Peace AirShed Zone Association

Ambient Air Monitoring Network Summary

Continuous Ambient Air Quality Monitoring Program
Monthly Report
August 2011

Operations and Reporting

October 3rd, 2011

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

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

Enclosed is the PAZA Ambient Monitoring Network Report for the month of **August 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	16-11-082-09-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 and Valleyview.**

During the month of **August** 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 August.

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 August

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 August.

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 August.

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 August.

Passive Monitoring - 43 Stations throughout the PAZA zone:

There were four duplicate sites sampled in the month of August: Shaftesbury, Eaglesham, Bear Lake and a new install at East Prairie. 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 0.2 ppb to 1.9 ppb, with a mean of 0.5 ppb.
- Monthly average concentrations for O_3 passives ranged from 13.5 ppb to 27.1 ppb, with a mean of 19.2 ppb.

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

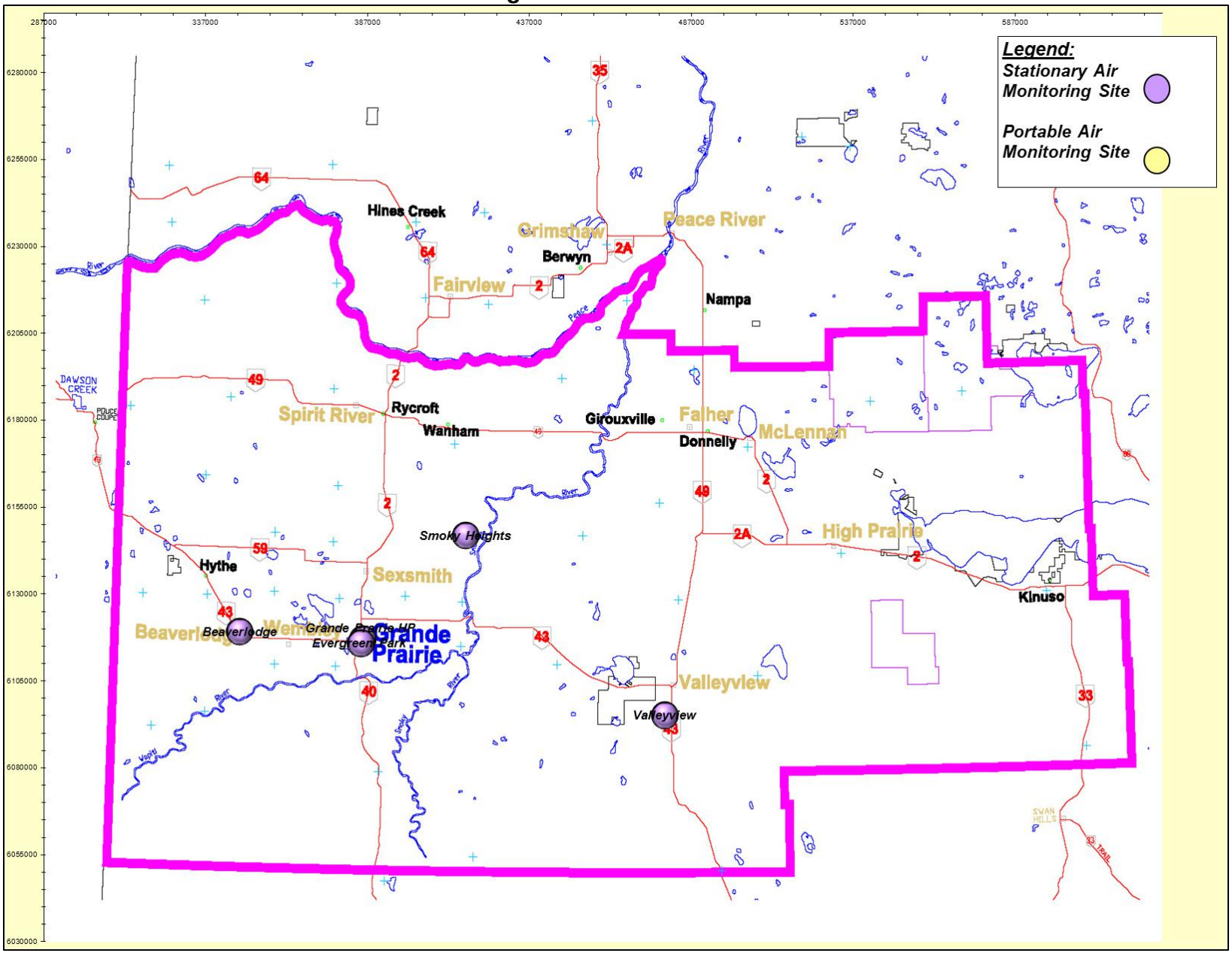
On Behalf of the,
Peace Airshed Zone Association

Shelly Pruden
Program Manager

Patrick Andersen, B.Sc.
FOCUS AQM Data Specialist

Jeff Cooper
AQM Operations Manager

Location of PAZA Continuous Monitoring Stations



PAZA Monthly Continuous Data Summary

Aug-2011	Peace Airshed Zone Assocation						Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
Pollutant (units)	**Objectives**		**Station**	**Monthly Average**	**Exceedence**		Conc	Day	Conc	Day	**Operational Time (%)**
	1-hr	24-hr			1-hr	24-hr					
SO_2 (ppb)	172	48	Henry Pirker	0.5	0	0	3.4	Aug-11 11:00	0.3	Aug-16	99.9%
SO_2 (ppb)	172	48	Evergreen Park	0.3	0	0	9.4	Aug-17 17:00	1.1	Aug-17	100.0%
SO_2 (ppb)	172	48	Smoky Heights	0.2	0	0	5.9	Aug-18 06:00	1.3	Aug-18	96.6%
SO_2 (ppb)	172	48	Beaverlodge	0.2	0	0	29.2	Aug-04 16:00	1.6	Aug-04	100.0%
SO_2 (ppb)	172	48	Valleyview	0.7	0	0	13.9	Aug-27 12:00	1.7	Aug-18	100.0%
NO (ppb)			Henry Pirker	1.3	0	0	24.7	Aug-31 07:00	3.3	Aug-05	99.7%
NO_2 (ppb)	159	106	Henry Pirker	4.4	0	0	21.0	Aug-07 23:00	7.6	Aug-26	99.9%
NO_X (ppb)			Henry Pirker	5.7	0	0	37.0	Aug-31 07:00	10.7	Aug-26	99.7%
NO (ppb)			Beaverlodge	0.2	0	0	4.9	Aug-26 08:00	0.7	Aug-11	99.9%
NO_2 (ppb)	159	106	Beaverlodge	1.7	0	0	11.8	Aug-10 06:00	2.7	Aug-11	99.9%
NO_X (ppb)			Beaverlodge	1.9	0	0	13.6	Aug-10 06:00	3.5	Aug-11	99.9%
O_3 (ppb)	82		Henry Pirker	19.3	0	-	39.7	Aug-26 15:00	24.4	Aug-25	99.9%
O_3 (ppb) - 8-hr			Henry Pirker		0				37.3	Aug-12	
O_3 (ppb)	82		Beaverlodge	21.5	0	-	38.8	Aug-26 18:00	27.5	Aug-25	100.0%
O_3 (ppb) - 8-hr			Beaverlodge		0				34.7	Aug-26	
CO (ppm)	13		Henry Pirker	0.14	0	-	0.4	Aug-20 22:00	0.2	Aug-08	99.9%
CO (ppm) - 8-hr	5		Henry Pirker		0				0.3	Aug-08	
THC (ppm)			Henry Pirker	2.16	-	-	4.8	Aug-08 05:00	2.6	Aug-08	97.3%
TRS (ppb)			Henry Pirker	0.4	-	-	4.1	Aug-08 03:00	0.8	Aug-08	100.0%
TRS (ppb)			Evergreen Park	0.5	-	-	1.8	Aug-24 05:00	0.6	Aug-24	100.0%
TRS (ppb)			Smoky Heights	0.3	-	-	2.3	Aug-13 05:00	0.7	Aug-13	93.7%
H_2S (ppb)	10	3	Valleyview	0.2	0	0	1.8	Aug-18 05:00	0.3	Aug-18	100.0%
PM2.5 (µg/m3)	80	30	Henry Pirker	5.2	0	0	27.8	Aug-11 12:00	11.2	Aug-09	99.7%
PM2.5 (µg/m3)	80	30	Evergreen Park	3.5	0	0	30.9	Aug-03 08:00	6.7	Aug-27	99.9%
PM2.5 (µg/m3)	80	30	Smoky Heights	3.3	0	0	38.3	Aug-26 20:00	8.4	Aug-27	99.9%
PM2.5 (µg/m3)	80	30	Beaverlodge	5.4	0	0	15.8	Aug-10 22:00	10.6	Aug-10	99.9%

PAZA Monthly Continuous Data Summary – continued

Aug-2011	Peace Airshed Zone Assocation						Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
RH (%)			Henry Pirker	60.3	-	-	91.6	Aug-08 06:00	73.0	Aug-07	99.9%
RH (%)			Evergreen Park	63.4	-	-	97.7	Aug-13 07:00	79.1	Aug-13	100.0%
RH (%)			Beaverlodge	59.3	-	-	95.7	Aug-08 06:00	73.8	Aug-30	100.0%
RH (%)			Valleyview	69.5	-	-	98.9	Aug-10 07:00	84.6	Aug-14	100.0%
SR (W/m^2)			Henry Pirker	183.0	-	-	714.8	Aug-01 13:00	257.9	Aug-01	100.0%
Temp (°C)			Henry Pirker	15.7	-	-	26.6	Aug-09 15:00	19.3	Aug-09	99.9%
Temp (°C)			Evergreen Park	15.6	-	-	26.1	Aug-09 18:00	19.1	Aug-21	100.0%
Temp (°C)			Smoky Heights	14.5	-	-	25.6	Aug-09 16:00	17.7	Aug-10	99.9%
Temp (°C)			Beaverlodge	15.2	-	-	26.7	Aug-09 17:00	19.4	Aug-09	99.5%
Temp (°C)			Valleyview	15.6	-	-	26.5	Aug-21 18:00	20.0	Aug-21	100.0%
WSPD s (km/hr)			Henry Pirker	10.6	-	-	39.0	Aug-01 10:00	24.8	Aug-01	100.0%
WSPD s (km/hr)			Evergreen Park	6.5	-	-	28.0	23/8/11 13:00	16.5	Aug-01	100.0%
WSPD s (km/hr)			Smoky Heights	12.5	-	-	42.0	Aug-01 10:00	25.9	Aug-01	99.9%
WSPD s (km/hr)			Beaverlodge	11.5	-	-	45.0	Aug-23 13:00	25.6	Aug-23	100.0%
WSPD s (km/hr)			Valleyview	4.6	-	-	21.0	Aug-01 13:00	10.3	Aug-01	100.0%
WSPD v (km/hr)			Henry Pirker	7.2	-	-	39.0	Aug-01 10:00	24.1	Aug-01	100.0%
WSPD v (km/hr)			Evergreen Park	4.8	-	-	27.0	Aug-23 13:00	15.5	Aug-01	100.0%
WSPD v (km/hr)			Smoky Heights	9.5	-	-	41.0	Aug-01 10:00	25.2	Aug-01	99.9%
WSPD v (km/hr)			Beaverlodge	7.4	-	-	45.0	Aug-23 13:00	24.7	Aug-23	100.0%
WSPD v (km/hr)			Valleyview	2.5	-	-	21.0	Aug-01 12:00	9.1	Aug-01	100.0%
WDIR			Henry Pirker	W	-	-	-	-	-	-	100.0%
WDIR			Evergreen Park	W	-	-	-	-	-	-	100.0%
WDIR			Smoky Heights	WSW	-	-	-	-	-	-	99.9%
WDIR			Beaverlodge	WSW	-	-	-	-	-	-	100.0%
WDIR			Valleyview	W	-	-	-	-	-	-	100.0%

Continuous Network Equipment Summary

PAZA – Henry Pirker Station

General Station Issues

Routine monthly calibrations were performed on August 15th (TRS, CO & THC), August 16th (SO_2, NO_X & O_3) and August 18th ($PM_{2.5}$).

Parameter	Make	Model	Notes
SO_2	TEI	43C	No operational issues observed.
NOx/NO/NO_2	TEI	42C	No operational issues observed.
O_3	TEI	49C	No operational issues observed.
CO	TEI	48C	No operational issues observed.
THC	TEI	51-CLT	Power outage on August 14th caused flameout.
TRS	TEI	45C/43C	No operational issues observed.
$PM_{2.5}$	R&P	1400AB	TEOM Calibration performed; passed but mass transducer marginal.
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	No operational issues observed.

PAZA – Evergreen Park Station

General Station Issues

Routine monthly calibration performed on August 23rd (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	No operational issues observed.
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 August 19th (SO_2, TRS & $PM_{2.5}$).

Parameter	Make	Model	Notes
SO_2	TEI	43C	Twenty-Seven (27) hours invalid due to datalogger failure. No other operational issues observed.
TRS	TEI	43C	Thirty-Seven (37) hours invalid due to datalogger failure. No other operational issues observed.
$PM_{2.5}$	R&P	1400AB	No operational issues observed.
ET	Met One	083D	No operational issues observed.
WS / WD	Met One	010C/020C	No operational issues observed.

PAZA – Beaverlodge Station

General Station Issues

Routine monthly calibrations performed on August 4th (SO_2, NOx, O_3). NO_X maintenance performed on August 25th.

Parameter	Make	Model	Notes
SO_2	TEI	43CTL	No operational issues observed.
NOx/NO/NO_2	TEI	42C	Analyzer maintenance performed on August 25th. Carbon filter found leaking carbon powder into pump motor.
O_3	TEI	49C	No operational issues observed.
$PM_{2.5}$	R&P	1400AB	No operational issues observed.
ET	n/a	n/a	No operational issues observed.
RH	n/a	n/a	No operational issues observed.
WS / WD	Blue Sky	857	No operational issues observed.

PAZA – Valleyview Station

General Station Issues

Routine monthly calibrations were performed on August 21st (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 - August 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 3.4 ppb on Aug 11 11:00 Maximum Daily Average: 0.3 ppb on Aug 16

Minimum Value: 0 ppb on Aug 1 04:00 Minimum Daily Average: 0.0 ppb on Aug 5
Maximum Diurnal Average: 0.2 ppb at hour 8 Minimum Diurnal Average: 0.0 ppb at hour 5
Monthly Average: 0.05 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.0 Q_3 = 0.0 P_{90} = 0.0 P_{99} = 1.4

Hours in Service:	744
Hours of Data:	707
Hours of Missing Data:	37
Hours of Calibration:	36
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-Aug	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	0.2
2-Aug	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	0.3
3-Aug	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	0.4
4-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.3
5-Aug	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
6-Aug	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
7-Aug	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
8-Aug	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
9-Aug	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
10-Aug	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	0.0
11-Aug	0	0	0	0	0	0	0	0	0	1	3	1	0	0	0	0	0	0	0	0	A	0	0	0	0.3	3.4
12-Aug	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	0.0
13-Aug	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	N	0	A	1	0	0	0	0	0.1	0.9
14-Aug	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	0.0
15-Aug	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	0.0
16-Aug	0	0	0	0	0	0	1	2	3	C	C	C	0	0	0	A	0	0	0	0	0	0	0	0	0.3	3.0
17-Aug	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	0.0
18-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.0	0.0
19-Aug	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	0.0
20-Aug	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.3
21-Aug	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
22-Aug	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
23-Aug	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	0.0
24-Aug	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
25-Aug	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0.2	1.7
26-Aug	0	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	0.7
27-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
28-Aug	0	0	0	A	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
29-Aug	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.0	0.5
30-Aug	0	A	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	3.0
31-Aug	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	0.4
Diurnal Average	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0		
Diurnal Maximum	0.2	0.2	0.1	0.0	0.0	0.3	1.5	3.0	3.0	1.2	3.4	1.0	0.6	0.3	0.2	0.0	0.0	0.3	0.7	1.7	1.4	0.4	0.3	0.0		

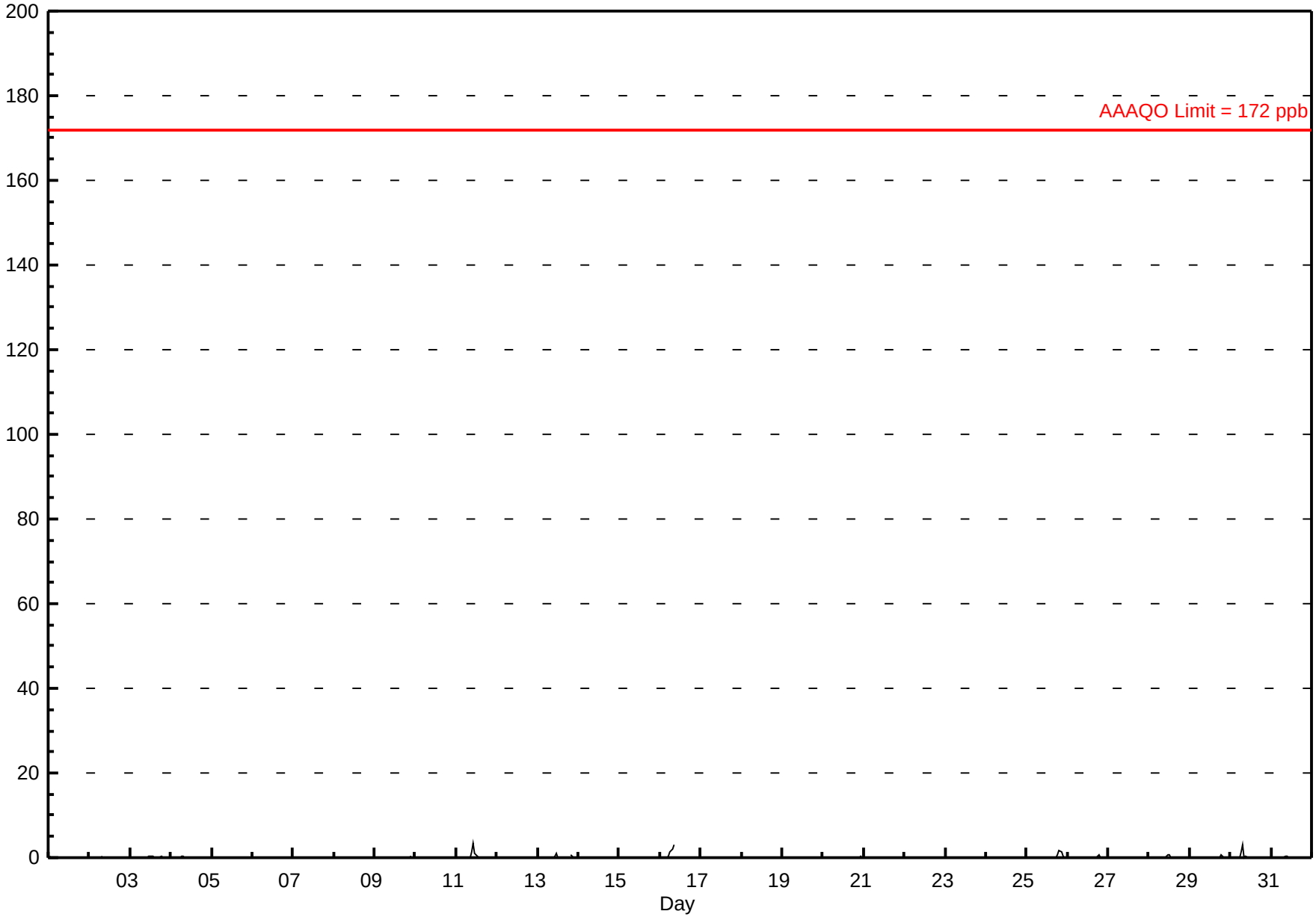
C - Calibration N - Not Valid A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - August 2011

Maximum Value: 4.8 ppb on Aug 11 11:00

Maximum Daily Average: 0.6 ppb on Aug 11

Minimum Value: 0 ppb on Aug 1 07:00

Minimum Daily Average: 0.0 ppb on Aug 15

Maximum Diurnal Average: 0.4 ppb at hour 8

Minimum Diurnal Average: 0.1 ppb at hour 17

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} = 2.6

Hours in Service:	744
Hours of Data:	707
Hours of Missing Data:	37
Hours of Calibration:	36
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-Aug	1	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
2-Aug	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
3-Aug	0	0	0	0	0	A	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0.4	0.8
4-Aug	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.3	0.6
5-Aug	0	0	0	A	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
6-Aug	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
7-Aug	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
8-Aug	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	A	0.1	0.7
9-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	0	0.2	0.7
10-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	0.4
11-Aug	0	0	0	0	0	0	0	0	0	3	5	2	0	0	0	0	0	0	0	0	A	0	0	0	0.6	4.8
12-Aug	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2	A	0	0	0	0	0.2	1.6
13-Aug	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	N	1	A	1	3	0	0	0	0.5	3.1
14-Aug	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
15-Aug	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
16-Aug	0	0	0	0	0	1	2	3	4	C	C	C	0	0	0	A	0	0	0	0	0	0	0	0	0.5	3.7
17-Aug	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
18-Aug	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
19-Aug	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	0.5
20-Aug	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	0.1	0.9
21-Aug	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
22-Aug	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	0.5
23-Aug	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	0.2
24-Aug	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.2
25-Aug	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	3	2	2	1	0	0	0.4	2.5
26-Aug	0	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	1	1	0	0.3	2.2
27-Aug	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
28-Aug	0	0	0	A	0	0	0	0	0	0	1	3	2	0	0	0	0	0	0	0	0	0	0	0	0.3	2.8
29-Aug	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0.2	2.3
30-Aug	0	A	0	0	0	0	4	5	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	4.8
31-Aug	A	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0.2	1.2
	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.4	0.4	0.4	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.4	0.3	0.3	0.2	0.2	0.1	Diurnal Average	
	0.6	0.9	0.7	0.5	0.3	0.9	3.8	4.8	3.7	3.3	4.8	2.8	2.0	0.8	0.6	0.7	0.3	1.1	2.5	2.3	3.1	0.9	0.9	0.6	Diurnal Maximum	

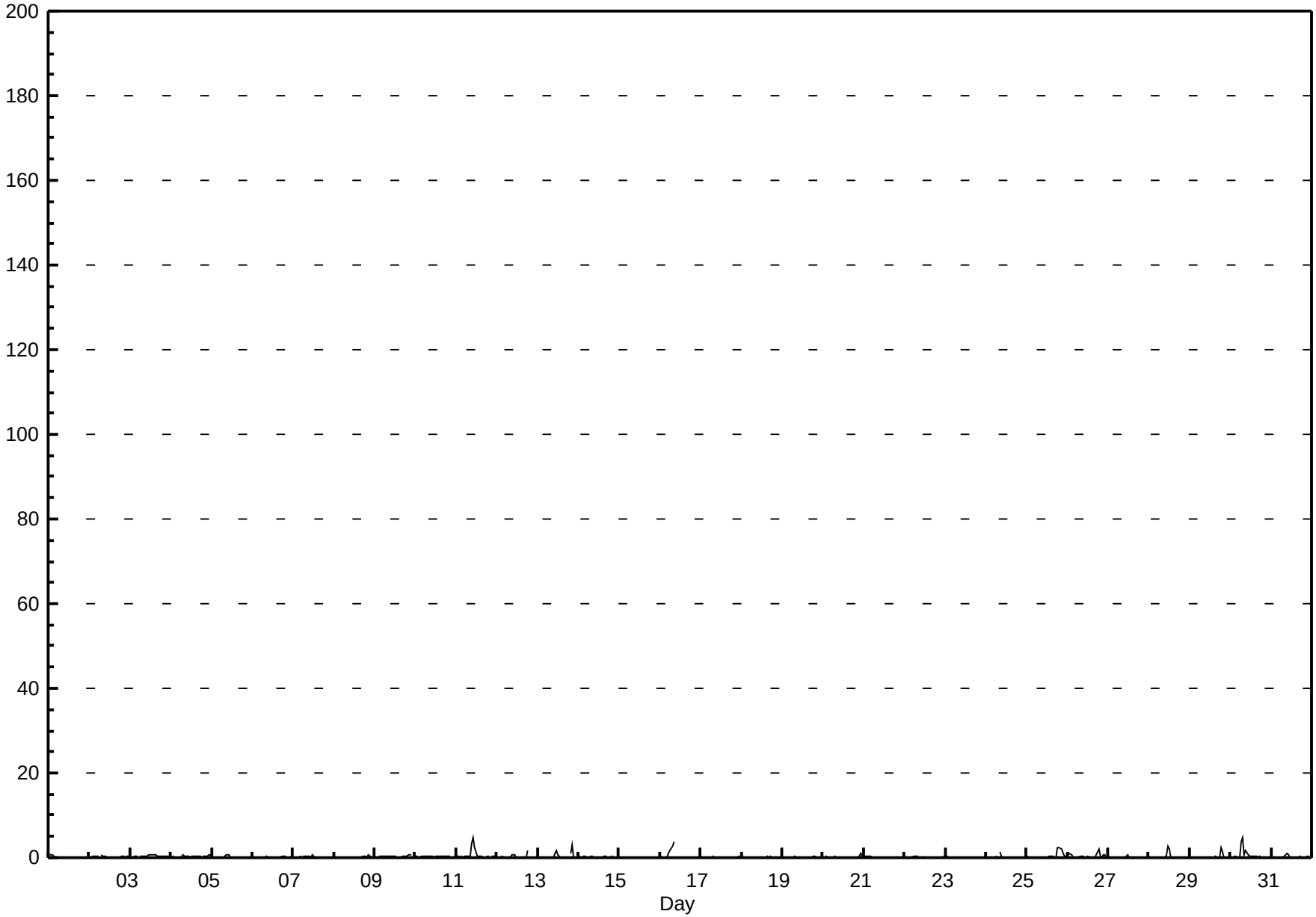
C - Calibration N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

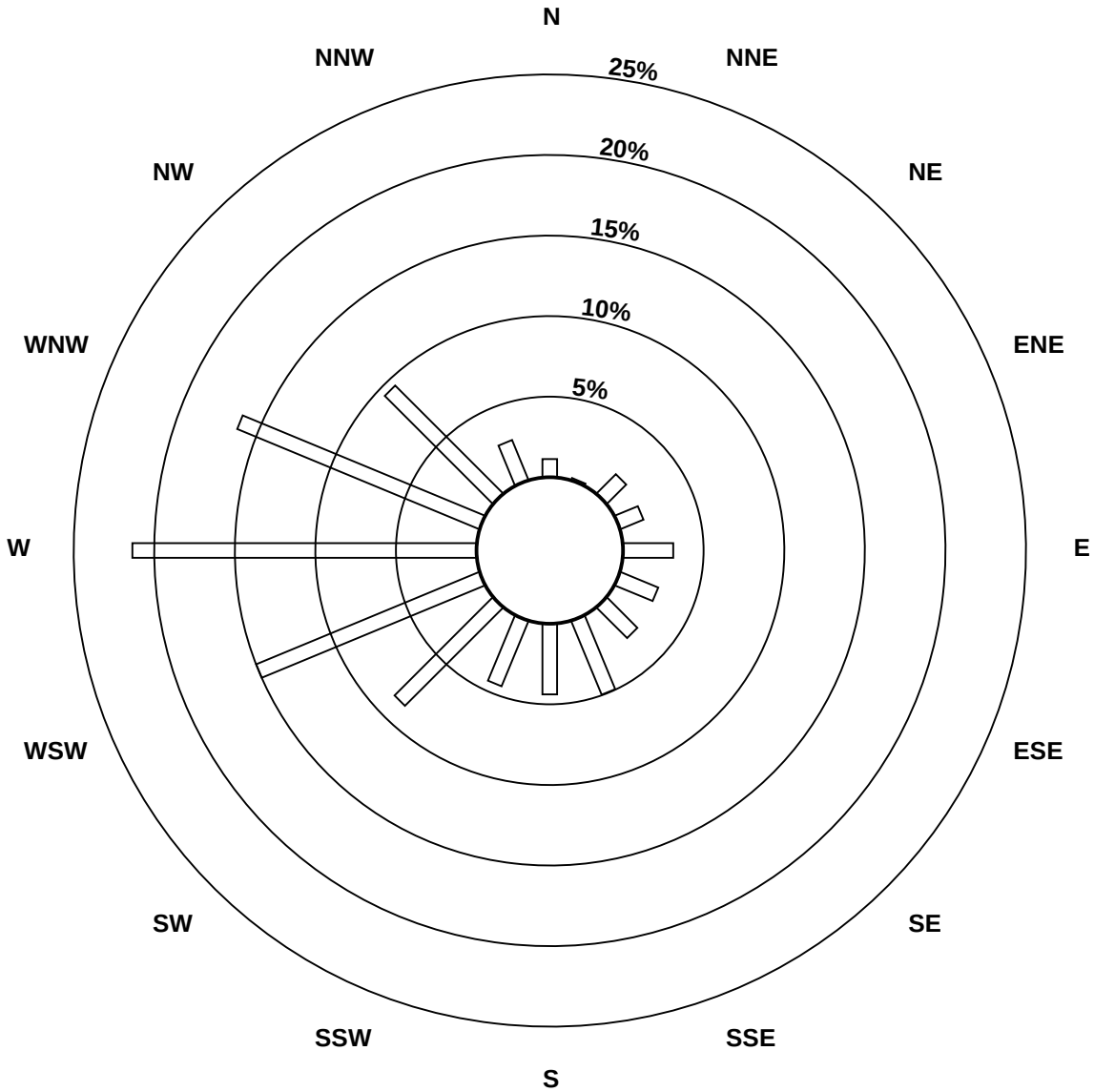
Henry Pirker - August 2011



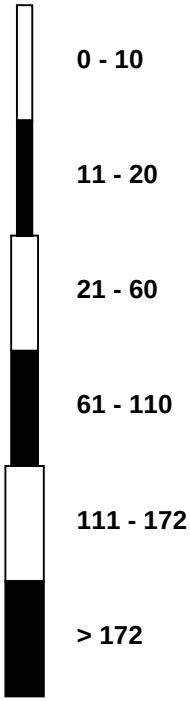
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - August 2011



Pollutant Classes (ppb)

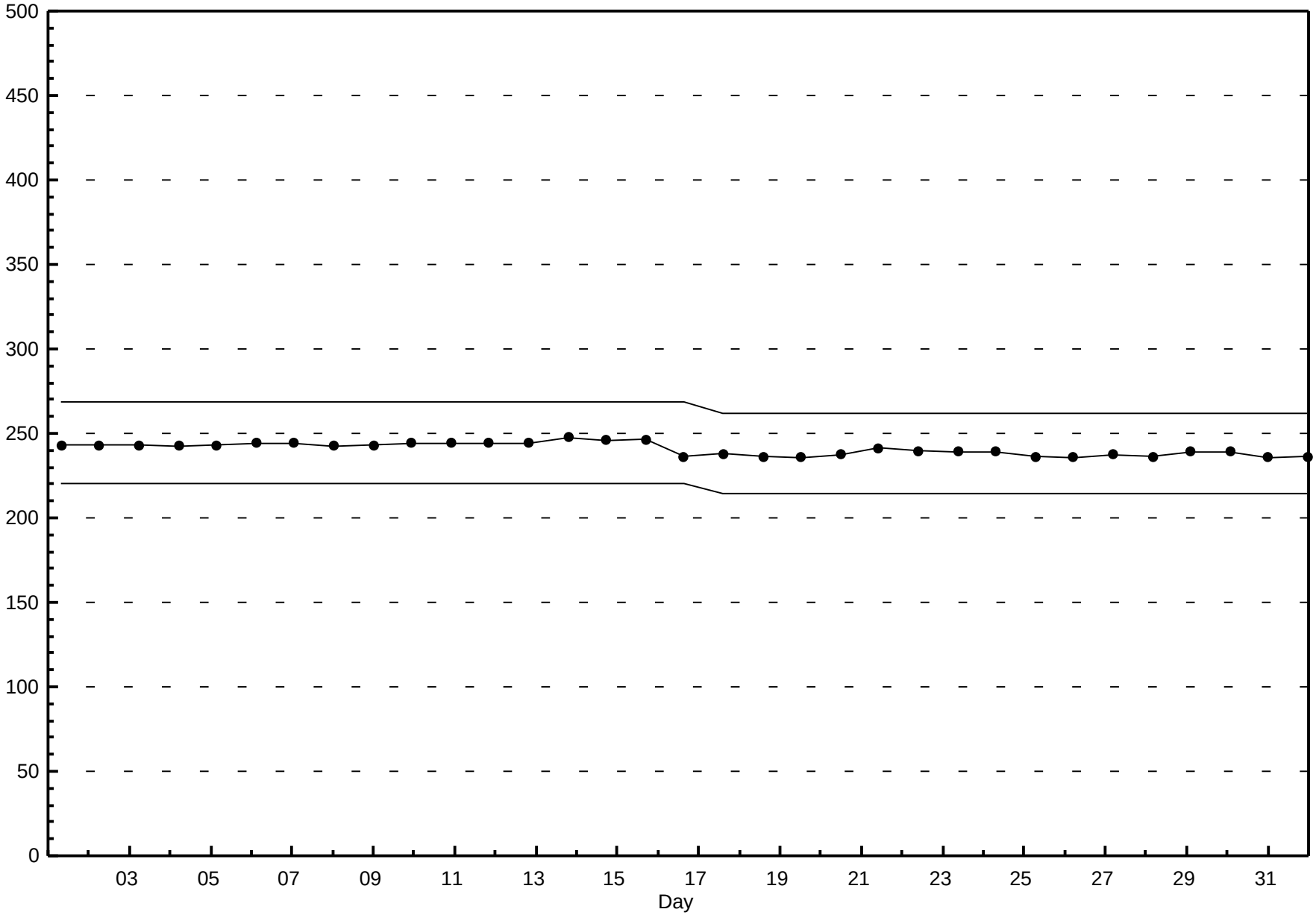


Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Henry Pirker - August 2011



Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - August 2011

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

Maximum Value: 4.1 ppb on Aug 8 03:00 Maximum Daily Average: 0.8 ppb on Aug 8

Minimum Value: 0 ppb on Aug 12 15:00 Minimum Daily Average: 0.2 ppb on Aug 25

Maximum Diurnal Average: 0.7 ppb at hour 5 Minimum Diurnal Average: 0.2 ppb at hour 14

Monthly Average: 0.41 ppb Percentiles: $P_1 = 0.1$ $P_{10} = 0.2$ $Q_1 = 0.3$ Median = 0.3 $Q_3 = 0.5$ $P_{90} = 0.7$ $P_{99} = 1.9$

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
2-Aug	0	0	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.4	0.7
3-Aug	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
4-Aug	0	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.4	1.0
5-Aug	1	1	1	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0.6	1.4
6-Aug	1	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
7-Aug	0	A	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	0.5	1.8
8-Aug	A	2	4	3	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0.8	4.1
9-Aug	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	A	1	0.5	1.4
10-Aug	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.5	1.4
11-Aug	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	A	1	0	0	0.4	1.2
12-Aug	2	1	1	1	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.5	2.2
13-Aug	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	2	1	A	0	0	0	0	0	0.5	2.3
14-Aug	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0	0	0	0.4	0.7
15-Aug	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	A	0	0	0	0	0	0	0	0.3	0.4
16-Aug	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	0.5
17-Aug	0	0	0	0	1	1	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.4	0.6
18-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.4
19-Aug	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
20-Aug	0	0	0	1	1	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	1	0.4	0.7
21-Aug	1	1	1	1	1	1	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.2
22-Aug	0	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
23-Aug	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
24-Aug	1	1	2	2	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.9
25-Aug	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.2	0.8
26-Aug	1	1	0	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.4	0.8
27-Aug	1	1	1	1	A	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.4	0.7
28-Aug	0	0	0	A	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0.5	1.0
29-Aug	1	1	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.5	1.1
30-Aug	0	A	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	0.6
31-Aug	A	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	A	0.4	0.8
	0.6	0.6	0.7	0.6	0.7	0.6	0.5	0.5	0.4	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.5	Diurnal Average	
	1.9	1.6	4.1	2.7	2.9	1.4	1.2	1.3	0.7	0.5	0.5	0.6	0.5	0.4	0.4	0.4	2.3	0.6	0.4	0.9	0.5	1.8	0.8	1.0	Diurnal Maximum	

C - Calibration A - Automated Daily Zero Span

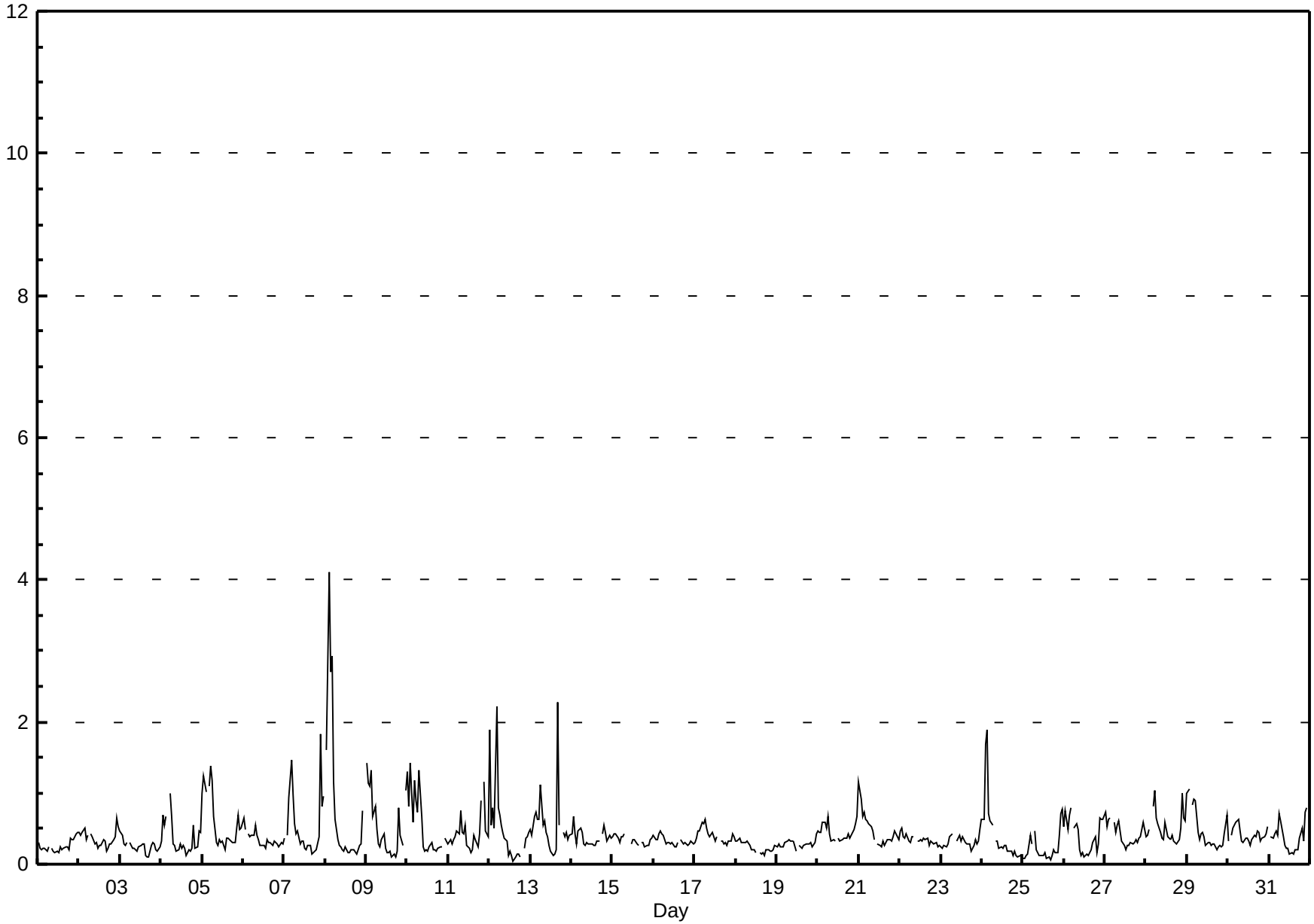
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - August 2011

Maximum Value: 8.5 ppb on Aug 8 03:00

Maximum Daily Average: 1.8 ppb on Aug 8

Minimum Value: 0 ppb on Aug 26 11:00

Maximum Diurnal Average: 1.5 ppb at hour 5

Monthly Average: 0.94 ppb

Minimum Daily Average: 0.6 ppb on Aug 18

Minimum Diurnal Average: 0.6 ppb at hour 14

Percentiles: $P_1 = 0.4$ $P_{10} = 0.5$ $Q_1 = 0.6$ Median = 0.7 $Q_3 = 0.9$ $P_{90} = 1.4$ $P_{99} = 5.0$

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	1	1	1	1	1	1	1	A	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8
2-Aug	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	0.8	2.1
3-Aug	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	0.7	1.0
4-Aug	1	1	1	2	A	2	2	1	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0.9	1.8
5-Aug	2	3	2	A	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	2.6
6-Aug	2	2	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.7
7-Aug	1	A	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	3	2	1.3	5.5
8-Aug	A	4	8	6	5	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	A	1.8	8.5
9-Aug	2	2	2	4	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1	3	2	1	A	2	1.2	4.3
10-Aug	4	1	3	1	5	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1.2	5.0
11-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	2	3	A	4	1	1	1.2	3.8
12-Aug	6	1	2	1	7	1	1	1	1	1	1	1	0	0	0	0	1	0	0	A	1	1	1	1	1.3	6.6
13-Aug	1	1	1	1	1	1	2	1	1	1	1	1	0	1	0	1	7	3	A	1	1	1	1	1	1.3	7.4
14-Aug	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	1.5
15-Aug	1	1	1	1	1	1	1	1	C	C	C	1	1	1	1	1	A	1	1	1	1	1	1	1	0.7	0.9
16-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.7	0.9
17-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.8	1.1
18-Aug	1	1	1	1	1	1	1	1	1	1	0	1	1	A	1	0	1	0	1	1	1	1	1	1	0.6	0.9
19-Aug	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8
20-Aug	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	1.3
21-Aug	2	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	2	1	1	1.0	1.7
22-Aug	1	2	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.7
23-Aug	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
24-Aug	1	1	3	3	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	0	0.9	3.2
25-Aug	0	0	1	1	1	1	A	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	0.7	1.4
26-Aug	1	1	1	2	2	A	1	1	1	1	0	1	0	0	1	1	1	1	1	1	1	1	1	1	0.9	1.7
27-Aug	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	1.4
28-Aug	1	1	1	A	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	2	2	1.1	2.9
29-Aug	3	2	A	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1	3.1
30-Aug	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	1.4
31-Aug	A	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	A	0.8	1.4
	1.3	1.2	1.4	1.3	1.5	1.1	1.0	0.9	0.8	0.7	0.7	0.7	0.7	0.6	0.7	0.7	0.9	0.7	0.7	0.9	0.8	1.1	1.1	1.0	Diurnal Average	
	6.1	3.7	8.5	5.8	6.6	2.2	1.9	1.8	1.4	1.0	1.2	1.4	1.0	0.9	1.0	1.3	7.4	3.3	1.6	3.5	2.1	5.5	3.5	2.3	Diurnal Maximum	

C - Calibration

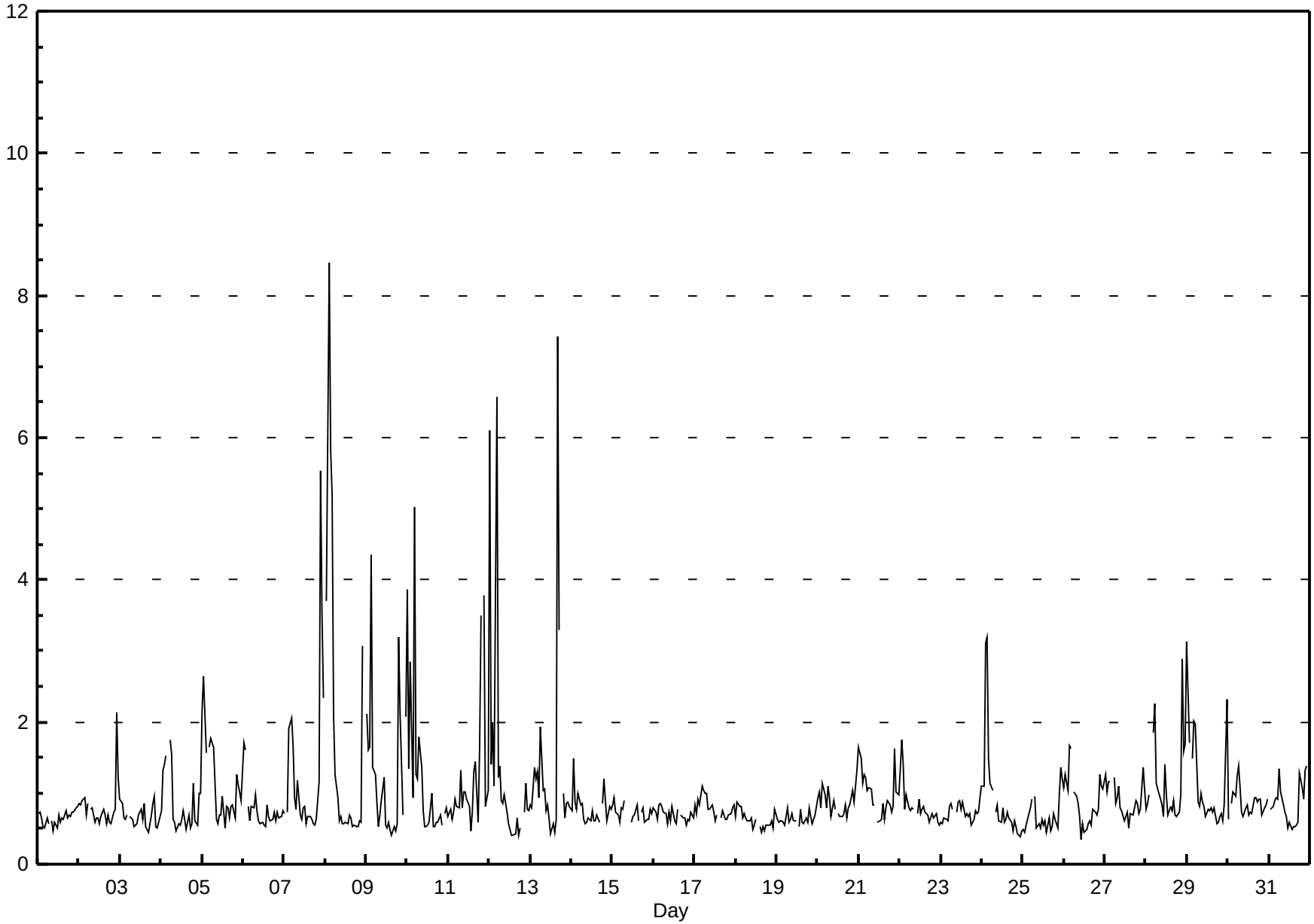
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - August 2011

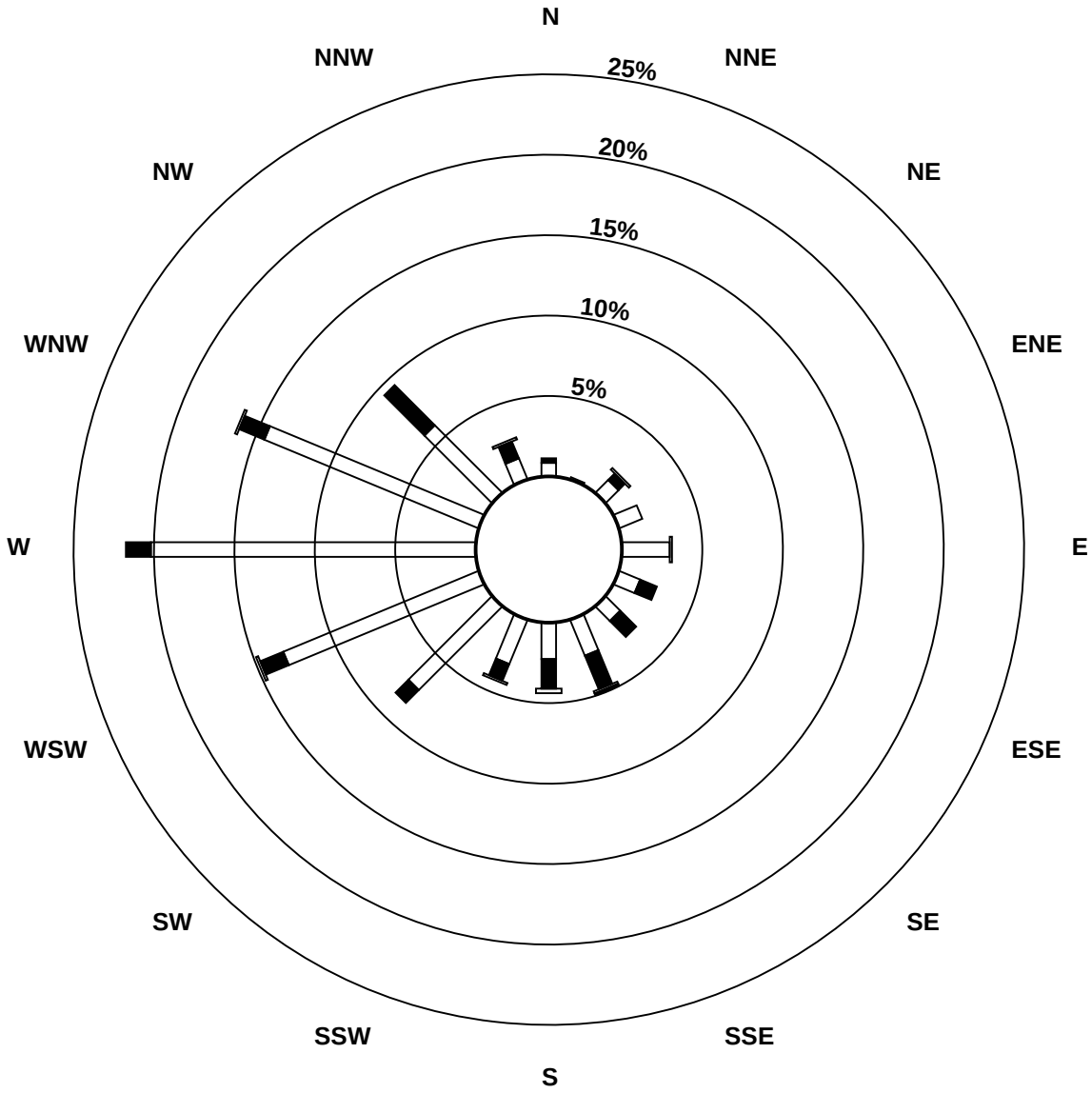


FOCUS AIR QUALITY MONITORING

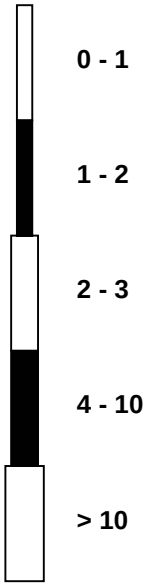
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - August 2011



Pollutant Classes (ppb)

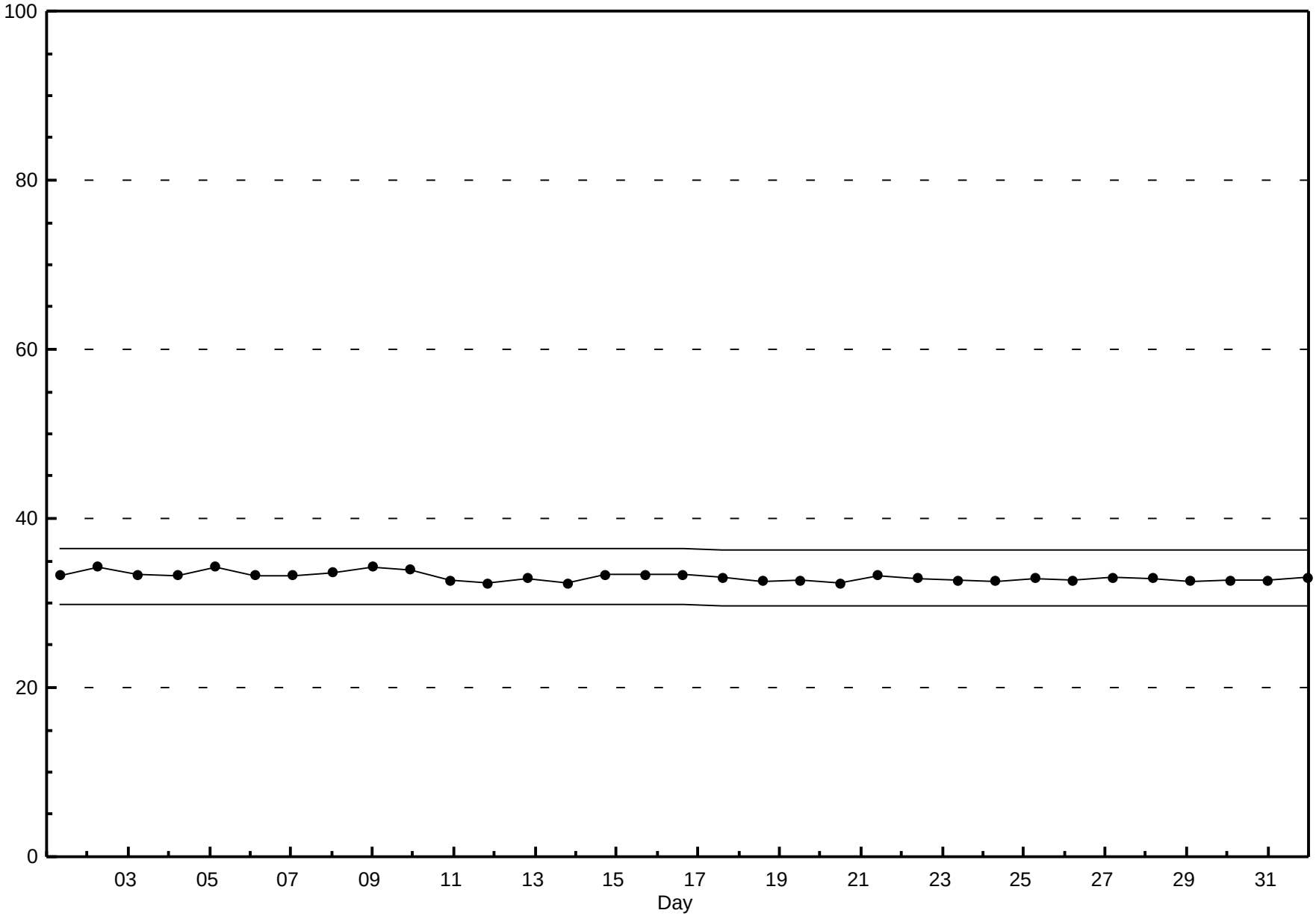


Peace Airshed Zone Association

Span Responses

Total Reduced Sulphur (TRS)

Henry Pirker - August 2011



Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - August 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 21.0 ppb on Aug 7 23:00 Maximum Daily Average: 7.6 ppb on Aug 26

Minimum Value: 1 ppb on Aug 25 01:00 Minimum Daily Average: 1.3 ppb on Aug 1
Maximum Diurnal Average: 9.1 ppb at hour 7 Minimum Diurnal Average: 1.6 ppb at hour 14
Monthly Average: 4.35 ppb Percentiles: P_1 = 0.6 P_{10} = 1.1 Q_1 = 1.7 Median = 3.0 Q_3 = 6.1 P_{90} = 9.1 P_{99} = 16.6

Hours in Service:	744
Hours of Data:	705
Hours of Missing Data:	39
Hours of Calibration:	38
Percent Operational Time:	99.9

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	3	2	2	3	1.3	2.8
2-Aug	2	2	3	5	7	10	A	8	6	4	2	2	1	1	1	1	1	2	1	2	5	7	9	6	3.8	10.3
3-Aug	3	2	3	3	3	A	9	7	4	1	1	1	1	1	1	2	2	2	2	6	5	5	6	2	3.1	9.4
4-Aug	2	5	3	3	A	10	12	8	5	3	3	1	1	1	1	1	2	1	1	3	7	9	9	8	4.3	12.0
5-Aug	14	10	8	A	9	11	12	12	8	6	5	5	2	2	4	4	3	3	6	4	4	6	3	4	6.2	14.5
6-Aug	4	3	A	5	3	6	4	6	4	3	2	1	1	1	1	2	1	1	3	3	3	2	1	1	2.7	6.1
7-Aug	1	A	3	3	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	2	8	14	21	18	4.0	21.0
8-Aug	A	15	10	8	6	6	7	6	3	2	2	2	1	1	1	1	2	1	2	4	9	11	11	A	5.0	14.5
9-Aug	10	7	5	6	6	9	11	6	4	5	5	3	2	1	1	1	1	1	2	3	9	8	A	13	5.3	12.7
10-Aug	6	4	5	6	7	8	6	5	4	2	1	1	1	1	1	1	1	1	2	3	4	A	5	3	3.5	7.7
11-Aug	3	2	2	3	4	7	7	4	8	8	11	8	4	3	2	4	7	5	4	5	A	8	6	4	5.2	11.1
12-Aug	4	4	6	3	7	10	13	13	7	8	4	1	1	2	1	1	2	3	3	A	7	6	5	4	5.0	13.2
13-Aug	3	4	3	5	6	6	7	5	4	5	5	2	1	1	2	2	N	1	A	5	6	6	5	4	4.0	7.4
14-Aug	3	2	1	2	2	3	3	3	3	2	2	1	1	1	1	2	1	A	4	3	4	3	3	1	2.2	3.6
15-Aug	2	3	3	2	3	7	11	8	4	2	2	2	2	3	2	2	A	3	2	3	4	3	2	2	3.4	10.8
16-Aug	2	3	3	2	5	9	7	5	3	C	C	C	C	C	4	A	4	2	2	2	3	2	1	1	3.5	9.1
17-Aug	1	1	2	4	8	13	14	16	7	3	2	1	1	1	A	3	3	2	2	2	3	2	2	2	4.1	15.8
18-Aug	1	3	1	1	2	5	10	7	4	1	1	1	1	A	3	3	2	1	2	3	3	3	3	3	2.8	9.6
19-Aug	2	2	2	2	4	6	6	4	4	2	1	1	A	2	2	1	2	4	5	7	8	6	5	7	3.7	7.8
20-Aug	6	8	10	9	8	9	9	8	4	2	1	A	3	2	1	1	1	1	2	5	12	17	17	13	6.5	16.9
21-Aug	12	9	8	7	9	10	10	8	9	7	A	4	3	2	2	1	2	3	2	4	6	6	9	8	6.1	12.5
22-Aug	6	8	6	4	5	11	17	17	14	A	8	5	4	2	2	2	3	4	5	3	3	3	2	3	6.0	17.4
23-Aug	2	1	1	1	1	3	5	4	A	3	2	2	2	2	2	2	2	2	2	6	9	7	7	12	3.5	11.8
24-Aug	14	10	7	6	4	6	12	A	12	8	4	2	2	2	2	2	2	2	2	3	3	2	5	3	5.0	14.2
25-Aug	1	1	1	1	4	12	A	15	7	2	1	1	1	1	1	1	1	1	2	7	15	19	18	14	5.5	19.1
26-Aug	9	9	7	7	7	A	13	12	10	8	6	6	3	2	2	2	1	3	5	7	12	18	15	12	7.6	17.6
27-Aug	8	6	5	7	A	12	13	9	8	4	5	3	2	2	1	1	1	2	2	1	2	3	6	6	4.8	13.0
28-Aug	3	3	3	A	9	8	7	6	5	6	6	5	2	1	1	1	2	2	3	4	8	7	9	9	4.8	8.9
29-Aug	7	6	A	4	6	6	8	8	8	6	5	3	2	3	2	2	2	2	2	4	3	2	3	4	4.2	8.5
30-Aug	2	A	4	4	4	7	13	5	2	1	2	1	1	1	3	2	2	6	2	2	3	5	5	3	3.5	13.3
31-Aug	A	4	2	3	5	7	12	12	6	2	1	1	1	1	1	1	2	1	2	6	11	9	10	A	4.4	12.3
	4.7	4.7	4.1	4.0	5.1	7.6	9.1	7.9	5.7	3.7	3.1	2.4	1.7	1.6	1.7	1.6	1.9	2.1	2.5	3.8	5.9	6.7	6.9	6.0	Diurnal Average	
	14.5	14.5	10.0	9.0	9.1	12.9	17.4	16.7	14.3	8.4	11.1	8.4	4.2	3.1	4.5	3.8	6.6	6.2	5.5	7.0	15.2	19.1	21.0	18.2	Diurnal Maximum	

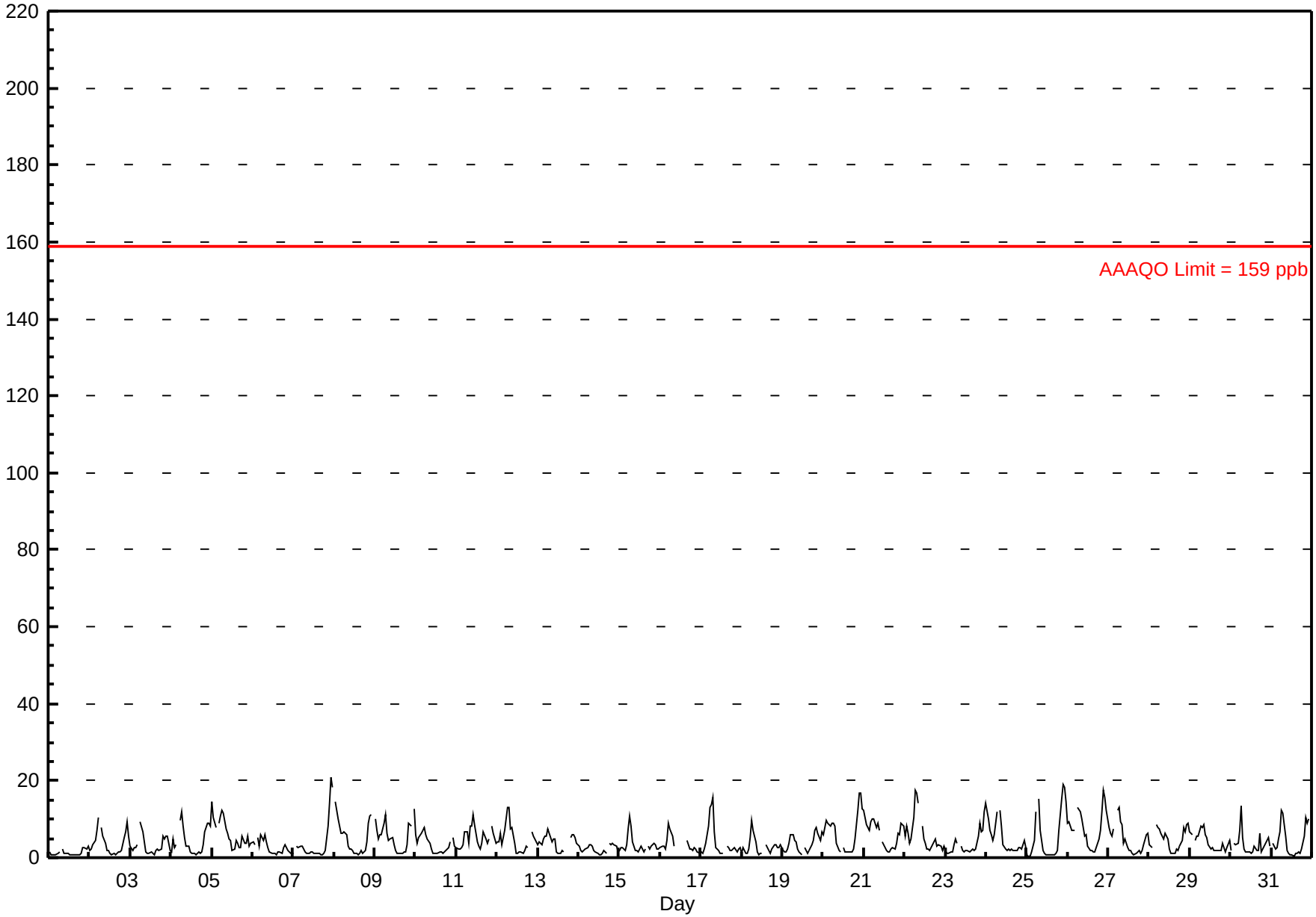
C - Calibration N - Not Valid A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb

Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - August 2011

Maximum Value: 52.3 ppb on Aug 15 14:00

Maximum Daily Average: 10.5 ppb on Aug 26

Minimum Value: 1 ppb on Aug 25 03:00

Minimum Daily Average: 2.1 ppb on Aug 1

Maximum Diurnal Average: 12.0 ppb at hour 7

Minimum Diurnal Average: 3.3 ppb at hour 15

Monthly Average: 6.90 ppb

Percentiles: P_1 = 1.5 P_{10} = 2.0 Q_1 = 3.0 Median = 5.5 Q_3 = 9.7 P_{90} = 13.5 P_{99} = 22.8

Hours in Service:	744
Hours of Data:	705
Hours of Missing Data:	39
Hours of Calibration:	38
Percent Operational Time:	99.9

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	2	1	1	1	1	2	2	A	4	1	1	1	1	1	1	1	1	1	2	2	4	4	3	4	2.1	4.5
2-Aug	3	3	9	11	11	14	A	11	7	5	6	18	3	2	2	2	3	3	3	3	10	9	11	9	7.0	18.3
3-Aug	5	3	4	4	6	A	11	12	7	3	2	2	2	2	2	3	5	4	3	9	7	11	12	7	5.6	11.9
4-Aug	4	6	5	5	A	12	13	11	8	5	4	2	1	3	2	3	5	3	2	6	11	16	15	14	7.0	16.2
5-Aug	17	11	12	A	11	13	14	15	15	40	6	7	5	5	10	7	6	5	9	7	5	10	4	5	10.3	39.8
6-Aug	6	4	A	8	7	8	6	9	5	4	2	2	2	2	2	3	2	2	5	6	5	3	2	2	4.4	9.4
7-Aug	1	A	5	4	4	4	3	2	2	1	2	2	2	2	2	1	1	1	2	4	24	20	25	21	6.0	24.5
8-Aug	A	18	13	14	7	7	8	8	4	4	8	3	2	2	2	2	3	1	5	7	12	14	14	A	7.3	18.4
9-Aug	17	10	7	7	8	15	15	11	6	6	6	6	3	2	2	4	2	3	5	11	13	13	A	18	8.3	18.4
10-Aug	9	4	6	8	10	10	8	6	6	3	2	2	2	3	4	3	2	3	4	4	6	A	10	4	5.4	9.9
11-Aug	4	4	3	4	5	8	12	5	11	12	13	10	6	3	3	8	11	8	6	7	A	12	12	5	7.6	13.4
12-Aug	7	6	18	4	14	13	16	16	9	13	10	1	2	2	3	4	4	7	5	A	9	10	8	6	8.3	18.1
13-Aug	6	7	4	6	7	9	13	6	6	6	7	3	2	2	5	3	N	4	A	9	8	10	8	6	6.3	12.7
14-Aug	5	3	2	3	4	4	5	4	3	3	2	1	1	2	2	4	2	A	8	6	7	4	4	2	3.7	7.6
15-Aug	3	3	3	3	5	10	14	12	7	3	3	3	10	52	3	4	A	5	3	5	6	4	3	3	7.4	52.3
16-Aug	3	4	3	3	9	11	10	9	6	C	C	C	C	C	8	A	7	3	3	3	5	4	2	1	5.4	10.9
17-Aug	2	2	4	6	18	15	17	20	11	4	3	2	3	3	A	5	15	3	3	3	6	3	3	4	6.9	20.0
18-Aug	1	4	2	2	4	9	12	11	7	3	1	3	2	A	5	6	3	3	4	5	4	3	3	5	4.7	12.0
19-Aug	3	3	2	3	7	8	8	6	5	4	2	2	A	5	3	2	3	6	8	9	11	9	7	14	5.8	14.0
20-Aug	10	11	11	10	9	11	11	10	7	3	2	A	4	2	2	2	2	3	4	8	17	20	20	18	8.6	20.0
21-Aug	15	11	9	8	13	11	13	11	12	12	A	7	6	3	2	2	4	5	5	10	10	11	12	12	8.9	15.3
22-Aug	9	12	8	5	7	19	22	20	21	A	13	8	5	4	3	3	5	6	7	7	11	9	3	4	9.2	22.0
23-Aug	3	3	2	2	2	5	7	6	A	6	3	3	3	3	3	3	4	3	6	9	14	10	10	16	5.4	16.3
24-Aug	17	19	12	8	6	11	15	A	16	10	5	3	4	4	4	3	3	4	3	5	4	4	10	7	7.8	19.0
25-Aug	1	1	1	3	16	21	A	23	10	6	3	1	1	2	1	1	1	2	9	11	26	23	22	21	9.1	25.5
26-Aug	12	11	10	13	12	A	18	15	13	11	7	9	4	3	3	2	2	5	7	11	14	21	20	16	10.5	20.5
27-Aug	11	8	7	8	A	14	16	12	12	5	7	8	3	3	3	2	2	4	4	2	4	7	12	10	7.3	16.0
28-Aug	4	6	3	A	12	12	9	9	5	10	7	7	4	2	2	2	5	6	7	10	11	8	11	13	7.4	12.5
29-Aug	9	8	A	6	7	8	14	11	11	9	8	5	4	5	4	4	3	3	3	7	7	2	4	8	6.7	13.8
30-Aug	4	A	6	5	6	11	17	11	3	3	15	8	2	3	4	4	5	10	3	5	4	7	7	4	6.5	16.5
31-Aug	A	5	3	4	6	9	16	14	10	2	2	1	2	1	2	2	4	2	4	10	15	11	19	A	6.7	18.9
	6.7	6.7	6.2	5.9	8.2	10.6	12.0	10.9	8.4	6.9	5.4	4.7	3.3	4.6	3.3	3.3	4.1	4.1	4.8	6.8	9.8	9.9	10.0	9.0	Diurnal Average	
	17.0	19.0	18.1	14.3	18.0	20.5	22.0	23.3	20.5	39.8	15.2	18.3	9.6	52.3	9.8	7.7	15.3	9.7	9.2	11.5	25.5	23.0	24.5	20.7	Diurnal Maximum	

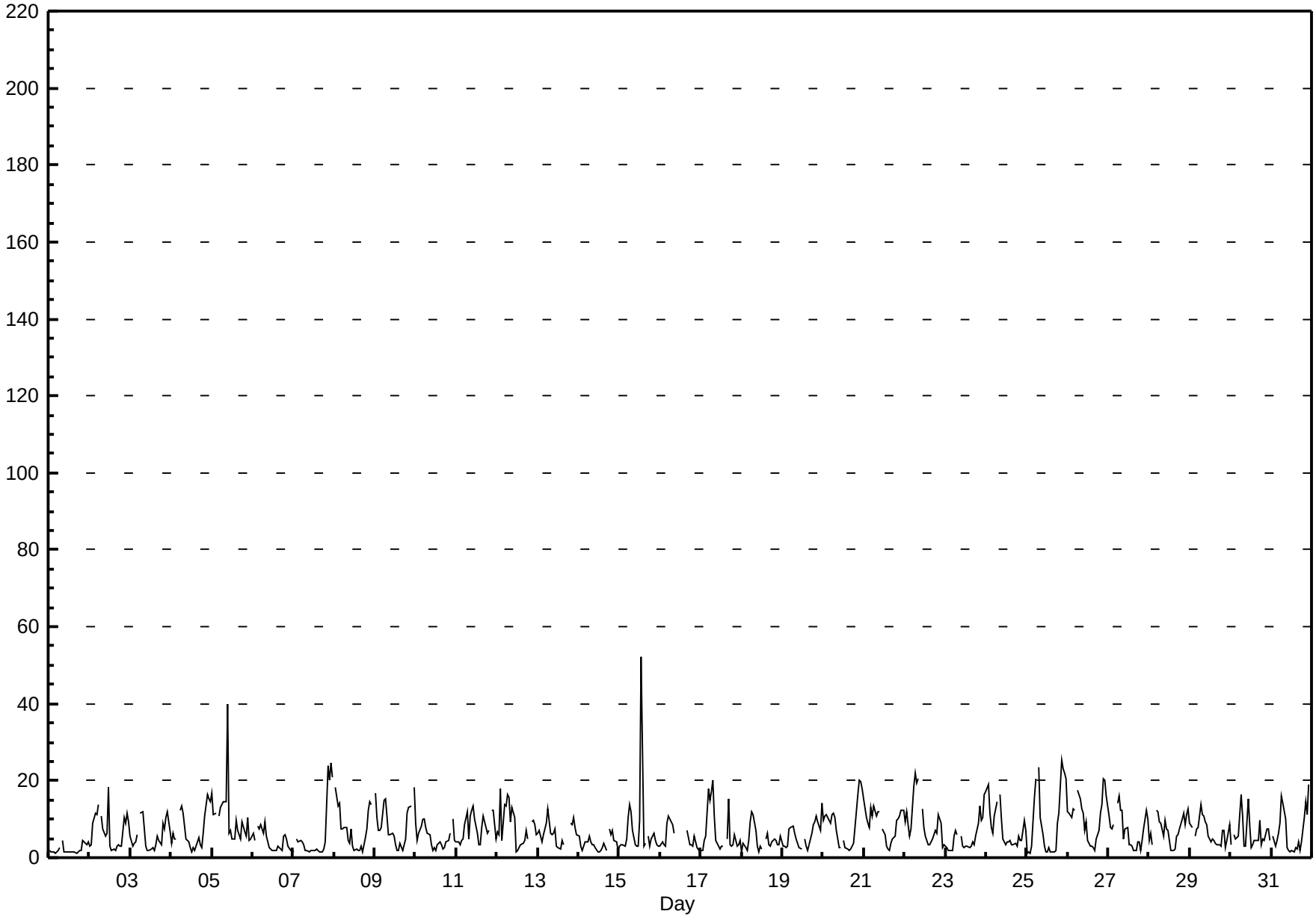
C - Calibration N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - August 2011

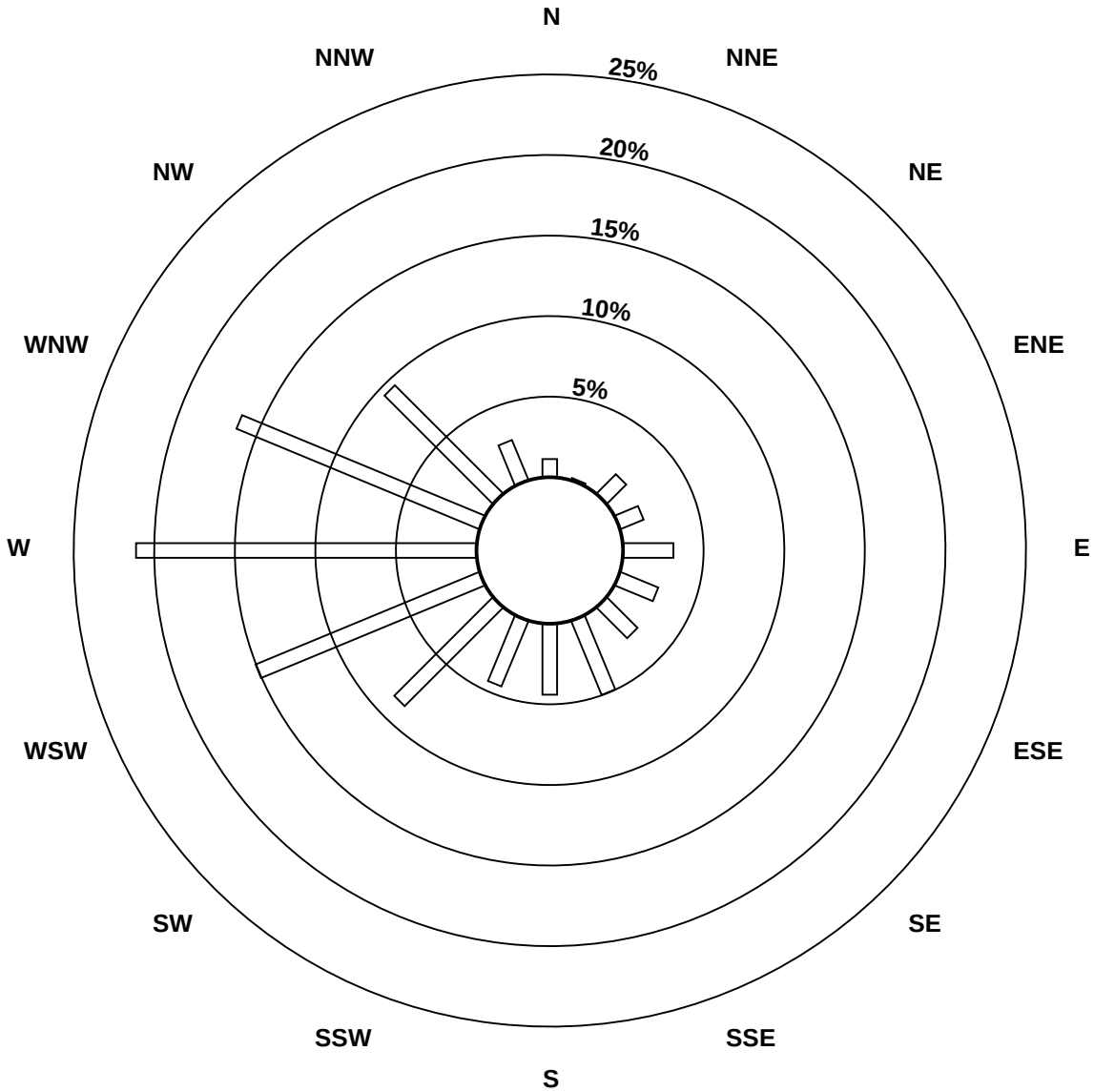


FOCUS AIR QUALITY MONITORING

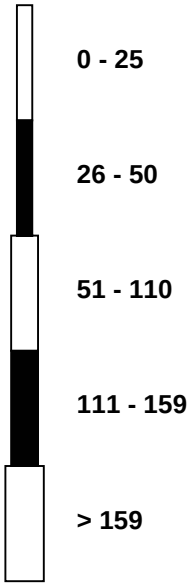
Pollutant Rose

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - August 2011



Pollutant Classes (ppb)

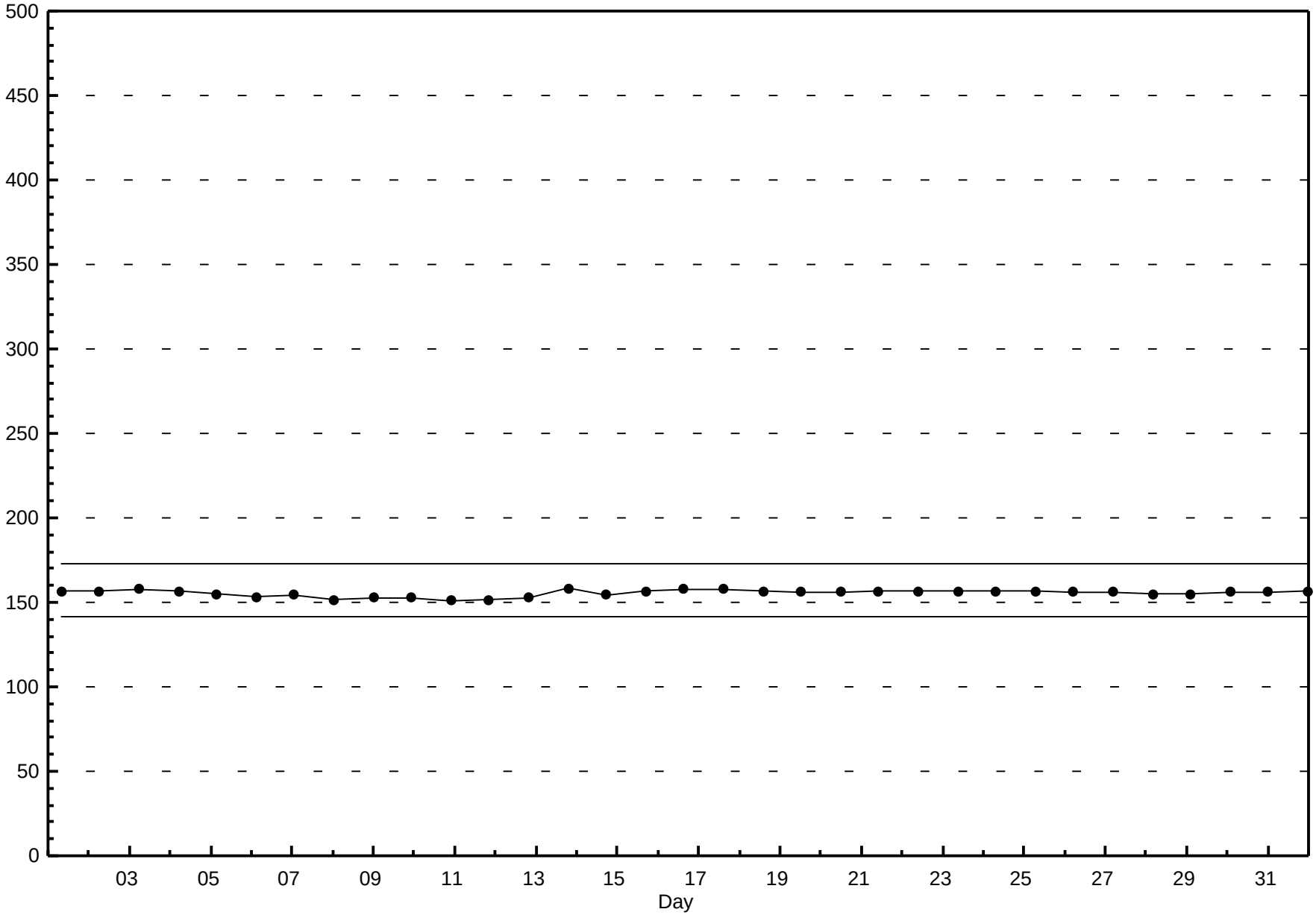


Peace Airshed Zone Association

Span Responses

Nitrogen Dioxide (NO_2)

Henry Pirker - August 2011



Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Henry Pirker - August 2011

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

Maximum Value: 24.7 ppb on Aug 31 07:00

Maximum Daily Average: 3.3 ppb on Aug 5

Minimum Value: 0 ppb on Aug 14 05:00

Minimum Daily Average: 0.3 ppb on Aug 1

Maximum Diurnal Average: 6.6 ppb at hour 8

Minimum Diurnal Average: 0.2 ppb at hour 4

Monthly Average: 1.32 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.2$ Median = 0.5 $Q_3 = 1.0$ $P_{90} = 3.3$ $P_{99} = 13.9$

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	38
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-Aug	0	0	0	0	0	0	0	A	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.3	0.6
2-Aug	0	0	0	0	1	3	A	7	6	3	1	1	1	0	0	0	0	0	0	0	1	0	0	0	1.2	6.8
3-Aug	0	0	0	0	0	A	1	2	2	1	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0.5	2.2
4-Aug	0	0	0	0	A	3	17	6	4	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	1.6	17.2
5-Aug	0	0	1	A	4	11	21	15	7	6	2	2	1	0	0	1	1	0	1	1	0	0	0	0	3.3	21.5
6-Aug	0	0	A	0	0	0	1	2	2	2	1	0	1	1	1	1	1	0	1	1	0	0	0	0	0.6	2.2
7-Aug	0	A	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	1	1	3	1	0.4	2.6
8-Aug	A	1	2	1	1	3	10	10	4	2	2	1	0	0	0	0	0	0	0	0	0	0	0	A	1.8	10.3
9-Aug	2	2	1	0	0	3	5	3	2	3	3	1	0	0	0	0	0	0	0	0	1	0	A	0	1.2	4.7
10-Aug	0	0	0	0	1	3	3	5	2	1	0	0	0	0	0	0	0	0	1	1	1	A	0	0	0.9	5.2
11-Aug	0	0	0	0	0	1	3	2	6	5	6	3	1	0	0	0	1	1	1	0	A	0	0	0	1.4	6.2
12-Aug	0	0	0	0	0	1	7	10	5	5	2	0	0	0	0	0	0	1	0	A	0	0	0	0	1.4	10.4
13-Aug	0	0	0	0	1	1	4	4	4	4	3	0	0	0	0	0	N	N	A	1	1	0	0	0	1.2	4.4
14-Aug	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	A	0	1	0	0	0	0	0.4	1.3
15-Aug	0	0	0	0	0	1	6	7	3	2	1	1	4	3	1	1	A	1	1	1	0	0	0	0	1.4	7.2
16-Aug	0	0	0	0	0	1	3	3	2	C	C	C	C	C	1	A	1	1	1	0	0	0	0	0	0.8	3.0
17-Aug	0	0	0	0	1	4	15	19	5	2	1	1	1	1	A	1	3	1	1	0	0	0	0	0	2.4	19.4
18-Aug	0	0	0	0	0	1	4	6	4	1	1	1	1	A	1	1	1	1	1	1	1	0	0	0	1.1	5.5
19-Aug	0	0	0	0	0	1	3	4	4	2	1	1	A	1	1	0	1	1	1	1	0	0	0	0	1.0	3.9
20-Aug	0	0	1	2	2	3	9	7	3	1	1	A	1	1	1	1	1	1	1	1	2	6	7	3	2.4	9.5
21-Aug	2	1	0	0	1	1	4	3	10	7	A	1	1	0	0	0	1	1	0	0	0	0	0	0	1.5	9.7
22-Aug	0	0	0	0	0	0	2	4	5	A	3	1	1	1	1	1	1	0	0	0	0	0	0	0	0.9	4.8
23-Aug	0	0	0	0	0	0	1	2	A	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	0.6	1.7
24-Aug	1	2	0	0	0	1	6	A	7	8	2	1	1	1	1	1	1	1	0	0	0	0	0	0	1.5	7.5
25-Aug	0	0	0	0	0	1	A	7	3	1	0	0	0	0	0	0	0	0	0	1	1	1	2	1	0.8	6.9
26-Aug	0	0	0	0	0	A	10	18	12	7	3	3	1	0	0	0	0	0	0	0	0	2	3	8	3.1	18.0
27-Aug	2	1	1	1	A	2	8	14	8	2	3	1	1	1	0	0	0	0	0	0	0	0	0	0	1.9	13.5
28-Aug	0	0	0	A	0	1	2	3	2	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0.8	4.2
29-Aug	0	0	A	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0.5	1.4
30-Aug	0	A	0	0	0	1	6	2	1	1	2	1	1	1	1	1	0	2	1	0	0	0	0	0	0.9	5.6
31-Aug	A	0	0	0	0	1	25	23	8	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	2.8	24.7
	0.4	0.3	0.3	0.2	0.5	1.8	6.1	6.6	4.2	2.6	1.7	1.0	0.7	0.6	0.5	0.5	0.6	0.5	0.5	0.4	0.4	0.5	0.6	0.5	Diurnal Average	
	2.5	2.4	2.2	2.4	3.5	11.3	24.7	22.7	12.4	7.5	5.7	3.2	3.7	2.6	1.1	1.3	2.5	1.5	1.0	0.9	2.4	6.2	7.0	7.6	Diurnal Maximum	

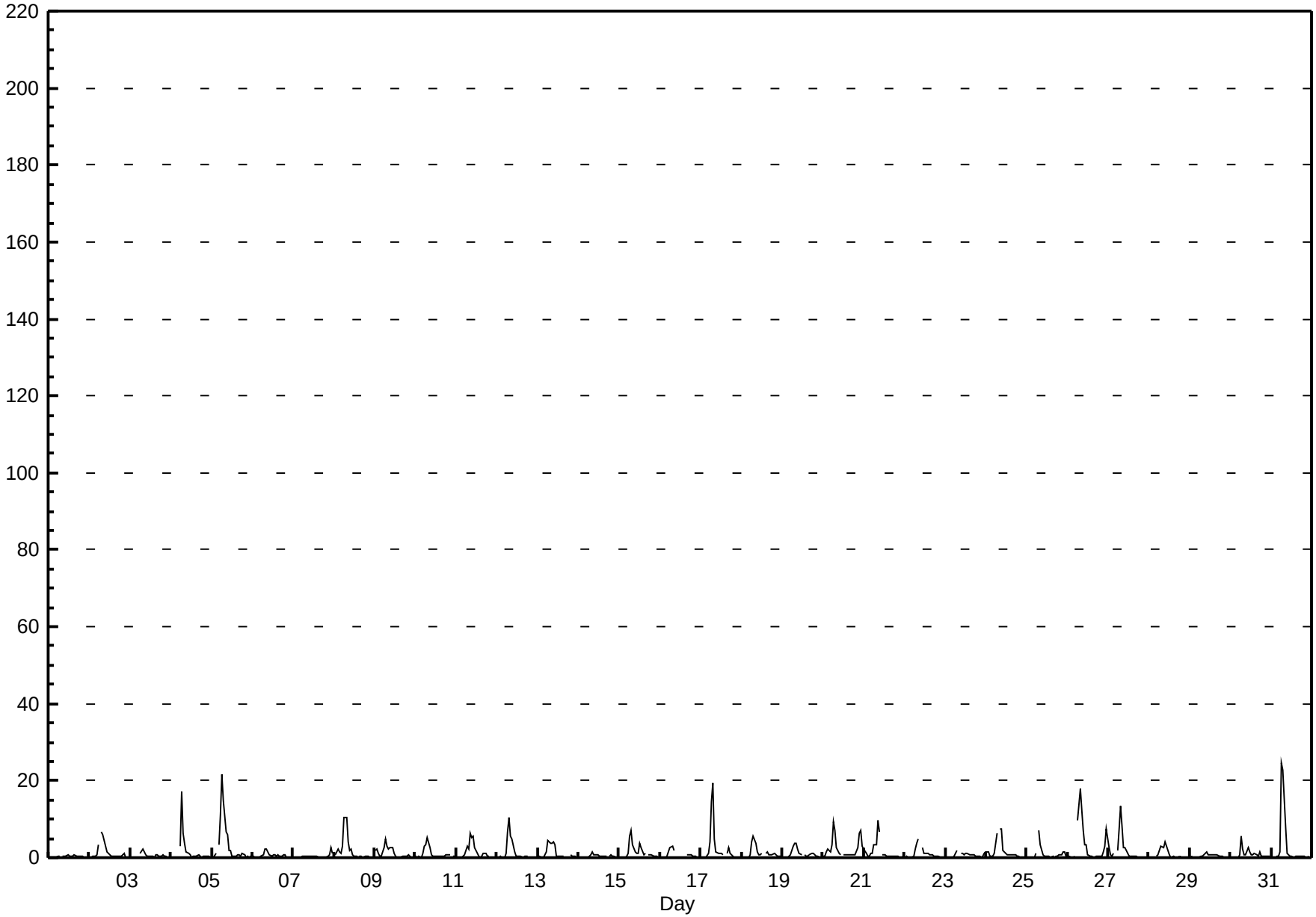
C - Calibration N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Henry Pirker - August 2011



Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Henry Pirker - August 2011

Maximum Value: 67.1 ppb on Aug 5 10:00

Maximum Daily Average: 9.2 ppb on Aug 5

Minimum Value: 0 ppb on Aug 29 04:00

Minimum Daily Average: 0.6 ppb on Aug 1

Maximum Diurnal Average: 12.4 ppb at hour 7

Minimum Diurnal Average: 1.4 ppb at hour 15

Monthly Average: 3.71 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.5$ $Q_1 = 0.5$ Median = 1.5 $Q_3 = 3.3$ $P_{90} = 9.5$ $P_{99} = 40.4$

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	38
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-Aug	0	0	0	0	1	1	1	A	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0.6	1.0
2-Aug	0	0	3	3	4	11	A	11	10	6	16	20	2	1	1	1	1	1	1	1	23	1	0	0	5.2	22.5
3-Aug	0	0	0	1	0	A	2	4	3	1	1	1	1	1	1	4	2	1	0	1	0	6	0	0	1.5	5.8
4-Aug	0	0	0	1	A	14	26	20	7	3	2	12	0	1	1	1	2	1	0	0	0	2	1	0	4.3	26.1
5-Aug	1	1	3	A	14	22	31	28	18	67	2	3	6	1	2	1	2	0	2	5	0	1	0	0	9.2	67.1
6-Aug	1	1	A	0	0	1	1	5	3	3	1	1	1	1	1	1	1	1	2	1	0	0	0	1	1.4	4.8
7-Aug	0	A	0	0	1	1	1	0	1	0	1	1	1	1	1	0	0	0	0	0	8	4	10	3	1.6	9.7
8-Aug	A	4	13	12	2	5	16	15	8	4	45	1	1	1	0	0	1	0	1	1	1	0	1	A	6.1	44.6
9-Aug	4	6	2	1	4	8	8	6	4	4	3	2	1	0	0	3	1	2	3	1	6	0	A	1	3.1	8.5
10-Aug	1	1	0	1	5	6	7	8	4	3	0	1	1	3	4	2	1	2	3	3	2	A	1	3	2.8	7.5
11-Aug	2	2	0	3	1	4	23	3	8	10	8	4	2	1	0	1	2	2	1	0	A	0	0	0	3.5	22.9
12-Aug	0	0	5	0	1	3	15	15	10	8	6	1	0	0	1	2	3	4	2	A	3	1	0	2	3.6	15.4
13-Aug	9	3	0	0	1	13	14	7	10	6	6	1	1	1	2	1	N	N	A	4	3	1	3	1	4.4	14.4
14-Aug	0	0	0	3	0	0	0	1	2	2	1	1	1	1	1	1	1	A	1	1	1	1	1	0	1.0	3.0
15-Aug	0	0	0	1	1	3	9	14	7	3	2	2	57	59	2	2	A	2	1	1	1	1	1	1	7.4	59.4
16-Aug	1	1	1	0	1	3	26	8	4	C	C	C	C	C	2	A	2	1	1	1	1	1	0	0	3.0	26.0
17-Aug	0	0	1	0	8	10	25	40	11	3	2	2	2	3	A	2	41	18	1	1	1	1	0	0	7.5	40.8
18-Aug	0	1	1	1	1	1	11	14	8	3	1	2	9	A	3	3	2	2	2	1	1	0	1	1	2.9	13.9
19-Aug	1	0	1	0	3	3	6	7	5	4	2	3	A	3	1	1	2	2	2	1	1	1	0	4	2.2	6.8
20-Aug	2	1	3	5	3	12	15	10	6	2	1	A	1	1	2	1	1	1	1	1	9	16	13	18	5.6	18.0
21-Aug	6	2	1	1	4	2	10	10	19	13	A	2	2	0	0	1	1	1	1	4	2	1	1	1	3.7	19.4
22-Aug	0	1	0	0	0	3	5	8	11	A	17	3	2	2	2	1	2	1	1	1	1	1	1	0	2.7	16.5
23-Aug	0	0	0	0	0	1	2	2	A	2	2	1	2	2	1	1	1	1	1	1	1	0	3	5	1.5	4.7
24-Aug	3	19	1	1	1	8	13	A	11	11	3	2	2	1	2	1	1	1	1	0	0	0	4	0	3.8	18.7
25-Aug	0	0	0	0	5	5	A	15	5	3	1	0	0	1	0	0	0	0	5	4	4	5	5	1	2.8	15.4
26-Aug	1	1	1	1	2	A	17	29	20	13	5	6	1	0	0	0	0	1	0	0	0	13	12	14	6.1	28.9
27-Aug	9	7	1	3	A	5	14	22	17	4	5	6	1	1	1	0	0	0	1	0	0	0	1	1	4.4	21.5
28-Aug	0	1	0	A	1	4	4	5	3	8	4	3	1	0	1	0	0	2	2	0	1	1	1	1	2.0	8.0
29-Aug	1	0	A	0	0	0	1	1	1	2	2	2	2	2	1	1	1	1	0	0	0	0	0	0	1.0	2.5
30-Aug	0	A	0	0	0	7	11	5	3	4	20	21	1	1	2	2	1	3	1	1	1	1	1	1	3.9	21.4
31-Aug	A	0	0	3	0	4	44	42	20	1	2	1	1	0	1	1	2	1	0	0	0	0	5	A	6.0	43.9
	1.6	1.9	1.4	1.5	2.2	5.5	12.4	12.2	8.0	6.8	5.7	3.8	3.7	3.3	1.4	1.5	2.8	2.0	1.4	1.4	2.5	2.0	2.3	2.1	Diurnal Average	
	9.4	18.7	13.0	12.3	13.5	22.0	43.9	41.6	20.4	67.1	44.6	21.4	57.4	59.4	3.8	4.4	40.8	17.7	5.2	4.6	22.5	15.9	12.8	18.0	Diurnal Maximum	

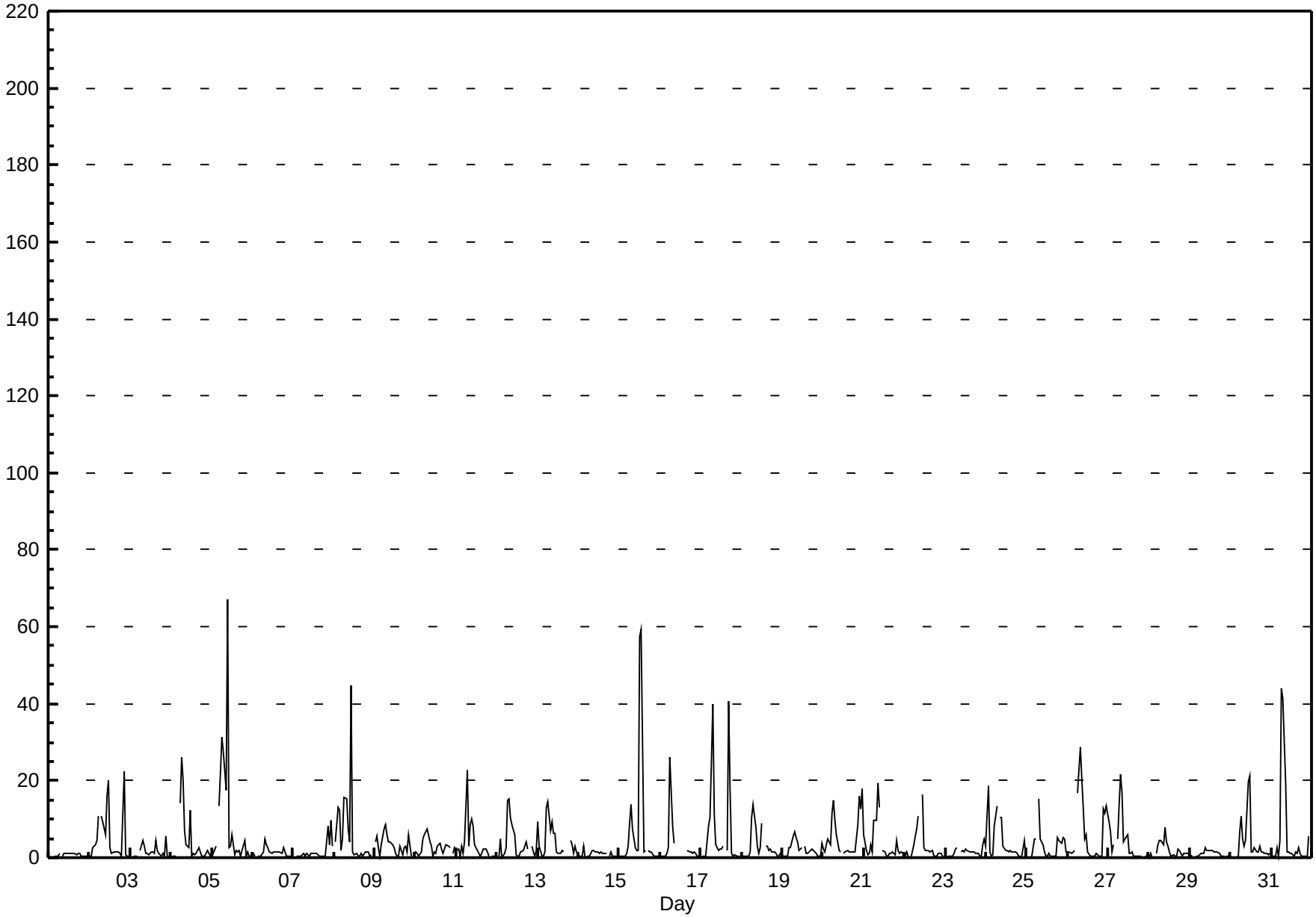
C - Calibration N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Henry Pirker - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Henry Pirker - August 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 37.0 ppb on Aug 31 07:00
Maximum Daily Average: 10.7 ppb on Aug 26

Minimum Value: 1 ppb on Aug 25 01:00
Maximum Diurnal Average: 15.2 ppb at hour 7
Monthly Average: 5.72 ppb

Minimum Daily Average: 1.6 ppb on Aug 1
Minimum Diurnal Average: 2.2 ppb at hour 14
Percentiles: P_1 = 0.9 P_{10} = 1.5 Q_1 = 2.2 Median = 3.6 Q_3 = 7.5 P_{90} = 12.6 P_{99} = 28.0

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	38
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-Aug	1	1	1	1	1	1	2	A	3	2	2	2	1	1	1	2	1	1	1	1	3	3	2	3	1.6	2.9
2-Aug	2	2	4	5	8	14	A	15	12	7	3	3	2	1	1	1	2	2	2	2	7	7	10	6	5.1	14.8
3-Aug	3	2	3	3	4	A	11	9	6	2	2	2	2	1	1	2	3	2	3	6	5	6	6	2	3.6	10.6
4-Aug	2	5	3	3	A	13	29	14	9	4	4	2	1	2	2	1	2	2	2	4	7	9	9	8	6.0	29.3
5-Aug	15	11	9	A	13	22	34	27	14	12	7	7	2	3	5	4	4	3	7	4	4	6	3	4	9.5	33.9
6-Aug	4	3	A	5	3	6	5	8	7	4	3	2	2	2	1	2	2	2	3	4	3	2	2	1	3.3	8.4
7-Aug	1	A	3	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	2	9	15	24	20	4.5	23.7
8-Aug	A	15	12	10	7	9	17	16	7	4	4	3	2	1	1	1	2	1	2	4	9	11	11	A	7.0	17.0
9-Aug	12	10	6	6	7	12	16	9	7	7	8	5	2	2	1	1	1	2	2	4	10	9	A	13	6.5	15.9
10-Aug	6	4	6	7	8	11	9	10	6	3	2	1	1	2	2	2	2	2	3	3	5	A	6	3	4.5	10.8
11-Aug	3	3	2	3	4	8	10	6	15	14	17	11	5	3	3	4	8	6	4	5	A	8	7	4	6.6	16.9
12-Aug	4	4	7	3	7	11	20	24	13	13	5	1	1	2	2	1	2	3	3	A	7	6	5	4	6.6	23.7
13-Aug	4	4	3	5	6	7	12	9	8	9	8	2	2	2	2	2	N	N	A	6	6	6	6	4	5.4	11.9
14-Aug	3	2	2	2	2	3	4	4	4	3	2	2	1	1	2	2	2	A	4	4	4	4	3	2	2.7	4.1
15-Aug	2	3	3	2	4	9	17	16	7	4	3	3	6	6	3	3	A	4	3	4	4	4	3	2	4.8	16.5
16-Aug	3	3	3	2	5	11	10	8	5	C	C	C	C	C	5	A	5	3	3	2	3	3	2	1	4.3	10.6
17-Aug	1	1	2	4	9	17	28	35	12	4	3	2	2	2	A	4	5	3	3	3	3	2	3	3	6.6	35.2
18-Aug	1	3	1	1	2	6	14	13	8	3	1	2	2	A	4	4	3	2	3	4	4	3	3	4	4.0	13.7
19-Aug	2	2	2	2	4	7	9	8	8	4	3	2	A	3	2	2	3	5	6	8	8	6	5	7	4.7	8.9
20-Aug	7	8	11	11	10	12	18	15	6	3	2	A	3	2	2	2	2	2	3	6	15	23	24	16	8.9	23.8
21-Aug	15	10	8	8	10	11	14	11	19	14	A	5	3	2	2	2	3	3	3	4	7	6	9	9	7.6	18.6
22-Aug	6	8	6	4	5	11	20	21	19	A	11	6	5	3	3	3	4	4	5	3	3	3	2	3	6.9	20.6
23-Aug	2	1	1	2	2	4	6	6	A	4	3	2	3	3	2	3	3	2	3	6	9	7	8	13	4.1	12.9
24-Aug	16	12	7	6	5	7	18	A	20	16	5	3	3	3	3	3	2	2	2	3	3	2	5	3	6.5	19.6
25-Aug	1	1	1	2	5	13	A	22	10	3	2	1	1	1	1	1	1	1	2	8	16	20	20	15	6.3	22.2
26-Aug	9	10	7	7	8	A	23	30	22	15	9	9	4	2	2	2	2	3	5	7	12	19	19	20	10.7	30.0
27-Aug	10	7	6	8	A	14	21	23	17	6	7	4	3	2	2	1	1	2	2	1	2	3	6	7	6.7	22.8
28-Aug	3	3	3	A	9	9	9	9	7	10	8	7	3	1	1	1	2	2	3	5	8	7	9	9	5.7	10.3
29-Aug	7	6	A	4	6	6	9	8	9	7	7	4	3	3	3	3	2	2	2	4	3	2	3	5	4.7	9.1
30-Aug	2	A	4	4	4	8	19	8	3	2	4	3	2	2	4	2	2	8	2	3	3	5	6	3	4.4	18.9
31-Aug	A	4	2	3	5	8	37	34	14	3	2	1	1	1	1	2	2	1	3	6	11	9	11	A	7.3	37.0
	5.1	5.1	4.4	4.4	5.7	9.4	15.2	14.5	9.9	6.3	4.8	3.3	2.5	2.2	2.2	2.2	2.6	2.7	3.0	4.2	6.4	7.2	7.6	6.6	Diurnal Average	
	15.6	15.5	12.3	11.5	12.7	22.1	37.0	35.2	22.4	15.7	16.9	11.0	6.0	5.8	5.0	4.5	7.7	7.7	6.5	7.9	15.9	23.0	23.8	19.7	Diurnal Maximum	

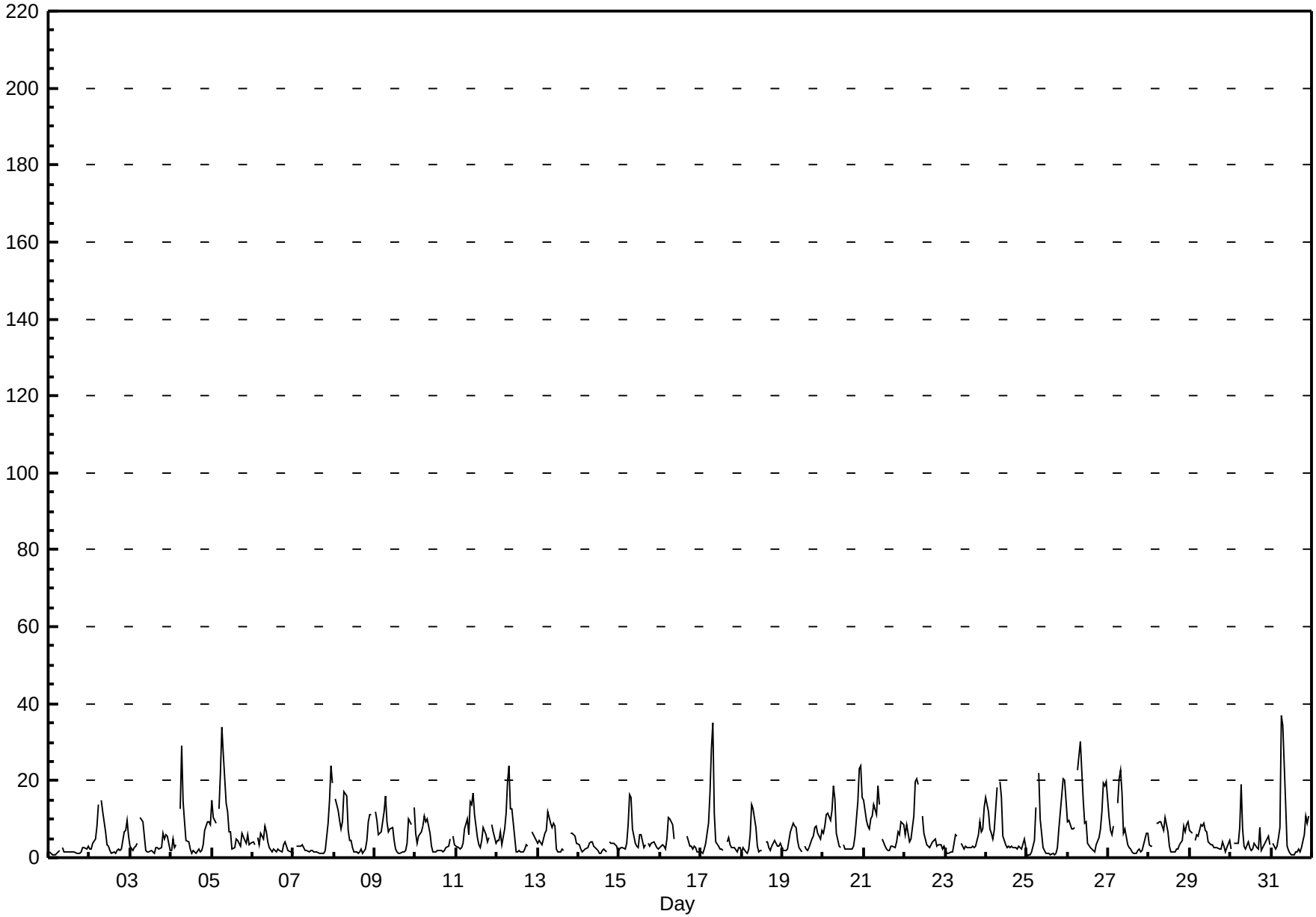
C - Calibration N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Henry Pirker - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Henry Pirker - August 2011

Maximum Value: 106.6 ppb on Aug 15 14:00

Maximum Daily Average: 18.7 ppb on Aug 5

Minimum Value: 1 ppb on Aug 25 03:00

Minimum Daily Average: 2.8 ppb on Aug 1

Maximum Diurnal Average: 23.8 ppb at hour 7

Minimum Diurnal Average: 4.6 ppb at hour 15

Monthly Average: 10.28 ppb

Percentiles: P_1 = 1.4 P_{10} = 2.7 Q_1 = 4.0 Median = 7.0 Q_3 = 12.4 P_{90} = 23.0 P_{99} = 39.6

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	38
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-Aug	2	1	2	1	1	3	3	A	5	3	2	2	2	2	2	2	2	2	3	2	5	4	4	4	2.8	5.2
2-Aug	3	4	12	15	16	25	A	19	17	12	21	39	4	3	3	3	4	5	4	4	31	9	12	10	11.8	38.6
3-Aug	6	3	4	5	6	A	14	16	10	4	3	3	4	4	3	6	7	6	4	10	8	17	12	7	6.9	16.6
4-Aug	4	7	5	5	A	27	40	30	15	8	6	8	2	4	3	4	8	5	3	7	12	17	16	15	10.9	39.6
5-Aug	18	12	15	A	24	35	45	41	32	88	9	10	11	6	12	8	8	5	11	11	5	12	5	6	18.7	88.3
6-Aug	7	5	A	9	8	9	8	14	9	6	3	3	3	3	3	4	4	3	8	7	6	3	3	2	5.7	14.2
7-Aug	1	A	5	4	5	4	4	3	3	2	3	3	3	3	3	2	2	2	3	4	32	24	34	23	7.5	34.2
8-Aug	A	23	26	27	9	11	23	23	12	8	44	4	3	3	2	2	4	1	7	8	13	15	14	A	12.8	43.9
9-Aug	19	14	8	8	11	21	24	17	11	10	10	8	4	2	3	7	2	5	8	12	19	14	A	19	11.1	24.0
10-Aug	11	5	7	10	13	16	14	13	9	6	2	4	3	6	8	5	4	5	8	7	9	A	11	7	7.9	15.9
11-Aug	5	7	4	7	6	12	33	8	19	22	20	14	8	4	3	9	13	10	8	8	A	13	13	5	10.8	32.6
12-Aug	7	6	23	5	15	16	31	31	20	22	16	2	2	3	4	6	7	11	7	A	12	11	9	7	11.8	31.0
13-Aug	16	10	4	6	8	22	27	14	16	13	13	4	4	3	6	5	N	N	A	12	12	11	9	7	10.5	27.0
14-Aug	6	3	2	6	4	4	6	5	5	5	3	3	2	3	3	5	3	A	9	7	8	5	4	2	4.6	8.5
15-Aug	3	4	4	3	6	14	23	25	15	6	5	5	60	107	4	6	A	6	5	6	7	5	4	3	14.1	106.6
16-Aug	4	4	4	3	10	14	34	17	10	C	C	C	C	C	9	A	8	5	5	4	7	5	3	2	8.1	34.2
17-Aug	2	3	5	6	26	22	41	60	22	8	5	4	5	6	A	7	45	10	4	4	7	3	4	5	13.1	59.8
18-Aug	2	4	3	3	5	11	23	25	15	6	3	5	7	A	8	10	6	5	6	7	6	4	4	7	7.4	24.9
19-Aug	4	3	3	3	10	10	13	12	10	7	5	5	A	8	4	3	5	9	10	11	12	10	7	18	7.9	17.9
20-Aug	12	12	14	15	12	23	24	19	13	5	4	A	6	4	4	3	3	4	5	9	25	34	31	36	13.8	36.1
21-Aug	21	13	10	9	17	13	23	20	31	25	A	10	8	3	3	3	4	6	6	14	11	12	14	14	12.5	31.4
22-Aug	10	12	9	6	8	21	27	27	31	A	28	11	7	6	5	5	6	6	8	7	12	10	3	4	11.5	31.0
23-Aug	3	2	2	2	2	6	9	9	A	7	5	4	5	4	4	4	5	5	7	9	14	10	13	20	6.7	20.4
24-Aug	19	38	12	8	7	19	27	A	25	20	8	5	5	6	6	5	5	5	4	6	5	4	14	7	11.3	37.7
25-Aug	1	2	1	3	21	23	A	37	16	9	4	2	2	3	2	2	2	3	14	13	29	27	27	22	11.5	37.5
26-Aug	13	13	11	14	14	A	31	44	33	25	12	15	6	3	3	3	2	6	8	12	14	33	32	28	16.4	44.1
27-Aug	20	14	9	11	A	19	28	33	29	9	13	14	4	4	5	2	2	4	4	2	4	7	13	11	11.4	32.9
28-Aug	4	8	4	A	13	16	14	14	9	18	11	10	6	2	2	2	6	8	9	11	13	9	12	13	9.3	17.8
29-Aug	9	9	A	6	8	8	15	12	12	11	10	7	6	7	6	5	5	4	3	7	8	2	5	9	7.6	14.7
30-Aug	4	A	6	5	6	15	27	15	5	7	31	22	4	5	7	6	5	12	5	6	5	8	8	5	9.6	31.3
31-Aug	A	6	3	7	7	13	60	55	30	4	3	2	2	2	4	3	6	3	4	12	15	11	24	A	12.6	59.6
	8.1	8.5	7.2	7.2	10.2	15.5	23.8	22.6	16.3	13.0	10.5	7.8	6.6	7.7	4.6	4.6	6.4	5.6	6.2	7.9	12.2	11.7	12.0	10.9	Diurnal Average	
	21.4	37.7	25.8	26.6	26.2	35.1	59.6	59.8	32.9	88.3	43.9	38.6	60.0	106.6	11.5	9.5	44.6	11.8	13.8	13.9	32.1	33.9	34.2	36.1	Diurnal Maximum	

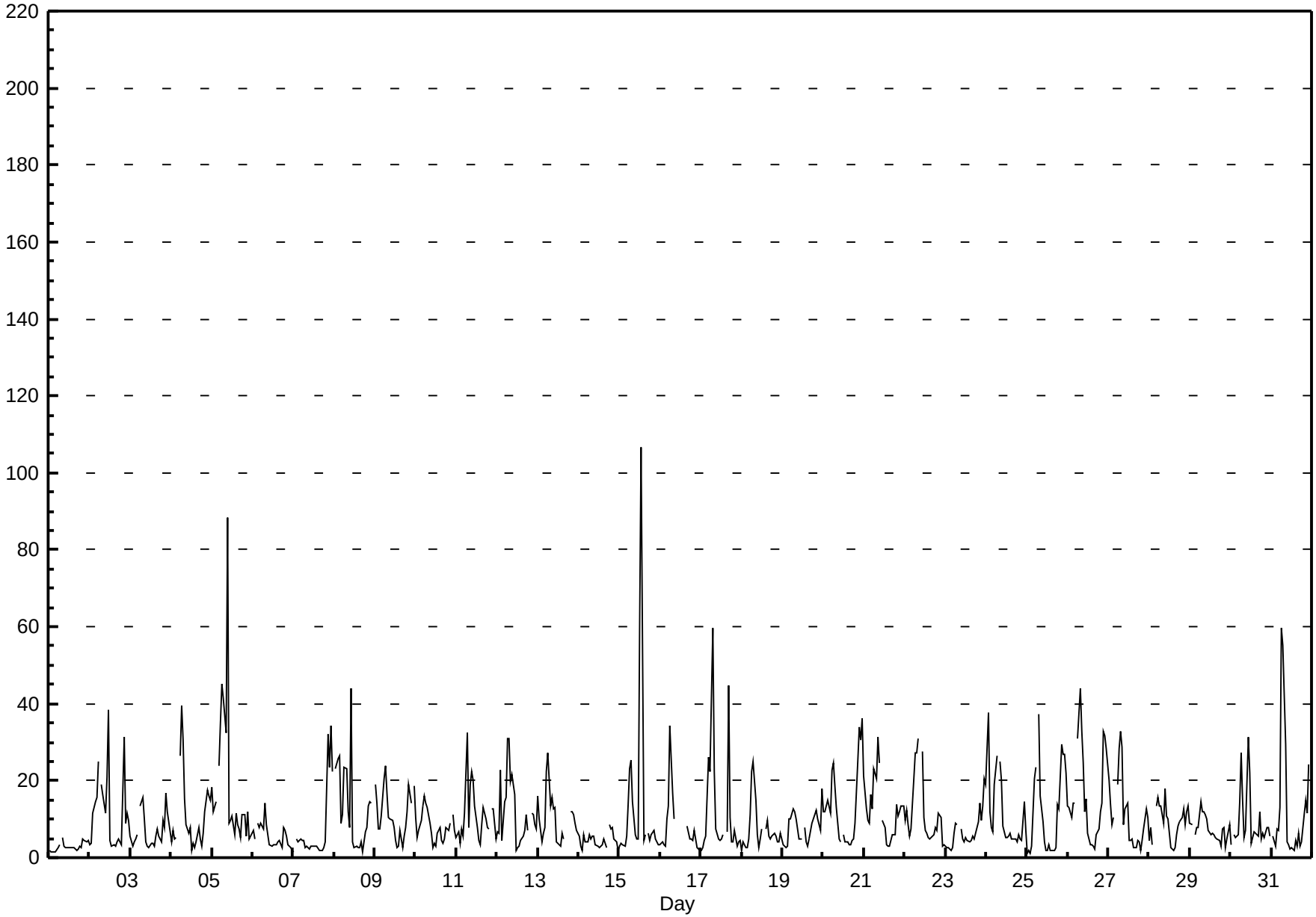
C - Calibration N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Henry Pirker - August 2011



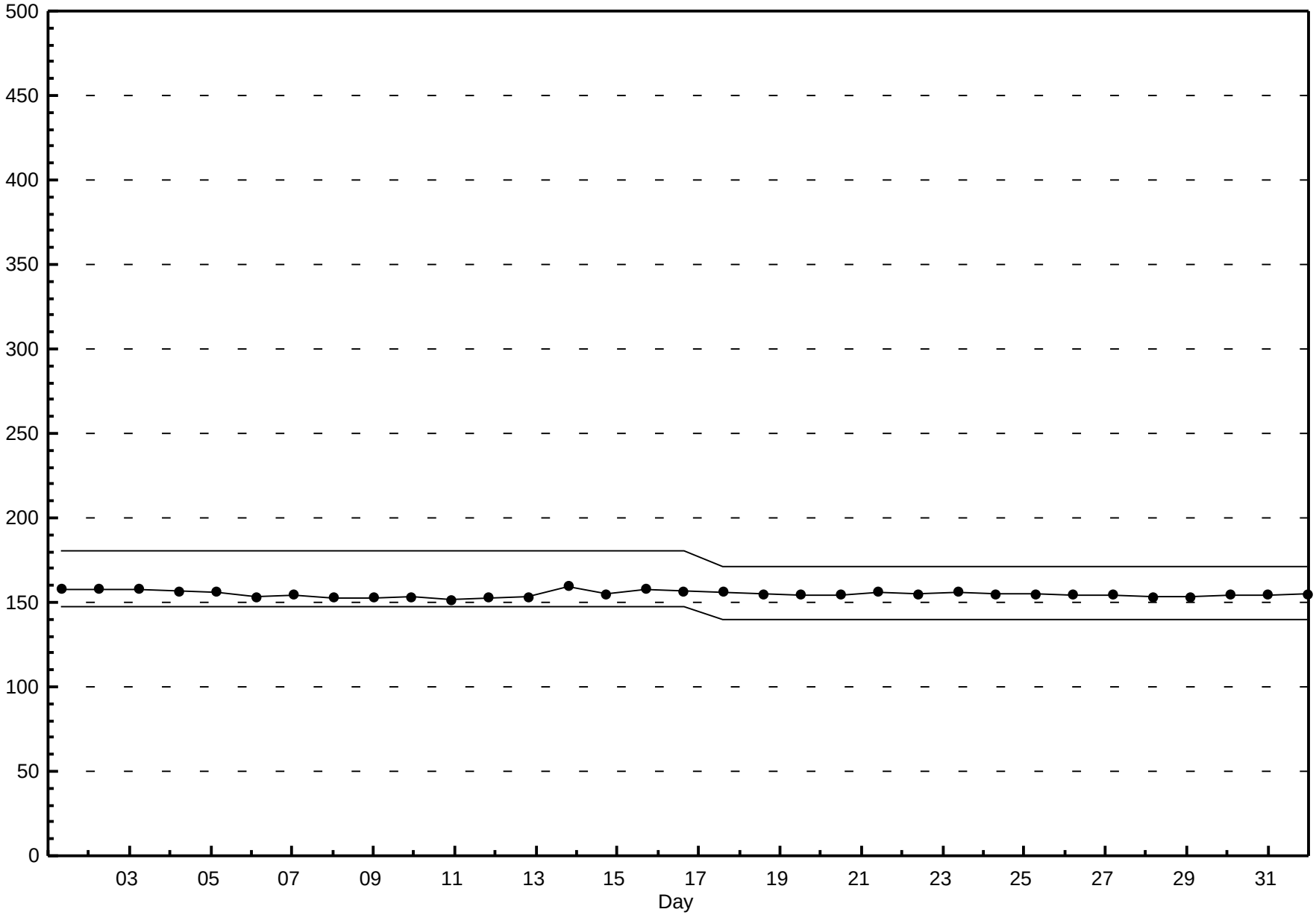
FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Span Responses

Oxides of Nitrogen (NO_X)

Henry Pirker - August 2011



Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Henry Pirker - August 2011

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

Maximum Value: 39.7 ppb on Aug 26 15:00

Maximum Daily Average: 24.4 ppb on Aug 25

Minimum Value: 1 ppb on Aug 27 00:00

Minimum Daily Average: 11.2 ppb on Aug 20

Maximum Diurnal Average: 28.5 ppb at hour 17

Minimum Diurnal Average: 8.2 ppb at hour 7

Monthly Average: 19.26 ppb

Percentiles: P_1 = 1.7 P_{10} = 6.4 Q_1 = 13.0 Median = 19.5 Q_3 = 25.6 P_{90} = 31.2 P_{99} = 37.8

Hours in Service:	744
Hours of Data:	707
Hours of Missing Data:	37
Hours of Calibration:	36
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-Aug	23	24	22	21	20	19	18	A	21	22	22	22	22	23	23	23	22	23	22	22	19	19	18	16	21.2	23.8
2-Aug	16	16	13	11	9	5	A	9	11	17	23	24	24	24	25	26	28	27	25	25	20	15	11	15	18.2	28.0
3-Aug	17	19	19	19	18	A	17	17	19	21	22	23	28	30	31	28	28	29	26	21	23	21	21	28	22.9	30.8
4-Aug	25	20	20	15	A	4	4	12	16	21	23	26	28	30	31	31	31	32	32	31	25	18	16	15	22.0	32.5
5-Aug	7	5	3	A	2	1	2	6	12	17	19	27	30	31	28	26	24	23	18	19	19	14	14	13	15.7	31.2
6-Aug	11	14	A	16	18	16	16	12	16	19	21	23	22	21	21	21	21	21	18	17	26	18	16	15	18.2	25.6
7-Aug	14	A	11	9	8	7	9	12	13	15	16	18	20	25	28	30	31	31	32	32	23	11	4	4	17.5	32.0
8-Aug	A	3	3	3	2	2	2	4	8	13	20	26	31	32	33	33	34	36	36	35	25	22	17	A	19.1	36.1
9-Aug	2	1	2	7	8	5	9	15	18	20	24	29	35	36	35	35	34	36	35	31	23	23	A	7	20.4	36.1
10-Aug	6	6	7	12	6	4	7	6	16	24	27	27	27	27	28	29	29	29	26	23	20	A	19	20	18.4	29.3
11-Aug	19	18	17	15	13	9	9	12	13	19	24	35	36	38	34	30	34	32	33	31	A	22	21	23	23.3	37.9
12-Aug	19	19	15	19	12	9	6	9	14	20	30	33	35	38	39	38	38	36	37	A	27	23	21	14	24.0	39.2
13-Aug	15	13	11	6	4	6	5	6	9	9	17	28	31	32	32	32	N	30	A	25	21	18	23	26	18.1	32.0
14-Aug	25	22	29	29	24	22	18	17	18	19	20	23	24	23	23	21	21	A	19	17	18	18	18	18	21.0	28.8
15-Aug	17	14	14	15	14	9	7	10	15	20	22	22	21	20	22	21	A	21	22	20	18	18	17	17	17.2	22.3
16-Aug	16	15	15	14	12	9	11	14	17	20	21	22	C	C	C	A	23	24	24	25	22	22	22	22	18.6	24.8
17-Aug	21	20	18	15	9	2	2	5	12	17	19	20	20	20	A	21	21	23	25	24	21	23	20	19	17.4	24.7
18-Aug	19	16	15	15	16	14	9	11	13	15	17	18	18	A	18	18	18	19	17	15	15	15	14	12	15.5	19.1
19-Aug	13	12	13	12	10	8	7	9	11	12	17	19	A	20	20	20	20	18	16	14	12	14	16	12	14.1	20.0
20-Aug	11	7	4	2	1	2	2	7	14	18	19	A	20	19	19	19	20	21	20	16	7	3	3	5	11.2	20.6
21-Aug	4	6	7	7	6	6	5	7	6	8	A	21	23	26	28	29	29	27	26	24	20	17	13	15	15.6	29.1
22-Aug	15	11	16	22	17	17	11	12	14	A	20	24	25	26	27	27	30	33	27	30	31	26	24	20	22.0	32.8
23-Aug	21	22	21	20	22	20	17	18	A	23	25	25	25	26	29	31	31	30	29	23	18	19	16	8	22.5	31.3
24-Aug	4	7	9	9	6	5	4	A	7	11	20	27	29	31	33	35	35	34	33	31	30	30	26	32	21.3	35.1
25-Aug	36	35	32	27	22	13	A	14	21	28	29	30	30	30	29	29	29	29	30	25	15	8	7	11	24.4	36.4
26-Aug	15	13	14	11	9	A	2	3	6	13	19	24	33	37	40	39	39	38	32	23	16	7	3	1	19.0	39.7
27-Aug	2	4	4	3	A	3	2	3	7	14	21	27	29	33	32	33	35	34	29	28	27	23	18	16	18.6	35.4
28-Aug	19	17	17	A	9	6	7	11	16	17	23	30	34	35	36	37	36	35	28	21	15	14	12	12	21.3	37.1
29-Aug	11	5	A	9	8	15	22	31	27	25	24	30	32	31	30	35	35	34	31	27	25	25	21	17	23.9	35.0
30-Aug	20	A	18	16	15	10	5	12	19	22	21	23	24	26	26	27	25	21	21	20	16	12	9	10	18.2	27.0
31-Aug	A	10	10	8	8	6	2	3	8	14	20	26	27	28	28	27	26	27	24	20	13	12	9	A	16.1	28.4
	15.2	13.7	13.8	13.3	11.4	8.6	8.2	10.6	13.9	17.8	21.5	25.0	27.1	28.2	28.5	28.4	28.5	28.3	26.5	23.9	20.3	17.7	15.7	15.2	Diurnal Average	
	36.4	34.9	32.5	28.7	24.4	21.6	22.4	30.7	26.7	27.5	29.8	35.0	35.6	37.9	39.7	38.9	38.9	37.6	36.8	34.8	30.8	30.1	26.5	31.7	Diurnal Maximum	

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

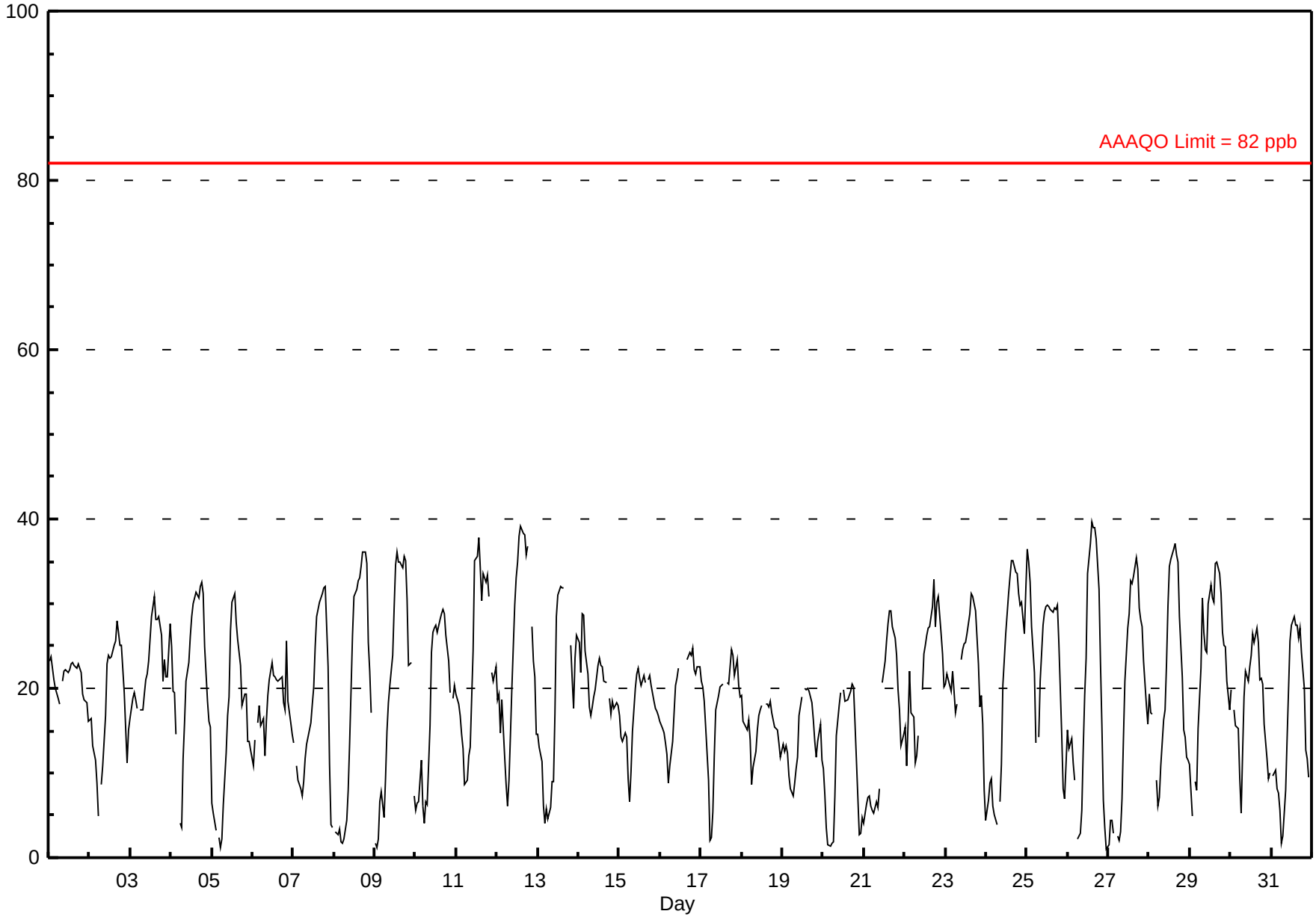
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na

Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Henry Pirker - August 2011



Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

Henry Pirker - August 2011

Maximum Value: 41.7 ppb on Aug 12 15:00

Maximum Daily Average: 27.6 ppb on Aug 25

Minimum Value: 2 ppb on Aug 20 05:00

Minimum Daily Average: 13.4 ppb on Aug 20

Maximum Diurnal Average: 30.9 ppb at hour 17

Minimum Diurnal Average: 10.9 ppb at hour 7

Monthly Average: 21.88 ppb

Percentiles: P_1 = 2.9 P_{10} = 8.9 Q_1 = 15.8 Median = 21.9 Q_3 = 28.5 P_{90} = 34.2 P_{99} = 40.5

Hours in Service:	744
Hours of Data:	707
Hours of Missing Data:	37
Hours of Calibration:	36
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-Aug	25	25	23	22	20	20	19	A	22	23	23	22	23	24	24	24	23	24	23	23	22	20	19	17	22.2	24.7
2-Aug	18	18	16	13	11	7	A	11	14	24	25	25	25	25	27	28	31	29	27	27	24	19	13	17	20.5	30.8
3-Aug	19	21	20	20	20	A	21	20	21	22	23	27	31	31	32	33	31	31	30	25	26	25	26	32	25.4	33.2
4-Aug	27	23	22	18	A	7	8	16	20	23	26	28	31	32	33	34	33	34	34	35	31	22	21	19	24.9	34.9
5-Aug	12	7	5	A	6	2	3	12	16	20	24	31	33	34	34	29	30	26	24	22	22	17	15	15	19.1	34.3
6-Aug	13	20	A	18	21	20	21	20	18	21	22	25	23	23	23	24	24	23	21	20	31	23	17	16	21.1	30.5
7-Aug	14	A	12	10	10	8	11	13	16	17	18	20	23	29	30	32	32	33	34	34	32	23	9	8	20.3	34.4
8-Aug	A	6	7	7	3	3	3	6	12	17	24	31	33	33	35	35	37	38	39	38	30	24	23	A	21.9	39.2
9-Aug	3	3	5	11	11	8	15	18	20	22	26	33	38	38	36	37	36	37	37	36	25	26	A	10	23.1	37.7
10-Aug	8	8	10	14	13	9	8	8	24	26	29	29	29	28	31	31	31	31	29	26	22	A	21	21	21.1	31.1
11-Aug	21	19	17	16	15	11	12	14	14	22	31	39	39	41	39	34	37	37	38	34	A	26	26	26	26.4	40.9
12-Aug	22	22	18	21	16	14	9	13	17	26	34	35	38	42	42	40	41	38	39	A	32	28	23	18	27.3	41.7
13-Aug	16	14	14	9	6	8	7	7	13	12	26	31	33	34	33	35	N	32	A	27	25	21	28	28	20.9	34.7
14-Aug	27	26	31	31	27	24	20	18	20	21	22	24	25	25	25	23	22	A	20	20	20	19	21	21	23.1	31.1
15-Aug	19	16	15	16	16	14	9	14	18	22	23	24	23	22	23	22	A	23	23	22	22	19	19	18	19.1	23.6
16-Aug	17	16	16	15	14	10	14	17	19	22	23	25	C	C	C	A	25	25	25	26	24	23	24	24	20.3	26.3
17-Aug	22	21	20	17	15	4	4	10	16	20	20	21	22	22	A	22	22	24	26	26	24	26	22	21	19.5	26.5
18-Aug	21	19	16	16	18	17	13	13	15	17	18	19	20	A	20	21	23	20	19	17	17	16	14	13	17.4	22.9
19-Aug	15	14	14	14	14	11	9	10	13	14	19	20	A	21	21	21	22	23	18	16	14	17	17	17	16.3	22.5
20-Aug	13	10	5	3	2	3	3	11	19	19	21	A	21	19	19	20	21	21	22	19	13	8	5	9	13.4	21.7
21-Aug	6	8	8	8	9	7	10	10	9	14	A	22	25	27	29	31	31	29	28	26	22	21	18	18	18.1	31.1
22-Aug	21	14	21	25	24	23	15	18	18	A	23	26	27	29	28	29	36	36	31	33	33	32	26	21	25.7	36.4
23-Aug	22	24	23	22	23	22	19	20	A	25	26	26	27	28	30	33	32	32	31	26	21	21	21	13	24.6	32.7
24-Aug	8	13	12	12	8	8	8	A	9	18	26	29	32	33	36	37	37	36	36	33	32	31	30	38	24.4	37.7
25-Aug	38	36	34	30	25	19	A	24	25	30	30	31	31	31	31	30	31	31	31	31	24	14	11	17	27.6	37.8
26-Aug	17	14	16	15	12	A	4	4	9	18	22	29	36	40	41	41	41	39	37	27	18	13	6	2	21.9	41.0
27-Aug	2	6	6	5	A	4	3	4	12	17	25	31	33	34	34	37	37	37	31	29	30	26	20	20	21.1	37.4
28-Aug	21	19	18	A	14	9	9	15	21	20	27	32	37	36	38	38	39	38	36	27	17	19	17	18	24.6	38.7
29-Aug	19	10	A	11	10	22	26	36	30	29	28	36	35	33	35	36	37	35	34	29	28	26	24	22	27.3	36.7
30-Aug	21	A	19	17	18	14	8	18	21	26	22	24	28	28	27	30	28	24	24	23	18	15	10	11	20.6	29.5
31-Aug	A	10	11	10	10	9	5	4	14	16	24	27	29	30	29	29	28	28	27	25	17	13	12	A	18.6	29.9
	17.4	16.0	15.7	15.3	14.2	11.6	10.9	13.9	17.2	20.8	24.4	27.4	29.2	30.1	30.5	30.5	30.9	30.5	29.1	26.8	23.8	21.1	18.6	18.2	Diurnal Average	
	37.8	35.8	34.0	31.1	27.1	24.5	26.1	36.1	29.6	30.2	34.3	38.5	38.9	41.6	41.7	40.6	41.0	39.5	39.2	38.5	33.4	31.6	29.6	37.7	Diurnal Maximum	

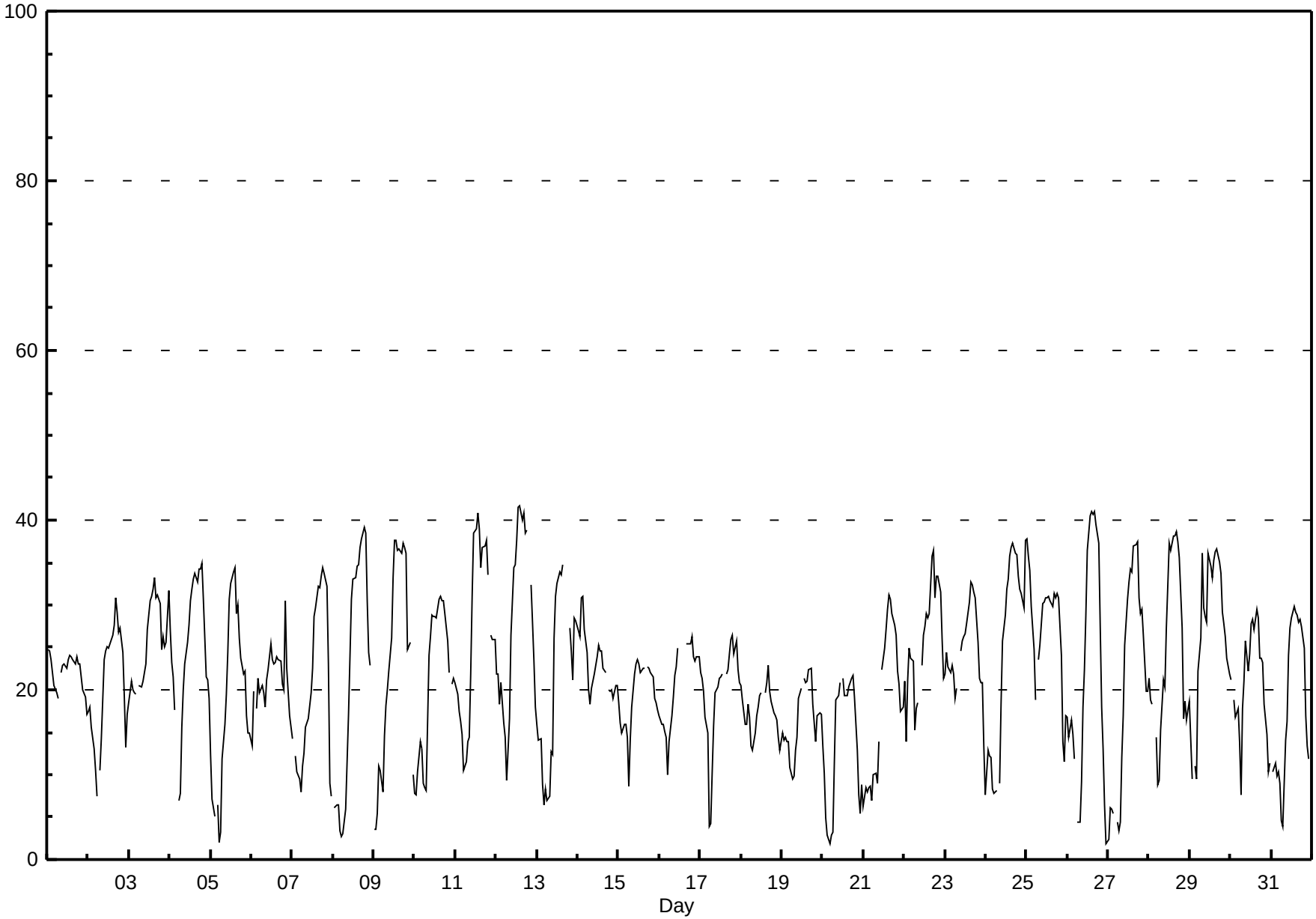
C - Calibration N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

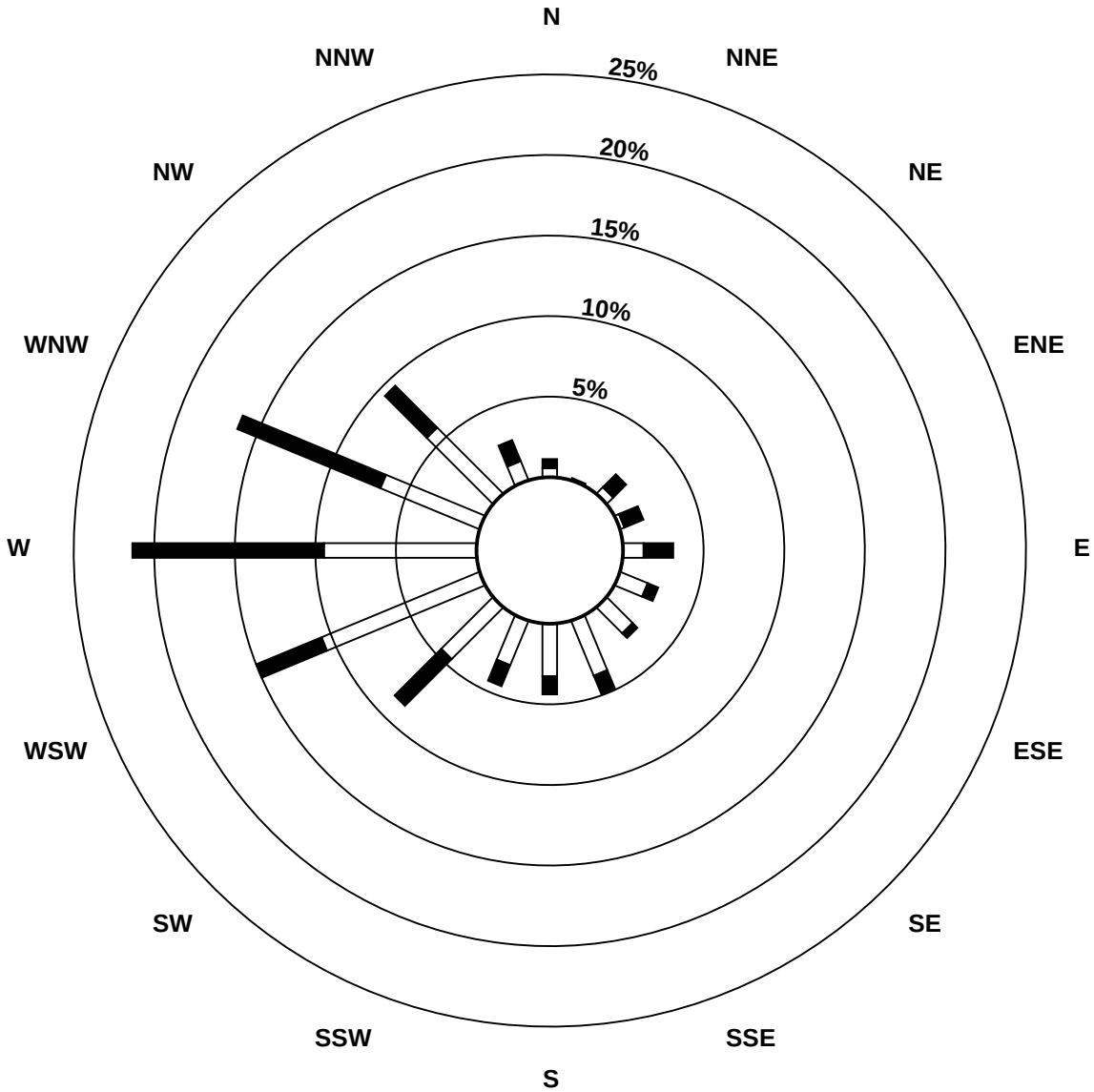
Henry Pirker - August 2011



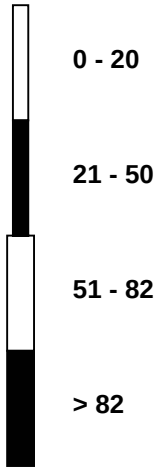
Pollutant Rose

Ozone (O_3) - ppb

Henry Pirker - August 2011



Pollutant Classes (ppb)



Peace Airshed Zone Association

Eight Hour Running Averages

Ozone (O_3) - ppb

Henry Pirker - August 2011

Maximum Value: 37.3 ppb on Aug 12 20:00

Minimum Value: 2.7 ppb on Aug 27 07:00

Percentiles: P_1 = 3.4 P_{10} = 9.6 Q_1 = 14.0 Median = 19.4 Q_3 = 24.4 P_{90} = 29.0 P_{99} = 34.0

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

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Aug	26	25	24	23	23	22	21	21	21	20	20	21	21	21	22	22	22	23	23	23	22	22	21	20	26.1
2-Aug	19	19	18	16	15	13	12	11	11	11	12	14	16	19	19	22	24	25	25	25	25	24	22	21	25.3
3-Aug	19	18	18	17	17	17	18	18	18	19	19	20	21	22	24	25	26	27	28	28	27	26	25	25	27.9
4-Aug	24	23	22	22	21	19	16	14	13	13	13	15	17	20	23	26	28	29	30	31	30	29	27	25	30.9
5-Aug	22	19	15	13	10	7	5	4	5	6	9	11	14	18	21	24	25	26	26	25	24	21	20	18	26.0
6-Aug	16	15	15	14	14	14	15	15	15	16	17	18	18	19	19	21	21	21	21	20	21	21	20	19	21.4
7-Aug	18	18	17	15	13	11	10	10	10	11	11	12	14	16	18	21	23	25	27	29	29	27	24	21	29.0
8-Aug	19	15	11	7	4	3	3	3	3	5	7	10	13	17	21	24	28	31	33	34	33	32	30	29	33.7
9-Aug	25	20	15	11	8	6	5	6	8	11	13	16	19	23	27	29	31	33	34	34	33	31	31	27	34.5
10-Aug	23	19	15	12	10	7	7	7	8	10	13	15	17	20	23	26	27	28	28	27	26	26	25	24	27.9
11-Aug	22	21	19	18	17	16	15	14	13	13	14	17	20	23	26	29	31	33	34	34	33	31	29	28	34.0
12-Aug	26	24	21	19	19	17	15	13	13	13	15	17	19	23	27	31	34	36	37	37	36	34	32	28	37.3
13-Aug	25	22	18	16	13	11	9	8	7	7	8	10	14	17	21	24	26	29	31	30	29	26	25	24	30.9
14-Aug	24	23	24	24	25	25	24	23	22	22	21	20	20	20	21	21	22	22	22	21	20	19	19	18	25.1
15-Aug	18	17	17	16	16	15	13	12	12	13	14	15	16	17	19	20	21	21	21	21	21	20	20	19	21.2
16-Aug	19	18	17	16	15	14	14	13	13	14	15	16	16	18	N	N	N	N	N	N	N	23	23	23	23.4
17-Aug	23	22	22	20	19	16	14	12	11	10	10	11	12	15	16	19	20	21	21	22	22	22	22	22	22.8
18-Aug	22	21	20	19	18	17	15	14	14	13	14	14	14	14	16	17	17	18	18	18	17	17	16	16	21.8
19-Aug	15	14	14	13	13	12	11	11	10	10	11	12	12	13	15	17	18	19	19	18	17	17	16	15	19.1
20-Aug	14	13	11	9	8	7	5	4	5	6	8	9	12	14	17	18	19	19	20	19	17	15	14	12	19.5
21-Aug	10	8	6	5	5	5	6	6	6	6	6	8	11	14	17	20	23	26	26	26	26	25	23	21	26.5
22-Aug	20	18	16	16	16	16	16	15	15	16	16	16	18	19	21	23	26	27	27	28	29	29	29	28	28.9
23-Aug	27	25	24	23	22	21	20	20	20	20	21	21	22	23	25	26	27	28	28	28	27	26	25	22	28.4
24-Aug	18	15	13	11	10	8	7	6	7	7	9	11	15	18	23	24	28	31	32	33	33	33	32	31	32.9
25-Aug	32	32	32	31	30	28	28	26	24	23	22	22	24	26	26	28	29	29	30	29	27	24	22	19	31.7
26-Aug	18	15	14	12	11	11	11	10	8	8	9	11	14	17	22	26	30	34	35	35	33	29	25	20	35.1
27-Aug	15	11	8	5	3	3	3	3	4	5	7	11	13	17	21	24	28	31	32	32	32	30	29	26	31.8
28-Aug	24	22	21	20	17	15	13	12	12	12	13	15	18	22	25	29	31	33	34	33	31	28	25	22	34.0
29-Aug	19	15	13	11	10	10	12	14	17	20	20	23	26	28	29	29	30	31	32	32	31	30	29	27	32.2
30-Aug	25	24	22	20	19	17	14	14	14	15	15	16	17	19	22	23	24	24	24	24	23	21	19	17	24.9
31-Aug	16	14	12	11	10	9	8	6	7	7	8	11	13	16	19	22	25	26	27	26	24	22	20	19	26.7
Diurnal Maximums	31.6	31.7	31.6	31.1	30.2	28.1	28.3	25.8	23.6	22.5	22.0	22.7	25.8	27.7	28.6	30.9	33.9	35.9	36.7	37.3	36.2	34.1	31.9	31.4	

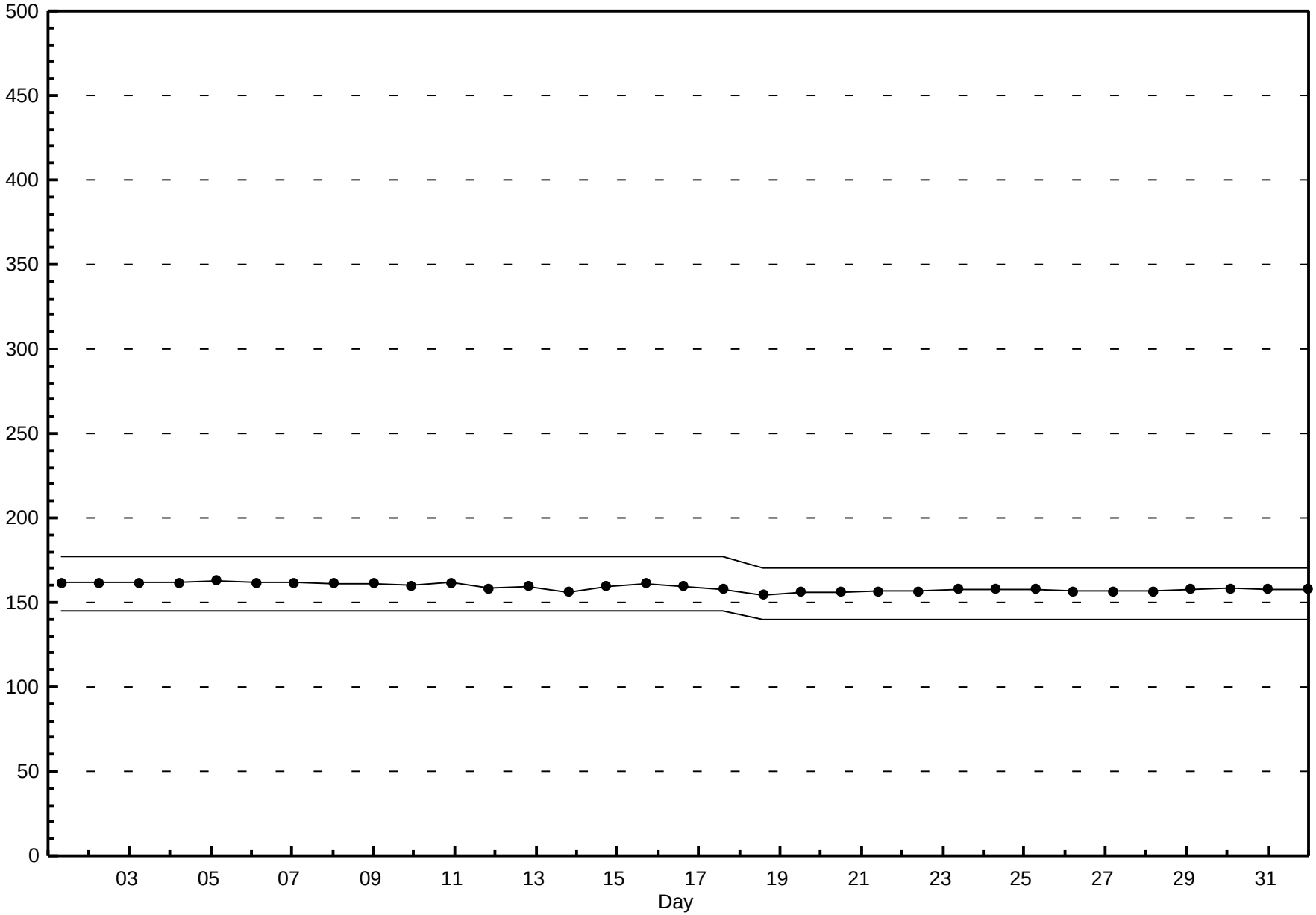
N - Not Valid

Peace Airshed Zone Association

Span Responses

Ozone (O_3)

Henry Pirker - August 2011



Peace Airshed Zone Association

Hourly Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - August 2011

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

Maximum Value: 0.43 ppm on Aug 20 22:00

Maximum Daily Average: 0.21 ppm on Aug 8

Minimum Value: 0.1 ppm on Aug 25 02:00

Minimum Daily Average: 0.07 ppm on Aug 16

Maximum Diurnal Average: 0.17 ppm at hour 22

Minimum Diurnal Average: 0.11 ppm at hour 15

Monthly Average: 0.135 ppm

Percentiles: $P_1 = 0.05$ $P_{10} = 0.09$ $Q_1 = 0.10$ Median = 0.12 $Q_3 = 0.16$ $P_{90} = 0.19$ $P_{99} = 0.34$

Hours in Service:	744
Hours of Data:	707
Hours of Missing Data:	37
Hours of Calibration:	36
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-Aug	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.10	0.10
2-Aug	0.1	0.1	0.1	0.1	0.1	0.2	A	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.13	0.19
3-Aug	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	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.12	0.17
4-Aug	0.1	0.1	0.1	0.1	A	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.14	0.25
5-Aug	0.2	0.2	0.1	A	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	0.18	0.23
6-Aug	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.11	0.20
7-Aug	0.1	A	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.18	0.41
8-Aug	A	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	A	0.21	0.34
9-Aug	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	A	0.2	0.17	0.25
10-Aug	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.1	0.17	0.20
11-Aug	0.1	0.1	0.1	0.1	0.1	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	0.1	0.2	A	0.2	0.1	0.1	0.17	0.27
12-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.2	0.2	0.2	0.2	0.13	0.17
13-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	N	0.2	A	0.1	0.2	0.2	0.2	0.1	0.14	0.24
14-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.2	0.1	0.1	0.1	0.1	0.11	0.15
15-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	C	C	C	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.08	0.14
16-Aug	0.1	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	0.1	0.07	0.09
17-Aug	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.10	0.23
18-Aug	0.1	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	0.1	0.1	0.1	0.09	0.12
19-Aug	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	0.1	0.1	0.1	0.1	0.10	0.14
20-Aug	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.2	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	0.4	0.4	0.3	0.18	0.43
21-Aug	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	A	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	0.15	0.23
22-Aug	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	A	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	0.14	0.20
23-Aug	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	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.11	0.20
24-Aug	0.2	0.2	0.2	0.1	0.1	0.1	0.2	A	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.14	0.24
25-Aug	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	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.2	0.12	0.29
26-Aug	0.1	0.1	0.1	0.1	0.1	A	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.3	0.3	0.17	0.36
27-Aug	0.2	0.1	0.1	0.2	A	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	0.2	0.15	0.20
28-Aug	0.1	0.1	0.1	A	0.1	0.2	0.1	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.15	0.26
29-Aug	0.2	0.2	A	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.13	0.17
30-Aug	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	0.1	0.1	0.1	0.1	0.11	0.15
31-Aug	A	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	A	0.13	0.24
	0.13	0.13	0.12	0.12	0.12	0.14	0.16	0.16	0.14	0.14	0.13	0.13	0.12	0.11	0.11	0.11	0.12	0.12	0.12	0.13	0.16	0.17	0.17	0.15	Diurnal Average	
	0.24	0.34	0.33	0.28	0.25	0.20	0.28	0.24	0.22	0.26	0.27	0.22	0.18	0.19	0.18	0.18	0.17	0.24	0.22	0.21	0.26	0.43	0.41	0.39	Diurnal Maximum	

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

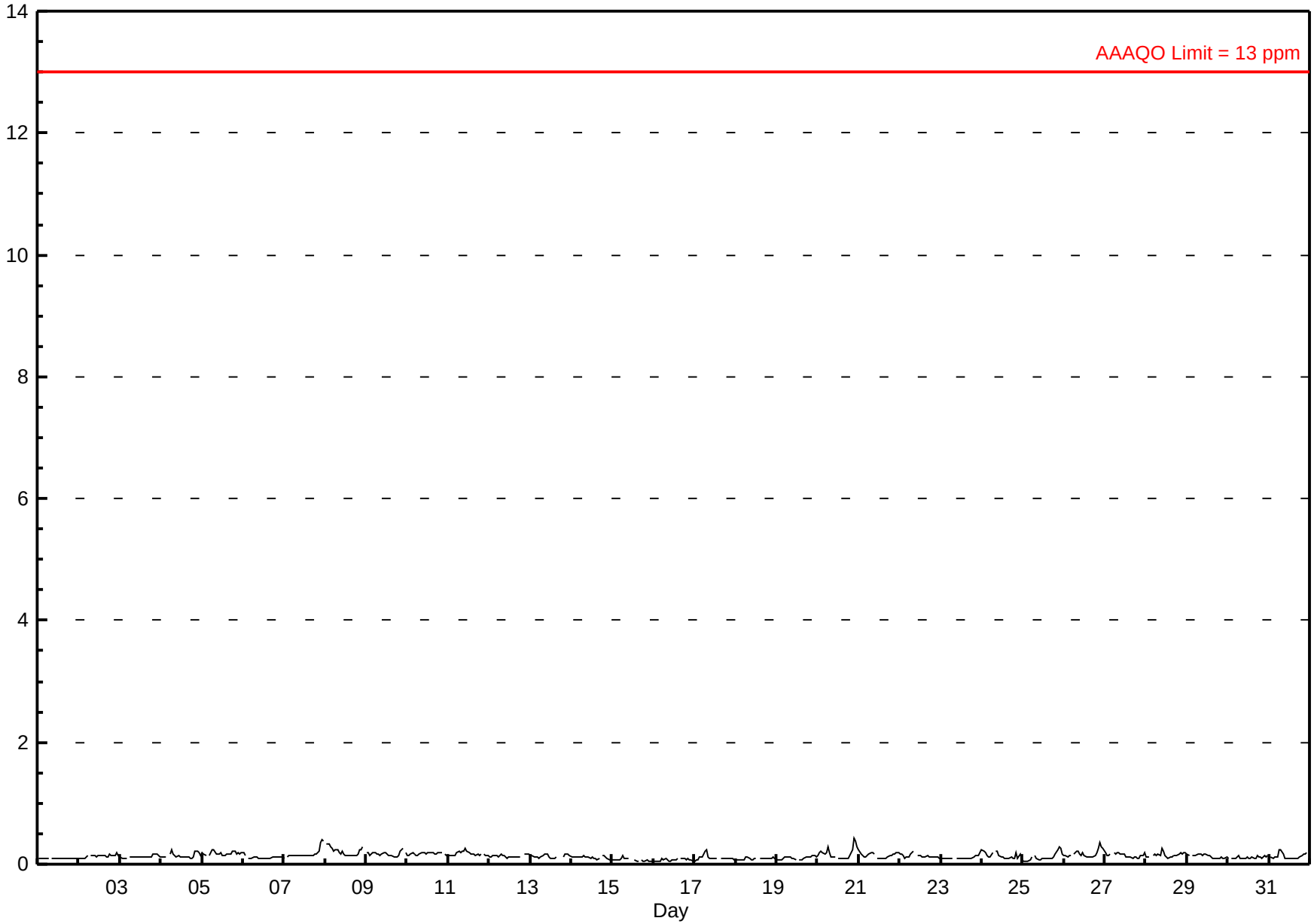
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 13 ppm 24-hr na

Peace Airshed Zone Association

Hourly Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Carbon Monoxide (CO) - ppm

Henry Pirker - August 2011

Maximum Value: 3.46 ppm on Aug 15 10:00

Maximum Daily Average: 0.32 ppm on Aug 20

Minimum Value: 0.1 ppm on Aug 16 04:00

Minimum Daily Average: 0.11 ppm on Aug 1

Maximum Diurnal Average: 0.29 ppm at hour 10

Minimum Diurnal Average: 0.14 ppm at hour 14

Monthly Average: 0.194 ppm

Percentiles: P_1 = 0.08 P_{10} = 0.10 Q_1 = 0.13 Median = 0.16 Q_3 = 0.21 P_{90} = 0.29 P_{99} = 0.60

Hours in Service:	744
Hours of Data:	707
Hours of Missing Data:	37
Hours of Calibration:	36
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-Aug	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.11	0.15
2-Aug	0.1	0.1	0.2	0.1	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.18	0.28
3-Aug	0.1	0.1	0.1	0.1	0.1	A	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.16	0.22
4-Aug	0.1	0.2	0.1	0.1	A	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.3	0.2	0.2	0.19	0.41
5-Aug	0.2	0.2	0.2	A	0.4	0.3	0.4	0.4	0.2	0.4	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.25	0.42
6-Aug	0.2	0.2	A	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.15	0.22
7-Aug	0.1	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.5	0.5	0.5	0.23	0.54
8-Aug	A	0.4	0.5	0.4	0.3	0.3	0.4	0.5	0.3	0.2	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	A	0.28	0.54
9-Aug	0.3	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	0.4	0.4	A	0.3	0.22	0.37
10-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.22	0.29
11-Aug	0.2	0.2	0.2	0.3	0.2	0.3	0.4	0.2	0.3	0.2	0.4	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	0.23	0.43
12-Aug	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.18	0.27
13-Aug	0.2	0.2	0.2	0.1	0.2	0.1	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.6	N	0.7	A	0.2	0.3	0.2	0.3	0.2	0.22	0.65
14-Aug	0.2	0.2	0.2	0.2	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	0.2	0.2	0.2	0.1	0.1	0.1	0.14	0.19
15-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.1	3.5	C	C	C	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.28	3.46
16-Aug	0.1	0.1	0.1	0.1	0.1	0.2	0.4	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	0.1	0.1	0.1	0.1	0.11	0.44
17-Aug	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	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	0.1	0.15	0.35
18-Aug	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	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.12	0.17
19-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	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	0.2	0.2	0.2	0.13	0.21
20-Aug	0.5	0.2	0.3	0.3	0.2	0.5	0.6	0.3	0.2	0.2	0.2	A	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.4	1.5	0.5	0.4	0.32	1.54
21-Aug	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	0.2	0.1	0.1	0.2	0.3	0.2	0.5	0.3	0.3	0.2	0.20	0.52
22-Aug	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.7	0.7	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	0.21	0.75
23-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	A	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	0.3	0.14	0.30
24-Aug	0.3	0.5	0.3	0.2	0.2	0.4	0.3	A	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.2	0.2	0.21	0.45
25-Aug	0.1	0.1	0.1	0.1	0.2	0.2	A	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.4	0.3	0.2	0.17	0.35
26-Aug	0.1	0.1	0.1	0.2	0.2	A	0.2	0.3	0.3	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.9	0.4	0.4	0.24	0.91
27-Aug	0.4	0.2	0.2	0.2	A	0.3	0.2	0.3	0.3	0.2	0.2	0.4	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.3	0.21	0.42
28-Aug	0.2	0.2	0.1	A	0.2	0.2	0.2	0.3	0.2	0.5	0.3	0.2	0.2	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.22	0.46
29-Aug	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	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.16	0.24
30-Aug	0.1	A	0.1	0.1	0.1	0.2	0.2	0.1	0.4	0.2	0.1	0.5	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.18	0.45
31-Aug	A	0.2	0.1	0.2	0.2	0.2	0.4	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.3	0.1	0.2	0.2	0.3	0.2	0.3	A	0.19	0.35
	0.18	0.17	0.16	0.16	0.17	0.22	0.26	0.24	0.21	0.29	0.18	0.17	0.16	0.14	0.14	0.17	0.15	0.17	0.18	0.19	0.23	0.28	0.23	0.21	Diurnal Average	
	0.52	0.45	0.45	0.40	0.40	0.54	0.62	0.68	0.75	3.46	0.54	0.45	0.41	0.21	0.25	0.57	0.33	0.65	0.34	0.38	0.52	1.54	0.54	0.46	Diurnal Maximum	

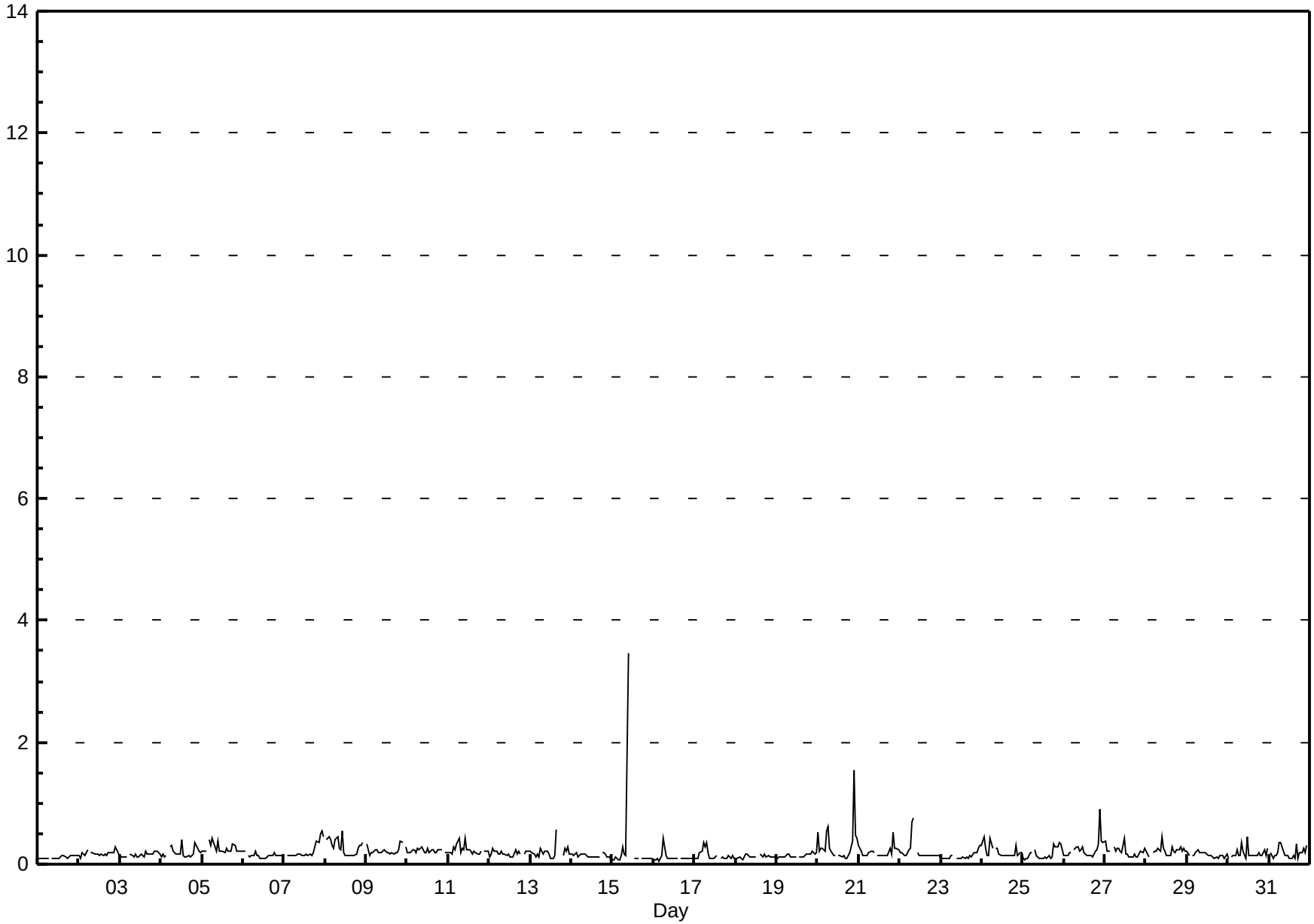
C - Calibration N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Carbon Monoxide (CO) - ppm

Henry Pirker - August 2011

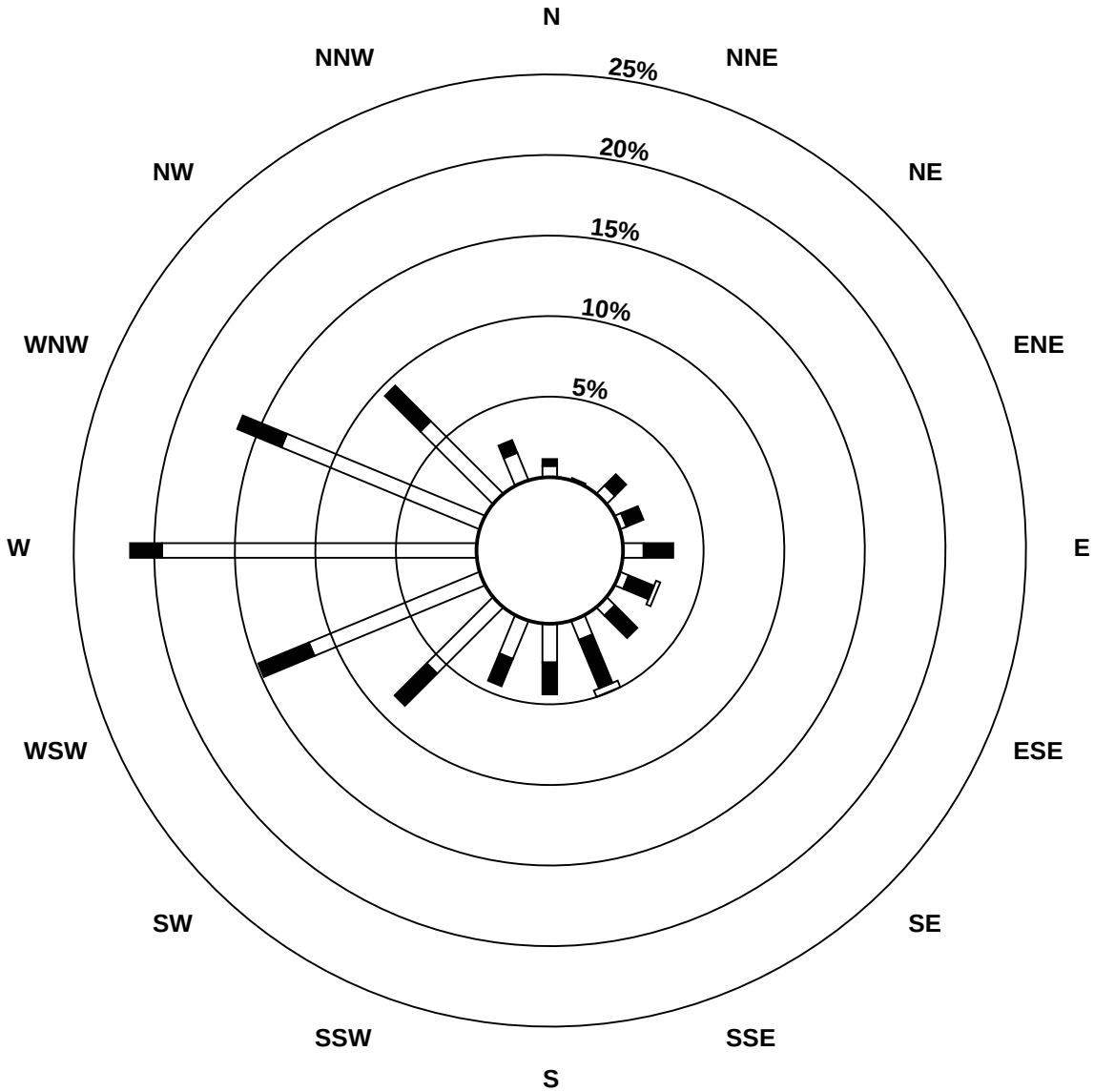


FOCUS AIR QUALITY MONITORING

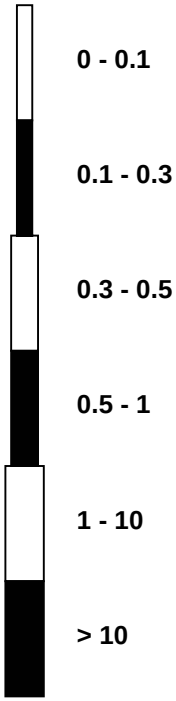
Pollutant Rose

Carbon Monoxide (CO) - ppm

Henry Pirker - August 2011



Pollutant Classes (ppm)



Peace Airshed Zone Association

Eight Hour Running Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - August 2011

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 0.34 ppm on Aug 8 05:00

Minimum Value: 0.05 ppm on Aug 16 05:00

Percentiles: P_1 = 0.06 P_{10} = 0.09 Q_1 = 0.10 Median = 0.13 Q_3 = 0.16 P_{90} = 0.18 P_{99} = 0.25

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

Day	Hourly Period Ending At (MST) 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 Maximum
1-Aug	0.1	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
2-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.14
3-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.14
4-Aug	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.16
5-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18
6-Aug	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	0.19
7-Aug	0.1	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	0.2	0.2	0.2	0.25
8-Aug	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.34
9-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.21
10-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18
11-Aug	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21
12-Aug	0.1	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
13-Aug	0.1	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	0.2	0.2	0.17
14-Aug	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.16
15-Aug	0.1	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	0.11
16-Aug	0.1	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	0.08
17-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.14
18-Aug	0.1	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
19-Aug	0.1	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	0.12
20-Aug	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.22
21-Aug	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.25
22-Aug	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.17
23-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.13
24-Aug	0.2	0.2	0.2	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	0.18
25-Aug	0.1	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	0.2	0.18
26-Aug	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	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.21
27-Aug	0.2	0.2	0.2	0.2	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	0.23
28-Aug	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	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.17
29-Aug	0.2	0.2	0.2	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	0.17
30-Aug	0.1	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	0.12
31-Aug	0.1	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
Diurnal Maximums	0.26	0.29	0.32	0.33	0.34	0.32	0.29	0.27	0.26	0.24	0.22	0.20	0.21	0.21	0.20	0.20	0.19	0.19	0.18	0.18	0.18	0.19	0.22	0.25	

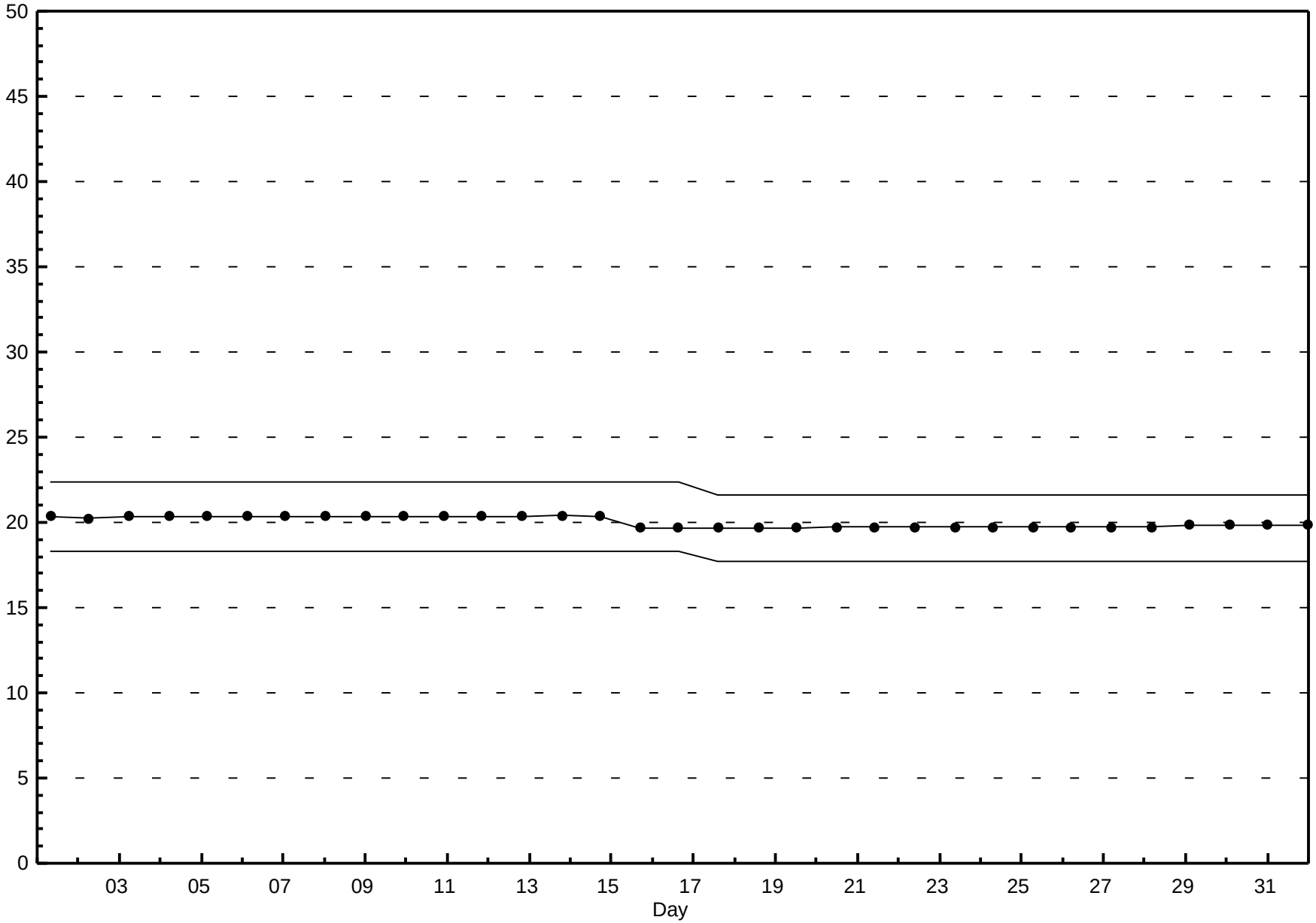
N - Not Valid
Alberta Ambient Air Quality Objectives (AAAQO): 8-hr 5 ppm

Peace Airshed Zone Association

Span Responses

Carbon Monoxide (CO)

Henry Pirker - August 2011



Peace Airshed Zone Association

Hourly Averages

Total Hydrocarbons (THC) - ppm

Henry Pirker - August 2011

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

Maximum Value: 4.83 ppm on Aug 8 05:00

Maximum Daily Average: 2.57 ppm on Aug 8

Minimum Value: 1.9 ppm on Aug 5 17:00

Minimum Daily Average: 1.96 ppm on Aug 1

Maximum Diurnal Average: 2.45 ppm at hour 5

Minimum Diurnal Average: 1.96 ppm at hour 15

Monthly Average: 2.162 ppm

Percentiles: P_1 = 1.90 P_{10} = 1.95 Q_1 = 1.97 Median = 2.04 Q_3 = 2.19 P_{90} = 2.58 P_{99} = 3.34

Hours in Service:	744
Hours of Data:	689
Hours of Missing Data:	55
Hours of Calibration:	35
Percent Operational Time:	97.3

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	2.0	1.9	2.0	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	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.96	2.03
2-Aug	2.0	2.1	2.3	2.4	2.2	2.2	A	2.2	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.7	2.4	2.11	2.69
3-Aug	2.2	2.2	2.1	2.1	2.2	A	2.1	2.0	2.0	2.0	2.0	1.9	2.0	1.9	1.9	2.0	1.9	1.9	2.0	2.1	2.1	2.0	2.0	2.0	2.02	2.21
4-Aug	2.1	2.3	2.4	2.7	A	3.1	2.9	2.2	2.2	2.1	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.0	2.0	2.1	2.1	2.20	3.15
5-Aug	2.7	2.9	2.6	A	2.5	2.8	2.6	2.3	2.2	2.1	2.1	2.0	1.9	1.9	2.0	1.9	1.9	1.9	2.0	1.9	2.0	2.2	2.1	2.3	2.21	2.93
6-Aug	2.2	2.2	A	2.1	2.0	2.1	2.1	2.2	2.1	2.0	2.0	2.0	2.0	C	2.0	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.04	2.21
7-Aug	2.0	A	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	3.0	2.6	2.9	2.12	3.03
8-Aug	A	3.5	4.5	3.9	4.8	3.4	2.7	2.3	2.3	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.7	A	2.57	4.83
9-Aug	3.2	2.9	2.9	3.0	2.5	2.9	2.3	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.6	2.1	2.1	A	2.6	2.32	3.23
10-Aug	2.7	2.5	2.8	2.4	2.6	2.4	2.3	2.6	2.3	2.0	2.0	1.9	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.0	A	2.0	2.0	2.17	2.77
11-Aug	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.0	2.0	2.1	2.1	2.0	2.2	2.5	A	2.6	2.2	2.1	2.14	2.65
12-Aug	3.1	2.4	2.6	2.5	3.8	2.5	2.4	2.3	2.2	2.2	2.0	2.0	2.0	2.0	2.0	1.9	1.9	2.0	2.0	A	2.0	2.1	2.1	2.1	2.26	3.84
13-Aug	2.1	2.1	2.3	2.3	2.4	2.3	2.7	2.6	2.4	2.4	2.2	2.1	2.0	2.0	1.9	2.0	N	N	N	N	N	N	N	N	--	2.65
14-Aug	N	N	N	N	N	N	N	N	N	N	N	N	2.0	2.0	2.0	2.0	2.0	A	2.2	2.3	2.2	2.0	2.1	2.1	--	2.27
15-Aug	2.1	2.1	2.1	2.1	2.0	2.3	2.3	2.3	2.2	2.0	2.0	C	C	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.08	2.35
16-Aug	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.02	2.14
17-Aug	2.0	2.0	2.0	2.1	2.5	2.6	3.0	2.6	2.1	2.0	2.0	2.0	2.0	1.9	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.12	3.03
18-Aug	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.04	2.14
19-Aug	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.7	2.08	2.69
20-Aug	2.6	2.7	2.4	3.2	3.0	2.6	3.1	2.5	2.2	2.0	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.4	2.4	2.7	2.30	3.23
21-Aug	2.3	2.2	2.1	2.1	2.1	2.2	2.6	2.5	2.3	2.4	A	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.2	2.7	2.8	2.6	2.19	2.83
22-Aug	3.0	3.5	2.5	2.8	2.7	2.2	2.1	2.2	2.1	A	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0	2.1	1.9	2.0	2.19	3.45
23-Aug	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.5	2.01	2.48
24-Aug	2.6	2.7	2.3	2.2	2.3	2.4	2.4	A	2.2	2.2	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.0	2.2	2.1	2.14	2.67
25-Aug	2.0	2.0	2.0	2.2	2.2	2.3	A	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.4	2.4	2.2	2.08	2.42
26-Aug	2.1	2.1	2.1	2.8	2.4	A	2.7	2.5	2.4	2.2	2.2	2.1	2.1	2.2	2.1	2.1	2.1	2.2	2.2	2.1	2.3	2.4	2.6	2.7	2.29	2.77
27-Aug	2.7	2.4	2.6	2.7	A	2.6	2.4	2.6	2.6	2.4	2.2	2.1	2.0	2.0	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.2	2.5	2.4	2.27	2.74
28-Aug	2.2	2.2	2.2	A	2.9	3.0	2.4	2.5	2.3	2.3	2.2	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.1	2.8	2.3	2.3	2.25	3.02
29-Aug	2.9	2.7	A	2.6	2.6	2.6	2.1	2.0	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0	2.0	2.0	2.1	2.3	2.16	2.91
30-Aug	2.0	A	2.0	2.1	2.1	2.2	2.2	2.1	2.0	2.0	2.0	2.0	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.03	2.19
31-Aug	A	2.1	2.0	2.1	2.1	2.1	2.4	2.3	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.6	2.4	4.5	3.9	A	2.32	4.52
	2.33	2.35	2.33	2.38	2.45	2.40	2.37	2.27	2.17	2.10	2.03	1.99	1.98	1.97	1.96	1.97	1.97	1.97	2.01	2.08	2.07	2.28	2.28	2.27	Diurnal Average	
	3.23	3.48	4.52	3.91	4.83	3.36	3.08	2.64	2.62	2.41	2.23	2.13	2.09	2.17	2.10	2.12	2.12	2.16	2.25	2.63	2.35	4.52	3.90	2.86	Diurnal Maximum	

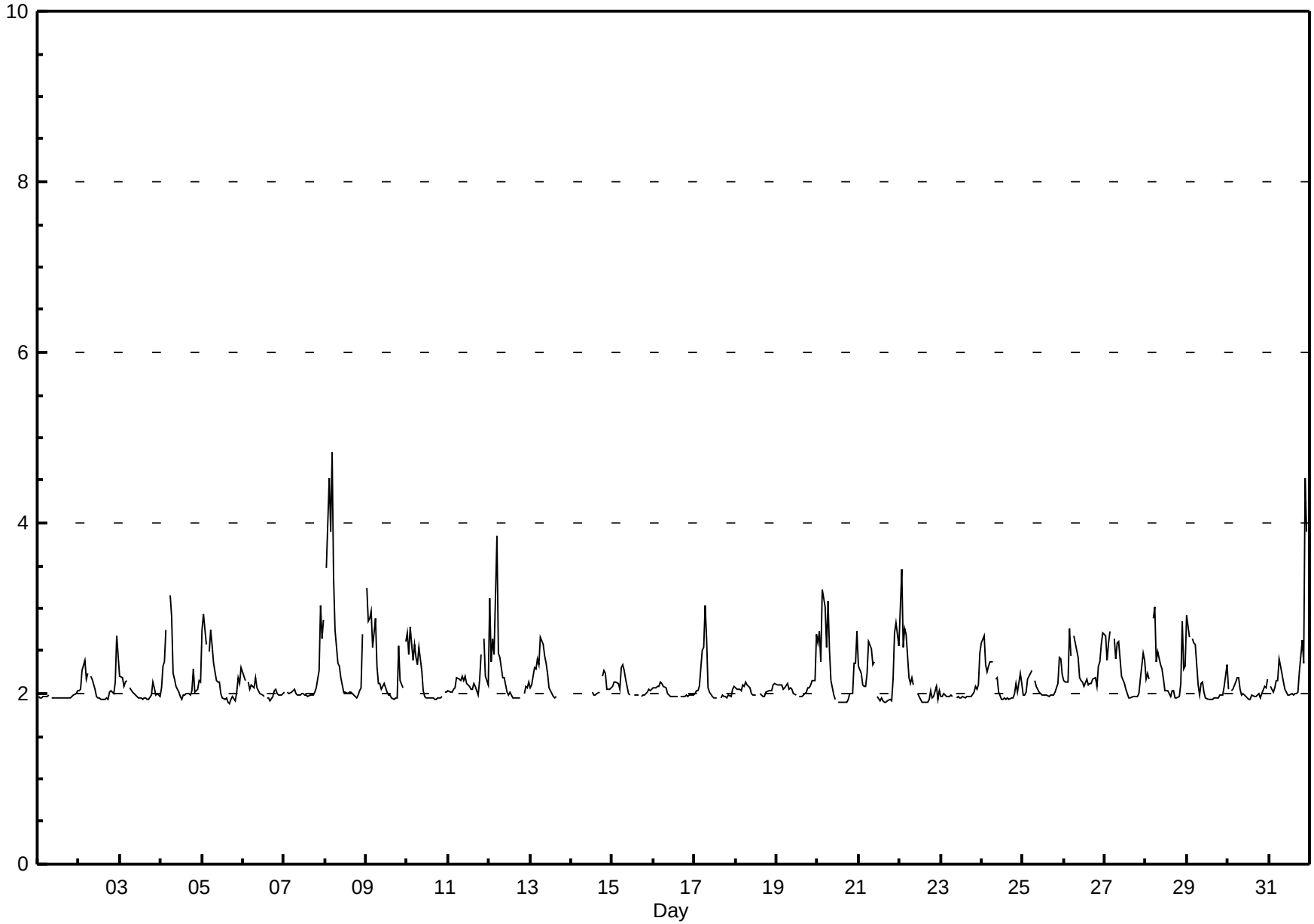
C - Calibration N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Total Hydrocarbons (THC) - ppm

Henry Pirker - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Total Hydrocarbons (THC) - ppm

Henry Pirker - August 2011

Maximum Value: 9.33 ppm on Aug 12 05:00

Maximum Daily Average: 3.33 ppm on Aug 20

Minimum Value: 1.9 ppm on Aug 5 17:00

Minimum Daily Average: 1.99 ppm on Aug 1

Maximum Diurnal Average: 3.34 ppm at hour 5

Minimum Diurnal Average: 2.08 ppm at hour 18

Monthly Average: 2.589 ppm

Percentiles: P_1 = 1.95 P_{10} = 1.99 Q_1 = 2.03 Median = 2.19 Q_3 = 2.68 P_{90} = 3.74 P_{99} = 6.74

Hours in Service:	744
Hours of Data:	689
Hours of Missing Data:	55
Hours of Calibration:	35
Percent Operational Time:	97.3

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	2.0	2.0	2.0	2.0	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	1.99	2.07
2-Aug	2.1	2.2	3.4	3.3	2.9	3.1	A	2.3	2.4	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.7	6.4	3.5	2.55	6.43
3-Aug	2.3	2.3	2.1	2.2	2.2	A	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.7	3.7	2.0	2.1	2.8	2.22	3.72
4-Aug	2.8	3.1	2.9	4.1	A	4.2	4.0	2.3	2.3	2.2	2.1	2.1	2.0	2.4	2.2	2.5	2.5	2.4	2.5	2.9	2.1	2.1	3.4	2.6	2.68	4.23
5-Aug	4.1	5.3	3.0	A	2.7	3.1	2.7	3.3	2.2	2.3	2.5	2.1	2.0	2.0	2.0	2.0	1.9	2.1	2.4	1.9	2.8	2.5	2.8	2.7	2.63	5.29
6-Aug	2.9	3.3	A	2.2	2.1	2.3	2.3	2.6	2.2	2.3	2.1	2.0	2.0	C	2.0	2.0	2.0	2.0	2.3	2.1	2.1	2.0	2.0	2.1	2.23	3.25
7-Aug	2.1	A	2.1	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.2	2.5	3.1	5.5	4.9	4.5	2.50	5.48
8-Aug	A	4.3	7.2	5.3	5.8	4.0	3.8	2.6	2.6	2.5	2.2	2.1	2.4	2.3	2.4	2.4	2.3	2.3	2.0	2.2	2.1	2.2	6.3	A	3.22	7.19
9-Aug	3.7	3.1	3.5	5.4	3.0	3.2	2.5	2.2	2.4	2.3	2.5	2.5	2.1	2.1	2.1	2.0	2.0	2.0	2.0	4.7	4.5	2.7	A	3.4	2.86	5.35
10-Aug	4.3	3.1	3.2	2.8	4.8	2.6	3.0	2.7	2.6	3.1	2.0	2.0	2.0	2.0	2.5	2.0	1.9	1.9	2.0	2.0	2.0	A	2.4	2.5	2.58	4.75
11-Aug	2.5	2.3	2.2	2.2	2.3	2.5	2.6	2.6	2.4	2.5	2.4	2.5	2.6	2.2	3.1	2.8	3.5	2.1	3.2	4.9	A	4.7	2.4	2.6	2.74	4.87
12-Aug	8.1	2.8	4.5	3.0	9.3	2.6	2.8	3.1	2.4	2.6	2.2	2.1	2.3	2.2	2.0	2.0	2.0	2.0	2.0	A	2.0	3.3	2.6	2.4	3.05	9.33
13-Aug	2.1	2.6	3.1	2.6	3.9	2.5	3.1	2.8	2.6	2.5	2.6	2.3	2.2	2.1	2.0	2.0	N	N	N	N	N	N	N	N	--	3.87
14-Aug	N	N	N	N	N	N	N	N	N	N	N	N	2.1	2.0	2.1	2.2	2.7	A	3.1	3.8	3.0	2.2	2.1	2.2	--	3.80
15-Aug	2.2	2.2	2.2	2.2	2.2	3.0	2.8	3.0	3.0	2.3	2.0	C	C	2.0	2.0	2.0	A	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.27	3.05
16-Aug	2.1	2.2	2.2	2.2	2.3	2.3	2.2	2.4	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	2.09	2.41
17-Aug	2.0	2.1	2.1	2.2	3.6	3.8	3.5	3.7	2.2	2.1	2.0	2.0	2.2	2.0	A	2.0	2.2	2.0	2.0	2.0	2.1	2.0	2.2	2.2	2.35	3.76
18-Aug	2.1	2.2	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.0	2.1	2.0	A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.12	2.25
19-Aug	2.2	2.2	2.3	2.2	2.1	2.2	2.2	2.1	2.2	2.2	2.1	2.0	A	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.5	2.4	2.3	4.2	2.27	4.23
20-Aug	4.2	6.4	3.1	5.9	4.6	3.3	5.3	3.8	2.5	2.1	2.0	A	1.9	2.0	1.9	1.9	1.9	2.0	2.0	2.1	2.1	4.4	4.5	6.7	3.33	6.69
21-Aug	3.3	3.0	2.1	2.1	2.2	3.2	3.8	3.8	3.3	3.3	A	2.4	2.3	2.4	2.2	2.0	2.0	2.0	2.1	2.0	4.0	6.8	7.1	4.8	3.14	7.13
22-Aug	6.7	8.2	4.7	4.9	5.1	2.6	2.4	2.5	2.3	A	2.1	2.0	2.1	1.9	2.0	1.9	2.0	2.0	2.5	2.3	2.3	2.4	2.0	2.4	3.01	8.23
23-Aug	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.0	A	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.2	2.2	3.7	2.13	3.74
24-Aug	4.4	4.3	2.9	2.5	2.5	2.7	2.8	A	2.2	2.5	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.1	2.6	3.0	2.47	4.39
25-Aug	2.0	2.0	2.2	2.7	3.4	3.5	A	2.4	2.1	2.1	2.0	2.0	2.2	2.1	2.0	2.0	2.0	2.1	2.0	2.1	2.3	4.2	3.0	3.1	2.42	4.18
26-Aug	2.2	2.2	2.4	5.3	3.7	A	2.9	2.7	2.6	2.4	2.4	2.4	2.4	2.7	2.5	2.6	2.6	2.6	2.9	2.5	3.0	3.0	3.1	3.1	2.78	5.29
27-Aug	3.9	2.7	3.0	3.0	A	3.0	2.8	2.7	2.9	2.8	2.4	2.5	2.1	2.1	2.0	2.0	2.0	2.2	2.0	2.0	2.2	3.5	4.0	3.4	2.67	4.03
28-Aug	2.7	2.6	2.5	A	6.0	5.8	2.9	3.0	2.8	2.9	2.4	2.2	2.6	2.7	2.2	2.8	2.4	2.0	2.2	2.1	2.5	6.2	3.0	3.8	3.06	6.20
29-Aug	5.6	3.4	A	3.1	4.3	4.4	2.4	2.1	2.5	2.6	2.6	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.6	4.4	2.71	5.63
30-Aug	2.3	A	2.2	2.3	2.3	3.3	3.1	2.2	2.0	2.1	2.0	2.1	2.0	2.0	2.0	2.2	2.0	2.0	2.1	2.0	2.1	2.2	2.1	2.3	2.22	3.25
31-Aug	A	2.1	2.1	2.1	2.2	2.2	2.8	2.5	2.3	2.1	2.1	2.0	2.0	2.1	2.0	2.3	2.1	2.6	5.0	3.7	3.9	6.9	5.2	A	2.85	6.89
Diurnal Average	3.19	3.08	2.83	3.01	3.34	2.98	2.83	2.63	2.39	2.34	2.18	2.12	2.12	2.10	2.11	2.12	2.14	2.08	2.30	2.46	2.54	3.13	3.17	3.11		
Diurnal Maximum	8.09	8.23	7.19	5.91	9.33	5.80	5.26	3.77	3.32	3.29	2.61	2.48	2.57	2.67	3.14	2.79	3.50	2.64	5.03	4.87	4.49	6.89	7.13	6.69		

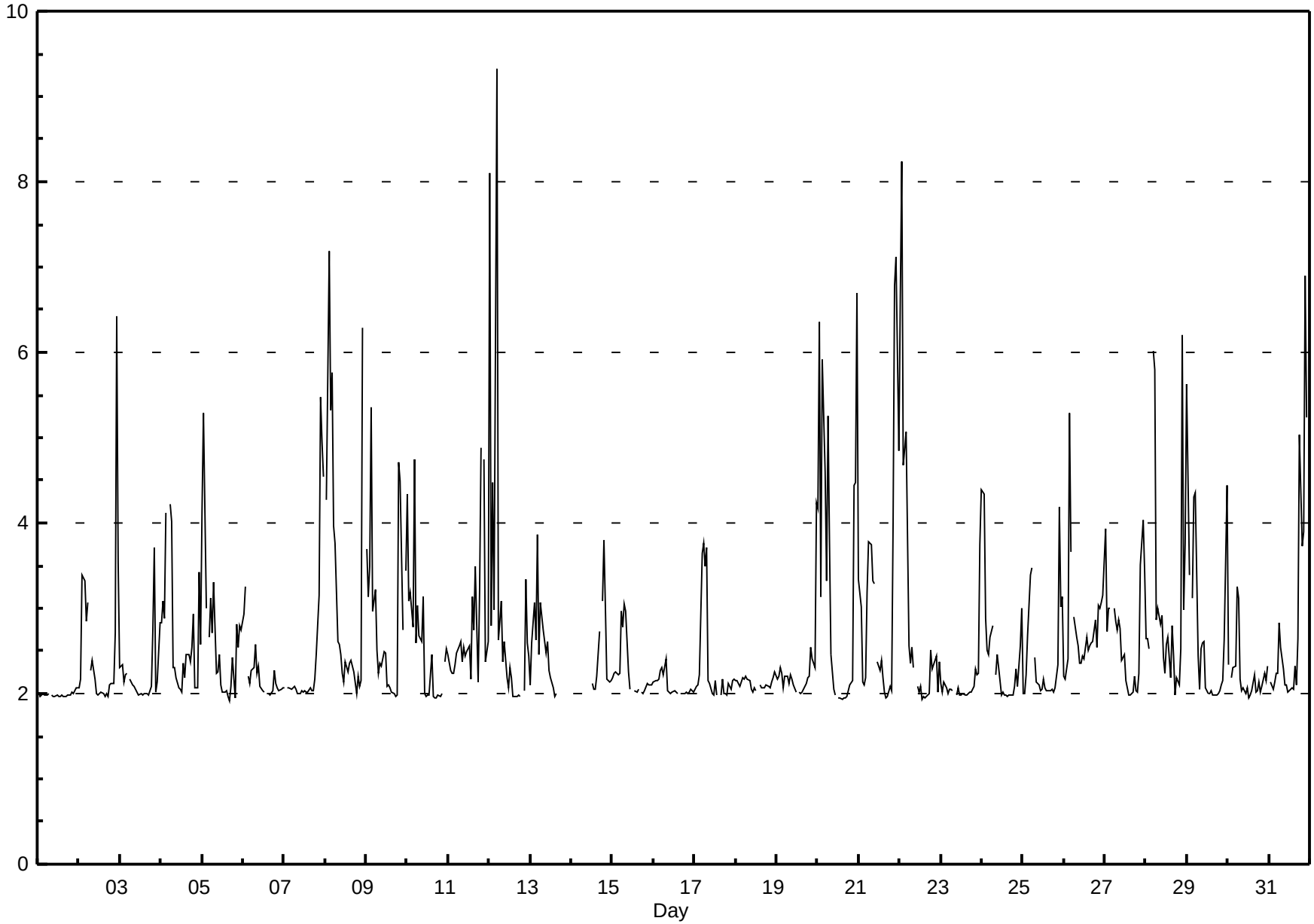
C - Calibration N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Total Hydrocarbons (THC) - ppm

Henry Pirker - August 2011

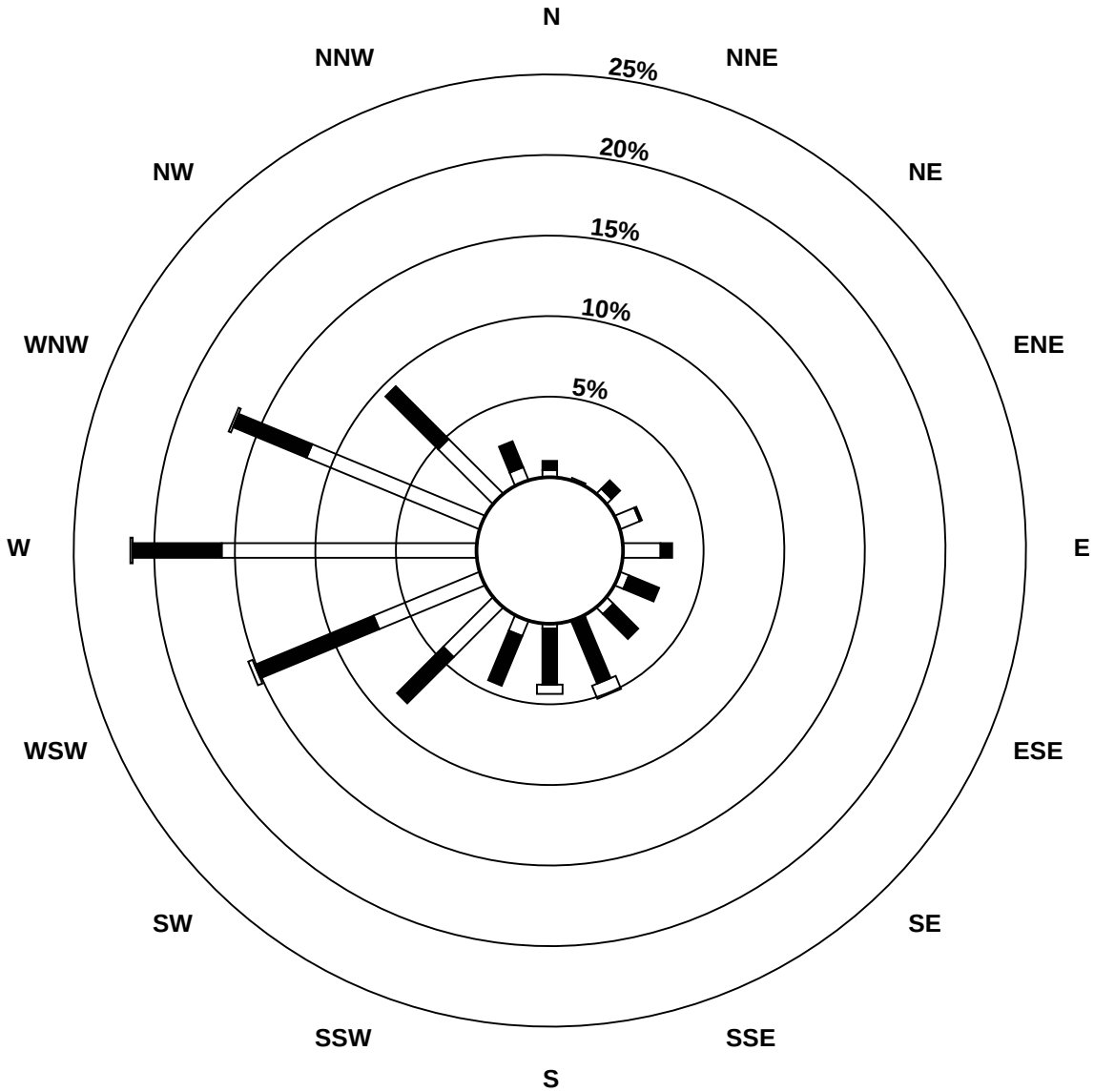


FOCUS AIR QUALITY MONITORING

Pollutant Rose

Total Hydrocarbons (THC) - ppm

Henry Pirker - August 2011



Pollutant Classes (ppm)

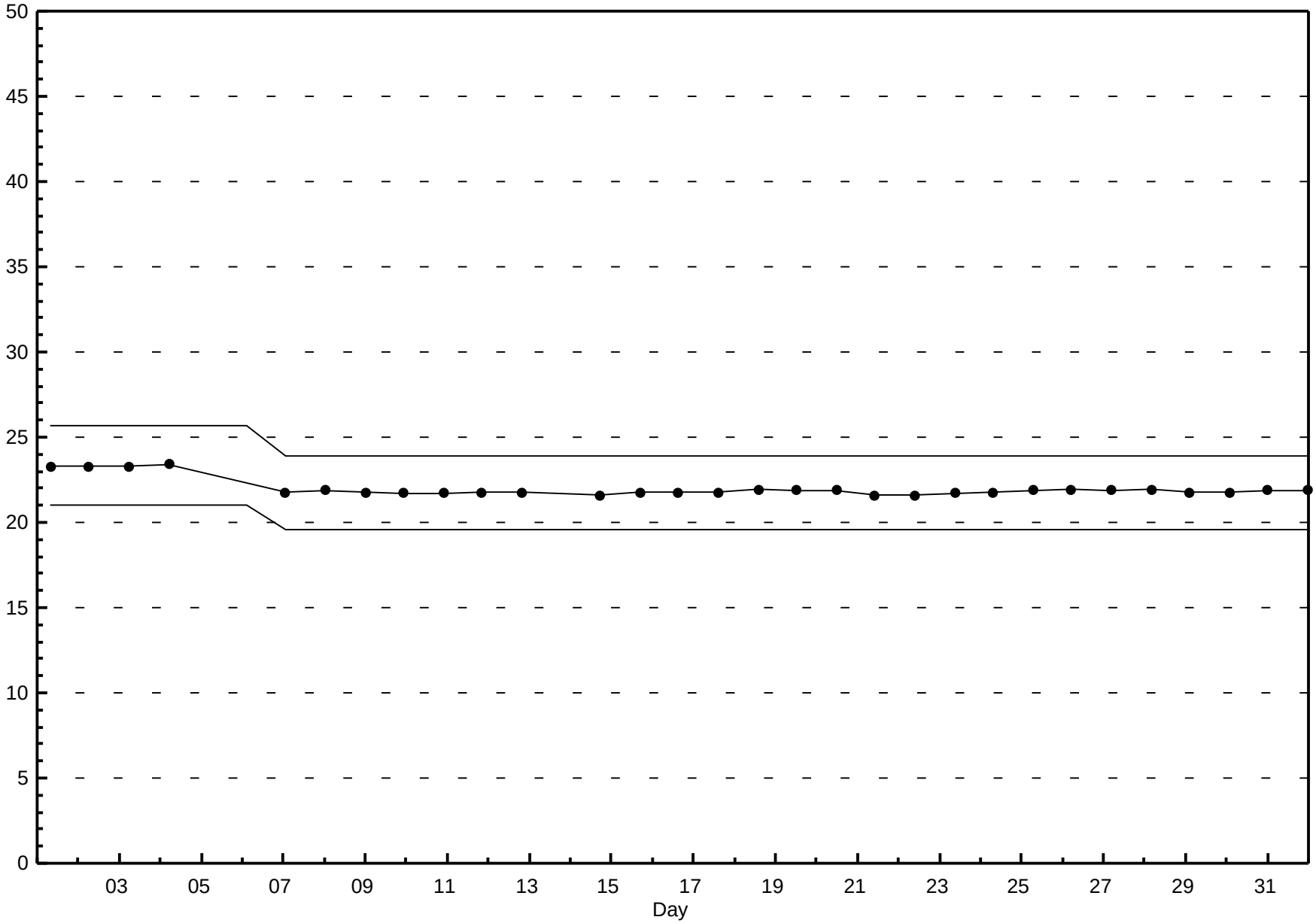
- 1.5 - 2.0
- 2.1 - 3.0
- 3.1 - 10.0
- > 10.0

Peace Airshed Zone Association

Span Responses

Total Hydrocarbons (THC)

Henry Pirker - August 2011



Peace Airshed Zone Association

Hourly Averages

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

Henry Pirker - August 2011

Number of Exceedences: 1-hr: 0 24-hr: 0

Maximum Value: 27.8 $\mu g/m^3$ on Aug 11 12:00

Maximum Daily Average: 11.2 $\mu g/m^3$ on Aug 9

Minimum Value: 0 $\mu g/m^3$ on Aug 1 01:00

Maximum Diurnal Average: 8.0 $\mu g/m^3$ at hour 11

Monthly Average: 5.20 $\mu g/m^3$

Minimum Daily Average: 1.3 $\mu g/m^3$ on Aug 30

Minimum Diurnal Average: 3.3 $\mu g/m^3$ at hour 22

Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 3.7 $Q_3 = 8.7$ $P_{90} = 13.2$ $P_{99} = 22.1$

Hours in Service:	744
Hours of Data:	740
Hours of Missing Data:	4
Hours of Calibration:	2
Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	0	0	0	5	0	0	0	0	5	6	5	5	0	0	0	0	4	10	5	0	0	0	2	5	2.2	10.1
2-Aug	5	0	0	1	2	4	5	3	9	7	10	11	10	5	6	10	8	8	9	8	2	2	1	6	5.5	10.6
3-Aug	7	7	9	10	9	10	9	7	9	11	8	10	1	0	0	0	0	0	0	0	3	6	1	1	5.0	11.3
4-Aug	0	0	2	0	0	7	3	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0	6	11	1.4	11.0
5-Aug	5	1	0	0	8	11	15	13	8	10	8	2	5	6	0	0	0	0	4	10	0	3	6	4	5.0	15.1
6-Aug	5	5	0	0	0	4	3	0	0	3	4	3	0	0	4	4	0	0	2	10	11	4	0	0	2.5	10.7
7-Aug	0	0	6	7	1	0	0	7	6	7	6	8	4	2	14	12	9	0	0	0	9	14	14	9	5.7	14.4
8-Aug	3	3	11	13	6	7	4	10	14	13	12	15	14	5	0	0	3	14	11	5	2	2	11	13	8.0	15.3
9-Aug	11	8	9	10	3	6	14	17	17	19	14	11	20	19	10	0	0	4	13	17	16	4	7	21	11.2	20.6
10-Aug	16	6	5	10	11	10	8	12	12	12	3	8	10	10	6	15	17	12	10	7	2	2	5	8	8.9	16.8
11-Aug	10	6	0	0	0	0	4	8	13	18	25	28	11	6	6	6	8	11	17	17	7	3	0	0	8.5	27.8
12-Aug	7	11	15	13	0	0	10	14	12	15	12	0	1	12	16	13	4	0	0	1	4	13	3	2	7.4	16.2
13-Aug	8	9	4	2	5	4	0	2	3	0	3	0	0	11	13	15	N	N	0	2	7	1	11	11	5.1	14.7
14-Aug	5	4	1	0	4	0	1	3	4	0	0	0	8	9	13	6	0	6	10	4	0	0	0	0	3.2	12.7
15-Aug	1	5	3	1	0	0	4	2	3	1	0	7	12	8	11	10	10	0	0	9	6	2	4	0	4.1	11.9
16-Aug	0	2	2	0	0	1	0	2	2	5	6	8	4	0	0	7	0	0	3	8	3	0	1	3	2.4	8.5
17-Aug	0	0	0	3	0	1	2	1	0	0	0	0	9	0	1	3	4	9	6	0	0	0	0	0	1.6	8.9
18-Aug	0	2	3	27	22	0	0	0	0	0	C	C	2	12	16	17	12	6	2	0	0	0	0	0	5.5	27.2
19-Aug	3	2	5	8	9	0	1	7	8	14	15	10	0	0	0	0	8	7	0	5	14	8	2	6	5.4	14.6
20-Aug	9	5	6	9	12	9	1	8	3	4	23	25	13	5	0	0	4	14	6	0	0	0	14	11	7.5	25.5
21-Aug	7	8	15	13	12	14	12	10	12	10	8	0	1	0	9	17	7	0	0	0	0	4	5	8	7.2	16.7
22-Aug	9	6	2	5	6	6	4	3	5	6	25	20	8	4	10	6	14	15	10	2	2	2	3	1	7.2	24.8
23-Aug	1	1	1	2	0	0	0	0	0	0	0	1	1	0	7	12	20	26	17	6	2	2	7	15	5.1	26.1
24-Aug	14	2	0	3	4	0	3	8	7	2	3	4	10	14	17	19	0	0	0	0	1	2	11	16	5.9	19.0
25-Aug	4	2	4	3	5	2	0	2	6	6	10	5	0	0	0	0	0	0	0	0	9	9	6	10	3.4	10.0
26-Aug	9	3	4	3	3	9	8	8	8	11	10	5	0	0	0	0	0	0	0	0	6	11	17	18	5.5	18.2
27-Aug	20	18	15	12	9	6	4	6	9	10	8	7	4	19	16	10	0	0	0	0	2	0	4	8	7.8	19.7
28-Aug	6	2	3	4	3	4	4	6	10	12	13	15	13	7	1	0	0	0	0	0	0	1	9	8	5.1	14.6
29-Aug	4	2	1	3	1	1	1	2	4	3	2	0	0	5	9	18	14	14	13	1	1	0	0	0	4.1	17.8
30-Aug	0	0	0	0	1	1	2	2	0	2	3	4	4	4	3	2	2	0	0	0	0	0	0	0	1.3	4.0
31-Aug	0	1	0	0	0	1	0	5	4	0	4	5	4	0	0	0	6	5	0	0	7	6	3	2	2.3	7.4
	5.4	4.0	4.1	5.4	4.4	3.8	4.0	5.4	6.2	6.7	8.0	7.3	5.4	5.3	6.1	6.5	5.2	5.3	4.5	3.6	3.8	3.3	5.0	6.3	Diurnal Average	
	19.7	18.5	15.4	27.2	22.0	13.5	15.1	17.2	16.7	19.2	24.8	27.8	20.1	19.4	16.7	19.0	20.1	26.1	17.4	16.7	16.2	14.3	16.7	20.6	Diurnal Maximum	

C - Calibration N - Not Valid

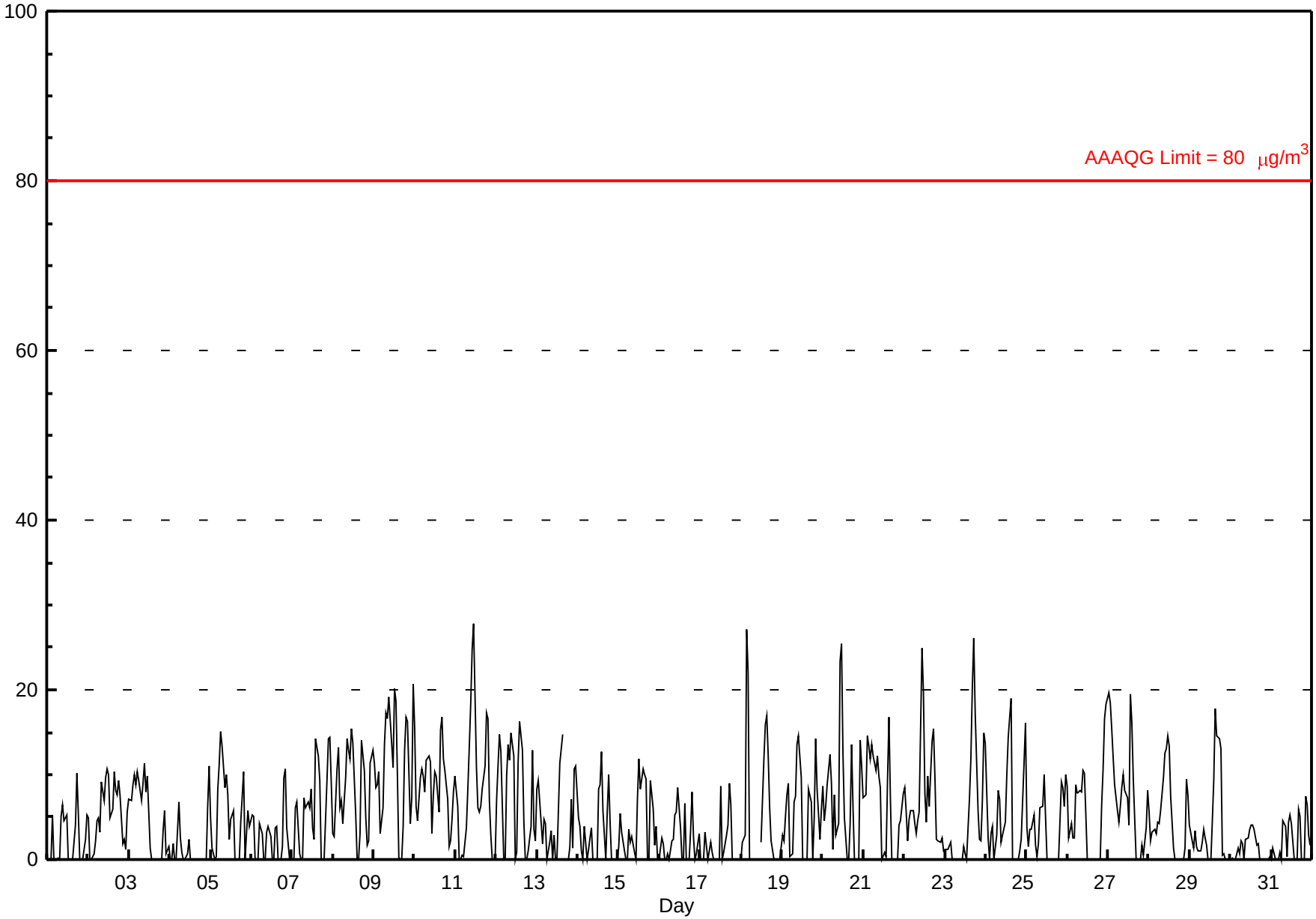
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

Hourly Averages

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

Henry Pirker - August 2011



Peace Airshed Zone Association

Hourly Maximums

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

Henry Pirker - August 2011

Maximum Value: 50.8 $\mu g/m^3$ on Aug 18 05:00

Maximum Daily Average: 14.7 $\mu g/m^3$ on Aug 9

Minimum Value: 0 $\mu g/m^3$ on Aug 1 14:00

Minimum Daily Average: 2.0 $\mu g/m^3$ on Aug 30

Maximum Diurnal Average: 10.3 $\mu g/m^3$ at hour 12

Minimum Diurnal Average: 5.4 $\mu g/m^3$ at hour 6

Monthly Average: 7.49 $\mu g/m^3$

Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 2.2 Median = 6.6 Q_3 = 11.3 P_{90} = 15.8 P_{99} = 27.1

Hours in Service:	744
Hours of Data:	740
Hours of Missing Data:	4
Hours of Calibration:	2
Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	1	0	2	7	4	0	1	1	8	8	6	7	1	0	0	0	12	12	8	3	0	2	4	6	3.9	12.3
2-Aug	7	3	0	2	4	5	8	8	10	8	11	13	13	6	8	12	11	9	10	10	5	3	2	8	7.3	12.8
3-Aug	8	8	11	11	9	11	10	10	12	13	10	11	6	0	0	0	0	0	0	1	6	6	5	5	6.4	13.0
4-Aug	3	1	3	1	5	9	5	3	0	1	3	3	1	0	0	0	0	0	0	0	0	0	13	14	2.7	14.2
5-Aug	8	2	0	4	11	12	18	18	10	11	10	4	7	8	5	0	0	0	10	11	8	5	7	7	7.4	18.1
6-Aug	10	10	0	0	1	6	6	0	0	6	5	4	0	0	8	8	1	0	6	12	12	10	0	0	4.4	12.0
7-Aug	0	1	10	10	4	0	3	9	8	8	8	10	9	10	16	14	12	3	0	3	13	15	15	14	8.1	16.4
8-Aug	5	6	15	16	9	9	5	14	15	14	13	19	19	7	3	0	12	16	14	7	5	7	14	15	10.8	19.1
9-Aug	13	11	10	12	9	10	17	18	19	20	20	18	22	22	15	5	0	9	17	18	18	13	14	25	14.7	24.6
10-Aug	24	8	6	11	13	11	10	15	15	13	8	9	12	12	9	18	19	13	13	8	6	4	6	10	11.4	24.4
11-Aug	10	10	0	0	2	2	6	10	18	21	33	33	19	8	7	8	11	15	19	19	13	4	2	1	11.2	33.2
12-Aug	12	13	15	15	8	1	16	16	12	19	19	3	7	15	18	15	9	3	0	2	9	17	9	7	10.8	18.6
13-Aug	10	10	8	3	5	5	2	6	6	0	4	3	7	14	16	17	N	N	0	7	9	5	15	14	7.6	17.1
14-Aug	6	8	3	2	6	2	4	4	5	2	0	5	10	10	14	13	1	8	12	11	0	0	0	0	5.2	14.2
15-Aug	8	8	5	4	0	0	5	5	4	2	3	10	13	11	12	11	11	7	3	13	9	5	7	1	6.4	13.0
16-Aug	1	4	3	1	2	2	1	3	6	6	8	9	8	0	1	9	7	0	8	9	7	0	3	5	4.3	9.4
17-Aug	0	1	5	5	1	3	5	3	0	0	0	0	13	2	3	5	7	10	9	2	0	0	0	0	3.0	13.2
18-Aug	0	3	4	51	51	0	1	0	0	0	C	C	8	16	20	21	18	10	12	0	0	0	0	2	9.8	50.8
19-Aug	5	6	8	8	11	5	4	10	10	15	15	13	6	0	0	2	12	12	0	13	15	13	8	9	8.3	15.4
20-Aug	11	8	9	11	14	14	5	9	8	11	31	32	16	14	0	0	12	16	12	0	0	9	17	17	11.5	31.8
21-Aug	9	13	16	14	14	15	13	12	13	14	10	4	4	4	17	18	11	4	0	0	3	6	6	11	9.6	18.4
22-Aug	10	6	4	6	7	7	6	3	5	14	29	28	13	9	12	10	17	17	16	4	3	4	4	2	9.8	28.7
23-Aug	2	2	2	3	2	0	0	1	1	0	0	4	5	5	10	15	26	27	23	11	3	3	13	16	7.3	27.1
24-Aug	16	8	0	7	8	2	7	9	8	6	4	10	11	16	20	22	10	0	0	0	2	3	23	23	8.9	22.9
25-Aug	7	3	5	6	7	3	2	6	7	8	12	10	0	0	0	0	0	0	0	8	10	10	7	14	5.2	14.2
26-Aug	14	5	6	3	5	12	11	11	11	14	13	7	7	0	0	1	0	0	0	1	9	13	19	19	7.5	19.3
27-Aug	21	21	17	14	11	7	6	8	11	11	9	10	14	22	20	13	5	0	0	4	4	1	7	9	10.2	22.3
28-Aug	8	4	5	6	6	6	5	8	11	14	15	16	15	11	5	0	0	0	0	0	1	6	10	9	6.7	16.2
29-Aug	7	3	3	5	3	2	2	4	4	3	2	3	0	7	12	21	20	16	17	5	2	0	0	1	5.9	21.0
30-Aug	1	1	0	0	3	3	3	3	1	5	4	4	5	5	5	3	3	0	0	0	0	0	0	1	2.0	5.2
31-Aug	0	2	1	0	1	1	2	6	7	2	5	6	6	2	0	2	7	8	0	3	10	9	5	3	3.8	10.2
	7.7	6.0	5.7	7.6	7.6	5.4	6.0	7.5	7.9	8.6	10.3	10.3	8.9	7.5	8.3	8.5	8.4	7.1	6.7	5.9	5.9	5.6	7.6	8.6	Diurnal Average	
	24.4	21.2	16.7	50.5	50.8	14.5	18.1	18.1	18.8	20.8	33.2	33.2	21.7	22.3	20.3	22.5	26.4	27.1	23.4	18.6	17.9	16.9	22.7	24.6	Diurnal Maximum	

C - Calibration N - Not Valid

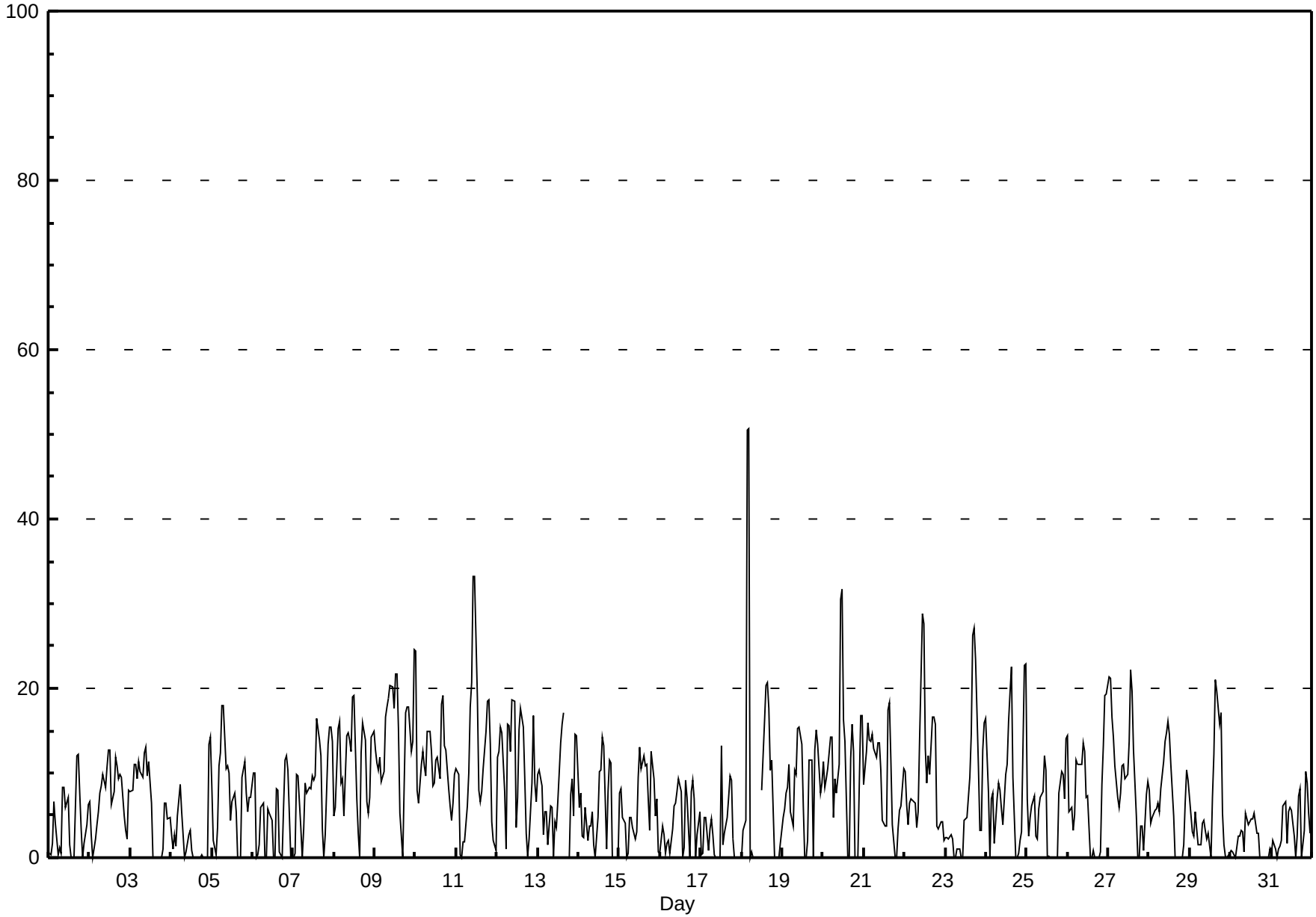
FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

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

Henry Pirker - August 2011



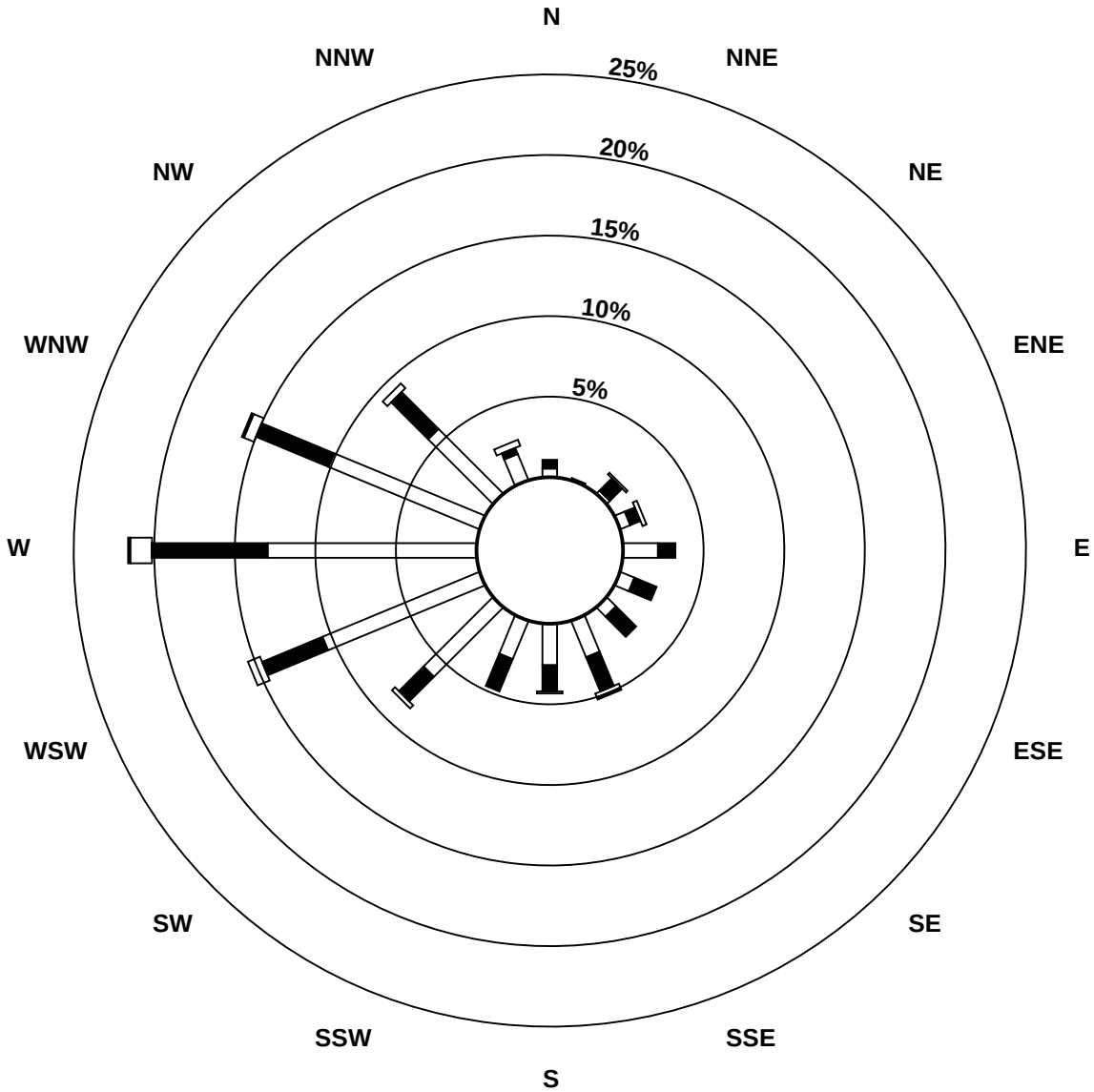
FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Pollutant Rose

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

Henry Pirker - August 2011



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

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

FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Henry Pirker - August 2011

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

Maximum Value: 26.6 ^{o}C on Aug 9 15:00

Maximum Daily Average: 19.3 ^{o}C on Aug 9

Minimum Value: 5 ^{o}C on Aug 31 07:00

Minimum Daily Average: 11.0 ^{o}C on Aug 31

Maximum Diurnal Average: 21.0 ^{o}C at hour 16

Minimum Diurnal Average: 9.8 ^{o}C at hour 6

Monthly Average: 15.68 ^{o}C

Percentiles: P_1 = 6.7 P_{10} = 9.4 Q_1 = 11.7 Median = 15.3 Q_3 = 19.3 P_{90} = 22.8 P_{99} = 26.1

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

Day	Hourly Period Ending At (MST) 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-Aug	11	11	11	11	11	11	12	13	14	16	17	17	18	19	19	19	19	19	18	17	16	14	14	12	14.9	19.1
2-Aug	12	12	10	9	9	8	10	12	14	18	20	21	22	23	24	25	25	23	23	20	17	16	15	15	16.7	24.7
3-Aug	15	15	15	14	14	14	14	15	17	19	20	20	22	23	24	22	22	22	21	20	19	18	17	16	18.3	23.6
4-Aug	15	14	13	12	10	10	13	15	17	19	21	23	25	25	26	26	26	26	25	23	22	20	18	17	19.2	26.5
5-Aug	15	12	11	10	10	11	13	16	18	19	20	24	25	25	17	16	19	18	17	17	16	15	15	15	16.4	25.4
6-Aug	14	13	13	13	11	11	10	11	12	15	17	16	17	17	17	15	16	18	15	15	14	12	11	11	13.9	17.6
7-Aug	11	11	11	12	12	12	13	13	15	15	15	16	17	19	21	22	23	23	22	21	18	16	15	14	16.1	22.9
8-Aug	13	12	12	11	11	10	12	14	16	18	21	23	24	24	25	25	26	26	25	23	21	19	17	15	18.5	26.1
9-Aug	13	12	11	11	12	11	14	15	17	20	22	24	26	26	27	26	26	26	25	24	22	20	17	15	19.3	26.6
10-Aug	12	12	12	13	12	10	12	14	17	19	21	22	23	24	24	24	24	24	23	21	19	18	17	16	18.0	24.2
11-Aug	15	15	14	13	12	11	13	14	17	19	21	22	24	26	24	23	22	24	24	22	20	18	16	15	18.6	26.1
12-Aug	13	12	11	10	9	9	11	14	16	19	21	22	22	23	24	24	23	22	22	20	19	16	15	14	17.1	24.0
13-Aug	13	13	12	10	10	9	10	12	13	14	18	21	22	22	21	21	N	20	19	18	17	16	15	14	15.7	22.3
14-Aug	13	13	12	12	12	12	12	12	14	15	16	17	19	19	18	17	17	16	16	16	14	13	13	11	14.6	19.5
15-Aug	10	9	8	8	8	7	8	10	12	15	16	15	14	15	16	16	17	18	17	16	14	12	11	10	12.5	17.5
16-Aug	10	9	9	8	8	8	10	12	13	15	15	15	16	16	17	16	16	17	16	15	14	12	12	12	12.9	16.6
17-Aug	11	10	10	9	8	7	8	11	14	14	15	17	18	18	19	18	18	17	16	14	12	11	10	10	13.2	18.5
18-Aug	9	8	8	9	9	8	8	11	13	14	16	15	16	17	17	17	15	18	18	16	14	13	11	10	12.9	17.6
19-Aug	10	9	9	8	7	7	8	11	13	15	16	17	18	18	18	18	18	17	16	16	15	14	13	12	13.6	18.3
20-Aug	12	11	10	10	10	10	11	14	18	19	21	22	24	24	25	25	25	25	24	22	20	17	17	16	18.1	25.4
21-Aug	15	15	15	14	14	14	14	15	16	18	20	21	22	23	24	25	24	23	22	20	18	17	17	17	18.5	25.0
22-Aug	16	16	16	16	15	16	16	17	18	19	19	20	20	21	22	22	21	19	17	15	13	12	11	11	17.1	22.5
23-Aug	11	12	11	10	12	12	12	13	15	16	17	18	19	19	20	20	20	20	19	17	15	15	13	12	15.3	20.2
24-Aug	11	11	12	12	10	10	11	12	13	16	19	21	22	22	23	23	23	21	20	19	15	13	12	12	15.9	22.8
25-Aug	12	11	10	8	6	5	6	10	13	15	16	18	19	19	19	20	20	21	19	17	15	13	12	11	14.0	20.6
26-Aug	11	10	9	8	8	7	7	9	11	14	17	20	21	22	23	23	24	23	22	20	18	15	13	10	15.2	23.5
27-Aug	8	8	7	7	8	8	9	10	13	17	20	22	22	23	23	23	23	22	19	18	16	14	13	12	15.3	23.3
28-Aug	12	11	11	10	9	8	8	12	15	17	20	22	23	24	26	26	24	23	22	20	18	17	17	17	17.2	26.0
29-Aug	16	14	14	14	14	14	13	13	13	13	15	17	18	20	20	20	20	20	18	17	14	12	10	9	15.3	20.4
30-Aug	10	9	8	8	8	7	7	9	11	14	15	15	15	15	15	16	14	12	12	11	9	9	8	8	11.0	16.1
31-Aug	8	8	8	7	6	5	5	7	9	10	13	15	16	16	15	17	16	17	15	13	11	10	9	8	11.0	17.0
	12.2	11.5	11.1	10.5	10.2	9.8	10.7	12.5	14.4	16.4	18.0	19.3	20.2	21.0	21.0	21.0	20.8	20.6	19.7	18.2	16.2	14.8	13.6	12.7	Diurnal Average	
	16.3	15.8	15.8	16.4	15.0	15.9	16.1	16.8	18.0	19.7	21.8	24.4	25.8	26.3	26.6	26.5	26.4	26.2	25.4	24.0	21.7	20.2	18.2	17.3	Diurnal Maximum	

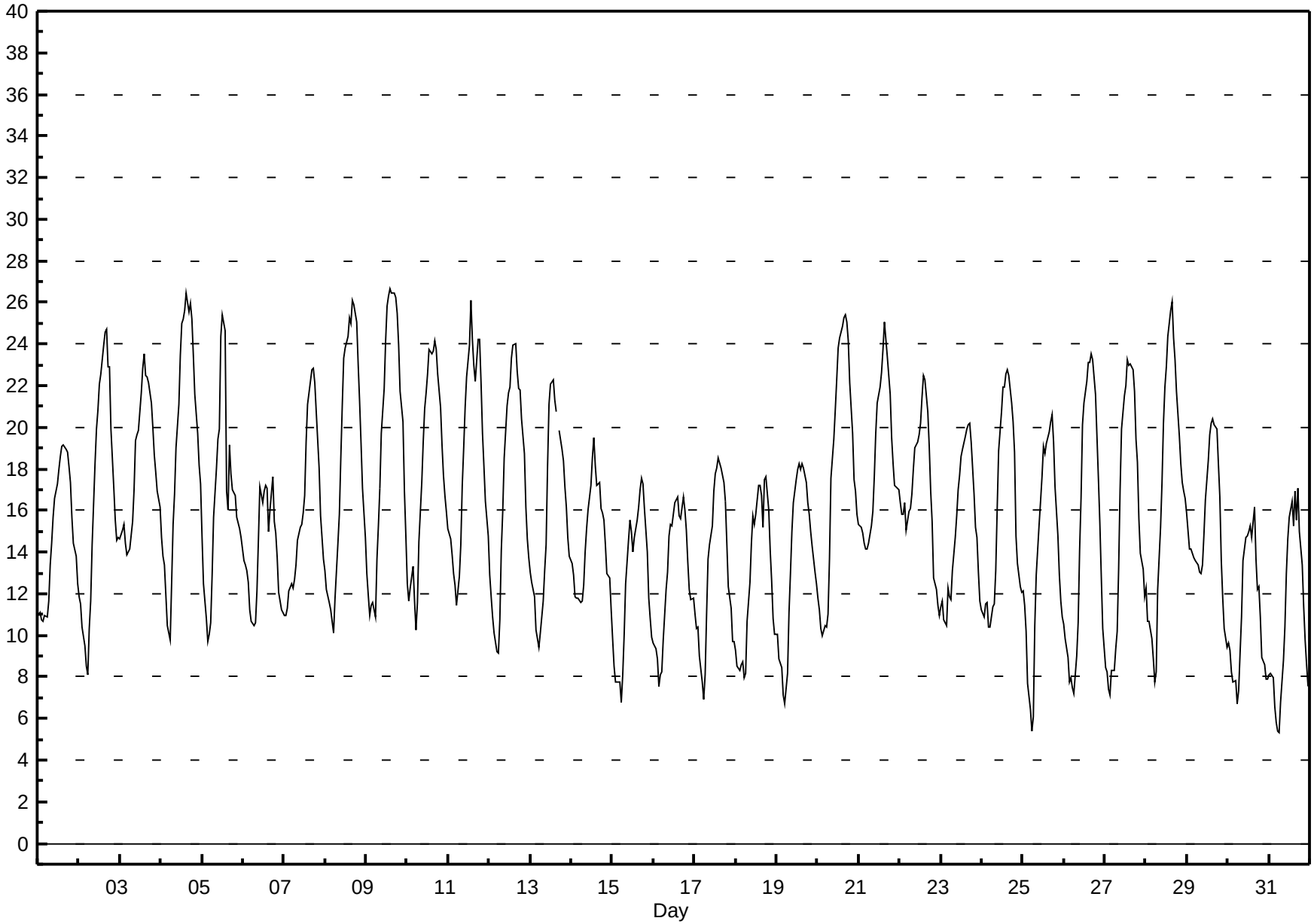
N - Not Valid

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Henry Pirker - August 2011



Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Henry Pirker - August 2011

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

Maximum Value: 91.6 % on Aug 8 06:00 Maximum Daily Average: 73.0 % on Aug 7

Minimum Value: 29 % on Aug 4 16:00 Minimum Daily Average: 47.4 % on Aug 25

Maximum Diurnal Average: 78.6 % at hour 6 Minimum Diurnal Average: 42.0 % at hour 17

Monthly Average: 60.31 % Percentiles: P_1 = 29.5 P_{10} = 38.3 Q_1 = 46.8 Median = 60.0 Q_3 = 73.6 P_{90} = 84.2 P_{99} = 89.7

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

Day	Hourly Period Ending At (MST) 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-Aug	60	59	62	63	63	63	61	55	50	45	43	41	40	38	38	38	38	39	41	43	50	53	56	61	50.0	63.2
2-Aug	63	63	66	70	72	75	69	65	59	49	42	40	39	40	37	34	30	36	38	43	51	58	63	60	52.5	74.6
3-Aug	60	56	53	56	59	56	55	54	52	47	47	47	46	40	38	40	39	39	46	52	55	59	62	59	50.7	61.9
4-Aug	68	70	71	79	86	88	77	60	57	51	48	42	36	33	30	29	29	29	31	36	44	53	56	59	52.5	88.0
5-Aug	71	81	84	86	84	83	73	64	57	55	57	44	43	44	73	80	71	75	82	83	84	86	86	86	72.1	86.3
6-Aug	88	81	74	75	74	73	71	74	68	60	53	51	48	48	52	60	59	57	63	66	66	79	85	86	67.0	87.6
7-Aug	88	89	89	90	89	90	89	87	81	76	74	71	68	60	54	52	49	49	51	55	66	76	78	83	73.0	89.9
8-Aug	85	87	90	91	91	92	89	76	72	64	55	46	40	38	36	37	33	31	32	40	48	51	64	79	61.1	91.6
9-Aug	84	84	87	87	86	87	67	61	58	54	52	47	44	36	33	32	30	29	30	36	46	56	73	79	57.3	86.8
10-Aug	86	87	87	83	86	88	84	80	73	66	60	57	55	53	51	49	47	47	51	58	62	64	64	63	66.7	88.2
11-Aug	66	69	75	80	82	85	82	78	70	64	60	56	51	43	45	48	43	43	43	50	55	61	58	59	61.0	85.2
12-Aug	70	66	70	68	76	72	68	58	57	49	38	38	38	37	36	35	39	42	43	49	57	73	83	86	56.2	86.1
13-Aug	86	88	89	89	90	90	89	85	81	78	64	49	43	39	44	51	N	55	57	60	67	76	85	85	71.4	90.2
14-Aug	83	87	88	88	89	89	90	86	79	70	65	57	51	49	50	52	54	63	68	69	64	67	62	65	70.2	89.8
15-Aug	69	73	74	72	71	74	70	64	59	50	46	45	52	50	46	45	46	43	41	44	50	58	62	66	57.1	74.4
16-Aug	67	68	70	74	72	71	66	60	57	51	49	48	46	45	44	46	47	46	46	48	54	59	59	57	56.3	73.5
17-Aug	61	65	64	68	75	80	77	66	59	57	53	49	47	44	42	42	43	43	44	51	60	63	73	72	58.1	79.5
18-Aug	73	76	77	77	74	75	74	66	63	58	53	52	50	46	47	48	55	46	45	47	52	57	64	67	60.1	76.9
19-Aug	67	71	71	72	75	77	73	65	62	59	51	46	44	43	44	44	44	46	50	50	54	55	59	64	57.7	76.8
20-Aug	67	70	75	80	80	79	79	69	61	57	54	49	47	44	40	38	36	35	38	46	54	61	63	67	57.9	80.4
21-Aug	68	68	68	68	67	67	67	67	68	64	58	49	46	46	44	39	38	43	51	57	61	66	67	66	58.5	68.4
22-Aug	69	72	66	62	69	62	61	60	58	56	58	57	55	50	45	48	51	52	63	67	79	82	83	82	62.8	82.9
23-Aug	77	72	75	74	62	61	62	58	53	48	44	41	39	37	35	33	33	36	39	48	54	57	64	72	52.9	77.2
24-Aug	75	77	74	74	81	82	79	77	72	64	54	43	39	36	33	30	31	35	36	40	51	52	53	51	55.7	81.8
25-Aug	46	47	53	63	65	70	68	53	49	42	39	36	34	34	33	33	32	32	34	40	49	57	62	64	47.4	70.4
26-Aug	65	68	71	78	78	81	80	76	73	55	48	40	35	33	32	31	29	32	36	46	56	66	75	82	56.9	82.1
27-Aug	85	84	88	89	83	82	75	75	69	58	47	41	42	36	33	34	33	37	47	50	59	65	66	71	60.4	88.9
28-Aug	70	75	77	79	83	87	85	71	61	56	50	45	40	36	33	35	40	41	49	60	69	72	72	73	60.9	87.4
29-Aug	75	84	84	87	88	88	86	86	87	87	82	73	64	55	49	39	36	38	44	51	61	66	74	79	69.2	87.9
30-Aug	73	75	79	81	81	83	80	74	71	60	55	54	56	55	56	48	60	65	67	70	80	82	83	84	69.6	83.5
31-Aug	85	85	84	86	88	87	88	84	81	75	63	50	43	41	45	42	45	42	48	53	62	71	75	79	66.7	88.1
	72.6	74.1	75.2	77.0	78.0	78.6	75.2	69.5	65.0	59.0	53.5	48.5	45.8	42.8	42.4	42.3	42.0	43.3	46.8	51.9	58.6	64.6	68.7	71.2	Diurnal Average	
	88.5	88.6	90.3	91.0	91.4	91.6	89.8	86.7	87.4	87.1	81.9	72.9	68.4	60.3	73.1	80.2	70.5	74.7	81.8	82.5	83.8	86.3	86.2	86.1	Diurnal Maximum	

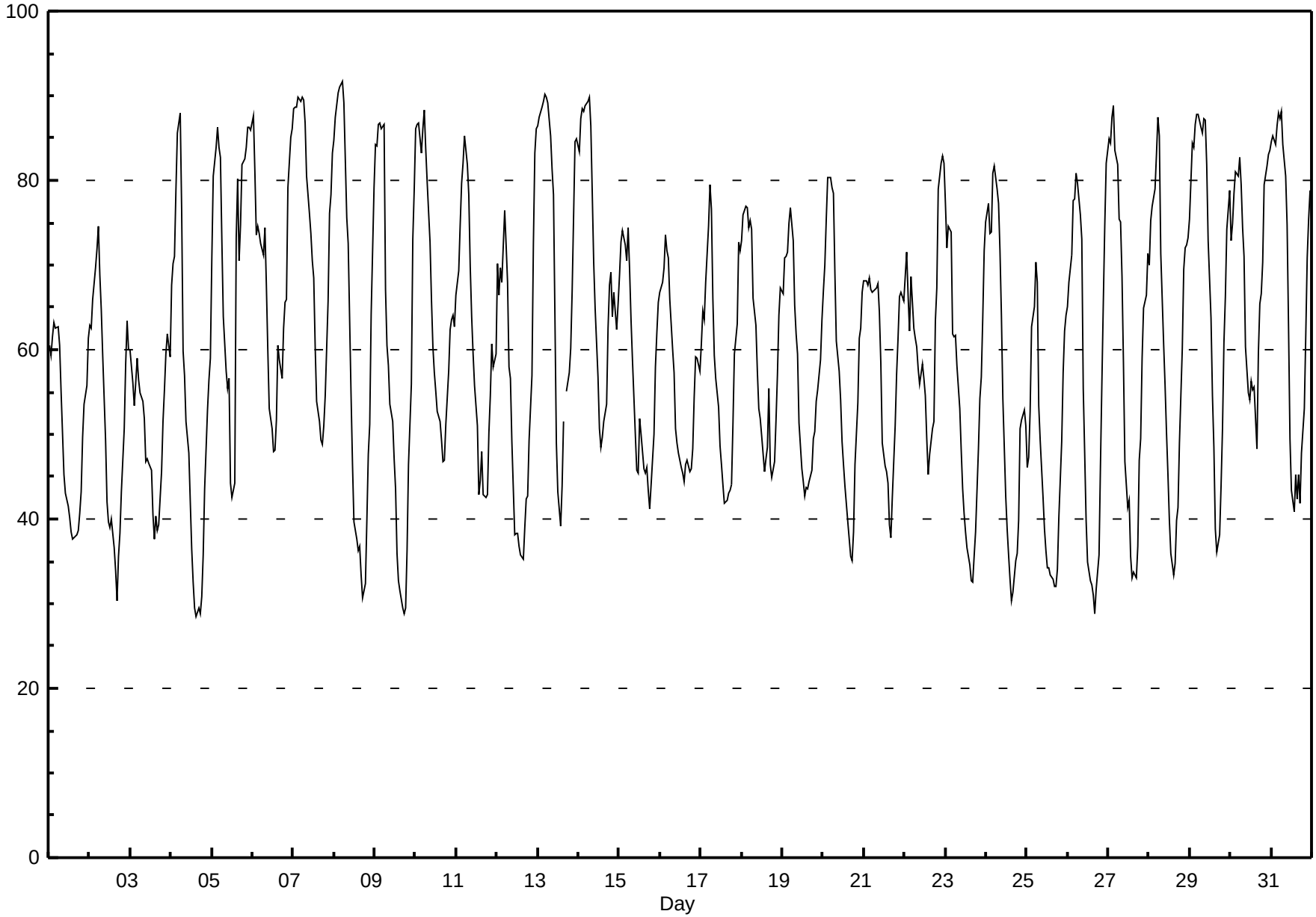
N - Not Valid

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Henry Pirker - August 2011



Peace Airshed Zone Association

Hourly Averages

Solar Radiation (SR) - W/m^2

Henry Pirker - August 2011

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

Maximum Value: 714.8 W/m^2 on Aug 1 13:00

Maximum Daily Average: 257.9 W/m^2 on Aug 1

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

Maximum Diurnal Average: 561.5 W/m^2 at hour 13

Monthly Average: 182.96 W/m^2

Minimum Daily Average: 108.8 W/m^2 on Aug 21

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

Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 83.4 Q_3 = 342.4 P_{90} = 513.7 P_{99} = 681.9

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

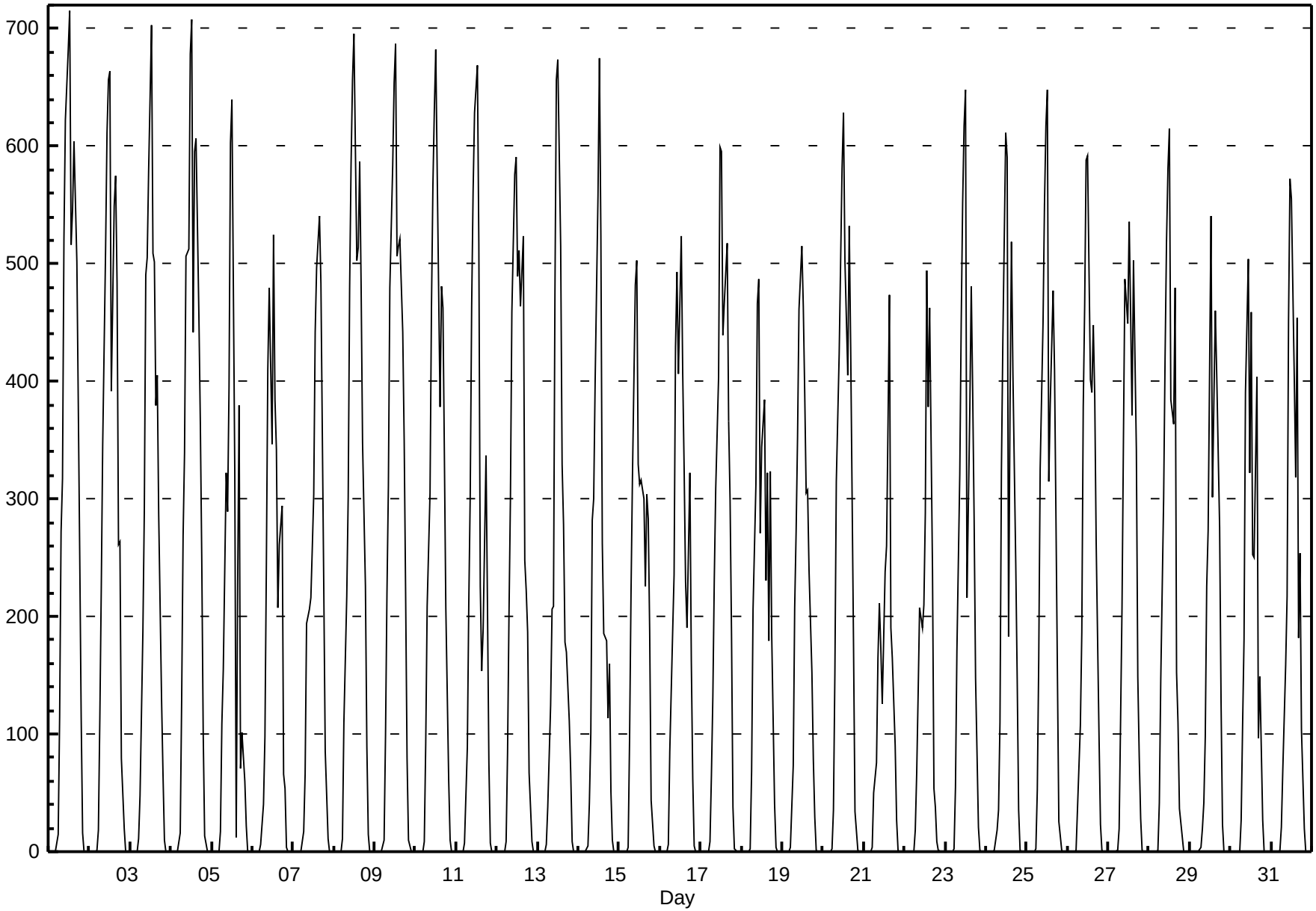
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Aug	0	0	0	0	0	14	115	273	318	520	622	682	715	517	546	605	501	380	251	114	16	1	0	0	257.9	714.8
2-Aug	0	0	0	0	1	18	114	224	346	512	612	657	664	392	549	575	483	262	263	79	19	0	0	0	240.4	664.3
3-Aug	0	0	0	0	0	11	48	188	291	490	505	580	703	509	502	379	405	287	129	66	10	0	0	0	212.6	703.2
4-Aug	0	0	0	0	0	16	130	268	339	507	512	679	708	441	595	606	457	365	249	101	14	0	0	0	249.4	708.1
5-Aug	0	0	0	0	1	17	109	156	322	289	396	603	639	324	12	226	380	71	101	60	22	0	0	0	155.3	639.0
6-Aug	0	0	0	0	0	6	40	97	244	410	480	347	525	385	342	208	261	294	66	54	4	0	0	0	156.8	525.3
7-Aug	0	0	0	0	0	8	17	66	194	207	216	259	304	441	496	541	484	353	224	85	11	0	0	0	162.7	540.8
8-Aug	0	0	0	0	0	12	110	217	302	480	585	656	696	502	513	587	481	347	226	89	15	0	0	0	242.5	695.5
9-Aug	0	0	0	0	0	10	98	219	311	479	584	654	687	507	514	522	442	349	220	80	10	0	0	0	236.9	686.6
10-Aug	0	0	0	0	0	8	91	208	304	463	566	631	682	578	378	481	463	337	208	61	9	0	0	0	227.8	682.0
11-Aug	0	0	0	0	0	8	89	212	304	464	562	628	668	516	225	153	189	336	211	75	7	0	0	0	193.7	668.2
12-Aug	0	0	0	0	0	9	84	202	300	459	576	591	490	511	464	524	248	222	186	67	9	0	0	0	205.9	591.2
13-Aug	0	0	0	0	0	6	38	124	206	209	474	657	673	516	329	279	178	169	111	67	9	0	0	0	168.6	673.2
14-Aug	0	0	0	0	0	4	42	102	282	300	400	558	675	524	263	186	180	113	159	51	10	0	0	0	160.4	675.4
15-Aug	0	0	0	0	0	4	96	220	319	482	502	330	313	316	300	225	304	283	186	43	4	0	0	0	163.7	502.4
16-Aug	0	0	0	0	0	7	86	186	236	429	493	407	524	407	326	229	190	322	162	63	5	0	0	0	169.7	523.9
17-Aug	0	0	0	0	0	9	65	131	232	308	403	599	595	439	468	518	366	299	186	37	2	0	0	0	194.1	598.7
18-Aug	0	0	0	0	0	3	68	206	312	467	487	271	344	384	230	322	179	323	185	40	4	0	0	0	159.4	487.4
19-Aug	0	0	0	0	0	3	73	207	272	352	461	515	464	389	305	307	239	153	78	29	2	0	0	0	160.4	515.3
20-Aug	0	0	0	0	0	2	36	152	314	424	502	581	628	502	406	532	429	302	175	34	2	0	0	0	209.2	628.1
21-Aug	0	0	0	0	0	4	50	75	165	211	174	125	238	260	363	473	191	165	91	27	1	0	0	0	108.8	473.4
22-Aug	0	0	0	0	0	1	18	67	134	207	191	209	288	494	379	462	239	54	38	9	1	0	0	0	116.3	494.0
23-Aug	0	0	0	0	0	3	56	171	321	451	552	618	648	216	378	480	389	282	148	21	1	0	0	0	197.3	647.6
24-Aug	0	0	0	0	0	1	18	35	110	323	434	612	591	183	380	519	408	245	147	36	1	0	0	0	168.4	611.8
25-Aug	0	0	0	0	0	2	52	164	325	450	551	618	648	315	381	477	410	283	152	26	1	0	0	0	202.3	647.7
26-Aug	0	0	0	0	0	1	37	107	187	379	465	588	592	401	391	448	388	264	97	23	1	0	0	0	182.0	592.2
27-Aug	0	0	0	0	0	2	20	111	207	350	487	449	536	457	371	503	342	149	80	28	1	0	0	0	170.5	536.1
28-Aug	0	0	0	0	0	1	41	147	300	420	519	581	615	384	364	480	153	110	37	12	0	0	0	0	173.5	614.7
29-Aug	0	0	0	0	0	0	3	20	42	97	225	273	540	302	383	460	404	275	127	24	0	0	0	0	132.3	540.3
30-Aug	0	0	0	0	0	1	27	108	180	391	505	322	459	253	250	404	97	149	89	26	0	0	0	0	135.8	504.6
31-Aug	0	0	0	0	0	1	21	70	158	217	452	572	555	403	318	453	182	253	104	20	0	0	0	0	157.5	572.4
	0.0	0.0	0.0	0.0	0.1	6.1	61.0	152.7	254.1	379.0	467.5	511.4	561.5	411.8	378.1	424.6	324.5	251.5	151.2	49.9	6.2	0.1	0.0	0.0	Diurnal Average	
	0.0	0.0	0.0	0.0	0.6	18.4	129.7	272.6	346.3	520.5	622.4	682.2	714.8	577.5	595.1	605.9	501.4	379.5	263.2	114.5	21.8	0.5	0.0	0.0	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

Solar Radiation (SR) - W/m^2

Henry Pirker - August 2011



Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Henry Pirker - August 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	13	15	16	17	21	19	20	27	36	39	36	37	32	31	32	31	30	30	27	23	16	15	15	10	24.1	38.8
Dir	226	229	226	240	244	242	249	257	261	264	261	263	264	265	258	256	263	264	265	264	266	256	253	237	256.3	264.3
2 Spd	9	8	8	6	4	4	6	6	8	10	17	19	14	8	8	6	13	11	12	12	9	5	4	6	7.2	19.0
Dir	234	231	220	186	137	160	245	239	223	265	261	281	268	291	297	292	288	305	292	292	320	320	256	251	268.3	280.5
3 Spd	6	9	13	12	9	11	9	6	8	13	16	15	10	11	11	13	9	10	6	4	8	7	7	1	6.8	15.8
Dir	260	258	239	245	254	261	273	288	297	299	291	298	307	309	295	280	303	311	298	309	120	111	131	226	280.7	291.2
4 Spd	8	6	8	7	5	5	4	7	9	11	9	10	6	8	10	5	7	4	4	6	8	8	8	6	4.3	10.7
Dir	166	196	194	187	192	187	199	252	248	251	266	279	310	229	220	232	192	249	190	155	123	118	131	121	206.5	250.9
5 Spd	1	1	4	4	3	2	3	6	6	7	6	2	5	9	19	12	11	8	7	6	5	8	8	8	3.0	18.9
Dir	217	311	301	301	318	291	305	241	245	242	213	304	311	315	276	321	322	300	130	103	143	190	168	189	266.9	275.7
6 Spd	5	7	6	7	7	5	3	4	5	4	4	10	17	18	19	10	9	12	9	11	17	17	13	13	8.3	18.7
Dir	169	218	229	258	294	271	262	172	175	194	297	267	258	267	282	305	320	291	278	251	264	252	255	257	263.3	282.0
7 Spd	13	11	8	8	10	9	11	12	16	15	13	14	15	13	12	10	10	9	7	5	2	3	2	2	8.9	16.0
Dir	255	255	265	311	311	309	301	307	309	305	301	298	297	288	291	290	286	293	290	296	295	205	150	153	291.8	309.3
8 Spd	3	1	3	3	4	5	5	6	8	8	6	6	8	9	5	6	4	3	3	6	6	5	3	2	2.8	9.1
Dir	152	152	161	178	174	165	214	228	232	242	254	249	225	231	236	204	222	267	4	72	92	103	113	306	210.0	230.7
9 Spd	3	3	4	3	4	6	9	10	9	6	6	6	6	8	10	9	9	9	7	4	4	6	2	4	4.3	9.8
Dir	278	321	291	263	267	280	264	264	252	239	228	253	290	290	299	319	326	359	357	329	41	92	243	324	292.8	299.4
10 Spd	5	3	1	4	4	5	6	6	3	4	6	8	8	7	6	7	8	9	10	9	8	9	8	8	4.3	9.8
Dir	306	307	329	52	307	327	327	306	320	42	98	98	96	71	75	58	74	84	81	77	78	85	83	84	64.3	81.2
11 Spd	7	7	6	5	5	4	5	6	1	4	4	4	4	4	5	9	11	3	2	4	6	10	9	7	1.3	10.9
Dir	82	89	87	87	87	74	95	121	198	150	155	156	213	274	290	221	232	310	238	170	200	248	281	335	184.4	231.9
12 Spd	4	5	2	3	4	5	3	4	6	4	4	6	4	1	3	5	7	9	8	7	6	4	5	5	0.4	8.6
Dir	298	296	291	315	241	281	265	234	233	204	268	304	271	164	58	66	83	94	80	91	88	122	7	308	344.9	94.0
13 Spd	8	5	3	2	2	4	3	5	5	5	2	2	2	6	5	4	6	8	8	6	5	1	6	6	2.3	8.3
Dir	355	35	185	349	300	309	236	277	281	264	232	328	341	327	37	46	40	55	63	62	83	357	52	41	15.2	55.4
14 Spd	5	19	15	3	8	7	8	9	9	11	11	15	17	16	18	12	9	12	11	9	10	9	14	13	8.1	19.4
Dir	43	314	334	322	225	188	205	223	231	269	273	281	271	281	280	265	220	181	178	201	207	235	259	260	256.1	314.4
15 Spd	10	6	7	11	10	6	4	8	8	17	24	29	28	23	25	22	19	21	24	18	15	12	12	11	14.0	29.3
Dir	251	252	244	240	223	177	148	185	208	229	255	270	269	261	264	264	291	283	266	265	255	242	237	238	255.4	269.8
16 Spd	12	11	10	5	6	7	6	8	16	24	25	25	29	26	28	26	25	24	25	27	19	17	18	22	18.0	28.9
Dir	244	246	247	310	262	239	280	254	270	270	268	262	269	272	271	273	270	280	278	280	273	271	263	261	268.7	269.4
17 Spd	16	12	13	6	4	4	4	4	7	17	21	21	21	21	29	28	27	26	28	23	7	14	8	10	14.6	29.0
Dir	265	263	258	232	202	158	159	240	283	267	265	268	269	276	262	259	253	257	257	269	291	301	268	246	262.3	261.8
18 Spd	13	8	9	9	10	9	6	7	9	15	16	15	14	18	14	14	13	12	13	17	19	16	10	8	11.6	18.7
Dir	259	280	294	294	270	271	278	253	255	281	287	292	289	274	263	274	299	305	266	254	256	257	246	237	272.5	255.6
19 Spd	8	7	7	7	5	5	5	6	8	8	15	17	15	14	13	11	12	12	9	7	5	6	7	3	8.4	17.0
Dir	262	314	292	264	311	295	288	307	283	299	281	293	291	294	297	302	289	280	280	266	230	258	288	199	286.1	293.5
20 Spd	5	5	4	4	4	4	4	3	10	14	18	22	17	20	25	20	19	18	16	11	1	3	5	5	8.2	24.7
Dir	164	156	135	147	169	145	157	222	249	263	253	256	245	263	275	259	252	270	276	283	251	168	123	122	250.5	275.1
21 Spd	7	8	8	9	7	7	4	2	5	6	9	13	17	15	17	23	24	14	12	8	4	3	2	5	6.6	23.7
Dir	134	151	140	131	132	152	191	196	161	180	198	215	216	209	213	232	245	268	290	295	312	190	220	168	212.3	244.8
22 Spd	2	3	2	6	3	8	7	6	7	10	11	11	14	19	19	19	15	17	12	22	17	14	13	8	10.4	22.0
Dir	193	243	205	245	190	253	240	241	231	238	232	239	238	254	245	267	244	260	196	235	204	205	226	217	235.8	234.5

Peace Airshed Zone Association

Hourly Averages

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
23 Spd	15	15	9	9	21	20	17	19	28	35	35	37	36	38	34	29	22	21	18	8	6	7	2	3	19.8	37.7
Dir	236	256	270	269	253	254	253	259	255	262	264	264	260	260	262	264	266	278	275	282	252	253	311	146	261.1	259.9
24 Spd	3	4	2	4	7	2	7	7	5	3	11	22	18	23	26	25	25	28	28	20	13	10	5	12	10.7	27.8
Dir	132	153	82	339	323	309	214	153	124	183	251	256	263	256	275	268	273	274	272	274	293	294	305	286	268.5	274.3
25 Spd	19	18	15	5	4	3	2	5	7	11	12	10	8	10	10	11	10	7	3	6	5	5	6	5	5.7	19.0
Dir	302	299	293	282	310	340	226	275	285	292	289	306	280	290	300	306	296	297	31	97	120	145	148	124	294.5	302.3
26 Spd	6	6	6	2	5	3	4	4	4	6	7	4	6	8	8	9	8	10	9	8	5	1	3	2	3.9	10.1
Dir	123	118	116	111	143	197	231	271	278	236	226	217	156	175	173	174	177	167	161	139	162	123	330	313	172.4	166.7
27 Spd	3	5	4	3	4	2	3	3	4	6	6	7	9	17	21	20	15	11	13	17	11	7	5	3	7.6	21.3
Dir	294	329	294	274	279	254	267	304	305	294	249	221	242	265	288	297	299	302	299	296	295	286	226	189	283.6	288.0
28 Spd	7	4	7	5	1	4	5	4	4	4	4	5	8	6	3	5	2	6	7	8	7	1	2	2	1.8	8.3
Dir	244	284	268	278	227	163	171	191	206	194	159	135	171	224	234	222	279	337	343	327	325	50	7	53	245.2	326.6
29 Spd	3	3	5	2	3	4	8	12	10	9	10	13	15	15	17	28	29	25	23	16	12	10	5	4	10.4	29.0
Dir	333	299	310	304	336	280	240	226	204	194	220	242	265	256	268	273	267	267	266	266	301	305	307	240	263.5	266.8
30 Spd	7	9	6	5	5	3	8	12	12	14	18	17	20	16	14	15	23	15	17	12	10	10	8	10	11.3	23.2
Dir	225	252	306	305	273	307	251	279	298	284	287	302	316	311	273	283	292	265	302	316	304	274	266	292	288.8	292.1
31 Spd	8	8	9	7	6	6	4	5	9	11	10	9	9	8	9	9	5	4	5	6	6	6	5	5	5.3	11.3
Dir	303	296	309	302	277	296	258	247	285	296	301	298	295	277	289	267	309	251	271	195	181	177	167	159	277.3	296.3
Spd	4.3	4.7	4.2	3.5	3.9	3.8	4.6	5.8	7.5	9.5	11.0	12.0	11.7	12.6	13.4	12.3	11.2	9.9	8.2	6.8	4.0	4.2	3.6	3.4	Diurnal Average	
Dir	250.2	264.4	261.1	261.2	253.4	249.5	246.9	250.9	257.3	262.3	262.8	268.6	266.9	268.6	269.7	269.9	272.4	277.3	272.8	269.1	258.0	245.7	244.7	244.8		
Spd	19.0	19.4	15.7	17.3	21.2	20.0	19.8	26.8	36.4	38.8	35.8	37.5	36.0	37.7	34.4	31.2	30.0	29.7	28.2	27.2	19.1	17.3	18.2	21.7	Diurnal Maximum	
Dir	302.3	314.4	226.0	239.5	243.9	253.8	249.5	256.8	261.4	264.3	261.3	264.2	260.2	259.9	261.7	255.6	262.6	263.5	256.5	280.0	273.3	270.5	263.2	260.7		

Maximum Speed Value: 39 km/h on Aug 1 10:00
Maximum Daily Speed Average: 24.1 km/h on Aug 1
Maximum Diurnal Speed Average: 13.4 km/h at hour 15

Minimum Speed Value: 1 km/h on Aug 26 22:00
Minimum Daily Speed Average: 0.4 km/h on Aug 13
Minimum Diurnal Speed Average: 3.4 km/h at hour 24

Monthly Average Velocity: 7.24 km/h 263.91 deg

Speed Percentiles: $P_1 = 1.1$ $P_{10} = 3.3$ $Q_1 = 5.1$ Median = 7.9 $Q_3 = 12.9$ $P_{90} = 20.3$ $P_{99} = 35.7$

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

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

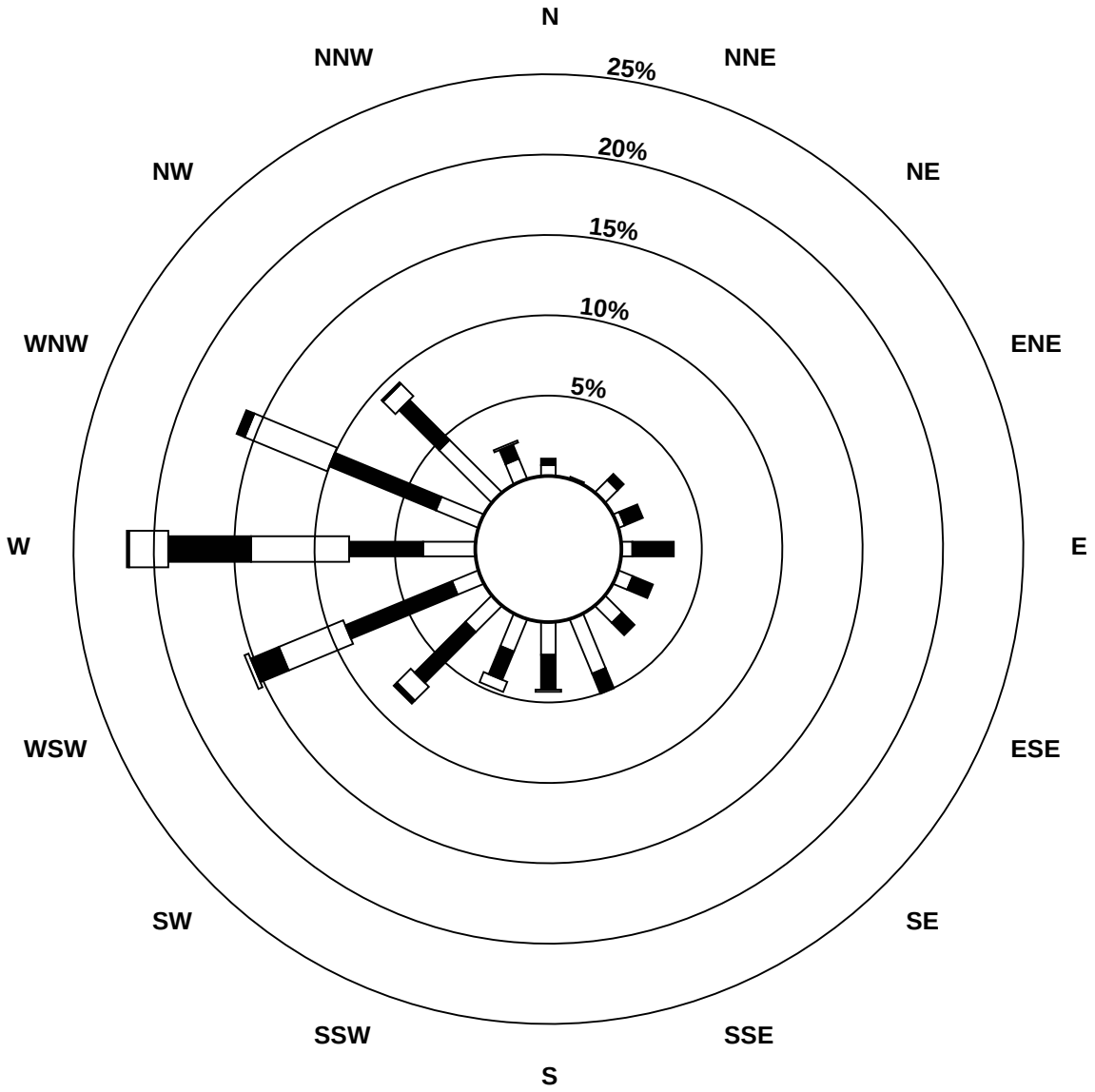
Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	7	5	0	0	0	0	12
NorthEast	10	9	0	0	0	0	19
East	6	29	0	0	0	0	35
SouthEast	21	30	0	0	0	0	51
South	37	33	2	0	0	0	72
SouthWest	28	65	25	6	0	0	124
West	29	91	81	56	24	1	282
NorthWest	46	66	33	4	0	0	149
Total	184	328	141	66	24	1	744

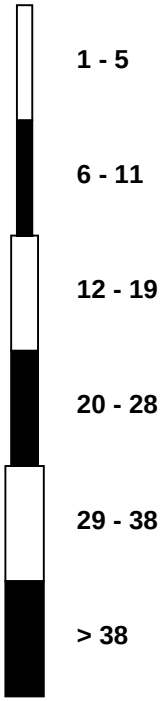
Wind Rose

Wind Speed (WS) (km/h)

Henry Pirker - August 2011



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Henry Pirker - August 2011

Peace Airshed Zone Association

Maximum Speed: 39 km/h on Aug 1 10:00

Maximum Daily Speed Average: 24.8 km/h on Aug 1

Minimum Speed: 2 km/h on Aug 11 09:00

Minimum Daily Speed Average: 5.4 km/h on Aug 13

Maximum Diurnal Speed Average: 16.3 km/h at hour 15

Minimum Diurnal Speed Average: 6.5 km/h at hour 6

Monthly Average Speed: 10.63 km/h

Percentiles: $P_1 = 2.5$ $P_{10} = 4.2$ $Q_1 = 5.7$ Median = 8.4 $Q_3 = 13.2$ $P_{90} = 21.0$ $P_{99} = 36.0$

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	14	15	16	18	21	19	20	27	37	39	36	37	33	31	32	32	30	30	28	24	16	15	15	10	24.8	39.1
2-Aug	9	8	8	6	4	4	7	6	8	10	18	19	15	9	10	8	13	11	12	12	9	5	4	6	9.4	19.3
3-Aug	7	10	13	12	9	11	9	7	8	13	16	15	10	12	11	14	10	10	6	4	8	8	8	13	10.1	16.0
4-Aug	8	6	8	7	5	5	4	7	9	11	9	11	7	10	11	8	8	6	5	7	8	8	8	6	7.6	11.3
5-Aug	3	3	4	4	3	3	3	6	6	7	7	4	6	10	22	12	11	9	8	7	6	9	8	8	7.1	22.4
6-Aug	5	7	6	7	7	6	5	6	5	5	5	11	18	19	19	13	10	12	9	11	17	17	13	13	10.3	19.4
7-Aug	13	12	9	8	10	9	12	12	16	15	13	14	15	14	12	10	10	10	7	5	2	4	2	2	9.9	16.2
8-Aug	3	2	3	3	4	6	5	7	8	8	7	7	9	10	7	8	6	4	5	6	6	5	3	3	5.5	10.1
9-Aug	3	4	4	4	5	6	9	10	9	6	7	7	7	10	11	9	9	9	7	4	6	6	3	4	6.7	10.6
10-Aug	5	4	4	5	5	5	7	6	6	6	7	9	9	9	8	8	9	10	10	9	8	9	8	8	7.3	10.1
11-Aug	7	7	6	5	5	4	5	7	2	4	5	5	6	5	5	9	12	4	4	6	6	10	9	8	6.1	12.3
12-Aug	4	5	3	3	4	5	4	4	6	5	6	7	5	6	6	6	8	9	8	7	6	9	6	7	5.9	9.1
13-Aug	8	6	5	3	3	4	4	6	6	5	3	2	2	8	6	7	6	9	8	6	5	5	6	7	5.4	8.7
14-Aug	8	21	16	8	8	8	8	9	10	11	11	16	17	17	18	12	9	12	11	10	10	10	15	13	11.9	20.8
15-Aug	10	7	7	11	10	6	5	9	9	18	25	30	29	24	25	22	19	21	24	18	15	12	12	11	15.7	29.9
16-Aug	12	11	10	5	6	7	6	8	16	24	25	25	29	26	28	27	25	25	25	28	19	18	18	22	18.6	29.3
17-Aug	16	13	13	6	5	4	5	4	7	17	21	21	21	21	30	29	28	26	28	24	9	16	9	10	16.0	29.6
18-Aug	13	8	9	9	10	9	6	7	10	15	16	15	14	19	14	15	13	12	14	17	19	16	10	8	12.4	18.8
19-Aug	9	7	7	7	6	6	5	6	9	8	15	17	16	15	13	12	12	12	10	7	6	7	7	5	9.3	17.5
20-Aug	5	5	5	4	4	4	4	5	10	14	19	22	18	21	25	21	20	18	17	11	5	3	5	5	11.3	25.1
21-Aug	7	8	8	9	7	7	5	4	5	6	10	13	17	15	17	24	24	15	12	8	5	4	4	5	10.0	24.2
22-Aug	2	4	3	6	5	8	8	7	7	11	11	11	14	19	20	20	16	17	12	23	18	14	13	9	11.6	22.6
23-Aug	16	16	10	11	21	20	17	20	28	35	36	38	37	38	35	30	22	21	18	8	6	7	3	4	20.7	38.3
24-Aug	3	4	3	4	7	5	8	7	6	6	12	23	19	24	27	26	25	28	28	20	13	10	6	12	13.6	28.2
25-Aug	19	18	15	7	7	4	4	6	9	12	13	11	10	11	10	12	10	7	6	7	5	5	6	5	9.1	19.1
26-Aug	6	6	6	3	6	3	5	4	5	6	7	5	7	8	8	9	8	11	9	8	6	4	4	3	6.2	10.6
27-Aug	4	5	4	3	4	3	6	3	5	6	7	8	10	18	22	20	15	12	13	17	11	8	6	5	9.0	22.3
28-Aug	7	5	8	6	3	5	5	5	4	4	5	7	9	7	6	7	4	7	8	9	7	3	3	3	5.6	8.6
29-Aug	4	4	5	3	4	5	8	12	11	9	10	14	15	16	19	29	29	26	23	16	13	10	6	5	12.3	29.5
30-Aug	7	9	6	6	6	5	8	12	12	15	18	18	21	17	16	16	24	15	18	12	10	10	8	10	12.5	23.9
31-Aug	8	9	9	7	6	6	5	5	9	12	10	10	10	9	10	10	6	5	7	6	6	6	5	5	7.6	11.6
	7.9	8.0	7.5	6.5	6.7	6.5	6.8	7.9	9.6	11.8	13.2	14.6	14.7	15.4	16.3	15.6	14.7	13.6	12.9	11.5	9.3	8.9	7.6	7.5	Diurnal Average	
	19.1	20.8	15.9	17.5	21.3	20.2	19.9	27.1	36.7	39.1	36.3	37.9	36.6	38.3	34.8	31.7	30.4	30.2	28.5	27.6	19.3	17.7	18.4	21.8	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

Henry Pirker - August 2011

Maximum Value: 92.9 deg on Aug 26 22:00

Minimum Value: 4.8 deg on Aug 24 21:00

Percentiles: P_1 = 6.2 P_{10} = 8.6 Q_1 = 11.1 Median = 16.3 Q_3 = 28.3 P_{90} = 47.7 P_{99} = 81.2

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

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Aug	9	8	9	11	7	7	8	9	8	8	9	9	11	11	9	11	10	10	10	7	8	6	6	10	10.8
2-Aug	8	8	15	28	17	60	28	14	20	35	11	10	22	34	35	41	22	12	7	6	16	23	30	16	59.7
3-Aug	26	15	8	11	13	9	12	22	20	12	10	13	19	19	23	23	23	15	12	31	15	22	31	90	90.4
4-Aug	13	22	10	7	9	8	23	16	15	17	24	25	37	42	35	50	40	54	44	15	12	6	7	9	54.5
5-Aug	78	82	14	22	22	37	16	19	15	18	26	68	45	24	33	12	11	34	27	24	33	16	14	14	81.8
6-Aug	17	14	13	18	9	23	60	52	26	46	50	31	20	17	15	36	18	9	19	14	16	9	11	9	60.1
7-Aug	9	9	12	9	7	7	7	7	7	8	8	10	7	12	14	20	21	15	10	9	16	17	18	18	21.1
8-Aug	20	66	29	24	7	6	24	12	16	19	23	27	25	26	58	40	56	61	64	20	8	12	14	58	66.3
9-Aug	29	30	22	40	29	16	8	11	13	21	27	35	36	32	24	24	19	20	17	24	43	12	56	29	55.9
10-Aug	30	45	89	30	48	19	13	17	60	48	36	27	30	33	44	37	26	28	15	11	11	8	9	9	89.0
11-Aug	12	12	11	14	11	25	18	32	71	36	48	59	51	37	25	18	31	60	70	45	23	25	16	19	71.0
12-Aug	34	16	70	30	19	13	45	23	15	42	58	36	53	89	77	51	39	22	16	13	15	59	48	41	89.2
13-Aug	11	26	58	46	82	19	41	22	31	22	56	54	58	46	47	53	28	21	13	19	16	83	22	13	83.1
14-Aug	47	21	16	69	13	16	12	12	15	15	17	13	15	15	13	15	16	13	13	22	13	14	9	10	69.3
15-Aug	12	35	16	10	12	24	29	23	22	16	12	12	11	12	11	12	9	10	10	8	11	10	9	8	35.3
16-Aug	8	10	9	32	17	16	14	24	9	10	9	10	10	11	10	8	8	10	9	10	8	11	7	6	32.5
17-Aug	16	12	12	12	49	29	14	38	12	12	10	16	14	14	11	12	11	8	8	14	40	31	17	16	48.9
18-Aug	9	15	8	12	12	12	13	22	16	10	12	12	12	16	19	26	11	12	20	8	7	10	9	11	26.0
19-Aug	30	28	20	23	21	19	15	16	20	20	15	14	12	13	9	10	13	12	12	20	13	23	6	45	45.0
20-Aug	15	22	16	14	13	33	19	54	17	13	15	13	20	15	10	20	16	11	7	6	80	26	17	18	80.4
21-Aug	9	10	8	9	13	11	40	67	15	20	22	13	10	11	12	14	9	21	8	12	39	48	58	12	67.1
22-Aug	28	39	44	20	61	15	13	18	15	12	11	12	15	12	14	18	15	13	22	15	23	13	11	14	61.1
23-Aug	14	16	19	33	9	8	8	11	9	8	11	9	10	10	9	11	13	11	9	16	51	16	68	42	68.5
24-Aug	42	24	33	42	19	82	32	19	21	77	24	15	21	13	14	12	11	10	7	9	5	8	29	22	82.5
25-Aug	6	6	6	40	72	57	72	24	41	26	16	25	34	26	20	20	16	21	64	19	9	11	11	10	72.5
26-Aug	9	8	7	69	23	54	51	32	39	21	15	50	29	22	23	26	18	19	15	10	15	93	54	60	92.9
27-Aug	51	16	20	32	36	51	61	26	14	14	31	24	19	19	18	10	10	15	8	8	8	28	19	56	61.2
28-Aug	20	42	19	33	64	26	10	24	28	36	39	39	28	42	74	50	71	21	43	13	13	80	56	42	80.3
29-Aug	44	33	35	57	81	37	21	12	19	16	16	16	14	24	30	14	11	10	8	9	14	11	36	41	80.8
30-Aug	10	14	15	22	23	50	21	10	10	16	12	14	11	11	27	27	14	11	18	10	12	12	17	12	50.3
31-Aug	8	8	7	9	16	12	29	27	13	12	20	22	22	33	26	26	35	46	47	19	6	7	7	10	47.1
	77.7	81.8	89.0	69.4	81.8	82.5	72.0	67.1	71.0	77.2	58.3	67.9	57.5	89.2	77.4	53.3	71.2	60.9	69.7	44.7	80.4	92.9	68.5	90.4	

PAZA
Evergreen Park Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - August 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 9.4 ppb on Aug 17 17:00 Maximum Daily Average: 1.1 ppb on Aug 17

Minimum Value: 0 ppb on Aug 1 03:00 Minimum Daily Average: 0.0 ppb on Aug 29
Maximum Diurnal Average: 0.9 ppb at hour 11 Minimum Diurnal Average: 0.1 ppb at hour 4
Monthly Average: 0.33 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.2 P_{90} = 0.7 P_{99} = 3.4

Hours in Service:	744
Hours of Data:	707
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-Aug	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
2-Aug	0	0	0	0	0	0	A	0	1	2	3	0	0	2	2	0	0	0	0	0	0	0	0	0	0.5	2.8
3-Aug	0	0	0	0	0	A	1	4	3	2	1	2	0	0	0	3	0	0	0	0	0	0	0	0	0.8	4.0
4-Aug	0	0	0	0	A	0	0	0	0	0	2	1	1	1	1	0	1	1	0	0	0	0	0	0	0.4	1.9
5-Aug	0	0	0	A	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0.2	2.0
6-Aug	0	0	A	0	0	0	0	0	0	0	2	1	2	0	1	0	0	0	0	0	0	0	0	0	0.3	2.0
7-Aug	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
8-Aug	A	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	A	0.1	0.5
9-Aug	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	A	0	0.3	1.4
10-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.2
11-Aug	0	0	0	0	0	0	0	0	4	5	1	1	1	1	0	0	1	1	0	0	A	0	0	0	0.7	5.2
12-Aug	0	0	0	0	0	0	0	0	1	3	2	0	0	0	0	0	0	0	0	A	0	0	0	0	0.4	3.2
13-Aug	0	0	0	0	0	0	0	0	1	1	0	1	1	1	0	0	0	0	A	0	0	0	0	0	0.3	1.1
14-Aug	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
15-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.1	0.2
16-Aug	0	0	0	0	0	0	0	1	0	0	0	1	6	2	0	A	0	0	0	0	0	0	0	0	0.6	6.3
17-Aug	0	0	0	0	0	0	0	0	0	0	3	1	0	0	A	3	9	7	0	0	0	0	0	0	1.1	9.4
18-Aug	0	0	0	0	0	0	0	1	2	1	2	2	4	A	2	1	0	0	0	0	0	0	0	0	0.7	4.1
19-Aug	0	0	0	0	0	0	0	0	0	1	2	3	A	1	0	2	2	0	0	0	0	0	0	0	0.5	2.6
20-Aug	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
21-Aug	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
22-Aug	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	0.3
23-Aug	0	0	0	0	0	0	0	0	A	1	C	C	C	C	7	7	0	0	0	0	0	0	0	0	0.9	7.1
24-Aug	0	0	0	0	0	0	0	A	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	2.1
25-Aug	0	0	0	0	0	0	A	1	1	1	1	0	0	1	1	1	0	0	0	1	0	0	0	0	0.3	0.8
26-Aug	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.2	1.1
27-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
28-Aug	0	0	0	A	0	0	0	0	1	0	0	2	1	0	1	0	0	0	0	0	0	0	0	0	0.2	2.1
29-Aug	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
30-Aug	0	A	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.1
31-Aug	A	0	0	0	0	0	0	1	1	1	0	2	1	0	0	0	0	0	0	0	0	0	0	A	0.4	2.3
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.6	0.8	0.9	0.7	0.7	0.4	0.6	0.6	0.5	0.4	0.1	0.1	0.1	0.1	0.1	0.1	Diurnal Average	
	0.4	0.3	0.3	0.2	0.3	0.2	0.6	4.0	3.9	5.2	2.9	2.6	6.3	2.0	7.1	7.0	9.4	6.8	0.4	0.6	0.4	0.3	0.4	0.3	Diurnal Maximum	

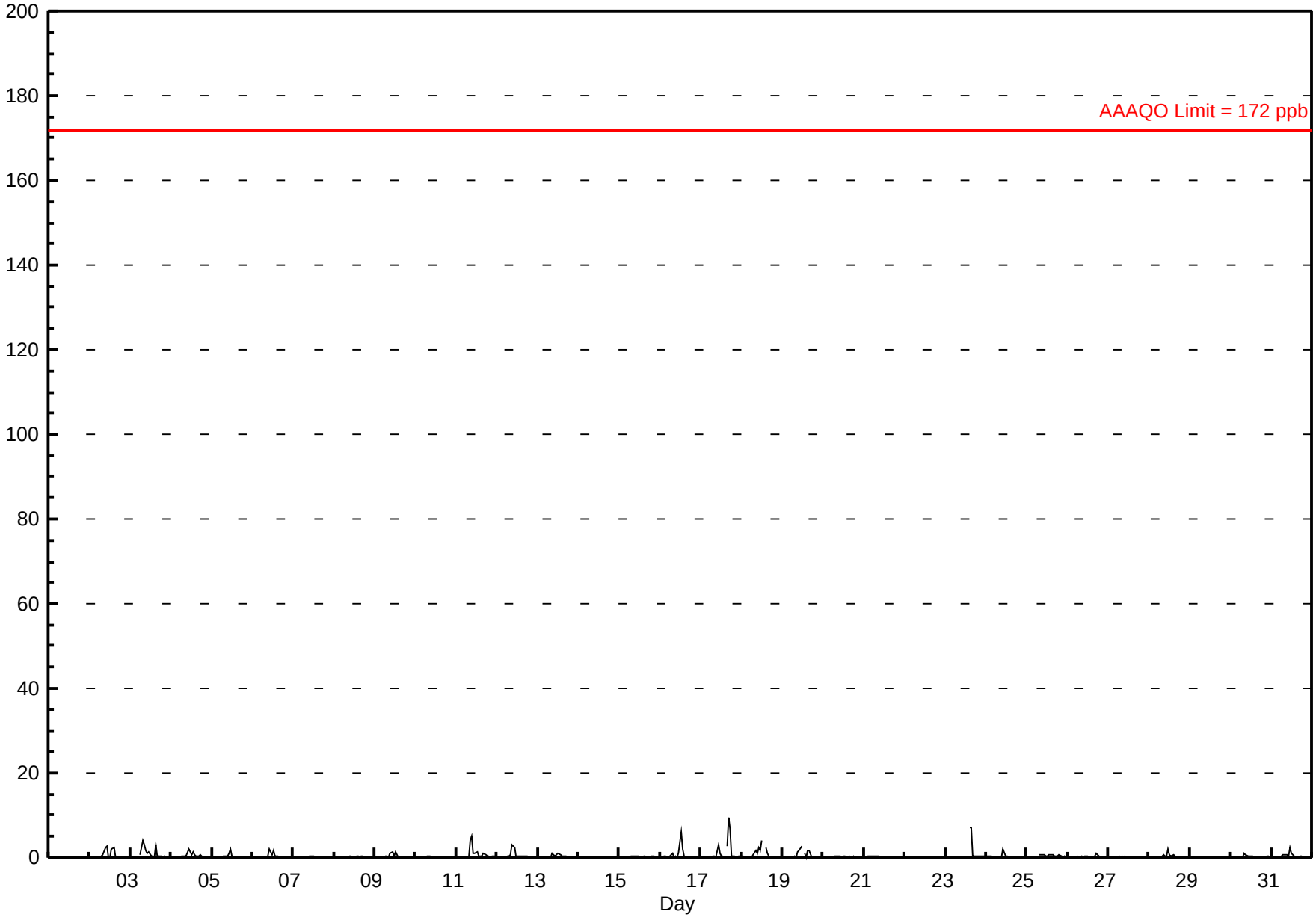
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - August 2011

Maximum Value: 31.1 ppb on Aug 11 10:00

Maximum Daily Average: 4.5 ppb on Aug 3

Minimum Value: 0 ppb on Aug 26 23:00

Minimum Daily Average: 0.4 ppb on Aug 29

Maximum Diurnal Average: 4.5 ppb at hour 11

Minimum Diurnal Average: 0.5 ppb at hour 6

Monthly Average: 1.79 ppb

Percentiles: $P_1 = 0.3$ $P_{10} = 0.4$ $Q_1 = 0.5$ Median = 0.6 $Q_3 = 0.7$ $P_{90} = 4.9$ $P_{99} = 19.6$

Hours in Service:	744
Hours of Data:	707
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-Aug	0	0	0	0	0	1	1	A	1	0	1	1	0	0	1	1	0	1	1	0	0	1	0	1	0.5	0.6
2-Aug	1	1	1	0	0	0	A	1	4	13	17	2	0	15	17	1	1	0	1	0	0	0	0	0	3.4	16.8
3-Aug	1	0	0	1	0	A	4	12	13	16	9	13	2	1	1	22	4	1	1	0	1	1	1	1	4.5	22.3
4-Aug	1	1	1	1	A	1	1	4	4	4	13	11	9	11	3	3	5	9	1	0	0	1	0	0	3.6	12.7
5-Aug	0	1	0	A	1	0	1	2	1	1	12	12	1	1	5	1	0	0	1	1	0	0	0	0	1.8	12.4
6-Aug	0	0	A	0	1	0	1	0	0	5	8	8	21	5	6	9	0	1	1	0	1	0	0	0	3.0	21.4
7-Aug	0	A	0	0	0	1	1	0	0	1	1	1	1	1	1	1	0	1	0	0	0	0	0	1	0.5	0.7
8-Aug	A	0	0	1	1	0	0	1	1	5	1	0	1	8	8	1	1	1	1	1	1	0	1	A	1.3	7.7
9-Aug	1	0	1	1	0	1	1	1	1	9	6	1	12	8	0	0	1	1	0	1	1	1	A	0	2.0	11.6
10-Aug	0	0	0	1	1	0	1	1	1	1	1	1	1	0	0	1	0	0	1	1	1	A	1	1	0.6	0.7
11-Aug	0	0	1	1	1	1	1	1	13	31	4	3	5	1	1	1	8	9	1	1	A	1	1	1	3.6	31.1
12-Aug	1	1	0	1	1	0	1	3	5	9	14	1	1	1	1	1	1	1	1	A	1	1	1	1	1.9	13.8
13-Aug	1	1	0	0	1	1	1	3	4	9	1	1	1	1	1	1	1	1	A	1	0	1	0	1	1.3	9.2
14-Aug	0	1	1	0	1	0	0	0	1	1	1	1	0	0	0	0	0	A	0	0	1	0	2	1	0.6	1.8
15-Aug	0	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	A	1	0	1	1	1	1	2	0.6	1.7
16-Aug	1	1	1	1	1	1	1	4	0	1	1	9	20	12	1	A	1	1	1	1	1	1	0	0	2.4	19.8
17-Aug	1	1	1	1	1	1	1	1	1	1	11	9	1	1	A	20	17	21	1	1	1	1	1	1	3.9	20.7
18-Aug	1	1	0	1	0	1	1	4	8	7	10	10	20	A	12	10	1	1	0	0	0	0	0	0	4.0	20.1
19-Aug	3	1	0	0	1	0	0	8	2	7	8	10	A	10	1	10	10	1	1	0	0	1	1	1	3.3	10.5
20-Aug	1	1	1	1	1	1	0	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	0.6	0.9
21-Aug	0	1	1	1	1	1	1	0	1	1	A	1	0	1	0	1	0	0	0	0	1	0	0	0	0.5	0.8
22-Aug	0	0	0	0	1	1	0	1	1	A	1	1	1	0	0	1	0	0	0	0	1	1	0	0	0.5	0.8
23-Aug	0	1	1	0	1	0	1	1	A	1	C	C	C	C	16	19	1	1	1	1	1	1	1	1	2.6	19.3
24-Aug	1	1	1	1	1	0	0	A	1	1	8	3	1	1	0	1	1	0	1	0	0	1	0	1	1.0	7.6
25-Aug	0	1	1	1	1	0	A	7	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.3	6.7
26-Aug	1	0	1	1	1	A	0	1	1	1	1	1	1	1	0	0	2	3	1	0	0	1	0	0	0.7	2.8
27-Aug	1	0	0	0	A	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.1
28-Aug	1	0	0	A	1	0	0	0	3	1	1	6	1	2	7	1	0	0	1	0	1	0	0	0	1.2	7.0
29-Aug	0	0	A	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0.4	0.6
30-Aug	0	A	0	1	1	0	1	1	10	2	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1.1	10.1
31-Aug	A	1	0	1	0	1	1	1	1	1	1	22	19	1	1	1	1	1	1	0	0	0	0	A	2.5	22.1
	0.6	0.6	0.5	0.5	0.5	0.5	0.8	2.0	2.8	4.4	4.5	4.5	4.2	3.0	2.9	3.6	2.0	1.9	0.6	0.5	0.5	0.5	0.5	0.5	Diurnal Average	
	2.5	1.4	0.8	0.8	0.9	0.9	4.2	12.4	13.2	31.1	16.6	22.1	21.4	15.4	16.8	22.3	17.2	20.7	1.4	1.0	0.8	0.7	1.8	1.7	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

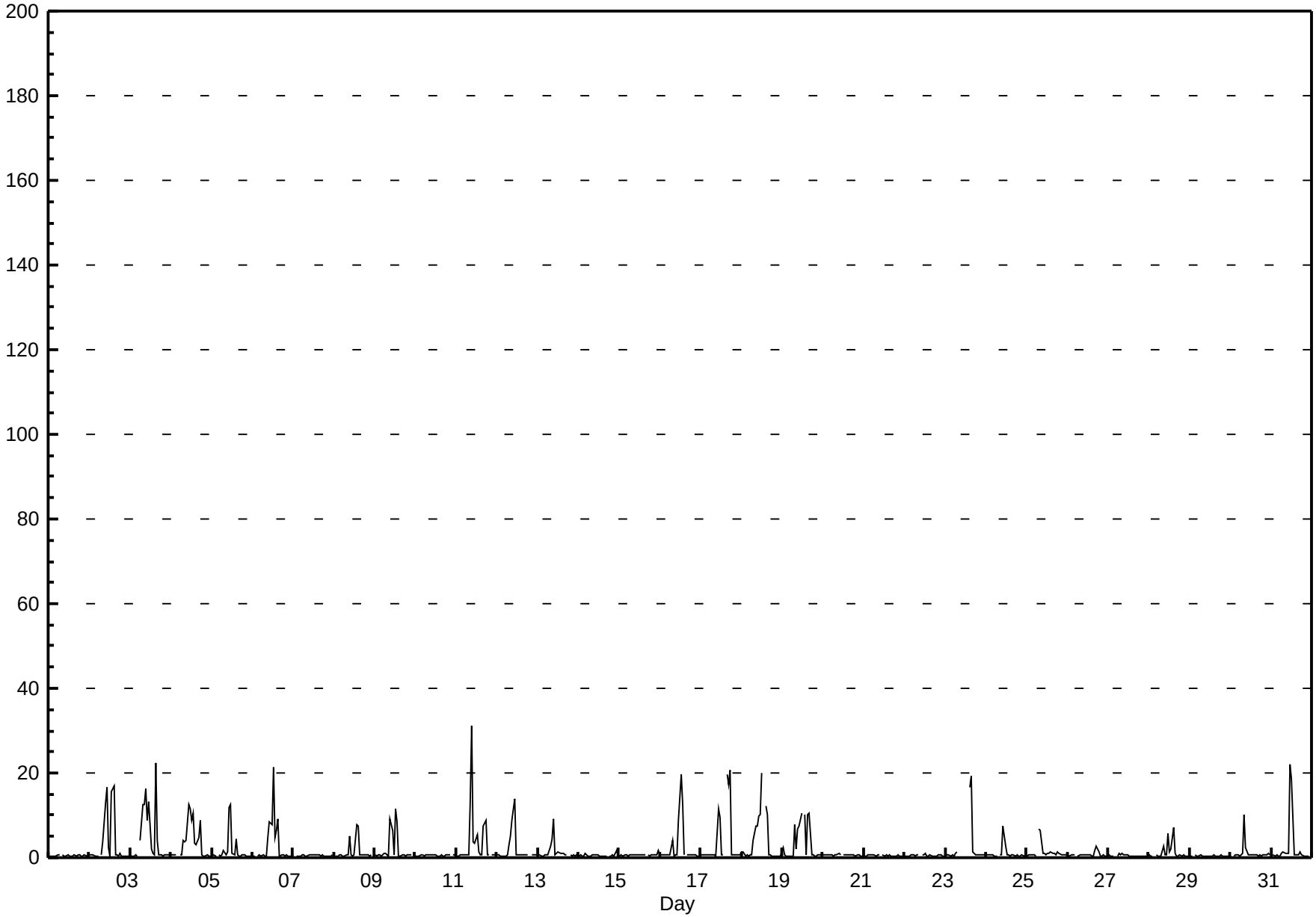
FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

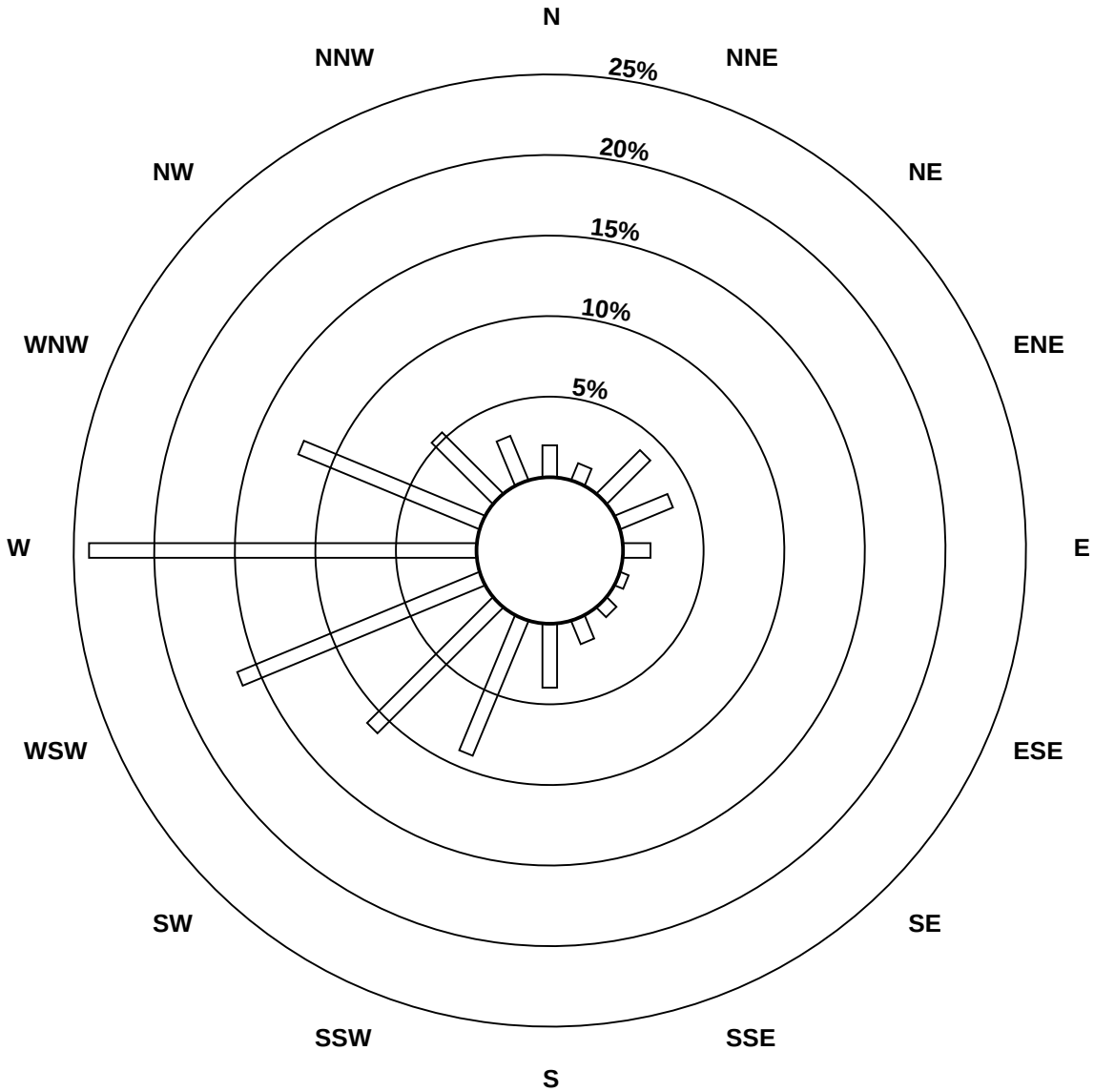
Evergreen Park - August 2011



Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - August 2011



Pollutant Classes (ppb)

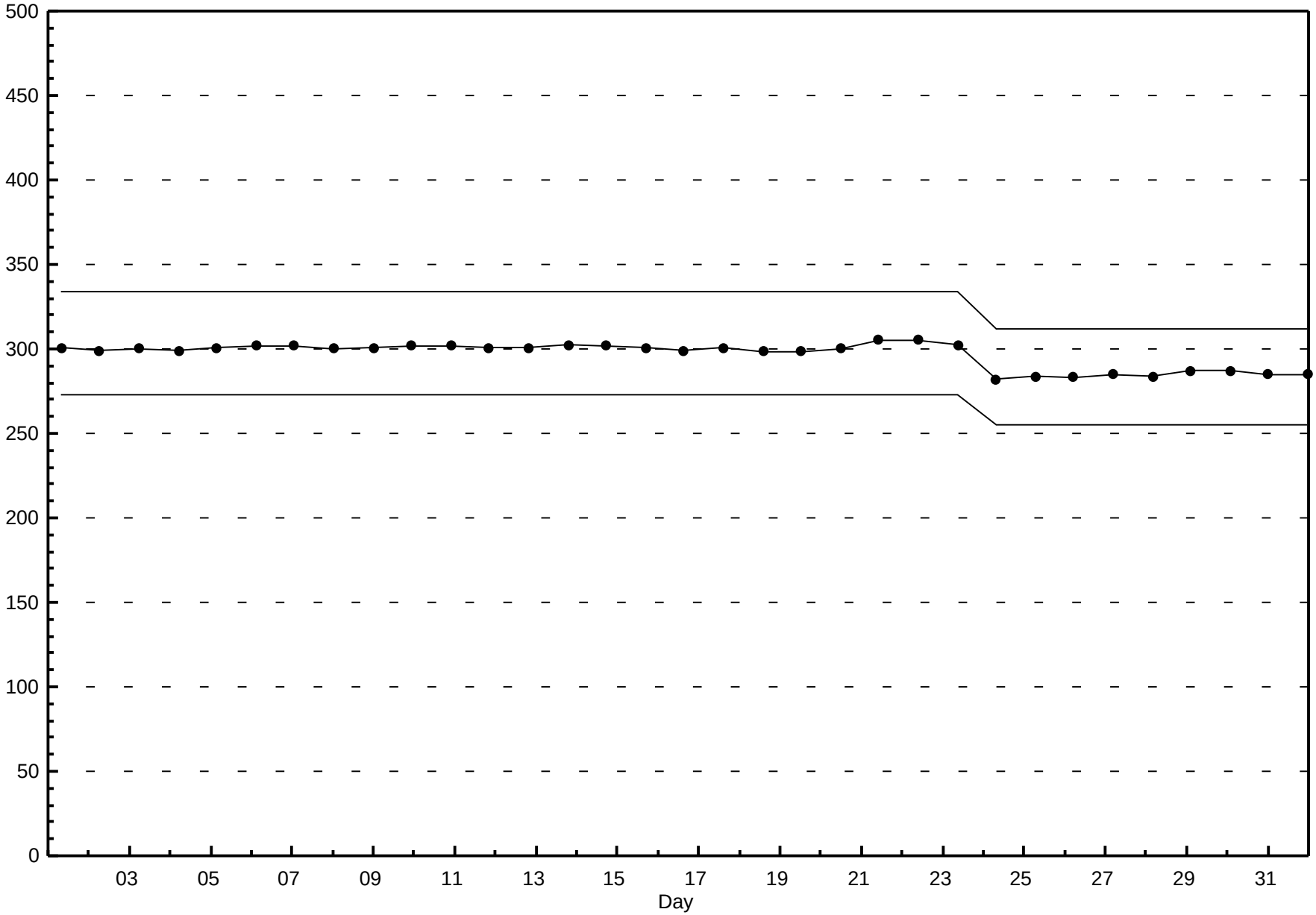
- 0 - 10
- 11 - 20
- 21 - 60
- 61 - 110
- 111 - 172
- > 172

Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Evergreen Park - August 2011



Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - August 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.8 ppb on Aug 24 05:00 Maximum Daily Average: 0.6 ppb on Aug 24

Minimum Value: 0 ppb on Aug 31 22:00 Minimum Daily Average: 0.4 ppb on Aug 8
Maximum Diurnal Average: 0.6 ppb at hour 2 Minimum Diurnal Average: 0.4 ppb at hour 19
Monthly Average: 0.51 ppb Percentiles: $P_1 = 0.3$ $P_{10} = 0.4$ $Q_1 = 0.4$ Median = 0.5 $Q_3 = 0.6$ $P_{90} = 0.7$ $P_{99} = 1.2$

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

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

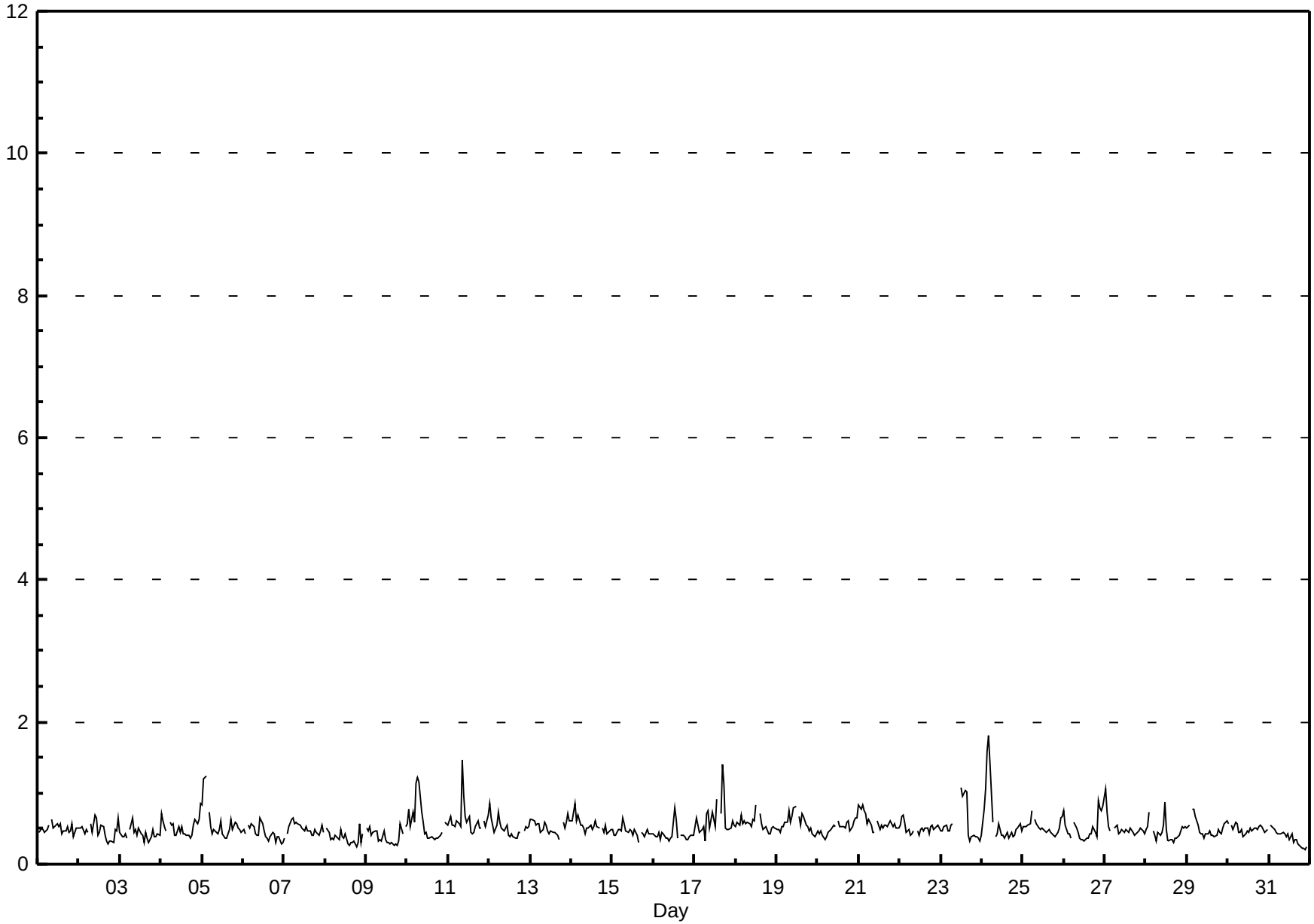
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - August 2011

Maximum Value: 21.7 ppb on Aug 19 08:00

Maximum Daily Average: 2.0 ppb on Aug 19

Minimum Value: 0 ppb on Aug 31 22:00

Minimum Daily Average: 0.8 ppb on Aug 8

Maximum Diurnal Average: 1.7 ppb at hour 8

Minimum Diurnal Average: 0.8 ppb at hour 20

Monthly Average: 1.00 ppb

Percentiles: $P_1 = 0.6$ $P_{10} = 0.7$ $Q_1 = 0.8$ Median = 0.9 $Q_3 = 1.0$ $P_{90} = 1.3$ $P_{99} = 2.4$

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.0
2-Aug	1	1	1	1	1	1	A	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1.0	1.5
3-Aug	1	1	1	1	1	A	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.6
4-Aug	2	2	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.0
5-Aug	1	2	2	A	1	1	1	1	1	1	1	2	1	1	4	1	1	1	1	1	1	1	1	1	1.2	4.1
6-Aug	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2
7-Aug	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	1.2
8-Aug	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.8	1.1
9-Aug	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
10-Aug	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1.0	1.8
11-Aug	1	1	1	1	1	1	1	1	3	2	1	1	1	1	1	1	1	2	1	1	A	1	1	1	1.2	2.8
12-Aug	1	1	1	1	1	2	1	1	1	1	2	1	1	1	1	1	1	1	1	A	1	1	1	1	1.0	1.7
13-Aug	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1.0	1.8
14-Aug	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1.0	1.5
15-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.8	1.1
16-Aug	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	A	1	1	1	1	1	1	1	1	0.9	1.8
17-Aug	1	1	1	1	1	1	1	1	1	1	2	2	1	2	A	2	2	2	1	1	1	1	1	1	1.2	2.4
18-Aug	1	1	1	1	1	1	1	1	1	1	2	2	3	A	2	2	1	1	1	1	1	1	1	1	1.2	2.5
19-Aug	1	1	1	1	1	1	1	22	1	1	2	2	A	1	1	1	2	1	1	1	1	1	1	1	2.0	21.7
20-Aug	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	1.3
21-Aug	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	1.3
22-Aug	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	1.2
23-Aug	1	1	1	1	1	1	1	1	A	A	C	C	2	2	2	2	1	1	1	1	1	1	1	1	1.1	2.3
24-Aug	1	2	2	2	3	4	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.3	4.3
25-Aug	1	1	1	1	1	2	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.8
26-Aug	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.4
27-Aug	2	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	1.6
28-Aug	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	1.4
29-Aug	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.4
30-Aug	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	1.2
31-Aug	A	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	0	1	A	0.8	1.7
	1.1	1.1	1.0	1.0	1.0	1.1	1.0	1.7	1.0	1.0	1.1	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.8	0.8	0.9	0.9	0.9	0.9	Diurnal Average	
	2.0	1.8	2.0	2.4	3.2	4.3	1.6	21.7	2.8	2.4	2.0	1.9	2.5	1.9	4.1	2.0	2.4	2.1	1.0	1.1	1.2	1.2	1.3	1.4	Diurnal Maximum	

C - Calibration

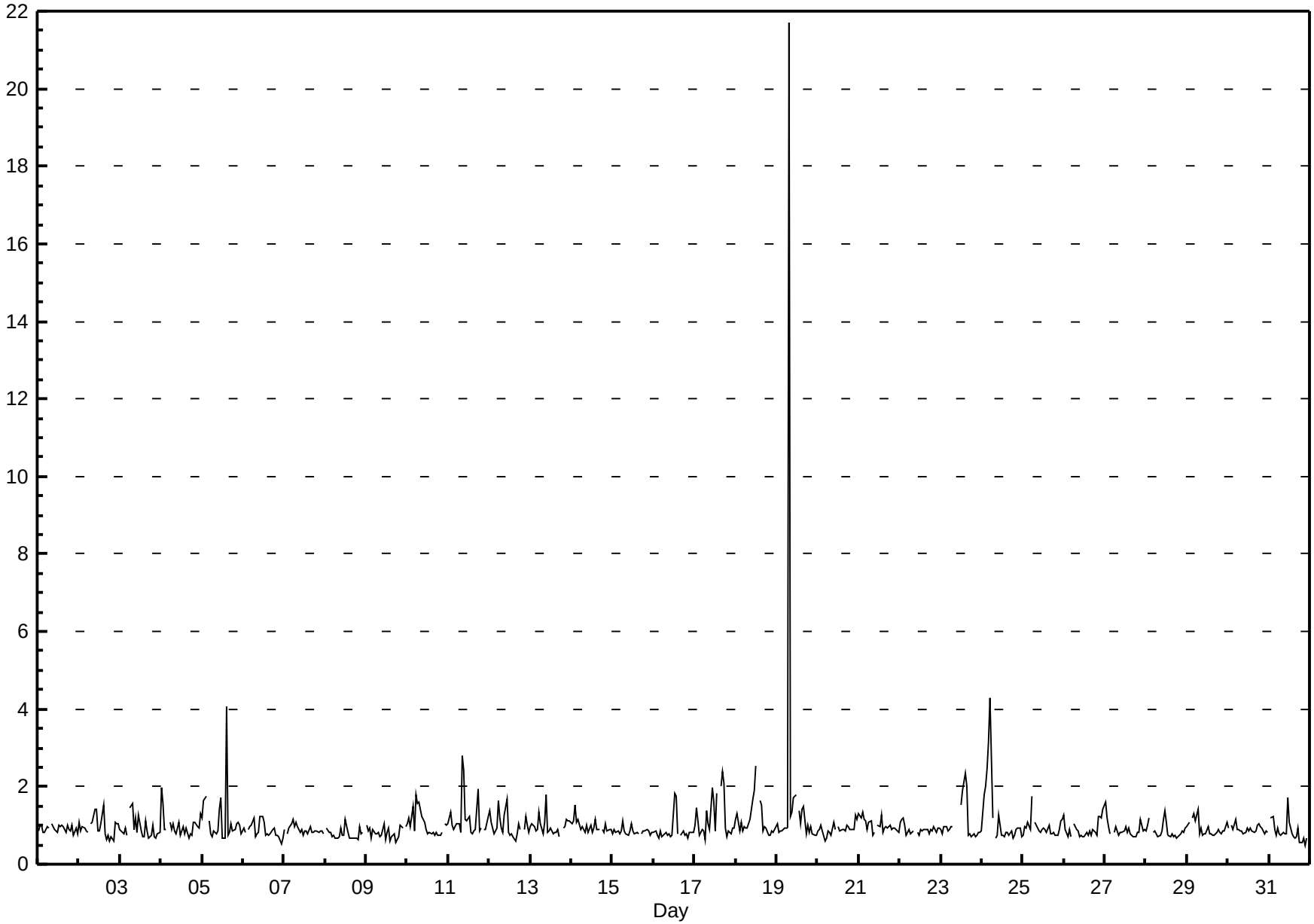
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - August 2011

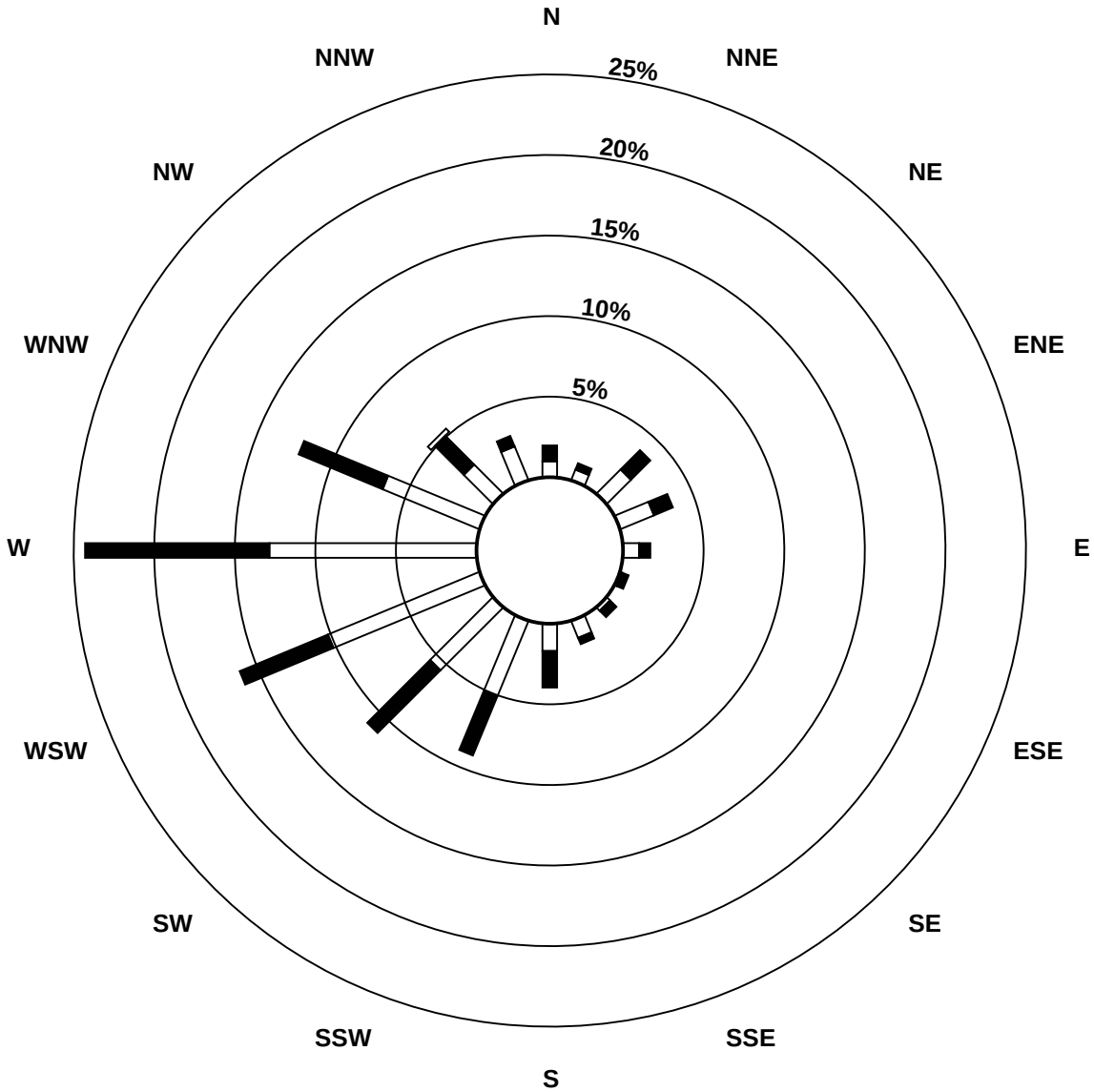


FOCUS AIR QUALITY MONITORING

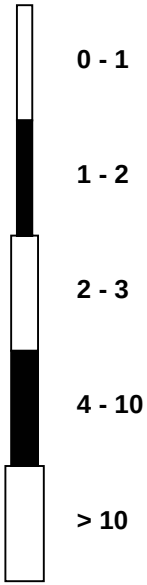
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - August 2011



Pollutant Classes (ppb)

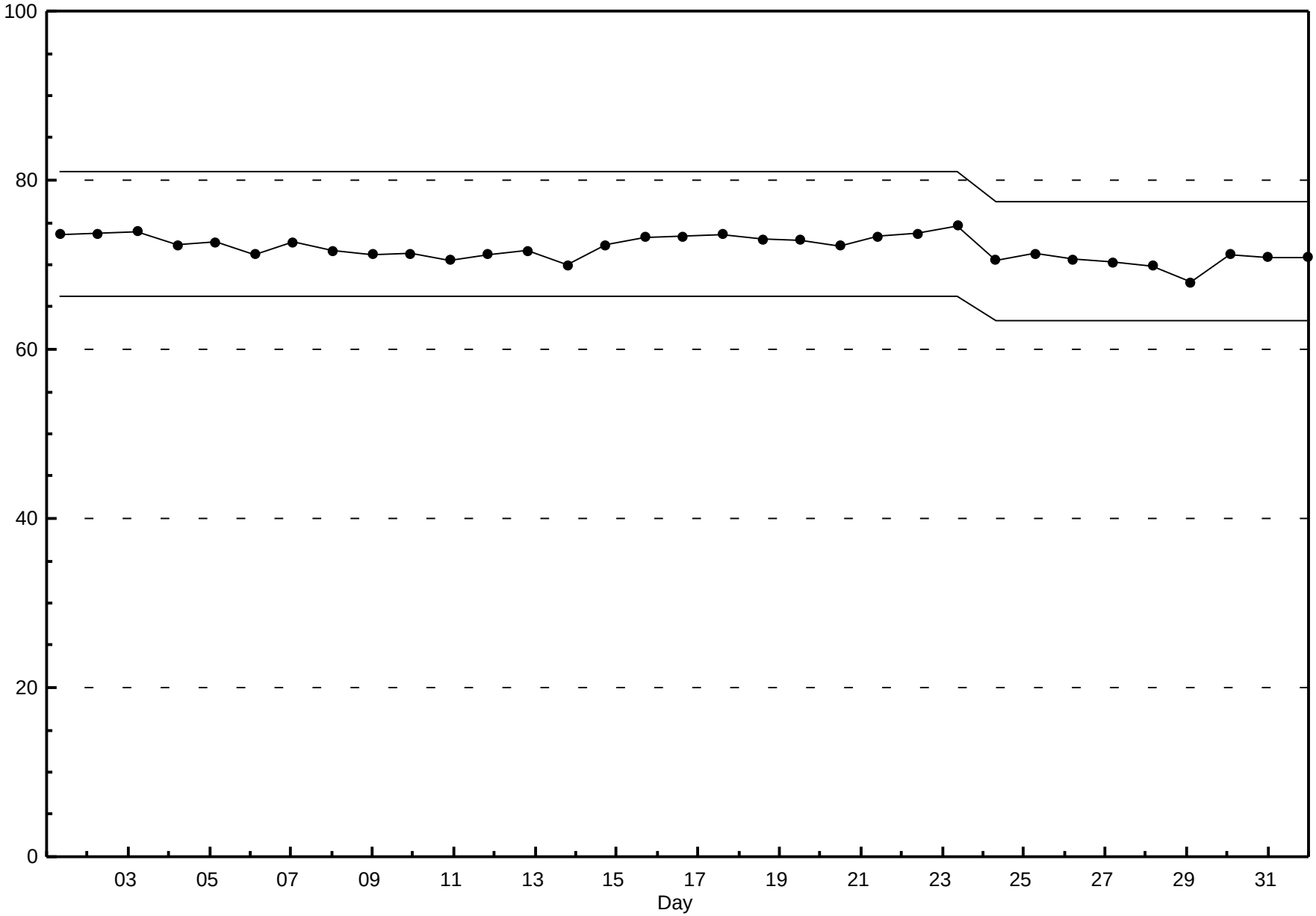


Peace Airshed Zone Association

Span Responses

Total Reduced Sulphur (TRS)

Evergreen Park - August 2011



Peace Airshed Zone Association

Hourly Averages

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

Evergreen Park - August 2011

Number of Exceedences: 1-hr: 0 24-hr: 0

Maximum Value: 30.9 $\mu g/m^3$ on Aug 3 08:00

Maximum Daily Average: 6.7 $\mu g/m^3$ on Aug 27

Minimum Value: 0 $\mu g/m^3$ on Aug 1 01:00

Maximum Diurnal Average: 5.4 $\mu g/m^3$ at hour 11

Monthly Average: 3.51 $\mu g/m^3$

Minimum Daily Average: 0.6 $\mu g/m^3$ on Aug 15

Minimum Diurnal Average: 1.9 $\mu g/m^3$ at hour 4

Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.5$ Median = 2.4 $Q_3 = 4.9$ $P_{90} = 8.3$ $P_{99} = 18.7$

Hours in Service:	744
Hours of Data:	740
Hours of Missing Data:	4
Hours of Calibration:	2
Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	0	0	0	0	0	0	1	1	2	3	5	5	3	2	3	2	1	2	2	1	2	2	1	1	1.7	5.0
2-Aug	1	1	1	1	1	1	1	4	8	13	14	2	4	9	12	0	4	0	3	2	2	4	4	4	4.0	14.2
3-Aug	1	2	1	2	2	14	23	31	19	10	0	4	1	1	0	16	0	0	3	5	4	5	0	0	6.0	30.9
4-Aug	1	3	4	2	2	4	8	6	10	8	17	7	1	6	2	1	4	3	3	6	5	9	10	9	5.6	17.4
5-Aug	5	8	6	4	4	3	6	7	13	13	8	18	0	3	N	0	0	5	3	0	1	3	1	0	4.9	18.1
6-Aug	0	0	0	0	0	0	1	1	0	1	9	0	4	0	0	1	2	0	0	0	0	0	0	0	0.8	8.9
7-Aug	0	0	1	2	3	3	3	3	2	1	2	1	1	3	2	2	0	2	2	4	6	2	2	3	2.0	5.9
8-Aug	3	3	3	2	3	4	9	5	3	4	4	3	2	4	3	2	2	2	4	8	8	4	7	7	4.1	9.1
9-Aug	8	6	7	4	5	5	8	5	7	11	14	7	4	2	2	0	4	3	5	12	9	5	9	7	6.2	13.7
10-Aug	8	6	5	6	4	6	11	8	8	7	3	1	4	3	2	4	3	3	4	5	5	3	1	0	4.5	10.6
11-Aug	0	0	0	0	0	2	6	6	11	12	12	13	15	3	8	10	6	9	5	3	6	4	0	2	5.6	14.5
12-Aug	3	4	10	6	3	6	12	12	11	14	5	0	1	2	2	3	5	2	4	8	5	9	4	3	5.6	14.5
13-Aug	0	1	3	0	2	3	5	8	4	4	2	0	0	1	2	4	8	5	4	2	5	7	1	2	3.1	8.1
14-Aug	1	11	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	3	1	0	0	0	1	0	0.8	11.2
15-Aug	0	0	0	0	0	0	1	0	0	0	0	0	5	0	0	1	3	0	1	0	3	0	0	0	0.6	5.2
16-Aug	0	0	0	0	2	0	1	4	2	0	2	3	15	2	0	2	3	1	2	1	2	1	0	0	1.7	15.5
17-Aug	4	0	0	1	0	1	2	4	7	2	9	0	1	1	9	14	30	15	0	3	0	1	0	0	4.3	29.9
18-Aug	1	0	0	0	0	0	1	6	7	2	7	4	7	4	4	1	0	0	0	2	0	1	0	0	2.0	7.2
19-Aug	1	0	1	0	0	0	3	3	2	6	5	8	5	1	0	6	9	3	4	6	7	4	4	3	3.4	8.8
20-Aug	5	2	3	4	4	1	4	1	3	5	3	3	2	4	0	0	0	2	5	6	8	11	13	10	4.2	13.3
21-Aug	6	5	1	4	6	5	7	6	2	5	0	0	2	0	0	0	2	3	2	2	6	4	2	0	2.9	7.2
22-Aug	4	4	1	0	2	7	4	6	3	4	6	8	5	3	2	5	1	10	4	0	0	0	1	0	3.3	9.8
23-Aug	0	0	0	0	0	0	0	1	0	1	1	13	C	C	20	19	7	6	6	6	5	2	1	3	4.1	19.8
24-Aug	2	2	4	5	5	4	2	0	1	3	6	0	1	1	2	3	6	4	3	4	8	4	14	14	4.1	13.9
25-Aug	2	1	1	2	1	3	5	6	5	2	3	0	1	1	1	1	1	1	3	4	14	24	18	9	4.5	23.8
26-Aug	4	1	2	2	4	4	6	7	8	7	8	5	1	3	1	0	2	4	4	6	10	9	8	8	4.8	9.6
27-Aug	9	8	6	6	5	5	13	12	15	8	12	8	4	6	6	4	2	4	4	4	8	7	4	3	6.7	15.3
28-Aug	4	4	3	2	3	3	3	5	7	4	8	2	0	0	2	2	2	4	6	4	6	5	6	6	3.7	8.4
29-Aug	5	5	5	4	2	1	1	0	0	1	0	0	0	0	0	0	0	0	1	3	4	1	0	0	1.4	5.1
30-Aug	0	0	0	0	1	0	1	2	4	0	0	1	2	2	3	0	2	1	1	1	1	1	1	0	1.1	3.6
31-Aug	0	0	0	0	0	0	1	5	1	0	0	2	0	0	1	M	1	1	2	4	4	1	1	2	1.3	5.3
	2.6	2.6	2.2	1.9	2.0	2.7	4.8	5.3	5.3	4.8	5.4	3.8	3.1	2.2	3.0	3.4	3.5	3.1	2.9	3.7	4.6	4.3	3.7	3.1	Diurnal Average	
	9.3	11.2	10.0	6.3	5.7	14.1	22.8	30.9	19.1	14.5	17.4	18.1	15.5	9.1	19.8	19.5	29.9	15.2	5.8	11.6	14.0	23.8	18.3	13.9	Diurnal Maximum	

C - Calibration M - Maintenance N - Not Valid

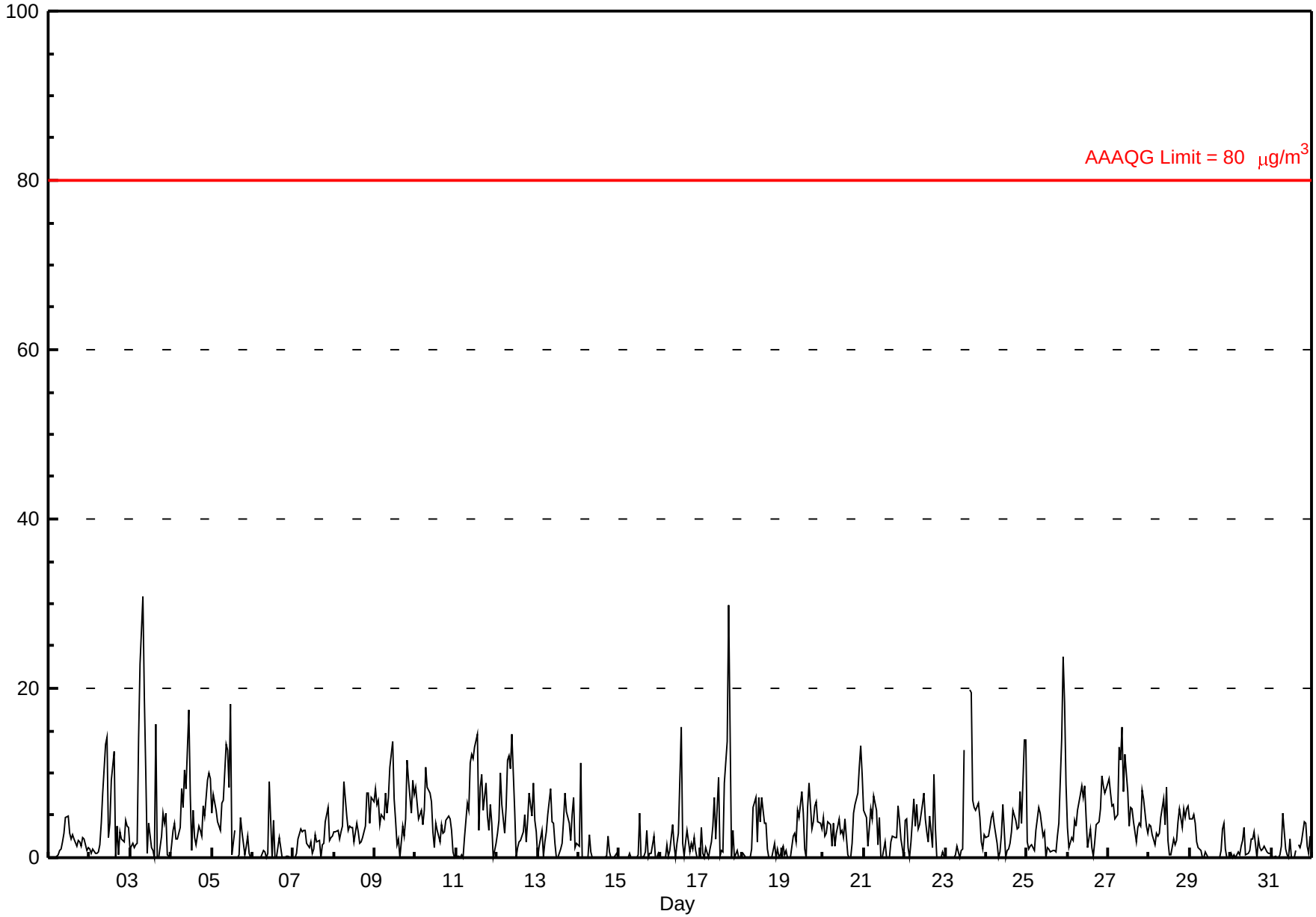
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

Hourly Averages

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

Evergreen Park - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

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

Evergreen Park - August 2011

Maximum Value: 57.5 $\mu g/m^3$ on Aug 5 12:00

Maximum Daily Average: 14.0 $\mu g/m^3$ on Aug 3

Minimum Value: 0 $\mu g/m^3$ on Aug 15 01:00

Maximum Diurnal Average: 13.5 $\mu g/m^3$ at hour 12

Monthly Average: 8.73 $\mu g/m^3$

Minimum Daily Average: 3.3 $\mu g/m^3$ on Aug 15

Minimum Diurnal Average: 4.5 $\mu g/m^3$ at hour 4

Percentiles: $P_1 = 0.3$ $P_{10} = 1.9$ $Q_1 = 3.6$ Median = 6.8 $Q_3 = 10.9$ $P_{90} = 17.5$ $P_{99} = 40.0$

Hours in Service:	744
Hours of Data:	740
Hours of Missing Data:	4
Hours of Calibration:	2
Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	1	1	3	1	1	3	2	2	3	9	9	8	6	4	6	6	4	4	4	3	4	4	3	2	3.9	9.2
2-Aug	4	2	3	2	3	2	4	10	15	34	27	14	7	19	24	8	9	4	6	6	5	8	7	7	9.5	33.6
3-Aug	4	6	3	4	5	22	36	45	35	41	9	22	5	4	2	39	4	2	8	9	7	9	3	11	14.0	45.3
4-Aug	7	7	8	5	5	6	14	16	18	12	42	24	11	18	9	7	8	7	10	15	15	17	13	13	12.8	41.9
5-Aug	8	14	8	7	6	5	9	13	17	18	46	58	3	9	N	5	10	12	7	10	6	6	3	3	12.3	57.5
6-Aug	3	3	4	1	1	1	5	4	5	4	25	28	29	2	6	13	14	10	4	2	4	2	0	1	7.0	29.2
7-Aug	2	2	2	5	5	5	4	5	3	4	5	5	4	7	5	7	3	5	4	15	14	6	5	5	5.2	14.6
8-Aug	5	6	5	5	5	6	19	13	6	8	8	9	7	10	12	6	6	9	12	16	15	8	10	14	9.1	19.2
9-Aug	14	10	10	7	8	7	13	10	11	22	18	13	9	8	7	5	10	10	13	23	12	11	17	10	11.6	23.3
10-Aug	12	8	8	10	7	8	23	12	12	10	8	5	10	11	8	12	8	10	9	9	8	6	3	2	9.2	22.6
11-Aug	2	3	2	2	4	5	11	11	17	16	19	22	24	15	20	24	24	28	23	11	11	6	3	14	13.1	27.8
12-Aug	13	8	13	10	5	10	16	18	17	26	24	3	8	9	7	9	11	24	11	14	8	17	14	13	12.8	26.3
13-Aug	2	8	9	2	6	7	12	27	17	17	7	7	9	7	15	16	13	11	10	8	8	15	6	5	10.1	26.7
14-Aug	11	32	7	1	3	4	6	5	2	6	7	4	2	1	4	4	10	7	4	3	3	0	7	0	5.6	32.1
15-Aug	0	3	1	2	1	0	3	2	1	2	2	4	12	5	4	4	6	6	3	3	5	1	1	5	3.3	11.7
16-Aug	2	1	1	1	5	2	3	13	4	1	4	10	29	16	3	6	7	3	6	4	6	2	2	2	5.6	28.9
17-Aug	8	3	2	6	2	4	5	8	13	17	25	14	5	5	17	40	44	35	2	11	0	4	2	2	11.4	43.6
18-Aug	5	6	3	1	2	0	8	20	16	15	20	19	27	15	17	10	8	3	2	5	2	3	1	2	8.8	27.5
19-Aug	10	4	6	3	2	2	12	14	14	13	10	27	17	10	5	20	30	10	9	9	13	10	11	7	11.1	29.9
20-Aug	9	5	4	6	7	3	8	11	7	10	8	8	6	14	5	4	3	7	10	12	19	16	20	17	9.1	20.4
21-Aug	8	8	4	7	9	7	11	17	8	9	4	6	10	8	4	5	6	9	9	7	10	10	8	11	8.0	16.7
22-Aug	15	9	8	12	9	17	14	12	11	12	12	13	11	8	8	17	11	18	10	2	2	3	9	4	10.4	18.2
23-Aug	3	0	0	0	1	1	3	3	2	5	7	33	C	C	29	37	26	9	8	11	12	3	3	8	9.2	37.2
24-Aug	4	5	8	7	9	6	5	2	2	5	13	9	4	4	5	5	9	7	8	8	15	7	45	22	8.8	45.1
25-Aug	7	3	3	3	2	6	8	8	10	6	6	2	4	4	3	4	3	3	6	6	25	30	24	18	8.0	29.9
26-Aug	6	3	4	5	7	5	9	10	11	10	12	12	4	7	3	3	5	6	7	11	13	13	11	10	7.9	13.3
27-Aug	12	11	9	10	8	7	34	32	26	13	17	10	7	11	9	9	5	7	7	7	19	11	7	5	12.0	33.6
28-Aug	5	5	5	4	6	4	5	8	14	10	19	5	5	5	9	4	5	12	12	6	7	7	9	9	7.5	19.4
29-Aug	7	8	7	6	4	3	3	2	1	3	2	3	1	1	1	0	1	1	3	8	11	2	3	2	3.5	11.4
30-Aug	3	3	3	2	3	2	4	4	18	2	3	3	6	6	10	4	8	4	4	3	3	2	3	2	4.3	17.9
31-Aug	2	2	2	2	2	3	4	9	3	3	1	22	11	3	3	M	5	6	10	11	7	3	3	7	5.4	22.1
	6.3	6.1	4.9	4.5	4.6	5.2	10.0	11.8	11.0	11.6	13.5	13.5	9.7	8.1	8.8	11.1	10.1	9.4	7.8	8.6	9.3	8.0	8.3	7.5	Diurnal Average	
	15.5	32.1	12.6	12.3	9.1	21.7	35.5	45.3	35.1	40.9	45.8	57.5	29.2	18.6	28.9	39.9	43.6	35.0	23.1	23.3	25.3	29.9	45.1	21.6	Diurnal Maximum	

C - Calibration M - Maintenance N - Not Valid

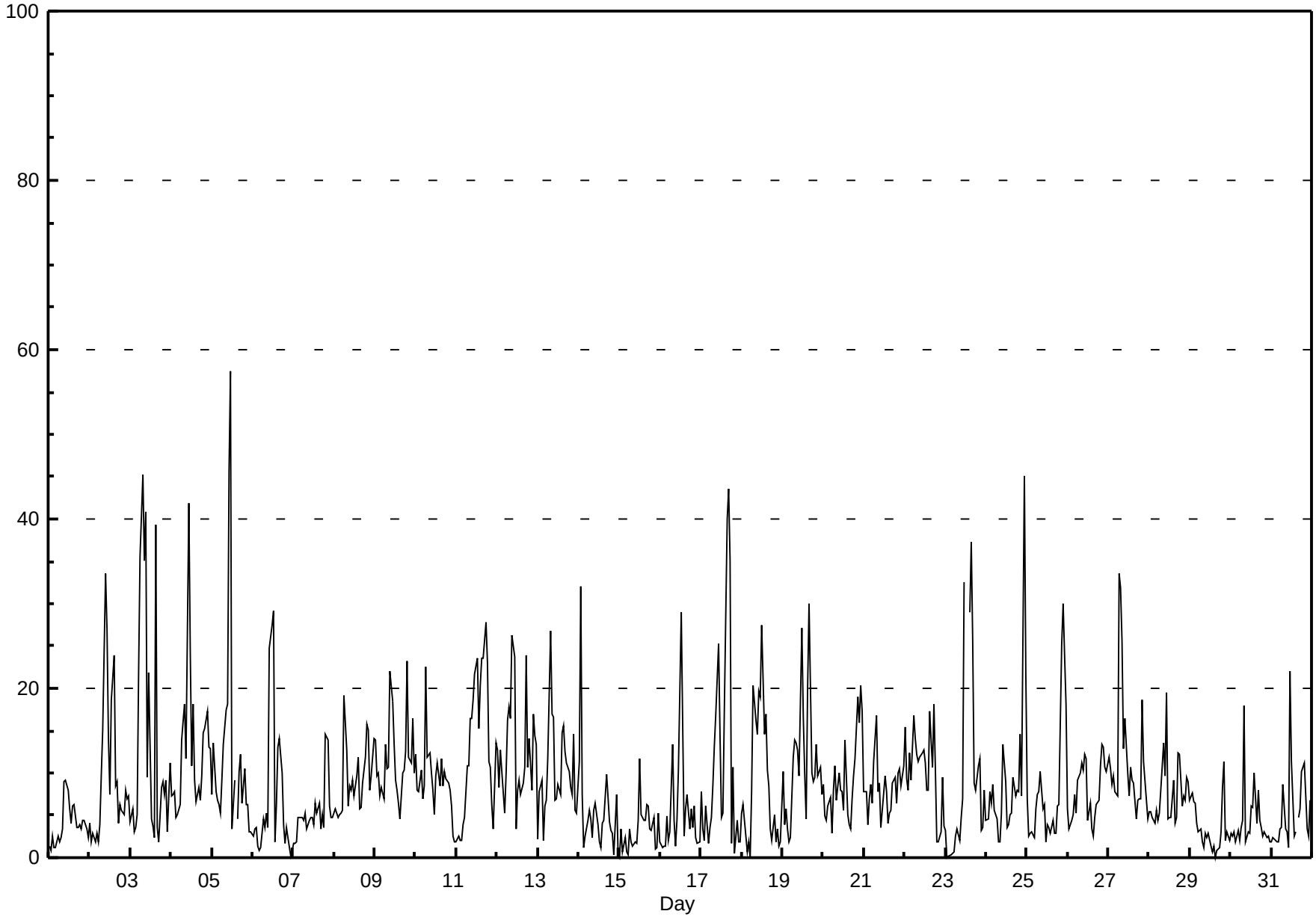
FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

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

Evergreen Park - August 2011



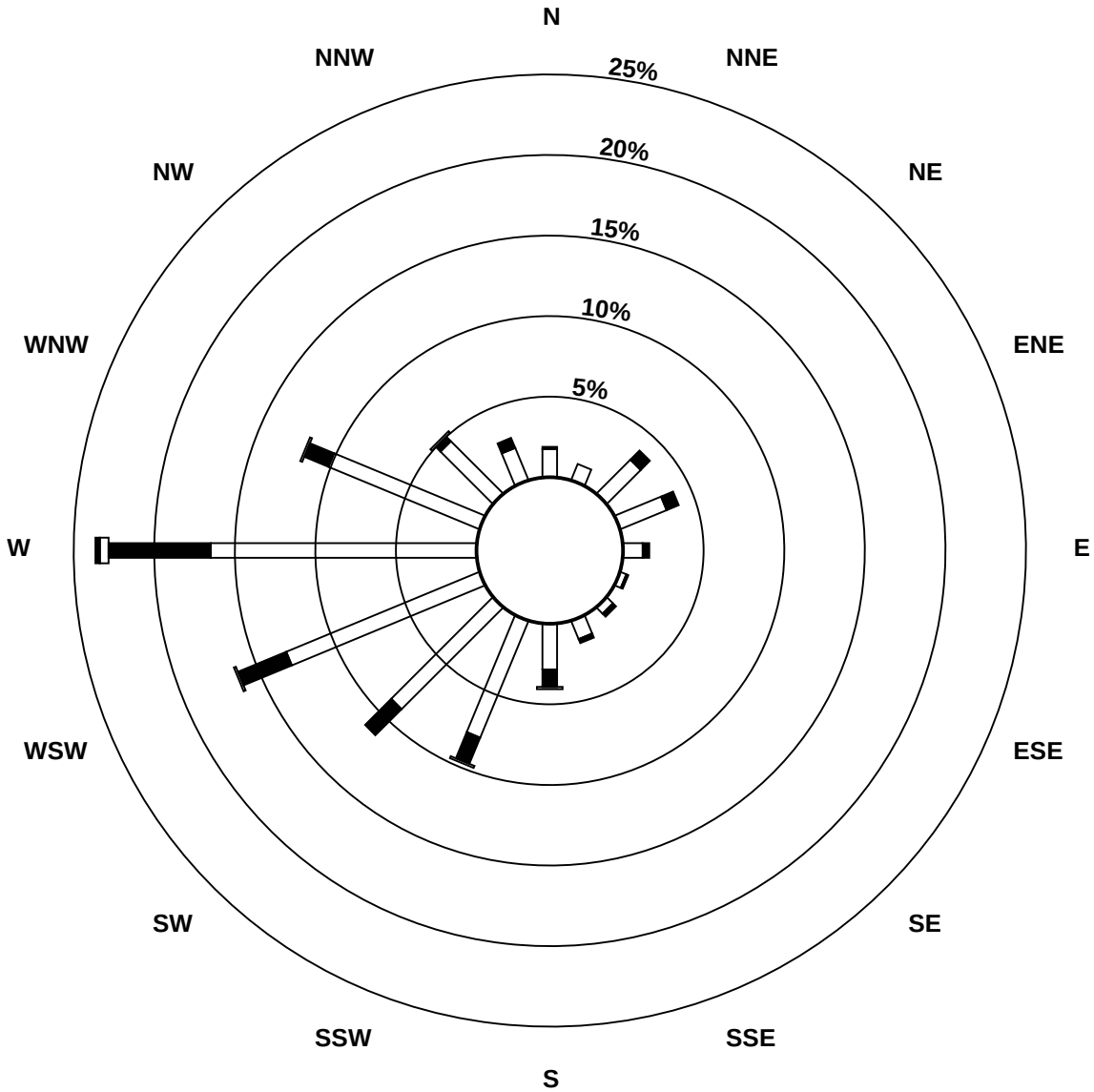
FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Pollutant Rose

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

Evergreen Park - August 2011



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

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

FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Evergreen Park - August 2011

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

Maximum Value: 26.1 ^{o}C on Aug 9 18:00

Maximum Daily Average: 19.1 ^{o}C on Aug 21

Minimum Value: 5 ^{o}C on Aug 19 06:00

Maximum Diurnal Average: 20.6 ^{o}C at hour 17

Monthly Average: 15.56 ^{o}C

Minimum Daily Average: 10.6 ^{o}C on Aug 31

Minimum Diurnal Average: 10.1 ^{o}C at hour 6

Percentiles: $P_1 = 5.9$ $P_{10} = 9.6$ $Q_1 = 11.9$ Median = 15.4 $Q_3 = 19.1$ $P_{90} = 22.3$ $P_{99} = 25.5$

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

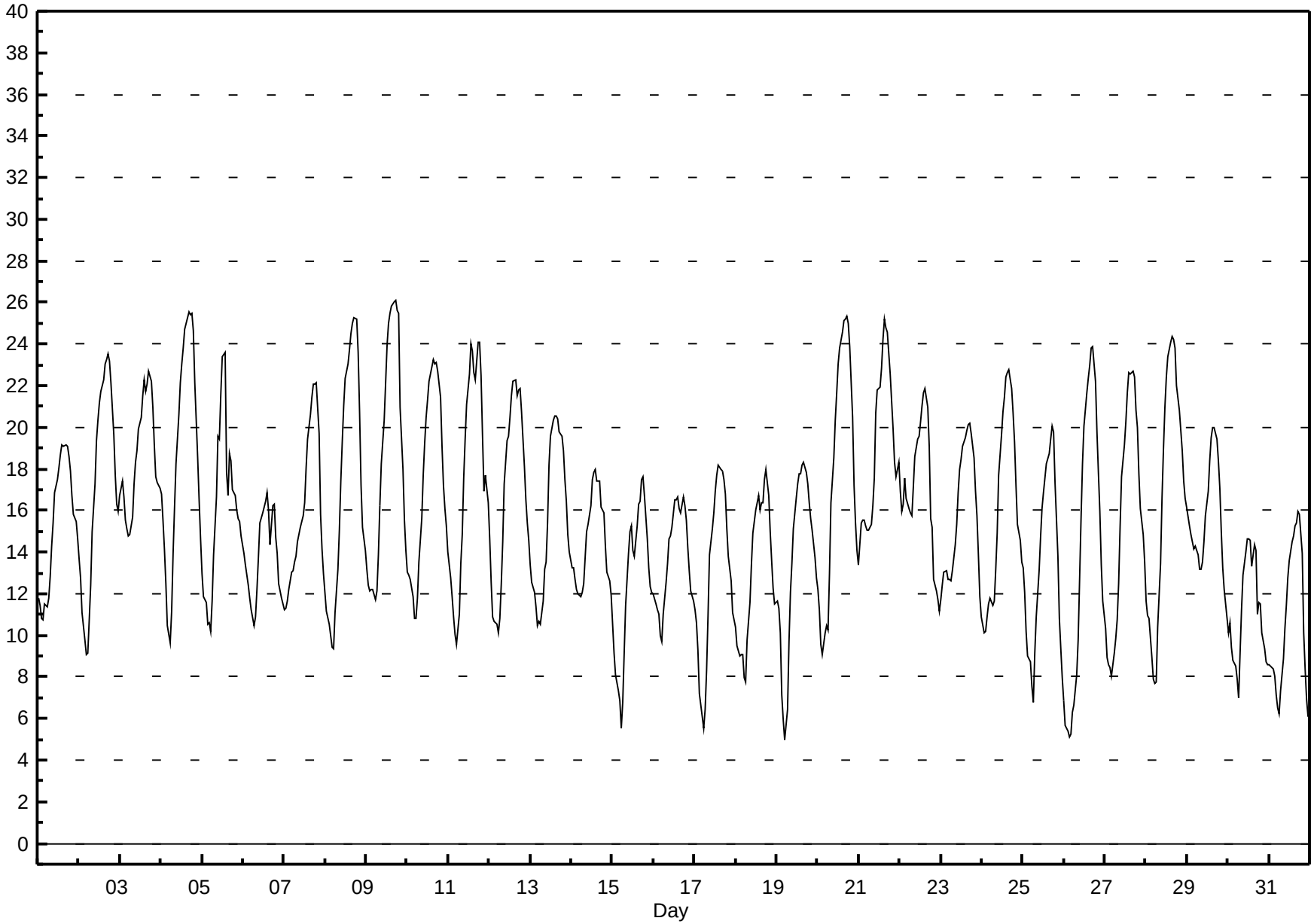
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Aug	12	11	11	11	12	11	12	13	14	15	17	17	18	19	19	19	19	19	19	18	17	16	15	15	15.4	19.2
2-Aug	14	13	11	10	9	9	11	12	15	17	19	20	21	22	22	23	23	24	23	22	20	18	16	16	17.1	23.5
3-Aug	17	17	17	16	15	15	15	16	17	18	19	20	20	21	22	22	22	23	22	21	19	18	17	17	18.6	22.7
4-Aug	17	16	14	12	10	10	11	14	16	18	21	22	23	24	25	25	26	25	25	25	22	19	17	15	18.8	25.5
5-Aug	13	12	12	11	11	10	12	14	17	20	19	22	23	24	18	17	19	18	17	17	16	16	15	15	16.0	23.6
6-Aug	14	13	13	12	12	11	10	11	12	14	15	16	16	16	17	16	14	16	16	15	14	12	12	12	13.8	16.9
7-Aug	11	11	12	12	13	13	13	14	14	15	15	16	16	18	19	21	21	22	22	22	20	16	14	13	16.1	22.1
8-Aug	12	11	11	10	9	9	11	13	15	17	19	21	22	23	24	25	25	25	25	24	21	17	15	14	17.5	25.2
9-Aug	13	12	12	12	12	12	12	14	16	18	20	22	24	25	26	26	26	26	26	25	21	18	16	14	18.7	26.1
10-Aug	13	13	13	12	11	11	12	14	16	18	19	21	21	22	23	23	23	23	23	21	19	17	16	15	17.4	23.3
11-Aug	14	13	12	11	10	10	11	13	15	18	19	21	23	24	24	23	22	24	24	22	20	17	18	16	17.6	24.1
12-Aug	15	13	11	11	11	10	11	12	14	17	19	20	20	22	22	22	22	22	22	21	18	17	15	15	16.7	22.3
13-Aug	13	13	12	11	10	11	11	12	13	13	15	18	20	20	21	21	20	20	20	19	18	16	15	14	15.6	20.5
14-Aug	13	13	13	12	12	12	12	12	14	15	15	16	17	18	18	17	17	16	16	16	14	13	13	12	14.5	17.9
15-Aug	11	9	8	7	7	6	7	9	11	14	15	15	14	14	15	16	16	18	18	17	15	13	12	12	12.5	17.6
16-Aug	12	11	11	11	10	10	11	13	13	15	15	15	17	17	17	16	16	17	16	16	14	13	12	12	13.7	16.6
17-Aug	11	11	9	7	6	6	6	8	11	14	15	16	17	18	18	18	18	18	17	15	14	13	11	11	12.8	18.2
18-Aug	10	9	9	9	9	8	8	10	12	13	15	15	16	17	16	16	16	17	18	17	15	14	12	11	13.1	18.0
19-Aug	12	11	10	7	6	5	6	10	12	13	15	17	17	18	18	18	18	18	17	16	16	15	14	13	13.4	18.3
20-Aug	12	11	10	9	10	10	10	13	16	19	20	22	23	24	25	25	25	25	25	24	20	17	15	14	17.7	25.4
21-Aug	13	15	16	16	15	15	15	15	16	18	21	22	22	23	24	25	25	25	23	21	20	18	18	18	19.1	25.2
22-Aug	17	16	16	18	17	16	16	16	17	19	19	20	20	21	22	22	21	19	16	15	13	12	12	11	17.1	21.8
23-Aug	12	12	13	13	13	13	13	13	14	15	17	18	18	19	19	20	20	20	20	19	17	16	14	12	15.8	20.2
24-Aug	11	10	10	11	12	12	11	12	13	15	18	20	21	21	22	23	23	22	21	19	17	15	15	14	16.1	22.7
25-Aug	13	12	10	9	9	8	7	9	11	13	15	16	17	18	18	19	19	20	20	17	14	11	9	8	13.4	20.1
26-Aug	7	6	5	5	5	6	7	8	10	13	16	18	20	22	22	23	24	24	22	20	18	16	13	12	14.2	23.9
27-Aug	10	9	9	8	8	9	10	11	12	15	18	19	20	22	23	23	23	22	21	20	18	16	15	14	15.6	22.7
28-Aug	12	11	11	9	8	8	8	10	13	17	19	21	22	23	24	24	24	24	22	21	20	19	17	17	16.8	24.4
29-Aug	16	15	15	14	14	14	14	13	13	14	14	16	17	18	20	20	20	19	18	17	15	13	12	11	15.6	20.0
30-Aug	10	11	9	9	8	8	7	9	11	13	14	15	15	15	13	14	14	11	12	12	10	9	9	9	11.1	14.7
31-Aug	9	9	8	8	7	7	6	7	9	10	11	13	14	15	15	15	15	16	16	14	10	8	7	6	10.6	16.0
	12.5	12.0	11.3	10.8	10.4	10.1	10.5	11.9	13.7	15.6	17.1	18.3	19.2	20.0	20.3	20.5	20.6	20.6	20.0	18.9	16.8	15.1	13.9	13.1	Diurnal Average	
	17.0	17.4	16.7	17.6	16.6	16.1	15.9	15.8	17.2	19.6	20.6	22.2	23.9	25.0	25.5	25.9	26.1	26.1	25.6	25.5	22.1	18.9	17.7	18.3	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Evergreen Park - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Evergreen Park - August 2011

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

Maximum Value: 97.7 % on Aug 13 07:00 Maximum Daily Average: 79.1 % on Aug 13

Minimum Value: 28 % on Aug 26 16:00 Minimum Daily Average: 47.1 % on Aug 3

Maximum Diurnal Average: 83.3 % at hour 6 Minimum Diurnal Average: 42.7 % at hour 16

Monthly Average: 63.36 % Percentiles: P_1 = 28.9 P_{10} = 37.4 Q_1 = 46.3 Median = 61.4 Q_3 = 80.7 P_{90} = 91.8 P_{99} = 96.9

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

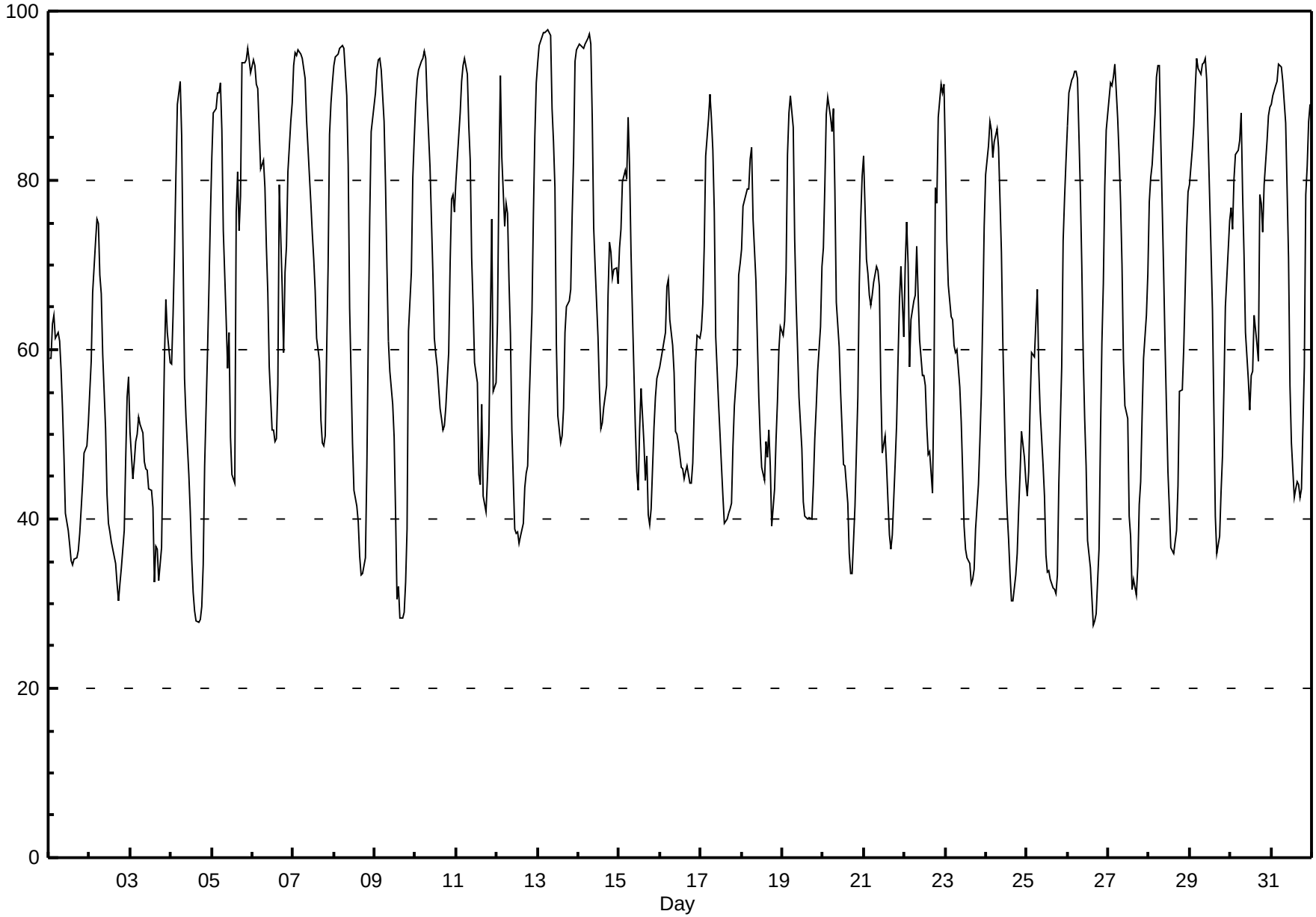
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	59	59	63	64	61	62	61	58	53	47	41	39	37	35	35	35	35	36	38	41	44	48	49	51	48.0	64.1
2-Aug	55	59	67	73	75	75	69	67	60	51	43	39	38	37	36	35	32	30	32	34	39	47	54	57	50.2	75.4
3-Aug	50	45	47	49	50	52	51	50	47	46	46	44	43	41	33	37	36	33	37	48	59	66	62	59	47.1	66.0
4-Aug	58	64	71	81	89	92	85	71	57	52	45	41	35	31	29	28	28	28	30	35	46	60	67	76	54.1	91.6
5-Aug	83	88	89	90	90	91	86	74	64	58	62	50	45	44	76	81	74	78	94	94	94	96	94	93	78.7	95.5
6-Aug	94	94	91	91	86	81	82	79	72	67	58	51	51	49	49	56	79	67	60	69	72	81	87	89	73.2	94.2
7-Aug	94	95	95	95	95	94	93	92	87	81	77	74	71	67	61	59	52	49	49	50	70	86	89	92	77.7	95.5
8-Aug	94	95	95	96	96	96	96	90	82	65	57	49	43	42	40	36	33	34	35	46	61	76	86	89	67.9	96.0
9-Aug	90	93	94	94	93	87	80	70	61	57	53	50	41	31	32	28	28	29	33	39	62	69	80	85	61.6	94.4
10-Aug	89	92	93	94	94	95	94	89	81	75	69	61	59	58	53	52	51	51	53	60	70	78	78	76	73.7	95.3
11-Aug	80	85	88	92	94	94	93	86	82	71	65	58	56	45	44	54	43	41	45	50	63	75	55	56	67.3	94.5
12-Aug	63	81	92	83	75	77	76	68	62	51	39	38	39	37	38	39	44	46	46	53	64	76	85	92	61.0	92.4
13-Aug	94	96	97	97	98	98	98	97	88	85	79	61	52	49	50	53	62	65	66	67	76	83	94	95	79.1	97.7
14-Aug	96	96	96	96	96	97	97	96	87	74	70	62	55	51	51	53	56	66	73	71	68	70	70	68	75.6	97.2
15-Aug	72	74	80	81	80	87	82	72	64	51	46	43	51	55	49	45	48	41	39	41	51	54	57	57	59.1	87.5
16-Aug	58	60	61	62	68	68	64	60	57	50	50	49	46	46	45	46	46	44	44	47	53	59	62	61	54.4	68.4
17-Aug	62	65	72	83	87	90	87	84	76	61	54	50	46	43	40	40	41	41	42	49	53	58	69	70	61.0	90.1
18-Aug	72	77	78	79	79	83	84	75	68	61	54	50	46	45	49	47	50	46	39	44	49	54	60	63	60.6	83.9
19-Aug	62	63	69	83	88	90	86	73	66	60	54	48	42	40	40	40	40	40	44	49	53	57	63	70	59.3	89.9
20-Aug	72	79	88	90	87	86	89	79	66	60	55	51	46	46	42	36	34	33	37	41	54	68	75	80	62.3	89.8
21-Aug	83	71	69	66	65	66	68	70	69	68	56	48	50	46	42	38	36	38	47	51	59	66	70	62	58.5	82.9
22-Aug	70	75	70	58	64	66	66	72	67	61	57	57	56	51	48	48	43	56	79	77	88	91	90	91	66.7	91.3
23-Aug	83	73	68	64	64	60	60	60	56	51	46	39	36	35	35	32	33	34	39	44	49	55	64	75	52.2	82.8
24-Aug	81	84	87	86	83	85	86	84	78	71	61	45	41	38	34	30	30	33	36	41	46	50	47	45	58.4	86.9
25-Aug	43	46	54	60	59	63	67	58	53	46	43	36	34	34	33	32	32	31	33	44	58	73	78	82	49.6	82.4
26-Aug	87	90	92	92	93	93	92	79	70	59	52	46	37	34	31	28	28	29	36	50	61	68	79	86	63.0	93.0
27-Aug	90	91	91	92	94	87	83	78	70	59	53	52	40	38	32	33	31	34	42	44	52	59	64	69	61.6	93.7
28-Aug	78	80	82	88	92	94	94	85	69	61	53	46	41	37	36	37	39	44	55	55	60	67	74	79	64.3	93.6
29-Aug	79	84	86	91	94	93	93	94	94	94	92	85	72	65	53	40	36	38	43	47	55	65	69	75	72.4	94.5
30-Aug	77	74	80	83	84	85	88	78	71	62	56	53	57	58	64	61	59	78	77	74	79	85	88	89	73.3	88.6
31-Aug	89	90	91	92	94	94	93	92	87	79	71	56	49	43	44	44	44	43	44	58	78	82	87	89	72.1	93.8
	76.0	78.0	80.5	82.1	82.8	83.3	82.0	76.7	69.8	62.4	56.7	50.6	47.0	44.2	43.3	42.7	42.7	43.8	47.3	52.1	60.9	68.4	72.5	74.8	Diurnal Average	
	96.1	96.0	97.0	97.4	97.5	97.6	97.7	97.1	93.9	94.5	91.8	85.0	71.8	67.0	76.3	81.0	79.4	78.3	93.9	93.9	94.2	95.5	94.2	95.5	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Evergreen Park - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Evergreen Park - August 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	12	12	11	15	16	15	15	19	19	21	22	23	23	22	20	20	19	19	17	13	11	9	10	6	15.5	23.1
Dir	229	232	228	233	246	242	249	254	259	262	273	277	274	275	278	281	282	275	280	281	272	262	256	247	263.3	276.5
2 Spd	5	4	3	2	2	1	3	1	3	7	10	11	9	10	8	5	6	7	7	9	6	2	2	2	4.4	10.8
Dir	231	221	211	181	205	213	214	281	221	249	272	288	287	282	276	316	299	310	292	293	301	240	312	290	274.5	287.9
3 Spd	7	9	8	8	5	6	4	6	8	11	9	9	7	5	10	9	4	6	4	1	2	1	3	3	4.6	11.0
Dir	259	254	245	248	239	256	264	260	278	286	305	305	325	329	318	288	339	332	343	13	100	85	138	38	287.9	286.3
4 Spd	3	4	5	1	1	2	3	3	5	9	9	7	6	6	5	4	3	3	2	3	1	1	0	0	2.8	9.4
Dir	176	201	203	200	225	223	213	213	258	250	252	276	308	274	249	257	236	241	169	133	121	179	180	81	241.4	252.0
5 Spd	0	0	2	2	2	1	2	3	2	2	4	3	3	2	8	8	4	3	2	2	3	3	2	5	1.3	8.4
Dir	359	241	217	208	205	194	199	237	265	206	219	315	37	36	268	329	330	266	116	96	211	211	172	196	247.8	267.9
6 Spd	2	4	2	1	2	3	1	4	4	4	6	8	9	11	13	5	1	3	5	6	10	13	12	11	5.1	13.0
Dir	197	222	208	288	314	316	175	215	222	230	281	267	276	262	275	299	84	302	284	245	257	256	253	256	260.9	274.7
7 Spd	7	6	5	4	4	5	7	5	7	8	8	9	9	9	9	6	7	7	6	2	1	1	1	1	5.1	8.9
Dir	247	254	271	286	302	314	304	298	304	314	304	311	303	271	268	301	278	284	294	293	217	204	207	195	288.5	303.3
8 Spd	0	0	1	1	1	1	2	4	4	7	6	5	5	6	5	4	5	3	2	2	1	0	0	0	1.7	6.9
Dir	39	352	183	214	220	220	204	217	205	255	263	271	272	286	304	303	306	354	44	75	74	55	297	72	272.3	255.2
9 Spd	0	0	2	2	2	3	4	6	8	6	5	6	6	7	5	6	5	4	3	0	0	1	1	0	2.6	7.9
Dir	263	332	241	218	278	277	265	268	258	259	263	261	291	301	307	320	349	8	53	56	34	167	208	264	286.5	257.9
10 Spd	1	2	0	0	1	2	2	4	3	3	3	4	4	4	3	4	6	5	5	4	3	2	3	3	1.9	5.8
Dir	231	215	64	117	221	327	301	309	294	348	351	36	42	52	58	25	58	63	70	73	70	67	72	76	39.6	58.2
11 Spd	2	1	0	1	1	0	1	1	3	2	2	2	1	2	4	6	6	3	2	4	1	2	3	3	1.2	5.9
Dir	72	61	43	23	353	286	35	172	181	202	254	261	287	336	323	240	264	229	132	209	192	234	269	324	252.5	240.5
12 Spd	1	1	1	2	3	2	3	5	6	3	3	6	2	2	4	5	2	3	3	3	2	2	3	3	0.9	5.9
Dir	289	204	216	216	236	257	251	267	250	247	289	312	338	55	25	36	59	92	67	61	75	245	235	278	292.0	312.3
13 Spd	1	0	2	1	2	2	3	4	6	4	3	2	3	3	2	3	4	5	3	3	1	2	1	2	0.4	5.5
Dir	9	140	225	288	208	240	223	276	274	274	227	341	293	16	53	57	73	77	69	47	45	279	59	48	328.2	274.2
14 Spd	1	11	9	3	5	4	4	5	6	7	6	9	10	11	10	7	7	6	5	6	5	6	6	7	5.1	11.3
Dir	72	321	334	257	222	194	227	230	247	272	287	277	277	276	268	252	226	200	195	211	224	232	247	248	256.5	276.2
15 Spd	5	2	1	2	3	4	4	6	8	15	18	16	19	16	13	13	9	14	16	11	9	9	9	11	9.2	18.8
Dir	241	223	292	232	209	200	203	214	214	239	251	276	271	252	252	266	255	271	266	265	242	241	245	242	251.5	271.0
16 Spd	11	11	10	7	2	3	6	4	8	16	15	18	16	15	15	13	14	14	15	14	12	10	5	6	10.5	17.6
Dir	244	238	247	251	312	243	248	269	256	262	266	262	263	275	276	281	274	279	285	280	261	259	280	276	266.3	262.3
17 Spd	6	3	3	2	0	1	1	1	1	7	12	15	17	15	21	21	20	19	19	17	9	11	5	6	9.3	21.4
Dir	271	276	223	197	178	210	64	196	213	277	270	272	265	269	271	267	263	269	267	268	269	302	249	259	267.7	267.4
18 Spd	6	4	4	3	2	2	1	3	9	11	12	10	12	12	10	8	4	8	13	10	12	9	6	7	6.9	12.9
Dir	269	285	304	323	294	328	1	280	260	288	279	285	273	285	255	257	332	285	264	252	258	257	236	230	271.2	264.3
19 Spd	7	5	1	0	0	1	2	4	5	8	10	11	11	9	8	8	9	9	5	3	2	2	1	1	4.7	11.2
Dir	248	259	291	180	121	187	5	302	294	279	282	280	277	296	299	288	286	275	270	239	246	280	165	100	279.5	277.2
20 Spd	1	1	0	1	1	0	0	3	5	10	13	15	14	9	12	18	17	12	7	5	1	0	0	1	5.6	17.7
Dir	174	67	88	222	207	167	143	197	232	255	256	265	265	280	267	258	254	267	292	264	146	186	96	52	260.1	258.2
21 Spd	1	3	4	4	4	2	2	1	2	4	9	10	8	8	12	17	16	10	7	4	1	1	2	3	4.9	16.6
Dir	147	179	183	182	191	198	220	262	201	206	217	231	220	225	234	249	257	264	301	284	245	149	203	210	233.9	249.1
22 Spd	1	1	3	5	2	3	5	2	4	5	7	7	9	13	12	13	13	11	6	14	10	8	7	6	6.4	14.4
Dir	28	10	222	222	272	226	211	197	223	235	253	256	250	259	260	269	262	247	204	242	224	215	232	223	242.7	241.8

FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
23 Spd	10	12	16	16	11	18	16	17	20	21	19	22	27	25	20	17	10	10	7	4	5	3	1	0	13.2	27.4
Dir	239	254	254	245	252	253	248	250	251	254	266	272	267	263	265	272	281	286	284	260	226	234	192	69	259.4	266.7
24 Spd	1	1	1	1	3	3	4	4	3	5	5	16	15	12	14	14	15	14	15	9	5	3	5	8	6.6	15.6
Dir	208	194	30	321	305	273	219	186	185	194	264	262	252	278	263	277	268	283	273	272	265	254	272	273	264.3	261.6
25 Spd	7	6	5	5	5	3	2	7	8	10	9	7	10	7	5	6	4	3	2	2	1	1	0	1	4.2	9.7
Dir	280	257	241	258	262	293	272	266	279	280	275	290	278	269	311	302	325	322	5	93	183	204	190	75	278.7	280.5
26 Spd	1	2	1	0	1	1	1	5	5	5	2	3	4	3	5	4	4	4	5	2	2	1	1	0	1.6	4.9
Dir	50	50	46	171	207	191	224	261	265	257	281	203	215	167	177	183	172	181	160	168	209	187	343	44	204.3	257.1
27 Spd	1	2	2	1	1	3	2	4	4	5	6	5	9	12	14	12	11	8	8	7	4	4	2	2	4.9	13.8
Dir	226	212	219	224	200	269	251	262	271	278	259	221	253	262	286	299	301	300	299	281	271	259	225	254	273.4	285.9
28 Spd	1	1	2	2	2	1	1	3	1	0	3	4	4	2	4	1	2	1	1	4	2	0	1	1	0.5	4.2
Dir	46	273	296	195	198	203	212	224	223	168	176	158	187	264	213	22	353	6	9	344	346	45	93	43	228.8	344.4
29 Spd	1	2	1	1	1	2	4	8	6	5	6	8	11	11	12	17	18	17	13	13	7	4	4	3	6.7	18.1
Dir	225	224	233	255	81	254	242	226	218	202	229	239	256	251	256	269	274	269	264	265	282	258	300	223	256.3	273.9
30 Spd	4	5	2	2	3	1	1	6	5	12	10	11	12	8	11	6	13	6	6	7	5	6	6	5	6.0	12.6
Dir	249	255	296	327	305	276	258	290	278	277	290	296	328	308	258	278	305	285	302	323	285	280	286	291	291.1	304.9
31 Spd	3	4	3	3	3	3	3	4	6	6	4	6	6	9	8	6	7	4	4	2	2	1	1	1	3.8	8.6
Dir	291	272	272	258	261	279	281	283	286	310	314	278	270	263	264	261	251	250	257	207	204	202	212	226	268.6	263.1
Spd	2.8	3.0	2.7	2.6	2.4	2.6	2.9	4.3	5.3	6.9	7.6	8.3	8.6	8.1	8.6	8.0	6.8	6.0	4.8	4.2	3.3	3.1	2.5	2.4	Diurnal Average	
Dir	246.6	250.3	248.0	242.0	246.9	251.4	245.0	253.0	254.5	262.2	267.7	273.5	272.8	273.4	270.9	277.4	278.0	277.0	276.8	267.9	255.0	251.5	248.5	252.7		
Spd	11.8	12.5	15.7	15.9	16.3	17.7	15.8	19.0	19.7	21.4	22.1	23.1	27.4	24.7	21.0	21.4	19.9	19.0	19.2	17.1	12.2	13.0	11.7	11.2	Diurnal Maximum	
Dir	228.8	254.0	253.5	244.6	246.4	253.1	247.6	253.7	250.7	262.3	272.6	276.5	266.7	263.4	270.9	267.4	263.4	268.6	267.2	268.4	257.6	256.1	252.9	242.2		

Maximum Speed Value: 27 km/h on Aug 23 13:00
Maximum Daily Speed Average: 15.5 km/h on Aug 1
Maximum Diurnal Speed Average: 8.6 km/h at hour 15

Minimum Speed Value: 0 km/h on Aug 8 23:00
Minimum Daily Speed Average: 0.4 km/h on Aug 28
Minimum Diurnal Speed Average: 2.4 km/h at hour 24

Monthly Average Velocity: 4.81 km/h 265.00 deg

Speed Percentiles: $P_1 = 0.2$ $P_{10} = 0.9$ $Q_1 = 2.1$ Median = 4.5 $Q_3 = 8.5$ $P_{90} = 13.3$ $P_{99} = 21.1$

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

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

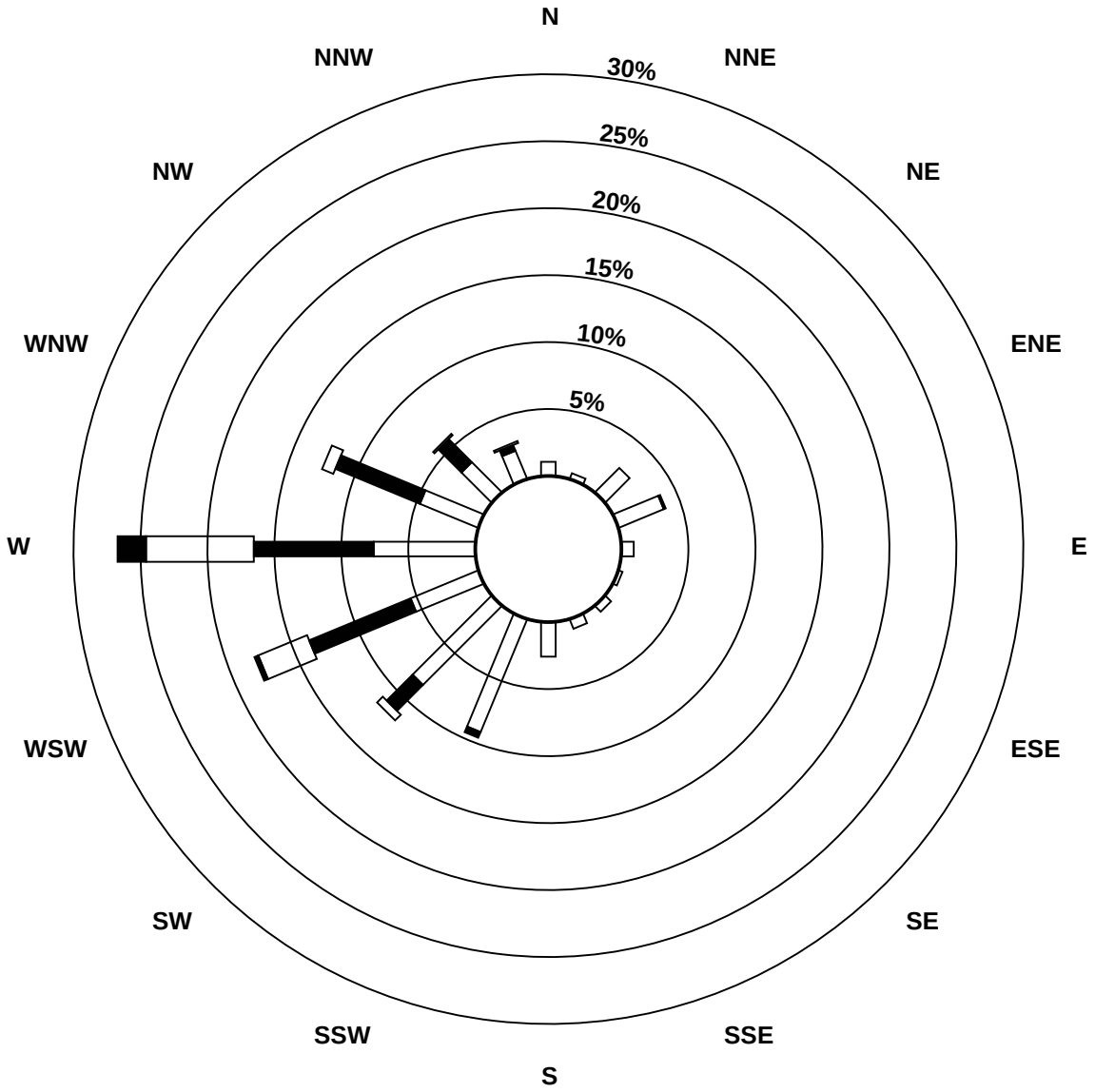
Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	25	1	0	0	0	0	26
NorthEast	43	3	0	0	0	0	46
East	28	0	0	0	0	0	28
SouthEast	12	0	0	0	0	0	12
South	64	3	0	0	0	0	67
SouthWest	118	37	11	0	0	0	166
West	81	128	85	18	0	0	312
NorthWest	40	43	4	0	0	0	87
Total	411	215	100	18	0	0	744

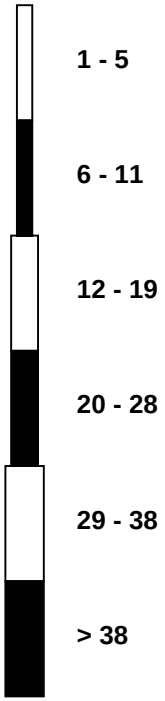
Wind Rose

Wind Speed (WS) (km/h)

Evergreen Park - August 2011



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Evergreen Park - August 2011

Maximum Speed: 28 km/h on Aug 23 13:00

Maximum Daily Speed Average: 16.5 km/h on Aug 1

Minimum Speed: 1 km/h on Aug 4 05:00

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

Maximum Diurnal Speed Average: 10.7 km/h at hour 15

Minimum Diurnal Speed Average: 3.4 km/h at hour 5

Monthly Average Speed: 6.46 km/h

Percentiles: $P_1 = 1.0$ $P_{10} = 1.6$ $Q_1 = 2.6$ Median = 4.9 $Q_3 = 9.0$ $P_{90} = 13.5$ $P_{99} = 21.4$

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	12	12	11	15	16	16	15	19	19	22	23	24	23	22	21	21	19	19	18	13	11	9	10	6	16.5	23.5
2-Aug	5	5	3	2	2	2	3	2	4	8	11	12	10	10	9	6	7	7	8	9	6	3	2	2	5.7	12.0
3-Aug	7	9	8	8	5	6	5	6	9	12	10	10	8	7	11	10	6	6	4	2	2	2	3	7	6.8	11.5
4-Aug	3	5	5	1	1	2	3	3	6	9	10	9	7	7	7	5	5	5	3	3	2	1	1	1	4.2	9.7
5-Aug	1	1	2	2	2	1	2	4	3	3	4	4	4	3	12	8	5	4	3	3	3	3	3	5	3.6	11.7
6-Aug	3	4	2	2	3	3	2	4	4	5	6	8	10	11	14	9	3	4	5	6	10	13	12	11	6.5	13.5
7-Aug	7	6	5	4	4	5	7	6	7	9	9	9	9	9	9	8	8	7	6	3	1	1	1	1	5.9	9.5
8-Aug	1	1	1	1	1	2	2	4	4	7	6	5	6	7	6	5	6	4	3	2	2	1	1	1	3.3	7.2
9-Aug	1	1	2	2	2	3	4	6	8	6	6	6	7	8	7	7	6	5	3	1	1	1	2	1	4.1	8.4
10-Aug	2	2	2	3	2	2	2	4	4	4	4	5	5	6	5	5	7	6	5	4	3	2	3	3	3.7	6.5
11-Aug	2	1	1	1	1	1	1	2	4	3	3	4	3	4	4	6	7	4	3	5	2	2	3	3	2.9	6.5
12-Aug	2	2	2	2	3	2	3	5	6	4	4	6	5	4	5	6	3	4	4	3	2	8	6	4	3.9	7.9
13-Aug	1	1	2	2	3	2	4	4	6	4	4	3	5	4	3	3	4	5	4	3	1	3	2	2	3.2	5.9
14-Aug	3	12	10	6	5	4	4	5	6	7	7	10	11	12	11	7	7	6	6	6	5	6	6	7	7.0	12.3
15-Aug	5	3	2	3	4	4	4	6	8	15	18	16	19	16	13	14	9	14	16	11	10	9	9	11	10.1	19.4
16-Aug	11	11	10	7	3	3	6	5	9	16	15	18	17	15	15	14	14	14	15	15	12	10	5	7	11.1	17.8
17-Aug	6	3	3	2	1	2	1	2	2	7	12	16	17	16	21	22	20	19	20	17	9	13	5	6	10.1	21.7
18-Aug	6	5	4	3	2	2	1	4	10	11	13	10	13	12	11	9	5	9	13	11	12	9	7	7	7.9	13.1
19-Aug	8	5	3	1	1	1	2	5	6	9	10	11	12	10	8	8	10	9	5	4	2	2	2	1	5.6	11.8
20-Aug	1	1	1	1	1	1	1	3	5	11	14	15	14	10	12	18	17	12	7	5	2	1	1	2	6.6	18.0
21-Aug	1	3	4	4	4	2	3	2	2	5	9	10	8	9	12	17	16	10	7	4	2	2	2	3	6.0	17.0
22-Aug	1	2	3	5	3	3	5	2	4	5	8	7	9	13	13	13	13	11	6	15	11	8	8	6	7.2	14.9
23-Aug	10	13	16	16	12	18	16	17	20	21	19	22	28	25	21	17	11	11	7	4	5	3	2	1	13.9	27.7
24-Aug	2	1	2	2	3	3	4	4	4	5	6	16	15	13	15	15	15	15	15	9	5	3	5	8	7.7	16.1
25-Aug	7	7	6	5	5	3	3	7	8	10	10	8	11	8	6	7	5	4	3	2	1	1	1	1	5.4	10.8
26-Aug	1	2	1	1	1	2	2	5	5	5	4	4	5	4	6	5	5	4	5	2	2	2	2	2	3.2	5.9
27-Aug	2	2	2	2	1	4	3	5	4	5	6	5	10	12	14	14	11	9	9	8	5	4	2	3	5.9	14.5
28-Aug	3	2	3	2	2	2	1	3	2	2	3	5	5	4	5	3	3	2	3	4	3	2	2	2	2.8	5.0
29-Aug	1	2	3	2	1	2	4	8	6	5	6	9	12	12	13	17	18	18	13	13	7	4	4	4	7.7	18.5
30-Aug	4	5	3	3	3	2	2	6	6	12	11	12	12	10	12	7	13	7	7	7	5	6	6	5	6.9	13.1
31-Aug	3	4	3	4	3	3	3	4	6	7	5	7	7	9	9	7	7	5	4	2	2	2	1	1	4.6	9.2
	4.0	4.3	4.0	3.6	3.4	3.5	3.9	5.2	6.3	8.2	8.9	10.0	10.5	10.2	10.7	10.1	9.2	8.4	7.4	6.3	4.7	4.4	3.8	4.0	Diurnal Average	
	11.9	12.6	15.8	16.1	16.4	17.8	16.0	19.1	20.0	21.7	22.7	23.5	27.7	24.9	21.5	21.7	20.1	19.3	19.5	17.3	12.3	13.2	11.8	11.3	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 - August 2011

Maximum Value: 99.9 deg on Aug 10 03:00

Minimum Value: 6.1 deg on Aug 1 01:00

Percentiles: P_1 = 6.9 P_{10} = 10.7 Q_1 = 15.0 Median = 23.7 Q_3 = 45.6 P_{90} = 71.4 P_{99} = 94.1

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

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Aug	6	6	8	7	7	6	7	7	9	10	13	11	13	13	12	15	12	12	12	11	11	9	10	12	15.1
2-Aug	10	13	10	24	28	64	24	66	37	23	17	26	27	22	29	55	30	22	17	13	15	42	38	29	65.7
3-Aug	18	7	10	9	15	8	25	13	21	18	25	30	31	44	25	26	48	35	27	68	23	52	41	86	85.8
4-Aug	41	19	8	72	52	11	11	25	17	13	15	33	29	53	52	50	53	43	67	15	37	34	78	84	83.9
5-Aug	88	86	21	23	14	59	20	20	40	50	35	54	44	57	53	16	39	55	34	25	37	26	20	17	88.2
6-Aug	34	14	48	61	50	30	89	17	21	43	35	26	26	19	16	55	65	65	26	14	10	9	9	8	89.4
7-Aug	14	11	18	21	20	17	14	16	18	18	20	18	20	19	24	30	25	25	21	17	42	52	54	45	54.3
8-Aug	81	89	70	73	54	38	47	23	15	17	26	31	39	44	37	60	35	49	52	18	36	85	99	70	98.7
9-Aug	88	92	36	16	28	18	14	13	12	20	31	22	34	28	45	33	30	32	22	88	84	80	75	76	92.0
10-Aug	61	63	100	97	63	41	30	21	42	47	53	51	38	49	60	42	32	26	30	22	12	12	12	16	99.9
11-Aug	19	31	88	68	59	75	63	65	50	64	55	56	92	74	29	19	29	46	43	42	70	20	18	33	91.6
12-Aug	66	70	26	30	15	15	13	15	12	27	53	29	80	78	45	30	31	36	28	23	23	94	80	51	93.6
13-Aug	64	97	42	76	68	39	17	36	22	35	42	78	78	62	57	30	33	27	31	16	39	68	55	24	96.6
14-Aug	59	32	38	70	9	19	20	9	16	23	24	21	24	24	16	14	20	13	18	17	10	8	15	13	70.3
15-Aug	16	61	53	66	21	10	15	13	13	15	13	13	14	11	12	13	17	16	9	11	12	9	8	8	65.5
16-Aug	7	7	7	15	56	40	12	38	14	10	11	11	11	14	13	12	11	13	12	12	10	12	27	24	55.8
17-Aug	16	28	21	42	83	72	39	58	79	22	16	15	14	14	12	10	9	11	10	9	15	29	28	16	83.5
18-Aug	13	24	25	21	25	45	76	42	15	18	21	23	19	20	24	50	31	29	12	8	7	7	14	8	76.0
19-Aug	10	22	70	85	81	62	47	30	23	17	20	22	17	24	21	23	19	16	13	19	31	46	70	63	85.2
20-Aug	62	75	95	67	63	87	92	37	22	12	13	13	14	23	17	11	9	16	19	17	63	78	94	90	94.9
21-Aug	78	29	13	14	19	41	38	84	24	18	10	6	12	17	10	11	8	14	14	23	82	86	62	14	85.8
22-Aug	63	75	21	14	52	32	9	34	19	16	12	13	16	13	13	14	13	16	19	16	32	14	14	13	75.5
23-Aug	13	8	7	10	23	7	9	7	9	8	13	11	9	9	12	15	19	19	15	17	13	22	51	78	78.5
24-Aug	47	46	73	77	58	45	25	15	23	25	28	15	14	19	21	18	13	15	10	11	14	25	10	14	77.0
25-Aug	13	19	12	15	23	37	60	12	18	17	20	28	29	28	50	36	59	65	56	29	38	23	97	24	96.5
26-Aug	51	16	41	92	83	78	51	28	19	19	75	52	36	37	38	37	51	23	14	47	24	82	68	94	93.8
27-Aug	72	43	33	39	51	35	62	18	20	22	21	27	15	18	19	24	19	18	16	17	19	22	38	55	71.7
28-Aug	93	64	45	38	43	74	58	21	69	91	55	42	51	83	39	87	43	61	60	18	24	89	75	48	92.8
29-Aug	53	75	94	83	63	42	24	8	16	20	17	16	14	15	16	12	11	10	9	7	16	22	28	49	94.2
30-Aug	38	10	40	37	21	68	91	21	19	14	24	25	20	39	22	34	16	42	25	14	18	13	15	17	91.0
31-Aug	20	18	24	15	16	23	16	16	19	24	55	35	32	22	28	28	22	33	28	43	14	27	26	82	81.7
	92.8	96.6	99.9	96.7	83.5	86.6	91.7	84.3	78.7	91.4	75.3	77.8	91.6	82.7	59.5	87.1	64.6	65.4	66.6	88.2	84.4	93.6	98.7	93.8	

PAZA
Smoky Heights Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - August 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 5.9 ppb on Aug 18 06:00 Maximum Daily Average: 1.3 ppb on Aug 18

Minimum Value: 0 ppb on Aug 19 16:00 Minimum Daily Average: 0.0 ppb on Aug 20
Maximum Diurnal Average: 0.4 ppb at hour 8 Minimum Diurnal Average: 0.1 ppb at hour 16
Monthly Average: 0.19 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.0 Q_3 = 0.1 P_{90} = 0.5 P_{99} = 2.6

Hours in Service:	744
Hours of Data:	680
Hours of Missing Data:	64
Hours of Calibration:	39
Percent Operational Time:	96.6

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	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	0.4
2-Aug	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0.2	1.5
3-Aug	0	0	0	0	1	A	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
4-Aug	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
5-Aug	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
6-Aug	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
7-Aug	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.3
8-Aug	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
9-Aug	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
10-Aug	1	1	0	0	0	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	2.6
11-Aug	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
12-Aug	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0.1	1.0
13-Aug	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
14-Aug	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
15-Aug	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	2	1	0	0	0	0.3	1.7
16-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	1	0.2	1.3
17-Aug	0	0	0	0	0	0	0	0	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.1	0.8
18-Aug	0	2	3	2	1	6	2	2	1	1	1	0	0	A	0	0	0	0	1	1	1	1	3	2	1.3	5.9
19-Aug	2	5	2	1	1	1	1	3	2	3	C	C	C	C	C	0	0	0	0	0	0	0	0	0	1.1	4.8
20-Aug	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
21-Aug	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	0	0.1	1.1
22-Aug	0	0	0	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.4
23-Aug	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0.1	1.0
24-Aug	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.1	0.6
25-Aug	0	0	0	0	0	0	A	1	1	1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	0.9
26-Aug	N	N	N	N	0	A	0	N	N	N	N	N	N	1	1	1	1	0	0	0	0	0	0	0	--	0.7
27-Aug	0	0	0	0	A	0	0	0	0	0	N	C	C	0	0	0	0	0	0	1	0	0	0	0	0.1	0.8
28-Aug	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
29-Aug	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.3
30-Aug	0	A	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.4
31-Aug	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
	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.4	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	Diurnal Average	
	2.2	4.8	2.9	1.8	1.4	5.9	1.8	2.6	2.2	2.9	0.6	0.5	0.4	0.7	0.6	0.6	0.5	0.5	0.6	1.7	0.8	1.5	2.7	1.6	Diurnal Maximum	

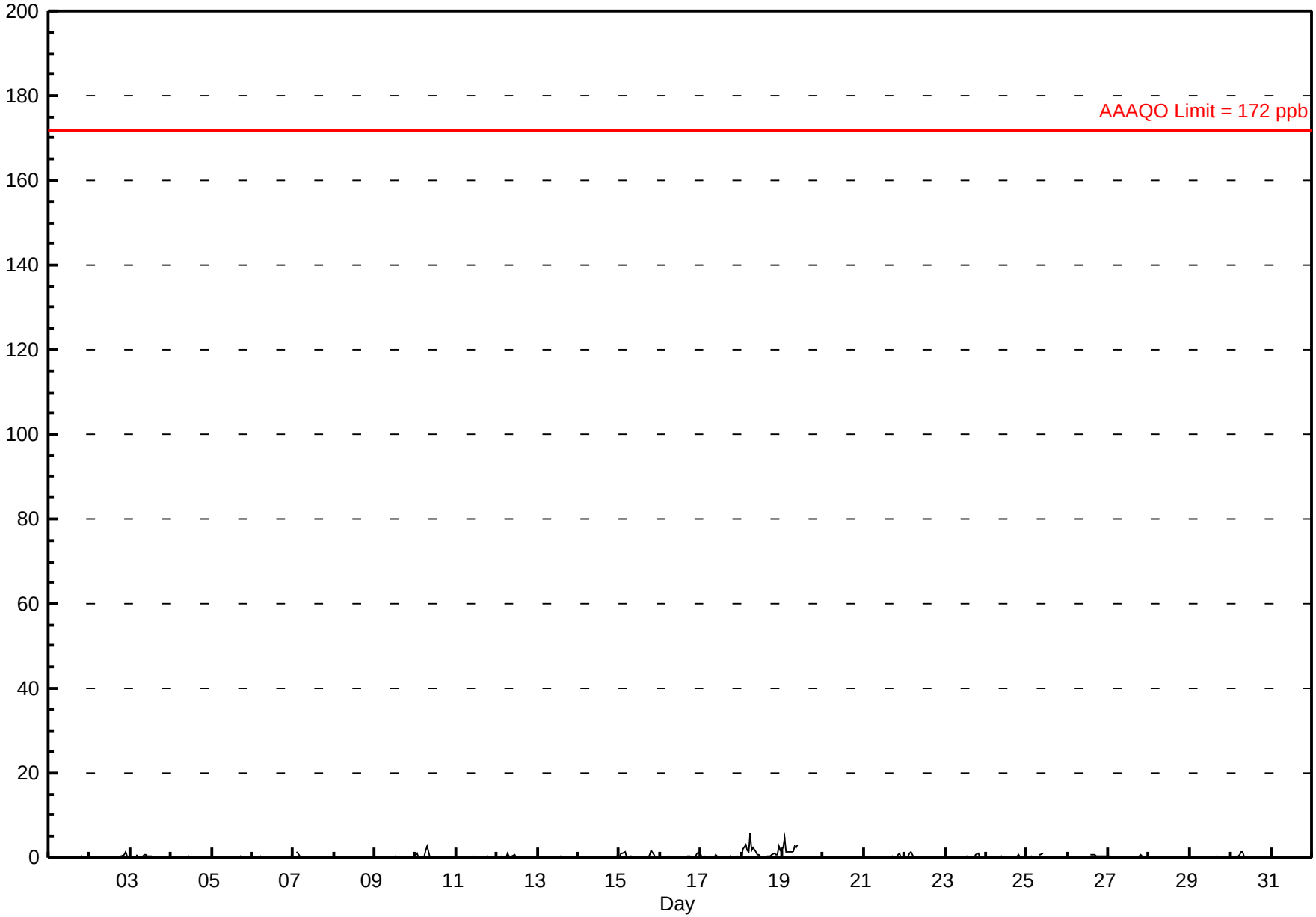
C - Calibration N - Not Valid A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - August 2011

Maximum Value: 19.1 ppb on Aug 29 12:00

Maximum Daily Average: 3.0 ppb on Aug 18

Minimum Value: 0 ppb on Aug 19 16:00

Minimum Daily Average: 0.1 ppb on Aug 20

Maximum Diurnal Average: 1.1 ppb at hour 12

Minimum Diurnal Average: 0.2 ppb at hour 15

Monthly Average: 0.59 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.1$ $Q_1 = 0.1$ Median = 0.2 $Q_3 = 0.5$ $P_{90} = 1.5$ $P_{99} = 5.0$

Hours in Service:	744
Hours of Data:	680
Hours of Missing Data:	64
Hours of Calibration:	39
Percent Operational Time:	96.6

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0.3	1.3
2-Aug	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	1	3	3	2	0	0.6	3.2
3-Aug	0	0	0	2	1	A	0	1	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.6	1.9
4-Aug	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	0.8
5-Aug	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.2	1.2
6-Aug	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.3	1.0
7-Aug	1	A	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.6
8-Aug	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.2	0.4
9-Aug	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	1	0	0	0	A	0	0.3	0.8
10-Aug	3	2	0	0	0	3	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.8	4.5
11-Aug	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	A	0	0	0	0.3	1.0
12-Aug	0	0	0	1	0	0	3	1	0	1	1	1	0	0	0	0	0	0	0	A	0	0	0	1	0.5	2.6
13-Aug	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	A	0	0	0	0	0	0.3	0.7
14-Aug	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	1	0.4	1.1
15-Aug	1	3	3	4	0	0	0	1	0	0	0	0	0	0	0	0	A	0	1	3	2	0	0	0	0.9	4.0
16-Aug	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	A	1	1	0	1	0	2	5	5	0.9	5.3
17-Aug	2	1	2	0	0	0	0	0	0	2	0	0	0	0	A	0	0	1	1	0	1	1	0	3	0.8	3.2
18-Aug	3	3	5	3	3	8	5	4	2	1	1	1	0	A	0	0	0	1	1	2	1	1	15	5	3.0	14.9
19-Aug	7	8	3	2	1	1	2	4	3	4	C	C	C	C	C	0	0	0	1	2	0	0	0	0	1.9	8.0
20-Aug	0	0	0	0	0	0	0	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
21-Aug	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0	0	2	2	0	0	0.4	2.5
22-Aug	0	1	1	3	5	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	5.1
23-Aug	0	0	0	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0	2	2	0	0	0	0	0.4	2.2
24-Aug	0	0	0	0	0	0	0	A	0	1	0	0	1	1	0	0	0	1	1	2	0	0	1	0	0.5	1.7
25-Aug	0	0	1	1	0	0	A	1	1	1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	1.5
26-Aug	N	N	N	N	0	A	0	N	N	N	N	N	N	1	1	1	1	1	1	1	0	0	0	0	--	0.9
27-Aug	0	0	0	0	A	0	0	0	0	0	N	C	C	1	0	0	0	1	0	2	2	0	0	0	0.5	2.0
28-Aug	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
29-Aug	0	1	A	0	0	0	0	0	0	0	0	19	7	0	0	0	2	0	0	0	0	0	0	0	1.3	19.1
30-Aug	0	A	0	1	1	2	3	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	2.8
31-Aug	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.1	0.3
	0.7	0.8	0.7	0.8	0.6	0.7	0.7	0.8	0.5	0.6	0.4	1.1	0.6	0.3	0.2	0.2	0.3	0.4	0.5	0.7	0.5	0.5	1.0	0.7	Diurnal Average	
	6.5	8.0	5.2	4.0	5.1	8.4	4.6	4.5	2.8	3.6	1.1	19.1	6.6	0.9	0.9	0.7	1.7	1.2	1.5	3.3	2.6	3.2	14.9	5.2	Diurnal Maximum	

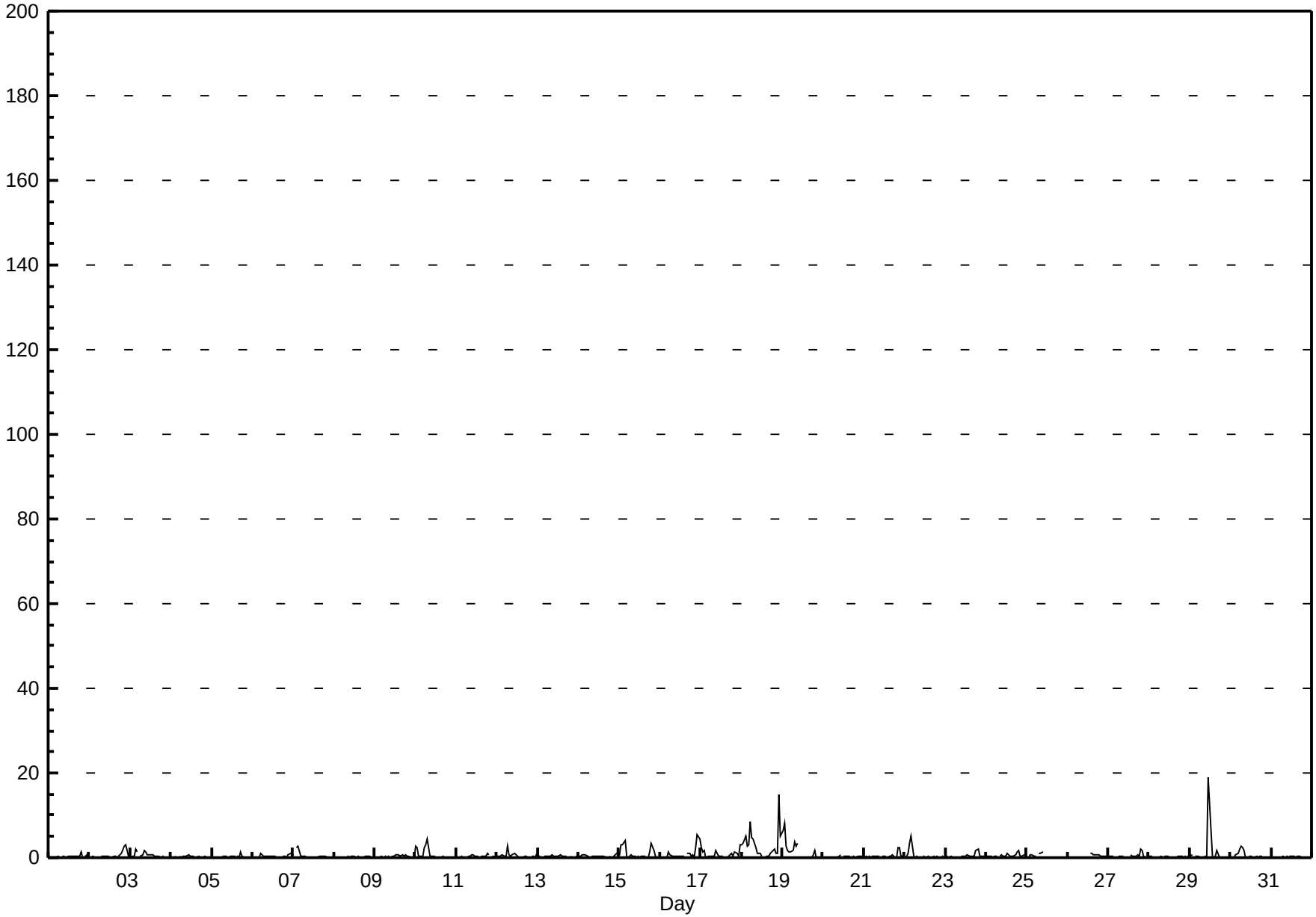
C - Calibration N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

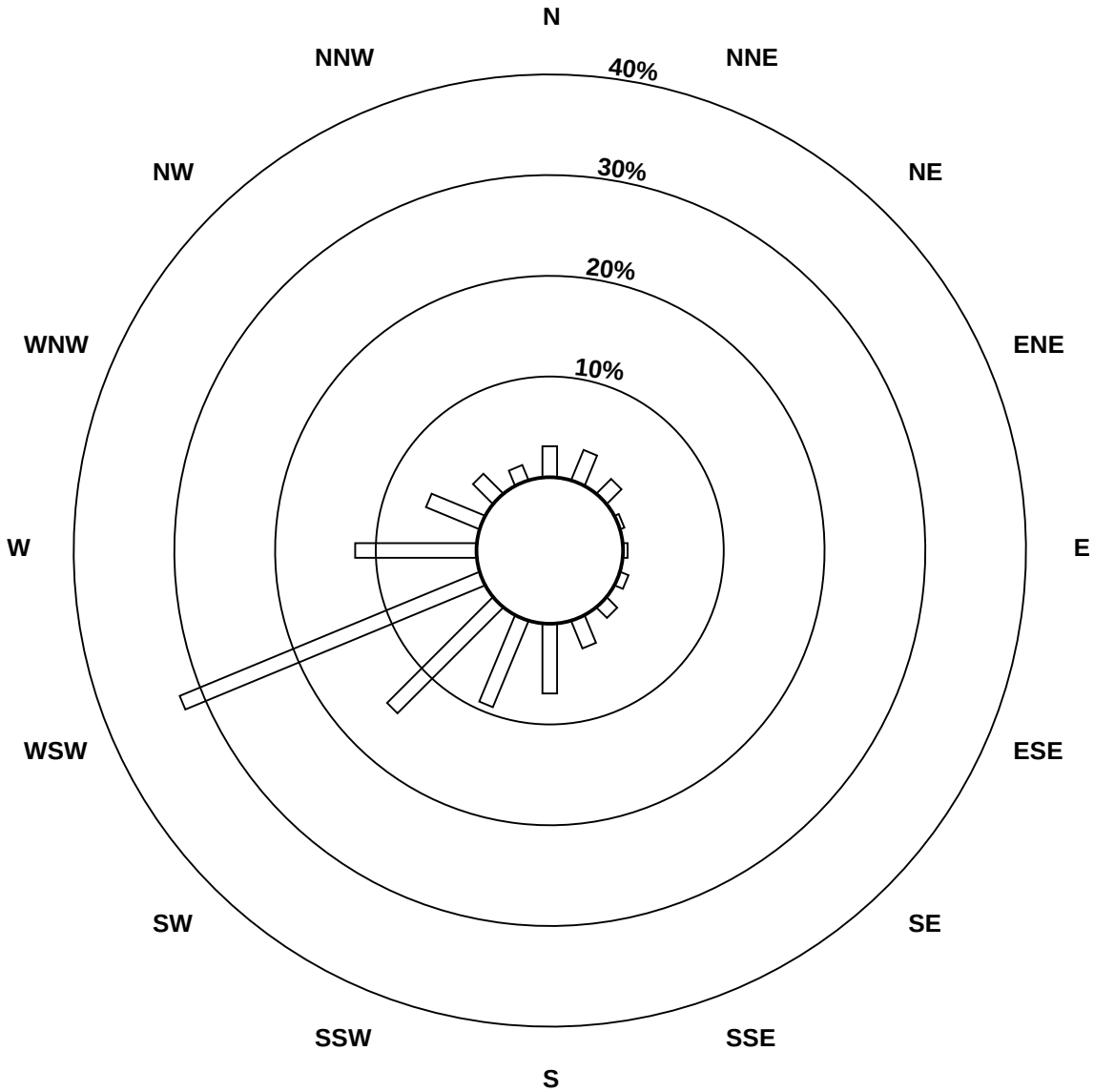
Smoky Heights - August 2011



Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - August 2011



Pollutant Classes (ppb)

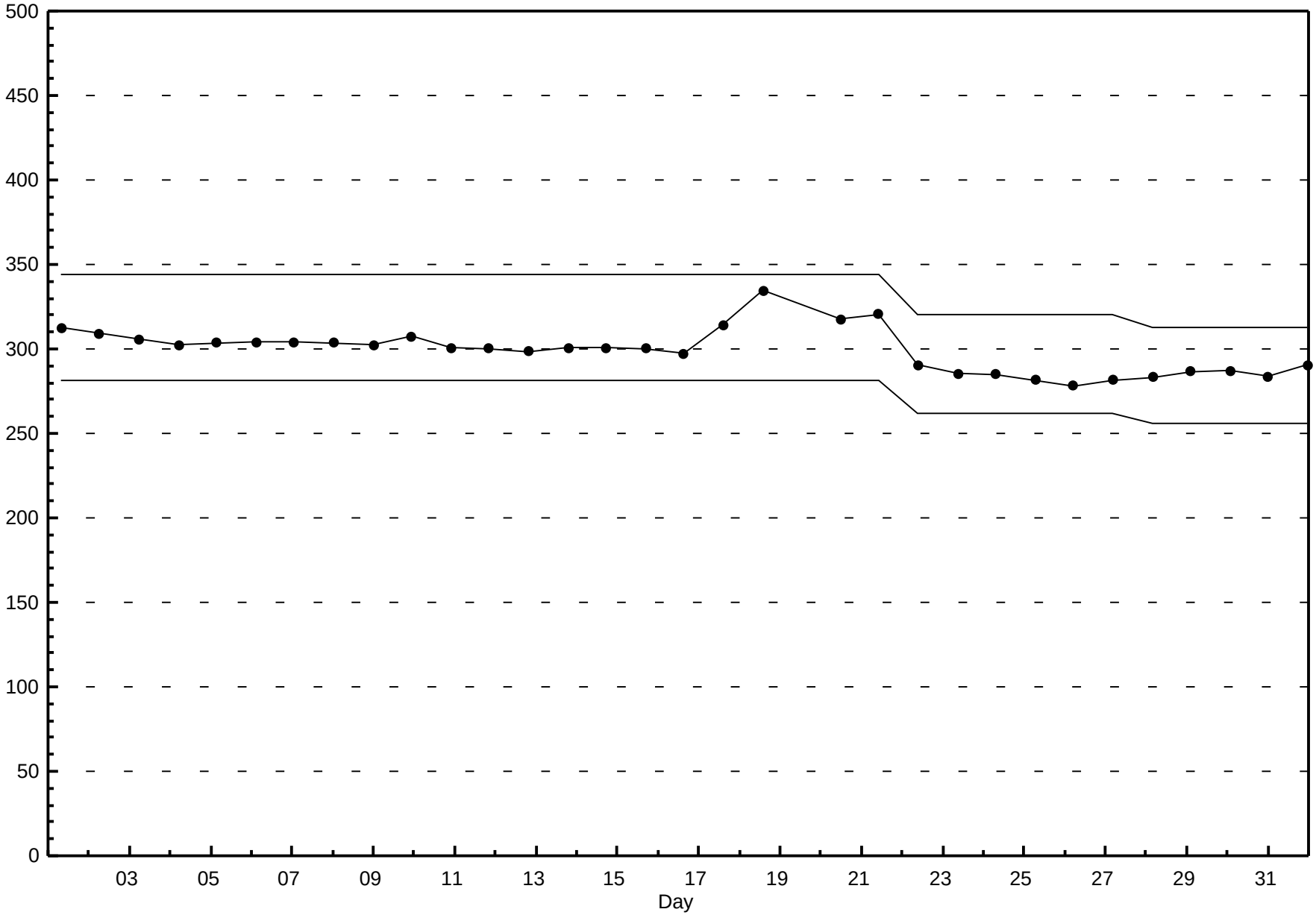
- 0 - 10
- 11 - 20
- 21 - 60
- 61 - 110
- 111 - 172
- > 172

Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Smoky Heights - August 2011



Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - August 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 2.3 ppb on Aug 13 05:00 Maximum Daily Average: 0.7 ppb on Aug 13

Minimum Value: 0 ppb on Aug 11 11:00 Minimum Daily Average: 0.1 ppb on Aug 11
Maximum Diurnal Average: 0.5 ppb at hour 5 Minimum Diurnal Average: 0.2 ppb at hour 17
Monthly Average: 0.34 ppb Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 0.2 Median = 0.3 Q_3 = 0.5 P_{90} = 0.6 P_{99} = 1.1

Hours in Service:	744
Hours of Data:	660
Hours of Missing Data:	84
Hours of Calibration:	37
Percent Operational Time:	93.7

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	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
2-Aug	0	1	0	1	1	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.0
3-Aug	1	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.3	0.9
4-Aug	1	1	1	0	A	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8
5-Aug	0	0	1	A	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.4	0.6
6-Aug	1	0	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9
7-Aug	0	A	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
8-Aug	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.3	0.7
9-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0.3	0.5
10-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0.3	0.6
11-Aug	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
12-Aug	0	0	1	1	0	1	1	1	1	1	1	1	0	1	0	0	1	0	0	A	1	1	1	1	0.6	1.1
13-Aug	1	1	1	2	2	2	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	1	0	0.7	2.3
14-Aug	0	0	1	1	1	1	1	1	1	1	1	0	0	1	1	0	0	A	0	0	0	0	0	1	0.5	1.0
15-Aug	1	1	1	1	1	1	0	0	0	0	1	1	1	0	0	0	A	0	0	0	0	1	0	1	0.5	0.9
16-Aug	1	1	1	0	1	1	1	1	0	0	0	0	0	0	0	A	0	0	0	0	1	1	1	0	0.4	0.8
17-Aug	0	1	1	1	1	1	1	1	0	0	0	0	0	0	A	0	0	0	1	1	1	1	1	1	0.5	0.7
18-Aug	1	1	0	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	0.4	0.8
19-Aug	1	1	1	1	1	1	1	1	1	C	C	C	A	0	0	1	0	0	0	0	1	0	0	0	0.6	1.0
20-Aug	0	0	0	0	0	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	1	0.4	0.7
21-Aug	1	1	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
22-Aug	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
23-Aug	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
24-Aug	0	0	0	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
25-Aug	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
26-Aug	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
27-Aug	0	0	0	1	A	1	0	0	0	0	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	0.6
28-Aug	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
29-Aug	N	N	N	N	N	N	N	N	N	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	--	0.2
30-Aug	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
31-Aug	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.1	0.2
	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.5	0.4	Diurnal Average	
	0.8	0.9	1.1	2.0	2.3	1.7	1.0	1.1	0.9	0.7	0.7	0.5	0.6	0.6	0.8	0.5	0.5	0.5	0.5	0.6	0.7	1.1	1.1	0.7	Diurnal Maximum	

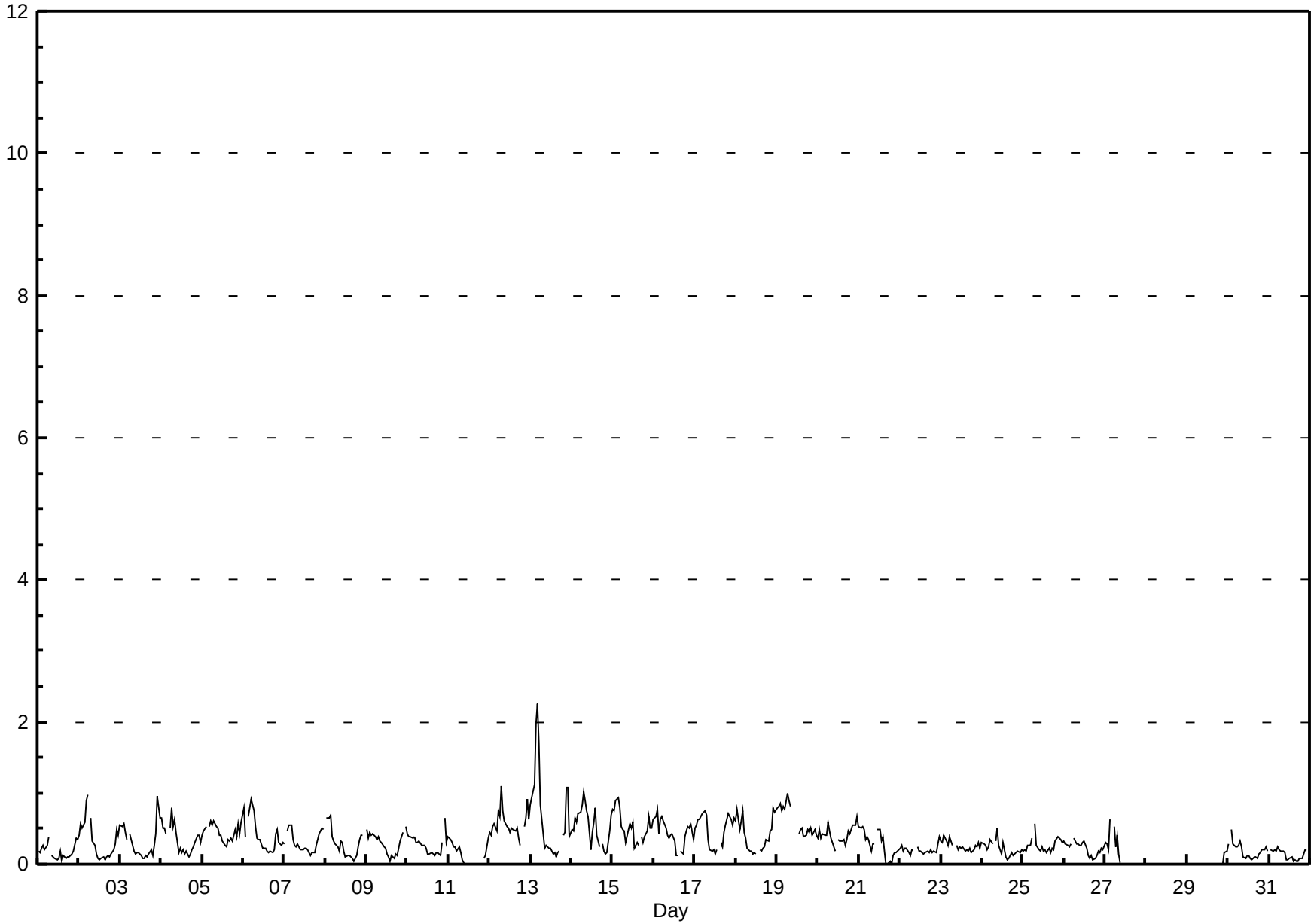
C - Calibration N - Not Valid A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - August 2011

Maximum Value: 5.1 ppb on Aug 15 11:00

Maximum Daily Average: 2.2 ppb on Aug 15

Minimum Value: 0 ppb on Aug 11 18:00

Minimum Daily Average: 0.4 ppb on Aug 11

Maximum Diurnal Average: 1.2 ppb at hour 23

Minimum Diurnal Average: 0.6 ppb at hour 17

Monthly Average: 0.88 ppb

Percentiles: $P_1 = 0.2$ $P_{10} = 0.5$ $Q_1 = 0.6$ Median = 0.7 $Q_3 = 1.0$ $P_{90} = 1.3$ $P_{99} = 4.2$

Hours in Service:	744
Hours of Data:	660
Hours of Missing Data:	84
Hours of Calibration:	37
Percent Operational Time:	93.7

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	1	1	1	1	1	1	1	A	0	0	1	0	1	1	0	1	0	1	0	0	1	1	1	1	0.6	0.8
2-Aug	1	1	1	1	1	1	A	1	1	1	1	1	0	0	0	0	0	1	0	0	1	1	1	1	0.7	1.4
3-Aug	1	1	1	1	1	A	1	1	1	0	1	1	0	1	0	1	1	1	1	1	1	1	5	3	1.0	5.0
4-Aug	3	1	1	1	A	1	1	1	1	1	1	1	1	1	0	1	0	1	0	1	1	1	1	1	0.9	2.8
5-Aug	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3
6-Aug	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.4
7-Aug	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	0.7	1.0
8-Aug	A	1	1	1	1	1	1	1	0	1	1	1	0	0	1	0	0	0	0	1	1	1	1	A	0.7	1.4
9-Aug	1	4	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	A	1	0.9	3.6
10-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	1	0	0	1	A	3	1	0.7	2.8
11-Aug	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	1	0.4	0.9
12-Aug	1	1	1	1	1	1	1	2	1	2	2	2	2	3	3	3	3	2	2	A	3	3	4	2	1.9	3.6
13-Aug	2	2	3	5	5	5	4	1	1	1	1	1	1	1	0	0	1	1	A	1	1	1	2	1	1.7	5.0
14-Aug	1	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	1.5
15-Aug	1	1	1	1	1	1	1	1	2	4	5	5	4	3	2	2	A	2	1	1	4	4	2	1	2.2	5.1
16-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0	1	1	1	1	1	1	0.9	1.2
17-Aug	1	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	1.3
18-Aug	1	1	1	1	1	1	1	1	0	1	0	1	0	A	1	1	1	1	1	1	1	1	1	1	0.8	1.5
19-Aug	1	1	1	1	1	1	1	1	1	C	C	C	A	1	1	1	1	1	1	1	1	1	1	1	1.1	1.4
20-Aug	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
21-Aug	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	0	0	0	1	1	0	1	0.8	1.2
22-Aug	1	1	1	1	1	1	1	1	1	A	1	1	0	1	0	0	1	1	1	1	1	1	1	1	0.6	0.8
23-Aug	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
24-Aug	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	0.7	0.9
25-Aug	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
26-Aug	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	1	1	0.6	0.8
27-Aug	1	1	1	1	A	1	1	1	1	0	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	1.1
28-Aug	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
29-Aug	N	N	N	N	N	N	N	N	N	C	C	C	0	0	0	0	0	0	0	0	0	0	0	1	--	0.6
30-Aug	1	A	1	1	1	1	1	1	1	1	1	0	0	1	1	0	1	1	1	1	1	1	1	1	0.6	0.8
31-Aug	A	1	1	1	1	1	1	0	1	1	0	0	0	1	1	0	0	1	1	1	1	1	1	A	0.5	0.7
	1.0	1.1	1.0	1.0	1.1	1.1	1.0	0.9	0.8	0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.6	0.7	0.6	0.7	1.0	1.0	1.2	1.0	Diurnal Average	
	2.8	3.6	3.1	4.7	5.0	5.0	3.7	1.6	1.9	4.1	5.1	5.1	4.3	2.9	2.7	2.5	2.6	2.3	1.6	1.3	3.5	3.9	5.0	3.2	Diurnal Maximum	

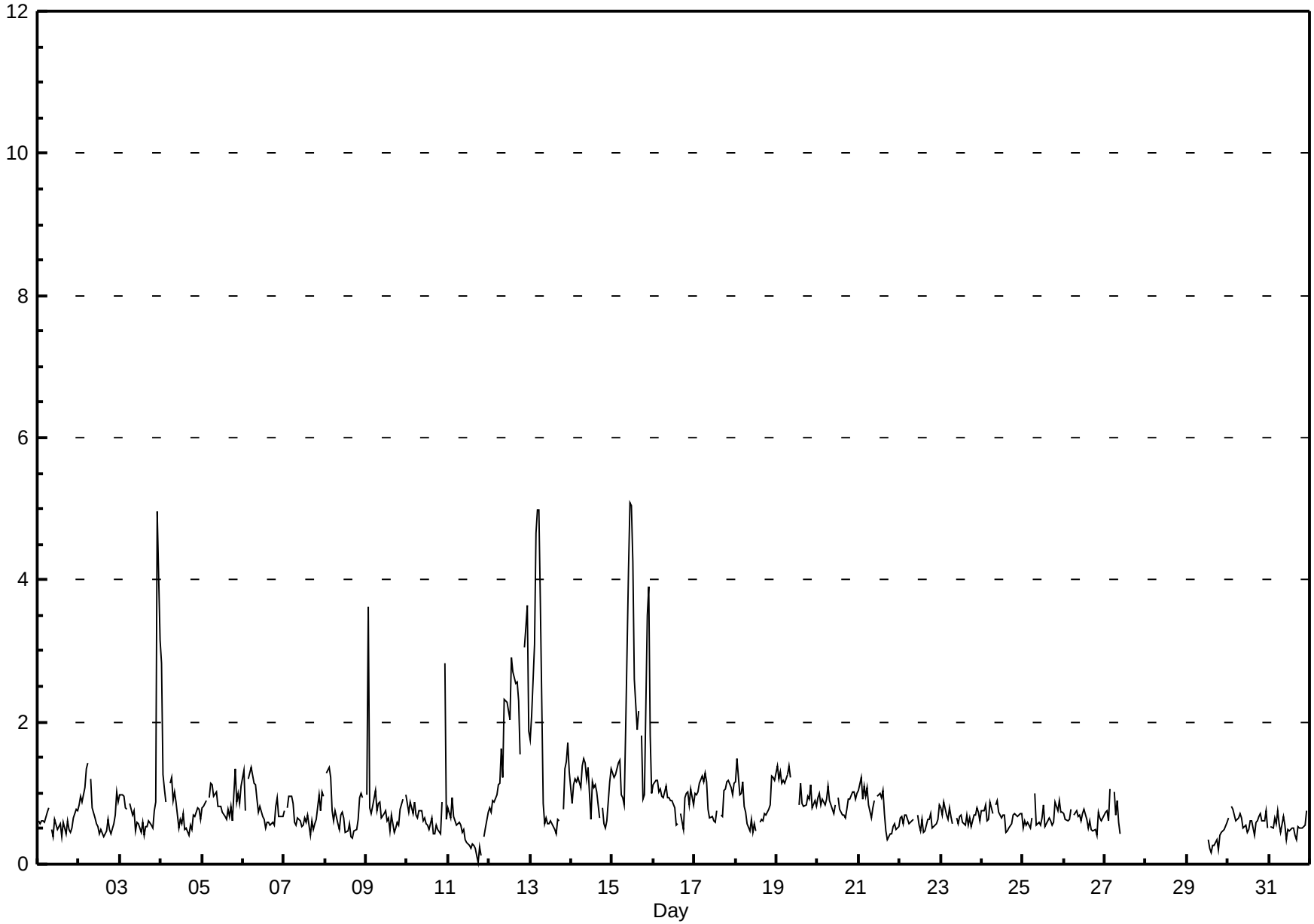
C - Calibration N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - August 2011

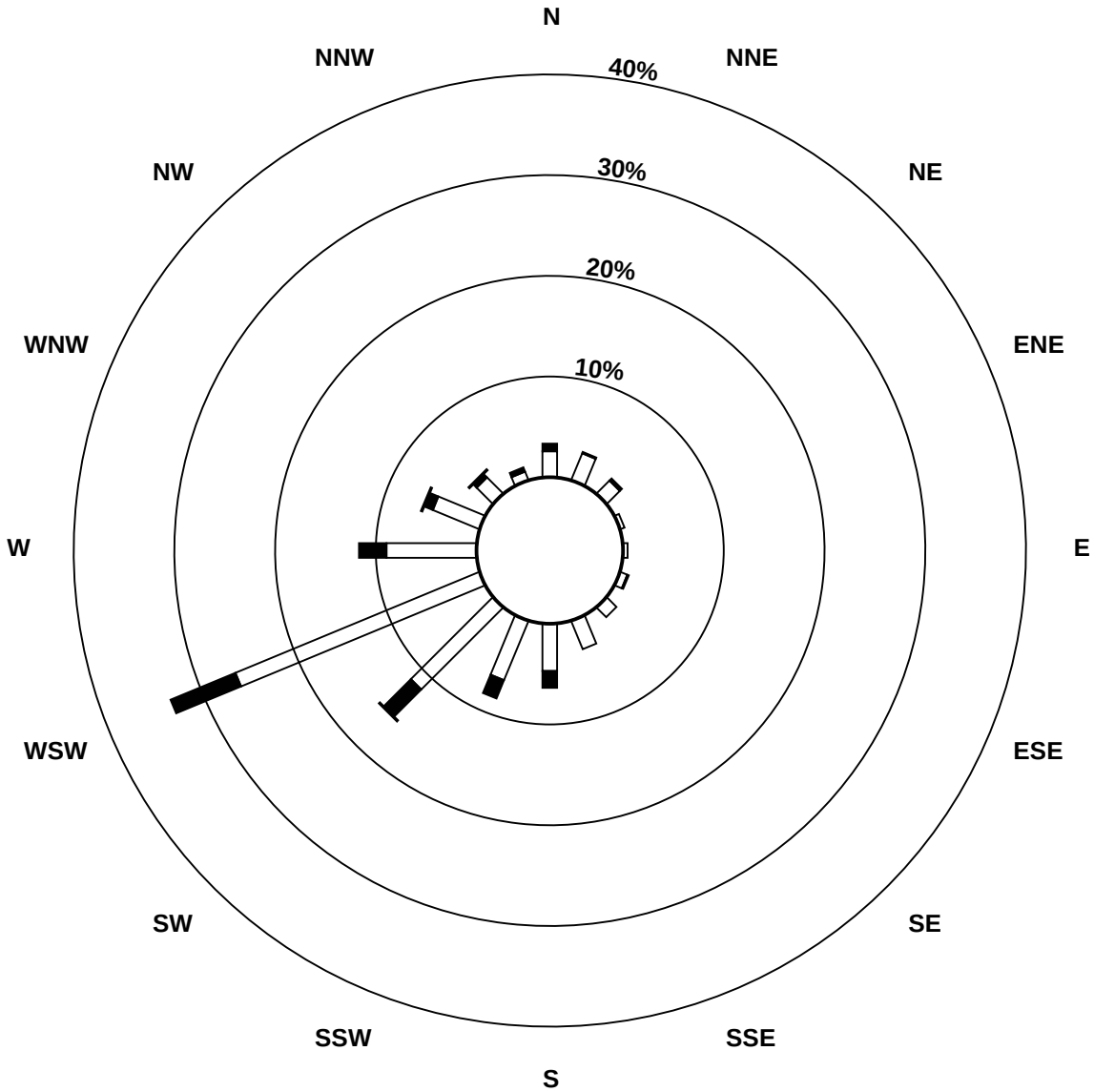


FOCUS AIR QUALITY MONITORING

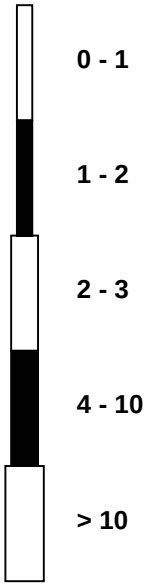
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - August 2011



Pollutant Classes (ppb)

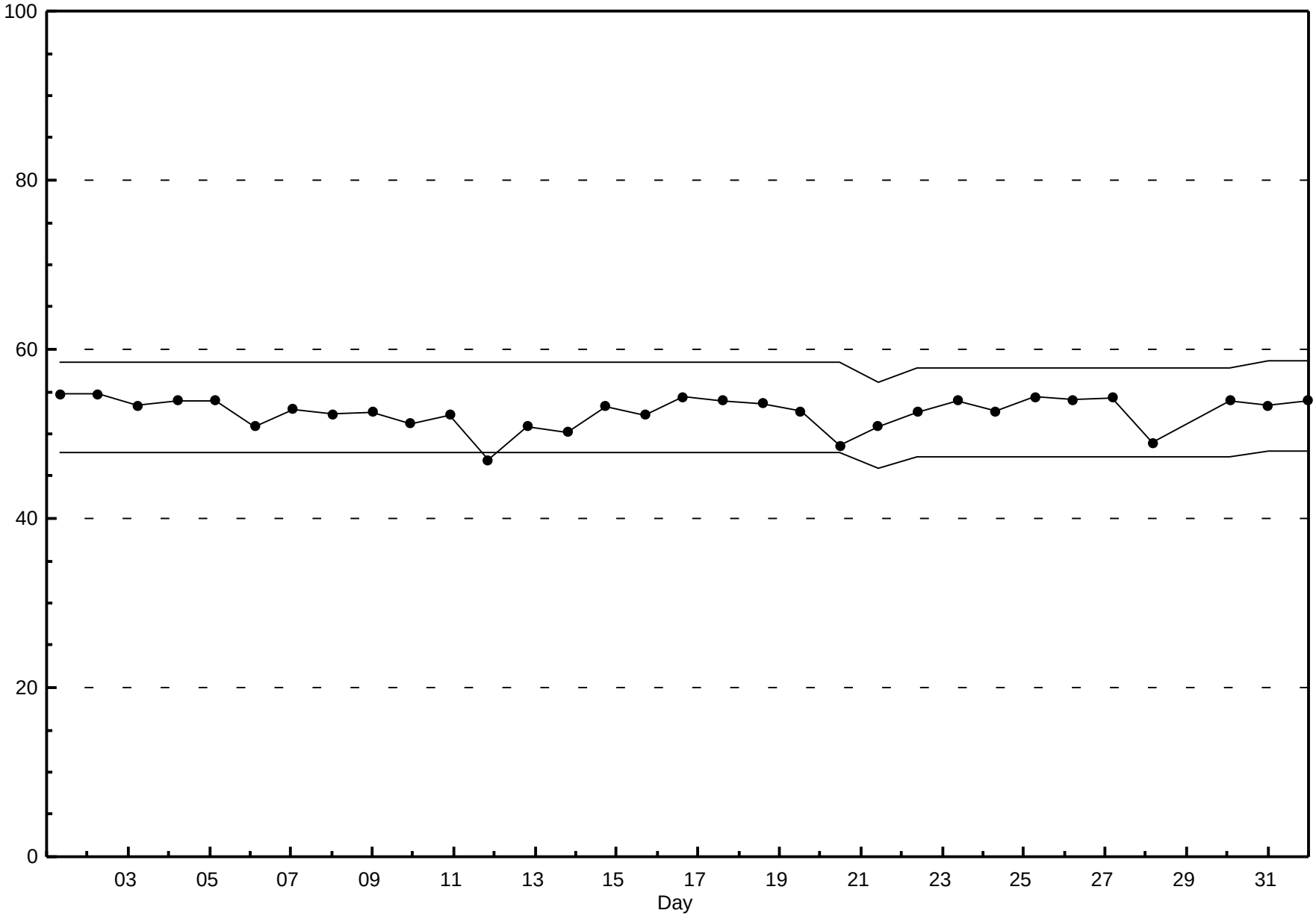


Peace Airshed Zone Association

Span Responses

Total Reduced Sulphur (TRS)

Smoky Heights - August 2011



Peace Airshed Zone Association

Hourly Averages

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

Smoky Heights - August 2011

Number of Exceedences: 1-hr: 0 24-hr: 0

Maximum Value: 38.3 $\mu g/m^3$ on Aug 26 20:00

Maximum Daily Average: 8.4 $\mu g/m^3$ on Aug 27

Minimum Value: 0 $\mu g/m^3$ on Aug 1 01:00

Maximum Diurnal Average: 5.8 $\mu g/m^3$ at hour 18

Monthly Average: 3.30 $\mu g/m^3$

Minimum Daily Average: 0.5 $\mu g/m^3$ on Aug 15

Minimum Diurnal Average: 1.6 $\mu g/m^3$ at hour 2

Percentiles: $P_1 = 0.0$ $P_{10} = 0.1$ $Q_1 = 1.0$ Median = 2.3 $Q_3 = 4.3$ $P_{90} = 7.0$ $P_{99} = 18.7$

Hours in Service:	744
Hours of Data:	741
Hours of Missing Data:	3
Hours of Calibration:	2
Percent Operational Time:	99.9

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	0	0	0	0	0	1	1	1	0	1	1	2	1	1	1	1	1	1	1	1	2	5	2	2	1.2	5.2
2-Aug	1	1	0	1	1	1	3	3	2	1	2	0	2	4	3	3	6	5	3	5	8	9	14	5	3.5	13.8
3-Aug	4	3	2	3	2	3	3	3	3	2	5	5	4	2	2	3	4	3	4	6	7	6	5	2	3.6	6.8
4-Aug	3	2	2	1	2	2	6	6	5	5	5	7	5	2	2	3	5	5	6	4	5	8	4	4	4.1	7.6
5-Aug	8	3	2	8	3	3	8	6	8	9	8	6	6	2	5	9	5	6	4	0	2	4	2	2	4.9	9.1
6-Aug	0	0	0	2	3	2	2	0	1	0	0	0	0	0	0	1	0	0	1	0	3	0	1	1	0.7	2.5
7-Aug	1	1	2	1	2	5	5	5	3	4	3	3	3	4	4	2	1	2	3	4	4	2	2	1	2.8	5.4
8-Aug	2	2	2	2	3	3	4	5	7	7	6	5	3	4	5	2	2	3	12	17	3	4	4	2	4.5	16.6
9-Aug	2	3	2	3	3	5	7	6	7	7	9	6	8	1	3	4	12	15	17	11	9	16	8	4	6.9	16.9
10-Aug	13	7	6	7	8	4	6	7	5	4	4	1	1	2	3	4	4	3	2	2	1	1	7	12	4.7	13.2
11-Aug	4	2	2	2	1	2	7	9	8	8	7	6	5	5	5	15	11	10	15	14	5	35	16	3	8.3	35.2
12-Aug	0	3	3	3	5	4	15	7	4	4	3	0	13	4	3	3	3	18	5	5	4	5	5	5	5.3	17.9
13-Aug	1	0	1	0	1	4	4	7	3	2	6	9	8	3	3	4	3	7	4	5	4	5	4	0	3.6	9.3
14-Aug	1	1	6	0	1	3	2	2	3	3	0	0	0	0	0	0	0	0	5	0	1	0	0	0	1.2	6.3
15-Aug	0	0	0	0	0	0	1	2	0	0	0	0	1	1	1	1	0	1	2	0	1	1	0	1	0.5	1.7
16-Aug	0	1	0	1	0	0	2	2	0	0	0	1	1	0	2	2	1	0	4	1	1	2	1	1	0.9	4.0
17-Aug	1	0	1	0	0	0	3	3	2	1	1	0	0	0	3	2	0	0	0	3	2	1	0	1	0.9	2.9
18-Aug	0	2	1	0	0	0	2	3	2	1	0	0	0	1	0	0	0	1	1	1	1	1	1	1	0.8	2.6
19-Aug	1	1	0	0	0	1	5	2	2	2	1	0	1	C	C	7	4	4	3	4	4	5	4	3	2.6	6.6
20-Aug	4	3	3	3	3	3	4	4	5	3	2	2	0	0	0	0	0	0	1	1	1	3	3	2	2.1	4.8
21-Aug	3	2	2	0	1	1	1	3	3	4	6	7	1	2	2	1	2	1	3	1	2	2	2	2	2.3	7.2
22-Aug	3	3	3	2	2	1	2	3	4	4	4	2	1	3	0	1	0	2	0	1	2	0	2	2	2.0	4.2
23-Aug	1	0	0	0	1	2	1	2	1	2	2	2	2	2	1	1	3	3	5	3	4	9	6	2	2.4	9.2
24-Aug	2	2	3	2	3	2	3	1	4	7	4	1	1	3	1	2	7	6	4	3	10	5	9	4	3.6	10.3
25-Aug	2	1	2	0	4	3	4	4	5	3	4	7	3	4	5	6	9	7	8	20	21	5	5	3	5.7	20.8
26-Aug	3	3	2	3	3	1	13	10	4	5	5	7	6	5	3	1	3	5	4	38	19	11	3	1	6.6	38.3
27-Aug	3	2	2	6	5	4	5	7	8	11	N	9	3	13	5	5	11	32	19	5	19	9	6	3	8.4	31.6
28-Aug	1	2	4	1	1	4	7	5	5	5	4	0	4	8	2	1	13	36	7	6	2	4	3	2	5.2	36.0
29-Aug	1	0	1	0	1	0	1	1	0	1	2	2	0	0	2	0	0	0	1	2	1	0	0	0	0.7	2.5
30-Aug	0	1	1	1	0	1	2	3	0	1	0	2	3	2	0	1	1	3	3	1	1	1	0	0	1.1	3.5
31-Aug	1	0	0	1	1	0	2	2	1	2	0	0	0	0	1	1	1	2	2	2	4	2	1	1	1.2	4.3
	2.1	1.6	1.8	1.7	2.0	2.2	4.2	4.0	3.4	3.5	3.2	3.0	2.8	2.6	2.2	2.8	3.7	5.8	4.8	5.5	4.9	5.2	3.9	2.3	Diurnal Average	
	13.2	7.4	6.3	7.5	7.7	5.4	14.6	9.7	7.7	10.8	8.6	9.4	12.8	12.9	5.4	14.7	12.5	36.0	18.9	38.3	20.8	35.2	15.7	11.6	Diurnal Maximum	

C - Calibration N - Not Valid

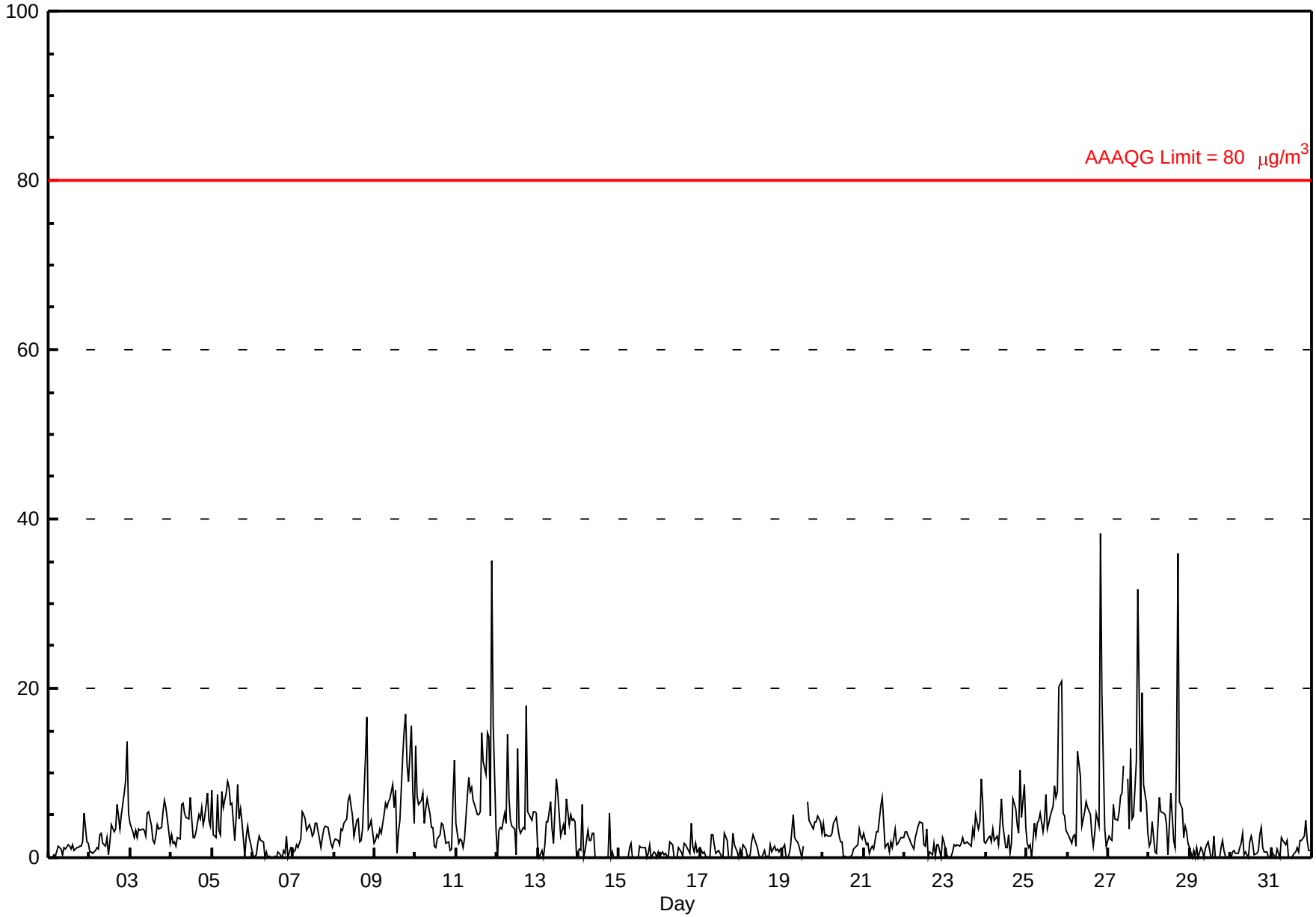
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

Hourly Averages

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

Smoky Heights - August 2011



Peace Airshed Zone Association

Hourly Maximums

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

Smoky Heights - August 2011

Maximum Value: 105.0 $\mu g/m^3$ on Aug 28 18:00

Maximum Daily Average: 22.6 $\mu g/m^3$ on Aug 27

Minimum Value: 0 $\mu g/m^3$ on Aug 15 01:00

Minimum Daily Average: 3.2 $\mu g/m^3$ on Aug 1

Maximum Diurnal Average: 16.0 $\mu g/m^3$ at hour 18

Minimum Diurnal Average: 4.4 $\mu g/m^3$ at hour 4

Monthly Average: 8.60 $\mu g/m^3$

Percentiles: P_1 = 1.0 P_{10} = 2.3 Q_1 = 3.4 Median = 5.4 Q_3 = 9.8 P_{90} = 15.1 P_{99} = 64.5

Hours in Service:	744
Hours of Data:	741
Hours of Missing Data:	3
Hours of Calibration:	2
Percent Operational Time:	99.9

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	2	1	1	2	1	3	3	3	2	3	2	4	3	3	3	2	2	3	5	3	3	15	3	4	3.2	15.2
2-Aug	2	3	2	3	3	3	5	5	3	5	6	2	7	11	5	15	15	23	8	12	13	16	44	10	9.3	44.5
3-Aug	6	4	4	9	6	9	5	6	5	5	9	11	6	5	4	8	9	12	8	12	18	11	13	6	8.0	18.3
4-Aug	12	13	5	4	5	6	8	12	10	9	12	18	13	9	12	7	19	15	13	7	8	15	7	11	10.4	18.8
5-Aug	31	5	4	21	5	6	13	8	11	11	11	12	12	10	39	39	11	11	8	4	6	6	4	4	12.1	39.4
6-Aug	2	3	5	4	5	3	3	2	4	2	3	3	2	3	3	4	4	3	3	4	4	3	5	2	3.3	5.3
7-Aug	2	2	4	3	5	8	8	7	6	6	6	6	5	7	8	6	5	7	9	8	13	4	6	5	6.1	13.2
8-Aug	4	4	4	4	6	4	5	6	11	13	9	11	6	12	9	7	7	10	50	56	23	11	8	4	12.0	55.9
9-Aug	5	5	5	5	5	7	9	11	10	11	15	12	15	10	8	12	45	31	26	18	17	47	15	9	14.7	46.9
10-Aug	26	14	12	11	13	6	8	10	9	6	7	11	9	7	12	11	11	8	5	4	3	4	36	32	11.4	36.4
11-Aug	6	3	5	3	3	5	16	18	10	12	11	12	14	12	13	27	24	24	30	34	20	71	31	7	17.2	70.9
12-Aug	5	10	6	10	12	6	40	16	8	8	9	7	45	11	11	11	12	47	51	8	8	16	16	11	15.9	51.1
13-Aug	3	2	3	2	4	8	9	10	11	7	11	14	13	14	22	12	14	14	11	11	6	11	11	2	9.4	21.7
14-Aug	7	6	18	5	7	6	5	3	6	6	4	6	8	8	4	8	6	4	9	2	3	2	2	1	5.7	17.8
15-Aug	0	2	1	3	1	1	3	4	2	2	7	5	8	5	3	5	6	4	4	3	3	2	2	2	3.3	7.6
16-Aug	2	2	2	2	2	2	4	4	2	3	2	6	4	3	5	5	5	3	13	4	2	3	4	3	3.6	12.7
17-Aug	3	2	2	2	2	2	7	5	4	4	6	4	4	5	12	9	9	3	10	8	4	5	4	2	4.9	11.8
18-Aug	3	4	3	2	2	3	6	5	7	5	5	3	5	7	4	8	6	6	3	4	4	3	2	3	4.3	8.1
19-Aug	3	3	2	2	3	4	10	5	6	7	6	5	5	C	C	9	6	5	5	6	6	8	7	5	5.4	10.1
20-Aug	6	11	8	5	4	5	7	6	6	7	6	3	1	1	1	2	2	3	2	3	3	13	5	4	4.7	12.7
21-Aug	4	3	3	2	3	3	5	5	5	7	11	10	5	5	5	5	4	3	6	5	4	4	4	4	4.8	10.8
22-Aug	4	5	4	4	4	3	4	6	7	7	6	3	3	11	2	4	3	4	1	3	7	9	4	5	4.8	11.3
23-Aug	4	1	2	2	2	3	4	4	3	3	3	4	4	4	4	4	6	4	13	7	7	19	11	3	5.1	19.1
24-Aug	4	4	5	4	5	6	5	4	8	9	11	4	10	10	3	10	28	18	8	7	18	9	17	7	8.9	27.6
25-Aug	3	3	3	1	9	5	6	7	13	7	13	22	13	10	14	20	21	13	19	44	84	14	9	5	14.9	83.6
26-Aug	5	5	3	4	7	3	31	18	6	6	8	9	8	7	6	4	8	8	7	93	43	20	13	5	13.7	92.8
27-Aug	4	4	4	9	6	7	10	15	13	17	N	12	11	37	14	37	49	87	67	13	70	14	14	7	22.6	86.7
28-Aug	3	15	16	3	2	9	15	11	8	7	7	4	12	22	8	4	51	105	31	18	7	7	7	5	15.7	105.0
29-Aug	4	2	3	1	5	2	5	2	2	4	3	5	1	8	12	3	3	3	3	6	4	3	1	2	3.7	12.0
30-Aug	2	2	3	3	3	4	4	6	4	4	2	4	5	5	3	3	4	6	7	4	3	3	3	1	3.6	6.8
31-Aug	3	2	3	3	2	1	4	3	3	5	2	2	3	4	5	4	3	7	6	6	11	4	4	2	3.9	11.3
	5.5	4.8	4.7	4.4	4.7	4.7	8.6	7.4	6.7	6.7	7.1	7.5	8.4	9.0	8.5	9.8	12.8	16.0	14.3	13.5	13.8	12.0	10.1	5.6	Diurnal Average	
	30.9	14.5	17.8	20.8	12.7	9.1	40.3	18.3	13.5	16.7	15.2	21.7	45.4	37.4	39.1	39.4	51.1	105.0	67.2	92.8	83.6	70.9	44.5	31.9	Diurnal Maximum	

C - Calibration N - Not Valid

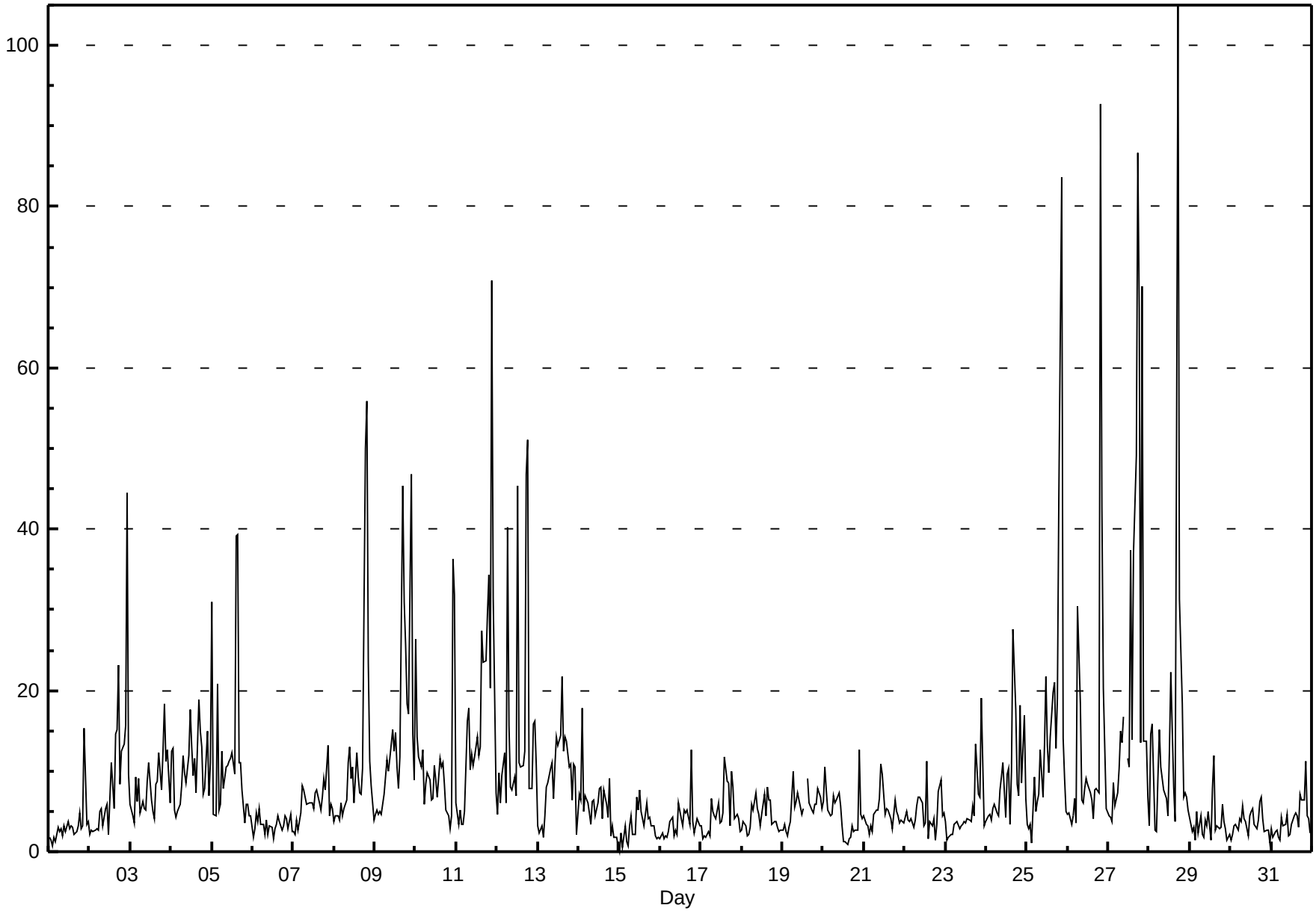
FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

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

Smoky Heights - August 2011

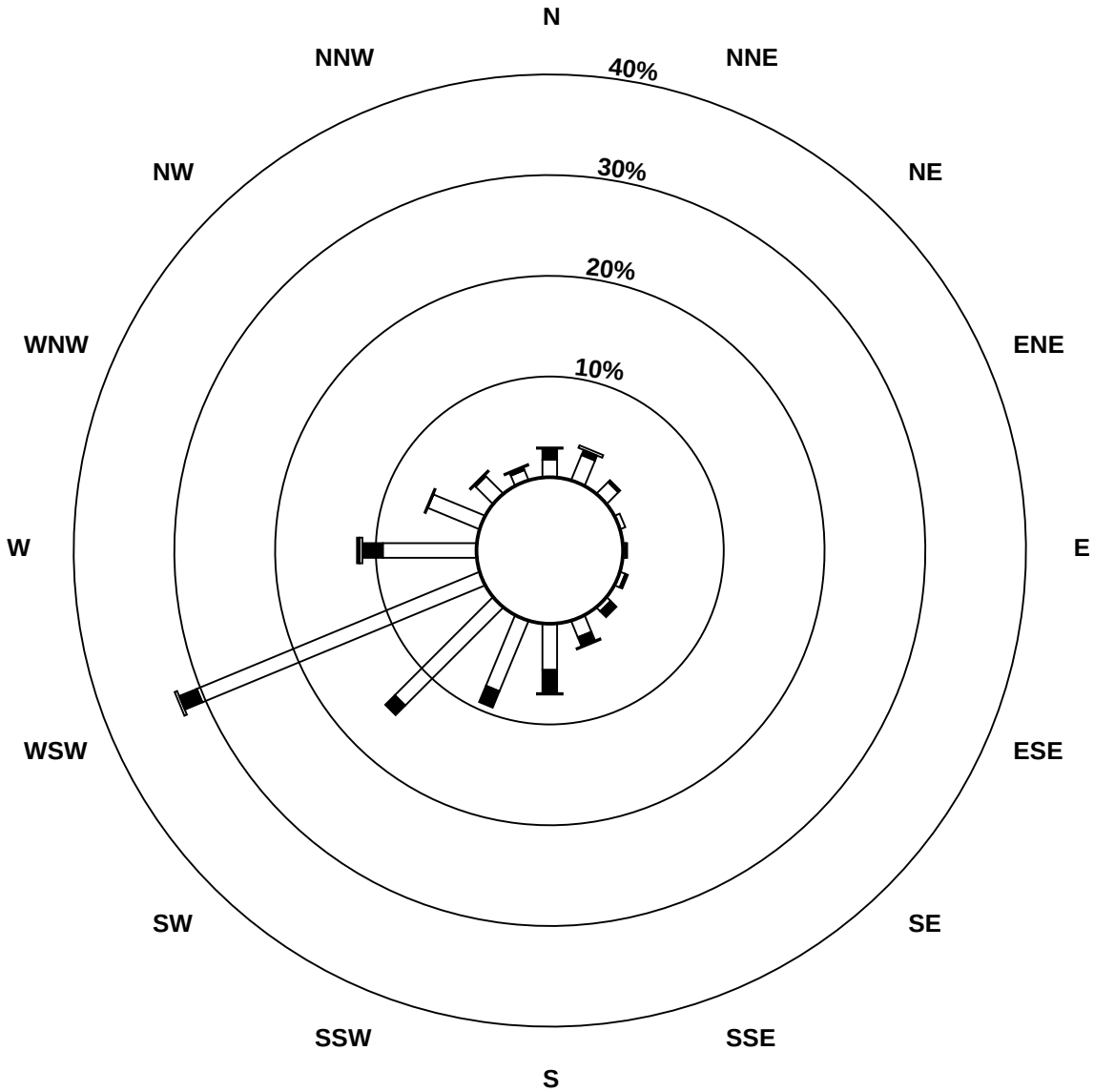


Peace Airshed Zone Association

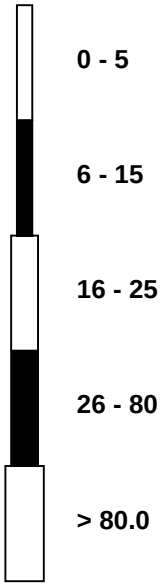
Pollutant Rose

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

Smoky Heights - August 2011



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



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Smoky Heights - August 2011

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

Maximum Value: 25.6 ^{o}C on Aug 9 16:00

Maximum Daily Average: 17.7 ^{o}C on Aug 10

Minimum Value: 3 ^{o}C on Aug 25 06:00

Minimum Daily Average: 9.9 ^{o}C on Aug 31

Maximum Diurnal Average: 20.3 ^{o}C at hour 15

Minimum Diurnal Average: 8.5 ^{o}C at hour 6

Monthly Average: 14.45 ^{o}C

Percentiles: P_1 = 5.1 P_{10} = 7.5 Q_1 = 10.4 Median = 14.3 Q_3 = 18.1 P_{90} = 22.2 P_{99} = 24.7

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

Day	Hourly Period Ending At (MST)																								Daily	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-Aug	9	8	8	9	10	10	10	12	14	15	17	18	19	19	19	19	19	19	18	17	15	11	9	10	13.9	19.3
2-Aug	9	9	8	6	6	6	8	11	14	16	19	20	21	21	22	22	22	23	23	20	18	15	13	13	15.2	22.9
3-Aug	13	13	12	13	12	11	12	14	16	18	19	21	22	23	21	22	20	20	19	19	18	14	12	10	16.4	22.5
4-Aug	9	8	9	8	8	7	10	13	15	18	20	21	22	24	24	24	25	24	23	22	20	15	14	14	16.6	24.5
5-Aug	13	11	9	9	9	8	10	12	14	18	21	22	23	25	24	17	17	17	16	16	16	15	15	15	15.6	25.4
6-Aug	14	13	12	12	11	11	11	12	13	13	14	16	17	17	17	16	15	15	16	13	12	13	12	11	13.7	17.0
7-Aug	12	12	12	11	10	12	13	14	15	16	16	16	17	17	18	19	21	21	22	22	18	14	12	11	15.4	22.3
8-Aug	10	10	10	9	9	10	11	11	12	15	19	21	22	23	24	24	24	24	24	23	18	14	13	11	16.3	24.1
9-Aug	11	10	9	9	9	9	10	12	15	17	20	22	24	25	25	26	25	25	26	24	20	15	13	12	17.2	25.6
10-Aug	13	14	14	13	12	13	14	15	17	18	19	21	22	23	24	23	23	23	22	20	17	16	15	13	17.7	23.6
11-Aug	12	12	11	12	10	10	12	15	16	18	20	22	23	24	24	23	23	23	24	22	17	15	14	13	17.3	24.2
12-Aug	12	11	11	10	8	7	9	12	15	17	19	21	21	22	23	24	23	20	19	18	16	15	14	14	15.9	23.5
13-Aug	13	12	11	9	8	9	10	11	12	12	14	16	19	20	21	20	20	20	19	18	16	15	15	14	14.7	20.6
14-Aug	13	12	13	12	11	11	12	12	13	14	15	16	17	18	18	17	17	17	16	14	13	11	10	11	13.9	18.4
15-Aug	10	9	7	7	7	6	6	9	12	13	15	15	15	15	15	16	16	17	17	16	13	11	11	9	12.0	17.0
16-Aug	8	7	7	8	6	6	8	10	12	14	15	15	16	16	16	16	16	16	16	15	13	12	11	10	12.0	16.4
17-Aug	9	9	7	7	5	4	6	10	12	14	15	16	17	18	14	14	17	18	15	11	10	10	10	9	11.5	17.7
18-Aug	8	7	8	7	7	6	7	9	11	13	14	14	16	15	17	17	18	17	16	15	12	11	9	9	11.8	17.7
19-Aug	9	8	7	6	4	4	6	9	12	14	16	16	17	17	18	17	17	17	16	15	13	12	12	12	12.3	17.6
20-Aug	11	11	9	9	9	9	10	12	14	17	19	21	23	24	24	25	24	24	23	21	18	15	14	12	16.6	24.6
21-Aug	12	12	12	11	11	11	12	14	16	18	19	20	22	23	23	24	24	23	21	20	18	17	17	16	17.4	24.4
22-Aug	15	15	15	14	16	16	16	16	18	18	19	20	20	21	22	22	20	19	18	17	15	14	12	10	16.9	21.8
23-Aug	10	10	10	10	10	10	10	12	14	16	17	18	19	19	20	20	20	19	19	16	13	11	10	10	14.2	19.6
24-Aug	8	9	10	10	11	11	11	11	12	14	17	20	21	22	22	22	22	21	20	18	15	11	11	10	14.9	22.2
25-Aug	12	9	9	9	6	3	4	8	11	14	16	16	17	18	19	19	19	19	19	17	10	7	7	7	12.2	19.2
26-Aug	6	6	5	6	6	5	6	8	9	11	13	16	19	20	21	22	22	22	20	16	14	13	12	9	12.9	22.0
27-Aug	8	7	6	7	6	5	7	9	11	14	N	19	21	23	23	22	21	20	20	17	14	12	10	10	13.6	22.8
28-Aug	9	8	8	7	6	6	7	10	12	15	18	20	22	22	23	24	23	23	22	19	18	16	15	15	15.4	23.9
29-Aug	15	15	14	14	13	13	13	13	13	13	14	15	17	19	18	19	20	19	17	15	13	11	8	7	14.5	19.7
30-Aug	7	6	6	7	7	7	7	8	9	12	13	14	14	15	16	15	15	15	11	10	8	7	7	6	10.1	15.5
31-Aug	7	8	7	7	7	6	6	7	8	10	12	13	14	14	15	15	16	15	15	12	8	6	5	4	9.9	16.1
	10.6	10.1	9.5	9.3	8.8	8.5	9.4	11.3	13.1	15.0	16.8	18.2	19.3	20.0	20.3	20.2	20.1	19.8	19.1	17.3	14.7	12.7	11.7	10.9	Diurnal Average	
	14.7	15.2	14.5	14.5	15.7	16.2	15.7	15.8	17.5	18.4	20.7	22.3	23.6	25.4	25.5	25.6	25.3	25.4	25.6	24.1	19.7	17.3	16.5	15.9	Diurnal Maximum	

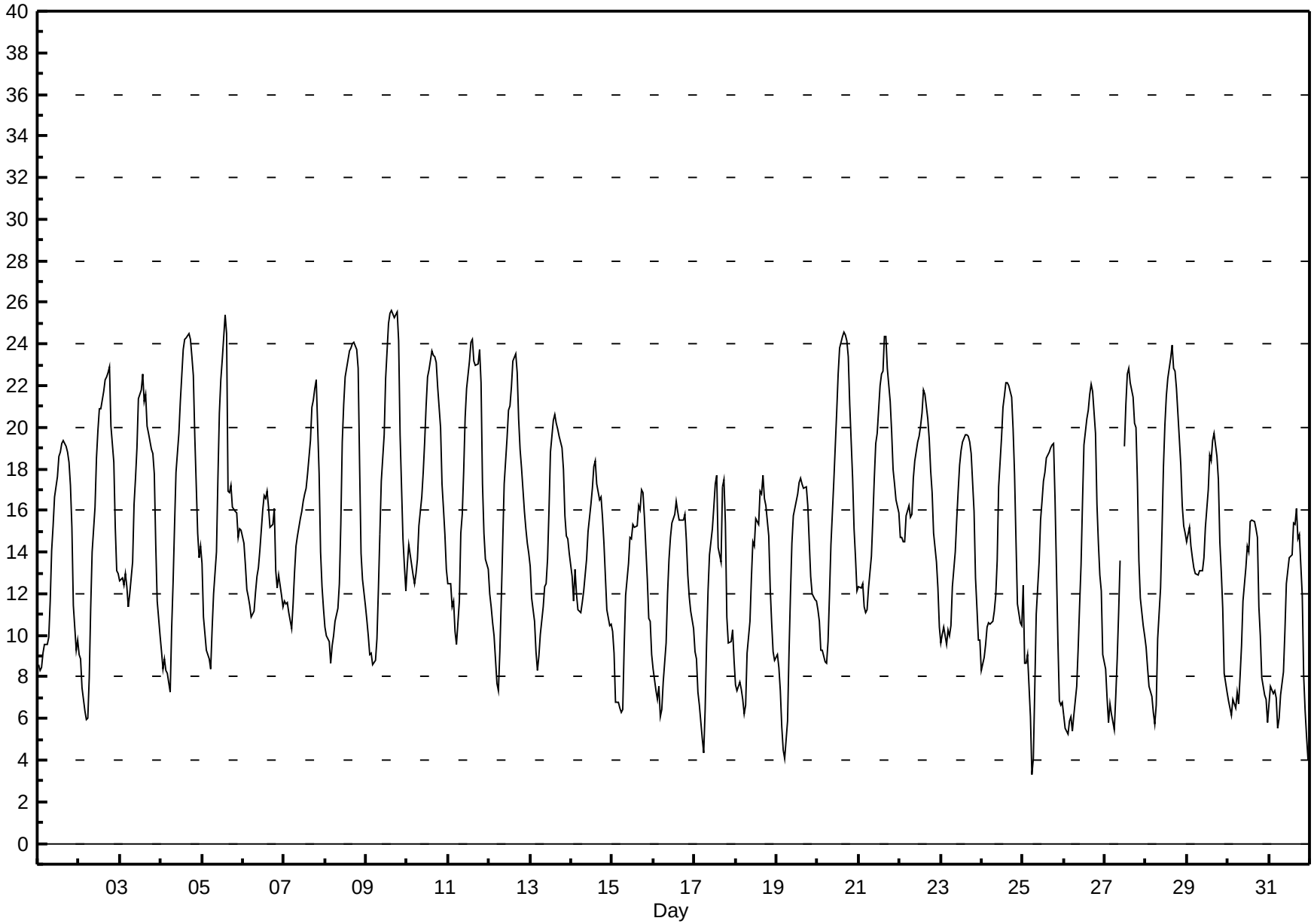
N - Not Valid

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Smoky Heights - August 2011



Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Smoky Heights - August 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	15	14	17	17	21	20	19	25	35	41	39	39	36	36	35	35	36	33	31	25	16	7	10	14	25.2	41.5
Dir	218	228	225	223	230	231	239	244	250	256	253	253	253	250	251	247	250	254	254	250	246	224	226	240	245.8	256.3
2 Spd	13	15	14	12	11	9	7	9	12	15	18	24	24	19	16	11	9	8	8	5	8	2	6	7	11.0	24.2
Dir	242	248	254	262	261	265	250	223	225	235	247	261	261	254	236	265	275	241	233	311	348	254	243	249	252.9	261.0
3 Spd	11	13	12	15	13	10	5	5	3	6	4	4	6	7	6	0	7	9	6	4	3	6	2	4	3.7	15.0
Dir	256	256	258	252	258	255	179	175	199	278	287	38	26	1	334	8	127	176	165	156	234	261	304	271	249.2	252.2
4 Spd	1	3	7	8	4	10	10	11	14	14	16	15	14	11	13	11	9	8	8	9	5	2	5	4	7.6	16.2
Dir	106	250	251	250	203	218	216	214	222	225	238	239	237	232	233	226	210	161	140	129	140	216	204	205	218.5	237.6
5 Spd	6	7	6	8	9	7	8	8	10	9	8	8	7	3	1	26	7	9	6	5	2	8	8	12	5.3	25.5
Dir	256	256	240	224	218	200	190	178	171	178	164	182	161	153	252	255	312	104	139	59	212	222	228	175	202.8	255.0
6 Spd	8	7	6	8	7	3	6	6	9	13	12	14	17	16	10	11	17	13	9	6	6	14	15	10	9.5	16.9
Dir	199	238	234	223	262	290	258	247	224	234	238	252	254	267	302	237	225	237	232	273	255	249	250	247	245.5	225.3
7 Spd	11	12	7	6	5	9	7	7	11	13	13	13	10	6	3	7	9	7	7	3	2	5	5	5	6.5	13.0
Dir	243	252	269	269	304	315	312	312	295	302	309	283	297	308	174	214	258	256	305	343	287	259	259	248	281.6	309.2
8 Spd	4	4	6	6	6	5	8	9	8	9	8	9	10	9	9	12	13	8	7	1	2	2	5	7	6.1	13.4
Dir	235	224	235	222	215	219	208	195	184	180	211	213	209	204	190	210	231	235	272	315	296	304	296	274	219.4	231.4
9 Spd	6	1	2	3	3	3	4	6	6	7	9	5	7	11	14	12	9	8	8	5	4	3	5	3	3.2	14.1
Dir	273	20	237	287	271	84	188	203	175	167	181	202	206	246	234	238	249	265	17	27	7	334	307	1	238.5	233.9
10 Spd	9	8	9	8	9	13	11	9	10	8	8	8	8	8	7	10	10	10	9	8	8	9	9	4	8.2	12.8
Dir	7	5	5	18	17	3	357	7	32	37	45	52	54	62	41	35	29	30	48	61	55	62	52	7	30.8	2.5
11 Spd	7	7	7	7	6	5	5	2	8	10	10	9	8	6	8	8	9	5	6	6	8	9	11	14	1.2	14.5
Dir	21	16	13	8	15	7	10	99	143	124	115	140	152	153	169	189	194	224	249	202	265	272	272	284	197.1	283.6
12 Spd	10	11	6	7	8	10	12	8	9	9	5	7	3	3	3	2	4	2	8	5	5	4	5	4	3.0	11.6
Dir	270	189	208	255	272	272	260	196	213	206	215	182	265	289	119	120	46	24	85	34	28	344	243	248	234.3	260.4
13 Spd	5	4	4	1	4	4	2	0	5	6	5	4	3	4	6	6	8	7	6	5	4	3	4	7	2.5	7.7
Dir	339	5	5	315	229	303	257	150	104	161	159	126	51	30	49	51	9	21	15	27	353	1	343	8	23.8	8.8
14 Spd	7	6	23	12	5	10	7	12	11	10	13	16	14	17	17	14	13	13	12	14	13	9	10	12	9.1	22.9
Dir	15	340	275	322	0	176	201	213	216	201	238	260	260	255	249	243	232	227	189	185	184	209	245	241	236.7	275.4
15 Spd	18	17	13	12	15	14	11	13	23	30	31	27	37	36	31	30	27	27	19	17	15	16	18	14	20.7	37.3
Dir	259	260	256	243	229	220	224	222	214	225	240	245	252	253	253	253	259	259	251	249	250	243	239	238	244.8	251.8
16 Spd	16	14	14	16	17	15	12	14	22	29	37	41	39	40	37	28	26	29	32	28	29	25	22	18	24.9	40.7
Dir	240	242	241	249	256	254	252	241	246	244	251	253	245	252	257	253	251	249	259	258	262	255	253	245	251.2	253.0
17 Spd	17	16	11	11	9	9	11	13	14	20	26	25	24	21	18	8	13	26	13	13	10	16	12	16	14.6	26.4
Dir	248	252	231	237	238	234	220	237	234	245	252	255	247	252	258	286	254	254	289	302	254	299	299	259	255.0	251.6
18 Spd	14	11	15	14	14	8	10	15	13	11	9	6	16	9	13	12	14	21	15	12	9	16	17	17	12.7	21.2
Dir	262	260	262	270	267	264	251	253	252	238	246	295	266	290	266	288	278	254	254	243	249	251	263	258	260.8	253.9
19 Spd	15	6	6	6	9	7	10	9	11	9	14	16	18	20	22	18	15	13	10	7	7	7	4	5	10.0	22.1
Dir	258	204	178	172	190	197	202	236	240	240	228	237	250	253	258	262	264	255	246	231	227	219	206	225	237.9	257.7
20 Spd	7	7	9	7	6	7	5	8	9	18	20	17	25	30	30	33	28	23	15	12	10	9	6	5	14.1	32.8
Dir	208	218	264	263	208	235	222	208	220	233	249	241	243	246	246	245	241	244	246	244	247	233	256	226	240.8	244.6
21 Spd	6	4	3	8	7	7	7	6	10	11	15	17	25	27	24	33	30	24	17	15	11	8	12	11	13.2	33.4
Dir	215	241	235	223	249	228	243	212	199	194	200	204	223	212	199	232	242	252	263	253	261	188	225	229	226.6	232.4
22 Spd	9	8	8	10	12	14	12	11	14	14	13	16	17	23	28	24	22	18	19	24	30	20	22	10	16.1	30.1
Dir	269	261	231	254	236	227	247	229	222	242	242	232	230	239	238	247	246	244	219	212	230	199	225	210	233.1	230.4

FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
23 Spd	9	13	15	16	22	18	22	23	32	37	38	36	35	38	36	35	31	24	18	9	9	6	10	7	22.1	37.8
Dir	217	209	237	243	234	236	235	246	249	250	258	258	250	253	250	249	251	252	251	244	233	246	261	249	247.2	258.4
24 Spd	3	4	6	5	3	4	6	12	8	10	20	31	33	34	35	36	31	29	27	17	14	10	11	16	15.3	35.8
Dir	240	273	289	324	334	165	220	182	185	182	207	233	248	252	247	250	253	256	249	251	267	267	257	253	244.7	249.7
25 Spd	20	12	14	15	9	7	13	15	17	15	10	12	11	11	13	12	11	8	5	3	3	3	2	3	9.2	20.3
Dir	273	267	296	292	243	235	247	248	251	250	274	224	244	238	233	237	254	264	261	359	303	21	195	219	256.5	272.8
26 Spd	3	5	6	6	7	6	5	10	9	8	10	10	10	11	12	12	12	10	9	7	6	8	6	7	6.7	12.5
Dir	251	247	247	245	255	236	218	218	213	177	169	173	167	171	165	165	176	159	157	182	253	226	261	248	196.8	176.5
27 Spd	7	7	8	7	5	6	7	8	7	7	N	9	12	18	21	27	22	15	8	11	13	14	12	12	9.6	26.5
Dir	252	215	185	192	210	224	192	192	174	170	N	169	225	255	258	264	263	265	258	245	259	266	268	277	243.0	264.2
28 Spd	11	12	8	8	7	7	6	8	8	8	8	9	9	11	8	9	5	3	1	7	4	4	5	6	5.5	11.9
Dir	257	254	253	207	200	213	213	219	196	175	171	174	195	185	211	229	199	169	131	330	339	189	257	267	216.4	253.6
29 Spd	5	7	4	2	5	5	8	8	9	10	13	13	18	20	22	24	28	25	15	12	16	14	9	13	9.7	28.0
Dir	20	16	32	13	239	169	204	202	187	177	208	225	238	241	259	251	264	262	259	293	294	304	264	265	252.8	264.1
30 Spd	12	11	12	14	11	13	11	11	17	20	17	21	21	20	18	18	17	26	14	12	9	9	11	10	14.2	25.6
Dir	258	247	262	254	251	261	266	251	287	295	282	254	283	292	290	292	284	258	288	282	278	273	279	267	273.9	258.3
31 Spd	13	13	12	7	6	5	3	5	6	7	4	4	6	3	3	3	7	4	6	8	5	6	4	6	4.3	13.1
Dir	291	294	293	276	212	213	165	172	172	191	286	315	307	307	236	235	239	158	206	221	245	257	246	218	249.8	290.8
Spd	7.5	6.8	7.4	7.0	7.1	6.6	7.0	8.2	9.6	10.9	12.2	12.8	14.3	14.4	14.0	14.8	13.5	12.2	8.4	6.4	6.9	6.5	7.7	7.9	Diurnal Average	
Dir	257.4	252.7	256.4	254.3	244.1	238.7	234.3	226.2	226.5	230.0	238.7	239.7	245.4	248.3	246.1	248.0	250.6	248.6	248.8	250.8	256.9	251.2	254.5	249.9		
Spd	20.3	16.9	22.9	17.5	22.2	19.6	22.0	25.2	35.0	41.5	38.8	40.7	38.9	40.2	36.5	35.8	35.6	33.3	32.1	28.4	30.1	25.0	21.8	18.2	Diurnal Maximum	
Dir	272.8	259.5	275.4	222.8	233.9	231.5	234.7	244.1	249.7	256.3	253.1	253.0	245.4	252.4	256.9	249.7	250.0	254.4	258.5	257.5	230.4	255.2	224.9	244.7		

Maximum Speed Value: 41 km/h on Aug 1 10:00
Maximum Daily Speed Average: 25.2 km/h on Aug 1
Maximum Diurnal Speed Average: 14.8 km/h at hour 16

Minimum Speed Value: 0 km/h on Aug 13 08:00
Minimum Daily Speed Average: 1.2 km/h on Aug 13
Minimum Diurnal Speed Average: 6.4 km/h at hour 20

Monthly Average Velocity: 9.48 km/h 245.33 deg

Speed Percentiles: P_1 = 1.1 P_{10} = 4.2 Q_1 = 6.5 Median = 9.6 Q_3 = 14.7 P_{90} = 24.1 P_{99} = 36.9

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

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

N - Not Valid

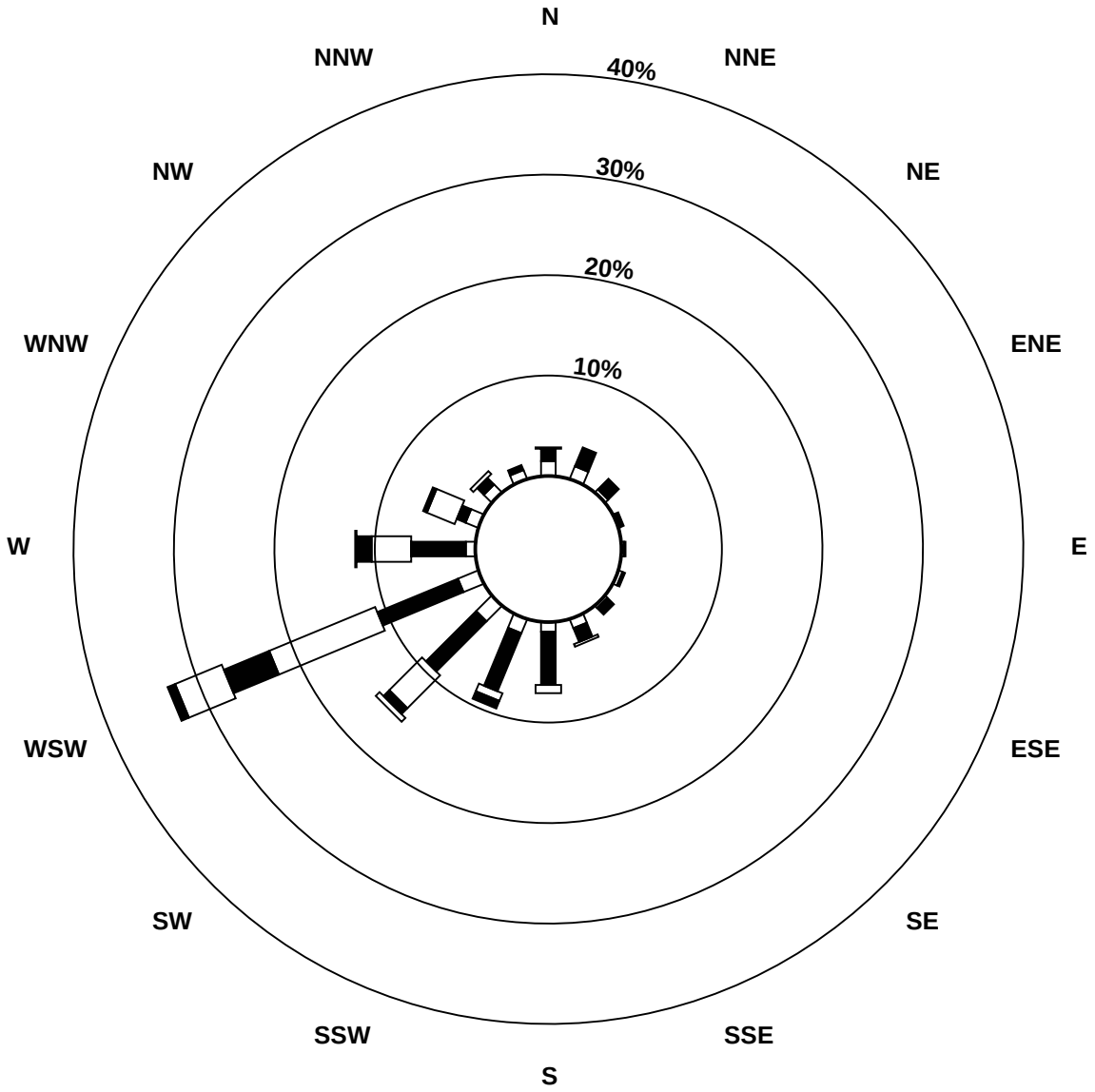
Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	21	21	2	0	0	0	44
NorthEast	9	20	0	0	0	0	29
East	3	3	0	0	0	0	6
SouthEast	7	12	0	0	0	0	19
South	13	66	12	2	0	0	93
SouthWest	23	106	87	23	14	1	254
West	19	73	93	34	32	5	256
NorthWest	13	16	12	1	0	0	42
Total	108	317	206	60	46	6	743

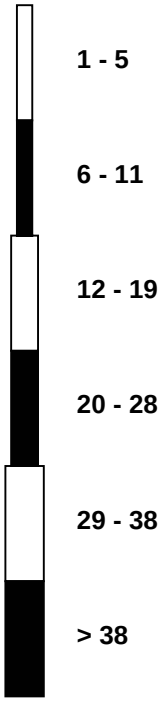
Wind Rose

Wind Speed (WS) (km/h)

Smoky Heights - August 2011



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Smoky Heights - August 2011

Maximum Speed: 42 km/h on Aug 1 10:00

Maximum Daily Speed Average: 25.9 km/h on Aug 1

Minimum Speed: 2 km/h on Aug 13 04:00

Minimum Daily Speed Average: 5.4 km/h on Aug 13

Maximum Diurnal Speed Average: 17.9 km/h at hour 16

Minimum Diurnal Speed Average: 9.1 km/h at hour 7

Monthly Average Speed: 12.47 km/h

Percentiles: P_1 = 2.8 P_{10} = 5.0 Q_1 = 7.1 Median = 10.1 Q_3 = 14.8 P_{90} = 24.7 P_{99} = 37.3

Hours in Service: 744

Hours of Data: 743

Hours of Missing Data: 1

Percent Operational Time: 99.9

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	15	14	17	18	21	20	19	25	35	42	39	40	36	36	35	35	36	34	32	25	16	7	10	14	25.9	41.7
2-Aug	13	15	14	12	11	9	8	9	12	16	18	24	25	20	16	12	10	8	8	9	8	3	6	7	12.2	24.7
3-Aug	11	13	12	15	13	10	6	6	5	6	6	6	8	8	8	5	8	9	6	4	3	6	3	5	7.6	15.2
4-Aug	3	5	8	8	4	10	10	12	14	14	17	16	14	12	14	12	10	8	8	9	5	4	6	5	9.4	16.5
5-Aug	6	7	6	8	9	8	8	8	10	9	9	9	8	5	5	28	9	11	7	5	4	8	9	12	8.6	27.6
6-Aug	8	7	6	8	7	4	6	6	9	13	12	14	17	17	10	14	17	13	11	6	6	14	15	11	10.5	17.4
7-Aug	11	12	7	6	5	9	8	8	11	13	13	13	10	6	5	8	10	7	8	3	3	5	5	5	8.0	13.3
8-Aug	4	4	6	6	6	5	8	9	9	9	9	10	10	10	10	13	14	9	7	2	3	3	5	7	7.4	13.8
9-Aug	7	3	3	4	3	3	4	6	7	8	9	6	8	12	15	13	9	8	8	5	4	4	5	4	6.5	14.6
10-Aug	9	8	9	8	9	13	11	10	10	8	8	9	9	9	9	10	10	10	10	8	8	9	10	5	9.2	13.0
11-Aug	7	7	7	7	6	5	5	3	8	10	11	10	9	8	9	9	9	6	6	6	8	9	11	15	8.0	14.5
12-Aug	10	12	7	7	8	10	12	8	9	9	7	8	7	5	6	5	5	5	9	6	5	6	12	9	7.8	12.5
13-Aug	6	5	4	2	4	4	3	2	6	7	6	5	5	6	7	7	8	7	6	6	4	4	6	7	5.4	8.0
14-Aug	7	8	25	15	7	10	8	12	11	10	14	17	14	17	18	14	13	13	12	14	13	10	10	13	12.7	25.0
15-Aug	18	17	13	12	15	14	11	13	24	30	32	28	38	36	31	30	27	27	19	17	15	16	18	15	21.4	37.6
16-Aug	16	14	14	16	17	15	13	14	22	29	37	41	39	41	37	29	26	29	32	29	29	25	22	18	25.1	41.0
17-Aug	17	17	11	11	9	10	11	13	14	20	27	25	25	22	19	8	13	26	17	15	10	16	13	16	16.1	26.6
18-Aug	14	11	15	14	14	10	10	15	13	12	10	7	16	10	14	13	15	21	15	13	9	16	17	17	13.4	21.3
19-Aug	15	8	6	6	9	7	10	9	11	10	15	17	19	21	22	18	15	13	10	7	7	7	5	5	11.3	22.5
20-Aug	7	8	10	7	6	7	5	8	9	18	20	18	26	30	30	33	28	23	15	12	10	9	7	6	14.8	33.1
21-Aug	6	4	3	8	8	7	7	7	10	12	16	17	25	27	25	34	30	24	17	15	11	10	12	12	14.4	33.8
22-Aug	10	8	9	10	12	15	12	11	14	14	13	16	18	24	29	24	22	19	19	24	31	22	22	11	17.0	30.8
23-Aug	9	13	16	16	22	19	22	23	32	37	38	36	36	38	36	35	32	24	18	9	9	7	11	7	22.7	38.2
24-Aug	4	5	6	6	4	5	7	13	9	10	21	31	33	34	35	36	31	29	27	17	14	10	11	16	17.3	36.2
25-Aug	20	12	14	15	10	8	13	15	17	16	11	12	13	12	13	13	12	9	5	3	4	3	2	3	10.7	20.4
26-Aug	3	5	6	6	7	6	5	10	9	9	11	10	11	11	13	12	13	11	9	8	6	8	6	8	8.4	12.8
27-Aug	8	7	8	7	6	6	8	8	7	7	N	9	16	18	22	27	22	15	8	11	14	14	13	12	11.9	27.0
28-Aug	12	12	9	8	7	7	7	8	9	8	8	10	9	12	9	10	5	3	3	7	6	5	6	7	7.7	12.2
29-Aug	5	7	5	3	6	5	8	8	10	11	13	13	18	21	22	24	28	25	15	13	16	14	10	13	13.0	28.3
30-Aug	12	11	12	14	11	13	12	11	18	20	18	21	22	21	19	19	17	26	15	13	10	9	11	10	15.1	25.8
31-Aug	13	13	12	8	6	6	5	5	6	8	7	6	7	5	5	6	8	5	6	8	6	6	5	6	7.1	13.2
	9.9	9.4	9.7	9.4	9.2	9.1	9.1	10.2	12.5	14.3	15.8	16.2	17.7	17.8	17.6	17.9	16.6	15.4	12.5	10.6	9.6	9.4	9.8	9.7	Diurnal Average	
	20.4	17.1	25.0	17.6	22.3	19.6	22.1	25.3	35.1	41.7	39.2	41.0	39.2	40.6	36.8	36.2	35.9	33.5	32.4	28.5	30.8	25.2	21.9	18.3	Diurnal Maximum	

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 - August 2011

Maximum Value: 96.6 deg on Aug 5 15:00

Minimum Value: 2.5 deg on Aug 16 01:00

Percentiles: P_1 = 3.3 P_{10} = 5.7 Q_1 = 8.1 Median = 12.7 Q_3 = 21.4 P_{90} = 39.3 P_{99} = 76.3

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

Day	Hourly Period Ending At (MST)																								Daily 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-Aug	8	3	4	5	4	4	4	6	5	6	8	8	9	8	9	9	8	6	6	6	5	12	12	6	12.3
2-Aug	3	4	3	6	10	8	6	14	11	11	13	11	12	11	15	25	19	15	20	60	9	76	10	8	75.9
3-Aug	5	5	3	9	7	13	37	29	57	29	68	45	47	36	39	93	24	21	19	47	40	8	41	53	92.6
4-Aug	91	63	20	9	30	5	3	6	7	11	11	14	18	22	21	29	25	18	8	6	12	58	34	29	90.6
5-Aug	11	17	17	13	6	11	7	6	8	11	16	33	32	56	97	33	50	35	24	29	68	23	32	18	96.6
6-Aug	15	17	12	13	11	38	18	16	9	10	12	17	15	18	20	37	14	11	33	22	16	8	6	10	37.8
7-Aug	7	6	9	7	29	14	14	22	10	12	9	14	20	25	71	31	33	19	20	23	60	25	12	12	70.7
8-Aug	18	11	8	6	5	8	6	9	11	12	25	21	18	31	27	19	15	24	14	92	78	63	15	14	92.0
9-Aug	16	92	32	16	45	45	11	13	14	19	13	38	30	26	15	23	22	20	18	11	17	25	12	35	92.2
10-Aug	11	12	11	10	9	10	11	14	14	16	20	22	24	39	40	23	12	13	17	6	7	7	10	18	40.0
11-Aug	10	7	9	9	9	16	16	53	13	19	16	18	31	37	29	18	12	22	12	19	15	11	6	5	52.5
12-Aug	17	16	35	15	3	6	10	16	9	13	45	40	70	65	66	81	40	62	23	17	12	62	83	72	83.2
13-Aug	47	32	16	79	35	24	62	95	16	24	35	38	68	62	30	30	16	12	13	19	30	77	75	15	94.9
14-Aug	14	46	24	38	51	23	18	7	10	11	19	12	15	16	16	8	12	8	10	6	7	31	19	14	51.0
15-Aug	4	7	3	10	5	6	5	9	6	9	10	10	8	10	7	9	10	7	6	4	4	4	4	3	10.3
16-Aug	3	4	6	5	3	7	8	7	5	8	6	7	7	8	6	6	7	5	7	5	3	8	7	7	8.2
17-Aug	7	8	10	5	8	16	11	5	8	9	8	11	14	16	21	21	18	9	35	34	23	12	25	3	34.9
18-Aug	5	6	4	5	6	65	7	5	14	15	27	35	11	11	13	13	16	5	5	8	5	6	5	3	65.1
19-Aug	3	56	17	9	14	13	9	9	12	17	13	15	15	11	10	9	7	9	6	9	8	16	36	17	56.0
20-Aug	19	34	15	23	8	12	17	10	19	10	10	16	10	11	8	8	8	6	7	9	7	16	35	37	37.2
21-Aug	15	18	41	16	22	10	17	29	11	9	7	7	7	6	6	9	7	7	4	4	12	45	14	13	44.7
22-Aug	22	11	16	14	7	8	5	20	6	11	11	6	9	9	9	7	8	8	13	6	12	26	6	13	25.7
23-Aug	11	11	13	14	4	7	4	5	6	7	6	9	9	8	8	8	8	8	7	10	9	15	9	12	15.4
24-Aug	51	33	16	22	56	45	30	9	21	9	18	8	11	8	7	8	6	6	9	7	8	12	10	11	55.9
25-Aug	5	15	6	10	14	19	5	5	5	8	27	23	27	32	21	27	17	20	17	42	32	37	63	21	62.7
26-Aug	16	10	8	7	9	10	15	19	14	14	14	10	17	18	11	15	13	11	7	18	9	19	12	26	25.8
27-Aug	16	15	13	15	16	17	37	19	12	14	N	15	41	16	19	11	9	8	13	6	7	8	9	4	41.1
28-Aug	14	12	27	11	20	16	15	10	21	14	18	20	20	25	40	29	24	25	77	12	67	46	26	25	76.9
29-Aug	30	10	31	44	33	25	18	19	19	23	10	13	9	11	10	10	9	5	5	17	7	12	21	5	43.7
30-Aug	6	5	16	5	4	6	8	14	12	10	11	9	15	15	12	13	9	9	24	9	24	13	12	20	23.7
31-Aug	5	5	7	49	20	41	63	18	15	17	63	69	36	59	74	81	55	45	30	8	12	9	29	13	80.7
	90.6	92.2	41.0	79.2	55.9	65.1	63.1	94.9	57.4	29.1	67.8	69.1	69.9	64.6	96.6	92.6	55.3	62.1	76.9	92.0	77.5	77.4	83.2	72.1	

N - Not Valid

PAZA
Beaverlodge Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - August 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 1.3 ppb on Aug 25 11:00 Maximum Daily Average: 0.4 ppb on Aug 13

Minimum Value: 0 ppb on Aug 14 18:00 Minimum Daily Average: 0.0 ppb on Aug 29
Maximum Diurnal Average: 0.2 ppb at hour 11 Minimum Diurnal Average: 0.1 ppb at hour 21
Monthly Average: 0.11 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.1 P_{90} = 0.2 P_{99} = 0.7

Hours in Service:	744
Hours of Data:	710
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

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

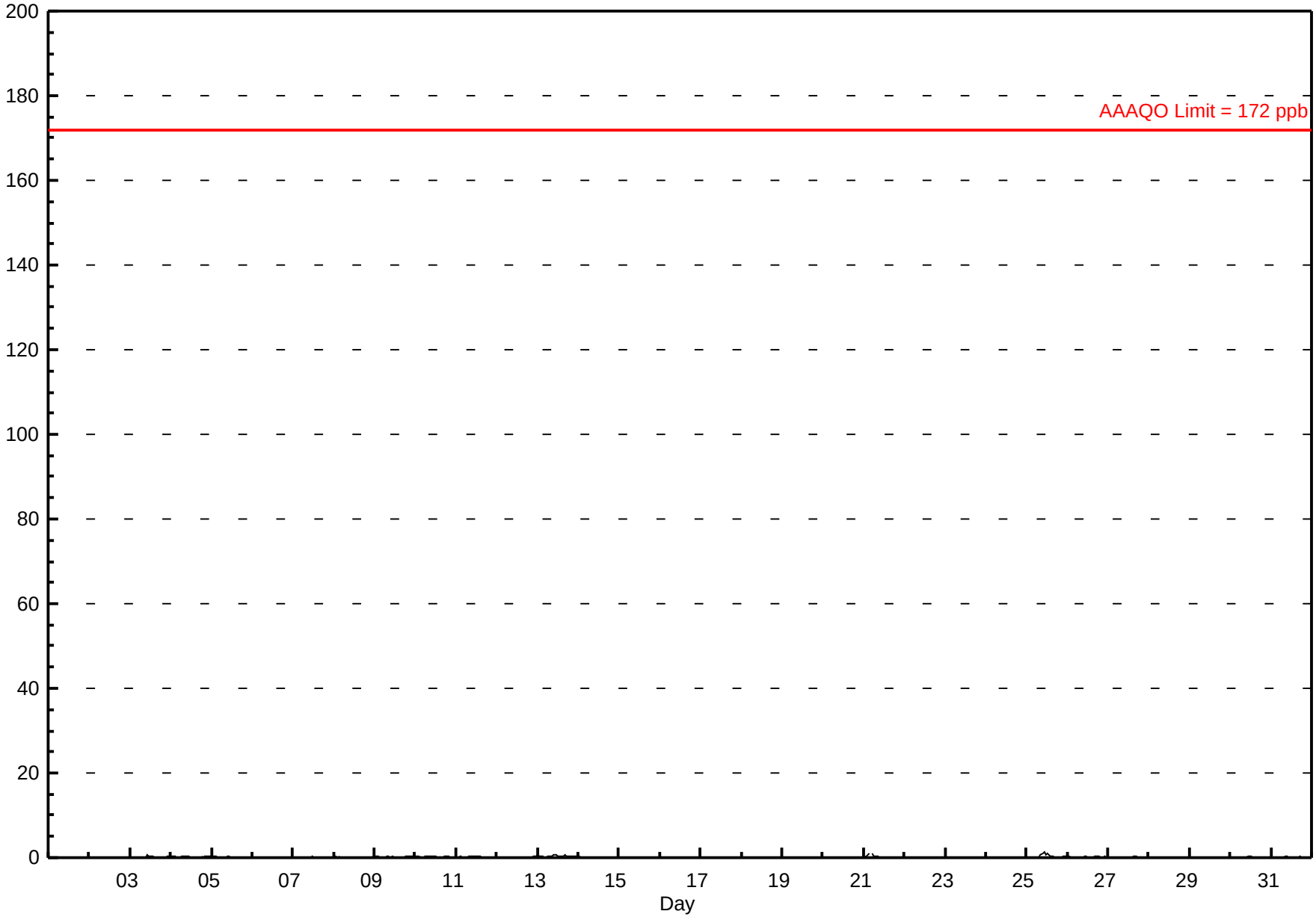
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - August 2011



Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - August 2011

Maximum Value: 1.8 ppb on Aug 25 11:00

Maximum Daily Average: 0.6 ppb on Aug 13

Minimum Value: 0 ppb on Aug 29 07:00

Minimum Daily Average: 0.1 ppb on Aug 29

Maximum Diurnal Average: 0.3 ppb at hour 11

Minimum Diurnal Average: 0.2 ppb at hour 21

Monthly Average: 0.22 ppb

Percentiles: P_1 = 0.1 P_{10} = 0.1 Q_1 = 0.1 Median = 0.2 Q_3 = 0.2 P_{90} = 0.4 P_{99} = 1.0

Hours in Service:	744
Hours of Data:	710
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
2-Aug	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
3-Aug	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
4-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0.3	0.5
5-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
6-Aug	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-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
8-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
9-Aug	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
10-Aug	0	0	0	0	A	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
11-Aug	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
12-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0.3	1.0
13-Aug	1	1	0	0	A	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	0.6	1.1
14-Aug	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
15-Aug	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-Aug	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
17-Aug	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	0.6
18-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
19-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
20-Aug	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-Aug	0	1	1	2	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.7
22-Aug	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
23-Aug	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
24-Aug	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-Aug	0	0	0	0	A	0	0	0	1	2	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0.6	1.8
26-Aug	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.3	0.5
27-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0.2	0.6
28-Aug	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
29-Aug	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
30-Aug	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
31-Aug	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
	0.2	0.2	0.2	0.2	--	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	Diurnal Average	
	1.0	0.9	0.9	1.7	--	1.0	0.9	0.4	1.2	1.7	1.8	1.5	1.6	0.9	0.7	0.6	0.7	0.6	0.4	0.3	0.3	1.0	0.6	0.6	Diurnal Maximum	

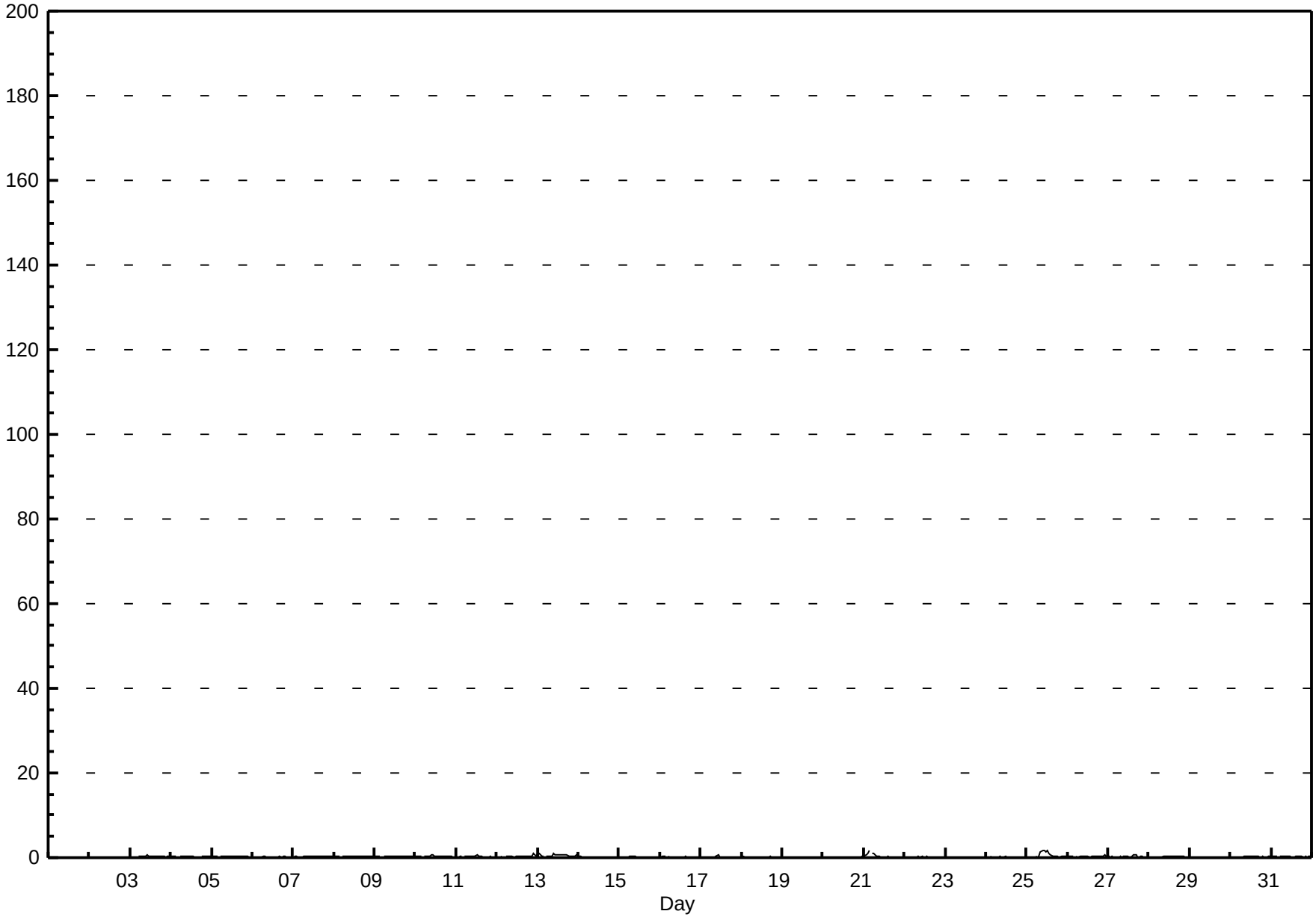
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

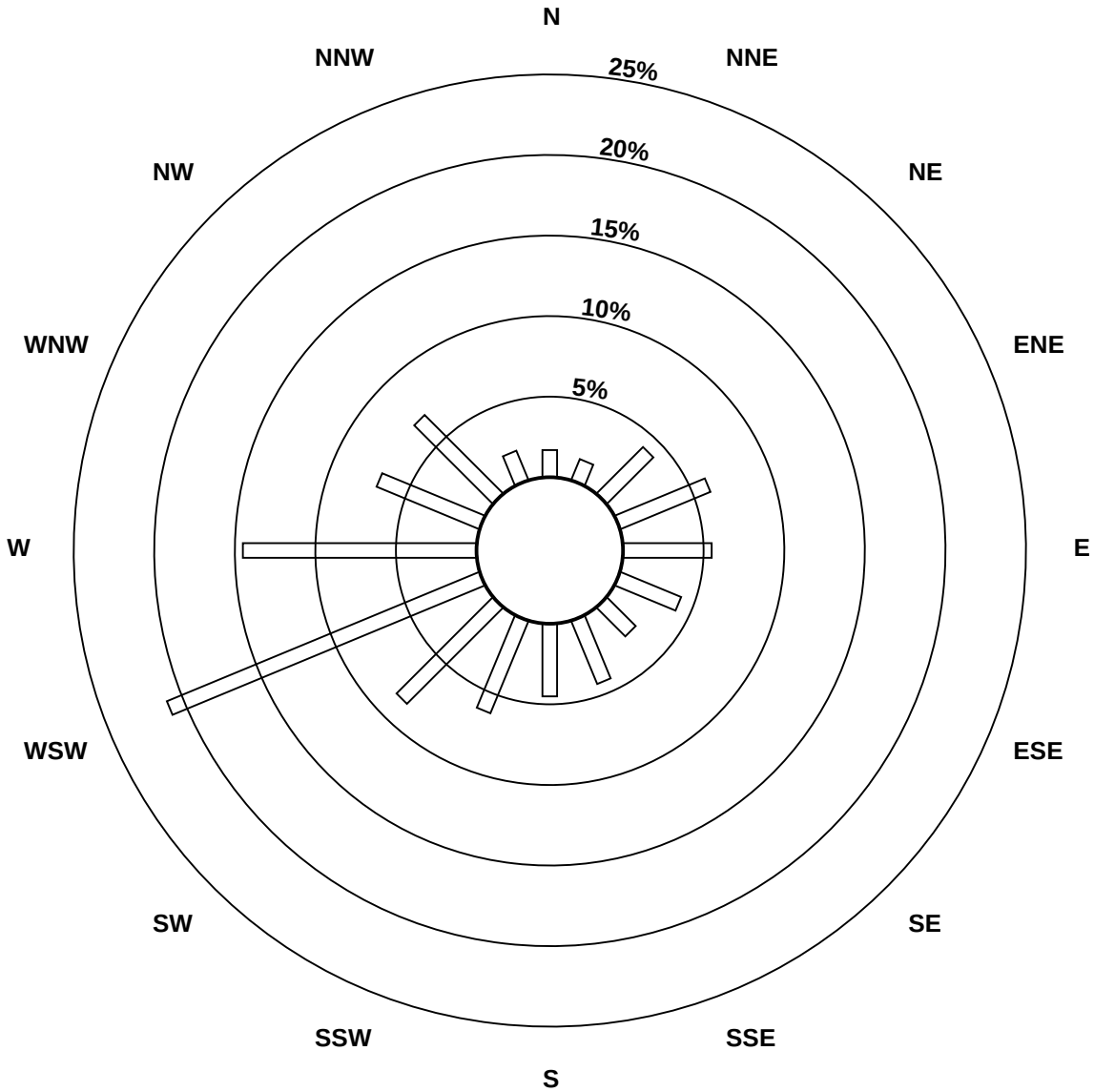
Beaverlodge - August 2011



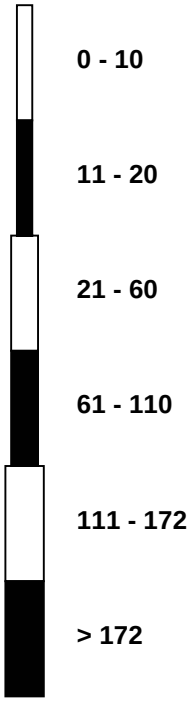
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - August 2011



Pollutant Classes (ppb)

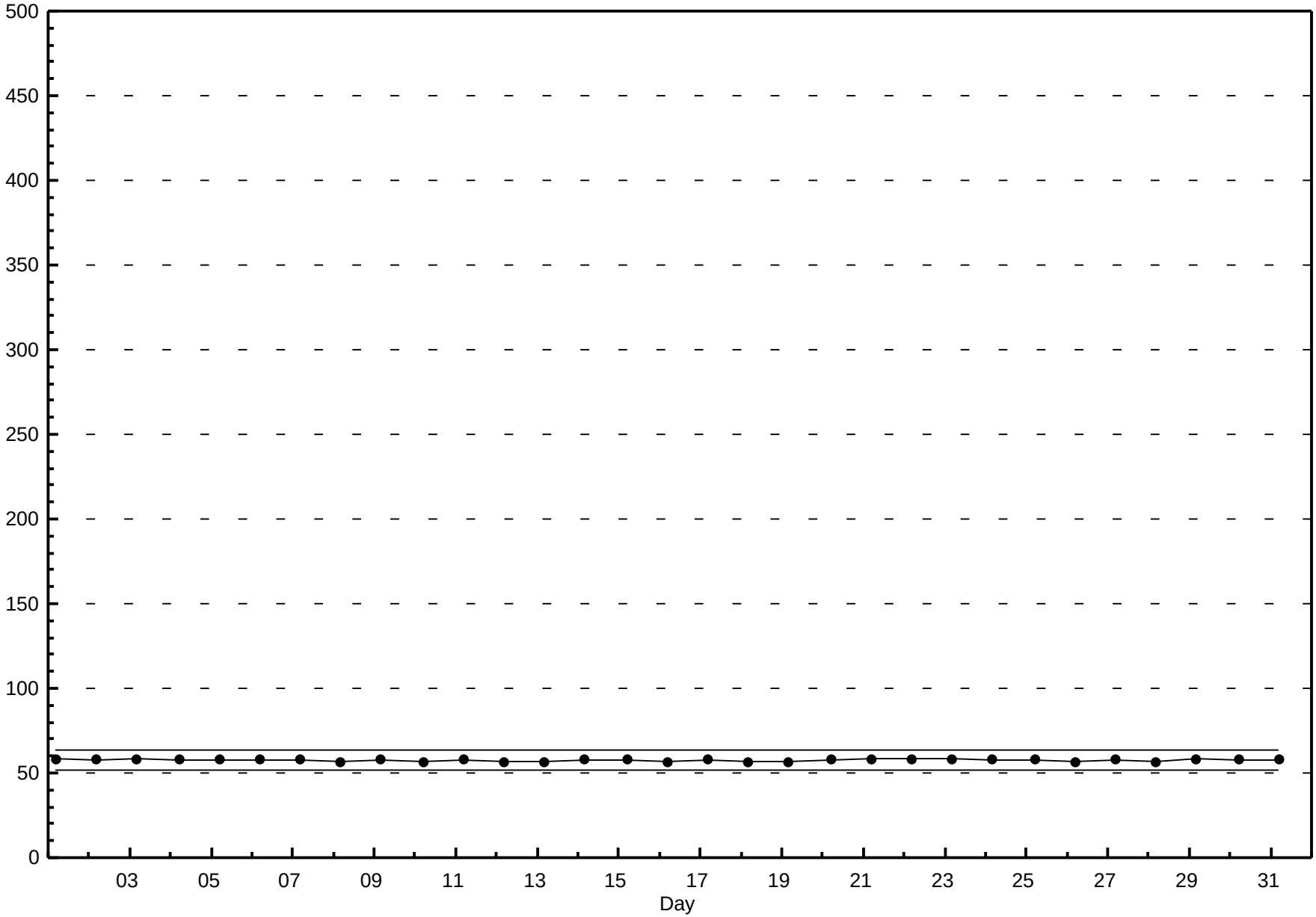


Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Beaverlodge - August 2011



Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - August 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 11.8 ppb on Aug 10 06:00
Maximum Daily Average: 2.7 ppb on Aug 11

Minimum Value: 0 ppb on Aug 23 14:00
Maximum Diurnal Average: 5.7 ppb at hour 6
Monthly Average: 1.68 ppb

Minimum Daily Average: 0.4 ppb on Aug 22
Minimum Diurnal Average: 0.5 ppb at hour 14
Percentiles: $P_1 = 0.1$ $P_{10} = 0.3$ $Q_1 = 0.6$ Median = 1.1 $Q_3 = 2.3$ $P_{90} = 3.9$ $P_{99} = 7.1$

Hours in Service:	744
Hours of Data:	701
Hours of Missing Data:	43
Hours of Calibration:	42
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-Aug	1	2	1	1	A	4	2	1	1	1	0	0	0	0	0	0	0	0	0	0	1	2	1	1	0.9	3.7
2-Aug	1	1	1	1	A	6	6	3	2	1	1	0	0	0	0	1	0	0	0	2	2	4	2	1	1.5	6.2
3-Aug	1	1	1	1	A	6	4	5	2	1	1	1	0	0	1	1	0	1	0	1	3	2	3	4	1.7	5.6
4-Aug	3	3	2	2	A	6	5	4	3	C	C	C	C	C	C	4	3	2	1	2	3	4	2	2	--	6.2
5-Aug	3	3	3	3	A	6	4	6	4	3	2	1	1	2	2	1	2	1	1	1	3	1	1	1	2.5	6.2
6-Aug	1	1	2	2	A	5	3	2	2	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1.3	5.1
7-Aug	2	1	1	1	A	5	3	2	1	1	2	1	1	1	1	1	1	1	1	1	2	2	1	2	1.5	5.2
8-Aug	3	3	3	4	A	7	4	3	2	2	2	1	1	0	0	0	1	1	1	1	1	1	2	3	2.0	6.9
9-Aug	3	3	4	6	A	8	4	4	3	2	2	1	1	0	0	0	0	1	1	1	2	3	3	4	2.5	7.6
10-Aug	2	4	4	3	A	12	7	4	3	3	2	2	1	1	1	1	1	1	1	1	1	1	2	2	2.5	11.8
11-Aug	1	3	2	3	A	10	7	6	4	3	2	2	2	N	2	1	1	1	1	3	3	2	1	1	2.7	9.7
12-Aug	2	2	2	1	A	5	4	3	3	3	1	1	1	1	1	1	1	1	1	2	2	3	3	3	2.0	5.1
13-Aug	2	2	4	4	A	6	4	4	4	3	2	2	1	1	1	1	1	1	1	1	1	3	1	1	2.3	6.2
14-Aug	2	1	1	1	A	6	5	3	2	1	1	1	0	0	1	1	1	0	1	1	1	1	1	1	1.4	6.3
15-Aug	1	1	1	1	A	7	5	3	2	1	1	2	1	1	1	1	0	0	0	1	1	1	2	2	1.5	7.0
16-Aug	2	4	4	3	A	7	4	3	1	1	1	0	1	0	0	1	1	0	0	1	1	1	0	0	1.6	7.2
17-Aug	0	1	1	1	A	6	3	2	1	1	1	0	0	0	0	0	0	0	0	1	1	1	2	2	1.2	6.1
18-Aug	2	1	1	1	A	5	3	3	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1	0	1.1	4.6
19-Aug	0	1	1	1	A	2	1	1	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0.6	2.3
20-Aug	0	1	1	1	A	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0.5	2.4
21-Aug	1	1	1	1	A	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.9
22-Aug	0	0	0	0	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.5
23-Aug	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	2	1	0.5	1.7
24-Aug	1	2	2	5	A	8	5	4	2	3	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1.8	8.2
25-Aug	1	1	1	1	A	6	5	2	1	1	1	C	C	C	C	C	2	1	1	1	4	3	2	2	2.1	6.3
26-Aug	3	3	3	3	A	9	6	6	4	2	2	2	1	1	1	1	1	1	2	3	3	2	2	2	2.7	8.8
27-Aug	2	4	3	3	A	6	7	4	2	3	2	2	1	0	0	0	0	0	0	1	1	3	2	1	2.2	7.4
28-Aug	1	1	1	1	A	5	4	3	2	3	2	1	1	1	1	1	1	1	1	6	3	4	1	1	2.0	5.6
29-Aug	4	3	3	2	A	5	4	3	2	2	2	1	1	1	1	0	1	1	0	1	1	2	2	4	1.9	5.4
30-Aug	2	1	1	1	A	6	4	3	2	1	1	1	1	1	1	1	1	1	1	3	4	5	2	2	2.0	6.1
31-Aug	2	2	3	2	A	7	7	3	2	1	1	1	0	1	0	0	1	1	1	3	5	2	2	2	2.1	6.8
	1.6	1.8	1.9	1.8	--	5.7	4.1	3.0	2.0	1.5	1.2	1.0	0.7	0.5	0.6	0.7	0.7	0.7	0.7	1.3	1.8	1.8	1.6	1.6	Diurnal Average	
	3.8	4.2	4.2	5.7	--	11.8	7.4	5.9	4.1	3.2	2.5	2.3	2.2	1.9	2.3	3.8	2.7	1.8	2.3	5.6	4.6	5.2	3.3	4.3	Diurnal Maximum	

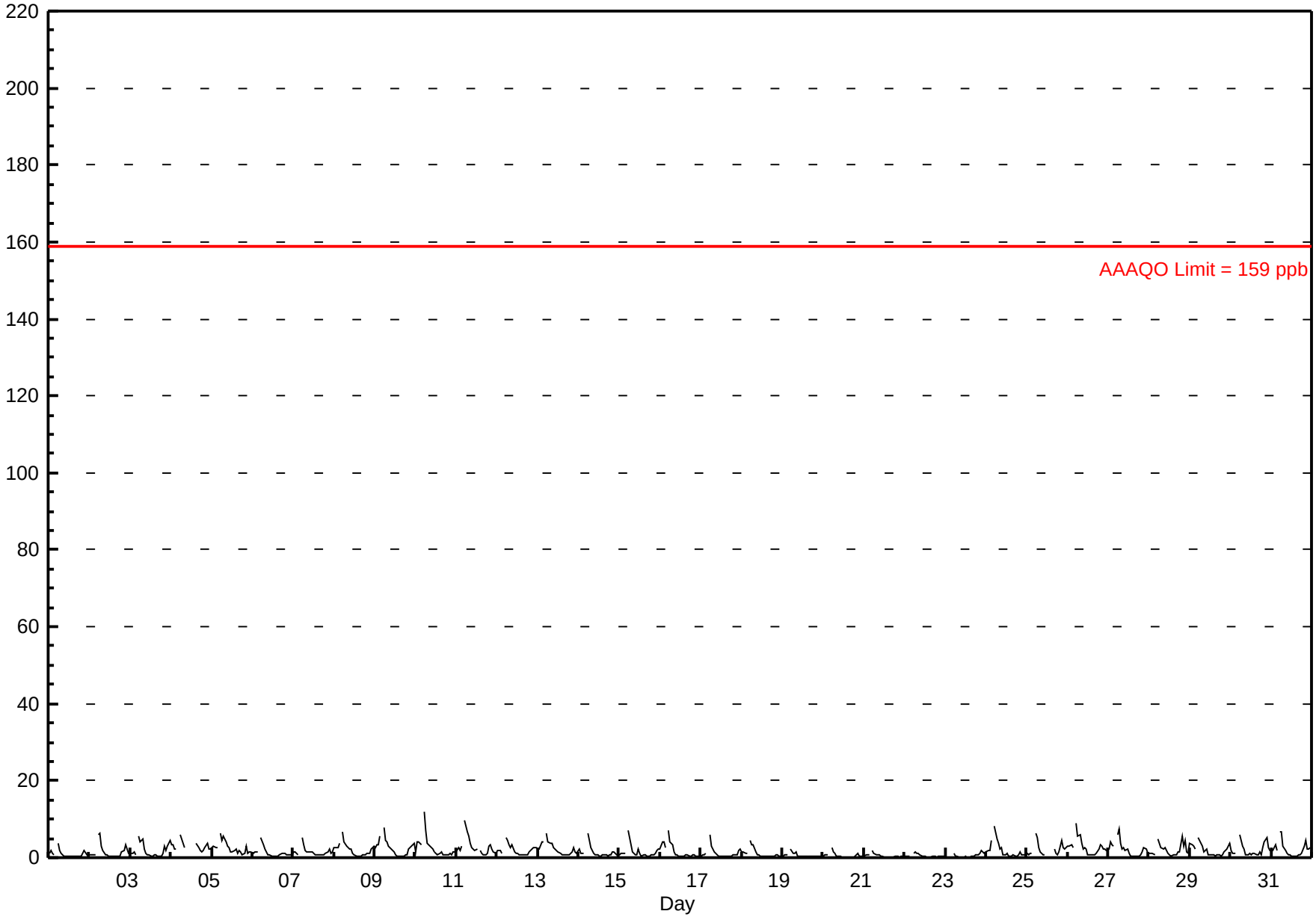
C - Calibration N - Not Valid A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb

Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - August 2011

Maximum Value: 134.4 ppb on Aug 15 12:00

Maximum Daily Average: 8.6 ppb on Aug 15

Minimum Value: 0 ppb on Aug 20 15:00

Minimum Daily Average: 0.8 ppb on Aug 21

Maximum Diurnal Average: 8.9 ppb at hour 6

Minimum Diurnal Average: 1.4 ppb at hour 17

Monthly Average: 3.29 ppb

Percentiles: P_1 = 0.2 P_{10} = 0.7 Q_1 = 1.1 Median = 2.1 Q_3 = 3.9 P_{90} = 6.7 P_{99} = 17.4

Hours in Service:	744
Hours of Data:	701
Hours of Missing Data:	43
Hours of Calibration:	42
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-Aug	3	4	2	1	A	7	4	2	1	2	1	1	1	1	1	1	1	1	1	1	2	4	1	1	1.9	7.1
2-Aug	2	1	1	2	A	8	7	4	7	1	1	1	1	1	1	2	1	1	1	3	4	6	4	2	2.7	8.4
3-Aug	4	2	3	1	A	10	8	10	5	2	2	1	1	1	2	1	1	1	1	3	6	4	4	6	3.4	10.2
4-Aug	5	5	3	2	A	9	7	5	4	C	C	C	C	C	C	9	5	4	2	3	4	4	4	3	--	9.2
5-Aug	3	4	3	5	A	10	6	7	6	4	4	2	2	5	5	2	4	4	1	3	6	2	3	4	4.1	10.1
6-Aug	2	2	3	4	A	9	4	4	3	1	2	1	1	1	1	1	2	2	2	3	2	2	2	1	2.4	8.8
7-Aug	3	2	1	1	A	8	4	3	2	2	2	2	1	1	1	1	1	1	1	2	3	5	2	3	2.2	8.5
8-Aug	3	3	3	4	A	10	5	4	3	3	7	2	2	1	1	1	1	1	2	2	2	2	3	4	3.0	10.4
9-Aug	3	6	8	8	A	14	6	6	3	3	2	2	2	1	1	1	1	1	1	1	5	7	5	15	4.4	15.2
10-Aug	2	6	6	5	A	14	10	6	4	3	3	2	6	10	7	20	1	1	1	1	3	1	3	3	5.2	19.7
11-Aug	2	3	3	4	A	17	10	16	5	4	2	2	30	N	4	4	2	1	2	6	5	5	4	2	6.0	30.4
12-Aug	2	3	3	2	A	8	7	5	4	5	2	1	1	1	1	1	1	1	1	4	3	5	4	4	3.1	8.5
13-Aug	3	4	9	8	A	10	7	6	5	4	3	3	1	1	1	1	1	1	1	2	4	4	3	2	3.6	10.1
14-Aug	4	1	1	2	A	9	5	5	2	1	1	1	1	1	1	1	1	1	2	2	5	4	3	2	2.4	8.7
15-Aug	1	2	2	2	A	10	7	7	7	2	2	134	2	1	1	2	1	1	1	2	2	2	3	3	8.6	134.4
16-Aug	4	5	5	4	A	12	5	5	5	1	1	1	3	1	1	2	2	1	2	2	2	2	2	1	3.1	12.5
17-Aug	2	1	2	1	A	9	5	3	2	2	1	1	1	2	1	1	1	1	1	2	2	1	7	6	2.5	8.9
18-Aug	3	3	3	2	A	8	7	5	3	1	1	2	1	1	1	1	1	1	1	1	2	1	1	1	2.1	8.3
19-Aug	1	1	1	1	A	4	2	2	2	1	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1.0	3.7
20-Aug	1	1	1	1	A	4	2	2	1	0	1	0	0	0	0	0	0	0	0	2	3	1	1	1	1.0	4.0
21-Aug	1	1	1	1	A	3	2	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	0.8	3.5
22-Aug	0	0	1	1	A	2	3	2	2	2	0	1	1	0	0	0	1	1	1	1	1	1	1	0	1.0	3.1
23-Aug	0	0	0	0	A	2	1	0	0	0	0	1	2	0	0	2	1	2	2	2	4	5	3	2	1.4	5.2
24-Aug	5	2	3	8	A	11	7	6	7	4	1	1	45	2	3	2	2	1	1	2	4	2	3	2	5.3	44.7
25-Aug	3	1	2	2	A	9	9	7	3	1	23	C	C	C	C	C	4	2	1	4	6	4	3	3	4.8	22.7
26-Aug	3	4	4	3	A	11	7	8	6	3	3	3	1	1	1	1	1	2	4	5	5	4	3	3	3.8	11.2
27-Aug	3	6	4	3	A	9	18	6	5	3	3	3	2	1	2	1	1	1	1	2	3	7	9	1	4.1	18.2
28-Aug	5	2	2	1	A	9	4	3	3	3	2	2	1	1	1	1	1	2	3	11	5	9	3	4	3.5	10.5
29-Aug	7	5	6	4	A	7	6	4	2	4	3	2	1	1	1	1	2	1	1	1	4	3	4	8	3.5	7.8
30-Aug	3	2	2	2	A	9	8	5	5	1	1	2	1	20	4	3	1	3	1	4	6	7	4	3	4.3	19.7
31-Aug	3	3	6	2	A	9	11	8	3	2	1	1	1	1	1	1	1	1	3	5	6	4	2	3	3.3	10.9
	2.8	2.8	3.0	2.8	--	8.9	6.3	5.0	3.6	2.3	2.6	6.1	3.9	2.0	1.5	2.1	1.4	1.4	1.5	2.7	3.5	3.5	3.0	3.0	Diurnal Average	
	6.8	6.5	8.7	8.1	--	17.1	18.2	15.6	6.9	4.6	22.7	134.4	44.7	19.7	6.9	19.7	4.6	4.3	3.6	10.5	6.3	8.6	8.8	15.2	Diurnal Maximum	

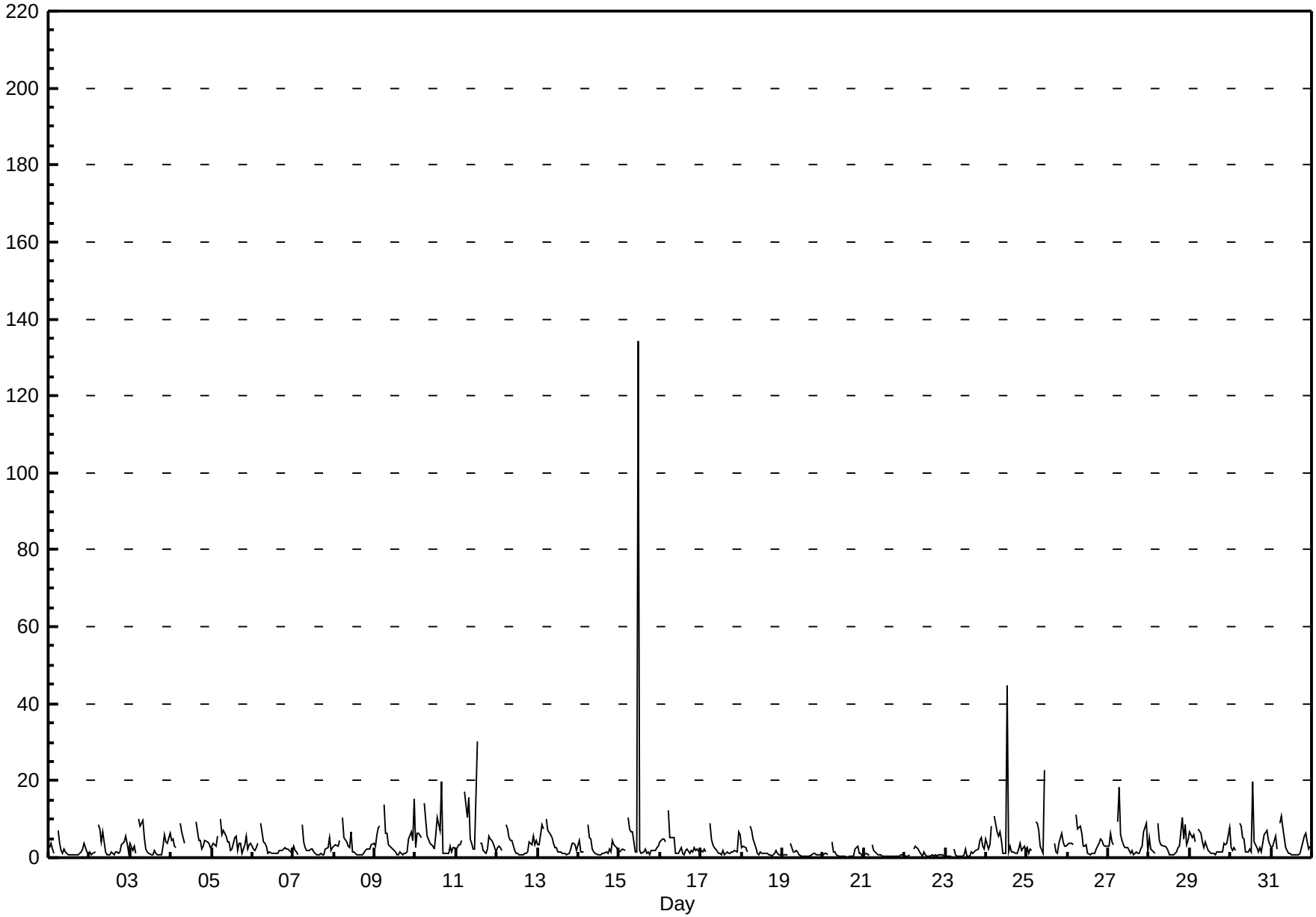
C - Calibration N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - August 2011

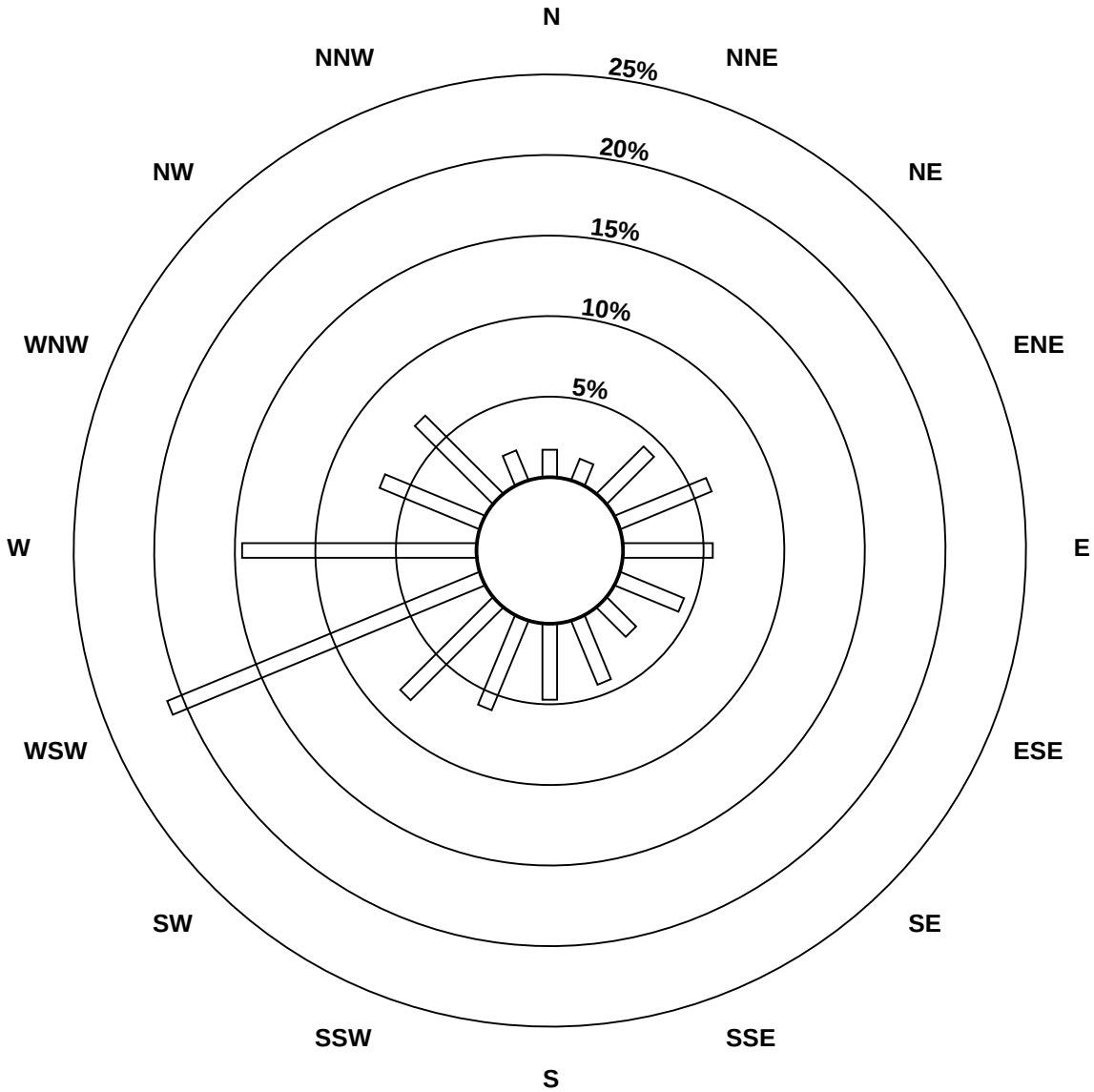


FOCUS AIR QUALITY MONITORING

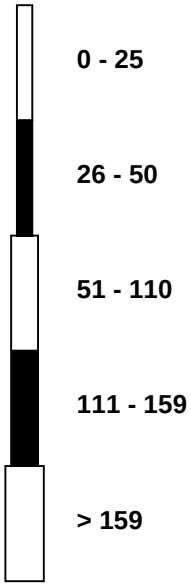
Pollutant Rose

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - August 2011



Pollutant Classes (ppb)

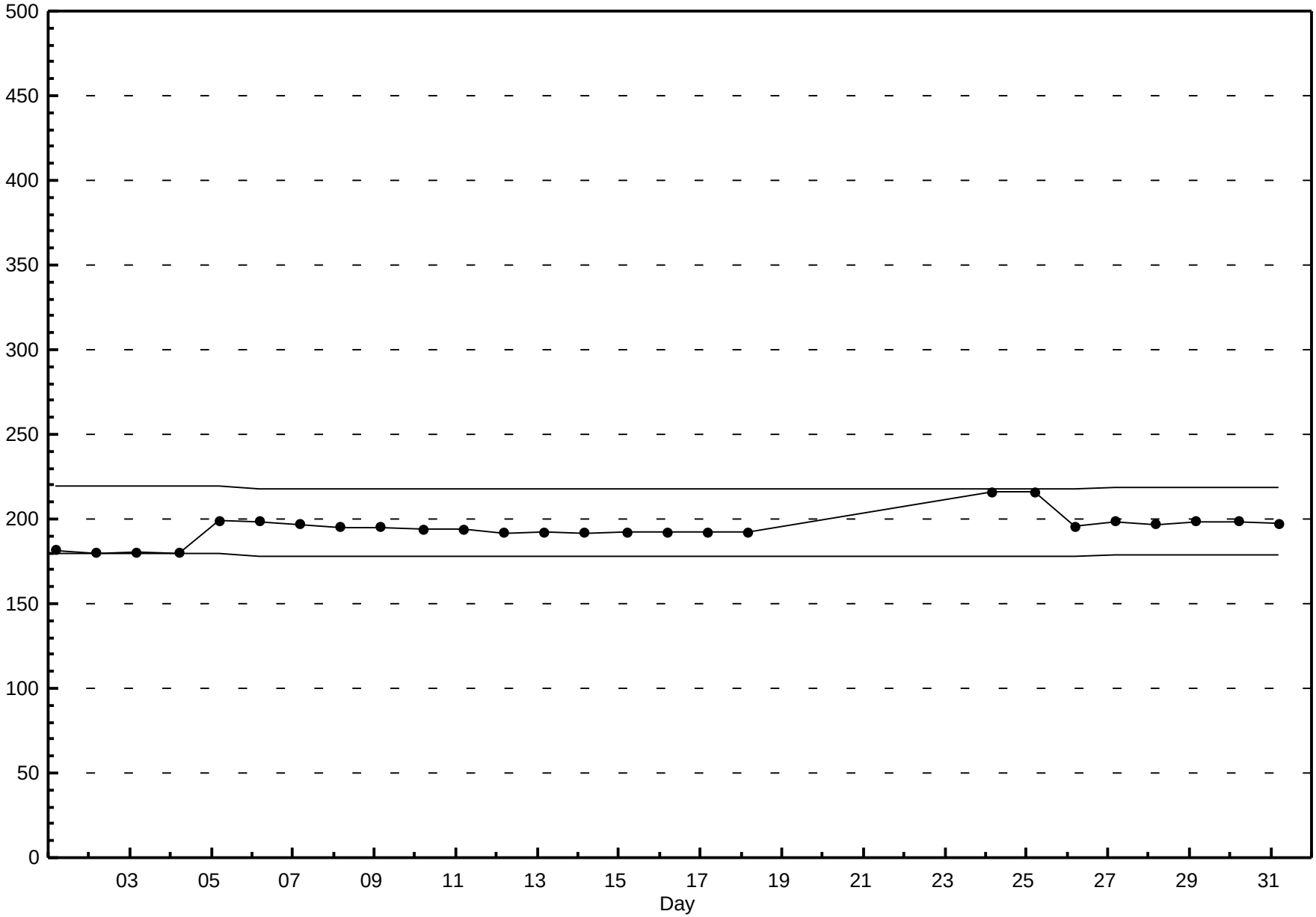


Peace Airshed Zone Association

Span Responses

Nitrogen Dioxide (NO_2)

Beaverlodge - August 2011



Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Beaverlodge - August 2011

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

Maximum Value: 4.9 ppb on Aug 26 08:00

Maximum Daily Average: 0.7 ppb on Aug 11

Minimum Value: 0 ppb on Aug 1 01:00

Minimum Daily Average: 0.0 ppb on Aug 23

Maximum Diurnal Average: 1.4 ppb at hour 8

Minimum Diurnal Average: 0.0 ppb at hour 23

Monthly Average: 0.23 ppb

Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.0 Q_3 = 0.1 P_{90} = 0.8 P_{99} = 2.8

Hours in Service:	744
Hours of Data:	701
Hours of Missing Data:	43
Hours of Calibration:	42
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-Aug	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
2-Aug	0	0	0	0	A	0	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.7
3-Aug	0	0	0	0	A	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	2.1
4-Aug	0	0	0	0	A	0	1	2	1	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	--	1.9
5-Aug	0	0	0	0	A	0	1	4	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3.6
6-Aug	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
7-Aug	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-Aug	0	0	0	0	A	0	2	3	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3.2
9-Aug	0	0	0	0	A	0	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.0
10-Aug	0	0	0	0	A	2	3	1	1	1	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0.5	2.6
11-Aug	0	0	0	0	A	1	5	4	3	1	0	0	1	N	0	0	0	0	0	0	0	0	0	0	0.7	4.9
12-Aug	0	0	0	0	A	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.6
13-Aug	0	0	0	0	A	0	1	3	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	3.3
14-Aug	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
15-Aug	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	1.5
16-Aug	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	1.3
17-Aug	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
18-Aug	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	2.0
19-Aug	0	0	0	0	A	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.0
20-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.4
21-Aug	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
22-Aug	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
23-Aug	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
24-Aug	0	0	0	0	A	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.3
25-Aug	0	0	0	0	A	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0	0.1	0.4
26-Aug	0	0	0	0	A	2	3	5	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.7	4.9
27-Aug	0	0	0	0	A	0	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.1
28-Aug	0	0	0	0	A	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.4
29-Aug	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
30-Aug	0	0	0	0	A	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.2	1.0
31-Aug	0	0	0	0	A	0	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.3
	0.0	0.0	0.0	0.0	--	0.2	0.9	1.4	1.0	0.6	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	Diurnal Average	
	0.1	0.2	0.1	0.1	--	1.9	4.9	4.9	2.8	1.6	1.3	1.1	0.8	1.0	0.3	1.1	0.4	0.5	0.2	0.2	0.3	0.1	0.1	0.1	Diurnal Maximum	

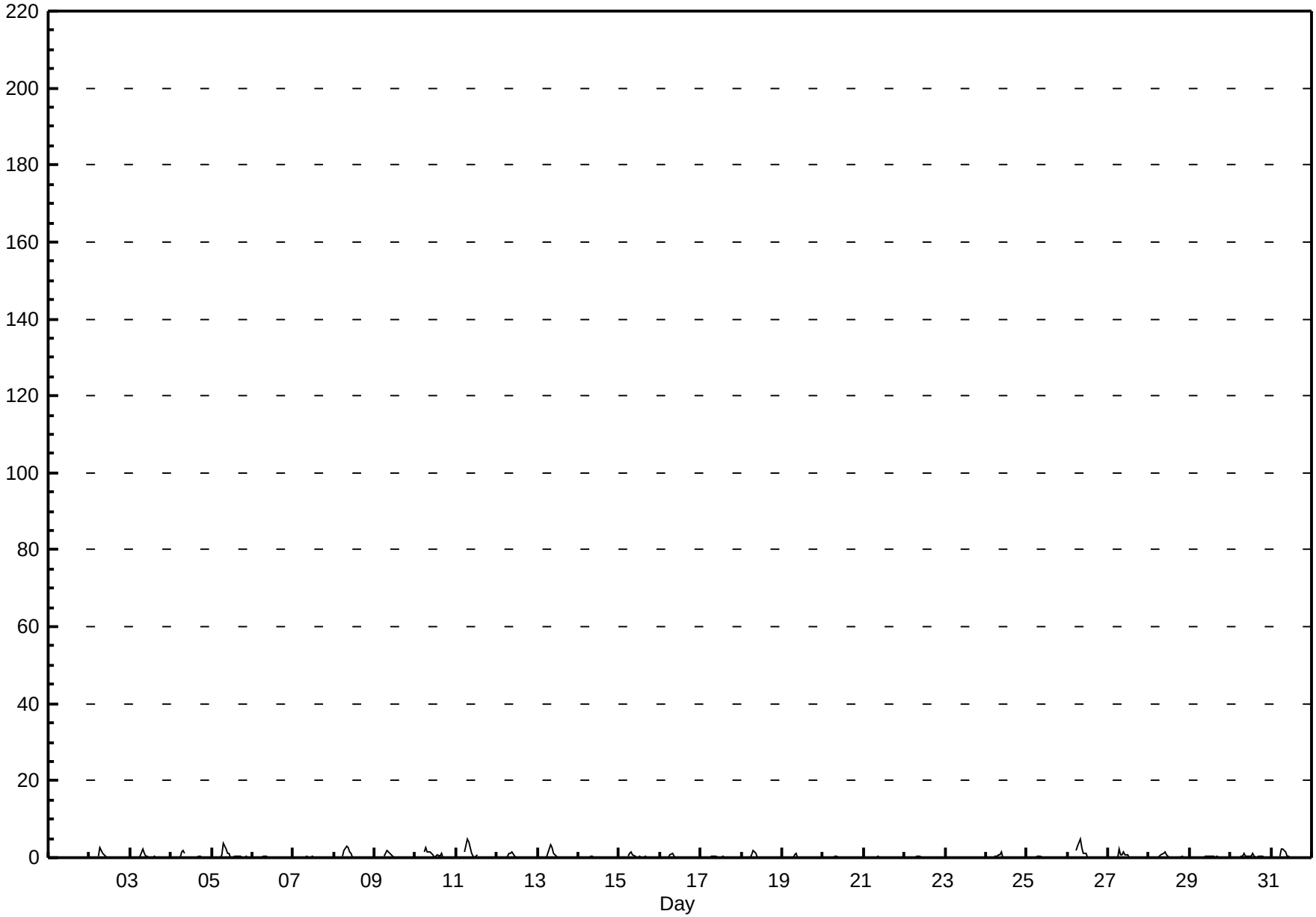
C - Calibration N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Beaverlodge - August 2011



Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Beaverlodge - August 2011

Maximum Value: 65.7 ppb on Aug 30 14:00

Maximum Daily Average: 3.5 ppb on Aug 30

Minimum Value: 0 ppb on Aug 13 21:00

Minimum Daily Average: 0.1 ppb on Aug 21

Maximum Diurnal Average: 3.3 ppb at hour 8

Minimum Diurnal Average: 0.1 ppb at hour 23

Monthly Average: 0.94 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.1$ Median = 0.3 $Q_3 = 0.6$ $P_{90} = 2.1$ $P_{99} = 10.2$

Hours in Service:	744
Hours of Data:	701
Hours of Missing Data:	43
Hours of Calibration:	42
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-Aug	0	0	0	0	A	0	1	1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0.3	0.9
2-Aug	0	0	0	0	A	1	4	4	5	1	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0.9	5.4
3-Aug	0	0	0	0	A	1	4	7	3	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0.8	7.2
4-Aug	0	0	0	0	A	1	2	3	2	C	C	C	C	C	C	1	1	4	0	0	0	0	0	0	--	3.8
5-Aug	0	0	0	0	A	0	3	6	4	2	3	0	0	1	1	1	2	1	0	0	1	0	0	0	1.2	5.6
6-Aug	0	0	0	0	A	1	1	1	2	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0.5	1.6
7-Aug	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	0.6
8-Aug	0	0	0	0	A	1	3	5	4	2	6	0	1	0	0	0	0	0	0	0	0	0	0	0	1.1	6.1
9-Aug	0	0	1	0	A	2	6	6	2	1	1	0	0	0	0	0	0	0	0	0	0	1	0	3	1.1	5.9
10-Aug	0	0	0	0	A	3	6	3	2	2	1	0	8	9	5	23	0	0	0	0	0	0	0	0	2.8	22.8
11-Aug	0	0	0	0	A	11	10	15	4	3	1	0	25	N	1	0	0	0	0	0	0	0	0	0	3.2	24.9
12-Aug	0	0	0	0	A	0	4	2	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.6	3.6
13-Aug	0	0	0	0	A	0	8	7	4	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1.1	7.6
14-Aug	0	0	0	0	A	0	1	1	1	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0.4	1.1
15-Aug	0	0	0	0	A	1	2	4	3	1	3	1	1	1	1	1	0	1	0	1	0	0	0	0	0.9	3.9
16-Aug	0	0	0	0	A	0	1	2	11	0	1	0	1	1	1	1	1	0	1	0	0	0	0	0	1.0	11.5
17-Aug	0	0	0	0	A	0	1	1	1	1	1	0	1	4	1	1	1	1	0	1	0	0	0	0	0.6	4.1
18-Aug	0	0	0	0	A	0	6	3	6	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0.9	5.8
19-Aug	0	0	0	0	A	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.4
20-Aug	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0.2	1.0
21-Aug	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-Aug	0	0	0	0	A	0	0	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.3	1.2
23-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	7	0	1	0	0	0	0	0	0	0.4	7.2
24-Aug	0	0	0	1	A	1	1	3	5	3	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0.8	5.3
25-Aug	0	0	0	0	A	0	1	2	1	0	1	C	C	C	C	C	0	0	0	0	0	0	0	0	0.3	2.3
26-Aug	0	0	0	0	A	8	5	11	5	3	2	2	0	0	0	0	0	0	0	0	0	0	0	0	1.7	11.5
27-Aug	0	0	0	0	A	1	11	2	3	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1.0	10.6
28-Aug	0	0	0	0	A	0	1	1	2	2	1	1	0	0	0	0	0	0	0	1	0	1	0	1	0.6	2.1
29-Aug	2	1	0	1	A	0	0	0	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	1	0.5	1.7
30-Aug	0	0	1	0	A	0	1	1	3	1	1	1	1	66	1	0	0	1	1	0	0	0	0	0	3.5	65.7
31-Aug	0	0	0	0	A	2	7	7	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.0	6.9
	0.1	0.1	0.1	0.1	--	1.1	2.9	3.3	2.6	1.2	1.0	0.5	1.5	3.2	0.5	1.4	0.4	0.4	0.3	0.3	0.2	0.2	0.1	0.2	Diurnal Average	
	1.7	1.0	1.0	0.9	--	10.5	10.6	14.7	11.5	3.1	6.1	2.1	24.9	65.7	5.5	22.8	2.0	3.8	0.8	1.0	0.9	1.3	0.5	2.8	Diurnal Maximum	

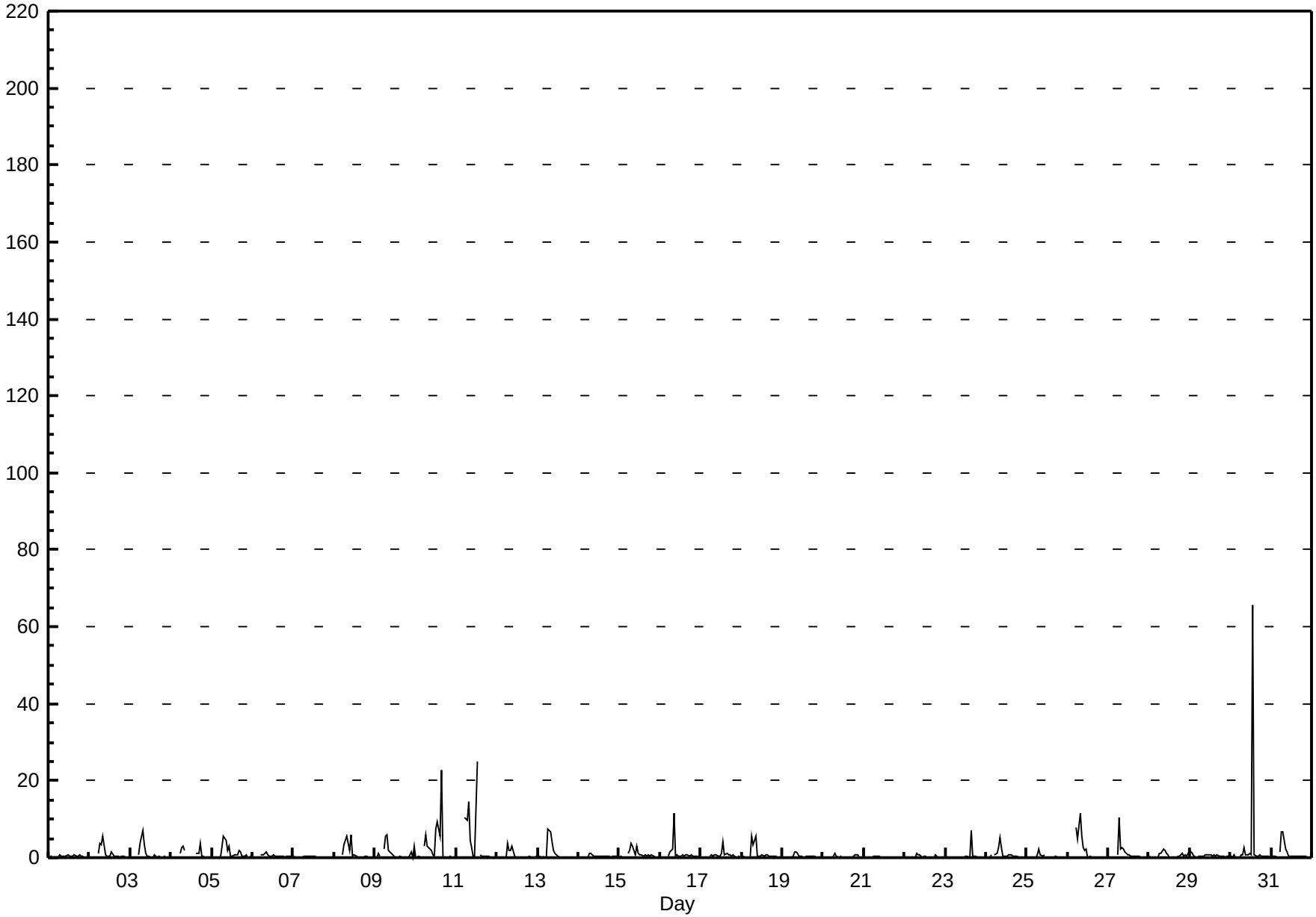
C - Calibration N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Beaverlodge - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - August 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 13.6 ppb on Aug 10 06:00
Maximum Daily Average: 3.5 ppb on Aug 11

Minimum Value: 0 ppb on Aug 20 15:00
Maximum Diurnal Average: 6.0 ppb at hour 6
Monthly Average: 1.94 ppb

Minimum Daily Average: 0.5 ppb on Aug 23
Minimum Diurnal Average: 0.7 ppb at hour 14
Percentiles: P_1 = 0.1 P_{10} = 0.4 Q_1 = 0.6 Median = 1.2 Q_3 = 2.6 P_{90} = 4.6 P_{99} = 9.8

Hours in Service:	744
Hours of Data:	701
Hours of Missing Data:	43
Hours of Calibration:	42
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-Aug	1	2	1	1	A	4	2	1	1	1	1	1	0	0	0	0	0	0	0	1	1	2	1	1	0.9	3.8
2-Aug	1	1	1	1	A	6	9	5	3	1	1	1	0	1	0	1	1	1	0	2	2	4	2	1	1.8	9.0
3-Aug	1	1	1	1	A	6	5	7	3	1	1	1	0	0	1	1	1	1	0	1	3	2	3	4	2.0	7.0
4-Aug	3	3	2	2	A	6	6	6	4	C	C	C	C	C	C	4	3	2	2	2	3	4	2	2	--	6.4
5-Aug	3	3	3	3	A	6	5	9	7	4	4	2	2	2	3	1	2	2	1	1	3	1	1	2	3.0	9.4
6-Aug	1	1	2	2	A	5	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.4	5.2
7-Aug	2	1	1	1	A	5	4	2	2	2	2	2	1	1	1	1	1	1	1	1	2	2	1	2	1.6	5.3
8-Aug	3	3	3	4	A	7	6	6	5	4	3	1	1	0	0	0	1	1	1	1	1	1	2	3	2.5	7.2
9-Aug	3	3	4	6	A	8	6	6	4	4	3	1	1	0	0	0	0	1	1	1	2	3	3	4	2.8	7.9
10-Aug	2	4	4	3	A	14	10	5	5	4	3	2	2	2	1	3	1	1	1	1	1	1	2	2	3.0	13.6
11-Aug	1	3	2	3	A	11	12	10	7	4	2	2	3	N	2	1	1	1	1	3	3	2	1	1	3.5	11.6
12-Aug	2	2	2	1	A	5	5	5	4	5	2	1	1	1	1	1	1	1	1	2	2	3	3	3	2.2	5.1
13-Aug	2	2	4	4	A	6	5	7	7	4	3	2	2	1	1	1	1	1	1	1	1	3	1	1	2.7	7.3
14-Aug	2	1	1	1	A	6	5	3	2	1	1	1	1	1	1	1	1	0	1	1	2	1	1	1	1.5	6.4
15-Aug	1	1	1	1	A	7	6	5	2	1	1	2	1	1	1	1	0	1	1	1	1	1	2	2	1.8	7.3
16-Aug	2	4	4	3	A	7	5	5	2	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1.8	7.3
17-Aug	0	1	1	1	A	6	3	2	2	1	1	1	0	1	1	0	1	1	1	1	1	1	2	2	1.3	6.1
18-Aug	2	1	1	1	A	5	4	5	3	1	1	1	1	1	1	1	0	0	0	0	1	1	1	0	1.3	5.3
19-Aug	0	1	1	1	A	2	1	2	2	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0.7	2.4
20-Aug	0	1	1	1	A	3	1	2	1	0	0	0	0	0	0	0	0	0	0	0	2	1	1	0	0.6	2.5
21-Aug	1	1	1	1	A	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	2.0
22-Aug	0	0	0	0	A	1	2	1	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.7
23-Aug	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2	2	1	0.5	1.6
24-Aug	1	2	2	5	A	9	5	5	3	4	1	1	1	1	0	1	1	1	1	1	1	1	1	1	2.0	8.6
25-Aug	1	1	1	1	A	6	5	3	2	1	1	C	C	C	C	C	2	1	1	1	4	3	2	2	2.2	6.3
26-Aug	3	3	3	3	A	11	9	11	6	3	4	3	1	1	1	1	1	1	2	3	3	2	2	2	3.4	10.9
27-Aug	2	4	3	3	A	6	10	5	3	4	3	3	1	0	0	0	0	0	0	1	1	3	2	1	2.5	9.6
28-Aug	1	1	1	1	A	5	4	3	4	4	3	2	1	1	1	1	1	2	1	6	3	4	1	1	2.2	5.9
29-Aug	4	4	3	2	A	5	4	3	2	2	3	1	1	1	1	1	1	1	1	1	2	2	2	4	2.1	5.5
30-Aug	2	1	1	1	A	6	5	3	3	1	1	1	1	2	1	1	1	2	1	3	4	5	3	2	2.3	6.2
31-Aug	2	2	3	2	A	7	9	5	4	2	1	1	1	1	1	1	1	1	1	3	5	2	2	3	2.5	9.0
	1.6	1.8	1.9	1.8	--	6.0	5.1	4.5	3.1	2.1	1.5	1.2	0.8	0.7	0.7	0.8	0.8	0.7	0.8	1.4	1.9	1.9	1.6	1.6	Diurnal Average	
	4.0	4.3	4.2	5.8	--	13.6	11.6	10.9	6.7	4.9	3.8	3.5	3.0	2.2	2.7	3.8	3.0	2.0	2.4	5.9	4.6	5.4	3.3	4.3	Diurnal Maximum	

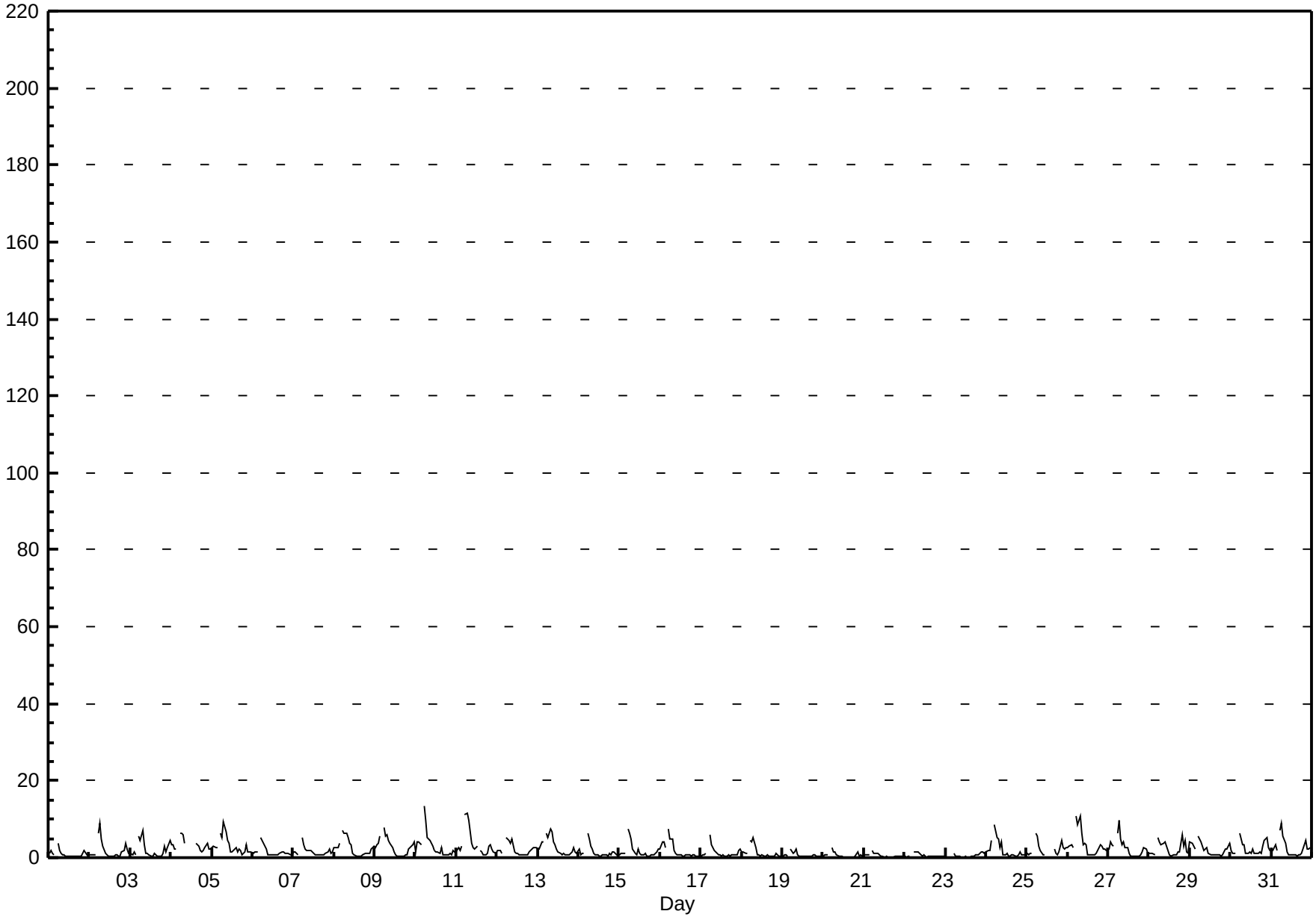
C - Calibration N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - August 2011

Maximum Value: 137.3 ppb on Aug 15 12:00

Maximum Daily Average: 9.4 ppb on Aug 15

Minimum Value: 0 ppb on Aug 23 03:00

Minimum Daily Average: 0.9 ppb on Aug 21

Maximum Diurnal Average: 9.6 ppb at hour 6

Minimum Diurnal Average: 1.7 ppb at hour 18

Monthly Average: 4.06 ppb

Percentiles: P_1 = 0.3 P_{10} = 0.8 Q_1 = 1.3 Median = 2.5 Q_3 = 4.6 P_{90} = 8.6 P_{99} = 22.5

Hours in Service:	744
Hours of Data:	701
Hours of Missing Data:	43
Hours of Calibration:	42
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-Aug	2	4	2	1	A	7	5	2	1	3	2	1	1	1	1	1	1	1	2	2	2	4	2	1	2.2	7.1
2-Aug	2	1	1	2	A	9	11	8	12	2	1	1	1	2	1	2	2	2	2	4	5	6	4	2	3.5	12.4
3-Aug	4	2	3	1	A	10	11	14	8	3	2	1	1	1	2	2	1	1	1	3	6	4	3	6	4.0	14.2
4-Aug	4	5	3	2	A	9	8	8	5	C	C	C	C	C	C	10	5	5	3	3	5	4	4	3	--	10.2
5-Aug	3	4	3	5	A	10	9	12	10	6	7	2	3	6	6	3	6	5	1	4	6	2	4	4	5.3	12.2
6-Aug	2	2	3	4	A	9	5	5	5	2	2	1	2	2	1	1	2	2	3	3	2	3	2	2	2.8	8.9
7-Aug	3	2	1	1	A	9	4	3	2	2	3	3	2	1	1	1	1	1	1	2	3	5	2	3	2.4	8.6
8-Aug	3	3	3	4	A	10	8	10	7	5	10	2	2	1	1	1	1	1	2	3	2	2	3	4	3.8	10.4
9-Aug	3	6	9	8	A	15	12	12	5	4	3	2	2	1	1	2	1	1	1	1	5	8	5	17	5.4	17.1
10-Aug	3	6	6	5	A	16	15	9	6	5	4	3	12	13	8	21	1	1	1	1	3	1	3	3	6.3	20.8
11-Aug	2	3	3	4	A	27	17	24	9	7	3	3	55	N	4	4	2	2	3	6	5	5	4	1	8.7	55.5
12-Aug	2	3	3	2	A	8	11	7	7	8	2	1	1	1	1	1	1	1	1	4	3	5	4	5	3.7	11.2
13-Aug	3	4	9	8	A	10	13	13	9	6	4	3	2	1	1	1	1	1	1	2	3	4	3	2	4.5	13.4
14-Aug	4	1	1	2	A	9	6	6	3	2	1	1	1	1	2	2	2	2	3	2	5	4	3	2	2.8	8.7
15-Aug	1	2	2	2	A	11	9	11	9	2	2	137	3	2	2	3	2	2	1	2	2	2	3	3	9.4	137.3
16-Aug	4	5	5	4	A	13	7	7	17	2	2	2	3	2	1	3	3	2	3	2	3	2	3	1	4.0	16.8
17-Aug	2	1	2	1	A	9	6	4	3	3	2	1	1	6	2	3	2	1	2	2	2	1	7	6	3.0	8.9
18-Aug	3	3	3	1	A	8	12	8	6	1	1	2	2	2	2	2	1	1	1	1	3	1	1	1	2.9	12.1
19-Aug	1	1	1	1	A	4	2	3	3	2	1	1	0	0	1	1	1	1	2	1	1	1	1	1	1.2	3.7
20-Aug	1	1	1	1	A	4	2	3	1	1	1	0	1	0	0	1	0	0	1	3	4	1	1	1	1.2	4.2
21-Aug	1	1	1	1	A	4	2	2	1	1	1	1	0	0	0	0	0	0	1	0	0	1	1	1	0.9	3.5
22-Aug	0	0	0	1	A	3	3	3	3	2	1	2	1	0	1	0	1	1	1	1	1	1	1	1	1.2	3.4
23-Aug	0	0	0	0	A	2	1	1	0	0	1	1	3	0	1	2	1	2	3	2	4	5	3	2	1.5	5.1
24-Aug	5	2	3	9	A	12	8	8	8	7	2	1	45	3	4	2	2	1	1	2	4	2	3	1	5.9	45.1
25-Aug	3	1	2	2	A	10	9	9	4	1	23	C	C	C	C	C	4	2	1	4	6	4	3	3	5.1	23.1
26-Aug	3	4	4	3	A	16	11	19	12	6	5	5	1	1	1	1	1	2	4	5	5	4	3	3	5.2	19.1
27-Aug	3	7	4	3	A	10	29	8	7	6	4	4	3	1	2	1	2	1	1	2	3	7	9	1	5.2	28.9
28-Aug	6	2	2	1	A	9	6	4	5	5	4	3	1	1	1	1	2	3	3	11	5	10	4	6	4.0	11.2
29-Aug	9	6	6	4	A	8	6	4	3	5	4	2	2	1	2	1	2	2	2	2	4	3	4	8	3.9	8.6
30-Aug	3	2	3	2	A	9	9	6	7	2	2	3	2	73	5	3	2	3	2	4	6	7	5	3	7.1	73.1
31-Aug	3	3	6	2	A	10	16	13	5	3	1	2	1	1	1	1	1	1	3	6	6	4	2	3	4.1	16.3
	2.9	2.9	3.2	2.9	--	9.6	8.9	7.9	5.9	3.5	3.3	6.6	5.3	4.5	1.9	2.6	1.7	1.7	1.8	3.0	3.7	3.7	3.1	3.2	Diurnal Average	
	8.6	6.6	9.0	9.2	--	26.6	28.9	23.9	16.8	7.7	23.1	137.3	55.5	73.1	7.5	20.8	5.6	5.2	3.8	11.2	6.3	9.6	9.0	17.1	Diurnal Maximum	

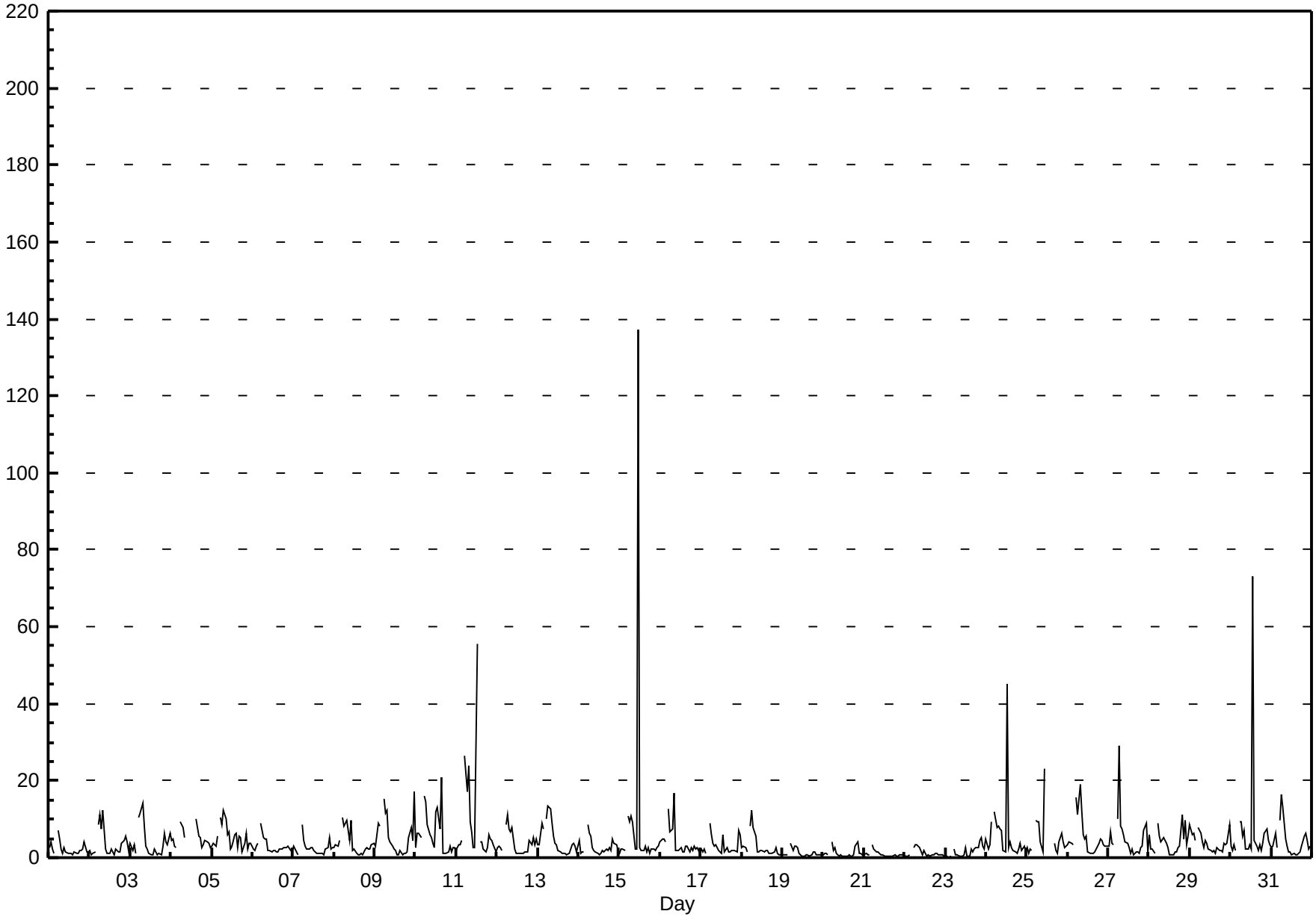
C - Calibration N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - August 2011



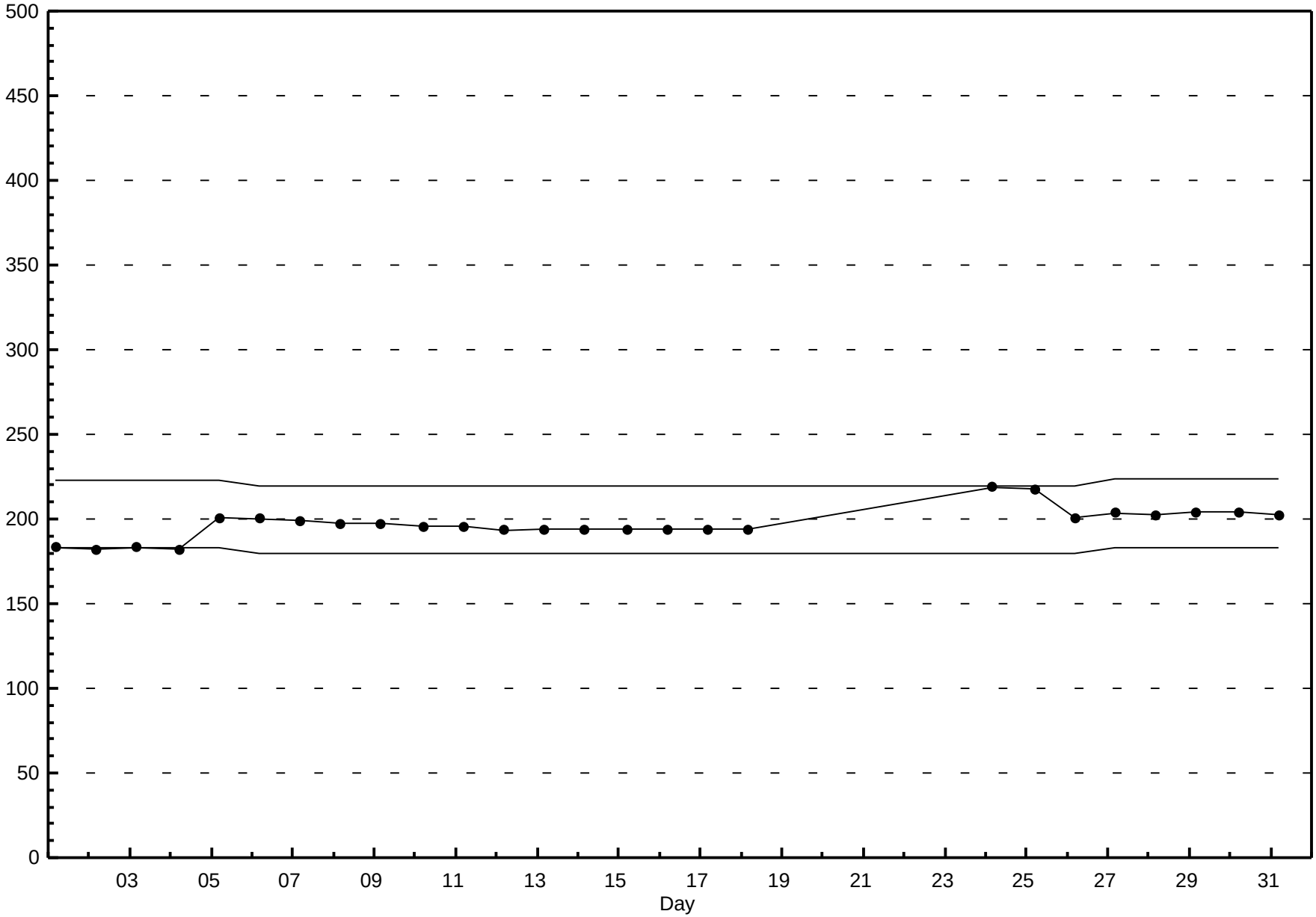
FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Span Responses

Oxides of Nitrogen (NO_X)

Beaverlodge - August 2011



Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Beaverlodge - August 2011

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

Maximum Value: 38.8 ppb on Aug 26 18:00

Maximum Daily Average: 27.5 ppb on Aug 25

Minimum Value: 2 ppb on Aug 26 07:00

Minimum Daily Average: 15.6 ppb on Aug 18

Maximum Diurnal Average: 27.7 ppb at hour 17

Minimum Diurnal Average: 12.6 ppb at hour 7

Monthly Average: 21.49 ppb

Percentiles: P_1 = 5.0 P_{10} = 12.1 Q_1 = 16.6 Median = 21.1 Q_3 = 26.9 P_{90} = 31.2 P_{99} = 35.4

Hours in Service:	744
Hours of Data:	711
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-Aug	19	18	16	17	A	18	18	20	20	21	21	21	22	22	22	22	21	21	22	21	19	17	16	16	19.6	22.0
2-Aug	17	18	17	17	A	11	7	11	14	21	22	22	24	25	26	29	28	29	29	25	23	21	19	20	20.6	29.4
3-Aug	21	21	19	19	A	18	17	16	19	19	20	24	27	29	24	28	29	30	30	27	21	20	20	17	22.4	29.6
4-Aug	16	15	14	15	A	12	9	13	16	18	22	25	28	29	C	C	28	32	31	27	24	24	26	26	21.4	32.4
5-Aug	23	19	18	14	A	13	12	10	13	17	21	27	29	22	17	18	16	18	18	16	11	22	25	23	18.3	28.6
6-Aug	21	18	19	19	A	18	16	19	20	22	22	21	20	20	20	22	26	22	17	30	16	13	12	11	19.4	29.5
7-Aug	10	10	12	12	A	12	12	14	16	19	20	21	25	28	27	32	33	32	34	33	32	26	26	25	22.2	33.8
8-Aug	23	20	13	6	A	5	4	6	8	14	19	26	31	31	32	33	33	34	32	29	31	32	31	31	22.8	34.4
9-Aug	29	25	18	10	A	9	10	12	16	20	25	28	32	33	34	33	34	34	34	30	27	22	27	19	24.4	34.1
10-Aug	26	13	15	15	A	4	7	12	16	23	29	33	31	31	32	30	31	30	29	24	22	21	20	21	22.4	33.0
11-Aug	21	19	19	16	A	8	4	10	12	17	28	33	35	30	31	29	32	31	29	25	22	28	30	32	23.5	35.1
12-Aug	25	23	22	25	A	22	14	15	19	21	26	29	33	34	35	35	35	35	35	31	26	26	20	17	26.3	35.5
13-Aug	20	17	12	11	A	12	9	6	13	17	21	25	31	35	37	33	32	33	30	25	24	23	24	23	22.3	36.9
14-Aug	18	28	28	24	A	17	15	14	14	18	20	22	22	21	21	21	21	23	22	20	16	19	20	18	20.0	28.4
15-Aug	18	15	12	13	A	11	11	14	16	20	22	20	20	21	21	20	21	22	22	20	19	18	16	14	17.8	21.7
16-Aug	14	13	13	13	A	12	13	13	17	21	22	24	24	24	24	24	24	24	25	24	23	23	23	21	20.0	25.3
17-Aug	21	18	18	16	A	14	15	17	17	19	20	20	20	20	20	20	21	24	25	25	25	23	18	16	19.5	24.8
18-Aug	15	12	16	14	A	14	11	11	12	16	18	18	18	18	18	18	19	18	17	16	14	15	15	15	15.6	18.5
19-Aug	13	12	10	10	A	9	10	9	9	15	18	20	20	21	21	21	20	20	17	18	19	21	23	22	16.4	22.6
20-Aug	23	20	19	18	A	14	14	13	16	18	18	17	17	17	18	19	20	20	20	18	13	16	14	15	17.3	23.1
21-Aug	14	12	13	13	A	12	11	11	11	14	23	25	26	28	28	29	28	29	29	27	27	30	27	26	21.5	29.7
22-Aug	28	27	28	27	A	28	25	20	19	20	24	23	25	25	25	29	33	29	27	30	25	23	20	19	25.1	32.8
23-Aug	24	24	21	21	A	21	22	22	22	23	23	24	22	25	28	29	29	30	29	27	26	25	24	24	24.5	29.9
24-Aug	23	17	16	13	A	7	8	9	16	19	25	29	31	34	34	34	33	33	33	33	33	36	34	32	25.3	35.7
25-Aug	33	33	31	29	A	25	22	26	27	29	29	29	29	29	29	29	30	30	29	25	19	24	24	24	27.5	33.0
26-Aug	22	18	16	12	A	3	2	5	11	16	21	26	31	34	35	35	38	39	36	30	30	29	30	28	23.8	38.8
27-Aug	22	17	16	18	A	15	8	11	15	17	21	26	30	31	32	35	33	29	28	29	26	24	24	22	23.0	35.5
28-Aug	22	18	18	17	A	16	13	13	16	19	23	29	32	33	34	34	29	25	25	18	20	14	20	20	22.0	33.7
29-Aug	11	9	17	19	A	31	28	22	20	20	24	30	28	31	34	34	33	32	31	29	26	24	22	17	24.8	34.0
30-Aug	17	19	17	17	A	16	16	15	14	19	22	22	23	26	26	25	22	23	23	18	13	11	11	12	18.5	26.4
31-Aug	10	10	8	11	A	7	4	7	11	18	23	25	27	26	26	26	26	26	24	19	16	19	19	16	17.6	26.6
	20.0	17.9	17.2	16.2	--	14.0	12.6	13.4	15.7	19.0	22.4	24.6	26.2	26.8	27.0	27.6	27.7	27.6	26.9	24.8	22.2	22.1	21.9	20.8	Diurnal Average	
	32.7	33.0	30.7	29.3	--	30.6	28.3	25.5	27.4	28.7	29.1	33.0	35.1	34.5	36.9	35.5	38.0	38.8	36.0	33.5	33.3	35.7	33.9	32.0	Diurnal Maximum	

C - Calibration A - Automated Daily Zero Span

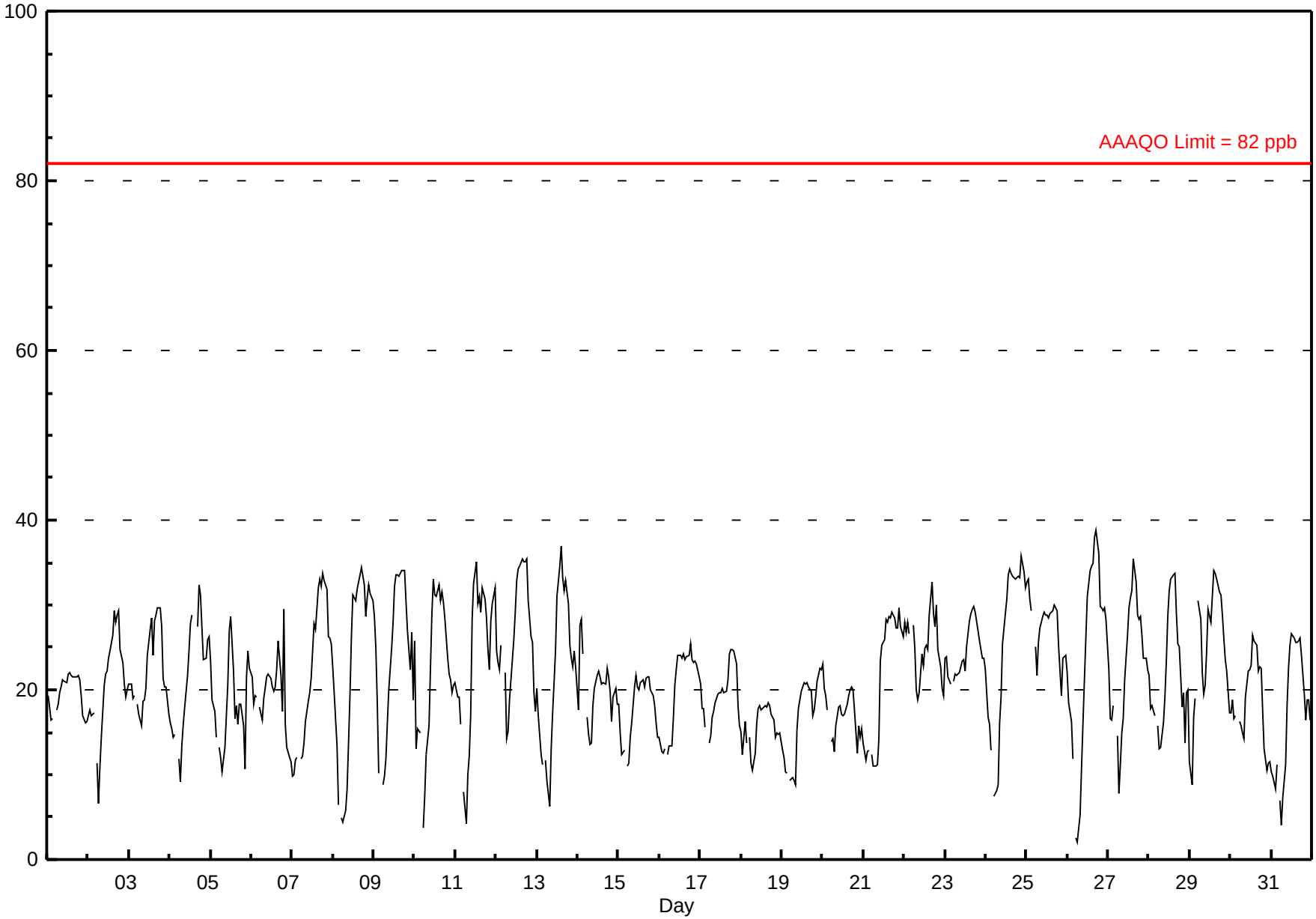
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na

Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Beaverlodge - August 2011



Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

Beaverlodge - August 2011

Maximum Value: 41.7 ppb on Aug 26 18:00

Maximum Daily Average: 29.4 ppb on Aug 12

Minimum Value: 5 ppb on Aug 8 07:00

Minimum Daily Average: 17.9 ppb on Aug 18

Maximum Diurnal Average: 29.9 ppb at hour 16

Minimum Diurnal Average: 15.7 ppb at hour 7

Monthly Average: 23.99 ppb

Percentiles: P_1 = 8.1 P_{10} = 14.4 Q_1 = 19.1 Median = 23.3 Q_3 = 29.8 P_{90} = 34.1 P_{99} = 37.1

Hours in Service:	744
Hours of Data:	711
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-Aug	21	19	18	18	A	18	20	20	21	22	22	22	23	23	23	22	23	22	22	22	21	19	17	17	20.7	23.0
2-Aug	18	18	19	19	A	14	9	13	20	22	23	24	26	26	29	31	30	31	31	29	25	24	22	22	22.7	31.4
3-Aug	24	24	22	22	A	20	20	22	20	21	23	26	29	30	30	30	31	32	32	31	29	22	24	22	25.5	32.4
4-Aug	18	17	15	16	A	14	11	16	18	20	24	28	30	31	C	C	31	35	35	30	25	25	27	27	23.5	35.5
5-Aug	25	21	19	17	A	14	14	14	15	19	24	30	31	24	20	22	21	21	20	19	13	26	27	26	21.0	31.1
6-Aug	26	22	22	24	A	22	19	22	23	25	23	23	21	21	22	26	29	25	25	35	25	14	14	12	22.6	35.2
7-Aug	11	12	13	13	A	14	13	15	18	20	21	24	28	30	29	35	35	34	36	36	34	33	27	27	24.3	36.0
8-Aug	24	22	18	8	A	6	5	7	13	17	24	31	34	33	33	34	35	37	36	32	33	33	34	31	25.2	36.7
9-Aug	30	27	26	20	A	11	13	15	18	23	27	31	35	36	36	35	36	36	37	33	30	28	29	28	27.8	36.6
10-Aug	30	22	20	17	A	8	12	14	20	26	32	35	34	34	35	34	34	33	31	26	24	22	21	22	25.5	35.1
11-Aug	22	21	21	18	A	13	11	14	13	23	31	36	37	37	37	33	35	33	31	29	26	31	32	33	26.8	37.2
12-Aug	32	25	25	28	A	24	20	18	23	24	28	31	35	36	36	37	36	37	38	36	31	34	24	20	29.4	37.6
13-Aug	22	22	18	16	A	14	14	10	16	20	24	29	33	37	39	37	34	35	34	29	25	26	26	25	25.4	38.6
14-Aug	24	31	32	29	A	19	18	16	16	21	22	23	23	25	22	22	24	24	24	23	18	22	22	19	22.6	32.0
15-Aug	20	17	15	14	A	12	14	16	20	23	23	22	22	22	22	22	22	23	23	22	21	20	17	16	19.5	22.7
16-Aug	16	14	15	16	A	15	15	16	19	22	24	26	26	25	26	26	26	25	27	25	24	24	24	23	21.6	26.7
17-Aug	22	21	21	17	A	16	19	19	20	20	21	21	21	22	21	21	22	27	27	27	26	26	21	19	21.5	27.4
18-Aug	20	18	19	20	A	17	16	12	16	18	19	19	19	19	21	19	20	19	18	18	16	16	16	16	17.9	20.7
19-Aug	15	13	12	11	A	10	10	11	11	18	20	21	21	22	22	22	22	21	19	19	20	23	25	25	18.0	25.3
20-Aug	25	22	20	19	A	14	15	17	18	19	19	18	18	18	20	21	21	21	21	21	17	19	17	16	19.0	25.3
21-Aug	15	13	14	13	A	14	14	13	13	19	29	28	29	30	30	30	30	30	30	30	30	31	30	29	23.7	31.3
22-Aug	31	29	29	28	A	31	32	32	24	26	26	25	27	27	27	37	36	32	30	36	27	26	22	22	28.8	36.9
23-Aug	26	25	23	22	A	22	23	23	23	24	24	24	25	27	30	30	31	32	31	29	28	27	26	26	26.1	32.2
24-Aug	25	19	18	17	A	13	10	11	21	24	30	31	32	36	35	36	36	35	35	35	36	37	36	33	28.0	36.9
25-Aug	35	34	32	31	A	28	25	28	30	30	30	30	30	30	30	31	31	31	31	29	22	25	25	26	29.3	35.1
26-Aug	23	21	18	17	A	10	7	10	15	19	25	30	33	36	36	37	40	42	40	33	33	31	31	32	26.9	41.7
27-Aug	27	25	21	19	A	21	18	14	18	20	26	28	33	32	36	39	36	30	30	31	28	27	27	26	26.5	39.2
28-Aug	26	21	20	19	A	17	15	16	18	23	27	33	34	34	35	35	31	28	28	23	24	18	23	23	24.7	35.3
29-Aug	22	17	22	22	A	37	31	25	22	23	31	32	31	35	36	36	35	33	33	31	29	26	24	23	28.4	36.9
30-Aug	22	22	21	20	A	19	17	17	18	22	24	24	26	28	30	29	24	26	25	22	16	13	12	12	21.2	30.1
31-Aug	11	11	10	13	A	10	6	10	14	21	27	27	29	28	27	27	27	27	27	22	18	20	19	18	19.5	29.0
	22.8	20.8	19.9	18.7	--	16.7	15.7	16.3	18.5	21.7	24.9	26.9	28.2	28.8	29.2	29.9	29.7	29.7	29.2	27.9	24.9	24.8	23.9	23.2	Diurnal Average	
	35.1	34.2	32.2	30.7	--	36.9	32.3	32.3	29.5	30.0	32.2	35.6	37.1	36.7	38.6	39.2	39.5	41.7	39.5	36.4	35.6	36.9	35.9	33.5	Diurnal Maximum	

C - Calibration

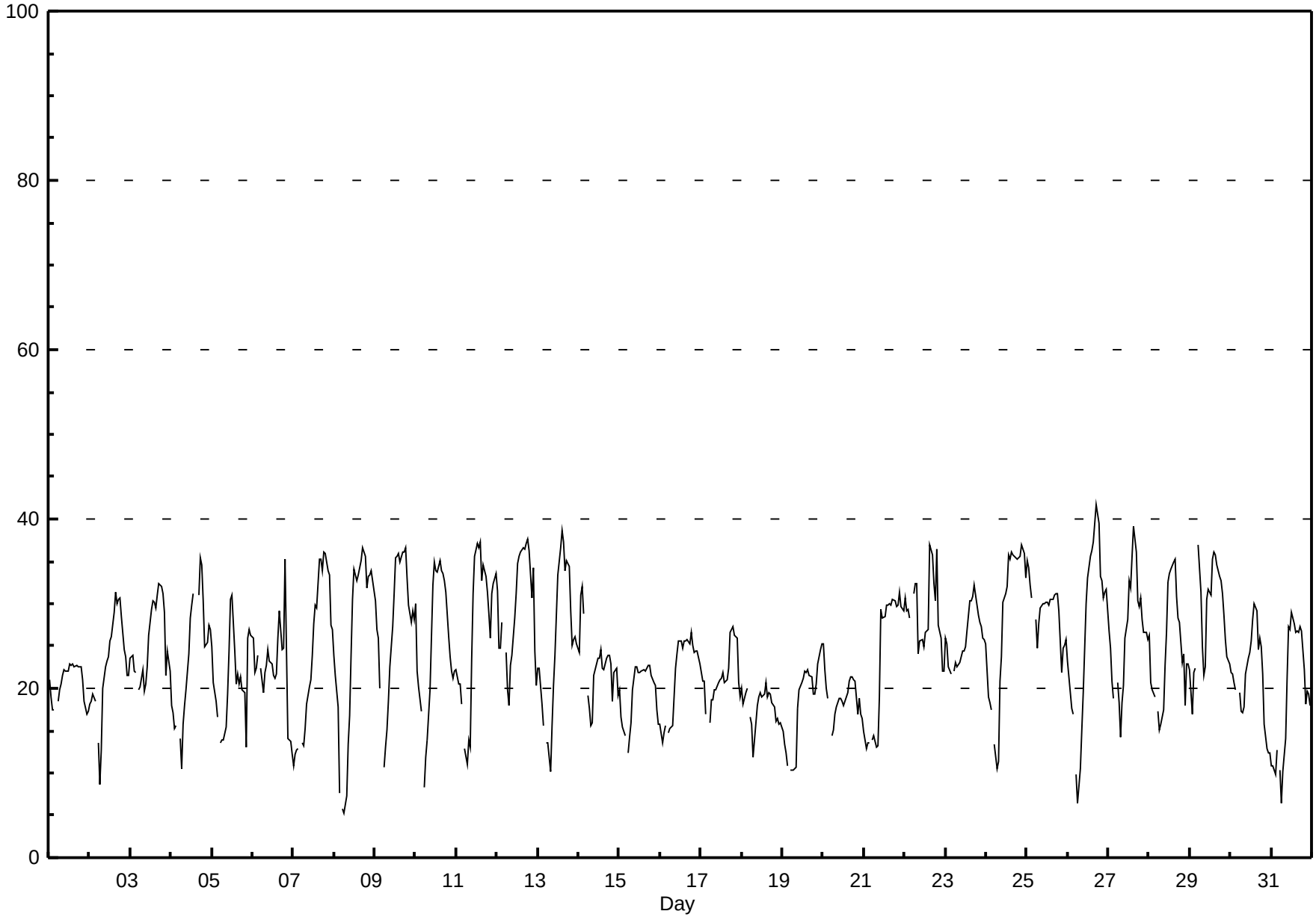
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

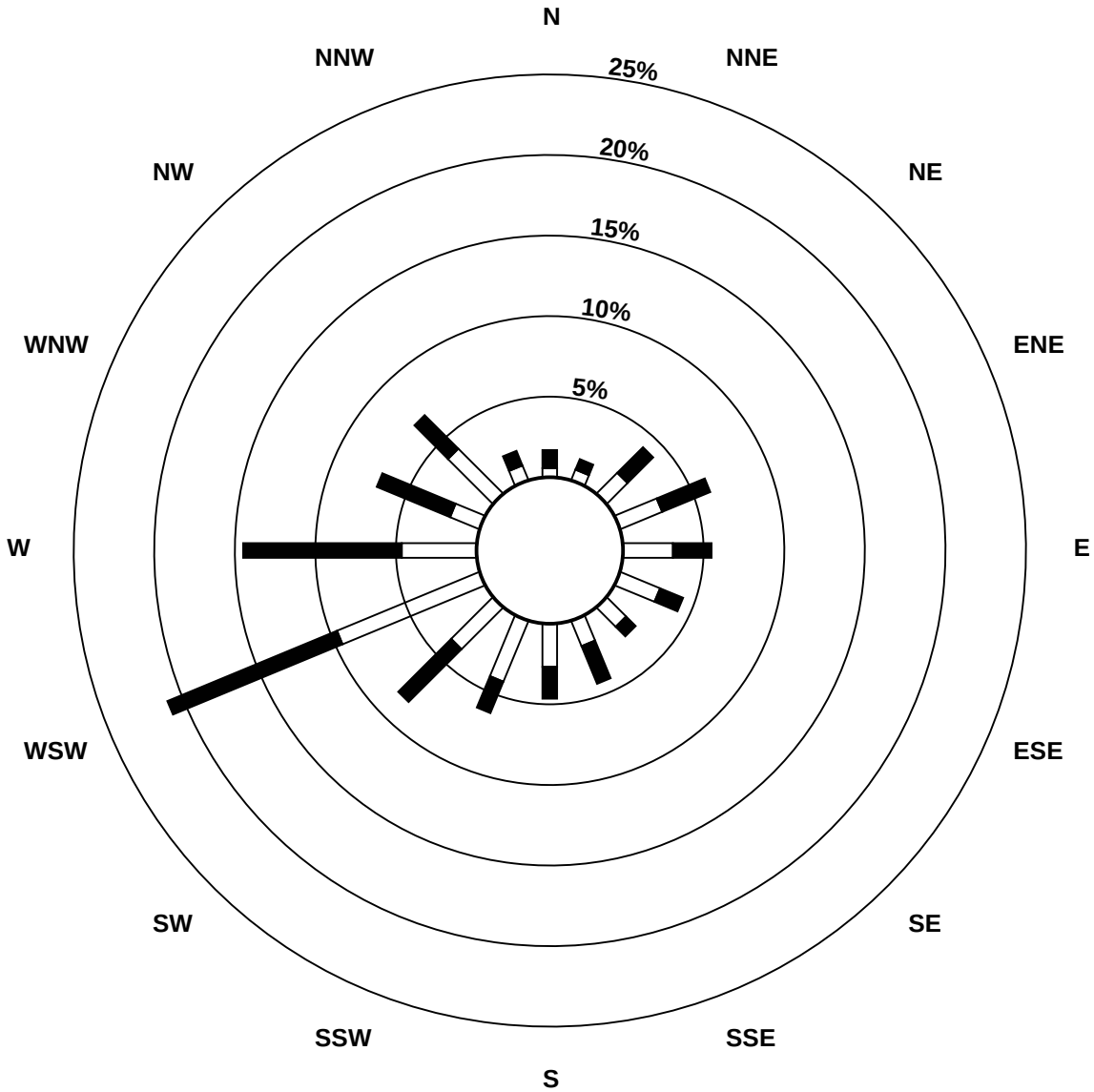
Beaverlodge - August 2011



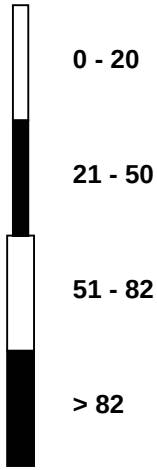
Pollutant Rose

Ozone (O_3) - ppb

Beaverlodge - August 2011



Pollutant Classes (ppb)



Peace Airshed Zone Association

Eight Hour Running Averages

Ozone (O_3) - ppb

Beaverlodge - August 2011

Maximum Value: 34.7 ppb on Aug 26 20:00

Minimum Value: 8.2 ppb on Aug 8 10:00

Percentiles: P_1 = 9.6 P_{10} = 13.8 Q_1 = 17.0 Median = 20.8 Q_3 = 25.9 P_{90} = 29.4 P_{99} = 33.6

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

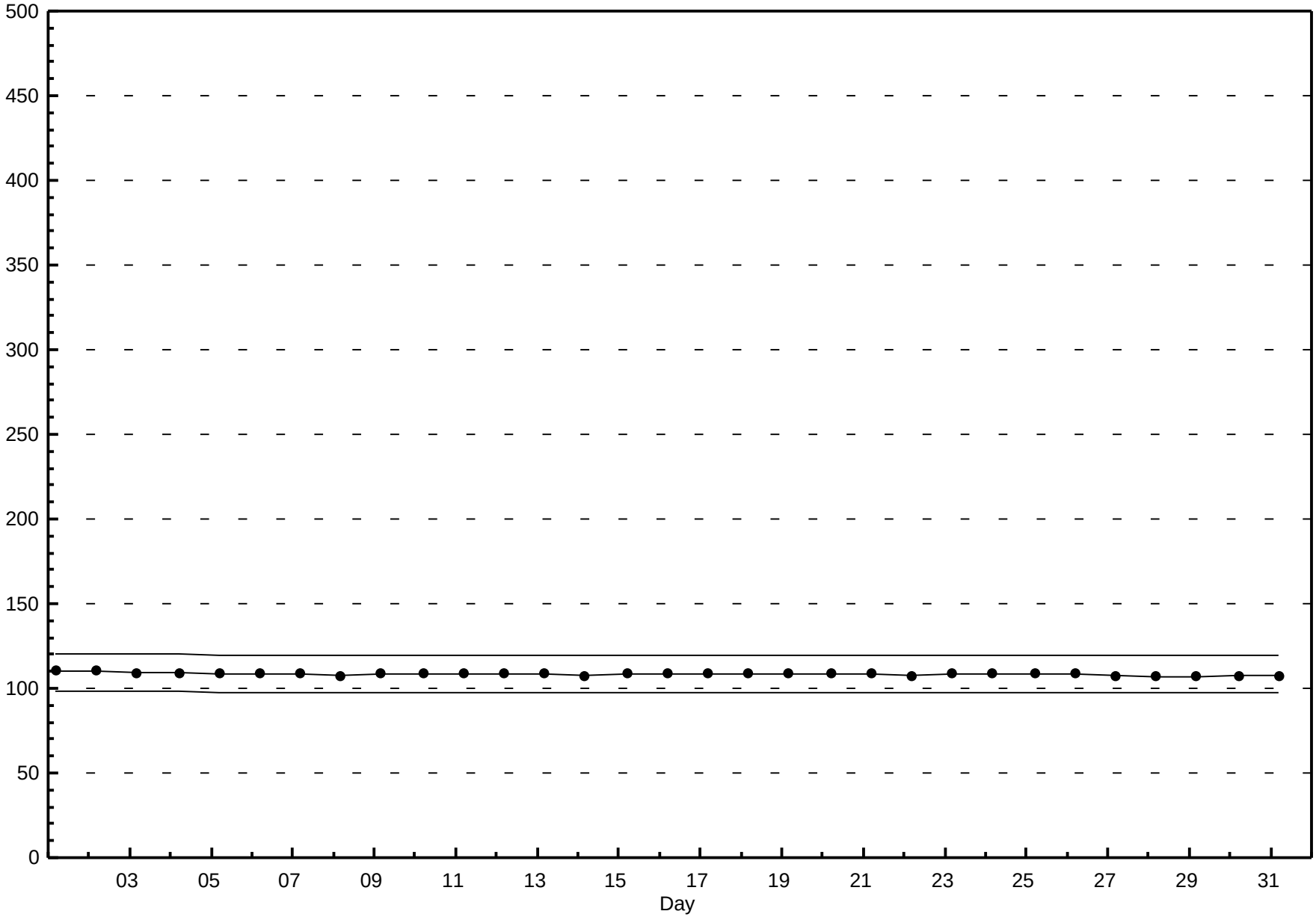
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Maximum
1-Aug	26	24	22	21	21	19	18	18	18	19	19	20	20	21	21	21	21	22	22	22	21	21	20	19	25.6
2-Aug	19	18	18	17	17	16	15	14	14	14	15	15	16	18	21	23	25	26	27	27	27	26	25	24	26.9
3-Aug	23	22	21	20	20	20	19	19	18	18	18	19	20	21	22	24	25	26	27	28	27	26	26	24	27.9
4-Aug	23	21	19	17	17	16	14	14	14	14	15	16	18	20	21	23	25	27	29	29	28	28	27	27	29.2
5-Aug	27	25	23	22	21	20	18	16	14	14	14	16	18	19	19	20	21	21	21	19	17	17	18	18	26.7
6-Aug	19	19	19	20	21	21	19	19	19	19	19	20	20	20	21	21	22	22	21	22	22	21	20	18	22.2
7-Aug	16	15	14	12	11	11	11	12	13	14	15	16	17	19	21	23	26	27	29	30	31	31	31	30	31.3
8-Aug	29	27	25	21	20	17	14	11	9	8	9	12	14	17	21	24	27	30	32	32	32	32	32	32	32.1
9-Aug	31	30	28	26	25	22	19	16	14	14	15	17	19	22	25	28	30	32	33	33	33	31	30	28	33.2
10-Aug	27	25	22	21	20	17	14	13	12	13	15	18	19	23	26	28	30	31	31	30	29	27	26	25	31.1
11-Aug	23	22	21	20	19	18	15	14	13	12	14	16	18	21	25	27	29	31	31	30	29	28	28	29	31.1
12-Aug	28	27	26	26	27	26	23	21	20	20	20	21	22	24	26	29	31	33	34	34	33	32	30	28	34.1
13-Aug	26	24	21	19	18	16	14	13	12	12	13	15	17	20	23	26	29	31	32	32	31	30	28	27	31.9
14-Aug	25	24	24	24	24	23	22	20	20	19	17	17	18	18	19	20	21	21	21	21	20	20	20	20	24.9
15-Aug	19	19	17	17	17	15	14	14	13	14	15	16	17	18	19	20	21	21	21	21	21	20	20	19	20.9
16-Aug	18	17	16	15	14	14	13	13	13	15	16	18	18	20	21	22	23	24	24	24	24	24	24	23	24.1
17-Aug	23	22	21	20	20	19	17	17	16	16	17	17	18	18	19	19	20	21	21	22	22	23	23	22	23.1
18-Aug	21	20	19	17	16	15	14	13	13	14	14	14	15	15	16	17	18	18	18	18	17	17	17	16	21.3
19-Aug	15	15	14	13	13	12	11	11	10	10	11	13	14	15	17	18	20	20	20	20	20	20	20	20	20.1
20-Aug	20	20	21	21	21	20	19	17	16	16	16	16	16	16	17	18	18	18	19	19	18	18	17	17	20.9
21-Aug	16	15	14	14	14	13	13	12	12	12	14	16	17	19	21	23	25	27	28	28	28	28	28	28	28.4
22-Aug	28	28	28	28	28	27	27	26	25	24	23	23	23	23	23	24	25	27	27	28	28	28	27	26	27.9
23-Aug	25	24	23	22	22	21	22	22	22	22	22	22	22	23	24	25	25	26	27	27	28	28	27	27	27.9
24-Aug	26	24	22	21	20	18	15	13	12	13	14	16	18	21	25	28	30	32	33	33	33	34	34	33	33.8
25-Aug	33	33	33	33	32	31	29	28	28	27	27	27	27	27	28	29	29	29	29	29	28	27	26	26	33.4
26-Aug	25	23	22	20	20	17	14	11	10	9	10	12	14	18	22	26	29	32	34	35	34	34	33	32	34.7
27-Aug	30	28	25	24	23	21	18	15	14	14	15	16	18	20	23	26	28	30	30	31	30	29	28	27	30.8
28-Aug	25	24	23	21	21	19	18	17	16	16	17	18	20	22	25	27	29	30	30	29	27	25	23	21	30.0
29-Aug	19	17	16	16	16	18	19	20	21	22	23	25	25	25	26	28	29	31	32	31	31	30	29	27	31.5
30-Aug	25	23	21	20	19	18	17	17	16	16	17	18	18	20	21	22	23	24	24	23	22	20	18	16	24.8
31-Aug	15	13	12	11	10	10	9	8	8	10	12	14	15	18	20	23	24	25	26	25	24	23	22	21	25.6
Diurnal Maximums	33.4	33.4	33.1	32.6	32.5	31.0	29.2	28.3	27.5	26.9	26.7	26.6	26.9	27.3	28.3	29.0	31.0	32.8	34.2	34.7	34.5	33.9	33.7	33.5	

Peace Airshed Zone Association

Span Responses

Ozone (O_3)

Beaverlodge - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

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

Beaverlodge - August 2011

Number of Exceedences: 1-hr: 0 24-hr: 0

Maximum Value: 15.8 $\mu g/m^3$ on Aug 10 22:00

Maximum Daily Average: 10.6 $\mu g/m^3$ on Aug 10

Minimum Value: 0 $\mu g/m^3$ on Aug 23 07:00

Maximum Diurnal Average: 6.5 $\mu g/m^3$ at hour 21

Monthly Average: 5.37 $\mu g/m^3$

Minimum Daily Average: 2.4 $\mu g/m^3$ on Aug 1

Minimum Diurnal Average: 4.7 $\mu g/m^3$ at hour 16

Percentiles: $P_1 = 0.9$ $P_{10} = 2.4$ $Q_1 = 3.3$ Median = 4.8 $Q_3 = 7.1$ $P_{90} = 9.1$ $P_{99} = 12.6$

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

Day	Hourly Period Ending At (MST) 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-Aug	2	1	0	1	1	1	2	3	3	2	1	3	3	4	5	0	2	3	2	3	3	3	3	3	2.4	5.5
2-Aug	N	4	4	3	4	4	4	4	4	3	3	4	3	4	3	3	3	5	4	4	5	5	8	7	4.1	7.6
3-Aug	5	5	4	4	5	5	5	4	3	6	4	6	5	3	2	4	3	5	5	3	6	7	7	8	4.8	8.2
4-Aug	9	9	9	9	8	7	7	8	6	6	7	8	7	6	4	5	4	6	7	7	8	10	11	10	7.4	10.7
5-Aug	9	9	9	9	9	7	9	11	11	9	9	9	9	10	7	6	4	6	5	3	6	5	4	6	7.6	11.4
6-Aug	4	4	3	4	4	4	6	5	3	3	2	2	2	2	1	2	2	4	5	4	4	4	6	5	3.6	6.3
7-Aug	4	4	5	6	5	5	6	5	4	5	6	5	4	5	5	5	6	7	7	6	6	7	7	8	5.6	8.1
8-Aug	8	7	8	8	9	7	7	8	8	9	10	9	7	6	7	6	7	7	7	7	11	8	8	9	7.7	10.7
9-Aug	8	10	10	11	10	10	9	10	9	10	11	13	10	7	7	8	7	9	8	9	10	11	10	12	9.5	12.5
10-Aug	11	11	13	12	12	11	10	12	12	11	12	10	9	9	8	11	10	10	9	10	13	16	7	6	10.6	15.8
11-Aug	6	5	7	7	8	6	8	9	9	11	15	14	12	12	10	8	8	8	7	9	9	7	7	5	8.6	14.7
12-Aug	6	6	7	5	8	7	7	7	9	9	10	9	7	7	8	9	9	7	9	11	12	14	8	5	8.1	13.8
13-Aug	7	7	6	6	7	7	8	7	9	7	5	8	8	7	6	5	6	7	7	8	15	8	7	9	7.5	15.1
14-Aug	9	3	4	3	4	5	3	3	3	3	1	2	3	3	2	5	11	3	3	2	3	3	2	2	3.6	10.5
15-Aug	2	4	4	4	3	1	1	2	3	4	3	3	4	3	5	7	5	3	2	4	7	6	5	4	3.6	7.2
16-Aug	4	2	2	2	2	3	3	4	3	3	3	3	2	4	4	3	5	4	5	4	4	3	4	4	3.3	5.4
17-Aug	3	2	2	3	2	2	2	2	2	2	3	3	0	2	2	4	7	4	3	4	3	2	5	4	2.9	6.9
18-Aug	4	3	3	2	3	3	3	3	2	2	2	2	3	4	4	1	1	4	5	5	5	3	3	4	3.0	5.3
19-Aug	3	4	4	4	4	5	4	3	4	4	3	4	4	4	3	3	6	5	7	6	6	4	4	5	4.3	7.0
20-Aug	6	5	4	6	5	5	5	5	3	4	6	4	4	3	1	2	2	5	7	5	6	6	6	5	4.5	6.6
21-Aug	6	5	4	4	4	7	6	6	7	5	4	2	4	3	4	2	5	9	4	3	4	4	3	5	4.6	9.1
22-Aug	4	4	3	4	2	2	4	4	4	3	4	5	7	2	3	3	3	4	2	1	2	2	3	3	3.3	7.3
23-Aug	4	1	3	3	3	3	0	3	1	3	4	1	6	5	4	4	4	6	5	6	6	7	5	4	3.9	6.6
24-Aug	3	5	9	5	6	6	4	4	7	7	5	5	2	4	4	6	5	6	6	5	4	4	3	5	5.0	8.7
25-Aug	5	3	2	4	3	4	3	4	5	3	3	3	4	5	4	4	5	6	6	5	11	15	11	9	5.2	15.2
26-Aug	7	7	8	8	7	9	8	8	12	9	7	7	8	6	6	6	8	8	8	10	9	13	13	8	8.3	13.2
27-Aug	7	8	10	8	8	6	7	9	7	8	8	9	9	5	6	4	4	5	5	3	5	5	6	5	6.6	10.4
28-Aug	5	5	6	7	5	4	6	7	6	6	6	7	6	5	5	6	6	7	8	8	8	6	6	6	6.2	8.4
29-Aug	5	4	4	3	4	4	4	3	5	7	4	3	4	5	6	2	2	2	5	4	3	3	3	2	3.7	6.8
30-Aug	5	3	2	3	4	4	4	4	2	4	3	2	3	3	3	3	3	3	3	3	2	3	4	4	3.2	4.5
31-Aug	3	2	4	3	3	4	3	3	3	2	3	5	5	5	5	5	5	5	4	4	5	4	5	3	3.9	5.4
	5.4	4.9	5.2	5.2	5.1	5.1	5.1	5.4	5.5	5.4	5.4	5.5	5.3	4.9	4.7	4.7	5.1	5.6	5.5	5.5	6.5	6.4	5.9	5.7	Diurnal Average	
	11.4	10.8	12.6	11.9	11.7	10.5	9.6	11.6	11.7	10.7	14.7	13.9	12.5	12.4	10.4	11.4	10.5	10.0	9.2	11.1	15.1	15.8	13.2	12.2	Diurnal Maximum	

N - Not Valid

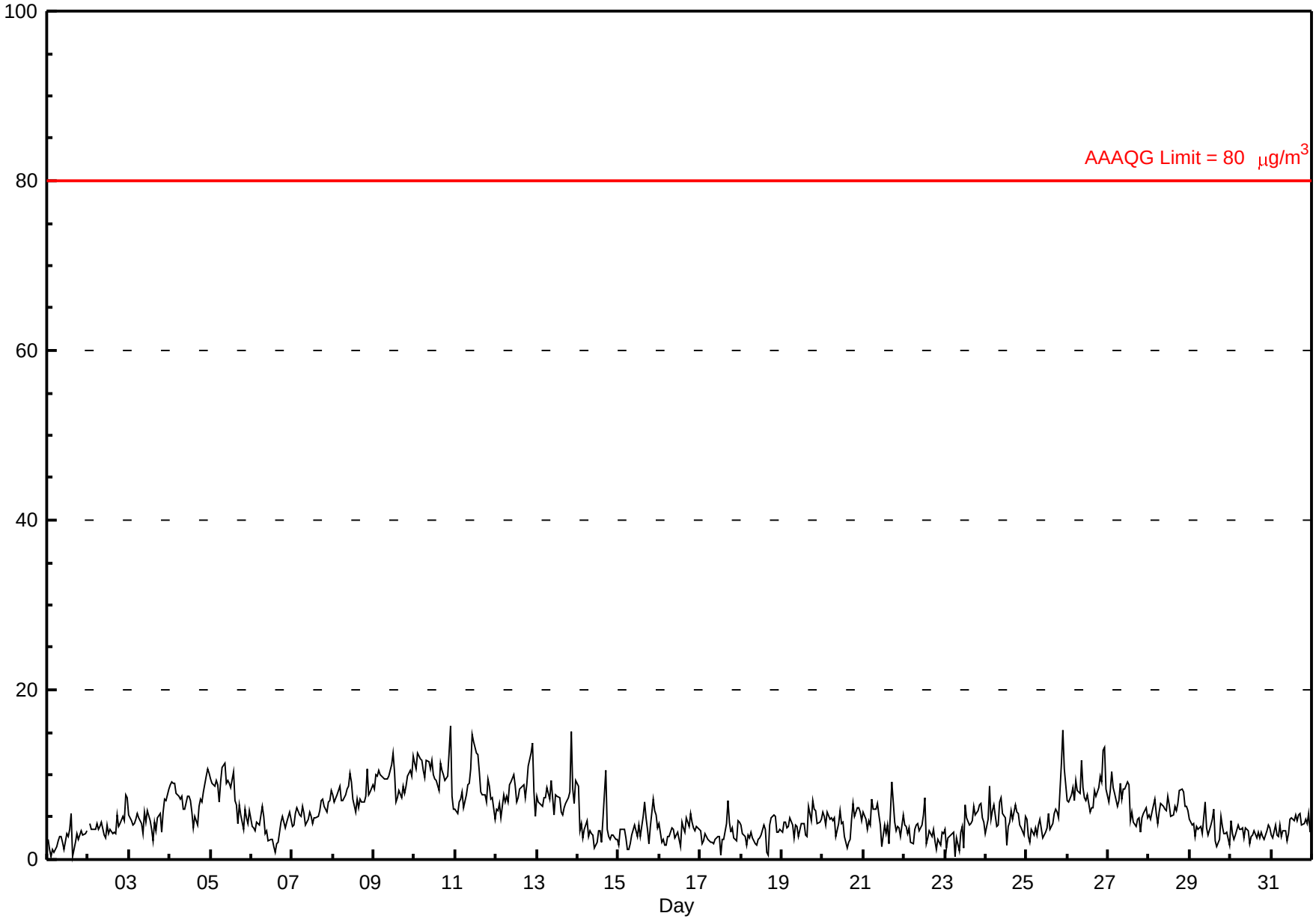
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

Hourly Averages

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

Beaverlodge - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

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

Beaverlodge - August 2011

Maximum Value: 17.5 $\mu g/m^3$ on Aug 10 22:00

Maximum Daily Average: 12.1 $\mu g/m^3$ on Aug 10

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

Minimum Daily Average: 3.3 $\mu g/m^3$ on Aug 1

Maximum Diurnal Average: 7.5 $\mu g/m^3$ at hour 21

Minimum Diurnal Average: 5.7 $\mu g/m^3$ at hour 16

Monthly Average: 6.46 $\mu g/m^3$

Percentiles: P_1 = 2.1 P_{10} = 3.3 Q_1 = 4.3 Median = 5.8 Q_3 = 8.2 P_{90} = 10.3 P_{99} = 15.7

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Aug	3	2	1	2	1	2	3	4	4	3	2	5	4	5	6	3	3	4	4	3	4	3	4	5	3.3	6.5
2-Aug	N	5	4	4	5	5	4	4	5	4	4	5	4	4	4	4	4	6	4	5	5	5	9	9	4.9	9.0
3-Aug	6	5	5	6	5	6	6	5	5	7	5	6	6	4	5	5	4	6	6	5	7	8	8	9	5.8	8.7
4-Aug	10	10	9	10	9	8	8	8	8	7	8	9	8	8	6	6	5	7	8	7	8	11	11	11	8.3	11.1
5-Aug	10	10	9	10	10	7	10	12	12	12	12	11	10	11	10	7	6	7	6	6	7	5	5	7	9.0	12.1
6-Aug	5	5	4	5	5	5	7	6	4	4	3	3	3	2	1	3	4	5	6	5	4	5	6	6	4.4	7.4
7-Aug	4	5	6	7	6	6	7	6	5	5	6	6	5	6	6	6	8	8	8	7	6	7	8	9	6.3	8.9
8-Aug	9	7	8	9	9	8	7	8	9	9	11	10	8	6	8	7	8	8	7	9	12	10	9	9	8.6	11.6
9-Aug	10	10	10	11	11	10	10	10	10	11	12	14	12	8	9	9	8	9	9	10	10	11	11	14	10.4	14.2
10-Aug	14	13	14	14	13	11	11	13	13	11	12	12	11	11	10	12	11	10	10	12	14	17	15	6	12.1	17.5
11-Aug	6	6	8	8	9	7	8	9	10	13	16	15	13	15	13	9	8	9	9	11	9	8	8	6	9.7	15.8
12-Aug	6	7	8	6	9	8	8	8	9	10	11	10	8	9	9	9	9	9	10	12	16	16	11	6	9.3	15.8
13-Aug	8	8	7	8	9	9	9	8	11	10	7	9	8	9	7	6	7	7	8	11	17	12	8	12	8.9	17.0
14-Aug	12	7	5	4	4	5	4	4	4	4	2	3	4	4	3	8	12	8	3	3	3	4	3	3	4.9	12.4
15-Aug	3	4	4	4	3	2	2	3	4	6	6	5	5	3	7	7	6	5	2	7	8	7	6	4	4.7	7.5
16-Aug	5	3	4	3	3	5	4	4	4	4	5	4	4	5	5	4	6	5	6	6	4	4	5	5	4.4	6.3
17-Aug	4	3	2	4	3	3	3	2	3	3	4	4	3	3	3	6	8	7	4	4	4	4	6	5	3.9	7.7
18-Aug	5	4	3	3	3	4	4	3	2	2	3	4	4	5	5	2	3	6	6	6	6	4	4	4	4.0	6.3
19-Aug	4	5	5	4	4	6	5	3	5	5	4	5	5	5	4	4	7	7	8	8	6	6	5	5	5.2	8.2
20-Aug	6	6	5	6	6	6	5	5	4	6	7	5	5	5	3	3	3	7	8	6	8	7	7	5	5.6	8.1
21-Aug	7	7	4	6	6	9	8	7	7	7	5	3	5	4	6	3	9	10	6	5	5	4	4	6	6.0	10.4
22-Aug	5	5	5	5	4	3	5	6	6	6	6	8	9	4	4	4	4	4	4	3	3	3	4	4	4.7	8.7
23-Aug	5	3	4	4	4	5	2	3	2	5	5	5	8	5	5	5	6	7	6	7	7	7	6	5	5.0	8.0
24-Aug	4	6	11	7	7	8	5	6	8	9	7	6	4	5	5	6	5	7	7	6	6	4	3	7	6.3	10.7
25-Aug	7	4	3	4	5	5	4	5	6	4	3	5	5	6	5	5	6	7	7	6	17	17	13	9	6.6	17.4
26-Aug	8	7	8	9	8	11	10	11	13	11	8	8	9	6	7	7	9	8	9	10	10	15	15	11	9.6	15.0
27-Aug	7	10	12	9	8	8	8	9	8	9	10	11	11	7	6	5	5	6	6	4	6	6	7	6	7.7	11.6
28-Aug	6	5	7	8	7	5	7	7	7	6	7	8	7	6	6	7	6	8	8	10	9	7	7	6	7.0	9.6
29-Aug	5	6	6	4	5	5	4	4	7	8	5	4	5	7	7	4	3	6	6	5	3	4	4	3	4.9	7.7
30-Aug	5	4	3	4	5	4	4	4	3	5	5	3	3	4	4	4	4	4	5	4	3	4	5	5	4.1	5.3
31-Aug	3	4	5	4	4	5	4	4	4	3	4	6	6	5	6	5	7	7	5	5	6	5	6	5	4.7	6.8
	6.5	5.9	6.1	6.1	6.1	6.1	6.0	6.2	6.5	6.7	6.6	6.7	6.4	6.1	6.0	5.7	6.3	7.0	6.5	6.7	7.5	7.4	7.1	6.7	Diurnal Average	
	14.3	13.0	13.9	13.6	13.4	10.9	10.8	12.6	13.4	12.7	15.8	14.5	13.3	15.0	12.6	11.9	12.4	10.4	10.2	12.4	17.0	17.5	15.0	14.2	Diurnal Maximum	

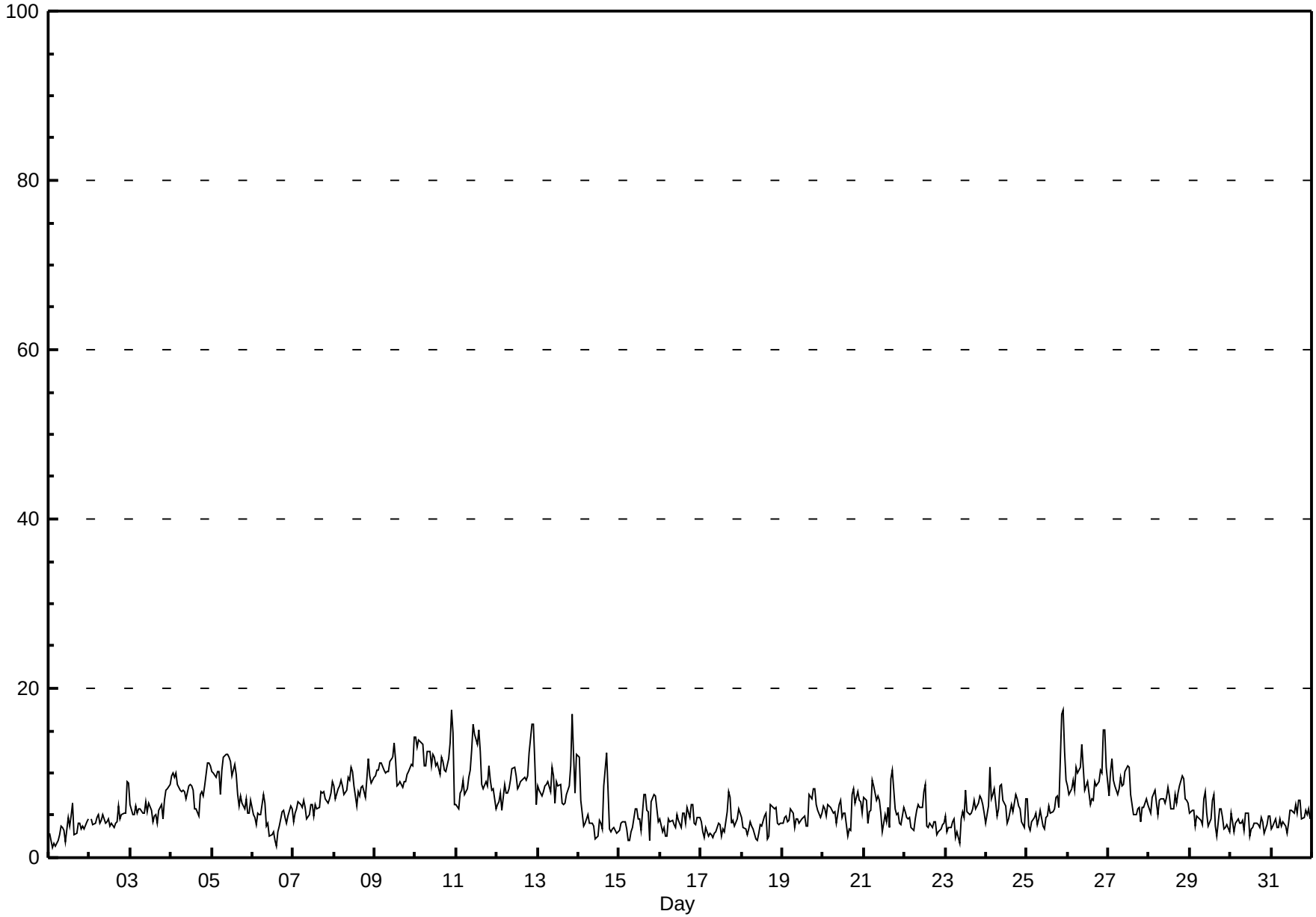
N - Not Valid

Peace Airshed Zone Association

Hourly Maximums

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

Beaverlodge - August 2011

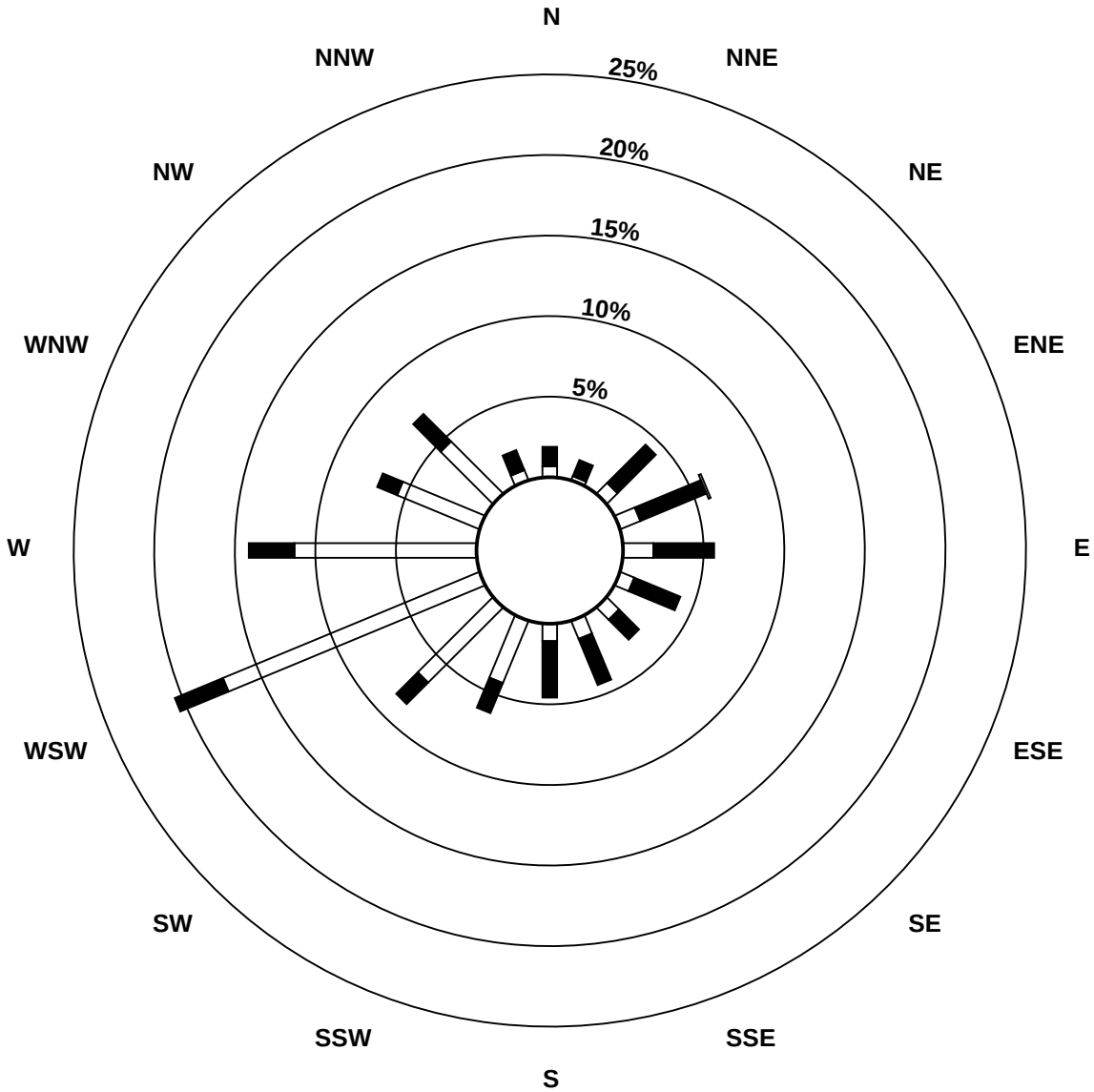


Peace Airshed Zone Association

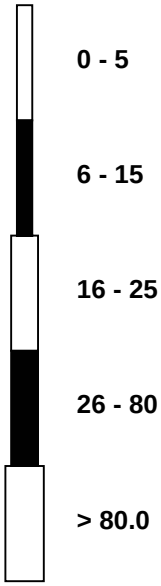
Pollutant Rose

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

Beaverlodge - August 2011



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



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - °C

Beaverlodge - August 2011

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

Maximum Value: 26.7 °C on Aug 9 17:00

Maximum Daily Average: 19.4 °C on Aug 9

Minimum Value: 5 °C on Aug 15 06:00

Minimum Daily Average: 10.0 °C on Aug 30

Maximum Diurnal Average: 20.4 °C at hour 16

Minimum Diurnal Average: 9.1 °C at hour 6

Monthly Average: 15.18 °C

Percentiles: P_1 = 5.6 P_{10} = 8.5 Q_1 = 11.0 Median = 15.1 Q_3 = 18.6 P_{90} = 22.4 P_{99} = 25.7

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

Day	Hourly Period Ending At (MST) 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-Aug	8	8	7	8	9	9	11	13	14	15	16	17	18	18	19	18	18	18	18	17	14	12	11	11	13.6	18.6
2-Aug	11	11	10	10	8	8	9	12	16	18	19	21	22	22	23	22	23	23	22	19	17	16	15	15	16.3	23.0
3-Aug	15	14	14	14	14	13	13	15	18	18	18	20	21	22	20	22	22	22	23	21	19	17	16	14	17.7	22.9
4-Aug	13	12	12	11	10	10	10	13	16	18	21	23	23	24	25	25	23	25	25	24	21	19	18	17	18.3	25.5
5-Aug	15	13	13	11	11	11	12	15	16	20	21	24	23	18	17	18	18	18	19	18	16	15	15	14	16.3	24.4
6-Aug	13	11	11	10	9	8	7	11	14	15	15	16	15	16	16	17	16	16	15	14	12	N	N	N	13.2	16.8
7-Aug	10	11	12	13	13	13	13	13	14	14	14	15	16	19	21	22	22	22	22	22	19	16	16	15	16.1	22.4
8-Aug	14	13	12	11	10	10	11	13	15	18	21	23	23	24	25	26	25	26	25	22	20	19	18	18	18.3	25.8
9-Aug	16	15	13	11	10	10	12	15	17	20	22	25	25	26	26	27	27	26	26	25	21	18	19	16	19.4	26.7
10-Aug	16	13	13	11	10	10	12	13	16	19	20	22	23	24	23	24	24	24	23	21	18	17	16	16	17.9	24.0
11-Aug	15	15	14	13	11	11	11	14	17	18	21	23	25	24	23	21	23	23	23	21	17	17	15	16	18.0	25.3
12-Aug	12	11	11	11	9	9	8	12	15	17	19	21	22	22	23	23	24	23	22	20	18	17	15	14	16.6	23.6
13-Aug	13	12	11	10	10	10	10	12	14	16	18	18	21	22	21	22	21	20	20	18	16	16	15	15	15.8	22.0
14-Aug	13	10	9	9	8	9	9	10	12	14	15	16	17	17	16	16	17	17	16	16	13	11	10	9	12.9	17.4
15-Aug	9	7	5	5	6	5	7	9	11	14	14	13	13	15	16	15	17	17	17	15	12	10	8	8	11.2	17.3
16-Aug	8	7	7	7	7	7	9	11	12	13	14	14	15	15	15	15	15	15	15	14	12	12	11	10	11.7	15.5
17-Aug	10	9	9	7	7	7	9	12	13	14	15	17	17	17	17	17	17	17	15	13	12	11	9	9	12.5	17.4
18-Aug	8	7	9	8	8	6	7	10	13	14	15	16	16	17	17	18	18	18	17	15	11	10	10	10	12.3	18.2
19-Aug	9	8	7	6	6	5	6	10	13	14	16	17	17	18	17	18	17	17	16	15	15	14	14	13	12.9	17.7
20-Aug	13	12	11	11	12	11	12	15	18	20	21	22	23	24	24	24	24	24	24	22	19	18	17	16	18.2	24.4
21-Aug	15	15	14	14	15	15	14	15	16	18	20	21	22	23	24	24	23	22	21	20	19	19	18	17	18.5	24.1
22-Aug	17	16	17	16	16	15	16	16	17	18	19	18	19	20	20	20	19	18	16	14	12	11	10	10	16.2	20.4
23-Aug	11	11	10	11	11	11	12	13	14	16	17	18	18	19	19	19	19	19	18	17	16	14	14	12	14.9	19.4
24-Aug	12	10	11	11	10	10	10	10	13	16	19	20	21	22	22	22	21	20	20	18	15	14	12	11	15.4	21.8
25-Aug	10	10	8	7	6	6	6	10	12	14	16	17	17	18	19	19	21	21	20	17	13	13	12	12	13.6	21.0
26-Aug	10	8	7	7	6	5	6	8	10	13	16	20	21	23	23	24	24	23	21	19	17	16	16	16	14.9	24.1
27-Aug	12	11	9	9	9	9	9	10	14	18	20	20	21	21	22	22	22	21	20	18	16	15	14	12	15.5	22.4
28-Aug	11	9	9	9	8	8	8	11	15	18	20	21	23	24	25	24	22	21	20	19	17	16	16	16	16.3	24.5
29-Aug	15	14	15	14	N	13	13	13	13	13	14	17	18	20	20	19	19	18	17	15	13	11	10	9	14.9	19.6
30-Aug	8	8	7	7	8	7	8	9	10	13	14	14	14	13	14	13	11	11	12	9	8	7	7	7	10.0	14.3
31-Aug	7	7	7	7	7	6	6	8	10	11	12	14	15	15	15	15	16	17	16	13	11	10	9	8	10.8	16.8
	12.0	10.9	10.4	10.0	9.4	9.1	9.9	12.0	14.1	16.0	17.5	18.8	19.6	20.0	20.2	20.4	20.3	20.1	19.5	17.7	15.5	14.4	13.5	12.8	Diurnal Average	
	17.0	16.4	16.9	15.8	16.0	15.2	15.8	15.8	17.7	19.8	21.8	25.2	25.3	25.7	26.2	26.7	26.7	26.4	25.9	24.7	21.5	19.1	18.5	17.5	Diurnal Maximum	

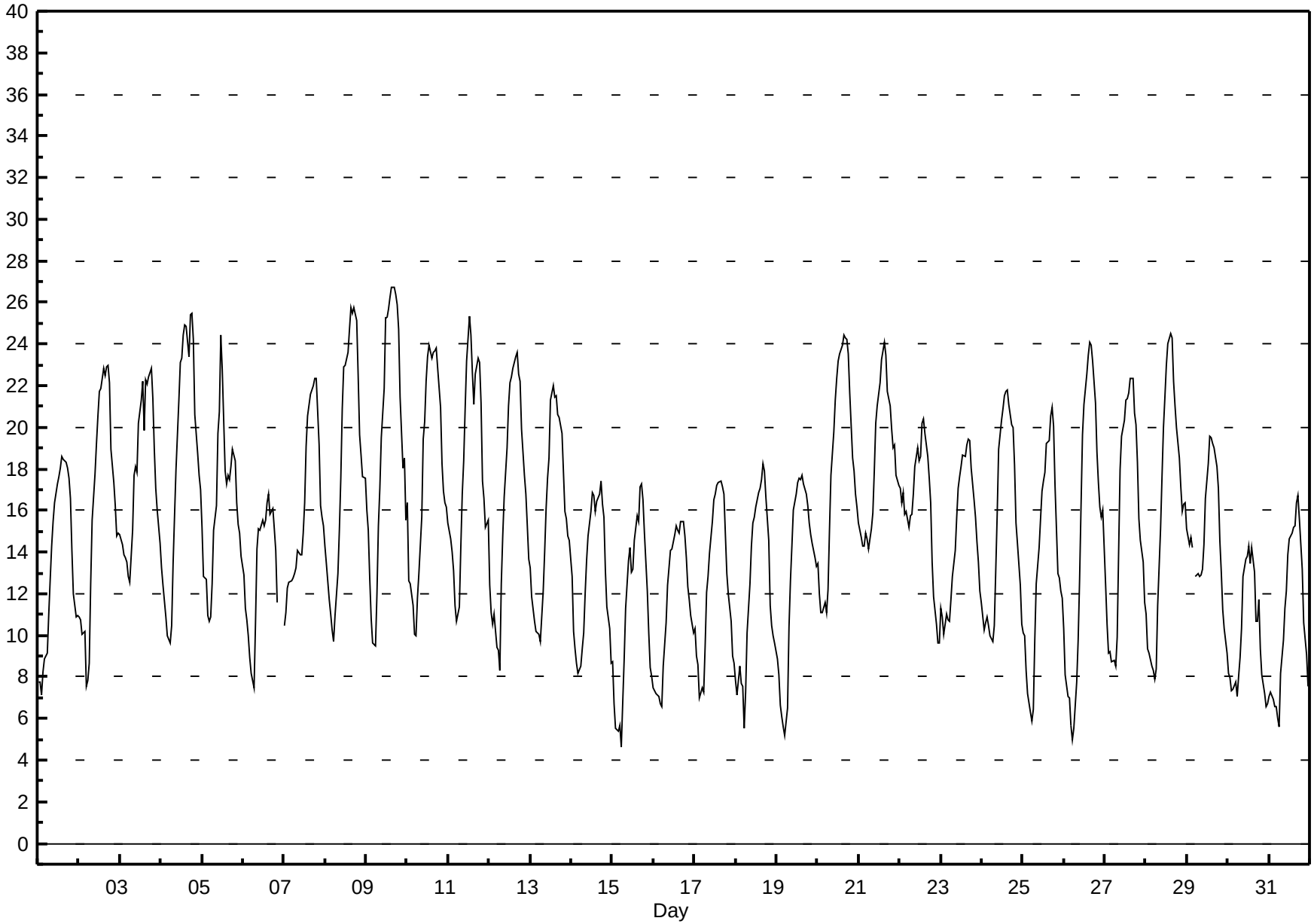
N - Not Valid

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Beaverlodge - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Beaverlodge - August 2011

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

Maximum Value: 95.7 % on Aug 8 06:00 Maximum Daily Average: 73.8 % on Aug 30

Minimum Value: 24 % on Aug 9 15:00 Minimum Daily Average: 44.6 % on Aug 25

Maximum Diurnal Average: 79.7 % at hour 6 Minimum Diurnal Average: 40.3 % at hour 16

Monthly Average: 59.25 % Percentiles: P_1 = 27.1 P_{10} = 35.6 Q_1 = 45.3 Median = 58.9 Q_3 = 73.7 P_{90} = 84.2 P_{99} = 93.1

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

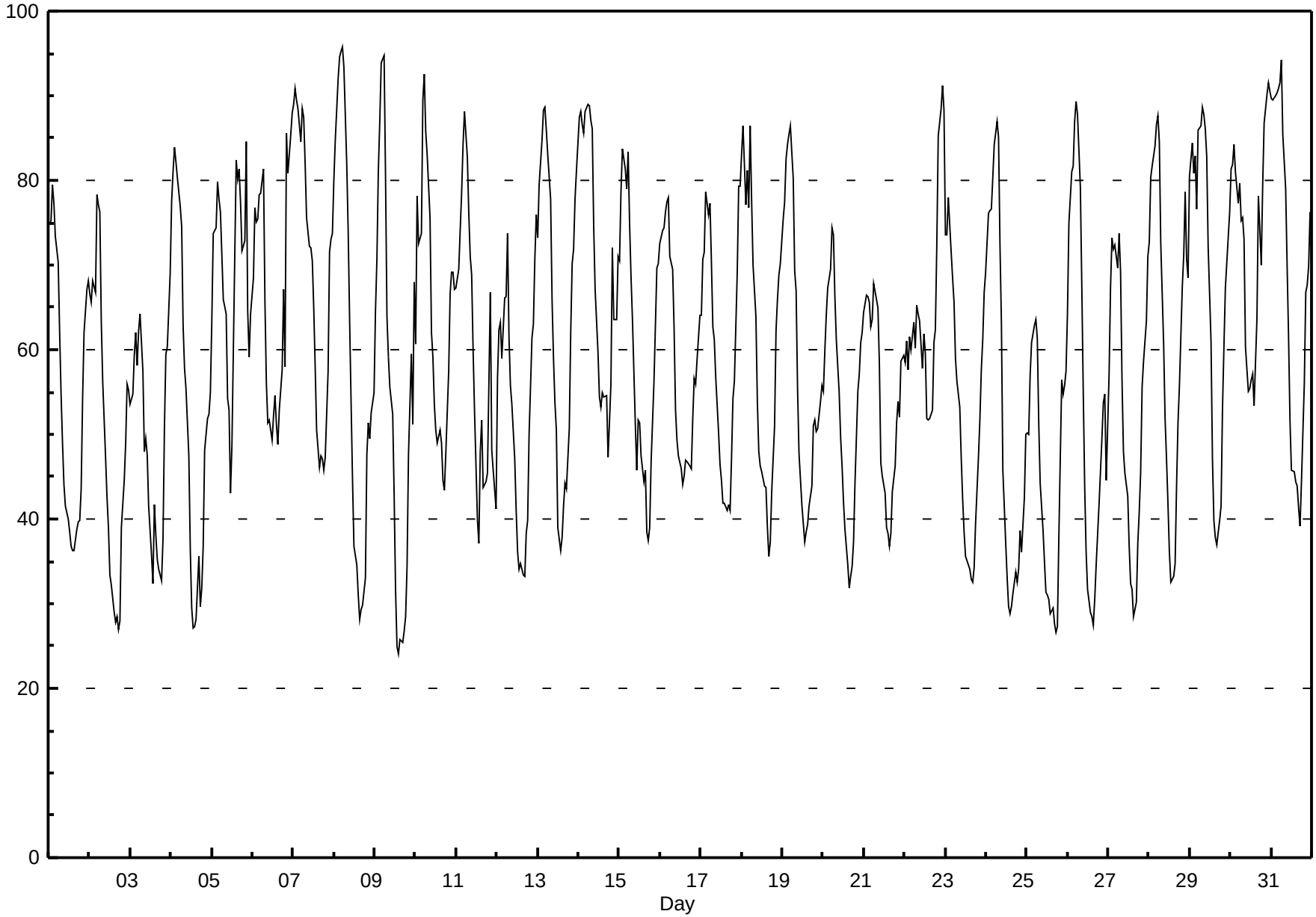
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	75	75	80	77	73	70	62	55	49	44	41	40	38	37	36	36	39	40	40	44	54	62	67	68	54.3	79.5
2-Aug	67	66	68	67	78	77	76	63	56	47	42	39	33	32	29	28	28	27	28	39	45	49	56	55	49.9	78.2
3-Aug	54	55	59	62	58	62	64	57	48	49	48	42	36	32	42	38	35	34	33	38	51	59	60	69	49.4	69.0
4-Aug	77	81	84	82	80	77	75	63	58	55	47	36	30	27	27	28	36	30	32	37	48	52	52	55	52.9	83.8
5-Aug	63	74	74	80	78	76	71	66	64	54	53	43	49	71	82	80	81	78	72	73	85	64	59	64	68.9	84.5
6-Aug	69	77	75	75	78	79	81	66	56	51	52	49	52	55	51	49	53	58	67	58	86	81	85	88	66.3	88.0
7-Aug	89	91	90	88	85	89	87	82	76	72	72	70	65	58	50	46	47	47	46	47	57	71	73	74	69.7	90.8
8-Aug	80	85	92	95	95	96	93	82	74	63	54	45	37	35	31	28	29	30	33	48	51	50	53	55	59.7	95.7
9-Aug	65	71	81	87	94	95	81	64	59	56	52	43	32	25	24	26	25	27	29	34	48	59	51	68	53.9	94.7
10-Aug	61	78	72	74	89	92	86	83	76	62	59	54	51	49	50	49	45	43	48	57	67	69	69	67	64.6	92.5
11-Aug	67	69	74	79	84	88	83	76	71	69	60	53	40	37	48	52	44	44	45	56	67	48	46	41	60.1	88.1
12-Aug	57	62	63	59	66	66	74	61	56	54	47	41	36	34	35	33	33	38	40	50	61	63	71	76	53.2	75.9
13-Aug	73	79	85	88	89	86	83	78	66	59	54	50	39	36	38	41	44	44	51	62	70	72	78	81	64.4	88.7
14-Aug	87	88	87	86	88	89	89	87	86	75	67	60	54	53	55	54	55	47	52	56	72	64	64	71	70.2	88.9
15-Aug	70	79	84	81	79	83	75	69	64	51	46	52	51	47	44	46	38	37	39	47	56	63	70	70	60.1	83.7
16-Aug	72	74	74	76	78	78	71	70	63	53	49	47	46	44	45	47	47	46	46	52	57	56	59	64	58.9	78.0
17-Aug	64	71	72	79	76	77	70	63	61	57	50	46	45	42	42	41	42	41	47	54	56	69	79	79	59.3	79.3
18-Aug	83	86	77	81	77	86	78	70	64	54	48	46	46	44	44	39	36	37	43	51	62	66	69	70	60.7	86.4
19-Aug	75	77	83	84	85	86	80	69	67	55	48	42	40	37	39	39	42	44	51	52	50	51	54	56	58.6	86.4
20-Aug	55	60	64	67	70	74	74	66	61	55	50	46	42	39	35	32	33	34	37	44	55	57	61	62	53.1	74.4
21-Aug	64	66	66	66	63	64	68	66	65	58	47	45	43	39	38	37	38	43	46	51	54	52	59	59	54.1	67.7
22-Aug	59	61	58	61	60	63	60	65	64	63	58	62	60	52	52	52	53	61	62	72	85	89	91	88	64.6	91.1
23-Aug	74	74	78	72	68	66	59	56	53	47	42	38	36	35	34	33	33	34	39	47	52	58	61	67	52.3	78.0
24-Aug	69	76	76	77	80	84	87	85	72	63	46	37	33	30	29	30	31	34	33	34	39	36	43	50	53.1	86.9
25-Aug	50	50	57	61	63	64	61	51	44	39	35	31	31	31	29	30	28	27	27	38	56	55	56	58	44.6	63.6
26-Aug	64	75	81	82	87	89	88	79	67	55	44	36	32	29	28	28	31	35	42	46	49	54	55	45	54.9	89.3
27-Aug	57	67	73	72	72	70	74	69	56	48	45	43	37	32	32	28	30	37	41	46	56	59	63	71	53.3	73.7
28-Aug	73	80	82	84	87	88	85	73	61	52	47	42	36	33	33	35	44	51	56	67	71	79	71	68	62.3	87.6
29-Aug	80	84	81	83	77	86	86	89	88	86	83	72	61	47	40	38	37	40	42	53	60	67	70	76	67.8	88.7
30-Aug	81	82	84	81	77	80	75	76	73	60	55	55	56	57	53	64	78	74	70	80	87	90	92	91	73.8	91.6
31-Aug	90	89	90	90	91	92	94	86	79	70	62	52	46	46	44	44	41	39	44	56	67	68	70	76	67.7	94.2
	69.8	74.3	76.3	77.3	78.2	79.7	77.1	70.5	64.4	57.4	51.7	47.0	42.9	40.8	40.7	40.3	41.2	42.0	44.5	51.2	60.5	62.3	64.7	67.2	Diurnal Average	
	89.6	90.8	92.0	94.6	95.3	95.7	94.2	88.7	87.8	86.0	82.9	72.1	64.8	71.2	82.4	80.2	81.3	77.5	71.8	79.5	86.7	90.2	91.6	90.6	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Beaverlodge - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Beaverlodge - August 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	15	13	5	13	17	18	24	32	36	39	40	38	34	36	37	37	33	33	33	25	13	10	9	10	24.7	40.0
Dir	231	232	218	228	239	236	248	252	255	258	258	260	253	260	254	261	247	247	254	254	247	239	245	251	251	258
2 Spd	6	6	3	8	2	4	2	3	5	15	18	16	19	16	23	26	26	24	25	12	7	5	7	6	10.8	25.8
Dir	250	257	245	240	162	164	98	137	200	239	250	250	274	283	270	268	267	270	270	279	296	249	236	243	261	267
3 Spd	4	2	4	5	5	1	1	2	5	10	13	13	12	11	10	4	7	6	2	1	3	5	6	6	2.7	13.2
Dir	260	352	270	209	210	111	93	129	264	306	300	312	325	322	236	96	328	284	349	62	65	63	60	122	305	312
4 Spd	4	3	2	3	3	4	3	4	4	5	7	11	13	11	9	5	6	5	6	5	3	3	3	5	3.0	13.4
Dir	151	95	104	172	98	104	84	166	160	192	210	229	231	257	227	176	179	105	151	170	105	111	93	66	179	231
5 Spd	3	3	3	3	4	4	2	3	3	2	3	4	8	10	4	8	6	10	9	5	6	10	7	1	1.7	10.4
Dir	102	96	97	116	87	76	105	89	174	130	182	124	281	302	99	56	115	156	158	162	199	248	257	234	155	302
6 Spd	1	2	8	5	6	0	3	4	12	18	19	20	18	13	19	15	9	7	8	13	12	10	10	7	8.8	20.2
Dir	89	129	243	223	217	247	47	295	277	269	259	255	248	259	265	289	317	262	242	273	243	238	233	214	258	255
7 Spd	7	5	8	11	12	11	11	13	13	16	16	14	13	12	10	8	7	6	4	1	1	4	5	4	7.4	15.8
Dir	205	277	318	305	314	312	297	304	316	313	308	303	303	303	295	308	285	278	341	319	158	57	62	84	307	313
8 Spd	2	2	3	3	2	3	3	3	5	5	4	4	9	9	6	1	2	6	6	9	7	8	6	8	1.6	8.8
Dir	93	106	136	157	133	55	56	174	190	201	174	203	236	259	309	256	154	130	111	77	59	52	56	72	119	259
9 Spd	4	3	1	1	2	4	1	1	3	4	5	2	7	12	11	6	7	9	6	5	5	4	2	4	1.4	11.6
Dir	90	257	58	193	59	44	105	121	171	181	199	242	261	263	283	322	5	29	36	26	43	55	40	340	345	263
10 Spd	3	3	4	8	13	14	8	12	9	2	4	3	3	8	9	10	11	14	15	13	12	12	14	14	4.8	15.1
Dir	310	258	304	323	321	330	344	318	322	319	243	350	49	94	75	77	76	82	87	77	76	77	87	88	47	87
11 Spd	12	6	3	2	1	4	1	1	4	5	4	4	3	3	5	7	6	5	7	7	5	4	11	11	2.0	12.4
Dir	90	94	122	173	39	247	354	310	134	174	174	184	118	173	169	203	170	177	216	206	221	278	303	315	189	90
12 Spd	2	6	5	3	2	0	2	2	4	7	6	3	1	5	7	2	2	10	7	6	4	7	11	10	1.5	11.1
Dir	191	243	260	262	297	166	110	80	175	163	159	52	63	164	87	140	154	103	105	45	55	335	19	38	90	19
13 Spd	9	5	5	8	6	5	2	1	5	5	3	5	2	4	3	10	11	11	10	8	6	6	8	7	3.0	10.6
Dir	19	32	292	346	349	0	340	205	274	260	210	188	69	64	161	104	95	95	107	90	60	61	47	49	61	95
14 Spd	17	13	9	1	6	6	2	5	7	13	12	16	20	20	15	13	14	21	16	10	8	14	17	9	9.9	20.7
Dir	300	339	5	18	233	241	209	202	224	260	258	258	261	260	253	227	221	245	221	219	220	260	240	245	252	245
15 Spd	13	7	6	7	11	9	5	7	11	29	38	28	28	30	30	22	34	33	27	21	18	9	3	6	17.0	38.0
Dir	246	249	195	214	226	208	200	206	200	237	246	251	258	254	260	264	264	265	267	247	242	238	207	216	248	246
16 Spd	6	6	5	6	4	3	4	6	13	29	38	39	34	37	35	28	25	27	34	24	26	26	20	15	19.7	39.3
Dir	204	209	214	206	200	186	220	205	239	254	258	254	256	252	248	253	269	271	263	271	248	265	246	238	253	254
17 Spd	15	1	8	2	2	1	3	7	11	17	23	26	27	34	34	34	29	32	29	19	18	10	6	3	15.1	34.3
Dir	262	237	206	115	145	90	351	242	239	256	263	260	260	255	252	248	255	254	246	252	269	357	253	244	255	252
18 Spd	3	2	4	1	2	2	1	2	8	23	21	17	20	19	22	26	27	26	24	20	13	7	7	7	11.6	27.0
Dir	276	74	259	335	276	76	164	112	246	271	279	276	272	270	263	266	256	252	242	241	237	227	223	226	258	256
19 Spd	4	3	3	4	4	5	5	2	3	16	20	23	23	20	19	18	20	16	9	11	10	12	8	4	8.6	22.6
Dir	208	164	109	64	54	57	50	75	180	266	269	268	266	271	277	266	247	244	247	258	267	266	252	230	262	266
20 Spd	9	4	3	2	3	2	1	2	7	20	25	29	36	39	35	34	32	27	25	19	5	2	4	3	13.7	39.4
Dir	234	198	74	103	149	129	159	85	244	252	253	248	253	251	257	257	254	254	253	259	221	145	69	127	250	251
21 Spd	4	5	6	6	5	2	6	4	4	11	24	21	28	33	25	29	28	31	16	11	12	12	11	4	10.7	33.4
Dir	102	81	96	107	130	109	52	124	212	219	220	206	214	228	239	248	254	260	278	268	240	229	226	211	232	228
22 Spd	10	2	15	8	5	1	3	4	8	7	12	15	21	25	22	23	18	13	22	26	10	8	7	9	11.8	26.1
Dir	216	208	227	208	251	140	230	234	269	236	231	221	240	244	224	228	237	229	237	232	211	192	178	205	229	232

FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
23 Spd	22	22	17	29	26	23	27	29	30	33	34	42	45	35	33	32	32	28	21	16	18	6	4	4	24.7	44.9
Dir	241	233	234	242	243	246	262	250	247	250	256	250	248	255	258	255	256	261	253	253	267	312	249	35	251	248
24 Spd	2	3	4	3	1	3	8	8	8	15	24	33	35	37	36	35	34	30	21	13	14	18	15	10	15.1	37.0
Dir	34	91	79	312	312	172	170	170	220	244	258	264	269	259	262	262	258	252	259	290	288	289	277	282	261	259
25 Spd	9	13	11	9	8	8	3	9	11	15	12	10	11	8	7	7	4	4	4	5	7	7	7	6	5.5	14.6
Dir	289	298	302	302	295	288	292	277	269	280	296	297	245	276	295	325	306	281	344	56	78	74	78	80	297	280
26 Spd	7	4	1	3	3	3	1	3	3	4	5	5	9	9	10	12	14	13	7	5	4	5	5	6	3.6	13.8
Dir	98	139	157	38	360	275	40	72	194	194	180	172	167	176	168	183	160	155	129	118	130	66	41	332	151	160
27 Spd	3	2	2	3	3	4	1	3	1	3	7	8	16	20	22	19	23	32	25	17	12	11	6	1	8.2	31.8
Dir	352	264	56	67	49	33	202	61	316	172	178	235	261	286	280	283	269	269	265	282	273	267	270	13	272	269
28 Spd	2	5	6	3	2	4	4	3	3	3	6	10	6	6	5	7	8	7	4	3	5	3	5	3	1.5	9.7
Dir	48	53	52	83	96	71	72	93	125	175	155	154	164	202	164	245	333	19	359	319	22	74	50	3	83	154
29 Spd	2	2	4	7	10	8	11	9	8	9	8	13	20	25	32	32	31	30	30	21	9	6	5	7	13.3	32.3
Dir	286	349	304	236	253	214	223	205	208	223	232	258	246	257	256	264	257	256	261	269	294	287	311	238	255	256
30 Spd	4	5	2	3	5	3	8	9	4	16	20	13	14	13	10	13	10	16	11	7	9	8	9	8	8.6	19.7
Dir	229	251	309	307	272	290	283	307	255	266	279	311	310	307	315	294	325	288	319	302	302	292	302	311	295	279
31 Spd	7	7	7	8	8	4	1	4	9	7	7	6	6	6	6	5	2	4	6	5	4	5	4	4	3.2	8.6
Dir	312	308	310	321	327	312	285	314	307	304	288	283	267	244	259	235	243	236	221	186	82	71	82	100	290	307
Spd	3.0	1.9	2.0	2.6	2.8	1.8	1.9	3.2	6.3	11.2	13.4	13.5	15.4	16.0	15.0	13.6	12.7	12.3	10.5	7.5	4.8	3.2	2.3	1.2	Diurnal Average	
Dir	247	255	256	250	261	261	261	246	245	252	254	255	256	259	256	258	257	254	252	256	256	272	265	254		
Spd	22.3	22.1	17.0	29.0	26.1	22.5	27.2	32.2	35.8	38.5	40.0	42.0	44.9	39.4	36.8	36.8	34.5	32.7	34.4	26.1	25.6	26.4	19.7	15.1	Diurnal Maximum	
Dir	241	233	234	242	243	246	262	252	255	258	258	250	248	251	254	261	264	265	263	232	248	265	246	238		

Maximum Speed Value: 45 km/h on Aug 23 13:00
Maximum Daily Speed Average: 24.7 km/h on Aug 23
Maximum Diurnal Speed Average: 16.0 km/h at hour 14

Minimum Speed Value: 0 km/h on Aug 6 06:00
Minimum Daily Speed Average: 1.4 km/h on Aug 9
Minimum Diurnal Speed Average: 1.2 km/h at hour 24

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

Monthly Average Velocity: 7.40 km/h 255.4 deg

Speed Percentiles: $P_1 = 0.8$ $P_{10} = 2.3$ $Q_1 = 4.0$ Median = 7.3 $Q_3 = 14.5$ $P_{90} = 27.0$ $P_{99} = 37.8$

Percent Operational Time: 100.0

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

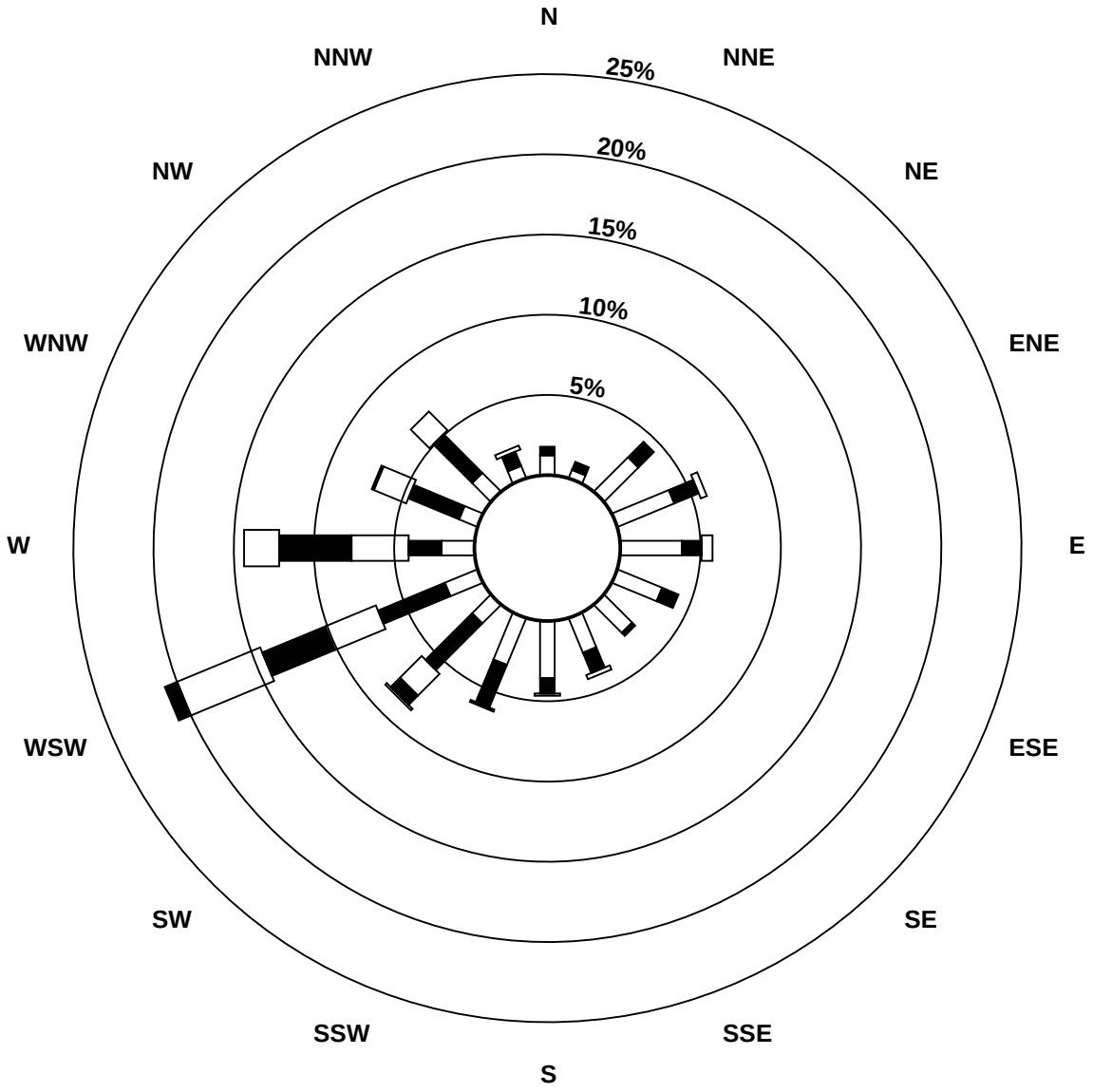
Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	17	9	2	0	0	0	28
NorthEast	40	17	0	0	0	0	57
East	55	23	9	0	0	0	87
SouthEast	29	10	1	0	0	0	40
South	41	29	3	0	0	0	73
SouthWest	27	71	30	20	9	0	157
West	26	37	45	51	52	7	218
NorthWest	18	39	27	0	0	0	84
Total	253	235	117	71	61	7	744

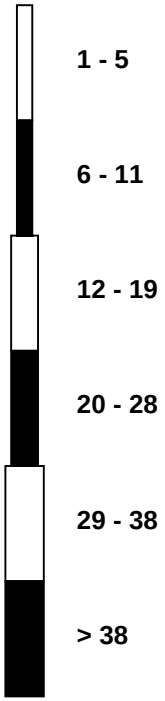
Wind Rose

Wind Speed (WS) (km/h)

Beaverlodge - August 2011



Wind Speed Classes (km/h)



Peace Airshed Zone Association

Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Beaverlodge - August 2011

Maximum Speed: 45 km/h on Aug 23 13:00

Maximum Daily Speed Average: 25.6 km/h on Aug 23

Minimum Speed: 1 km/h on Aug 26 03:00

Minimum Daily Speed Average: 5.4 km/h on Aug 9

Maximum Diurnal Speed Average: 19.2 km/h at hour 14

Minimum Diurnal Speed Average: 5.8 km/h at hour 7

Monthly Average Speed: 11.54 km/h

Percentiles: $P_1 = 1.8$ $P_{10} = 3.4$ $Q_1 = 4.9$ Median = 7.9 $Q_3 = 14.8$ $P_{90} = 27.3$ $P_{99} = 38.5$

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	15	13	6	13	17	18	24	32	36	39	40	39	35	36	37	37	34	33	33	25	13	10	10	10	25.2	40.2
2-Aug	7	6	4	8	3	5	2	3	6	15	18	17	20	17	23	26	26	24	25	12	7	6	7	6	12.2	26.0
3-Aug	6	3	6	5	5	2	2	2	6	11	13	14	13	12	12	6	8	7	3	2	3	5	7	6	6.5	13.6
4-Aug	4	3	3	3	3	4	3	4	4	5	8	11	14	13	10	7	6	6	7	5	4	3	3	5	5.8	14.3
5-Aug	3	3	4	3	4	4	3	4	4	2	4	5	10	11	9	8	7	11	9	5	7	10	8	5	5.9	11.3
6-Aug	3	4	9	6	6	3	4	4	13	19	19	20	18	16	20	17	10	7	8	14	12	10	10	7	10.8	20.4
7-Aug	8	8	8	11	12	11	11	13	13	16	16	14	13	13	11	9	8	7	5	2	1	4	5	4	9.3	15.9
8-Aug	3	2	3	4	2	3	3	3	5	6	5	5	9	10	7	6	7	7	7	9	7	8	7	8	5.6	9.7
9-Aug	5	4	3	3	2	4	2	2	3	4	5	4	8	13	13	8	8	9	6	5	6	5	3	7	5.4	12.8
10-Aug	6	5	5	10	13	14	8	12	9	4	5	5	6	10	10	11	12	14	15	13	12	12	14	14	9.9	15.4
11-Aug	12	6	4	5	4	4	3	3	5	6	5	5	6	4	6	10	7	5	7	7	5	5	11	11	6.1	12.5
12-Aug	6	7	5	5	4	2	3	3	4	7	6	5	5	6	8	4	7	10	7	6	4	8	11	11	6.0	11.3
13-Aug	9	5	6	9	7	6	3	2	5	5	4	6	6	7	4	11	11	11	10	8	6	7	8	7	6.8	11.1
14-Aug	18	14	10	7	6	7	2	5	7	13	12	16	20	20	16	13	15	21	16	11	8	14	17	10	12.4	21.2
15-Aug	13	8	6	7	11	9	5	7	12	30	38	28	28	30	30	22	35	33	27	21	18	9	4	6	18.3	38.5
16-Aug	6	6	6	6	5	4	5	7	13	29	38	40	34	38	35	28	25	27	35	24	26	27	20	15	20.7	39.6
17-Aug	15	4	8	2	3	4	7	7	12	17	24	27	27	34	35	35	29	33	30	19	18	11	6	3	17.0	34.7
18-Aug	3	2	5	4	4	2	3	3	10	23	21	18	21	20	23	27	27	26	24	20	13	7	7	7	13.3	27.3
19-Aug	6	4	4	4	4	5	5	3	3	17	20	23	23	20	19	18	20	17	9	11	10	12	8	5	11.2	23.0
20-Aug	9	4	3	2	3	2	2	3	8	20	25	30	36	40	35	34	32	28	25	19	8	4	5	4	15.9	39.8
21-Aug	5	5	6	7	6	2	6	5	5	11	25	21	28	34	25	29	28	31	17	11	12	12	11	5	14.4	33.7
22-Aug	11	4	15	8	5	3	3	5	8	8	12	15	22	26	22	24	18	13	22	26	10	9	7	9	12.8	26.5
23-Aug	22	22	17	29	26	23	27	29	30	33	35	42	45	35	34	32	32	28	21	17	18	6	5	4	25.6	45.1
24-Aug	3	3	5	3	2	4	8	8	10	17	25	33	36	37	36	36	35	30	22	13	14	18	15	10	17.7	37.4
25-Aug	9	13	11	10	9	10	5	10	11	15	13	10	11	9	8	7	6	6	5	5	7	7	7	6	8.7	14.9
26-Aug	7	4	1	4	7	6	2	3	4	4	5	6	9	10	11	12	14	13	7	5	5	5	5	6	6.5	14.0
27-Aug	5	4	3	4	4	7	4	4	3	4	7	8	17	21	22	19	24	32	25	17	12	12	7	3	11.1	31.9
28-Aug	4	5	6	4	4	5	4	3	3	4	6	10	8	8	7	10	8	8	5	5	6	5	5	3	5.6	10.2
29-Aug	5	5	6	7	11	9	11	10	9	9	9	13	20	27	33	32	31	30	30	21	10	7	7	8	15.0	32.8
30-Aug	5	6	3	4	6	3	8	9	6	16	20	14	15	14	11	14	10	16	11	7	9	8	9	8	9.8	20.2
31-Aug	7	7	7	8	8	5	3	4	9	8	7	7	8	8	7	6	3	4	6	5	4	5	4	4	6.0	8.8
	7.6	6.2	6.1	6.6	6.7	6.0	5.8	6.8	8.9	13.4	15.8	16.5	18.5	19.2	18.6	18.1	17.6	17.6	15.5	11.9	9.6	8.7	8.1	7.0	Diurnal Average	
	22.4	22.1	17.1	29.1	26.1	22.6	27.3	32.3	36.0	38.8	40.2	42.3	45.1	39.8	37.4	37.2	34.7	33.3	34.5	26.5	25.9	26.5	19.9	15.2	Diurnal Maximum	

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

FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Beaverlodge - August 2011

Maximum Value: 92.2 deg on Aug 22 06:00

Minimum Value: 2.2 deg on Aug 1 06:00

Percentiles: P_1 = 3.1 P_{10} = 6.3 Q_1 = 9.0 Median = 18.1 Q_3 = 37.4 P_{90} = 59.3 P_{99} = 88.2

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

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Aug	4	7	27	9	4	2	6	4	6	6	6	9	9	8	11	8	12	11	6	5	4	8	9	5	26.6
2-Aug	34	13	72	13	56	29	33	28	42	10	11	15	15	13	10	8	6	6	4	6	21	22	9	9	71.9
3-Aug	68	70	90	17	12	45	48	36	60	20	10	14	20	23	38	58	54	30	71	88	40	17	24	20	90.5
4-Aug	23	13	49	8	15	11	26	17	24	25	21	21	21	30	34	50	24	18	16	24	34	23	27	16	49.7
5-Aug	30	17	30	28	25	9	31	40	54	30	47	45	68	22	81	21	46	21	21	17	19	17	28	82	82.4
6-Aug	62	60	21	49	11	88	28	24	10	17	14	9	11	35	18	27	26	23	20	21	8	5	4	11	87.7
7-Aug	19	65	22	6	7	6	7	7	9	6	6	7	10	15	21	27	41	43	36	64	46	12	6	10	65.3
8-Aug	21	43	33	14	22	13	18	41	18	19	30	51	25	31	40	89	83	21	13	10	8	7	9	6	89.3
9-Aug	46	48	71	77	16	9	50	47	17	19	24	77	51	24	28	49	30	12	9	7	6	37	66	53	76.6
10-Aug	58	53	48	40	12	10	31	5	13	73	39	57	79	52	26	27	22	11	11	4	3	4	3	3	79.4
11-Aug	3	9	20	67	87	54	72	81	34	22	33	43	78	55	33	53	24	25	14	10	20	39	9	12	87.4
12-Aug	72	24	14	57	63	92	45	27	25	17	25	73	79	48	42	77	84	13	21	17	17	39	12	20	91.9
13-Aug	9	36	43	33	34	27	72	76	24	30	58	27	82	56	60	33	18	11	9	13	10	26	5	20	82.4
14-Aug	25	18	36	92	19	17	67	17	15	12	14	13	12	12	12	9	13	12	5	17	24	7	4	7	91.7
15-Aug	8	48	47	20	10	7	30	27	19	11	9	7	7	7	8	13	6	7	5	8	2	25	57	15	56.8
16-Aug	11	13	46	16	24	40	36	16	14	7	6	7	8	6	6	5	9	7	5	8	8	5	6	7	46.2
17-Aug	9	83	13	42	46	66	55	18	12	7	12	11	10	9	6	9	8	10	6	7	18	34	18	48	82.8
18-Aug	52	55	47	88	66	46	65	34	43	8	11	16	13	19	18	11	9	10	4	3	7	19	8	17	87.6
19-Aug	55	44	51	12	11	10	7	74	41	21	9	9	11	12	8	10	7	6	7	10	5	8	11	46	73.9
20-Aug	17	11	21	41	26	34	48	37	35	7	9	11	7	8	7	6	6	7	4	3	44	64	30	37	64.3
21-Aug	24	20	12	13	20	66	18	46	44	33	9	13	6	7	11	7	7	7	8	15	8	11	9	51	66.0
22-Aug	14	85	6	11	63	92	36	31	18	15	11	7	9	9	9	10	4	7	4	9	23	21	25	14	92.2
23-Aug	5	3	6	3	3	4	6	6	4	6	10	7	6	9	7	8	8	7	6	10	11	22	54	19	53.8
24-Aug	34	59	49	65	88	40	10	13	69	29	10	10	6	9	7	8	8	8	14	8	7	4	4	13	88.2
25-Aug	20	13	11	13	42	46	71	18	10	11	16	23	23	30	41	29	72	69	43	22	7	5	7	9	71.5
26-Aug	9	27	85	52	62	80	75	20	47	31	21	27	19	26	23	21	11	9	8	26	37	11	23	14	85.1
27-Aug	64	50	67	28	60	82	75	21	84	22	28	23	26	11	14	14	13	5	7	5	4	54	57	83	84.1
28-Aug	83	22	15	18	46	22	15	41	39	30	20	18	52	70	41	55	21	16	33	46	41	43	16	37	82.6
29-Aug	64	76	41	11	10	11	10	24	29	13	21	17	13	22	12	12	8	7	3	8	10	33	43	27	76.5
30-Aug	19	46	85	44	45	39	10	9	47	25	14	21	17	15	16	32	14	7	18	11	8	7	6	5	85.3
31-Aug	7	8	6	12	7	43	71	32	11	22	26	47	48	61	32	40	72	30	17	8	35	5	14	17	72.4
	82.6	84.8	90.5	91.7	88.2	92.2	75.0	80.5	84.1	73.3	57.6	76.5	82.4	70.0	80.9	89.3	83.7	69.4	70.8	88.2	46.1	64.3	66.5	82.5	

PAZA
Valleyview Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Valleyview - August 2011

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 13.9 ppb on Aug 27 12:00
Maximum Daily Average: 1.7 ppb on Aug 18

Minimum Value: 0 ppb on Aug 1 01:00
Maximum Diurnal Average: 1.8 ppb at hour 15
Monthly Average: 0.66 ppb

Minimum Daily Average: 0.0 ppb on Aug 14
Minimum Diurnal Average: 0.1 ppb at hour 2
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.5 P_{90} = 2.1 P_{99} = 7.0

Hours in Service:	744
Hours of Data:	710
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	0	0	0	0	0	0	0	A	0	1	4	3	2	4	2	3	4	1	1	0	0	0	0	0	1.2	4.4
2-Aug	0	0	0	0	0	0	A	0	0	0	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0.4	3.2
3-Aug	0	1	1	0	0	A	0	0	4	4	3	1	1	0	0	0	0	0	0	0	0	0	0	1	0.8	4.1
4-Aug	0	0	0	0	A	0	0	0	0	0	1	0	0	2	1	1	3	4	1	0	0	0	0	0	0.6	3.5
5-Aug	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.1	0.8
6-Aug	1	0	A	0	0	0	0	1	2	1	0	0	0	0	5	2	0	0	1	0	0	0	2	6	1.0	6.3
7-Aug	1	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.1	0.9
8-Aug	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.1	0.2
9-Aug	0	0	0	0	0	0	0	0	1	1	1	0	0	1	1	0	0	0	0	0	0	0	A	0	0.4	1.4
10-Aug	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.3	1.1
11-Aug	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.9
12-Aug	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.2	2.3
13-Aug	0	0	0	0	0	0	0	0	0	0	2	1	1	1	0	0	0	0	A	0	0	0	0	0	0.2	1.7
14-Aug	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
15-Aug	0	0	0	0	0	0	0	0	0	0	0	1	4	1	0	4	A	6	4	6	0	0	0	0	1.2	6.2
16-Aug	0	0	0	0	0	0	0	0	6	6	4	2	5	4	7	A	1	0	0	0	2	0	0	0	1.6	7.5
17-Aug	0	0	0	0	0	0	0	0	0	0	2	4	3	4	A	1	0	1	2	2	0	0	2	7	1.3	7.2
18-Aug	4	2	3	2	1	1	2	2	2	2	1	2	1	A	9	3	1	0	0	0	0	0	0	0	1.7	8.6
19-Aug	0	0	0	0	0	0	0	0	1	1	1	1	A	2	1	0	1	2	0	0	0	0	0	0	0.5	2.3
20-Aug	0	0	0	0	0	0	0	0	0	0	0	A	0	2	1	3	2	1	2	0	0	0	0	0	0.5	2.6
21-Aug	0	0	0	0	0	0	0	0	0	0	C	A	0	0	0	0	0	0	2	1	0	0	0	0	0.2	2.0
22-Aug	0	0	0	0	0	0	0	0	0	A	0	0	1	1	1	1	1	0	0	0	1	2	0	0	0.4	2.5
23-Aug	0	0	0	0	0	0	0	0	A	5	3	2	3	3	3	2	3	1	0	0	0	0	0	0	1.2	4.9
24-Aug	0	0	0	0	0	0	0	A	0	0	0	0	0	3	10	4	9	7	0	1	0	0	0	0	1.5	10.4
25-Aug	0	0	0	0	0	0	A	0	4	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.3	3.5
26-Aug	0	0	0	0	0	A	0	0	0	0	1	0	6	5	0	0	0	0	0	0	0	0	0	0	0.6	6.0
27-Aug	0	0	0	0	A	0	0	0	0	2	11	14	2	0	0	0	0	0	0	0	0	0	0	0	1.4	13.9
28-Aug	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0.3	1.5
29-Aug	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	4	2	1	0	0	0	1	0	0	0.4	3.6
30-Aug	0	A	0	0	0	0	0	3	1	0	0	0	0	4	5	1	0	0	0	0	0	0	0	0	0.7	4.7
31-Aug	A	0	0	0	1	2	2	0	0	1	3	0	6	2	1	2	0	0	1	0	0	0	0	A	1.0	5.6
	0.2	0.1	0.2	0.1	0.1	0.2	0.2	0.3	0.8	1.0	1.5	1.3	1.3	1.4	1.8	1.1	1.0	0.9	0.6	0.5	0.2	0.2	0.2	0.5	Diurnal Average	
	3.5	1.7	2.8	2.3	1.2	1.8	2.4	2.9	5.6	6.5	11.3	13.9	6.0	5.4	10.4	3.8	8.5	6.8	4.4	6.1	1.7	2.5	2.2	7.2	Diurnal Maximum	

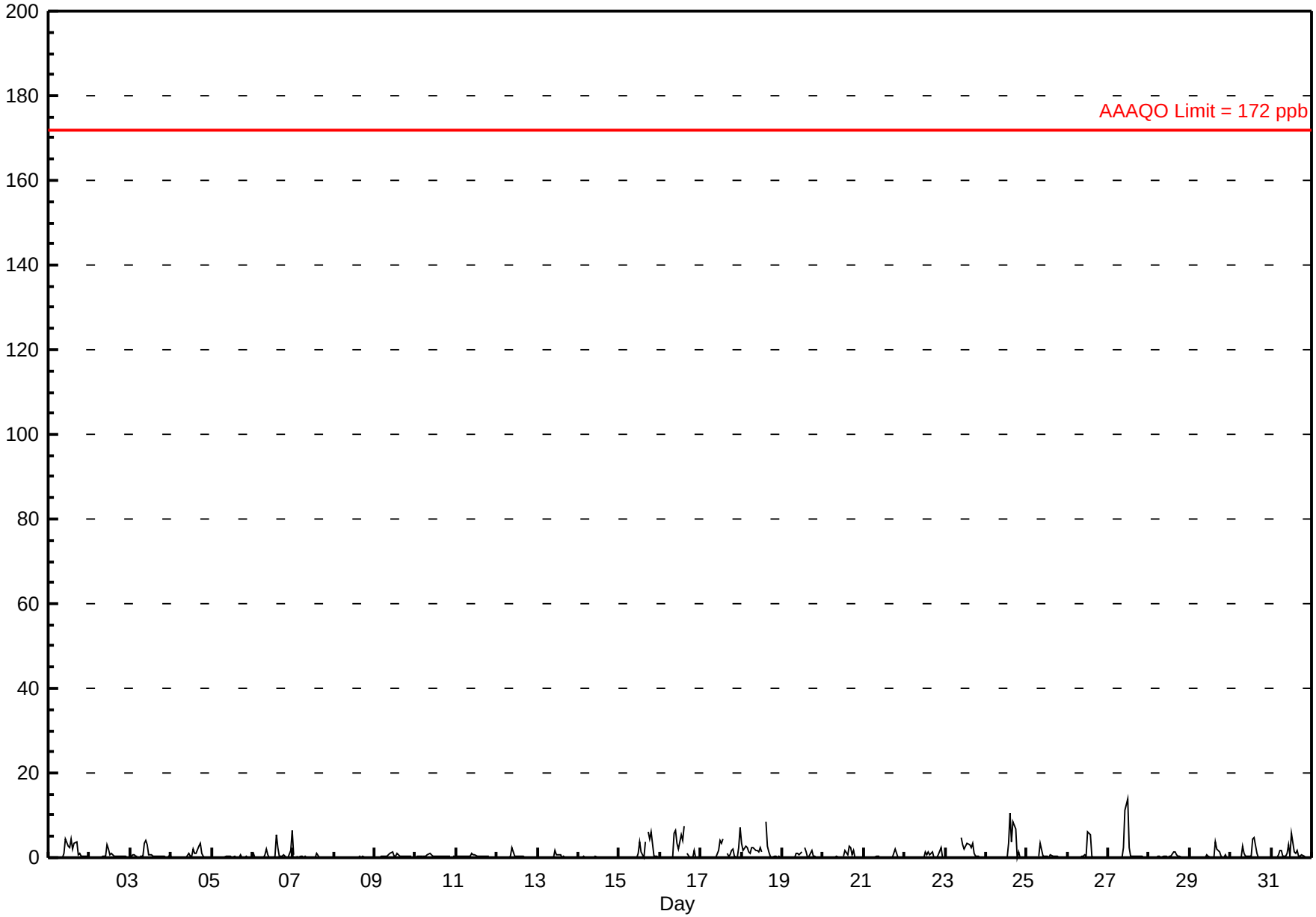
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Valleyview - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Valleyview - August 2011

Maximum Value: 47.6 ppb on Aug 24 15:00

Maximum Daily Average: 8.1 ppb on Aug 18

Minimum Value: 0 ppb on Aug 14 03:00

Minimum Daily Average: 0.8 ppb on Aug 8

Maximum Diurnal Average: 9.8 ppb at hour 15

Minimum Diurnal Average: 0.9 ppb at hour 5

Monthly Average: 3.52 ppb

Percentiles: $P_1 = 0.4$ $P_{10} = 0.5$ $Q_1 = 0.7$ Median = 0.8 $Q_3 = 2.0$ $P_{90} = 12.0$ $P_{99} = 30.2$

Hours in Service:	744
Hours of Data:	710
Hours of Missing Data:	34
Hours of Calibration:	34
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	1	1	0	1	0	1	1	A	1	13	11	11	13	21	14	14	21	5	15	2	1	1	1	1	6.5	21.2
2-Aug	1	1	1	1	1	1	A	1	1	1	17	19	4	5	1	1	1	1	1	1	1	1	1	1	2.6	18.9
3-Aug	1	4	6	1	1	A	1	1	15	16	20	1	1	1	1	1	1	1	1	1	1	1	1	4	3.5	19.8
4-Aug	1	1	1	1	A	0	0	1	1	1	7	2	6	11	5	9	17	21	5	1	1	1	1	1	4.0	21.2
5-Aug	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	13	1	1	2	1	1	1	1.3	12.6
6-Aug	4	1	A	1	1	1	1	2	5	2	1	1	1	3	18	9	1	8	2	1	1	1	8	16	3.7	18.5
7-Aug	3	A	1	1	2	1	1	1	1	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1.2	7.9
8-Aug	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0.8	1.0
9-Aug	1	1	1	1	1	1	1	1	5	3	4	1	4	5	5	1	2	1	1	1	1	1	A	1	1.9	5.3
10-Aug	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1.0	2.2
11-Aug	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	A	1	1	1	0.9	1.6
12-Aug	1	1	1	0	1	0	1	1	2	4	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.9	3.6
13-Aug	1	1	0	1	1	1	1	1	1	1	9	5	3	1	1	2	1	1	A	1	1	0	0	1	1.4	9.0
14-Aug	1	1	0	5	1	1	1	1	1	2	4	1	1	1	1	1	1	A	1	0	1	1	1	1	1.0	4.6
15-Aug	1	1	0	1	1	1	1	1	1	1	1	12	18	12	2	9	A	17	20	23	1	2	4	0	5.5	23.1
16-Aug	1	1	1	0	1	0	0	1	23	24	14	8	18	20	26	A	8	2	1	1	10	1	1	1	7.0	26.1
17-Aug	1	1	1	1	0	1	1	1	1	1	12	12	10	18	A	13	1	2	11	13	2	1	12	15	5.6	17.8
18-Aug	12	7	11	11	2	2	7	10	7	10	8	10	9	A	30	21	22	1	1	1	1	1	1	1	8.1	29.8
19-Aug	1	1	1	1	1	1	1	1	5	10	8	9	A	11	12	1	5	7	3	1	1	1	1	1	3.5	11.8
20-Aug	1	1	0	1	0	1	1	1	1	1	1	A	1	27	5	10	14	6	10	1	1	1	1	1	3.7	27.3
21-Aug	0	1	1	1	1	1	1	1	1	2	C	A	1	1	1	2	1	1	17	3	1	1	1	1	1.6	16.7
22-Aug	1	0	1	1	1	1	1	0	1	A	1	2	12	9	12	3	14	1	1	3	9	14	1	1	3.7	14.0
23-Aug	1	0	1	1	1	1	1	1	A	14	12	9	11	13	19	15	16	14	2	1	1	1	0	0	5.8	19.1
24-Aug	1	1	0	0	0	0	1	A	1	1	0	0	1	16	48	24	40	35	1	4	2	1	1	1	7.7	47.6
25-Aug	0	1	1	0	1	1	A	4	15	1	1	1	5	1	16	1	1	1	1	1	1	1	1	1	2.4	15.8
26-Aug	1	1	1	1	1	A	1	1	1	1	1	1	46	12	2	1	1	1	1	1	1	1	1	1	3.3	46.0
27-Aug	0	1	1	0	A	1	1	1	1	8	20	18	12	1	1	3	1	1	1	1	1	1	1	1	3.3	19.9
28-Aug	1	1	1	A	1	1	1	1	1	1	1	1	1	1	9	12	1	2	1	1	1	1	1	1	1.7	11.6
29-Aug	1	1	A	1	1	1	1	1	0	1	3	3	1	0	9	16	16	13	12	1	1	2	1	1	3.6	16.0
30-Aug	0	A	1	1	1	1	1	18	3	1	1	3	1	21	38	15	1	1	1	1	1	1	1	1	4.8	37.8
31-Aug	A	1	0	1	5	11	7	2	2	6	33	1	31	18	9	17	4	2	6	1	1	1	1	A	7.2	32.7
	1.3	1.0	1.2	1.1	0.9	1.1	1.1	1.9	3.3	4.3	6.5	4.7	7.2	7.8	9.8	6.8	6.5	5.3	3.9	2.3	1.5	1.3	1.4	1.8	Diurnal Average	
	12.4	6.6	10.6	10.8	4.9	10.8	6.6	17.9	23.4	23.9	32.7	18.9	46.0	27.3	47.6	24.3	39.6	35.1	20.0	23.1	10.2	13.6	11.6	15.7	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

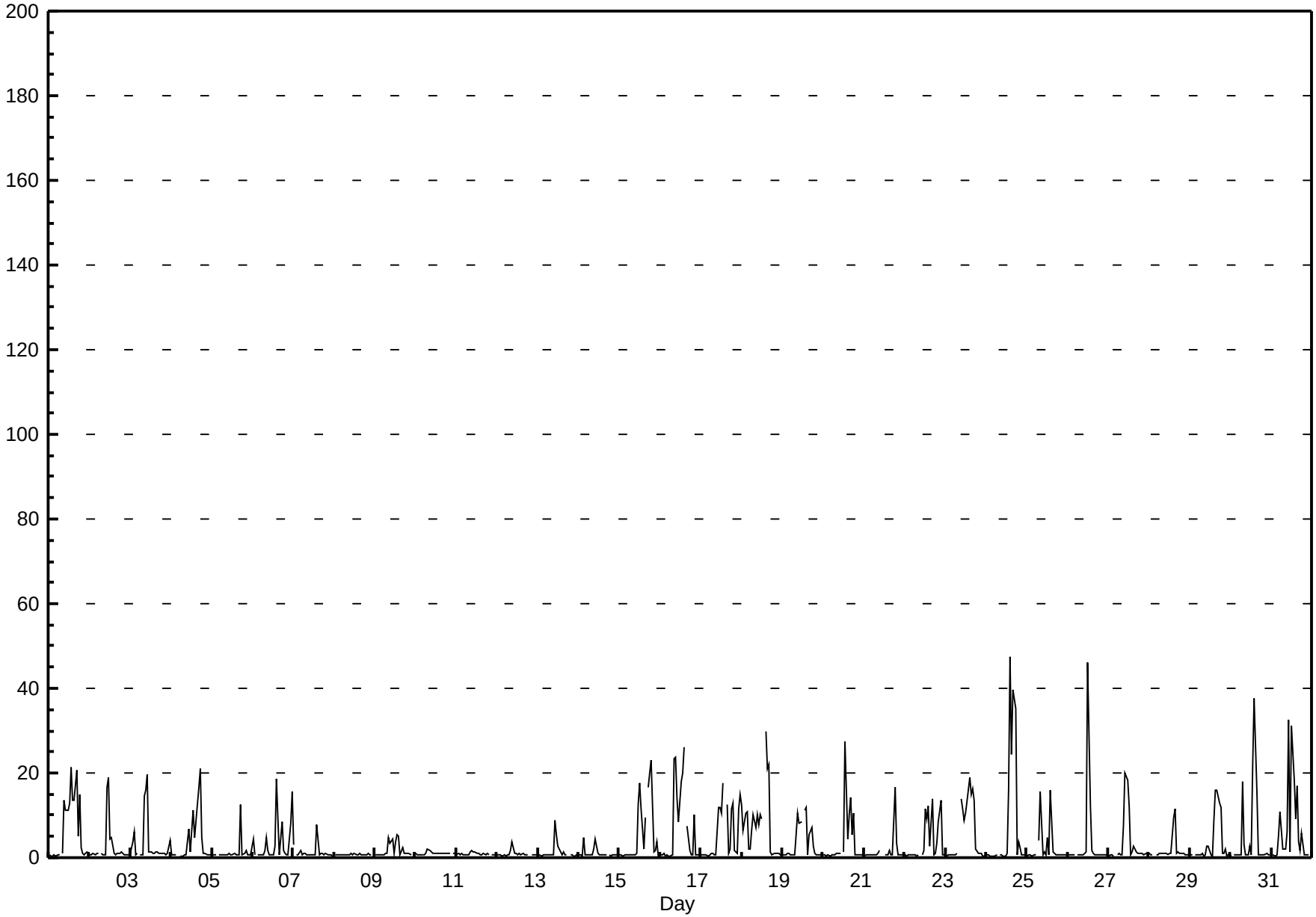
FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Valleyview - August 2011



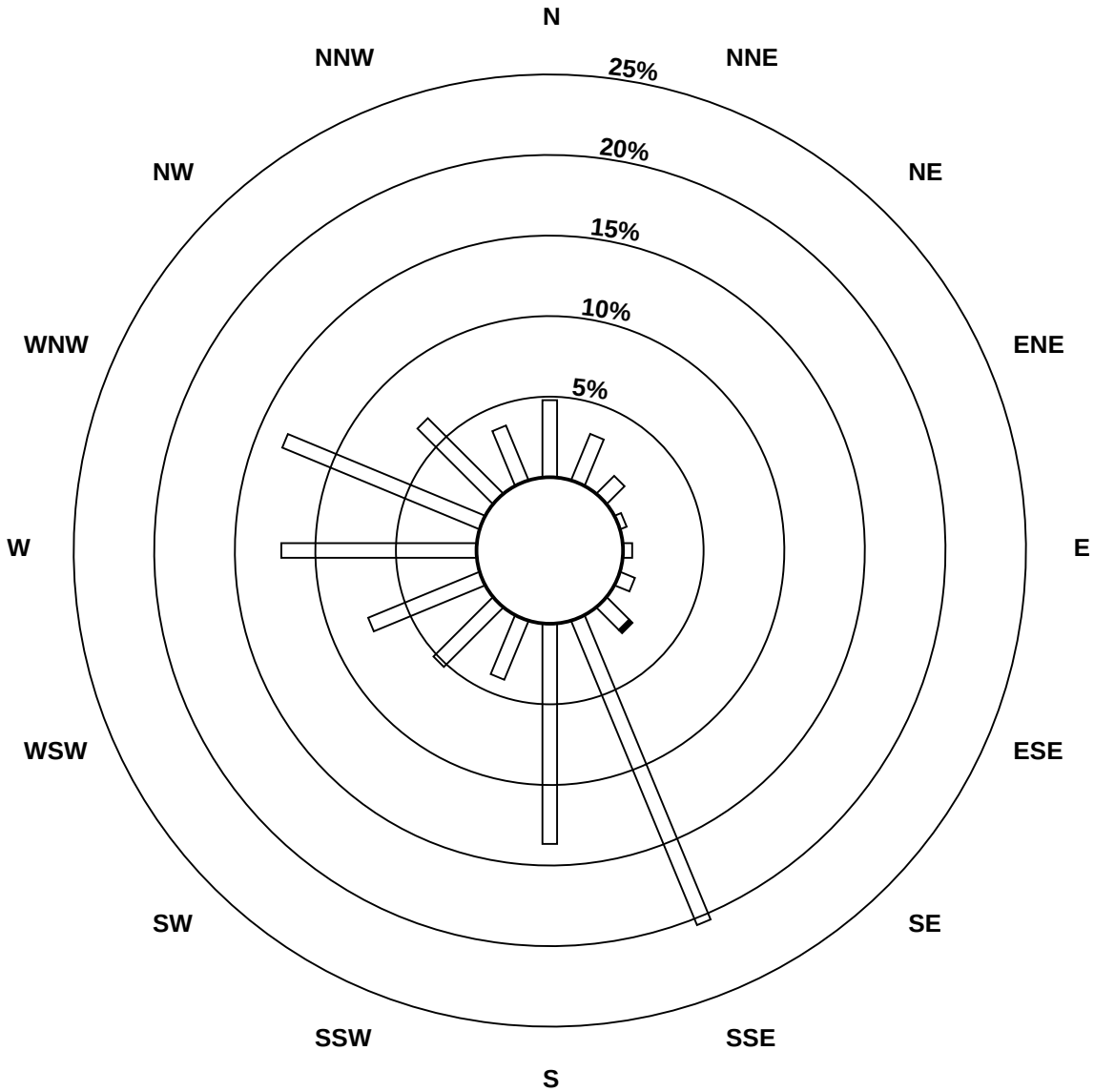
FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Valleyview - August 2011



Pollutant Classes (ppb)

- 0 - 10
- 11 - 20
- 21 - 60
- 61 - 110
- 111 - 172
- > 172

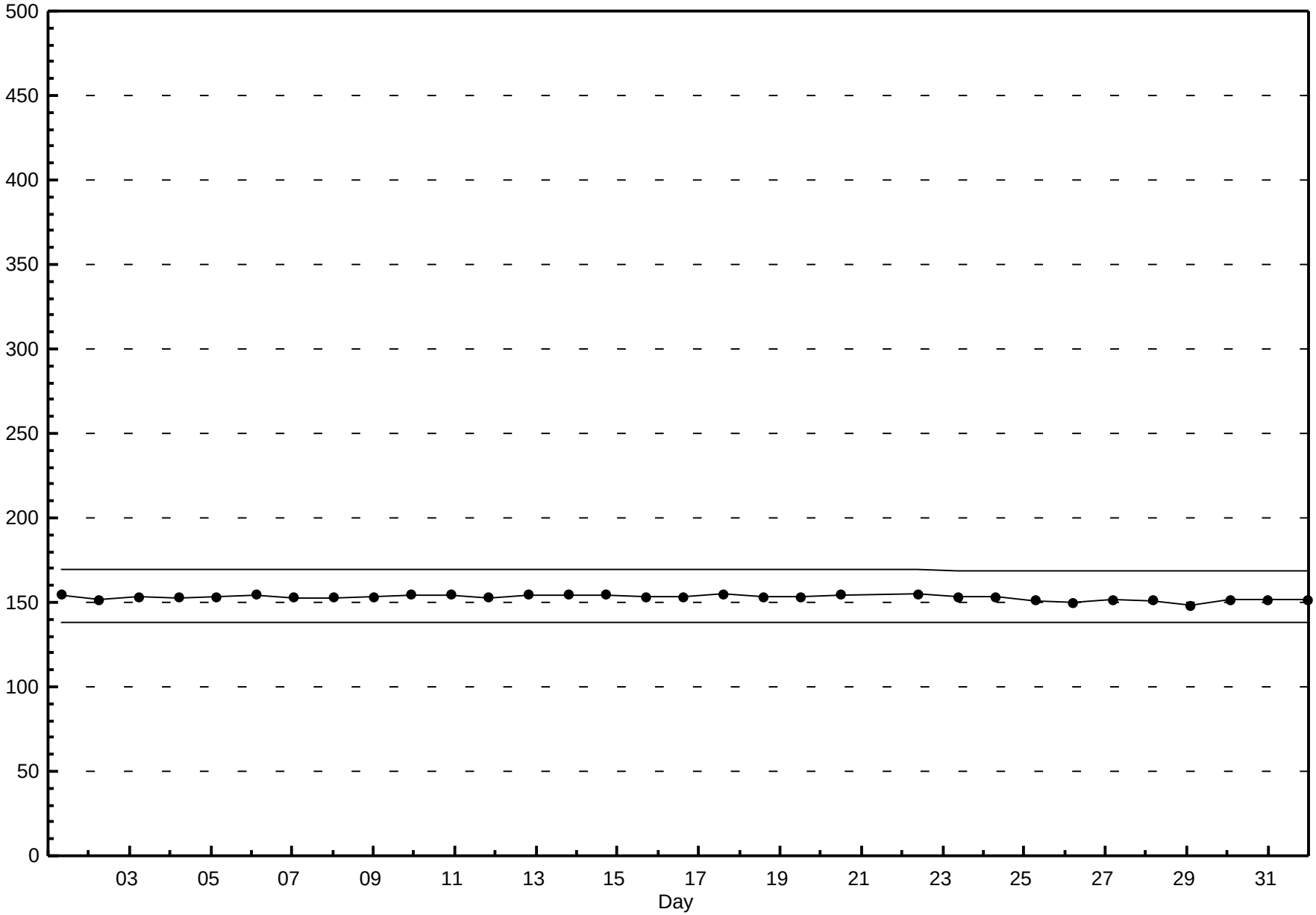
FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Valleyview - August 2011



Peace Airshed Zone Association

Hourly Averages

Hydrogen Sulphide (H_2S) - ppb

Valleyview - August 2011

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

Maximum Value: 1.8 ppb on Aug 18 05:00

Maximum Daily Average: 0.3 ppb on Aug 18

Minimum Value: 0 ppb on Aug 1 02:00

Minimum Daily Average: 0.0 ppb on Aug 28

Maximum Diurnal Average: 0.3 ppb at hour 24

Minimum Diurnal Average: 0.1 ppb at hour 16

Monthly Average: 0.15 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} = 1.3

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.2	0.7
2-Aug	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
3-Aug	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0.2	0.6
4-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.2	1.3
5-Aug	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.1	0.9
6-Aug	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	0.8
7-Aug	0	A	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
8-Aug	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0.1	0.5
9-Aug	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0.2	1.3
10-Aug	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	0.6
11-Aug	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.2	0.7
12-Aug	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	0.1
13-Aug	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.2	0.5
14-Aug	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.9
15-Aug	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	A	0	1	0	0	0	0	0	0.1	1.1
16-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.0	0.3
17-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	1	0	0	0	0.2	1.5
18-Aug	0	0	0	1	2	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	1.8
19-Aug	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	1	0	0	0	0	0	0	0.1	1.0
20-Aug	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
21-Aug	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	1	0	0	0	0	0.1	0.5
22-Aug	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.0	0.6
23-Aug	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
24-Aug	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0.2	0.7
25-Aug	0	1	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
26-Aug	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	0.5
27-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.1	0.7
28-Aug	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
29-Aug	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	0.6
30-Aug	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.1	1.2
31-Aug	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.1	0.8
	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.3	Diurnal Average	
	0.9	1.0	1.3	1.2	1.8	1.3	1.3	0.6	0.7	0.5	0.3	0.3	1.1	0.3	0.4	0.3	1.0	0.5	0.6	1.5	1.3	1.3	0.9	1.2	Diurnal Maximum	

C - Calibration A - Automated Daily Zero Span

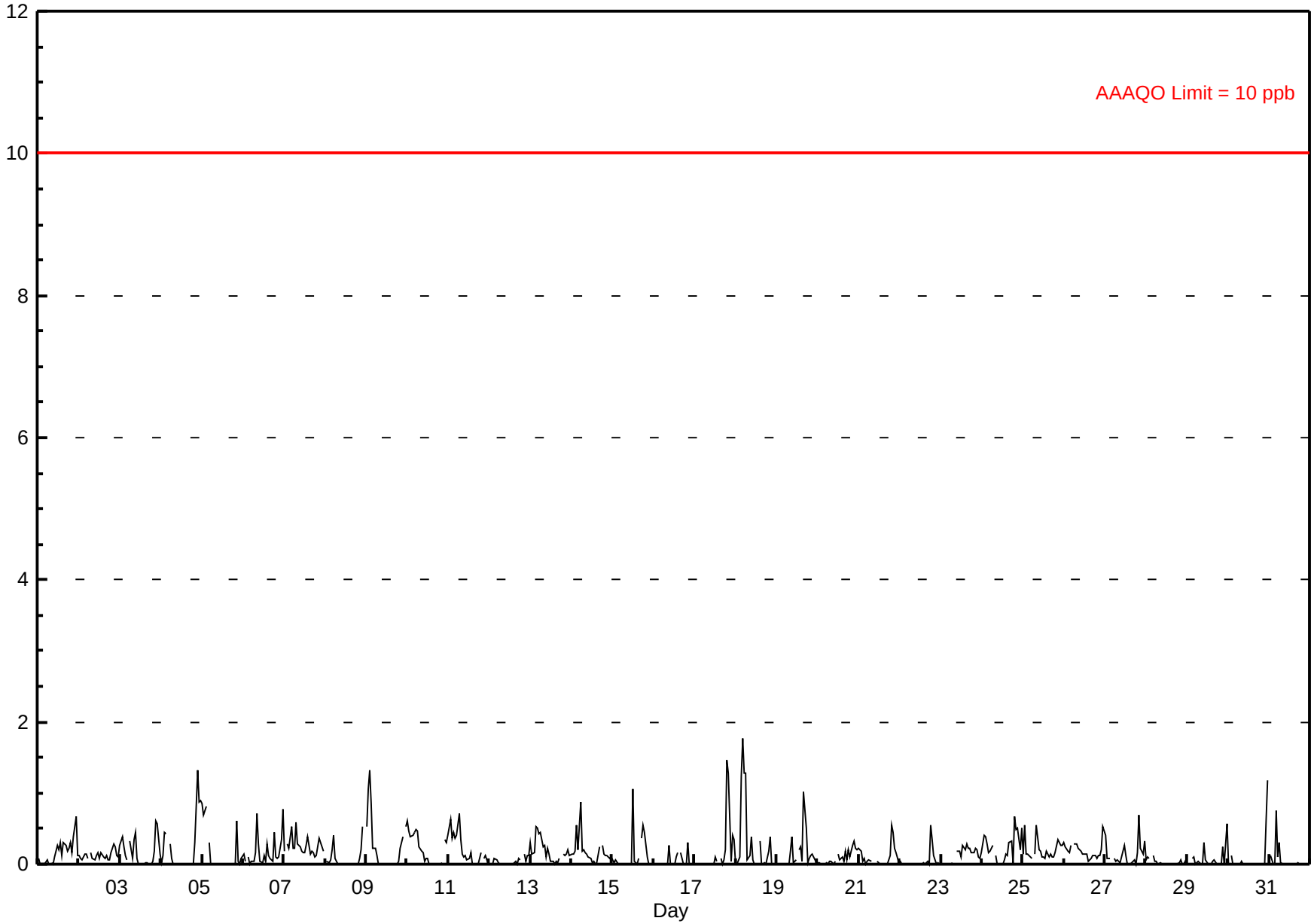
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

Peace Airshed Zone Association

Hourly Averages

Hydrogen Sulphide (H_2S) - ppb

Valleyview - August 2011



Peace Airshed Zone Association

Hourly Maximums

Hydrogen Sulphide (H_2S) - ppb

Valleyview - August 2011

Maximum Value: 17.3 ppb on Aug 15 13:00

Maximum Daily Average: 1.3 ppb on Aug 15

Minimum Value: 0 ppb on Aug 30 18:00

Minimum Daily Average: 0.4 ppb on Aug 28

Maximum Diurnal Average: 1.0 ppb at hour 21

Minimum Diurnal Average: 0.4 ppb at hour 16

Monthly Average: 0.67 ppb

Percentiles: $P_1 = 0.1$ $P_{10} = 0.2$ $Q_1 = 0.3$ Median = 0.5 $Q_3 = 0.7$ $P_{90} = 1.2$ $P_{99} = 3.6$

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	1	0	0	0	0	0	0	A	0	0	1	1	1	1	1	1	1	1	1	1	1	1	2	1	0.6	1.6
2-Aug	1	0	1	0	0	1	A	1	0	0	1	1	0	1	1	0	1	0	0	1	1	1	1	1	0.5	0.8
3-Aug	1	1	1	1	1	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	2	3	1	0.8	3.4
4-Aug	0	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	4	5	1	2	0.9	5.2
5-Aug	2	1	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	1	0.6	3.2
6-Aug	1	1	A	1	0	0	0	1	1	1	1	0	1	0	1	1	0	1	2	0	0	0	1	2	0.7	1.7
7-Aug	1	A	1	1	2	1	1	2	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0.8	1.8
8-Aug	A	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	0.4	1.0
9-Aug	1	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	1	0.7	1.9
10-Aug	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	0	0	0	0	0	0	A	1	1	0.6	1.2
11-Aug	1	1	1	1	1	1	1	1	1	0	0	1	0	1	0	0	0	0	1	1	A	0	1	1	0.7	1.3
12-Aug	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	A	1	0	1	0	0.4	1.3
13-Aug	1	1	0	2	3	1	3	1	1	0	1	1	0	0	0	0	1	0	A	1	0	0	1	1	0.8	3.1
14-Aug	1	1	1	5	1	3	1	1	1	1	1	1	0	0	0	0	2	A	1	0	1	1	0	0	0.9	4.8
15-Aug	0	0	0	0	0	0	0	0	0	0	0	1	17	1	0	1	A	1	1	2	0	0	0	0	1.3	17.3
16-Aug	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	A	1	0	0	0	2	0	0	0	0.5	2.5
17-Aug	0	0	0	0	0	0	0	1	0	0	0	0	0	1	A	1	0	0	1	4	3	1	2	2	0.8	4.1
18-Aug	0	0	2	2	3	3	2	0	1	1	1	0	0	A	1	0	0	1	0	1	1	0	0	0	1.0	2.9
19-Aug	0	0	1	0	0	0	0	0	1	1	1	1	A	1	2	0	8	2	1	0	0	0	0	0	1.0	8.3
20-Aug	0	0	0	0	0	0	0	0	1	0	0	A	1	0	0	0	1	0	1	1	1	1	1	1	0.5	0.8
21-Aug	1	1	1	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	1	2	1	1	0	0	0.5	1.9
22-Aug	0	0	0	0	1	0	0	0	0	A	0	0	1	0	1	0	1	0	4	2	1	0	0	0	0.6	3.8
23-Aug	0	0	0	0	0	0	0	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	0.8
24-Aug	1	1	1	1	1	1	1	A	1	0	1	0	0	1	1	1	1	1	0	2	2	1	1	1	0.8	1.8
25-Aug	1	1	1	0	1	0	A	1	1	1	1	1	1	0	0	0	1	0	0	1	1	1	1	1	0.6	1.5
26-Aug	1	1	0	1	1	A	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0	1	1	0.6	1.4
27-Aug	1	0	0	0	A	1	1	0	0	0	1	1	1	0	0	0	1	1	0	1	1	1	0	2	0.6	1.9
28-Aug	1	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0.4	0.6
29-Aug	0	0	A	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	1	0	0	1	0	2	0.5	2.0
30-Aug	0	A	1	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	1	1	3	0.4	2.7
31-Aug	A	1	0	0	2	2	1	1	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	A	0.6	1.7
	0.7	0.6	0.6	0.8	0.7	0.7	0.7	0.5	0.6	0.5	0.5	0.5	1.0	0.5	0.5	0.4	0.8	0.5	0.7	0.8	1.0	0.8	0.8	0.9	Diurnal Average	
	1.9	1.9	1.9	4.8	2.6	3.1	3.1	1.8	1.4	1.3	1.1	1.3	17.3	1.3	2.2	0.7	8.3	1.5	3.8	4.1	3.7	5.2	3.4	2.7	Diurnal Maximum	

C - Calibration

A - Automated Daily Zero Span

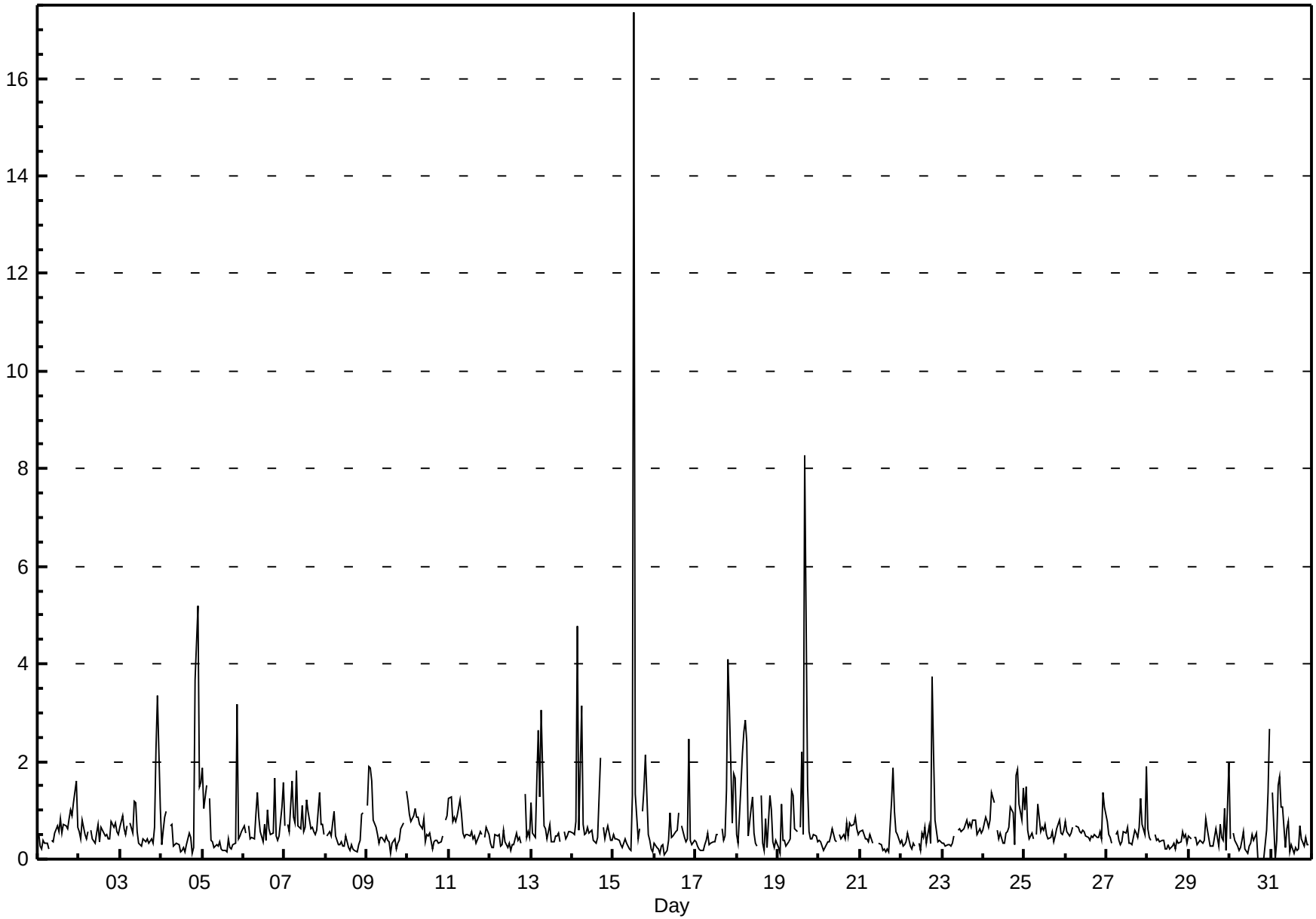
FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Hydrogen Sulphide (H_2S) - ppb

Valleyview - August 2011

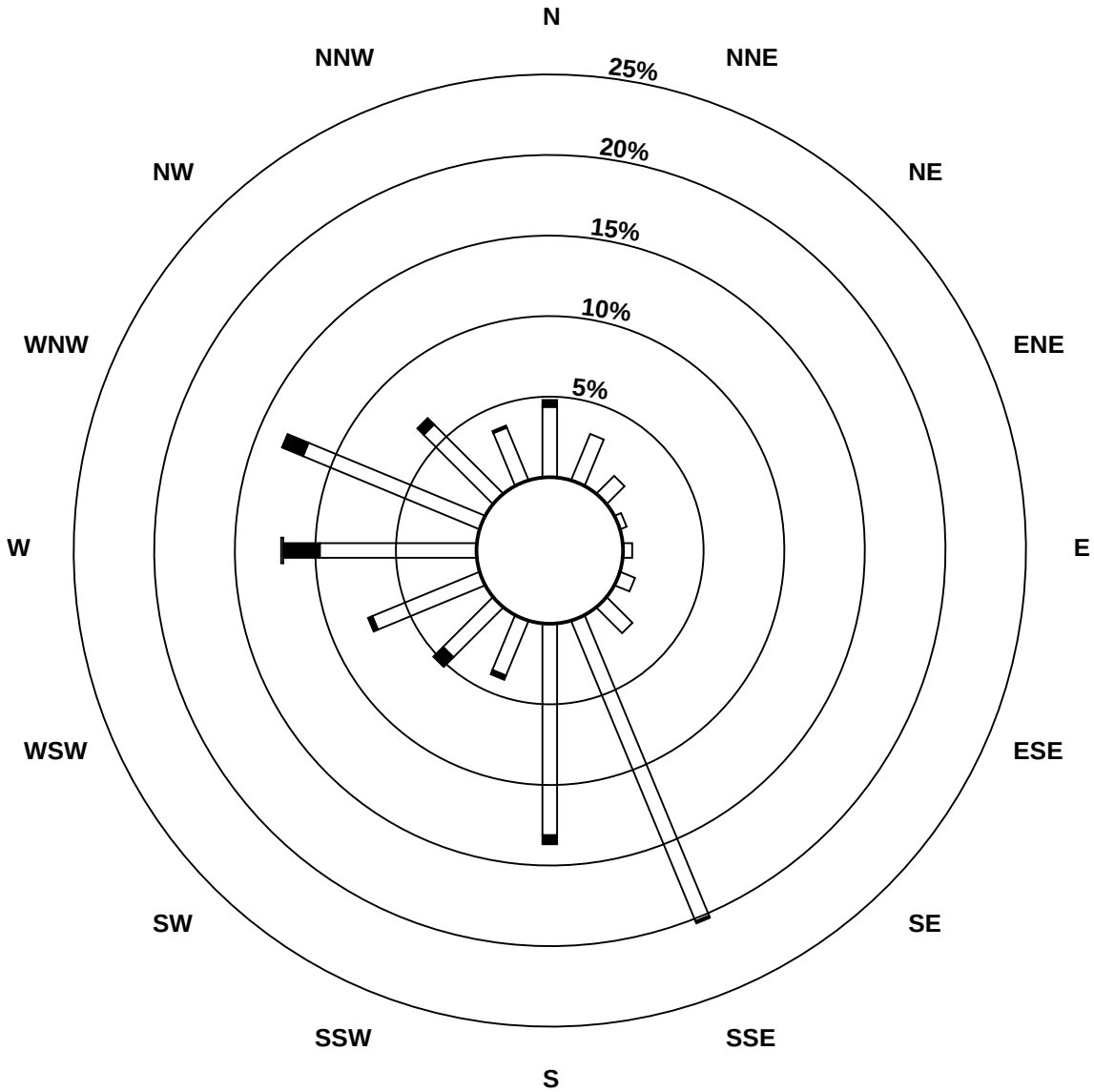


FOCUS AIR QUALITY MONITORING

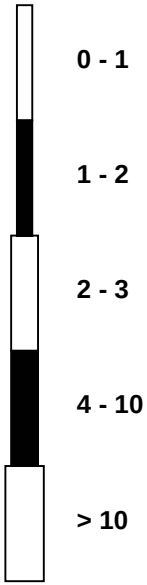
Pollutant Rose

Hydrogen Sulphide (H_2S) - ppb

Valleyview - August 2011



Pollutant Classes (ppb)

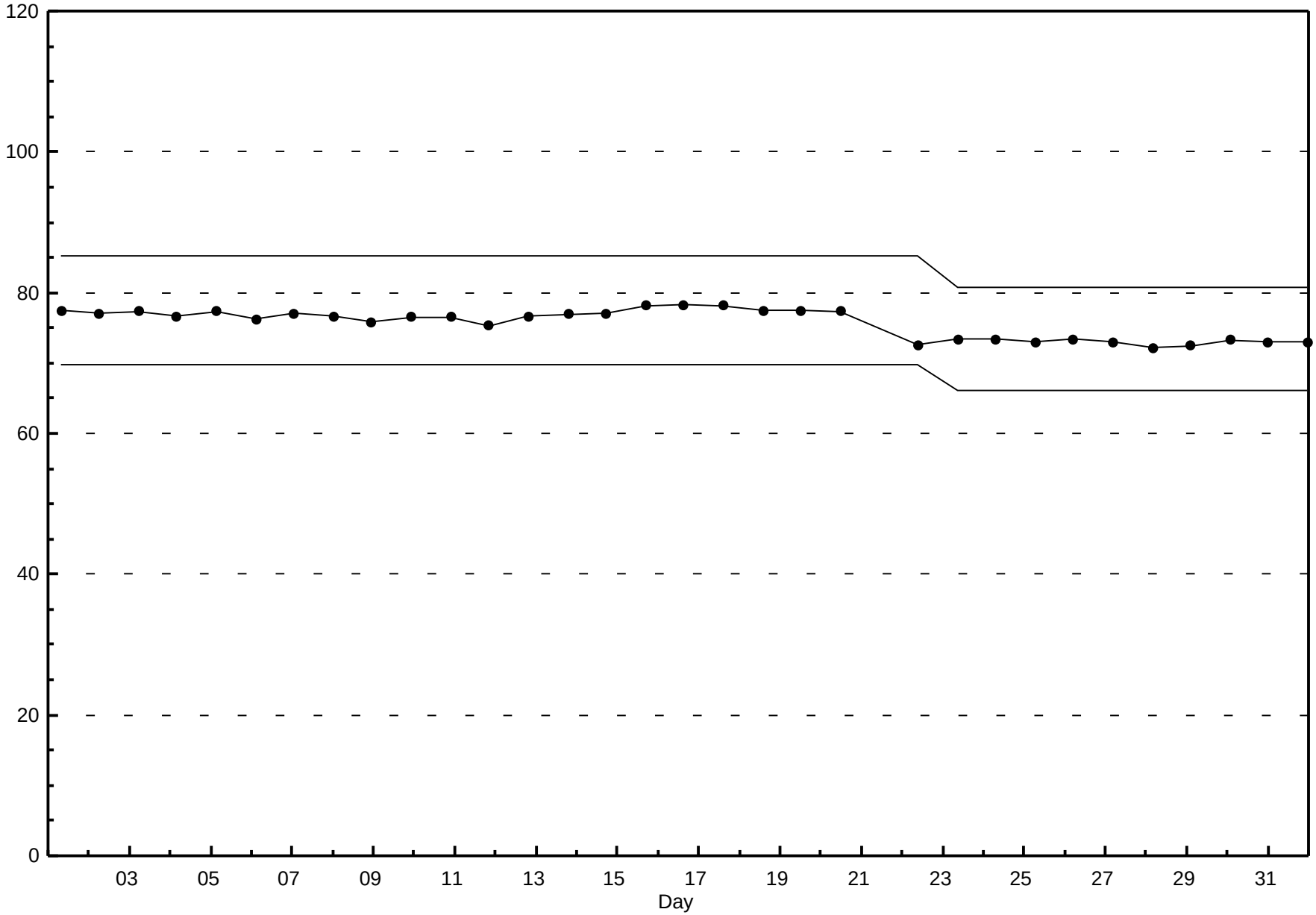


Peace Airshed Zone Association

Span Responses

Hydrogen Sulphide (H_2S)

Valleyview - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Valleyview - August 2011

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

Maximum Value: 26.5 ^{o}C on Aug 21 18:00

Maximum Daily Average: 20.0 ^{o}C on Aug 21

Minimum Value: 4 ^{o}C on Aug 26 06:00

Minimum Daily Average: 10.3 ^{o}C on Aug 31

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

Minimum Diurnal Average: 9.8 ^{o}C at hour 6

Monthly Average: 15.60 ^{o}C

Percentiles: P_1 = 5.9 P_{10} = 8.9 Q_1 = 12.0 Median = 15.2 Q_3 = 19.4 P_{90} = 22.7 P_{99} = 25.9

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

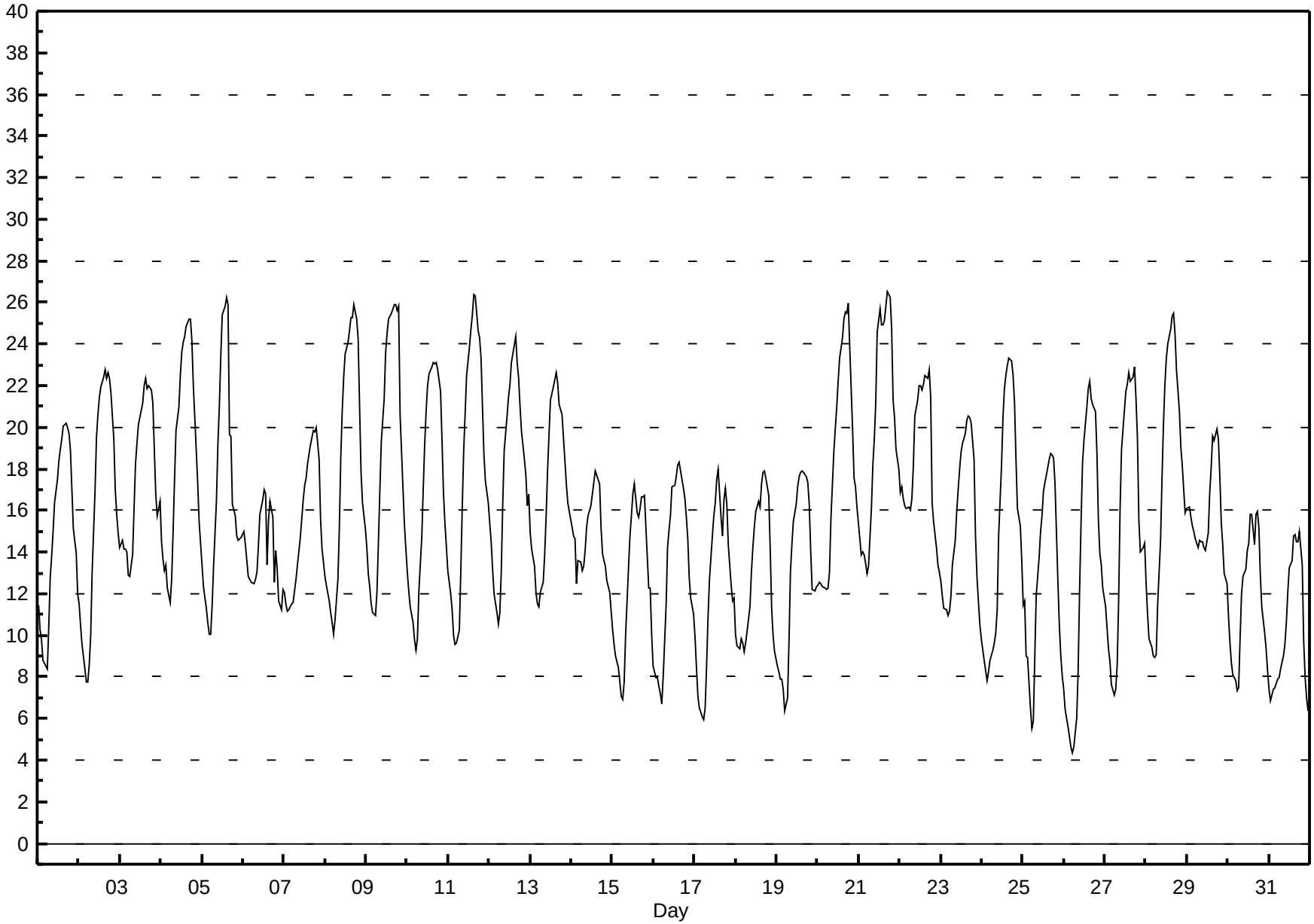
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	11	10	10	9	9	8	10	13	14	15	16	17	18	19	19	20	20	20	20	19	17	15	14	12	14.9	20.2
2-Aug	12	10	10	8	8	8	9	10	13	17	19	21	21	22	22	23	22	23	22	22	19	17	16	15	16.2	22.8
3-Aug	14	15	14	14	14	13	13	14	16	18	19	20	21	21	22	22	22	22	22	21	19	17	16	16	17.7	22.4
4-Aug	15	14	13	13	12	12	13	15	17	20	21	22	24	24	24	25	25	25	24	22	20	17	16	14	18.7	25.2
5-Aug	13	12	11	11	10	10	11	13	17	19	21	23	25	26	26	26	20	20	16	16	15	15	15	15	16.9	26.3
6-Aug	15	14	14	13	13	13	12	13	13	14	16	17	17	17	13	16	16	16	13	14	13	12	11	12	14.0	17.0
7-Aug	12	11	11	11	11	12	12	13	13	15	16	17	17	18	18	19	20	20	20	20	18	16	14	13	15.3	20.0
8-Aug	13	12	12	11	11	10	11	13	15	19	21	22	24	24	25	25	25	26	25	24	21	18	16	15	18.2	25.9
9-Aug	14	13	12	11	11	11	12	14	17	19	21	24	25	25	25	25	26	26	26	26	21	17	15	14	18.8	25.9
10-Aug	13	12	11	11	10	9	10	12	15	17	19	21	22	23	23	23	23	23	23	22	19	17	15	14	17.0	23.1
11-Aug	13	12	11	10	10	10	10	13	16	19	21	22	24	25	25	26	26	25	24	23	21	19	17	16	18.3	26.4
12-Aug	15	14	13	12	11	11	11	13	16	19	21	21	22	23	24	24	23	22	21	20	18	18	16	17	17.8	24.4
13-Aug	15	14	13	12	12	11	12	13	14	16	18	20	21	22	22	23	22	21	21	19	18	17	16	16	17.0	22.6
14-Aug	15	15	15	12	14	13	13	13	14	15	16	16	17	17	18	18	17	15	14	14	13	13	12	11	14.6	17.9
15-Aug	10	10	9	8	8	7	7	8	10	13	15	16	17	17	16	16	16	17	17	17	14	12	12	10	12.5	17.3
16-Aug	8	8	8	8	7	7	8	11	14	15	16	17	17	18	18	18	18	17	17	16	15	13	12	11	13.2	18.3
17-Aug	10	8	7	6	6	6	7	8	11	13	15	16	16	17	18	16	15	17	17	16	14	12	12	12	12.3	18.0
18-Aug	10	9	9	10	10	9	10	10	11	13	14	15	16	16	16	17	18	18	18	17	14	11	10	9	13.0	17.9
19-Aug	9	8	8	8	7	6	7	10	13	14	15	16	17	18	18	18	18	18	17	16	14	12	12	12	13.0	17.9
20-Aug	12	13	12	12	12	12	12	13	16	19	20	21	22	23	24	25	26	25	26	24	20	18	17	16	18.4	26.0
21-Aug	15	14	14	14	13	13	13	16	18	19	21	25	26	25	25	25	26	26	26	25	21	20	19	18	20.0	26.5
22-Aug	17	17	17	16	16	16	16	17	18	21	21	22	22	22	22	22	22	23	21	16	15	14	13	13	18.4	22.7
23-Aug	13	12	11	11	11	11	12	13	15	16	17	18	19	19	20	20	21	20	20	18	15	13	12	11	15.3	20.5
24-Aug	10	9	8	8	8	9	9	10	10	11	15	18	20	22	22	23	23	23	22	21	18	16	15	14	15.3	23.3
25-Aug	11	12	9	9	6	6	6	9	12	14	15	16	17	17	18	18	19	19	19	17	13	10	9	8	12.8	18.8
26-Aug	7	6	6	5	5	4	5	6	8	12	15	18	19	21	22	22	21	21	21	19	16	14	13	12	13.3	22.2
27-Aug	11	10	9	9	8	7	7	9	12	16	19	21	22	22	23	22	22	23	21	19	16	14	14	14	15.5	22.9
28-Aug	13	11	10	9	9	9	9	11	15	18	20	22	23	24	25	25	25	24	23	21	19	18	17	16	17.4	25.5
29-Aug	16	16	16	15	15	15	14	15	15	15	14	14	15	17	18	20	19	20	19	18	15	14	13	12	15.8	19.9
30-Aug	11	10	9	8	8	7	8	10	12	13	13	14	14	16	16	14	16	16	15	13	11	10	9	8	11.7	16.0
31-Aug	7	7	7	7	8	8	8	8	9	10	11	12	13	14	15	15	14	14	15	13	10	8	7	6	10.3	15.0
	12.3	11.6	11.0	10.5	10.0	9.8	10.2	11.8	13.8	15.9	17.5	18.9	19.8	20.4	20.8	21.1	20.9	20.8	20.2	19.0	16.6	14.8	13.8	13.1	Diurnal Average	
	16.9	17.2	16.6	16.2	16.1	16.2	16.0	16.6	18.2	20.5	21.4	24.6	25.7	25.9	26.3	26.4	26.3	26.5	26.3	25.8	21.3	20.5	19.0	17.9	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Valleyview - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Valleyview - August 2011

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

Maximum Value: 98.9 % on Aug 10 07:00 Maximum Daily Average: 84.6 % on Aug 14

Minimum Value: 29 % on Aug 4 16:00 Minimum Daily Average: 53.7 % on Aug 1

Maximum Diurnal Average: 91.3 % at hour 6 Minimum Diurnal Average: 44.2 % at hour 16

Monthly Average: 69.47 % Percentiles: P_1 = 31.8 P_{10} = 40.3 Q_1 = 50.3 Median = 73.3 Q_3 = 89.1 P_{90} = 95.5 P_{99} = 98.2

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

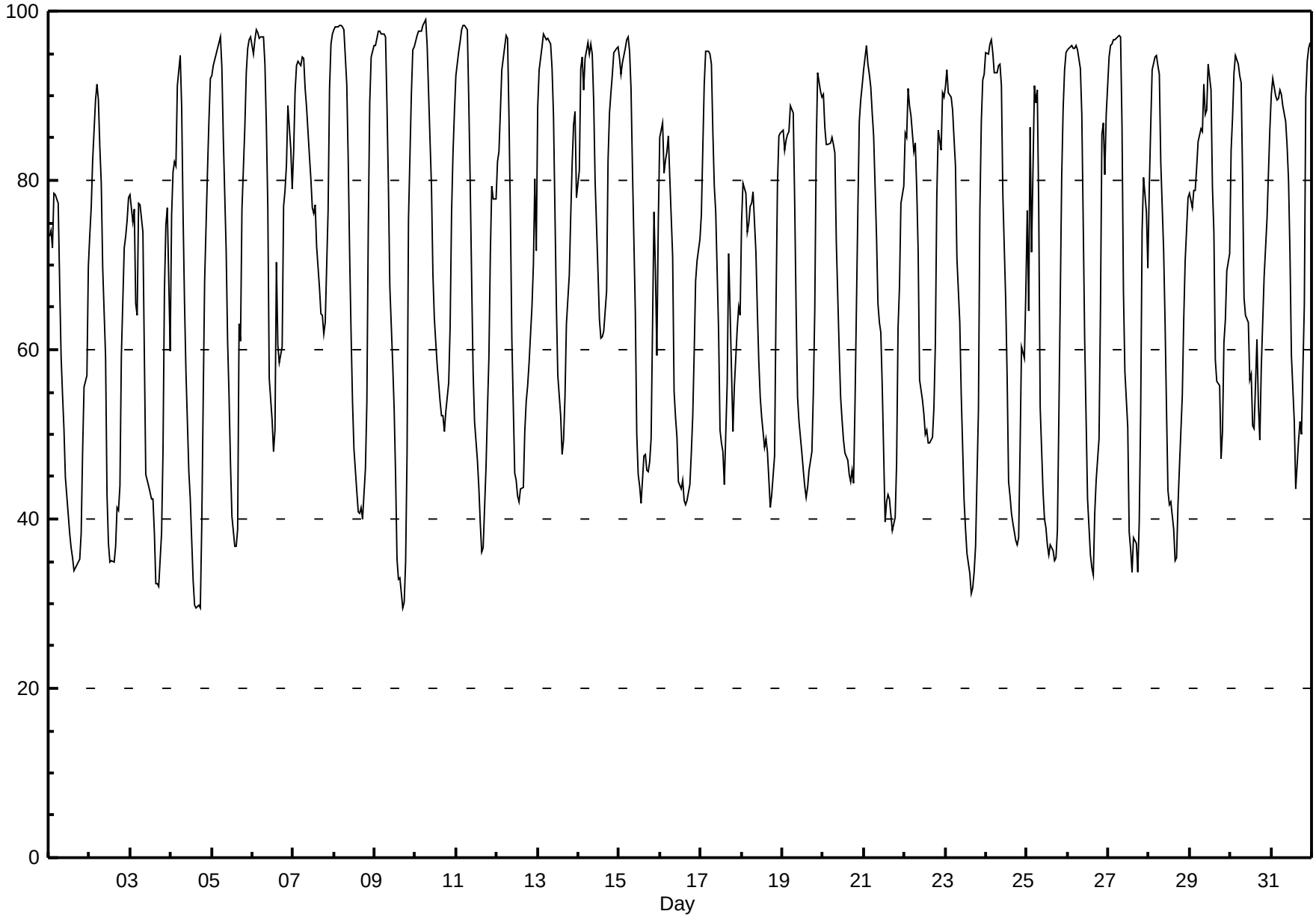
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	73	74	72	78	78	77	68	59	55	51	45	41	38	37	35	34	34	35	35	38	48	56	57	70	53.7	78.4
2-Aug	73	77	82	89	91	90	84	80	70	59	43	37	35	35	35	37	41	41	44	59	72	73	75	78	62.6	91.4
3-Aug	78	75	77	65	64	77	77	74	59	45	45	44	42	42	38	32	32	32	38	48	67	75	77	60	56.9	78.4
4-Aug	76	81	82	82	91	95	89	76	65	57	46	42	38	33	30	29	30	30	39	54	68	81	87	92	62.2	94.8
5-Aug	92	94	95	96	96	97	93	85	72	61	55	47	40	37	37	39	63	61	77	86	93	96	97	97	75.1	96.9
6-Aug	95	97	98	97	97	97	97	94	86	77	57	52	48	50	70	60	58	60	77	79	82	89	84	79	78.3	97.7
7-Aug	83	90	94	94	94	95	94	91	89	83	80	77	76	77	72	67	64	64	62	63	76	91	96	97	82.1	97.3
8-Aug	98	98	98	98	98	98	98	91	83	71	62	54	48	43	41	41	41	40	46	54	75	89	95	96	73.2	98.3
9-Aug	96	97	98	98	97	97	97	89	79	67	58	53	45	35	33	33	29	30	35	48	75	90	96	96	69.7	97.7
10-Aug	96	97	98	98	98	99	99	96	85	79	69	64	61	58	54	52	52	50	53	56	63	76	83	88	76.0	98.9
11-Aug	92	95	96	98	98	98	98	89	79	68	57	52	47	44	40	36	37	46	53	59	71	79	78	78	70.4	98.3
12-Aug	82	83	88	93	96	97	97	87	76	61	45	45	43	42	44	44	50	54	56	58	65	70	80	72	67.9	97.1
13-Aug	89	93	96	97	97	97	97	96	93	88	77	65	57	52	48	49	54	63	69	76	82	87	88	78	78.6	97.4
14-Aug	81	93	95	91	94	96	95	96	95	89	80	69	64	61	61	62	67	82	88	90	93	95	96	96	84.6	96.2
15-Aug	94	93	94	96	97	97	95	91	81	64	50	45	44	42	48	48	46	46	47	50	76	69	59	75	68.6	97.0
16-Aug	85	87	81	82	83	85	80	71	55	52	50	44	44	45	42	42	42	44	48	52	60	68	70	73	61.9	86.7
17-Aug	76	84	91	95	95	95	94	86	79	76	62	50	49	48	44	56	71	65	58	50	56	63	65	64	69.7	95.3
18-Aug	75	80	79	74	75	77	77	79	71	65	59	54	52	48	50	48	45	41	43	47	65	79	85	86	64.7	85.7
19-Aug	86	84	85	85	86	89	88	77	65	54	51	48	46	44	43	44	46	48	55	65	84	93	91	90	68.5	92.7
20-Aug	90	86	84	84	84	85	84	83	73	60	54	52	49	48	47	45	44	46	44	53	76	87	89	91	68.4	91.2
21-Aug	93	96	94	92	91	88	85	73	65	63	62	56	40	42	43	42	40	39	40	47	63	67	77	79	65.8	95.9
22-Aug	86	85	91	89	88	83	84	79	72	56	54	52	50	51	49	49	50	53	61	78	86	84	90	90	71.2	90.9
23-Aug	91	93	90	90	88	85	82	71	63	55	48	42	39	36	34	31	32	34	37	53	77	87	92	93	64.2	93.0
24-Aug	95	95	96	97	95	93	93	94	94	91	78	66	57	44	43	41	39	37	37	38	48	60	59	67	69.0	96.6
25-Aug	76	65	86	72	91	89	91	77	53	43	40	39	37	36	37	36	35	35	39	52	80	88	93	95	61.9	95.1
26-Aug	95	96	96	96	96	96	95	93	88	75	61	52	42	36	34	33	41	45	49	65	85	87	81	88	71.8	95.9
27-Aug	95	96	96	97	97	97	97	97	86	67	57	51	38	36	34	38	37	34	40	53	74	80	76	70	68.4	97.1
28-Aug	79	86	93	95	95	94	92	82	72	63	53	43	42	42	39	35	35	42	46	55	64	71	74	78	65.4	94.7
29-Aug	79	77	79	79	82	85	86	86	91	88	88	94	91	79	74	59	56	56	47	50	61	64	69	71	74.6	93.8
30-Aug	84	87	93	95	94	92	91	80	66	64	63	56	57	51	51	61	54	49	58	63	69	75	81	86	71.7	94.7
31-Aug	90	92	90	90	90	91	90	89	87	84	80	71	59	52	44	46	49	52	50	65	90	94	96	96	76.5	96.3
	86.3	87.9	89.8	89.7	90.9	91.3	90.0	84.2	75.8	67.1	59.0	53.4	48.9	46.0	44.9	44.2	45.7	46.9	50.6	58.2	72.4	79.5	81.8	82.8	Diurnal Average	
	97.8	98.2	98.1	98.3	98.3	98.6	98.9	97.0	95.0	91.2	88.2	93.8	90.7	79.1	73.9	67.3	71.4	82.5	87.9	90.3	92.7	95.6	96.6	97.3	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Valleyview - August 2011



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Valleyview - August 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	2	2	2	1	1	2	2	8	12	15	20	21	20	20	20	18	17	16	15	11	5	2	4	2	9.1	20.5
Dir	216	194	194	174	178	175	179	243	252	254	269	276	284	279	278	278	280	287	285	284	302	255	264	176	271	276
2 Spd	2	2	2	2	2	3	4	4	3	3	7	7	8	9	7	6	5	5	3	1	1	2	2	1	1.0	9.3
Dir	170	180	165	169	167	164	162	159	157	162	275	261	273	294	323	356	25	19	4	147	176	191	175	185	263	294
3 Spd	1	1	2	2	1	1	1	2	2	9	8	6	11	10	11	14	15	10	8	2	1	1	2	5	3.8	14.5
Dir	97	206	161	177	162	151	152	158	266	278	287	300	314	316	313	319	327	350	348	5	117	228	291	248	310	327
4 Spd	2	1	1	0	1	1	2	2	3	2	6	4	5	6	3	6	6	3	1	1	0	0	1	1	1.4	6.3
Dir	156	4	46	192	163	168	162	157	163	196	254	240	248	280	279	287	269	292	8	124	126	325	9	196	252	287
5 Spd	1	0	0	0	1	1	1	2	3	2	3	2	1	3	2	2	14	11	13	1	3	4	2	4	1.3	13.5
Dir	238	182	218	219	179	171	167	166	162	162	155	162	126	25	98	345	325	295	314	291	324	231	13	242	293	325
6 Spd	1	1	2	2	2	1	1	1	3	5	9	9	7	8	14	9	4	8	6	3	5	2	7	7	4.1	13.9
Dir	236	161	200	166	159	163	232	231	265	283	308	320	295	255	267	255	225	255	268	233	252	206	262	270	264	267
7 Spd	4	2	2	1	2	5	3	4	7	8	9	10	8	7	11	12	10	8	7	3	1	1	1	1	4.7	11.9
Dir	234	167	163	168	264	285	300	288	295	296	303	311	304	294	285	293	295	295	302	297	218	185	173	167	291	293
8 Spd	1	1	1	1	1	1	1	3	3	3	3	3	3	4	3	2	2	1	1	1	0	1	1	0	1.5	3.5
Dir	162	161	177	162	181	224	158	158	157	161	156	153	149	143	149	133	126	125	46	5	12	311	173	196	150	143
9 Spd	0	1	1	1	1	1	1	2	1	1	1	1	2	5	8	7	7	5	3	0	1	0	1	1	1.4	7.9
Dir	352	296	204	230	226	192	159	164	193	226	226	211	271	265	298	313	297	320	359	176	194	111	178	162	281	298
10 Spd	1	0	0	0	1	1	1	1	2	4	4	4	4	8	10	6	7	7	4	2	1	1	1	1	2.5	9.8
Dir	183	326	349	308	25	265	161	39	8	19	17	17	342	347	359	38	27	21	55	54	88	78	303	336	15	359
11 Spd	1	1	1	2	1	0	1	1	2	4	6	4	3	3	3	2	1	2	1	2	1	1	2	2	1.4	5.6
Dir	277	355	346	336	326	260	247	189	151	163	163	163	166	151	172	165	171	176	167	164	165	143	159	148	166	163
12 Spd	2	2	1	1	1	2	1	2	2	2	1	2	3	2	5	5	8	8	11	8	4	3	7	5	2.3	10.8
Dir	163	168	203	192	230	158	168	201	154	142	66	44	34	57	8	12	2	14	6	10	31	56	321	8	17	6
13 Spd	1	2	0	2	2	0	1	1	2	2	1	3	1	2	3	4	5	6	7	5	5	4	6	5	2.3	6.8
Dir	346	17	256	309	293	109	164	184	154	107	288	342	5	24	1	340	5	10	6	10	3	353	349	17	1	6
14 Spd	0	4	2	7	3	3	2	1	1	2	5	8	6	5	4	4	4	3	4	2	2	2	2	1	1.4	7.7
Dir	118	139	158	271	304	342	19	196	178	220	259	304	325	321	343	319	262	224	162	175	163	164	163	190	273	304
15 Spd	1	1	2	1	2	2	2	3	3	4	10	12	11	13	19	16	14	11	9	3	1	4	6	2	5.2	19.5
Dir	188	158	155	165	163	171	177	168	167	218	243	253	278	294	293	272	276	276	272	264	185	244	248	174	262	293
16 Spd	2	2	2	2	3	3	4	3	8	11	10	14	15	16	16	14	13	10	8	6	2	3	5	3	6.0	15.9
Dir	168	165	162	162	162	162	162	161	267	273	265	258	272	276	270	285	286	291	299	305	245	241	251	245	267	270
17 Spd	3	2	1	2	2	2	3	3	1	2	6	11	13	11	11	8	2	2	2	9	8	5	6	6	3.9	13.2
Dir	245	216	166	170	166	162	161	159	163	164	250	264	261	267	264	280	158	42	240	278	304	314	265	256	258	261
18 Spd	4	2	3	6	7	6	3	1	3	6	7	9	9	12	11	6	9	12	10	4	2	2	2	2	5.1	12.1
Dir	248	231	255	278	280	283	263	195	287	280	295	285	295	294	278	337	307	293	306	292	223	179	172	164	285	294
19 Spd	2	3	2	2	1	1	2	3	3	10	8	10	9	11	10	9	7	5	2	1	1	1	1	1	3.2	11.1
Dir	164	160	161	168	180	187	163	156	267	283	294	284	289	275	285	299	290	279	242	219	188	171	171	182	270	275
20 Spd	1	2	2	2	1	2	2	2	3	2	11	10	9	9	7	6	6	5	3	1	1	1	1	1	2.5	11.3
Dir	185	168	168	169	171	169	163	159	162	268	301	299	287	288	260	269	280	249	298	322	180	166	163	185	266	301
21 Spd	1	1	4	4	3	3	2	3	5	4	4	3	6	7	6	7	7	6	6	1	1	0	1	1	2.6	7.1
Dir	184	165	164	164	166	170	169	161	160	162	162	160	234	242	240	255	244	242	269	271	103	174	171	202	210	242
22 Spd	1	1	1	1	1	2	2	3	3	4	3	4	8	6	6	4	4	2	2	9	4	11	3	3	2.7	11.0
Dir	177	185	184	174	170	176	169	163	160	229	208	230	252	249	279	280	261	188	282	289	231	255	170	165	236	255

Peace Airshed Zone Association

Hourly Averages

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
23 Spd	2	2	2	2	3	1	2	6	10	12	16	18	18	20	18	16	14	11	6	1	1	1	1	0	6.8	19.8
Dir	172	185	197	183	169	181	188	238	251	267	269	284	272	276	278	279	279	286	292	158	175	191	173	202	268	276
24 Spd	1	1	1	0	1	0	0	2	3	4	4	3	3	10	10	10	10	10	8	5	2	2	2	1	2.8	10.4
Dir	13	354	169	224	294	327	206	158	160	163	160	162	199	263	275	261	273	279	297	282	299	230	252	218	258	279
25 Spd	1	1	2	2	1	1	1	1	8	11	11	10	8	11	7	6	7	8	4	0	1	1	1	1	3.4	11.4
Dir	257	293	166	233	169	188	168	162	283	293	297	298	316	336	318	320	325	337	349	242	172	184	182	173	306	293
26 Spd	0	0	1	0	1	0	1	1	1	2	3	2	2	1	2	3	2	2	1	0	0	1	2	0	0.9	2.9
Dir	220	268	238	213	215	218	275	175	207	165	165	183	250	81	154	147	152	132	146	161	235	153	329	214	174	165
27 Spd	1	1	1	1	1	1	1	2	2	2	1	1	6	6	8	7	9	11	6	1	1	1	2	2	1.7	10.6
Dir	165	166	185	176	180	206	167	161	214	145	138	128	328	304	318	326	298	301	312	294	184	172	183	253	294	301
28 Spd	2	1	1	2	2	2	2	3	2	2	2	2	3	3	2	2	2	2	5	2	5	1	4	3	0.5	4.6
Dir	197	180	161	173	167	173	165	160	159	159	149	142	167	160	241	285	136	61	11	6	344	52	340	353	157	344
29 Spd	1	5	4	4	4	4	4	4	2	4	1	2	2	3	3	7	8	6	7	4	5	5	3	3	2.1	8.0
Dir	7	357	7	31	19	18	349	358	331	318	284	164	169	169	178	262	251	249	293	288	246	282	317	259	297	251
30 Spd	2	1	1	1	1	2	2	2	11	12	11	10	9	12	12	8	10	11	10	8	5	3	4	3	5.3	12.3
Dir	171	172	151	184	173	180	177	226	284	306	323	291	298	294	287	323	312	312	329	312	315	255	274	262	299	306
31 Spd	2	3	5	5	2	2	2	3	3	3	2	3	6	6	4	6	6	4	4	1	1	1	1	2	2.7	6.3
Dir	236	291	290	287	266	283	273	287	284	282	236	233	263	298	287	279	328	295	281	215	175	178	168	164	278	279
Spd	1.0	0.6	0.9	0.9	0.8	0.8	1.1	1.6	2.2	3.2	4.3	5.0	5.7	6.4	6.8	6.1	5.7	5.0	4.2	2.1	1.0	1.2	1.4	1.1	Diurnal Average	
Dir	202	187	187	217	204	201	181	190	239	261	271	276	281	286	286	294	296	298	310	297	284	243	264	237		
Spd	4.2	4.6	5.4	7.2	6.8	6.0	3.9	8.1	12.1	14.9	19.7	20.5	20.4	19.8	19.6	18.5	17.3	16.2	15.1	10.5	8.3	11.0	7.2	7.0	Diurnal Maximum	
Dir	248	357	290	271	280	283	162	243	252	254	269	276	284	276	278	278	280	287	285	284	304	255	321	270		

Maximum Speed Value: 21 ppb on Aug 1 12:00
Maximum Daily Speed Average: 9.1 ppb on Aug 1
Maximum Diurnal Speed Average: 6.8 ppb at hour 15

Minimum Speed Value: 0 ppb on Aug 26 02:00
Minimum Daily Speed Average: 0.5 ppb on Aug 26
Minimum Diurnal Speed Average: 0.6 ppb at hour 2

Monthly Average Velocity: 2.47 ppb 276.2 deg

Speed Percentiles: $P_1 = 0.2$ $P_{10} = 0.7$ $Q_1 = 1.4$ Median = 2.5 $Q_3 = 6.0$ $P_{90} = 10.2$ $P_{99} = 19.4$

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

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

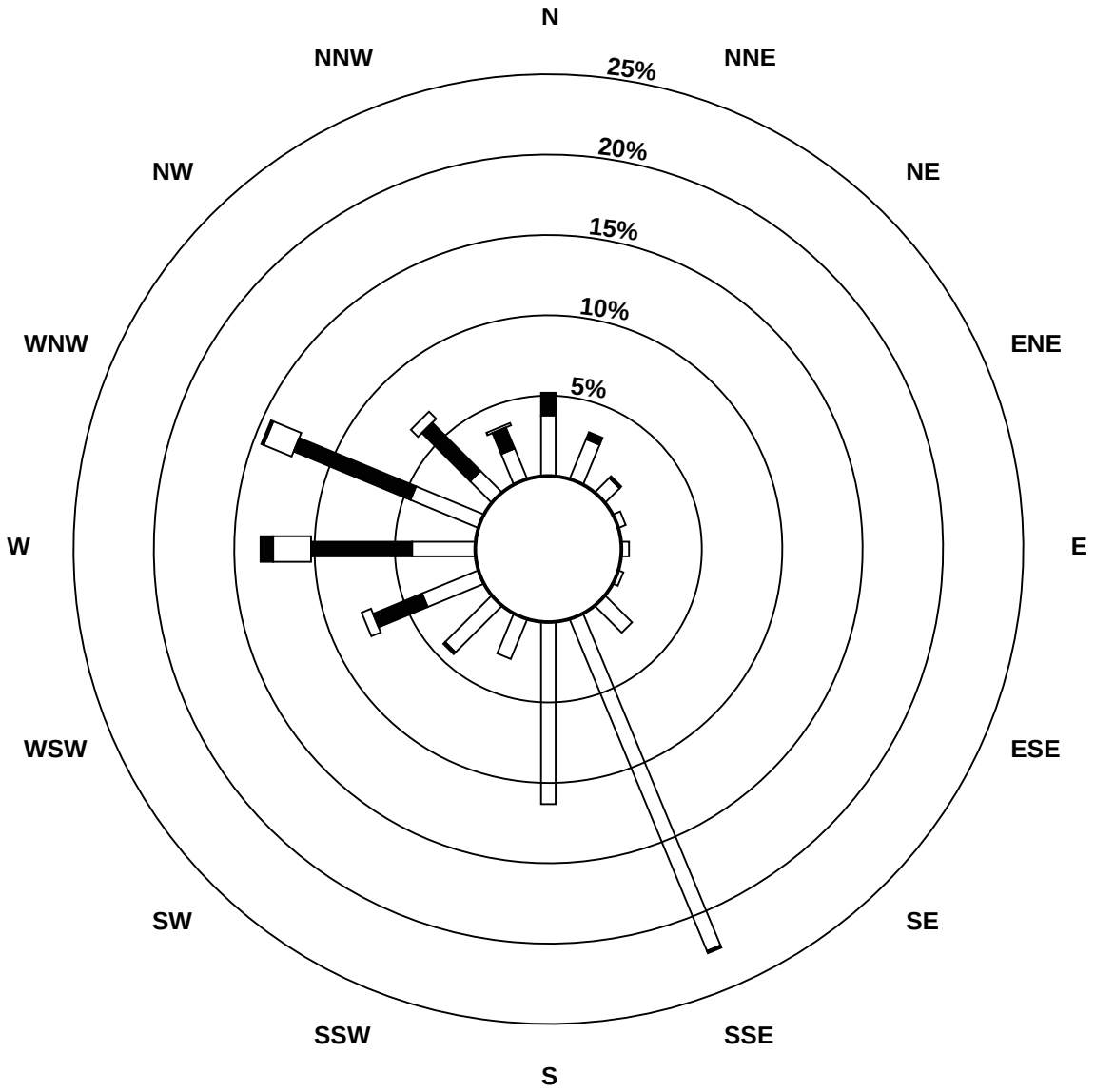
Frequency Distribution

Direction	Speed Range (ppb) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	47	18	0	0	0	0	65
NorthEast	18	3	0	0	0	0	21
East	9	0	0	0	0	0	9
SouthEast	44	0	0	0	0	0	44
South	250	1	0	0	0	0	251
SouthWest	68	8	0	0	0	0	76
West	60	70	34	6	0	0	170
NorthWest	31	61	15	1	0	0	108
Total	527	161	49	7	0	0	744

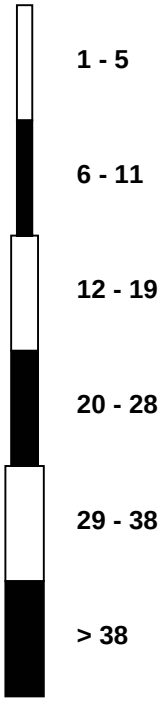
Wind Rose

Wind Speed (WS) (km/h)

Valleyview - August 2011



Wind Speed Classes (km/h)



Peace Airshed Zone Association

Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Valleyview - August 2011

Maximum Speed: 21 km/h on Aug 1 13:00

Maximum Daily Speed Average: 10.3 km/h on Aug 1

Minimum Speed: 1 km/h on Aug 26 01:00

Minimum Daily Speed Average: 1.7 km/h on Aug 26

Maximum Diurnal Speed Average: 9.0 km/h at hour 15

Minimum Diurnal Speed Average: 1.9 km/h at hour 1

Monthly Average Speed: 4.62 km/h

Percentiles: $P_1 = 0.7$ $P_{10} = 1.1$ $Q_1 = 1.7$ Median = 3.0 $Q_3 = 6.5$ $P_{90} = 10.6$ $P_{99} = 19.9$

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	2	2	2	2	1	2	3	9	12	15	20	21	21	20	20	19	18	17	15	11	5	3	4	2	10.3	20.9
2-Aug	2	2	2	2	2	3	4	4	3	3	8	8	10	10	8	8	6	5	3	1	1	2	2	1	4.1	9.9
3-Aug	2	2	2	2	1	1	2	2	3	10	9	7	11	11	12	15	15	10	8	2	1	2	4	6	5.8	15.0
4-Aug	2	2	3	1	1	1	2	2	3	3	6	5	6	7	5	7	6	5	2	1	1	1	1	1	3.1	7.2
5-Aug	1	1	1	1	1	1	1	2	3	2	3	2	2	4	3	4	15	14	14	4	5	5	3	5	4.0	14.7
6-Aug	2	2	2	2	2	2	1	1	3	6	9	10	8	9	14	9	5	10	6	3	5	2	7	7	5.3	14.2
7-Aug	4	2	2	1	2	6	3	5	7	8	10	11	8	7	12	12	10	9	7	3	1	1	1	1	5.5	12.4
8-Aug	2	1	1	1	1	1	1	3	3	3	4	4	3	4	3	2	2	2	2	2	1	2	1	1	2.0	3.8
9-Aug	1	1	1	1	1	1	1	2	2	2	3	2	4	6	9	8	8	5	3	1	1	1	1	1	2.8	8.6
10-Aug	1	1	1	1	3	1	1	2	2	5	5	4	5	9	10	7	7	7	4	2	1	1	1	1	3.5	10.2
11-Aug	1	1	1	2	1	1	1	1	3	4	6	4	3	3	3	2	2	2	1	2	1	2	2	2	2.2	5.7
12-Aug	2	2	1	1	1	2	1	2	2	2	2	4	5	3	6	6	8	8	11	8	5	3	8	6	4.2	11.0
13-Aug	4	4	1	3	2	1	1	1	2	3	3	4	3	3	4	4	5	6	7	5	6	4	6	6	3.7	7.1
14-Aug	1	4	2	9	4	4	2	2	1	2	5	8	7	6	4	5	4	3	4	3	2	2	2	1	3.7	8.9
15-Aug	1	1	2	1	2	2	2	3	3	5	10	13	12	13	20	17	15	11	9	4	1	4	6	2	6.7	19.9
16-Aug	2	2	2	2	3	3	4	3	8	11	11	14	16	16	16	15	13	10	9	6	2	4	5	3	7.6	16.4
17-Aug	3	2	1	2	2	2	3	3	1	2	7	12	14	12	12	10	2	3	4	9	9	6	7	6	5.7	13.7
18-Aug	5	3	3	7	7	6	4	1	4	7	8	10	10	13	12	9	10	12	10	4	2	2	2	2	6.4	12.9
19-Aug	2	3	2	2	1	1	2	3	5	10	9	10	10	12	11	9	7	5	2	1	1	1	1	1	4.7	11.6
20-Aug	1	2	2	2	2	2	3	2	3	5	12	11	10	9	8	7	6	6	3	2	1	1	1	1	4.3	11.7
21-Aug	1	1	4	4	3	3	2	3	5	4	4	3	6	7	7	7	7	6	6	2	2	1	1	1	3.9	7.4
22-Aug	2	1	1	2	2	2	2	3	3	5	4	5	8	6	6	5	4	3	3	9	5	11	3	4	4.1	11.4
23-Aug	2	2	2	2	3	2	2	7	11	12	17	19	19	20	19	17	14	11	7	1	1	1	2	1	8.1	20.3
24-Aug	1	2	1	1	2	1	3	2	3	4	4	3	5	11	11	10	10	11	9	6	3	3	3	2	4.6	10.9
25-Aug	1	3	2	2	2	2	1	2	8	12	11	11	9	11	8	7	7	8	4	1	1	1	1	1	4.8	11.8
26-Aug	1	1	1	1	1	1	1	1	2	2	3	3	3	3	3	3	2	2	2	1	1	1	2	1	1.7	3.4
27-Aug	1	1	1	1	1	1	1	2	3	2	2	2	6	7	9	7	9	11	6	2	1	2	2	3	3.4	10.9
28-Aug	2	1	1	2	2	2	2	3	2	2	2	3	3	3	4	4	2	2	5	2	5	2	4	3	2.6	4.6
29-Aug	2	5	4	4	4	4	4	4	2	4	2	2	2	4	4	7	9	7	7	4	5	6	3	3	4.3	8.5
30-Aug	2	1	1	2	1	2	2	3	11	13	12	11	9	13	13	9	10	11	11	8	5	3	4	3	6.7	13.4
31-Aug	2	4	6	5	2	2	2	4	3	3	3	4	7	7	6	7	6	5	4	1	1	1	1	2	3.7	7.2
	1.9	2.0	1.9	2.2	2.0	2.1	2.1	2.8	4.1	5.6	6.9	7.4	7.9	8.7	9.0	8.3	8.0	7.3	6.0	3.6	2.6	2.6	3.0	2.6	Diurnal Average	
	4.7	4.8	5.5	8.9	6.9	6.2	3.9	8.6	12.4	15.1	20.2	20.9	20.9	20.3	20.0	19.0	17.7	16.5	15.4	10.7	9.1	11.4	7.7	7.3	Diurnal Maximum	

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

FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Valleyview - August 2011

Maximum Value: 96.7 deg on Aug 26 02:00

Minimum Value: 4.4 deg on Aug 16 05:00

Percentiles: P_1 = 6.4 P_{10} = 12.1 Q_1 = 16.5 Median = 25.8 Q_3 = 44.2 P_{90} = 65.7 P_{99} = 90.6

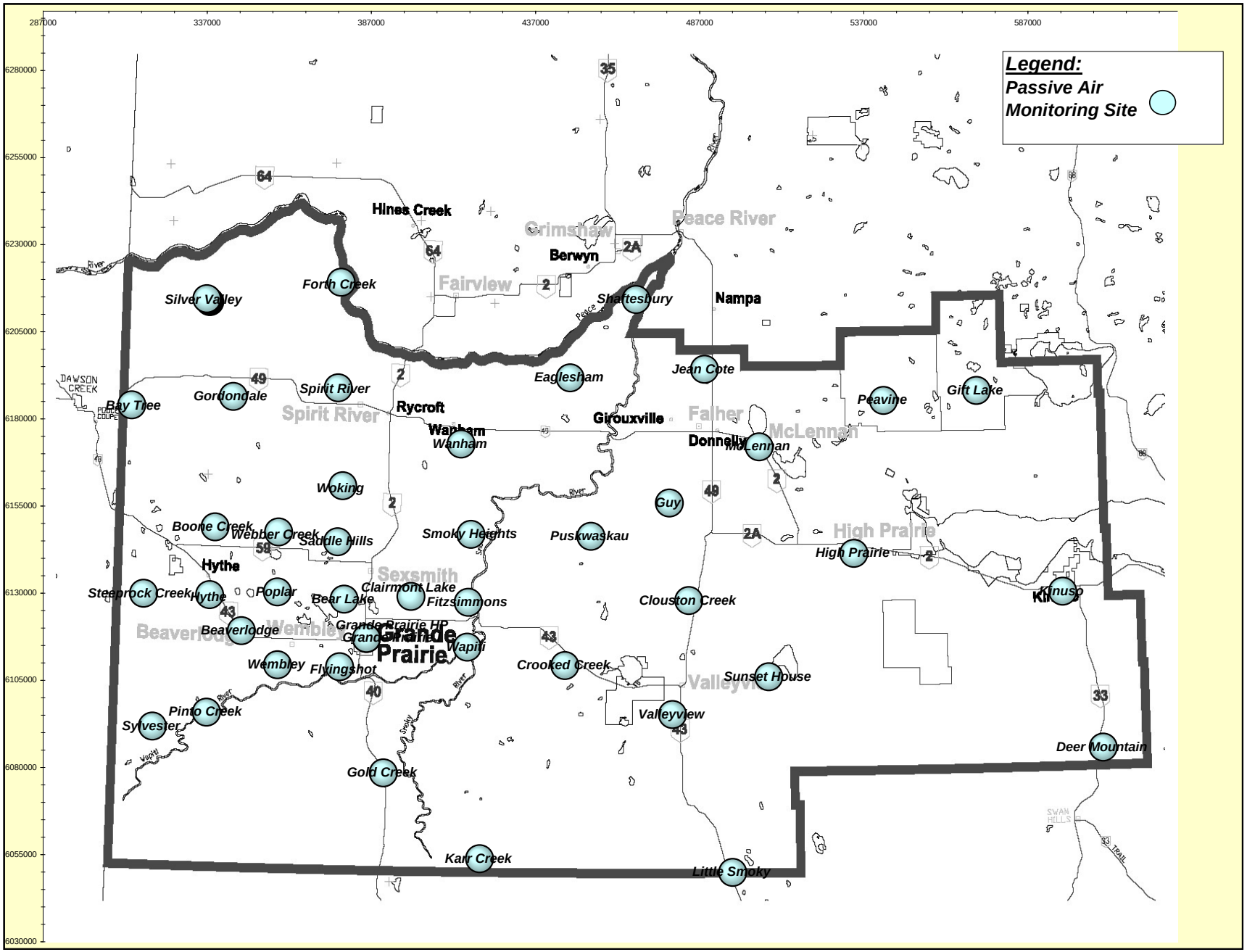
Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily 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-Aug	31	30	21	18	29	20	31	33	12	11	13	11	13	13	12	14	12	11	12	10	13	33	21	26	33.4
2-Aug	17	16	14	11	13	6	5	7	15	15	53	37	40	21	35	40	26	19	59	21	33	39	28	21	58.8
3-Aug	74	58	26	31	27	23	32	11	66	17	28	33	20	25	20	18	15	14	15	41	67	76	82	42	82.5
4-Aug	19	66	74	72	24	60	17	13	17	44	32	48	52	46	58	43	46	54	69	25	72	66	88	56	87.8
5-Aug	53	69	50	64	26	28	23	16	14	17	16	26	65	49	52	68	23	43	15	79	75	44	77	24	79.5
6-Aug	79	38	22	20	27	32	29	53	27	18	22	26	26	29	13	24	38	42	22	33	11	27	25	21	79.0
7-Aug	30	20	20	30	41	16	18	18	16	17	16	13	16	18	14	17	17	20	17	15	47	21	31	17	47.1
8-Aug	14	14	25	29	51	45	11	12	20	21	19	22	28	22	26	39	45	47	23	64	91	86	66	73	90.9
9-Aug	91	67	66	32	46	47	40	14	59	73	72	63	72	54	30	30	23	22	19	88	34	81	50	47	90.7
10-Aug	64	86	88	89	80	53	41	53	47	23	41	40	54	25	16	23	24	20	27	40	39	64	43	74	89.3
11-Aug	58	85	23	14	30	68	61	51	22	12	14	29	38	44	38	47	48	36	18	8	34	43	37	15	84.8
12-Aug	24	14	25	42	69	11	19	42	42	33	61	57	58	61	33	41	10	17	8	9	20	48	25	52	68.8
13-Aug	93	92	74	58	64	95	48	38	31	44	88	61	83	71	44	39	26	13	20	9	8	11	17	43	95.2
14-Aug	94	17	21	55	41	54	56	42	41	48	41	20	29	35	35	21	19	33	8	29	13	27	22	26	93.7
15-Aug	31	41	14	26	23	16	13	12	15	44	25	17	21	19	13	15	15	14	13	27	14	26	13	22	44.3
16-Aug	11	10	7	7	4	6	5	11	12	13	16	16	17	14	13	14	12	12	14	14	26	13	12	17	26.0
17-Aug	23	36	70	15	8	7	5	8	35	19	50	14	15	22	19	57	27	64	63	10	24	44	32	16	69.5
18-Aug	39	33	39	15	11	14	43	51	54	20	25	26	27	21	19	52	48	18	12	20	27	12	11	13	54.3
19-Aug	10	8	7	11	23	27	8	11	75	15	23	17	20	19	19	19	18	22	18	13	11	16	12	22	74.6
20-Aug	30	25	31	29	26	19	14	8	11	69	16	21	25	24	28	23	25	27	31	86	50	27	27	34	86.2
21-Aug	50	27	8	7	9	9	37	9	11	9	8	25	19	18	24	16	30	26	26	65	88	82	52	64	87.7
22-Aug	59	43	48	29	42	24	11	30	51	38	34	44	22	21	29	42	30	37	60	20	41	24	23	10	59.7
23-Aug	14	20	20	21	20	39	49	19	14	14	16	12	16	14	15	12	15	14	19	80	47	56	37	71	80.1
24-Aug	67	71	53	82	83	86	77	13	11	8	13	47	46	27	22	22	19	18	14	17	55	32	28	49	85.9
25-Aug	69	64	40	50	20	25	37	52	17	14	20	22	26	19	26	35	24	14	80	66	11	22	54	46	79.6
26-Aug	82	97	54	74	45	69	26	36	54	20	23	40	66	74	32	22	12	18	13	76	85	67	41	80	96.7
27-Aug	30	59	55	31	35	59	38	18	48	41	52	60	43	24	21	23	16	15	14	71	28	59	24	52	70.6
28-Aug	28	49	26	24	16	6	9	8	17	43	28	38	26	43	64	80	23	45	13	49	10	67	30	36	79.7
29-Aug	51	23	20	13	17	13	13	22	47	20	77	29	27	25	31	26	27	30	16	31	20	30	22	27	76.6
30-Aug	15	33	35	27	15	15	16	50	14	15	20	19	20	24	22	31	18	17	18	11	19	19	15	17	50.3
31-Aug	27	25	14	12	48	73	40	20	31	35	56	46	36	31	39	34	16	25	24	24	19	14	11	5	73.3
	93.7	96.7	87.8	89.3	83.2	95.2	77.2	53.1	74.6	73.5	88.5	63.1	82.9	74.1	64.4	79.7	48.4	64.1	79.6	88.4	90.9	85.9	87.8	79.8	

PAZA

Monthly Passive Data Summary

Location of PAZA Passive Monitoring Stations



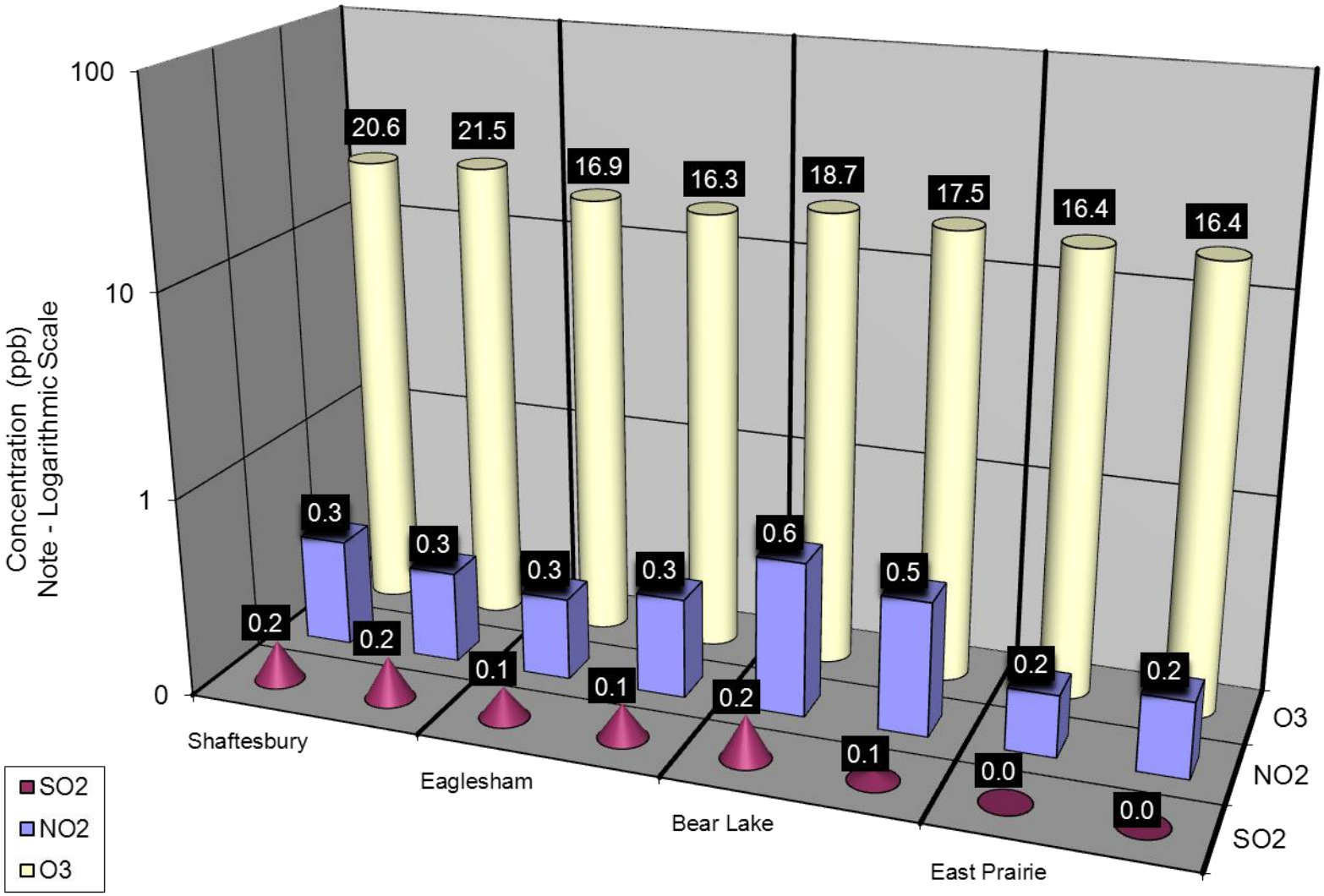
PAZA Passive Results for August 2011

Peace Airshed Zone Association - PAZA Passive Stations for August 2011

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	Site Legal
Duplicates					
20	Shaftesbury	**0.2**	**20.6**	**0.3**	
20b	Shaftesbury	**0.2**	**21.5**	**0.3**	
21	Eaglesham	**0.1**	**16.9**	**0.3**	
21b	Eaglesham	**0.1**	**16.3**	**0.3**	
23	Bear Lake	**0.2**	**18.7**	**0.6**	
23b	Bear Lake	**0.1**	**17.5**	**0.5**	
50	East Prairie	**0.0**	**16.4**	**0.2**	
50b	East Prairie	**0.0**	**16.4**	**0.2**	
1	Silver Valley	**0.2**	**19.1**	**0.6**	08-27-081-11 W6M
2	Bay Tree	**0.2**	**18.4**	**0.3**	13-16-078-13 W6M
3	Fourth Creek	**0.1**	**22.8**	**0.7**	04-13-082-07 W6M
4	Gordondale	**0.2**	**21.1**	**0.3**	04-34-078-10 W6M
5	Boone Creek	**0.1**	**16.6**	**0.3**	16-36-074-11 W6M
7	Steeprock Creek	**0.2**	**21.6**	**0.2**	09-35-072-13 W6M
9	Spirit River	**0.2**	**21.4**	**0.9**	08-12-079-07 W6M
10	Woking	**0.3**	**20.6**	**0.4**	01-13-076-07 W6M
11	Webber Creek	**0.1**	**19.5**	**0.7**	09-36-074-09 W6M
12	Hythe	**0.2**	**20.1**	**0.5**	14-36-072-11 W6M
14	Sylvester	**0.1**	**15.1**	**0.5**	08-06-069-12 W6M
16	Beaverlodge	**0.1**	**25.9**	**0.8**	15-36-071-10 W6M
17	Poplar	**0.0**	**20.5**	**0.5**	13-06-073-08 W6M
18	Saddle Hills	**0.2**	**19.2**	**0.4**	04-25-074-07 W6M
19	Wanham	**0.2**	**23.9**	**0.3**	16-22-077-03 W6M
20	Shaftesbury	**0.2**	**20.6**	**0.3**	04-03-082-23 W5M
21	Eaglesham	**0.1**	**16.9**	**0.3**	16-21-079-25 W5M
23	Bear Lake	**0.2**	**18.7**	**0.6**	15-31-072-06 W6M

PAZA Passive Results for August 2011 (Continued)

24	Wembley	**0.0**	**16.5**	**1.0**	12-31-070-08 W6M
25	Pinto Creek	**0.0**	**19.2**	**0.5**	04-24-069-11 W6M
26	Flyingshot	**0.1**	**17.3**	**0.6**	15-36-070-07 W6M
27	Grande Prairie I	**0.1**	**20.3**	**1.4**	08-15-071-06 W6M
28	Clairmont Lake	**0.1**	**19.9**	**0.7**	09-06-073-04 W6M
29	Smoky Heights	**0.2**	**25.5**	**0.4**	04-06-075-02 W6M
30	Fitzsimmons	**0.1**	**18.1**	**0.5**	15-36-072-03 W6M
32	Gold Creek	**0.3**	**13.5**	**0.8**	06-33-067-05 W6M
33	Wapiti	**0.1**	**18.5**	**0.7**	02-25-071-03 W6M
34	Puskwaskau	**0.1**	**13.5**	**0.3**	15-35-074-25 W5M
35	Jean Cote	**0.3**	**17.5**	**0.4**	12-35-079-21 W5M
36	Guy	**0.2**	**19.1**	**0.3**	03-04-076-22 W5M
37	Crooked Creek	**0.0**	**17.6**	**0.6**	16-01-071-26 W5M
38	Karr Creek	**0.1**	**15.4**	**0.4**	10-16-065-02 W6M
39	Clouston Creek	**0.1**	**18.9**	**0.5**	12-01-073-22 W5M
40	McLennan	**0.0**	**16.4**	**0.2**	03-29-077-19 W5M
41	Valleyview	**0.1**	**27.1**	**0.6**	09-30-069-22 W5M
42	Sunset House	**0.1**	**22.6**	**0.3**	05-32-070-19 W5M
43	High Prairie	**0.1**	**17.0**	**0.3**	16-13-074-17 W5M
44	Peavine	**0.2**	**15.9**	**0.2**	03-05-079-15 W5M
45	Gift Lake	**0.1**	**14.6**	**0.3**	10-07-079-12 W5M
46	Little Smoky	**0.2**	**BDL**	**BDL**	12-01-065-21 W5M
47	Kinuso	**0.2**	**14.8**	**0.3**	12-10-073-10 W5M
48	Deer Mountain	**0.1**	**17.4**	**0.7**	15-22-068-09 W5M
49	Grande Prairie HP	**0.2**	**26.0**	**1.9**	17-26-071-06 W6M
50	East Prairie	**0.0**	**16.4**	**0.2**	



Duplicate Summary Chart

Passive Summary for August 2011

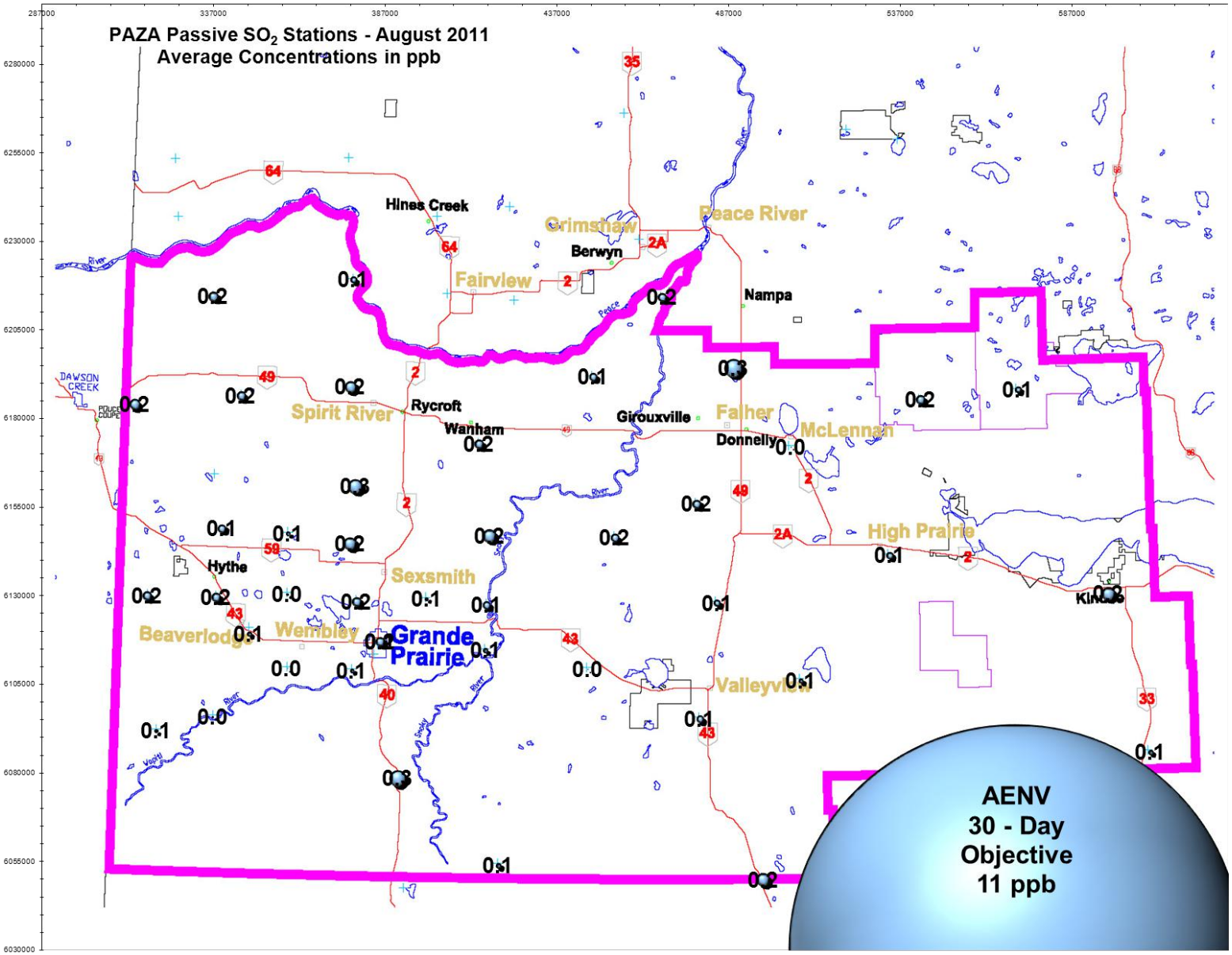
Stats	Sulphur Dioxide SO_2	Ozone O_3	Nitrogen Dioxide NO_2
	ppb	ppb	ppb
	Passive Summary for August 2011 (PAZA Zone)		
Mean	**0.1**	**19.2**	**0.5**
Standard Deviation	**0.1**	**3.3**	**0.3**
Minimum	**0.0**	**13.5**	**0.2**
Minimum At	**Wembley (#24)**	**Puskwaskau (#34)**	**Peavine (#44)**
Maximum	**0.3**	**27.1**	**1.9**
Maximum At	**Jean Cote (#35)**	**Valleyview (#41)**	**Grande Prairie HP**

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

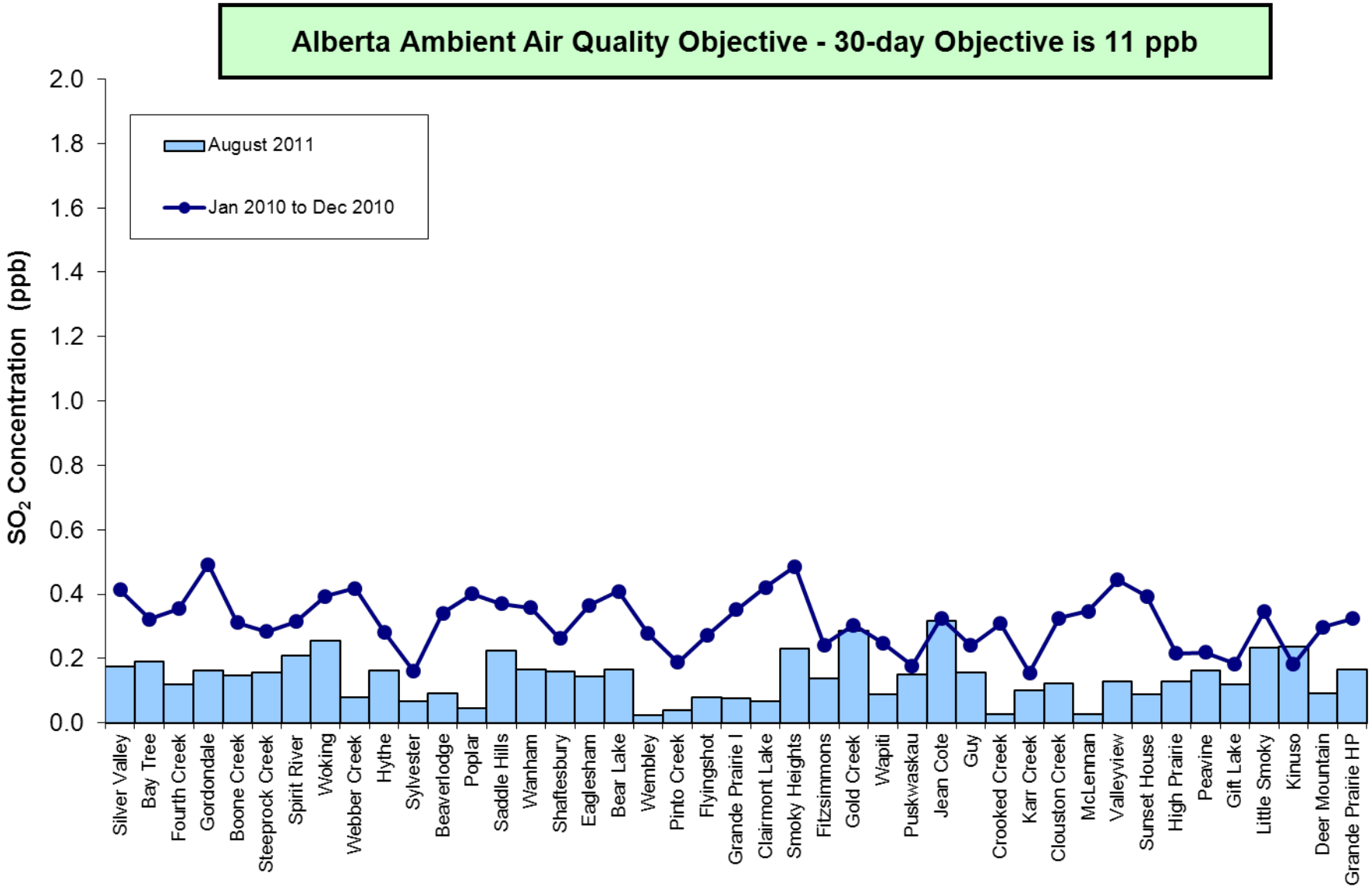
	SO_2	O_3	NO_2
PAZA Beaverlodge station	**0.2**	**21.5**	**1.7**
PAZA Beaverlodge passive	**0.1**	**25.9**	**0.8**

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

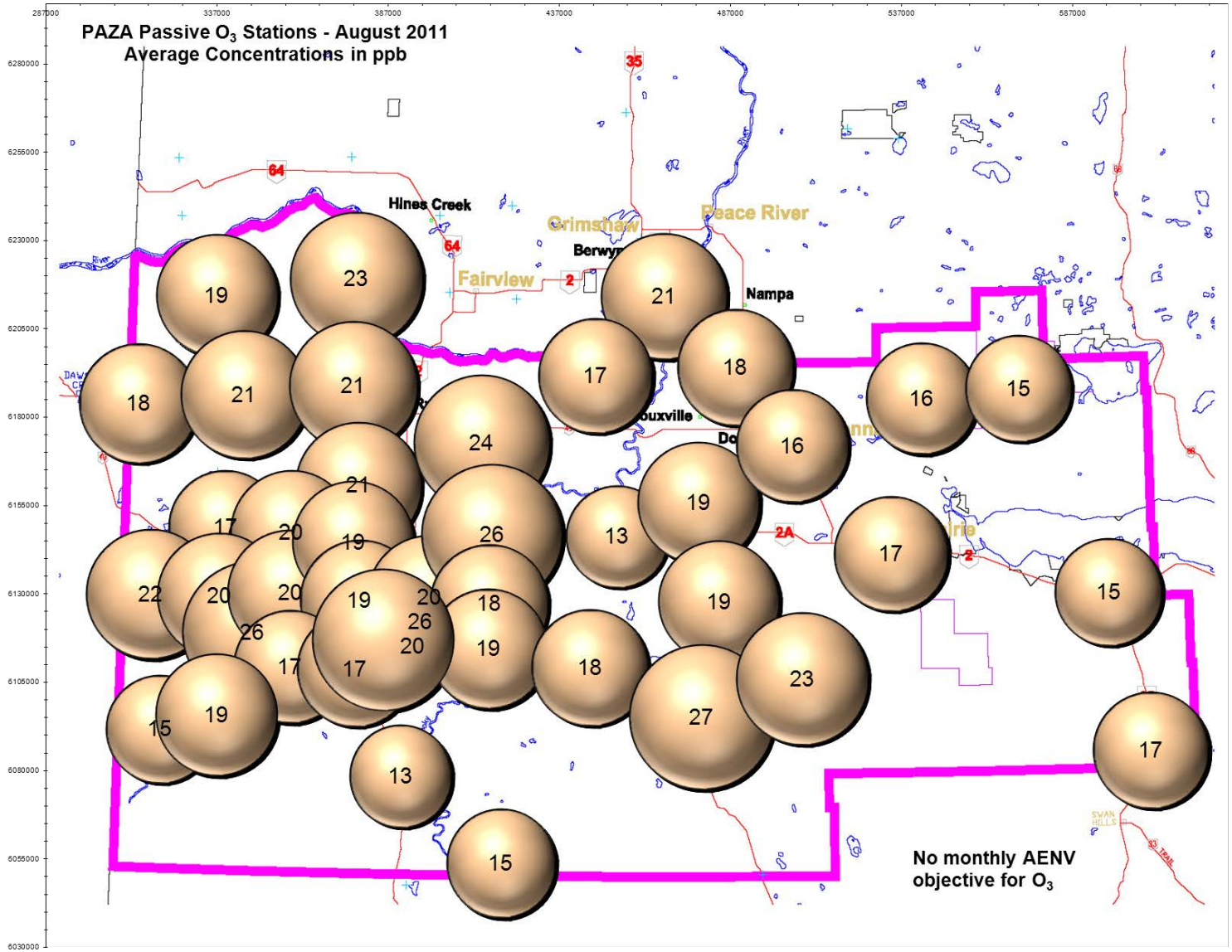
	SO_2	O_3	NO_2
PAZA Henry Pirker station	**0.1**	**19.3**	**4.4**
PAZA Grande Prairie passive	**0.2**	**26.0**	**1.9**



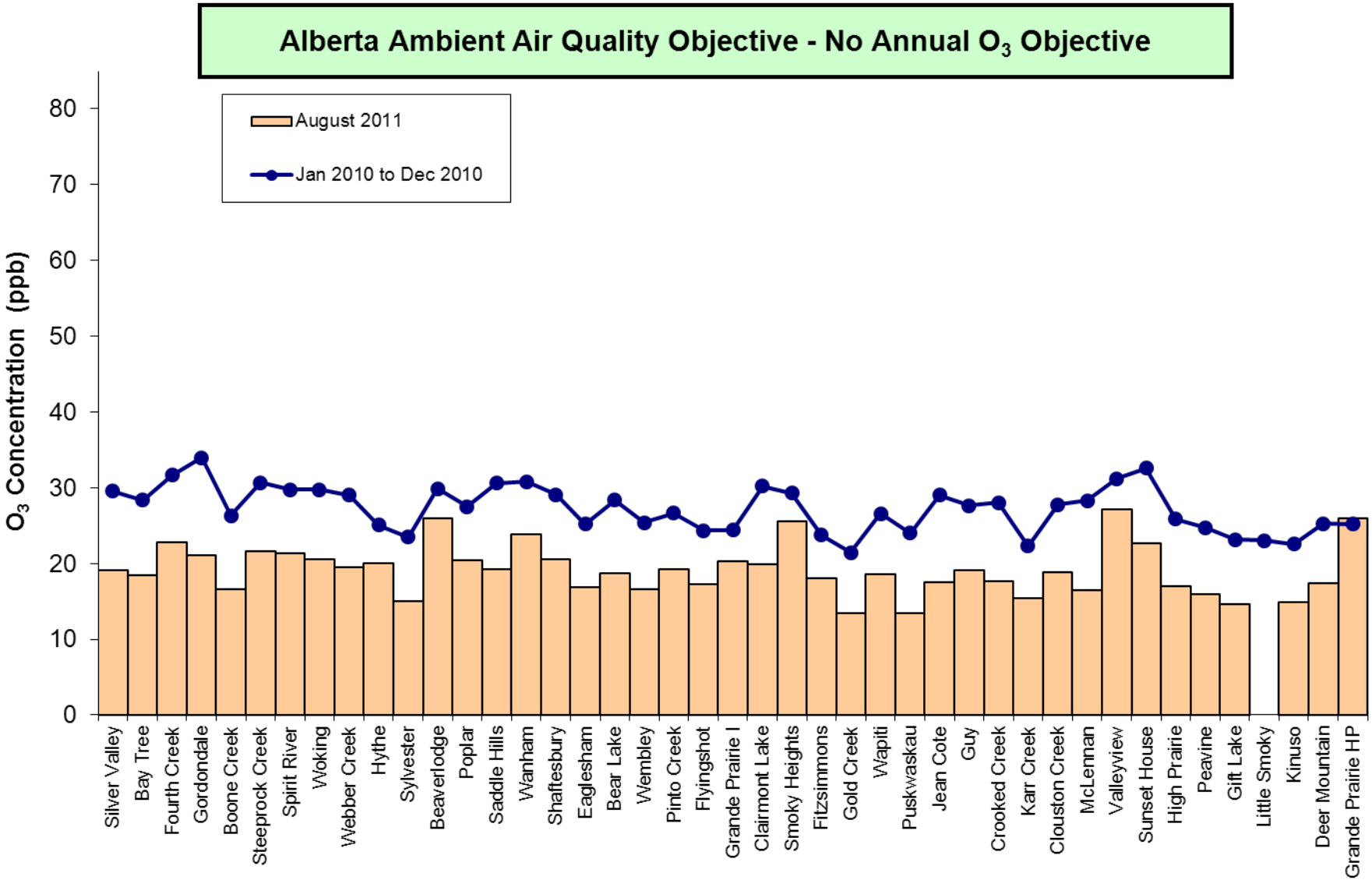
SO_2 Bubble Chart



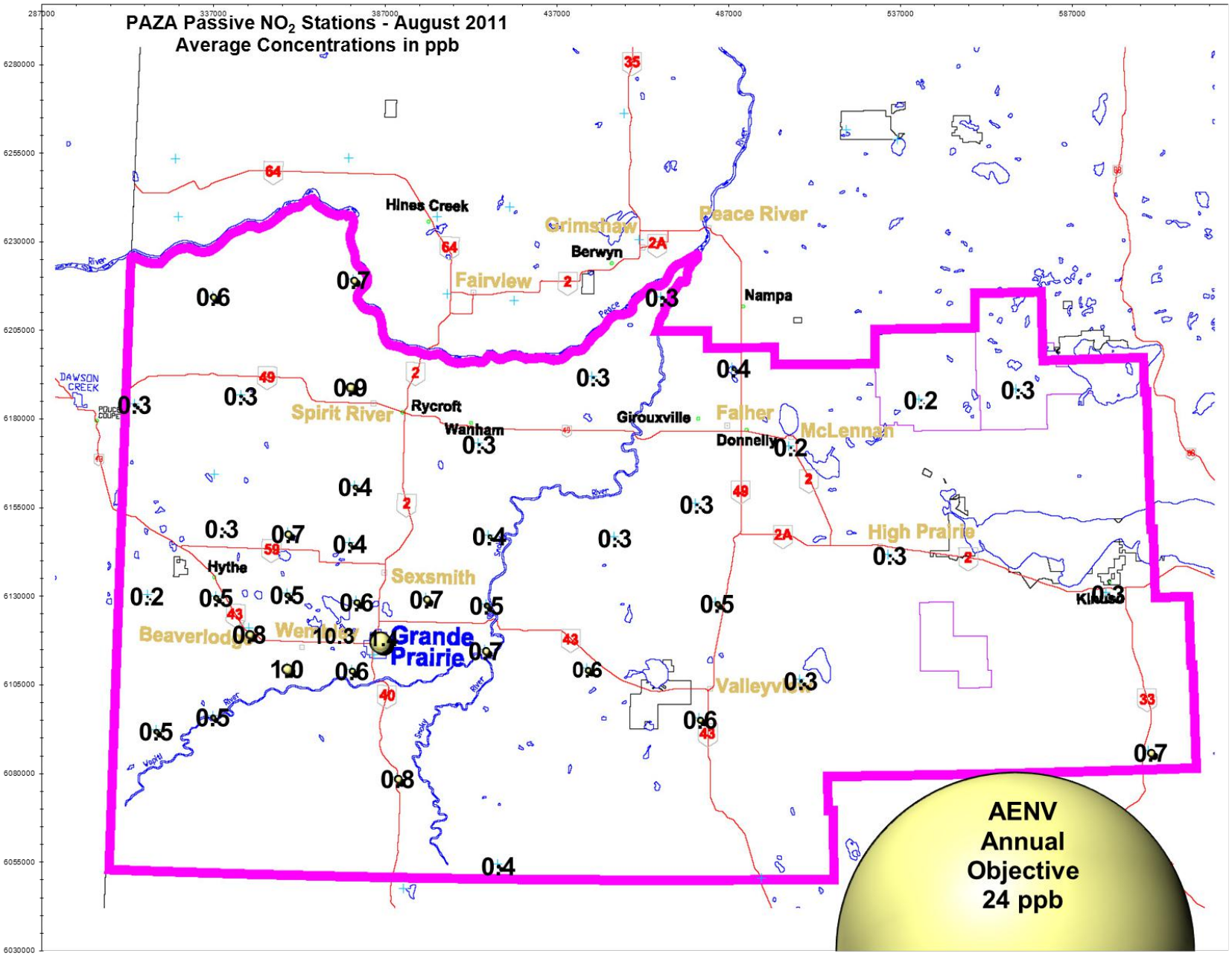
SO_2 Summary Chart



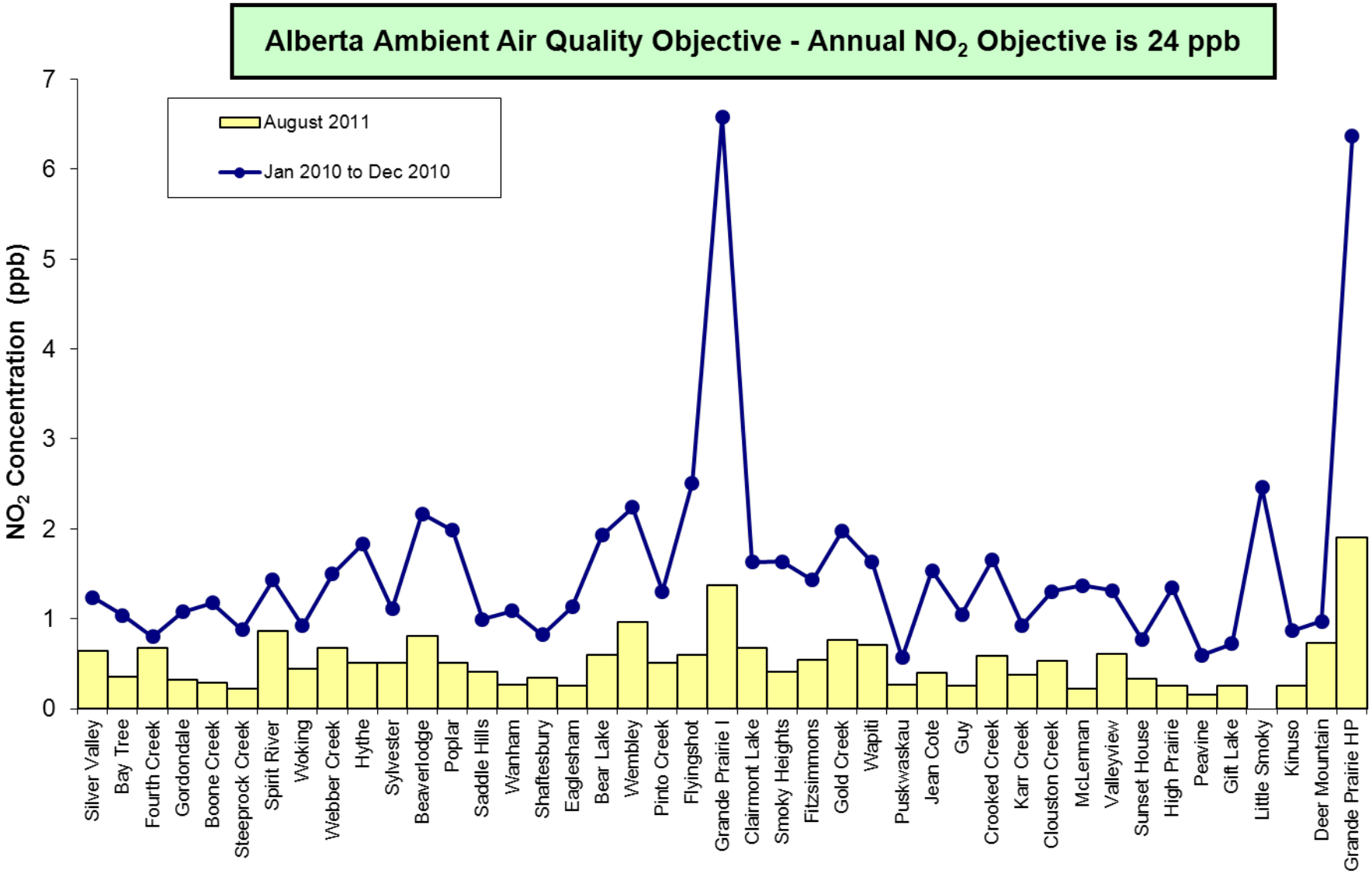
O_3 Bubble Chart



O_3 Summary Chart



NO_2 Bubble Chart



NO_2 Summary Chart

August 2011 Calibration Reports

PAZA - Henry Pirker Station with the following calibrations:
SO_2, NO, NO_2, NO_x, O_3, CO, THC, TRS, $PM_{2.5}$

PAZA – Evergreen Park Station with the following calibrations:
SO_2, TRS, $PM_{2.5}$

PAZA – Smoky Heights Station with the following calibrations:
SO_2, TRS, $PM_{2.5}$

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

FOCUS AIR QUALITY MONITORING

Parameter **SO2**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	August 16, 2011	Previous Calibration	July 15, 2011
Station Number	1	Station Location	Henry Pirker
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	9:30	End Time (MST)	12:08
Barometric Pressure	0.924 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics	Serial Number	3474
Cal Gas Conc	49.8 ppm	Cal Gas Cert Date	3/28/2013
		Cal Gas Cylinder #	LL85275
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	10
	Before		After
Calculated slope	0.996991	Calculated slope	0.999609
Calculated intercept	2.328572	Calculated intercept	-2.341183
Analyzer make	TEI 43C	Analyzer serial #	610816292

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	8.4		9.0	
Coefficient	0.799		0.790	
Pressure	641.8	mm Hg	641.8	mm Hg
Flow	0.476	lpm	0.477	lpm
Lamp Voltage	43950	Hz	43494	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	0.1	N/A
4989	39.84	394.5	395.8	0.9969
4989	19.91	198.0	201.7	0.9815
4989	9.93	98.9	103.5	0.9554
4989	0.00	0.0	0.1	As Found Zero
4989	39.84	394.5	395.7	As Found Span
			Average Correction Factor	0.9779

Calculated value of As Found Response: 396.7 ppb Percent Change of As Found: -0.6%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.1	ppb
Auto span	248.1	ppb	239.8	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

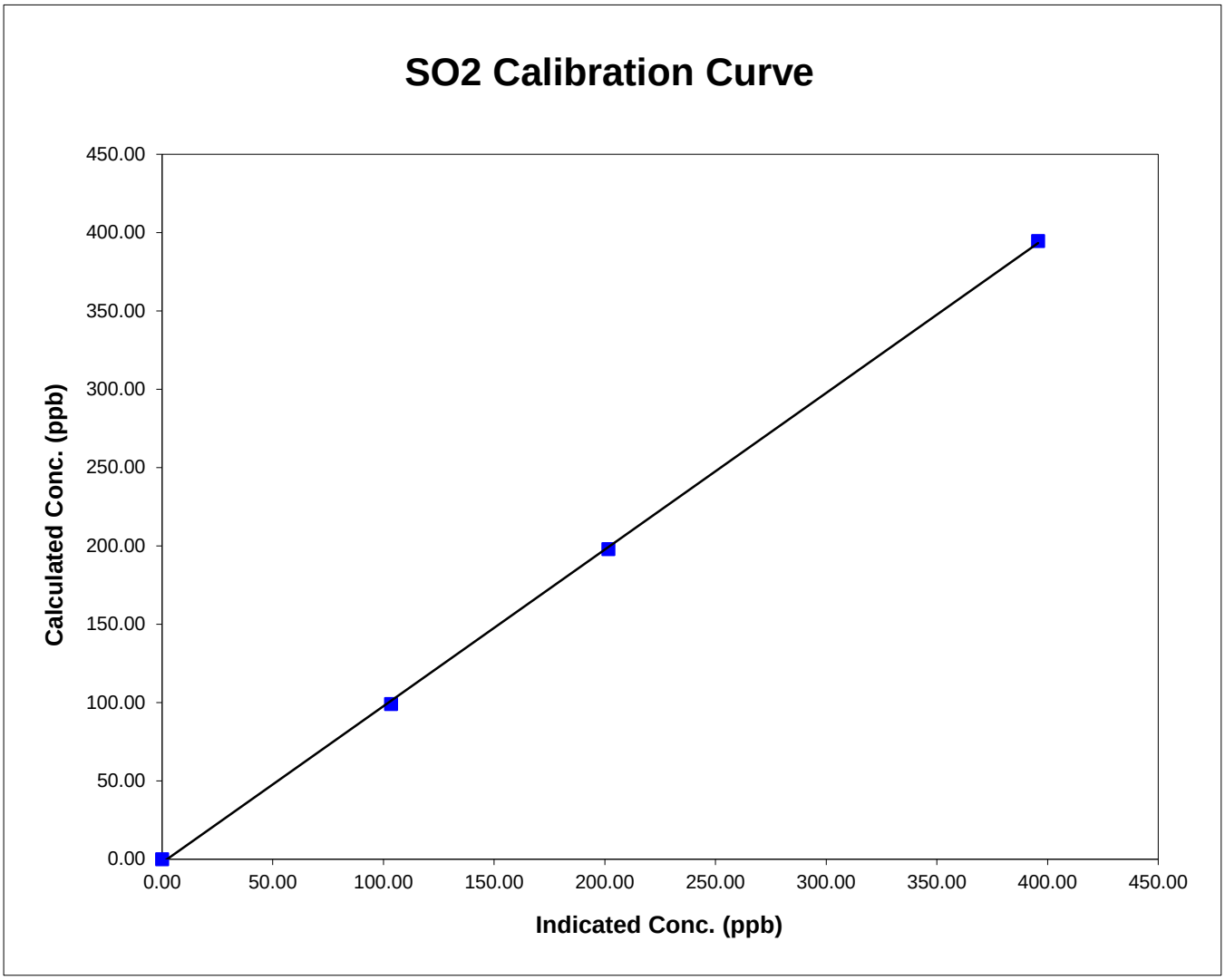
Air Monitoring Network **PASZA**

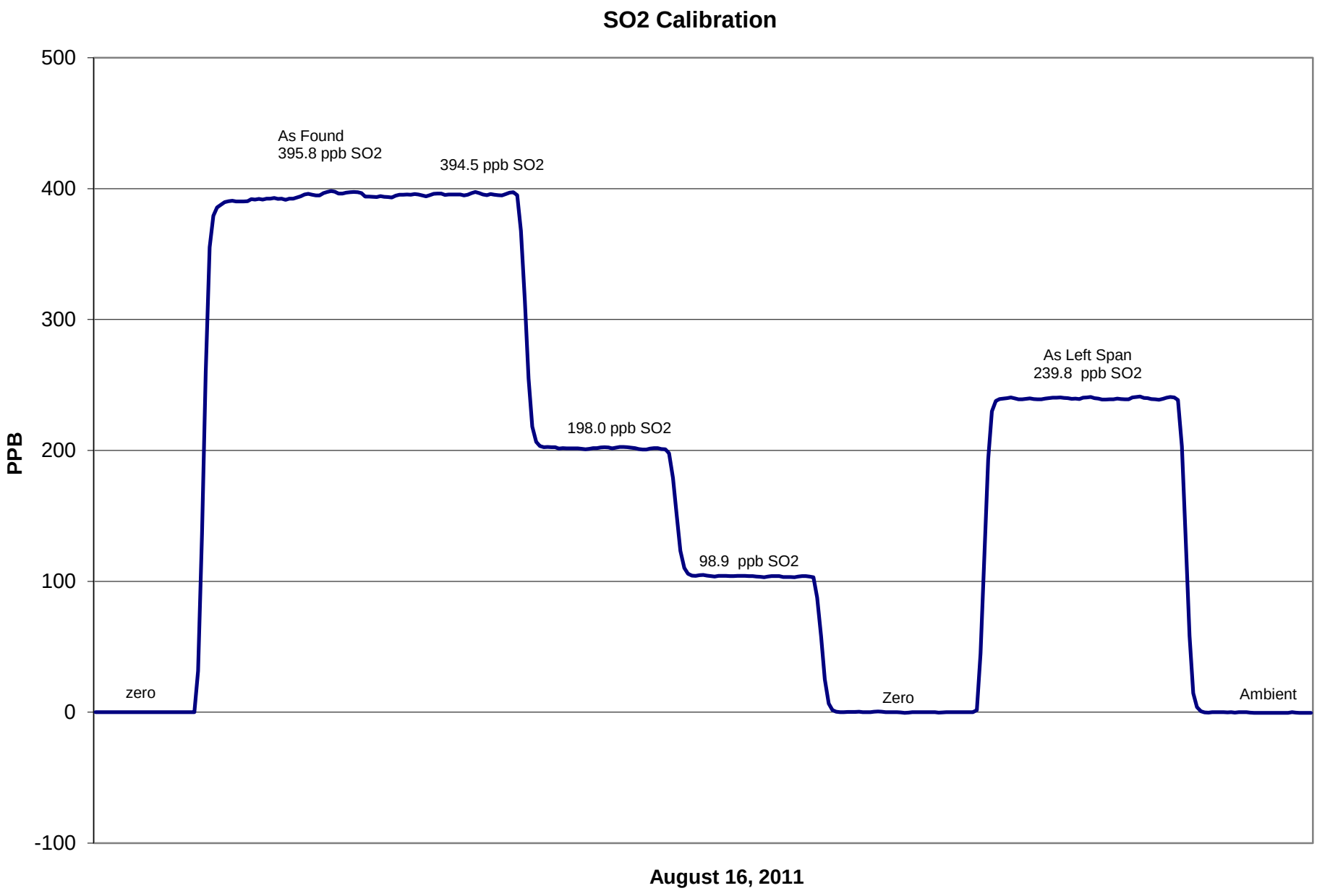
Station Information

Calibration Date	August 16, 2011	Previous Calibration	July 15, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:30	End Time (MST)	12:08
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	0.1	N/A		
394.5	395.8	0.9969	Correlation Coefficient	0.999841
198.0	201.7	0.9815		
98.9	103.5	0.9554	Slope	0.999609
			Intercept	-2.341183




SO2 Calibration
500
400
300
200
100
0
-100
PPB
As Found
395.8 ppb SO2
394.5 ppb SO2
198.0 ppb SO2
98.9 ppb SO2
As Left Span
239.8 ppb SO2
zero
Zero
Ambient
August 16, 2011

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 16, 2011	Previous Calibration	July 6, 2011
Station Number	1	Station Location	Henry Pirker

Reason: Routine | Installation | Removal | Other:

Start Time (MST)	9:28		End Time (MST)	14:06	
Barometric Pressure	0.924	Atm	Station Temperature	20.0	Deg C
Calibrator	Environics		Serial Number	3474	
NO Cal Gas Conc	52.5	ppm	Cal Gas Expiry Date	March 28, 2013	
NOx Cal Gas Conc	52.5	ppm	Cal Gas Serial #	LL85275	

DACS Information

DACS make	CR3000	DACS serial No.	5408

Parameter		NO2	NOx	NO
Before	Data Slope	0.994397	1.002504	1.002615
	Data Offset	-0.492272	-2.294268	-2.249594
After	Data Slope	1.000773	1.002310	1.002676
	Data Offset	0.005016	-2.814795	-2.765565
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	10.0	mV	10.0	mV
NOx bkgnd	10.3	mV	10.2	mV
NO coefficient	0.752		0.748	
NOx coefficient	1.000		1.000	
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	174.6	in Hg	174.2	in Hg

Calibration Report

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

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: August 16, 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	39.84	415.9	415.9	0.0	416.3	416.2	0.1	0.9990	0.9994
2	4989	19.91	208.7	208.7	0.0	212.4	212.1	0.2	0.9827	0.9837
3	4989	9.94	104.4	104.4	0.0	109.8	109.8	0.0	0.9511	0.9508
AFZ	4989	0.00	0.0	0.0	0.0	0.1	0.0	0.0	0.0000	0.0000
AFS	4989	39.83	415.8	415.8	0.0	418.0	417.6	0.3	0.9949	0.9958
							Average Correction Factor		0.9776	0.9780

As Found Concentrations: NO_X= 415.6 NO= 415.3 As Found Percent Change NO_X= -0.1% NO= -0.1%

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	416.0	416.0	0.0	416.0	416.0	0.1	0.9999	1.0000	N/A	N/A
300	416.0	142.1	273.9	415.6	142.1	273.7	1.0010	1.0000	1.0008	99.9%
200	416.0	230.3	185.7	415.8	230.3	185.6	1.0005	1.0000	1.0005	100.0%
100	416.0	316.1	99.9	415.8	316.1	99.7	1.0005	1.0000	1.0020	99.8%
					Average Correction Factor		1.0006	1.0000	1.0011	99.9%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.1	0.0	0.0	ppb	0.1	0.0	0.0	ppb
Auto span	168.4	169.5	1.2	ppb	160.5	159.4	1.0	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

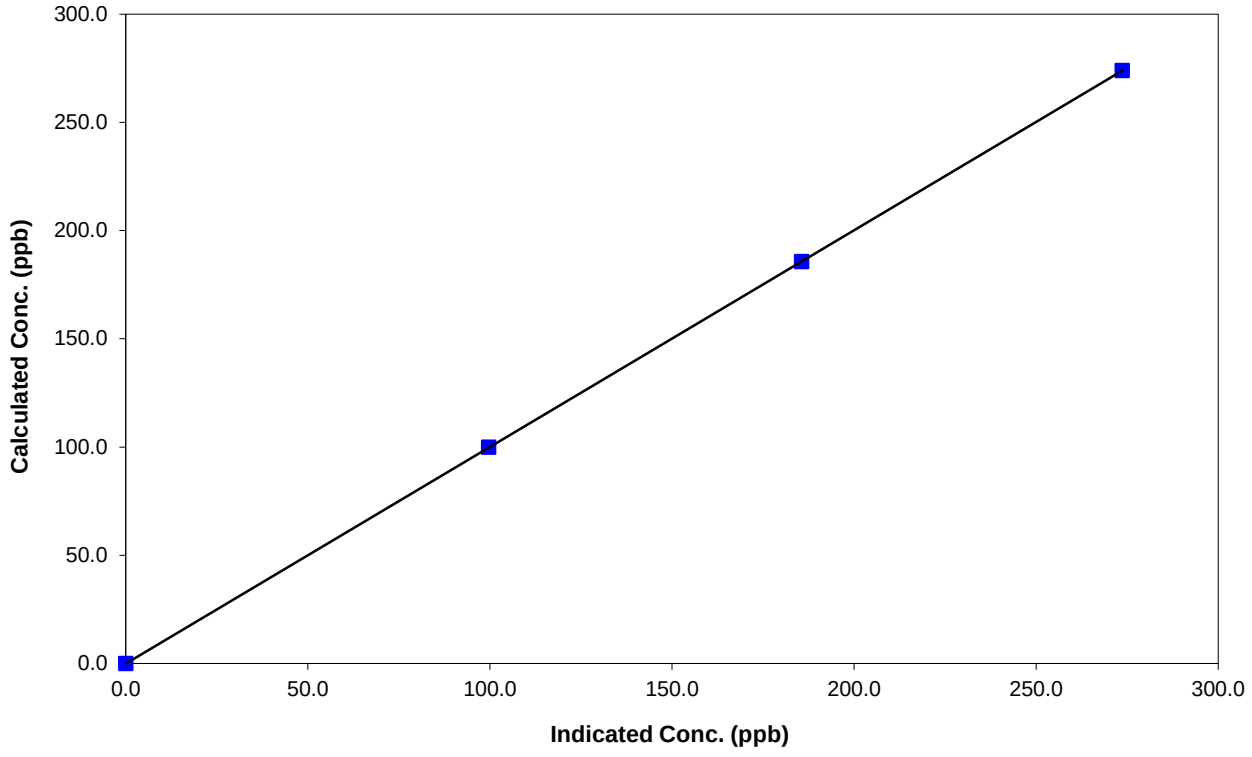
Station Information

Calibration Date	August 16, 2011	Previous Calibration	July 6, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:28	End Time (MST)	14:06
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		
273.9	273.7	1.0008	Correlation Coefficient	1.000000
185.7	185.6	1.0005		
99.9	99.7	1.0020	Slope	1.000773
			Intercept	0.005016

NO_2 Calibration Curve



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

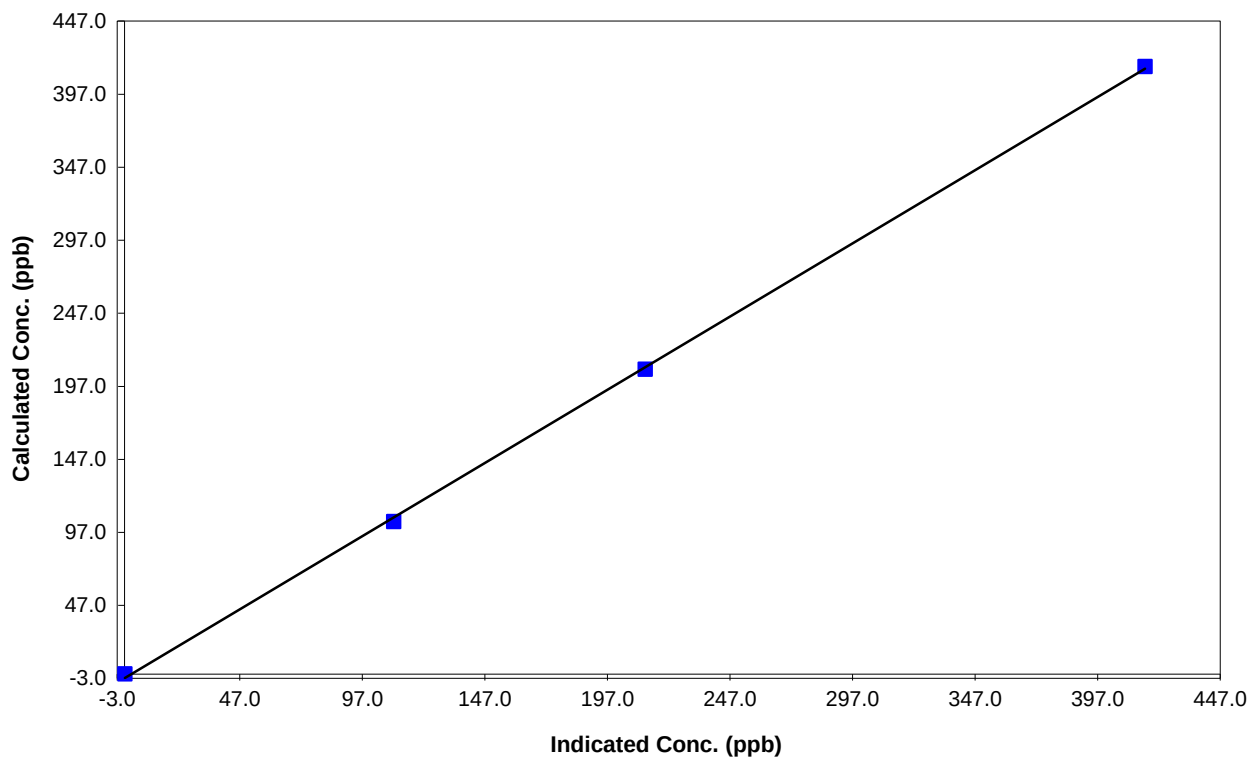
Station Information

Calibration Date	August 16, 2011	Previous Calibration	July 6, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:28	End Time (MST)	14:06
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		
415.9	416.3	0.9990	Correlation Coefficient	0.999797
208.7	212.4	0.9827		
104.4	109.8	0.9511	Slope	1.002310
			Intercept	-2.814795

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

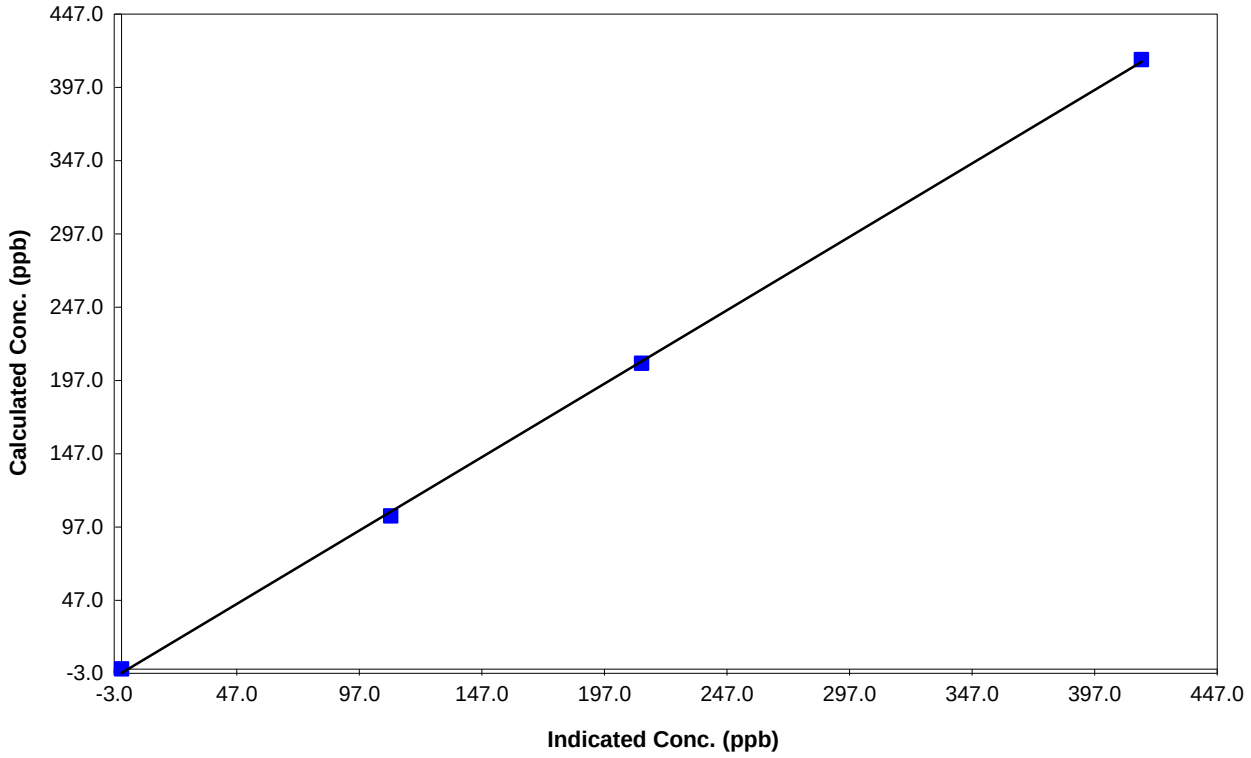
Station Information

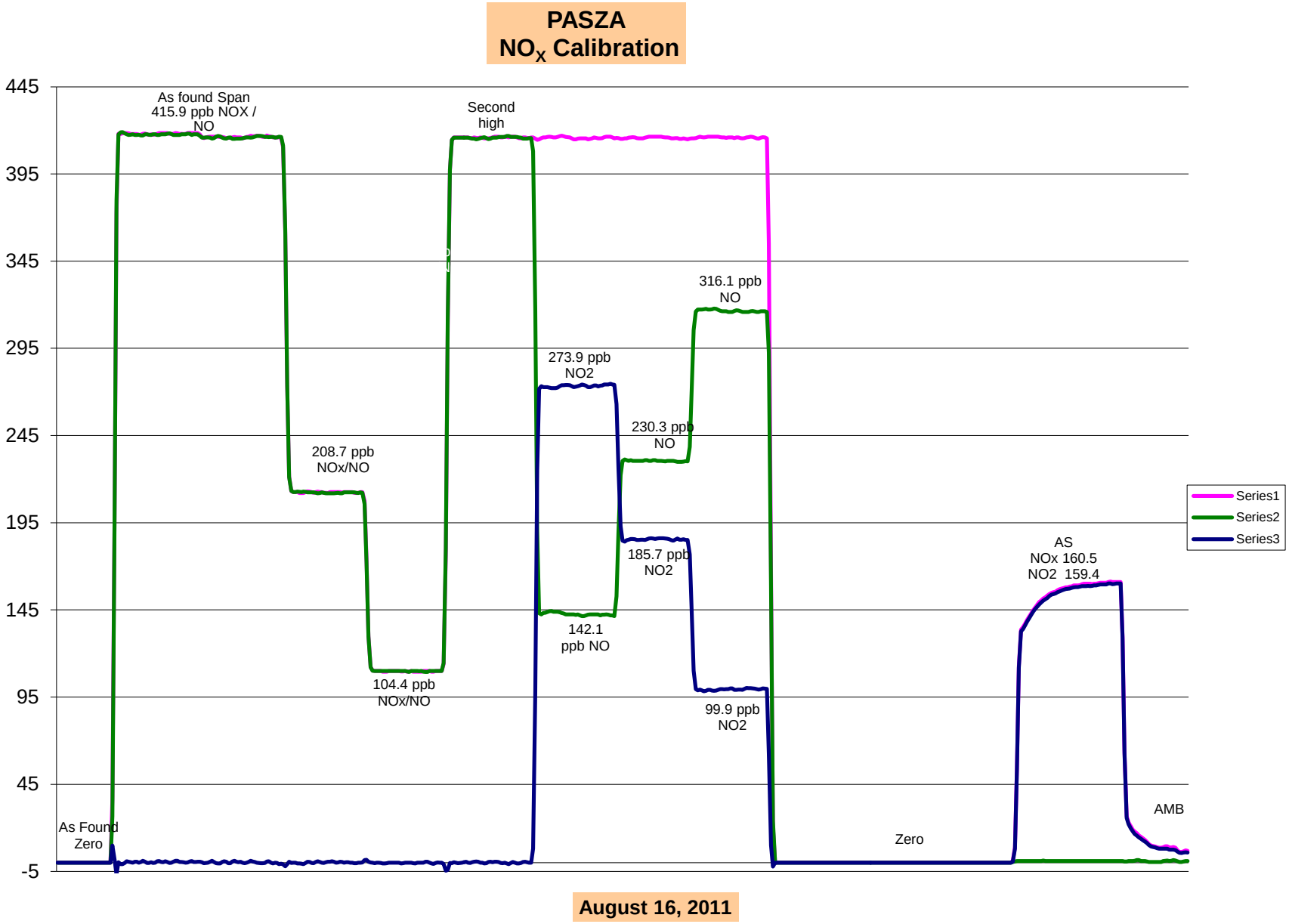
Calibration Date	August 16, 2011	Previous Calibration	July 6, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:28	End Time (MST)	14:06
Analyzer make	TEI 42C	Analyzer serial #	508011073

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
415.9	416.2	0.9994	Correlation Coefficient	0.999789
208.7	212.1	0.9837		
104.4	109.8	0.9508	Slope	1.002676
			Intercept	-2.765565

NO Calibration Curve




PASZA
NOX Calibration
445
395
345
295
245
195
145
95
45
-5
As found Span
415.9 ppb NOX /
NO
Second
high
316.1 ppb
NO
273.9 ppb
NO2
230.3 ppb
NO
208.7 ppb
NOx/NO
185.7 ppb
NO2
142.1
ppb NO
104.4 ppb
NOx/NO
99.9 ppb
NO2
AS
NOx 160.5
NO2 159.4
AMB
As Found
Zero
Zero
Series1
Series2
Series3
August 16, 2011

Calibration Report

Parameter **O3**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 16, 2011	Previous Calibration	July 6, 2011
Station Number	1	Station Location	Henry Pirker
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	12:25	End Time (MST)	14:42
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	1.007003	Calculated slope	1.000631
Calculated intercept	-0.684368	Calculated intercept	-0.089633
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	83242/72969	mV	83573/73208	mV
Pressure	690.3	inches Hg	689.1	inches Hg
Flow A	0.720	ccm	0.720	ccm
Flow B	0.738	ccm	0.737	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	0.2	N/A
300	4989	273.9	273.8	1.0003
200	4989	185.7	185.8	0.9993
100	4989	99.9	99.6	1.0028
0	4989	0.0	0.2	As found zero
300	4989	273.9	273.9	As found span
			Average Correction Factor	1.0008

Calculated value of As Found Response: 274.9 ppm Percent Change of As Found: 0.4%

	before calibration		after calibration	
Auto zero	0.3	ppb	0.3	ppb
Auto span	163.8	ppb	160.4	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **O3**

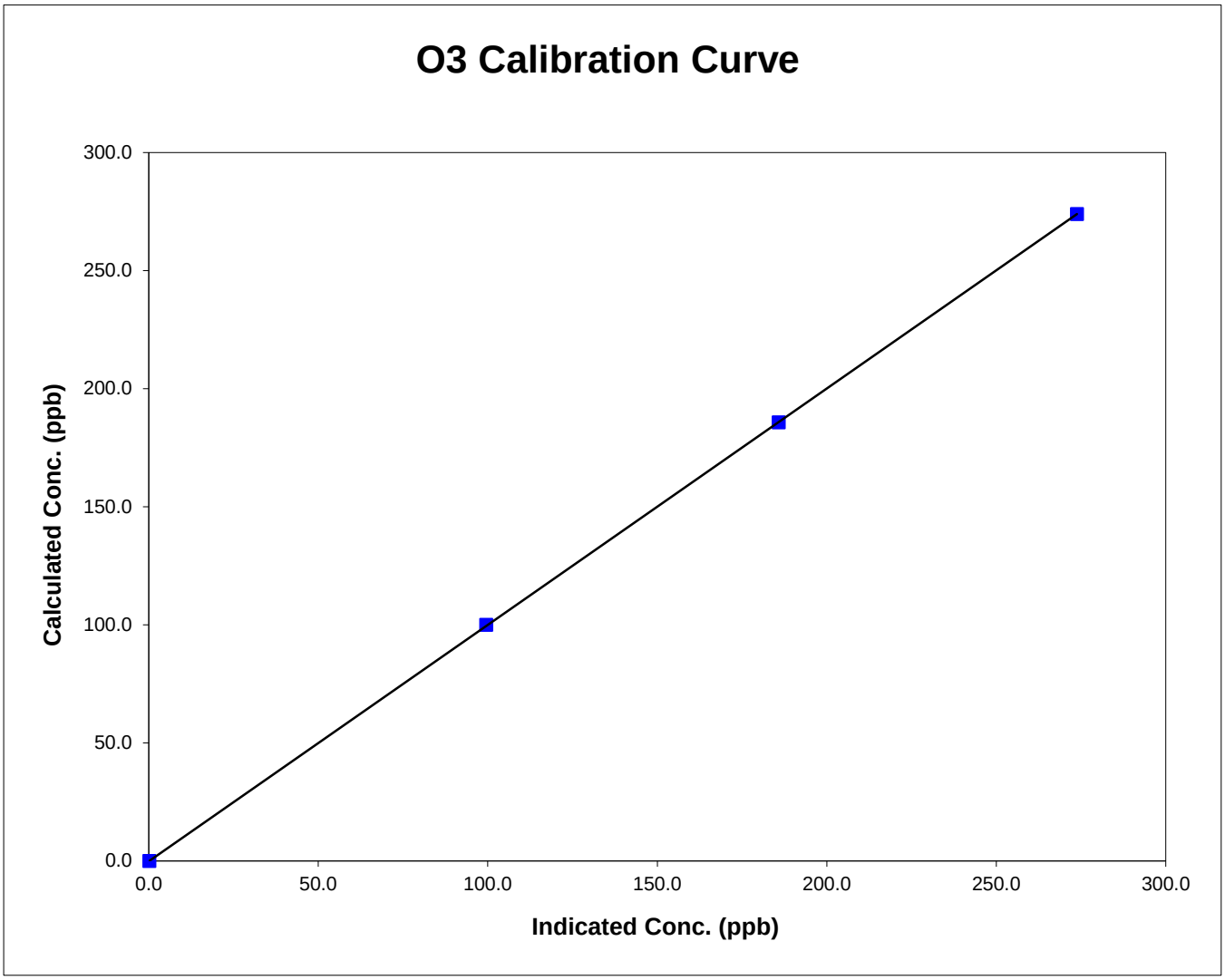
Air Monitoring Network **PASZA**

Station Information

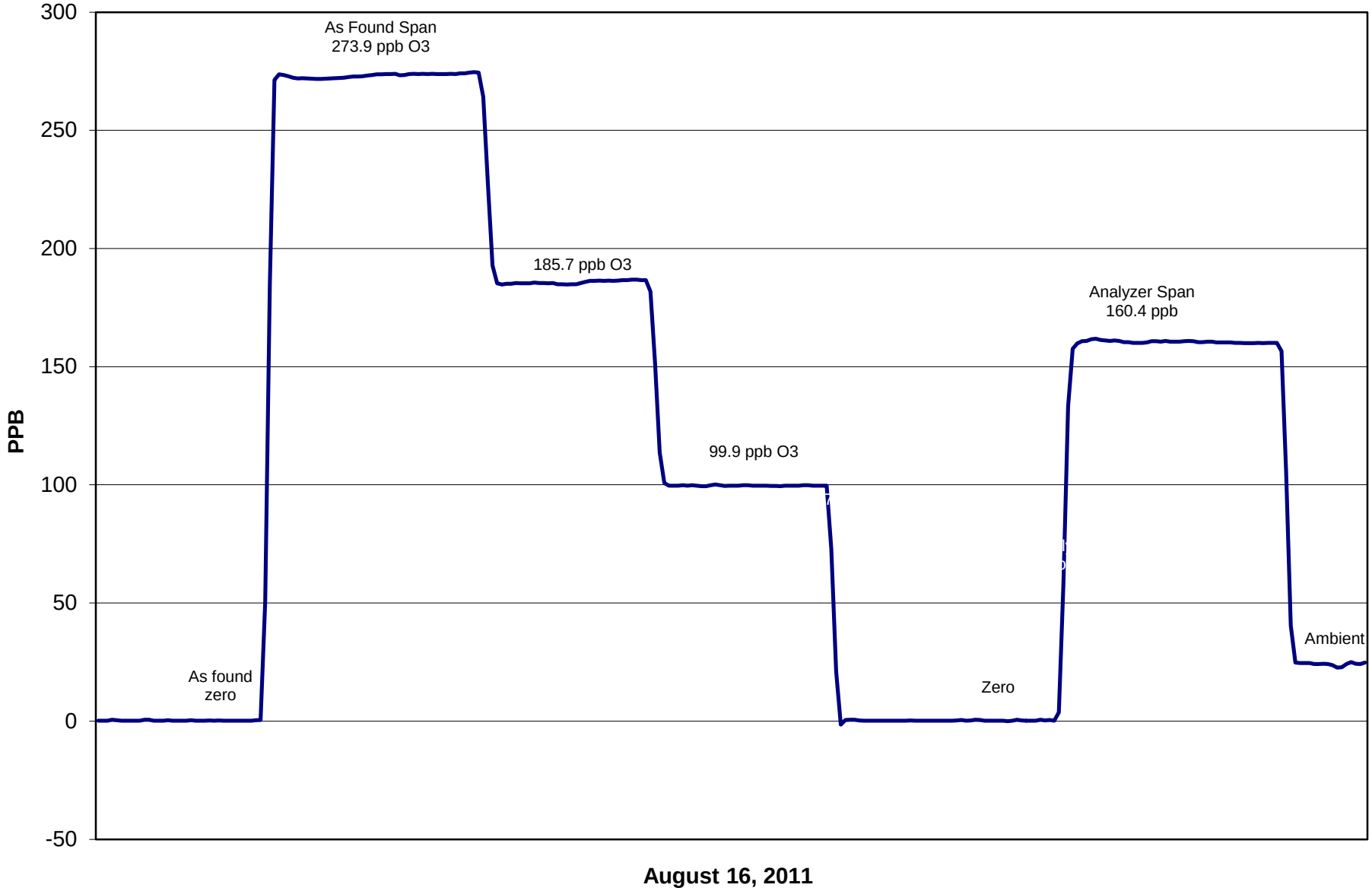
Calibration Date	August 16, 2011	Previous Calibration	July 6, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	12:25	End Time (MST)	14:42
Analyzer make/model	TECO 49C	Analyzer serial #	607415761

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	NA		
273.9	273.8	1.0003	Correlation Coefficient	0.999997
185.7	185.8	0.9993		
99.9	99.6	1.0028	Slope	1.000631
			Intercept	-0.089633



O3 Calibration



Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter: CO

Air Monitoring Network: PASZA

Station Information

Calibration Date	August 15, 2011	Previous Calibration	July 15, 2011
Station Number	1	Station Location	Henry Pirker
Reason: Routine	Install	Removal	Other:
Start Time (MST)	9:40	End Time (MST)	11:48
Barometric Pressure	0.921 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics	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	1.005526	Calculated slope	1.000970
Calculated intercept	-0.199148	Calculated intercept	-0.453505
Analyzer make	TEI Model 48C	Analyzer serial #	508011062

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO span setting	1.105		1.088	
CO zero setting	0.958		0.945	
Sample pressure	684.2	mm Hg	682.1	mm Hg
Sample Flow	1.143	LPM	1.140	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	0.36	N/A
4988	39.83	23.77	24.15	0.9841
4988	19.91	11.93	12.41	0.9612
4988	9.93	5.96	6.51	0.9156
4988	0.00	0.00	0.36	As Found Zero
4988	39.83	23.77	24.68	As Found Span
			Average Correction Factor	0.9536

Calculated value of As Found Response: 24.260 ppm

Percent Change of As Found: -2.1%

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	19.56	ppm	19.63	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **CO**

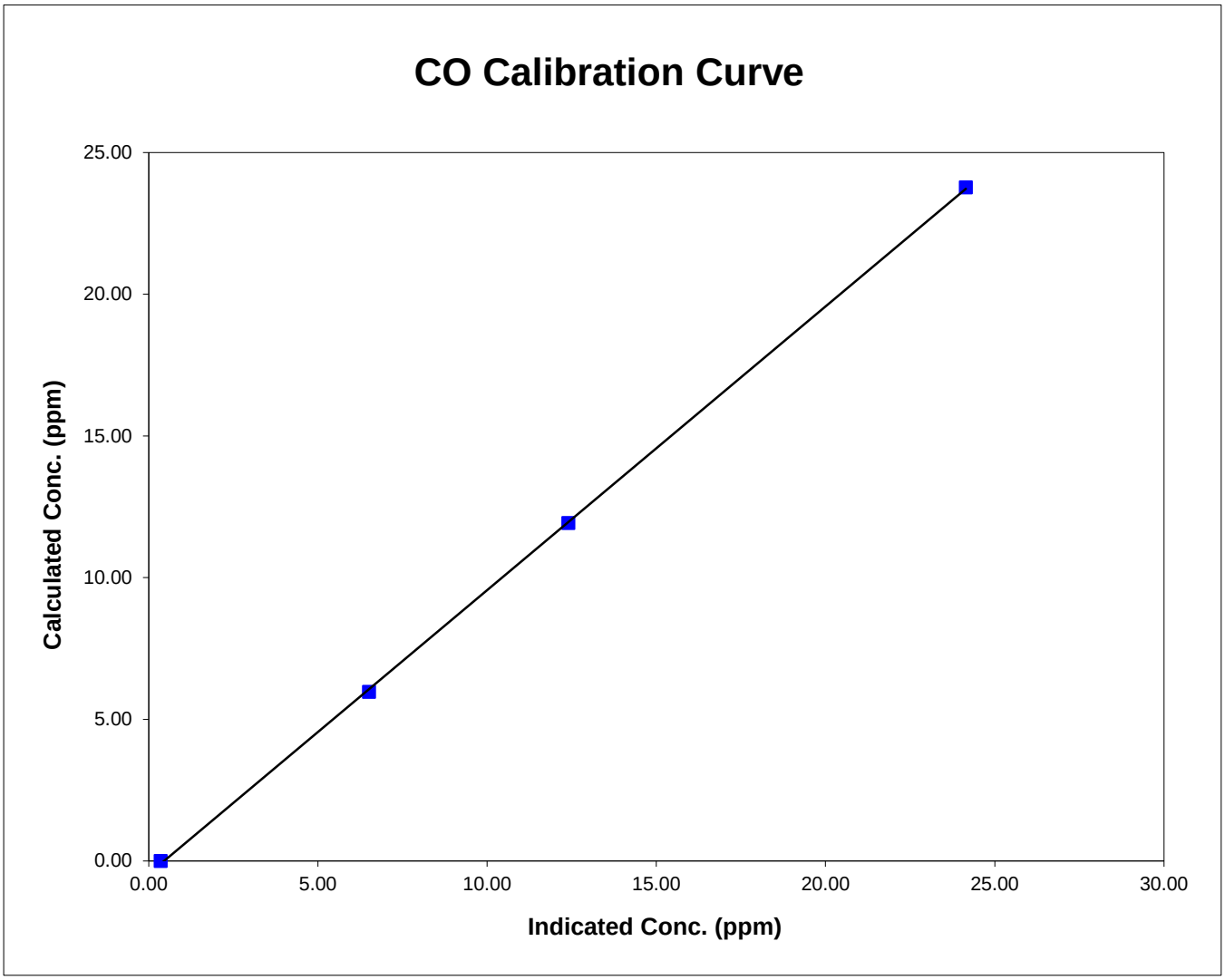
Air Monitoring Network **PASZA**

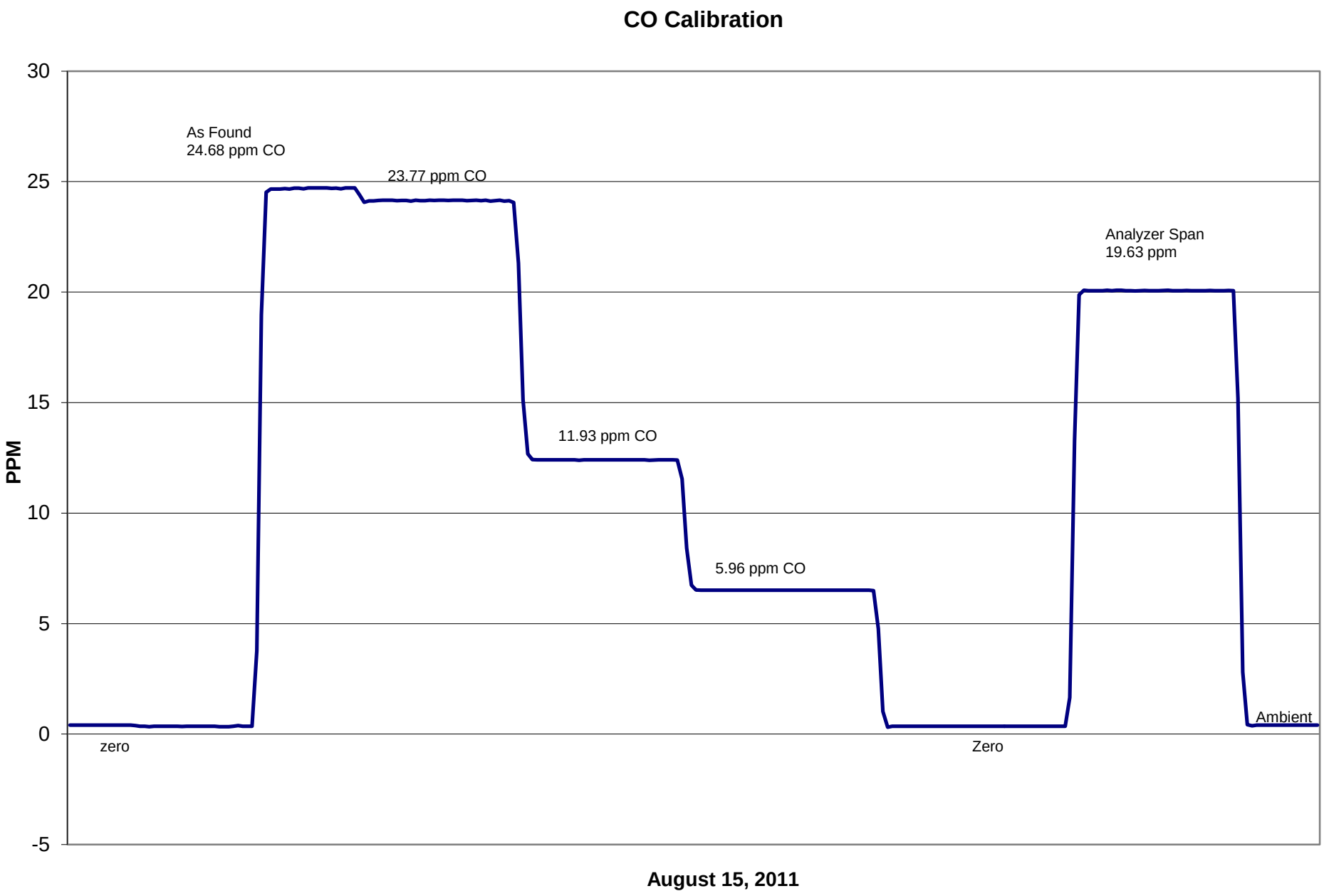
Station Information

Calibration Date	August 15, 2011	Previous Calibration	July 15, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	9:40	End Time (MST)	11:48
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	0.358	N/A		
23.766	24.149	0.9841	Correlation Coefficient	0.999924
11.927	12.408	0.9612		
5.960	6.510	0.9156	Slope	1.000970
			Intercept	-0.453505




CO Calibration
30
25
20
15
10
5
0
-5
PPM
As Found
24.68 ppm CO
23.77 ppm CO
11.93 ppm CO
5.96 ppm CO
Analyzer Span
19.63 ppm
Ambient
zero
Zero
August 15, 2011

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **THC**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	August 15, 2011	Previous Calibration	July 6, 2011
Station Number	1	Station Location	Henry Pirker
Reason: Routine	Install	Removal	Other:
Start Time (MST)	11:00	End Time (MST)	13:26
Barometric Pressure	0.921 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentratior	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	1.064470	Calculated slope	1.066619
Calculated intercept	-0.041168	Calculated intercept	-0.039183
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	9616	capture	9616	capture
THC zero counts	447	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	69.79	21.02	19.76	1.0638
4988	29.87	9.07	8.48	1.0688
4988	9.92	3.02	2.93	1.0329
4988	0.00	0.00	0.02	As Found Zero
4988	69.75	21.01	19.76	As Found Span
			Average Correction Factor	1.0552

Calculated value of As Found Response: 20.969 ppm Percent Change of As Found: 0.2%

	before calibration		after calibration	
Auto zero	0.10	ppm	-0.02	ppm
Auto span	22.27	ppm	21.70	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **THC**

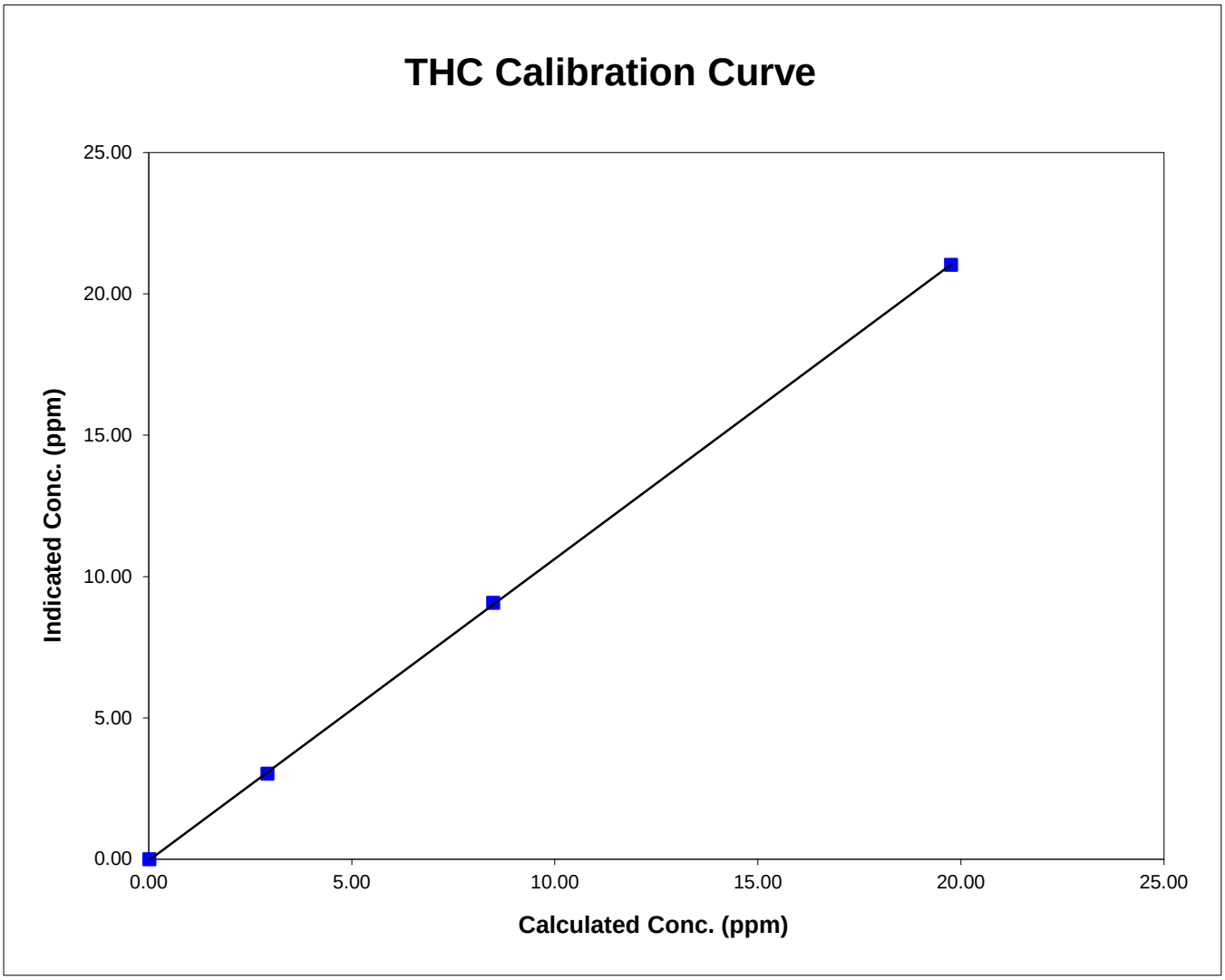
Air Monitoring Network **PASZA**

Station Information

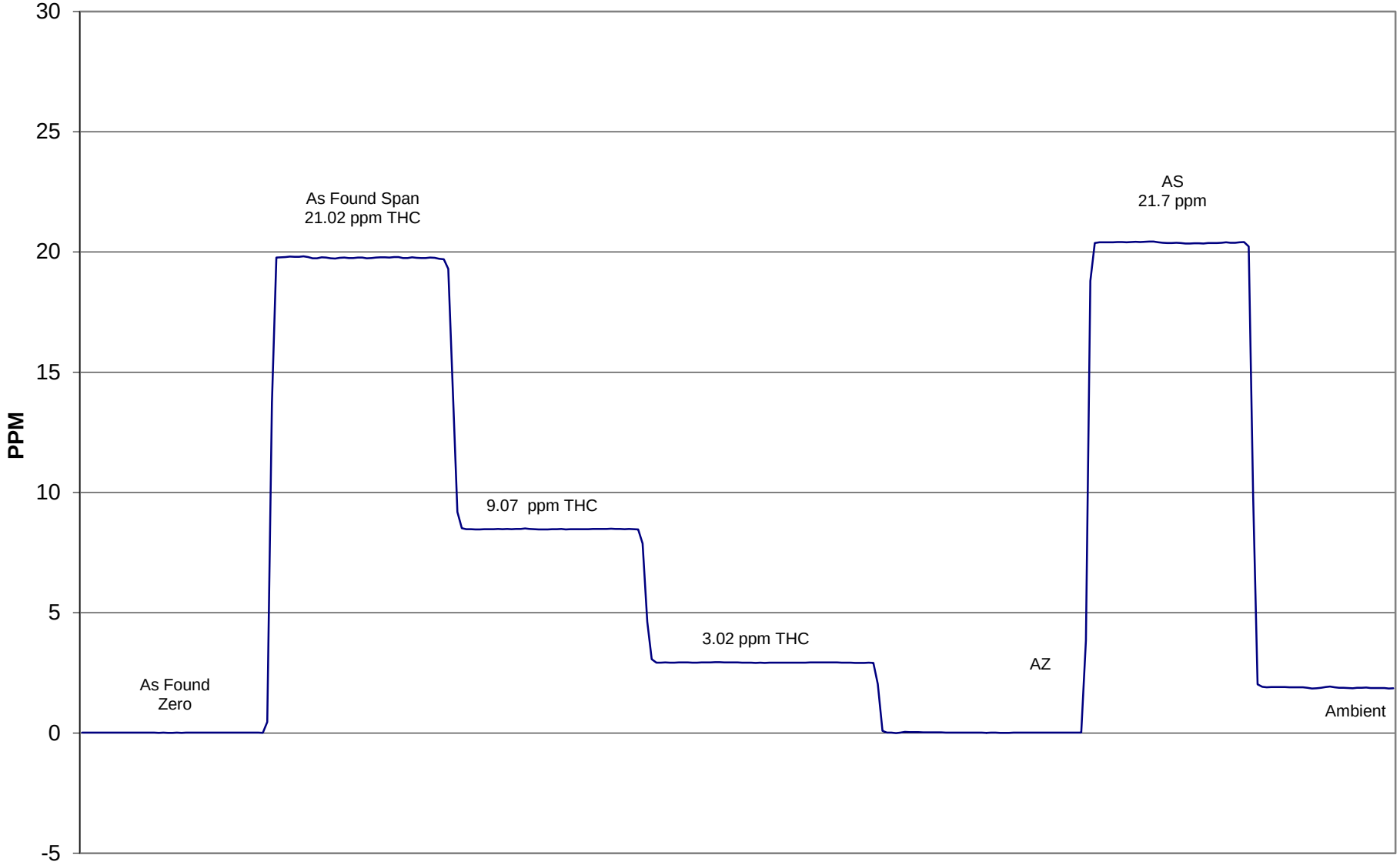
Calibration Date	August 15, 2011	Previous Calibration	July 6, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:00	End Time (MST)	13:26
Analyzer make/model	TEI Model 51C-LT	Analyzer serial #	51CLT-79009-390

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.020	N/A		
21.019	19.758	1.0638	Correlation Coefficient	0.999971
9.067	8.483	1.0688		
3.023	2.927	1.0329	Slope	1.066619
			Intercept	-0.039183



THC Calibration



August 15, 2011

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **TRS**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	August 15, 2011	Previous Calibration	July 6, 2011
Station Number	1	Station Location	Henry Pirker
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	7:55	End Time (MST)	10:30
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	1.015068	Calculated slope	0.995506
Calculated intercept	0.153130	Calculated intercept	0.065331
Analyzer make	TEI 45C	Analyzer serial #	630718528

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Coefficient	1.081		1.099	
Background	11.0		11.2	
Pressure	655.1	mm Hg	652.0	mm Hg
Flow	0.455	ccm	0.453	ccm
Lamp Voltage	819	V	820	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	-0.28	N/A
4989	69.78	79.59	79.73	0.9982
4989	34.88	40.06	40.45	0.9903
4989	8.96	10.34	10.41	0.9934
4989	0.00	0.00	-0.28	As Found Zero
4989	69.78	79.59	78.65	As Found Span
			Average Correction Factor	0.9940

Calculated value of As Found Response: 80.3 ppb Percent Change of As Found: -0.8%

	before calibration		after calibration	
Auto zero	-0.29	ppb	0.03	ppb
Auto span	33.60	ppb	34.02	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **TRS**

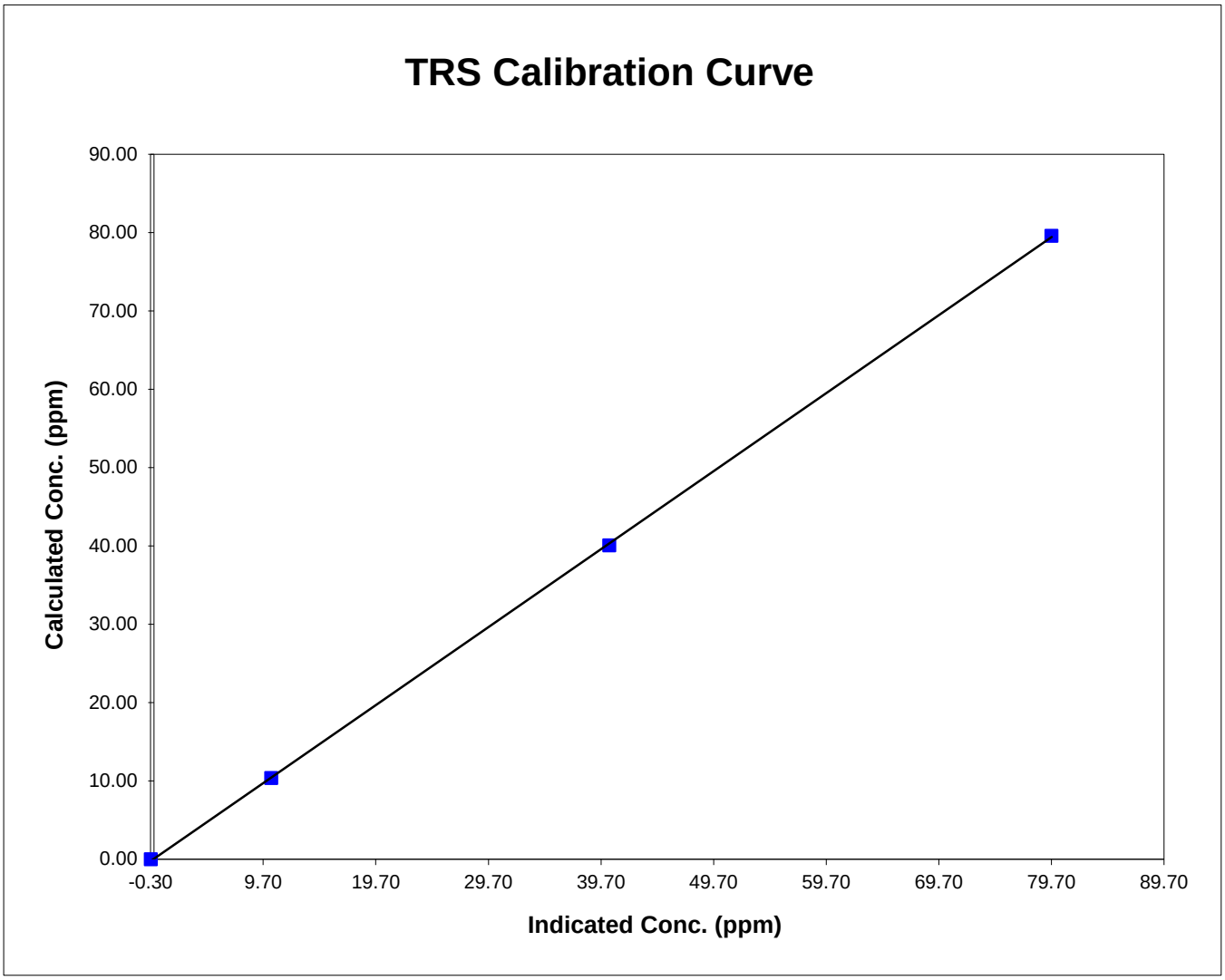
Air Monitoring Network **PASZA**

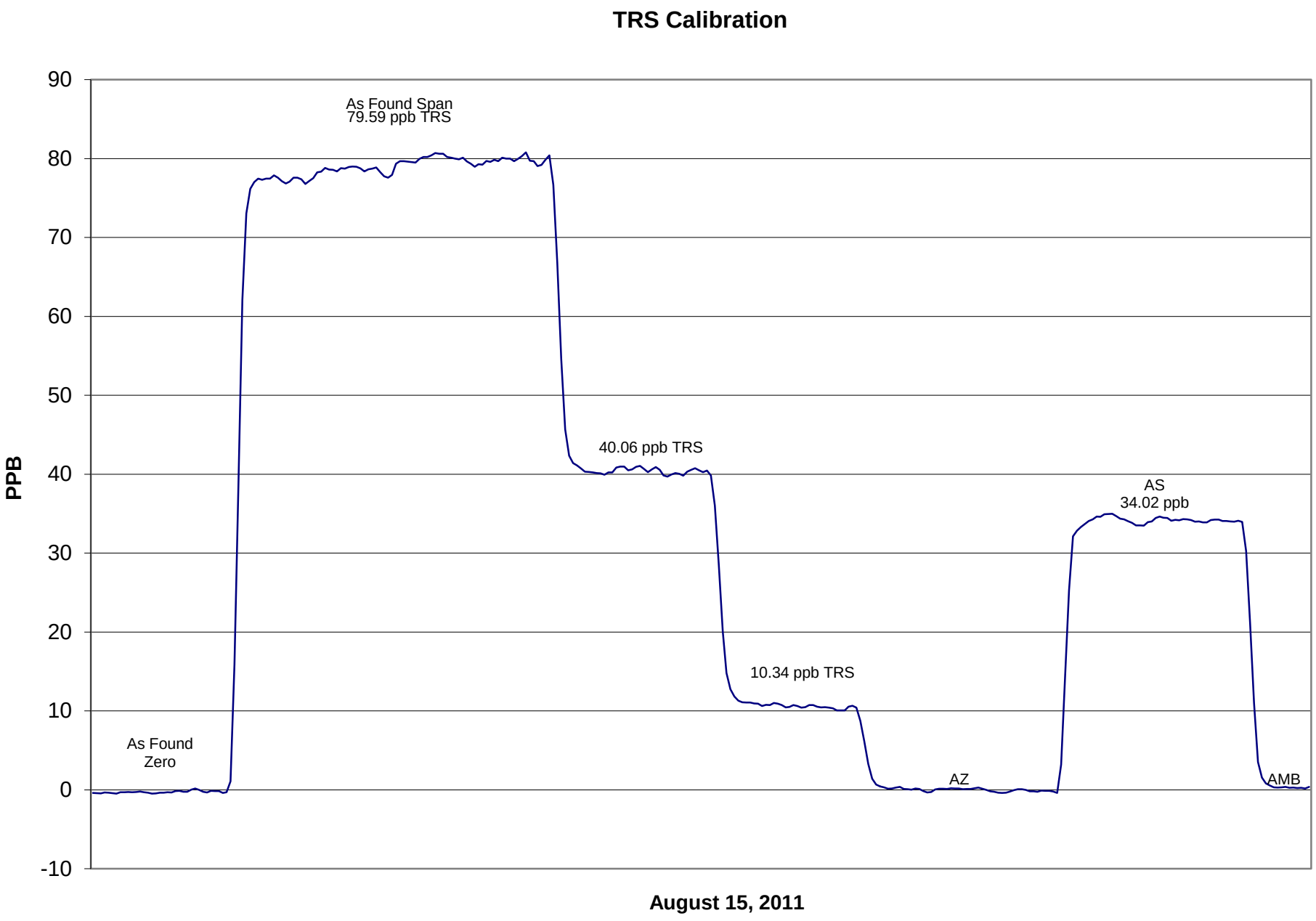
Station Information

Calibration Date	August 15, 2011	Previous Calibration	July 6, 2011
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	7:55	End Time (MST)	10:30
Analyzer make/model	TEI 45C	Analyzer serial #	630718528

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	-0.277	N/A		
79.590	79.732	0.9982	Correlation Coefficient	0.999961
40.060	40.451	0.9903		
10.344	10.412	0.9934	Slope	0.995506
			Intercept	0.065331




TRS Calibration
90
80
70
60
50
40
30
20
10
0
-10
PPB
As Found Span
79.59 ppb TRS
40.06 ppb TRS
10.34 ppb TRS
AS
34.02 ppb
As Found
Zero
AZ
AMB
August 15, 2011

FDMS AB TEOM PM2.5 AUDIT

FOCUS
AIR QUALITY MONITORING

STATION: **Henry Pirker**

LOCATION: PASZA - Grande Prairie

OPERATOR: Grover Christiansen

DATE: 8/18/2011

MONITOR INFO / PARAMETER VALUES:

Make/Model	TEOM AB
Configuration	PM2.5
Serial Number	AMU 1697
Site Number	1
Inlet Type	PM 10 / VSCC
FAdj. Main Setting	1.000
FAdj. Aux. Setting	1.000
T-Case Indicated / Set Point	30/30
T-Air Indicated / Set Point	30/30
T-Cap Indicated / Set Point	30/30
Splitter Assembly Alignment (cm)	15.5

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

RECENT CALIBRATION AND AUDIT HISTORY

Previous Audit	5/26/2011
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	0.020	0.050
PUMP OFF	0.010	0.020
NET	0.010	0.030
LIMITS	*<0.15*	*<0.60*

]

		Ambient Temp. (^{0} C)	Ambient Pres. (atm)	Ko *	Bypass flow (lpm)	Sample flow (lpm)
	SET POINT (S)	na	na	12557	13.67	3.000
	INDICATED (I)	15.2	0.927		13.67	3.000
As Found Data	MEASURED (AF)	16.1	0.925		13.68	3.003
Adjusted Data	MEASURED (M)	16.1	0.925	12282	13.68	3.003
	DIFFERENCE (M-I)	0.9	-0.002	-2.2%	0.07	0.10
	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

Leak check was performed on both reference & Base valves 8500C FDMS - OK.

Leak Check; Reference: Main: 0.08 Auxillery: 0.28

Base: Main: 0.08 Auxillery: 0.30

Sample Head Inspection Or Cleaning: TEOM / FDMS IN LINE FILTER INSPECTION OR REPLAC

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **SO_2**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	August 23, 2011	Previous Calibration	July 19, 2011
Station Number	2	Station Location	Evergreen Park
Reason: Routine	Install	Removal	Other:

Start Time (MST)	10:33	End Time (MST)	16:11
Barometric Pressure	0.907 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics	Serial Number	3474
Cal Gas Concentratior	49.8 ppm	Cal Gas Expiry Date	3/28/2013
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	1.005853	Calculated slope	0.997314
Calculated intercept	2.040540	Calculated intercept	-0.494047

Analyzer make	Teco 43i	Analyzer serial #	701120008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	11.4		11	
coefficient	1.094		1.06	
Lamp Voltage	826	volts	827	volts
Chamber Temp	45.2	Deg C	45.2	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	663.8	mm Hg	668.9	mm Hg
Sample Flow	0.452	ccm	0.454	ccm
Lamp Intensity	90	%	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	39.84	394.5	396.5	0.9951
4989	20.15	200.3	200.1	1.0010
4989	10.10	100.6	102.4	0.9827
4989	0.0	0.0	0.4	As Found Zero
4989	40.20	398.1	406.0	As Found Span
			Average Correction Factor	0.9930

Calculated value of As Found Response: 410.088 ppm Percent Change of As Found: -3.0%

	before calibration		after calibration	
Auto zero	0.6	ppm	0.2	ppm
Auto span	292.7	ppm	284.4	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

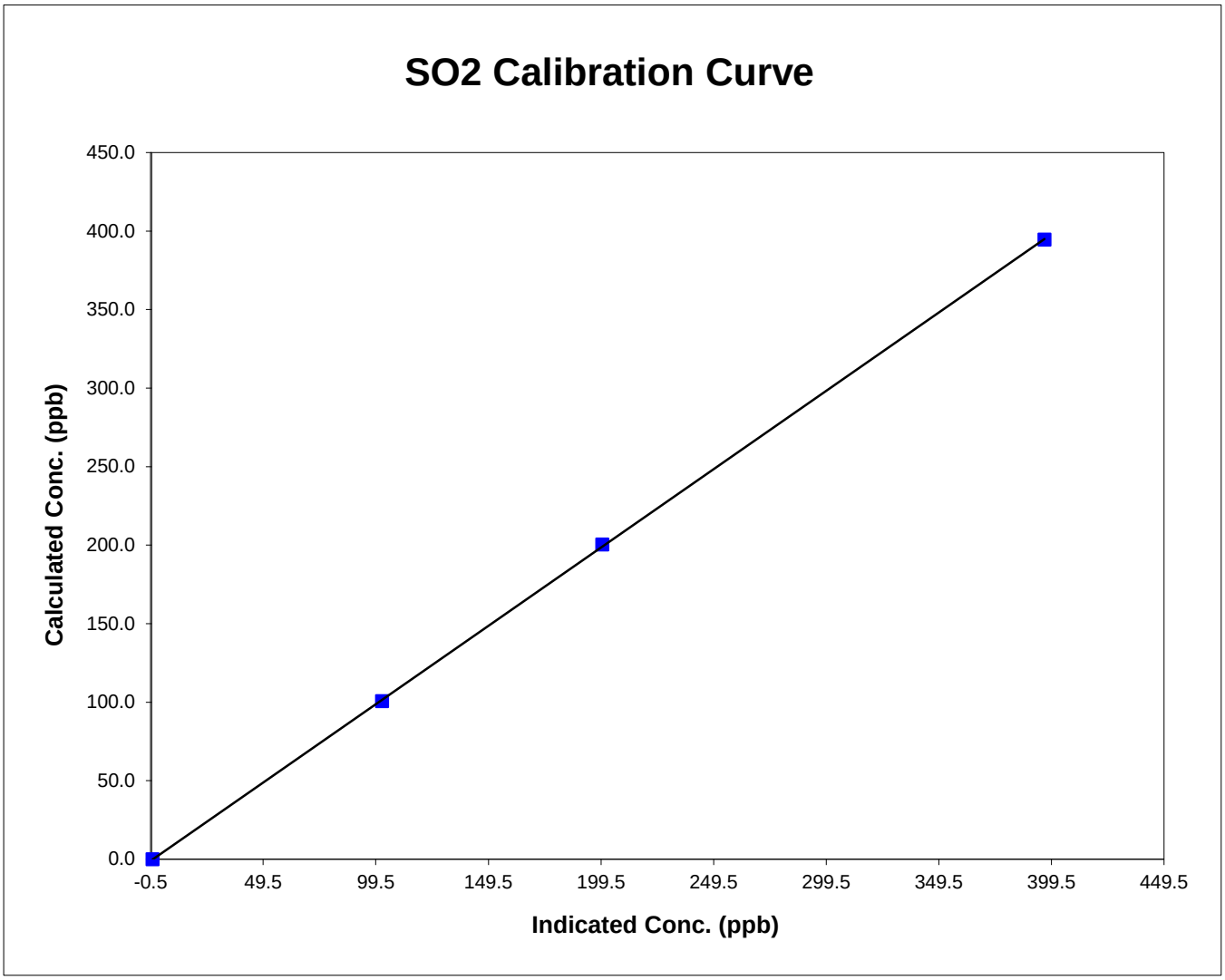
Air Monitoring Network **PASZA**

Station Information

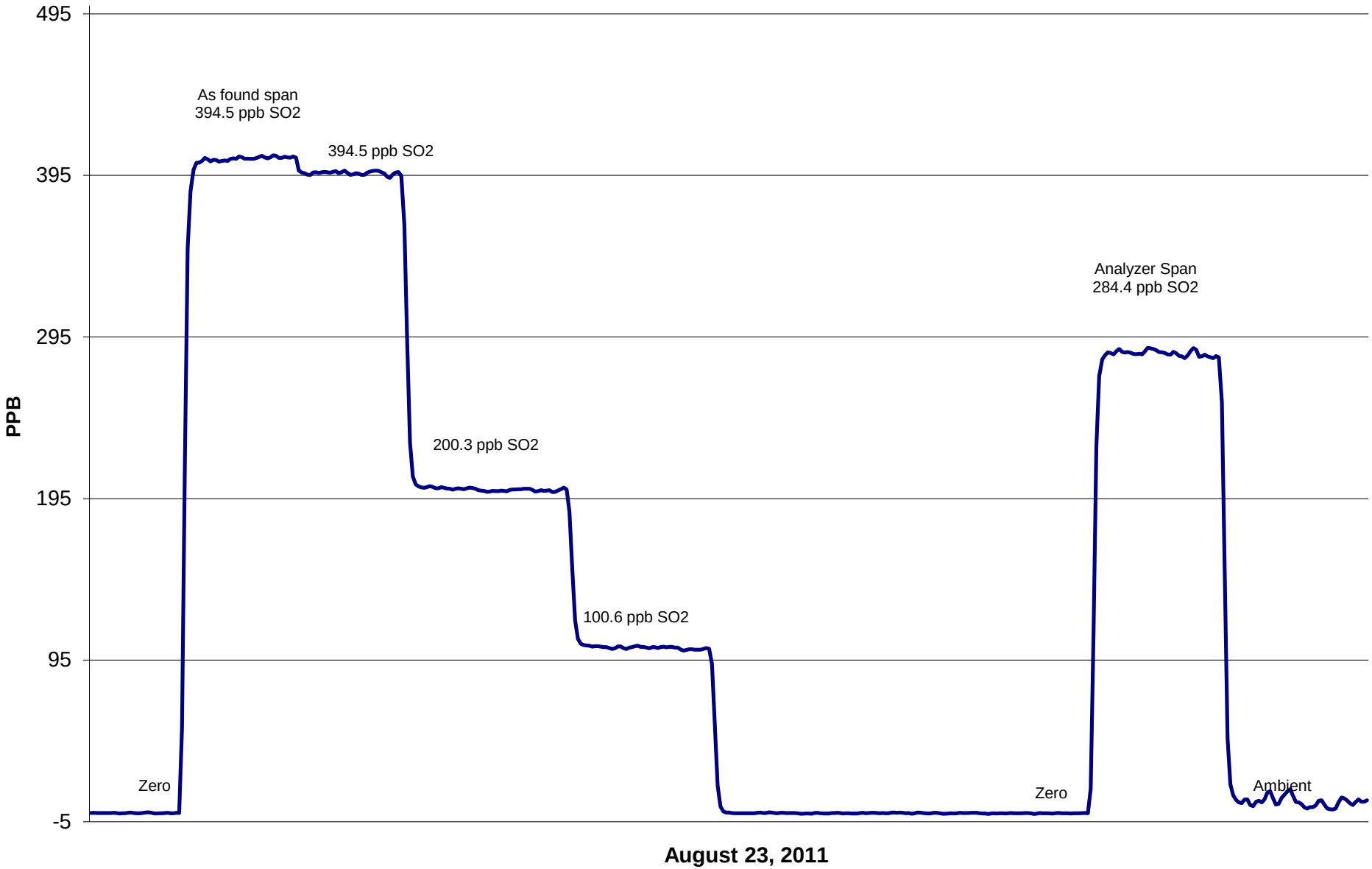
Calibration Date	August 23, 2011	Previous Calibration	July 19, 2011
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	10:33	End Time (MST)	16:11
Analyzer make/model	Teco 43i	Analyzer serial #	701120008

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A		
394.5	396.5	0.9951	Correlation Coefficient	0.999969
200.3	200.1	1.0010		
100.6	102.4	0.9827	Slope	0.997314
			Intercept	-0.494047



SO2 Calibration



Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **TRS**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	August 23, 2011	Previous Calibration	July 18, 2011
Station Number	2	Station Location	Evergreen Park
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	8:46	End Time (MST)	11:24
Barometric Pressure	0.919 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics	Serial Number	3474
Cal Gas Conc	5.77 ppm	Cal Gas Expiry Date	9/3/2011
Correction factor	0.031239	Cal Gas Cylinder #	BLM001434
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
Calculated slope	0.986986	Calculated slope	1.004012
Calculated intercept	0.757573	Calculated intercept	-0.218202
Analyzer make	TEI Model 43C	Analyzer serial #	436610005

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	19.7	ppb	19.3	ppb
coefficient	0.991		0.952	
Lamp Voltage	805	volts	805	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45.01	Deg C	45.01	Deg C
Pressure	641.8	mm Hg	641.4	mm Hg
Sample Flow	0.476	ccm	0.476	ccm
Lamp Intensity	45,611	mv	45,523	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)
4989	0.00	0.00	0.4	N/A
4989	69.79	79.60	79.6	0.9997
4989	34.87	40.05	39.9	1.0047
4989	8.96	10.34	10.5	0.9856
4989	0.00	0.00	0.3	As Found Zero
4989	69.79	79.60	82.4	As Found Span
			Average Correction Factor	0.9967

Calculated value of As Found Response: 81.74 ppm Percent Change of As Found: -2.7%

	before calibration		after calibration	
Auto zero	0.2	ppm	-0.5	ppm
Auto span	71.9	ppm	72.7	ppm

Notes: Adjusted Span

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **TRS**

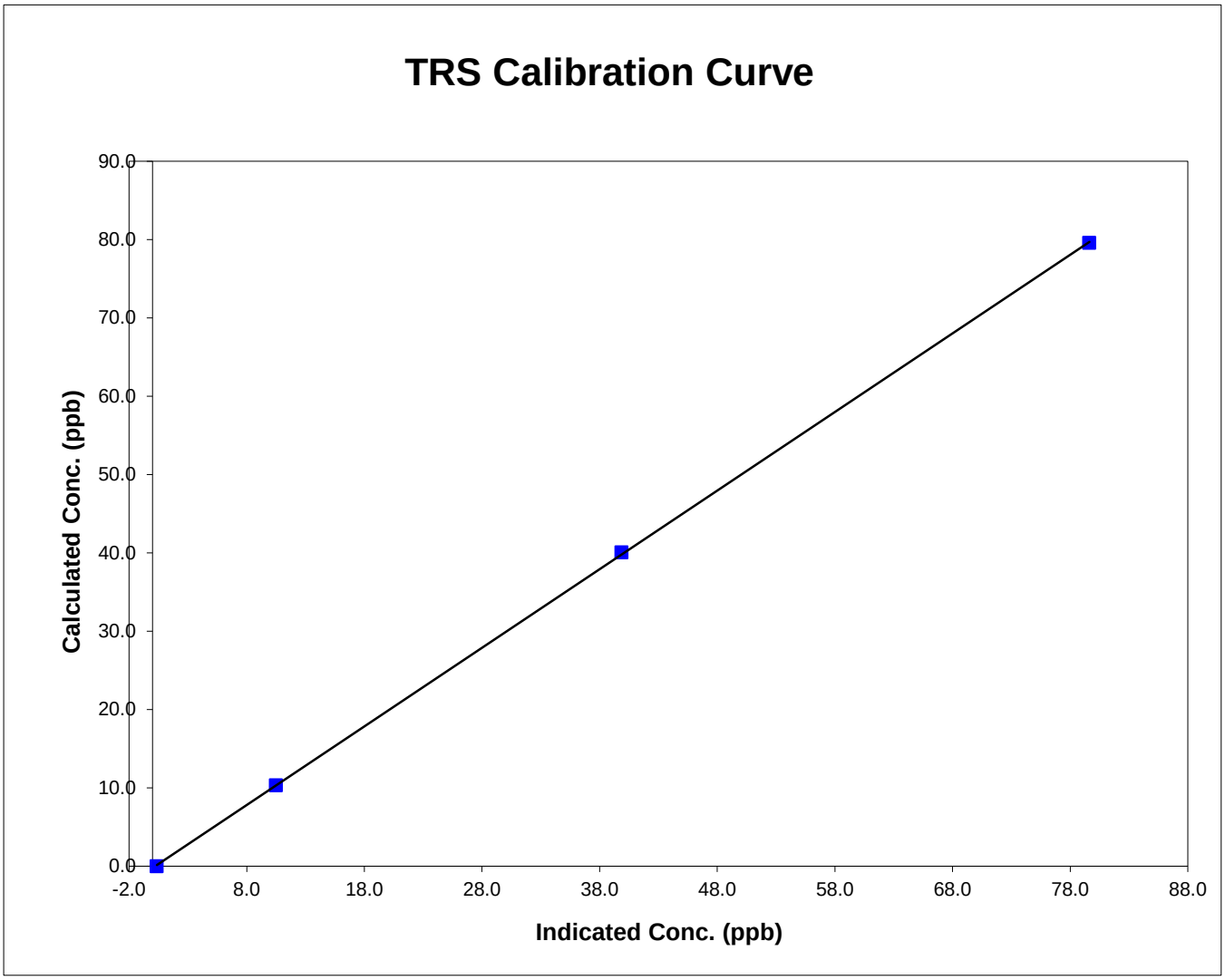
Air Monitoring Network **PASZA**

Station Information

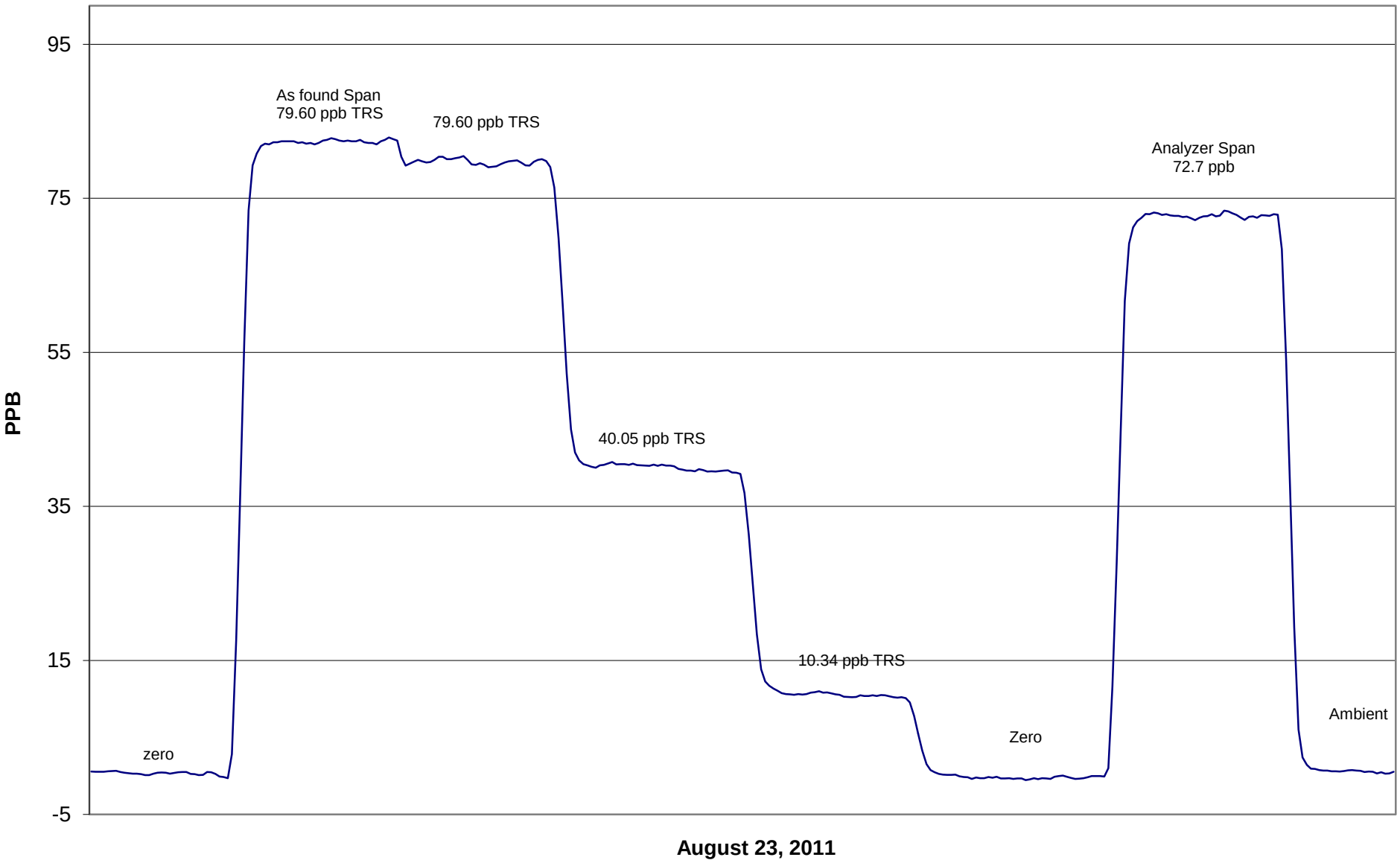
Calibration Date	August 23, 2011	Previous Calibration	July 18, 2011
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	8:46	End Time (MST)	11:24
Analyzer make/model	TEI Model 43C	Analyzer serial #	436610005

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A		
79.6	79.6	0.9997	Correlation Coefficient	0.999974
40.0	39.9	1.0047		
10.3	10.5	0.9856	Slope	1.004012
			Intercept	-0.218202



TRS Calibration



AB TEOM PM2.5 Calibration

FOCUS AIR QUALITY MONITORING

STATION: **Evergreen Park**

LOCATION: PASZA - Grande Prairie

OPERATOR: Grover Christiansen

DATE: 23-Aug-11

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	18-Jul-11
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	0.040	0.050
PUMP OFF	-0.010	-0.010
NET	0.050	0.060
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)	19.8	0.920		13.67	3.000
As Found Data	MEASURED (AF)	20.0	0.922		13.68	3.000
Adjusted Data	MEASURED (M)	20.0	0.922	16238	13.68	3.000
	DIFFERENCE (M-I)	0.2	0.002	0.6%	0.07	0.13
	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.

Wrong O rings sent up for PM2.5 head. Will replace PM2.5 head with spare until proper parts arrive.

Cleaned Sample Head

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

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **SO_2**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	August 19, 2011	Previous Calibration	July 27, 2011
Station Number	3	Station Location	Smokey Heights
Reason: Routine	Install	Removal	Other:

Start Time (MST)	10:35	End Time (MST)	14:32
Barometric Pressure	0.927 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentratior	49.8 ppm	Cal Gas Cert Date	3/28/2011
Correction factor	0.031511	Cal Gas Cylinder #	LL85275
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	0.997012	Calculated slope	1.001950
Calculated intercept	-0.984123	Calculated intercept	-2.689439

Analyzer make	Teco 43i	Analyzer serial #	701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	9.8		9.6	
coefficient	0.964		0.951	
Lamp Voltage	919	volts	920	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	672	mm Hg	675	mm Hg
Sample Flow	0.443	ccm	0.446	ccm
Lamp Intensity	89	%	87	%

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	0.0	0.2	N/A
4989	39.9	394.6	395.1	0.9989
4989	19.9	198.0	202.0	0.9800
4989	10.0	99.1	103.8	0.9547
4989	0.0	0.0	0.2	As Found Zero
4989	39.9	394.6	399.6	As Found Span
			Average Correction Factor	0.9779

Calculated value of As Found Response: 397.176 ppm Percent Change of As Found: -0.6%

	before calibration		after calibration	
Auto zero	0.4	ppb	0.2	ppb
Auto span	326.7	ppb	320.8	ppb

Notes: Interrupted by auto zero/span.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

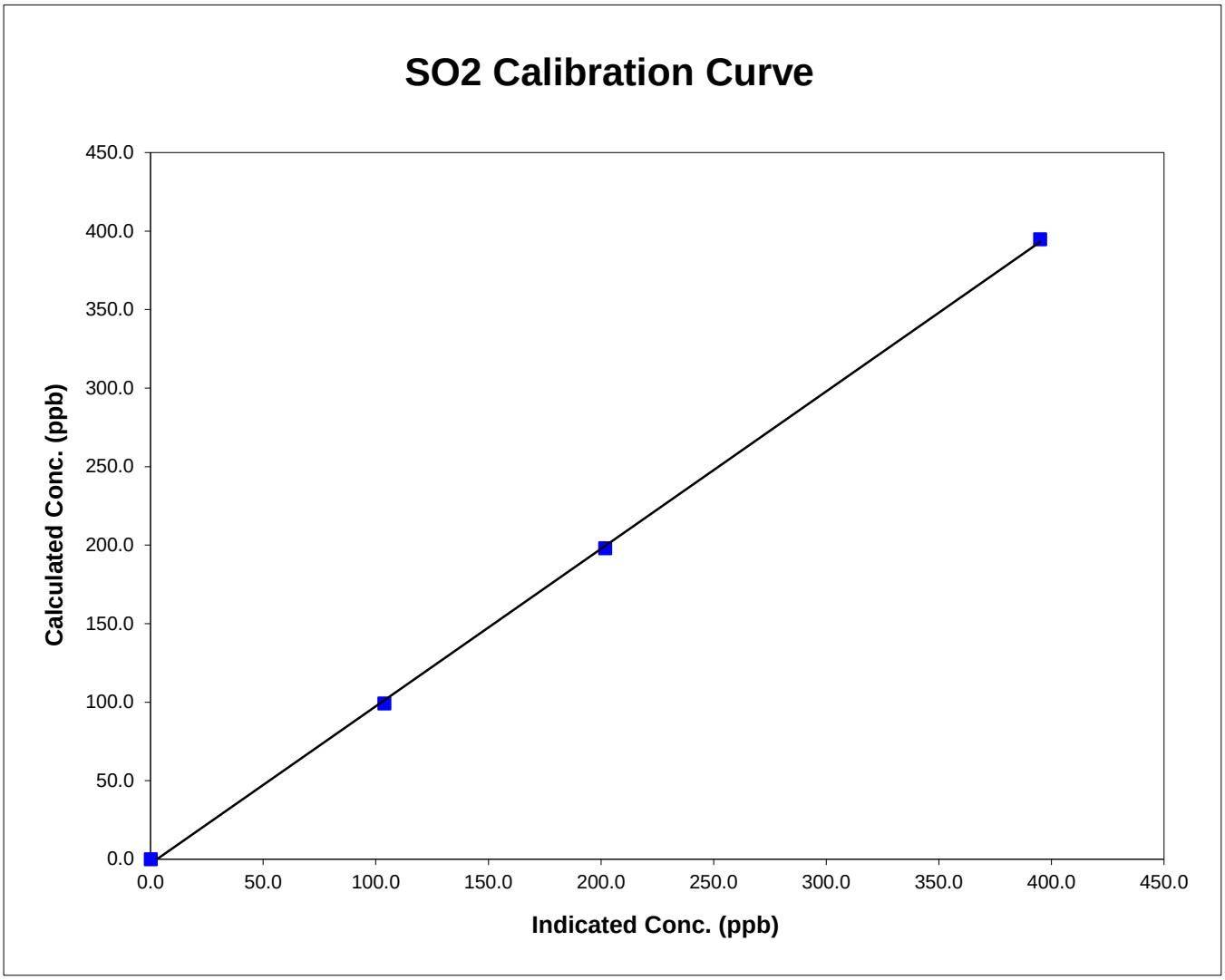
Air Monitoring Network **PASZA**

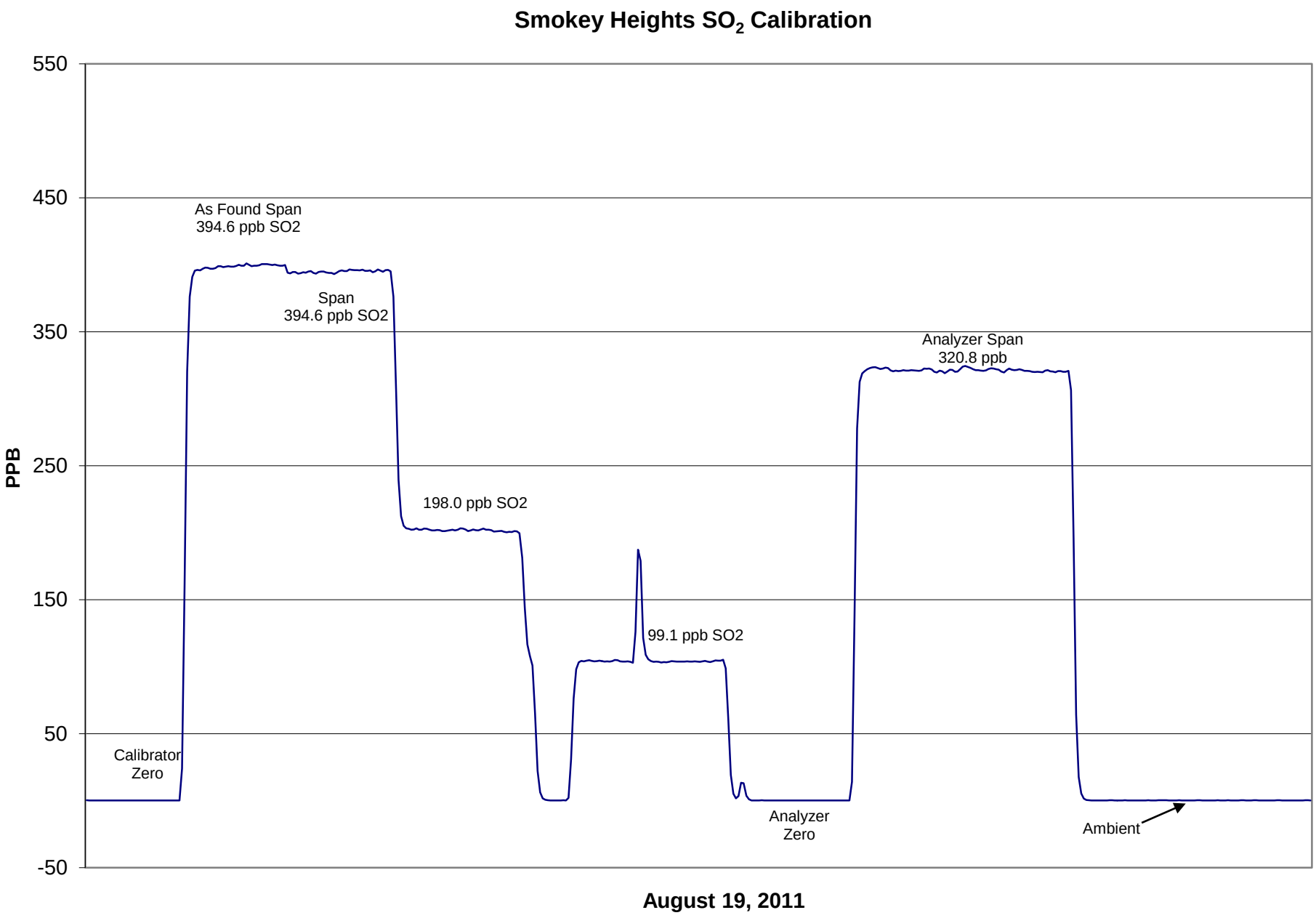
Station Information

Calibration Date	August 19, 2011	Previous Calibration	July 27, 2011
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	10:35	End Time (MST)	14:32
Analyzer make/model	Teco 43i	Analyzer serial #	701120009

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
394.6	395.1	0.9989	Correlation Coefficient	0.999809
198.0	202.0	0.9800		
99.1	103.8	0.9547	Slope	1.001950
			Intercept	-2.689439




Smokey Heights SO_2 Calibration
550
450
350
250
150
50
-50
PPB
As Found Span
394.6 ppb SO2
Span
394.6 ppb SO2
198.0 ppb SO2
99.1 ppb SO2
Analyzer Span
320.8 ppb
Calibrator
Zero
Analyzer
Zero
Ambient
August 19, 2011

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **TRS**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	August 19, 2011	Previous Calibration	July 27, 2011
Station Number	3	Station Location	Smokey Heights
Reason: Routine	Install	Removal	Other:

Start Time (MST)	9:14	End Time (MST)	11:34
Barometric Pressure	0.927 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	0.031511	Cal Gas Cylinder #	BLM001434
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
Calculated slope	0.995734	Calculated slope	0.999254
Calculated intercept	0.705473	Calculated intercept	0.021547

Analyzer make	TEI Model 43C	Analyzer serial #	0436610005

	before		after	
Concentration range	100	ppb	100	ppb
Background	17.5	ppb	17.2	ppb
coefficient	0.968		0.968	
Lamp Voltage	794	volts	796	volts
Chamber Temp	44	Deg C	44.99	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	554	mm Hg	553.9	mm Hg
Sample Flow	0.594	ccm	0.591	ccm
Lamp Intensity	35,203	mv	35,118	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	0.1	N/A
4989	69.79	79.60	79.7	0.9992
4989	34.88	40.06	40.1	0.9998
4989	8.96	10.34	10.2	1.0186
4989	0.0	0.00	0.1	As Found Zero
4989	69.79	79.60	79.7	As Found Span
			Average Correction Factor	1.0059

Calculated value of As Found Response: 79.90 ppm Percent Change of As Found: -0.4%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.4	ppm
Auto span	41.9	ppm	54.8	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **TRS**

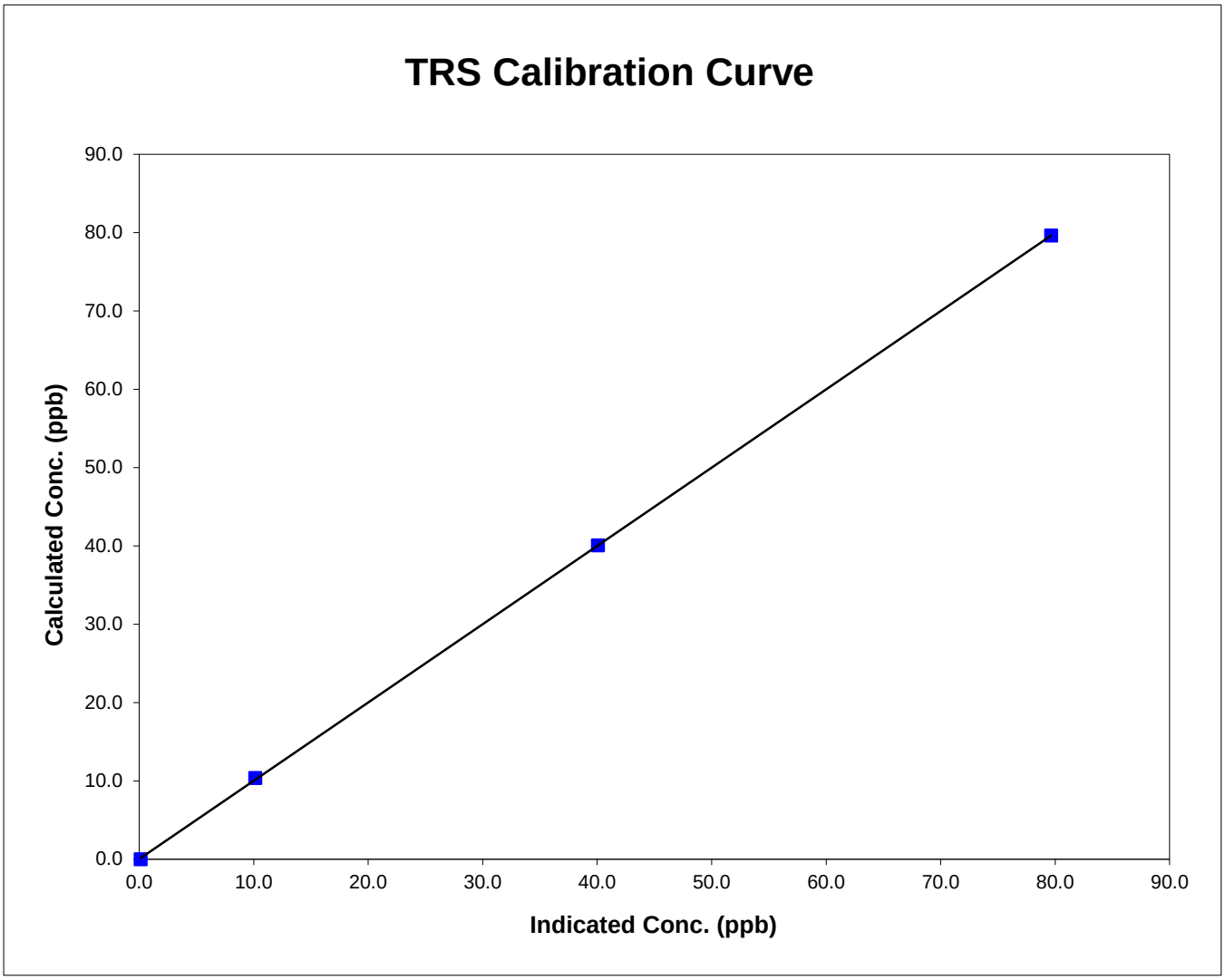
Air Monitoring Network **PASZA**

Station Information

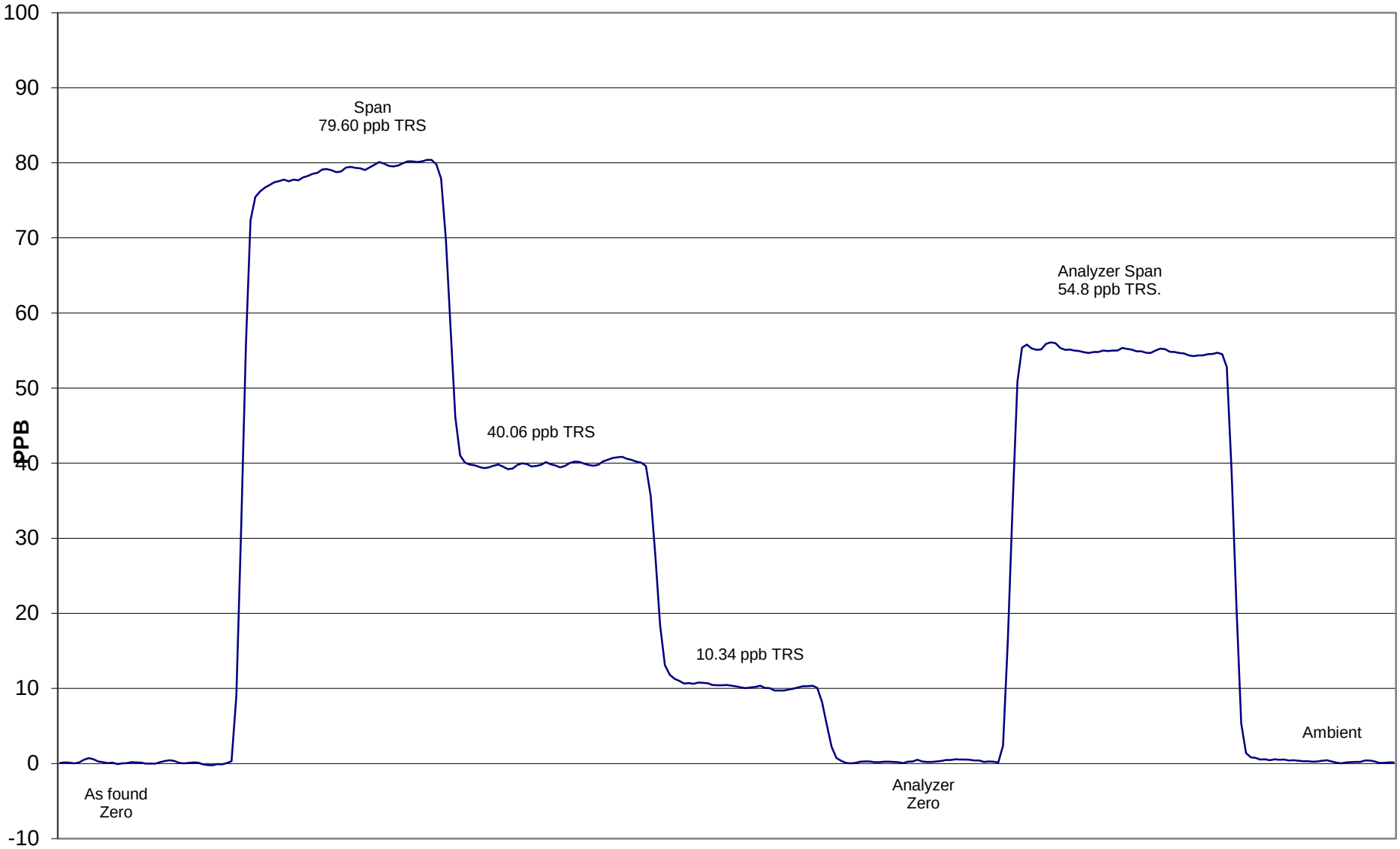
Calibration Date	August 19, 2011	Previous Calibration	July 27, 2011
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	9:14	End Time (MST)	11:34
Analyzer make/model	TEI Model 43C	Analyzer serial #	0436610005

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	N/A		
79.6	79.7	0.9992	Correlation Coefficient	0.999986
40.1	40.1	0.9998		
10.3	10.2	1.0186	Slope	0.999254
			Intercept	0.021547



Smokey Heights TRS Calibration



August 19, 2011

AB TEOM PM2.5 Calibration

FOCUS AIR QUALITY MONITORING

STATION: **Smokey Heights**

LOCATION: PASZA - Grande Prairie

OPERATOR: Grover Christansen

DATE: 19-Aug-11

MONITOR INFO / PARAMETER VALUES:

Make/Model	TEOM AB
Configuration	PM2.5
Serial Number	24634
Site Number	3
Inlet Type	PM 10 / SCC
FAdj. Main Setting	1.000
FAdj. Aux. Setting	1.000
T-Case Indicated / Set Point	40/40
T-Air Indicated / Set Point	40/40
T-Cap Indicated / Set Point	40/40
Splitter Assembly Alignment (cm)	15.5

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

RECENT CALIBRATION AND AUDIT HISTORY

Previous Audit	27-Jul-11
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	0.010	0.020
PUMP OFF	0.010	0.010
NET	0.000	0.010
LIMITS	*<0.15*	*<0.60*

		Ambient Temp. (^{0} C)	Ambient Pres. (atm)	Ko *	Bypass flow (lpm)	Sample flow (lpm)
	SET POINT (S)	na	na	12122	13.67	3.000
	INDICATED (I)	18.0	0.927		13.67	3.000
As Found Data	MEASURED (AF)	17.3	0.928		13.68	3.020
Adjusted Data	MEASURED (M)	17.3	0.928	12193	13.68	3.020
	DIFFERENCE (M-I)	-0.7	0.001	0.6%	0.07	0.02
	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

Heads cleaned.

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

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **SO_2**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	August 27, 2011	Previous Calibration	August 19, 2011
Station Number	3	Station Location	Smokey Heights
Reason: Routine	Install	Removal	Other:

Start Time (MST)	10:35	End Time (MST)	13:15
Barometric Pressure	0.925 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentratior	49.8 ppm	Cal Gas Cert Date	3/28/2011
Correction factor	0.031443	Cal Gas Cylinder #	LL85275
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	1.001950	Calculated slope	0.997394
Calculated intercept	-2.689439	Calculated intercept	-2.453177

Analyzer make	Teco 43i	Analyzer serial #	701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	9.7		9.9	
coefficient	0.951		0.969	
Lamp Voltage	919	volts	920	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	670.5	mm Hg	666.6	mm Hg
Sample Flow	0.442	ccm	0.440	ccm
Lamp Intensity	88	%	87	%

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	0.2	N/A
4989	39.85	394.63	396.9	0.9944
4989	19.91	197.95	202.3	0.9783
4989	9.94	99.02	103.8	0.9536
4989	0.0	0.00	0.2	As Found Zero
4989	39.85	394.63	387.6	As Found Span
			Average Correction Factor	0.9754

Calculated value of As Found Response: 385.496 ppm Percent Change of As Found: 2.3%

	before calibration		after calibration	
Auto zero	0.4	ppb	0.2	ppb
Auto span	326.7	ppb	296.1	ppb

Notes: Found no problems with any analyzer parameters.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

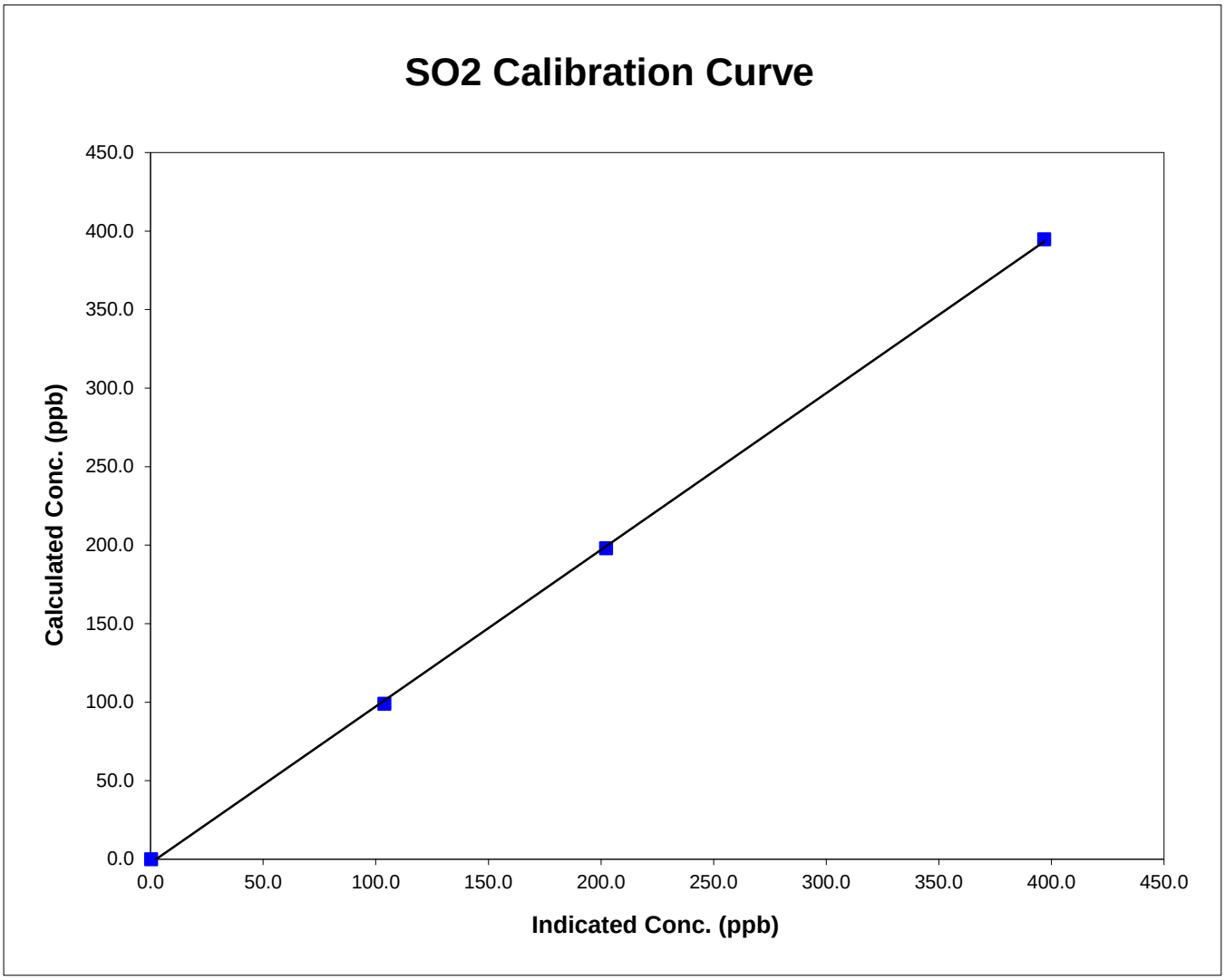
Air Monitoring Network **PASZA**

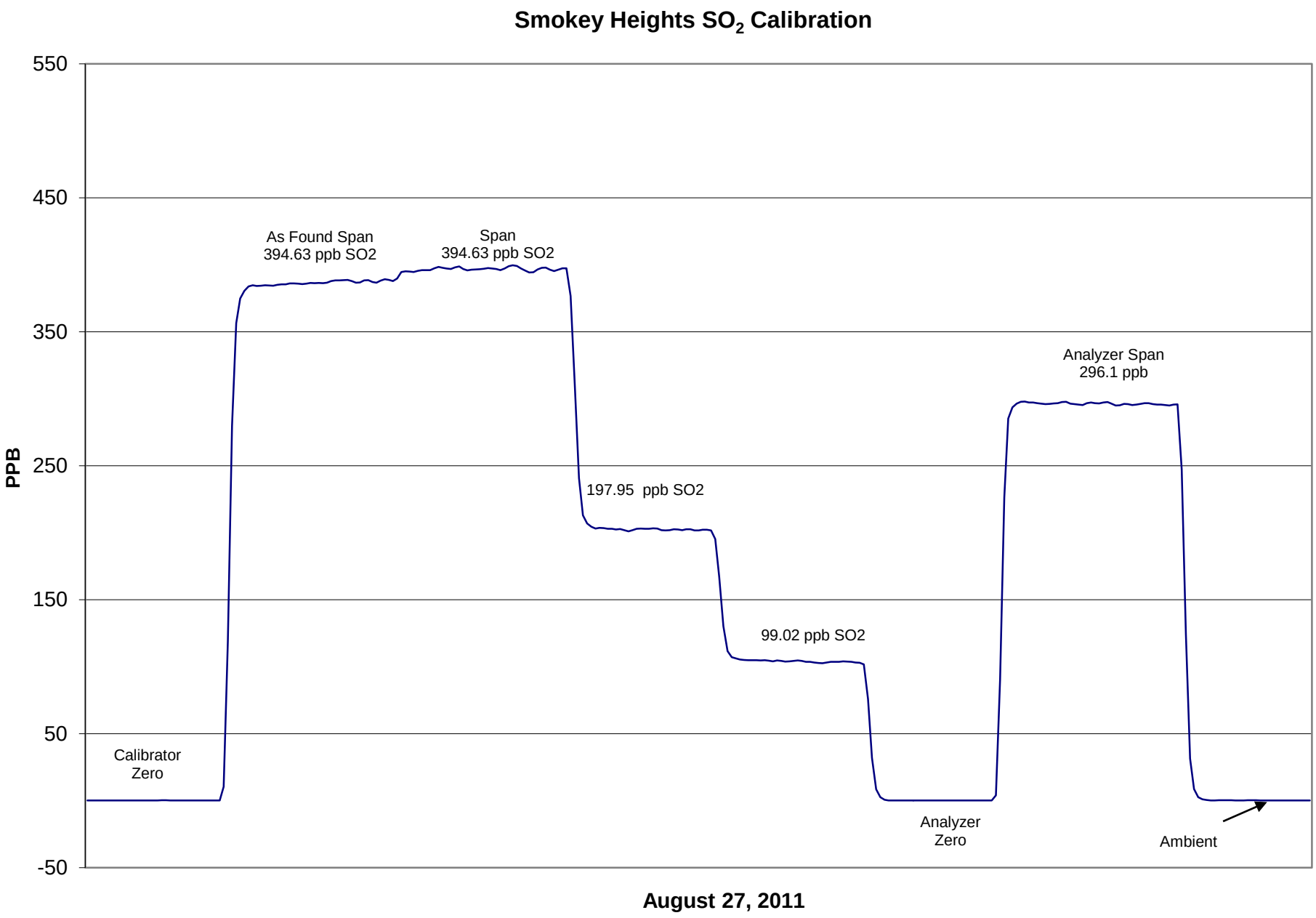
Station Information

Calibration Date	August 27, 2011	Previous Calibration	August 19, 2011
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	10:35	End Time (MST)	13:15
Analyzer make/model	Teco 43i	Analyzer serial #	701120009

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
394.6	396.9	0.9944	Correlation Coefficient	0.999848
198.0	202.3	0.9783		
99.0	103.8	0.9536	Slope	0.997394
			Intercept	-2.453177




Smokey Heights SO_2 Calibration
550
450
350
250
150
50
-50
PPB
As Found Span
394.63 ppb SO2
Span
394.63 ppb SO2
197.95 ppb SO2
99.02 ppb SO2
Analyzer Span
296.1 ppb
Calibrator
Zero
Analyzer
Zero
Ambient
August 27, 2011

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **TRS**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	August 29, 2011	Previous Calibration	August 19, 2011
Station Number	3	Station Location	Smokey Heights
Reason: Routine	Install	Removal	Other: Maintenance

Start Time (MST)	8:50	End Time (MST)	12:04
Barometric Pressure	0.927 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	0.031511	Cal Gas Cylinder #	BLM001434
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
Calculated slope	0.999254	Calculated slope	0.999186
Calculated intercept	0.021547	Calculated intercept	-0.014731

Analyzer make	TEI Model 43C	Analyzer serial #	0436610005

	before		after	
Concentration range	100	ppb	100	ppb
Background	17.3	ppb	17.4	ppb
coefficient	0.968		0.953	
Lamp Voltage	796	volts	796	volts
Chamber Temp	44	Deg C	44.99	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	548.4	mm Hg	531.2	mm Hg
Sample Flow	0.59	ccm	0.577	ccm
Lamp Intensity	35,271	mv	35,118	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	69.79	79.60	79.7	0.9985
4989	34.88	40.06	40.0	1.0010
4989	8.96	10.34	10.4	0.9946
4989	0.0	0.00	0.0	As Found Zero
4989	69.79	79.60	79.7	As Found Span
			Average Correction Factor	0.9980

Calculated value of As Found Response: 79.65 ppm Percent Change of As Found: -0.1%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.1	ppm
Auto span	41.9	ppm	54.6	ppm

Notes: Could find no problems with voltages, flow or temps within TRS analyzer.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **TRS**

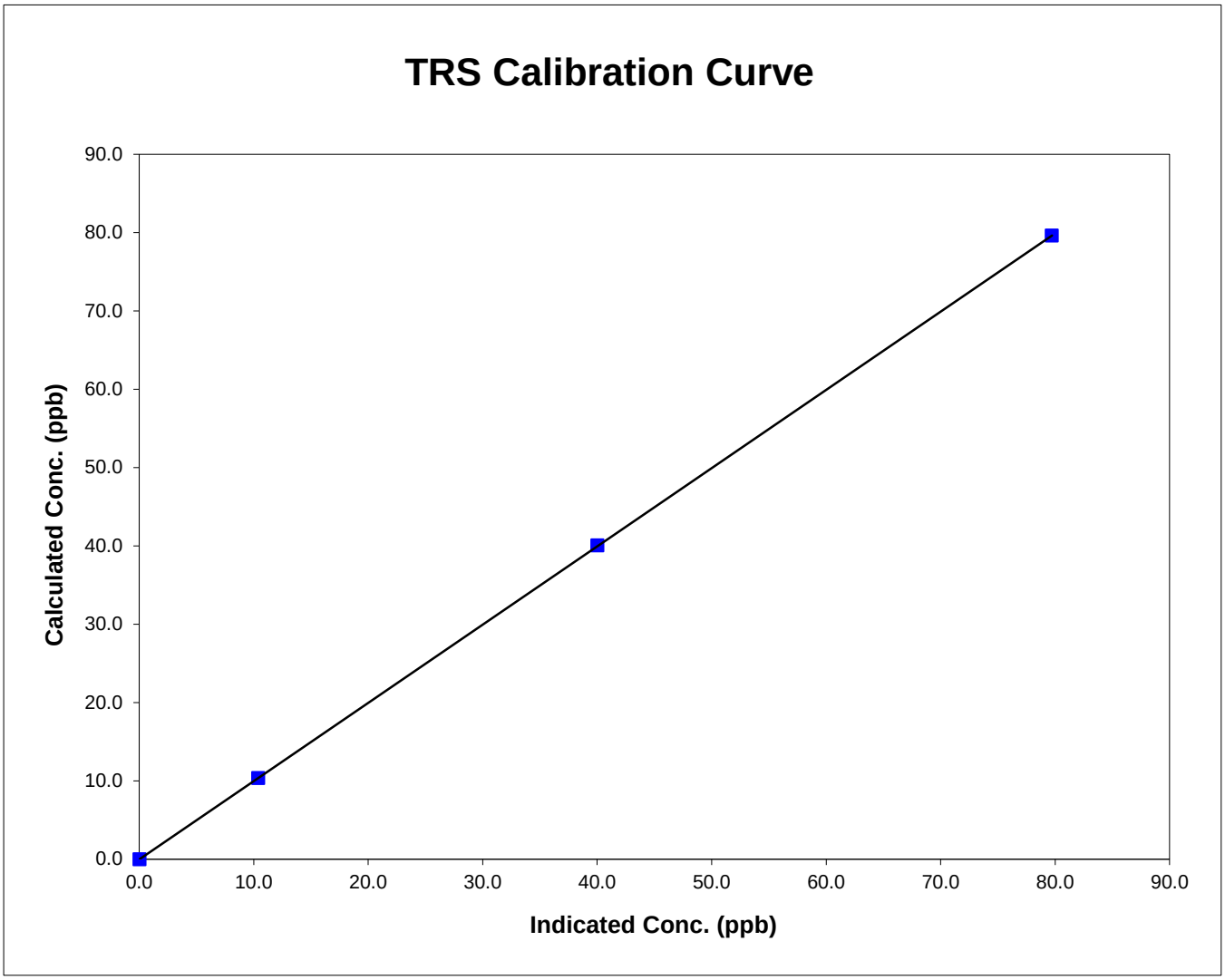
Air Monitoring Network **PASZA**

Station Information

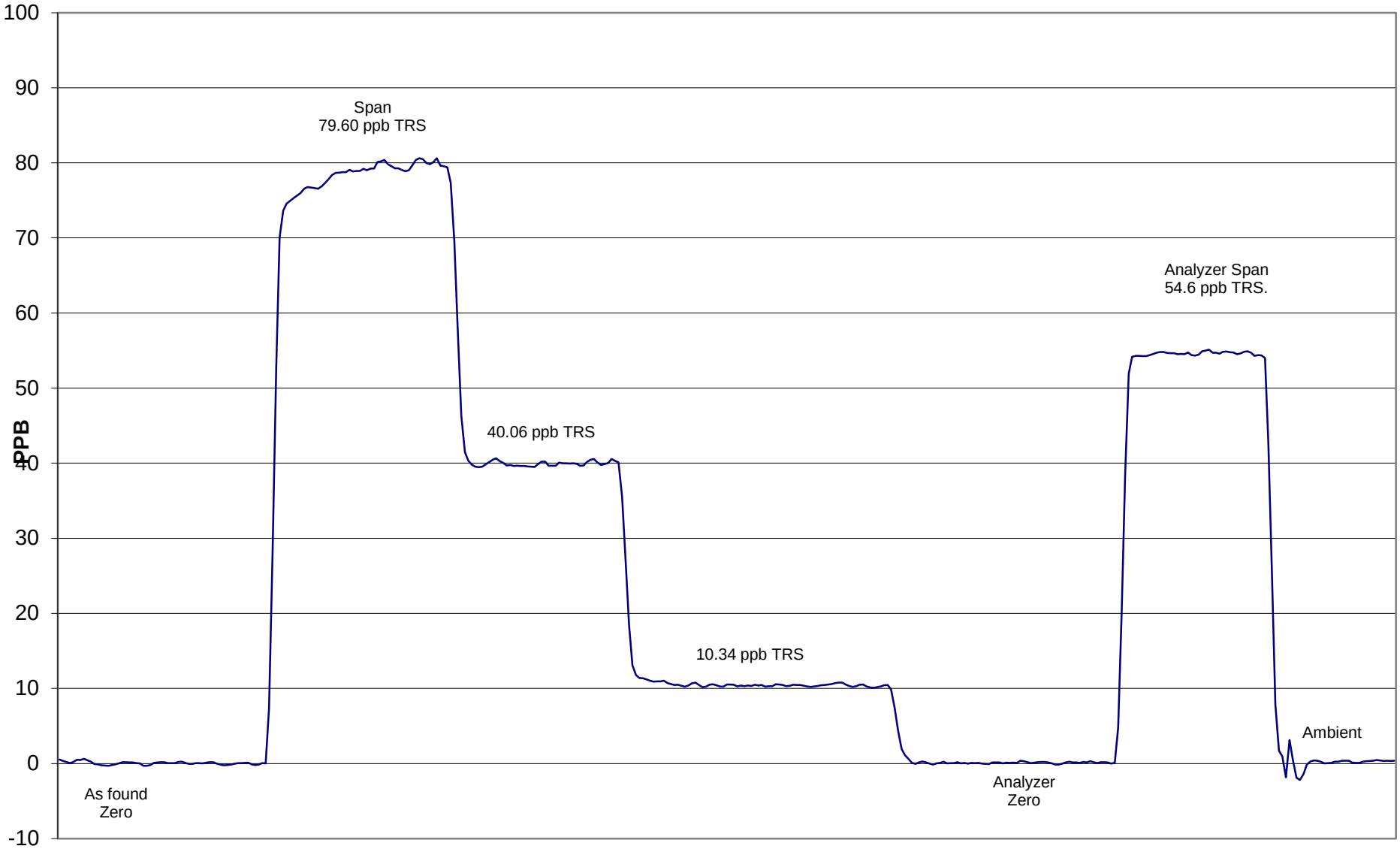
Calibration Date	August 29, 2011	Previous Calibration	August 19, 2011
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	8:50	End Time (MST)	12:04
Analyzer make/model	TEI Model 43C	Analyzer serial #	0436610005

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
79.6	79.7	0.9985	Correlation Coefficient	0.999997
40.1	40.0	1.0010		
10.3	10.4	0.9946	Slope	0.999186
			Intercept	-0.014731



Smokey Heights TRS Calibration



August 29, 2011

Calibration Report

Parameter **SO2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 4, 2011	Previous Calibration	July 11, 2011
Station Number	4	Station Location	Beaverlodge
Reason: Routine	Install	Removal	Other:
Start Time (MST)	15:21	End Time (MST)	17:50
Barometric Pressure	0.912 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	1.000592	Calculated slope	0.997362
Calculated intercept	-0.198331	Calculated intercept	-0.690407
Analyzer make	TEI Model 43i-TLE	Analyzer serial #	713021137

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.45		2.45	
Coefficient	1.082		1.082	
PMT	-768.1	V	-768.1	V
UV Lamp Voltage	1041	V	1041	V
Chamber Temp	45.2	Deg C	45.2	Deg C
Pressure	667	mm Hg	666.4	mm Hg
Sample Flow	0.502	LPM	0.507	LPM
Lamp Intesity	98%	%	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	0.1	N/A
4989	39.85	80.0	80.6	0.9934
4989	19.90	40.1	41.4	0.9702
4989	9.93	20.1	21.4	0.9381
4989	0.00	0.0	0.1	As found zero
4989	39.83	80.0	80.6	As found span
			Average Correction Factor	0.9673

Calculated value of As Found Response: 80.357 ppm Percent Change of As Found: -0.5%

	before calibration		after calibration	
Auto zero	-0.3	ppb	-0.6	ppb
Auto span	72.9	ppb	57.3	ppb

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

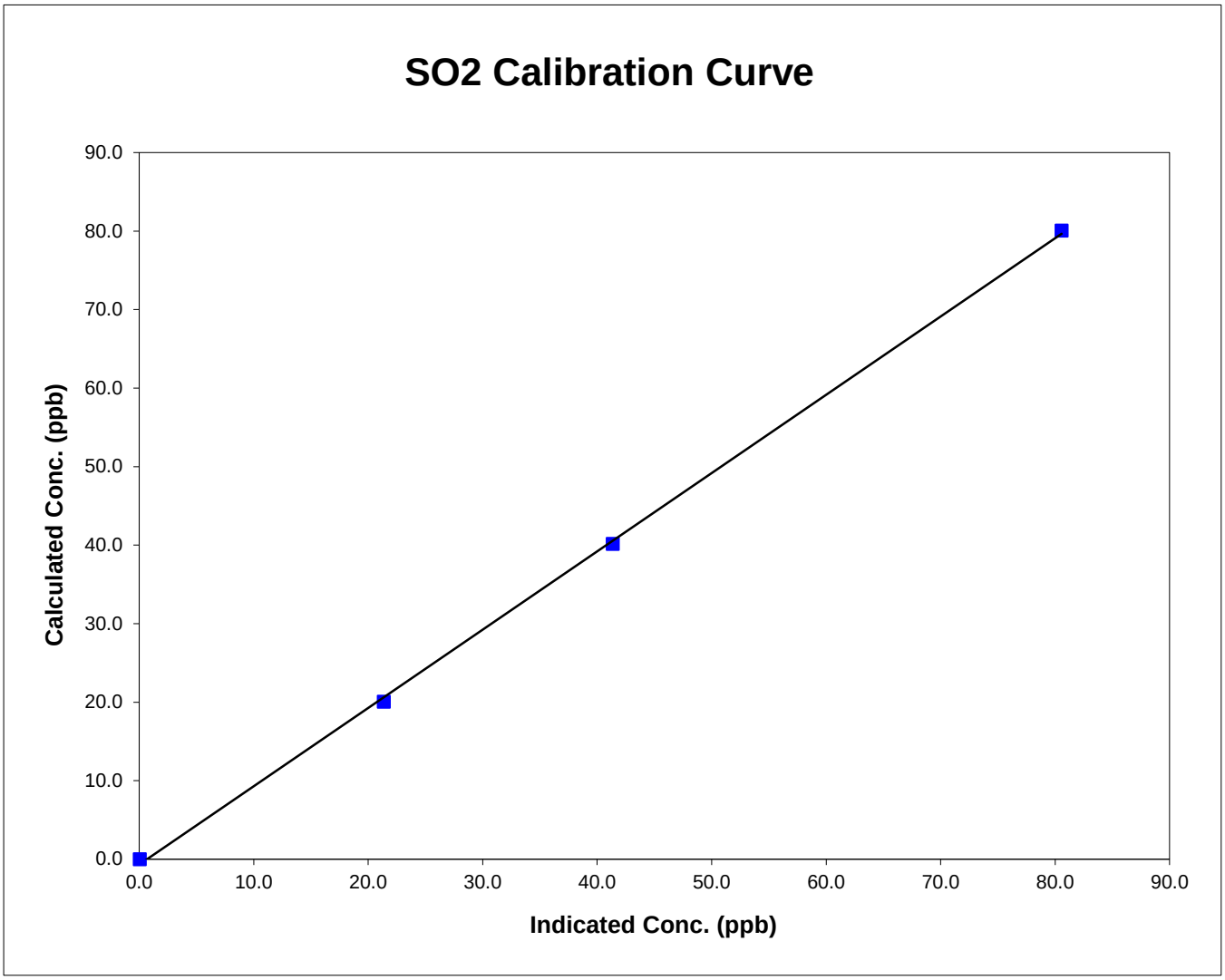
Air Monitoring Network **PASZA**

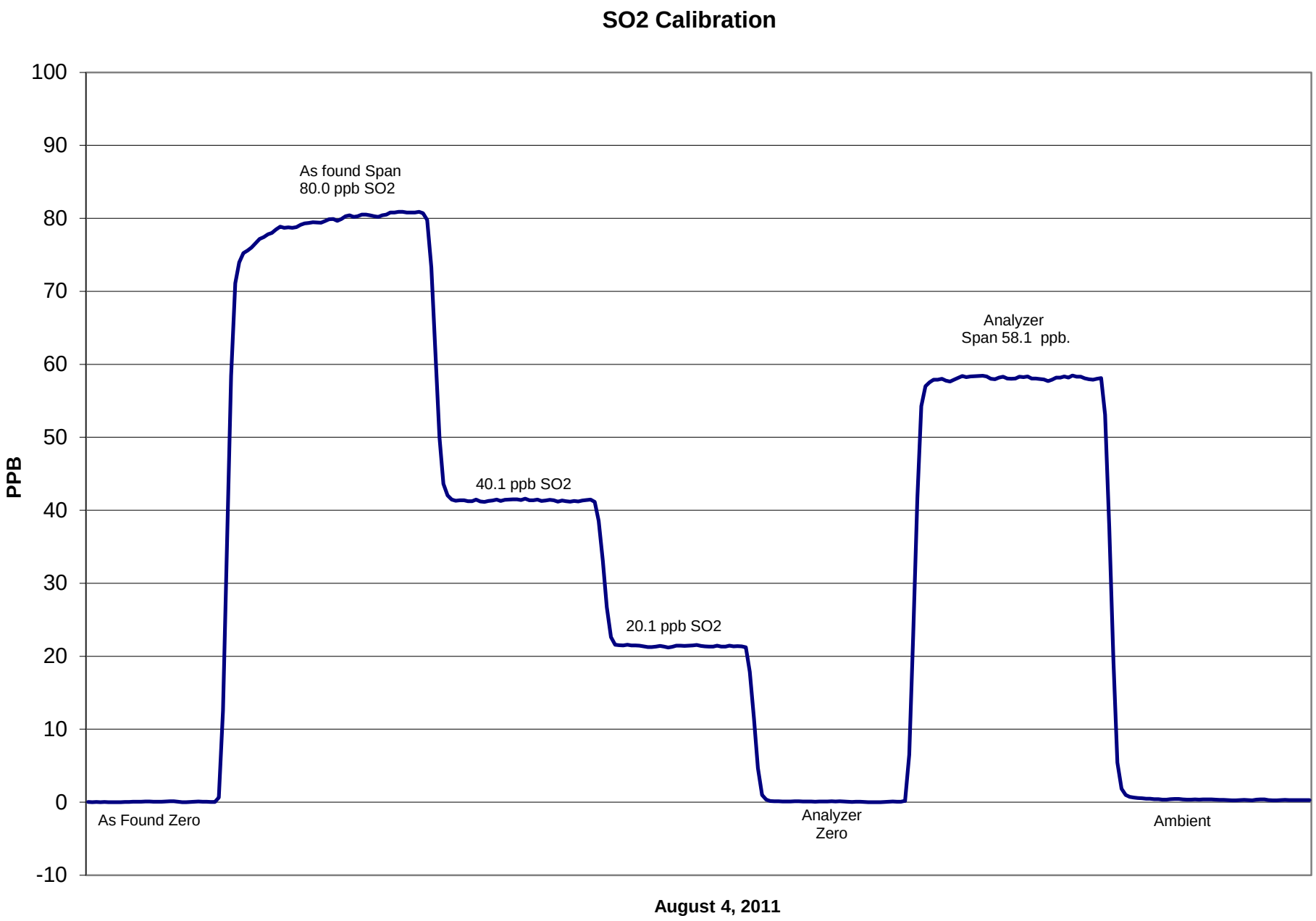
Station Information

Calibration Date	August 4, 2011	Previous Calibration	July 11, 2011
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	15:21	End Time (MST)	17:50
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	0.1	N/A		
80.0	80.6	0.9934	Correlation Coefficient	0.999696
40.1	41.4	0.9702		
20.1	21.4	0.9381	Slope	0.997362
			Intercept	-0.690407




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 58.1 ppb.
As Found Zero
Analyzer
Zero
Ambient
August 4, 2011

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 4, 2011	Previous Calibration	July 5, 2011
Station Number	4	Station Location	BeaverLodge

Reason: Routine Installation Removal Other:

Start Time (MST)	10:30		End Time (MST)	15:23	
Barometric Pressure	0.912	Atm	Station Temperature	23.0	Deg C
Calibrator	Environics		Serial Number	2844	
NO Cal Gas Conc	52.5	ppm	Cal Gas Expiry Date	March 28, 2013	
NOx Cal Gas Conc	52.5	ppm	Cal Gas Serial #	LL8575	

DACS Information

DACS make AP1000 DACS serial No.

Parameter		NO2	NOx	NO
Before	Data Slope	0.988406	1.001201	1.004006
	Data Offset	-0.771913	-2.495263	-2.446451
After	Data Slope	0.996328	1.008307	1.009169
	Data Offset	-0.267456	-2.975045	-2.898110
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	2.1	mV	2.4	mV
NOx bkgnd	2.4	mV	2.8	mV
NO coefficient	1.499		1.510	
NOx coefficient	1.002		0.997	
NO2 conv temp	326.2	Deg C	322.4	Deg C
PMT Temp	-3.0	Deg C	-2.7	Deg C
PMT Volt	-663.4	mV	-671.2	mV
R Cell Press	172.3	in Hg	170.8	in Hg
Sample Flow	0.684	ccm	0.680	ccm

Calibration Report

Parameter **NOX-NO-NO2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: August 4, 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	-0.1	0.0	N/A	N/A
1	4989	38.86	405.8	405.8	0.0	403.7	403.3	0.6	1.0051	1.0061
2	4989	19.92	208.8	208.8	0.0	211.8	211.3	0.0	0.9860	0.9882
3	4989	9.93	104.3	104.3	0.0	109.2	109.3	-0.1	0.9551	0.9539
AFZ	4989	0.00	0.0	0.0	0.0	0.1	-0.1	0.0	0.0000	0.0000
AFS	4989	38.86	405.8	405.8	0.8	372.0	371.0	0.9	1.0908	1.0939
							Average Correction Factor		0.9821	0.9827

As Found Concentrations: NO_X= 369.4 NO= 368.6 As Found Percent Change NO_X= -9.0% NO= -9.2%

GPT Calibration Data

Dilution Flow 4989 ccm Source Gas Flow 38.86 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	-0.1	-0.1	0.0	0.1	-0.1	0.0	N/A	N/A	N/A	N/A
NO point	405.3	405.3	0.0	405.3	405.3	0.2	1.0000	1.0000	N/A	N/A
300	405.3	154.0	251.4	406.2	154.0	252.4	0.9978	1.0000	0.9959	100.4%
200	405.3	237.6	167.7	406.1	237.6	168.7	0.9982	1.0000	0.9945	100.6%
100	405.3	319.5	85.9	405.9	319.5	86.9	0.9987	1.0000	0.9885	101.2%
					Average Correction Factor		0.9982	1.0000	0.9930	100.7%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.2	-0.3	-0.2	ppb	-0.1	-0.2	-0.1	ppb
Auto span	238.0	235.5	1.6	ppb	209.2	206.8	1.7	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PASZA**

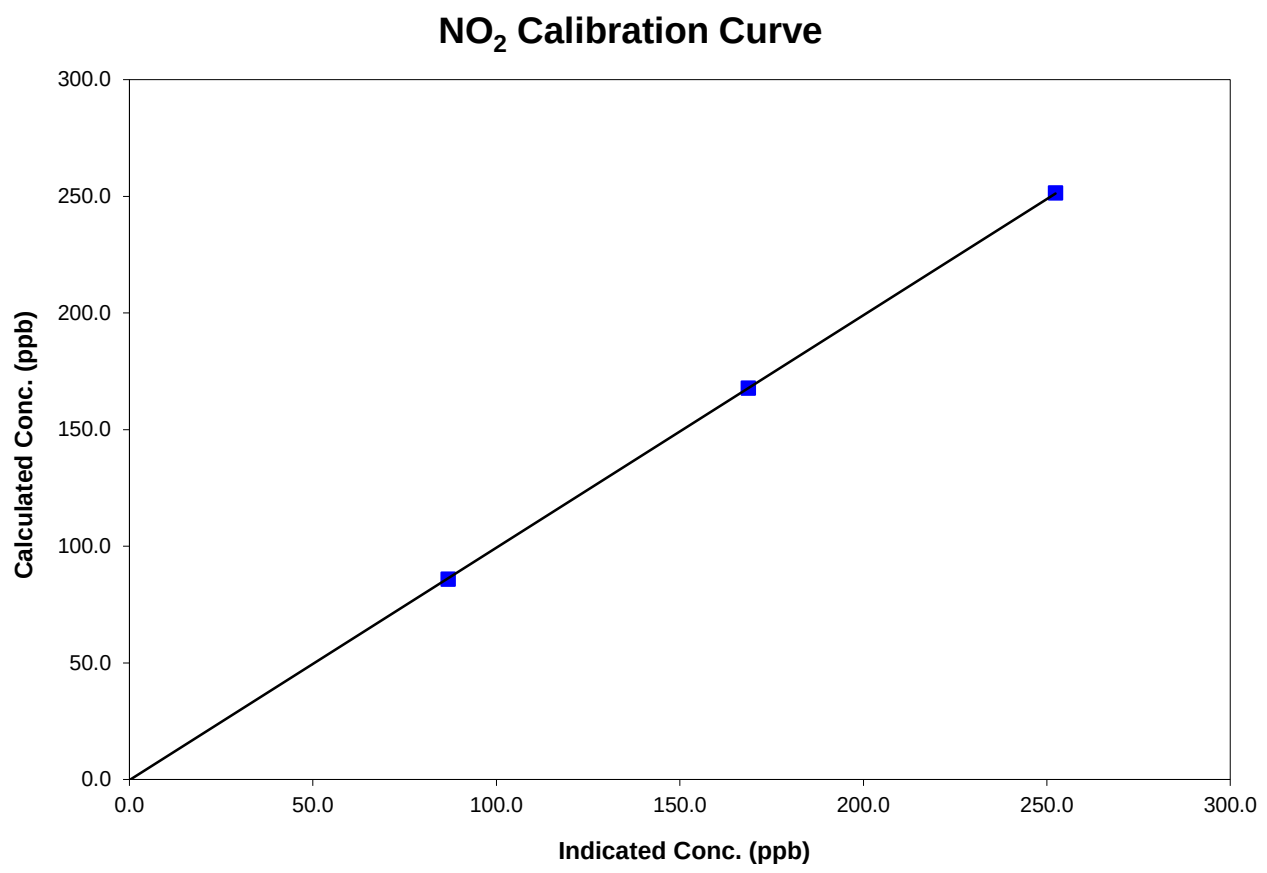
FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 4, 2011	Previous Calibration	July 5, 2011
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	10:30	End Time (MST)	15:23
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	0.0	N/A		
251.4	252.4	0.9959	Correlation Coefficient	0.999992
167.7	168.7	0.9945		
85.9	86.9	0.9885	Slope	0.996328
			Intercept	-0.267456



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

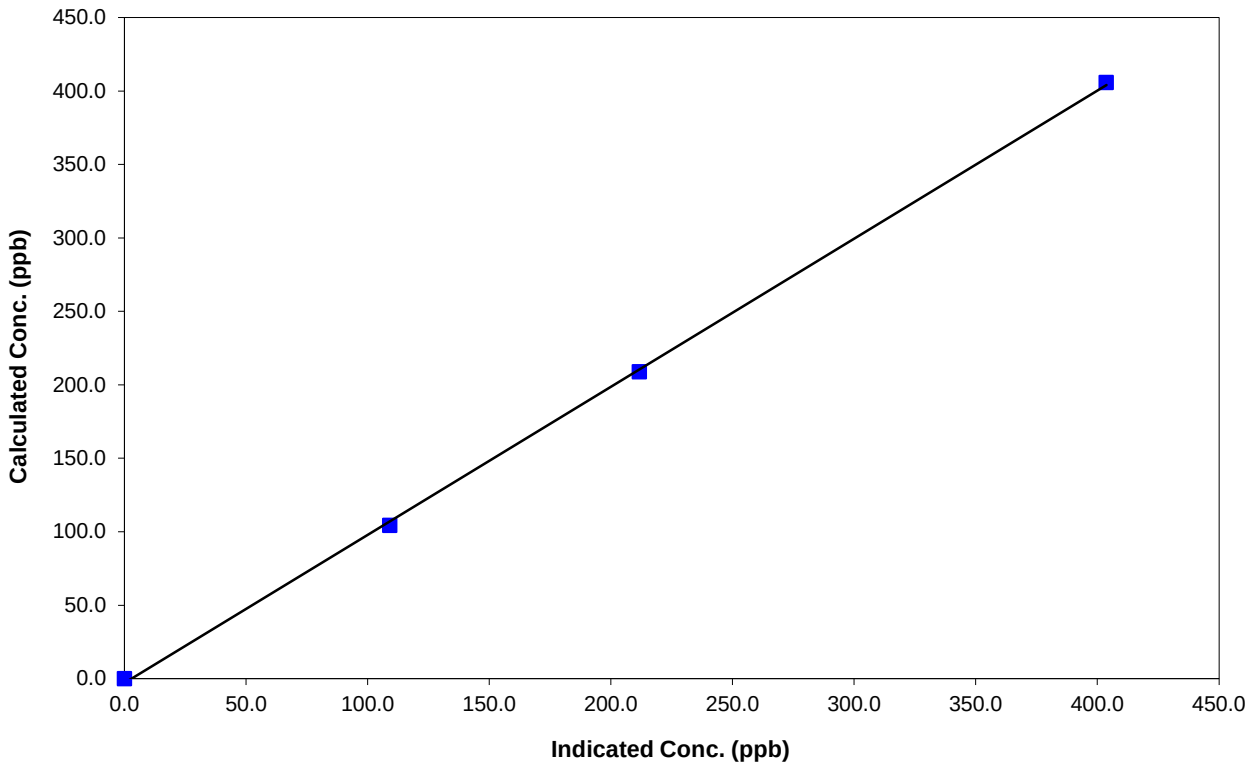
Station Information

Calibration Date	August 4, 2011	Previous Calibration	July 5, 2011
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	10:30	End Time (MST)	15:23
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		
405.8	403.7	1.0051	Correlation Coefficient	0.999751
208.8	211.8	0.9860		
104.3	109.2	0.9551	Slope	1.008307
			Intercept	-2.975045

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

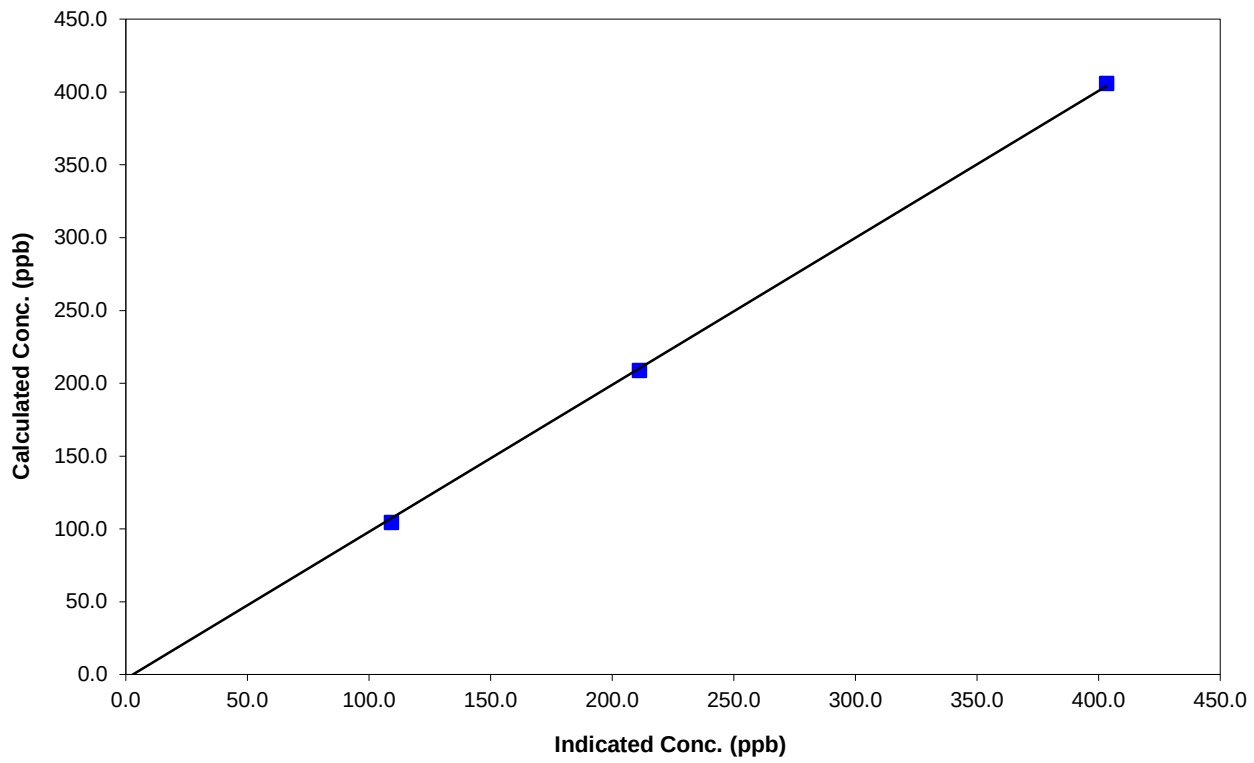
Station Information

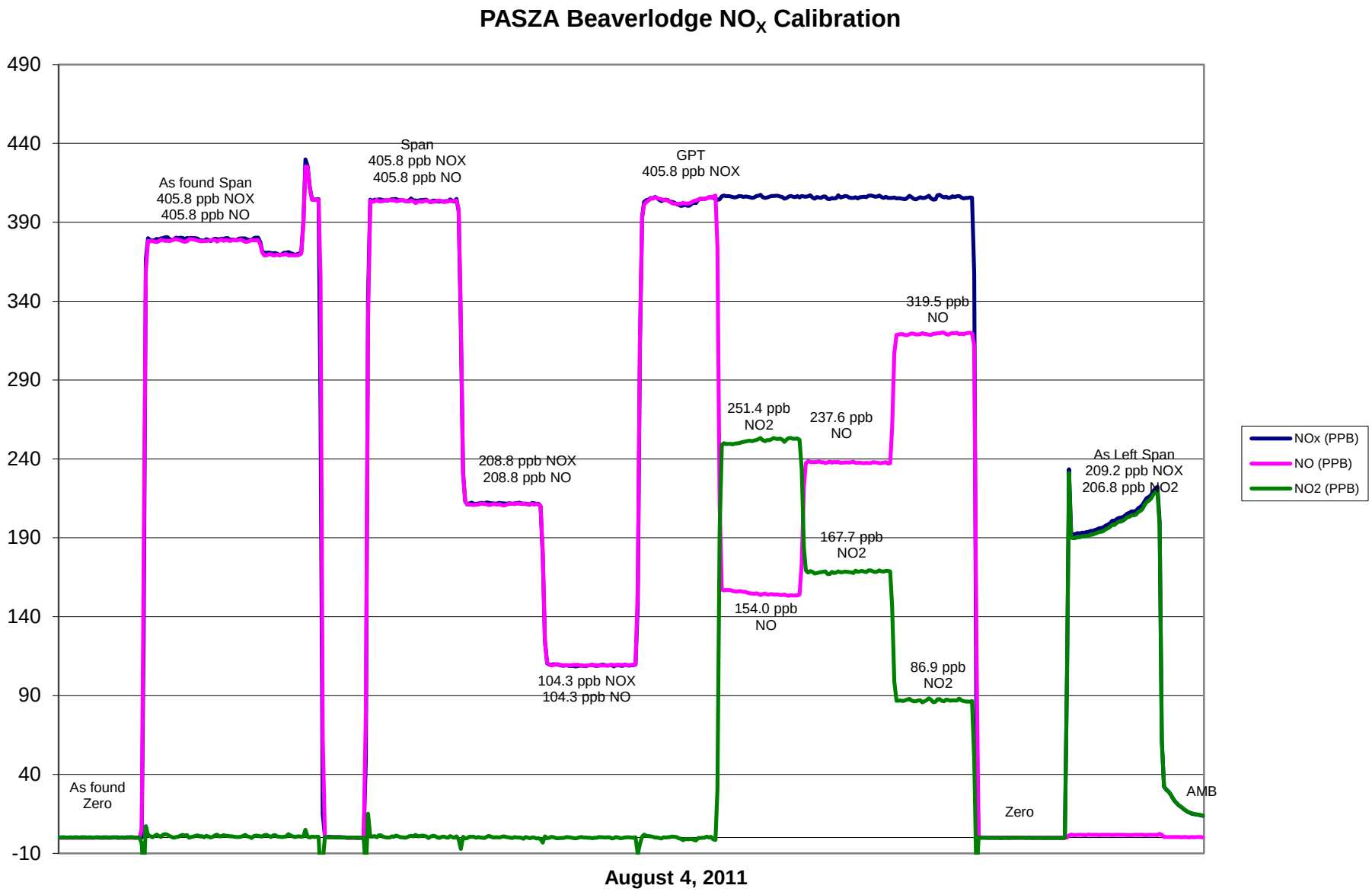
Calibration Date	August 4, 2011	Previous Calibration	July 5, 2011
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	10:30	End Time (MST)	15:23
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
405.8	403.3	1.0061	Correlation Coefficient	0.999732
208.8	211.3	0.9882		
104.3	109.3	0.9539	Slope	1.009169
			Intercept	-2.898110

NO Calibration Curve




PASZA Beaverlodge NOx Calibration
490
440
390
340
290
240
190
140
90
40
-10
As found Span
405.8 ppb NOX
405.8 ppb NO
Span
405.8 ppb NOX
405.8 ppb NO
GPT
405.8 ppb NOX
319.5 ppb
NO
251.4 ppb
NO2
237.6 ppb
NO
208.8 ppb NOX
208.8 ppb NO
As Left Span
209.2 ppb NOX
206.8 ppb NO2
167.7 ppb
NO2
154.0 ppb
NO
86.9 ppb
NO2
104.3 ppb NOX
104.3 ppb NO
As found
Zero
Zero
AMB
NOx (PPB)
NO (PPB)
NO2 (PPB)
August 4, 2011

Calibration Report

Parameter **O3**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 4, 2011	Previous Calibration	July 7, 2011
Station Number	4	Station Location	Beaverlodge
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	14:03	End Time (MST)	16:25
Barometric Pressure	0.912 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	0.994929	Calculated slope	0.985440
Calculated intercept	0.113831	Calculated intercept	-0.155854
Analyzer make	Teco 49C	Analyzer serial #	49C-76443-383

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-1.60	ppb	-1.60	ppb
slope	1.019		1.019	
Lamp temp	56.3	mV	56.3	mV
Lamp Intensity A/B	57744/59293	mV	57437/59030	mV
Pressure	691.7	mm Hg	672.4	mm Hg
Flow A	0.768	ccm	0.757	ccm
Flow B	0.716	ccm	0.704	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	0.2	N/A
4989	0.00	251.4	255.5	0.9840
4989	0.00	167.7	169.9	0.9871
4989	0.00	85.9	87.6	0.9810
4989	0.00	0.0	0.2	As found zero
4989	0.00	251.4	255.5	As found span
			Average Correction Factor	0.9840

Calculated value of As Found Response: 254.1 ppm Percent Change of As Found: 1.1%

	before calibration		after calibration	
Auto zero	0.1	ppb	-0.1	ppb
Auto span	114.3	ppb	109.0	ppb

Notes: Cal went well, no adjustments required

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **O3**

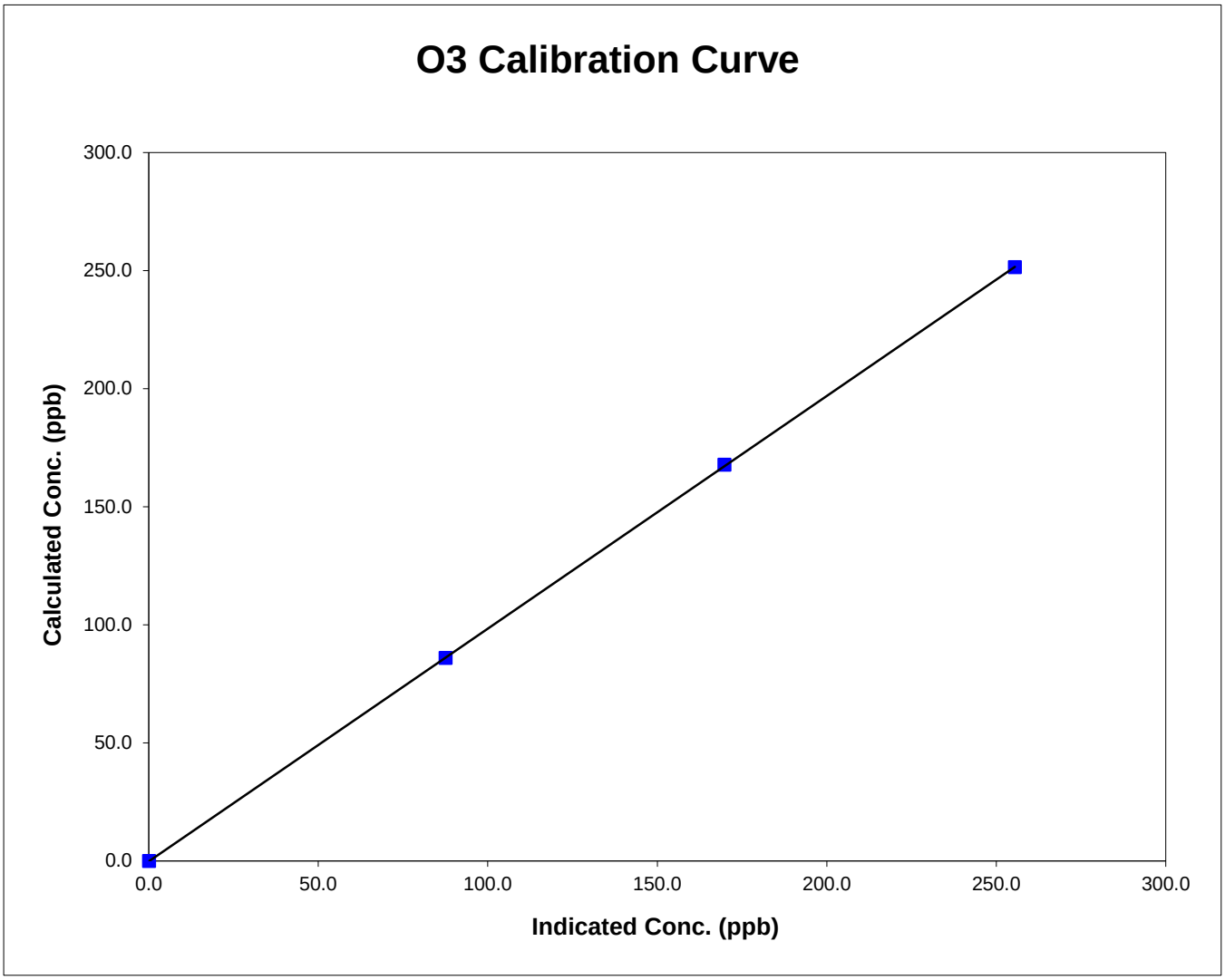
Air Monitoring Network **PASZA**

Station Information

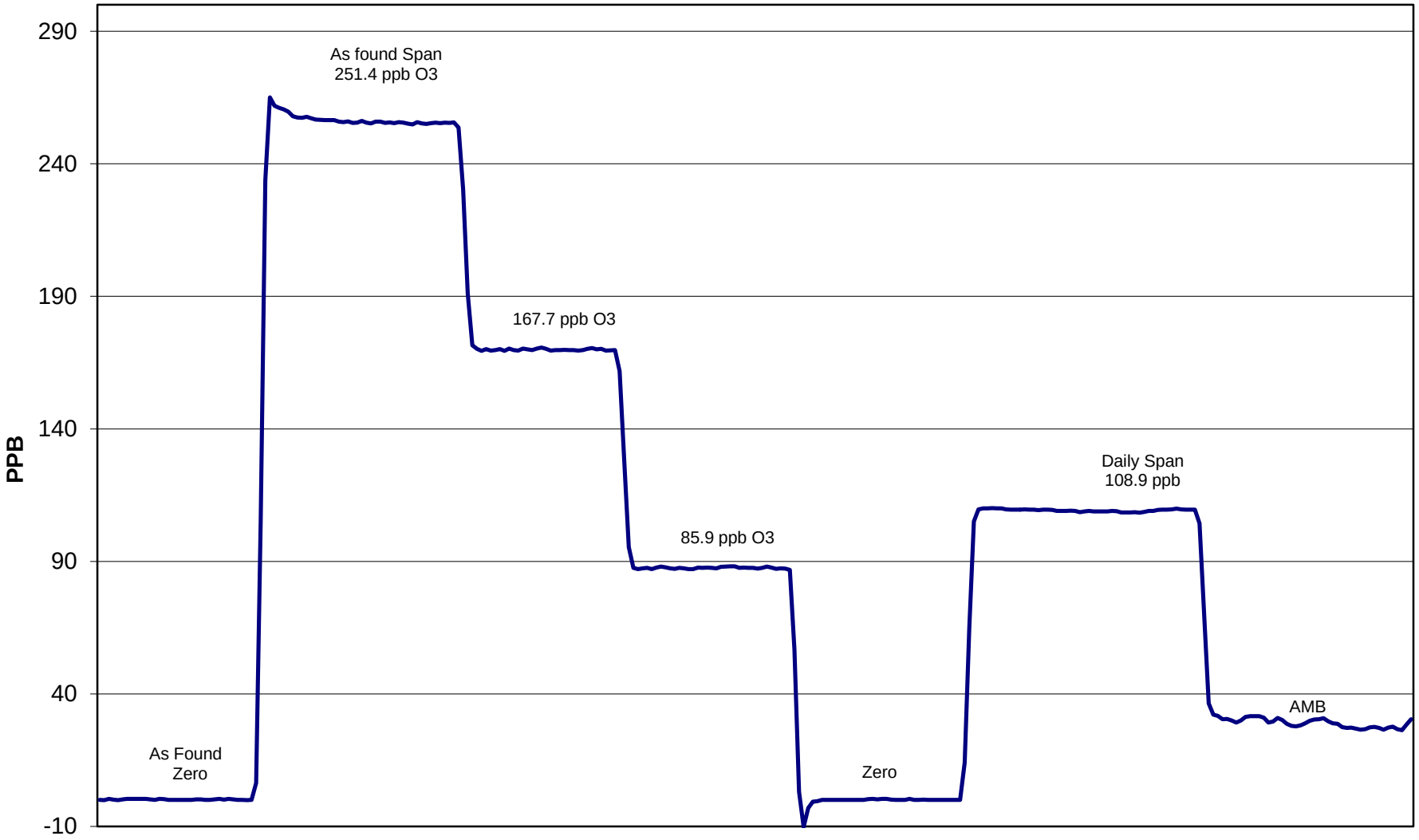
Calibration Date	August 4, 2011	Previous Calibration	July 7, 2011
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	14:03	End Time (MST)	16:25
Analyzer make/model	Teco 49C	Analyzer serial #	49C-76443-383

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	NA		
251.4	255.5	0.9840	Correlation Coefficient	0.999991
167.7	169.9	0.9871		
85.9	87.6	0.9810	Slope	0.985440
			Intercept	-0.155854



O3 Calibration



August 4, 2011

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 25, 2011	Previous Calibration	August 4, 2011
Station Number	4	Station Location	BeaverLodge

Reason: Routine Installation Removal Other:

Start Time (MST)	11:30		End Time (MST)	15:34	
Barometric Pressure	0.912	Atm	Station Temperature	23.0	Deg C
Calibrator	Environics		Serial Number	2844	
NO Cal Gas Conc	52.5	ppm	Cal Gas Expiry Date	March 28, 2013	
NOx Cal Gas Conc	52.5	ppm	Cal Gas Serial #	LL8575	

DACS Information

DACS make: AP1000 DACS serial No.:

Parameter		NO2	NOx	NO
Before	Data Slope	0.996328	1.008307	1.009169
	Data Offset	-0.267456	-2.975045	-2.898110
After	Data Slope	0.987655	1.002929	1.003245
	Data Offset	-1.040197	-0.948328	-1.010192
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	2.8	mV	2.5	mV
NO coefficient	1.510		1.324	
NOx coefficient	0.997		0.999	
NO2 conv temp	325.0	Deg C	324.2	Deg C
PMT Temp	-3.0	Deg C	-3.0	Deg C
PMT Volt	-671.9	mV	-671.2	mV
R Cell Press	164.2	in Hg	158.5	in Hg
Sample Flow	0.686	ccm	0.731	ccm

Calibration Report

Parameter **NOX-NO-NO2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: August 25, 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	-0.1	0.0	N/A	N/A
1	4989	38.84	405.6	405.6	0.0	405.4	405.3	0.3	1.0003	1.0007
2	4989	19.91	208.7	208.7	0.0	207.8	207.7	-0.4	1.0043	1.0048
3	4989	9.93	104.3	104.3	0.0	106.9	107.4	-0.4	0.9751	0.9710
AFZ	4989	0.00	0.0	0.0	0.0	0.1	-0.1	0.0	0.0000	0.0000
AFS	4989	38.84	405.6	405.6	0.8	457.3	459.0	-1.4	0.8868	0.8836
							Average Correction Factor		0.9933	0.9921

As Found Concentrations: NO_X= 454.3 NO= 456.2 As Found Percent Change NO_X= 12.0% NO= 12.5%

GPT Calibration Data

Dilution Flow 4989 ccm Source Gas Flow 38.86 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	-0.1	-0.1	0.0	0.1	-0.1	0.0	N/A	N/A	N/A	N/A
NO point	405.7	405.7	0.0	405.3	405.7	-0.5	1.0010	1.0000	N/A	N/A
300	405.7	172.7	233.0	409.0	172.7	236.3	0.9918	1.0000	0.9863	101.4%
200	405.7	250.2	155.5	408.8	250.2	158.8	0.9925	1.0000	0.9791	102.1%
100	405.7	325.6	80.1	408.6	325.6	83.6	0.9929	1.0000	0.9580	104.4%
					Average Correction Factor		0.9924	1.0000	0.9745	102.6%

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	-0.1	ppb
Auto span	238.0	235.5	1.6	ppb	223.7	221.5	1.6	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

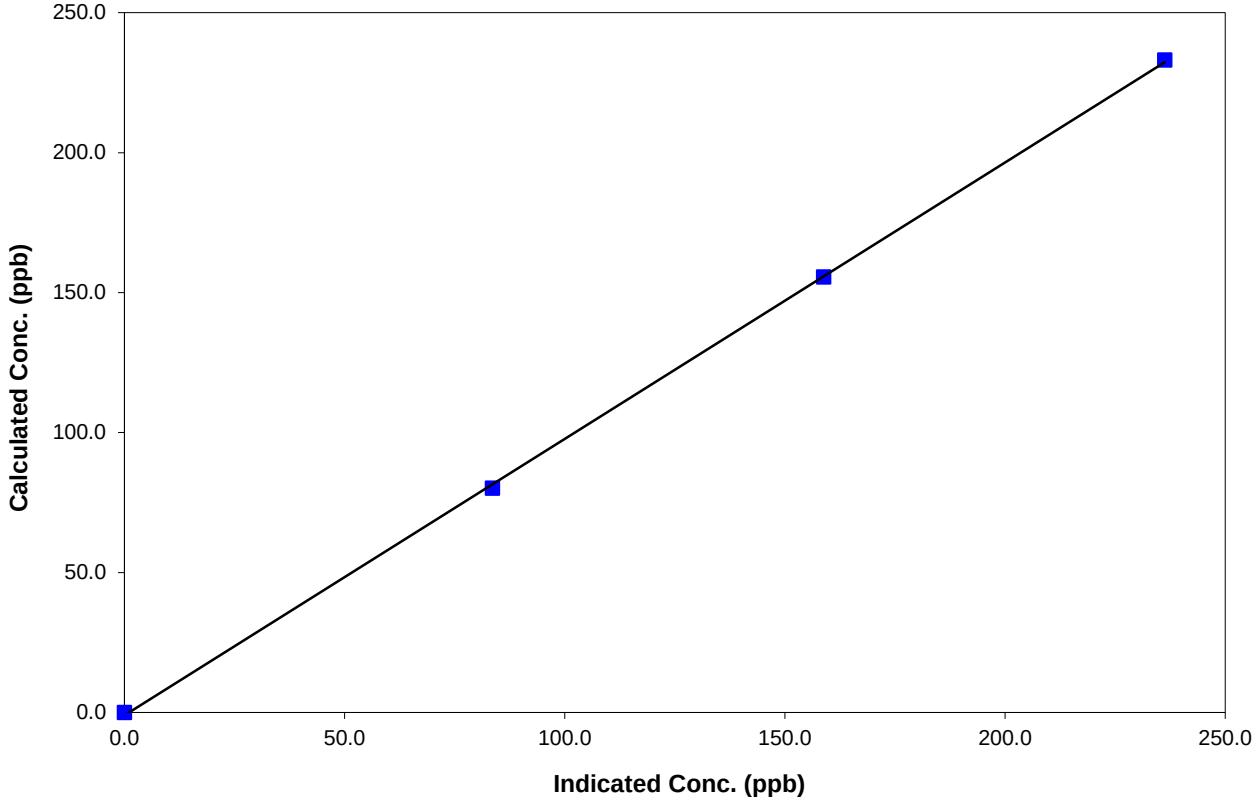
Station Information

Calibration Date	August 25, 2011	Previous Calibration	August 4, 2011
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	11:30	End Time (MST)	15:34
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	0.0	N/A		
233.0	236.3	0.9863	Correlation Coefficient	0.999874
155.5	158.8	0.9791		
80.1	83.6	0.9580	Slope	0.987655
			Intercept	-1.040197

NO_2 Calibration Curve



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

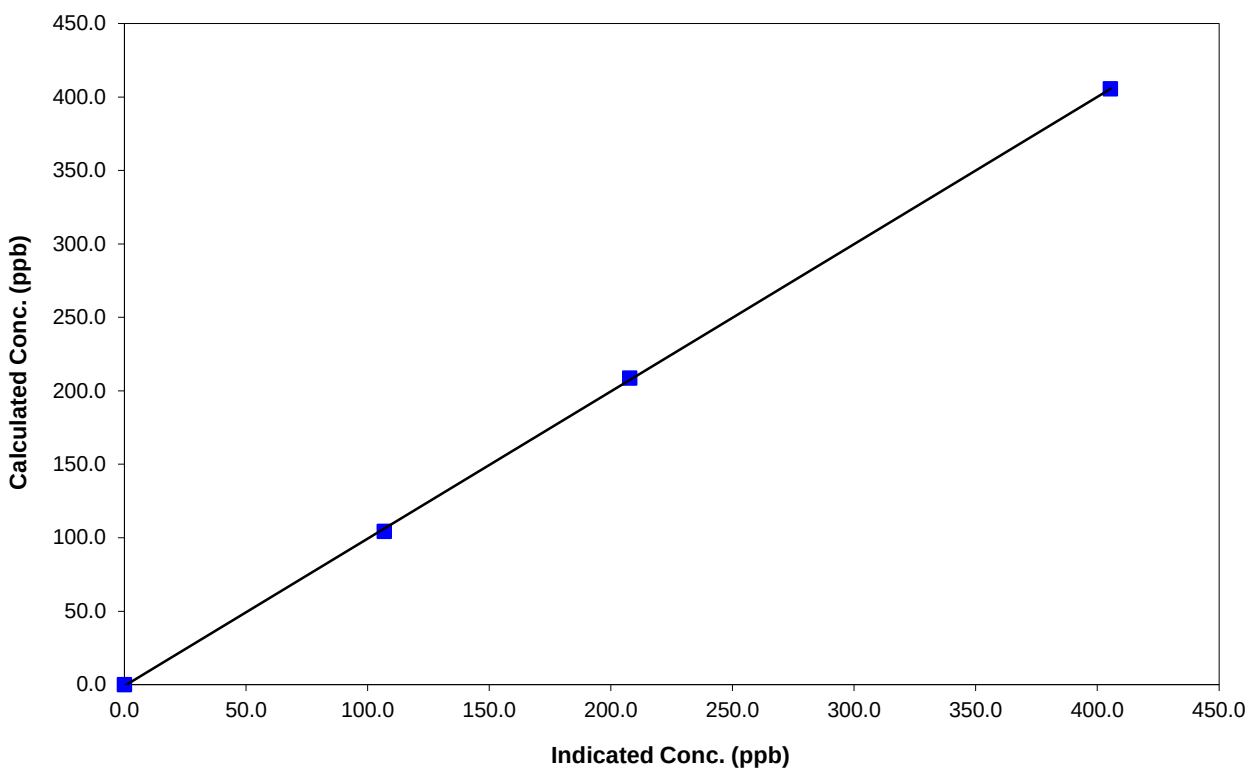
Station Information

Calibration Date	August 25, 2011	Previous Calibration	August 4, 2011
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	11:30	End Time (MST)	15:34
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		
405.6	405.4	1.0003	Correlation Coefficient	0.999929
208.7	207.8	1.0043		
104.3	106.9	0.9751	Slope	1.002929
			Intercept	-0.948328

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

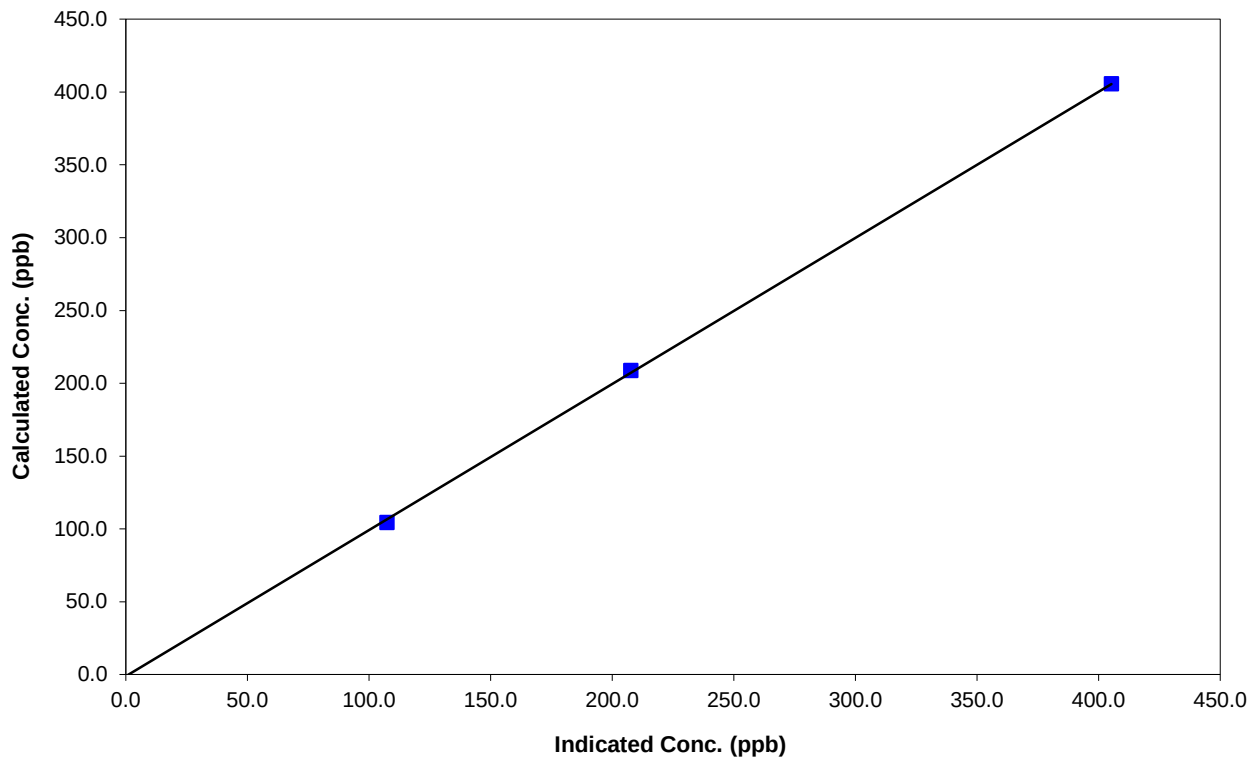
Station Information

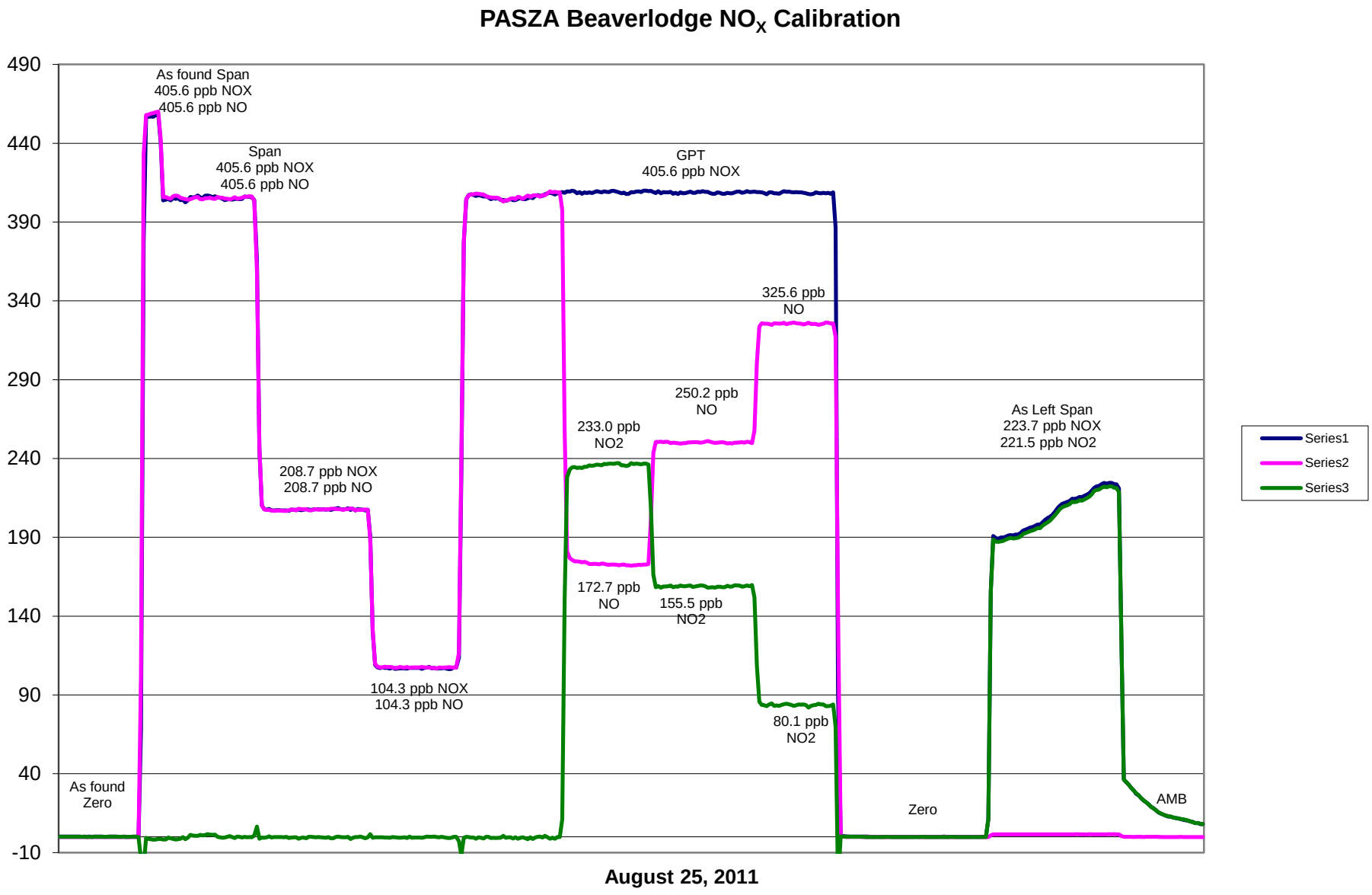
Calibration Date	August 25, 2011	Previous Calibration	August 4, 2011
Station Number	4	Station Location	BeaverLodge
Start Time (MST)	11:30	End Time (MST)	15:34
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
405.6	405.3	1.0007	Correlation Coefficient	0.999898
208.7	207.7	1.0048		
104.3	107.4	0.9710	Slope	1.003245
			Intercept	-1.010192

NO Calibration Curve




PASZA Beaverlodge NOx Calibration
490
440
390
340
290
240
190
140
90
40
-10
As found Span
405.6 ppb NOX
405.6 ppb NO
Span
405.6 ppb NOX
405.6 ppb NO
GPT
405.6 ppb NOX
325.6 ppb
NO
250.2 ppb
NO
233.0 ppb
NO2
As Left Span
223.7 ppb NOX
221.5 ppb NO2
208.7 ppb NOX
208.7 ppb NO
172.7 ppb
NO
155.5 ppb
NO2
104.3 ppb NOX
104.3 ppb NO
80.1 ppb
NO2
As found
Zero
Zero
AMB
Series1
Series2
Series3
August 25, 2011

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **SO2**

Air Monitoring Network **PASZA**

Station Information

Calibration Date	August 21, 2011	Previous Calibration	July 30, 2011
Station Number	6	Station Location	Valleyview
Reason: Routine	Install	Removal	Other:
Start Time (MST)	9:35	End Time (MST)	12:27
Barometric Pressure	702.00 mmHg	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	49.8 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	0.996192	Calculated slope	1.000180
Calculated intercept	-0.552912	Calculated intercept	-1.390492
Analyzer make	TEI 45C	Analyzer serial #	45C-57531-313

	before		after	
Concentration range	0 - 1000	ppb	0 - 1000	ppb
Background	28.3		28	
Coefficient	0.865		0.857	
UV Lamp Voltage	951	LPM	947	LPM
Chamber Temp	44.4	V	44.5	V
Perm Gas Temp	35.1	C	35.1	C
Pressure	601.3	in Hg	602.6	in Hg
Sample Flow	0.559	LPM	0.560	LPM
Lamp Intensity	48042	Hz	48462	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	-0.1	N/A
4989	39.84	394.5	394.9	0.9991
4989	19.89	197.8	200.4	0.9867
4989	9.94	99.0	101.5	0.9753
4989	0.00	0.0	0.2	As found zero
4989	39.84	394.5	398.2	As found span
			Average Correction Factor	0.9870

Calculated value of As Found Response: 396.002 ppm Percent Change of As Found: -0.4%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.0	ppm
Auto span	155.5	ppm	156.8	ppm

Notes:

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

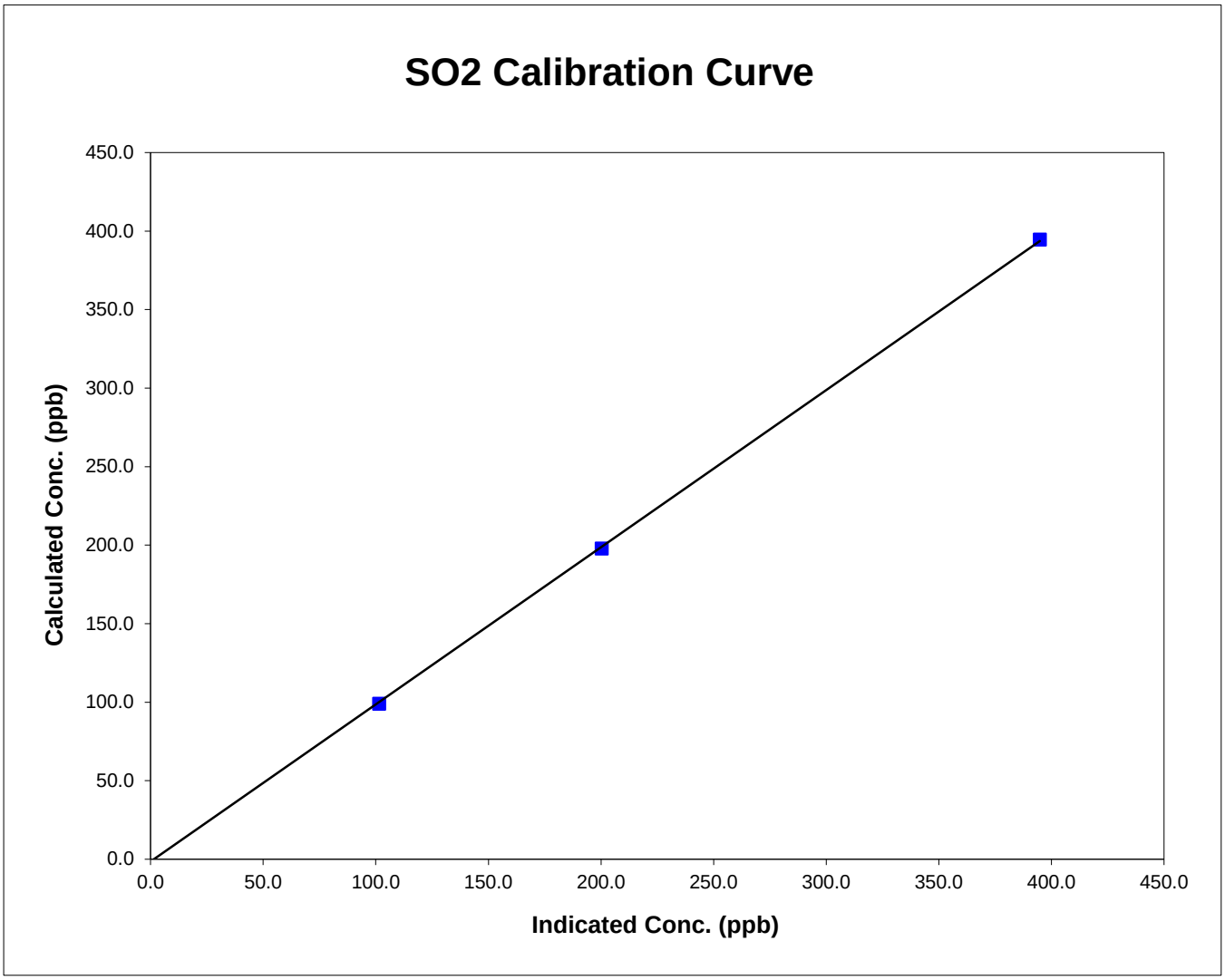
Air Monitoring Network **PASZA**

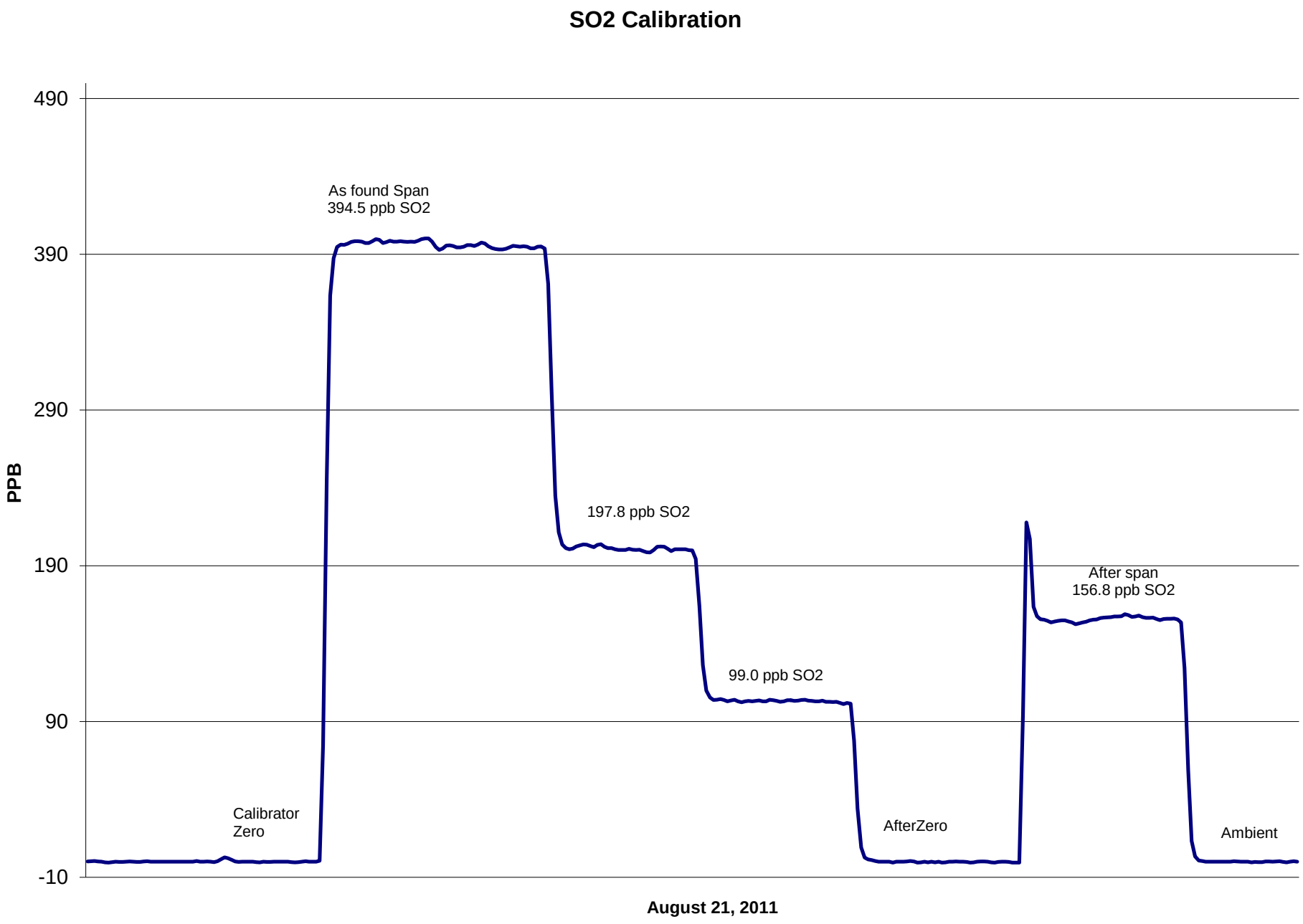
Station Information

Calibration Date	August 21, 2011	Previous Calibration	July 30, 2011
Station Number	6	Station Location	Valleyview
Start Time (MST)	9:35	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	-0.1	N/A		
394.5	394.9	0.9991	Correlation Coefficient	0.999928
197.8	200.4	0.9867		
99.0	101.5	0.9753	Slope	1.000180
			Intercept	-1.390492




SO2 Calibration
490
390
290
190
90
-10
PPB
As found Span
394.5 ppb SO2
197.8 ppb SO2
99.0 ppb SO2
After span
156.8 ppb SO2
Calibrator
Zero
AfterZero
Ambient
August 21, 2011

Calibration Report

Parameter **H2S**

Air Monitoring Network **PASZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 21, 2011	Previous Calibration	July 30, 2011
Station Number	5	Station Location	Valleyview
Reason: Routine	Install	Removal	Other:
Start Time (MST)	8:12	End Time (MST)	11:11
Barometric Pressure	702.00 mm	Station Temperature	21.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentratior	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	0.996737	Calculated slope	1.003698
Calculated intercept	0.750320	Calculated intercept	0.162699
Analyzer make	TEI Model 43i - APSCB	Analyzer serial #	701120010

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Back Ground	7.7	ppb	7.2	ppb
Coefficient	1.460		1.377	
Lamp Voltage	780	V	786	V
Chamber Temp	45.01	c	44.9	c
Perm Oven Temp	45.01	c	45.00	c
Pressure	621.60	mm Hg	621.30	mm Hg
Sample Flow	.421	ccm	.421	ccm
Lamp Intensity	91.0	%	91.0	%

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4989	0.00	0.0	-0.1	N/A
4989	69.79	79.6	79.1	1.0062
4989	34.87	40.0	39.8	1.0053
4989	8.96	10.3	10.0	1.0307
4989	0.00	0.0	-0.1	As found zero
4989	69.79	79.6	81.8	As found span
			Average Correction Factor	1.0141

Calculated value of As Found Response: 82.43 ppm Percent Change of As Found: -3.5%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.1	ppm
Auto span	70.6	ppm	75.3	ppm

Notes: **Lamp Voltage jumping around about 5 V.**

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **H2S**

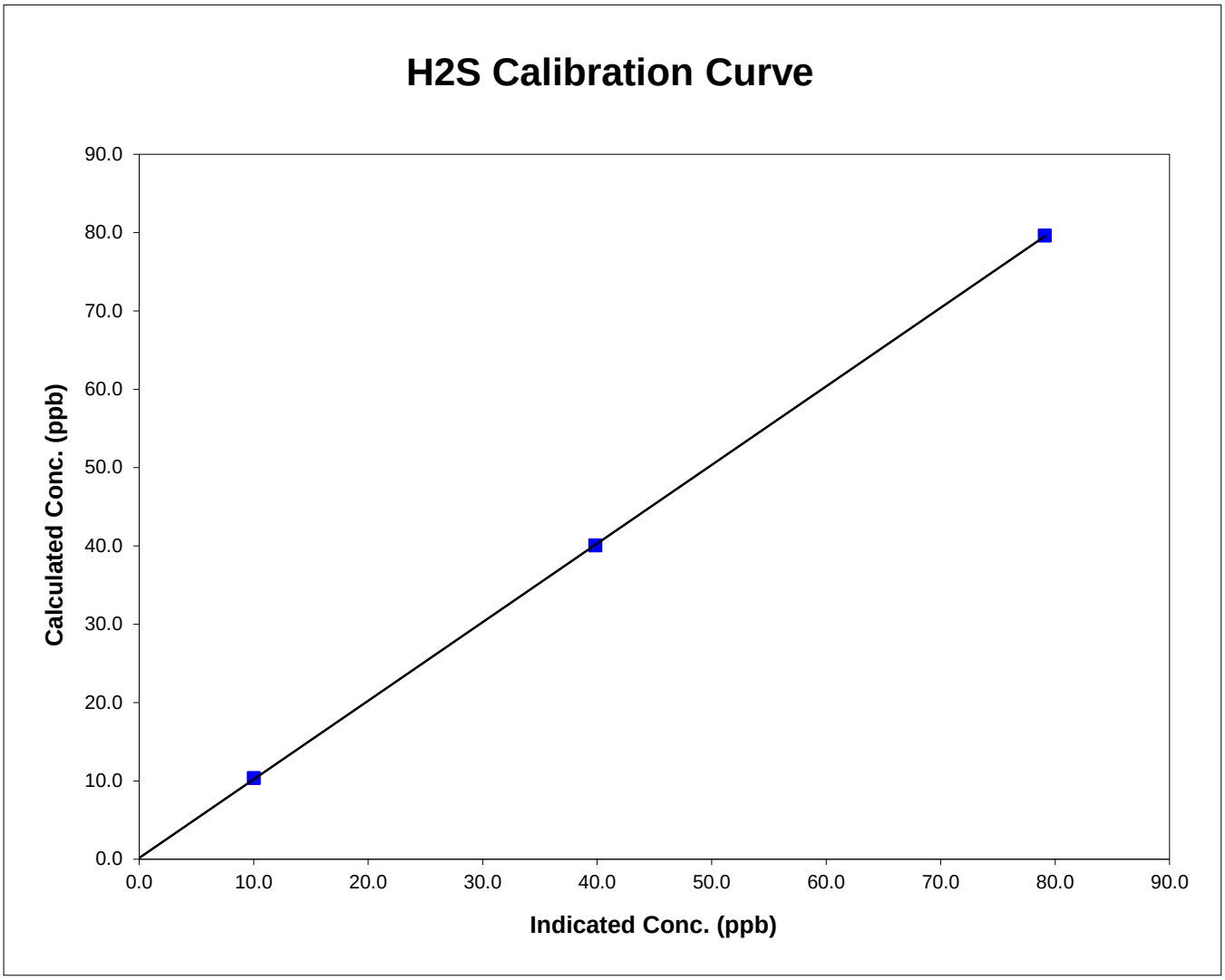
Air Monitoring Network **PASZA**

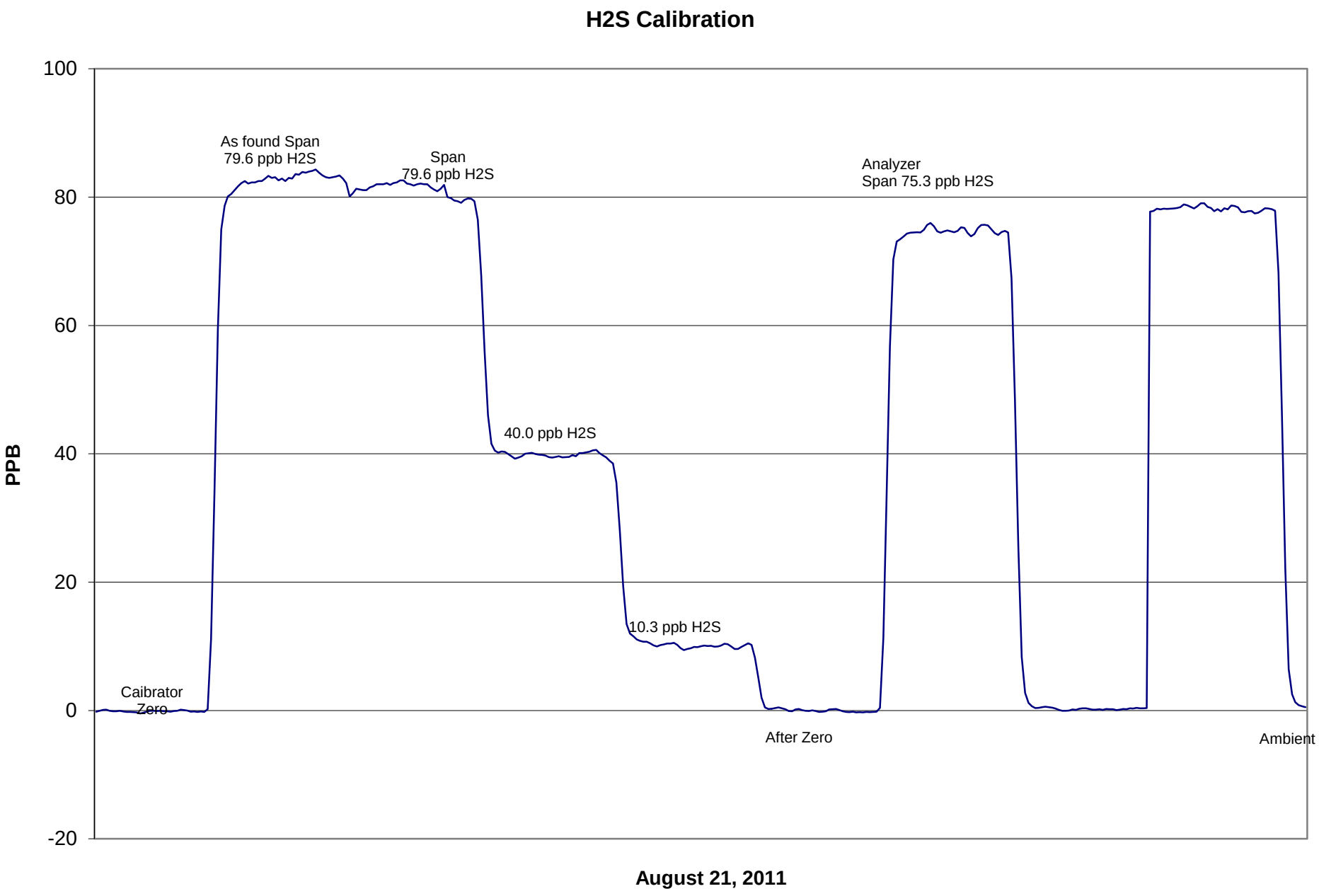
Station Information

Calibration Date	August 21, 2011	Previous Calibration	July 30, 2011
Station Number	5	Station Location	Valleyview
Start Time (MST)	8:12	End Time (MST)	11:11
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	-0.1	N/A		
79.6	79.1	1.0062	Correlation Coefficient	0.999993
40.0	39.8	1.0053		
10.3	10.0	1.0307	Slope	1.003698
			Intercept	0.162699




H2S Calibration
100
80
60
40
20
0
-20
PPB
As found Span
79.6 ppb H2S
Span
79.6 ppb H2S
Analyzer
Span 75.3 ppb H2S
40.0 ppb H2S
10.3 ppb H2S
Caibrator
Zero
After Zero
Ambient
August 21, 2011