Peace Airshed Zone Association

Ambient Air Monitoring Network Summary

Continuous Ambient Air Quality Monitoring Program
Monthly Report
August 2013

Operations and Reporting

Peace Airshed Zone Association
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August 23rd, 2013

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

RE: Peace Airshed Zone Association (PAZA) – August 2013 Ambient Air Report

Enclosed is the PAZA Ambient Monitoring Network Report for the month of **August 2013**.

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	EPEA Approval Number
Advantage Oil & Gas Ltd.	Glacier	05-02-076-13-W6	262479-00-00
Alberta Power (2000) Ltd. (an ATCO company)	Sturgeon	SW-06-069-21-W5	10283-02-02
ATCO Power Canada	Poplar Hill	11-19-073-08-W6	67774-01-01
ATCO Power Canada	Valleyview	SW-06-069-21-W5	147709-01-01
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
Apache Canada Ltd.	House Mountain	01-08-070-10-W5	10137-02-02
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
Canadian Natural Resources Limited	Bonanza	11-25-081-11-W6	00000029-01-00
	Progress/Gordondale	01-01-077-10-W6	00010036-02-00

Company	Facility	LSD	EPEA Approval Number
	Gold Creek	13-26-067-05-W6	00010446-02-00
	Teepee Creek	SE-2-074-04-W6	00001635-02-00
Canfor Forest Products	Grande Prairie	SW-23-071-06-W6	152645-01-00
Conocophillips Canada Energy Partnership	Wembley	06-19-073-08-W6	00000212-01-00
Devon Canada	NW Belloy (Dunvegan)	16-36-079-03-W6	00009810-02-00
	Eaglesham (South)	02-14-077-25-W5	00047669-01-00
	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	Sexsmith	04-08-075-07-W6	00010002-01-00
Enerplus Resources	Pouce Coupe	SW-06-069-21-W5	1464-02-03
Grande Prairie Generation Inc.	Northern Prairie Power Project	04-19-073-08-W6	00238762-00-00
Long Run Exploration	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
	Puskwaskau	03-26-074-01-W6	00017524-01-00
Longview Oil Corp.	Sunset House	06-22-070-20-W5	138884-01-00
Penn West Petroleum Ltd.	Tangent	13-29-080-23-W5	00001746-02-00
	Pouce Coupe	16-07-078-11-W6	00000614-01-00

Company	Facility	LSD	EPEA Approval Number
Petrus Resources	Rycroft	08-25-077-06-W6	11351-02-00
	Spirit River	08-34-077-06-W6	11096-02-00
Spectra Energy Midstream Corporation	Fourth Creek	16-11-082-09-W6	00000263-01-00
	Gordondale	11-26-079-09-W6	00011495-01-01
	Pouce Coupe/Bonanza	3-23-080-13-W6	00070203-01-01
Suncor Energy Inc.	Progress	07-22-078-09-W6	00011428-02-00
TAQA North Ltd.	Valhalla	13-21-076-09-W6	00017620-01-00
Veresen Energy	Hythe Brainard	11-18-074-12-W6	00010910-02-00
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: **Seven (7) Stations including Henry Pirker (Grande Prairie), Evergreen Park, Smoky Heights, Beaverlodge, Valleyview, Falher and Portable-Sunset House.**

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

Henry Pirker Station:

- The measured ambient air quality was within the 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 and 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 and 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 and 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 and sensors at the Valleyview station had an operational uptime greater than 90% for the month of August.

Sunset House Station:

- The measured ambient air quality was within the AAAQO for the Sunset House station.
- All analyzers and sensors at the Sunset House station had an operational uptime greater than 90% for the month of August with the exception of the O_3 analyzer, which was damaged by a power bump on July 26th and was repaired August 8th. **AE Reference#274350.**

Falher Station:

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

Passive Monitoring - 46 Stations throughout the PAZA zone:

There were five duplicate sites sampled in the month of August: Gordondale, Sylvester, Eaglesham, Jean Cote, and Girouxville 4. The passive sample analyses were performed by MAXXAM Analytics Inc.

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

- Monthly average concentrations for SO_2 passives ranged from 0.1 ppb to 1.4 ppb, with a mean of 0.5 ppb.
- Monthly average concentrations for NO_2 passives ranged from 0.1 ppb to 3.0 ppb, with a mean of 0.6 ppb.
- Monthly average concentrations for O_3 passives ranged from 10.9 ppb to 36.0 ppb, with a mean of 18.4 ppb.
- Monthly average concentrations for H_2S were between 0.1 And 0.2 pbb, with a mean of 0.2 ppb.

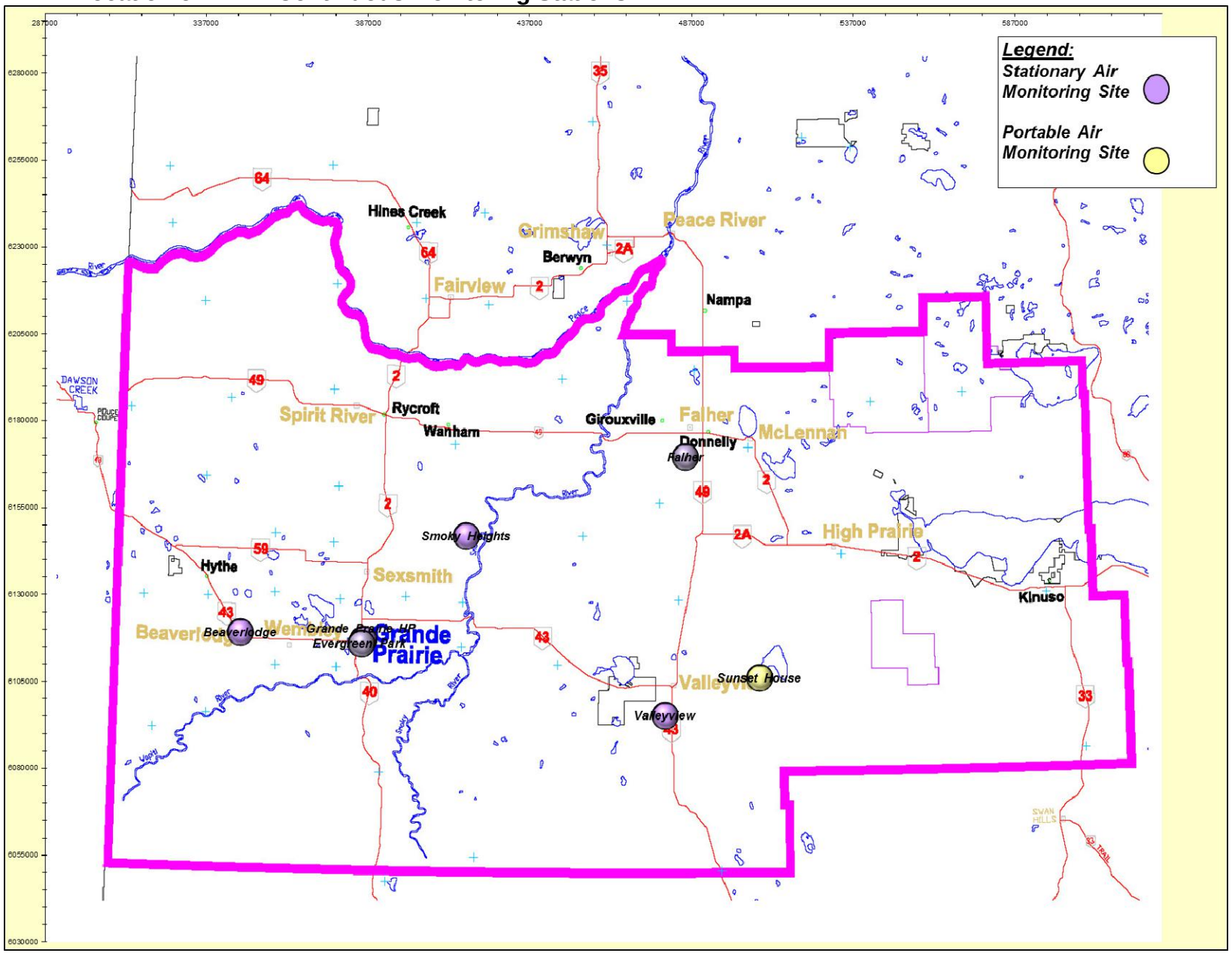
If you have any questions or concerns, please contact the PAZA office at 780.833.4343.

On Behalf of the
Peace Airshed Zone Association

Patrick Andersen, B.Sc.
FOCUS AQM Data Specialist

Jeff Cooper, C.Tech.
AQM Operations Manager

Location of PAZA Continuous Monitoring Stations



PAZA Monthly Continuous Data Summary

Aug-2013	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	0.1	0	0	1.4	Aug-02 14:00	0.3	Aug-02	100%
SO_2 (ppb)	172	48	Evergreen Park	0.2	0	0	6.2	Aug-09 12:00	1.2	Aug-09	100%
SO_2 (ppb)	172	48	Smoky Heights	0.2	0	0	6.7	Aug-21 08:00	0.7	Aug-30	100%
SO_2 (ppb)	172	48	Beaverlodge	0.1	0	0	2.4	Aug-03 00:00	0.6	Aug-09	100%
SO_2 (ppb)	172	48	Valleyview	0.6	0	0	41.9	Aug-16 22:00	2.5	Aug-16	100%
SO_2 (ppb)	172	48	Sunset House	0.1	0	0	1.9	Aug-02 08:00	0.4	Aug-28	100%
SO_2 (ppb)	172	48	Falher	0.1	0	0	1.2	Aug-08 09:00	0.4	Aug-10	100%
NO (ppb)			Henry Pirker	1.0	0	0	20.1	Aug-22 08:00	3.2	Aug-22	100%
NO_2 (ppb)	159	106	Henry Pirker	4.5	0	0	20.3	Aug-15 08:00	6.9	Aug-28	100%
NO_X (ppb)			Henry Pirker	5.5	0	0	34.3	Aug-22 08:00	10.0	Aug-22	100%
NO (ppb)			Beaverlodge	0.3	0	0	10.7	Aug-28 10:00	1.3	Aug-28	100%
NO_2 (ppb)	159	106	Beaverlodge	2.2	0	0	11.9	Aug-26 06:00	3.2	Aug-26	100%
NO_X (ppb)			Beaverlodge	2.5	0	0	23.4	Aug-03 06:00	4.4	Aug-26	100%
NO (ppb)			Sunset House	0.1	0	0	4.0	Aug-09 19:00	0.3	Aug-09	100%
NO_2 (ppb)	159	106	Sunset House	0.9	0	0	3.3	Aug-09 19:00	1.6	Aug-09	100%
NO_X (ppb)			Sunset House	1.0	0	0	7.3	Aug-09 19:00	1.9	Aug-09	100%
O_3 (ppb)	82		Henry Pirker	21.9	0	-	56.1	Aug-14 16:00	31.3	Aug-03	100%
O_3 (ppb) - 8-hr			Henry Pirker		0				44.0	Aug-14	
O_3 (ppb)	82		Beaverlodge	25.3	0	-	47.6	Aug-02 14:00	32.2	Aug-02	100%
O_3 (ppb) - 8-hr			Beaverlodge		0				44.0	Aug-02	
O_3 (ppb)	82		Sunset House	24.0	0	-	42.7	Aug-14 18:00	31.8	Aug-14	76%
O_3 (ppb) - 8-hr			Sunset House		0				40.4	Aug-14	
CO (ppm)	13		Henry Pirker	0.15	0	-	0.5	Aug-04 22:00	0.2	Aug-10	100%
CO (ppm) - 8-hr	5		Henry Pirker		0				0.3	Aug-05	

PAZA Monthly Continuous Data Summary – continued

Aug-2013	Peace Airshed Zone Assocation						Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
THC (ppm)			Henry Pirker	2.0	-	-	4.0	Aug-05 00:00	2.3	Aug-05	93%
CH_4 (ppm)			Henry Pirker	2.0	-	-	4.0	Aug-05 00:00	2.3	Aug-05	93%
NMHC (ppm)			Henry Pirker	0.00	-	-	0.0	Aug-14 13:00	0.0	Aug-14	93%
TRS (ppb)			Henry Pirker	0.4	-	-	2.1	Aug-09 06:00	0.6	Aug-05	100%
TRS (ppb)			Evergreen Park	0.3	-	-	1.1	Aug-06 09:00	0.4	Aug-14	100%
TRS (ppb)			Smoky Heights	0.1	-	-	0.5	Aug-04 05:00	0.2	Aug-29	100%
TRS (ppb)			Sunset House	0.3	-	-	0.5	Aug-11 04:00	0.4	Aug-19	100%
H_2S (ppb)	10	3	Valleyview	0.1	0	0	1.0	Aug-02 03:00	0.5	Aug-02	100%
H_2S (ppb)	10	3	Falher	0.3	0	0	2.5	Aug-08 08:00	0.6	Aug-01	100%
$PM_{2.5}$ (µg/m3)	80	30	Henry Pirker	7.1	0	0	30.9	Aug-11 00:00	13.6	Aug-10	100%
$PM_{2.5}$ (µg/m3)	80	30	Evergreen Park	4.7	0	0	58.0	Aug-20 10:00	12.3	Aug-20	97%
$PM_{2.5}$ (µg/m3)	80	30	Smoky Heights	4.3	0	0	32.5	Aug-08 03:00	9.9	Aug-08	98%
$PM_{2.5}$ (µg/m3)	80	30	Beaverlodge	8.5	0	0	20.4	Aug-09 10:00	15.3	Aug-09	99%
$PM_{2.5}$ (µg/m3)	80	30	Sunset House	4.6	0	0	25.0	Aug-13 18:00	10.4	Aug-13	93%
RH (%)			Henry Pirker	65.6	-	-	91.3	Aug-27 08:00	81.8	Aug-30	100%
RH (%)			Evergreen Park	70.2	-	-	97.3	Aug-13 10:00	88.2	Aug-30	100%
RH (%)			Beaverlodge	74.8	-	-	100.0	Aug-04 02:00	94.7	Aug-30	100%
RH (%)			Valleyview	77.5	-	-	100.0	Aug-30 03:00	96.3	Aug-30	100%
SR (W/m^2)			Henry Pirker	185.2	-	-	814.8	Aug-04 14:00	272.8	Aug-01	100%
Temp (°C)			Henry Pirker	17.5	-	-	28.7	Aug-10 17:00	20.9	Aug-10	100%
Temp (°C)			Evergreen Park	17.1	-	-	27.6	Aug-10 17:00	19.7	Aug-02	100%
Temp (°C)			Smoky Heights	16.5	-	-	26.4	Aug-10 18:00	19.9	Aug-02	100%
Temp (°C)			Beaverlodge	16.7	-	-	27.6	Aug-10 17:00	20.2	Aug-10	100%
Temp (°C)			Valleyview	17.1	-	-	28.1	Aug-14 18:00	19.9	Aug-14	100%
Temp (°C)			Sunset House	16.5	-	-	26.8	Aug-14 16:00	20.8	Aug-02	100%
Temp (°C)			Falher	16.4	-	-	27.4	Aug-10 17:00	19.6	Aug-13	100%

PAZA Monthly Continuous Data Summary – continued

Aug-2013			Peace Airshed Zone Assocation				Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
WSPD s (km/hr)			Henry Pirker	8.5	-	-	36.0	Aug-20 10:00	23.3	Aug-20	100%
WSPD s (km/hr)			Evergreen Park	8.8	-	-	63.0	Aug-20 12:00	34.3	Aug-20	100%
WSPD s (km/hr)			Smoky Heights	9.5	-	-	43.0	Aug-19 14:00	26.4	Aug-20	100%
WSPD s (km/hr)			Beaverlodge	10.2	-	-	47.0	Aug-20 12:00	29.3	Aug-20	100%
WSPD s (km/hr)			Valleyview	2.7	-	-	21.0	Aug-20 14:00	8.2	Aug-20	100%
WSPD s (km/hr)			Sunset House	8.5	-	-	22.0	Aug-02 23:00	15.5	Aug-09	100%
WSPD s (km/hr)			Falher	10.2	-	-	30.0	Aug-19 20:00	20.4	Aug-19	100%
WSPD v (km/hr)			Henry Pirker	2.3	-	-	36.0	Aug-20 10:00	22.4	Aug-20	100%
WSPD v (km/hr)			Evergreen Park	4.0	-	-	62.0	Aug-20 12:00	33.4	Aug-20	100%
WSPD v (km/hr)			Smoky Heights	4.0	-	-	42.0	Aug-19 14:00	25.6	Aug-20	100%
WSPD v (km/hr)			Beaverlodge	1.8	-	-	47.0	Aug-20 12:00	28.9	Aug-20	100%
WSPD v (km/hr)			Valleyview	0.6	-	-	20.0	Aug-20 14:00	7.3	Aug-20	100%
WSPD v (km/hr)			Sunset House	4.1	-	-	22.0	Aug-02 23:00	14.8	Aug-09	100%
WSPD v (km/hr)			Falher	3.3	-	-	30.0	Aug-19 20:00	19.0	Aug-19	100%
WDIR			Henry Pirker	WSW	-	-	-	-	-	-	100%
WDIR			Evergreen Park	WSW	-	-	-	-	-	-	100%
WDIR			Smoky Heights	WSW	-	-	-	-	-	-	100%
WDIR			Beaverlodge	WSW	-	-	-	-	-	-	100%
WDIR			Valleyview	WSW	-	-	-	-	-	-	100%
WDIR			Sunset House	S	-	-	-	-	-	-	100%
WDIR			Falher	S	-	-	-	-	-	-	100%

Continuous Network Equipment Summary

PAZA – Henry Pirker Station

General Station Issues

Routine monthly calibrations were performed on August 14th (SO_2, NO_X, TRS, THC) and 15th (CO, O_3).

Parameter	Make	Model	Notes
SO_2	TEI	43C	No operational issues observed.
NOx/NO/NO_2	TEI	42C	No operational issues observed.
O_3	TEI	49C	No operational issues observed.
CO	TEI	48C	No operational issues observed.
THC/CH_4/NMHC	TEI	55I	Hydrogen cylinder ran out on August 21st, replaced on August 23rd and analyzer recalibrated.
TRS	TEI	45C/43C	No operational issues observed.
$PM_{2.5}$	Sharp	5030	No operational issues observed.
RH	Met One	083D	No operational issues observed.
ET	Met One	083D	No operational issues observed.
SR	Met One	096-1	No operational issues observed.
WS / WD	Met One	010C/020C	No operational issues observed.

PAZA – Evergreen Park Station

General Station Issues

Routine monthly calibration performed on August 13th (SO_2, TRS) and 15th ($PM_{2.5}$).

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	Eight (8) hours were invalidated due to negative swings. Pump replaced August 15th after analyzer failed on August 14th.
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 calibration performed on August 20st (SO_2, TRS).			
Parameter	**Make**	**Model**	**Notes**
SO_2	TEI	43C	No operational issues observed.
TRS	TEI	43C	No operational issues observed.
$PM_{2.5}$	R&P	1400AB	Nine (9) hours invalidated due to negative swings. Analyzer failed to restart properly after failure on August 23rd and was restarted by technician.
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 22nd (SO_2, NO_X , O_3).

Parameter	Make	Model	Notes
SO_2	TEI	43CTL	No operational issues observed.
NOx/NO/NO_2	TEI	42C	No operational issues observed.
O_3	TEI	49C	No operational issues observed.
$PM_{2.5}$	R&P	1400AB	One (1) hour invalidated due to negative swings. Analyzer failed to collect valid data for 5 hours on August 11th.
ET	n/a	n/a	Two hours invalidated due to loose connection
RH	n/a	n/a	Two hours invalidated due to loose connection
WS / WD	Blue Sky	857	No operational issues observed.

PAZA – Valleyview Station

General Station Issues

Routine monthly calibrations were performed on August 9th (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 – Portable-Sunset House Station			
General Station Issues Routine monthly calibrations were performed on August 8th (SO_2, O_3, NO_x), 9th (TRS) and 20th ($PM_{2.5}$)			
Parameter	**Make**	**Model**	**Notes**
SO_2	TEI	43i	No operational issues observed.
O_3	TEI	49C	Power bump during calibration destroyed control board in August. Analyzer returned to service on August 8th. **AE Reference #274350**
TRS	TEI	39C	No operational issues observed.
$PM_{2.5}$	R&P	1400AB	Fifty (50) hours of data invalidated due to negative swings.
ET	Gill	Met Pak 3	No operational issues observed.
WS / WD	Gill	Met Pak 3	No operational issues observed.

PAZA – Falher Station

General Station Issues

Routine monthly calibrations were performed on August 31st (SO_2 & H_2S).

Parameter	Make	Model	Notes
SO_2	TEI	43i	No operational issues observed.
H_2S	Thermo	450i	No operational issues observed.
ET	Gill	RM Young 5103	No operational issues observed.
WS / WD	Gill	RM Young 5103	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 2013

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

Maximum Value: 1.4 ppb on Aug 2 14:00 Maximum Daily Average: 0.3 ppb on Aug 2

Minimum Value: 0 ppb on Aug 3 06:00 Minimum Daily Average: 0.0 ppb on Aug 11

Maximum Diurnal Average: 0.1 ppb at hour 8 Minimum Diurnal Average: 0.0 ppb at hour 20

Monthly Average: 0.06 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.0 Q_3 = 0.1 P_{90} = 0.2 P_{99} = 0.6

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	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
2-Aug	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0.3	1.4
3-Aug	0	0	0	0	0	0	0	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
4-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	0.2
5-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	0.1
6-Aug	0	0	0	D	0	0	0	A	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	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
8-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	0.0	0.4
9-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	1.3
10-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
11-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
12-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	0.0
13-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
14-Aug	0	0	0	0	0	0	1	1	C	C	C	C	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.6
15-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	0.5
16-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	0.0	0.0
17-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
18-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	0.0	0.1
19-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	0.1
20-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	0	0.0	0.5
21-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	0.1
22-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	0.2
23-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	0.2
24-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	0.1
25-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	0.2
26-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	0.5
27-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	0.1
28-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	0.1
29-Aug	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.1	0.5
30-Aug	1	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	0.7
31-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	0.2
Diurnal Average	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1		
Diurnal Maximum	0.7	0.3	0.2	0.3	0.5	0.4	0.6	0.6	0.6	0.4	0.5	1.3	1.2	1.4	0.5	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5		

C - Calibration D - DAS Failure A - Automated Daily Zero Span

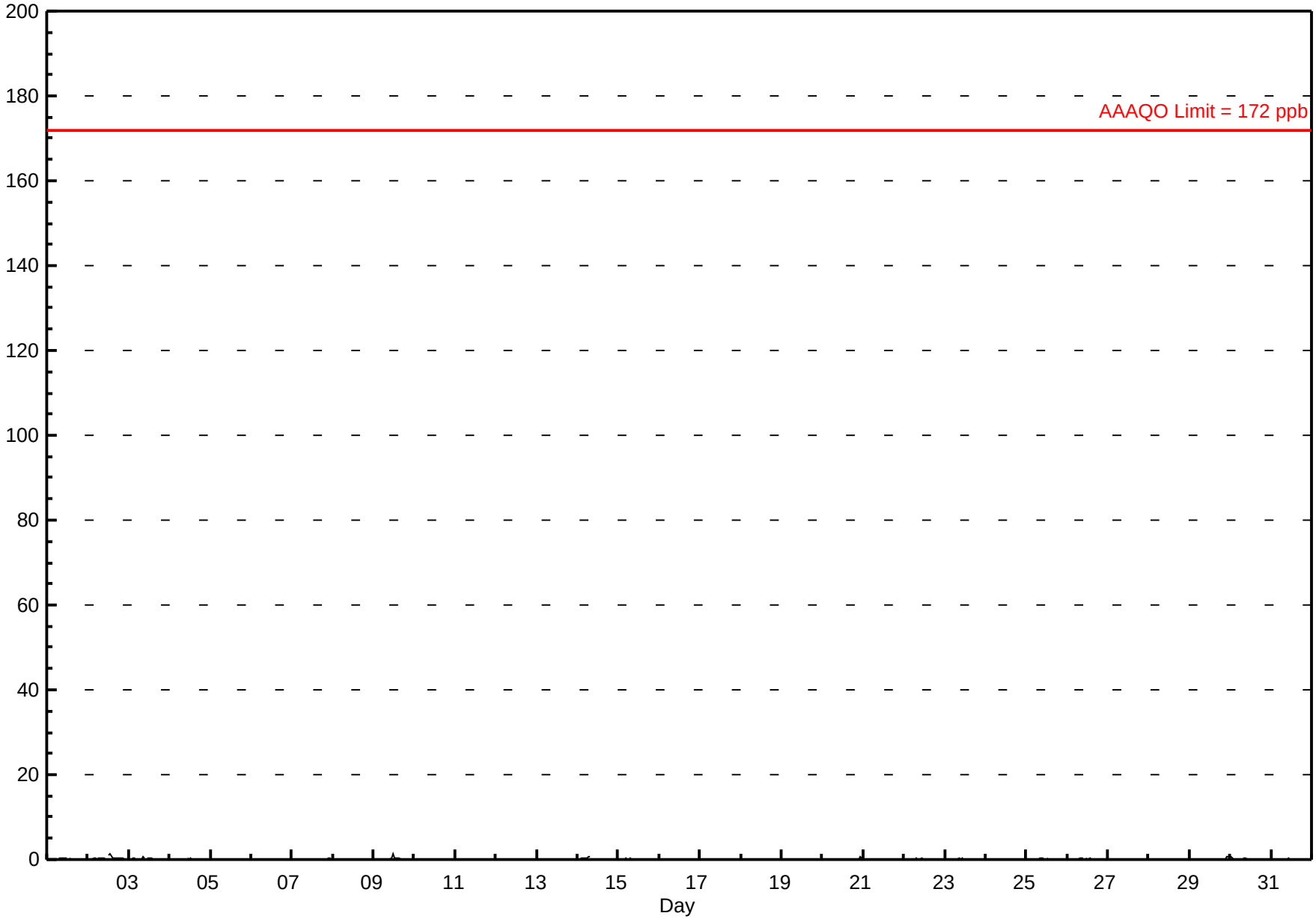
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - August 2013

Maximum Value: 6.5 ppb on Aug 26 13:00

Maximum Daily Average: 0.7 ppb on Aug 26

Minimum Value: 0 ppb on Aug 8 07:00

Minimum Daily Average: 0.1 ppb on Aug 13

Maximum Diurnal Average: 0.6 ppb at hour 13

Minimum Diurnal Average: 0.2 ppb at hour 17

Monthly Average: 0.30 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.1$ Median = 0.2 $Q_3 = 0.5$ $P_{90} = 0.6$ $P_{99} = 1.1$

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	0	1	1	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0.3	0.8
2-Aug	0	0	0	0	1	0	1	1	1	0	0	A	2	3	1	1	1	0	1	1	1	0	0	0	0.6	2.7
3-Aug	0	0	0	1	0	0	0	0	1	1	A	1	0	0	0	0	1	0	0	0	0	0	0	0	0.4	1.2
4-Aug	0	0	0	0	0	0	0	0	0	A	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
5-Aug	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.2	0.6
6-Aug	0	0	0	D	0	0	0	A	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
7-Aug	0	0	0	0	0	0	A	0	0	1	1	1	1	1	0	0	0	0	1	1	0	1	1	1	0.3	1.0
8-Aug	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.0
9-Aug	0	0	0	0	A	0	0	0	0	0	2	2	1	1	1	1	0	0	0	0	0	0	0	0	0.6	2.3
10-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	0.1	0.5
11-Aug	1	0	A	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0.1	0.6
12-Aug	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.2	0.5
13-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
14-Aug	0	0	1	1	1	1	1	1	C	C	C	C	0	0	0	0	0	0	0	0	0	0	A	1	0.3	1.1
15-Aug	0	0	1	1	1	1	1	1	0	1	0	1	0	0	1	0	0	0	0	0	0	A	0	0	0.4	1.0
16-Aug	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.1	0.5
17-Aug	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	A	0	0	0	1	0.2	0.6
18-Aug	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	A	1	1	0	0	0	0.3	0.7
19-Aug	0	1	0	1	0	1	1	1	0	1	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0.3	0.6
20-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	1	0.2	1.0
21-Aug	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	A	0	0	1	0	1	1	1	0	0.3	0.6
22-Aug	0	1	1	0	0	0	1	1	1	1	1	0	1	0	A	0	0	0	0	0	0	0	0	0	0.3	1.0
23-Aug	0	0	0	0	0	0	1	1	1	1	1	1	1	A	1	1	1	1	0	0	1	0	0	0	0.4	0.5
24-Aug	0	1	0	0	0	0	1	1	0	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
25-Aug	0	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
26-Aug	1	1	1	0	0	0	1	1	1	1	A	1	6	1	1	1	0	0	0	0	0	0	0	0	0.7	6.5
27-Aug	0	0	0	0	0	0	0	0	0	A	1	0	0	1	0	0	0	0	0	0	1	1	0	0	0.3	0.9
28-Aug	1	0	1	0	1	0	1	1	A	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0.4	0.6
29-Aug	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.3	0.9
30-Aug	1	1	0	0	0	0	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9
31-Aug	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0.3	0.6
	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.4	0.4	0.4	0.4	0.4	0.6	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	Diurnal Average	
	1.0	0.6	0.6	0.6	1.0	0.7	1.1	1.1	1.2	0.8	1.8	2.3	6.5	2.7	0.8	1.3	0.6	0.5	0.7	0.7	0.7	1.0	1.0	1.0	Diurnal Maximum	

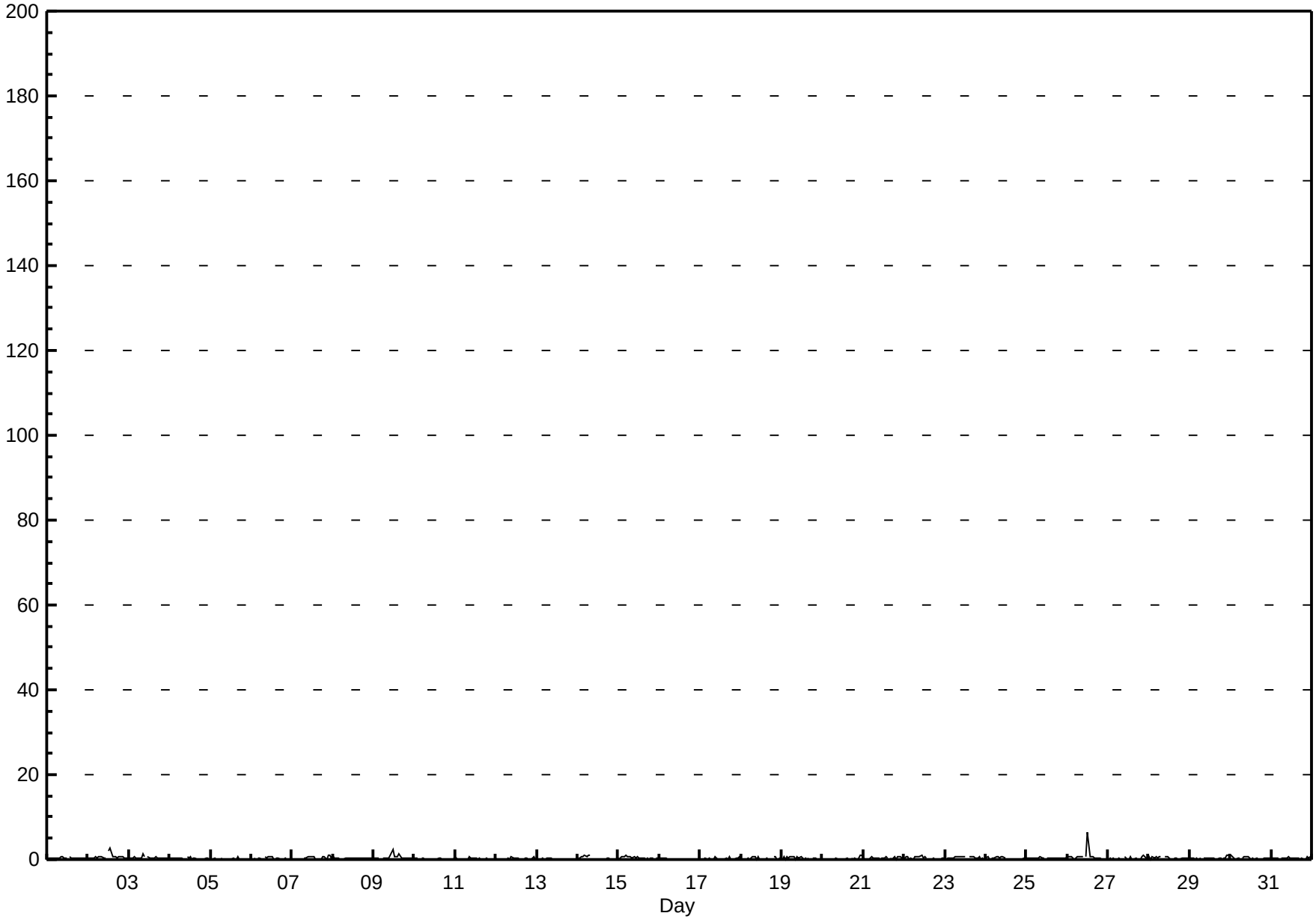
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

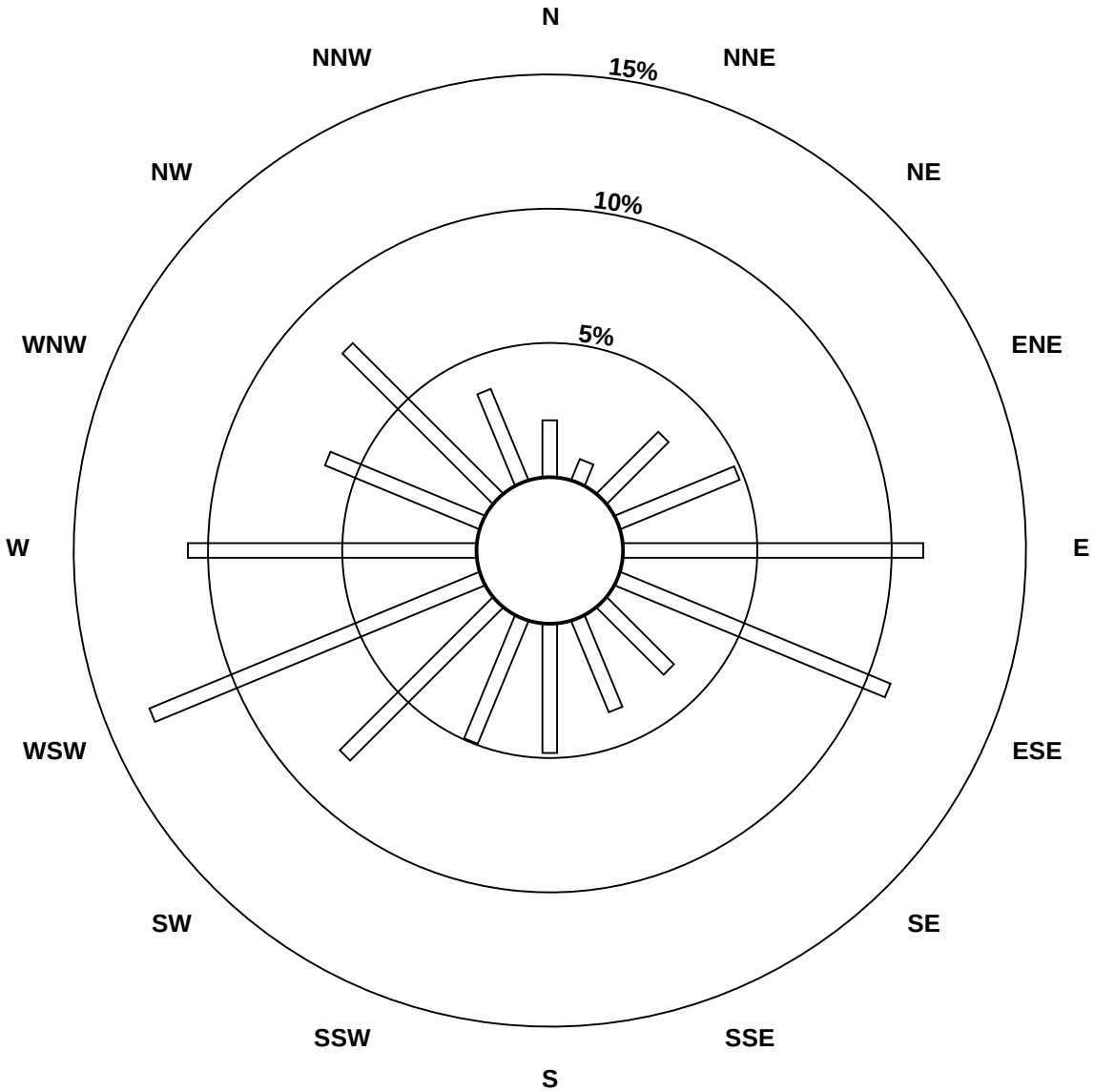
Henry Pirker - August 2013



Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - August 2013



Pollutant Classes (ppb)

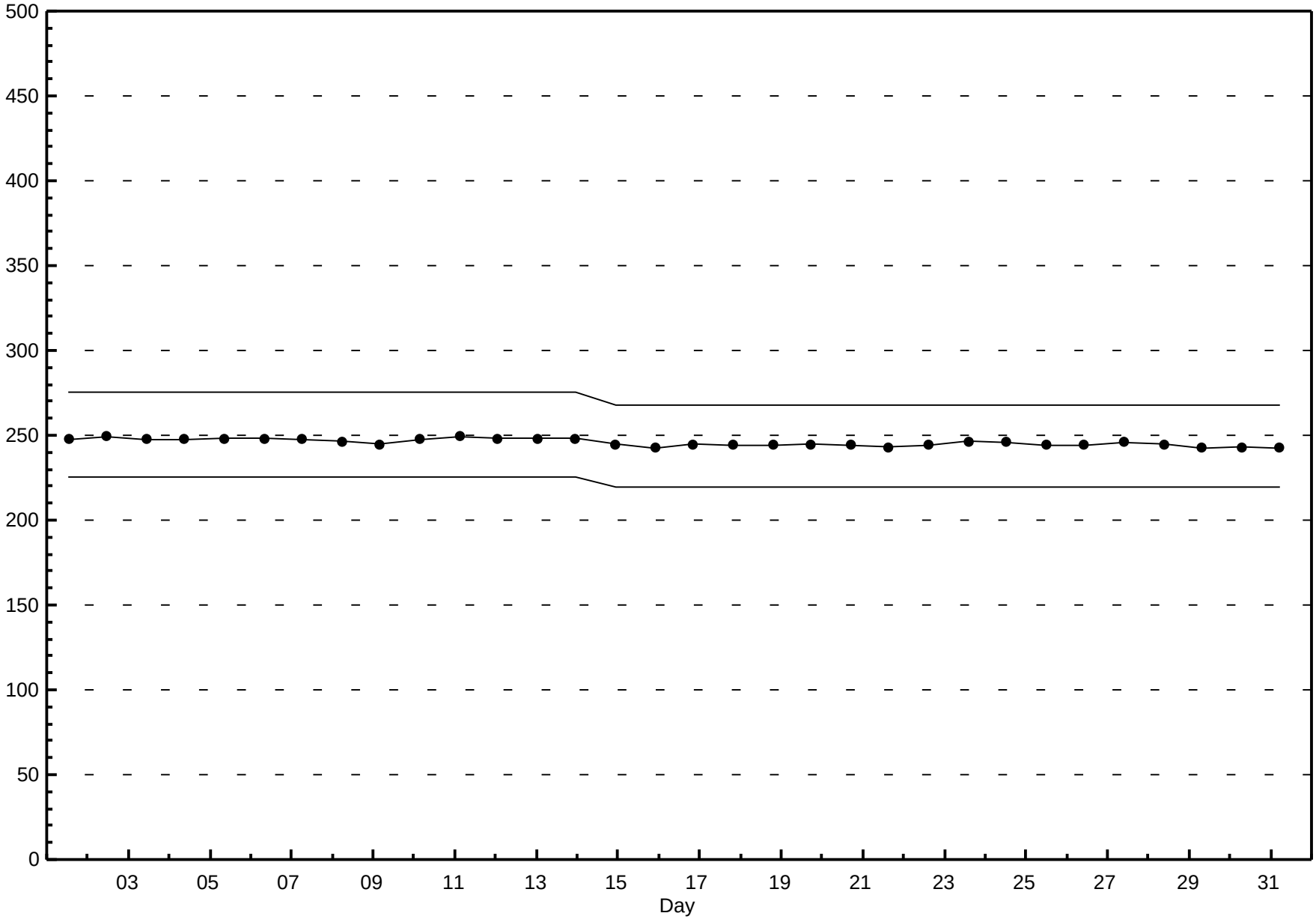
- 0 - 10
- 11 - 20
- 21 - 60
- 61 - 110
- 111 - 172
- > 172

Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Henry Pirker - August 2013



Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - August 2013

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

Maximum Value: 2.1 ppb on Aug 9 06:00 Maximum Daily Average: 0.6 ppb on Aug 5

Minimum Value: 0 ppb on Aug 19 00:00 Minimum Daily Average: 0.2 ppb on Aug 18

Maximum Diurnal Average: 0.6 ppb at hour 6 Minimum Diurnal Average: 0.3 ppb at hour 17

Monthly Average: 0.42 ppb Percentiles: $P_1 = 0.1$ $P_{10} = 0.2$ $Q_1 = 0.3$ Median = 0.4 $Q_3 = 0.5$ $P_{90} = 0.6$ $P_{99} = 1.1$

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	37
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	0	1	1	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7
2-Aug	0	0	0	1	1	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8
3-Aug	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	0.5
4-Aug	1	1	1	1	0	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0.5	1.0
5-Aug	1	1	1	1	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.6	1.1
6-Aug	1	0	0	D	0	1	2	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.9
7-Aug	0	1	0	0	0	1	A	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0.5	0.7
8-Aug	0	1	0	0	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.1
9-Aug	0	1	1	1	A	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	2.1
10-Aug	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.4	0.7
11-Aug	1	1	A	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0.5	0.7
12-Aug	1	A	1	1	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.0
13-Aug	A	0	1	1	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.5	0.7
14-Aug	0	0	0	1	1	1	0	1	1	1	C	C	C	C	C	0	0	0	0	0	0	0	A	1	0.4	0.9
15-Aug	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	1	0.4	0.8
16-Aug	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.8
17-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	0.3	0.5
18-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	0.2	0.3
19-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	0.3	0.5
20-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	0.3	0.5
21-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
22-Aug	0	0	0	0	1	1	1	1	0	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0.4	0.6
23-Aug	0	0	1	1	1	1	1	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	0.5	0.8
24-Aug	1	1	1	1	1	1	1	1	0	0	0	0	A	0	0	0	0	0	0	0	1	1	1	1	0.5	0.8
25-Aug	1	1	1	0	0	0	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0.4	0.6
26-Aug	1	1	1	1	1	1	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	1.4
27-Aug	1	1	1	1	1	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.4	0.8
28-Aug	1	1	1	1	1	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.1
29-Aug	1	0	1	1	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4	0.6
30-Aug	1	1	1	1	1	1	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.1
31-Aug	0	0	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	Diurnal Average	
	0.9	0.7	0.8	0.8	1.3	2.1	1.9	1.1	1.1	0.9	0.8	0.6	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.6	0.7	0.6	0.8	1.0	Diurnal Maximum	

C - Calibration D - DAS Failure A - Automated Daily Zero Span

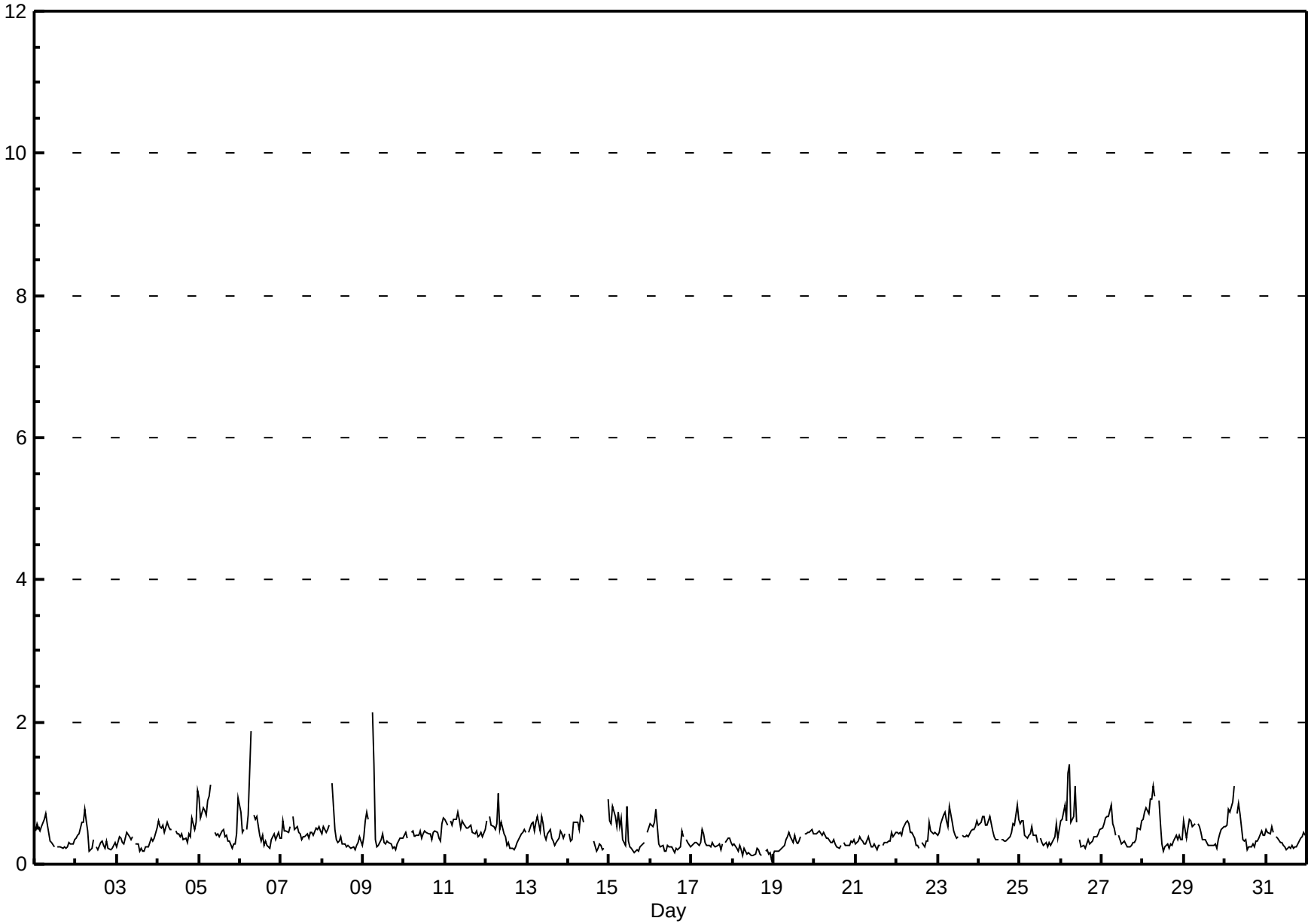
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - August 2013

Maximum Value: 9.4 ppb on Aug 26 09:00

Maximum Daily Average: 1.5 ppb on Aug 26

Minimum Value: 0 ppb on Aug 18 22:00

Minimum Daily Average: 0.6 ppb on Aug 18

Maximum Diurnal Average: 1.2 ppb at hour 6

Minimum Diurnal Average: 0.7 ppb at hour 17

Monthly Average: 0.89 ppb

Percentiles: $P_1 = 0.5$ $P_{10} = 0.6$ $Q_1 = 0.7$ Median = 0.8 $Q_3 = 1.0$ $P_{90} = 1.2$ $P_{99} = 2.7$

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	37
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	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.8	1.5
2-Aug	1	1	1	1	1	2	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.7
3-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	0.7	0.9
4-Aug	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	2	1	1	1	1	2	1.0	2.4
5-Aug	2	1	1	1	2	2	2	2	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1.1	1.9
6-Aug	1	1	1	D	1	3	5	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	4.8
7-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	0.9	1.2
8-Aug	1	1	1	1	2	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.7
9-Aug	1	1	1	1	A	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.8
10-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	0.8	1.1
11-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	1.0	1.2
12-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
13-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	0.9	1.2
14-Aug	1	1	1	1	1	1	1	2	1	1	C	C	C	C	C	1	1	1	1	1	1	1	A	2	0.9	1.6
15-Aug	1	1	1	2	1	2	1	1	1	1	2	1	1	1	1	0	1	1	0	1	1	A	1	1	0.9	1.9
16-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.8	1.4
17-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.7	0.9
18-Aug	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	A	0	1	0	0	1	0.6	0.8
19-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	1.1
20-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	1.0
21-Aug	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	A	1	1	1	1	1	1	1	1	0.7	1.0
22-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	1.2
23-Aug	1	1	1	1	1	1	1	3	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1.0	3.0
24-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	0.9	1.5
25-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	0.8	1.3
26-Aug	1	1	1	1	3	3	1	1	9	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1.5	9.4
27-Aug	1	1	1	2	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.6
28-Aug	1	1	1	1	2	1	2	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.8
29-Aug	1	1	1	1	2	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.7
30-Aug	1	1	1	1	1	2	A	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0.9	1.6
31-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	0.7	1.0
Diurnal Average	0.9	0.9	1.0	1.0	1.1	1.2	1.2	1.1	1.1	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.9	1.0		
Diurnal Maximum	1.8	1.3	1.5	1.6	2.9	3.3	4.8	3.0	9.4	1.3	1.9	1.1	1.5	1.1	1.1	1.0	0.9	0.9	1.5	1.1	1.2	1.3	1.5	2.4		

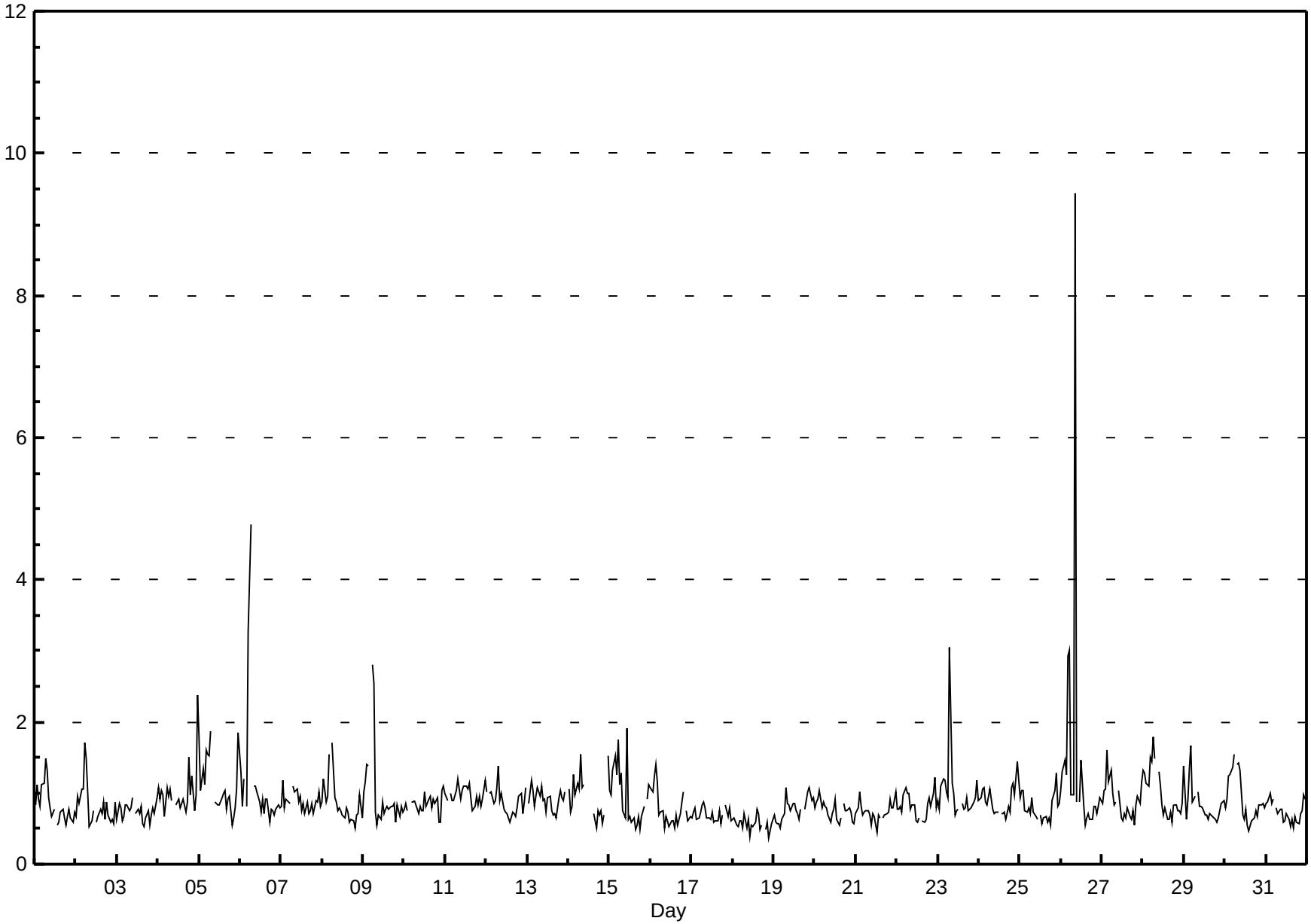
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - August 2013

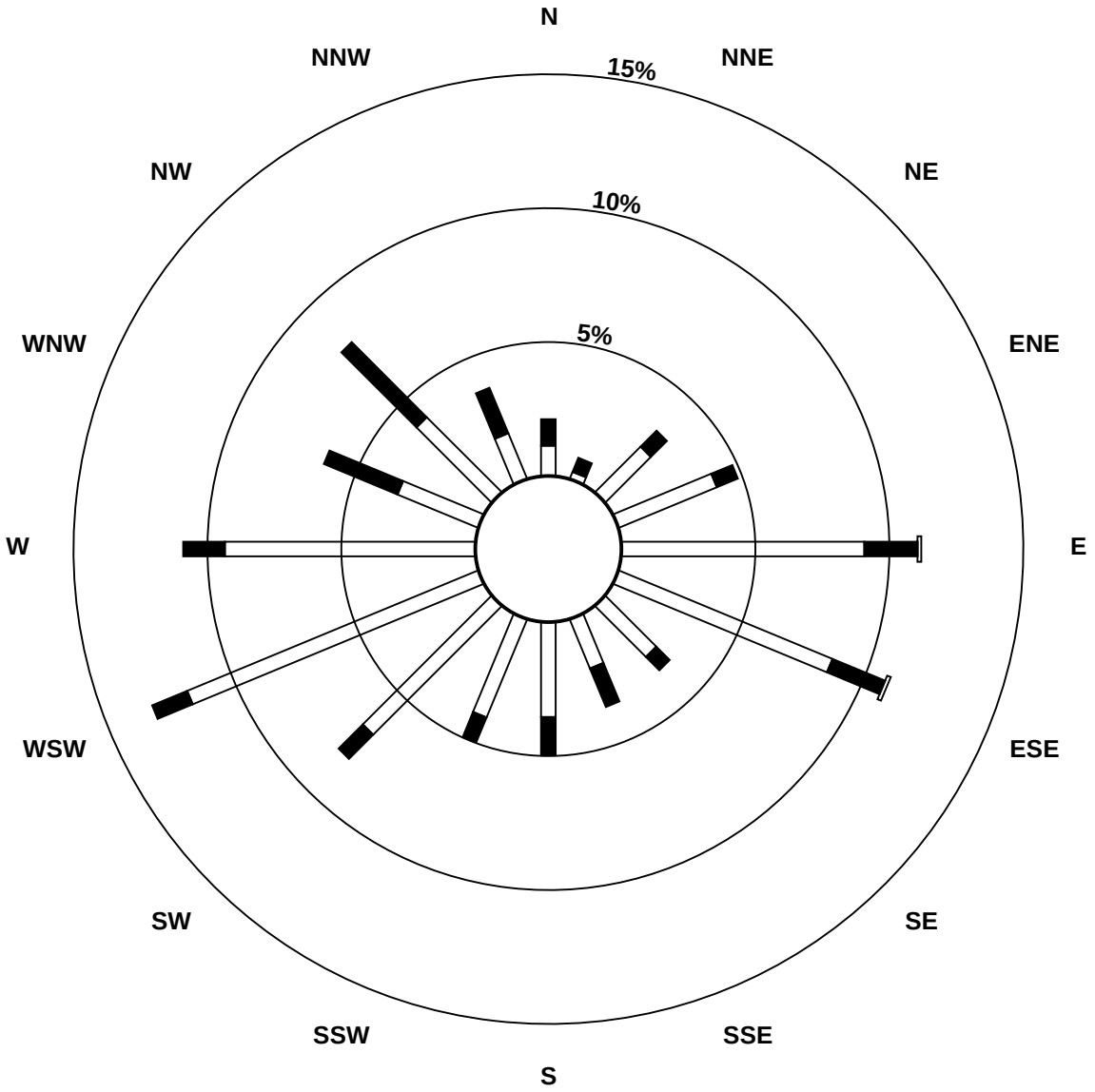


FOCUS AIR QUALITY MONITORING

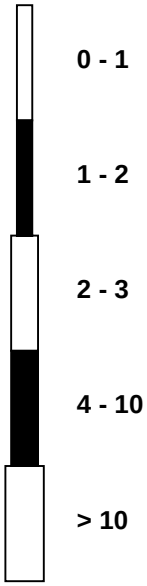
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - August 2013



Pollutant Classes (ppb)

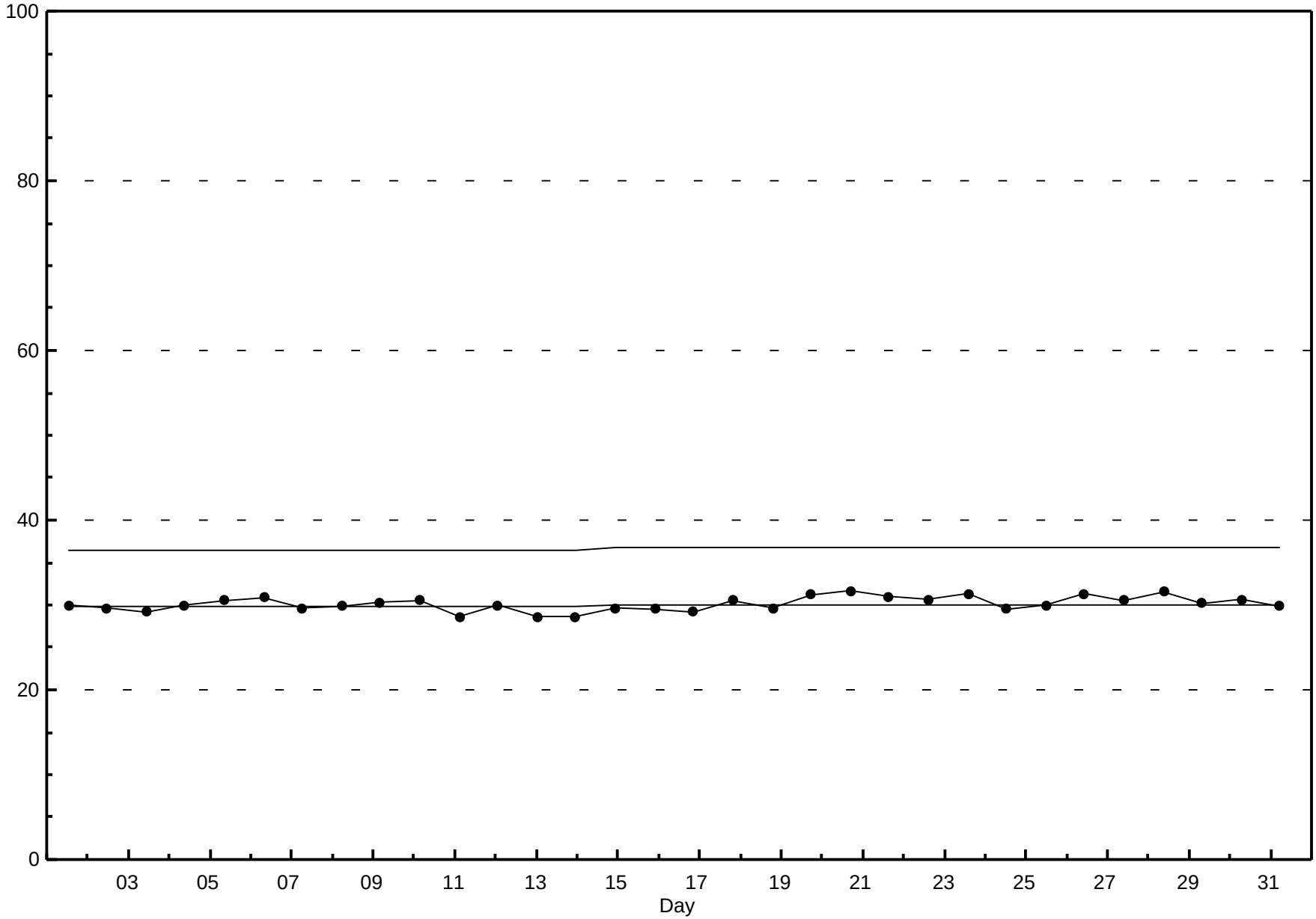


Peace Airshed Zone Association

Span Responses

Total Reduced Sulphur (TRS)

Henry Pirker - August 2013



Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - August 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 20.3 ppb on Aug 15 08:00
Maximum Daily Average: 6.9 ppb on Aug 28

Minimum Value: 1 ppb on Aug 20 01:00
Maximum Diurnal Average: 8.4 ppb at hour 8
Monthly Average: 4.45 ppb

Minimum Daily Average: 2.4 ppb on Aug 20
Minimum Diurnal Average: 2.2 ppb at hour 16
Percentiles: P_1 = 1.0 P_{10} = 1.7 Q_1 = 2.3 Median = 3.5 Q_3 = 5.7 P_{90} = 8.8 P_{99} = 14.3

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	4	3	3	3	5	7	8	6	5	3	2	2	A	3	2	2	2	2	2	2	3	3	3	3	3.5	8.0
2-Aug	2	2	2	3	4	6	6	4	4	3	3	A	4	3	2	2	2	2	2	3	5	6	4	3	3.3	5.7
3-Aug	3	3	2	1	2	3	5	3	2	2	A	3	2	3	2	2	2	2	3	3	3	3	4	3	2.7	4.6
4-Aug	4	3	4	5	5	6	4	4	3	A	6	3	2	1	1	1	1	1	2	3	7	18	18	13	5.0	17.9
5-Aug	12	10	4	3	3	6	8	6	A	5	4	2	2	3	3	3	3	2	3	4	7	8	8	7	5.1	12.0
6-Aug	8	5	4	D	5	6	8	A	13	14	15	8	4	2	3	3	4	5	5	7	4	4	3	2	6.0	15.2
7-Aug	2	2	2	3	4	6	A	10	7	3	2	2	2	2	2	6	6	5	3	5	7	4	3	3	4.0	10.2
8-Aug	2	2	3	2	2	A	7	5	4	3	2	2	2	2	2	2	3	3	2	3	5	4	3	3	3.0	7.1
9-Aug	3	3	2	3	A	6	6	4	3	4	5	4	2	2	2	2	2	2	3	3	4	4	4	4	3.3	6.2
10-Aug	3	3	3	A	6	5	6	4	6	6	4	5	5	3	2	1	1	2	3	4	7	11	12	13	4.9	12.8
11-Aug	9	4	A	4	5	5	6	5	4	5	4	4	4	3	3	3	2	2	3	4	5	6	9	8	4.5	9.2
12-Aug	6	A	6	4	5	9	10	13	8	4	5	5	3	2	2	2	1	2	3	4	4	3	3	3	4.6	12.6
13-Aug	A	5	5	4	6	11	15	15	13	10	8	6	6	3	2	2	3	3	4	5	6	6	3	A	6.5	14.9
14-Aug	5	3	5	6	5	8	15	11	C	C	C	C	C	C	5	5	4	3	4	8	8	8	A	7	--	14.5
15-Aug	6	5	5	4	4	9	11	20	6	6	3	3	2	2	4	2	2	2	3	4	7	A	9	13	5.7	20.3
16-Aug	5	3	3	4	4	4	9	10	7	7	7	5	2	1	1	1	2	2	3	4	A	5	4	4	4.2	9.8
17-Aug	4	3	3	4	5	6	8	9	4	2	2	2	2	1	1	1	2	2	1	A	7	5	4	4	3.6	9.3
18-Aug	3	3	2	2	3	6	5	3	4	2	2	1	2	3	2	2	1	1	A	3	3	4	3	2	2.8	6.4
19-Aug	2	2	1	1	3	7	9	10	5	3	2	2	2	2	2	2	2	A	4	3	3	2	1	1	3.0	9.6
20-Aug	1	1	1	1	1	3	5	3	2	2	2	2	2	2	3	3	A	6	4	3	3	2	3	2	2.4	5.7
21-Aug	2	1	2	2	4	6	9	8	5	2	2	1	1	1	1	A	3	2	3	4	8	9	13	12	4.5	13.4
22-Aug	8	5	6	8	10	12	13	14	12	10	8	5	6	6	A	4	3	2	2	3	6	7	5	2	6.8	14.2
23-Aug	2	3	4	5	8	10	14	11	12	8	5	2	2	A	3	2	2	2	5	8	6	8	10	4	5.9	14.1
24-Aug	4	5	4	4	3	7	11	10	9	4	3	2	A	3	2	2	1	1	2	4	9	7	9	6	4.8	10.6
25-Aug	4	4	3	2	3	7	10	9	8	4	2	A	3	2	2	1	1	1	1	5	9	8	5	4	4.3	10.3
26-Aug	7	7	7	10	7	8	9	11	9	8	A	4	2	3	2	2	3	2	2	3	3	2	2	2	5.1	10.7
27-Aug	2	2	3	3	3	4	5	7	4	A	5	3	2	3	2	2	2	2	3	4	6	12	12	12	4.4	12.3
28-Aug	13	13	11	10	9	10	11	10	A	12	8	5	3	2	1	1	2	2	2	7	8	6	5	6	6.9	13.1
29-Aug	7	3	4	5	3	5	6	A	6	3	3	2	2	2	2	2	2	2	3	4	6	5	3	3	3.6	6.6
30-Aug	3	3	2	2	4	6	A	12	7	8	10	6	4	3	4	4	3	2	2	4	6	4	3	2	4.5	12.1
31-Aug	2	2	3	3	4	A	7	6	5	2	2	2	1	1	1	1	1	2	2	5	7	5	6	4	3.2	6.6
	4.5	3.8	3.7	3.8	4.5	6.8	8.4	8.4	6.3	5.1	4.4	3.3	2.8	2.4	2.2	2.2	2.4	2.4	2.8	4.1	5.7	5.9	5.8	5.1	Diurnal Average	
	13.1	12.8	11.5	9.8	9.7	12.1	14.9	20.3	12.8	13.5	15.2	8.3	6.3	6.0	5.0	5.7	6.0	5.7	5.4	8.5	9.1	17.6	17.9	12.8	Diurnal Maximum	

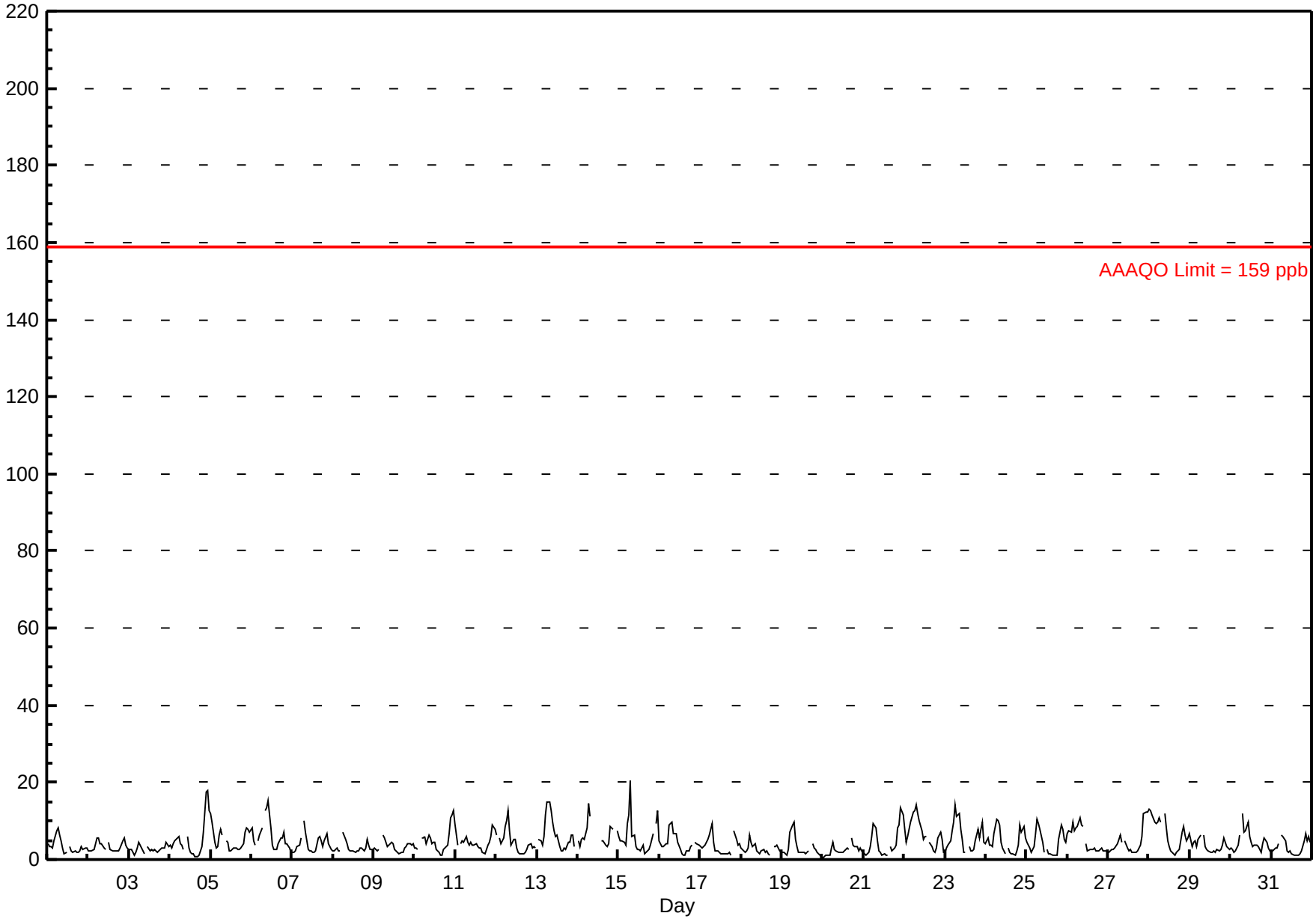
C - Calibration D - DAS Failure A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb

Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - August 2013



Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - August 2013

Maximum Value: 56.9 ppb on Aug 23 07:00

Maximum Daily Average: 11.7 ppb on Aug 23

Minimum Value: 1 ppb on Aug 20 01:00

Minimum Daily Average: 4.1 ppb on Aug 20

Maximum Diurnal Average: 13.1 ppb at hour 7

Minimum Diurnal Average: 4.0 ppb at hour 15

Monthly Average: 6.86 ppb

Percentiles: P_1 = 1.8 P_{10} = 3.0 Q_1 = 3.9 Median = 5.5 Q_3 = 8.8 P_{90} = 12.8 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	7	5	6	4	10	10	13	10	8	4	2	4	A	6	4	4	4	3	3	7	5	4	5	6	5.8	12.5
2-Aug	5	3	3	4	6	9	7	5	5	4	7	A	10	4	4	4	3	3	3	6	7	9	8	4	5.3	9.9
3-Aug	6	5	3	4	3	5	7	5	4	2	A	6	3	6	3	4	4	3	4	4	4	4	6	5	4.4	7.2
4-Aug	6	5	6	8	7	8	5	5	4	A	9	4	3	3	5	4	2	2	5	5	13	26	26	14	7.5	26.5
5-Aug	14	12	7	4	6	8	9	15	A	6	10	10	4	6	5	7	3	5	9	11	13	13	16	10	8.7	16.1
6-Aug	9	9	6	D	6	11	10	A	15	15	18	12	7	4	4	5	8	7	10	11	5	7	4	3	8.4	17.8
7-Aug	5	3	4	5	5	10	A	15	13	4	4	5	4	4	4	10	8	8	6	9	9	7	4	5	6.5	15.0
8-Aug	4	4	7	4	3	A	15	8	6	4	4	4	4	3	4	3	6	5	3	6	11	7	4	4	5.2	14.7
9-Aug	5	4	3	4	A	9	7	7	5	5	6	5	4	4	4	3	29	4	5	5	6	8	5	6	6.0	29.1
10-Aug	5	5	5	A	8	7	9	5	8	7	6	5	6	4	4	3	4	5	4	5	9	15	15	15	6.8	15.3
11-Aug	12	5	A	6	8	7	9	9	5	8	8	6	5	7	8	9	3	3	6	7	8	11	12	10	7.4	11.8
12-Aug	9	A	9	6	8	12	14	15	15	6	7	7	4	3	2	3	3	3	6	7	6	5	5	5	6.8	15.0
13-Aug	A	8	7	5	8	17	17	18	17	11	10	8	8	5	4	5	5	5	7	7	10	9	4	A	8.6	17.6
14-Aug	7	5	6	9	7	11	17	17	C	C	C	C	C	C	7	7	8	5	6	14	16	14	A	13	--	17.4
15-Aug	7	7	7	5	5	14	20	26	10	12	6	4	4	4	4	3	4	3	4	5	10	A	12	14	8.5	26.3
16-Aug	9	6	5	5	6	6	23	17	11	9	8	7	6	3	2	2	5	4	6	6	A	7	5	5	7.0	22.7
17-Aug	5	4	5	4	7	8	10	13	7	3	4	3	2	3	2	3	3	3	2	A	10	8	6	6	5.2	12.5
18-Aug	4	4	3	4	5	10	7	4	9	3	3	2	4	4	4	4	2	2	A	6	6	6	4	3	4.4	9.5
19-Aug	3	3	2	2	5	14	14	13	9	5	3	3	3	3	3	3	3	A	7	4	5	4	2	1	4.9	14.0
20-Aug	1	1	2	2	2	7	6	4	4	3	4	4	3	3	5	5	A	10	5	5	5	5	4	4	4.1	10.0
21-Aug	3	2	3	4	6	8	13	10	9	3	3	4	3	2	4	A	5	4	4	9	10	13	16	15	6.6	16.1
22-Aug	10	7	9	10	14	15	14	16	15	12	11	8	9	10	A	8	5	5	5	5	7	13	8	4	9.4	15.6
23-Aug	3	5	5	7	11	14	57	14	24	10	18	4	3	A	5	3	6	4	10	13	8	26	18	6	11.7	56.9
24-Aug	5	7	5	5	4	10	15	12	11	7	5	3	A	5	3	3	3	2	5	6	16	10	13	7	7.0	16.4
25-Aug	6	5	4	3	7	10	16	13	11	9	4	A	4	3	3	2	2	3	2	8	15	10	10	7	6.7	16.0
26-Aug	8	8	8	12	10	12	11	15	12	12	A	7	5	4	4	4	4	5	3	4	4	3	3	3	6.9	14.6
27-Aug	3	3	5	4	6	5	8	11	8	A	9	5	4	5	4	4	4	9	6	6	10	15	15	15	7.0	14.9
28-Aug	15	15	13	11	11	11	12	14	A	18	11	8	5	3	3	2	3	3	4	12	11	9	7	8	9.0	18.1
29-Aug	10	7	7	10	6	7	8	A	13	4	4	3	4	4	3	3	8	4	6	6	8	5	4	4	6.0	13.0
30-Aug	4	3	3	4	7	10	A	17	9	10	14	10	8	6	5	6	4	4	3	6	8	7	5	3	6.6	17.3
31-Aug	3	4	4	4	6	A	9	12	9	4	3	3	4	2	3	3	2	3	3	7	9	6	8	7	5.2	11.9
	6.3	5.4	5.3	5.3	6.7	9.6	13.1	11.9	9.8	7.2	7.1	5.5	4.7	4.1	4.0	4.2	5.1	4.4	5.1	7.0	8.7	9.4	8.4	7.0	Diurnal Average	
	15.3	14.6	13.1	11.5	14.4	16.5	56.9	26.3	23.9	18.1	17.9	12.5	9.9	9.5	8.2	10.4	29.1	10.0	10.3	14.0	16.4	26.5	26.3	15.1	Diurnal Maximum	

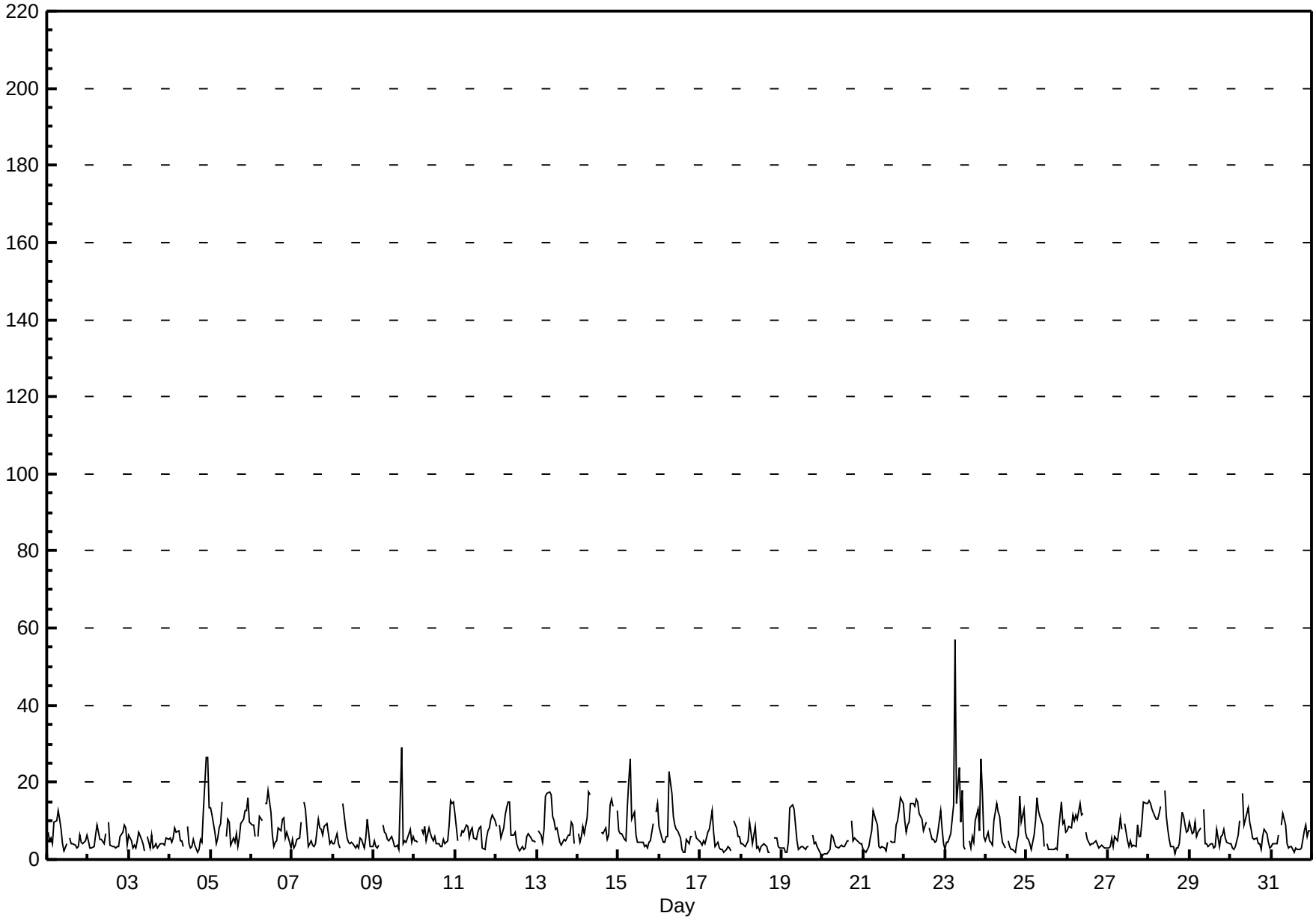
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - August 2013

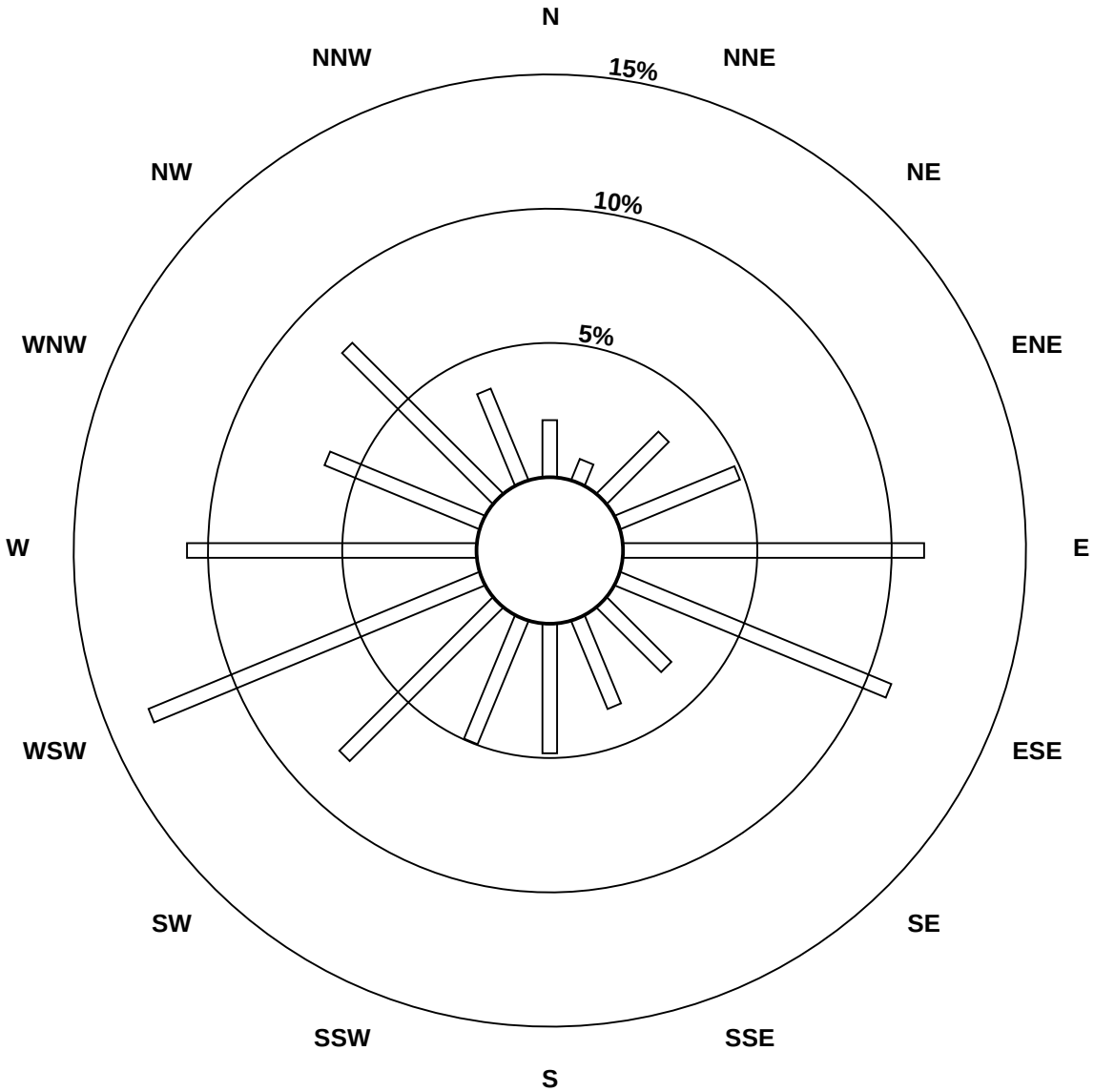


FOCUS AIR QUALITY MONITORING

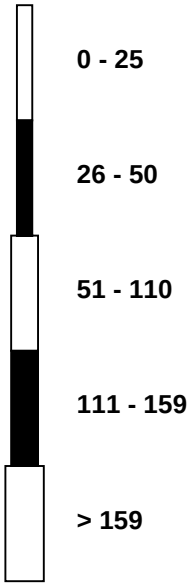
Pollutant Rose

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - August 2013



Pollutant Classes (ppb)

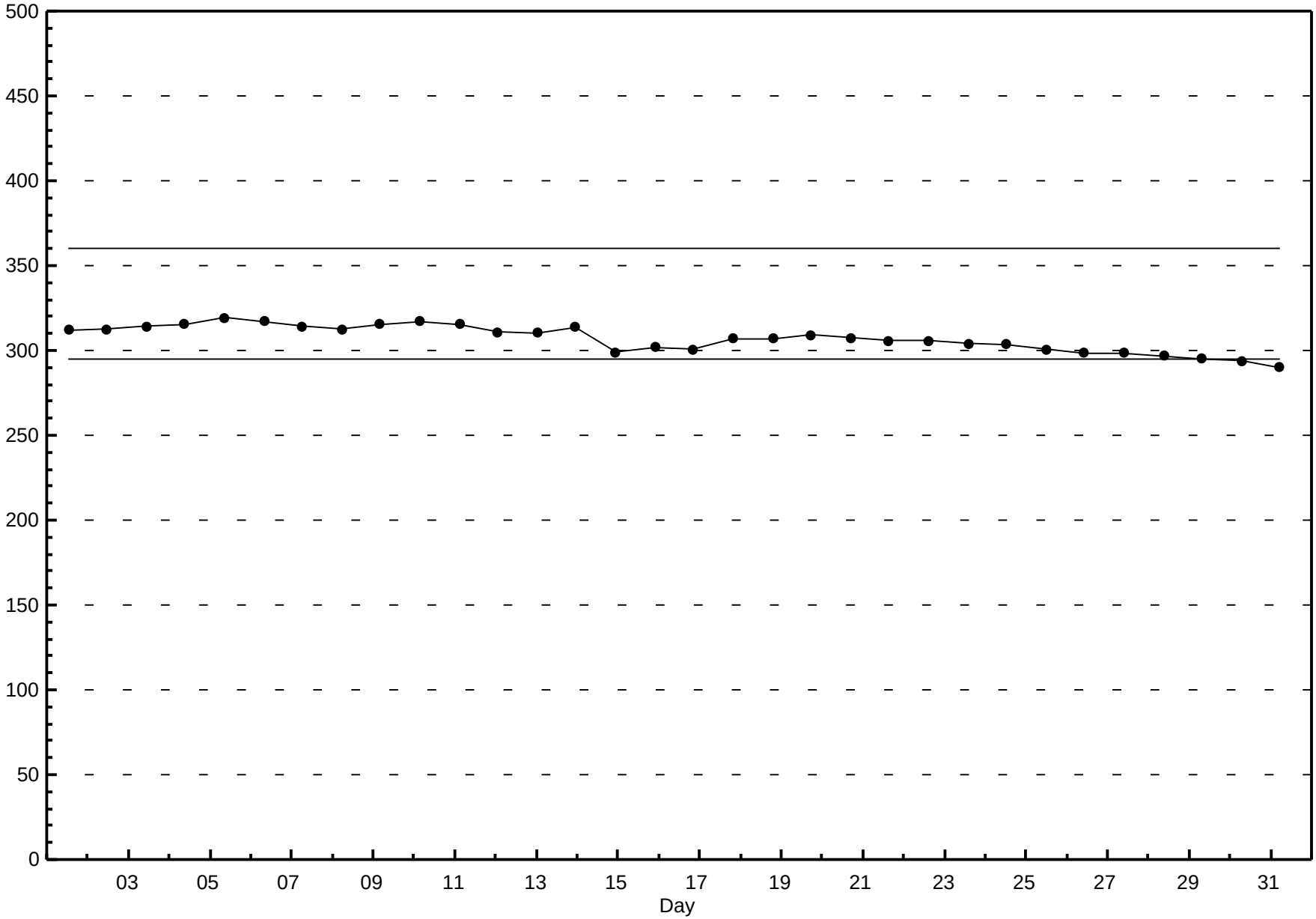


Peace Airshed Zone Association

Span Responses

Nitrogen Dioxide (NO_2)

Henry Pirker - August 2013



Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Henry Pirker - August 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 20.1 ppb on Aug 22 08:00
Maximum Daily Average: 3.2 ppb on Aug 22

Minimum Value: 0 ppb on Aug 12 23:00
Maximum Diurnal Average: 5.5 ppb at hour 8
Monthly Average: 1.04 ppb

Minimum Daily Average: 0.2 ppb on Aug 3
Minimum Diurnal Average: 0.1 ppb at hour 2
Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.1$ Median = 0.4 $Q_3 = 0.8$ $P_{90} = 2.3$ $P_{99} = 13.4$

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	0	0	0	0	0	1	10	5	3	1	1	1	A	0	1	1	1	1	1	1	1	0	0	0	1.2	10.0
2-Aug	0	0	0	0	0	1	1	1	1	1	1	A	0	0	0	0	0	0	0	0	0	1	1	0	0.5	1.4
3-Aug	1	0	0	0	0	0	0	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
4-Aug	0	0	0	0	0	1	1	2	2	A	2	0	0	0	0	0	0	0	0	0	0	2	2	0	0.7	2.5
5-Aug	1	0	1	0	1	2	5	7	A	2	1	1	0	0	0	0	0	0	0	0	0	0	1	0	1.0	6.8
6-Aug	0	0	0	D	0	2	5	A	9	6	5	1	0	0	0	1	1	0	0	1	0	0	0	0	1.5	8.8
7-Aug	0	0	0	0	0	0	A	2	2	1	1	1	0	0	0	1	1	1	1	0	1	0	0	0	0.6	1.8
8-Aug	0	0	1	0	0	A	1	2	1	2	1	1	1	0	1	0	0	1	0	0	0	0	0	0	0.7	2.0
9-Aug	0	0	0	0	A	1	1	2	2	3	3	2	1	1	0	0	1	0	1	0	0	0	0	0	0.9	3.2
10-Aug	0	0	0	A	0	0	1	1	4	4	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0.8	3.9
11-Aug	1	0	A	0	0	0	1	2	1	1	1	1	1	1	1	1	0	0	1	1	1	0	0	1	0.7	1.5
12-Aug	1	A	1	1	1	3	7	12	3	2	3	2	1	0	0	0	0	0	0	1	0	0	0	0	1.7	12.0
13-Aug	A	0	0	0	0	4	4	7	8	4	2	2	3	1	1	0	0	0	0	0	0	0	0	A	1.7	7.6
14-Aug	0	0	0	1	1	1	5	5	C	C	C	C	C	C	0	0	0	0	0	0	0	0	A	0	--	5.3
15-Aug	0	0	0	0	0	1	1	13	1	1	1	1	1	1	1	0	0	0	0	0	0	A	0	0	1.0	12.8
16-Aug	0	0	0	0	0	0	3	2	1	1	2	1	1	0	0	0	0	0	0	0	A	0	0	0	0.5	2.6
17-Aug	0	0	0	0	0	1	2	7	3	1	1	1	1	0	0	0	0	0	0	A	0	0	0	0	0.8	7.2
18-Aug	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.3	1.5
19-Aug	0	0	0	0	0	0	1	3	2	1	1	1	1	1	1	1	1	A	0	0	0	0	0	0	0.5	2.9
20-Aug	0	0	0	0	0	0	1	1	1	1	1	2	1	1	1	1	A	1	0	0	0	0	0	0	0.5	1.5
21-Aug	0	0	0	0	0	0	2	2	2	1	1	0	1	0	0	A	0	0	0	0	0	0	0	0	0.5	2.4
22-Aug	0	0	0	0	1	1	7	20	14	13	8	3	2	2	A	1	1	1	0	0	0	0	0	0	3.2	20.1
23-Aug	0	0	0	0	0	4	15	14	20	7	4	0	0	A	0	0	0	0	1	1	0	0	0	0	3.0	19.8
24-Aug	0	0	0	0	0	0	3	7	7	2	1	0	A	0	0	0	0	0	0	0	0	0	0	0	1.0	7.5
25-Aug	0	0	0	0	0	0	2	3	2	2	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0.5	2.7
26-Aug	0	0	0	2	1	3	7	13	10	8	A	1	1	0	0	0	0	1	0	0	0	0	0	0	2.1	13.4
27-Aug	0	0	0	0	0	0	0	1	1	A	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0.4	1.7
28-Aug	1	0	1	0	0	1	12	8	A	15	9	2	1	0	0	0	0	0	0	0	0	0	0	0	2.2	14.9
29-Aug	0	0	0	0	0	0	2	A	3	1	1	1	1	1	0	0	1	1	1	0	0	0	0	0	0.6	3.0
30-Aug	0	0	0	0	0	3	A	14	8	5	2	2	1	1	1	1	1	1	0	0	0	0	0	0	1.9	13.9
31-Aug	0	0	0	0	0	A	1	2	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.5
	0.2	0.1	0.2	0.2	0.3	1.1	3.5	5.5	4.1	3.1	2.0	1.1	0.7	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.1	Diurnal Average	
	0.8	0.4	1.1	2.5	1.2	4.2	14.7	20.1	19.8	14.9	9.4	2.7	2.7	2.1	1.0	1.3	1.3	1.3	0.9	0.7	0.6	2.2	2.4	0.5	Diurnal Maximum	

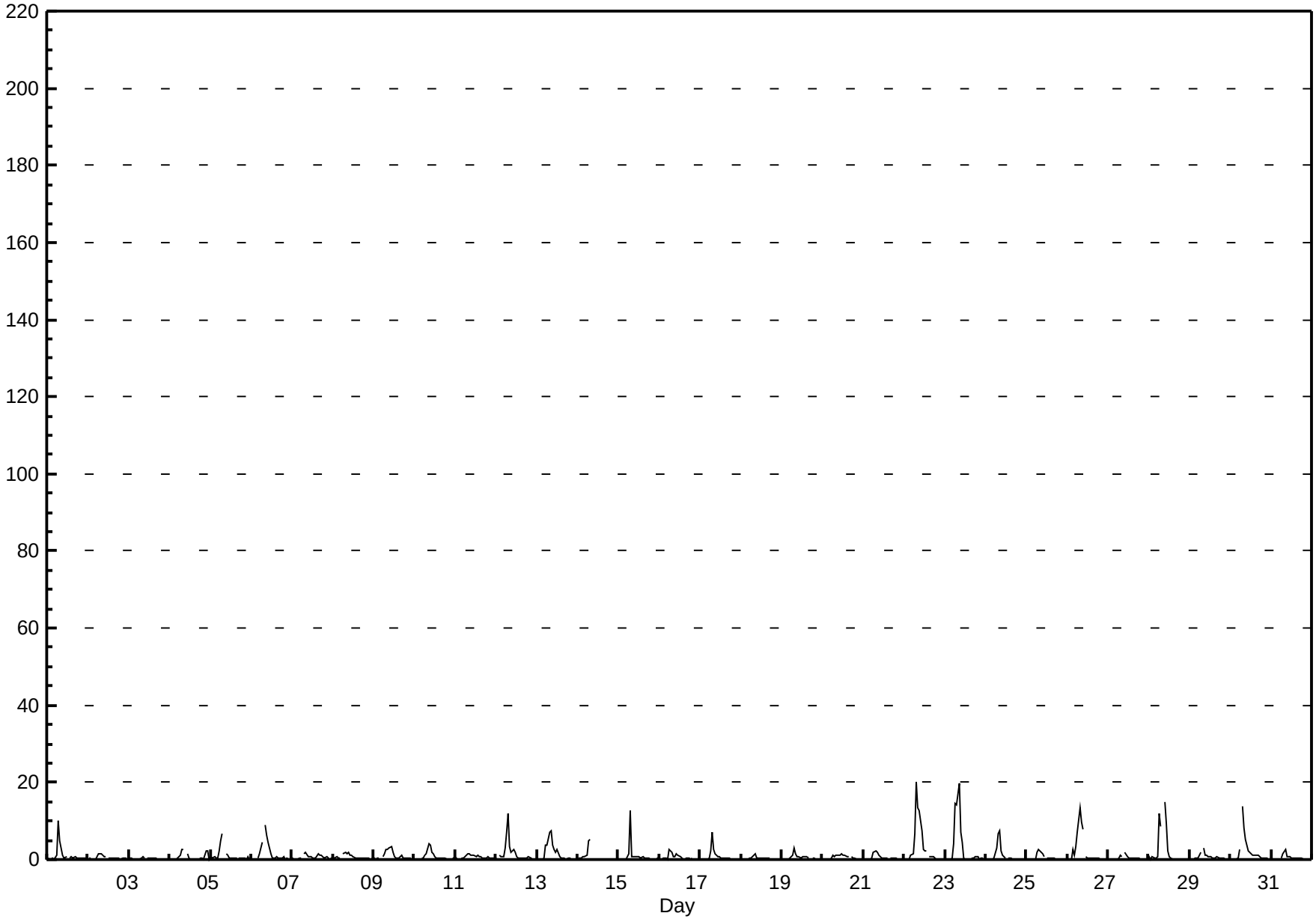
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Henry Pirker - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Henry Pirker - August 2013

Maximum Value: 148.9 ppb on Aug 23 07:00

Maximum Daily Average: 15.8 ppb on Aug 23

Minimum Value: 0 ppb on Aug 14 15:00

Minimum Daily Average: 0.7 ppb on Aug 18

Maximum Diurnal Average: 13.8 ppb at hour 7

Minimum Diurnal Average: 0.8 ppb at hour 2

Monthly Average: 3.31 ppb

Percentiles: $P_1 = 0.1$ $P_{10} = 0.5$ $Q_1 = 0.5$ Median = 1.1 $Q_3 = 2.9$ $P_{90} = 7.0$ $P_{99} = 30.5$

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	4	35	12	7	2	1	2	A	1	3	2	2	2	1	2	1	1	2	5	3.9	34.7
2-Aug	1	1	1	1	1	4	4	2	2	1	5	A	3	1	1	1	1	1	1	2	2	4	6	1	2.0	5.8
3-Aug	6	5	0	2	0	0	1	1	1	1	A	1	1	2	1	1	1	0	1	1	1	1	0	0	1.2	6.1
4-Aug	0	1	0	0	1	2	2	4	3	A	3	1	0	2	3	1	1	1	1	1	1	15	10	1	2.4	15.4
5-Aug	1	1	1	1	3	5	9	32	A	2	5	16	1	1	1	2	1	1	10	1	1	1	20	0	5.0	31.8
6-Aug	0	1	1	D	1	9	9	A	10	8	6	3	1	1	1	1	2	1	5	3	1	2	3	1	3.1	10.3
7-Aug	3	1	0	0	1	2	A	5	7	1	2	2	2	1	1	10	4	5	7	2	4	4	1	5	3.1	9.9
8-Aug	3	2	7	2	1	A	6	11	3	30	5	4	2	1	2	1	1	3	1	1	1	1	1	1	3.8	29.9
9-Aug	1	1	1	1	A	1	3	6	5	5	4	3	1	1	1	1	42	2	2	1	1	1	0	1	3.9	42.4
10-Aug	1	1	3	A	3	1	2	2	7	4	3	2	2	1	3	3	1	2	1	0	1	1	1	1	2.0	7.0
11-Aug	2	1	A	1	1	1	2	4	3	2	7	2	1	7	3	4	1	1	3	4	5	4	1	1	2.7	7.1
12-Aug	1	A	3	2	3	7	15	16	11	3	4	3	1	1	1	1	1	1	4	3	3	1	0	1	3.8	16.3
13-Aug	A	1	0	1	1	72	7	10	12	5	4	2	3	1	4	1	1	1	1	1	1	0	0	A	5.9	71.6
14-Aug	2	1	1	3	1	2	10	11	C	C	C	C	C	C	0	0	1	0	0	1	0	1	A	2	--	10.5
15-Aug	1	1	1	1	1	3	6	23	2	2	2	2	1	1	1	1	2	1	1	1	1	A	1	2	2.4	22.9
16-Aug	1	1	1	1	1	1	43	12	4	1	2	3	2	1	1	1	1	1	0	1	A	0	0	0	3.3	43.0
17-Aug	0	1	0	0	1	2	4	11	5	2	2	1	1	1	1	1	1	1	0	A	0	4	0	1	1.8	11.0
18-Aug	0	0	0	0	0	1	1	1	5	1	1	1	1	1	1	1	1	1	A	1	0	0	0	0	0.7	5.0
19-Aug	0	0	0	0	0	2	2	5	3	2	1	1	2	1	2	1	1	A	1	1	1	0	0	0	1.1	5.0
20-Aug	0	0	0	0	1	1	2	2	2	2	2	7	2	2	2	1	A	1	1	1	1	1	0	1	1.4	6.8
21-Aug	0	0	0	0	1	1	12	4	4	2	2	1	2	1	2	A	1	1	1	1	1	0	1	0	1.6	12.3
22-Aug	1	0	2	0	4	5	12	28	24	18	14	6	4	4	A	2	2	2	1	1	1	1	0	0	5.8	28.4
23-Aug	0	1	0	1	4	17	149	20	47	11	77	1	1	A	3	1	3	2	8	3	0	10	6	0	15.8	148.9
24-Aug	0	0	0	0	0	1	7	11	11	4	2	1	A	1	1	1	1	1	1	1	2	1	0	0	2.0	10.8
25-Aug	0	1	0	0	0	1	8	5	4	4	1	A	1	1	1	1	1	1	0	0	0	0	0	0	1.3	8.0
26-Aug	0	0	0	7	3	11	12	30	18	15	A	5	4	2	1	2	1	1	1	1	0	0	1	1	5.1	30.1
27-Aug	1	0	1	2	2	0	1	4	3	A	6	2	1	2	1	1	1	3	1	1	0	0	1	1	1.6	6.4
28-Aug	9	1	5	1	1	2	28	14	A	26	15	7	2	1	3	0	1	1	0	0	0	1	1	1	5.1	27.7
29-Aug	2	0	0	7	4	2	7	A	11	2	5	2	3	1	2	1	5	2	4	2	2	1	1	0	3.0	11.3
30-Aug	2	1	0	1	1	12	A	30	15	10	5	5	3	2	2	2	2	1	1	1	1	1	1	0	4.3	29.5
31-Aug	1	1	1	1	1	A	2	6	6	2	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1.3	6.3
	1.4	0.8	1.0	1.3	1.4	5.9	13.8	11.1	8.4	6.1	6.7	3.0	1.7	1.6	1.6	1.6	2.7	1.3	1.9	1.2	1.1	2.0	2.0	1.0	Diurnal Average	
	8.9	4.6	7.4	7.2	4.5	71.6	148.9	31.8	46.9	29.9	77.5	15.5	4.3	7.1	3.9	9.9	42.4	4.7	9.8	4.4	4.5	15.4	19.8	5.4	Diurnal Maximum	

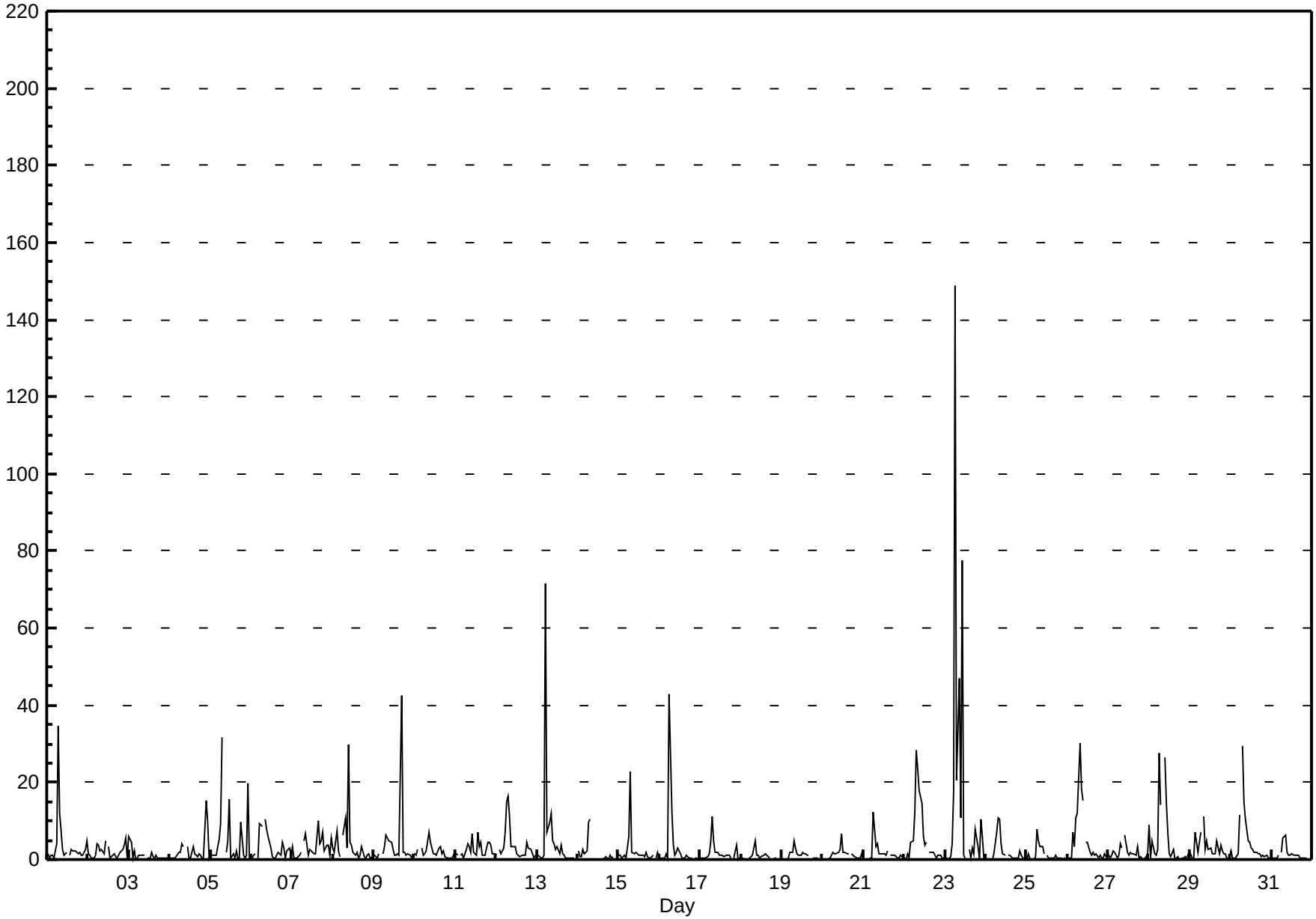
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Henry Pirker - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Henry Pirker - August 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 34.3 ppb on Aug 22 08:00
Maximum Daily Average: 10.0 ppb on Aug 22

Minimum Value: 1 ppb on Aug 20 01:00
Maximum Diurnal Average: 13.9 ppb at hour 8
Monthly Average: 5.48 ppb

Minimum Daily Average: 2.9 ppb on Aug 3
Minimum Diurnal Average: 2.6 ppb at hour 15
Percentiles: P_1 = 1.1 P_{10} = 2.0 Q_1 = 2.7 Median = 3.8 Q_3 = 6.6 P_{90} = 11.1 P_{99} = 25.5

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	5	4	4	3	5	8	18	11	8	4	2	2	A	4	3	2	3	2	3	3	4	3	3	3	4.6	18.0
2-Aug	2	2	2	3	4	6	7	6	5	4	3	A	5	3	3	2	2	2	3	3	5	6	4	3	3.8	7.1
3-Aug	3	3	2	1	2	3	5	4	3	2	A	4	3	3	3	3	3	2	3	3	3	3	4	3	2.9	4.8
4-Aug	4	3	4	5	5	7	5	6	5	A	8	3	2	2	2	1	1	1	2	3	7	20	20	13	5.6	20.1
5-Aug	13	10	5	3	4	9	12	13	A	6	5	3	2	3	3	3	3	3	4	4	7	8	9	7	6.1	13.2
6-Aug	8	5	4	D	5	8	13	A	21	20	20	10	4	3	3	3	5	6	6	8	4	4	3	2	7.5	21.5
7-Aug	2	2	2	4	4	6	A	12	9	3	3	3	2	2	3	7	7	6	4	5	7	5	3	3	4.5	11.7
8-Aug	2	3	4	3	2	A	9	7	5	5	3	3	3	2	3	2	4	3	3	3	5	4	3	3	3.6	8.5
9-Aug	3	3	3	3	A	7	7	7	6	7	8	6	3	3	2	2	3	3	3	4	4	4	4	4	4.3	7.8
10-Aug	3	3	3	A	6	6	7	5	10	10	6	6	5	3	2	1	2	3	3	4	7	11	12	13	5.7	13.1
11-Aug	10	4	A	4	5	5	7	6	5	6	5	5	5	4	4	4	2	2	3	4	5	6	9	8	5.1	9.9
12-Aug	7	A	7	5	6	12	17	25	11	6	8	7	3	2	2	2	2	2	3	4	5	3	3	3	6.3	24.5
13-Aug	A	5	5	4	6	15	19	22	20	14	10	8	9	4	3	3	3	3	5	5	7	6	3	A	8.1	22.0
14-Aug	5	4	6	6	6	9	19	16	C	C	C	C	C	C	4	4	4	3	4	8	8	8	A	8	--	19.0
15-Aug	6	5	5	5	4	10	13	33	6	7	4	3	3	3	4	2	2	3	3	4	7	A	9	13	6.6	33.0
16-Aug	5	4	4	4	4	4	12	11	8	7	8	6	3	2	1	1	3	2	4	4	A	5	4	4	4.8	11.5
17-Aug	4	3	3	4	5	7	10	17	7	4	3	2	2	2	2	2	2	2	1	A	8	5	4	4	4.4	16.5
18-Aug	3	3	2	2	3	7	5	4	6	3	2	2	3	3	2	3	2	1	A	4	4	4	3	2	3.1	6.6
19-Aug	2	2	1	1	3	7	10	13	7	4	2	2	2	3	2	2	3	A	5	3	3	2	1	1	3.6	12.5
20-Aug	1	1	1	1	1	3	6	4	3	3	3	3	3	3	4	3	A	6	4	4	4	2	3	2	3.0	6.3
21-Aug	2	1	2	2	4	6	11	11	7	3	3	2	2	2	2	A	4	3	3	4	8	9	13	12	5.0	13.5
22-Aug	8	5	6	8	11	13	19	34	26	22	15	8	8	8	A	5	4	3	2	3	6	7	5	2	10.0	34.3
23-Aug	2	3	4	5	8	14	29	25	32	15	10	2	2	A	3	3	3	3	5	8	6	8	10	5	8.8	31.8
24-Aug	4	5	4	4	3	7	14	17	16	7	4	2	A	3	2	2	2	1	2	4	9	7	9	6	5.8	16.6
25-Aug	4	4	3	2	3	7	12	12	10	6	3	A	3	2	2	1	1	1	1	5	9	8	5	4	4.8	12.3
26-Aug	7	8	7	12	9	12	16	24	18	16	A	5	3	3	3	3	3	3	2	3	3	2	2	2	7.3	24.1
27-Aug	2	2	3	3	3	4	6	8	5	A	7	4	3	3	2	2	2	2	3	4	6	12	12	12	4.8	12.3
28-Aug	14	13	12	10	10	10	23	18	A	27	18	7	4	2	2	1	2	2	2	7	8	6	5	6	9.1	27.0
29-Aug	7	3	4	5	4	6	8	A	9	4	4	3	3	2	3	2	3	3	3	4	6	5	3	3	4.2	9.3
30-Aug	3	3	2	2	4	9	A	26	15	13	12	8	6	5	5	5	4	3	2	5	6	5	3	2	6.4	26.0
31-Aug	2	2	3	3	4	A	7	7	7	3	3	3	2	2	2	1	1	2	2	5	7	5	6	4	3.7	7.4
	4.7	3.9	3.9	4.0	4.8	7.8	11.8	13.9	10.4	8.2	6.4	4.4	3.5	2.9	2.6	2.7	2.8	2.7	3.2	4.4	5.9	6.1	6.0	5.3	Diurnal Average	
	13.7	12.9	12.2	12.3	10.8	15.0	28.8	34.3	31.8	27.0	19.7	9.6	9.0	8.0	4.6	7.0	7.1	6.3	5.9	8.4	9.1	19.7	20.1	13.1	Diurnal Maximum	

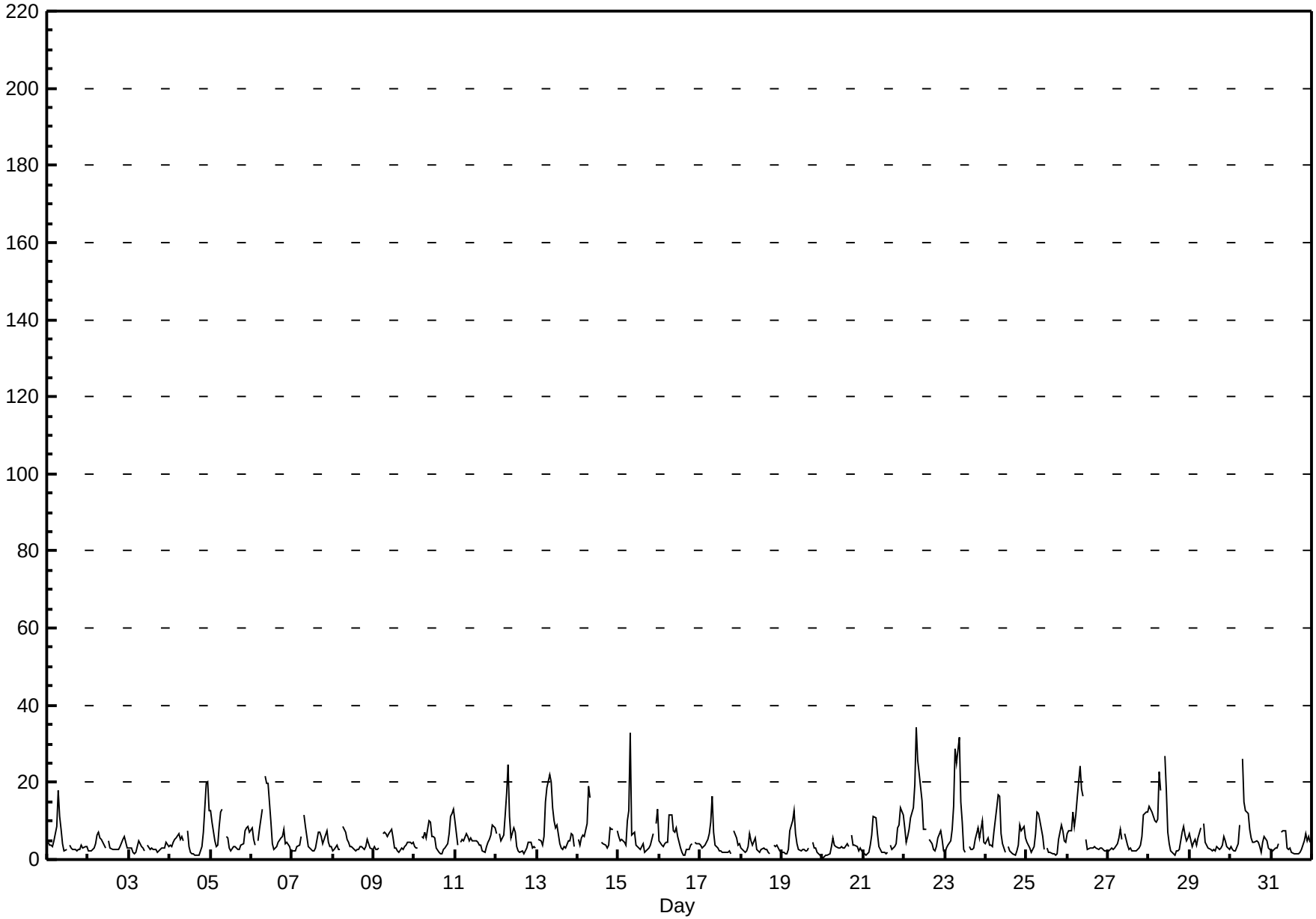
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Henry Pirker - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Henry Pirker - August 2013

Maximum Value: 205.9 ppb on Aug 23 07:00

Maximum Daily Average: 27.0 ppb on Aug 23

Minimum Value: 1 ppb on Aug 20 00:00

Minimum Daily Average: 5.0 ppb on Aug 18

Maximum Diurnal Average: 26.3 ppb at hour 7

Minimum Diurnal Average: 5.3 ppb at hour 15

Monthly Average: 9.78 ppb

Percentiles: P_1 = 2.0 P_{10} = 3.5 Q_1 = 4.7 Median = 6.7 Q_3 = 11.2 P_{90} = 18.0 P_{99} = 40.8

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	8	5	6	4	10	14	47	22	13	6	3	6	A	6	7	6	6	4	5	8	5	5	7	11	9.5	46.8
2-Aug	5	4	4	4	7	12	11	7	8	5	11	A	13	4	4	5	3	4	4	8	8	11	14	4	7.0	13.9
3-Aug	12	9	3	6	3	5	8	6	4	3	A	6	3	8	4	4	5	3	4	4	4	4	5	6	5.3	12.2
4-Aug	5	5	5	8	7	9	6	8	6	A	12	5	3	5	8	5	2	4	6	4	12	40	34	14	9.4	39.6
5-Aug	14	12	7	4	7	13	18	45	A	7	15	25	4	7	5	9	4	6	19	11	13	13	35	9	13.2	44.7
6-Aug	9	9	7	D	7	21	19	A	25	22	23	15	7	4	5	6	9	8	11	13	6	9	7	4	11.2	24.8
7-Aug	8	3	4	5	6	10	A	20	20	4	6	7	6	5	5	19	12	12	12	9	13	9	5	10	9.2	19.9
8-Aug	7	6	14	6	3	A	21	19	8	21	7	7	6	3	5	4	6	9	3	6	11	9	4	4	8.3	21.4
9-Aug	6	4	4	5	A	9	10	13	10	10	10	7	4	4	5	3	62	6	6	6	6	9	5	6	9.2	62.1
10-Aug	6	5	6	A	10	7	10	7	15	11	8	7	7	4	7	7	4	8	5	5	9	15	15	16	8.5	15.9
11-Aug	13	5	A	6	9	7	10	12	9	9	14	7	6	14	11	13	4	3	7	12	13	14	12	11	9.7	14.5
12-Aug	9	A	9	7	11	18	28	29	26	9	10	10	5	4	3	4	3	4	10	9	8	6	5	4	10.2	29.3
13-Aug	A	8	6	5	8	79	23	25	28	15	14	10	12	6	7	6	6	5	7	7	9	9	4	A	13.7	79.5
14-Aug	8	5	7	11	7	12	26	27	C	C	C	C	C	C	7	7	8	5	6	15	16	15	A	13	--	27.3
15-Aug	8	8	8	6	5	17	27	48	11	13	8	6	5	5	5	4	5	3	5	5	9	A	12	16	10.5	48.0
16-Aug	9	6	5	5	6	6	61	29	15	9	10	10	7	3	3	2	6	4	6	6	A	8	6	5	9.9	61.0
17-Aug	4	4	5	5	7	9	14	22	12	5	6	4	3	3	3	3	4	4	2	A	10	10	6	6	6.7	22.0
18-Aug	4	4	3	4	5	10	8	5	13	4	4	3	4	5	5	4	3	2	A	5	6	6	3	3	5.0	13.5
19-Aug	3	3	2	2	4	15	15	17	11	6	4	4	5	4	4	4	4	A	7	4	5	4	2	1	5.8	17.0
20-Aug	1	1	2	2	3	7	8	6	5	5	6	8	5	5	6	6	A	11	5	6	5	5	4	4	5.2	11.3
21-Aug	3	2	3	4	6	8	19	13	13	5	5	5	5	3	7	A	5	5	5	9	10	12	16	14	7.7	18.6
22-Aug	10	7	10	10	18	16	26	44	38	29	24	13	13	14	A	10	7	7	5	5	7	13	8	4	14.8	43.7
23-Aug	3	5	5	7	14	31	206	35	70	20	90	5	3	A	5	3	9	5	18	14	8	36	23	7	27.0	205.9
24-Aug	5	7	5	5	4	11	21	22	21	10	6	3	A	5	5	3	3	2	5	6	18	10	13	7	8.6	22.5
25-Aug	6	6	4	3	7	11	24	18	14	12	4	A	5	3	3	3	3	4	2	7	15	10	10	7	7.9	23.9
26-Aug	7	9	8	17	13	22	22	44	30	27	A	9	6	6	5	6	5	6	3	4	4	4	4	3	11.6	44.5
27-Aug	3	3	6	6	7	5	8	14	10	A	16	7	4	7	5	5	4	13	7	6	10	15	15	16	8.4	16.2
28-Aug	23	15	18	12	12	13	39	26	A	42	25	14	6	4	6	2	3	3	4	12	11	9	7	7	13.7	42.0
29-Aug	10	7	7	14	10	8	15	A	21	6	9	6	7	5	4	4	13	5	9	8	9	7	4	4	8.5	21.5
30-Aug	6	3	3	4	7	21	A	47	24	19	18	14	10	8	7	8	6	5	3	7	9	7	5	3	10.6	46.9
31-Aug	4	4	4	4	7	A	11	17	15	6	4	4	5	3	4	4	4	3	3	8	9	6	8	7	6.3	17.4
	7.4	5.9	6.0	6.2	7.8	14.8	26.3	22.4	17.8	12.3	13.4	8.2	6.2	5.5	5.3	5.7	7.3	5.5	6.6	7.7	9.3	11.0	10.0	7.7	Diurnal Average	
	23.2	15.3	17.6	17.5	18.0	79.5	205.9	48.0	70.5	42.0	90.4	24.7	13.1	14.1	11.4	18.9	62.1	12.7	19.2	14.7	18.3	39.6	34.9	16.3	Diurnal Maximum	

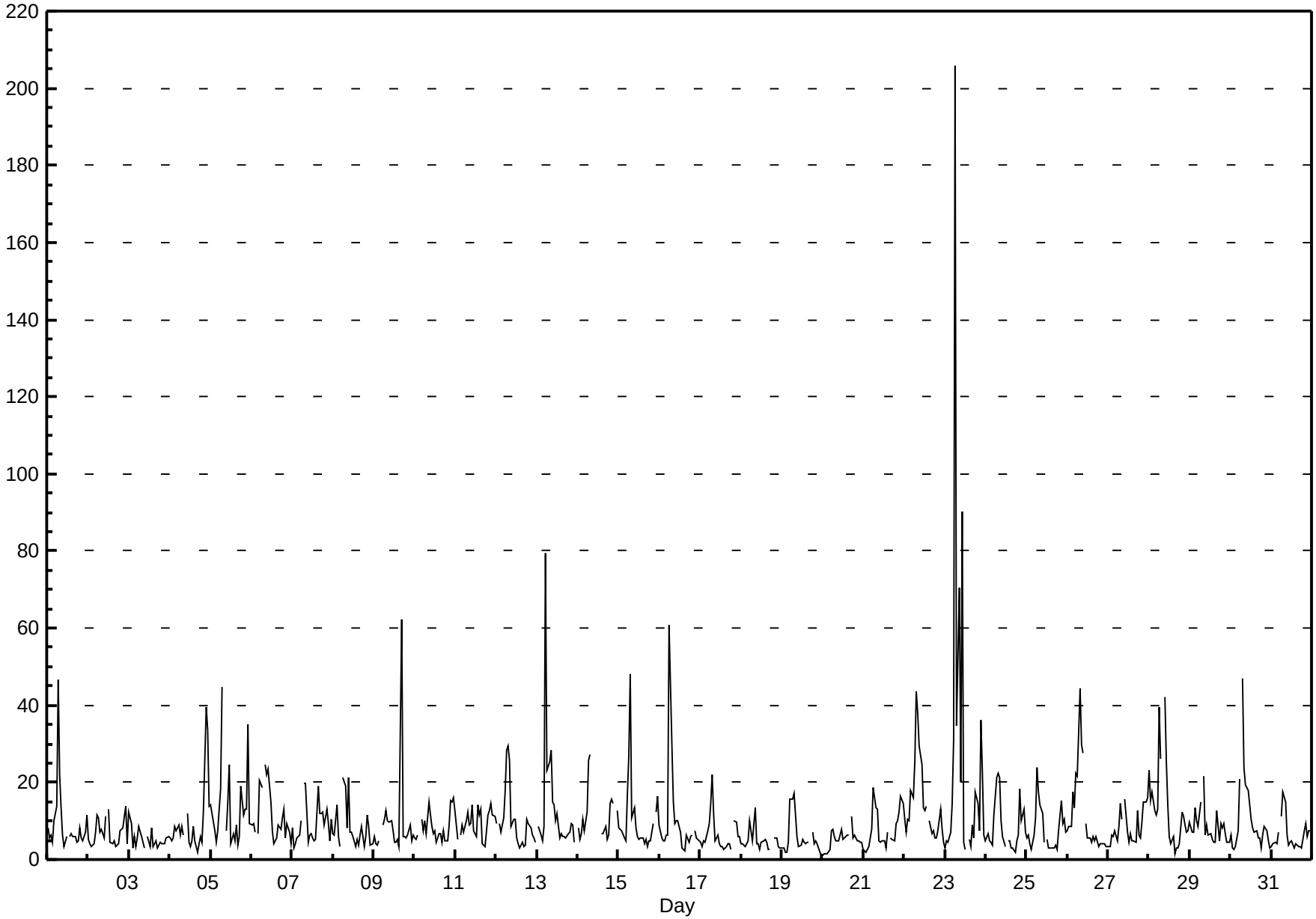
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Henry Pirker - August 2013



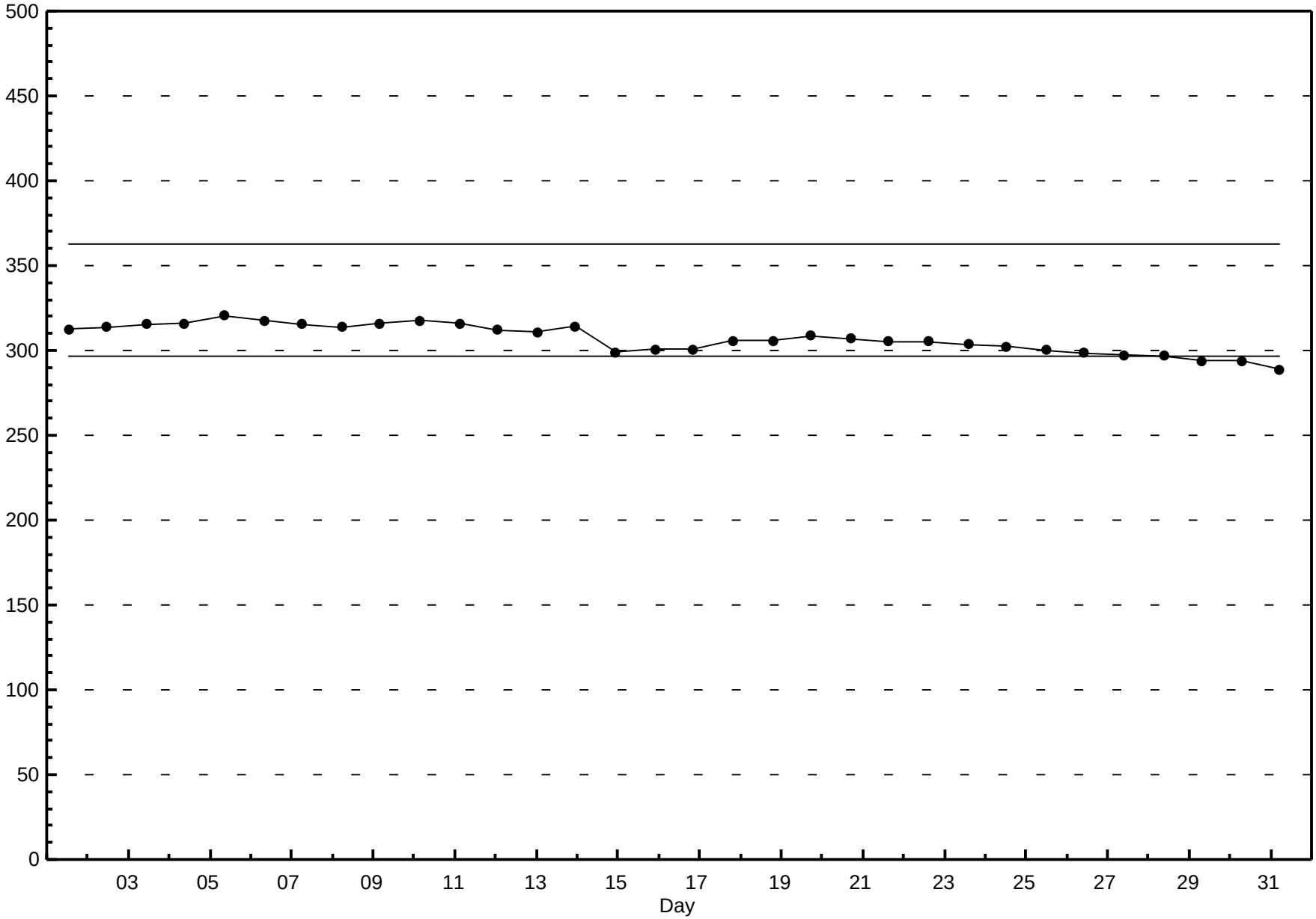
FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Span Responses

Oxides of Nitrogen (NO_X)

Henry Pirker - August 2013



Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Henry Pirker - August 2013

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

Maximum Value: 56.1 ppb on Aug 14 16:00

Maximum Daily Average: 31.3 ppb on Aug 3

Minimum Value: 1 ppb on Aug 28 07:00

Minimum Daily Average: 12.7 ppb on Aug 30

Maximum Diurnal Average: 33.8 ppb at hour 16

Minimum Diurnal Average: 10.1 ppb at hour 7

Monthly Average: 21.93 ppb

Percentiles: P_1 = 2.2 P_{10} = 7.6 Q_1 = 14.1 Median = 22.0 Q_3 = 29.3 P_{90} = 35.5 P_{99} = 48.1

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	15	14	11	13	11	7	7	10	16	21	24	28	A	28	28	28	29	27	25	23	18	19	19	19	19.1	28.8
2-Aug	20	19	19	20	19	17	17	19	23	28	32	A	37	39	39	40	41	43	43	43	32	21	20	22	28.4	43.2
3-Aug	23	23	19	30	36	31	26	27	28	29	A	38	39	39	43	47	45	41	36	28	24	26	22	19	31.3	47.0
4-Aug	16	15	14	11	8	6	5	6	9	A	27	34	37	37	38	40	40	38	35	31	27	10	8	7	21.7	40.5
5-Aug	5	5	3	3	4	2	5	8	A	16	28	38	41	48	49	50	49	43	34	29	28	26	23	19	24.1	50.0
6-Aug	12	15	14	D	8	7	6	A	12	21	34	48	50	48	41	31	36	33	27	26	25	24	22	26	25.6	49.8
7-Aug	29	27	28	22	16	14	A	18	21	25	28	31	32	32	29	23	22	21	23	19	15	18	20	19	23.1	32.2
8-Aug	20	17	14	15	19	A	14	12	13	16	19	22	27	30	32	34	36	37	36	32	27	25	25	21	23.6	36.7
9-Aug	19	18	18	17	A	14	13	13	13	14	17	23	30	32	31	35	30	28	27	25	24	25	26	24	22.4	35.2
10-Aug	22	21	19	A	14	12	11	14	13	15	22	30	38	40	36	31	32	40	37	31	27	20	12	7	23.5	39.8
11-Aug	6	19	A	21	18	17	12	8	10	12	13	15	15	17	19	21	24	26	25	23	19	19	13	6	16.4	26.0
12-Aug	6	A	4	6	5	3	4	6	12	15	22	26	32	30	31	32	32	31	27	23	22	27	33	34	20.1	33.9
13-Aug	A	29	24	19	10	5	7	10	11	14	19	23	25	34	36	37	35	34	37	34	29	27	23	A	23.8	37.2
14-Aug	23	24	22	15	18	14	7	9	12	18	26	28	32	43	50	56	45	45	41	36	35	30	A	10	27.9	56.1
15-Aug	11	11	14	14	27	15	12	5	25	27	25	C	C	C	C	38	36	36	36	33	27	A	14	9	21.8	38.0
16-Aug	12	13	9	10	12	22	22	21	22	21	22	28	34	38	38	38	34	29	24	24	A	25	23	21	23.5	38.3
17-Aug	20	18	17	14	10	7	7	8	16	20	25	29	32	32	33	34	34	34	32	A	25	24	23	19	22.3	34.4
18-Aug	19	21	23	21	19	17	20	21	22	27	29	31	30	30	28	28	29	30	A	30	28	24	25	26	25.2	31.1
19-Aug	26	25	23	24	23	19	17	17	22	24	28	30	31	32	33	32	30	A	30	28	26	28	26	25	26.1	32.6
20-Aug	25	23	22	23	23	21	20	22	23	24	24	24	25	25	23	25	A	23	24	23	23	21	17	17	22.6	25.1
21-Aug	20	21	20	19	16	15	12	13	18	24	26	28	29	30	30	A	32	33	34	29	21	16	10	9	21.9	34.0
22-Aug	13	14	11	7	3	2	2	2	2	5	11	19	20	21	A	27	25	21	20	18	15	12	15	19	13.3	26.9
23-Aug	19	13	12	10	5	3	2	4	6	13	23	31	35	A	36	32	29	26	22	19	23	26	19	25	18.8	35.5
24-Aug	22	19	18	15	13	8	5	5	9	18	25	29	A	33	33	34	34	33	31	27	21	20	13	14	20.8	34.4
25-Aug	13	14	13	15	13	11	7	7	9	14	22	A	29	31	30	32	32	32	31	25	18	18	21	16	19.7	32.0
26-Aug	12	8	5	2	4	2	2	3	7	10	A	26	28	26	26	27	28	32	30	27	26	23	20	17	16.9	31.9
27-Aug	16	15	13	13	13	12	11	12	17	A	21	27	30	34	34	36	36	36	35	32	25	16	13	10	22.1	36.4
28-Aug	5	4	3	4	5	2	1	3	A	4	10	21	31	37	42	45	46	45	43	35	28	26	26	22	21.2	45.7
29-Aug	12	22	16	16	15	8	5	A	9	11	16	19	22	26	33	32	26	25	22	19	15	16	15	14	18.0	33.2
30-Aug	11	10	9	8	4	2	A	2	3	4	10	16	20	21	24	19	20	21	19	16	12	11	15	16	12.7	23.5
31-Aug	14	13	12	12	12	A	14	16	18	25	27	28	31	32	32	32	32	31	29	24	20	20	17	18	22.0	32.0
	16.2	17.0	15.0	14.4	13.4	10.9	10.1	11.1	14.5	17.7	22.5	27.4	30.8	32.5	33.7	33.8	33.3	32.6	30.5	27.1	23.4	21.4	19.2	17.6	Diurnal Average	
	29.0	28.7	27.9	30.4	36.4	31.1	26.1	26.8	27.5	29.5	33.7	48.4	49.8	48.0	50.2	56.1	49.3	45.2	43.2	42.6	35.5	29.9	32.7	33.9	Diurnal Maximum	

C - Calibration D - DAS Failure A - Automated Daily Zero Span

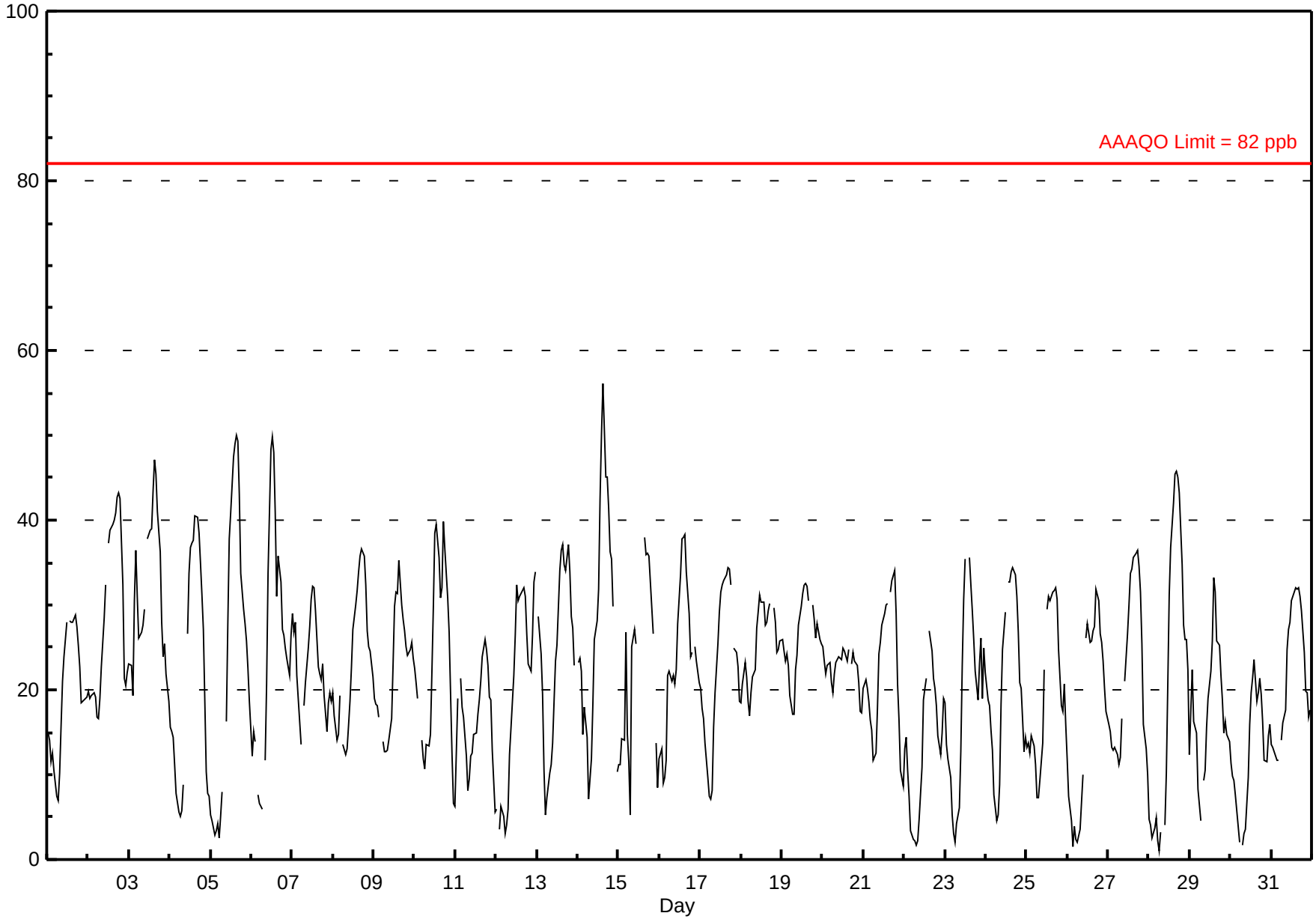
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na

Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Henry Pirker - August 2013



Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

Henry Pirker - August 2013

Maximum Value: 59.8 ppb on Aug 14 16:00

Maximum Daily Average: 34.2 ppb on Aug 3

Minimum Value: 2 ppb on Aug 28 07:00

Minimum Daily Average: 15.4 ppb on Aug 30

Maximum Diurnal Average: 36.4 ppb at hour 17

Minimum Diurnal Average: 12.5 ppb at hour 7

Monthly Average: 24.95 ppb

Percentiles: P_1 = 3.9 P_{10} = 11.7 Q_1 = 16.9 Median = 24.7 Q_3 = 32.5 P_{90} = 39.0 P_{99} = 52.3

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	16	15	15	14	14	11	11	15	18	24	26	29	A	29	29	29	30	29	27	25	21	20	20	21	21.2	30.0
2-Aug	21	20	20	20	25	18	18	21	27	32	34	A	39	40	40	41	43	44	45	44	43	23	22	24	30.5	44.5
3-Aug	25	25	22	38	39	34	29	30	29	34	A	40	40	41	46	49	50	43	39	34	26	29	27	21	34.2	49.5
4-Aug	20	18	16	14	9	11	6	7	13	A	33	36	40	39	40	42	42	42	39	35	32	20	15	15	25.3	42.4
5-Aug	13	6	4	5	6	4	6	10	A	22	36	44	44	53	52	53	52	53	37	32	30	28	25	22	27.7	53.4
6-Aug	14	19	15	D	9	9	10	A	16	26	41	55	57	52	50	40	39	37	30	29	27	25	23	30	29.7	57.5
7-Aug	31	31	32	24	23	18	A	24	26	27	32	33	35	35	34	29	24	23	27	25	18	20	21	20	26.6	34.5
8-Aug	21	19	15	17	21	A	16	14	15	17	21	25	30	32	33	36	37	38	49	50	32	34	37	24	27.4	50.4
9-Aug	21	19	19	18	A	15	14	14	14	16	21	27	34	33	35	39	34	30	29	27	25	27	27	25	24.3	38.8
10-Aug	23	22	20	A	16	13	13	15	15	17	26	34	43	43	39	34	38	42	41	34	29	25	15	12	26.5	43.2
11-Aug	17	22	A	25	21	20	17	11	12	14	16	18	17	21	22	25	27	28	27	25	23	21	19	15	20.1	27.8
12-Aug	11	A	5	8	11	5	6	9	18	21	25	32	35	32	33	33	34	33	29	25	24	37	38	42	23.7	42.4
13-Aug	A	34	31	23	18	8	11	13	15	18	22	28	30	37	38	39	37	39	39	37	32	34	27	A	27.7	39.2
14-Aug	27	27	25	19	20	17	13	13	15	23	34	31	39	46	56	60	47	48	50	41	45	34	A	18	32.5	59.8
15-Aug	20	17	21	19	32	27	16	15	38	31	28	C	C	C	C	42	38	38	37	36	30	A	18	10	27.0	41.9
16-Aug	15	16	11	12	17	25	26	28	27	23	27	31	39	39	40	40	39	33	27	30	A	28	28	24	27.0	39.6
17-Aug	22	21	19	15	12	10	8	13	18	24	33	32	33	34	34	35	36	36	35	A	27	27	27	20	24.8	36.1
18-Aug	19	22	25	23	21	20	23	27	31	32	32	33	32	34	31	31	51	42	A	32	30	27	26	27	29.1	51.3
19-Aug	27	26	24	26	25	23	20	19	27	27	30	32	33	34	34	33	32	A	33	30	29	29	27	26	28.0	34.2
20-Aug	26	25	23	24	24	23	21	24	25	25	25	31	37	26	25	26	A	26	26	25	24	23	18	19	24.7	36.5
21-Aug	22	22	21	19	18	18	15	14	22	26	27	29	30	31	32	A	33	36	36	34	23	20	14	12	24.1	35.9
22-Aug	16	17	15	10	6	4	4	2	3	8	16	23	22	23	A	29	29	23	22	20	17	15	17	21	15.7	28.8
23-Aug	21	16	14	12	9	6	4	6	10	17	28	33	39	A	38	35	33	28	27	22	29	31	24	29	22.1	39.1
24-Aug	24	21	20	17	14	12	8	7	13	23	29	31	A	34	34	36	36	34	34	29	30	24	15	17	23.6	35.6
25-Aug	16	15	15	15	15	14	9	15	12	17	27	A	32	32	32	33	33	33	32	29	25	20	24	21	22.4	33.1
26-Aug	15	11	7	2	6	5	3	8	11	11	A	28	35	27	28	29	31	33	33	29	27	25	23	19	19.3	34.7
27-Aug	17	16	15	14	16	13	14	18	19	A	25	29	33	36	35	38	38	38	37	34	29	22	18	15	24.7	38.2
28-Aug	7	5	4	5	8	3	2	4	A	6	16	26	37	41	47	47	47	46	46	40	34	28	27	26	24.0	47.3
29-Aug	19	24	21	17	17	12	6	A	14	12	20	22	25	29	36	34	29	27	24	21	17	18	16	15	20.6	36.2
30-Aug	13	12	10	10	6	4	A	4	4	6	16	25	25	23	28	20	21	23	22	19	15	13	16	16	15.4	28.0
31-Aug	16	15	14	14	13	A	17	19	21	27	29	29	32	32	34	34	34	33	31	28	22	22	20	20	24.2	33.5
	19.1	19.2	17.2	16.6	16.3	13.9	12.5	14.5	18.2	20.9	26.6	30.8	34.5	34.8	36.3	36.4	36.4	35.2	33.6	30.7	27.1	24.9	22.5	20.8	Diurnal Average	
	30.8	33.6	32.1	38.0	39.0	34.0	28.9	30.1	37.7	33.5	40.8	55.0	57.5	52.6	55.8	59.8	52.1	53.4	50.4	50.4	44.9	36.9	37.6	42.4	Diurnal Maximum	

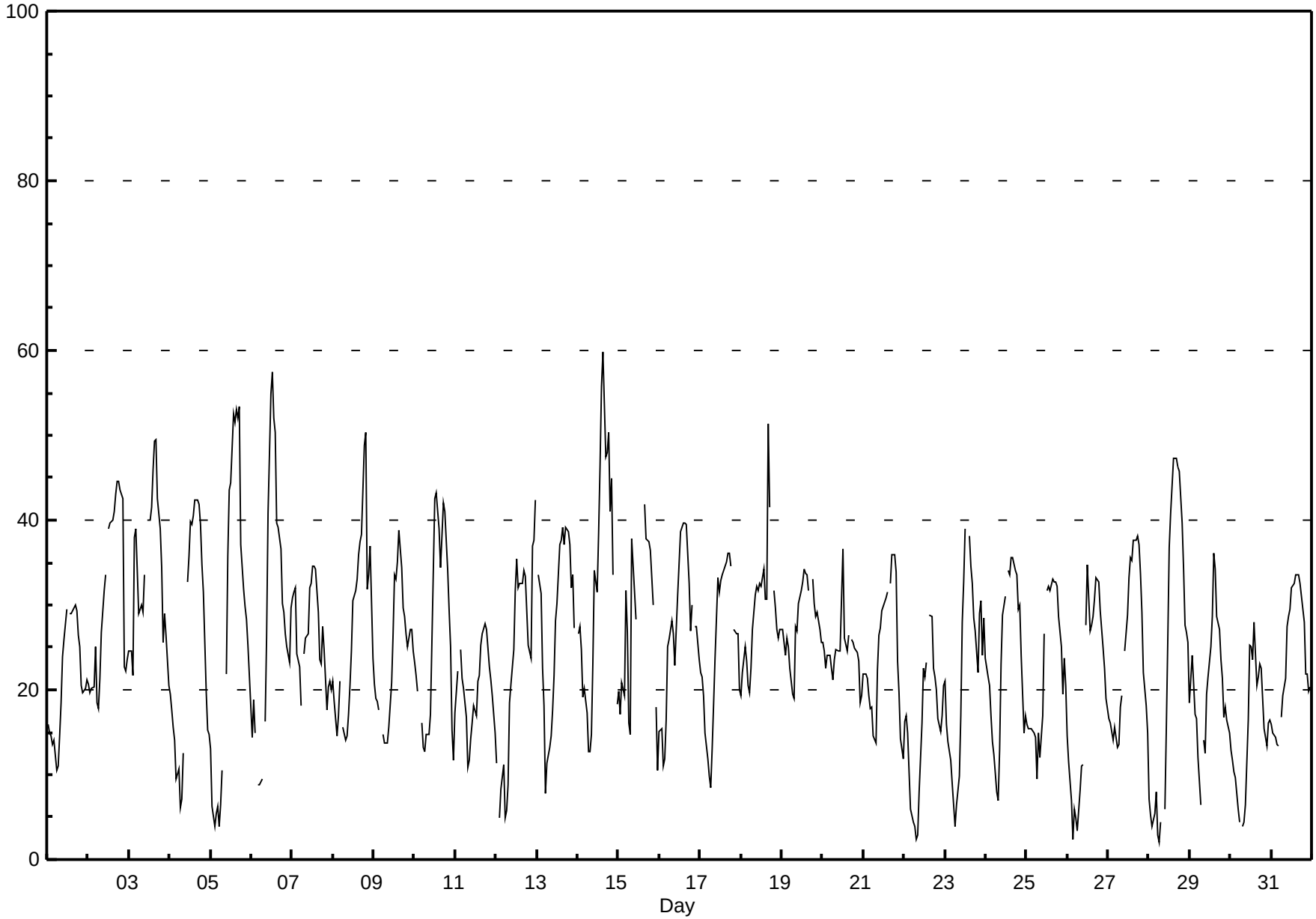
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

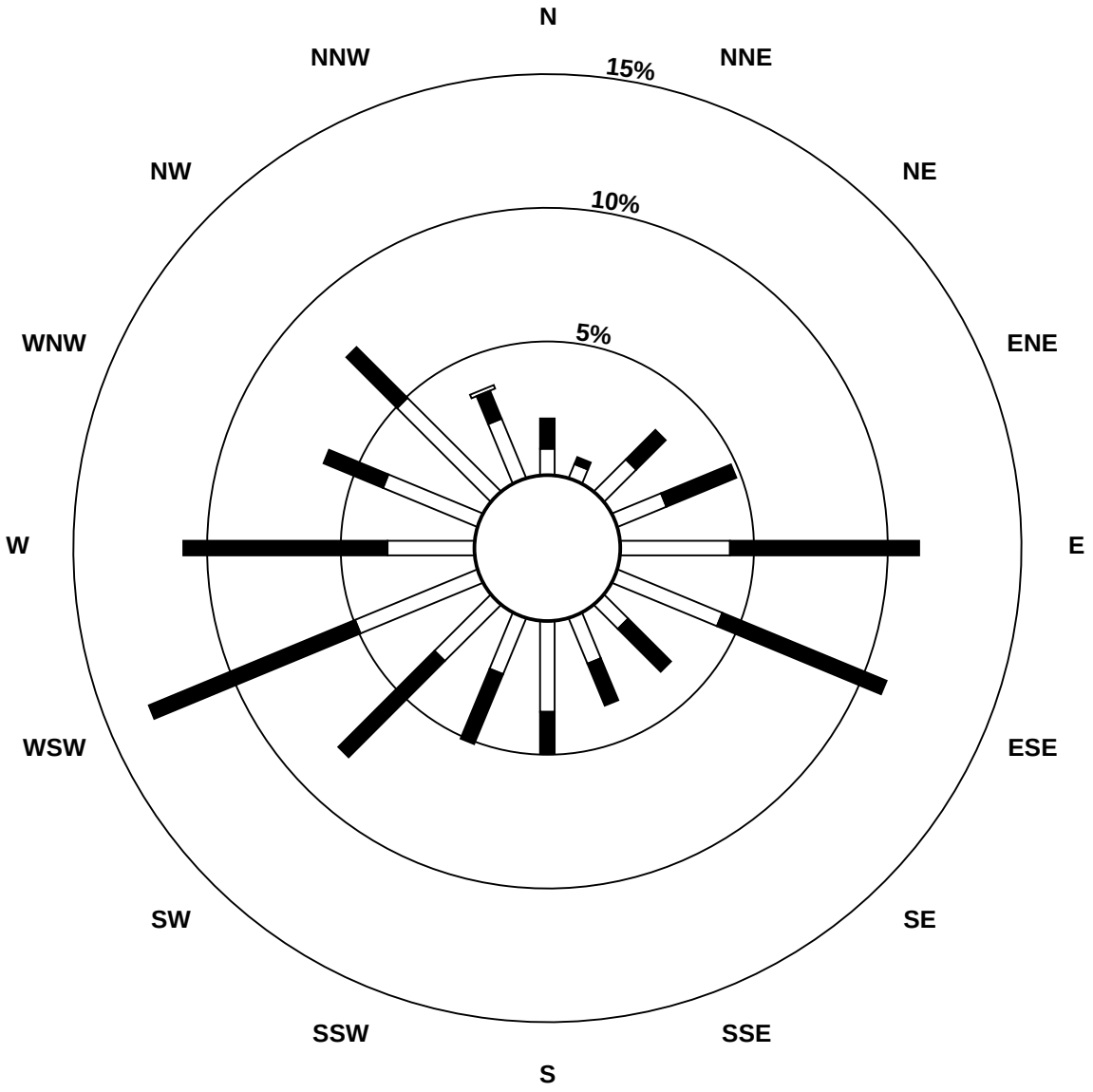
Henry Pirker - August 2013



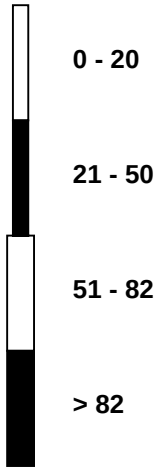
Pollutant Rose

Ozone (O_3) - ppb

Henry Pirker - August 2013



Pollutant Classes (ppb)



Peace Airshed Zone Association

Eight Hour Running Averages

Ozone (O_3) - ppb

Henry Pirker - August 2013

Maximum Value: 44.0 ppb on Aug 14 21:00

Minimum Value: 3.1 ppb on Aug 28 09:00

Percentiles: P_1 = 4.3 P_{10} = 11.4 Q_1 = 15.3 Median = 21.7 Q_3 = 27.8 P_{90} = 32.5 P_{99} = 42.3

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	21	19	17	15	14	13	12	11	11	12	14	15	16	19	22	25	26	27	28	27	26	25	24	22	27.6
2-Aug	21	20	20	19	19	19	19	19	19	20	22	22	25	28	31	34	37	39	40	41	40	38	35	33	40.6
3-Aug	31	28	26	24	25	26	26	27	28	28	30	31	31	32	35	38	40	42	41	40	38	36	34	30	41.8
4-Aug	26	23	20	18	16	14	12	10	9	8	10	13	17	22	27	32	36	36	37	37	36	33	29	25	37.5
5-Aug	20	16	12	9	6	5	4	4	4	6	10	14	20	26	32	38	40	43	44	43	41	39	35	31	43.9
6-Aug	27	23	21	19	17	14	11	10	10	11	14	19	25	31	36	35	39	40	39	36	33	30	28	27	40.0
7-Aug	26	26	26	25	24	23	23	22	21	20	20	22	24	27	27	28	28	27	27	25	23	21	20	20	27.7
8-Aug	19	19	18	17	18	18	17	16	15	15	15	16	18	19	21	24	27	30	32	33	33	32	31	30	32.9
9-Aug	28	25	23	21	20	19	17	16	15	14	14	15	17	19	22	24	26	28	30	30	29	28	27	26	29.8
10-Aug	25	24	23	23	21	20	17	16	15	14	14	16	19	23	26	28	30	33	35	35	34	32	29	26	35.5
11-Aug	22	20	17	16	15	14	14	15	15	14	14	13	13	13	13	15	17	19	20	21	22	22	21	19	22.3
12-Aug	17	16	13	10	8	6	5	5	6	7	9	12	15	19	22	25	28	30	30	30	29	28	28	28	30.2
13-Aug	28	28	27	27	25	22	18	15	15	13	12	13	14	18	22	25	28	30	33	34	35	34	32	31	34.5
14-Aug	30	28	26	23	22	20	18	17	15	14	15	17	18	22	27	33	37	41	43	44	44	42	41	35	44.0
15-Aug	30	25	21	18	17	15	14	14	15	17	19	19	18	N	N	N	N	N	N	N	34	34	31	27	34.2
16-Aug	24	20	17	13	11	12	13	15	16	17	19	21	24	26	28	30	32	33	33	32	32	30	28	26	32.8
17-Aug	24	22	21	20	18	16	14	13	12	12	13	15	18	21	24	28	30	32	33	33	32	31	29	27	33.0
18-Aug	25	23	22	22	21	20	20	20	21	21	22	23	25	26	27	28	29	30	30	29	29	28	28	27	29.6
19-Aug	27	26	26	25	25	24	23	22	21	21	22	23	24	25	27	29	30	31	31	31	30	30	29	28	31.3
20-Aug	27	26	25	25	24	24	23	22	22	22	22	22	23	23	24	24	24	24	24	24	24	23	22	21	26.9
21-Aug	21	21	20	20	19	18	18	17	17	17	18	19	20	22	25	26	28	30	31	31	30	28	25	23	30.9
22-Aug	21	18	15	13	11	9	8	7	6	4	4	6	8	10	11	15	18	21	22	22	21	20	19	18	21.9
23-Aug	17	16	15	14	13	12	10	9	7	7	8	11	15	16	21	25	28	30	30	28	27	27	25	24	30.3
24-Aug	23	22	21	21	20	17	16	13	11	11	12	14	14	18	22	26	29	32	32	32	31	29	27	24	32.5
25-Aug	22	19	17	15	14	13	13	12	11	11	12	12	14	17	21	24	27	30	31	30	29	27	26	24	31.0
26-Aug	21	18	15	12	10	9	6	5	4	4	4	8	11	15	18	21	24	27	28	28	28	27	27	25	27.8
27-Aug	24	22	20	18	16	15	14	13	13	13	14	16	19	22	25	28	31	32	33	34	33	31	29	25	34.1
28-Aug	21	17	13	10	7	6	4	3	3	3	4	7	10	15	21	27	30	35	39	41	40	39	37	34	40.6
29-Aug	30	27	23	21	19	17	15	13	13	11	11	12	13	15	19	21	23	25	26	26	25	23	21	19	29.7
30-Aug	17	15	14	12	11	9	8	7	5	4	5	6	8	11	12	14	17	19	20	20	19	18	17	16	20.0
31-Aug	16	15	14	13	13	13	13	13	14	15	18	20	23	24	26	28	30	31	31	30	29	27	26	24	30.8
Diurnal Maximums	31.0	28.5	27.3	26.8	25.1	25.7	26.4	27.0	27.6	28.4	29.7	30.8	31.1	32.2	36.1	38.4	40.1	43.1	43.9	43.5	44.0	42.4	41.3	34.8	

N - Not Valid

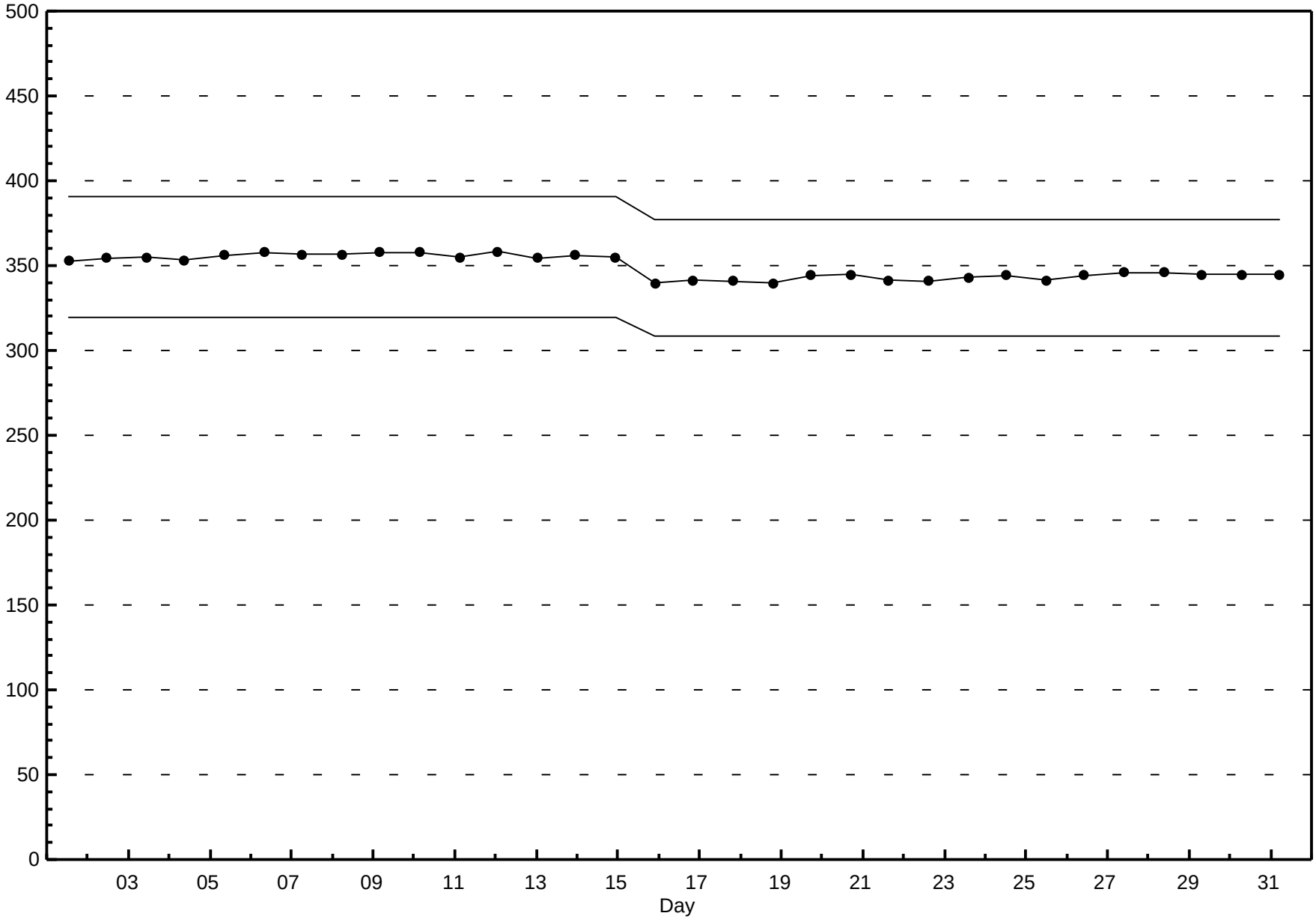
FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Span Responses

Ozone (O_3)

Henry Pirker - August 2013



Peace Airshed Zone Association

Hourly Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - August 2013

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

Maximum Value: 0.47 ppm on Aug 4 22:00

Maximum Daily Average: 0.22 ppm on Aug 10

Minimum Value: 0.0 ppm on Aug 21 04:00

Minimum Daily Average: 0.06 ppm on Aug 21

Maximum Diurnal Average: 0.18 ppm at hour 21

Minimum Diurnal Average: 0.11 ppm at hour 4

Monthly Average: 0.150 ppm

Percentiles: $P_1 = 0.04$ $P_{10} = 0.07$ $Q_1 = 0.10$ Median = 0.15 $Q_3 = 0.19$ $P_{90} = 0.23$ $P_{99} = 0.33$

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	0.1	0.1	0.2	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.12	0.16
2-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	A	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.13	0.18
3-Aug	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.15	0.21
4-Aug	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.5	0.5	0.4	0.19	0.47
5-Aug	0.3	0.2	0.1	0.1	0.1	0.2	0.1	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.19	0.34
6-Aug	0.3	0.2	0.1	D	0.1	0.2	0.2	A	0.3	0.3	0.3	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	0.20	0.29
7-Aug	0.2	0.1	0.1	0.2	0.1	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.19	0.26
8-Aug	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.21	0.25
9-Aug	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.21	0.27
10-Aug	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.22	0.42
11-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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.25
12-Aug	0.2	A	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.17	0.25
13-Aug	A	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	A	0.21	0.27
14-Aug	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	A	0.2	0.17	0.24
15-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.2	0.3	C	C	C	C	0.0	0.1	0.1	0.1	0.2	0.2	A	0.2	0.3	0.20	0.40
16-Aug	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	A	0.1	0.1	0.1	0.12	0.16
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	A	0.1	0.1	0.1	0.1	0.08	0.11
18-Aug	0.1	0.1	0.0	0.0	0.1	0.1	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	0.0	0.1	0.1	0.1	0.1	0.07	0.11
19-Aug	0.1	0.1	0.0	0.0	0.0	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	0.07	0.10
20-Aug	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.06	0.09
21-Aug	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	A	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.06	0.13
22-Aug	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.12	0.22
23-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	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	0.1	0.14	0.28
24-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	0.2	0.2	0.2	0.2	0.12	0.22
25-Aug	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.11	0.16
26-Aug	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.13	0.16
27-Aug	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	0.2	0.2	0.2	0.13	0.24
28-Aug	0.3	0.2	0.3	0.2	0.1	0.2	0.2	0.2	A	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	0.2	0.2	0.17	0.28
29-Aug	0.2	0.2	0.1	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18	0.23
30-Aug	0.2	0.2	0.1	0.1	0.1	0.2	A	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.18	0.27
31-Aug	0.1	0.1	0.1	0.1	0.1	A	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	0.2	0.2	0.2	0.1	0.1	0.14	0.17
	0.15	0.13	0.12	0.11	0.11	0.13	0.15	0.17	0.16	0.16	0.16	0.15	0.15	0.15	0.14	0.14	0.14	0.14	0.15	0.17	0.18	0.18	0.18	0.17	Diurnal Average	
	0.34	0.25	0.28	0.19	0.22	0.24	0.29	0.40	0.25	0.27	0.29	0.25	0.26	0.25	0.27	0.25	0.25	0.25	0.25	0.26	0.27	0.47	0.46	0.42	Diurnal Maximum	

C - Calibration D - DAS Failure A - Automated Daily Zero Span

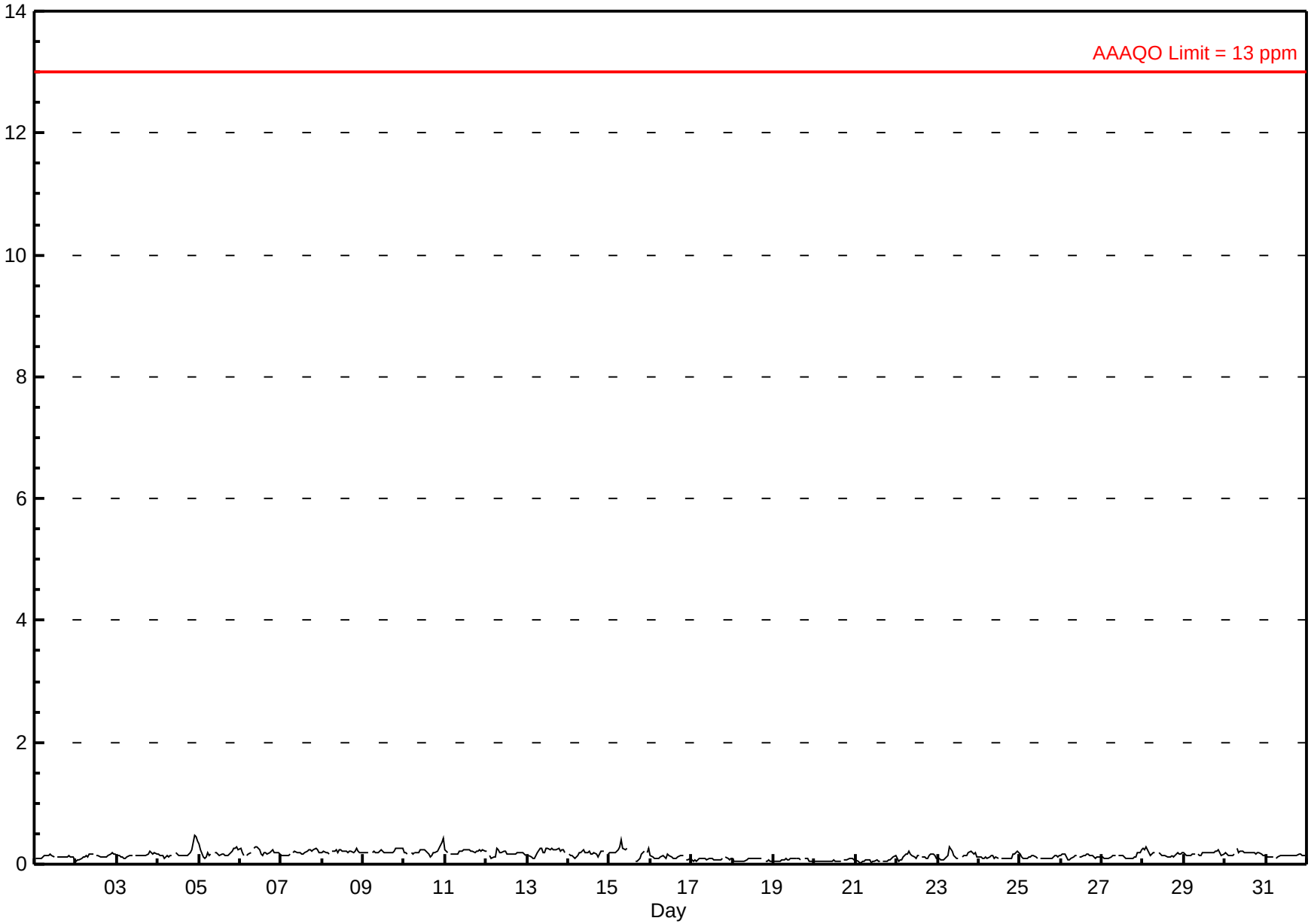
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 13 ppm 24-hr na

Peace Airshed Zone Association

Hourly Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - August 2013



Peace Airshed Zone Association

Hourly Maximums

Carbon Monoxide (CO) - ppm

Henry Pirker - August 2013

Maximum Value: 2.46 ppm on Aug 8 09:00

Maximum Daily Average: 0.36 ppm on Aug 8

Minimum Value: 0.1 ppm on Aug 20 05:00

Minimum Daily Average: 0.09 ppm on Aug 18

Maximum Diurnal Average: 0.30 ppm at hour 9

Minimum Diurnal Average: 0.15 ppm at hour 4

Monthly Average: 0.209 ppm

Percentiles: $P_1 = 0.06$ $P_{10} = 0.10$ $Q_1 = 0.15$ Median = 0.20 $Q_3 = 0.25$ $P_{90} = 0.30$ $P_{99} = 0.78$

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	0.3	0.1	0.2	0.2	0.2	0.2	0.2	0.2	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	0.17	0.26
2-Aug	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.19	0.43
3-Aug	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	A	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	0.18	0.29
4-Aug	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.2	0.2	0.2	0.3	1.0	0.7	0.5	0.27	0.97
5-Aug	0.5	0.3	0.2	0.1	0.2	0.3	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	1.1	0.3	0.28	1.13
6-Aug	0.3	0.3	0.2	D	0.2	0.2	0.3	A	0.3	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.27	0.40
7-Aug	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.24	0.36
8-Aug	0.2	0.3	0.3	0.2	0.2	A	0.3	0.3	2.5	0.2	0.4	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.36	2.46
9-Aug	0.2	0.2	0.2	0.2	A	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.3	0.3	0.3	0.4	0.27	0.45
10-Aug	0.3	0.2	0.2	A	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.6	0.27	0.60
11-Aug	0.4	0.3	A	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.5	0.3	0.9	0.3	0.3	0.3	0.2	0.4	0.2	0.2	0.3	0.4	0.3	0.31	0.91
12-Aug	0.3	A	0.2	0.1	0.1	0.1	0.9	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.24	0.86
13-Aug	A	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.3	0.4	0.3	0.8	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.2	A	0.27	0.81
14-Aug	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	A	0.2	0.22	0.36
15-Aug	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.5	0.3	0.3	0.3	C	C	C	C	0.1	0.1	0.1	0.2	0.2	0.3	A	0.3	0.7	0.27	0.67
16-Aug	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2	A	0.1	0.1	0.1	0.15	0.25
17-Aug	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A	0.2	0.2	0.1	0.1	0.12	0.20
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	A	0.1	0.1	0.1	0.1	0.1	0.09	0.15
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	A	0.1	0.1	0.1	0.1	0.1	0.1	0.10	0.14
20-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.1	0.1	0.1	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.11	0.43
21-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	0.2	0.2	0.10	0.15
22-Aug	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.2	0.2	A	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.17	0.25
23-Aug	0.2	0.1	0.1	0.1	0.1	0.3	0.3	0.7	0.4	0.2	0.2	0.1	0.1	A	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.4	0.2	0.22	0.68
24-Aug	0.2	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.3	0.2	0.16	0.30
25-Aug	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.15	0.20
26-Aug	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	A	0.2	1.9	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.26	1.85
27-Aug	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.3	0.17	0.30
28-Aug	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	A	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.24	0.35
29-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.5	0.2	0.2	0.2	0.4	0.2	0.2	0.2	0.4	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.25	0.48
30-Aug	0.2	0.2	0.2	0.2	0.2	0.2	A	0.4	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.45
31-Aug	0.2	0.2	0.2	0.2	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	0.2	0.2	0.17	0.25
	0.20	0.18	0.15	0.15	0.16	0.18	0.23	0.23	0.30	0.20	0.20	0.21	0.26	0.20	0.20	0.19	0.18	0.18	0.21	0.21	0.24	0.25	0.27	0.24	Diurnal Average	
	0.54	0.35	0.30	0.35	0.34	0.34	0.86	0.68	2.46	0.40	0.41	0.45	1.85	0.91	0.81	0.37	0.36	0.43	0.41	0.45	0.35	0.97	1.13	0.67	Diurnal Maximum	

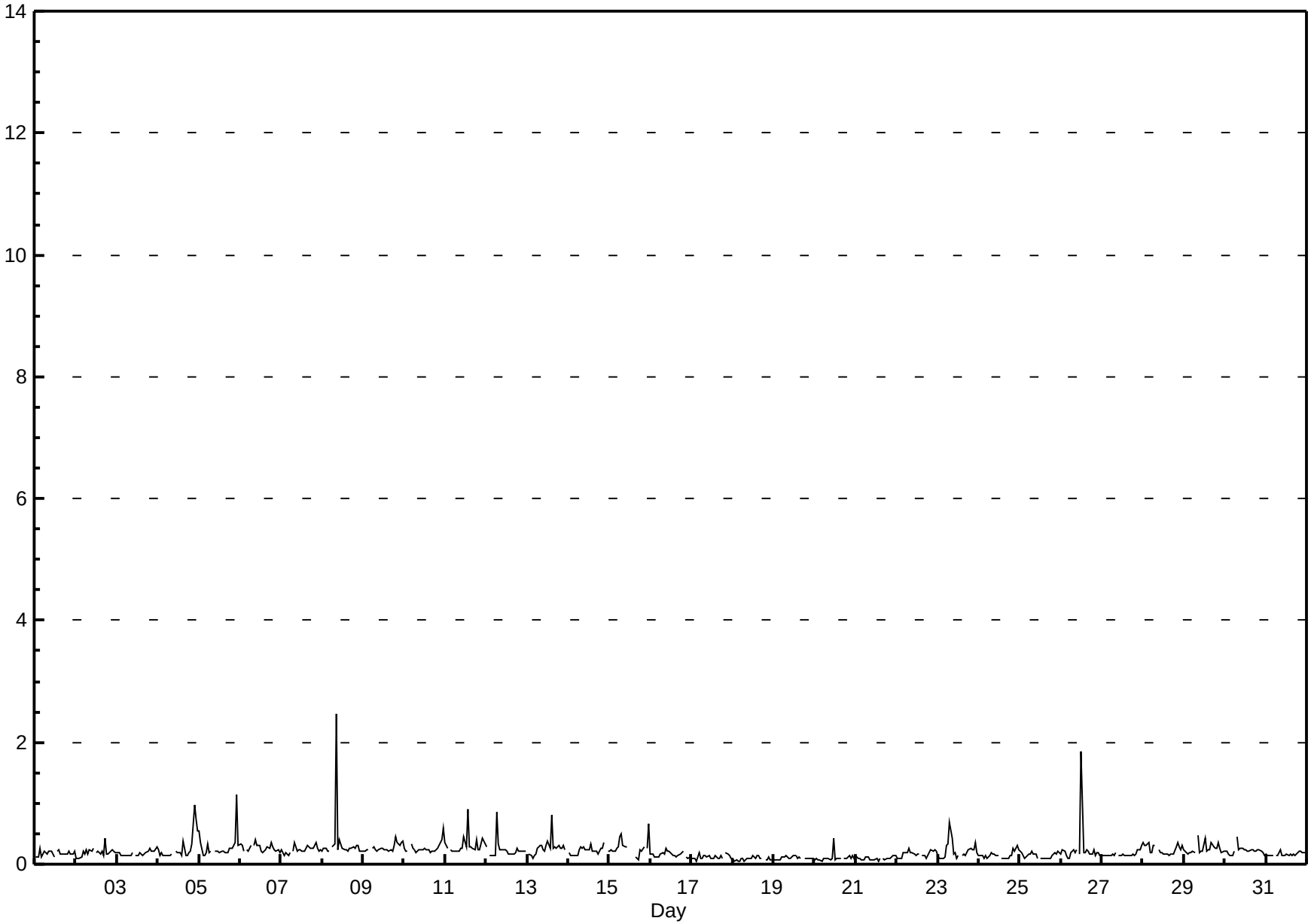
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Carbon Monoxide (CO) - ppm

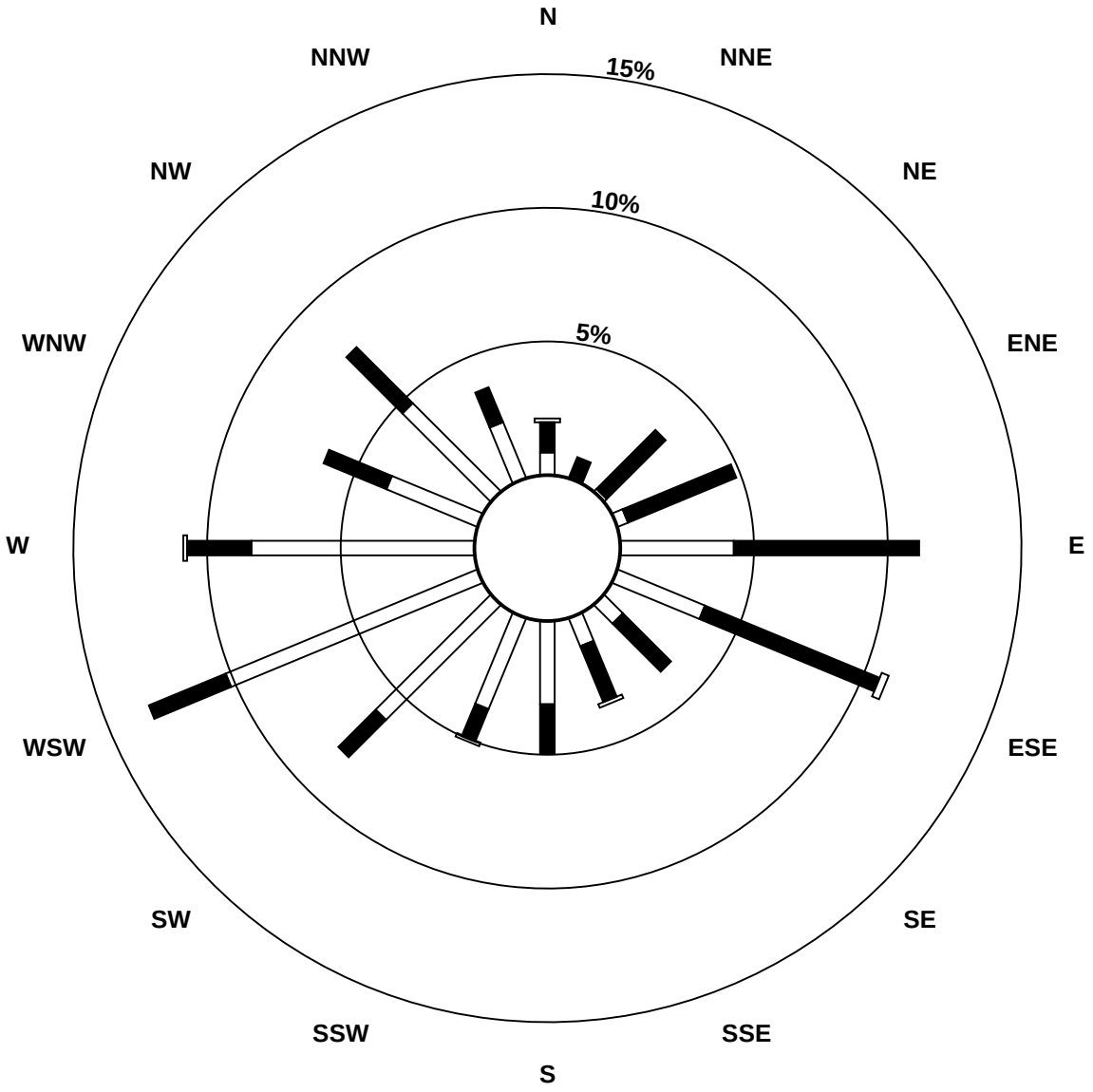
Henry Pirker - August 2013



Pollutant Rose

Carbon Monoxide (CO) - ppm

Henry Pirker - August 2013



Pollutant Classes (ppm)

- 0 - 0.1
- 0.1 - 0.3
- 0.3 - 0.5
- 0.5 - 1
- 1 - 10
- > 10

Peace Airshed Zone Association

Eight Hour Running Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - August 2013

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 0.31 ppm on Aug 5 02:00

Minimum Value: 0.05 ppm on Aug 21 17:00

Percentiles: P_1 = 0.05 P_{10} = 0.08 Q_1 = 0.11 Median = 0.15 Q_3 = 0.19 P_{90} = 0.22 P_{99} = 0.28

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	0.14
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	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.15
3-Aug	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	0.2	0.2	0.2	0.2	0.2	0.2	0.18
4-Aug	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	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.27
5-Aug	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.31
6-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	0.24
7-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	0.23
8-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	0.22
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	0.2	0.2	0.2	0.2	0.2	0.2	0.24
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	0.3	0.26
11-Aug	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.28
12-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	0.22
13-Aug	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.25
14-Aug	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22
15-Aug	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	N	N	N	N	N	N	N	0.1	0.1	0.1	0.1	0.28
16-Aug	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.17
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	0.11
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	0.09
20-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
21-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.08
22-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	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.15
23-Aug	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.17
24-Aug	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.17
25-Aug	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.15
26-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
27-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
28-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	0.2	0.22
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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21
30-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	0.21
31-Aug	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	0.2	0.2	0.2	0.2	0.17
Diurnal Maximums	0.30	0.31	0.31	0.29	0.28	0.24	0.22	0.24	0.25	0.25	0.26	0.27	0.28	0.23	0.24	0.24	0.24	0.25	0.25	0.25	0.25	0.24	0.24	0.27	

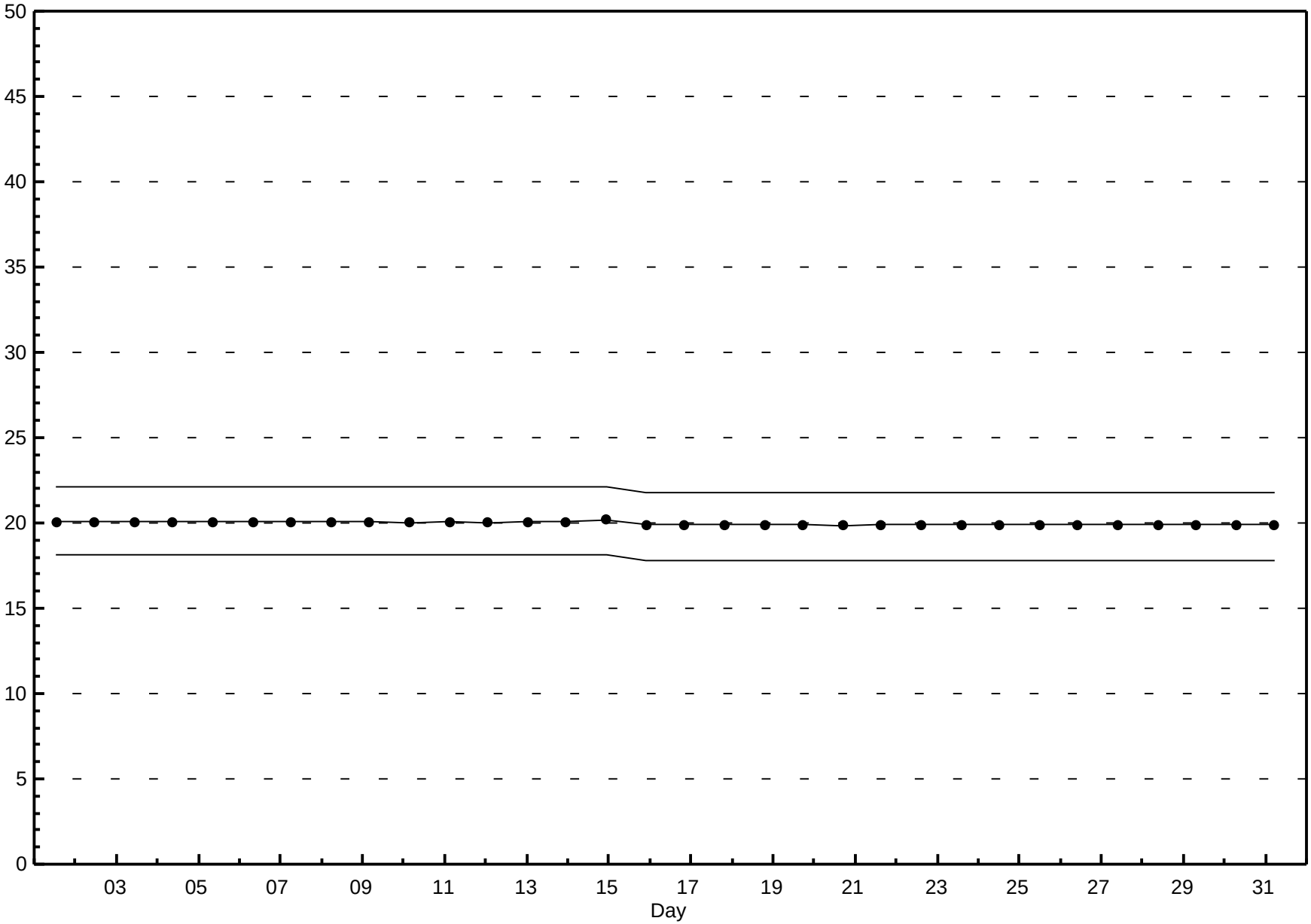
N - Not Valid
Alberta Ambient Air Quality Objectives (AAAQO): 8-hr 5 ppm

Peace Airshed Zone Association

Span Responses

Carbon Monoxide (CO)

Henry Pirker - August 2013



Peace Airshed Zone Association

Hourly Averages

Total Hydrocarbons (THC) - ppm

Henry Pirker - August 2013

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

Maximum Value: 4.00 ppm on Aug 5 00:00

Maximum Daily Average: 2.27 ppm on Aug 5

Minimum Value: 1.6 ppm on Aug 26 13:00

Minimum Daily Average: 1.88 ppm on Aug 20

Maximum Diurnal Average: 2.25 ppm at hour 24

Minimum Diurnal Average: 1.89 ppm at hour 16

Monthly Average: 2.024 ppm

Percentiles: P_1 = 1.84 P_{10} = 1.87 Q_1 = 1.90 Median = 1.95 Q_3 = 2.05 P_{90} = 2.27 P_{99} = 3.05

Hours in Service:	744
Hours of Data:	654
Hours of Missing Data:	90
Hours of Calibration:	39
Percent Operational Time:	93.2

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	1.9	1.9	2.0	2.0	2.8	2.4	2.2	2.0	1.9	1.9	1.9	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	1.9	1.9	1.96	2.79
2-Aug	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	1.9	1.9	1.9	A	1.9	1.9	1.8	1.9	1.9	1.8	1.8	1.9	1.9	1.9	1.9	2.0	1.90	1.97
3-Aug	1.9	2.0	2.0	1.9	1.9	1.9	2.0	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	1.93	2.13
4-Aug	2.3	2.2	2.1	2.1	2.2	2.2	2.2	2.2	2.2	A	2.0	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.9	2.1	2.8	2.0	2.3	4.0	2.17	4.00
5-Aug	3.1	2.3	2.4	2.5	2.5	3.0	2.8	2.6	A	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	1.9	2.0	1.9	1.9	1.9	2.3	3.2	2.27	3.18
6-Aug	3.0	2.1	2.1	D	2.2	2.3	2.2	A	2.2	2.2	2.1	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.06	3.02
7-Aug	1.9	1.9	1.9	1.9	2.0	2.0	A	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.94	2.02
8-Aug	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	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	1.98	2.03
9-Aug	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	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.99	2.03
10-Aug	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	3.3	3.4	2.10	3.37
11-Aug	2.3	2.0	A	2.1	2.0	2.3	2.2	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	3.0	2.08	2.98
12-Aug	2.4	A	2.2	2.1	2.3	2.2	2.2	2.3	2.1	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.03	2.43
13-Aug	A	2.0	2.1	2.3	2.1	2.1	2.2	2.2	2.3	2.2	2.1	2.0	2.0	2.0	1.9	1.9	1.9	2.0	1.9	2.1	2.1	2.1	2.0	A	2.08	2.32
14-Aug	2.0	2.0	2.3	2.3	2.3	2.1	2.1	2.1	C	C	C	C	2.0	2.0	2.0	2.0	2.0	2.1	2.6	2.5	2.0	2.3	A	2.5	2.16	2.58
15-Aug	2.2	2.1	2.1	2.2	2.1	2.4	2.3	2.3	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0	2.0	1.9	1.9	A	2.5	2.3	2.07	2.52
16-Aug	2.2	2.0	2.2	2.4	2.2	2.0	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	A	1.9	2.0	2.0	1.99	2.37
17-Aug	2.2	2.0	2.0	2.1	2.0	2.2	2.4	2.3	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	2.0	2.1	2.0	2.01	2.37
18-Aug	2.0	2.0	1.9	2.0	2.1	2.0	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	2.0	1.9	1.93	2.10
19-Aug	1.9	2.0	2.0	2.0	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.90	2.00
20-Aug	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.88	1.97
21-Aug	2.0	1.9	1.9	1.9	2.0	1.9	1.9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	1.98
22-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	--	--
23-Aug	N	N	N	N	N	N	N	N	N	C	C	C	C	C	C	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	--	1.89
24-Aug	2.0	2.1	2.1	2.0	2.0	2.2	2.1	2.3	2.1	2.0	1.9	1.9	A	1.9	1.9	1.9	1.9	1.8	1.8	1.9	2.2	2.3	2.6	2.5	2.05	2.58
25-Aug	2.3	2.1	2.1	2.0	2.0	2.2	2.0	2.2	2.1	2.0	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.4	1.9	2.6	2.05	2.58
26-Aug	2.3	2.6	3.3	2.6	2.2	2.3	2.3	2.3	2.2	2.2	A	1.9	1.6	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.11	3.29
27-Aug	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.2	2.4	1.95	2.36
28-Aug	2.3	2.7	3.0	2.5	2.3	2.3	2.6	2.3	A	2.4	2.2	2.0	1.9	1.9	1.9	1.9	1.9	2.1	2.2	2.2	1.9	1.9	1.9	2.0	2.19	2.97
29-Aug	2.3	2.0	2.1	2.0	2.0	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.97	2.27
30-Aug	2.0	2.0	2.0	2.1	2.3	2.5	A	2.3	2.3	2.3	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.05	2.48
31-Aug	2.0	2.0	2.0	2.6	2.0	A	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.1	2.2	2.0	2.00	2.59
	2.15	2.06	2.13	2.12	2.11	2.16	2.12	2.12	2.04	2.02	1.98	1.94	1.91	1.91	1.90	1.89	1.89	1.91	1.94	1.96	1.99	2.00	2.09	2.25	Diurnal Average	
	3.07	2.66	3.29	2.64	2.79	3.05	2.79	2.62	2.31	2.39	2.21	2.08	2.05	2.01	2.02	1.96	1.99	2.12	2.58	2.50	2.79	2.43	3.31	4.00	Diurnal Maximum	

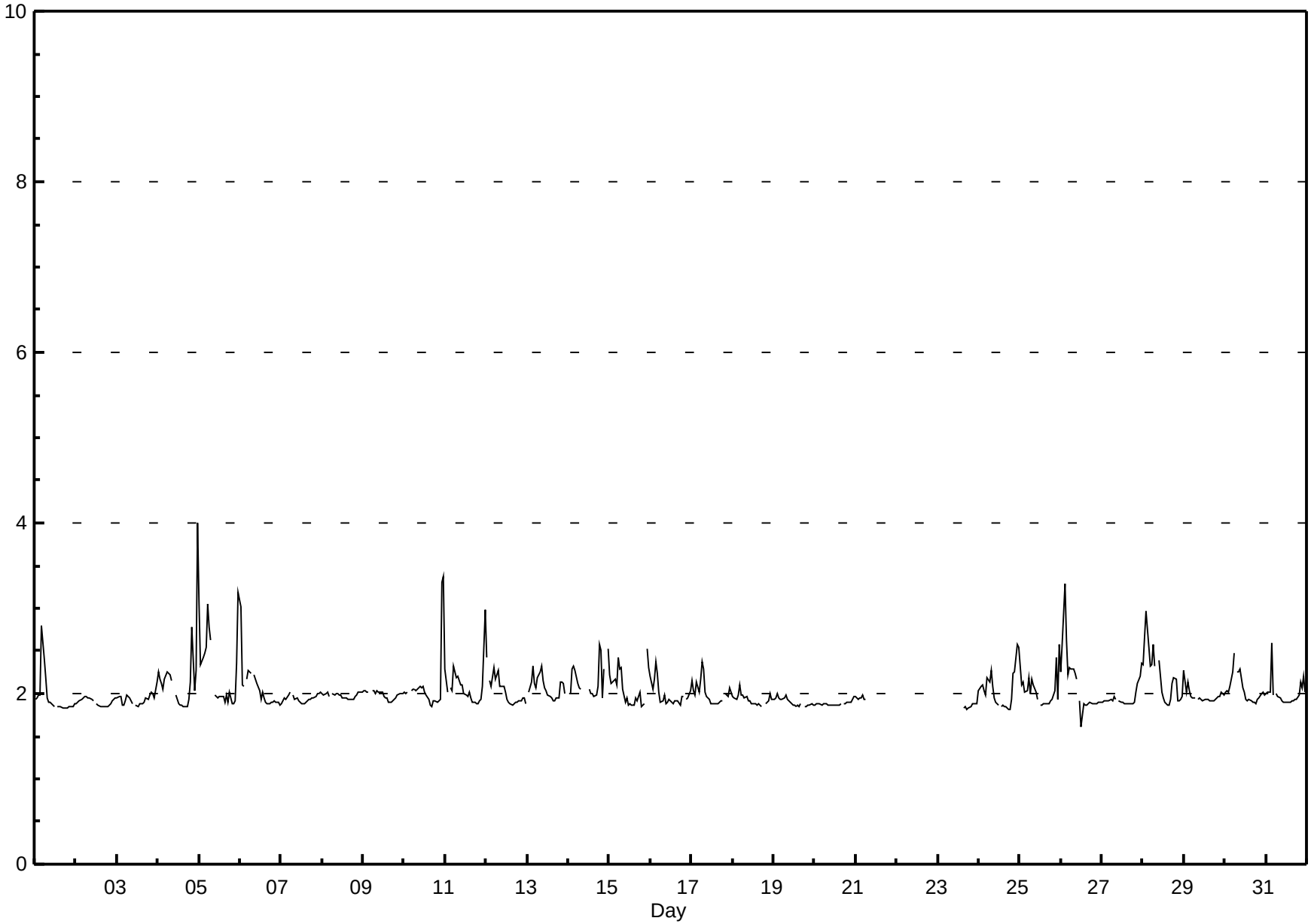
C - Calibration D - DAS Failure N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Total Hydrocarbons (THC) - ppm

Henry Pirker - August 2013



Peace Airshed Zone Association

Hourly Maximums

Total Hydrocarbons (THC) - ppm

Henry Pirker - August 2013

Maximum Value: 8.84 ppm on Aug 14 19:00

Maximum Daily Average: 3.28 ppm on Aug 14

Minimum Value: 1.8 ppm on Aug 1 18:00

Minimum Daily Average: 1.92 ppm on Aug 20

Maximum Diurnal Average: 3.06 ppm at hour 24

Minimum Diurnal Average: 2.03 ppm at hour 16

Monthly Average: 2.368 ppm

Percentiles: P_1 = 1.87 P_{10} = 1.90 Q_1 = 1.95 Median = 2.07 Q_3 = 2.40 P_{90} = 3.09 P_{99} = 5.93

Hours in Service:	744
Hours of Data:	654
Hours of Missing Data:	90
Hours of Calibration:	39
Percent Operational Time:	93.2

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	2.0	2.0	2.1	2.1	5.7	4.4	2.6	2.1	2.2	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.8	1.9	1.8	1.9	1.9	1.9	1.9	2.23	5.71
2-Aug	1.9	1.9	2.0	1.9	2.0	2.3	2.0	2.0	1.9	2.0	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.95	2.33
3-Aug	2.0	2.0	2.1	1.9	2.0	2.7	2.1	2.0	2.0	2.0	A	2.0	1.9	2.0	2.0	2.8	2.1	2.1	2.0	2.1	2.1	2.1	2.0	3.2	2.14	3.20
4-Aug	3.0	2.7	2.2	2.2	2.5	2.4	2.4	3.0	2.6	A	2.4	2.1	1.9	1.9	1.9	1.9	1.9	1.9	2.7	3.7	4.6	3.3	3.8	8.1	2.84	8.13
5-Aug	5.5	3.0	2.6	3.1	5.9	5.2	3.0	3.0	A	2.2	2.4	3.0	2.4	2.5	2.5	2.1	2.5	2.4	6.7	1.9	1.9	1.9	3.9	5.3	3.27	6.70
6-Aug	3.9	2.4	4.0	D	2.5	3.8	2.3	A	2.4	2.3	3.0	2.5	2.4	2.6	2.2	2.1	2.6	1.9	1.9	1.9	2.0	1.9	1.9	1.9	2.48	3.97
7-Aug	1.9	2.0	2.1	2.2	2.1	2.1	A	2.1	2.3	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	1.9	2.0	2.0	2.2	2.1	2.3	2.04	2.34
8-Aug	2.2	2.1	2.2	2.1	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.02	2.22
9-Aug	2.0	2.1	2.0	2.0	A	2.0	2.0	2.0	2.2	2.0	2.4	2.3	2.1	2.1	2.0	1.9	1.9	1.9	1.9	2.0	2.1	2.0	2.0	2.0	2.06	2.37
10-Aug	2.2	2.1	2.1	A	2.3	2.4	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.1	2.0	7.3	6.0	2.48	7.32
11-Aug	3.2	2.1	A	3.2	2.3	4.0	3.4	2.7	2.3	2.6	2.2	2.1	2.3	2.2	3.0	2.1	1.9	1.9	1.9	1.9	1.9	2.0	3.4	8.1	2.74	8.08
12-Aug	4.5	A	2.3	2.2	3.1	2.4	2.4	2.5	2.2	2.4	2.8	2.5	2.0	1.9	2.2	1.9	1.9	2.5	1.9	1.9	2.0	2.2	2.4	1.9	2.34	4.45
13-Aug	A	2.5	3.1	5.7	2.3	2.2	2.4	2.9	2.9	2.6	2.4	2.7	2.0	2.0	2.0	1.9	2.0	2.8	2.4	3.2	3.0	2.4	2.1	A	2.62	5.73
14-Aug	2.7	2.1	3.8	3.9	3.0	2.4	2.1	2.2	C	C	C	C	2.3	2.3	2.5	2.2	2.2	5.4	8.8	4.5	2.0	4.9	A	2.9	3.28	8.84
15-Aug	2.6	2.3	2.1	2.3	2.2	3.2	2.6	2.6	2.4	2.0	2.1	1.9	2.1	2.7	2.1	2.6	2.5	2.9	4.7	1.9	2.0	A	6.5	3.4	2.68	6.52
16-Aug	2.5	2.2	2.5	2.6	3.1	2.5	2.2	2.4	2.6	2.3	2.3	2.3	2.3	2.1	2.5	2.4	2.5	2.0	2.2	2.3	A	2.3	2.3	2.3	2.37	3.15
17-Aug	3.4	2.5	2.1	2.5	2.8	2.7	3.3	3.2	2.2	2.1	2.3	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	A	2.1	2.1	2.3	2.3	2.33	3.37
18-Aug	2.0	2.2	2.0	2.1	2.6	2.1	2.2	2.0	2.2	2.0	2.2	2.0	1.9	1.9	1.9	2.0	1.9	1.9	A	1.9	1.9	2.1	2.2	2.2	2.08	2.64
19-Aug	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.96	2.20
20-Aug	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	2.0	1.9	2.1	2.1	1.92	2.06
21-Aug	2.0	2.0	2.0	2.0	2.0	2.0	2.0	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	2.04
22-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	--	--
23-Aug	N	N	N	N	N	N	N	N	N	C	C	C	C	C	C	1.8	2.9	1.8	1.9	1.9	2.4	2.1	1.9	1.9	--	2.93
24-Aug	2.4	2.7	2.4	2.2	2.0	3.9	2.7	3.4	2.4	2.8	2.2	1.9	A	1.9	1.9	1.9	2.0	1.9	1.8	3.1	4.0	3.3	4.4	4.6	2.69	4.63
25-Aug	4.6	2.5	2.4	2.3	2.5	3.2	2.1	2.4	2.3	2.1	2.1	A	2.0	1.9	2.1	1.9	1.9	1.9	2.0	2.3	2.7	3.5	2.3	3.6	2.47	4.64
26-Aug	2.5	3.4	4.5	3.6	2.4	2.6	2.4	2.4	2.3	2.3	A	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.32	4.52
27-Aug	2.0	1.9	2.1	2.0	2.0	2.0	2.0	2.0	2.0	A	2.1	2.0	2.0	1.9	2.0	2.0	2.0	2.0	1.9	2.0	2.5	2.5	2.9	3.4	2.14	3.45
28-Aug	3.0	4.5	3.8	4.5	2.8	2.9	2.9	2.9	A	2.8	2.6	2.3	2.1	2.0	1.9	2.1	2.4	2.9	3.7	3.1	2.0	2.0	1.9	2.1	2.74	4.53
29-Aug	2.9	2.3	2.7	2.2	2.1	2.0	2.0	A	2.0	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	2.1	2.0	2.09	2.91
30-Aug	2.3	2.1	2.1	2.6	2.6	3.4	A	2.6	2.4	2.5	2.2	2.2	2.0	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	2.1	2.1	2.0	2.21	3.44
31-Aug	2.1	2.1	2.5	4.5	2.1	A	2.1	2.2	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.1	3.1	2.2	3.1	2.1	2.25	4.47
	2.70	2.36	2.49	2.65	2.60	2.76	2.34	2.41	2.23	2.21	2.21	2.14	2.05	2.04	2.06	2.03	2.09	2.20	2.57	2.25	2.29	2.31	2.74	3.06	Diurnal Average	
	5.50	4.53	4.52	5.73	5.87	5.24	3.41	3.40	2.89	2.84	2.98	2.97	2.39	2.71	2.98	2.76	2.93	5.44	8.84	4.47	4.63	4.93	7.32	8.13	Diurnal Maximum	

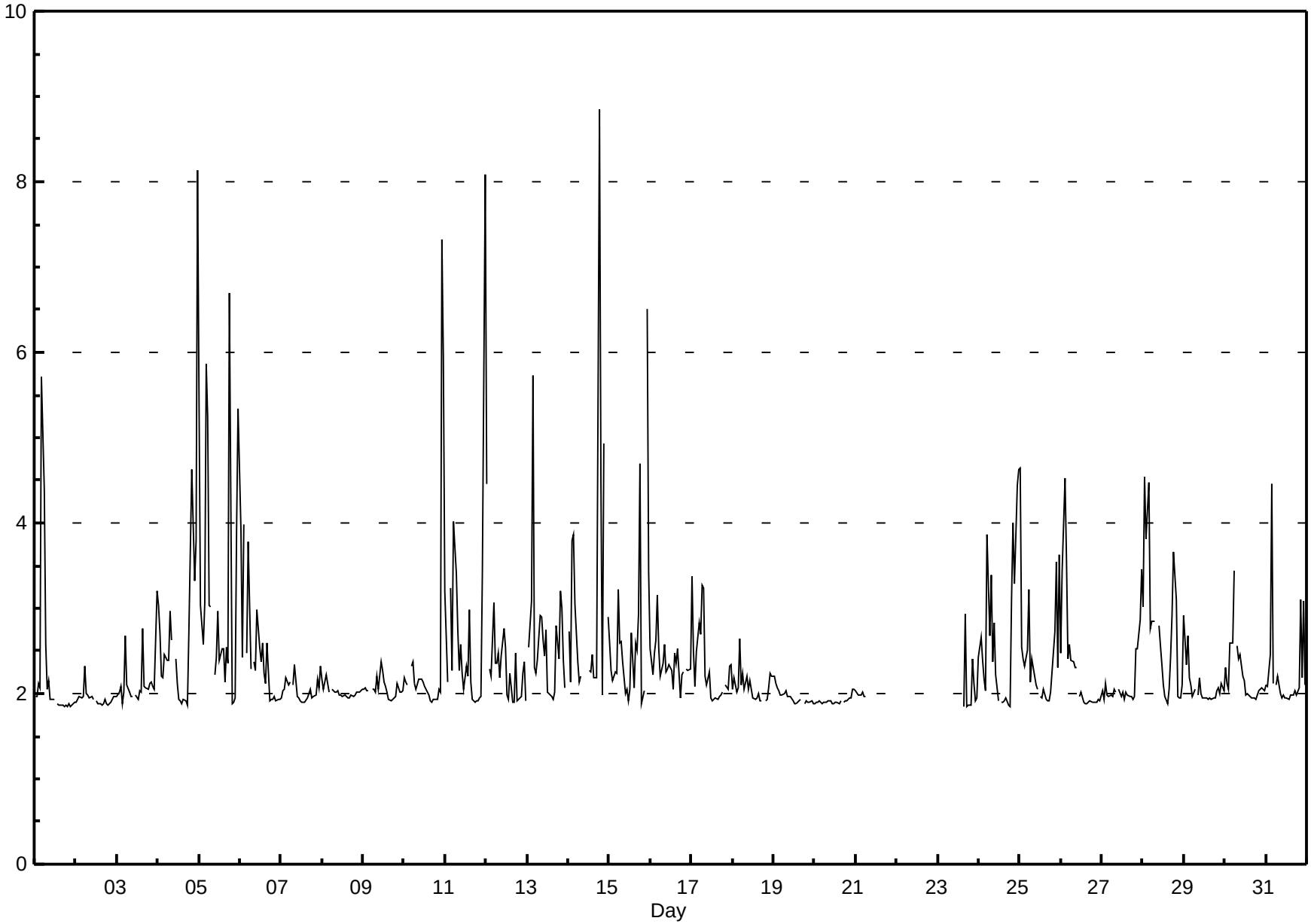
C - Calibration D - DAS Failure N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Total Hydrocarbons (THC) - ppm

Henry Pirker - August 2013

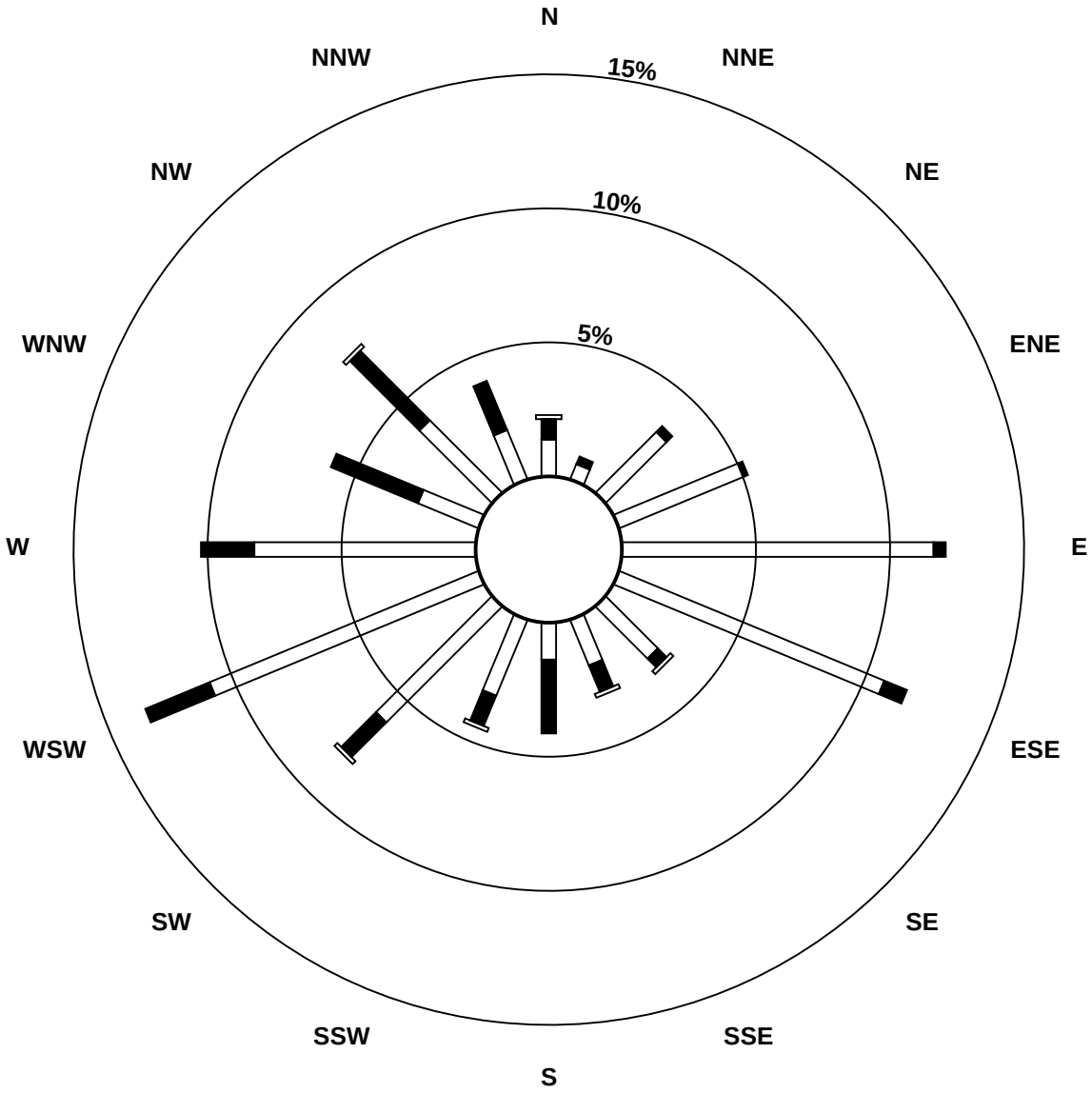


FOCUS AIR QUALITY MONITORING

Pollutant Rose

Total Hydrocarbons (THC) - ppm

Henry Pirker - August 2013



Pollutant Classes (ppm)

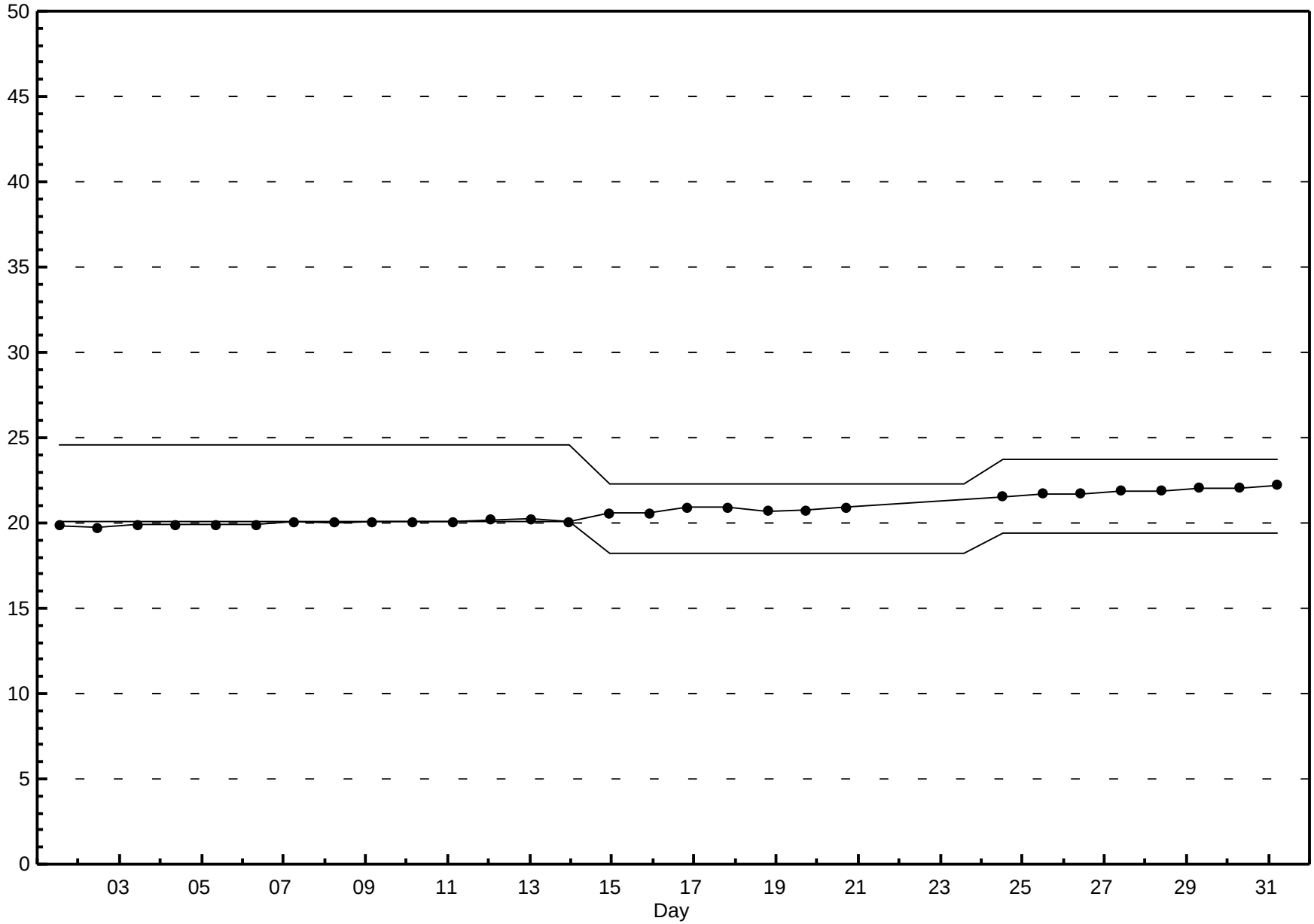
- 1.5 - 2.0
- 2.1 - 3.0
- 3.1 - 10.0
- > 10.0

Peace Airshed Zone Association

Span Responses

Total Hydrocarbons (THC)

Henry Pirker - August 2013



Peace Airshed Zone Association

Hourly Averages

Methane (CH_4) - ppm

Henry Pirker - August 2013

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

Maximum Value: 4.00 ppm on Aug 5 00:00

Maximum Daily Average: 2.27 ppm on Aug 5

Minimum Value: 1.6 ppm on Aug 26 13:00

Minimum Daily Average: 1.87 ppm on Aug 20

Maximum Diurnal Average: 2.25 ppm at hour 24

Minimum Diurnal Average: 1.88 ppm at hour 16

Monthly Average: 2.019 ppm

Percentiles: P_1 = 1.83 P_{10} = 1.86 Q_1 = 1.89 Median = 1.95 Q_3 = 2.04 P_{90} = 2.26 P_{99} = 3.05

Hours in Service:	744
Hours of Data:	654
Hours of Missing Data:	90
Hours of Calibration:	39
Percent Operational Time:	93.2

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	1.9	1.9	2.0	2.0	2.8	2.4	2.2	2.0	1.9	1.9	1.9	1.8	A	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	1.9	1.9	1.96	2.79
2-Aug	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	1.9	1.9	1.9	A	1.9	1.9	1.8	1.9	1.9	1.8	1.8	1.9	1.9	1.9	1.9	2.0	1.90	1.97
3-Aug	1.9	2.0	2.0	1.9	1.9	1.9	2.0	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	1.9	2.1	1.93	2.13
4-Aug	2.3	2.2	2.1	2.0	2.2	2.2	2.2	2.2	2.2	A	2.0	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.9	2.1	2.8	2.0	2.3	4.0	2.17	4.00
5-Aug	3.1	2.3	2.4	2.5	2.5	3.0	2.8	2.6	A	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	1.9	2.0	1.9	1.9	1.9	2.3	3.2	2.27	3.18
6-Aug	3.0	2.1	2.1	D	2.2	2.3	2.2	A	2.2	2.2	2.1	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.06	3.02
7-Aug	1.9	1.9	1.9	1.9	2.0	2.0	A	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.94	2.02
8-Aug	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	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	1.98	2.02
9-Aug	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	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.98	2.03
10-Aug	2.0	2.0	2.0	A	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	3.3	3.4	2.10	3.37
11-Aug	2.3	2.0	A	2.1	2.0	2.3	2.2	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	3.0	2.08	2.97
12-Aug	2.4	A	2.1	2.1	2.3	2.2	2.2	2.3	2.1	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.03	2.43
13-Aug	A	2.0	2.1	2.3	2.1	2.1	2.2	2.2	2.3	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	2.0	1.9	2.1	2.1	2.1	2.0	A	2.08	2.32
14-Aug	2.0	2.0	2.3	2.3	2.3	2.1	2.1	2.1	C	C	C	C	2.0	2.0	2.0	1.9	2.0	2.1	2.5	2.5	1.9	2.3	A	2.5	2.15	2.54
15-Aug	2.2	2.1	2.1	2.1	2.1	2.4	2.3	2.3	2.0	1.9	1.9	1.9	1.9	1.8	1.8	1.9	1.9	1.9	2.0	1.8	1.9	A	2.5	2.3	2.05	2.50
16-Aug	2.2	2.0	2.2	2.3	2.2	2.0	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	2.0	1.97	2.35
17-Aug	2.1	2.0	2.0	2.1	2.0	2.1	2.3	2.3	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	2.0	2.0	2.0	2.0	1.99	2.34
18-Aug	1.9	1.9	1.9	2.0	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	A	1.9	1.9	1.9	2.0	1.9	1.91	2.08
19-Aug	1.9	1.9	2.0	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.9	A	1.8	1.8	1.9	1.9	1.9	1.8	1.89	1.98
20-Aug	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.87	1.94
21-Aug	1.9	1.9	1.9	1.9	2.0	1.9	1.9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	1.95
22-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	--	--
23-Aug	N	N	N	N	N	N	N	N	N	C	C	C	C	C	C	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	--	1.89
24-Aug	2.0	2.1	2.1	2.0	2.0	2.2	2.1	2.3	2.1	2.0	1.9	1.9	A	1.9	1.9	1.9	1.9	1.8	1.8	1.9	2.2	2.2	2.6	2.5	2.05	2.57
25-Aug	2.3	2.1	2.1	2.0	2.0	2.2	2.0	2.2	2.1	2.0	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.4	1.9	2.6	2.04	2.57
26-Aug	2.2	2.6	3.3	2.6	2.2	2.3	2.3	2.3	2.2	2.2	A	1.9	1.6	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.11	3.28
27-Aug	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.2	2.4	1.95	2.35
28-Aug	2.3	2.7	3.0	2.5	2.3	2.3	2.6	2.3	A	2.4	2.2	2.0	1.9	1.9	1.9	1.9	1.9	2.1	2.2	2.2	1.9	1.9	1.9	2.0	2.19	2.97
29-Aug	2.3	2.0	2.1	2.0	2.0	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.97	2.27
30-Aug	2.0	2.0	2.0	2.1	2.2	2.5	A	2.3	2.2	2.3	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.04	2.48
31-Aug	2.0	2.0	2.0	2.6	2.0	A	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.1	2.2	2.0	2.00	2.58
	2.14	2.05	2.12	2.12	2.10	2.15	2.11	2.11	2.04	2.01	1.97	1.94	1.90	1.90	1.90	1.88	1.89	1.90	1.94	1.95	1.98	1.99	2.09	2.25	Diurnal Average	
	3.06	2.66	3.28	2.63	2.79	3.05	2.78	2.62	2.31	2.39	2.21	2.07	2.02	2.01	2.02	1.94	1.98	2.12	2.54	2.47	2.78	2.42	3.31	4.00	Diurnal Maximum	

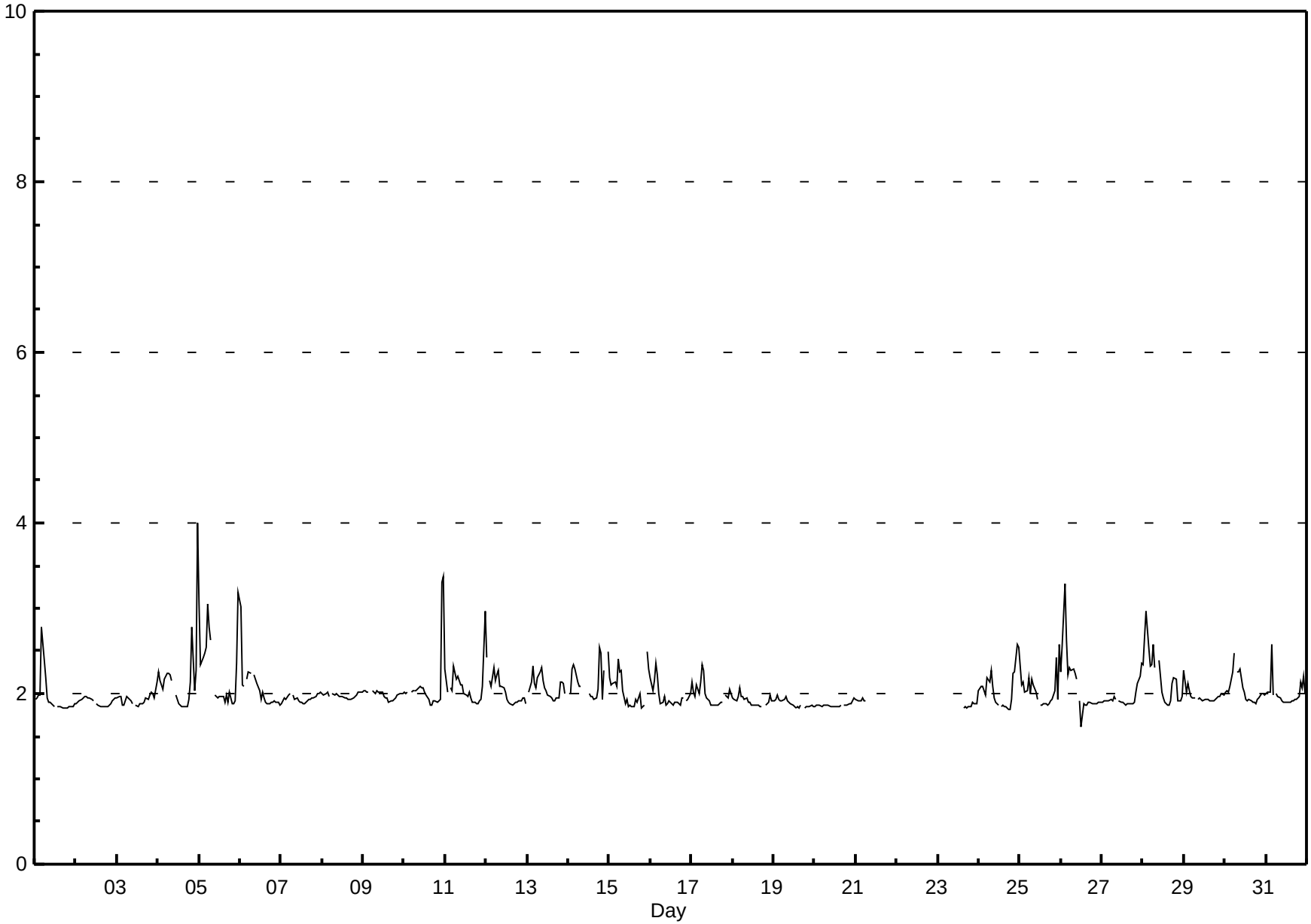
C - Calibration D - DAS Failure N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Methane (CH_4) - ppm

Henry Pirker - August 2013



Peace Airshed Zone Association

Hourly Maximums

Methane (CH_4) - ppm

Henry Pirker - August 2013

Maximum Value: 8.77 ppm on Aug 14 19:00

Maximum Daily Average: 3.27 ppm on Aug 5

Minimum Value: 1.8 ppm on Aug 24 19:00

Minimum Daily Average: 1.90 ppm on Aug 20

Maximum Diurnal Average: 3.06 ppm at hour 24

Minimum Diurnal Average: 2.02 ppm at hour 16

Monthly Average: 2.361 ppm

Percentiles: P_1 = 1.86 P_{10} = 1.90 Q_1 = 1.95 Median = 2.05 Q_3 = 2.41 P_{90} = 3.09 P_{99} = 5.94

Hours in Service:	744
Hours of Data:	654
Hours of Missing Data:	90
Hours of Calibration:	39
Percent Operational Time:	93.2

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	2.0	2.0	2.1	2.1	5.7	4.4	2.6	2.1	2.1	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	2.23	5.71
2-Aug	1.9	1.9	2.0	1.9	2.0	2.3	2.0	2.0	2.0	2.0	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.95	2.33
3-Aug	2.0	2.0	2.1	1.9	2.0	2.7	2.1	2.0	2.0	2.0	A	2.0	1.9	2.0	2.0	2.8	2.1	2.1	2.0	2.1	2.1	2.1	2.0	3.2	2.13	3.18
4-Aug	3.0	2.7	2.2	2.2	2.5	2.4	2.4	3.0	2.6	A	2.4	2.1	1.9	1.9	1.9	1.9	1.9	1.9	2.7	3.7	4.6	3.3	3.8	8.1	2.84	8.14
5-Aug	5.5	3.0	2.6	3.1	5.9	5.2	3.0	3.0	A	2.2	2.4	3.0	2.4	2.5	2.5	2.1	2.5	2.4	6.7	1.9	1.9	1.9	3.9	5.3	3.27	6.70
6-Aug	3.9	2.4	4.0	D	2.5	3.8	2.3	A	2.4	2.3	3.0	2.5	2.4	2.6	2.2	2.1	2.6	1.9	1.9	1.9	2.0	1.9	1.9	1.9	2.48	3.98
7-Aug	1.9	2.0	2.0	2.2	2.1	2.1	A	2.1	2.3	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.1	2.3	2.04	2.34
8-Aug	2.2	2.0	2.2	2.1	2.0	A	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.02	2.22
9-Aug	2.0	2.1	2.0	2.0	A	2.0	2.0	2.0	2.2	2.0	2.4	2.3	2.1	2.1	2.0	1.9	1.9	1.9	2.0	2.0	2.1	2.0	2.0	2.0	2.06	2.38
10-Aug	2.2	2.1	2.1	A	2.3	2.4	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	7.3	6.0	2.47	7.33
11-Aug	3.2	2.1	A	3.2	2.3	4.0	3.4	2.8	2.3	2.6	2.2	2.1	2.3	2.2	3.0	2.1	1.9	1.9	1.9	1.9	2.0	2.0	3.4	8.1	2.73	8.09
12-Aug	4.5	A	2.3	2.2	3.1	2.4	2.4	2.5	2.2	2.4	2.8	2.5	2.0	1.9	2.2	1.9	1.9	2.5	1.9	1.9	2.0	2.2	2.4	1.9	2.34	4.45
13-Aug	A	2.5	3.1	5.7	2.3	2.2	2.4	2.9	2.9	2.6	2.4	2.7	2.0	2.0	2.0	1.9	2.0	2.8	2.4	3.2	3.0	2.4	2.1	A	2.62	5.73
14-Aug	2.7	2.1	3.8	3.9	3.1	2.4	2.1	2.2	C	C	C	C	2.2	2.2	2.4	2.2	2.2	5.4	8.8	4.4	2.0	4.9	A	2.9	3.26	8.77
15-Aug	2.6	2.2	2.1	2.2	2.2	3.2	2.6	2.6	2.3	2.0	2.0	1.9	2.0	2.7	2.0	2.6	2.5	2.9	4.7	1.9	2.0	A	6.5	3.4	2.66	6.46
16-Aug	2.5	2.2	2.5	2.6	3.1	2.5	2.2	2.3	2.5	2.2	2.3	2.3	2.2	2.0	2.4	2.3	2.5	1.9	2.2	2.2	A	2.3	2.2	2.3	2.35	3.12
17-Aug	3.3	2.5	2.1	2.5	2.8	2.7	3.2	3.2	2.2	2.1	2.2	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	A	2.1	2.0	2.3	2.3	2.30	3.35
18-Aug	2.0	2.2	2.0	2.0	2.6	2.1	2.2	2.0	2.2	2.0	2.1	2.0	1.9	1.9	1.9	2.0	1.9	1.9	A	1.9	1.9	2.0	2.2	2.2	2.06	2.62
19-Aug	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	1.9	1.95	2.17
20-Aug	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	A	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.90	2.04
21-Aug	2.0	1.9	1.9	1.9	2.0	1.9	1.9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	2.01
22-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	--	--
23-Aug	N	N	N	N	N	N	N	N	N	C	C	C	C	C	C	1.8	2.9	1.8	1.9	1.9	2.4	2.1	1.9	1.9	--	2.92
24-Aug	2.4	2.7	2.4	2.2	2.0	3.9	2.7	3.4	2.4	2.8	2.2	1.9	A	1.9	1.9	1.9	2.0	1.9	1.8	3.1	4.0	3.3	4.4	4.6	2.68	4.63
25-Aug	4.6	2.5	2.4	2.3	2.5	3.2	2.1	2.4	2.3	2.1	2.0	A	2.0	1.9	2.0	1.9	1.9	1.9	2.0	2.3	2.7	3.5	2.3	3.6	2.47	4.64
26-Aug	2.5	3.4	4.5	3.6	2.4	2.6	2.4	2.4	2.3	2.3	A	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.31	4.53
27-Aug	2.0	1.9	2.1	2.0	2.0	2.0	2.0	2.0	2.0	A	2.1	2.0	2.0	1.9	2.0	2.0	2.0	2.0	1.9	2.0	2.5	2.5	2.9	3.4	2.14	3.45
28-Aug	3.0	4.5	3.8	4.5	2.8	2.8	2.8	2.5	A	2.8	2.5	2.3	2.1	2.0	1.9	2.0	2.4	2.9	3.7	3.1	2.0	1.9	1.9	2.1	2.72	4.53
29-Aug	2.9	2.3	2.7	2.2	2.1	2.0	2.0	A	2.0	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	2.1	2.0	2.09	2.91
30-Aug	2.3	2.1	2.0	2.6	2.6	3.4	A	2.6	2.4	2.5	2.2	2.2	2.0	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	2.1	2.0	2.0	2.21	3.43
31-Aug	2.1	2.1	2.5	4.5	2.1	A	2.1	2.2	2.0	1.9	2.0	1.9	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.1	3.1	2.2	3.1	2.1	2.25	4.46
Diurnal Average	2.69	2.35	2.48	2.65	2.59	2.76	2.33	2.39	2.22	2.20	2.20	2.13	2.03	2.03	2.05	2.02	2.08	2.19	2.56	2.24	2.28	2.30	2.74	3.06		
Diurnal Maximum	5.49	4.53	4.53	5.73	5.88	5.24	3.40	3.40	2.88	2.84	2.97	2.97	2.40	2.68	2.98	2.76	2.92	5.38	8.77	4.42	4.63	4.89	7.33	8.14		

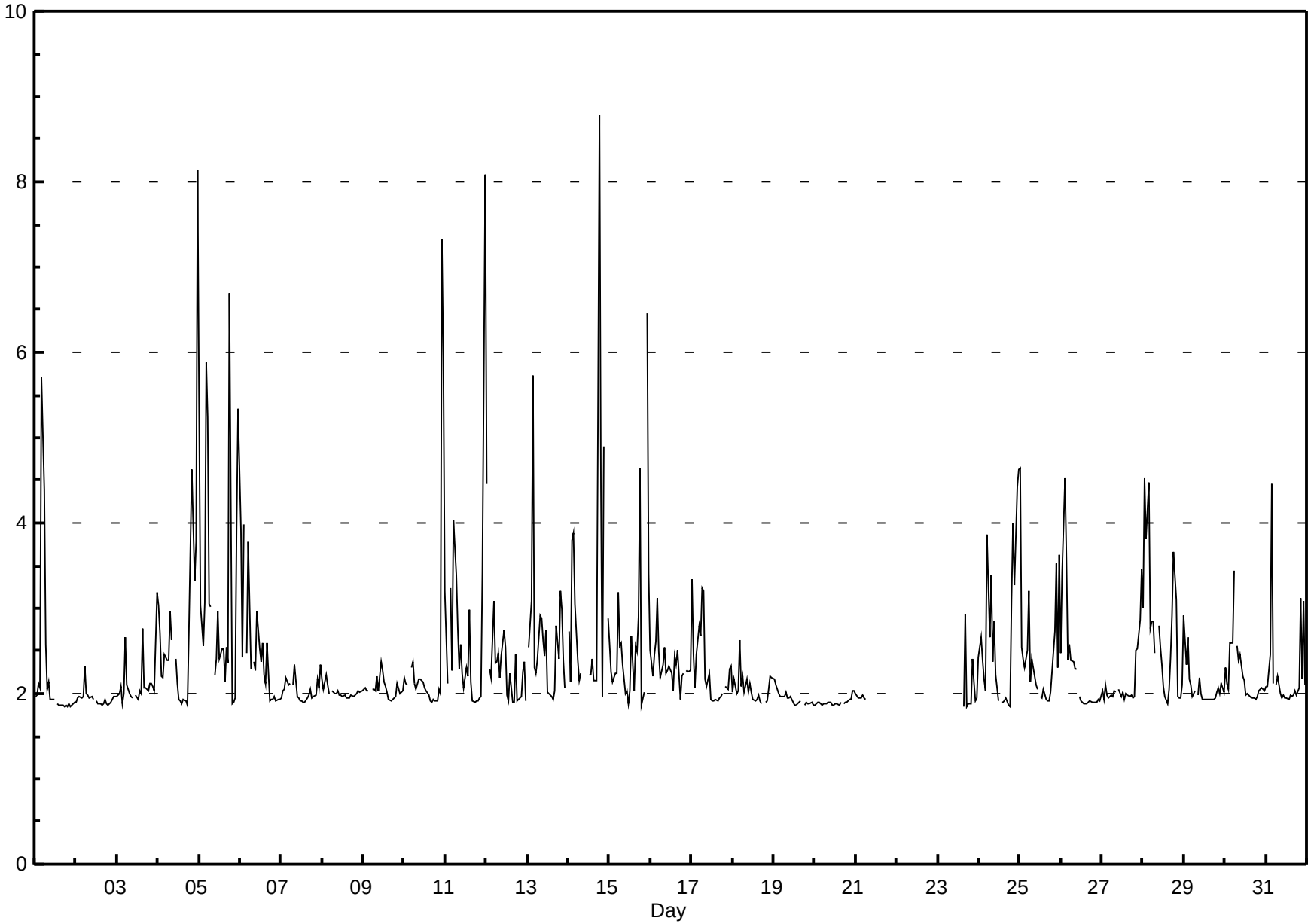
C - Calibration D - DAS Failure N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Methane (CH_4) - ppm

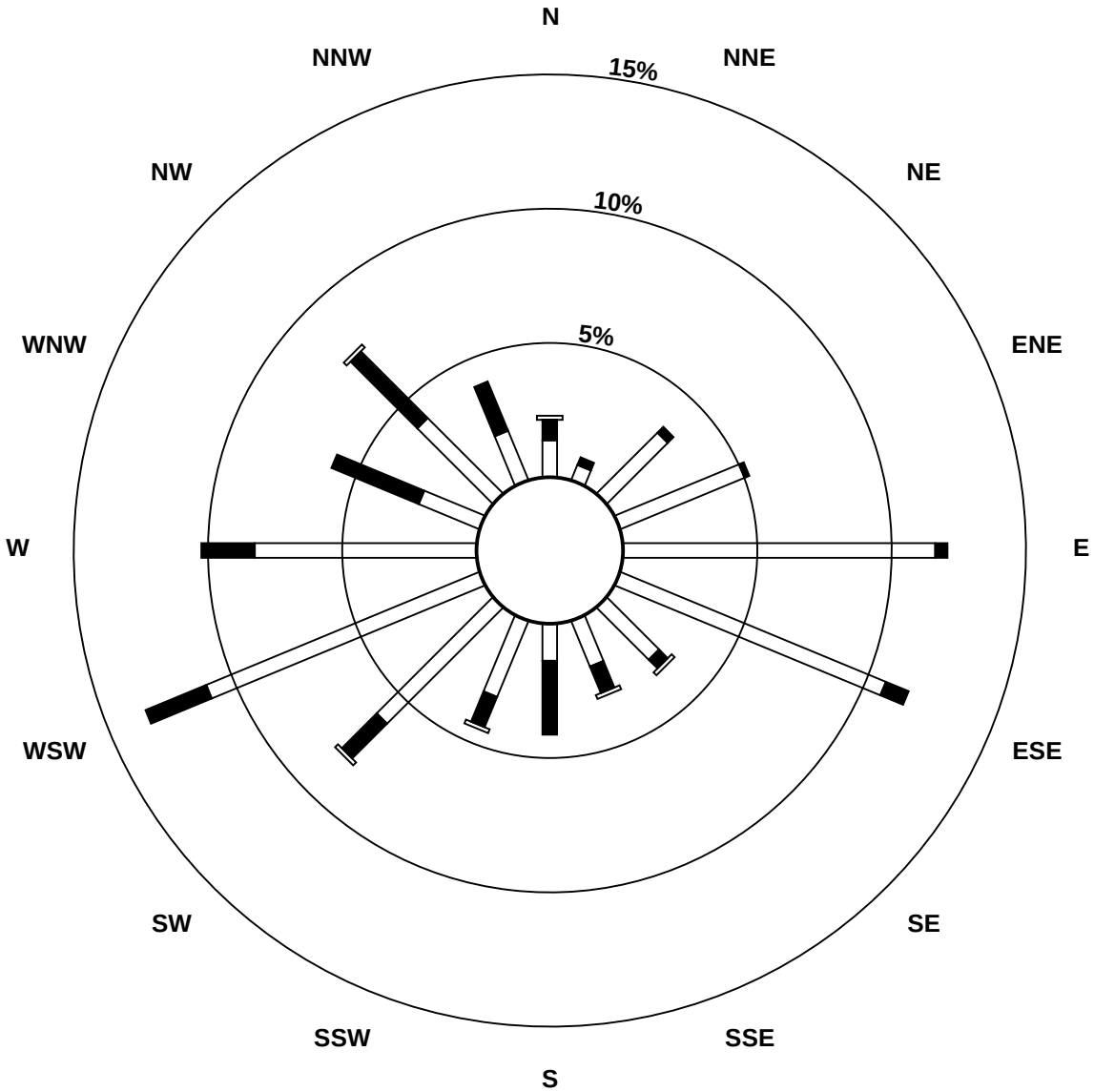
Henry Pirker - August 2013



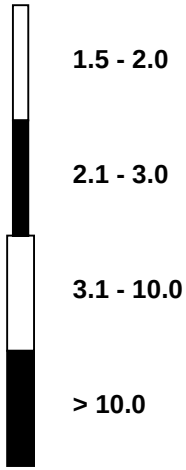
Pollutant Rose

Methane (CH_4) - ppm

Henry Pirker - August 2013



Pollutant Classes (ppm)

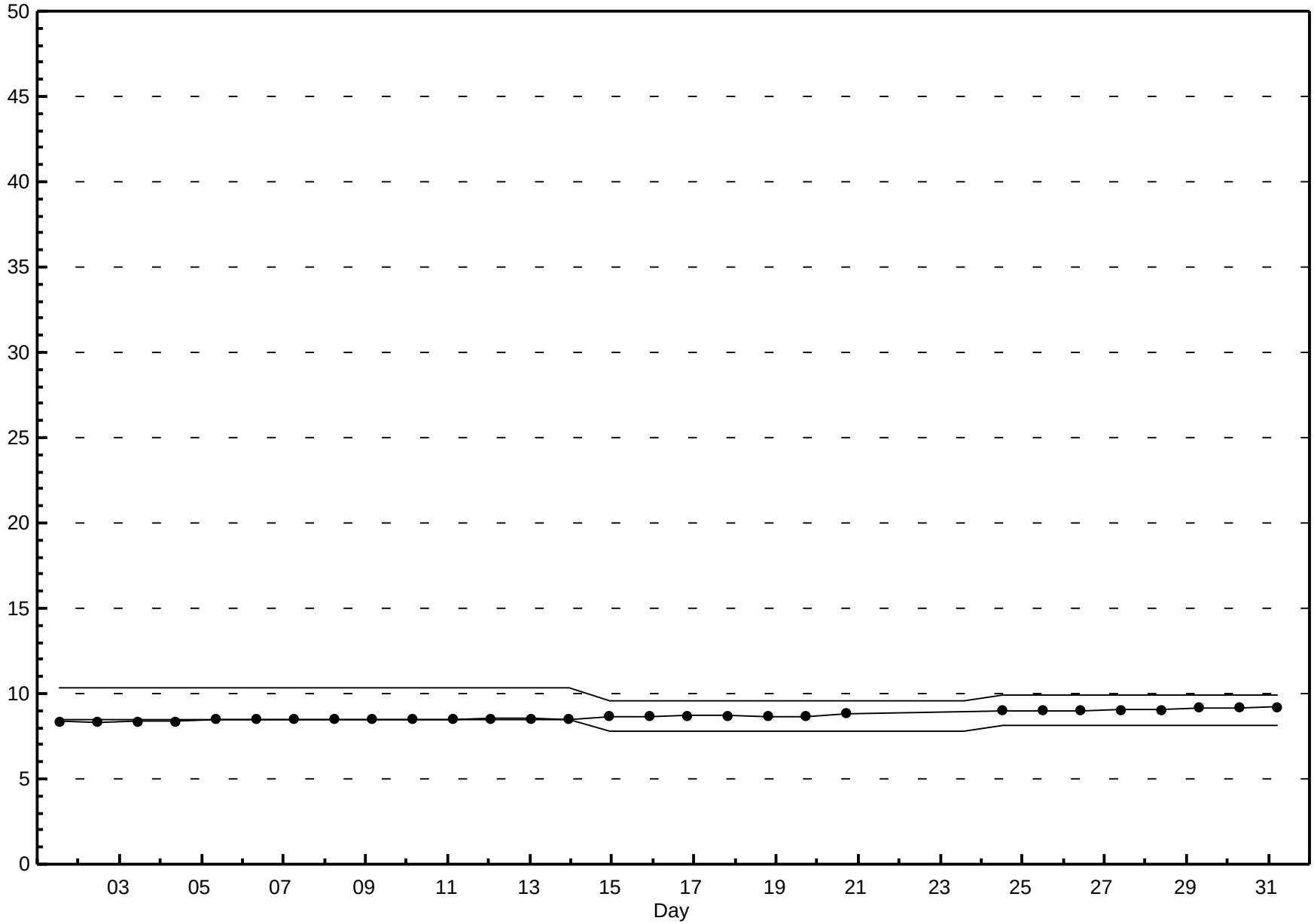


Peace Airshed Zone Association

Span Responses

Methane (CH_4)

Henry Pirker - August 2013



Peace Airshed Zone Association

Hourly Averages

Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - August 2013

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

Maximum Value: 0.03 ppm on Aug 14 13:00

Maximum Daily Average: 0.01 ppm on Aug 14

Minimum Value: 0.0 ppm on Aug 1 08:00

Maximum Diurnal Average: 0.00 ppm at hour 13

Monthly Average: 0.000 ppm

Minimum Daily Average: 0.00 ppm on Aug 9

Minimum Diurnal Average: 0.00 ppm at hour 9

Percentiles: P_1 = 0.00 P_{10} = 0.00 Q_1 = 0.00 Median = 0.00 Q_3 = 0.00 P_{90} = 0.00 P_{99} = 0.01

Hours in Service:	744
Hours of Data:	654
Hours of Missing Data:	90
Hours of Calibration:	39
Percent Operational Time:	93.2

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
2-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
3-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
4-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
5-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
6-Aug	0.0	0.0	0.0	D	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
7-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
8-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
9-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
10-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
12-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
13-Aug	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.00	0.00
14-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.01	0.03
15-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.00	0.00
16-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.00	0.00
17-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.00	0.00
18-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.00	0.00
19-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
20-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
21-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	0.00
22-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	--	--
23-Aug	N	N	N	N	N	N	N	N	N	C	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.00
24-Aug	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
25-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
26-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
27-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
28-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.01
29-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
30-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
31-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Diurnal Average	
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.03	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	Diurnal Maximum	

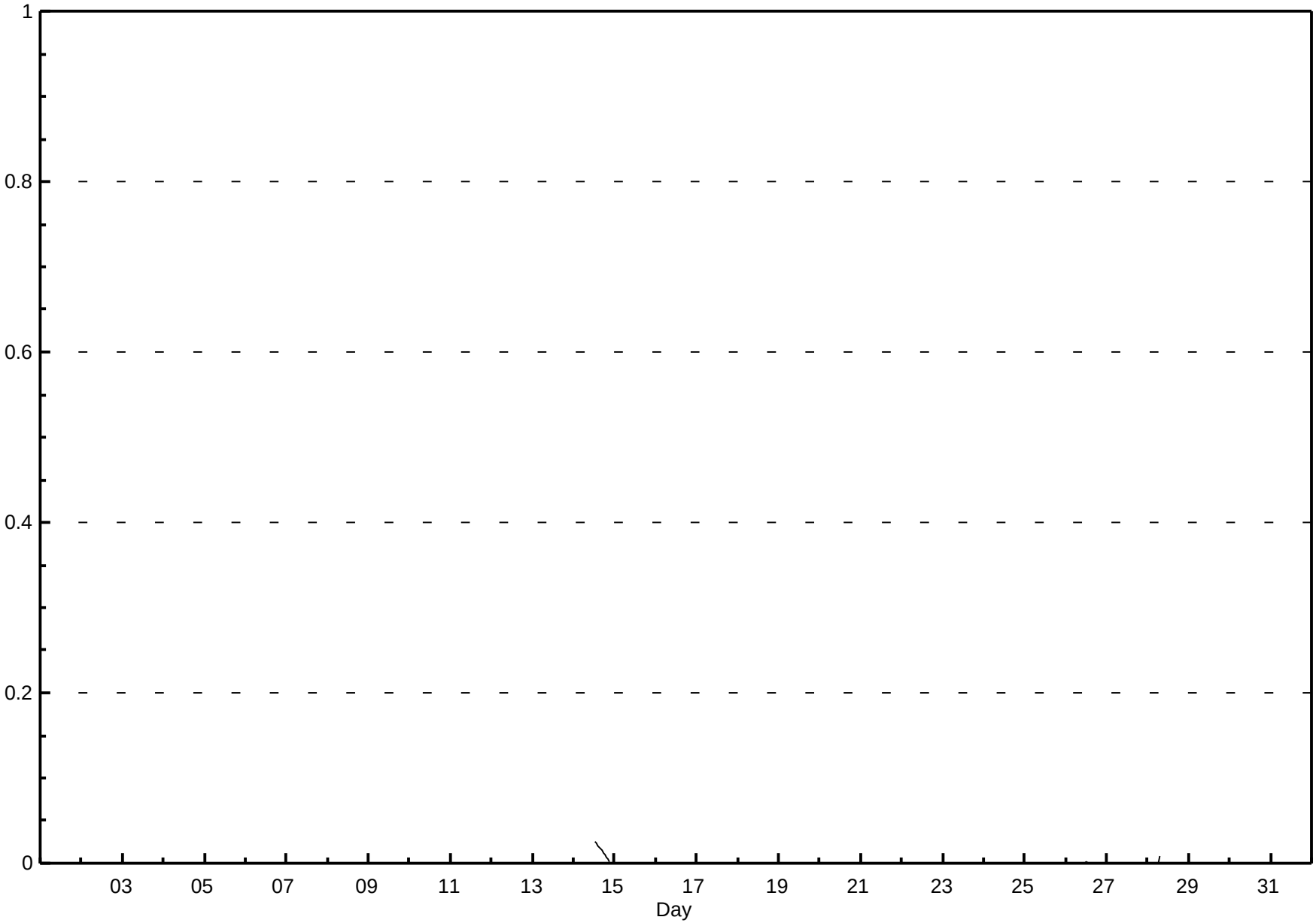
C - Calibration D - DAS Failure N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - August 2013



Peace Airshed Zone Association

Hourly Maximums

Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - August 2013

Maximum Value: 0.51 ppm on Aug 28 08:00

Maximum Daily Average: 0.02 ppm on Aug 28

Minimum Value: 0.0 ppm on Aug 14 01:00

Minimum Daily Average: 0.00 ppm on Aug 30

Maximum Diurnal Average: 0.02 ppm at hour 8

Minimum Diurnal Average: 0.00 ppm at hour 9

Monthly Average: 0.002 ppm

Percentiles: P_1 = 0.00 P_{10} = 0.00 Q_1 = 0.00 Median = 0.00 Q_3 = 0.00 P_{90} = 0.00 P_{99} = 0.02

Hours in Service:	744
Hours of Data:	654
Hours of Missing Data:	90
Hours of Calibration:	39
Percent Operational Time:	93.2

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
2-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
3-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
4-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
5-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
6-Aug	0.0	0.0	0.0	D	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.02
7-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
8-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
9-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
10-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
12-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
13-Aug	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.00	0.00
14-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.01	0.03
15-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.00	0.00
16-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.00	0.00
17-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.00	0.00
18-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.00	0.00
19-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
20-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
21-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	0.00
22-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	--	--
23-Aug	N	N	N	N	N	N	N	N	N	C	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.00
24-Aug	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
25-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
26-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.39
27-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
28-Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.51
29-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.02
30-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
31-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Diurnal Average	
	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.39	0.02	0.02	0.02	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	Diurnal Maximum	

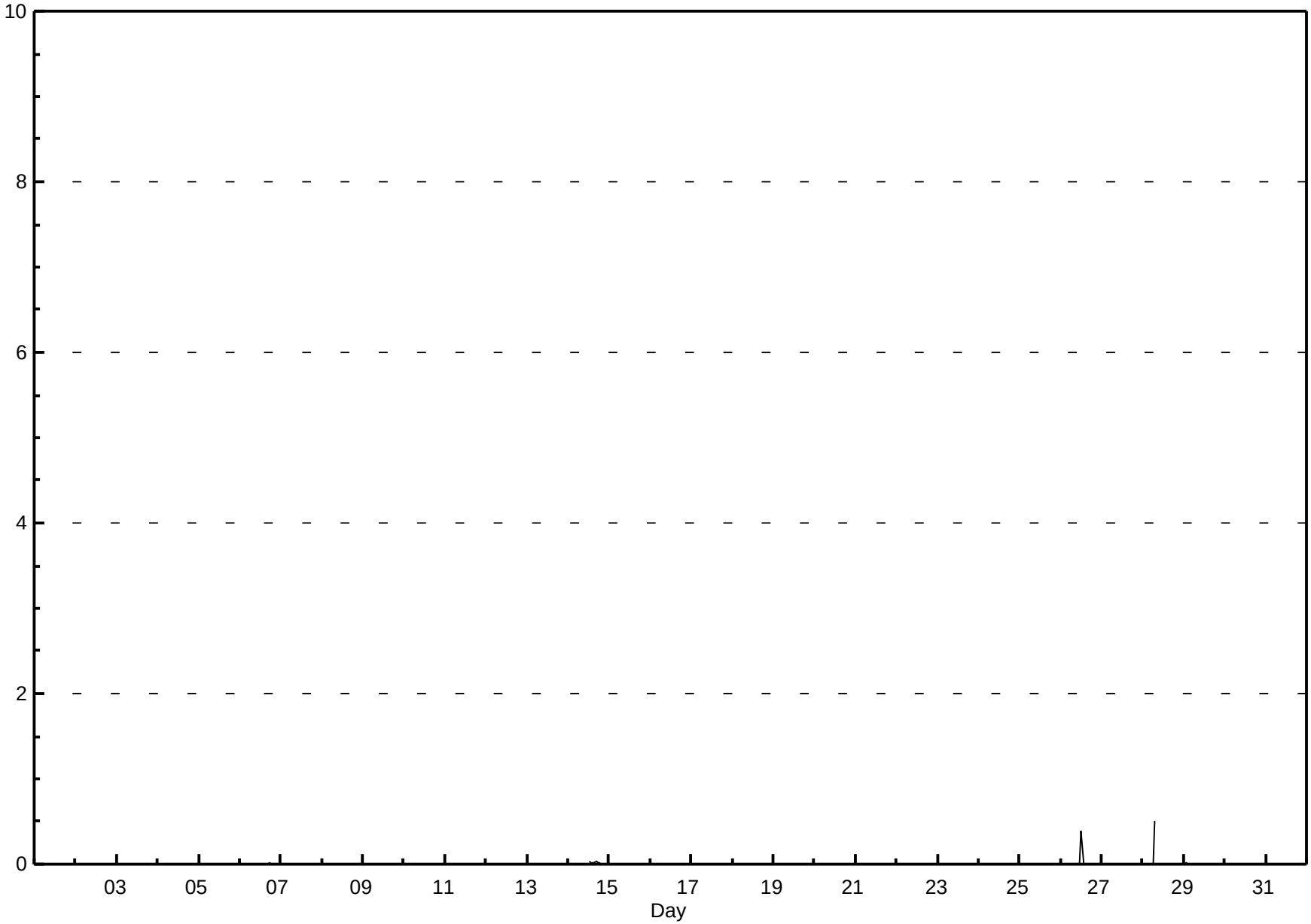
C - Calibration D - DAS Failure N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - August 2013

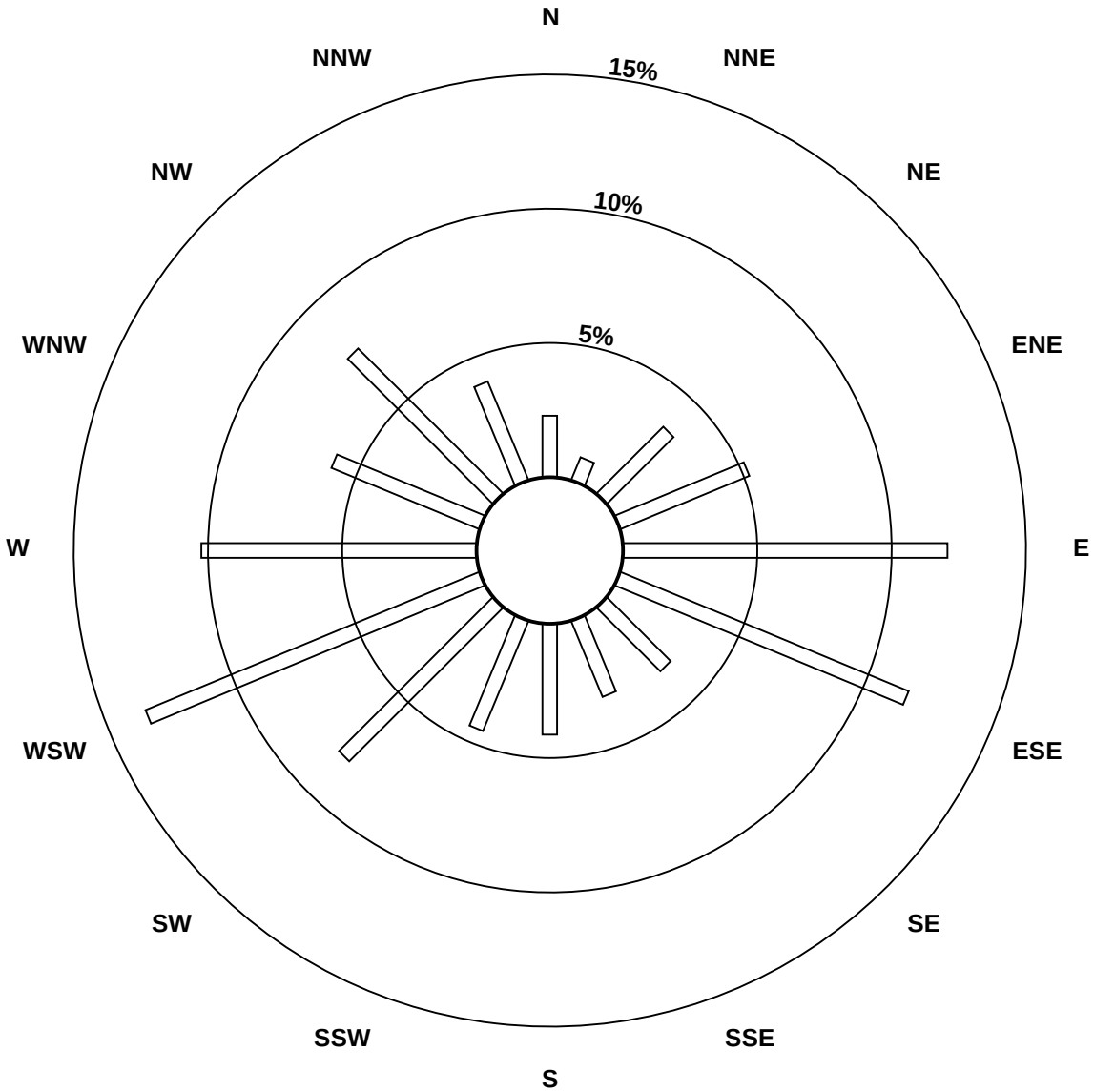


Peace Airshed Zone Association

Pollutant Rose

Non Methane Hydrocarbon (NMHC) - ppm

Henry Pirker - August 2013



Pollutant Classes (ppm)

- 0 - 0.05
- 0.06 - 0.1
- 0.11 - 0.30
- > 0.30

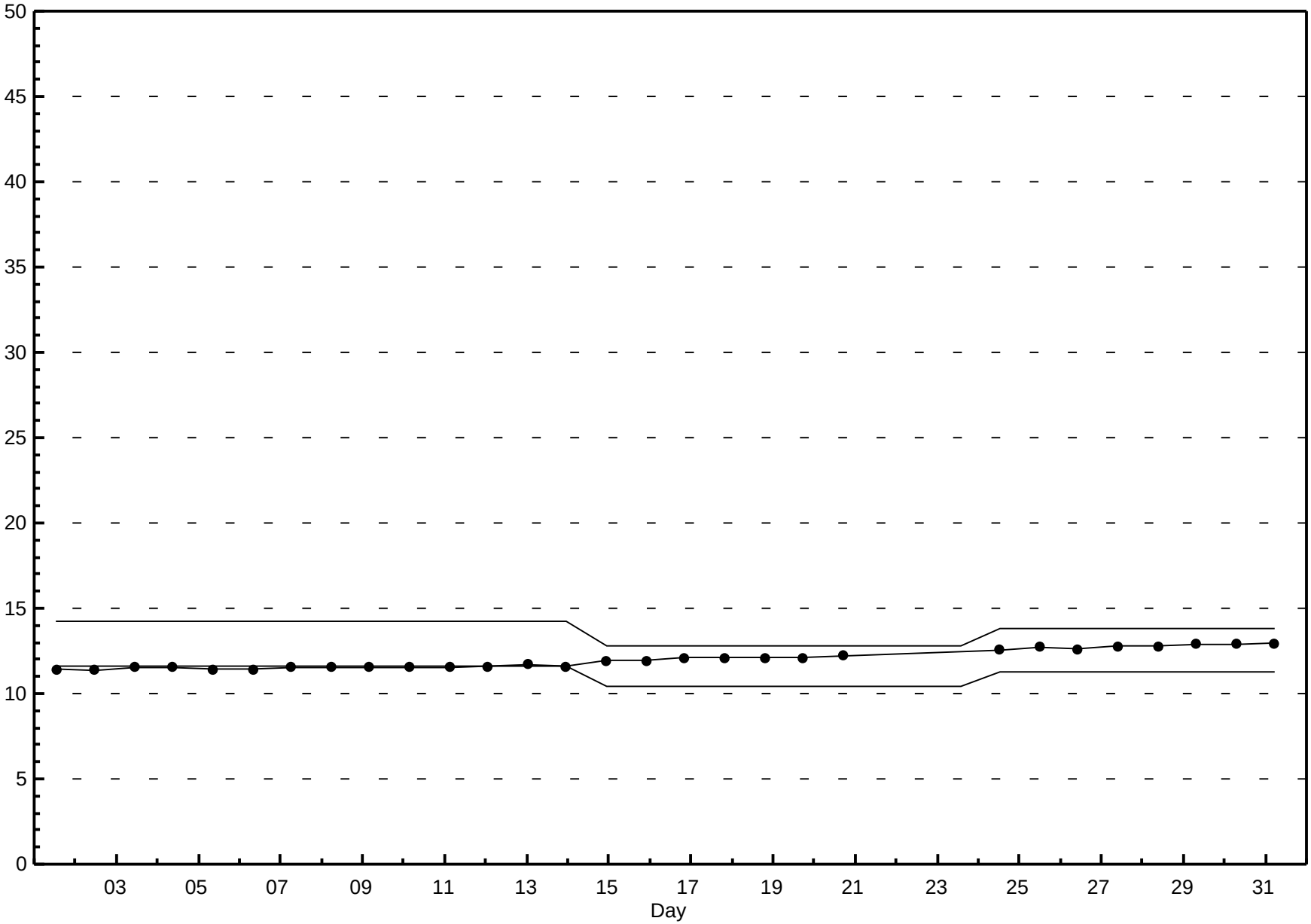
FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Span Responses

Non Methane Hydrocarbon (NMHC)

Henry Pirker - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

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

Henry Pirker - August 2013

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

Maximum Value: 30.9 $\mu g/m^3$ on Aug 11 00:00

Maximum Daily Average: 13.6 $\mu g/m^3$ on Aug 10

Minimum Value: 2 $\mu g/m^3$ on Aug 4 18:00

Maximum Diurnal Average: 9.3 $\mu g/m^3$ at hour 1

Monthly Average: 7.08 $\mu g/m^3$

Minimum Daily Average: 2.9 $\mu g/m^3$ on Aug 19

Minimum Diurnal Average: 4.5 $\mu g/m^3$ at hour 17

Percentiles: P_1 = 2.3 P_{10} = 2.8 Q_1 = 3.3 Median = 6.5 Q_3 = 9.6 P_{90} = 13.0 P_{99} = 17.7

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	7	7	7	8	7	8	8	6	6	5	4	3	3	2	2	2	3	3	3	3	4	5	5	5	4.8	7.8
2-Aug	5	5	6	7	9	10	10	10	9	9	7	7	7	7	6	6	5	5	5	6	8	10	11	10	7.5	11.0
3-Aug	10	9	9	7	5	5	5	4	4	4	3	2	2	3	3	2	2	3	4	5	6	6	6	7	4.8	9.6
4-Aug	8	9	9	8	8	8	8	7	7	6	5	4	3	3	3	3	2	2	3	5	6	11	18	17	6.7	18.2
5-Aug	22	19	14	13	13	13	13	12	9	8	6	5	4	5	5	4	4	4	5	6	8	10	11	11	9.4	21.7
6-Aug	14	12	11	D	11	11	12	11	16	14	14	12	8	6	6	6	6	7	9	9	8	8	9	8	10.0	16.4
7-Aug	9	8	8	7	8	8	9	8	9	9	9	7	6	6	6	8	10	11	10	11	13	14	14	15	9.3	15.0
8-Aug	16	17	16	16	15	15	15	15	15	13	12	10	10	10	10	10	10	11	10	11	15	16	14	15	13.2	16.6
9-Aug	14	13	13	13	13	13	13	11	10	10	10	9	8	8	7	6	6	6	7	8	11	13	14	15	10.4	15.1
10-Aug	15	16	15	15	15	15	15	14	14	13	13	13	13	12	10	6	6	8	9	11	12	15	21	31	13.6	30.9
11-Aug	31	20	17	15	14	14	13	12	13	14	16	16	14	13	12	11	10	8	7	7	8	8	9	11	13.0	30.8
12-Aug	12	12	13	13	12	11	10	9	8	8	7	6	5	5	4	4	4	4	5	6	7	7	7	7	7.7	12.8
13-Aug	7	7	7	7	7	9	9	9	9	10	11	12	13	13	9	9	9	10	12	12	14	15	14	10	10.2	15.2
14-Aug	12	12	11	11	11	11	10	10	12	13	10	10	12	10	10	10	9	8	9	10	11	11	12	14	10.7	14.2
15-Aug	17	17	16	16	16	15	15	15	14	11	11	9	7	6	5	5	5	4	4	5	7	7	8	11	10.2	16.8
16-Aug	10	10	11	10	10	9	8	7	7	6	5	5	3	3	2	2	2	2	3	3	3	3	3	3	5.6	10.8
17-Aug	3	4	4	4	4	4	5	4	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	4	3.2	4.6
18-Aug	4	5	5	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.2	4.9
19-Aug	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2.9	3.5
20-Aug	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	3.0	4.3
21-Aug	4	4	5	5	5	5	5	5	5	4	3	3	3	3	3	3	3	3	3	3	3	4	5	7	4.1	6.6
22-Aug	7	7	8	8	9	9	9	15	11	10	9	8	8	7	6	6	5	4	4	5	6	7	7	6	7.5	14.8
23-Aug	6	7	7	7	7	8	8	7	7	7	6	5	5	4	4	4	4	4	5	6	7	7	7	7	6.1	7.9
24-Aug	7	7	8	8	8	8	8	8	8	6	5	4	4	3	3	3	3	3	3	3	4	4	7	8	5.6	8.5
25-Aug	9	9	9	9	9	8	7	7	7	6	5	3	3	3	3	3	3	3	3	3	3	3	3	4	5.2	9.5
26-Aug	4	5	6	6	7	7	7	7	7	5	4	3	3	3	3	3	3	3	3	3	4	4	4	4	4.7	7.5
27-Aug	4	5	5	6	7	7	7	7	6	5	3	3	3	3	3	3	3	3	3	3	3	4	4	6	4.3	7.1
28-Aug	7	9	11	12	11	11	10	10	10	10	8	6	5	4	4	3	3	3	3	4	4	4	6	7	7.0	12.4
29-Aug	8	8	9	9	9	9	8	8	7	7	6	5	5	5	5	4	4	4	5	5	6	7	7	7	6.5	9.0
30-Aug	8	8	8	9	9	9	10	10	9	9	8	7	6	5	4	4	4	3	3	3	3	3	3	3	6.1	10.1
31-Aug	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3.0	3.6
	9.3	9.0	8.9	8.8	8.8	8.8	8.7	8.5	8.1	7.6	6.9	6.3	5.8	5.4	4.9	4.6	4.5	4.6	4.9	5.5	6.4	7.1	7.9	8.6	Diurnal Average	
	30.8	19.8	17.1	16.2	16.0	15.1	15.0	15.3	16.4	14.5	15.8	16.0	13.7	13.2	11.9	11.3	10.3	10.9	11.6	11.7	15.0	15.8	21.1	30.9	Diurnal Maximum	

D - DAS Failure

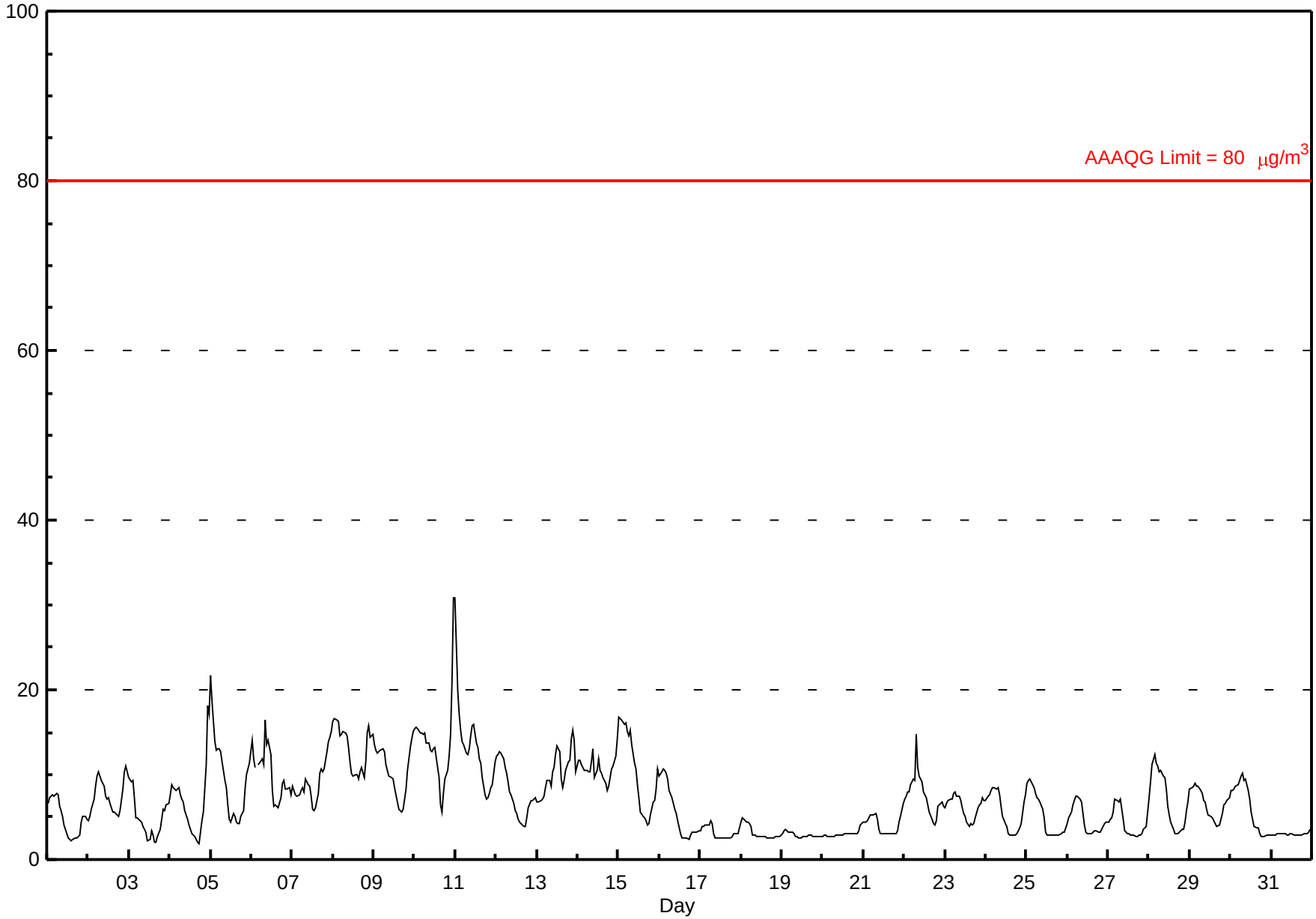
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

Hourly Averages

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

Henry Pirker - August 2013



Peace Airshed Zone Association

Hourly Maximums

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

Henry Pirker - August 2013

Maximum Value: 51.9 $\mu g/m^3$ on Aug 11 00:00

Maximum Daily Average: 15.4 $\mu g/m^3$ on Aug 10

Minimum Value: 2 $\mu g/m^3$ on Aug 4 18:00

Minimum Daily Average: 3.1 $\mu g/m^3$ on Aug 19

Maximum Diurnal Average: 11.5 $\mu g/m^3$ at hour 1

Minimum Diurnal Average: 4.9 $\mu g/m^3$ at hour 17

Monthly Average: 7.85 $\mu g/m^3$

Percentiles: $P_1 = 2.5$ $P_{10} = 2.9$ $Q_1 = 3.6$ Median = 7.1 $Q_3 = 10.4$ $P_{90} = 14.3$ $P_{99} = 20.6$

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	7	8	8	8	8	8	9	7	7	6	5	4	3	3	2	3	3	3	3	4	5	6	6	5	5.4	8.8
2-Aug	5	5	7	8	9	11	11	10	10	9	8	7	8	8	6	6	6	6	5	7	10	11	12	11	8.1	12.0
3-Aug	11	10	10	9	5	5	5	5	4	4	4	3	3	4	3	2	2	3	4	6	6	6	7	7	5.4	10.7
4-Aug	8	18	9	9	8	9	8	8	7	6	6	5	4	4	3	3	2	2	4	5	7	19	25	18	8.2	24.9
5-Aug	45	23	16	15	14	14	14	14	10	9	8	5	5	6	5	5	4	5	6	7	17	13	13	13	11.9	45.1
6-Aug	15	14	12	D	12	12	13	18	19	15	16	13	11	7	7	7	7	9	10	10	8	8	9	8	11.3	19.4
7-Aug	10	9	9	8	8	9	9	8	10	9	10	8	6	6	7	9	11	11	11	12	14	14	15	16	9.9	15.7
8-Aug	17	17	17	17	15	15	15	16	15	14	12	11	10	11	11	10	11	12	11	13	17	17	16	15	14.0	17.4
9-Aug	15	13	13	13	13	13	13	12	11	10	10	10	9	9	7	7	8	6	8	10	14	14	16	16	11.3	16.3
10-Aug	16	16	16	15	15	15	15	14	14	13	13	14	14	13	11	9	7	9	10	11	14	18	26	52	15.4	51.9
11-Aug	50	22	18	17	14	14	14	13	14	15	16	18	14	14	12	12	11	8	7	8	9	9	11	15	14.9	50.1
12-Aug	13	13	13	13	12	12	14	10	8	8	7	6	6	5	4	4	4	4	6	7	7	7	8	8	8.3	14.0
13-Aug	8	7	7	8	8	9	10	10	10	12	12	13	15	14	12	9	10	12	12	13	16	16	15	12	11.2	16.4
14-Aug	13	13	11	11	11	11	11	11	13	17	11	11	13	12	10	10	10	8	9	11	11	12	13	18	11.7	18.2
15-Aug	18	17	17	16	17	16	15	16	15	13	11	10	8	6	5	5	5	5	4	6	7	8	10	12	10.9	18.5
16-Aug	11	11	12	11	11	10	10	8	7	6	6	6	4	3	3	3	3	3	3	3	4	3	3	4	6.1	11.5
17-Aug	4	4	4	4	4	4	5	5	4	3	3	3	3	3	3	3	3	3	3	3	5	4	3	4	3.5	5.1
18-Aug	5	5	5	5	5	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.3	5.2
19-Aug	3	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.1	3.8
20-Aug	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	6	5	3.2	6.3
21-Aug	5	5	5	5	6	6	6	6	5	4	3	3	3	3	3	3	3	3	3	3	4	5	6	7	4.3	6.9
22-Aug	8	8	9	9	10	10	10	19	14	10	10	9	8	8	7	6	5	5	4	5	8	8	8	7	8.5	18.8
23-Aug	6	7	7	7	7	9	11	8	9	8	7	6	5	5	4	4	4	5	5	7	7	7	8	7	6.8	11.2
24-Aug	10	8	8	8	9	10	9	9	8	7	6	5	4	3	3	3	3	3	3	4	4	5	7	8	6.2	9.7
25-Aug	10	10	10	9	9	8	8	7	7	6	6	4	3	3	3	3	3	3	3	3	3	3	3	4	5.5	9.9
26-Aug	5	6	6	7	7	8	8	7	15	6	5	3	3	3	3	3	3	3	3	3	4	4	4	5	5.3	15.2
27-Aug	5	5	5	6	8	8	7	8	7	6	4	3	3	3	3	3	3	3	3	3	4	6	5	7	4.8	8.0
28-Aug	8	10	13	14	13	12	11	15	11	11	9	8	6	5	4	4	3	3	3	4	4	6	7	14	8.2	14.7
29-Aug	9	9	9	9	9	9	9	8	8	7	6	6	5	5	5	4	4	4	5	6	7	7	7	8	6.9	9.4
30-Aug	9	8	9	9	9	10	10	10	10	10	9	8	6	6	4	4	4	3	3	3	3	3	3	3	6.4	10.4
31-Aug	6	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3.2	5.9
	11.5	10.0	9.4	9.3	9.2	9.3	9.4	9.5	9.2	8.3	7.5	6.9	6.2	5.9	5.3	5.0	4.9	5.0	5.3	6.0	7.4	8.2	9.1	10.3	Diurnal Average	
	50.1	23.2	18.1	16.7	16.5	15.6	15.3	18.8	19.4	16.6	16.4	17.9	14.6	14.2	12.5	12.2	11.1	12.1	12.0	13.3	17.1	19.3	25.7	51.9	Diurnal Maximum	

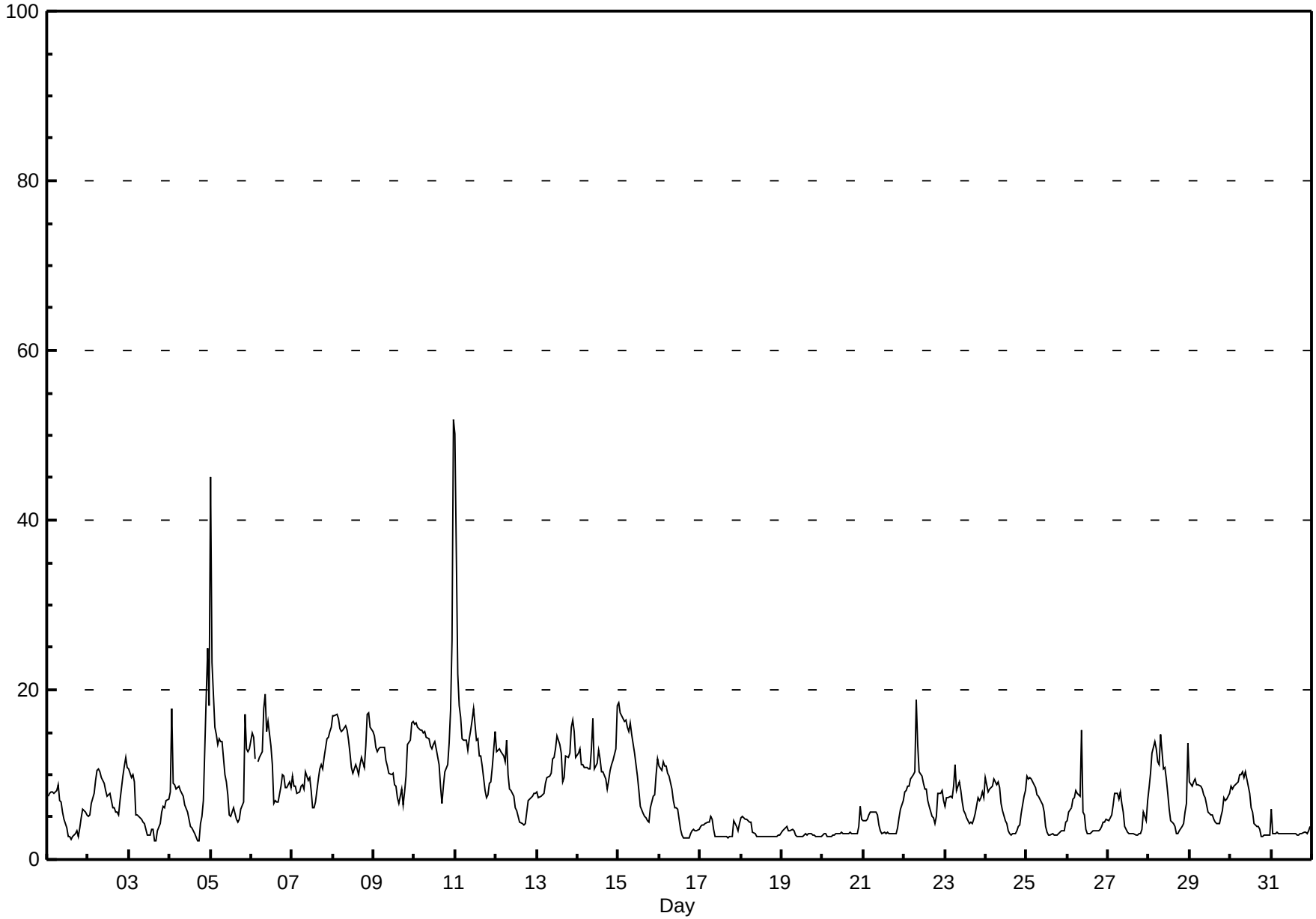
D - DAS Failure

Peace Airshed Zone Association

Hourly Maximums

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

Henry Pirker - August 2013



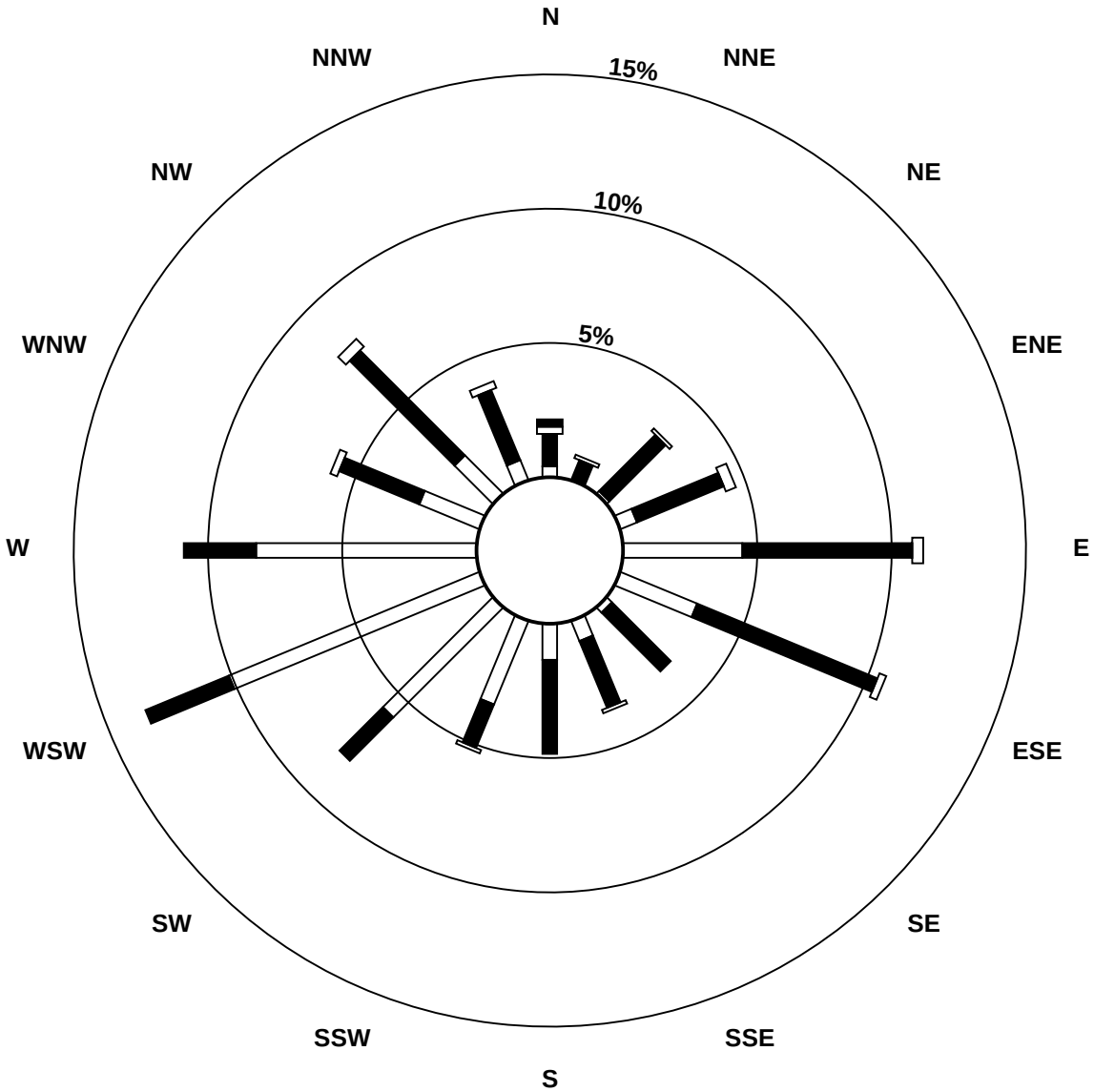
FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

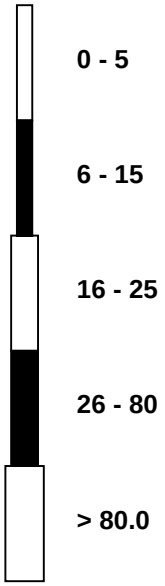
Pollutant Rose

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

Henry Pirker - August 2013



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



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Henry Pirker - August 2013

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

Maximum Value: 28.7 ^{o}C on Aug 10 17:00

Maximum Daily Average: 20.9 ^{o}C on Aug 10

Minimum Value: 6 ^{o}C on Aug 26 06:00

Minimum Daily Average: 13.2 ^{o}C on Aug 20

Maximum Diurnal Average: 23.0 ^{o}C at hour 16

Minimum Diurnal Average: 12.3 ^{o}C at hour 6

Monthly Average: 17.52 ^{o}C

Percentiles: P_1 = 8.5 P_{10} = 11.8 Q_1 = 14.1 Median = 17.1 Q_3 = 21.0 P_{90} = 24.0 P_{99} = 27.2

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	17	16	15	14	13	13	16	17	19	21	23	24	25	26	26	26	26	26	25	24	22	20	19	17	20.4	26.3
2-Aug	17	16	15	15	14	14	15	17	19	21	23	24	26	26	27	27	27	27	26	25	23	20	19	18	20.8	27.3
3-Aug	18	17	16	16	16	15	14	15	17	18	21	23	21	22	24	25	24	22	21	20	19	18	16	15	18.9	25.0
4-Aug	15	14	14	13	12	12	12	13	16	20	21	24	23	25	23	24	25	25	21	20	20	18	17	16	18.4	25.3
5-Aug	14	13	11	11	11	11	13	17	18	21	23	24	26	27	28	28	28	26	25	23	22	21	19	17	19.9	27.9
6-Aug	16	16	15	D	13	13	15	17	20	23	25	26	27	27	27	26	23	22	20	19	18	18	17	16	19.9	27.2
7-Aug	15	15	15	15	15	15	15	16	17	19	20	21	21	21	20	18	18	18	19	18	18	17	16	16	17.3	20.9
8-Aug	15	15	14	14	14	14	14	14	14	16	17	18	19	20	20	20	20	20	20	19	17	16	15	14	16.6	20.4
9-Aug	13	13	12	12	11	11	12	14	15	18	20	21	23	24	25	25	25	24	23	22	20	19	18	17	18.3	25.4
10-Aug	16	16	15	14	14	13	14	16	18	20	22	25	26	28	28	29	29	27	25	24	23	21	20	18	20.9	28.7
11-Aug	18	18	17	17	17	16	16	17	17	18	18	20	20	21	21	21	23	22	22	22	20	19	17	16	18.9	22.8
12-Aug	15	14	13	12	12	11	14	17	17	18	21	22	24	24	24	25	24	24	23	22	21	19	17	16	18.7	24.8
13-Aug	16	16	15	14	14	14	15	17	18	17	18	19	20	21	24	23	22	21	22	20	20	19	18	17	18.3	23.7
14-Aug	17	16	15	14	14	14	14	15	16	21	22	20	22	25	27	28	27	27	25	24	23	21	20	18	20.3	28.0
15-Aug	17	17	17	17	18	18	17	18	16	16	17	19	22	25	25	25	25	25	24	22	21	19	17	17	19.8	25.4
16-Aug	16	16	14	15	15	16	16	15	15	15	16	19	21	23	24	24	23	22	19	19	16	15	14	13	17.5	24.4
17-Aug	12	12	12	12	11	11	11	14	17	19	21	22	22	23	23	24	24	23	22	21	19	18	17	15	17.8	23.9
18-Aug	14	15	14	13	12	13	13	15	17	19	20	21	19	18	18	16	18	19	18	17	16	14	13	13	16.0	20.8
19-Aug	12	11	10	10	10	10	10	12	14	14	16	18	19	19	20	20	18	14	13	13	12	12	11	11	13.7	19.9
20-Aug	11	10	10	10	10	9	10	12	13	14	15	16	16	16	15	16	16	16	16	15	15	13	12	12	13.2	16.1
21-Aug	12	13	12	11	11	11	11	11	14	16	17	19	20	21	22	23	23	22	22	19	17	15	13	11	16.0	22.9
22-Aug	11	11	9	9	8	8	9	10	11	13	17	19	20	21	22	25	24	24	23	20	18	16	16	16	15.9	24.7
23-Aug	15	13	12	12	11	11	11	15	17	20	23	24	25	26	26	26	25	24	23	21	20	18	17	17	18.9	26.1
24-Aug	15	15	14	13	13	13	14	14	17	19	22	23	23	23	23	24	23	23	21	19	18	17	15	14	18.2	24.0
25-Aug	14	13	13	13	12	12	11	12	13	14	16	18	20	21	20	22	21	21	20	18	16	14	13	11	15.8	21.6
26-Aug	10	9	8	8	6	6	7	9	12	15	19	20	20	19	19	18	17	18	16	15	14	14	13	13	13.5	19.7
27-Aug	12	12	11	12	12	11	11	11	12	14	16	19	20	21	22	23	23	23	21	19	17	14	13	12	15.9	23.0
28-Aug	11	10	9	9	9	10	10	11	13	13	17	20	21	20	21	22	22	21	20	19	18	16	16	14	15.4	22.1
29-Aug	13	13	13	13	12	12	12	12	13	14	15	17	17	19	20	21	21	21	19	18	17	16	15	15	15.8	21.0
30-Aug	15	14	14	13	13	12	12	14	14	15	14	15	15	16	16	16	17	18	17	16	16	15	15	15	14.9	18.4
31-Aug	13	13	13	13	12	12	14	15	17	19	19	20	21	23	23	24	24	23	22	20	17	16	15	14	17.6	23.7
	14.4	13.9	13.2	12.8	12.4	12.3	12.8	14.3	15.7	17.3	19.2	20.6	21.4	22.2	22.7	23.0	22.7	22.3	21.1	19.9	18.4	17.0	15.8	15.0	Diurnal Average	
	18.0	18.2	17.5	17.4	18.0	17.5	17.0	17.6	19.8	22.6	24.6	25.8	26.8	27.9	28.1	28.6	28.7	27.2	26.1	24.8	23.0	21.5	19.7	18.4	Diurnal Maximum	

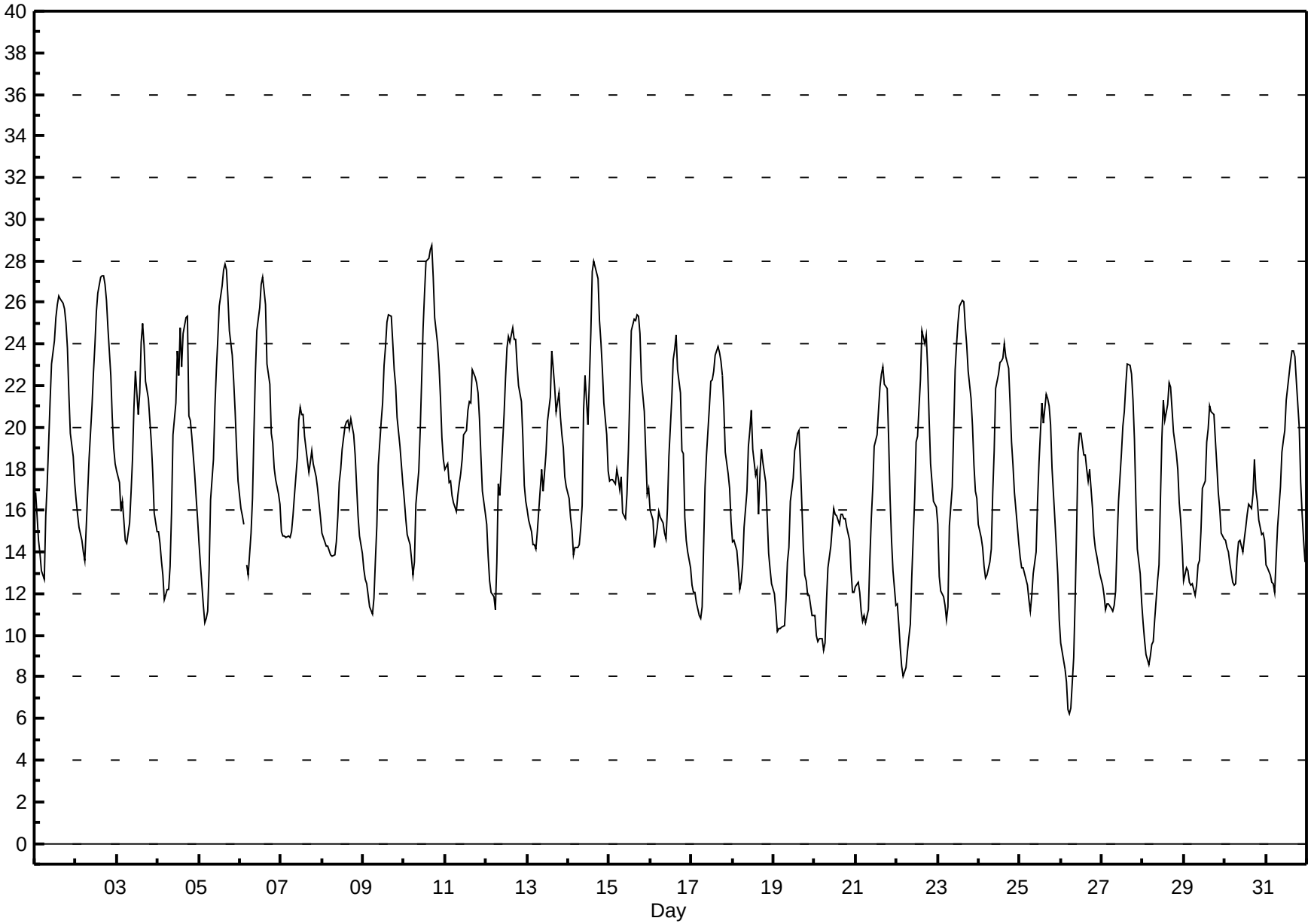
D - DAS Failure

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Henry Pirker - August 2013



Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Henry Pirker - August 2013

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

Maximum Value: 91.3 % on Aug 27 08:00

Maximum Daily Average: 81.8 % on Aug 30

Minimum Value: 24 % on Aug 21 19:00

Minimum Daily Average: 45.5 % on Aug 21

Maximum Diurnal Average: 82.4 % at hour 6

Minimum Diurnal Average: 47.0 % at hour 16

Monthly Average: 65.64 %

Percentiles: P_1 = 32.2 P_{10} = 41.1 Q_1 = 52.5 Median = 67.6 Q_3 = 80.0 P_{90} = 85.3 P_{99} = 90.2

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	71	76	80	82	83	86	75	71	66	62	54	44	42	43	41	42	42	42	43	47	57	59	60	62	59.6	86.2
2-Aug	65	69	73	77	80	82	78	73	70	63	59	55	51	46	42	40	39	39	39	43	56	66	70	71	60.3	81.8
3-Aug	71	73	78	71	75	83	85	82	75	70	61	55	61	58	48	45	47	53	61	68	72	74	78	82	67.9	85.2
4-Aug	83	83	86	87	88	89	87	85	78	67	62	55	53	47	51	41	41	42	62	66	67	76	80	85	69.3	88.7
5-Aug	88	88	88	89	90	90	87	75	71	63	57	51	45	42	38	35	36	37	41	53	55	60	68	74	63.4	90.2
6-Aug	81	80	81	D	86	86	80	77	68	60	52	48	41	34	44	46	47	54	70	72	75	77	80	78	66.0	86.4
7-Aug	85	87	86	88	88	89	88	82	78	72	63	59	59	57	61	69	75	74	71	73	75	74	74	75	75.1	88.9
8-Aug	76	79	82	82	80	82	82	83	82	78	73	70	67	63	61	59	59	59	60	63	69	74	77	80	72.4	83.3
9-Aug	82	83	83	84	85	86	83	78	75	67	62	61	56	54	51	46	49	52	56	62	68	71	73	75	68.4	85.5
10-Aug	77	80	83	85	86	88	88	78	73	69	62	56	50	48	45	37	37	48	53	57	60	65	75	80	65.8	88.1
11-Aug	80	82	83	82	87	87	89	87	86	86	85	83	83	80	79	78	70	65	65	65	70	71	76	86	79.4	88.6
12-Aug	87	87	89	89	89	89	86	73	77	76	68	64	59	56	53	50	52	54	60	63	64	73	82	86	71.9	89.4
13-Aug	85	87	88	89	90	90	90	85	80	84	83	80	76	71	64	66	67	70	66	73	78	79	83	79	79.2	90.2
14-Aug	83	82	81	85	85	85	85	82	79	66	60	69	63	59	48	46	42	41	48	51	55	59	69	80	66.9	85.0
15-Aug	80	78	78	79	73	76	80	79	82	84	83	74	61	44	43	45	43	41	47	59	64	71	80	80	67.8	84.0
16-Aug	83	83	86	86	80	76	79	81	84	86	83	73	59	49	47	42	50	59	70	67	75	79	79	81	72.4	86.5
17-Aug	84	85	84	84	86	87	85	75	64	60	52	45	41	40	38	36	35	35	40	45	50	55	59	67	59.7	86.9
18-Aug	70	68	66	69	73	72	68	63	59	54	52	49	55	60	63	72	63	54	50	51	56	63	63	62	61.3	72.8
19-Aug	63	65	69	67	66	66	65	62	59	59	53	49	43	39	35	32	38	52	58	58	59	56	62	62	55.7	68.8
20-Aug	61	65	67	64	64	65	64	57	51	47	45	42	40	40	42	40	42	43	43	45	48	58	66	66	52.7	66.7
21-Aug	59	56	58	61	63	60	62	61	53	44	40	37	36	31	29	26	27	27	24	30	41	49	55	64	45.5	63.9
22-Aug	61	65	71	73	77	75	74	74	74	67	56	49	49	49	45	41	40	39	44	51	58	64	62	61	59.2	77.2
23-Aug	63	74	76	78	80	83	80	67	64	56	45	40	39	37	38	40	43	45	48	54	59	61	69	66	58.6	83.2
24-Aug	72	74	75	80	81	83	79	78	69	60	50	45	39	35	35	32	33	36	41	50	54	60	71	75	58.6	82.8
25-Aug	80	79	78	77	83	85	85	83	79	76	63	53	47	40	39	34	34	33	36	43	52	60	59	73	61.3	85.2
26-Aug	75	78	84	85	82	82	83	81	73	62	52	47	46	53	56	66	68	63	68	75	77	80	83	85	71.0	85.4
27-Aug	86	87	88	89	89	90	91	91	91	83	70	59	53	43	40	34	32	32	34	39	49	59	63	70	65.2	91.3
28-Aug	74	79	84	83	80	82	83	80	75	75	63	50	43	45	40	36	36	40	44	48	54	62	66	71	62.2	83.7
29-Aug	79	76	79	86	88	89	89	89	86	85	80	74	73	68	64	61	62	62	68	72	77	79	82	82	77.0	89.1
30-Aug	82	84	85	86	88	89	90	88	85	85	88	87	84	81	77	80	78	73	71	74	79	80	76	75	81.8	89.6
31-Aug	79	80	80	81	79	80	73	67	62	54	51	49	44	40	38	38	38	39	42	49	58	63	65	68	58.9	80.9
	76.3	77.8	79.7	80.6	81.5	82.4	81.0	77.1	73.2	68.3	62.2	57.1	53.4	50.1	48.3	47.0	47.2	48.5	52.3	57.0	62.4	67.0	71.1	74.3	Diurnal Average	
	87.6	88.4	88.6	89.2	89.8	90.4	91.1	91.3	91.0	86.2	88.0	86.7	83.6	81.4	78.8	79.9	78.0	74.4	71.4	75.0	79.0	80.3	83.2	86.1	Diurnal Maximum	

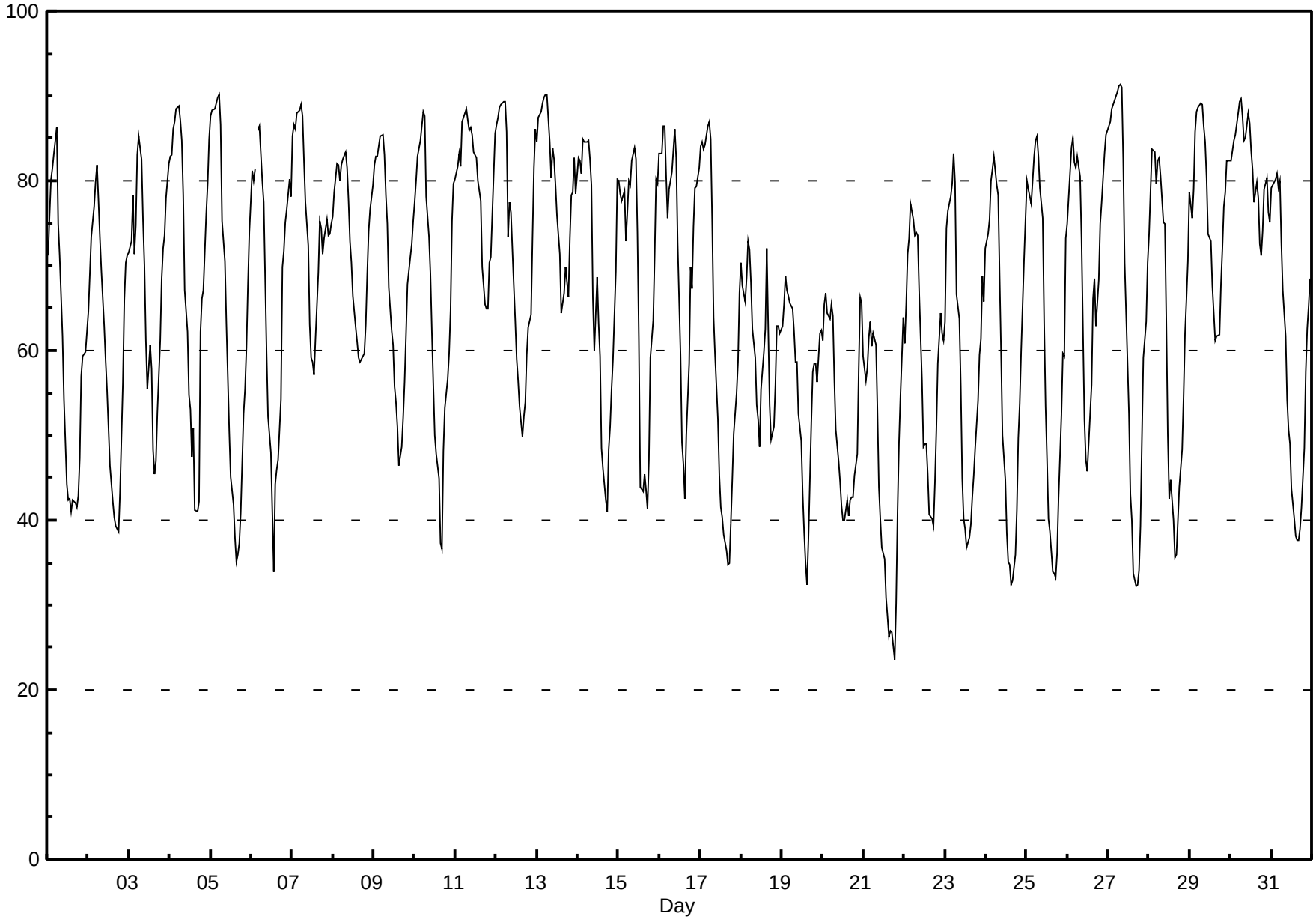
D - DAS Failure

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Henry Pirker - August 2013



Peace Airshed Zone Association

Hourly Averages

Solar Radiation (SR) - W/m^2

Henry Pirker - August 2013

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

Maximum Value: 814.8 W/m^2 on Aug 4 14:00

Maximum Daily Average: 272.8 W/m^2 on Aug 1

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

Minimum Daily Average: 75.7 W/m^2 on Aug 30

Maximum Diurnal Average: 544.2 W/m^2 at hour 14

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

Monthly Average: 185.17 W/m^2

Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 57.3 Q_3 = 342.7 P_{90} = 587.4 P_{99} = 719.1

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	0	0	0	0	0	17	119	199	376	510	618	696	735	734	696	615	503	378	241	98	13	0	0	0	272.8	735.5
2-Aug	0	0	0	0	0	15	119	204	375	504	589	646	713	734	702	618	506	372	235	70	9	0	0	0	267.1	734.0
3-Aug	0	0	0	0	0	1	25	155	313	452	608	627	294	309	652	611	371	121	84	60	23	0	0	0	196.1	651.5
4-Aug	0	0	0	0	0	6	35	105	341	501	603	676	375	815	444	617	520	444	194	100	15	0	0	0	241.3	814.8
5-Aug	0	0	0	0	0	11	112	206	371	504	611	690	729	724	700	619	453	229	101	55	13	0	0	0	255.4	729.5
6-Aug	0	0	0	D	0	14	109	198	361	491	593	671	668	744	576	513	191	71	27	23	3	0	0	0	228.4	744.2
7-Aug	0	0	0	0	0	2	36	74	181	306	483	533	369	315	152	100	121	122	118	18	2	0	0	0	122.1	532.7
8-Aug	0	0	0	0	0	17	40	56	120	259	409	349	442	579	478	317	174	268	153	56	8	0	0	0	155.2	579.4
9-Aug	0	0	0	0	0	8	78	179	349	475	588	629	683	704	660	573	478	230	83	53	11	0	0	0	240.8	703.5
10-Aug	0	0	0	0	0	4	70	145	310	442	541	674	714	698	636	579	480	260	106	43	14	0	0	0	238.2	713.6
11-Aug	0	0	0	0	0	5	45	72	97	113	114	197	102	227	168	346	370	179	109	62	13	0	0	0	92.5	370.4
12-Aug	0	0	0	0	0	6	92	181	136	287	614	630	678	669	494	493	378	253	96	32	4	0	0	0	210.2	677.8
13-Aug	0	0	0	0	0	5	50	152	208	173	210	293	578	570	571	360	233	105	165	37	8	0	0	0	154.9	578.1
14-Aug	0	0	0	0	0	2	27	83	181	530	533	306	499	702	706	584	402	260	97	59	3	0	0	0	207.3	706.2
15-Aug	0	0	0	0	0	5	12	23	17	101	154	317	423	689	582	562	459	338	151	53	3	0	0	0	162.1	688.5
16-Aug	0	0	0	0	0	0	10	28	30	61	185	384	620	644	648	531	232	169	25	35	7	0	0	0	150.4	648.2
17-Aug	0	0	0	0	0	3	31	155	341	470	577	668	595	587	643	592	432	325	197	58	4	0	0	0	236.5	667.8
18-Aug	0	0	0	0	0	3	61	131	308	291	325	358	217	173	264	223	319	317	185	57	5	0	0	0	134.9	358.4
19-Aug	0	0	0	0	0	4	34	106	236	219	503	477	654	560	668	512	234	84	135	45	2	0	0	0	186.4	668.2
20-Aug	0	0	0	0	0	2	50	180	346	472	610	614	397	289	141	154	85	66	45	25	1	0	0	0	144.9	613.8
21-Aug	0	0	0	0	0	2	27	91	284	458	563	642	683	681	642	574	478	292	201	45	1	0	0	0	236.0	682.7
22-Aug	0	0	0	0	0	3	22	47	62	194	355	462	303	310	286	523	266	333	112	29	4	0	0	0	138.0	523.4
23-Aug	0	0	0	0	0	3	44	165	297	433	540	622	654	639	591	431	267	175	55	26	1	0	0	0	205.9	654.0
24-Aug	0	0	0	0	0	0	16	91	213	343	466	502	677	627	589	524	341	251	102	16	0	0	0	0	198.3	676.9
25-Aug	0	0	0	0	0	1	22	46	64	164	463	562	667	666	308	557	430	295	135	36	2	0	0	0	184.1	667.4
26-Aug	0	0	0	0	0	1	33	82	199	317	464	449	429	192	185	180	115	344	112	16	0	0	0	0	129.9	463.8
27-Aug	0	0	0	0	0	0	16	42	78	309	529	472	502	482	614	560	420	296	147	38	0	0	0	0	187.8	613.8
28-Aug	0	0	0	0	0	0	24	84	130	179	475	446	501	325	419	308	254	147	42	9	0	0	0	0	139.3	501.4
29-Aug	0	0	0	0	0	0	6	48	148	169	285	527	383	593	467	433	280	233	90	28	0	0	0	0	153.8	592.9
30-Aug	0	0	0	0	0	0	18	59	106	38	37	153	185	266	225	169	174	296	68	21	0	0	0	0	75.7	296.4
31-Aug	0	0	0	0	0	1	46	101	282	409	433	416	635	620	521	501	372	230	108	24	0	0	0	0	195.8	634.9
	0.0	0.0	0.0	0.0	0.0	4.6	46.1	112.5	221.3	328.2	454.2	506.0	519.5	544.2	497.7	460.7	333.5	241.4	120.0	42.8	5.4	0.0	0.0	0.0	Diurnal Average	
	0.0	0.0	0.0	0.0	0.3	16.8	119.4	206.3	376.4	530.0	617.9	695.8	735.5	814.8	706.2	618.9	520.4	443.6	240.5	99.6	22.6	0.3	0.0	0.0	Diurnal Maximum	

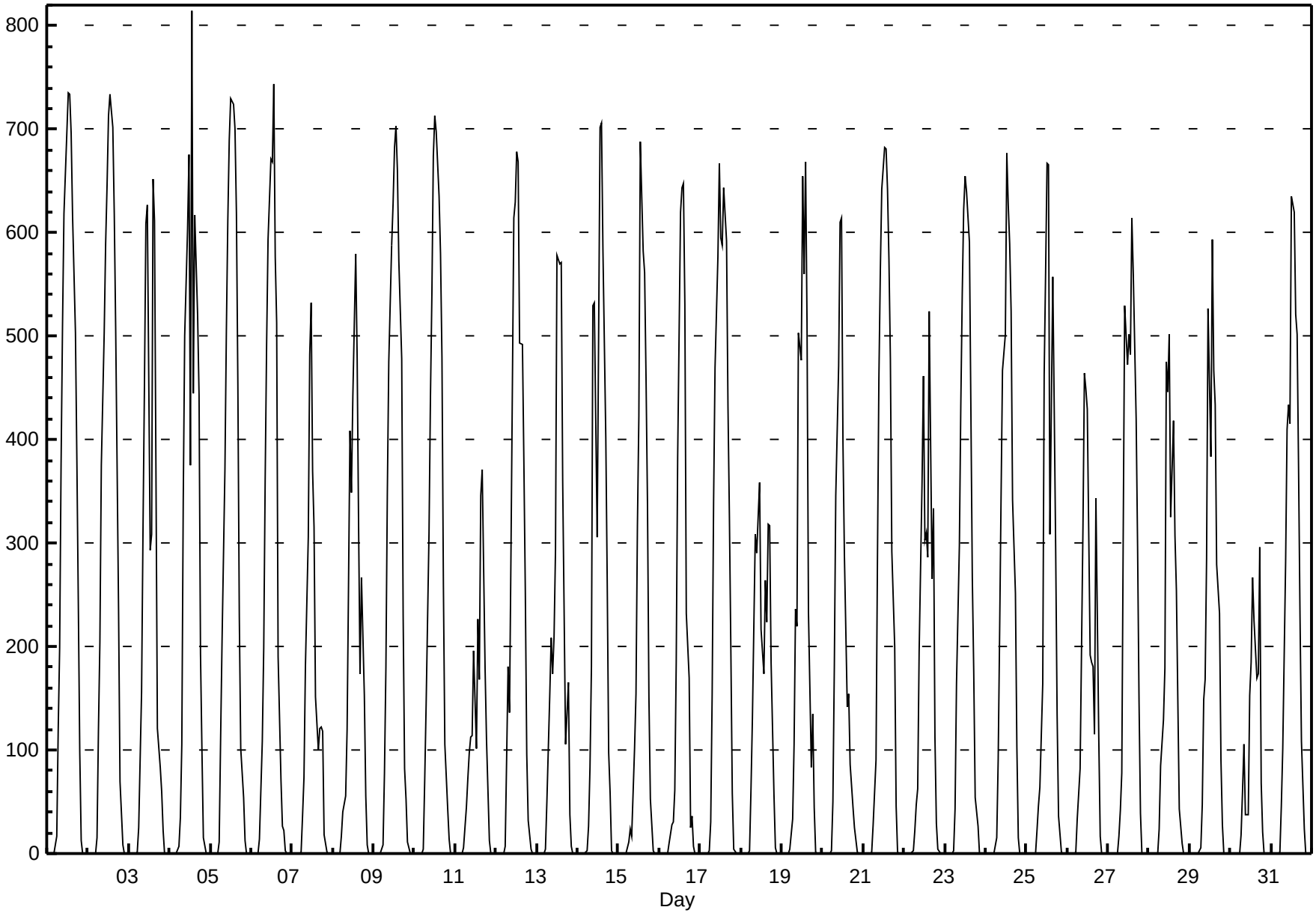
D - DAS Failure

Peace Airshed Zone Association

Hourly Averages

Solar Radiation (SR) - W/m^2

Henry Pirker - August 2013



Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Henry Pirker - August 2013

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1 Spd	7	6	2	4	2	2	2	4	4	7	8	9	9	8	10	11	12	13	12	13	10	11	9	9	7.5	13.0
Dir	108	115	53	78	107	114	105	132	129	121	113	114	90	93	96	86	83	92	90	96	90	85	81	84	95.9	96.3
2 Spd	8	9	10	8	7	6	8	9	8	6	7	8	8	9	9	9	9	10	11	8	7	8	8	9	8.0	11.1
Dir	87	96	107	110	102	85	91	104	125	110	107	103	92	98	105	98	89	91	89	81	67	78	55	53	93.0	89.1
3 Spd	8	4	11	20	7	5	7	9	9	7	2	5	7	2	3	1	5	7	8	8	8	10	6	2	4.4	20.2
Dir	68	60	330	351	356	153	257	275	299	331	322	299	319	318	227	221	246	271	278	270	254	261	290	320	300.6	351.0
4 Spd	3	4	7	5	4	5	6	5	6	4	4	3	6	9	10	8	7	5	3	4	4	3	3	2	2.3	10.4
Dir	224	241	249	315	298	242	240	239	231	249	194	258	304	333	340	331	338	78	217	159	168	120	109	199	272.6	340.0
5 Spd	1	2	4	3	1	1	3	3	6	4	5	5	5	4	4	0	5	3	4	8	6	5	4	3	1.4	7.7
Dir	326	317	315	298	325	240	308	259	240	230	199	184	195	198	209	360	177	302	354	116	115	114	128	142	198.2	115.5
6 Spd	0	5	5	D	5	2	7	5	3	3	2	4	5	9	14	11	8	5	9	6	8	4	5	6	1.7	13.8
Dir	21	86	90	D	333	51	121	152	290	289	219	165	140	187	236	248	94	82	1	70	96	70	99	92	120.5	236.5
7 Spd	7	5	1	2	4	2	1	2	5	5	7	7	7	9	10	8	6	6	5	5	4	6	6	7	4.6	9.9
Dir	75	103	298	77	314	342	30	308	66	54	43	63	74	92	80	52	49	54	73	44	45	54	59	63	60.4	79.6
8 Spd	7	7	6	7	10	10	10	10	10	11	11	11	12	13	13	14	12	12	14	13	10	11	10	10	10.2	13.8
Dir	62	85	62	70	99	92	96	103	107	111	107	103	97	88	103	123	115	118	124	122	112	110	108	105	103.9	123.5
9 Spd	10	11	10	10	10	9	9	8	6	3	2	4	4	5	5	7	10	10	10	11	10	10	10	9	7.8	11.0
Dir	100	100	97	95	95	95	100	112	127	110	148	156	122	134	125	118	111	101	93	94	92	95	97	99	103.7	100.3
10 Spd	8	7	7	7	4	2	3	1	3	4	4	3	2	1	5	7	6	10	10	8	6	4	2	2	2.2	9.9
Dir	89	88	82	89	89	66	83	24	287	268	269	244	290	263	329	329	359	101	106	112	117	112	160	357	81.9	105.7
11 Spd	6	6	7	2	3	3	4	4	9	0	5	6	2	3	3	2	5	5	5	5	4	4	2	1	2.3	9.3
Dir	354	37	6	261	73	183	345	274	316	248	304	26	85	88	128	23	43	71	61	56	62	55	332	310	22.4	316.1
12 Spd	2	3	5	5	1	4	3	3	4	5	5	6	5	8	9	8	10	8	7	6	6	8	2	7	2.0	9.8
Dir	360	322	324	334	270	292	320	307	303	313	148	132	115	131	122	115	113	112	96	60	54	131	309	2	88.3	113.1
13 Spd	5	2	2	1	3	2	2	3	5	5	6	5	9	6	5	8	9	7	2	7	6	8	9	1	1.3	8.8
Dir	339	124	318	302	332	338	346	183	194	198	171	155	125	109	93	114	134	153	121	256	241	277	318	274	170.4	317.9
14 Spd	1	6	1	2	5	4	6	4	5	4	2	7	4	6	3	3	6	2	3	4	5	2	4	2	1.1	7.4
Dir	316	325	356	280	267	164	131	124	174	272	205	183	154	143	245	335	248	200	171	135	62	35	323	299	198.3	182.8
15 Spd	2	5	4	5	5	4	5	5	13	9	9	7	4	1	1	5	4	3	3	8	5	4	2	1	1.4	12.6
Dir	318	340	344	354	92	285	303	269	235	315	325	324	311	174	146	199	182	191	118	108	100	342	173	294	297.9	234.9
16 Spd	4	5	5	5	5	9	11	9	10	6	4	4	5	5	7	6	9	9	7	14	12	12	8	6	5.6	14.4
Dir	314	329	304	300	222	209	224	220	194	169	151	220	226	228	215	244	278	309	295	260	211	213	223	210	235.6	259.8
17 Spd	5	6	7	4	4	8	3	5	9	11	10	16	22	21	18	19	19	21	12	10	8	7	8	7	9.6	21.6
Dir	213	210	233	240	153	181	176	208	228	228	230	247	255	262	257	266	279	277	285	275	257	240	247	228	250.6	255.3
18 Spd	8	8	10	8	5	7	7	8	9	9	10	11	15	11	9	13	15	17	18	17	12	9	11	9	10.1	17.7
Dir	221	212	227	237	229	223	207	214	204	225	225	224	246	265	294	254	238	231	231	245	231	228	200	207	231.5	231.0
19 Spd	9	7	7	11	12	12	12	11	12	10	10	15	21	25	31	31	35	33	20	16	18	17	16	21	16.8	34.6
Dir	218	230	256	244	238	233	240	247	247	247	272	279	257	264	260	259	265	247	235	233	244	246	241	245	250.3	264.9
20 Spd	23	17	16	19	20	18	18	25	30	36	35	34	35	34	28	32	25	24	25	20	17	9	6	7	22.4	35.8
Dir	250	241	248	256	250	243	245	252	263	260	255	257	265	266	263	270	269	270	272	268	273	313	305	297	261.6	260.2
21 Spd	10	11	12	11	13	13	9	9	12	21	18	11	12	12	10	14	12	13	16	14	7	5	3	4	10.9	21.1
Dir	263	255	264	249	252	254	243	255	258	267	263	252	223	237	234	252	262	269	270	270	272	209	202	187	254.2	267.1
22 Spd	2	5	2	2	4	5	6	4	5	3	5	5	7	5	6	8	11	13	13	8	7	6	5	10	3.4	13.2
Dir	136	174	317	112	143	162	165	168	168	247	209	214	190	194	229	221	249	303	296	303	312	281	305	283	245.0	303.3

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Henry Pirker - August 2013

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
23 Spd	5	2	5	3	0	2	3	1	6	5	5	6	4	6	5	5	8	8	7	7	11	5	5	7	3.1	11.0
Dir	322	159	171	200	304	261	306	317	173	174	177	168	194	192	138	84	105	97	93	105	145	129	60	98	137.0	145.1
24 Spd	6	4	7	6	5	4	3	4	4	5	6	18	20	21	20	16	14	10	8	4	1	1	4	3	6.3	21.4
Dir	147	168	285	280	314	292	225	184	172	200	233	267	252	272	272	282	282	306	321	310	288	288	164	218	266.3	272.2
25 Spd	2	3	6	6	3	1	4	3	4	8	9	10	10	12	15	19	18	17	12	5	4	4	4	2	6.4	18.6
Dir	217	305	248	183	188	261	314	204	170	242	272	223	214	249	252	276	279	282	284	283	205	268	312	225	257.2	276.2
26 Spd	2	0	1	3	5	2	3	3	3	3	3	7	12	11	11	13	14	17	15	11	10	8	7	7	5.3	16.6
Dir	175	65	226	326	334	293	309	313	333	321	116	89	92	88	92	98	111	112	118	112	114	107	96	113	100.0	111.6
27 Spd	7	4	3	4	3	3	3	7	3	6	8	7	9	13	7	13	13	14	13	12	6	3	2	0	4.8	14.3
Dir	94	123	103	100	134	123	162	246	311	195	195	212	219	217	219	250	256	244	240	258	276	225	183	198	225.9	244.4
28 Spd	1	1	2	2	1	4	3	3	3	5	5	6	9	11	10	4	1	5	3	1	6	7	7	3	0.8	11.0
Dir	351	166	244	289	322	173	297	331	253	172	185	224	277	309	322	344	231	183	179	326	94	95	89	12	266.6	308.8
29 Spd	2	2	4	6	6	4	3	1	7	9	8	8	9	6	7	8	9	8	7	6	5	6	6	6	5.2	9.0
Dir	16	57	179	114	74	10	50	36	106	105	105	88	108	107	85	91	70	71	53	57	79	38	47	47	79.8	107.7
30 Spd	3	5	5	4	3	2	1	3	3	6	5	10	11	12	17	15	15	15	15	11	7	9	10	9	7.1	16.6
Dir	76	334	350	329	298	246	348	307	285	232	277	277	252	236	254	242	249	260	283	271	247	252	258	261	263.6	253.9
31 Spd	7	7	3	3	2	5	8	8	11	14	16	15	18	17	16	16	15	13	14	8	6	7	6	6	9.8	18.2
Dir	269	274	271	213	266	262	253	249	237	252	250	253	265	273	276	274	272	275	262	238	230	248	256	244	259.8	264.5
Spd	0.2	0.5	1.6	1.2	0.8	2.1	1.8	3.0	3.8	4.0	3.8	4.0	4.4	4.2	4.2	4.3	3.7	2.8	2.1	1.7	1.7	1.1	0.4	0.6	Diurnal Average	
Dir	177.2	178.9	277.4	283.9	247.5	216.0	229.0	228.8	230.3	239.1	227.6	230.6	233.8	239.8	247.1	256.3	254.3	248.6	258.7	230.3	178.2	180.4	180.4	200.7		
Spd	22.5	16.9	15.8	20.2	20.3	18.3	18.2	24.6	30.2	35.8	34.9	34.0	34.9	34.0	31.2	31.7	34.6	33.0	24.5	19.7	18.0	17.3	16.4	21.2	Diurnal Maximum	
Dir	250.1	240.5	248.1	351.0	250.3	243.3	245.4	251.7	262.9	260.2	254.8	256.9	265.3	266.3	260.3	270.1	264.9	247.1	272.3	267.8	243.7	246.0	241.4	244.5		

Maximum Speed Value: 36 km/h on Aug 20 10:00
Maximum Daily Speed Average: 22.4 km/h on Aug 20
Maximum Diurnal Speed Average: 4.4 km/h at hour 13

Minimum Speed Value: 0 km/h on Aug 28 00:00
Minimum Daily Speed Average: 0.8 km/h on Aug 14
Minimum Diurnal Speed Average: 0.2 km/h at hour 1

Monthly Average Velocity: 2.26 km/h 236.98 deg

Speed Percentiles: $P_1 = 0.5$ $P_{10} = 2.4$ $Q_1 = 4.0$ Median = 6.4 $Q_3 = 9.8$ $P_{90} = 14.3$ $P_{99} = 32.1$

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

D - DAS Failure

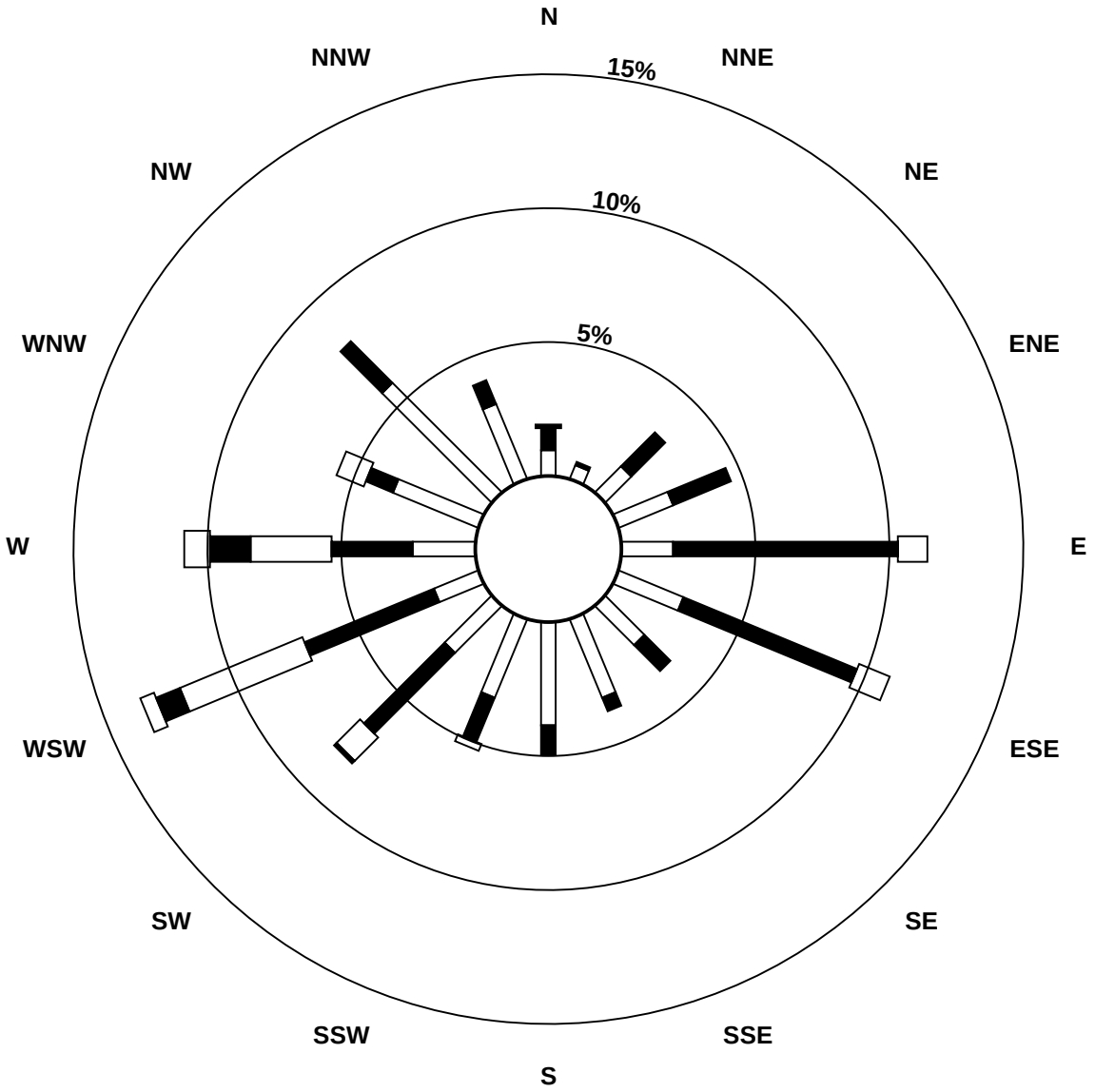
Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	18	12	0	1	0	0	31
NorthEast	20	25	0	0	0	0	45
East	26	101	19	0	0	0	146
SouthEast	30	34	6	0	0	0	70
South	45	25	1	0	0	0	71
SouthWest	32	60	32	2	1	0	127
West	33	44	50	17	10	0	154
NorthWest	63	32	4	0	0	0	99
Total	267	333	112	20	11	0	743

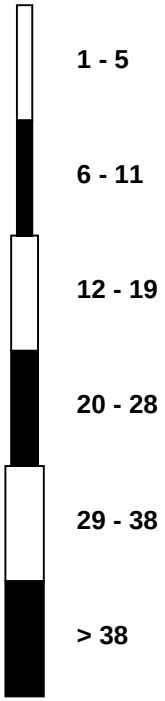
Wind Rose

Wind Speed (WS) (km/h)

Henry Pirker - August 2013



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Henry Pirker - August 2013

Maximum Speed: 36 km/h on Aug 20 10:00

Maximum Daily Speed Average: 23.3 km/h on Aug 20

Minimum Speed: 1 km/h on Aug 28 00:00

Minimum Daily Speed Average: 5.1 km/h on Aug 5

Maximum Diurnal Speed Average: 12.2 km/h at hour 16

Minimum Diurnal Speed Average: 6.1 km/h at hour 5

Monthly Average Speed: 8.51 km/h

Percentiles: $P_1 = 2.4$ $P_{10} = 3.7$ $Q_1 = 5.0$ Median = 7.2 $Q_3 = 10.2$ $P_{90} = 14.9$ $P_{99} = 32.7$

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	7	7	3	4	3	3	3	5	5	7	9	9	9	9	11	12	13	13	12	13	10	11	9	9	8.2	13.1
2-Aug	8	9	10	8	8	6	8	9	9	6	8	9	8	10	9	10	10	11	11	8	7	8	8	9	8.7	11.4
3-Aug	8	4	12	21	9	8	8	9	10	8	5	6	7	4	4	5	8	7	9	9	9	11	6	4	7.9	20.6
4-Aug	4	5	7	6	4	5	6	6	6	5	5	5	7	10	11	9	8	8	10	4	4	4	3	3	6.1	11.0
5-Aug	3	3	5	3	3	3	3	4	6	5	6	6	7	6	7	6	6	6	6	8	6	5	4	4	5.1	7.8
6-Aug	3	6	5	D	5	5	7	6	4	4	4	6	6	10	15	15	9	8	10	6	8	5	5	11	7.2	14.9
7-Aug	8	5	4	3	4	3	3	4	6	6	7	7	8	10	10	9	6	6	5	5	4	6	6	7	5.9	10.3
8-Aug	7	7	6	7	10	10	10	10	10	11	12	12	13	14	13	14	12	13	14	13	10	11	10	10	10.8	14.3
9-Aug	10	11	10	10	10	9	9	9	7	4	5	6	6	6	6	8	10	11	11	11	10	10	10	9	8.6	11.1
10-Aug	8	7	7	7	4	3	3	2	4	5	4	4	4	5	6	7	8	10	10	8	6	4	3	4	5.6	10.1
11-Aug	7	7	9	7	5	5	5	5	10	8	7	7	3	5	5	8	6	5	5	5	4	4	3	2	5.8	10.1
12-Aug	3	4	5	5	4	4	3	3	4	6	6	7	6	9	10	9	10	9	8	6	6	10	5	8	6.2	10.3
13-Aug	6	4	4	2	3	3	3	4	5	6	6	6	9	8	6	9	9	7	4	8	6	8	9	7	5.9	9.4
14-Aug	9	8	5	4	5	4	6	5	5	5	5	8	6	7	5	6	7	4	4	6	5	3	4	4	5.4	8.9
15-Aug	3	5	4	6	5	6	5	7	15	10	10	8	5	4	5	7	6	5	7	9	6	5	4	3	6.2	14.6
16-Aug	5	6	5	6	9	10	12	10	10	6	5	5	6	6	8	7	10	9	7	15	12	12	8	6	8.0	15.1
17-Aug	6	6	7	5	5	8	4	5	9	11	11	17	22	21	18	20	19	21	13	10	8	7	8	7	11.2	22.3
18-Aug	9	8	10	8	6	8	7	8	9	9	11	11	16	12	9	15	16	17	18	18	12	10	11	9	11.0	18.0
19-Aug	9	8	8	11	12	12	12	11	12	10	10	15	22	26	32	32	35	34	20	17	18	18	17	21	17.6	34.9
20-Aug	23	17	16	19	20	18	18	25	31	36	36	34	35	35	28	32	25	24	25	20	17	10	6	8	23.3	36.2
21-Aug	10	11	12	11	13	13	10	9	12	21	18	12	14	14	12	15	13	14	16	14	7	5	3	5	11.9	21.4
22-Aug	3	5	4	3	4	5	6	4	5	4	5	6	8	6	7	8	12	13	13	8	7	6	5	10	6.5	13.4
23-Aug	7	4	5	5	4	5	4	2	6	6	6	7	7	8	8	7	8	8	7	7	11	7	6	7	6.3	11.5
24-Aug	6	5	7	7	5	4	4	5	4	6	7	19	21	23	21	16	14	11	9	5	4	4	4	3	8.9	22.6
25-Aug	5	5	6	7	4	3	5	4	5	9	9	10	12	14	15	19	19	17	12	6	4	5	4	3	8.4	19.0
26-Aug	3	2	2	3	5	5	4	4	4	4	5	8	13	11	12	13	15	17	15	11	10	8	7	7	7.8	16.9
27-Aug	7	4	3	4	3	4	4	8	5	8	9	8	10	13	12	14	14	15	13	13	7	5	4	1	7.9	14.8
28-Aug	4	3	2	3	3	4	4	4	3	5	6	7	10	11	10	5	5	6	4	3	6	7	7	4	5.2	11.4
29-Aug	3	3	5	7	6	6	4	3	8	9	9	9	10	8	8	9	10	8	8	7	5	6	6	6	6.7	9.7
30-Aug	4	5	6	4	3	3	2	4	5	6	6	10	12	12	17	15	16	15	15	12	8	9	10	9	8.7	17.0
31-Aug	7	8	4	4	4	6	8	8	11	14	17	16	19	17	17	16	16	14	14	8	6	7	6	7	10.7	18.8
	6.6	6.3	6.4	6.7	6.1	6.1	6.1	6.5	7.8	8.4	8.7	9.6	11.0	11.4	11.5	12.2	12.1	11.8	10.8	9.3	8.0	7.5	6.5	6.7	Diurnal Average	
	22.7	17.2	16.1	20.6	20.4	18.5	18.4	24.8	30.6	36.2	35.5	34.5	35.5	34.5	31.7	32.1	34.9	33.6	24.7	19.9	18.4	17.6	16.6	21.5	Diurnal Maximum	

D - DAS Failure

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 2013

Maximum Value: 96.4 deg on Aug 14 00:00

Minimum Value: 5.3 deg on Aug 20 21:00

Percentiles: P_1 = 7.1 P_{10} = 9.8 Q_1 = 13.3 Median = 21.0 Q_3 = 39.3 P_{90} = 64.9 P_{99} = 91.6

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)																								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	11	11	54	10	43	44	74	21	35	22	19	22	25	28	20	19	15	16	12	7	7	7	9	10	74.0
2-Aug	7	8	8	9	10	10	9	13	16	29	24	27	26	19	23	26	19	18	13	11	12	10	14	13	28.6
3-Aug	15	16	37	11	63	56	27	17	16	32	82	54	18	79	45	83	46	18	17	19	12	16	26	61	82.5
4-Aug	35	44	17	28	20	19	12	26	18	38	58	68	31	31	22	28	40	60	81	18	16	43	24	34	80.9
5-Aug	89	67	11	39	84	81	36	35	19	26	37	31	40	54	58	92	49	79	62	9	9	10	23	40	91.7
6-Aug	95	31	30	D	35	82	14	45	49	58	61	44	53	21	33	55	42	49	38	20	17	38	31	68	94.7
7-Aug	32	27	80	41	40	46	84	77	24	26	27	26	27	19	16	19	20	19	23	16	17	15	14	13	84.0
8-Aug	17	16	16	14	10	9	9	9	12	14	15	15	16	13	17	16	14	13	9	9	8	8	9	7	17.4
9-Aug	6	7	8	6	8	8	9	14	27	72	74	55	51	49	45	39	20	19	11	8	9	8	7	8	74.0
10-Aug	10	8	10	10	21	35	33	93	48	33	44	39	73	81	68	28	48	16	12	13	14	13	37	58	92.8
11-Aug	42	39	48	83	71	58	65	27	25	89	54	35	55	52	51	87	35	30	23	17	14	13	77	86	88.9
12-Aug	61	36	10	35	89	14	26	37	26	51	37	37	43	33	21	26	20	26	18	14	14	41	62	21	89.0
13-Aug	23	59	74	51	25	36	63	17	37	31	23	29	21	38	37	20	19	31	69	19	15	19	16	96	96.4
14-Aug	92	39	86	60	46	29	13	41	26	48	79	14	53	49	68	75	23	65	64	59	26	45	18	74	91.9
15-Aug	71	14	20	27	26	64	24	64	41	23	11	13	37	90	95	45	56	60	74	14	19	58	71	84	94.5
16-Aug	24	32	19	13	58	11	11	15	15	15	19	38	34	46	27	28	35	13	15	18	16	11	17	20	58.1
17-Aug	18	17	17	28	56	10	75	24	16	14	18	18	15	14	16	15	14	10	12	10	19	14	12	14	75.2
18-Aug	10	10	8	11	19	14	13	11	13	19	19	16	14	21	11	27	15	14	9	10	11	13	8	9	27.0
19-Aug	13	25	12	11	11	11	10	13	11	17	19	14	16	16	11	10	8	11	11	11	12	11	9	10	25.5
20-Aug	8	10	11	8	8	9	9	8	9	8	11	9	10	10	8	10	9	6	8	8	5	21	23	24	24.4
21-Aug	10	8	7	11	9	9	12	11	13	11	16	20	26	26	30	20	23	20	12	8	21	15	41	37	41.2
22-Aug	64	18	71	47	20	13	10	14	11	42	33	33	24	30	20	26	26	10	13	10	17	16	27	12	70.6
23-Aug	33	85	19	59	85	65	32	70	15	25	39	38	67	53	56	64	20	15	11	16	17	55	28	16	85.2
24-Aug	15	28	29	31	18	25	47	26	18	25	32	18	15	19	16	15	15	13	10	66	91	89	23	28	91.2
25-Aug	58	49	20	33	35	70	44	38	23	15	17	19	29	26	19	12	15	13	10	20	18	27	55	56	69.6
26-Aug	38	87	36	42	13	57	60	42	37	45	78	34	15	13	14	13	11	12	10	11	12	10	11	12	87.3
27-Aug	13	28	28	24	41	46	32	34	50	56	28	28	23	20	57	26	19	16	12	12	37	44	79	91	91.0
28-Aug	82	79	40	81	86	16	46	59	38	23	30	23	26	15	18	67	93	20	37	59	9	9	11	43	93.4
29-Aug	32	48	65	31	13	42	66	83	24	16	19	22	24	38	25	30	21	23	18	29	17	26	23	18	82.9
30-Aug	38	24	20	29	25	45	68	32	43	17	41	13	26	14	12	11	10	15	12	14	14	10	10	11	67.8
31-Aug	18	12	36	28	71	71	13	15	11	13	15	15	15	16	17	15	16	12	13	10	10	13	27	32	71.4
	94.7	87.3	86.1	82.5	89.0	81.5	84.0	92.8	49.8	88.9	82.1	67.9	72.5	90.2	94.5	91.7	93.4	78.5	80.9	66.4	91.2	89.4	78.5	96.4	

D - DAS Failure

PAZA
Evergreen Park Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - August 2013

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

Maximum Value: 6.2 ppb on Aug 9 12:00 Maximum Daily Average: 1.2 ppb on Aug 9

Minimum Value: 0 ppb on Aug 1 03:00 Minimum Daily Average: 0.0 ppb on Aug 19

Maximum Diurnal Average: 0.4 ppb at hour 12 Minimum Diurnal Average: 0.1 ppb at hour 1

Monthly Average: 0.16 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.2 P_{90} = 0.2 P_{99} = 2.5

Hours in Service:	744
Hours of Data:	703
Hours of Missing Data:	41
Hours of Calibration:	40
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	0	2	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	1.5
2-Aug	0	0	0	0	0	0	0	0	0	0	0	A	1	2	1	0	0	0	0	0	0	0	0	0	0.3	1.5
3-Aug	0	0	0	0	0	0	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
4-Aug	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
5-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
6-Aug	0	0	0	D	0	0	0	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
7-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	0.1
8-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	0.1	0.7
9-Aug	0	0	0	0	A	0	0	0	3	2	3	6	3	3	6	2	0	0	0	0	0	0	0	0	1.2	6.2
10-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	0.1	0.2
11-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	0.2	0.3
12-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
13-Aug	A	0	0	1	1	1	1	1	2	2	C	C	C	C	C	C	C	C	3	0	0	0	0	A	--	2.5
14-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	0.3
15-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
16-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	0.2
17-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	0.2	0.4
18-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	0.4
19-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
20-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	0.4
21-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	0.1	0.4
22-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	0.2	0.3
23-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	0.3
24-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	0.3
25-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
26-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
27-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
28-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	0.2
29-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	0.1	0.2
30-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	0.0
31-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	0.0	0.2
Diurnal Average	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	0.3	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1		
Diurnal Maximum	0.2	0.3	0.4	0.6	0.8	1.0	1.2	1.4	2.6	1.7	3.3	6.2	3.5	2.6	6.1	2.0	0.4	0.7	2.5	0.2	0.3	0.2	0.5	0.4		

C - Calibration D - DAS Failure A - Automated Daily Zero Span

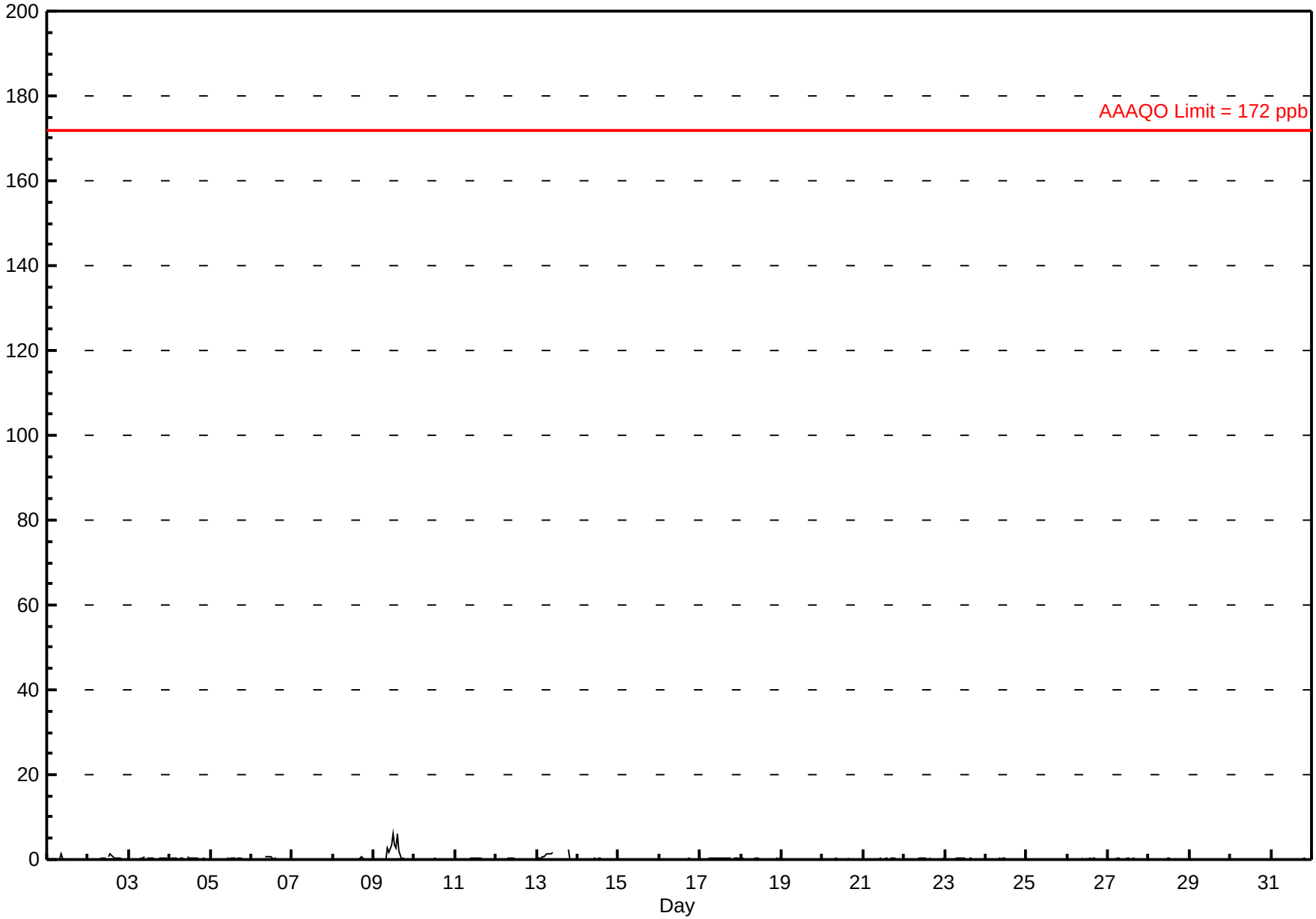
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - August 2013

Maximum Value: 26.5 ppb on Aug 27 13:00

Maximum Daily Average: 2.5 ppb on Aug 9

Minimum Value: 0 ppb on Aug 13 20:00

Minimum Daily Average: 0.4 ppb on Aug 19

Maximum Diurnal Average: 1.8 ppb at hour 13

Minimum Diurnal Average: 0.5 ppb at hour 23

Monthly Average: 0.71 ppb

Percentiles: $P_1 = 0.2$ $P_{10} = 0.4$ $Q_1 = 0.5$ Median = 0.6 $Q_3 = 0.7$ $P_{90} = 0.8$ $P_{99} = 3.8$

Hours in Service:	744
Hours of Data:	703
Hours of Missing Data:	41
Hours of Calibration:	40
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	1	0	0	1	1	0	4	1	1	1	A	0	0	0	0	0	0	0	0	1	0	0	0.6	4.5
2-Aug	0	1	1	0	0	0	0	1	1	1	1	A	2	2	2	1	1	1	1	1	1	1	1	1	0.8	2.4
3-Aug	1	0	1	1	0	0	0	1	1	2	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.6
4-Aug	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0.7	1.3
5-Aug	1	1	1	1	0	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0.6	1.1
6-Aug	1	1	1	D	0	0	1	A	1	1	1	1	1	1	1	1	1	0	1	1	0	1	0	1	0.7	1.4
7-Aug	0	0	0	1	0	0	A	0	1	1	1	0	0	1	0	0	1	1	0	0	0	0	0	1	0.5	0.7
8-Aug	0	0	0	0	1	A	1	1	1	1	1	0	1	1	1	1	1	5	1	0	1	0	0	0	0.7	4.7
9-Aug	0	0	0	0	A	0	0	0	7	4	8	8	6	4	8	4	1	1	1	1	1	1	1	0	2.5	8.3
10-Aug	0	0	0	A	0	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	0	1	0	0.5	0.7
11-Aug	1	1	A	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0.6	0.8
12-Aug	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	0	1	0	1	0.6	0.9
13-Aug	A	1	1	1	1	2	2	2	2	2	C	C	C	C	C	C	C	C	4	0	0	0	0	A	--	4.1
14-Aug	1	1	0	0	0	1	0	1	1	1	1	1	1	1	0	1	0	1	0	1	1	1	A	0	0.6	0.8
15-Aug	0	0	1	1	0	1	1	1	0	0	1	1	0	0	1	0	0	1	0	1	0	A	1	1	0.5	0.7
16-Aug	1	1	0	1	1	1	1	1	0	1	1	1	0	1	0	1	1	1	1	0	A	1	1	1	0.6	0.8
17-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.7	1.4
18-Aug	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	A	0	1	1	1	1	0.6	1.3
19-Aug	0	0	0	0	1	0	0	0	1	0	1	0	1	0	0	0	0	A	0	0	1	0	0	0	0.4	0.6
20-Aug	0	0	0	0	0	0	1	1	1	1	0	0	1	0	0	3	A	0	0	2	0	0	0	0	0.6	2.8
21-Aug	0	0	0	1	0	1	0	0	0	1	1	1	1	1	1	A	2	1	1	1	1	0	1	1	0.6	2.2
22-Aug	0	1	0	1	1	1	1	1	1	1	1	1	1	1	A	1	0	1	0	2	1	1	0	1	0.7	1.9
23-Aug	1	1	1	0	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.7	0.9
24-Aug	0	1	1	1	0	1	0	1	1	1	1	1	A	1	1	1	0	0	1	1	0	1	0	1	0.6	1.1
25-Aug	0	0	1	0	0	1	0	0	0	0	0	A	0	1	1	1	0	0	0	0	0	0	0	0	0.5	0.7
26-Aug	1	0	0	1	0	0	1	1	1	1	A	1	1	1	1	1	1	1	1	0	1	0	1	1	0.6	0.7
27-Aug	1	0	0	0	1	1	1	1	0	A	1	1	26	1	1	1	1	1	1	1	0	0	0	1	1.7	26.5
28-Aug	1	1	1	0	1	1	1	0	A	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	0.6	0.8
29-Aug	1	1	0	1	0	0	1	A	1	1	1	1	0	0	0	1	0	1	0	1	0	0	0	0	0.5	0.7
30-Aug	0	0	0	0	0	0	A	0	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0.4	0.6
31-Aug	0	1	1	0	1	A	1	1	1	1	0	1	0	1	0	0	0	0	1	1	0	0	0	0	0.5	1.1
	0.5	0.5	0.5	0.6	0.5	0.6	0.6	0.6	1.1	0.8	0.9	0.9	1.8	0.8	0.9	0.8	0.6	0.7	0.7	0.7	0.5	0.5	0.5	0.5	Diurnal Average	
	0.8	0.8	1.0	1.3	1.1	1.5	1.8	1.8	7.2	3.5	7.8	7.7	26.5	4.2	8.3	4.3	2.2	4.7	4.1	1.9	0.9	0.8	1.4	0.9	Diurnal Maximum	

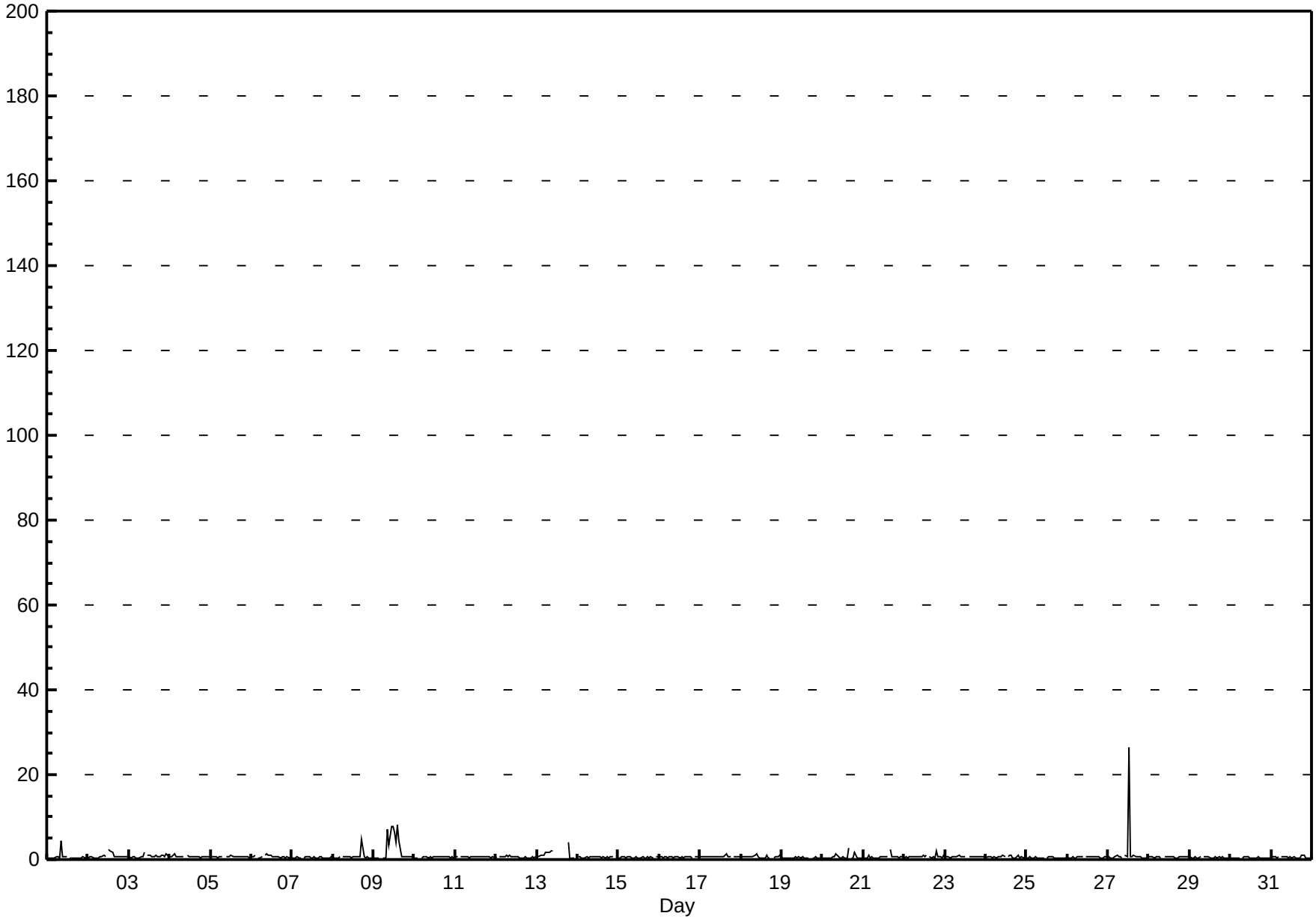
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

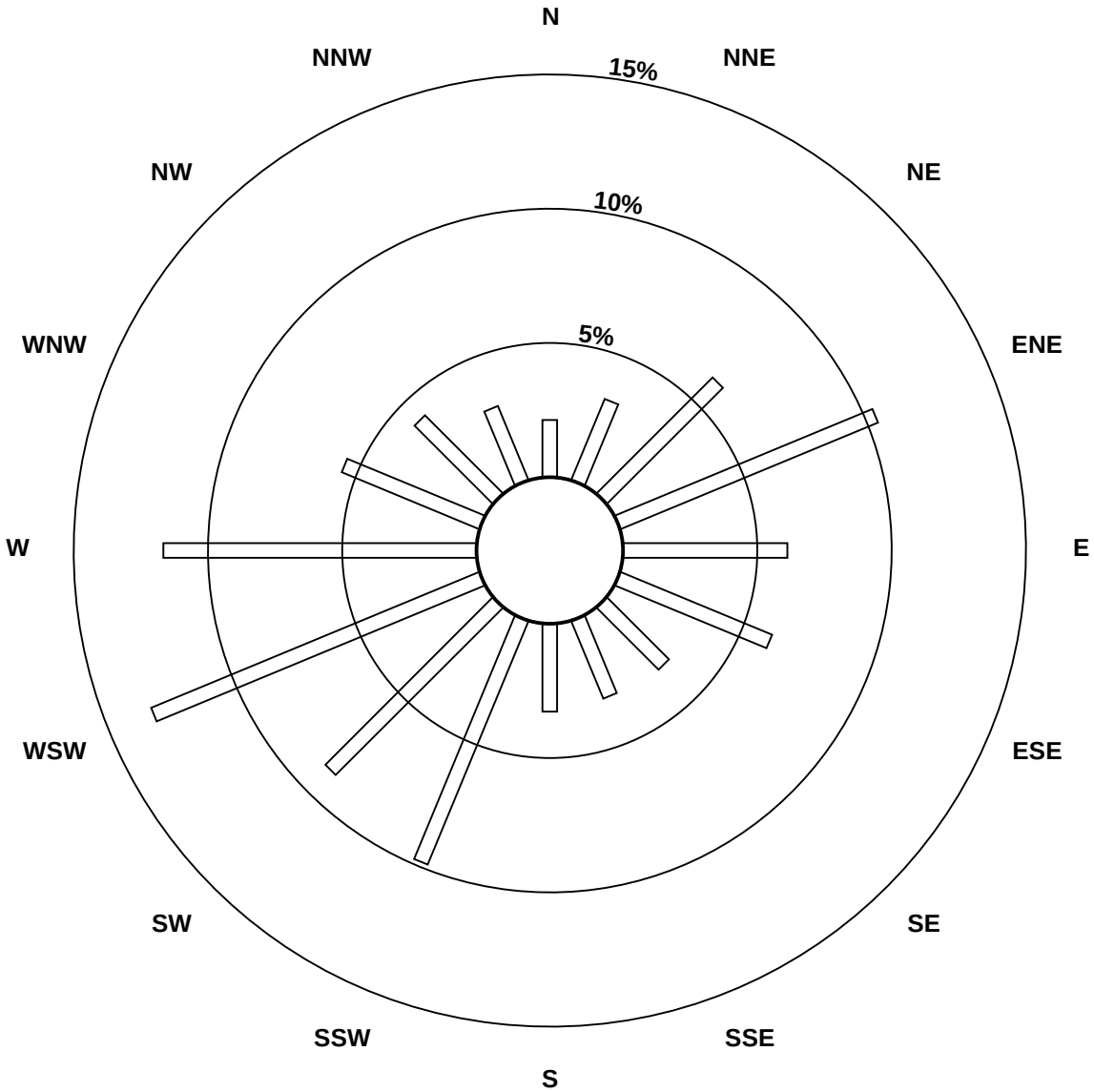
Evergreen Park - August 2013



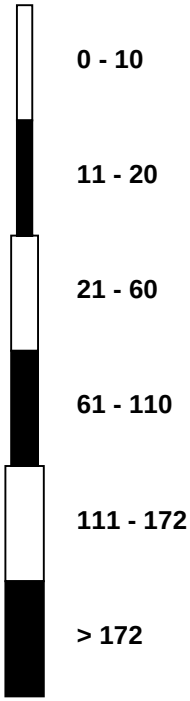
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - August 2013



Pollutant Classes (ppb)

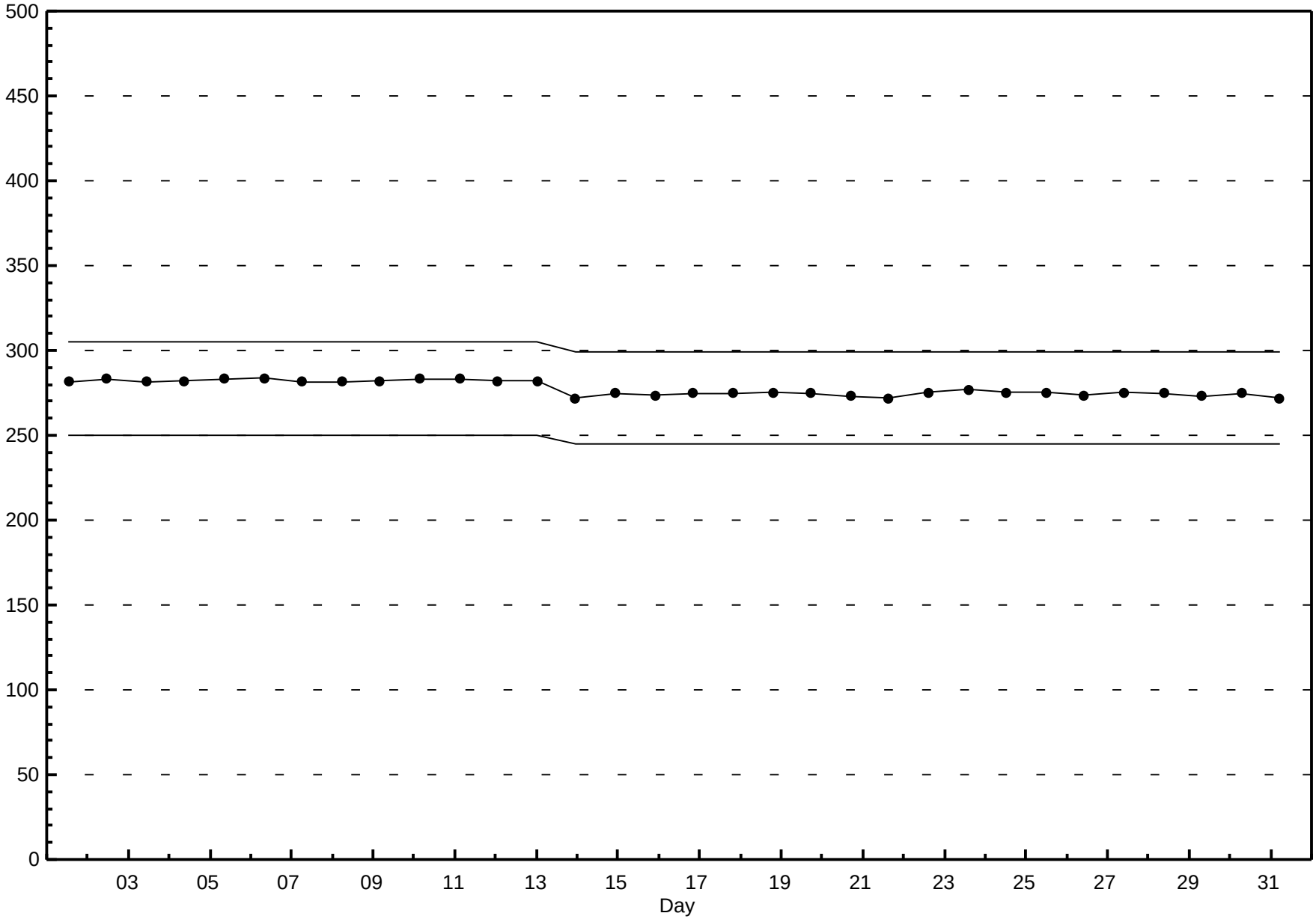


Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Evergreen Park - August 2013



Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - August 2013

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

Maximum Value: 1.1 ppb on Aug 6 09:00 Maximum Daily Average: 0.4 ppb on Aug 14

Minimum Value: 0 ppb on Aug 24 10:00 Minimum Daily Average: 0.1 ppb on Aug 1

Maximum Diurnal Average: 0.4 ppb at hour 9 Minimum Diurnal Average: 0.2 ppb at hour 17

Monthly Average: 0.29 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.1$ $Q_1 = 0.2$ Median = 0.3 $Q_3 = 0.3$ $P_{90} = 0.5$ $P_{99} = 0.8$

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	39
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	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
2-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	0.3	0.5
3-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	0.2	0.4
4-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	0.4	0.5
5-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
6-Aug	0	0	0	D	0	0	0	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.1
7-Aug	0	0	0	0	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
8-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
9-Aug	0	0	0	0	A	0	0	0	1	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0.4	0.7
10-Aug	0	0	0	A	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
11-Aug	0	1	A	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8
12-Aug	0	A	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
13-Aug	A	1	0	0	0	0	1	1	1	1	C	C	C	C	C	C	C	0	0	0	0	0	0	A	--	0.7
14-Aug	1	1	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	A	1	0.4	0.9
15-Aug	1	0	1	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	A	1	0	0.4	0.9
16-Aug	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.8
17-Aug	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.3	0.7
18-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	0.3	0.4
19-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	0.2	0.4
20-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	0.3	0.5
21-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	0.4
22-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	0.2	0.4
23-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	0.3	0.5
24-Aug	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0.2	0.6
25-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	0.2	0.7
26-Aug	0	0	0	0	0	0	1	1	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
27-Aug	0	0	0	0	0	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
28-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	0.2	0.4
29-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	0.3	0.5
30-Aug	0	0	0	0	0	0	A	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
31-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	0.3	0.5
	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	Diurnal Average	
	0.9	0.8	0.9	0.8	0.7	0.5	0.7	0.8	1.1	0.7	0.7	0.8	0.7	0.4	0.6	0.5	0.4	0.4	0.4	0.6	0.4	0.4	0.7	0.9	Diurnal Maximum	

C - Calibration D - DAS Failure A - Automated Daily Zero Span

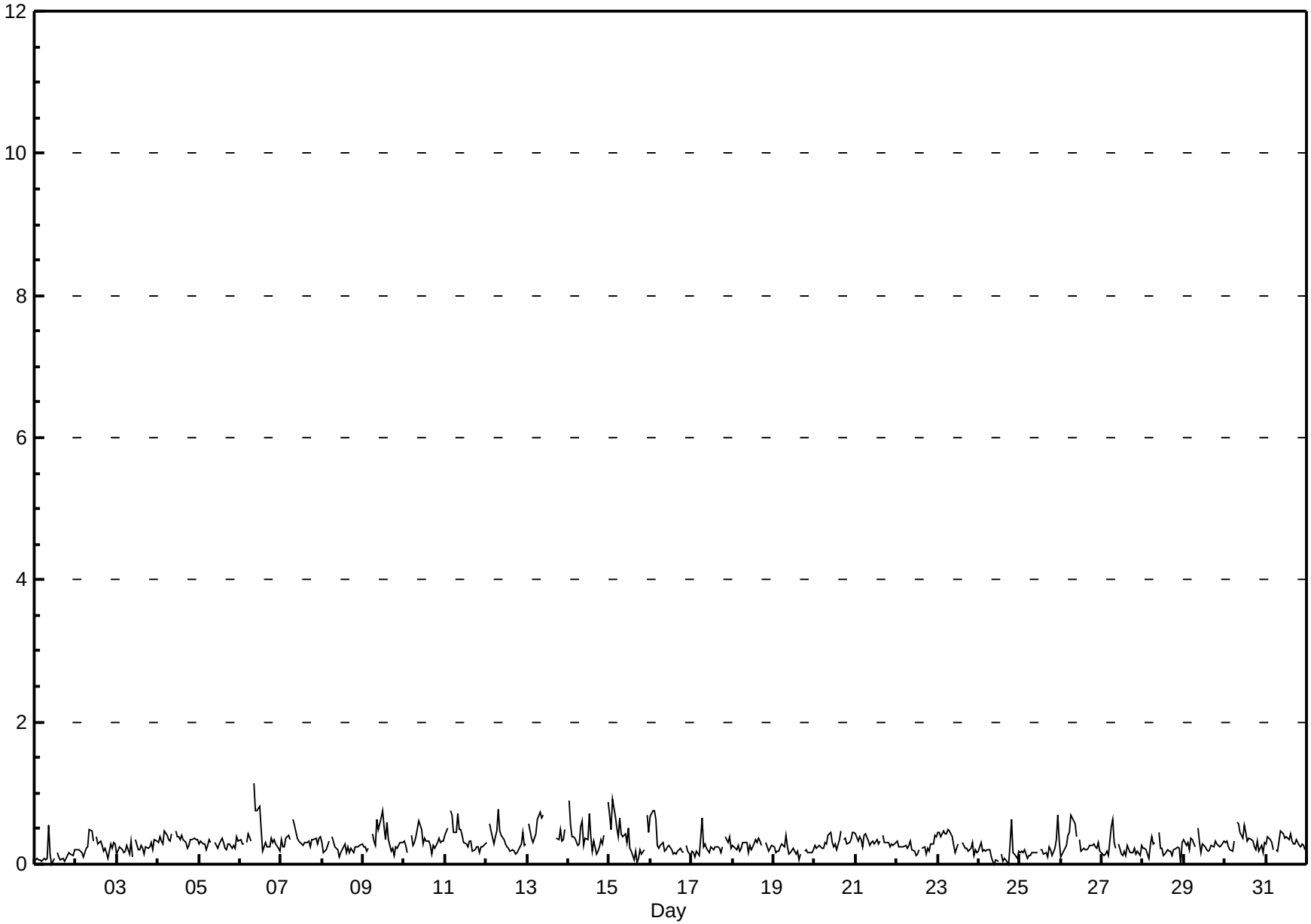
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - August 2013



Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - August 2013

Maximum Value: 2.0 ppb on Aug 6 09:00

Maximum Daily Average: 1.2 ppb on Aug 14

Minimum Value: 1 ppb on Aug 1 17:00

Maximum Diurnal Average: 1.2 ppb at hour 9

Monthly Average: 1.03 ppb

Minimum Daily Average: 0.9 ppb on Aug 1

Minimum Diurnal Average: 0.9 ppb at hour 17

Percentiles: $P_1 = 0.7$ $P_{10} = 0.8$ $Q_1 = 0.9$ Median = 1.0 $Q_3 = 1.1$ $P_{90} = 1.3$ $P_{99} = 1.8$

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	39
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	1	2	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.9	1.6
2-Aug	1	1	1	1	1	1	1	1	2	2	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.7
3-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	1.4
4-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	1.0	1.3
5-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	1.0	1.4
6-Aug	1	1	1	D	1	1	1	A	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1.1	2.0
7-Aug	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.6
8-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	1.0	1.2
9-Aug	1	1	1	1	A	1	1	1	2	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1.2	1.7
10-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	1.1	1.3
11-Aug	1	1	A	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.9
12-Aug	1	A	2	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.9
13-Aug	A	1	1	1	1	1	1	2	1	1	C	C	C	C	C	C	C	1	1	1	1	1	1	A	--	1.7
14-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1.2	1.8
15-Aug	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1.1	1.9
16-Aug	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1.1	1.8
17-Aug	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1.0	1.7
18-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1.0	1.2
19-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	0.9	1.2
20-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	1.0	1.4
21-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	1.0	1.3
22-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
23-Aug	1	1	1	1	1	1	2	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1.1	1.5
24-Aug	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	2	1	1	1	1	0.9	1.9
25-Aug	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	2	1	0.9	1.5
26-Aug	1	1	1	1	1	1	2	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.7
27-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	1.0	1.5
28-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	0.9	1.3
29-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	1.0	1.3
30-Aug	1	1	1	1	1	1	A	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.6
31-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	1.0	1.2
Diurnal Average	1.0	1.1	1.0	1.0	1.0	1.0	1.2	1.1	1.2	1.1	1.0	1.1	1.0	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
Diurnal Maximum	1.5	1.5	1.9	1.8	1.4	1.5	1.8	1.9	2.0	1.7	1.6	1.9	1.7	1.2	1.3	1.5	1.2	1.4	1.4	1.9	1.3	1.4	1.5	1.8		

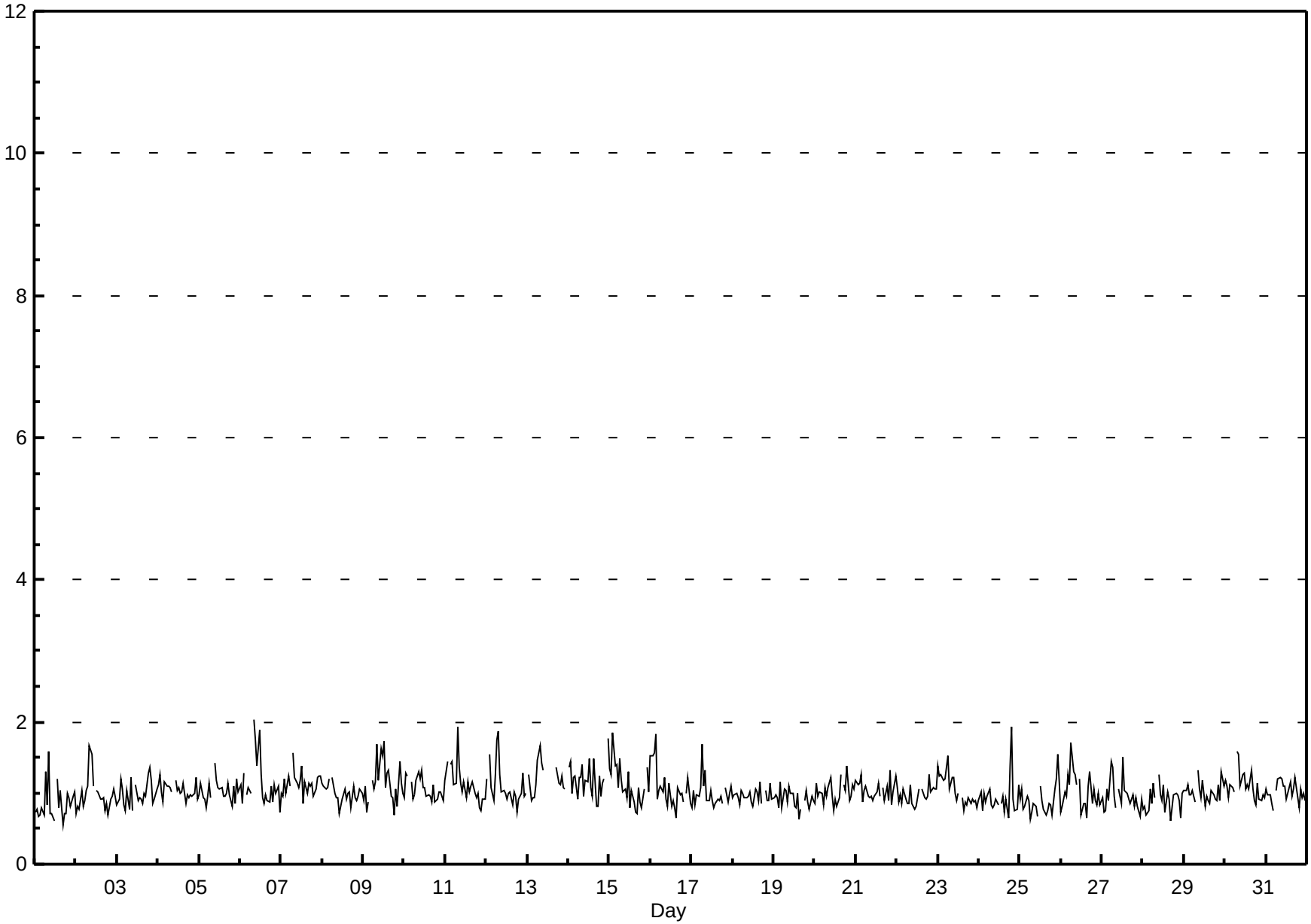
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - August 2013

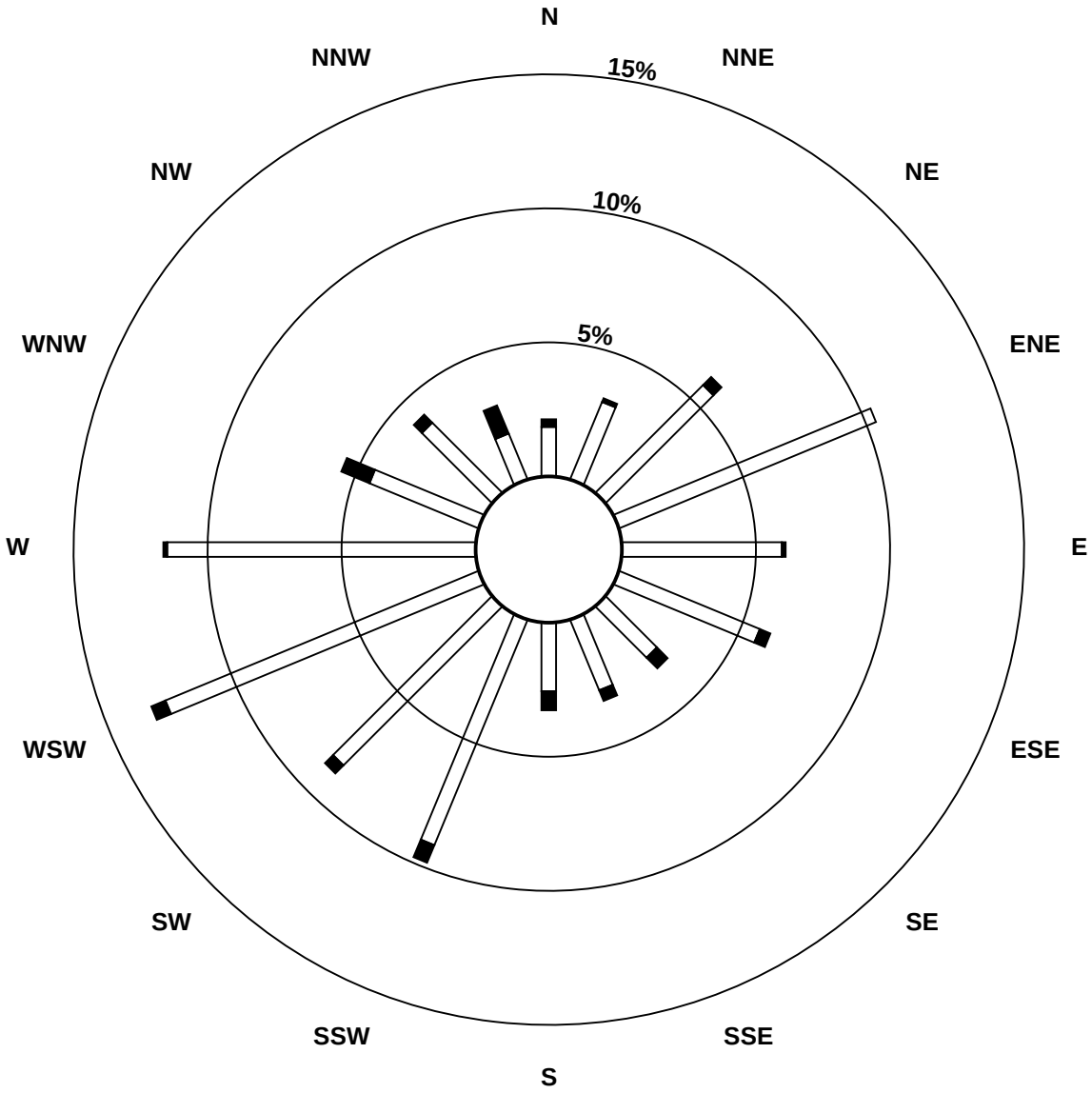


FOCUS AIR QUALITY MONITORING

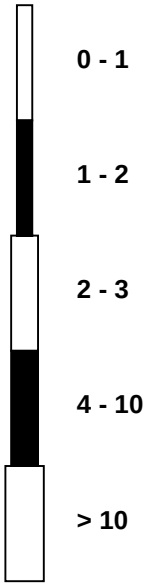
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - August 2013



Pollutant Classes (ppb)

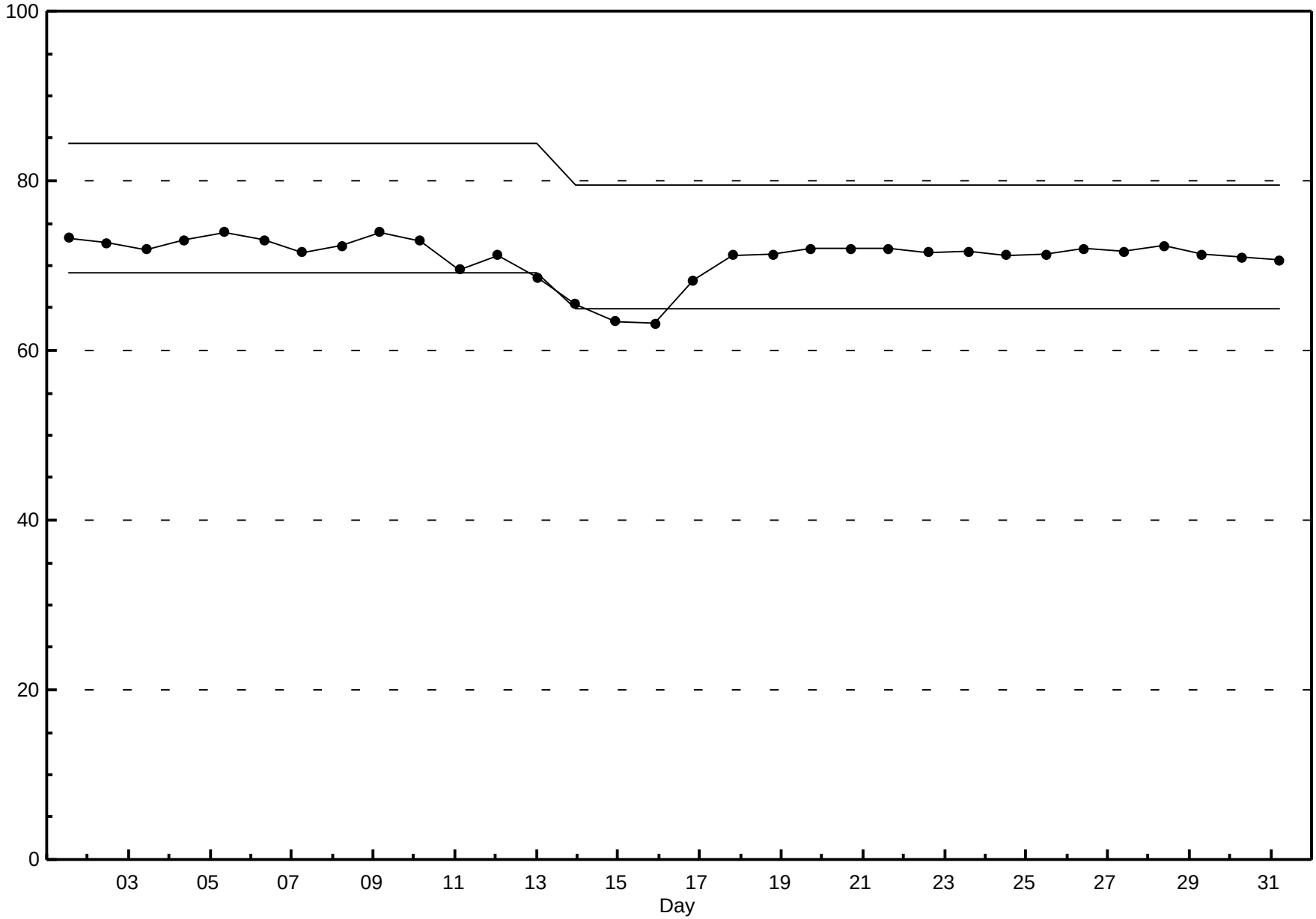


Peace Airshed Zone Association

Span Responses

Total Reduced Sulphur (TRS)

Evergreen Park - August 2013



Peace Airshed Zone Association

Hourly Averages

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

Evergreen Park - August 2013

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

Maximum Value: 58.0 $\mu g/m^3$ on Aug 20 10:00

Maximum Daily Average: 12.3 $\mu g/m^3$ on Aug 20

Minimum Value: 0 $\mu g/m^3$ on Aug 1 03:00

Maximum Diurnal Average: 7.9 $\mu g/m^3$ at hour 10

Monthly Average: 4.65 $\mu g/m^3$

Minimum Daily Average: 0.6 $\mu g/m^3$ on Aug 18

Minimum Diurnal Average: 2.0 $\mu g/m^3$ at hour 4

Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 1.1$ Median = 3.0 $Q_3 = 6.4$ $P_{90} = 10.6$ $P_{99} = 27.0$

Hours in Service:	744
Hours of Data:	713
Hours of Missing Data:	31
Hours of Calibration:	7
Percent Operational Time:	96.8

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	17	2	4	0	0	1	0	0	6	1	1	2	3	2	6	1	0	0	2.0	17.4
2-Aug	1	0	0	0	0	3	19	6	9	10	11	9	7	3	4	3	6	3	3	10	13	8	5	4	5.7	19.0
3-Aug	1	5	7	0	4	0	3	2	0	0	1	0	2	2	3	0	0	7	10	7	4	0	0	2	2.5	9.9
4-Aug	3	0	0	1	1	2	2	4	6	8	6	3	1	0	2	N	0	6	6	5	7	1	1	4	3.0	7.8
5-Aug	5	5	5	5	4	4	21	8	9	5	4	2	8	0	2	3	6	7	11	7	9	3	1	6	5.9	21.5
6-Aug	7	7	3	D	4	4	16	10	16	24	17	7	N	7	27	1	9	8	8	6	1	3	0	1	8.5	27.5
7-Aug	2	1	3	1	3	1	5	3	4	8	8	1	4	2	4	12	8	9	5	14	8	8	6	3	5.1	14.1
8-Aug	8	7	9	9	4	7	8	9	10	9	8	7	6	4	6	6	4	6	7	7	7	6	4	4	6.7	9.6
9-Aug	3	4	3	2	3	6	14	7	10	12	14	15	10	4	11	3	5	4	12	7	3	4	0	1	6.5	15.3
10-Aug	3	3	3	2	2	2	14	15	17	13	13	17	18	15	0	N	1	27	11	7	9	10	3	5	9.0	27.1
11-Aug	10	6	7	9	3	2	6	1	5	12	8	13	11	11	11	0	4	3	4	15	4	N	0	0	6.3	14.5
12-Aug	0	0	0	0	0	4	20	10	8	6	6	5	N	1	9	6	0	10	10	11	4	N	9	0	5.4	19.6
13-Aug	0	0	0	0	1	2	12	3	2	3	6	8	9	12	10	7	12	N	6	19	10	7	1	4	5.8	19.2
14-Aug	7	N	0	2	4	0	3	7	8	8	12	12	11	8	1	N	7	17	24	12	N	N	N	N	7.9	23.9
15-Aug	N	N	N	N	N	N	N	N	N	C	C	C	C	C	C	C	2	1	3	6	6	5	5	5	--	6.3
16-Aug	5	4	2	2	4	2	3	3	2	2	3	3	0	0	0	0	1	0	3	4	0	0	0	0	1.8	5.1
17-Aug	0	2	1	1	1	2	2	5	1	0	0	0	0	1	2	6	4	0	0	1	2	2	4	2	1.6	6.2
18-Aug	0	0	0	0	0	0	1	0	0	1	1	0	3	0	0	8	0	0	0	0	0	0	0	0	0.6	8.0
19-Aug	0	0	0	0	0	1	4	11	2	1	10	2	10	3	12	12	45	57	1	1	3	0	1	4	7.5	57.1
20-Aug	3	0	0	0	0	0	1	11	40	58	33	29	18	16	11	47	13	4	1	2	2	3	3	3	12.3	58.0
21-Aug	2	2	2	3	2	5	14	19	19	13	14	11	7	3	6	17	14	4	7	3	4	3	4	3	7.5	18.9
22-Aug	2	2	2	1	0	2	3	5	4	15	16	3	3	3	4	4	5	5	1	2	4	4	4	2	4.0	16.2
23-Aug	1	2	2	1	3	2	4	7	3	4	5	4	1	3	2	2	3	3	3	5	2	0	3	2	2.7	7.5
24-Aug	3	4	5	4	3	3	3	5	4	3	10	16	7	4	14	11	0	0	0	4	4	4	5	5	5.0	15.9
25-Aug	4	4	2	1	2	0	3	8	3	1	0	0	0	0	0	0	0	1	0	2	4	3	1	4	1.8	7.9
26-Aug	1	2	2	3	3	2	2	5	3	2	2	0	0	1	1	3	4	3	2	3	2	1	1	2	2.2	5.0
27-Aug	0	1	0	3	3	5	4	8	3	2	2	5	N	7	0	10	14	7	7	3	2	2	1	2	3.9	14.4
28-Aug	4	3	3	3	4	3	4	4	6	6	4	10	6	1	0	0	1	1	3	4	3	2	3	4	3.4	10.1
29-Aug	3	3	5	3	3	4	4	4	4	2	2	2	4	4	4	2	1	3	4	3	4	3	2	3	3.2	4.6
30-Aug	4	3	3	2	3	5	3	7	9	8	5	2	2	1	1	1	1	1	0	0	0	0	0	0	2.6	8.7
31-Aug	0	0	0	0	0	0	0	3	1	0	0	0	0	0	1	0	0	0	2	6	1	2	2	3	0.9	5.8
	2.7	2.4	2.2	2.0	2.1	2.6	7.2	6.4	7.0	7.9	7.4	6.2	5.4	3.9	5.1	6.0	5.5	6.6	5.0	5.7	4.4	3.1	2.3	2.5	Diurnal Average	
	10.0	6.9	8.6	9.4	4.2	6.7	21.5	18.6	39.9	58.0	32.7	29.2	18.0	15.7	27.5	46.5	44.8	57.1	23.9	19.2	12.8	9.7	9.3	6.2	Diurnal Maximum	

C - Calibration D - DAS Failure N - Not Valid

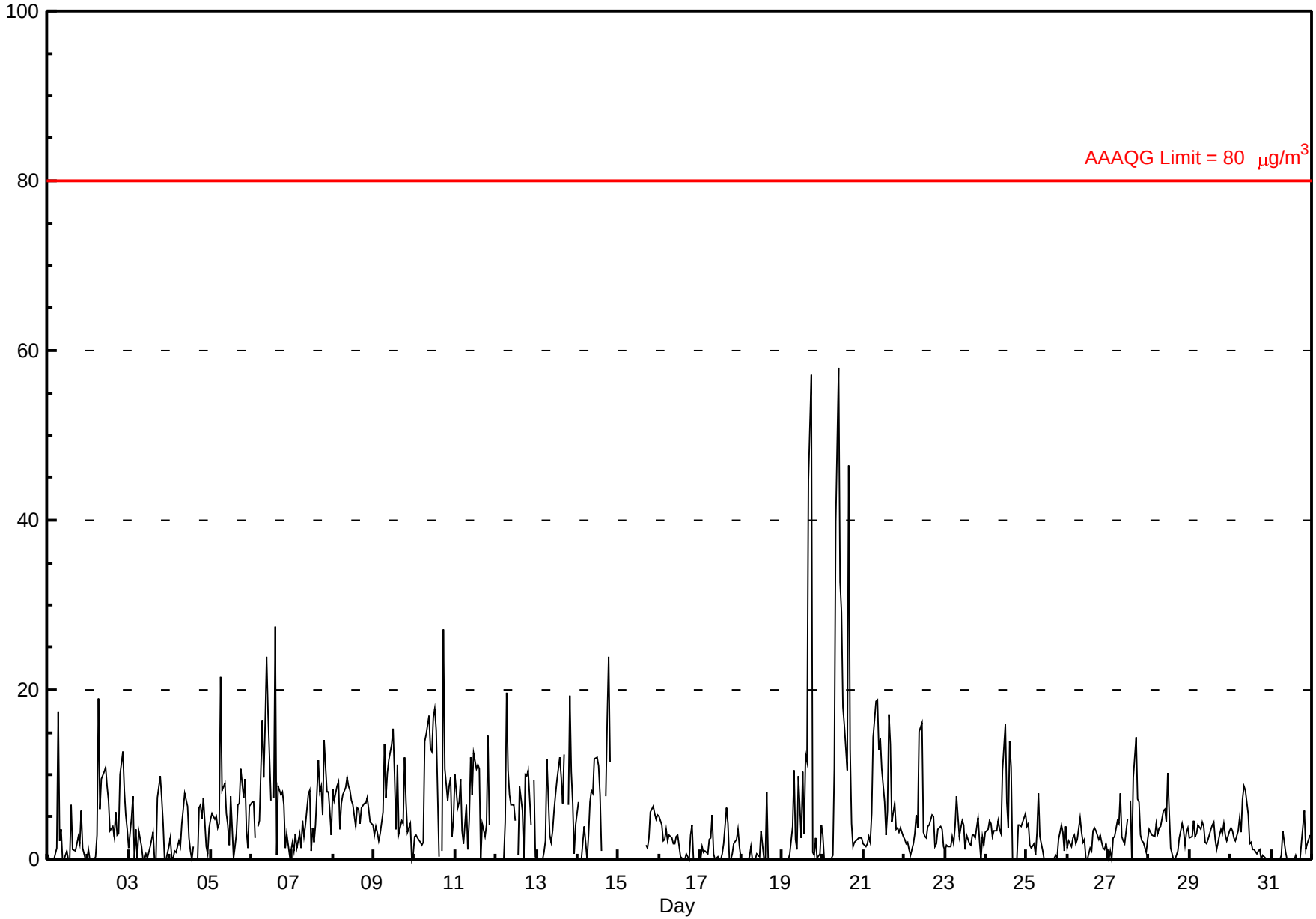
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

Hourly Averages

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

Evergreen Park - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

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

Evergreen Park - August 2013

Maximum Value: 159.0 $\mu g/m^3$ on Aug 19 18:00

Maximum Daily Average: 23.0 $\mu g/m^3$ on Aug 11

Minimum Value: 0 $\mu g/m^3$ on Aug 13 04:00

Minimum Daily Average: 3.4 $\mu g/m^3$ on Aug 18

Maximum Diurnal Average: 19.2 $\mu g/m^3$ at hour 18

Minimum Diurnal Average: 4.9 $\mu g/m^3$ at hour 4

Monthly Average: 11.93 $\mu g/m^3$

Percentiles: P_1 = 0.0 P_{10} = 2.1 Q_1 = 4.0 Median = 7.5 Q_3 = 16.6 P_{90} = 25.6 P_{99} = 56.4

Hours in Service:	744
Hours of Data:	721
Hours of Missing Data:	23
Hours of Calibration:	7
Percent Operational Time:	97.9

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	4	3	3	2	2	6	32	21	14	9	10	17	8	16	23	13	16	11	15	7	13	4	5	1	10.6	31.8
2-Aug	3	1	2	2	3	8	31	30	15	21	17	25	24	15	21	15	18	13	14	16	17	11	9	8	14.1	31.1
3-Aug	5	9	13	1	13	6	7	7	6	12	12	9	11	18	16	7	8	16	15	14	12	3	4	6	9.5	18.2
4-Aug	5	4	3	3	4	4	5	9	13	17	14	11	25	16	12	11	10	30	30	34	19	6	7	8	12.5	33.6
5-Aug	8	9	7	11	9	7	42	23	19	21	18	14	21	11	16	18	18	25	24	13	35	9	6	12	16.5	41.6
6-Aug	12	13	7	D	15	13	31	28	29	32	32	27	20	21	61	15	25	18	24	34	7	9	8	7	21.2	61.4
7-Aug	10	5	6	4	7	4	9	7	17	24	30	22	14	18	16	21	17	19	18	22	18	13	8	7	14.0	30.4
8-Aug	14	11	11	12	6	9	10	12	15	14	13	17	15	19	19	14	19	16	17	12	10	8	5	6	12.6	19.2
9-Aug	5	8	6	6	6	11	25	25	17	17	23	32	25	18	25	26	23	21	22	12	10	8	10	5	16.2	31.9
10-Aug	6	6	7	8	7	8	29	22	34	40	21	33	35	31	21	24	17	64	23	21	34	19	14	11	22.3	64.3
11-Aug	18	32	30	18	9	9	22	20	22	23	16	31	36	32	43	43	25	26	33	34	18	3	5	2	23.0	43.4
12-Aug	1	1	5	8	8	12	51	48	21	14	18	17	19	21	24	26	15	23	23	22	14	18	20	2	18.0	51.2
13-Aug	4	1	3	0	5	9	27	18	9	12	13	16	21	24	30	24	34	N	25	27	17	14	11	16	15.6	34.0
14-Aug	13	12	4	9	7	1	8	14	22	17	23	24	26	24	24	12	39	41	58	46	N	N	N	N	21.2	58.5
15-Aug	N	N	N	N	N	N	N	N	N	C	C	C	C	C	C	C	3	4	6	10	8	7	7	8	--	9.7
16-Aug	8	10	5	4	8	4	5	5	3	3	6	8	4	13	0	1	2	2	5	12	4	1	1	1	4.8	13.1
17-Aug	1	4	3	3	2	5	4	9	4	1	3	1	2	2	9	25	14	0	0	3	4	4	6	3	4.6	25.0
18-Aug	2	1	0	1	0	2	5	5	1	2	2	1	8	1	1	29	13	0	0	2	1	1	1	0	3.4	28.9
19-Aug	0	1	1	1	1	3	8	20	15	3	31	15	29	8	22	15	113	159	3	2	10	5	4	8	19.8	159.0
20-Aug	11	1	1	2	1	2	3	44	56	81	52	39	24	26	21	73	48	7	4	6	4	4	4	5	21.6	81.4
21-Aug	4	3	4	5	4	11	19	25	30	21	37	24	20	6	25	39	39	15	15	9	7	6	6	5	15.7	38.9
22-Aug	4	4	3	3	2	5	6	6	6	25	29	6	5	5	8	7	8	11	3	8	8	6	5	3	7.3	29.5
23-Aug	3	3	4	3	5	4	8	11	5	6	8	7	2	6	5	4	7	5	5	7	6	3	5	3	5.1	11.4
24-Aug	5	6	7	7	4	8	8	8	6	5	29	36	24	9	42	44	6	0	3	12	7	6	7	7	12.3	44.3
25-Aug	8	8	3	4	4	2	6	22	5	5	0	0	1	1	2	4	3	6	3	6	6	5	2	7	4.6	22.3
26-Aug	3	3	4	5	6	7	4	10	7	5	5	3	2	3	5	5	6	10	5	4	3	3	3	4	4.7	10.2
27-Aug	1	4	1	4	4	7	6	18	6	6	5	17	N	28	10	32	27	15	14	5	5	4	3	5	9.9	32.1
28-Aug	6	5	5	5	6	5	6	5	8	8	13	19	16	4	2	2	5	6	7	7	5	3	5	5	6.5	18.7
29-Aug	5	5	7	5	4	5	5	8	6	3	4	5	7	7	7	5	5	5	6	6	6	5	4	7	5.6	7.7
30-Aug	7	6	5	5	6	7	6	10	12	11	11	4	4	6	4	2	3	3	3	2	2	1	1	1	4.9	11.9
31-Aug	0	1	0	2	1	1	2	9	6	4	3	3	3	2	2	2	1	3	12	14	3	4	4	4	3.6	13.8
	5.8	6.0	5.3	4.9	5.2	6.1	14.4	16.6	14.3	15.4	16.6	16.1	15.4	13.8	17.1	18.6	19.0	19.2	14.1	13.8	10.4	6.5	6.1	5.5	Diurnal Average	
	18.4	31.8	29.9	18.0	15.1	13.1	51.2	48.0	56.3	81.4	51.9	39.4	35.8	32.4	61.4	72.9	112.6	159.0	58.5	46.0	34.5	18.7	19.7	16.3	Diurnal Maximum	

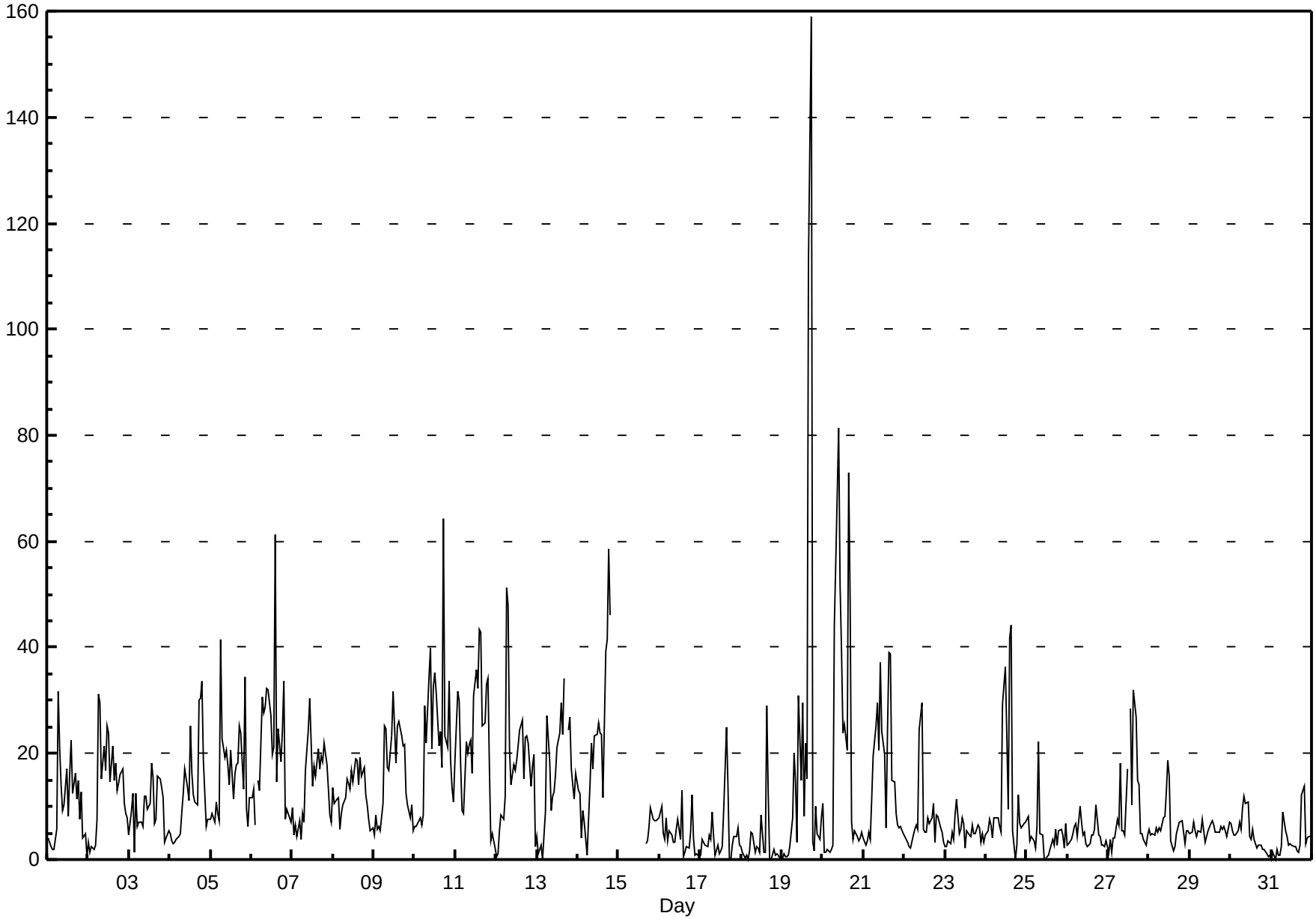
C - Calibration D - DAS Failure N - Not Valid

Peace Airshed Zone Association

Hourly Maximums

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

Evergreen Park - August 2013

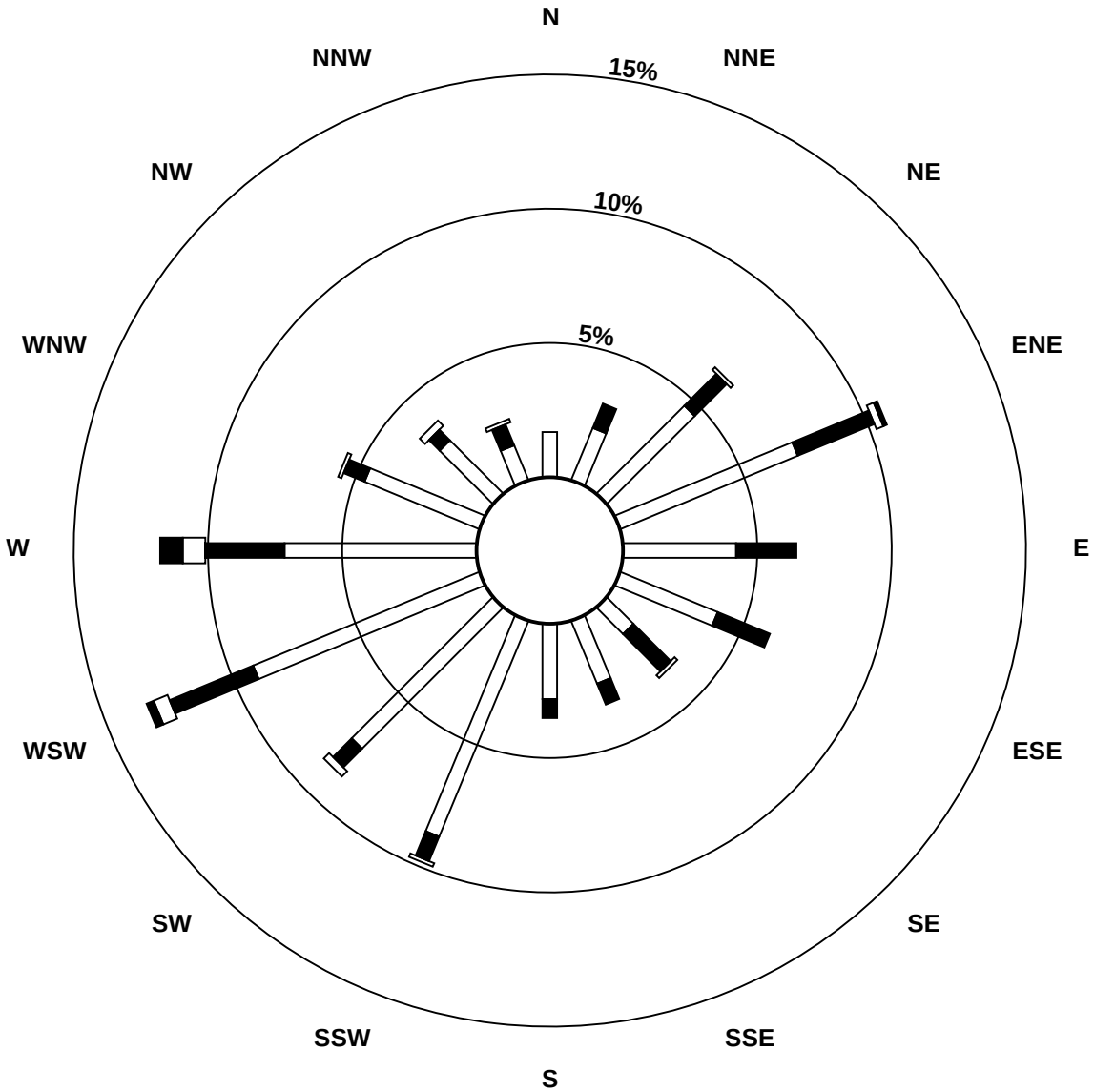


FOCUS AIR QUALITY MONITORING

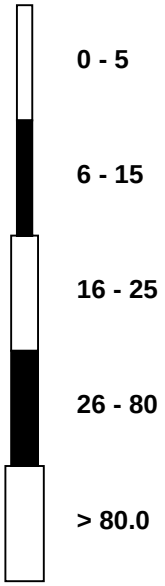
Pollutant Rose

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

Evergreen Park - August 2013



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



Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Evergreen Park - August 2013

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

Maximum Value: 27.6 ^{o}C on Aug 10 17:00

Maximum Daily Average: 19.7 ^{o}C on Aug 2

Minimum Value: 6 ^{o}C on Aug 26 05:00

Minimum Daily Average: 13.1 ^{o}C on Aug 26

Maximum Diurnal Average: 22.2 ^{o}C at hour 17

Minimum Diurnal Average: 12.2 ^{o}C at hour 6

Monthly Average: 17.10 ^{o}C

Percentiles: P_1 = 7.8 P_{10} = 11.7 Q_1 = 13.9 Median = 16.7 Q_3 = 20.4 P_{90} = 23.3 P_{99} = 26.2

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	15	13	13	12	11	11	13	16	19	21	22	23	24	25	25	25	25	25	25	24	22	20	18	17	19.3	25.5
2-Aug	15	14	13	12	12	11	13	16	18	20	22	23	24	25	26	26	26	26	26	25	22	20	19	18	19.7	26.2
3-Aug	17	17	16	17	16	14	14	15	16	17	19	20	21	21	22	23	23	22	21	20	19	18	17	16	18.4	23.0
4-Aug	15	15	14	13	13	12	12	13	14	17	19	20	21	22	22	23	24	24	22	23	21	18	16	15	17.9	24.2
5-Aug	14	13	12	12	11	11	12	14	16	18	21	23	24	25	26	26	27	26	25	23	21	19	16	15	18.8	26.5
6-Aug	14	13	13	D	13	13	14	16	17	20	22	24	25	25	25	24	23	22	21	19	18	18	17	16	18.8	25.5
7-Aug	15	15	15	15	15	15	15	16	16	17	18	19	20	20	20	19	18	18	19	19	18	17	16	16	17.1	19.8
8-Aug	15	15	14	14	14	14	14	14	15	16	17	18	18	20	20	20	21	21	20	19	17	16	15	14	16.7	20.6
9-Aug	14	13	12	12	11	10	11	13	15	16	18	20	21	22	23	24	25	24	23	22	21	19	18	16	17.7	24.9
10-Aug	15	14	14	13	13	12	12	14	15	17	19	22	23	25	26	27	28	27	26	24	23	21	19	17	19.4	27.6
11-Aug	17	19	19	18	17	17	17	17	18	18	19	19	20	20	21	21	22	22	23	23	21	19	18	17	19.2	22.9
12-Aug	16	15	14	14	13	13	14	16	17	17	19	21	22	23	24	24	24	24	23	22	21	19	18	17	18.7	24.3
13-Aug	17	16	16	15	15	15	15	15	15	16	17	18	19	20	22	22	21	21	22	21	20	19	18	18	18.0	22.1
14-Aug	17	17	15	14	14	14	14	15	16	17	18	20	22	24	25	26	26	26	25	24	22	21	20	19	19.7	26.5
15-Aug	18	17	18	17	17	17	18	18	16	16	17	19	21	23	24	24	25	25	25	23	21	19	18	17	19.7	25.5
16-Aug	17	16	16	16	16	16	15	15	15	15	16	19	20	21	23	23	23	22	20	19	16	15	14	14	17.5	23.3
17-Aug	12	12	11	10	10	10	11	13	16	18	20	21	22	22	23	23	23	23	23	22	20	17	17	15	17.2	23.3
18-Aug	15	15	13	12	12	11	12	15	16	18	19	20	18	18	17	16	17	18	18	18	16	15	14	13	15.6	19.9
19-Aug	12	12	11	11	12	11	11	11	13	14	15	17	18	18	19	19	18	14	13	13	12	12	12	12	13.7	19.4
20-Aug	11	11	11	11	10	10	10	11	13	14	14	15	16	16	16	16	16	16	16	15	15	14	14	13	13.5	16.0
21-Aug	13	13	13	12	12	12	12	12	13	15	16	17	18	19	21	21	22	22	22	20	17	15	13	12	15.9	22.2
22-Aug	12	11	10	8	7	7	8	10	11	12	15	17	19	20	22	23	23	24	24	22	20	18	17	17	15.7	24.0
23-Aug	16	15	13	12	11	11	11	14	15	19	21	23	23	24	25	25	25	24	23	21	21	19	17	16	18.4	24.8
24-Aug	16	15	15	14	14	14	13	14	16	18	19	21	22	22	22	23	23	22	22	20	18	16	15	14	17.9	22.7
25-Aug	14	14	14	13	13	12	11	12	13	14	15	17	18	19	20	20	21	21	20	20	16	13	12	10	15.4	20.6
26-Aug	9	8	7	6	6	7	8	10	12	14	16	18	18	18	18	18	17	18	16	15	15	14	14	13	13.1	18.3
27-Aug	13	12	11	11	11	12	12	11	12	13	15	18	19	19	20	22	22	21	21	20	17	14	12	11	15.4	21.9
28-Aug	10	9	8	8	8	9	9	10	11	12	15	17	19	19	21	21	21	21	20	19	17	15	14	13	14.4	21.3
29-Aug	12	12	13	12	12	13	13	14	14	13	15	16	16	17	19	19	20	20	19	18	17	16	15	15	15.4	20.0
30-Aug	14	14	14	14	13	13	13	14	14	14	14	14	15	15	16	15	16	17	17	17	16	16	16	15	14.8	17.2
31-Aug	14	14	14	13	13	11	11	13	16	17	18	19	20	21	22	23	23	23	23	21	18	16	14	13	17.1	23.3
	14.4	13.8	13.3	12.7	12.4	12.2	12.5	13.7	14.9	16.3	17.8	19.2	20.2	20.9	21.6	22.1	22.2	21.9	21.3	20.3	18.7	17.0	15.8	15.0	Diurnal Average	
	18.1	18.7	18.8	17.7	17.4	17.4	17.5	17.6	18.7	20.8	22.3	24.0	25.0	25.5	26.0	27.2	27.6	27.0	26.1	24.6	23.4	20.8	19.6	19.1	Diurnal Maximum	

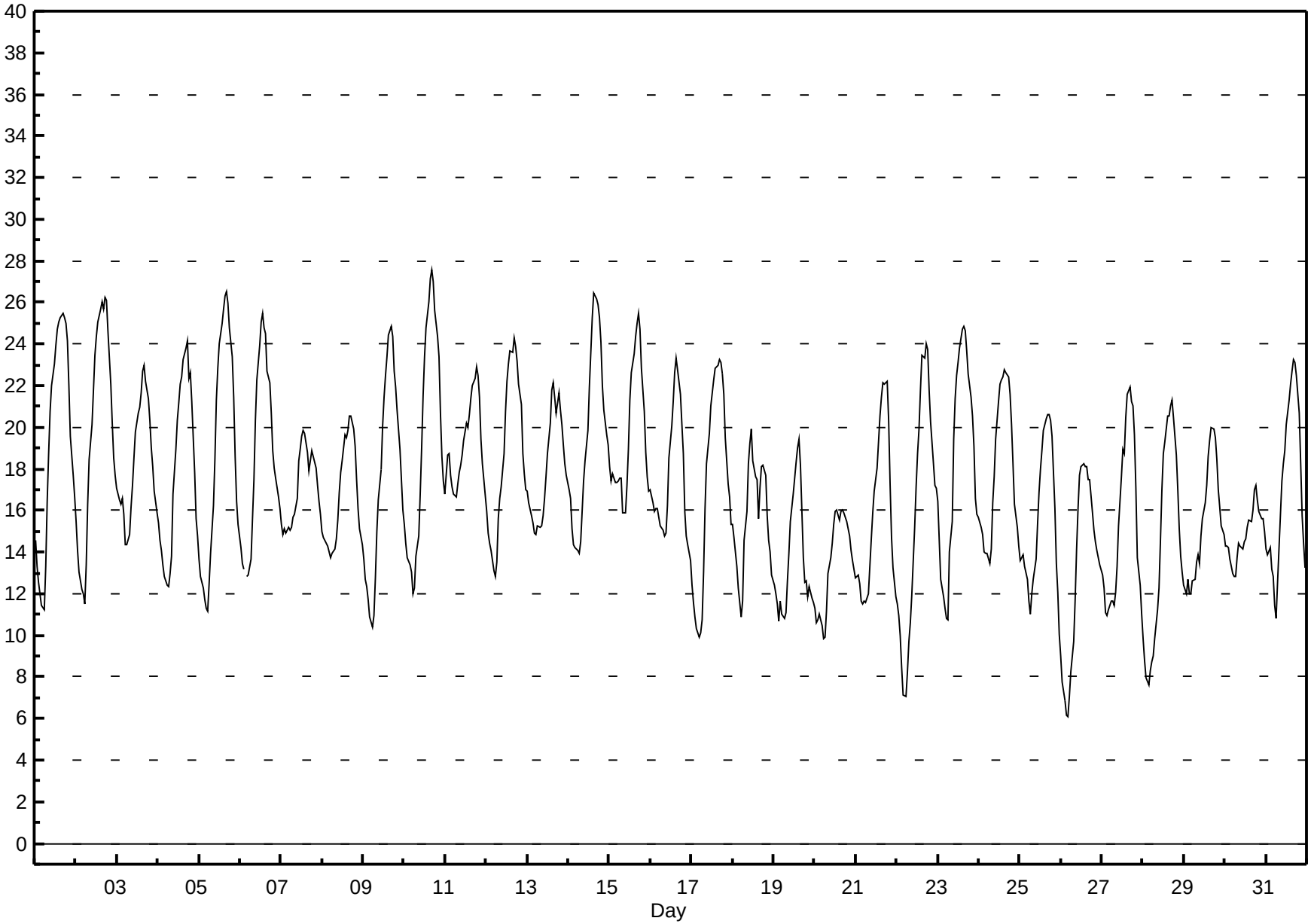
D - DAS Failure

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Evergreen Park - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Evergreen Park - August 2013

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

Maximum Value: 97.3 % on Aug 13 10:00 Maximum Daily Average: 88.2 % on Aug 30

Minimum Value: 25 % on Aug 21 16:00 Minimum Daily Average: 44.6 % on Aug 21

Maximum Diurnal Average: 88.7 % at hour 7 Minimum Diurnal Average: 48.2 % at hour 17

Monthly Average: 70.21 % Percentiles: P_1 = 32.2 P_{10} = 41.2 Q_1 = 54.7 Median = 73.1 Q_3 = 87.7 P_{90} = 93.1 P_{99} = 95.3

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) 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	87	91	93	93	94	94	91	79	70	61	52	49	43	39	43	43	43	43	44	46	57	65	70	71	65.0	93.7
2-Aug	76	81	86	89	91	92	89	79	70	65	60	54	52	47	43	42	43	41	40	47	60	70	77	79	65.6	92.4
3-Aug	80	83	83	76	78	90	93	92	83	76	70	64	61	62	59	52	47	52	62	71	77	79	78	83	72.9	93.3
4-Aug	86	89	90	91	93	94	93	91	89	80	71	65	60	54	54	45	41	43	54	52	63	78	84	88	72.9	93.6
5-Aug	91	92	92	93	95	95	94	89	80	70	60	53	48	43	37	35	37	39	45	52	64	77	85	87	68.9	95.0
6-Aug	90	93	94	D	95	95	94	88	79	65	59	51	40	40	48	48	55	61	67	78	81	82	86	87	72.9	95.0
7-Aug	91	94	94	95	95	95	95	94	92	87	78	69	64	63	64	70	78	77	75	80	82	86	88	86	83.0	94.9
8-Aug	88	87	90	90	89	89	88	88	87	83	77	73	71	65	65	63	59	59	61	65	71	76	79	83	77.0	90.4
9-Aug	85	89	90	92	93	94	94	88	80	75	71	65	60	54	51	47	46	50	59	65	70	78	83	88	73.7	94.5
10-Aug	90	92	93	94	94	95	95	94	93	84	75	65	60	56	49	38	34	46	54	59	62	77	83	87	73.7	94.7
11-Aug	90	79	76	89	92	94	93	91	87	90	90	90	85	90	89	84	78	73	70	75	80	87	88	90	85.4	93.7
12-Aug	90	93	93	93	93	94	94	88	83	81	77	68	58	52	55	57	55	58	64	72	76	79	84	92	77.0	94.1
13-Aug	90	92	94	95	95	96	96	96	97	97	97	92	84	78	71	70	73	75	70	77	82	85	84	83	86.1	97.3
14-Aug	89	84	88	91	91	92	92	92	88	82	78	75	67	61	53	40	39	45	55	62	69	73	78	79	73.5	92.2
15-Aug	85	88	86	87	85	83	84	85	86	89	84	77	60	51	47	46	42	40	45	58	69	81	83	87	72.0	88.6
16-Aug	87	88	90	88	80	85	89	91	92	94	91	76	64	55	49	44	48	55	65	67	79	83	84	89	76.4	93.7
17-Aug	92	93	94	94	95	95	95	89	71	60	52	44	41	41	39	38	35	34	37	43	52	61	66	70	63.8	95.0
18-Aug	67	68	76	78	81	85	80	68	64	57	55	50	60	64	64	75	66	58	49	50	57	60	60	62	64.8	85.3
19-Aug	62	62	63	66	61	64	66	67	63	59	56	51	46	40	35	32	36	53	59	60	64	56	58	60	55.7	66.5
20-Aug	61	64	63	59	62	64	63	57	50	46	43	39	36	36	39	39	39	41	43	44	47	51	57	56	50.0	64.5
21-Aug	57	55	57	61	59	58	58	56	51	45	41	39	35	33	29	25	25	28	25	28	40	50	57	62	44.6	61.5
22-Aug	63	66	72	79	83	84	82	80	76	69	59	53	53	51	45	40	41	40	40	44	49	58	64	61	60.5	83.6
23-Aug	63	70	79	84	87	89	89	78	70	55	48	46	42	42	41	41	42	49	54	59	57	54	68	72	61.6	89.2
24-Aug	72	75	77	81	83	83	86	83	73	68	56	48	40	35	36	35	33	35	40	48	59	69	74	80	61.2	85.5
25-Aug	82	85	81	82	90	93	94	94	90	81	69	55	50	45	41	35	34	33	34	41	58	70	73	80	66.2	94.4
26-Aug	84	87	90	91	92	92	92	88	78	66	58	54	53	57	61	67	70	66	72	79	82	84	88	90	76.6	92.1
27-Aug	92	93	94	95	95	96	96	97	97	94	77	64	54	53	47	33	32	36	34	39	49	67	71	78	70.1	97.3
28-Aug	83	87	89	90	90	90	91	89	85	82	69	57	50	48	42	41	38	39	45	62	67	76	82	85	69.8	90.6
29-Aug	87	88	85	93	95	95	96	95	94	93	88	84	82	77	72	67	64	67	72	78	85	85	87	89	84.1	95.6
30-Aug	91	91	91	93	94	95	95	95	93	93	94	94	93	91	86	87	84	82	74	78	84	83	79	80	88.2	94.8
31-Aug	80	81	79	84	86	90	92	88	73	64	57	54	48	44	41	38	37	38	41	46	56	66	70	74	63.6	92.4
	81.6	83.1	84.5	86.2	87.3	88.7	88.7	85.4	80.0	74.6	68.1	61.9	56.9	53.7	51.4	49.0	48.2	50.2	53.2	58.8	66.1	72.5	76.5	79.4	Diurnal Average	
	91.6	93.9	94.1	94.7	95.3	95.8	96.5	97.1	97.3	97.3	96.7	94.1	93.0	90.7	89.0	87.2	84.5	81.6	74.8	79.5	84.6	87.3	88.2	91.9	Diurnal Maximum	

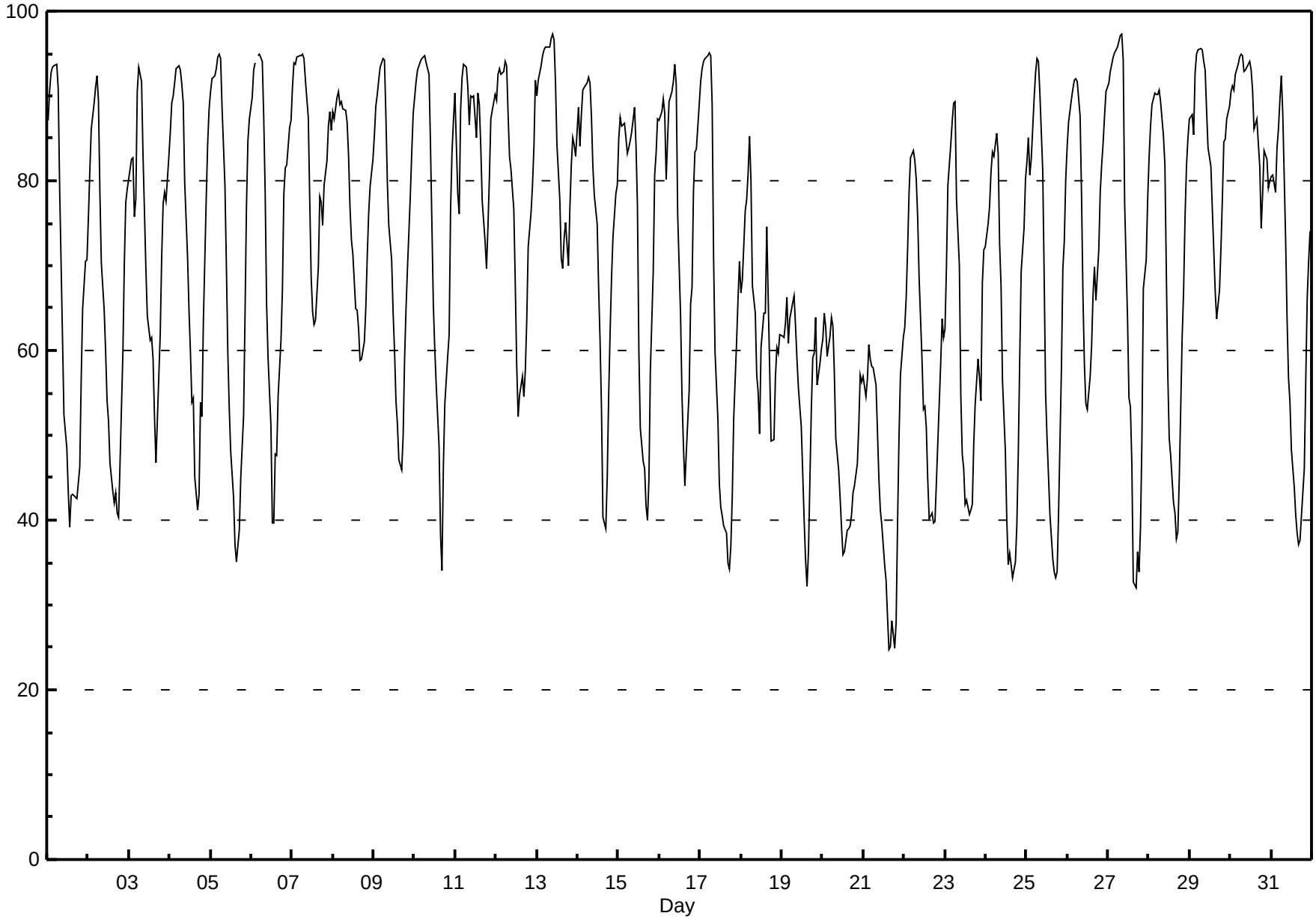
D - DAS Failure

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Evergreen Park - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Evergreen Park - August 2013

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1 Spd	1	1	2	1	0	0	1	2	3	5	10	8	10	6	10	10	10	13	11	10	7	6	6	5	5.3	13.2
Dir	89	47	46	35	77	19	53	130	135	136	147	129	116	127	101	96	93	91	96	96	76	67	66	78	100.5	91.0
2 Spd	3	2	2	2	1	2	3	4	7	5	7	7	9	9	8	8	8	10	8	6	4	4	5	5	4.8	10.0
Dir	65	66	66	63	52	53	68	98	143	134	128	136	100	113	112	89	74	84	89	66	53	62	49	50	91.6	83.9
3 Spd	4	4	15	18	3	4	5	9	11	9	8	10	4	1	1	6	9	8	10	10	13	8	8	4	5.1	18.1
Dir	69	56	343	12	26	177	287	286	280	326	324	275	344	7	32	245	277	303	270	274	259	260	265	226	297.7	11.8
4 Spd	6	6	4	6	7	10	10	11	9	8	5	8	9	4	8	8	6	4	4	1	1	0	1	0	3.7	10.6
Dir	232	244	286	297	259	263	264	268	257	254	259	277	306	360	27	2	27	74	338	323	135	85	56	205	286.5	267.5
5 Spd	0	0	1	3	2	2	6	8	9	7	5	6	5	6	8	5	7	4	4	4	0	0	1	1	3.1	9.3
Dir	317	330	212	208	210	214	234	261	252	256	220	203	200	191	238	265	236	188	135	107	91	21	41	226	224.5	252.0
6 Spd	1	2	1	D	2	1	3	4	3	1	3	6	7	6	21	25	4	4	6	4	5	3	5	2	1.1	25.3
Dir	55	57	55	D	320	142	133	207	321	201	300	187	153	193	245	261	55	69	12	78	81	78	115	6	225.0	261.1
7 Spd	5	3	1	1	2	1	1	3	5	2	3	6	8	9	7	10	6	4	4	2	2	1	3	6	3.2	10.0
Dir	55	105	289	116	289	226	53	310	47	134	81	71	62	95	102	51	49	54	70	32	26	62	75	75	67.3	51.3
8 Spd	5	4	3	5	6	6	7	7	7	9	10	11	10	11	13	13	15	15	13	11	10	11	9	8	8.6	15.2
Dir	65	71	60	69	83	84	91	100	95	104	108	116	89	111	109	112	126	137	130	114	109	109	109	107	107.4	136.7
9 Spd	5	5	4	4	3	3	3	6	5	2	6	4	3	4	6	5	9	8	5	5	6	4	3	3	3.6	9.1
Dir	98	83	73	73	71	73	76	102	177	222	216	135	162	144	103	110	141	111	81	84	88	75	81	63	106.6	141.0
10 Spd	2	3	2	2	0	1	0	1	4	7	6	2	4	6	5	7	8	8	8	5	2	0	0	1	0.7	8.2
Dir	65	70	60	62	239	1	319	29	243	237	262	273	277	278	308	343	352	70	104	116	103	259	83	42	347.7	351.5
11 Spd	2	6	3	2	1	4	4	6	12	3	5	5	4	3	3	5	6	3	1	1	1	1	2	3	2.0	11.8
Dir	14	41	15	42	107	210	333	299	325	187	318	48	51	78	56	350	46	64	27	32	63	354	205	27	11.6	325.4
12 Spd	2	3	2	0	0	3	1	2	4	4	2	6	7	7	7	8	8	7	4	3	3	11	1	3	2.5	10.9
Dir	37	19	5	7	333	213	315	330	298	323	77	77	63	81	75	78	73	96	86	45	85	158	323	20	70.4	158.2
13 Spd	1	2	1	1	0	1	1	6	6	4	4	2	2	3	4	6	5	4	4	9	5	3	8	3	1.3	8.6
Dir	359	173	44	193	234	27	160	206	226	214	163	132	147	83	61	95	151	152	255	253	257	263	308	163	201.5	252.8
14 Spd	1	10	5	2	4	2	2	1	4	2	3	1	1	4	4	8	7	2	1	0	2	1	1	0	1.0	10.2
Dir	336	328	197	273	282	149	108	125	205	233	224	177	129	156	167	245	299	334	71	139	26	17	326	20	251.7	328.4
15 Spd	0	1	1	2	1	2	6	9	21	9	8	5	6	3	5	5	5	1	3	3	1	1	0	1	2.4	20.6
Dir	2	3	336	336	103	206	292	243	267	316	326	333	326	314	224	211	222	195	105	103	72	335	172	214	279.5	267.2
16 Spd	5	3	5	3	14	8	11	8	9	5	3	6	8	8	6	5	10	11	7	23	13	13	7	1	6.5	22.7
Dir	303	259	301	289	217	223	252	227	215	168	156	219	233	276	242	280	297	311	282	263	228	216	226	183	246.5	262.8
17 Spd	1	1	1	1	1	2	3	1	9	17	21	28	26	22	22	22	23	23	17	9	5	2	3	6	9.9	27.7
Dir	180	193	106	162	65	209	193	251	233	223	244	244	255	266	275	285	278	280	285	285	262	205	211	212	259.5	244.0
18 Spd	8	4	1	5	1	2	6	12	10	14	15	20	20	11	10	18	22	28	26	26	20	18	19	16	12.8	27.7
Dir	233	214	199	202	199	210	213	224	213	219	221	226	245	287	306	276	250	231	240	246	227	230	225	221	236.5	230.6
19 Spd	15	11	8	14	18	12	10	8	13	9	9	18	29	30	36	40	40	51	30	24	21	25	25	34	21.4	51.2
Dir	227	233	234	227	241	234	246	258	223	248	280	291	265	257	260	257	270	254	243	234	232	250	247	252	251.2	253.6
20 Spd	34	28	30	33	26	28	29	33	39	59	62	62	53	53	43	42	39	32	25	23	18	9	4	7	33.4	62.1
Dir	246	240	249	252	249	246	247	254	262	259	264	262	267	267	266	263	263	266	262	263	260	286	282	289	259.5	262.0
21 Spd	10	14	14	12	16	12	12	14	23	29	22	16	20	16	15	23	17	13	13	12	1	1	2	4	13.5	29.5
Dir	263	255	258	246	252	252	245	249	254	260	259	246	258	263	262	259	266	287	283	270	211	151	200	198	257.8	259.6
22 Spd	4	5	5	0	1	2	3	2	4	8	5	7	5	7	9	12	14	9	14	9	7	4	3	9	5.1	13.7
Dir	202	199	210	70	155	205	209	221	214	244	223	216	194	200	228	250	248	273	292	297	281	291	292	252	244.8	248.0

FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Evergreen Park - August 2013

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
23 Spd	3	1	6	1	1	0	1	3	7	5	6	7	8	6	5	2	3	6	4	2	8	8	4	4	2.6	8.4
Dir	307	159	207	222	171	315	190	194	208	214	195	164	183	175	185	114	72	61	70	112	163	183	49	89	168.0	182.7
24 Spd	2	3	6	9	5	3	2	2	3	3	9	20	30	30	25	18	15	11	6	6	1	2	1	1	8.0	29.6
Dir	199	207	272	289	273	253	166	200	193	188	243	262	262	272	274	278	290	296	308	306	210	186	206	236	268.2	261.9
25 Spd	2	4	7	6	0	1	2	2	6	13	8	13	13	13	15	20	21	19	13	3	3	1	1	2	7.1	21.0
Dir	267	242	257	185	40	10	201	238	220	257	287	287	282	271	268	268	281	280	280	272	205	329	202	210	267.4	281.1
26 Spd	1	0	0	1	2	2	4	2	5	4	6	6	10	8	9	13	16	19	16	10	8	4	2	3	4.7	18.5
Dir	198	78	52	35	227	216	301	281	345	356	68	69	79	81	87	97	109	119	122	116	117	99	83	115	98.9	119.1
27 Spd	2	1	1	1	1	2	4	9	4	7	9	8	13	11	3	22	18	13	21	10	3	1	2	1	5.7	21.6
Dir	63	159	72	58	51	154	188	248	316	197	203	218	218	254	209	246	246	233	248	271	195	187	117	244	236.0	246.3
28 Spd	1	1	0	0	1	0	1	2	4	4	7	7	7	11	6	6	2	2	2	1	2	1	0	1	1.2	11.1
Dir	153	186	335	64	158	106	46	165	207	196	232	251	301	304	331	341	304	144	109	47	71	68	55	3	280.4	304.5
29 Spd	1	1	5	2	5	1	1	1	6	7	6	8	6	6	8	9	8	7	5	3	1	4	2	2	3.7	9.0
Dir	33	281	204	72	51	333	180	53	80	101	78	63	75	84	77	63	71	74	53	70	45	37	16	21	70.3	63.2
30 Spd	1	3	0	0	1	3	1	0	6	12	10	12	16	16	23	22	23	18	16	11	7	11	13	9	9.4	23.1
Dir	250	325	217	46	206	232	43	346	241	246	265	267	238	240	250	244	249	252	274	256	255	255	253	241	251.8	249.5
31 Spd	9	5	7	2	2	0	1	1	6	10	17	21	22	19	20	23	20	19	16	10	3	3	3	5	9.6	22.8
Dir	245	242	244	198	195	174	68	106	202	235	252	250	261	250	261	259	255	253	259	244	218	207	205	205	248.7	259.2
Spd	1.9	1.7	2.5	1.8	2.4	2.7	2.7	3.9	5.6	6.3	6.0	6.5	6.5	6.1	5.9	7.4	6.2	4.6	4.1	3.7	2.4	2.1	1.7	1.8	Diurnal Average	
Dir	245.7	246.3	261.0	261.7	243.6	231.7	243.5	245.1	245.6	242.7	247.7	246.4	254.4	254.4	257.9	264.3	264.9	252.5	257.6	252.8	219.6	223.0	236.5	230.6		
Spd	34.3	28.0	29.8	32.8	26.5	28.5	28.8	32.5	38.8	59.3	61.9	62.1	53.4	52.6	42.7	42.4	39.9	51.2	29.8	26.3	20.8	25.3	24.9	34.3	Diurnal Maximum	
Dir	246.5	239.7	249.4	252.3	249.3	245.6	246.8	254.3	262.2	258.9	264.1	262.0	267.4	267.3	265.6	262.8	269.8	253.6	242.9	246.3	231.7	249.7	247.0	251.9		

Maximum Speed Value: 62 km/h on Aug 20 12:00
Maximum Daily Speed Average: 33.4 km/h on Aug 20
Maximum Diurnal Speed Average: 7.4 km/h at hour 16

Minimum Speed Value: 0 km/h on Aug 30 04:00
Minimum Daily Speed Average: 0.7 km/h on Aug 14
Minimum Diurnal Speed Average: 1.7 km/h at hour 23

Monthly Average Velocity: 3.95 km/h 249.93 deg

Speed Percentiles: $P_1 = 0.1$ $P_{10} = 0.9$ $Q_1 = 2.3$ Median = 5.2 $Q_3 = 9.7$ $P_{90} = 19.1$ $P_{99} = 34.8$

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

D - DAS Failure

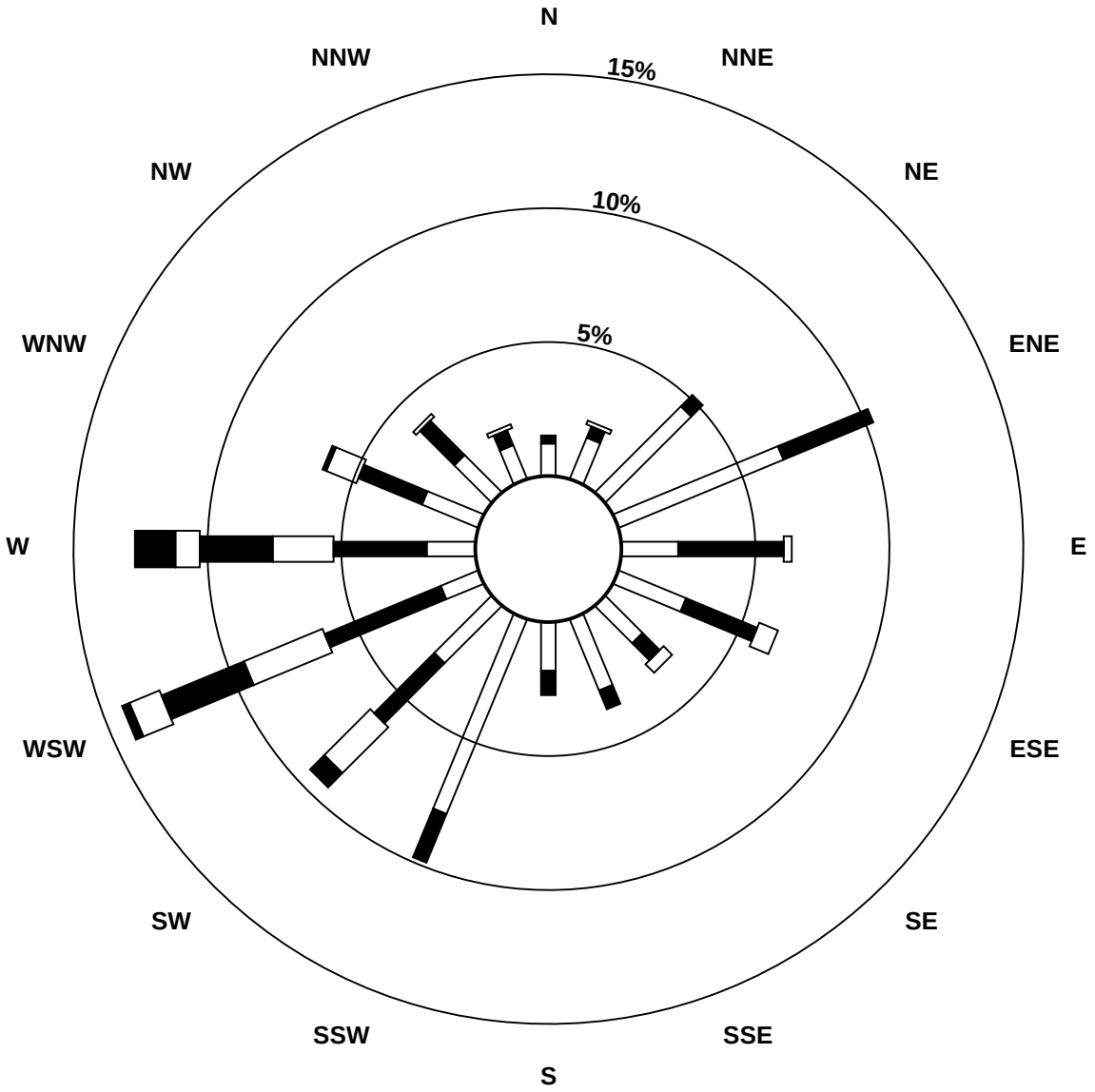
Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	27	6	2	0	0	0	35
NorthEast	69	18	0	0	0	0	87
East	60	58	7	0	0	0	125
SouthEast	29	16	6	0	0	0	51
South	53	18	0	0	0	0	71
SouthWest	59	46	24	16	4	0	149
West	26	46	40	31	11	12	166
NorthWest	35	21	3	0	0	0	59
Total	358	229	82	47	15	12	743

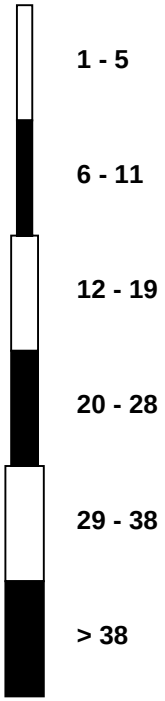
Wind Rose

Wind Speed (WS) (km/h)

Evergreen Park - August 2013



Wind Speed Classes (km/h)



Peace Airshed Zone Association

Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Evergreen Park - August 2013

Maximum Speed: 63 km/h on Aug 20 12:00

Maximum Daily Speed Average: 34.3 km/h on Aug 20

Minimum Speed: 0 km/h on Aug 10 07:00

Minimum Daily Speed Average: 3.8 km/h on Aug 28

Maximum Diurnal Speed Average: 15.4 km/h at hour 16

Minimum Diurnal Speed Average: 4.8 km/h at hour 6

Monthly Average Speed: 8.83 km/h

Percentiles: $P_1 = 0.6$ $P_{10} = 1.6$ $Q_1 = 3.2$ Median = 6.6 $Q_3 = 10.8$ $P_{90} = 20.0$ $P_{99} = 35.0$

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	2	2	2	1	1	1	2	2	4	6	11	11	12	11	12	12	12	15	12	10	7	6	6	5	6.8	14.5
2-Aug	3	2	2	2	1	3	3	5	8	7	9	9	11	12	11	10	10	11	9	6	4	4	5	5	6.4	12.2
3-Aug	5	4	15	19	8	7	6	9	13	11	10	12	6	3	7	8	11	8	10	10	13	9	9	5	9.0	18.9
4-Aug	7	7	4	6	8	10	10	11	10	9	7	10	11	8	10	10	9	5	8	3	1	1	2	1	7.0	11.4
5-Aug	0	0	1	3	3	3	7	9	10	8	6	8	9	9	10	9	9	5	5	4	1	0	1	2	5.0	10.1
6-Aug	3	3	2	D	4	3	4	6	4	4	5	9	9	9	23	26	10	4	8	5	6	4	7	7	7.1	26.1
7-Aug	7	3	3	2	2	3	2	3	5	3	5	7	9	11	7	10	7	5	5	2	2	1	3	6	4.7	10.8
8-Aug	5	4	3	5	6	6	7	7	7	10	11	13	11	13	15	14	16	16	13	11	10	11	10	8	9.6	16.4
9-Aug	6	5	4	4	4	3	3	6	7	6	8	6	7	8	8	8	11	9	5	6	6	4	4	3	5.9	11.0
10-Aug	2	3	3	2	1	1	0	1	5	7	8	5	7	8	8	11	11	9	8	5	2	1	1	1	4.6	11.0
11-Aug	3	9	7	5	8	6	5	7	14	9	7	6	5	6	5	7	7	3	2	1	1	1	3	3	5.3	13.5
12-Aug	2	3	2	1	1	3	2	3	5	6	4	8	9	9	8	9	10	8	4	3	4	12	3	4	5.2	12.0
13-Aug	3	3	1	1	1	1	1	6	6	4	5	4	5	6	8	8	7	6	6	10	5	4	9	8	5.0	9.6
14-Aug	7	11	6	3	4	2	2	3	4	3	4	4	4	6	7	10	9	3	2	1	3	1	2	1	4.3	10.7
15-Aug	1	2	1	2	2	5	6	10	24	9	8	5	7	6	8	7	6	4	4	3	2	2	1	1	5.3	23.9
16-Aug	5	4	5	3	15	9	11	8	10	5	4	7	9	9	8	8	11	11	7	24	14	13	8	3	8.7	23.7
17-Aug	1	1	3	2	2	3	3	3	10	17	21	29	27	23	23	23	24	24	17	9	5	2	3	7	11.7	28.7
18-Aug	8	4	1	5	1	2	6	12	10	14	15	20	20	12	11	19	22	28	26	27	20	18	19	16	14.0	28.2
19-Aug	15	12	8	14	19	12	11	9	13	9	10	19	31	31	37	41	41	52	30	24	21	26	25	35	22.7	51.9
20-Aug	35	28	30	33	27	29	29	33	39	60	63	63	54	53	43	43	40	32	25	24	18	11	5	9	34.3	62.8
21-Aug	10	14	15	12	16	12	12	14	24	30	24	17	21	18	17	24	19	14	13	13	4	2	3	4	14.7	29.9
22-Aug	4	5	6	2	2	3	3	2	4	8	5	8	6	7	10	13	14	10	14	9	7	6	4	9	6.8	14.5
23-Aug	5	4	6	2	3	1	2	4	7	5	7	9	12	10	9	6	6	6	4	3	8	8	4	4	5.6	11.7
24-Aug	2	3	7	10	5	5	3	3	4	4	10	21	30	31	27	19	16	12	6	6	2	3	2	2	9.7	31.1
25-Aug	2	6	8	8	1	1	3	4	7	13	10	15	15	15	18	21	23	20	14	5	4	1	2	2	9.1	22.5
26-Aug	1	2	1	1	5	5	5	3	5	5	7	7	11	8	9	14	17	19	17	10	8	4	2	3	7.1	19.4
27-Aug	3	1	2	1	1	2	4	10	6	8	10	10	14	15	8	23	18	13	22	11	3	1	2	2	8.0	22.6
28-Aug	2	2	2	1	1	1	2	3	5	5	8	8	10	12	8	7	3	3	2	1	2	1	1	1	3.8	11.9
29-Aug	1	2	5	3	5	4	2	2	7	8	7	9	7	7	9	10	8	8	6	4	2	4	3	2	5.2	10.0
30-Aug	3	4	2	1	2	4	2	1	7	13	11	12	16	17	23	23	23	18	17	12	7	11	13	9	10.3	23.3
31-Aug	10	5	7	2	2	1	1	2	6	11	17	21	23	20	21	23	20	19	16	10	3	3	3	5	10.5	23.4
	5.3	5.1	5.3	5.3	5.1	4.8	5.1	6.5	9.3	10.2	10.9	12.6	13.8	13.3	13.7	15.4	14.5	13.0	10.9	8.7	6.3	5.7	5.3	5.5	Diurnal Average	
	34.7	28.3	30.1	33.0	26.8	28.7	29.0	33.0	39.3	59.8	62.6	62.8	54.3	53.3	43.2	42.8	40.6	51.9	30.3	26.6	21.2	25.5	25.4	34.6	Diurnal Maximum	

D - DAS Failure

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

Evergreen Park - August 2013

Maximum Value: 98.1 deg on Aug 4 20:00

Minimum Value: 4.8 deg on Aug 19 00:00

Percentiles: P_1 = 6.8 P_{10} = 11.6 Q_1 = 18.8 Median = 34.3 Q_3 = 58.1 P_{90} = 77.5 P_{99} = 92.6

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)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Aug	76	67	15	70	92	56	37	58	50	40	25	44	40	69	37	38	33	26	27	19	19	13	13	16	92.3
2-Aug	16	18	22	29	30	25	30	45	32	67	49	52	44	51	52	44	34	28	24	18	11	15	9	13	66.7
3-Aug	18	29	25	17	73	64	51	24	30	29	43	47	52	83	90	54	34	22	19	21	12	22	17	40	89.8
4-Aug	26	38	27	22	16	13	19	14	16	37	54	41	45	78	50	47	47	57	66	98	82	96	67	91	98.1
5-Aug	79	85	61	25	48	42	22	18	24	27	48	52	61	59	48	61	58	33	32	11	70	63	67	77	84.6
6-Aug	70	63	66	D	71	86	43	55	57	90	69	56	58	58	26	14	66	26	43	50	58	36	57	64	90.1
7-Aug	34	62	72	52	56	79	78	18	28	54	78	31	33	30	26	20	22	25	32	40	20	22	23	14	79.0
8-Aug	15	20	13	17	15	17	17	19	23	28	28	35	28	35	28	21	22	23	17	17	14	13	15	16	35.0
9-Aug	20	17	13	14	15	19	28	30	45	83	52	81	79	72	50	66	36	28	17	19	15	11	17	10	83.2
10-Aug	15	16	21	25	83	51	89	64	62	32	45	84	63	51	75	64	46	33	16	16	30	90	92	77	91.8
11-Aug	47	51	65	76	83	77	52	22	32	85	75	34	39	59	49	62	24	39	57	46	30	38	85	20	85.4
12-Aug	48	32	17	76	71	26	77	42	50	77	72	45	44	52	42	33	37	24	28	11	41	39	61	33	77.4
13-Aug	83	68	64	68	92	67	82	27	24	39	50	70	77	72	67	54	45	66	71	26	21	40	29	77	92.2
14-Aug	84	34	55	71	41	79	59	71	48	62	62	88	93	55	79	46	38	49	55	88	53	57	70	72	93.2
15-Aug	81	49	66	62	58	59	19	39	33	15	15	28	43	77	76	71	52	84	51	27	54	68	89	56	89.0
16-Aug	33	74	21	35	21	15	13	11	23	21	41	34	42	45	49	58	26	13	32	18	22	7	18	93	92.7
17-Aug	95	74	86	90	72	51	39	70	25	13	14	15	15	18	18	23	19	14	15	14	41	28	44	59	94.8
18-Aug	14	48	90	32	89	31	25	5	13	10	11	13	12	19	26	20	10	10	9	9	6	7	6	5	90.0
19-Aug	8	11	24	22	9	14	16	28	20	19	38	23	18	15	14	12	11	10	11	11	10	8	11	9	37.9
20-Aug	8	8	8	7	9	8	7	10	10	8	9	9	11	10	8	7	9	8	8	9	8	30	23	30	30.0
21-Aug	16	7	7	8	6	7	8	9	10	10	22	22	19	22	33	17	29	20	16	15	84	79	64	72	84.4
22-Aug	18	33	29	85	60	66	47	77	37	19	33	31	42	25	26	30	19	34	19	14	19	62	41	17	84.7
23-Aug	57	85	54	86	82	82	90	45	25	41	47	49	48	59	62	86	73	23	19	34	19	43	18	28	89.8
24-Aug	48	39	35	17	21	47	52	51	48	43	24	21	12	19	20	26	24	22	15	20	88	69	54	62	87.6
25-Aug	89	49	26	48	79	56	70	61	29	13	38	28	32	34	38	21	22	23	16	50	36	84	62	73	89.5
26-Aug	70	94	82	78	77	76	32	50	38	40	35	39	24	25	27	24	19	18	15	18	23	24	21	29	93.8
27-Aug	50	70	83	61	59	44	24	43	53	36	33	56	31	57	79	18	18	15	9	30	35	86	57	63	85.7
28-Aug	85	71	88	96	90	75	78	44	20	32	37	25	41	24	54	36	77	56	55	28	27	59	87	52	96.4
29-Aug	58	68	29	61	21	97	53	65	27	27	38	27	40	45	35	27	36	25	29	53	39	22	29	47	97.4
30-Aug	82	52	89	90	80	43	69	85	69	18	24	14	11	14	8	9	8	10	16	16	9	7	8	13	89.6
31-Aug	8	11	14	24	43	92	69	47	49	23	12	12	19	19	14	14	14	10	12	10	9	15	45	42	92.3
	94.8	93.8	90.0	96.4	92.3	97.4	89.8	85.1	69.3	90.1	77.9	88.5	93.2	83.2	89.8	86.1	77.1	83.6	70.5	98.1	87.6	95.6	91.8	92.7	

D - DAS Failure

PAZA
Smoky Heights Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - August 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 6.7 ppb on Aug 21 08:00 Maximum Daily Average: 0.7 ppb on Aug 30

Minimum Value: 0 ppb on Aug 1 01:00 Minimum Daily Average: 0.0 ppb on Aug 1
Maximum Diurnal Average: 0.3 ppb at hour 8 Minimum Diurnal Average: 0.1 ppb at hour 18
Monthly Average: 0.15 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.0 Q_3 = 0.1 P_{90} = 0.3 P_{99} = 1.8

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	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
2-Aug	0	0	0	0	0	0	0	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
3-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
4-Aug	1	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
5-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	0.4
6-Aug	0	0	0	D	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
7-Aug	0	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	1.3
8-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	0.2
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	0.0	0.2
10-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
11-Aug	0	0	A	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.6
12-Aug	0	A	2	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	3.1
13-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
14-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	0.1
15-Aug	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.5
16-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0	0	0	0.1	1.5
17-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	5	2	0.4	4.6
18-Aug	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0	0	0.1	0.6
19-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	0.1
20-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	C	C	C	C	0	0	0	0.1	0.2
21-Aug	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	A	0	0	0	0	0	1	0	0	0.4	6.7
22-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0.1	0.6
23-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	0.1	0.2
24-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	0.2
25-Aug	0	0	0	0	0	0	0	0	1	3	1	A	0	0	0	0	0	0	0	0	1	0	0	0	0.3	2.7
26-Aug	0	0	0	0	0	0	0	0	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
27-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	0.1
28-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
29-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	0.1	0.2
30-Aug	2	1	1	0	0	1	A	0	0	0	0	0	1	1	0	0	0	0	1	1	0	1	0	5	0.7	4.9
31-Aug	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.2	0.9
	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.3	0.2	0.2	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	0.3	Diurnal Average	
	2.3	0.8	2.0	3.1	1.4	1.1	0.4	6.7	1.6	2.7	1.0	0.4	0.6	0.6	0.5	0.5	0.3	0.3	1.4	1.5	1.3	0.8	4.6	4.9	Diurnal Maximum	

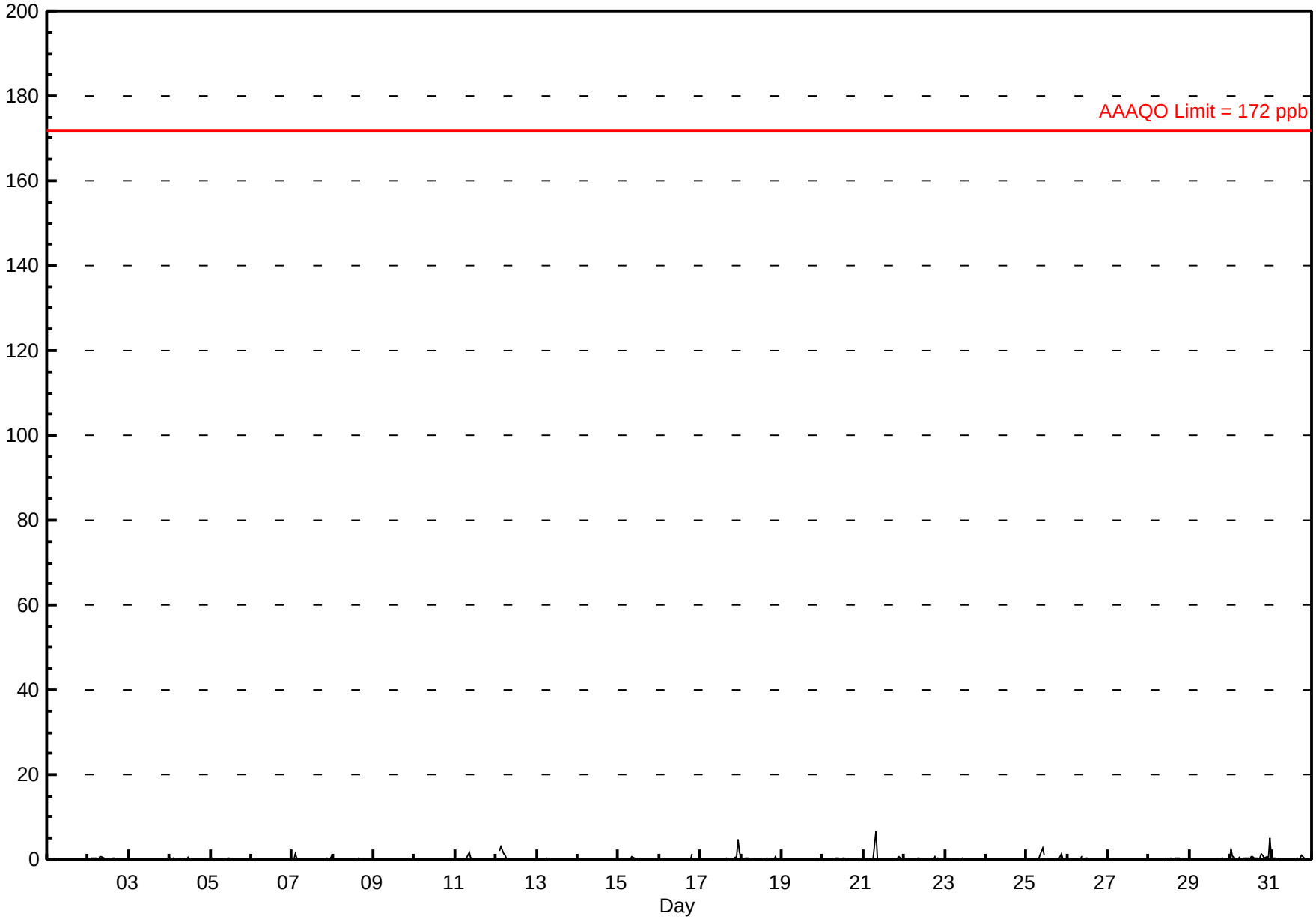
C - Calibration D - DAS Failure A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - August 2013

Maximum Value: 21.3 ppb on Aug 31 00:00

Maximum Daily Average: 2.3 ppb on Aug 30

Minimum Value: 0 ppb on Aug 20 22:00

Minimum Daily Average: 0.2 ppb on Aug 1

Maximum Diurnal Average: 1.3 ppb at hour 24

Minimum Diurnal Average: 0.4 ppb at hour 17

Monthly Average: 0.60 ppb

Percentiles: P_1 = 0.0 P_{10} = 0.2 Q_1 = 0.3 Median = 0.3 Q_3 = 0.5 P_{90} = 0.9 P_{99} = 4.1

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	0	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
2-Aug	0	0	1	1	1	1	0	1	1	1	0	A	0	0	1	1	1	0	0	0	0	0	0	0	0.6	1.3
3-Aug	0	0	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	0.9
4-Aug	2	0	1	0	0	0	0	1	1	A	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0.5	2.3
5-Aug	1	1	0	0	0	0	0	0	A	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9
6-Aug	0	0	0	D	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0.2	0.7
7-Aug	0	0	3	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.5	3.2
8-Aug	0	0	0	0	0	A	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0.4	0.7
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	0.5
10-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	0.3	0.5
11-Aug	0	0	A	1	0	1	1	2	4	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0.7	4.1
12-Aug	2	A	4	5	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1	5.1
13-Aug	A	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.3	1.0
14-Aug	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.4	0.7
15-Aug	0	0	0	0	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0.4	1.1
16-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	A	0	0	0	0.4	2.7
17-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	2	A	2	2	11	9	1.4	10.9
18-Aug	2	0	2	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	A	1	4	0	0	0	0.7	4.1
19-Aug	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	A	0	0	0	0	0	0	0.4	0.7
20-Aug	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	A	C	C	C	C	0	0	0	0.4	1.2
21-Aug	0	0	0	0	0	0	2	15	1	0	0	0	0	0	0	A	0	0	0	0	1	2	1	0	1.1	14.9
22-Aug	0	0	0	0	0	0	0	0	1	1	0	0	0	0	A	1	1	1	1	1	1	1	1	0	0.5	1.5
23-Aug	1	0	1	0	0	0	0	0	0	0	1	0	1	A	0	0	0	0	0	0	0	0	0	0	0.4	0.6
24-Aug	1	0	0	0	0	0	0	0	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.4	1.5
25-Aug	0	0	0	0	0	0	0	0	8	7	4	A	1	0	0	0	0	0	0	0	4	1	0	0	1.3	8.3
26-Aug	0	0	0	0	0	0	0	0	2	2	A	1	1	1	0	0	1	0	0	0	0	0	0	0	0.5	1.8
27-Aug	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0.3	0.6
28-Aug	0	0	0	0	0	0	0	0	A	2	1	0	0	1	0	1	1	0	1	1	0	0	0	0	0.6	1.9
29-Aug	0	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0.4	0.6
30-Aug	4	3	2	1	1	2	A	0	2	1	1	1	2	2	1	1	0	2	2	2	1	1	1	21	2.3	21.3
31-Aug	2	1	1	0	1	A	0	0	0	0	0	1	0	1	1	1	1	1	3	2	0	0	0	0	0.8	2.9
	0.7	0.4	0.7	0.5	0.5	0.5	0.4	0.9	1.0	0.8	0.6	0.4	0.4	0.5	0.4	0.5	0.4	0.4	0.6	0.5	0.7	0.5	0.7	1.3	Diurnal Average	
	4.0	2.8	3.6	5.1	4.8	4.1	2.3	14.9	8.3	6.9	3.6	0.9	2.1	1.8	1.2	1.8	0.9	1.9	2.9	2.7	4.2	1.9	10.9	21.3	Diurnal Maximum	

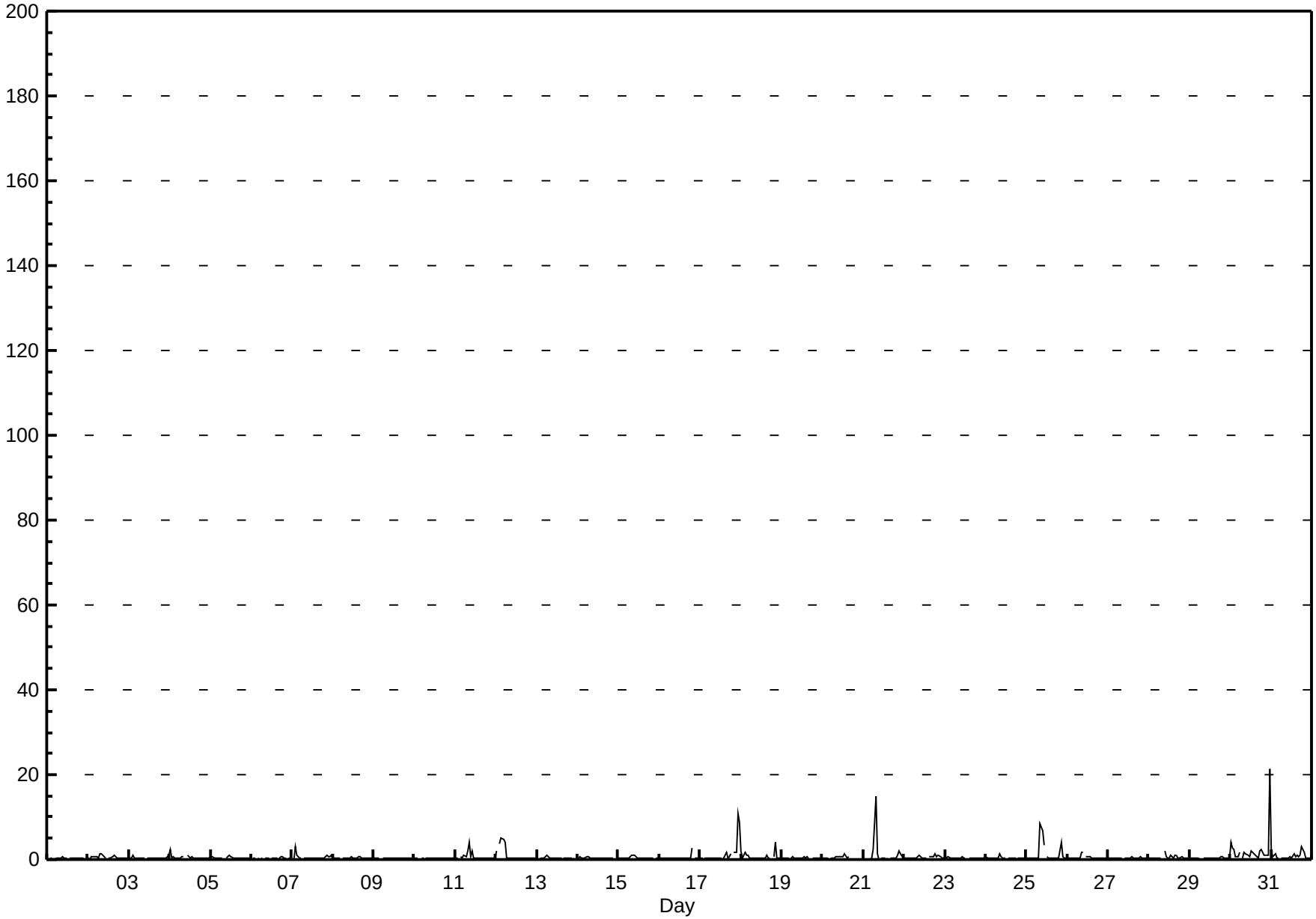
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

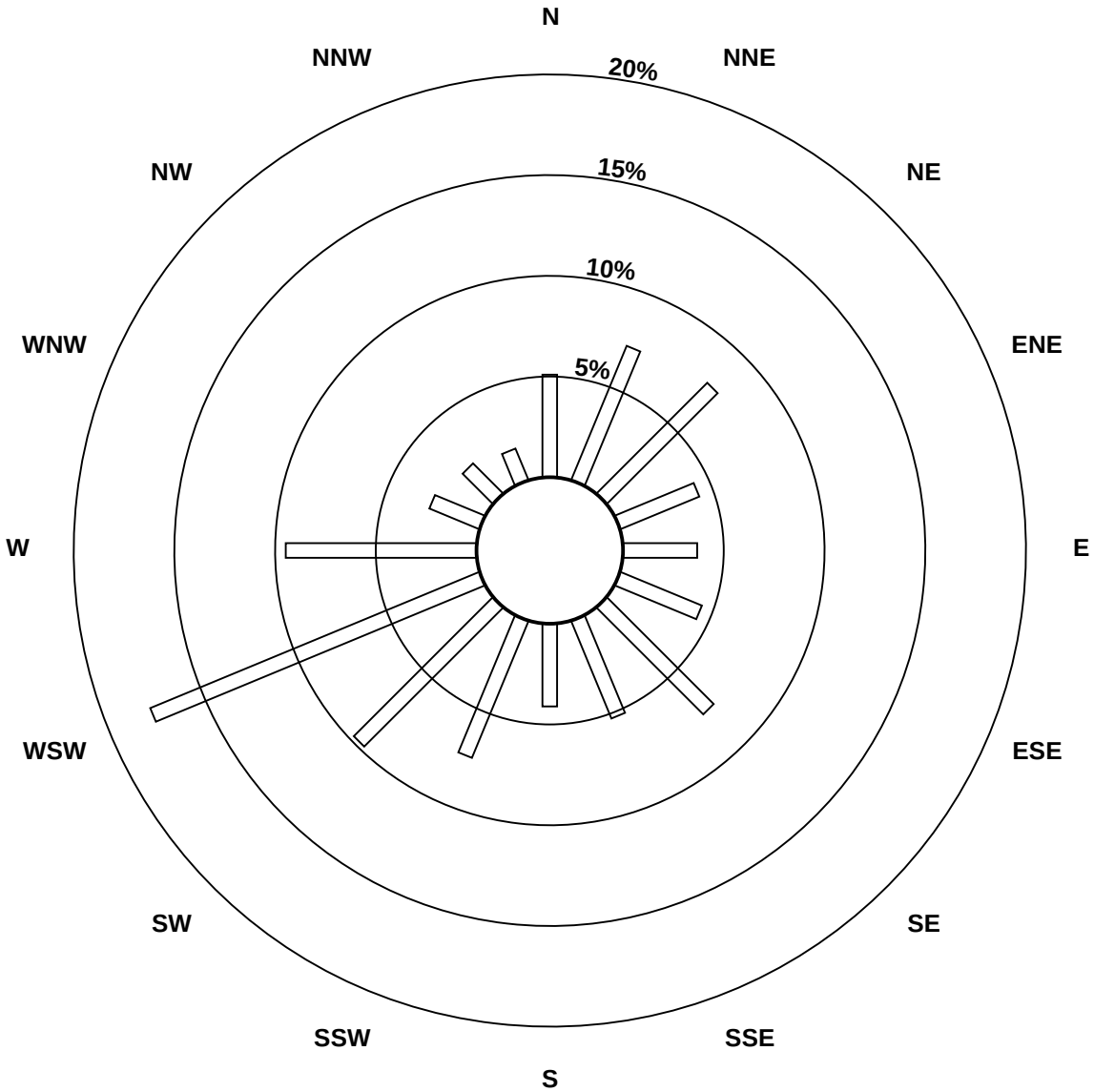
Smoky Heights - August 2013



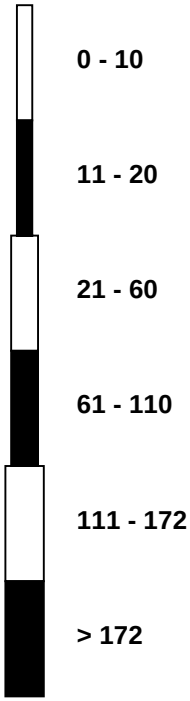
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - August 2013



Pollutant Classes (ppb)

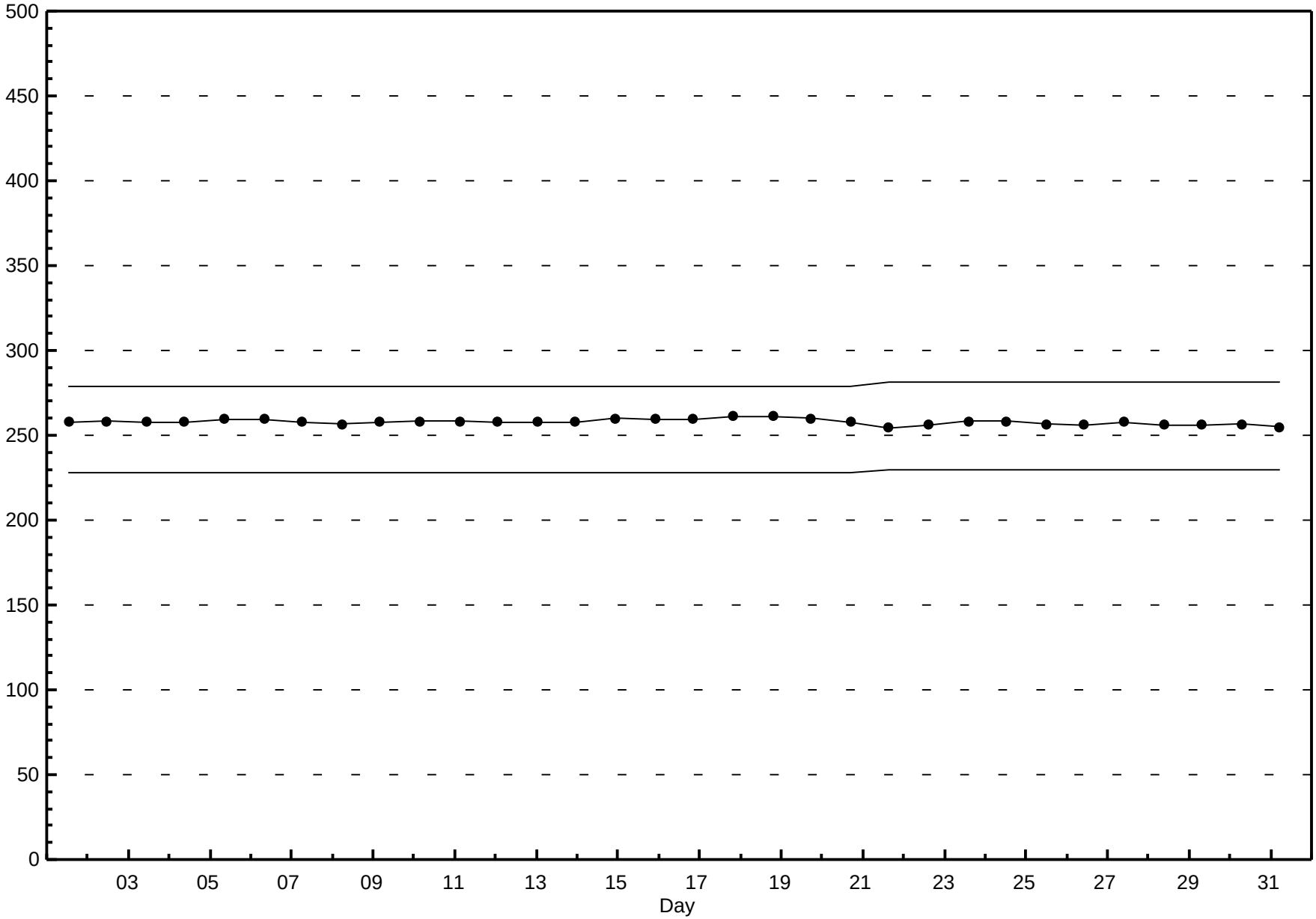


Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Smoky Heights - August 2013



Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - August 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 0.5 ppb on Aug 4 05:00 Maximum Daily Average: 0.2 ppb on Aug 29

Minimum Value: 0 ppb on Aug 1 01:00 Minimum Daily Average: 0.0 ppb on Aug 21
Maximum Diurnal Average: 0.2 ppb at hour 7 Minimum Diurnal Average: 0.0 ppb at hour 15
Monthly Average: 0.10 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.1 $Q_3 = 0.2$ $P_{90} = 0.2$ $P_{99} = 0.4$

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	37
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	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
2-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	0.2
3-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
4-Aug	0	0	0	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
5-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	0.4
6-Aug	0	0	0	D	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
7-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	0.4
8-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	0.3
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	0.1	0.2
10-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	0.5
11-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	0.4
12-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	0.2
13-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
14-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	0.4
15-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	0.3
16-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	0.0	0.2
17-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	0.2
18-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	0.0	0.1
19-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
20-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	0	0	0	0	0	0.2	0.4
21-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	0.1
22-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	0.1	0.2
23-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	0.1	0.2
24-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	0.3
25-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
26-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
27-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	0.2
28-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	0.2	0.3
29-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
30-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	0.2	0.3
31-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
	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	Diurnal Average	
	0.4	0.4	0.3	0.4	0.5	0.4	0.5	0.5	0.4	0.3	0.3	0.4	0.4	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.3	0.4	Diurnal Maximum	

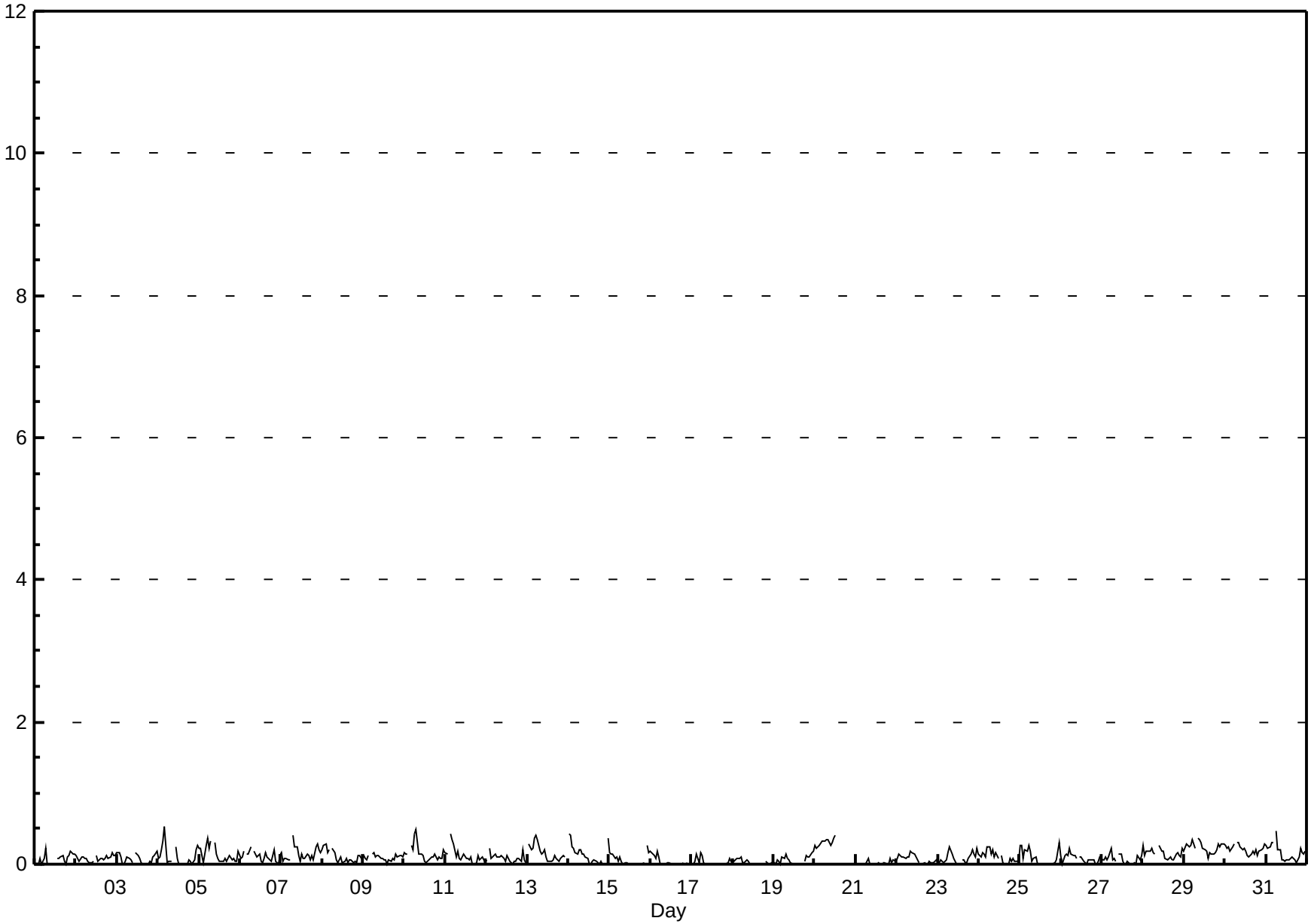
C - Calibration D - DAS Failure A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - August 2013



Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - August 2013

Maximum Value: 1.8 ppb on Aug 10 07:00

Maximum Daily Average: 0.7 ppb on Aug 10

Minimum Value: 0 ppb on Aug 1 01:00

Minimum Daily Average: 0.4 ppb on Aug 21

Maximum Diurnal Average: 0.6 ppb at hour 7

Minimum Diurnal Average: 0.4 ppb at hour 16

Monthly Average: 0.48 ppb

Percentiles: $P_1 = 0.2$ $P_{10} = 0.3$ $Q_1 = 0.4$ Median = 0.5 $Q_3 = 0.6$ $P_{90} = 0.7$ $P_{99} = 1.0$

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	37
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	1	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0	1	0	1	0	1	0.4	1.0
2-Aug	0	0	0	1	1	1	0	0	0	0	1	A	1	0	0	0	1	0	0	1	0	0	1	1	0.5	0.6
3-Aug	1	1	0	0	1	0	1	1	0	0	A	0	1	0	0	0	0	0	0	0	0	0	1	1	0.5	0.8
4-Aug	0	0	1	1	1	0	1	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0.5	1.5
5-Aug	1	1	0	0	1	1	1	1	A	1	1	0	0	0	0	0	0	0	1	1	0	0	0	1	0.5	0.8
6-Aug	0	1	1	D	1	1	1	A	1	0	0	0	0	0	0	0	1	0	1	0	1	1	1	0	0.5	0.8
7-Aug	1	1	1	1	0	1	A	1	1	1	1	0	0	0	1	0	0	0	0	0	1	1	1	1	0.6	1.1
8-Aug	0	1	1	1	1	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.7
9-Aug	1	1	0	0	A	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	0.5	0.7
10-Aug	1	0	1	A	1	1	2	1	1	1	1	0	0	0	0	1	1	0	0	1	1	0	0	2	0.7	1.8
11-Aug	0	0	A	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.5	0.9
12-Aug	0	A	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0.5	0.7
13-Aug	A	1	1	0	1	1	1	1	0	1	1	0	0	1	0	0	1	1	0	0	0	1	0	A	0.5	0.9
14-Aug	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0	0	0	0	1	1	0	A	1	0.5	1.0
15-Aug	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0.4	0.7
16-Aug	0	0	0	0	1	1	0	0	1	0	1	0	0	0	0	0	1	0	0	0	A	0	0	0	0.4	0.6
17-Aug	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.4	1.2
18-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	0.4	0.5
19-Aug	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	A	0	0	0	0	1	1	0.4	0.6
20-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	C	C	C	C	C	C	0	0	0	0	0	0.5	0.8
21-Aug	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	A	0	1	0	0	1	0	0	0	0.4	0.7
22-Aug	0	1	1	1	0	0	0	1	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.4	0.7
23-Aug	0	0	0	0	0	0	1	1	1	0	0	0	0	A	0	0	0	0	0	1	1	0	0	1	0.5	0.7
24-Aug	0	1	1	0	1	1	1	1	0	1	1	1	A	0	0	0	0	0	1	0	0	0	0	0	0.5	0.7
25-Aug	1	1	1	1	1	1	1	0	1	1	0	A	0	0	0	0	0	0	0	0	0	1	1	1	0.5	0.9
26-Aug	1	0	0	1	1	1	0	0	0	0	A	0	0	1	0	0	0	1	0	0	0	0	0	1	0.4	0.7
27-Aug	0	0	1	0	0	1	0	0	0	A	1	1	0	0	0	0	0	0	0	0	0	1	0	1	0.5	0.7
28-Aug	1	1	1	1	1	1	1	0	A	1	1	1	0	1	0	0	1	0	0	1	0	0	0	1	0.6	0.8
29-Aug	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0	0	0	0	1	1	1	1	1	1	0.6	0.8
30-Aug	1	1	1	0	1	1	A	1	1	1	1	1	1	1	0	0	1	1	1	0	1	1	1	1	0.6	0.8
31-Aug	1	1	1	1	1	A	1	1	1	0	0	0	0	0	0	1	0	0	0	0	1	1	0	1	0.5	0.8
	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	Diurnal Average	
	0.9	0.8	0.9	0.9	1.5	1.2	1.8	1.4	0.7	0.8	0.7	0.7	0.8	0.8	0.5	0.5	0.6	0.5	0.7	0.6	0.8	1.1	0.8	1.5	Diurnal Maximum	

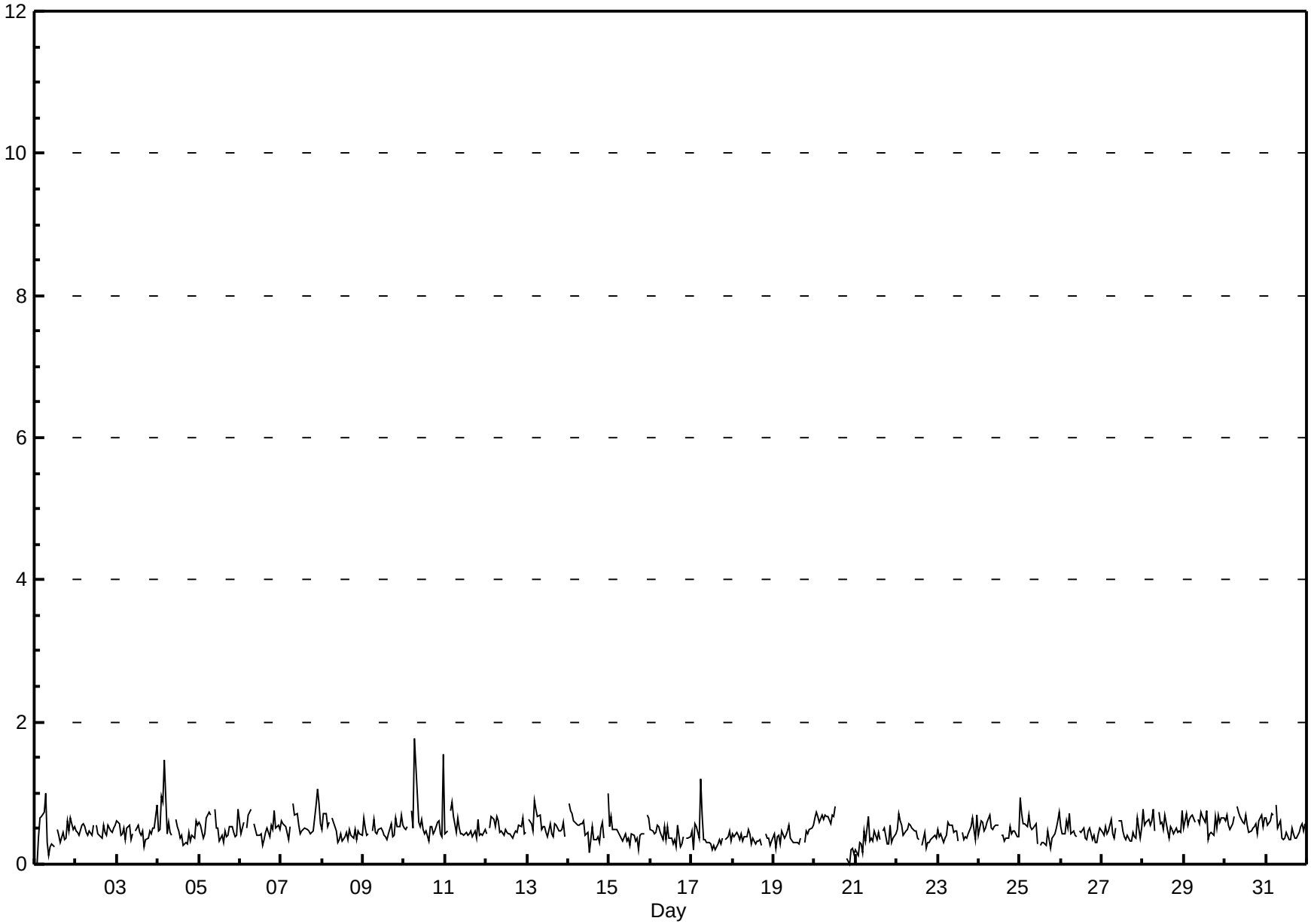
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - August 2013

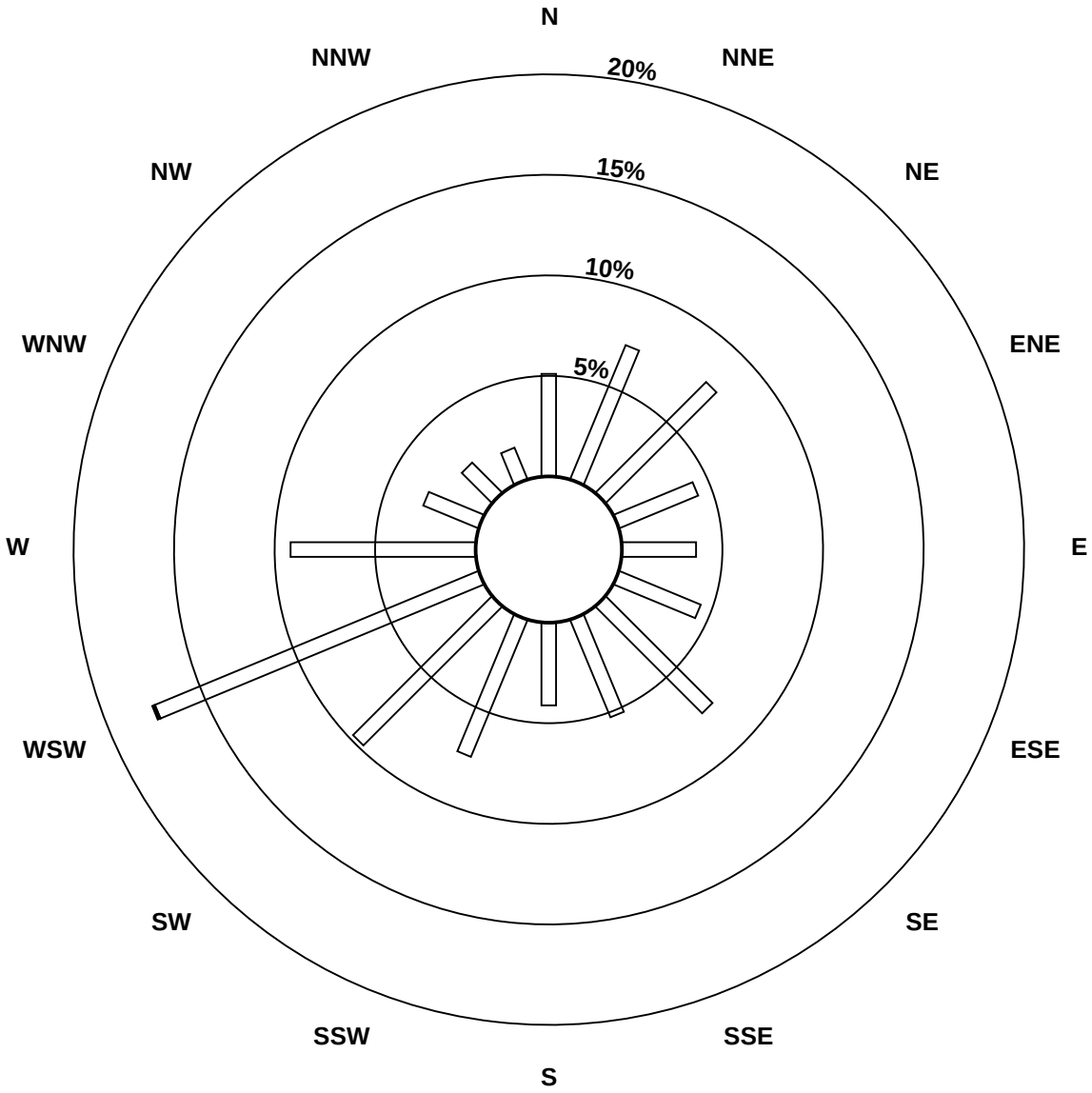


FOCUS AIR QUALITY MONITORING

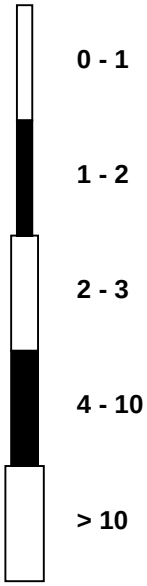
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - August 2013



Pollutant Classes (ppb)

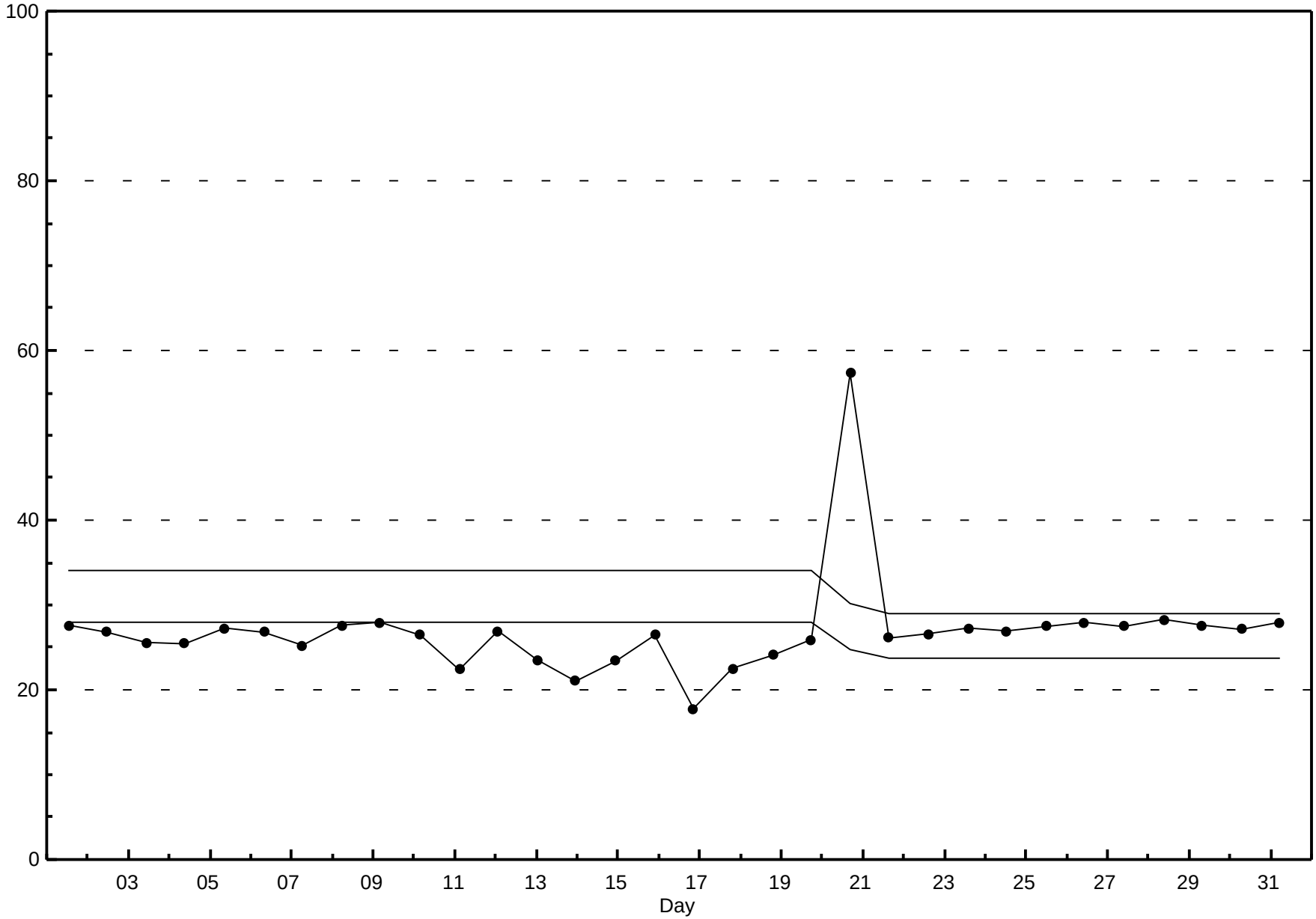


Peace Airshed Zone Association

Span Responses

Total Reduced Sulphur (TRS)

Smoky Heights - August 2013



Peace Airshed Zone Association

Hourly Averages

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

Smoky Heights - August 2013

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

Maximum Value: 32.5 $\mu g/m^3$ on Aug 8 03:00

Maximum Daily Average: 9.9 $\mu g/m^3$ on Aug 8

Minimum Value: 0 $\mu g/m^3$ on Aug 1 13:00

Maximum Diurnal Average: 7.1 $\mu g/m^3$ at hour 21

Monthly Average: 4.25 $\mu g/m^3$

Minimum Daily Average: 0.6 $\mu g/m^3$ on Aug 19

Minimum Diurnal Average: 2.9 $\mu g/m^3$ at hour 13

Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 1.3$ Median = 3.3 $Q_3 = 5.8$ $P_{90} = 9.2$ $P_{99} = 22.1$

Hours in Service:	744
Hours of Data:	725
Hours of Missing Data:	19
Hours of Calibration:	0
Percent Operational Time:	97.5

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	1	2	2	5	3	0	4	2	2	1	1	2	0	0	1	2	1	2	2	2	1	2	1	2	1.7	5.4
2-Aug	2	2	5	5	5	5	7	6	5	6	6	3	4	3	4	4	5	4	5	4	6	3	4	4	4.4	7.2
3-Aug	3	3	5	2	1	3	2	3	2	3	2	2	3	2	3	3	3	3	3	4	2	2	4	7	2.9	6.6
4-Aug	4	2	0	19	0	1	3	2	3	2	2	3	0	3	5	1	3	4	2	3	1	1	0	2	2.8	19.3
5-Aug	2	2	2	1	1	3	1	4	4	5	3	2	2	3	3	4	3	5	7	7	11	4	2	8	3.8	11.4
6-Aug	2	3	4	D	4	5	7	5	6	6	4	0	2	0	6	6	4	7	4	4	2	4	3	4	4.0	7.2
7-Aug	2	1	2	3	2	3	4	7	8	7	7	5	6	6	8	10	7	9	11	8	22	16	17	13	7.7	22.5
8-Aug	12	20	32	12	14	10	9	6	6	5	6	6	7	4	6	7	10	8	10	11	10	10	9	9	9.9	32.5
9-Aug	8	8	8	9	9	11	10	10	10	7	6	6	6	5	4	4	4	6	6	5	3	5	5	5	6.6	10.6
10-Aug	6	5	5	5	3	5	11	11	5	9	10	8	12	10	8	9	3	7	4	5	9	4	11	18	7.6	18.3
11-Aug	6	4	4	6	3	4	12	7	9	8	7	6	5	6	2	2	3	2	0	5	1	2	4	1	4.5	11.6
12-Aug	3	1	1	4	2	0	6	3	4	5	9	6	7	3	0	17	5	7	7	2	0	5	8	1	4.4	16.7
13-Aug	0	3	1	1	2	5	18	11	12	22	20	4	3	10	8	8	10	9	9	7	6	4	12	6	7.9	22.3
14-Aug	6	7	1	9	7	8	4	6	8	7	0	6	8	9	9	3	2	9	15	9	0	3	9	22	6.9	22.5
15-Aug	11	3	7	9	7	10	11	12	7	0	4	3	7	N	7	0	1	2	4	5	4	2	1	1	5.1	12.0
16-Aug	2	5	1	3	4	6	3	5	3	0	0	3	0	0	4	0	1	1	1	6	N	0	0	0	2.1	6.0
17-Aug	0	0	0	0	0	0	10	2	0	0	1	0	0	0	0	0	2	0	2	3	1	4	3	0	1.1	9.8
18-Aug	0	2	0	2	0	1	4	2	3	1	0	0	0	5	1	0	1	N	N	0	1	0	0	0	1.0	4.7
19-Aug	0	0	0	0	1	0	2	1	1	0	0	0	0	0	2	0	2	3	0	1	0	0	1	1	0.6	3.4
20-Aug	0	0	0	0	1	0	1	1	0	0	1	1	1	2	3	3	3	5	4	N	N	11	3	3	2.0	11.2
21-Aug	3	3	2	2	2	2	3	3	0	1	6	0	2	5	2	1	3	2	2	11	16	6	5	5	3.7	15.6
22-Aug	3	5	4	4	4	4	7	6	4	7	6	6	2	7	3	1	2	2	2	16	9	8	4	2	4.9	16.0
23-Aug	0	0	0	2	0	1	7	7	4	6	2	0	N	N	N	N	N	N	N	20	25	2	6	5	--	24.9
24-Aug	5	3	3	10	23	6	6	5	4	4	5	1	0	N	5	8	3	4	32	22	32	25	8	3	9.3	31.8
25-Aug	2	4	4	10	6	1	0	4	4	1	0	N	0	1	0	0	0	2	2	5	10	2	6	3	2.9	9.8
26-Aug	0	1	0	1	2	0	6	4	5	1	3	1	1	0	8	3	3	0	2	2	1	1	1	7	2.2	8.1
27-Aug	9	6	4	7	3	2	5	3	3	4	3	5	N	N	0	0	0	0	1	3	9	1	1	1	3.2	9.2
28-Aug	0	2	0	2	5	3	2	4	2	3	5	3	3	0	3	6	3	5	4	3	9	5	9	10	3.8	9.8
29-Aug	5	0	3	3	1	1	2	5	4	3	3	3	4	4	3	4	7	9	22	21	7	5	0	4	5.1	21.5
30-Aug	3	0	1	0	2	2	3	1	3	3	6	7	0	3	6	2	5	3	3	0	0	0	1	0	2.2	6.6
31-Aug	0	0	0	0	0	0	5	3	4	N	0	0	1	0	0	0	0	0	2	4	8	6	2	5	1.7	8.0
	3.3	3.1	3.2	4.5	3.8	3.3	5.6	4.9	4.3	4.2	4.1	3.0	2.9	3.3	3.8	3.6	3.2	4.1	5.8	6.6	7.1	4.5	4.5	4.9	Diurnal Average	
	11.8	19.9	32.5	19.3	23.0	10.6	17.9	12.0	12.0	22.3	20.0	8.4	11.9	10.1	9.2	16.7	10.1	9.4	31.8	22.0	31.8	24.5	17.1	22.5	Diurnal Maximum	

D - DAS Failure N - Not Valid

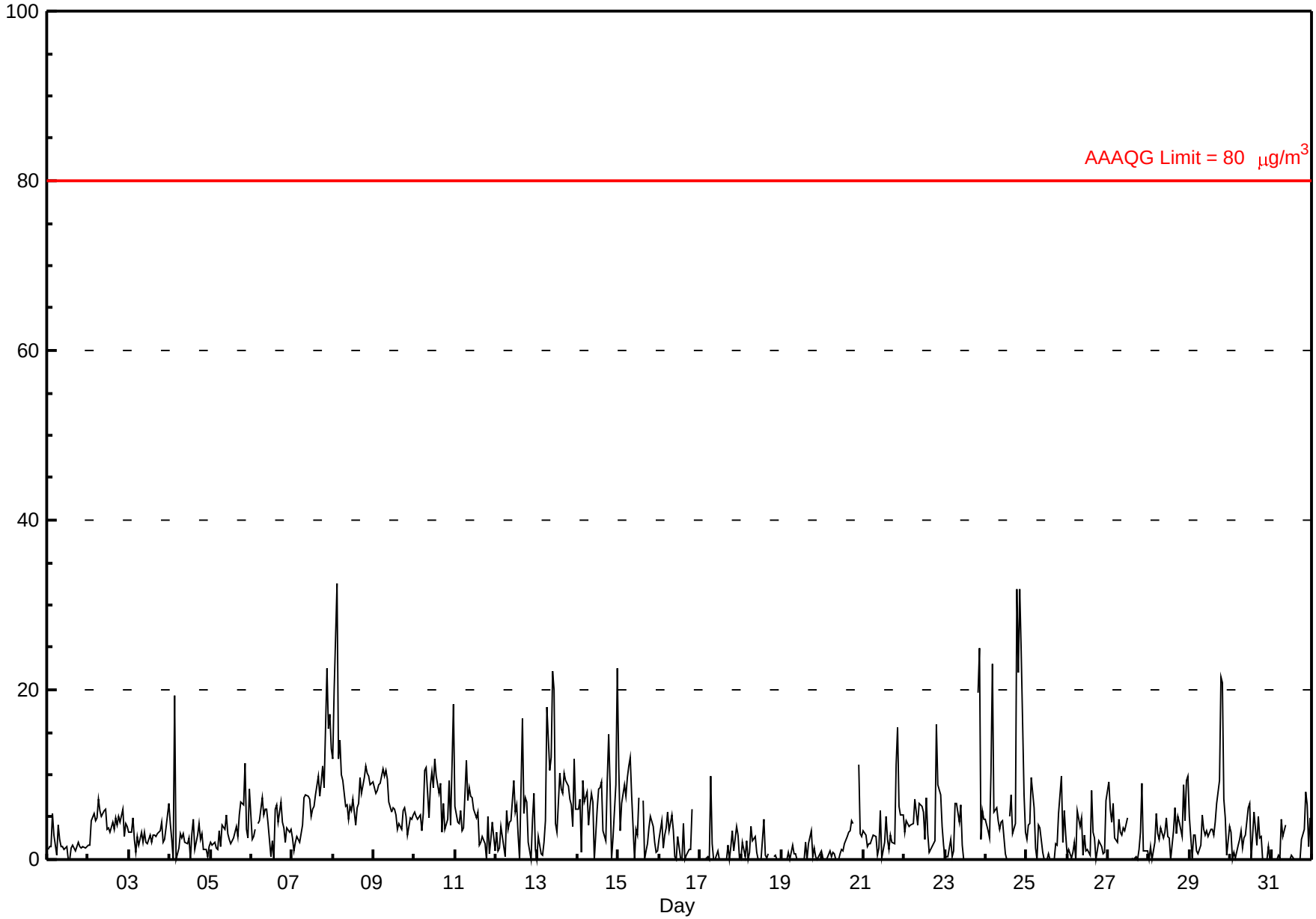
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

Hourly Averages

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

Smoky Heights - August 2013



Peace Airshed Zone Association

Hourly Maximums

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

Smoky Heights - August 2013

Maximum Value: 121.9 $\mu g/m^3$ on Aug 24 21:00

Maximum Daily Average: 32.4 $\mu g/m^3$ on Aug 24

Minimum Value: 0 $\mu g/m^3$ on Aug 30 21:00

Minimum Daily Average: 7.1 $\mu g/m^3$ on Aug 19

Maximum Diurnal Average: 21.8 $\mu g/m^3$ at hour 21

Minimum Diurnal Average: 10.1 $\mu g/m^3$ at hour 2

Monthly Average: 13.29 $\mu g/m^3$

Percentiles: $P_1 = 3.2$ $P_{10} = 5.9$ $Q_1 = 7.8$ Median = 10.5 $Q_3 = 14.7$ $P_{90} = 22.0$ $P_{99} = 77.8$

Hours in Service:	744
Hours of Data:	734
Hours of Missing Data:	10
Hours of Calibration:	0
Percent Operational Time:	98.7

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	7	7	7	27	11	8	11	9	7	6	5	7	5	4	6	6	6	6	7	8	6	8	6	7	7.8	26.9
2-Aug	7	7	11	10	10	12	13	12	10	12	12	8	8	8	9	9	11	9	12	11	13	8	10	10	10.0	13.5
3-Aug	9	9	12	9	8	10	10	9	8	8	7	8	11	7	9	8	8	8	9	11	6	8	10	14	8.9	13.7
4-Aug	19	11	7	51	4	9	9	9	9	8	8	11	7	11	15	15	13	14	13	10	9	8	5	8	11.8	50.8
5-Aug	9	8	8	7	8	10	7	11	10	11	10	9	9	8	11	11	9	14	16	18	40	11	9	22	11.9	40.1
6-Aug	10	10	11	D	11	11	16	10	11	13	10	9	12	6	17	19	21	13	10	10	11	11	12	10	11.8	21.1
7-Aug	10	8	9	8	8	9	9	14	13	14	14	16	13	13	14	17	14	17	21	17	48	39	29	25	16.9	48.3
8-Aug	23	39	54	42	29	30	24	12	13	12	13	13	15	12	13	14	25	14	16	17	16	19	14	14	20.4	54.3
9-Aug	14	13	14	14	15	16	16	17	18	12	10	12	13	13	13	10	14	12	16	14	10	10	11	10	13.2	17.9
10-Aug	11	11	11	14	12	13	22	23	13	15	17	20	20	18	17	20	19	25	15	18	23	10	44	29	18.3	43.8
11-Aug	13	13	12	14	9	12	26	15	17	15	17	18	13	14	13	12	12	11	14	21	7	9	10	7	13.5	26.4
12-Aug	10	8	10	13	9	7	15	11	11	11	19	16	17	12	10	33	16	18	14	12	7	15	20	13	13.7	33.0
13-Aug	3	9	6	8	11	12	26	20	22	32	30	16	18	20	24	19	22	18	16	20	13	13	42	15	18.0	41.8
14-Aug	15	15	10	23	17	18	10	15	24	15	19	21	20	19	20	13	18	18	39	34	9	12	21	65	20.4	65.2
15-Aug	42	9	13	30	16	27	19	25	15	5	11	14	23	11	31	23	8	11	13	21	26	11	10	7	17.5	41.8
16-Aug	12	15	9	14	12	23	10	11	10	8	4	13	10	10	43	23	11	14	16	19	14	5	5	5	13.2	43.3
17-Aug	9	4	5	9	8	16	31	16	7	6	12	8	8	7	9	4	9	6	11	8	9	13	12	8	9.8	31.3
18-Aug	7	8	10	10	7	10	10	12	10	8	13	10	7	14	11	17	25	3	5	7	7	4	6	6	9.4	24.8
19-Aug	6	5	5	5	7	7	13	7	9	5	4	7	5	9	9	6	10	10	8	8	6	5	8	6	7.1	13.0
20-Aug	6	6	5	6	7	6	7	6	5	6	7	8	7	10	19	12	12	16	14	N	N	24	9	9	9.3	24.0
21-Aug	10	9	7	7	7	9	8	7	7	8	23	8	9	14	12	10	9	8	9	23	36	34	13	12	12.4	35.7
22-Aug	9	14	11	10	10	12	14	11	11	15	13	18	13	15	19	16	8	8	8	27	40	42	11	8	15.1	42.0
23-Aug	7	8	8	12	8	9	14	11	12	15	10	10	N	N	N	N	N	N	N	78	49	11	13	10	--	78.2
24-Aug	12	8	8	80	96	15	14	10	11	12	12	9	6	3	14	18	10	31	79	87	122	92	19	12	32.4	121.9
25-Aug	11	15	13	18	11	6	4	10	10	8	5	4	6	7	5	6	3	10	7	30	22	7	17	13	10.3	29.5
26-Aug	6	7	6	6	9	5	20	11	13	9	7	10	8	6	17	10	8	6	7	5	5	4	5	14	8.6	20.1
27-Aug	14	11	23	20	8	6	9	9	9	10	13	14	8	4	11	6	5	6	6	14	17	9	5	5	10.2	23.2
28-Aug	6	12	7	9	11	8	10	10	8	9	10	23	13	8	11	22	18	16	12	9	19	10	44	24	13.7	44.3
29-Aug	12	7	8	9	8	4	7	11	8	8	10	10	16	11	12	12	19	25	34	48	47	22	5	9	15.0	48.2
30-Aug	11	6	5	6	7	7	8	8	6	8	10	13	7	9	11	10	12	11	8	5	0	0	8	3	7.5	13.0
31-Aug	2	3	3	4	6	6	16	18	16	3	4	5	7	5	5	3	3	10	6	11	16	14	8	9	7.7	17.7
	10.9	10.1	10.6	16.5	12.9	11.4	13.8	12.3	11.3	10.5	11.6	11.7	11.2	10.3	14.3	13.5	12.5	12.9	15.3	20.8	21.8	15.8	14.3	13.2	Diurnal Average	
	41.8	39.1	54.3	79.8	95.5	29.8	31.3	25.3	24.2	32.0	30.2	23.0	22.8	19.5	43.3	33.0	24.9	31.0	78.7	86.7	121.9	91.8	44.3	65.2	Diurnal Maximum	

D - DAS Failure N - Not Valid

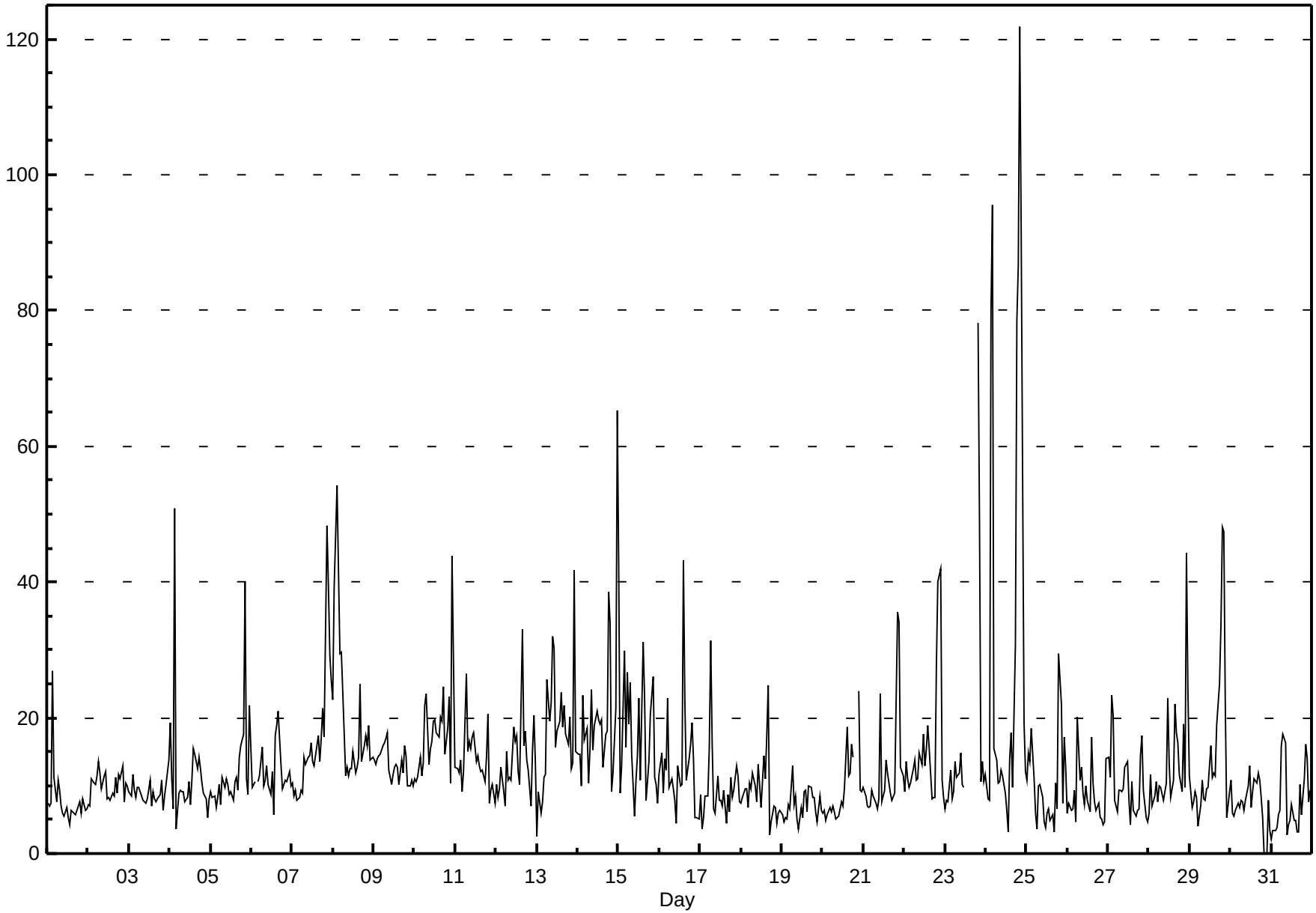
FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

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

Smoky Heights - August 2013

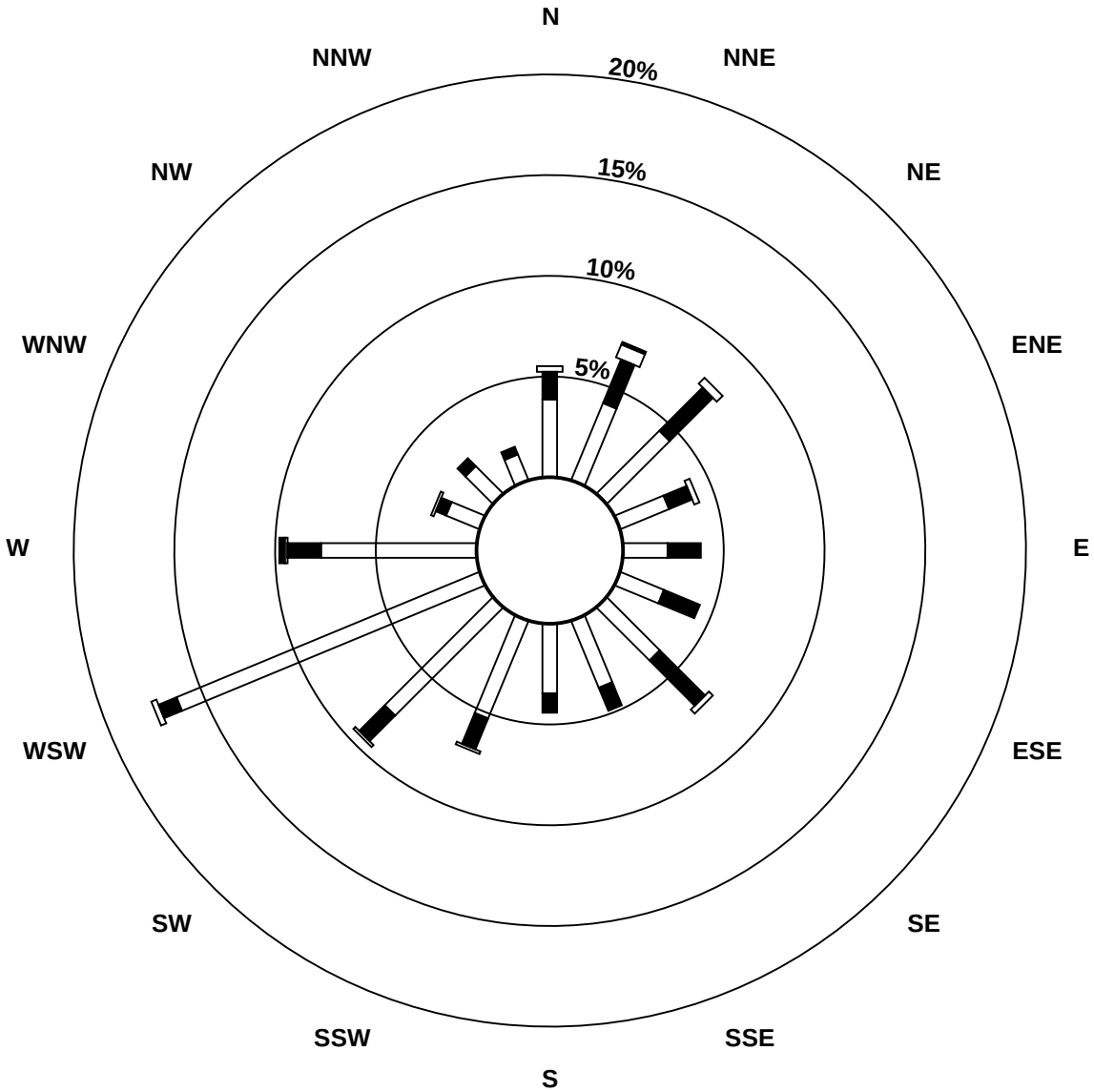


Peace Airshed Zone Association

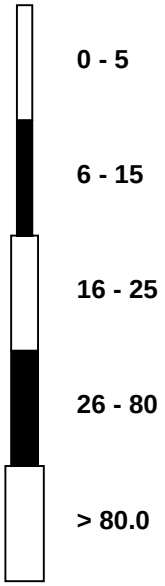
Pollutant Rose

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

Smoky Heights - August 2013



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



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Smoky Heights - August 2013

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

Maximum Value: 26.4 ^{o}C on Aug 10 18:00

Maximum Daily Average: 19.9 ^{o}C on Aug 2

Minimum Value: 4 ^{o}C on Aug 26 04:00

Minimum Daily Average: 12.1 ^{o}C on Aug 26

Maximum Diurnal Average: 22.1 ^{o}C at hour 16

Minimum Diurnal Average: 10.9 ^{o}C at hour 6

Monthly Average: 16.50 ^{o}C

Percentiles: P_1 = 5.9 P_{10} = 10.4 Q_1 = 12.9 Median = 16.2 Q_3 = 20.1 P_{90} = 23.2 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	12	12	11	11	10	10	13	18	19	21	22	24	25	25	25	25	25	25	24	23	20	19	19	17	18.9	25.5
2-Aug	15	14	15	14	13	12	15	17	18	20	22	24	25	25	26	26	26	26	25	23	20	20	19	18	19.9	26.2
3-Aug	17	16	15	16	16	14	14	15	15	16	17	18	19	20	21	22	22	21	21	20	19	17	16	15	17.6	22.3
4-Aug	16	15	13	12	11	12	14	15	17	19	21	21	19	22	22	24	24	22	22	23	20	16	14	13	17.8	24.0
5-Aug	12	12	12	11	10	10	11	13	14	17	21	23	25	25	25	26	26	26	24	22	18	15	15	15	17.9	26.1
6-Aug	15	13	14	D	12	13	14	17	18	20	23	25	26	26	26	25	21	19	17	16	16	16	16	16	18.5	26.4
7-Aug	15	14	14	14	14	14	14	15	16	17	19	20	19	19	19	20	20	20	19	18	17	16	16	15	16.9	20.3
8-Aug	14	14	13	12	12	11	14	15	17	18	19	19	20	21	21	21	21	20	20	18	16	15	14	13	16.5	21.4
9-Aug	13	13	12	12	11	11	12	13	15	17	19	20	22	22	23	24	24	23	23	21	20	19	19	17	17.6	23.6
10-Aug	16	15	14	13	12	11	12	15	16	17	20	22	24	24	25	25	26	26	26	24	20	18	16	17	19.0	26.4
11-Aug	18	18	17	17	16	15	16	17	18	18	20	23	22	23	23	22	24	23	23	22	19	16	17	16	19.2	23.9
12-Aug	15	15	13	13	14	12	12	13	16	18	20	21	22	24	23	24	24	25	23	21	19	18	18	17	18.4	24.6
13-Aug	16	15	15	15	14	14	14	16	17	18	19	19	21	22	24	24	24	23	22	22	19	17	17	16	18.5	24.3
14-Aug	16	16	15	14	13	14	14	15	16	19	23	23	22	24	25	26	26	26	25	22	20	17	17	17	19.2	26.0
15-Aug	17	17	18	18	16	16	17	18	18	17	16	17	19	22	24	24	24	24	24	23	18	16	16	14	18.8	24.3
16-Aug	14	14	14	13	13	15	15	15	15	15	15	15	17	19	21	22	22	22	20	18	17	15	14	13	16.3	21.9
17-Aug	11	11	9	9	8	8	9	13	16	19	20	21	22	23	23	23	23	23	22	20	16	14	14	14	16.2	23.1
18-Aug	11	10	10	10	9	8	10	13	15	18	20	21	21	18	17	18	17	18	18	17	14	12	11	9	14.5	21.0
19-Aug	9	9	8	7	8	6	10	10	12	14	16	17	19	20	20	20	19	17	13	13	11	11	11	10	12.9	19.7
20-Aug	10	9	8	7	8	8	8	10	13	14	15	16	16	15	15	16	16	16	15	15	13	13	13	12	12.6	16.2
21-Aug	11	10	11	10	10	10	10	11	13	15	17	18	19	20	20	21	21	21	20	17	14	11	10	9	14.5	21.0
22-Aug	10	8	8	7	6	6	8	10	11	13	15	18	20	21	22	22	23	23	22	19	17	15	12	13	14.6	23.2
23-Aug	15	12	10	10	9	9	9	12	16	19	21	22	24	24	25	24	24	24	22	19	17	18	16	16	17.3	24.5
24-Aug	14	13	12	10	10	10	11	13	16	18	19	22	23	23	23	23	23	23	21	19	16	14	14	14	16.9	23.4
25-Aug	13	13	13	13	13	12	11	11	13	14	15	17	19	20	20	20	21	21	20	18	13	9	8	6	14.7	20.9
26-Aug	6	6	5	4	5	4	5	8	12	15	16	17	18	18	17	16	17	16	16	15	14	13	13	13	12.1	17.7
27-Aug	13	13	12	12	12	12	12	13	12	13	15	17	19	20	20	21	22	22	21	18	14	13	10	10	15.2	21.9
28-Aug	8	7	6	6	7	8	9	10	13	15	15	18	20	21	21	21	21	20	19	18	16	14	13	12	14.1	21.3
29-Aug	13	12	12	11	11	11	11	11	12	12	13	15	17	18	19	19	19	19	19	17	16	14	15	14	14.6	19.5
30-Aug	14	13	12	13	12	12	12	12	13	13	14	15	17	18	19	19	17	17	16	17	15	13	13	13	14.6	18.6
31-Aug	12	11	10	9	9	9	9	12	14	17	19	19	20	22	22	23	23	23	22	19	15	13	11	11	15.6	23.2
	13.2	12.5	12.0	11.4	11.1	10.9	11.8	13.4	15.1	16.7	18.2	19.7	20.6	21.4	21.9	22.1	22.1	21.7	20.8	19.3	16.8	15.0	14.3	13.8	Diurnal Average	
	18.4	18.1	18.0	18.0	16.5	15.9	16.7	17.7	18.9	20.6	23.0	25.2	25.9	26.3	26.4	26.1	26.4	26.4	26.1	24.4	20.4	19.7	18.8	17.8	Diurnal Maximum	

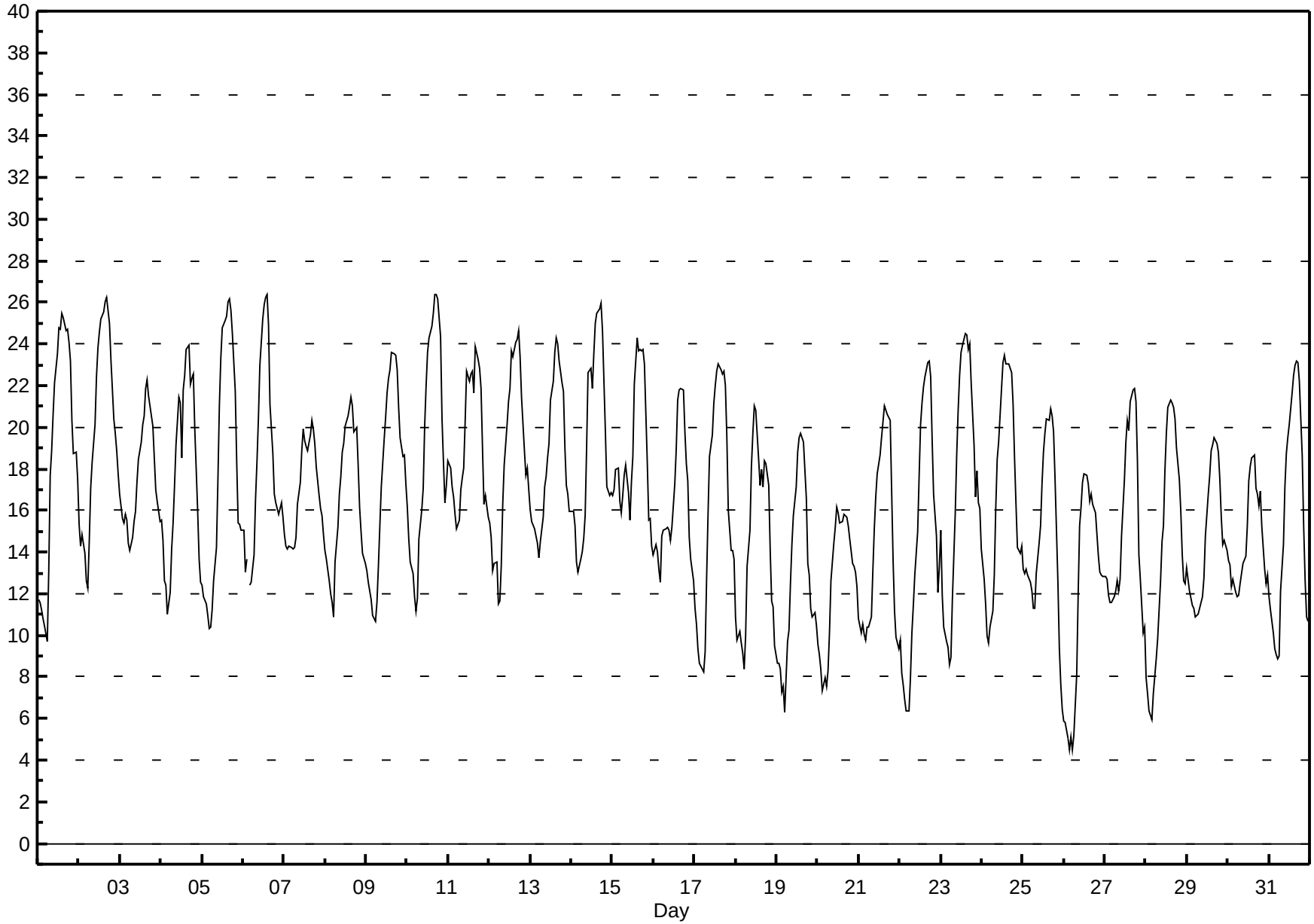
D - DAS Failure

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Smoky Heights - August 2013



Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Smoky Heights - August 2013

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1 Spd	1	2	4	2	2	2	1	2	2	3	6	7	6	11	9	9	11	13	11	9	7	8	12	10	4.9	12.5
Dir	360	320	293	306	21	300	288	197	143	127	128	109	99	105	81	60	57	65	66	73	69	61	81	77	75.8	65.2
2 Spd	5	4	7	3	2	1	2	3	9	11	9	11	12	11	10	11	9	11	10	8	6	9	8	7	5.6	11.9
Dir	39	38	130	153	180	175	42	98	134	138	116	129	110	123	117	142	97	67	63	57	36	52	21	27	95.9	109.8
3 Spd	7	7	10	22	10	4	3	6	6	4	2	3	2	4	3	3	5	4	2	4	4	4	3	3	2.1	21.9
Dir	24	24	343	321	349	97	341	292	293	307	327	268	102	82	96	168	191	161	134	189	219	230	345	19	331.5	320.6
4 Spd	4	2	5	3	3	3	0	1	3	5	4	4	11	9	4	0	5	6	4	4	2	3	6	6	1.4	11.1
Dir	47	16	300	351	254	188	228	146	168	171	163	204	225	211	101	64	62	95	130	179	153	255	279	279	199.3	225.5
5 Spd	8	5	3	3	2	1	4	5	6	5	6	5	4	5	4	3	5	3	3	2	2	2	3	6	1.6	8.0
Dir	284	265	178	196	250	232	229	173	174	164	167	163	159	150	155	116	96	131	84	36	13	307	26	42	167.5	283.8
6 Spd	3	4	8	D	1	2	1	3	4	4	4	3	5	4	8	11	9	11	11	6	3	4	3	2	0.4	11.2
Dir	4	278	270	D	55	15	13	79	159	130	143	149	158	154	147	71	266	317	10	30	53	234	189	358	45.2	316.8
7 Spd	1	5	4	4	1	3	4	5	7	6	7	9	8	5	5	4	6	5	4	5	5	6	7	7	4.7	8.7
Dir	346	357	1	357	349	10	18	17	39	33	21	13	35	35	9	37	67	103	65	9	30	56	36	8	27.7	13.3
8 Spd	4	5	5	5	6	6	7	6	7	10	14	15	14	18	14	15	14	12	13	13	9	12	10	11	8.3	17.6
Dir	16	25	26	19	27	35	83	82	80	129	145	129	137	142	136	140	109	99	139	142	143	129	132	126	118.7	141.7
9 Spd	11	10	5	3	5	5	5	5	4	9	6	7	7	7	7	6	7	9	7	8	8	9	10	11	6.0	11.3
Dir	134	124	113	62	29	29	39	34	97	144	147	128	120	139	151	142	117	110	110	113	94	131	135	150	119.2	150.3
10 Spd	9	2	1	2	2	1	1	1	6	3	2	3	3	2	3	5	4	5	5	5	3	5	3	6	1.5	9.0
Dir	148	157	152	315	309	323	301	210	173	149	103	88	128	120	129	173	123	117	111	107	294	304	312	14	130.6	148.4
11 Spd	7	3	3	4	1	4	2	4	6	3	7	5	6	11	9	6	9	8	5	3	4	5	7	6	4.7	11.3
Dir	3	351	350	235	332	16	336	349	347	54	23	36	50	38	42	35	39	36	34	18	15	4	6	6	21.1	37.7
12 Spd	7	7	5	8	7	3	3	1	2	6	7	8	8	8	9	8	6	5	6	5	4	5	5	11	3.9	11.3
Dir	7	1	23	3	353	54	105	179	131	66	48	54	66	71	87	63	59	56	49	47	25	40	235	259	42.6	258.7
13 Spd	8	2	2	3	3	1	2	3	3	4	4	5	4	3	2	6	4	8	5	7	4	3	2	3	1.6	8.4
Dir	317	98	286	319	319	274	60	138	119	126	140	178	201	137	160	140	176	199	226	263	261	212	305	211	202.1	198.6
14 Spd	2	11	6	1	4	4	2	3	1	6	10	12	7	4	4	3	7	6	4	1	3	3	4	4	1.8	12.2
Dir	303	296	280	94	242	252	141	50	73	179	157	162	194	201	158	205	222	225	143	21	359	342	350	39	208.4	162.2
15 Spd	4	4	5	6	4	5	3	8	8	23	14	7	4	2	3	8	7	6	4	2	1	5	5	7	1.6	23.0
Dir	96	355	5	2	1	89	330	261	213	248	293	357	188	297	86	124	147	146	140	104	257	264	269	260	258.2	248.0
16 Spd	5	5	4	3	4	11	9	9	13	18	17	11	11	11	6	10	10	7	5	2	15	12	15	13	7.9	17.9
Dir	242	215	135	331	196	223	232	194	182	207	212	228	249	244	174	145	156	168	250	116	230	239	234	226	213.5	206.5
17 Spd	11	8	6	5	5	5	6	4	11	22	23	26	27	30	26	26	22	20	17	10	7	8	11	11	14.0	30.1
Dir	201	217	247	209	247	250	206	213	241	243	244	245	242	247	253	255	259	265	256	252	241	263	263	266	247.0	246.5
18 Spd	7	9	10	10	10	8	7	4	8	11	12	17	25	23	17	23	19	27	26	21	12	8	13	9	13.1	27.1
Dir	219	238	263	271	237	217	190	192	205	191	199	219	238	252	272	254	225	232	229	243	248	236	242	257	236.0	232.2
19 Spd	9	8	10	7	13	9	13	14	20	22	30	29	38	42	36	34	37	39	32	30	23	25	29	27	23.5	42.2
Dir	256	248	251	250	229	253	239	226	248	226	238	228	240	255	256	259	253	247	240	234	223	228	239	237	242.1	254.9
20 Spd	21	17	17	16	20	20	18	21	31	40	42	40	35	36	42	39	33	26	24	22	21	19	15	12	25.6	41.8
Dir	241	241	236	239	248	249	244	243	248	256	260	259	257	254	259	260	264	265	268	285	285	280	276	275	258.1	259.0
21 Spd	8	7	10	8	9	14	13	13	19	20	21	18	17	18	20	21	20	17	14	9	6	9	10	13	13.7	21.4
Dir	251	249	259	234	243	248	246	257	259	259	257	250	238	231	236	235	243	243	237	235	241	266	253	229	245.6	234.5
22 Spd	9	5	5	8	6	9	11	11	11	10	19	17	17	15	13	15	17	19	15	6	2	7	5	6	9.9	19.0
Dir	238	204	202	204	227	230	215	205	208	217	186	206	225	232	245	231	250	259	252	255	266	266	238	269	228.6	185.5

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Smoky Heights - August 2013

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	4	5	6	8	8	5	5	6	8	10	10	7	12	10	8	5	3	2	1	3	8	5	5	4.9	11.7
Dir	283	208	215	212	251	202	246	234	219	183	185	231	204	214	192	161	160	138	138	357	195	165	227	16	207.6	213.7
24 Spd	3	7	5	2	6	3	3	5	8	11	12	15	24	30	30	22	19	13	10	8	7	9	4	3	9.5	29.9
Dir	170	256	269	234	222	211	153	166	201	198	199	226	246	247	258	270	265	271	275	279	276	288	250	249	247.8	257.8
25 Spd	4	3	3	8	3	7	8	8	8	11	17	21	22	20	19	19	21	19	13	6	2	6	8	8	10.5	21.9
Dir	272	236	242	180	253	271	270	232	259	243	251	252	245	245	240	270	262	270	277	251	233	270	274	263	254.4	244.7
26 Spd	5	5	6	4	2	1	1	0	1	7	9	9	11	11	10	14	17	20	15	10	6	5	4	5	4.9	19.6
Dir	229	242	250	204	273	66	41	142	64	51	45	49	55	53	101	121	125	129	123	110	86	99	100	68	100.3	129.0
27 Spd	3	3	3	1	0	0	3	7	13	5	9	11	11	17	17	11	15	19	15	10	10	11	6	4	6.9	18.6
Dir	60	39	37	7	238	343	197	206	227	210	191	182	209	234	253	244	224	248	252	229	262	288	212	272	234.2	248.2
28 Spd	6	4	6	3	2	3	2	3	4	6	7	6	6	14	14	6	5	5	5	3	3	3	4	6	1.6	14.0
Dir	282	224	251	222	209	214	221	180	185	178	194	192	175	258	290	318	6	39	56	53	27	32	21	14	255.4	290.2
29 Spd	7	5	8	6	8	8	9	8	9	8	8	7	8	9	7	7	8	9	8	7	7	6	7	7	7.4	9.0
Dir	14	17	12	26	42	17	12	10	35	39	37	35	49	37	49	39	34	34	26	30	29	24	12	15	28.3	36.6
30 Spd	8	6	6	7	8	8	7	5	7	2	5	5	14	18	18	22	22	16	9	13	13	12	12	14	7.2	22.3
Dir	355	27	3	359	13	2	309	317	32	11	199	207	231	242	237	234	245	251	256	250	255	265	266	261	263.0	244.6
31 Spd	15	13	12	11	10	11	8	8	8	16	21	22	22	19	21	20	20	18	14	8	7	8	10	11	13.3	22.4
Dir	265	254	262	261	255	221	217	204	202	242	246	245	239	237	247	255	243	246	253	235	260	261	274	271	246.7	245.2
Spd	2.5	2.4	2.9	2.6	2.7	2.4	2.4	2.9	4.2	5.9	6.2	6.4	7.6	8.1	6.7	6.1	5.7	5.0	3.6	2.6	2.6	3.1	3.5	3.1	Diurnal Average	
Dir	272.5	267.9	273.2	275.8	269.7	249.3	243.8	226.0	219.6	216.6	219.0	221.2	225.3	233.8	236.7	234.2	233.9	237.9	238.6	240.8	255.5	260.2	260.0	269.7		
Spd	21.2	17.3	17.1	21.9	20.3	19.6	18.4	21.1	31.3	40.0	41.7	39.9	37.8	42.2	41.8	39.0	37.3	39.1	32.1	29.5	23.3	25.2	28.6	27.1	Diurnal Maximum	
Dir	241.4	241.1	236.2	320.6	247.9	249.3	243.8	243.3	248.1	255.8	260.5	258.9	239.8	254.9	259.0	260.2	253.2	246.7	240.3	234.0	223.1	228.0	239.2	236.8		

Maximum Speed Value: 42 km/h on Aug 19 14:00
Maximum Daily Speed Average: 25.6 km/h on Aug 20
Maximum Diurnal Speed Average: 8.1 km/h at hour 14

Minimum Speed Value: 0 km/h on Aug 27 05:00
Minimum Daily Speed Average: 0.4 km/h on Aug 10
Minimum Diurnal Speed Average: 2.4 km/h at hour 2

Monthly Average Velocity: 4.01 km/h 239.15 deg

Speed Percentiles: $P_1 = 0.6$ $P_{10} = 2.5$ $Q_1 = 4.1$ Median = 6.9 $Q_3 = 11.1$ $P_{90} = 19.3$ $P_{99} = 38.9$

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

D - DAS Failure

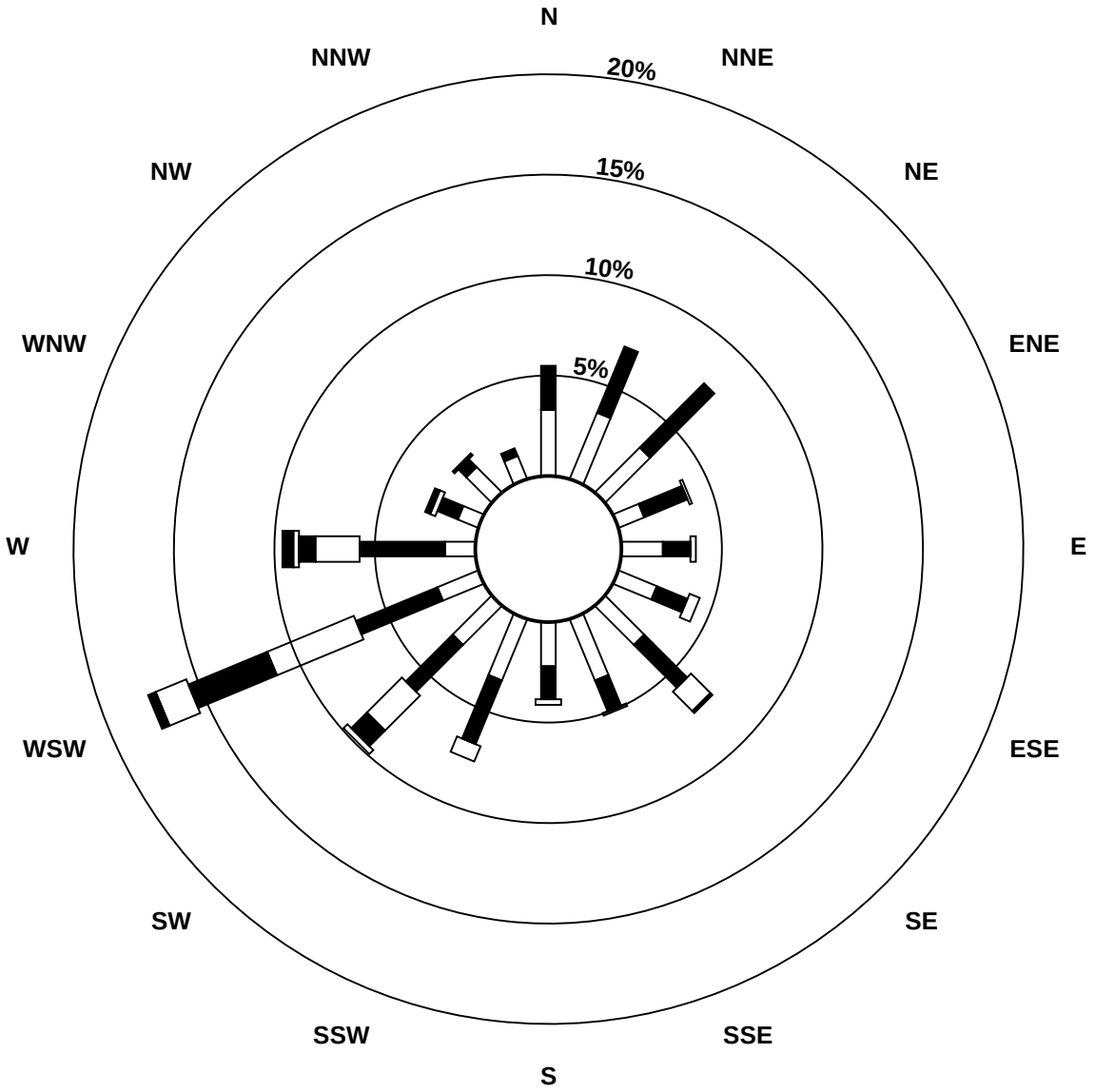
Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	41	36	0	0	0	0	77
NorthEast	33	66	5	0	0	0	104
East	24	23	4	0	0	0	51
SouthEast	37	34	16	1	0	0	88
South	35	32	6	1	0	0	74
SouthWest	37	49	43	28	8	1	166
West	21	57	34	24	8	6	150
NorthWest	23	6	3	1	0	0	33
Total	251	303	111	55	16	7	743

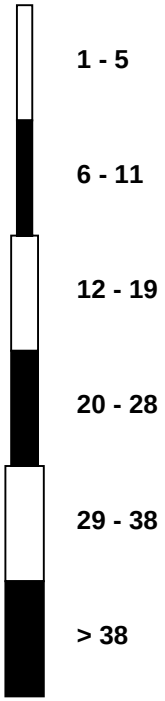
Wind Rose

Wind Speed (WS) (km/h)

Smoky Heights - August 2013



Wind Speed Classes (km/h)



Peace Airshed Zone Association

Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Smoky Heights - August 2013

Maximum Speed: 43 km/h on Aug 19 14:00

Maximum Daily Speed Average: 26.4 km/h on Aug 20

Minimum Speed: 0 km/h on Aug 27 05:00

Minimum Daily Speed Average: 4.0 km/h on Aug 10

Maximum Diurnal Speed Average: 14.5 km/h at hour 14

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

Monthly Average Speed: 9.47 km/h

Percentiles: $P_1 = 0.8$ $P_{10} = 3.2$ $Q_1 = 4.7$ Median = 7.4 $Q_3 = 11.5$ $P_{90} = 19.6$ $P_{99} = 39.1$

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	2	3	4	2	3	2	1	2	2	4	7	8	7	11	9	10	12	13	11	9	7	8	12	10	6.7	12.8
2-Aug	6	5	7	4	2	2	2	4	9	12	9	11	12	11	11	11	10	11	11	8	7	9	9	7	8.0	12.4
3-Aug	7	7	10	22	11	7	5	7	6	5	3	3	4	4	4	4	5	4	2	5	4	5	4	4	6.0	22.4
4-Aug	4	2	5	4	4	3	1	1	3	5	5	6	12	11	8	3	8	7	4	4	2	3	6	6	5.0	11.7
5-Aug	8	6	3	3	3	1	4	5	6	6	6	6	6	6	5	6	5	4	3	3	2	3	3	6	4.5	8.0
6-Aug	4	4	8	D	1	3	3	3	4	4	5	5	6	6	9	12	13	12	11	6	5	5	10	4	6.3	12.8
7-Aug	4	6	4	4	1	3	4	5	7	6	8	9	9	5	5	5	6	6	4	6	5	6	8	7	5.6	9.2
8-Aug	5	6	5	6	6	6	7	7	8	11	15	15	15	18	15	16	16	13	13	13	10	12	10	11	10.7	18.0
9-Aug	11	10	5	3	5	5	5	5	5	9	7	8	8	8	8	7	8	9	8	8	8	10	10	11	7.5	11.3
10-Aug	9	2	1	2	2	1	1	1	6	4	3	4	4	4	4	6	5	5	5	5	4	5	4	6	4.0	9.1
11-Aug	7	6	4	5	4	4	3	4	7	4	8	6	7	12	9	6	10	8	5	4	4	5	7	6	5.9	11.8
12-Aug	7	7	5	8	7	3	3	1	3	7	8	8	8	8	9	8	7	6	6	5	4	6	8	14	6.5	14.0
13-Aug	9	3	3	4	3	1	2	3	3	5	5	6	5	4	4	7	5	9	5	7	4	3	3	4	4.5	8.9
14-Aug	3	11	6	2	4	5	2	3	3	6	11	13	7	4	5	5	7	6	4	1	3	3	4	4	5.2	12.7
15-Aug	5	4	5	6	4	7	3	8	9	24	16	8	5	4	4	8	8	7	4	2	1	5	5	7	6.6	23.7
16-Aug	6	6	4	3	4	12	10	9	13	18	17	11	11	11	9	10	11	7	6	3	16	13	16	13	9.9	18.0
17-Aug	11	9	7	6	5	6	6	4	12	22	24	26	27	30	26	26	22	20	18	10	7	8	12	11	14.8	30.5
18-Aug	8	10	11	10	11	9	7	5	8	11	13	17	26	24	17	23	20	27	26	21	12	9	13	9	14.3	27.3
19-Aug	9	8	10	8	14	9	13	14	20	22	30	30	38	43	36	35	38	39	32	30	23	25	29	27	24.2	42.9
20-Aug	21	17	17	16	20	20	18	21	31	40	42	40	36	37	42	39	33	26	24	22	22	19	15	13	26.4	42.0
21-Aug	8	7	10	8	9	14	13	13	19	21	21	19	18	19	21	22	21	18	14	9	6	10	10	13	14.3	21.9
22-Aug	10	6	5	8	6	10	11	11	12	11	19	17	18	16	13	16	17	19	15	6	2	8	5	6	11.1	19.5
23-Aug	10	5	5	7	9	8	5	6	6	8	10	11	10	12	11	8	5	4	2	1	5	8	7	6	7.0	12.1
24-Aug	5	8	6	2	6	7	4	5	8	11	12	15	24	30	31	23	20	14	10	8	7	9	8	4	11.6	30.9
25-Aug	4	5	5	9	5	8	9	8	9	11	17	22	23	21	20	20	22	20	13	7	2	6	8	8	11.7	22.6
26-Aug	6	5	7	4	4	2	3	0	2	7	9	10	12	12	12	14	18	20	15	10	7	5	5	5	8.0	19.9
27-Aug	3	3	3	1	0	0	4	8	13	6	9	12	14	17	18	12	16	19	15	10	12	12	7	6	9.1	19.0
28-Aug	6	5	6	3	2	4	3	3	5	6	8	7	7	15	15	7	5	6	5	3	3	3	4	6	5.7	14.9
29-Aug	7	6	8	6	8	8	9	9	9	8	8	8	9	9	7	7	8	9	8	7	7	7	7	7	7.8	9.4
30-Aug	8	7	6	7	8	9	7	6	7	3	5	5	14	18	19	22	22	16	9	13	13	12	12	14	11.0	22.5
31-Aug	15	13	12	11	11	11	8	8	8	16	21	23	22	20	22	21	20	18	14	8	7	8	10	11	14.1	22.7
	7.4	6.4	6.4	6.2	5.9	6.1	5.8	6.2	8.5	10.7	12.3	12.6	13.6	14.5	13.8	13.5	13.6	12.9	10.4	8.2	7.1	8.0	8.7	8.5	Diurnal Average	
	21.3	17.5	17.1	22.4	20.3	19.6	18.4	21.2	31.4	40.3	42.0	40.3	38.3	42.9	42.0	39.2	37.7	39.4	32.2	29.6	23.4	25.4	28.7	27.2	Diurnal Maximum	

D - DAS Failure

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

Smoky Heights - August 2013

Maximum Value: 91.3 deg on Aug 4 16:00

Minimum Value: 2.1 deg on Aug 31 04:00

Percentiles: P_1 = 3.5 P_{10} = 7.1 Q_1 = 10.6 Median = 16.6 Q_3 = 30.0 P_{90} = 47.5 P_{99} = 85.6

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)																								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	27	32	11	44	41	35	43	46	27	28	23	27	34	22	21	23	12	12	9	9	13	19	12	10	45.8
2-Aug	24	29	18	40	47	83	15	44	14	12	18	22	17	15	24	22	33	12	9	9	7	10	31	21	83.4
3-Aug	15	19	14	13	16	70	60	16	18	18	48	57	81	37	44	55	32	24	18	21	20	39	32	18	81.2
4-Aug	20	38	16	42	31	25	84	40	34	26	55	60	18	34	74	91	48	40	17	14	28	48	6	4	91.3
5-Aug	3	34	25	16	23	19	19	16	12	14	13	35	53	41	51	76	35	53	24	76	19	15	22	15	75.7
6-Aug	39	41	8	D	42	47	63	41	29	31	42	50	44	52	39	25	76	18	17	16	66	57	73	61	76.4
7-Aug	71	21	29	11	35	21	13	15	11	14	22	20	14	14	17	20	18	14	25	9	18	13	20	24	70.9
8-Aug	25	12	7	6	7	8	22	14	18	21	13	17	16	12	16	10	28	12	10	7	9	7	9	6	28.3
9-Aug	9	8	14	27	7	10	9	12	41	19	36	36	28	30	27	38	24	20	15	9	6	14	11	5	41.0
10-Aug	7	14	29	31	20	31	45	58	16	41	51	51	61	86	49	33	43	19	11	8	66	19	52	12	85.8
11-Aug	11	67	62	39	87	23	61	47	34	40	19	40	16	16	14	26	17	12	14	15	12	9	8	9	87.4
12-Aug	11	14	24	12	44	23	24	63	57	20	19	18	17	23	15	26	23	22	13	9	12	20	87	35	86.8
13-Aug	32	81	55	31	41	74	22	20	29	23	35	17	45	39	72	28	48	13	42	13	31	31	45	58	80.9
14-Aug	87	10	46	88	14	42	65	37	88	19	17	16	15	38	42	59	22	24	15	74	14	16	12	28	87.9
15-Aug	47	16	10	17	14	44	41	11	42	13	29	34	31	76	67	20	24	14	18	22	53	13	13	15	76.2
16-Aug	36	41	27	32	42	23	17	15	6	6	5	7	8	15	47	16	13	14	34	72	21	12	7	17	72.4
17-Aug	9	28	24	33	16	35	17	32	17	8	10	10	9	9	11	8	9	12	6	8	10	10	6	8	34.6
18-Aug	23	6	16	11	20	14	21	23	17	13	17	12	12	12	9	9	18	8	7	9	7	15	4	9	23.1
19-Aug	17	20	16	16	8	19	7	8	9	8	8	10	9	11	7	8	8	7	5	5	4	6	4	5	19.6
20-Aug	5	9	4	4	3	3	4	5	6	6	6	7	8	5	6	6	6	5	7	12	5	6	6	6	12.1
21-Aug	15	13	8	10	9	4	4	5	6	11	11	12	16	17	19	12	11	8	7	13	14	25	6	8	24.9
22-Aug	9	35	49	9	11	7	12	10	9	23	12	12	17	9	15	15	11	10	8	11	29	25	13	18	49.1
23-Aug	11	34	30	17	29	16	17	16	17	11	15	25	45	15	30	20	17	19	23	34	60	10	39	28	59.7
24-Aug	54	18	33	31	16	65	48	20	16	12	10	19	12	10	14	13	11	13	6	11	13	4	61	30	64.9
25-Aug	9	50	67	65	69	36	28	18	11	6	8	10	15	14	21	12	13	11	7	14	31	18	11	10	68.9
26-Aug	37	25	28	30	68	77	72	56	80	13	10	13	13	12	36	9	8	10	7	14	7	8	22	12	79.7
27-Aug	14	14	20	34	86	60	22	17	15	29	22	16	34	12	17	27	18	13	6	7	25	29	27	38	86.2
28-Aug	10	32	18	22	15	14	50	33	17	12	16	31	30	25	19	36	29	30	9	15	13	14	14	9	50.3
29-Aug	7	12	7	26	11	19	18	23	10	13	13	15	17	17	22	17	16	12	10	7	21	21	7	11	26.2
30-Aug	13	24	21	18	9	18	19	34	11	75	18	22	14	10	10	9	8	6	17	6	4	4	5	4	75.0
31-Aug	3	7	2	2	18	6	12	5	9	14	9	10	9	13	17	11	16	10	9	6	13	8	12	7	17.6
	86.7	80.9	67.0	87.6	87.4	83.4	84.2	63.1	87.9	75.0	55.3	60.2	81.2	85.8	73.7	91.3	76.4	52.5	42.3	75.5	65.9	57.2	86.8	61.0	

D - DAS Failure

FOCUS AIR QUALITY MONITORING

PAZA
Beaverlodge Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - August 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 2.4 ppb on Aug 3 00:00 Maximum Daily Average: 0.6 ppb on Aug 9

Minimum Value: 0 ppb on Aug 3 06:00 Minimum Daily Average: 0.0 ppb on Aug 19
Maximum Diurnal Average: 0.2 ppb at hour 10 Minimum Diurnal Average: 0.1 ppb at hour 20
Monthly Average: 0.13 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.2 P_{90} = 0.3 P_{99} = 1.0

Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	35
Percent Operational Time:	99.9

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-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	0.2	0.5
2-Aug	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	0.4	2.4
3-Aug	1	1	0	0	A	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.3
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	0.1	0.3
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	D	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0.3	1.4
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	1	0.2	0.5
9-Aug	1	1	1	0	A	1	1	1	1	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.6	1.5
10-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	0.3	0.8
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	0.1	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	0.3
13-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
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	0.2
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	0.1
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	0.0	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	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
22-Aug	0	0	0	0	A	0	0	0	0	0	C	0	0	0	0	0	0	C	C	C	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	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.9
25-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
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	0.4
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	0.1
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	0.1	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	0.1	0.2
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	0.0	0.0
	0.2	0.1	0.1	0.1	--	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	Diurnal Average	
	1.3	0.7	0.5	0.5	--	0.7	0.7	1.1	1.3	1.5	1.1	1.0	0.6	0.4	0.4	0.6	0.7	0.4	0.4	0.3	1.0	1.4	0.6	2.4	Diurnal Maximum	

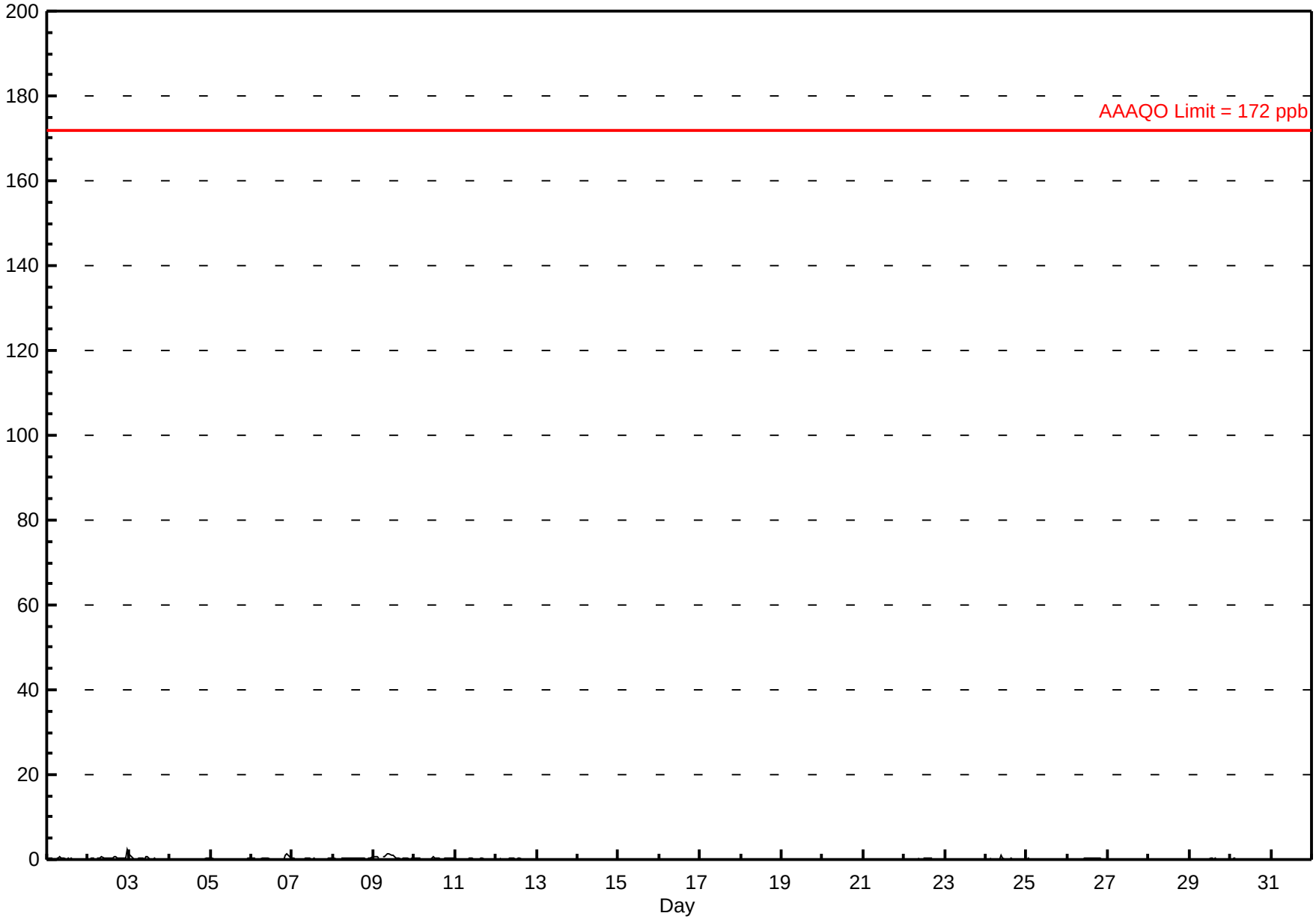
C - Calibration D - DAS Failure A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - August 2013

Maximum Value: 5.0 ppb on Aug 3 00:00

Maximum Daily Average: 0.7 ppb on Aug 9

Minimum Value: 0 ppb on Aug 22 22:00

Minimum Daily Average: 0.1 ppb on Aug 19

Maximum Diurnal Average: 0.4 ppb at hour 11

Minimum Diurnal Average: 0.2 ppb at hour 20

Monthly Average: 0.26 ppb

Percentiles: $P_1 = 0.1$ $P_{10} = 0.1$ $Q_1 = 0.1$ Median = 0.2 $Q_3 = 0.3$ $P_{90} = 0.5$ $P_{99} = 1.4$

Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	35
Percent Operational Time:	99.9

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	1	1	0	1	A	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9
2-Aug	0	0	0	0	A	0	0	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	5	0.7	5.0
3-Aug	2	1	1	0	A	1	1	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	2.4
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	0.2	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	0.4
6-Aug	1	1	1	D	A	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	3	3	1	1	0.6	2.6
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	0.3	0.4
8-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0.4	0.7
9-Aug	1	1	1	1	A	1	1	1	1	2	1	1	1	1	0	0	0	1	1	0	0	0	0	0	0.7	1.7
10-Aug	0	0	0	0	A	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.4	1.3
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	0.3	0.5
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	0.2	0.4
13-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
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	0.2	0.3
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	0.2
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	0.2
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	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
22-Aug	0	0	0	0	A	0	0	0	0	0	C	0	0	0	0	0	0	C	C	C	1	0	0	0	0.3	0.6
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	0.2	0.3
24-Aug	0	0	1	0	A	0	0	0	0	1	1	0	0	0	0	2	1	0	0	0	0	0	0	0	0.4	2.5
25-Aug	0	1	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.0
26-Aug	0	0	0	0	A	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0.3	0.8
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	0.3
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	0.3
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	0.2	0.3
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	0.1	0.2
Diurnal Average	0.3	0.3	0.3	0.2	--	0.2	0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.4		
Diurnal Maximum	2.4	1.0	0.8	0.7	--	0.8	0.8	1.3	1.4	1.7	2.2	1.3	1.0	0.5	0.8	2.5	0.9	0.8	0.6	0.4	2.5	2.6	0.8	5.0		

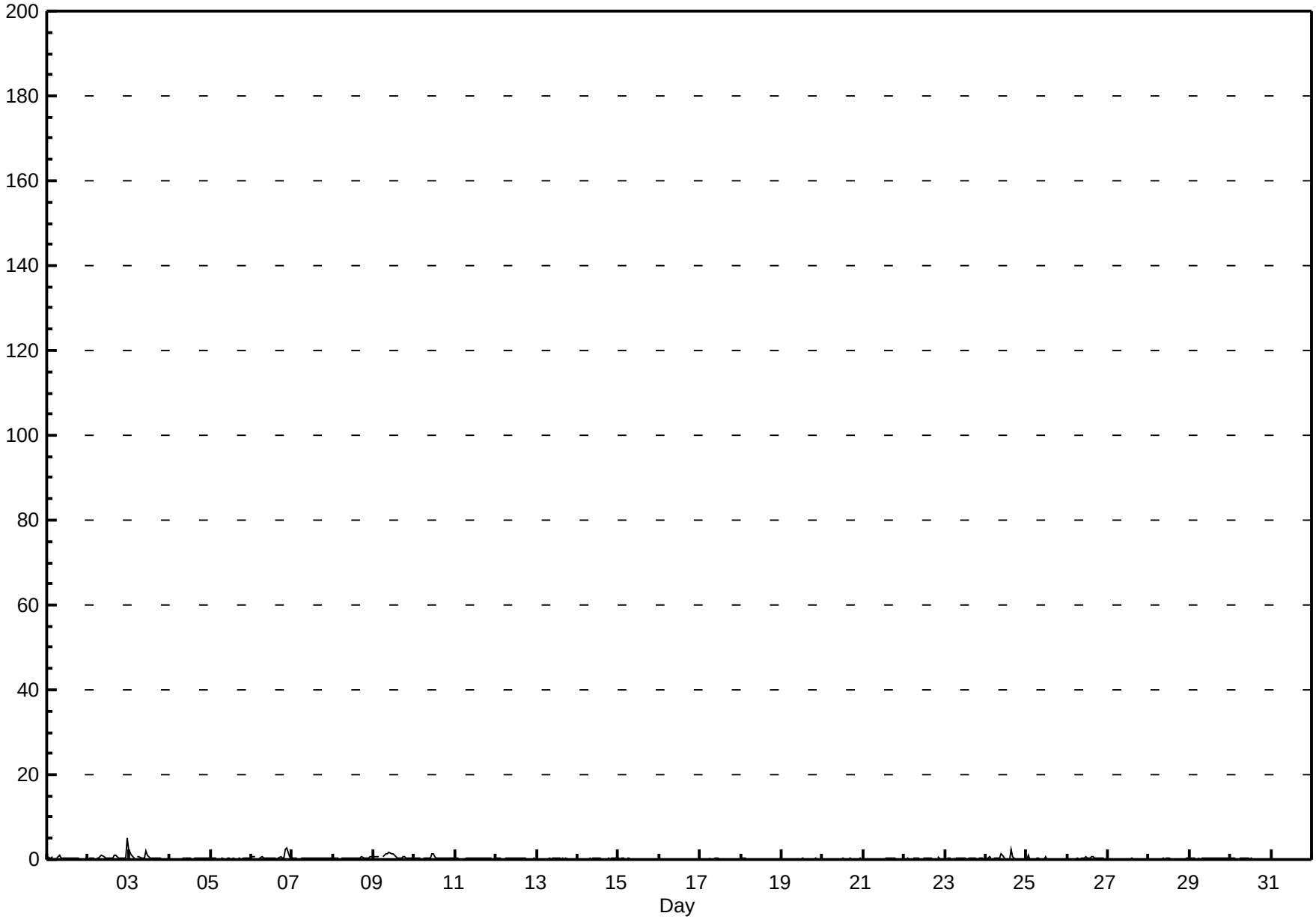
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

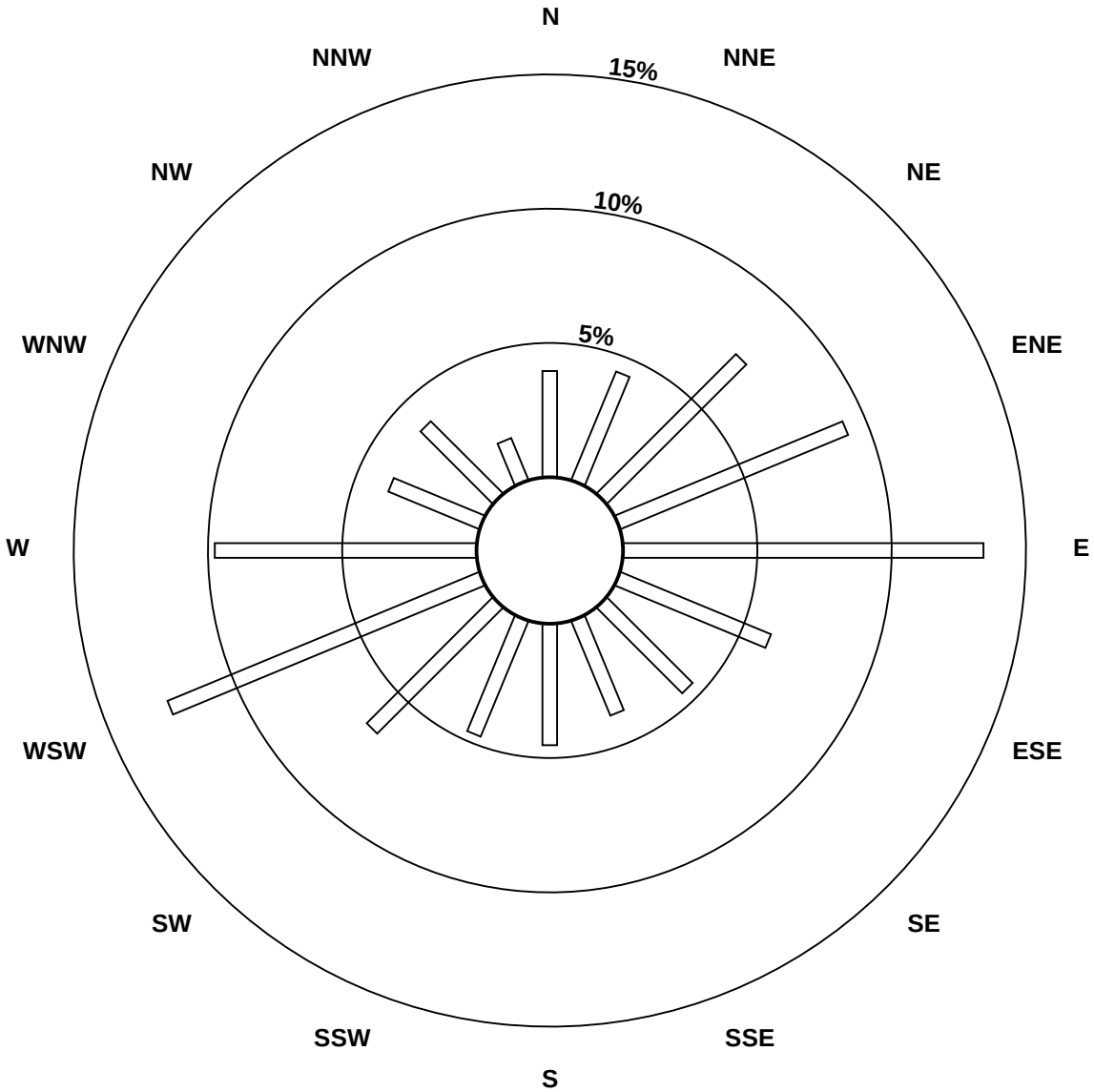
Beaverlodge - August 2013



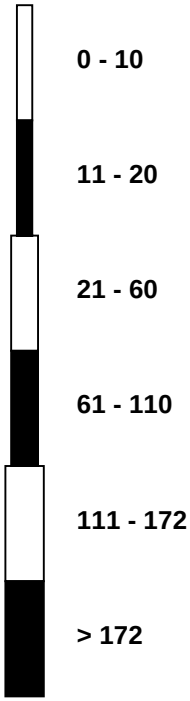
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - August 2013



Pollutant Classes (ppb)

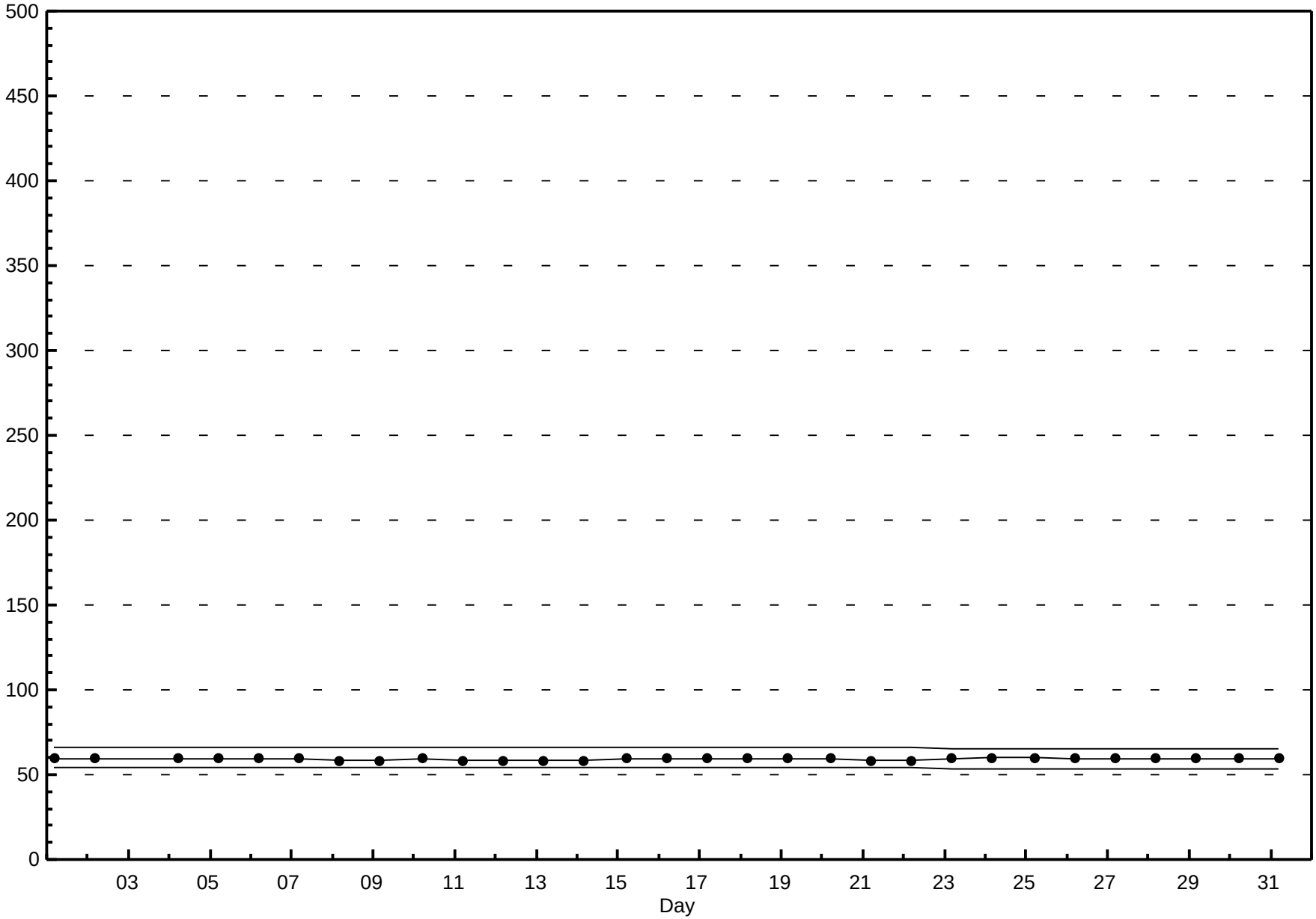


Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Beaverlodge - August 2013



Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - August 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 11.9 ppb on Aug 26 06:00
Maximum Daily Average: 3.2 ppb on Aug 26

Minimum Value: 0 ppb on Aug 3 06:00
Maximum Diurnal Average: 5.4 ppb at hour 6
Monthly Average: 2.17 ppb

Minimum Daily Average: 0.9 ppb on Aug 20
Minimum Diurnal Average: 1.0 ppb at hour 16
Percentiles: $P_1 = 0.5$ $P_{10} = 0.7$ $Q_1 = 1.1$ Median = 1.8 $Q_3 = 2.7$ $P_{90} = 4.4$ $P_{99} = 7.7$

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	39
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	2	2	2	A	5	5	5	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2.0	5.2
2-Aug	1	2	2	3	A	6	5	5	4	3	2	2	2	2	1	1	1	1	1	2	2	1	1	2	2.4	5.8
3-Aug	2	2	1	1	A	0	1	2	1	1	1	1	1	1	1	1	1	2	1	2	2	2	1	2	1.3	2.3
4-Aug	2	3	3	2	A	5	5	2	2	2	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1.8	4.7
5-Aug	2	2	4	5	A	6	4	2	2	2	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2.0	5.7
6-Aug	2	2	3	D	A	5	4	4	3	3	3	2	1	1	1	1	1	1	2	2	2	2	3	4	2.3	5.3
7-Aug	3	3	1	1	A	3	4	3	2	2	2	1	1	2	2	1	1	1	1	1	2	2	1	2	1.7	3.7
8-Aug	1	1	2	2	A	3	3	3	3	3	3	2	2	1	1	1	1	1	1	1	2	2	2	2	1.9	3.0
9-Aug	2	2	2	3	A	5	6	4	4	3	2	2	2	2	1	1	1	2	2	2	2	2	2	2	2.5	5.8
10-Aug	2	3	3	4	A	6	6	5	4	3	3	2	2	1	1	1	1	1	1	1	2	3	3	2	2.6	6.2
11-Aug	2	1	1	1	A	4	4	3	3	2	1	2	2	1	2	1	1	1	1	2	3	3	8	3	2.3	7.9
12-Aug	2	2	2	2	A	6	5	4	3	2	2	2	1	1	1	2	2	2	2	2	2	2	1	1	2.2	6.1
13-Aug	2	2	2	3	A	5	3	4	4	3	2	2	2	2	1	1	1	2	3	4	4	3	2	2	2.6	5.2
14-Aug	2	1	2	2	A	3	5	4	2	2	1	1	1	1	1	1	1	2	2	2	4	3	4	2	2.2	4.7
15-Aug	3	4	3	3	A	6	5	5	3	2	2	2	1	1	1	1	1	1	2	2	1	1	2	2	2.3	6.2
16-Aug	3	3	2	3	A	5	4	4	3	2	2	1	1	1	1	1	1	1	1	1	1	2	2	2	2.0	4.9
17-Aug	3	2	3	3	A	6	4	2	2	2	1	1	1	1	1	1	1	1	1	0	1	2	2	1	1.9	6.2
18-Aug	1	2	2	2	A	8	5	3	2	2	1	2	3	2	1	1	1	1	1	1	1	1	1	1	1.9	7.7
19-Aug	0	1	1	0	A	4	4	2	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1	0	1.2	4.5
20-Aug	0	0	0	0	A	4	2	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	0.9	3.6
21-Aug	1	1	1	1	A	5	3	2	1	1	1	1	1	3	1	1	1	1	1	1	5	2	2	2	1.6	4.7
22-Aug	3	3	11	4	A	7	10	9	6	5	C	C	C	C	C	C	C	C	2	2	3	3	2	1	--	11.3
23-Aug	1	1	1	1	A	6	4	4	4	2	1	1	1	1	1	1	1	1	2	2	2	4	2	2	2.0	6.4
24-Aug	3	3	3	3	A	7	6	5	3	2	1	1	1	1	1	1	0	1	1	3	2	2	3	2	2.3	7.0
25-Aug	3	1	1	2	A	6	4	4	2	1	1	1	1	1	1	1	0	1	1	1	3	1	1	1	1.6	5.5
26-Aug	1	2	2	3	A	12	10	5	5	6	5	1	2	1	1	1	1	2	2	2	2	2	3	2	3.2	11.9
27-Aug	3	2	2	2	A	4	3	5	4	2	1	1	1	1	1	1	1	1	1	2	1	2	1	2	1.9	5.0
28-Aug	2	1	4	2	A	8	7	5	7	6	5	3	3	1	1	1	1	1	2	3	2	2	3	2	3.0	8.4
29-Aug	3	3	4	2	A	5	5	5	5	3	3	3	2	2	2	2	1	2	2	2	2	2	2	2	2.8	5.2
30-Aug	3	2	2	3	A	8	6	6	7	5	5	3	2	2	1	1	1	1	4	5	3	3	2	1	3.2	7.9
31-Aug	1	2	4	3	A	5	4	3	2	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	1.7	4.7
	1.9	1.9	2.5	2.2	--	5.4	4.7	3.9	3.1	2.5	1.9	1.5	1.3	1.2	1.0	1.0	1.0	1.1	1.4	1.8	2.1	2.0	2.1	1.8	Diurnal Average	
	3.1	3.6	11.3	5.0	--	11.9	10.3	8.8	7.4	6.1	4.8	2.8	2.6	3.5	1.8	1.7	2.8	2.1	3.5	4.8	4.7	4.4	7.9	3.8	Diurnal Maximum	

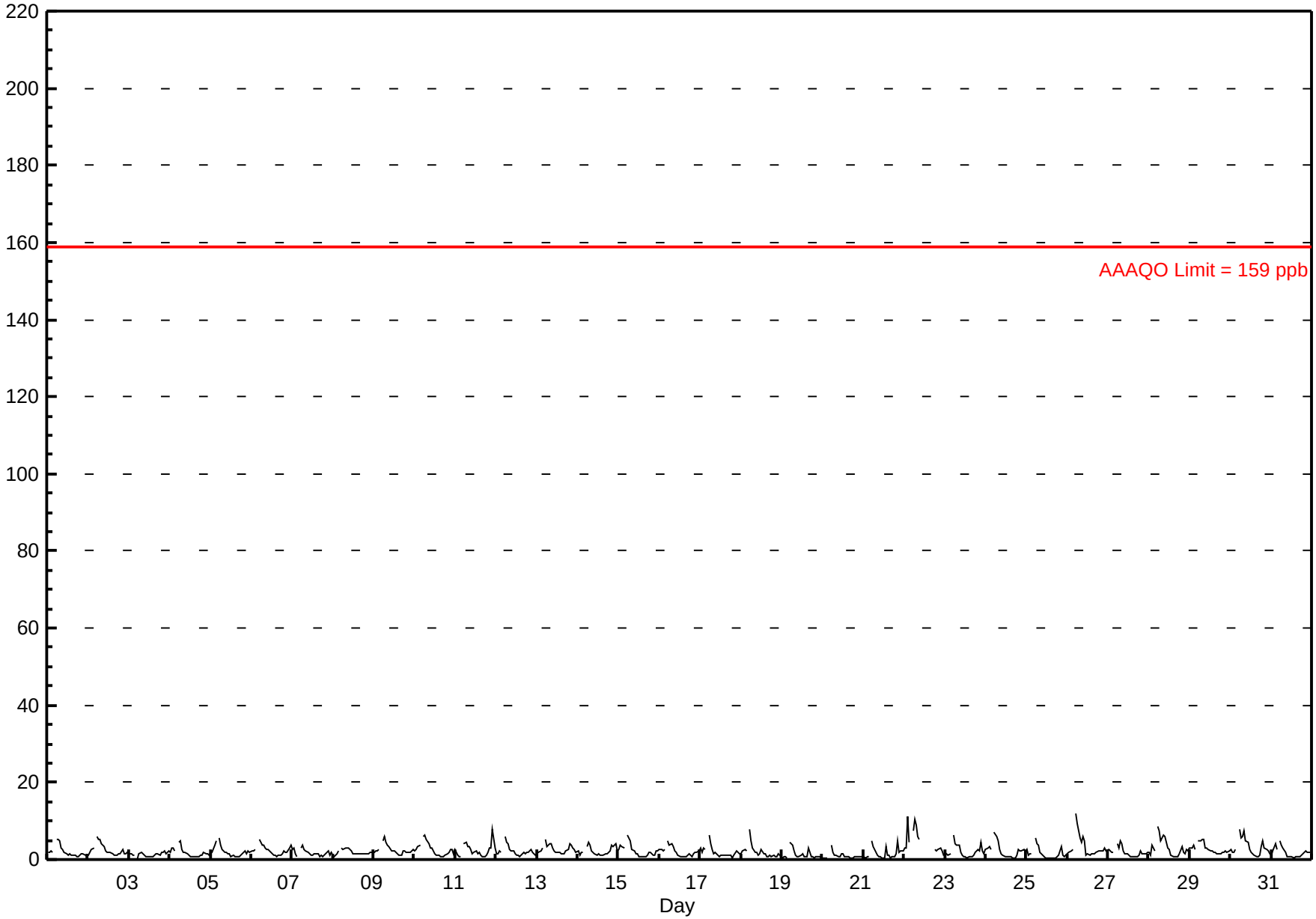
C - Calibration D - DAS Failure A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb

Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - August 2013

Maximum Value: 220.9 ppb on Aug 21 14:00

Maximum Daily Average: 13.1 ppb on Aug 21

Minimum Value: 1 ppb on Aug 20 04:00

Minimum Daily Average: 2.4 ppb on Aug 8

Maximum Diurnal Average: 10.9 ppb at hour 14

Minimum Diurnal Average: 1.7 ppb at hour 16

Monthly Average: 4.16 ppb

Percentiles: P_1 = 0.9 P_{10} = 1.3 Q_1 = 2.0 Median = 2.9 Q_3 = 4.7 P_{90} = 7.2 P_{99} = 14.9

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	39
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	2	4	2	A	7	9	10	5	4	3	2	2	2	2	2	2	1	1	2	5	3	1	1	3.2	9.8
2-Aug	2	3	3	4	A	9	8	7	5	4	3	3	2	3	2	2	2	3	2	3	4	3	3	3	3.5	8.5
3-Aug	2	3	2	2	A	1	4	5	3	1	1	1	1	1	1	2	2	3	2	7	4	4	3	4	2.6	7.0
4-Aug	5	4	5	3	A	6	9	4	2	2	2	1	1	1	2	1	1	1	2	2	5	3	3	2	2.9	8.6
5-Aug	7	5	10	8	A	8	5	3	3	2	2	2	1	1	1	1	1	1	2	5	5	3	3	3	3.6	10.4
6-Aug	3	3	4	D	A	8	6	4	4	3	3	2	2	2	7	2	2	4	3	5	2	2	4	6	3.7	7.5
7-Aug	4	6	4	1	A	5	7	3	3	3	2	2	2	2	3	3	1	2	2	2	2	3	3	3	2.9	6.8
8-Aug	2	1	3	3	A	3	5	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2.4	4.5
9-Aug	2	3	3	3	A	5	11	8	5	4	3	3	3	2	2	2	2	6	3	3	2	3	3	3	3.6	10.9
10-Aug	3	3	4	4	A	10	9	9	6	3	4	3	2	1	2	1	1	1	2	2	3	4	4	3	3.6	9.5
11-Aug	4	3	7	1	A	6	6	4	5	5	4	3	3	3	3	1	2	1	2	4	7	5	16	6	4.3	15.9
12-Aug	3	2	3	4	A	9	6	6	4	3	4	4	4	4	2	3	3	2	3	3	4	3	2	2	3.5	8.9
13-Aug	2	4	3	4	A	8	5	6	6	3	3	2	5	48	2	2	4	5	4	7	6	5	3	3	6.1	48.4
14-Aug	3	2	3	2	A	4	7	5	3	2	2	1	2	2	2	2	2	2	3	5	6	8	7	4	3.5	7.5
15-Aug	5	7	7	4	A	9	8	6	10	3	3	5	1	1	1	2	1	2	3	3	2	2	7	4	4.2	9.6
16-Aug	4	4	3	3	A	7	7	7	5	3	3	2	1	1	1	2	1	7	4	2	3	4	4	3	3.6	7.2
17-Aug	5	2	12	6	A	8	7	3	2	3	2	2	3	1	2	2	2	2	2	4	6	4	5	2	3.8	12.2
18-Aug	3	4	3	3	A	9	8	4	3	2	2	2	4	3	3	2	1	2	1	2	2	2	5	1	3.2	9.3
19-Aug	1	2	2	1	A	6	6	5	3	1	1	16	49	3	1	2	19	12	1	2	2	1	2	1	6.1	49.5
20-Aug	1	1	1	1	A	6	4	2	10	4	6	12	7	6	2	1	2	1	1	1	2	2	2	1	3.3	11.7
21-Aug	2	2	2	2	A	7	5	4	2	2	1	1	7	221	3	3	3	5	2	4	10	3	4	5	13.1	220.9
22-Aug	6	4	16	14	A	9	13	12	8	8	C	C	C	C	C	C	C	C	4	6	6	7	7	3	--	15.9
23-Aug	2	4	3	5	A	11	6	5	5	4	3	1	1	1	1	1	1	2	4	5	4	5	4	2	3.5	11.4
24-Aug	4	4	5	4	A	23	11	7	4	2	2	1	1	1	1	1	1	1	2	6	9	7	6	3	4.7	23.1
25-Aug	8	3	3	2	A	8	5	5	4	3	2	1	1	1	1	1	1	1	1	2	7	2	1	3	2.9	8.5
26-Aug	3	3	5	4	A	18	13	9	7	8	6	2	2	2	2	2	2	3	3	3	3	3	4	3	4.8	18.2
27-Aug	3	3	2	3	A	6	4	7	6	4	2	2	2	2	1	2	1	2	2	5	3	3	2	3	3.0	6.9
28-Aug	7	2	6	3	A	10	11	6	8	7	6	4	4	2	1	1	1	1	3	6	4	4	5	3	4.6	11.0
29-Aug	6	5	5	3	A	7	6	8	8	4	4	4	3	3	2	2	2	2	2	3	3	4	2	3	3.9	8.2
30-Aug	4	3	3	4	A	14	7	7	11	8	7	4	5	3	3	2	1	4	9	10	5	5	4	4	5.4	13.7
31-Aug	1	4	7	6	A	6	5	4	2	1	2	1	1	1	1	1	1	2	2	4	4	3	3	3	2.9	6.9
	3.5	3.3	4.5	3.7	--	8.1	7.2	5.7	5.0	3.6	2.9	3.0	4.1	10.9	2.0	1.7	2.3	2.8	2.6	3.8	4.3	3.6	3.9	3.1	Diurnal Average	
	8.5	7.2	15.9	13.5	--	23.1	12.6	12.4	10.5	8.3	7.1	16.0	49.5	220.9	7.4	3.1	19.3	11.8	9.1	10.4	10.3	7.5	15.9	5.9	Diurnal Maximum	

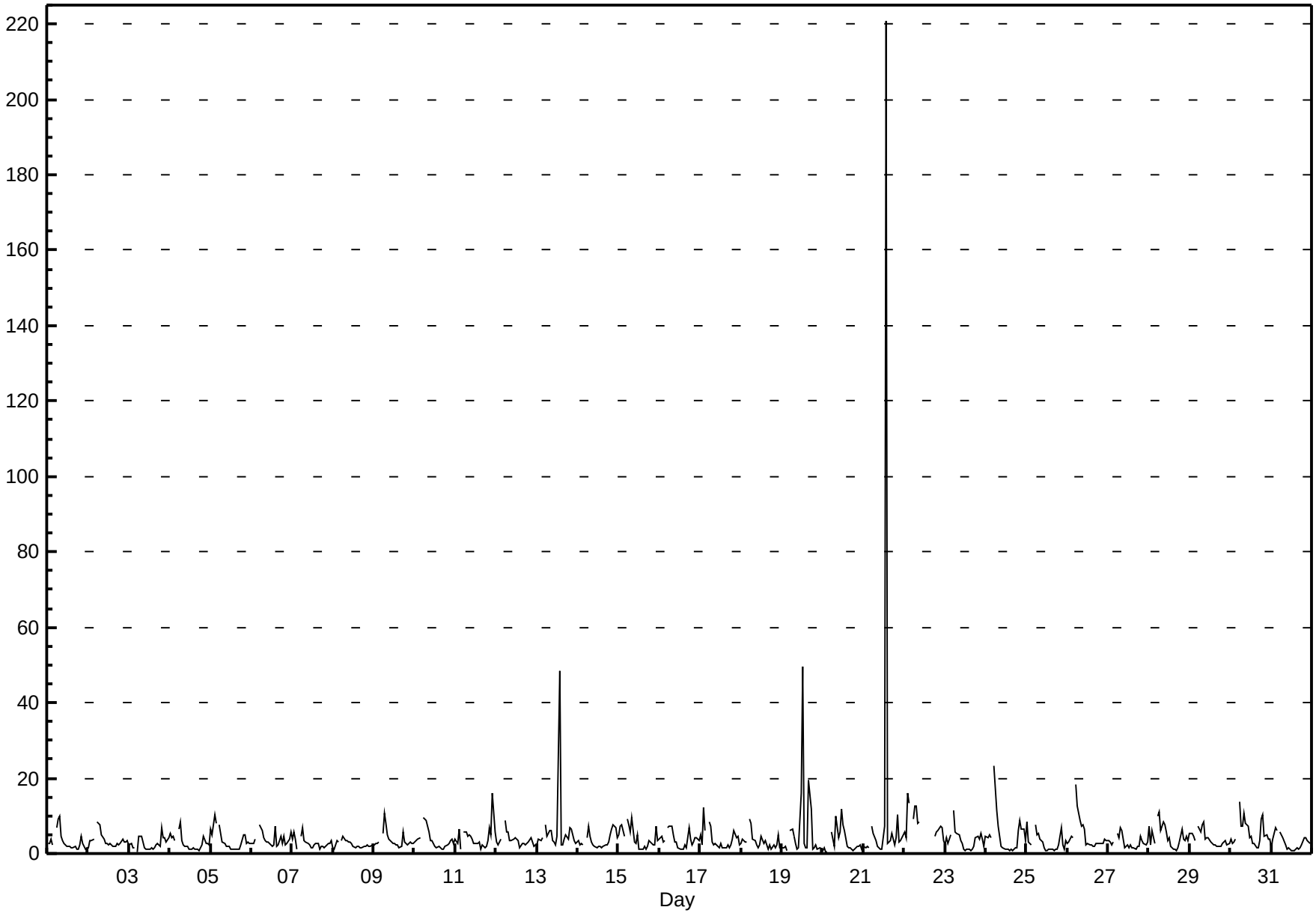
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - August 2013

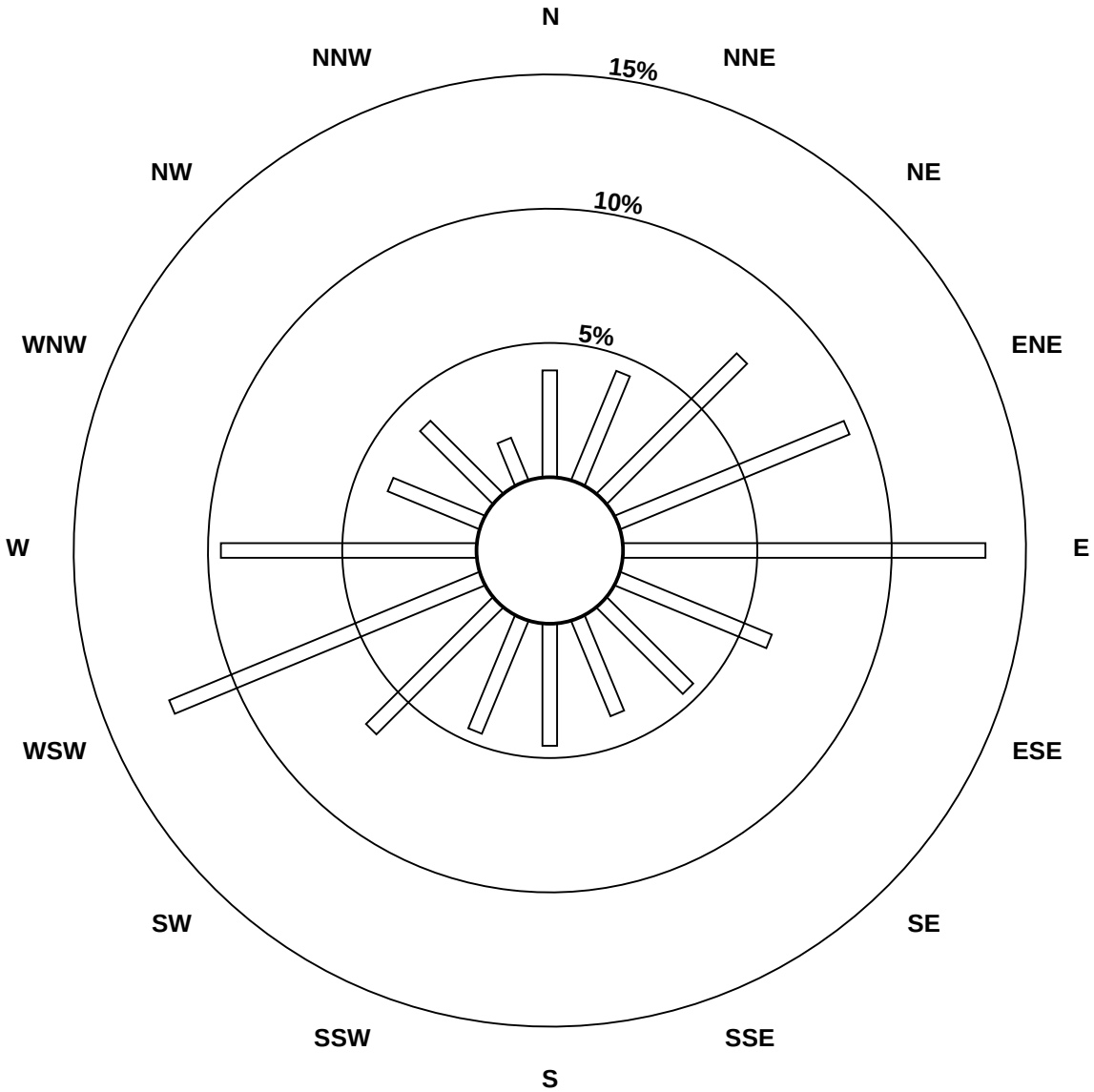


FOCUS AIR QUALITY MONITORING

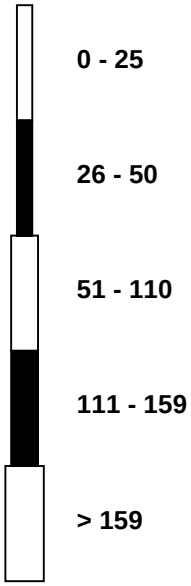
Pollutant Rose

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - August 2013



Pollutant Classes (ppb)

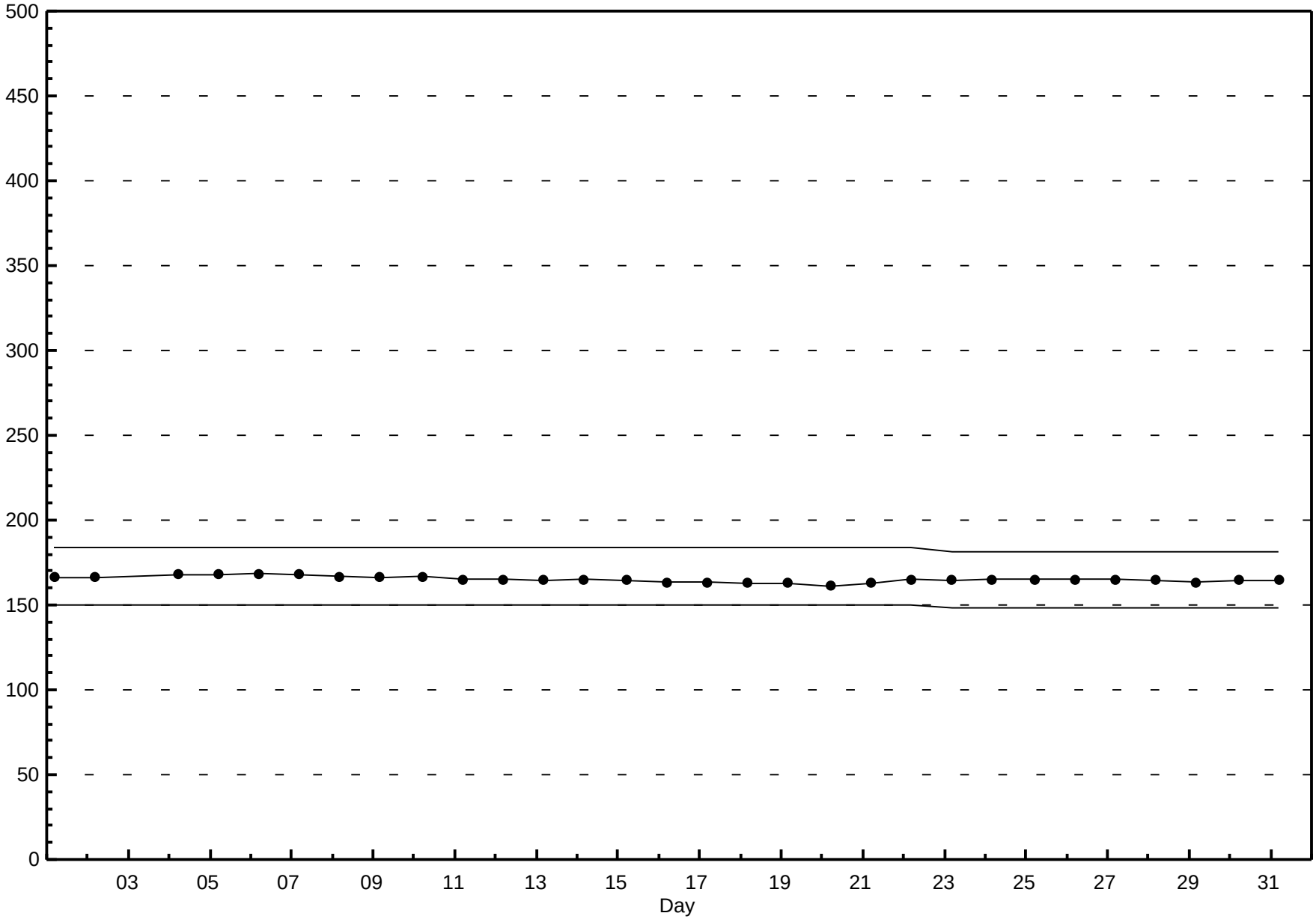


Peace Airshed Zone Association

Span Responses

Nitrogen Dioxide (NO_2)

Beaverlodge - August 2013



Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Beaverlodge - August 2013

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

Maximum Value: 10.7 ppb on Aug 28 10:00

Maximum Daily Average: 1.3 ppb on Aug 28

Minimum Value: 0 ppb on Aug 3 02:00

Minimum Daily Average: 0.0 ppb on Aug 20

Maximum Diurnal Average: 1.3 ppb at hour 8

Minimum Diurnal Average: 0.0 ppb at hour 2

Monthly Average: 0.30 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.0 $Q_3 = 0.2$ $P_{90} = 0.7$ $P_{99} = 4.6$

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	39
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	5	5	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	5.0
2-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	1.8
3-Aug	0	0	0	0	A	4	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	3.7
4-Aug	0	0	0	0	A	0	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.1
5-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	0.2	1.0
6-Aug	0	0	0	D	A	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.0
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	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.8
9-Aug	0	0	0	0	A	0	4	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.5	3.6
10-Aug	0	0	0	0	A	0	4	5	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	5.1
11-Aug	0	0	0	0	A	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.2	0.6
12-Aug	0	0	0	0	A	0	1	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.6
13-Aug	0	0	0	0	A	0	0	2	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.3	2.1
14-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	1.0
15-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	1.2
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	0.0	0.3
17-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	0.1	0.9
18-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
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	0.2
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	0.0	0.2
21-Aug	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0.2	1.7
22-Aug	0	0	0	0	A	0	1	4	2	3	C	C	C	C	C	C	C	C	0	0	0	0	0	0	--	3.6
23-Aug	0	0	0	0	A	0	0	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	2.4
24-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	1.2
25-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
26-Aug	0	0	0	0	A	2	5	4	4	8	5	0	0	0	0	0	0	0	0	0	0	0	0	0	1.2	8.1
27-Aug	0	0	0	0	A	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.8
28-Aug	0	0	0	0	A	1	1	1	10	11	3	1	1	0	0	0	0	0	0	0	0	0	0	0	1.3	10.7
29-Aug	0	0	0	0	A	0	0	4	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	4.1
30-Aug	0	0	0	0	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.4
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	0.0	0.5
	0.0	0.0	0.0	0.0	--	0.3	1.0	1.3	1.3	1.3	0.6	0.2	0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	Diurnal Average	
	0.1	0.1	0.3	0.2	--	3.7	5.4	5.1	10.4	10.7	4.8	1.3	1.1	1.2	0.2	0.2	1.7	0.4	0.4	0.4	0.2	0.1	0.6	0.1	Diurnal Maximum	

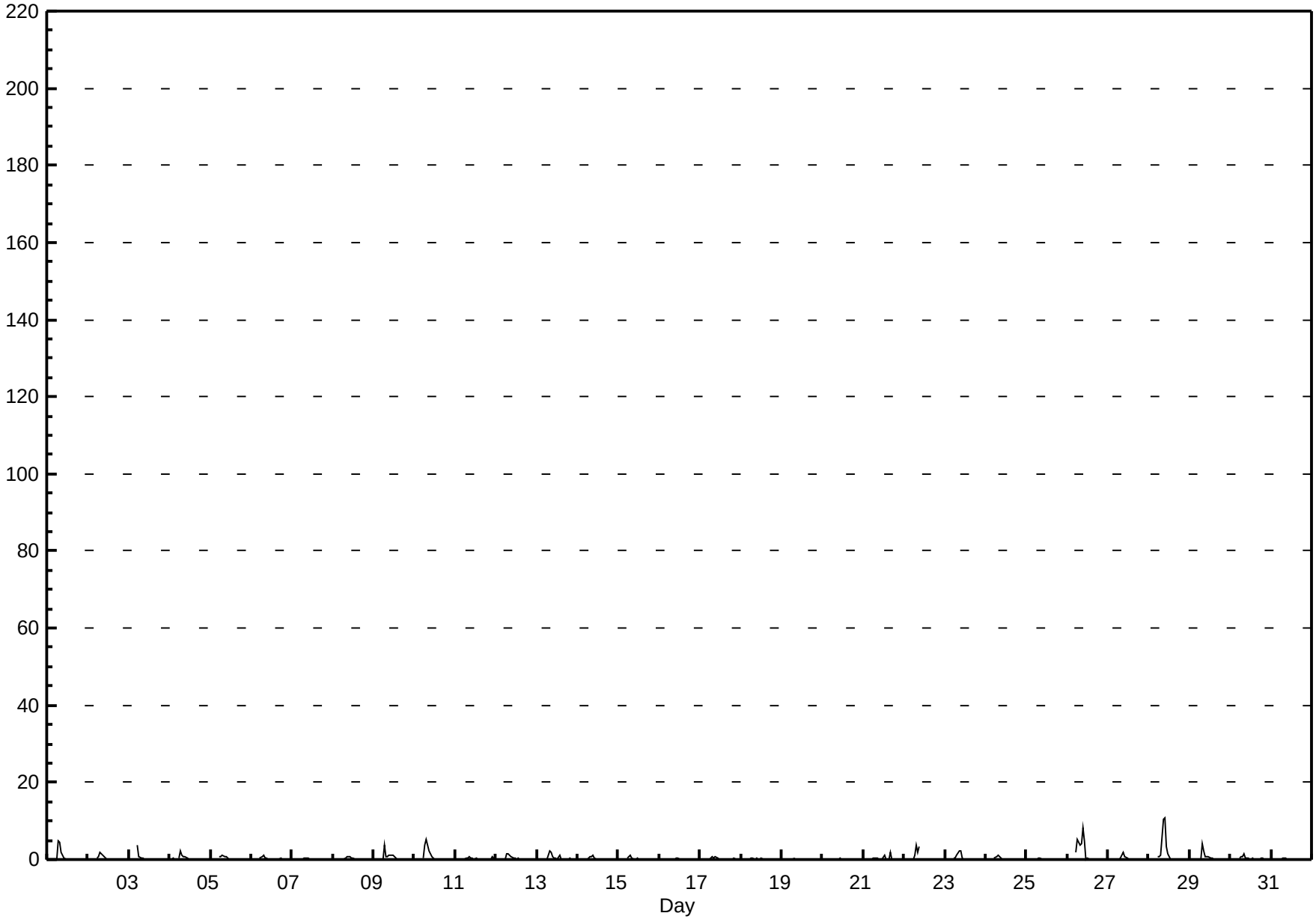
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Beaverlodge - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Beaverlodge - August 2013

Maximum Value: 136.9 ppb on Aug 21 17:00

Maximum Daily Average: 7.2 ppb on Aug 21

Minimum Value: 0 ppb on Aug 22 00:00

Minimum Daily Average: 0.3 ppb on Aug 7

Maximum Diurnal Average: 4.9 ppb at hour 17

Minimum Diurnal Average: 0.2 ppb at hour 24

Monthly Average: 1.42 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.1$ $Q_1 = 0.2$ Median = 0.3 $Q_3 = 0.8$ $P_{90} = 2.2$ $P_{99} = 15.1$

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	39
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	24	13	4	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2.2	24.4
2-Aug	0	0	0	0	A	1	3	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.6	3.0
3-Aug	0	0	0	0	A	39	6	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2.3	38.9
4-Aug	1	1	2	1	A	3	8	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.0	7.7
5-Aug	1	0	1	1	A	2	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0.6	1.6
6-Aug	0	0	1	D	A	1	2	1	1	2	0	0	0	1	5	1	0	3	0	0	0	0	0	0	0.9	5.4
7-Aug	0	0	0	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
8-Aug	0	0	0	0	A	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.4	1.1
9-Aug	0	0	0	0	A	0	18	4	1	1	1	1	1	1	0	0	0	1	0	0	0	0	0	0	1.4	18.1
10-Aug	0	0	0	0	A	1	14	13	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1.7	14.1
11-Aug	1	0	6	1	A	0	0	1	1	2	1	1	0	0	0	0	0	0	0	1	1	0	6	0	1.0	6.0
12-Aug	0	0	0	0	A	0	4	4	2	1	2	2	2	4	0	0	0	0	0	0	0	0	0	0	1.1	4.2
13-Aug	0	0	0	0	A	0	0	7	4	1	1	1	1	46	0	0	1	0	0	1	0	0	0	0	2.8	45.7
14-Aug	0	0	0	0	A	0	1	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0.4	1.5
15-Aug	0	0	1	1	A	3	4	3	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.8	3.9
16-Aug	0	1	0	0	A	0	1	1	0	0	1	1	0	0	0	1	0	1	1	0	0	0	0	0	0.4	0.9
17-Aug	0	0	6	2	A	0	2	1	1	2	1	0	1	0	0	0	1	0	0	1	18	0	0	0	1.6	18.3
18-Aug	0	0	0	0	A	1	1	1	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0.4	1.1
19-Aug	0	0	0	0	A	0	0	1	1	0	1	3	1	1	1	1	1	1	0	0	0	0	0	0	0.5	3.4
20-Aug	0	0	0	0	A	0	1	1	1	0	16	0	1	0	2	0	0	0	0	0	0	0	0	0	1.1	15.6
21-Aug	0	0	0	0	A	0	1	1	1	1	0	0	15	4	1	3	137	1	0	0	0	0	0	0	7.2	136.9
22-Aug	1	0	1	1	A	0	4	6	4	6	C	C	C	C	C	C	C	C	1	1	0	0	0	0	--	6.3
23-Aug	0	1	0	2	A	3	2	3	4	49	1	0	0	6	0	0	0	0	0	0	0	0	0	0	3.1	49.3
24-Aug	0	0	2	0	A	5	4	3	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0.9	5.4
25-Aug	5	0	0	0	A	0	0	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0.5	4.8
26-Aug	0	0	1	0	A	11	15	7	10	11	11	1	1	1	0	0	0	0	0	0	0	0	0	0	3.0	14.7
27-Aug	0	0	0	0	A	0	0	1	3	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.6	3.6
28-Aug	4	0	1	0	A	3	2	4	25	17	5	2	2	1	0	0	0	0	0	0	0	0	0	0	2.9	25.1
29-Aug	0	0	0	0	A	0	0	13	9	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	1.3	12.7
30-Aug	0	0	0	0	A	4	3	1	3	2	1	1	1	1	1	0	0	1	2	2	0	0	0	0	1.0	3.8
31-Aug	0	0	0	0	A	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	0.9
	0.5	0.2	0.8	0.4	--	2.6	4.0	3.3	3.0	3.7	1.7	0.7	1.0	2.3	0.5	0.4	4.9	0.4	0.3	0.4	0.9	0.2	0.4	0.2	Diurnal Average	
	4.8	1.3	6.0	1.9	--	38.9	24.4	12.9	25.1	49.3	15.6	3.4	14.6	45.7	5.4	2.5	136.9	2.9	1.7	2.3	18.3	1.2	6.0	0.7	Diurnal Maximum	

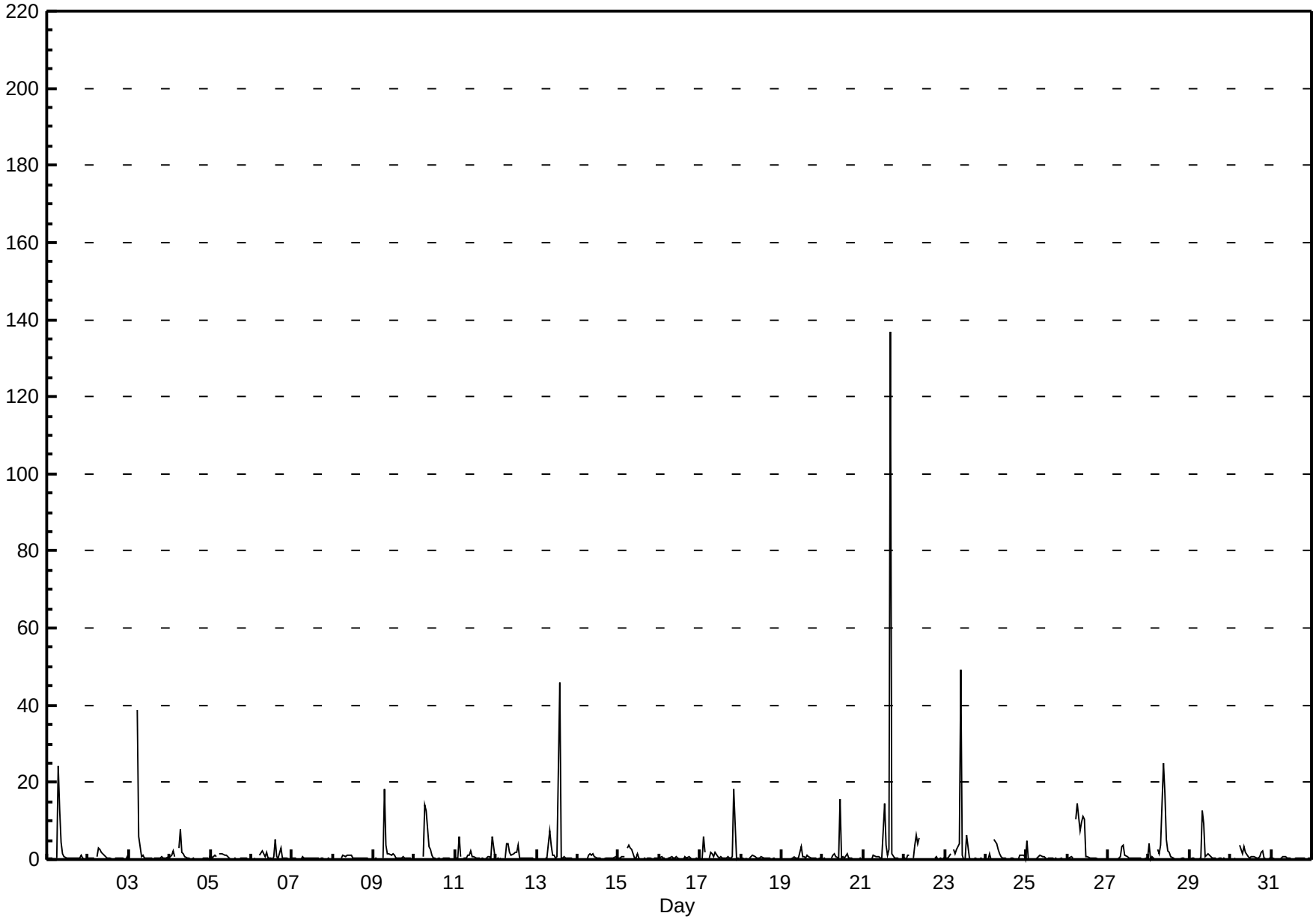
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Beaverlodge - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - August 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 23.4 ppb on Aug 3 06:00 Maximum Daily Average: 4.4 ppb on Aug 26

Minimum Value: 0 ppb on Aug 20 01:00 Minimum Daily Average: 0.9 ppb on Aug 20
Maximum Diurnal Average: 6.3 ppb at hour 6 Minimum Diurnal Average: 1.0 ppb at hour 16
Monthly Average: 2.47 ppb Percentiles: P_1 = 0.4 P_{10} = 0.7 Q_1 = 1.1 Median = 1.9 Q_3 = 2.9 P_{90} = 4.9 P_{99} = 11.7

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	39
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	2	2	2	A	5	10	10	5	4	2	2	1	1	1	1	1	1	1	1	2	1	1	1	2.6	10.2
2-Aug	1	2	3	3	A	6	6	7	6	4	3	2	2	2	2	1	1	1	1	2	2	1	1	2	2.7	7.2
3-Aug	2	1	1	1	A	23	2	2	2	1	1	1	1	1	1	1	1	2	1	2	2	2	1	2	2.4	23.4
4-Aug	2	3	3	2	A	5	7	3	3	2	2	1	1	1	1	1	1	1	1	1	2	2	1	1	2.0	6.9
5-Aug	2	2	4	5	A	6	5	3	3	2	2	1	1	1	1	1	1	1	1	2	2	2	2	2	2.2	6.2
6-Aug	2	2	3	D	A	6	4	5	4	3	3	2	2	1	1	1	1	1	2	2	2	2	3	4	2.5	5.6
7-Aug	3	3	2	1	A	3	4	3	2	2	2	1	1	2	2	1	1	1	1	1	2	2	1	2	1.8	3.7
8-Aug	1	1	1	2	A	3	3	3	4	4	3	3	2	2	1	2	1	1	1	2	2	2	2	2	2.0	3.7
9-Aug	2	2	2	3	A	5	9	5	5	4	3	3	3	2	2	1	1	2	2	2	2	2	2	3	3.0	9.4
10-Aug	2	3	3	4	A	6	10	10	7	4	3	2	2	1	1	1	1	1	1	2	2	3	3	2	3.2	10.3
11-Aug	2	2	1	0	A	4	5	4	4	3	2	2	2	1	2	1	1	1	1	2	3	3	8	3	2.5	8.4
12-Aug	2	1	2	2	A	6	6	6	4	3	3	2	1	1	1	2	2	2	2	2	3	2	2	1	2.4	6.1
13-Aug	1	2	2	3	A	5	3	6	6	4	3	2	2	3	1	1	1	2	3	4	4	3	2	2	2.9	6.2
14-Aug	2	1	2	2	A	3	5	4	3	3	2	1	1	1	1	1	1	2	2	2	4	3	4	2	2.3	4.9
15-Aug	3	3	3	3	A	6	6	6	3	3	2	2	1	1	1	1	1	1	2	2	1	1	2	2	2.4	6.4
16-Aug	3	3	2	3	A	5	4	4	3	3	2	1	1	1	1	1	1	2	1	1	1	2	2	2	2.0	4.9
17-Aug	3	2	3	3	A	6	4	3	2	3	1	1	1	1	1	1	1	1	1	0	1	2	2	1	2.0	6.3
18-Aug	1	2	2	2	A	8	5	3	2	2	1	2	3	2	1	1	1	1	1	1	1	1	1	1	2.0	7.7
19-Aug	0	1	1	0	A	4	4	2	1	1	1	1	1	1	1	1	3	1	1	0	1	0	1	0	1.2	4.4
20-Aug	0	0	0	0	A	4	2	1	1	1	1	2	1	1	1	1	0	0	0	1	1	1	1	1	0.9	3.6
21-Aug	1	0	1	1	A	5	3	2	1	1	1	1	2	4	1	1	1	1	1	1	5	2	2	2	1.7	4.7
22-Aug	3	3	11	4	A	7	12	12	8	9	C	C	C	C	C	C	C	C	3	2	3	3	2	1	--	12.5
23-Aug	1	1	1	1	A	7	5	5	6	4	1	1	1	1	1	1	1	1	2	2	2	4	2	2	2.3	6.6
24-Aug	3	3	3	3	A	7	7	6	3	2	1	1	1	1	1	1	0	1	1	3	2	2	3	2	2.4	7.2
25-Aug	3	1	1	1	A	5	4	4	2	1	1	1	0	0	0	1	0	1	1	1	3	1	0	1	1.5	5.4
26-Aug	1	2	2	2	A	14	15	9	9	14	10	1	2	1	2	1	1	2	2	2	2	2	3	2	4.4	14.8
27-Aug	3	2	2	2	A	4	3	5	5	4	2	2	1	1	1	1	1	1	1	2	1	2	1	2	2.1	5.4
28-Aug	2	1	4	2	A	9	8	6	17	17	8	4	3	1	1	1	1	1	2	3	2	2	2	2	4.3	16.9
29-Aug	3	3	4	2	A	5	5	9	7	4	4	3	2	2	2	2	1	2	2	2	2	2	2	2	3.1	9.3
30-Aug	3	2	2	3	A	8	6	7	9	5	5	3	2	2	1	1	1	1	4	5	3	2	2	1	3.4	8.9
31-Aug	1	2	4	3	A	5	4	3	2	1	1	1	1	0	1	1	1	1	1	2	2	2	2	2	1.7	4.5
	1.9	1.9	2.5	2.2	--	6.3	5.7	5.2	4.5	3.8	2.5	1.7	1.5	1.3	1.1	1.0	1.1	1.2	1.5	1.9	2.1	1.9	2.1	1.8	Diurnal Average	
	3.0	3.5	11.4	5.0	--	23.4	14.8	12.5	16.9	16.8	9.5	4.2	3.4	3.6	1.8	1.8	2.9	2.2	3.9	5.2	4.7	4.3	8.4	3.8	Diurnal Maximum	

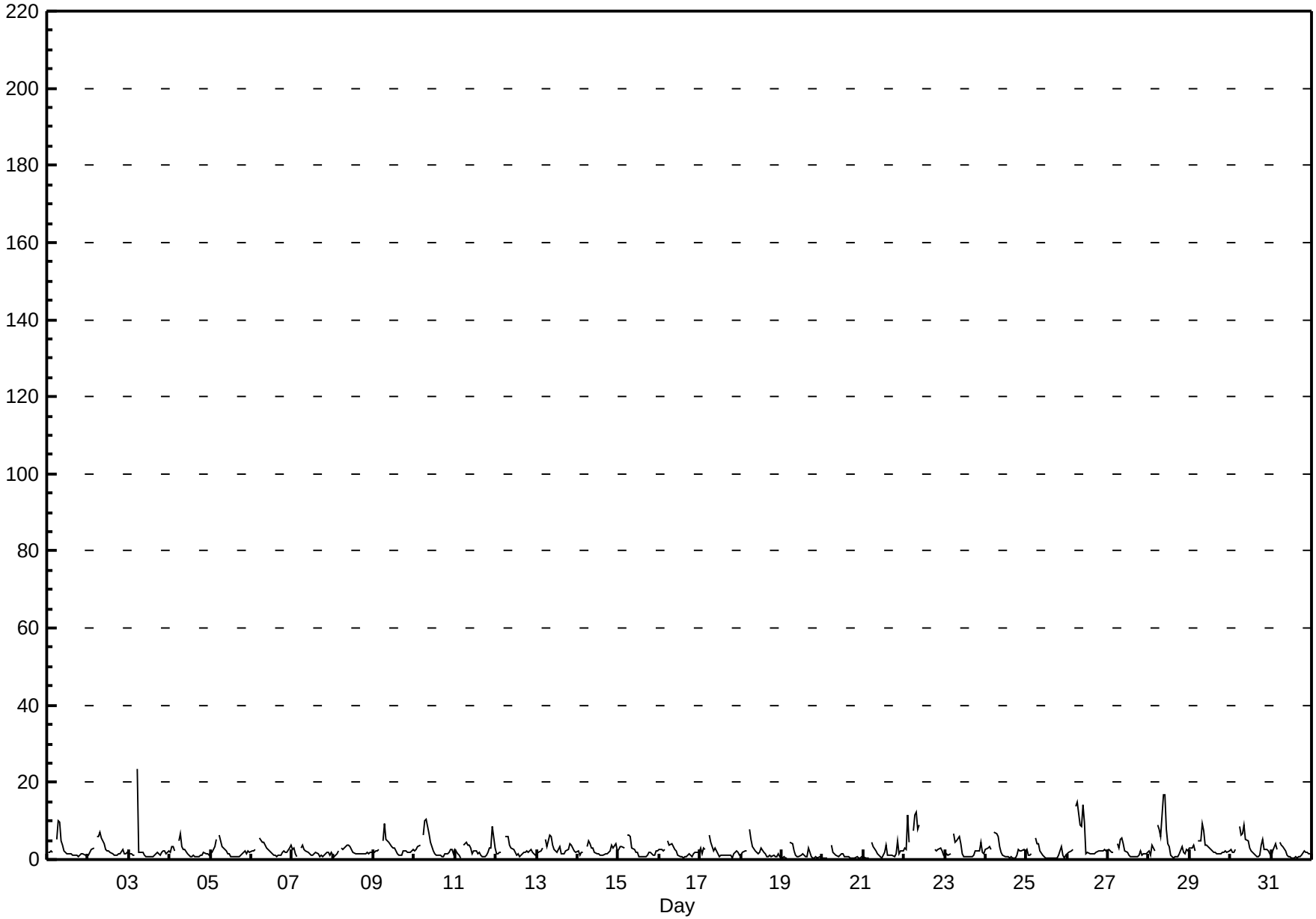
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - August 2013

Maximum Value: 222.8 ppb on Aug 21 14:00

Maximum Daily Average: 13.6 ppb on Aug 21

Minimum Value: 0 ppb on Aug 20 04:00

Minimum Daily Average: 2.7 ppb on Aug 8

Maximum Diurnal Average: 12.2 ppb at hour 14

Minimum Diurnal Average: 2.0 ppb at hour 16

Monthly Average: 5.04 ppb

Percentiles: P_1 = 0.9 P_{10} = 1.4 Q_1 = 2.2 Median = 3.2 Q_3 = 5.4 P_{90} = 9.1 P_{99} = 26.8

Hours in Service:	744
Hours of Data:	704
Hours of Missing Data:	40
Hours of Calibration:	39
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	3	4	2	A	7	30	19	9	5	3	2	2	2	2	2	2	1	1	2	6	3	1	2	5.0	30.4
2-Aug	2	4	3	4	A	9	11	10	7	5	3	3	3	3	2	2	2	3	2	3	4	3	3	4	4.1	11.0
3-Aug	2	3	2	2	A	39	6	5	4	1	1	1	1	2	1	2	2	3	2	8	4	4	3	5	4.5	38.8
4-Aug	6	5	6	4	A	9	16	5	4	3	2	2	1	1	2	1	1	1	2	2	5	3	3	2	3.8	16.3
5-Aug	8	5	12	8	A	9	6	4	3	3	3	2	1	1	1	1	1	1	2	5	5	3	3	3	4.0	11.5
6-Aug	3	3	4	D	A	8	7	6	4	4	3	3	2	3	10	3	2	4	3	5	3	3	4	6	4.1	9.5
7-Aug	4	6	4	1	A	5	7	4	4	3	3	2	2	3	3	3	1	2	2	2	2	3	3	3	3.1	6.9
8-Aug	2	1	3	3	A	3	6	4	4	4	4	3	2	2	2	2	2	2	2	2	3	2	2	2	2.7	5.6
9-Aug	2	3	3	3	A	5	28	11	6	5	4	4	4	3	3	2	2	6	3	3	2	3	3	3	4.9	28.1
10-Aug	3	3	4	4	A	10	20	21	9	6	5	3	2	1	2	1	1	1	2	3	3	4	4	3	5.1	21.2
11-Aug	4	3	7	2	A	6	6	5	6	7	4	3	3	3	3	1	3	1	2	4	7	5	22	6	5.0	21.7
12-Aug	3	2	3	4	A	9	10	9	6	5	5	6	5	6	2	3	3	3	3	3	5	3	2	2	4.4	9.6
13-Aug	2	4	3	4	A	8	5	13	10	4	4	3	5	76	3	2	4	5	4	7	7	5	3	3	8.0	75.7
14-Aug	3	2	3	2	A	4	8	6	4	4	3	2	2	2	2	2	3	3	3	5	6	7	7	4	3.8	7.6
15-Aug	5	7	8	5	A	12	11	8	10	3	3	6	1	1	1	2	1	2	4	3	2	3	7	4	4.8	12.1
16-Aug	4	5	3	3	A	7	8	8	5	3	4	2	1	1	1	2	2	8	4	2	3	4	4	3	3.8	8.0
17-Aug	5	2	18	8	A	9	9	4	3	4	3	2	3	2	2	2	3	2	3	5	6	4	5	2	4.6	18.1
18-Aug	3	4	3	3	A	9	8	5	4	3	2	3	5	3	4	3	2	3	1	3	2	3	5	1	3.5	9.3
19-Aug	1	2	2	1	A	6	7	6	3	1	2	16	49	3	2	3	19	12	1	2	2	1	2	1	6.3	49.2
20-Aug	1	2	1	0	A	6	5	2	10	4	6	12	8	6	3	2	2	1	1	1	2	2	3	1	3.5	12.1
21-Aug	2	2	2	2	A	7	6	4	3	2	1	1	8	223	4	5	4	7	3	4	11	3	4	5	13.6	222.8
22-Aug	6	4	16	14	A	9	15	18	12	13	C	C	C	C	C	C	C	C	5	6	6	7	7	4	--	17.9
23-Aug	2	5	3	6	A	14	7	8	9	23	4	1	1	1	1	1	1	2	4	5	4	6	4	2	4.9	22.6
24-Aug	4	4	6	4	A	28	14	10	6	3	2	1	1	1	1	2	1	1	2	6	9	8	7	3	5.4	27.6
25-Aug	12	3	3	2	A	8	5	6	5	4	2	1	1	2	2	1	1	1	1	2	7	2	1	3	3.3	11.9
26-Aug	3	4	5	4	A	23	25	16	16	18	17	3	3	3	3	2	2	3	3	3	3	3	4	3	7.3	25.4
27-Aug	3	3	2	3	A	6	4	8	7	7	3	3	2	3	2	2	1	2	2	5	3	2	3	3	3.4	7.8
28-Aug	11	2	6	3	A	12	12	8	31	23	11	6	6	2	2	1	1	1	3	7	4	3	4	3	7.2	31.3
29-Aug	5	5	5	3	A	7	6	20	17	5	5	5	3	3	2	3	2	2	2	2	3	4	2	3	5.1	20.1
30-Aug	4	3	3	4	A	17	10	8	13	9	8	5	5	3	3	2	2	4	11	13	5	5	4	4	6.2	17.4
31-Aug	1	4	7	6	A	6	5	5	3	1	2	1	1	1	1	1	2	2	3	5	4	3	3	3	3.1	6.7
	3.8	3.4	4.9	3.8	--	10.3	10.4	8.6	7.6	6.1	4.1	3.6	4.5	12.2	2.3	2.0	2.5	3.0	2.8	4.1	4.4	3.6	4.2	3.1	Diurnal Average	
	11.9	7.4	18.1	13.6	--	38.8	30.4	21.2	31.3	23.5	17.0	15.9	49.2	222.8	9.5	5.0	19.5	12.3	10.9	12.7	10.5	7.7	21.7	6.1	Diurnal Maximum	

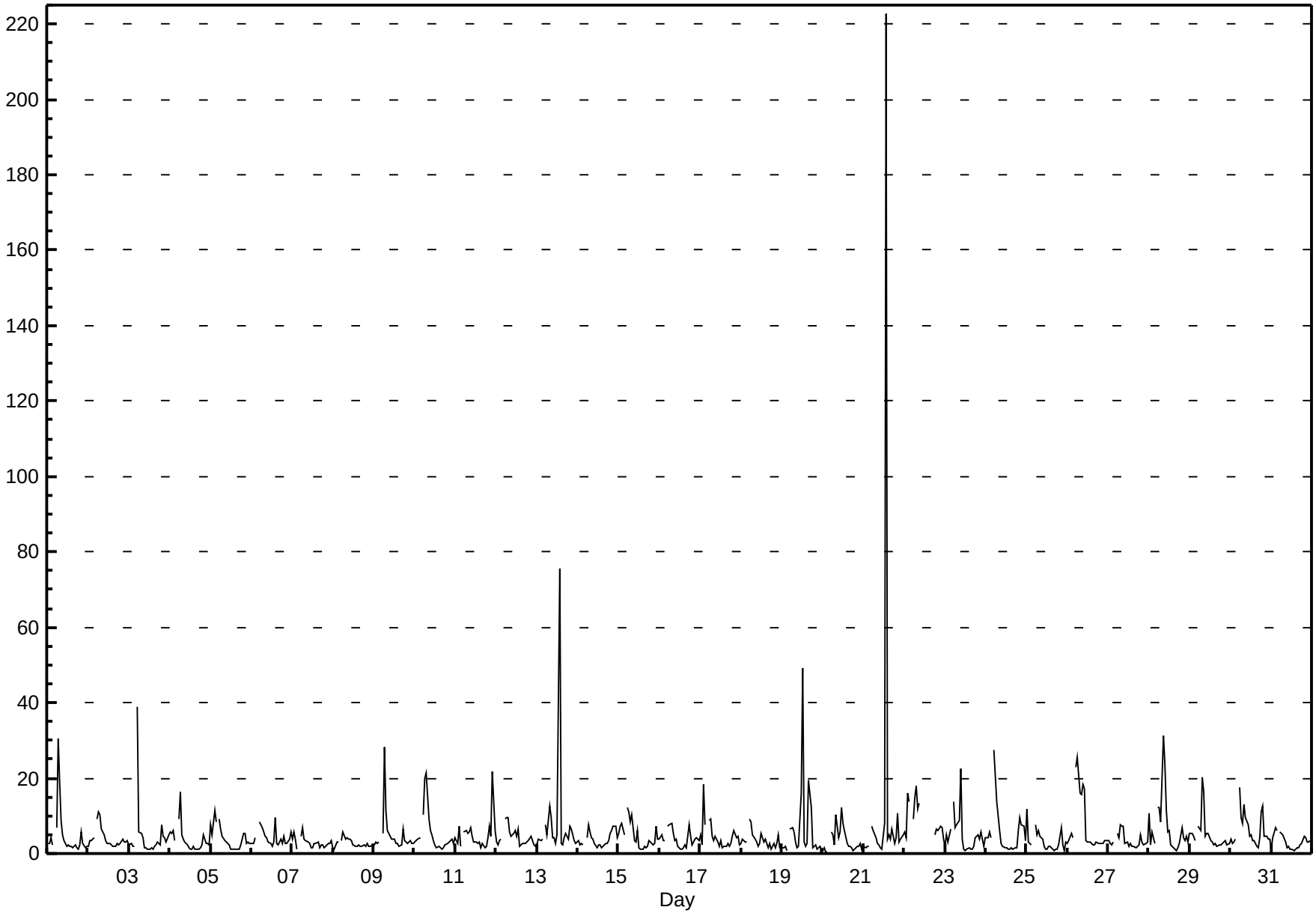
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - August 2013



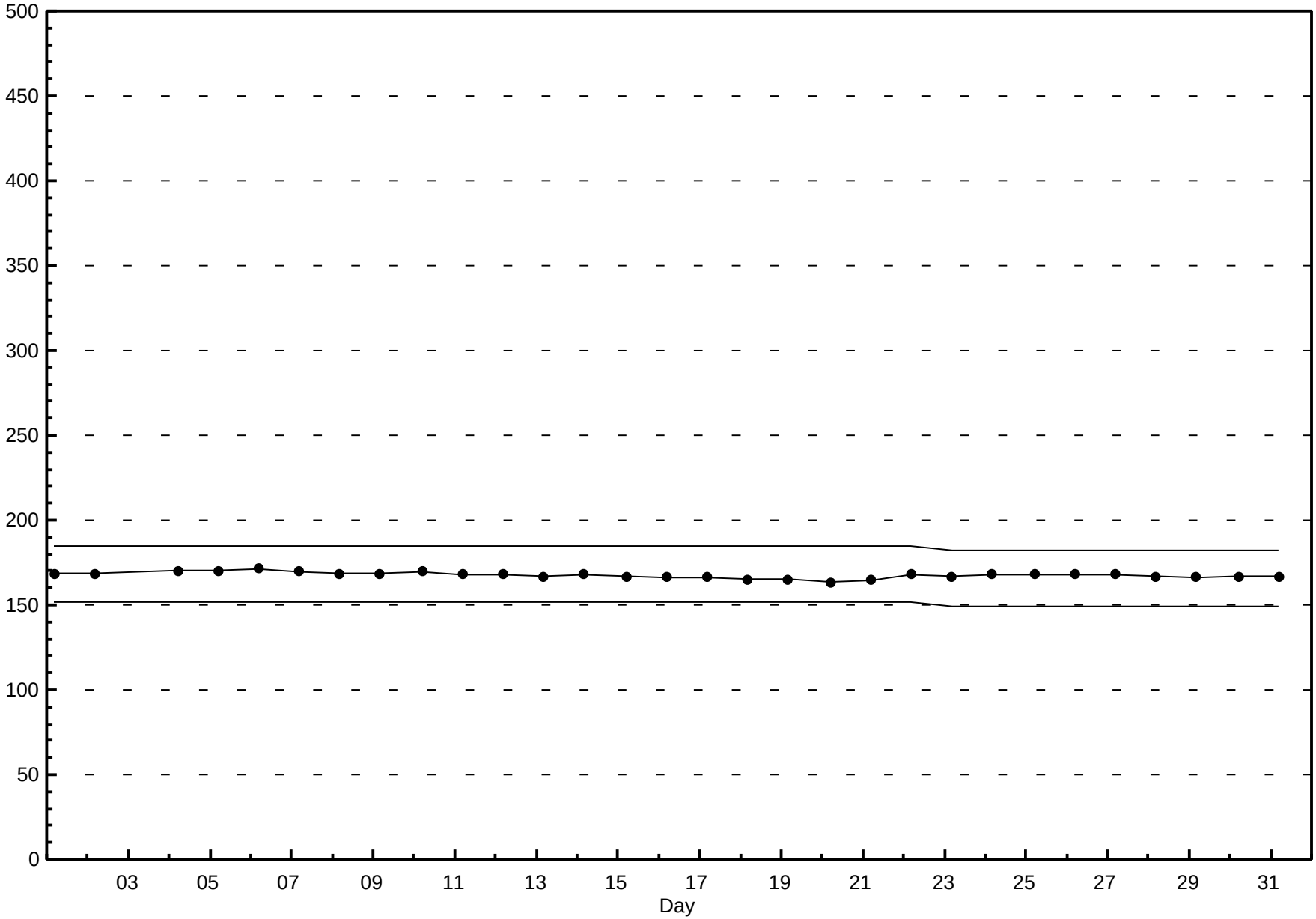
FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Span Responses

Oxides of Nitrogen (NO_X)

Beaverlodge - August 2013



Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Beaverlodge - August 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 47.6 ppb on Aug 2 14:00 Maximum Daily Average: 32.2 ppb on Aug 2

Minimum Value: 3 ppb on Aug 28 09:00 Minimum Daily Average: 13.3 ppb on Aug 30
Maximum Diurnal Average: 34.9 ppb at hour 16 Minimum Diurnal Average: 14.2 ppb at hour 7
Monthly Average: 25.29 ppb Percentiles: P_1 = 5.0 P_{10} = 13.2 Q_1 = 19.2 Median = 25.7 Q_3 = 31.4 P_{90} = 36.8 P_{99} = 44.3

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	20	21	20	20	A	15	11	11	14	24	31	33	38	38	37	35	33	32	31	26	23	21	22	23	25.1	37.7
2-Aug	23	22	20	20	A	18	18	19	25	30	37	41	47	48	46	43	43	43	41	39	34	30	27	26	32.2	47.6
3-Aug	28	24	30	38	A	N	26	26	28	35	40	41	41	42	44	42	38	30	26	27	23	23	24	19	31.7	43.7
4-Aug	20	11	9	11	A	9	5	9	12	20	28	32	34	35	36	37	38	38	36	37	30	30	35	35	25.5	38.4
5-Aug	31	32	25	14	A	10	10	11	14	18	29	38	40	42	43	41	42	39	32	30	29	31	31	28	28.7	42.9
6-Aug	27	27	21	D	A	13	13	18	28	37	41	41	39	39	30	28	28	22	24	22	24	30	23	18	27.0	40.8
7-Aug	17	15	25	29	A	29	26	27	31	31	29	29	32	31	30	28	27	25	27	22	18	16	20	25	25.6	32.2
8-Aug	26	26	25	22	A	21	19	17	17	17	18	22	29	32	34	34	34	35	35	33	28	28	26	24	26.2	35.1
9-Aug	22	21	19	17	A	16	10	13	14	16	18	23	30	35	36	36	37	36	35	26	24	24	26	27	24.3	36.6
10-Aug	27	25	21	17	A	10	6	8	16	19	30	36	37	35	38	36	35	33	30	26	27	31	29	27	26.0	38.2
11-Aug	24	29	29	35	A	19	18	17	19	21	25	23	24	23	23	28	31	30	25	22	22	17	9	16	23.0	34.8
12-Aug	21	21	19	19	A	10	9	12	20	25	26	32	32	33	35	42	43	40	32	28	23	26	41	41	27.4	43.3
13-Aug	37	32	21	17	A	15	23	18	17	28	33	38	44	42	43	39	39	33	30	26	26	32	28	29	30.0	44.3
14-Aug	21	34	20	21	A	20	11	11	14	17	27	35	42	44	46	47	45	42	38	35	35	36	32	35	30.8	46.8
15-Aug	28	24	24	24	A	9	8	7	16	24	26	26	31	38	39	38	37	36	32	28	31	30	26	21	26.3	39.2
16-Aug	21	20	20	21	A	15	17	17	19	21	21	24	30	38	38	37	33	28	24	31	30	26	24	24	25.2	38.2
17-Aug	22	21	16	17	A	15	14	15	20	23	29	33	34	35	36	36	37	36	33	30	29	26	24	23	26.3	36.5
18-Aug	21	19	19	19	A	16	18	20	19	20	23	24	23	26	27	28	29	32	34	29	28	27	26	25	24.0	33.8
19-Aug	28	27	27	29	A	24	22	27	28	31	32	34	36	35	35	34	32	35	34	31	32	30	26	26	30.2	35.6
20-Aug	27	26	24	25	A	25	25	26	26	26	26	27	28	28	28	28	29	29	29	28	26	26	26	25	26.7	29.1
21-Aug	24	24	23	23	A	20	20	22	24	27	29	30	31	33	33	36	39	39	35	29	24	26	24	24	27.9	39.4
22-Aug	20	19	11	17	A	14	8	7	10	12	16	22	22	21	C	C	C	C	C	C	20	19	19	20	--	22.4
23-Aug	20	16	17	14	A	9	9	10	11	15	22	27	30	32	32	32	32	29	25	25	28	20	25	25	21.8	32.3
24-Aug	21	16	12	13	A	11	7	10	17	22	27	29	31	31	31	33	33	32	30	25	21	18	15	19	21.9	32.8
25-Aug	13	21	21	14	A	18	18	16	19	22	26	28	29	30	31	31	31	31	30	27	23	25	28	26	24.2	31.3
26-Aug	21	19	19	18	A	6	3	4	7	8	16	29	31	31	32	29	28	28	28	28	26	23	19	17	20.4	31.9
27-Aug	15	15	20	20	A	22	20	11	11	11	15	19	28	32	34	35	35	34	33	26	29	28	25	19	23.3	35.5
28-Aug	19	22	10	18	A	6	7	8	3	4	10	17	24	37	43	42	42	40	34	24	27	34	34	29	23.2	42.9
29-Aug	27	24	16	20	A	25	25	11	17	21	25	31	34	37	38	38	35	32	28	25	22	21	20	18	25.6	37.8
30-Aug	14	15	15	12	A	5	3	6	4	8	14	18	21	19	18	20	21	20	14	9	11	14	13	14	13.3	20.7
31-Aug	15	14	11	12	A	13	12	15	18	23	25	29	30	32	31	31	31	30	27	23	23	21	22	18	21.9	31.6
	22.6	22.0	19.7	19.9	--	15.2	14.2	14.4	17.4	21.1	25.6	29.3	32.3	34.0	34.9	34.9	34.5	33.0	30.4	27.1	25.7	25.5	24.7	24.1	Diurnal Average	
	37.0	34.4	29.8	38.2	--	28.8	26.0	26.6	31.2	37.4	40.8	40.8	46.5	47.6	46.4	46.8	44.5	43.2	41.4	38.9	35.4	35.9	41.1	41.2	Diurnal Maximum	

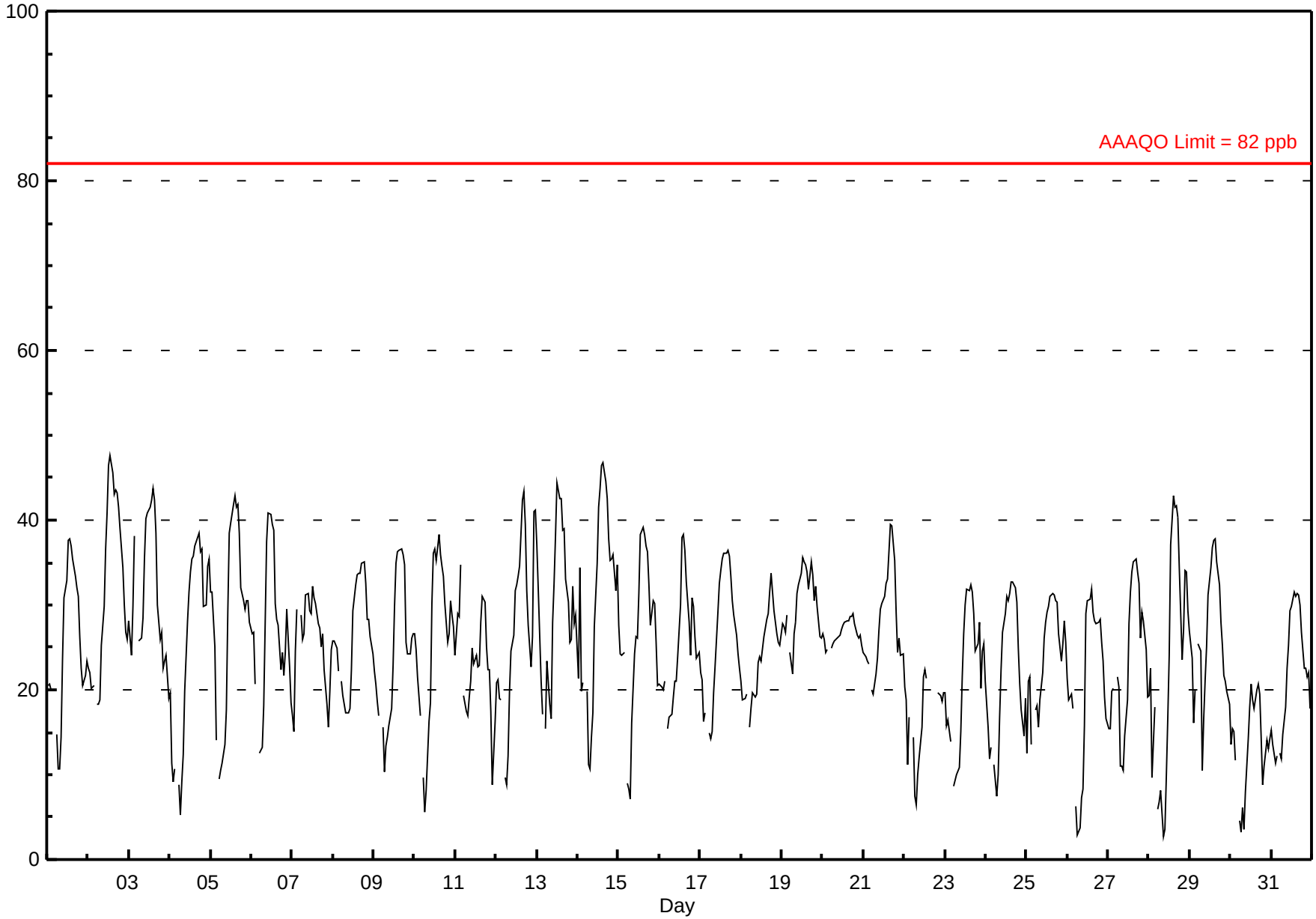
C - Calibration D - DAS Failure N - Not Valid A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na

Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Beaverlodge - August 2013



Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

Beaverlodge - August 2013

Maximum Value: 50.7 ppb on Aug 2 13:00

Maximum Daily Average: 35.9 ppb on Aug 14

Minimum Value: 4 ppb on Aug 30 07:00

Minimum Daily Average: 16.0 ppb on Aug 30

Maximum Diurnal Average: 37.1 ppb at hour 16

Minimum Diurnal Average: 17.5 ppb at hour 7

Monthly Average: 28.32 ppb

Percentiles: P_1 = 7.1 P_{10} = 16.6 Q_1 = 22.5 Median = 28.3 Q_3 = 34.3 P_{90} = 39.6 P_{99} = 48.0

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	22	22	21	21	A	17	15	14	18	30	33	36	40	39	40	37	35	33	33	29	25	22	23	24	27.4	39.9
2-Aug	24	24	21	23	A	22	21	24	28	33	40	45	51	50	48	44	45	45	44	41	36	35	28	28	34.8	50.7
3-Aug	30	29	36	41	A	N	30	28	32	41	42	42	43	44	45	45	42	34	29	30	25	26	26	27	34.8	44.9
4-Aug	27	16	11	15	A	11	7	11	18	24	33	33	36	37	38	38	39	39	39	39	32	34	36	36	28.3	39.5
5-Aug	36	35	35	24	A	15	12	14	15	22	37	41	41	44	44	43	43	41	37	32	33	33	32	29	32.0	44.4
6-Aug	27	28	28	D	A	21	18	23	34	41	43	42	42	42	37	30	30	34	26	25	27	33	29	22	31.0	42.8
7-Aug	24	20	30	32	A	31	30	30	33	34	31	34	34	34	33	30	28	27	28	28	21	17	24	27	28.6	34.1
8-Aug	27	27	26	25	A	22	21	18	18	19	19	27	32	34	35	36	35	37	37	35	30	29	28	26	27.9	37.4
9-Aug	23	22	20	18	A	17	14	16	16	17	20	26	34	37	38	39	38	39	39	30	25	26	27	27	26.4	39.2
10-Aug	29	26	25	20	A	12	9	13	19	27	35	38	39	39	42	39	37	35	33	29	30	32	30	29	29.0	41.7
11-Aug	28	33	34	37	A	24	20	20	29	25	28	27	27	25	28	31	35	34	27	25	27	23	22	20	27.4	37.2
12-Aug	25	26	21	23	A	14	14	17	24	27	29	34	34	35	37	49	48	43	38	31	26	40	45	45	31.5	48.8
13-Aug	39	40	26	24	A	22	29	28	25	33	36	42	48	45	46	45	42	38	34	36	31	36	37	38	35.6	48.4
14-Aug	44	41	36	23	A	26	18	14	17	22	31	37	45	45	48	49	47	46	42	37	40	41	39	39	35.9	49.3
15-Aug	42	31	31	30	A	19	13	8	22	29	29	32	38	42	42	41	38	39	36	30	33	32	30	25	31.0	42.4
16-Aug	24	25	26	25	A	18	20	20	21	23	23	26	36	41	40	39	35	32	28	35	34	30	25	27	28.3	40.5
17-Aug	23	23	21	25	A	17	16	16	23	26	32	35	35	37	37	39	39	37	35	33	31	29	27	24	28.7	38.6
18-Aug	24	21	23	25	A	21	21	22	22	23	25	27	27	28	31	30	31	33	35	33	30	28	28	27	26.7	35.3
19-Aug	30	29	29	32	A	32	28	31	30	33	34	36	37	36	36	35	33	38	36	32	34	32	28	27	32.4	38.1
20-Aug	27	27	25	26	A	26	26	26	27	27	28	28	28	29	29	29	29	29	30	29	28	27	27	27	27.5	29.9
21-Aug	25	25	24	24	A	21	21	23	26	29	30	31	33	34	35	39	42	41	40	33	28	28	27	26	29.7	41.7
22-Aug	23	20	20	19	A	16	12	9	12	14	19	24	23	22	C	C	C	C	C	C	22	23	21	21	--	23.6
23-Aug	21	20	20	18	A	14	12	12	13	19	24	30	33	33	33	33	33	31	28	28	30	23	28	26	24.3	33.2
24-Aug	25	19	16	15	A	16	12	14	21	25	28	32	32	31	33	34	34	34	32	31	27	22	21	23	25.1	34.1
25-Aug	19	24	25	17	A	20	20	21	22	25	27	30	30	31	32	32	32	31	32	29	26	27	29	29	26.5	32.3
26-Aug	25	21	21	20	A	14	7	6	12	11	26	31	32	32	34	33	30	31	30	30	28	24	22	18	23.3	34.3
27-Aug	17	17	22	23	A	24	24	17	16	15	17	23	31	33	36	37	37	35	34	31	31	29	29	26	26.2	36.6
28-Aug	26	26	20	20	A	15	9	11	6	8	15	19	30	43	44	43	43	42	39	32	32	37	39	31	27.4	44.5
29-Aug	31	28	20	22	A	31	29	24	23	23	29	35	37	39	39	39	37	36	30	27	24	23	21	21	29.1	39.4
30-Aug	15	17	16	15	A	7	4	7	6	15	16	24	24	22	22	23	23	21	18	12	13	16	15	18	16.0	23.7
31-Aug	18	15	14	14	A	14	14	19	21	24	29	31	31	33	32	32	32	32	30	24	24	24	24	23	24.1	32.8
	26.4	25.0	24.0	23.1	--	19.3	17.5	18.0	21.0	24.6	28.7	32.1	35.0	36.0	37.1	37.1	36.4	35.6	33.2	30.4	28.4	28.3	28.0	26.9	Diurnal Average	
	44.0	40.9	35.8	41.0	--	31.9	29.9	30.5	34.4	40.6	42.8	44.7	50.7	50.2	48.4	49.3	48.1	45.7	43.9	40.9	39.6	40.9	45.3	44.9	Diurnal Maximum	

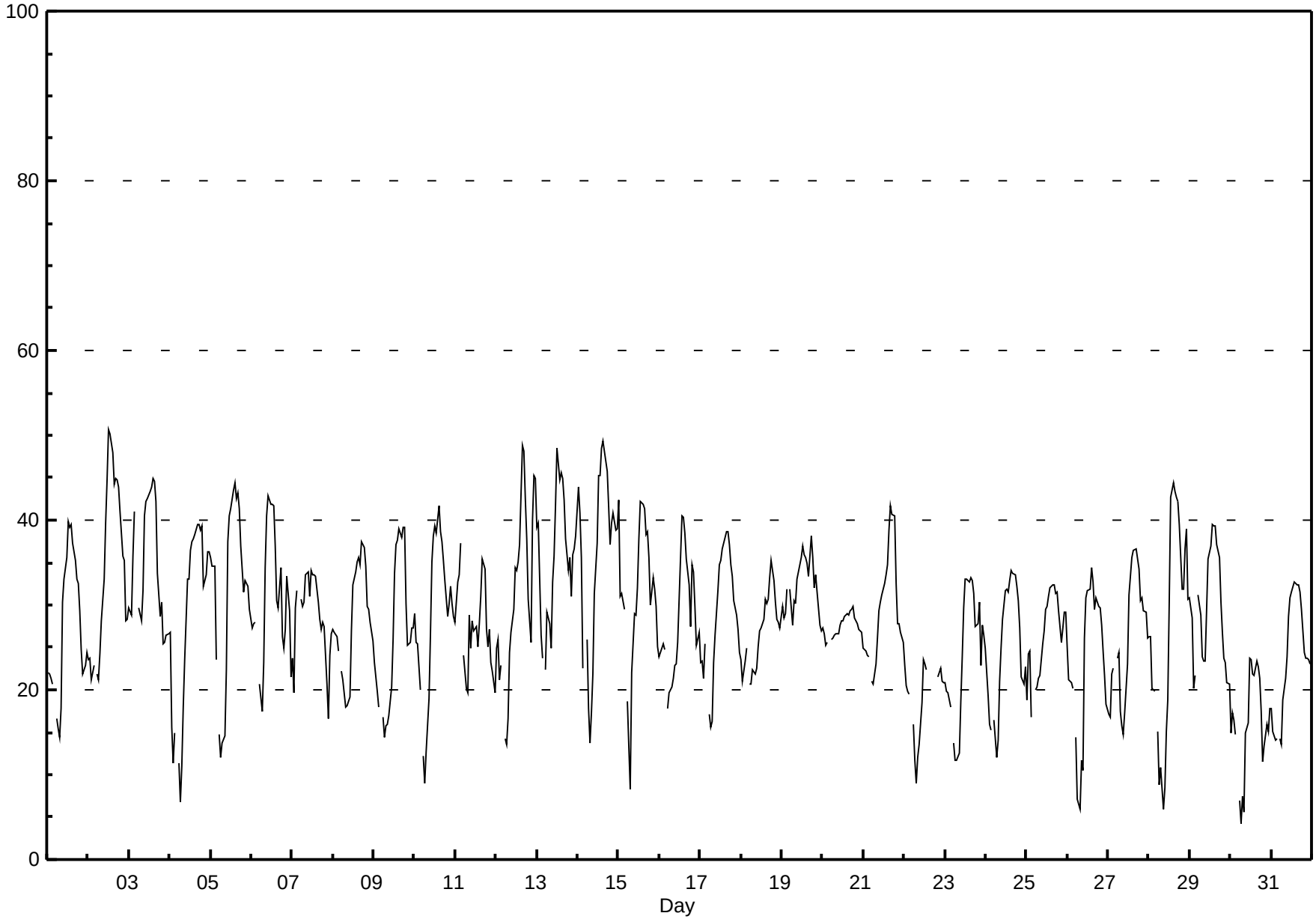
C - Calibration D - DAS Failure N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

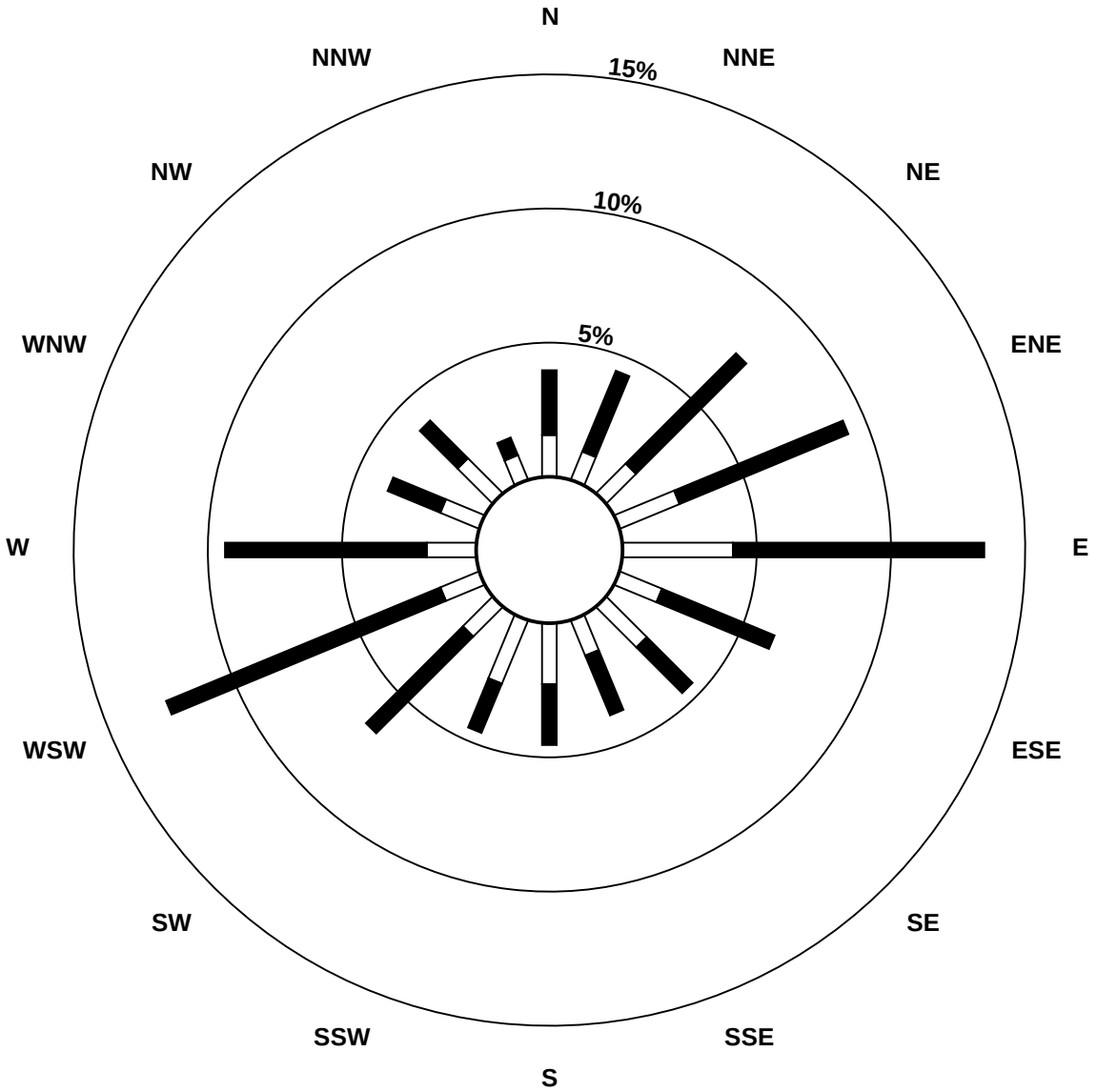
Beaverlodge - August 2013



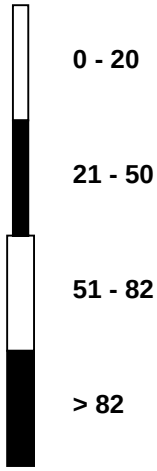
Pollutant Rose

Ozone (O_3) - ppb

Beaverlodge - August 2013



Pollutant Classes (ppb)



Peace Airshed Zone Association

Eight Hour Running Averages

Ozone (O_3) - ppb

Beaverlodge - August 2013

Maximum Value: 44.0 ppb on Aug 2 19:00

Minimum Value: 7.3 ppb on Aug 30 11:00

Percentiles: P_1 = 8.8 P_{10} = 15.7 Q_1 = 19.7 Median = 25.4 Q_3 = 30.0 P_{90} = 34.2 P_{99} = 41.3

Hours in Service:	744
Hours of Data:	735
Hours of Missing Data:	9
Hours of Calibration:	9
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	25	24	23	21	21	20	18	17	16	16	18	20	22	25	28	31	34	35	35	34	32	30	28	26	34.6
2-Aug	25	24	22	22	22	21	21	20	20	22	24	27	29	33	36	39	42	43	44	44	42	40	38	36	44.0
3-Aug	34	31	30	30	29	29	29	29	29	31	32	33	34	35	37	39	41	40	38	36	34	32	29	26	40.6
4-Aug	24	22	19	17	17	15	12	11	10	11	13	16	19	22	26	29	32	35	36	36	36	35	35	35	36.4
5-Aug	34	33	32	29	29	26	22	19	16	15	15	19	21	25	29	33	37	39	40	39	37	36	34	33	39.6
6-Aug	31	29	28	28	27	24	21	20	20	22	25	27	29	32	34	35	35	34	31	29	27	26	25	24	35.4
7-Aug	23	22	22	23	22	22	23	24	26	28	29	29	29	30	30	30	30	29	29	28	26	24	23	22	30.3
8-Aug	22	22	22	22	23	23	23	22	21	20	19	19	20	22	23	25	28	30	32	33	33	33	32	30	33.2
9-Aug	29	27	25	23	22	21	18	17	16	15	15	16	17	20	23	26	29	31	33	34	33	32	30	29	33.8
10-Aug	28	27	25	24	24	22	19	16	15	14	15	18	20	23	27	31	33	35	35	34	32	32	31	30	35.1
11-Aug	28	28	28	29	29	27	26	24	24	23	22	20	21	21	22	23	25	26	26	26	26	25	23	22	29.1
12-Aug	20	19	19	18	17	16	16	16	16	16	17	19	21	24	27	31	34	35	36	36	34	34	34	34	36.1
13-Aug	33	32	31	30	31	29	27	23	21	20	22	25	27	30	33	35	38	39	39	37	35	33	32	30	38.9
14-Aug	28	28	27	26	27	25	22	20	19	16	17	19	22	25	30	34	38	41	42	42	42	41	39	37	42.3
15-Aug	35	33	31	30	29	25	22	18	16	16	16	17	19	22	26	30	33	34	35	35	35	34	32	30	35.1
16-Aug	28	26	24	24	23	21	19	19	19	19	19	19	21	23	26	28	30	31	31	32	32	31	29	28	32.3
17-Aug	26	25	24	23	22	20	19	17	17	17	19	21	23	25	28	31	33	34	35	35	34	33	31	30	35.0
18-Aug	28	26	24	23	22	20	19	19	18	19	19	20	20	22	23	24	25	27	28	29	29	29	29	29	29.2
19-Aug	28	28	27	27	27	27	26	26	26	27	28	28	29	31	32	33	34	34	34	34	33	33	32	31	34.2
20-Aug	30	29	28	27	26	26	25	25	25	25	26	26	26	27	27	27	28	28	28	28	28	28	28	27	30.0
21-Aug	27	26	25	25	25	24	23	22	22	23	24	25	25	27	29	30	32	34	35	35	34	33	32	30	34.7
22-Aug	28	25	22	21	20	19	16	14	12	11	12	13	14	15	16	17	N	N	N	N	N	N	N	N	27.9
23-Aug	N	19	18	18	18	16	15	13	12	12	13	15	17	19	22	25	28	29	30	30	29	28	27	26	29.7
24-Aug	25	23	22	20	19	18	15	13	12	13	15	18	19	22	25	28	30	31	31	31	29	28	26	24	31.2
25-Aug	21	20	19	18	17	17	18	17	18	18	19	21	22	23	25	27	29	30	30	30	29	29	28	28	30.2
26-Aug	26	25	24	22	22	20	16	13	11	9	9	10	13	16	20	23	25	28	29	29	29	28	26	25	29.4
27-Aug	23	21	20	19	19	18	18	18	17	16	16	15	17	18	20	23	26	29	31	32	32	32	31	29	32.2
28-Aug	27	25	22	21	20	17	14	13	11	8	8	8	10	14	18	22	27	32	35	36	36	36	35	33	36.1
29-Aug	31	29	27	26	26	25	24	21	20	19	20	22	24	25	27	30	32	34	34	33	32	30	28	25	34.2
30-Aug	22	20	19	17	16	14	12	10	9	7	7	8	10	12	13	15	17	19	19	18	16	16	15	14	22.5
31-Aug	14	13	13	13	13	13	13	13	13	15	17	19	21	23	25	27	29	30	30	29	28	27	26	24	30.1
	35.1	33.2	31.8	29.8	30.8	29.2	28.6	28.7	28.7	30.7	32.4	32.8	34.0	35.1	37.3	39.4	41.7	43.4	44.0	43.7	42.2	40.6	38.7	37.2	
	Diurnal Maximums																								

N - Not Valid

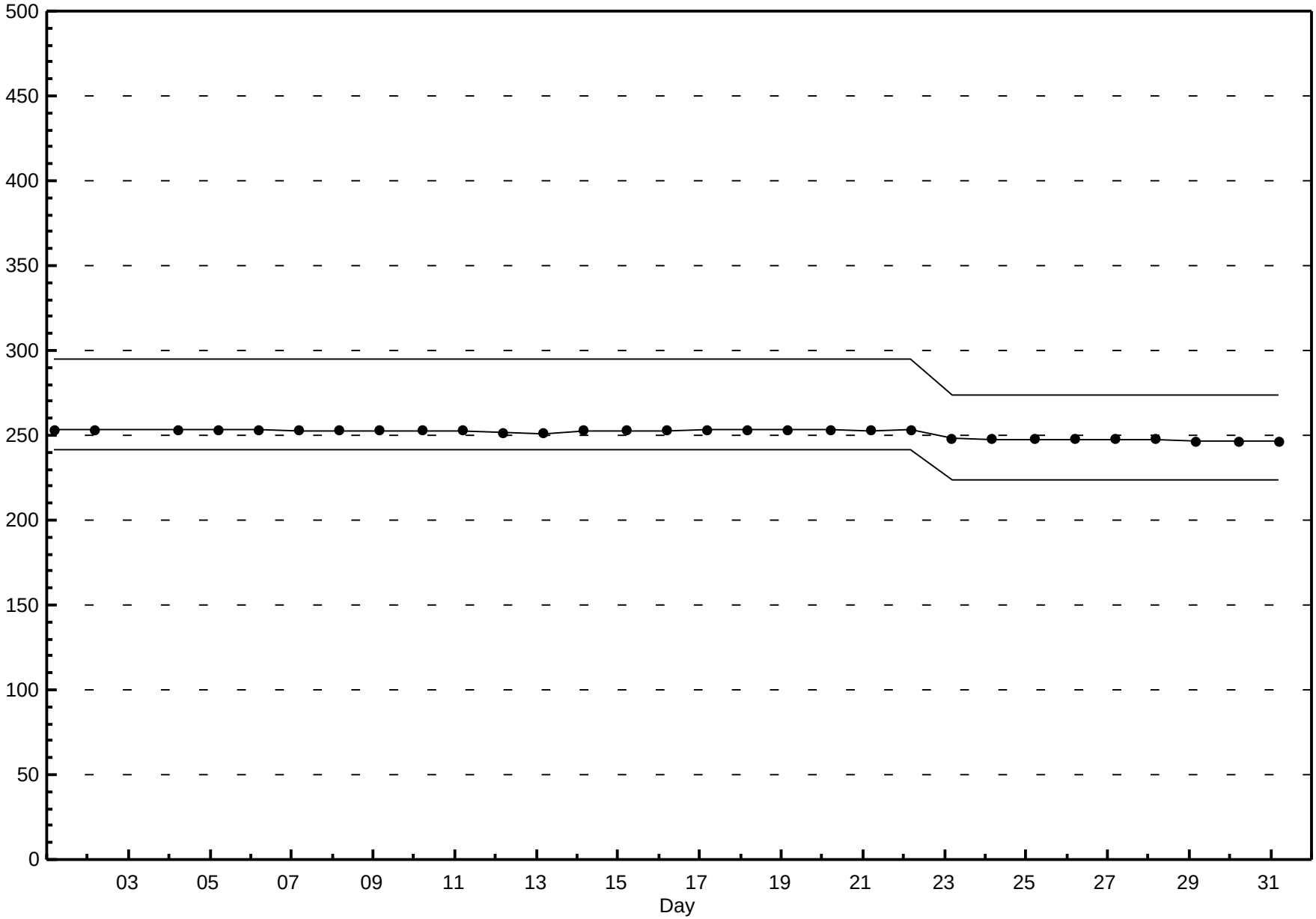
FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Span Responses

Ozone (O_3)

Beaverlodge - August 2013



Peace Airshed Zone Association

Hourly Averages

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

Beaverlodge - August 2013

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

Maximum Value: 20.4 $\mu g/m^3$ on Aug 9 10:00

Maximum Daily Average: 15.3 $\mu g/m^3$ on Aug 9

Minimum Value: 0 $\mu g/m^3$ on Aug 27 16:00

Maximum Diurnal Average: 10.3 $\mu g/m^3$ at hour 10

Monthly Average: 8.53 $\mu g/m^3$

Minimum Daily Average: 1.0 $\mu g/m^3$ on Aug 31

Minimum Diurnal Average: 7.2 $\mu g/m^3$ at hour 18

Percentiles: $P_1 = 0.0$ $P_{10} = 3.1$ $Q_1 = 5.6$ Median = 8.5 $Q_3 = 11.3$ $P_{90} = 14.0$ $P_{99} = 17.8$

Hours in Service:	744
Hours of Data:	735
Hours of Missing Data:	9
Hours of Calibration:	0
Percent Operational Time:	98.8

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	10	11	11	12	13	16	13	10	7	9	9	9	10	8	9	9	11	12	11	9	10.4	15.6
2-Aug	9	8	9	11	12	12	11	15	17	19	18	18	14	15	11	11	14	13	12	13	12	14	15	13	13.1	18.5
3-Aug	14	11	9	8	N	N	6	7	8	8	6	3	5	3	6	5	5	10	12	11	8	8	7	7	7.6	13.7
4-Aug	8	7	6	4	6	7	7	7	9	11	10	9	8	9	7	6	8	8	8	7	9	11	10	8	7.9	10.8
5-Aug	8	9	11	13	11	7	8	9	11	14	13	12	9	8	7	4	6	7	7	11	10	8	8	10	9.3	14.1
6-Aug	10	11	10	D	11	11	9	14	13	11	15	12	11	10	11	15	12	0	11	10	10	12	9	10	10.8	15.2
7-Aug	11	12	10	7	7	7	8	8	9	9	9	11	9	11	11	11	10	10	11	12	12	12	12	13	10.1	13.1
8-Aug	14	15	15	14	15	15	14	14	15	17	18	16	14	13	14	14	14	12	13	11	13	14	15	15	14.2	17.5
9-Aug	13	13	12	11	14	14	14	16	17	20	20	20	20	20	17	13	9	12	17	14	15	17	14	15	15.3	20.4
10-Aug	15	15	15	16	14	12	10	12	14	16	17	20	17	18	14	11	5	6	9	14	13	18	18	16	14.0	20.2
11-Aug	13	9	5	4	6	8	10	12	10	8	11	14	N	N	N	N	N	8	12	16	17	12	14	12	10.5	16.6
12-Aug	12	9	9	6	5	7	7	7	9	9	9	9	9	12	7	12	13	8	12	13	9	14	12	7	9.5	14.4
13-Aug	8	6	7	7	6	6	8	10	10	13	14	16	16	13	15	13	18	19	14	14	17	13	7	8	11.5	18.7
14-Aug	5	5	7	7	10	10	9	10	12	11	13	13	12	9	11	9	10	9	11	14	16	16	15	11	10.6	16.0
15-Aug	13	12	12	14	12	13	12	12	12	11	10	11	10	6	5	5	5	2	5	9	11	6	5	7	9.2	13.7
16-Aug	8	7	6	6	6	6	7	8	10	10	7	8	9	2	0	5	7	4	4	3	4	3	3	3	5.6	9.6
17-Aug	3	4	4	4	5	4	5	5	6	7	3	2	5	5	5	4	5	2	5	6	6	6	6	7	4.7	7.3
18-Aug	7	8	8	8	8	7	7	7	7	8	8	6	8	5	8	5	7	5	3	3	4	3	3	4	6.1	8.3
19-Aug	4	4	5	2	2	4	6	6	6	5	5	8	5	5	6	6	8	8	5	7	6	6	6	6	5.5	7.7
20-Aug	7	7	6	7	7	8	7	6	8	9	8	8	9	9	10	11	9	8	9	9	10	11	10	9	8.5	11.1
21-Aug	10	10	11	10	10	10	11	13	11	10	9	8	9	9	9	11	10	7	7	9	12	13	11	11	10.0	13.1
22-Aug	10	12	10	10	11	11	12	13	12	12	14	17	13	13	15	13	9	14	8	10	8	8	11	9	11.5	17.0
23-Aug	9	8	10	9	8	9	8	9	12	11	11	8	7	4	6	6	3	8	9	10	12	10	10	7	8.5	11.9
24-Aug	7	9	5	10	7	5	6	5	7	5	3	4	3	3	5	4	0	2	4	4	10	10	9	7	5.6	10.3
25-Aug	8	6	3	4	5	3	3	5	5	5	4	1	0	1	1	1	2	2	4	4	4	5	4	3	3.4	8.1
26-Aug	4	6	6	7	7	6	7	10	10	11	12	10	6	8	7	9	10	11	11	12	9	9	9	8	8.4	11.9
27-Aug	8	7	8	6	5	4	3	3	4	5	4	5	5	1	N	0	0	0	0	0	0	0	0	2	3.0	8.0
28-Aug	3	2	4	3	4	8	6	7	8	10	9	7	4	4	1	3	4	6	5	8	7	5	4	7	5.3	9.7
29-Aug	9	8	9	10	9	9	7	7	9	10	10	8	10	13	13	13	12	9	8	4	5	9	10	7	9.0	13.2
30-Aug	7	8	6	5	4	6	6	7	9	10	6	4	1	1	6	6	3	1	5	6	2	0	0	0	4.5	9.6
31-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	2	2	1	4	2	2	2	2	1.0	4.4
	8.6	8.4	7.9	7.7	7.8	8.0	7.9	8.9	9.7	10.3	9.9	9.6	8.5	8.0	8.2	7.8	7.6	7.2	8.1	8.9	9.1	9.3	8.7	8.2	Diurnal Average	
	15.1	15.5	15.4	16.5	14.9	14.7	14.5	15.6	17.1	20.4	19.9	20.2	20.3	19.9	17.2	15.2	17.8	18.7	16.9	15.6	17.1	18.4	18.3	15.7	Diurnal Maximum	

D - DAS Failure 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 2013

Peace Airshed Zone Association

Hourly Maximums

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

Beaverlodge - August 2013

Maximum Value: 21.6 $\mu g/m^3$ on Aug 10 12:00

Maximum Daily Average: 16.6 $\mu g/m^3$ on Aug 9

Minimum Value: 0 $\mu g/m^3$ on Aug 27 15:00

Minimum Daily Average: 1.9 $\mu g/m^3$ on Aug 31

Maximum Diurnal Average: 11.6 $\mu g/m^3$ at hour 10

Minimum Diurnal Average: 8.8 $\mu g/m^3$ at hour 4

Monthly Average: 9.82 $\mu g/m^3$

Percentiles: $P_1 = 0.0$ $P_{10} = 4.3$ $Q_1 = 7.0$ Median = 9.7 $Q_3 = 12.6$ $P_{90} = 15.6$ $P_{99} = 20.9$

Hours in Service:	744
Hours of Data:	736
Hours of Missing Data:	8
Hours of Calibration:	0
Percent Operational Time:	98.9

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	12	11	10	10	11	11	12	13	14	17	16	12	8	11	11	11	11	9	10	10	11	12	12	11	11.4	16.5
2-Aug	9	9	9	12	13	14	14	15	19	19	19	19	16	16	16	15	15	14	13	13	13	16	15	14	14.5	19.4
3-Aug	14	14	11	11	N	N	6	7	9	10	8	5	6	5	7	7	7	12	13	12	9	9	8	7	8.9	14.3
4-Aug	9	8	7	5	7	7	8	8	9	12	12	10	9	10	8	7	10	10	10	10	10	11	11	10	9.0	11.6
5-Aug	8	12	12	14	13	8	9	11	12	15	14	13	12	10	8	7	7	8	9	13	12	9	8	11	10.6	14.8
6-Aug	11	12	11	D	13	12	11	16	14	13	16	14	12	12	13	17	16	14	12	10	11	13	10	11	12.7	16.9
7-Aug	11	13	12	8	8	8	8	9	10	10	9	12	11	12	11	11	11	11	13	13	13	13	13	14	11.0	14.4
8-Aug	15	17	17	15	15	15	14	14	16	18	18	18	15	15	15	16	16	12	14	12	14	15	16	16	15.3	18.2
9-Aug	14	13	13	12	15	15	16	16	19	22	21	20	21	21	19	15	11	16	18	17	17	18	16	16	16.6	21.5
10-Aug	16	16	16	17	16	13	11	13	15	16	18	22	20	19	19	12	7	8	11	15	14	21	21	16	15.6	21.6
11-Aug	15	12	8	6	9	9	11	14	13	12	13	17	N	N	N	N	N	9	14	17	17	15	15	12	12.5	17.2
12-Aug	13	11	10	8	6	8	8	9	11	11	11	11	14	14	9	15	15	10	14	15	10	18	18	9	11.6	18.3
13-Aug	9	8	8	7	7	6	11	11	11	14	15	18	17	14	16	14	21	21	16	16	19	19	8	8	13.2	20.9
14-Aug	6	6	8	8	11	11	10	11	13	13	15	14	14	10	12	9	11	11	14	15	17	17	16	13	11.9	17.2
15-Aug	14	13	13	15	13	14	13	13	12	12	11	12	11	8	5	7	8	4	8	10	12	10	6	8	10.5	14.8
16-Aug	9	8	6	7	6	7	8	9	11	11	8	8	10	8	3	6	8	6	5	4	4	4	4	4	6.9	10.9
17-Aug	3	4	4	4	5	5	5	5	8	8	5	5	6	5	6	6	7	4	5	8	7	7	7	8	5.8	7.9
18-Aug	8	9	9	9	9	7	8	8	7	9	9	8	9	7	10	7	7	7	4	4	5	4	4	5	7.2	9.9
19-Aug	5	5	6	4	3	6	7	7	7	6	8	8	7	7	7	6	9	8	7	8	7	7	7	7	6.6	8.9
20-Aug	8	8	7	7	7	9	9	7	10	10	9	9	10	10	12	12	10	9	10	10	10	12	11	11	9.4	12.2
21-Aug	10	10	11	10	10	11	13	14	12	11	9	9	10	9	11	12	11	11	9	11	14	13	13	12	11.2	14.1
22-Aug	11	12	11	12	12	12	13	14	13	13	18	18	16	14	16	15	13	16	11	11	10	10	12	10	13.0	18.2
23-Aug	9	9	10	10	8	10	10	11	13	12	12	11	8	7	9	9	5	9	10	11	13	11	11	9	9.8	12.8
24-Aug	7	11	13	11	8	6	7	7	9	8	4	7	6	5	6	6	2	5	5	6	13	13	9	9	7.5	13.4
25-Aug	9	8	5	6	7	4	4	6	6	5	5	2	1	2	2	2	3	2	6	6	4	6	5	4	4.5	8.8
26-Aug	5	7	6	8	8	7	10	11	10	13	13	11	8	9	8	9	11	12	11	13	11	10	11	9	9.6	12.9
27-Aug	9	8	8	7	6	5	4	4	5	7	7	7	6	6	0	0	0	0	0	0	1	0	2	3	4.0	8.7
28-Aug	3	4	4	4	8	8	7	7	10	11	10	8	6	4	2	5	5	7	7	8	8	5	5	9	6.6	11.1
29-Aug	9	9	10	10	10	10	8	8	10	11	11	10	12	14	14	14	13	11	10	5	7	10	11	8	10.2	13.9
30-Aug	9	9	7	6	5	7	7	8	11	11	9	5	2	2	7	7	5	3	6	6	5	1	0	0	5.8	11.0
31-Aug	1	0	0	0	1	0	0	0	2	1	0	0	2	3	3	2	3	4	2	6	4	3	3	3	1.9	5.8
	9.5	9.5	9.2	8.8	9.0	8.9	9.0	9.9	11.0	11.6	11.3	11.0	10.1	9.6	9.5	9.3	9.2	9.0	9.5	10.1	10.5	10.7	9.9	9.3	Diurnal Average	
	16.3	16.7	16.8	17.2	15.8	15.4	15.5	16.2	19.2	21.5	20.6	21.6	20.9	20.9	19.0	16.9	20.9	20.8	17.6	17.0	19.1	21.4	21.0	16.3	Diurnal Maximum	

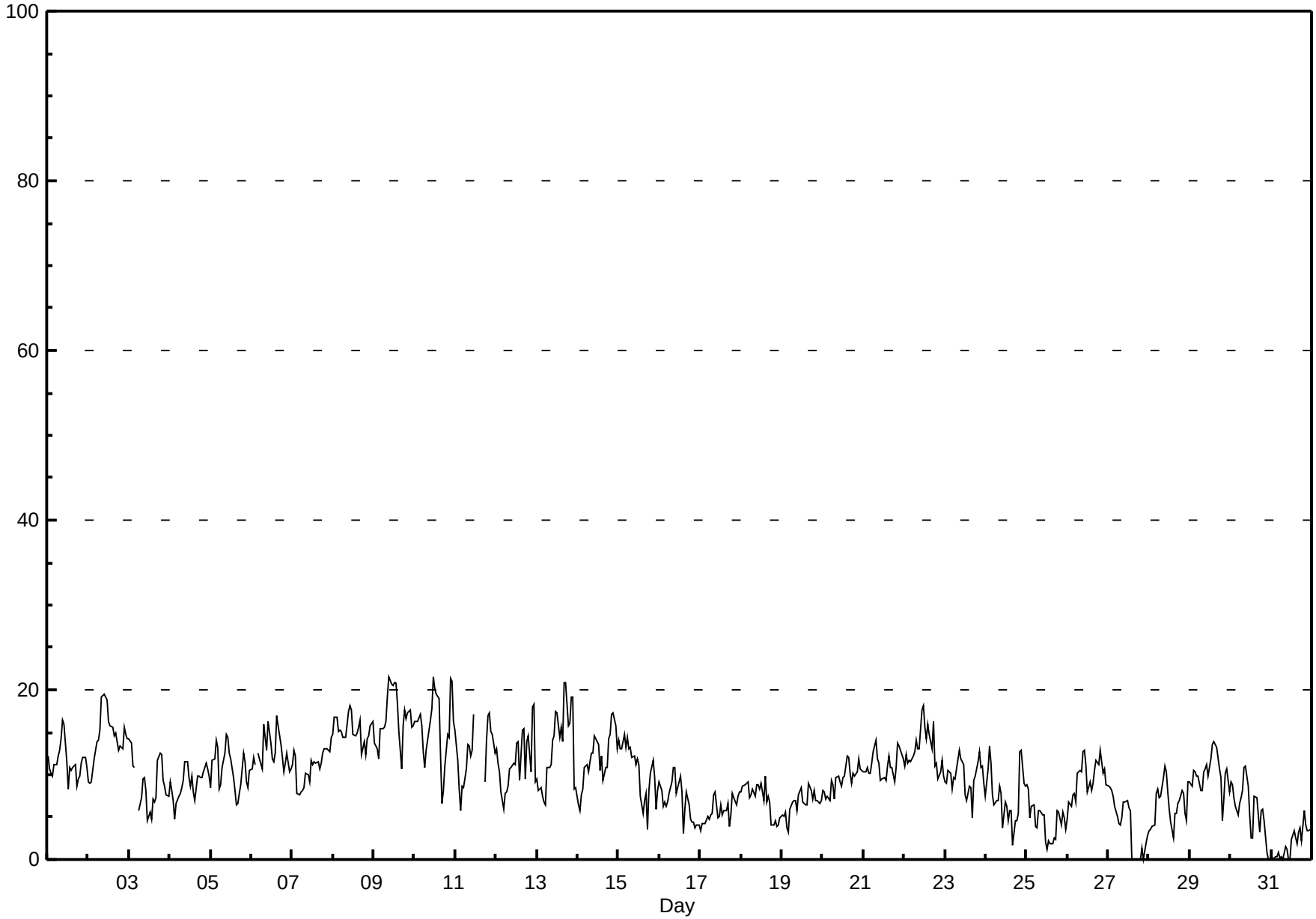
D - DAS Failure N - Not Valid

Peace Airshed Zone Association

Hourly Maximums

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

Beaverlodge - August 2013

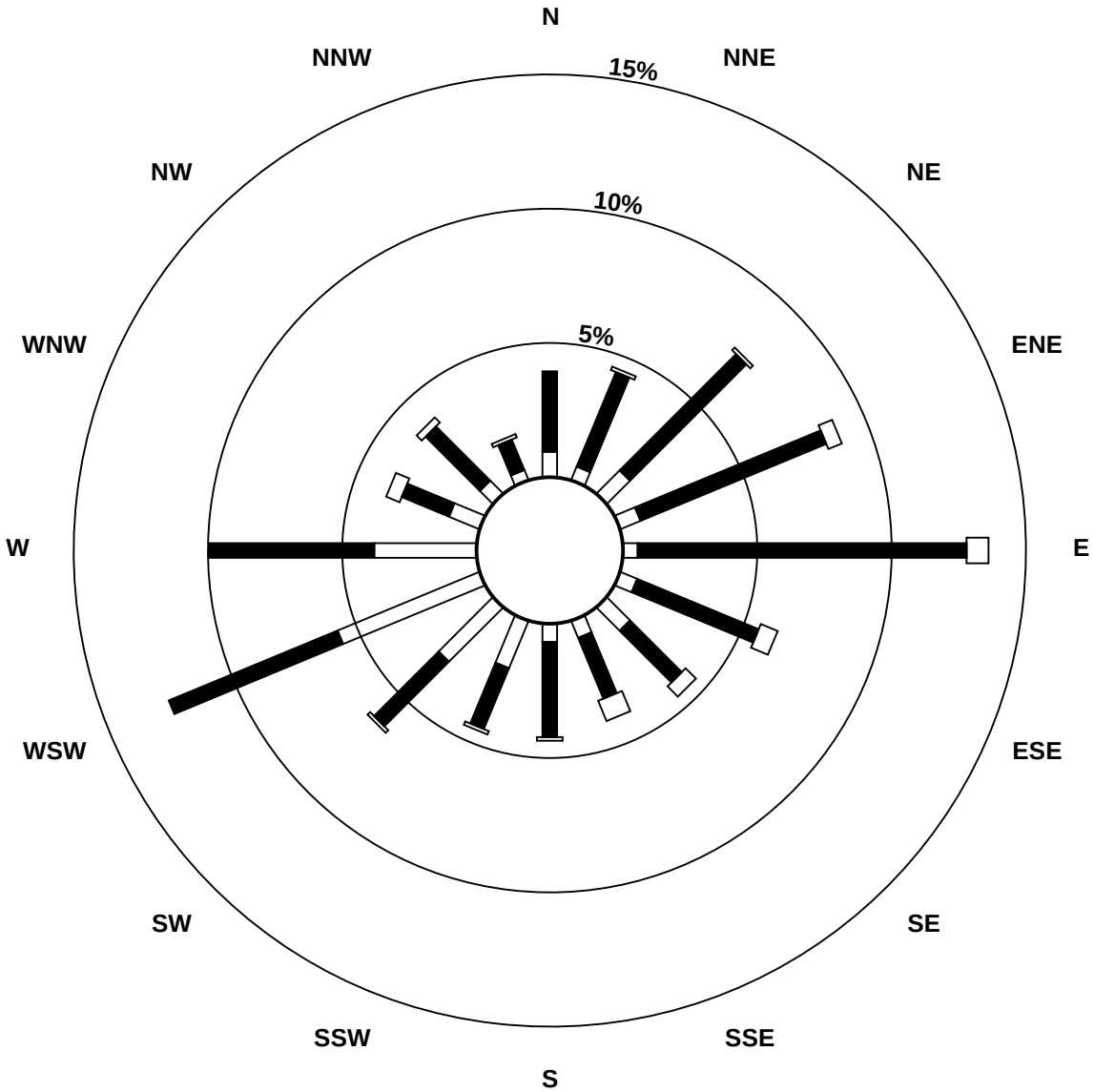


Peace Airshed Zone Association

Pollutant Rose

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

Beaverlodge - August 2013



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) - °C

Beaverlodge - August 2013

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

Maximum Value: 27.6 °C on Aug 10 17:00

Maximum Daily Average: 20.2 °C on Aug 10

Minimum Value: 6 °C on Aug 26 07:00

Minimum Daily Average: 12.5 °C on Aug 20

Maximum Diurnal Average: 21.4 °C at hour 16

Minimum Diurnal Average: 11.9 °C at hour 6

Monthly Average: 16.72 °C

Percentiles: P_1 = 8.8 P_{10} = 11.4 Q_1 = 13.6 Median = 16.1 Q_3 = 19.7 P_{90} = 22.7 P_{99} = 26.0

Hours in Service:	744
Hours of Data:	741
Hours of Missing Data:	3
Hours of Calibration:	0
Percent Operational Time:	99.6

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	17	16	16	16	15	14	14	15	16	19	22	23	23	24	25	25	25	25	24	23	21	19	19	18	19.9	25.0
2-Aug	17	17	16	15	15	13	15	16	17	18	21	22	24	25	25	26	26	26	25	23	21	20	20	19	20.0	26.1
3-Aug	19	18	16	14	N	N	13	14	16	17	19	19	20	21	22	23	21	19	19	19	17	16	16	14	17.7	22.8
4-Aug	14	12	11	11	11	11	11	12	14	17	19	21	22	23	22	23	23	24	23	23	21	19	18	17	17.5	23.8
5-Aug	16	16	14	12	11	10	11	15	16	18	21	23	24	25	26	26	26	25	24	23	21	20	19	18	19.2	26.3
6-Aug	18	18	16	D	16	15	15	18	21	21	23	24	24	24	24	24	23	20	20	18	17	17	16	15	19.4	24.4
7-Aug	15	15	15	14	14	14	14	15	16	17	17	18	18	18	18	15	16	16	17	17	16	16	15	15	15.9	18.4
8-Aug	14	14	14	13	14	14	14	14	15	15	15	16	18	18	19	19	19	19	19	18	16	15	15	14	16.0	19.5
9-Aug	13	13	13	12	12	11	12	12	12	13	15	19	21	22	23	24	24	22	22	21	19	18	18	18	17.0	23.6
10-Aug	17	17	16	14	13	12	13	14	16	17	19	22	24	26	27	27	28	27	26	25	23	21	21	20	20.2	27.6
11-Aug	20	19	18	16	16	15	16	16	18	19	19	18	18	19	20	21	21	21	21	21	20	18	17	17	18.5	21.2
12-Aug	17	16	15	14	14	12	13	14	16	18	20	22	22	23	23	24	24	24	22	21	20	19	16	16	18.5	23.7
13-Aug	16	15	14	14	14	14	15	16	16	18	18	21	23	23	23	22	22	20	19	18	18	17	16	16	17.9	23.4
14-Aug	15	15	13	13	13	14	13	14	15	17	20	22	23	23	25	26	25	25	25	22	21	21	20	20	19.2	26.1
15-Aug	19	18	18	18	17	16	16	15	15	16	17	18	20	22	23	24	24	24	22	21	18	18	17	16	18.9	24.5
16-Aug	16	16	15	15	14	14	14	14	14	15	16	13	20	22	23	18	19	18	17	16	14	13	12	12	15.8	22.5
17-Aug	12	12	11	11	11	11	11	14	15	17	19	20	21	21	21	22	22	22	21	19	17	16	15	13	16.3	21.9
18-Aug	13	12	12	11	12	10	11	13	14	15	17	17	16	16	15	15	17	18	17	16	14	12	11	10	13.9	17.7
19-Aug	11	11	10	11	11	9	9	12	12	14	15	16	17	18	18	18	15	12	12	12	12	10	10	10	12.6	18.4
20-Aug	9	10	9	9	9	9	10	11	12	13	14	15	15	15	15	15	15	15	15	14	13	13	13	13	12.5	15.0
21-Aug	12	12	11	11	10	9	9	11	13	14	16	17	18	19	20	21	21	21	20	18	16	15	14	14	15.1	21.1
22-Aug	12	10	11	10	10	10	10	10	11	12	16	19	21	22	22	22	22	23	21	21	19	17	16	16	15.9	23.0
23-Aug	15	13	13	12	12	10	11	13	15	18	21	22	23	24	24	24	24	23	21	20	20	18	17	17	17.9	24.5
24-Aug	15	14	14	14	14	14	13	15	16	18	20	20	20	21	21	21	21	21	21	20	18	17	15	15	17.5	21.4
25-Aug	13	14	13	12	11	11	12	13	14	14	16	17	18	19	20	19	20	20	19	18	15	13	14	12	15.2	19.6
26-Aug	10	9	9	9	9	7	6	7	11	14	17	19	19	19	19	19	18	17	16	15	14	14	13	13	13.4	19.4
27-Aug	13	12	12	12	11	11	11	11	11	13	14	16	18	19	20	21	21	20	20	17	17	16	14	11	15.1	20.9
28-Aug	11	11	9	10	9	9	10	11	12	13	14	15	17	18	20	20	20	20	19	18	17	16	15	15	14.6	20.5
29-Aug	15	14	13	13	12	13	13	12	14	14	16	17	18	19	20	20	20	19	19	18	17	16	16	15	16.0	20.1
30-Aug	15	15	14	14	13	13	13	13	13	13	13	13	14	14	15	16	17	16	16	16	15	15	14	13	14.3	17.2
31-Aug	13	13	13	13	13	12	12	13	15	16	17	19	20	21	22	22	22	22	21	18	16	15	15	13	16.4	22.3
	14.6	14.1	13.4	12.8	12.5	11.9	12.2	13.3	14.6	15.9	17.6	18.9	20.0	20.8	21.3	21.4	21.3	20.8	20.1	19.0	17.4	16.4	15.6	15.0	Diurnal Average	
	19.8	19.2	18.4	17.9	16.8	16.1	16.0	17.8	20.7	21.5	22.8	24.1	24.4	25.6	27.0	27.1	27.6	27.2	25.7	25.0	22.8	21.1	20.6	20.3	Diurnal Maximum	

D - DAS Failure N - Not Valid

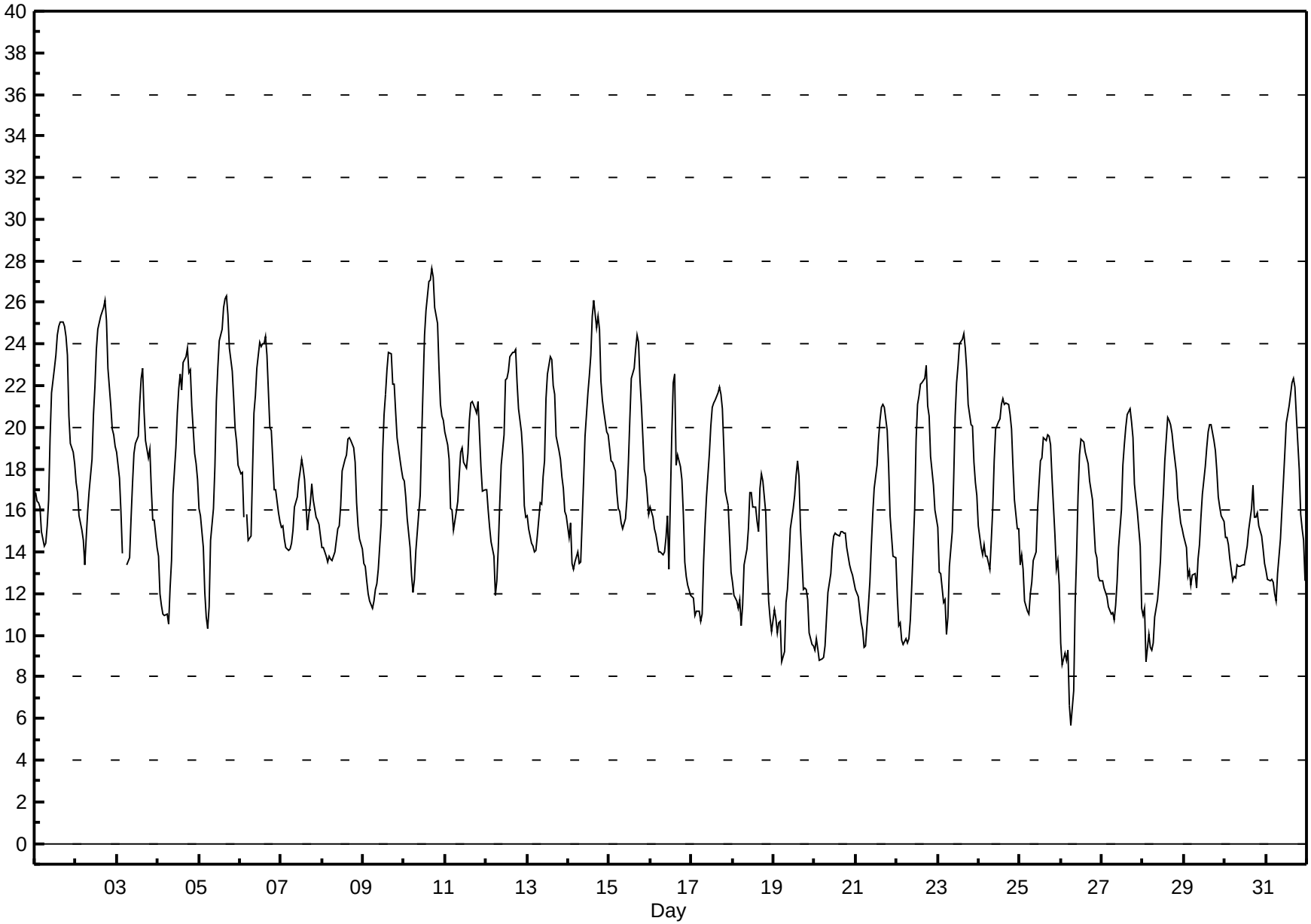
FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Beaverlodge - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Beaverlodge - August 2013

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

Maximum Value: 100.0 % on Aug 4 02:00

Maximum Daily Average: 94.7 % on Aug 30

Minimum Value: 26 % on Aug 21 17:00

Minimum Daily Average: 50.5 % on Aug 21

Maximum Diurnal Average: 91.4 % at hour 6

Minimum Diurnal Average: 56.5 % at hour 17

Monthly Average: 74.79 %

Percentiles: P_1 = 39.1 P_{10} = 48.1 Q_1 = 61.2 Median = 77.8 Q_3 = 89.0 P_{90} = 96.2 P_{99} = 100.0

Hours in Service:	744
Hours of Data:	741
Hours of Missing Data:	3
Hours of Calibration:	0
Percent Operational Time:	99.6

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	79	79	79	80	86	89	89	88	88	78	64	54	47	46	45	47	47	49	50	55	65	70	68	66	66.9	89.0
2-Aug	70	73	79	84	86	90	86	84	81	75	68	62	56	50	48	47	46	44	51	57	64	73	76	76	67.8	89.9
3-Aug	75	81	84	90	N	N	99	96	88	80	74	72	69	65	58	60	69	78	85	79	88	92	89	94	80.2	98.9
4-Aug	93	100	100	100	100	100	100	99	96	85	76	69	61	56	62	57	54	51	59	59	69	74	70	74	77.6	100.0
5-Aug	81	85	90	97	100	100	100	89	84	79	67	58	50	48	43	42	39	44	56	59	59	59	64	71	69.4	100.0
6-Aug	72	71	81	D	85	90	91	81	67	60	58	55	55	50	55	50	53	67	77	86	88	83	92	96	72.4	96.5
7-Aug	98	99	98	98	98	96	96	95	89	87	85	82	78	80	83	96	93	92	85	91	96	97	92	86	91.2	99.2
8-Aug	86	86	89	92	93	93	94	94	93	91	91	87	80	76	76	75	74	73	72	77	85	86	89	90	85.1	94.3
9-Aug	92	93	95	97	98	98	97	97	98	95	88	78	72	68	63	57	56	63	67	75	78	84	85	84	82.4	98.3
10-Aug	83	86	90	96	100	100	100	96	92	91	81	72	62	56	49	43	43	45	54	63	67	74	72	71	74.4	100.0
11-Aug	75	72	75	84	90	95	92	93	88	86	86	92	94	92	89	80	74	75	81	80	85	93	97	96	85.9	97.3
12-Aug	89	89	91	90	91	99	96	94	86	80	79	66	64	64	61	62	63	61	71	75	82	84	93	95	80.2	98.9
13-Aug	93	96	98	100	100	100	100	96	97	91	89	78	71	68	70	79	81	89	91	93	93	82	88	88	88.7	100.0
14-Aug	95	87	97	100	100	97	99	100	93	85	78	71	65	60	51	50	56	56	63	75	76	75	78	74	78.3	100.0
15-Aug	81	85	85	86	94	98	97	92	93	96	92	87	75	58	56	53	50	53	63	70	80	79	83	90	79.0	97.7
16-Aug	87	88	87	87	89	90	92	97	99	97	93	86	75	58	56	76	82	84	82	81	92	95	96	96	86.1	99.0
17-Aug	94	90	94	92	90	91	92	84	78	74	64	56	52	47	45	45	43	43	47	56	62	66	72	79	69.1	94.5
18-Aug	82	84	85	85	83	89	86	80	82	80	73	74	79	79	84	86	73	59	56	66	73	78	78	80	78.0	88.8
19-Aug	74	74	74	72	70	80	79	72	74	67	61	53	49	46	43	44	53	64	61	60	62	72	77	76	64.9	79.5
20-Aug	75	71	75	77	74	73	69	64	59	55	51	46	46	47	47	47	47	48	49	53	58	59	58	60	58.6	76.6
21-Aug	62	64	66	68	71	74	73	65	61	54	47	44	39	34	32	28	26	27	30	41	48	51	55	55	50.5	73.8
22-Aug	64	70	70	73	74	75	79	82	78	74	65	58	50	50	49	47	48	45	50	54	60	64	68	68	63.1	81.9
23-Aug	70	78	79	85	84	91	89	80	75	68	58	49	45	42	43	41	45	54	61	62	59	70	69	68	65.3	91.0
24-Aug	78	85	89	86	87	87	91	84	76	68	58	52	48	47	45	44	43	45	48	56	66	75	81	78	67.4	90.8
25-Aug	88	77	78	89	90	87	83	83	80	73	61	53	48	45	40	40	39	41	41	51	59	64	60	65	63.9	90.2
26-Aug	77	83	81	83	81	90	94	93	83	77	67	52	49	51	59	62	68	76	80	81	87	90	100	100	77.7	100.0
27-Aug	100	100	100	100	100	100	100	100	100	97	89	82	66	57	46	42	39	43	45	58	54	54	62	77	75.4	100.0
28-Aug	77	74	90	82	88	91	90	88	91	88	79	71	66	55	45	47	48	51	59	73	72	66	67	73	72.2	91.1
29-Aug	76	79	89	89	94	90	89	94	89	88	84	80	76	73	70	69	68	73	74	76	84	87	88	89	81.9	93.6
30-Aug	93	92	93	96	99	100	100	99	100	100	100	100	99	98	96	92	86	88	91	93	93	87	88	89	94.7	100.0
31-Aug	88	89	88	89	89	91	91	85	79	73	67	58	54	48	48	46	45	48	56	65	69	71	72	81	70.5	91.1
	82.2	83.3	86.1	88.2	89.5	91.4	91.4	88.5	85.1	80.4	73.9	67.6	62.5	58.5	56.7	56.5	56.5	58.9	63.1	68.4	73.3	75.9	78.2	80.2	Diurnal Average	
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.2	98.2	96.0	95.8	93.1	91.9	91.4	93.3	95.9	97.0	99.7	100.0	Diurnal Maximum	

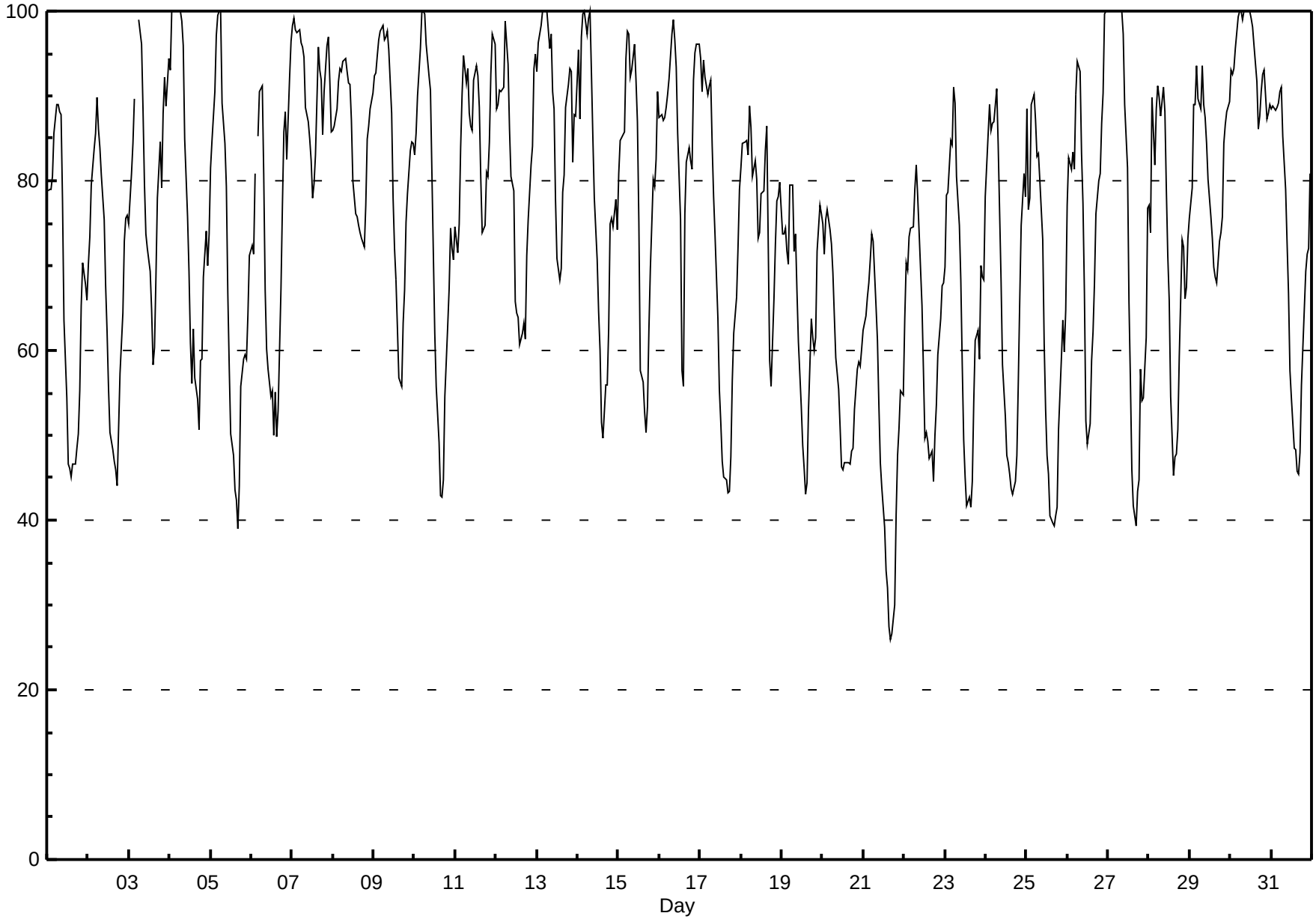
D - DAS Failure N - Not Valid

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Beaverlodge - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Beaverlodge - August 2013

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1 Spd	6	6	6	7	3	2	2	4	4	5	9	12	13	15	16	17	21	21	21	16	13	17	23	24	10.7	23.7
Dir	85	74	81	70	97	192	243	187	213	158	124	111	117	89	96	100	79	82	84	84	74	86	91	91	93	91
2 Spd	15	7	8	4	6	2	2	4	8	8	9	11	10	13	13	13	15	16	14	10	10	13	13	15	8.8	15.8
Dir	91	94	101	113	99	143	128	146	136	123	112	125	99	96	112	98	94	94	67	53	40	65	51	33	89	94
3 Spd	6	14	28	24	8	5	4	6	7	4	4	5	6	5	2	3	8	6	6	5	7	6	5	3	4.3	27.8
Dir	40	337	359	10	2	201	270	339	359	315	16	39	41	72	97	256	266	282	233	281	227	227	311	4	341	359
4 Spd	3	1	2	3	10	6	3	4	5	4	5	6	4	6	11	9	9	10	9	8	5	5	5	3	2.0	11.3
Dir	298	101	49	353	312	303	229	229	275	272	262	270	290	318	82	62	46	55	73	97	78	62	60	68	26	82
5 Spd	3	3	1	1	2	3	3	3	4	4	5	6	7	7	5	4	6	10	7	5	6	8	6	8	3.4	10.1
Dir	51	22	2	223	53	49	57	78	165	191	183	155	142	150	132	114	56	76	66	57	48	61	70	76	90	76
6 Spd	8	6	3	D	8	8	9	3	1	4	4	5	11	16	21	22	13	10	8	13	15	7	13	6	0.9	22.1
Dir	78	72	352	D	22	69	224	96	137	191	126	150	208	215	219	247	267	12	41	17	33	30	330	23	312	247
7 Spd	2	3	7	7	4	5	3	4	2	3	4	6	8	5	7	14	9	13	9	8	12	12	11	11	5.8	14.0
Dir	337	329	61	101	96	90	96	72	102	316	10	66	107	167	39	46	68	53	56	21	28	34	49	63	55	46
8 Spd	13	11	9	12	9	8	8	12	12	11	13	12	16	15	15	17	20	16	15	13	14	14	15	17	12.4	19.7
Dir	65	61	31	48	55	80	80	96	102	94	111	114	108	112	111	98	95	116	120	111	100	101	98	93	95	95
9 Spd	16	14	10	7	5	4	0	3	3	2	1	3	3	6	9	11	11	8	11	10	12	13	13	9	7.4	15.8
Dir	95	96	83	79	88	112	149	146	89	84	62	125	151	149	117	98	111	75	90	88	88	96	95	87	97	95
10 Spd	8	4	4	7	6	2	0	4	4	7	6	5	4	5	6	6	6	8	8	5	6	7	6	7	2.5	8.3
Dir	92	98	198	297	343	3	322	271	255	302	306	286	310	343	50	4	53	46	71	66	65	72	85	58	26	71
11 Spd	13	18	16	5	7	7	8	6	6	6	11	14	15	9	3	9	4	10	7	2	3	5	4	8	6.5	18.1
Dir	17	30	12	119	10	259	318	342	5	359	10	23	18	357	49	60	7	47	60	160	289	16	293	28	16	30
12 Spd	5	6	9	3	3	1	3	2	7	5	5	5	6	9	8	10	13	15	9	7	8	3	10	9	4.1	14.7
Dir	35	5	22	359	13	76	23	320	318	292	312	53	103	118	127	110	101	95	93	41	41	181	100	31	67	95
13 Spd	3	4	0	1	5	5	5	2	4	4	6	2	4	5	7	13	12	11	8	5	5	8	3	4	1.4	12.6
Dir	29	307	145	314	35	322	4	96	176	193	202	166	62	95	138	153	152	177	274	110	227	311	226	346	170	153
14 Spd	3	11	2	2	2	4	7	3	1	4	5	5	8	7	3	6	8	7	8	9	6	3	7	7	3.2	10.9
Dir	148	10	136	102	120	82	162	221	86	184	168	168	140	135	86	88	99	82	82	38	47	28	34	52	92	10
15 Spd	4	4	1	1	2	2	4	9	10	5	7	6	7	7	9	8	6	9	7	6	14	6	4	2	2.2	13.9
Dir	22	269	283	97	237	108	197	209	183	68	38	180	178	185	170	154	139	134	103	24	17	63	228	40	141	17
16 Spd	1	2	2	3	5	7	8	7	5	4	5	5	6	4	7	6	5	2	9	21	8	12	3	8	4.3	21.3
Dir	287	4	313	261	246	153	164	140	148	153	154	169	179	205	194	253	59	114	229	238	198	208	186	221	200	238
17 Spd	8	8	1	1	3	9	2	2	5	9	19	27	26	31	29	25	25	25	21	12	6	5	5	7	11.7	30.9
Dir	223	218	138	97	168	192	82	158	202	208	229	237	247	246	251	266	257	258	263	255	270	256	201	216	243	246
18 Spd	4	2	1	2	4	3	8	4	5	5	5	8	4	3	7	16	21	28	31	15	16	9	11	6	8.2	30.7
Dir	231	95	94	158	207	174	217	185	180	189	179	223	257	264	247	222	229	235	253	240	235	233	219	250	229	253
19 Spd	16	15	10	14	11	6	5	5	12	18	24	39	32	32	33	35	44	33	31	26	27	23	28	28	22.4	44.3
Dir	247	251	245	248	268	236	216	212	237	243	250	256	270	256	252	256	249	237	237	240	241	240	230	236	247	249
20 Spd	21	26	20	21	20	25	29	31	41	44	41	47	45	41	40	36	36	32	29	22	16	16	16	8	28.9	47.2
Dir	242	242	246	243	247	248	253	256	252	257	257	252	249	261	261	264	265	261	264	263	263	264	261	294	256	252
21 Spd	9	12	10	11	9	8	10	13	13	16	15	15	19	23	24	28	27	30	29	13	6	4	5	6	14.5	29.5
Dir	273	270	265	259	249	240	251	245	245	250	252	242	252	261	260	260	257	260	263	248	220	244	222	207	254	260
22 Spd	4	7	5	4	3	4	4	3	3	3	2	7	16	13	17	22	19	25	17	14	11	10	4	4	6.5	24.8
Dir	182	204	225	84	94	90	154	108	154	91	113	207	255	270	260	263	272	268	273	278	285	277	305	295	260	268

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Beaverlodge - August 2013

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	1	3	2	5	2	4	2	3	5	5	4	4	1	9	7	11	8	7	7	8	6	7	6	3.0	11.3
Dir	284	171	50	92	38	114	54	70	184	174	188	182	252	247	66	84	78	64	53	46	66	86	53	66	74	78
24 Spd	3	10	7	4	2	2	2	2	5	5	21	29	29	23	21	16	13	9	6	1	3	2	5	1	7.4	29.0
Dir	180	326	293	300	356	264	105	133	212	237	254	255	256	267	265	273	278	285	284	144	61	139	74	324	266	256
25 Spd	2	10	1	2	2	3	2	3	6	11	17	20	25	28	27	26	23	19	20	8	10	10	10	5	10.6	28.0
Dir	2	294	357	144	108	82	134	217	213	217	252	255	260	262	263	262	262	269	266	279	293	293	322	321	265	262
26 Spd	4	1	2	6	6	1	2	1	1	4	1	11	14	17	18	21	18	17	15	18	15	12	5	3	7.7	20.6
Dir	181	66	61	34	20	60	5	83	111	266	271	92	93	84	93	80	85	88	96	104	102	109	129	65	90	80
27 Spd	7	7	7	6	6	6	7	13	1	8	8	5	12	15	21	20	21	15	17	9	5	6	6	3	5.7	21.3
Dir	104	130	121	142	127	210	337	349	334	199	194	188	245	255	247	244	239	226	234	229	252	275	314	53	234	239
28 Spd	4	5	1	4	1	2	2	2	0	2	5	7	9	10	4	5	3	4	4	4	6	7	8	7	1.8	9.6
Dir	60	54	93	60	358	68	54	34	15	238	185	203	257	309	3	305	5	16	28	46	47	48	49	69	27	309
29 Spd	0	1	4	5	3	4	4	4	1	2	10	13	12	11	12	14	15	13	10	6	7	8	10	3	5.7	15.1
Dir	229	221	83	94	62	68	231	268	198	135	118	103	102	98	105	100	97	82	77	41	48	30	44	353	86	97
30 Spd	6	7	9	6	3	4	4	5	6	4	8	10	9	10	14	14	14	20	9	3	4	6	3	6	5.7	19.6
Dir	326	359	343	354	285	312	38	314	271	265	258	296	250	248	247	240	239	261	262	238	232	240	182	204	266	261
31 Spd	7	6	5	6	3	2	3	3	8	11	12	21	20	25	21	22	22	19	13	11	10	5	3	1	9.4	25.0
Dir	206	214	199	196	164	134	63	206	214	234	246	263	258	267	275	273	272	259	252	244	252	290	291	62	254	267
Spd	0.7	1.5	1.8	0.8	1.0	1.1	1.3	1.4	3.2	4.1	4.5	5.6	5.8	5.8	5.1	4.7	3.8	2.6	2.6	0.9	0.9	0.7	1.5	2.4	Diurnal Average	
Dir	77	340	7	21	359	196	231	235	222	231	233	231	238	245	233	243	241	244	250	264	12	52	65	59		
Spd	21.1	25.7	27.8	23.6	19.8	24.6	29.1	31.4	41.4	43.6	41.4	47.2	45.0	40.8	39.6	35.7	44.3	32.9	31.3	26.1	27.1	22.9	28.1	27.5	Diurnal Maximum	
Dir	242	242	359	10	247	248	253	256	252	257	257	252	249	261	261	264	249	237	237	240	241	240	230	236		

Maximum Speed Value: 47 km/h on Aug 20 12:00
Maximum Daily Speed Average: 28.9 km/h on Aug 20
Maximum Diurnal Speed Average: 5.8 km/h at hour 13

Minimum Speed Value: 0 km/h on Aug 29 01:00
Minimum Daily Speed Average: 0.9 km/h on Aug 28
Minimum Diurnal Speed Average: 0.7 km/h at hour 1

Monthly Average Velocity: 1.82 km/h 242.1 deg

Speed Percentiles: $P_1 = 0.6$ $P_{10} = 2.3$ $Q_1 = 4.1$ Median = 6.8 $Q_3 = 12.6$ $P_{90} = 20.7$ $P_{99} = 40.2$

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

D - DAS Failure

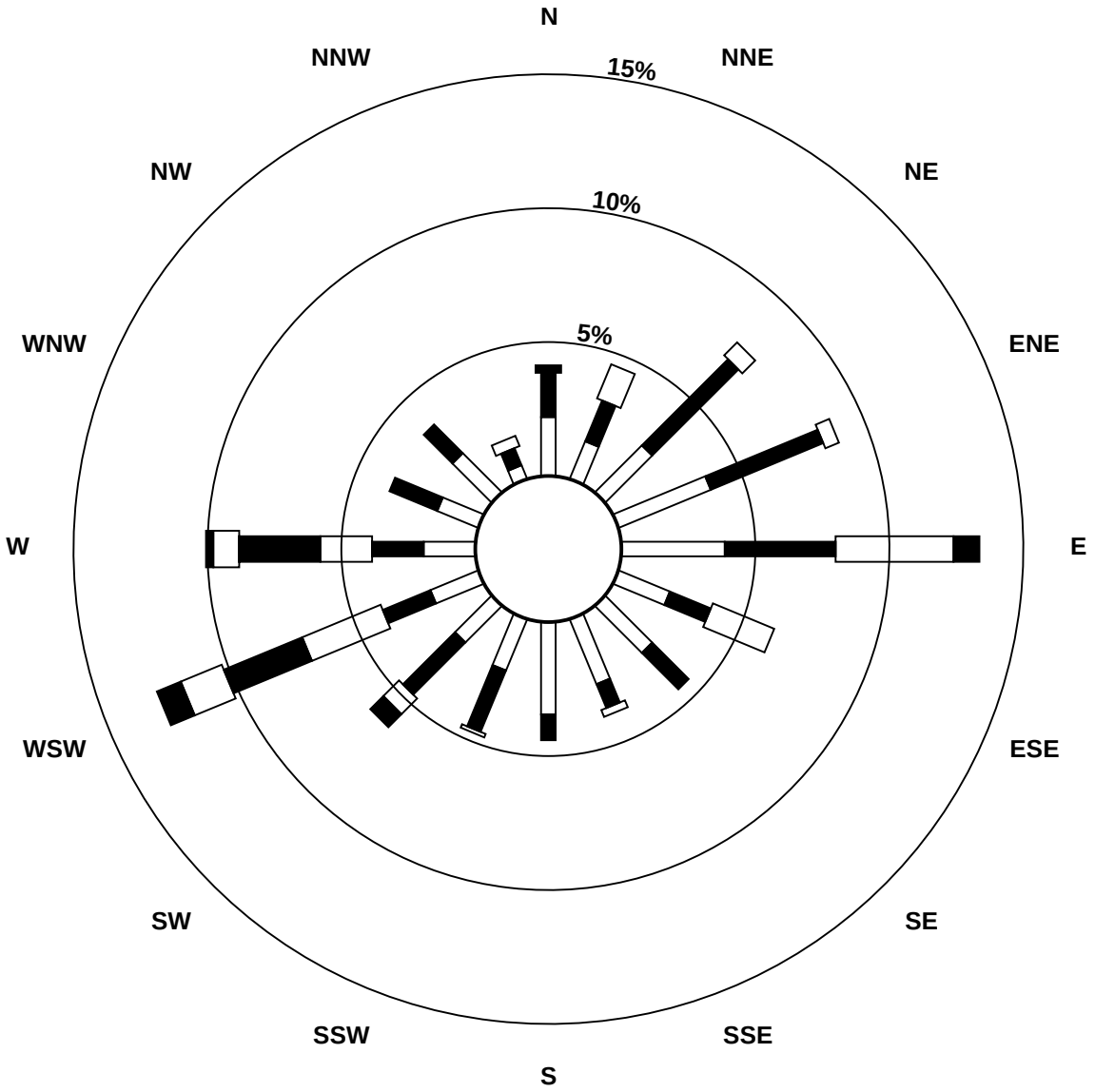
Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	27	21	6	2	0	0	56
NorthEast	35	61	15	0	0	0	111
East	45	54	52	7	0	0	158
SouthEast	33	25	7	0	0	0	65
South	37	24	0	0	0	0	61
SouthWest	27	36	22	18	5	0	108
West	26	31	22	31	18	9	137
NorthWest	24	21	2	0	0	0	47
Total	254	273	126	58	23	9	743

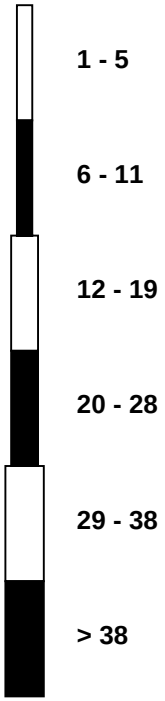
Wind Rose

Wind Speed (WS) (km/h)

Beaverlodge - August 2013



Wind Speed Classes (km/h)



Peace Airshed Zone Association

Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Beaverlodge - August 2013

Maximum Speed: 47 km/h on Aug 20 12:00

Maximum Daily Speed Average: 29.3 km/h on Aug 20

Minimum Speed: -2 km/h on Aug 3 06:00

Minimum Daily Speed Average: 5.1 km/h on Aug 28

Maximum Diurnal Speed Average: 16.2 km/h at hour 16

Minimum Diurnal Speed Average: 5.5 km/h at hour 6

Monthly Average Speed: 10.18 km/h

Percentiles: P_1 = 2.1 P_{10} = 3.5 Q_1 = 5.1 Median = 7.6 Q_3 = 12.8 P_{90} = 21.1 P_{99} = 40.8

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	6	6	6	7	4	3	3	4	5	5	9	13	13	15	16	18	21	22	21	16	13	17	23	24	12.1	23.7
2-Aug	15	8	8	5	7	4	3	5	8	8	9	12	11	14	14	14	15	16	14	10	10	13	14	15	10.5	16.3
3-Aug	8	15	28	24	9	-2	5	6	8	5	5	6	6	6	4	5	9	7	6	5	8	6	5	4	7.8	28.2
4-Aug	6	2	3	5	10	7	3	4	6	5	5	7	6	8	13	10	10	10	10	8	5	5	5	3	6.4	12.5
5-Aug	3	4	2	2	3	3	3	3	4	5	5	7	8	8	7	8	7	11	7	5	6	8	6	8	5.6	10.6
6-Aug	8	6	7	P	8	9	10	4	3	5	5	7	12	16	21	23	14	11	8	14	15	8	13	11	10.4	22.8
7-Aug	8	4	8	7	4	5	3	5	3	4	5	7	9	6	8	14	9	13	9	8	12	12	11	11	7.7	14.4
8-Aug	13	11	10	12	9	8	8	12	12	11	13	12	16	16	15	17	20	16	15	13	14	14	15	18	13.4	19.8
9-Aug	16	14	10	7	5	5	3	3	4	3	3	4	5	7	9	11	12	9	11	10	12	14	13	10	8.3	15.9
10-Aug	8	4	4	8	7	4	2	4	4	7	7	6	5	6	7	8	7	8	9	5	6	7	6	7	6.2	8.9
11-Aug	14	19	17	11	11	8	10	7	9	9	12	15	15	10	6	10	5	10	7	3	4	5	6	8	9.5	18.8
12-Aug	5	6	9	4	5	2	4	3	7	5	6	6	8	10	9	10	13	15	9	7	8	10	11	10	7.6	15.0
13-Aug	4	4	2	3	5	6	5	3	4	5	6	3	6	7	8	13	12	12	9	6	10	9	9	7	6.6	13.1
14-Aug	7	12	5	5	5	4	8	4	3	4	5	5	8	8	5	7	9	8	9	9	6	3	7	7	6.4	12.0
15-Aug	6	4	2	2	3	3	6	9	11	6	7	7	7	7	10	9	7	10	7	8	16	6	7	7	6.9	15.6
16-Aug	4	3	4	4	6	7	8	7	6	4	5	5	7	5	8	10	5	6	10	22	9	12	4	8	7.1	22.1
17-Aug	8	8	5	6	4	9	4	3	6	10	19	27	26	31	29	25	25	26	21	12	6	5	6	7	13.7	31.2
18-Aug	5	3	5	5	5	5	8	4	5	5	5	9	5	3	8	16	21	28	31	15	16	9	11	10	9.9	30.9
19-Aug	17	15	10	14	11	7	7	7	13	18	25	39	33	34	33	35	45	33	31	26	27	23	28	28	23.3	44.7
20-Aug	21	26	20	21	20	25	29	31	41	44	42	47	45	41	40	36	36	33	29	22	16	16	16	9	29.3	47.3
21-Aug	9	12	10	11	9	8	10	13	13	16	16	16	19	23	24	29	27	30	29	13	7	5	6	6	15.1	29.7
22-Aug	4	7	5	5	4	4	4	4	3	4	3	7	16	13	17	22	20	25	17	14	11	11	5	5	9.6	24.9
23-Aug	9	4	4	3	6	3	5	3	4	6	5	6	6	6	10	9	12	8	7	7	9	6	7	7	6.2	11.7
24-Aug	6	11	8	4	3	3	3	2	5	5	22	29	29	24	22	17	15	10	6	3	3	3	5	5	10.1	29.3
25-Aug	6	10	5	4	3	3	2	3	7	11	18	21	26	28	28	27	24	19	20	8	10	10	11	7	12.9	28.4
26-Aug	5	3	3	6	7	4	4	2	2	4	6	11	14	17	18	21	18	18	15	18	15	12	6	5	9.8	20.9
27-Aug	7	7	7	7	6	9	13	14	7	8	8	6	13	16	21	21	22	15	17	9	6	6	6	3	10.6	21.6
28-Aug	5	5	3	4	4	3	3	3	2	3	5	8	11	10	6	6	4	5	4	4	6	7	8	7	5.1	10.6
29-Aug	3	3	4	6	5	5	4	5	3	4	10	13	12	12	12	14	15	14	10	7	7	9	11	5	8.1	15.4
30-Aug	7	7	9	7	4	5	4	5	6	6	8	11	11	10	14	15	14	20	9	3	5	6	3	6	8.1	19.9
31-Aug	7	6	5	6	4	2	3	4	8	11	12	22	20	25	21	23	22	19	13	11	10	7	4	3	11.3	25.3
	8.0	8.0	7.4	7.2	6.2	5.5	5.9	6.1	7.2	7.9	10.1	12.7	13.9	14.2	14.9	16.2	16.0	15.6	13.5	10.4	9.9	9.3	9.3	8.6	Diurnal Average	
	21.1	25.7	28.2	23.7	19.9	24.6	29.1	31.5	41.5	43.9	41.8	47.3	45.2	41.1	39.8	35.8	44.7	33.0	31.4	26.2	27.2	23.0	28.1	27.6	Diurnal Maximum	

P - Power Failure

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 2013

Maximum Value: 95.8 deg on Aug 26 06:00

Minimum Value: 2.4 deg on Aug 8 22:00

Percentiles: P_1 = 3.0 P_{10} = 6.1 Q_1 = 10.2 Median = 20.1 Q_3 = 40.3 P_{90} = 62.8 P_{99} = 89.2

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	8	11	4	27	44	24	23	25	29	15	16	18	17	17	19	12	9	7	10	6	4	3	3	44.3
2-Aug	16	18	7	60	12	77	35	25	17	19	19	14	25	26	17	18	14	15	8	6	5	12	19	5	77.1
3-Aug	71	19	9	7	11	42	28	10	24	22	44	31	21	45	81	64	14	22	34	44	11	34	29	49	81.4
4-Aug	74	53	60	62	9	32	25	13	29	38	41	53	68	46	26	27	29	19	14	6	12	16	11	11	73.7
5-Aug	12	34	87	83	53	51	11	27	21	24	20	29	32	37	50	66	32	20	8	7	7	11	8	7	86.6
6-Aug	5	10	73	D	29	21	30	48	66	33	42	40	38	12	10	14	21	32	9	27	5	29	10	54	72.8
7-Aug	70	36	8	12	23	15	44	23	62	29	44	27	21	34	62	13	12	13	9	7	6	5	8	10	69.5
8-Aug	7	5	10	6	9	20	18	8	10	12	10	10	11	9	16	11	7	14	7	4	6	2	3	5	20.5
9-Aug	5	4	6	7	12	15	91	27	26	79	82	68	61	39	23	22	16	19	10	7	5	4	4	8	91.1
10-Aug	16	27	28	21	39	60	94	26	27	23	21	35	48	42	34	40	38	17	15	13	14	8	6	12	93.6
11-Aug	26	15	24	62	63	19	23	46	60	56	26	18	9	24	55	27	46	9	14	43	45	29	51	13	62.9
12-Aug	23	30	31	60	78	62	39	60	12	19	41	56	57	16	23	17	16	11	10	16	6	85	24	17	85.1
13-Aug	72	34	89	79	11	46	24	62	22	24	19	63	52	42	22	15	12	28	16	45	66	22	78	65	89.1
14-Aug	64	23	62	62	74	33	23	48	69	25	26	39	26	30	76	49	19	16	27	6	9	49	7	13	76.3
15-Aug	49	28	59	82	72	71	68	24	36	32	11	38	17	27	25	29	31	22	21	34	25	27	61	90	90.1
16-Aug	78	42	59	51	40	23	9	18	23	18	27	18	23	60	34	76	48	65	18	20	14	9	26	9	77.9
17-Aug	14	16	74	92	44	6	51	50	48	25	12	8	12	9	11	11	10	7	7	8	18	32	37	13	92.3
18-Aug	36	41	77	66	52	49	9	21	13	18	12	30	43	40	62	11	8	8	7	9	6	16	6	72	77.3
19-Aug	5	8	37	11	13	28	45	50	9	7	13	9	15	14	8	6	8	5	4	4	5	5	4	3	50.3
20-Aug	4	3	5	4	4	4	4	4	4	7	8	5	5	7	5	5	4	5	4	3	3	3	4	34	33.6
21-Aug	10	3	3	6	11	6	4	4	7	10	13	15	12	10	11	9	7	6	5	12	57	64	69	21	69.3
22-Aug	32	31	31	29	27	27	15	32	20	24	48	24	11	16	10	9	7	7	8	9	9	56	50	35	55.9
23-Aug	6	79	48	48	44	44	26	44	23	23	31	51	65	93	25	40	17	12	18	18	30	26	8	9	92.6
24-Aug	61	19	28	18	65	62	57	36	31	34	14	8	8	14	11	14	25	18	11	67	28	63	10	81	80.8
25-Aug	76	15	79	59	43	24	43	53	11	9	16	15	9	10	14	11	11	10	6	4	8	13	8	71	79.0
26-Aug	33	80	58	20	46	96	59	65	64	26	87	21	20	9	15	10	13	9	5	4	3	9	54	42	95.8
27-Aug	17	21	16	31	19	51	87	27	79	22	16	27	23	15	12	12	9	12	5	9	20	21	51	41	86.7
28-Aug	55	15	70	10	85	46	36	33	78	60	21	21	29	13	69	37	45	16	9	9	12	11	14	8	84.5
29-Aug	93	72	49	23	79	59	21	37	88	49	15	16	21	16	13	11	12	9	8	23	14	14	6	39	92.5
30-Aug	19	8	16	58	27	62	16	39	25	63	17	22	29	12	8	9	11	10	8	45	40	28	22	13	63.4
31-Aug	7	7	11	10	26	44	47	63	10	7	10	11	12	10	11	12	11	8	4	3	4	51	45	82	82.3
	92.5	80.5	89.1	92.3	84.5	95.8	93.6	65.2	88.5	78.9	86.7	67.5	67.8	92.6	81.4	75.6	48.4	64.6	33.6	67.3	66.0	85.1	77.5	90.1	

D - DAS Failure

PAZA
Valleyview Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Valleyview - August 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 41.9 ppb on Aug 16 22:00
Maximum Daily Average: 2.5 ppb on Aug 16

Minimum Value: 0 ppb on Aug 1 01:00
Maximum Diurnal Average: 1.8 ppb at hour 22
Monthly Average: 0.58 ppb

Minimum Daily Average: 0.0 ppb on Aug 7
Minimum Diurnal Average: 0.1 ppb at hour 1
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.2 Q_3 = 0.5 P_{90} = 1.5 P_{99} = 4.6

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	37
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	1	1	1	1	A	0	1	1	1	0	0	0	0	0	0	0	0.4	1.0
2-Aug	0	0	0	0	0	0	0	0	0	0	2	A	1	1	0	0	0	0	0	0	0	0	0	0	0.2	1.9
3-Aug	0	0	0	0	0	0	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.5
4-Aug	0	0	0	0	0	0	0	1	1	A	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0.2	1.4
5-Aug	0	0	0	0	0	0	0	0	A	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0.2	2.8
6-Aug	1	0	0	D	0	0	0	A	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0.4	0.7
7-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	0.4
8-Aug	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0.3	0.9
9-Aug	0	0	0	0	A	0	1	1	1	2	2	2	2	3	3	C	C	C	C	C	0	0	0	0	1.1	3.0
10-Aug	0	0	0	A	0	0	0	0	0	1	1	1	1	1	0	1	1	0	0	0	0	0	0	0	0.4	1.3
11-Aug	0	0	A	0	0	0	0	0	0	2	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0.3	1.6
12-Aug	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0.2	0.7
13-Aug	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	0	0	0	A	0.3	0.9
14-Aug	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	1	0	2	0	0	0	0	A	0	0.4	1.6
15-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	A	0	0	0.1	1.0
16-Aug	0	0	0	0	0	0	0	0	0	1	2	4	2	1	1	0	0	1	1	0	A	42	1	0	2.5	41.9
17-Aug	0	0	0	0	0	0	0	0	0	1	0	0	2	2	0	1	0	0	1	A	0	0	0	0	0.4	1.6
18-Aug	0	0	0	0	0	0	0	0	0	0	0	0	1	3	6	5	1	0	A	0	0	0	1	0	0.8	5.8
19-Aug	0	0	0	0	0	0	0	0	0	1	1	5	1	2	6	2	4	A	2	0	0	0	0	0	1.1	5.7
20-Aug	1	1	1	0	0	0	0	0	1	4	3	4	3	2	4	3	A	2	1	1	3	9	2	1	1.9	8.9
21-Aug	0	0	0	0	0	0	0	0	4	5	4	3	1	0	0	A	2	2	1	0	0	0	0	0	1.1	4.9
22-Aug	1	0	0	0	1	1	1	1	1	1	1	1	2	1	A	4	1	0	0	1	0	0	0	0	0.7	4.5
23-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0.1	1.0
24-Aug	0	0	0	0	0	0	0	0	0	2	1	0	A	2	2	0	0	0	0	0	0	0	0	0	0.3	2.4
25-Aug	0	0	0	0	0	0	0	0	0	2	3	A	0	0	1	3	2	0	0	0	0	0	0	0	0.6	3.0
26-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	0.2
27-Aug	0	0	0	0	0	0	0	0	0	A	0	2	1	0	1	2	0	0	0	0	0	0	0	0	0.3	1.8
28-Aug	0	0	0	0	0	0	0	0	A	0	0	0	1	1	4	4	3	4	1	0	0	0	0	0	0.7	3.9
29-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	0.1	0.5
30-Aug	0	0	0	0	0	0	A	1	1	2	2	3	2	1	0	0	5	5	2	3	0	1	1	1	1.3	5.4
31-Aug	0	1	1	1	1	A	1	1	1	1	4	1	0	4	2	2	2	4	2	1	0	0	0	0	1.2	4.0
	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.5	0.9	1.2	1.1	0.8	0.9	1.1	1.1	1.0	0.9	0.5	0.3	0.3	1.8	0.2	0.1	Diurnal Average	
	0.7	0.7	0.8	0.6	0.6	0.6	1.1	1.5	4.0	4.9	4.4	5.4	3.4	4.0	5.8	4.5	5.4	4.8	2.3	3.0	2.7	41.9	1.5	0.7	Diurnal Maximum	

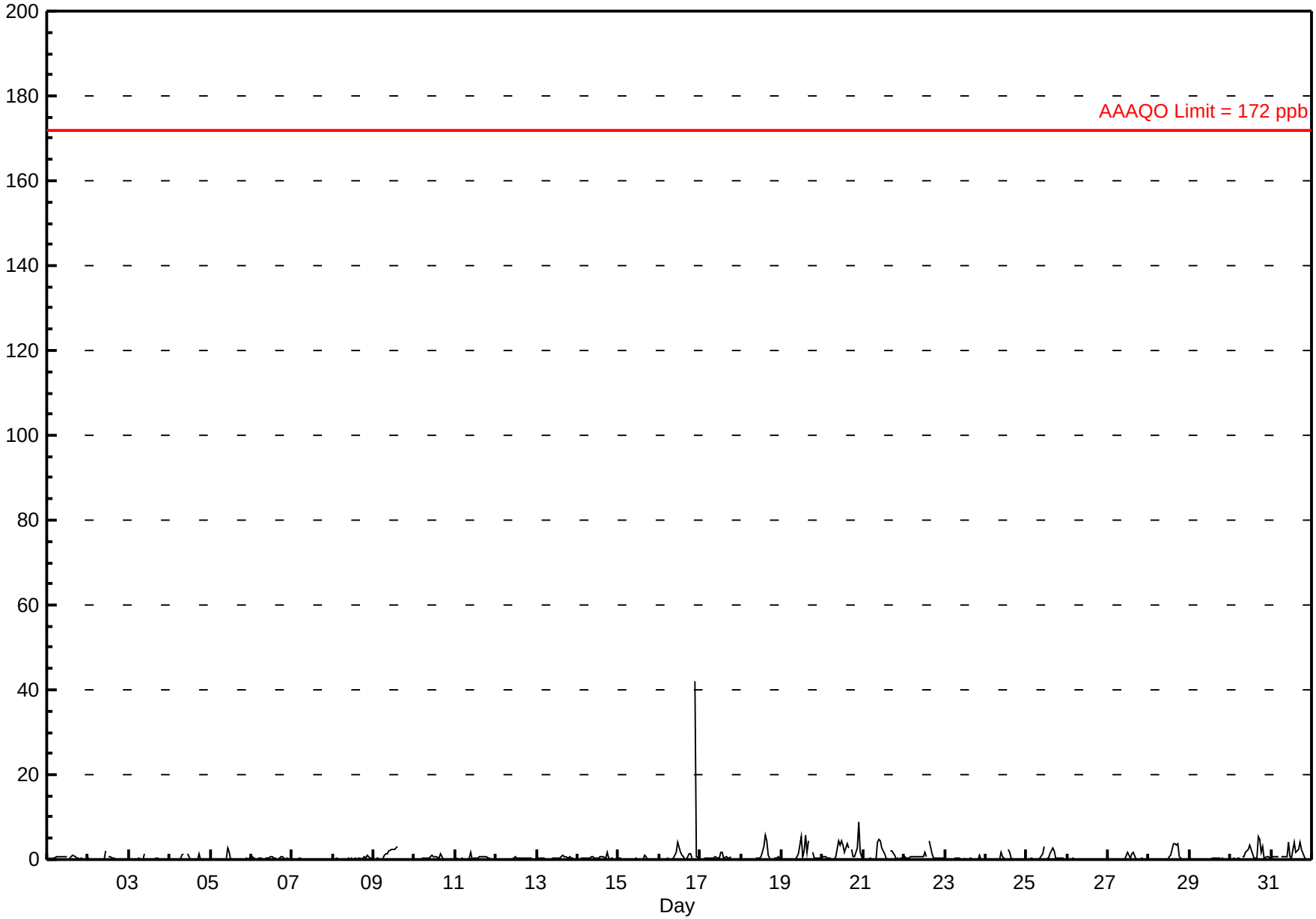
C - Calibration D - DAS Failure A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Valleyview - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Valleyview - August 2013

Maximum Value: 194.1 ppb on Aug 16 22:00

Maximum Daily Average: 12.3 ppb on Aug 16

Minimum Value: 0 ppb on Aug 9 21:00

Minimum Daily Average: 1.0 ppb on Aug 26

Maximum Diurnal Average: 8.5 ppb at hour 22

Minimum Diurnal Average: 1.2 ppb at hour 2

Monthly Average: 2.97 ppb

Percentiles: P_1 = 0.4 P_{10} = 0.8 Q_1 = 1.1 Median = 1.4 Q_3 = 1.9 P_{90} = 7.5 P_{99} = 18.8

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	37
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	2	2	2	2	2	2	2	2	A	1	2	2	2	2	1	2	1	1	2	1	1.6	2.0
2-Aug	1	1	1	1	1	1	1	1	1	2	3	A	1	2	2	2	1	2	1	1	1	1	1	1	1.4	3.1
3-Aug	1	1	1	1	0	1	2	2	1	10	A	1	1	1	1	1	2	1	1	1	1	1	0	1	1.4	10.2
4-Aug	1	1	1	1	1	1	1	7	12	A	5	4	1	1	1	1	1	10	1	1	2	1	1	1	2.5	11.6
5-Aug	1	0	1	2	0	0	1	1	A	2	7	5	2	1	1	1	1	1	1	1	1	2	1	1	1.6	7.0
6-Aug	2	2	2	D	2	2	2	A	2	2	1	2	3	2	1	2	1	2	2	2	1	4	2	2	1.8	3.9
7-Aug	1	1	1	1	2	1	A	1	1	1	0	1	2	1	1	1	1	1	2	1	1	1	1	1	1.1	1.7
8-Aug	1	1	1	1	1	A	1	1	2	1	2	2	1	2	1	2	2	1	2	2	2	2	2	2	1.6	2.4
9-Aug	2	2	2	2	A	2	3	4	3	3	3	4	4	4	4	C	C	C	C	C	0	0	0	1	2.3	4.3
10-Aug	1	1	1	A	2	2	1	1	2	2	2	2	2	2	2	4	3	1	1	1	1	0	1	1	1.6	3.8
11-Aug	2	1	A	2	2	1	1	1	1	12	1	1	1	1	2	2	2	2	2	1	2	1	1	0	1.9	12.4
12-Aug	1	A	1	1	1	1	1	1	1	1	2	2	1	1	1	1	2	2	1	2	1	1	1	1	1.3	2.3
13-Aug	A	1	1	1	1	1	1	1	1	2	1	1	2	1	2	2	2	2	2	3	1	1	1	A	1.5	2.8
14-Aug	1	1	1	1	1	2	1	1	2	2	1	1	1	2	2	2	1	4	2	1	1	1	A	1	1.5	4.2
15-Aug	1	1	1	1	1	1	2	1	1	1	2	1	1	1	1	3	3	1	1	1	1	A	1	1	1.3	3.0
16-Aug	1	1	1	1	1	1	1	1	4	12	15	20	10	2	2	1	1	5	3	1	A	194	3	2	12.3	194.1
17-Aug	1	1	1	2	1	2	1	1	2	1	2	2	8	6	2	3	2	8	9	A	1	1	1	1	2.5	8.8
18-Aug	1	2	1	1	1	1	1	1	1	2	1	2	6	15	15	23	7	4	A	1	2	2	1	1	4.0	22.6
19-Aug	1	1	1	1	1	1	1	1	1	6	19	30	11	8	19	13	17	A	8	2	1	1	1	1	6.4	29.6
20-Aug	2	2	2	1	2	1	1	1	8	10	12	14	16	10	12	11	A	10	5	5	12	25	13	3	7.7	24.7
21-Aug	1	1	1	1	1	1	1	1	17	13	17	14	7	5	1	A	10	4	2	1	1	1	2	1	4.6	17.1
22-Aug	2	2	1	1	2	1	2	2	1	2	2	2	10	4	A	14	13	1	1	2	1	1	1	2	3.1	14.0
23-Aug	1	1	1	1	1	1	1	1	2	1	1	1	2	A	1	2	1	1	1	2	10	1	1	1	1.6	10.5
24-Aug	1	1	0	1	1	1	1	1	1	14	8	1	A	13	17	5	1	1	1	1	1	1	1	1	3.2	17.2
25-Aug	0	1	1	3	1	1	1	1	4	15	12	A	6	7	14	19	10	2	1	2	2	1	1	1	4.6	19.0
26-Aug	1	2	1	1	1	1	1	2	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.5
27-Aug	1	1	1	1	1	1	1	1	1	A	1	9	4	5	13	13	1	1	1	1	3	1	1	0	2.8	13.0
28-Aug	1	1	1	1	1	1	1	1	A	1	1	1	4	3	16	9	5	7	2	1	1	1	1	1	2.7	15.8
29-Aug	1	1	1	1	2	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.6
30-Aug	1	1	1	1	1	1	A	3	2	4	8	12	8	8	1	2	18	12	5	8	2	2	2	2	4.6	18.4
31-Aug	2	2	2	1	2	A	2	2	2	1	18	9	2	24	9	7	11	13	7	2	1	1	1	1	5.3	24.2
	1.2	1.2	1.2	1.3	1.2	1.2	1.3	1.6	2.8	4.4	5.2	5.1	4.0	4.5	5.0	5.1	4.2	3.6	2.4	1.8	1.9	8.5	1.6	1.2	Diurnal Average	
	2.1	2.0	1.9	2.7	1.9	1.7	2.8	7.5	17.0	14.9	19.2	29.6	15.6	24.2	18.8	22.6	18.4	13.4	8.8	7.9	12.0	194.1	13.1	2.6	Diurnal Maximum	

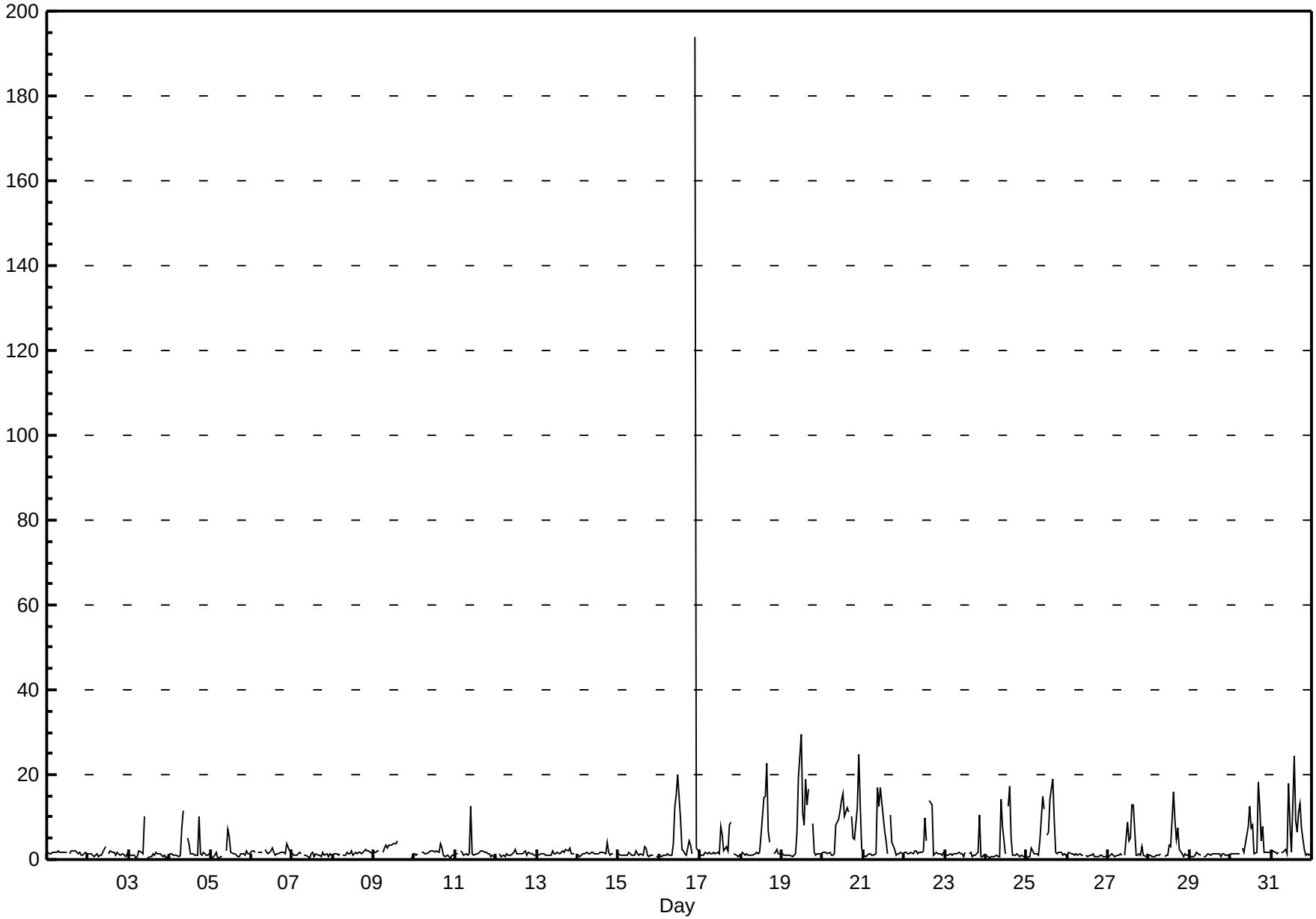
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Valleyview - August 2013

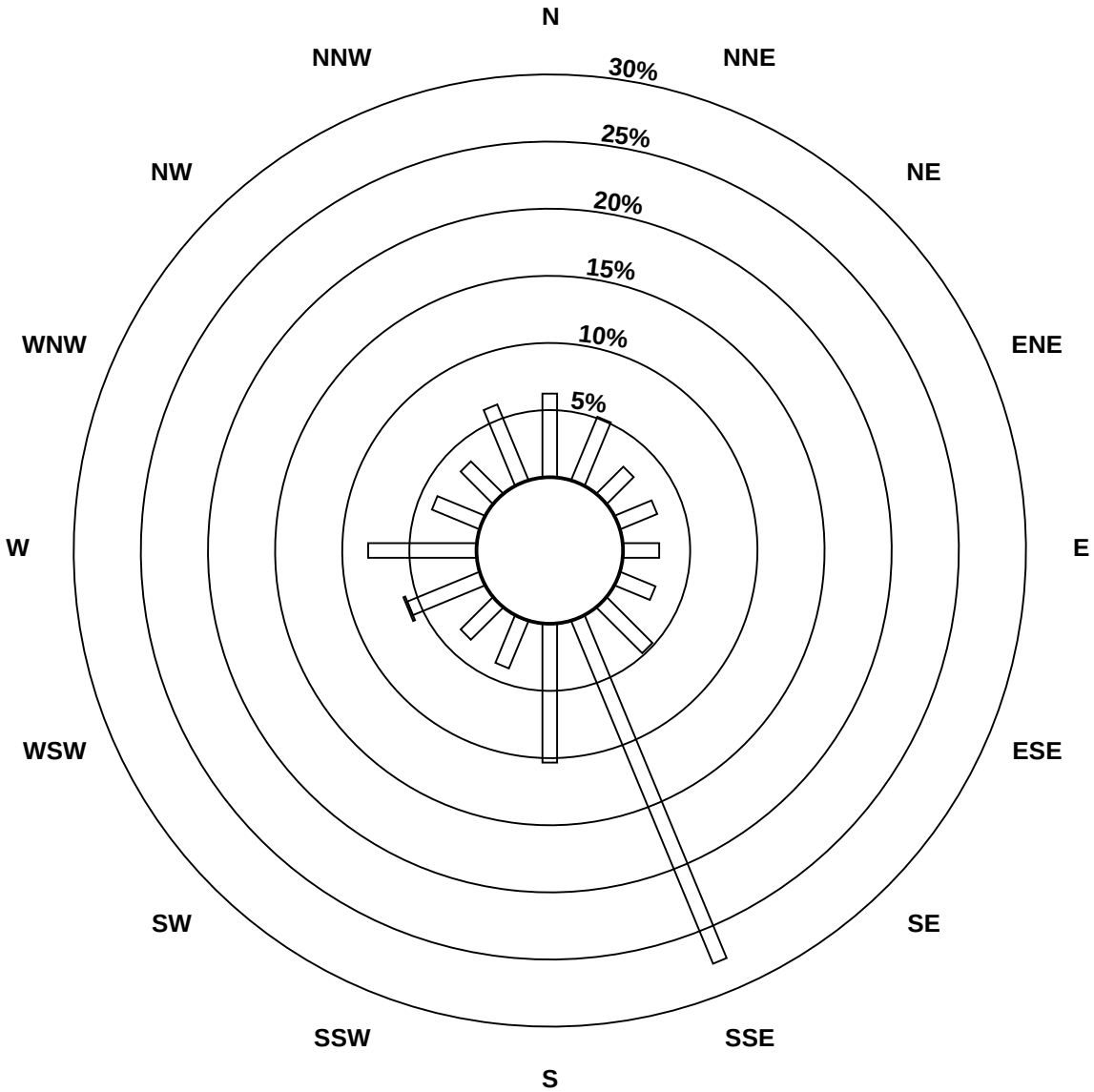


FOCUS AIR QUALITY MONITORING

Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Valleyview - August 2013



Pollutant Classes (ppb)

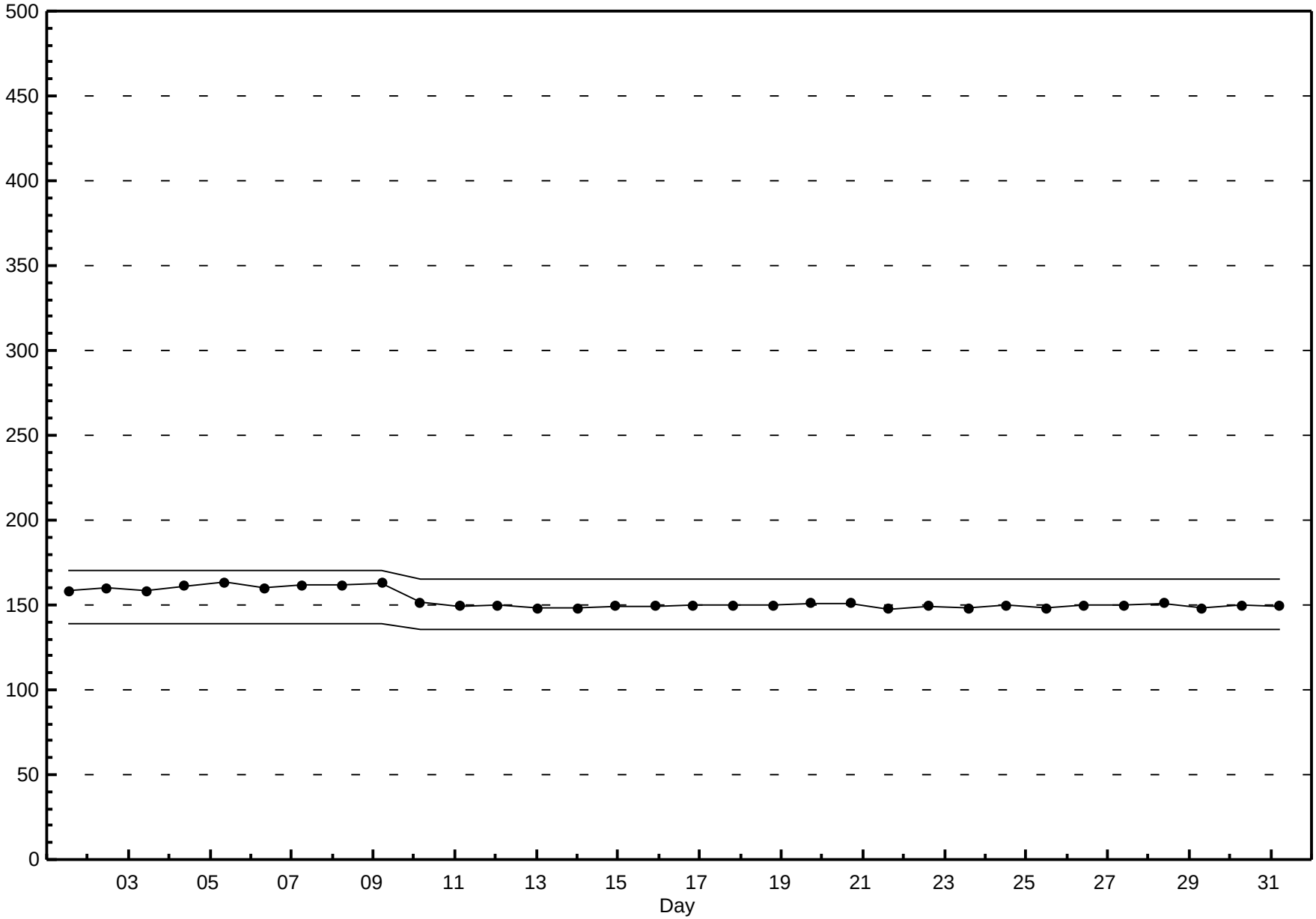
- 0 - 10
- 11 - 20
- 21 - 60
- 61 - 110
- 111 - 172
- > 172

Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Valleyview - August 2013



Peace Airshed Zone Association

Hourly Averages

Hydrogen Sulphide (H_2S) - ppb

Valleyview - August 2013

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

Maximum Value: 1.0 ppb on Aug 2 03:00 Maximum Daily Average: 0.5 ppb on Aug 2

Minimum Value: 0 ppb on Aug 9 18:00 Minimum Daily Average: 0.0 ppb on Aug 12

Maximum Diurnal Average: 0.2 ppb at hour 3 Minimum Diurnal Average: 0.1 ppb at hour 13

Monthly Average: 0.14 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.0 Q_3 = 0.3 P_{90} = 0.5 P_{99} = 0.9

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	37
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	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	0.4	0.8
2-Aug	1	1	1	1	1	1	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.0
3-Aug	0	0	0	0	1	1	1	0	0	1	A	0	0	0	0	0	0	0	0	0	1	1	1	0	0.4	0.6
4-Aug	0	0	1	1	0	0	1	0	1	A	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0.4	0.6
5-Aug	0	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.4	0.8
6-Aug	1	1	1	D	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.9
7-Aug	0	1	0	0	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.4	0.7
8-Aug	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0.4	0.5
9-Aug	0	0	0	0	A	1	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0.3	0.6
10-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
11-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
12-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	0.0
13-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
14-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	0.1	0.9
15-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	0.3
16-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	0.0	0.5
17-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
18-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	0.0	0.1
19-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
20-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	0.4
21-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
22-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	1	0	0.1	0.9
23-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	0.2
24-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	0.4
25-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	0.2
26-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	0.1
27-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
28-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	0.3
29-Aug	0	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.8
30-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	0.4
31-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	0.0	0.2
Diurnal Average	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2		
Diurnal Maximum	0.6	0.8	1.0	0.8	0.9	0.9	0.9	0.7	0.5	0.5	0.6	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.6	0.7	0.9	0.9		

C - Calibration D - DAS Failure A - Automated Daily Zero Span

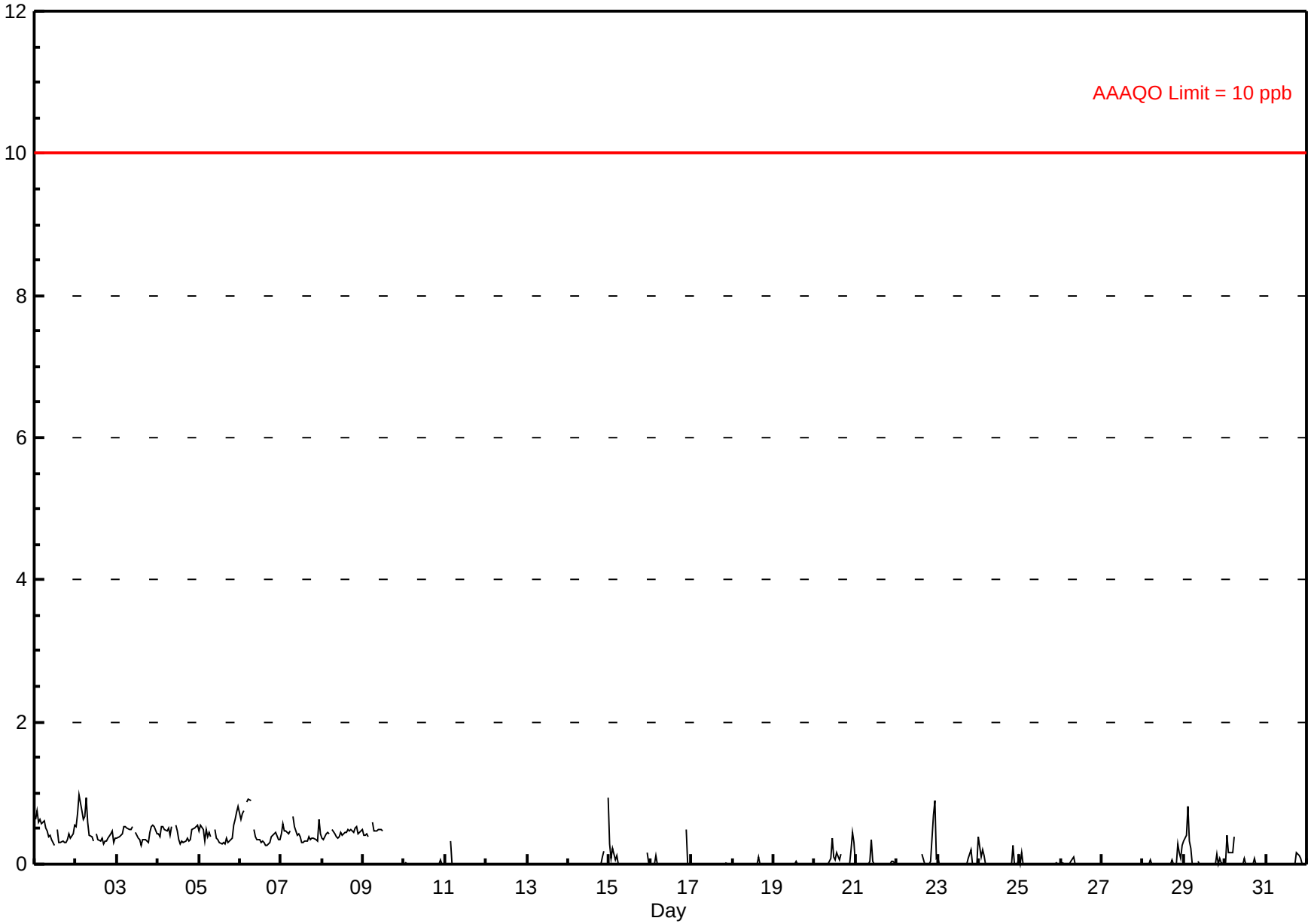
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

Peace Airshed Zone Association

Hourly Averages

Hydrogen Sulphide (H_2S) - ppb

Valleyview - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Hydrogen Sulphide (H_2S) - ppb

Valleyview - August 2013

Maximum Value: 5.4 ppb on Aug 20 11:00

Maximum Daily Average: 0.9 ppb on Aug 2

Minimum Value: 0 ppb on Aug 11 11:00

Minimum Daily Average: 0.1 ppb on Aug 12

Maximum Diurnal Average: 0.6 ppb at hour 23

Minimum Diurnal Average: 0.3 ppb at hour 15

Monthly Average: 0.46 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.1$ Median = 0.3 $Q_3 = 0.7$ $P_{90} = 0.9$ $P_{99} = 2.2$

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	37
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	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.8	1.2
2-Aug	1	1	2	1	1	1	2	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.2
3-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	0.8	1.4
4-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	0.8	1.3
5-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	0.8	1.2
6-Aug	1	1	1	D	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.4
7-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	0.8	1.2
8-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	0.8	0.9
9-Aug	1	1	1	1	A	1	1	1	1	1	1	1	C	C	C	C	C	0	0	0	0	0	0	0	0.6	1.2
10-Aug	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
11-Aug	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.0
12-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
13-Aug	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	A	0.2	0.6
14-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	A	2	0.2	2.4
15-Aug	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0.3	0.8
16-Aug	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	A	2	0	0	0.3	1.5
17-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	0.1	0.4
18-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0	0	0.1	0.6
19-Aug	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	A	1	0	0	0	0	0	0.2	0.8
20-Aug	0	0	0	0	0	0	0	0	0	1	5	1	0	1	1	1	A	0	0	0	0	1	1	1	0.6	5.4
21-Aug	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	A	0	0	0	0	0	1	0	0	0.3	0.9
22-Aug	0	0	0	0	0	1	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	2	3	0	0.4	2.7
23-Aug	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	1	1	0	0	1	0	0.4	1.0
24-Aug	5	2	2	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	2	0	1	1	0.7	4.7
25-Aug	0	1	1	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	0.3	1.1
26-Aug	0	0	0	0	0	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0.3	0.6
27-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
28-Aug	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	1	1	0	1	0.4	1.4
29-Aug	1	1	1	1	1	1	0	A	1	0	0	0	0	0	0	0	0	0	0	3	1	1	1	0	0.7	2.5
30-Aug	0	1	1	0	1	1	A	1	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0.4	1.4
31-Aug	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0.2	0.8
	0.6	0.6	0.6	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.6	0.6	0.6	0.6	0.6	Diurnal Average	
	4.7	1.9	2.0	1.2	1.3	1.4	2.2	1.1	1.3	1.1	5.4	0.9	1.4	1.2	0.9	0.8	0.8	0.8	1.0	2.5	2.2	2.1	2.7	2.4	Diurnal Maximum	

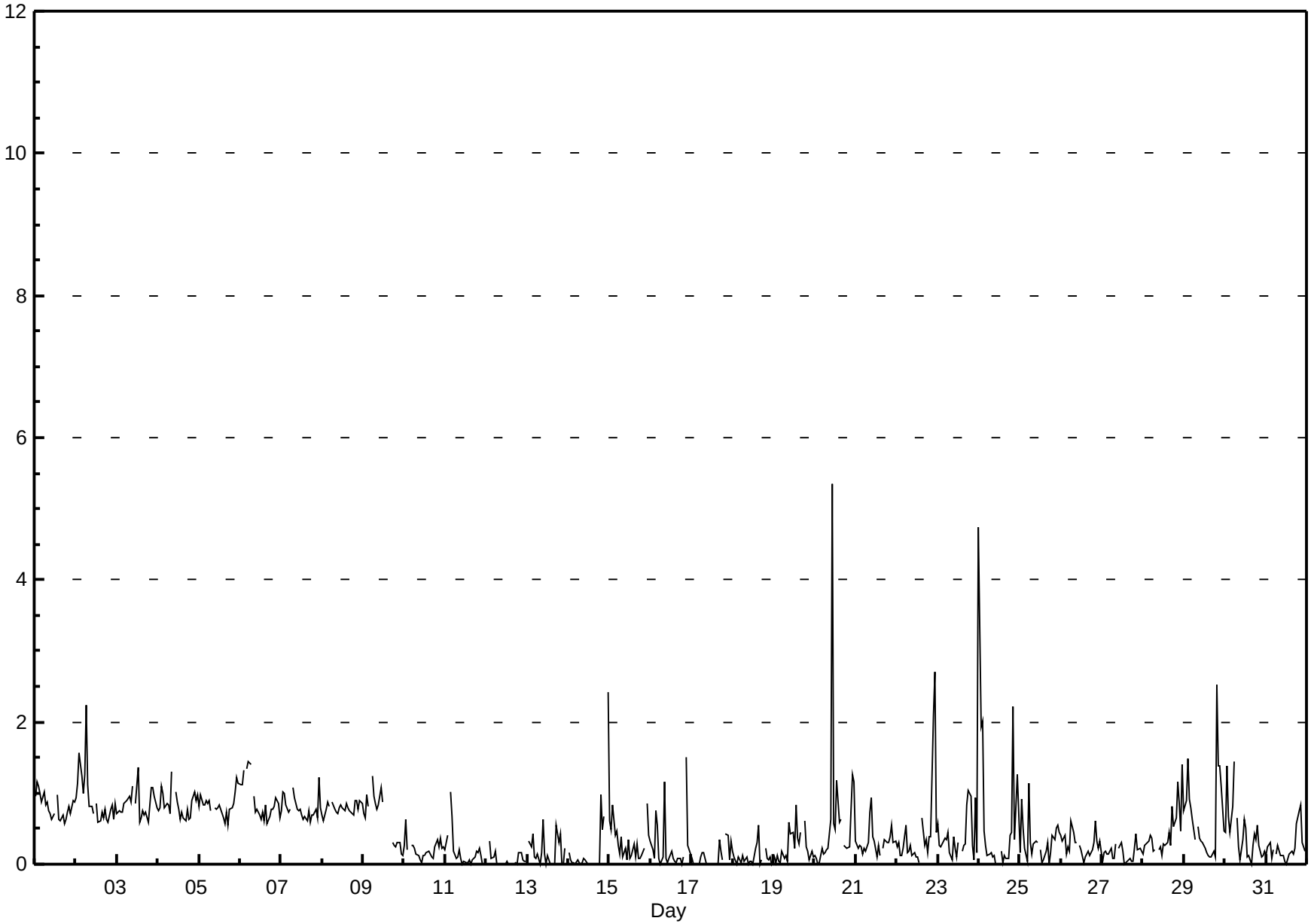
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Hydrogen Sulphide (H_2S) - ppb

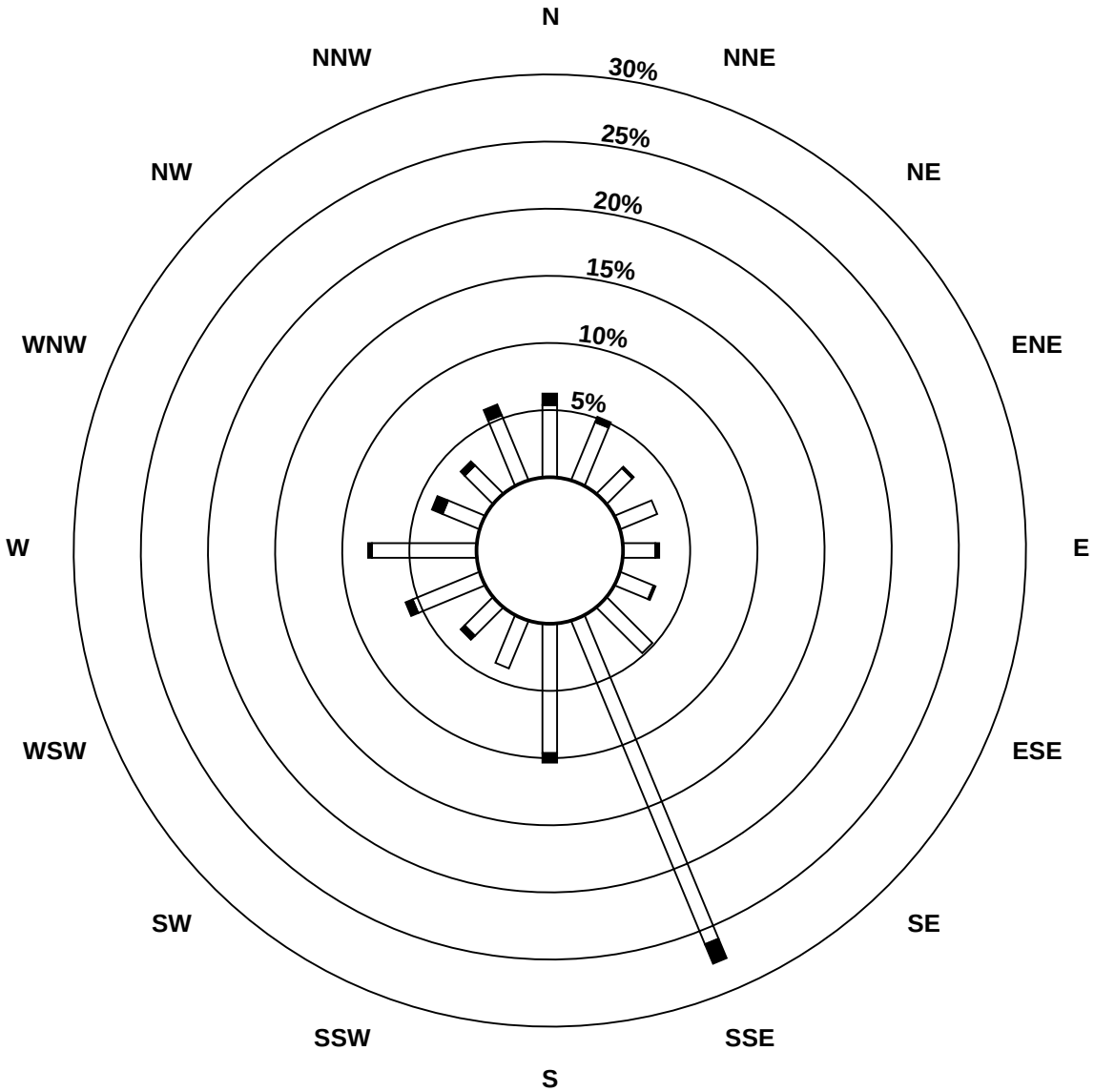
Valleyview - August 2013



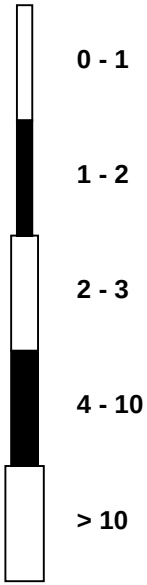
Pollutant Rose

Hydrogen Sulphide (H_2S) - ppb

Valleyview - August 2013



Pollutant Classes (ppb)

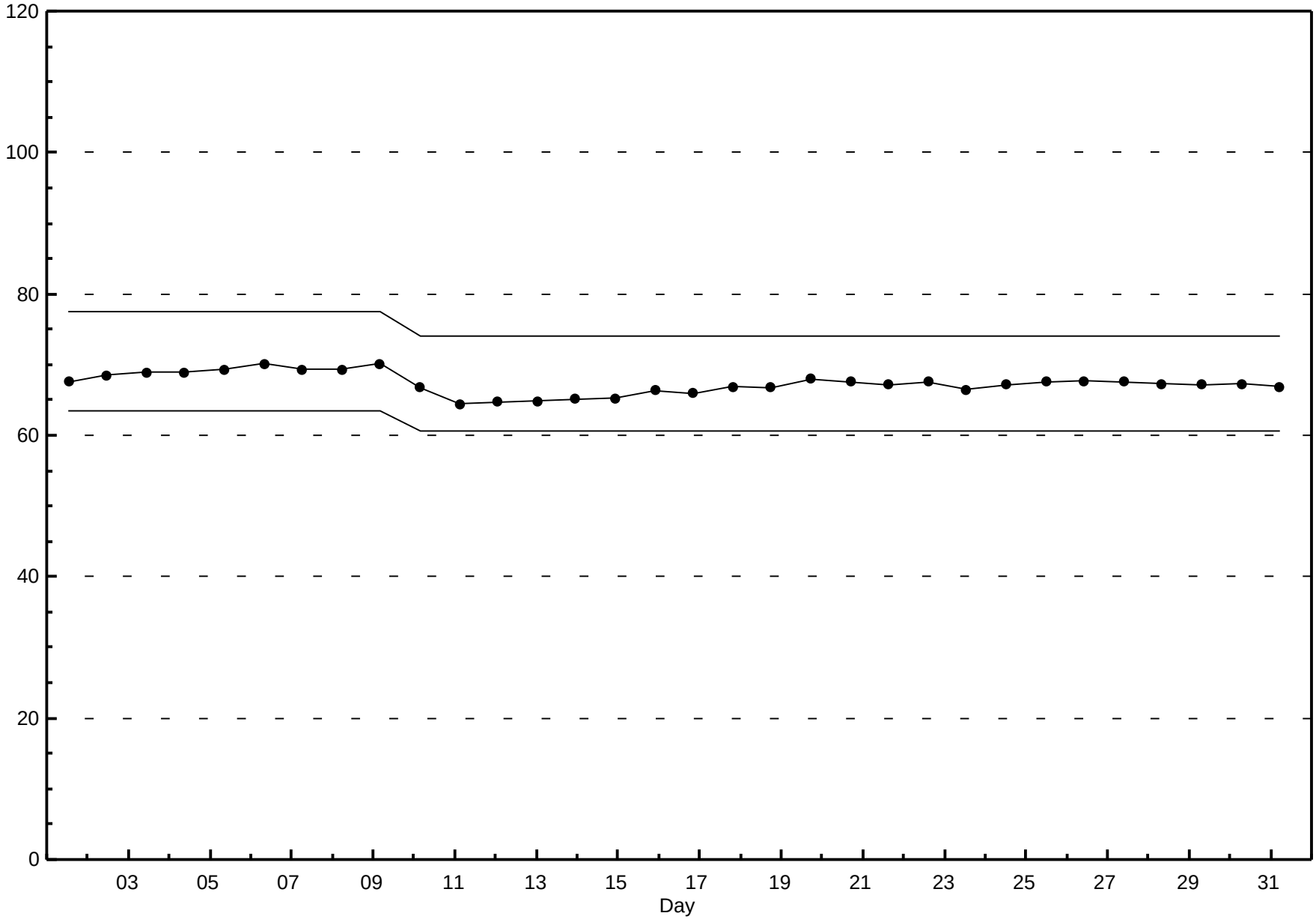


Peace Airshed Zone Association

Span Responses

Hydrogen Sulphide (H_2S)

Valleyview - August 2013



Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Valleyview - August 2013

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

Maximum Value: 28.1 ^{o}C on Aug 14 18:00

Maximum Daily Average: 19.9 ^{o}C on Aug 14

Minimum Value: 7 ^{o}C on Aug 20 06:00

Maximum Diurnal Average: 22.3 ^{o}C at hour 17

Monthly Average: 17.10 ^{o}C

Minimum Daily Average: 12.6 ^{o}C on Aug 26

Minimum Diurnal Average: 11.8 ^{o}C at hour 6

Percentiles: P_1 = 7.9 P_{10} = 11.6 Q_1 = 13.6 Median = 16.4 Q_3 = 20.7 P_{90} = 23.6 P_{99} = 26.7

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	13	12	11	10	10	9	10	12	16	19	21	23	24	25	25	25	25	25	24	23	21	19	17	16	18.3	25.3
2-Aug	15	13	13	12	11	11	12	16	19	21	23	24	25	25	26	26	27	27	26	25	23	20	20	19	19.9	26.7
3-Aug	18	16	15	14	13	13	15	16	18	18	19	19	20	21	21	21	21	22	22	20	19	17	16	16	17.9	21.6
4-Aug	16	16	16	15	14	14	14	15	16	16	17	18	21	20	20	21	22	23	20	20	20	17	16	15	17.6	22.7
5-Aug	14	13	12	12	11	11	12	15	17	20	22	23	23	24	24	25	25	25	25	23	20	18	16	15	18.5	25.2
6-Aug	14	13	12	D	10	10	11	14	17	20	22	24	25	26	26	26	26	25	23	22	20	18	17	16	19.0	25.9
7-Aug	16	16	16	15	15	15	15	15	15	15	16	19	20	20	21	19	19	20	20	19	18	16	15	14	17.0	20.7
8-Aug	14	14	14	13	13	13	13	15	16	17	18	19	19	20	20	20	20	20	19	18	16	15	14	13	16.4	20.2
9-Aug	13	13	12	12	10	10	11	14	15	16	17	18	20	21	22	23	23	23	23	21	19	18	17	16	16.9	23.3
10-Aug	15	14	14	13	13	12	13	14	17	20	21	23	24	25	25	26	26	27	27	26	22	20	18	17	19.6	26.8
11-Aug	17	17	17	17	16	16	16	17	18	19	20	21	22	23	24	24	22	23	23	21	21	20	18	17	19.6	24.0
12-Aug	16	15	15	15	14	14	15	15	17	19	21	22	24	25	25	26	25	24	23	22	21	20	20	19	19.7	25.6
13-Aug	18	18	18	17	17	17	17	18	18	19	19	22	23	24	25	25	25	24	22	23	20	19	17	16	19.9	25.4
14-Aug	15	15	14	14	13	13	13	14	16	18	22	23	24	26	27	27	28	28	27	24	21	20	18	17	19.9	28.1
15-Aug	16	16	16	15	15	14	15	16	16	18	19	20	22	23	23	24	24	25	25	24	20	18	16	15	19.0	24.9
16-Aug	15	14	15	14	15	15	16	15	16	16	17	18	19	20	20	22	22	22	23	20	15	15	14	14	17.1	23.0
17-Aug	13	13	13	13	13	12	13	13	15	18	20	21	22	23	23	24	23	23	23	21	19	17	15	15	17.6	23.6
18-Aug	14	14	14	13	13	12	13	15	17	19	22	22	22	22	21	20	18	16	14	14	14	13	12	12	16.1	21.9
19-Aug	12	11	10	9	8	7	8	11	13	14	16	18	18	17	19	19	19	19	14	12	11	10	10	10	13.1	19.5
20-Aug	10	9	8	8	8	7	8	11	13	14	15	15	17	17	17	16	16	15	15	15	15	14	14	13	12.8	16.9
21-Aug	12	12	11	11	10	10	10	12	14	15	16	17	18	19	20	21	22	22	23	20	15	13	11	11	15.1	22.6
22-Aug	11	10	10	9	9	8	8	11	13	16	19	21	23	24	23	24	25	25	25	23	18	16	14	14	16.6	25.1
23-Aug	13	13	13	12	12	10	10	12	16	19	22	23	24	24	25	26	25	25	23	21	17	17	16	15	18.1	25.6
24-Aug	15	14	13	12	12	12	13	15	16	19	21	22	23	23	23	23	24	24	23	21	18	16	16	15	18.0	23.8
25-Aug	15	14	14	15	15	14	14	14	15	17	18	18	19	20	20	21	21	21	20	20	16	13	12	11	16.5	20.8
26-Aug	10	9	8	8	7	8	7	9	12	13	16	17	17	16	16	15	15	15	15	14	14	14	13	14	12.6	17.4
27-Aug	13	13	13	13	14	13	13	13	13	15	16	18	20	21	22	22	21	21	21	19	17	15	13	12	16.2	21.9
28-Aug	11	10	9	8	9	9	10	11	12	14	16	16	17	18	19	20	21	21	20	18	15	14	12	12	14.2	21.1
29-Aug	12	12	12	12	12	12	12	13	14	16	16	18	19	20	21	21	22	21	19	18	17	16	16	15	16.1	21.5
30-Aug	15	14	13	12	12	12	13	13	14	14	15	15	15	15	15	16	17	17	17	16	15	14	13	13	14.3	17.4
31-Aug	12	12	12	11	11	11	11	13	16	18	20	20	21	21	22	23	23	23	23	19	16	14	13	12	16.5	22.8
	13.9	13.4	13.0	12.5	12.1	11.8	12.2	13.7	15.4	17.2	18.7	20.0	20.9	21.4	21.9	22.2	22.3	22.2	21.4	20.1	17.9	16.3	15.2	14.5	Diurnal Average	
	18.3	17.8	17.6	17.4	16.7	16.5	16.9	18.3	18.8	21.2	23.0	24.3	25.3	26.0	27.1	27.3	28.1	28.1	26.9	25.8	23.0	20.3	19.5	18.7	Diurnal Maximum	

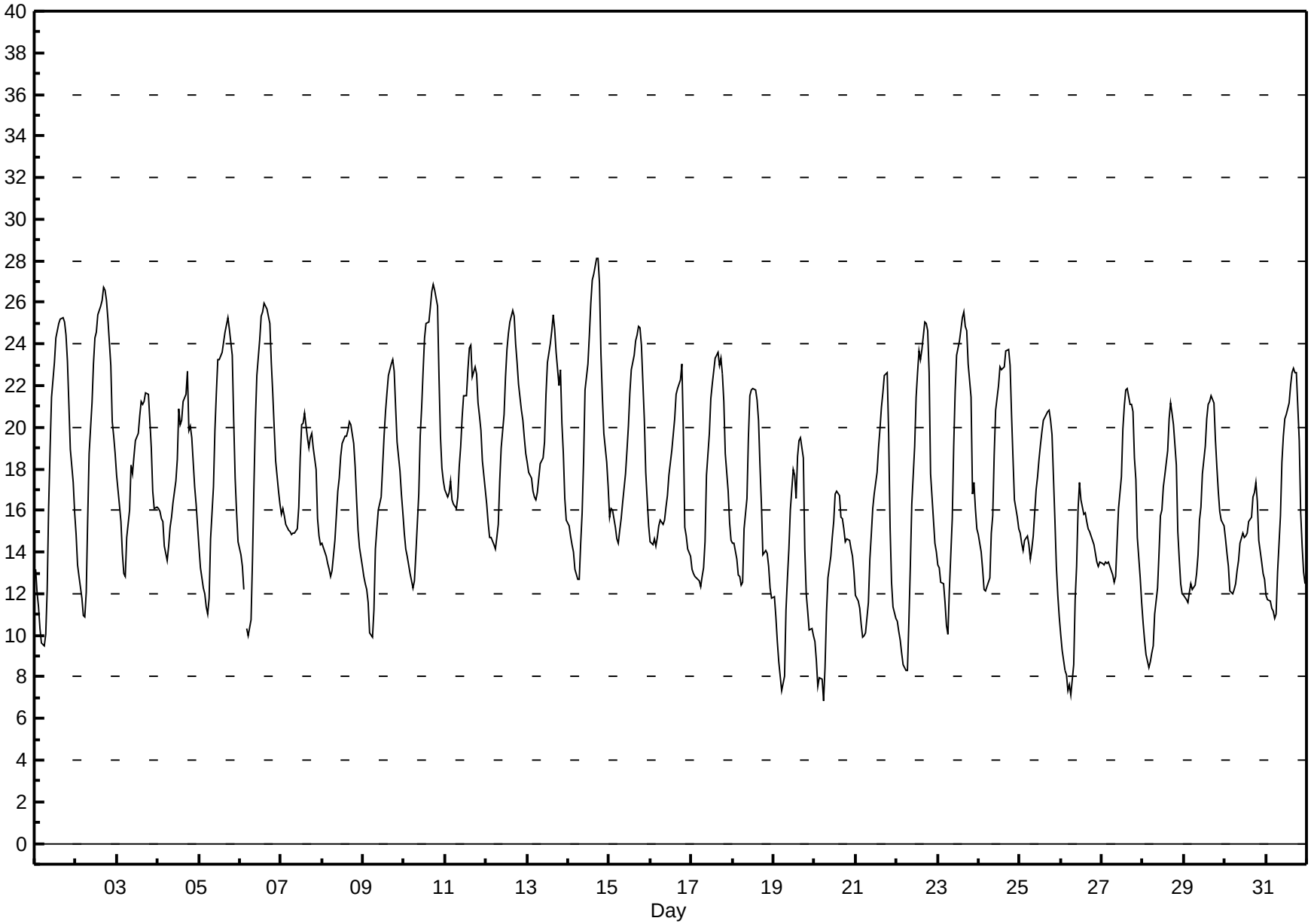
D - DAS Failure

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Valleyview - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Valleyview - August 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 100.0 % on Aug 30 03:00 Maximum Daily Average: 96.3 % on Aug 30

Minimum Value: 32 % on Aug 21 17:00 Minimum Daily Average: 59.0 % on Aug 20
Maximum Diurnal Average: 96.4 % at hour 6 Minimum Diurnal Average: 54.6 % at hour 16
Monthly Average: 77.52 % Percentiles: P_1 = 36.6 P_{10} = 46.9 Q_1 = 62.5 Median = 82.8 Q_3 = 95.1 P_{90} = 98.0 P_{99} = 100.0

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	97	97	98	98	98	99	99	97	80	71	64	56	47	47	47	46	44	45	47	51	57	63	72	80	70.8	99.0
2-Aug	86	92	93	94	96	97	94	81	70	64	56	50	47	45	42	42	39	43	50	55	63	69	68	71	67.0	96.9
3-Aug	77	85	86	92	96	95	87	85	77	80	75	69	68	63	61	64	65	64	66	73	84	95	97	97	79.1	97.0
4-Aug	96	97	96	93	97	98	97	92	90	89	86	82	69	70	67	63	61	56	73	77	84	96	98	99	84.3	98.6
5-Aug	98	98	99	99	99	99	99	93	84	74	67	57	55	53	51	47	45	44	47	56	76	91	96	97	76.1	99.3
6-Aug	97	98	98	D	99	99	99	92	80	72	64	56	50	46	41	42	44	47	55	63	68	74	83	87	71.9	99.4
7-Aug	89	85	88	92	93	94	93	93	90	90	86	76	68	65	62	73	75	71	70	78	82	89	93	97	83.1	96.8
8-Aug	98	98	98	97	97	96	93	88	83	77	73	69	62	61	60	59	58	56	57	63	74	80	83	86	77.7	97.9
9-Aug	86	87	89	92	96	97	94	84	83	80	77	71	67	63	60	57	55	55	58	65	72	79	84	87	76.6	96.7
10-Aug	92	93	94	96	97	97	97	93	82	73	70	64	59	58	59	58	55	54	56	61	81	92	95	96	77.9	97.2
11-Aug	98	99	97	89	94	96	97	97	92	84	80	78	82	74	69	65	72	72	71	75	81	83	87	91	84.3	99.1
12-Aug	92	96	98	98	98	99	98	95	85	79	72	63	59	56	53	50	52	61	69	78	83	87	86	89	79.0	99.1
13-Aug	91	93	92	94	97	97	96	90	90	89	87	77	70	66	63	60	67	75	83	64	76	80	88	90	82.3	97.2
14-Aug	91	95	97	96	97	98	98	94	88	80	69	64	59	55	50	49	45	42	49	74	82	94	88	90	77.0	98.2
15-Aug	93	94	96	97	98	99	98	97	94	89	86	80	73	69	66	62	58	52	56	65	83	94	97	98	83.2	98.7
16-Aug	98	98	98	97	97	97	98	99	98	96	92	84	78	75	71	66	66	64	61	80	95	93	96	97	87.2	98.6
17-Aug	98	98	99	98	98	99	98	98	95	80	70	62	48	45	47	47	51	54	52	64	83	85	94	97	77.5	98.7
18-Aug	96	94	95	95	92	93	91	81	73	63	56	48	43	44	44	51	69	82	90	90	89	87	91	86	76.9	96.2
19-Aug	81	87	91	94	96	97	97	83	79	71	59	50	54	67	44	43	40	46	67	80	80	81	77	77	72.6	97.3
20-Aug	75	80	89	83	85	91	79	68	57	50	47	45	40	37	38	41	43	48	51	50	50	53	55	62	59.0	91.5
21-Aug	74	70	76	83	86	87	84	71	59	50	46	45	42	40	37	34	32	32	37	53	82	92	95	94	62.4	94.9
22-Aug	89	88	88	90	91	89	90	79	71	62	54	50	43	34	37	35	33	34	37	53	75	88	93	91	66.3	93.3
23-Aug	93	93	96	96	98	98	98	94	79	66	55	48	47	46	42	40	46	51	63	68	70	63	74	82	71.1	98.3
24-Aug	85	91	95	97	98	96	95	87	84	70	61	53	46	42	45	46	43	43	50	66	81	92	96	97	73.4	97.6
25-Aug	97	94	96	88	82	87	93	90	86	71	63	58	53	48	46	46	43	45	52	65	81	94	96	97	73.8	97.1
26-Aug	97	98	98	99	99	99	99	99	89	85	77	73	82	84	85	90	93	90	86	89	93	95	96	95	91.1	99.0
27-Aug	95	95	95	95	96	97	97	97	95	86	80	72	61	50	42	43	53	53	56	65	61	78	92	95	77.0	97.4
28-Aug	97	98	98	98	99	98	98	90	84	77	70	69	68	69	66	59	54	58	62	78	92	97	97	97	82.3	98.5
29-Aug	98	98	98	99	100	100	99	99	97	91	88	84	80	76	74	75	75	74	81	81	88	93	96	99	89.2	100.0
30-Aug	99	100	100	100	100	100	100	100	100	100	100	100	95	96	99	94	86	84	80	86	96	99	99	99	96.3	100.0
31-Aug	99	100	100	100	100	100	100	95	81	72	60	51	48	46	46	45	43	45	46	72	90	94	98	99	76.2	100.0
	92.0	93.1	94.6	94.7	95.8	96.4	95.4	90.3	83.7	76.8	70.6	64.6	60.1	57.8	55.2	54.6	55.1	56.1	60.6	68.9	79.1	85.5	89.1	90.9	Diurnal Average	
	99.4	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	95.2	96.4	98.7	93.6	93.4	89.5	89.9	90.4	96.5	98.7	99.0	99.1	Diurnal Maximum	

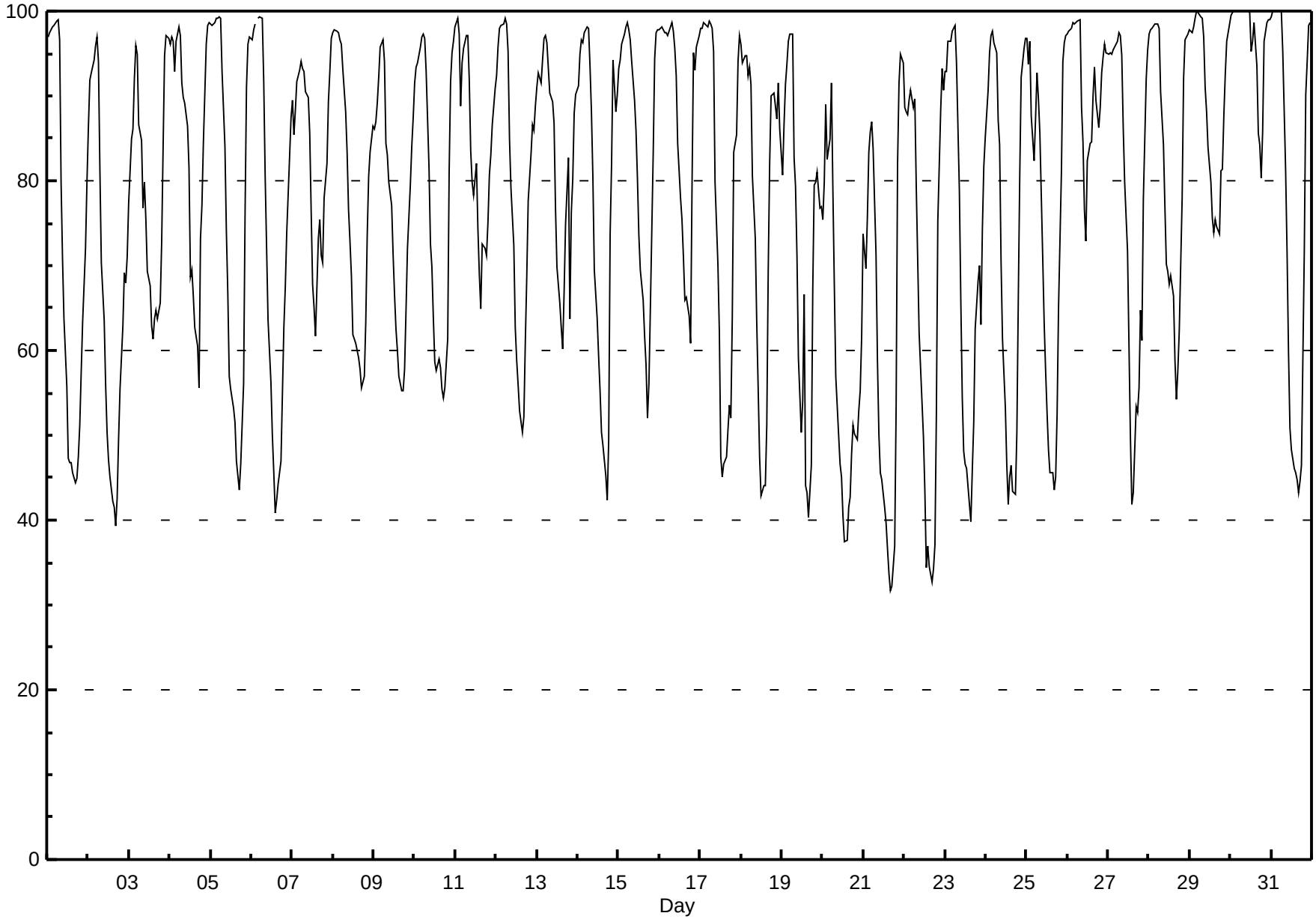
D - DAS Failure

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Valleyview - August 2013



Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Valleyview - August 2013

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1 Spd	0	0	0	0	0	0	0	0	1	0	1	2	3	3	5	5	5	4	4	3	2	2	0	0	1.5	5.4
Dir	175	170	181	351	317	162	328	248	139	158	32	77	96	62	42	39	50	71	76	62	79	73	67	231	62	39
2 Spd	0	0	0	1	0	0	1	1	0	1	4	4	4	2	2	2	1	3	2	2	1	3	6	4	1.4	5.7
Dir	303	300	263	342	155	333	352	242	165	160	146	148	140	117	102	120	111	75	45	81	114	146	150	154	129	150
3 Spd	1	2	0	1	0	2	0	2	1	4	7	7	8	7	7	5	4	6	5	2	0	0	0	1	2.5	8.4
Dir	166	165	249	276	237	287	80	297	174	294	323	300	310	313	325	318	323	309	347	349	173	157	154	187	311	310
4 Spd	1	1	1	1	0	0	1	1	4	1	0	1	3	10	7	3	6	3	2	1	0	0	0	0	1.3	9.6
Dir	149	164	297	259	200	6	158	248	293	297	356	14	4	342	343	354	326	268	85	149	36	84	155	184	331	342
5 Spd	0	0	0	0	0	0	0	1	1	2	1	2	3	4	4	5	4	4	3	0	0	0	1	1	1.0	5.5
Dir	187	223	205	177	185	179	182	159	147	146	100	24	17	341	4	342	326	358	24	39	334	149	20	314	359	342
6 Spd	0	0	1	D	1	0	1	1	1	0	0	1	0	2	3	5	5	2	2	2	2	3	1	1	0.6	4.9
Dir	110	155	25	D	316	347	247	206	149	125	62	104	173	29	5	11	38	74	13	273	301	231	206	164	7	11
7 Spd	3	5	3	4	2	1	3	5	6	4	4	1	2	2	2	2	1	1	1	1	1	2	1	1	1.2	5.7
Dir	359	5	351	297	337	321	319	3	9	16	13	86	18	76	132	175	174	189	165	160	144	142	39	151	10	9
8 Spd	1	1	1	1	1	1	1	2	4	5	4	3	6	6	7	6	5	6	7	5	3	3	2	1	3.3	6.9
Dir	137	116	94	51	76	76	83	135	137	159	160	158	162	158	157	155	161	163	159	159	159	149	141	144	152	157
9 Spd	2	3	2	0	1	0	0	2	5	5	4	5	5	5	4	4	3	3	3	2	2	3	2	1	2.7	5.3
Dir	151	153	156	228	294	238	12	155	162	166	160	153	153	162	154	156	152	155	152	148	144	154	159	169	157	153
10 Spd	0	0	0	0	0	0	0	2	4	4	4	3	2	1	3	3	3	2	2	1	0	0	0	0	0.4	3.7
Dir	168	173	263	207	169	263	183	167	164	164	161	164	163	129	12	355	360	9	17	356	272	150	175	158	130	164
11 Spd	0	1	2	2	2	1	0	0	1	5	5	3	4	4	2	6	7	3	5	4	2	1	1	2	1.7	6.7
Dir	27	107	328	239	345	153	73	320	228	271	322	343	7	18	327	16	15	9	4	359	7	198	155	153	352	15
12 Spd	1	1	0	0	0	1	1	1	1	0	2	3	3	1	0	1	3	2	1	1	1	0	1	0	0.7	3.2
Dir	162	217	194	207	154	156	157	156	135	9	111	151	165	177	168	86	44	58	88	15	51	126	118	164	122	44
13 Spd	0	0	1	1	1	1	1	1	4	3	2	3	2	1	1	1	1	1	2	3	1	0	1	1	0.8	3.6
Dir	188	66	143	324	160	162	164	157	158	164	162	153	149	196	184	359	293	274	144	273	171	112	336	175	171	158
14 Spd	1	2	2	1	0	0	1	1	1	1	2	2	3	1	2	2	1	2	2	0	1	0	1	2	0.6	3.1
Dir	152	165	162	217	160	220	221	151	153	179	156	153	146	185	180	160	138	349	20	319	340	207	333	335	161	146
15 Spd	2	1	0	0	0	0	1	1	1	1	3	5	2	1	2	2	2	3	1	0	0	0	0	0	0.6	5.1
Dir	330	345	229	236	160	200	149	161	169	152	293	333	17	14	357	15	333	330	346	91	127	8	66	182	343	333
16 Spd	0	0	1	1	1	1	1	1	1	2	4	3	1	1	1	1	1	1	0	1	4	6	2	1	0.7	6.1
Dir	73	332	341	328	162	154	162	164	284	250	258	270	315	123	101	133	141	36	72	39	243	256	167	174	236	256
17 Spd	4	1	2	3	0	1	0	1	2	3	3	2	7	6	2	1	3	1	3	1	0	0	1	1	1.1	6.7
Dir	161	163	163	162	164	157	152	159	165	161	160	223	285	278	277	256	294	223	247	193	191	178	164	165	216	285
18 Spd	1	1	1	2	1	1	1	1	2	1	2	4	10	9	11	7	5	5	2	1	1	1	1	1	2.1	11.2
Dir	168	161	151	166	166	165	160	171	156	160	170	229	253	276	280	277	246	269	178	170	176	163	173	181	242	280
19 Spd	1	0	1	0	1	1	1	2	1	2	5	7	6	5	12	12	12	9	14	3	2	3	3	3	3.4	13.6
Dir	177	166	153	169	149	159	159	165	182	270	248	270	315	266	265	255	262	249	255	187	163	160	166	165	248	255
20 Spd	2	1	1	2	1	1	2	3	10	14	16	13	16	20	20	14	12	7	8	8	8	5	5	2	7.3	20.0
Dir	162	170	169	166	175	168	175	217	254	271	277	273	273	280	274	282	276	254	255	256	258	262	290	266	267	280
21 Spd	1	3	0	1	1	1	1	1	5	8	9	7	5	6	4	3	3	1	0	1	0	0	0	1	2.2	9.2
Dir	191	242	194	180	160	165	165	175	260	279	277	269	257	243	243	253	279	326	101	150	200	187	177	171	255	277
22 Spd	2	2	2	1	1	0	0	1	2	1	1	1	4	4	4	3	1	1	2	0	0	0	1	0	0.8	4.4
Dir	169	166	165	176	170	169	162	158	161	186	180	210	277	304	299	292	211	221	241	179	186	16	161	181	230	304

FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Valleyview - August 2013

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
23 Spd	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	2	4	3	2	2	16	14	2	2	0.8	15.7
Dir	183	190	169	170	350	338	178	155	141	155	176	165	149	67	160	20	6	13	15	264	291	349	163	163	326	291
24 Spd	0	1	0	1	1	1	1	1	1	2	2	3	5	9	4	1	2	1	1	1	0	0	0	1	0.8	8.8
Dir	22	356	158	177	169	162	158	158	156	226	228	236	272	280	302	293	135	119	63	244	68	157	16	221	253	280
25 Spd	1	1	1	4	2	0	1	1	3	6	8	8	5	4	5	4	6	5	3	0	0	0	0	0	2.3	8.3
Dir	221	2	164	278	323	144	186	199	249	294	282	305	317	237	267	268	294	330	342	170	209	171	179	330	288	282
26 Spd	0	0	0	1	0	0	1	1	0	2	3	3	3	5	4	2	2	3	2	1	1	2	1	1	1.1	5.0
Dir	344	306	191	197	242	33	347	342	97	8	21	103	103	133	136	109	86	121	131	113	94	52	93	104	101	133
27 Spd	1	2	1	2	1	2	1	4	3	2	2	1	1	3	6	4	5	2	2	1	2	0	0	0	1.5	5.8
Dir	143	154	160	161	166	164	166	163	167	191	195	263	143	252	272	241	164	167	164	219	222	191	158	209	192	272
28 Spd	1	0	1	0	0	0	0	1	1	1	1	2	1	0	0	1	1	1	1	0	2	1	1	0	0.0	2.1
Dir	161	186	347	16	286	211	172	165	184	223	172	167	37	34	154	159	47	44	85	352	342	351	340	271	109	167
29 Spd	0	1	1	2	1	2	0	1	3	2	3	5	4	4	5	5	3	3	3	1	2	2	1	0	1.5	4.8
Dir	18	354	230	48	353	338	245	1	16	41	29	353	12	354	345	345	5	153	162	134	355	9	343	319	6	345
30 Spd	0	0	1	1	1	0	0	1	1	0	6	6	4	2	1	5	7	8	8	1	1	1	1	1	2.0	7.8
Dir	264	87	349	352	263	153	209	282	337	203	275	272	272	215	212	253	272	274	283	253	168	192	137	151	266	283
31 Spd	1	1	1	1	1	1	0	1	2	2	4	8	8	7	6	7	7	5	1	0	0	0	0	1	2.2	8.3
Dir	141	158	160	159	166	163	164	151	157	157	254	247	250	260	253	262	268	277	276	165	173	193	205	163	242	247
Spd	0.6	0.3	0.3	0.4	0.1	0.3	0.3	0.7	0.9	1.2	1.5	1.6	1.7	2.0	2.1	1.7	1.5	0.9	0.5	0.3	0.7	0.2	0.5	0.7	Diurnal Average	
Dir	159	164	168	224	230	172	171	173	191	237	263	259	274	281	285	294	299	288	273	223	263	241	159	170		
Spd	3.6	4.9	3.0	3.8	2.2	2.4	2.7	5.1	10.0	14.2	15.9	13.5	16.5	20.0	19.6	13.9	12.5	9.2	13.6	8.1	15.7	14.0	5.7	4.4	Diurnal Maximum	
Dir	161	5	351	278	337	287	319	3	254	271	277	273	273	280	274	282	262	249	255	256	291	349	150	154		

Maximum Speed Value: 20 km/h on Aug 20 14:00
Maximum Daily Speed Average: 7.3 km/h on Aug 20
Maximum Diurnal Speed Average: 2.1 km/h at hour 15

Minimum Speed Value: 0 km/h on Aug 2 06:00
Minimum Daily Speed Average: 0.0 km/h on Aug 28
Minimum Diurnal Speed Average: 0.1 km/h at hour 5

Monthly Average Velocity: 0.63 km/h 256.0 deg

Speed Percentiles: $P_1 = 0.1$ $P_{10} = 0.3$ $Q_1 = 0.6$ Median = 1.3 $Q_3 = 3.0$ $P_{90} = 5.3$ $P_{99} = 13.9$

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

D - DAS Failure

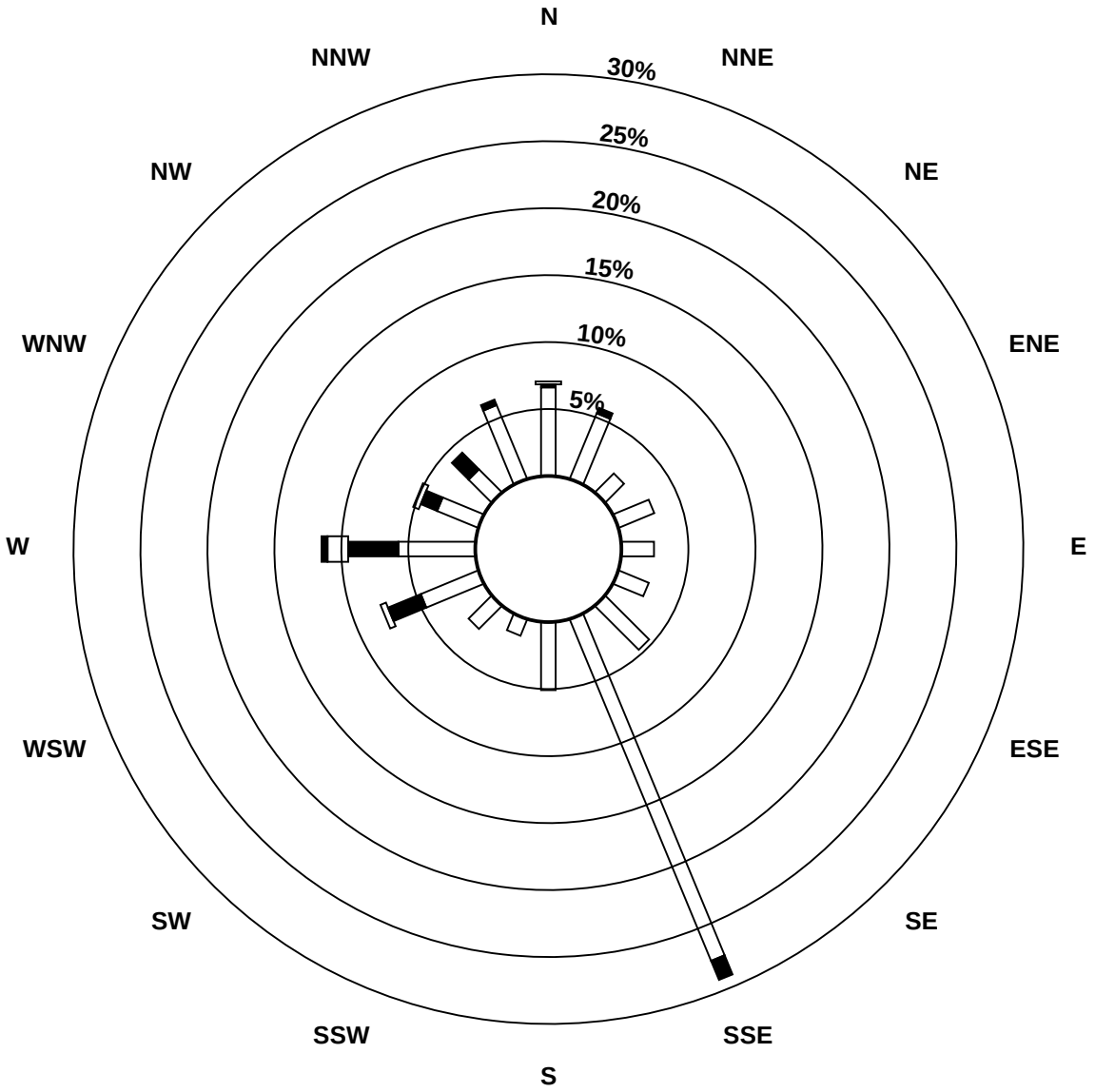
Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	93	8	1	0	0	0	102
NorthEast	36	1	0	0	0	0	37
East	45	0	0	0	0	0	45
SouthEast	110	5	0	0	0	0	115
South	218	7	0	0	0	0	225
SouthWest	57	2	0	0	0	0	59
West	47	35	12	2	0	0	96
NorthWest	49	15	0	0	0	0	64
Total	655	73	13	2	0	0	743

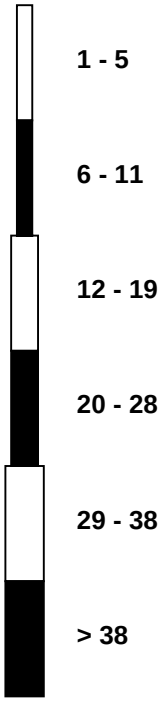
Wind Rose

Wind Speed (WS) (km/h)

Valleyview - August 2013



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Valleyview - August 2013

Maximum Speed: 21 km/h on Aug 20 14:00

Maximum Daily Speed Average: 8.2 km/h on Aug 20

Minimum Speed: 0 km/h on Aug 10 06:00

Minimum Daily Speed Average: 0.9 km/h on Aug 28

Maximum Diurnal Speed Average: 5.2 km/h at hour 14

Minimum Diurnal Speed Average: 0.9 km/h at hour 7

Monthly Average Speed: 2.65 km/h

Percentiles: $P_1 = 0.2$ $P_{10} = 0.5$ $Q_1 = 0.9$ Median = 1.7 $Q_3 = 3.4$ $P_{90} = 5.8$ $P_{99} = 13.6$

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	0	0	0	1	1	1	1	0	1	1	1	3	3	4	6	6	5	5	4	3	2	2	1	0	2.2	5.9
2-Aug	0	1	0	1	0	0	1	1	1	1	4	4	4	2	3	2	2	3	3	2	1	3	6	4	2.1	5.8
3-Aug	1	2	1	1	1	3	1	2	2	5	7	8	9	8	8	6	5	6	5	2	0	0	1	1	3.5	9.1
4-Aug	1	1	1	1	1	1	1	2	4	2	1	2	4	10	7	3	6	3	3	1	0	1	0	0	2.3	9.9
5-Aug	0	0	0	0	0	0	0	1	1	2	2	3	4	5	5	6	5	5	3	0	0	0	1	1	1.9	6.0
6-Aug	0	0	1	D	1	1	1	1	1	1	1	2	2	3	4	5	6	2	2	3	3	3	1	1	2.1	5.7
7-Aug	3	5	4	4	2	1	3	5	6	4	4	2	2	3	2	2	1	1	1	1	1	4	2	1	2.7	5.9
8-Aug	1	1	1	1	1	1	1	2	4	6	5	4	6	6	7	7	6	6	7	5	3	3	2	2	3.6	7.2
9-Aug	2	3	2	1	1	0	1	2	5	5	5	5	5	5	5	4	3	3	3	2	2	3	2	1	3.0	5.5
10-Aug	0	0	0	0	0	0	0	2	4	4	4	3	2	2	3	4	3	3	2	1	1	1	1	1	1.8	4.1
11-Aug	1	2	4	2	5	2	1	1	1	6	6	4	5	4	3	7	7	3	5	4	3	1	1	2	3.2	6.8
12-Aug	1	1	1	0	1	1	1	1	2	2	3	3	3	2	2	2	4	3	1	1	1	0	1	1	1.6	3.9
13-Aug	0	1	1	1	1	1	1	1	4	3	2	3	3	2	3	2	1	1	2	4	1	1	2	1	1.8	3.7
14-Aug	1	2	2	1	1	0	1	1	1	1	2	2	3	2	3	2	2	2	2	1	1	0	1	2	1.5	3.5
15-Aug	2	1	0	1	1	0	1	1	1	2	4	6	3	2	3	3	2	4	2	1	0	0	0	0	1.7	5.6
16-Aug	0	1	1	1	1	1	1	1	2	2	4	3	2	2	2	1	1	1	1	1	6	7	2	1	1.9	6.6
17-Aug	4	1	3	3	0	1	1	2	2	3	3	3	7	6	3	2	3	1	3	1	0	1	1	1	2.3	7.1
18-Aug	1	1	1	2	1	1	1	1	2	2	2	5	11	9	11	8	5	6	3	1	1	1	1	1	3.2	11.4
19-Aug	1	1	1	1	1	1	1	2	1	3	5	8	6	6	13	12	13	9	14	3	2	3	3	3	4.7	14.2
20-Aug	2	1	1	2	1	1	2	4	10	15	16	14	17	21	20	14	12	7	8	8	8	5	5	2	8.2	20.5
21-Aug	1	3	0	1	1	1	1	2	5	9	10	8	6	7	5	4	4	2	0	1	0	0	0	1	3.0	9.5
22-Aug	2	2	2	1	1	1	1	1	2	1	2	1	5	5	4	3	1	2	2	0	1	1	1	1	1.7	5.0
23-Aug	1	1	1	1	1	0	0	1	2	2	2	2	3	2	2	3	4	3	2	4	17	15	3	3	3.0	17.4
24-Aug	1	2	1	1	1	1	1	1	1	2	2	4	6	10	5	2	2	1	1	1	1	1	1	2	2.1	9.7
25-Aug	1	2	1	5	2	1	1	2	3	6	9	9	6	5	6	5	6	5	3	0	0	0	0	1	3.3	8.8
26-Aug	0	0	1	1	1	1	1	1	1	2	3	4	3	5	5	3	3	3	2	1	1	2	2	1	1.9	5.1
27-Aug	1	2	1	2	1	2	1	4	3	3	3	3	2	5	7	6	5	2	2	1	3	1	1	0	2.5	6.7
28-Aug	1	0	1	0	0	0	0	1	1	1	1	2	1	1	1	1	1	1	1	1	2	2	2	1	0.9	2.3
29-Aug	0	1	1	3	2	3	0	1	3	2	4	5	5	5	5	5	3	3	3	1	2	2	2	1	2.6	5.0
30-Aug	1	0	1	1	1	1	1	1	1	1	6	6	5	2	1	5	8	8	8	2	1	1	1	1	2.6	8.0
31-Aug	1	1	1	1	1	1	0	1	2	2	5	9	8	8	7	7	7	5	1	0	1	0	1	1	3.0	8.7
	1.1	1.3	1.2	1.3	1.0	1.0	0.9	1.6	2.5	3.2	4.1	4.5	4.9	5.2	5.2	4.7	4.4	3.6	3.2	1.8	2.2	2.1	1.5	1.2	Diurnal Average	
	3.7	5.0	3.9	5.4	4.6	2.9	2.8	5.2	10.4	14.5	16.4	14.0	17.2	20.5	20.1	14.3	12.8	9.3	14.2	8.2	17.4	15.5	5.8	4.4	Diurnal Maximum	

D - DAS Failure

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

Peace Airshed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Valleyview - August 2013

Maximum Value: 96.5 deg on Aug 16 01:00

Minimum Value: 6.1 deg on Aug 22 03:00

Percentiles: P_1 = 8.3 P_{10} = 13.5 Q_1 = 21.7 Median = 39.9 Q_3 = 63.6 P_{90} = 79.7 P_{99} = 92.1

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)																								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	74	80	67	78	66	65	79	65	63	92	62	52	49	47	41	30	35	28	31	33	35	13	68	71	91.7
2-Aug	86	42	77	52	89	88	32	56	82	75	22	22	27	38	47	40	62	30	26	43	30	8	8	10	88.8
3-Aug	31	23	63	51	66	55	76	74	66	32	17	23	24	28	24	24	18	23	20	23	53	62	58	67	76.4
4-Aug	51	62	78	41	62	92	56	50	18	44	93	71	64	17	22	47	26	50	60	25	93	80	68	46	92.6
5-Aug	69	63	38	39	24	45	51	39	41	31	81	72	49	43	39	25	33	27	14	33	59	89	92	60	91.6
6-Aug	94	82	69	D	27	89	20	56	41	92	84	83	79	73	48	33	35	52	42	76	58	36	36	29	94.5
7-Aug	42	15	38	16	17	22	15	12	15	14	22	65	71	65	53	22	30	45	27	20	38	68	58	19	71.4
8-Aug	39	67	37	53	34	36	33	32	14	13	14	19	13	14	14	16	12	11	11	11	10	9	10	13	66.5
9-Aug	12	12	10	59	41	57	64	44	12	13	14	17	19	17	21	22	22	20	12	13	12	14	14	14	64.4
10-Aug	65	64	36	43	70	72	66	11	11	12	19	18	50	74	67	42	53	57	21	45	77	87	65	64	87.3
11-Aug	86	70	78	54	91	68	76	88	53	25	19	51	31	39	51	23	11	12	14	10	65	52	44	15	90.9
12-Aug	17	66	82	41	94	25	33	72	54	89	70	32	30	66	91	65	55	56	31	31	60	47	48	36	93.7
13-Aug	72	72	69	58	36	11	31	25	13	12	20	32	26	57	84	94	62	54	17	53	81	64	90	27	93.6
14-Aug	19	20	8	54	73	53	49	34	36	64	41	54	35	77	40	44	69	52	18	72	89	57	68	49	89.2
15-Aug	20	82	69	81	86	57	40	12	19	36	79	30	49	57	62	55	59	55	53	48	90	82	86	38	90.2
16-Aug	97	86	78	60	60	57	50	20	49	44	20	23	91	68	69	73	75	68	85	61	68	34	35	33	96.5
17-Aug	8	91	35	23	44	10	76	50	25	20	17	51	35	27	67	71	48	47	18	21	39	73	58	21	91.1
18-Aug	16	13	35	25	22	19	24	66	15	30	34	34	13	18	11	14	25	45	30	32	18	19	11	26	65.6
19-Aug	39	29	68	73	61	37	19	20	32	68	28	37	19	36	16	18	13	12	26	27	21	11	14	10	73.3
20-Aug	13	29	13	14	38	29	21	38	22	12	14	17	18	13	14	13	20	11	8	9	8	11	16	34	38.4
21-Aug	24	14	34	28	25	13	12	26	28	16	15	27	47	37	51	53	44	67	73	31	26	33	32	12	73.2
22-Aug	9	17	6	14	35	84	53	23	16	35	48	78	40	32	21	30	52	54	33	68	76	94	58	77	93.6
23-Aug	71	59	45	34	84	92	51	29	48	43	60	66	90	68	53	55	21	13	54	85	27	26	42	57	91.8
24-Aug	76	49	82	60	21	28	12	16	24	52	50	57	47	26	40	81	39	30	69	68	86	64	77	77	86.3
25-Aug	42	69	48	52	80	83	39	69	33	26	21	30	41	43	46	42	26	26	16	85	62	51	51	85	84.9
26-Aug	60	67	63	52	64	93	46	49	73	24	26	31	31	11	12	36	42	25	13	34	44	26	30	34	93.1
27-Aug	25	16	17	16	18	16	16	12	16	38	47	73	70	57	37	58	11	17	13	32	49	81	59	42	80.7
28-Aug	47	47	87	90	74	84	92	80	43	46	31	20	73	72	53	43	69	31	51	84	70	78	77	90	91.7
29-Aug	91	64	89	60	90	61	81	83	18	30	25	27	30	30	17	14	24	45	10	39	50	41	41	89	90.7
30-Aug	66	58	91	62	67	80	47	67	86	58	30	20	32	42	42	32	15	12	14	33	17	30	25	26	90.5
31-Aug	18	17	15	8	9	14	33	12	13	29	47	19	15	22	28	21	30	22	57	54	82	28	41	11	81.9
	96.5	91.1	90.5	89.6	93.7	93.1	91.7	88.4	85.7	92.2	92.5	82.7	91.0	76.8	91.2	93.6	75.2	68.0	85.2	84.8	92.6	93.6	91.6	90.2	

D - DAS Failure

PAZA
Portable – Sunset House Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Sunset House - August 2013

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

Maximum Value: 1.9 ppb on Aug 2 08:00 Maximum Daily Average: 0.4 ppb on Aug 28

Minimum Value: 0 ppb on Aug 1 01:00 Minimum Daily Average: 0.0 ppb on Aug 30

Maximum Diurnal Average: 0.3 ppb at hour 8 Minimum Diurnal Average: 0.1 ppb at hour 20

Monthly Average: 0.13 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.2 P_{90} = 0.3 P_{99} = 1.1

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	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
2-Aug	0	0	0	0	0	0	1	2	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0.3	1.9
3-Aug	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.1
4-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	0.2
5-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
6-Aug	0	0	0	D	0	1	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
7-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	0.2
8-Aug	0	0	0	0	0	A	1	1	1	2	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0.2	1.5
9-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	1.2
10-Aug	1	1	0	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
11-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
12-Aug	0	A	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.0
13-Aug	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	0.2	1.1
14-Aug	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.2	0.7
15-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	0.5
16-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	0.0	0.3
17-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	0.2
18-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	0.2	0.3
19-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
20-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	0.3
21-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	2	0.2	1.5
22-Aug	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	0.6
23-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	0.3
24-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	0.3
25-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
26-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
27-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
28-Aug	0	0	0	0	0	0	1	1	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.4	1.0
29-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
30-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	0.2
31-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	0.0	0.1
Diurnal Average	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2		
Diurnal Maximum	1.1	0.6	0.4	0.5	0.7	0.7	1.5	1.9	0.8	1.5	0.9	0.6	0.7	0.4	0.4	0.5	0.4	0.3	0.3	0.3	0.4	1.1	1.2	1.5		

C - Calibration D - DAS Failure A - Automated Daily Zero Span

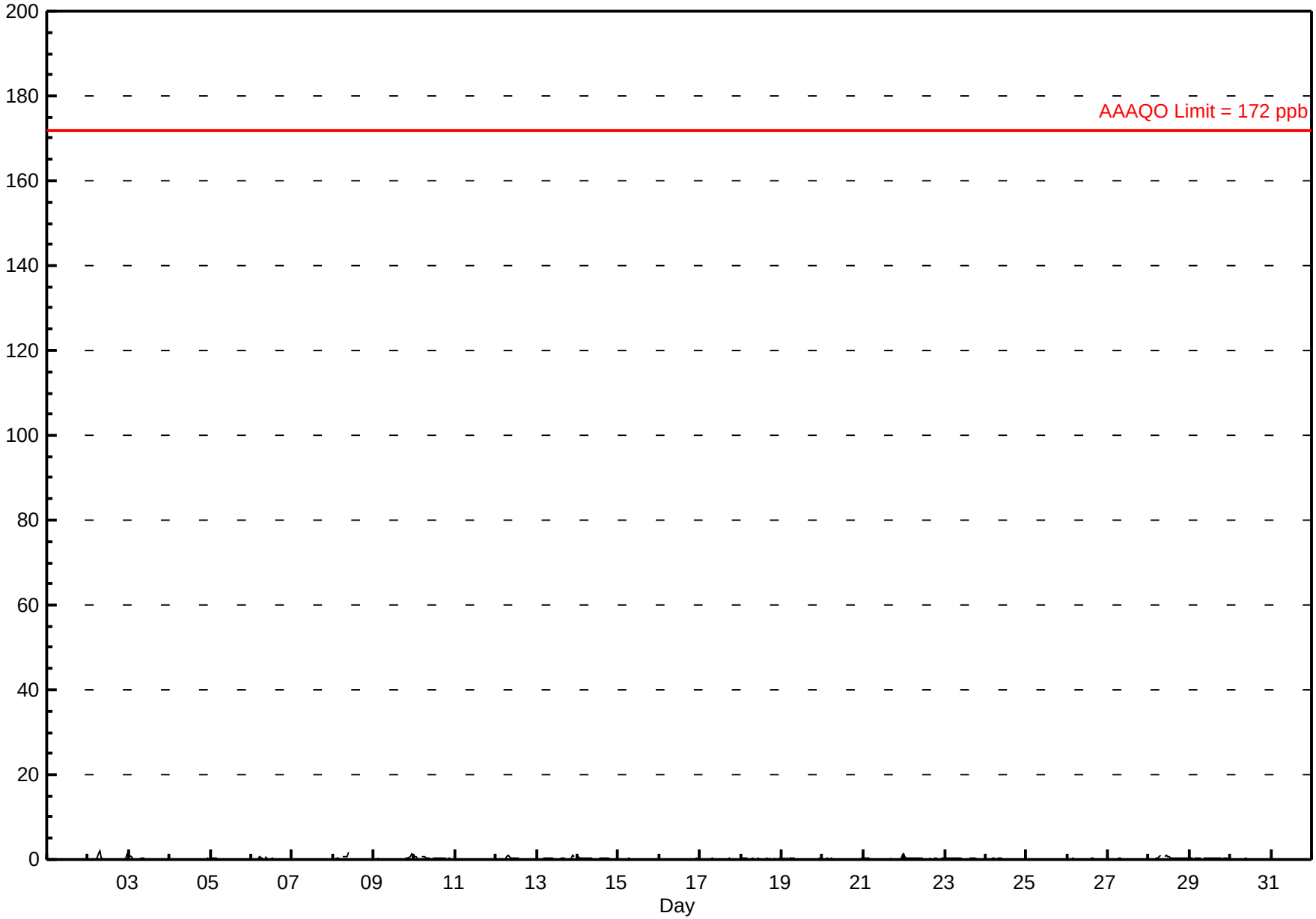
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Sunset House - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Sunset House - August 2013

Maximum Value: 19.1 ppb on Aug 8 07:00

Maximum Daily Average: 1.5 ppb on Aug 8

Minimum Value: 0 ppb on Aug 8 15:00

Minimum Daily Average: 0.4 ppb on Aug 7

Maximum Diurnal Average: 1.4 ppb at hour 7

Minimum Diurnal Average: 0.5 ppb at hour 16

Monthly Average: 0.68 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.4$ $Q_1 = 0.4$ Median = 0.6 $Q_3 = 0.8$ $P_{90} = 0.9$ $P_{99} = 1.9$

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	0	1	1	1	1	1	1	1	1	1	0	A	1	1	1	1	0	1	1	1	1	0	1	0.5	0.6
2-Aug	1	1	1	1	1	1	3	3	1	0	0	A	0	0	0	0	0	0	0	0	1	0	1	2	0.9	3.5
3-Aug	2	1	0	0	0	1	1	1	1	1	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0.6	1.7
4-Aug	0	0	1	0	0	0	0	1	1	A	1	1	1	1	0	0	0	0	0	0	0	1	1	1	0.6	1.1
5-Aug	1	1	1	1	0	0	1	0	A	1	1	0	0	0	0	0	0	0	0	0	1	0	1	1	0.6	1.0
6-Aug	1	0	0	D	1	2	1	A	1	1	1	1	1	1	0	0	1	0	0	0	0	1	1	0	0.7	1.7
7-Aug	0	1	0	0	0	0	A	0	1	1	1	0	0	0	0	0	1	0	0	1	0	0	1	0	0.4	0.8
8-Aug	0	1	1	1	1	A	19	1	1	2	C	C	C	C	0	0	0	0	0	0	0	0	0	0	1.5	19.1
9-Aug	0	1	0	1	A	0	0	0	0	1	1	1	1	1	0	0	1	1	1	1	1	2	2	2	0.7	1.7
10-Aug	1	1	1	A	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.8	1.7
11-Aug	0	1	A	1	1	0	0	1	0	1	1	1	1	1	1	1	0	1	1	0	0	0	0	0	0.5	0.8
12-Aug	0	A	0	0	0	0	1	2	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	18	1.4	18.2
13-Aug	A	1	0	0	1	1	1	0	1	0	0	1	1	1	1	1	1	1	1	1	2	2	1	A	0.7	1.9
14-Aug	2	1	1	1	1	1	1	1	0	0	0	0	1	1	1	1	1	1	1	1	0	0	A	1	0.8	1.6
15-Aug	1	0	1	0	0	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	A	1	1	0.6	1.2
16-Aug	1	1	1	0	1	1	1	0	1	1	0	0	1	0	1	0	0	1	1	1	A	1	2	1	0.6	2.0
17-Aug	1	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	A	1	1	1	1	0.5	0.6
18-Aug	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.7	1.1
19-Aug	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	A	0	0	1	0	1	1	0.6	1.0
20-Aug	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	1	0.5	0.9
21-Aug	1	1	1	1	1	1	1	1	1	0	1	1	0	0	1	A	1	1	0	0	0	1	0	3	0.7	2.6
22-Aug	1	1	1	1	1	1	1	1	1	1	1	0	1	1	A	0	1	1	1	1	0	0	1	1	0.8	1.3
23-Aug	1	1	1	0	1	1	1	0	1	1	0	0	0	A	1	1	1	1	1	1	1	0	0	1	0.6	0.9
24-Aug	0	1	0	1	1	1	0	1	1	1	1	1	A	0	0	0	1	1	0	1	0	0	0	0	0.5	0.8
25-Aug	1	0	0	1	0	1	0	1	1	1	1	A	0	0	1	0	0	0	0	0	0	1	0	0	0.5	0.7
26-Aug	0	1	1	1	1	0	0	1	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.0
27-Aug	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	1	1	1	1	1	0	0	1	0.6	0.8
28-Aug	1	1	1	1	1	1	1	2	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.6
29-Aug	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0.8	1.0
30-Aug	1	1	0	0	0	1	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.0
31-Aug	0	0	1	0	1	A	1	1	1	0	0	1	0	0	1	0	1	1	0	0	1	0	0	0	0.5	0.9
	0.7	0.7	0.6	0.6	0.6	0.7	1.4	0.8	0.7	0.7	0.6	0.6	0.6	0.5	0.6	0.5	0.6	0.5	0.5	0.5	0.6	0.6	0.7	1.3	Diurnal Average	
	1.7	1.4	1.1	1.1	1.2	1.7	19.1	3.5	1.5	2.3	1.5	1.3	1.3	1.0	0.9	0.9	1.0	0.9	0.9	0.9	1.9	1.7	2.0	18.2	Diurnal Maximum	

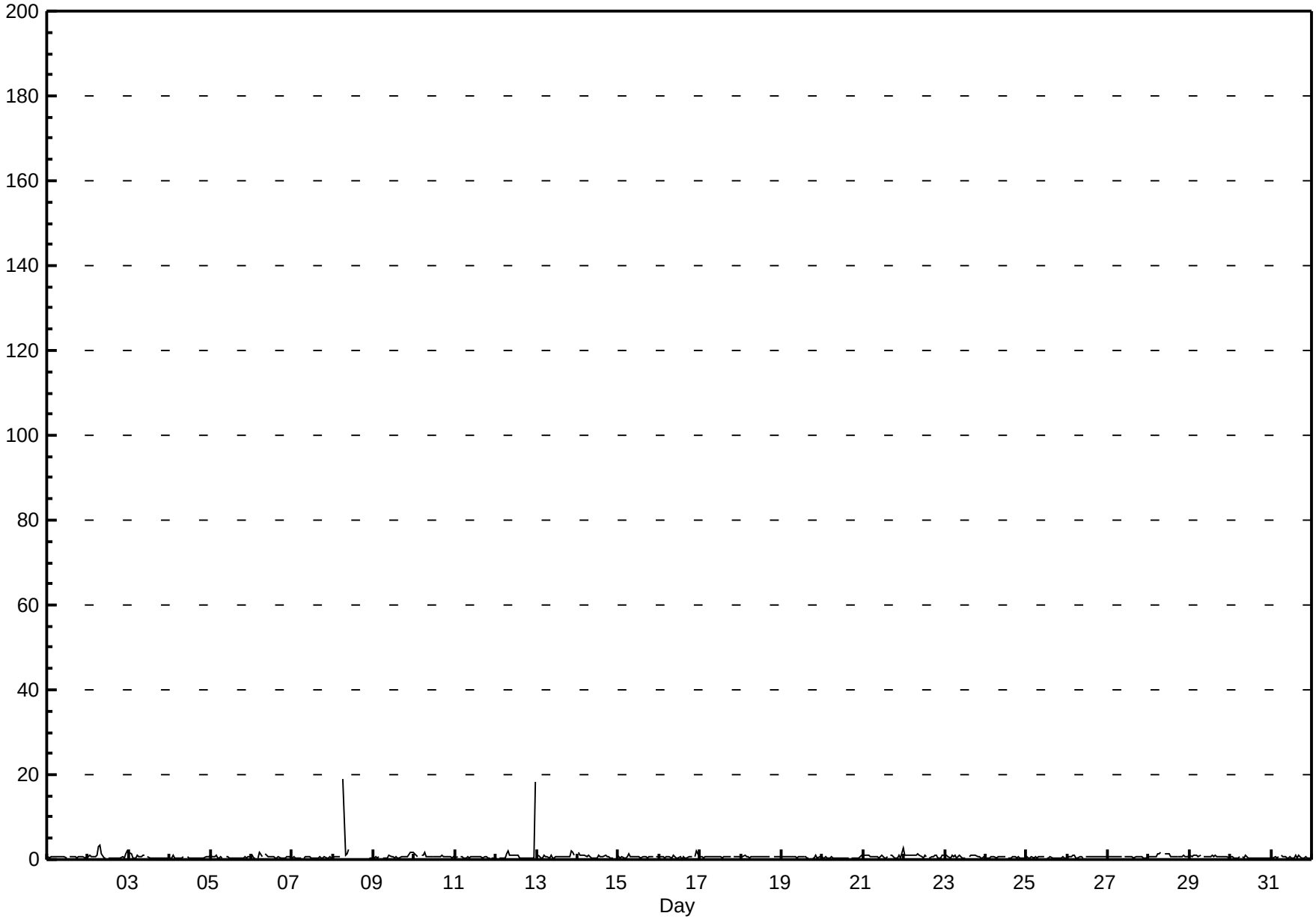
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

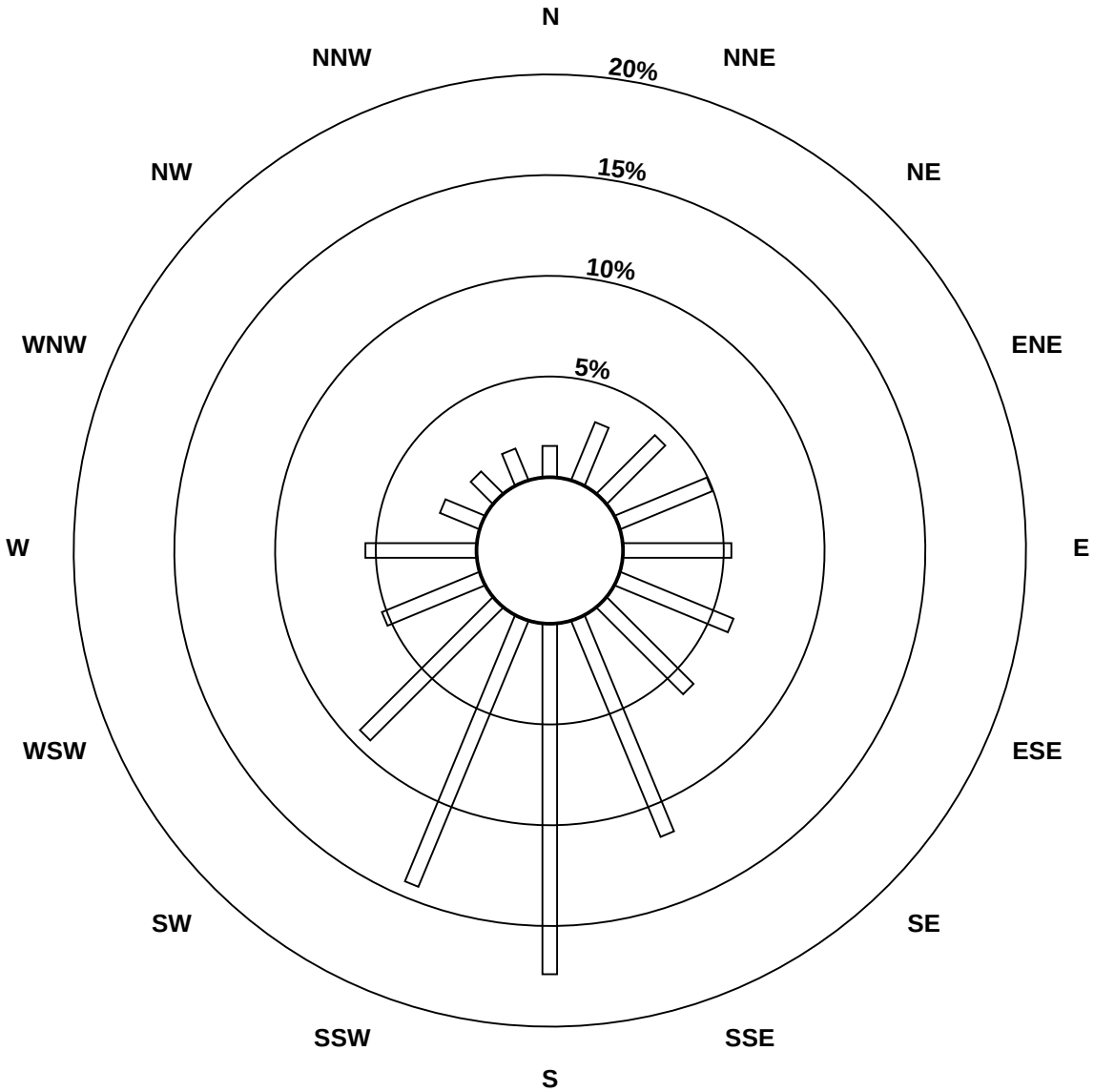
Sunset House - August 2013



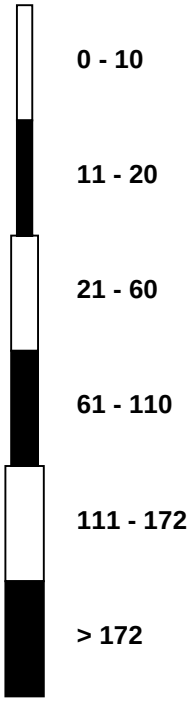
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Sunset House - August 2013



Pollutant Classes (ppb)

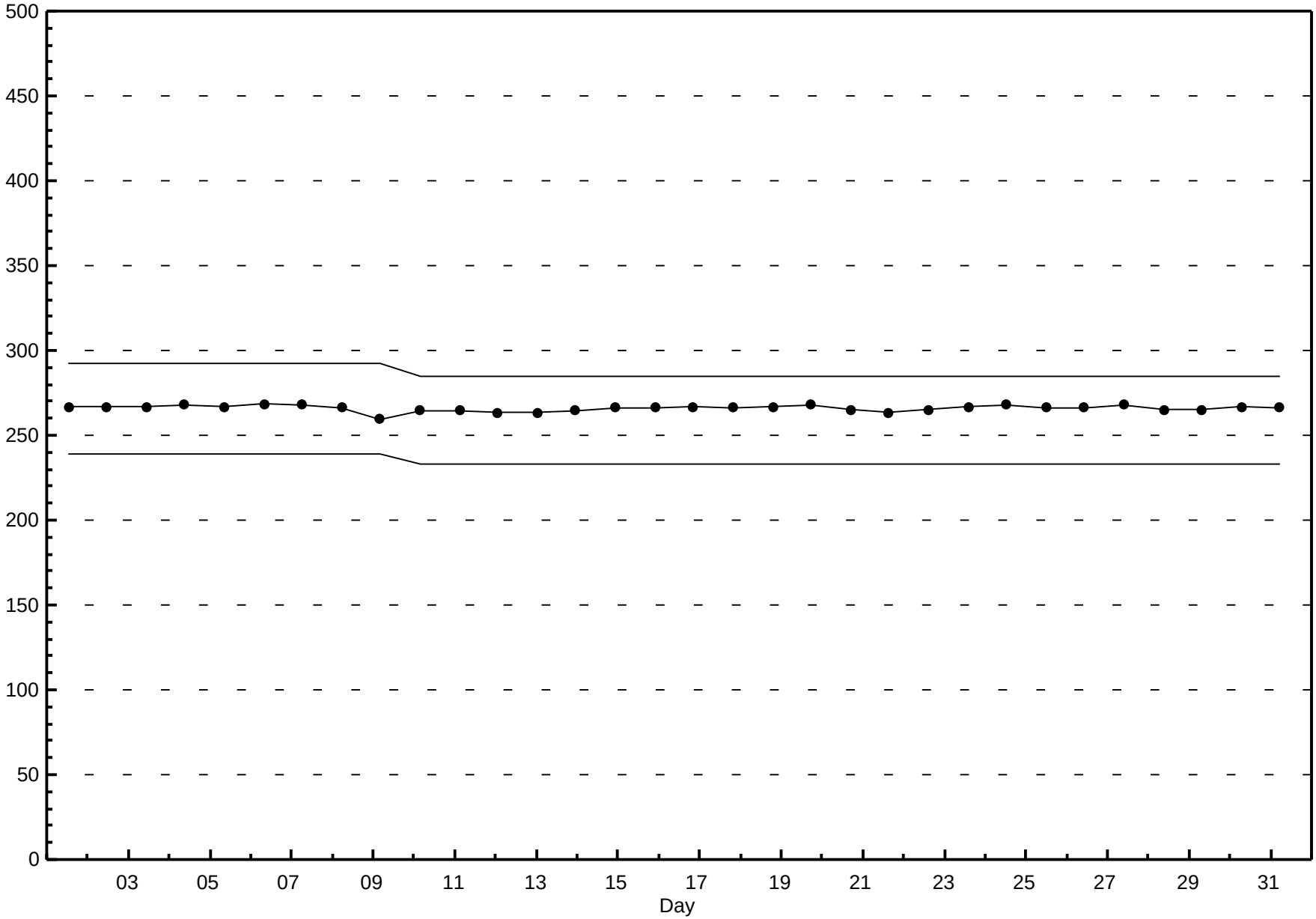


Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Sunset House - August 2013



Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Sunset House - August 2013

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

Maximum Value: 0.5 ppb on Aug 11 04:00

Maximum Daily Average: 0.4 ppb on Aug 19

Minimum Value: 0 ppb on Aug 3 08:00

Minimum Daily Average: 0.1 ppb on Aug 3

Maximum Diurnal Average: 0.3 ppb at hour 11

Minimum Diurnal Average: 0.2 ppb at hour 18

Monthly Average: 0.26 ppb

Percentiles: $P_1 = 0.1$ $P_{10} = 0.2$ $Q_1 = 0.2$ Median = 0.3 $Q_3 = 0.3$ $P_{90} = 0.4$ $P_{99} = 0.5$

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	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
2-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
3-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
4-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
5-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	0.2	0.4
6-Aug	0	0	0	D	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
7-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	0.2	0.3
8-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	0.3	0.4
9-Aug	0	0	0	0	A	0	0	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
10-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	0.3	0.4
11-Aug	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
12-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	0.3	0.4
13-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	0.3	0.5
14-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	0.3	0.5
15-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	0.2	0.4
16-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0.3	0.5
17-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	0.3	0.4
18-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	0.3	0.4
19-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0	1	0	0.4	0.5
20-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	0.4	0.4
21-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	0.4
22-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	0.2	0.3
23-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	0.3	0.3
24-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	0.3
25-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	0.3	0.3
26-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	0.3	0.3
27-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	0.3	0.5
28-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	0.2	0.3
29-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	0.3
30-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	0.3	0.5
31-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	0.3
	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.2	Diurnal Average	
	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.4	Diurnal Maximum	

C - Calibration D - DAS Failure A - Automated Daily Zero Span

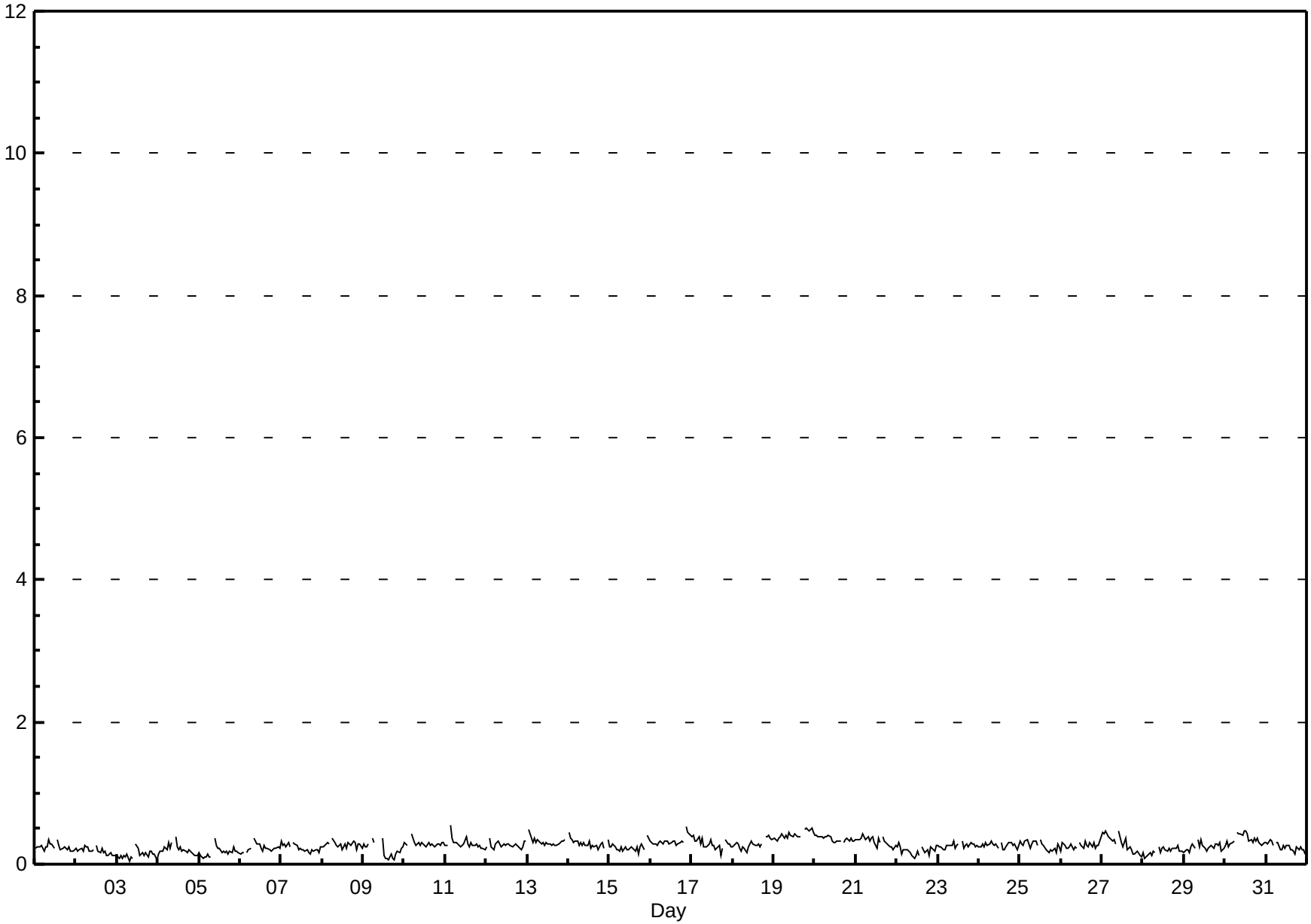
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Sunset House - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Sunset House - August 2013

Maximum Value: 4.1 ppb on Aug 13 00:00

Maximum Daily Average: 0.8 ppb on Aug 12

Minimum Value: 0 ppb on Aug 5 03:00

Minimum Daily Average: 0.5 ppb on Aug 3

Maximum Diurnal Average: 0.8 ppb at hour 24

Minimum Diurnal Average: 0.6 ppb at hour 18

Monthly Average: 0.68 ppb

Percentiles: $P_1 = 0.4$ $P_{10} = 0.5$ $Q_1 = 0.6$ Median = 0.7 $Q_3 = 0.7$ $P_{90} = 0.8$ $P_{99} = 1.0$

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	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.7	0.8
2-Aug	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0	1	1	0	1	1	1	1	0.6	0.8
3-Aug	1	0	1	0	1	1	0	0	0	1	A	1	1	1	1	1	1	0	1	1	1	1	1	1	0.5	0.9
4-Aug	0	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0.6	0.8
5-Aug	1	1	0	1	1	1	0	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.0
6-Aug	1	1	1	D	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
7-Aug	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	0.6	0.8
8-Aug	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0.7	1.0
9-Aug	1	1	1	1	A	1	1	C	C	C	C	1	0	1	0	1	1	0	0	1	1	1	1	1	0.6	1.3
10-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	0.7	0.8
11-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	0.7	1.1
12-Aug	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	0.8	4.1
13-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	0.7	1.0
14-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	0.7	1.1
15-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	A	1	1	0.7	0.9
16-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.8	1.3
17-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.7	0.9
18-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.7	1.0
19-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	1.0
20-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	0.7	0.8
21-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
22-Aug	1	1	1	1	1	1	1	1	0	1	0	1	1	1	A	1	1	0	0	1	1	1	1	1	0.6	0.7
23-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.7	0.9
24-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	0.7	0.8
25-Aug	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	1	1	1	1	1	1	0.6	0.8
26-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	0.7	0.8
27-Aug	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0.7	1.0
28-Aug	1	0	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0.6	0.9
29-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	0.6	0.8
30-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	0.8	1.1
31-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	0.7	0.9
	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.8	Diurnal Average	
	1.1	1.0	0.9	1.1	0.8	0.9	1.0	1.1	0.9	1.0	1.0	1.3	0.8	0.8	0.8	0.9	0.9	0.8	0.9	0.9	1.0	1.3	0.9	4.1	Diurnal Maximum	

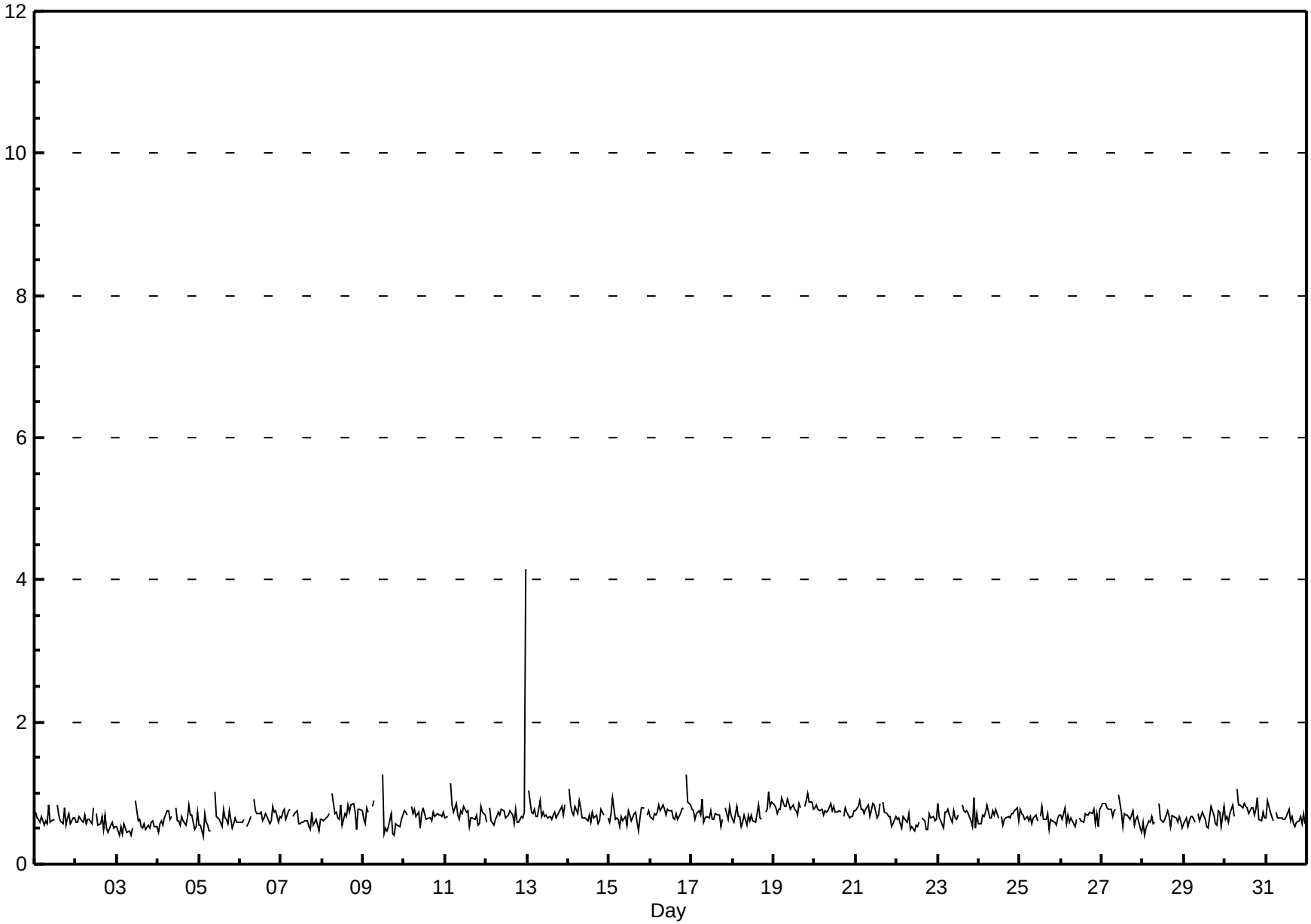
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Sunset House - August 2013

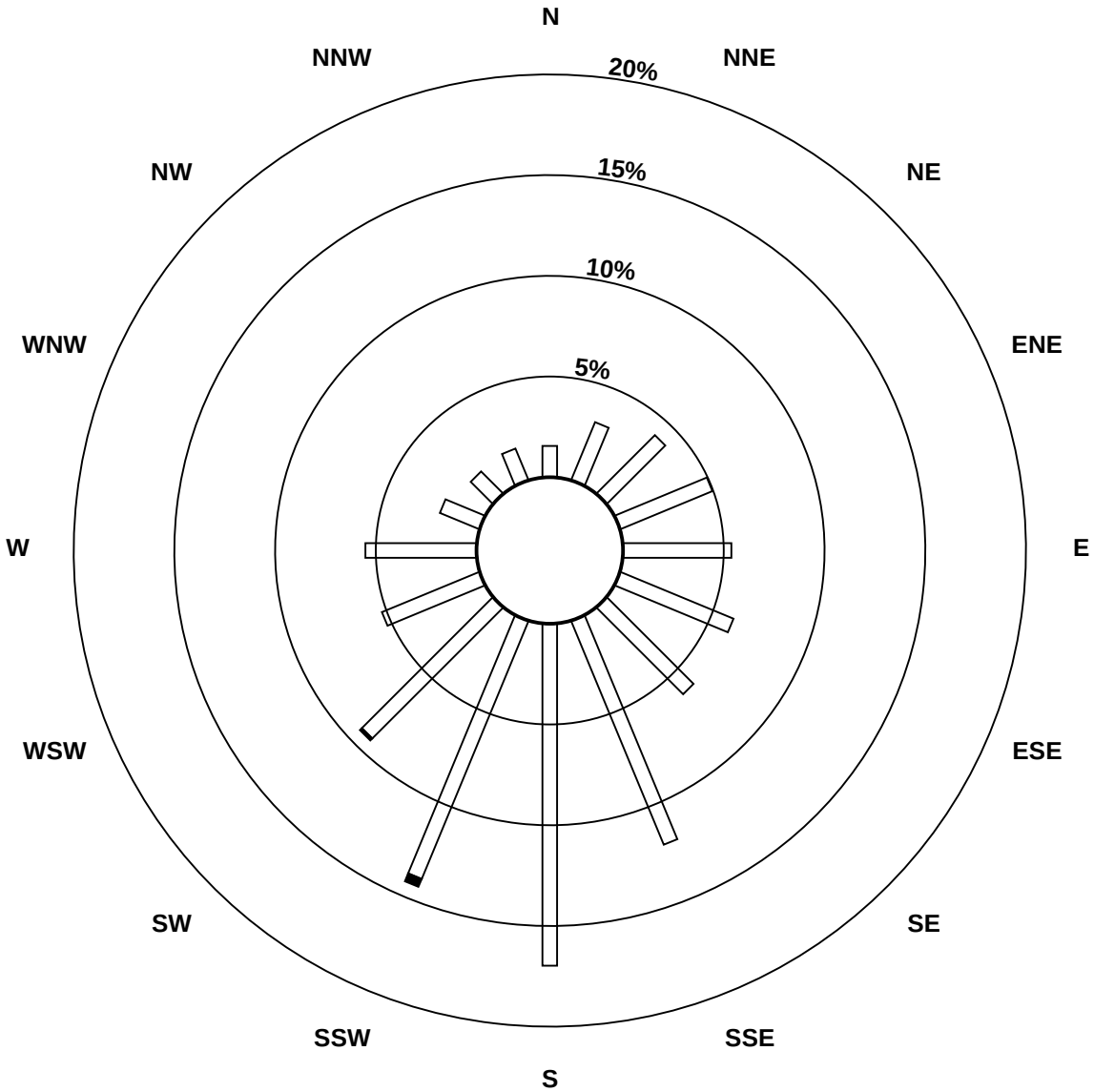


FOCUS AIR QUALITY MONITORING

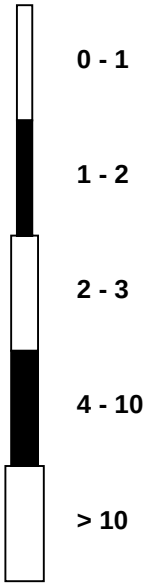
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Sunset House - August 2013



Pollutant Classes (ppb)

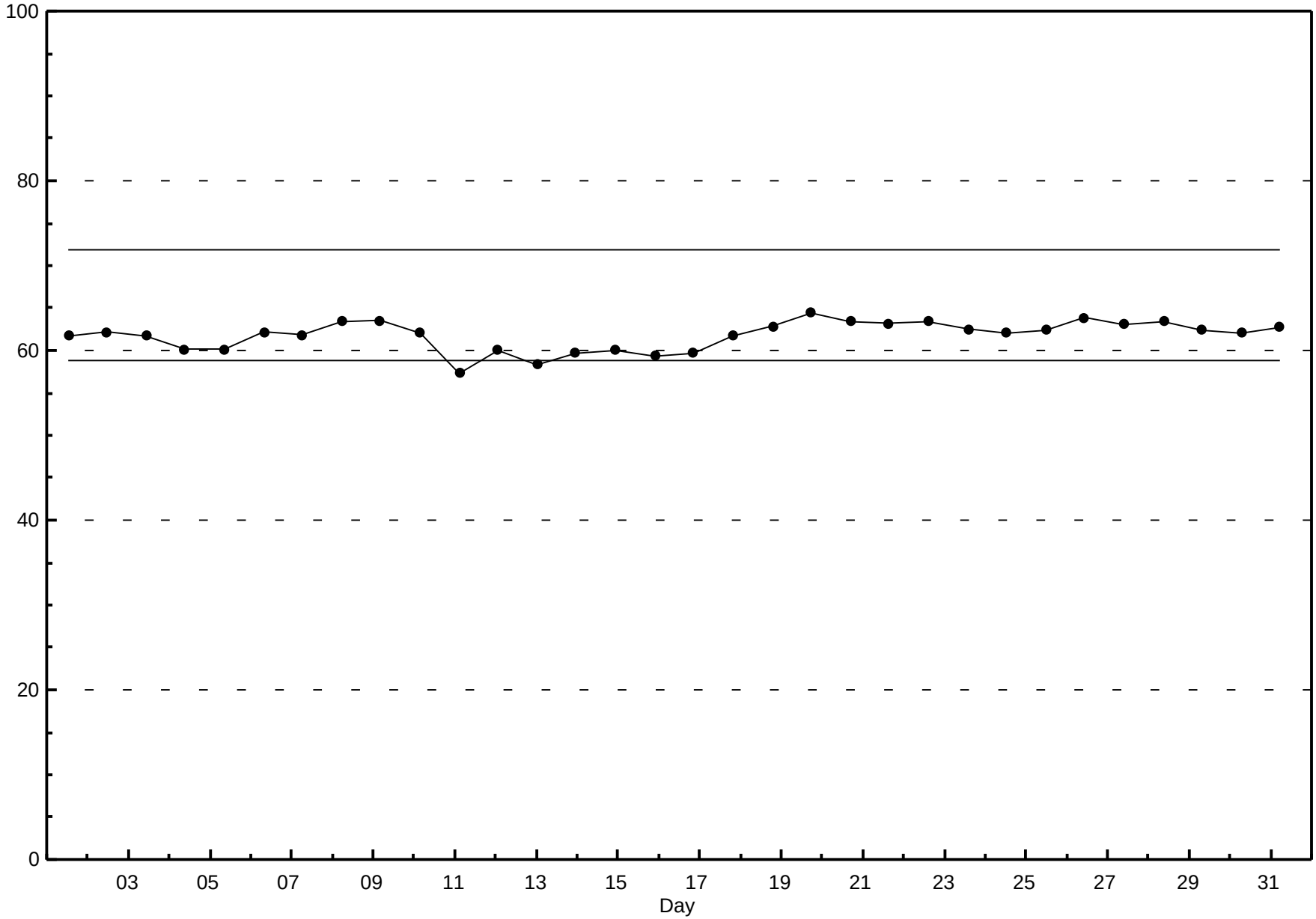


Peace Airshed Zone Association

Span Responses

Total Reduced Sulphur (TRS)

Sunset House - August 2013



Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Sunset House - August 2013

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

Maximum Value: 3.3 ppb on Aug 9 19:00 Maximum Daily Average: 1.6 ppb on Aug 9

Minimum Value: 0 ppb on Aug 20 13:00 Minimum Daily Average: 0.4 ppb on Aug 1

Maximum Diurnal Average: 1.3 ppb at hour 7 Minimum Diurnal Average: 0.7 ppb at hour 21

Monthly Average: 0.94 ppb Percentiles: $P_1 = 0.2$ $P_{10} = 0.4$ $Q_1 = 0.6$ Median = 0.8 $Q_3 = 1.2$ $P_{90} = 1.6$ $P_{99} = 2.7$

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	0	0	0	0	1	0	0	0	0	0	0	0	A	2	1	1	1	0	0	0	0	0	0	0	0.4	1.6
2-Aug	0	0	0	1	1	1	1	2	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	2	0.9	2.3
3-Aug	2	2	1	1	1	1	2	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1.2	2.3
4-Aug	1	1	1	1	1	1	1	1	1	A	2	2	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.3
5-Aug	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	0	0	1	1	1	1	0	0.8	2.0
6-Aug	1	1	0	D	1	1	1	A	3	2	1	1	1	1	0	0	0	0	0	0	0	1	1	1	0.8	2.7
7-Aug	1	1	1	1	1	1	A	2	1	1	1	1	1	0	0	0	1	1	1	0	0	0	1	1	0.7	1.9
8-Aug	0	1	0	0	1	A	2	1	1	2	C	C	C	C	C	C	3	2	1	1	1	1	2	2	--	2.9
9-Aug	1	1	1	1	A	3	2	2	3	1	1	2	1	1	1	1	1	1	3	2	1	2	3	2	1.6	3.3
10-Aug	2	2	1	A	3	2	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.3	2.8
11-Aug	1	1	A	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	0.9	2.7
12-Aug	1	A	2	1	1	1	2	2	2	1	1	1	1	1	1	1	0	1	1	1	0	0	1	1	1.1	2.2
13-Aug	A	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	A	1.2	2.5
14-Aug	3	2	2	2	2	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1.3	2.9
15-Aug	1	1	1	1	1	1	2	1	1	2	2	2	1	1	1	1	1	1	0	1	1	A	2	1	1.1	2.1
16-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	A	2	1	1	0.9	2.3
17-Aug	1	1	1	1	1	1	2	1	1	1	1	1	1	0	0	1	1	1	1	A	2	1	1	1	0.9	2.0
18-Aug	1	1	1	2	1	1	1	1	1	1	0	0	0	0	1	0	1	0	A	2	1	1	1	1	0.8	2.0
19-Aug	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	A	2	1	1	1	1	1	0.7	1.6
20-Aug	1	1	1	1	1	1	1	0	0	0	0	1	0	0	0	1	A	2	1	1	1	1	1	1	0.6	1.5
21-Aug	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	A	2	1	1	1	1	0	0	1	0.7	1.7
22-Aug	2	2	2	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	2	1	1	1	1	1.1	2.1
23-Aug	1	1	1	1	1	0	0	0	0	1	0	0	0	A	2	1	1	1	1	1	1	1	0	0	0.7	1.9
24-Aug	1	1	1	1	1	1	2	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	0	0	1.0	2.0
25-Aug	0	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	0	0	0.7	1.8
26-Aug	0	0	0	0	0	0	0	0	0	0	A	2	1	1	1	1	1	1	0	0	0	0	0	0	0.5	1.6
27-Aug	0	1	1	1	1	2	2	2	2	A	2	2	1	1	1	1	1	1	1	1	0	0	0	1	1.1	2.4
28-Aug	0	1	1	1	1	1	2	1	A	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1.1	2.8
29-Aug	1	1	1	1	1	1	2	A	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.1
30-Aug	1	1	1	1	1	1	A	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.3
31-Aug	1	1	1	2	2	A	3	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.8	2.9
	0.9	0.9	0.9	1.0	1.0	1.1	1.3	1.2	1.2	1.1	1.0	1.0	0.9	0.9	0.8	0.8	0.8	0.8	0.9	0.8	0.7	0.8	0.9	0.9	Diurnal Average	
	2.9	2.5	2.2	2.7	2.8	2.5	2.9	2.3	2.7	2.8	2.4	2.1	1.9	2.0	1.9	1.8	2.9	1.7	3.3	2.1	2.0	2.3	2.7	2.5	Diurnal Maximum	

C - Calibration D - DAS Failure A - Automated Daily Zero Span

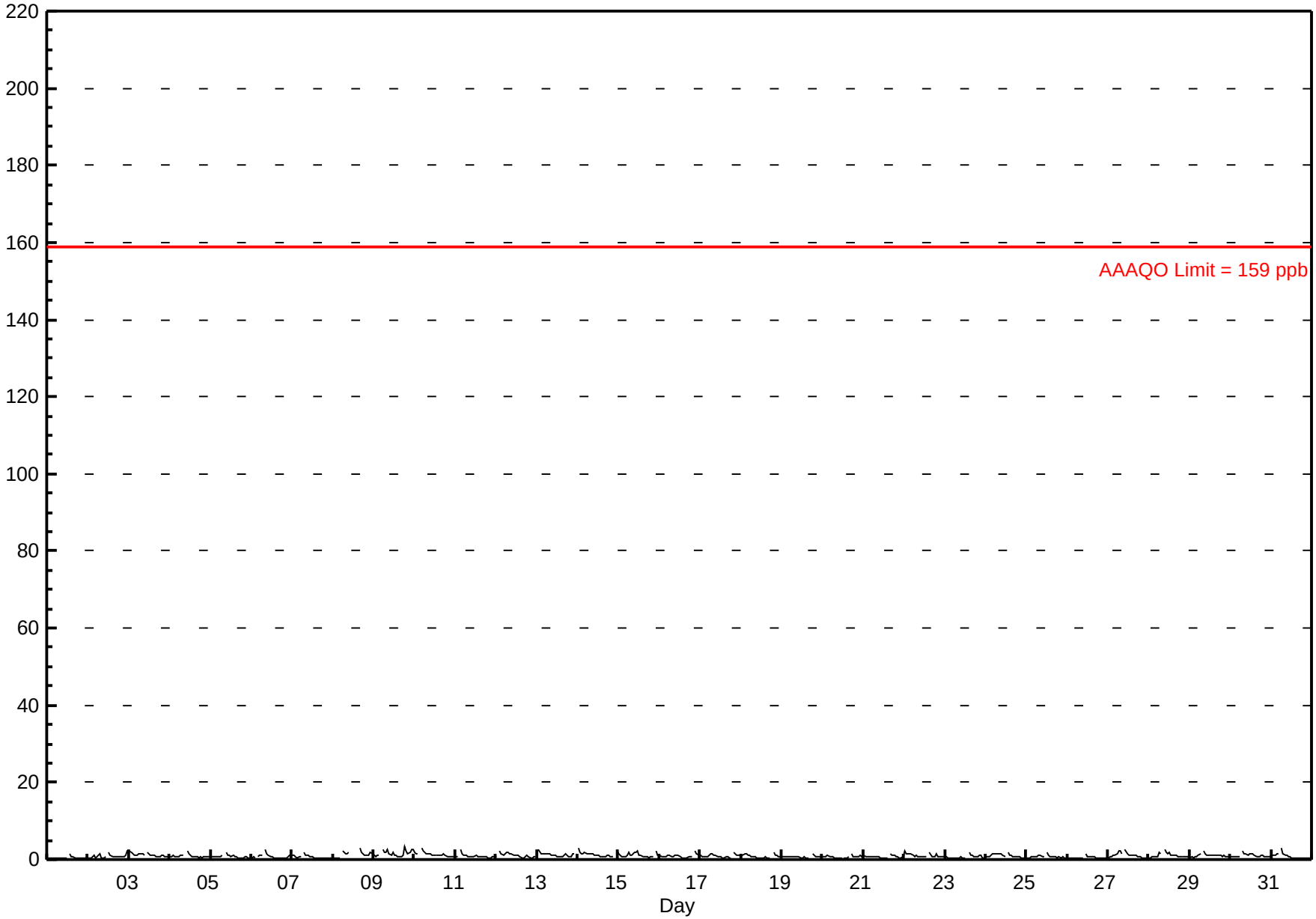
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb

Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Sunset House - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Sunset House - August 2013

Maximum Value: 42.9 ppb on Aug 9 19:00

Maximum Daily Average: 6.5 ppb on Aug 9

Minimum Value: 0 ppb on Aug 1 23:00

Minimum Daily Average: 0.8 ppb on Aug 26

Maximum Diurnal Average: 3.7 ppb at hour 12

Minimum Diurnal Average: 1.2 ppb at hour 22

Monthly Average: 1.72 ppb

Percentiles: $P_1 = 0.4$ $P_{10} = 0.7$ $Q_1 = 0.9$ Median = 1.2 $Q_3 = 1.7$ $P_{90} = 2.7$ $P_{99} = 14.2$

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	0	1	1	0	1	1	1	1	0	A	3	1	1	1	1	2	1	0	1	0	1	0.8	2.6
2-Aug	1	1	1	1	1	1	2	2	1	1	1	A	3	2	1	1	1	1	1	1	1	1	2	3	1.3	3.3
3-Aug	3	2	2	1	1	2	2	2	2	2	A	3	2	2	3	1	1	1	1	2	1	1	1	1	1.7	3.3
4-Aug	1	1	2	1	1	2	1	1	2	A	3	3	2	1	1	1	18	1	1	1	1	1	1	1	2.1	17.7
5-Aug	1	1	1	1	1	1	1	1	A	3	2	3	6	19	9	1	1	1	1	1	1	1	1	1	2.5	18.5
6-Aug	2	1	1	D	1	2	1	A	4	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1.2	4.2
7-Aug	1	2	1	1	1	1	A	4	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1.1	3.5
8-Aug	1	1	1	1	1	A	4	2	2	2	C	C	C	C	C	C	4	2	2	1	1	1	2	2	--	4.0
9-Aug	1	1	1	1	A	4	2	3	3	3	2	35	1	1	1	1	2	13	43	21	2	3	3	3	6.5	42.9
10-Aug	2	2	2	A	4	2	2	2	2	8	1	1	1	1	1	2	2	9	1	1	1	1	1	1	2.3	8.9
11-Aug	1	1	A	5	2	2	2	1	1	1	1	1	2	1	2	1	1	6	4	1	1	1	1	1	1.7	5.7
12-Aug	1	A	4	2	2	2	2	2	2	2	1	1	2	4	5	1	1	2	4	2	1	1	1	1	1.9	5.3
13-Aug	A	3	3	2	2	2	2	2	1	1	1	1	1	1	2	1	2	4	1	1	1	2	2	A	1.7	3.6
14-Aug	4	3	2	2	3	2	2	2	2	2	2	1	1	1	1	1	1	5	2	2	1	1	A	4	1.9	4.8
15-Aug	2	1	1	1	1	2	3	1	2	2	2	3	2	1	1	1	1	1	1	5	8	A	3	2	2.2	7.6
16-Aug	1	1	1	1	1	2	1	1	1	1	1	11	1	1	1	1	1	1	1	1	A	4	2	2	1.7	11.3
17-Aug	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	4	6	1	3	A	4	2	2	2	1.8	6.4
18-Aug	1	2	2	2	2	1	1	1	1	1	1	1	1	2	4	1	1	1	A	4	2	1	1	1	1.4	4.0
19-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	1	0	A	3	1	1	1	1	1	1.0	2.6
20-Aug	1	1	1	1	1	1	1	1	1	0	4	18	1	0	2	4	A	3	1	1	1	1	2	1	2.1	17.9
21-Aug	2	1	1	1	1	1	1	1	1	1	1	1	1	0	0	A	3	1	1	1	1	1	0	1	1.0	2.9
22-Aug	3	2	2	2	2	1	1	1	1	1	1	1	1	1	A	3	1	1	1	8	2	1	1	1	1.7	7.8
23-Aug	1	1	1	1	1	1	1	1	1	1	1	0	1	A	3	2	1	1	2	2	2	2	1	1	1.1	3.0
24-Aug	1	1	1	1	2	2	2	2	2	2	2	1	A	3	2	1	1	1	1	1	1	1	1	1	1.3	3.1
25-Aug	1	1	1	1	1	1	1	1	1	1	1	A	3	1	1	1	1	1	1	1	1	1	1	1	1.1	3.0
26-Aug	1	1	1	1	1	1	0	0	1	0	A	2	1	1	1	1	1	1	1	1	1	1	1	1	0.8	2.5
27-Aug	1	1	1	1	2	2	3	2	2	A	4	2	2	1	1	1	1	1	2	2	1	1	1	1	1.5	3.6
28-Aug	1	1	1	1	1	1	2	2	A	4	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1.4	4.1
29-Aug	1	1	1	1	2	1	15	A	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2.0	15.5
30-Aug	1	2	1	1	1	1	A	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1.4	3.4
31-Aug	1	1	1	2	2	A	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	4.4
	1.3	1.3	1.2	1.3	1.4	1.5	2.2	1.6	1.6	1.8	1.6	3.7	1.5	2.0	1.8	1.3	1.9	2.1	2.8	2.2	1.4	1.2	1.2	1.2	Diurnal Average	
	4.3	3.4	3.7	4.6	4.3	3.9	15.5	3.5	4.2	8.5	4.5	35.1	6.0	18.5	8.7	4.3	17.7	13.3	42.9	20.6	7.6	3.9	3.4	3.7	Diurnal Maximum	

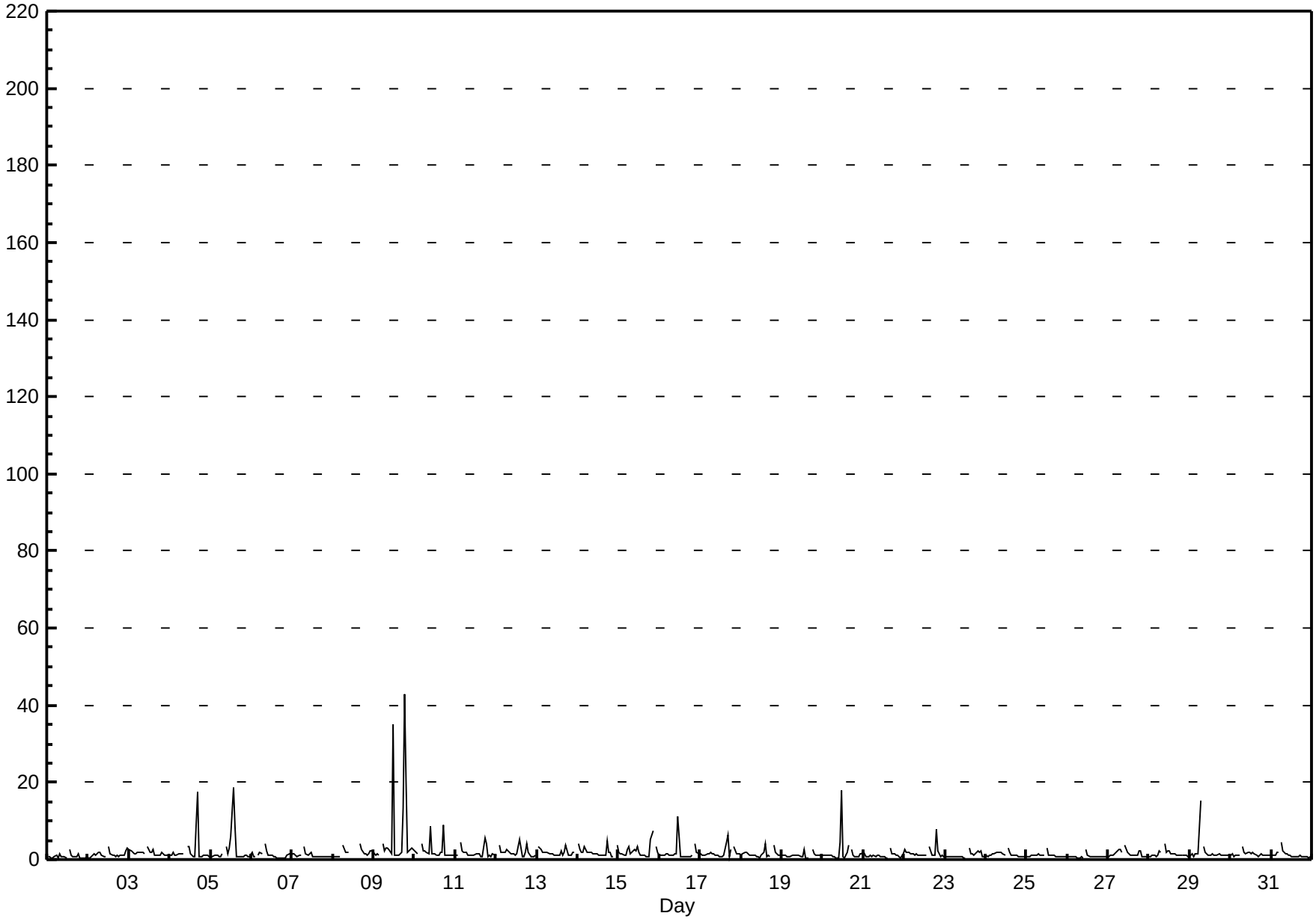
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Sunset House - August 2013

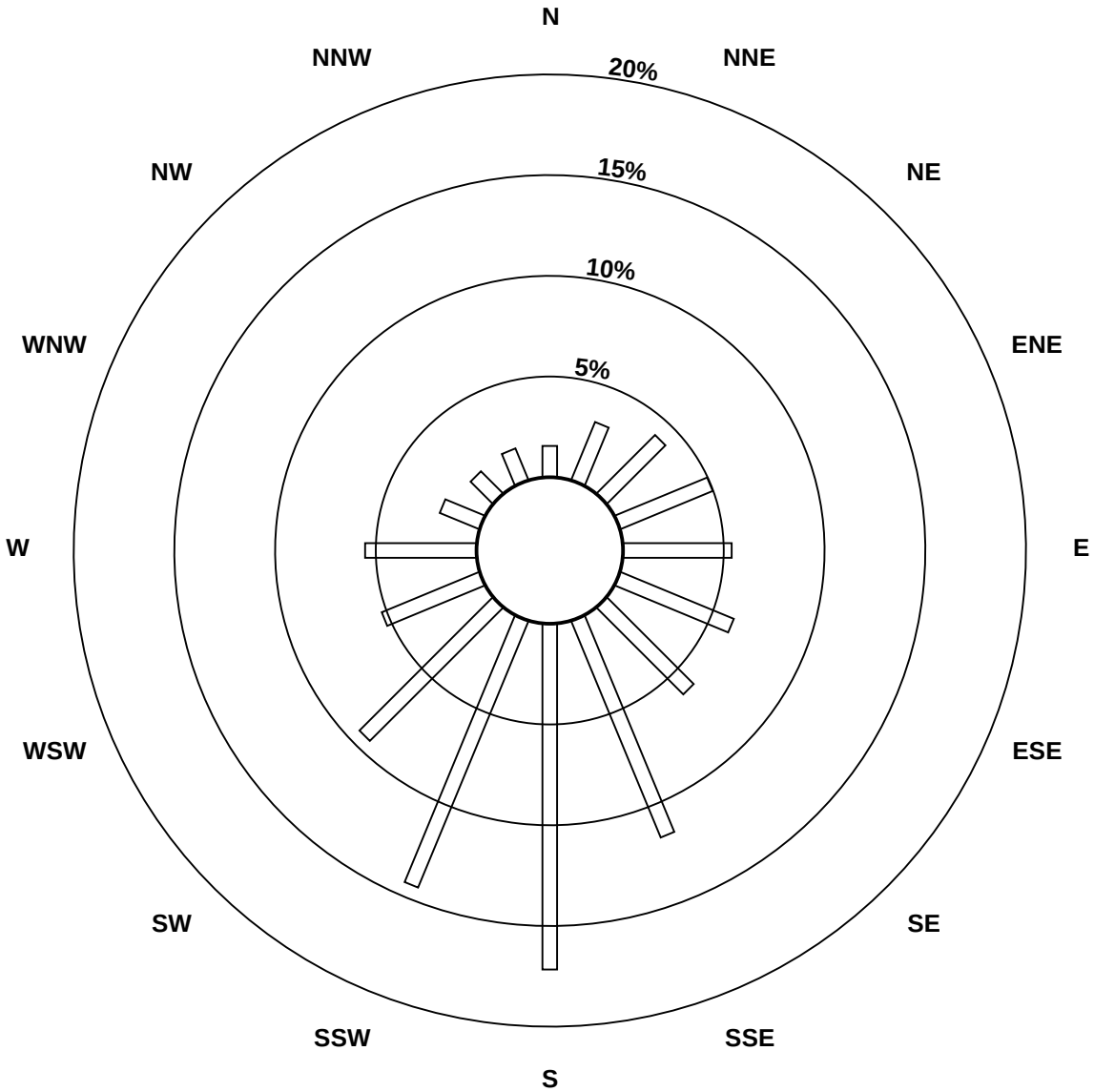


FOCUS AIR QUALITY MONITORING

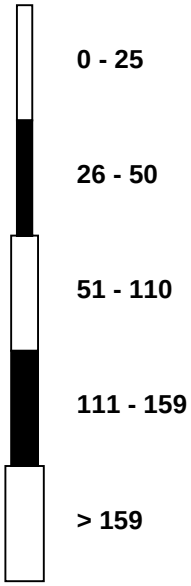
Pollutant Rose

Nitrogen Dioxide (NO_2) - ppb

Sunset House - August 2013



Pollutant Classes (ppb)

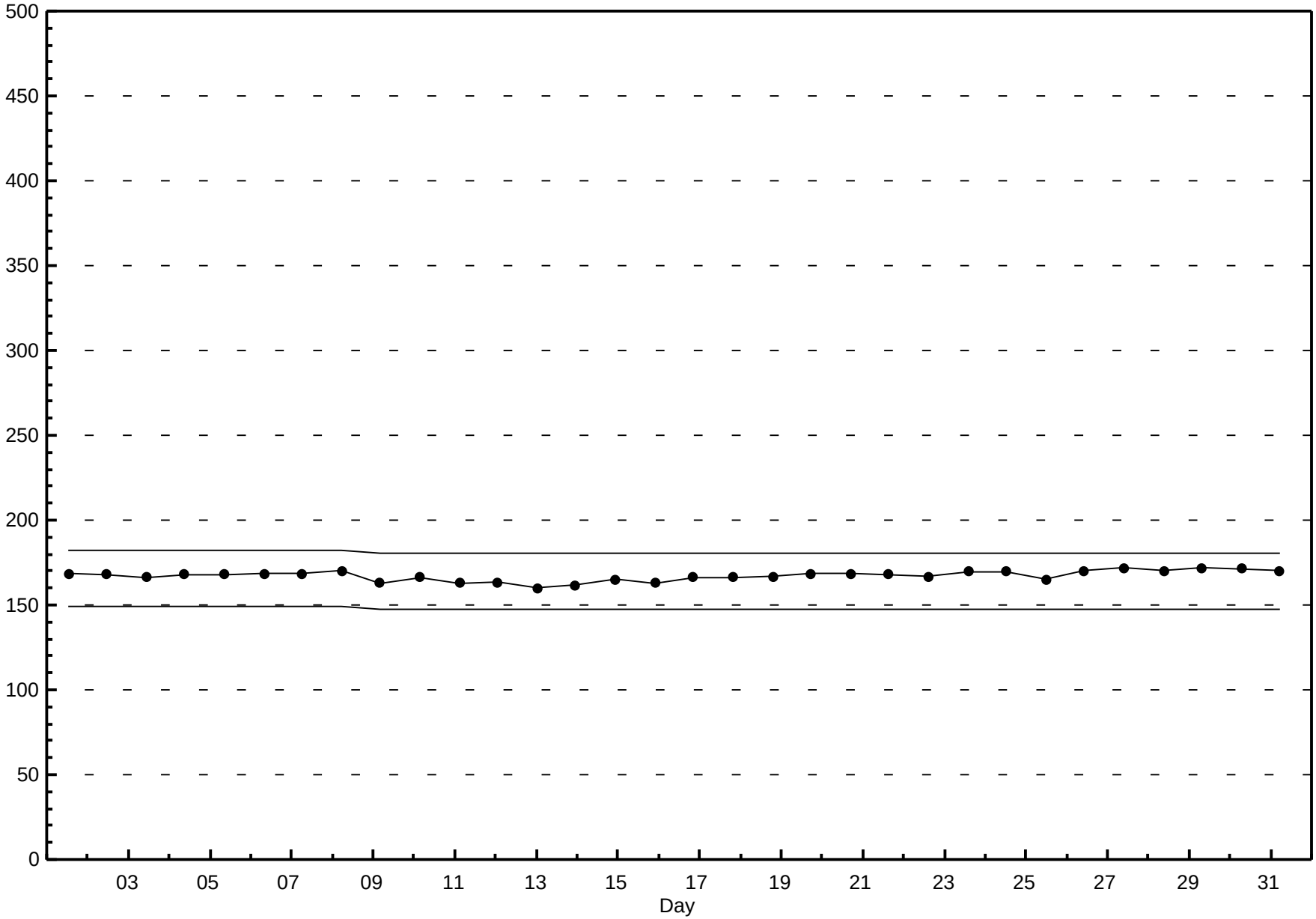


Peace Airshed Zone Association

Span Responses

Nitrogen Dioxide (NO_2)

Sunset House - August 2013



Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Sunset House - August 2013

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

Maximum Value: 4.0 ppb on Aug 9 19:00 Maximum Daily Average: 0.3 ppb on Aug 9

Minimum Value: 0 ppb on Aug 4 15:00 Minimum Daily Average: 0.0 ppb on Aug 7

Maximum Diurnal Average: 0.2 ppb at hour 9 Minimum Diurnal Average: 0.0 ppb at hour 17

Monthly Average: 0.10 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.1 $Q_3 = 0.1$ $P_{90} = 0.2$ $P_{99} = 0.7$

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	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
2-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
3-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
4-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	0.2
5-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
6-Aug	0	0	0	D	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.3
7-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	0.0
8-Aug	0	0	0	0	0	A	0	0	0	1	C	C	C	C	C	C	0	0	0	0	0	0	0	0	--	0.6
9-Aug	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	4	1	0	0	0	0	0.3	4.0
10-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	0.5
11-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
12-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	0.4
13-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
14-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
15-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	0.4
16-Aug	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	A	0	0	0	0.1	1.1
17-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	0.1	0.5
18-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
19-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
20-Aug	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	A	0	0	0	0	0	0	0	0.2	0.9
21-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	0.1	0.3
22-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	0.1	0.3
23-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	0.1	0.2
24-Aug	0	0	0	0	0	0	0	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
25-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
26-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	0.1
27-Aug	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
28-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	0.4
29-Aug	0	0	0	0	0	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.9
30-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
31-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
	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.1	0.0	0.0	0.1	0.1	Diurnal Average	
	0.1	0.1	0.2	0.1	0.2	0.2	0.9	0.4	0.5	0.6	0.7	1.1	0.9	0.3	0.2	0.5	0.1	0.7	4.0	0.9	0.1	0.1	0.1	0.1	Diurnal Maximum	

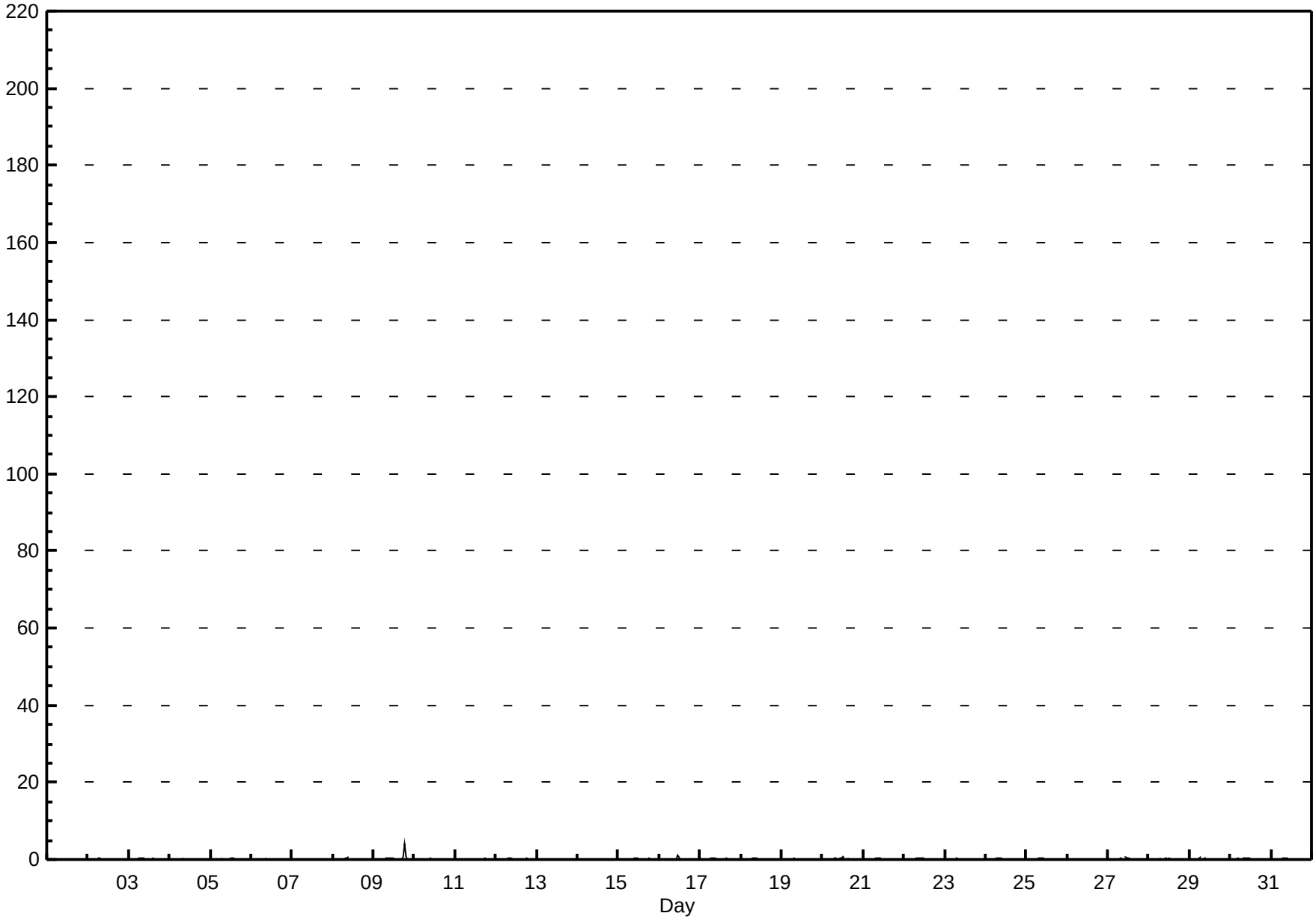
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Sunset House - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Sunset House - August 2013

Maximum Value: 74.1 ppb on Aug 9 19:00

Maximum Daily Average: 6.5 ppb on Aug 9

Minimum Value: 0 ppb on Aug 8 17:00

Minimum Daily Average: 0.2 ppb on Aug 7

Maximum Diurnal Average: 3.5 ppb at hour 19

Minimum Diurnal Average: 0.2 ppb at hour 22

Monthly Average: 0.82 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.1$ $Q_1 = 0.2$ Median = 0.2 $Q_3 = 0.3$ $P_{90} = 0.5$ $P_{99} = 19.6$

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	0	0	0	0	0	0	0	2	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	1.8
2-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	0.5
3-Aug	0	0	0	0	0	0	0	0	0	0	A	0	0	1	1	0	0	0	0	0	0	0	0	0	0.3	1.2
4-Aug	0	0	0	0	0	0	0	0	0	A	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0.3	1.6
5-Aug	0	0	0	0	0	0	0	1	A	0	0	1	10	7	6	0	0	0	0	0	0	0	0	0	1.2	10.4
6-Aug	0	0	0	D	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
7-Aug	0	0	0	0	0	0	A	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	0	A	0	0	1	1	C	C	C	C	C	C	0	0	0	0	0	0	0	0	--	0.9
9-Aug	0	0	0	0	A	0	0	0	1	0	0	12	0	0	0	0	4	31	74	23	0	0	0	0	6.5	74.1
10-Aug	0	0	0	A	0	0	0	0	0	10	0	0	0	0	0	2	0	4	0	0	0	0	0	0	0.8	9.8
11-Aug	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	0	0	0	0	0	0.4	5.0
12-Aug	0	A	0	0	0	0	0	0	0	0	0	0	0	2	3	0	0	1	3	0	0	0	0	0	0.6	3.0
13-Aug	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	A	0.2	0.6
14-Aug	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	A	0	0.3	1.8
15-Aug	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	20	5	1	A	0	0	1.4	20.5
16-Aug	0	0	0	0	0	0	0	0	0	0	0	44	0	0	0	0	0	0	0	0	A	0	0	0	2.1	43.6
17-Aug	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	2	1	0	3	A	0	0	0	0	0.6	2.6
18-Aug	0	0	0	0	0	0	0	0	0	3	0	0	0	1	2	0	0	0	A	0	1	0	0	0	0.5	3.4
19-Aug	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	A	0	0	0	0	0	0	0.4	1.6
20-Aug	0	0	0	0	0	0	0	0	1	0	4	21	49	1	3	8	A	0	0	0	0	0	0	0	3.9	49.0
21-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
22-Aug	0	0	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0.3	0.8
23-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	2	0	0	0	0	0.3	2.3
24-Aug	0	0	0	0	0	0	0	1	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
25-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	0.3	0.4
26-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	0.3	0.4
27-Aug	0	0	0	0	0	0	0	1	1	A	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0.4	1.3
28-Aug	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
29-Aug	0	0	0	0	0	0	29	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.5	29.4
30-Aug	0	0	0	0	1	0	A	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.8
31-Aug	0	0	0	0	0	A	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.3	0.7
	0.2	0.2	0.2	0.2	0.3	0.3	1.3	0.4	0.4	0.9	0.5	3.1	2.4	0.6	0.7	0.6	0.4	1.5	3.5	1.2	0.2	0.2	0.2	0.2	Diurnal Average	
	0.3	0.4	0.4	0.5	1.3	0.5	29.4	1.8	0.8	9.8	3.6	43.6	49.0	6.5	6.2	8.2	4.1	31.0	74.1	23.5	1.4	0.3	0.3	0.3	Diurnal Maximum	

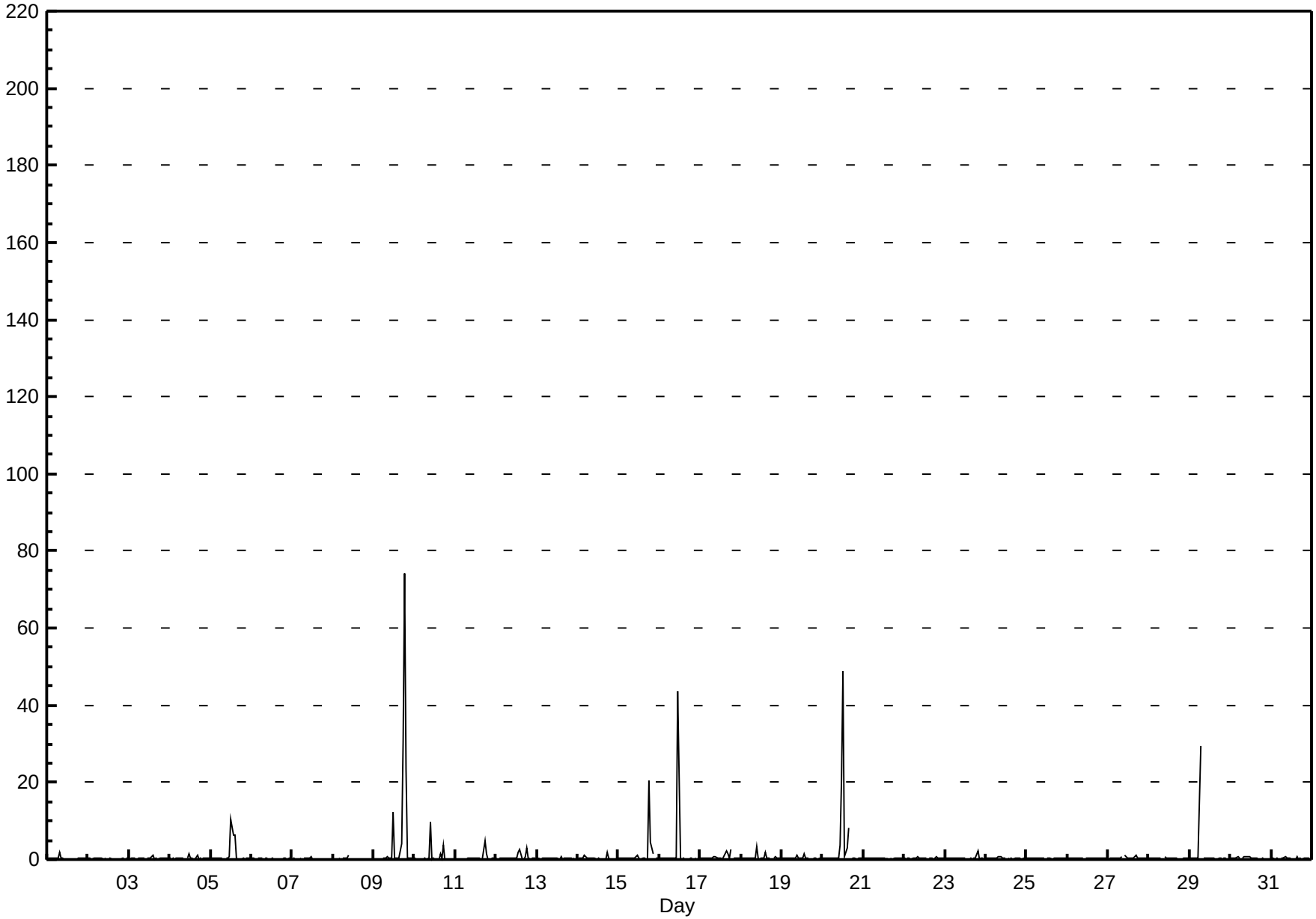
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Sunset House - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Sunset House - August 2013

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

Maximum Value: 7.3 ppb on Aug 9 19:00 Maximum Daily Average: 1.9 ppb on Aug 9

Minimum Value: 0 ppb on Aug 1 12:00 Minimum Daily Average: 0.5 ppb on Aug 1

Maximum Diurnal Average: 1.5 ppb at hour 7 Minimum Diurnal Average: 0.8 ppb at hour 21

Monthly Average: 1.03 ppb Percentiles: P_1 = 0.3 P_{10} = 0.5 Q_1 = 0.6 Median = 0.9 Q_3 = 1.3 P_{90} = 1.8 P_{99} = 2.9

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	0	0	0	1	1	0	0	1	0	0	0	A	2	1	1	1	0	0	0	0	0	0	0	0.5	1.6
2-Aug	0	0	1	1	1	1	1	2	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	2	1.0	2.4
3-Aug	2	2	1	1	1	1	2	2	2	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1.3	2.4
4-Aug	1	1	1	1	1	1	1	1	1	A	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.5
5-Aug	1	1	1	1	1	1	1	1	A	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	0.9	2.2
6-Aug	1	1	1	D	1	1	1	A	3	2	1	1	1	1	0	0	0	0	0	0	0	1	1	1	0.8	2.9
7-Aug	1	1	1	1	1	1	A	2	1	1	1	1	1	0	0	0	0	0	1	0	0	0	1	1	0.7	1.9
8-Aug	0	1	0	1	1	A	2	2	2	2	C	C	C	C	C	C	2	1	1	1	1	1	2	1	--	2.4
9-Aug	1	1	1	1	A	3	2	2	3	2	1	2	1	1	1	1	1	2	7	3	1	2	3	3	1.9	7.3
10-Aug	2	2	1	A	3	2	2	2	1	2	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1.3	2.9
11-Aug	1	1	A	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	0.9	2.7
12-Aug	1	A	2	1	1	2	2	2	2	2	1	1	1	1	1	1	0	1	1	1	0	0	1	1	1.1	2.2
13-Aug	A	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	A	1.3	2.5
14-Aug	3	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1.4	3.0
15-Aug	1	1	1	1	1	1	2	1	1	2	2	2	1	1	1	1	1	1	1	1	1	A	2	1	1.2	2.4
16-Aug	1	1	1	1	1	1	1	1	1	1	1	2	1	1	0	0	0	1	1	1	A	2	2	1	1.0	2.4
17-Aug	1	1	1	1	1	1	2	2	2	1	1	1	1	0	0	1	1	1	1	A	2	1	1	1	1.1	2.1
18-Aug	1	1	2	2	1	1	1	1	1	1	1	0	0	1	1	0	1	0	A	2	1	1	1	1	0.9	2.1
19-Aug	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	A	2	1	1	1	1	1	0.8	1.7
20-Aug	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	1	A	2	1	1	1	1	1	1	0.8	1.5
21-Aug	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	A	2	1	1	1	1	0	0	1	0.8	1.8
22-Aug	2	2	2	2	2	1	1	1	1	1	1	1	1	1	A	2	1	1	1	2	1	1	1	1	1.2	2.2
23-Aug	1	1	1	1	1	1	1	1	1	1	1	0	0	A	2	1	1	1	1	1	1	1	1	1	0.8	2.0
24-Aug	1	1	1	1	1	1	2	2	2	2	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1.1	2.1
25-Aug	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	0.8	1.8
26-Aug	1	1	1	1	1	0	0	0	1	0	A	2	1	1	1	1	1	1	1	1	0	0	0	0	0.6	1.7
27-Aug	1	1	1	1	1	2	2	3	2	A	3	2	2	1	1	1	1	1	1	1	1	0	0	1	1.3	3.1
28-Aug	1	1	1	1	1	1	2	2	A	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1.2	3.3
29-Aug	1	1	1	1	1	1	2	A	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	2.4
30-Aug	1	1	1	1	1	1	A	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1.2	2.5
31-Aug	1	1	1	2	2	A	3	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.9	3.0
	1.0	1.0	1.0	1.0	1.1	1.1	1.5	1.4	1.4	1.4	1.2	1.2	1.0	1.0	0.9	0.8	0.8	0.8	1.0	0.9	0.8	0.8	0.9	0.9	Diurnal Average	
	3.0	2.5	2.2	2.7	2.9	2.6	3.0	2.5	2.9	3.3	3.1	2.4	2.1	2.1	2.0	1.9	2.4	1.7	7.3	3.0	2.1	2.4	2.8	2.5	Diurnal Maximum	

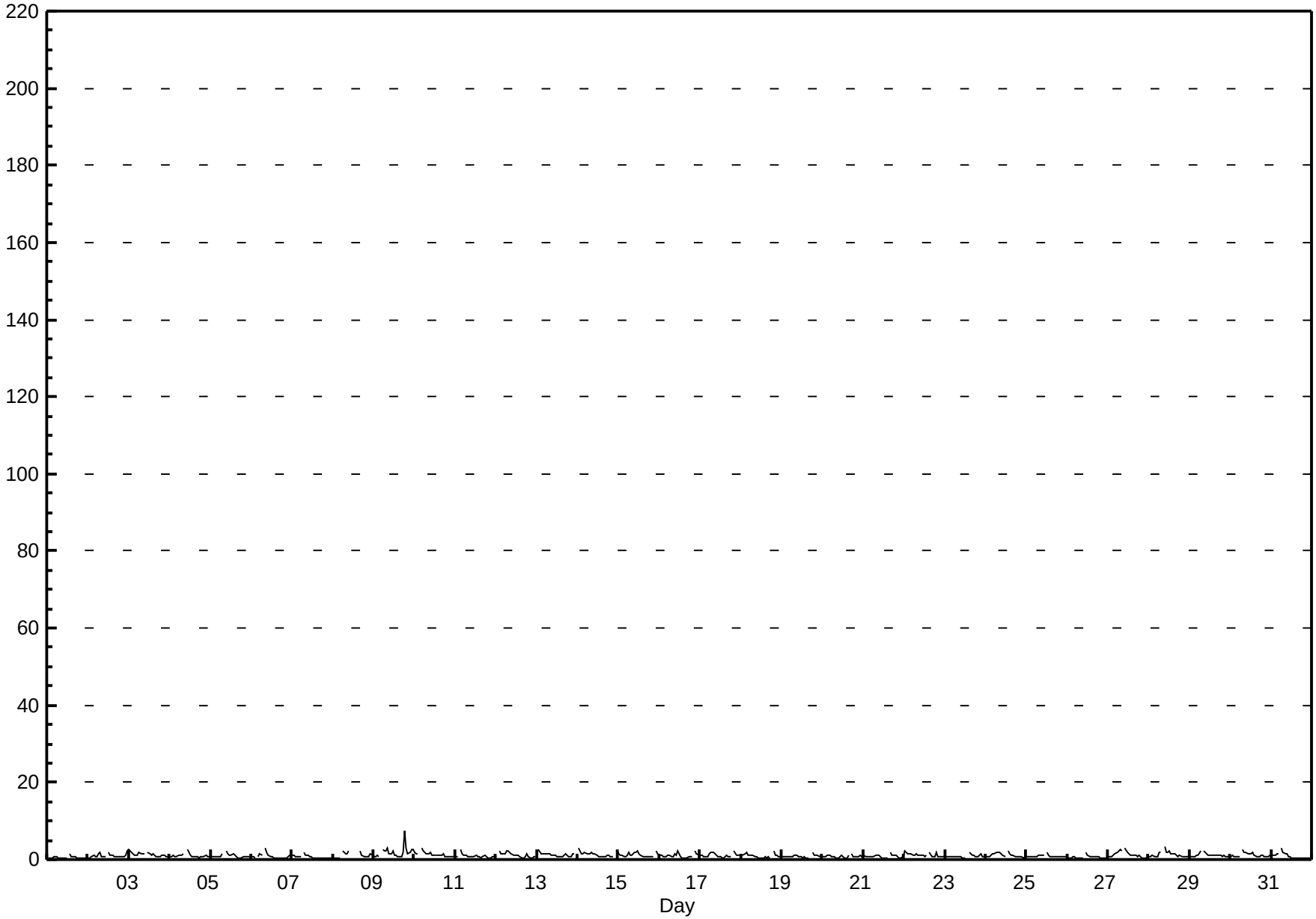
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Sunset House - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Sunset House - August 2013

Maximum Value: 118.0 ppb on Aug 9 19:00

Maximum Daily Average: 12.7 ppb on Aug 9

Minimum Value: 0 ppb on Aug 1 12:00

Minimum Daily Average: 0.9 ppb on Aug 26

Maximum Diurnal Average: 6.6 ppb at hour 12

Minimum Diurnal Average: 1.2 ppb at hour 22

Monthly Average: 2.28 ppb

Percentiles: $P_1 = 0.5$ $P_{10} = 0.7$ $Q_1 = 0.9$ Median = 1.2 $Q_3 = 1.8$ $P_{90} = 3.1$ $P_{99} = 36.5$

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	3	1	1	1	0	A	3	1	1	1	1	2	1	1	1	1	1	0.9	3.1
2-Aug	1	1	1	1	1	1	2	2	1	1	1	A	3	2	1	1	1	1	1	1	1	1	2	3	1.4	3.3
3-Aug	3	2	2	1	1	2	2	2	2	2	A	3	2	2	4	1	1	1	1	2	2	1	1	1	1.8	3.5
4-Aug	1	1	2	1	1	2	1	2	2	A	3	5	2	1	1	1	18	1	1	1	1	1	1	1	2.2	17.9
5-Aug	1	1	1	1	1	1	1	2	A	3	2	4	13	25	10	1	1	1	1	1	1	1	1	1	3.2	24.6
6-Aug	2	1	1	D	1	2	2	A	4	2	1	1	1	1	1	1	0	0	0	0	1	1	1	1	1.2	4.4
7-Aug	1	1	1	1	1	1	A	3	1	1	2	3	1	1	1	1	1	1	1	1	1	1	1	1	1.1	3.3
8-Aug	1	1	1	1	1	A	4	2	2	3	C	C	C	C	C	C	3	2	1	1	1	1	2	2	--	3.7
9-Aug	1	1	1	1	A	4	3	3	4	3	2	48	1	1	1	1	6	38	118	44	2	3	3	3	12.7	118.0
10-Aug	2	2	2	A	4	2	2	2	2	16	2	1	1	1	1	3	2	12	1	1	1	1	1	1	2.8	16.0
11-Aug	1	1	A	5	2	2	2	1	1	1	1	1	2	2	2	1	1	11	6	1	1	1	1	1	2.0	10.7
12-Aug	1	A	4	2	2	2	3	2	2	2	2	1	2	5	8	1	1	2	7	2	1	1	1	1	2.3	8.0
13-Aug	A	3	3	2	2	2	2	2	2	2	1	1	1	1	3	1	2	4	1	1	1	2	2	A	1.8	4.0
14-Aug	4	3	2	2	5	2	2	2	2	2	2	1	1	1	1	1	1	7	2	2	1	1	A	4	2.1	6.6
15-Aug	2	1	1	1	1	3	4	1	2	3	3	5	2	1	1	1	1	1	8	10	9	A	3	2	2.9	9.7
16-Aug	1	1	1	1	1	2	1	1	1	1	2	55	1	1	1	1	1	1	1	1	A	4	2	2	3.6	55.0
17-Aug	1	1	1	1	1	2	2	2	2	2	1	1	1	1	2	7	8	1	5	A	4	2	2	2	2.2	8.0
18-Aug	1	2	2	2	2	1	1	1	1	3	1	1	1	2	6	1	1	1	A	4	3	1	1	1	1.7	5.9
19-Aug	1	1	1	1	1	1	1	1	1	2	1	1	1	4	1	1	1	A	3	1	1	1	1	1	1.3	4.1
20-Aug	1	1	1	1	1	1	1	1	1	1	7	37	31	1	3	7	A	3	1	1	1	1	2	1	4.5	36.9
21-Aug	2	1	1	1	1	1	1	1	1	1	1	1	1	0	0	A	3	1	2	1	1	1	1	2	1.1	3.0
22-Aug	3	2	2	2	2	1	1	2	2	1	1	1	1	1	A	4	1	1	1	9	2	1	1	1	1.9	8.8
23-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	A	3	2	1	1	2	2	2	2	1	1	1.2	3.1
24-Aug	1	1	1	1	2	2	2	2	2	2	2	1	A	3	2	1	1	1	1	1	1	1	1	1	1.5	3.2
25-Aug	1	1	1	1	2	1	1	2	2	1	1	A	3	1	1	1	1	1	1	1	1	1	1	1	1.2	3.1
26-Aug	1	1	1	1	1	1	1	1	1	1	A	3	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.7
27-Aug	1	1	1	1	2	2	3	3	2	A	5	2	2	1	1	1	1	1	2	2	1	1	1	1	1.7	4.7
28-Aug	1	1	1	1	1	1	2	2	A	5	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1.5	4.7
29-Aug	1	2	1	2	2	2	45	A	4	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1	3.3	44.6
30-Aug	1	2	1	1	2	1	A	4	2	2	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1.6	3.6
31-Aug	1	1	1	2	2	A	4	2	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1.3	4.5
	1.4	1.3	1.3	1.4	1.5	1.6	3.3	1.9	1.8	2.4	1.8	6.6	2.9	2.4	2.1	1.5	2.2	3.3	5.8	3.2	1.4	1.2	1.2	1.3	Diurnal Average	
	4.4	3.4	3.8	4.7	4.6	4.0	44.6	3.6	4.4	16.0	6.7	55.0	31.0	24.6	10.0	6.7	17.9	37.7	118.0	43.8	9.2	3.9	3.4	3.8	Diurnal Maximum	

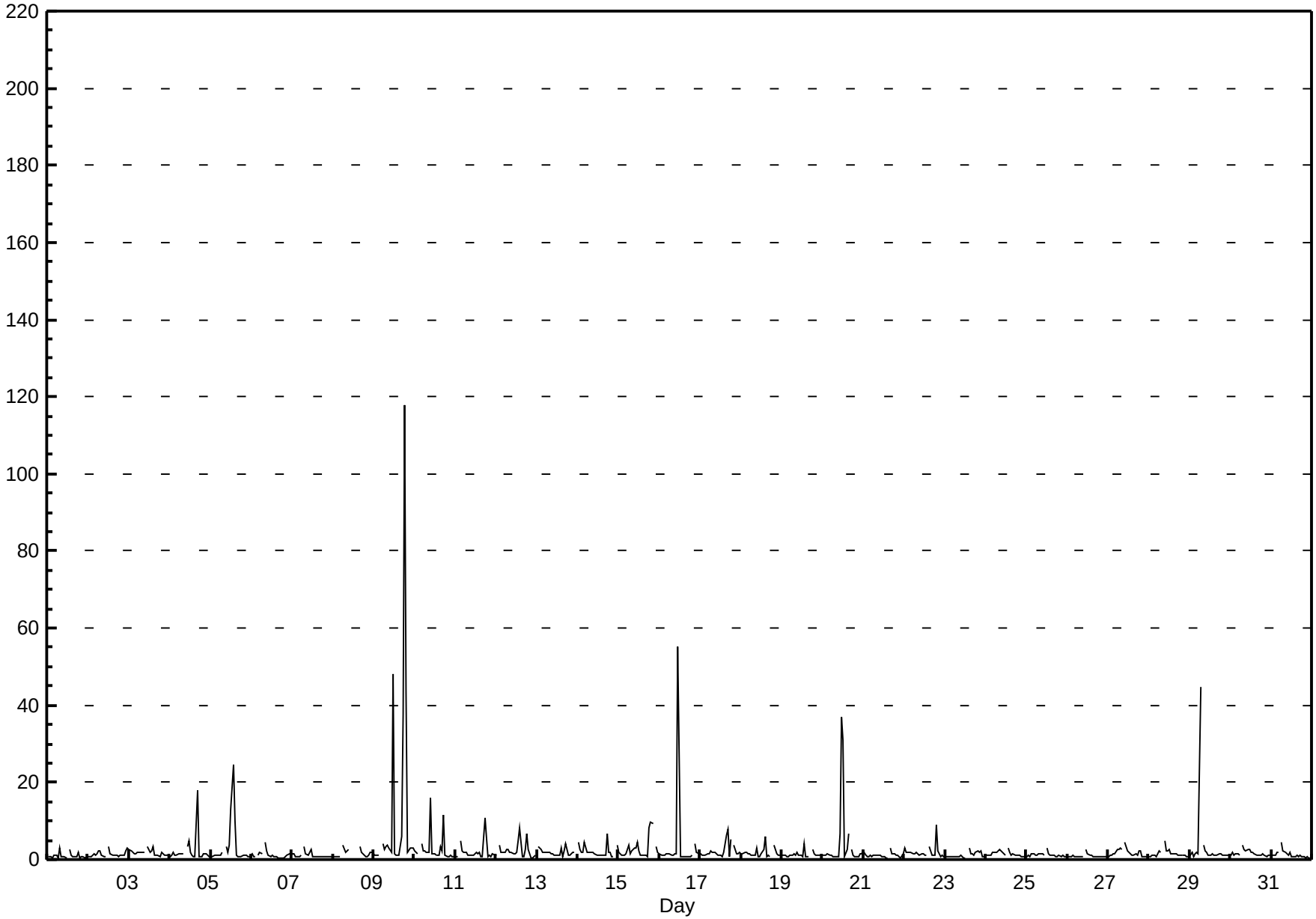
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Sunset House - August 2013



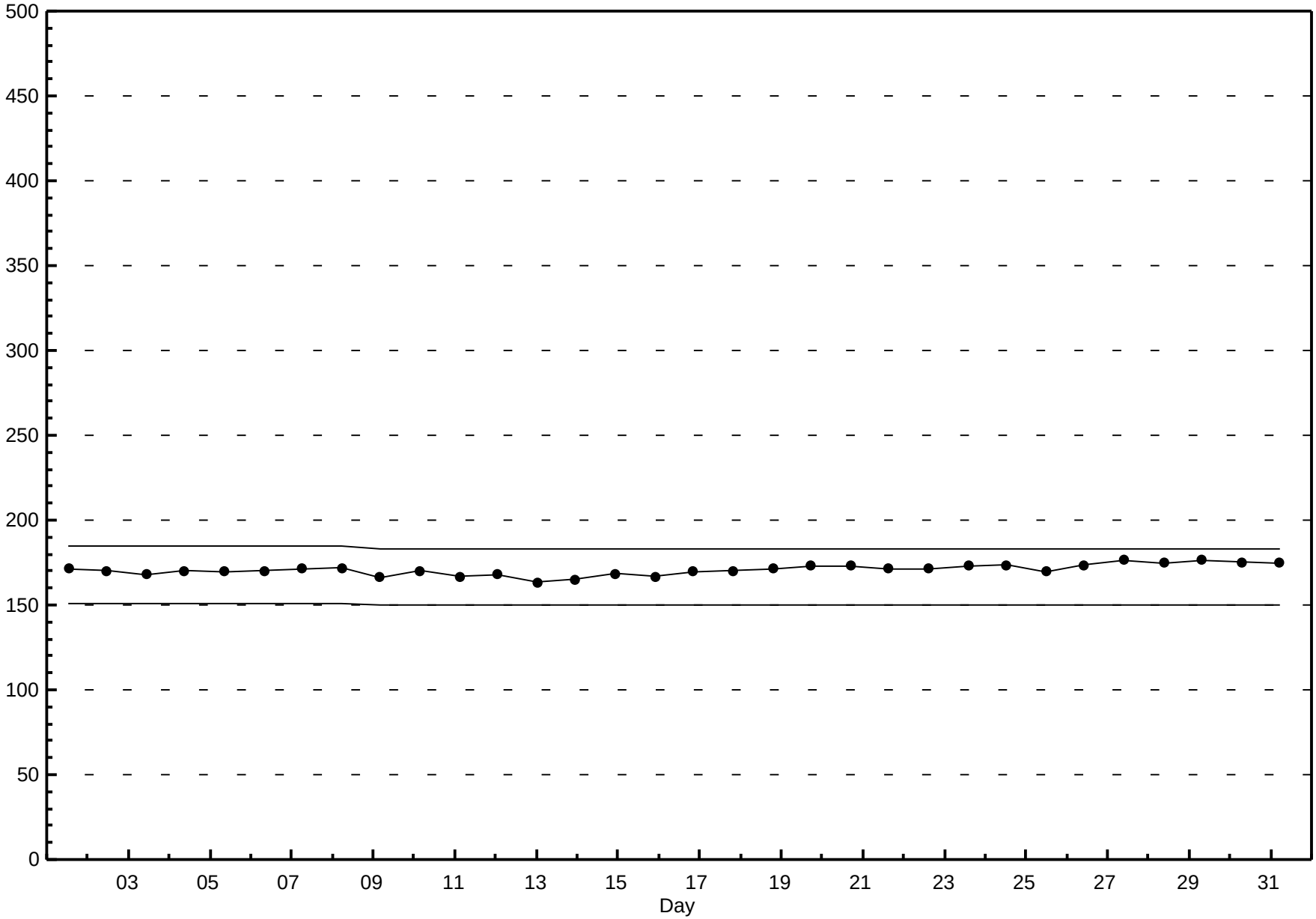
FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Span Responses

Oxides of Nitrogen (NO_X)

Sunset House - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Sunset House - August 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 42.7 ppb on Aug 14 18:00
Maximum Daily Average: 31.8 ppb on Aug 14

Minimum Value: 4 ppb on Aug 30 05:00
Maximum Diurnal Average: 32.1 ppb at hour 16
Monthly Average: 24.03 ppb

Minimum Daily Average: 13.8 ppb on Aug 30
Minimum Diurnal Average: 19.2 ppb at hour 5
Percentiles: P_1 = 6.9 P_{10} = 15.4 Q_1 = 18.8 Median = 23.6 Q_3 = 29.6 P_{90} = 33.0 P_{99} = 39.5

Hours in Service:	744
Hours of Data:	532
Hours of Missing Data:	212
Hours of Calibration:	30
Percent Operational Time:	75.5

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	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
2-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	--	--
3-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	--	--
4-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	--	--
5-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	--	--
6-Aug	N	N	N	D	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
7-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	--	--
8-Aug	N	N	N	N	N	N	N	N	N	N	N	N	C	C	C	C	C	C	33	31	26	26	25	26	--	33.3
9-Aug	28	27	27	27	A	27	23	M	M	22	23	27	29	31	32	33	33	33	33	31	32	31	30	30	29.0	33.5
10-Aug	30	31	30	A	29	28	27	28	27	28	28	30	31	32	33	32	33	33	32	28	23	18	19	24	28.5	33.4
11-Aug	20	21	A	18	19	16	19	18	18	22	21	20	22	26	29	28	29	27	25	31	26	21	20	20	22.4	31.1
12-Aug	25	A	21	19	18	21	21	23	24	29	30	32	32	34	37	39	32	30	24	21	16	23	33	39	27.0	38.7
13-Aug	A	34	35	34	32	31	26	26	23	27	26	31	33	33	35	37	35	27	21	21	22	38	29	A	29.7	37.7
14-Aug	36	26	25	31	28	25	27	26	25	30	36	40	38	38	42	42	42	43	37	20	17	23	A	35	31.8	42.7
15-Aug	35	23	20	19	15	21	21	20	21	15	18	22	28	28	28	34	33	33	34	25	16	A	15	16	23.5	35.2
16-Aug	17	17	16	13	15	16	18	21	22	22	26	29	33	34	34	37	34	31	32	20	A	22	23	23	24.1	36.6
17-Aug	24	23	24	23	22	19	18	17	17	21	25	28	30	32	32	30	30	28	29	A	13	15	15	19	23.2	32.4
18-Aug	19	18	16	17	19	20	20	23	23	24	28	32	33	36	36	34	31	32	A	28	25	23	23	23	25.4	36.1
19-Aug	24	24	24	23	22	22	23	23	23	23	24	27	31	30	33	34	34	A	32	30	28	27	25	24	26.5	33.7
20-Aug	24	23	22	21	21	20	20	20	22	25	26	26	26	25	25	26	A	25	23	22	22	21	20	21	22.8	25.9
21-Aug	18	18	17	17	17	17	17	17	19	19	23	25	27	27	28	A	32	32	26	17	18	22	28	28	22.2	32.2
22-Aug	26	26	25	25	23	23	24	25	25	26	26	27	27	31	A	31	31	30	29	18	16	15	15	16	24.3	31.1
23-Aug	14	15	13	13	14	12	12	12	19	21	22	25	25	A	28	30	28	27	24	21	24	39	31	34	22.0	38.9
24-Aug	23	18	20	21	32	28	19	18	18	25	28	30	A	32	32	33	33	36	24	17	19	19	19	18	24.4	35.6
25-Aug	12	14	17	22	18	16	17	15	17	18	24	A	31	31	34	35	35	33	31	18	14	16	16	14	21.7	34.9
26-Aug	15	16	16	13	13	12	16	21	27	28	A	30	30	27	26	22	22	24	22	19	23	20	19	21	20.9	29.7
27-Aug	20	21	19	16	15	14	14	14	13	A	15	18	23	28	32	32	32	32	29	18	14	17	16	16	20.4	32.5
28-Aug	19	19	21	17	18	19	27	24	A	24	28	26	30	33	33	33	36	35	32	23	24	25	24	26	25.8	35.6
29-Aug	21	17	15	21	15	16	21	A	14	17	17	19	21	26	27	30	31	31	30	26	20	15	24	20	21.4	31.2
30-Aug	24	13	6	6	4	7	A	9	7	10	9	7	9	11	18	21	21	23	22	22	20	19	15	14	13.8	23.6
31-Aug	13	13	13	13	13	A	14	16	17	18	23	26	30	31	32	32	32	32	29	16	16	18	25	24	21.5	32.2
	22.1	20.7	20.0	19.5	19.2	19.6	20.3	19.7	20.0	22.4	23.9	26.2	28.1	29.8	31.3	32.1	31.8	30.8	28.3	22.8	20.7	22.2	22.2	23.0	Diurnal Average	
	35.9	33.5	35.2	33.6	32.3	30.9	27.0	28.3	27.1	30.2	35.8	40.5	38.5	38.0	41.6	42.4	42.4	42.7	37.1	31.1	32.4	38.9	32.9	38.7	Diurnal Maximum	

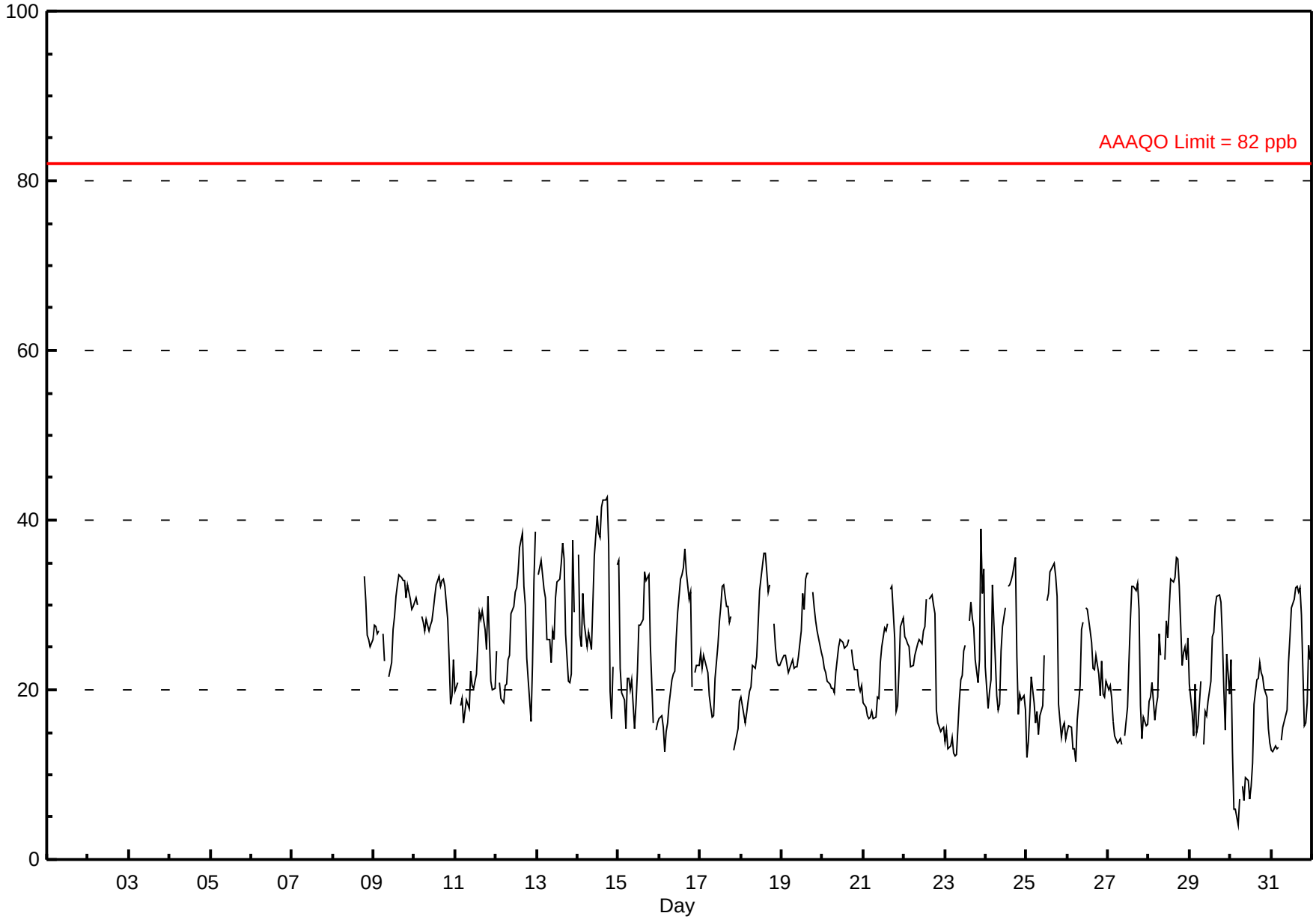
C - Calibration D - DAS Failure M - Maintenance N - Not Valid A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na

Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Sunset House - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

Sunset House - August 2013

Maximum Value: 45.1 ppb on Aug 14 18:00

Maximum Daily Average: 36.2 ppb on Aug 14

Minimum Value: 8 ppb on Aug 30 05:00

Minimum Daily Average: 16.8 ppb on Aug 30

Maximum Diurnal Average: 34.3 ppb at hour 16

Minimum Diurnal Average: 22.5 ppb at hour 8

Monthly Average: 27.32 ppb

Percentiles: P_1 = 10.8 P_{10} = 18.2 Q_1 = 22.2 Median = 27.2 Q_3 = 32.5 P_{90} = 35.9 P_{99} = 44.4

Hours in Service:	744
Hours of Data:	532
Hours of Missing Data:	212
Hours of Calibration:	30
Percent Operational Time:	75.5

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	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
2-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	--	--
3-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	--	--
4-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	--	--
5-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	--	--
6-Aug	N	N	N	N	D	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--
7-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	--	--
8-Aug	N	N	N	N	N	N	N	N	N	N	N	N	C	C	C	C	C	C	35	32	29	27	27	28	--	34.8
9-Aug	29	28	27	28	A	28	26	M	M	24	26	29	30	33	34	35	35	35	35	35	34	32	31	31	30.7	35.3
10-Aug	31	32	31	A	30	29	28	29	29	30	29	32	33	34	35	34	35	35	35	31	28	22	26	31	30.9	35.4
11-Aug	27	26	A	21	23	22	22	22	22	24	23	23	25	29	31	30	31	30	31	33	31	25	23	24	25.9	33.3
12-Aug	27	A	27	28	24	22	22	26	28	34	33	34	34	36	41	43	37	33	28	24	19	30	37	42	30.7	43.0
13-Aug	A	39	37	35	34	33	31	30	26	30	28	36	36	36	38	40	40	33	28	29	36	41	38	A	34.2	41.3
14-Aug	40	34	29	36	34	27	29	28	28	35	41	44	41	41	45	45	45	45	45	27	22	31	A	40	36.2	45.1
15-Aug	42	36	29	29	25	28	26	25	28	16	21	27	30	29	30	38	36	36	35	33	22	A	19	21	28.8	42.1
16-Aug	20	22	25	18	27	19	21	24	23	24	32	32	36	36	37	40	37	35	34	30	A	26	26	28	28.2	39.9
17-Aug	27	24	25	25	23	21	19	18	20	24	28	31	32	35	34	32	32	30	31	A	19	21	20	21	25.8	34.6
18-Aug	21	20	18	19	20	21	22	25	24	27	31	34	37	38	38	36	34	37	A	30	27	25	24	24	27.4	38.1
19-Aug	25	26	25	24	25	25	25	24	24	25	26	31	33	32	35	35	35	A	33	31	30	28	27	25	28.1	35.0
20-Aug	25	24	23	22	22	21	21	21	25	26	27	27	27	26	27	27	A	26	25	24	24	22	21	22	24.1	27.2
21-Aug	19	19	18	18	18	18	18	19	20	21	25	26	29	28	29	A	33	34	33	20	22	28	29	30	24.2	34.0
22-Aug	28	27	27	27	24	24	25	26	28	28	27	28	29	32	A	33	33	31	31	27	22	17	17	18	26.5	32.7
23-Aug	17	19	16	15	17	14	16	19	20	24	25	27	27	A	32	32	31	30	26	24	38	40	38	38	25.4	40.0
24-Aug	30	22	29	26	35	32	24	19	21	30	29	32	A	34	34	34	36	37	34	21	27	24	36	29	29.4	37.4
25-Aug	25	22	23	25	22	21	23	18	19	22	30	A	32	36	36	37	37	35	33	28	17	17	18	17	25.7	36.8
26-Aug	18	20	19	17	18	17	26	27	29	29	A	32	34	28	27	24	24	27	25	22	26	22	22	23	24.1	33.9
27-Aug	22	22	21	19	16	15	15	15	15	A	17	20	27	30	36	35	33	35	32	26	18	22	22	19	23.1	36.2
28-Aug	26	23	24	22	23	25	29	29	A	30	32	30	32	36	35	37	40	44	40	32	32	31	29	35	31.0	43.5
29-Aug	35	23	25	32	20	25	25	A	16	22	22	22	24	31	31	33	35	37	34	31	26	24	27	26	27.1	36.6
30-Aug	27	24	8	9	8	11	A	11	10	14	13	9	11	14	20	23	24	25	24	25	22	22	17	15	16.8	27.1
31-Aug	14	14	15	14	15	A	15	17	18	21	26	29	31	33	33	33	33	34	31	26	19	23	28	29	24.0	34.3
	26.1	24.8	23.7	23.1	22.8	22.6	23.1	22.5	22.5	25.4	27.0	28.8	30.4	32.1	33.5	34.3	34.3	33.8	32.1	27.8	25.6	26.2	26.1	26.8	Diurnal Average	
	42.1	38.8	36.9	36.1	34.9	32.8	30.5	30.3	28.9	34.9	41.4	43.7	41.5	41.4	44.7	44.5	44.7	45.1	44.6	34.7	37.8	41.3	38.1	41.8	Diurnal Maximum	

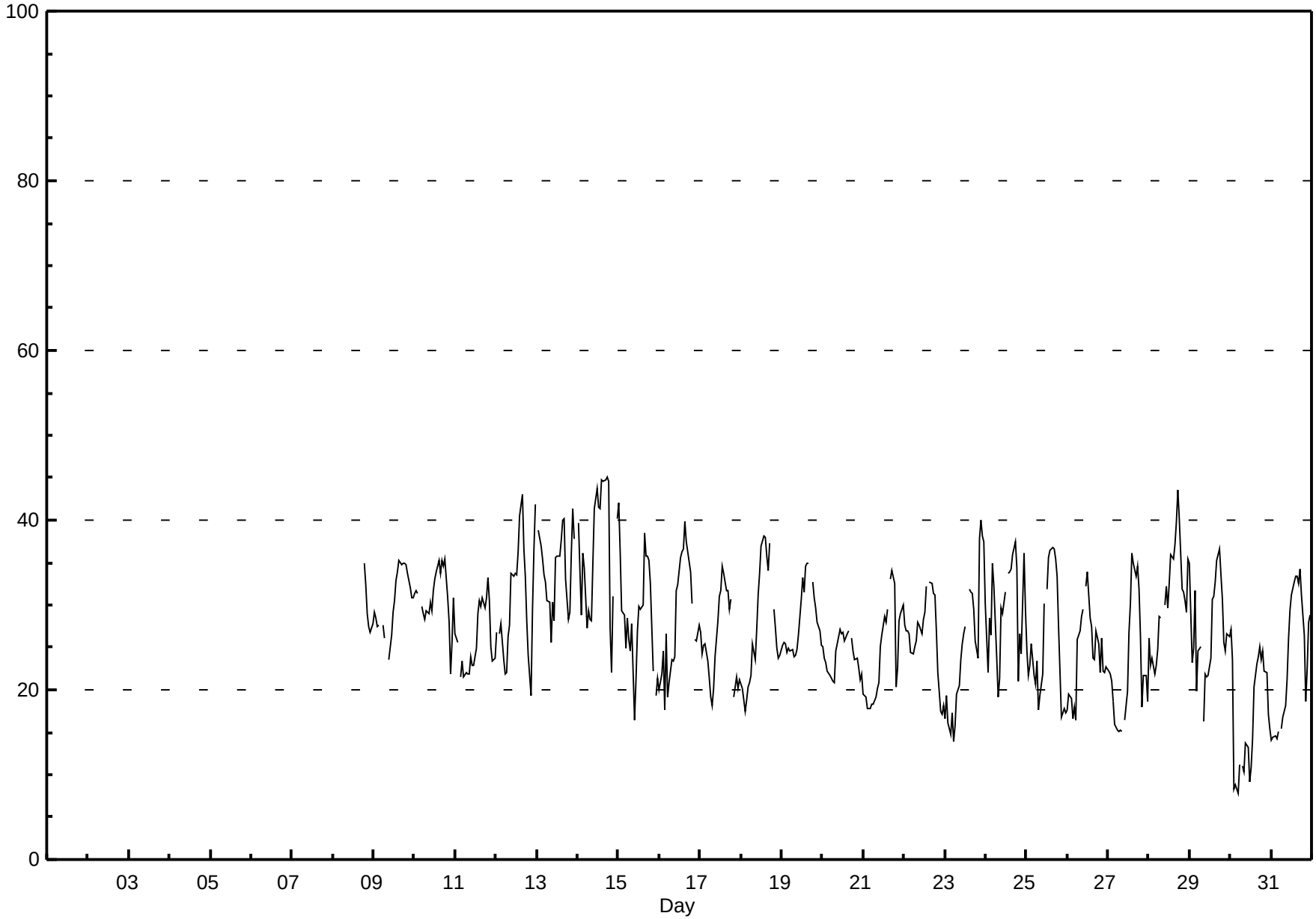
C - Calibration D - DAS Failure M - Maintenance N - Not Valid A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

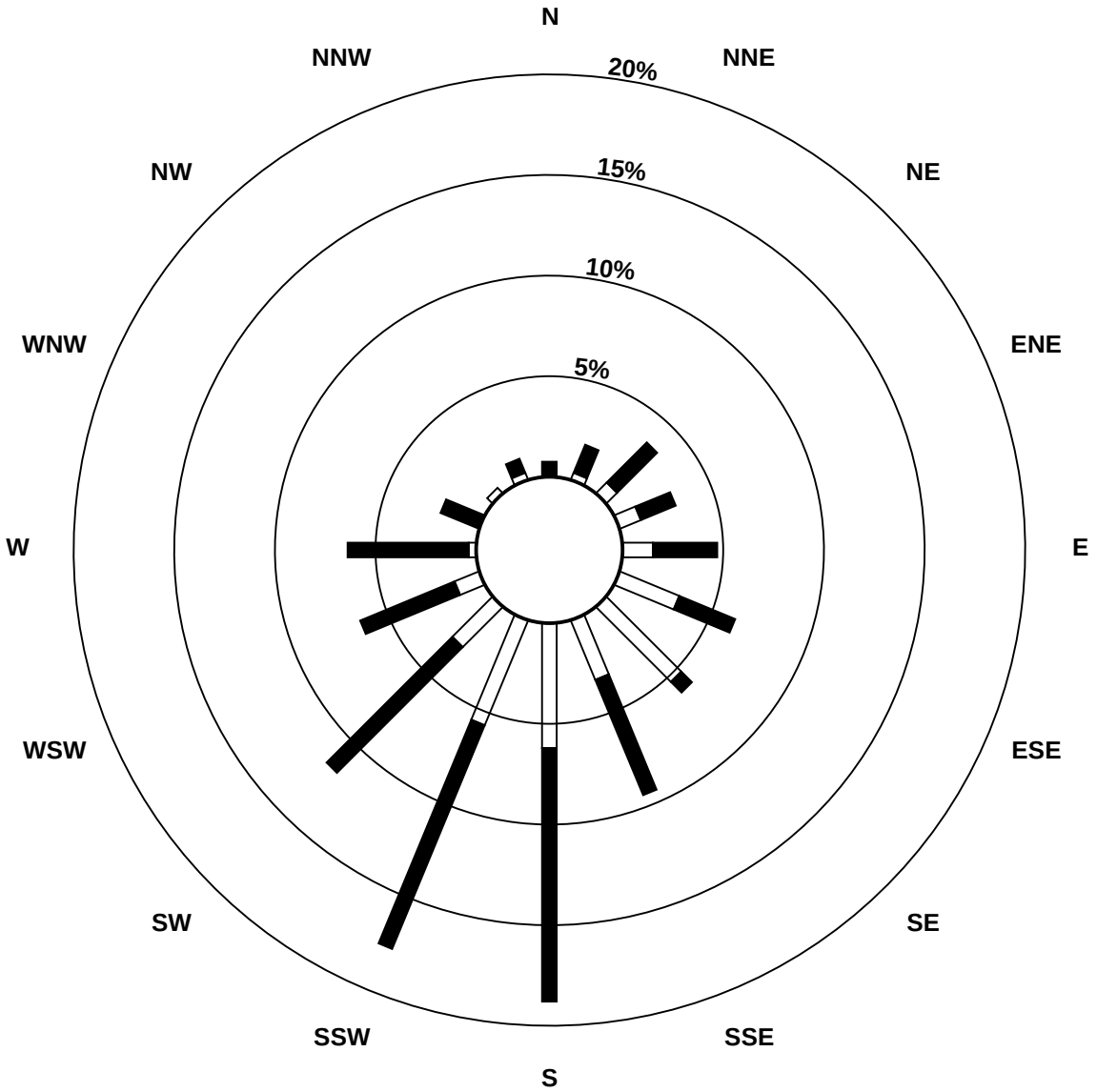
Sunset House - August 2013



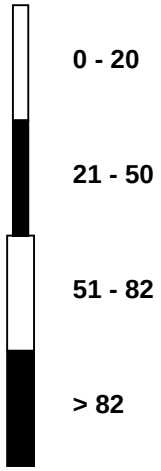
Pollutant Rose

Ozone (O_3) - ppb

Sunset House - August 2013



Pollutant Classes (ppb)



Peace Airshed Zone Association

Eight Hour Running Averages

Ozone (O_3) - ppb

Sunset House - August 2013

Maximum Value: 40.4 ppb on Aug 14 19:00

Minimum Value: 6.9 ppb on Aug 30 10:00

Percentiles: P_1 = 8.8 P_{10} = 16.8 Q_1 = 20.1 Median = 24.5 Q_3 = 28.1 P_{90} = 31.0 P_{99} = 35.1

Hours in Service:	744
Hours of Data:	549
Hours of Missing Data:	195
Hours of Calibration:	8
Percent Operational Time:	74.9

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 Maximum
1-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	--
2-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	--
3-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	--
4-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	--
5-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	--
6-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	--
7-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	--
8-Aug	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	28	27.9
9-Aug	28	28	27	26	26	27	26	26	N	N	N	N	25	26	27	28	29	30	31	32	32	32	32	32	32.4
10-Aug	31	31	31	31	30	30	29	29	29	28	28	28	28	29	30	30	31	32	32	32	31	29	27	26	32.1
11-Aug	25	23	22	20	20	20	19	19	18	19	19	19	19	21	22	23	25	25	26	27	28	27	26	25	27.7
12-Aug	24	24	23	22	21	21	21	21	21	22	23	25	26	28	30	32	33	33	32	31	29	28	27	27	33.1
13-Aug	27	27	29	30	33	34	33	31	30	29	28	28	28	28	29	31	32	32	31	30	29	29	29	27	33.8
14-Aug	28	28	28	30	30	29	28	28	27	27	28	30	31	33	34	36	39	40	40	38	35	33	32	31	40.4
15-Aug	30	27	24	24	24	24	24	22	20	19	19	19	21	22	23	24	26	28	30	30	29	29	27	25	30.3
16-Aug	22	20	17	16	16	16	16	17	17	18	19	21	24	26	28	30	31	32	33	32	32	30	28	26	32.9
17-Aug	25	24	23	23	23	23	22	21	20	20	20	21	22	24	25	27	29	29	30	30	28	25	23	21	30.1
18-Aug	20	18	16	17	17	18	19	19	19	20	22	23	25	27	29	31	32	33	34	33	32	30	28	27	33.5
19-Aug	25	24	24	24	23	23	23	23	23	23	23	23	25	25	27	28	29	30	31	32	31	31	30	29	31.8
20-Aug	27	27	25	24	23	22	22	21	21	21	22	22	23	24	24	25	26	25	25	25	24	23	23	22	27.1
21-Aug	22	21	20	19	18	18	18	17	17	17	18	19	21	22	23	24	26	28	28	27	26	25	25	25	28.2
22-Aug	25	24	24	25	25	26	25	25	25	25	25	25	25	26	27	28	28	29	29	28	26	24	23	21	29.4
23-Aug	19	17	15	15	15	14	14	13	14	15	16	17	19	19	22	24	26	27	27	26	26	28	28	29	28.5
24-Aug	28	27	26	26	27	26	24	22	22	23	24	25	24	24	26	28	30	32	31	30	28	27	25	23	31.9
25-Aug	20	18	17	18	17	17	17	16	17	18	18	18	20	22	24	27	30	32	33	31	29	27	25	22	32.8
26-Aug	20	18	16	15	15	14	14	15	17	18	19	21	23	25	27	27	26	26	25	24	23	22	22	21	27.1
27-Aug	21	21	20	20	19	18	17	17	16	15	14	15	16	18	21	23	26	27	28	29	27	26	24	22	28.5
28-Aug	20	19	17	17	18	18	19	20	21	21	22	24	25	27	28	29	30	32	32	32	31	30	29	28	32.2
29-Aug	26	24	22	22	20	19	19	18	17	17	17	17	18	19	20	21	23	25	27	28	28	26	26	25	27.8
30-Aug	24	21	18	16	14	13	11	10	7	7	7	8	8	9	10	12	13	15	17	18	20	21	21	20	23.8
31-Aug	19	17	16	15	14	13	13	14	14	15	16	18	20	22	24	26	28	30	30	29	27	26	25	24	30.4
Diurnal Maximums	31.2	30.9	30.6	30.5	32.7	33.8	32.8	31.0	30.0	29.2	28.4	29.6	30.9	32.5	34.4	36.4	38.7	40.2	40.4	37.8	35.1	33.2	32.0	31.5	

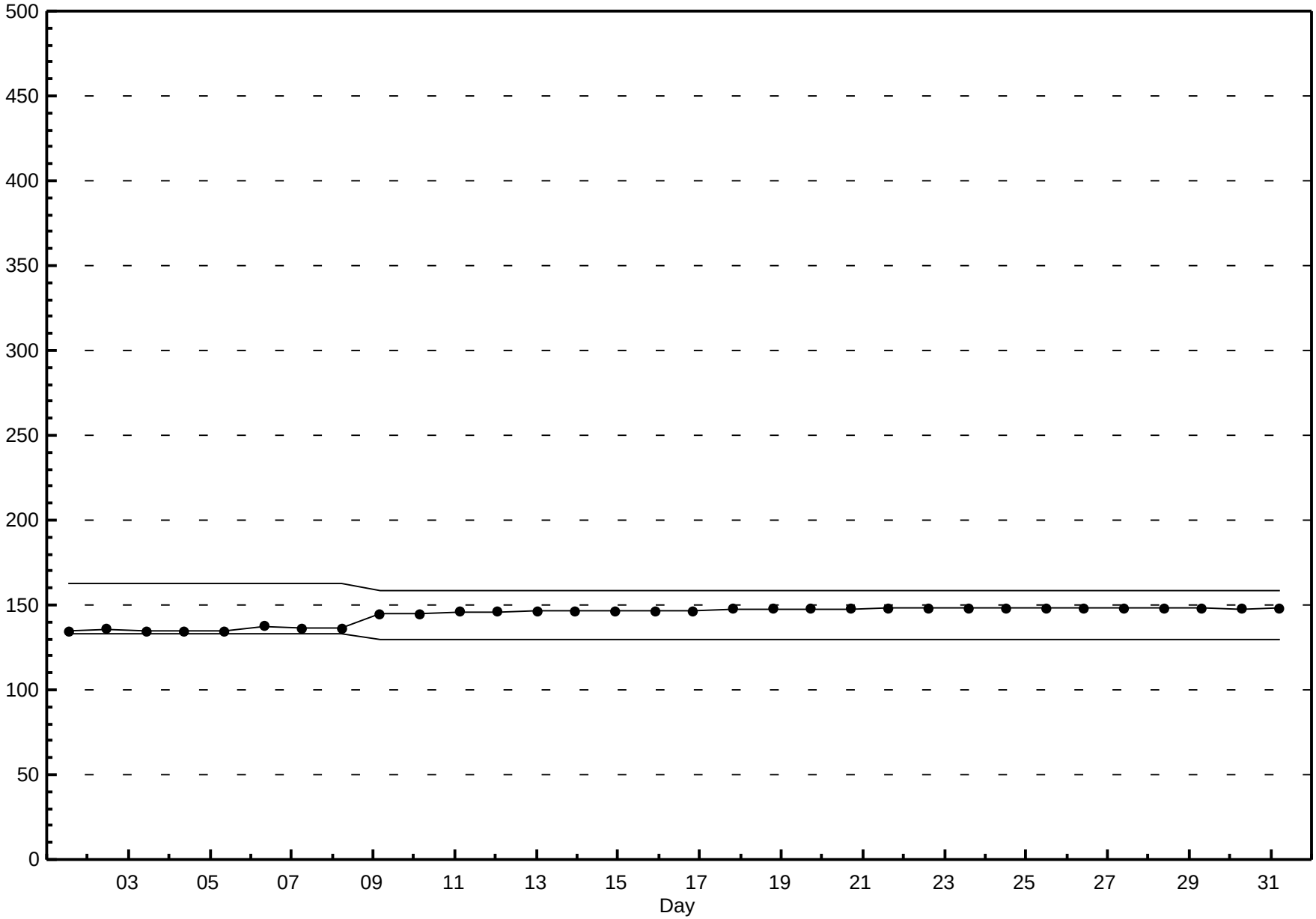
N - Not Valid

Peace Airshed Zone Association

Span Responses

Ozone (O_3)

Sunset House - August 2013



Peace Airshed Zone Association

Hourly Averages

PM2.5 ($PM_{2.5}$) - $\mu g/m^3$

Sunset House - August 2013

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

Maximum Value: 25.0 $\mu g/m^3$ on Aug 13 18:00

Maximum Daily Average: 10.4 $\mu g/m^3$ on Aug 13

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

Maximum Diurnal Average: 7.0 $\mu g/m^3$ at hour 10

Monthly Average: 4.58 $\mu g/m^3$

Minimum Daily Average: 0.6 $\mu g/m^3$ on Aug 31

Minimum Diurnal Average: 2.2 $\mu g/m^3$ at hour 23

Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.2$ Median = 3.5 $Q_3 = 7.6$ $P_{90} = 10.8$ $P_{99} = 16.4$

Hours in Service:	744
Hours of Data:	693
Hours of Missing Data:	51
Hours of Calibration:	0
Percent Operational Time:	93.2

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	0	2	4	0	0	1	7	7	13	6	2	N	0	0	0	2	0	0	0	0	1	1	2	1	2.1	12.8
2-Aug	0	2	3	5	2	1	6	10	5	6	5	4	6	8	7	5	10	8	9	8	3	0	1	5	5.0	9.9
3-Aug	3	2	1	1	2	5	13	10	7	10	13	8	8	3	2	2	6	2	0	4	4	0	0	6	4.7	13.5
4-Aug	5	3	3	N	0	0	11	6	8	10	7	6	5	0	0	0	0	0	3	2	9	1	0	0	3.5	10.7
5-Aug	1	0	3	2	N	2	16	6	9	9	5	3	1	3	4	0	0	0	6	13	9	0	0	3	4.1	15.9
6-Aug	2	0	0	D	7	7	10	11	12	13	0	0	4	2	0	N	0	5	0	0	3	10	11	7	4.8	13.5
7-Aug	5	3	6	10	11	8	6	8	9	12	12	2	2	0	0	8	10	9	16	11	13	8	10	10	7.9	16.2
8-Aug	10	5	10	9	9	11	12	13	12	11	12	7	8	11	7	5	11	7	10	9	9	8	9	9	9.3	13.2
9-Aug	8	8	8	5	6	9	12	14	15	11	12	10	10	8	5	7	7	5	9	8	6	6	4	6	8.2	14.6
10-Aug	6	6	5	7	7	8	11	10	10	12	14	10	10	12	11	15	7	14	16	13	4	1	2	10	9.2	16.4
11-Aug	6	10	12	10	0	4	0	6	3	6	13	14	18	3	0	0	3	8	6	N	0	3	3	5	5.9	17.7
12-Aug	0	0	0	0	0	10	5	6	7	10	6	8	7	3	N	0	11	11	16	12	13	N	0	3	5.8	15.8
13-Aug	1	5	9	11	9	7	13	15	16	17	16	9	9	11	8	6	19	25	18	5	N	N	1	0	10.4	25.0
14-Aug	1	2	11	0	3	4	6	8	14	14	10	2	11	8	8	5	7	0	21	14	0	N	0	1	6.6	21.5
15-Aug	3	7	6	5	7	3	11	12	12	8	20	13	12	9	10	0	9	0	4	12	0	0	1	2	7.0	20.0
16-Aug	3	14	10	5	9	10	8	8	9	7	11	3	0	0	1	N	3	2	3	6	4	3	N	N	5.6	13.5
17-Aug	N	N	N	N	N	0	2	3	5	0	0	0	0	N	0	4	3	8	0	13	0	0	1	2	2.3	12.8
18-Aug	1	0	N	N	N	N	0	0	4	2	0	N	0	N	0	0	4	0	8	0	0	N	N	N	--	8.4
19-Aug	N	N	N	N	N	N	0	1	0	1	3	2	N	1	N	N	N	0	3	6	0	0	N	N	--	5.8
20-Aug	0	0	0	0	0	0	0	2	0	0	0	0	17	12	6	5	5	5	5	5	5	6	5	4	3.4	16.8
21-Aug	4	4	4	3	3	3	4	5	2	4	1	3	0	2	0	0	0	0	8	8	1	0	0	0	2.5	8.3
22-Aug	3	4	2	2	2	0	0	1	2	4	7	8	6	4	1	0	0	3	5	13	3	5	4	4	3.4	12.7
23-Aug	5	3	1	1	0	1	3	8	3	3	4	0	0	1	3	2	9	6	7	8	4	N	N	N	3.4	8.7
24-Aug	2	2	2	5	5	2	5	8	7	5	4	0	0	0	1	0	1	0	13	9	0	0	0	5	3.2	13.0
25-Aug	1	1	1	4	4	3	3	5	4	4	0	N	N	0	0	0	0	0	0	6	0	0	0	0	1.7	6.3
26-Aug	0	0	0	1	2	0	1	2	0	0	6	9	7	6	5	5	3	1	2	2	0	2	0	0	2.2	9.0
27-Aug	2	3	6	6	7	6	6	7	7	7	9	6	4	1	0	0	0	0	0	2	0	0	0	0	3.2	8.6
28-Aug	0	0	0	0	0	0	N	4	3	4	3	5	0	0	3	3	1	2	6	5	2	7	3	0	2.3	7.4
29-Aug	0	1	2	4	7	8	7	6	7	8	10	10	8	8	7	6	4	8	1	1	2	5	2	1	5.1	9.8
30-Aug	1	0	N	1	3	4	3	4	4	7	6	2	1	3	1	2	0	0	1	0	0	0	0	0	1.8	7.0
31-Aug	0	N	N	0	0	0	0	1	1	3	0	0	N	0	0	0	0	0	2	6	0	0	0	0	0.6	5.6
	2.5	3.1	4.3	3.7	3.9	4.0	6.0	6.7	6.8	7.0	6.8	5.2	5.6	4.1	3.1	2.9	4.5	4.2	6.4	6.7	3.1	2.5	2.2	3.1	Diurnal Average	
	9.8	13.5	12.2	10.7	10.9	10.5	15.9	15.3	15.9	16.8	20.0	14.4	17.7	12.1	10.8	15.0	19.4	25.0	21.5	14.1	12.7	10.0	11.1	9.8	Diurnal Maximum	

D - DAS Failure N - Not Valid

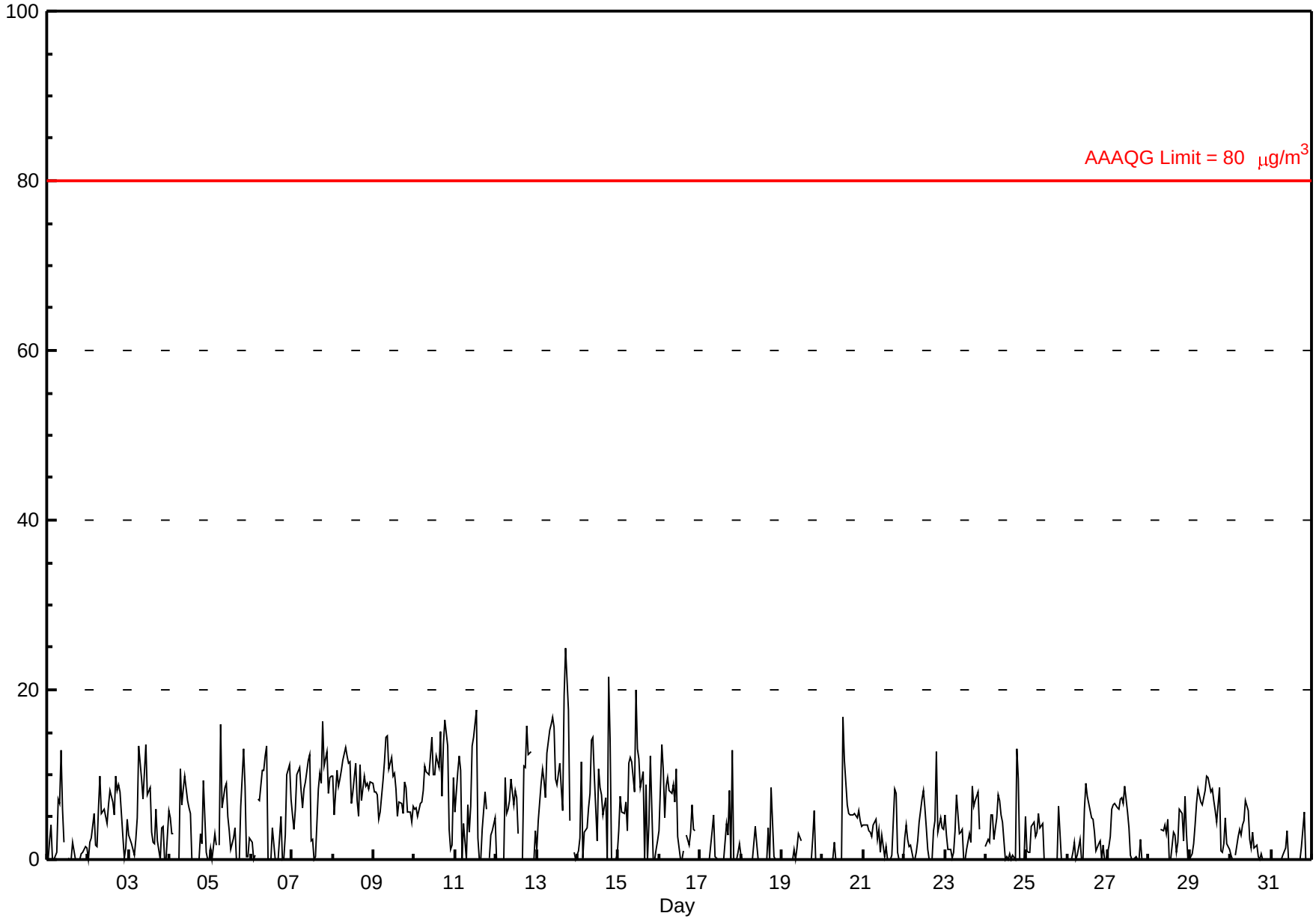
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

Hourly Averages

PM2.5 ($PM_{2.5}$) - $\mu g/m^3$

Sunset House - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

PM2.5 ($PM_{2.5}$) - $\mu g/m^3$

Sunset House - August 2013

Maximum Value: 69.6 $\mu g/m^3$ on Aug 14 19:00

Maximum Daily Average: 21.8 $\mu g/m^3$ on Aug 13

Minimum Value: 0 $\mu g/m^3$ on Aug 5 05:00

Minimum Daily Average: 3.1 $\mu g/m^3$ on Aug 31

Maximum Diurnal Average: 16.7 $\mu g/m^3$ at hour 19

Minimum Diurnal Average: 5.7 $\mu g/m^3$ at hour 23

Monthly Average: 10.92 $\mu g/m^3$

Percentiles: P_1 = 0.0 P_{10} = 1.7 Q_1 = 4.9 Median = 9.4 Q_3 = 15.1 P_{90} = 21.5 P_{99} = 35.2

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	3	11	12	3	2	7	13	14	20	11	18	6	5	2	2	10	5	4	8	2	3	5	7	8	7.5	20.2
2-Aug	3	6	5	10	5	5	12	15	11	10	11	10	20	19	16	12	16	13	15	13	9	4	8	8	10.6	20.2
3-Aug	6	6	5	5	6	16	18	16	14	23	21	14	14	8	6	8	12	9	8	8	8	1	4	9	10.2	23.1
4-Aug	12	7	15	4	2	9	22	12	13	15	15	10	12	14	12	12	10	2	12	7	16	10	2	2	10.3	21.6
5-Aug	8	1	8	9	0	11	29	12	13	16	12	13	18	13	13	11	11	6	13	23	22	15	6	6	12.0	28.7
6-Aug	7	4	6	D	12	10	17	15	21	22	18	23	17	8	8	3	12	17	4	6	7	19	17	10	12.3	23.4
7-Aug	9	6	10	15	16	13	12	13	15	17	20	14	8	8	14	19	17	19	25	21	18	11	15	14	14.5	25.1
8-Aug	13	9	15	13	12	13	16	18	17	18	20	14	14	20	21	17	17	18	17	14	13	12	11	11	15.1	20.5
9-Aug	11	11	9	7	9	11	15	18	20	17	20	22	20	16	11	20	18	15	15	19	10	9	8	9	14.2	22.1
10-Aug	9	10	8	10	10	11	15	14	15	20	24	23	23	27	35	37	22	27	38	19	23	7	15	34	19.8	37.5
11-Aug	13	35	19	17	5	10	7	25	17	18	23	34	31	24	18	26	21	29	26	0	8	8	8	13	18.0	34.8
12-Aug	3	4	4	12	15	14	10	15	14	23	19	24	19	21	9	27	36	20	25	19	18	4	5	7	15.3	36.1
13-Aug	5	8	16	16	13	13	17	23	24	23	26	28	28	36	32	21	48	44	38	32	15	7	8	2	21.8	48.3
14-Aug	8	12	28	12	12	11	11	15	21	21	32	22	26	27	31	29	28	13	70	35	16	11	12	11	21.3	69.6
15-Aug	16	20	18	11	18	10	23	22	24	26	30	23	26	21	18	12	18	17	12	29	9	4	6	9	17.6	29.6
16-Aug	11	19	16	9	19	13	12	11	14	11	28	23	9	12	21	13	17	25	12	22	13	18	0	0	14.5	28.2
17-Aug	0	0	0	0	0	2	6	8	17	13	7	19	15	0	22	26	17	18	8	32	9	6	10	9	10.0	32.0
18-Aug	5	3	0	0	0	0	1	1	15	14	12	6	15	4	17	9	10	8	21	7	1	0	0	0	6.2	20.8
19-Aug	0	0	0	0	0	0	1	4	7	6	9	17	1	7	8	1	5	5	24	15	1	1	0	0	4.6	23.7
20-Aug	1	0	2	2	0	1	3	6	3	2	3	1	31	16	11	8	8	7	7	8	8	8	7	6	6.2	31.5
21-Aug	7	7	6	6	6	5	7	7	4	6	4	8	5	6	4	4	3	4	24	13	5	2	1	2	6.0	23.9
22-Aug	6	6	6	4	5	2	3	3	6	8	11	12	13	9	8	1	5	7	8	21	10	8	7	7	7.4	21.2
23-Aug	8	9	4	3	3	3	7	13	9	9	11	4	8	4	11	6	19	18	18	12	15	0	0	5	8.3	19.1
24-Aug	7	6	6	9	11	5	8	11	12	9	11	4	11	6	7	8	7	12	21	20	8	4	2	13	9.0	21.1
25-Aug	7	4	5	15	9	6	9	11	12	10	9	0	0	4	2	5	4	1	5	11	5	0	0	0	5.6	15.1
26-Aug	1	1	1	4	5	2	9	7	1	4	12	12	11	8	8	8	6	5	5	5	3	4	4	2	5.4	11.7
27-Aug	5	6	10	9	9	9	9	9	13	11	15	10	8	5	6	8	6	0	4	9	2	2	0	0	6.9	14.8
28-Aug	1	2	4	2	2	5	1	11	19	17	13	10	5	7	8	7	8	16	13	14	7	11	7	3	8.1	19.2
29-Aug	6	5	4	10	11	12	10	12	12	14	14	14	15	15	13	14	9	15	15	5	5	12	6	5	10.6	15.1
30-Aug	5	3	0	8	9	8	11	11	11	16	15	6	6	7	5	5	3	4	3	2	1	1	2	3	6.0	15.5
31-Aug	3	0	0	0	0	0	2	4	5	8	5	5	0	3	2	2	2	4	6	17	2	1	1	2	3.1	17.4
	6.4	7.2	7.7	7.5	7.3	7.7	10.9	12.1	13.5	14.1	15.7	13.9	14.0	12.2	12.7	12.5	13.6	13.0	16.7	14.8	9.4	6.5	5.7	6.7	Diurnal Average	
	16.1	34.8	28.1	16.5	18.6	16.4	28.7	25.1	24.2	25.8	31.7	33.9	31.5	36.2	35.2	37.3	48.3	44.2	69.6	35.5	22.6	18.8	16.9	34.0	Diurnal Maximum	

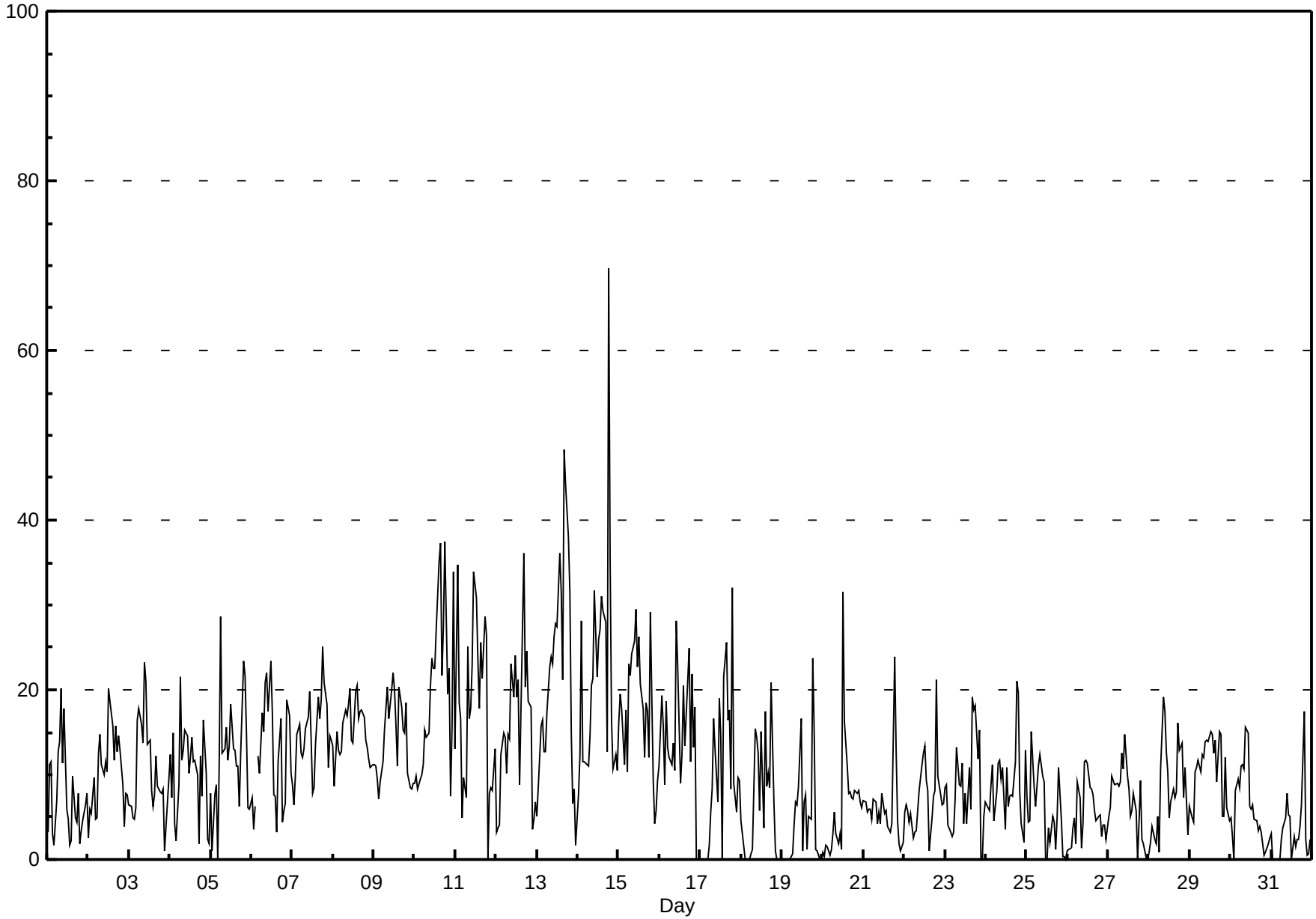
D - DAS Failure

Peace Airshed Zone Association

Hourly Maximums

PM2.5 ($PM_{2.5}$) - $\mu g/m^3$

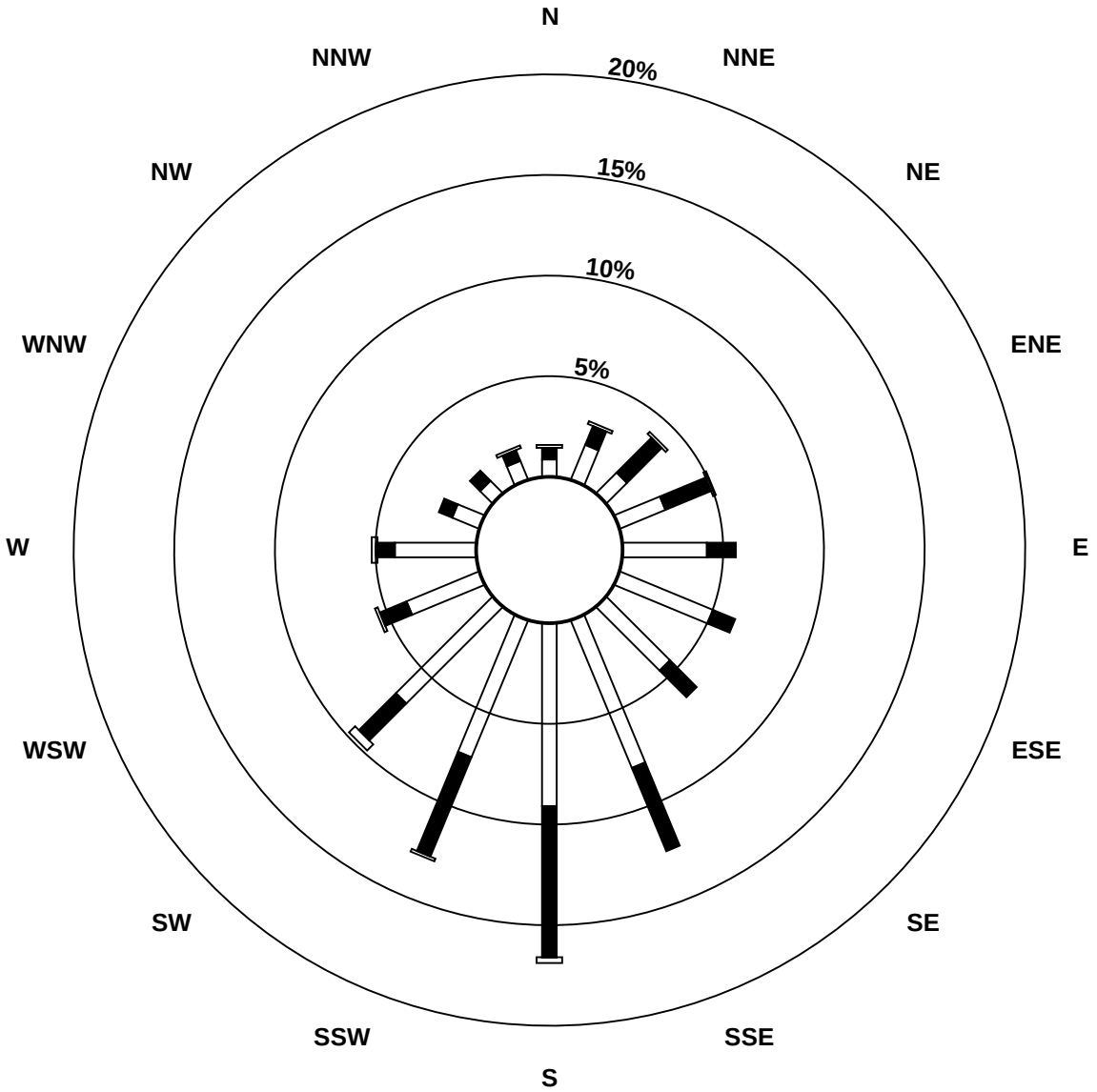
Sunset House - August 2013



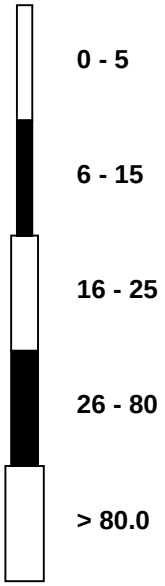
Pollutant Rose

PM2.5 ($PM_{2.5}$) - $\mu g/m^3$

Sunset House - August 2013



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



Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Sunset House - August 2013

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

Maximum Value: 26.8 ^{o}C on Aug 14 16:00

Maximum Daily Average: 20.8 ^{o}C on Aug 2

Minimum Value: 7 ^{o}C on Aug 26 03:00

Minimum Daily Average: 11.3 ^{o}C on Aug 20

Maximum Diurnal Average: 21.7 ^{o}C at hour 15

Minimum Diurnal Average: 12.4 ^{o}C at hour 6

Monthly Average: 16.48 ^{o}C

Percentiles: P_1 = 7.4 P_{10} = 11.2 Q_1 = 12.9 Median = 15.8 Q_3 = 19.9 P_{90} = 23.0 P_{99} = 25.9

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	10	11	13	14	12	11	14	18	20	22	22	25	24	25	25	25	24	23	22	21	19	18	16	17	18.7	25.0
2-Aug	17	17	17	17	16	16	17	19	20	22	23	24	24	25	26	26	25	24	24	22	20	19	19	19	20.8	26.2
3-Aug	18	18	18	18	17	16	14	16	18	19	21	22	23	23	23	21	21	21	21	18	15	13	12	13	18.3	22.9
4-Aug	14	14	14	13	13	12	13	14	15	17	17	18	22	22	24	21	22	19	19	19	17	14	13	13	16.6	23.6
5-Aug	12	12	12	13	11	11	14	16	18	20	22	24	24	25	25	26	25	25	24	21	17	15	16	17	18.5	25.5
6-Aug	14	12	13	D	13	14	15	18	19	22	24	25	25	27	26	26	25	24	20	19	18	15	15	15	19.3	26.7
7-Aug	14	13	13	13	13	14	13	14	15	15	18	20	21	21	21	20	20	20	18	17	15	13	13	13	16.0	21.1
8-Aug	13	14	13	12	12	12	13	14	15	17	18	18	19	20	20	19	19	19	18	17	14	13	13	13	15.6	19.7
9-Aug	13	13	13	13	13	13	13	14	16	17	17	19	20	21	21	21	21	22	21	19	17	16	16	16	16.9	21.7
10-Aug	16	16	16	16	16	16	16	17	18	20	21	23	24	25	25	26	26	26	26	22	19	16	15	16	19.9	26.5
11-Aug	15	16	18	17	16	15	15	17	18	19	21	22	22	24	26	24	23	24	22	19	17	16	16	16	19.0	26.0
12-Aug	15	14	13	12	12	14	15	16	17	20	22	23	24	25	24	26	23	22	21	19	18	18	19	18	18.7	25.7
13-Aug	18	17	17	17	17	17	17	19	20	21	21	22	23	24	25	25	24	23	22	20	18	18	16	14	19.8	25.5
14-Aug	16	14	15	16	14	14	15	16	17	20	23	24	24	26	26	27	26	26	25	20	17	15	15	18	19.4	26.8
15-Aug	17	15	15	14	14	14	16	17	17	17	19	20	20	21	21	22	23	22	22	20	15	13	13	13	17.5	22.7
16-Aug	13	14	14	14	14	15	14	14	14	14	16	17	18	19	20	21	20	20	20	16	14	15	14	13	16.0	20.6
17-Aug	12	12	12	12	12	12	13	14	15	17	19	21	22	22	22	21	21	21	21	18	14	13	13	15	16.4	22.4
18-Aug	14	14	13	12	13	12	13	14	16	18	20	20	21	21	22	20	18	16	13	13	12	12	12	11	15.5	21.8
19-Aug	11	10	9	9	8	8	10	12	12	12	14	17	18	16	19	19	19	17	15	11	10	9	9	9	12.6	19.4
20-Aug	9	8	8	7	7	7	8	9	12	13	14	15	15	15	14	14	13	13	12	12	12	11	11	10	11.3	15.3
21-Aug	9	9	9	9	9	9	10	11	12	12	16	18	18	18	19	19	20	19	16	12	9	9	13	14	13.3	19.6
22-Aug	14	13	13	13	12	12	13	14	16	18	19	21	22	24	24	23	24	22	21	16	12	12	12	12	16.7	23.9
23-Aug	12	13	11	10	10	9	11	14	17	19	22	23	24	23	24	24	24	23	20	19	18	17	15	16	17.5	24.4
24-Aug	13	12	12	11	14	14	14	15	17	20	22	23	23	23	22	23	23	22	19	16	15	13	12	13	17.1	23.3
25-Aug	12	12	13	13	13	13	12	13	14	15	18	19	20	19	19	20	21	20	18	14	10	9	8	7	14.7	20.5
26-Aug	7	7	7	7	8	7	8	13	16	16	16	14	13	14	14	13	13	13	13	12	12	12	12	12	11.6	15.9
27-Aug	12	12	12	12	12	12	12	12	12	13	15	16	19	20	20	20	19	19	18	14	11	11	10	9	14.2	19.9
28-Aug	9	9	11	9	10	11	12	14	16	17	18	17	17	18	19	19	20	19	18	15	13	14	13	13	14.7	20.3
29-Aug	12	11	11	12	12	12	13	13	14	16	19	21	21	22	22	21	21	18	17	16	15	14	16	14	16.0	22.2
30-Aug	15	13	11	11	12	12	12	12	13	13	13	13	13	13	14	15	15	15	15	14	13	13	12	12	13.1	15.1
31-Aug	12	11	11	11	11	11	12	13	15	17	19	20	21	21	21	21	21	21	19	14	11	11	13	13	15.3	21.5
	13.2	12.7	12.8	12.7	12.5	12.4	13.2	14.6	15.9	17.3	19.0	20.1	20.8	21.3	21.7	21.5	21.3	20.6	19.3	16.8	14.7	13.8	13.6	13.6	Diurnal Average	
	18.3	18.0	17.8	17.5	17.2	17.2	17.4	19.0	20.5	22.3	23.7	24.8	24.9	26.7	26.2	26.8	26.5	26.1	25.6	22.2	20.2	19.4	19.2	18.7	Diurnal Maximum	

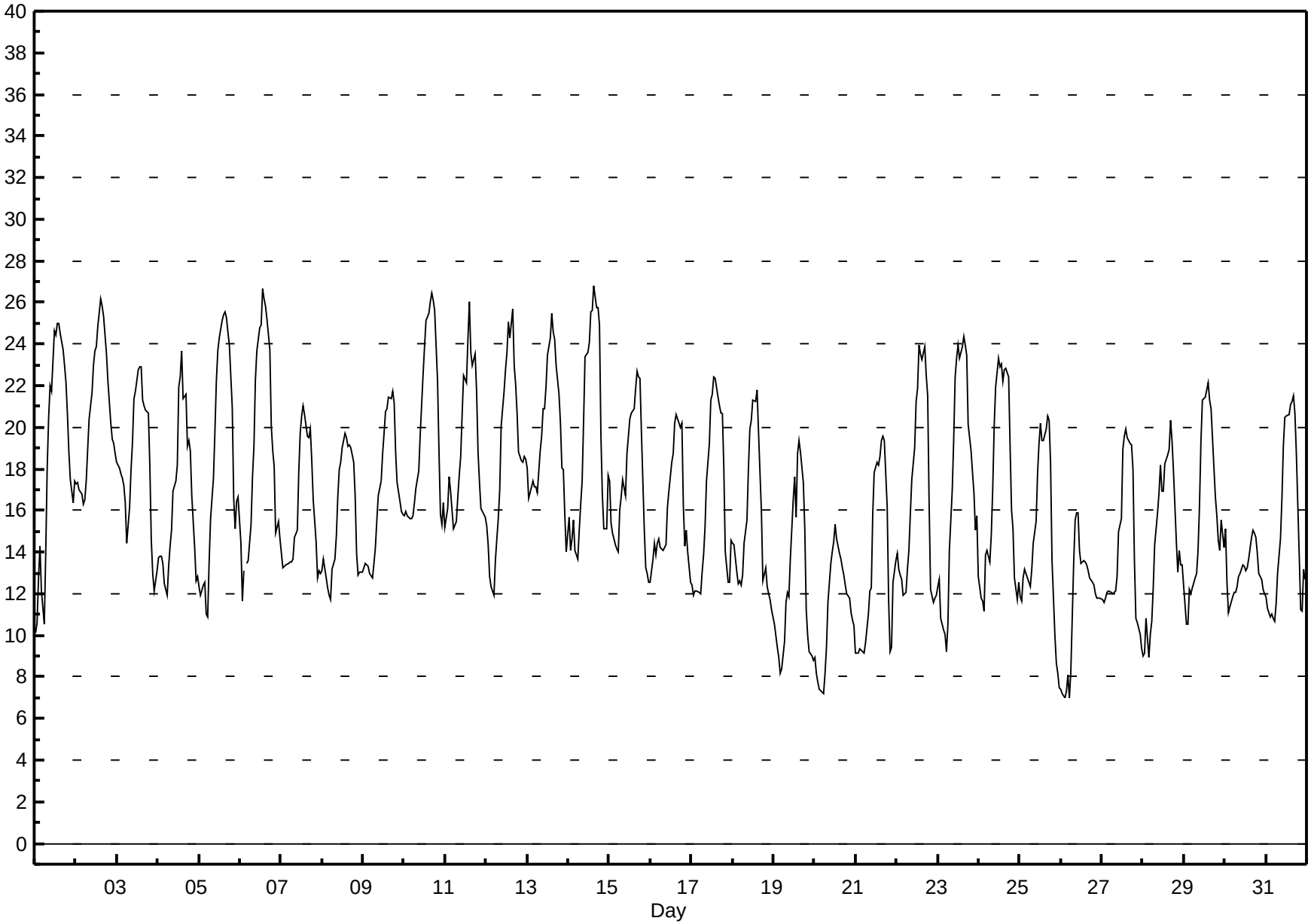
D - DAS Failure

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Sunset House - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Sunset House - August 2013

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1 Spd	4	6	9	11	1	1	1	1	4	4	2	11	11	13	13	13	14	14	13	12	13	12	11	16	6.6	15.6
Dir	79	80	86	104	118	345	244	276	303	289	326	28	43	45	49	60	70	72	83	91	101	106	120	152	78.3	152.1
2 Spd	16	19	19	19	17	19	15	6	8	10	10	7	7	9	12	13	12	12	12	10	10	16	22	22	9.6	22.2
Dir	153	152	149	150	154	154	151	187	180	173	168	129	76	33	40	28	49	72	68	80	125	150	156	159	134.0	155.7
3 Spd	20	21	20	20	18	11	5	4	6	4	8	8	9	9	8	10	8	9	6	5	2	4	5	5	3.4	21.2
Dir	163	165	168	169	178	189	304	157	189	227	299	316	315	297	290	307	316	318	335	351	119	119	137	138	204.5	165.1
4 Spd	2	5	4	6	0	3	4	3	2	2	2	3	3	7	7	7	1	6	8	5	1	4	6	6	1.3	7.9
Dir	124	176	315	73	231	198	191	232	277	238	276	255	270	331	327	12	26	172	207	197	188	148	156	167	215.2	207.3
5 Spd	5	5	4	4	5	5	4	5	5	4	4	6	7	9	10	8	7	8	6	3	2	8	13	12	1.4	13.4
Dir	168	150	153	185	137	148	182	205	226	242	281	319	349	350	29	5	344	352	4	25	78	71	97	118	56.4	97.2
6 Spd	1	2	9	D	10	8	4	6	5	1	2	5	9	11	11	11	10	13	10	10	5	4	12	9	3.2	13.1
Dir	118	127	174	D	172	169	163	187	202	73	142	88	29	29	29	44	43	58	80	83	91	186	196	194	102.7	57.6
7 Spd	2	5	8	10	12	5	4	4	8	8	6	8	10	10	9	8	9	11	10	12	8	6	5	7	5.9	12.2
Dir	224	4	2	32	60	56	67	27	58	61	70	68	70	80	63	45	45	53	74	108	151	167	173	154	69.0	60.5
8 Spd	7	12	7	11	8	11	15	12	16	14	13	12	12	15	18	21	15	14	13	11	8	10	13	16	11.9	20.7
Dir	154	138	119	124	124	127	129	148	155	148	160	165	156	184	177	172	186	179	178	163	158	154	161	157	157.6	172.4
9 Spd	19	20	21	20	19	18	15	15	14	17	13	12	12	14	13	12	11	10	11	9	13	18	18	21	14.8	20.9
Dir	158	160	159	154	154	150	165	177	181	181	185	193	190	184	173	184	178	159	170	152	157	156	166	165	167.4	159.4
10 Spd	21	21	19	16	17	15	12	15	15	12	10	11	9	8	7	6	3	2	5	5	5	4	6	7	9.0	21.0
Dir	161	169	171	175	174	176	177	184	189	195	199	196	198	200	186	229	254	291	33	65	94	122	141	180	177.7	161.1
11 Spd	5	7	7	6	5	5	5	2	5	6	6	2	8	6	8	11	10	6	8	12	1	3	7	9	1.2	12.4
Dir	182	186	197	203	162	168	168	130	202	215	239	339	354	16	34	22	26	21	35	113	129	94	183	193	132.8	113.1
12 Spd	11	7	5	5	4	9	10	7	3	4	6	5	3	4	6	8	13	8	8	10	10	10	14	16	4.4	15.8
Dir	178	177	172	171	183	188	184	186	207	233	225	210	9	355	39	43	96	93	52	77	111	155	162	158	146.7	157.9
13 Spd	11	6	13	12	11	9	6	7	5	5	7	12	8	6	4	3	3	1	2	2	4	9	3	6	5.4	13.1
Dir	167	219	172	175	179	177	187	191	213	216	233	205	197	216	302	33	346	259	183	129	170	204	156	152	190.4	172.4
14 Spd	10	5	9	11	7	8	7	5	1	6	5	5	6	5	5	5	8	4	0	2	2	4	6	8	3.9	10.6
Dir	185	148	172	183	207	183	202	212	224	58	67	118	134	148	207	229	213	227	264	130	103	115	117	107	168.4	183.1
15 Spd	8	5	4	3	3	2	1	4	5	11	9	4	7	4	3	3	4	7	5	3	2	2	3	3	1.4	10.7
Dir	93	86	96	94	84	164	228	193	223	214	228	342	342	48	50	122	40	42	61	119	121	114	119	120	101.3	213.8
16 Spd	4	4	3	3	6	11	9	9	8	8	7	5	6	3	3	5	4	2	3	3	2	3	11	7	4.4	11.2
Dir	128	146	130	115	180	204	210	213	231	229	238	268	269	250	176	178	212	237	223	168	128	229	195	193	206.1	194.5
17 Spd	13	15	16	16	12	12	12	11	14	12	9	8	8	9	8	5	5	5	7	5	6	5	7	8	8.4	16.2
Dir	189	184	182	178	184	181	182	189	192	206	219	246	252	267	274	242	221	203	206	182	173	153	174	188	197.9	178.1
18 Spd	9	9	10	10	11	11	12	11	10	8	7	8	9	10	11	8	6	9	11	12	13	13	13	13	8.9	13.1
Dir	184	186	184	182	189	182	181	191	199	213	216	219	228	266	276	282	262	243	187	202	200	201	202	204	207.2	200.2
19 Spd	12	10	11	10	11	12	13	10	10	8	8	9	11	8	15	16	15	10	13	14	9	13	12	10	9.7	16.1
Dir	199	200	198	201	195	195	198	207	216	225	226	236	267	259	268	271	280	261	259	214	222	200	206	207	226.2	270.7
20 Spd	11	11	11	14	12	11	11	12	12	16	19	16	15	14	14	14	13	9	10	8	6	4	4	5	9.9	18.9
Dir	211	203	202	202	216	212	213	216	245	270	280	270	269	276	275	275	267	241	233	232	232	223	257	263	244.3	279.6
21 Spd	4	5	5	5	6	7	7	7	8	6	8	8	8	11	12	9	8	7	5	8	8	10	11	12	6.4	12.4
Dir	228	228	220	212	206	210	207	218	239	237	259	273	254	214	220	235	228	210	177	138	141	161	170	178	210.1	177.8
22 Spd	15	14	14	15	13	11	14	16	16	14	11	8	6	6	5	6	5	5	3	4	5	4	6	6	8.2	16.5
Dir	181	178	181	180	180	178	179	177	186	194	201	211	234	280	278	230	232	227	218	175	143	128	133	135	187.6	177.0

FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Sunset House - August 2013

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	4	5	6	6	7	6	5	2	6	6	3	3	4	6	7	5	1	6	5	10	5	7	6	3	3.6	9.9
Dir	142	156	133	150	134	135	130	190	199	214	241	205	200	196	192	182	350	62	92	105	189	246	151	200	162.8	105.5
24 Spd	1	3	6	5	11	12	9	8	7	5	6	6	8	8	9	7	4	4	2	4	4	3	2	4	2.6	12.5
Dir	93	110	162	157	189	195	207	210	232	269	271	278	247	287	293	289	283	52	71	126	75	125	106	66	221.6	195.0
25 Spd	3	3	5	4	1	3	2	3	4	6	8	14	9	7	7	7	8	8	5	2	5	4	5	2	2.0	14.1
Dir	53	321	66	48	30	74	49	178	223	233	263	294	285	273	264	272	283	296	297	133	127	123	124	124	278.0	294.3
26 Spd	3	4	3	3	2	2	6	7	10	13	12	10	12	13	12	11	11	10	8	4	6	4	4	5	6.9	12.7
Dir	124	124	104	115	104	87	76	62	87	93	98	105	109	95	101	106	95	111	85	88	104	31	84	148	97.6	94.7
27 Spd	6	12	11	9	7	10	12	13	13	11	8	6	4	3	3	7	13	11	7	6	6	7	8	6	7.6	13.5
Dir	158	178	184	194	196	200	196	202	200	208	231	241	236	233	168	201	193	189	188	144	170	157	170	134	190.6	199.8
28 Spd	7	6	9	6	5	6	10	4	5	6	6	6	8	5	4	3	2	2	4	4	7	8	7	7	4.0	10.3
Dir	164	161	175	150	157	172	172	143	210	204	202	217	186	202	222	213	237	349	51	93	97	101	96	102	161.4	171.8
29 Spd	3	1	3	6	4	7	6	4	3	4	5	3	4	2	6	5	5	0	9	7	4	6	8	5	2.2	9.1
Dir	109	162	102	202	96	53	66	242	268	313	327	38	29	56	40	55	65	46	160	155	109	68	105	80	84.3	159.5
30 Spd	3	0	4	3	2	1	4	4	4	4	4	5	5	8	11	8	8	6	6	5	6	7	8	8	4.4	10.6
Dir	153	214	129	129	109	172	218	187	240	215	244	249	261	216	218	239	242	246	243	235	203	205	199	195	216.9	218.2
31 Spd	9	8	10	11	9	10	10	10	10	9	8	8	10	9	11	10	9	7	4	6	7	9	10	9	7.9	10.9
Dir	189	191	189	187	191	187	187	193	200	214	241	240	243	242	222	230	245	248	214	173	148	168	173	178	203.3	222.2
Spd	7.0	6.9	7.2	7.5	6.9	7.0	6.4	6.3	6.0	5.3	4.5	3.1	2.3	2.0	1.6	1.3	0.9	0.7	1.9	4.3	4.6	5.2	7.2	7.4	Diurnal Average	
Dir	167.2	167.8	166.7	165.0	170.1	173.8	177.8	189.6	200.1	206.5	225.6	232.9	246.4	254.5	258.6	262.6	246.7	149.5	139.5	134.5	144.9	155.6	159.3	162.6		
Spd	21.0	21.2	20.9	20.2	19.2	19.1	15.3	16.5	16.3	16.7	18.9	15.5	15.2	14.6	17.6	20.7	15.4	14.3	12.9	13.5	13.1	18.2	22.2	21.9	Diurnal Maximum	
Dir	161.1	165.1	159.4	168.7	154.2	153.5	165.4	177.0	185.9	181.1	279.6	270.2	269.0	184.0	176.9	172.4	279.6	72.1	258.9	213.5	200.2	156.5	155.7	159.1		

Maximum Speed Value: 22 km/h on Aug 2 23:00
Maximum Daily Speed Average: 14.8 km/h on Aug 9
Maximum Diurnal Speed Average: 7.5 km/h at hour 4

Minimum Speed Value: 0 km/h on Aug 30 02:00
Minimum Daily Speed Average: 1.2 km/h on Aug 4
Minimum Diurnal Speed Average: 0.7 km/h at hour 18

Monthly Average Velocity: 4.14 km/h 177.63 deg

Speed Percentiles: $P_1 = 0.9$ $P_{10} = 3.0$ $Q_1 = 4.8$ Median = 7.4 $Q_3 = 10.6$ $P_{90} = 13.6$ $P_{99} = 20.5$

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

D - DAS Failure

Frequency Distribution

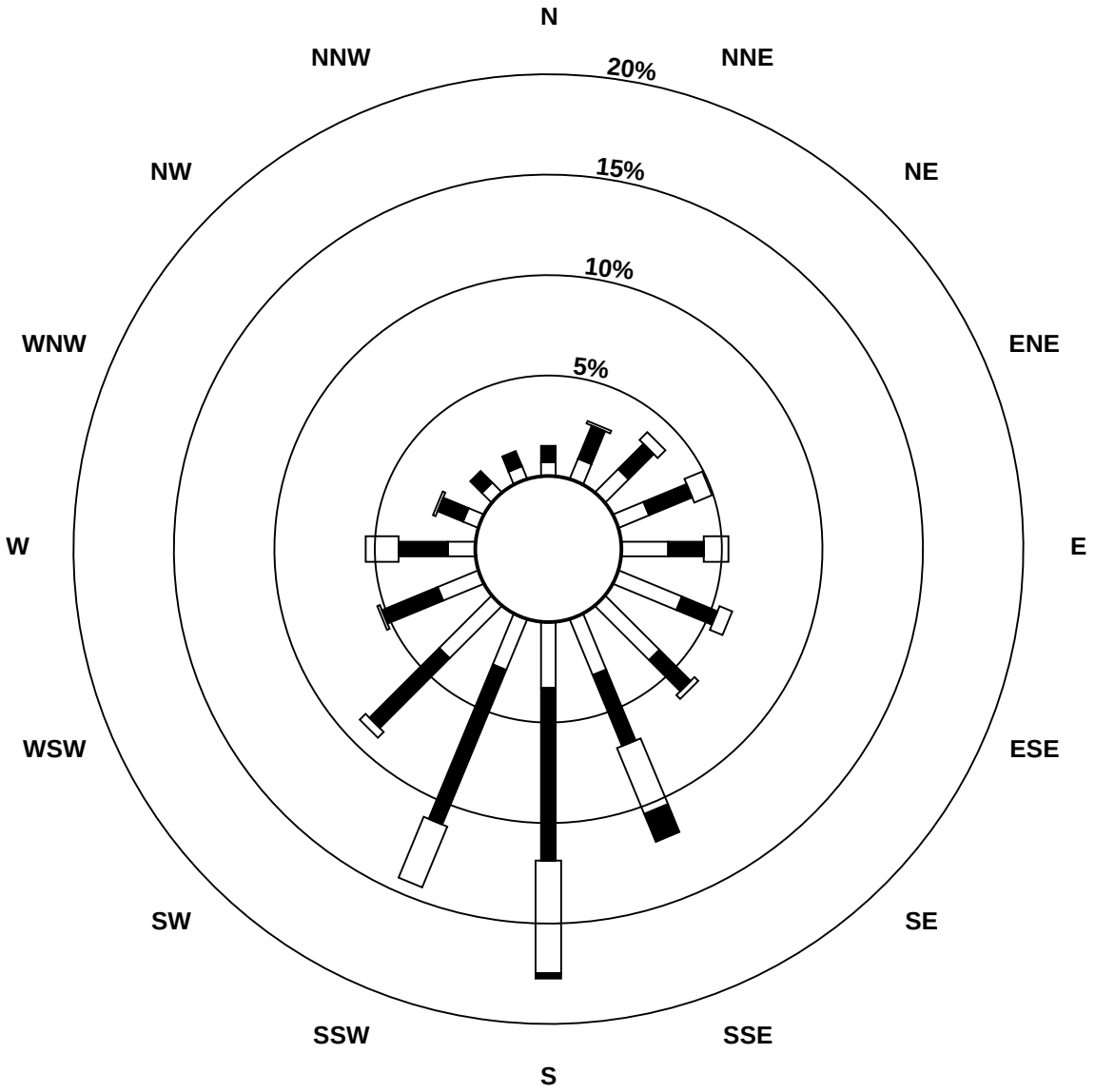
Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	9	13	1	0	0	0	23
NorthEast	22	32	11	0	0	0	65
East	27	37	17	0	0	0	81
SouthEast	49	42	20	5	0	0	116
South	29	111	78	11	0	0	229
SouthWest	45	87	14	0	0	0	146
West	16	32	12	0	0	0	60
NorthWest	7	15	1	0	0	0	23
Total	204	369	154	16	0	0	743

Peace Airshed Zone Association

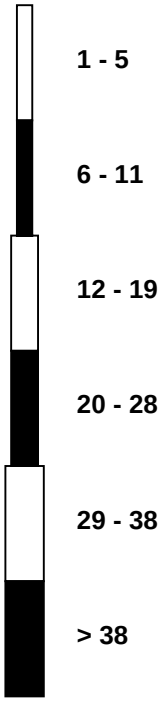
Wind Rose

Wind Speed (WS) (km/h)

Sunset House - August 2013



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Sunset House - August 2013

Maximum Speed: 22 km/h on Aug 2 23:00

Maximum Daily Speed Average: 15.5 km/h on Aug 9

Minimum Speed: 1 km/h on Aug 1 08:00

Minimum Daily Speed Average: 5.0 km/h on Aug 4

Maximum Diurnal Speed Average: 9.8 km/h at hour 4

Minimum Diurnal Speed Average: 6.6 km/h at hour 21

Monthly Average Speed: 8.48 km/h

Percentiles: P_1 = 2.0 P_{10} = 3.9 Q_1 = 5.4 Median = 7.9 Q_3 = 11.0 P_{90} = 14.0 P_{99} = 20.8

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	4	6	9	11	4	2	2	1	4	4	3	11	13	13	13	14	15	15	13	12	13	12	11	16	9.1	15.6
2-Aug	16	19	19	19	17	19	15	6	8	11	10	8	9	11	12	13	13	12	12	10	10	17	22	22	13.8	22.3
3-Aug	20	21	20	20	18	15	6	6	6	7	9	8	10	10	9	10	8	10	7	5	3	4	6	5	10.1	21.3
4-Aug	2	5	7	9	3	4	4	3	3	3	3	3	5	8	9	8	3	7	8	6	2	4	6	6	5.0	8.6
5-Aug	5	6	4	4	5	5	4	5	5	5	5	7	8	10	11	9	8	9	6	4	2	8	14	12	6.6	13.8
6-Aug	5	3	9	D	10	8	4	6	6	4	5	6	9	11	12	12	10	14	11	10	7	6	12	9	8.2	13.6
7-Aug	3	6	8	11	12	5	5	5	8	8	7	9	11	11	10	8	9	11	11	12	9	6	5	7	8.2	12.2
8-Aug	7	12	7	11	8	11	15	12	16	14	13	12	13	15	18	21	15	14	13	11	9	10	13	16	12.8	21.3
9-Aug	19	20	21	20	19	18	16	15	14	17	14	13	13	15	13	12	11	11	11	9	13	18	18	21	15.5	21.0
10-Aug	21	21	19	16	17	15	12	15	15	12	10	11	10	8	8	7	4	3	6	5	5	4	6	7	10.8	21.1
11-Aug	6	7	7	7	7	6	6	2	5	7	6	5	8	7	9	12	10	6	9	13	4	4	7	9	7.1	12.8
12-Aug	11	7	5	5	4	9	10	7	4	5	6	7	5	5	7	9	15	8	8	10	10	10	14	16	8.2	15.9
13-Aug	11	6	13	12	12	10	7	8	5	6	7	12	9	7	7	4	4	2	2	4	5	9	5	7	7.3	13.2
14-Aug	10	6	9	11	8	8	7	6	3	6	6	6	7	6	6	5	9	5	3	2	2	4	6	8	6.2	10.7
15-Aug	8	6	4	5	3	4	1	4	5	11	9	7	8	6	4	4	7	7	5	3	2	3	3	3	5.2	11.0
16-Aug	4	4	4	3	7	11	9	9	8	8	7	6	6	5	4	6	5	3	3	3	4	7	12	7	6.1	11.6
17-Aug	13	15	16	16	12	12	12	11	14	12	9	9	9	10	9	6	5	6	7	5	6	5	7	8	9.8	16.3
18-Aug	9	10	10	10	11	11	12	11	11	9	7	8	10	11	11	9	7	11	12	12	13	13	13	13	10.6	13.2
19-Aug	12	10	11	10	11	12	13	10	10	9	8	10	11	9	16	17	16	11	14	14	9	13	12	10	11.6	16.9
20-Aug	11	11	11	14	12	11	11	12	13	17	19	16	16	14	14	14	13	10	10	8	6	4	4	6	11.6	19.3
21-Aug	5	5	6	5	6	7	7	7	8	7	9	9	9	12	12	9	9	7	6	8	8	10	11	12	8.2	12.5
22-Aug	15	14	14	15	13	11	14	17	17	15	11	9	7	7	6	6	6	5	4	4	6	4	6	7	9.7	16.6
23-Aug	5	5	6	6	7	6	5	3	6	6	4	5	5	7	8	6	2	7	5	10	9	9	7	9	6.2	10.0
24-Aug	2	3	6	6	11	13	9	9	7	5	6	7	8	9	10	8	5	5	3	5	4	3	4	4	6.4	12.6
25-Aug	3	3	6	8	3	4	4	4	4	6	9	14	9	7	9	8	8	8	5	3	5	4	5	2	6.1	14.5
26-Aug	3	4	4	3	3	2	6	8	10	13	12	11	13	13	12	11	12	10	8	4	6	4	5	5	7.5	12.9
27-Aug	7	12	11	9	8	10	12	13	14	11	9	6	5	5	5	8	13	11	7	7	7	7	8	6	8.8	13.8
28-Aug	8	6	9	6	5	6	10	4	5	7	7	6	8	5	4	4	2	2	4	4	7	8	8	7	6.0	10.3
29-Aug	5	2	3	7	5	8	7	5	3	4	6	5	5	4	6	5	6	6	9	7	5	6	8	6	5.4	9.2
30-Aug	5	1	4	3	3	2	4	4	4	4	5	6	6	9	11	9	9	6	6	5	6	7	8	8	5.6	10.8
31-Aug	9	8	10	11	9	10	10	10	10	9	8	8	11	10	11	11	9	7	4	6	8	9	10	9	9.2	11.4
	8.5	8.6	9.4	9.8	8.8	8.9	8.4	7.7	8.2	8.5	8.1	8.5	8.9	9.0	9.6	9.2	8.6	8.0	7.5	7.1	6.6	7.5	8.9	9.1	Diurnal Average	
	21.1	21.3	21.0	20.3	19.3	19.2	15.6	16.6	16.6	17.2	19.3	16.2	15.8	15.3	18.2	21.3	15.9	14.7	13.8	14.5	13.2	18.3	22.3	22.0	Diurnal Maximum	

D - DAS Failure

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

Peace Airshed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Sunset House - August 2013

Maximum Value: 98.9 deg on Aug 11 21:00

Minimum Value: 2.9 deg on Aug 31 23:00

Percentiles: P_1 = 4.4 P_{10} = 6.0 Q_1 = 10.0 Median = 18.3 Q_3 = 29.6 P_{90} = 47.7 P_{99} = 88.0

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	27	5	8	9	91	89	69	71	13	32	51	23	29	19	18	17	14	13	8	8	6	4	12	5	91.4
2-Aug	5	5	5	4	5	7	7	24	13	17	20	31	40	33	19	12	21	15	11	12	17	6	5	5	40.2
3-Aug	6	6	7	5	7	52	43	55	25	58	22	26	22	30	19	15	17	15	17	19	38	27	16	10	57.9
4-Aug	46	23	68	73	87	21	15	23	58	46	35	45	51	29	29	38	82	54	15	15	49	28	9	7	86.6
5-Aug	13	9	28	15	11	10	25	21	20	33	47	37	27	30	29	24	35	17	15	33	22	40	14	5	46.9
6-Aug	93	45	7	D	4	13	28	22	29	88	70	41	17	13	16	19	18	15	13	9	65	90	7	7	92.8
7-Aug	70	63	15	18	7	40	61	33	13	14	45	28	26	26	19	13	11	12	16	10	11	18	14	5	70.2
8-Aug	8	5	14	5	6	9	8	10	9	10	16	19	14	17	15	15	13	13	10	7	14	4	6	6	18.8
9-Aug	6	6	5	6	6	6	11	10	13	13	21	19	19	19	17	18	20	19	16	5	6	7	5	6	21.3
10-Aug	5	6	5	5	4	5	5	6	8	12	16	22	20	31	37	34	40	52	38	10	15	23	16	8	52.2
11-Aug	15	9	17	18	52	68	37	48	47	22	25	67	24	36	21	17	14	23	31	14	99	53	9	5	98.9
12-Aug	5	6	10	57	15	5	8	20	24	38	28	46	70	40	17	25	24	20	11	13	14	7	5	5	69.9
13-Aug	12	20	9	7	9	23	29	15	19	30	21	20	28	36	51	35	54	43	25	61	27	12	61	21	61.1
14-Aug	7	24	11	7	24	9	11	20	61	23	28	32	42	43	46	41	18	29	80	21	35	33	26	7	80.0
15-Aug	21	19	27	45	33	61	73	16	20	14	24	58	31	47	59	48	73	16	23	35	37	32	33	29	73.3
16-Aug	18	16	35	36	32	10	10	9	12	11	16	35	24	48	66	43	34	34	29	40	76	70	15	23	75.6
17-Aug	8	6	6	5	8	7	5	5	7	14	23	29	29	26	29	27	18	12	12	9	13	36	8	12	36.1
18-Aug	6	14	5	5	5	5	5	14	15	17	24	16	17	29	21	24	29	39	20	12	6	6	5	6	39.4
19-Aug	7	7	5	7	9	6	6	9	14	15	15	24	21	25	18	19	14	21	24	21	16	7	8	9	25.0
20-Aug	11	7	7	6	11	9	10	12	19	21	13	20	16	17	14	15	20	17	12	21	20	16	20	20	21.1
21-Aug	18	16	16	14	13	13	9	18	19	21	28	29	27	20	16	21	23	18	32	7	9	6	6	5	32.0
22-Aug	5	5	9	5	7	7	7	5	11	10	15	16	32	27	31	23	27	25	21	32	15	16	8	7	31.7
23-Aug	29	18	24	15	6	7	19	55	16	19	45	62	61	30	32	35	64	13	15	6	56	43	49	77	77.0
24-Aug	70	29	26	17	8	9	11	13	23	30	31	31	25	26	16	31	37	50	48	32	47	22	42	47	69.9
25-Aug	35	66	27	69	80	49	91	39	38	28	27	16	23	28	39	28	27	17	18	39	13	15	3	19	91.1
26-Aug	24	23	30	20	33	50	19	14	8	7	13	26	17	10	9	9	8	16	11	22	21	24	46	16	49.5
27-Aug	39	7	8	8	11	7	7	8	14	12	21	24	47	62	63	37	12	10	9	13	16	13	8	7	63.1
28-Aug	21	10	16	8	9	19	6	15	31	21	22	15	20	25	19	32	49	44	19	29	15	4	11	7	49.1
29-Aug	63	71	29	34	37	22	44	35	37	31	36	57	46	69	25	17	14	89	12	7	45	10	16	39	88.7
30-Aug	59	78	19	20	38	75	43	18	27	32	25	25	31	11	10	18	17	21	17	23	10	9	9	8	78.2
31-Aug	5	6	4	6	7	7	5	7	13	14	21	26	23	24	17	20	23	23	19	13	14	4	3	4	25.8
	92.8	78.2	68.1	72.7	91.4	89.4	91.1	71.0	61.5	88.0	70.2	66.9	69.9	69.1	66.3	48.0	81.6	88.7	80.0	61.1	98.9	89.6	60.5	77.0	

D - DAS Failure

PAZA
Falher Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Falher - August 2013

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

Maximum Value: 1.2 ppb on Aug 8 19:00 Maximum Daily Average: 0.4 ppb on Aug 10

Minimum Value: 0 ppb on Aug 3 17:00 Minimum Daily Average: 0.0 ppb on Aug 16

Maximum Diurnal Average: 0.3 ppb at hour 11 Minimum Diurnal Average: 0.1 ppb at hour 21

Monthly Average: 0.12 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.2 P_{90} = 0.3 P_{99} = 0.8

Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	35
Percent Operational Time:	99.9

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

C - Calibration D - DAS Failure A - Automated Daily Zero Span

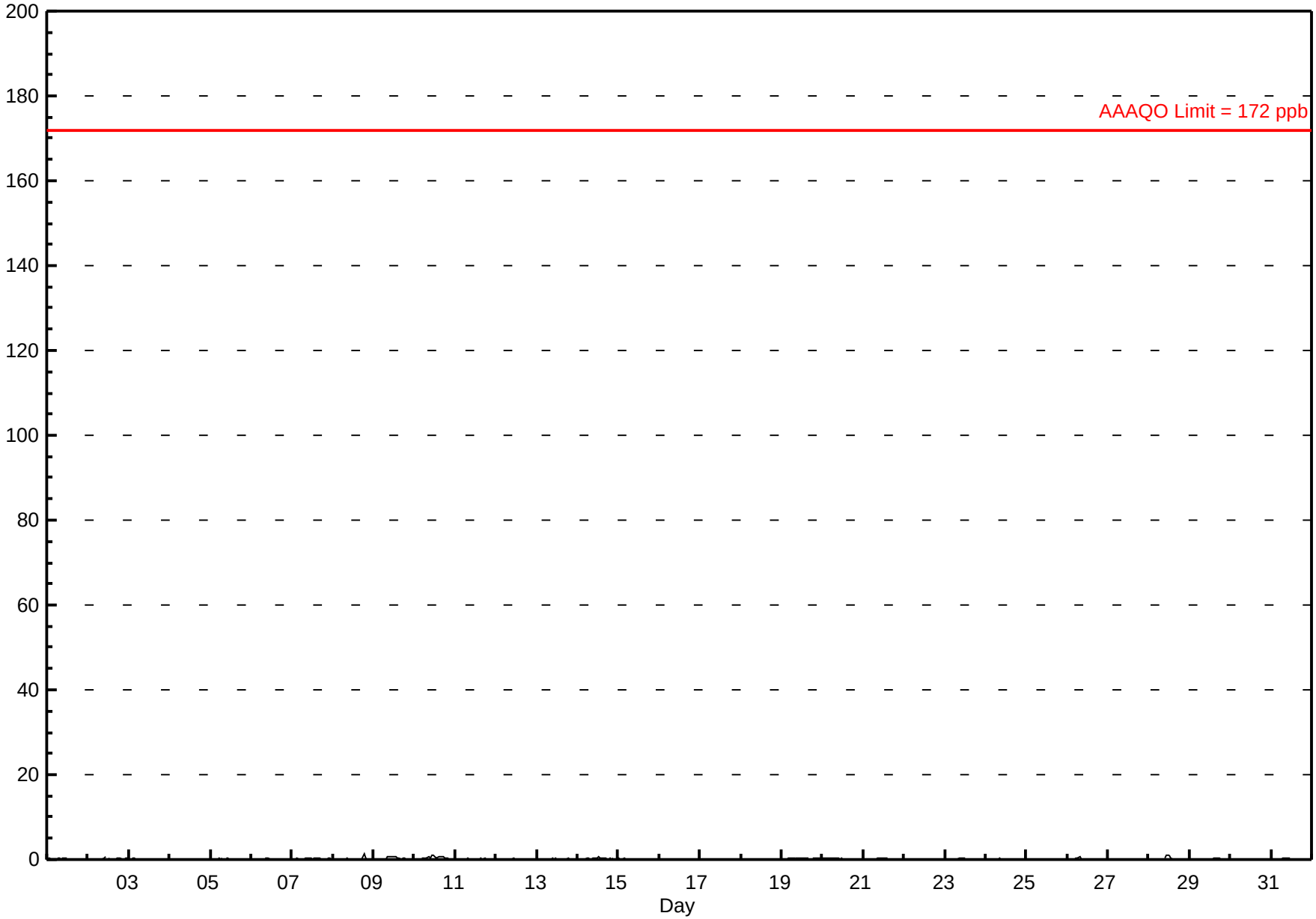
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Falher - August 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Falher - August 2013

Maximum Value: 19.3 ppb on Aug 26 08:00

Maximum Daily Average: 1.2 ppb on Aug 26

Minimum Value: 0 ppb on Aug 26 09:00

Minimum Daily Average: 0.4 ppb on Aug 25

Maximum Diurnal Average: 1.2 ppb at hour 8

Minimum Diurnal Average: 0.5 ppb at hour 23

Monthly Average: 0.57 ppb

Percentiles: $P_1 = 0.2$ $P_{10} = 0.4$ $Q_1 = 0.4$ Median = 0.5 $Q_3 = 0.6$ $P_{90} = 0.7$ $P_{99} = 2.4$

Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	35
Percent Operational Time:	99.9

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0	1	0	0	1	0	1	1	1	0.6	0.9
2-Aug	1	1	1	1	1	1	1	1	1	1	2	A	1	1	1	1	0	1	1	1	1	1	1	1	0.6	1.7
3-Aug	1	1	1	1	1	1	1	1	1	1	A	1	0	0	0	0	0	0	0	0	0	1	1	1	0.5	0.7
4-Aug	1	0	1	1	1	0	1	1	0	A	0	1	1	1	0	0	1	0	1	1	0	1	0	0	0.5	0.6
5-Aug	0	1	0	1	1	1	1	1	A	1	1	1	1	1	1	0	1	1	0	0	0	0	0	1	0.5	0.7
6-Aug	1	1	1	D	0	1	0	A	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0.6	1.2
7-Aug	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0.6	0.7
8-Aug	1	1	0	1	1	A	1	1	1	1	1	0	1	0	1	0	1	1	4	1	0	0	0	0	0.7	3.6
9-Aug	0	0	1	1	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.7	1.2
10-Aug	1	1	1	A	1	1	1	1	1	1	3	2	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.6
11-Aug	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0.6	0.8
12-Aug	1	A	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	1	0	0	0	0	0	0	0.5	0.7
13-Aug	A	0	0	0	0	0	0	0	1	1	0	1	1	0	1	1	1	0	1	0	0	0	0	A	0.5	0.8
14-Aug	0	1	0	0	1	1	1	1	1	1	1	1	2	1	1	1	1	0	1	1	1	2	A	1	0.7	1.6
15-Aug	1	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0	0.4	0.7
16-Aug	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	A	1	1	1	0.4	0.6
17-Aug	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	A	0	1	1	1	0.5	0.6
18-Aug	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	A	0	1	0	1	1	0.5	0.6
19-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	0.6	0.8
20-Aug	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	A	0	0	0	0	0	0	1	0.6	1.1
21-Aug	0	0	1	0	0	1	1	0	1	1	1	1	1	1	0	A	0	0	0	1	1	0	0	0	0.5	0.8
22-Aug	1	0	0	0	0	0	0	1	1	0	0	0	0	1	A	1	0	1	1	0	0	0	0	0	0.5	0.7
23-Aug	0	0	0	0	0	0	1	0	1	1	1	1	1	A	1	1	1	0	1	0	0	0	0	0	0.5	0.8
24-Aug	0	0	0	0	0	0	0	0	0	1	0	1	A	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6
25-Aug	0	0	0	1	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6
26-Aug	1	0	0	0	0	1	1	19	0	0	A	0	0	0	0	3	0	0	0	0	0	0	0	0	1.2	19.3
27-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	0.4	0.5
28-Aug	1	0	0	0	0	0	0	0	A	1	1	3	2	2	0	0	0	0	0	0	0	0	0	0	0.6	2.6
29-Aug	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0.4	0.8
30-Aug	0	0	1	0	0	0	A	1	1	1	0	1	1	1	0	0	0	1	1	1	1	0	0	1	0.5	0.6
31-Aug	1	0	1	1	1	A	1	1	1	1	1	1	C	C	C	0	0	0	0	0	0	0	0	0	0.5	0.9
	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.2	0.6	0.6	0.8	0.7	0.7	0.6	0.5	0.6	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5	Diurnal Average	
	0.7	0.7	0.6	0.7	0.9	1.1	0.9	19.3	1.1	1.2	2.6	2.6	2.4	1.6	1.0	2.7	1.0	0.9	3.6	1.5	0.7	1.5	0.6	0.7	Diurnal Maximum	

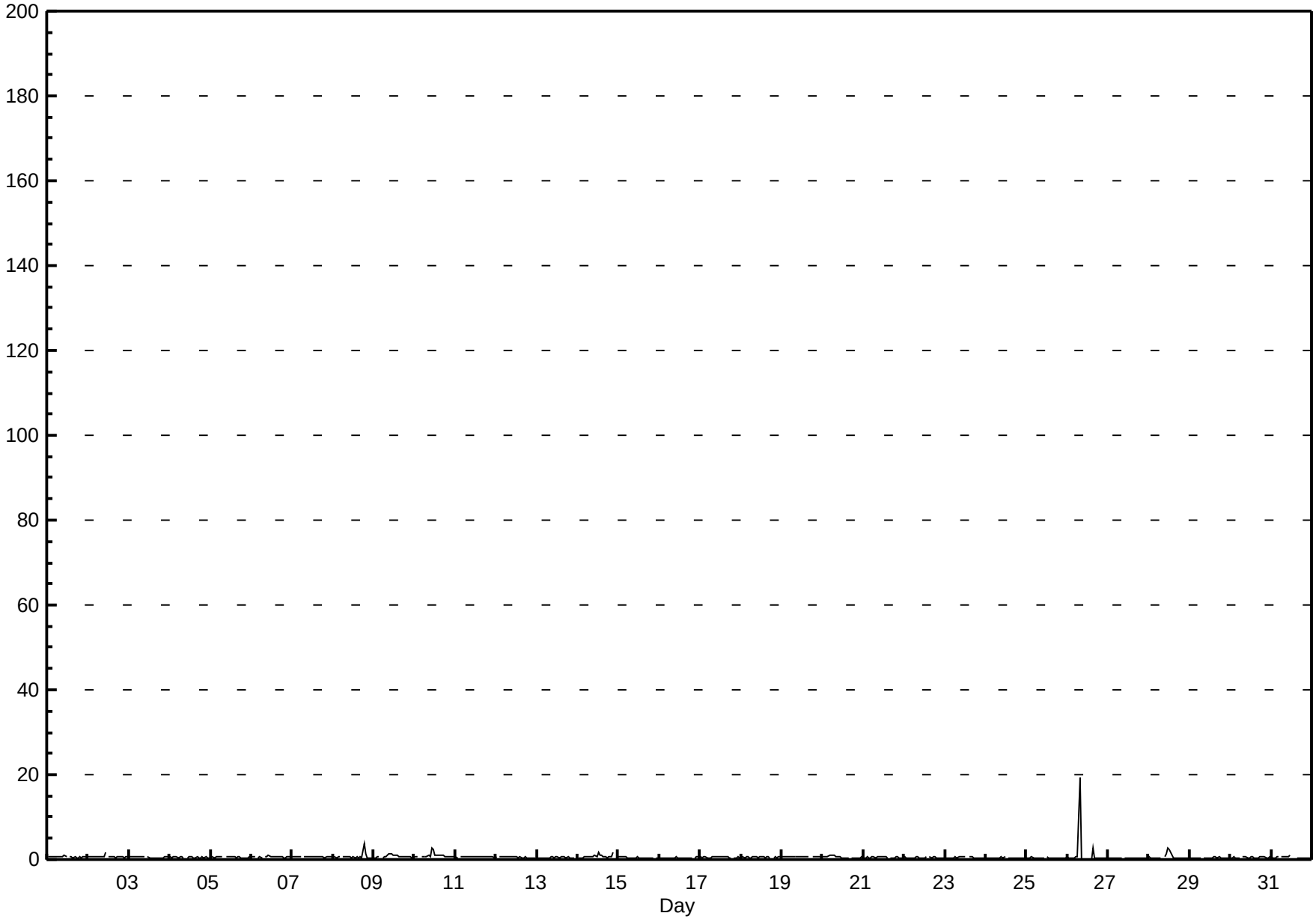
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

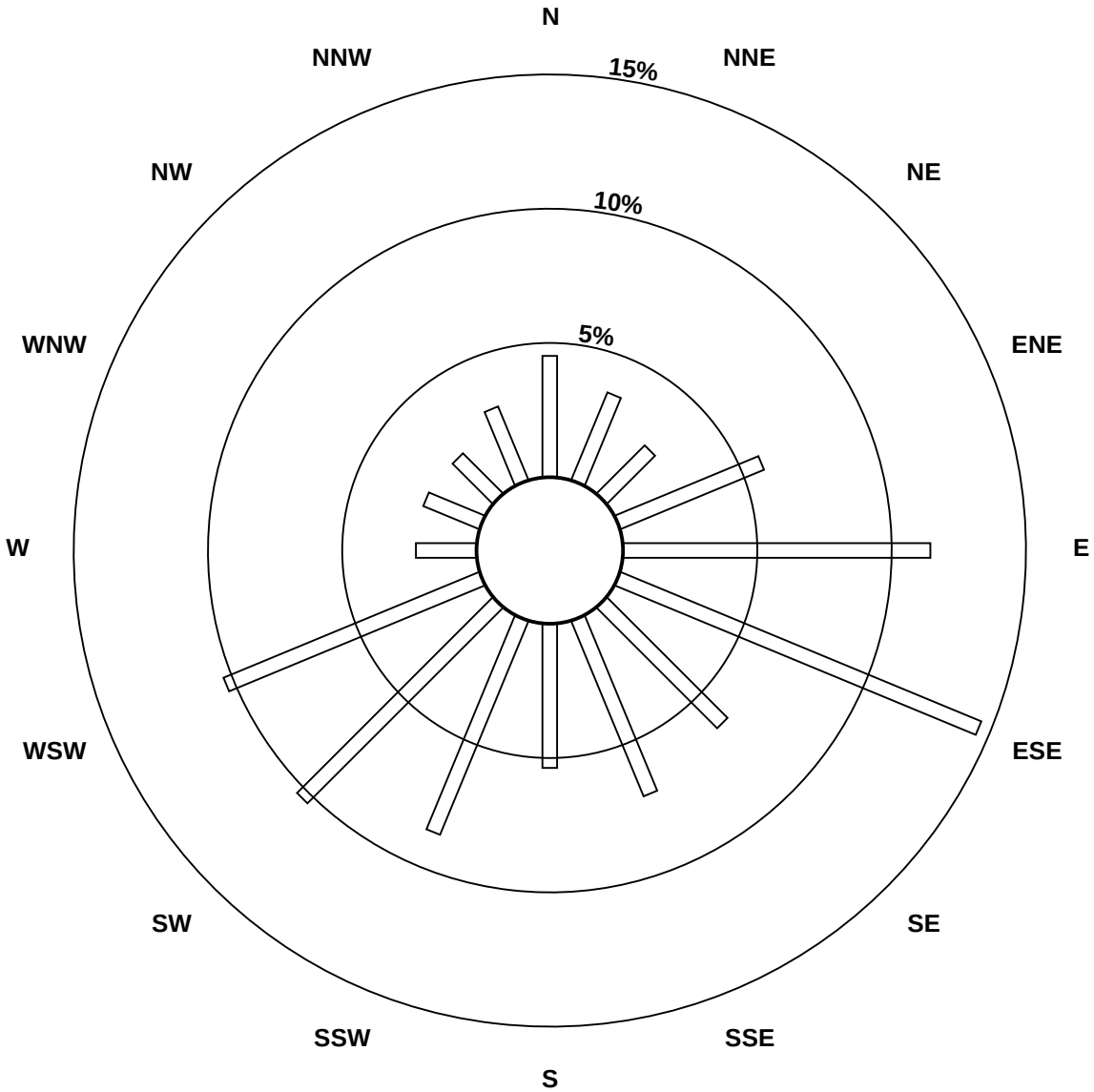
Falher - August 2013



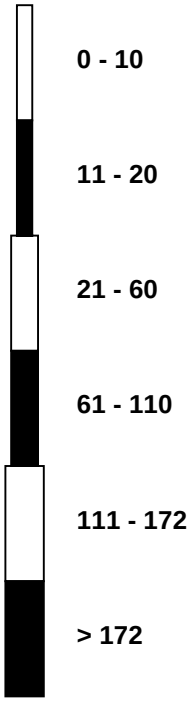
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Falher - August 2013



Pollutant Classes (ppb)

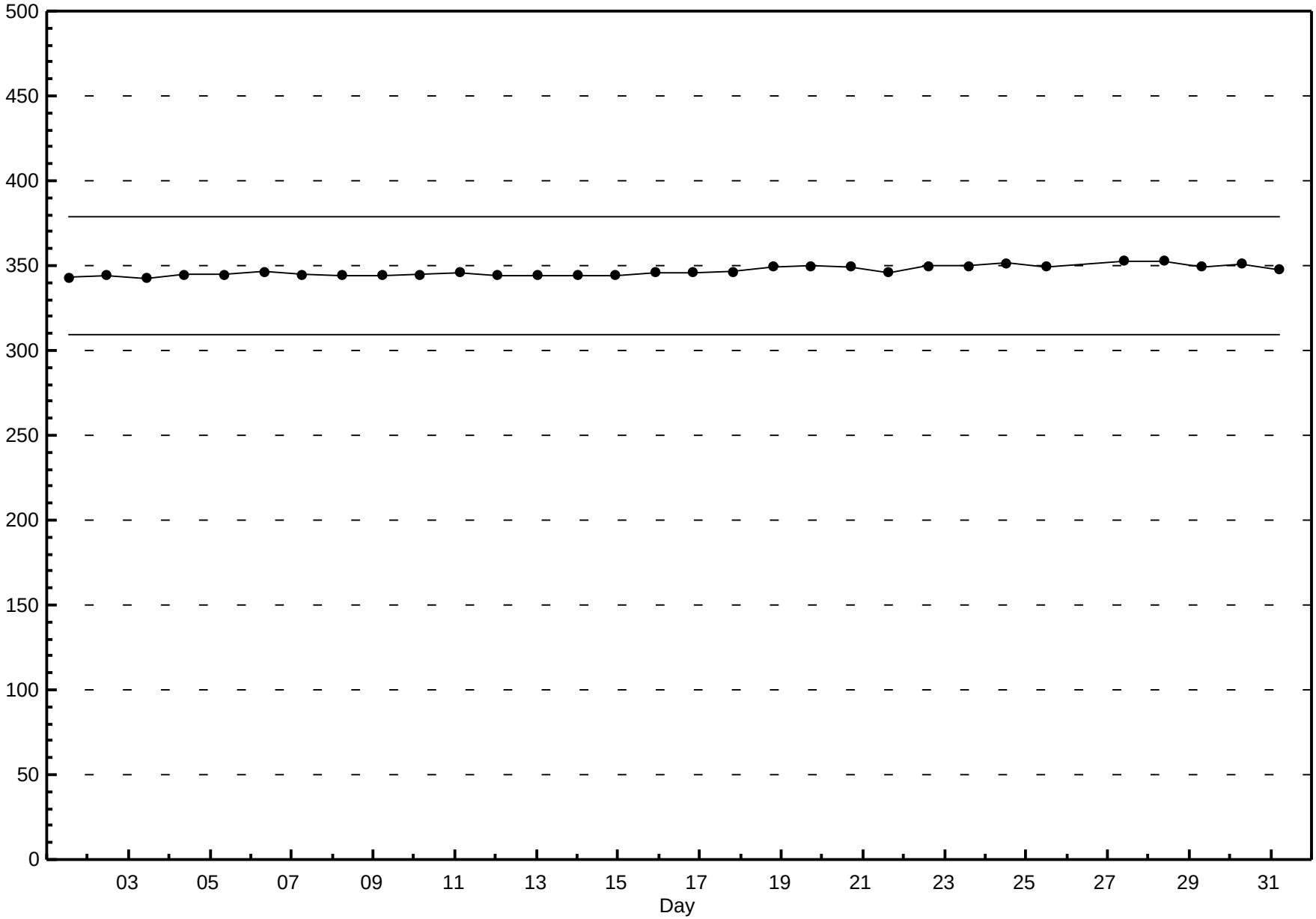


Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Falher - August 2013



Peace Airshed Zone Association

Hourly Averages

Hydrogen Sulphide (H_2S) - ppb

Falher - August 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 2.5 ppb on Aug 8 08:00 Maximum Daily Average: 0.6 ppb on Aug 1

Minimum Value: 0 ppb on Aug 2 15:00 Minimum Daily Average: 0.0 ppb on Aug 21
Maximum Diurnal Average: 0.6 ppb at hour 7 Minimum Diurnal Average: 0.1 ppb at hour 15
Monthly Average: 0.27 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.2 Q_3 = 0.3 P_{90} = 0.6 P_{99} = 1.8

Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	35
Percent Operational Time:	99.9

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	1	1	1	1	1	2	2	2	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.6	2.0
2-Aug	0	1	0	0	2	2	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.7
3-Aug	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
4-Aug	0	0	0	0	0	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	0.6
5-Aug	0	1	1	1	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.5
6-Aug	2	0	1	D	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.7
7-Aug	0	0	0	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.2	0.6
8-Aug	0	1	1	1	1	A	2	3	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0.5	2.5
9-Aug	0	0	0	0	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.5
10-Aug	0	0	0	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
11-Aug	0	0	A	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.2
12-Aug	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
13-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	0.5
14-Aug	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0.3	0.8
15-Aug	1	1	1	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	A	1	0	0.5	1.1
16-Aug	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.4	1.4
17-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	0.1	0.3
18-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	0.3
19-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	0.2	0.4
20-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
21-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	0.2
22-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	0.1	0.3
23-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	0.1	0.4
24-Aug	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	0.2	0.7
25-Aug	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	2	0.4	2.1
26-Aug	1	0	0	1	2	1	2	2	0	0	A	0	0	0	0	2	0	0	0	0	0	0	0	1	0.6	2.2
27-Aug	0	0	0	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0.3	2.2
28-Aug	1	2	1	1	1	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	1.6
29-Aug	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.2	0.5
30-Aug	0	0	0	0	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.6
31-Aug	0	0	0	0	0	A	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	0	0	0	0.1	0.4
Diurnal Average	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.4		
Diurnal Maximum	1.7	1.6	1.0	1.4	1.6	1.9	2.0	2.5	1.3	0.7	0.5	0.4	0.2	0.3	0.2	2.1	0.2	0.2	0.3	0.4	1.0	0.6	0.9	2.2		

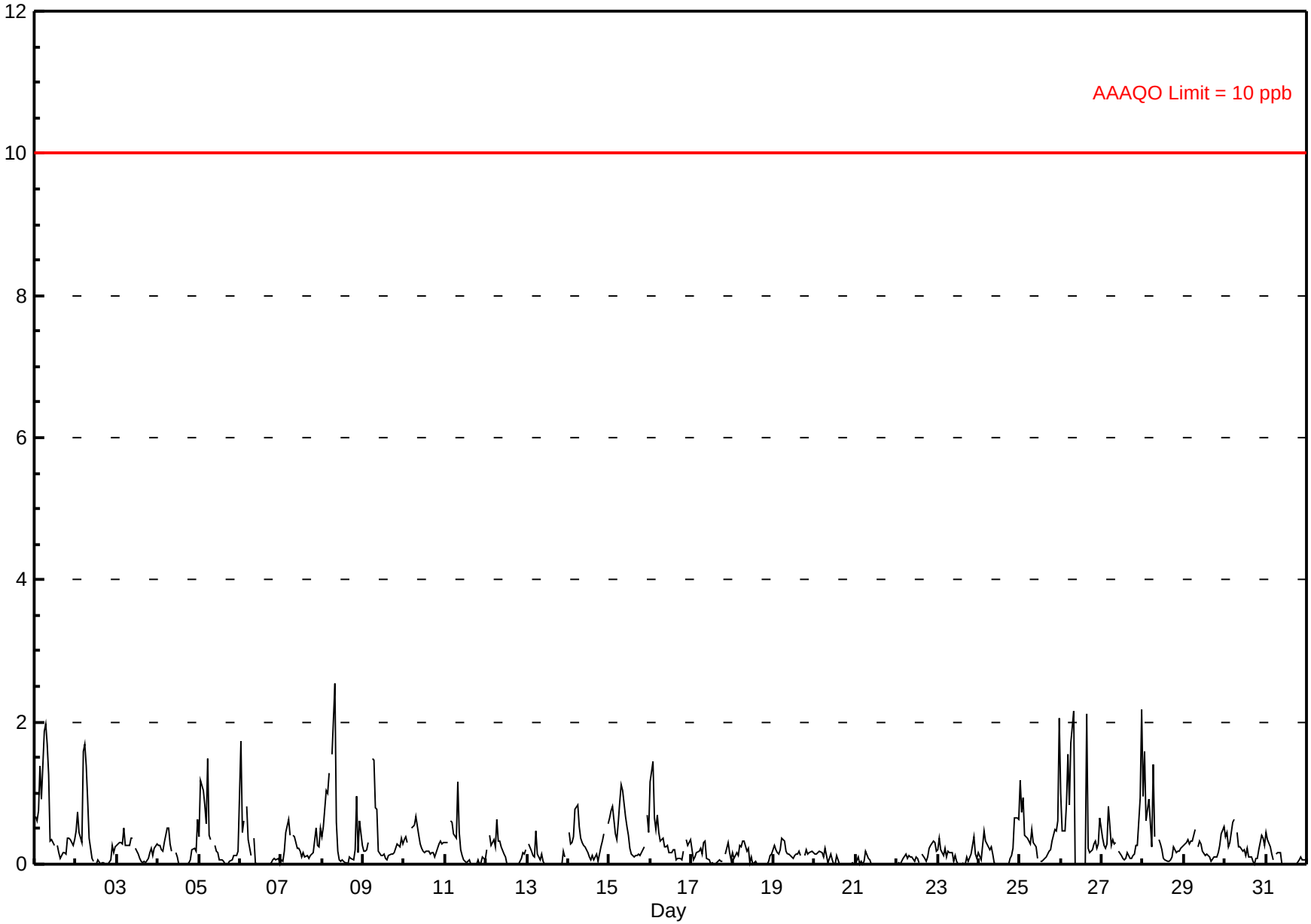
C - Calibration D - DAS Failure A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

Peace Airshed Zone Association

Hourly Averages

Hydrogen Sulphide (H_2S) - ppb

Falher - August 2013



Peace Airshed Zone Association

Hourly Maximums

Hydrogen Sulphide (H_2S) - ppb

Falher - August 2013

Maximum Value: 10.0 ppb on Aug 28 02:00

Maximum Daily Average: 1.7 ppb on Aug 26

Minimum Value: 0 ppb on Aug 26 09:00

Minimum Daily Average: 0.6 ppb on Aug 21

Maximum Diurnal Average: 1.6 ppb at hour 2

Minimum Diurnal Average: 0.6 ppb at hour 18

Monthly Average: 1.02 ppb

Percentiles: $P_1 = 0.4$ $P_{10} = 0.6$ $Q_1 = 0.7$ Median = 0.8 $Q_3 = 1.0$ $P_{90} = 1.5$ $P_{99} = 5.0$

Hours in Service:	744
Hours of Data:	708
Hours of Missing Data:	36
Hours of Calibration:	35
Percent Operational Time:	99.9

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	2	1	1	3	1	3	3	3	2	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1.4	3.1
2-Aug	1	2	1	1	2	2	3	2	1	1	1	A	1	1	0	1	1	1	1	1	1	1	1	1	1.1	2.6
3-Aug	1	1	1	1	2	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	2.1
4-Aug	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0	1	1	0	1	1	1	1	1	1	0.8	1.4
5-Aug	1	7	2	2	1	4	1	1	A	1	1	1	1	1	1	1	0	1	1	1	1	1	1	2	1.4	7.3
6-Aug	5	2	1	D	1	1	1	A	2	1	1	0	1	0	1	0	1	1	1	1	1	1	1	1	1.0	4.7
7-Aug	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	0.9	1.6
8-Aug	1	1	2	2	2	A	3	4	2	1	1	1	1	1	1	1	1	1	1	1	3	1	2	1	1.4	4.5
9-Aug	1	1	1	1	A	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.5
10-Aug	1	1	1	A	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.8
11-Aug	1	1	A	1	1	1	1	2	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	0.9	2.0
12-Aug	1	A	1	1	1	1	2	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	1	1	0.8	1.6
13-Aug	A	2	2	1	1	3	1	1	1	1	0	0	1	0	0	1	0	1	1	1	1	1	1	A	0.9	2.8
14-Aug	1	1	1	1	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1.0	3.0
15-Aug	1	1	2	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1.2	1.9
16-Aug	3	4	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1.2	4.0
17-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.7	1.2
18-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.8	1.0
19-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	0.9	1.2
20-Aug	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	A	0	1	1	1	1	1	1	0.7	0.9
21-Aug	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	A	1	1	1	1	1	1	1	0	0.6	0.8
22-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
23-Aug	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0	1	1	1	1	1	1	1	0.8	1.1
24-Aug	1	1	1	3	1	1	1	1	1	1	0	1	A	1	0	1	1	1	1	1	1	3	2	1	1.0	2.9
25-Aug	5	1	2	1	1	1	1	2	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	5	1.4	5.2
26-Aug	3	1	1	2	5	2	3	6	0	0	A	0	0	0	0	7	1	1	1	1	1	1	1	2	1.7	6.9
27-Aug	1	1	1	1	2	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	5	5	1.3	5.0
28-Aug	3	10	2	2	1	1	4	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.6	10.0
29-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	1.2
30-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	0.9	1.4
31-Aug	1	1	1	1	1	A	1	1	1	1	0	C	C	C	1	1	1	1	1	1	1	1	1	1	0.7	1.1
	1.4	1.6	1.1	1.2	1.4	1.4	1.4	1.5	1.1	0.8	0.8	0.7	0.7	0.7	0.7	0.9	0.7	0.6	0.7	0.8	1.0	1.0	1.1	1.3	Diurnal Average	
	5.0	10.0	2.2	3.0	4.7	3.9	3.9	5.5	2.2	1.4	1.3	1.4	0.9	1.2	1.2	6.9	1.0	1.0	0.9	1.2	3.0	2.8	5.0	5.2	Diurnal Maximum	

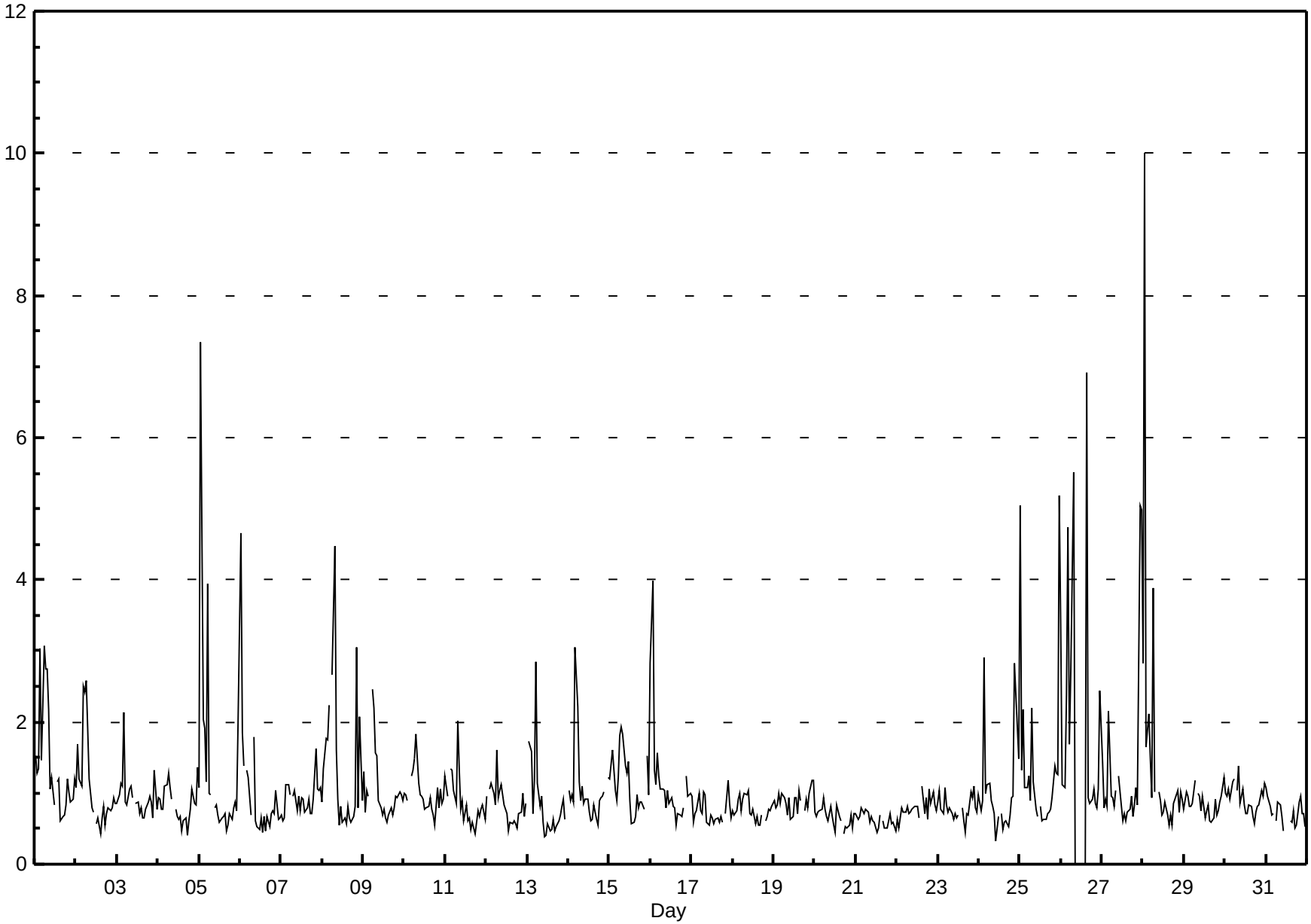
C - Calibration D - DAS Failure A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Hydrogen Sulphide (H_2S) - ppb

Falher - August 2013

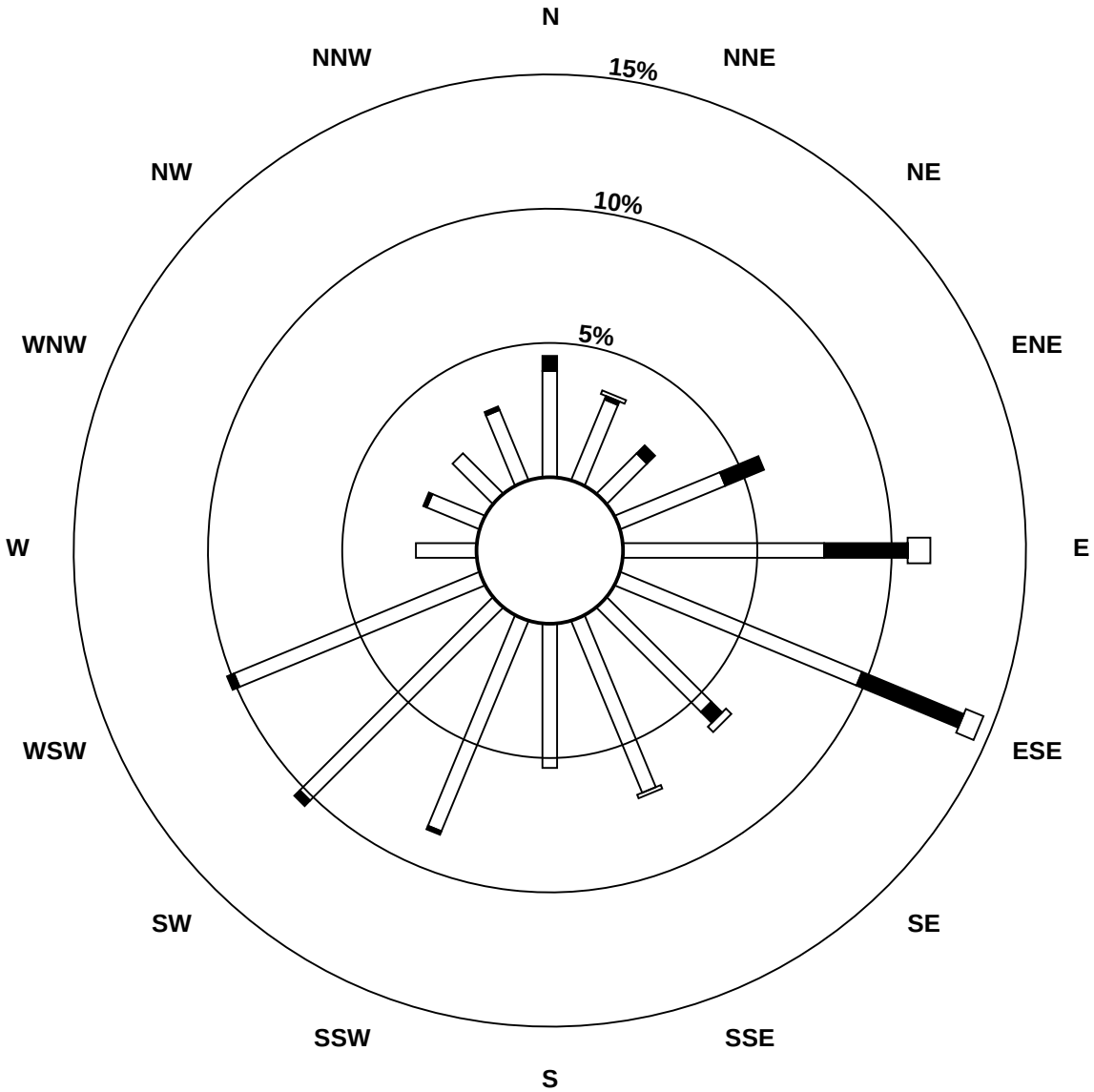


FOCUS AIR QUALITY MONITORING

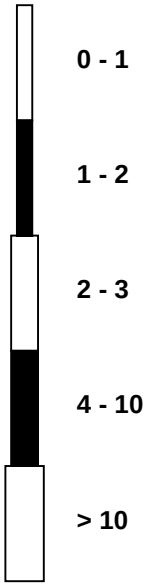
Pollutant Rose

Hydrogen Sulphide (H_2S) - ppb

Falher - August 2013



Pollutant Classes (ppb)

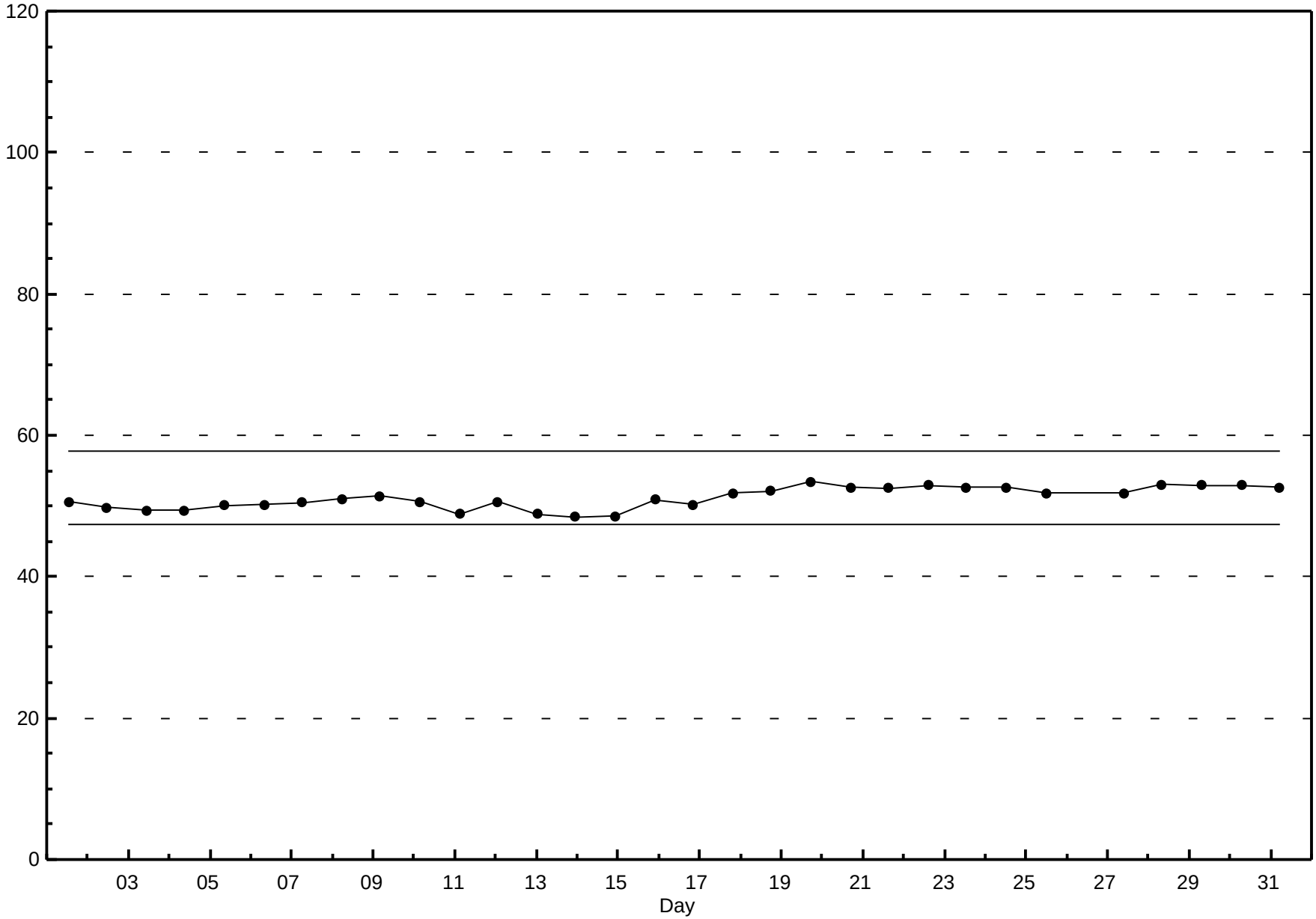


Peace Airshed Zone Association

Span Responses

Hydrogen Sulphide (H_2S)

Falher - August 2013



Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Falher - August 2013

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

Maximum Value: 27.4 ^{o}C on Aug 10 17:00

Maximum Daily Average: 19.6 ^{o}C on Aug 13

Minimum Value: 5 ^{o}C on Aug 26 06:00

Minimum Daily Average: 12.4 ^{o}C on Aug 20

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

Minimum Diurnal Average: 10.6 ^{o}C at hour 5

Monthly Average: 16.37 ^{o}C

Percentiles: P_1 = 6.1 P_{10} = 10.1 Q_1 = 12.4 Median = 16.0 Q_3 = 20.6 P_{90} = 23.4 P_{99} = 25.9

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	13	13	12	11	11	11	14	16	18	20	21	22	23	24	24	24	24	24	23	21	19	16	14	14	18.0	24.3
2-Aug	14	13	13	13	12	12	14	16	19	21	22	23	24	24	25	25	25	25	24	22	19	17	16	16	18.8	25.0
3-Aug	15	14	14	14	14	14	14	14	15	17	17	18	19	20	22	22	23	23	21	18	16	15	14	14	16.9	22.7
4-Aug	13	11	11	10	9	9	10	12	14	16	18	21	23	23	24	24	24	24	23	22	19	17	15	14	16.9	23.8
5-Aug	13	12	11	10	9	9	12	17	18	21	23	25	25	25	25	26	26	26	25	24	20	17	14	13	18.6	26.1
6-Aug	12	12	12	D	10	12	13	15	17	20	21	23	24	24	24	25	24	24	22	21	19	18	17	16	18.4	24.5
7-Aug	15	15	14	14	14	14	14	15	17	18	19	20	21	21	21	22	21	21	20	17	15	14	12	12	17.0	21.7
8-Aug	12	11	10	10	10	10	11	13	16	18	19	20	21	21	21	21	19	18	19	17	16	14	12	11	15.3	21.0
9-Aug	10	11	10	10	10	11	12	14	16	17	17	18	20	21	22	22	23	22	22	20	18	17	15	14	16.4	22.8
10-Aug	13	13	13	13	13	13	14	15	17	19	21	23	24	25	26	27	27	27	26	23	20	18	17	16	19.3	27.4
11-Aug	16	16	14	14	13	12	13	17	19	22	23	23	23	24	23	22	24	24	23	21	19	17	15	14	18.7	23.9
12-Aug	13	12	12	12	11	11	12	12	14	16	20	22	23	24	25	25	25	26	22	19	18	17	16	16	17.6	25.6
13-Aug	16	16	16	16	16	16	17	18	19	21	22	23	23	24	25	25	24	24	24	19	17	17	17	16	19.6	24.9
14-Aug	14	14	14	12	12	13	14	15	16	18	21	23	24	25	25	25	26	26	26	24	22	19	17	16	19.2	25.9
15-Aug	16	16	17	17	16	15	16	17	18	19	19	19	19	19	20	23	23	24	23	21	18	15	14	13	18.3	23.8
16-Aug	13	12	12	12	13	13	14	15	16	17	17	18	17	18	18	18	19	21	21	18	16	14	14	14	15.8	20.7
17-Aug	13	12	11	11	10	10	11	13	16	19	20	21	22	22	22	23	23	23	21	19	17	14	14	13	16.5	23.0
18-Aug	13	12	11	10	10	10	12	15	17	19	20	21	21	21	18	18	18	18	18	16	15	14	12	11	15.4	21.0
19-Aug	11	11	10	10	9	9	9	13	15	16	16	18	18	19	19	20	19	18	17	14	13	11	10	11	14.1	19.7
20-Aug	10	10	10	9	9	9	9	11	13	15	16	16	16	14	14	14	14	14	14	14	13	12	12	9	12.4	15.8
21-Aug	9	9	8	10	10	10	10	11	13	14	16	18	19	19	20	20	21	21	19	16	12	11	9	9	13.9	20.6
22-Aug	9	9	9	8	8	7	9	12	15	17	18	21	23	23	23	23	23	22	21	19	16	15	15	13	15.8	23.4
23-Aug	11	11	10	9	7	8	10	14	17	19	21	22	23	24	25	25	26	25	24	21	17	15	16	16	17.3	25.9
24-Aug	14	13	12	11	11	10	10	14	16	20	22	22	23	23	23	24	24	23	22	18	16	13	12	12	16.9	24.0
25-Aug	12	12	13	13	12	13	13	13	14	15	18	18	20	20	21	21	21	21	20	17	14	12	10	8	15.3	21.1
26-Aug	6	6	6	5	5	5	6	10	13	16	18	19	20	21	16	15	15	15	15	14	13	13	12	13	12.4	20.7
27-Aug	12	12	12	12	12	12	13	13	14	14	16	16	19	20	20	21	21	21	20	16	13	11	10	9	15.0	21.1
28-Aug	8	7	6	6	6	6	8	9	12	14	16	18	20	22	21	21	21	21	20	18	16	14	12	11	13.9	21.8
29-Aug	10	10	10	10	10	10	10	11	12	13	15	18	19	20	21	22	22	22	22	19	16	14	13	12	15.1	22.1
30-Aug	12	11	10	11	10	10	10	11	12	13	14	14	15	15	17	17	17	18	18	16	14	12	11	11	13.3	18.3
31-Aug	10	9	8	8	7	7	9	12	15	18	20	21	21	21	22	23	23	23	22	19	15	13	11	11	15.3	22.9
	12.2	11.8	11.4	11.1	10.6	10.7	11.7	13.7	15.7	17.4	18.9	20.1	20.9	21.5	21.7	22.0	22.1	21.9	21.1	18.9	16.5	14.6	13.5	12.7	Diurnal Average	
	16.1	16.3	17.3	17.3	16.5	16.2	16.5	17.7	19.3	21.7	22.9	24.5	25.0	24.9	25.8	26.7	27.4	27.0	26.3	23.9	21.7	19.2	17.2	16.1	Diurnal Maximum	

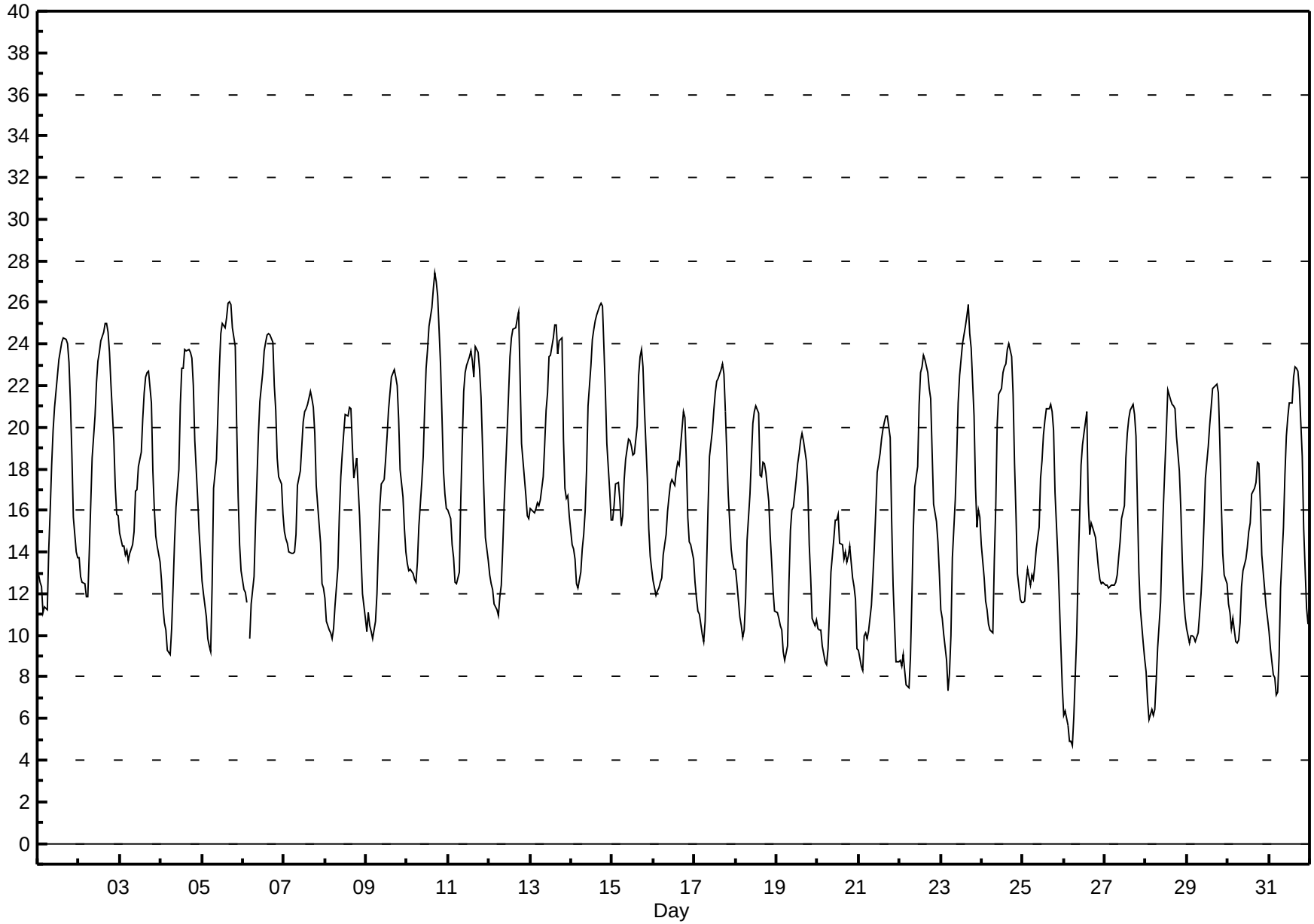
D - DAS Failure

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Falher - August 2013



Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Falher - August 2013

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1 Spd	7	9	9	7	9	7	4	9	10	6	5	7	7	9	8	8	9	9	12	9	9	10	13	12	8.0	12.7
Dir	80	82	79	103	85	120	101	102	113	130	120	124	106	115	120	131	123	130	121	115	109	87	65	70	104	65
2 Spd	11	11	12	11	9	9	9	12	16	13	12	13	16	12	11	9	9	11	12	11	9	10	8	8	10.1	16.2
Dir	80	93	95	91	91	96	107	111	114	120	110	107	106	108	102	110	122	112	101	94	72	52	44	7	98	114
3 Spd	7	7	9	8	5	6	3	6	2	6	8	7	7	6	6	5	5	8	11	3	3	6	4	2	2.2	10.7
Dir	16	43	76	98	232	278	335	2	89	232	244	270	243	242	262	277	281	299	324	237	290	26	105	7	298	324
4 Spd	1	2	4	2	4	1	0	3	4	4	5	2	5	9	12	12	13	13	9	2	6	8	7	5	2.7	13.1
Dir	16	286	238	303	117	8	215	235	243	249	236	235	283	312	320	296	310	312	321	149	113	186	176	108	285	310
5 Spd	7	5	4	6	4	7	2	1	4	3	2	3	5	8	9	9	8	6	6	5	14	16	11	9	1.9	15.9
Dir	98	122	103	97	85	116	136	219	244	248	253	270	288	317	319	313	319	321	343	338	68	90	100	109	51	90
6 Spd	8	7	3	D	10	11	11	13	15	12	13	13	11	12	8	8	7	6	5	3	7	3	7	16	7.3	16.0
Dir	99	81	86	D	76	92	96	111	109	125	105	112	111	111	120	107	96	78	26	339	295	51	27	33	92	33
7 Spd	12	10	3	5	7	6	5	5	4	4	5	5	9	9	10	13	14	11	12	9	7	6	11	11	6.7	13.5
Dir	56	19	51	139	2	346	342	23	34	33	30	42	71	76	71	61	74	65	96	116	111	52	63	69	61	74
8 Spd	10	11	9	10	9	9	9	10	15	14	15	17	17	16	14	16	16	15	9	8	8	8	10	10	11.1	17.3
Dir	96	68	71	76	75	78	83	112	112	106	110	112	117	107	111	129	157	137	119	110	113	123	116	119	109	117
9 Spd	12	14	14	13	11	11	11	13	19	19	15	15	12	13	14	11	10	11	10	9	13	15	13	12	11.9	18.9
Dir	92	96	100	96	87	88	88	105	114	130	146	129	123	138	160	165	160	129	110	110	101	102	106	102	116	114
10 Spd	12	13	14	13	9	10	12	13	10	11	12	7	8	10	6	4	3	3	4	10	7	8	6	6	7.2	13.9
Dir	101	102	101	102	98	100	102	109	136	144	141	148	154	147	130	150	128	133	124	67	77	46	2	8	109	101
11 Spd	6	10	5	6	3	4	8	9	9	5	14	13	15	14	13	14	13	11	9	8	8	8	8	7	8.2	15.4
Dir	357	17	93	74	249	352	5	11	17	338	323	336	347	355	351	349	9	359	338	320	349	355	8	358	355	347
12 Spd	6	7	6	6	6	4	4	3	4	2	3	2	2	2	5	6	3	3	9	12	9	8	9	8	2.1	12.3
Dir	352	350	2	352	18	40	127	98	184	236	245	244	213	194	183	173	225	270	78	55	69	93	96	73	66	55
13 Spd	12	9	6	10	11	10	11	12	12	13	10	4	5	5	3	6	6	4	2	15	13	10	3	7	7.0	15.0
Dir	99	108	111	98	94	107	104	99	118	140	147	150	153	93	78	111	97	155	96	42	58	119	249	31	103	42
14 Spd	4	7	4	4	10	6	1	3	3	11	13	13	13	12	10	8	5	6	2	4	4	3	6	5	4.5	12.9
Dir	166	193	357	84	101	104	40	343	27	84	109	135	141	129	134	133	171	227	212	106	111	90	19	76	118	141
15 Spd	6	7	8	7	2	8	7	3	3	2	12	9	8	10	8	5	6	3	5	6	9	10	10	8	1.1	11.5
Dir	85	82	43	33	35	113	94	74	5	330	238	246	295	327	340	224	243	222	180	172	150	126	118	105	120	238
16 Spd	6	8	6	6	5	7	13	12	10	12	17	18	19	14	12	10	11	8	6	0	9	12	13	11	8.1	18.5
Dir	116	109	97	57	102	121	173	175	183	196	211	214	195	204	196	174	168	189	162	179	145	121	195	204	176	195
17 Spd	14	12	13	13	10	7	11	10	13	20	20	21	20	17	14	15	16	14	9	9	7	11	11	12	11.3	21.1
Dir	183	173	170	167	163	148	160	164	190	233	242	237	240	242	246	242	241	240	230	218	205	194	195	195	212	237
18 Spd	11	11	13	13	12	12	12	13	16	12	15	16	18	15	17	13	16	24	20	17	18	18	16	17	13.9	24.3
Dir	177	177	170	166	180	180	182	201	205	215	234	232	228	217	262	252	222	213	219	202	198	207	195	195	208	213
19 Spd	15	17	16	16	12	15	14	16	23	23	22	24	24	25	25	22	19	17	24	30	25	17	21	23	19.0	29.5
Dir	197	204	204	213	206	195	201	221	228	232	231	244	240	256	258	256	263	247	233	218	218	208	208	213	227	218
20 Spd	21	18	17	16	17	18	17	19	22	28	28	23	21	19	18	17	15	15	17	20	10	12	14	8	17.3	28.1
Dir	217	219	218	209	207	212	216	221	235	244	246	246	253	258	245	224	233	246	240	257	249	245	250	237	235	244
21 Spd	11	9	7	9	6	8	5	9	12	14	13	10	10	13	18	20	19	17	13	12	15	14	10	13	10.5	19.9
Dir	239	233	235	247	245	216	220	224	239	243	236	249	220	217	215	213	211	205	194	184	172	163	157	151	212	213
22 Spd	12	11	13	12	12	10	13	15	12	14	12	14	19	19	18	18	18	17	13	7	5	7	9	10	11.0	19.2
Dir	162	165	158	158	154	153	165	171	188	201	196	217	234	228	232	242	235	220	214	245	240	227	208	197	203	234

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Falher - August 2013

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
23 Spd	3	8	8	5	7	7	7	5	8	8	7	7	8	10	8	8	6	5	1	3	7	10	9	8	4.3	10.4
Dir	157	147	159	154	132	160	156	173	198	225	223	225	213	219	217	227	257	280	332	64	77	125	158	288	189	219
24 Spd	8	3	6	9	4	3	3	2	7	7	13	16	13	14	11	16	17	13	8	6	7	4	6	6	5.1	16.7
Dir	147	96	88	126	100	164	211	159	238	251	260	246	239	226	247	231	242	246	251	244	196	114	63	80	224	242
25 Spd	6	7	8	4	2	4	4	7	9	11	13	14	14	15	16	16	18	17	12	7	8	6	7	8	6.8	17.6
Dir	93	85	109	98	208	119	174	129	200	205	246	255	241	231	233	238	226	229	243	255	223	221	206	118	218	226
26 Spd	9	7	5	8	7	4	4	5	4	5	9	12	9	21	23	13	12	13	12	10	13	13	11	10	9.2	23.5
Dir	128	160	138	108	87	64	29	129	105	78	53	103	95	119	137	113	98	96	98	104	97	96	95	106	106	137
27 Spd	9	12	9	7	7	7	6	8	11	13	13	7	6	11	8	16	21	15	6	9	9	9	8	5	5.0	20.6
Dir	105	99	84	89	100	125	129	142	177	207	216	221	206	231	235	213	208	207	226	22	65	99	105	132	167	208
28 Spd	3	6	8	6	6	6	5	2	4	8	7	7	5	4	6	4	4	5	4	6	8	9	8	7	2.0	9.3
Dir	130	151	127	104	85	92	103	92	50	69	113	104	141	255	260	227	251	280	318	341	0	8	17	18	71	8
29 Spd	5	6	7	6	7	6	10	9	6	7	8	8	9	6	5	5	4	3	4	7	11	8	7	7	4.1	11.3
Dir	17	354	7	350	0	333	1	10	334	348	38	78	93	93	147	143	129	44	12	25	148	78	61	55	39	148
30 Spd	7	5	8	6	6	7	5	7	9	10	9	12	12	10	8	9	11	9	5	3	5	5	9	8	4.6	11.8
Dir	25	9	20	358	304	358	284	300	312	326	300	293	270	264	292	253	239	252	266	287	174	194	181	193	284	293
31 Spd	6	6	7	8	8	9	8	8	9	15	13	14	14	16	14	16	16	14	9	10	12	14	11	11	9.5	16.4
Dir	207	170	150	168	139	149	162	184	205	228	243	243	230	224	232	235	245	230	231	197	193	175	177	170	208	224
Spd	4.2	4.1	4.5	4.5	3.8	4.0	3.6	3.9	4.6	5.1	5.4	5.1	5.3	5.0	4.8	5.7	5.7	4.9	2.8	1.7	3.9	4.7	3.8	3.4	Diurnal Average	
Dir	123	121	119	121	117	127	139	145	174	199	213	213	208	209	220	215	217	218	207	168	138	127	135	123		
Spd	20.7	18.5	16.9	16.4	16.6	18.2	17.4	19.5	22.6	28.1	27.8	24.2	24.5	25.1	24.9	21.9	20.6	24.3	23.9	29.5	24.6	17.7	21.3	22.9	Diurnal Maximum	
Dir	217	219	218	209	207	212	216	221	228	244	246	244	240	256	258	256	208	213	233	218	218	207	208	213		

Maximum Speed Value: 30 km/h on Aug 19 20:00
Maximum Daily Speed Average: 19.0 km/h on Aug 19
Maximum Diurnal Speed Average: 5.7 km/h at hour 16

Minimum Speed Value: 0 km/h on Aug 16 20:00
Minimum Daily Speed Average: 1.1 km/h on Aug 12
Minimum Diurnal Speed Average: 1.7 km/h at hour 20

Monthly Average Velocity: 3.27 km/h 171.0 deg

Speed Percentiles: $P_1 = 1.6$ $P_{10} = 4.0$ $Q_1 = 6.2$ Median = 9.0 $Q_3 = 12.6$ $P_{90} = 16.4$ $P_{99} = 24.4$

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

D - DAS Failure

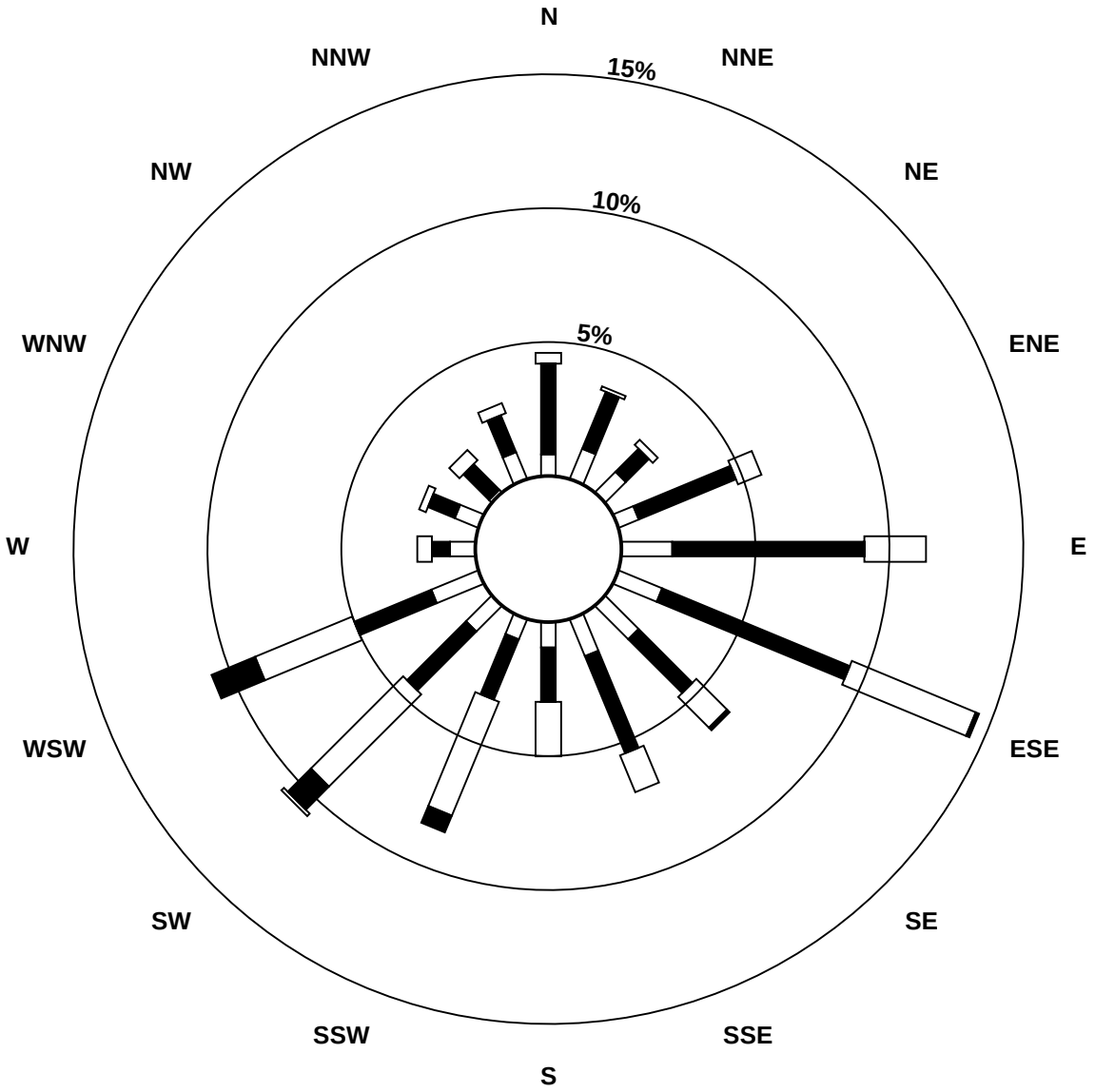
Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	12	45	5	0	0	0	62
NorthEast	15	23	8	0	0	0	46
East	23	97	61	0	0	0	181
SouthEast	18	65	27	2	0	0	112
South	11	33	47	0	0	0	91
SouthWest	21	44	80	24	2	0	171
West	14	21	7	6	0	0	48
NorthWest	5	20	7	0	0	0	32
Total	119	348	242	32	2	0	743

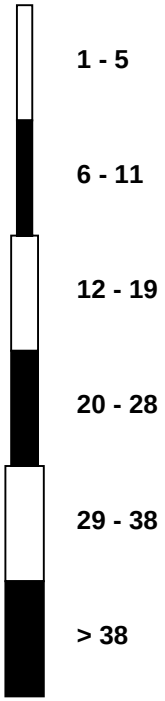
Wind Rose

Wind Speed (WS) (km/h)

Falher - August 2013



Wind Speed Classes (km/h)



Peace Airshed Zone Association

Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Falher - August 2013

Maximum Speed: 30 km/h on Aug 19 20:00

Maximum Daily Speed Average: 20.4 km/h on Aug 19

Minimum Speed: 1 km/h on Aug 4 07:00

Minimum Daily Speed Average: 6.2 km/h on Aug 28

Maximum Diurnal Speed Average: 12.8 km/h at hour 14

Minimum Diurnal Speed Average: 7.8 km/h at hour 7

Monthly Average Speed: 10.20 km/h

Percentiles: $P_1 = 2.6$ $P_{10} = 4.8$ $Q_1 = 6.7$ Median = 9.3 $Q_3 = 12.8$ $P_{90} = 16.7$ $P_{99} = 24.7$

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Aug	8	9	9	8	9	8	4	9	10	7	6	7	8	9	9	9	9	10	12	9	9	11	13	12	8.9	12.8
2-Aug	12	11	12	11	9	9	9	12	16	13	12	13	16	13	11	10	9	11	12	11	10	10	8	9	11.1	16.2
3-Aug	7	8	9	8	8	6	4	6	4	6	8	8	8	7	7	6	6	8	11	6	8	7	4	6	6.9	10.9
4-Aug	1	4	5	4	4	3	1	3	4	5	5	4	7	9	12	12	14	13	9	6	7	8	8	5	6.4	13.5
5-Aug	7	5	4	6	4	7	2	2	4	4	4	4	6	9	9	10	8	7	6	5	16	16	11	9	6.9	16.0
6-Aug	9	7	3	D	10	11	11	13	15	12	13	13	11	13	9	9	7	8	6	5	8	4	8	17	9.6	16.7
7-Aug	12	11	5	6	8	7	5	5	4	5	6	6	9	10	11	14	14	11	12	9	7	6	11	11	8.6	13.8
8-Aug	10	11	9	10	9	9	9	10	15	14	16	17	18	17	14	17	16	15	10	8	8	9	10	10	12.1	17.6
9-Aug	12	14	14	13	11	11	11	13	19	19	15	15	12	14	14	12	11	12	10	9	13	15	13	12	13.0	19.2
10-Aug	12	13	14	13	9	10	12	13	11	11	12	8	9	10	7	5	4	4	4	11	8	8	7	7	9.2	13.9
11-Aug	6	11	8	7	5	4	8	9	9	6	14	14	16	14	13	15	13	11	9	8	8	8	8	7	9.7	15.9
12-Aug	7	7	7	6	7	5	4	4	5	4	5	5	4	5	6	6	5	4	11	12	9	9	9	8	6.4	12.4
13-Aug	12	10	6	10	11	10	11	12	13	14	11	6	6	6	5	7	7	4	6	16	16	12	12	8	9.6	16.4
14-Aug	5	8	5	5	10	6	2	4	5	11	13	13	13	12	11	8	6	6	3	4	5	4	7	6	7.2	13.3
15-Aug	7	7	8	7	4	8	7	4	3	4	12	9	8	10	9	6	7	4	5	6	9	10	10	8	7.1	11.6
16-Aug	6	8	6	7	7	7	13	12	11	12	17	18	19	14	12	10	11	9	6	8	10	12	13	11	10.8	18.6
17-Aug	14	12	13	13	10	7	11	10	14	20	20	21	21	17	15	15	16	14	9	10	7	11	11	12	13.5	21.3
18-Aug	11	11	13	13	12	12	12	13	16	13	15	16	18	15	18	13	16	24	21	17	18	18	16	17	15.2	24.4
19-Aug	16	17	16	16	12	15	14	16	23	23	23	25	25	26	25	22	19	18	24	30	25	18	21	23	20.4	29.5
20-Aug	21	19	17	16	17	18	17	20	22	28	28	23	22	20	19	17	15	15	17	20	10	12	14	8	18.2	28.3
21-Aug	11	9	7	9	6	8	5	9	12	14	13	11	11	14	19	20	19	17	13	12	15	14	10	13	12.1	20.2
22-Aug	12	11	13	12	12	10	13	15	12	15	12	15	19	19	18	18	18	17	13	8	5	7	9	10	13.1	19.4
23-Aug	8	8	8	6	8	7	7	5	8	9	7	8	9	11	9	9	6	5	2	3	9	10	10	9	7.5	11.3
24-Aug	10	7	7	10	4	3	4	4	7	8	14	16	14	15	11	17	17	13	8	6	8	4	6	7	9.2	17.4
25-Aug	7	7	9	7	6	5	6	7	9	12	14	15	15	15	17	17	18	17	12	7	8	6	7	8	10.4	17.9
26-Aug	9	7	6	8	7	5	5	6	5	5	9	12	10	22	24	14	12	13	12	11	13	13	11	10	10.3	23.7
27-Aug	9	12	9	7	7	7	6	8	11	13	13	7	8	11	9	16	21	15	10	10	9	9	8	6	10.1	20.8
28-Aug	3	7	8	7	6	6	5	3	4	8	7	8	7	5	6	5	5	5	5	6	8	9	8	7	6.2	9.3
29-Aug	5	6	7	6	7	6	10	10	7	8	9	9	10	7	7	6	4	4	5	7	12	8	7	7	7.2	11.9
30-Aug	7	5	8	6	6	7	6	7	9	10	10	12	12	10	9	9	11	9	5	3	5	5	9	8	7.9	11.9
31-Aug	6	6	7	8	8	9	8	8	10	15	14	15	15	17	14	17	17	14	10	11	12	14	11	11	11.5	16.8
	9.0	9.4	8.8	8.8	8.2	7.9	7.8	8.7	10.1	11.1	12.1	12.0	12.4	12.8	12.1	12.0	11.6	10.9	9.6	9.5	10.1	9.9	10.0	9.7	Diurnal Average	
	20.8	18.5	16.9	16.4	16.6	18.2	17.4	19.6	22.7	28.3	28.1	24.5	24.7	25.6	25.3	22.2	20.8	24.4	24.1	29.5	24.7	17.8	21.3	23.0	Diurnal Maximum	

D - DAS Failure

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

Peace Airshed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Falher - August 2013

Maximum Value: 92.0 deg on Aug 4 06:00

Minimum Value: 1.5 deg on Aug 9 01:00

Percentiles: P_1 = 2.4 P_{10} = 4.1 Q_1 = 7.3 Median = 13.0 Q_3 = 23.4 P_{90} = 40.6 P_{99} = 83.6

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)																								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	14	6	5	19	7	33	41	8	8	24	25	20	33	18	32	19	24	17	4	6	7	15	4	3	41.5
2-Aug	7	5	4	3	4	4	6	4	4	8	9	12	11	13	15	16	16	9	6	6	14	4	9	29	29.0
3-Aug	23	25	7	29	56	20	42	30	84	27	18	21	17	25	24	26	43	20	12	88	63	39	27	84	88.2
4-Aug	10	61	46	56	18	92	71	23	26	25	27	70	45	16	14	16	14	11	19	82	19	8	33	13	92.0
5-Aug	7	15	27	13	16	16	45	80	21	26	61	65	36	29	30	23	25	25	9	10	37	4	6	14	80.3
6-Aug	17	6	33	D	9	7	4	9	7	10	10	11	21	15	19	19	15	38	23	47	24	36	25	17	47.4
7-Aug	8	27	73	37	38	12	14	12	25	28	33	53	24	21	14	13	10	10	18	3	5	21	7	7	72.7
8-Aug	8	13	5	5	7	4	12	6	6	10	13	11	12	18	14	22	12	12	10	3	7	18	10	15	22.0
9-Aug	1	3	2	4	2	4	3	6	6	14	10	11	13	19	10	20	12	20	10	15	3	2	2	3	20.0
10-Aug	3	2	3	2	4	3	3	5	13	9	14	27	21	23	37	56	50	49	29	10	23	19	19	20	56.2
11-Aug	12	9	43	38	49	22	7	9	18	27	15	15	15	14	19	14	12	16	16	4	15	6	17	17	49.3
12-Aug	19	12	10	14	15	28	39	31	56	69	58	78	76	68	53	34	56	40	36	8	12	22	6	11	78.2
13-Aug	3	14	17	2	4	4	4	6	10	16	15	57	40	42	63	23	25	17	58	23	44	34	84	34	83.7
14-Aug	52	39	48	48	15	18	65	24	62	16	11	15	15	15	18	25	46	16	53	8	24	23	12	28	65.4
15-Aug	46	16	9	7	59	13	12	53	19	48	10	14	21	8	14	34	26	29	20	7	15	8	11	9	58.7
16-Aug	14	13	9	23	41	11	18	5	10	8	9	8	5	8	8	14	10	19	27	85	37	14	20	6	84.5
17-Aug	6	6	5	4	4	8	3	7	18	9	8	8	11	12	10	11	7	6	10	8	8	6	11	5	18.3
18-Aug	6	5	6	4	3	7	3	4	7	9	11	9	10	8	7	12	7	6	5	4	4	7	9	6	12.5
19-Aug	4	3	3	4	7	4	6	8	6	9	9	9	7	11	10	10	9	6	7	3	5	3	2	4	10.6
20-Aug	2	4	4	3	3	3	3	6	7	6	9	8	9	16	15	6	10	7	5	9	14	6	7	4	15.9
21-Aug	5	3	5	8	9	12	31	6	9	9	12	25	28	21	14	11	11	10	4	5	2	3	7	9	31.5
22-Aug	5	3	4	5	4	7	5	6	8	7	6	21	9	12	14	9	6	7	7	16	18	10	16	8	21.1
23-Aug	73	14	5	26	24	7	8	22	14	13	24	28	32	28	35	21	30	8	59	16	32	5	27	36	73.2
24-Aug	57	67	42	28	33	32	50	55	13	12	13	11	18	19	17	20	13	8	7	13	13	28	17	23	67.2
25-Aug	27	22	22	57	84	43	43	26	8	9	21	17	16	14	14	13	12	7	8	10	4	14	25	21	83.9
26-Aug	15	11	15	6	12	15	35	32	25	27	18	14	23	18	8	10	6	4	4	3	3	4	4	4	34.8
27-Aug	6	4	7	7	8	7	10	8	10	8	11	32	53	17	26	14	7	6	59	36	14	7	5	24	59.1
28-Aug	35	29	10	23	8	8	17	43	29	14	16	16	55	53	20	27	16	16	27	14	12	4	11	19	55.4
29-Aug	13	18	9	6	8	14	10	13	20	23	28	25	25	33	49	43	36	37	19	12	26	14	10	10	48.9
30-Aug	11	21	10	13	21	14	34	17	13	9	12	9	14	12	20	23	10	11	9	45	26	16	10	3	44.6
31-Aug	7	18	14	3	7	7	4	8	9	9	12	13	15	13	15	14	11	8	9	7	4	5	3	5	18.0
	73.2	67.2	72.7	56.6	83.9	92.0	70.6	80.3	84.2	68.8	61.4	78.2	76.4	68.0	62.7	56.2	55.8	48.8	59.3	88.2	63.2	38.6	83.7	84.5	

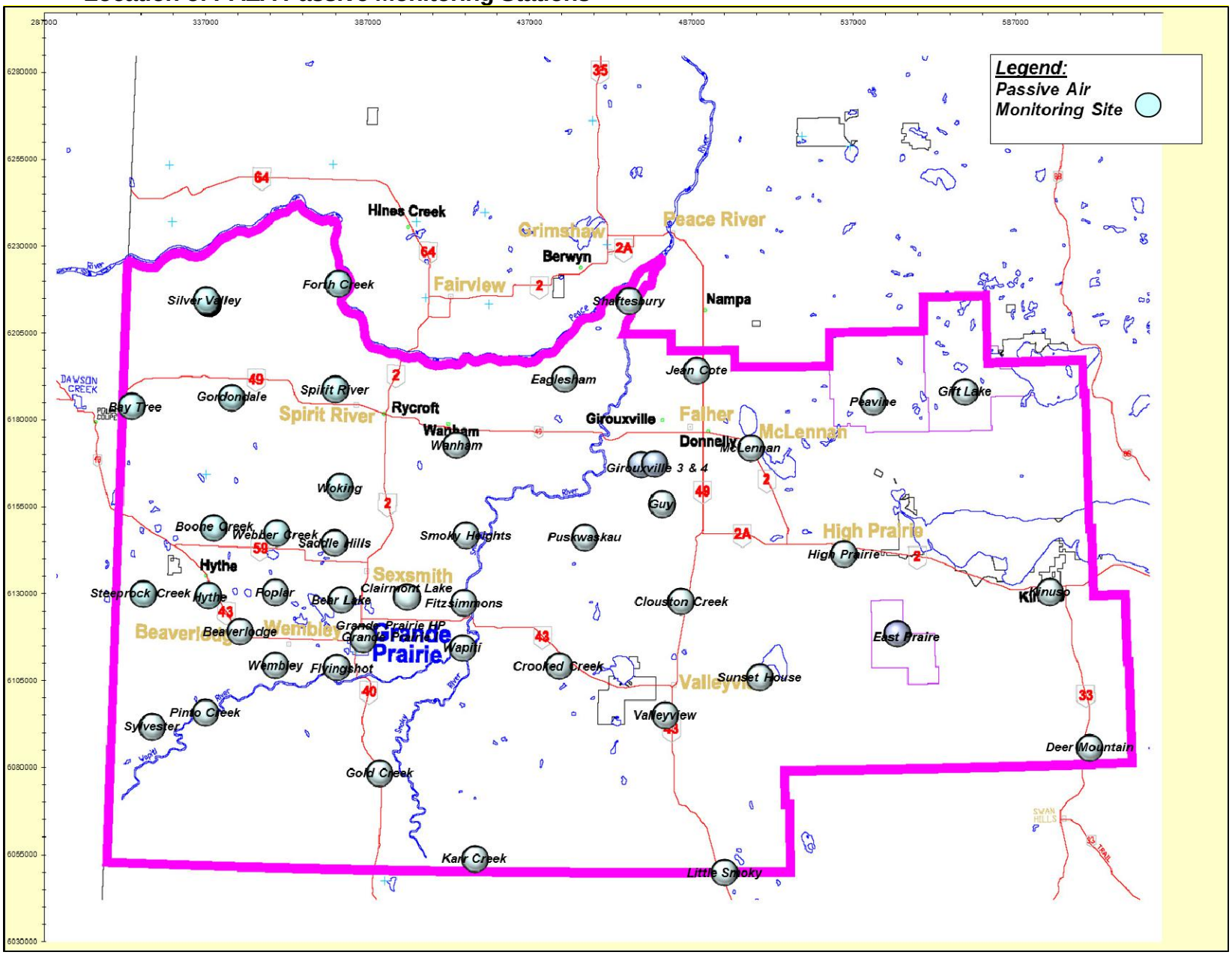
D - DAS Failure

FOCUS AIR QUALITY MONITORING

PAZA

Monthly Passive Data Summary

Location of PAZA Passive Monitoring Stations



PAZA Passive Results for August 2013

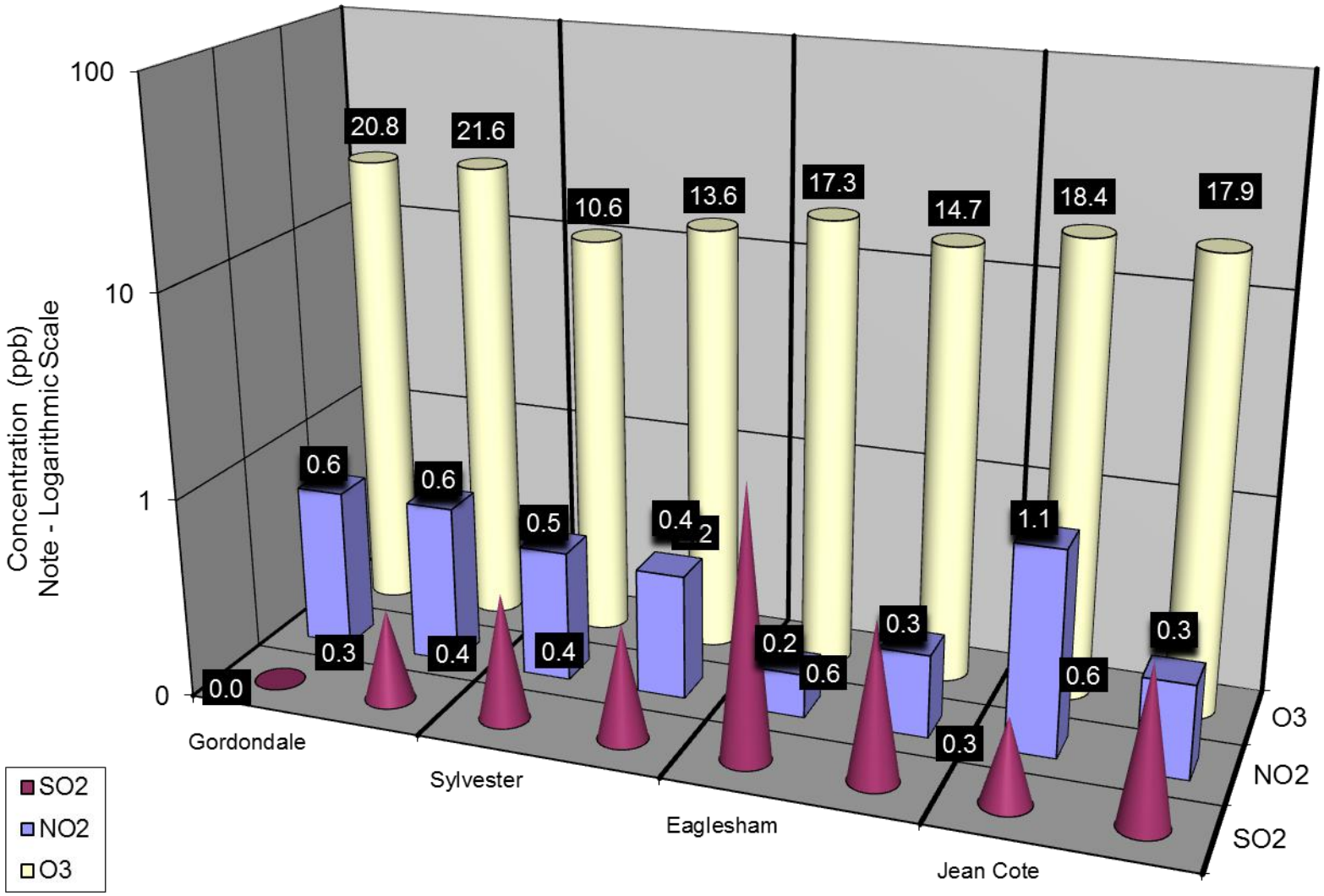
Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	Site Legal
Duplicates						
4a	Gordondale	**BDL**	**20.8**	**0.6**		
4b	Gordondale	**0.3**	**21.6**	**0.6**		
14a	Sylvester	**0.4**	**10.6**	**0.5**		
14b	Sylvester	**0.4**	**13.6**	**0.4**		
21a	Eaglesham	**2.2**	**17.3**	**0.2**		
21b	Eaglesham	**0.6**	**14.7**	**0.3**		
35a	Jean Cote	**0.3**	**18.4**	**1.1**		
35b	Jean Cote	**0.6**	**17.9**	**0.3**		
64a	Girouxville 4				**0.2**	
64b	Girouxville 4				**0.2**	
1	Silver Valley	**0.3**	**14.9**	**0.8**		08-27-081-11 W6M
2	Bay Tree	**0.9**	**36.0**	**0.1**		13-16-078-13 W6M
3	Fourth Creek	**0.7**	**24.9**	**0.4**		04-13-082-07 W6M
4	Gordondale	**0.3**	**21.2**	**0.6**		04-34-078-10 W6M
5	Boone Creek	**0.3**	**17.3**	**0.8**		16-36-074-11 W6M
7	Steeprock Creek	**0.4**	**25.3**	**0.4**		09-35-072-13 W6M
9	Spirit River	**0.6**	**16.6**	**0.4**		08-12-079-07 W6M
10	Woking	**0.6**	**17.1**	**0.4**		01-13-076-07 W6M
11	Webber Creek	**0.5**	**15.7**	**0.5**		09-36-074-09 W6M
12	Hythe	**0.8**	**16.9**	**0.8**		14-36-072-11 W6M
14	Sylvester	**0.4**	**12.1**	**0.4**		08-06-069-12 W6M
16	Beaverlodge	**0.4**	**26.0**	**0.9**		15-36-071-10 W6M
17	Poplar	**0.6**	**17.3**	**0.5**		13-06-073-08 W6M
18	Saddle Hills	**0.3**	**19.0**	**0.4**		04-25-074-07 W6M
19	Wanham	**0.4**	**21.0**	**0.2**		16-22-077-03 W6M
20	Shaftesbury	**0.4**	**20.0**	**0.3**		04-03-082-23 W5M
21	Eaglesham	**1.4**	**16.0**	**0.2**		16-21-079-25 W5M
23	Bear Lake	**0.6**	**17.5**	**0.5**		15-31-072-06 W6M
24	Wembley	**0.1**	**15.6**	**0.5**		12-31-070-08 W6M
25	Pinto Creek	**0.3**	**16.6**	**0.3**		04-24-069-11 W6M
26	Flyingshot	**0.2**	**15.0**	**0.5**		15-36-070-07 W6M
27	Grande Prairie I	**0.4**	**21.2**	**3.0**		08-15-071-06 W6M

PAZA Passive Results for August 2013 (Continued)

28	Clairmont Lake	**0.4**	**18.7**	**0.5**		09-06-073-04 W6M
29	Smoky Heights	**0.2**	**28.3**	**0.4**		04-06-075-02 W6M
30	Fitzsimmons	**1.4**	**14.1**	**0.6**		15-36-072-03 W6M
32	Gold Creek	**0.2**	**10.9**	**1.1**		06-33-067-05 W6M
33	Wapiti	**0.1**	**16.8**	**0.5**		02-25-071-03 W6M
34	Puskwaskau	**0.1**	**15.1**	**BDL**		15-35-074-25 W5M
35	Jean Cote	**0.4**	**18.1**	**0.7**		12-35-079-21 W5M
36	Guy	**0.2**	**17.9**	**0.4**		03-04-076-22 W5M
37	Crooked Creek	**0.3**	**16.6**	**0.4**		16-01-071-26 W5M
38	Karr Creek	**0.4**	**16.9**	**0.5**		10-16-065-02 W6M
39	Clouston Creek	**0.5**	**14.4**	**0.5**		12-01-073-22 W5M
40	McLennan	**0.5**	**18.6**	**0.7**		03-29-077-19 W5M
41	Valleyview	**0.5**	**22.3**	**0.3**		09-30-069-22 W5M
42	Sunset House	**0.4**	**23.2**	**0.8**		05-32-070-19 W5M
43	High Prairie	**1.2**	**17.8**	**0.5**		16-13-074-17 W5M
44	Peavine	**0.1**	**16.1**	**0.2**		03-05-079-15 W5M
45	Gift Lake	**0.7**	**15.5**	**0.3**	**0.1**	10-07-079-12 W5M
46	Little Smoky	**0.7**	**13.3**	**0.9**		12-01-065-21 W5M
47	Kinuso	**0.5**	**14.8**	**BDL**		12-10-073-10 W5M
48	Deer Mountain	**0.2**	**14.7**	**0.3**		15-22-068-09 W5M
49	Grande Prairie HP	**0.4**	**26.3**	**1.7**		17-26-071-06 W6M
62	East Prairie	**0.4**	**17.1**	**0.2**		13-02-072-15 W5M
63	Girouxville 3				**0.2**	14-02-077-23 W5M
64	Girouxville 4				**0.2**	4-08-077-22 W5M

*BDL = Below Detection Level

*N/S - No sample



Duplicate Summary Chart

Passive Summary for August 2013

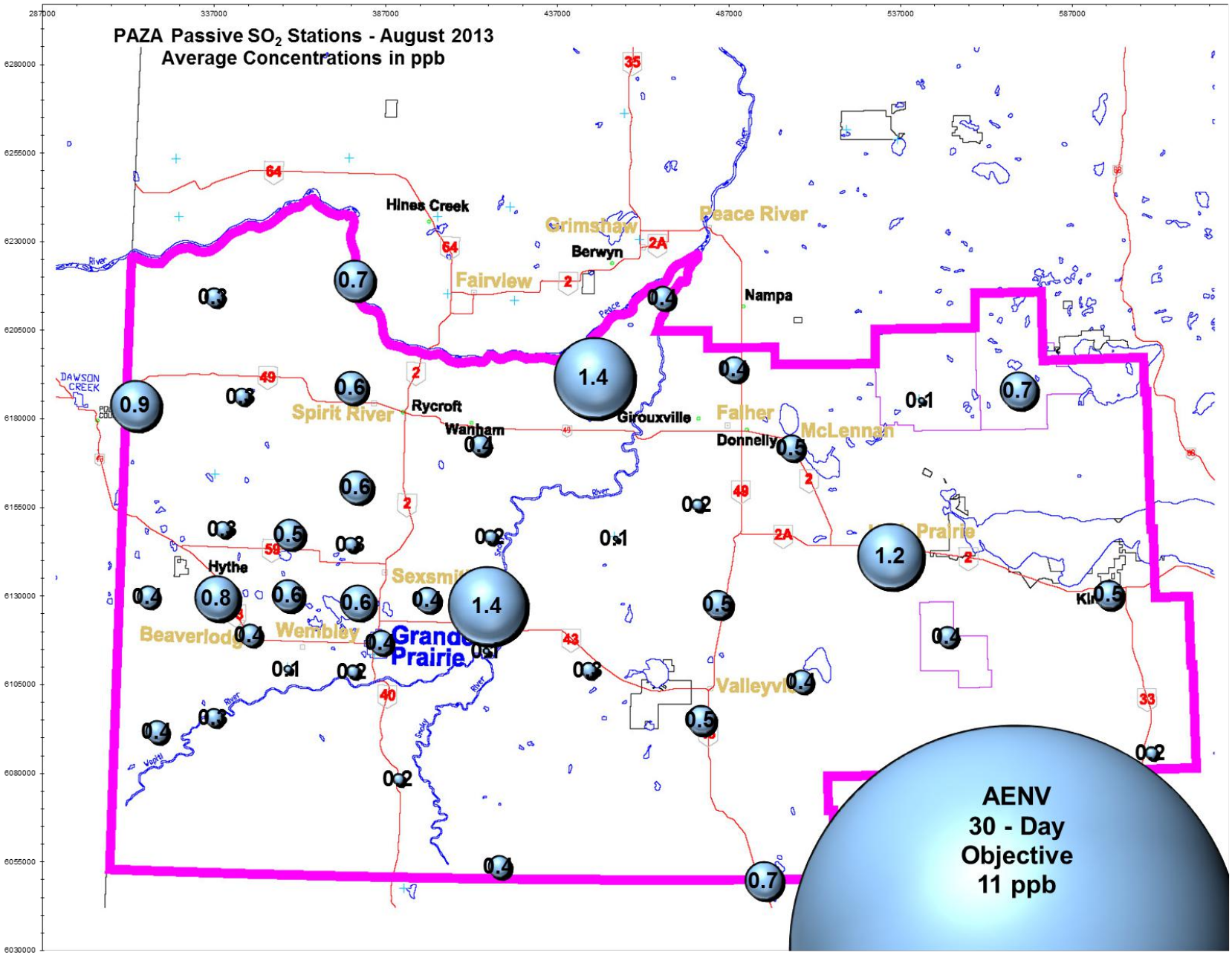
Stats	Sulphur Dioxide SO_2	Ozone O_3	Nitrogen Dioxide NO_2	Hydrogen Sulphide H_2S
	ppb	ppb	ppb	ppb
	Passive Summary for August 2013 (PAZA Zone)			
Mean	**0.5**	**18.4**	**0.6**	**0.2**
Standard Deviation	**0.3**	**4.7**	**0.5**	**0.1**
Minimum	**0.1**	**10.9**	**0.1**	**0.1**
Minimum At	**Puskwaskau (#34)**	**Gold Creek (#32)**	**Bay Tree (#2)**	**Gift Lake (#45)**
Maximum	**1.4**	**36.0**	**3.0**	**0.2**
Maximum At	**Eaglesham (#21)**	**Bay Tree (#2)**	**Grande Prairie I (#27)**	**Girouxville 3 (#63)**

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

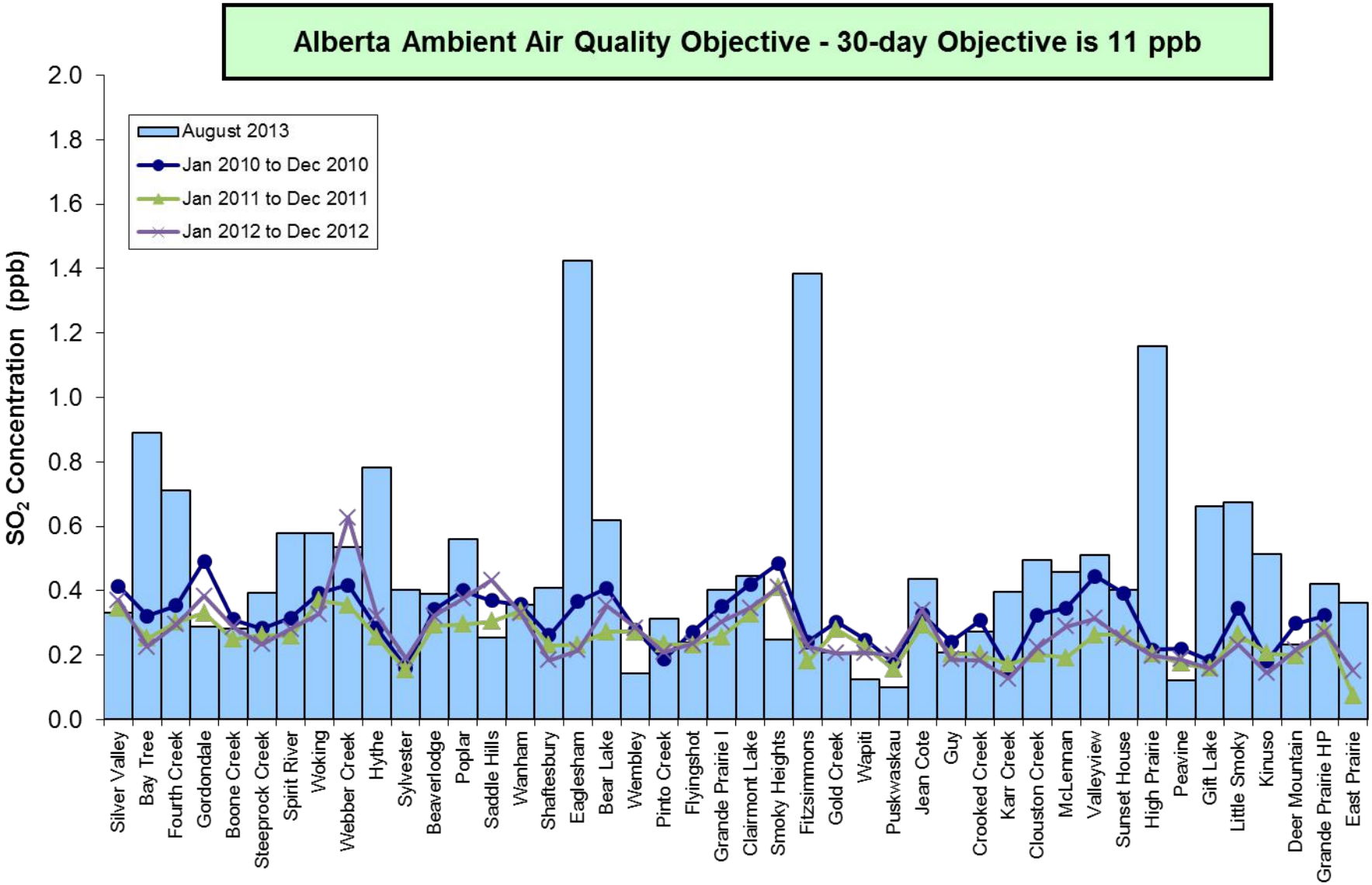
	SO_2	O_3	NO_2
PAZA Beaverlodge station	**0.1**	**25.3**	**2.2**
PAZA Beaverlodge passive	**0.4**	**26.0**	**0.9**

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

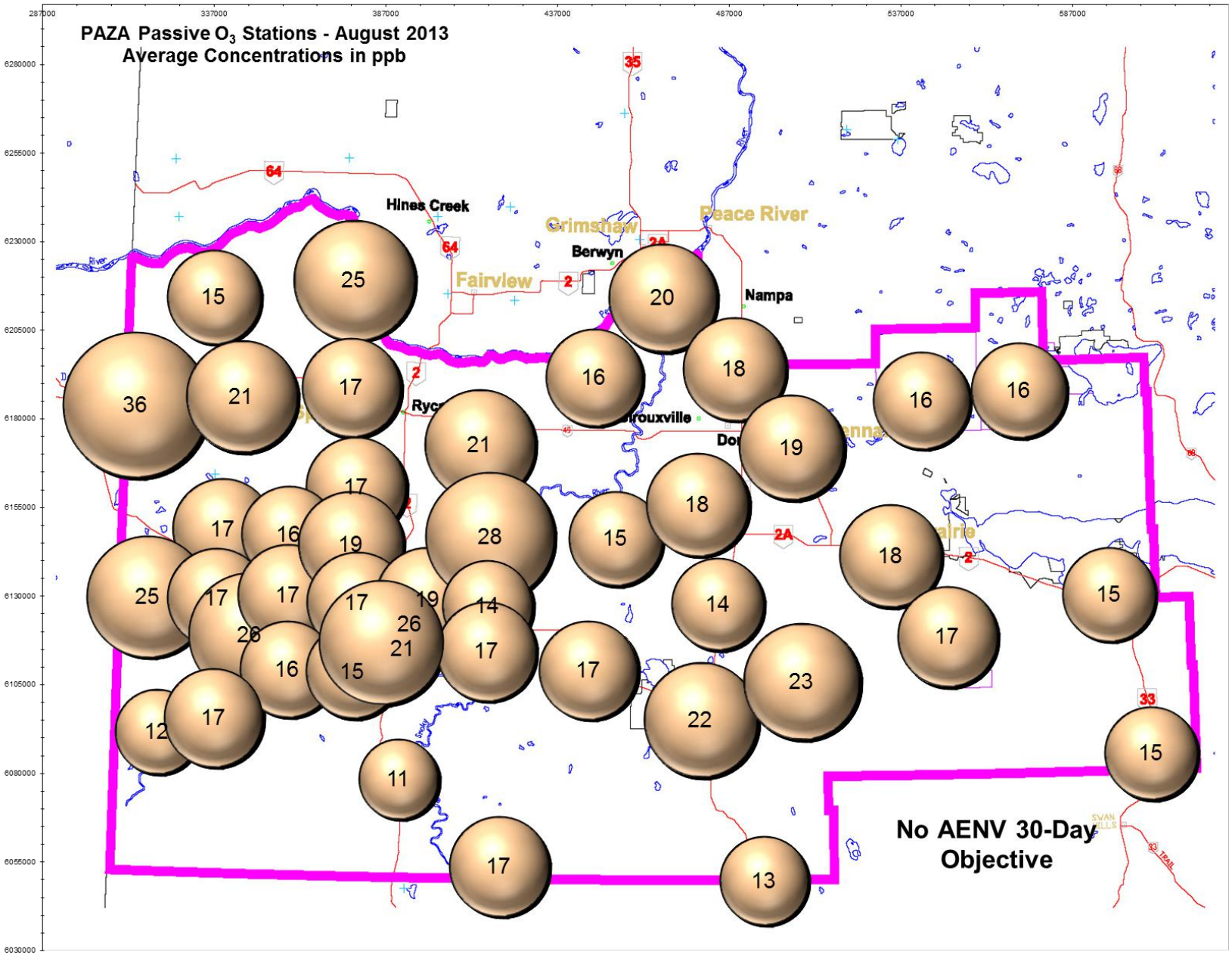
	SO_2	O_3	NO_2
PAZA Henry Pirker station	**0.1**	**21.9**	**4.5**
PAZA Grande Prairie passive	**0.4**	**26.3**	**1.7**



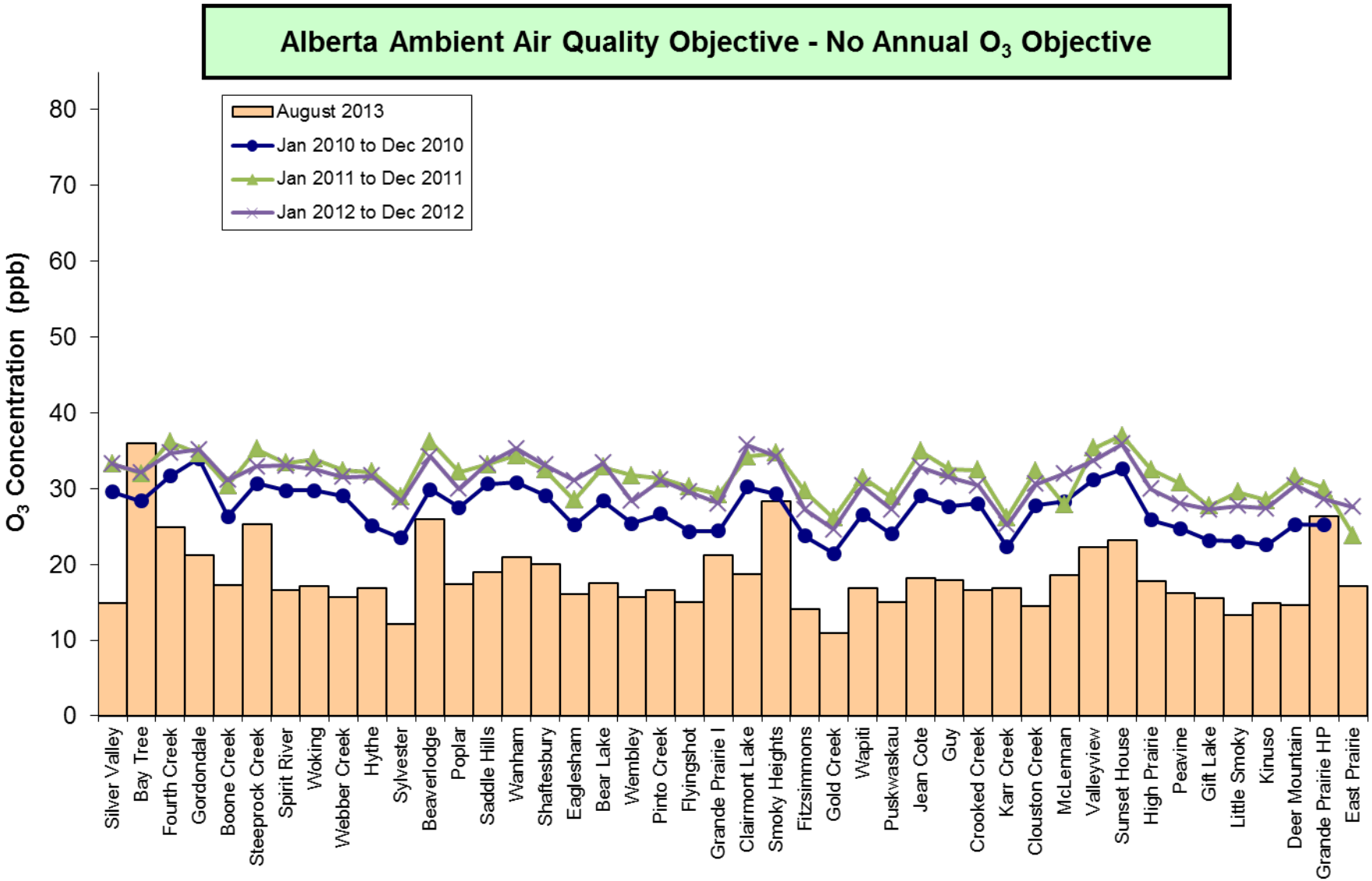
SO_2 Bubble Chart



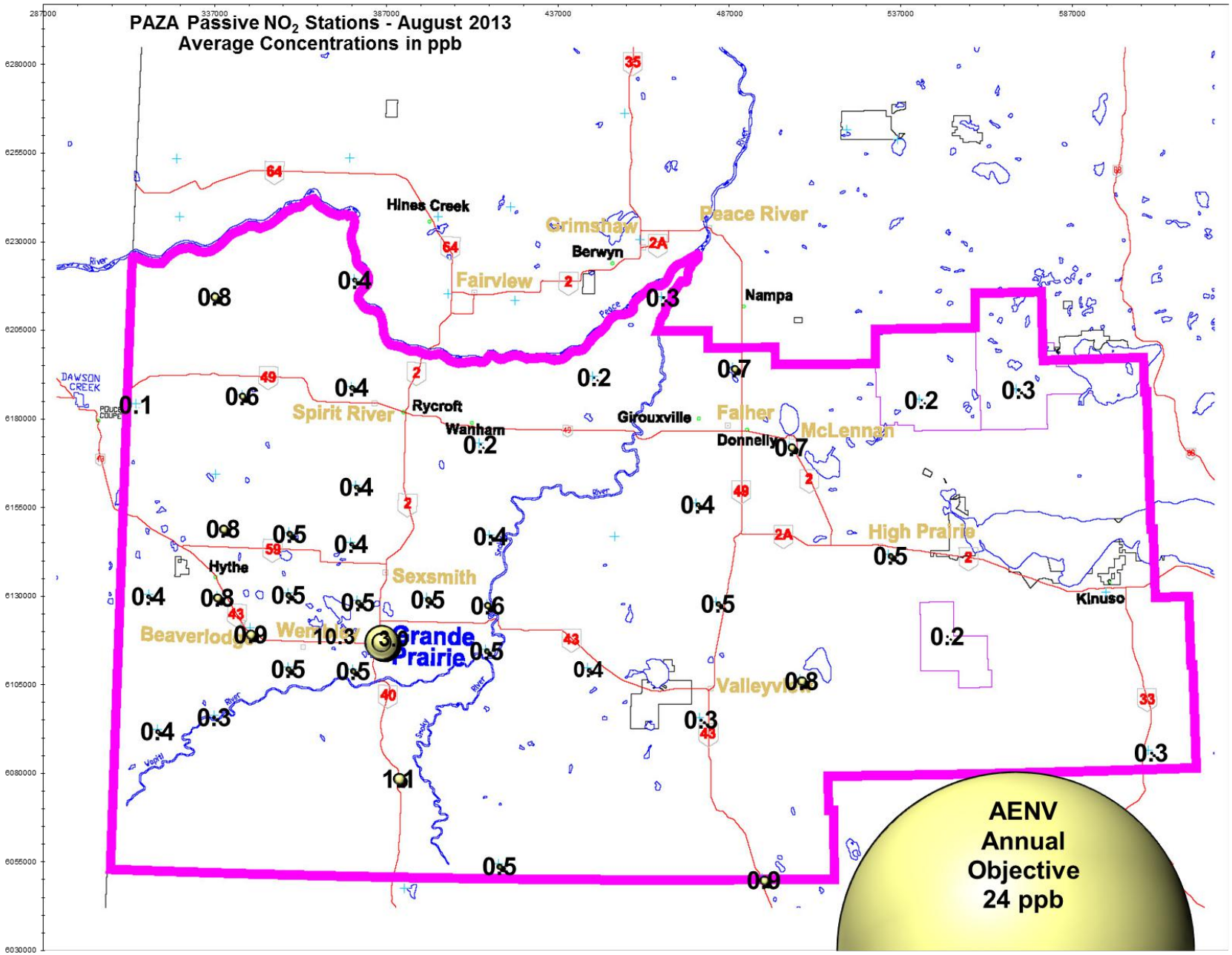
SO_2 Summary Chart



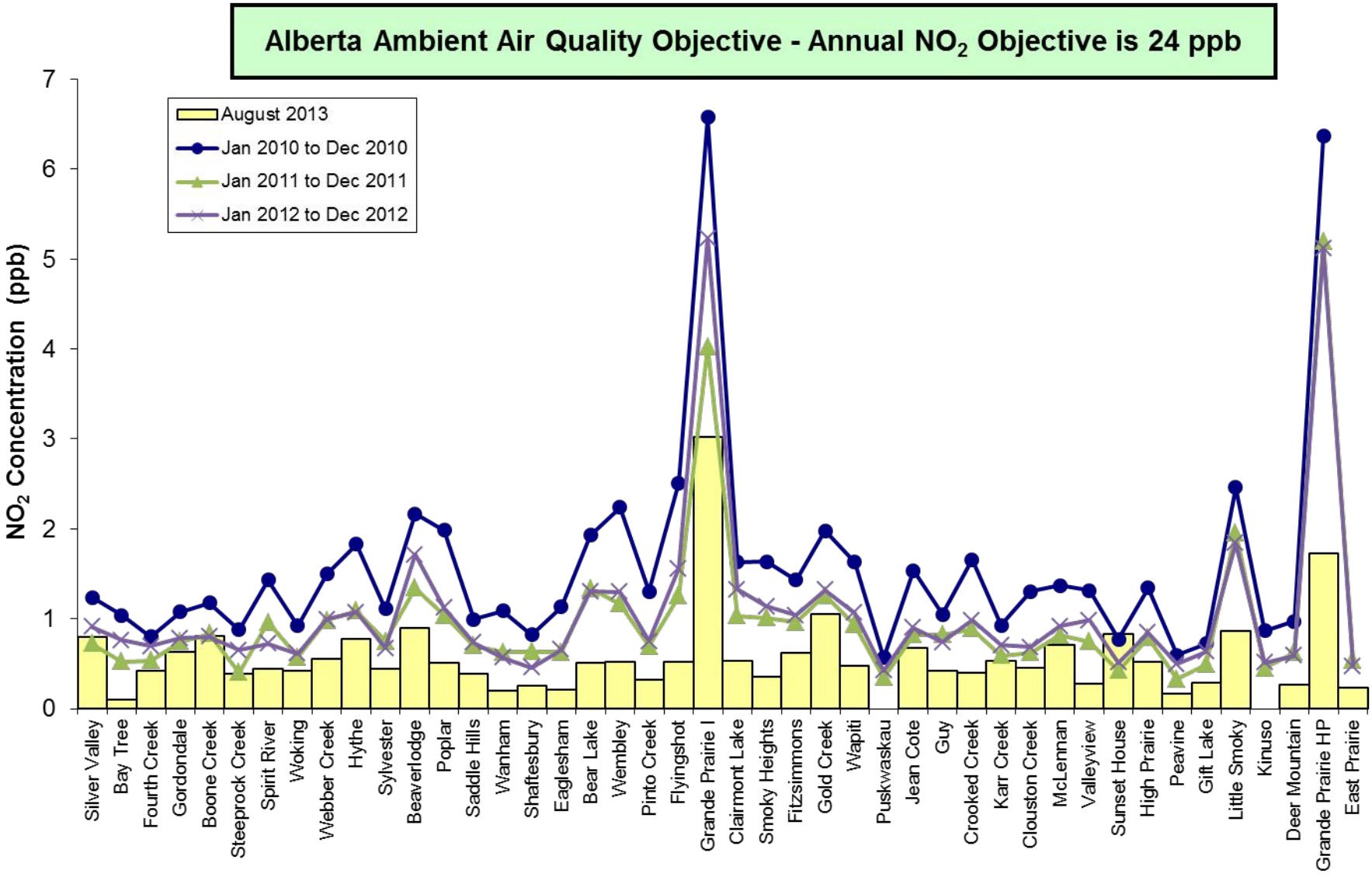
O_3 Bubble Chart



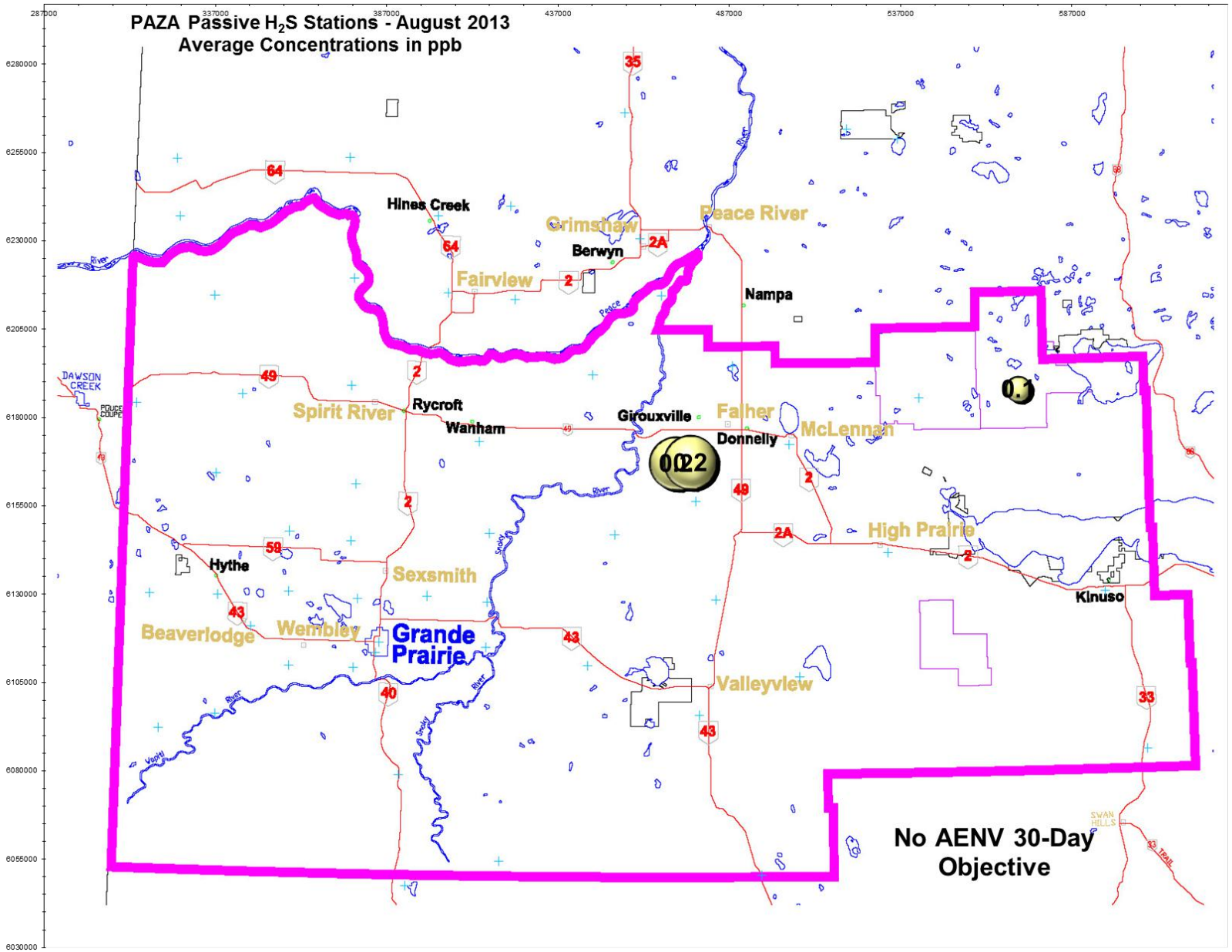
O_3 Summary Chart



NO_2 Bubble Chart



NO_2 Summary Chart



H_2S Bubble Chart

PAZA

ALBERTA ENVIRONMENT AND SUSTAINABLE RESOURCES INCIDENCE REPORT

August 2013

Air Monitoring Directive Exceedence Report

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

Reference Number:	**274350**	**Reported To (AESRD Contact):**	
Date & Time Incident Reported to AESRD:	23/08/2013	**Reported By:**	Patrick Andersen
Reported on Behalf of:	PAZA	**Approval Number (if applicable):**	
Location(s) of Incident:	Sunset House Air Quality Station		
Start Date & Time of Incident:	August 01, 2013 00:00	**End Date & Time of Incident:**	September 01, 2013 00:00

Reason or Nature of Incident:

Power bump destroyed control board of analyzer in July, repaired in August.

Immediate Actions Taken:

None. Waiting for replacement control board.

Investigation Details:

NA

Actions Taken to Prevent Reoccurrence (if any):

NA

Additional Actions Required (if any):

NA

Report Completed By:	Patrick Andersen	Date Report Submitted:	23/08/2013
7-Day Letter Due Date:	30/08/2013		

August 2013 Calibration Reports

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

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

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

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

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

PAZA – Sunset House Station with the following calibrations:
SO_2, NO, NO_2, NO_x, O_3, TRS, $PM_{2.5}$

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

Calibration Report

Parameter **SO2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 14, 2013	Previous Calibration	July 18, 2013
Station Number	1	Station Location	Henry Pirker
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	8:00	End Time (MST)	11:50
Barometric Pressure	na ATM	Station Temperature	20.5 Deg C
Calibrator	Sabio	Serial Number	3951108
Cal Gas Conc	51.5 ppm	Cal Gas Cert Date	March 12, 2014
		Cal Gas Cylinder #	LL105159
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	10
	Before		After
Calculated slope	0.994435	Calculated slope	0.993569
Calculated intercept	2.553904	Calculated intercept	0.988989
Analyzer make	TEI 43C	Analyzer serial #	610816292

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	10		9.8	
Coefficient	0.781		0.765	
Pressure	641.1	mm Hg	639.9	mm Hg
Flow	0.490	lpm	0.486	lpm
Lamp Voltage	44370	Hz	43580	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)
5030	0.00	0.0	-0.6	N/A
5030	40.30	409.3	411.3	0.9953
5030	20.30	207.0	207.0	1.0002
5030	10.30	105.2	104.6	1.0060
5030	0.00	0.0	-0.6	As Found Zero
5030	40.30	409.3	419.7	As Found Span
			Average Correction Factor	1.0005

Calculated value of As Found Response: 420.5 ppb Percent Change of As Found: -2.7%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.1	ppb
Auto span	250.7	ppb	243.6	ppb

Notes:

Calibration Performed By: Christopher Hendrickson

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

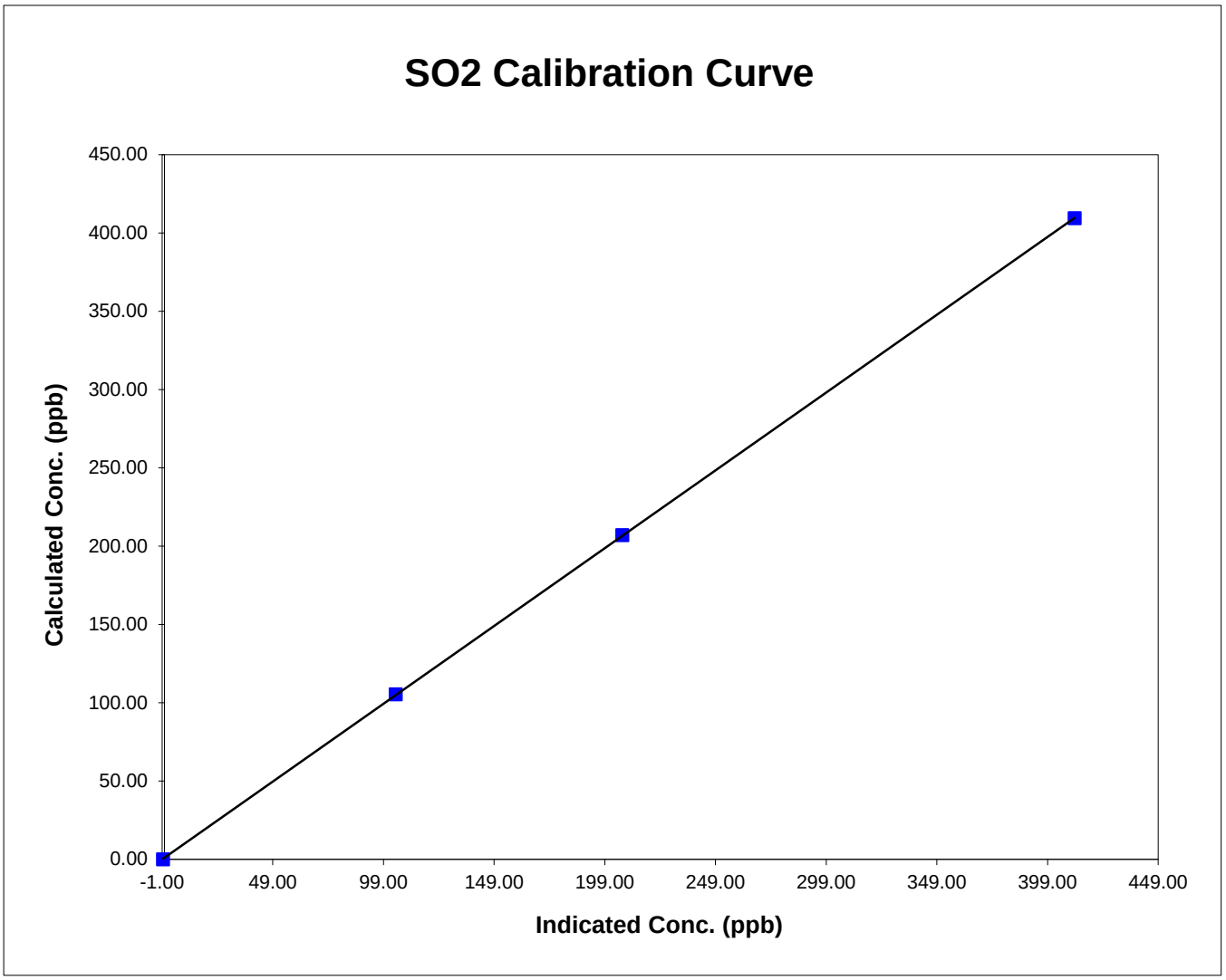
FOCUS AIR QUALITY MONITORING

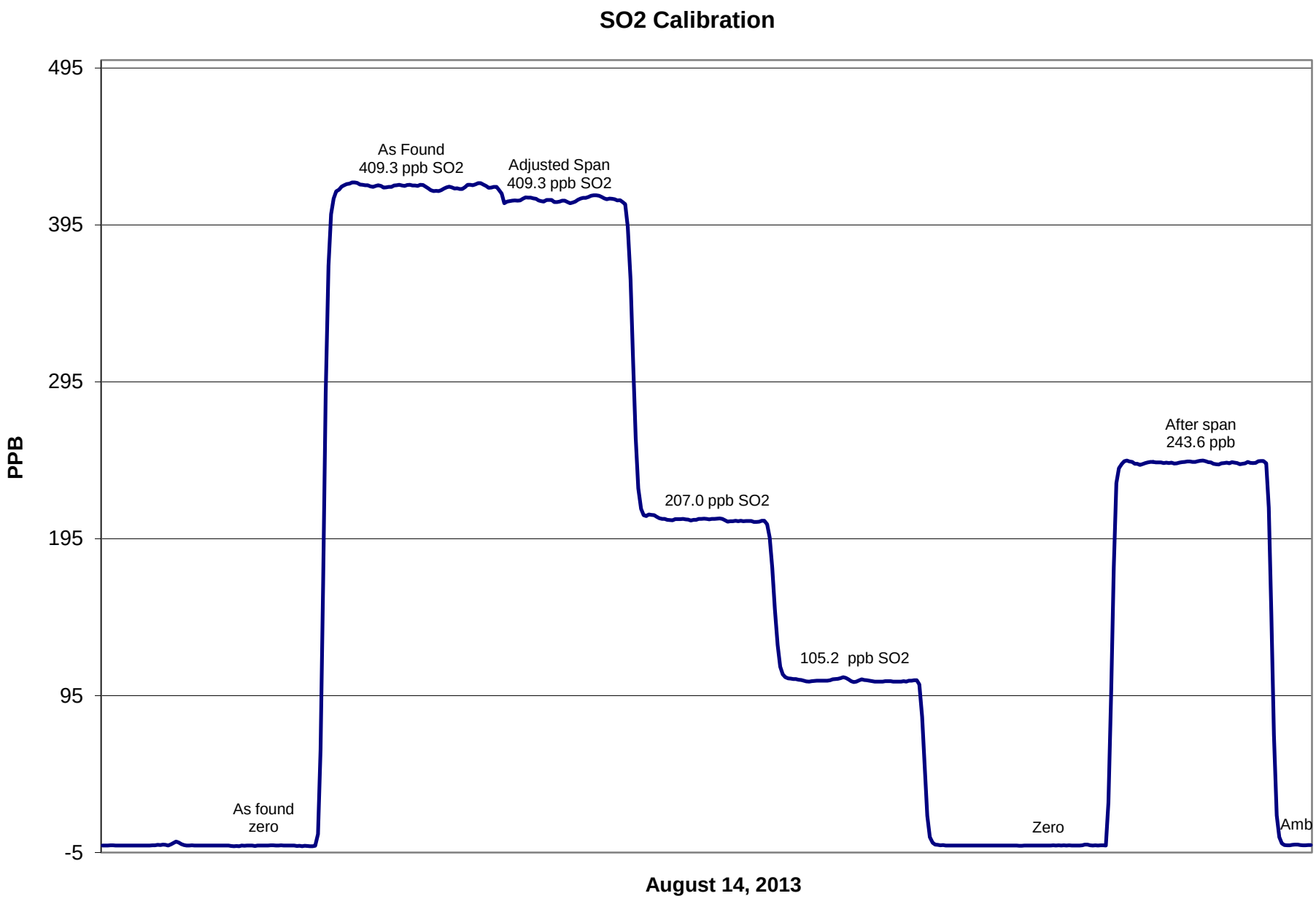
Station Information

Calibration Date	August 14, 2013	Previous Calibration	July 18, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:00	End Time (MST)	11:50
Analyzer make/model	TEI 43C	Analyzer serial #	610816292

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.6	N/A		
409.3	411.3	0.9953	Correlation Coefficient	0.999995
207.0	207.0	1.0002		
105.2	104.6	1.0060	Slope	0.993569
			Intercept	0.988989




SO2 Calibration
495
395
295
195
95
-5
PPB
As Found
409.3 ppb SO2
Adjusted Span
409.3 ppb SO2
207.0 ppb SO2
105.2 ppb SO2
After span
243.6 ppb
As found
zero
Zero
Amb
August 14, 2013

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 14 2013	Previous Calibration	July 18 2013
Station Number	1	Station Location	Henry Pirker

Reason: Routine Installation Removal Other:

Start Time (MST)	8:20		End Time (MST)	13:55	
Barometric Pressure	na	Atm	Station Temperature	20.5	Deg C
Calibrator	Sabio		Serial Number	3951108	
NO Cal Gas Conc	51.3	ppm	Cal Gas Expiry Date	March 12, 2014	
NOx Cal Gas Conc	51.4	ppm	Cal Gas Serial #	LL105159	

DACS Information

DACS make	CR3000	DACS serial No.	5408

Parameter		NO2	NOx	NO
Before	Data Slope	1.002741	0.995272	0.993701
	Data Offset	0.587483	1.685443	1.949195
After	Data Slope	1.002850	1.000110	0.999219
	Data Offset	0.184418	-1.560325	-1.250596
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	13.6	mV	13.0	mV
NOx bkgnd	13.9	mV	13.3	mV
NO coefficient	1.163		1.114	
NOx coefficient	1.001		0.999	
NO2 conv temp	319.0	Deg C	318.0	Deg C
PMT Temp	-2.4	Deg C	-2.4	Deg C
PMT Volt	-768.0	mV	-768.0	mV
R Cell Press	187.1	in Hg	196.4	in Hg

Calibration Report

Parameter **NOx-NO-NO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Calibration Date: August 14 2013 Station Location: Henry Pirker

	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	5030	0.00	0.0	0.0	0.0	0.4	0.2	0.0	N/A	N/A
1	5030	40.30	408.5	407.7	0.8	409.3	408.6	0.7	0.9981	0.9980
2	5030	20.30	206.6	206.2	0.4	209.1	208.7	0.3	0.9882	0.9880
3	5030	10.30	105.0	104.8	0.2	107.5	106.9	0.5	0.9771	0.9807
AFZ	4995	0.00	0.0	0.0	0.0	0.4	0.2	0.0	0.0000	0.0000
AFS	4995	39.93	407.6	406.8	0.8	427.2	425.6	1.4	0.9543	0.9560
							Average Correction Factor		0.9878	0.9889

As Found Concentrations: NO_X= 428.4 NO= 427.3 As Found Percent Change NO_X= 5.1% NO= 5.0%

Dilution Flow 4995 ccm Source Gas Flow 39.94 ccm

O3 Setpoint (ppb)	Indicated NO high point (ppb)	Indicated NO drop conc (ppb)	Calculated NO2 conc (ppb)	Indicated NOx conc (ppb)	Indicated NO conc (ppb)	Indicated NO2 conc (ppb)	NOx Correction factor	NO Correction factor	NO2 Correction factor	Converter Efficiency
0	0.2	0.2	0.0	0.4	0.2	0.0	N/A	N/A	N/A	N/A
NO point	409.3	409.3	0.0	409.5	409.3	0.1	0.9995	1.0000	N/A	N/A
300 (0.95v)	409.3	30.1	379.3	407.8	30.1	377.9	1.0039	1.0000	1.0036	99.6%
200 (0.60v)	409.3	185.3	224.0	408.9	185.3	223.7	1.0010	1.0000	1.0015	99.8%
100 (0.37v)	409.3	288.8	120.6	408.2	288.8	119.5	1.0027	1.0000	1.0090	99.1%
					Average Correction Factor		1.0025	1.0000	1.0047	99.5%

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.0	0.0	-0.1	ppb	0.3	0.2	0.0	ppb
Auto span	329.9	327.5	2.4	ppb	222.7	220.8	2.0	ppb

Calibration Performed By: Christopher Hendrickson

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

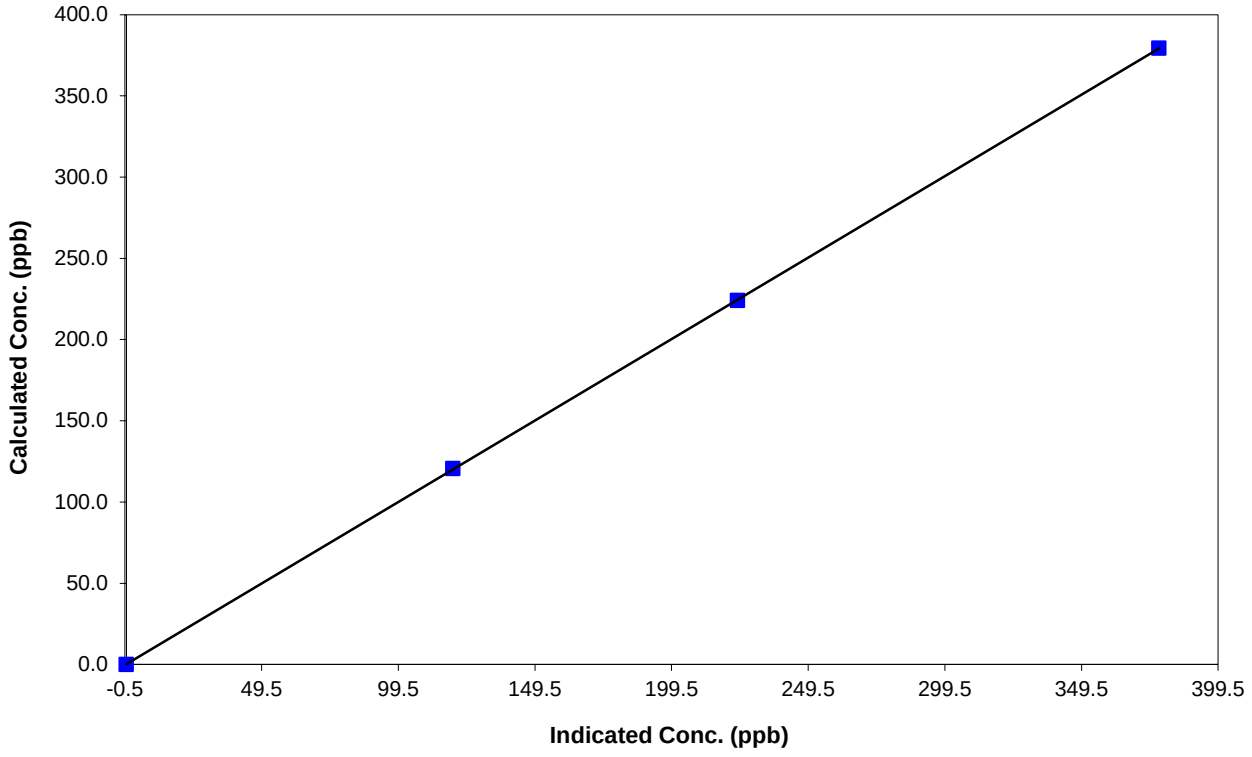
Station Information

Calibration Date	August 14 2013	Previous Calibration	July 18 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:20	End Time (MST)	13:55
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		
379.3	377.9	1.0036	Correlation Coefficient	0.999993
224.0	223.7	1.0015		
120.6	119.5	1.0090	Slope	1.002850
			Intercept	0.184418

NO_2 Calibration Curve



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

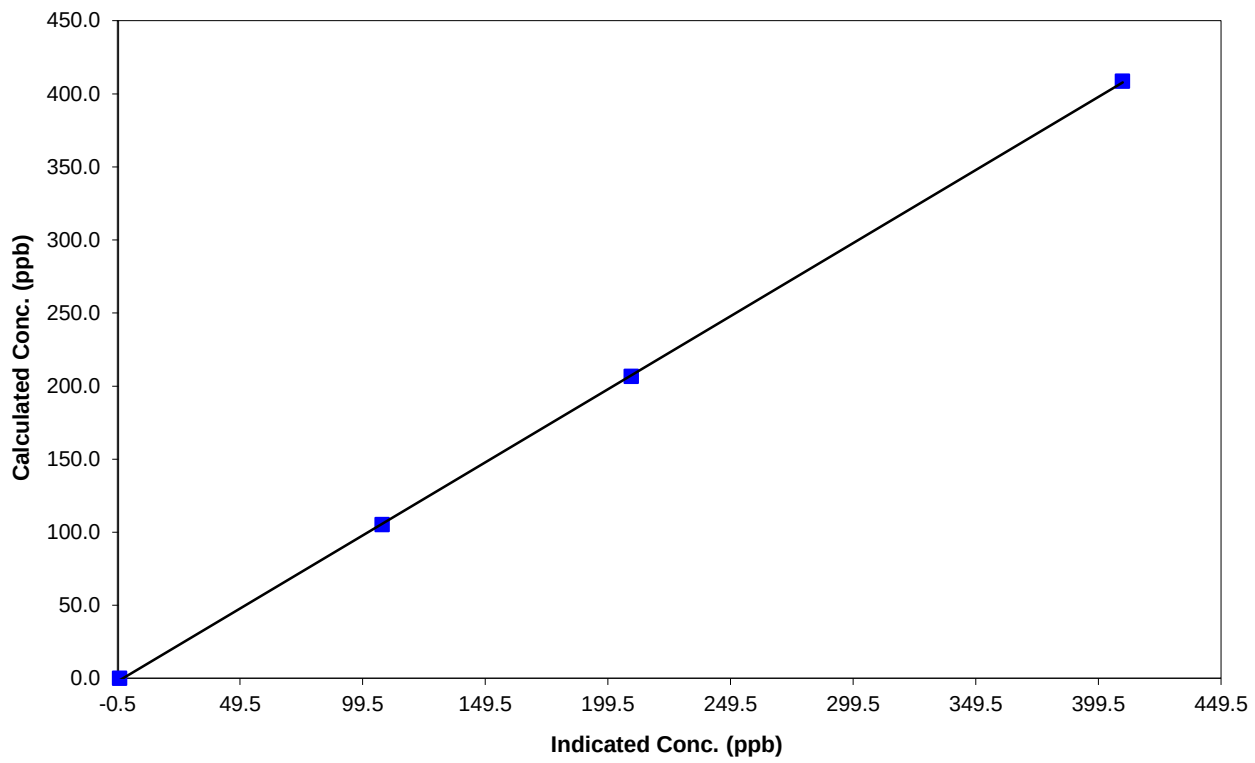
Station Information

Calibration Date	August 14 2013	Previous Calibration	July 18 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:20	End Time (MST)	13:55
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	0.4	N/A		
408.5	409.3	0.9981	Correlation Coefficient	0.999961
206.6	209.1	0.9882		
105.0	107.5	0.9771	Slope	1.000110
			Intercept	-1.560325

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

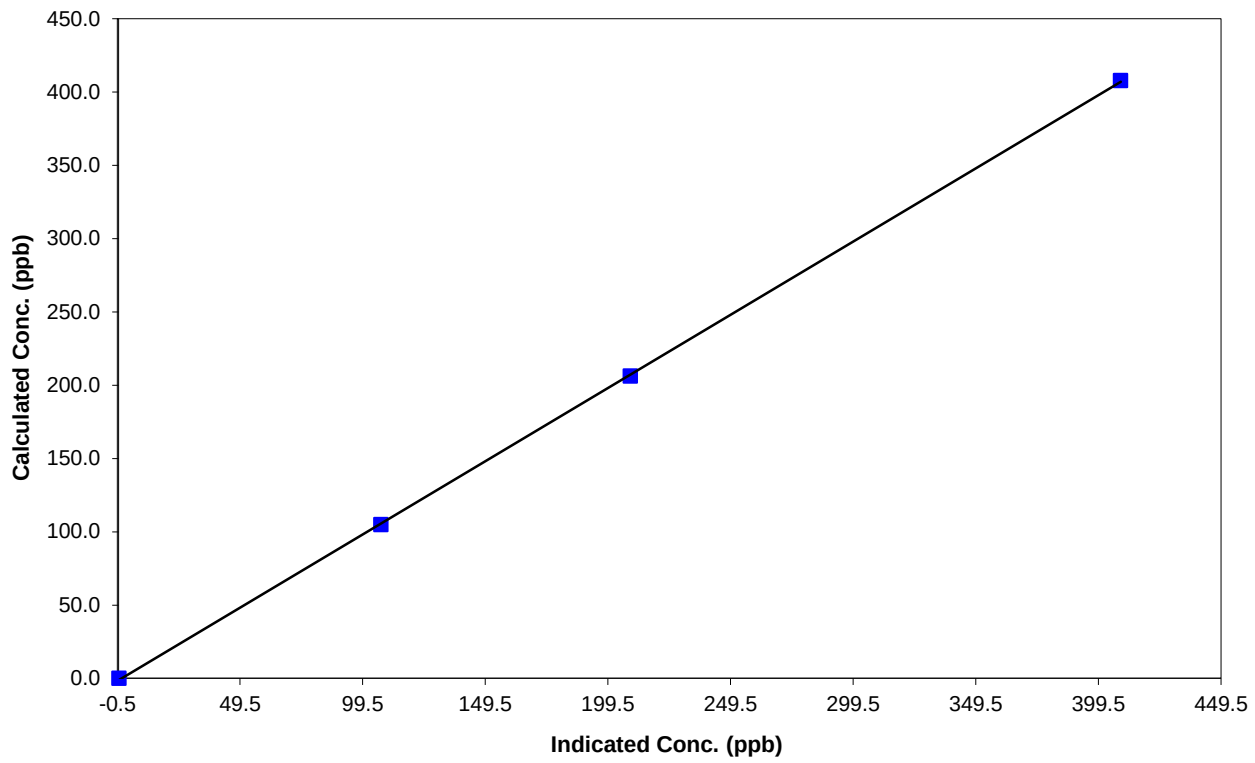
Station Information

Calibration Date	August 14 2013	Previous Calibration	July 18 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	8:20	End Time (MST)	13:55
Analyzer make	TEI 42C	Analyzer serial #	508011073

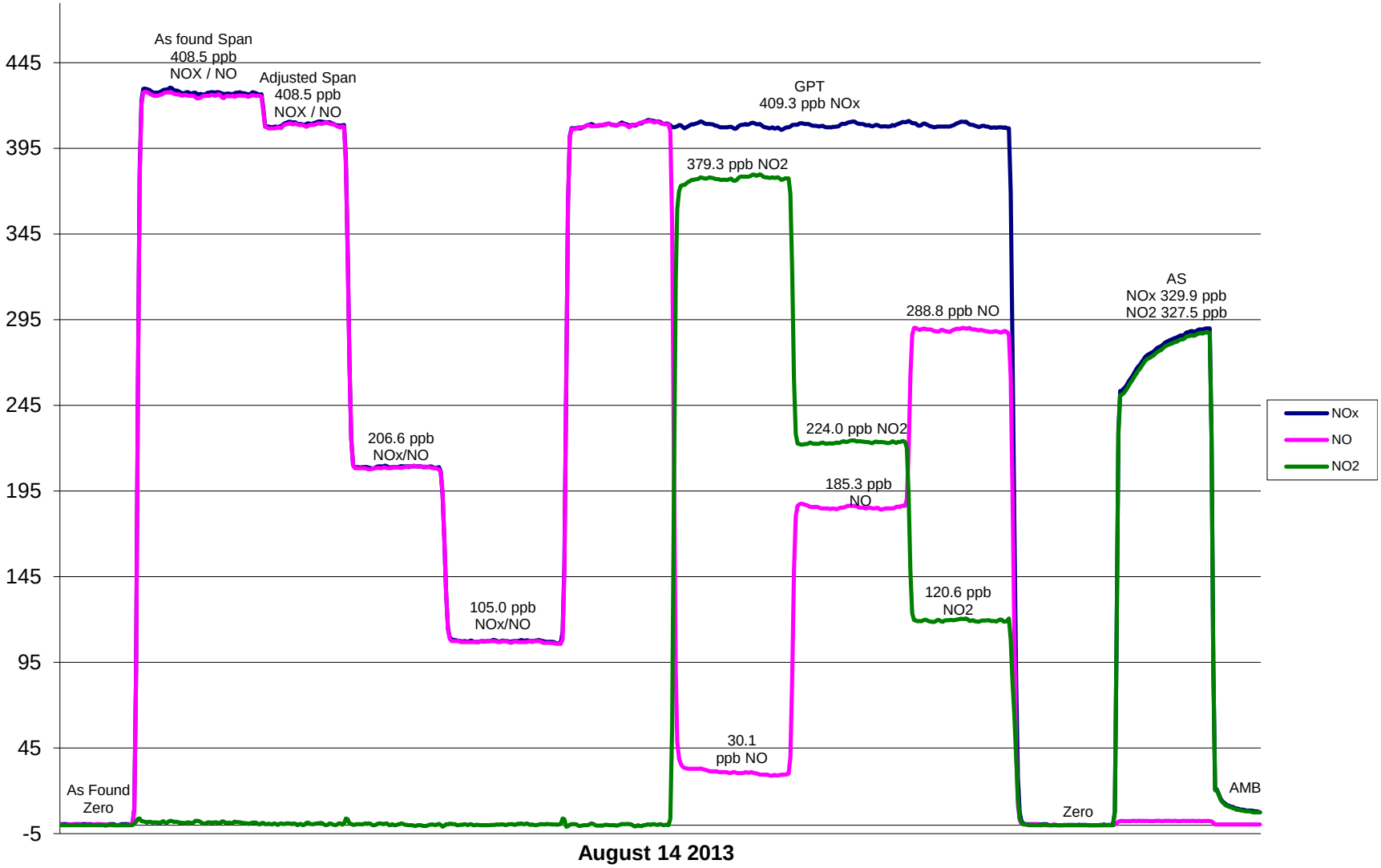
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
407.7	408.6	0.9980	Correlation Coefficient	0.999963
206.2	208.7	0.9880		
104.8	106.9	0.9807	Slope	0.999219
			Intercept	-1.250596

NO Calibration Curve



PAZA
NO_X Calibration



Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter: **O3**

Air Monitoring Network: **PAZA**

Station Information

Calibration Date	August 15, 2013	Previous Calibration	July 18, 2013
Station Number	1	Station Location	Henry Pirker
Reason: Routine	Install	Removal	Other:
Start Time (MST)	11:40	End Time (MST)	15:15
Barometric Pressure	0.923 atm	Station Temperature	23.0 Deg C
Calibrator	Sabio	Serial Number	3951108
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	0.992522	Calculated slope	1.008101
Calculated intercept	1.075761	Calculated intercept	-1.452484
Analyzer make	Teco 49C	Analyzer serial #	607415761

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-0.30	ppb	-0.30	ppb
slope	1.019		1.019	
Lamp temp	56.9	mV	56.9	mV
Lamp Intensity A/B	100521/90020	mV	100521/90020	mV
Pressure	675.5	mm Hg	675.5	mm Hg
Flow A	0.719	ccm	0.719	ccm
Flow B	0.722	ccm	0.722	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)
5030	0.0	0.0	2.3	N/A
5030	0.3 (0.95v)	379.3	378.2	1.0027
5030	0.2 (0.60v)	224.0	223.2	1.0036
5030	0.1 (0.37v)	120.6	120.1	1.0041
5030	0.0	0.0	2.2	As found zero
5030	0.3 (0.95v)	379.3	394.0	As found span
			Average Correction Factor	1.0035

Calculated value of As Found Response: 389.9 ppm Percent Change of As Found: 2.8%

	before calibration		after calibration	
Auto zero	1.0	ppb	-1.5	ppb
Auto span	355.0	ppb	342.7	ppb

Notes: Span adjustment

Calibration Performed By: Christopher Hendrickson

Calibration Summary

Parameter **O3**

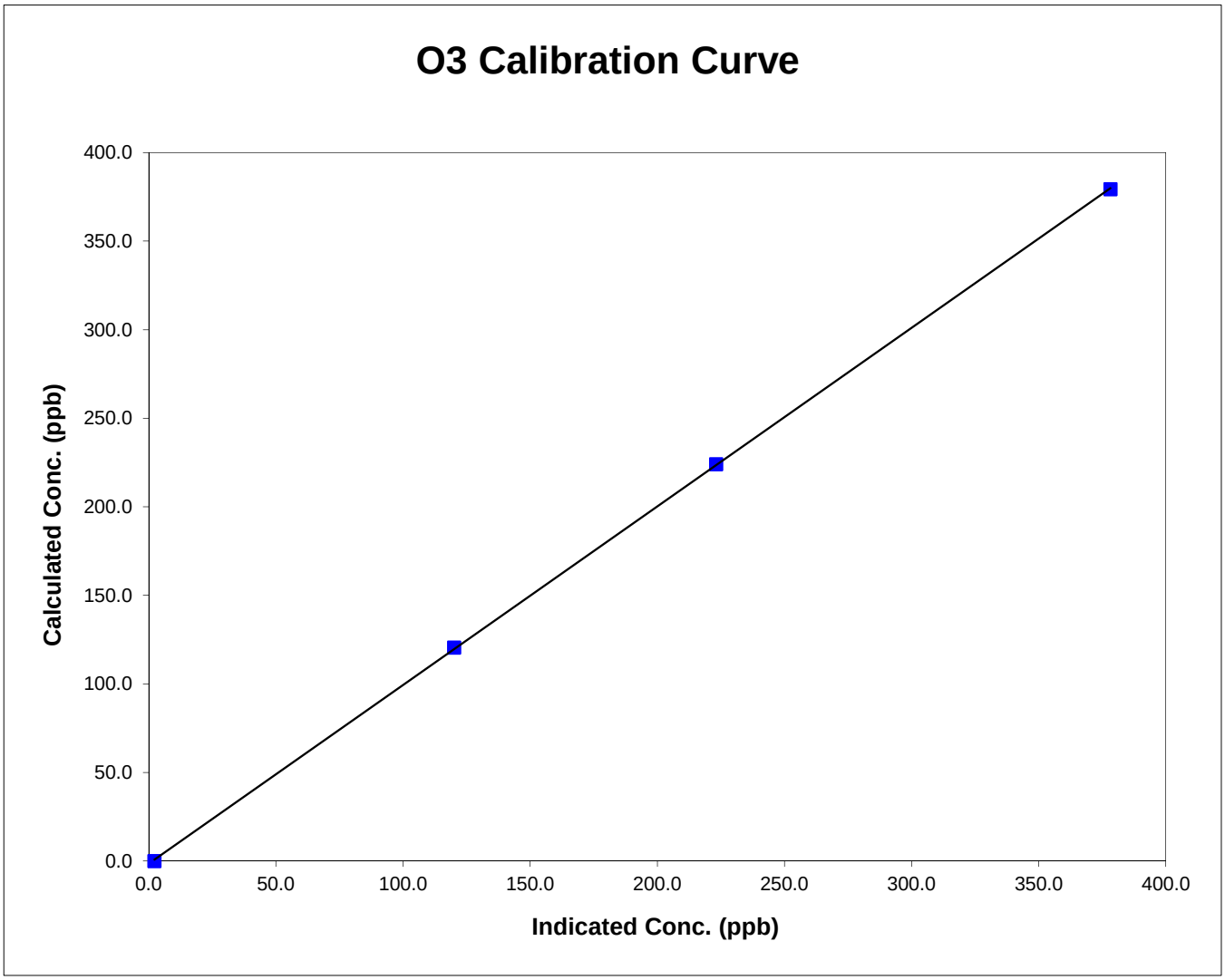
Air Monitoring Network **PAZA**

Station Information

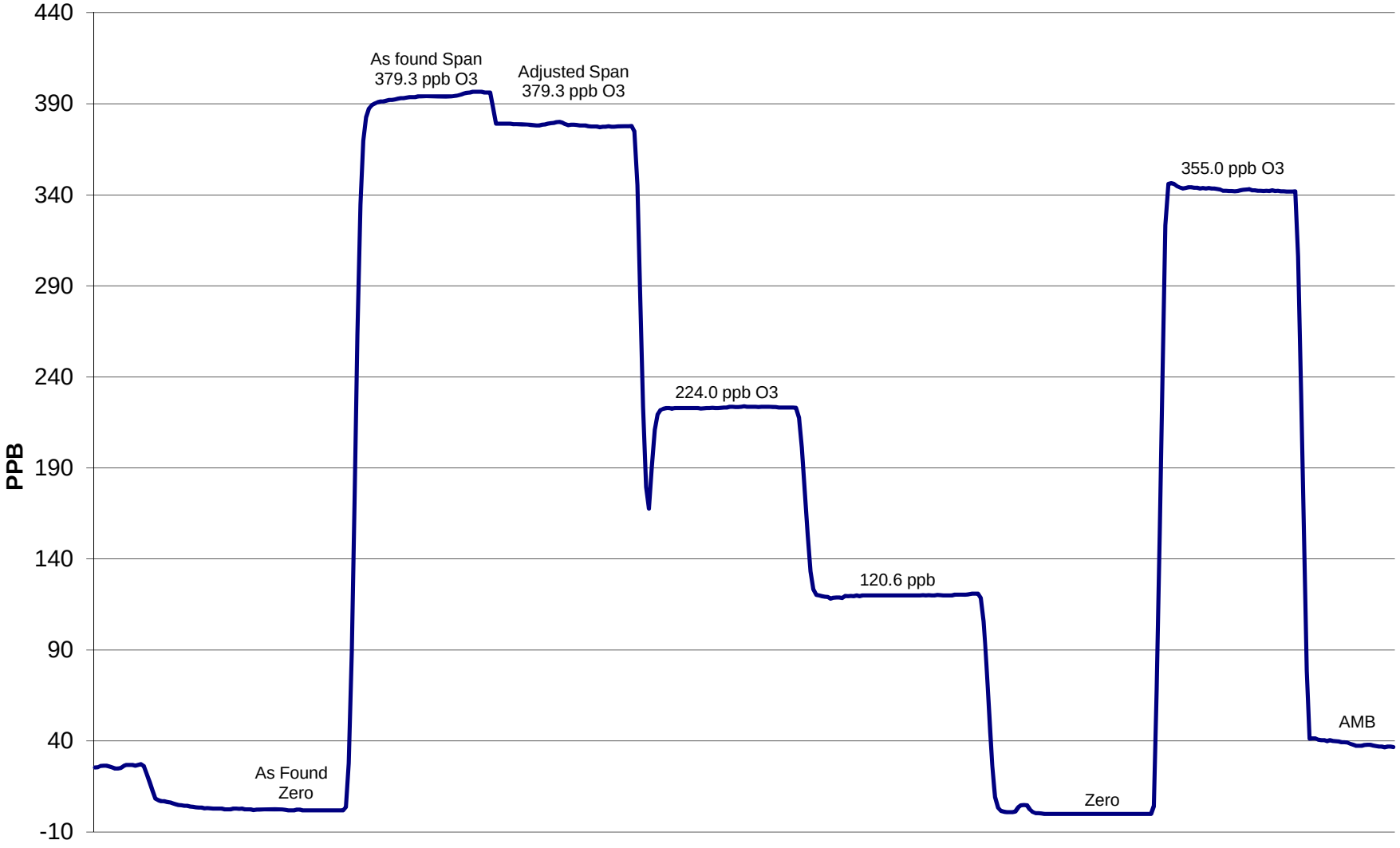
Calibration Date	August 15, 2013	Previous Calibration	July 18, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:40	End Time (MST)	15:15
Analyzer make/model	Teco 49C	Analyzer serial #	607415761

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	2.3	NA		
379.3	378.2	1.0027	Correlation Coefficient	0.999972
224.0	223.2	1.0036		
120.6	120.1	1.0041	Slope	1.008101
			Intercept	-1.452484



O3 Calibration



August 15, 2013

Calibration Report

Parameter **CO**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 15 2013	Previous Calibration	July 17 2013
Station Number	1	Station Location	Henry Pirker
Reason: Routine	Install	Removal	Other:
Start Time (MST)	11:30	End Time (MST)	14:45
Barometric Pressure	0.922 ATM	Station Temperature	21.0 Deg C
Calibrator	Environics 6100	Serial Number	3016
Cal Gas Conc	2898 ppm	Cal Gas Expiry Date	04/02/2013
		Cal Gas Cylinder #	LL83909
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	0.998244	Calculated slope	0.995499
Calculated intercept	0.233461	Calculated intercept	-0.000470
Analyzer make	TEI Model 48C	Analyzer serial #	508011062

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO span setting	1.005		1.005	
CO zero setting	-0.802		-0.802	
Sample pressure	688.9	mm Hg	688.9	mm Hg
Sample Flow	1.126	LPM	1.126	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)
5000	0.00	0.00	0.26	N/A
5000	70.00	40.01	40.34	0.9919
5000	35.00	20.14	20.06	1.0043
5000	18.00	10.40	10.22	1.0175
5000	0.00	0.00	0.29	As Found Zero
5000	70.00	40.01	40.34	As Found Span
			Average Correction Factor	1.0046

Calculated value of As Found Response: 40.214 ppm Percent Change of As Found: -0.5%

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	20.11	ppm	19.82	ppm

Notes: Slight zero adjustment.

Calibration Performed By: Christopher Hendrickson

Calibration Summary

Parameter **CO**

Air Monitoring Network **PAZA**

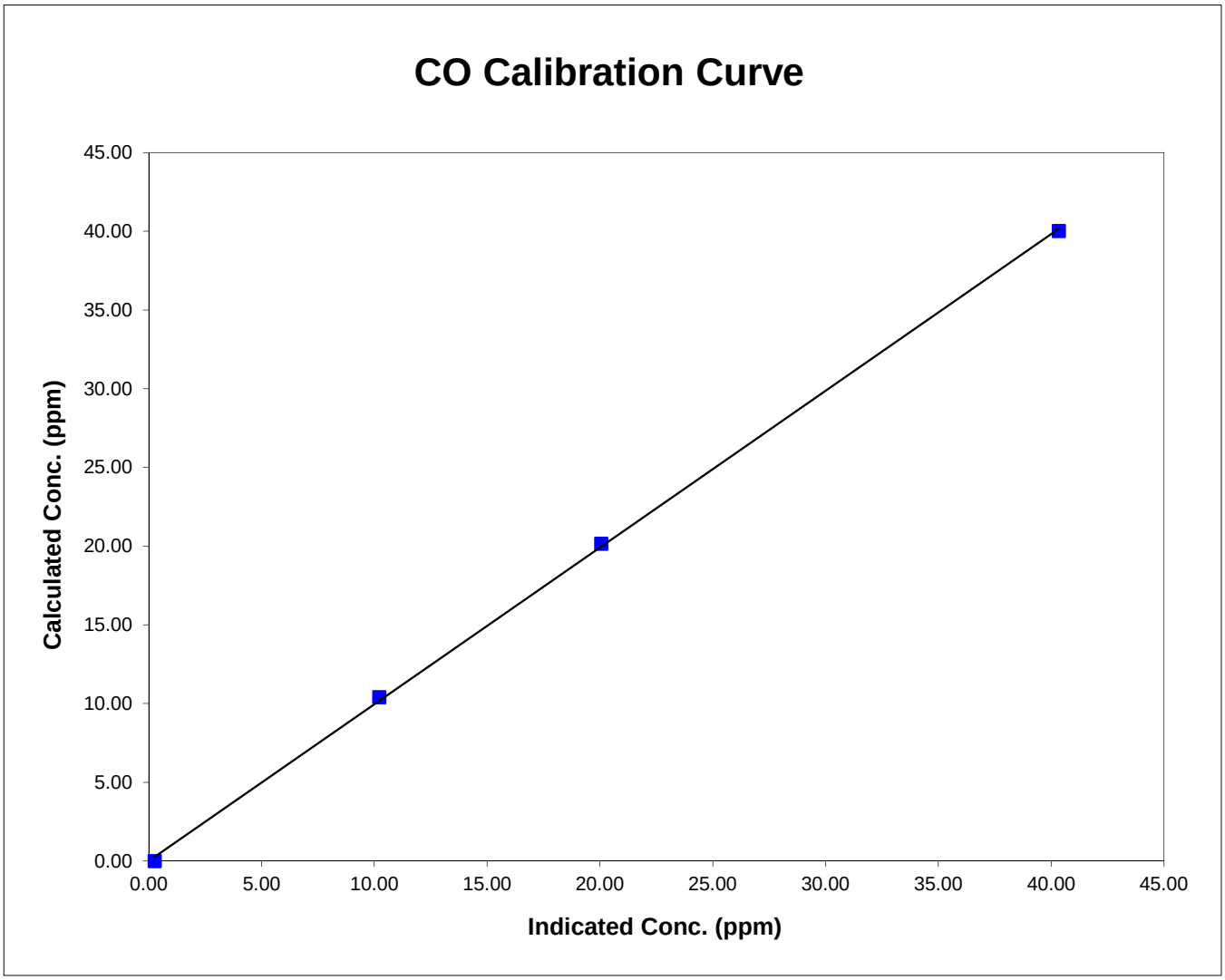
FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 15 2013	Previous Calibration	July 17 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:30	End Time (MST)	14:45
Analyzer make/model	TEI Model 48C	Analyzer serial #	508011062

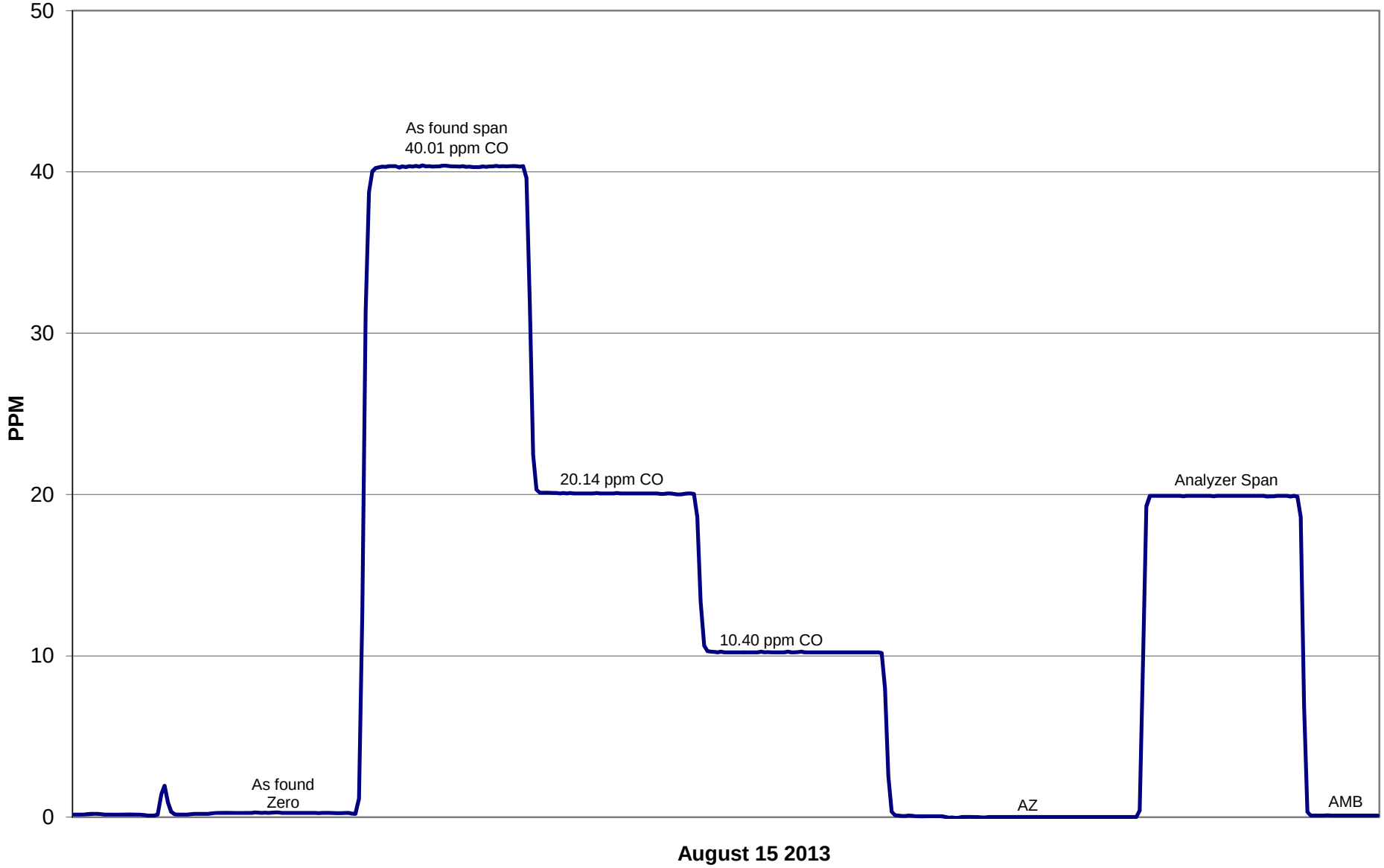
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.261	N/A		
40.012	40.338	0.9919	Correlation Coefficient	0.999805
20.145	20.058	1.0043		
10.395	10.217	1.0175	Slope	0.995499
			Intercept	-0.000470



11.15 ppm CO

CO Calibration



Calibration Report

Parameter **CH4 / NMHC / THC**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 23, 2013	Previous Calibration	June 18, 2013
Station Number	1	Station Location	Henry Pirker
Reason: Routine	Install	Removal	Other: H2 ran out

Start Time (MST)	10:30	End Time (MST)	14:50
Barometric Pressure	NA inches Hg	Station Temperature	20.0 Deg C
Calibrator	Sabio 2010	Serial Number	3951108
Cal Gas CH4 Conc	404 ppm CH4	Cal Gas Expiry Date	3/28/14
Cal Gas C3H8 Conc	201 552.75 ppm CH4	Cal Gas Cylinder #	LL34989
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 5 volt	DACS channel #	SE 11,12,13

Analyzer make	TEI 55I	Analyzer serial #	1134650658

	before		after	
Concentration range	0-20 (CH4, NMHC); 0-40 (THC)	ppm	0-20 (CH4, NMHC); 0-40 (THC)	ppm
Air pressure	NA	PSI	27.8	PSI
Fuel pressure	NA	PSI	42.1	PSI
Carrier pressure	NA	PSI	30.3	PSI
CH4 cal factor	NA		5.68	E^{-4}
NMHC cal factor	NA		1.64	E^{-4}
Rt	NA	Sec	12.60	Sec
Pk Index	NA		23.00	

CH4 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)
2000	0.00	0.00	0.02	N/A
2000	65.20	12.75	12.80	0.9963
2000	40.20	7.96	8.03	0.9913
2000	15.40	3.09	3.14	0.9837
				As Found Zero
				As Found Span
			Average Correction Factor	0.9904

Calculated value of As Found Response: NA

Percent Change of As Found: NA

	Before		After
Calculated slope	NA	Calculated slope	0.997856
Calculated intercept	NA	Calculated intercept	-0.034259

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	NA	ppm	0.03	ppm
Auto span	NA	ppm	9.01	ppm

NMHC 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)
2000	0.00	0.00	0.02	N/A
2000	65.20	17.45	17.48	0.9986
2000	40.20	10.89	10.97	0.9925
2000	15.40	4.22	4.24	0.9964
				As Found Zero
				As Found Span
			Average Correction Factor	0.9958

Calculated value of As Found Response: NA

Percent Change of As Found: NA

	Before		After
Calculated slope	NA	Calculated slope	0.998593
Calculated intercept	NA	Calculated intercept	-0.023769

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	NA	ppm	0.02	ppm
Auto span	NA	ppm	12.54	ppm

THC 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)
2000	0.00	0.00	0.03	N/A
2000	65.20	30.21	30.26	0.9983
2000	40.20	18.85	18.98	0.9932
2000	15.40	7.31	7.37	0.9924
				As Found Zero
				As Found Span
			Average Correction Factor	0.9946

Calculated value of As Found Response: NA

Percent Change of As Found: NA

	Before		After
Calculated slope	NA	Calculated slope	0.998838
Calculated intercept	NA	Calculated intercept	-0.050588

Final Zero/Span Data

	before calibration		after calibration	
Auto zero	NA	ppm	0.02	ppm
Auto span	NA	ppm	21.54	ppm

Notes: As found not availiable due to hydrogen running out completely. New tank installed.
Span adjusted twice due to calibrator issue that was resolved before full calibration.
Final point briefly interupted by daily zero and span. Cancelled this and continued calibration.

Calibration Performed By: Stephanie Tandy

Calibration Summary

Parameter **CH4**

Air Monitoring Network **PAZA**

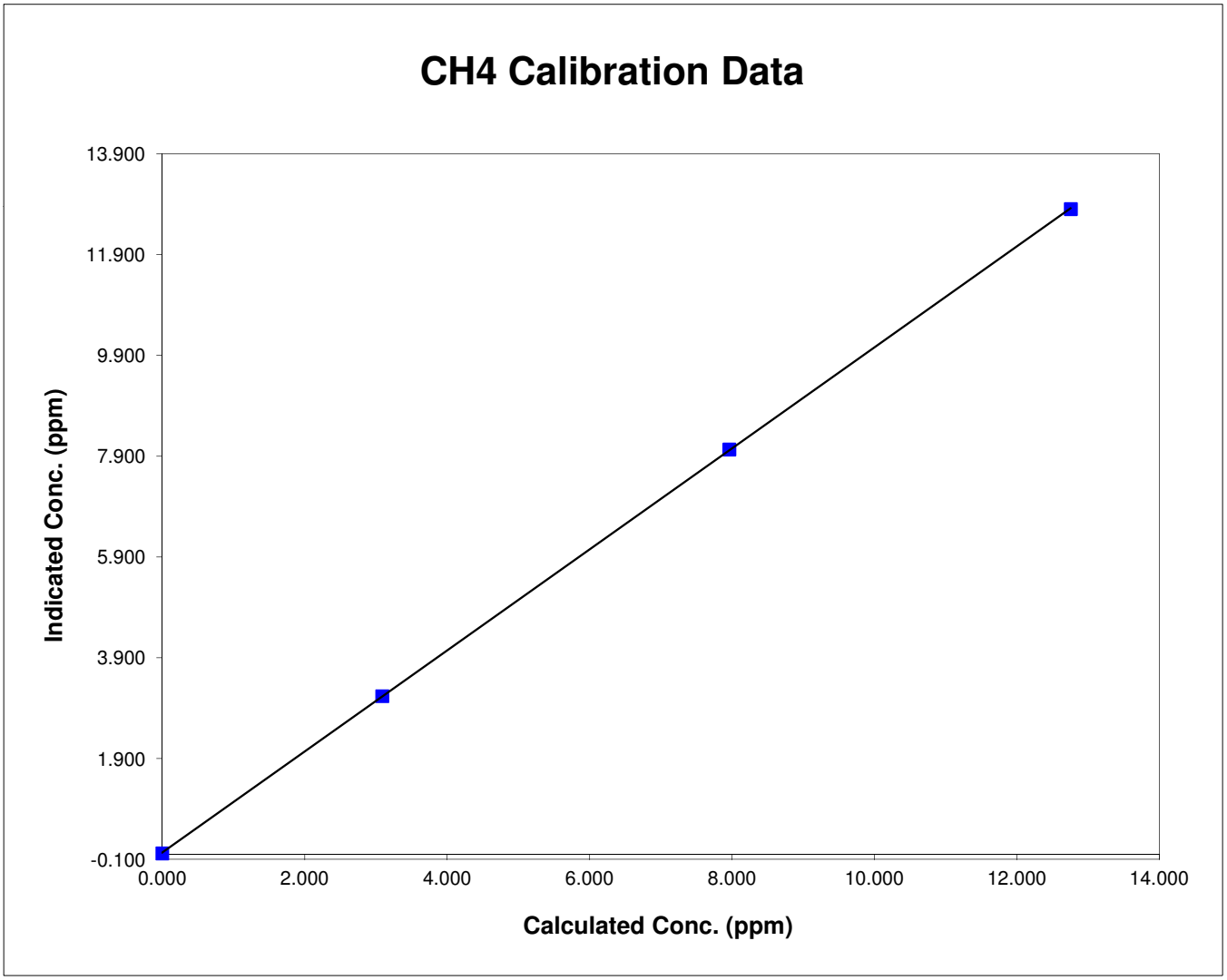
FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 23, 2013	Previous Calibration	June 18, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:30	End Time (MST)	14:50
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.020	N/A		
12.755	12.802	0.9963	Correlation Coefficient	0.999991
7.960	8.030	0.9913		
3.087	3.138	0.9837	Slope	0.997856
			Intercept	-0.034259



Calibration Summary

Parameter **NMHC**

Air Monitoring Network **PAZA**

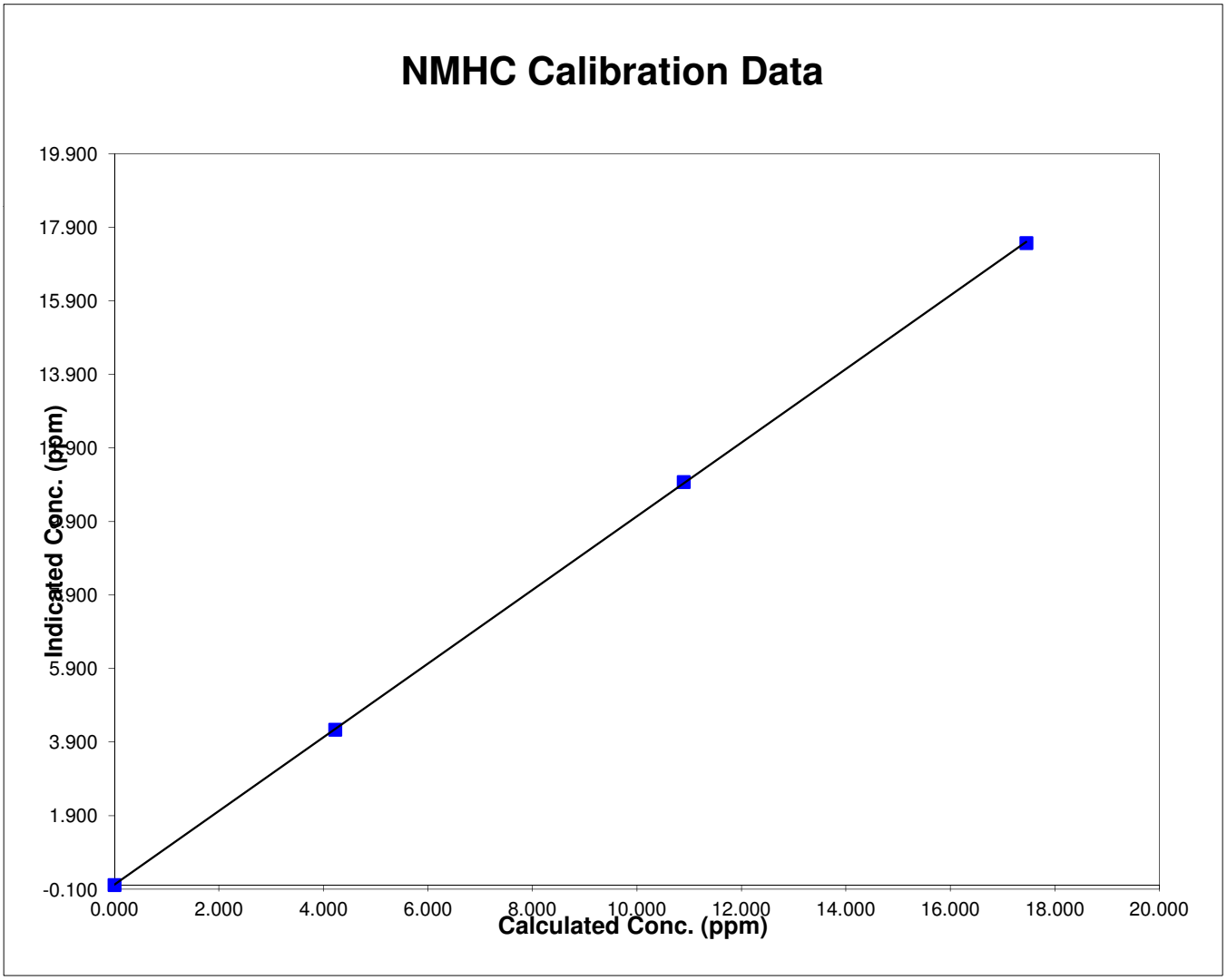
FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 23, 2013	Previous Calibration	June 18, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:30	End Time (MST)	14:50
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.018	N/A		
17.451	17.475	0.9986	Correlation Coefficient	0.999985
10.891	10.974	0.9925		
4.224	4.239	0.9964	Slope	0.998593
			Intercept	-0.023769



Calibration Summary

Parameter **THC**

Air Monitoring Network **PAZA**

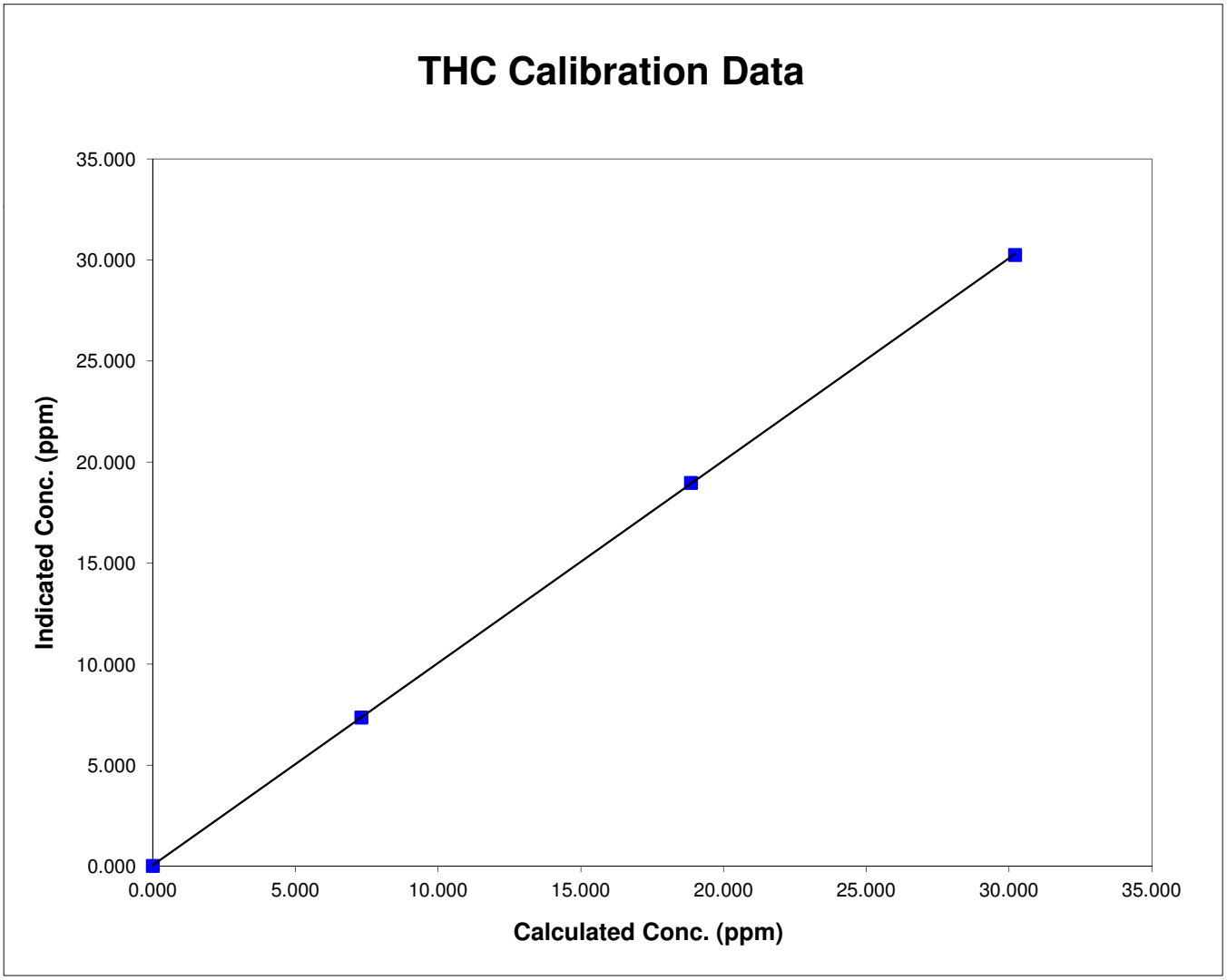
FOCUS AIR QUALITY MONITORING

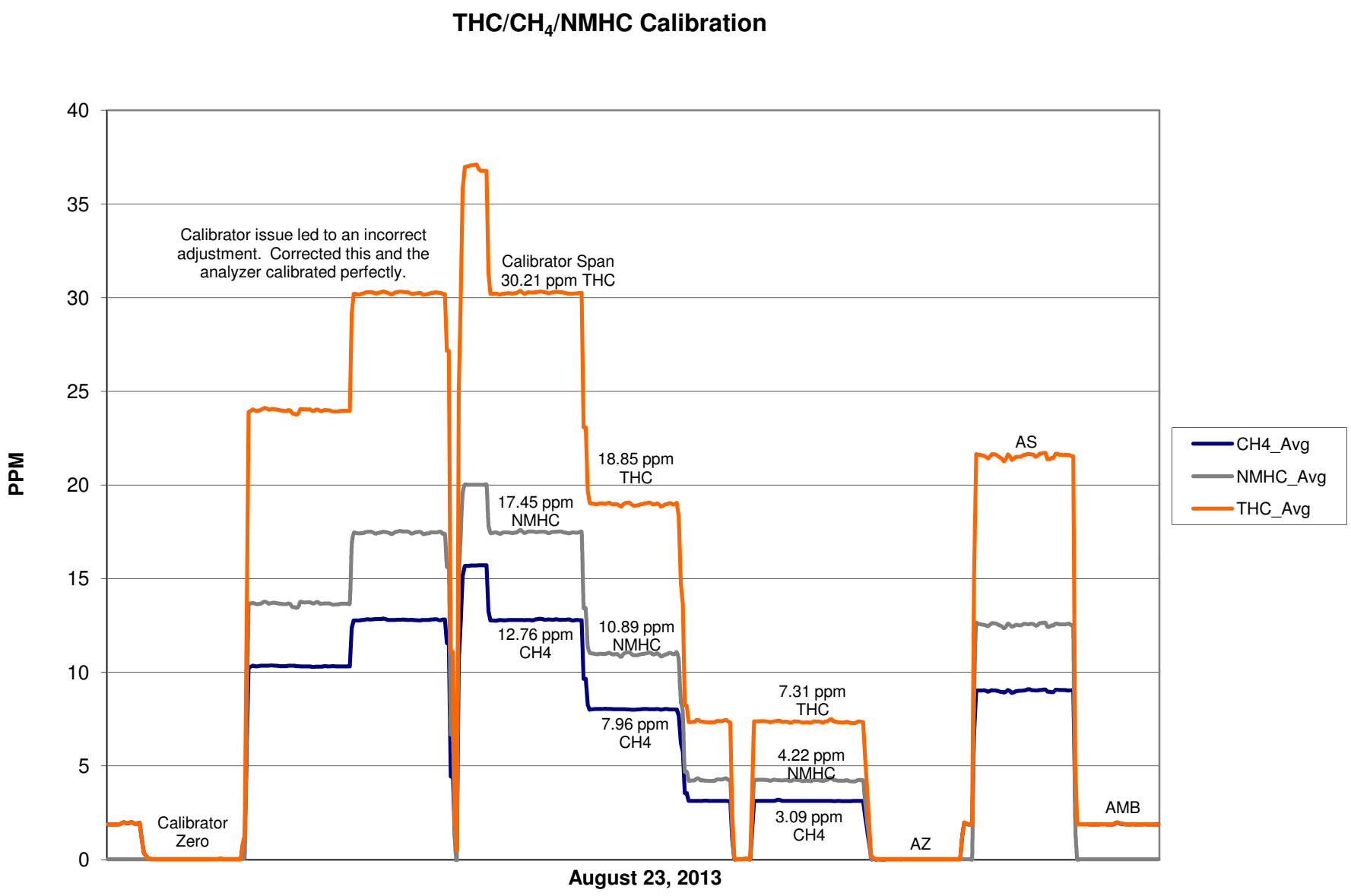
Station Information

Calibration Date	August 23, 2013	Previous Calibration	June 18, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:30	End Time (MST)	14:50
Analyzer make/model	TEI 55I	Analyzer serial #	1134650658

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.032	N/A		
30.205	30.257	0.9983	Correlation Coefficient	0.999991
18.852	18.980	0.9932		
7.311	7.367	0.9924	Slope	0.998838
			Intercept	-0.050588




THC/CH4/NMHC Calibration
PPM
40
35
30
25
20
15
10
5
0
Calibrator issue led to an incorrect adjustment. Corrected this and the analyzer calibrated perfectly.
Calibrator Span 30.21 ppm THC
18.85 ppm THC
17.45 ppm NMHC
12.76 ppm CH4
10.89 ppm NMHC
7.96 ppm CH4
7.31 ppm THC
4.22 ppm NMHC
3.09 ppm CH4
AS
AZ
AMB
Calibrator Zero
August 23, 2013
CH4_Avg
NMHC_Avg
THC_Avg

Calibration Report

Parameter **TRS**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 14, 2013	Previous Calibration	July 17, 2013
Station Number	1	Station Location	Henry Pirker
Reason: Routine	Install	Removal	Other:
Start Time (MST)	10:30	End Time (MST)	14:45
Barometric Pressure	0.922 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Conc	10.1 ppb	Cal Gas Expiry Date	05/11/2013
		Cal Gas Cylinder #	LL160692
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	9
	Before		After
Calculated slope	0.992254	Calculated slope	0.977181
Calculated intercept	0.133874	Calculated intercept	0.171465
Analyzer make	TEI 45C	Analyzer serial #	630718528

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Coefficient	1.118		1.128	
Background	11.3		11.5	
Pressure	663.6	mm Hg	654.4	mm Hg
Flow	0.454	ccm	0.451	ccm
Lamp Voltage	823	V	822	V

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)		Correction factor (Cc/Ic)
7995	0.00	0.00	0.15	N/A
7995	64.95	81.39	83.23	0.9779
7995	32.95	41.45	42.11	0.9844
7995	9.95	12.55	12.37	1.0151
7995	0.00	0.00	0.15	As Found Zero
7995	64.95	81.39	78.04	As Found Span
			Average Correction Factor	0.9925

Calculated value of As Found Response: 77.4 ppb Percent Change of As Found: 4.9%

	before calibration		after calibration	
Auto zero	0.30	ppb	0.23	ppb
Auto span	33.10	ppb	33.38	ppb

Notes: Sox scrubber checked with 100 ppb of SO2. Slight span adjust 80% point.

Calibration Performed By: Christopher Hendrickson

Calibration Summary

Parameter **TRS**

Air Monitoring Network **PAZA**

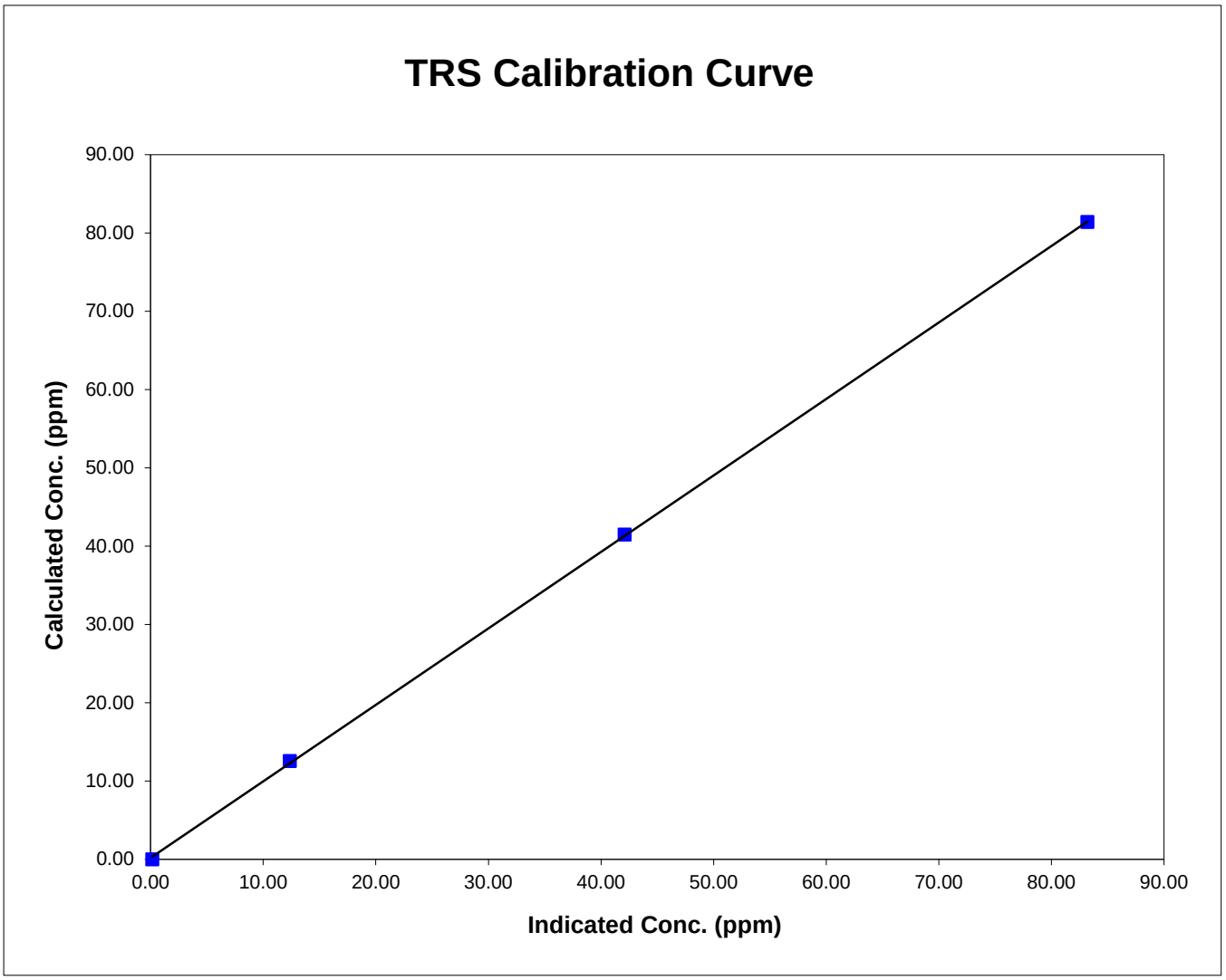
FOCUS AIR QUALITY MONITORING

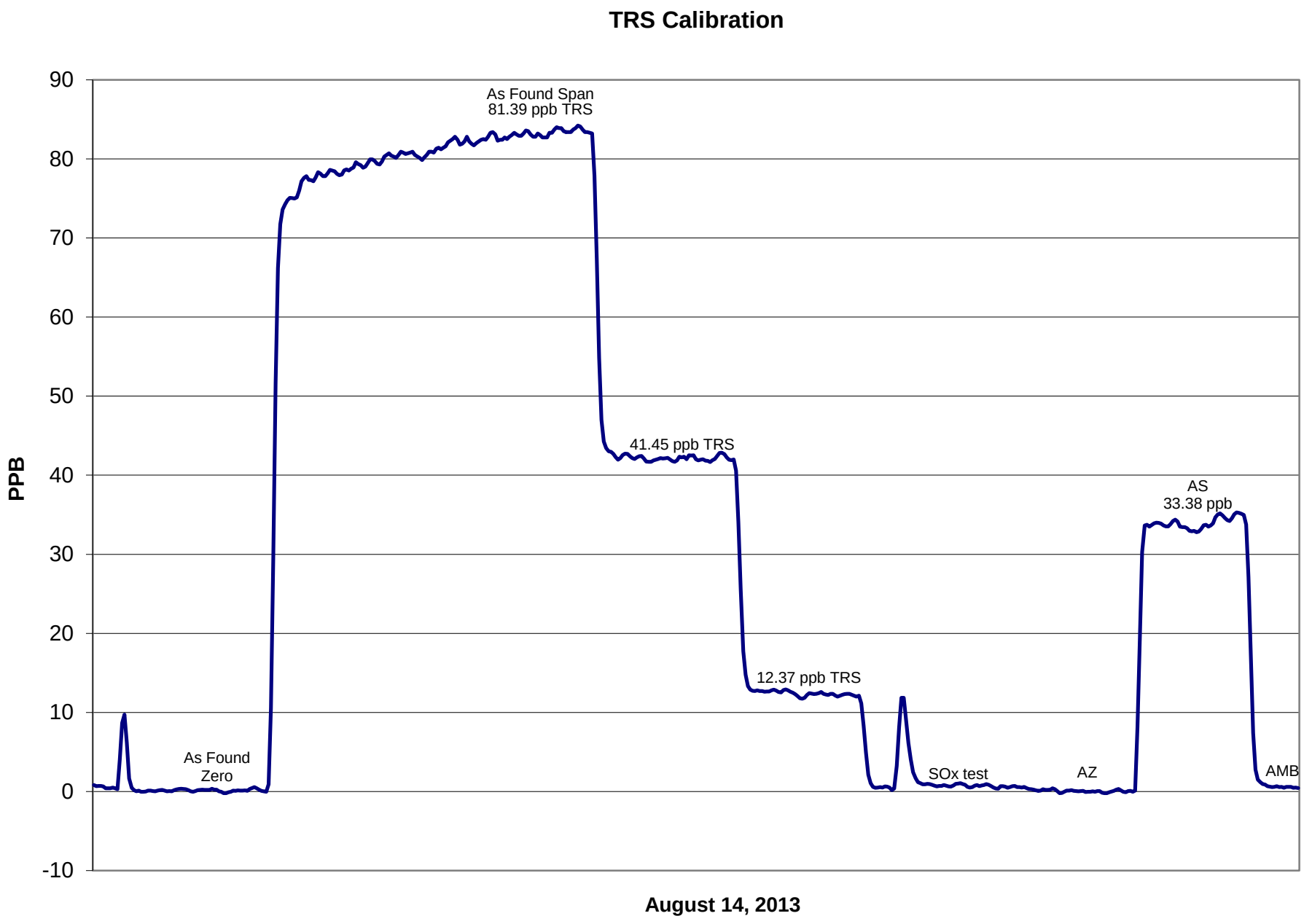
Station Information

Calibration Date	August 14, 2013	Previous Calibration	July 17, 2013
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:30	End Time (MST)	14:45
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	0.151	N/A		
81.389	83.228	0.9779	Correlation Coefficient	0.999944
41.455	42.111	0.9844		
12.554	12.368	1.0151	Slope	0.977181
			Intercept	0.171465




TRS Calibration
PPB
90
80
70
60
50
40
30
20
10
0
-10
As Found Span
81.39 ppb TRS
41.45 ppb TRS
12.37 ppb TRS
AS
33.38 ppb
As Found
Zero
SOx test
AZ
AMB
August 14, 2013

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **SO_2**

Air Monitoring Network **PAZA**

Station Information

Calibration Date	August 13 2013	Previous Calibration	July 24 2013
Station Number	2	Station Location	Evergreen Park
Reason: Routine	Install	Removal	Other: Monthly cal result not linear. Redone.
Start Time (MST)	10:30	End Time (MST)	13:45
Barometric Pressure	0.931 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics	Serial Number	3474
Cal Gas Concentratior	51.6 ppm	Cal Gas Expiry Date	2/25/25
Correction factor	0.031647	Cal Gas Cylinder #	LL105159
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	1.001748	Calculated slope	0.988392
Calculated intercept	2.809499	Calculated intercept	3.203405
Analyzer make	Teco 43i	Analyzer serial #	701120008

	before		after	
Concentration range	0 - 500	ppb	NA	ppb
Background	11.2		NA	
coefficient	1.194		NA	
Lamp Voltage	824	volts	NA	volts
Chamber Temp	45.2	Deg C	NA	Deg C
Perm Gas Temp	45	Deg C	NA	Deg C
Pressure	674.3	mm Hg	NA	mm Hg
Sample Flow	0.457	ccm	NA	ccm
Lamp Intensity	89	%	NA	%

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	0.4	N/A
4995	39.93	409.2	412.6	0.9917
4995	19.97	205.5	202.4	1.0151
4995	9.95	102.6	97.3	1.0542
4995	0.0	0.0	0.4	As Found Zero
4995	39.93	409.2	393.5	As Found Span
			Average Correction Factor	1.0203

Calculated value of As Found Response: 396.617 ppm Percent Change of As Found: 3.1%

	before calibration		after calibration	
Auto zero	0.2	ppm	NA	ppm
Auto span	277.4	ppm	NA	ppm

Notes: Recalibration done due to linearity spread greater than 5% as shown on this sheet.

Calibration Performed By: Christopher Hendrickson

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

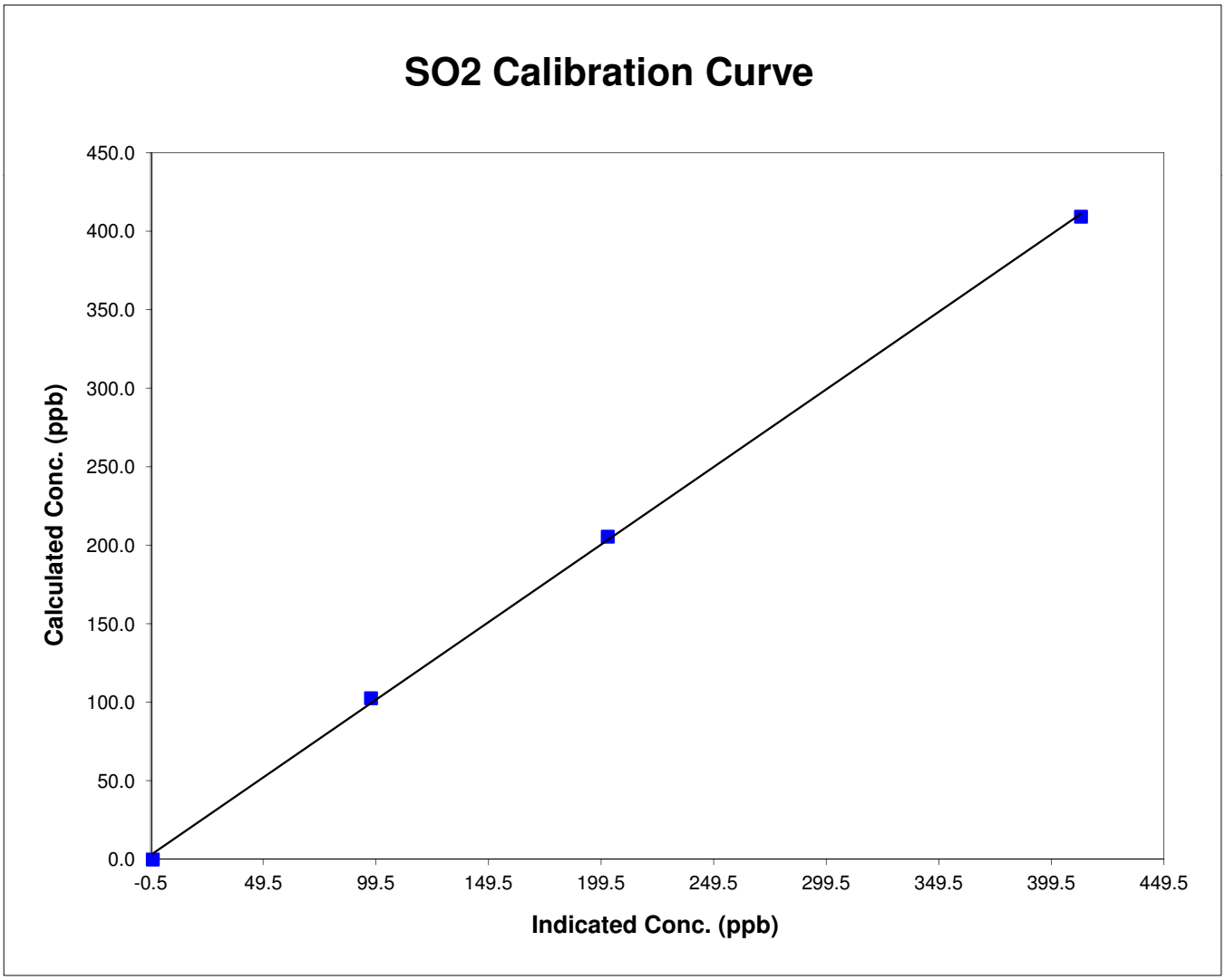
FOCUS AIR QUALITY MONITORING

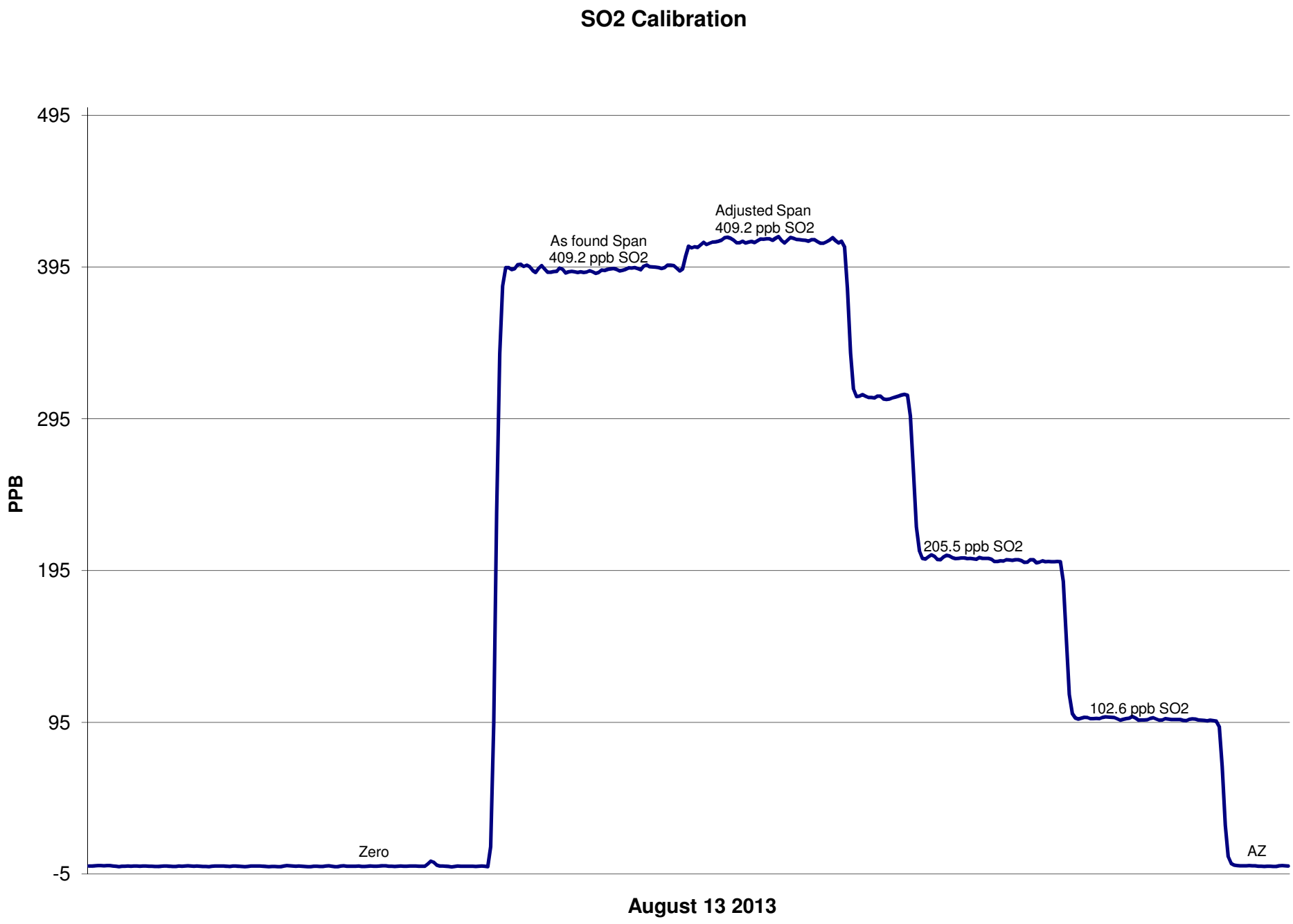
Station Information

Calibration Date	August 13 2013	Previous Calibration	July 24 2013
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	10:30	End Time (MST)	13:45
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		
409.2	412.6	0.9917	Correlation Coefficient	0.999660
205.5	202.4	1.0151		
102.6	97.3	1.0542	Slope	0.988392
			Intercept	3.203405




SO2 Calibration
495
395
295
195
95
-5
PPB
Zero
As found Span
409.2 ppb SO2
Adjusted Span
409.2 ppb SO2
205.5 ppb SO2
102.6 ppb SO2
AZ
August 13 2013

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **SO_2**

Air Monitoring Network **PAZA**

Station Information

Calibration Date	August 13 2013	Previous Calibration	July 24 2013
Station Number	2	Station Location	Evergreen Park
Reason: Routine	Install	Removal	Other: Monthly calibration re-do because of lack on linearity.
Start Time (MST)	14:45	End Time (MST)	18:45
Barometric Pressure	0.931 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics	Serial Number	3474
Cal Gas Concentratior	51.6 ppm	Cal Gas Expiry Date	2/25/25
Correction factor	0.031647	Cal Gas Cylinder #	LL105159
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	1.001748	Calculated slope	1.004543
Calculated intercept	2.809499	Calculated intercept	-1.198627
Analyzer make	Teco 43i	Analyzer serial #	701120008

	before		after	
Concentration range	NA	ppb	0 - 500	ppb
Background	NA		10.9	
coefficient	NA		1.162	
Lamp Voltage	NA	volts	822	volts
Chamber Temp	NA	Deg C	45.2	Deg C
Perm Gas Temp	NA	Deg C	45	Deg C
Pressure	NA	mm Hg	669.8	mm Hg
Sample Flow	NA	ccm	0.454	ccm
Lamp Intensity	NA	%	89	%

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
5030	0.0	0.00	0.5	N/A
5030	40.30	410.1	409.1	1.0025
5030	20.30	207.4	208.0	0.9970
5030	10.30	105.4	106.9	0.9866
NA	NA	NA		As Found Zero
NA	NA	NA		As Found Span
			Average Correction Factor	0.9954

Calculated value of As Found Response: NA

Percent Change of As Found: NA

	before calibration		after calibration	
Auto zero	0.2	ppm	0.3	ppm
Auto span	277.4	ppm	272.0	ppm

Notes: Second monthly cal because first showed a lack of linearity.

Calibration Performed By: Christopher Hendrickson

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

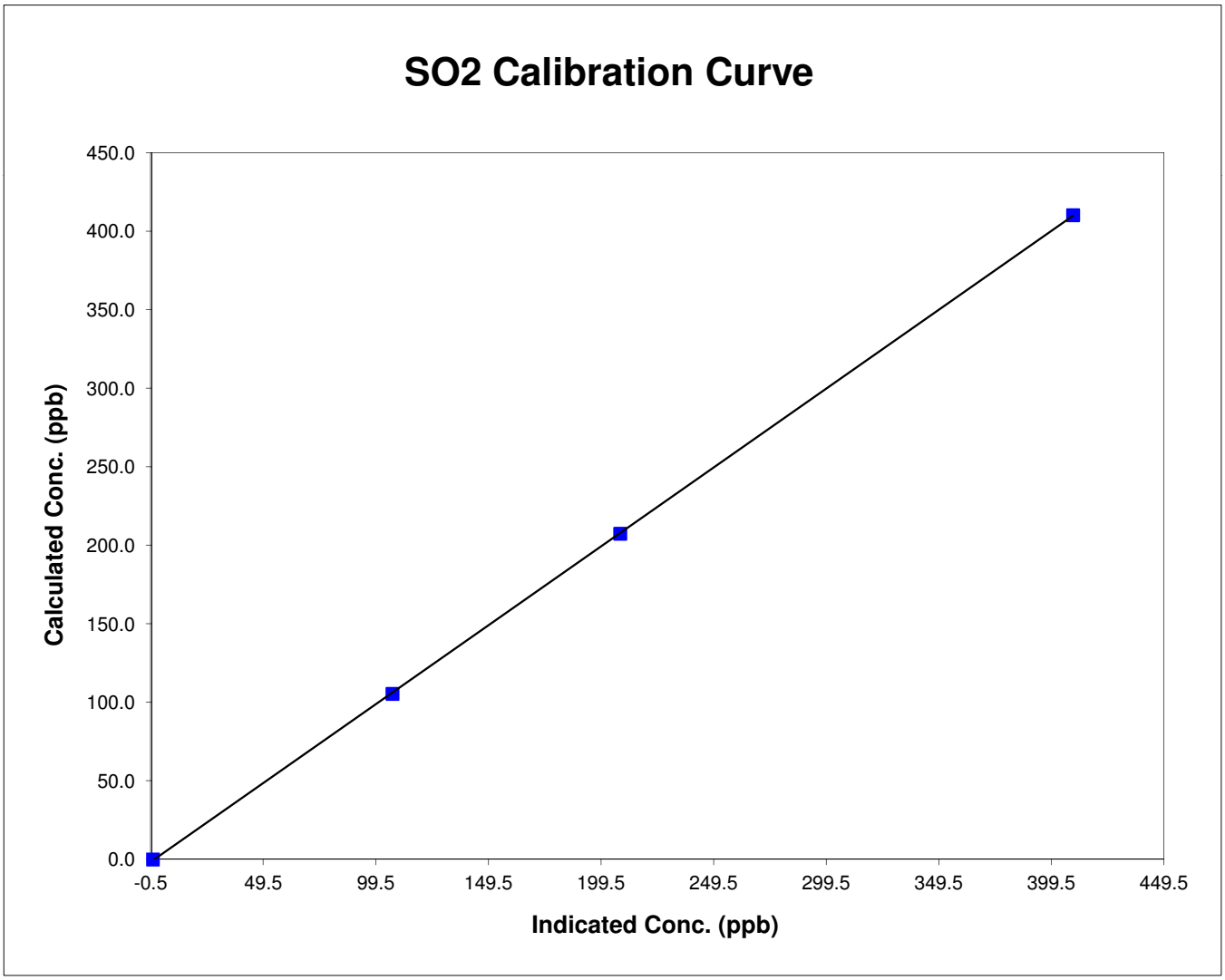
FOCUS AIR QUALITY MONITORING

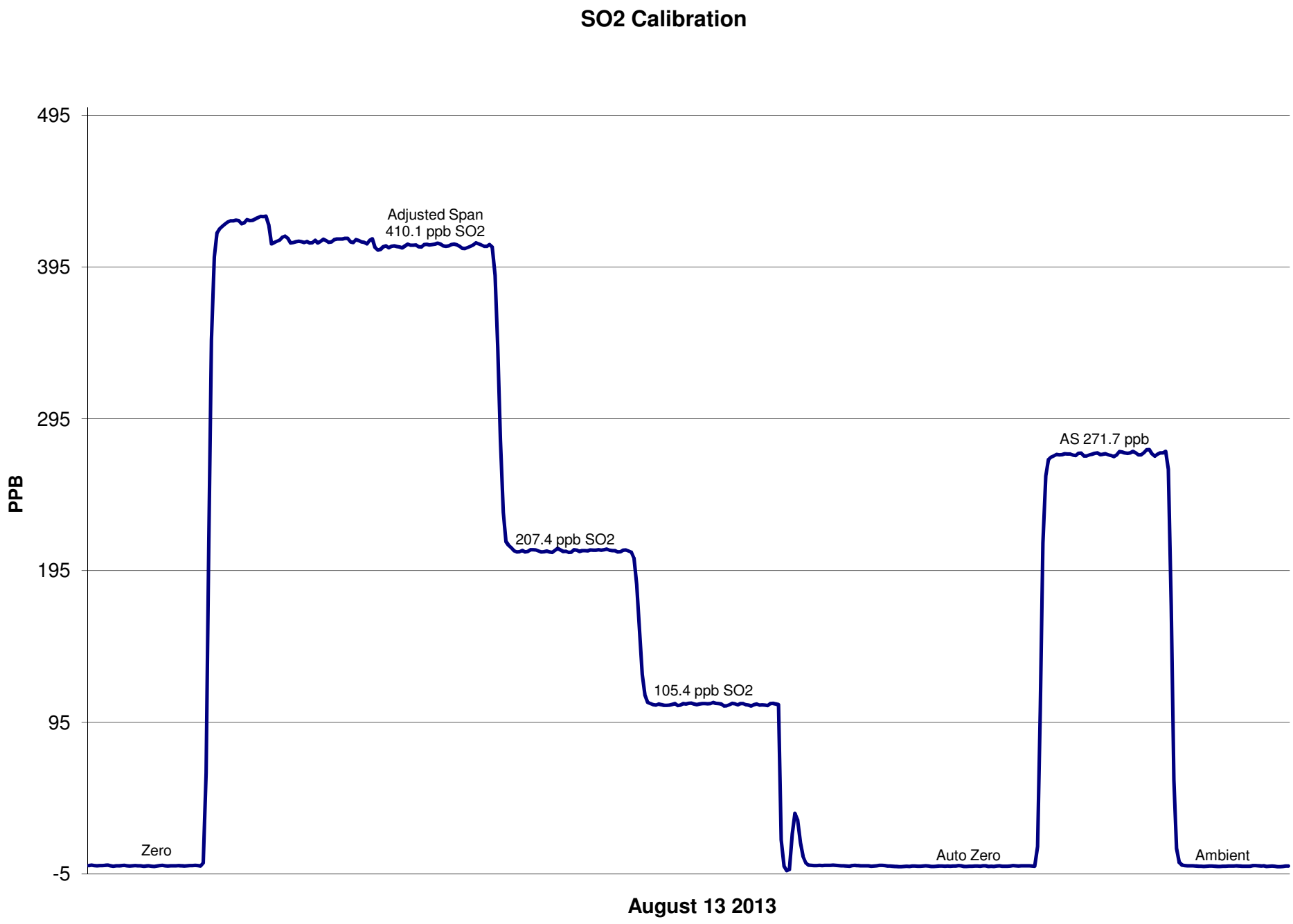
Station Information

Calibration Date	August 13 2013	Previous Calibration	July 24 2013
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	14:45	End Time (MST)	18:45
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	0.5	N/A		
410.1	409.1	1.0025	Correlation Coefficient	0.999986
207.4	208.0	0.9970		
105.4	106.9	0.9866	Slope	1.004543
			Intercept	-1.198627




SO2 Calibration
495
395
295
195
95
-5
PPB
Adjusted Span
410.1 ppb SO2
207.4 ppb SO2
105.4 ppb SO2
AS 271.7 ppb
Zero
Auto Zero
Ambient
August 13 2013

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **TRS**

Air Monitoring Network **PAZA**

Station Information

Calibration Date	Aug 13 2013	Previous Calibration	July 24 2013
Station Number	2	Station Location	Evergreen Park
Reason: Routine	Install	Removal	Other:

Start Time (MST)	11:00	End Time (MST)	16:25
Barometric Pressure	0.931 ATM	Station Temperature	22.0 Deg C
Calibrator	Environics	Serial Number	3474
Cal Gas Conc	10.1 ppm	Cal Gas Expiry Date	5/11/13
Correction factor	0.031433	Cal Gas Cylinder #	LL160692
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
Calculated slope	0.984575	Calculated slope	1.004532
Calculated intercept	0.247080	Calculated intercept	-0.369523

Analyzer make	TEI Model 43C	Analyzer serial #	3.199E+13

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	36.4	ppb	34.1	ppb
coefficient	1.058		0.995	
Lamp Voltage	1006	volts	1005	volts
Chamber Temp	44.3	Deg C	44.2	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	639.8	mm Hg	641.3	mm Hg
Sample Flow	0.630	ccm	0.623	ccm
Lamp Intensity	31,474	mv	31,898	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)
8040	0.00	0.00	0.3	N/A
8040	66.40	82.73	82.7	1.0009
8040	33.30	41.66	42.0	0.9922
8040	10.30	12.92	13.2	0.9776
8040	15.30	98.01	0.3	Sox Test
8040	0.00	0.00	0.3	As Found Zero
8040	66.40	82.73	87.0	As Found Span
			Average Correction Factor	0.9902

Calculated value of As Found Response: 85.58 ppm Percent Change of As Found: -3.5%

	before calibration		after calibration	
Auto zero	0.4	ppm	-0.1	ppm
Auto span	76.8	ppm	72.2	ppm

Notes:

Calibration Performed By: Christopher Hendrickson

Calibration Summary

Parameter **TRS**

Air Monitoring Network **PAZA**

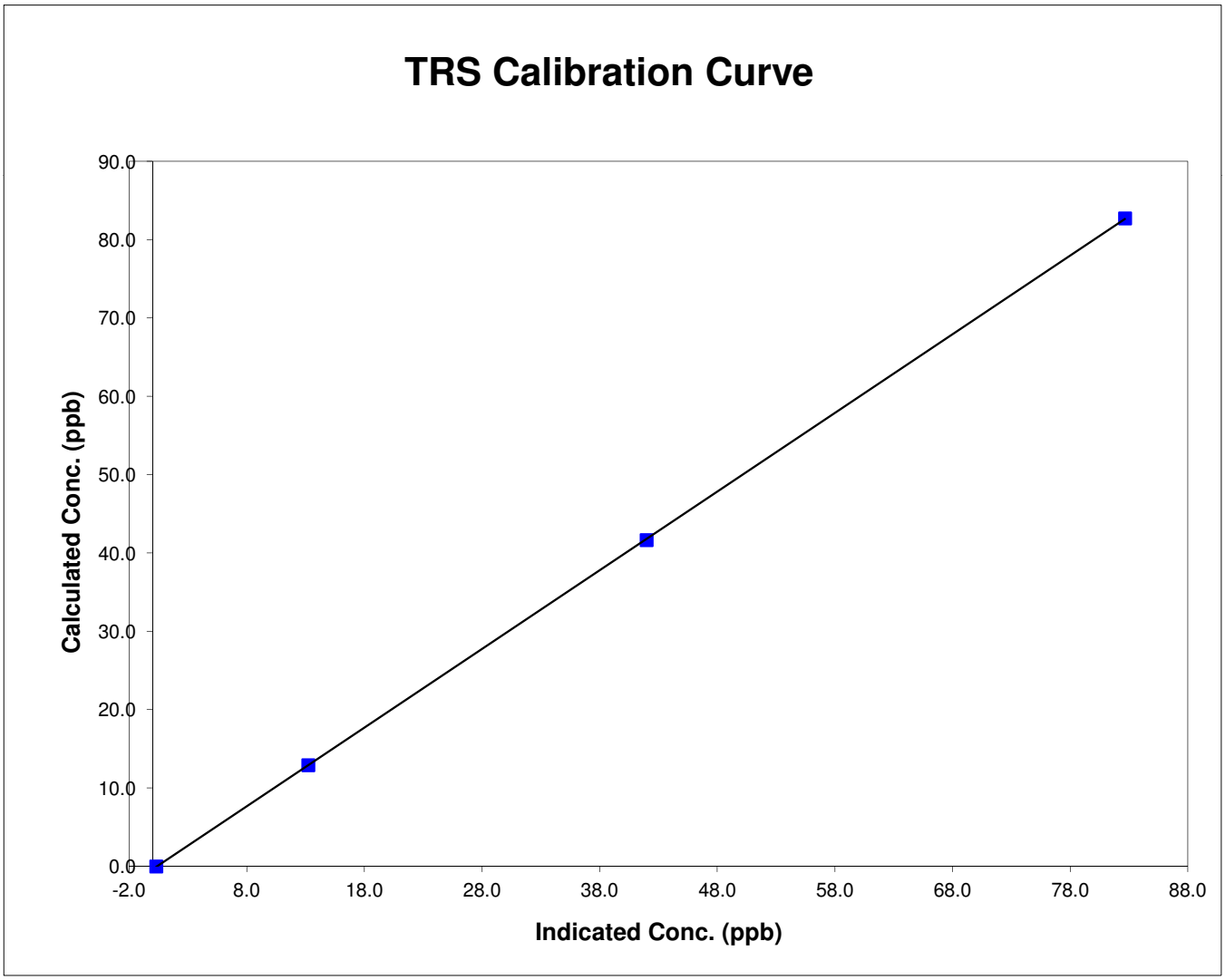
FOCUS AIR QUALITY MONITORING

Station Information

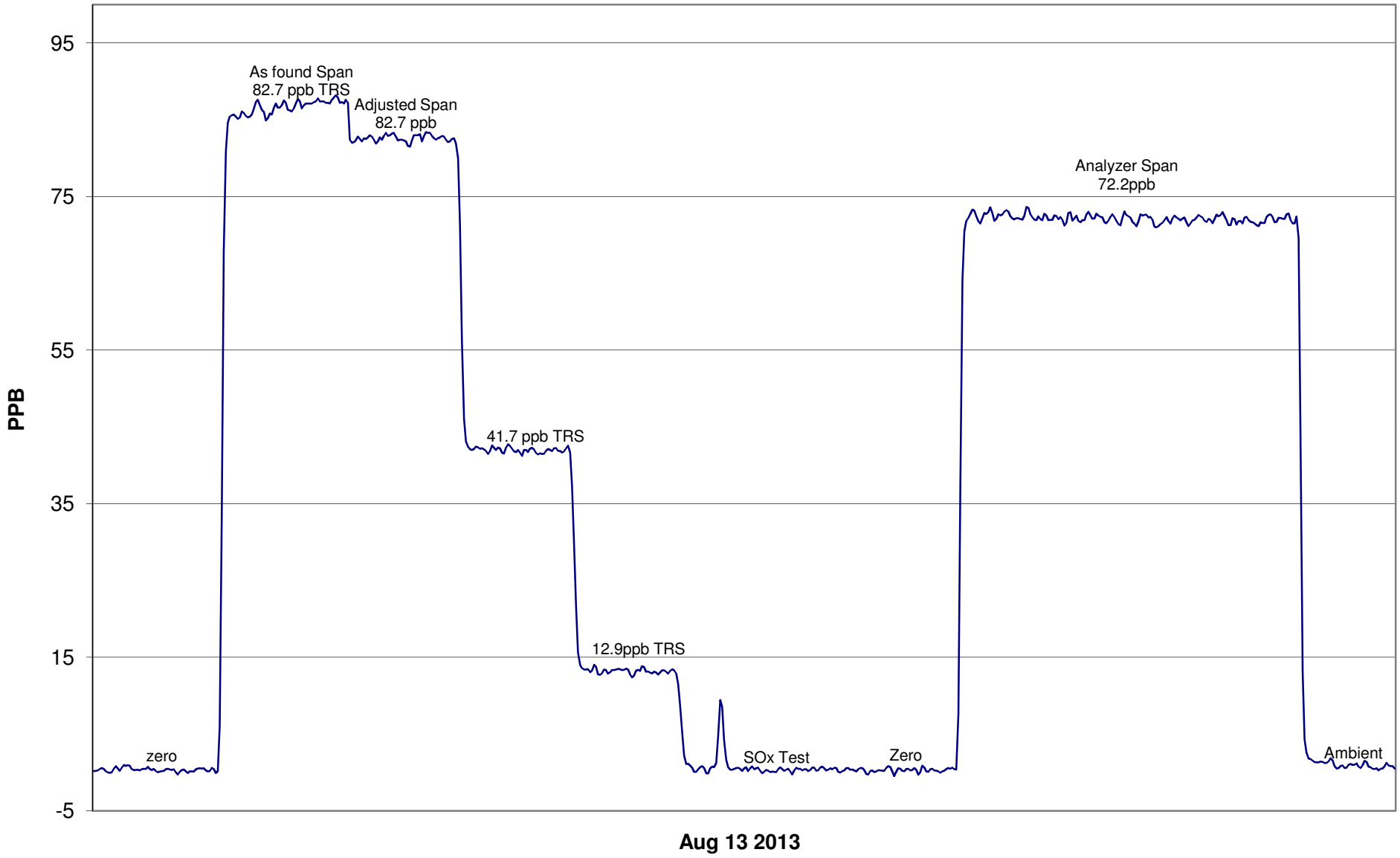
Calibration Date	Aug 13 2013	Previous Calibration	July 24 2013
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	11:00	End Time (MST)	16:25
Analyzer make/model	TEI Model 43C	Analyzer serial #	31990000000491

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A		
82.7	82.7	1.0009	Correlation Coefficient	0.999992
41.7	42.0	0.9922		
12.9	13.2	0.9776	Slope	1.004532
			Intercept	-0.369523



TRS Calibration



AB TEOM PM2.5 Calibration

FOCUS AIR QUALITY MONITORING

STATION: **Evergreen Park**

LOCATION: PAZA - Grande Prairie

OPERATOR: Christopher Hendrickson

DATE: 15-Aug-13

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	21/03/2013
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	0.000	0.000
NET	0.040	0.050
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)	na	na		13.24	2.999
As Found Data	MEASURED (AF)	na	na		13.24	2.980
Adjusted Data	MEASURED (M)	na	na	16265	13.24	2.980
	DIFFERENCE (M-I)	na	na	0.7%	-0.43	-0.02
	LIMITS	***± 2 ^{0} C***	***± 0.005 atm***	***± 2.5 %***	***± 1.0 L/min***	***± 0.2 L/min***

Ko Audit Filter data *Weight:* **0.11014** *Serial #:* ***CVK 2123***

COMMENTS: **Pass.**

Leak and flow only done

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

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **SO_2**

Air Monitoring Network **PAZA**

Station Information

Calibration Date	August 20, 2013	Previous Calibration	July 31, 2013
Station Number	3	Station Location	Smokey Heights
Reason: Routine	Install	Removal	Other:
Start Time (MST)	17:40	End Time (MST)	20:30
Barometric Pressure	0.924 ATM	Station Temperature	20.0 Deg C
Calibrator	Sabio 2010	Serial Number	3951108
Cal Gas Concentratior	51.5 ppm	Cal Gas Cert Date	1/20/16
Correction factor	0.031409	Cal Gas Cylinder #	LL110536
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	0.998569	Calculated slope	1.006056
Calculated intercept	2.880407	Calculated intercept	-1.759367
Analyzer make	Teco 43i	Analyzer serial #	701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	10.9		11	
coefficient	0.945		0.945	
Lamp Voltage	920	volts	925	volts
Chamber Temp	45	Deg C	44.9	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	677.4	mm Hg	672.3	mm Hg
Sample Flow	0.453	ccm	0.450	ccm
Lamp Intensity	89	%	88	%

Calibration Data

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
5000	0.0	0.00	0.4	N/A
5000	40.30	411.77	410.2	1.0038
5000	20.30	208.24	209.9	0.9923
5000	10.30	105.87	108.0	0.9803
5000	0.0	0.00	0.4	As Found Zero
5000	40.30	411.77	410.2	As Found Span
			Average Correction Factor	0.9921

Calculated value of As Found Response: 412.047 ppm Percent Change of As Found: -0.1%

	before calibration		after calibration	
Auto zero	0.2	ppb	0.2	ppb
Auto span	253.7	ppb	255.4	ppb

Notes:

Calibration Performed By: Stephanie Tandy

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

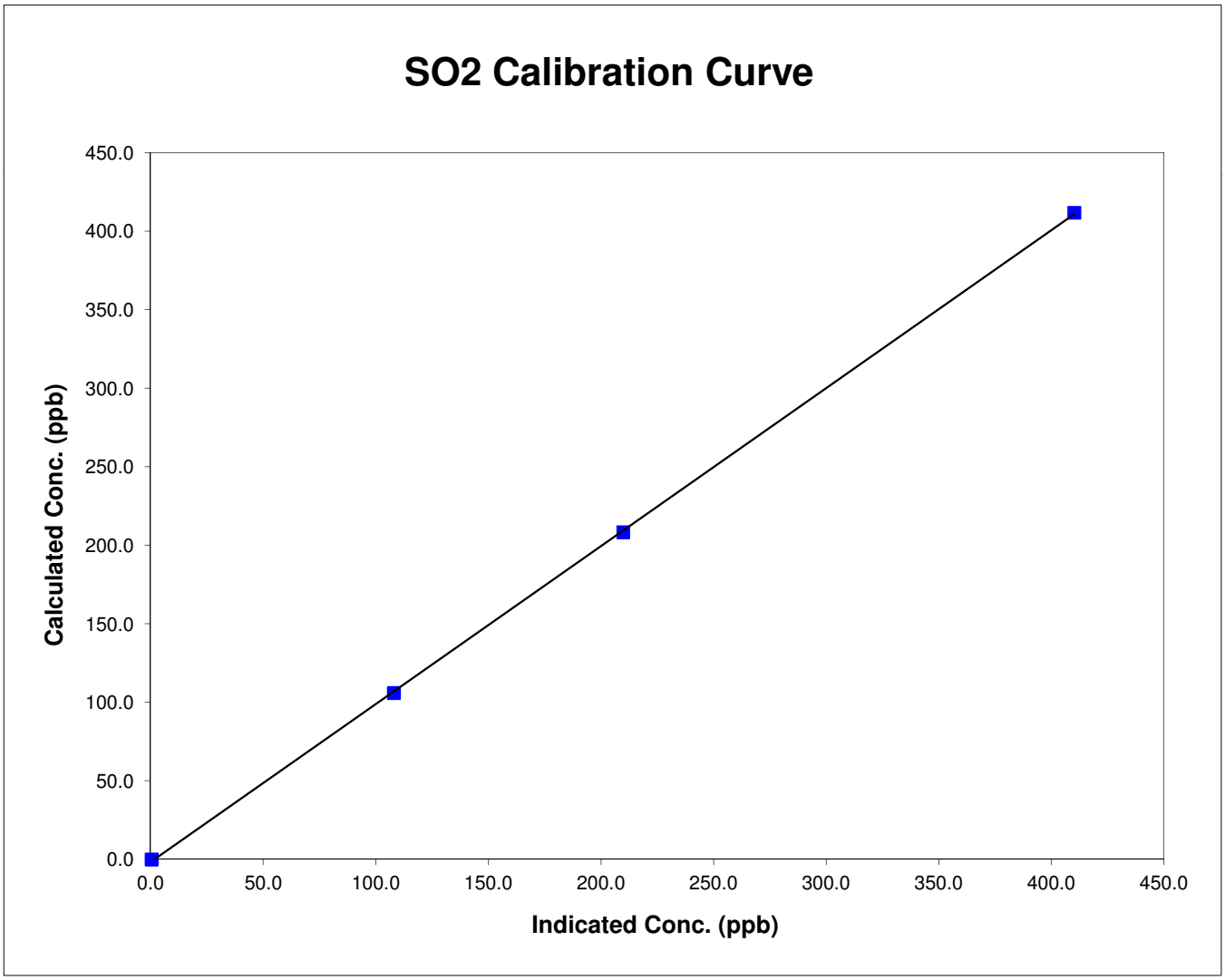
FOCUS AIR QUALITY MONITORING

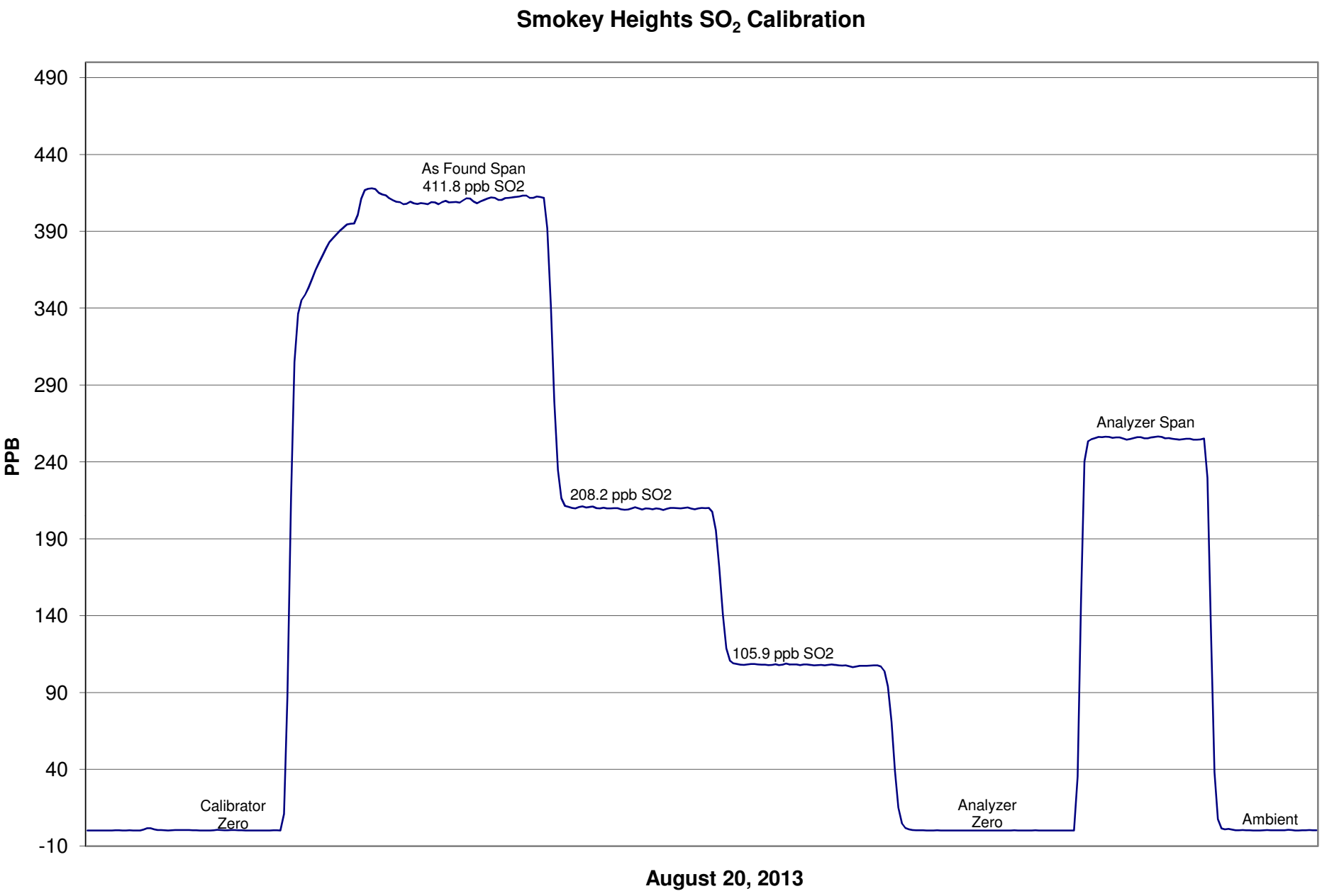
Station Information

Calibration Date	August 20, 2013	Previous Calibration	July 31, 2013
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	17:40	End Time (MST)	20:30
Analyzer make/model	Teco 43i	Analyzer serial #	701120009

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A		
411.8	410.2	1.0038	Correlation Coefficient	0.999949
208.2	209.9	0.9923		
105.9	108.0	0.9803	Slope	1.006056
			Intercept	-1.759367




Smokey Heights SO_2 Calibration
490
440
390
340
290
240
190
140
90
40
-10
PPB
As Found Span
411.8 ppb SO2
208.2 ppb SO2
105.9 ppb SO2
Analyzer Span
Calibrator
Zero
Analyzer
Zero
Ambient
August 20, 2013

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **TRS**

Air Monitoring Network **PAZA**

Station Information

Calibration Date	August 20, 2013	Previous Calibration	July 31, 2013
Station Number	3	Station Location	Smokey Heights

Reason: Routine | Install | Removal | Other:

Start Time (MST)	13:30	End Time (MST)	18:45
Barometric Pressure	0.924 ATM	Station Temperature	20.0 Deg C
Calibrator	Sabio 2010	Serial Number	3951108
Cal Gas Conc	10.19 ppm	Cal Gas Expiry Date	7/08/16
Correction factor	0.031409	Cal Gas Cylinder #	BLM001121
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
Calculated slope	0.975051	Calculated slope	0.999939
Calculated intercept	0.762459	Calculated intercept	-0.267035

Analyzer make	TEI Model 43C	Analyzer serial #	0436610005

	before		after	
Concentration range	100	ppb	100	ppb
Background	17.3	ppb	16.3	ppb
coefficient	0.964		0.916	
Lamp Voltage	816	volts	816	volts
Chamber Temp	43.5	Deg C	43.7	Deg C
Perm Gas Temp	45	Deg C	44.99	Deg C
Pressure	589.4	mm Hg	584	mm Hg
Sample Flow	0.638	ccm	0.631	ccm
Lamp Intensity	35,267	mv	35,000	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)
6000	0.0	0.00	0.2	N/A
6000	50.30	84.72	84.8	0.9990
6000	25.30	42.79	43.5	0.9846
6000	10.30	17.46	17.6	0.9904
6000	0.0	0.00	0.0	As Found Zero
6000	50.30	84.72	86.3	As Found Span
			Average Correction Factor	0.9913

Calculated value of As Found Response: 84.97 ppm Percent Change of As Found: -0.3%

	before calibration		after calibration	
Auto zero	1.2	ppm	0.2	ppm
Auto span	31.0	ppm	26.4	ppm

Notes: Adjusted oxidizer temp from 840 to 850 degrees C

Calibration Performed By: Stephanie Tandy

Calibration Summary

Parameter **TRS**

Air Monitoring Network **PAZA**

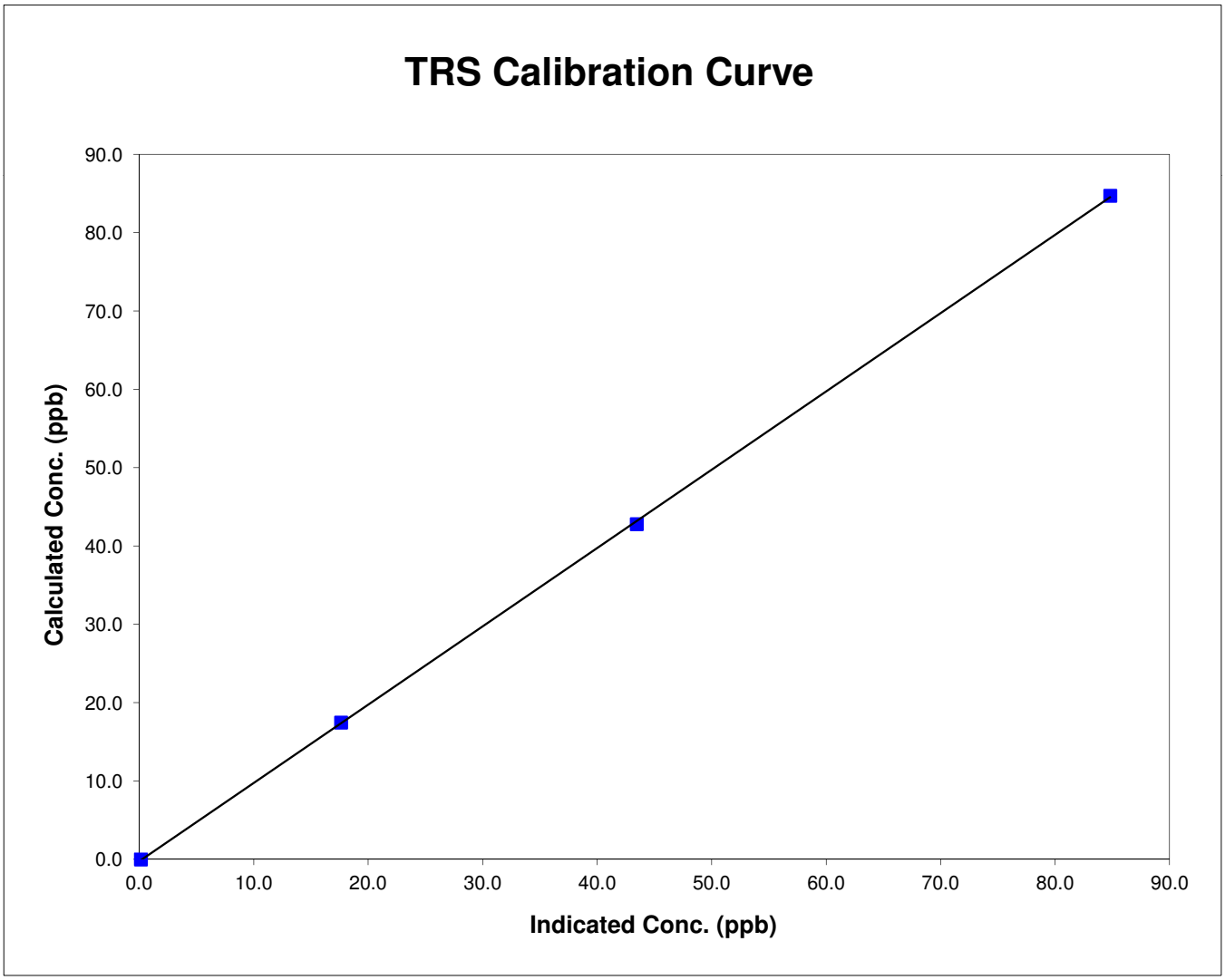
FOCUS AIR QUALITY MONITORING

Station Information

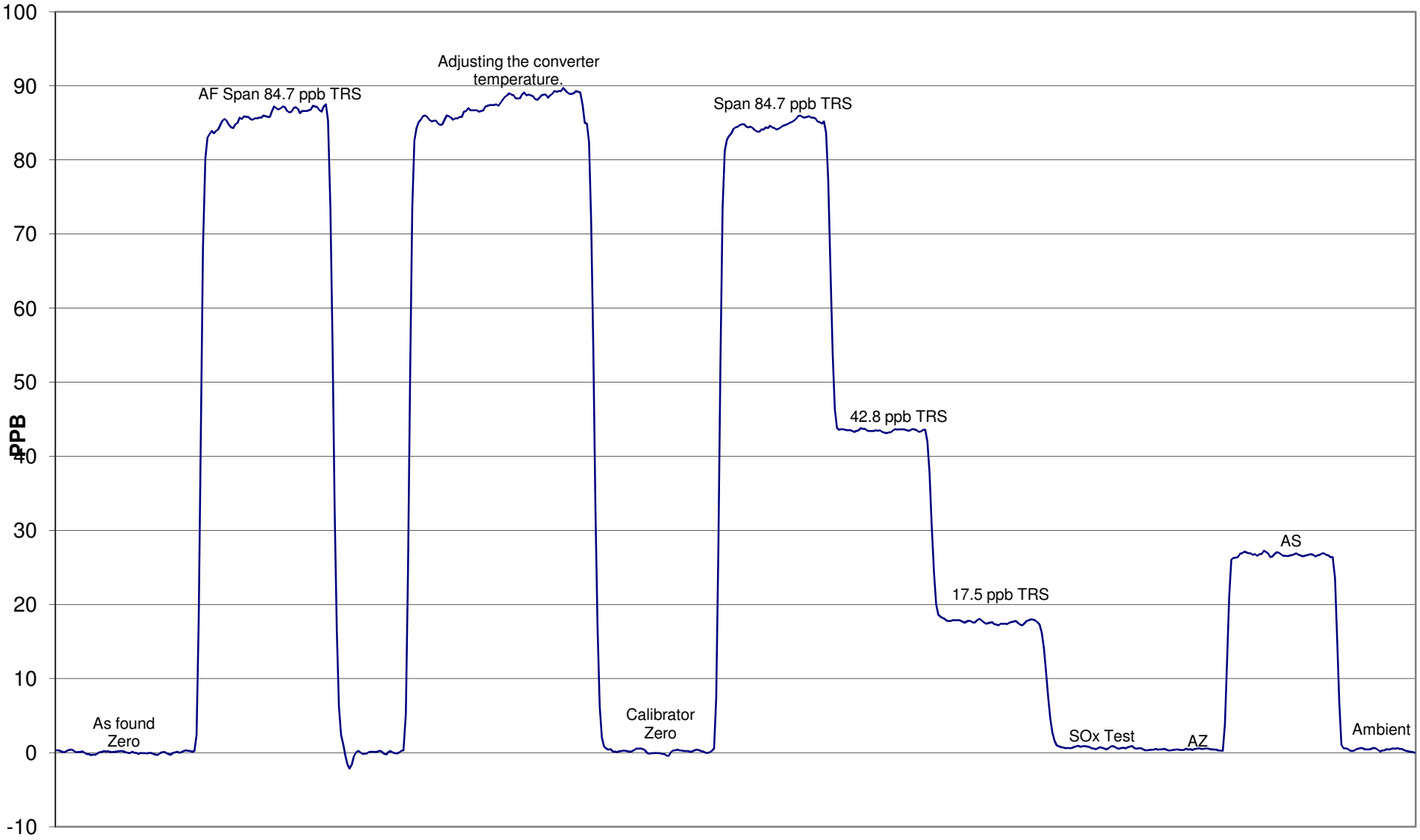
Calibration Date	August 20, 2013	Previous Calibration	July 31, 2013
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	13:30	End Time (MST)	18:45
Analyzer make/model	TEI Model 43C	Analyzer serial #	0436610005

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
84.7	84.8	0.9990	Correlation Coefficient	0.999947
42.8	43.5	0.9846		
17.5	17.6	0.9904	Slope	0.999939
			Intercept	-0.267035



Smokey Heights TRS Calibration



August 20, 2013

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **SO2**

Air Monitoring Network **PAZA**

Station Information

Calibration Date	August 22, 2013	Previous Calibration	July 10, 2013
Station Number	4	Station Location	Beaverlodge
Reason: Routine	Install	Removal	Other:
Start Time (MST)	17:30	End Time (MST)	20:30
Barometric Pressure	0.910 atm	Station Temperature	20.0 Deg C
Calibrator	Sabio 2010	Serial Number	3951108
Cal Gas Concentration	10.8 ppm	Cal Gas Expiry Date	9/28/12
Gas Cert Reference	FF14871		
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	1.001966	Calculated slope	1.012796
Calculated intercept	-0.060821	Calculated intercept	-0.571596
Analyzer make	TEI Model 43i-TLE	Analyzer serial #	713021137

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.35		2.35	
Coefficient	1.042		1.042	
PMT	-768.1	V	-768.5	V
UV Lamp Voltage	1052	V	1052	V
Chamber Temp	45	Deg C	45	Deg C
Pressure	664.6	mm Hg	665.8	mm Hg
Sample Flow	0.483	LPM	0.484	LPM
Lamp Intesity	98%	%	97%	%

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)
5000	0.00	0.0	0.3	N/A
5000	40.30	86.4	85.6	1.0085
5000	20.30	43.7	44.0	0.9930
5000	10.30	22.2	22.7	0.9790
5000	0.00	0.0	0.3	As found zero
5000	39.93	85.6	85.6	As found span
			Average Correction Factor	0.9935

Calculated value of As Found Response: 85.453 ppm Percent Change of As Found: 0.1%

	before calibration		after calibration	
Auto zero	0.2	ppb	-0.3	ppb
Auto span	59.9	ppb	59.6	ppb

Notes:

Calibration Performed By: Stephanie Tandy

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

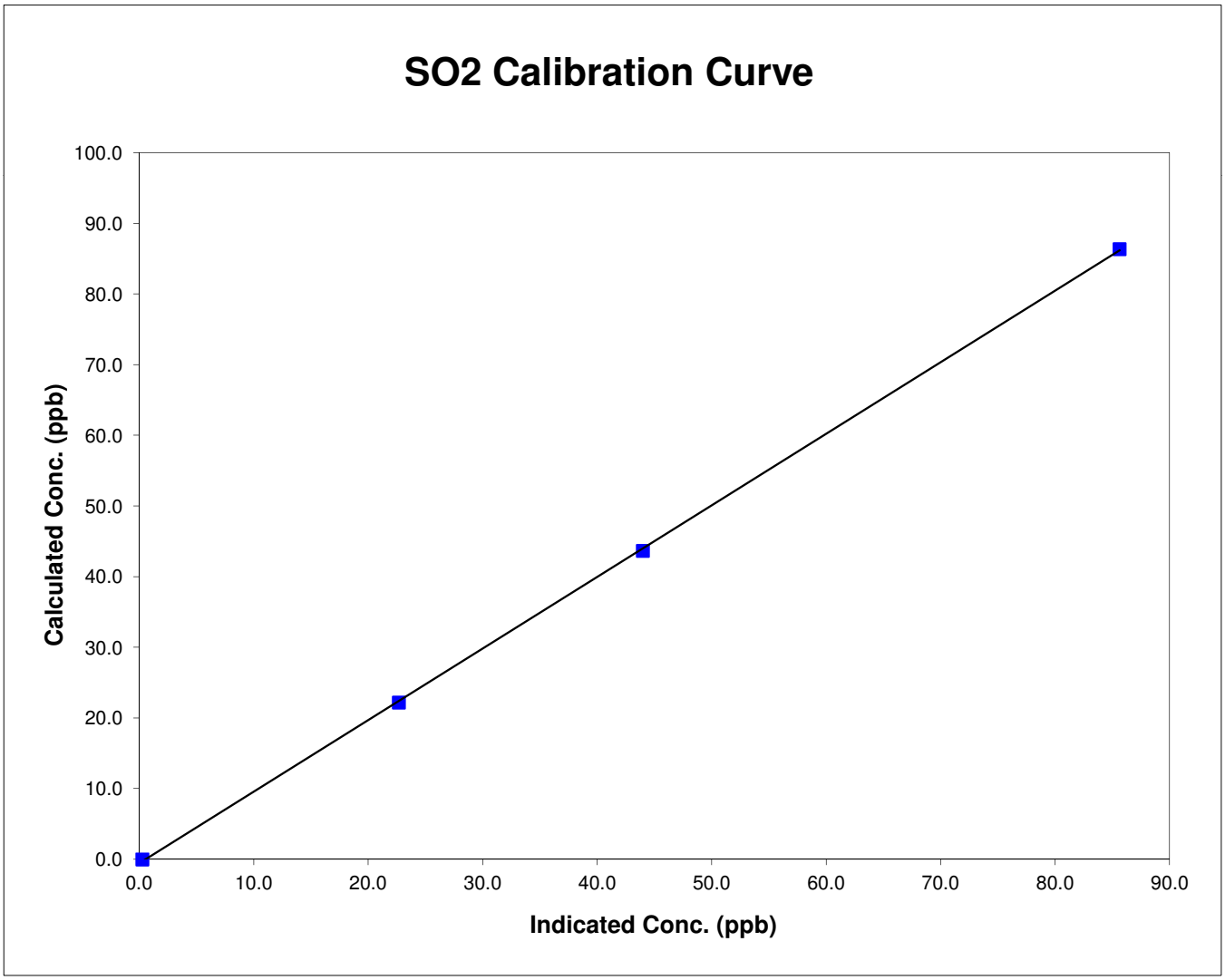
FOCUS AIR QUALITY MONITORING

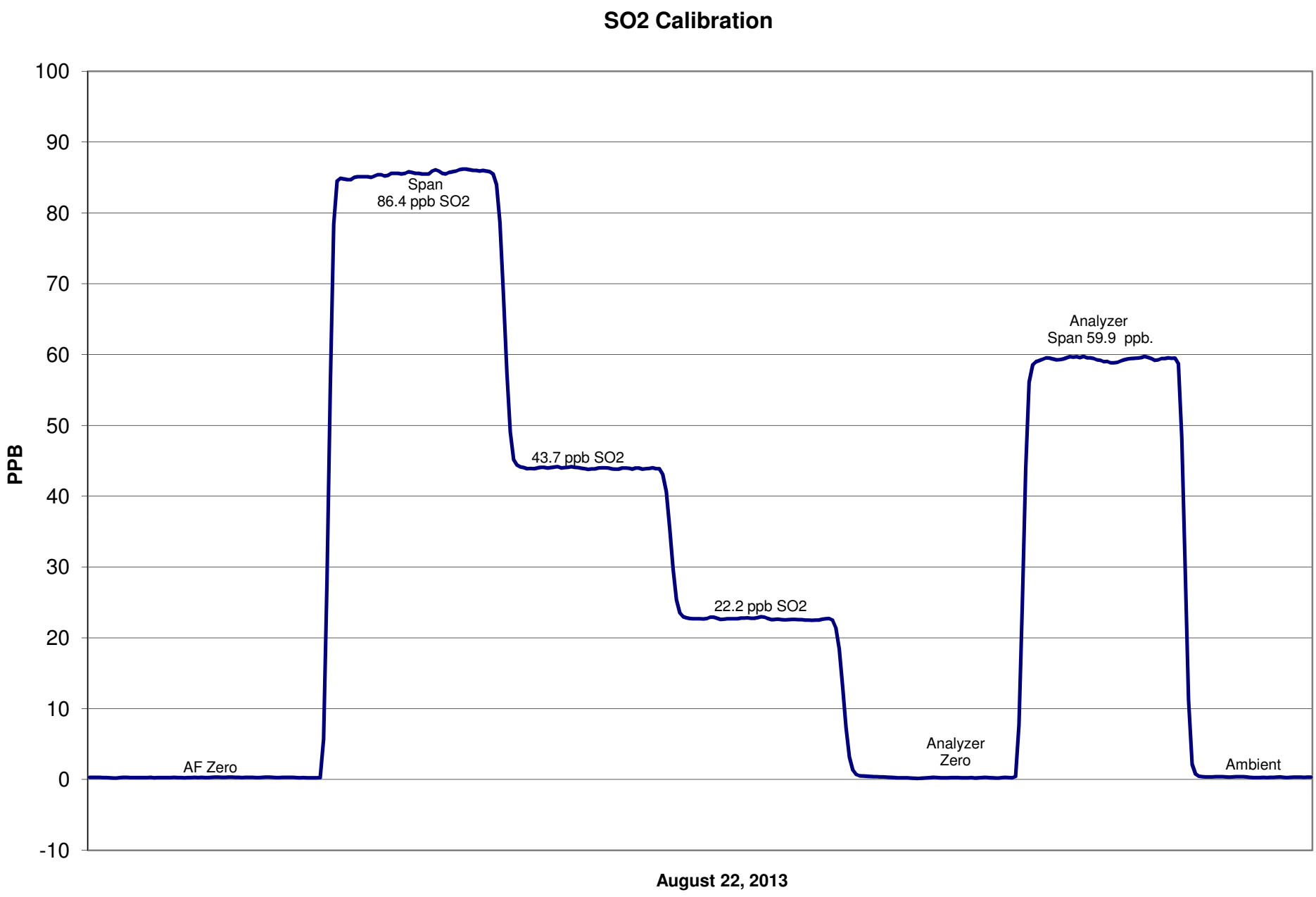
Station Information

Calibration Date	August 22, 2013	Previous Calibration	July 10, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	17:30	End Time (MST)	20:30
Analyzer make/model	TEI Model 43i-TLE	Analyzer serial #	713021137

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A		
86.4	85.6	1.0085	Correlation Coefficient	0.999938
43.7	44.0	0.9930		
22.2	22.7	0.9790	Slope	1.012796
			Intercept	-0.571596




SO2 Calibration
100
90
80
70
60
50
40
30
20
10
0
-10
PPB
Span
86.4 ppb SO2
43.7 ppb SO2
22.2 ppb SO2
Analyzer
Span 59.9 ppb.
AF Zero
Analyzer
Zero
Ambient
August 22, 2013

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 22, 2013	Previous Calibration	July 10, 2013
Station Number	4	Station Location	Beaverlodge

Reason: Routine Installation Removal Other:

Start Time (MST)	10:20		End Time (MST)	16:35	
Barometric Pressure	0.910	Atm	Station Temperature	20.0	Deg C
Calibrator	Sabio 2010		Serial Number	3951108	
NO Cal Gas Conc	51.2	ppm	Cal Gas Expiry Date	January 20, 2016	
NOx Cal Gas Conc	51.2	ppm	Cal Gas Serial #	LL110536	

DACS Information

DACS make	CR3000	DACS serial No.	5237

Parameter		NO2	NOx	NO
Before	Data Slope	0.999992	0.999918	0.999909
	Data Offset	1.005486	0.997813	0.996911
After	Data Slope	1.000256	0.997075	0.997191
	Data Offset	-0.088170	1.620490	1.807939
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	2.4	mV
NOx bkgnd	2.7	mV	2.7	mV
NO coefficient	1.215		1.215	
NOx coefficient	0.999		0.999	
NO2 conv temp	326.6	Deg C	326.8	Deg C
PMT Temp	-2.8	Deg C	-2.9	Deg C
PMT Volt	-696.3	mV	-696.3	mV
R Cell Press	180.4	in Hg	177.4	in Hg
Sample Flow	0.803	LPM	0.755	LPM

Notes:

Calibration Report

Parameter **NOX-NO-NO2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: August 22, 2013 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	5000	0.00	0.0	0.0	0.0	0.7	0.4	0.2	N/A	N/A
1	5000	40.30	409.4	409.4	0.0	409.1	407.8	0.5	1.0007	1.0038
2	5000	20.30	207.0	207.0	0.0	208.1	206.9	0.4	0.9947	1.0007
3	5000	10.30	105.3	105.3	0.0	106.6	106.2	0.3	0.9876	0.9915
AFZ	5000	0.00	0.0	0.0	0.0	0.7	0.4	0.2	0.0000	0.0000
AFS	5000	39.93	405.6	405.6	0.8	409.1	407.8	0.5	0.9916	0.9946
							Average Correction Factor		0.9943	0.9987

As Found Concentrations: NO_X= 409.3 NO= 408.4 As Found Percent Change NO_X= 0.9% NO= 0.7%

GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 39.93 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	0.4	0.4	0.0	0.7	0.4	0.2	N/A	N/A	N/A	N/A
NO point	404.1	404.1	0.0	405.1	404.1	0.3	0.9975	1.0000	N/A	N/A
0.95	404.1	64.3	339.8	405.1	64.3	339.8	0.9976	1.0000	1.0000	100.0%
0.57	404.1	213.0	191.1	404.3	213.0	190.5	0.9996	1.0000	1.0035	99.7%
0.3	404.1	325.5	78.6	403.7	325.5	77.8	1.0011	1.0000	1.0110	98.9%
					Average Correction Factor		0.9994	1.0000	1.0048	99.5%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	-0.1	-0.1	-0.1	ppb	-0.1	0.0	-0.3	ppb
Auto span	168.3	166.9	1.1	ppb	166.0	164.8	1.0	ppb

Calibration Performed By: Stephanie Tandy

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PAZA**

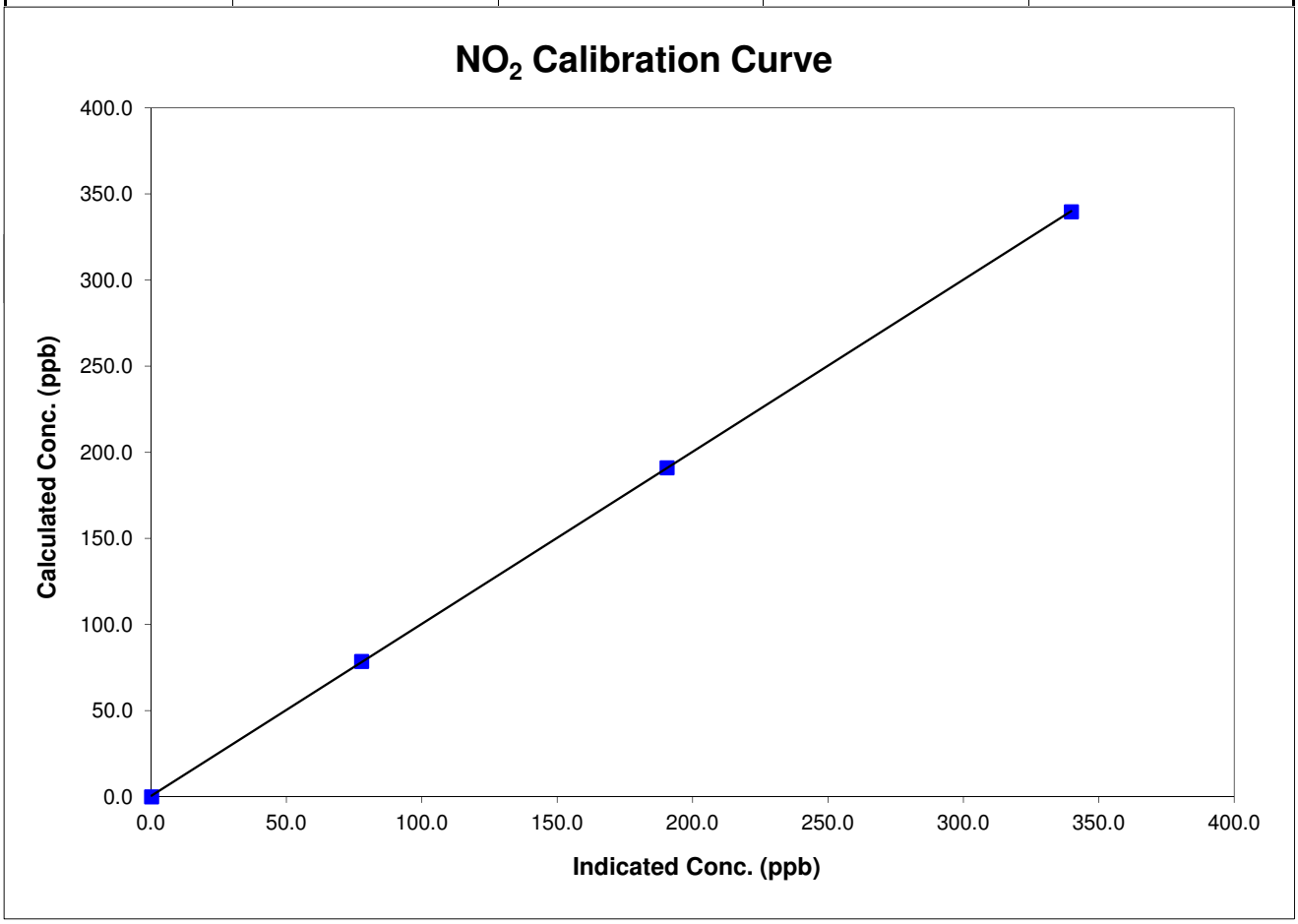
FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 22, 2013	Previous Calibration	July 10, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	10:20	End Time (MST)	16:35
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
339.8	339.8	1.0000	Correlation Coefficient	0.999988
191.1	190.5	1.0035		
78.6	77.8	1.0110	Slope	0.999886
			Intercept	0.351380



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

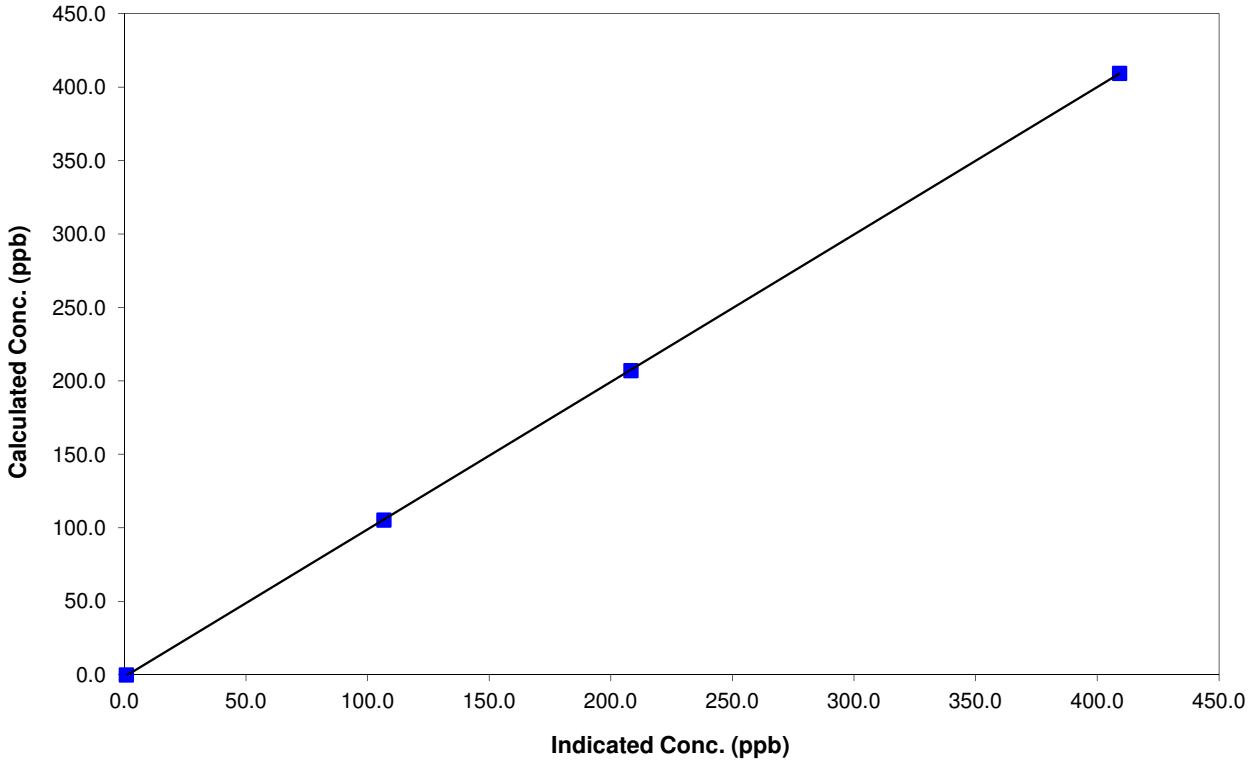
Station Information

Calibration Date	August 22, 2013	Previous Calibration	July 10, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	10:20	End Time (MST)	16:35
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	0.7	N/A		
409.4	409.1	1.0007	Correlation Coefficient	0.999992
207.0	208.1	0.9947		
105.3	106.6	0.9876	Slope	1.002939
			Intercept	-1.248201

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

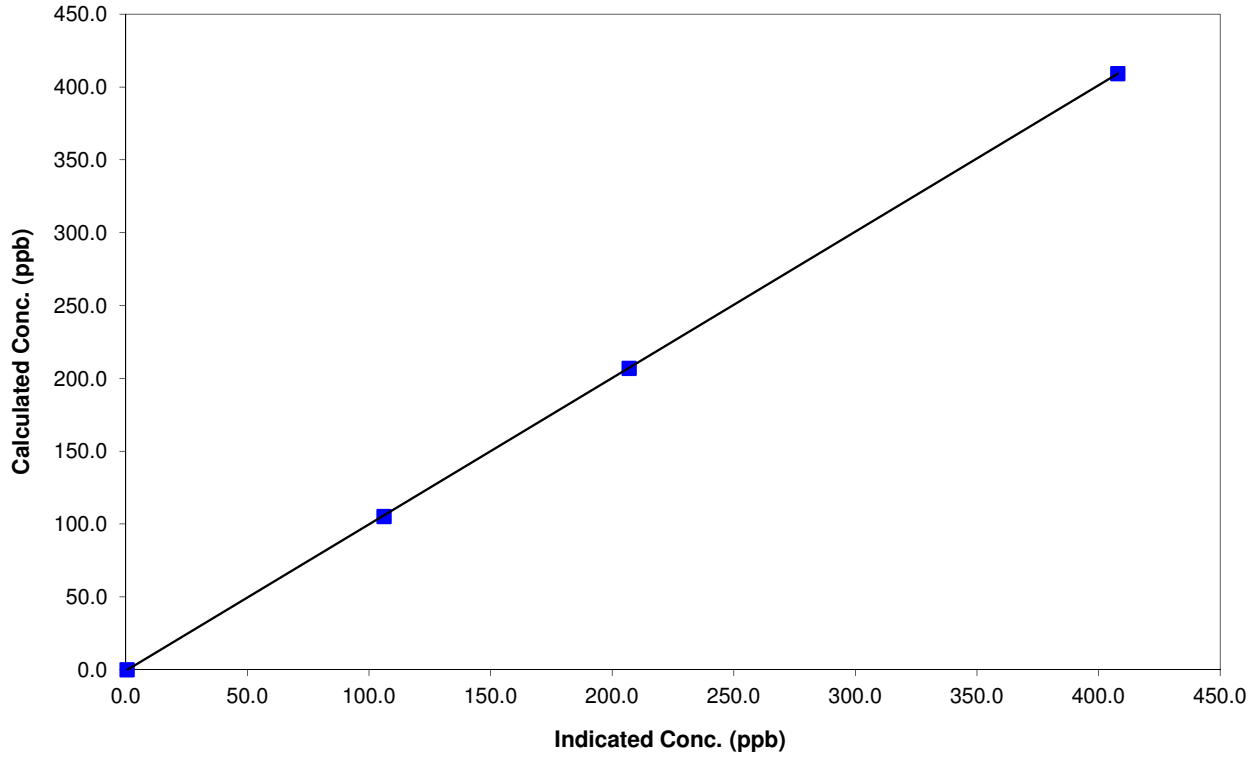
Station Information

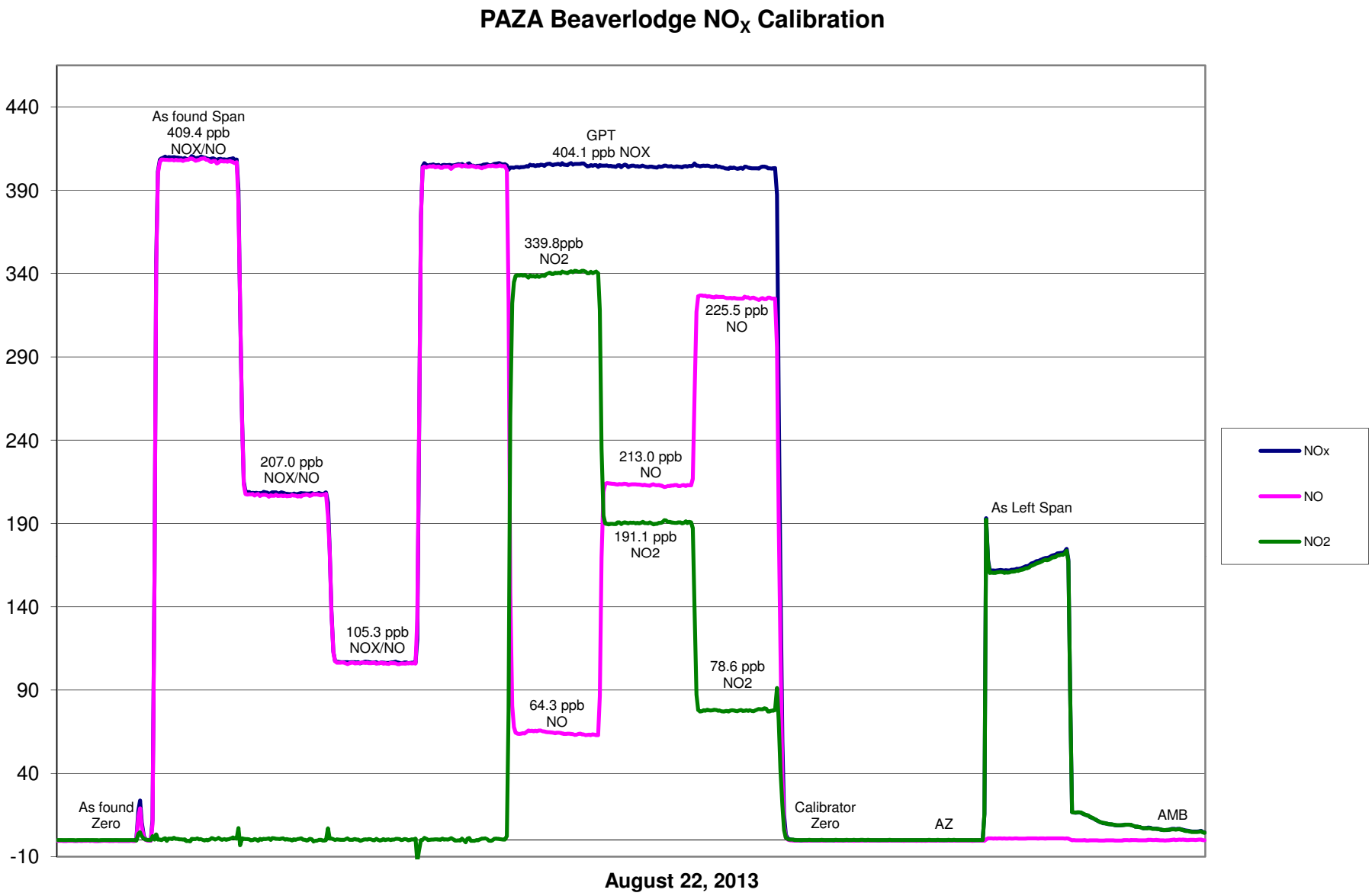
Calibration Date	August 22, 2013	Previous Calibration	July 10, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	10:20	End Time (MST)	16:35
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A		
409.4	407.8	1.0038	Correlation Coefficient	0.999994
207.0	206.9	1.0007		
105.3	106.2	0.9915	Slope	1.005535
			Intercept	-0.914691

NO Calibration Curve




PAZA Beaverlodge NOx Calibration
440
390
340
290
240
190
140
90
40
-10
As found Span
409.4 ppb
NOX/NO
GPT
404.1 ppb NOX
339.8ppb
NO2
225.5 ppb
NO
207.0 ppb
NOX/NO
213.0 ppb
NO
As Left Span
191.1 ppb
NO2
105.3 ppb
NOX/NO
78.6 ppb
NO2
64.3 ppb
NO
As found
Zero
Calibrator
Zero
AZ
AMB
NOx
NO
NO2
August 22, 2013

Calibration Report

Parameter **O3**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 22, 2013	Previous Calibration	July 10, 2013
Station Number	4	Station Location	Beaverlodge
Reason: Routine	Install	Removal	Other:
Start Time (MST)	14:45	End Time (MST)	19:35
Barometric Pressure	0.910 atm	Station Temperature	20.0 Deg C
Calibrator	Sabio 2010	Serial Number	3951108
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	0.979270	Calculated slope	0.999878
Calculated intercept	0.197807	Calculated intercept	1.033419
Analyzer make	Teco 49i	Analyzer serial #	1136451236

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-1.00	ppb	0.60	ppb
slope	1.033		0.987	
Lamp temp	53.8	mV	53.7	mV
Lamp Intensity A/B	80190/84491	mV	75224/80614	mV
Pressure	682.4	mm Hg	667.3	mm Hg
Flow A	0.74	LPM	0.748	LPM
Flow B	0.745	LPM	0.735	LPM

Calibration Data

Dilution air flow rate (cc/min)	Calibrator Setting	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
5035	0.00	0.0	0.1	N/A
5035	0.95	339.8	339.5	1.0009
5035	0.57	191.1	189.3	1.0096
5035	0.30	78.6	76.6	1.0265
5035	0.00	0.0	1.7	As found zero
5035	0.00	339.8	355.0	As found span
			Average Correction Factor	1.0123

Calculated value of As Found Response: 346.2 ppm Percent Change of As Found: 1.9%

	before calibration		after calibration	
Auto zero	1.0	ppb	1.2	ppb
Auto span	268.4	ppb	248.5	ppb

Notes:

Calibration Performed By: Stephanie Tandy

Calibration Summary

Parameter **O3**

Air Monitoring Network **PAZA**

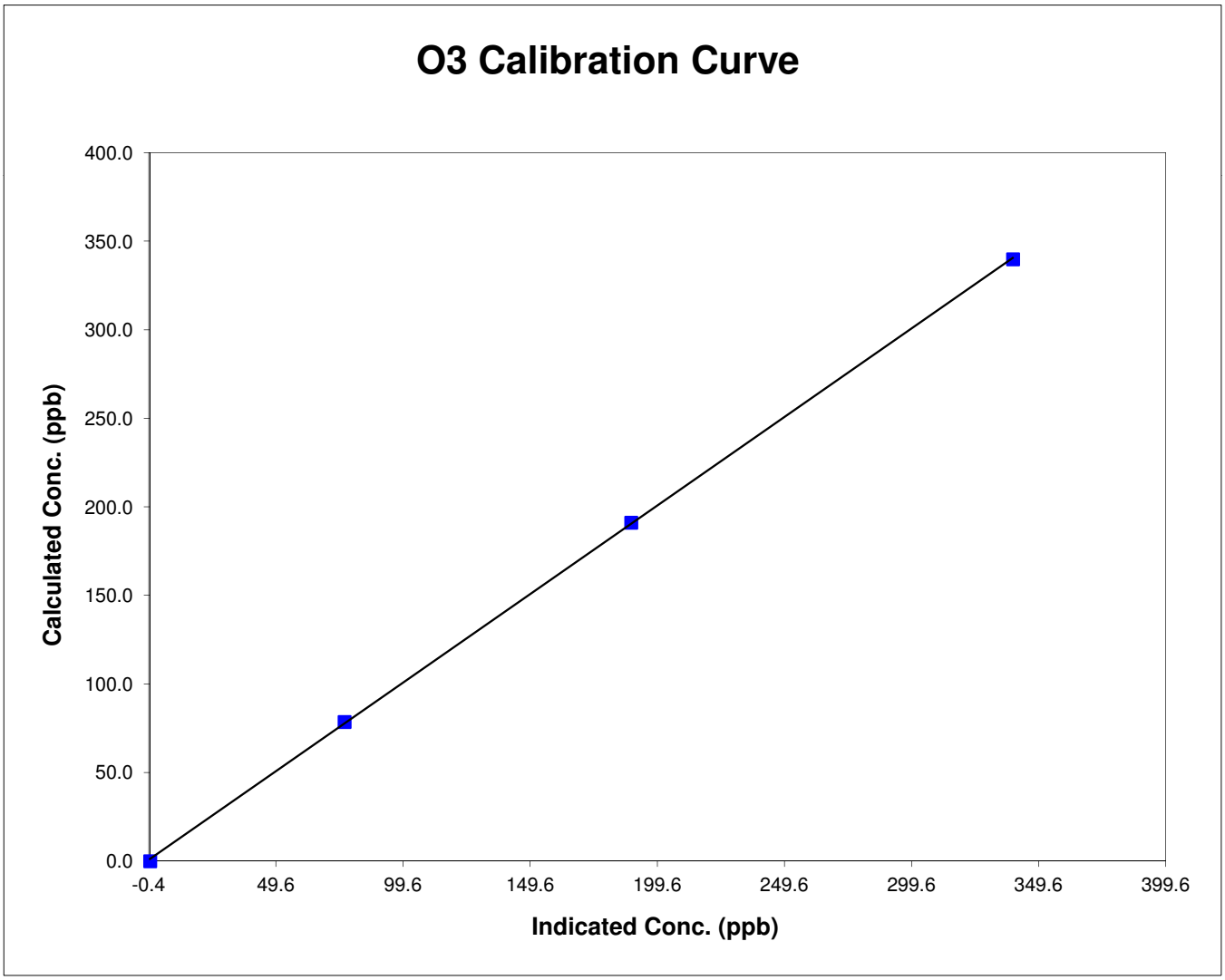
FOCUS AIR QUALITY MONITORING

Station Information

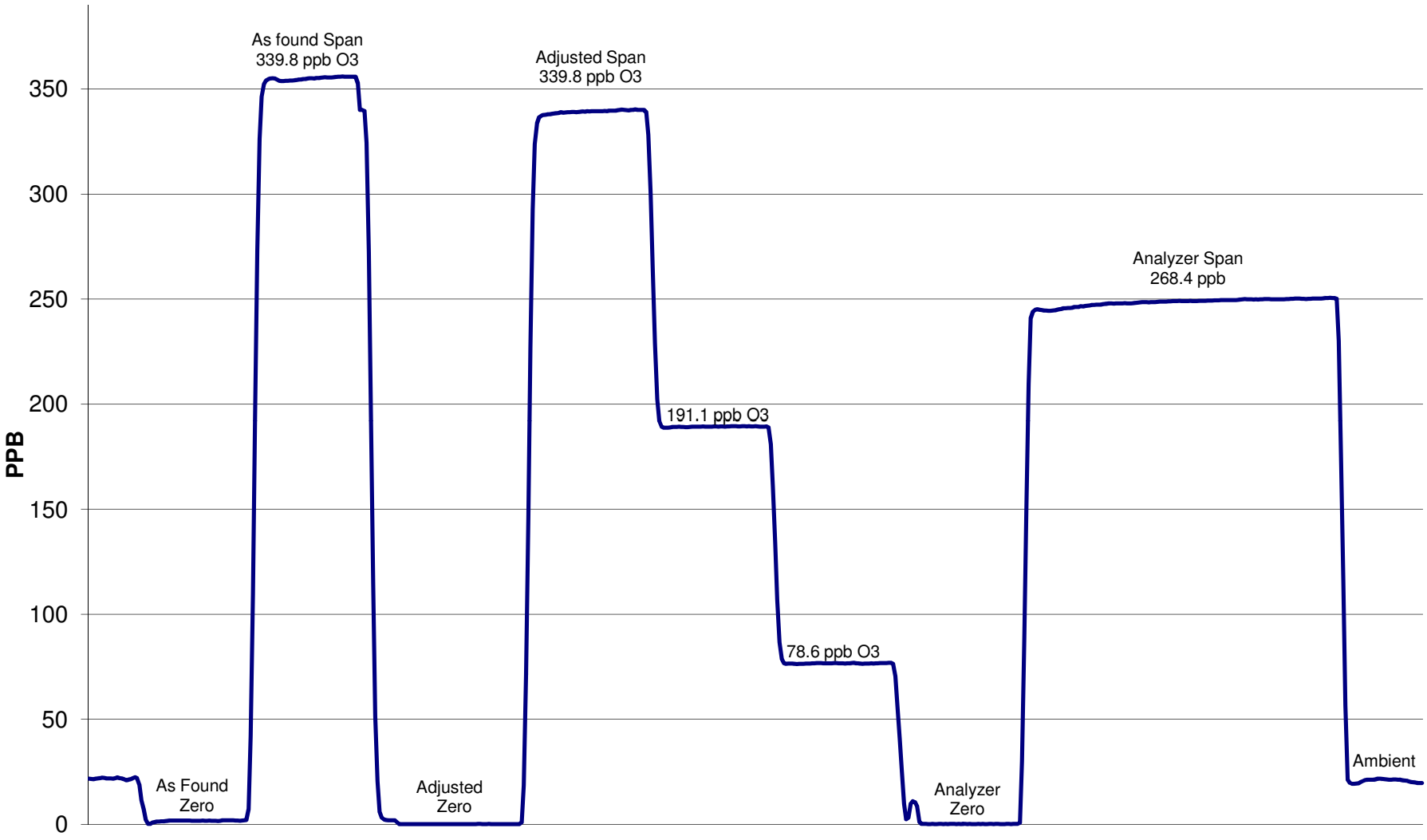
Calibration Date	August 22, 2013	Previous Calibration	July 10, 2013
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	14:45	End Time (MST)	19:35
Analyzer make/model	Teco 49i	Analyzer serial #	1136451236

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	NA		
339.8	339.5	1.0009	Correlation Coefficient	0.999948
191.1	189.3	1.0096		
78.6	76.6	1.0265	Slope	0.999878
			Intercept	1.033419



O3 Calibration



August 22, 2013

Calibration Report

Parameter **SO2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 9, 2013	Previous Calibration	July 25, 2013
Station Number	6	Station Location	Valleyview
Reason: Routine	Install	Removal	Other:
Start Time (MST)	15:30	End Time (MST)	19:20
Barometric Pressure	702.00 mmHg	Station Temperature	20.0 Deg C
Calibrator	Environics 6103	Serial Number	2844
Cal Gas Concentratior	51 ppm	Cal Gas Exp Date	December 3, 2014
Gas Cylinder Num.	LL85362		
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	0.999751	Calculated slope	0.989504
Calculated intercept	2.680514	Calculated intercept	0.446351
Analyzer make	TEI 45C	Analyzer serial #	45C-57531-313

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	54.4		56.4	
Coefficient	1.021		0.994	
UV Lamp Voltage	818	V	823	V
Chamber Temp	44.3	C	44.3	C
Perm Gas Temp	35	C	35	C
Pressure	603.5	in Hg	605.3	in Hg
Sample Flow	0.559	LPM	0.558	LPM
Lamp Intensity	42284	Hz	41739	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)
5000	0.00	0.0	-0.2	N/A
5000	40.10	405.8	409.9	0.9899
5000	20.20	205.2	206.3	0.9947
5000	10.20	103.8	104.6	0.9929
5000	0.00	0.0	2.9	As found zero
5000	40.10	405.8	423.8	As found span
			Average Correction Factor	0.9925

Calculated value of As Found Response: 423.5 ppm Percent Change of As Found: -4.4%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.0	ppm
Auto span	154.7	ppm	150.2	ppm

Notes: Zero and Span adjustment made.

Calibration Performed By: Gagandeep Singh

Calibration Summary

Parameter **SO2**

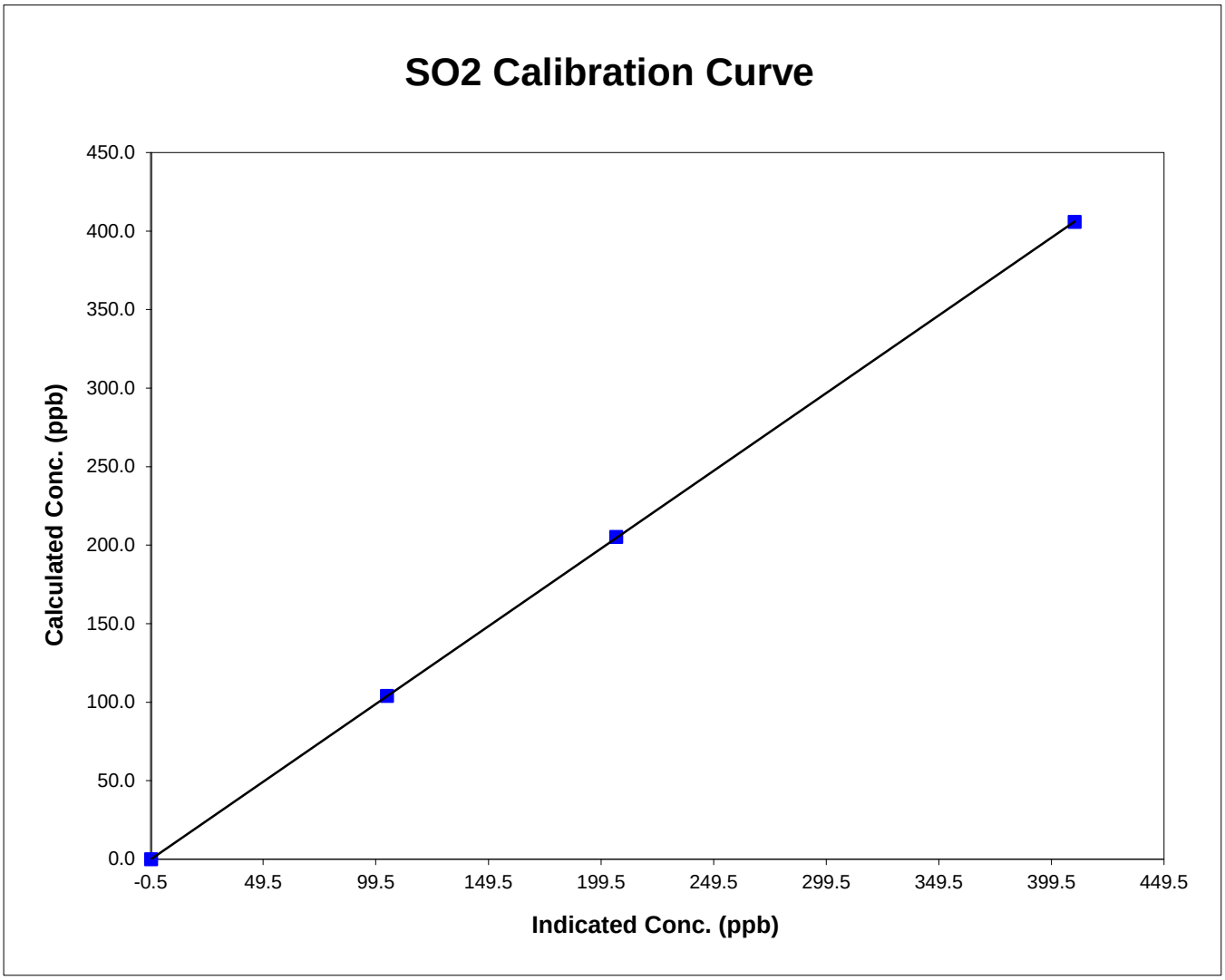
Air Monitoring Network **PAZA**

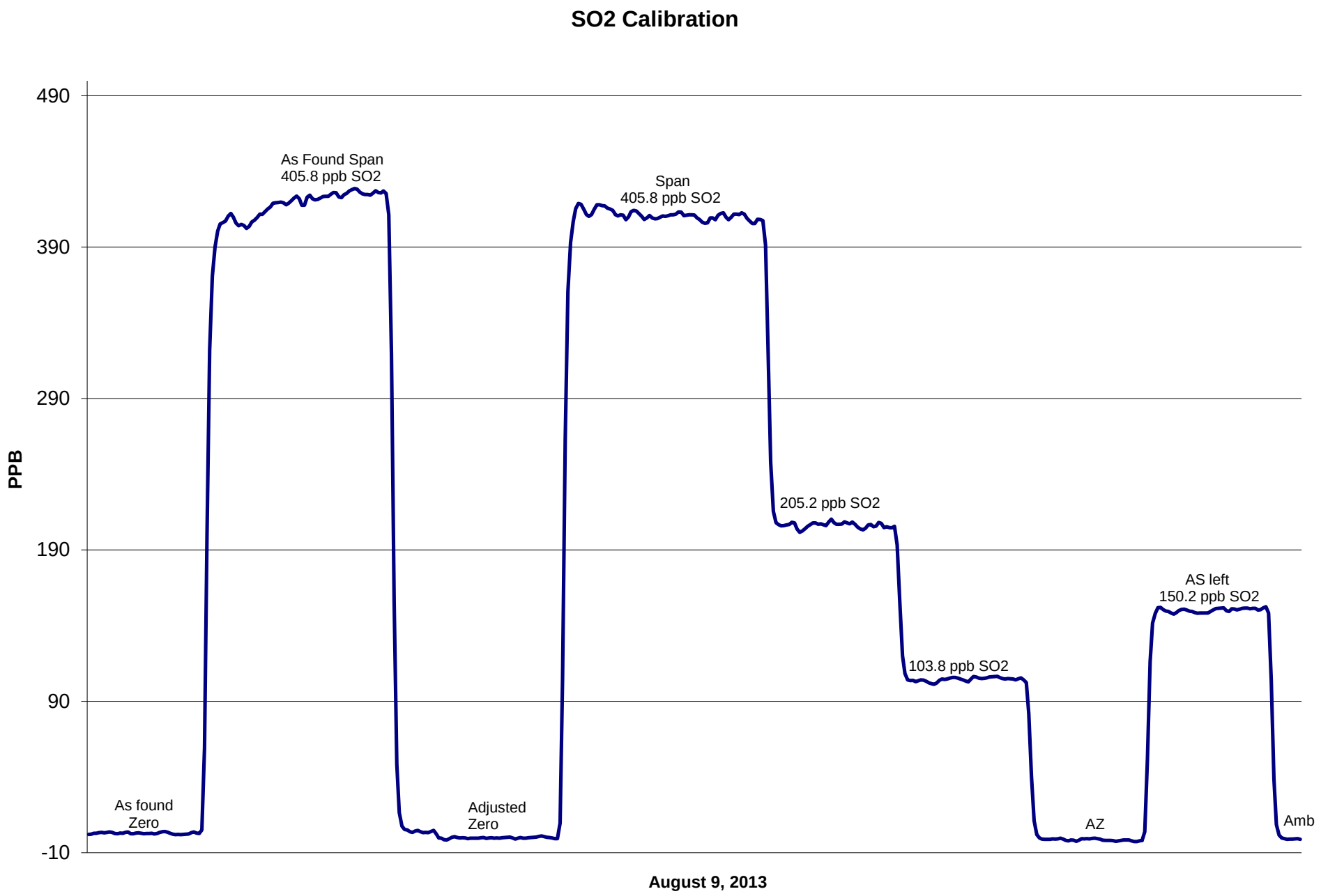
Station Information

Calibration Date	August 9, 2013	Previous Calibration	July 25, 2013
Station Number	6	Station Location	Valleyview
Start Time (MST)	15:30	End Time (MST)	19:20
Analyzer make/model	TEI 45C	Analyzer serial #	45C-57531-313

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.2	N/A		
405.8	409.9	0.9899	Correlation Coefficient	0.999994
205.2	206.3	0.9947		
103.8	104.6	0.9929	Slope	0.989504
			Intercept	0.446351




SO2 Calibration
490
390
290
190
90
-10
PPB
As Found Span
405.8 ppb SO2
Span
405.8 ppb SO2
205.2 ppb SO2
103.8 ppb SO2
AS left
150.2 ppb SO2
As found
Zero
Adjusted
Zero
AZ
Amb
August 9, 2013

Calibration Report

Parameter **H2S**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 9, 2013	Previous Calibration	July 25, 2013
Station Number	6	Station Location	Valleyview
Reason: Routine	Install	Removal	Other:
Start Time (MST)	12:30	End Time (MST)	16:52
Barometric Pressure	702.00 mm	Station Temperature	21.0 Deg C
Calibrator	Environics 6103	Serial Number	2844
Cal Gas Concentratior	10.1 ppm	Cal Gas Expiry Date	May 11, 2013
Gas Cert Reference	LL160692		
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	0.993455	Calculated slope	0.996565
Calculated intercept	0.262632	Calculated intercept	-0.382905
Analyzer make	TEI Model 43i - APSCB	Analyzer serial #	701120010

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Back Ground	7.5	ppb	7.2	ppb
Coefficient	1.004		0.961	
Lamp Voltage	782	V	783	V
Chamber Temp	45	c	45	c
Perm Oven Temp	45	c	45	c
Pressure	606.30	mm Hg	601.80	mm Hg
Sample Flow	0.412	ccm	0.408	ccm
Lamp Intensity	90.0	%	90.0	%

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
5000	0.00	0.0	0.2	N/A
5000	40.10	80.4	81.0	0.9921
5000	20.20	40.6	41.1	0.9886
8000	10.20	12.9	13.6	0.9457
5000	10.20	103.8	12.3	Sox Test
5000	0.00	0.0	0.2	As found zero
5000	40.10	80.4	83.4	As found span
			Average Correction Factor	0.9755

Calculated value of As Found Response: 83.01 ppm Percent Change of As Found: -3.3%

	before calibration		after calibration	
Auto zero	0.5	ppm	0.5	ppm
Auto span	70.5	ppm	67.3	ppm

Notes: Slight span adjustment made. Scrubber checked.

Calibration Performed By: Gagandeep Singh

Calibration Summary

Parameter **H2S**

Air Monitoring Network **PAZA**

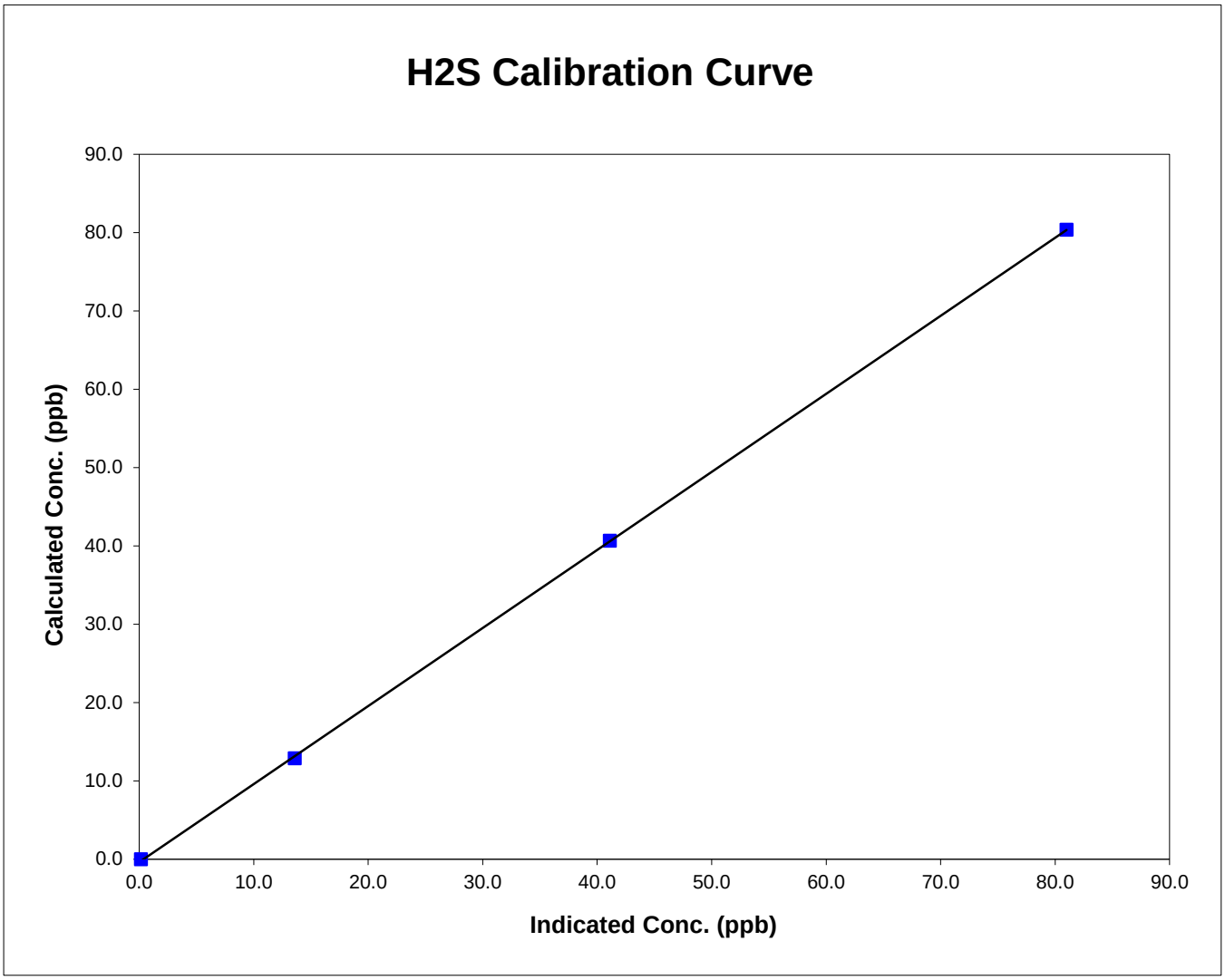
FOCUS AIR QUALITY MONITORING

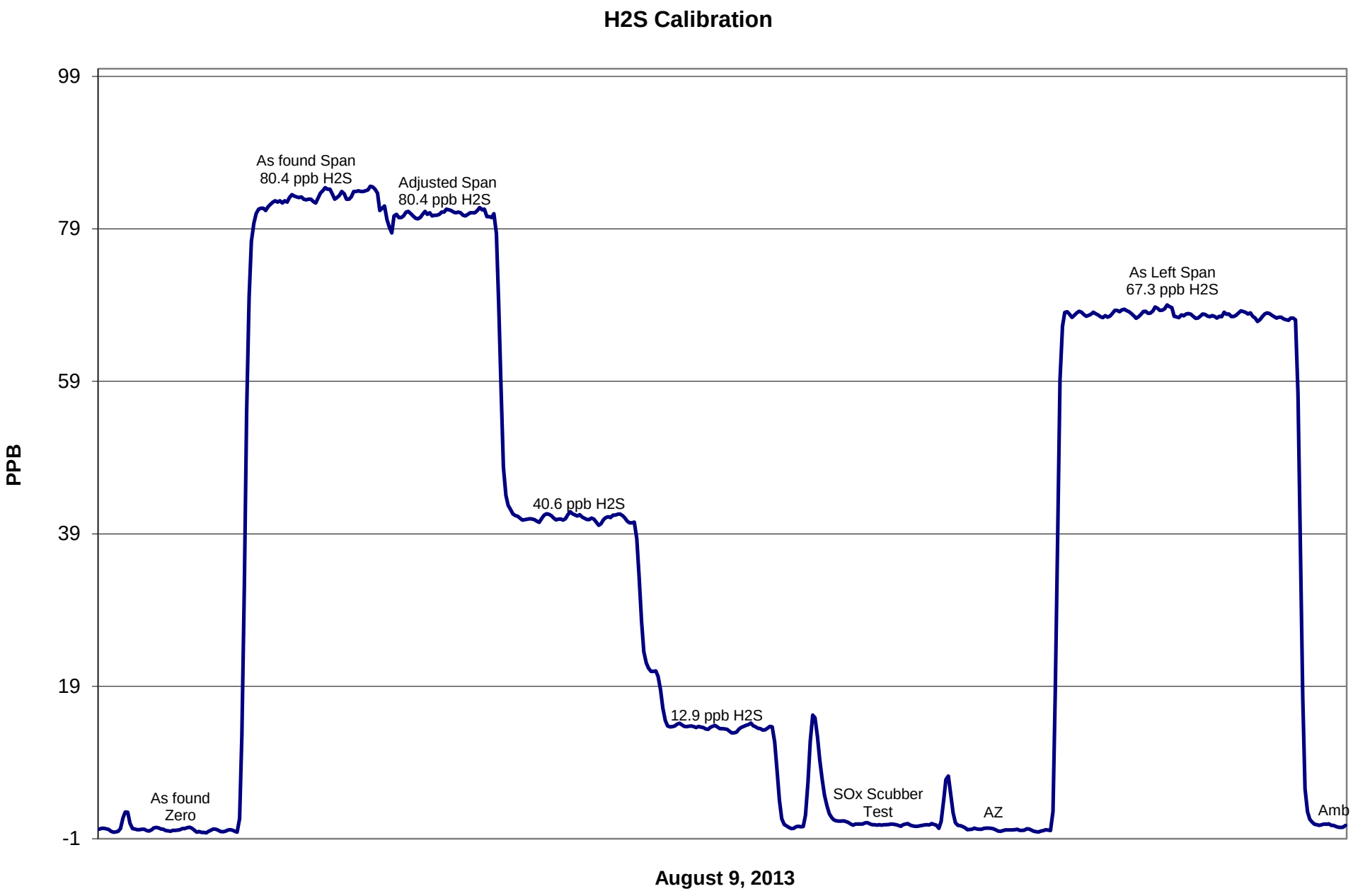
Station Information

Calibration Date	August 9, 2013	Previous Calibration	July 25, 2013
Station Number	6	Station Location	Valleyview
Start Time (MST)	12:30	End Time (MST)	16:52
Analyzer make/model	TEI Model 43i - APSCB	Analyzer serial #	701120010

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
80.4	81.0	0.9921	Correlation Coefficient	0.999960
40.6	41.1	0.9886		
12.9	13.6	0.9457	Slope	0.996565
			Intercept	-0.382905




H2S Calibration
99
79
59
39
19
-1
PPB
As found Span
80.4 ppb H2S
Adjusted Span
80.4 ppb H2S
40.6 ppb H2S
12.9 ppb H2S
As found
Zero
SOx Scubber
Test
AZ
As Left Span
67.3 ppb H2S
Amb
August 9, 2013

Calibration Report

Parameter **SO2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 8, 2013	Previous Calibration	July 26 2013
Station Number	9	Station Location	Sunset House
Reason:	Routine / Install / Removal / Other:		
Start Time (MST)	10:07	End Time (MST)	13:38
Barometric Pressure	0.914 Atm	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentratior	51 ppm	Cal Gas Expiry Date	December 3, 2014
Gas Cert Reference	LL85362		
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volt	DACS channel #	2
	Before		After
DACS Scale High	500	DACS slope	500
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.995323	Calculated slope	1.001451
Calculated intercept	2.786771	Calculated intercept	-0.666398
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	24.3		23.6	
Coefficient	1.032		1.008	
UV Lamp Voltage	870	V	901	V
Chamber Temp	44.6	C	44.6	C
Perm Gas Temp	45	C	45	C
Pressure	663.5	mm Hg	666.6	mm Hg
Sample Flow	0.483	LPM	0.485	LPM
Lamp Intesity	37192	Hz	35375	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)
5000	0.00	0.0	1.1	N/A
5000	40.10	405.8	406.1	0.9993
5000	20.20	205.2	205.4	0.9993
5000	10.20	103.8	103.9	0.9990
5000	0.00	0.0	1.1	As found zero
5000	40.10	405.8	412.9	As found span
			Average Correction Factor	0.9992

Calculated value of As Found Response: 412.723 ppm Percent Change of As Found: -1.7%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.3	ppm
Auto span	265.5	ppm	259.1	ppm

Notes: Adjsuted Span

Calibration Performed By: Gagandeep Singh

Calibration Summary

Parameter **SO2**

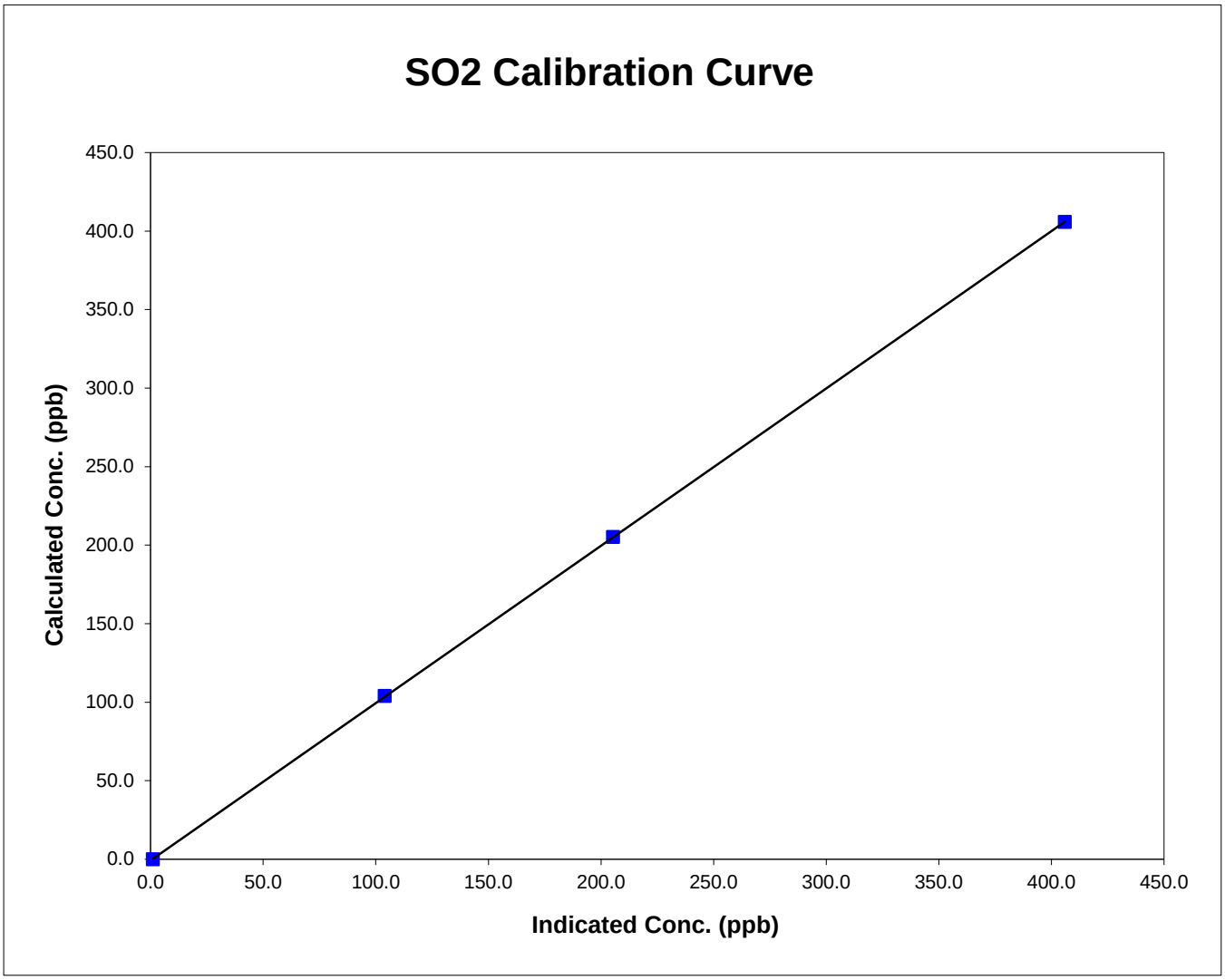
Air Monitoring Network **PAZA**

Station Information

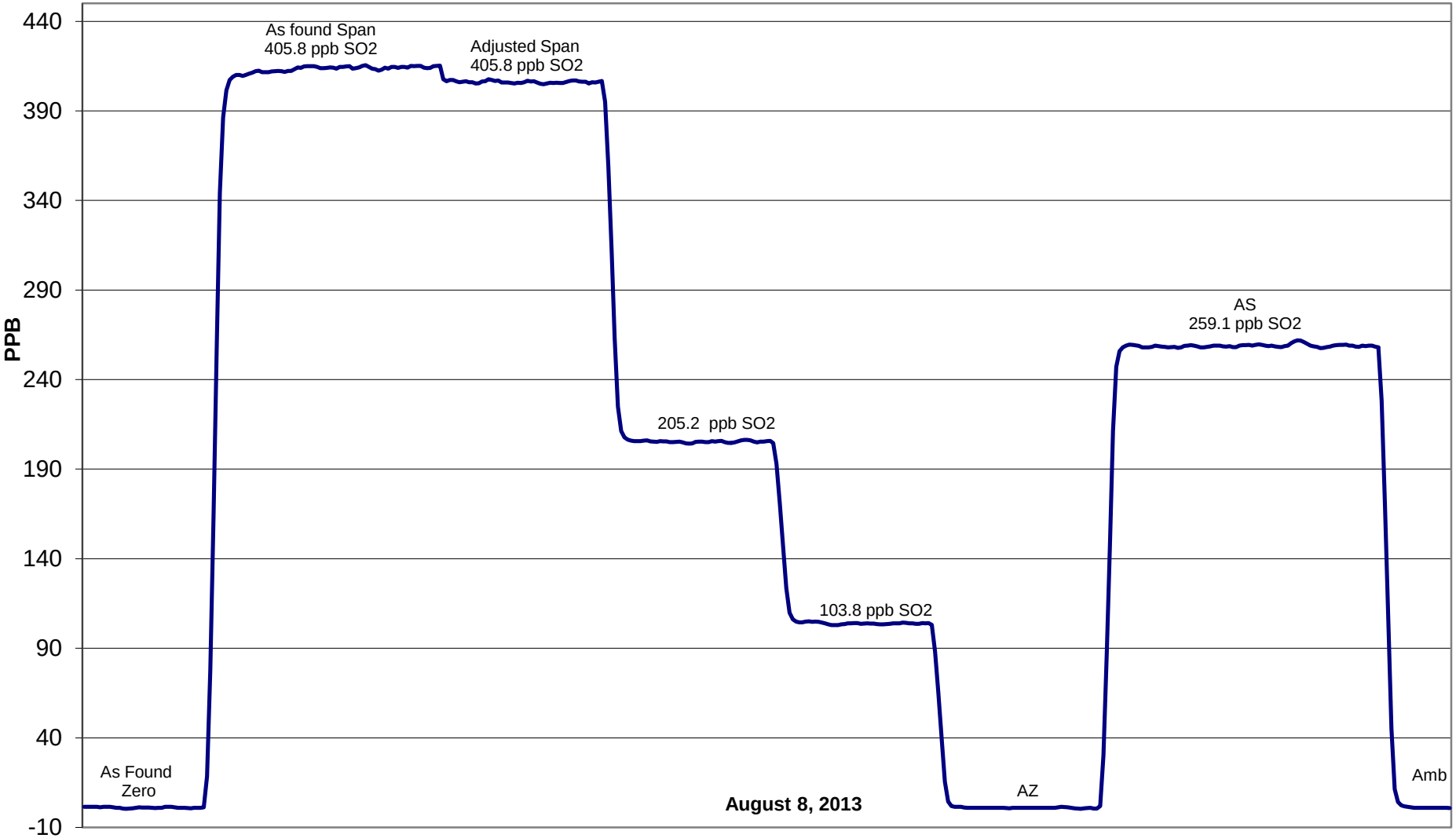
Calibration Date	August 8, 2013	Previous Calibration	July 26 2013
Station Number	9	Station Location	Sunset House
Start Time (MST)	10:07	End Time (MST)	13:38
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	1.1	N/A		
405.8	406.1	0.9993	Correlation Coefficient	0.999995
205.2	205.4	0.9993		
103.8	103.9	0.9990	Slope	1.001451
			Intercept	-0.666398



SO2 Calibration



Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 8, 2013	Previous Calibration	July 26 2013
Station Number	9	Station Location	Sunset House

Reason: Routine Install Removal Other:

Start Time (MST)	10:07		End Time (MST)	15:50	
Barometric Pressure	0.914	Atm	Station Temperature	20.0	Deg C
Calibrator	Environics		Serial Number	3474	
NO Cal Gas Conc	51.7	ppm	Cal Gas Expiry Date	December 3, 2014	
NOx Cal Gas Conc	51.9	ppm	Cal Gas Serial #	LL85362	

DACS Information

DACS make	CR3000	DACS serial No.	5407

Parameter		NO2	NOx	NO
Before	Data Slope	1.006477	0.997740	1.001174
	Data Offset	-0.366999	1.191577	0.947152
After	Data Slope	0.994993	1.004886	1.004771
	Data Offset	-1.407697	-1.102439	-0.835970
Channel #		5	3	4
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model	TEI 42i	Analyzer serial #	0701120011

Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	5.9	mV	5.8	mV
NOx bkgnd	6.1	mV	5.9	mV
NO coefficient	1.174		1.150	
NOx coefficient	1.000		1.000	
NO2 conv temp	324.5	Deg C	323.4	Deg C
PMT Temp	-2.7	Deg C	-2.9	Deg C
PMT Volt	-805.1	mV	-826.6	mV
R Cell Press	202.3	in Hg	206.2	in Hg
Sample Flow	0.702	ccm	0.690	ccm

NOTES: Adjusted Span.

Calibration Report

Parameter **NOX-NO-NO2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date: August 8, 2013 Station Location: Sunset House

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	4995	0.00	0.0	0.0	0.0	0.3	0.0	0.4	N/A	N/A
1	5000	40.10	412.9	411.3	1.6	411.5	409.7	0.0	1.0036	1.0040
2	5000	20.20	208.8	208.0	0.8	209.8	208.5	0.4	0.9956	0.9978
3	5000	10.20	105.7	105.3	0.4	106.8	106.4	0.4	0.9897	0.9895
AFZ	5000	0.00	0.0	0.0	0.0	0.3	0.0	0.4	0.0000	0.0000
AFS	5000	40.10	412.9	411.3	1.6	420.7	418.9	0.0	0.9814	0.9819
							Average Correction Factor		0.9963	0.9971

As Found Concentrations: NO_X= 421.6 NO= 419.9 As Found Percent Change NO_X= 2.1% NO= 2.1%

GPT Calibration Data

Dilution Flow 4995 ccm Source Gas Flow 40.10 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	0.3	0.0	0.4	N/A	N/A	N/A	N/A
NO point	410.4	410.4	0.0	412.8	410.4	0.3	0.9941	1.0000	N/A	N/A
290	410.4	109.0	301.4	414.2	109.0	303.5	0.9907	1.0000	0.9929	100.7%
190	410.4	233.9	176.5	415.7	233.9	179.4	0.9873	1.0000	0.9838	101.6%
130	410.4	307.2	103.2	415.5	307.2	106.3	0.9876	1.0000	0.9707	103.0%
					Average Correction Factor		0.9885	1.0000	0.9825	101.8%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.0	0.0	0.1	ppb	0.8	0.9	0.0	ppb
Auto span	167.9	165.8	1.4	ppb	166.3	164.3	1.4	ppb

Calibration Performed By: Gagandeep Singh

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

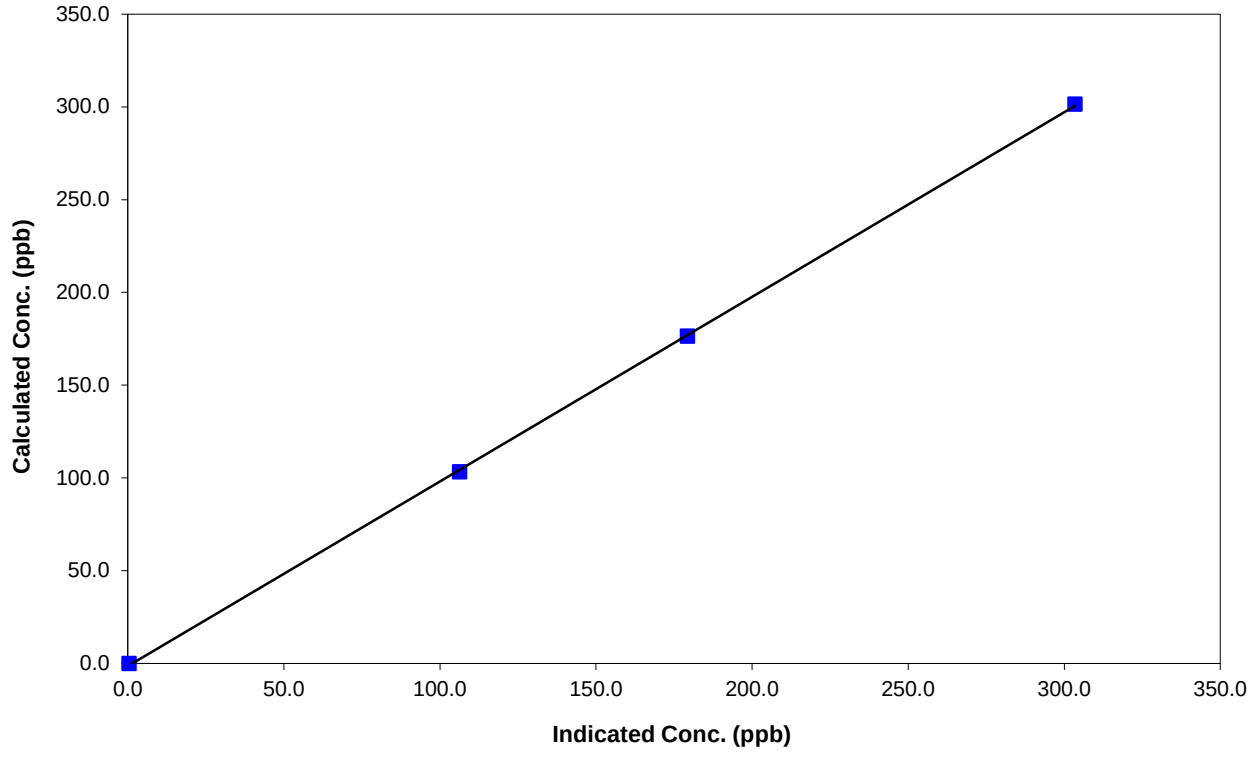
Station Information

Calibration Date	August 8, 2013	Previous Calibration	July 26 2013
Station Number	9	Station Location	Sunset House
Start Time (MST)	10:07	End Time (MST)	15:50
Analyzer make	TEI 42i	Analyzer serial #	0701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A		
301.4	303.5	0.9929	Correlation Coefficient	0.999931
176.5	179.4	0.9838		
103.2	106.3	0.9707	Slope	0.994993
			Intercept	-1.407697

NO_2 Calibration Curve



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

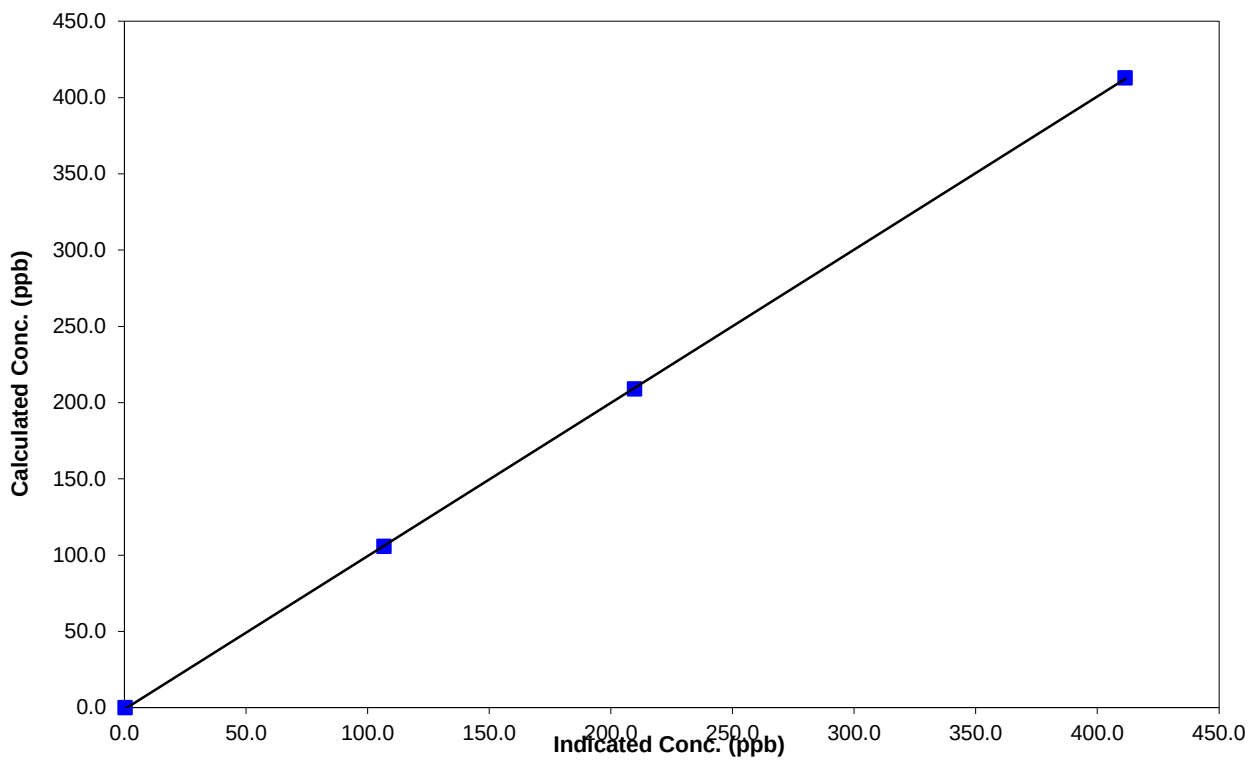
Station Information

Calibration Date	August 8, 2013	Previous Calibration	July 26 2013
Station Number	9	Station Location	Sunset House
Start Time (MST)	10:07	End Time (MST)	15:50
Analyzer make	TEI 42i	Analyzer serial #	0701120011

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A		
412.9	411.5	1.0036	Correlation Coefficient	0.999979
208.8	209.8	0.9956		
105.7	106.8	0.9897	Slope	1.004886
			Intercept	-1.102439

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

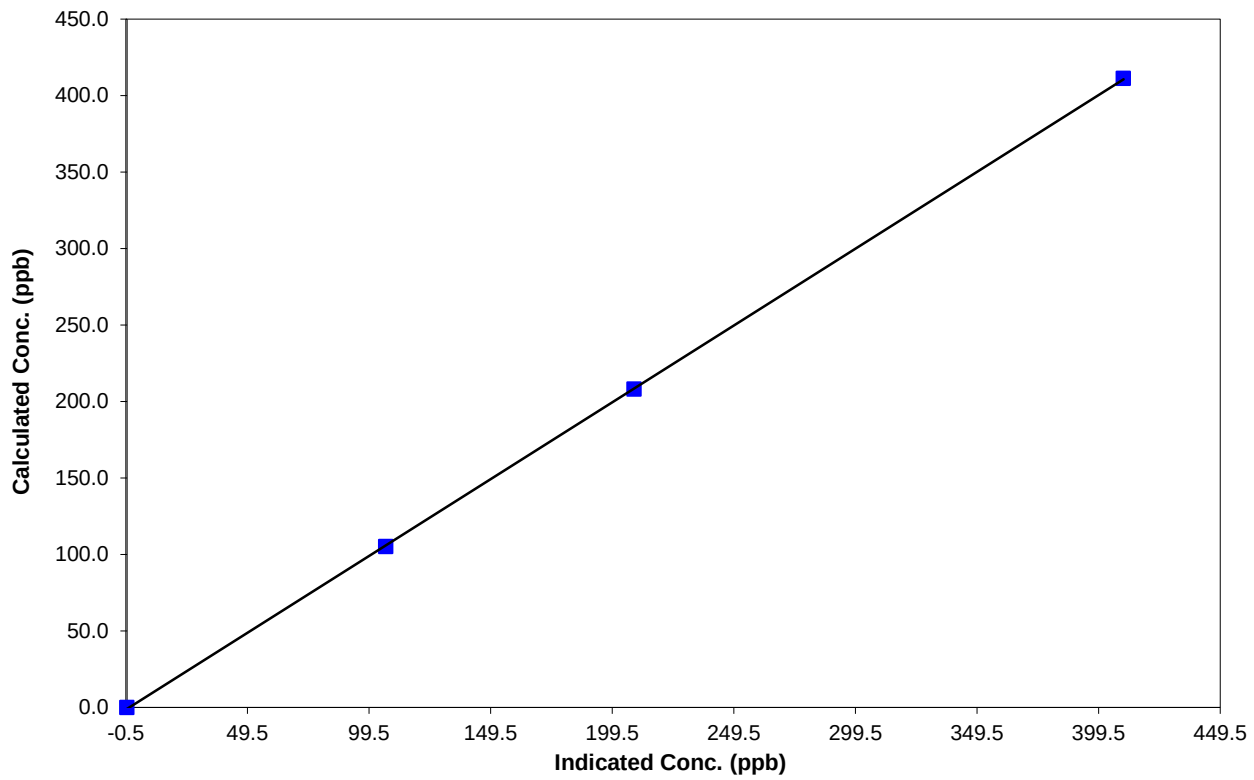
Station Information

Calibration Date	August 8, 2013	Previous Calibration	July 26 2013
Station Number	9	Station Location	Sunset House
Start Time (MST)	10:07	End Time (MST)	15:50
Analyzer make	TEI 42i	Analyzer serial #	0701120011

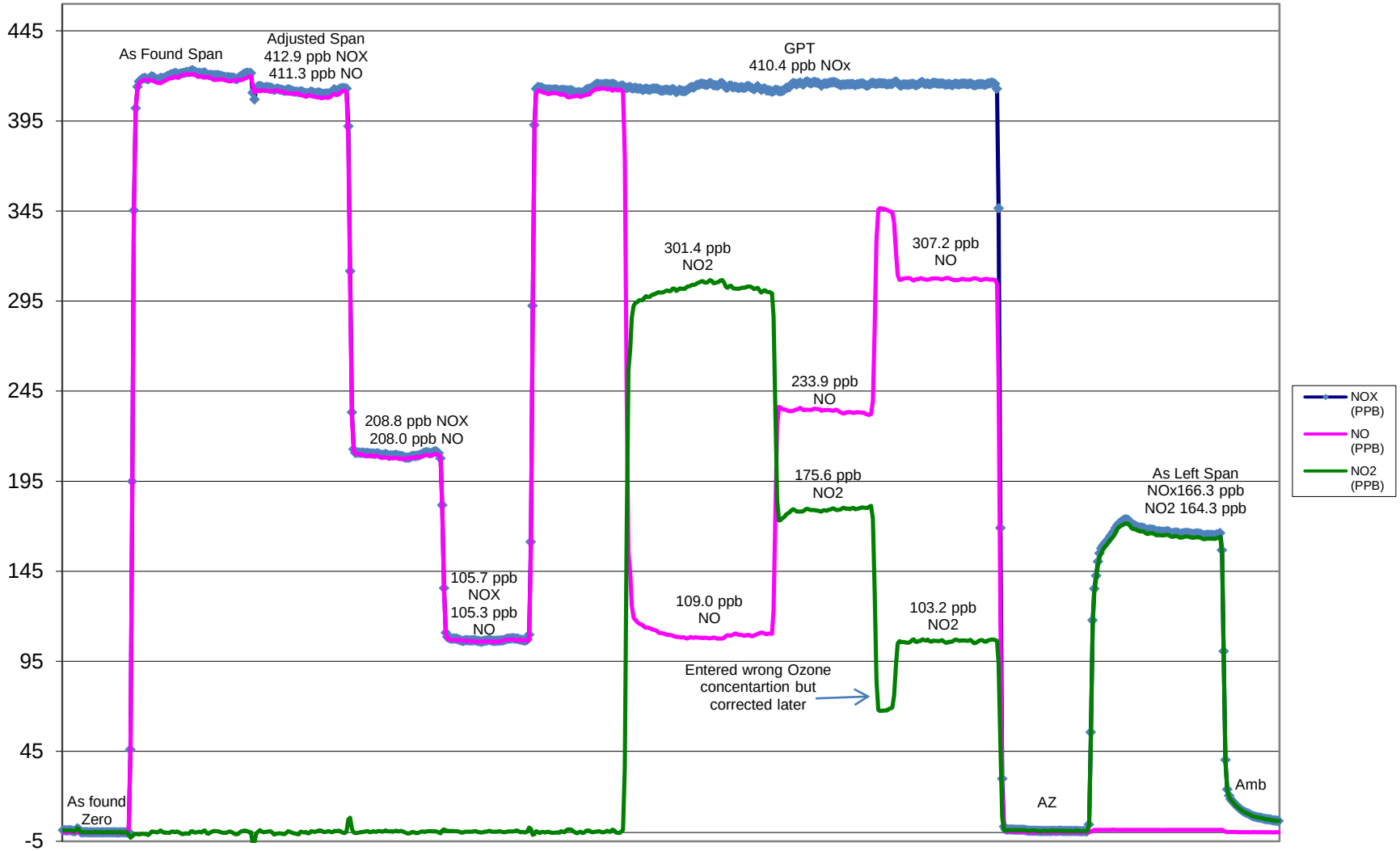
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
411.3	409.7	1.0040	Correlation Coefficient	0.999978
208.0	208.5	0.9978		
105.3	106.4	0.9895	Slope	1.004771
			Intercept	-0.835970

NO Calibration Curve



PASZA Sunset House NO_X Calibration



August 8, 2013

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **O3**

Air Monitoring Network **PAZA**

Station Information

Calibration Date	August 8, 2013	Previous Calibration	NA
Station Number	9	Station Location	Sunset House
Reason: Routine	Install	Removal remove	Other:
Start Time (MST)	15:25	End Time (MST)	17:30
Barometric Pressure	0.915 atm	Station Temperature	15.7 Deg C
Calibrator	Environics 6100	Serial Number	3474
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volts	DACS channel #	6
	Before		After
Calculated slope	0.995366	Calculated slope	0.991941
Calculated intercept	-0.615831	Calculated intercept	-0.454736
Analyzer make	API	Analyzer serial #	400A

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Offset	NA	ppb	-2.8	ppb
Slope	NA		1.008	
O3 Measure	NA	mv	2934	mv
O3 Ref	NA	Hz	2937.9	Hz
Pressure	NA	in Hg	25.90	in Hg
CellA Flow	NA	ccm	679.000	ccm
Photo Lamp Temp	NA	deg C	52.000	deg C

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)
5040	0.00	0.0	0.1	N/A
5040	0.00	301.4	303.8	0.9919
5040	0.00	176.5	179.0	0.9860
5040	0.00	103.2	104.7	0.9858
				As found zero
				As found span
			Average Correction Factor	0.9879

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

	before calibration		after calibration	
Auto zero	NA	ppb	-0.4	ppb
Auto span	NA	ppb	143.8	ppb

Notes: Span adjustment made.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **O3**

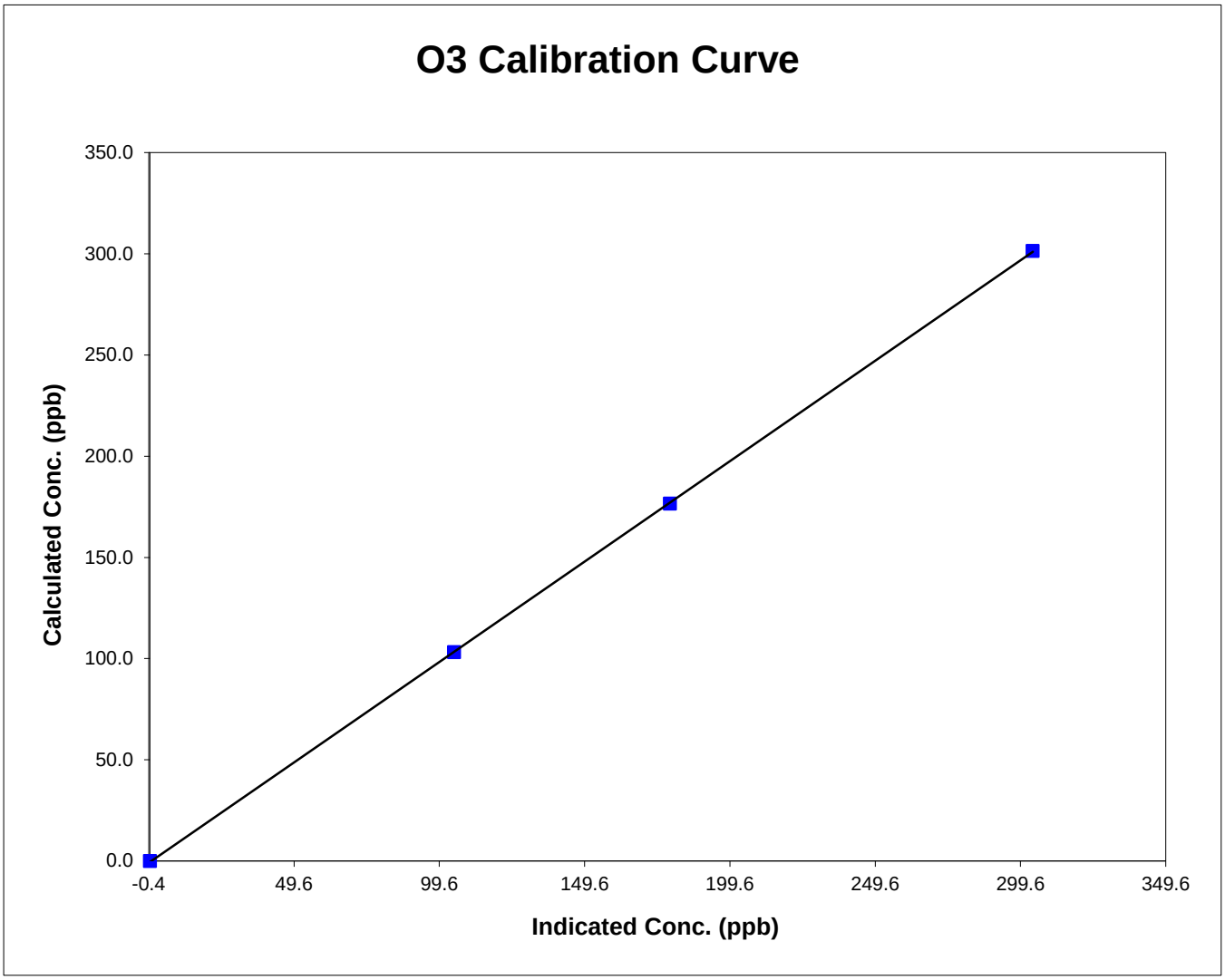
Air Monitoring Network **PAZA**

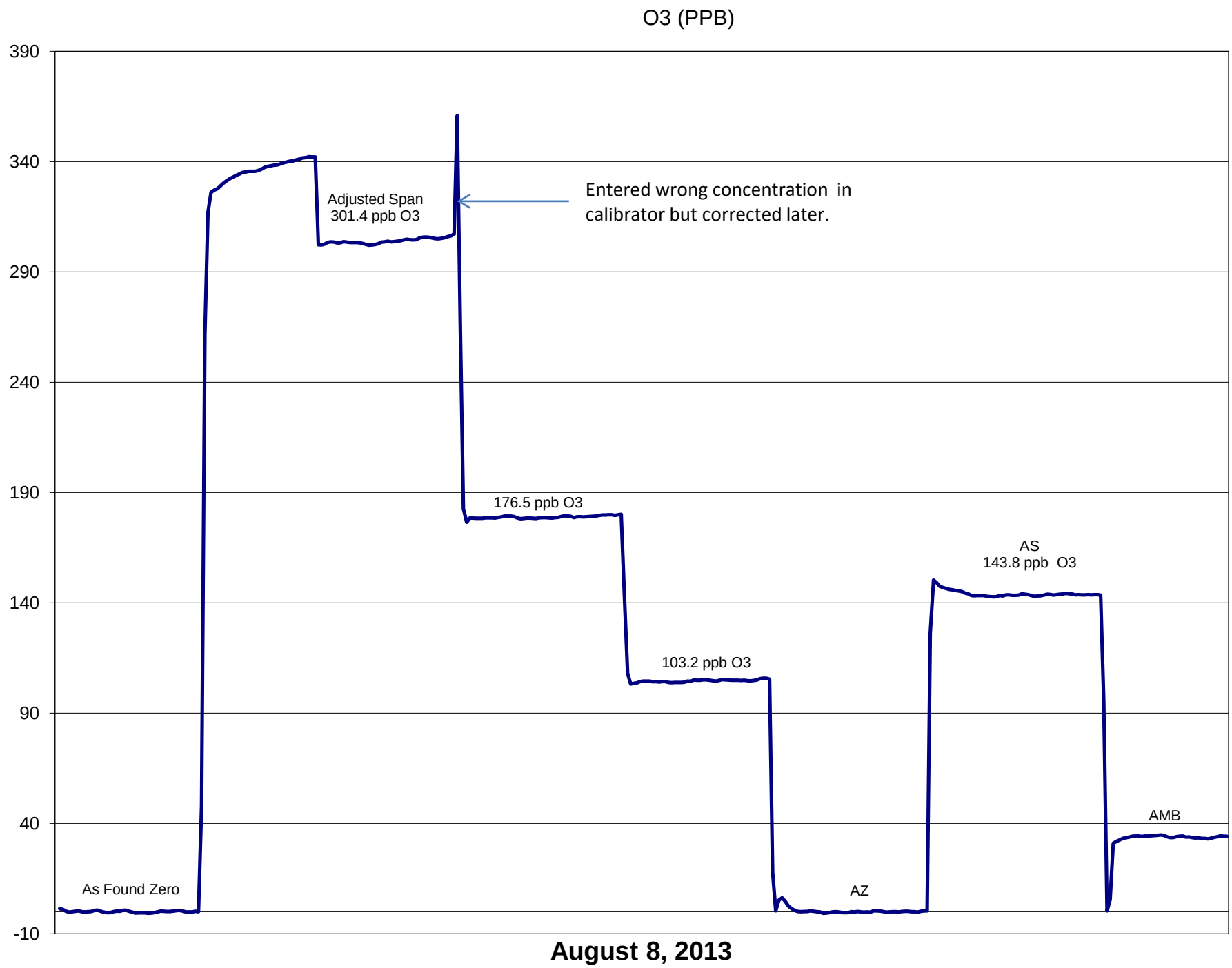
Station Information

Calibration Date	August 8, 2013	Previous Calibration	NA
Station Number	9	Station Location	Sunset House
Start Time (MST)	15:25	End Time (MST)	17:30
Analyzer make/model	API	Analyzer serial #	400A

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	NA		
301.4	303.8	0.9919	Correlation Coefficient	0.999985
176.5	179.0	0.9860		
103.2	104.7	0.9858	Slope	0.991941
			Intercept	-0.454736




O3 (PPB)
390
340
290
240
190
140
90
40
-10
Adjusted Span
301.4 ppb O3
Entered wrong concentration in calibrator but corrected later.
176.5 ppb O3
103.2 ppb O3
AS
143.8 ppb O3
AMB
As Found Zero
AZ
August 8, 2013

Calibration Report

Parameter **TRS**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 9, 2013	Previous Calibration	July 26 2013
Station Name	PAZA Rover	Station Location	Sunset House
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	7:12 AM	End Time (MST)	11:15
Barometric Pressure	0.915 Atm	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	10.1 ppm	Cal Gas Expiry Date	11/05/2013
Gas Cert Reference	LL160692		
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volt	DACS channel #	1
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.985600	Calculated slope	0.988207
Calculated intercept	0.630213	Calculated intercept	0.217208
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	16.0	ppb	15.7	ppb
Coefficient	1.032		1.015	
Lamp Voltage	770	V	763	V
Chamber Temp	43.9	C	43.9	C
Perm gas Temp	45	C	45	C
Pressure	650.0	mmHg	649.5	mmHg
Sample Flow	0.440	ccm	0.441	ccm
Lamp Intensity	39459	Hz	38669	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)
5000	0.0	0.0	-0.3	N/A
5000	40.10	80.4	81.1	0.9913
5000	20.20	40.6	40.9	0.9927
8000	10.20	12.9	12.9	0.9963
5000	10.20	103.8	0.7	Sox Test
5000	0.00	0.0	-0.3	As found zero
5000	40.10	80.4	81.3	As found span
			Average Correction Factor	0.9934

Calculated value of As Found Response: 81.12 ppm Percent Change of As Found: -0.9%

	before calibration		after calibration	
Auto zero	0.2	ppm	0.1	ppm
Auto span	65.4	ppm	65.4	ppm

Notes: Adjusted Span

Calibration Performed By: Gagandeep Singh

Calibration Summary

Parameter **TRS**

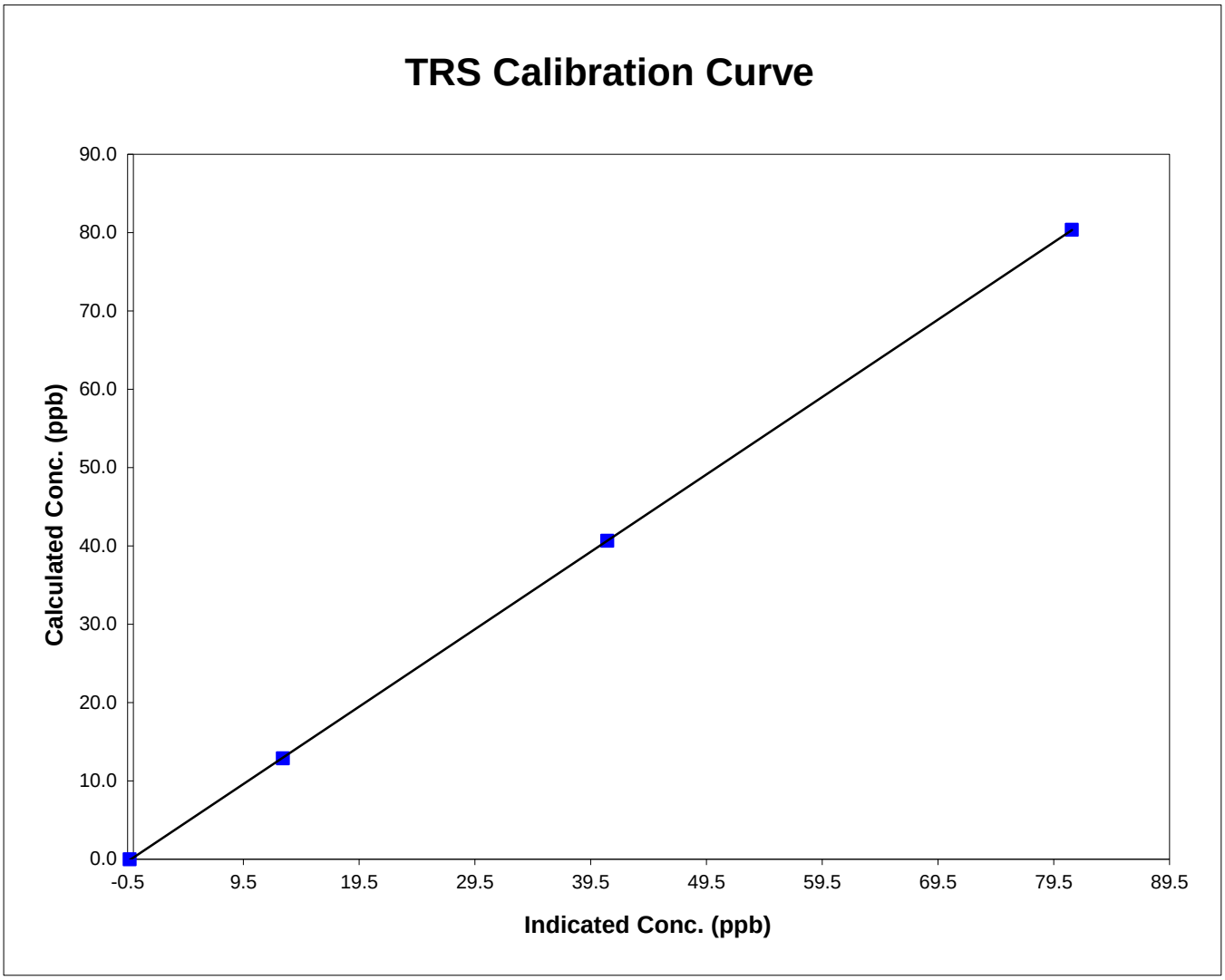
Air Monitoring Network **PAZA**

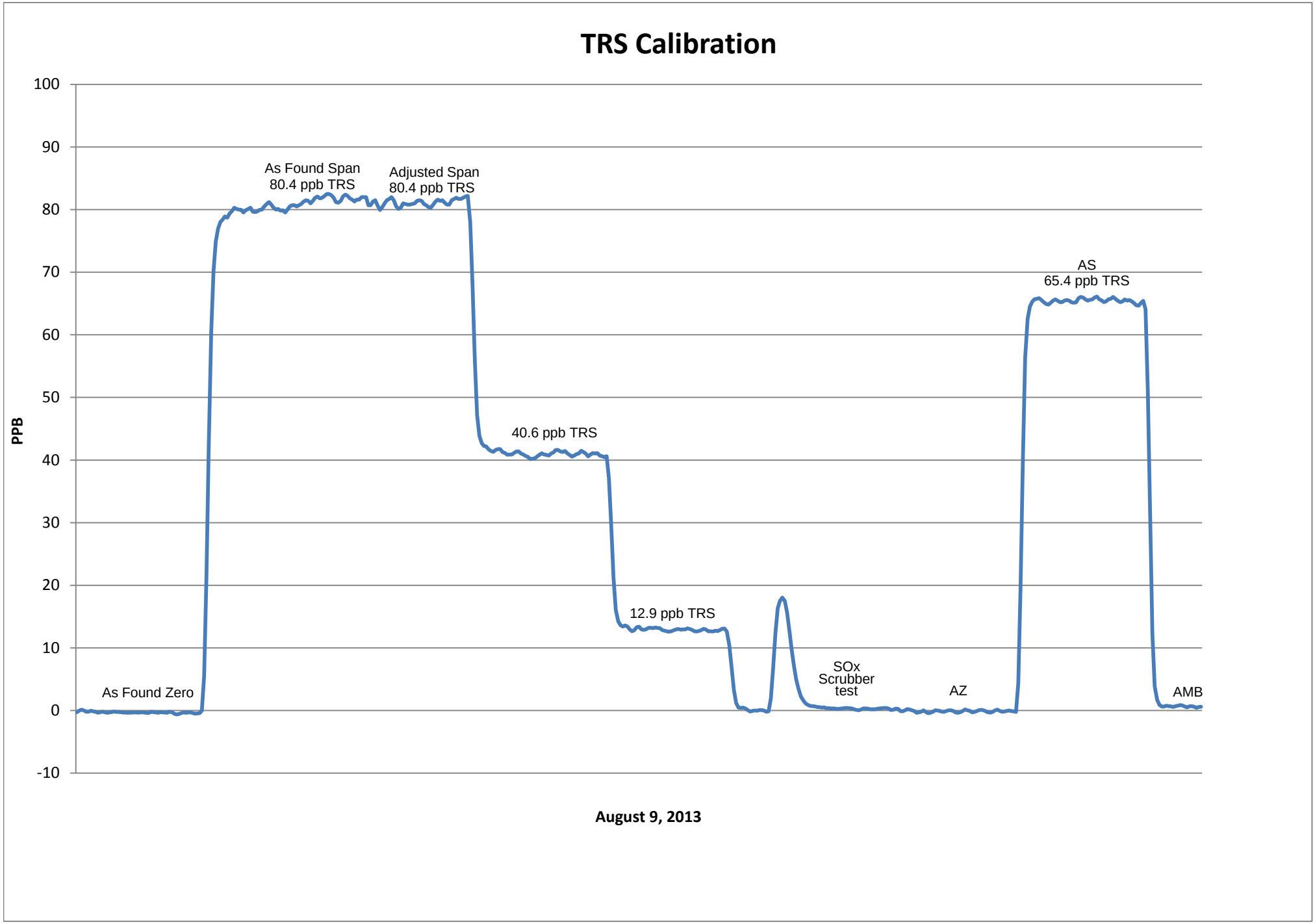
Station Information

Calibration Date	August 9, 2013	Previous Calibration	July 26 2013
Station Number	PAZA Rover	Station Location	Sunset House
Start Time (MST)	7:12	End Time (MST)	11:15
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.3	N/A		
80.4	81.1	0.9913	Correlation Coefficient	0.999993
40.6	40.9	0.9927		
12.9	12.9	0.9963	Slope	0.988207
			Intercept	0.217208




TRS Calibration
100
90
80
70
60
50
40
30
20
10
0
-10
PPB
As Found Span
80.4 ppb TRS
Adjusted Span
80.4 ppb TRS
40.6 ppb TRS
12.9 ppb TRS
SOx
Scrubber
test
AZ
AS
65.4 ppb TRS
AMB
As Found Zero
August 9, 2013

TEOM PM2.5 Calibration

FOCUS AIR QUALITY MONITORING

STATION: ROVER

LOCATION: PAZA - Sunset House

OPERATOR: Stephanie Tandy

DATE: 20-Aug-13

MONITOR INFO / PARAMETER VALUES:

Make/Model	TEOM 1400AB
Configuration	PM2.5
Serial Number	1400AB215519705
Site Number	3
Inlet Type	PM 10 / SCC
FAdj. Main Setting	1.000
FAdj. Aux. Setting	1.000
T-Case Indicated / Set Point	30/30
T-Air Indicated / Set Point	30/30
T-Cap Indicated / Set Point	30/30
Splitter Assembly Alignment (cm)	15.5

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

RECENT CALIBRATION AND AUDIT HISTORY

Previous Audit	
Previous Calibration	

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(Ref/Base)	Aux (Ref/Base)
PUMP ON	NA	NA
PUMP OFF	NA	NA
NET	NA	NA
LIMITS	***<0.15***	***<0.65***

		Ambient Temp. (^{0} C)	Ambient Pres. (atm)	Ko *	Bypass flow (lpm)	Sample flow (lpm)
	SET POINT (S)	na	na	NA	13.67	3.000
	INDICATED (I)	14.9	0.909		13.67	2.990
As Found Data	MEASURED (AF)	14.6	0.906		13.89	3.080
Adjusted Data	MEASURED (M)	14.6	0.906	NA	13.89	3.080
	DIFFERENCE (M-I)	-0.3	-0.003	NA	0.22	0.09
	LIMITS	***± 2 ^{0} C***	***± 0.005 atm***	***± 2.5 %***	***± 1.0 L/min***	***± 0.2 L/min***

Ko Audit Filter data *Weight:* **0.10748** *Serial #:* ***3826***

COMMENTS: KO and Leak check not done due to lack of proper valve.

Sample Head Inspection/Cleaning:

Cleaned PM heads. Looked in good condition.

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **SO_2**

Air Monitoring Network **PAZA**

Station Information

Calibration Date	August 31, 2013	Previous Calibration	July 27, 2013
Station Number	1	Station Location	Falher
Reason: Routine	Install	Removal	Other:

Start Time (MST)	12:25	End Time (MST)	14:58
Barometric Pressure	0.931 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics	Serial Number	3474
Cal Gas Concentratior	51.5 ppm	Cal Gas Expiry Date	2/25/25
Correction factor	0.031647	Cal Gas Cylinder #	LL105159
DACS make	CR1000	DACS serial No.	3980
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	0.996517	Calculated slope	0.991317
Calculated intercept	3.058153	Calculated intercept	2.544579

Analyzer make	Teco 43i	Analyzer serial #	1207452008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	6.5		6.5	
coefficient	0.936		0.936	
Lamp Voltage	820	volts	820	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	682.1	mm Hg	681.5	mm Hg
Sample Flow	0.421	ccm	0.42	ccm
Lamp Intensity	97	%	97	%

Dilution air flow rate (cc/min)	Corrected gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.00	0.3	N/A
4995	39.93	408.4	410.8	0.9941
4995	19.96	205.0	202.7	1.0111
4995	9.97	102.6	98.1	1.0459
4995	0.0	0.0	0.3	As Found Zero
4995	39.93	408.4	410.8	As Found Span
			Average Correction Factor	1.0170

Calculated value of As Found Response: 412.127 ppm Percent Change of As Found: -0.9%

	before calibration		after calibration	
Auto zero	0.5	ppm	0.3	ppm
Auto span	359.4	ppm	346.4	ppm

Notes: No adjustments made.
Calibrator kicked out during first 80% point. Slight power bump in trailer.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

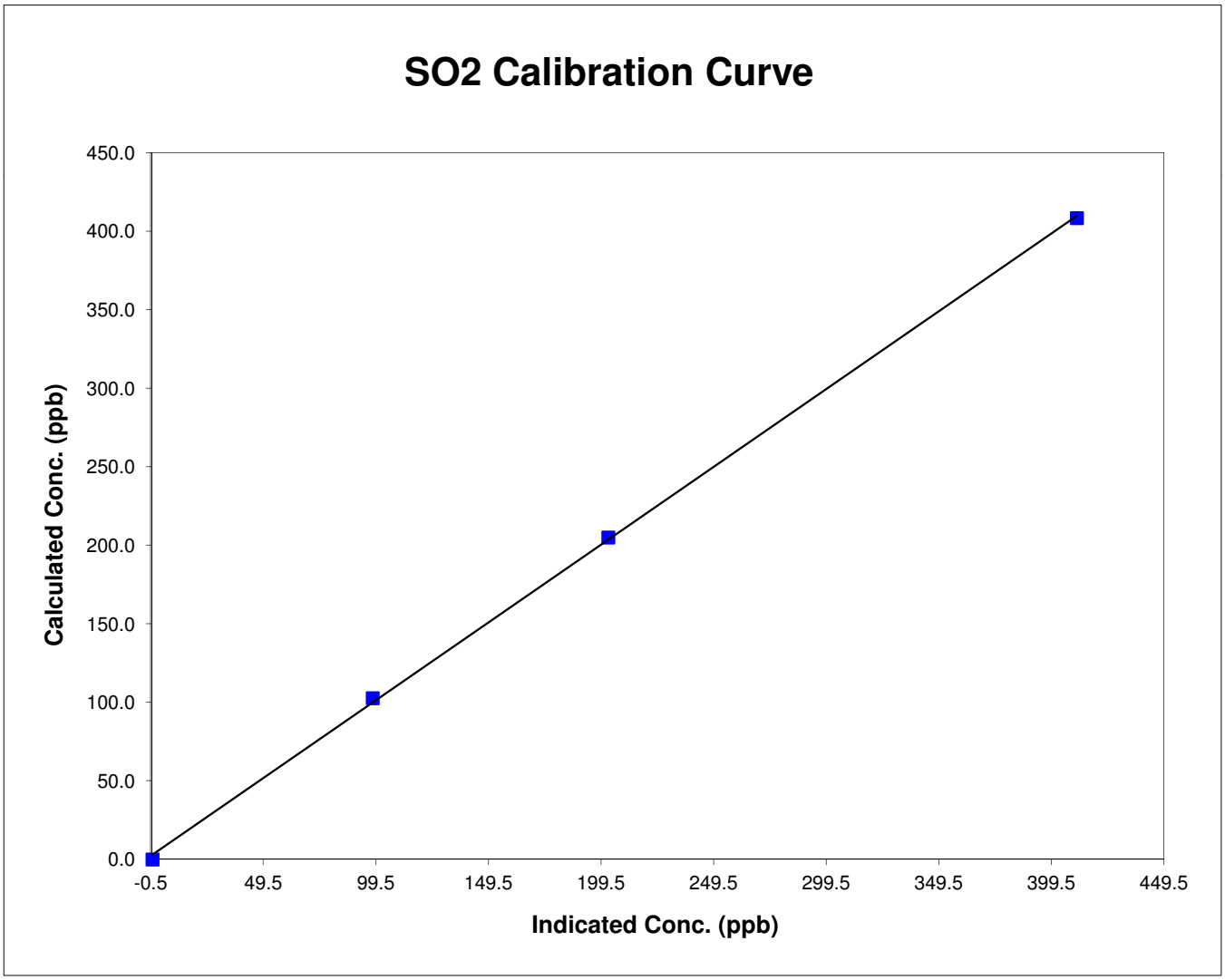
FOCUS AIR QUALITY MONITORING

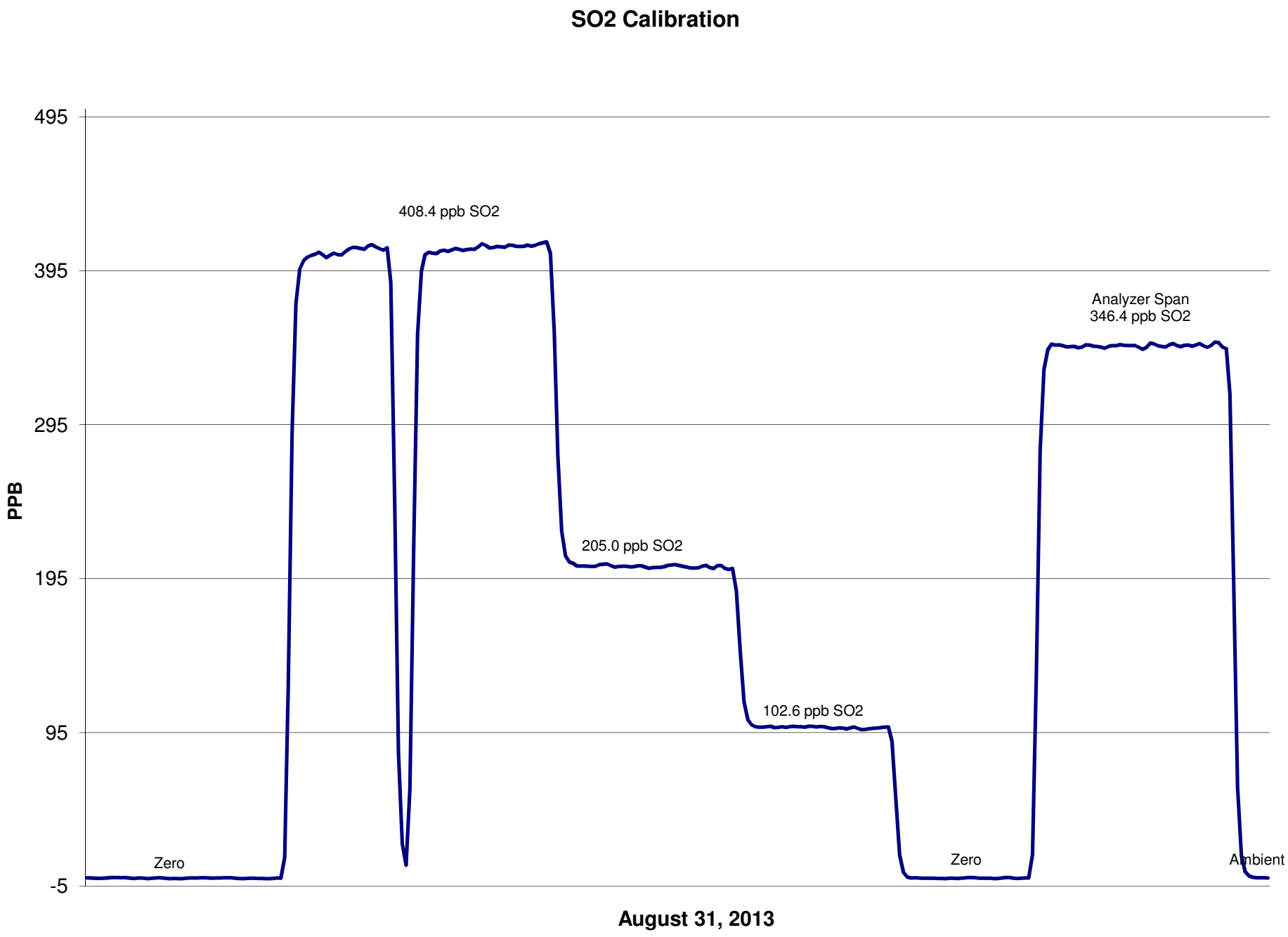
Station Information

Calibration Date	August 31, 2013	Previous Calibration	July 27, 2013
Station Number	1	Station Location	Falher
Start Time (MST)	12:25	End Time (MST)	14:58
Analyzer make/model	Teco 43i	Analyzer serial #	1207452008

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A		
408.4	410.8	0.9941	Correlation Coefficient	0.999777
205.0	202.7	1.0111		
102.6	98.1	1.0459	Slope	0.991317
			Intercept	2.544579




SO2 Calibration
495
395
295
195
95
-5
PPB
408.4 ppb SO2
205.0 ppb SO2
102.6 ppb SO2
Analyzer Span
346.4 ppb SO2
Zero
Zero
Ambient
August 31, 2013

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **H2S**

Air Monitoring Network **PAZA**

Station Information

Calibration Date	August 31, 2013	Previous Calibration	July 27, 2013
Station Number	1	Station Location	Falher
Reason: Routine	Install	Removal	Other:

Start Time (MST)	10:43	End Time (MST)	13:35
Barometric Pressure	0.931 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics	Serial Number	3474
Cal Gas Conc	10.4 ppm	Cal Gas Expiry Date	7/08/16
Correction factor	0.031647	Cal Gas Cylinder #	LL110781
DACS make	CR1000	DACS serial No.	3980
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
Calculated slope	0.995667	Calculated slope	1.000701
Calculated intercept	0.361600	Calculated intercept	0.320824

Analyzer make	Thermo 450i	Analyzer serial #	1207452006

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	12.5	ppb	12.5	ppb
coefficient	1.169		1.169	
Lamp Voltage	788	volts	788	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	571.2	mm Hg	567.6	mm Hg
Sample Flow	0.927	ccm	0.922	ccm
Lamp Intensity	91	mv	91	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)
4995	0.00	0.00	0.2	N/A
4995	39.93	82.48	82.4	1.0015
4995	19.96	41.39	40.6	1.0196
8994	8.97	10.36	9.7	1.0668
4995	0.00	0.00	0.2	As Found Zero
4995	39.93	82.48	82.4	As Found Span
			Average Correction Factor	1.0293

Calculated value of As Found Response: 82.17 ppm Percent Change of As Found: 0.4%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.7	ppm
Auto span	51.2	ppm	53.3	ppm

Notes: **No adjustment made. Sox scrubber was checked.**
New cal gas used - conc, cylinder # and expiry date listed above.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **H2S**

Air Monitoring Network **PAZA**

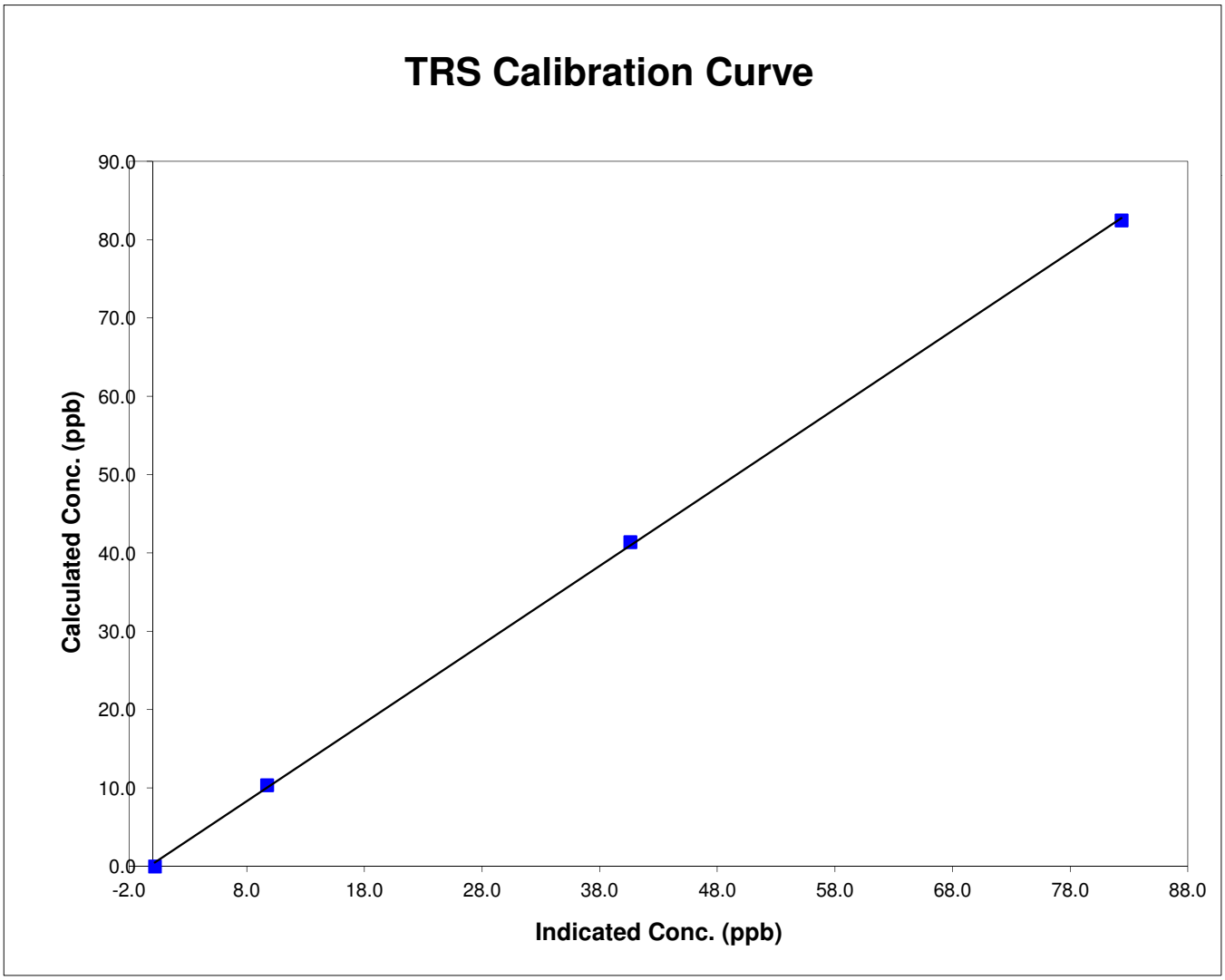
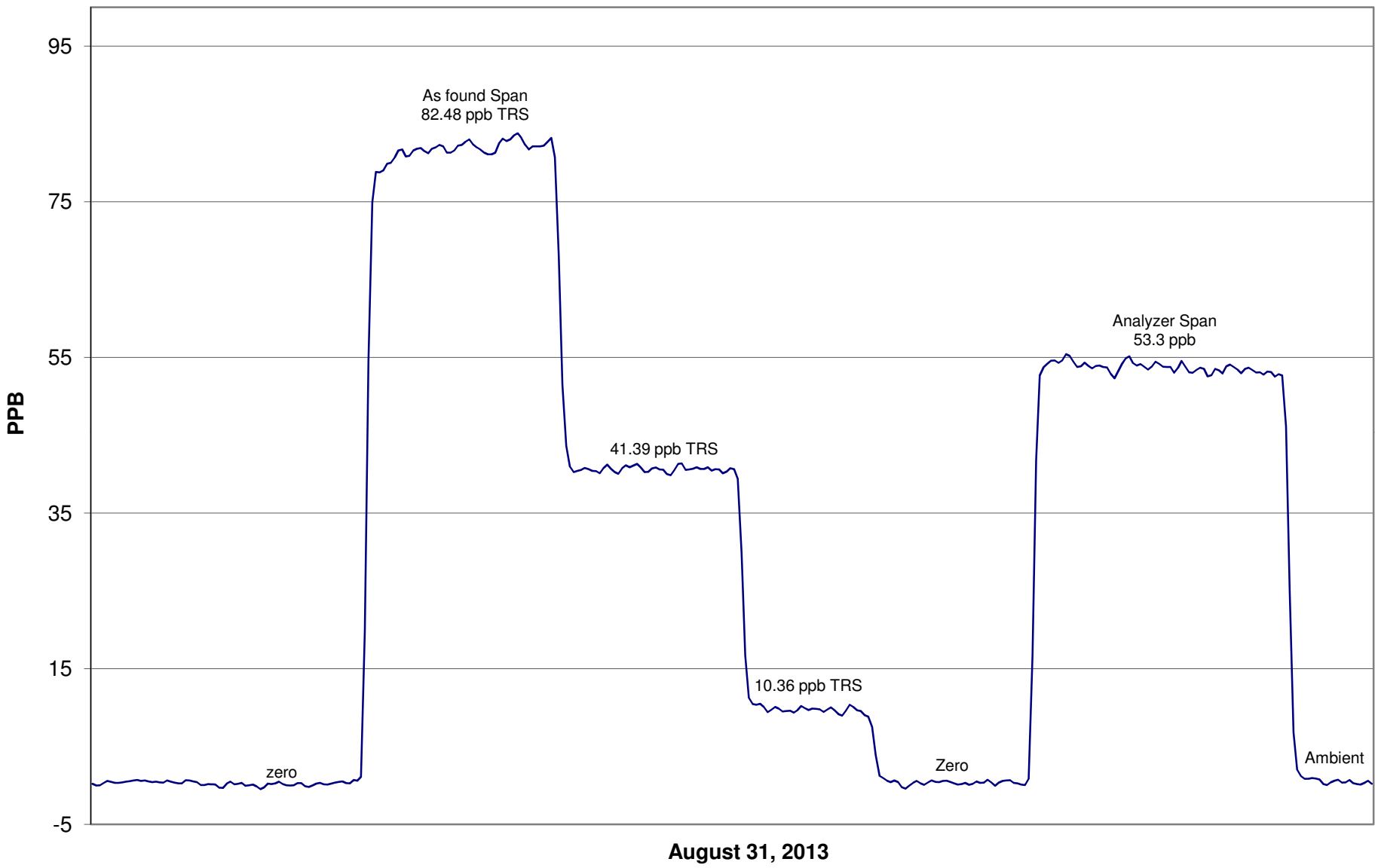
FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	August 31, 2013	Previous Calibration	July 27, 2013
Station Number	1	Station Location	Falher
Start Time (MST)	10:43	End Time (MST)	13:35
Analyzer make/model	Thermo 450i	Analyzer serial #	1207452006

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
82.5	82.4	1.0015	Correlation Coefficient	0.999847
41.4	40.6	1.0196		
10.4	9.7	1.0668	Slope	1.000701
			Intercept	0.320824



H2S Calibration