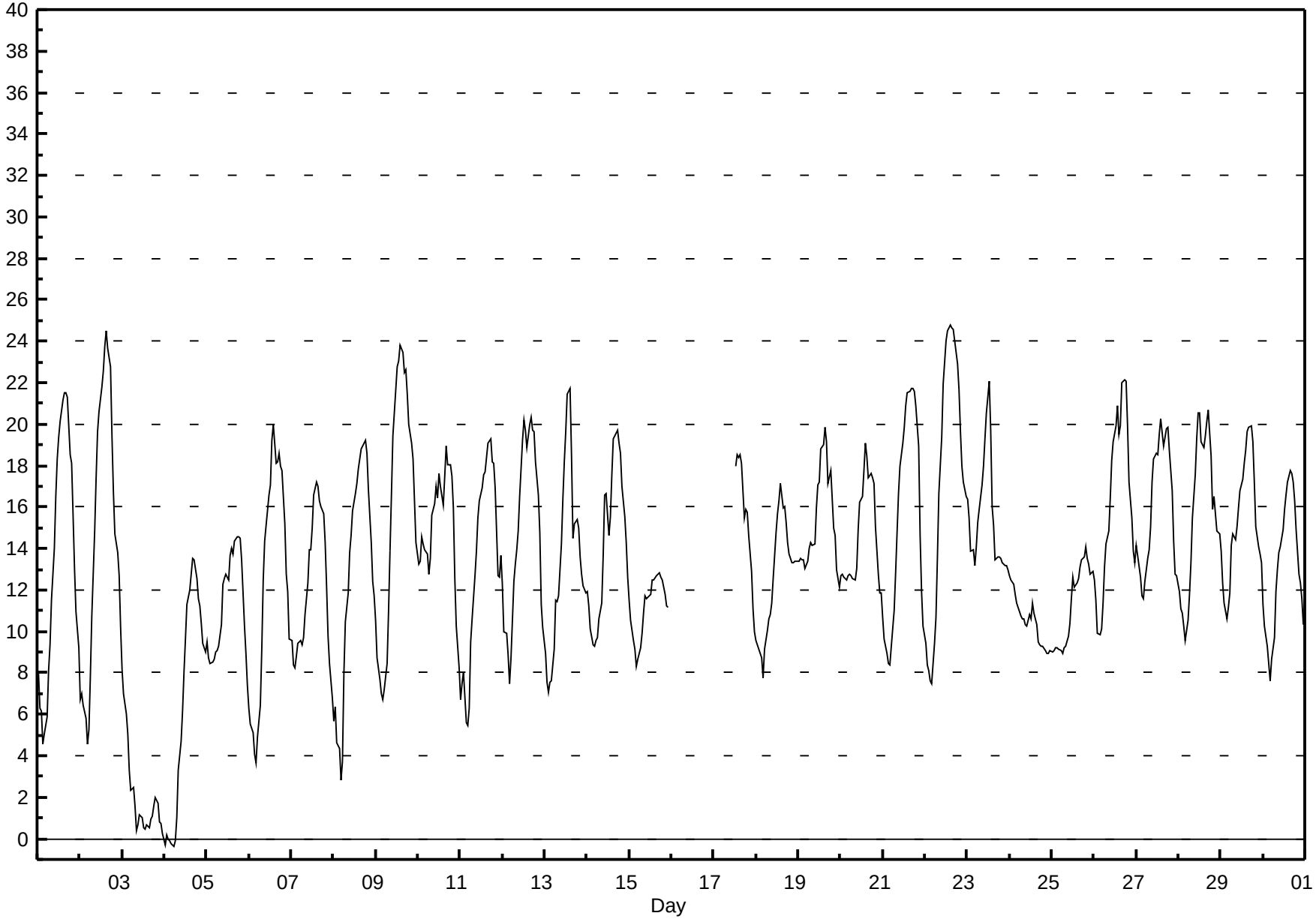
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jun	8	6	6	5	5	6	8	9	12	14	16	18	19	20	21	22	22	21	19	18	16	13	11	9	13.5	21.5
2-Jun	7	7	6	6	5	5	8	11	15	17	20	21	22	23	24	25	24	23	19	17	15	14	13	10	14.7	24.5
3-Jun	8	7	6	5	3	2	2	2	0	1	1	1	1	0	1	0	1	1	2	2	2	1	1	0	2.1	8.2
4-Jun	0	0	0	0	0	0	0	1	3	5	6	8	10	11	12	13	14	13	13	12	11	10	9	9	6.6	13.5
5-Jun	9	9	8	9	9	9	9	9	10	12	13	13	12	14	14	14	14	15	15	15	13	10	9	7	11.3	14.6
6-Jun	6	6	5	4	4	5	6	9	13	14	15	17	17	19	20	18	18	19	18	18	15	13	12	10	12.5	20.0
7-Jun	10	8	8	9	9	10	9	10	11	12	14	14	15	17	17	17	16	16	16	14	12	10	8	7	12.0	17.2
8-Jun	6	6	5	4	3	4	8	10	12	14	15	16	17	17	18	18	19	19	19	19	17	14	12	12	12.6	19.2
9-Jun	11	9	8	7	7	7	8	11	14	17	19	22	23	23	24	23	22	23	21	20	19	18	16	14	16.1	23.8
10-Jun	13	13	15	14	14	14	13	14	16	16	17	16	18	17	16	17	19	18	18	17	16	13	10	8	15.1	19.0
11-Jun	7	7	8	6	5	6	10	11	13	14	15	16	17	18	18	18	19	19	18	18	17	13	13	14	13.3	19.3
12-Jun	12	10	10	9	7	9	12	13	14	15	17	19	20	20	19	20	20	20	20	18	17	15	11	10	14.9	20.4
13-Jun	9	8	7	8	8	9	12	11	12	14	16	18	20	21	22	19	15	15	15	15	14	13	12	12	13.5	21.7
14-Jun	12	11	10	9	9	10	10	11	11	14	17	17	15	16	18	19	19	20	19	19	17	16	14	13	14.3	19.7
15-Jun	11	11	10	9	8	9	9	10	11	12	12	12	12	12	12	13	13	13	13	13	12	11	11	P	11.2	12.8
16-Jun	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
17-Jun	P	P	P	P	P	P	P	P	P	P	P	P	18	19	18	18	18	15	16	16	15	13	11	10	--	18.5
18-Jun	10	9	9	9	8	9	10	11	11	11	13	15	16	16	17	16	16	15	14	14	13	13	13	13	12.6	17.1
19-Jun	13	14	13	13	13	13	14	14	14	14	16	17	17	19	19	20	19	17	18	16	15	15	13	12	15.4	19.8
20-Jun	13	13	13	13	13	13	13	13	12	13	15	16	17	18	19	18	17	18	17	17	15	13	12	12	14.6	19.1
21-Jun	11	10	9	8	8	9	11	13	15	17	18	19	20	21	22	22	22	22	22	21	19	15	12	10	15.5	21.8
22-Jun	9	8	8	8	7	9	11	14	17	19	22	23	24	25	25	25	25	24	23	22	20	18	17	17	17.4	24.8
23-Jun	16	15	14	14	13	14	15	16	17	18	19	21	22	20	16	15	13	14	14	14	13	13	13	13	15.5	22.1
24-Jun	13	12	12	12	11	11	11	11	11	10	10	11	11	11	11	10	10	9	9	9	9	9	9	9	10.5	12.7
25-Jun	9	9	9	9	9	9	9	9	9	10	10	12	13	12	12	13	13	13	14	14	14	13	13	13	11.3	14.1
26-Jun	12	12	10	10	10	11	13	14	15	16	18	19	20	21	20	20	22	22	22	20	17	15	14	13	16.1	22.2
27-Jun	14	14	13	12	12	12	14	14	15	17	18	19	19	19	20	19	19	20	20	19	17	14	13	13	16.0	20.3
28-Jun	12	11	11	10	10	11	12	13	16	18	19	21	21	19	19	19	20	21	18	16	16	16	15	15	15.7	20.7
29-Jun	14	12	11	11	11	12	14	15	14	15	16	17	17	18	19	20	20	20	19	17	15	14	14	13	15.4	20.0
30-Jun	11	10	9	8	8	9	10	12	13	14	14	15	16	17	17	18	18	17	16	15	13	12	12	10	13.1	17.8
	10.2	9.6	9.1	8.5	8.2	8.8	10.0	11.0	12.3	13.7	15.1	16.1	16.7	17.3	17.5	17.5	17.5	17.3	16.8	15.9	14.6	13.0	11.8	11.0	Diurnal Average	
	16.4	15.5	14.5	14.2	14.0	14.0	15.2	15.9	17.1	19.3	21.9	23.0	24.0	24.5	24.8	24.7	24.6	24.0	22.9	21.6	19.6	18.3	17.2	16.5	Diurnal Maximum	

P - Power Failure

Hourly Averages

External Temperature (ET) - ^{o}C

Smoky Heights - June 2011



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Smoky Heights - June 2011

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1 Spd	3	3	2	4	5	6	6	5	8	10	9	6	7	7	5	5	9	11	23	15	20	13	10	7	7.1	22.9
Dir	254	223	263	243	251	242	178	172	135	146	155	171	151	227	147	142	193	195	179	175	154	167	183	252	179.5	178.9
2 Spd	5	6	7	7	5	8	9	9	12	8	6	9	8	7	0	3	12	25	33	26	17	9	16	17	6.6	32.8
Dir	199	203	197	225	218	196	192	184	230	235	217	200	222	230	157	345	274	269	266	299	328	287	1	12	261.5	266.0
3 Spd	19	20	17	16	15	12	12	11	9	11	12	11	9	7	7	7	9	7	6	4	6	8	5	6	7.7	20.4
Dir	12	22	29	13	21	23	24	358	8	358	4	26	25	2	345	313	303	343	347	316	228	216	208	176	5.2	22.3
4 Spd	5	6	6	N	N	N	N	10	10	10	9	8	9	6	7	8	6	6	7	6	4	2	2	6	5.6	10.1
Dir	181	169	175	N	N	N	N	143	153	166	176	171	160	183	192	239	249	226	229	207	179	116	205	244	185.7	165.7
5 Spd	9	3	6	7	9	13	10	7	8	9	11	13	12	8	9	11	9	10	11	9	8	7	8	4	7.2	12.5
Dir	321	69	225	214	233	244	291	343	300	318	312	309	290	278	253	276	276	282	261	257	236	234	270	238	275.2	244.2
6 Spd	6	7	5	5	5	4	5	4	7	5	6	10	7	6	5	16	12	8	7	7	6	6	5	4	1.0	16.2
Dir	226	252	227	215	202	129	179	172	178	167	196	236	304	25	355	356	33	47	5	23	17	33	48	18	351.9	355.7
7 Spd	7	5	6	9	10	12	15	15	20	19	22	21	20	23	23	21	19	19	17	15	12	8	6	4	14.4	22.8
Dir	358	24	1	11	1	9	15	21	21	18	26	21	27	24	20	18	15	11	13	10	20	29	16	357	17.2	24.3
8 Spd	5	6	6	5	1	1	0	3	3	3	3	2	3	9	8	8	8	11	10	8	9	11	11	11	3.4	11.2
Dir	341	337	315	334	335	259	236	109	106	85	116	15	197	196	190	186	197	180	182	171	142	150	154	162	171.8	162.5
9 Spd	10	5	5	7	8	10	12	11	10	13	11	13	14	14	17	22	21	20	22	14	17	18	8	8	11.2	22.1
Dir	166	215	229	217	205	211	200	180	172	224	225	223	238	250	251	265	267	260	271	256	269	274	242	220	240.1	264.5
10 Spd	10	11	17	16	20	27	21	18	29	33	31	32	30	26	22	18	17	16	19	18	16	12	10	5	19.4	33.4
Dir	217	225	252	256	243	244	239	231	244	248	247	242	247	254	255	242	231	206	222	247	251	249	262	259	242.8	247.8
11 Spd	9	15	15	12	4	2	2	3	2	3	5	5	5	5	9	6	5	3	5	6	5	6	8	11	1.8	15.4
Dir	256	251	266	270	323	224	122	81	51	184	203	0	291	321	350	359	82	6	94	32	27	44	60	76	329.5	265.6
12 Spd	3	4	2	10	8	8	6	12	14	13	9	5	5	9	20	12	13	9	8	8	9	3	8	8	6.8	20.1
Dir	67	225	126	259	257	263	211	179	180	180	177	188	184	234	273	245	265	226	192	180	229	217	201	206	218.8	272.6
13 Spd	5	5	6	6	7	3	5	7	4	3	10	14	8	4	4	19	14	11	7	7	6	5	1	3	5.1	18.9
Dir	242	209	186	224	248	271	162	188	213	187	203	228	243	143	109	154	148	271	167	184	174	139	171	242	194.6	153.5
14 Spd	2	4	5	11	15	18	19	17	17	18	17	11	11	6	11	18	21	26	25	19	14	14	23	18	13.7	25.9
Dir	336	205	210	240	261	255	253	246	247	248	271	298	344	347	279	271	253	242	237	243	262	257	258	254	256.6	241.7
15 Spd	20	20	19	18	15	12	12	15	11	11	15	15	12	12	15	14	17	18	20	12	12	15	14	P	11.3	20.3
Dir	252	249	246	254	252	255	250	260	254	288	301	307	325	343	357	353	328	324	326	347	356	344	339	P	298.7	252.0
16 Spd	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
Dir	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
17 Spd	P	P	P	P	P	P	P	P	P	P	P	P	10	8	13	15	15	16	6	6	6	4	5	5	--	16.0
Dir	P	P	P	P	P	P	P	P	P	P	P	P	30	51	60	67	90	100	112	69	76	37	27	1	--	100.3
18 Spd	6	5	5	5	7	7	8	8	10	12	11	12	12	12	11	10	12	10	10	11	13	13	11	11	9.1	12.9
Dir	14	10	359	9	29	16	25	38	35	33	20	34	19	18	11	23	13	357	4	2	340	343	342	336	10.7	340.3
19 Spd	12	11	8	8	7	6	7	5	4	6	7	9	11	10	13	11	9	5	5	8	4	2	4	4	4.3	13.3
Dir	342	353	16	10	5	26	23	26	36	341	30	62	81	73	69	66	84	113	220	287	283	179	273	268	30.9	68.7
20 Spd	6	8	3	9	9	4	9	14	13	16	18	16	16	8	9	12	14	14	11	7	8	6	7	8	9.9	17.6
Dir	276	267	227	258	282	235	254	254	260	261	258	253	267	289	274	281	268	258	274	266	266	277	254	257	263.8	258.3
21 Spd	10	13	14	13	14	13	15	19	23	24	25	24	26	24	23	23	22	18	18	12	7	6	9	9	16.6	26.5
Dir	274	262	254	261	255	249	235	234	244	245	248	251	254	240	242	255	251	248	237	251	245	243	257	256	248.6	254.0
22 Spd	7	8	7	7	6	8	7	6	8	4	3	5	2	3	5	8	9	10	12	12	9	8	10	13	1.5	12.5
Dir	244	192	210	235	222	208	192	198	234	236	48	116	135	66	117	133	84	52	47	52	41	15	22	27	90.9	27.2

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Smoky Heights - June 2011

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	13	10	9	8	8	9	11	14	15	12	11	6	7	8	4	11	1	9	10	4	3	3	5	9	4.9	14.8
Dir	40	44	37	25	27	38	38	47	53	41	32	11	321	357	319	246	284	174	250	92	174	166	9	347	26.8	52.7
24 Spd	8	8	3	9	13	13	17	19	23	29	30	31	30	29	25	26	29	26	20	19	18	16	14	17	17.3	30.9
Dir	39	57	12	255	263	257	253	248	248	253	247	243	244	244	222	220	216	216	211	212	205	206	221	247	234.9	243.1
25 Spd	16	15	9	5	5	6	7	9	11	11	10	8	9	6	7	11	14	12	10	11	14	12	14	5	8.5	16.4
Dir	248	251	253	314	312	340	327	326	324	327	320	343	342	339	300	274	276	286	280	281	289	283	275	11	295.5	248.1
26 Spd	9	14	6	6	2	0	4	9	10	10	5	2	3	3	2	4	1	3	3	7	8	5	3	3	1.1	13.7
Dir	282	271	198	188	261	16	351	347	1	11	1	293	214	247	284	225	353	166	94	110	152	157	236	197	274.6	271.4
27 Spd	4	5	4	2	3	1	3	7	5	3	7	12	11	10	9	9	9	10	9	9	7	4	2	7	4.5	12.2
Dir	192	240	245	0	339	43	40	39	20	34	16	4	13	15	20	359	15	19	39	57	46	29	306	231	16.3	3.9
28 Spd	2	9	4	8	7	5	8	10	11	12	12	15	17	15	16	11	12	13	14	14	16	17	19	21	11.2	21.3
Dir	237	174	228	213	198	199	193	198	211	219	205	205	218	247	266	243	241	224	212	200	228	246	235	243	223.4	243.0
29 Spd	19	12	8	14	17	12	17	19	14	16	16	23	25	22	24	24	22	23	24	22	17	17	19	22	18.3	24.9
Dir	239	232	247	220	201	209	229	230	227	226	232	242	243	237	236	233	234	247	243	245	255	251	242	245	236.3	243.0
30 Spd	20	20	19	14	13	11	14	28	34	37	37	33	34	34	31	32	32	31	28	28	22	25	22	22	25.7	37.1
Dir	260	249	237	233	243	257	238	236	237	243	245	239	242	245	249	248	246	251	244	249	242	246	245	247	244.6	245.4
Spd	4.4	4.4	4.3	5.5	5.2	4.7	4.4	4.4	5.4	6.4	6.4	6.5	6.2	5.5	5.5	6.1	6.2	7.0	7.3	5.1	4.3	4.3	4.7	4.7	Diurnal Average	
Dir	272.0	254.1	250.3	257.9	258.7	254.1	245.7	236.2	244.2	254.1	257.5	258.8	264.7	269.9	272.7	263.0	258.3	253.4	247.0	255.6	254.4	255.8	263.9	260.8		
Spd	20.3	20.4	19.3	18.1	20.4	27.3	20.7	27.5	34.0	36.9	37.1	33.5	33.7	34.0	31.0	31.8	31.6	30.9	32.8	28.3	21.6	25.2	22.7	22.0	Diurnal Maximum	
Dir	252.0	22.3	236.7	253.7	243.1	244.1	239.1	236.3	237.4	242.9	245.4	239.4	242.1	245.3	248.8	248.2	246.4	250.6	266.0	249.1	242.4	246.2	258.1	247.1		

Maximum Speed Value: 37 km/h on Jun 30 11:00
Minimum Speed Value: 0 km/h on Jun 2 15:00
Maximum Daily Speed Average: 25.7 km/h on Jun 30
Minimum Daily Speed Average: 1.0 km/h on Jun 26
Maximum Diurnal Speed Average: 7.3 km/h at hour 19
Minimum Diurnal Speed Average: 4.3 km/h at hour 21

Monthly Average Velocity: 5.32 km/h 256.97 deg
Speed Percentiles: P_1 = 0.9 P_{10} = 3.9 Q_1 = 6.2 Median = 9.4 Q_3 = 14.7 P_{90} = 21.1 P_{99} = 33.3
All monthly, daily, and diurnal averages have been calculated using vector methods

Hours in Service:	720
Hours of Data:	679
Hours of Missing Data:	41
Percent Operational Time:	94.3

P - Power Failure N - Not Valid

Frequency Distribution

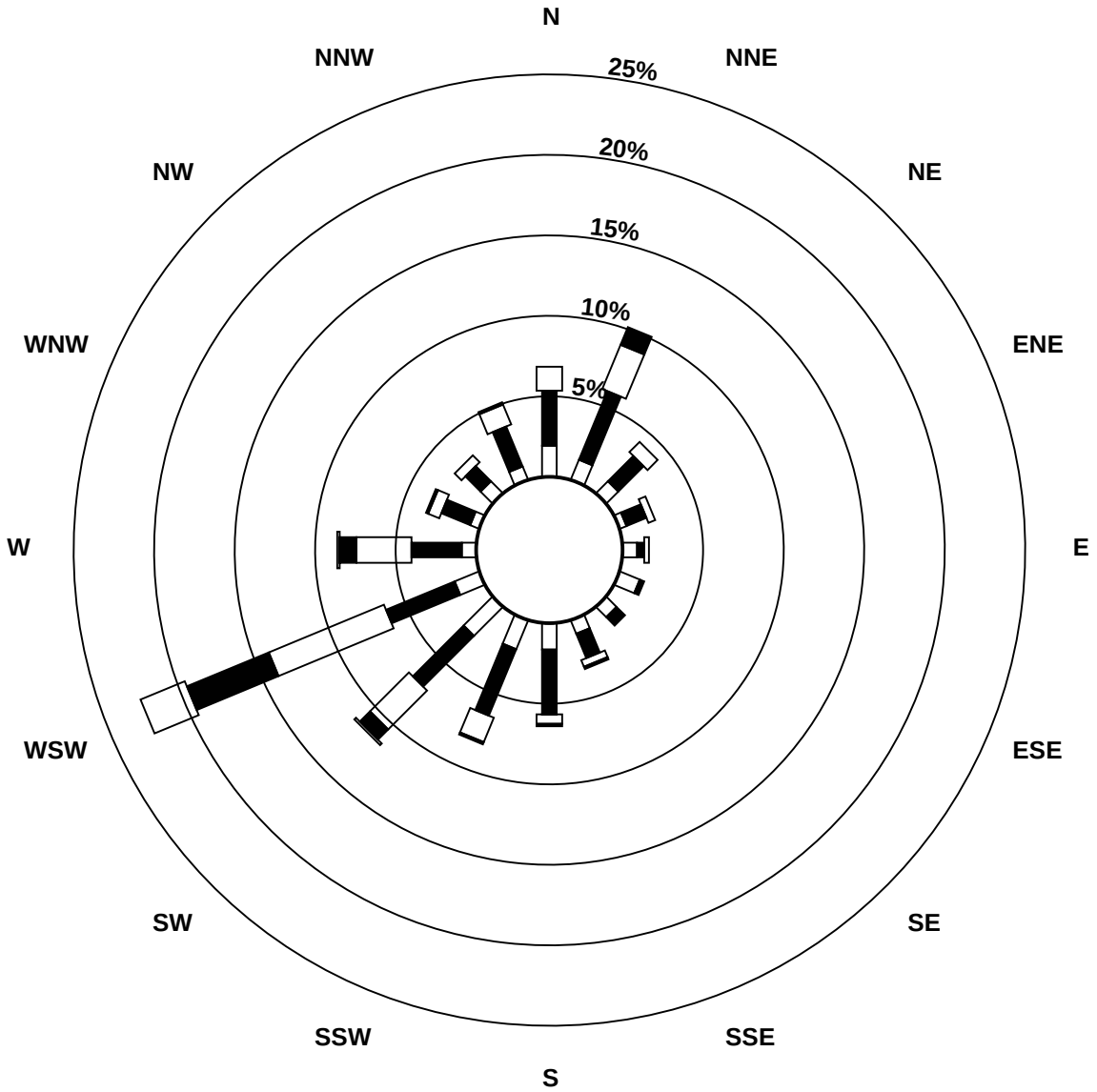
Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	17	53	30	8	0	0	108
NorthEast	11	40	16	3	0	0	70
East	8	10	4	0	0	0	22
SouthEast	12	14	2	1	0	0	29
South	15	56	10	1	0	0	82
SouthWest	26	57	46	36	17	0	182
West	10	47	63	21	7	0	148
NorthWest	8	19	9	2	0	0	38
Total	107	296	180	72	24	0	679

Peace Airshed Zone Association

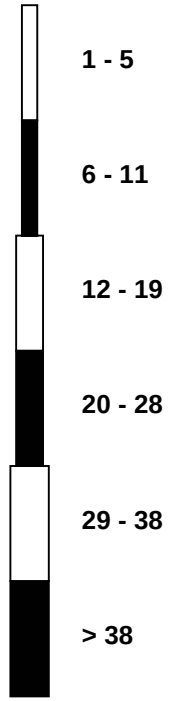
Wind Rose

Wind Speed (WS) (km/h)

Smoky Heights - June 2011



Wind Speed Classes (km/h)



Peace Airshed Zone Association

Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Smoky Heights - June 2011

Maximum Speed: 37 km/h on Jun 30 11:00

Maximum Daily Speed Average: 26.1 km/h on Jun 30

Minimum Speed: 2 km/h on Jun 14 01:00

Minimum Daily Speed Average: 6.4 km/h on Jun 26

Maximum Diurnal Speed Average: 14.7 km/h at hour 16

Minimum Diurnal Speed Average: 8.6 km/h at hour 3

Monthly Average Speed: 11.84 km/h

Percentiles: P_1 = 3.4 P_{10} = 4.9 Q_1 = 6.8 Median = 10.2 Q_3 = 15.0 P_{90} = 21.4 P_{99} = 33.7

Hours in Service: 720

Hours of Data: 679

Hours of Missing Data: 41

Percent Operational Time: 94.3

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	4	3	3	4	5	6	7	6	9	10	10	8	9	9	7	8	10	12	23	15	21	13	10	7	9.2	23.0
2-Jun	6	7	7	7	6	8	9	9	13	9	7	10	10	9	9	9	13	25	33	28	17	10	17	18	12.2	33.0
3-Jun	19	21	18	16	16	12	12	11	9	11	12	11	9	7	8	8	9	7	6	5	6	8	5	6	10.5	20.7
4-Jun	5	6	7	N	N	N	N	10	11	11	10	9	10	8	9	9	7	7	7	7	5	4	5	6	7.6	10.7
5-Jun	10	5	6	7	9	13	13	7	8	10	12	13	12	10	11	11	9	10	11	9	8	8	9	6	9.4	12.8
6-Jun	7	7	6	5	6	4	5	5	8	6	7	11	8	8	7	17	13	9	7	8	6	6	6	5	7.3	17.1
7-Jun	7	5	6	9	10	13	15	15	20	20	23	22	20	23	23	21	19	19	17	15	12	9	6	4	14.8	23.3
8-Jun	5	6	6	5	4	3	3	4	4	5	6	6	8	10	12	11	9	12	11	9	9	11	11	11	7.5	11.8
9-Jun	10	5	5	7	8	10	12	11	10	13	12	13	16	15	18	23	21	20	22	15	18	18	9	8	13.4	22.6
10-Jun	11	11	17	16	20	27	21	19	29	34	31	32	30	26	22	18	18	16	20	19	16	12	11	6	20.2	33.8
11-Jun	9	15	16	13	6	3	5	4	4	6	7	8	7	10	9	8	7	5	6	6	5	7	8	11	7.7	15.5
12-Jun	4	7	3	10	8	8	7	12	14	13	10	8	10	12	20	12	14	10	8	8	10	4	9	8	9.5	20.5
13-Jun	6	5	7	6	8	5	5	7	5	6	11	14	9	8	6	20	14	12	8	7	7	5	4	4	7.8	19.9
14-Jun	2	5	5	12	15	18	19	17	17	18	17	12	12	6	13	19	21	26	25	19	14	15	23	18	15.3	26.2
15-Jun	20	20	19	18	15	13	12	15	12	12	15	16	13	12	16	15	17	18	20	14	12	15	14	P	15.3	20.4
16-Jun	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--	--
17-Jun	P	P	P	P	P	P	P	P	P	P	P	P	11	9	13	16	17	17	8	6	6	5	5	5	--	16.7
18-Jun	6	5	5	5	7	7	8	8	11	12	12	12	12	12	11	11	13	10	10	11	13	13	12	11	9.9	13.1
19-Jun	12	11	8	8	7	7	7	6	4	6	7	10	13	11	14	11	10	10	5	8	4	5	5	5	8.1	13.7
20-Jun	6	8	6	9	9	4	9	14	13	16	18	16	16	8	12	14	14	14	11	7	8	7	8	9	10.7	17.9
21-Jun	10	13	14	13	14	13	16	19	23	24	26	24	27	24	23	24	23	18	18	12	7	6	9	9	17.0	26.9
22-Jun	7	8	8	7	6	9	8	6	8	5	5	6	5	6	6	9	10	11	12	13	9	9	10	13	8.1	12.8
23-Jun	13	10	9	8	8	9	11	15	15	13	12	8	8	10	8	13	5	10	13	4	4	5	6	10	9.4	15.0
24-Jun	8	8	5	9	13	13	17	19	23	29	30	31	30	30	25	26	29	26	21	19	18	16	15	17	19.9	31.1
25-Jun	17	15	10	6	5	6	7	10	11	11	11	9	10	7	8	11	14	12	11	11	14	12	15	10	10.5	16.5
26-Jun	9	14	7	7	5	4	5	9	11	11	6	4	5	5	5	5	4	4	4	7	8	5	3	4	6.4	13.8
27-Jun	5	6	5	4	4	3	4	8	5	4	8	13	12	11	10	9	10	10	9	9	7	5	4	7	7.1	12.6
28-Jun	5	10	5	8	7	5	8	10	11	12	13	16	18	15	16	11	12	14	15	14	16	17	19	21	12.5	21.4
29-Jun	19	12	10	14	17	13	17	19	14	16	16	23	25	23	24	25	23	23	24	22	18	17	19	22	18.9	25.1
30-Jun	20	20	19	14	13	11	15	28	34	37	37	34	34	34	31	32	32	31	29	28	22	25	22	22	26.1	37.3
	9.4	9.5	8.6	9.2	9.3	9.2	10.1	11.5	12.7	13.5	13.9	14.2	14.1	13.0	13.6	14.7	14.4	14.5	14.3	12.3	11.0	10.0	10.3	10.1	Diurnal Average	
	20.4	20.7	19.5	18.2	20.5	27.5	20.9	27.7	34.3	37.2	37.3	33.7	34.1	34.4	31.5	32.2	32.0	31.3	33.0	28.4	21.6	25.3	22.8	22.2	Diurnal Maximum	

P - Power Failure N - Not Valid

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

Peace Airshed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Smoky Heights - June 2011

Maximum Value: 95.5 deg on Jun 2 15:00

Minimum Value: 3.2 deg on Jun 14 07:00

Percentiles: P_1 = 3.9 P_{10} = 6.5 Q_1 = 9.2 Median = 13.6 Q_3 = 26.1 P_{90} = 51.4 P_{99} = 84.9

Hours in Service:	720
Hours of Data:	679
Hours of Missing Data:	41
Hours of Calibration:	0
Percent Operational Time:	94.3

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	59	21	37	14	8	11	24	21	20	15	23	50	44	40	61	64	30	35	7	11	9	5	12	9	64.0
2-Jun	38	11	16	11	20	9	5	12	20	28	34	29	29	50	95	80	33	13	7	23	13	27	20	14	95.5
3-Jun	9	9	8	11	10	10	11	13	10	12	15	11	11	18	14	19	7	15	22	31	25	9	22	10	30.6
4-Jun	15	13	22	N	N	N	N	17	18	19	23	27	32	45	52	24	41	42	14	35	52	78	60	20	77.6
5-Jun	29	56	28	12	6	8	41	13	21	21	19	12	13	30	42	35	19	18	16	13	14	25	10	44	56.0
6-Jun	14	11	23	23	34	23	17	20	18	38	32	29	46	51	54	20	14	19	23	18	9	15	17	12	54.3
7-Jun	15	24	11	8	11	11	8	8	8	11	12	12	9	13	11	12	12	12	14	10	9	11	10	12	24.1
8-Jun	22	9	9	10	87	85	87	42	63	71	69	85	73	42	47	60	42	26	22	17	10	4	5	3	87.2
9-Jun	5	22	9	13	5	4	11	8	10	15	19	19	31	20	16	13	10	9	6	10	8	6	26	15	30.6
10-Jun	12	14	8	5	6	7	8	7	10	9	9	7	9	9	7	15	15	16	17	9	13	11	22	37	37.2
11-Jun	17	9	8	6	40	58	90	56	79	63	61	58	57	63	24	53	39	52	35	21	10	20	13	10	90.1
12-Jun	67	62	52	7	9	12	19	9	10	14	24	61	65	40	11	22	15	26	15	7	16	60	14	13	67.2
13-Jun	25	31	24	14	23	60	32	12	38	80	24	13	39	75	64	20	12	39	35	11	28	14	94	56	93.8
14-Jun	41	30	27	12	5	3	3	5	5	8	14	31	27	27	33	18	12	9	8	7	19	19	5	6	41.4
15-Jun	6	4	5	5	4	6	8	5	9	20	10	11	13	11	14	12	16	9	7	31	13	11	15	P	30.9
16-Jun	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	--
17-Jun	P	P	P	P	P	P	P	P	P	P	P	P	16	29	16	12	29	19	33	11	11	18	7	13	33.0
18-Jun	16	15	10	11	8	12	10	12	12	10	15	16	15	14	17	15	13	12	13	10	10	11	9	10	16.6
19-Jun	10	12	9	10	9	17	14	16	30	23	24	21	28	26	13	19	24	67	21	18	34	78	50	39	77.6
20-Jun	19	13	68	14	22	48	9	5	5	7	10	11	14	44	53	49	9	6	6	8	11	20	28	13	68.1
21-Jun	17	6	3	5	4	5	7	7	7	10	10	11	11	12	12	10	10	12	6	6	9	13	9	9	16.6
22-Jun	19	13	13	20	14	17	10	17	18	51	48	46	82	68	58	39	18	16	9	6	10	10	9	11	82.3
23-Jun	9	12	8	9	6	11	8	7	8	12	17	42	36	47	56	36	82	29	39	27	47	56	18	24	82.4
24-Jun	11	13	58	14	10	11	4	5	4	6	5	6	5	7	10	8	5	7	7	8	6	7	12	6	58.3
25-Jun	6	4	35	26	20	14	11	19	11	11	15	22	22	19	25	9	9	10	13	7	5	7	24	54	53.7
26-Jun	13	5	38	29	81	85	48	14	15	16	35	78	65	70	71	30	90	53	37	9	10	19	56	33	90.3
27-Jun	40	21	27	63	43	85	25	21	36	57	32	15	17	20	23	20	19	18	13	9	8	16	57	25	84.8
28-Jun	76	31	28	11	9	11	9	8	12	12	13	14	9	15	10	18	15	19	15	7	7	5	5	5	76.0
29-Jun	7	9	33	15	6	14	8	9	9	10	7	8	7	9	10	11	13	9	8	7	7	8	6	5	33.0
30-Jun	8	6	8	8	16	8	8	6	8	6	7	7	9	9	10	10	9	9	7	6	5	5	5	6	15.5
	76.0	61.9	68.1	62.7	87.2	85.4	90.1	55.8	78.8	79.6	68.8	84.8	82.3	75.2	95.5	80.1	90.3	66.7	38.6	35.2	51.6	77.6	93.8	56.3	

P - Power Failure N - Not Valid

PAZA
Beaverlodge Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 18.2 ppb on Jun 19 10:00 Maximum Daily Average: 1.5 ppb on Jun 18

Minimum Value: 0 ppb on Jun 3 10:00
Maximum Diurnal Average: 0.8 ppb at hour 10
Monthly Average: 0.27 ppb

Minimum Daily Average: 0.0 ppb on Jun 10
Minimum Diurnal Average: 0.1 ppb at hour 22
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.2 P_{90} = 0.4 P_{99} = 3.3

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	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	2	1	0	A	0	0	0	0	1	1	1	1	0	0	1	1	1	0	0	0	0	1	1	0.6	1.6
2-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	2.0
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	0.3
4-Jun	0	0	0	1	A	1	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	3.6
5-Jun	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
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	0.3
7-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
8-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0.3	0.6
9-Jun	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
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	0.0	0.1
11-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0.3	4.6
12-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0.2	0.9
13-Jun	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
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	0.1
15-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
16-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.2	0.7
17-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	0.2	0.5
18-Jun	0	0	0	0	A	0	0	0	0	0	0	1	2	1	5	7	7	4	1	1	2	1	0	0	1.5	7.2
19-Jun	0	0	0	0	A	0	0	3	9	18	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1.5	18.2
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	0.2
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	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0.3	1.1
23-Jun	0	1	2	2	A	1	1	1	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0.5	2.4
24-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
25-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	0.2
26-Jun	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
27-Jun	0	0	0	0	A	0	0	0	0	0	C	C	C	C	C	C	0	0	0	0	0	0	0	0	--	0.4
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	0.0	0.1
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	0.0	0.2
30-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
	0.2	0.2	0.2	0.2	--	0.1	0.3	0.3	0.5	0.8	0.3	0.3	0.2	0.2	0.3	0.4	0.4	0.4	0.1	0.1	0.2	0.1	0.2	0.2	Diurnal Average	
	2.0	1.6	2.4	1.8	--	0.9	3.6	2.9	9.2	18.2	2.5	1.3	2.1	0.9	5.0	7.1	7.2	4.6	0.6	1.0	2.5	1.0	1.1	1.2	Diurnal Maximum	

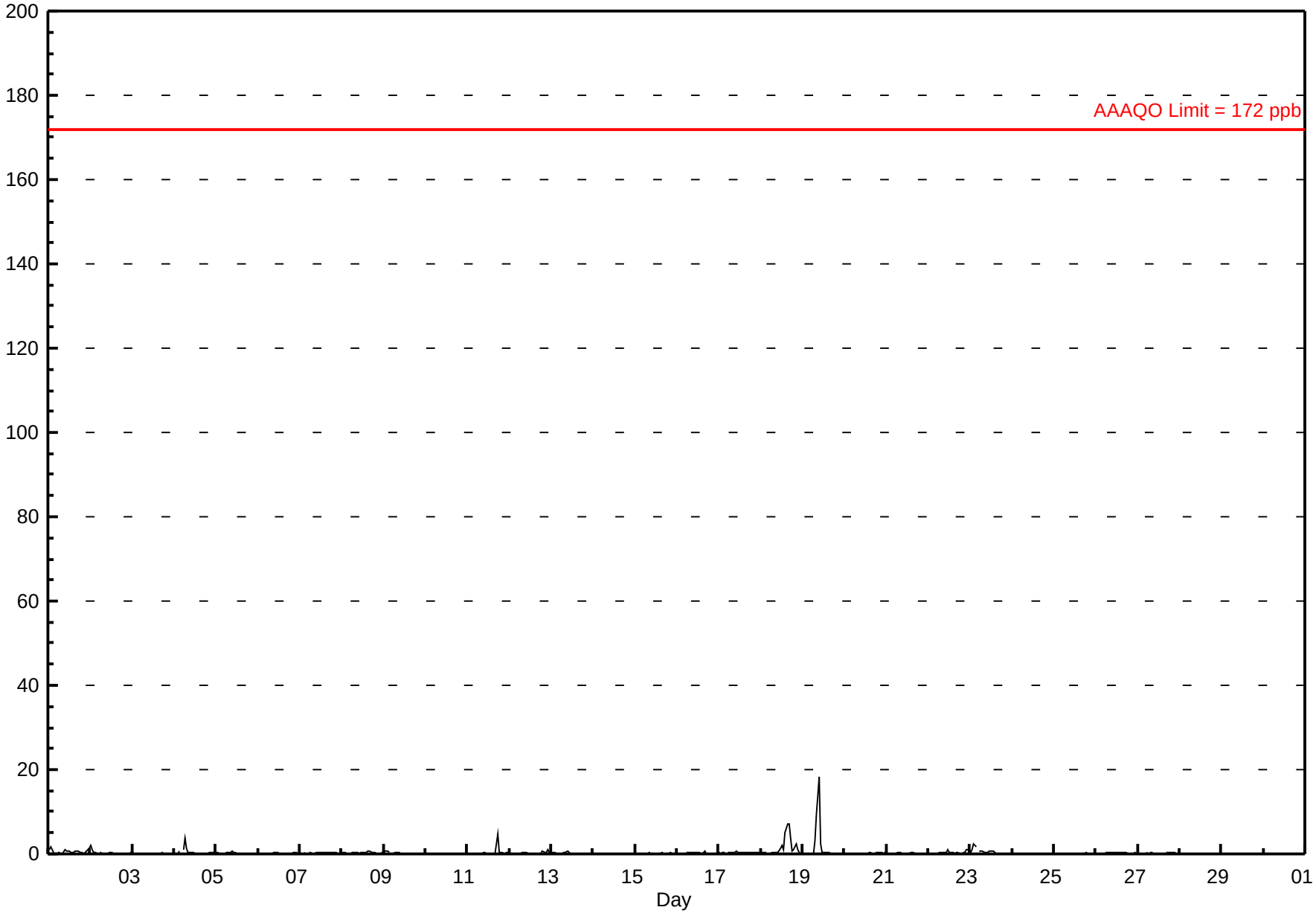
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - June 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - June 2011

Maximum Value: 23.9 ppb on Jun 19 10:00

Maximum Daily Average: 3.8 ppb on Jun 18

Minimum Value: 0 ppb on Jun 25 01:00

Minimum Daily Average: 0.1 ppb on Jun 10

Maximum Diurnal Average: 1.3 ppb at hour 10

Minimum Diurnal Average: 0.4 ppb at hour 24

Monthly Average: 0.60 ppb

Percentiles: $P_1 = 0.1$ $P_{10} = 0.1$ $Q_1 = 0.2$ Median = 0.3 $Q_3 = 0.4$ $P_{90} = 0.8$ $P_{99} = 12.6$

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	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	4	2	1	A	1	0	0	0	4	1	1	1	1	1	1	1	1	0	0	0	1	1	2	1.2	3.8
2-Jun	2	2	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	2.5
3-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.3	0.9
4-Jun	0	0	1	2	A	4	6	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.9	6.0
5-Jun	0	0	0	0	A	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
6-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.2	0.5
7-Jun	0	0	0	0	A	1	1	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0.4	0.9
8-Jun	0	0	0	0	A	0	0	1	1	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0.5	0.9
9-Jun	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.2
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	0.1	0.2
11-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	13	2	0	0	0	0	0	0.9	12.9
12-Jun	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	1	0	0.5	2.2
13-Jun	1	1	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
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	0.2	0.3
15-Jun	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
16-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	1.1
17-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	0.4	0.8
18-Jun	0	0	0	0	A	0	1	1	1	0	1	3	5	1	11	15	20	15	2	2	4	3	1	0	3.8	20.2
19-Jun	0	0	0	0	A	0	0	6	16	24	14	1	1	1	1	0	0	0	0	0	0	0	0	0	2.9	23.9
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	0.2	0.4
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	0.3	0.4
22-Jun	0	0	0	0	A	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	1	1	2	2	0.7	3.3
23-Jun	1	2	4	3	A	1	1	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.9	4.1
24-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
25-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
26-Jun	0	0	0	0	A	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7
27-Jun	0	0	0	0	A	0	0	1	1	1	C	C	C	C	C	C	0	0	0	0	0	0	0	0	--	0.7
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	0.2
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	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
	0.4	0.5	0.5	0.4	--	0.4	0.5	0.7	0.9	1.3	0.9	0.6	0.5	0.4	0.7	0.8	1.0	1.2	0.4	0.4	0.4	0.4	0.4	0.4	Diurnal Average	
	3.0	3.8	4.1	3.0	--	4.1	6.0	6.0	15.8	23.9	13.6	3.3	5.1	1.4	11.4	14.6	20.2	14.9	2.1	2.2	4.4	2.7	2.5	2.4	Diurnal Maximum	

C - Calibration

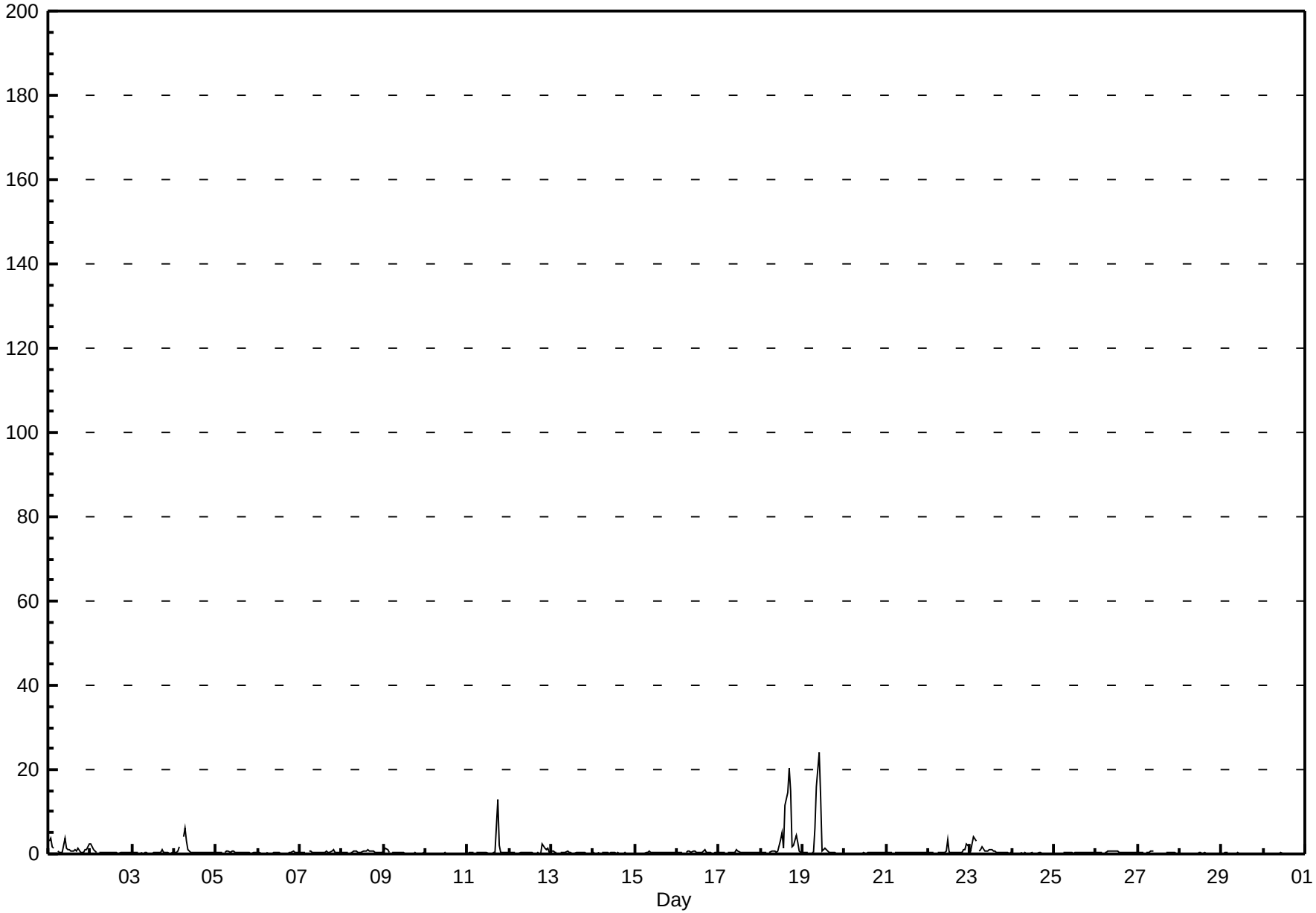
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - June 2011

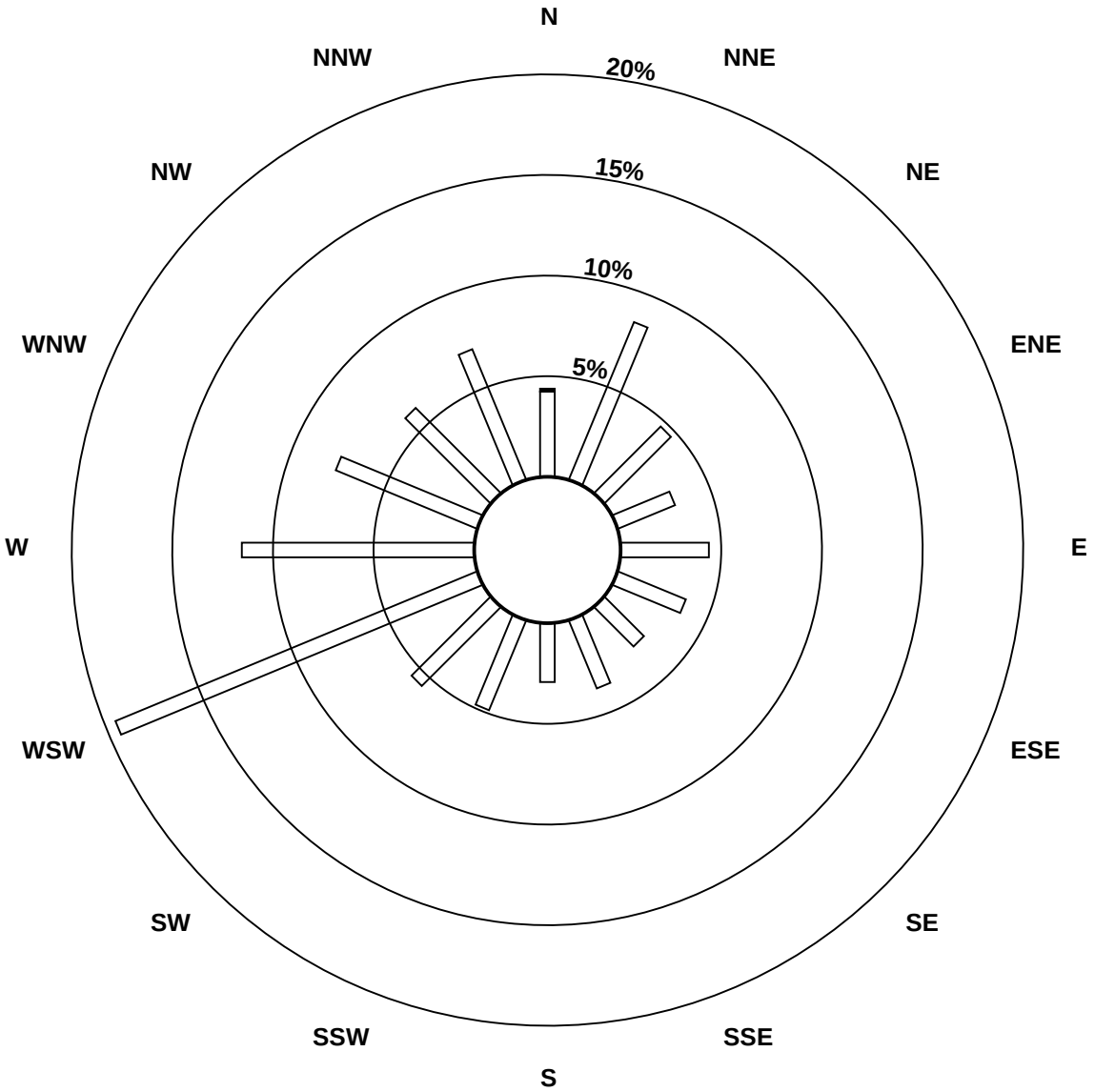


Peace Airshed Zone Association

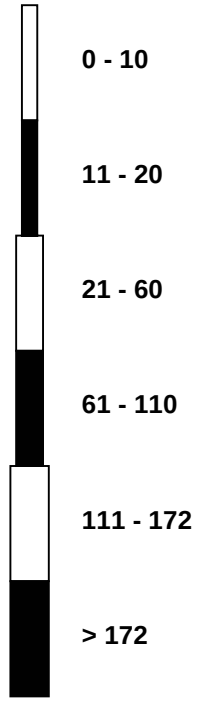
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - June 2011



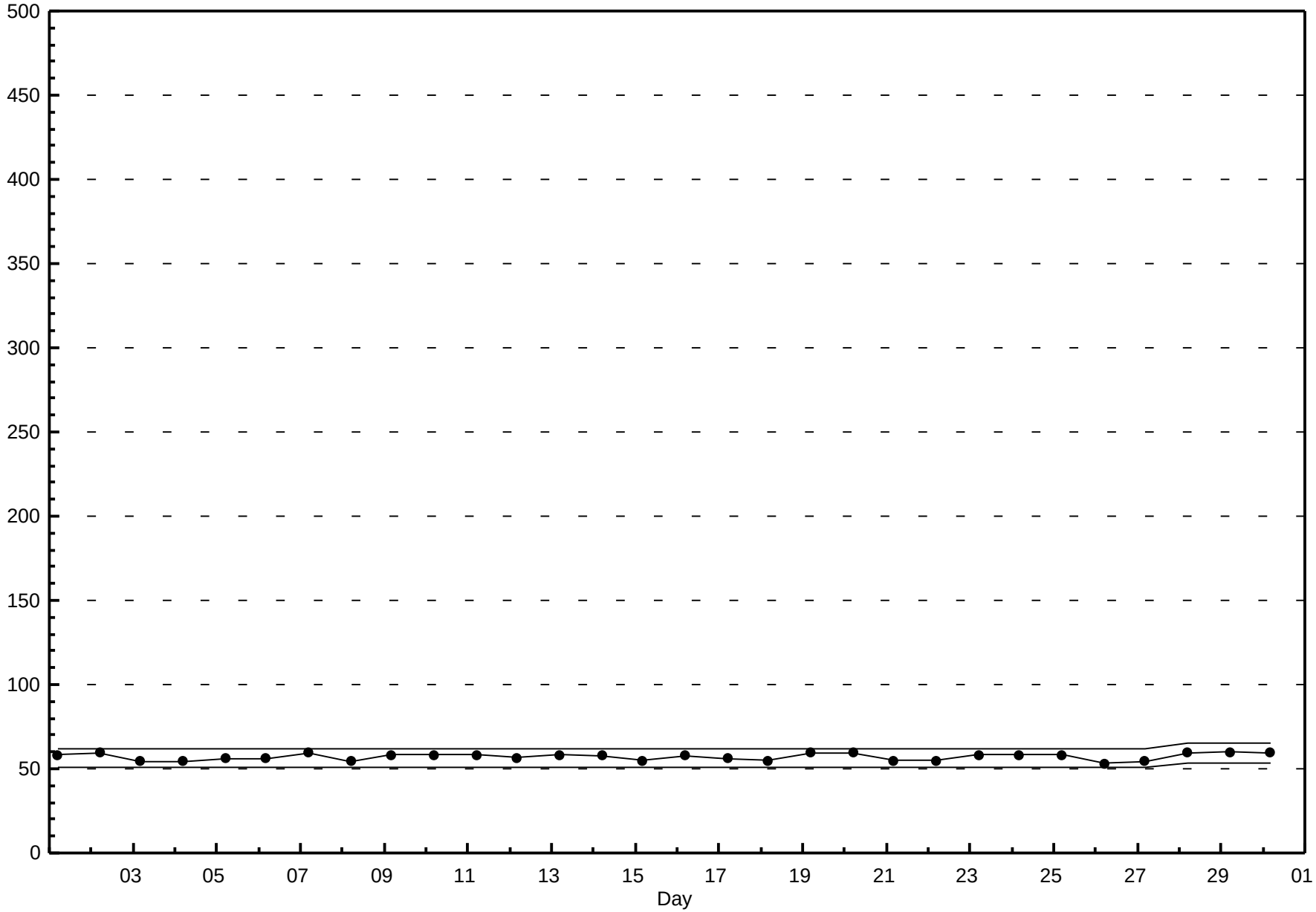
Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO_2)

Beaverlodge - June 2011



Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 7.8 ppb on Jun 27 06:00 Maximum Daily Average: 3.0 ppb on Jun 1

Minimum Value: 0 ppb on Jun 6 14:00 Minimum Daily Average: 0.7 ppb on Jun 30
Maximum Diurnal Average: 5.1 ppb at hour 6 Minimum Diurnal Average: 0.6 ppb at hour 16
Monthly Average: 1.47 ppb Percentiles: $P_1 = 0.2$ $P_{10} = 0.4$ $Q_1 = 0.6$ Median = 1.0 $Q_3 = 1.9$ $P_{90} = 3.0$ $P_{99} = 7.1$

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

Day	Hourly Period Ending At (MST)																								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	3	6	A	7	5	5	7	5	2	2	2	1	1	1	1	1	1	2	2	3	3	3	3.0	7.1
2-Jun	2	2	2	3	A	5	4	3	2	1	1	1	0	0	1	1	1	1	1	1	2	2	2	2	1.7	4.7
3-Jun	1	1	1	1	A	3	1	1	1	1	1	1	0	0	0	1	1	1	1	3	2	1	1	1	1.0	2.9
4-Jun	1	1	1	2	A	4	2	2	2	2	2	2	1	1	1	1	1	1	1	1	2	4	4	4	1.9	4.3
5-Jun	2	2	2	3	A	4	3	1	1	1	1	0	1	1	1	1	0	0	1	1	2	2	3	2	1.5	3.9
6-Jun	2	2	2	4	A	8	7	7	2	1	1	2	2	0	0	1	1	1	1	1	1	1	2	3	2.2	7.7
7-Jun	3	2	3	3	A	5	3	2	2	2	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1.6	4.7
8-Jun	2	2	3	3	A	7	4	3	2	1	1	1	1	1	1	0	1	1	1	1	2	3	2	2	1.9	7.4
9-Jun	2	3	3	5	A	6	4	3	2	1	1	1	1	1	0	0	0	0	0	1	1	2	3	1	1.7	5.9
10-Jun	1	0	0	1	A	4	2	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.7	4.1
11-Jun	1	1	1	1	A	4	3	2	2	1	0	0	0	0	0	0	0	0	0	1	1	2	2	2	1.2	4.0
12-Jun	2	2	2	2	A	6	4	3	2	1	1	1	1	1	1	0	0	0	1	1	2	3	3	3	1.8	5.7
13-Jun	3	2	2	2	A	8	5	4	2	2	2	1	1	0	0	1	1	1	1	1	1	1	1	1	1.8	7.7
14-Jun	1	2	2	1	A	4	3	3	2	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1.0	4.4
15-Jun	1	1	2	1	A	6	2	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0	1.1	6.1
16-Jun	3	1	2	2	A	5	4	2	1	1	1	1	1	1	1	0	0	0	1	1	1	1	2	3	1.4	4.5
17-Jun	1	2	3	1	A	4	2	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1.1	4.2
18-Jun	1	1	2	1	A	5	4	2	2	2	1	1	1	1	0	0	0	0	0	1	1	1	1	1	1.3	5.1
19-Jun	2	2	1	1	A	4	2	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1.0	4.0
20-Jun	1	1	1	0	A	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.8	3.2
21-Jun	1	1	1	2	A	4	2	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.8	4.1
22-Jun	2	2	2	1	A	4	4	3	2	C	C	C	C	C	C	C	3	1	2	1	1	1	2	2	--	4.3
23-Jun	2	2	2	3	A	7	6	6	3	3	2	3	2	2	1	1	2	2	2	1	2	2	2	2	2.5	7.0
24-Jun	1	1	1	1	A	4	2	2	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1.0	4.0
25-Jun	1	0	1	1	A	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1.1	4.0
26-Jun	2	2	2	1	A	5	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1.5	5.4
27-Jun	2	2	3	2	A	8	4	3	3	2	1	1	1	2	1	1	1	1	1	1	2	2	1	1	1.9	7.8
28-Jun	1	2	3	3	A	7	5	3	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1.8	7.2
29-Jun	1	1	1	1	A	5	2	2	1	1	1	0	1	1	0	0	0	0	1	1	0	1	0	0	1.0	4.7
30-Jun	1	1	1	0	A	4	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	4.2
	1.5	1.6	1.7	1.9	--	5.1	3.3	2.4	1.8	1.3	0.9	0.9	0.8	0.7	0.6	0.6	0.7	0.7	0.8	0.8	1.2	1.5	1.5	1.5	Diurnal Average	
	3.2	4.0	3.4	5.9	--	7.8	6.5	7.4	6.7	5.4	2.5	2.8	2.2	1.8	1.4	1.5	2.7	1.6	1.8	2.8	2.5	3.7	3.9	4.3	Diurnal Maximum	

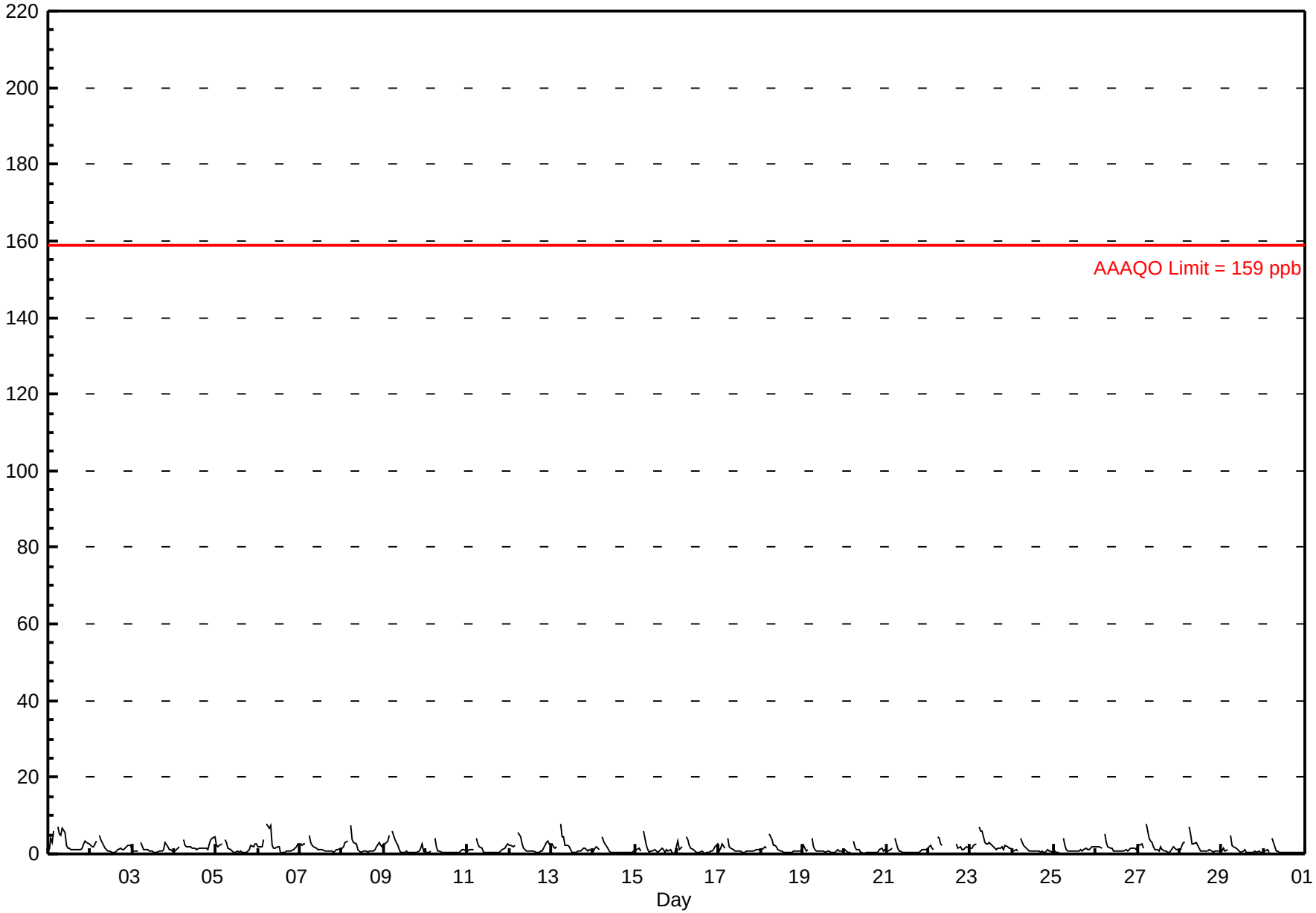
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb

Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - June 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - June 2011

Maximum Value: 88.3 ppb on Jun 6 13:00

Maximum Daily Average: 11.0 ppb on Jun 6

Minimum Value: 0 ppb on Jun 15 23:00

Minimum Daily Average: 1.5 ppb on Jun 21

Maximum Diurnal Average: 9.3 ppb at hour 6

Minimum Diurnal Average: 1.1 ppb at hour 15

Monthly Average: 2.99 ppb

Percentiles: $P_1 = 0.4$ $P_{10} = 0.8$ $Q_1 = 1.1$ Median = 1.8 $Q_3 = 3.2$ $P_{90} = 5.4$ $P_{99} = 17.1$

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

Day	Hourly Period Ending At (MST)																								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	9	7	8	A	9	8	6	29	10	4	2	10	2	1	1	1	2	2	3	5	5	4	3	5.7	29.5
2-Jun	2	2	2	5	A	8	6	5	2	2	1	1	1	2	1	2	3	7	3	2	3	4	5	4	3.1	8.1
3-Jun	1	1	1	1	A	5	2	2	2	2	1	1	1	1	1	1	1	1	2	5	4	3	2	2	1.8	5.4
4-Jun	1	2	3	3	A	7	3	2	2	2	2	2	2	1	2	2	2	2	2	2	4	5	5	7	2.7	7.1
5-Jun	4	3	3	3	A	6	4	2	2	1	1	1	1	1	1	1	1	1	1	3	5	4	5	6	2.6	5.9
6-Jun	3	2	2	10	A	15	11	11	3	3	4	76	88	5	1	1	2	2	3	2	1	2	4	3	11.0	88.3
7-Jun	3	3	3	3	A	7	4	3	2	2	1	2	1	1	1	1	1	1	1	1	1	2	3	2	2.1	7.1
8-Jun	3	4	5	5	A	18	5	5	5	2	2	4	3	1	1	2	1	1	1	2	3	6	3	2	3.5	17.7
9-Jun	3	3	4	6	A	9	5	4	3	2	1	1	1	1	1	1	1	1	2	1	1	3	5	2	2.7	9.1
10-Jun	1	1	1	1	A	35	50	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	4.7	49.7
11-Jun	1	2	5	2	A	7	4	3	3	1	1	1	1	1	0	1	0	0	1	1	2	2	3	3	1.9	6.5
12-Jun	3	3	3	5	A	8	6	5	2	2	1	1	2	1	1	1	1	1	1	1	3	4	4	3	2.7	8.1
13-Jun	4	2	2	3	A	12	8	7	3	3	3	2	1	1	1	2	2	2	3	3	3	1	2	1	3.0	12.3
14-Jun	2	3	3	2	A	7	4	61	20	1	1	1	1	2	2	1	1	1	1	1	1	1	1	2	5.2	61.0
15-Jun	1	1	2	2	A	11	7	4	2	2	1	2	2	1	2	2	3	1	3	2	2	1	0	2	2.5	11.2
16-Jun	5	3	6	3	A	6	5	3	2	3	1	1	1	1	1	1	0	1	1	1	1	1	4	4	2.4	6.4
17-Jun	1	3	3	3	A	7	3	5	1	1	1	1	1	1	1	1	1	1	1	1	3	2	3	2	2.0	7.0
18-Jun	2	1	4	3	A	7	5	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1.9	7.5
19-Jun	6	3	1	2	A	7	3	1	1	1	1	1	1	1	1	1	1	0	1	4	2	1	1	2	1.9	7.3
20-Jun	2	1	1	1	A	7	2	2	2	1	0	0	1	0	1	0	0	1	0	1	3	3	2	1	1.5	6.7
21-Jun	1	1	2	3	A	7	3	1	1	1	0	1	1	1	1	1	1	1	1	1	2	2	2	2	1.5	7.3
22-Jun	3	3	2	1	A	7	5	3	3	C	C	C	C	C	C	C	5	2	3	3	2	2	2	2	--	6.7
23-Jun	2	2	3	3	A	10	9	12	5	3	4	8	3	3	2	2	3	3	3	2	3	3	2	4	4.1	11.9
24-Jun	2	2	2	1	A	6	3	3	3	2	2	2	2	2	1	2	1	1	1	1	2	2	2	1	1.9	5.5
25-Jun	1	1	1	1	A	7	3	2	1	1	1	1	1	1	1	2	1	2	2	1	2	3	3	3	1.9	6.8
26-Jun	3	2	3	2	A	8	4	3	2	2	1	1	1	1	1	1	1	2	1	2	4	2	3	2	2.3	7.6
27-Jun	5	3	4	3	A	13	10	5	6	3	5	2	2	4	3	1	1	1	1	1	3	3	2	2	3.5	13.2
28-Jun	2	3	4	4	A	8	8	4	3	5	5	2	1	2	1	1	2	2	2	1	3	3	1	1	3.0	8.5
29-Jun	2	2	2	2	A	7	4	3	3	4	1	1	1	2	1	1	1	1	1	2	2	2	1	1	2.1	7.1
30-Jun	1	2	2	1	A	7	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.5	7.3
	2.4	2.5	2.8	3.0	--	9.3	6.5	5.8	4.0	2.2	1.8	4.1	4.6	1.4	1.1	1.1	1.3	1.4	1.6	1.8	2.4	2.5	2.6	2.4	Diurnal Average	
	5.8	9.1	6.9	9.7	--	34.9	49.7	61.0	29.5	10.1	5.4	75.8	88.3	4.8	2.8	2.1	4.7	6.5	3.5	5.1	4.7	5.7	5.5	6.7	Diurnal Maximum	

C - Calibration

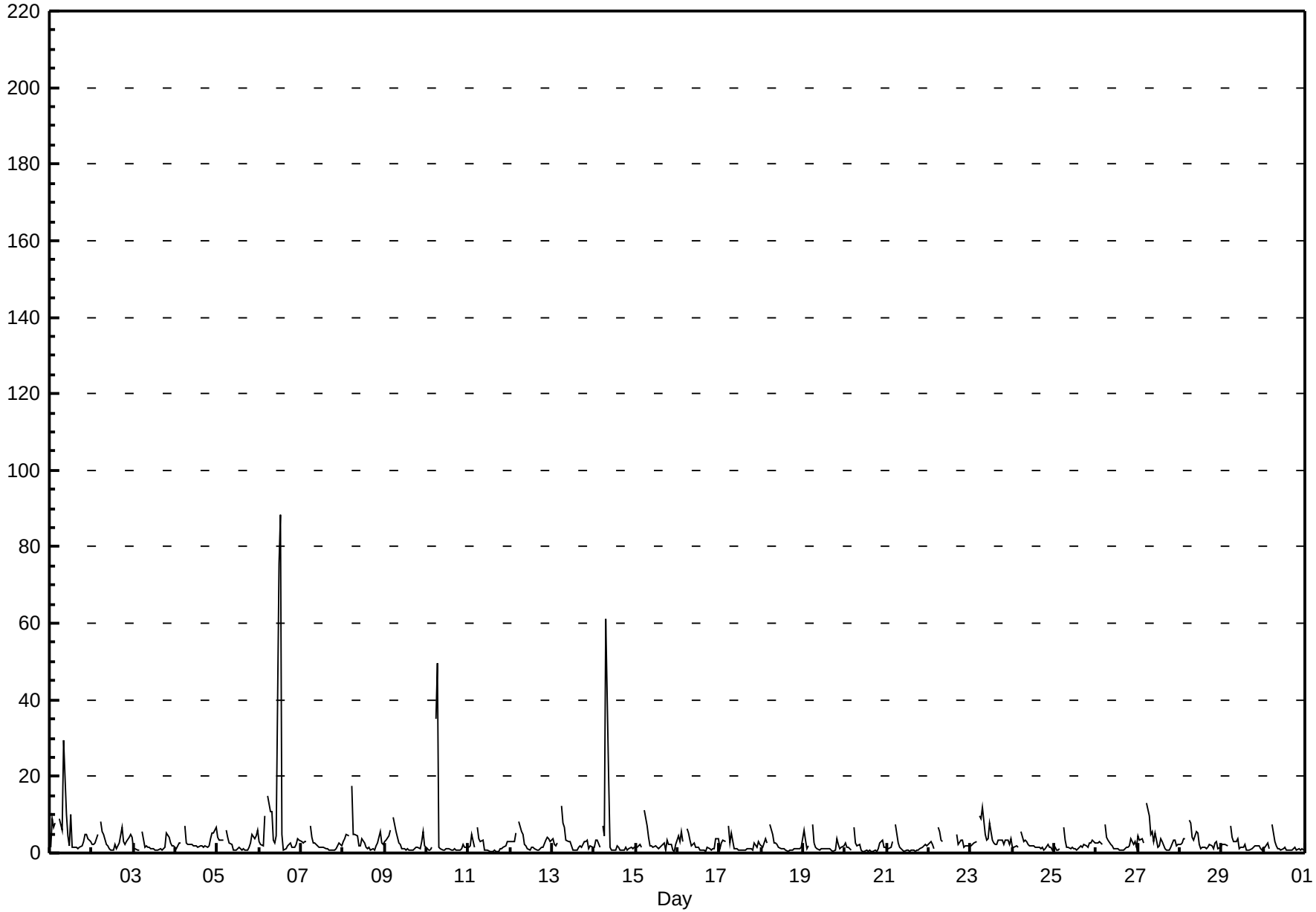
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - June 2011

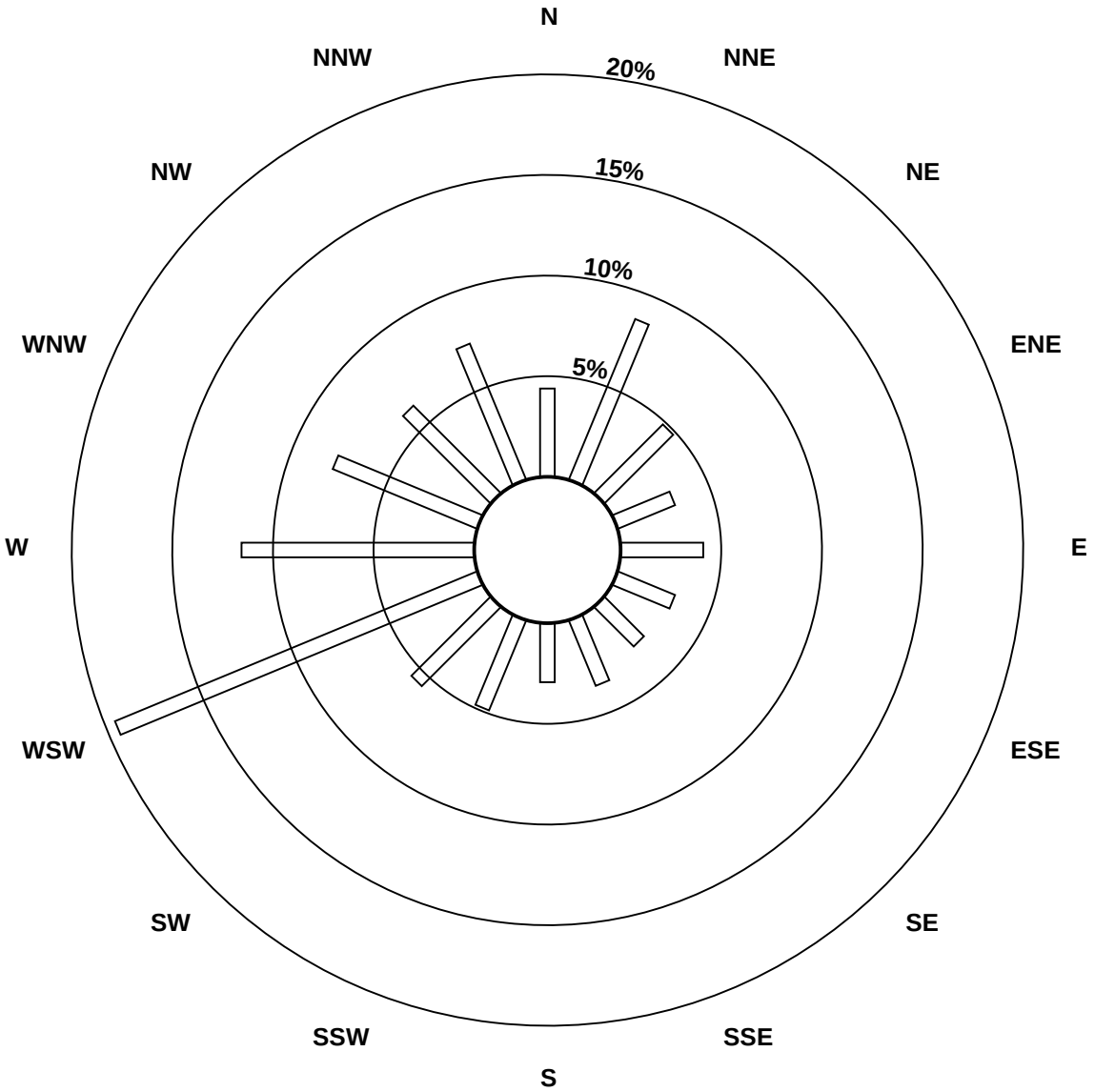


Peace Airshed Zone Association

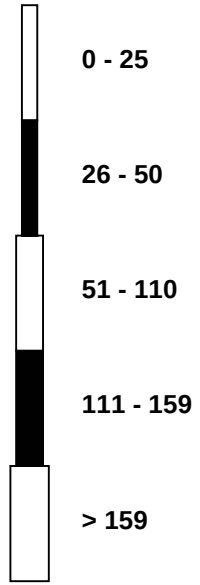
Pollutant Rose

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - June 2011



Pollutant Classes (ppb)

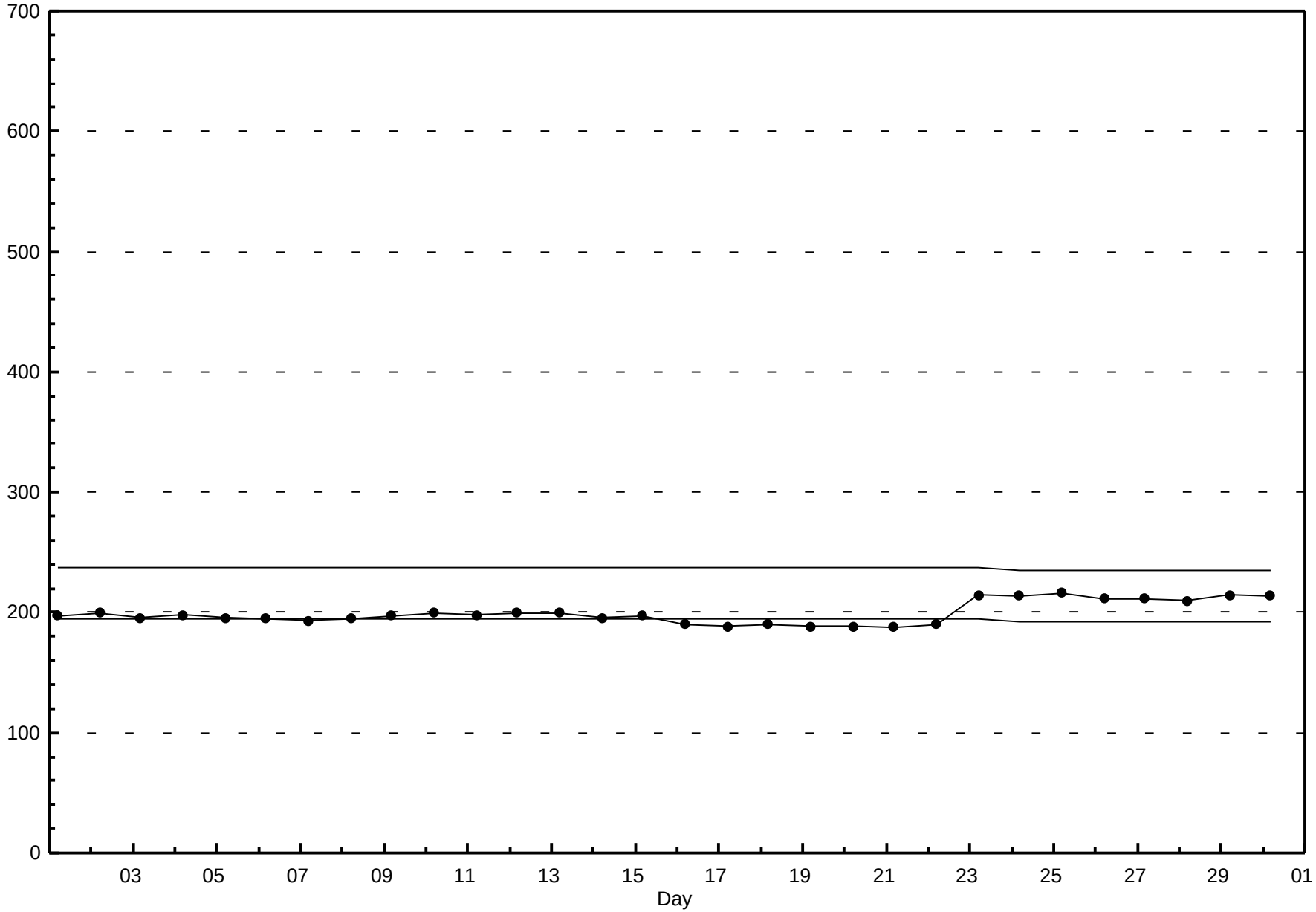


Peace Airshed Zone Association

Span Responses

Nitrogen Dioxide (NO_2)

Beaverlodge - June 2011



Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Beaverlodge - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 4.8 ppb on Jun 6 08:00 Maximum Daily Average: 0.8 ppb on Jun 6

Minimum Value: 0 ppb on Jun 2 16:00
Maximum Diurnal Average: 0.8 ppb at hour 8
Monthly Average: 0.21 ppb

Minimum Daily Average: 0.1 ppb on Jun 19
Minimum Diurnal Average: 0.0 ppb at hour 4
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.2 P_{90} = 0.5 P_{99} = 2.0

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

Day	Hourly Period Ending At (MST)																								Daily	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	1	2	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.9
2-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	0.7
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	0.1	0.3
4-Jun	0	0	0	0	A	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.4	1.2
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	0.1	0.2
6-Jun	0	0	0	0	A	2	5	5	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0.8	4.8
7-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
8-Jun	0	0	0	0	A	1	2	1	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0.4	2.1
9-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	0.2	0.9
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	0.1	0.5
11-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
12-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	0.2	0.6
13-Jun	0	0	0	0	A	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.7
14-Jun	0	0	0	0	A	0	1	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	3.1
15-Jun	0	0	0	0	A	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
16-Jun	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
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	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.0
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	0.1	0.1
20-Jun	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
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	0.4
22-Jun	0	0	0	0	A	0	1	1	1	C	C	C	C	C	C	C	0	0	0	0	0	0	0	0	--	1.1
23-Jun	0	0	0	0	A	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.7
24-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
25-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
26-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
27-Jun	0	0	0	0	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.2
28-Jun	0	0	0	0	A	0	1	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.0
29-Jun	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
30-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
	0.0	0.0	0.0	0.0	--	0.4	0.7	0.8	0.7	0.4	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	Diurnal Average	
	0.1	0.1	0.1	0.1	--	2.2	4.7	4.8	3.1	2.0	1.2	1.1	0.7	0.9	0.6	2.1	0.5	0.4	0.3	0.3	0.2	0.1	0.1	0.1	Diurnal Maximum	

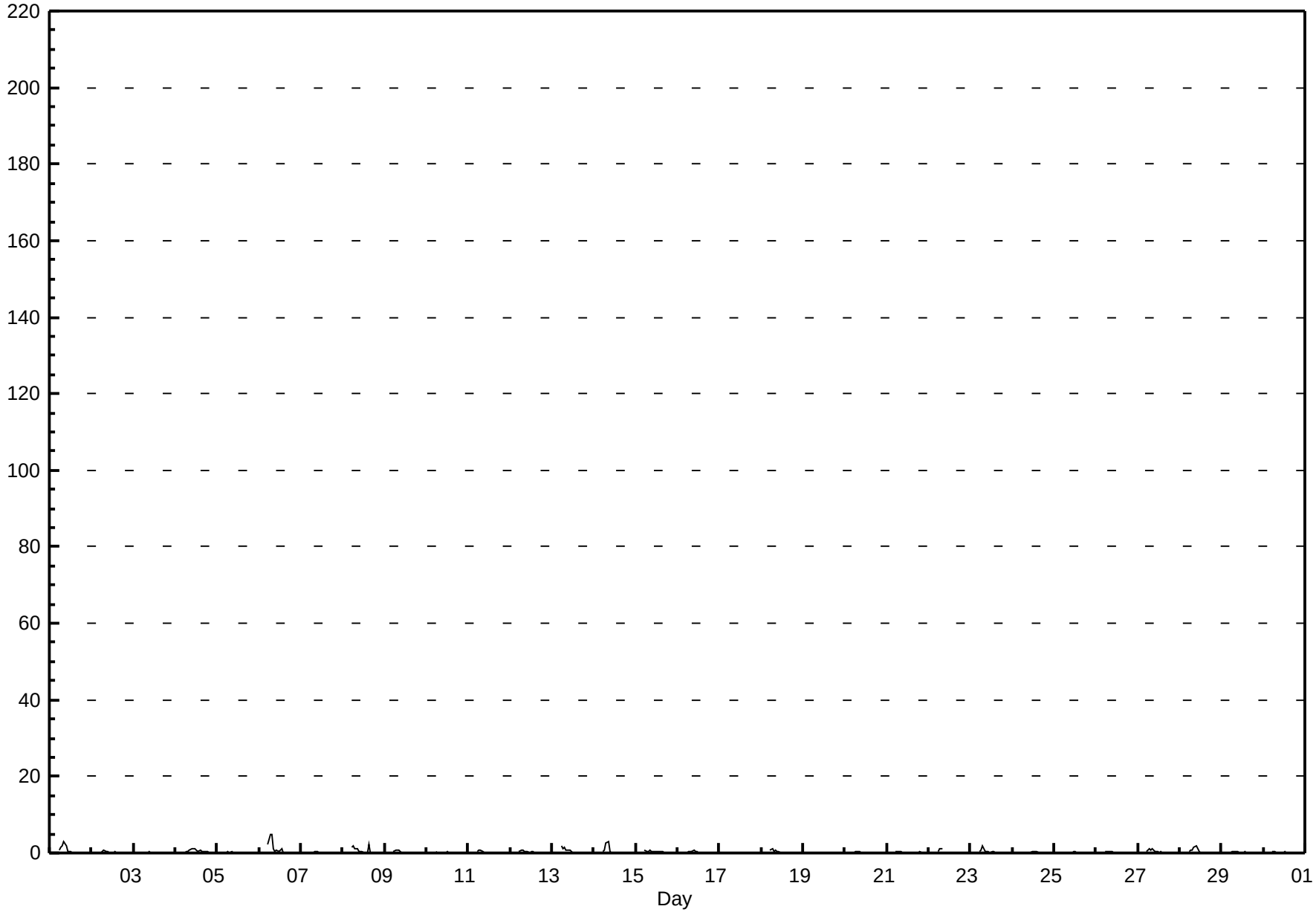
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Beaverlodge - June 2011



Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Beaverlodge - June 2011

Maximum Value: 179.9 ppb on Jun 8 16:00

Maximum Daily Average: 9.7 ppb on Jun 8

Minimum Value: 0 ppb on Jun 4 02:00

Minimum Daily Average: 0.2 ppb on Jun 19

Maximum Diurnal Average: 6.6 ppb at hour 16

Minimum Diurnal Average: 0.1 ppb at hour 1

Monthly Average: 1.31 ppb

Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 0.2 Median = 0.2 Q_3 = 0.5 P_{90} = 1.3 P_{99} = 23.0

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

Day	Hourly Period Ending At (MST)																								Daily	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	2	3	13	3	1	0	14	0	0	0	0	0	0	0	0	0	0	0	1.7	13.6
2-Jun	0	0	0	0	A	0	1	4	0	3	2	0	0	24	0	0	0	0	0	0	0	0	0	0	1.6	24.0
3-Jun	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
4-Jun	0	0	0	0	A	0	0	1	1	2	2	1	1	1	1	1	1	1	1	0	0	0	0	0	0.6	1.7
5-Jun	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
6-Jun	0	0	0	0	A	6	10	9	2	1	14	15	7	49	2	0	0	0	1	0	0	0	0	0	5.1	48.6
7-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
8-Jun	0	0	0	0	A	5	2	3	2	1	1	24	1	1	0	180	0	0	0	0	0	0	0	0	9.7	179.9
9-Jun	0	0	0	0	A	1	1	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3.1
10-Jun	0	0	0	0	A	16	2	0	0	0	0	0	31	1	1	0	0	0	0	0	0	0	0	0	2.4	31.3
11-Jun	0	0	1	0	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.0
12-Jun	0	0	0	0	A	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.4	1.4
13-Jun	0	0	0	0	A	8	3	2	1	1	1	1	0	0	0	4	0	0	0	0	0	0	0	0	1.1	8.2
14-Jun	0	0	0	0	A	1	1	64	23	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4.1	63.7
15-Jun	0	0	0	0	A	3	1	12	20	21	1	1	1	1	1	0	0	0	0	0	0	0	0	0	2.8	21.0
16-Jun	0	0	0	0	A	0	1	1	1	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0.4	2.0
17-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	0.3	1.0
18-Jun	0	0	1	0	A	2	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.8
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	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.5
21-Jun	0	0	0	0	A	1	1	1	1	0	0	0	0	0	0	1	0	0	0	17	0	0	0	0	1.1	17.3
22-Jun	0	0	0	0	A	1	4	2	1	C	C	C	C	C	C	C	0	0	1	1	0	0	0	0	--	4.3
23-Jun	0	0	0	0	A	0	2	9	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.8	9.3
24-Jun	0	0	0	0	A	0	0	0	0	1	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0.4	0.8
25-Jun	0	0	0	0	A	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
26-Jun	0	0	0	0	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
27-Jun	0	0	0	0	A	1	4	2	2	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.8	4.4
28-Jun	0	0	0	0	A	1	2	2	2	4	9	1	0	0	1	0	0	0	0	0	1	0	0	0	1.1	9.0
29-Jun	0	0	0	0	A	0	1	1	5	2	0	0	1	1	1	0	0	0	0	0	1	0	0	0	0.7	5.2
30-Jun	0	0	0	0	A	1	1	1	1	1	1	0	1	1	1	0	1	0	1	0	0	0	0	0	0.5	0.8
	0.1	0.1	0.2	0.2	--	1.7	1.6	4.1	2.9	1.7	1.3	1.8	2.3	2.9	0.4	6.6	0.3	0.3	0.3	0.8	0.3	0.2	0.2	0.1	Diurnal Average	
	0.4	0.4	0.7	0.4	--	15.7	10.2	63.7	23.3	21.0	13.5	24.1	31.3	48.6	2.2	179.9	0.7	0.6	0.7	17.3	1.0	0.5	0.3	0.2	Diurnal Maximum	

C - Calibration

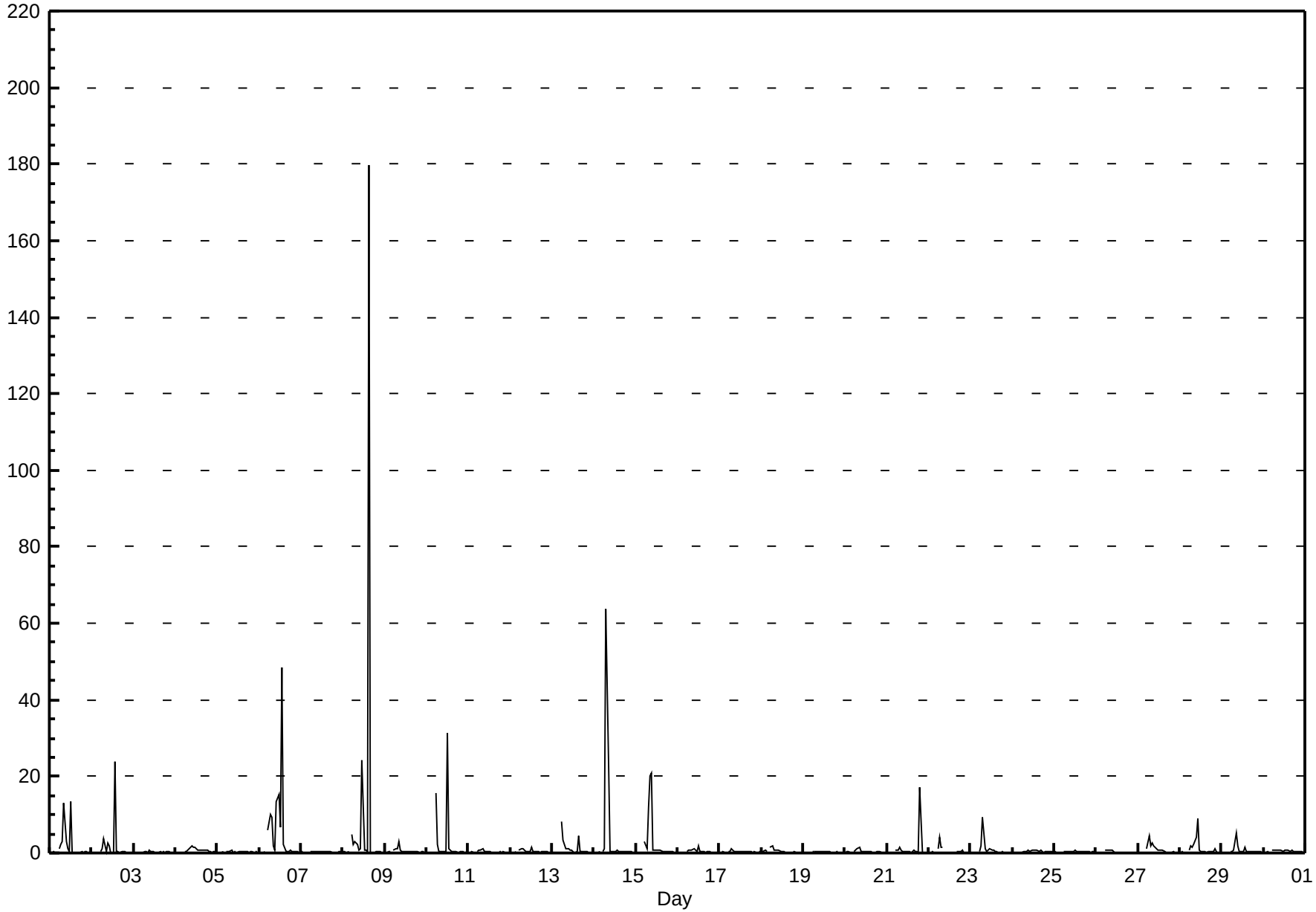
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Beaverlodge - June 2011



Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 12.3 ppb on Jun 6 08:00 Maximum Daily Average: 3.5 ppb on Jun 1

Minimum Value: 0 ppb on Jun 15 23:00 Minimum Daily Average: 0.9 ppb on Jun 10
Maximum Diurnal Average: 5.6 ppb at hour 6 Minimum Diurnal Average: 0.8 ppb at hour 15
Monthly Average: 1.72 ppb Percentiles: $P_1 = 0.3$ $P_{10} = 0.5$ $Q_1 = 0.7$ Median = 1.1 $Q_3 = 2.1$ $P_{90} = 3.5$ $P_{99} = 8.2$

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jun	1	4	3	6	A	8	7	7	10	7	3	2	2	1	1	1	1	1	1	2	3	3	3	3	3.5	9.7
2-Jun	2	2	2	3	A	5	4	4	2	1	1	1	1	1	1	1	1	2	1	1	2	2	2	2	1.9	4.9
3-Jun	1	1	1	1	A	3	1	1	1	1	1	1	1	1	1	1	1	1	1	3	2	1	1	1	1.1	3.0
4-Jun	1	1	1	2	A	4	3	2	3	3	3	3	2	2	2	2	2	2	2	1	3	4	4	4	2.4	4.4
5-Jun	2	2	2	3	A	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	3	2	3	3	1.6	4.0
6-Jun	2	2	2	4	A	10	11	12	4	2	2	3	3	1	1	1	1	1	1	1	1	2	2	3	3.0	12.3
7-Jun	3	2	3	3	A	5	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.7	4.8
8-Jun	2	2	3	3	A	9	6	4	4	2	1	1	1	1	1	1	1	1	1	1	2	3	2	2	2.3	8.9
9-Jun	3	3	4	5	A	6	5	4	3	2	1	1	1	1	1	0	1	1	1	1	1	2	3	1	1.9	6.3
10-Jun	1	1	0	1	A	4	2	1	1	1	1	1	1	1	0	0	1	1	0	0	1	1	1	1	0.9	4.4
11-Jun	1	1	1	1	A	4	3	3	2	1	1	1	0	0	0	0	0	0	1	1	1	2	2	3	1.3	4.3
12-Jun	2	2	2	2	A	6	5	3	2	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	2.0	6.1
13-Jun	3	2	2	2	A	10	6	6	3	3	3	1	1	0	1	1	1	1	2	2	1	1	1	1	2.2	9.5
14-Jun	1	2	2	1	A	5	4	5	5	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1.4	5.2
15-Jun	1	1	2	1	A	7	3	1	1	1	1	2	1	1	1	2	1	1	1	1	1	0	0	0	1.4	6.8
16-Jun	3	1	2	2	A	5	4	3	2	2	1	1	1	1	1	1	0	0	1	1	1	1	2	3	1.6	4.7
17-Jun	1	2	3	1	A	4	2	2	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1.2	4.3
18-Jun	1	1	2	2	A	6	5	3	3	2	2	1	1	1	1	0	0	1	1	1	1	1	1	1	1.6	5.9
19-Jun	2	2	1	1	A	4	2	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1.1	4.1
20-Jun	1	1	1	0	A	3	2	2	2	1	0	0	0	0	0	0	0	0	0	1	1	2	1	1	0.9	3.3
21-Jun	1	1	1	2	A	4	2	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0.9	4.5
22-Jun	2	2	2	1	A	5	5	4	3	C	C	C	C	C	C	C	3	2	2	1	1	1	2	2	--	5.0
23-Jun	2	2	2	3	A	7	7	8	4	3	3	3	3	2	1	1	2	2	2	1	2	2	2	2	2.8	7.8
24-Jun	1	1	1	1	A	4	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	4.0
25-Jun	1	1	1	1	A	4	2	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	2	2	1.2	3.9
26-Jun	2	2	2	1	A	6	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1.6	5.6
27-Jun	2	2	3	2	A	8	5	4	4	3	1	1	1	2	1	1	1	1	1	1	2	2	1	1	2.2	8.4
28-Jun	1	2	3	3	A	8	6	4	4	5	4	2	1	1	1	1	1	1	1	1	1	1	1	1	2.2	7.7
29-Jun	1	2	1	1	A	5	3	2	2	2	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1.2	4.9
30-Jun	1	1	1	0	A	4	2	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	0	0	0.9	4.5
	1.5	1.6	1.8	1.9	--	5.6	4.0	3.2	2.6	1.8	1.3	1.1	1.0	0.9	0.8	0.8	0.8	0.8	0.9	1.0	1.3	1.5	1.6	1.5	Diurnal Average	
	3.2	4.0	3.5	6.0	--	10.1	11.4	12.3	9.7	7.2	3.5	3.0	2.6	2.0	2.1	2.1	2.8	2.0	1.9	3.0	2.7	3.8	4.1	4.4	Diurnal Maximum	

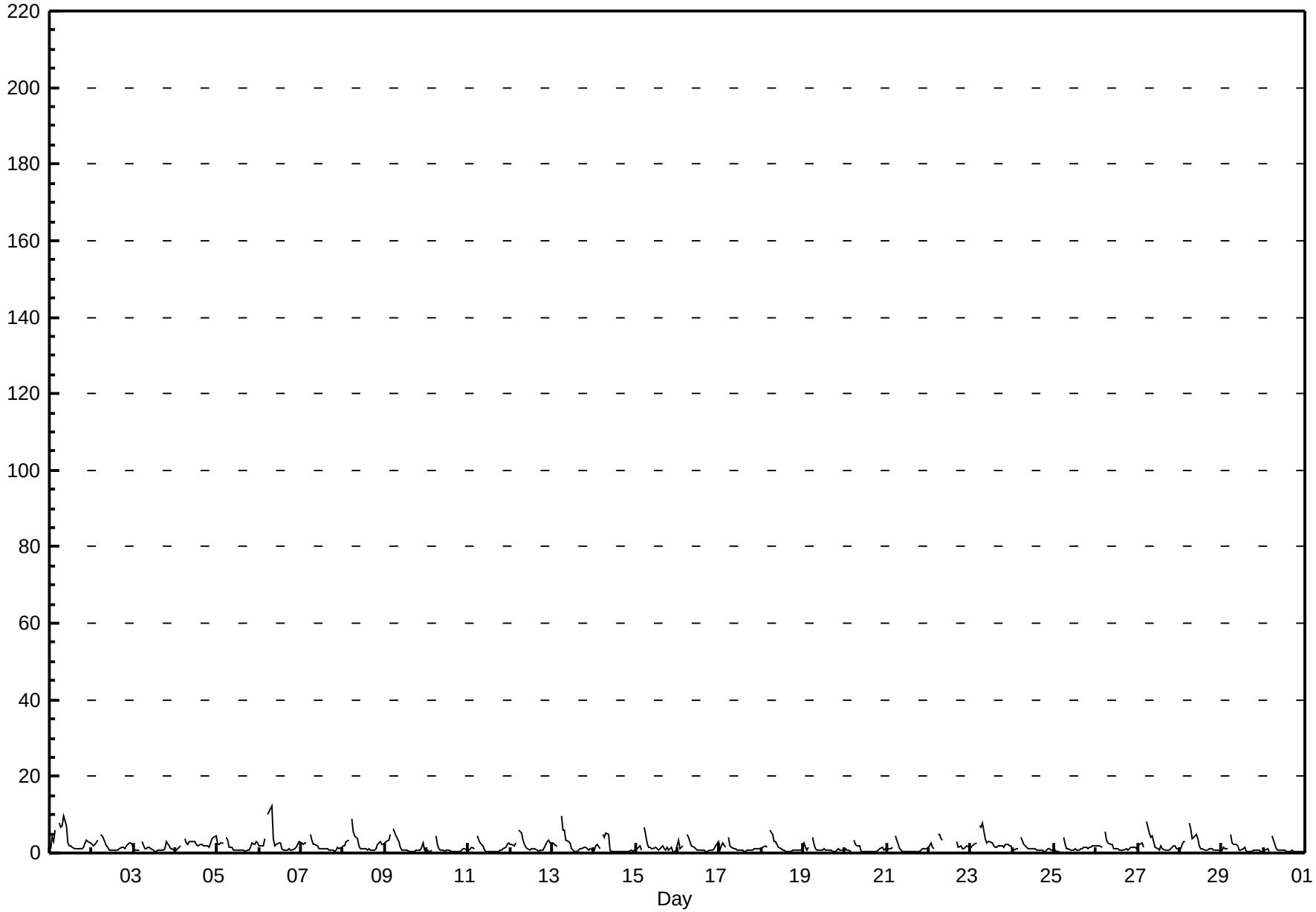
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - June 2011



Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - June 2011

Maximum Value: 91.9 ppb on Jun 6 12:00

Maximum Daily Average: 13.5 ppb on Jun 6

Minimum Value: 0 ppb on Jun 15 23:00

Minimum Daily Average: 1.7 ppb on Jun 21

Maximum Diurnal Average: 10.1 ppb at hour 6

Minimum Diurnal Average: 1.4 ppb at hour 15

Monthly Average: 3.59 ppb

Percentiles: $P_1 = 0.6$ $P_{10} = 0.9$ $Q_1 = 1.3$ Median = 2.1 $Q_3 = 3.5$ $P_{90} = 6.6$ $P_{99} = 34.8$

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	2	9	7	8	A	9	9	9	43	13	6	2	10	2	1	1	2	2	2	3	5	5	4	3	6.8	42.7
2-Jun	2	2	3	5	A	8	7	6	3	2	1	1	1	10	1	2	3	7	3	3	3	4	5	4	3.7	9.7
3-Jun	1	1	1	1	A	5	2	2	2	2	1	1	1	1	1	1	1	1	2	5	4	3	2	2	2.0	5.5
4-Jun	1	2	3	3	A	7	3	3	3	4	3	3	3	2	3	3	2	2	2	2	4	5	5	7	3.3	7.3
5-Jun	4	4	3	3	A	6	4	3	3	1	1	1	2	2	1	1	1	1	2	3	5	4	5	6	2.8	6.2
6-Jun	3	3	2	10	A	20	20	19	5	4	6	92	89	15	1	1	2	3	3	2	2	2	4	4	13.5	91.9
7-Jun	3	3	3	3	A	7	4	3	3	2	2	2	2	2	1	1	1	1	1	1	1	2	3	2	2.3	7.3
8-Jun	3	4	5	5	A	22	7	8	7	3	2	15	3	2	1	23	1	1	1	2	3	6	3	3	5.6	23.3
9-Jun	3	4	4	6	A	10	6	5	4	3	1	2	1	2	1	1	1	1	2	2	1	3	6	2	3.1	9.5
10-Jun	1	1	1	1	A	36	52	2	1	1	1	2	2	1	1	1	1	1	1	1	1	2	2	1	5.0	52.1
11-Jun	2	2	5	2	A	7	5	4	4	1	1	1	1	1	1	1	0	1	1	1	2	2	3	3	2.1	6.7
12-Jun	3	3	3	6	A	8	7	5	3	2	1	1	2	2	1	1	1	1	2	1	3	4	4	3	3.0	8.2
13-Jun	4	2	2	3	A	18	10	9	4	4	4	3	1	1	1	3	2	2	3	3	3	1	2	2	3.8	18.1
14-Jun	2	3	3	2	A	7	6	67	35	2	1	1	1	3	2	1	1	1	2	1	1	2	1	2	6.3	66.9
15-Jun	1	2	2	2	A	14	8	10	17	3	2	3	2	2	2	2	3	1	4	2	3	1	0	2	3.8	17.1
16-Jun	5	3	6	3	A	7	6	4	3	4	2	2	2	1	1	1	1	2	1	1	1	1	4	4	2.7	6.6
17-Jun	1	3	4	3	A	7	3	6	2	2	1	1	1	1	1	1	2	1	1	1	3	2	3	3	2.2	7.0
18-Jun	2	1	4	3	A	8	7	3	4	3	2	1	2	1	1	1	1	1	1	1	1	1	1	1	2.3	8.4
19-Jun	6	3	1	2	A	7	3	2	1	1	1	1	2	1	2	2	1	1	1	4	2	1	1	2	2.0	7.4
20-Jun	3	2	1	1	A	7	3	3	4	1	1	1	1	1	1	1	1	1	1	1	3	3	2	1	1.8	6.7
21-Jun	1	1	2	3	A	8	4	2	2	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1.7	7.6
22-Jun	3	3	2	1	A	7	10	5	4	C	C	C	C	C	C	C	5	2	4	4	2	2	2	2	--	9.8
23-Jun	2	2	3	3	A	10	11	21	6	4	5	8	4	3	3	2	4	3	4	2	4	3	2	4	4.9	21.2
24-Jun	2	2	2	1	A	5	3	3	3	3	2	3	3	2	2	2	2	2	1	2	3	2	2	1	2.2	5.3
25-Jun	2	1	1	1	A	7	4	2	2	2	2	1	2	1	2	2	2	3	2	2	3	3	4	3	2.1	6.6
26-Jun	3	2	3	2	A	8	5	4	3	3	1	1	1	1	1	1	1	2	2	2	4	2	3	2	2.4	8.4
27-Jun	5	3	4	3	A	14	14	7	8	5	5	2	2	4	3	1	1	1	1	2	4	3	2	2	4.1	13.8
28-Jun	2	3	4	4	A	9	9	5	5	10	10	3	1	2	2	1	2	3	2	1	3	3	1	2	3.8	9.8
29-Jun	2	2	2	2	A	7	4	4	5	6	2	2	2	3	1	1	1	1	2	2	3	2	1	1	2.6	7.3
30-Jun	1	2	3	1	A	7	3	3	2	2	2	2	2	1	1	1	2	1	2	1	2	1	1	1	1.9	7.5
	2.5	2.6	2.9	3.0	--	10.1	7.9	7.6	6.3	3.1	2.4	5.4	5.0	2.4	1.4	2.2	1.5	1.7	1.8	2.0	2.7	2.7	2.7	2.5	Diurnal Average	
	5.9	9.2	7.1	10.0	--	35.7	52.1	66.9	42.7	12.9	9.8	91.9	89.4	14.7	3.0	23.3	4.9	6.9	3.9	5.5	5.1	5.9	5.6	6.9	Diurnal Maximum	

C - Calibration

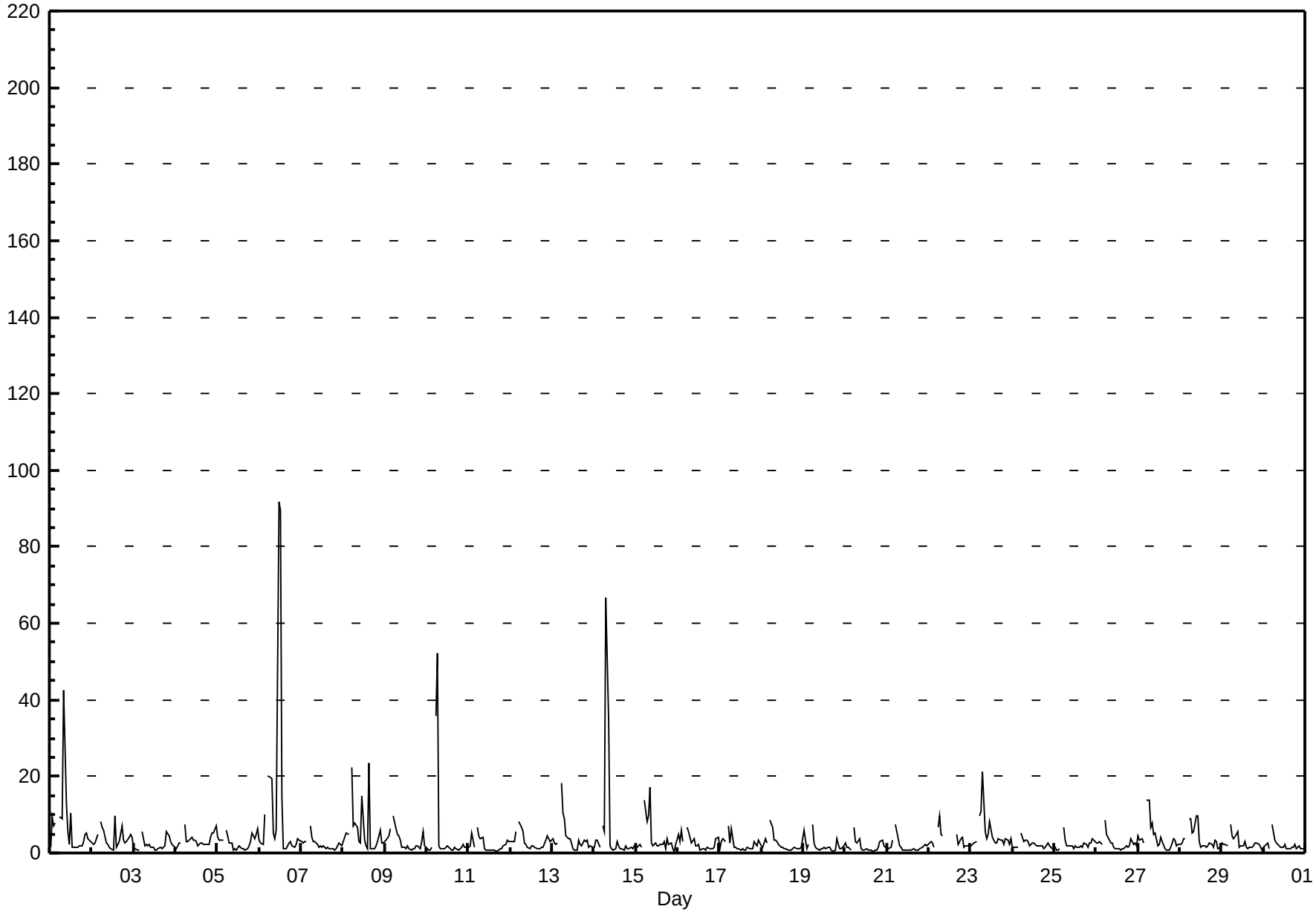
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - June 2011

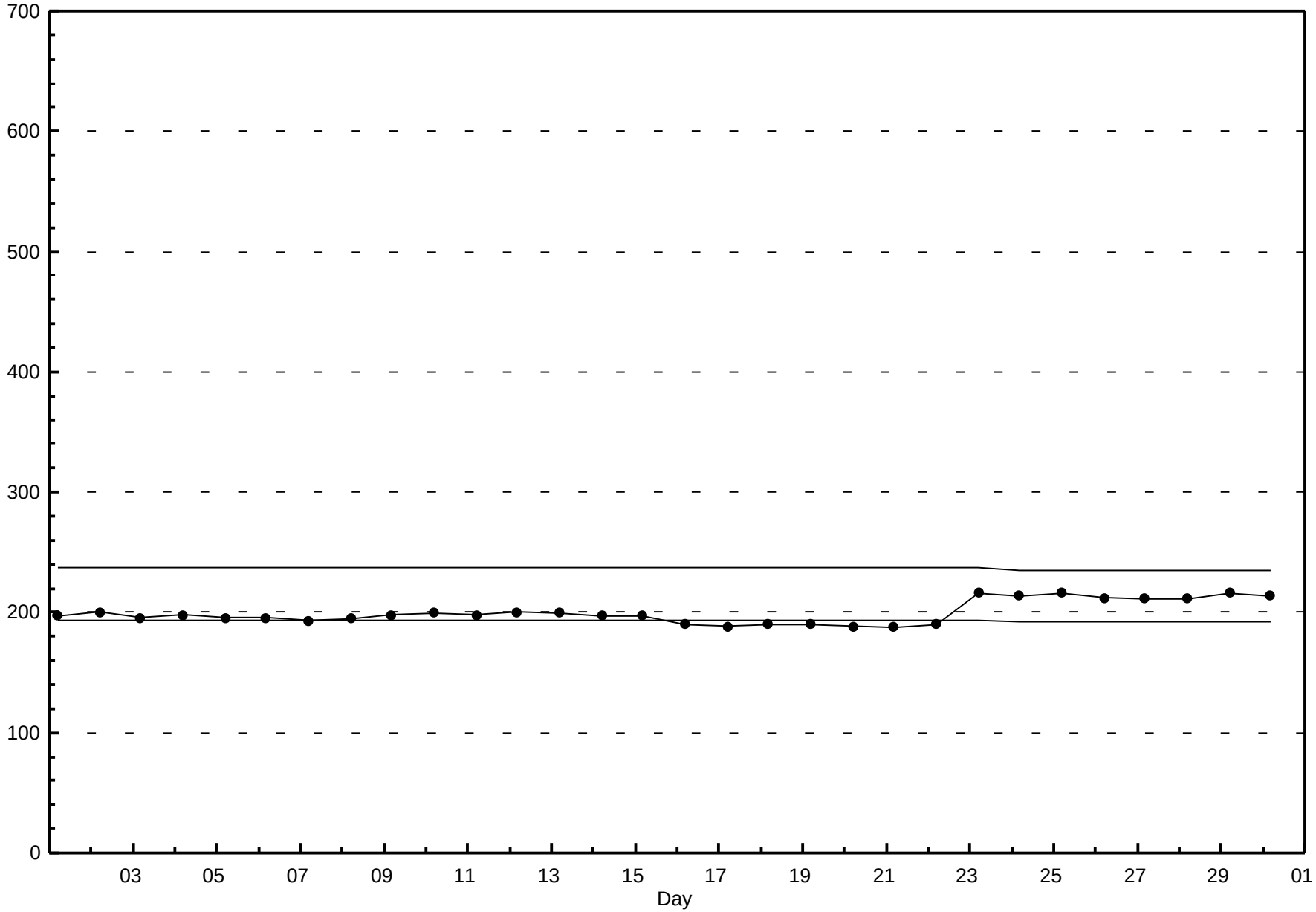


Peace Airshed Zone Association

Span Responses

Oxides of Nitrogen (NO_X)

Beaverlodge - June 2011



Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Beaverlodge - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 63.1 ppb on Jun 1 18:00 Maximum Daily Average: 45.4 ppb on Jun 1

Minimum Value: 7 ppb on Jun 18 06:00 Minimum Daily Average: 19.3 ppb on Jun 25
Maximum Diurnal Average: 38.1 ppb at hour 17 Minimum Diurnal Average: 20.9 ppb at hour 7
Monthly Average: 30.79 ppb Percentiles: P_1 = 9.8 P_{10} = 18.4 Q_1 = 23.5 Median = 30.1 Q_3 = 37.3 P_{90} = 43.5 P_{99} = 58.1

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	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	53	42	29	20	A	17	20	24	32	42	52	56	58	61	62	63	63	63	59	58	49	40	39	41	45.4	63.1
2-Jun	43	43	39	36	A	36	35	37	44	47	48	49	49	49	47	47	47	43	42	44	42	33	27	18	41.1	49.2
3-Jun	16	18	21	21	A	24	25	25	30	29	32	31	30	34	35	36	33	27	24	22	22	24	25	25	26.6	35.9
4-Jun	27	26	25	22	A	19	21	23	22	21	19	19	21	21	22	22	23	22	23	22	20	18	17	15	21.3	26.8
5-Jun	20	24	18	17	A	26	25	27	27	33	34	35	35	34	35	36	37	36	35	32	29	27	23	20	28.9	36.9
6-Jun	24	21	23	18	A	8	7	9	14	27	30	34	39	40	40	41	40	42	44	39	32	36	34	31	29.1	44.0
7-Jun	30	27	26	26	A	25	24	24	26	26	30	35	42	44	44	42	42	41	43	41	38	36	37	31	34.0	44.1
8-Jun	31	26	22	19	A	14	13	23	32	38	42	44	45	47	49	50	51	52	50	47	39	33	34	35	36.3	52.0
9-Jun	35	31	28	22	A	24	26	28	30	36	44	43	41	40	41	41	40	39	38	36	31	29	27	32	34.1	44.0
10-Jun	35	37	38	38	A	33	37	39	40	42	41	41	41	44	46	46	42	41	45	43	40	36	35	35	39.7	46.0
11-Jun	35	33	27	27	A	23	23	27	32	37	40	42	44	44	45	44	46	46	46	43	38	35	34	34	36.8	46.3
12-Jun	36	37	35	32	A	19	22	25	33	37	42	46	47	49	52	53	52	52	49	47	40	34	36	34	39.5	52.6
13-Jun	33	36	35	34	A	21	22	27	29	33	34	45	51	50	48	46	44	43	41	39	42	39	36	34	37.4	51.0
14-Jun	35	32	27	28	A	23	21	26	27	32	34	36	37	38	38	39	41	41	41	38	35	33	32	31	33.2	41.1
15-Jun	29	28	24	27	A	20	21	23	24	24	21	22	26	27	25	27	32	33	30	28	24	33	36	26	26.6	36.1
16-Jun	23	31	27	25	A	29	25	23	21	21	24	28	29	29	31	37	39	39	37	35	35	32	28	22	29.0	39.0
17-Jun	30	27	22	22	A	21	22	24	22	21	21	21	24	33	39	39	37	36	40	38	34	32	29	31	28.9	39.6
18-Jun	28	25	19	20	A	7	11	18	19	22	27	33	36	36	42	42	39	37	33	29	27	26	30	29	27.6	42.2
19-Jun	23	31	34	26	A	18	18	26	31	32	29	30	33	36	35	34	34	36	37	41	40	42	28	17	30.9	41.9
20-Jun	13	10	12	16	A	18	9	7	12	17	17	19	21	21	21	22	27	30	28	29	25	27	30	30	20.0	30.2
21-Jun	30	25	20	19	A	15	19	21	25	32	37	39	40	39	40	41	42	44	45	44	40	42	35	34	33.4	44.9
22-Jun	33	31	29	29	A	18	14	21	25	33	39	44	47	47	C	C	C	C	32	36	44	38	33	33	32.9	47.3
23-Jun	39	39	33	29	A	24	21	21	25	26	27	30	A	33	36	36	40	38	37	43	35	30	28	30	31.9	42.6
24-Jun	32	33	32	31	A	31	32	31	23	19	17	17	16	17	17	17	18	18	18	18	15	15	15	16	21.6	32.5
25-Jun	16	17	18	17	A	16	17	18	18	19	19	20	20	22	23	21	19	18	23	20	17	19	24	24	19.3	24.0
26-Jun	29	29	24	21	A	25	24	25	30	33	35	37	39	41	43	44	44	40	38	34	36	31	27	30	33.0	43.9
27-Jun	24	29	26	27	A	16	14	17	18	24	28	31	30	26	29	30	33	34	34	29	23	23	37	35	26.9	37.5
28-Jun	33	28	25	24	A	18	17	15	15	16	16	22	29	30	29	32	31	29	24	22	25	30	29	28	24.7	33.0
29-Jun	28	21	25	22	A	20	19	19	20	23	30	30	30	31	33	33	36	35	34	32	31	28	28	29	27.7	35.7
30-Jun	27	25	22	27	A	24	24	25	25	24	26	28	28	29	28	30	30	30	30	28	26	25	25	23	26.5	30.4
	29.6	28.6	26.1	24.8	--	21.1	20.9	23.3	25.7	28.9	31.2	33.5	35.4	36.3	37.0	37.5	38.1	37.4	36.7	35.2	32.4	30.8	30.0	28.4	Diurnal Average	
	52.7	43.3	38.7	38.2	--	36.4	37.3	39.0	44.5	46.7	52.0	56.2	58.3	60.7	62.0	62.5	62.8	63.1	58.9	58.1	48.8	41.9	39.4	41.0	Diurnal Maximum	

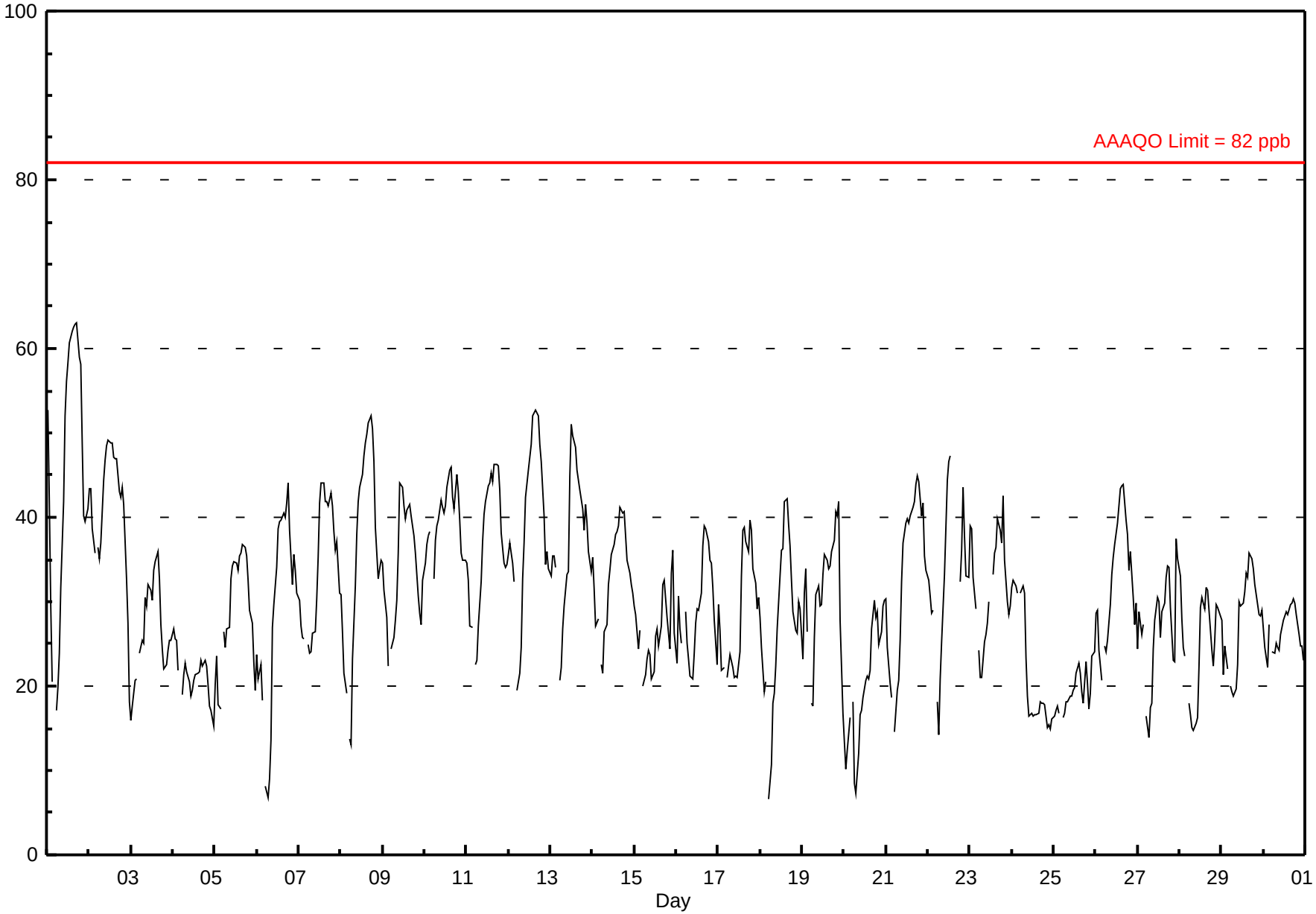
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na

Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Beaverlodge - June 2011



Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

Beaverlodge - June 2011

Maximum Value: 65.1 ppb on Jun 1 18:00

Maximum Daily Average: 49.5 ppb on Jun 1

Minimum Value: 10 ppb on Jun 20 08:00

Minimum Daily Average: 21.2 ppb on Jun 25

Maximum Diurnal Average: 40.6 ppb at hour 17

Minimum Diurnal Average: 24.5 ppb at hour 7

Monthly Average: 33.94 ppb

Percentiles: P_1 = 15.5 P_{10} = 21.5 Q_1 = 26.6 Median = 33.1 Q_3 = 40.7 P_{90} = 46.4 P_{99} = 60.9

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	55	56	43	25	A	22	24	26	38	45	57	58	61	63	64	64	65	65	61	61	55	46	41	44	49.5	65.1
2-Jun	45	45	43	38	A	41	38	46	47	49	50	51	51	51	49	49	50	49	47	48	48	36	32	22	44.6	50.9
3-Jun	17	22	23	22	A	29	29	34	34	33	34	33	31	40	45	40	37	30	27	24	25	26	28	28	29.9	44.8
4-Jun	28	29	28	23	A	21	24	25	24	22	21	21	22	23	23	23	24	24	25	24	22	19	22	21	23.3	28.9
5-Jun	25	30	30	24	A	30	28	29	33	36	36	37	37	36	38	38	39	39	38	35	33	31	29	25	32.9	39.2
6-Jun	27	25	25	24	A	16	15	13	19	32	33	38	41	42	42	42	43	46	48	43	37	37	35	32	33.0	48.1
7-Jun	32	30	27	28	A	27	25	26	28	29	33	41	44	46	45	45	44	44	44	43	40	38	40	35	36.2	45.5
8-Jun	35	32	25	24	A	22	18	33	37	41	44	45	47	49	51	52	55	54	53	50	47	38	35	36	40.1	54.7
9-Jun	36	34	32	26	A	28	29	30	33	39	47	47	43	42	43	43	43	40	39	38	33	31	31	34	36.6	47.2
10-Jun	36	39	39	41	A	36	40	41	42	44	43	43	43	46	48	48	46	45	46	46	42	39	36	36	41.9	48.2
11-Jun	36	36	33	30	A	26	26	33	37	40	42	44	46	46	47	46	48	48	48	46	42	37	36	36	39.5	48.2
12-Jun	38	41	42	38	A	24	25	29	37	41	46	49	58	53	56	56	56	55	53	49	46	38	38	36	43.7	57.8
13-Jun	35	37	37	36	A	32	33	31	31	38	41	50	54	51	51	48	47	45	44	43	46	44	38	36	41.2	54.1
14-Jun	37	36	32	30	A	25	26	29	30	35	37	37	39	40	40	42	43	42	43	41	37	35	34	33	35.7	43.3
15-Jun	32	31	28	29	A	25	24	25	29	29	22	24	29	29	30	30	35	34	33	30	27	39	41	30	29.8	40.7
16-Jun	28	33	32	29	A	31	27	26	23	24	26	31	32	31	36	40	41	42	40	38	40	34	32	30	32.4	41.7
17-Jun	33	30	26	24	A	23	24	26	24	22	23	23	30	35	45	45	40	40	42	42	38	35	34	32	32.1	45.4
18-Jun	31	28	27	27	A	11	19	20	21	25	32	36	39	40	46	44	42	40	36	31	29	29	35	32	31.3	45.7
19-Jun	29	40	38	32	A	20	19	31	34	35	34	34	37	40	39	37	37	42	45	44	46	48	36	22	35.5	48.2
20-Jun	16	12	14	19	A	23	12	10	17	18	19	22	23	24	25	25	31	34	33	33	29	30	31	32	23.2	33.5
21-Jun	32	30	24	22	A	19	21	22	32	36	43	42	43	42	43	43	45	48	47	48	44	43	44	37	37.0	48.2
22-Jun	35	32	32	31	A	29	18	27	29	40	46	48	49	51	C	C	C	C	36	47	45	41	34	35	37.1	51.2
23-Jun	41	42	35	31	A	26	27	25	27	27	30	32	A	35	39	41	42	42	43	45	39	32	30	31	34.8	45.0
24-Jun	33	34	33	32	A	34	34	35	26	22	18	18	18	18	18	18	19	19	19	19	18	17	16	17	23.2	34.9
25-Jun	17	18	18	18	A	17	19	19	19	20	20	20	22	24	24	23	22	23	25	22	19	23	25	28	21.2	28.1
26-Jun	31	31	29	26	A	28	26	29	33	36	38	39	41	44	46	46	46	43	42	37	40	37	31	32	36.0	46.5
27-Jun	29	32	32	30	A	22	20	20	22	27	30	33	33	32	35	34	35	36	36	33	29	35	40	38	31.1	40.4
28-Jun	40	32	26	26	A	21	19	17	17	18	18	30	33	33	32	34	33	32	27	24	31	31	31	30	27.5	40.0
29-Jun	30	27	27	23	A	22	21	21	21	27	32	32	32	33	36	36	39	37	37	34	32	31	30	31	30.0	38.7
30-Jun	28	26	27	29	A	26	25	27	26	25	28	29	30	31	31	31	31	33	33	30	28	26	26	24	28.3	33.2
	32.3	32.3	30.2	27.9	--	25.2	24.5	26.8	29.1	31.8	34.1	36.2	38.2	39.0	40.2	40.1	40.6	40.4	39.7	38.3	36.3	34.2	33.0	31.2	Diurnal Average	
	54.7	55.7	43.3	40.6	--	40.6	40.0	46.4	47.1	48.7	57.3	58.3	60.8	62.7	64.0	63.8	64.6	65.1	60.9	60.9	55.3	48.2	44.2	43.5	Diurnal Maximum	

C - Calibration

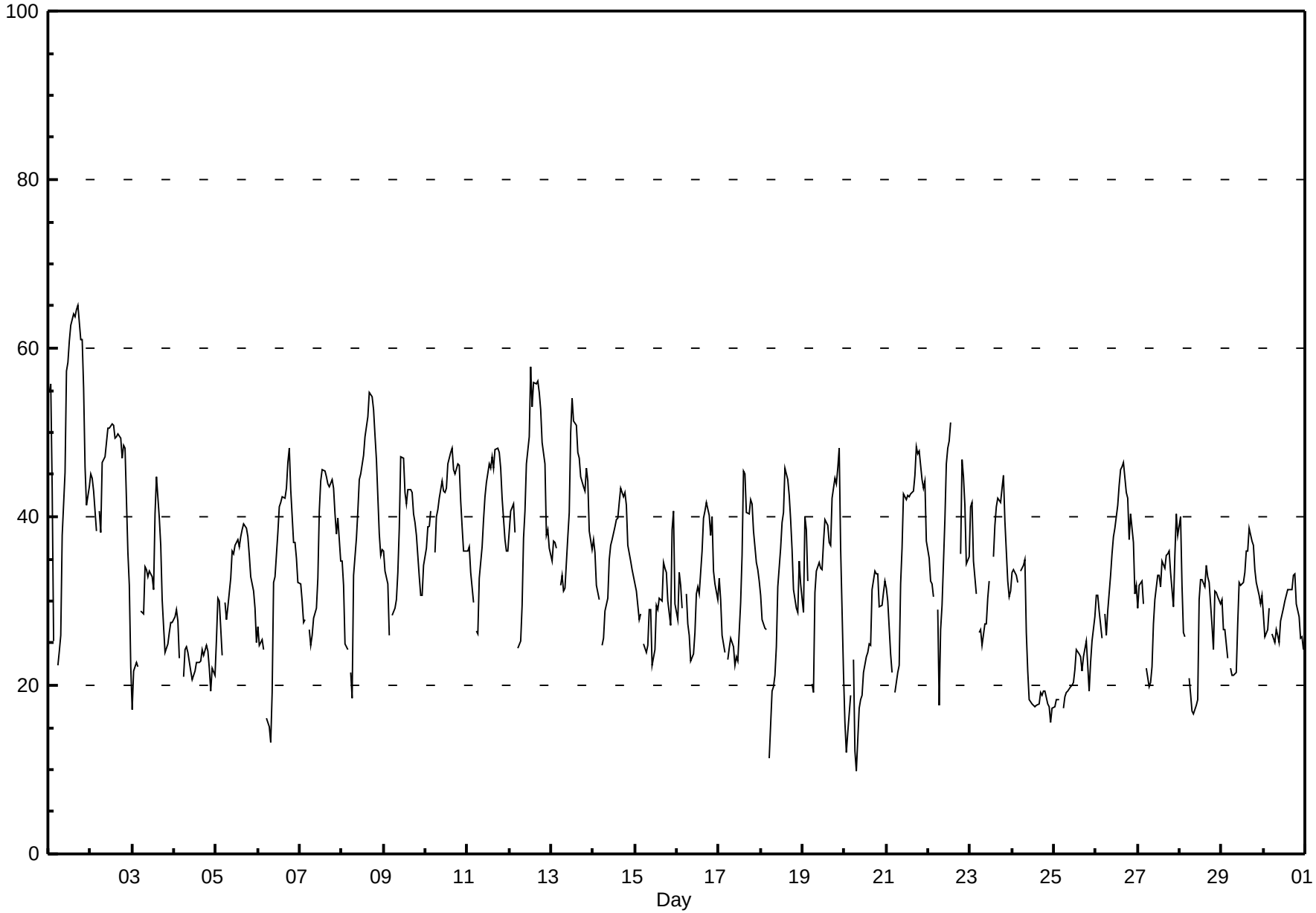
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

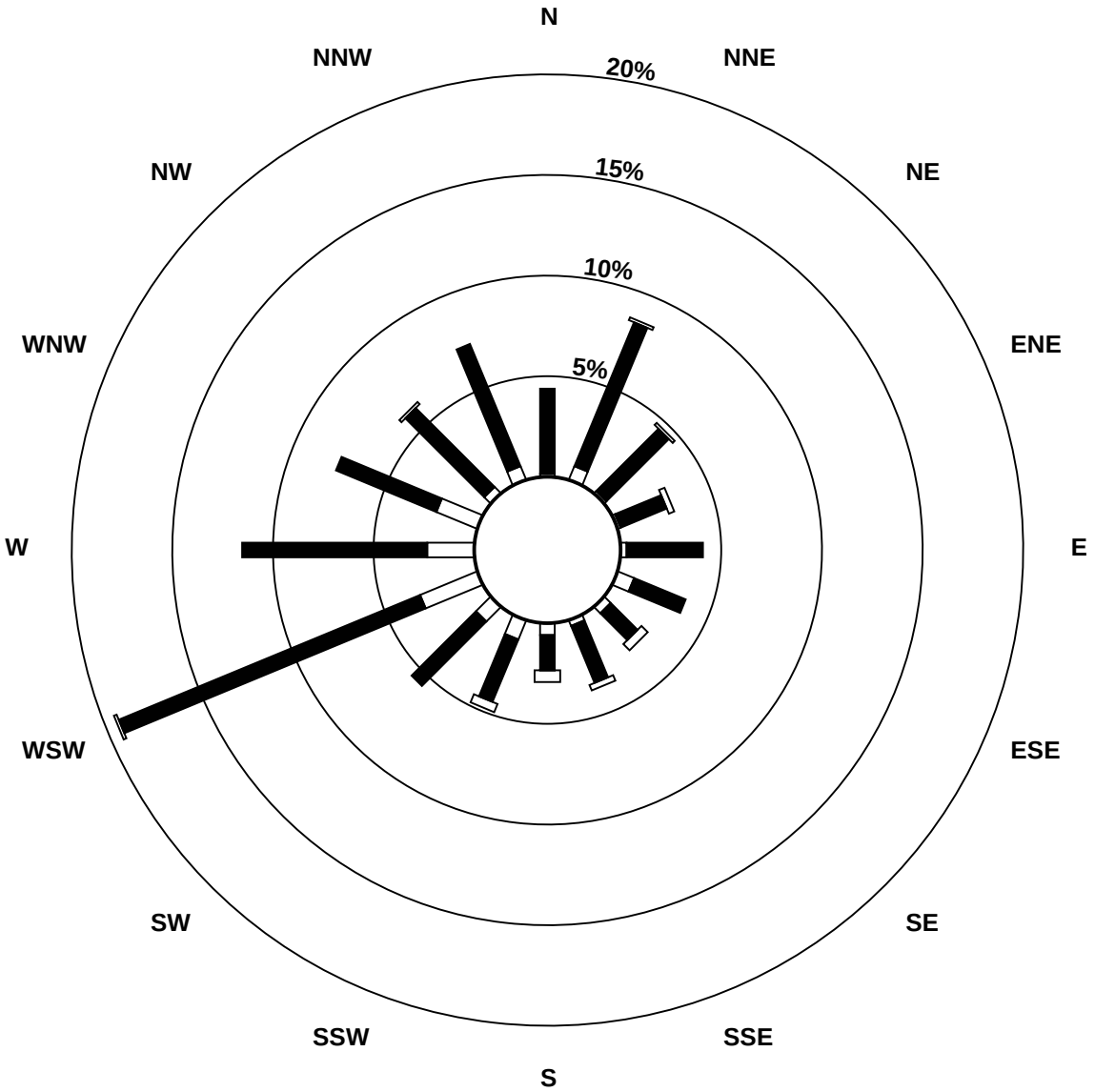
Beaverlodge - June 2011



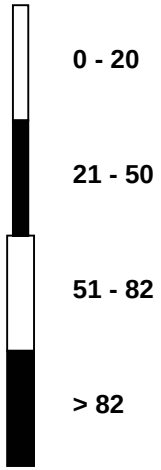
Pollutant Rose

Ozone (O_3) - ppb

Beaverlodge - June 2011



Pollutant Classes (ppb)



Peace Airshed Zone Association

Eight Hour Running Averages

Ozone (O_3) - ppb

Beaverlodge - June 2011

Maximum Value: 60.8 ppb on Jun 1 20:00

Minimum Value: 12.1 ppb on Jun 20 09:00

Percentiles: P_1 = 14.8 P_{10} = 20.5 Q_1 = 24.8 Median = 29.5 Q_3 = 36.4 P_{90} = 41.9 P_{99} = 52.4

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

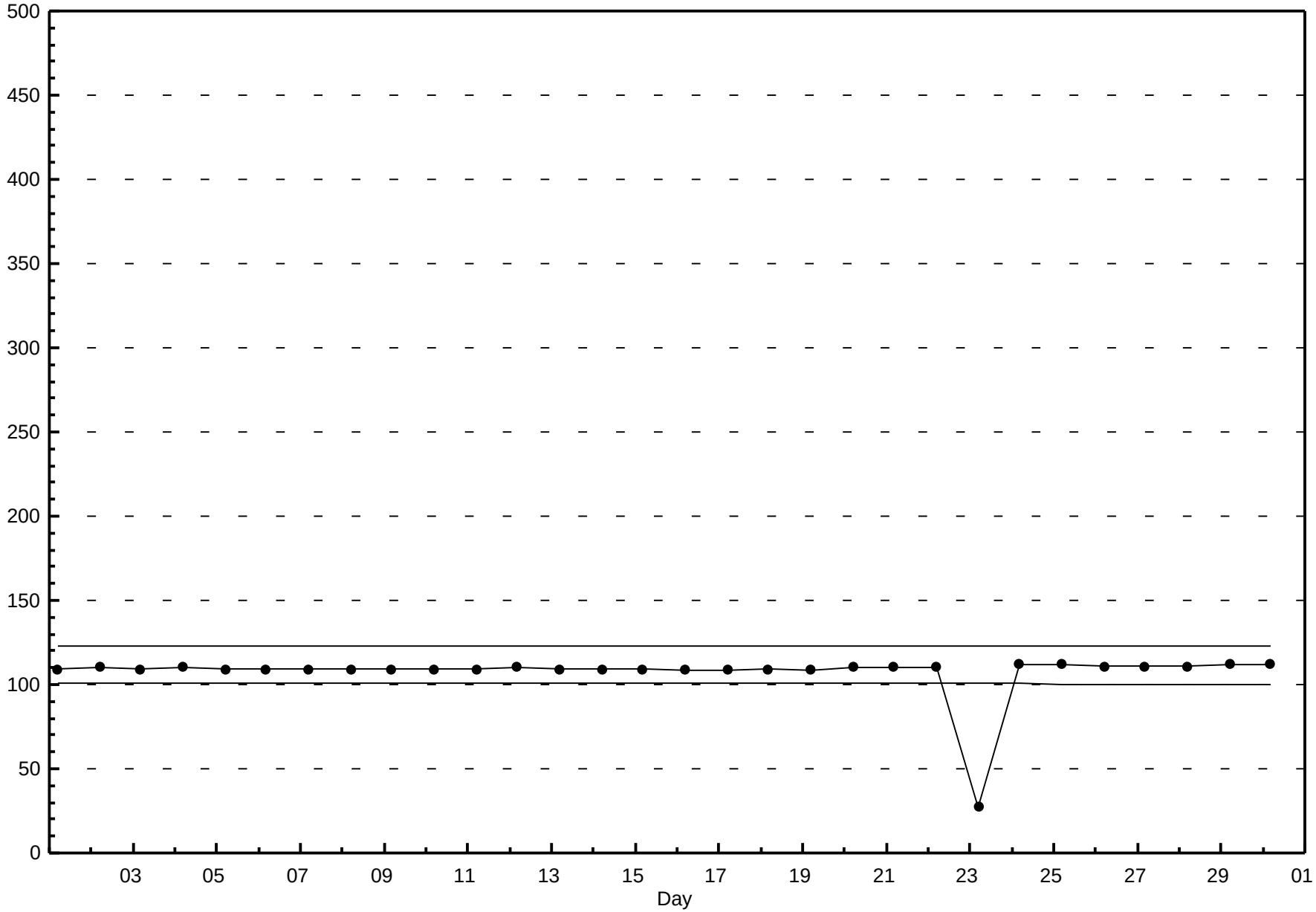
Day	Hourly Period Ending At (MST)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Jun	52	50	46	42	42	38	33	29	26	26	30	35	38	43	48	53	57	60	61	61	60	57	54	52	60.8
2-Jun	49	47	44	41	40	40	39	39	39	39	41	42	43	45	46	48	48	47	47	46	45	43	41	37	49.1
3-Jun	33	30	27	24	22	21	20	21	23	25	27	28	28	30	31	32	32	32	31	30	29	28	27	25	33.1
4-Jun	25	25	25	25	25	24	24	23	23	22	21	21	21	21	21	21	21	21	22	22	22	21	21	20	24.9
5-Jun	20	20	19	19	18	20	21	22	23	25	27	29	30	31	32	34	35	35	35	35	34	34	32	30	35.4
6-Jun	28	26	25	23	22	19	17	16	14	15	16	18	21	25	29	33	36	38	40	40	40	39	38	37	40.3
7-Jun	36	34	32	30	30	28	27	26	25	25	26	27	29	31	34	36	38	40	42	42	42	41	40	39	42.4
8-Jun	37	36	33	30	29	26	22	21	21	23	26	29	31	35	40	43	46	47	49	49	48	46	44	43	48.9
9-Jun	40	38	35	32	31	30	29	28	27	28	30	33	34	36	38	40	41	41	41	40	38	37	35	34	41.3
10-Jun	33	33	33	33	34	34	36	37	37	38	39	39	39	41	42	42	43	43	43	44	43	42	41	40	43.5
11-Jun	39	38	35	33	32	31	29	28	27	28	30	32	34	36	39	41	43	44	45	45	44	43	42	40	44.9
12-Jun	39	38	36	35	35	32	31	29	29	29	30	32	34	37	41	45	47	49	50	50	49	47	45	43	50.0
13-Jun	41	39	37	35	35	33	31	30	29	29	29	30	33	36	40	42	44	45	46	45	44	43	41	40	46.0
14-Jun	39	37	35	34	33	31	29	28	26	26	27	28	29	31	34	35	37	38	39	39	39	38	37	36	39.0
15-Jun	35	33	31	30	29	27	26	25	24	23	23	22	23	23	24	24	25	26	28	28	28	29	31	30	35.0
16-Jun	29	29	29	28	29	28	26	26	26	24	24	24	25	25	26	27	30	32	33	34	35	35	35	33	35.4
17-Jun	32	31	29	27	26	25	24	24	23	22	22	22	22	24	26	27	29	31	34	36	37	37	36	35	36.9
18-Jun	33	32	30	27	26	23	20	18	17	17	18	20	22	25	29	32	35	37	37	37	36	34	33	31	37.2
19-Jun	29	28	29	28	29	27	26	25	26	26	26	26	27	29	31	32	33	33	34	36	37	37	36	34	37.4
20-Jun	32	29	25	22	20	16	14	12	12	13	14	14	15	15	17	19	20	22	24	25	25	26	27	28	31.8
21-Jun	29	28	27	26	26	24	23	21	21	22	24	27	29	32	34	37	39	40	41	42	42	42	42	41	42.2
22-Jun	40	38	36	34	33	30	27	25	24	24	26	28	30	34	37	39	N	N	N	N	N	N	N	36	39.6
23-Jun	36	37	37	36	35	33	31	29	27	26	25	25	25	26	28	31	33	34	36	38	37	37	36	35	37.6
24-Jun	34	33	33	31	31	31	31	32	30	28	26	24	23	21	20	18	17	17	17	17	17	17	17	17	34.1
25-Jun	16	16	16	16	16	16	17	17	17	18	18	18	18	19	20	20	20	20	21	21	20	20	20	21	20.8
26-Jun	22	23	23	23	24	25	25	25	25	26	28	30	31	33	36	38	40	40	41	40	40	39	37	35	40.8
27-Jun	32	31	30	29	28	26	24	22	21	21	21	21	22	23	25	27	29	30	31	31	30	29	30	31	32.4
28-Jun	31	30	29	28	29	29	26	23	20	18	17	17	18	20	22	24	26	27	28	28	28	28	28	27	31.1
29-Jun	27	26	26	26	26	25	23	22	21	21	22	23	24	25	27	29	31	32	33	33	33	33	32	32	33.1
30-Jun	31	29	28	27	27	26	25	25	25	24	25	25	26	26	27	27	28	29	29	29	29	28	28	27	30.5
	52.4	49.8	46.1	42.4	41.7	39.7	39.1	38.5	38.7	39.2	40.6	42.5	43.3	44.8	48.3	53.2	57.1	59.7	60.6	60.8	59.6	57.1	54.2	51.5	
	Diurnal Maximums																								

N - Not Valid

Span Responses

Ozone (O_3)

Beaverlodge - June 2011



Peace Airshed Zone Association

Hourly Averages

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

Beaverlodge - June 2011

Number of Exceedences: 1-hr: 0 24-hr: 0
Maximum Value: 39.4 $\mu g/m^3$ on Jun 16 15:00
Maximum Daily Average: 26.4 $\mu g/m^3$ on Jun 16

Minimum Value: 0 $\mu g/m^3$ on Jun 2 18:00
Maximum Diurnal Average: 8.9 $\mu g/m^3$ at hour 7
Monthly Average: 8.06 $\mu g/m^3$
Minimum Daily Average: 1.6 $\mu g/m^3$ on Jun 24
Minimum Diurnal Average: 6.8 $\mu g/m^3$ at hour 17
Percentiles: P_1 = 0.2 P_{10} = 2.5 Q_1 = 4.4 Median = 6.7 Q_3 = 10.4 P_{90} = 15.1 P_{99} = 32.0

Hours in Service:	720
Hours of Data:	699
Hours of Missing Data:	21
Hours of Calibration:	0
Percent Operational Time:	97.1

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	14	14	16	16	18	17	17	18	19	P	6	13	13	13	14	14	16	13	14	13	13	13	14	11	14.4	19.5
2-Jun	11	12	11	11	13	14	20	13	12	12	P	P	13	11	12	12	2	0	8	12	12	11	12	13	11.2	19.5
3-Jun	10	9	6	6	7	P	P	10	7	4	3	7	8	6	7	7	2	2	3	P	P	7	3	4	5.9	9.9
4-Jun	4	P	4	6	8	6	P	10	8	10	P	P	P	P	P	P	P	P	P	9	11	16	12	11	--	16.3
5-Jun	11	11	9	9	9	9	8	8	8	10	7	8	7	6	7	8	7	4	4	6	7	6	6	7	7.6	11.0
6-Jun	7	7	7	8	8	8	8	8	8	9	7	7	6	4	5	5	4	7	5	6	7	7	6	7	6.7	9.2
7-Jun	7	7	7	7	9	9	8	6	9	16	18	16	8	20	20	16	15	15	14	8	5	7	5	4	10.6	19.7
8-Jun	5	5	5	6	6	8	7	7	7	5	5	5	5	6	10	11	9	10	10	11	12	14	14	14	8.2	14.5
9-Jun	15	13	14	15	15	14	12	11	10	10	11	7	8	9	9	8	6	8	8	7	5	5	6	5	9.7	15.2
10-Jun	4	4	4	4	4	3	4	5	5	5	5	5	5	5	4	4	6	5	5	5	6	7	7	6	4.8	7.1
11-Jun	5	4	4	7	5	6	5	5	5	5	5	4	5	5	4	5	5	7	5	5	10	16	13	14	6.4	16.3
12-Jun	12	12	10	7	8	11	11	8	8	10	5	4	P	5	5	4	4	4	5	4	4	5	5	6	6.9	12.5
13-Jun	6	7	7	7	7	8	7	7	9	8	9	8	6	5	5	8	8	7	9	8	6	4	4	5	7.0	9.3
14-Jun	4	4	4	4	5	5	7	7	16	7	6	9	6	3	4	6	6	7	4	5	5	7	4	2	5.7	15.6
15-Jun	1	4	4	4	2	2	4	3	3	5	3	3	4	6	3	P	P	21	26	26	23	17	12	12	8.6	26.1
16-Jun	14	17	20	18	25	38	32	24	21	18	19	24	32	38	39	35	15	14	27	33	29	31	34	36	26.4	39.4
17-Jun	29	20	23	23	20	17	11	10	8	8	7	5	5	5	6	5	6	5	5	5	7	4	6	7	10.2	28.9
18-Jun	6	6	8	9	8	6	7	4	7	9	11	11	11	8	8	9	7	6	6	5	6	7	7	6	7.4	10.9
19-Jun	7	8	6	6	6	7	8	9	10	12	12	10	11	11	10	10	11	9	8	9	6	5	4	5	8.3	11.6
20-Jun	5	4	4	3	3	3	5	5	4	5	4	4	3	4	4	3	3	4	4	4	5	5	4	5	4.1	5.2
21-Jun	5	5	5	6	7	5	5	4	4	3	5	5	6	5	6	6	4	4	5	6	7	7	7	8	5.5	7.9
22-Jun	6	7	7	7	7	8	8	9	9	10	8	7	5	8	9	8	11	7	9	10	6	5	8	8	7.9	11.2
23-Jun	9	7	8	7	5	9	10	9	10	11	13	12	13	12	11	10	5	6	6	6	6	8	6	3	8.4	13.5
24-Jun	3	3	3	2	4	2	2	2	2	1	0	0	1	2	2	0	0	1	2	2	1	1	0	1	1.6	4.0
25-Jun	1	1	2	2	2	0	0	1	2	1	1	1	1	3	2	4	4	3	4	5	6	5	4	6	2.5	5.8
26-Jun	9	12	11	13	13	14	15	15	14	14	15	15	15	14	14	15	15	17	16	16	16	16	15	15	14.3	16.8
27-Jun	15	16	16	17	15	16	15	17	19	18	16	17	14	14	11	10	10	10	9	10	13	12	10	5	13.5	19.2
28-Jun	6	5	6	6	6	5	7	6	7	7	9	8	5	6	5	5	3	5	4	4	3	2	2	1	5.0	8.6
29-Jun	2	2	3	3	2	2	3	1	1	0	1	2	3	1	1	2	2	2	2	5	5	4	4	3	2.4	5.2
30-Jun	3	3	2	2	1	1	3	2	2	3	2	5	2	0	4	4	4	2	2	3	3	4	2	4	2.6	4.7
	7.9	7.8	7.9	8.0	8.3	8.7	8.9	8.2	8.5	8.1	7.6	8.0	7.9	8.2	8.4	8.3	6.8	6.9	7.9	8.5	8.4	8.6	7.9	7.7	Diurnal Average	
	28.9	19.6	23.0	22.6	25.1	38.4	31.6	23.7	20.9	18.2	19.0	24.2	32.0	38.3	39.4	34.7	16.5	21.1	26.8	32.7	29.2	31.2	34.2	36.4	Diurnal Maximum	

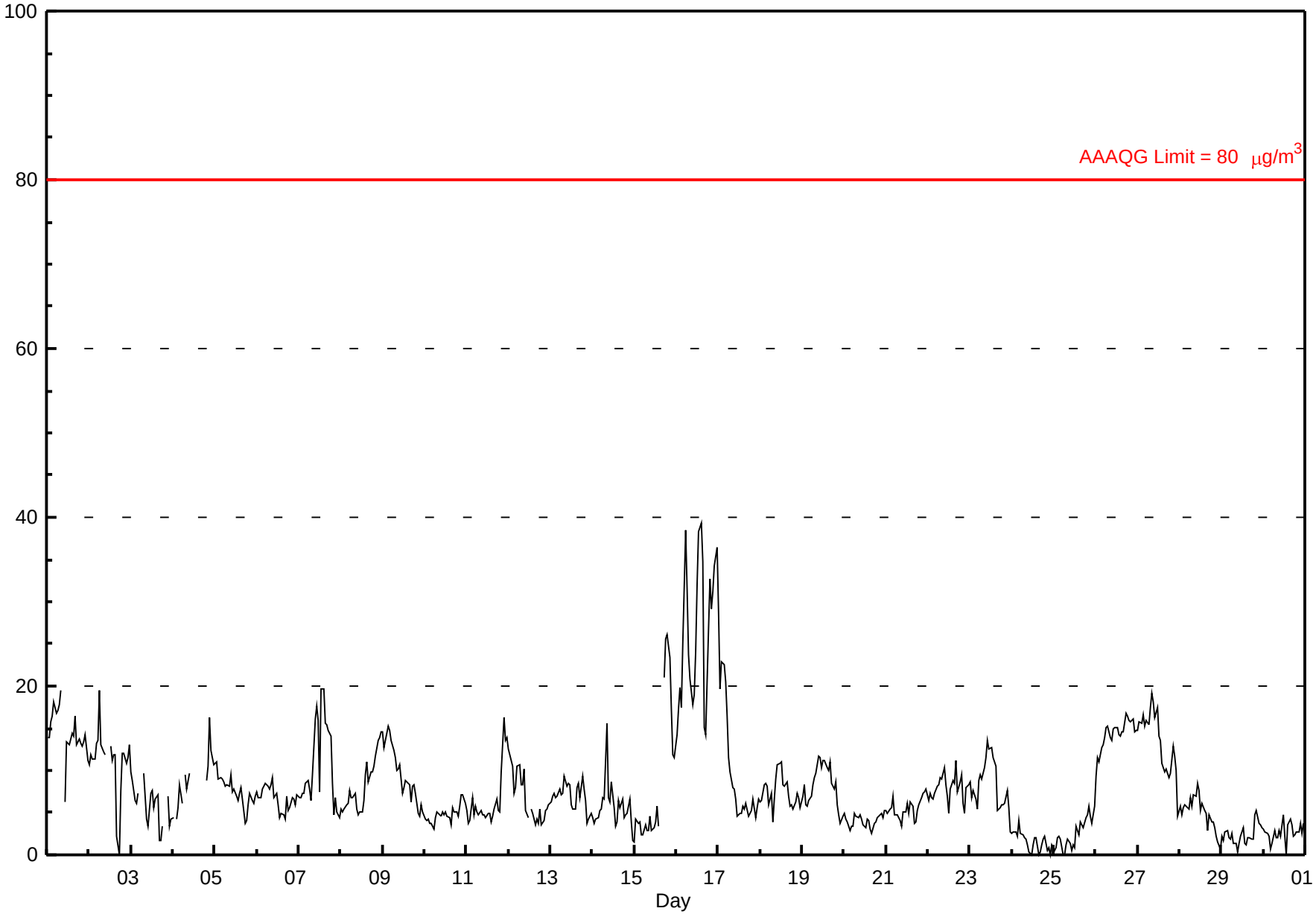
P - Power Failure
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

Hourly Averages

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

Beaverlodge - June 2011



Peace Airshed Zone Association

Hourly Maximums

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

Beaverlodge - June 2011

Maximum Value: 41.1 $\mu g/m^3$ on Jun 16 14:00

Maximum Daily Average: 29.7 $\mu g/m^3$ on Jun 16

Minimum Value: 0 $\mu g/m^3$ on Jun 24 23:00

Minimum Daily Average: 2.4 $\mu g/m^3$ on Jun 24

Maximum Diurnal Average: 10.0 $\mu g/m^3$ at hour 7

Minimum Diurnal Average: 8.4 $\mu g/m^3$ at hour 18

Monthly Average: 9.25 $\mu g/m^3$

Percentiles: P_1 = 1.1 P_{10} = 3.3 Q_1 = 5.3 Median = 7.7 Q_3 = 11.8 P_{90} = 16.4 P_{99} = 34.9

Hours in Service:	720
Hours of Data:	699
Hours of Missing Data:	21
Hours of Calibration:	0
Percent Operational Time:	97.1

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	15	16	17	19	19	18	18	18	20	P	14	14	14	14	15	16	17	15	14	14	14	15	15	12	15.8	20.4
2-Jun	11	13	12	13	14	15	21	19	14	13	P	P	14	13	13	13	10	2	13	14	13	12	12	14	13.1	20.6
3-Jun	12	10	7	7	8	P	P	12	9	6	5	8	9	7	9	9	3	3	5	P	P	8	7	5	7.4	12.2
4-Jun	5	P	5	7	9	8	P	11	9	11	P	P	P	P	P	P	P	P	P	10	11	18	17	12	--	17.7
5-Jun	12	12	10	10	9	9	8	9	10	11	8	8	8	8	8	9	9	5	5	7	8	7	7	8	8.5	12.4
6-Jun	8	7	7	9	9	9	9	9	9	10	8	8	8	5	7	6	7	8	6	7	7	7	6	8	7.6	9.9
7-Jun	8	7	8	8	9	9	9	8	11	19	19	17	15	22	21	18	16	15	15	12	6	7	6	5	12.1	21.6
8-Jun	6	6	7	7	8	8	7	7	8	6	5	5	5	8	11	12	12	11	10	11	12	14	15	15	9.1	14.8
9-Jun	15	14	16	16	16	14	14	13	11	12	13	9	9	10	9	9	7	9	9	9	6	5	7	5	10.6	15.8
10-Jun	6	5	5	4	4	4	5	6	6	5	6	5	6	5	5	4	7	6	6	5	6	8	8	7	5.5	7.7
11-Jun	6	4	7	8	6	6	6	6	6	6	5	5	5	5	5	5	6	7	7	6	18	18	16	16	7.7	18.2
12-Jun	13	13	13	8	10	11	12	10	10	12	8	5	P	8	6	4	5	5	6	4	5	6	6	7	8.1	13.1
13-Jun	7	7	8	8	8	8	8	9	10	9	10	9	7	6	7	9	9	8	10	9	7	5	5	5	7.8	10.2
14-Jun	5	4	5	5	6	6	8	13	19	11	8	9	8	5	6	8	8	8	6	5	5	7	6	3	7.2	18.7
15-Jun	3	5	4	4	3	3	5	4	4	6	4	4	5	7	6	P	P	25	26	27	26	21	15	13	9.9	26.5
16-Jun	16	20	21	19	33	41	39	26	22	20	22	27	35	41	41	38	26	22	30	34	32	33	35	37	29.7	41.1
17-Jun	36	22	24	24	22	19	14	10	10	8	8	5	5	6	6	6	7	6	6	6	7	6	7	7	11.6	35.7
18-Jun	7	8	9	9	10	8	8	5	7	11	11	12	11	11	10	10	8	7	7	6	7	8	7	6	8.5	11.7
19-Jun	9	9	7	6	7	9	9	10	11	13	13	12	12	12	11	11	12	10	9	10	7	6	5	5	9.3	12.9
20-Jun	5	5	5	4	4	4	5	5	5	5	5	5	4	5	5	4	4	4	6	6	6	5	5	6	4.9	5.8
21-Jun	6	6	6	7	7	6	5	5	5	4	6	6	7	6	7	7	7	5	6	7	7	8	8	8	6.4	8.4
22-Jun	8	8	7	7	8	9	9	10	10	11	10	8	7	9	10	12	13	8	10	11	8	7	9	9	9.1	13.1
23-Jun	9	8	8	8	7	9	11	10	11	13	14	13	13	13	12	13	7	6	6	6	7	8	8	3	9.4	14.4
24-Jun	3	3	3	3	5	4	3	3	3	3	1	1	2	3	3	1	1	2	3	3	1	2	0	2	2.4	5.0
25-Jun	2	2	2	3	3	1	1	3	3	2	1	2	2	4	3	5	5	4	5	5	7	7	4	7	3.4	7.1
26-Jun	12	12	12	14	14	14	16	16	15	15	16	16	16	15	15	16	16	18	17	17	16	16	16	16	15.2	17.8
27-Jun	15	16	17	17	16	16	17	19	20	20	19	18	16	14	13	10	11	11	10	12	14	13	13	5	14.6	19.9
28-Jun	8	7	7	7	7	7	7	6	8	8	9	8	7	7	6	6	4	6	6	4	5	3	3	1	6.1	9.0
29-Jun	3	3	4	4	3	3	3	2	2	1	2	4	4	2	2	3	3	2	5	5	6	4	4	4	3.2	6.0
30-Jun	4	4	3	3	1	3	4	3	3	4	3	6	6	1	5	5	5	3	3	4	4	5	4	4	3.8	6.2
	9.1	8.9	8.8	8.8	9.4	9.8	10.0	9.6	9.7	9.4	9.0	9.0	9.3	9.4	9.6	9.6	8.7	8.4	9.2	9.5	9.6	9.6	9.2	8.5	Diurnal Average	
	35.7	21.6	24.3	23.9	33.1	40.9	39.2	26.0	22.4	19.6	22.3	27.5	35.4	41.1	41.0	38.3	25.8	25.0	29.7	34.3	32.1	33.2	35.5	37.2	Diurnal Maximum	

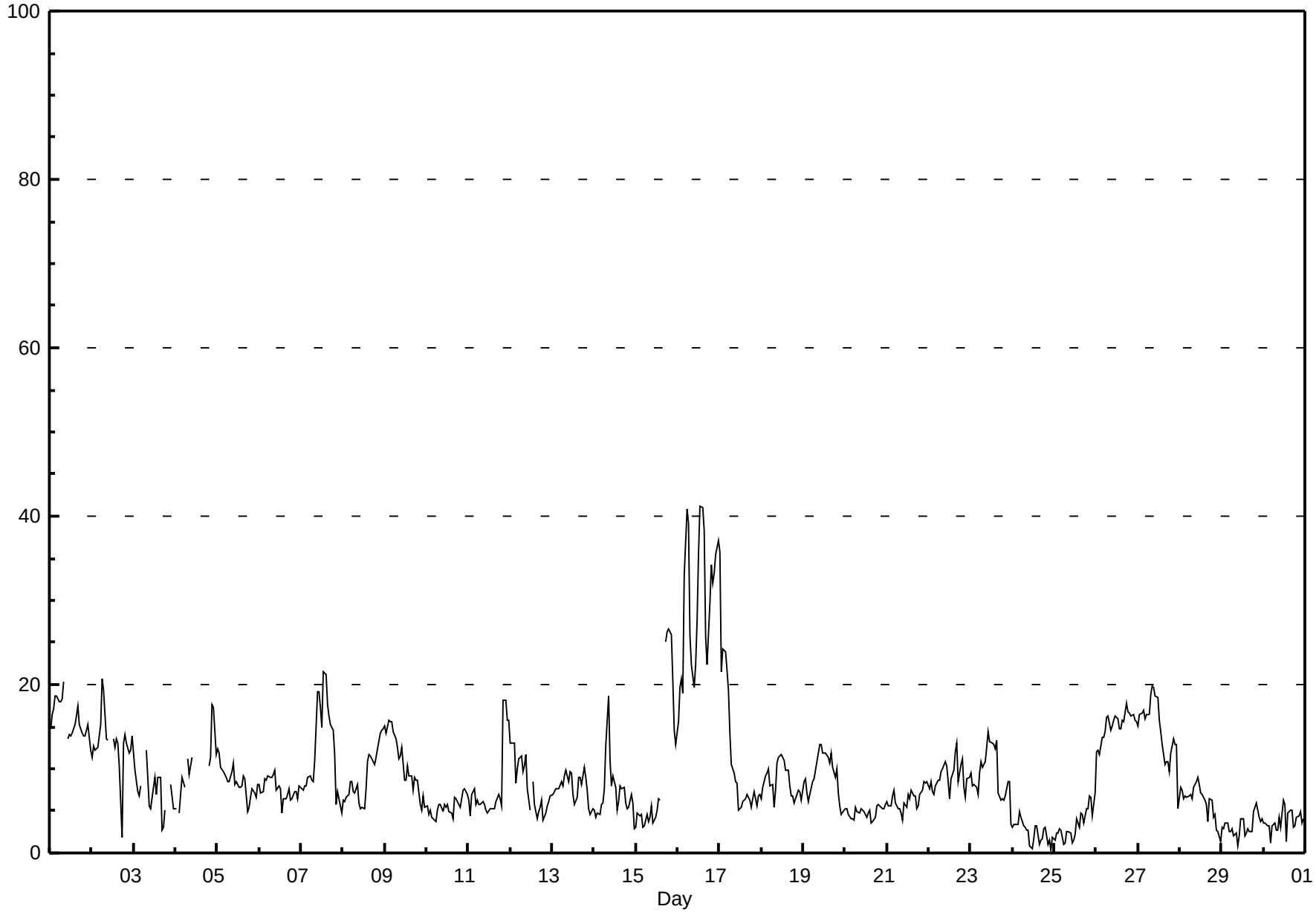
P - Power Failure

Peace Airshed Zone Association

Hourly Maximums

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

Beaverlodge - June 2011

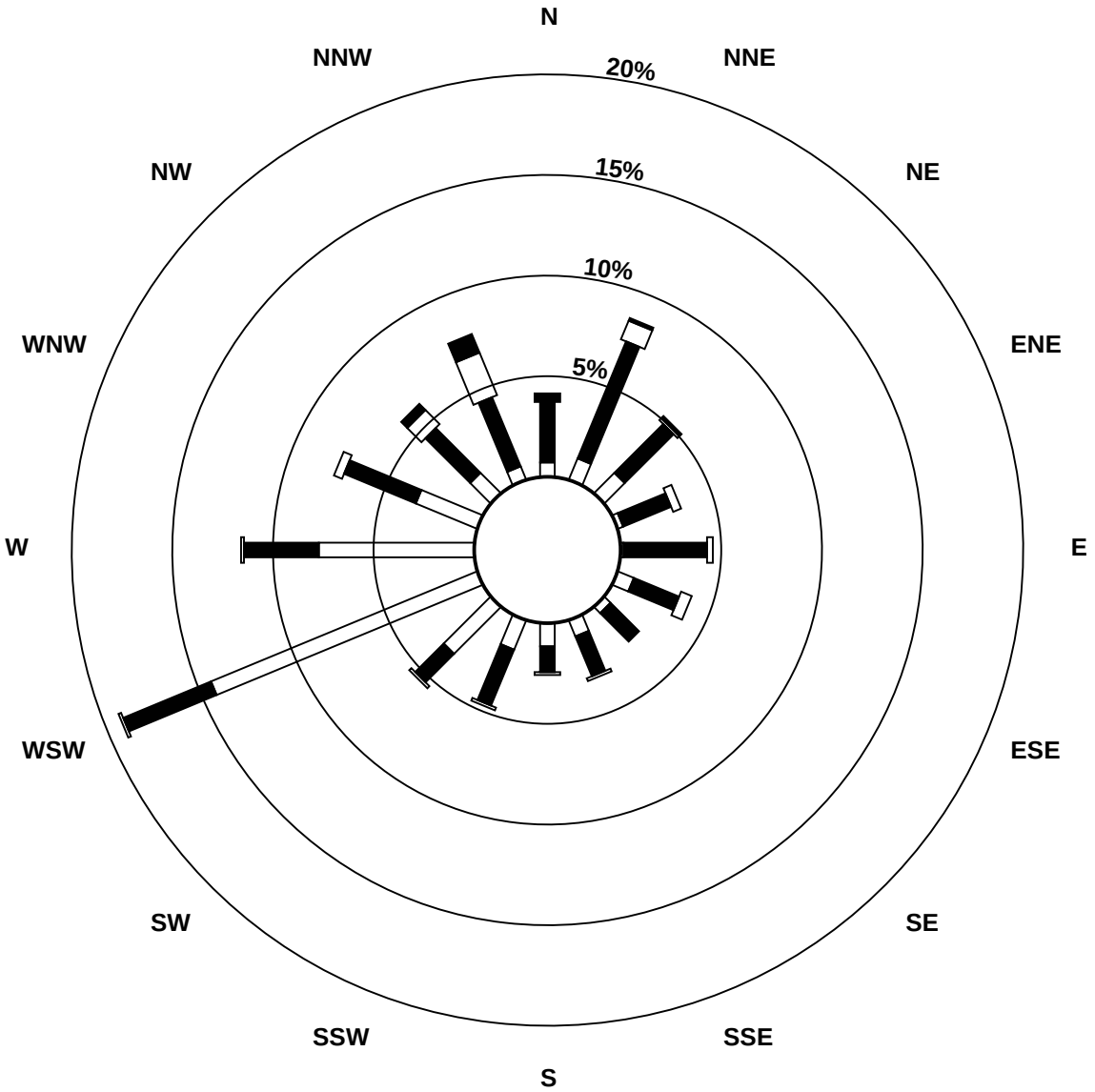


Peace Airshed Zone Association

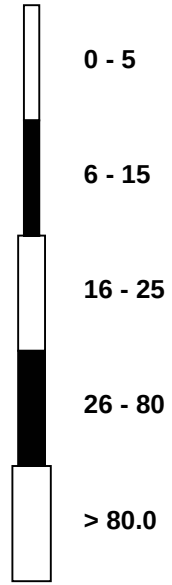
Pollutant Rose

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

Beaverlodge - June 2011



Pollutant Classes ($\mu g/m^3$)



Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - °C

Beaverlodge - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 24.5 °C on Jun 26 11:00 Maximum Daily Average: 17.5 °C on Jun 26

Minimum Value: -12 °C on Jun 4 02:00 Minimum Daily Average: 4.0 °C on Jun 4
Maximum Diurnal Average: 17.8 °C at hour 16 Minimum Diurnal Average: 8.3 °C at hour 5
Monthly Average: 13.47 °C Percentiles: P_1 = -5.7 P_{10} = 8.0 Q_1 = 10.3 Median = 13.6 Q_3 = 17.2 P_{90} = 19.9 P_{99} = 23.1

Hours in Service:	720
Hours of Data:	637
Hours of Missing Data:	83
Hours of Calibration:	0
Percent Operational Time:	88.5

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jun	11	9	6	5	4	5	8	12	14	16	19	20	19	21	22	22	22	23	21	20	17	14	12	11	14.6	22.7
2-Jun	10	10	9	8	7	9	12	14	16	18	20	22	23	23	23	20	18	16	P	P	P	P	P	P	15.4	22.9
3-Jun	P	9	8	P	P	P	P	P	P	P	P	P	P	P	2	1	0	-1	-1	-4	-4	-5	-6	-8	--	9.2
4-Jun	-10	-12	-9	-4	-1	-4	-7	-4	-7	4	P	7	8	9	11	11	14	14	14	13	12	12	11	11	4.0	14.3
5-Jun	10	10	9	9	9	9	9	9	10	11	13	14	13	11	15	12	14	15	14	13	13	11	10	8	11.4	15.2
6-Jun	8	7	7	7	7	7	8	9	10	12	14	18	18	18	19	19	14	16	18	16	14	12	12	11	12.6	18.9
7-Jun	10	9	9	9	9	9	10	10	11	10	11	13	15	16	16	15	15	15	15	13	12	10	9	8	11.6	16.1
8-Jun	8	6	5	5	4	6	10	12	13	14	16	16	17	18	19	19	21	21	21	20	18	15	13	12	13.7	20.7
9-Jun	12	10	10	8	8	9	11	12	16	19	23	23	23	22	22	22	21	21	20	19	18	16	15	15	16.4	22.8
10-Jun	15	14	14	13	12	12	13	13	14	15	14	14	14	15	18	18	17	17	18	16	14	11	10	9	14.3	18.4
11-Jun	8	7	5	5	5	6	9	12	13	15	16	17	18	18	19	18	19	20	18	17	16	14	13	13	13.5	20.1
12-Jun	13	12	10	8	7	7	9	10	15	15	18	20	14	16	16	19	19	19	18	18	16	14	13	12	14.1	19.9
13-Jun	11	11	10	10	9	9	12	13	15	18	17	19	20	20	20	19	16	16	16	16	15	14	13	12	14.7	20.4
14-Jun	11	10	8	8	7	7	10	13	15	16	17	17	18	19	19	19	19	19	18	17	15	12	10	9	13.9	19.1
15-Jun	9	8	7	8	7	8	9	11	12	10	10	11	P	P	P	P	P	P	P	P	P	P	P	P	--	11.8
16-Jun	P	P	P	P	P	P	11	12	13	14	15	16	16	15	15	13	14	P	14	13	12	12	12	12	--	16.2
17-Jun	12	11	11	11	P	11	11	12	12	13	13	14	13	16	P	P	P	16	14	14	P	13	12	11	12.7	16.0
18-Jun	P	10	P	P	8	7	9	9	P	P	P	17	16	17	19	20	19	18	16	15	15	14	14	14	14.4	20.3
19-Jun	P	13	13	P	P	P	P	P	16	16	16	16	17	P	15	15	16	17	P	P	P	P	P	P	--	17.2
20-Jun	P	P	P	12	12	11	11	12	P	15	16	17	17	17	18	18	18	18	18	17	16	15	13	12	15.1	18.4
21-Jun	12	9	8	8	7	9	11	13	16	18	19	20	20	21	21	21	22	21	22	21	19	18	15	13	15.9	21.6
22-Jun	13	12	11	11	10	9	9	15	17	20	21	23	23	23	24	23	23	23	21	19	18	17	17	17	17.5	23.6
23-Jun	16	15	15	14	13	13	14	16	18	18	18	18	18	18	17	16	14	12	P	P	P	P	P	P	15.7	18.4
24-Jun	P	10	10	10	P	10	10	10	10	9	P	P	P	P	P	P	8	9	9	9	9	8	8	8	--	10.0
25-Jun	8	9	9	9	8	8	8	9	9	10	11	11	12	13	14	P	P	P	13	13	12	12	12	12	10.6	13.7
26-Jun	11	11	11	11	12	11	12	14	18	22	24	22	21	21	22	24	24	21	21	19	18	17	16	16	17.5	24.5
27-Jun	15	15	13	13	13	12	14	14	16	19	20	20	20	17	17	20	21	23	22	20	18	16	14	13	16.8	23.1
28-Jun	12	12	11	11	10	11	13	14	15	17	17	18	19	18	19	19	20	19	18	17	16	15	14	13	15.4	19.8
29-Jun	12	11	11	11	12	12	12	14	15	16	16	17	17	17	19	19	19	18	17	16	15	13	12	12	14.8	19.3
30-Jun	10	9	8	9	10	8	10	12	12	13	14	15	15	16	17	17	16	16	14	13	12	11	9	8	12.3	16.9
	10.3	9.6	8.9	8.7	8.3	8.6	9.9	11.5	13.1	14.7	16.5	17.0	17.1	17.7	17.6	17.8	17.2	17.1	16.4	15.4	14.3	12.8	11.8	10.9	Diurnal Average	
	15.7	14.8	14.9	13.9	13.3	13.5	14.3	15.5	18.4	22.3	24.5	23.2	23.3	23.4	23.6	23.5	24.1	23.1	22.5	20.9	19.1	17.6	17.5	16.8	Diurnal Maximum	

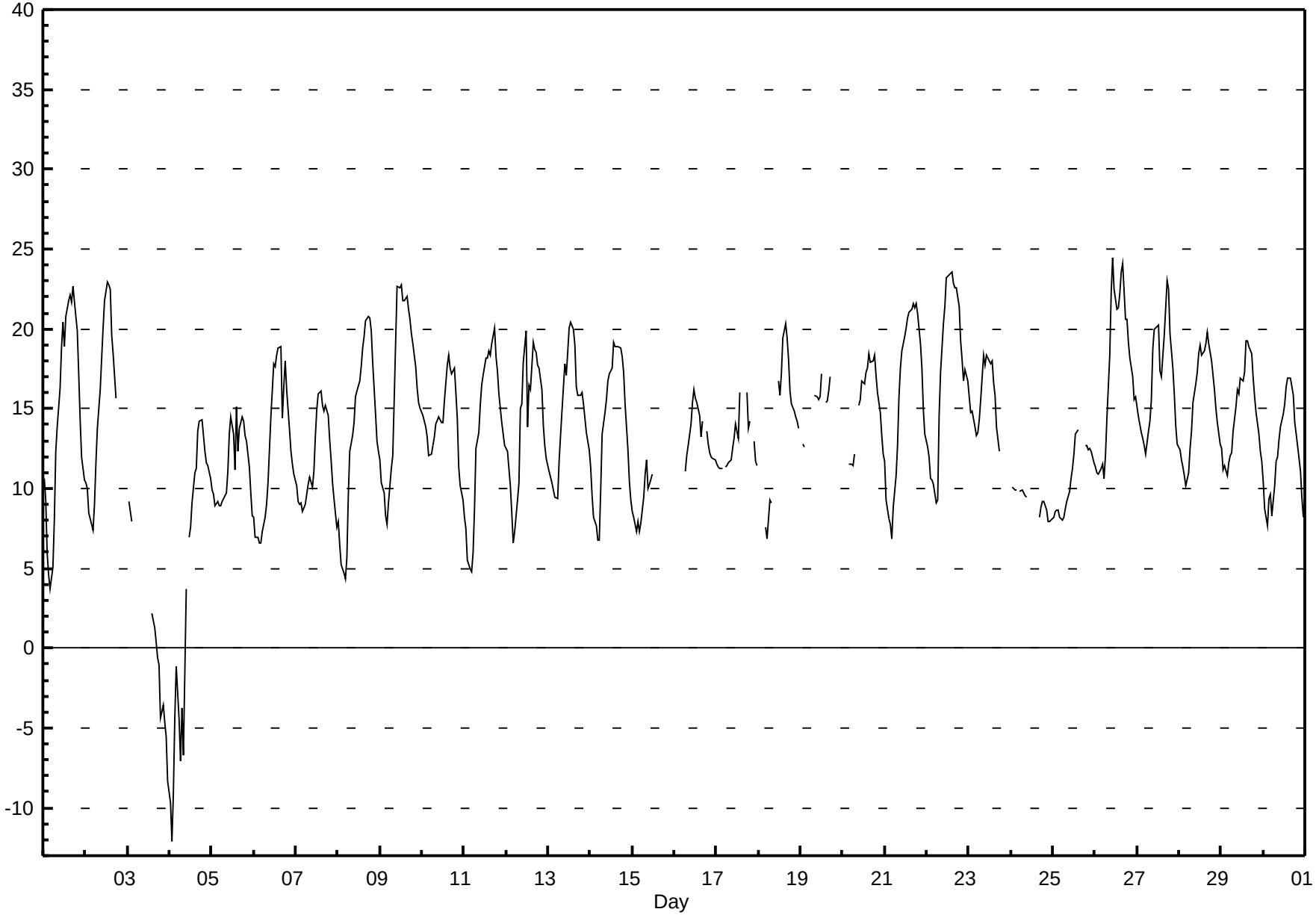
P - Power Failure

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Beaverlodge - June 2011



Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Beaverlodge - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 94.5 % on Jun 18 08:00 Maximum Daily Average: 86.7 % on Jun 25

Minimum Value: 23 % on Jun 1 18:00 Minimum Daily Average: 44.7 % on Jun 9
Maximum Diurnal Average: 79.5 % at hour 5 Minimum Diurnal Average: 47.2 % at hour 16
Monthly Average: 62.73 % Percentiles: P_1 = 24.9 P_{10} = 34.0 Q_1 = 47.6 Median = 64.1 Q_3 = 79.2 P_{90} = 88.0 P_{99} = 93.7

Hours in Service:	720
Hours of Data:	637
Hours of Missing Data:	83
Hours of Calibration:	0
Percent Operational Time:	88.5

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	58	64	76	85	87	84	74	59	56	47	37	32	33	28	25	25	25	23	27	29	38	50	58	62	49.4	87.2
2-Jun	63	63	67	67	68	62	55	51	43	38	32	29	27	25	27	34	39	54	P	P	P	P	P	P	46.8	67.7
3-Jun	P	87	86	P	P	P	P	P	P	P	P	P	P	P	86	89	91	89	89	84	87	87	86	82	--	91.0
4-Jun	80	78	81	86	92	86	80	80	71	79	P	74	75	72	70	72	65	65	66	72	80	83	81	86	77.2	92.1
5-Jun	87	85	89	88	83	82	82	83	84	73	61	57	63	76	59	68	66	62	63	71	72	80	85	92	75.5	91.5
6-Jun	91	93	93	94	94	91	89	88	85	72	64	51	43	39	38	38	55	51	40	52	65	66	68	70	67.8	93.8
7-Jun	72	77	76	75	77	75	74	72	67	68	62	53	45	41	41	45	46	47	46	48	54	58	62	71	60.4	76.8
8-Jun	71	80	89	91	93	88	71	61	50	44	40	39	39	37	33	30	26	24	26	30	39	52	56	59	52.7	92.5
9-Jun	62	69	71	74	69	61	55	53	46	38	25	25	26	28	28	27	30	32	34	36	41	45	49	50	44.7	73.7
10-Jun	50	51	52	55	63	62	58	56	52	48	49	50	50	45	37	34	36	35	33	36	45	55	59	62	48.9	62.7
11-Jun	66	68	76	78	78	74	65	54	50	40	33	31	27	26	24	27	25	25	27	32	38	46	47	50	46.1	78.1
12-Jun	49	46	53	59	69	71	63	59	44	42	35	30	57	48	48	34	35	35	40	41	48	59	61	66	49.6	70.8
13-Jun	70	70	71	73	76	77	68	59	55	46	50	45	36	32	34	41	54	58	60	60	58	60	66	65	57.7	76.6
14-Jun	65	73	79	80	83	83	72	62	54	46	41	38	36	32	31	29	27	27	27	32	40	49	59	64	51.2	83.3
15-Jun	66	67	71	69	71	71	68	64	62	82	83	80	P	P	P	P	P	P	P	P	P	P	P	P	--	83.0
16-Jun	P	P	P	P	P	P	82	87	84	79	73	68	70	74	80	86	78	P	80	87	90	92	93	94	--	94.2
17-Jun	92	94	93	86	P	89	91	91	92	90	88	83	89	72	P	P	P	74	82	79	P	85	85	87	86.4	93.6
18-Jun	P	92	P	P	94	93	94	94	P	P	P	70	75	70	52	46	52	60	72	79	83	84	83	86	76.7	94.5
19-Jun	P	93	93	P	P	P	P	P	77	77	79	79	72	P	84	84	80	73	P	P	P	P	P	P	--	93.1
20-Jun	P	P	P	81	86	85	90	87	P	64	62	58	56	54	54	51	48	45	46	52	59	58	58	60	62.7	90.0
21-Jun	60	72	79	79	83	74	67	64	55	44	38	35	34	34	32	31	30	30	29	31	38	37	50	56	49.3	82.7
22-Jun	57	59	66	66	68	76	79	59	52	43	39	31	31	33	32	36	37	37	43	47	49	57	56	57	50.3	78.5
23-Jun	58	63	64	69	73	74	75	71	63	67	66	67	69	66	68	69	76	87	P	P	P	P	P	P	69.3	86.9
24-Jun	P	78	74	76	P	84	77	82	91	88	P	P	P	P	P	P	80	80	79	79	87	91	93	91	--	93.1
25-Jun	89	87	85	86	89	92	91	87	85	83	81	81	80	77	76	P	P	P	90	92	94	93	91	92	86.7	94.0
26-Jun	92	89	91	93	89	89	86	82	76	70	57	52	49	46	41	40	39	55	57	63	60	69	77	71	68.0	93.1
27-Jun	77	76	80	80	79	85	81	77	73	63	57	55	53	67	71	60	50	42	45	62	76	78	74	84	68.6	85.1
28-Jun	87	91	93	93	94	90	84	79	74	70	71	65	59	60	63	59	56	60	65	58	59	61	64	69	71.8	93.9
29-Jun	70	77	75	79	74	74	74	71	66	60	51	50	52	49	40	38	36	36	40	44	47	54	56	56	57.0	78.6
30-Jun	62	69	74	60	56	66	60	54	52	49	44	40	37	35	34	33	36	38	44	46	52	54	61	67	50.9	73.5
	70.6	75.4	77.6	77.7	79.5	79.1	75.1	70.9	65.2	61.0	54.6	52.4	51.1	48.8	48.5	47.2	48.8	49.7	52.0	55.4	60.0	65.5	68.2	71.1	Diurnal Average	
	92.0	93.6	93.4	93.5	93.9	92.9	94.4	94.5	91.8	89.8	87.6	83.4	88.8	76.8	86.3	89.0	91.0	88.5	89.8	91.8	94.0	93.4	93.1	94.2	Diurnal Maximum	

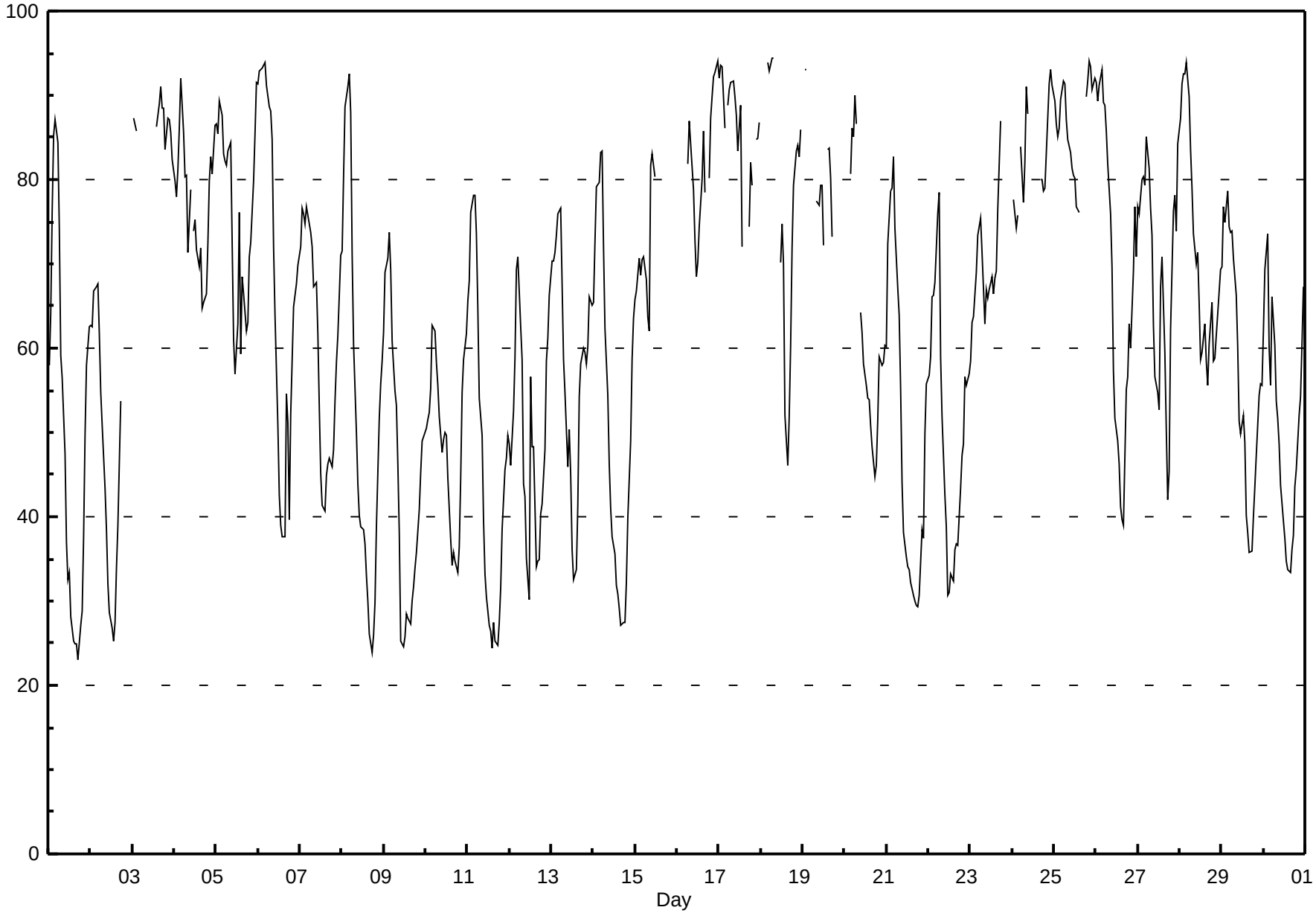
P - Power Failure

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Beaverlodge - June 2011



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Beaverlodge - June 2011

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1 Spd	7	3	3	2	3	2	2	1	3	4	2	3	5	4	3	2	5	7	15	10	11	7	9	8	2.1	14.6
Dir	37	328	27	90	62	124	194	146	274	265	156	33	326	128	193	65	67	131	184	184	174	123	93	89	132	184
2 Spd	4	3	3	3	4	3	2	7	10	11	10	7	9	7	15	26	16	8	6	13	11	4	11	14	4.2	26.1
Dir	93	64	82	161	63	65	180	204	236	250	295	308	281	293	234	231	233	213	3	14	316	281	344	340	274	231
3 Spd	13	15	17	15	18	12	12	13	14	14	14	15	14	11	12	12	13	9	6	7	7	6	6	3	8.9	17.9
Dir	334	14	17	10	24	15	35	47	43	44	45	36	32	13	4	19	9	9	321	277	240	222	238	224	16	24
4 Spd	4	5	7	7	9	10	12	9	7	10	11	7	8	5	5	6	3	4	10	7	5	2	1	8	4.8	11.6
Dir	135	130	141	119	122	128	137	146	162	171	170	185	194	196	164	151	145	168	31	81	114	114	248	338	144	137
5 Spd	5	4	5	2	5	9	8	12	8	5	2	6	6	9	2	7	11	12	4	3	5	1	2	3	3.6	11.8
Dir	348	347	219	207	290	308	302	321	335	339	3	9	342	219	16	335	13	21	347	253	225	25	196	45	330	21
6 Spd	1	5	2	1	2	2	1	4	9	7	2	1	6	4	3	6	8	12	9	13	13	13	10	13	4.7	13.3
Dir	91	60	70	120	40	301	188	258	316	309	202	36	3	347	286	299	18	19	31	22	27	28	32	23	11	22
7 Spd	16	17	17	17	18	10	12	11	15	18	15	17	22	24	23	24	20	19	20	16	10	8	4	5	15.6	24.1
Dir	19	22	20	20	22	10	9	349	21	30	21	14	28	28	30	26	24	19	10	7	2	25	24	40	20	28
8 Spd	2	2	3	2	0	2	2	2	5	6	5	6	8	5	4	5	5	7	8	12	9	10	7	7	3.4	12.2
Dir	10	334	34	32	271	300	58	157	160	187	161	190	155	198	199	195	188	158	130	114	114	108	85	92	138	114
9 Spd	6	6	5	5	6	5	4	7	8	9	22	23	24	21	19	25	26	26	27	25	15	11	11	14	11.3	26.7
Dir	96	127	155	138	137	164	199	194	205	215	248	273	290	299	271	265	267	271	269	270	292	294	288	272	265	269
10 Spd	15	15	16	10	6	13	17	19	25	27	21	17	15	16	17	20	25	27	30	27	16	12	13	14	17.8	29.9
Dir	275	271	264	255	202	225	244	248	238	243	244	244	255	251	245	243	256	260	262	256	251	244	252	253	251	262
11 Spd	8	3	4	1	5	5	3	2	9	10	8	9	8	10	7	10	5	10	13	12	8	9	5	3	2.3	13.0
Dir	252	267	54	29	40	61	155	271	294	314	311	314	311	325	317	41	48	100	103	97	91	103	91	84	29	103
12 Spd	1	10	5	2	2	2	2	5	3	4	6	5	13	11	5	15	11	9	17	18	9	7	4	5	4.5	17.8
Dir	297	302	0	63	98	120	163	228	226	207	169	190	244	180	206	190	199	242	170	166	155	120	114	94	186	166
13 Spd	6	4	3	2	4	1	3	5	7	2	13	14	11	4	6	13	27	18	10	7	11	12	8	13	3.6	27.3
Dir	96	100	81	101	49	193	8	297	311	55	112	125	131	210	254	226	251	268	288	247	248	272	273	268	245	251
14 Spd	11	4	5	9	2	4	2	11	23	24	24	30	27	25	27	27	27	26	22	27	25	20	14	9	17.0	29.8
Dir	259	242	234	239	209	59	141	237	257	260	248	243	244	260	245	240	245	257	261	241	247	243	245	243	248	243
15 Spd	5	5	3	5	6	7	9	15	20	16	15	17	19	22	17	15	15	15	15	14	16	14	14	9	11.3	22.0
Dir	257	234	232	270	240	273	268	282	296	302	291	292	296	291	315	306	351	343	331	320	326	340	352	331	307	291
16 Spd	9	12	14	13	18	19	16	18	17	18	19	19	20	17	14	18	15	11	11	6	8	10	8	8	12.9	19.6
Dir	329	330	330	322	327	331	328	325	330	328	322	334	348	357	17	40	30	8	8	358	343	328	324	321	342	348
17 Spd	6	9	10	10	13	11	8	10	7	8	9	8	7	5	12	6	4	11	11	4	5	5	7	7	5.7	12.7
Dir	329	329	333	342	347	340	338	346	341	0	18	336	2	344	55	35	336	76	170	251	39	42	44	45	2	347
18 Spd	2	1	3	4	3	1	3	2	4	4	6	7	4	6	12	11	15	17	13	8	4	6	7	6	3.4	16.5
Dir	62	41	360	21	340	309	286	271	272	258	248	251	335	5	53	53	68	71	54	50	6	332	344	323	22	71
19 Spd	8	10	11	10	8	6	6	6	7	6	8	5	4	3	5	7	12	10	2	5	8	9	2	7	4.6	12.2
Dir	315	313	315	329	343	336	15	22	45	357	322	318	199	96	245	261	264	255	297	227	255	271	255	258	300	264
20 Spd	5	6	8	10	12	13	8	8	15	20	21	19	13	10	10	9	17	13	9	12	8	7	3	5	10.6	20.6
Dir	233	242	272	265	271	266	237	247	259	264	269	268	266	261	281	284	267	262	278	254	251	272	255	259	264	269
21 Spd	5	1	2	7	3	2	6	9	17	28	28	28	28	29	28	28	24	21	21	19	11	6	2	3	13.5	29.3
Dir	246	105	161	193	98	116	206	212	240	254	258	268	250	238	240	234	238	242	256	265	260	264	271	70	246	238
22 Spd	4	3	3	3	4	2	2	0	2	3	3	7	8	10	11	13	14	15	12	14	16	15	17	21	6.6	20.9
Dir	80	83	66	55	41	134	84	308	204	162	111	118	113	102	101	80	60	46	30	44	22	21	20	7	54	7

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Beaverlodge - June 2011

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	20	18	17	15	14	10	3	7	7	6	8	7	16	20	26	26	18	15	14	14	10	8	8	10	7.8	26.1
Dir	13	20	21	23	27	33	304	299	93	163	284	272	282	279	250	263	267	287	284	290	281	280	279	274	301	263
24 Spd	10	13	13	14	15	15	15	16	14	17	20	21	22	24	20	18	22	19	16	14	11	14	11	18	16.0	23.7
Dir	263	262	273	267	271	271	263	263	251	252	255	251	248	239	245	238	245	252	261	257	233	230	238	249	253	239
25 Spd	16	11	10	9	12	9	13	16	15	20	20	21	20	21	17	15	14	12	15	13	12	15	13	10	14.2	21.4
Dir	257	268	278	262	278	280	279	282	289	284	292	291	289	271	275	287	282	299	306	303	297	292	305	310	286	271
26 Spd	12	9	4	3	4	6	8	11	10	6	5	4	4	4	4	4	4	10	9	8	5	7	7	7	1.5	11.9
Dir	308	300	247	266	325	296	286	298	315	328	36	159	179	235	146	100	103	117	97	74	35	334	74	79	347	308
27 Spd	7	8	6	7	5	1	1	8	7	5	6	9	8	9	8	9	7	4	6	15	12	12	8	10	2.1	15.0
Dir	308	345	298	320	322	218	20	297	320	292	317	336	346	285	18	45	65	86	108	111	129	186	195	29	354	111
28 Spd	7	6	4	4	5	4	3	6	8	8	9	10	13	19	17	11	13	16	17	20	18	20	17	10	9.7	20.0
Dir	210	212	167	157	109	128	158	184	194	200	196	229	238	245	255	217	204	240	240	253	249	241	236	242	228	241
29 Spd	7	7	10	6	10	11	15	11	14	16	27	24	21	20	22	27	30	31	26	24	25	20	25	22	18.3	30.7
Dir	249	225	233	222	237	234	245	237	225	224	246	236	212	218	221	253	241	238	245	244	249	241	241	244	237	238
30 Spd	12	14	10	24	27	19	26	29	33	34	33	36	35	33	34	33	34	37	33	31	26	27	23	18	27.3	37.3
Dir	258	248	224	237	239	228	236	242	245	242	248	254	258	248	254	253	244	251	249	241	240	241	241	247	246	251
Spd	3.6	3.4	2.7	2.6	2.7	2.6	3.4	5.5	6.6	7.4	7.6	8.0	7.8	8.1	7.0	6.9	7.2	6.2	5.8	5.5	5.2	4.6	3.6	4.1	Diurnal Average	
Dir	304	313	317	299	324	296	268	270	271	266	266	272	273	266	263	261	265	271	274	264	266	269	281	299		
Spd	19.6	17.7	17.5	23.9	26.5	19.4	26.5	28.6	33.3	33.5	33.2	36.4	34.7	33.5	33.9	33.2	34.5	37.3	32.8	31.1	25.7	26.6	25.1	22.1	Diurnal Maximum	
Dir	13	20	20	237	239	331	236	242	245	242	248	254	258	248	254	253	244	251	249	241	240	241	241	244		

Maximum Speed Value: 37 km/h on Jun 30 18:00
Minimum Speed Value: 0 km/h on Jun 22 08:00
Maximum Daily Speed Average: 27.3 km/h on Jun 30
Minimum Daily Speed Average: 1.5 km/h on Jun 1
Maximum Diurnal Speed Average: 8.1 km/h at hour 14
Minimum Diurnal Speed Average: 2.6 km/h at hour 6

Monthly Average Velocity: 5.14 km/h 274.5 deg
Speed Percentiles: P_1 = 1.1 P_{10} = 2.9 Q_1 = 5.4 Median = 9.6 Q_3 = 15.0 P_{90} = 21.9 P_{99} = 33.4
All monthly, daily, and diurnal averages have been calculated using vector methods

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

Frequency Distribution

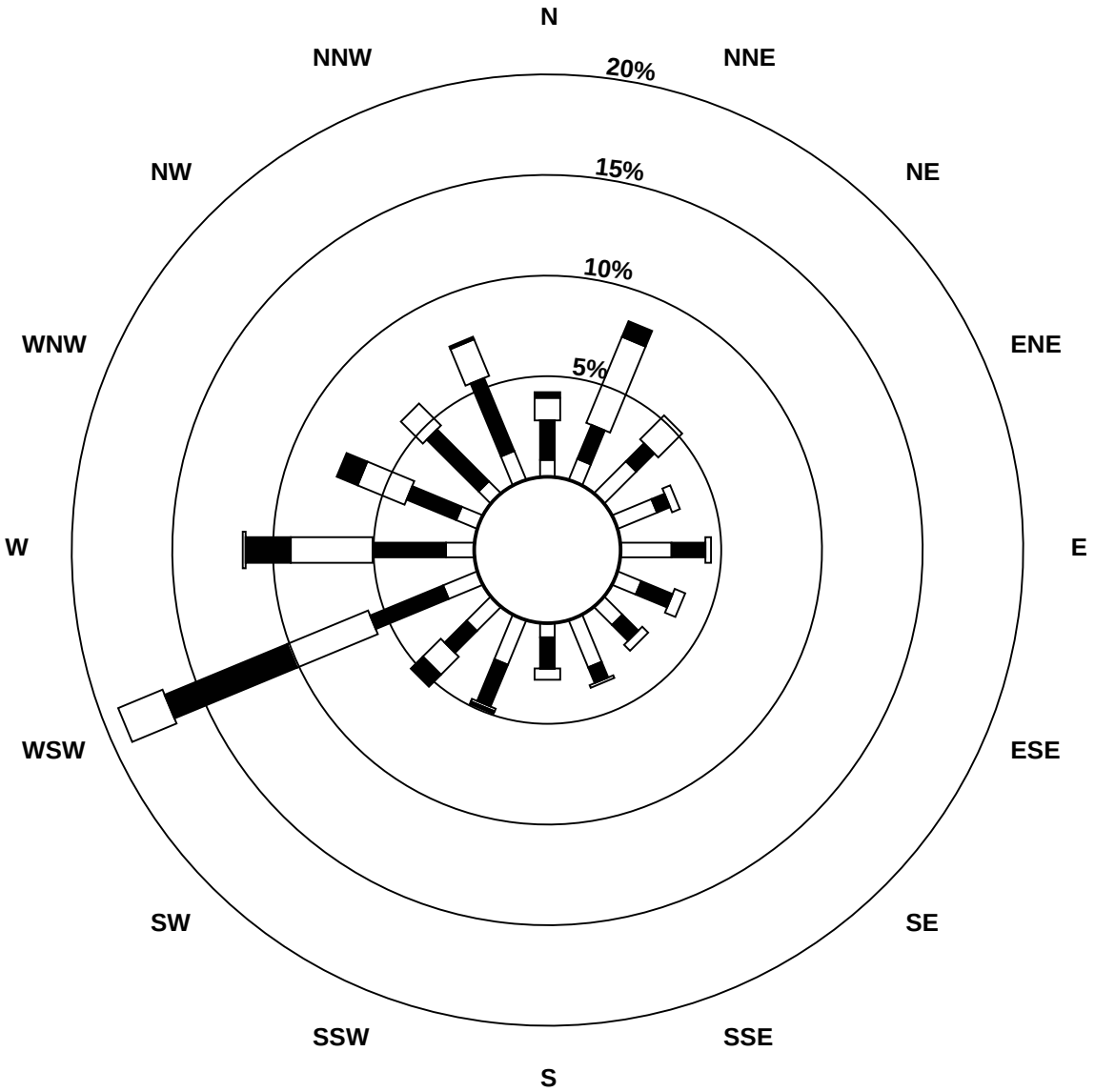
Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	16	32	36	5	0	0	89
NorthEast	32	19	24	5	0	0	80
East	22	22	7	0	0	0	51
SouthEast	20	20	5	0	0	0	45
South	23	27	6	0	0	0	56
SouthWest	19	37	23	37	9	0	125
West	20	46	59	41	10	0	176
NorthWest	15	54	25	4	0	0	98
Total	167	257	185	92	19	0	720

Peace Airshed Zone Association

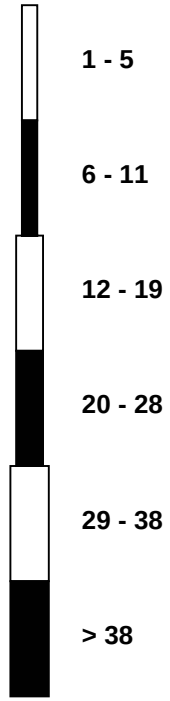
Wind Rose

Wind Speed (WS) (km/h)

Beaverlodge - June 2011



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Beaverlodge - June 2011

Maximum Speed: 38 km/h on Jun 30 18:00

Maximum Daily Speed Average: 27.8 km/h on Jun 30

Minimum Speed: 2 km/h on Jun 13 06:00

Minimum Daily Speed Average: 6.5 km/h on Jun 8

Maximum Diurnal Speed Average: 16.2 km/h at hour 17

Minimum Diurnal Speed Average: 7.7 km/h at hour 6

Monthly Average Speed: 11.80 km/h

Percentiles: P_1 = 2.2 P_{10} = 4.0 Q_1 = 6.2 Median = 10.1 Q_3 = 15.6 P_{90} = 22.5 P_{99} = 33.7

Hours in Service: 720

Hours of Data: 720

Hours of Missing Data: 0

Percent Operational Time: 100.0

Day	Hourly Period Ending At (MST)																								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	6	7	3	3	3	2	2	4	5	6	5	7	6	7	7	8	9	15	11	11	8	9	8	6.5	15.2
2-Jun	4	4	4	4	4	4	4	7	11	12	11	10	12	10	19	28	16	11	11	14	12	6	11	15	10.1	27.7
3-Jun	13	16	17	15	18	12	12	13	14	14	14	15	14	12	12	12	13	9	6	7	7	6	6	4	11.8	18.2
4-Jun	4	5	7	7	9	10	12	9	7	10	11	8	8	6	6	7	4	5	10	8	5	2	3	8	7.2	11.7
5-Jun	6	4	6	2	6	9	8	12	8	5	4	7	10	9	4	11	12	12	6	4	5	3	3	3	6.7	12.2
6-Jun	4	5	3	2	4	3	2	5	9	8	5	5	8	7	6	10	14	13	9	13	13	13	10	13	7.7	14.1
7-Jun	16	17	18	17	18	11	12	11	15	18	15	18	22	24	24	24	21	19	21	17	10	8	4	6	16.0	24.4
8-Jun	3	3	3	3	2	3	2	3	5	7	7	8	10	9	8	9	7	8	9	12	10	10	7	7	6.5	12.3
9-Jun	6	6	6	5	6	5	4	7	9	10	23	24	24	21	20	26	26	26	27	25	15	11	11	14	14.8	26.9
10-Jun	15	15	16	11	7	13	17	20	25	27	21	17	16	16	18	21	25	27	30	28	16	12	13	14	18.4	30.2
11-Jun	8	5	5	3	5	5	3	3	9	11	9	10	10	11	9	12	6	11	13	12	8	9	6	4	7.7	13.2
12-Jun	3	10	6	2	5	5	3	5	4	5	7	8	15	18	8	15	12	12	21	18	9	7	4	5	8.6	20.8
13-Jun	6	5	4	3	4	2	4	5	7	7	13	14	12	8	7	13	28	19	10	8	12	12	8	13	9.3	27.9
14-Jun	11	5	5	9	4	4	3	12	23	24	24	30	27	26	28	28	27	27	23	27	26	20	14	9	18.1	30.2
15-Jun	5	5	3	6	6	7	9	15	21	16	15	17	19	22	18	15	15	15	16	14	16	14	14	10	13.1	22.1
16-Jun	9	12	14	13	18	19	16	18	17	18	19	19	20	17	17	18	15	11	11	7	8	10	8	8	14.3	20.3
17-Jun	6	9	10	10	13	11	8	10	7	8	9	9	8	6	13	6	7	17	12	5	5	5	7	7	8.6	17.1
18-Jun	2	2	4	5	4	3	4	4	5	5	7	7	8	8	12	12	15	17	13	8	4	6	7	6	7.0	16.6
19-Jun	9	10	11	10	8	6	7	6	7	7	8	6	6	4	6	8	12	10	10	8	9	9	3	7	7.8	12.5
20-Jun	5	6	8	10	12	13	8	8	15	20	21	19	13	12	10	9	17	13	11	12	8	7	3	6	11.1	20.8
21-Jun	5	3	3	7	3	2	6	9	17	29	28	28	28	30	28	28	24	22	21	19	11	6	6	5	15.3	29.6
22-Jun	4	4	4	3	4	3	3	3	3	4	4	8	9	11	12	14	14	15	12	16	17	15	17	21	9.2	21.0
23-Jun	20	18	17	15	14	10	5	7	7	8	9	8	16	20	26	26	18	15	14	15	10	8	8	10	13.5	26.4
24-Jun	10	13	14	14	15	15	15	16	14	17	20	21	22	24	21	18	22	19	16	14	11	14	11	18	16.4	24.0
25-Jun	16	11	10	9	12	12	13	16	15	20	20	21	20	22	17	16	14	13	15	13	13	15	14	11	14.9	21.7
26-Jun	12	9	4	3	4	6	8	11	10	6	6	5	6	6	6	5	5	10	9	8	6	9	7	7	7.1	11.9
27-Jun	9	9	6	7	5	2	4	8	7	6	7	10	9	11	9	9	8	5	6	15	13	13	9	10	8.3	15.1
28-Jun	12	7	4	4	6	4	3	6	8	9	9	10	13	19	18	12	14	16	18	20	18	20	17	10	11.5	20.0
29-Jun	7	7	10	6	10	11	15	11	14	16	27	24	21	20	23	28	30	31	26	24	26	20	25	22	18.9	30.9
30-Jun	13	14	11	24	27	19	27	29	33	34	34	37	35	34	34	34	35	38	33	31	26	27	23	18	27.8	37.6
	8.3	8.1	8.0	7.7	8.5	7.7	7.9	9.6	11.7	12.9	13.8	14.3	15.0	15.0	14.9	16.0	16.2	15.8	15.1	14.4	11.9	10.9	9.6	9.9	Diurnal Average	
	19.9	17.7	17.5	24.0	26.6	19.5	26.7	28.7	33.4	33.7	33.7	36.8	35.1	33.8	34.3	33.7	34.9	37.6	32.9	31.2	25.7	26.6	25.2	22.2	Diurnal Maximum	

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

Hourly Standard Deviations

Wind Direction (WD) - deg

Beaverlodge - June 2011

Maximum Value: 97.5 deg on Jun 6 12:00

Minimum Value: 2.0 deg on Jun 7 05:00

Percentiles: P_1 = 3.1 P_{10} = 5.6 Q_1 = 8.1 Median = 13.1 Q_3 = 30.3 P_{90} = 55.7 P_{99} = 83.3

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
	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	8	76	60	40	54	45	34	74	37	48	79	71	50	53	83	91	63	48	16	15	24	27	11	9	90.8
2-Jun	12	17	26	45	32	22	58	11	20	15	26	54	50	51	45	24	15	45	56	16	22	41	17	12	57.7
3-Jun	8	19	9	6	9	9	9	11	7	8	7	7	10	16	14	8	12	18	11	15	6	9	11	11	18.9
4-Jun	14	9	7	9	6	9	8	14	21	16	15	27	20	27	28	23	46	45	20	23	10	19	72	27	71.7
5-Jun	35	37	44	37	29	8	7	14	16	40	73	37	52	14	84	70	20	14	47	43	17	79	63	30	83.6
6-Jun	69	27	19	69	80	47	65	29	12	59	78	98	51	62	72	53	83	19	13	10	5	4	6	4	97.5
7-Jun	3	4	3	3	2	24	5	12	13	8	9	12	8	9	13	11	13	12	7	9	6	10	19	19	24.5
8-Jun	54	56	33	43	85	53	41	41	23	41	50	65	36	62	81	63	69	32	32	9	14	8	7	13	84.7
9-Jun	7	10	30	20	7	9	24	11	13	26	24	15	10	11	13	9	7	8	6	11	4	3	5	6	30.4
10-Jun	3	4	6	14	20	7	7	5	5	6	8	9	14	13	20	15	8	7	8	10	5	3	3	4	20.3
11-Jun	9	64	25	78	36	16	18	73	13	22	40	34	48	27	46	32	46	28	9	5	11	8	18	10	77.6
12-Jun	79	14	43	57	72	71	43	30	55	41	33	61	52	49	63	25	25	39	60	5	16	18	20	14	78.9
13-Jun	17	20	31	37	12	65	46	20	15	81	13	14	25	73	38	12	12	11	13	23	19	15	13	5	80.8
14-Jun	7	51	58	5	60	14	47	23	7	10	12	10	9	12	13	10	9	11	14	6	6	3	3	8	60.2
15-Jun	37	19	75	37	13	9	7	7	10	14	5	5	5	5	21	10	11	9	9	6	6	6	10	6	74.8
16-Jun	10	7	8	5	4	5	5	8	8	8	9	13	14	12	36	7	11	15	16	16	14	6	7	15	36.2
17-Jun	9	5	8	5	8	10	9	7	10	12	9	21	25	39	30	25	62	64	21	70	16	8	8	5	70.4
18-Jun	72	51	39	31	63	81	62	49	22	42	22	27	56	32	15	23	11	6	9	12	26	12	13	10	80.6
19-Jun	14	8	8	5	8	13	15	21	18	17	14	33	46	50	33	14	12	14	80	68	15	11	47	4	79.9
20-Jun	9	21	8	7	5	9	4	11	8	9	9	14	16	31	19	19	10	13	31	8	23	12	28	23	31.4
21-Jun	13	77	50	18	13	37	9	12	23	6	12	12	13	8	10	7	11	10	12	5	10	9	91	65	91.2
22-Jun	17	38	52	15	12	46	45	87	46	38	49	28	28	24	19	12	8	6	12	30	11	16	9	5	86.8
23-Jun	11	3	3	4	6	7	51	45	29	33	28	31	12	11	11	7	13	9	8	11	6	8	8	6	51.1
24-Jun	7	5	8	4	6	5	6	4	5	5	7	6	6	8	6	8	7	7	7	9	9	14	15	8	15.3
25-Jun	6	9	12	8	25	46	7	6	7	6	8	10	7	10	9	10	9	13	7	6	16	10	10	10	45.8
26-Jun	6	13	26	22	17	18	9	6	11	33	46	52	60	67	61	47	52	11	12	23	33	39	9	9	67.4
27-Jun	61	27	30	11	31	84	88	19	19	37	40	20	27	35	37	20	23	59	26	9	14	22	57	14	88.5
28-Jun	58	28	18	13	23	27	23	15	11	10	11	16	8	6	11	22	17	10	8	5	4	5	3	8	58.2
29-Jun	17	26	5	12	12	6	9	13	8	10	7	10	8	11	15	13	7	6	6	5	4	3	5	5	26.2
30-Jun	20	6	16	6	5	5	7	5	5	7	9	8	8	8	9	10	9	8	5	4	3	3	3	6	20.5
	78.9	77.4	74.8	77.6	84.7	83.9	88.5	86.8	55.2	80.8	78.9	97.5	60.2	72.6	83.6	90.8	82.6	63.8	79.9	70.4	33.3	79.1	91.2	65.2	

PAZA
Portable – Bonanza Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Portable-Bonanza - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 3.3 ppb on Jun 15 10:00 Maximum Daily Average: 0.7 ppb on Jun 15

Minimum Value: 0 ppb on Jun 3 02:00 Minimum Daily Average: 0.0 ppb on Jun 3
Maximum Diurnal Average: 0.5 ppb at hour 10 Minimum Diurnal Average: 0.1 ppb at hour 24
Monthly Average: 0.20 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.1 $Q_3 = 0.3$ $P_{90} = 0.5$ $P_{99} = 1.4$

Hours in Service:	708
Hours of Data:	670
Hours of Missing Data:	38
Hours of Calibration:	34
Percent Operational Time:	99.4

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jun	0	1	1	0	0	1	1	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0.5	1.9
2-Jun	0	1	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.4	1.4
3-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	0.0	0.0
4-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
5-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
6-Jun	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	A	0	1	0	0	0	0	0.3	1.1
7-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	0.0	0.1
8-Jun	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	0.9
9-Jun	0	1	1	1	0	0	0	0	0	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	0.9
10-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	0.0	0.1
11-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	0.1	0.3
12-Jun	1	1	0	1	0	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9
13-Jun	0	0	0	0	0	0	0	1	1	2	A	2	1	1	0	0	0	0	0	0	0	0	0	0	0.5	2.3
14-Jun	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0.2	0.6
15-Jun	0	0	0	0	0	1	1	0	A	3	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0.7	3.3
16-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	0.2	0.4
17-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	0.0	0.1
18-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	0.0	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	0.0	0.1
20-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	0.5
21-Jun	0	0	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
22-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	0.5
23-Jun	A	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0.2	0.6
24-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	0.0	0.1
25-Jun	0	0	P	P	P	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	0.4
26-Jun	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	A	0	0	0	0.3	0.7
27-Jun	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	1.8
28-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	1	0	0	0.2	1.2
29-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	0.5
30-Jun	0	0	0	0	0	0	1	0	C	C	C	C	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	0.8
	0.2	0.2	0.1	0.1	0.1	0.2	0.3	0.2	0.3	0.5	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	Diurnal Average	
	0.9	0.9	0.8	0.6	0.5	1.4	1.8	0.9	1.9	3.3	2.9	1.7	0.8	0.6	0.4	0.4	0.5	0.5	0.4	0.5	1.2	0.9	0.6	0.5	Diurnal Maximum	

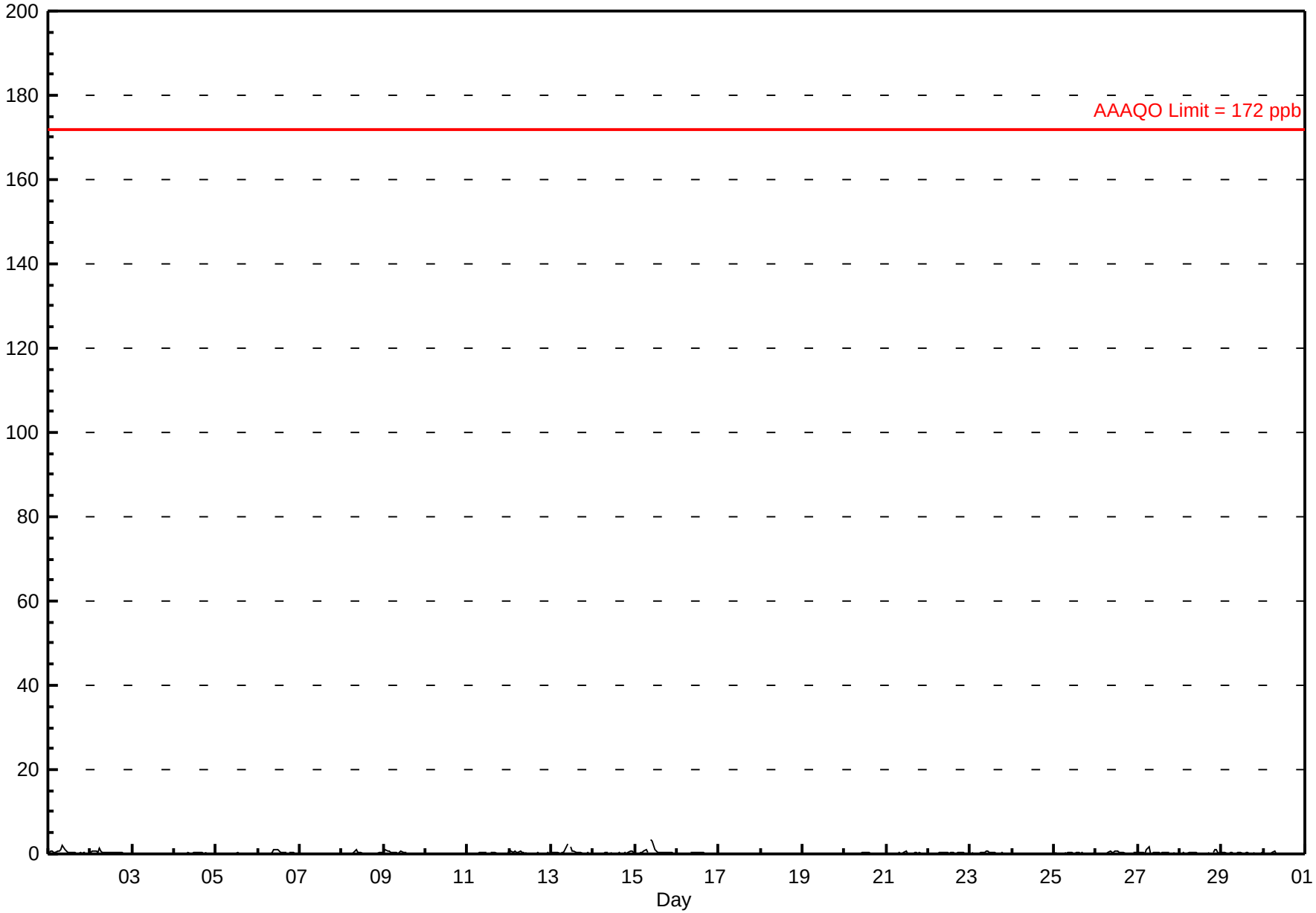
C - Calibration P - Power Failure NS - Not in service A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Portable-Bonanza - June 2011



Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Portable-Bonanza - June 2011

Maximum Value: 10.2 ppb on Jun 2 06:00

Maximum Daily Average: 1.3 ppb on Jun 15

Minimum Value: 0 ppb on Jun 4 00:00

Minimum Daily Average: 0.4 ppb on Jun 3

Maximum Diurnal Average: 1.3 ppb at hour 6

Minimum Diurnal Average: 0.5 ppb at hour 24

Monthly Average: 0.66 ppb

Percentiles: $P_1 = 0.3$ $P_{10} = 0.4$ $Q_1 = 0.5$ Median = 0.5 $Q_3 = 0.5$ $P_{90} = 1.0$ $P_{99} = 4.5$

Hours in Service:	708
Hours of Data:	670
Hours of Missing Data:	38
Hours of Calibration:	34
Percent Operational Time:	99.4

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	1	1	1	0	1	1	1	3	1	1	1	0	0	0	0	0	1	1	0	0	1	A	1	1.0	3.0
2-Jun	1	1	1	1	1	10	1	1	1	0	1	0	0	0	0	1	0	0	0	0	0	A	0	0	1.1	10.2
3-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
4-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	0.5	0.5
5-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	0.5	0.5
6-Jun	0	0	0	0	0	0	0	0	1	2	1	1	1	1	0	0	0	A	0	1	1	0	0	0	0.7	1.5
7-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
8-Jun	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.5	1.5
9-Jun	1	1	1	1	1	0	1	0	0	0	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0.7	1.4
10-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	0.4	0.5
11-Jun	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0.5	0.5
12-Jun	2	2	1	1	1	1	1	1	1	1	1	A	1	0	0	1	1	1	1	0	1	1	1	1	0.7	1.5
13-Jun	1	1	1	1	1	1	1	1	2	3	A	3	1	1	1	1	1	1	1	1	1	1	1	1	0.9	3.0
14-Jun	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0	0	1	2	1	0.6	2.0
15-Jun	0	1	1	1	1	1	1	1	A	8	5	2	1	1	0	0	1	1	1	0	0	0	0	0	1.3	8.0
16-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	0.5	0.5
17-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	0.5	0.5
18-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	0.5	0.5
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	0.5	0.5
20-Jun	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.4	0.9
21-Jun	0	0	A	0	0	0	1	2	0	1	1	3	0	0	0	0	0	0	0	3	0	0	0	0	0.9	3.5
22-Jun	0	A	0	0	0	1	2	0	0	1	1	3	0	0	0	0	0	0	0	0	0	0	1	1	0.7	3.5
23-Jun	A	1	1	1	0	0	1	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0.6	2.5
24-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0.5	0.5
25-Jun	1	1	P	P	P	P	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	A	0	0	0.5	1.5
26-Jun	0	0	0	0	0	0	0	1	1	0	1	1	1	1	0	0	1	0	0	0	A	1	0	0	0.6	1.4
27-Jun	1	0	0	0	0	6	5	0	0	0	0	0	0	0	0	1	1	0	0	A	0	0	0	0	0.9	6.1
28-Jun	0	0	0	0	0	1	1	0	0	1	0	0	0	0	1	0	0	1	A	1	2	2	0	0	0.7	2.4
29-Jun	1	0	0	0	0	1	3	0	0	1	1	1	1	1	1	0	0	A	1	1	2	1	1	1	0.9	3.5
30-Jun	1	1	1	1	0	5	5	0	C	C	C	C	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	5.3
	0.6	0.6	0.6	0.5	0.5	1.3	1.1	0.6	0.7	1.1	0.8	0.9	0.6	0.6	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.5	0.5	Diurnal Average	
	1.5	1.5	1.5	1.0	1.0	10.2	5.3	1.8	3.0	8.0	4.5	3.5	1.4	1.5	1.0	1.0	0.9	1.0	1.5	3.5	1.9	2.4	2.0	0.8	Diurnal Maximum	

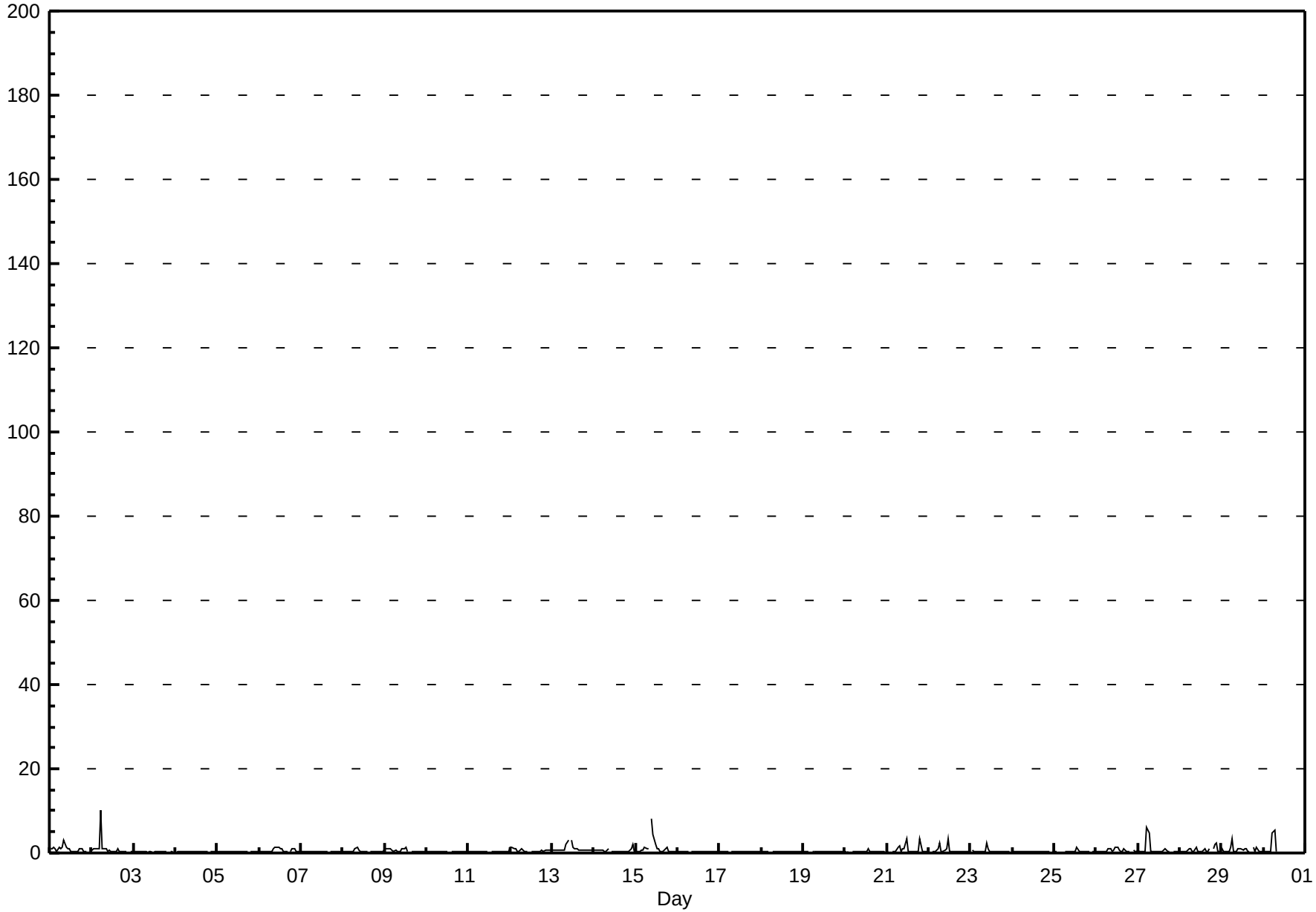
C - Calibration P - Power Failure NS - Not in service A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

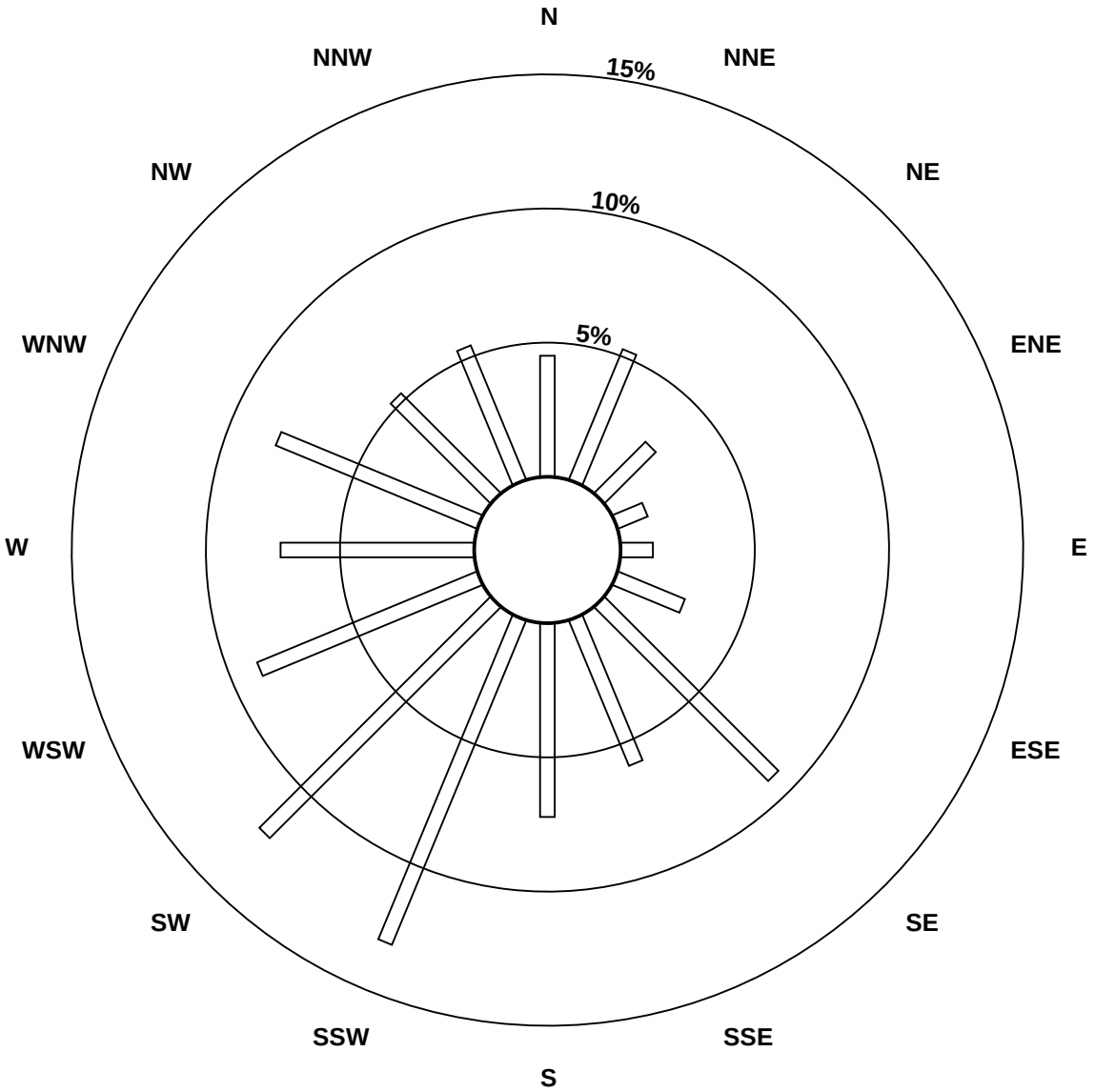
Portable-Bonanza - June 2011



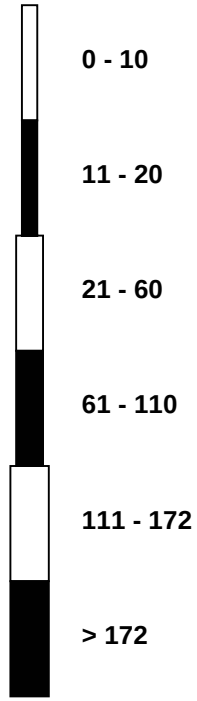
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Portable-Bonanza - June 2011



Pollutant Classes (ppb)

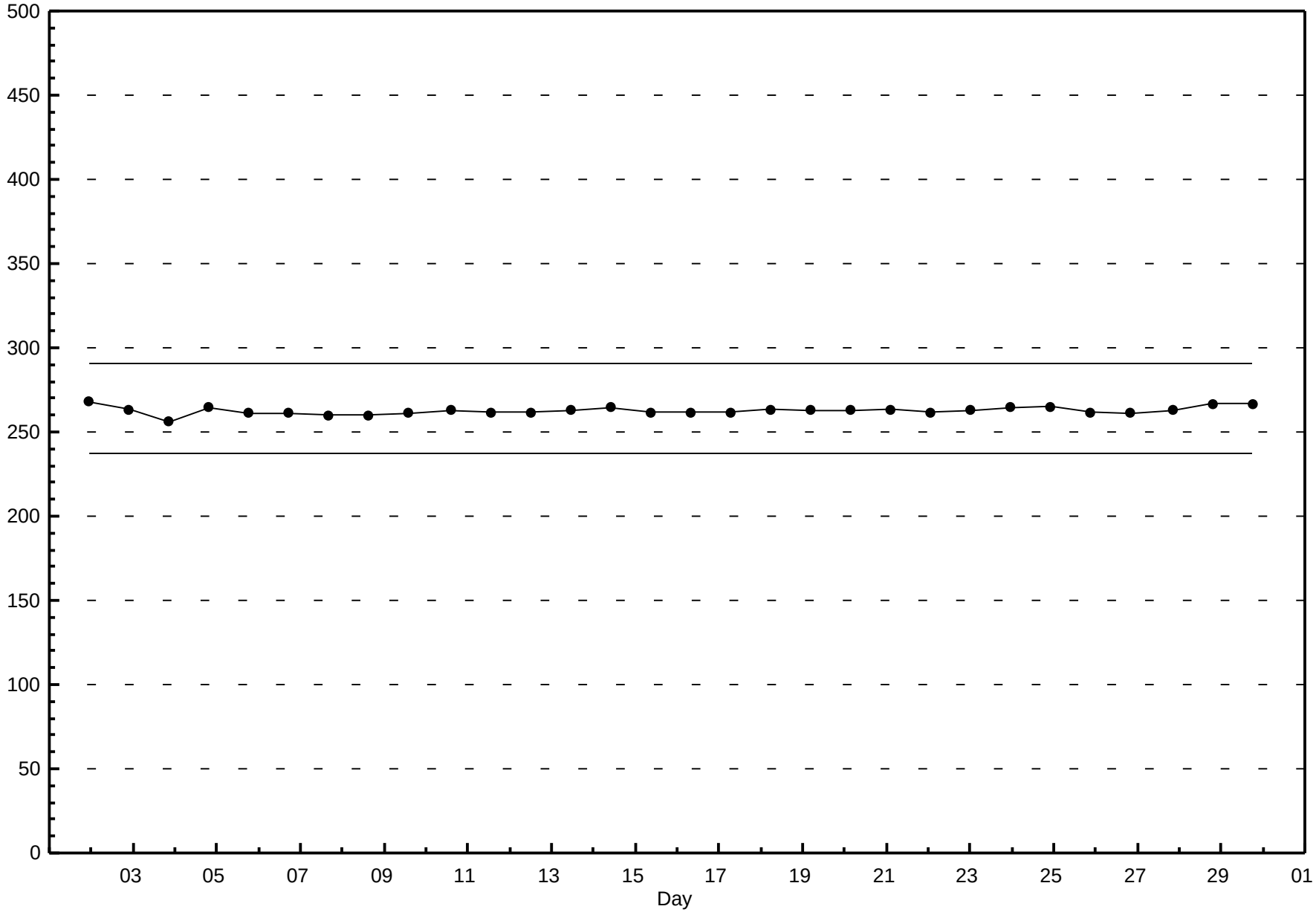


Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Portable-Bonanza - June 2011



Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Portable-Bonanza - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.8 ppb on Jun 11 07:00 Maximum Daily Average: 0.5 ppb on Jun 11

Minimum Value: 0 ppb on Jun 1 11:00 Minimum Daily Average: 0.0 ppb on Jun 2
Maximum Diurnal Average: 0.5 ppb at hour 7 Minimum Diurnal Average: 0.2 ppb at hour 13
Monthly Average: 0.30 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.2 Median = 0.3 Q_3 = 0.4 P_{90} = 0.5 P_{99} = 1.0

Hours in Service:	712
Hours of Data:	674
Hours of Missing Data:	38
Hours of Calibration:	34
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	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.2	0.7
2-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
3-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	0.4
4-Jun	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0	0.2	0.6
5-Jun	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	1	0.2	0.8
6-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	0.4
7-Jun	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	0.6
8-Jun	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.3	0.8
9-Jun	1	0	1	1	0	1	1	1	0	1	0	0	0	0	A	0	1	0	0	1	1	1	1	1	0.5	1.1
10-Jun	1	1	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.4	0.7
11-Jun	0	1	1	1	1	1	2	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.5	1.8
12-Jun	0	1	1	1	1	1	1	1	1	0	0	A	0	0	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	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7
14-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	0.4	0.5
15-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	0.3	0.5
16-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	0.2	0.3
17-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	0.3	0.4
18-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	0.5
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	0.3	0.4
20-Jun	0	0	0	A	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7
21-Jun	0	0	A	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7
22-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	0.6
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	A	0.3	0.5
24-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	0.5
25-Jun	0	0	P	P	P	P	0	0	1	0	0	0	0	0	1	1	1	1	0	0	0	A	0	0	0.3	0.5
26-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	0.3	0.5
27-Jun	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	1	1	0.4	1.7
28-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
29-Jun	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	1	0	A	1	1	0	0	1	1	0.4	0.7
30-Jun	0	1	0	0	0	1	1	1	1	1	0	1	C	C	C	C	NS	NS	NS	NS	NS	NS	NS	NS	--	1.2
	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.4	0.4	Diurnal Average	
	0.7	0.6	0.8	0.8	0.9	1.1	1.8	1.3	0.7	0.7	0.7	0.7	0.6	0.5	0.5	0.6	0.6	0.5	0.7	0.6	0.8	0.7	1.1	0.8	Diurnal Maximum	

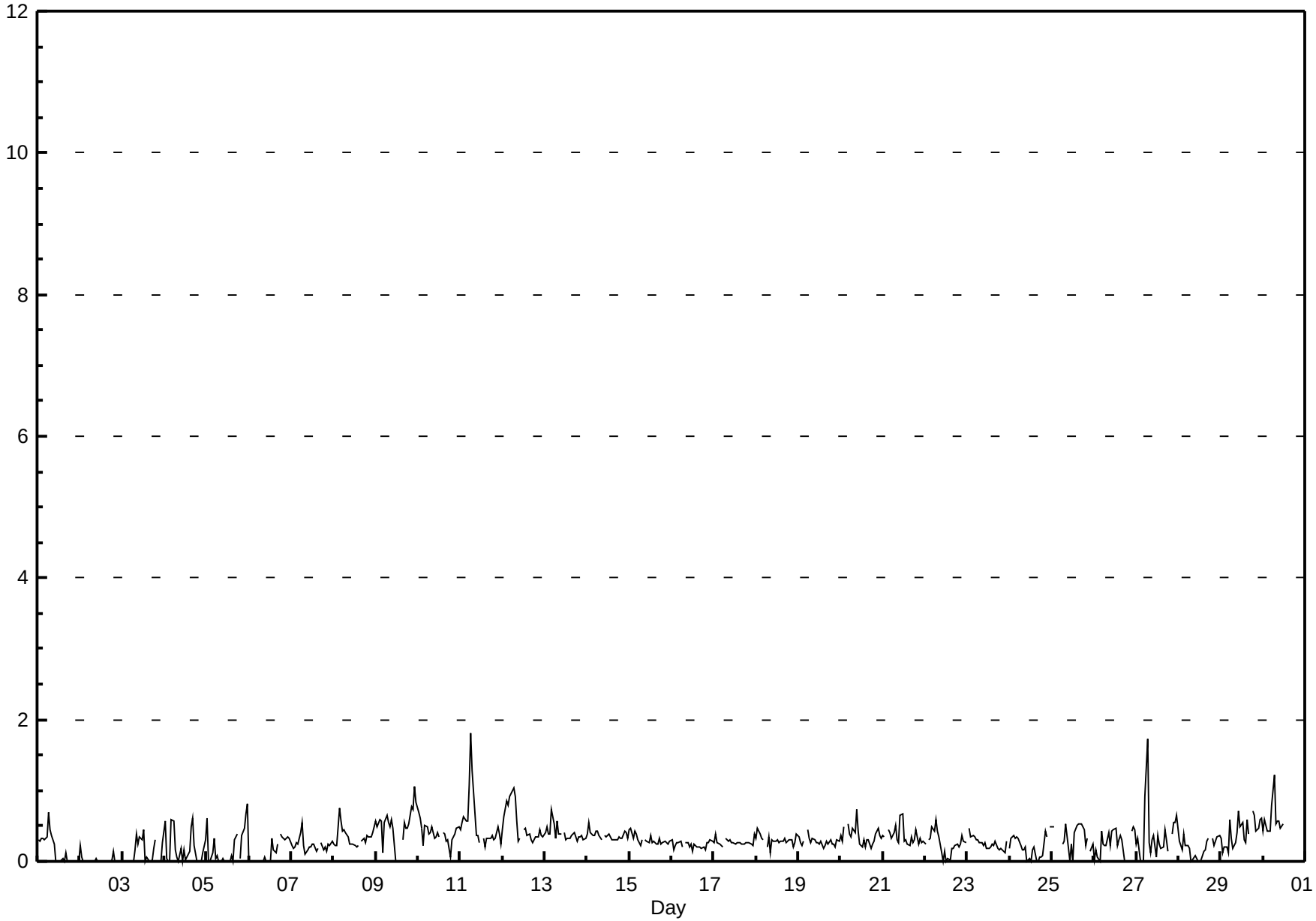
C - Calibration P - Power Failure NS - Not in service A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Portable-Bonanza - June 2011



Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Portable-Bonanza - June 2011

Maximum Value: 5.6 ppb on Jun 27 06:00

Maximum Daily Average: 1.2 ppb on Jun 27

Minimum Value: 0 ppb on Jun 6 08:00

Minimum Daily Average: 0.5 ppb on Jun 16

Maximum Diurnal Average: 1.3 ppb at hour 7

Minimum Diurnal Average: 0.6 ppb at hour 14

Monthly Average: 0.76 ppb

Percentiles: $P_1 = 0.3$ $P_{10} = 0.5$ $Q_1 = 0.6$ Median = 0.7 $Q_3 = 0.8$ $P_{90} = 1.0$ $P_{99} = 2.9$

Hours in Service:	712
Hours of Data:	674
Hours of Missing Data:	38
Hours of Calibration:	34
Percent Operational Time:	99.4

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	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	0	1	0	0	1	A	1	0.6	1.4
2-Jun	1	1	0	1	1	1	1	1	0	1	0	0	1	1	0	1	0	0	0	1	0	A	0	0	0.5	0.9
3-Jun	0	0	1	0	1	0	0	1	1	1	1	1	1	0	1	1	1	1	1	1	A	0	0	1	0.6	1.0
4-Jun	1	1	0	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	0	A	0	0	1	1	0.7	1.1
5-Jun	1	1	1	1	1	1	1	0	0	0	0	0	0	1	1	1	1	1	A	1	1	1	1	1	0.7	1.2
6-Jun	1	0	0	0	1	1	1	0	1	1	0	0	0	1	1	1	1	A	1	1	1	1	1	1	0.6	1.2
7-Jun	1	1	1	1	1	1	1	1	0	0	0	0	1	1	0	1	A	1	1	1	0	1	1	1	0.6	1.0
8-Jun	1	0	1	1	1	1	1	1	1	1	0	1	0	1	1	A	1	1	1	1	1	1	1	1	0.7	1.5
9-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	2	2	1.0	1.6
10-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.8	1.1
11-Jun	1	1	1	1	1	3	3	2	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1.0	2.8
12-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	0.9	1.5
13-Jun	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.2
14-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	1.0
15-Jun	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
16-Jun	1	1	0	1	1	1	0	A	1	1	1	0	0	1	1	0	1	0	1	1	1	0	1	1	0.5	0.7
17-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	0.6	0.8
18-Jun	1	3	1	1	1	A	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0.7	2.9
19-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	0.6	1.0
20-Jun	1	1	1	A	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	0.7	1.2
21-Jun	1	1	A	1	1	1	1	1	1	1	3	3	1	1	0	1	1	0	1	3	0	1	1	1	1.0	2.9
22-Jun	1	A	1	1	1	1	2	1	1	1	0	3	0	1	0	1	1	1	1	1	0	1	1	1	0.8	3.3
23-Jun	A	1	1	1	1	1	1	1	1	0	1	0	0	0	1	1	1	1	1	1	1	1	1	A	0.7	0.9
24-Jun	1	1	1	1	1	1	1	0	0	1	0	0	0	0	1	1	0	0	0	1	1	1	A	1	0.6	1.0
25-Jun	1	1	P	P	P	P	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	A	1	1	0.8	1.4
26-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	A	1	1	1	0.8	1.1
27-Jun	1	1	1	1	1	6	4	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1.2	5.6
28-Jun	1	1	1	1	1	1	1	0	1	1	0	0	1	0	1	1	1	1	A	1	1	1	1	1	0.7	1.0
29-Jun	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1.0	2.7
30-Jun	1	1	1	1	1	4	5	1	1	1	1	1	C	C	C	C	NS	NS	NS	NS	NS	NS	NS	NS	--	4.9
	0.8	0.8	0.7	0.7	0.8	1.2	1.3	0.8	0.7	0.7	0.7	0.8	0.6	0.6	0.6	0.7	0.7	0.6	0.7	0.7	0.7	0.7	0.8	0.8	Diurnal Average	
	1.1	2.9	1.2	1.5	1.5	5.6	4.9	2.1	1.1	1.2	2.8	3.3	1.1	0.8	0.9	1.1	1.0	1.0	1.6	2.7	1.4	1.2	1.6	1.6	Diurnal Maximum	

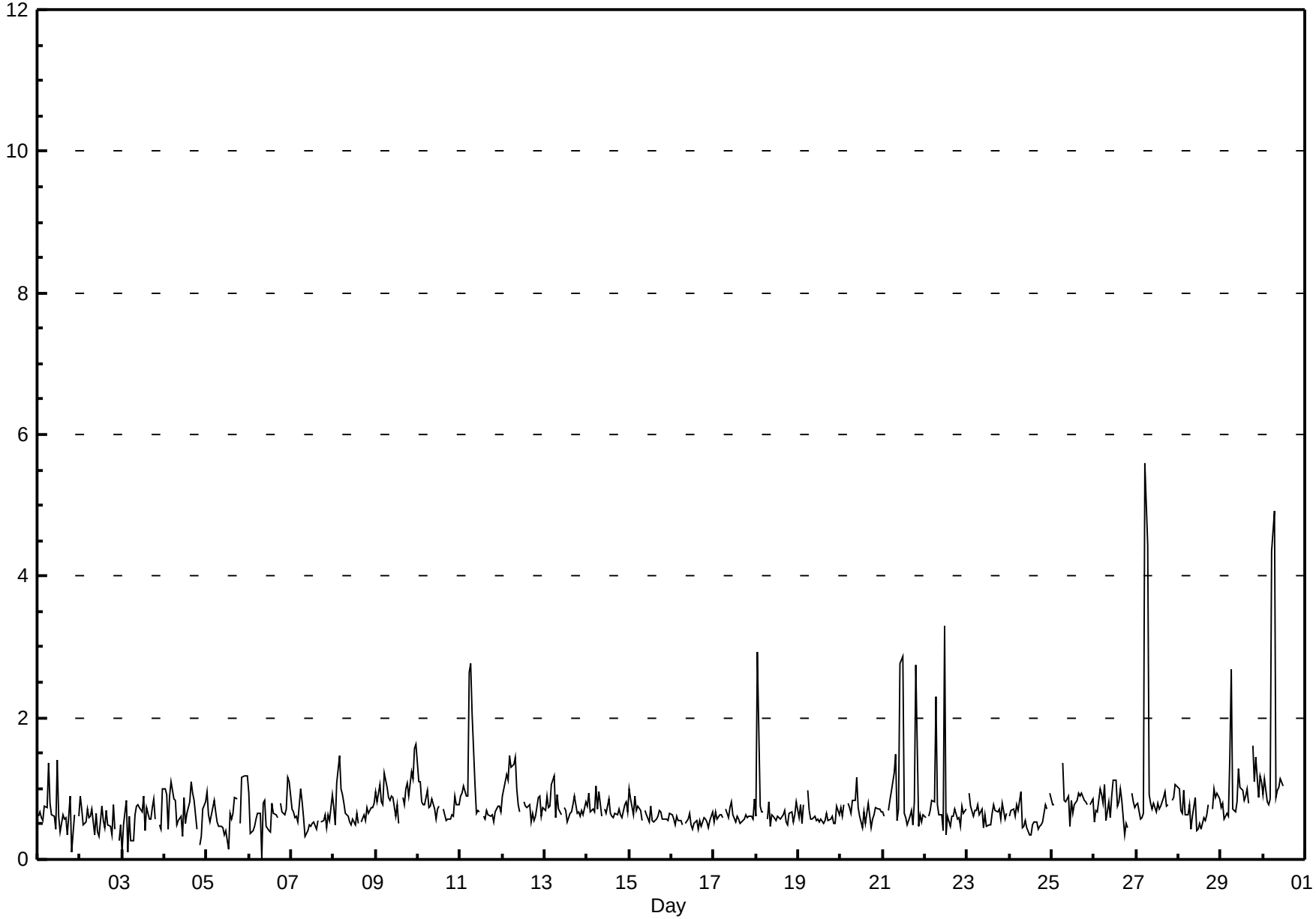
C - Calibration P - Power Failure NS - Not in service A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

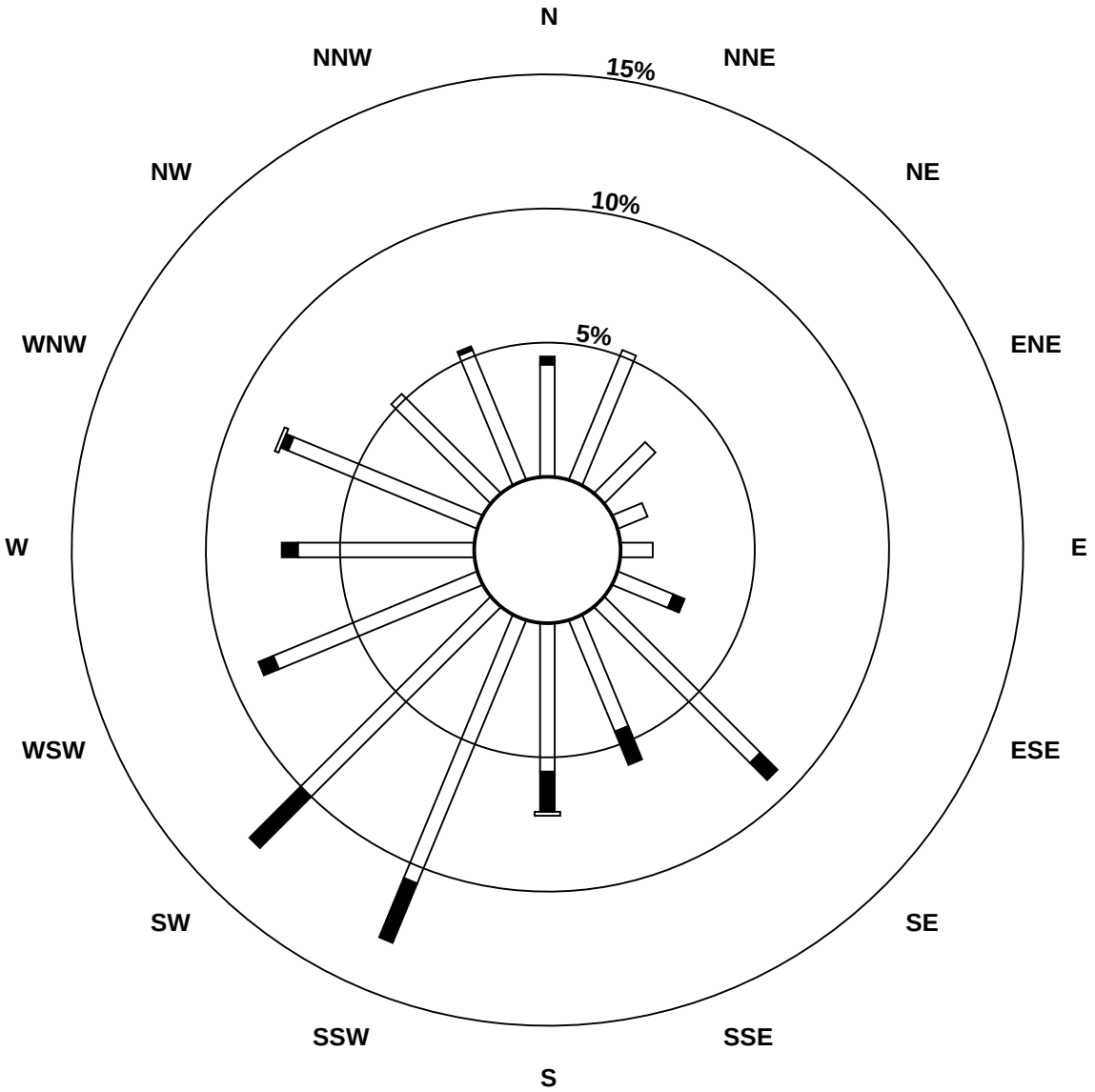
Portable-Bonanza - June 2011



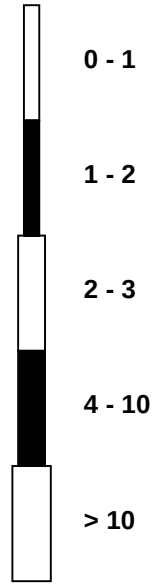
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Portable-Bonanza - June 2011



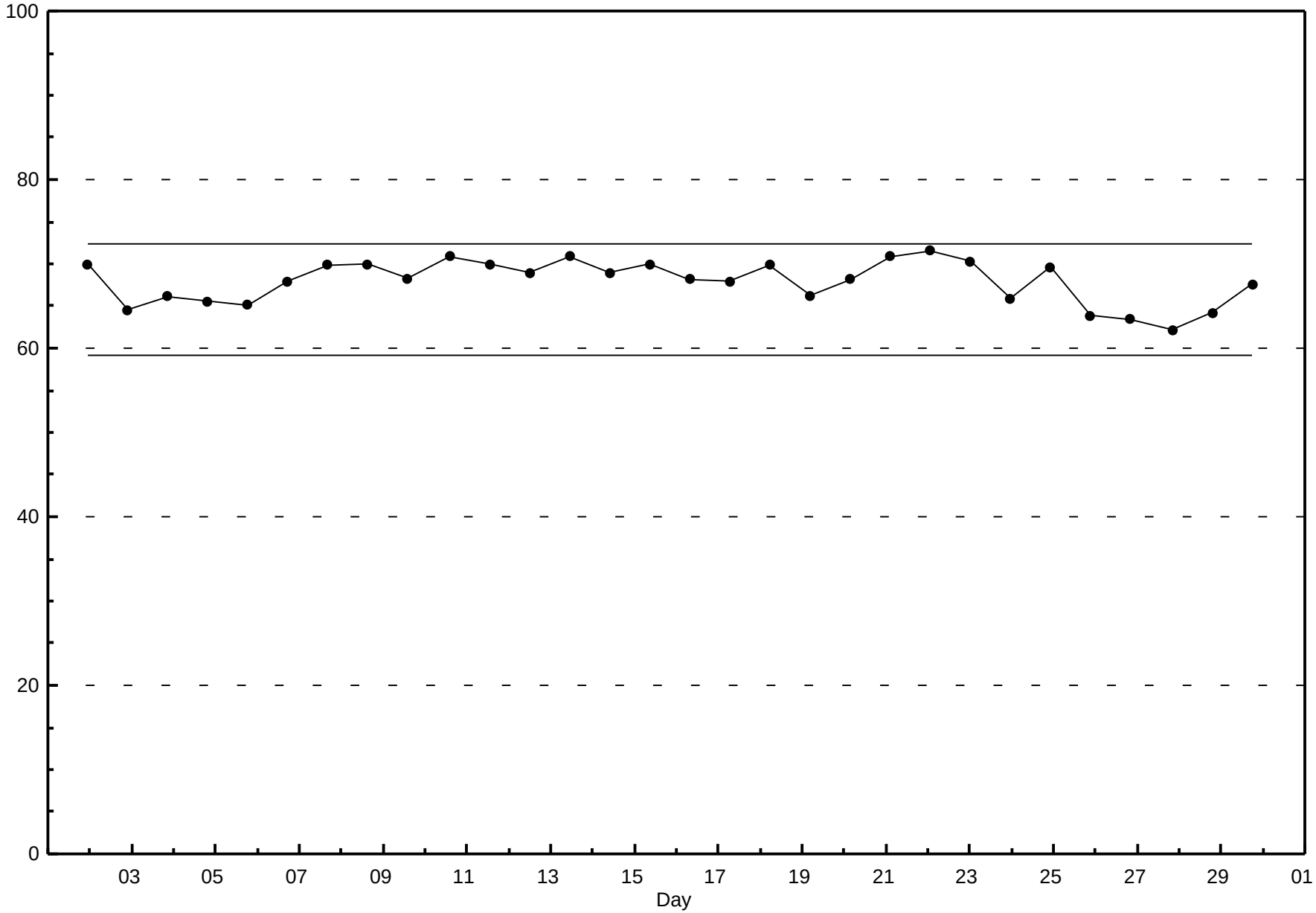
Pollutant Classes (ppb)



Span Responses

Total Reduced Sulphur (TRS)

Portable-Bonanza - June 2011



Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Portable-Bonanza - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 63.0 ppb on Jun 27 07:00 Maximum Daily Average: 6.4 ppb on Jun 29

Minimum Value: 0 ppb on Jun 21 10:00
Maximum Diurnal Average: 7.3 ppb at hour 7
Monthly Average: 2.97 ppb

Minimum Daily Average: 1.2 ppb on Jun 10
Minimum Diurnal Average: 1.4 ppb at hour 14
Percentiles: P_1 = 0.4 P_{10} = 0.8 Q_1 = 1.1 Median = 1.9 Q_3 = 3.4 P_{90} = 6.0 P_{99} = 18.4

Hours in Service:	709
Hours of Data:	670
Hours of Missing Data:	39
Hours of Calibration:	35
Percent Operational Time:	99.4

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	5	6	9	9	10	16	9	7	6	4	2	2	1	2	2	1	1	1	3	2	6	4	A	4	4.9	15.6
2-Jun	4	4	4	4	6	8	6	5	2	2	3	1	1	1	1	1	1	1	1	1	2	A	2	2	2.8	8.0
3-Jun	1	2	1	1	3	3	2	2	2	1	1	3	2	1	1	2	1	1	1	1	A	3	3	2	1.6	3.1
4-Jun	1	1	3	4	5	3	3	2	2	2	2	1	1	1	1	1	1	1	1	A	2	2	2	2	1.9	4.9
5-Jun	4	2	3	2	2	2	3	3	2	1	1	1	1	1	1	1	1	1	A	2	2	4	5	3	1.9	4.7
6-Jun	3	2	3	5	6	9	3	3	2	2	1	1	1	1	1	1	1	A	2	2	2	3	3	6	2.8	8.8
7-Jun	8	7	5	4	3	2	2	1	1	1	1	1	1	1	1	1	A	2	1	1	1	2	5	5	2.5	7.5
8-Jun	3	2	5	3	5	5	4	12	3	2	1	1	1	1	1	A	2	1	1	1	1	2	2	2	2.6	12.1
9-Jun	3	3	3	3	3	3	4	3	2	1	1	0	1	1	A	2	1	4	1	1	1	1	2	1	1.9	4.1
10-Jun	1	1	1	1	1	1	1	1	1	0	1	1	0	A	1	1	1	1	1	1	1	1	5	5	1.2	5.2
11-Jun	5	4	7	6	8	5	4	3	2	1	1	1	A	2	1	1	1	1	1	1	2	3	3	4	2.8	7.6
12-Jun	4	6	8	7	7	8	6	5	3	1	1	A	1	1	1	1	1	1	1	1	1	1	2	2	3.2	8.3
13-Jun	4	6	4	6	8	9	9	7	3	2	A	2	1	1	1	2	2	1	1	1	2	3	3	4	3.5	9.0
14-Jun	3	3	2	3	3	2	2	2	1	A	1	1	1	1	1	1	0	0	1	1	1	1	2	3	1.6	3.2
15-Jun	3	3	2	2	2	2	2	2	A	2	2	2	3	3	2	2	3	6	5	4	2	2	2	2	2.6	5.9
16-Jun	2	1	3	3	9	2	1	A	2	2	1	3	1	1	1	1	1	2	8	7	3	2	3	3	2.8	9.1
17-Jun	4	4	4	3	2	2	A	4	1	2	2	1	1	1	1	1	1	1	1	2	2	2	2	3	2.0	4.4
18-Jun	3	4	5	5	4	A	5	4	3	2	2	1	1	1	1	1	2	1	1	2	2	4	3	4	2.5	4.8
19-Jun	6	6	3	2	A	3	2	1	1	2	1	2	1	1	1	1	2	3	2	3	2	2	2	1	2.2	6.2
20-Jun	2	2	2	A	2	2	2	2	4	2	1	2	1	1	1	1	1	1	1	1	1	2	1	1	1.5	3.7
21-Jun	1	1	A	2	1	1	7	22	3	0	24	35	1	0	2	2	4	3	2	8	2	2	3	2	5.5	34.8
22-Jun	1	A	3	6	11	17	15	4	7	10	8	5	2	1	1	1	1	1	1	1	2	3	1	4	4.7	16.9
23-Jun	A	5	4	5	5	5	9	4	6	2	2	2	2	2	2	6	6	4	5	6	3	4	2	A	4.1	9.1
24-Jun	7	3	11	2	2	5	2	4	6	10	7	1	1	1	2	1	3	3	2	1	1	1	A	2	3.3	10.9
25-Jun	2	2	P	P	P	P	1	1	1	1	1	0	2	4	3	3	3	6	4	2	5	A	7	2	2.6	7.1
26-Jun	2	2	1	1	2	2	2	2	2	1	2	2	1	1	1	1	2	2	1	1	A	3	4	3	1.7	3.7
27-Jun	3	2	2	2	2	19	63	5	4	3	3	2	1	1	1	2	1	1	1	A	2	3	1	2	5.4	63.0
28-Jun	2	1	5	5	3	2	6	4	2	5	2	2	1	2	4	4	4	4	A	9	4	1	1	1	3.3	8.8
29-Jun	1	1	1	0	0	10	20	2	3	9	19	12	9	5	12	13	2	A	13	7	3	1	3	1	6.4	20.3
30-Jun	1	1	0	0	0	11	16	2	C	C	C	C	C	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	15.5
	3.1	3.0	3.7	3.5	4.1	5.7	7.3	4.1	2.7	2.6	3.3	3.1	1.5	1.4	1.7	1.9	1.7	2.0	2.3	2.5	2.2	2.3	2.7	2.7	Diurnal Average	
	7.5	7.3	10.9	9.1	11.0	18.6	63.0	21.6	6.5	10.5	24.3	34.8	8.7	5.2	11.8	13.1	5.6	6.4	13.0	8.8	6.4	4.5	7.1	6.0	Diurnal Maximum	

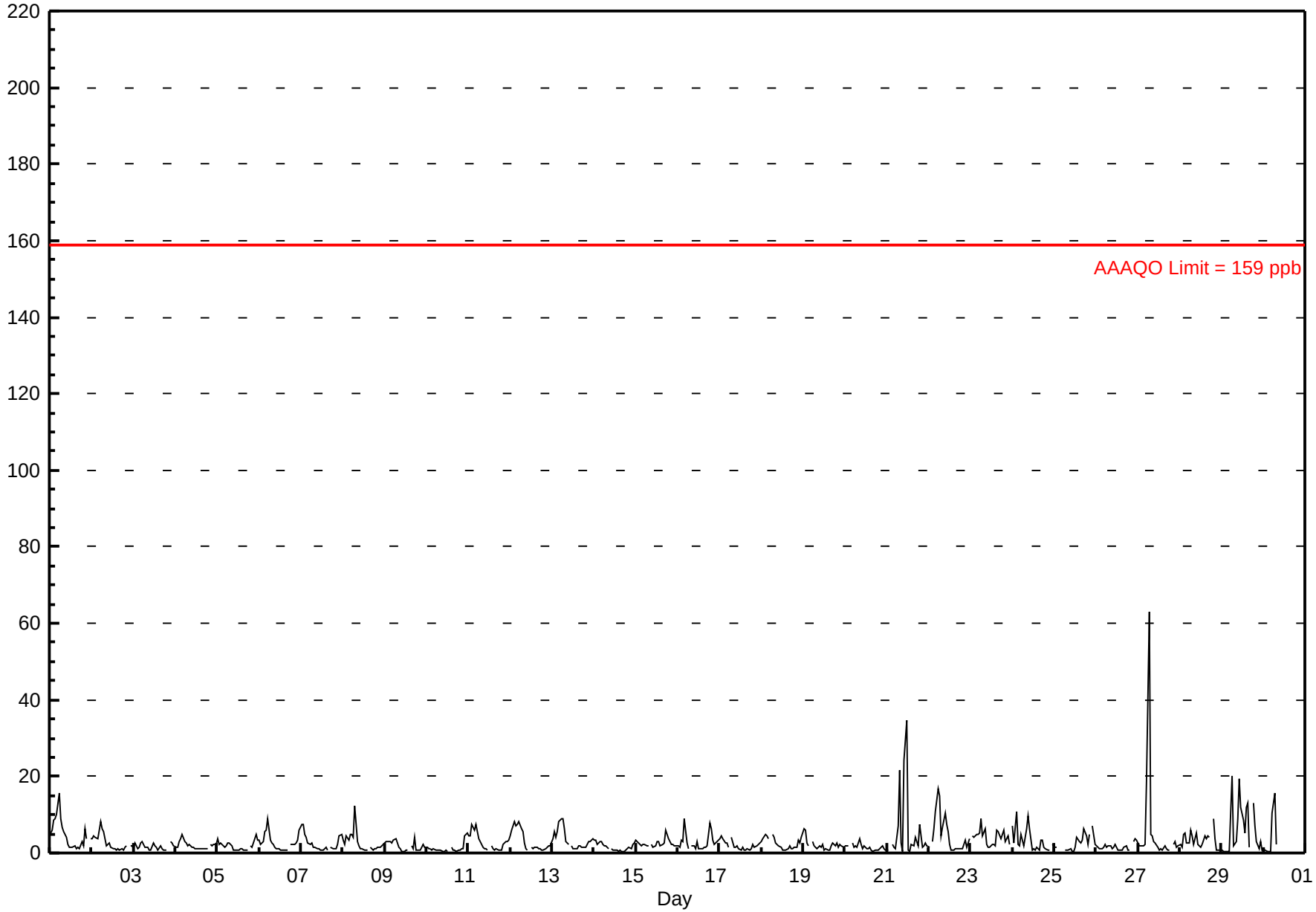
C - Calibration P - Power Failure NS - Not in service A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb

Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Portable-Bonanza - June 2011



FOCUS AIR QUALITY MONITORING

PAZA
Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Portable-Bonanza - June 2011

Maximum Value: 411.4 ppb on Jun 27 07:00

Maximum Daily Average: 87.4 ppb on Jun 29

Minimum Value: 1 ppb on Jun 30 03:00

Minimum Daily Average: 4.4 ppb on Jun 10

Maximum Diurnal Average: 72.1 ppb at hour 7

Minimum Diurnal Average: 6.1 ppb at hour 24

Monthly Average: 19.94 ppb

Percentiles: P_1 = 0.8 P_{10} = 1.7 Q_1 = 2.7 Median = 5.7 Q_3 = 14.6 P_{90} = 35.5 P_{99} = 294.3

Hours in Service:	709
Hours of Data:	670
Hours of Missing Data:	39
Hours of Calibration:	35
Percent Operational Time:	99.4

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	9	18	22	16	29	103	37	14	23	11	8	18	6	17	25	3	4	9	101	6	17	9	A	5	22.2	103.2
2-Jun	4	7	5	6	12	31	34	61	5	41	38	15	2	2	2	3	2	2	1	3	3	A	3	3	12.4	60.7
3-Jun	2	7	2	2	7	9	9	5	4	2	2	12	5	7	2	4	2	3	3	2	A	7	8	5	4.8	11.6
4-Jun	3	2	4	6	8	7	6	6	5	4	6	2	2	1	3	10	1	1	3	A	8	8	7	3	4.7	10.1
5-Jun	8	5	5	2	5	4	6	5	3	1	1	5	2	5	2	2	2	1	A	4	3	15	16	15	5.2	16.2
6-Jun	10	11	8	11	18	123	14	39	12	2	1	15	3	1	2	1	4	A	4	3	4	6	5	11	13.5	123.0
7-Jun	18	10	11	25	3	3	5	4	6	4	5	2	1	2	4	3	A	3	8	10	3	4	10	8	6.5	25.2
8-Jun	15	6	10	10	16	9	20	63	43	5	1	19	11	2	3	A	4	3	10	14	3	3	2	3	11.9	63.3
9-Jun	3	3	3	4	6	12	10	6	8	2	1	1	10	7	A	13	7	260	2	2	7	3	2	3	16.3	259.6
10-Jun	3	2	1	1	2	3	2	2	19	1	5	6	2	A	7	3	2	1	3	2	2	1	19	13	4.4	19.4
11-Jun	7	13	15	12	12	9	8	19	2	1	2	1	A	3	1	1	3	2	1	1	7	14	4	9	6.4	19.0
12-Jun	9	9	10	10	11	13	10	15	5	2	4	A	3	2	7	8	3	24	1	2	3	4	2	2	6.9	24.3
13-Jun	6	24	4	8	11	14	19	11	7	4	A	4	10	4	2	6	7	5	4	5	8	7	6	6	7.9	23.8
14-Jun	6	5	3	4	4	4	3	3	4	A	3	4	3	3	8	15	1	1	5	2	6	3	14	4	4.6	14.7
15-Jun	6	4	6	2	2	3	3	5	A	3	2	9	31	20	15	28	37	64	53	31	39	4	2	2	16.1	64.0
16-Jun	5	2	27	14	37	9	1	A	2	36	2	113	8	3	4	2	4	18	31	27	8	5	4	5	15.9	112.9
17-Jun	4	6	5	3	3	2	A	36	2	4	5	3	2	7	7	1	3	3	8	13	3	3	4	9	6.0	36.0
18-Jun	5	22	7	8	5	A	14	13	4	7	7	8	1	2	18	6	23	2	4	4	3	5	4	5	7.7	22.7
19-Jun	21	25	4	3	A	3	4	2	2	3	6	13	11	3	2	6	10	32	12	9	3	5	6	2	8.2	32.2
20-Jun	4	6	3	A	3	2	5	4	154	48	2	14	12	16	12	3	2	4	1	3	2	4	3	1	13.4	153.7
21-Jun	1	3	A	5	2	5	360	343	44	7	180	294	20	3	12	9	36	15	20	235	7	2	5	2	70.0	359.7
22-Jun	2	A	4	17	17	104	154	9	204	199	110	287	54	2	1	8	3	4	6	6	6	7	11	37	54.4	287.3
23-Jun	A	6	6	17	18	29	162	25	32	3	2	2	11	13	7	26	26	20	32	44	23	37	17	A	25.5	161.6
24-Jun	32	19	31	5	9	28	10	25	21	29	28	1	6	2	19	2	12	23	14	6	3	2	A	3	14.4	31.6
25-Jun	2	2	P	P	P	P	1	1	1	3	2	1	10	28	25	14	11	21	15	19	29	A	28	3	11.4	28.7
26-Jun	3	5	2	1	4	12	5	18	16	5	11	35	18	4	2	6	77	21	7	5	A	4	16	4	12.2	76.8
27-Jun	23	5	2	5	10	295	411	17	17	43	30	11	1	33	3	59	13	1	1	A	8	8	5	3	43.7	411.4
28-Jun	4	2	26	22	5	6	20	22	24	179	22	12	13	10	111	89	77	66	A	133	43	21	1	1	39.6	178.7
29-Jun	1	1	1	1	1	151	404	55	84	82	120	146	69	68	212	60	22	A	294	60	138	8	32	2	87.4	403.6
30-Jun	10	1	1	1	7	292	356	34	C	C	C	C	C	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	355.9
	7.8	7.9	8.1	7.9	9.6	45.9	72.1	29.7	27.0	26.1	21.8	37.6	11.7	9.7	18.6	14.0	14.2	22.6	23.9	24.1	14.4	7.3	8.8	6.1	Diurnal Average	
	31.6	24.9	30.9	25.2	37.2	294.8	411.4	342.8	203.9	198.8	180.3	293.8	68.9	68.3	212.2	89.3	76.9	259.6	294.4	234.8	137.9	36.9	31.7	36.9	Diurnal Maximum	

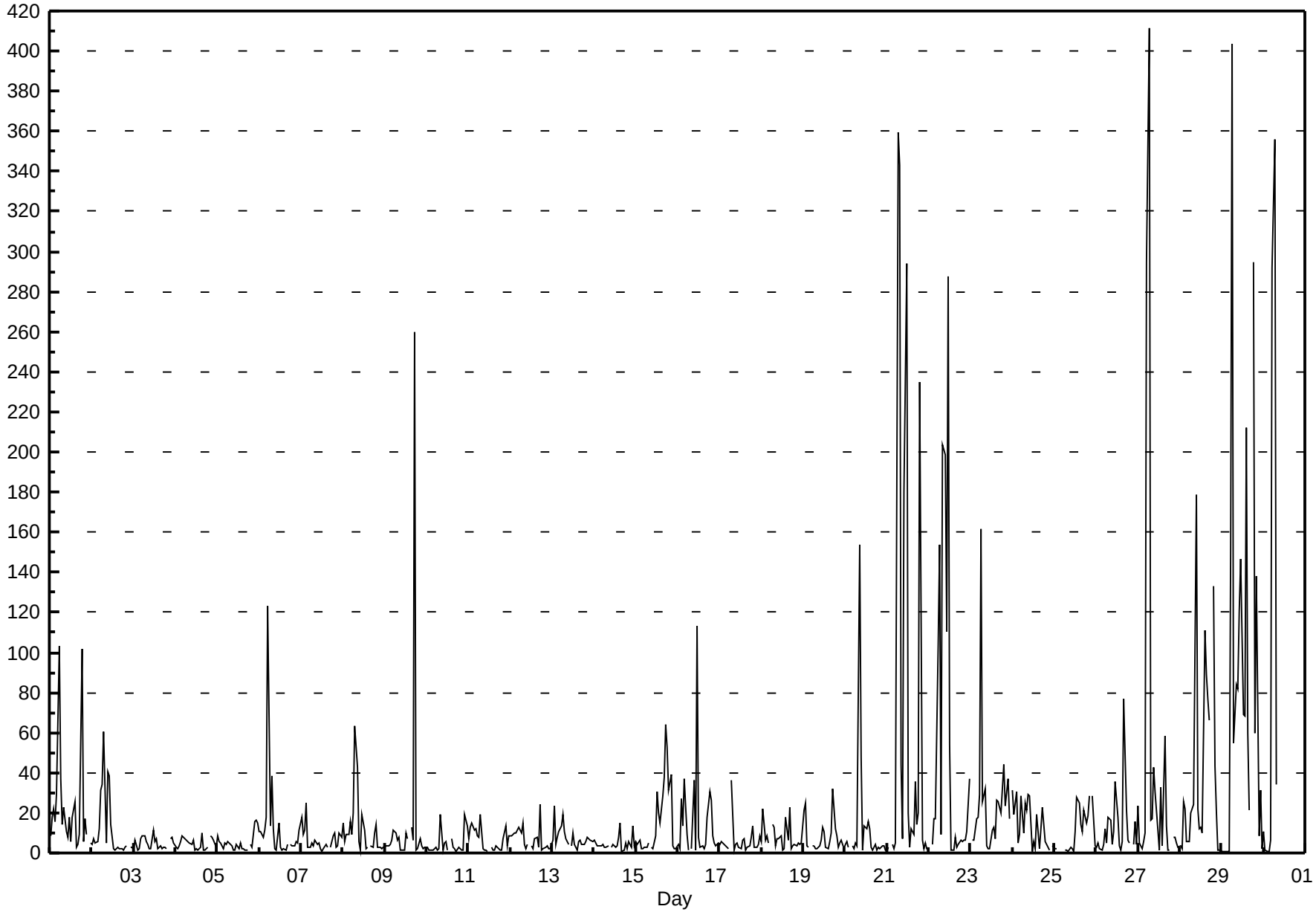
C - Calibration P - Power Failure NS - Not in service A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Portable-Bonanza - June 2011

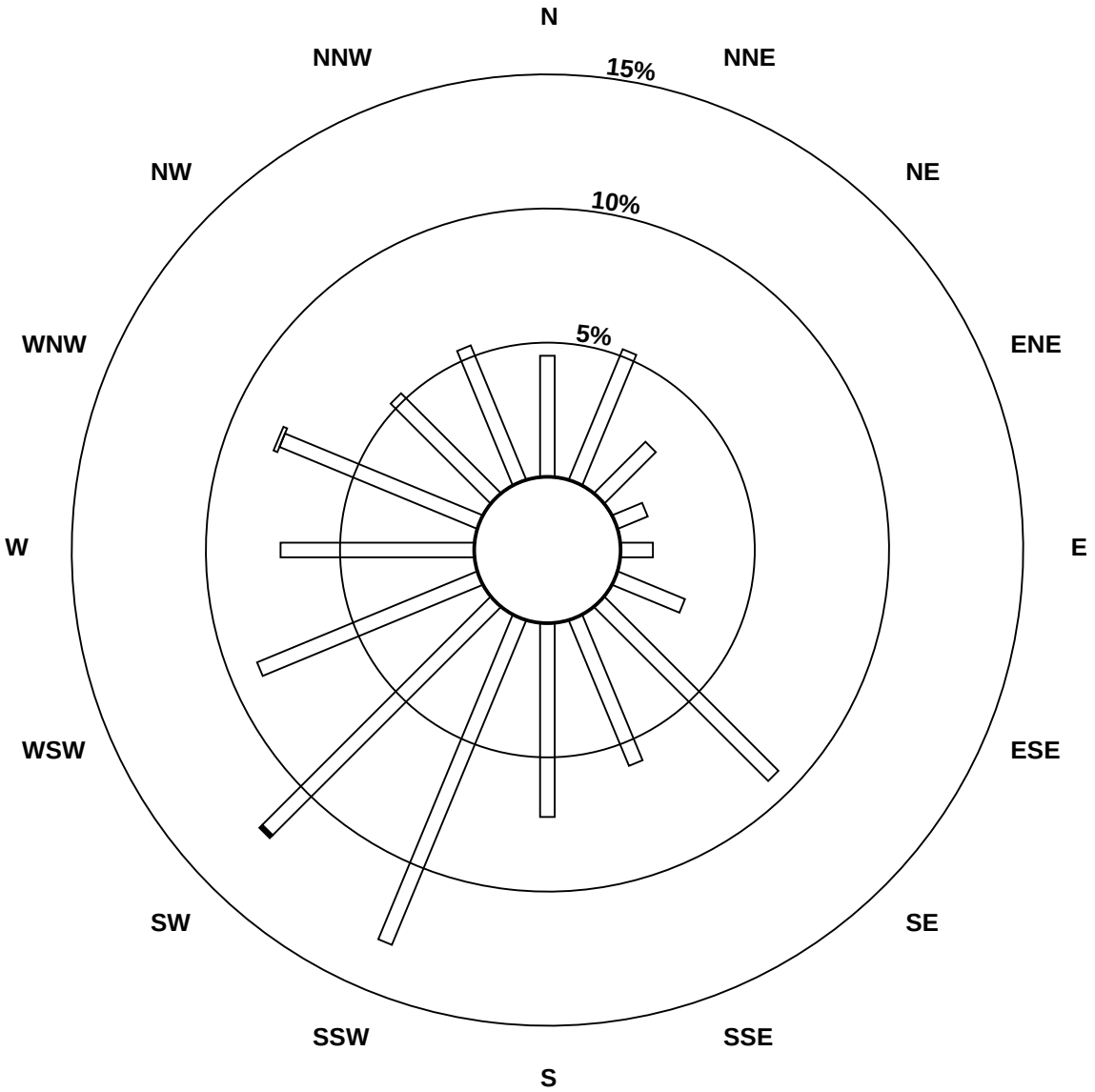


Peace Airshed Zone Association

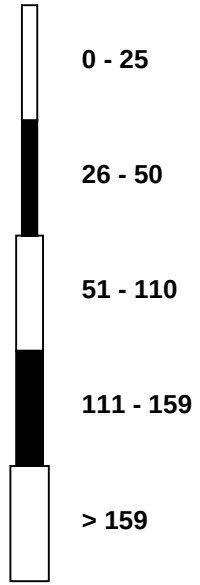
Pollutant Rose

Nitrogen Dioxide (NO_2) - ppb

Portable-Bonanza - June 2011



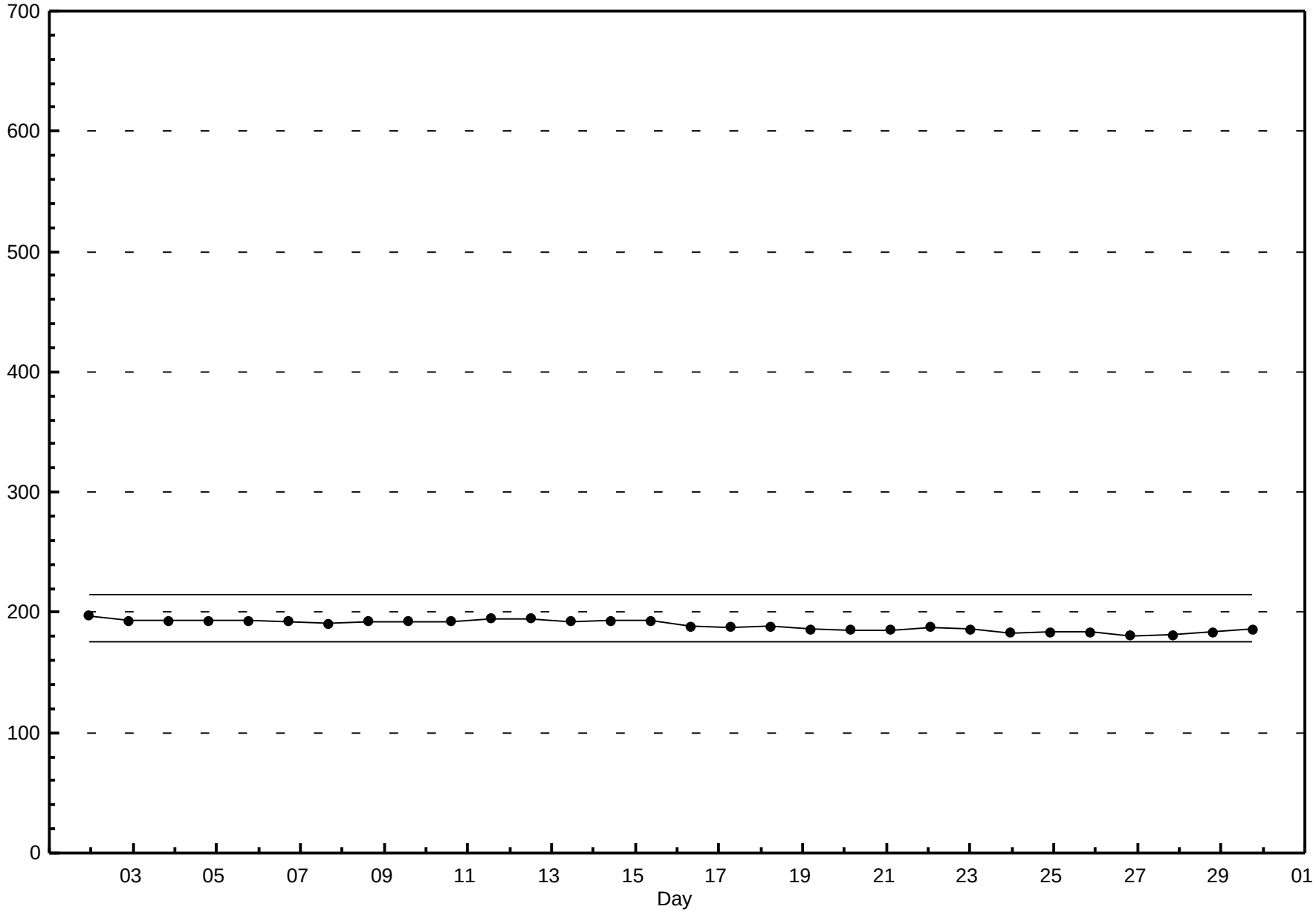
Pollutant Classes (ppb)



Span Responses

Nitrogen Dioxide (NO_2)

Portable-Bonanza - June 2011



PAZA
Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Portable-Bonanza - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 111.3 ppb on Jun 27 07:00 Maximum Daily Average: 14.0 ppb on Jun 29

Minimum Value: 0 ppb on Jun 1 16:00 Minimum Daily Average: 0.1 ppb on Jun 14
Maximum Diurnal Average: 7.6 ppb at hour 7 Minimum Diurnal Average: 0.1 ppb at hour 24
Monthly Average: 2.12 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.2 Q_3 = 0.9 P_{90} = 3.9 P_{99} = 35.2

Hours in Service:	709
Hours of Data:	670
Hours of Missing Data:	39
Hours of Calibration:	35
Percent Operational Time:	99.4

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	0	0	0	0	1	19	3	2	2	1	0	0	0	1	0	0	0	0	9	0	0	0	A	0	1.8	19.1
2-Jun	0	0	0	0	0	2	4	11	0	4	2	0	0	0	1	0	0	0	0	1	0	A	0	0	1.2	10.8
3-Jun	0	1	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	A	1	1	0	0.4	1.0
4-Jun	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	1	0	0	0	A	0	0	1	0	0.4	1.1
5-Jun	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	1	1	0	0.3	1.3
6-Jun	0	0	0	1	2	5	1	1	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.7	5.3
7-Jun	1	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.3	0.7
8-Jun	1	0	2	0	3	5	5	12	3	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1.5	12.4
9-Jun	0	0	0	0	0	0	1	1	1	0	0	0	1	0	A	1	0	12	0	0	0	0	0	0	0.8	12.1
10-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	0	0.1	0.9
11-Jun	0	0	1	2	2	2	2	2	1	0	0	0	A	0	0	0	0	0	0	0	0	1	0	0	0.6	2.3
12-Jun	0	0	0	0	0	1	1	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.2
13-Jun	0	0	0	0	0	2	4	3	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3.8
14-Jun	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.1	0.9
15-Jun	0	0	0	0	0	0	0	0	A	0	0	1	5	3	3	2	2	22	15	2	1	0	0	0	2.5	21.9
16-Jun	0	0	1	0	6	1	0	A	0	1	0	2	1	0	0	0	0	1	5	4	0	0	0	0	1.0	5.9
17-Jun	0	0	0	0	0	0	A	4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.3	4.5
18-Jun	0	2	0	1	1	A	2	2	1	1	1	1	0	0	1	0	1	0	0	0	0	0	0	0	0.6	2.2
19-Jun	2	1	0	0	A	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0.3	1.7
20-Jun	0	0	0	A	0	0	0	1	2	5	1	2	3	2	1	0	0	0	0	0	0	0	0	0	0.7	4.8
21-Jun	0	0	A	0	0	0	9	35	4	6	44	81	0	0	3	1	3	2	2	13	0	0	0	0	8.9	81.0
22-Jun	0	A	0	0	2	22	30	2	5	11	11	2	2	0	0	0	0	0	0	0	0	0	0	0	3.9	30.1
23-Jun	A	0	0	0	0	1	5	1	5	0	0	0	0	0	0	3	1	2	8	5	0	2	0	A	1.6	7.7
24-Jun	3	0	8	0	0	3	0	2	4	7	5	0	0	0	0	0	0	1	1	0	0	0	A	0	1.6	7.8
25-Jun	0	0	P	P	P	P	0	0	0	0	0	0	1	3	3	2	4	7	4	2	2	A	2	0	1.7	6.9
26-Jun	0	0	0	0	0	1	0	1	1	1	1	2	1	0	0	0	3	2	0	0	A	0	0	0	0.6	3.3
27-Jun	0	0	0	0	0	16	111	6	5	4	2	1	0	3	0	4	1	0	0	A	0	0	0	0	6.7	111.3
28-Jun	0	0	2	0	0	0	2	4	3	17	3	2	2	3	16	20	21	36	A	27	13	10	0	0	7.8	36.0
29-Jun	0	0	0	0	0	26	25	3	8	36	63	34	16	16	25	25	6	A	13	11	13	1	2	0	14.0	63.0
30-Jun	0	0	0	0	0	5	11	3	C	C	C	C	C	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	10.5
	0.3	0.2	0.6	0.2	0.7	4.0	7.6	3.5	1.8	3.6	4.9	4.8	1.2	1.2	2.0	2.2	1.6	3.2	2.2	2.5	1.2	0.6	0.4	0.1	Diurnal Average	
	2.9	1.8	7.8	1.6	5.9	25.6	111.3	35.3	7.7	36.5	63.0	81.0	15.5	16.0	25.4	25.0	20.8	36.0	14.8	27.0	12.6	9.7	2.3	0.4	Diurnal Maximum	

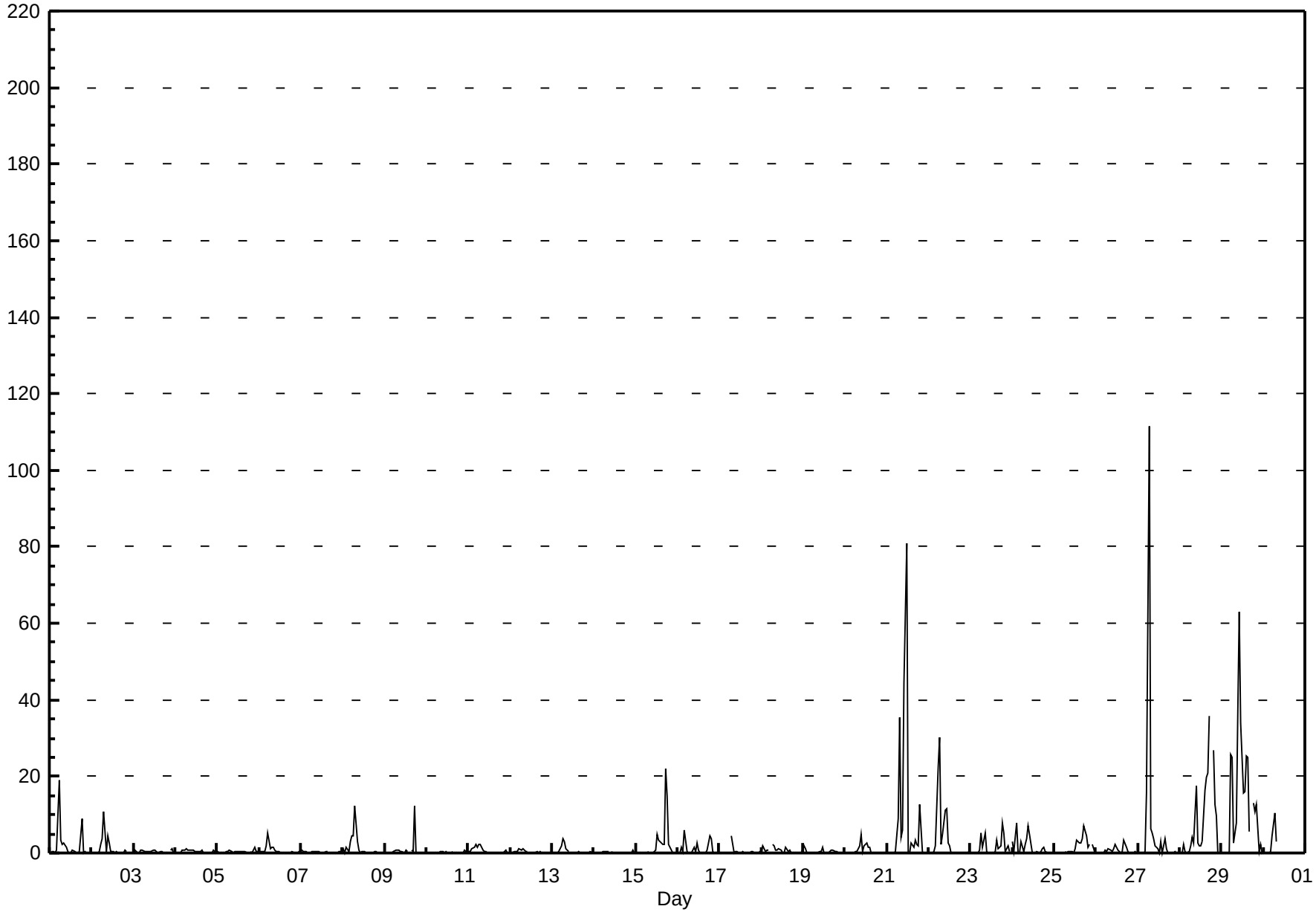
C - Calibration P - Power Failure NS - Not in service A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Portable-Bonanza - June 2011



PAZA
Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Portable-Bonanza - June 2011

Maximum Value: 501.2 ppb on Jun 27 07:00

Maximum Daily Average: 143.4 ppb on Jun 29

Minimum Value: 0 ppb on Jun 10 22:00

Minimum Daily Average: 2.3 ppb on Jun 12

Maximum Diurnal Average: 76.8 ppb at hour 7

Minimum Diurnal Average: 1.5 ppb at hour 24

Monthly Average: 25.56 ppb

Percentiles: P_1 = 0.1 P_{10} = 0.2 Q_1 = 0.5 Median = 2.8 Q_3 = 13.4 P_{90} = 52.8 P_{99} = 350.3

Hours in Service:	709
Hours of Data:	670
Hours of Missing Data:	39
Hours of Calibration:	35
Percent Operational Time:	99.4

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	14	13	5	9	299	69	18	42	21	2	3	5	21	15	1	1	11	314	1	11	3	A	0	38.2	314.2
2-Jun	0	1	0	0	2	35	33	118	4	50	20	13	14	1	21	1	1	0	0	2	1	A	0	0	13.8	117.9
3-Jun	0	4	0	0	3	3	3	2	1	1	2	5	2	4	1	1	1	3	2	0	A	5	10	4	2.5	10.4
4-Jun	0	0	0	2	5	4	4	3	4	3	3	1	2	1	2	36	0	0	1	A	3	3	7	0	3.7	35.9
5-Jun	4	4	1	0	1	1	1	1	1	1	6	3	1	2	1	2	1	5	A	3	0	13	5	3	2.5	12.5
6-Jun	2	13	4	6	13	157	14	23	14	1	1	7	1	0	1	0	6	A	0	1	1	1	1	6	11.8	157.2
7-Jun	12	2	2	8	0	0	1	1	3	5	4	1	0	1	3	1	A	0	2	2	1	0	3	4	2.5	12.0
8-Jun	24	2	13	3	65	25	82	83	52	13	1	7	13	2	4	A	1	1	6	12	0	0	0	0	17.9	82.9
9-Jun	0	0	0	0	8	4	12	2	14	1	7	0	19	7	A	12	4	202	3	1	3	2	0	0	13.0	202.1
10-Jun	0	0	0	0	0	4	4	6	10	11	4	9	1	A	13	3	3	1	4	0	0	0	8	2	3.7	13.1
11-Jun	1	19	24	6	7	5	8	33	3	0	0	0	A	0	0	0	2	1	0	0	1	34	0	2	6.4	34.4
12-Jun	0	0	1	1	2	5	3	6	5	2	2	A	1	0	2	8	1	10	0	1	1	0	0	0	2.3	10.5
13-Jun	0	3	0	1	2	4	14	16	6	2	A	1	5	2	0	4	4	1	2	4	3	3	12	0	3.9	15.7
14-Jun	1	3	0	0	0	8	2	6	5	A	13	5	3	8	2	1	0	1	1	0	3	0	39	0	4.4	38.7
15-Jun	0	0	1	0	0	0	0	4	A	0	0	23	91	37	30	65	62	170	165	18	9	0	0	0	29.4	170.2
16-Jun	0	0	25	9	47	6	0	A	0	43	0	53	10	2	1	0	2	37	28	21	4	1	0	0	12.7	52.7
17-Jun	0	0	0	0	0	0	A	102	0	2	2	3	1	4	6	0	1	1	4	10	0	0	2	12	6.6	101.6
18-Jun	3	44	1	13	2	A	14	11	2	7	9	12	0	0	55	10	27	0	2	1	3	0	0	0	9.4	55.0
19-Jun	17	14	0	0	A	0	0	0	0	2	3	13	3	3	1	14	7	22	5	2	0	0	1	0	4.7	22.3
20-Jun	0	2	0	A	1	0	9	10	127	154	5	14	96	38	15	4	1	6	3	3	4	2	2	0	21.7	154.4
21-Jun	0	2	A	1	1	15	328	387	88	156	275	365	3	2	19	11	16	15	24	367	7	0	0	0	90.5	387.3
22-Jun	0	A	0	2	11	180	243	10	100	99	130	99	44	7	0	3	0	1	2	2	2	0	5	6	41.1	243.0
23-Jun	A	0	0	1	1	19	94	26	158	1	0	1	2	2	3	33	16	16	178	63	13	31	8	A	30.3	177.7
24-Jun	29	21	25	4	3	16	7	24	19	25	32	0	2	0	9	1	3	25	40	17	4	2	A	0	13.4	40.4
25-Jun	0	0	P	P	P	P	2	0	0	2	1	0	9	29	30	21	15	26	15	16	21	A	20	1	11.0	30.1
26-Jun	0	3	0	0	1	23	2	16	13	7	9	53	44	4	0	3	121	28	14	3	A	0	12	0	15.5	121.2
27-Jun	12	1	0	4	5	226	501	91	22	49	32	11	0	148	1	247	40	0	0	A	2	4	2	0	60.9	501.2
28-Jun	0	0	36	2	0	3	9	93	27	317	30	12	19	15	306	209	264	217	A	244	273	450	0	0	110.0	450.3
29-Jun	0	0	1	0	0	353	497	30	201	310	262	195	149	228	204	102	134	A	200	60	325	15	33	1	143.4	496.8
30-Jun	7	1	0	0	11	156	272	28	C	C	C	C	C	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	272.5
	4.0	5.3	5.3	2.6	7.1	55.4	76.8	39.7	32.8	45.9	30.5	32.4	19.3	20.3	26.7	28.4	26.3	29.7	37.6	31.6	25.7	21.2	6.4	1.5	Diurnal Average	
	28.9	44.1	35.6	13.1	64.9	352.7	501.2	387.3	200.6	317.1	274.8	364.7	148.9	228.2	305.5	247.4	264.4	217.4	314.2	367.5	324.9	450.3	38.7	12.3	Diurnal Maximum	

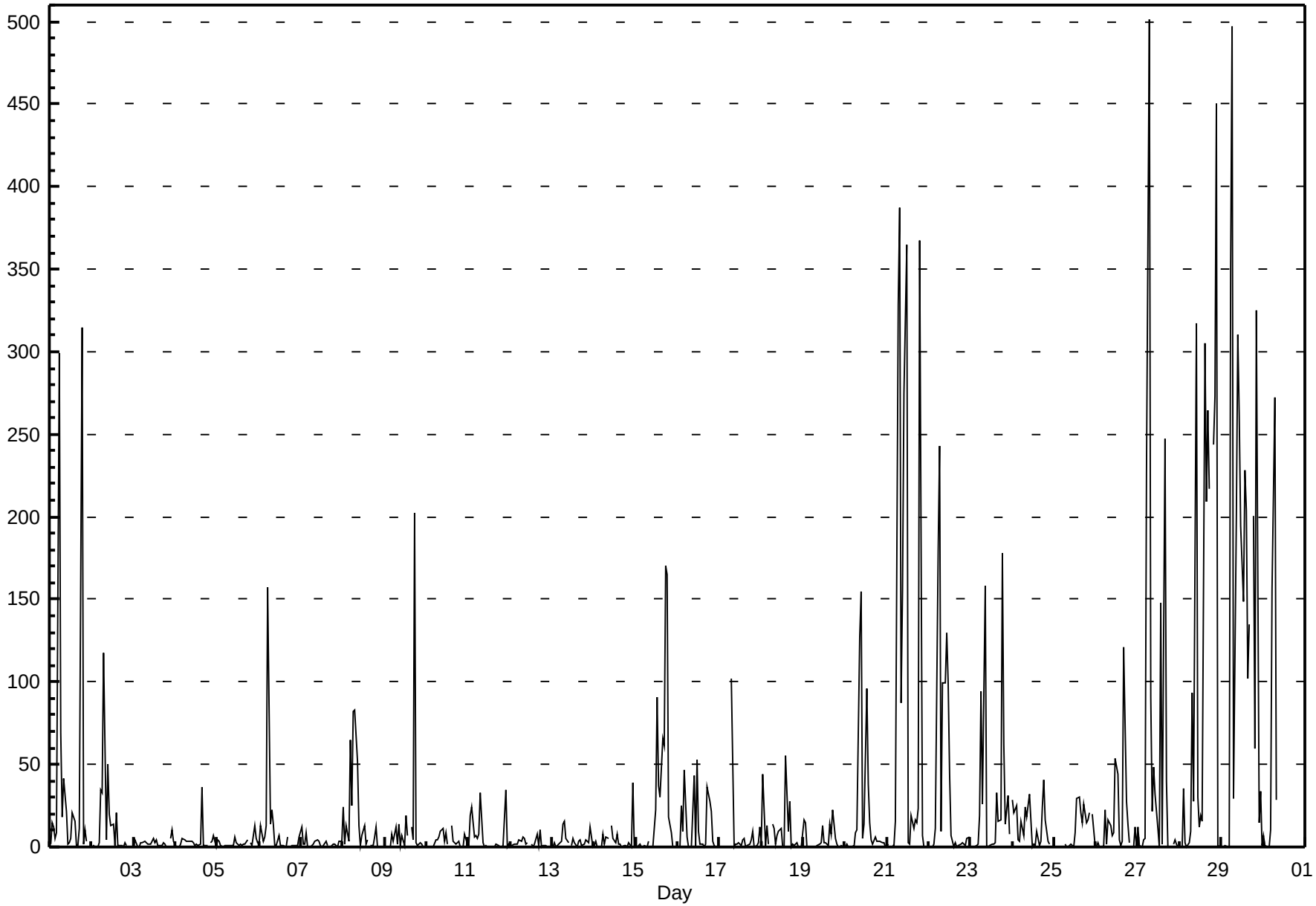
C - Calibration P - Power Failure NS - Not in service A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Portable-Bonanza - June 2011



Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Portable-Bonanza - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 96.0 ppb on Jun 21 12:00 Maximum Daily Average: 19.5 ppb on Jun 29

Minimum Value: 0 ppb on Jun 14 17:00 Minimum Daily Average: 1.3 ppb on Jun 10
Maximum Diurnal Average: 10.2 ppb at hour 7 Minimum Diurnal Average: 2.7 ppb at hour 13
Monthly Average: 4.81 ppb Percentiles: $P_1 = 0.5$ $P_{10} = 0.9$ $Q_1 = 1.3$ Median = 2.4 $Q_3 = 4.8$ $P_{90} = 9.5$ $P_{99} = 44.6$

Hours in Service:	709
Hours of Data:	670
Hours of Missing Data:	39
Hours of Calibration:	35
Percent Operational Time:	99.4

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jun	5	6	9	9	11	35	12	9	8	5	3	2	1	2	2	1	2	1	12	2	7	4	A	4	6.7	34.6
2-Jun	4	4	4	4	6	10	10	16	2	7	5	2	1	1	1	1	1	1	1	2	2	A	2	2	4.0	16.1
3-Jun	1	3	1	2	3	3	2	2	2	1	1	3	2	2	1	2	1	1	1	1	A	4	4	2	2.0	3.8
4-Jun	1	1	3	4	6	4	4	2	3	2	2	1	1	1	1	2	1	1	1	A	2	2	3	2	2.3	5.9
5-Jun	4	3	3	2	2	2	3	3	2	1	1	1	1	2	1	1	1	1	A	2	2	5	5	4	2.2	5.2
6-Jun	4	3	4	6	8	14	5	4	3	2	2	2	1	1	1	1	1	A	2	2	2	3	3	7	3.5	14.1
7-Jun	8	8	5	5	3	2	3	2	2	2	2	1	1	1	2	1	A	2	1	1	1	2	5	5	2.8	8.3
8-Jun	5	2	6	4	8	9	9	25	6	3	1	2	1	1	1	A	2	1	1	1	1	2	2	2	4.1	24.7
9-Jun	3	3	3	3	3	4	5	3	2	1	1	1	1	1	A	2	2	14	1	1	1	1	2	1	2.6	14.4
10-Jun	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	0	1	1	1	1	6	5	1.3	5.6
11-Jun	5	5	8	8	10	7	6	5	2	1	1	1	A	2	1	1	1	1	1	1	2	4	3	4	3.5	10.1
12-Jun	4	6	9	8	8	9	7	7	4	2	1	A	2	1	1	2	1	1	1	1	1	1	2	2	3.5	9.5
13-Jun	4	6	4	6	9	11	13	10	4	3	A	2	1	1	1	2	2	1	1	1	3	3	3	4	4.1	13.0
14-Jun	3	3	2	3	3	3	2	2	2	A	1	1	1	1	1	1	0	0	1	1	2	1	3	3	1.7	3.4
15-Jun	3	3	2	2	2	2	2	2	A	2	2	2	8	6	5	5	5	28	20	6	3	2	2	2	5.1	27.7
16-Jun	2	1	5	3	15	3	1	A	2	3	1	5	2	1	1	1	1	3	12	10	4	2	3	3	3.8	15.2
17-Jun	4	4	4	3	2	2	A	9	2	2	2	1	1	2	1	1	1	1	1	3	2	2	2	3	2.3	8.6
18-Jun	3	5	5	5	4	A	7	6	3	3	3	2	1	1	2	1	3	1	1	2	2	4	3	4	3.1	7.1
19-Jun	8	7	3	2	A	3	2	2	1	2	2	4	1	1	1	1	2	4	2	3	2	2	2	1	2.5	8.0
20-Jun	2	2	2	A	3	2	2	2	6	7	2	4	4	3	3	1	1	1	1	1	1	2	1	1	2.2	6.7
21-Jun	1	1	A	2	1	1	8	45	7	6	68	96	1	1	5	3	8	5	4	16	2	2	3	2	12.5	96.0
22-Jun	1	A	3	7	13	39	45	7	11	21	19	5	4	1	1	1	1	1	1	1	2	3	1	4	8.5	45.0
23-Jun	A	5	4	5	5	6	15	6	11	3	2	2	2	2	2	9	7	6	12	12	4	6	2	A	5.8	14.5
24-Jun	10	3	19	2	2	8	2	7	10	17	12	1	1	1	2	1	4	4	3	1	1	1	A	2	5.0	18.8
25-Jun	2	2	P	P	P	P	1	1	1	1	1	1	3	7	6	5	7	13	9	4	7	A	10	3	4.3	13.4
26-Jun	2	2	1	1	2	3	2	3	3	2	3	8	5	1	1	1	7	4	1	1	A	3	4	3	2.7	8.2
27-Jun	3	2	2	2	2	24	77	11	10	7	4	3	1	4	1	6	2	1	1	A	2	3	1	2	7.4	77.3
28-Jun	2	1	7	5	3	3	8	8	5	21	5	4	3	5	19	22	23	38	A	34	16	10	1	1	10.7	38.5
29-Jun	1	1	1	1	0	32	26	5	11	44	82	46	24	25	37	38	7	A	28	18	15	2	5	1	19.5	82.1
30-Jun	1	1	0	0	1	4	16	5	C	C	C	C	C	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	15.9
	3.4	3.3	4.3	3.7	4.9	8.8	10.2	7.2	4.5	6.2	8.2	7.2	2.7	2.8	3.7	4.1	3.3	5.1	4.5	4.8	3.3	2.9	3.1	2.9	Diurnal Average	
	10.0	7.8	18.8	9.4	15.2	39.4	77.3	44.7	11.3	44.0	82.1	96.0	24.3	24.9	37.1	38.1	23.5	38.5	28.0	34.2	16.0	10.0	9.5	6.5	Diurnal Maximum	

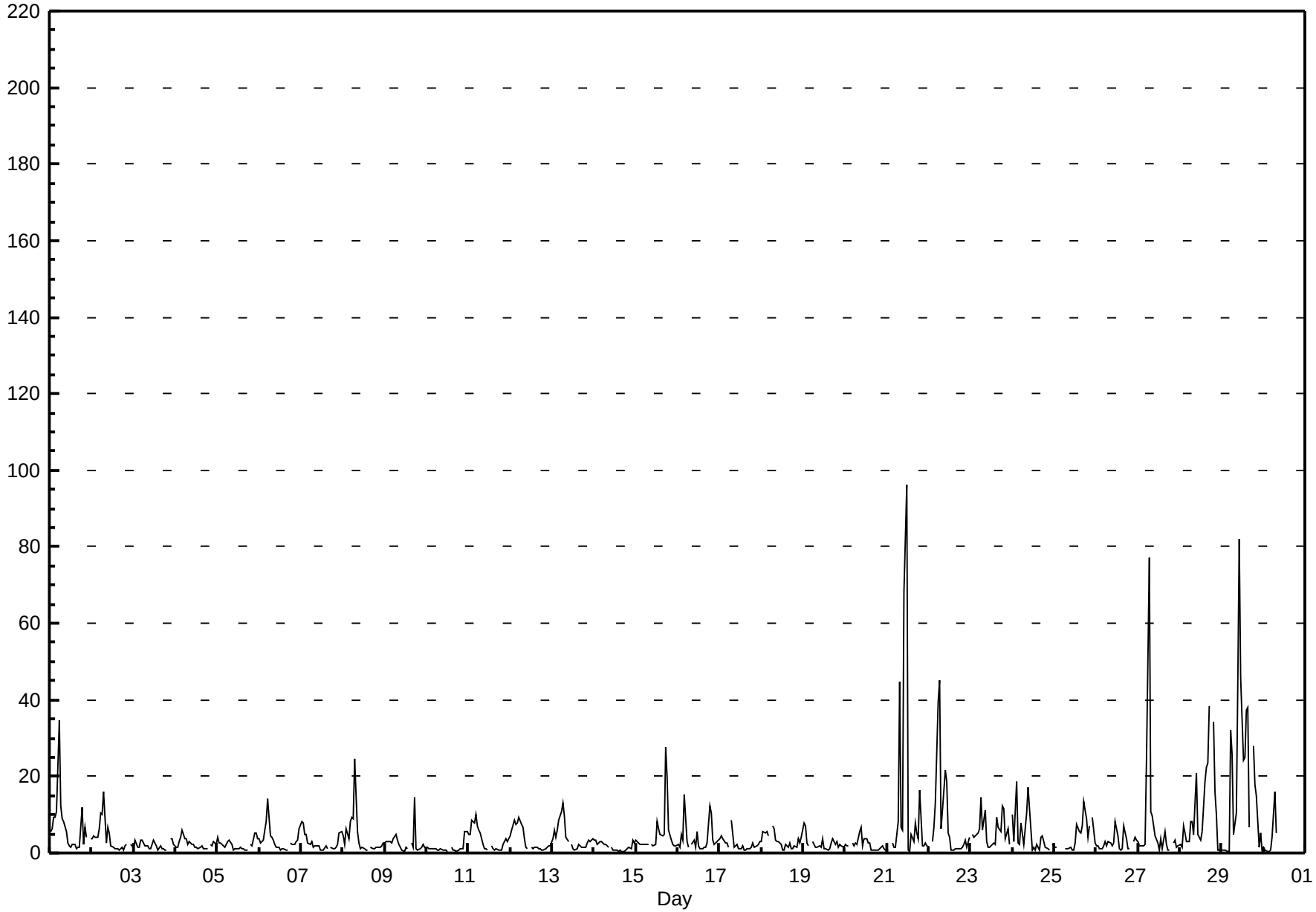
C - Calibration P - Power Failure NS - Not in service A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Portable-Bonanza - June 2011



Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Portable-Bonanza - June 2011

Maximum Value: 469.9 ppb on Jun 21 20:00

Maximum Daily Average: 179.5 ppb on Jun 29

Minimum Value: 1 ppb on Jun 29 04:00

Minimum Daily Average: 7.1 ppb on Jun 3

Maximum Diurnal Average: 90.9 ppb at hour 7

Minimum Diurnal Average: 7.4 ppb at hour 24

Monthly Average: 36.43 ppb

Percentiles: P_1 = 1.0 P_{10} = 2.1 Q_1 = 3.6 Median = 8.2 Q_3 = 26.7 P_{90} = 71.8 P_{99} = 423.4

Hours in Service:	709
Hours of Data:	670
Hours of Missing Data:	39
Hours of Calibration:	35
Percent Operational Time:	99.4

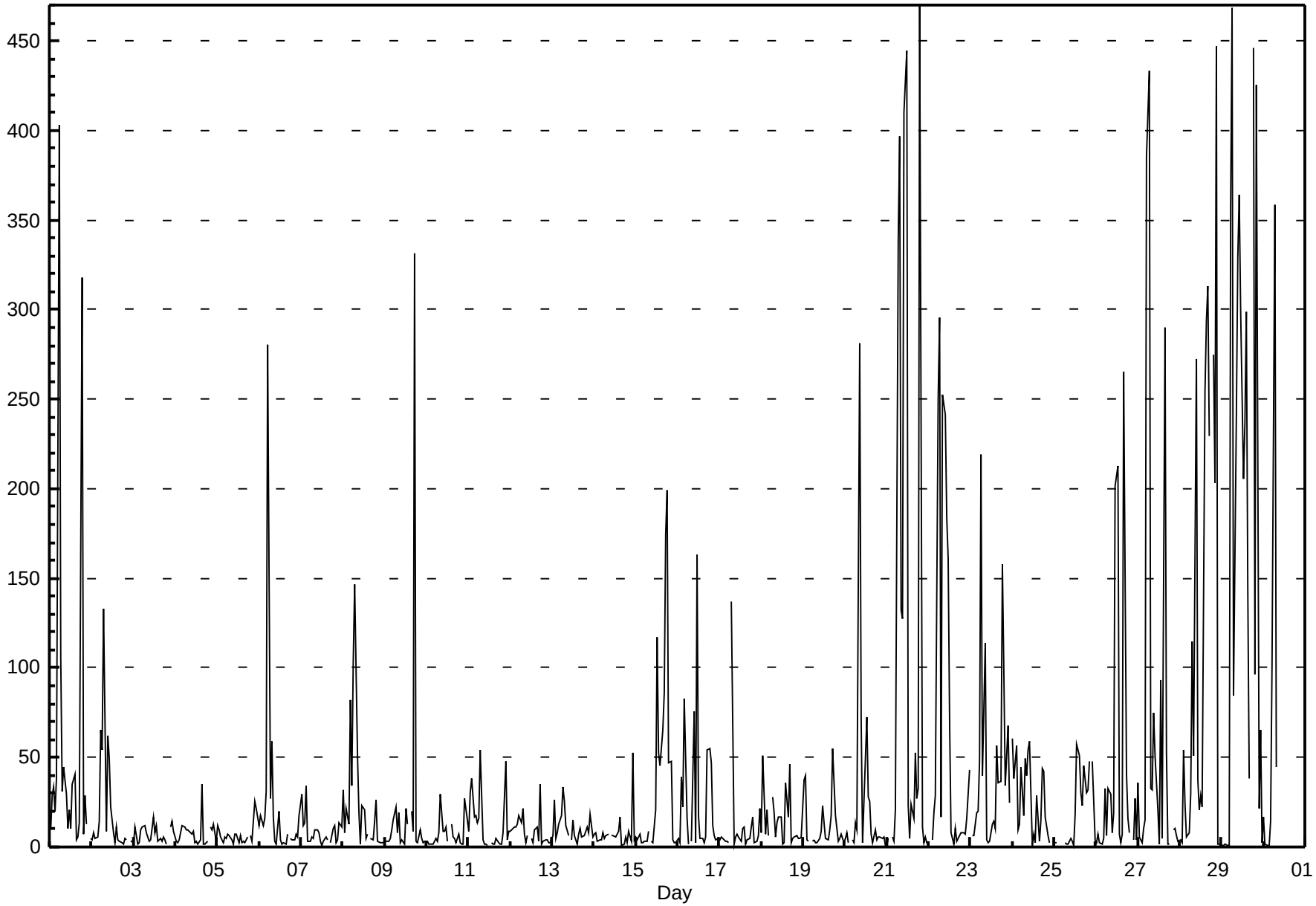
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jun	10	28	34	20	38	403	106	31	44	29	10	21	10	35	41	4	5	14	318	7	28	13	A	5	54.6	402.9
2-Jun	4	8	5	6	14	66	54	133	9	62	50	22	8	2	11	4	3	2	1	5	4	A	3	3	20.9	133.2
3-Jun	2	11	2	2	10	11	12	8	6	3	4	17	8	12	3	4	3	6	4	2	A	11	15	9	7.1	16.6
4-Jun	3	2	4	8	12	11	10	10	9	8	9	2	3	2	4	35	2	2	3	A	11	10	12	3	7.6	35.3
5-Jun	12	9	5	3	5	5	7	6	4	2	7	7	3	6	3	3	3	6	A	7	3	25	22	17	7.4	25.1
6-Jun	12	17	12	16	31	281	27	59	17	3	2	20	4	2	3	1	8	A	4	4	4	7	6	17	24.2	280.7
7-Jun	30	12	13	34	3	3	6	5	9	9	8	3	1	3	6	4	A	3	10	12	3	4	14	11	8.9	34.0
8-Jun	32	8	22	13	82	34	102	146	51	19	2	23	21	5	7	A	5	4	14	27	3	3	2	3	27.2	146.2
9-Jun	3	3	4	5	10	16	22	8	19	2	4	2	22	13	A	20	9	331	3	3	10	5	3	3	22.5	331.0
10-Jun	3	2	1	1	2	4	4	8	29	9	9	11	3	A	12	5	5	2	7	2	2	1	27	15	7.2	29.3
11-Jun	8	30	38	17	18	14	16	54	4	2	2	1	A	3	2	1	5	3	2	1	8	48	4	9	12.5	54.0
12-Jun	9	9	12	11	13	18	13	21	7	3	7	A	5	3	9	11	3	35	1	3	4	4	2	2	8.9	35.2
13-Jun	6	26	4	8	13	18	34	25	12	6	A	4	15	7	2	7	10	6	6	9	11	8	18	6	11.4	33.6
14-Jun	7	8	3	4	4	8	5	6	7	A	6	7	6	7	9	16	1	2	5	2	9	3	53	4	7.9	52.5
15-Jun	6	4	8	2	3	3	3	9	A	3	2	21	117	53	45	65	86	174	199	47	48	4	2	2	39.4	199.4
16-Jun	5	2	39	22	83	16	1	A	3	75	2	163	18	4	5	2	6	54	55	47	12	6	4	5	27.4	163.2
17-Jun	4	6	5	4	3	2	A	137	2	6	7	5	3	11	11	1	4	5	11	17	3	4	7	21	12.1	137.1
18-Jun	8	51	7	21	6	A	28	19	6	14	17	17	2	2	36	16	46	3	5	5	6	5	4	5	14.3	51.0
19-Jun	37	40	4	3	A	3	4	2	3	5	9	23	14	5	4	10	18	55	18	11	3	5	7	2	12.3	54.9
20-Jun	4	8	3	A	4	2	14	10	281	72	2	26	72	28	26	7	3	10	4	6	5	5	6	1	26.0	281.1
21-Jun	1	4	A	6	3	20	338	397	132	127	410	444	23	4	24	16	52	27	32	470	11	2	5	2	111.0	469.9
22-Jun	2	A	4	19	29	251	295	16	252	242	184	161	71	8	2	10	3	5	8	8	8	7	16	43	71.4	295.4
23-Jun	A	7	6	19	20	49	219	40	114	4	2	4	13	15	10	57	36	37	158	100	34	68	24	A	47.1	219.4
24-Jun	61	38	56	9	13	44	17	49	40	54	59	1	7	3	29	3	15	44	42	16	7	3	A	3	26.7	60.8
25-Jun	2	2	P	P	P	P	2	1	1	5	3	1	18	57	51	30	23	45	30	32	48	A	48	4	21.4	57.4
26-Jun	3	7	2	1	5	33	6	32	30	8	19	202	212	7	2	7	265	41	16	8	A	4	27	4	41.0	265.0
27-Jun	36	5	2	10	15	386	433	33	32	75	51	21	2	93	5	290	53	1	1	A	9	10	7	3	68.4	433.2
28-Jun	4	2	55	24	6	8	30	115	51	272	37	21	29	22	254	294	313	229	A	275	203	447	1	1	117.1	447.3
29-Jun	1	1	1	1	1	358	469	84	240	329	364	299	206	236	299	145	38	A	446	96	425	21	65	2	179.5	468.8
30-Jun	17	1	1	1	14	103	359	45	C	C	C	C	C	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	358.6
	11.5	12.2	12.6	10.3	16.3	77.5	90.9	52.1	50.5	51.8	46.0	55.4	32.7	23.1	32.5	38.3	36.6	42.3	52.0	45.2	34.2	27.1	15.0	7.4	Diurnal Average	
	60.8	51.0	56.3	34.0	82.8	402.9	468.8	396.8	281.1	329.3	410.0	444.4	212.3	236.3	298.9	293.8	313.2	331.0	445.9	469.9	425.0	447.3	65.3	43.2	Diurnal Maximum	

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

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

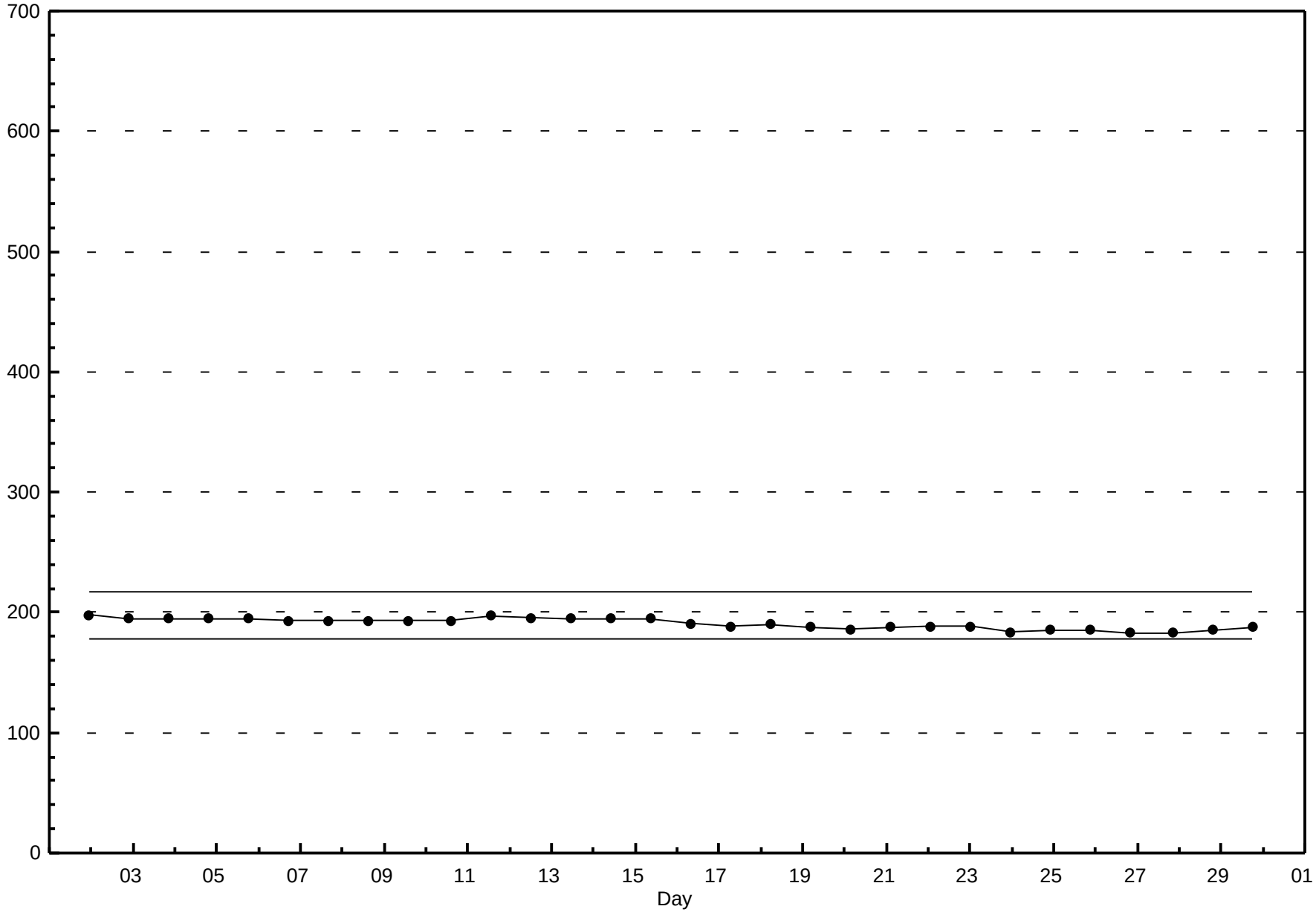
Portable-Bonanza - June 2011



Span Responses

Oxides of Nitrogen (NO_X)

Portable-Bonanza - June 2011



Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Portable-Bonanza - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 60.2 ppb on Jun 1 16:00 Maximum Daily Average: 43.5 ppb on Jun 1

Minimum Value: 4 ppb on Jun 6 05:00 Minimum Daily Average: 17.9 ppb on Jun 20
Maximum Diurnal Average: 37.4 ppb at hour 17 Minimum Diurnal Average: 19.6 ppb at hour 5
Monthly Average: 28.96 ppb Percentiles: P_1 = 8.2 P_{10} = 15.7 Q_1 = 21.4 Median = 28.5 Q_3 = 36.1 P_{90} = 42.9 P_{99} = 58.8

Hours in Service:	712
Hours of Data:	673
Hours of Missing Data:	39
Hours of Calibration:	35
Percent Operational Time:	99.4

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jun	31	35	30	24	17	12	23	31	37	44	53	58	59	59	59	60	60	60	60	58	45	43	A	43	43.5	60.2
2-Jun	41	40	41	36	32	32	36	38	44	46	47	48	50	49	49	49	48	44	29	27	19	A	16	15	38.0	50.1
3-Jun	16	15	19	17	17	25	29	31	30	31	28	25	28	26	26	25	25	28	27	25	A	21	17	14	23.7	31.3
4-Jun	14	13	12	11	10	13	16	24	27	28	27	29	30	31	32	33	33	33	32	A	27	29	27	21	23.9	32.9
5-Jun	19	24	25	24	22	20	24	27	29	34	35	36	36	35	33	39	41	41	A	36	32	27	23	24	29.9	41.0
6-Jun	21	17	11	9	4	8	13	16	17	30	34	38	39	36	38	40	41	A	36	34	31	28	26	16	25.4	41.5
7-Jun	12	10	18	26	21	19	20	25	28	33	35	33	36	38	39	41	A	39	38	38	32	28	20	13	28.0	41.1
8-Jun	15	17	7	12	6	5	15	19	26	33	38	41	43	44	48	A	48	49	49	48	42	39	42	40	31.6	49.5
9-Jun	40	38	35	35	34	29	29	30	37	38	37	38	37	39	A	39	37	34	34	31	29	25	21	30	33.9	39.7
10-Jun	31	33	31	32	32	37	37	37	37	38	39	39	40	A	40	41	43	46	42	38	38	38	25	18	36.2	45.5
11-Jun	15	14	11	7	5	11	13	21	26	32	33	34	A	37	39	40	42	44	43	41	35	26	27	29	27.2	44.1
12-Jun	29	22	12	14	12	10	23	23	32	40	43	A	47	47	47	48	48	48	48	47	45	44	41	38	35.3	48.5
13-Jun	31	29	30	23	15	9	11	22	34	39	A	48	50	51	51	46	45	44	44	44	41	36	36	27	35.1	51.4
14-Jun	26	29	31	28	29	30	31	31	32	A	32	31	30	33	36	35	35	35	35	34	33	31	26	23	31.2	35.6
15-Jun	22	21	23	21	21	23	24	24	A	28	26	23	23	29	30	30	28	22	25	23	22	21	26	29	24.6	30.2
16-Jun	26	24	27	27	24	21	17	A	17	18	18	18	20	20	24	30	39	39	25	22	19	22	23	20	23.6	39.4
17-Jun	16	13	15	18	18	19	A	21	23	21	18	21	27	31	35	37	35	33	33	30	30	22	13	15	23.6	36.6
18-Jun	18	13	14	9	9	A	11	13	21	22	25	30	36	36	37	36	36	34	33	32	27	21	20	15	23.8	36.9
19-Jun	12	14	21	22	A	17	19	20	19	20	32	38	34	34	36	37	39	38	34	32	30	32	37	37	28.4	38.7
20-Jun	29	28	31	A	15	12	10	9	9	10	11	14	17	20	20	17	19	20	21	20	20	18	20	24	17.9	30.6
21-Jun	24	25	A	23	22	21	22	20	22	24	22	25	34	38	37	38	40	42	42	37	35	35	33	38	30.4	42.0
22-Jun	38	A	35	19	7	11	11	22	30	34	35	39	42	44	46	47	47	46	46	44	40	38	59	54	36.3	58.9
23-Jun	A	33	34	34	29	26	24	28	32	41	45	45	46	44	46	40	44	31	27	25	34	36	38	A	35.5	46.0
24-Jun	28	27	22	27	33	30	32	35	34	30	26	24	24	38	39	39	30	26	21	21	21	20	A	19	28.1	38.8
25-Jun	19	17	P	P	P	P	17	17	17	17	23	29	28	25	21	19	18	16	16	41	42	A	34	31	23.7	42.1
26-Jun	32	32	27	23	19	20	21	23	25	24	25	28	31	31	30	31	33	36	41	33	A	28	21	20	27.5	40.9
27-Jun	23	25	29	23	17	14	11	12	14	19	19	23	27	26	27	29	30	31	32	A	29	21	21	21	22.7	32.3
28-Jun	25	31	24	21	27	28	23	20	20	21	26	28	30	31	31	29	27	24	A	22	22	24	27	27	25.6	30.8
29-Jun	26	26	26	26	25	23	22	23	24	22	21	28	32	31	31	29	34	A	27	28	30	30	25	26	26.7	34.3
30-Jun	25	25	26	26	25	23	22	23	24	25	26	C	C	C	C	C	NS	NS	NS	NS	NS	NS	NS	NS	--	26.1
	24.3	23.9	23.8	22.1	19.6	19.6	20.9	23.6	26.5	29.0	30.3	32.6	34.8	35.9	36.7	36.6	37.4	36.4	34.8	33.7	31.6	29.0	27.5	26.0	Diurnal Average	
	40.8	40.5	40.8	35.8	34.2	36.5	37.3	38.4	43.8	46.1	53.2	58.2	58.5	58.8	58.8	60.2	59.9	60.1	59.8	58.3	45.4	43.6	58.9	54.2	Diurnal Maximum	

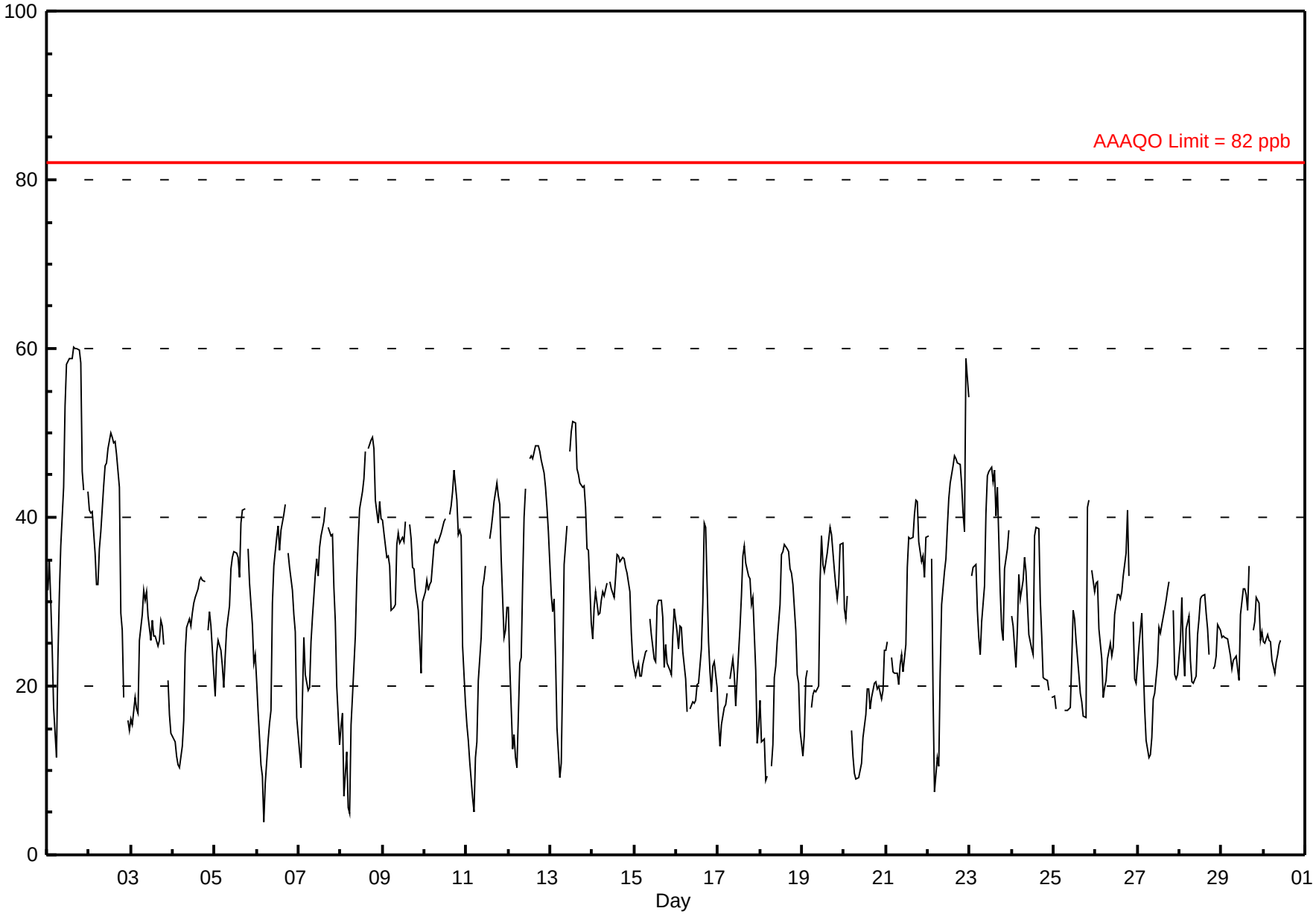
C - Calibration P - Power Failure NS - Not in service A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na

Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Portable-Bonanza - June 2011



Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

Portable-Bonanza - June 2011

Maximum Value: 65.7 ppb on Jun 22 23:00

Maximum Daily Average: 48.6 ppb on Jun 1

Minimum Value: 10 ppb on Jun 20 08:00

Minimum Daily Average: 20.7 ppb on Jun 20

Maximum Diurnal Average: 40.5 ppb at hour 17

Minimum Diurnal Average: 24.0 ppb at hour 7

Monthly Average: 32.79 ppb

Percentiles: P_1 = 11.9 P_{10} = 19.3 Q_1 = 25.2 Median = 32.1 Q_3 = 40.0 P_{90} = 45.8 P_{99} = 61.1

Hours in Service:	712
Hours of Data:	673
Hours of Missing Data:	39
Hours of Calibration:	35
Percent Operational Time:	99.4

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	39	40	37	29	29	19	30	36	42	51	59	60	60	61	61	62	64	63	64	63	56	47	A	46	48.6	64.1
2-Jun	42	41	43	42	40	41	41	44	47	48	49	51	51	51	51	51	51	46	39	31	21	A	17	17	41.6	51.4
3-Jun	18	18	20	19	25	31	33	34	36	38	35	31	32	28	27	28	27	30	29	27	A	24	18	16	27.1	37.5
4-Jun	15	15	13	12	12	15	19	29	29	30	29	31	31	32	33	34	34	34	35	A	29	34	30	25	26.1	34.6
5-Jun	23	29	31	30	25	22	26	31	32	37	38	38	38	40	39	42	42	43	A	40	37	31	29	27	33.4	42.7
6-Jun	26	24	18	15	11	14	16	18	26	34	37	40	41	41	41	42	45	A	40	38	34	32	30	26	29.9	44.9
7-Jun	20	20	30	32	24	21	23	28	31	37	38	37	40	40	43	43	A	41	40	40	40	34	29	23	32.8	43.4
8-Jun	23	24	15	18	14	16	18	23	32	36	41	43	46	47	52	A	51	51	53	51	48	43	44	42	36.0	52.5
9-Jun	41	40	37	36	36	33	32	35	39	40	39	39	39	42	A	41	40	38	37	34	31	29	27	32	36.4	42.2
10-Jun	34	35	34	35	37	39	40	39	39	40	41	41	42	A	42	43	46	48	45	41	41	40	38	23	39.1	48.0
11-Jun	25	21	19	16	12	14	15	27	30	34	34	36	A	41	42	43	44	46	44	45	41	34	31	32	31.6	46.0
12-Jun	31	30	22	23	20	19	26	27	40	42	47	A	49	50	50	52	51	50	49	49	48	47	43	41	39.5	52.2
13-Jun	38	35	33	31	22	13	17	29	38	43	A	52	52	53	53	52	48	46	47	46	45	41	38	38	39.6	53.5
14-Jun	31	32	33	31	31	33	33	33	35	A	35	33	33	36	37	37	36	38	38	36	36	33	31	27	33.7	38.0
15-Jun	25	23	26	24	23	25	26	26	A	30	27	26	27	32	33	32	31	27	29	25	23	23	30	32	27.1	33.0
16-Jun	32	30	30	31	31	24	18	A	19	19	19	20	23	23	28	38	42	42	36	28	24	25	26	23	27.5	42.5
17-Jun	20	18	18	19	20	22	A	23	25	24	20	25	31	37	40	40	38	38	38	35	35	28	19	21	27.6	40.2
18-Jun	21	18	18	14	17	A	13	16	23	25	30	32	40	40	40	39	40	39	38	36	32	26	28	21	28.1	40.4
19-Jun	24	28	24	25	A	19	20	22	22	28	38	42	38	38	39	40	45	42	39	36	36	36	42	41	33.2	44.6
20-Jun	39	35	35	A	20	13	11	10	10	11	13	16	20	22	22	20	23	23	22	22	22	20	22	25	20.7	39.3
21-Jun	25	26	A	26	23	24	23	23	24	27	27	32	38	40	40	41	45	45	46	43	36	38	39	40	33.5	45.6
22-Jun	40	A	38	35	14	19	18	30	35	40	40	42	46	47	49	50	50	49	50	46	44	46	66	61	41.5	65.7
23-Jun	A	40	47	40	33	32	29	35	38	45	48	48	51	51	52	54	48	45	30	31	40	41	43	A	41.8	54.2
24-Jun	41	29	28	39	40	36	37	39	37	35	31	26	32	43	42	41	36	32	23	22	21	21	A	19	32.5	42.6
25-Jun	19	18	P	P	P	P	18	18	18	20	28	31	32	29	25	22	21	21	19	56	48	A	44	34	27.4	55.9
26-Jun	35	35	30	26	24	25	24	28	28	26	27	32	33	33	32	34	36	40	45	39	A	32	25	24	30.9	45.4
27-Jun	27	27	30	32	19	40	17	13	19	21	21	27	29	29	30	31	33	35	35	A	33	25	22	23	26.8	39.9
28-Jun	30	35	31	27	32	32	25	23	23	25	28	30	33	34	34	33	30	30	A	26	25	26	29	28	29.0	35.0
29-Jun	27	27	26	26	26	33	24	24	27	27	28	34	36	36	37	36	37	A	31	31	33	32	29	28	30.2	37.3
30-Jun	27	28	28	26	26	26	24	24	26	26	28	C	C	C	C	C	NS	NS	NS	NS	NS	NS	NS	NS	--	27.9
	28.9	28.3	28.3	27.1	24.6	24.9	24.0	27.2	29.9	32.4	33.6	35.6	38.0	39.1	39.9	40.1	40.5	40.0	38.5	37.7	35.4	32.9	32.1	29.8	Diurnal Average	
	41.9	41.4	46.5	42.3	40.3	40.8	41.3	44.4	46.6	50.9	58.7	60.1	60.5	61.1	61.3	62.0	63.7	63.1	64.1	63.2	55.7	47.0	65.7	60.7	Diurnal Maximum	

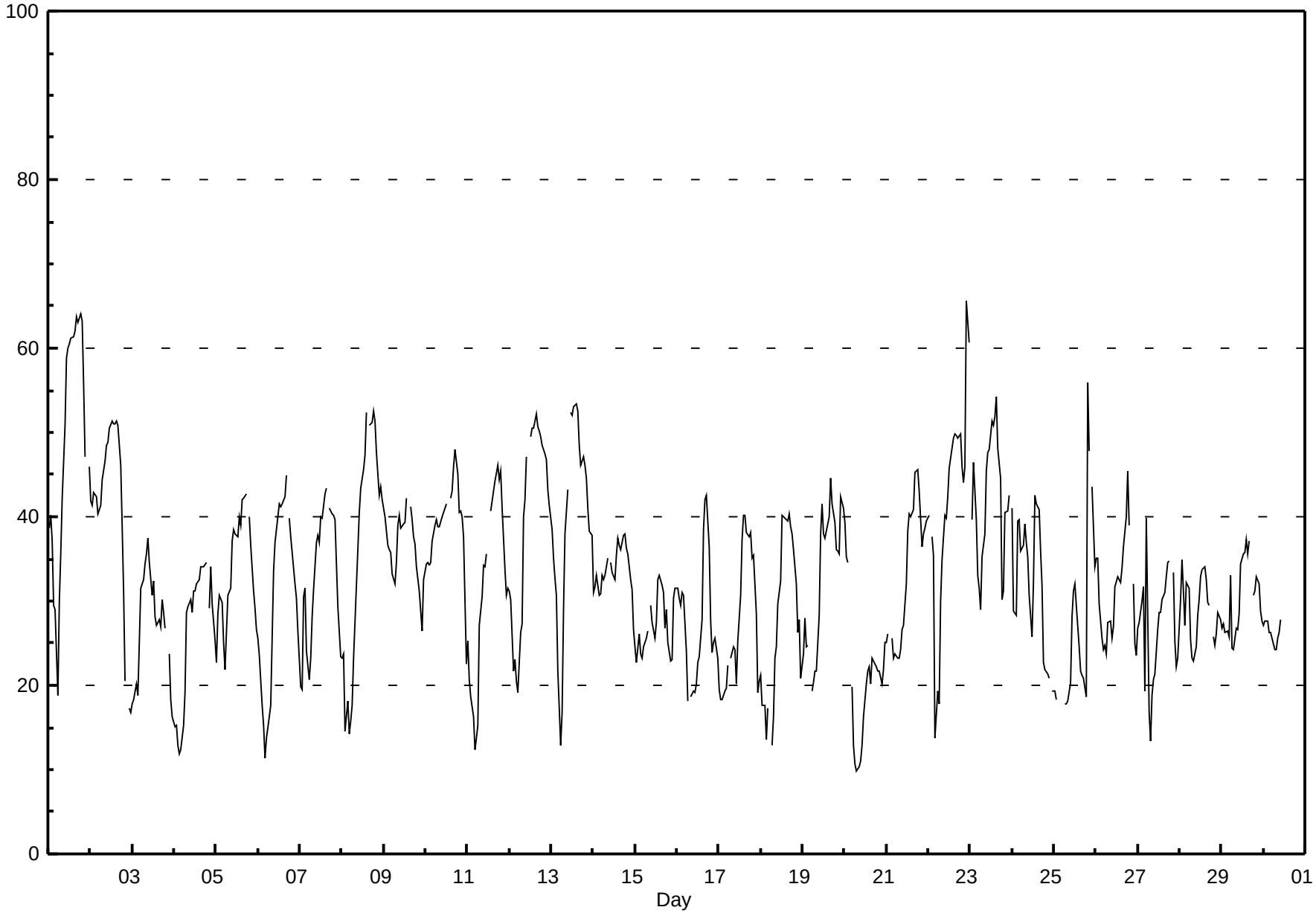
C - Calibration P - Power Failure NS - Not in service A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

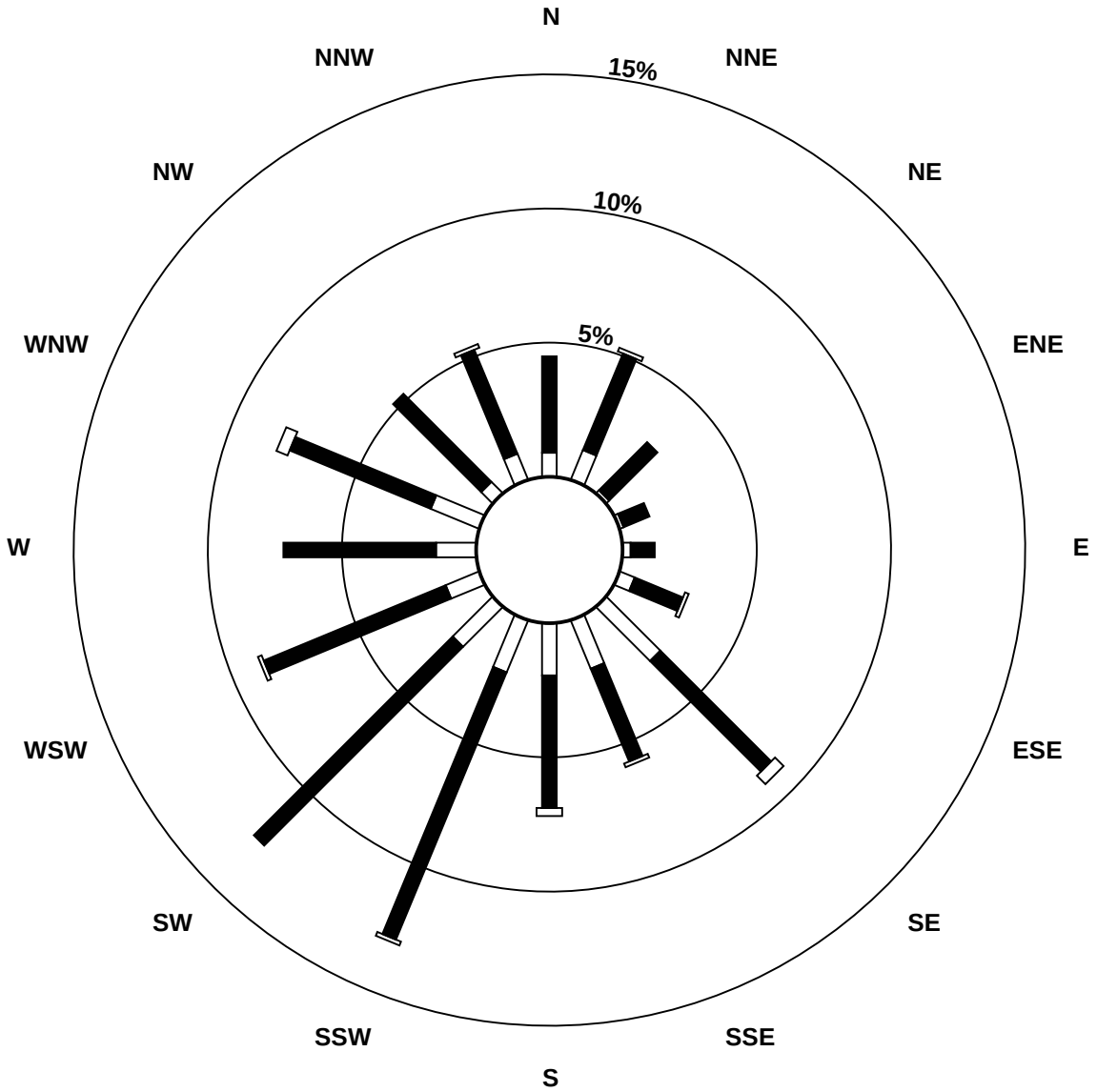
Portable-Bonanza - June 2011



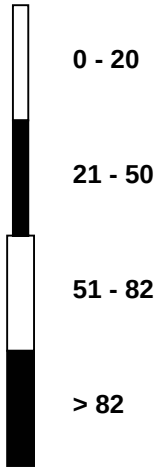
Pollutant Rose

Ozone (O_3) - ppb

Portable-Bonanza - June 2011



Pollutant Classes (ppb)



Peace Airshed Zone Association

Eight Hour Running Averages

Ozone (O_3) - ppb

Portable-Bonanza - June 2011

Maximum Value: 59.3 ppb on Jun 1 20:00

Minimum Value: 10.7 ppb on Jun 20 11:00

Percentiles: P_1 = 11.9 P_{10} = 18.5 Q_1 = 23.1 Median = 28.0 Q_3 = 34.8 P_{90} = 41.6 P_{99} = 55.1

Hours in Service:	719
Hours of Data:	701
Hours of Missing Data:	18
Hours of Calibration:	13
Percent Operational Time:	99.3

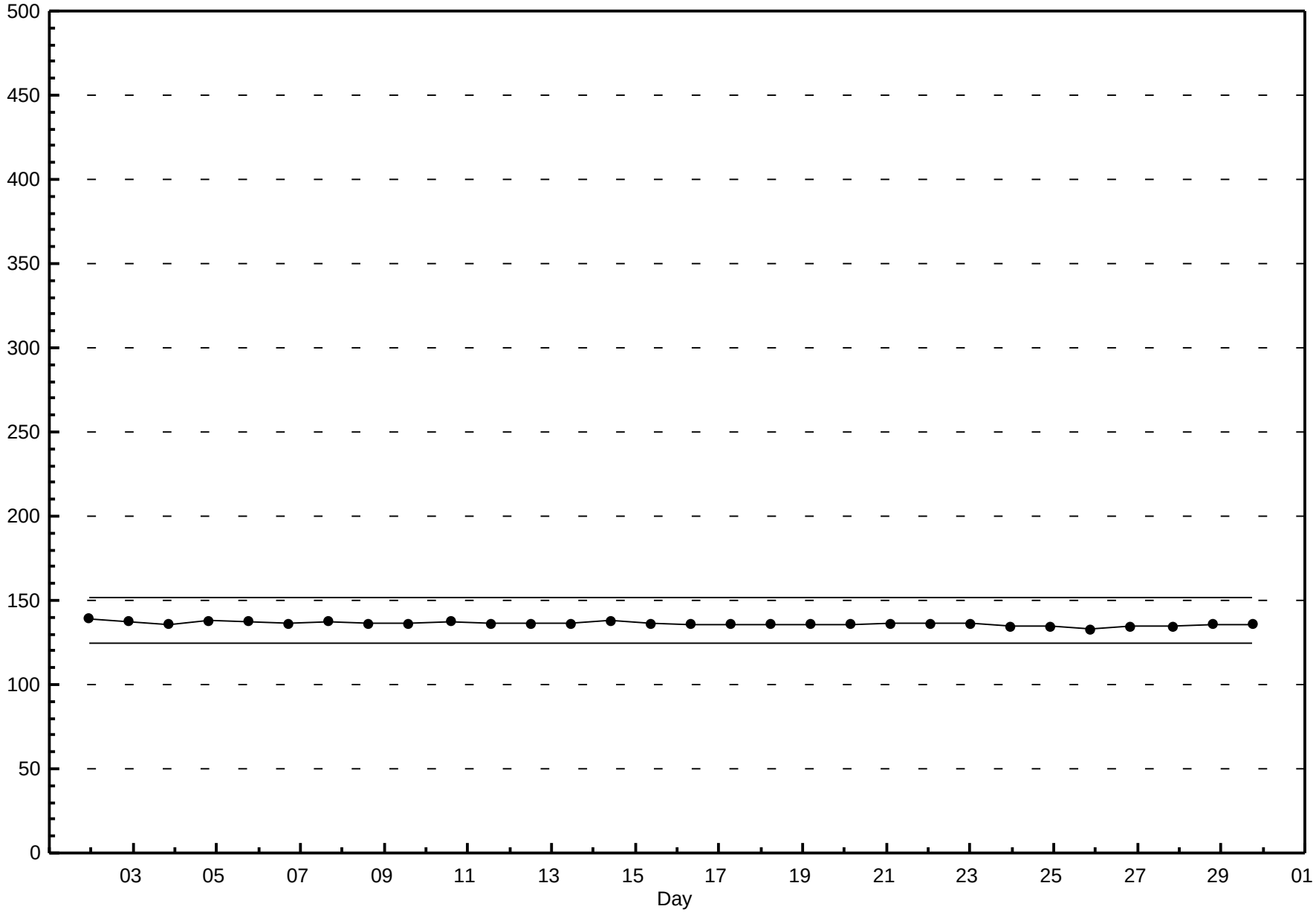
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jun	53	49	44	39	34	28	25	25	26	27	30	34	39	45	50	53	56	58	59	59	58	56	55	53	59.3
2-Jun	50	47	45	41	39	38	38	37	37	38	39	40	43	45	46	48	48	48	46	43	39	38	33	28	50.1
3-Jun	23	19	18	17	16	18	19	21	23	25	26	27	29	29	28	27	27	26	26	26	26	25	24	22	28.6
4-Jun	21	19	16	14	14	13	13	14	16	18	19	22	24	26	28	29	30	31	31	32	31	31	30	29	31.8
5-Jun	27	26	25	25	24	23	22	23	24	26	27	28	30	32	33	35	36	37	37	37	37	36	34	32	37.3
6-Jun	29	26	24	20	17	15	13	12	12	14	16	20	24	28	31	34	37	38	38	38	37	36	34	31	38.4
7-Jun	26	24	22	21	20	19	18	19	21	24	26	27	29	31	34	36	37	37	38	38	38	36	34	30	38.5
8-Jun	28	25	21	18	15	12	11	12	13	15	19	23	27	32	36	39	42	44	46	47	47	46	45	45	47.2
9-Jun	44	42	41	39	38	37	35	34	33	33	34	34	34	36	37	38	38	37	37	36	35	33	31	30	43.7
10-Jun	30	29	29	29	30	31	33	34	35	35	36	37	38	38	39	39	40	41	42	41	41	41	39	36	41.7
11-Jun	32	28	25	21	17	13	12	12	13	16	18	22	24	28	32	34	37	38	40	41	40	39	37	36	40.9
12-Jun	34	32	28	24	21	20	19	18	19	21	25	26	31	37	40	44	46	47	48	48	47	47	46	45	47.8
13-Jun	43	40	38	35	31	27	23	21	22	23	22	25	30	36	42	46	47	48	47	47	46	44	42	40	47.9
14-Jun	37	35	34	32	30	30	29	29	30	30	30	31	31	32	32	33	33	34	34	34	35	34	33	32	37.2
15-Jun	30	28	27	25	24	23	22	22	22	23	24	24	24	25	26	27	27	27	26	26	26	25	25	25	30.0
16-Jun	24	25	25	25	26	26	25	24	23	22	20	19	19	18	20	21	24	26	27	27	27	28	27	26	27.6
17-Jun	23	20	19	18	18	18	17	17	18	19	20	20	21	23	25	27	28	29	31	32	33	32	29	26	32.9
18-Jun	24	22	19	17	14	13	13	12	13	14	16	19	23	24	27	30	32	34	35	35	34	32	30	27	35.0
19-Jun	24	22	20	19	18	17	17	18	19	20	21	24	25	27	29	31	34	36	36	35	35	35	35	35	36.1
20-Jun	34	32	32	32	30	27	23	19	16	14	11	11	11	12	14	15	16	17	18	19	19	19	19	20	33.6
21-Jun	21	21	22	22	22	23	23	23	22	22	22	22	24	26	28	30	32	34	37	39	39	38	38	38	38.6
22-Jun	37	37	36	33	29	26	23	20	19	21	21	24	28	32	36	40	42	43	45	45	45	44	46	47	46.9
23-Jun	47	45	43	42	40	38	33	30	30	31	32	34	36	38	41	42	44	43	40	38	36	35	34	34	46.9
24-Jun	31	31	30	30	30	29	29	29	30	30	31	31	29	30	31	32	31	31	30	30	29	27	25	22	31.6
25-Jun	21	20	19	N	N	N	N	N	N	N	N	20	21	22	22	23	23	23	22	23	25	25	27	28	28.4
26-Jun	30	33	34	32	28	27	26	25	24	23	22	23	25	26	27	28	29	31	33	33	34	33	32	30	34.2
27-Jun	29	27	25	24	23	21	20	19	18	17	16	16	17	19	21	23	25	27	28	29	29	29	28	27	29.4
28-Jun	26	26	25	24	24	25	25	25	24	23	23	24	25	25	26	27	28	28	28	28	26	25	25	25	28.5
29-Jun	24	25	25	25	26	26	25	25	24	24	23	23	24	25	26	27	29	29	30	30	30	30	29	29	30.3
30-Jun	27	27	27	27	26	25	25	24	24	24	24	24	24	N	N	N	N	N	N	N	N	N	N	N	27.4
	52.7	48.8	44.6	41.9	40.2	38.4	37.6	37.1	37.4	38.1	38.9	40.4	42.7	45.4	49.8	53.5	56.4	58.4	59.3	59.3	57.7	55.7	55.3	52.8	
	Diurnal Maximums																								

N - Not Valid

Span Responses

Ozone (O_3)

Portable-Bonanza - June 2011



Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - °C

Portable-Bonanza - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 26.0 °C on Jun 22 18:00
Maximum Daily Average: 18.1 °C on Jun 22

Minimum Value: -1 °C on Jun 4 04:00
Maximum Diurnal Average: 18.2 °C at hour 17
Monthly Average: 13.79 °C
Minimum Daily Average: 2.5 °C on Jun 3
Minimum Diurnal Average: 9.0 °C at hour 5
Percentiles: P_1 = 0.6 P_{10} = 8.2 Q_1 = 11.0 Median = 13.7 Q_3 = 17.3 P_{90} = 20.2 P_{99} = 23.7

Hours in Service:	708
Hours of Data:	704
Hours of Missing Data:	4
Hours of Calibration:	0
Percent Operational Time:	99.4

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	8	8	7	6	5	5	8	11	14	16	19	20	21	21	23	22	23	24	24	23	21	16	14	14	15.5	23.8
2-Jun	12	11	11	10	8	10	12	14	17	19	20	21	22	24	24	23	23	18	15	14	12	11	10	9	15.5	23.9
3-Jun	8	7	6	5	5	4	3	1	1	1	1	0	2	1	1	1	1	1	2	3	3	2	1	1	2.5	8.1
4-Jun	0	0	0	-1	0	0	1	2	4	5	7	9	11	13	13	15	15	15	15	13	11	11	10	10	7.4	15.0
5-Jun	9	9	9	8	8	8	9	10	10	10	11	12	13	13	13	15	16	15	14	15	14	12	10	10	11.4	15.9
6-Jun	9	7	6	5	4	6	8	9	11	13	15	16	18	18	20	21	21	18	16	14	14	12	11	9	12.5	20.8
7-Jun	9	9	9	10	9	9	10	11	11	12	13	12	10	11	12	14	14	13	14	14	13	11	9	6	11.1	14.4
8-Jun	5	5	3	3	2	3	5	8	10	13	14	15	17	18	19	20	21	21	21	21	20	16	14	13	13.0	21.3
9-Jun	14	14	13	12	12	11	14	15	18	20	21	21	20	21	22	22	21	20	20	19	18	16	14	15	17.2	22.1
10-Jun	15	14	14	14	13	13	13	14	14	14	15	16	16	17	18	18	19	18	18	14	13	12	9	7	14.6	18.8
11-Jun	6	5	4	3	4	4	6	8	11	12	14	15	16	19	18	17	20	19	19	17	16	14	12	12	12.1	20.1
12-Jun	12	10	8	8	8	8	10	11	13	16	17	18	20	20	17	19	21	20	19	19	19	16	14	13	14.9	20.9
13-Jun	12	11	10	9	8	8	9	12	14	17	19	21	22	22	22	20	19	18	18	18	17	16	15	14	15.5	22.1
14-Jun	14	13	12	12	11	11	12	13	15	16	17	17	17	19	19	20	19	19	18	17	17	15	14	12	15.4	19.6
15-Jun	11	10	10	10	10	11	11	12	12	12	12	12	12	12	13	13	13	14	14	13	13	13	12	11	11.9	13.6
16-Jun	11	11	11	11	10	10	10	11	12	13	14	15	16	16	17	17	19	18	17	16	15	14	13	13	13.9	18.9
17-Jun	12	12	12	12	12	12	12	12	12	13	13	15	17	18	20	19	16	16	18	16	18	15	12	11	14.4	20.2
18-Jun	11	10	10	8	8	9	9	10	12	14	15	17	20	20	20	21	20	19	18	19	17	16	15	15	14.7	20.9
19-Jun	14	14	14	13	13	13	14	15	15	16	16	17	18	17	19	19	15	14	15	16	16	14	13	12	15.2	19.4
20-Jun	12	12	12	12	12	12	13	13	13	14	14	15	17	17	18	17	17	17	17	17	17	16	15	15	14.8	17.6
21-Jun	14	14	13	13	12	11	12	14	15	17	18	19	20	20	21	22	22	22	22	21	20	18	15	15	17.0	21.7
22-Jun	14	13	12	10	8	9	11	13	15	17	20	22	23	24	25	26	26	26	24	23	21	19	19	16	18.1	26.0
23-Jun	15	14	14	13	13	13	14	15	16	17	19	19	20	21	21	15	12	13	13	13	13	13	13	13	15.0	21.2
24-Jun	12	12	12	12	12	11	11	11	11	11	12	13	14	14	15	15	15	14	11	10	10	10	10	9	11.9	14.8
25-Jun	9	9	P	P	P	P	9	9	10	12	15	16	15	15	14	14	14	15	15	13	12	12	11	11	12.4	15.5
26-Jun	11	10	9	9	8	9	10	12	13	13	15	18	20	21	22	23	23	22	23	20	18	17	16	15	15.6	23.3
27-Jun	15	13	14	13	12	12	12	10	11	12	12	13	15	17	20	20	21	21	20	21	19	16	15	14	15.3	21.1
28-Jun	14	13	12	11	12	13	14	15	16	18	20	20	19	18	19	19	20	19	18	18	17	16	16	15	16.4	20.2
29-Jun	14	14	13	13	13	13	14	14	14	15	16	17	18	19	20	20	20	18	18	16	16	15	13	11	15.6	19.9
30-Jun	10	9	9	9	8	9	10	11	13	14	16	18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	17.5
	11.1	10.5	10.0	9.5	9.0	9.3	10.2	11.2	12.4	13.8	15.0	16.0	16.8	17.4	18.1	18.1	18.2	17.6	17.1	16.3	15.5	13.9	12.6	11.8	Diurnal Average	
	15.0	14.5	14.0	13.5	13.3	13.4	14.1	15.2	18.0	20.3	21.1	21.7	22.6	24.2	24.7	25.8	25.7	26.0	24.5	22.9	20.8	19.0	18.6	15.9	Diurnal Maximum	

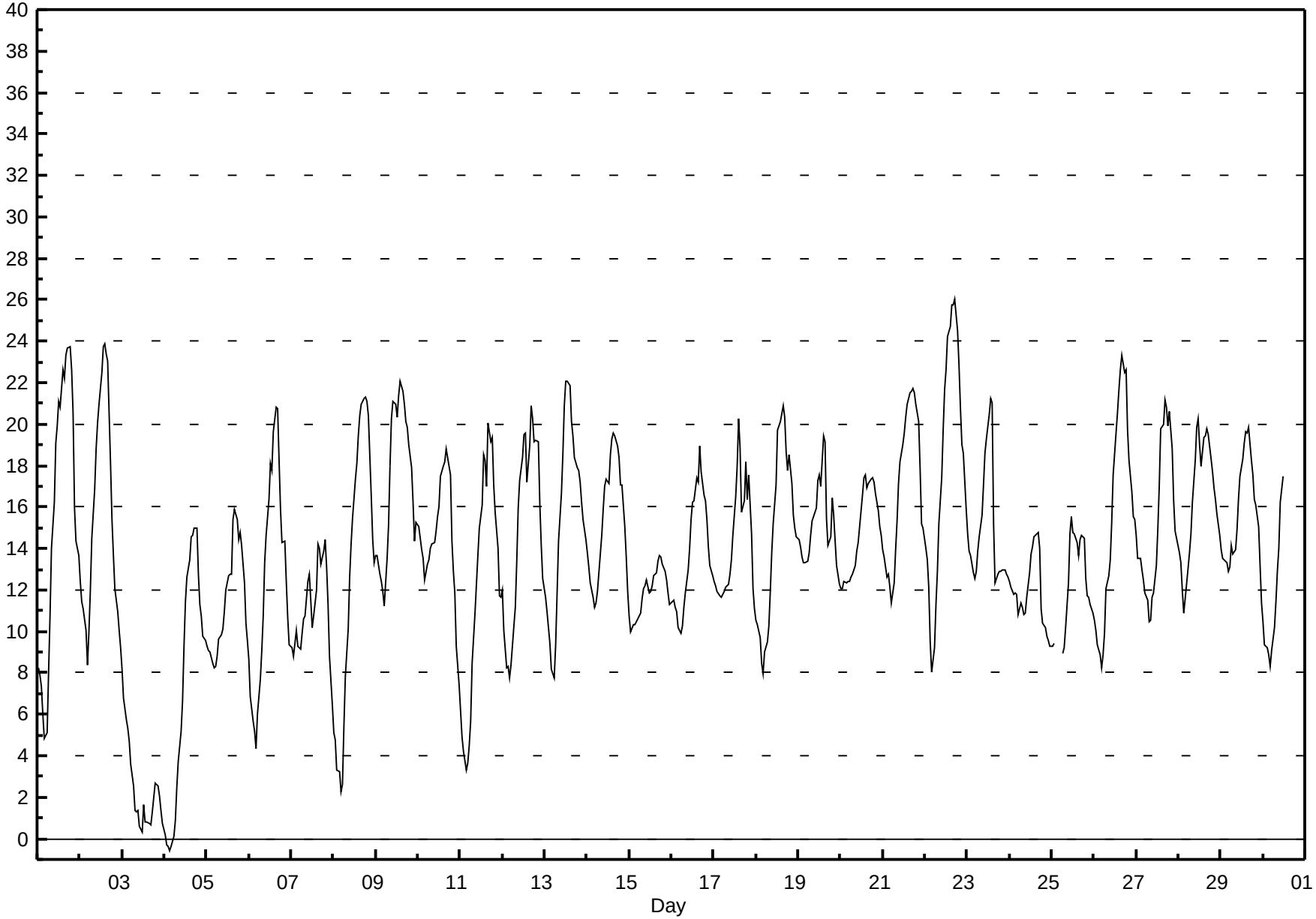
P - Power Failure NS - Not in service

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Portable-Bonanza - June 2011



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Portable-Bonanza - June 2011

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1 Spd	6	8	6	5	2	3	7	3	2	3	4	2	1	7	2	3	6	8	5	9	8	10	10	14	3.8	13.6
Dir	128	126	119	133	255	189	196	225	246	269	170	248	343	299	29	147	107	138	130	134	125	126	133	133	142	133
2 Spd	13	13	10	6	7	6	7	9	12	13	8	4	7	8	8	17	20	35	29	17	20	22	22	18	6.8	34.5
Dir	136	140	143	141	151	159	175	203	226	269	269	272	309	309	303	6	1	312	331	301	320	318	322	326	310	312
3 Spd	20	18	15	11	16	16	15	17	17	16	N	N	5	5	6	7	8	7	10	9	9	8	7	7	5.6	20.4
Dir	354	13	36	31	16	15	14	18	22	25	N	N	22	346	316	286	273	248	238	223	183	181	158	152	5	354
4 Spd	7	7	8	8	9	11	8	10	13	13	10	7	3	2	7	7	6	1	3	4	8	11	6	5	4.8	12.9
Dir	139	132	131	130	134	126	139	150	140	147	152	155	184	228	294	335	336	20	115	68	105	187	171	278	144	140
5 Spd	3	2	2	6	5	2	3	5	8	9	6	9	5	6	10	2	6	8	9	12	10	6	6	7	3.6	11.6
Dir	241	285	315	334	339	279	261	292	273	275	245	214	278	339	37	221	284	237	228	235	220	187	179	172	253	235
6 Spd	6	4	4	4	2	5	5	8	4	4	5	4	4	17	14	9	7	6	16	12	10	7	7	6	2.4	17.0
Dir	169	139	142	140	205	163	201	217	214	272	251	295	334	359	24	30	22	12	318	311	45	52	51	15	360	359
7 Spd	1	1	12	12	11	11	13	21	28	27	25	23	23	21	17	15	12	12	7	6	7	5	3	2	12.1	27.6
Dir	293	81	359	354	336	329	350	1	9	18	15	351	344	2	23	21	349	326	348	330	293	282	28	150	357	9
8 Spd	5	4	3	5	1	2	5	4	3	4	6	6	7	9	10	7	5	6	9	8	7	10	11	12	5.0	12.3
Dir	139	148	158	162	155	161	198	232	203	233	231	216	181	210	209	194	244	228	218	178	148	136	135	133	183	133
9 Spd	11	12	13	11	9	7	3	6	15	20	27	30	26	19	29	32	36	32	30	30	23	15	9	17	16.4	36.2
Dir	147	152	143	148	141	138	154	218	209	238	250	254	255	250	231	230	230	232	232	226	214	219	223	224	224	230
10 Spd	16	15	17	17	15	18	22	28	30	33	30	31	26	30	23	24	28	29	25	26	11	4	1	2	18.3	32.8
Dir	207	208	209	214	210	203	211	216	227	228	224	219	218	223	221	249	246	246	260	320	322	328	272	259	231	228
11 Spd	1	2	3	2	3	5	6	4	3	5	5	6	7	8	9	6	5	1	7	7	4	6	6	8	0.5	9.2
Dir	159	155	142	178	176	173	178	223	301	300	270	285	295	5	359	324	88	324	44	327	37	116	111	122	7	359
12 Spd	11	6	5	4	5	5	5	7	7	10	10	12	11	11	7	13	13	15	15	12	10	9	11	9	7.3	15.3
Dir	133	154	199	182	210	200	156	151	184	203	250	211	219	232	287	130	138	151	165	184	181	140	137	134	175	151
13 Spd	4	7	8	6	0	1	1	4	4	2	5	2	4	0	3	13	15	13	10	14	12	7	7	3	3.6	15.1
Dir	166	135	135	160	181	353	292	228	263	300	337	336	201	291	190	118	136	140	223	234	232	215	198	237	184	136
14 Spd	8	8	7	5	7	10	11	12	20	21	20	20	25	24	23	21	22	19	12	10	3	15	14	14	12.5	24.6
Dir	222	189	188	182	176	195	204	217	239	253	257	246	231	228	245	252	245	252	298	38	320	259	241	234	239	231
15 Spd	11	12	10	12	12	14	13	13	16	19	20	21	18	17	15	17	15	14	17	16	17	17	9	8	12.0	21.0
Dir	219	221	241	237	241	253	260	260	280	292	293	299	317	355	333	328	310	306	310	305	304	308	6	294	293	299
16 Spd	13	14	4	7	8	8	9	11	13	13	16	16	13	16	11	11	11	4	4	2	6	7	4	3	6.5	16.0
Dir	317	322	295	274	269	279	286	292	298	294	301	298	297	293	324	318	45	59	269	203	126	125	128	131	302	293
17 Spd	2	4	6	6	6	5	7	11	12	11	10	7	8	7	7	6	6	5	9	6	5	2	4	4	4.1	11.6
Dir	117	322	343	348	354	331	335	337	345	3	18	63	80	78	34	8	40	71	97	76	144	174	124	108	28	345
18 Spd	6	6	3	1	4	2	5	3	1	4	5	7	5	10	9	9	7	8	9	4	12	7	3	1	1.5	12.3
Dir	128	134	107	13	102	120	278	238	172	325	298	294	37	342	351	38	15	320	299	137	120	116	71	130	25	120
19 Spd	2	1	3	5	5	5	6	6	7	7	2	6	5	8	7	13	11	7	2	2	6	6	8	3	2.0	13.2
Dir	249	143	319	328	336	320	349	336	346	32	301	260	224	180	171	221	281	232	299	43	129	176	207	190	259	221
20 Spd	1	3	7	8	10	6	10	7	6	4	7	11	7	12	13	13	13	13	10	9	8	8	8	11	7.9	13.4
Dir	187	186	206	200	219	231	227	220	219	222	213	249	275	238	241	204	215	217	197	204	197	200	181	193	216	204
21 Spd	9	11	7	8	9	11	10	15	20	20	21	23	22	25	23	20	24	20	18	14	10	10	8	9	14.0	25.0
Dir	190	203	203	202	208	208	206	221	227	243	252	231	235	237	246	246	256	247	246	228	202	175	159	168	228	237
22 Spd	8	8	6	1	N	N	N	4	5	5	3	2	4	6	6	6	10	8	12	11	8	7	19	7	1.2	19.4
Dir	156	155	146	251	N	N	N	214	221	251	249	268	307	351	354	29	21	32	100	86	93	142	208	299	125	208

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Portable-Bonanza - June 2011

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	4	9	13	11	8	5	4	6	7	10	8	12	9	12	15	11	5	10	8	5	5	4	4	7	4.1	14.8
Dir	298	28	34	33	21	5	296	281	289	319	327	335	360	33	48	208	193	234	261	301	338	261	315	287	337	48
24 Spd	8	11	12	15	5	12	13	12	15	15	13	20	14	15	11	14	11	5	16	18	16	14	11	11	6.3	20.1
Dir	258	242	267	300	282	262	296	291	271	267	286	330	9	40	63	38	17	346	215	213	214	220	210	212	276	330
25 Spd	10	10	P	P	P	P	9	10	6	3	11	6	4	8	11	18	15	10	13	7	8	12	8	8	6.0	18.3
Dir	222	220	P	P	P	P	170	176	184	79	35	1	283	280	280	280	275	271	260	317	252	274	257	208	258	280
26 Spd	9	8	7	5	3	4	5	6	6	5	6	6	3	4	3	2	3	5	3	6	7	8	6	6	3.4	8.7
Dir	190	212	222	203	177	194	199	253	292	240	248	263	287	218	244	262	4	271	267	167	153	151	140	153	212	190
27 Spd	6	7	8	5	4	8	11	14	12	9	7	5	6	4	4	5	6	7	5	4	5	9	10	10	1.9	13.9
Dir	194	189	174	216	243	292	299	274	276	295	287	267	325	347	59	2	25	5	333	8	32	117	117	122	291	274
28 Spd	5	8	4	2	10	11	8	7	6	8	16	20	25	18	19	19	21	24	23	20	19	21	22	19	13.7	25.3
Dir	156	154	126	103	135	141	146	157	179	185	202	206	211	213	199	185	196	212	211	204	195	197	198	199	194	211
29 Spd	19	20	18	20	19	17	21	20	21	20	20	30	29	29	27	26	23	18	12	15	15	12	11	15	19.2	30.0
Dir	198	203	200	204	204	195	197	196	204	205	211	217	209	221	224	222	232	248	230	210	200	201	253	210	212	217
30 Spd	12	16	18	17	9	16	20	26	28	27	23	22	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	27.6
Dir	199	204	209	212	193	200	206	223	234	232	233	231	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	234
Spd	4.3	4.4	3.1	2.7	2.5	3.5	4.5	5.6	6.3	6.7	7.4	8.4	6.1	5.3	4.4	4.4	4.6	6.7	6.5	4.7	3.6	4.5	4.1	4.2	Diurnal Average	
Dir	187	184	183	208	209	214	225	237	249	261	259	255	260	272	273	258	262	253	252	242	203	199	188	194		
Spd	20.4	19.7	18.2	20.2	18.6	17.9	21.8	27.7	29.8	32.8	29.7	31.0	28.8	29.9	29.0	31.9	36.2	34.5	29.7	30.3	22.9	22.1	22.4	19.4	Diurnal Maximum	
Dir	354	203	200	204	204	203	211	216	227	228	224	219	209	223	231	230	230	312	232	226	214	318	198	199		

Maximum Speed Value: 36 km/h on Jun 9 17:00
Minimum Speed Value: 0 km/h on Jun 13 05:00
Maximum Daily Speed Average: 19.2 km/h on Jun 10
Minimum Daily Speed Average: 0.5 km/h on Jun 11
Maximum Diurnal Speed Average: 8.4 km/h at hour 12
Minimum Diurnal Speed Average: 2.5 km/h at hour 5

Monthly Average Velocity: 4.33 km/h 237.0 deg
Speed Percentiles: P_1 = 1.1 P_{10} = 3.2 Q_1 = 5.5 Median = 8.3 Q_3 = 13.6 P_{90} = 20.4 P_{99} = 30.0
All monthly, daily, and diurnal averages have been calculated using vector methods

Hours in Service:	708
Hours of Data:	699
Hours of Missing Data:	9
Percent Operational Time:	98.7

P - Power Failure N - Not Valid NS - Not in service

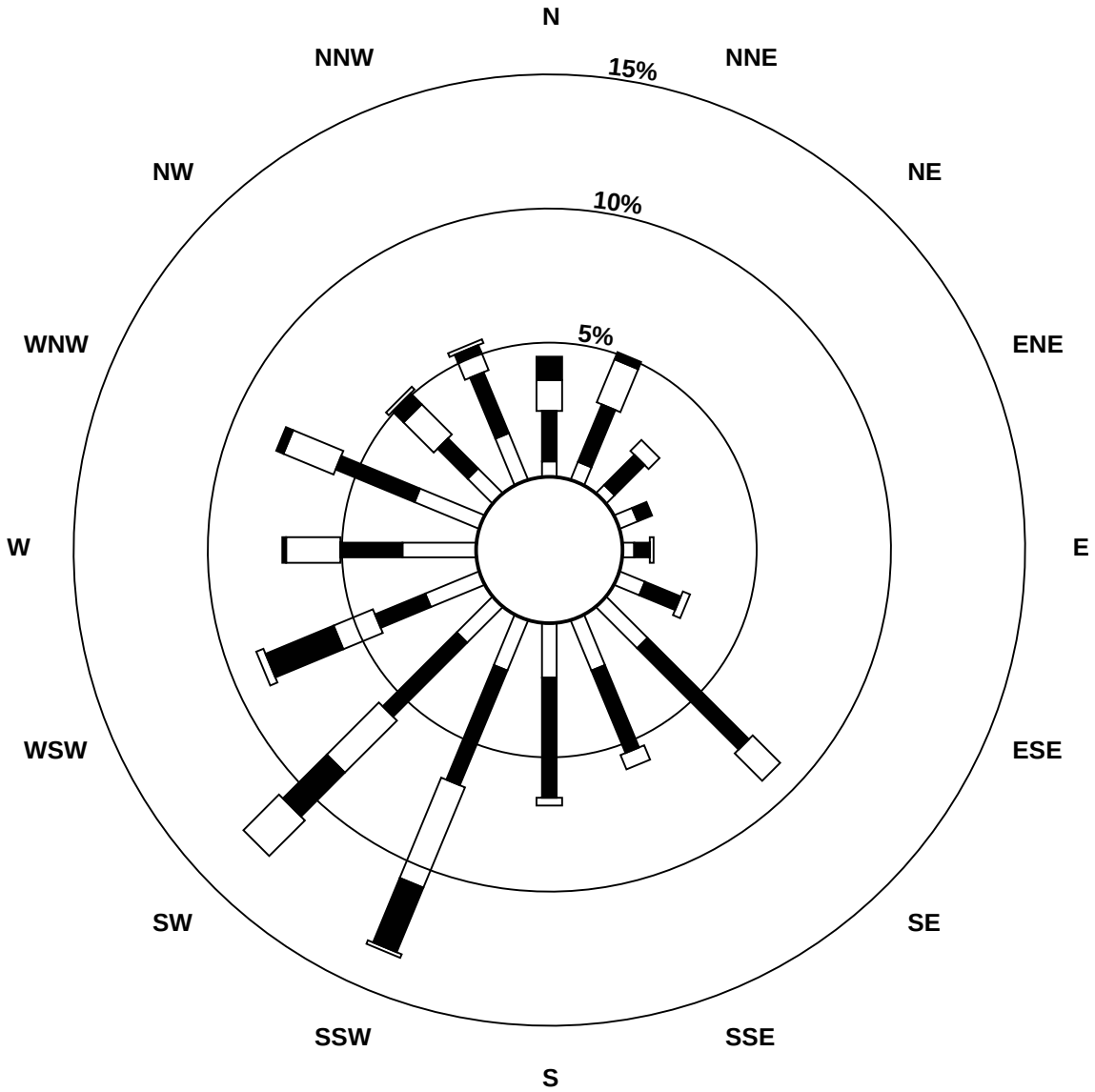
Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	12	29	16	9	0	0	66
NorthEast	7	21	10	0	0	0	38
East	8	10	2	0	0	0	20
SouthEast	23	60	19	0	0	0	102
South	25	55	11	8	0	0	99
SouthWest	25	47	47	40	16	0	175
West	30	38	22	11	1	0	102
NorthWest	25	31	32	7	2	0	97
Total	155	291	159	75	19	0	699

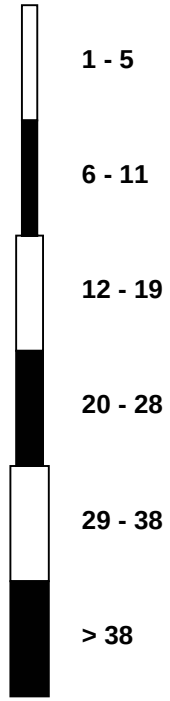
Wind Rose

Wind Speed (WS) (km/h)

Portable-Bonanza - June 2011



Wind Speed Classes (km/h)



Peace Airshed Zone Association

Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Portable-Bonanza - June 2011

Maximum Speed: 37 km/h on Jun 9 17:00

Maximum Daily Speed Average: 21.3 km/h on Jun 10

Minimum Speed: 2 km/h on Jun 19 00:00

Minimum Daily Speed Average: 5.9 km/h on Jun 26

Maximum Diurnal Speed Average: 14.0 km/h at hour 12

Minimum Diurnal Speed Average: 8.0 km/h at hour 5

Monthly Average Speed: 11.04 km/h

Percentiles: P_1 = 2.2 P_{10} = 4.5 Q_1 = 6.3 Median = 9.1 Q_3 = 14.1 P_{90} = 20.9 P_{99} = 30.2

Hours in Service:	708
Hours of Data:	699
Hours of Missing Data:	9
Percent Operational Time:	98.7

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	6	8	6	6	3	4	7	3	4	5	7	8	5	9	7	7	7	8	7	9	8	10	10	14	6.9	13.7
2-Jun	13	13	10	6	7	6	7	9	13	13	9	7	9	9	10	18	21	35	29	17	21	22	22	18	14.4	35.1
3-Jun	21	18	15	11	16	16	15	17	17	16	N	N	6	5	6	7	9	8	11	10	10	8	7	7	11.7	20.7
4-Jun	7	7	8	8	9	11	8	11	13	13	11	8	5	6	9	8	7	4	4	6	9	12	7	6	8.2	13.3
5-Jun	3	2	3	6	6	2	3	5	8	9	7	10	6	11	10	5	8	9	10	12	10	6	6	7	6.8	11.8
6-Jun	6	5	5	5	3	6	6	8	5	5	6	6	6	19	15	10	8	7	17	12	11	7	7	6	7.8	18.7
7-Jun	3	3	12	13	11	11	13	22	28	27	26	24	23	21	18	15	12	12	7	6	7	5	4	3	13.7	27.7
8-Jun	5	5	4	5	2	3	6	4	4	5	7	7	9	11	12	9	9	9	10	9	7	10	11	12	7.3	12.3
9-Jun	11	12	13	11	9	7	3	6	15	21	27	31	26	20	30	33	37	32	30	31	23	15	9	17	19.5	36.6
10-Jun	16	15	17	18	15	18	22	28	30	33	30	31	27	30	24	26	29	30	26	26	11	4	3	2	21.3	33.1
11-Jun	3	3	3	2	3	5	6	5	4	7	7	8	8	10	10	8	7	6	8	7	6	6	6	8	6.1	10.4
12-Jun	11	7	5	5	6	6	5	7	8	10	11	13	12	13	14	13	14	16	16	13	10	9	11	9	10.1	15.8
13-Jun	6	7	8	8	4	2	2	4	5	4	6	5	7	7	6	14	15	14	13	14	12	8	7	3	7.4	15.2
14-Jun	8	8	7	5	7	10	11	12	20	22	21	21	25	25	24	22	23	19	17	11	7	15	14	14	15.3	25.2
15-Jun	11	12	10	12	12	14	14	13	16	19	21	21	18	17	15	17	16	14	17	16	17	17	10	8	14.9	21.2
16-Jun	13	14	5	7	8	8	9	11	13	14	16	16	14	16	12	13	12	5	4	4	6	8	5	4	9.9	16.1
17-Jun	3	4	6	6	6	6	7	11	12	11	10	8	9	8	8	7	8	7	11	6	6	3	4	5	7.2	11.8
18-Jun	7	6	4	3	5	4	5	4	4	6	6	8	7	11	10	9	8	9	9	6	12	7	4	2	6.5	12.3
19-Jun	2	3	4	5	5	5	7	6	8	7	3	7	7	9	8	14	15	8	3	3	6	6	8	3	6.3	14.8
20-Jun	2	4	7	8	10	6	10	7	6	5	7	11	9	12	14	14	13	13	10	9	8	8	8	11	8.7	13.6
21-Jun	9	11	7	8	9	11	10	15	20	21	21	24	23	25	24	21	24	20	19	15	10	10	8	9	15.5	25.4
22-Jun	8	8	6	3	N	N	N	4	5	5	4	4	6	7	7	7	11	9	12	12	9	8	20	8	7.8	19.9
23-Jun	8	11	13	11	9	5	5	6	7	11	8	12	10	12	15	17	8	13	9	6	6	5	5	8	9.1	16.5
24-Jun	8	12	12	15	10	14	14	14	15	15	14	20	15	16	11	14	11	9	16	18	16	14	11	11	13.6	20.3
25-Jun	11	10	P	P	P	P	10	11	6	4	11	7	6	9	11	19	15	10	14	12	10	12	9	8	10.3	18.7
26-Jun	9	8	7	5	3	4	5	7	6	6	6	6	5	7	5	4	5	5	4	7	7	8	6	6	5.9	8.8
27-Jun	6	7	8	7	5	9	11	14	12	10	8	7	7	6	5	6	7	7	6	4	6	9	10	10	7.9	14.1
28-Jun	5	8	5	3	10	11	8	7	6	9	16	21	26	19	20	20	21	24	23	20	19	21	23	19	15.1	25.6
29-Jun	19	20	18	20	19	17	21	20	21	20	21	30	29	29	27	26	24	18	12	15	15	13	12	15	20.1	30.3
30-Jun	12	16	18	17	10	16	20	26	28	28	24	23	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	27.9
	8.4	8.8	8.5	8.3	8.0	8.5	9.3	10.6	11.9	12.7	12.8	14.0	12.5	13.8	13.3	13.9	13.8	13.1	12.8	11.5	10.5	9.9	9.3	8.7	Diurnal Average	
	20.7	19.8	18.3	20.3	18.8	18.0	21.9	27.9	30.1	33.1	30.1	31.4	29.2	30.4	29.8	32.5	36.6	35.1	29.8	30.6	23.0	22.1	22.5	19.5	Diurnal Maximum	

P - Power Failure N - Not Valid NS - Not in service

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

Peace Airshed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Portable-Bonanza - June 2011

Maximum Value: 94.8 deg on Jun 7 02:00

Minimum Value: 3.6 deg on Jun 1 23:00

Percentiles: P_1 = 4.2 P_{10} = 6.1 Q_1 = 9.2 Median = 15.3 Q_3 = 34.0 P_{90} = 52.5 P_{99} = 86.8

Hours in Service:	708
Hours of Data:	699
Hours of Missing Data:	9
Hours of Calibration:	0
Percent Operational Time:	98.7

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jun	22	14	31	42	70	42	14	30	61	60	62	87	93	43	82	85	44	24	47	16	6	4	4	5	93.1
2-Jun	4	5	7	31	15	21	10	16	20	18	35	66	41	36	43	25	18	11	10	16	14	5	4	8	65.7
3-Jun	9	11	5	8	8	10	12	11	10	8	N	N	18	21	13	12	7	22	14	17	12	11	12	10	22.3
4-Jun	6	6	5	5	6	4	12	15	12	15	18	31	59	83	42	38	54	94	45	68	18	26	26	37	94.0
5-Jun	16	17	36	15	17	16	22	20	14	13	30	20	44	60	21	73	55	33	12	12	8	11	17	13	72.8
6-Jun	12	32	38	49	50	15	15	17	49	40	39	60	58	45	16	22	40	32	9	11	27	14	12	28	59.8
7-Jun	81	95	13	19	5	4	11	7	6	8	9	11	10	10	11	12	18	13	24	24	15	11	57	56	94.8
8-Jun	9	35	42	24	62	48	16	29	46	44	43	44	51	36	41	44	63	50	23	16	11	4	5	5	63.4
9-Jun	8	8	6	6	6	11	23	21	8	15	9	10	11	16	14	11	8	7	6	8	5	10	8	6	22.6
10-Jun	6	6	5	7	8	6	6	6	8	7	9	9	13	10	20	18	14	13	17	7	10	15	65	22	64.6
11-Jun	62	36	37	31	29	10	14	40	62	58	51	59	43	39	30	43	48	87	39	20	40	8	4	8	86.8
12-Jun	6	27	22	36	32	32	17	12	18	16	27	28	24	34	70	25	15	14	17	14	15	6	4	4	69.9
13-Jun	49	7	5	38	89	85	69	25	36	76	41	84	62	93	57	26	8	9	42	9	6	16	19	55	93.1
14-Jun	11	11	8	16	6	6	5	8	9	10	15	17	12	14	18	13	15	14	49	14	68	6	8	10	68.0
15-Jun	7	6	12	5	7	8	8	9	11	6	8	8	18	9	9	9	8	9	5	4	6	15	22	9	22.4
16-Jun	15	5	34	24	12	5	5	6	7	10	10	13	15	8	21	35	18	74	16	56	14	8	59	29	74.0
17-Jun	36	47	13	14	18	9	6	7	11	11	11	30	23	30	36	27	48	40	34	22	30	37	44	33	48.3
18-Jun	17	9	49	71	29	77	32	34	83	44	38	40	46	35	22	20	29	27	9	64	8	6	38	29	83.3
19-Jun	34	65	14	14	11	11	16	16	16	15	67	27	42	28	32	19	53	27	49	77	33	11	21	33	77.0
20-Jun	53	33	12	11	7	8	6	8	12	15	17	15	32	17	14	8	12	12	10	13	12	8	6	5	52.7
21-Jun	6	4	8	8	5	7	8	7	8	13	12	14	12	10	13	14	10	14	10	10	10	9	9	6	14.5
22-Jun	9	7	8	62	N	N	N	15	18	25	53	64	43	37	35	51	21	22	19	12	24	32	14	41	63.8
23-Jun	71	34	11	13	13	30	37	25	17	16	21	20	24	18	12	74	63	49	23	33	38	30	36	46	74.2
24-Jun	18	10	10	9	63	32	13	57	9	8	23	7	19	7	15	5	10	59	13	5	5	8	8	7	63.3
25-Jun	9	6	P	P	P	P	14	13	41	51	13	41	42	19	8	12	12	11	16	70	37	12	28	12	70.0
26-Jun	11	10	9	20	36	34	13	35	19	30	27	36	59	62	51	71	59	28	39	25	16	12	13	21	71.3
27-Jun	24	18	7	47	35	33	17	10	12	25	29	46	39	62	66	56	33	25	47	41	31	6	5	9	66.2
28-Jun	21	10	51	68	12	8	9	14	15	22	9	10	10	15	8	11	11	9	7	7	5	5	6	6	68.1
29-Jun	8	5	5	5	8	5	5	7	6	7	9	7	9	11	11	13	12	9	14	4	7	26	30	6	29.9
30-Jun	17	6	6	6	15	12	5	8	10	10	15	17	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	17.1
	81.1	94.8	51.0	70.6	88.8	85.4	69.4	57.1	83.3	75.5	67.4	86.9	93.1	93.1	82.1	85.2	63.4	94.0	49.4	77.0	68.0	37.4	64.6	55.9	

P - Power Failure N - Not Valid NS - Not in service

PAZA
Valleyview Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Valleyview - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 16.6 ppb on Jun 29 10:00 Maximum Daily Average: 3.7 ppb on Jun 30

Minimum Value: 0 ppb on Jun 1 01:00
Maximum Diurnal Average: 1.9 ppb at hour 10
Monthly Average: 0.61 ppb

Minimum Daily Average: 0.0 ppb on Jun 16
Minimum Diurnal Average: 0.1 ppb at hour 24
Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.1 $Q_3 = 0.3$ $P_{90} = 1.2$ $P_{99} = 10.3$

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

Day	Hourly Period Ending At (MST)																								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	1	1	1	1	1	1	0	0	0	0	0	0	0	A	0	0.3	1.2
2-Jun	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	1.8
3-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0.1	1.3
4-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	0.5
5-Jun	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.1	2.2
6-Jun	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0.1	1.1
7-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0	0	0	0	0.1	0.7
8-Jun	0	0	0	0	0	0	0	0	5	1	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0.4	5.5
9-Jun	0	0	0	0	0	0	0	0	0	0	0	1	1	1	A	0	1	0	0	0	0	0	0	0	0.2	0.8
10-Jun	0	0	0	0	0	0	0	1	1	1	0	2	1	A	0	0	1	1	2	3	0	0	0	0	0.6	3.3
11-Jun	0	0	0	0	0	0	0	0	7	1	1	2	A	1	1	0	0	0	1	0	0	0	0	0	0.6	6.6
12-Jun	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	3	0	0	0.2	3.5
13-Jun	0	0	0	0	0	0	0	0	1	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.1
14-Jun	0	0	0	0	0	0	1	7	2	A	A	C	C	C	0	0	0	0	0	0	0	0	0	0	0.7	6.7
15-Jun	0	1	1	1	0	1	1	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.4
16-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	0.0	0.0
17-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	0.0	0.0
18-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	0.0	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	0.1	0.3
20-Jun	0	0	0	A	0	1	5	2	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.6	5.4
21-Jun	0	0	A	0	0	0	0	1	5	6	3	5	3	1	1	1	0	0	0	0	0	0	0	0	1.2	5.5
22-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
23-Jun	A	0	0	0	0	0	0	1	1	1	1	14	1	1	1	1	2	3	1	0	0	2	2	A	1.5	14.0
24-Jun	3	5	3	10	7	10	6	6	7	7	1	0	0	0	0	0	0	0	0	0	0	0	A	0	2.8	10.3
25-Jun	0	0	0	0	0	0	0	0	2	11	2	2	0	0	0	0	0	0	0	0	0	A	0	0	0.9	10.6
26-Jun	1	1	1	3	4	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.8	5.0
27-Jun	0	0	0	0	0	0	0	0	7	4	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0.6	6.7
28-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	0.0	0.1
29-Jun	0	0	0	0	0	0	0	0	0	17	10	0	0	0	0	0	0	A	6	0	0	3	0	0	1.5	16.6
30-Jun	0	0	0	0	0	0	0	0	2	3	13	8	16	8	7	1	A	6	0	0	15	2	4	0	3.7	15.5
	0.2	0.3	0.2	0.5	0.4	0.6	0.5	0.8	1.5	1.9	1.3	1.4	1.0	0.6	0.5	0.2	0.2	0.5	0.4	0.2	0.6	0.5	0.3	0.1	Diurnal Average	
	2.5	5.0	2.6	10.3	6.9	9.7	5.5	6.7	7.2	16.6	13.1	14.0	15.5	8.0	7.4	1.1	1.9	6.0	5.8	3.3	14.7	3.5	3.9	0.2	Diurnal Maximum	

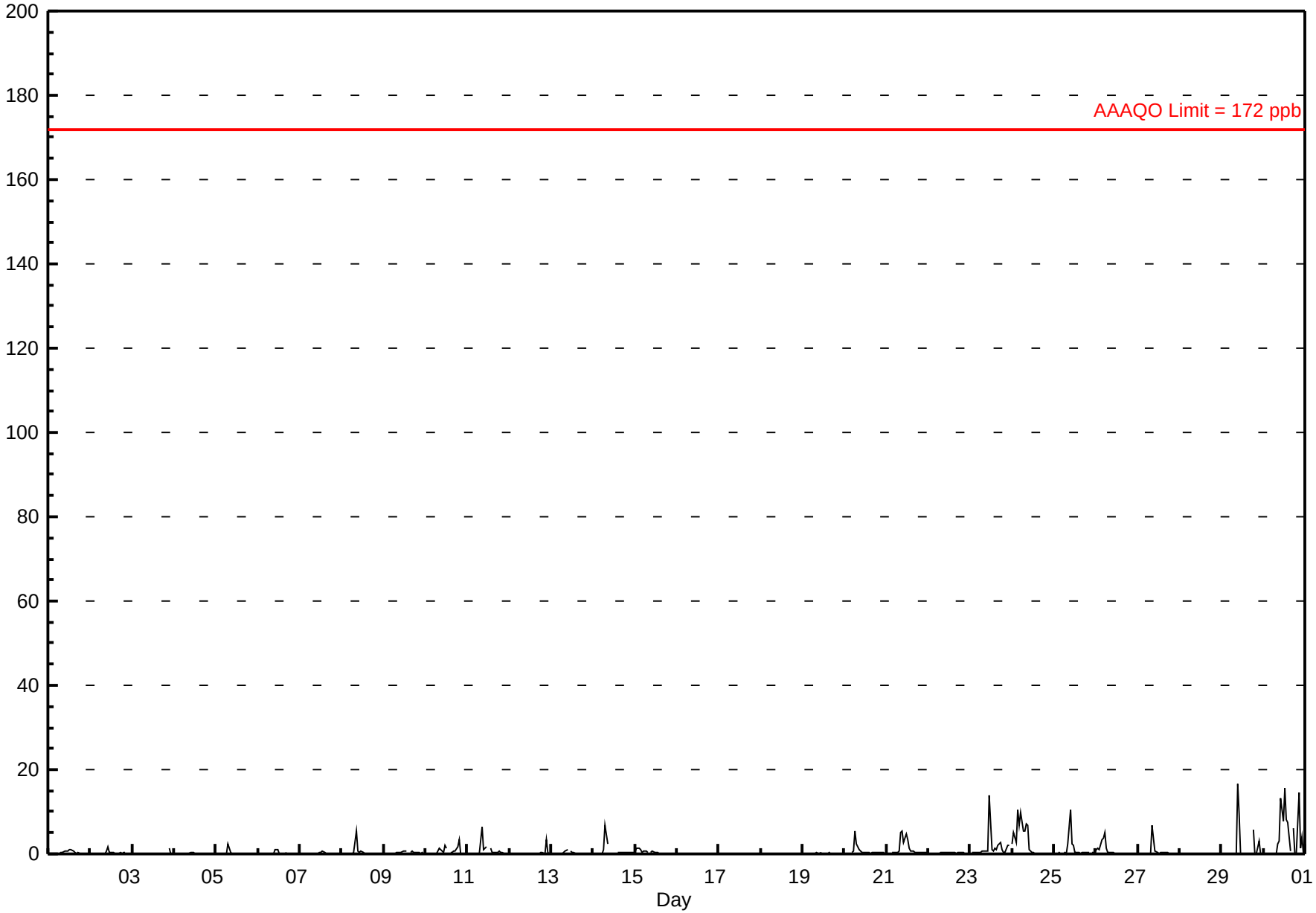
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Valleyview - June 2011



PAZA
Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Valleyview - June 2011

Maximum Value: 74.1 ppb on Jun 29 10:00

Maximum Daily Average: 15.3 ppb on Jun 30

Minimum Value: 0 ppb on Jun 30 06:00

Minimum Daily Average: 0.5 ppb on Jun 16

Maximum Diurnal Average: 7.4 ppb at hour 10

Minimum Diurnal Average: 0.7 ppb at hour 24

Monthly Average: 2.65 ppb

Percentiles: $P_1 = 0.2$ $P_{10} = 0.5$ $Q_1 = 0.6$ Median = 0.8 $Q_3 = 1.0$ $P_{90} = 6.1$ $P_{99} = 31.7$

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	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	A	1	1.0	2.1
2-Jun	1	0	1	1	1	1	1	1	1	5	8	3	2	1	1	1	1	1	1	1	1	A	1	1	1.3	8.3
3-Jun	1	0	1	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	A	6	1	1	0.7	5.6
4-Jun	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0	1	1	1	0.7	1.1
5-Jun	1	1	1	1	1	1	1	15	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1.4	14.8
6-Jun	1	1	1	1	1	1	1	1	1	1	3	4	1	1	1	1	1	A	1	1	1	1	1	1	1.0	3.7
7-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	1.2
8-Jun	1	1	1	1	1	1	1	3	9	5	2	2	1	1	1	A	1	1	1	1	1	1	1	1	1.5	9.4
9-Jun	1	1	1	0	1	1	1	1	1	1	1	3	4	4	A	2	3	1	1	1	1	1	1	1	1.2	4.4
10-Jun	1	1	1	1	1	1	1	5	8	6	2	8	9	A	1	2	2	2	15	17	1	1	1	1	3.7	17.5
11-Jun	1	1	1	1	1	1	0	1	24	4	11	10	A	9	4	1	1	1	2	1	1	1	1	1	3.4	23.8
12-Jun	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	16	1	1	1.4	15.5
13-Jun	1	1	0	1	1	1	1	1	2	2	A	2	1	1	1	1	1	1	1	1	1	1	1	1	0.8	2.2
14-Jun	1	1	1	1	0	1	5	16	10	A	A	C	C	C	1	1	1	1	1	1	1	1	1	1	2.3	15.6
15-Jun	1	8	5	2	1	1	1	1	A	1	2	1	1	1	1	1	1	1	1	1	1	0	1	0	1.4	8.2
16-Jun	1	0	0	1	0	0	1	A	1	1	0	1	1	0	0	0	1	1	0	1	1	0	1	0	0.5	0.8
17-Jun	0	1	0	0	0	1	A	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	0	0.6	0.8
18-Jun	0	1	0	0	0	A	1	0	1	1	0	0	1	1	0	1	0	1	1	1	0	0	1	1	0.5	0.8
19-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	1.0
20-Jun	1	1	0	A	2	2	14	9	3	1	1	1	6	4	1	1	1	1	1	1	1	1	1	1	2.4	13.9
21-Jun	1	1	A	1	1	1	1	7	20	23	14	19	14	16	3	3	1	1	1	1	1	1	1	1	5.7	23.3
22-Jun	1	A	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
23-Jun	A	1	1	1	1	1	1	2	1	1	1	44	3	4	9	10	8	7	3	1	1	8	7	A	5.3	43.7
24-Jun	11	18	12	20	17	19	14	17	21	16	4	1	1	1	1	1	1	1	0	1	1	1	A	1	7.7	21.3
25-Jun	2	1	1	1	1	1	1	1	10	32	9	13	1	1	1	1	1	1	1	1	1	A	1	1	3.6	32.4
26-Jun	5	5	3	8	12	14	3	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0	0	2.8	13.8
27-Jun	0	1	0	1	1	1	1	1	17	12	1	1	1	1	1	1	1	1	1	A	0	1	1	1	2.0	16.6
28-Jun	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	A	0	1	0	1	1	0.6	0.9
29-Jun	1	1	0	0	0	1	0	0	1	74	56	2	1	0	1	1	5	A	30	1	0	15	0	0	8.3	74.1
30-Jun	0	0	0	0	0	0	0	0	22	20	41	32	42	32	34	11	A	32	1	1	51	13	17	2	15.3	50.8
	1.2	1.6	1.2	1.6	1.7	1.8	1.8	3.0	5.6	7.4	6.0	5.5	3.5	3.1	2.4	1.6	1.3	2.1	2.4	1.4	2.5	2.6	1.6	0.7	Diurnal Average	
	11.0	18.1	11.6	20.2	17.0	18.9	13.9	17.3	23.8	74.1	55.7	43.7	42.3	31.7	34.2	10.7	8.0	31.7	29.7	17.5	50.8	15.5	17.0	1.8	Diurnal Maximum	

C - Calibration

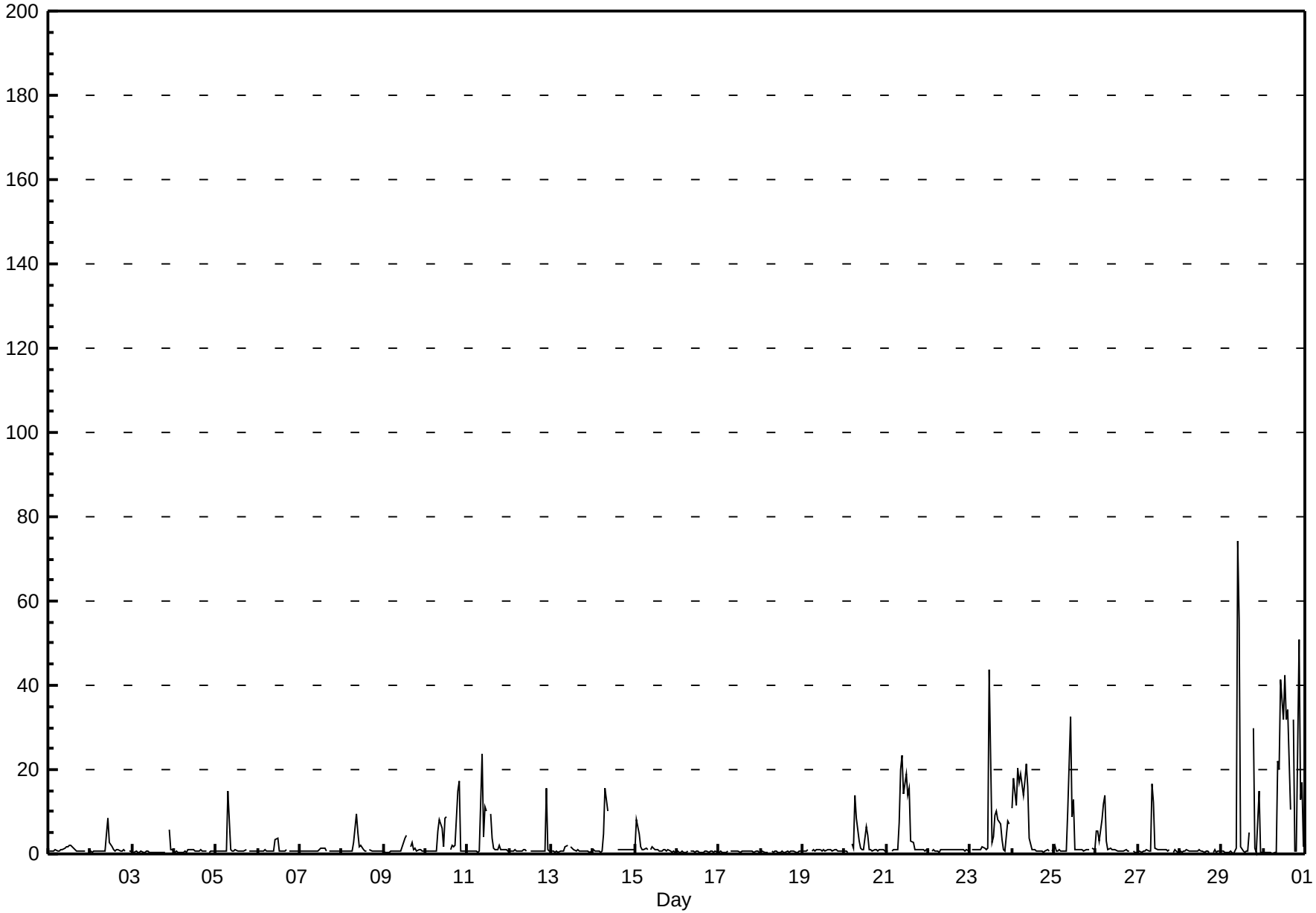
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Valleyview - June 2011



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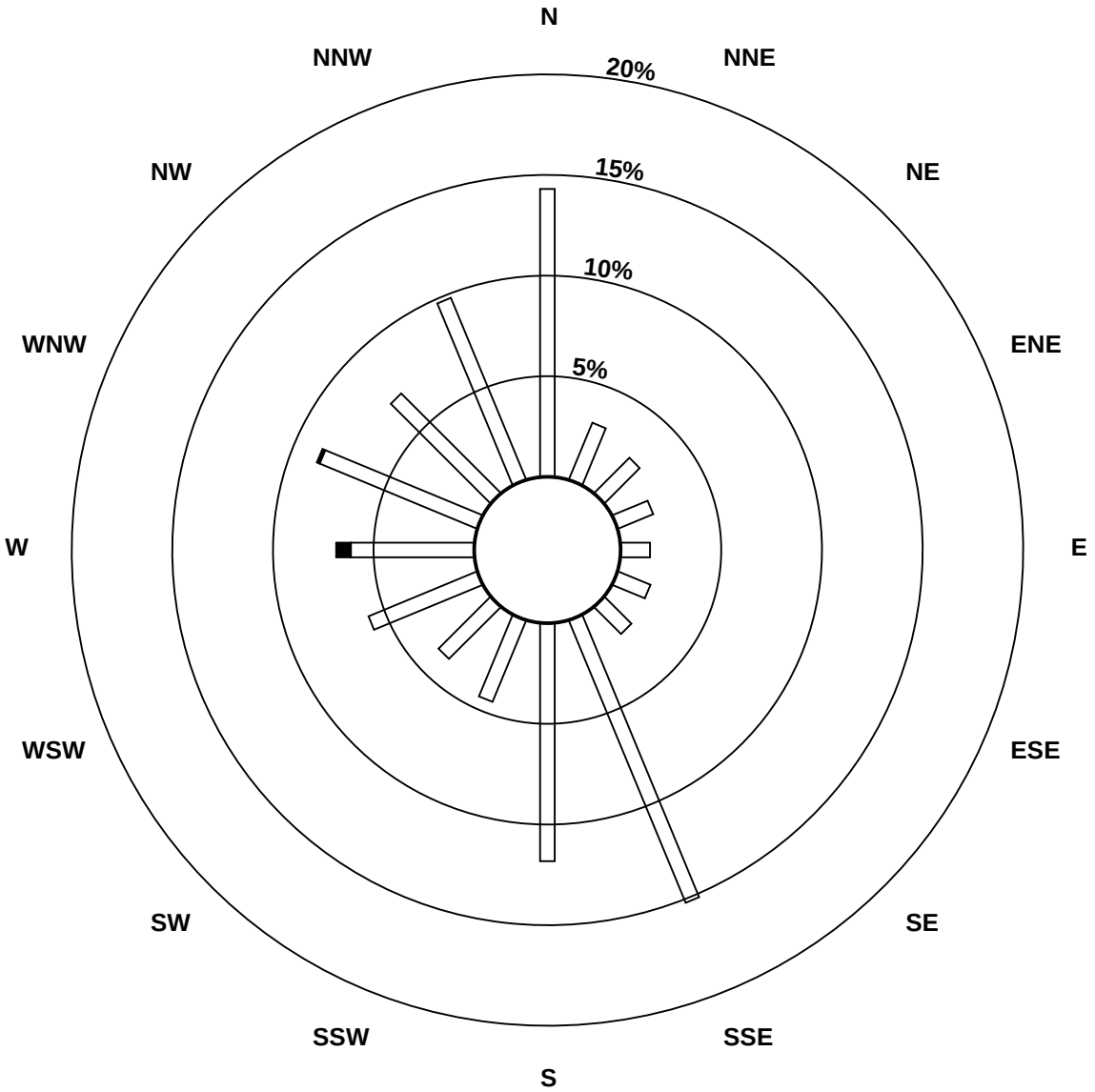
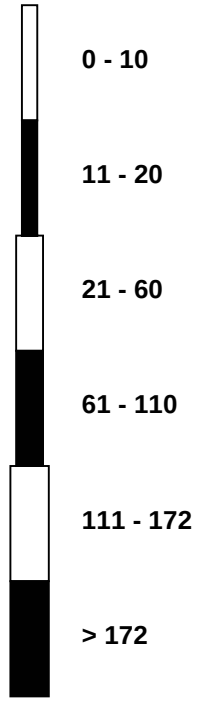
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Valleyview - June 2011



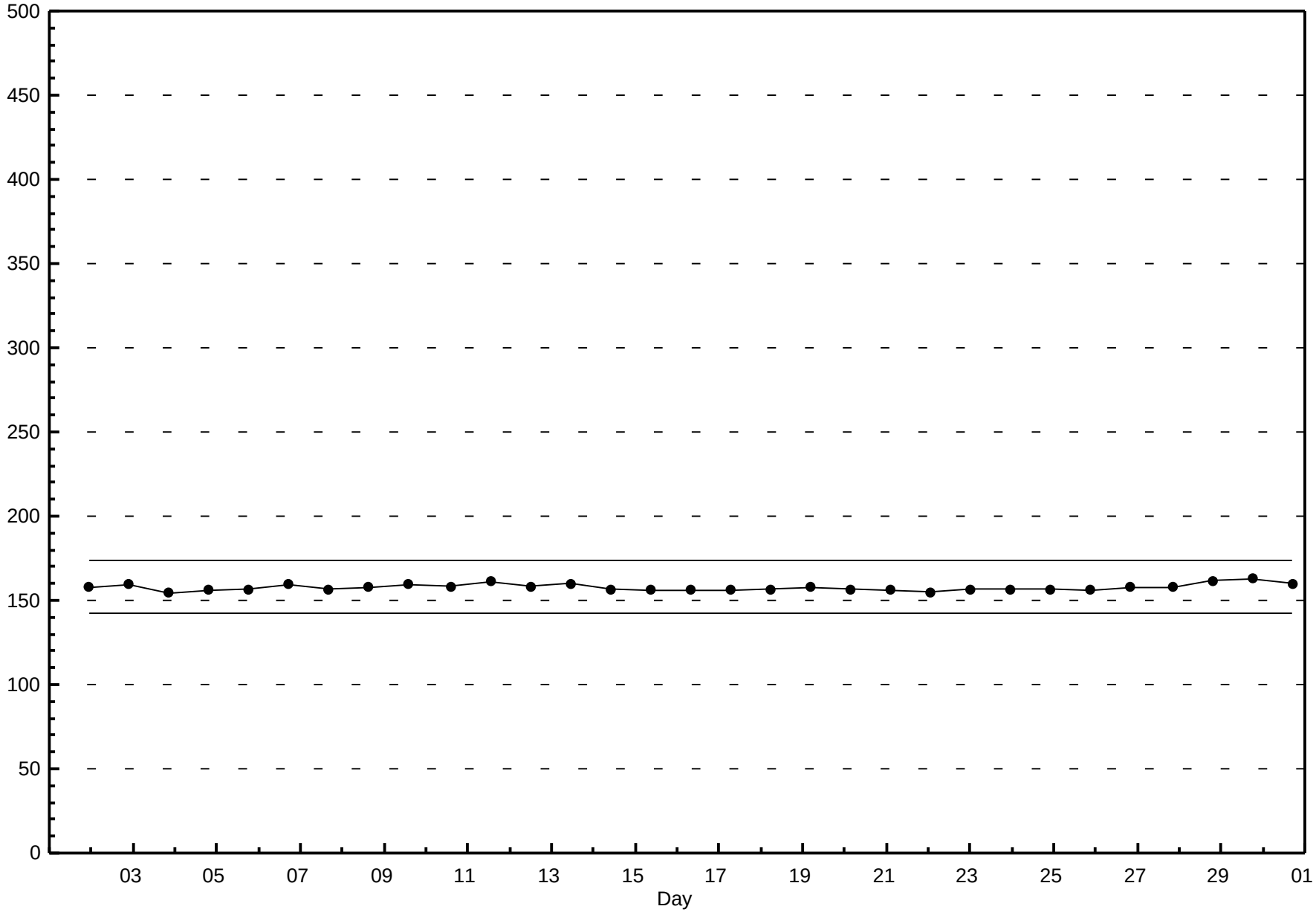
Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO_2)

Valleyview - June 2011



Peace Airshed Zone Association

Hourly Averages

Hydrogen Sulphide (H_2S) - ppb

Valleyview - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 2.3 ppb on Jun 23 05:00 Maximum Daily Average: 0.3 ppb on Jun 23

Minimum Value: 0 ppb on Jun 1 21:00 Minimum Daily Average: 0.0 ppb on Jun 6
Maximum Diurnal Average: 0.2 ppb at hour 6 Minimum Diurnal Average: 0.1 ppb at hour 17
Monthly Average: 0.12 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.1 $Q_3 = 0.1$ $P_{90} = 0.3$ $P_{99} = 0.9$

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)																								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	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.3
2-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	0.5
3-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	1	0.1	0.6
4-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	0.3
5-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
6-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	0.0	0.1
7-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	0.0	0.4
8-Jun	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.5
9-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	0.0	0.4
10-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	0.0	0.4
11-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	0.0	0.1
12-Jun	0	2	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.6
13-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	0.4
14-Jun	0	0	0	0	0	0	0	0	0	A	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0.1	0.3
15-Jun	1	0	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
16-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	0.0	0.1
17-Jun	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	0.6
18-Jun	1	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	0.9
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	0.3
20-Jun	0	0	0	A	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.3	1.1
21-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
22-Jun	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
23-Jun	A	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	0.3	2.3
24-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	0.4
25-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
26-Jun	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0.3	1.1
27-Jun	1	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	0.5
28-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	0.0	0.2
29-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0	0	0	0	0.1	0.7
30-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	1	0	0	0.1	0.8
	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	Diurnal Average	
	0.9	1.6	1.1	1.2	2.3	2.0	0.5	0.8	0.7	0.5	0.4	0.5	0.4	0.5	0.2	0.3	0.3	0.3	0.7	0.6	0.8	0.9	0.6	0.6	Diurnal Maximum	

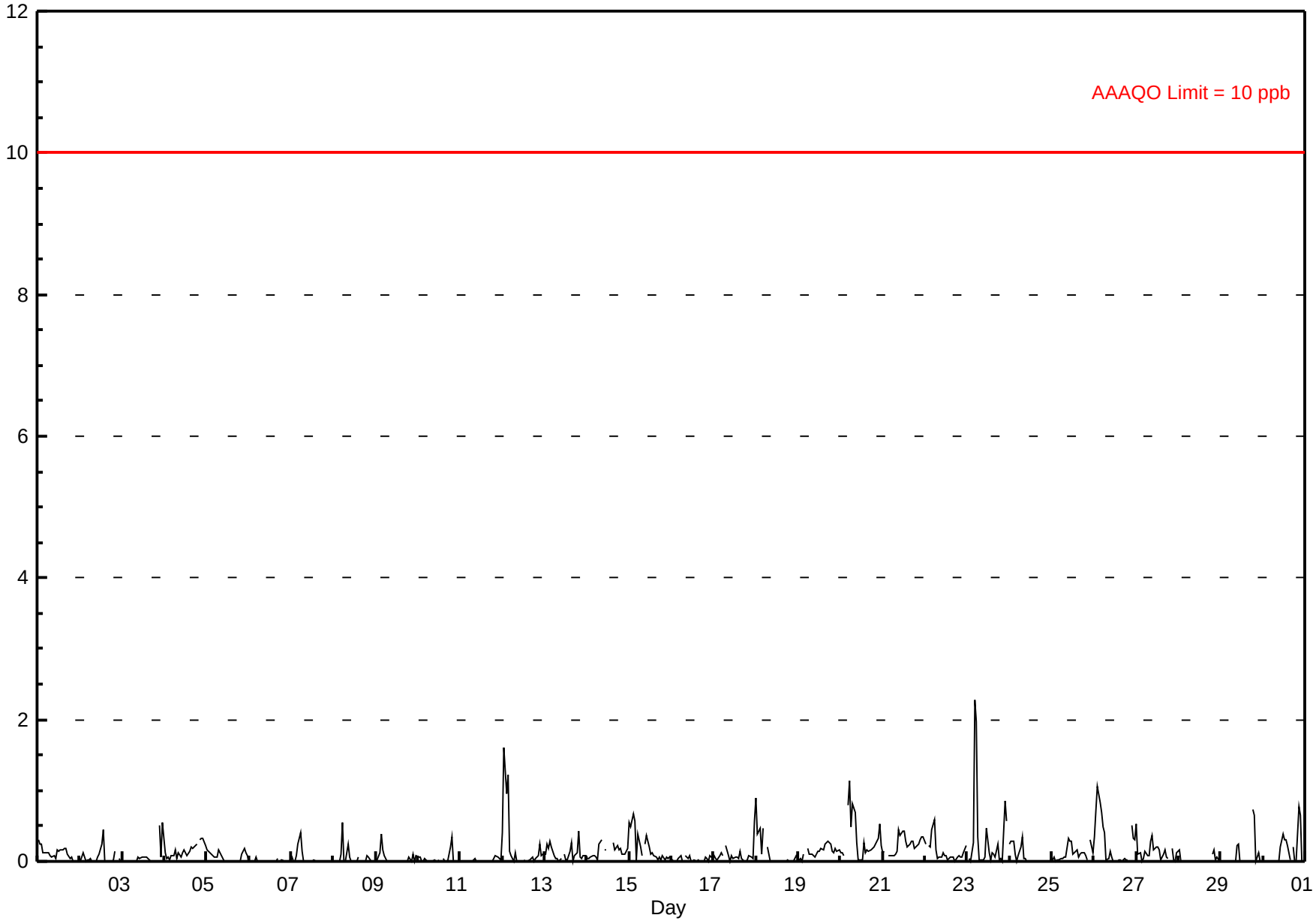
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

Peace Airshed Zone Association

Hourly Averages

Hydrogen Sulphide (H_2S) - ppb

Valleyview - June 2011



Hourly Maximums

Hydrogen Sulphide (H_2S) - ppb

Valleyview - June 2011

Maximum Value: 7.2 ppb on Jun 2 14:00

Maximum Daily Average: 1.1 ppb on Jun 23

Minimum Value: 0 ppb on Jun 30 08:00

Minimum Daily Average: 0.3 ppb on Jun 11

Maximum Diurnal Average: 0.7 ppb at hour 6

Minimum Diurnal Average: 0.4 ppb at hour 17

Monthly Average: 0.55 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.3$ $Q_1 = 0.3$ Median = 0.4 $Q_3 = 0.6$ $P_{90} = 0.9$ $P_{99} = 3.2$

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

Day	Hourly Period Ending At (MST)																								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	0	0	0	0	0	1	0	1	1	0	1	1	0	0	0	0	0	0	A	0	0.5	0.8
2-Jun	0	0	1	0	0	0	0	0	0	1	0	1	2	7	0	0	0	0	0	0	1	A	0	0	0.8	7.2
3-Jun	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	A	1	1	2	0.5	1.6
4-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	A	1	1	1	1	0.5	0.7
5-Jun	0	0	0	1	0	0	0	1	3	0	0	0	0	0	0	0	0	0	A	0	0	0	1	1	0.5	3.3
6-Jun	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.4	0.8
7-Jun	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.4	1.0
8-Jun	0	0	0	0	1	2	0	0	1	1	0	0	0	0	1	A	0	0	0	0	0	0	0	0	0.5	2.4
9-Jun	0	0	1	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	1	0	1	0	1	0.4	0.8
10-Jun	0	0	0	0	0	0	0	0	0	1	1	1	0	A	1	0	0	0	1	1	0	0	0	0	0.4	1.1
11-Jun	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	1	0	0	0.3	0.6
12-Jun	2	3	4	4	0	1	0	1	0	0	0	A	0	0	0	1	1	0	0	1	1	1	0	1	1.0	4.4
13-Jun	1	1	1	1	1	0	0	1	0	1	A	1	0	0	1	2	0	0	1	1	0	0	0	0	0.6	1.8
14-Jun	0	0	1	0	0	0	0	1	1	A	1	1	C	C	C	1	1	1	0	1	0	0	1	2	0.6	1.6
15-Jun	2	1	1	1	1	1	1	1	A	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0.7	2.0
16-Jun	0	0	0	0	0	0	0	A	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0.4	0.6
17-Jun	0	0	0	0	1	0	A	1	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	2	0.5	2.3
18-Jun	2	1	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.5	1.7
19-Jun	1	0	0	1	A	1	0	1	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	1	0.5	0.7
20-Jun	1	0	0	A	2	2	1	1	1	1	1	0	0	1	0	1	0	1	1	1	1	1	1	1	0.8	1.6
21-Jun	0	1	A	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.2
22-Jun	1	A	1	1	1	1	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0.5	1.3
23-Jun	A	0	0	1	4	4	1	0	0	0	0	1	1	0	1	1	1	1	0	0	0	3	2	A	1.1	3.9
24-Jun	1	1	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.5	1.1
25-Jun	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0	1	1	0	A	1	1	0.6	1.2
26-Jun	1	2	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	A	1	1	1	0.7	1.7
27-Jun	2	0	1	0	0	1	0	0	1	1	1	1	1	0	1	0	0	0	0	A	0	0	0	1	0.6	1.6
28-Jun	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0	1	0	0.4	0.8
29-Jun	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	A	2	3	0	1	0	0	0.5	3.1
30-Jun	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	A	1	0	0	2	2	0	0	0.5	1.7
	0.7	0.6	0.7	0.6	0.6	0.7	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.7	0.5	0.5	0.4	0.5	0.5	0.6	0.5	0.7	0.5	0.6	Diurnal Average	
	2.4	3.3	4.4	3.5	3.9	3.9	1.4	1.3	3.3	1.2	1.0	1.2	1.7	7.2	1.0	1.8	0.7	0.9	2.0	3.1	1.6	2.8	1.6	2.3	Diurnal Maximum	

C - Calibration

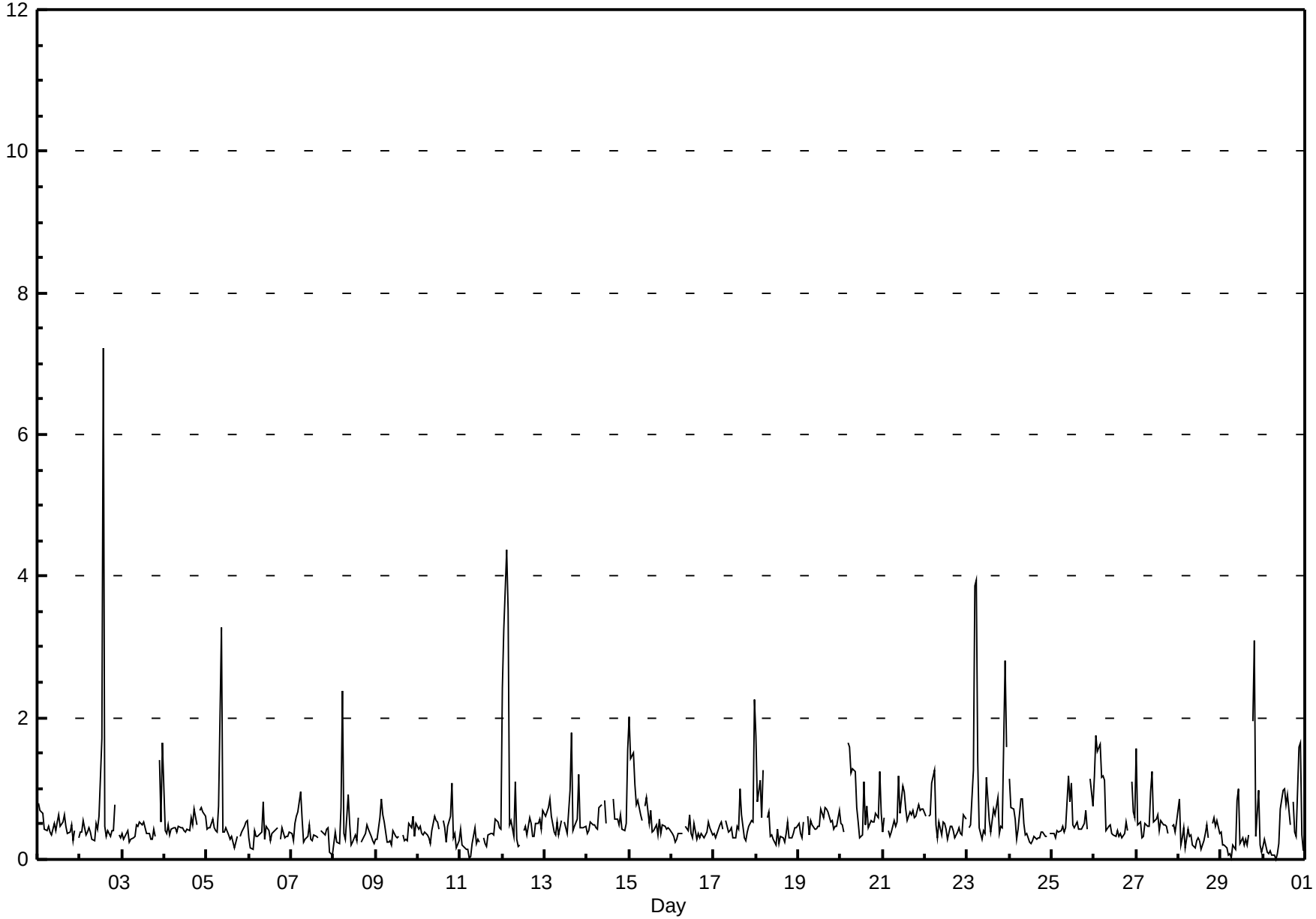
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Hydrogen Sulphide (H_2S) - ppb

Valleyview - June 2011

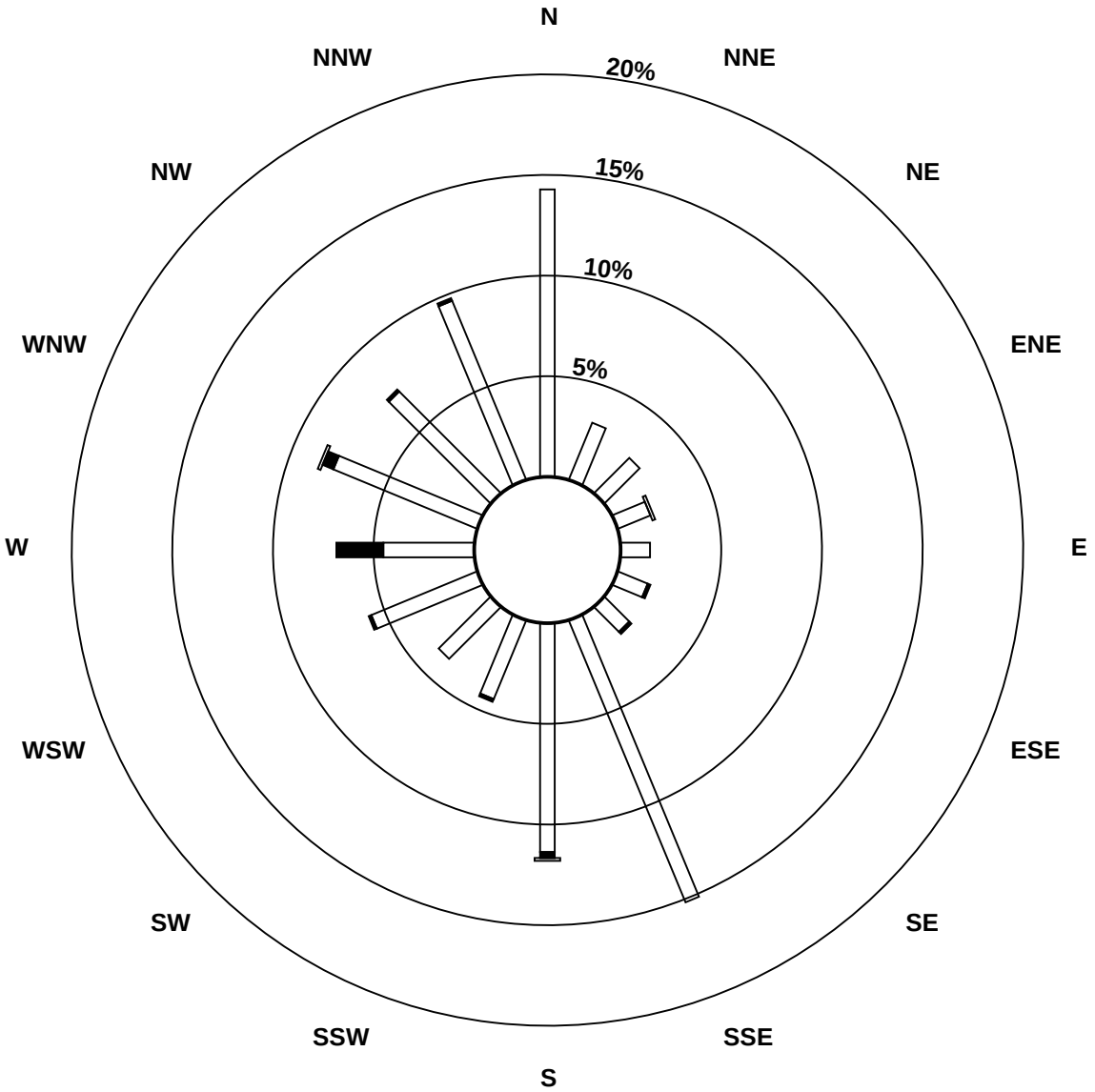


Peace Airshed Zone Association

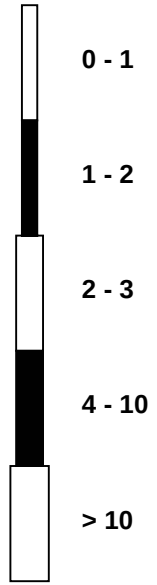
Pollutant Rose

Hydrogen Sulphide (H_2S) - ppb

Valleyview - June 2011



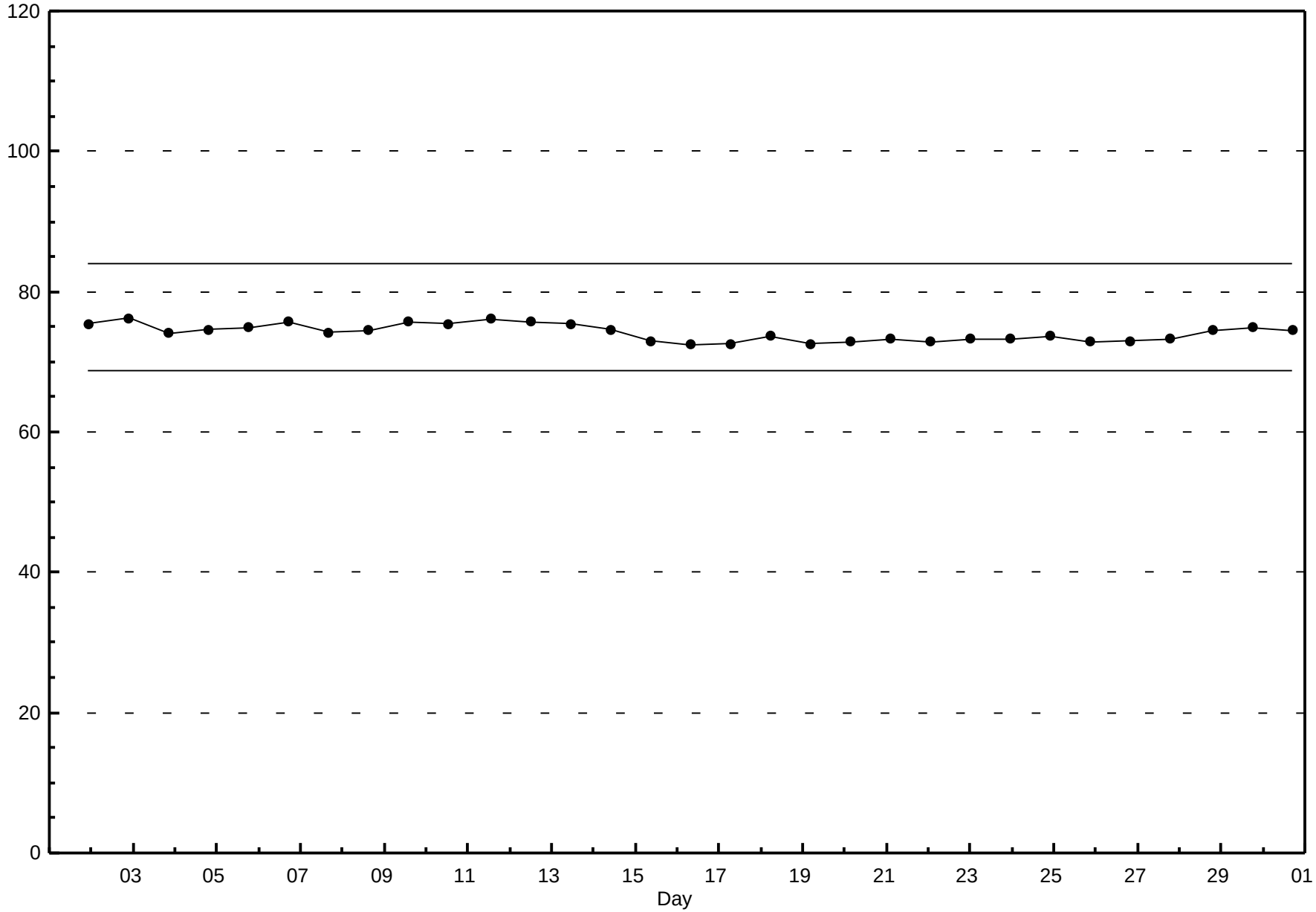
Pollutant Classes (ppb)



Span Responses

Hydrogen Sulphide (H_2S)

Valleyview - June 2011



Hourly Averages

External Temperature (ET) - °C

Valleyview - June 2011

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

Maximum Value: 25.2 °C on Jun 22 15:00

Maximum Daily Average: 18.2 °C on Jun 22

Minimum Value: 1 °C on Jun 4 05:00

Minimum Daily Average: 2.4 °C on Jun 3

Maximum Diurnal Average: 17.3 °C at hour 17

Minimum Diurnal Average: 8.9 °C at hour 5

Monthly Average: 13.58 °C

Percentiles: P_1 = 1.2 P_{10} = 7.4 Q_1 = 10.8 Median = 13.4 Q_3 = 17.1 P_{90} = 20.0 P_{99} = 24.4

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

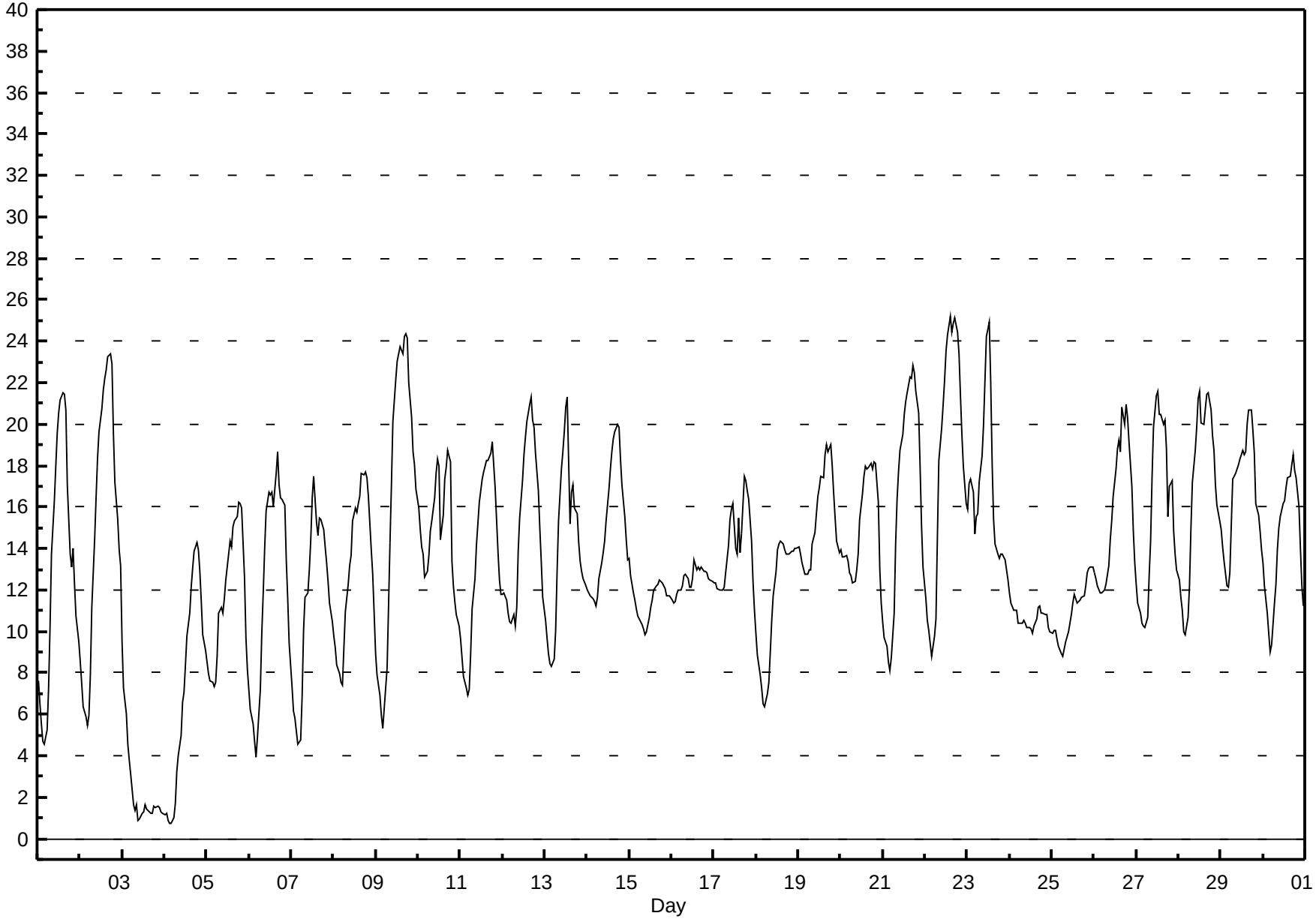
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jun	8	7	5	5	5	5	7	10	14	16	18	20	21	21	21	21	21	17	14	13	14	12	11	9	13.1	21.5
2-Jun	9	7	6	6	5	6	8	11	15	16	18	20	21	22	22	23	23	23	23	20	17	15	14	13	15.2	23.4
3-Jun	10	7	6	5	4	3	2	1	2	1	1	1	1	2	1	1	1	1	2	1	2	1	1	1	2.4	9.5
4-Jun	1	1	1	1	1	1	2	3	4	5	7	7	8	10	11	12	13	14	14	14	13	11	10	9	7.2	14.3
5-Jun	9	8	8	8	7	8	9	11	11	11	12	13	14	14	14	15	15	16	16	16	16	13	10	8	11.6	16.2
6-Jun	7	6	6	5	4	5	7	10	12	14	16	17	17	17	16	18	19	17	16	16	16	13	12	9	12.3	18.7
7-Jun	7	6	6	5	5	5	7	10	12	12	13	14	16	18	15	15	15	15	15	14	13	12	11	10	11.4	17.5
8-Jun	10	9	8	8	8	7	9	11	12	13	14	15	16	16	16	17	18	18	18	17	16	14	13	11	13.1	17.7
9-Jun	9	8	7	6	5	6	8	11	14	17	20	22	23	23	24	23	24	24	24	22	20	19	18	17	16.5	24.4
10-Jun	16	15	14	14	13	13	14	15	15	16	18	18	18	14	16	17	18	19	18	13	12	11	11	10	15.0	18.8
11-Jun	10	9	8	7	7	7	9	11	13	14	15	16	17	18	18	18	18	19	19	18	17	14	12	12	13.6	19.2
12-Jun	12	12	11	11	10	10	11	10	11	14	15	17	19	19	20	21	21	20	20	19	17	15	13	12	15.1	21.3
13-Jun	11	10	9	8	8	9	10	13	15	18	19	20	21	21	15	17	17	16	16	14	13	13	13	12	14.0	21.3
14-Jun	12	12	12	12	11	11	12	13	13	14	14	15	17	18	19	19	20	20	20	18	17	16	14	13	15.1	20.0
15-Jun	14	13	12	12	11	11	10	10	10	10	10	11	11	11	12	12	12	12	12	12	12	12	12	12	11.5	13.6
16-Jun	11	11	11	12	12	12	12	13	13	13	12	12	13	13	13	13	13	13	13	13	13	13	12	12	12.5	13.4
17-Jun	12	12	12	12	12	12	12	13	14	15	16	16	14	14	15	14	15	17	17	17	16	14	12	11	14.0	17.5
18-Jun	10	9	8	7	7	6	7	8	9	11	12	13	14	14	14	14	14	14	14	14	14	14	14	14	11.4	14.4
19-Jun	14	14	13	13	13	13	13	13	14	15	16	17	17	17	17	18	19	19	19	18	17	15	14	14	15.5	19.0
20-Jun	14	14	14	14	13	13	13	12	12	13	14	15	17	17	18	18	18	18	18	18	18	16	13	11	15.1	18.2
21-Jun	10	10	9	9	8	9	11	14	16	18	19	19	20	21	22	22	22	23	23	22	21	18	15	13	16.4	22.9
22-Jun	12	11	10	9	9	10	11	15	18	20	21	22	24	24	25	24	25	25	24	23	21	20	18	16	18.2	25.2
23-Jun	16	17	17	17	15	16	16	17	18	20	22	24	25	22	18	15	14	14	14	14	14	13	13	12	16.8	24.9
24-Jun	12	11	11	11	11	10	10	10	11	10	10	10	10	10	10	11	11	11	11	11	11	11	10	10	10.7	11.9
25-Jun	10	10	10	10	9	9	9	9	9	10	10	11	11	12	11	11	11	12	12	12	13	13	13	13	10.9	13.1
26-Jun	13	13	12	12	12	12	12	12	13	14	15	17	18	19	19	19	21	20	21	20	19	17	15	13	15.7	21.0
27-Jun	12	11	11	10	10	10	11	13	14	17	20	21	22	20	20	20	20	19	16	17	17	15	14	13	15.6	21.6
28-Jun	13	12	11	10	10	11	12	15	17	19	20	21	22	20	20	21	21	21	21	19	19	17	16	15	16.8	21.6
29-Jun	15	14	13	12	12	13	15	17	18	18	18	18	19	19	19	20	21	21	20	19	16	16	15	14	16.7	20.7
30-Jun	13	12	11	10	9	9	11	12	14	15	16	16	16	17	17	17	18	19	18	17	16	14	12	11	14.3	18.6
	11.0	10.3	9.8	9.3	8.9	9.1	10.0	11.5	12.8	14.0	15.0	16.0	16.7	16.8	16.7	16.9	17.3	17.2	16.8	16.1	15.4	13.9	12.7	11.8	Diurnal Average	
	15.9	17.1	17.3	16.7	14.7	15.5	15.7	17.4	18.4	19.9	22.1	24.2	24.9	24.3	25.2	24.5	24.9	25.1	24.4	23.4	21.4	19.5	18.0	16.8	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Valleyview - June 2011



Hourly Averages

Relative Humidity (RH) - %

Valleyview - June 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 99.9 % on Jun 18 10:00 Maximum Daily Average: 96.4 % on Jun 18

Minimum Value: 24 % on Jun 9 17:00 Minimum Daily Average: 48.8 % on Jun 30
Maximum Diurnal Average: 90.4 % at hour 5 Minimum Diurnal Average: 56.9 % at hour 17
Monthly Average: 72.76 % Percentiles: P_1 = 25.0 P_{10} = 40.7 Q_1 = 56.9 Median = 75.7 Q_3 = 93.1 P_{90} = 96.2 P_{99} = 98.4

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

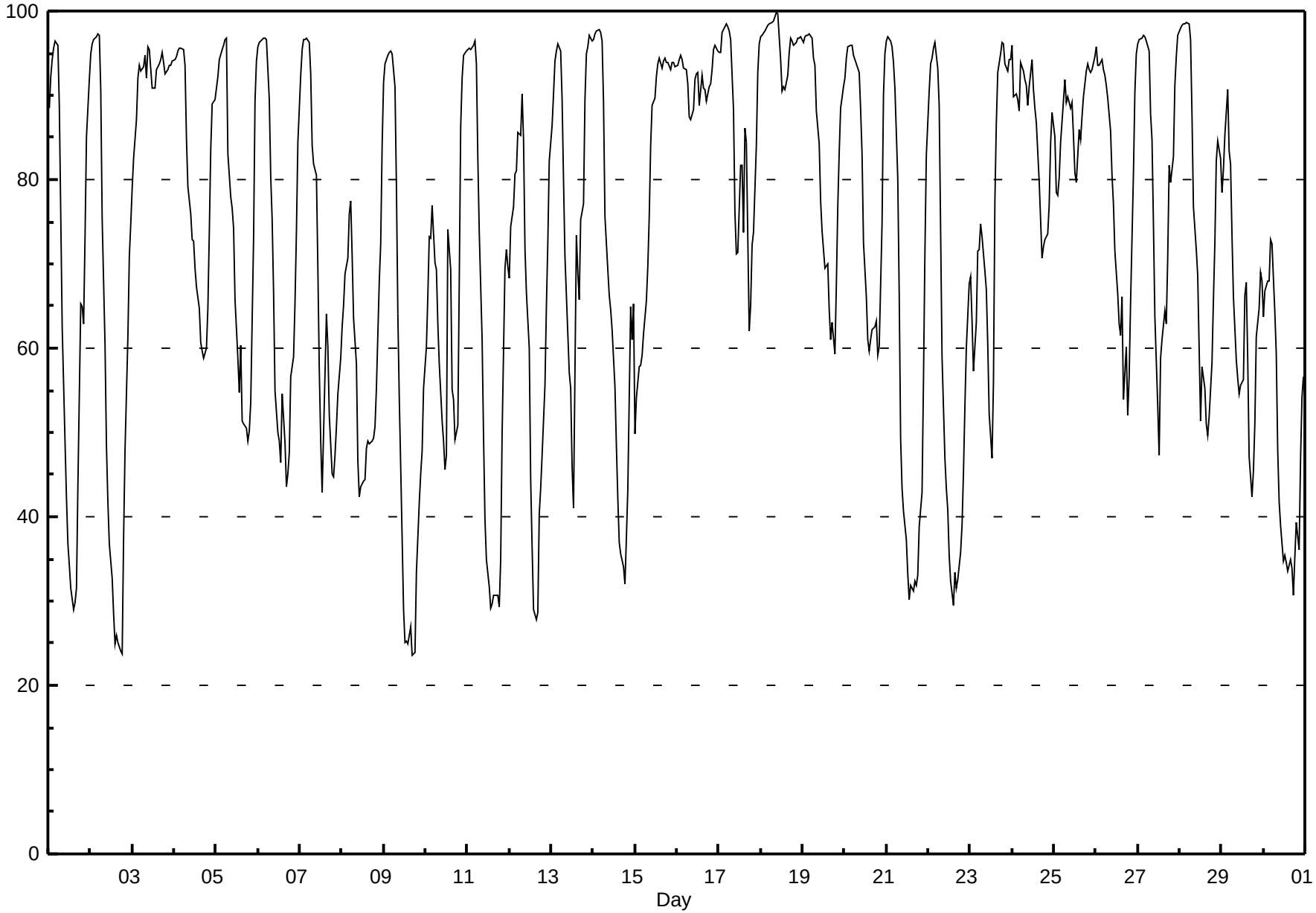
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jun	88	92	94	96	96	96	89	76	63	49	42	37	34	31	29	30	31	44	65	65	63	73	85	92	65.0	96.4
2-Jun	95	96	97	97	97	97	91	75	60	48	42	37	33	28	25	26	25	24	24	38	48	61	71	75	58.7	97.4
3-Jun	79	83	87	92	94	93	93	95	92	96	95	91	91	91	93	94	94	95	94	93	93	94	94	94	92.0	95.7
4-Jun	94	95	95	96	96	95	93	85	79	76	73	73	69	67	65	61	60	59	60	65	74	83	89	89	78.8	95.6
5-Jun	91	92	94	95	96	97	97	83	78	77	74	66	59	55	60	51	51	50	49	50	54	73	89	94	74.0	96.8
6-Jun	96	96	97	97	97	97	90	80	75	67	55	50	49	46	55	49	44	45	48	57	59	65	74	84	69.6	96.8
7-Jun	92	95	97	97	97	96	93	84	82	81	69	57	49	43	57	64	60	52	45	45	47	51	55	59	69.4	96.8
8-Jun	62	65	69	71	76	78	71	64	58	47	42	44	44	44	48	49	49	49	49	51	55	68	72	84	58.7	84.1
9-Jun	91	94	95	95	95	95	91	79	64	54	46	29	25	25	25	27	24	24	24	33	42	45	48	55	55.2	95.2
10-Jun	60	66	73	73	77	70	69	63	58	51	49	46	47	74	69	55	54	49	51	68	86	92	95	95	66.3	95.2
11-Jun	95	96	95	96	97	94	83	74	61	50	40	35	32	29	30	31	31	31	29	35	50	69	72	70	59.2	96.5
12-Jun	68	74	77	81	81	86	85	90	85	72	67	60	44	36	29	28	29	40	43	47	56	65	72	82	62.4	90.2
13-Jun	86	90	94	95	96	95	89	80	71	62	57	55	46	41	73	69	66	75	77	90	95	96	97	97	78.9	97.1
14-Jun	97	97	98	98	98	96	89	76	69	66	65	62	55	49	42	37	36	34	32	37	43	65	61	65	65.3	97.8
15-Jun	50	54	58	58	59	62	66	70	76	84	89	90	92	94	94	93	94	94	94	94	93	94	94	93	80.8	94.4
16-Jun	94	94	95	94	93	93	91	87	87	88	92	93	93	89	92	91	91	89	91	91	93	95	96	95	92.0	96.0
17-Jun	95	95	97	98	98	98	98	97	88	76	71	71	82	82	74	86	84	62	65	72	74	84	93	96	84.9	98.4
18-Jun	97	97	98	98	98	98	99	99	99	100	100	94	90	91	91	92	95	97	96	96	96	97	97	97	96.4	99.9
19-Jun	96	97	97	97	97	97	94	93	88	84	77	74	72	70	70	65	61	63	59	68	77	83	89	91	81.6	97.2
20-Jun	92	94	96	96	96	95	94	94	93	88	83	73	66	61	60	61	62	62	63	59	60	75	90	95	79.5	95.9
21-Jun	97	97	96	96	94	91	80	67	49	43	41	37	33	30	32	31	32	32	33	39	43	56	71	83	58.5	97.0
22-Jun	90	94	94	96	96	93	89	74	59	47	43	41	35	32	29	33	31	33	36	39	45	53	60	68	58.8	96.3
23-Jun	69	63	57	63	72	72	75	73	69	67	61	52	47	56	78	87	93	95	96	96	94	93	94	94	75.6	96.3
24-Jun	96	90	90	90	88	94	93	92	91	89	91	94	91	89	87	80	75	71	72	73	74	77	84	88	85.7	96.0
25-Jun	85	78	78	80	84	89	92	89	90	88	89	85	81	80	86	85	87	90	93	94	93	93	93	95	87.4	94.6
26-Jun	96	93	94	94	93	92	91	90	86	80	77	71	67	63	62	66	54	60	52	57	65	81	90	95	77.9	95.7
27-Jun	96	97	97	97	97	97	95	88	85	75	64	53	47	59	61	64	63	71	82	80	83	91	95	97	80.5	97.1
28-Jun	98	98	98	98	99	98	97	88	77	72	69	60	51	58	55	51	50	52	58	66	72	82	85	83	75.6	98.6
29-Jun	78	81	85	91	83	82	73	66	59	56	55	56	56	66	68	59	47	42	45	51	61	65	69	68	65.2	90.6
30-Jun	64	67	68	68	73	72	64	59	48	42	39	35	35	35	34	35	34	31	35	39	36	47	54	57	48.8	72.9
	86.3	87.4	88.7	89.7	90.4	90.3	87.1	80.9	74.6	69.2	65.2	60.7	57.2	57.1	59.1	58.3	56.9	57.2	58.7	62.9	67.5	75.5	80.9	84.3	Diurnal Average	
	98.0	98.4	98.5	98.4	98.6	98.5	98.6	98.8	99.3	99.9	99.6	94.3	92.7	93.7	94.4	93.8	95.1	96.7	96.4	96.2	96.2	96.8	97.1	97.1	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Valleyview - June 2011



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Valleyview - June 2011

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	0	1	0	1	1	0	2	2	2	3	4	4	5	3	2	2	2	6	10	9	3	3	3	2	2.8	10.1
Dir	208	181	175	164	167	196	154	164	168	167	165	175	187	189	164	125	164	189	157	135	168	162	146	148	163	157
2 Spd	1	0	1	1	1	2	3	3	2	5	2	3	4	5	6	4	4	5	3	14	15	12	8	13	3.5	14.9
Dir	160	236	248	166	192	166	162	163	182	297	302	301	359	357	352	10	329	329	332	292	297	311	310	344	316	297
3 Spd	21	17	16	18	16	17	11	7	11	10	12	13	11	8	9	9	8	6	7	5	3	4	2	1	9.5	21.3
Dir	358	356	354	358	0	356	355	343	345	351	5	359	0	340	4	6	359	333	340	335	281	256	252	265	352	358
4 Spd	2	1	1	3	3	2	3	5	6	7	6	6	5	5	6	4	3	4	2	2	0	1	1	1	3.2	7.3
Dir	240	183	171	148	162	133	143	160	162	165	168	163	164	154	162	165	158	161	171	172	59	177	169	174	163	165
5 Spd	2	1	0	2	1	2	2	6	11	10	9	7	9	10	11	8	8	7	6	2	1	1	1	1	3.6	11.3
Dir	171	209	44	189	191	161	154	277	293	316	308	315	315	338	349	356	349	320	328	31	31	193	178	172	321	349
6 Spd	1	1	1	1	1	1	1	1	1	1	1	2	12	11	5	2	2	7	6	4	2	2	1	1	0.9	11.6
Dir	173	170	182	180	190	188	153	153	149	204	75	330	339	5	162	185	242	319	320	321	110	130	334	43	334	339
7 Spd	1	3	0	0	0	0	1	5	9	10	13	15	16	14	3	2	2	9	13	19	15	12	9	7	6.9	18.9
Dir	8	343	212	341	333	59	17	28	9	359	6	12	9	20	137	178	225	349	9	6	8	8	8	8	8	6
8 Spd	7	6	5	2	1	2	2	1	2	4	3	2	4	6	6	6	3	5	5	5	3	3	3	1	0.9	6.5
Dir	6	5	358	354	262	300	344	21	341	351	349	164	163	163	171	164	168	161	167	166	164	154	162	161	149	6
9 Spd	1	1	0	0	0	1	1	2	3	4	2	5	6	6	4	4	1	2	3	5	2	3	1	1	1.2	6.4
Dir	168	182	298	207	241	180	175	170	170	165	175	286	259	318	296	315	262	166	244	329	320	318	350	121	270	318
10 Spd	1	1	1	1	1	1	1	1	3	5	1	5	9	5	2	4	1	1	3	8	2	3	2	2	1.6	8.8
Dir	172	166	165	186	178	201	167	251	301	294	217	288	287	256	321	309	158	169	244	262	168	162	170	163	254	287
11 Spd	1	2	1	1	2	2	2	2	5	8	9	8	8	8	11	6	8	2	1	1	0	0	0	2	2.3	10.5
Dir	188	174	177	176	169	169	164	164	267	297	282	282	279	296	340	344	355	350	97	80	84	107	321	297	297	340
12 Spd	2	0	1	1	0	1	0	3	5	3	2	2	1	3	4	2	3	4	5	3	3	2	2	1	1.0	5.2
Dir	286	72	313	138	0	22	341	113	123	142	167	175	300	349	337	138	76	148	167	171	196	242	151	176	150	167
13 Spd	1	0	1	1	0	2	2	1	3	4	2	0	2	3	3	9	4	7	2	2	2	2	3	2	0.7	8.6
Dir	174	215	234	213	212	162	165	198	184	167	182	192	309	146	198	322	347	4	344	195	233	188	213	233	234	322
14 Spd	1	1	1	1	1	1	3	8	11	10	8	4	7	11	13	12	13	11	12	9	4	1	2	4	5.5	13.0
Dir	188	167	157	167	184	175	241	269	286	297	304	314	303	308	296	294	309	307	314	335	353	200	324	313	301	296
15 Spd	7	6	7	9	8	11	7	8	8	10	11	13	11	10	10	13	11	13	14	13	15	17	14	15	9.3	16.5
Dir	281	272	279	278	294	284	296	294	292	286	285	286	288	301	320	351	356	342	334	337	348	351	358	357	318	351
16 Spd	12	10	9	11	10	9	10	13	12	13	11	11	12	12	13	12	12	10	11	10	9	8	7	8	10.4	13.3
Dir	357	339	343	334	328	333	342	356	359	357	359	1	2	6	7	10	8	9	7	4	4	3	2	3	357	357
17 Spd	7	7	8	8	7	7	6	3	3	5	5	4	2	5	2	1	2	2	2	3	1	1	0	1	3.1	8.4
Dir	354	357	4	5	7	9	11	18	57	78	56	65	64	0	97	351	95	148	117	90	43	87	42	289	27	4
18 Spd	0	0	0	1	1	1	1	1	4	7	10	8	12	13	14	12	14	13	14	14	13	12	11	12	7.6	14.4
Dir	338	103	35	26	233	167	164	56	7	351	347	343	348	347	347	345	342	344	347	350	348	351	352	345	348	347
19 Spd	11	6	6	7	6	7	8	5	3	6	6	6	6	6	7	7	7	4	4	4	3	5	3	3	4.9	10.5
Dir	1	12	2	6	0	5	2	11	8	352	351	25	34	50	35	43	52	82	73	19	346	320	326	304	14	1
20 Spd	3	4	2	3	5	6	4	8	9	11	10	10	10	11	8	7	6	4	5	5	3	0	1	1	5.1	11.1
Dir	321	296	292	308	276	273	254	274	278	278	293	302	298	321	318	330	345	327	323	330	327	233	175	163	301	321
21 Spd	1	2	1	2	3	3	3	2	9	13	10	11	9	10	9	4	6	5	6	6	3	0	1	1	3.3	12.5
Dir	176	168	174	166	163	161	163	189	263	277	274	263	276	298	314	295	323	334	344	355	353	112	201	179	285	277
22 Spd	1	1	1	0	0	1	2	2	1	2	4	4	3	3	2	4	4	5	5	5	4	2	3	2	1.7	5.4
Dir	178	163	182	181	223	189	165	161	160	26	20	36	36	23	41	94	104	75	88	69	58	48	18	330	67	69

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Valleyview - June 2011

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	2	2	2	2	2	1	2	2	5	7	4	3	3	3	10	10	10	4	1	2	4	4	5	8	2.7	10.1
Dir	346	52	141	170	283	173	337	17	14	339	342	282	200	264	296	234	247	266	237	307	293	287	275	269	283	296
24 Spd	6	14	11	9	10	12	13	15	13	15	6	4	7	5	5	9	12	12	11	8	5	1	1	1	7.9	15.2
Dir	245	272	281	258	260	262	270	272	260	262	227	191	233	202	201	223	241	243	242	237	231	171	159	150	250	262
25 Spd	1	4	2	8	6	5	7	9	9	9	9	10	11	10	9	10	8	8	9	8	9	10	6	1	6.3	10.8
Dir	184	222	192	251	238	230	238	248	257	266	294	297	324	327	311	317	304	304	294	295	307	307	291	339	287	324
26 Spd	4	6	5	7	6	3	6	7	6	5	5	5	7	4	5	2	2	3	2	2	1	0	1	0	3.0	6.9
Dir	255	280	280	278	277	283	289	299	292	313	302	315	317	5	6	318	308	2	113	110	66	108	197	180	302	278
27 Spd	1	1	1	1	1	1	2	1	1	2	1	3	7	12	10	9	6	1	3	2	2	2	1	0	1.4	12.2
Dir	213	167	198	166	212	167	171	149	254	302	353	346	330	9	14	4	29	142	126	344	162	167	153	335	9	9
28 Spd	1	2	1	1	1	1	2	2	3	4	3	3	4	7	5	4	3	4	1	1	1	1	1	2	2.0	7.1
Dir	163	153	197	187	168	179	159	161	166	161	161	181	237	240	181	170	177	166	256	310	183	180	219	230	187	240
29 Spd	2	1	1	1	1	1	1	2	5	5	7	7	4	4	5	4	4	6	5	5	7	5	3	5	3.0	7.5
Dir	217	174	173	182	187	177	148	183	244	266	257	250	231	162	161	167	278	290	287	260	238	244	225	241	237	257
30 Spd	5	3	2	2	2	2	3	5	12	15	15	17	15	15	12	11	11	10	9	7	10	5	4	2	7.2	16.9
Dir	249	220	221	211	167	171	204	234	253	259	267	280	268	270	280	304	298	289	314	315	270	267	248	217	271	280
Spd	1.8	1.6	1.5	1.4	1.5	1.3	1.2	1.7	3.0	4.1	3.6	3.8	4.5	4.4	3.5	3.1	3.2	2.9	2.8	3.3	2.6	2.0	1.4	1.8	Diurnal Average	
Dir	328	314	316	303	295	295	288	282	288	298	307	308	311	328	329	328	329	321	327	332	323	324	323	328		
Spd	21.3	17.0	15.9	17.6	16.3	17.1	12.9	14.7	12.7	15.2	15.3	16.9	15.6	15.2	14.4	13.2	13.7	13.0	14.4	18.9	15.4	16.5	13.6	14.7	Diurnal Maximum	
Dir	358	356	354	358	0	356	270	272	260	262	267	280	9	270	347	351	342	344	347	6	8	351	358	357		

Maximum Speed Value: 21 ppb on Jun 3 01:00
Minimum Speed Value: 0 ppb on Jun 18 02:00
Maximum Daily Speed Average: 10.4 ppb on Jun 15
Minimum Daily Speed Average: 0.7 ppb on Jun 12
Maximum Diurnal Speed Average: 4.5 ppb at hour 13
Minimum Diurnal Speed Average: 1.2 ppb at hour 7

Monthly Average Velocity: 2.51 ppb 315.2 deg
Speed Percentiles: P_1 = 0.3 P_{10} = 0.8 Q_1 = 1.6 Median = 3.9 Q_3 = 7.8 P_{90} = 11.5 P_{99} = 16.3
All monthly, daily, and diurnal averages have been calculated using vector methods

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

Frequency Distribution

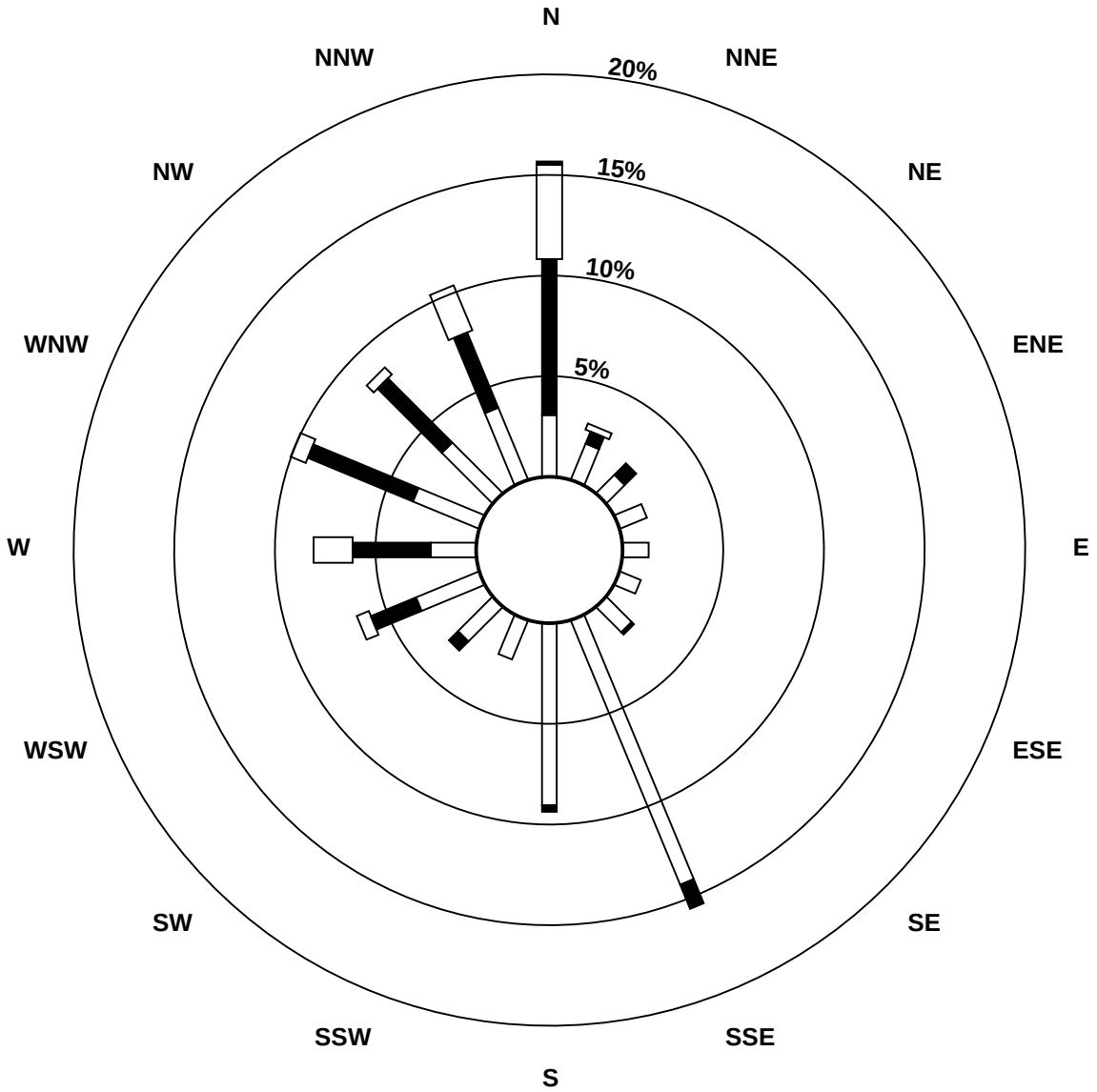
Direction	Speed Range (ppb) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	43	66	47	1	0	0	157
NorthEast	24	8	0	0	0	0	32
East	22	2	0	0	0	0	24
SouthEast	35	3	0	0	0	0	38
South	176	16	0	0	0	0	192
SouthWest	44	14	2	0	0	0	60
West	26	52	18	0	0	0	96
NorthWest	49	60	12	0	0	0	121
Total	419	221	79	1	0	0	720

Peace Airshed Zone Association

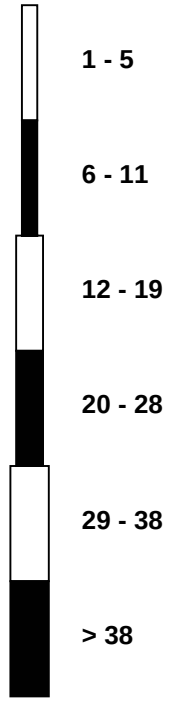
Wind Rose

Wind Speed (WS) (km/h)

Valleyview - June 2011



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Valleyview - June 2011

Maximum Speed: 22 km/h on Jun 3 01:00

Maximum Daily Speed Average: 11.1 km/h on Jun 15

Minimum Speed: 1 km/h on Jun 1 06:00

Minimum Daily Speed Average: 2.8 km/h on Jun 28

Maximum Diurnal Speed Average: 8.5 km/h at hour 14

Minimum Diurnal Speed Average: 3.4 km/h at hour 3

Monthly Average Speed: 5.57 km/h

Percentiles: $P_1 = 0.7$ $P_{10} = 1.2$ $Q_1 = 2.1$ Median = 4.6 $Q_3 = 8.2$ $P_{90} = 11.8$ $P_{99} = 16.3$

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	1	1	1	1	1	1	2	2	2	4	4	5	6	5	4	4	3	8	10	9	3	3	3	2	3.4	10.4
2-Jun	1	1	2	1	1	2	3	3	3	6	4	5	5	7	8	6	6	5	4	14	15	12	8	13	5.6	15.4
3-Jun	22	17	16	18	16	17	11	7	11	10	12	13	11	9	9	9	8	7	8	6	4	4	3	2	10.3	21.6
4-Jun	2	1	2	3	3	2	3	5	6	7	7	7	6	6	6	4	4	4	3	2	1	1	2	1	3.5	7.4
5-Jun	2	1	2	2	1	2	2	6	11	10	9	8	10	11	12	9	8	8	7	3	1	1	1	1	5.3	11.8
6-Jun	1	1	1	1	1	1	1	2	2	2	4	5	12	11	6	3	3	8	6	4	2	2	2	2	3.4	12.1
7-Jun	2	3	1	1	1	2	2	5	10	10	13	16	16	14	5	2	3	11	13	19	15	12	9	8	8.0	19.1
8-Jun	7	6	5	2	1	2	2	2	3	5	4	4	5	6	6	6	4	5	5	5	3	3	3	1	3.9	6.6
9-Jun	1	1	1	1	1	1	1	3	3	4	3	7	7	7	5	5	3	2	3	5	2	3	1	1	2.9	7.0
10-Jun	1	1	2	1	1	1	1	2	4	6	2	6	9	7	3	4	2	2	5	10	2	3	2	2	3.4	10.2
11-Jun	2	2	1	1	2	2	2	2	6	9	10	9	10	9	11	7	8	3	2	1	1	1	1	2	4.3	11.5
12-Jun	2	2	2	1	2	2	3	4	5	3	3	3	3	4	6	4	4	5	5	3	4	3	2	1	3.1	5.5
13-Jun	1	1	1	1	1	2	2	2	4	4	3	3	4	4	6	9	4	7	3	3	2	2	3	3	3.1	8.9
14-Jun	1	1	2	1	1	1	4	9	11	11	8	5	8	11	14	13	14	12	13	9	4	1	3	5	6.8	13.7
15-Jun	7	6	7	9	9	12	8	9	8	10	11	13	11	10	10	14	12	13	15	13	15	17	14	15	11.1	16.7
16-Jun	12	10	9	12	10	9	10	13	12	13	11	11	12	12	13	12	12	11	11	10	9	8	7	8	10.7	13.5
17-Jun	8	7	8	8	7	7	6	4	4	5	6	5	3	5	4	2	3	3	3	3	2	1	1	1	4.3	8.5
18-Jun	1	1	1	1	1	1	1	2	4	8	10	9	12	13	15	12	14	13	15	14	13	12	11	12	8.1	14.6
19-Jun	11	7	6	7	6	7	8	5	4	6	7	6	7	7	8	8	7	5	4	5	3	5	3	3	6.0	10.7
20-Jun	4	4	2	3	5	6	5	8	9	11	10	11	11	12	9	8	6	4	5	5	3	1	1	1	6.0	11.7
21-Jun	1	2	1	2	3	3	3	3	9	13	11	11	10	11	9	6	7	5	7	6	3	1	1	1	5.3	13.0
22-Jun	1	1	1	1	1	2	2	2	1	3	4	4	4	5	4	6	5	5	6	6	4	2	3	2	3.1	5.8
23-Jun	2	3	3	2	2	1	3	2	5	7	5	5	4	7	14	12	10	5	3	3	4	4	5	8	5.0	13.5
24-Jun	6	14	11	9	11	12	13	15	13	15	8	5	8	6	6	10	13	13	11	8	6	2	1	1	9.0	15.4
25-Jun	2	5	3	8	7	5	7	9	9	10	10	10	11	10	9	10	9	8	9	8	10	10	7	4	7.8	11.5
26-Jun	4	6	6	7	6	4	6	7	6	6	6	6	7	5	6	3	3	3	2	2	1	1	1	1	4.4	7.3
27-Jun	1	1	1	1	2	1	2	2	2	3	2	4	7	13	10	10	7	3	5	3	2	2	1	1	3.6	12.6
28-Jun	2	2	2	1	1	1	2	2	3	4	3	3	5	8	5	5	3	4	4	2	1	1	2	2	2.8	7.7
29-Jun	2	1	1	1	1	2	1	2	5	6	8	7	5	4	5	5	6	7	5	6	7	6	3	5	4.2	7.9
30-Jun	5	3	3	2	2	3	3	6	13	15	16	17	15	16	13	12	12	11	9	7	10	6	4	2	8.5	17.3
	3.8	3.7	3.4	3.6	3.6	3.8	3.9	4.8	6.2	7.5	7.1	7.4	8.2	8.5	8.0	7.3	6.7	6.6	6.7	6.5	5.0	4.3	3.6	3.6	Diurnal Average	
	21.6	17.2	16.2	18.1	16.5	17.3	13.2	14.9	12.9	15.4	15.8	17.3	15.9	15.9	14.6	13.5	13.8	13.1	14.6	19.1	15.5	16.7	13.7	14.8	Diurnal Maximum	

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

Hourly Standard Deviations

Wind Direction (WD) - deg

Valleyview - June 2011

Maximum Value: 98.4 deg on Jun 7 00:00

Minimum Value: 4.6 deg on Jun 21 05:00

Percentiles: P_1 = 6.7 P_{10} = 9.7 Q_1 = 14.0 Median = 24.0 Q_3 = 44.4 P_{90} = 65.4 P_{99} = 90.4

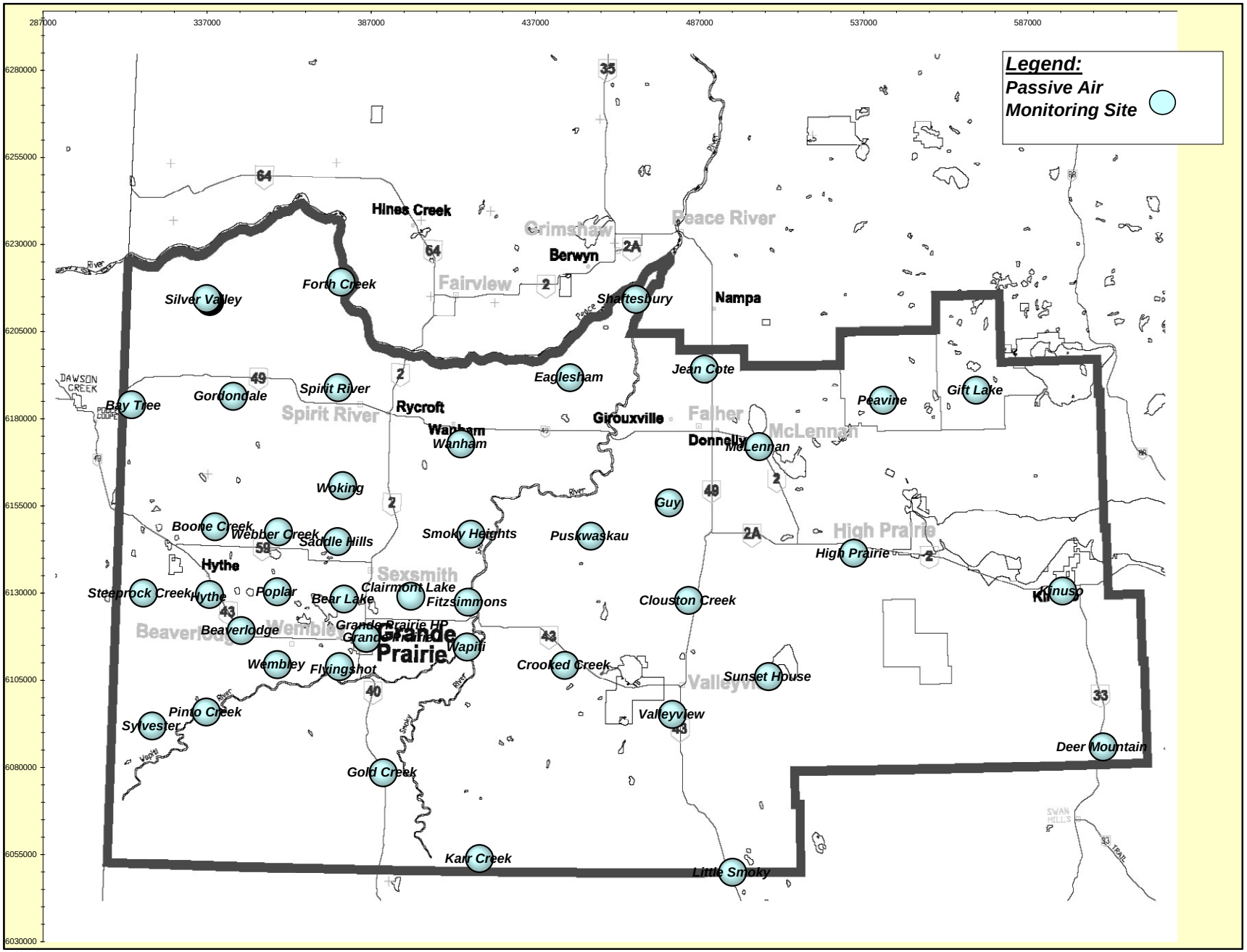
Hours in Service:	720
Hours of Data:	720
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

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	63	46	70	20	26	91	26	18	55	35	32	26	30	50	68	62	61	28	13	15	19	14	12	24	90.5
2-Jun	30	73	50	18	59	11	12	21	41	47	86	55	54	53	53	57	50	34	27	12	15	11	11	19	86.4
3-Jun	9	10	11	16	9	9	8	11	9	12	9	11	14	15	12	12	12	15	21	22	21	19	30	45	45.0
4-Jun	45	35	39	22	22	27	13	19	14	10	16	13	19	23	17	22	30	30	21	13	67	45	32	28	66.9
5-Jun	11	28	77	35	24	10	12	50	15	14	13	23	21	23	20	22	27	30	25	59	56	24	52	60	76.7
6-Jun	43	14	51	60	25	48	63	40	33	46	76	80	20	24	37	51	69	35	14	21	61	19	71	98	98.4
7-Jun	77	24	63	89	88	84	79	29	9	10	10	11	13	16	50	17	49	38	10	9	8	8	8	8	88.6
8-Jun	8	8	12	52	42	28	44	65	47	40	40	76	48	16	17	21	39	21	16	12	9	7	12	34	75.7
9-Jun	41	56	64	64	61	34	19	13	13	16	51	49	44	27	59	28	72	30	50	10	33	24	72	59	72.5
10-Jun	73	53	29	31	15	17	16	57	42	35	78	49	22	52	52	38	73	69	63	69	23	9	25	21	78.4
11-Jun	33	24	41	22	11	11	16	24	36	22	21	25	32	30	29	37	21	42	72	27	81	78	73	30	81.2
12-Jun	72	94	77	72	96	89	89	39	22	43	34	65	89	75	47	66	51	22	10	12	30	66	18	33	95.7
13-Jun	29	58	49	49	68	17	34	48	38	21	35	90	77	53	72	17	42	19	51	53	26	21	30	28	89.8
14-Jun	31	31	24	20	24	16	46	16	16	14	17	29	49	20	19	20	21	17	11	9	29	42	49	28	49.4
15-Jun	12	21	16	13	22	11	22	16	15	11	11	11	11	12	11	14	11	10	9	8	7	9	8	7	21.8
16-Jun	8	7	9	8	9	10	8	10	9	9	9	10	8	10	9	10	9	10	8	7	7	8	8	9	10.3
17-Jun	9	9	8	7	8	9	10	29	43	33	28	43	42	23	62	70	53	48	49	28	36	30	85	71	85.2
18-Jun	72	98	80	77	52	26	62	67	25	14	15	13	8	9	8	10	7	7	6	6	7	8	8	6	97.7
19-Jun	10	10	8	8	9	9	16	18	31	18	29	26	33	34	27	38	32	39	38	41	20	19	27	16	41.2
20-Jun	22	14	21	21	19	16	29	14	12	13	16	19	18	20	19	16	11	16	11	10	14	69	14	21	68.8
21-Jun	18	12	12	26	5	6	10	36	14	15	22	17	21	24	25	59	31	36	28	15	10	89	25	45	88.6
22-Jun	19	10	27	72	63	64	18	20	90	45	44	37	70	55	63	48	29	28	25	24	22	22	22	31	90.5
23-Jun	51	69	59	47	45	40	44	29	15	25	53	66	49	62	60	39	31	57	72	50	19	19	14	11	72.3
24-Jun	26	11	12	15	13	10	13	10	11	10	41	27	33	31	30	25	25	22	18	22	28	27	16	26	41.5
25-Jun	35	33	33	20	25	30	18	14	13	16	17	20	20	14	13	15	14	13	14	13	16	11	19	92	92.0
26-Jun	22	16	18	16	15	38	19	18	19	26	26	32	30	48	40	54	71	43	43	29	42	69	53	77	76.7
27-Jun	53	21	45	18	50	17	14	62	59	58	83	64	24	16	18	13	30	59	71	77	25	10	54	76	82.6
28-Jun	51	11	56	56	43	50	10	17	16	13	15	29	32	28	23	18	30	11	73	83	75	37	22	23	82.8
29-Jun	30	10	12	19	16	19	55	37	17	26	20	20	45	18	13	22	54	29	19	30	23	28	31	17	54.6
30-Jun	14	28	24	28	12	12	33	43	22	11	15	14	15	17	22	21	17	26	14	19	11	26	37	28	42.8
	76.7	97.7	79.9	88.6	95.7	90.5	88.7	66.9	90.5	57.7	86.4	89.8	88.7	75.5	71.5	70.1	73.1	68.6	72.5	82.8	81.2	88.6	85.2	98.4	

PAZA

Monthly Passive Data Summary

Location of PAZA Passive Monitoring Stations



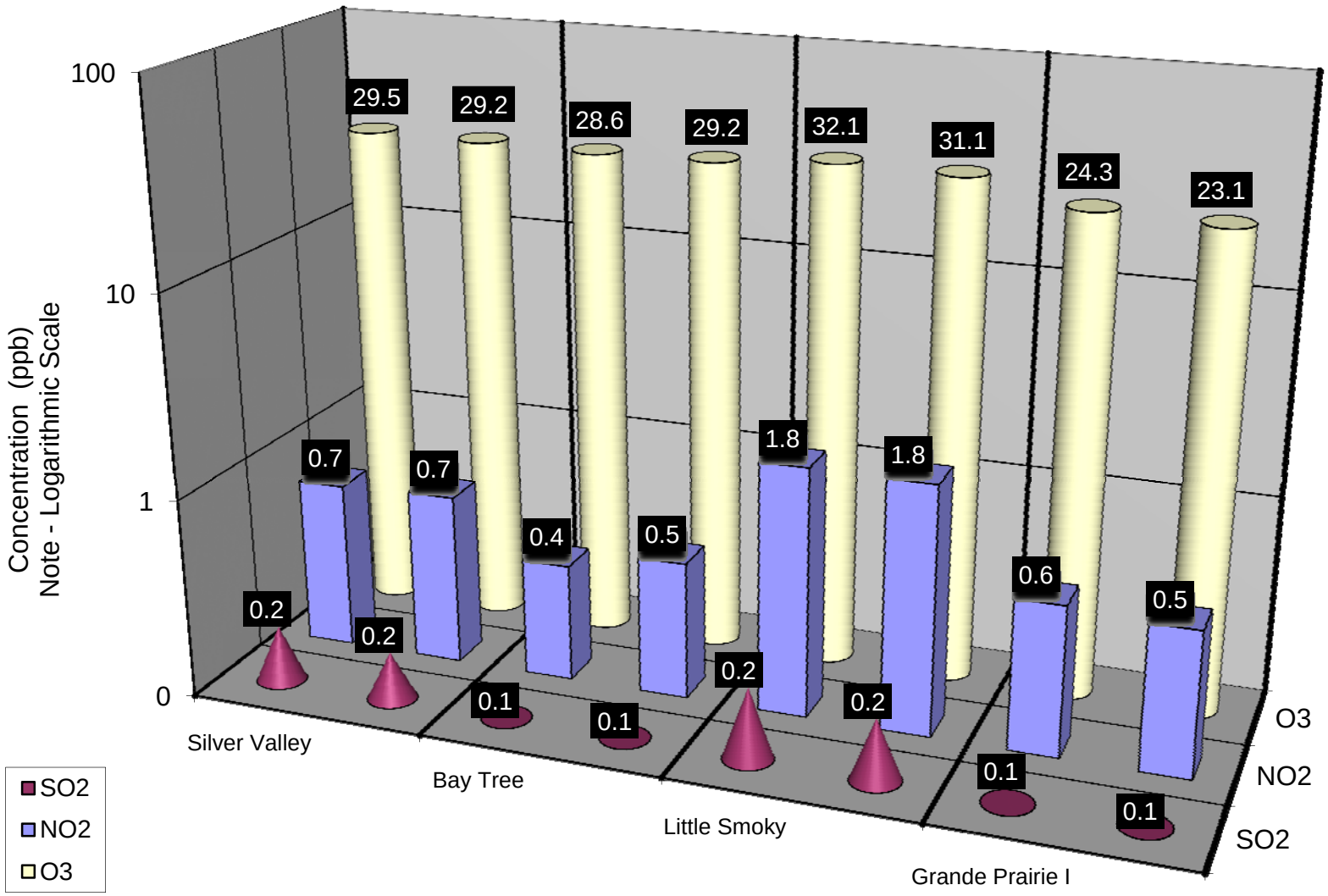
PAZA Passive Results for June 2011

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	Site Legal
Duplicates					
1a	Silver Valley	**0.2**	**29.5**	**0.7**	
1b	Silver Valley	**0.2**	**29.2**	**0.7**	
2a	Bay Tree	**0.1**	**28.6**	**0.4**	
2b	Bay Tree	**0.1**	**29.2**	**0.5**	
27a	Little Smoky	**0.2**	**32.1**	**1.8**	
27b	Little Smoky	**0.2**	**31.1**	**1.8**	
46a	Grande Prairie I	**0.1**	**24.3**	**0.6**	
46b	Grande Prairie I	**0.1**	**23.1**	**0.5**	
1	Silver Valley	**0.2**	**29.4**	**0.7**	08-27-081-11 W6M
2	Bay Tree	**0.1**	**28.9**	**0.4**	13-16-078-13 W6M
3	Fourth Creek	**N/A**	**N/A**	**N/A**	04-13-082-07 W6M
4	Gordondale	**0.2**	**34.4**	**0.5**	04-34-078-10 W6M
5	Boone Creek	**0.1**	**25.4**	**0.4**	16-36-074-11 W6M
7	Steeprock Creek	**0.2**	**31.9**	**0.3**	09-35-072-13 W6M
9	Spirit River	**0.1**	**33.0**	**1.6**	08-12-079-07 W6M
10	Woking	**0.3**	**31.1**	**0.5**	01-13-076-07 W6M
11	Webber Creek	**0.2**	**29.5**	**1.1**	09-36-074-09 W6M
12	Hythe	**0.1**	**28.1**	**0.8**	14-36-072-11 W6M
14	Sylvester	**0.0**	**29.5**	**0.6**	08-06-069-12 W6M
16	Beaverlodge	**0.2**	**39.5**	**0.7**	15-36-071-10 W6M
17	Poplar	**0.3**	**28.8**	**1.5**	13-06-073-08 W6M
18	Saddle Hills	**0.2**	**31.9**	**0.5**	04-25-074-07 W6M
19	Wanham	**0.1**	**33.2**	**0.6**	16-22-077-03 W6M
20	Shaftesbury	**0.1**	**32.4**	**0.8**	04-03-082-23 W5M
21	Eaglesham	**0.1**	**28.1**	**1.5**	16-21-079-25 W5M
23	Bear Lake	**0.2**	**30.6**	**1.4**	15-31-072-06 W6M

PAZA Passive Results for June 2011 (Continued)

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	Site Legal
24	Wembley	**0.2**	**33.0**	**1.1**	12-31-070-08 W6M
25	Pinto Creek	**0.1**	**29.3**	**0.7**	04-24-069-11 W6M
26	Flyingshot	**0.2**	**27.2**	**0.6**	15-36-070-07 W6M
27	Grande Prairie I	**0.2**	**31.6**	**1.8**	08-15-071-06 W6M
28	Clairmont Lake	**0.2**	**32.7**	**0.7**	09-06-073-04 W6M
29	Smoky Heights	**0.2**	**36.7**	**0.7**	04-06-075-02 W6M
30	Fitzsimmons	**0.1**	**25.1**	**0.6**	15-36-072-03 W6M
32	Gold Creek	**0.2**	**23.8**	**0.5**	06-33-067-05 W6M
33	Wapiti	**0.1**	**31.4**	**0.5**	02-25-071-03 W6M
34	Puskwaskau	**0.2**	**24.8**	**0.3**	15-35-074-25 W5M
35	Jean Cote	**0.2**	**31.2**	**2.2**	12-35-079-21 W5M
36	Guy	**0.1**	**31.0**	**2.2**	03-04-076-22 W5M
37	Crooked Creek	**0.1**	**31.1**	**0.4**	16-01-071-26 W5M
38	Karr Creek	**0.0**	**24.6**	**0.3**	10-16-065-02 W6M
39	Clouston Creek	**0.1**	**27.9**	**0.5**	12-01-073-22 W5M
40	McLennan	**0.1**	**28.5**	**1.9**	03-29-077-19 W5M
41	Valleyview	**0.1**	**32.7**	**0.4**	09-30-069-22 W5M
42	Sunset House	**0.1**	**33.1**	**0.3**	05-32-070-19 W5M
43	High Prairie	**0.1**	**30.0**	**1.5**	16-13-074-17 W5M
44	Peavine	**0.1**	**31.6**	**0.1**	03-05-079-15 W5M
45	Gift Lake	**0.0**	**23.6**	**0.3**	10-07-079-12 W5M
46	Little Smoky	**0.1**	**23.7**	**0.6**	12-01-065-21 W5M
47	Kinuso	**0.0**	**22.8**	**0.3**	12-10-073-10 W5M
48	Deer Mountain	**0.1**	**23.7**	**0.5**	15-22-068-09 W5M
49	Grande Prairie HP	**0.2**	**36.0**	**1.8**	17-26-071-06 W6M

*BDL = Below Detection Level



Duplicate Summary Chart

Passive Summary for June 2011

Stats	Sulphur Dioxide SO_2	Ozone O_3	Nitrogen Dioxide NO_2
	ppb	ppb	ppb

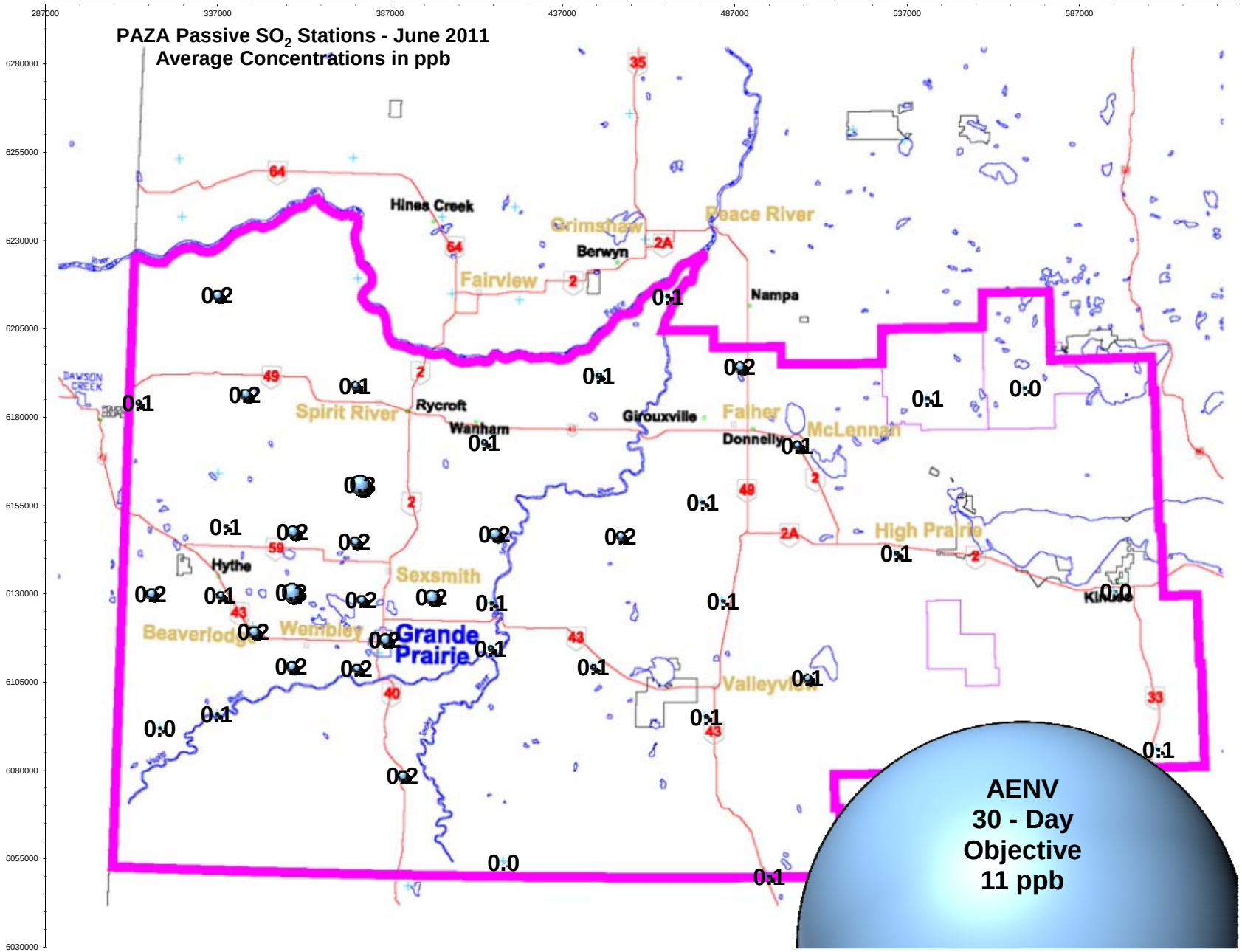
	Passive Summary for June 2011 (PAZA Zone)		
Mean	**0.1**	**29.8**	**0.8**
Standard Deviation	**0.1**	**3.8**	**0.6**
Minimum	**0.0**	**22.8**	**0.1**
Minimum At	**Karr Creek (#38)**	**Kinuso (#47)**	**Peavine (#44)**
Maximum	**0.3**	**39.5**	**2.2**
Maximum At	**Woking (#10)**	**Beaverlodge (#16)**	**Guy (#36)**

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

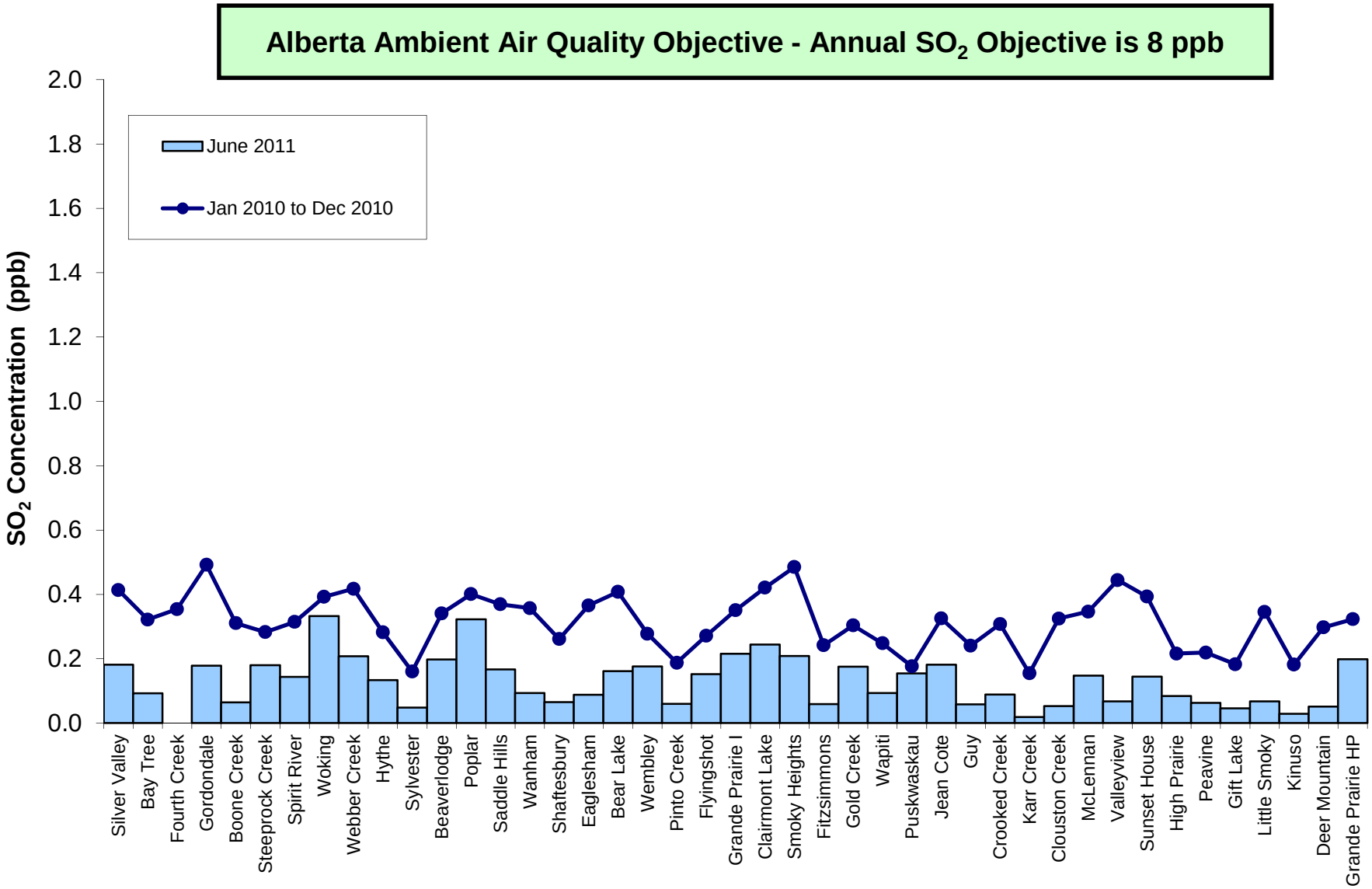
	SO_2	O_3	NO_2
PAZA Beaverlodge station	**0.3**	**30.8**	**1.5**
PAZA Beaverlodge passive	**0.2**	**39.5**	**0.7**

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

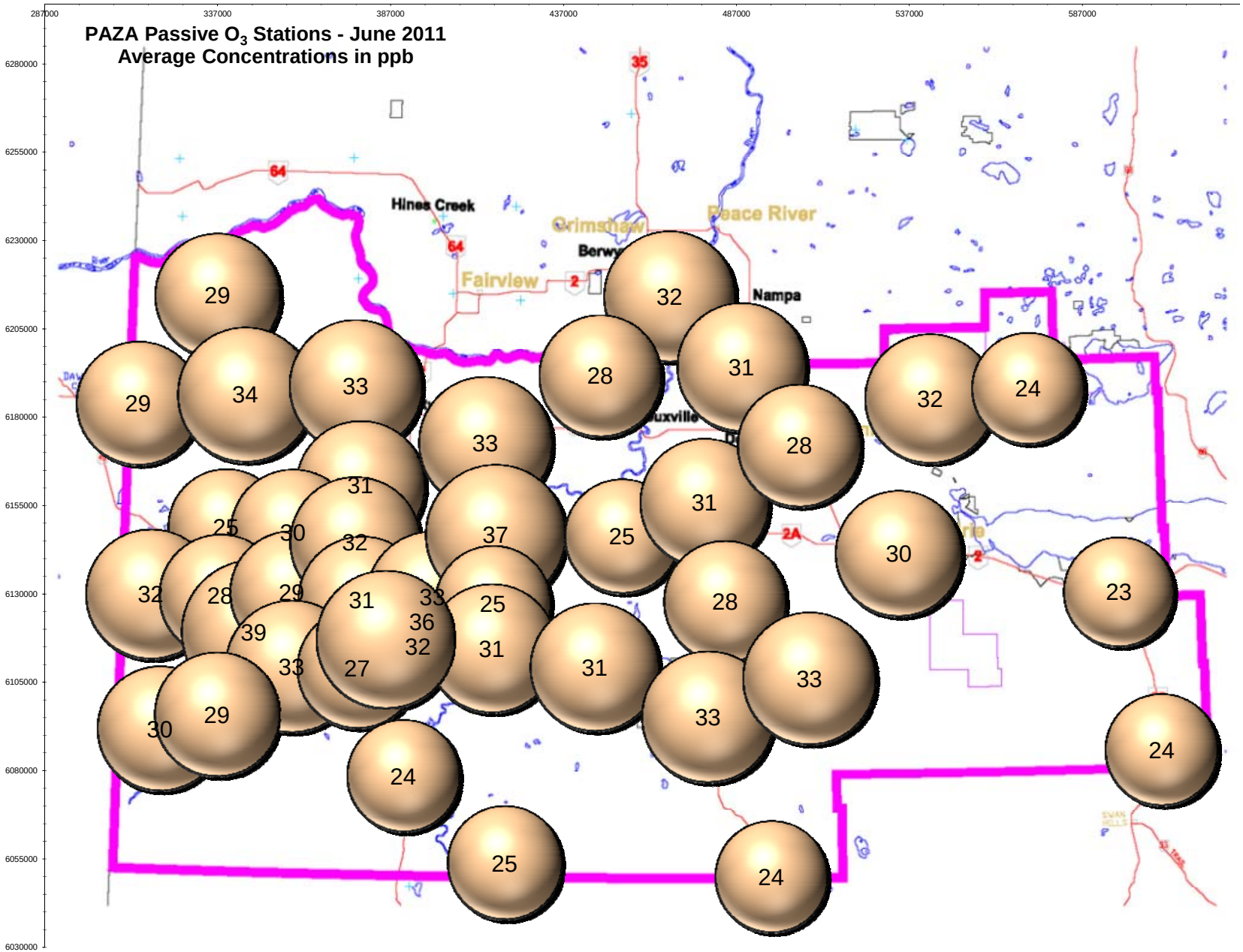
	SO_2	O_3	NO_2
PAZA Henry Pirker station	**0.2**	**28.6**	**4.3**
PAZA Grande Prairie passive	**0.2**	**36.0**	**1.8**



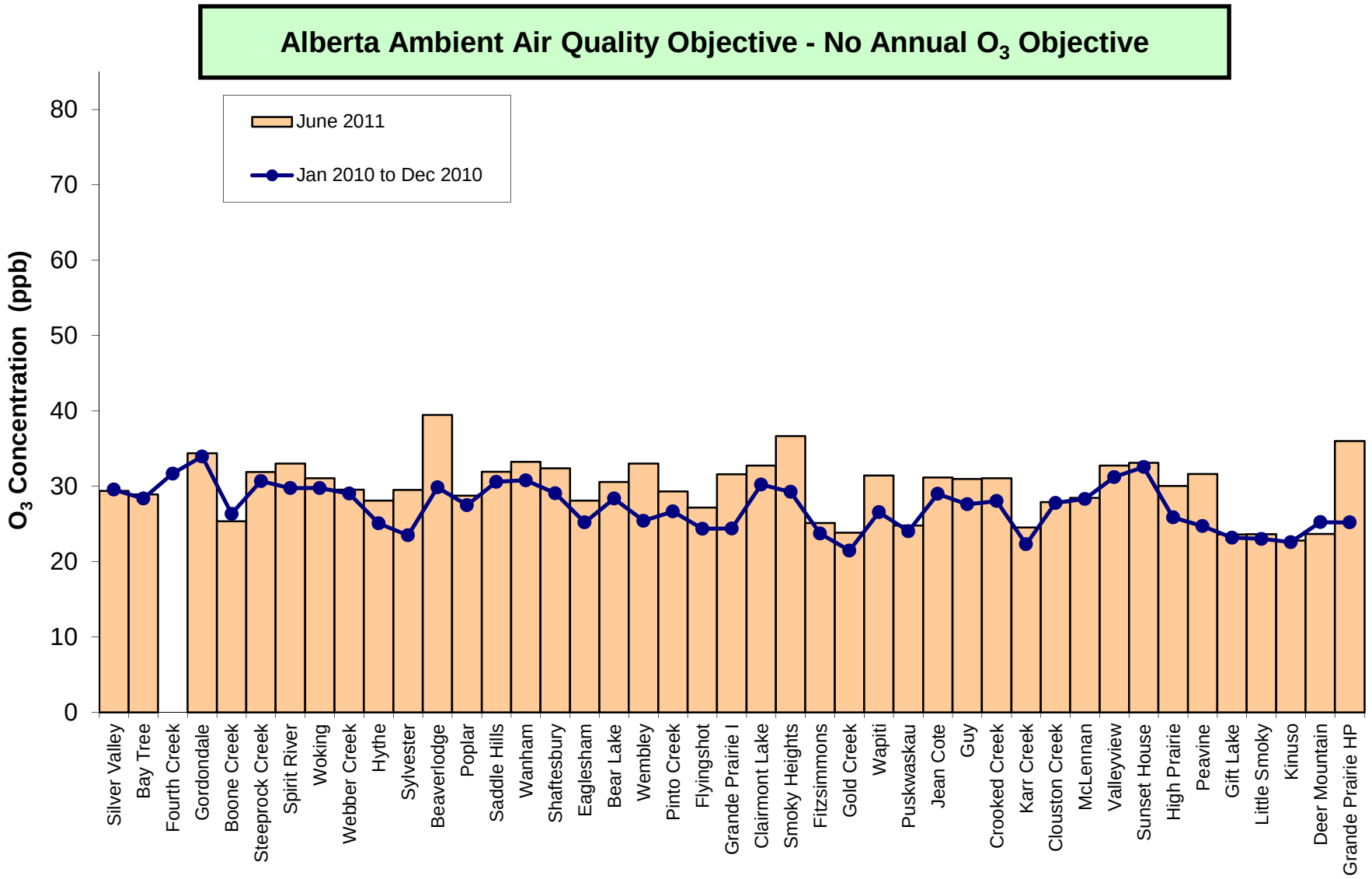
SO_2 Bubble Chart



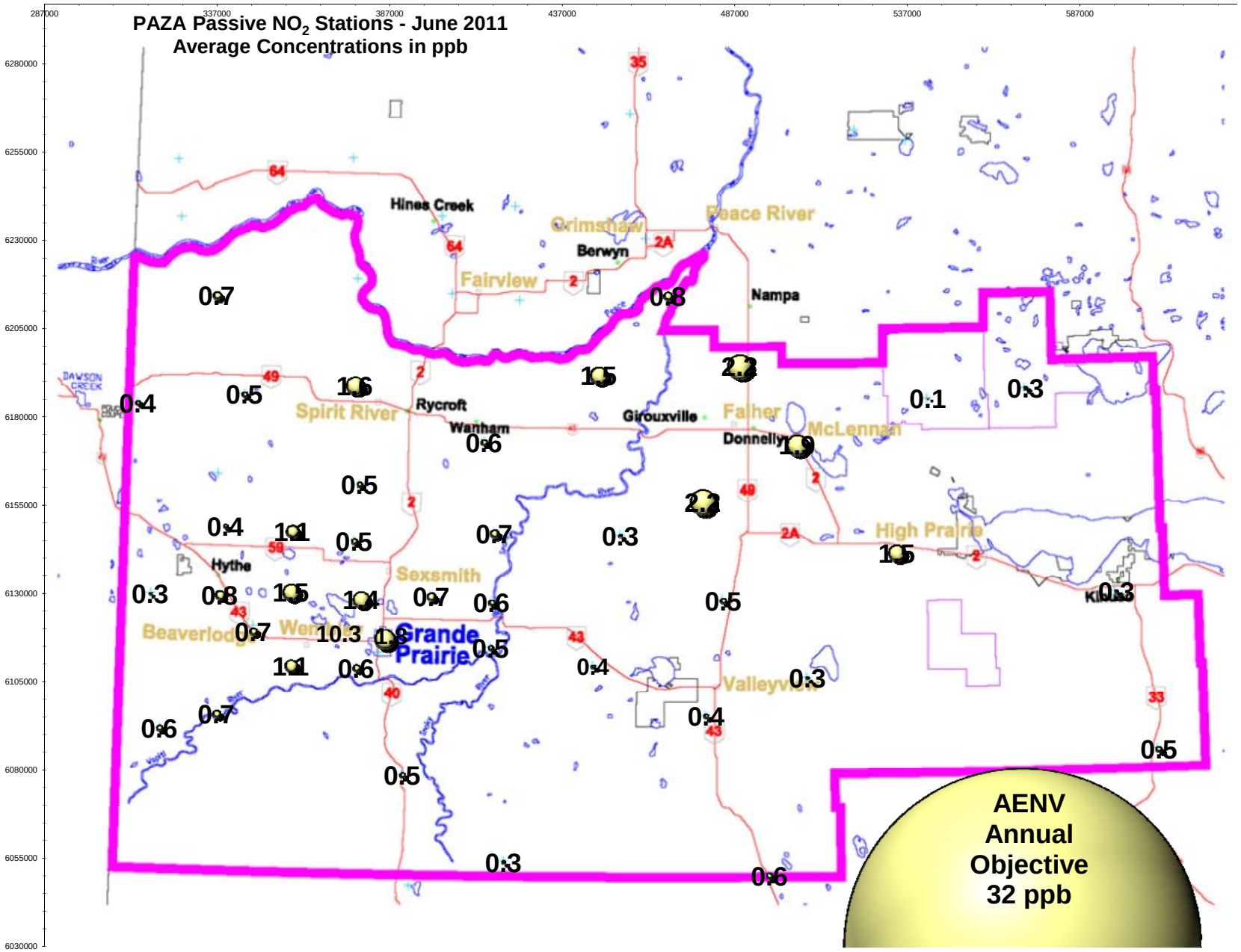
SO_2 Summary Chart



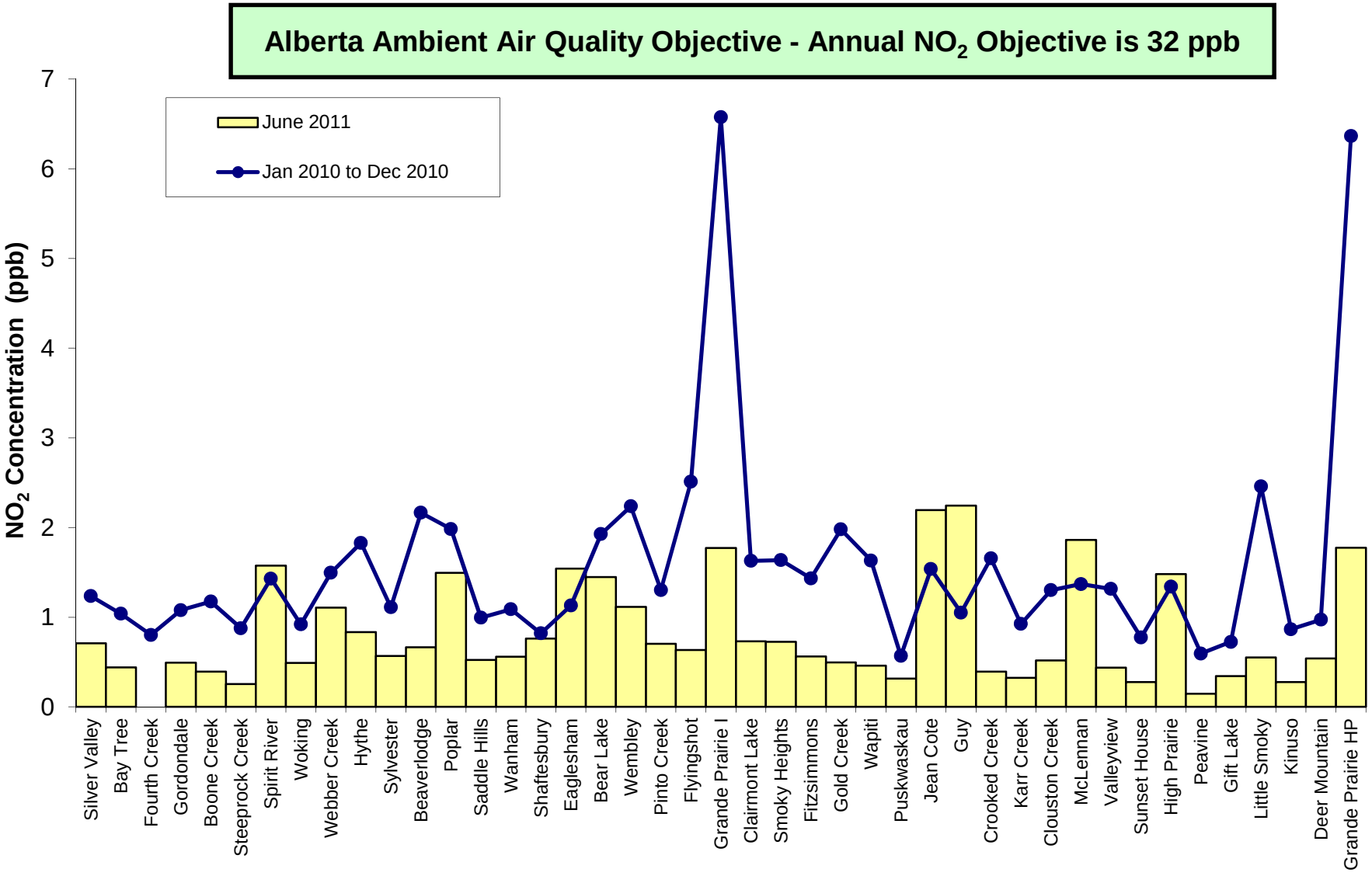
O_3 Bubble Chart



O_3 Summary Chart



NO_2 Bubble Chart



NO_2 Summary Chart

PAZA

ALBERTA ENVIRONMENT
INCIDENCE REPORTS

June 2011

Air Monitoring Directive Non-Compliance Report

Alberta Environment
Environmental Service Response Centre
111 Twin Atria Building
4999 – 98th Avenue
Edmonton, Alberta T6B 2X3
Phone: (780) 422-4505
Fax: (780) 427-1044

Reference Number:	249976	**Reported To (AENV Contact):**	Steven
Date & Time Incident Reported to AENV:	July 25, 2011 15:10	**Reported By:**	Sharon Whiteley
Reported on Behalf of:	PAZA (Peace Airshed Zone Association)	**Approval Number (if applicable):**	n/a
Location(s) of Incident:	Beaverlodge Station		
Start Date & Time of Incident:	June 1, 2011	**End Date & Time of Incident:**	June 30, 2011

Details of Non-Compliance:

Both the external temperature sensor and the relative humidity sensor at the Beaverlodge station located 2 km East from the town of Beaverlodge (near Agricultural research center), were at non-conformance level (operational time less than 90%). During the QAQC process of the data it was determined that many hours were to be flagged invalid due to unusual spiking - probable cause is power (signal interference).

Immediate Actions Taken:

Follow-up Details:

Actions Taken to Prevent Reoccurrence (if any):

Not applicable.

Additional Actions Required (if any):

Not applicable.

Report Completed By:	Sharon Whiteley	Date Report Submitted:	July 25, 2011
7-Day Letter Due Date:	July 31st, 2011		

June 2011 Calibration Reports

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

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

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

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

PAZA – Kinuso (Portable) Station with the following calibrations:
SO_2, TRS, NO, NO_2, NO_x & O_3,

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

Calibration Report

Parameter **SO2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 11, 2011	Previous Calibration	May 19, 2011
Station Number	1	Station Location	Henry Pirker

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

Start Time (MST)	9:05	End Time (MST)	11:50
Barometric Pressure	0.922 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Conc	50.6 ppb	Cal Gas Cert Date	4/6/2012
		Cal Gas Cylinder #	LL34002
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	10
	Before		After
Calculated slope	0.994761	Calculated slope	0.995098
Calculated intercept	1.222116	Calculated intercept	0.306029

Analyzer make	TEI 43C	Analyzer serial #	610816292

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	8.6		9.0	
Coefficient	.800		.787	
Pressure	642.0	mm Hg	641.8	mm Hg
Flow	0.475	lpm	0.475	lpm
Lamp Voltage	44033	Hz	43987	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	0.5	N/A
4989	39.83	400.8	403.2	0.9940
4989	19.90	201.0	200.2	1.0040
4989	9.93	100.5	100.7	0.9984
4989	0.00	0.0	0.5	As Found Zero
4989	39.83	400.8	404.3	As Found Span
			Average Correction Factor	0.9988

Calculated value of As Found Response: 403.0 ppb Percent Change of As Found: -0.5%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.1	ppb
Auto span	241.8	ppb	235.4	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

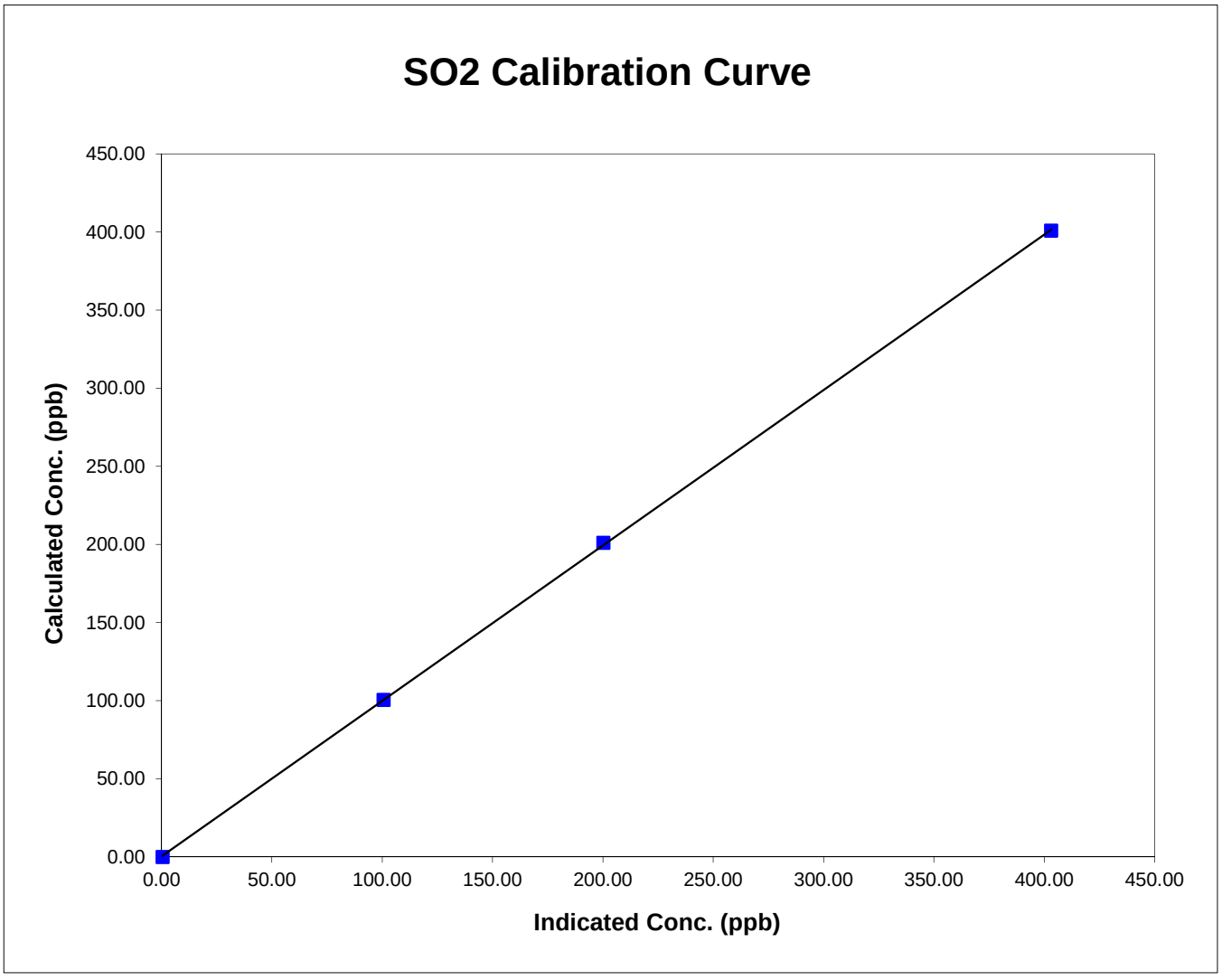
FOCUS AIR QUALITY MONITORING

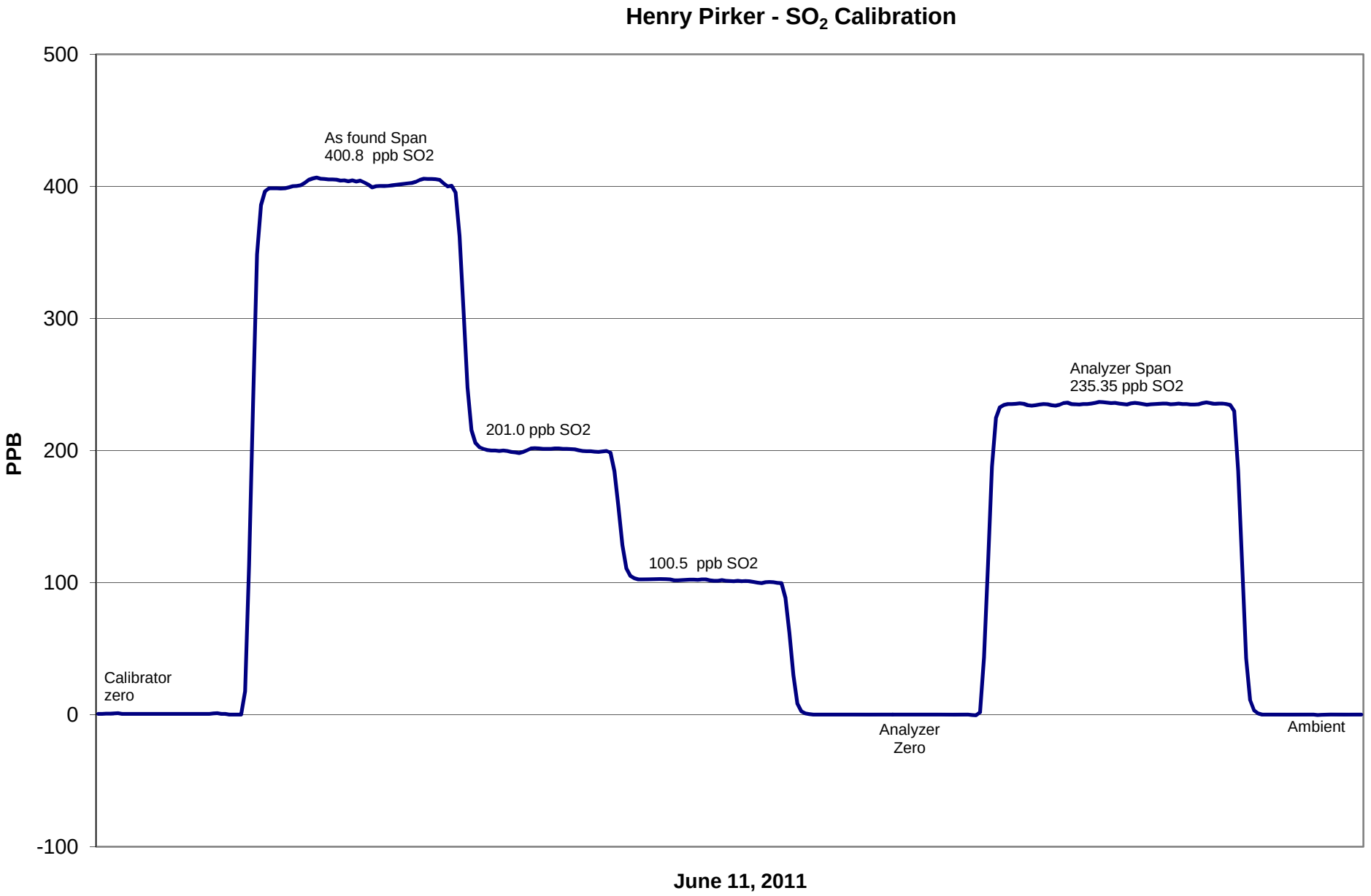
Station Information

Calibration Date	June 11, 2011	Previous Calibration	May 19, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:05	End Time (MST)	11:50
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	0.5	N/A		
400.8	403.2	0.9940	Correlation Coefficient	0.999962
201.0	200.2	1.0040		
100.5	100.7	0.9984	Slope	0.995098
			Intercept	0.306029




Henry Pirker - SO2 Calibration
500
400
300
200
100
0
-100
PPB
As found Span
400.8 ppb SO2
201.0 ppb SO2
100.5 ppb SO2
Analyzer Span
235.35 ppb SO2
Calibrator
zero
Analyzer
Zero
Ambient
June 11, 2011

Calibration Report

Parameter **TRS**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 10, 2011	Previous Calibration	May 18, 2011
Station Number	1	Station Location	Henry Pirker

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

Start Time (MST)	11:20	End Time (MST)	15:00
Barometric Pressure	0.921 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Conc	5.77 ppb	Cal Gas Expiry Date	9/3/2011
		Cal Gas Cylinder #	BLM001434
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	1.002645	Calculated slope	0.995804
Calculated intercept	-0.054387	Calculated intercept	0.022412

Analyzer make	TEI 45C		Analyzer serial #	630718528
	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Coefficient	1.054		1.081	
Background	10.7		10.9	
Pressure	660.9	mm Hg	664.4	mm Hg
Flow	0.458	ccm	0.46	ccm
Lamp Voltage	822	V	822	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	0.10	N/A
4989	69.77	79.58	80.04	0.9942
4989	34.88	40.06	39.90	1.0040
4989	8.96	10.34	10.40	0.9942
4989	0.00	0.00	0.01	As Found Zero
4989	69.77	79.58	77.73	As Found Span
			Average Correction Factor	0.9975

Calculated value of As Found Response: 77.9 ppb Percent Change of As Found: 2.1%

	before calibration		after calibration	
Auto zero	-0.29	ppb	0.00	ppb
Auto span	33.60	ppb	33.36	ppb

Notes: Slow response using THC zero air supply for calibration.
Switch to regular calibrator zero air supply & re submit 80%.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **TRS**

Air Monitoring Network **PAZA**

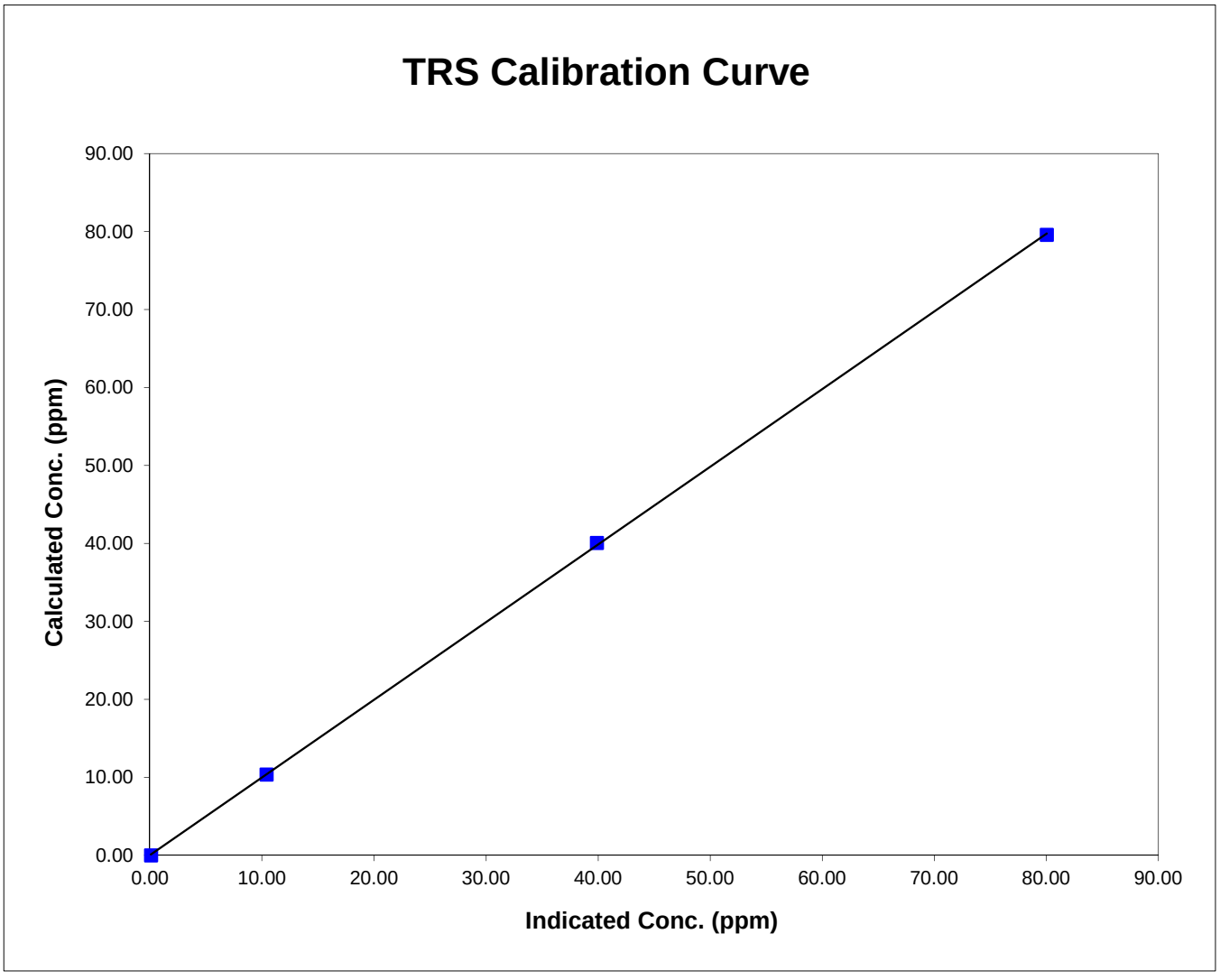
FOCUS AIR QUALITY MONITORING

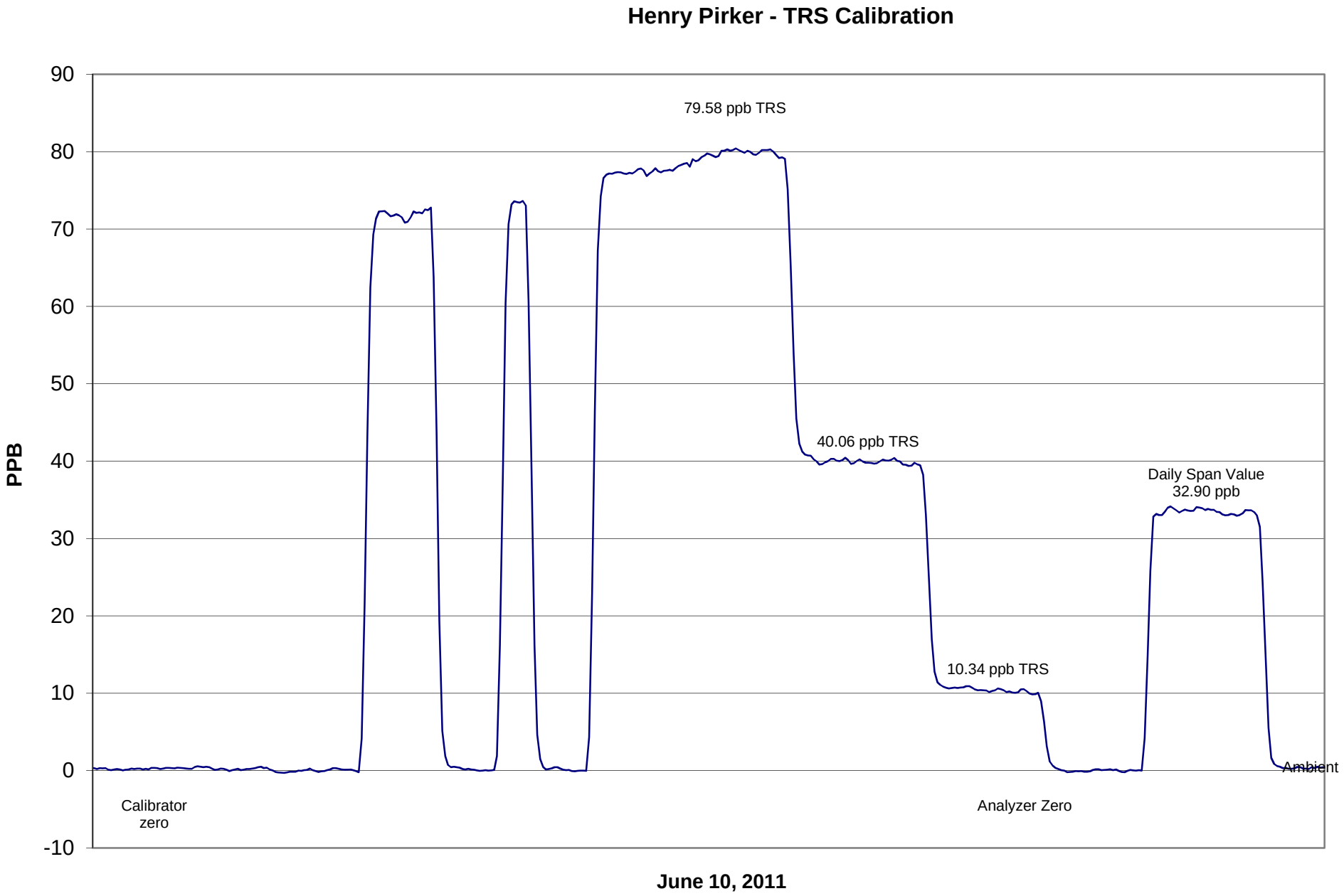
Station Information

Calibration Date	June 10, 2011	Previous Calibration	May 18, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:20	End Time (MST)	15:00
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	0.098	N/A		
79.579	80.040	0.9942	Correlation Coefficient	0.999966
40.060	39.899	1.0040		
10.344	10.404	0.9942	Slope	0.995804
			Intercept	0.022412




Henry Pirker - TRS Calibration
90
80
70
60
50
40
30
20
10
0
-10
PPB
79.58 ppb TRS
40.06 ppb TRS
Daily Span Value
32.90 ppb
10.34 ppb TRS
Ambient
Calibrator
zero
Analyzer Zero
June 10, 2011

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 11, 2011	Previous Calibration	May 19, 2011
Station Number	1	Station Location	Henry Pirker

Reason: Routine | Installation | Removal | Other:

Start Time (MST)	9:08		End Time (MST)	13:45	
Barometric Pressure	0.922	Atm	Station Temperature	20.0	Deg C
Calibrator	Environics		Serial Number	3474	
NO Cal Gas Conc	51.4	ppm	Cal Gas Expiry Date	April 6, 2012	
NOx Cal Gas Conc	51.4	ppm	Cal Gas Serial #	LL34002	

DACS Information

DACS make	CR3000	DACS serial No.	5408

Parameter		NO2	NOx	NO
Before	Data Slope	1.001883	1.004320	1.002970
	Data Offset	0.119096	-2.501050	-2.477180
After	Data Slope	1.001981	1.001760	1.000043
	Data Offset	-0.022708	-2.203828	-1.999568
Channel #		8	6	7
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 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	10.1	mV	10.1	mV
NO coefficient	0.739		0.736	
NOx coefficient	0.998		0.999	
NO2 conv temp	318.0	Deg C	318.0	Deg C
PMT Temp	-2.5	Deg C	-2.5	Deg C
PMT Volt	-786.0	mV	-786.0	mV
R Cell Press	172.1	in Hg	173.2	in Hg
Sample Flow	0.760	ccm	0.763	ccm

Notes: AIC actuated following last cal point. Re stabilize in zero & run internal span.

Calibration Report

Parameter **NOx-NO-NO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: June 11, 2011 Station Location: Henry Pirker

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4989	0.00	0.0	0.0	0.0	0.1	0.0	0.0	N/A	N/A
1	4989	39.83	407.1	407.1	0.0	407.6	408.2	-0.6	0.9988	0.9974
2	4989	19.90	204.2	204.2	0.0	206.8	206.8	-0.3	0.9874	0.9874
3	4989	9.93	102.1	102.1	0.0	106.5	106.4	0.0	0.9590	0.9595
AFZ	4989	0.00	0.0	0.0	0.0	0.1	0.0	0.0	0.0000	0.0000
AFS	4989	39.83	407.1	407.1	0.0	407.6	408.2	-0.6	0.9988	0.9974
							Average Correction Factor		0.9818	0.9814

As Found Concentrations: NO_X= 405.0 NO= 405.7 As Found Percent Change NO_X= -0.5% NO= -0.3%

GPT Calibration Data

Dilution Flow 4989 ccm Source Gas Flow 39.85 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	0.0	0.0	0.0	0.1	0.0	0.0	N/A	N/A	N/A	N/A
NO point	407.0	407.0	0.0	406.3	407.0	-0.7	1.0017	1.0000	N/A	N/A
300	407.0	183.7	223.3	406.5	183.7	222.9	1.0013	1.0000	1.0018	99.8%
200	407.0	257.0	150.0	406.6	257.0	149.8	1.0010	1.0000	1.0019	99.8%
100	407.0	326.3	80.7	406.8	326.3	80.5	1.0004	1.0000	1.0021	99.8%
					Average Correction Factor		1.0009	1.0000	1.0019	99.8%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.1	0.0	0.0	ppb	0.6	0.1	0.5	ppb
Auto span	168.4	169.5	1.2	ppb	165.8	164.7	1.1	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

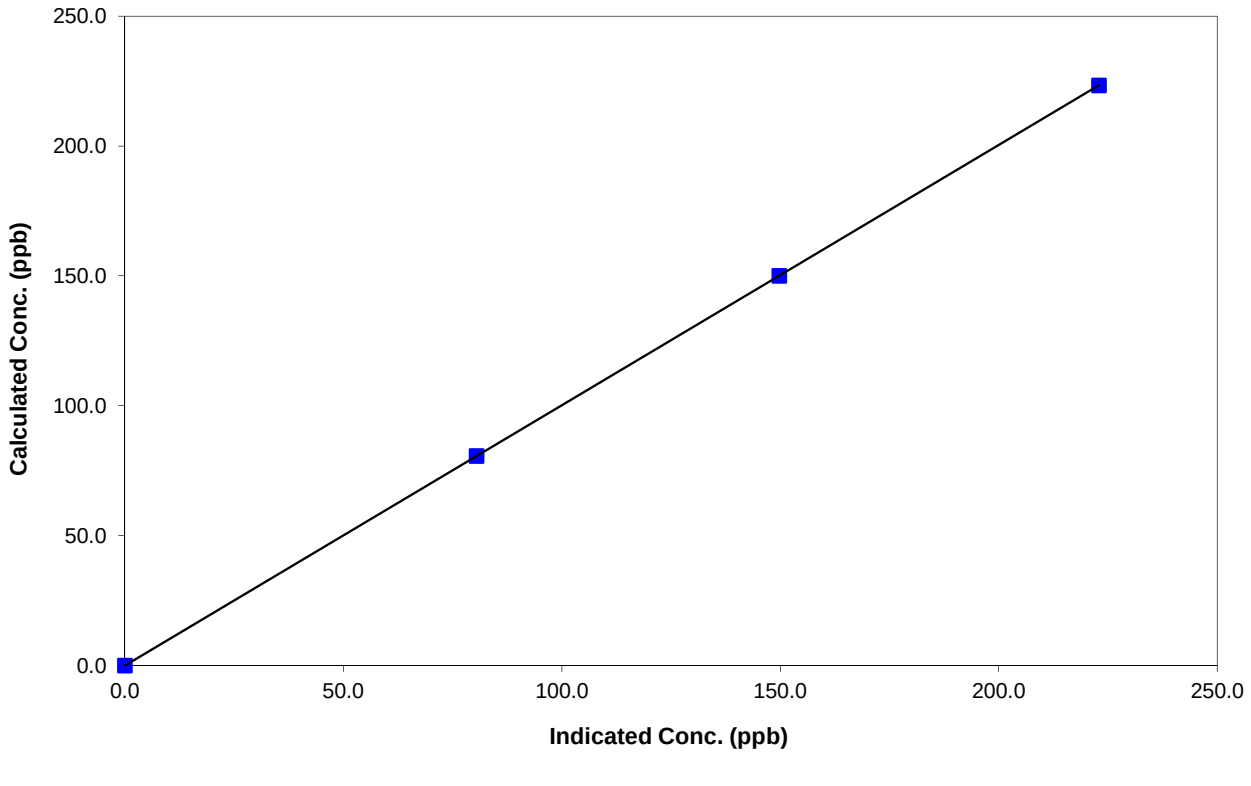
Station Information

Calibration Date	June 11, 2011	Previous Calibration	May 19, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:08	End Time (MST)	13:45
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		
223.3	222.9	1.0018	Correlation Coefficient	1.000000
150.0	149.8	1.0019		
80.7	80.5	1.0021	Slope	1.001981
			Intercept	-0.022708

NO_2 Calibration Curve



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

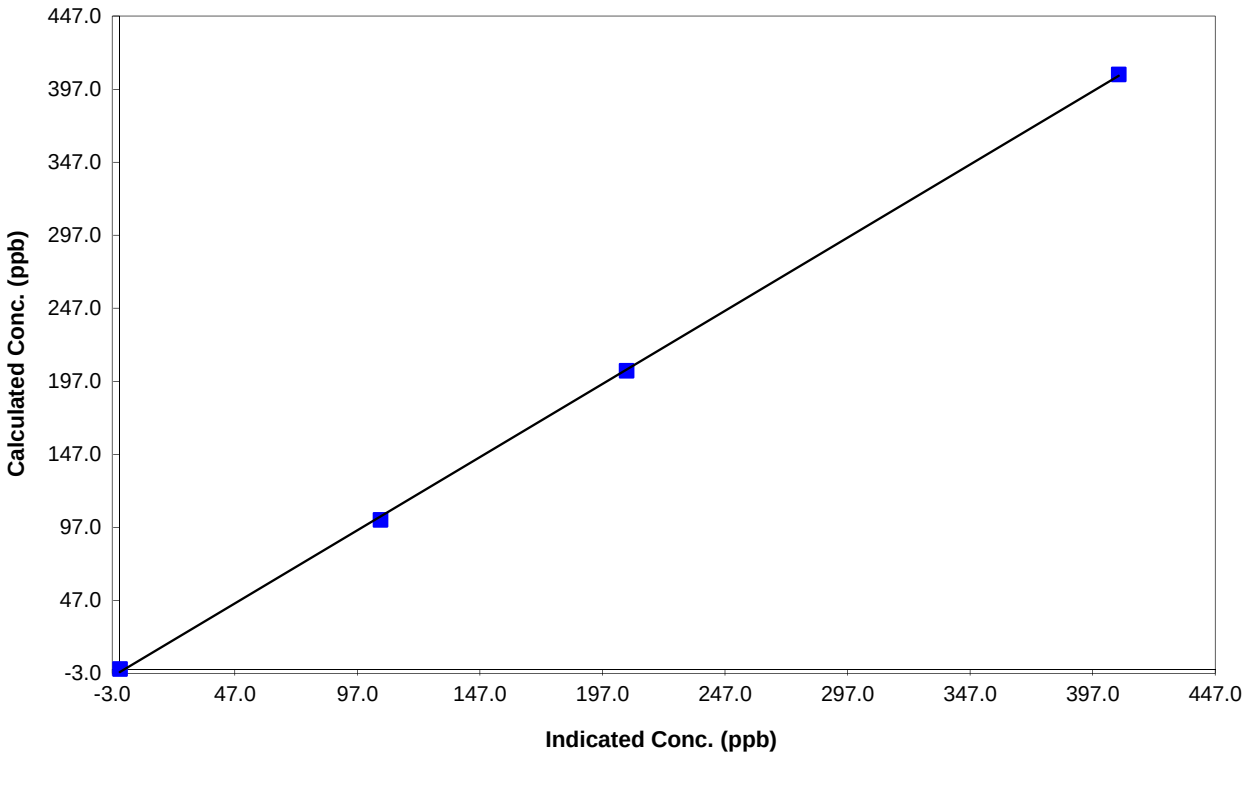
Station Information

Calibration Date	June 11, 2011	Previous Calibration	May 19, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:08	End Time (MST)	13:45
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		
407.1	407.6	0.9988	Correlation Coefficient	0.999873
204.2	206.8	0.9874		
102.1	106.5	0.9590	Slope	1.001760
			Intercept	-2.203828

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

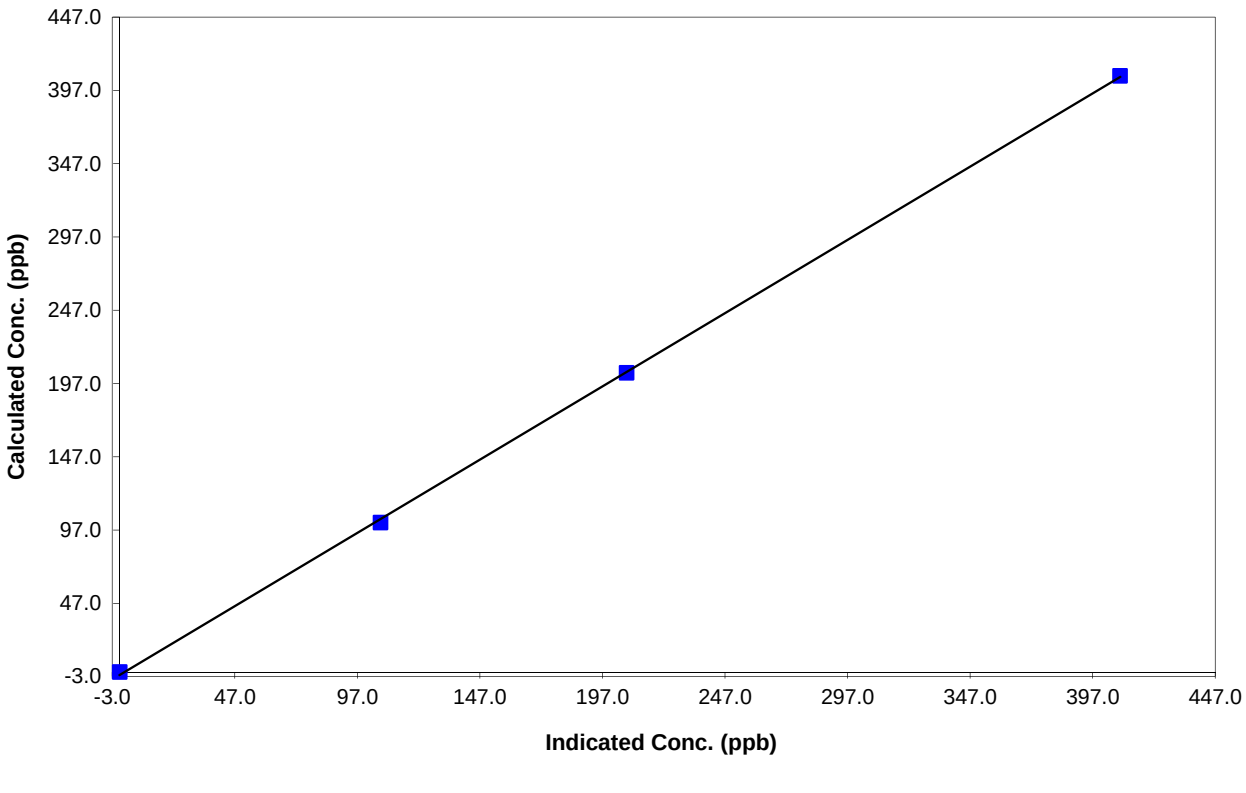
Station Information

Calibration Date	June 11, 2011	Previous Calibration	May 19, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:08	End Time (MST)	13:45
Analyzer make	TEI 42C	Analyzer serial #	508011073

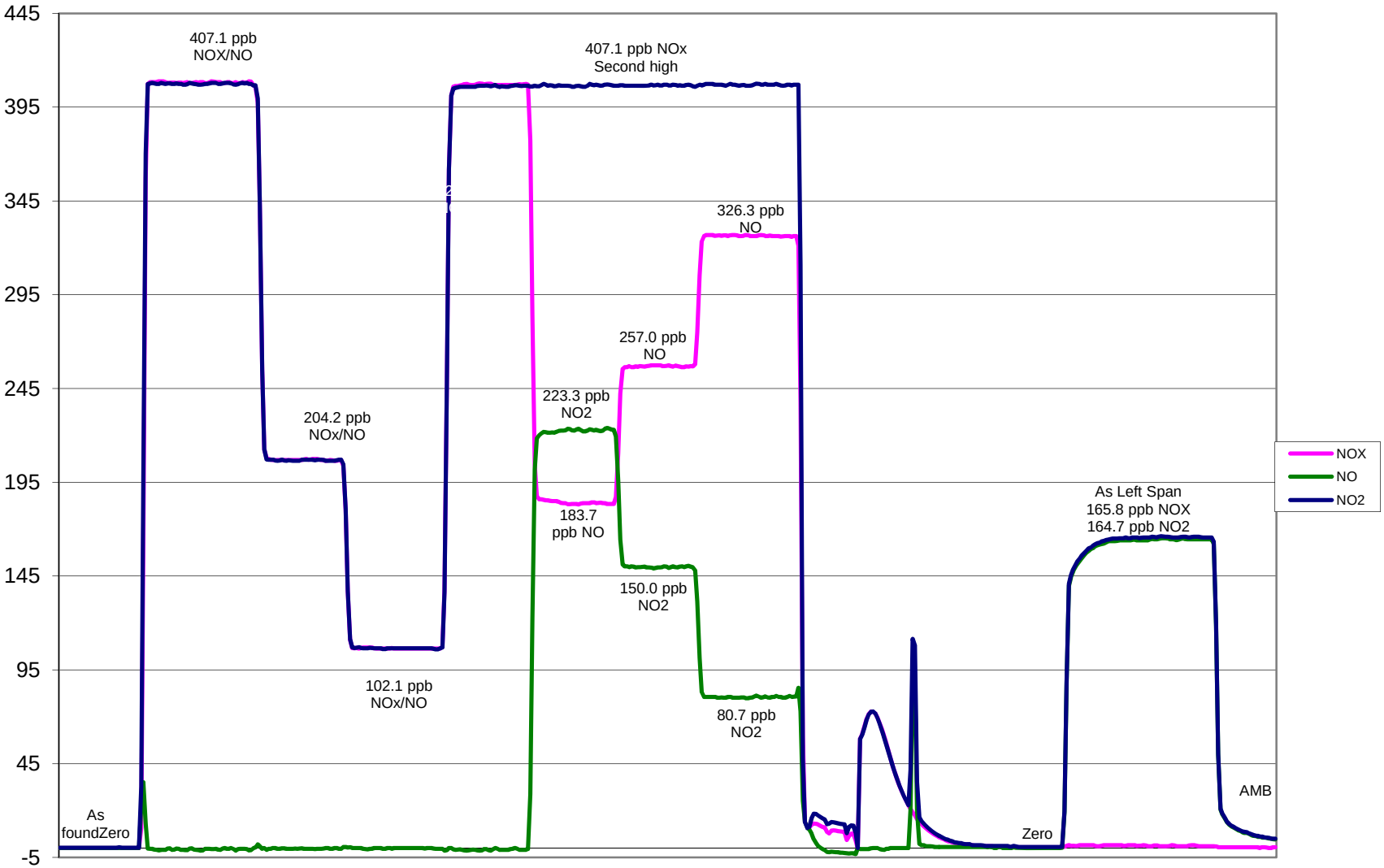
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
407.1	408.2	0.9974	Correlation Coefficient	0.999883
204.2	206.8	0.9874		
102.1	106.4	0.9595	Slope	1.000043
			Intercept	-1.999568

NO Calibration Curve



Henry Pirker - NO_X Calibration



June 11, 2011

Calibration Report

Parameter **O3**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 11, 2011	Previous Calibration	May 19, 2011
Station Number	1	Station Location	Henry Pirker
Reason:	Routine ☒	Install ☐	Removal ☐	Other: ☐
Start Time (MST)	11:11	End Time (MST)	14:05
Barometric Pressure	0.922 atm	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	5
	Before		After
Calculated slope	1.007170	Calculated slope	1.002846
Calculated intercept	-0.547157	Calculated intercept	-0.402501
Analyzer make	TECO 49C	Analyzer serial #	607415761

	before		after	
Concentration range	500	ppb	500	ppb
offset	-0.6	ppb	-0.6	ppb
slope	1.011		1.011	
O3 Lamp temp	71.1	Deg C	71.1	Deg C
Intensities	83702/73235	mV	83134/73092	mV
Pressure	697.8	inches Hg	693.9	inches Hg
Flow A	0.726	ccm	0.723	ccm
Flow B	0.742	ccm	0.739	ccm

Calibration Data

Referenced concentration (ppb)	Dilution air flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
0	4989	0.0	0.4	N/A
300	4989	223.3	223.0	1.0012
200	4989	150.0	150.0	0.9999
100	4989	80.7	80.9	0.9975
0	4989	0.0	0.2	As found zero
300	4989	223.3	223.0	As found span
			Average Correction Factor	0.9996

Calculated value of As Found Response: 223.8 ppm Percent Change of As Found: 0.2%

	before calibration		after calibration	
Auto zero	0.3	ppb	0.3	ppb
Auto span	163.8	ppb	162.6	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **O3**

Air Monitoring Network **PAZA**

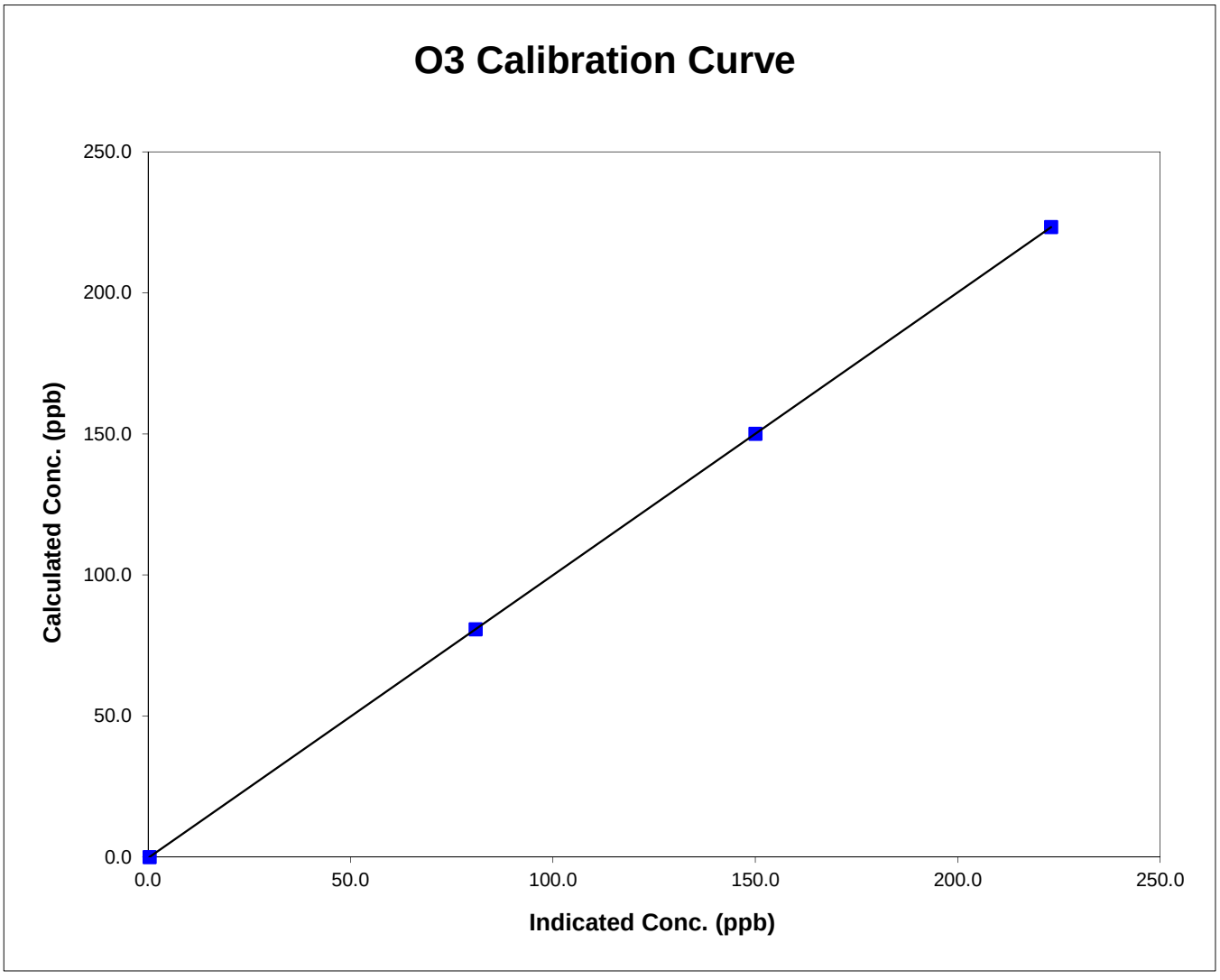
FOCUS AIR QUALITY MONITORING

Station Information

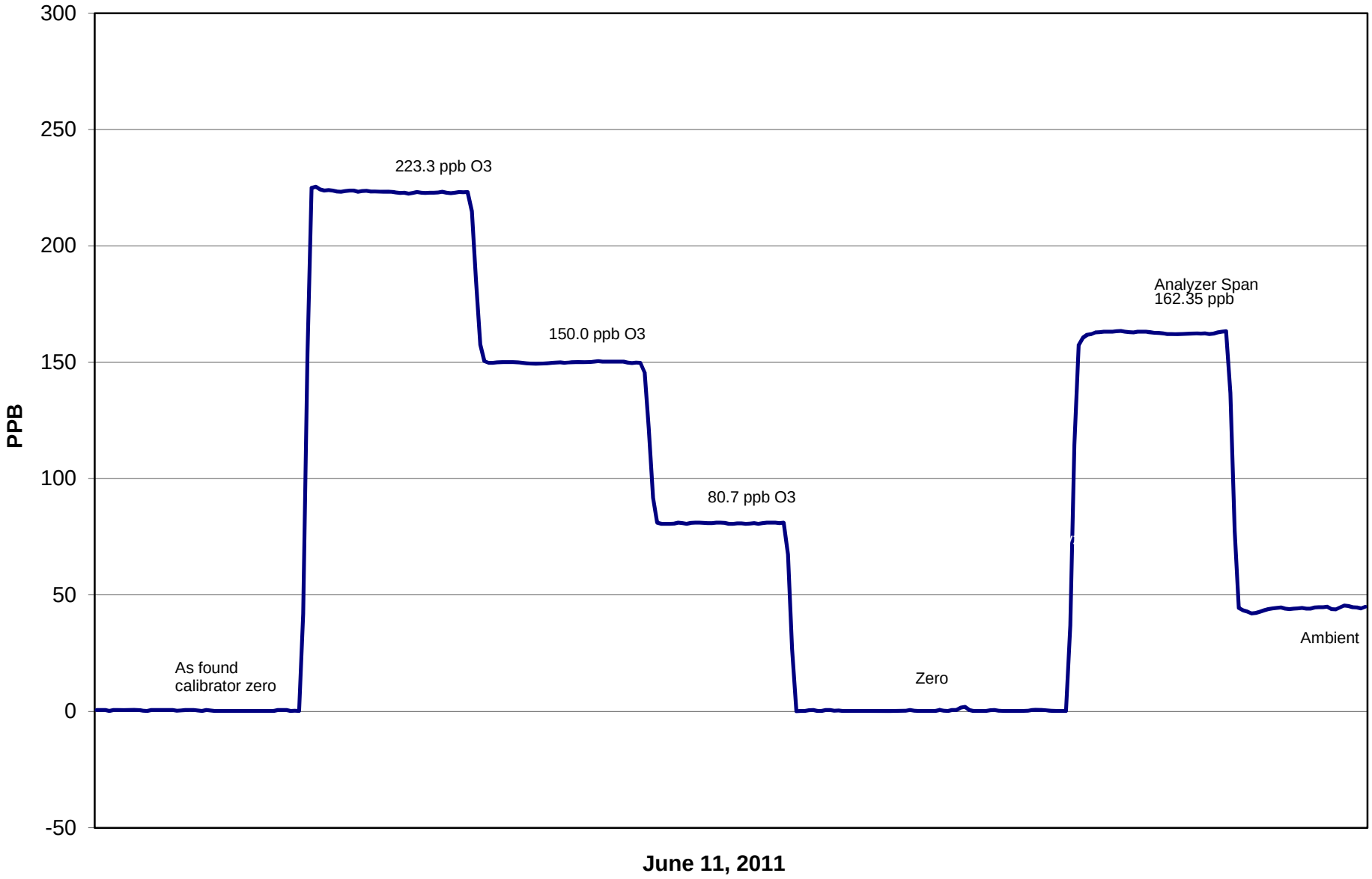
Calibration Date	June 11, 2011	Previous Calibration	May 19, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:11	End Time (MST)	14:05
Analyzer make/model	TECO 49C	Analyzer serial #	607415761

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	NA		
223.3	223.0	1.0012	Correlation Coefficient	1.000000
150.0	150.0	0.9999		
80.7	80.9	0.9975	Slope	1.002846
			Intercept	-0.402501



Henry Pirker - O_3 Calibration



Calibration Report

Parameter **CO**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 10, 2011	Previous Calibration	May 18, 2011
Station Number	1	Station Location	Henry Pirker

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

Start Time (MST)	9:20	End Time (MST)	11:37
Barometric Pressure	0.923 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	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	1.007291	Calculated slope	1.009309
Calculated intercept	-0.595508	Calculated intercept	-0.500423

Analyzer make: TEI Model 48C — Analyzer serial #: 508011062

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO span setting	1.077		1.077	
CO zero setting	0.883		0.946	
Sample pressure	684.2	mm Hg	678.5	mm Hg
Sample Flow	1.142	LPM	1.136	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)
4988	0.00	0.00	0.43	N/A
4988	39.84	23.77	24.01	0.9900
4988	19.90	11.92	12.34	0.9659
4988	9.93	5.96	6.47	0.9211
4988	0.00	0.00	0.43	As Found Zero
4988	39.84	23.77	24.01	As Found Span
			Average Correction Factor	0.9590

Calculated value of As Found Response: 23.162 ppm Percent Change of As Found: 2.6%

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	19.47	ppm	19.56	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **CO**

Air Monitoring Network **PAZA**

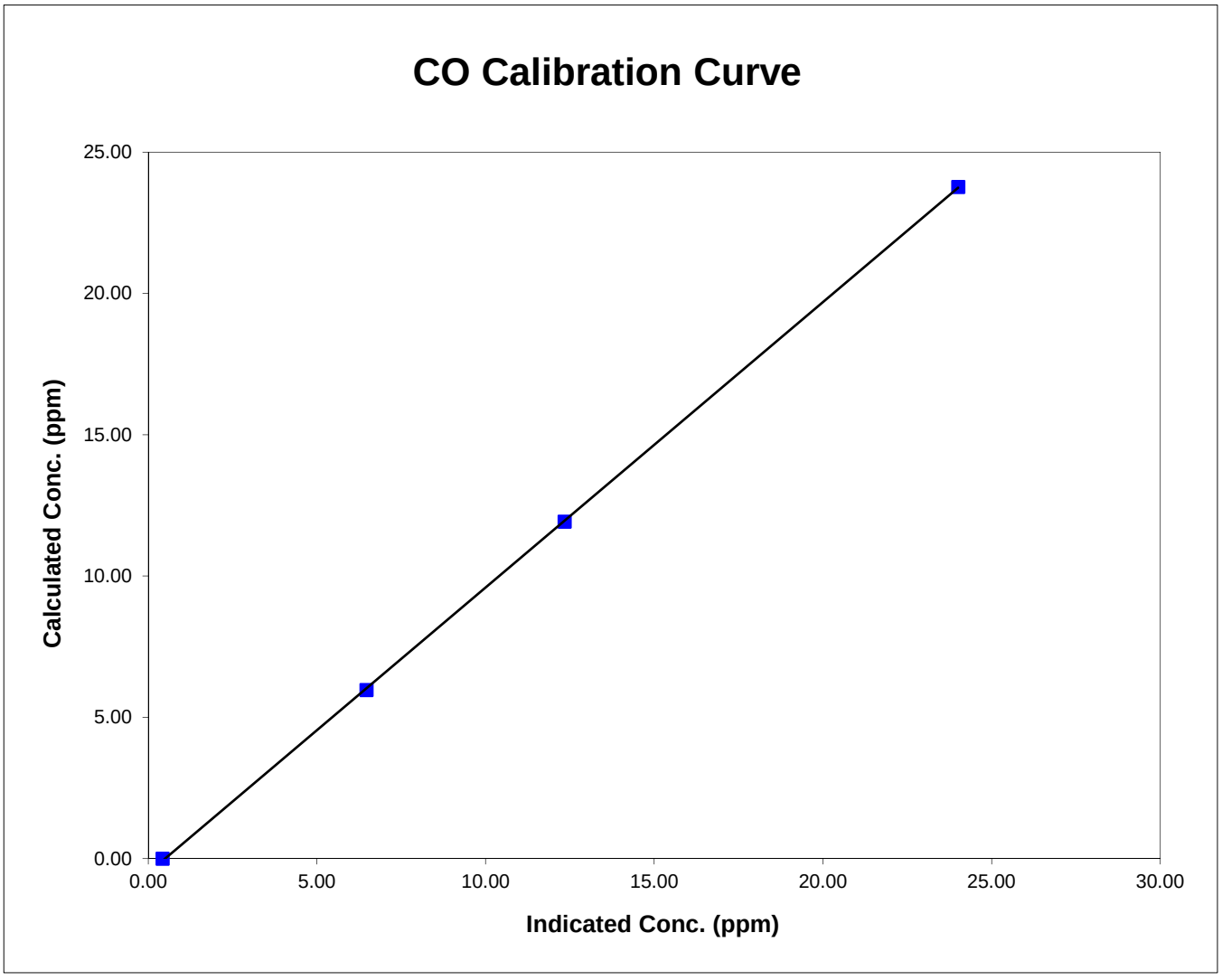
FOCUS AIR QUALITY MONITORING

Station Information

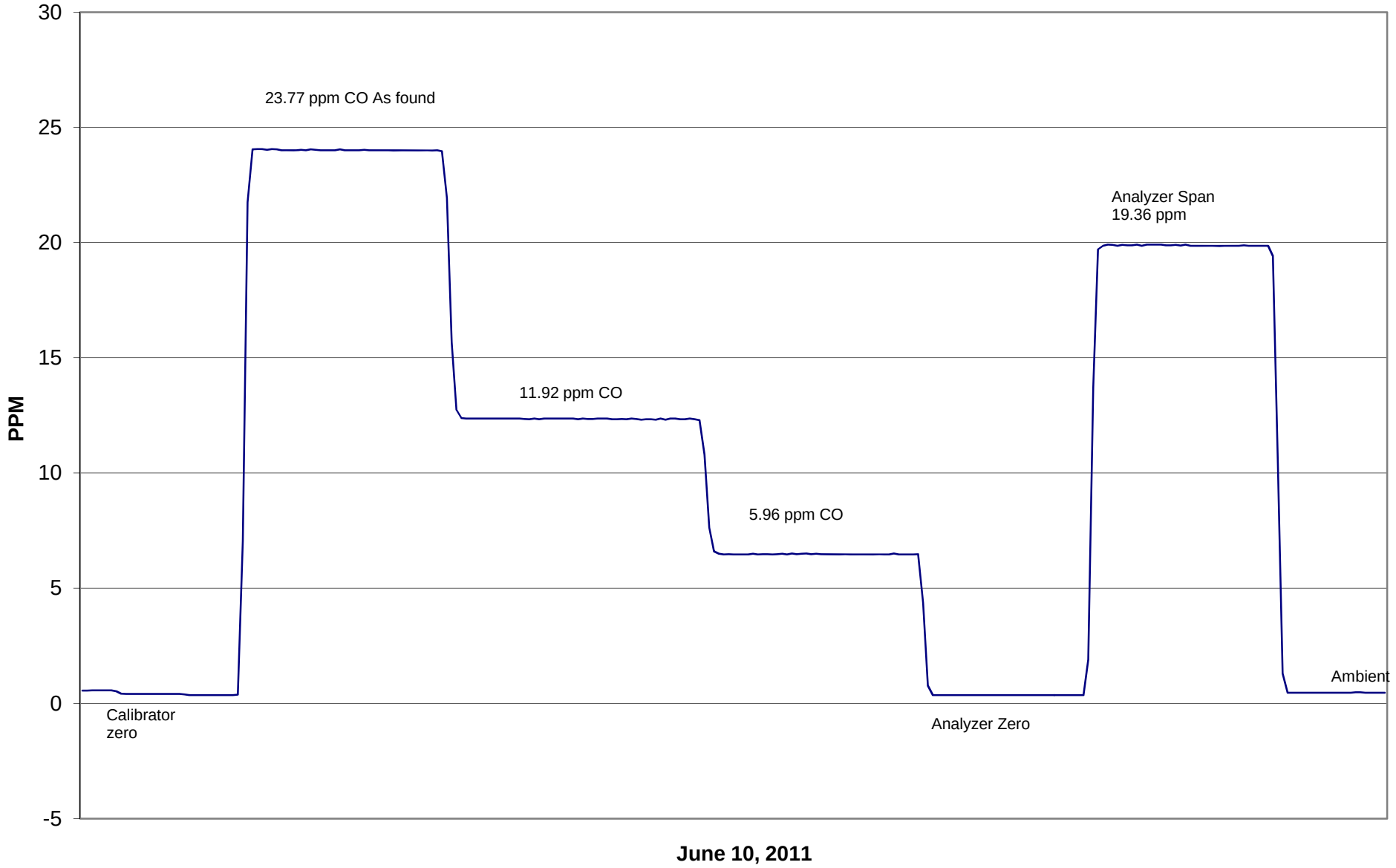
Calibration Date	June 10, 2011	Previous Calibration	May 18, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:20	End Time (MST)	11:37
Analyzer make/model	TEI Model 48C	Analyzer serial #	508011062

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.427	N/A		
23.772	24.013	0.9900	Correlation Coefficient	0.999960
11.921	12.341	0.9659		
5.960	6.471	0.9211	Slope	1.009309
			Intercept	-0.500423



Henry Pirker - CO Calibration



Calibration Report

Parameter **THC**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 10, 2011	Previous Calibration	May 18, 2011
Station Number	1	Station Location	Henry Pirker

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

Start Time (MST)	10:45	End Time (MST)	13:00
Barometric Pressure	0.921 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	701 ppm CH4/ 299 ppm C3H8	Cal Gas Expiry Date	2/4/2010
Cal Gas CH4 equiv	1523.25 ppm	Cal Gas Cylinder #	ALM 004476
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	1.053992	Calculated slope	1.062127
Calculated intercept	0.142356	Calculated intercept	-0.026314

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	9617	capture	9616	capture
THC zero counts	448	capture	447	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	0.02	N/A
4988	69.75	21.01	19.83	1.0595
4988	29.87	9.07	8.49	1.0681
4988	9.92	3.02	2.92	1.0345
4988	0.00	0.00	0.02	As Found Zero
4988	69.75	21.01	19.83	As Found Span
			Average Correction Factor	1.0540

Calculated value of As Found Response: 21.015 ppm Percent Change of As Found: 0.0%

	before calibration		after calibration	
Auto zero	0.10	ppm	0.00	ppm
Auto span	22.27	ppm	23.28	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **THC**

Air Monitoring Network **PAZA**

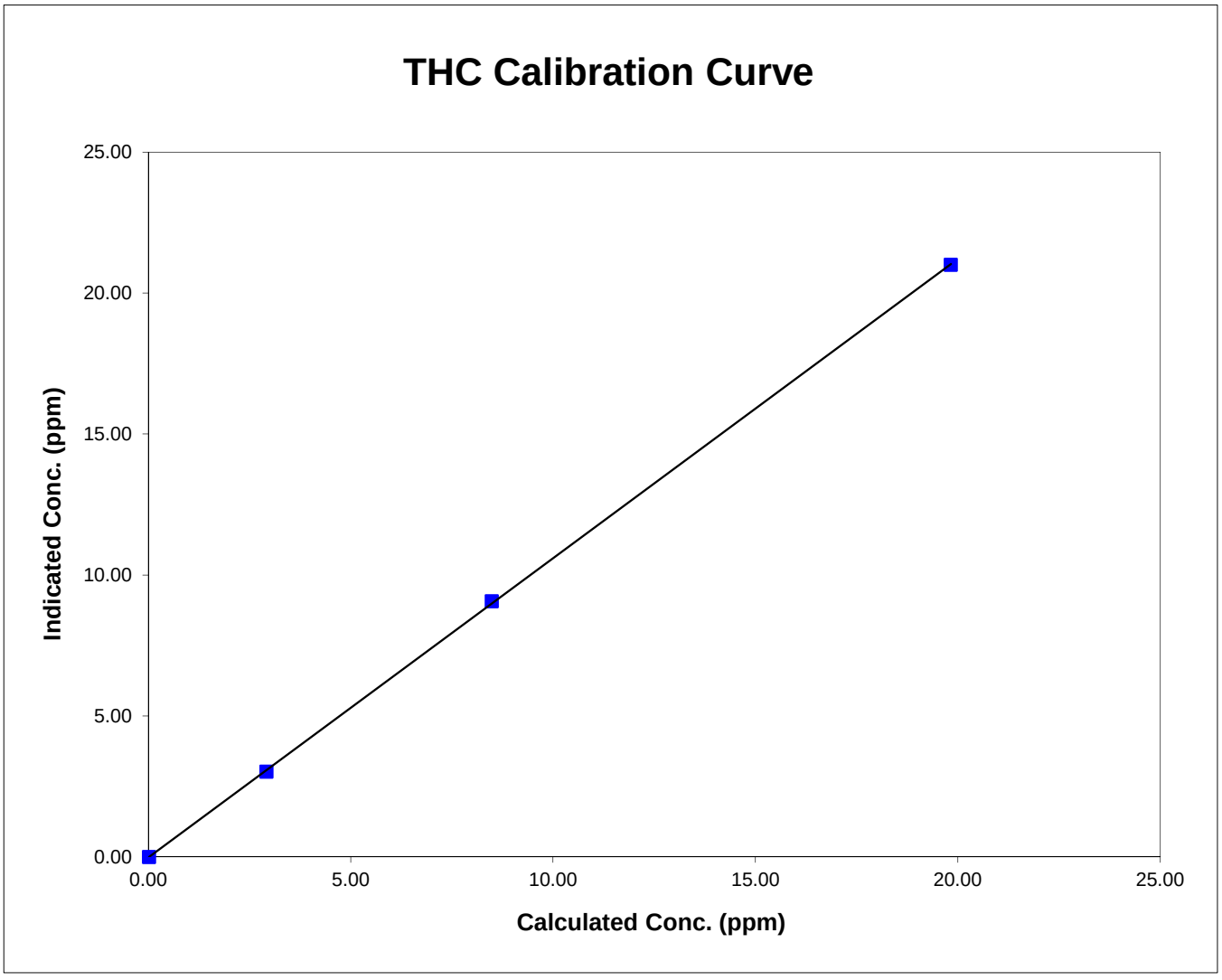
FOCUS AIR QUALITY MONITORING

Station Information

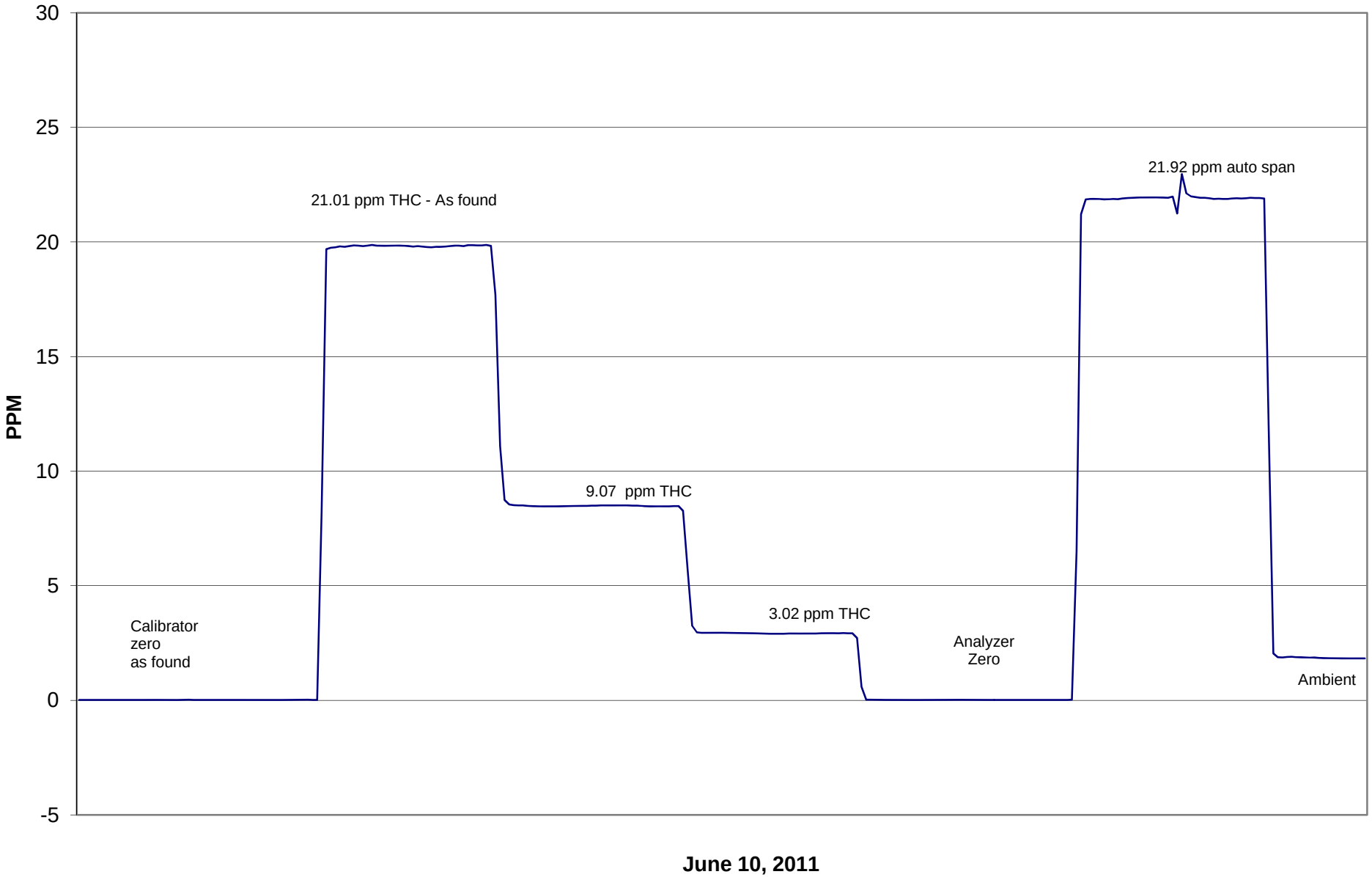
Calibration Date	June 10, 2011	Previous Calibration	May 18, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:45	End Time (MST)	13:00
Analyzer make/model	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.022	N/A		
21.007	19.826	1.0595	Correlation Coefficient	0.999963
9.067	8.490	1.0681		
3.023	2.923	1.0345	Slope	1.062127
			Intercept	-0.026314



Henry Pirker - THC Calibration



Calibration Report

Parameter **SO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 29, 2011	Previous Calibration	May 24, 2011
Station Number	2	Station Location	Evergreen Park

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

Start Time (MST)	8:40	End Time (MST)	11:55
Barometric Pressure	0.907 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	50.6 ppm	Cal Gas Expiry Date	4/6/2012
Correction factor	0.030831	Cal Gas Cylinder #	SGAL3245
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	0.991592	Calculated slope	0.990692
Calculated intercept	1.499893	Calculated intercept	0.900917

Analyzer make	Teco 43i	Analyzer serial # 701120008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	11.5		11.3	
coefficient	1.09		1.075	
Lamp Voltage	828	volts	826	volts
Chamber Temp	45.1	Deg C	45.2	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	655.3	mm Hg	655.6	mm Hg
Sample Flow	0.445	ccm	0.445	ccm
Lamp Intensity	89	%	90	%

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.0	0.00	0.4	N/A
4989	39.85	401.0	404.8	0.9906
4989	19.91	201.1	200.5	1.0030
4989	9.96	100.8	100.2	1.0057
	0.0			
4989	0.0	0.0	0.4	As Found Zero
4989	39.83	400.8	404.8	As Found Span
			Average Correction Factor	0.9998

Calculated value of As Found Response: 402.511 ppm Percent Change of As Found: -0.4%

	before calibration		after calibration	
Auto zero	0.7	ppm	0.3	ppm
Auto span	286.9	ppm	299.2	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

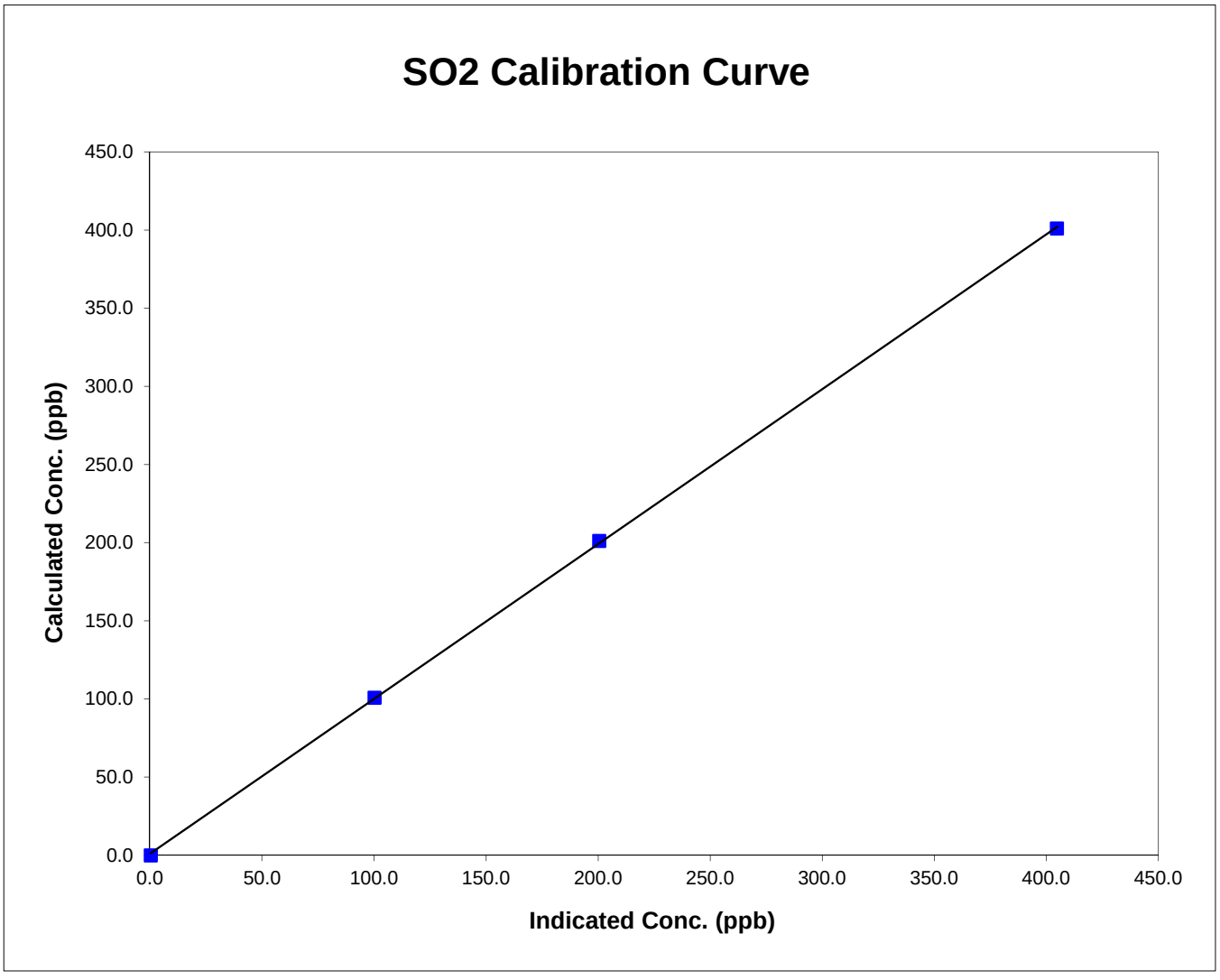
FOCUS AIR QUALITY MONITORING

Station Information

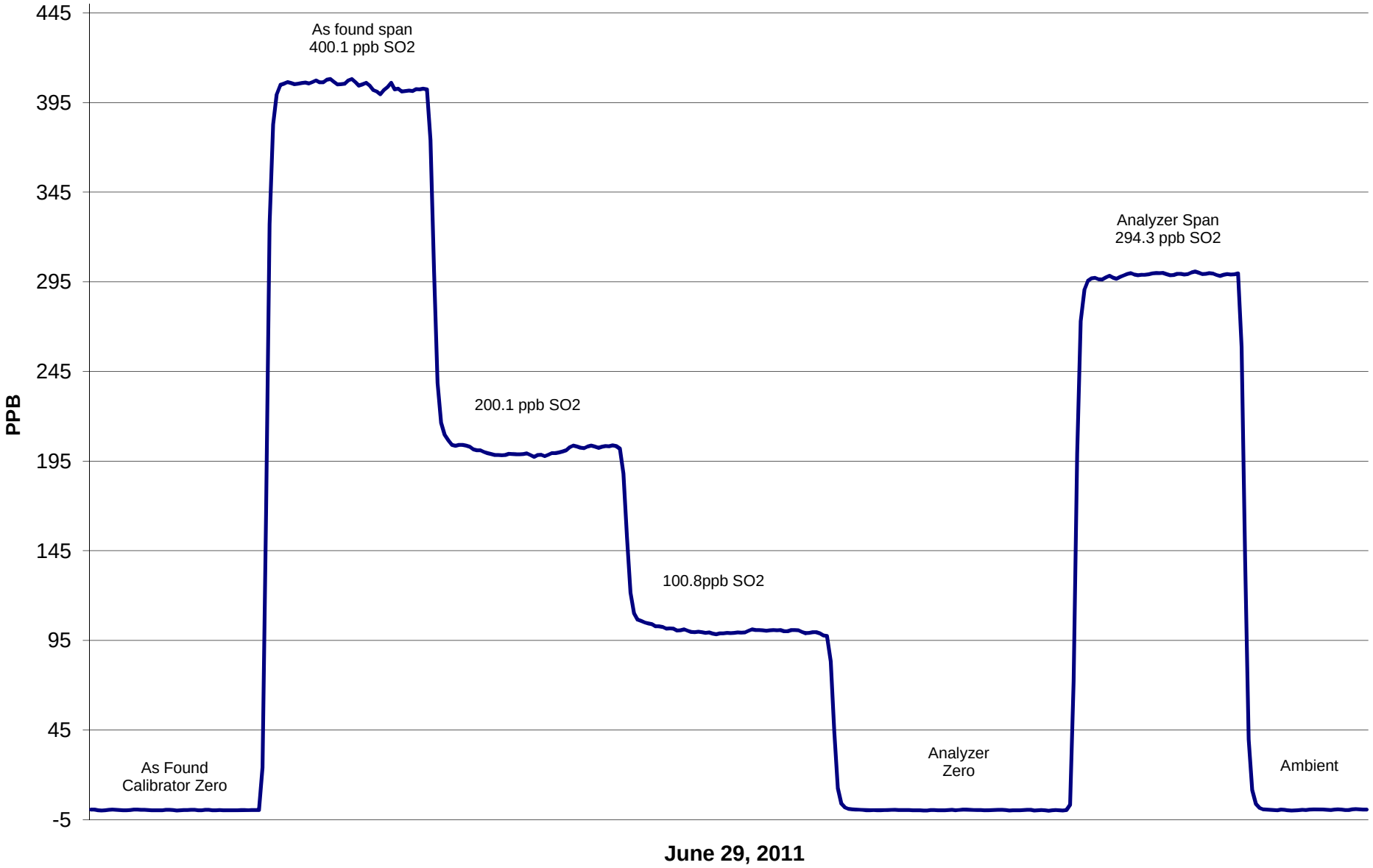
Calibration Date	June 29, 2011	Previous Calibration	May 24, 2011
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	8:40	End Time (MST)	11:55
Analyzer make/model	Teco 43i	Analyzer serial #	701120008

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A		
401.0	404.8	0.9906	Correlation Coefficient	0.999940
201.1	200.5	1.0030		
100.8	100.2	1.0057	Slope	0.990692
			Intercept	0.900917



Evergreen Park - SO_2 Calibration



Calibration Report

Parameter **TRS**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 29, 2011	Previous Calibration	May 24, 2011
Station Number	2	Station Location	Evergreen Park

Reason: Routine | Install | Removal | Other:

Start Time (MST)	10:00	End Time (MST)	13:22
Barometric Pressure	0.907 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Conc	5.77 ppm	Cal Gas Expiry Date	9/3/2011
Correction factor	0.030831	Cal Gas Cylinder #	BLM001434
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
Calculated slope	0.994003	Calculated slope	1.027993
Calculated intercept	-0.511403	Calculated intercept	-0.394724

Analyzer make	TEI Model 43C	Analyzer serial # 436610005

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	18	ppb	18.8	ppb
coefficient	0.941		0.941	
Lamp Voltage	805	volts	803	volts
Chamber Temp	44.4	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45.01	Deg C
Pressure	631.6	mm Hg	636.4	mm Hg
Sample Flow	0.472	ccm	0.474	ccm
Lamp Intensity	45,403	mv	45,412	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)
4987	0.00	0.0	0.7	N/A
4987	69.73	79.6	77.7	1.0239
4987	34.86	40.1	39.6	1.0113
4988	8.94	10.3	10.0	1.0360
4987	0.00	0.0	0.7	As Found Zero
4987	69.73	79.6	77.7	As Found Span
			Average Correction Factor	1.0238

Calculated value of As Found Response: 76.07 ppm Percent Change of As Found: 4.4%

	before calibration		after calibration	
Auto zero	-0.5	ppm	-0.6	ppm
Auto span	62.0	ppm	73.2	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **TRS**

Air Monitoring Network **PAZA**

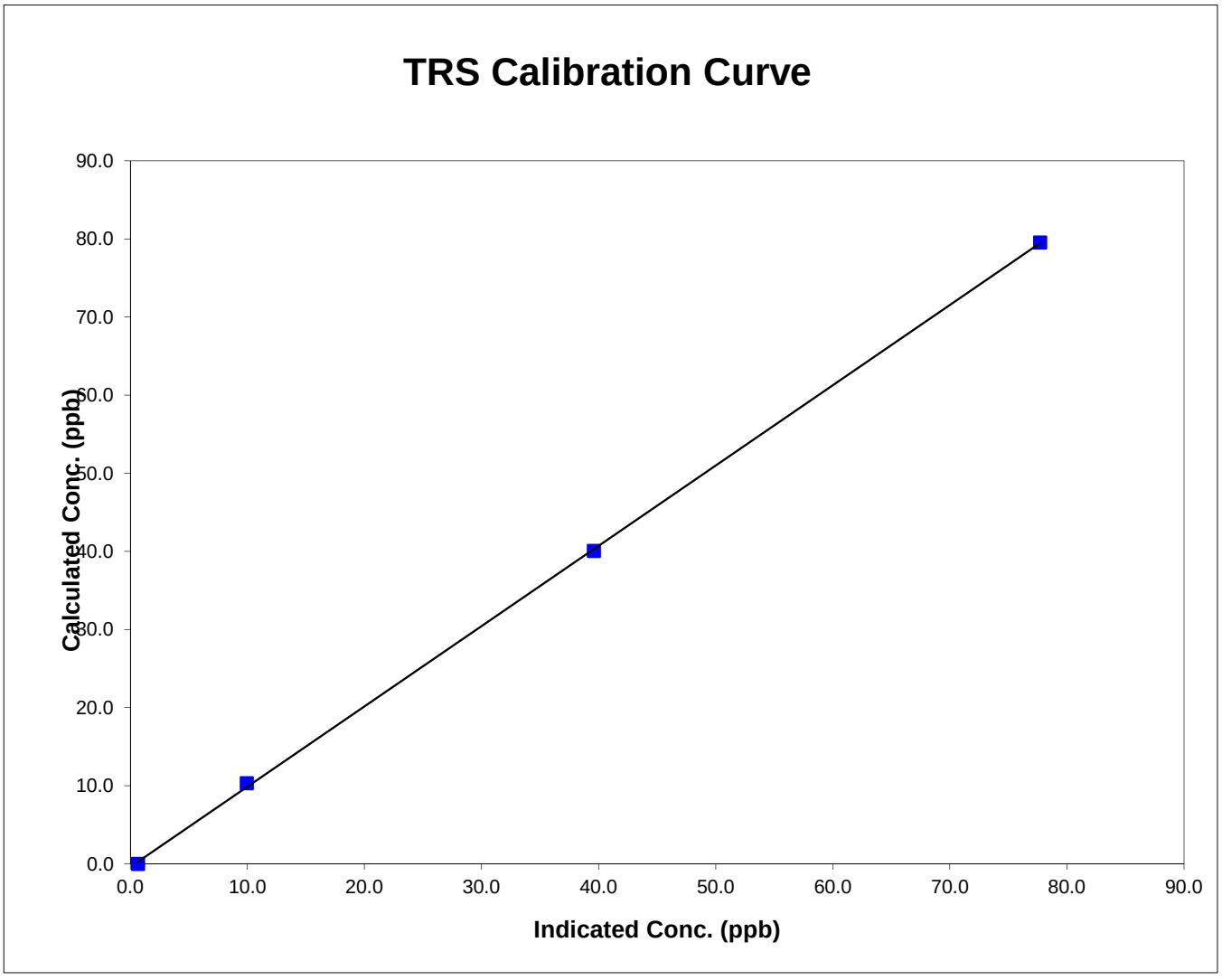
FOCUS AIR QUALITY MONITORING

Station Information

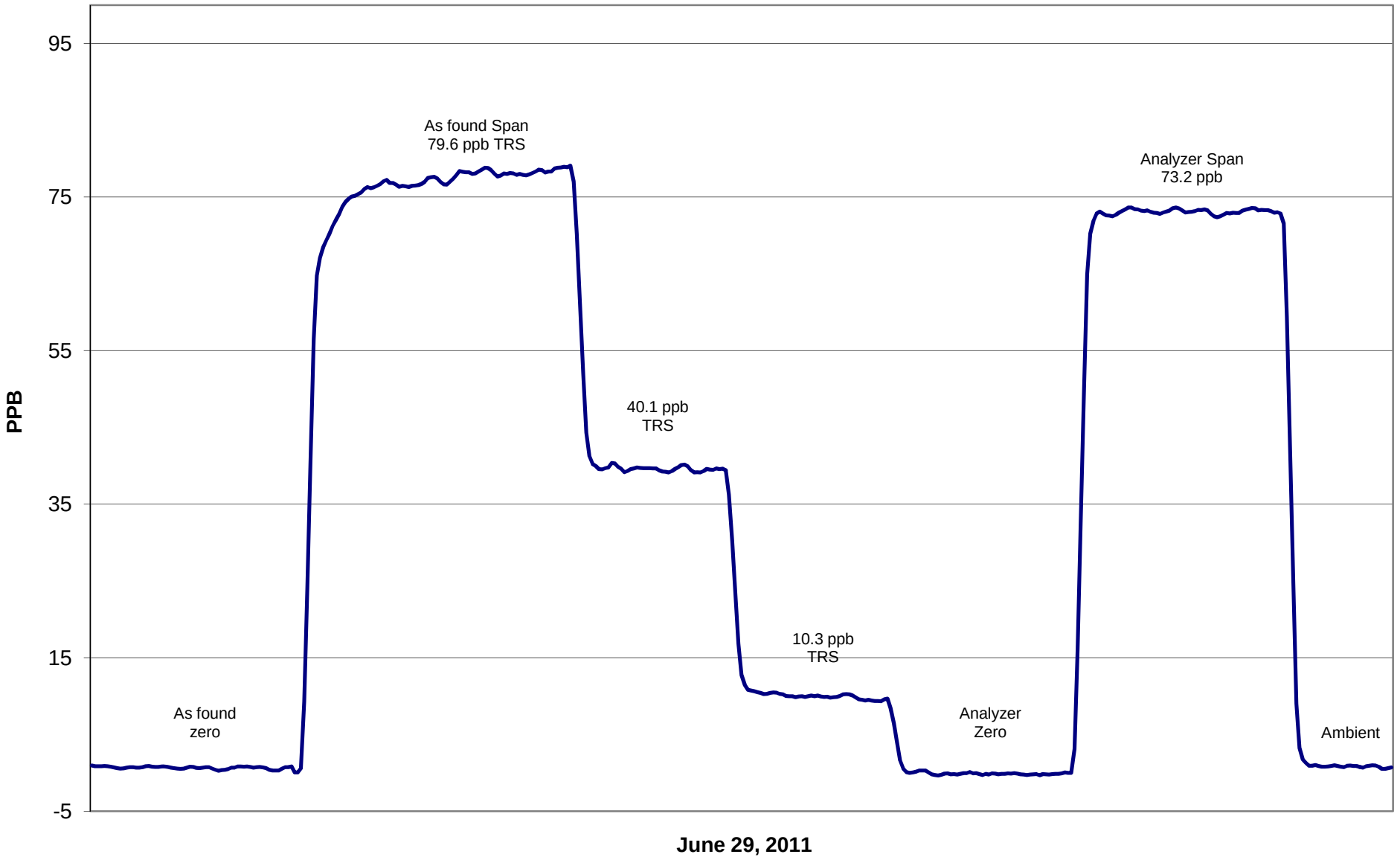
Calibration Date	June 29, 2011	Previous Calibration	May 24, 2011
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	10:00	End Time (MST)	13:22
Analyzer make/model	TEI Model 43C	Analyzer serial #	436610005

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.7	N/A		
79.6	77.7	1.0239	Correlation Coefficient	0.999900
40.1	39.6	1.0113		
10.3	10.0	1.0360	Slope	1.027993
			Intercept	-0.394724



Evergreen Park - TRS Calibration



AB TEOM PM2.5 Calibration

FOCUS AIR QUALITY MONITORING

STATION: **Evergreen Park**

LOCATION: PAZA - Grande Prairie

OPERATOR: Grover Christiansen

DATE: 29/06/2011

MONITOR INFO / PARAMETER VALUES:

Make/Model	TEOM AB
Configuration	PM2.5
Serial Number	21554
Site Number	2
Inlet Type	PM 10 / SCC
FAdj. Main Setting	1.000
FAdj. Aux. Setting	1.000
T-Case Indicated / Set Point	40/40
T-Air Indicated / Set Point	40/40
T-Cap Indicated / Set Point	40/40
Splitter Assembly Alignment (cm)	15.5

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

RECENT CALIBRATION AND AUDIT HISTORY

Previous Audit	27/05/2011
Previous Calibration	NA

PUMP CAPACITY CHECK *	PASS

* capacity test or pump on timed test utilized to verify pump integrity

"FAIL" indicates that pump requires service.

LEAK CHECK	Indicated Flow (lpm)	
	Main	Auxiliary
PUMP ON	0.030	0.060
PUMP OFF	0.020	0.020
NET	0.010	0.040
LIMITS	*<0.15*	*<0.60*

		Ambient Temp. (^{0} C)	Ambient Pres. (atm)	Ko *	Bypass flow (lpm)	Sample flow (lpm)
	SET POINT (S)	na	na	16147	13.67	3.000
	INDICATED (I)	19.7	0.907		13.67	3.000
As Found Data	MEASURED (AF)	19.4	0.906		13.65	2.999
Adjusted Data	MEASURED (M)	19.4	0.906	16242	13.65	2.999
	DIFFERENCE (M-I)	-0.3	-0.001	0.6%	-0.15	-0.03
	LIMITS	*± 2 ^{0} C*	*± 0.005 atm*	*± 2.5 %*	*± 1.0 L/min*	*± 0.2 L/min*

Ko Audit Filter data *Weight:* 0.11251 *Serial #:* *CVK 3316*

COMMENTS: PASS.

Sample filter changed & allowed to stabilize.

Rover TEOM being run here. Control unit: 140AB215549705 Sensor unit 1200C160110012

Sample Head Inspection/Cleaning: Large In Line Filter Inspection & Or Cleaning:

Calibration Report

Parameter **SO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 8, 2011	Previous Calibration	May 9, 2011
Station Number	3	Station Location	Smoky Heights

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

Start Time (MST)	12:55	End Time (MST)	15:21
Barometric Pressure	0.931 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	50.6 ppm	Cal Gas Cert Date	11/29/2010
Correction factor	0.031647	Cal Gas Cylinder #	LL34002
DACS make	CR3000	DACS serial No.	45272
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	0.996864	Calculated slope	0.996278
Calculated intercept	0.343489	Calculated intercept	0.386167

Analyzer make	Teco 43i	Analyzer serial # 701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	9.5		9.5	
coefficient	0.994		0.994	
Lamp Voltage	923	volts	921	volts
Chamber Temp	45	Deg C	45.01	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	675.2	mm Hg	675	mm Hg
Sample Flow	0.446	ccm	0.447	ccm
Lamp Intensity	89	%	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)
4989	0.0	0.00	0.6	N/A
4989	39.84	400.87	402.4	0.9962
4989	19.91	201.13	201.2	0.9997
4989	9.95	100.72	99.6	1.0108
4989	0.0	0.00	0.6	As Found Zero
4989	39.84	400.87	402.4	As Found Span
			Average Correction Factor	1.0022

Calculated value of As Found Response: 400.912 ppm Percent Change of As Found: 0.0%

	before calibration		after calibration	
Auto zero	0.4	ppb	0.4	ppb
Auto span	306.6	ppb	305.3	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

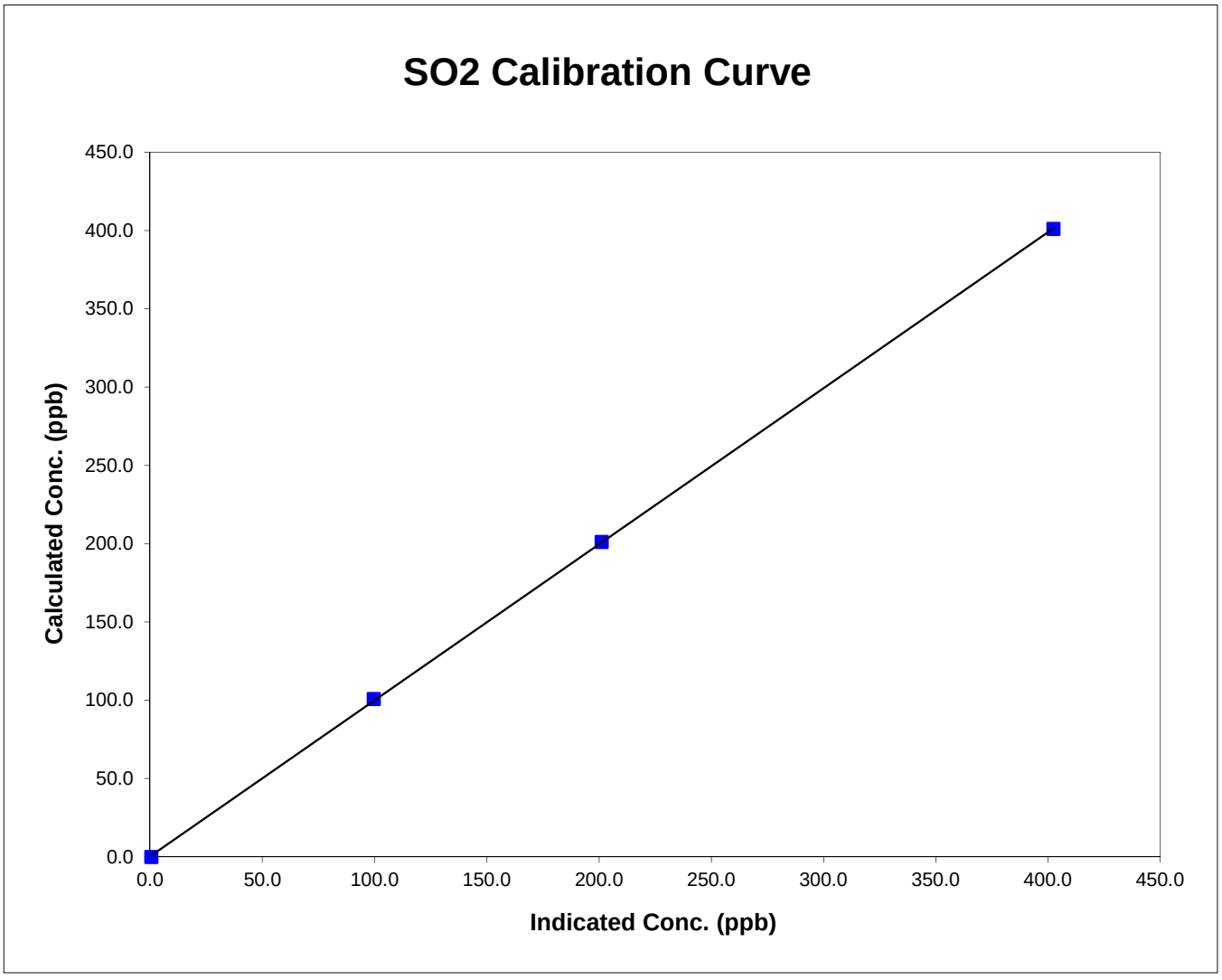
FOCUS AIR QUALITY MONITORING

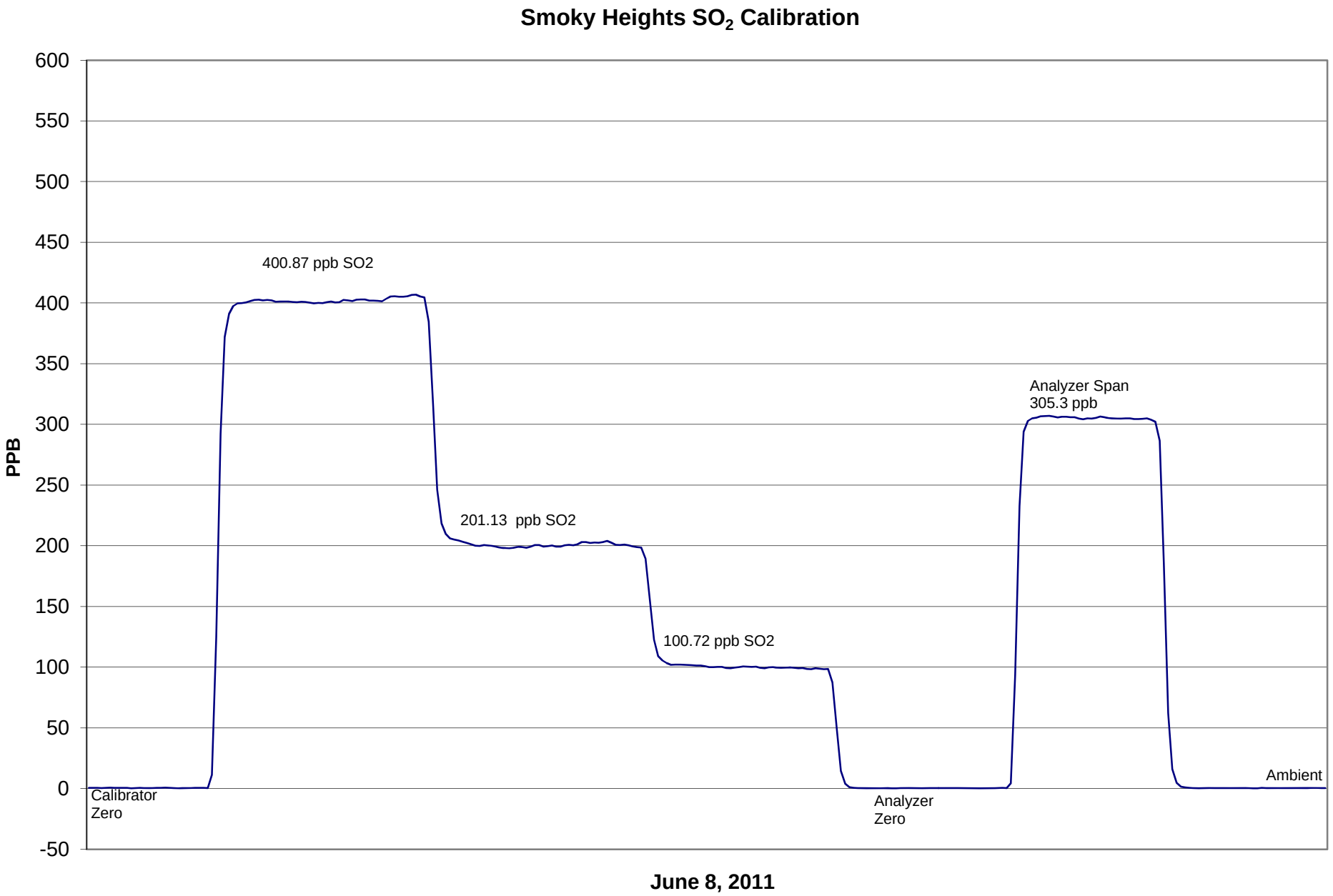
Station Information

Calibration Date	June 8, 2011	Previous Calibration	May 9, 2011
Station Number	3	Station Location	Smoky Heights
Start Time (MST)	12:55	End Time (MST)	15:21
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	0.6	N/A		
400.9	402.4	0.9962	Correlation Coefficient	0.999974
201.1	201.2	0.9997		
100.7	99.6	1.0108	Slope	0.996278
			Intercept	0.386167




Smoky Heights SO2 Calibration
600
550
500
450
400
350
300
250
200
150
100
50
0
-50
PPB
400.87 ppb SO2
201.13 ppb SO2
100.72 ppb SO2
Analyzer Span
305.3 ppb
Calibrator
Zero
Analyzer
Zero
Ambient
June 8, 2011

Calibration Report

Parameter **SO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 21, 2011	Previous Calibration	June 8, 2011
Station Number	3	Station Location	Smoky Heights

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

Start Time (MST)	7:44	End Time (MST)	11:14
Barometric Pressure	0.921 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	50.6 ppm	Cal Gas Cert Date	11/29/2010
Correction factor	0.031307	Cal Gas Cylinder #	LL34002
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	0.996278	Calculated slope	1.001947
Calculated intercept	0.386167	Calculated intercept	1.012907

Analyzer make	Teco 43i	Analyzer serial # 701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	9.5		10.4	
coefficient	0.994		0.984	
Lamp Voltage	921	volts	921	volts
Chamber Temp	45	Deg C	45.01	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	668.1	mm Hg	671.1	mm Hg
Sample Flow	0.439	ccm	0.442	ccm
Lamp Intensity	89	%	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)
4989	0.0	0.00	0.4	N/A
4989	39.84	400.87	399.9	1.0025
4989	19.91	201.13	198.7	1.0120
4989	9.95	100.72	98.3	1.0249
4989	0.0	0.00	0.4	As Found Zero
4989	39.84	400.87	405.8	As Found Span
			Average Correction Factor	1.0131

Calculated value of As Found Response: 404.257 ppm Percent Change of As Found: -0.8%

	before calibration		after calibration	
Auto zero	0.4	ppb	0.3	ppb
Auto span	306.6	ppb	350.8	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

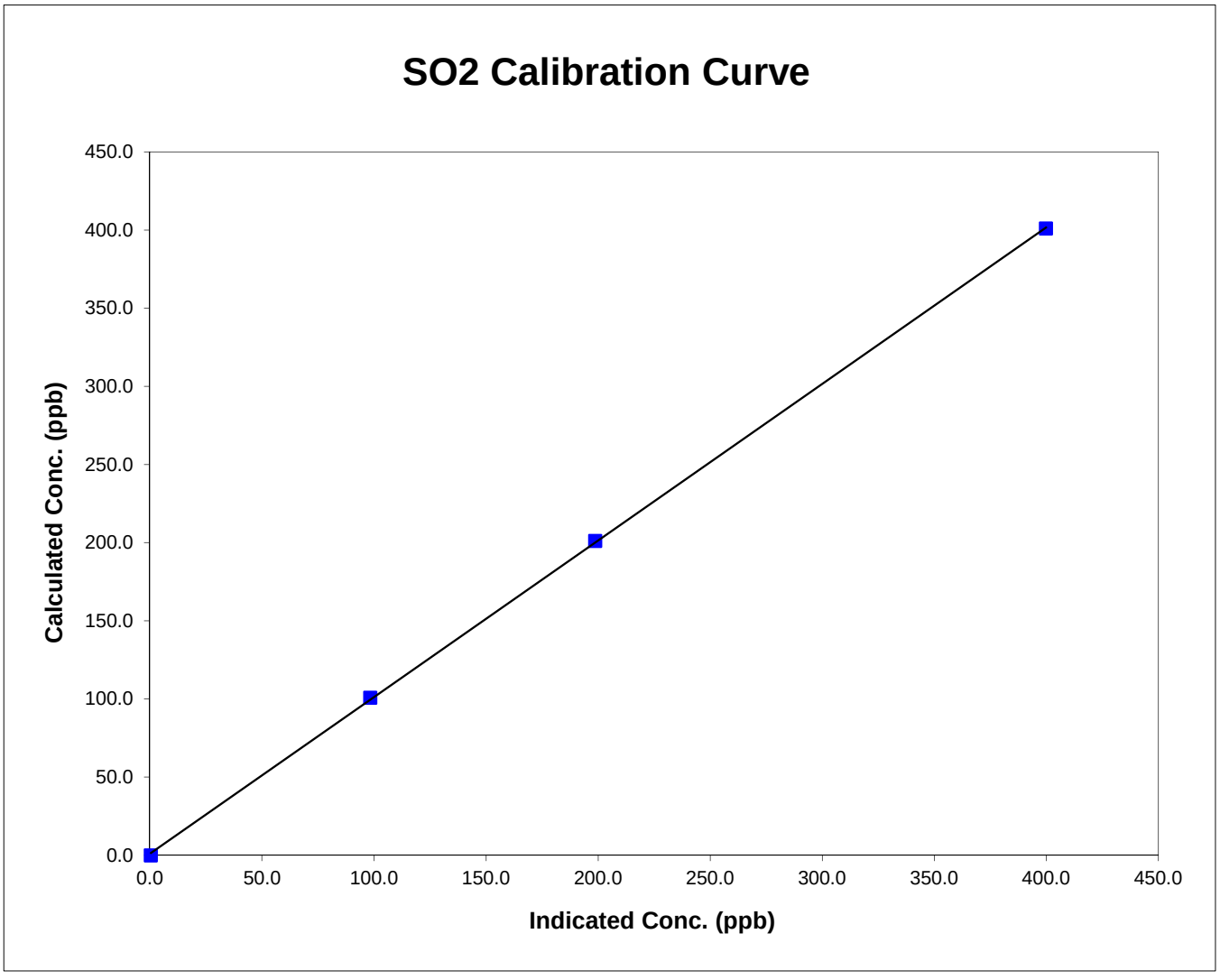
FOCUS AIR QUALITY MONITORING

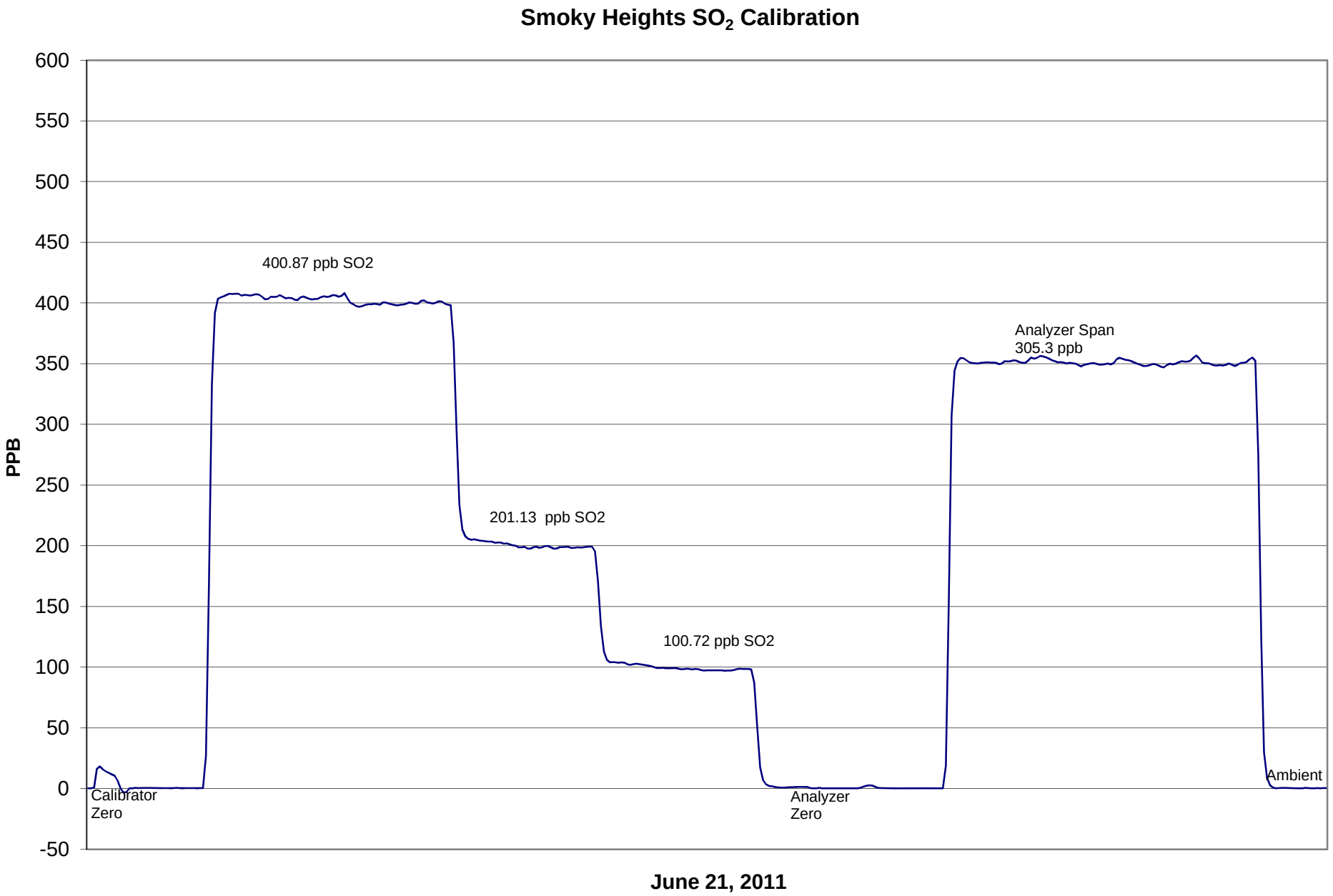
Station Information

Calibration Date	June 21, 2011	Previous Calibration	June 8, 2011
Station Number	3	Station Location	Smoky Heights
Start Time (MST)	7:44	End Time (MST)	11:14
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	0.4	N/A		
400.9	399.9	1.0025	Correlation Coefficient	0.999941
201.1	198.7	1.0120		
100.7	98.3	1.0249	Slope	1.001947
			Intercept	1.012907




Smoky Heights SO2 Calibration
600
550
500
450
400
350
300
250
200
150
100
50
0
-50
PPB
400.87 ppb SO2
201.13 ppb SO2
100.72 ppb SO2
Analyzer Span
305.3 ppb
Calibrator
Zero
Analyzer
Zero
Ambient
June 21, 2011

Calibration Report

Parameter **TRS**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 8, 2011	Previous Calibration	May 9, 2011
Station Number	3	Station Location	Smoky Heights

Reason: Routine | Install | Removal | Other:

Start Time (MST)	8:43	End Time (MST)	10:15
Barometric Pressure	0.923 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Conc	5.77 ppm	Cal Gas Expiry Date	9/3/2011
Correction factor	0.031375	Cal Gas Cylinder #	BLM001434
DACS make	CR3000	DACS serial No.	52620
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
Calculated slope	0.994776	Calculated slope	1.093118
Calculated intercept	0.200663	Calculated intercept	-0.736083

Analyzer make	TEI Model 43C	Analyzer serial #	0436610005

	before		after	
Concentration range	100	ppb	100	ppb
Background	18.5	ppb	17.2	ppb
coefficient	1.084		0.96	
Lamp Voltage	758	volts	848	volts
Chamber Temp	44	Deg C	44.99	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	507.8	mm Hg	509.6	mm Hg
Sample Flow	0.727	ccm	0.721	ccm
Lamp Intensity	32,230	mv	32,325	mv

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.0	0.00	0.5	N/A
4989	69.77	79.58	73.4	1.0840
4989	34.88	40.06	37.4	1.0710
4989	8.96	10.34	10.3	1.0081
4989	0.0	0.00	0.5	As Found Zero
4989	69.77	79.58	73.4	As Found Span
			Average Correction Factor	1.0544

Calculated value of As Found Response: 72.71 ppm Percent Change of As Found: 8.6%

	before calibration		after calibration	
Auto zero	0.0	ppm	NA	ppm
Auto span	41.9	ppm	NA	ppm

Notes: Flash lamp & socket were replaced.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **TRS**

Air Monitoring Network **PAZA**

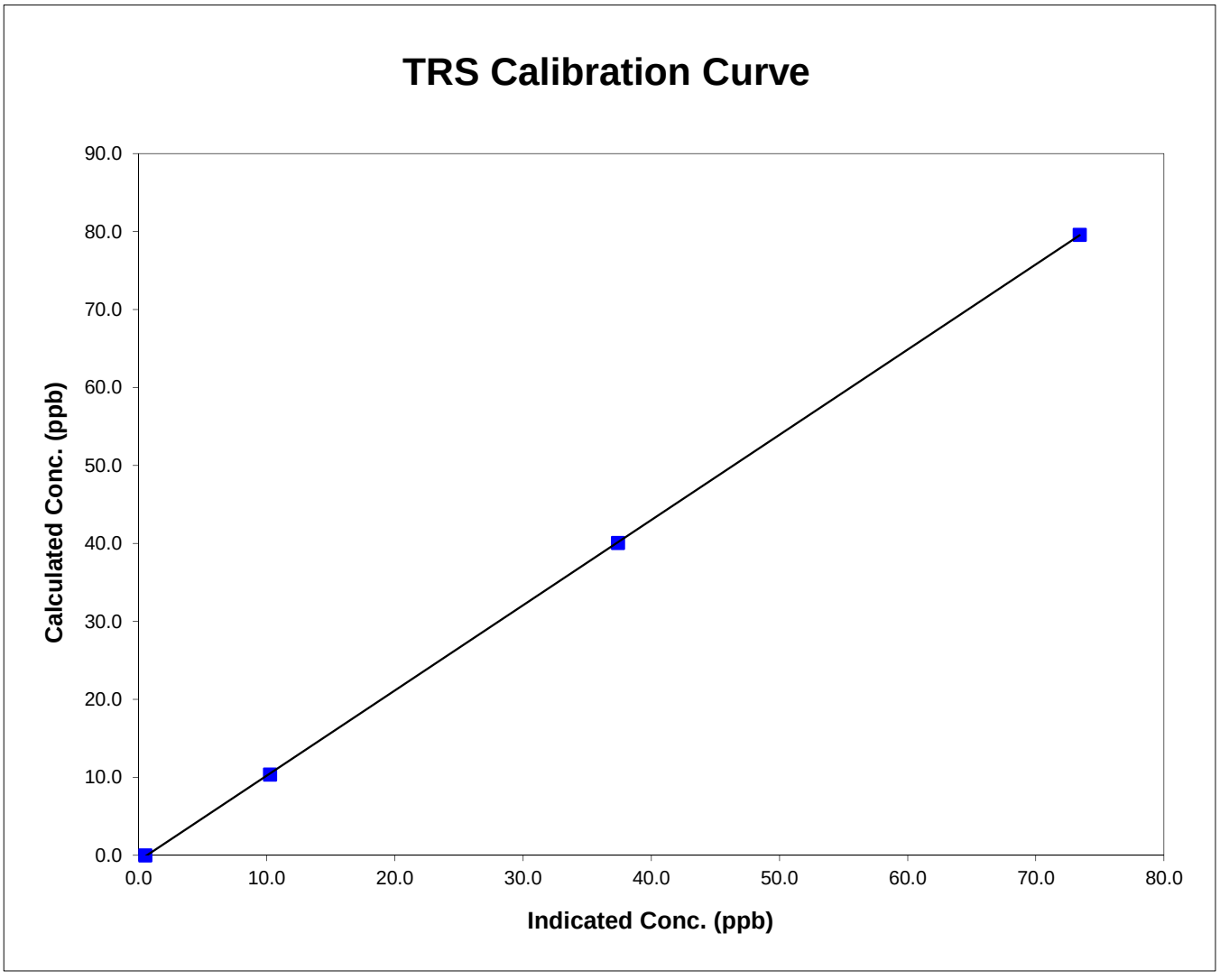
FOCUS AIR QUALITY MONITORING

Station Information

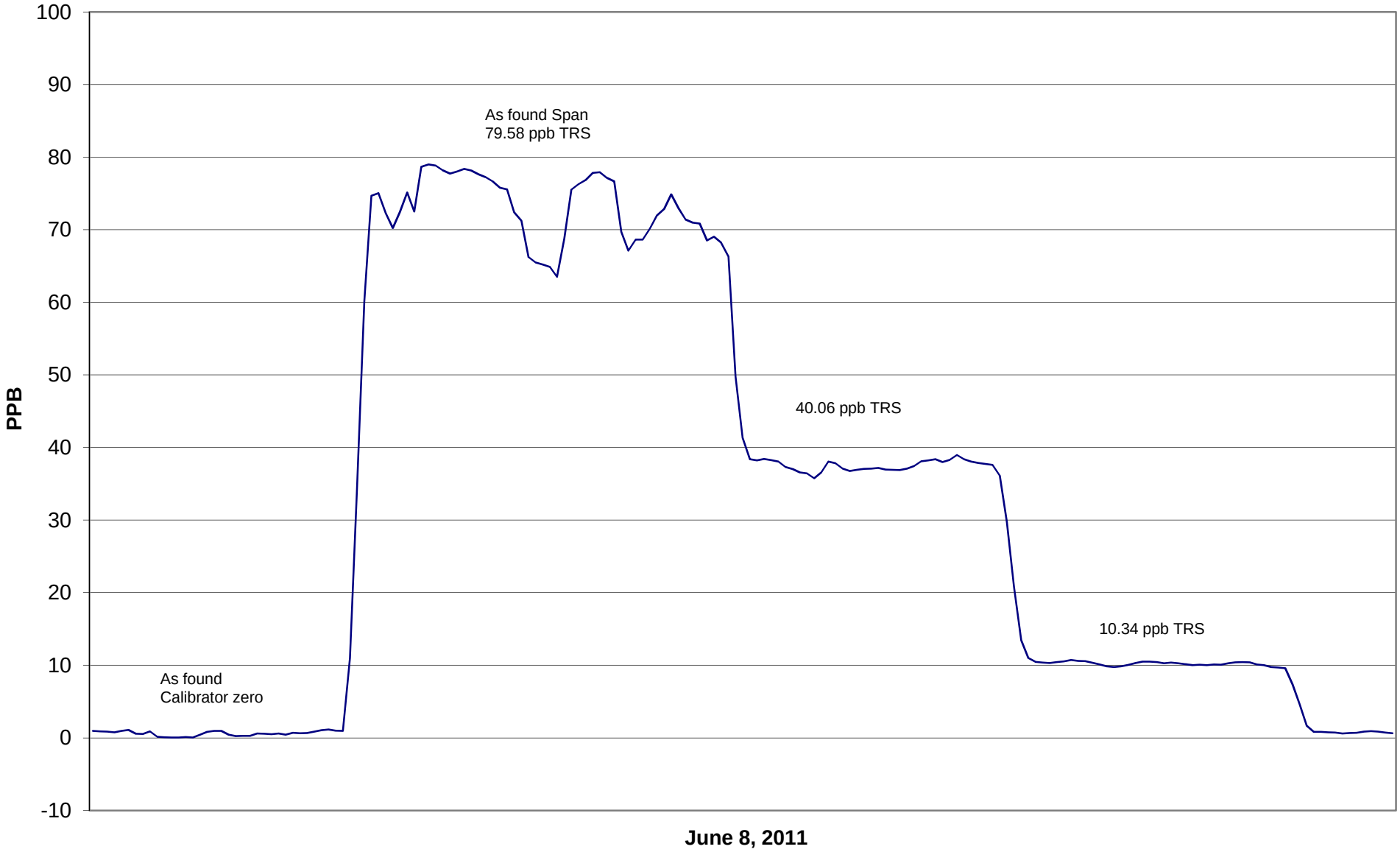
Calibration Date	June 8, 2011	Previous Calibration	May 9, 2011
Station Number	3	Station Location	Smoky Heights
Start Time (MST)	8:43	End Time (MST)	10:15
Analyzer make/model	TEI Model 43C	Analyzer serial #	0436610005

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.5	N/A		
79.6	73.4	1.0840	Correlation Coefficient	0.999985
40.1	37.4	1.0710		
10.3	10.3	1.0081	Slope	1.093118
			Intercept	-0.736083



Smoky Heights TRS Calibration



Calibration Report

Parameter **TRS**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 8, 2011	Previous Calibration	May 9, 2011
Station Number	3	Station Location	Smokey Heights
Reason: Routine	Install	Removal	Other: Maintenance
Start Time (MST)	10:53	End Time (MST)	14:00
Barometric Pressure	0.923 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Conc	5.77 ppm	Cal Gas Expiry Date	9/3/2011
Correction factor	0.031375	Cal Gas Cylinder #	BLM001434
DACS make	CR3000	DACS serial No.	52620
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
Calculated slope	NA	Calculated slope	0.999256
Calculated intercept	NA	Calculated intercept	0.141955
Analyzer make	TEI Model 43C	Analyzer serial #	0436610005

	before		after	
Concentration range	100	ppb	100	ppb
Background	18.5	ppb	17.2	ppb
coefficient	1.084		0.96	
Lamp Voltage	758	volts	848	volts
Chamber Temp	44	Deg C	44.99	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	507.8	mm Hg	509.6	mm Hg
Sample Flow	0.727	ccm	0.721	ccm
Lamp Intensity	32,230	mv	32,325	mv

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.0	0.00	0.4	N/A
4989	69.77	79.58	79.7	0.9981
4989	34.88	40.06	39.6	1.0124
4989	8.96	10.34	9.8	1.0570
				As Found Zero
				As Found Span
			Average Correction Factor	1.0225

Calculated value of As Found Response: NA ppm Percent Change of As Found: NA

	before calibration		after calibration	
Auto zero	0.0	ppm	0.0	ppm
Auto span	41.9	ppm	44.7	ppm

Notes: Flash lamp & socket were replaced.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **TRS**

Air Monitoring Network **PAZA**

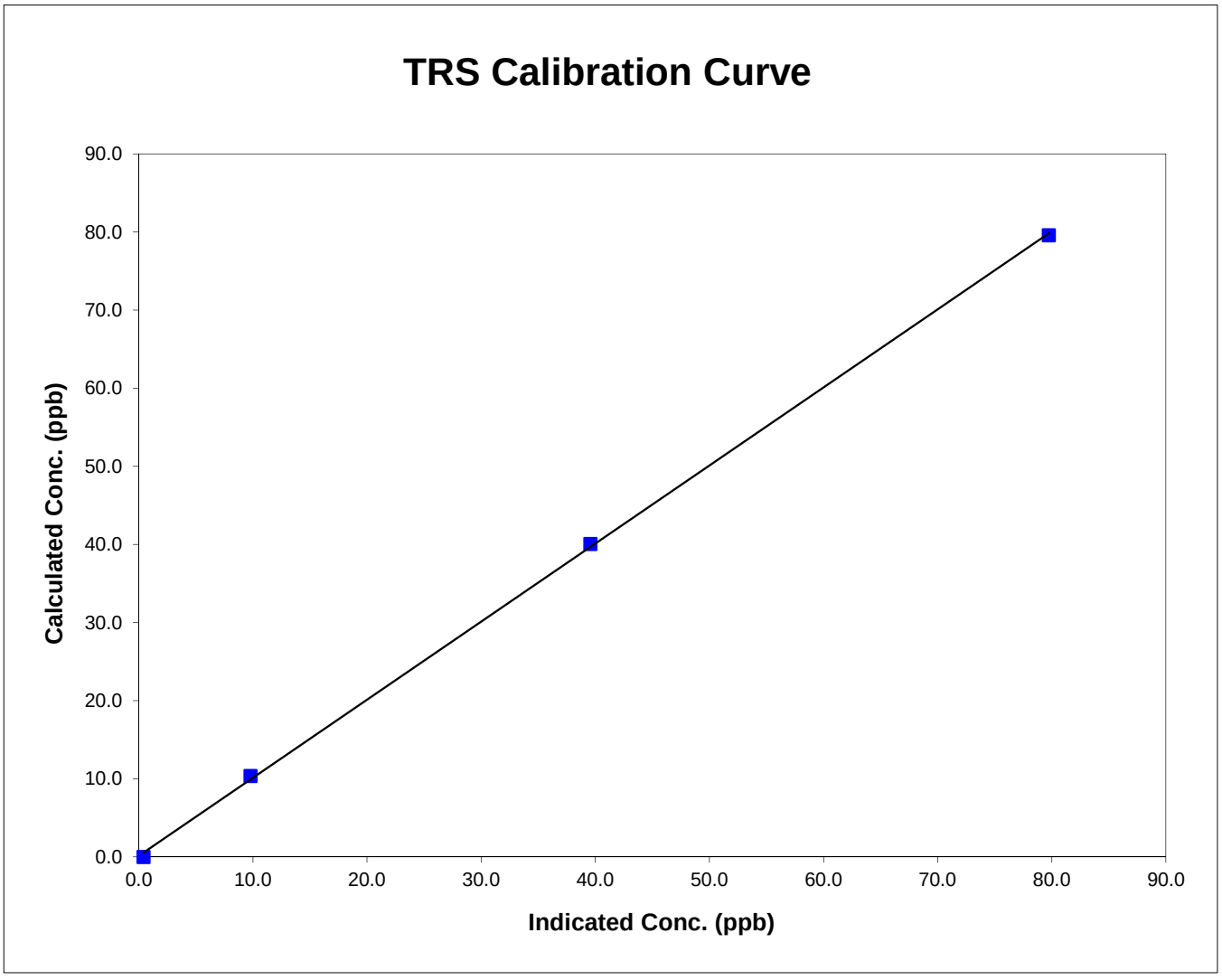
FOCUS AIR QUALITY MONITORING

Station Information

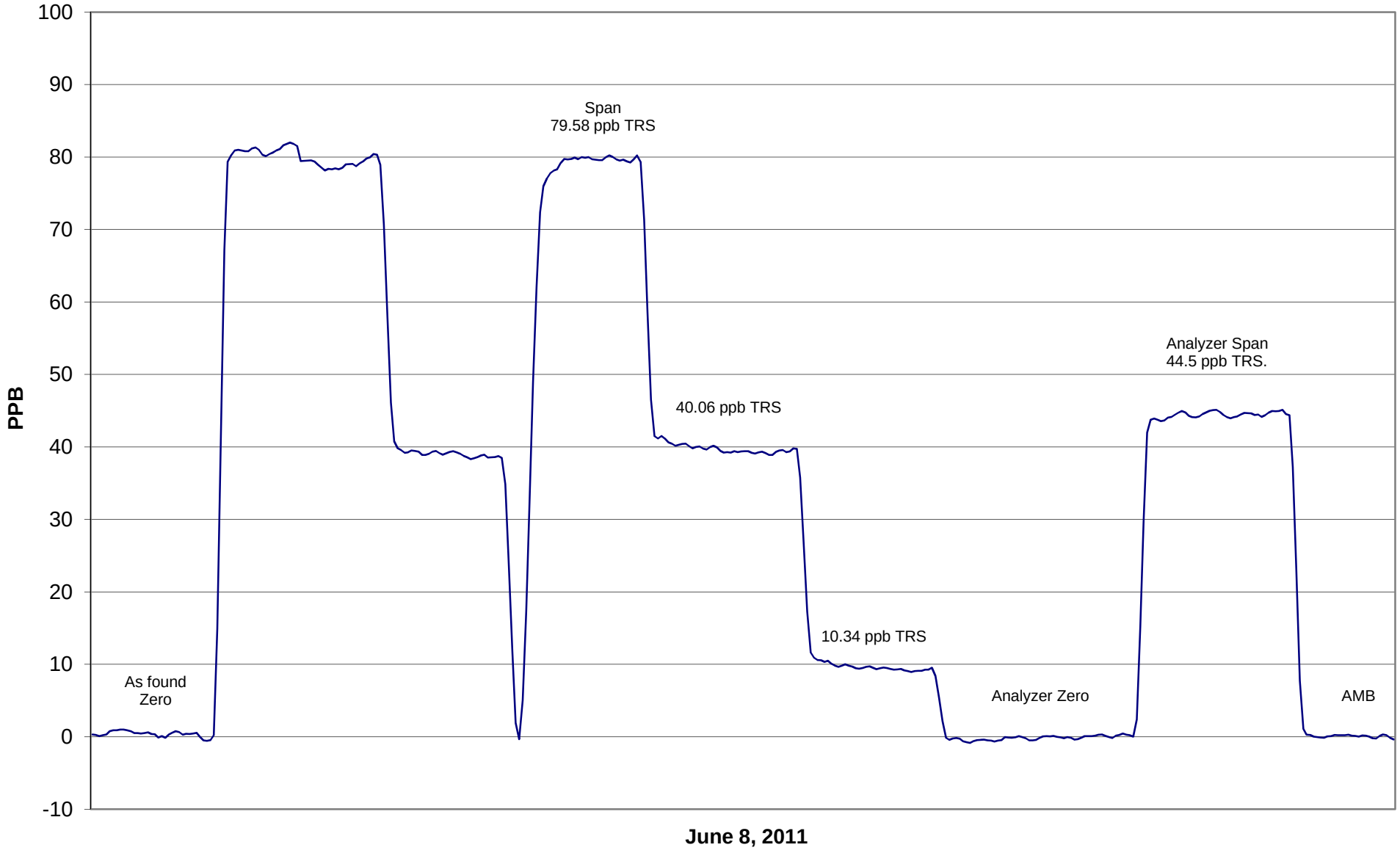
Calibration Date	June 8, 2011	Previous Calibration	May 9, 2011
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	10:53	End Time (MST)	14:00
Analyzer make/model	TEI Model 43C	Analyzer serial #	0436610005

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A		
79.6	79.7	0.9981	Correlation Coefficient	0.999818
40.1	39.6	1.0124		
10.3	9.8	1.0570	Slope	0.999256
			Intercept	0.141955



Smoky Heights TRS Calibration



Calibration Report

Parameter **TRS**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 21, 2011	Previous Calibration	June 8, 2011
Station Number	3	Station Location	Smoky Heights

Reason: Routine | Install | Removal | Other:

Start Time (MST)	9:54	End Time (MST)	11:25
Barometric Pressure	0.921 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Conc	5.77 ppm	Cal Gas Expiry Date	9/3/2011
Correction factor	0.031307	Cal Gas Cylinder #	BLM001434
DACS make	CR3000	DACS serial No.	52620
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
Calculated slope	0.999256	Calculated slope	1.023171
Calculated intercept	0.141955	Calculated intercept	0.572002

Analyzer make	TEI Model 43C	Analyzer serial #	0436610005

	before		after	
Concentration range	100	ppb	100	ppb
Background	14	ppb	18.5	ppb
coefficient	1.088		1.084	
Lamp Voltage	758	volts	848	volts
Chamber Temp	44	Deg C	44.99	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	512.3	mm Hg	478.9	mm Hg
Sample Flow	0.734	ccm	0.696	ccm
Lamp Intensity	32,141	mv	32,325	mv

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.0	0.00	-0.3	N/A
4989	69.77	79.58	77.3	1.0290
4989	34.87	40.05	38.4	1.0431
4989	8.96	10.34	9.3	1.1072
4989	0.0	0.00	-0.3	As Found Zero
4989	69.77	79.58	77.3	As Found Span
			Average Correction Factor	1.0598

Calculated value of As Found Response: 77.70 ppm Percent Change of As Found: 2.4%

	before calibration		after calibration	
Auto zero	0.0	ppm	NA	ppm
Auto span	41.9	ppm	NQA	ppm

Notes: Flash lamp supply board replaced with used one from spare analyzer.
Lamp voltage & PMT were adjusted.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **TRS**

Air Monitoring Network **PAZA**

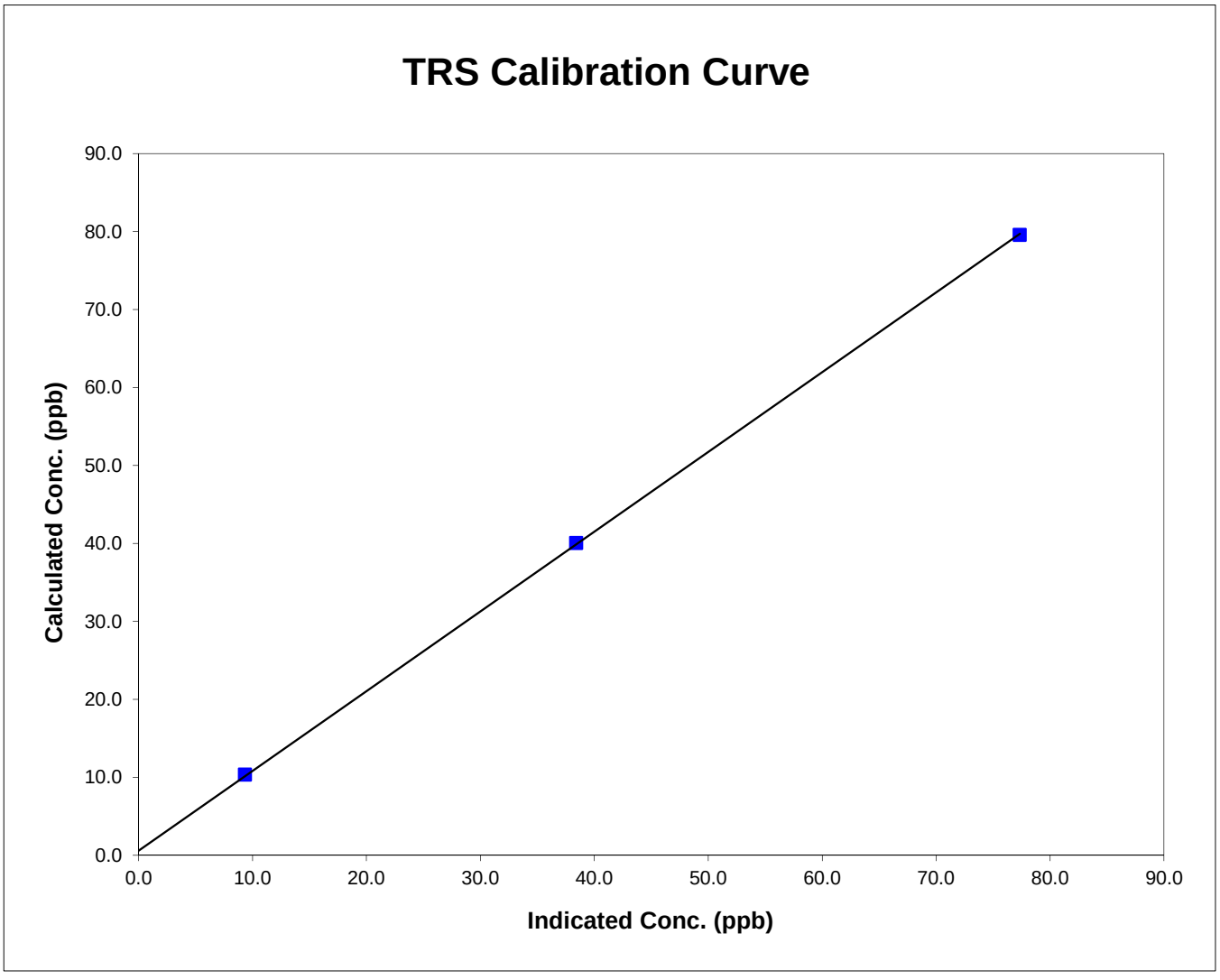
FOCUS AIR QUALITY MONITORING

Station Information

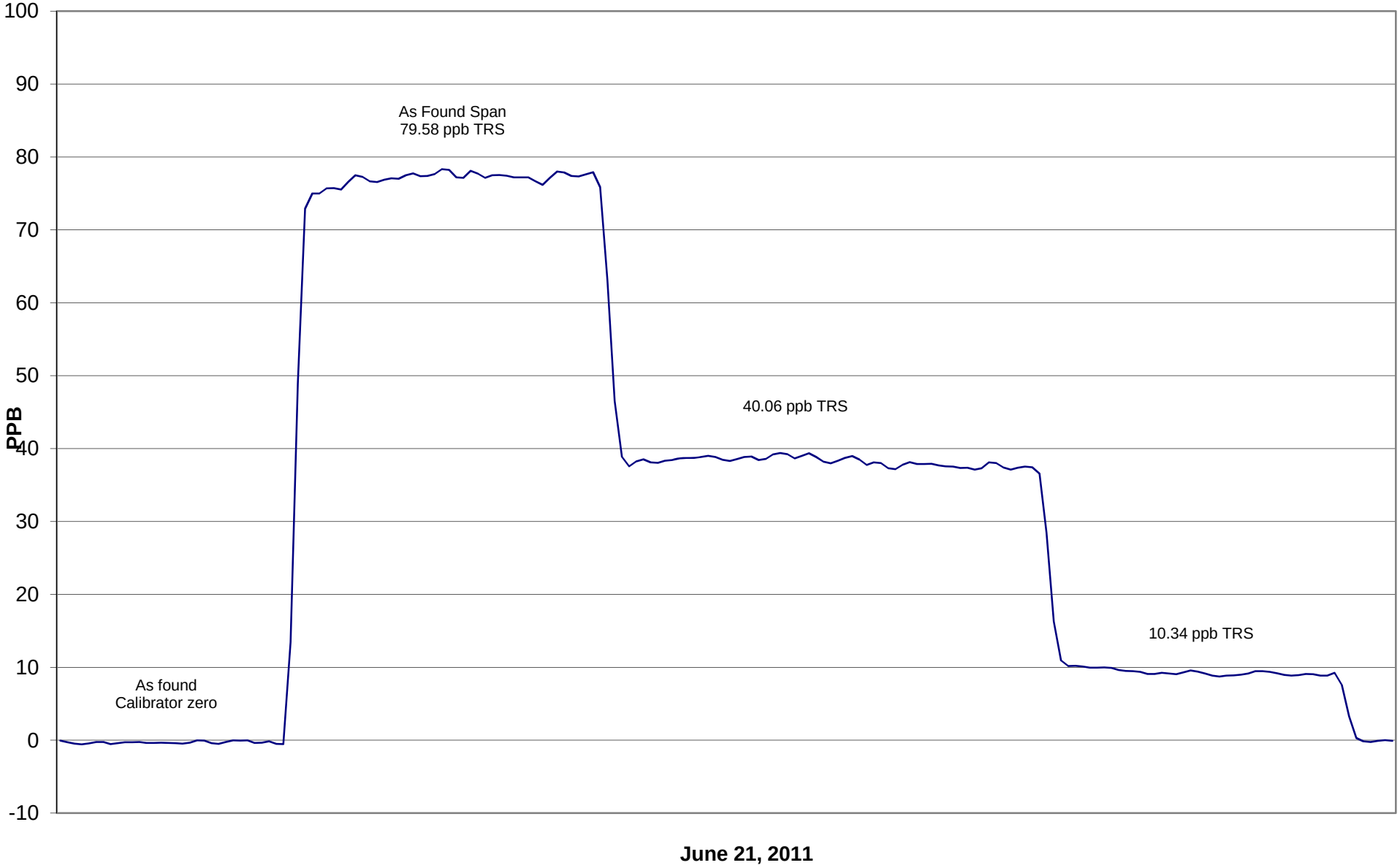
Calibration Date	June 21, 2011	Previous Calibration	June 8, 2011
Station Number	3	Station Location	Smoky Heights
Start Time (MST)	9:54	End Time (MST)	11:25
Analyzer make/model	TEI Model 43C	Analyzer serial #	0436610005

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.3	N/A		
79.6	77.3	1.0290	Correlation Coefficient	0.999954
40.0	38.4	1.0431		
10.3	9.3	1.1072	Slope	1.023171
			Intercept	0.572002



Smoky Heights TRS Calibration



Calibration Report

Parameter **TRS**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 21, 2011	Previous Calibration	June 8, 2011
Station Number	3	Station Location	Smoky Heights
Reason: Routine	Install	Removal	Other: Maintenance
Start Time (MST)	13:10	End Time (MST)	15:35
Barometric Pressure	0.921 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Conc	5.77 ppm	Cal Gas Expiry Date	9/3/2011
Correction factor	0.031307	Cal Gas Cylinder #	BLM001434
DACS make	CR3000	DACS serial No.	52620
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
Calculated slope	NA	Calculated slope	0.992392
Calculated intercept	NA	Calculated intercept	0.317034
Analyzer make	TEI Model 43C	Analyzer serial #	0436610005

	before		after	
Concentration range	100	ppb	100	ppb
Background	14	ppb	18.5	ppb
coefficient	1.088		1.084	
Lamp Voltage	758	volts	848	volts
Chamber Temp	44	Deg C	44.99	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	512.3	mm Hg	478.9	mm Hg
Sample Flow	0.734	ccm	0.696	ccm
Lamp Intensity	32,141	mv	32,325	mv

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.0	0.00	0.0	N/A
4989	69.77	79.58	80.0	0.9945
4989	34.87	40.05	39.8	1.0067
4989	8.96	10.34	9.9	1.0414
				As Found Zero
				As Found Span
			Average Correction Factor	1.0142

Calculated value of As Found Response: NA ppm Percent Change of As Found: NA

	before calibration		after calibration	
Auto zero	0.0	ppm	0.3	ppm
Auto span	41.9	ppm	44.8	ppm

Notes: Flash lamp supply board replaced with used one from spare analyzer.
Lamp voltage & PMT were adjusted.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **TRS**

Air Monitoring Network **PAZA**

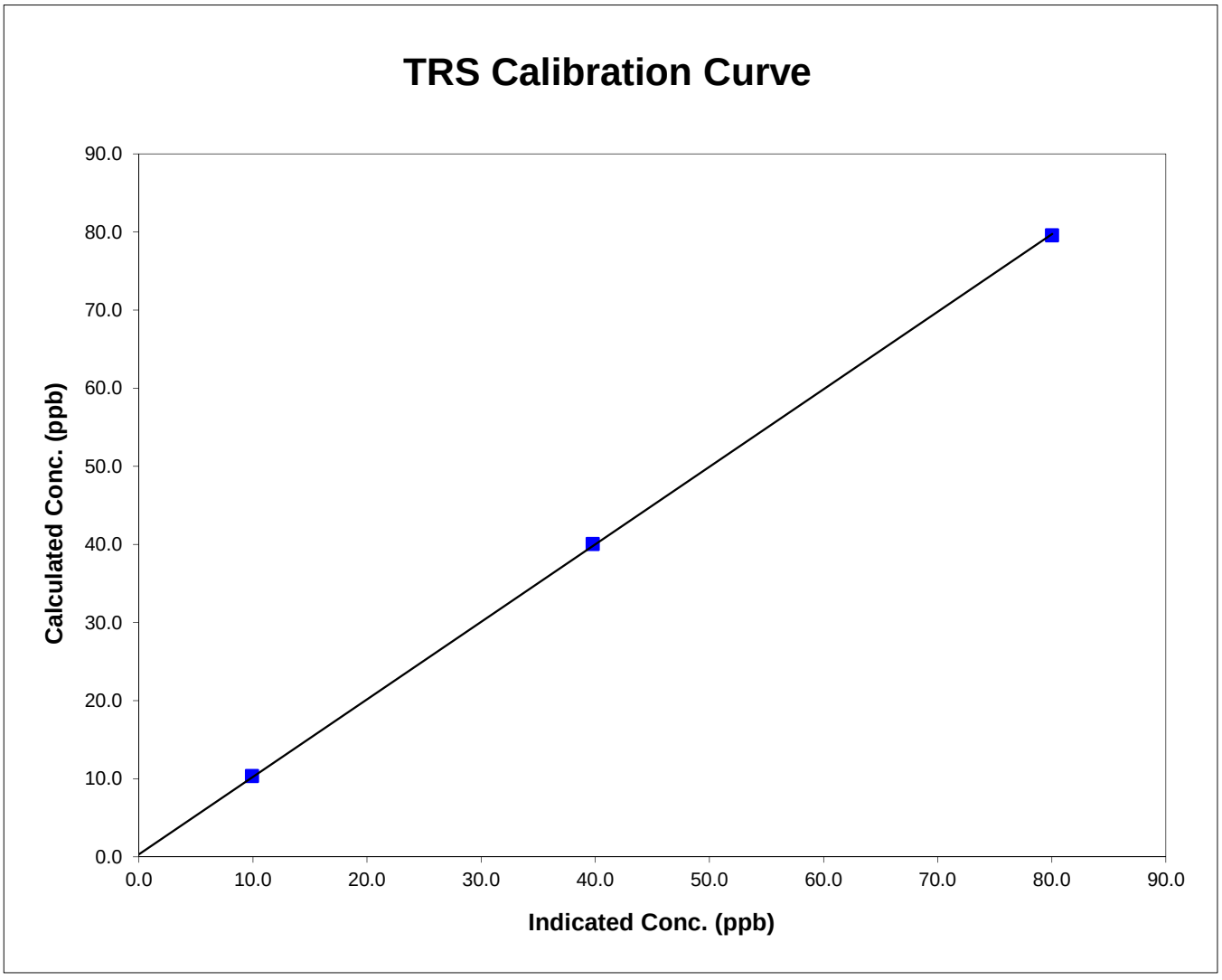
FOCUS AIR QUALITY MONITORING

Station Information

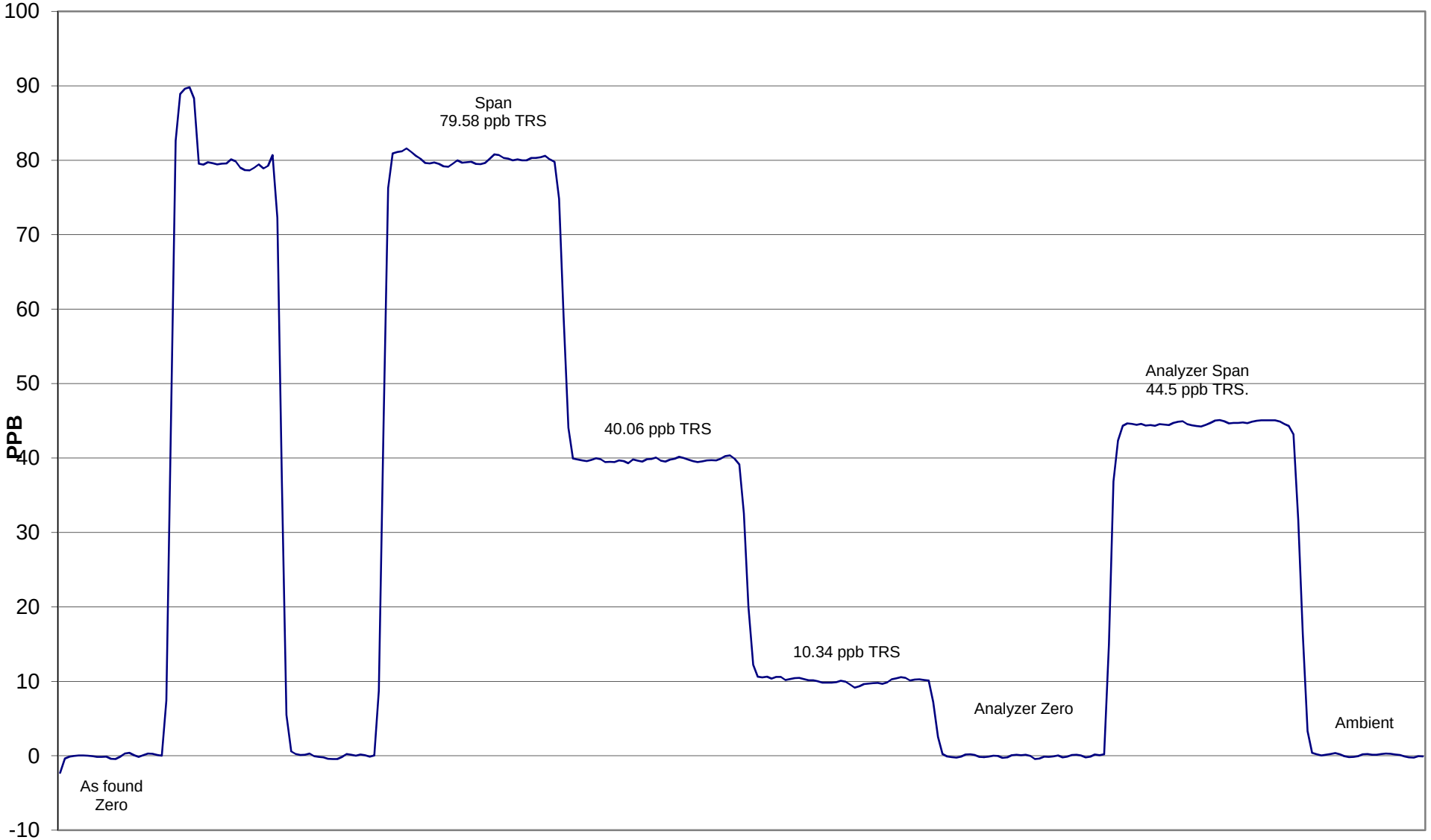
Calibration Date	June 21, 2011	Previous Calibration	June 8, 2011
Station Number	3	Station Location	Smoky Heights
Start Time (MST)	13:10	End Time (MST)	15:35
Analyzer make/model	TEI Model 43C	Analyzer serial #	0436610005

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
79.6	80.0	0.9945	Correlation Coefficient	0.999950
40.0	39.8	1.0067		
10.3	9.9	1.0414	Slope	0.992392
			Intercept	0.317034



Smoky Heights TRS Calibration



June 21, 2011

Calibration Report

Parameter **SO2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 27, 2011	Previous Calibration	May 3, 2011
Station Number	4	Station Location	Beaverlodge

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

Start Time (MST)	10:20	End Time (MST)	11:55
Barometric Pressure	0.910 atm	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	10.1 ppm	Cal Gas Expiry Date	1/25/2010
Gas Cert Reference	SAGL 671		
DACS make	CR3000	DACS serial No.	5237
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.997711	Calculated slope	1.091863
Calculated intercept	0.416334	Calculated intercept	1.898589

Analyzer make	TEI Model 43i-TLE	Analyzer serial # 713021137

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.6		2.6	
Coefficient	0.958		0.958	
PMT	-788.5	V	-788.5	V
UV Lamp Voltage	1125	V	1125	V
Chamber Temp	45.2	Deg C	45.2	Deg C
Pressure	660.7	mm Hg	660.7	mm Hg
Sample Flow	0.507	LPM	0.507	LPM
Lamp Intesity	72% - 100%	%	Drifting	%

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)
4989	0.00	0.0	-0.4	N/A
4989	39.85	80.0	72.1	1.1094
4989	19.90	40.1	34.4	1.1669
4989	9.93	20.1	15.3	1.3077
4989	0.00	0.0	-0.4	As found zero
4989	39.83	80.0	72.1	As found span
			Average Correction Factor	1.1947

Calculated value of As Found Response: 72.794 ppm Percent Change of As Found: 9.0%

	before calibration		after calibration	
Auto zero	-0.3	ppb	NA	ppb
Auto span	53.8	ppb	NA	ppb

Notes: Before replacement of Lamp, primary mirror & lamp housing.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

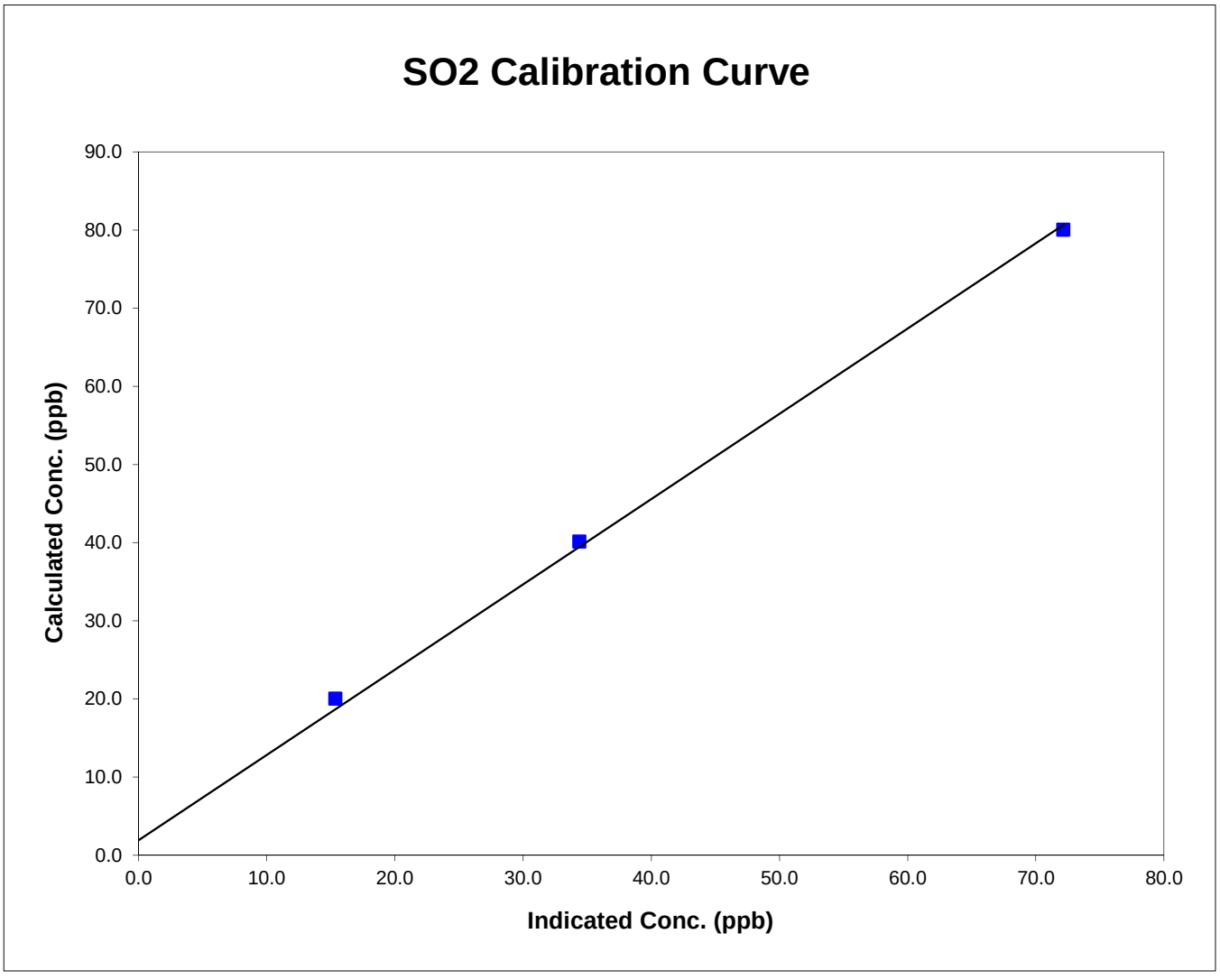
FOCUS AIR QUALITY MONITORING

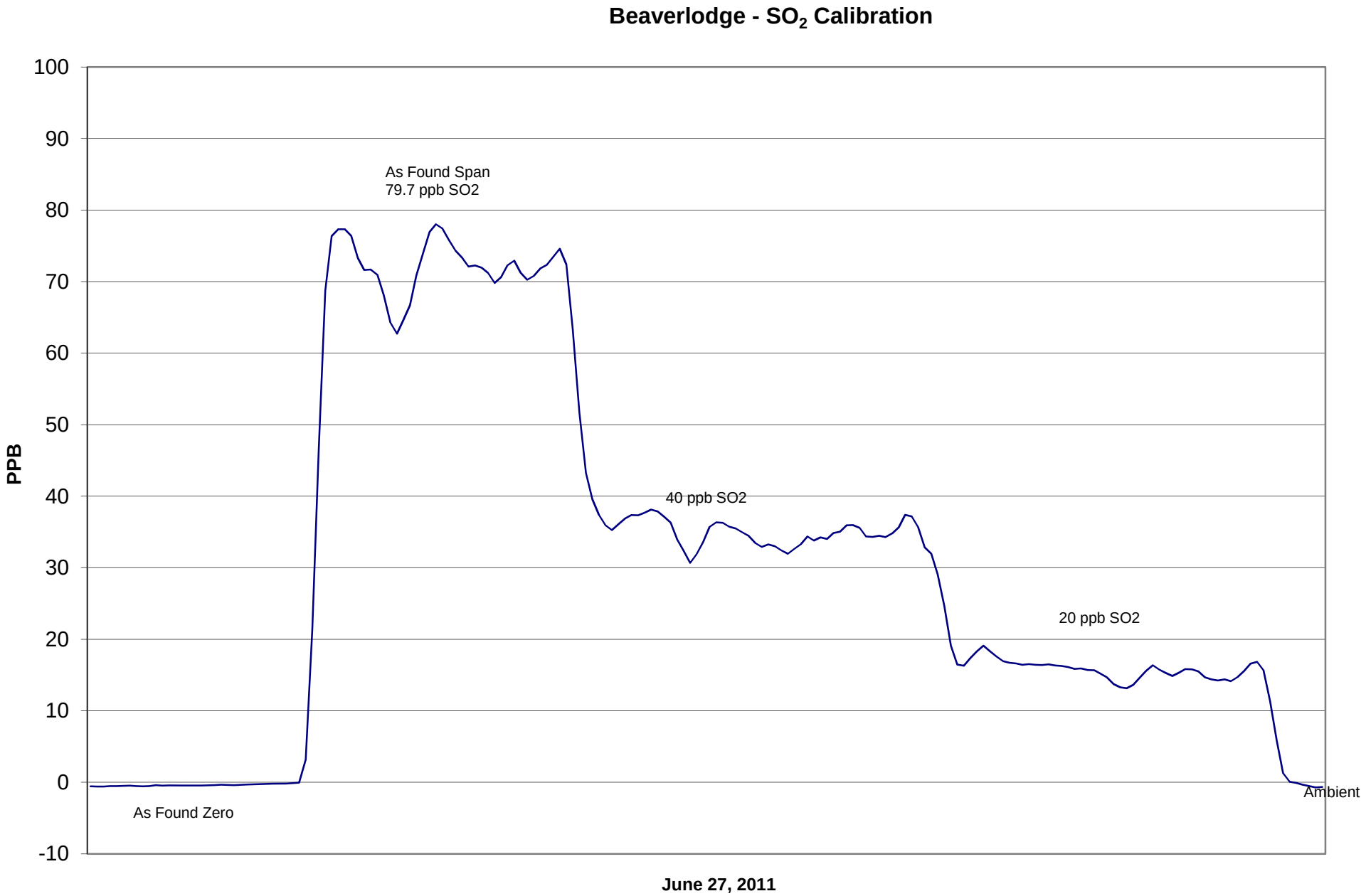
Station Information

Calibration Date	June 27, 2011	Previous Calibration	May 3, 2011
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	10:20	End Time (MST)	11:55
Analyzer make/model	TEI Model 43i-TLE	Analyzer serial #	713021137

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.4	N/A		
80.0	72.1	1.1094	Correlation Coefficient	0.998572
40.1	34.4	1.1669		
20.1	15.3	1.3077	Slope	1.091863
			Intercept	1.898589




Beaverlodge - SO2 Calibration
100
90
80
70
60
50
40
30
20
10
0
-10
PPB
As Found Span
79.7 ppb SO2
40 ppb SO2
20 ppb SO2
As Found Zero
Ambient
June 27, 2011

Calibration Report

Parameter **SO2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 27, 2011	Previous Calibration	June 27, 2011
Station Number	4	Station Location	Beaverlodge
Reason: Routine	Install	Removal	Other:
Start Time (MST)	12:12	End Time (MST)	15:40
Barometric Pressure	0.910 atm	Station Temperature	23.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	10.1 ppm	Cal Gas Expiry Date	1/25/2010
Gas Cert Reference	SAGL 671		
DACS make	CR3000	DACS serial No.	5237
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	NA	Calculated slope	1.008248
Calculated intercept	NA	Calculated intercept	-0.336944
Analyzer make	TEI Model 43i-TLE	Analyzer serial #	713021137

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.6		2.44	
Coefficient	0.958		0.902	
PMT	-788.5	V	-788.5	V
UV Lamp Voltage	1125	V	1047	V
Chamber Temp	45.2	Deg C	45.2	Deg C
Pressure	660.7	mm Hg	661.9	mm Hg
Sample Flow	0.507	LPM	0.506	LPM
Lamp Intesity	72% - 100%	%	98%	%

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)
4989	0.00	0.0	0.3	N/A
4989	39.85	80.0	79.6	1.0052
4989	19.90	40.1	40.4	0.9932
4989	9.93	20.1	20.1	1.0005
				As found zero
				As found span
			Average Correction Factor	0.9996

Calculated value of As Found Response: NA

Percent Change of As Found: NA

	before calibration		after calibration	
Auto zero	-0.3	ppb	-0.2	ppb
Auto span	53.8	ppb	59.1	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

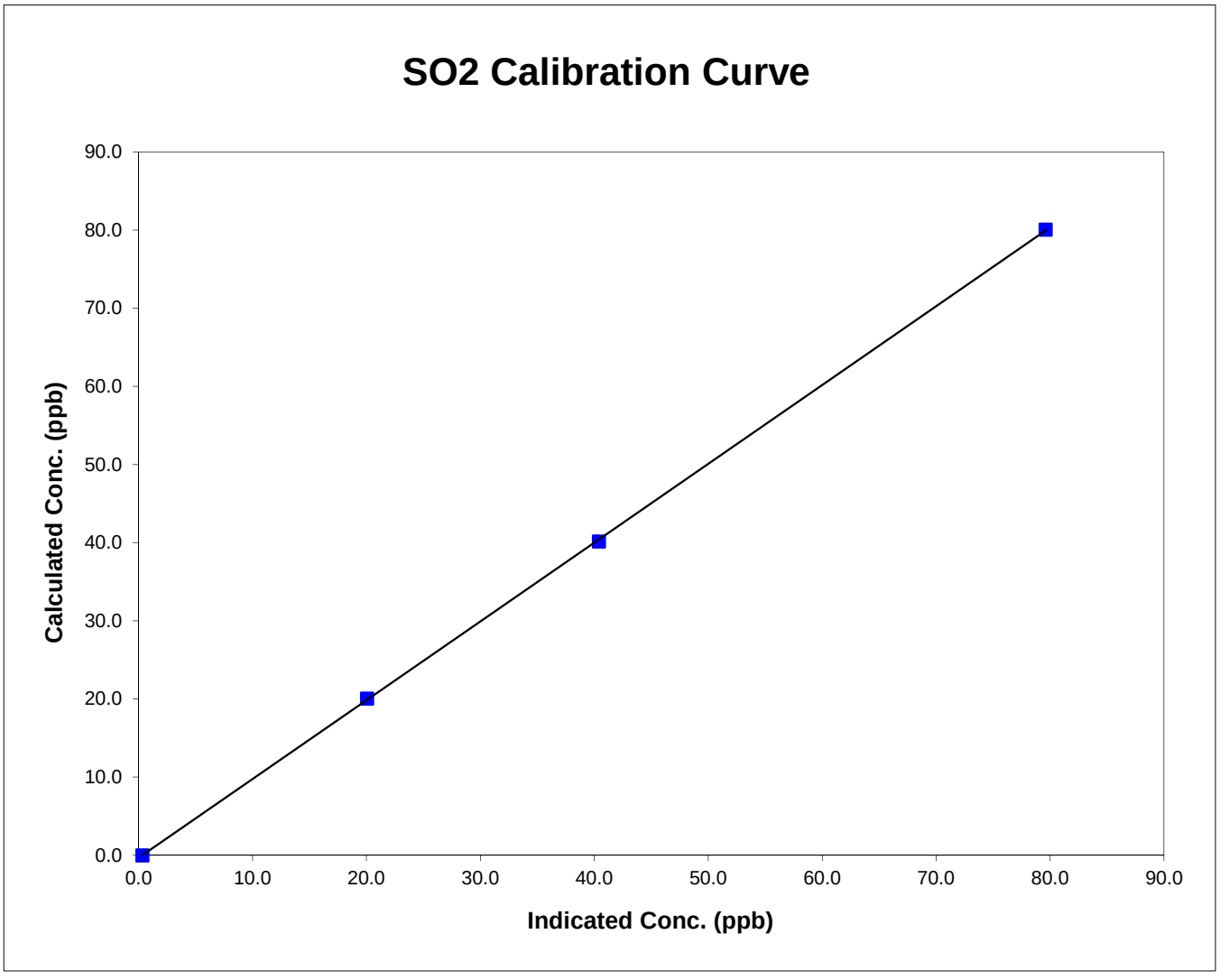
FOCUS AIR QUALITY MONITORING

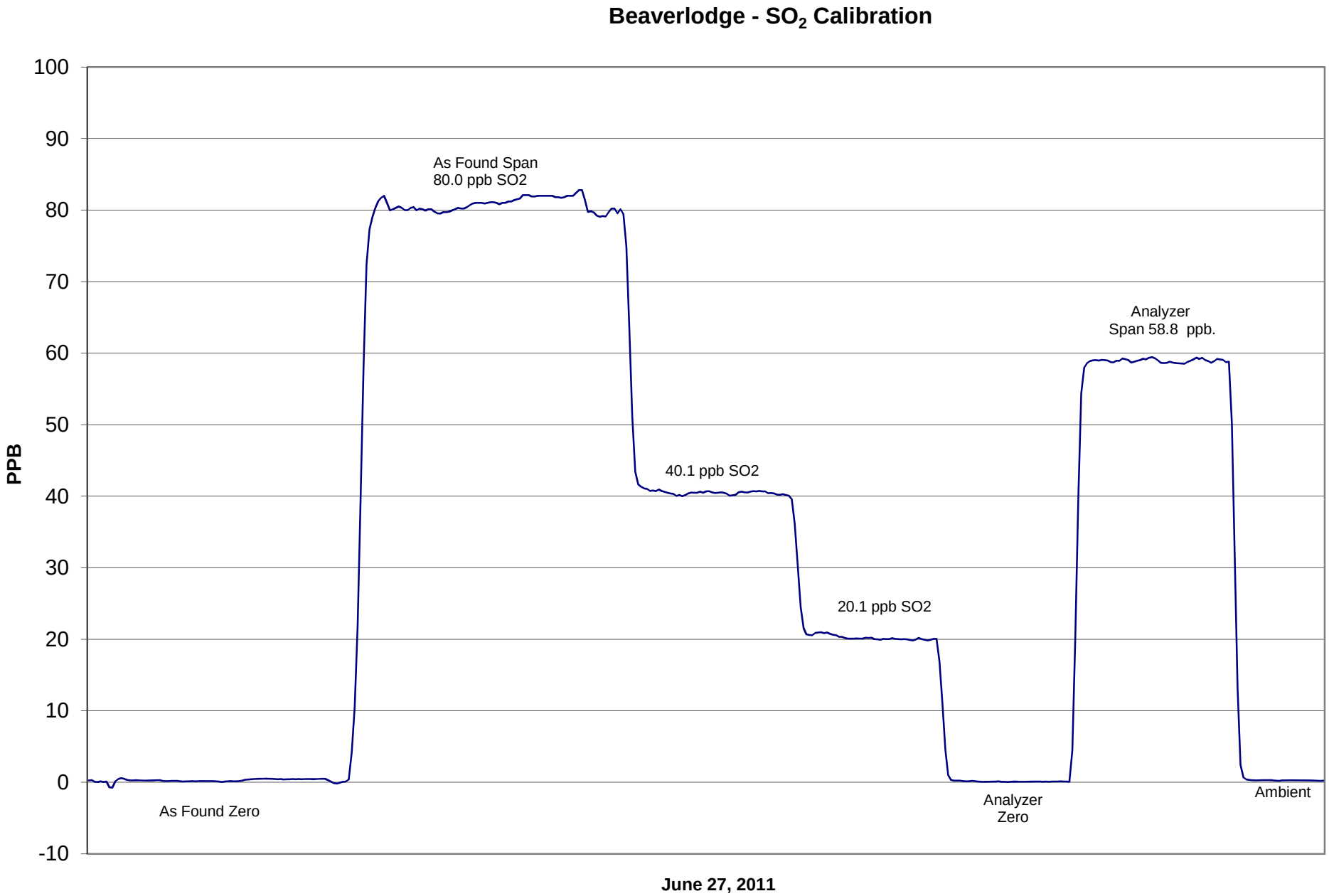
Station Information

Calibration Date	June 27, 2011	Previous Calibration	June 27, 2011
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	12:12	End Time (MST)	15:40
Analyzer make/model	TEI Model 43i-TLE	Analyzer serial #	713021137

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A		
80.0	79.6	1.0052	Correlation Coefficient	0.999967
40.1	40.4	0.9932		
20.1	20.1	1.0005	Slope	1.008248
			Intercept	-0.336944




Beaverlodge - SO2 Calibration
100
90
80
70
60
50
40
30
20
10
0
-10
PPB
As Found Span
80.0 ppb SO2
40.1 ppb SO2
20.1 ppb SO2
Analyzer
Span 58.8 ppb.
As Found Zero
Analyzer
Zero
Ambient
June 27, 2011

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 22, 2011	Previous Calibration	May 3, 2011
Station Number	4	Station Location	BeaverLodge

Reason: Routine | Installation | Removal | Other:

Start Time (MST)	9:20		End Time (MST)	15:47	
Barometric Pressure	0.909	Atm	Station Temperature	23.0	Deg C
Calibrator	Environics		Serial Number	2844	
NO Cal Gas Conc	51.4	ppm	Cal Gas Expiry Date		
NOx Cal Gas Conc	51.4	ppm	Cal Gas Serial #	CC-114395	

DACS Information

DACS make: AP1000 DACS serial No.:

Parameter		NO2	NOx	NO
Before	Data Slope	0.998269	1.008443	1.005078
	Data Offset	1.124071	-2.355078	-1.991995
After	Data Slope	0.999449	1.004135	1.005126
	Data Offset	0.011104	-2.519029	-2.397382
Channel #		8	6	7
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

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

Test Point	before		after	
Concentration range	0-500	ppb	0-500	ppb
NO offset	2.4	mV	2.2	mV
NOx bkgnd	2.5	mV	2.5	mV
NO coefficient	1.499		1.499	
NOx coefficient	1.003		1.002	
NO2 conv temp	326.8	Deg C	326.2	Deg C
PMT Temp	-3.1	Deg C	-3.0	Deg C
PMT Volt	-676.7	mV	-663.4	mV
R Cell Press	189.1	in Hg	157.9	in Hg
Sample Flow	0.572	ccm	0.690	ccm

Calibration Report

Parameter **NOX-NO-NO2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: June 22, 2011 Station Location: BeaverLodge

Calibration Data

	Dilution flow rate (ccm)	Source gas flow rate (ccm)	Calculated NOx conc (ppb)	Calculated NO conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor
zero	4989	0.00	0.0	0.0	0.0	0.1	-0.2	0.1	N/A	N/A
1	4989	39.83	407.1	407.1	0.0	406.5	406.0	0.5	1.0014	1.0027
2	4989	19.90	204.2	204.2	0.0	207.5	207.0	0.0	0.9840	0.9867
3	4989	9.93	102.1	102.1	0.0	106.4	106.5	-0.2	0.9597	0.9583
AFZ	4989	0.00	0.0	0.0	0.0	0.1	-0.2	0.1	0.0000	0.0000
AFS	4989	39.83	407.1	407.1	0.8	340.0	338.4	1.4	1.1975	1.2030
							Average Correction Factor		0.9817	0.9826

As Found Concentrations: NO_X= 337.5 NO= 336.6 As Found Percent Change NO_X= -17.1% NO= -17.3%

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	-0.2	-0.2	0.0	0.1	-0.2	0.1	N/A	N/A	N/A	N/A
NO point	406.4	406.4	0.0	406.7	406.4	0.3	0.9993	1.0000	N/A	N/A
300	406.4	181.2	225.2	407.2	181.2	225.8	0.9982	1.0000	0.9974	100.3%
200	406.4	253.2	153.2	405.6	253.2	152.5	1.0021	1.0000	1.0048	99.5%
100	406.4	322.8	83.6	406.2	322.8	83.9	1.0005	1.0000	0.9971	100.3%
					Average Correction Factor		1.0003	1.0000	0.9998	100.0%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.2	-0.3	-0.2	ppb	0.0	-0.1	0.0	ppb
Auto span	238.0	235.5	1.6	ppb	232.5	230.3	1.6	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PAZA**

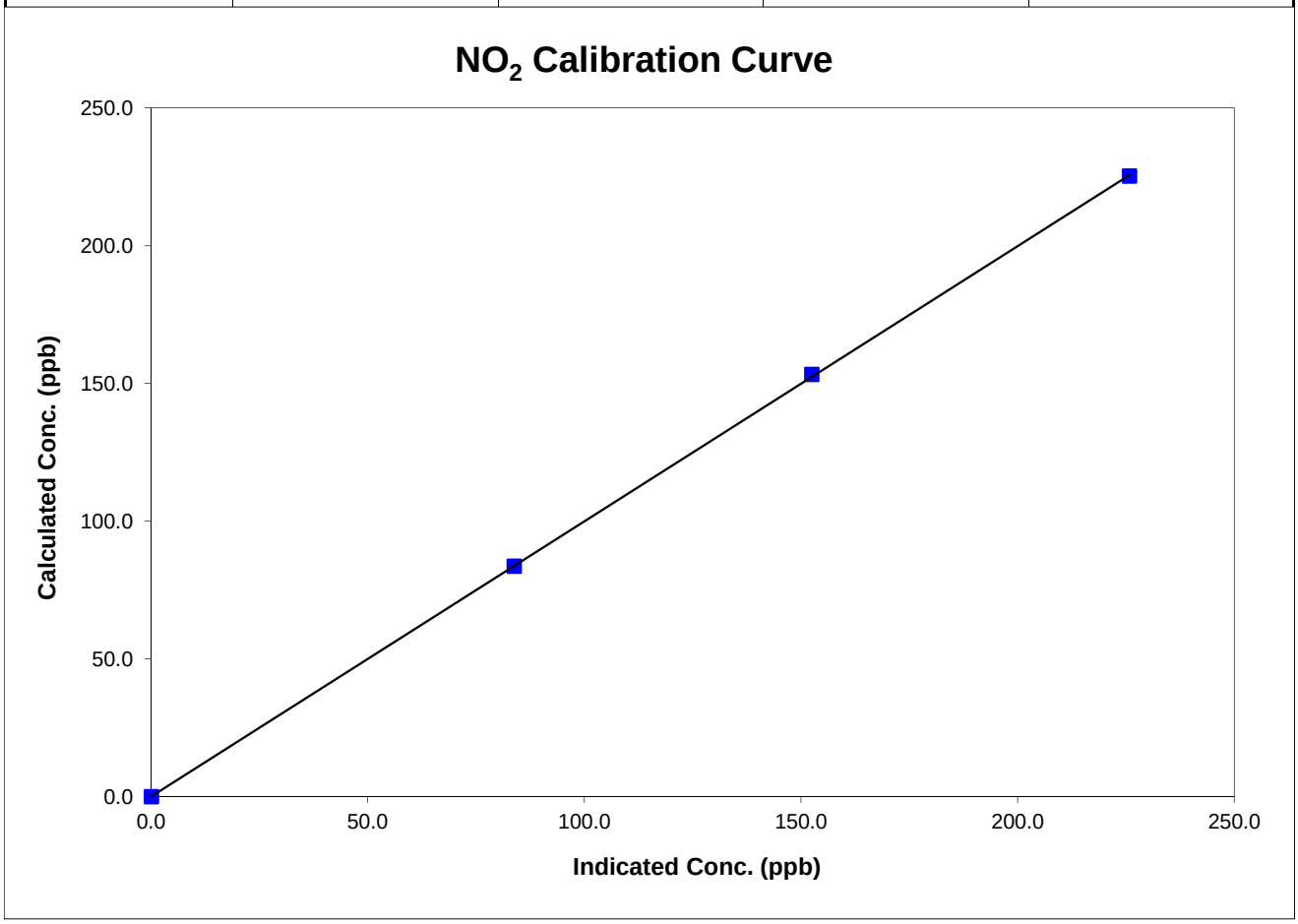
FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 22, 2011	Previous Calibration	May 3, 2011
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	9:20	End Time (MST)	15:47
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A		
225.2	225.8	0.9974	Correlation Coefficient	0.999967
153.2	152.5	1.0048		
83.6	83.9	0.9971	Slope	0.999449
			Intercept	0.011104



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

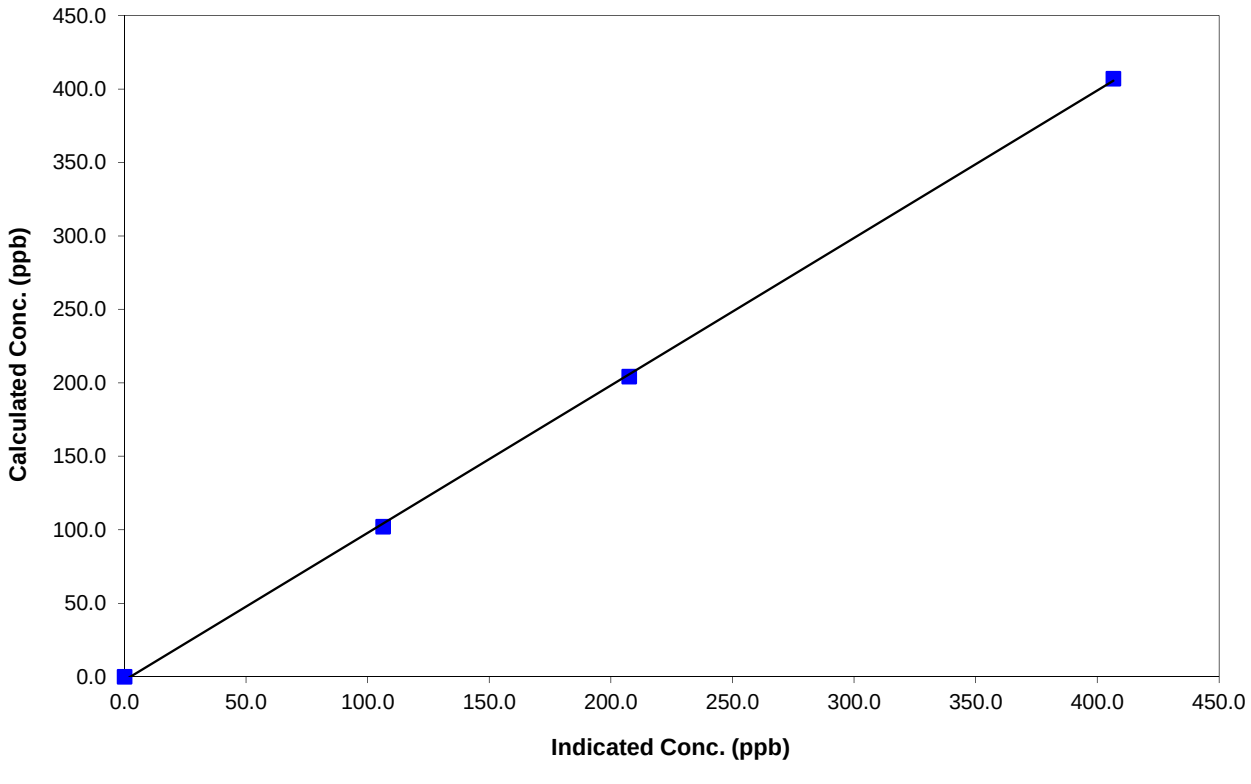
Station Information

Calibration Date	June 22, 2011	Previous Calibration	May 3, 2011
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	9:20	End Time (MST)	15:47
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A		
407.1	406.5	1.0014	Correlation Coefficient	0.999828
204.2	207.5	0.9840		
102.1	106.4	0.9597	Slope	1.004135
			Intercept	-2.519029

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

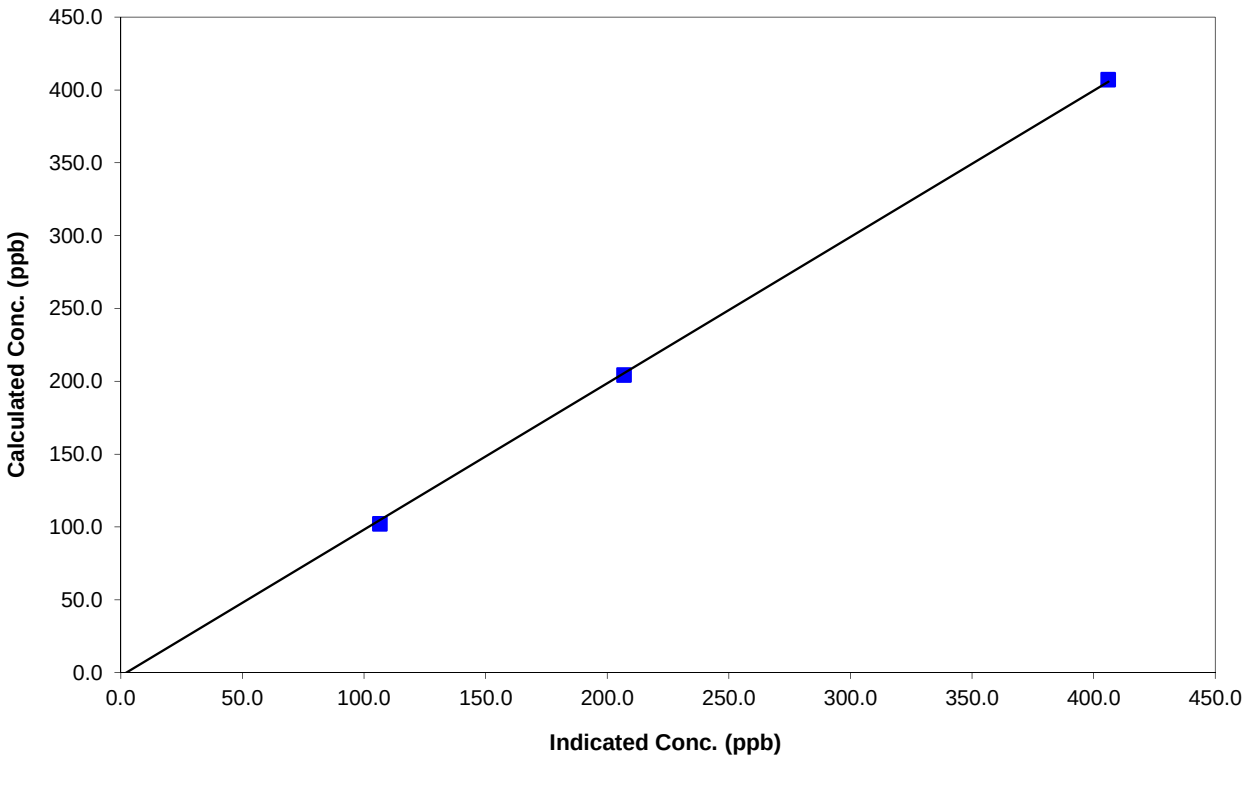
Station Information

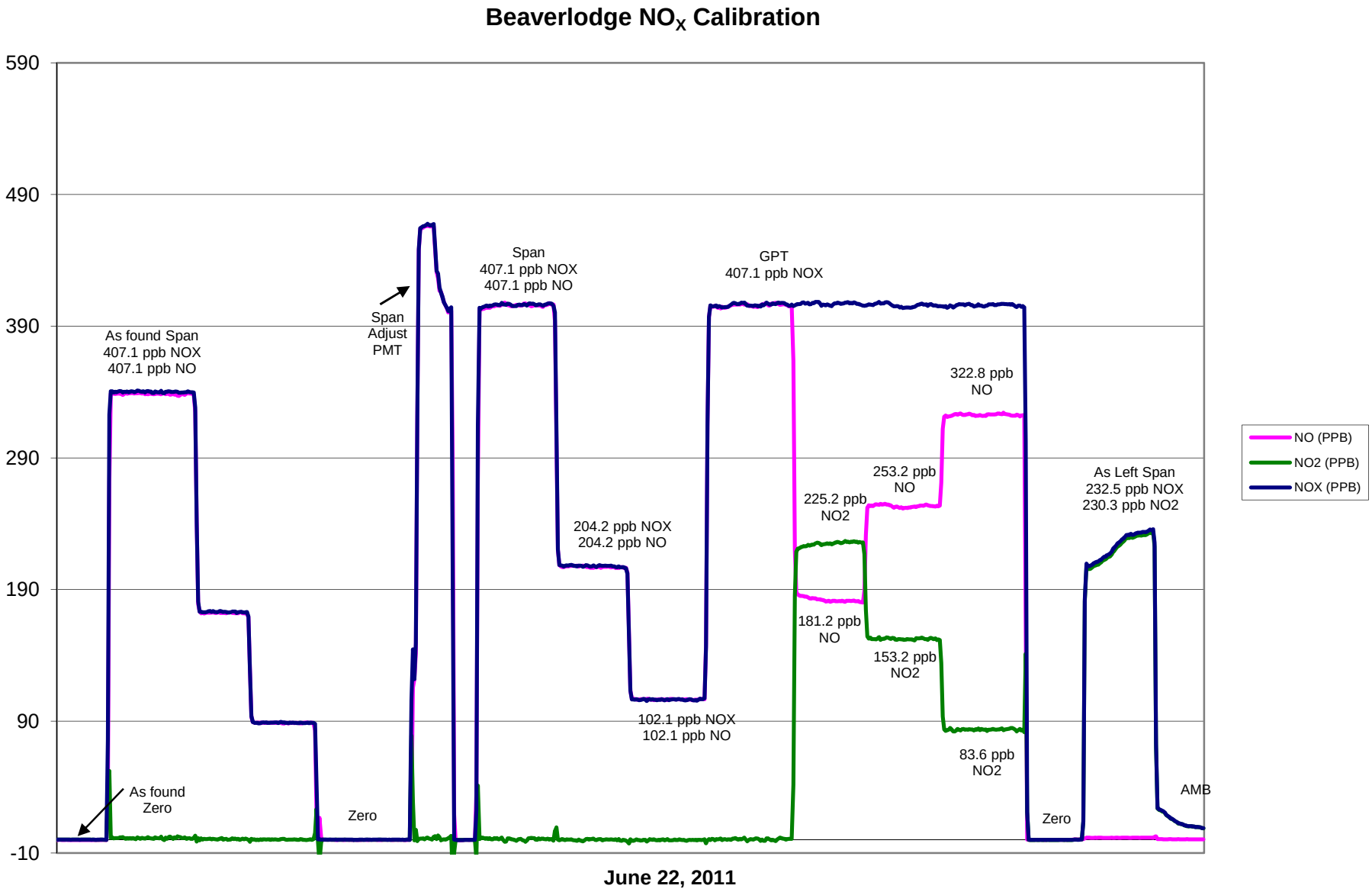
Calibration Date	June 22, 2011	Previous Calibration	May 3, 2011
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	9:20	End Time (MST)	15:47
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.2	N/A		
407.1	406.0	1.0027	Correlation Coefficient	0.999808
204.2	207.0	0.9867		
102.1	106.5	0.9583	Slope	1.005126
			Intercept	-2.397382

NO Calibration Curve




Beaverlodge NOX Calibration
590
490
390
290
190
90
-10
As found Span
407.1 ppb NOX
407.1 ppb NO
Span
Adjust
PMT
Span
407.1 ppb NOX
407.1 ppb NO
GPT
407.1 ppb NOX
322.8 ppb
NO
253.2 ppb
NO
225.2 ppb
NO2
204.2 ppb NOX
204.2 ppb NO
181.2 ppb
NO
153.2 ppb
NO2
102.1 ppb NOX
102.1 ppb NO
83.6 ppb
NO2
As Left Span
232.5 ppb NOX
230.3 ppb NO2
As found
Zero
Zero
Zero
AMB
NO (PPB)
NO2 (PPB)
NOX (PPB)
June 22, 2011

Calibration Report

Parameter **O3**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 22, 2011	Previous Calibration	May 3, 2011
Station Number	4	Station Location	Beaverlodge

Reason: Routine | Install | Removal | Other:

Start Time (MST)	14:45	End Time (MST)	17:08
Barometric Pressure	0.909 atm	Station Temperature	23.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA

DACS make	CR3000	DACS serial No.	5237
DACS voltage range	0 - 5 volt	DACS channel #	9
	Before		After
Calculated slope	0.997676	Calculated slope	1.002513
Calculated intercept	1.274052	Calculated intercept	0.701442

Analyzer make	Teco 49C	Analyzer serial # 49C-76443-383

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-3.20	ppb	-2.70	ppb
slope	1.019		1.019	
Lamp temp	56.4	mV	56.5	mV
Lamp Intensity A/B	61809/64244	mV	61657/64437	mV
Pressure	682.9	mm Hg	688.2	mm Hg
Flow A	0.762	ccm	0.765	ccm
Flow B	0.710	ccm	0.714	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)
4989	0.00	0.0	0.0	N/A
4989	250.00	225.2	224.7	1.0024
4989	150.00	153.2	151.5	1.0112
4989	85.00	83.6	81.8	1.0216
4989	0.00	0.0	0.0	As found zero
4989	250.00	225.2	224.7	As found span
			Average Correction Factor	1.0117

Calculated value of As Found Response: 225.4 ppm Percent Change of As Found: 0.1%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.6	ppb
Auto span	114.3	ppb	106.4	ppb

Notes: Used rebuilt sample pump replaced a few months ago was heating up pretty bad with noise.
Replace sample pump with new. Tried zero/span & pump quit before cal.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **O3**

Air Monitoring Network **PAZA**

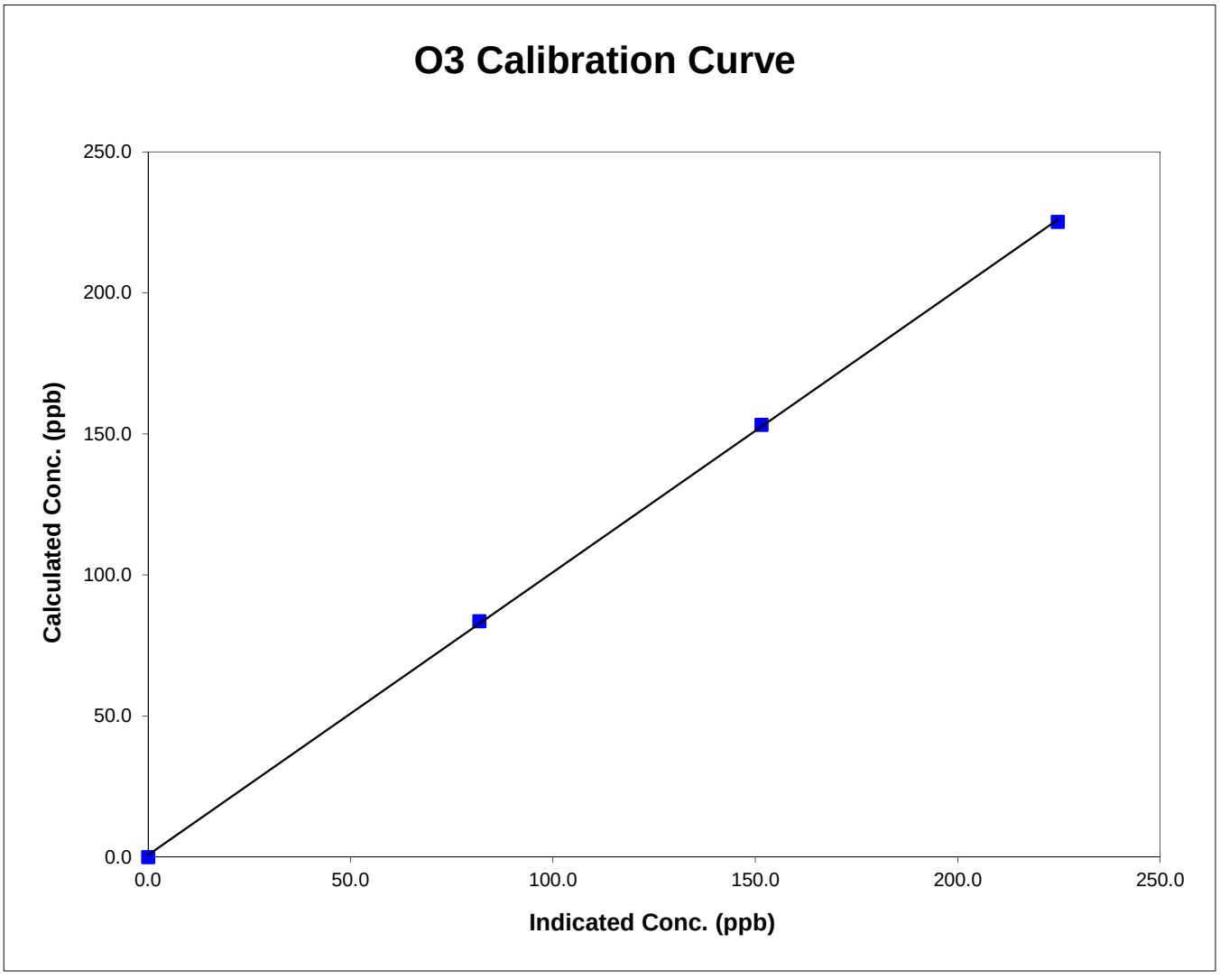
FOCUS AIR QUALITY MONITORING

Station Information

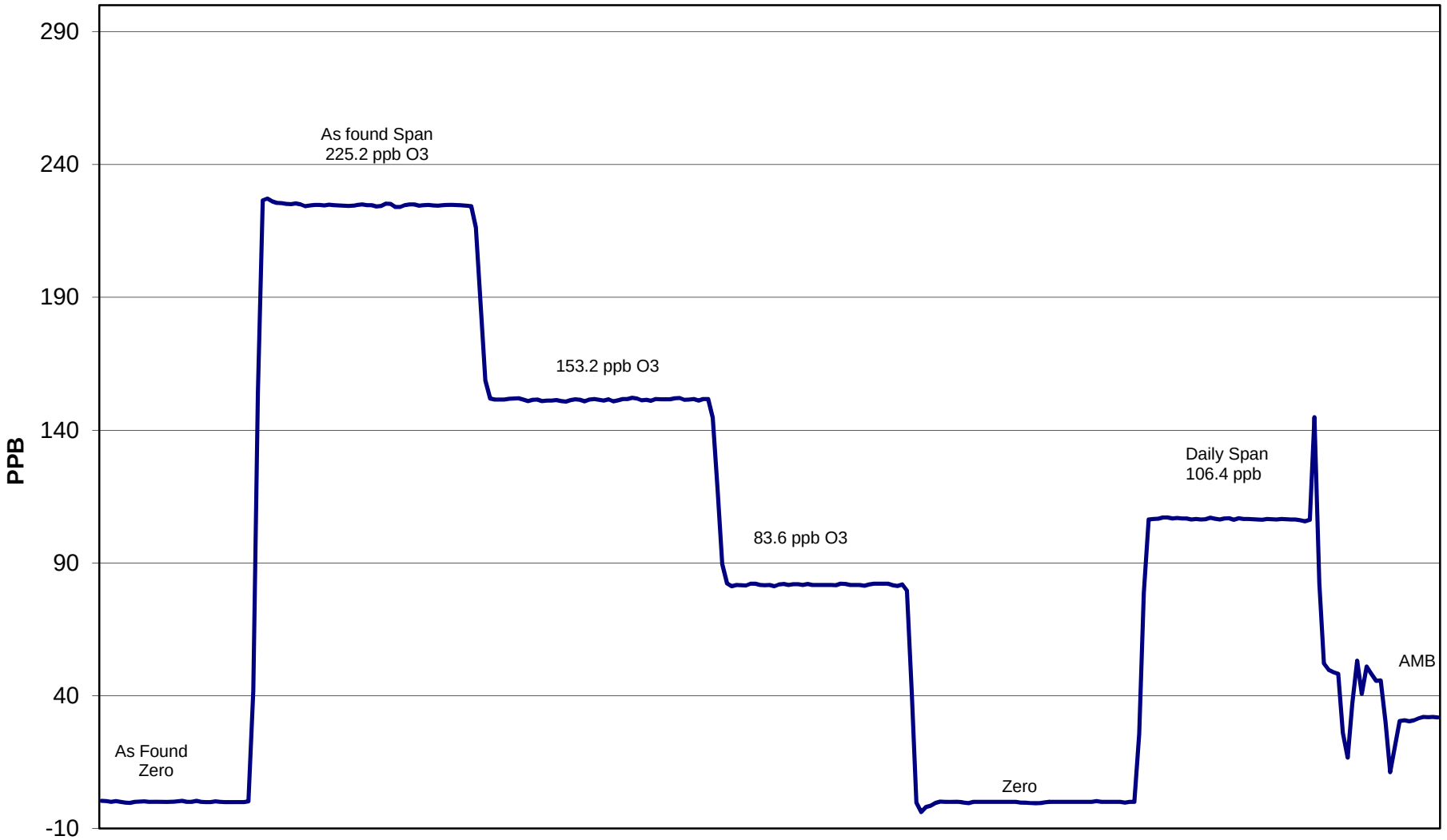
Calibration Date	June 22, 2011	Previous Calibration	May 3, 2011
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	14:45	End Time (MST)	17:08
Analyzer make/model	Teco 49C	Analyzer serial #	49C-76443-383

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	NA		
225.2	224.7	1.0024	Correlation Coefficient	0.999920
153.2	151.5	1.0112		
83.6	81.8	1.0216	Slope	1.002513
			Intercept	0.701442



Beaverlodge - O_3 Calibration



June 22, 2011

Calibration Report

Parameter **SO2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 30, 2011	Previous Calibration	May 29, 2011
Station Number	9	Station Location	Rover - Bonanza

Reason: Routine | Install | Removal | Other:

Start Time (MST)	8:02	End Time (MST)	11:02
Barometric Pressure	31.70 inches Hg	Station Temperature	15.7 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	50.6 ppm	Cal Gas Expiry Date	4/6/2012
Gas Cert Reference	SGAL3245		
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volt	DACS channel #	2
	Before		After
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.002894	Calculated slope	0.995558
Calculated intercept	-0.107955	Calculated intercept	0.948824

Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	9.5		9.6	
Coefficient	0.994		1.001	
UV Lamp Voltage	790	V	790	V
Chamber Temp	44.3	C	44.2	C
Perm Gas Temp	45	C	45	C
Pressure	659.6	mm Hg	660.1	mm Hg
Sample Flow	0.481	LPM	0.48	LPM
Lamp Intesity	47832	Hz	47323	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)
4989	0.00	0.0	0.0	N/A
4989	39.83	400.8	402.0	0.9968
4989	19.90	201.0	200.6	1.0023
4989	9.93	100.5	99.1	1.0147
4989	0.00	0.0	0.0	As found zero
4989	39.83	400.8	395.8	As found span
			Average Correction Factor	1.0046

Calculated value of As Found Response: 396.842 ppm Percent Change of As Found: 1.0%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.3	ppm
Auto span	264.0	ppm	266.0	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

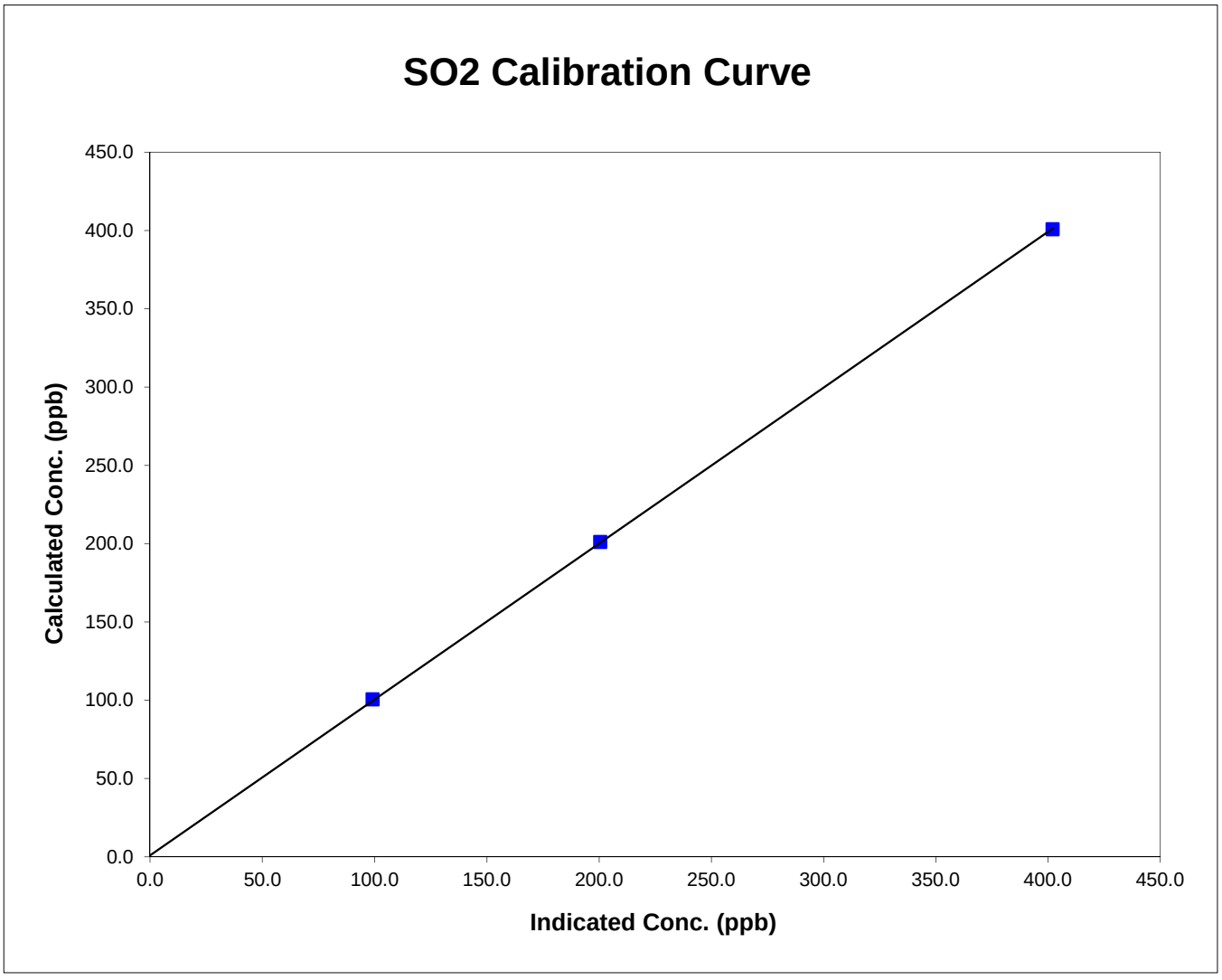
FOCUS AIR QUALITY MONITORING

Station Information

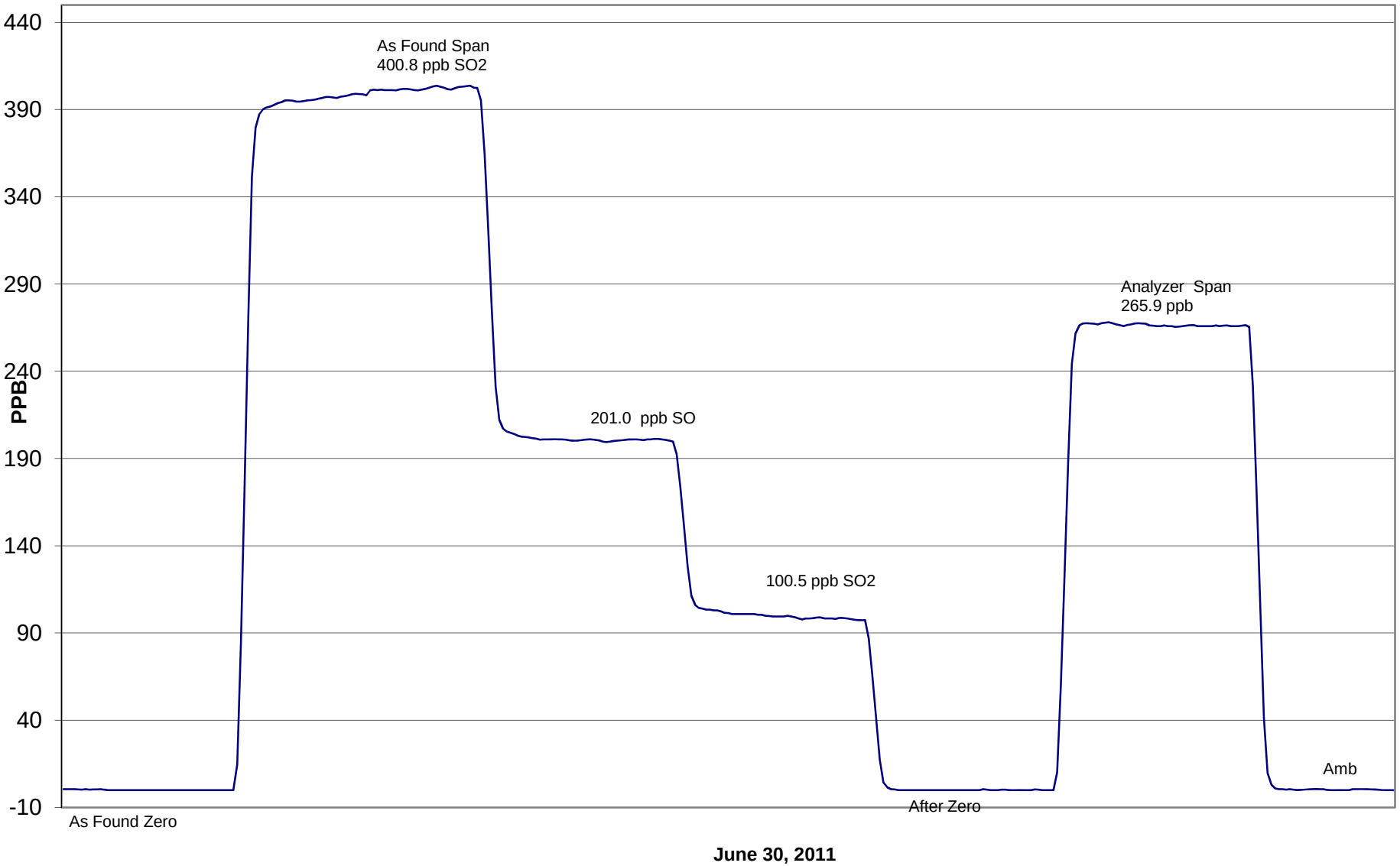
Calibration Date	June 30, 2011	Previous Calibration	May 29, 2011
Station Number	9	Station Location	Rover - Bonanza
Start Time (MST)	8:02	End Time (MST)	11:02
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
400.8	402.0	0.9968	Correlation Coefficient	0.999976
201.0	200.6	1.0023		
100.5	99.1	1.0147	Slope	0.995558
			Intercept	0.948824



Bonanza - SO_2 Calibration



Calibration Report

Parameter **TRS**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 30, 2011	Previous Calibration	May 29, 2011
Station Number	9	Station Location	Rover-Bonanza
Reason:	Routine ☒ Install ☐	Removal ☐	Other: ☐
Start Time (MST)	12:44	End Time (MST)	15:30
Barometric Pressure	27.5 inches Hg	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	5.77 ppm	Cal Gas Expiry Date	9/13/2011
Gas Cert Reference	BLM001434		
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volt	DACS channel #	1
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.010218	Calculated slope	1.013008
Calculated intercept	0.069717	Calculated intercept	0.303277
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	10.7	ppb	10.7	ppb
Coefficient	1.444		1.444	
Lamp Voltage	787	V	787	V
Chamber Temp	44.2	C	44.2	C
Perm gas Temp	45.0	C	45.0	C
Pressure	652.5	mmHg	654.5	mmHg
Sample Flow	.436	ccm	.437	ccm
Lamp Intensity	39490.0	Hz	39490.0	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	-0.4	N/A
4988	69.72	79.5	77.9	1.0205
4988	34.83	40.0	39.8	1.0053
4988	8.93	10.3	9.6	1.0721
4988	0.00	0.0	-0.4	As found zero
4988	69.72	79.5	77.9	As found span
			Average Correction Factor	1.0326

Calculated value of As Found Response: 79.18 ppm Percent Change of As Found: 0.5%

	before calibration		after calibration	
Auto zero	-0.6	ppm	-0.1	ppm
Auto span	69.6	ppm	69.6	ppm

Notes: No Adjust.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **TRS**

Air Monitoring Network **PAZA**

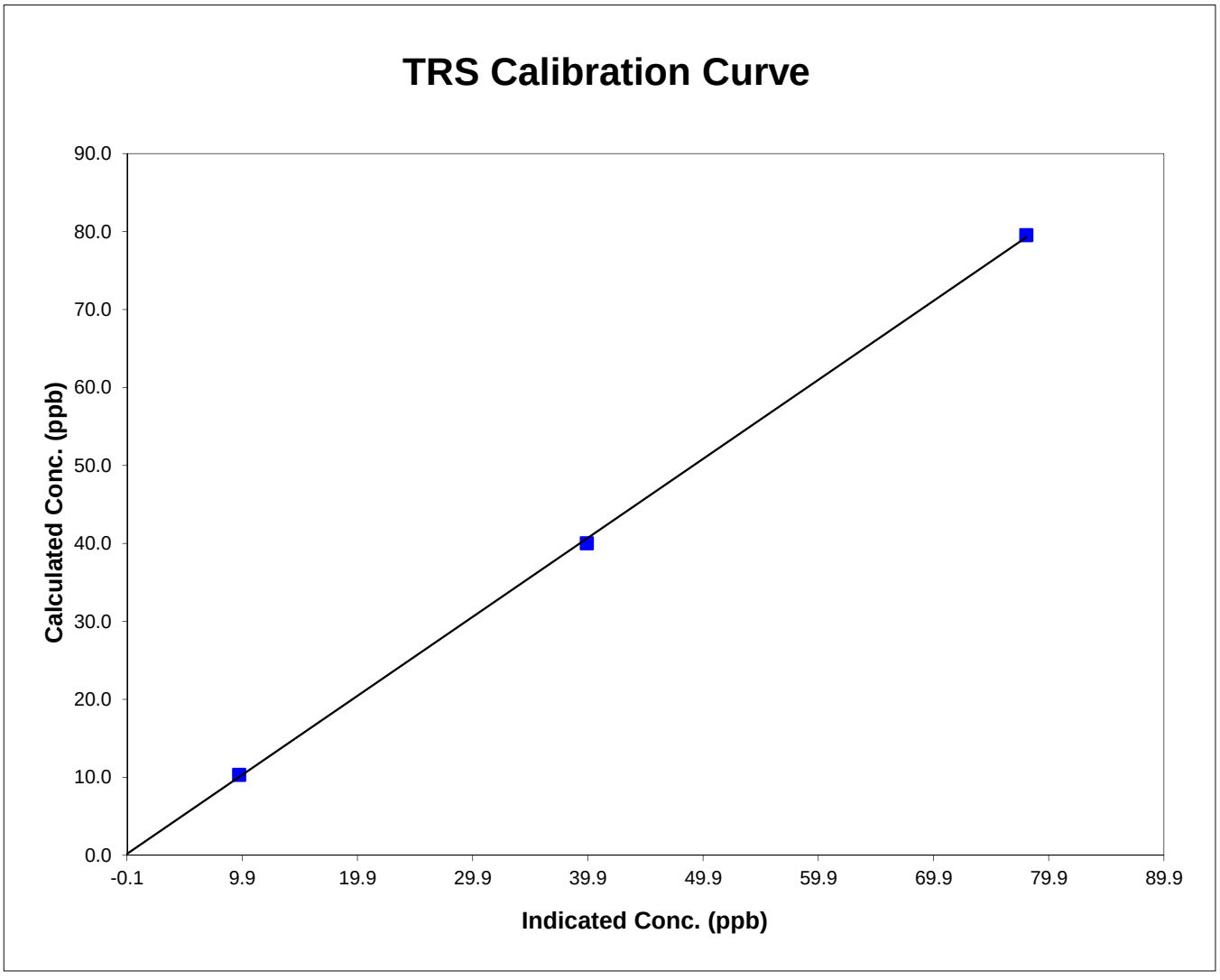
FOCUS AIR QUALITY MONITORING

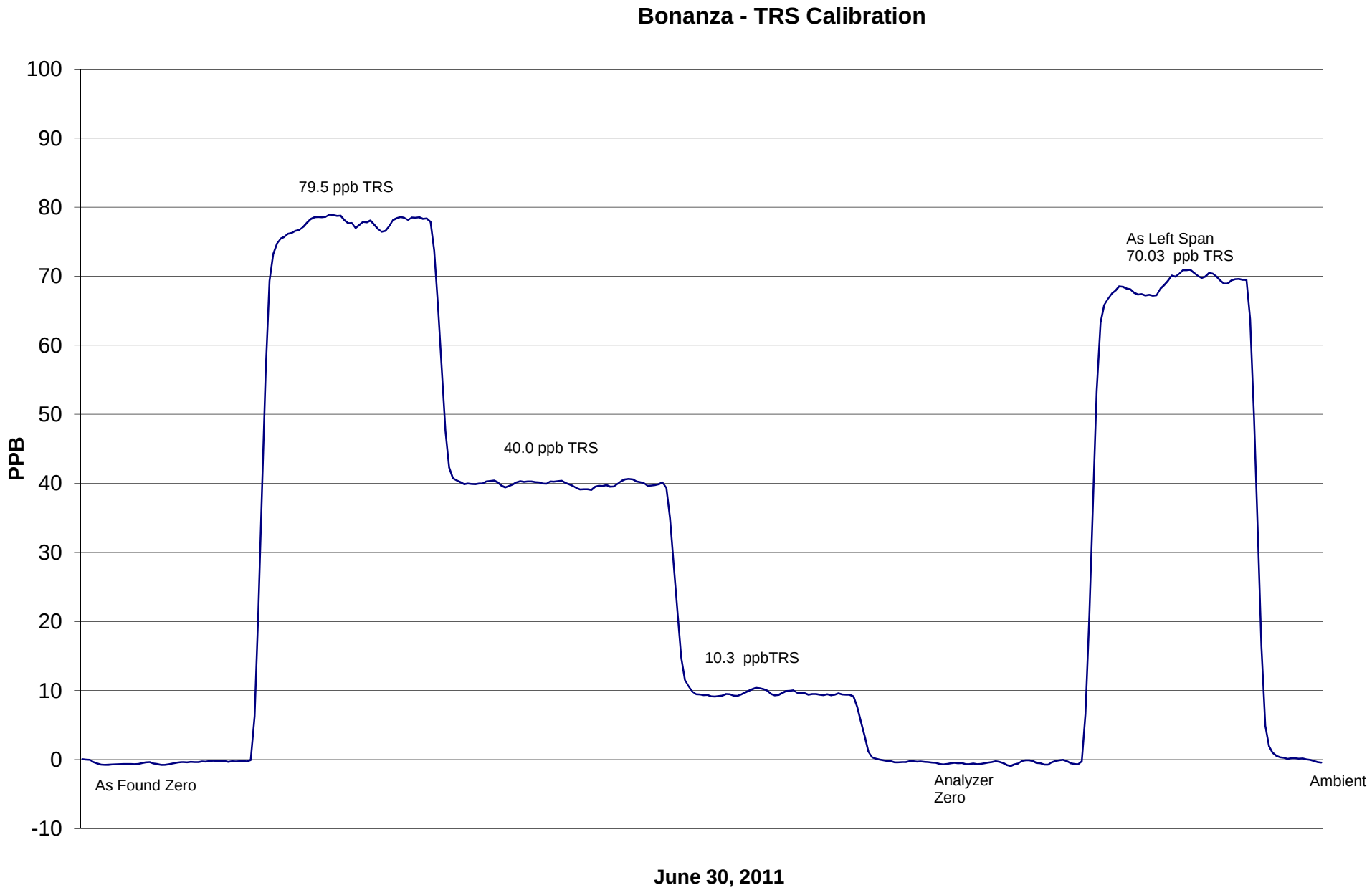
Station Information

Calibration Date	June 30, 2011	Previous Calibration	May 29, 2011
Station Number	9	Station Location	Rover-Bonanza
Start Time (MST)	12:44	End Time (MST)	15:30
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.4	N/A		
79.5	77.9	1.0205	Correlation Coefficient	0.999863
40.0	39.8	1.0053		
10.3	9.6	1.0721	Slope	1.013008
			Intercept	0.303277




Bonanza - TRS Calibration
100
90
80
70
60
50
40
30
20
10
0
-10
PPB
79.5 ppb TRS
40.0 ppb TRS
10.3 ppbTRS
As Left Span
70.03 ppb TRS
As Found Zero
Analyzer
Zero
Ambient
June 30, 2011

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 30, 2011	Previous Calibration	May 29, 2011
Station Number	9	Station Location	Rover-Bonanza

Reason: **Routine** Installation Removal Other:

Start Time (MST)	10:15		End Time (MST)	12:50	
Barometric Pressure	0.907	Atm	Station Temperature	20.0	Deg C
Calibrator	Environics		Serial Number	3474	
NO Cal Gas Conc	51.4	ppm	Cal Gas Expiry Date	April 6th, 2012	
NOx Cal Gas Conc	51.4	ppm	Cal Gas Serial #	SGAL 3245	

DACS Information

DACS make	CR3000	DACS serial No.	5407

Parameter		NO2	NOx	NO
Before	Data Slope	0.996306	0.997313	1.001680
	Data Offset	-0.961540	-2.698564	-2.790452
After	Data Slope	0.995459	1.003183	1.005562
	Data Offset	-1.052616	-2.977213	-3.267732
Channel #		5	3	4
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	TEI 42i	Analyzer serial #	0701120011

Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	4.1	mV	4.2	mV
NOx bkgnd	4.5	mV	4.5	mV
NO coefficient	1.103		1.130	
NOx coefficient	1.003		0.998	
NO2 conv temp	324.2	Deg C	325.3	Deg C
PMT Temp	-3.1	Deg C	-3.0	Deg C
PMT Volt	-773.7	mV	-773.3	mV
R Cell Press	151.5	in Hg	153.2	in Hg
Sample Flow	0.876	ccm	0.877	ccm

Calibration Report

Parameter **NOX-NO-NO2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: June 30, 2011 Station Location: Rover-Bonanza

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	0.7	0.7	0.1	N/A	N/A
1	4989	39.83	407.1	407.1	0.0	407.6	406.9	-0.5	0.9987	1.0005
2	4989	19.90	204.2	204.2	0.0	207.5	207.3	-0.4	0.9839	0.9851
3	4989	9.93	102.1	102.1	0.0	107.2	107.6	-0.3	0.9525	0.9492
AFZ	4989	0.00	0.0	0.0	0.0	0.7	0.7	0.1	0.0000	0.0000
AFS	4989	39.83	407.1	407.1	0.8	401.2	398.3	1.7	1.0147	1.0222
							Average Correction Factor		0.9784	0.9783

As Found Concentrations: NO_X= 397.8 NO= 394.7 As Found Percent Change NO_X= -2.3% NO= -3.0%

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	0.7	0.7	0.0	0.7	0.7	0.1	N/A	N/A	N/A	N/A
NO point	405.5	405.5	0.0	405.9	405.5	-0.8	0.9990	1.0000	N/A	N/A
300	405.5	196.0	209.5	408.3	196.0	210.7	0.9932	1.0000	0.9945	100.6%
200	405.5	264.5	141.0	409.3	264.5	143.4	0.9907	1.0000	0.9836	101.7%
100	405.5	333.2	72.2	409.2	333.2	74.8	0.9908	1.0000	0.9661	103.5%
					Average Correction Factor		0.9916	1.0000	0.9814	101.9%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.2	-0.3	-0.2	ppb	0.8	0.2	0.8	ppb
Auto span	200.0	197.1	1.6	ppb	193.0	189.9	2.3	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

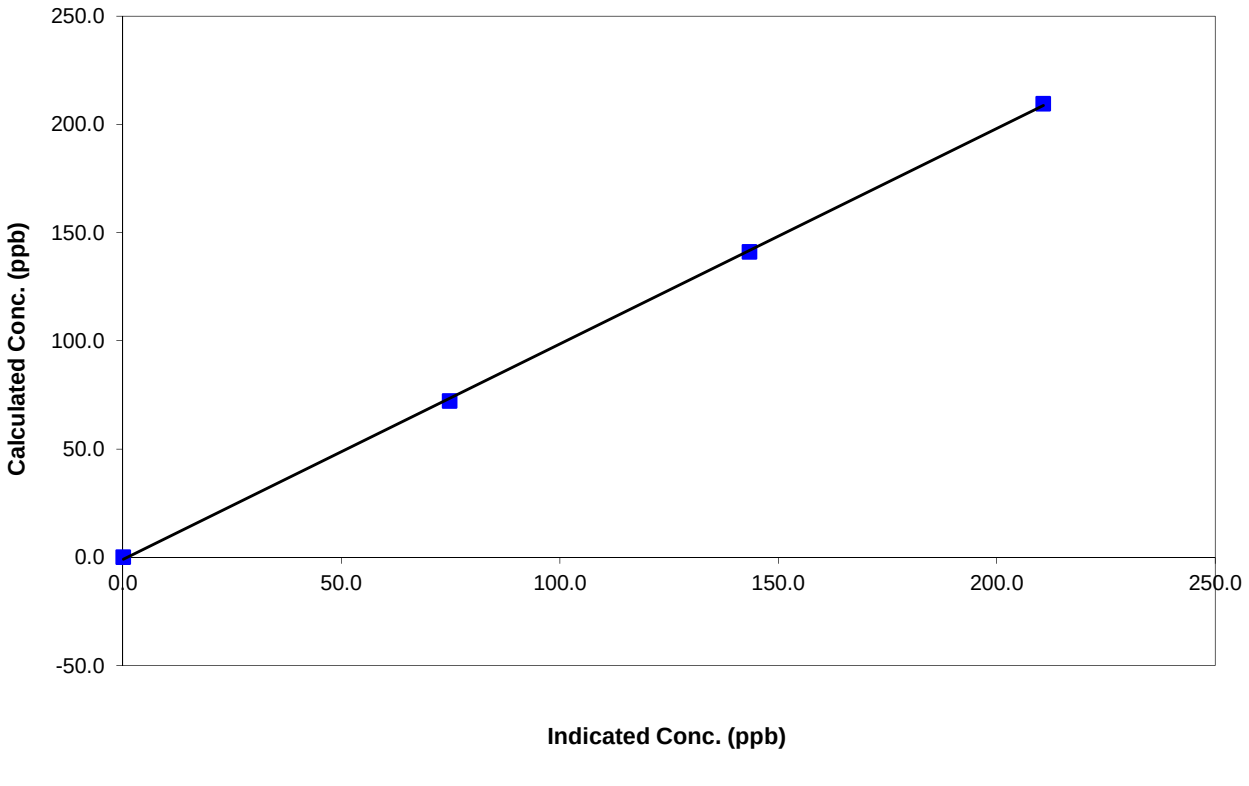
Station Information

Calibration Date	June 30, 2011	Previous Calibration	May 29, 2011
Station Number	9	Station Location	Rover-Bonanza
Start Time (MST)	10:15	End Time (MST)	12:50
Analyzer make	TEI 42i	Analyzer serial #	0701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A		
209.5	210.7	0.9945	Correlation Coefficient	0.999864
141.0	143.4	0.9836		
72.2	74.8	0.9661	Slope	0.995459
			Intercept	-1.052616

NO_2 Calibration Curve



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

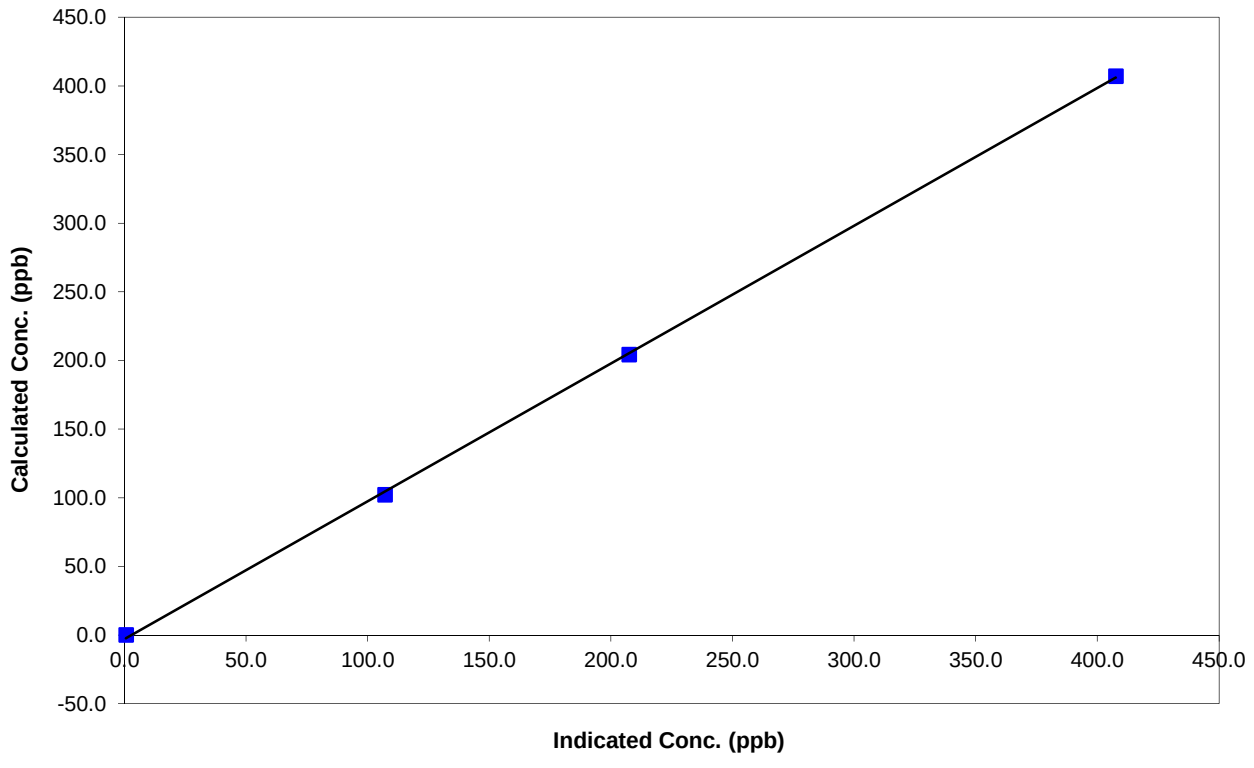
Station Information

Calibration Date	June 30, 2011	Previous Calibration	May 29, 2011
Station Number	9	Station Location	Rover-Bonanza
Start Time (MST)	10:15	End Time (MST)	12:50
Analyzer make	TEI 42i	Analyzer serial #	0701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.7	N/A		
407.1	407.6	0.9987	Correlation Coefficient	0.999848
204.2	207.5	0.9839		
102.1	107.2	0.9525	Slope	1.003183
			Intercept	-2.977213

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

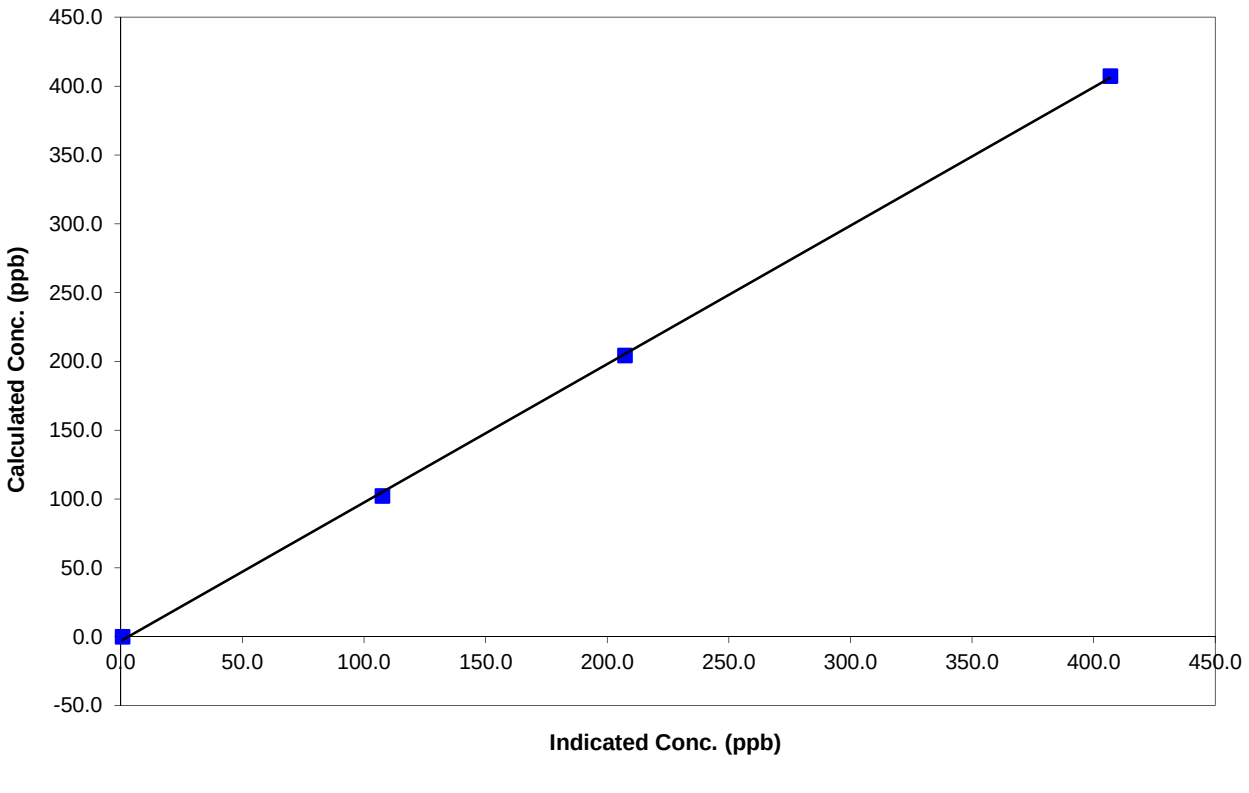
Station Information

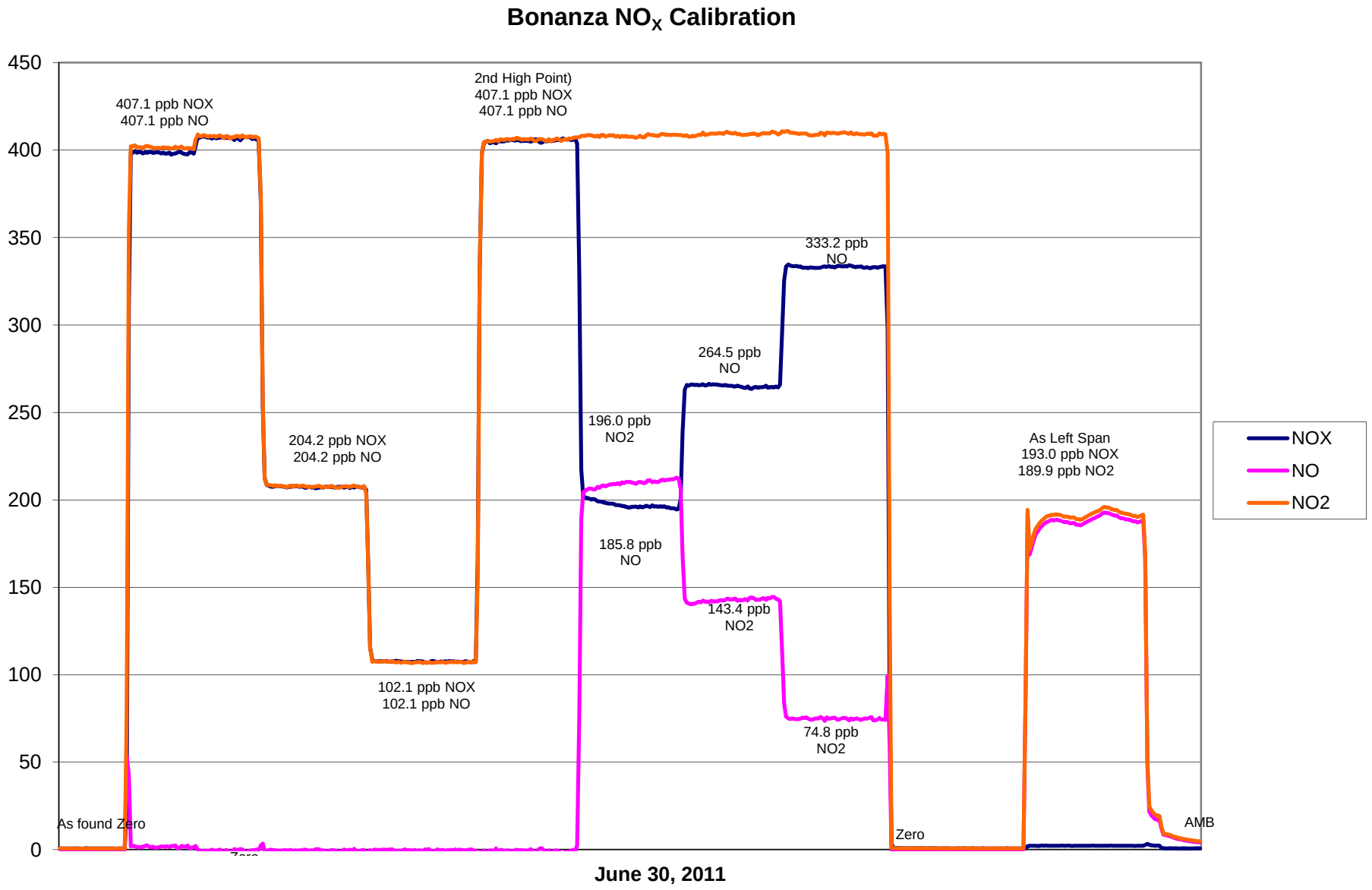
Calibration Date	June 30, 2011	Previous Calibration	May 29, 2011
Station Number	9	Station Location	Rover-Bonanza
Start Time (MST)	10:15	End Time (MST)	12:50
Analyzer make	TEI 42i	Analyzer serial #	0701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.7	N/A		
407.1	406.9	1.0005	Correlation Coefficient	0.999816
204.2	207.3	0.9851		
102.1	107.6	0.9492	Slope	1.005562
			Intercept	-3.267732

NO Calibration Curve




Bonanza NOX Calibration
450
400
350
300
250
200
150
100
50
0
407.1 ppb NOX
407.1 ppb NO
2nd High Point)
407.1 ppb NOX
407.1 ppb NO
333.2 ppb
NO
264.5 ppb
NO
196.0 ppb
NO2
204.2 ppb NOX
204.2 ppb NO
185.8 ppb
NO
143.4 ppb
NO2
As Left Span
193.0 ppb NOX
189.9 ppb NO2
102.1 ppb NOX
102.1 ppb NO
74.8 ppb
NO2
As found Zero
Zero
AMB
NOX
NO
NO2
June 30, 2011

Calibration Report

Parameter **O3**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 30, 2011	Previous Calibration	May 29, 2011
Station Number	9	Station Location	Rover - Bonanza

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

Start Time (MST)	11:35	End Time (MST)	15:11
Barometric Pressure	0.927 atm	Station Temperature	15.7 Deg C
Calibrator	Environics 6100	Serial Number	3474
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volts	DACS channel #	6
	Before		After
Calculated slope	0.991329	Calculated slope	0.958923
Calculated intercept	-0.087642	Calculated intercept	0.048159
Analyzer make	TEI Model 49C	Analyzer serial #	49C-71577-369

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Offset	0.3	ppb	0.3	ppb
Span	1.041		1.041	
Cell A intensity	80197	Hz	80814	Hz
Cell B intensity	83425	Hz	83731	Hz
Pressure	694.80	in Hg	694.30	in Hg
CellA Flow	0.780	ccm	0.780	ccm
Cell B Flow	0.692	cmm	0.691	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	0.1	N/A
4989	0.30	209.5	219.2	0.9556
4989	0.20	141.0	145.5	0.9690
4989	0.10	72.2	75.7	0.9533
4989	0.00	0.0	0.1	As found zero
4989	0.30	209.5	221.4	As found span
			Average Correction Factor	0.9593

Calculated value of As Found Response: 219.2 ppm Percent Change of As Found: 4.6%

	before calibration		after calibration	
Auto zero	0.6	ppb	0.1	ppb
Auto span	137.7	ppb	136.7	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **O3**

Air Monitoring Network **PAZA**

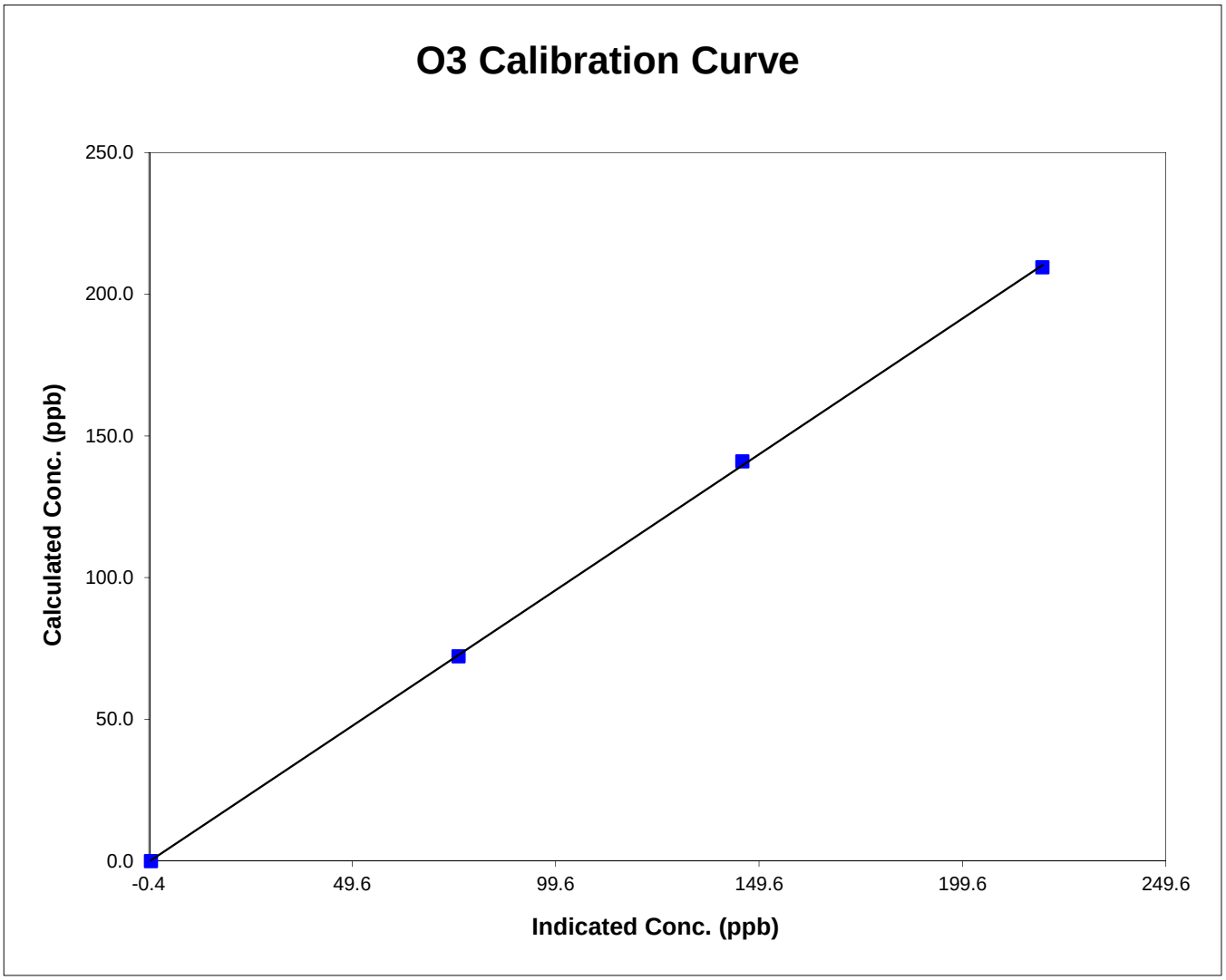
FOCUS AIR QUALITY MONITORING

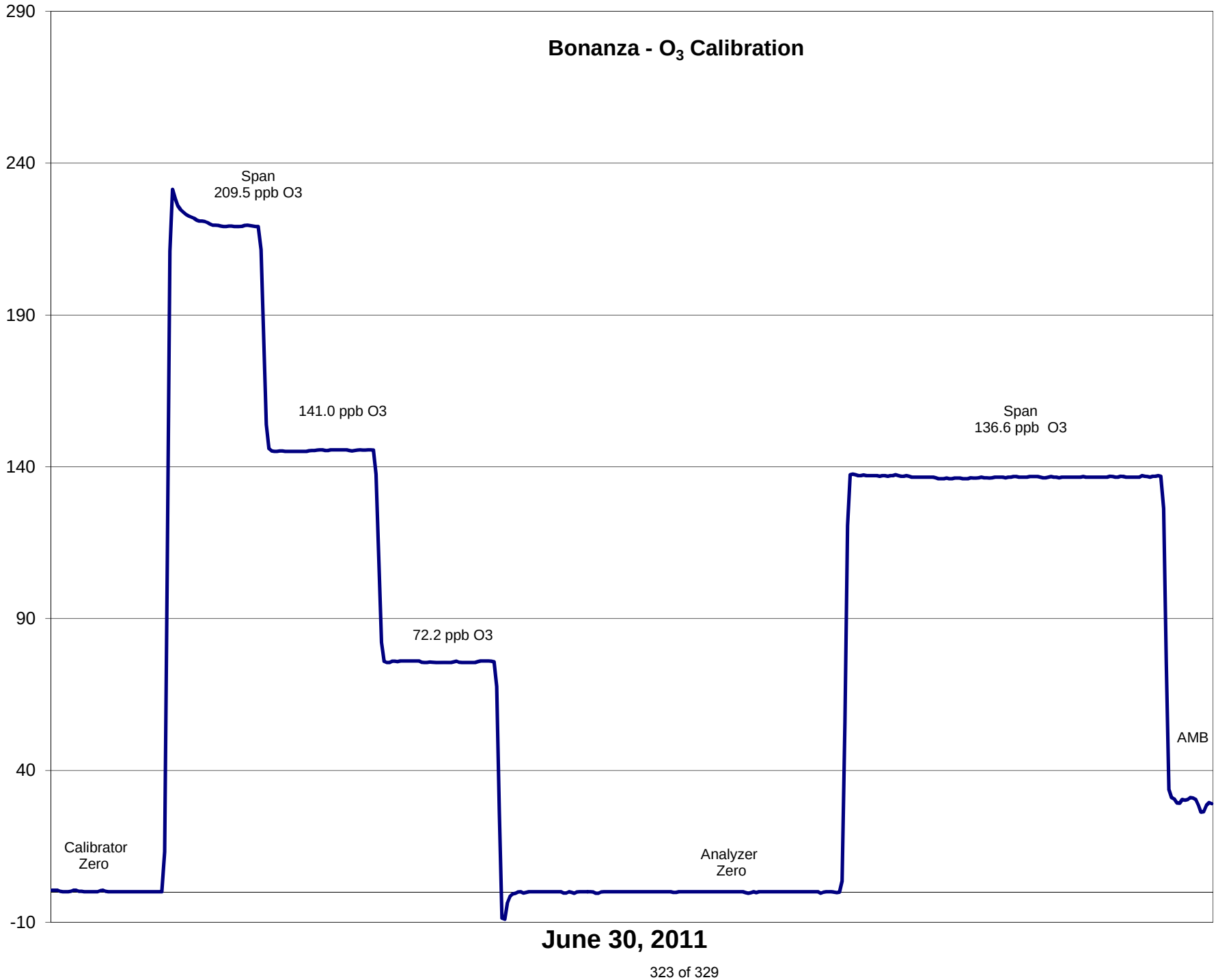
Station Information

Calibration Date	June 30, 2011	Previous Calibration	May 29, 2011
Station Number	9	Station Location	Rover - Bonanza
Start Time (MST)	11:35	End Time (MST)	15:11
Analyzer make/model	TEI Model 49C	Analyzer serial #	49C-71577-369

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	NA		
209.5	219.2	0.9556	Correlation Coefficient	0.999881
141.0	145.5	0.9690		
72.2	75.7	0.9533	Slope	0.958923
			Intercept	0.048159




Bonanza - O_3 Calibration
290
240
190
140
90
40
-10
Span
209.5 ppb O3
141.0 ppb O3
72.2 ppb O3
Span
136.6 ppb O3
AMB
Calibrator
Zero
Analyzer
Zero
June 30, 2011

Calibration Report

Parameter **SO2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 14, 2011	Previous Calibration	May 6, 2011
Station Number	6	Station Location	Valleyview

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

Start Time (MST)	10:38	End Time (MST)	13:22
Barometric Pressure	702.00 mm	Station Temperature	14.7 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	50.6 ppm	Cal Gas Cert Date	7/23/2010
Gas Cert Reference	SGAL3245		
DACS make	CR3000	DACS serial No.	5409
DACS voltage range	0 - 5 volt	DACS channel #	4
	Before		After
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	1.001462	Calculated slope	0.997519
Calculated intercept	0.630624	Calculated intercept	0.021221

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

	before		after	
Concentration range	0 - 1000	ppb	0 - 1000	ppb
Background	28.3		27.8	
Coefficient	0.873		0.865	
UV Lamp Voltage	947	LPM	946	LPM
Chamber Temp	44.4	V	44.5	V
Perm Gas Temp	35.1	C	35.1	C
Pressure	610.7	in Hg	610.4	in Hg
Sample Flow	0.563	LPM	0.563	LPM
Lamp Intensity	48484	Hz	48452	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)
4989	0.00	0.0	-0.5	N/A
4989	39.84	400.9	401.5	0.9984
4989	19.89	200.9	201.9	0.9951
4989	9.94	100.6	101.1	0.9949
4989	0.00	0.0	-0.5	As found zero
4989	39.84	400.9	405.9	As found span
			Average Correction Factor	0.9961

Calculated value of As Found Response: 407.654 ppm Percent Change of As Found: -1.7%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.0	ppm
Auto span	155.5	ppm	157.6	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

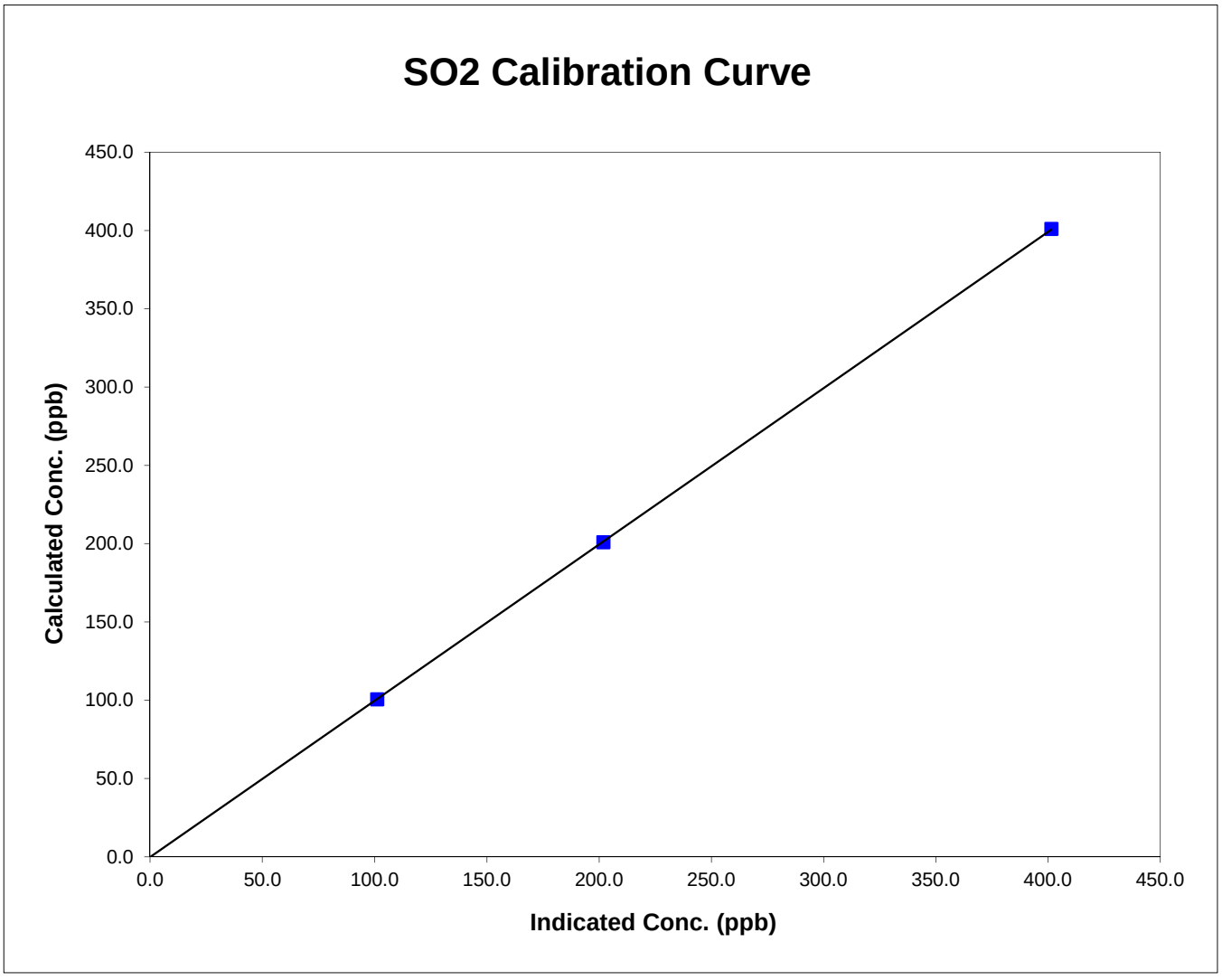
FOCUS AIR QUALITY MONITORING

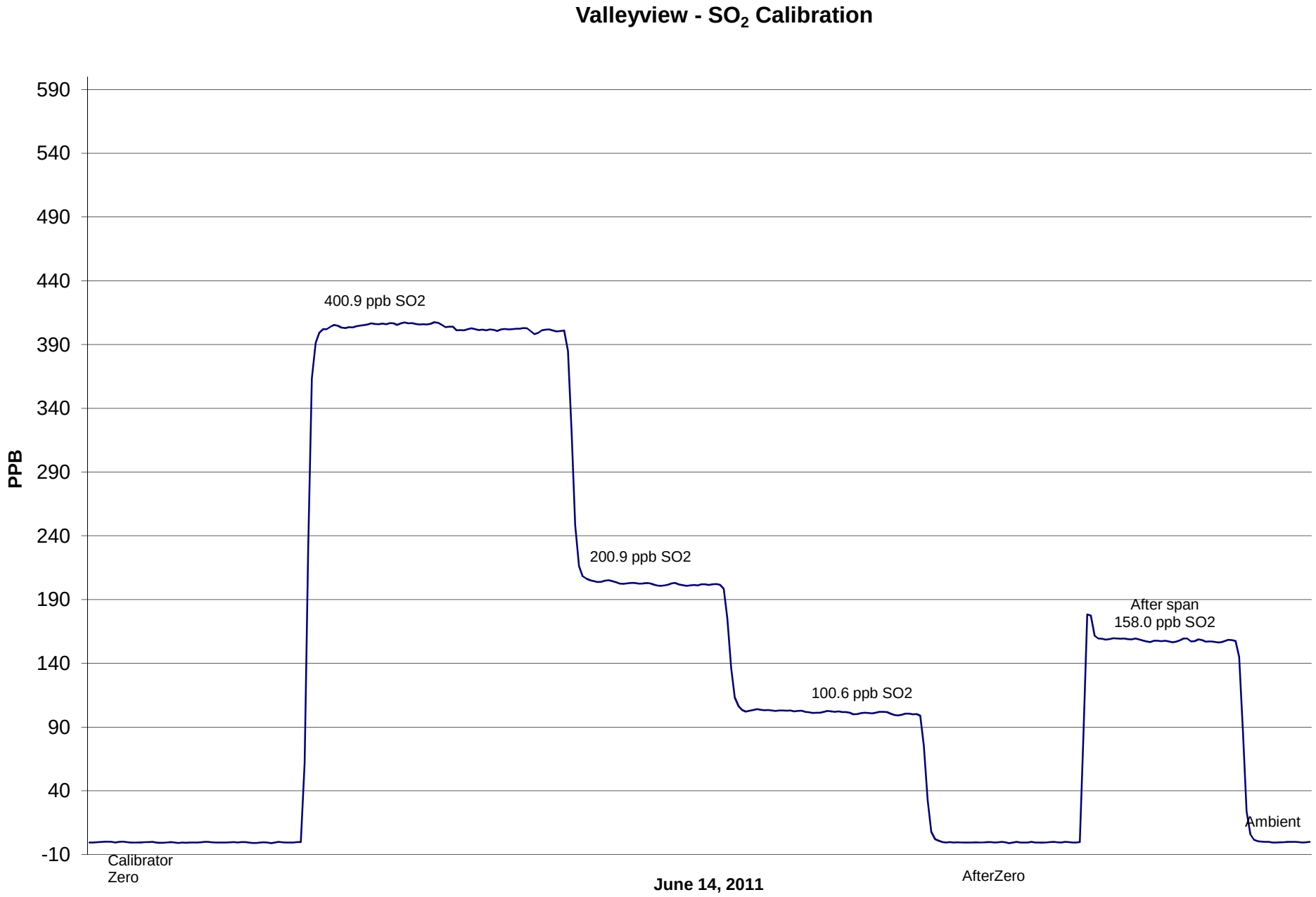
Station Information

Calibration Date	June 14, 2011	Previous Calibration	May 6, 2011
Station Number	6	Station Location	Valleyview
Start Time (MST)	10:38	End Time (MST)	14:42
Analyzer make/model	TEI 45C	Analyzer serial #	45C-57531-313

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.5	N/A		
400.9	401.5	0.9984	Correlation Coefficient	0.999992
200.9	201.9	0.9951		
100.6	101.1	0.9949	Slope	0.997519
			Intercept	0.021221




Valleyview - SO2 Calibration
590
540
490
440
390
340
290
240
190
140
90
40
-10
PPB
400.9 ppb SO2
200.9 ppb SO2
100.6 ppb SO2
After span
158.0 ppb SO2
Ambient
Calibrator
Zero
AfterZero
June 14, 2011

Calibration Report

Parameter **H2S**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	June 14, 2011	Previous Calibration	May 6, 2011
Station Number	5	Station Location	Valleyview

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

Start Time (MST)	12:33	End Time (MST)	14:53
Barometric Pressure	702.00 mm	Station Temperature	21.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	5.77 ppm	Cal Gas Expiry Date	9/3/2012
Gas Cert Reference	BLM001434		
DACS make	CR3000	DACS serial No.	5409
DACS voltage range	0 - 5 volt	DACS channel #	9
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.995595	Calculated slope	0.982862
Calculated intercept	-0.069924	Calculated intercept	0.636755

Analyzer make	TEI Model 43i - APSCB	Analyzer serial # 701120010

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Back Ground	7.4	ppb	7.1	ppb
Coefficient	1.430		1.390	
Lamp Voltage	786	V	786	V
Chamber Temp	45.01	c	44.9	c
Perm Oven Temp	45.01	c	45.00	c
Pressure	630.10	mm Hg	629.80	mm Hg
Sample Flow	.427	ccm	.429	ccm
Lamp Intensity	90.0	%	90.0	%

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4988	0.00	0.0	0.0	N/A
4987	69.71	79.5	80.7	0.9853
4987	34.83	40.0	39.2	1.0209
4987	8.91	10.3	9.6	1.0665
4987	0.00	0.0	0.0	As found zero
4987	69.71	79.5	80.7	As found span
			Average Correction Factor	1.0243

Calculated value of As Found Response: 80.35 ppm Percent Change of As Found: -1.0%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.7	ppm
Auto span	70.6	ppm	73.9	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **H2S**

Air Monitoring Network **PAZA**

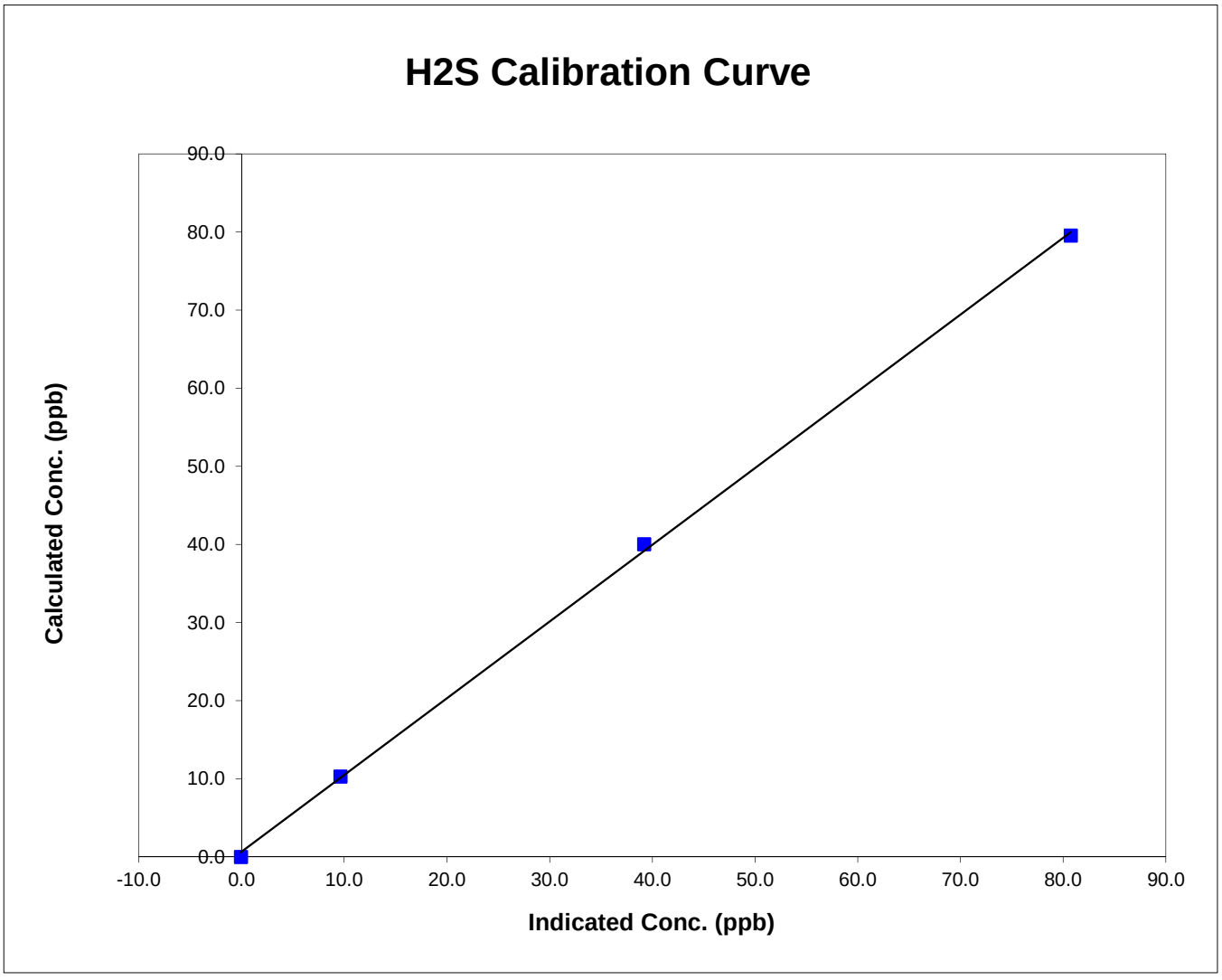
FOCUS AIR QUALITY MONITORING

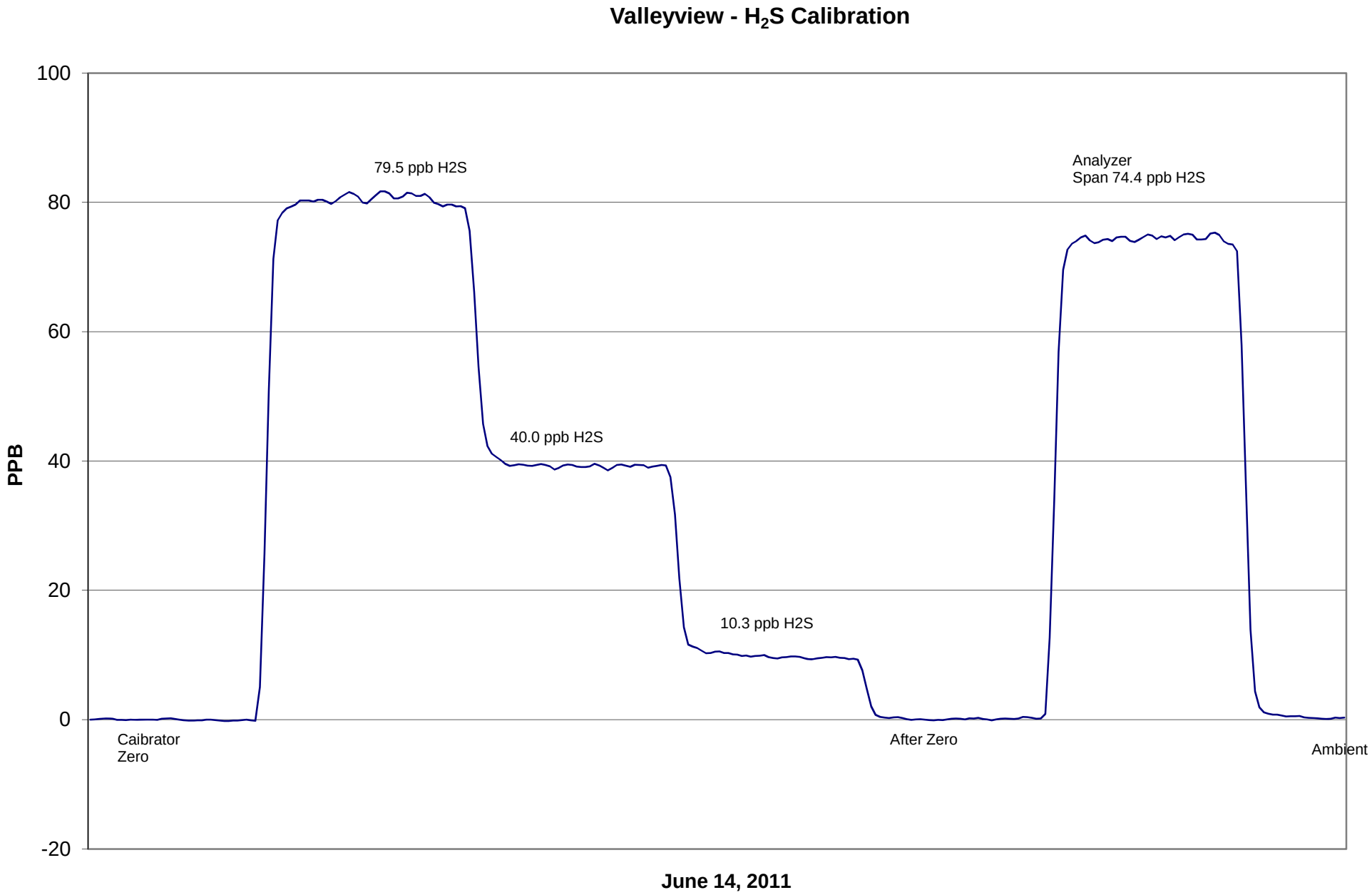
Station Information

Calibration Date	June 14, 2011	Previous Calibration	May 6, 2011
Station Number	5	Station Location	Valleyview
Start Time (MST)	12:33	End Time (MST)	14:53
Analyzer make/model	TEI Model 43i - APSCB	Analyzer serial #	701120010

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
79.5	80.7	0.9853	Correlation Coefficient	0.999660
40.0	39.2	1.0209		
10.3	9.6	1.0665	Slope	0.982862
			Intercept	0.636755




Valleyview - H2S Calibration
100
80
60
40
20
0
-20
PPB
79.5 ppb H2S
40.0 ppb H2S
10.3 ppb H2S
Analyzer
Span 74.4 ppb H2S
Caibrator
Zero
After Zero
Ambient
June 14, 2011