Peace Airshed Zone Association

Ambient Air Monitoring Network Summary

Continuous Ambient Air Quality Monitoring Program
Monthly Report
January 2013

Operations and Reporting

FOCUS
AIR QUALITY MONITORING

Peace Airshed Zone Association
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February 26th, 2013

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

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

Enclosed is the PAZA Ambient Monitoring Network Report for the month of **January 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	AENV Approval Number
Advantage Oil & Gas Ltd.	Glacier	05-02-076-13-W6	262479-00-00
Alberta Power (2000) Ltd.	Sturgeon	SW-06-69-21-W5	10283-02-02
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	House Mountain	01-08-70-10-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	29-01-01
	Progress/Gordondale	01-01-077-10-W6	10036-02-00
	Gold Creek	13-26-067-05-W6	10446-02-00
	Teepee Creek	SE-2-074-04-W6	1635-02-02
Canfor Forest Products (CFP)	Grande Prairie	SW-23-71-06-W6	152645-01-00

Company	Facility	LSD	AENV Approval Number
Conocophillips Canada Energy Partnership	Wembley	06-19-073-08-W6	212-01-00
Devon Canada	Tangent	16-20-080-24-W5	11346-02-00
	NW Belloy (Dunvegan)	16-36-079-03-W6	9810-02-00
	Eaglesham (South)	02-14-077-25-W5	47669-01-00
	Puskwaskau	03-26-074-01-W6	17524-01-00
	North Normanville	03-36-079-23-W5	47455-01-00
	West Culp	05-34-078-25-W6	136284-00-00
	Cecil	08-15-084-08-W6	10032-02-00
EnCana Corporation	Sexsmith	04-08-075-07-W6	10002-01-00
Enerplus Resources	Pouce Coupe	SW-06-69-21-W5	1464-02-03
Grande Prairie Generation Inc.	Northern Prairie Power Project	04-19-073-08-W6	238762-00-02
Long Run Exploration	Eaglesham	01-25-076-01-W6	241532-00-00
	Kakut	14-12-075-03-W6	248469-00-01
	Donnelly	06-01-077-21-W5	87-02-00
Longview Oil Corp.	Sunset House	06-22-70-20-W5	138884-01-00
Penn West Petroleum Ltd.	Tangent	13-29-080-23-W5	1746-02-01
	Pouce Coupe	16-07-078-11-W6	614-01-00
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	263-01-00

Company	Facility	LSD	AENV Approval Number
Suncor Energy Inc.	Progress	07-22-078-09-W6	11428-02-00
Taqa North Ltd.	Valhalla	13-21-076-09-W6	17620-01-01
Veresen Energy Infrastructure Inc.	Hythe Brainard	11-18-074-12-W6	10910-02-02
Weyerhaeuser Canada	Grande Prairie Pulp and Wood Plant	01-14-070-05-W6	113-02-00

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 **January** 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 January with the exception of the THC analyzer, which was out of service for January and replaced on February 6th. **AE Reference #266707**.

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 January.

Smoky Heights Station:

- The measured ambient air quality was within the AAAQO for the Smoky Heights station except for $PM_{2.5}$, which had two (2) 1-hour exceedences of the AAAQO guideline:
  - January 4 00:00 84.9 $\mu g/m^3$ Alberta Environment Reference # 266178
  - January 10 19:00 83.8 $\mu g/m^3$ Alberta Environment Reference # 266340
- All analyzers and sensors at the Smoky Heights station had an operational uptime greater than 90% for the month of January.

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 January.

Valleyview Station:

- The measured ambient air quality was within the AAAQO for the Valleyview station except for H_2S, which had seven (7) 1-hour exceedences and one (1) 24-hour exceedence of the AAAQO guideline:
  - January 12 13:00 14.3 ppb Alberta Environment Reference # 266389
  - January 12 14:00 18.4 ppb Alberta Environment Reference # 266389
  - January 12 15:00 17.4 ppb Alberta Environment Reference # 266389
  - January 12 16:00 16.6 ppb Alberta Environment Reference # 266389
  - January 12 17:00 14.7 ppb Alberta Environment Reference # 266389
  - January 12 18:00 14.2 ppb Alberta Environment Reference # 266389
  - January 12 19:00 12.1 ppb Alberta Environment Reference # 266389
  - January 12 24-hour 7.3 ppb Alberta Environment Reference # 266389

- All analyzers and sensors at the Valleyview station had an operational uptime greater than 90% for the month of January.

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 January.

Falher Station:

- Station integrated into the network in January. In operation since July 2012.
- The measured ambient air quality was within the AAAQO for the Falher station.
- All analyzers and sensors at the Sunset House station had an operational uptime greater than 90% for the month of January.

Passive Monitoring - 46 Stations throughout the PAZA zone:

There were five duplicate sites sampled in the month of January: Jean Cote, Fitzsimmons, Clairmont Lake, Pinnacle, 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 1.0 ppb, with a mean of 0.4 ppb.
- Monthly average concentrations for NO_2 passives ranged from 0.5 ppb to 16.8 ppb, with a mean of 2.4 ppb.
- Monthly average concentrations for O_3 passives ranged from 23.9 ppb to 43.8 ppb, with a mean of 35.2 ppb.
- Monthly average concentrations for H_2S were only collected from one site due to restricted access, returning a value of 0.1 ppb.

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

On Behalf of the
Peace Airshed Zone Association

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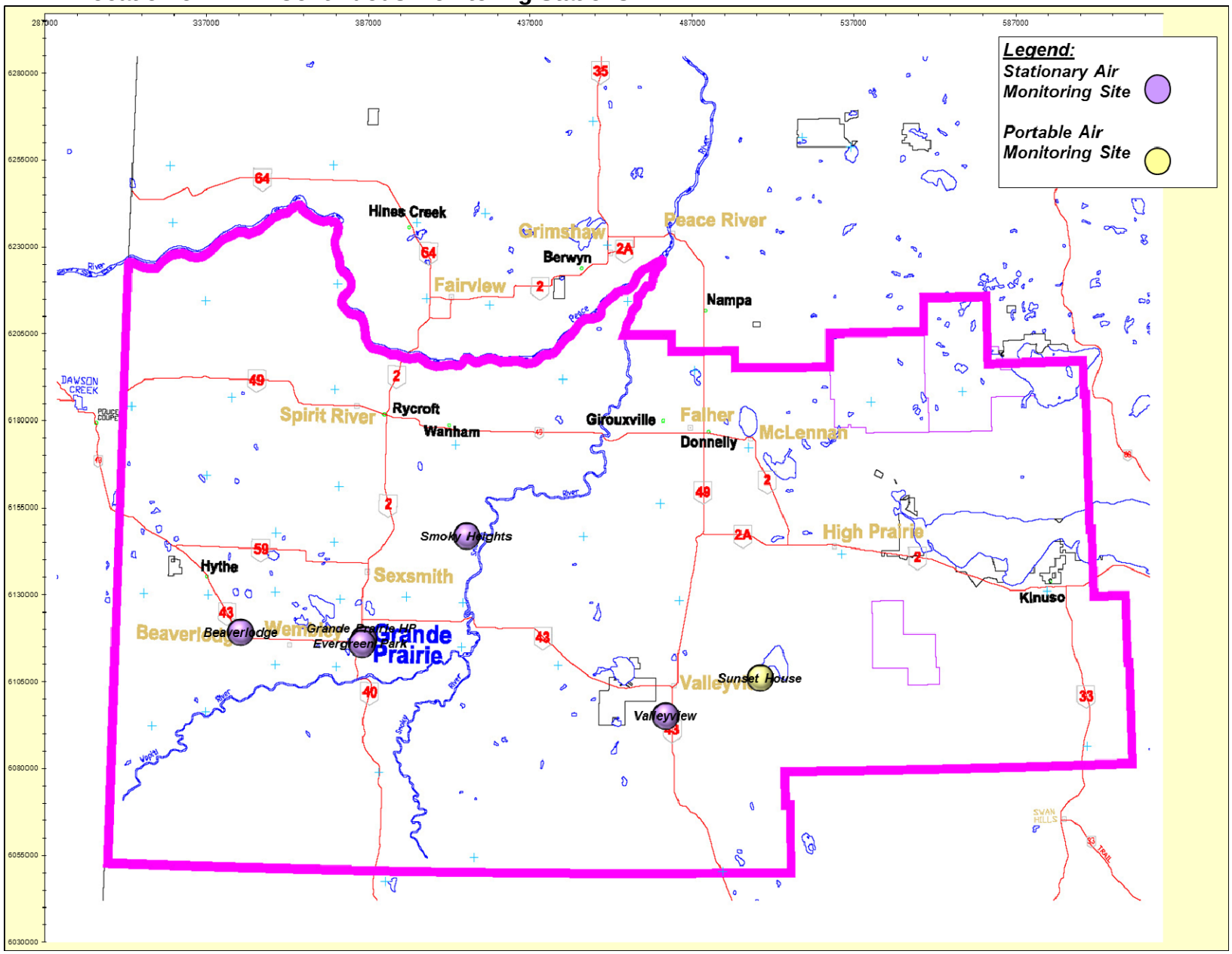
Location of PAZA Continuous Monitoring Stations



PAZA Monthly Continuous Data Summary

Jan-2013	Peace Airshed Zone Assocation						Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
Pollutant (units)	Objectives 1-hr	Objectives 24-hr	Station	Monthly Average	Exceedence 1-hr	Exceedence 24-hr	Conc	Day	Conc	Day	Operational Time (%)
SO_2 (ppb)	172	48	Henry Pirker	0.5	0	0	4.9	Jan-28 11:00	1.9	Jan-28	96%
SO_2 (ppb)	172	48	Evergreen Park	0.3	0	0	2.8	Jan-28 11:00	0.8	Jan-28	100%
SO_2 (ppb)	172	48	Smoky Heights	0.6	0	0	7.9	Jan-01 06:00	2.3	Jan-01	100%
SO_2 (ppb)	172	48	Beaverlodge	0.8	0	0	26.3	Jan-26 04:00	6.2	Jan-26	100%
SO_2 (ppb)	172	48	Valleyview	0.6	0	0	12.5	Jan-01 13:00	3.0	Jan-18	100%
SO_2 (ppb)	172	48	Sunset House	0.4	0	0	2.0	Jan-05 18:00	0.7	Jan-24	100%
SO_2 (ppb)	172	48	Falher	0.3	0	0	3.8	Jan-30 18:00	0.7	Jan-12	100%
NO (ppb)			Henry Pirker	18.2	0	0	202.0	Jan-26 23:00	84.8	Jan-25	96%
NO_2 (ppb)	159	106	Henry Pirker	20.9	0	0	59.2	Jan-03 18:00	44.4	Jan-25	96%
NO_X (ppb)			Henry Pirker	39.1	0	0	260.4	Jan-26 23:00	129.0	Jan-25	96%
NO (ppb)			Beaverlodge	0.8	0	0	27.6	Jan-31 16:00	4.6	Jan-31	100%
NO_2 (ppb)	159	106	Beaverlodge	5.4	0	0	33.5	Jan-05 19:00	14.5	Jan-05	100%
NO_X (ppb)			Beaverlodge	6.3	0	0	48.6	Jan-31 16:00	17.5	Jan-05	100%
NO (ppb)			Sunset House	0.2	0	0	8.5	Jan-08 13:00	0.7	Jan-08	100%
NO_2 (ppb)	159	106	Sunset House	2.3	0	0	10.7	Jan-31 22:00	5.0	Jan-31	100%
NO_X (ppb)			Sunset House	2.4	0	0	14.8	Jan-08 13:00	5.3	Jan-31	100%
O_3 (ppb)	82		Henry Pirker	17.9	0	-	41.7	Jan-18 06:00	37.7	Jan-15	96%
O_3 (ppb) - 8-hr			Henry Pirker		0				40.8	Jan-18	
O_3 (ppb)	82		Beaverlodge	31.5	0	-	48.6	Jan-03 06:00	42.0	Jan-15	100%
O_3 (ppb) - 8-hr			Beaverlodge		0				47.1	Jan-03	
O_3 (ppb)	82		Sunset House	34.4	0	-	46.1	Jan-15 18:00	42.9	Jan-15	100%
O_3 (ppb) - 8-hr			Sunset House		0				45.4	Jan-15	
CO (ppm)	13		Henry Pirker	0.32	0	-	2.0	Jan-26 23:00	0.8	Jan-25	96%
CO (ppm) - 8-hr	5		Henry Pirker		0				1.1	Jan-26	

PAZA Monthly Continuous Data Summary – continued

Jan-2013	Peace Airshed Zone Assocation						Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
THC (ppm)			Henry Pirker	-	-	-	-	-	-	-	-
TRS (ppb)			Henry Pirker	0.6	-	-	6.0	Jan-27 05:00	2.4	Jan-27	96%
TRS (ppb)			Evergreen Park	0.5	-	-	4.9	Jan-27 13:00	2.4	Jan-27	100%
TRS (ppb)			Smoky Heights	0.3	-	-	6.9	Jan-27 06:00	2.3	Jan-27	99%
TRS (ppb)			Sunset House	0.5	-	-	9.5	Jan-12 14:00	2.7	Jan-12	100%
H_2S (ppb)	10	3	Valleyview	0.6	7	1	20.7	Jan-12 14:00	7.1	Jan-12	100%
H_2S (ppb)	10	3	Falher	0.2	0	0	6.6	Jan-14 06:00	1.9	Jan-14	100%
PM2.5 (µg/m3)	80	30	Henry Pirker	6.6	0	0	37.6	Jan-05 19:00	15.2	Jan-05	96%
PM2.5 (µg/m3)	80	30	Evergreen Park	2.9	0	0	19.8	Jan-24 17:00	10.4	Jan-24	98%
PM2.5 (µg/m3)	80	30	Smoky Heights	2.9	2	0	84.9	Jan-04 00:00	6.5	Jan-31	100%
PM2.5 (µg/m3)	80	30	Beaverlodge	5.0	0	0	17.4	Jan-31 17:00	10.6	Jan-31	100%
PM2.5 (µg/m3)	80	30	Sunset House	1.5	0	0	21.4	Jan-11 00:00	5.2	Jan-24	97%
RH (%)			Henry Pirker	68.3	-	-	88.6	Jan-17 04:00	80.5	Jan-16	96%
RH (%)			Evergreen Park	74.0	-	-	95.7	Jan-17 06:00	86.8	Jan-05	100%
RH (%)			Beaverlodge	78.1	-	-	100.0	Jan-16 22:00	92.3	Jan-05	100%
RH (%)			Valleyview	73.6	-	-	97.4	Jan-17 08:00	89.0	Jan-16	100%
SR (W/m^2)			Henry Pirker	25.6	-	-	304.6	Jan-25 13:00	72.8	Jan-25	96%
Temp (°C)			Henry Pirker	-10.3	-	-	7.0	Jan-15 15:00	6.1	Jan-15	96%
Temp (°C)			Evergreen Park	-9.6	-	-	8.5	Jan-15 15:00	7.8	Jan-15	100%
Temp (°C)			Smoky Heights	-10.9	-	-	6.1	Jan-03 10:00	5.0	Jan-15	100%
Temp (°C)			Beaverlodge	-8.0	-	-	7.5	Jan-15 04:00	6.7	Jan-15	100%
Temp (°C)			Valleyview	-8.7	-	-	10.3	Jan-15 16:00	9.2	Jan-15	100%
Temp (°C)			Sunset House	-8.1	-	-	6.9	Jan-15 17:00	5.9	Jan-15	100%
Temp (°C)			Falher	-12.1	-	-	5.4	Jan-17 14:00	4.0	Jan-15	100%

PAZA Monthly Continuous Data Summary – continued

Jan-2013	Peace Airshed Zone Assocation						Maximum Recorded Values				
							1-hr		24-hr / 8-hr		
WSPD s (km/hr)			Henry Pirker	8.0	-	-	41.0	Jan-15 15:00	31.6	Jan-15	96%
WSPD s (km/hr)			Evergreen Park	11.4	-	-	70.0	Jan-15 14:00	58.9	Jan-15	100%
WSPD s (km/hr)			Smoky Heights	12.4	-	-	51.0	Jan-17 15:00	35.0	Jan-15	100%
WSPD s (km/hr)			Beaverlodge	10.2	-	-	59.0	Jan-15 17:00	47.7	Jan-15	100%
WSPD s (km/hr)			Valleyview	5.6	-	-	26.0	Jan-15 07:00	22.9	Jan-15	100%
WSPD s (km/hr)			Sunset House	11.0	-	-	32.0	Jan-15 22:00	22.7	Jan-15	100%
WSPD s (km/hr)			Falher	18.0	-	-	43.0	Jan-18 09:00	30.2	Jan-17	96%
WSPD v (km/hr)			Henry Pirker	3.2	-	-	41.0	Jan-15 15:00	31.2	Jan-15	96%
WSPD v (km/hr)			Evergreen Park	5.5	-	-	70.0	Jan-15 14:00	58.6	Jan-15	100%
WSPD v (km/hr)			Smoky Heights	5.5	-	-	51.0	Jan-17 15:00	33.7	Jan-15	100%
WSPD v (km/hr)			Beaverlodge	4.3	-	-	59.0	Jan-15 17:00	47.5	Jan-15	100%
WSPD v (km/hr)			Valleyview	3.2	-	-	26.0	Jan-15 07:00	22.3	Jan-15	100%
WSPD v (km/hr)			Sunset House	4.4	-	-	32.0	Jan-15 22:00	21.9	Jan-15	100%
WSPD v (km/hr)			Falher	2.8	-	-	41.0	Jan-17 14:00	26.6	Jan-17	100%
WDIR			Henry Pirker	WNW	-	-	-	-	-	-	96%
WDIR			Evergreen Park	W	-	-	-	-	-	-	100%
WDIR			Smoky Heights	W	-	-	-	-	-	-	100%
WDIR			Beaverlodge	W	-	-	-	-	-	-	100%
WDIR			Valleyview	WNW	-	-	-	-	-	-	100%
WDIR			Sunset House	SSW	-	-	-	-	-	-	100%
WDIR			Falher	SW	-	-	-	-	-	-	100%

Continuous Network Equipment Summary

PAZA – Henry Pirker Station

General Station Issues

Routine monthly calibrations were performed on January 8th (CO), January 9th (SO_2, NO_X , O_3) and January 16th (TRS). Station experienced datalogger failure on January 23rd-24th, causing the loss of 23 hours of data. Datalogger maintenance done on February 25th.

Parameter	Make	Model	Notes
SO_2	TEI	43C	No operational issues observed.
NOx/NO/NO_2	TEI	42C	Analyzer maintenance done on January 5th.
O_3	TEI	49C	Analyzer maintenance done on January 5th.
CO	TEI	48C	No operational issues observed.
THC	TEI	51-CLT	Analyzer replacement completed February 6th. **AE Reference #266707.**
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 January 24th (SO_2, TRS).

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	Analyzer instability caused loss of data during the month. Repairs attempted on January 11th and sample filter replaced during calibration period.
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 January 30th (SO_2 and TRS).

Parameter	Make	Model	Notes
SO_2	TEI	43C	No operational issues observed.
TRS	TEI	43C	Calibration attempted on January 29th and was aborted due to low station temperature.
$PM_{2.5}$	R&P	1400AB	Two (2) hours were invalidated due to negative swings. Two (2) 1-hour exceedences were recorded in January **AE Reference #266178, 266340**
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 January 28th (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	No operational issues observed.
ET	n/a	n/a	Four (4) hours of data lost due to failure of datalogger to record.
RH	n/a	n/a	Four (4) hours of data lost due to failure of datalogger to record.
WS / WD	Blue Sky	857	No operational issues observed.

PAZA – Valleyview Station

General Station Issues

Routine monthly calibrations were performed on January 17th (SO_2 & H_2S).

Parameter	Make	Model	Notes
SO_2	TEI	43i	No operational issues observed.
H_2S	TEI	43A	Seven (7) 1-hour exceedences and one (1) 24-hour exceedence recorded on January 12th **AE Reference #266389**
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 January 18th (SO_2, O_3, NO_x, TRS, $PM_{2.5}$).

Parameter	Make	Model	Notes
SO_2	TEI	43i	No operational issues observed.
O_3	TEI	49C	No operational issues observed.
TRS	TEI	39C	Maintenance done on January 12th.
$PM_{2.5}$	R&P	1400AB	Twenty-two (22) hours were 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 January 19th (SO_2 & H_2S).

Parameter	Make	Model	Notes
SO_2	TEI	43i	Flash lamp replaced during calibration, calibration restarted and completed.
H_2S	Thermo	450i	Flash lamp replaced during calibration, calibration restarted and completed.
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

PAZA
Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 4.9 ppb on Jan 28 11:00 Maximum Daily Average: 1.9 ppb on Jan 28

Minimum Value: 0 ppb on Jan 6 15:00 Minimum Daily Average: 0.0 ppb on Jan 15
Maximum Diurnal Average: 0.7 ppb at hour 11 Minimum Diurnal Average: 0.4 ppb at hour 3
Monthly Average: 0.53 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.1$ Median = 0.4 $Q_3 = 0.7$ $P_{90} = 1.1$ $P_{99} = 2.9$

Hours in Service:	744
Hours of Data:	682
Hours of Missing Data:	62
Hours of Calibration:	35
Percent Operational Time:	96.4

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	1	1	1	0.3	0.8
2-Jan	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	A	0	0	1	1	1	1	1	0.5	1.2
3-Jan	1	1	1	1	1	1	1	0	0	0	0	1	1	0	0	A	1	1	1	1	1	0	0	0	0.6	1.2
4-Jan	0	0	0	0	0	0	0	0	1	1	1	1	1	1	A	1	1	1	0	0	0	0	0	0	0.6	1.4
5-Jan	0	0	0	0	0	1	0	0	0	0	0	1	1	A	1	1	0	1	1	1	1	1	1	0	0.5	0.9
6-Jan	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
7-Jan	0	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0	0	0	1	1	1	1	2	4	0.6	4.1
8-Jan	2	0	0	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	1	1	0.5	1.7
9-Jan	0	0	0	0	0	1	1	3	2	A	C	C	C	C	C	0	0	0	0	0	0	0	0	1	0.5	2.7
10-Jan	1	0	0	0	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0.2	0.8
11-Jan	0	0	0	0	0	0	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.4
12-Jan	0	0	0	0	0	0	A	0	0	1	1	0	0	0	1	1	1	1	0	0	1	0	0	0	0.5	0.8
13-Jan	0	0	0	0	0	A	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0.4	0.6
14-Jan	0	0	0	0	A	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
15-Jan	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
16-Jan	0	0	A	0	0	0	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
17-Jan	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
18-Jan	A	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1	0	0	A	0.3	1.2
19-Jan	0	0	1	2	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0.4	2.1
20-Jan	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
21-Jan	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	A	3	3	1	0.6	3.5
22-Jan	1	1	1	1	1	2	0	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.4	2.0
23-Jan	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	D	D	D	D	D	D	D	D	D	--	1.4
24-Jan	D	D	D	D	D	D	D	D	D	D	D	D	D	D	1	1	1	A	1	1	1	1	0	0	--	1.3
25-Jan	0	0	1	1	0	0	0	1	1	1	2	1	1	1	1	1	D	M	M	M	1	1	1	1	0.9	1.6
26-Jan	1	1	1	0	0	0	0	0	0	1	1	1	1	1	1	A	1	0	1	1	1	2	2	1	0.8	2.0
27-Jan	1	1	1	1	1	0	0	0	1	1	1	1	1	1	A	1	1	1	1	1	1	0	1	1	0.8	1.4
28-Jan	1	2	1	1	4	3	2	2	4	4	5	2	1	A	2	1	1	1	1	2	1	1	1	0	1.9	4.9
29-Jan	0	0	0	0	0	0	0	0	0	0	1	1	A	1	1	1	1	1	0	0	1	2	1	0	0.6	1.8
30-Jan	0	0	0	0	0	0	1	2	1	1	1	A	1	1	1	1	1	1	1	1	1	0	0	0	0.7	1.7
31-Jan	1	0	0	0	0	0	1	1	1	2	A	2	2	1	1	1	1	2	1	2	2	2	1	1	1.2	1.9
	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.5	0.6	0.6	0.7	0.7	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.6	0.6	0.7	0.6	0.6	Diurnal Average	
	1.7	1.6	1.5	2.1	3.5	3.0	2.3	2.7	4.1	4.0	4.9	2.0	1.7	1.5	1.8	1.3	1.5	1.5	1.5	1.7	1.5	3.5	2.6	4.1	Diurnal Maximum	

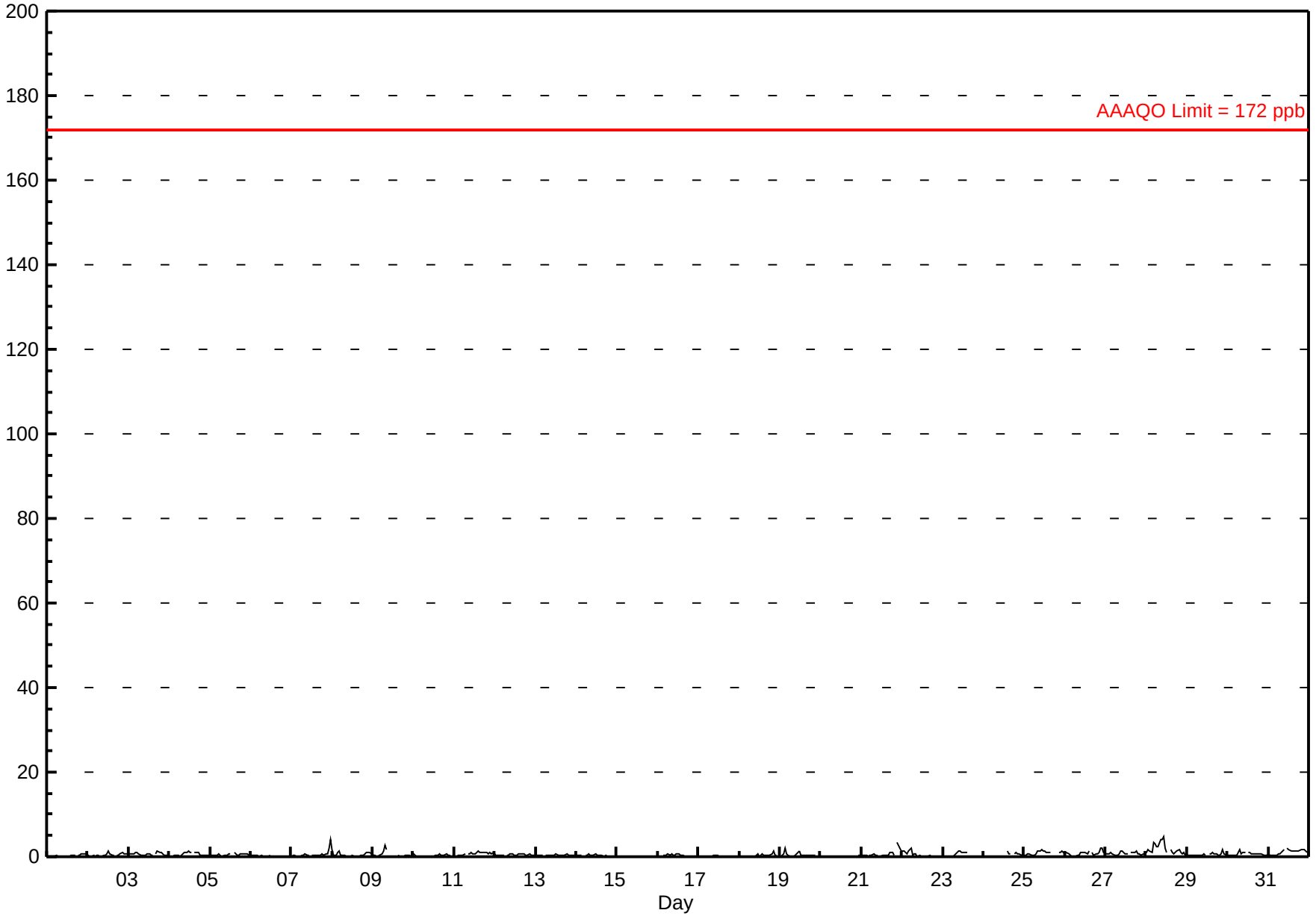
C - Calibration D - DAS Failure M - Maintenance A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - January 2013



Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - January 2013

Maximum Value: 7.4 ppb on Jan 8 00:00

Maximum Daily Average: 2.8 ppb on Jan 28

Minimum Value: 0 ppb on Jan 6 16:00

Minimum Daily Average: 0.4 ppb on Jan 15

Maximum Diurnal Average: 1.2 ppb at hour 22

Minimum Diurnal Average: 0.7 ppb at hour 3

Monthly Average: 0.98 ppb

Percentiles: $P_1 = 0.1$ $P_{10} = 0.4$ $Q_1 = 0.4$ Median = 0.9 $Q_3 = 1.3$ $P_{90} = 1.9$ $P_{99} = 4.3$

Hours in Service:	744
Hours of Data:	682
Hours of Missing Data:	62
Hours of Calibration:	35
Percent Operational Time:	96.4

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	1	1	1	0.6	1.1
2-Jan	1	0	0	0	0	1	1	0	0	1	0	1	2	1	0	1	A	1	1	1	1	1	1	1	0.9	1.7
3-Jan	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	A	1	2	1	1	1	1	0	0	1.0	2.4
4-Jan	0	1	0	0	0	1	0	1	1	1	1	2	1	1	A	1	1	1	0	0	1	0	0	0	0.9	2.5
5-Jan	1	1	0	0	1	1	1	0	0	0	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.9	1.4
6-Jan	1	1	1	1	1	0	1	0	1	1	1	1	A	1	1	0	0	0	0	0	0	1	0	0	0.5	1.2
7-Jan	1	1	1	0	0	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	4	7	1.2	7.4
8-Jan	4	1	1	4	3	1	0	0	0	0	A	0	0	1	0	0	0	1	1	1	1	1	1	1	1.2	3.9
9-Jan	1	0	0	0	0	1	2	4	2	A	C	C	C	C	C	1	0	0	0	1	1	1	0	2	1.1	4.0
10-Jan	2	1	0	0	0	0	0	0	A	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0.6	2.0
11-Jan	0	1	0	1	1	1	1	A	1	1	2	1	1	1	2	1	1	2	1	1	1	1	1	1	1.2	1.8
12-Jan	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
13-Jan	1	1	1	0	0	A	1	0	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
14-Jan	1	1	1	1	A	1	1	1	1	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0.6	1.6
15-Jan	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
16-Jan	0	0	A	1	1	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.6	1.4
17-Jan	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9
18-Jan	A	0	0	0	0	0	1	0	0	0	1	1	1	2	0	0	0	0	0	2	2	0	0	A	0.7	2.0
19-Jan	0	0	1	4	1	1	0	0	0	1	1	2	1	1	0	0	1	0	0	0	0	0	A	0	0.9	4.5
20-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.5	0.5
21-Jan	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	1	1	1	2	1	A	5	5	2	1.1	5.4
22-Jan	2	2	1	1	2	3	1	1	1	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0	0.9	3.4
23-Jan	0	0	0	0	0	0	0	1	2	2	2	1	1	1	1	D	D	D	D	D	D	D	D	D	--	1.8
24-Jan	D	D	D	D	D	D	D	D	D	D	D	D	D	D	2	1	1	A	1	1	1	1	1	1	--	2.0
25-Jan	1	1	1	1	1	0	1	1	2	2	2	2	2	2	1	1	D	M	M	M	1	2	2	2	1.4	2.4
26-Jan	1	2	1	1	0	0	1	1	1	1	1	1	1	1	2	A	2	1	1	1	1	3	2	2	1.4	2.9
27-Jan	1	1	1	1	1	1	1	1	1	2	2	1	1	1	A	1	1	1	2	1	1	1	1	1	1.3	2.4
28-Jan	2	2	2	2	4	4	3	4	5	5	6	3	1	A	3	2	2	1	2	2	2	1	2	1	2.8	5.9
29-Jan	0	1	1	1	1	1	1	0	1	1	1	1	A	1	1	1	1	1	1	1	4	4	1	1	1.1	3.7
30-Jan	1	1	0	0	0	1	1	2	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1.0	2.3
31-Jan	1	1	0	1	1	1	1	1	2	2	A	2	2	2	1	1	2	2	2	2	2	2	2	1	1.6	2.4
	1.0	0.8	0.7	0.9	0.9	0.9	0.9	1.0	1.1	1.1	1.1	1.1	1.0	0.9	1.0	0.9	0.9	0.9	0.9	1.0	1.1	1.2	1.1	1.2	Diurnal Average	
	3.7	2.4	1.9	4.5	4.4	3.9	3.4	4.0	4.9	4.9	5.9	3.4	2.0	2.0	3.0	2.0	2.0	2.4	2.4	2.1	3.7	5.4	4.9	7.4	Diurnal Maximum	

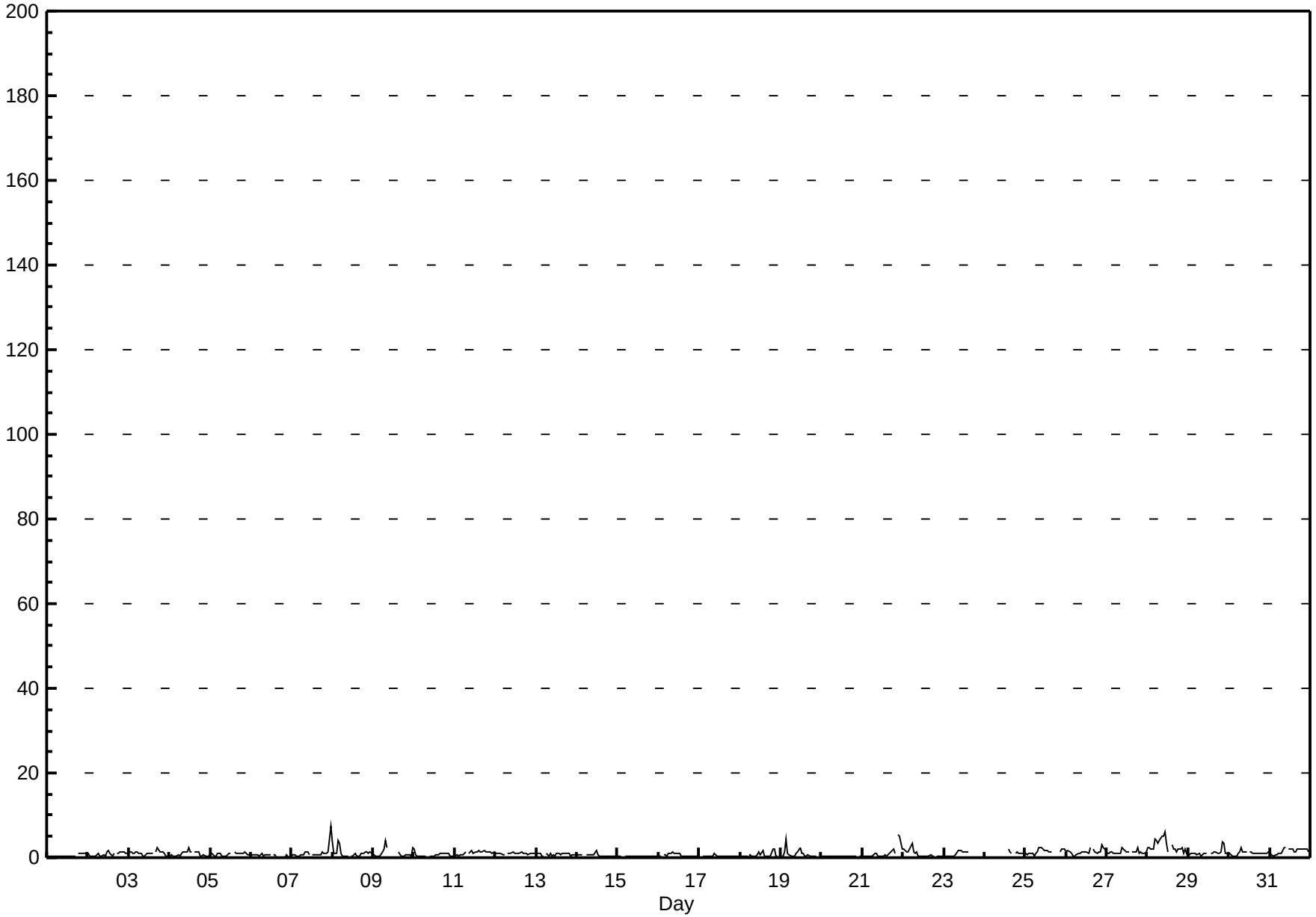
C - Calibration D - DAS Failure M - Maintenance A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - January 2013

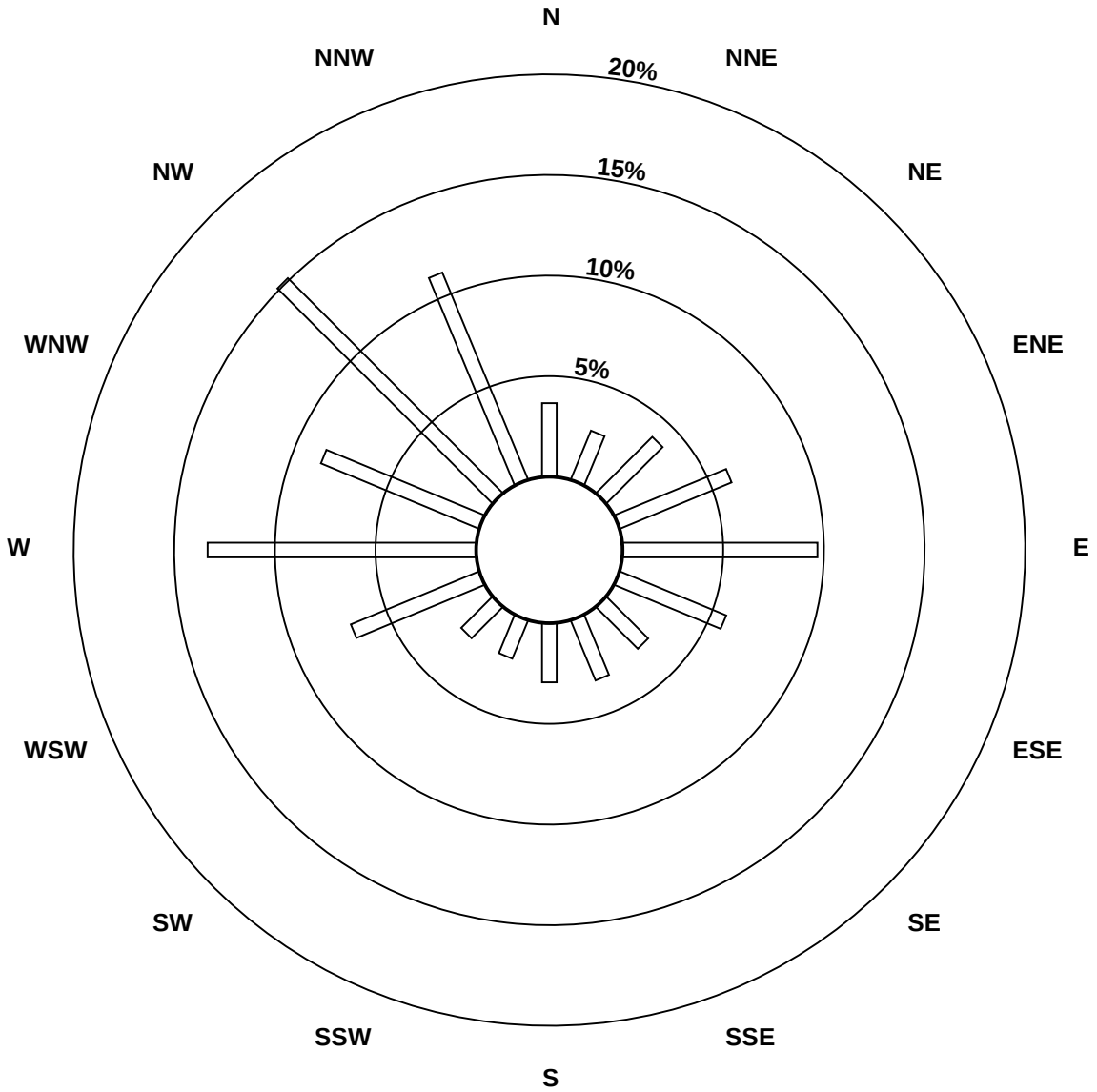


Peace Airshed Zone Association

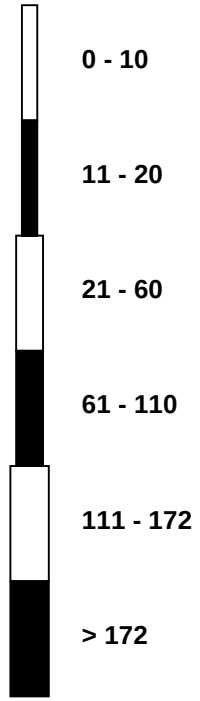
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Henry Pirker - January 2013



Pollutant Classes (ppb)

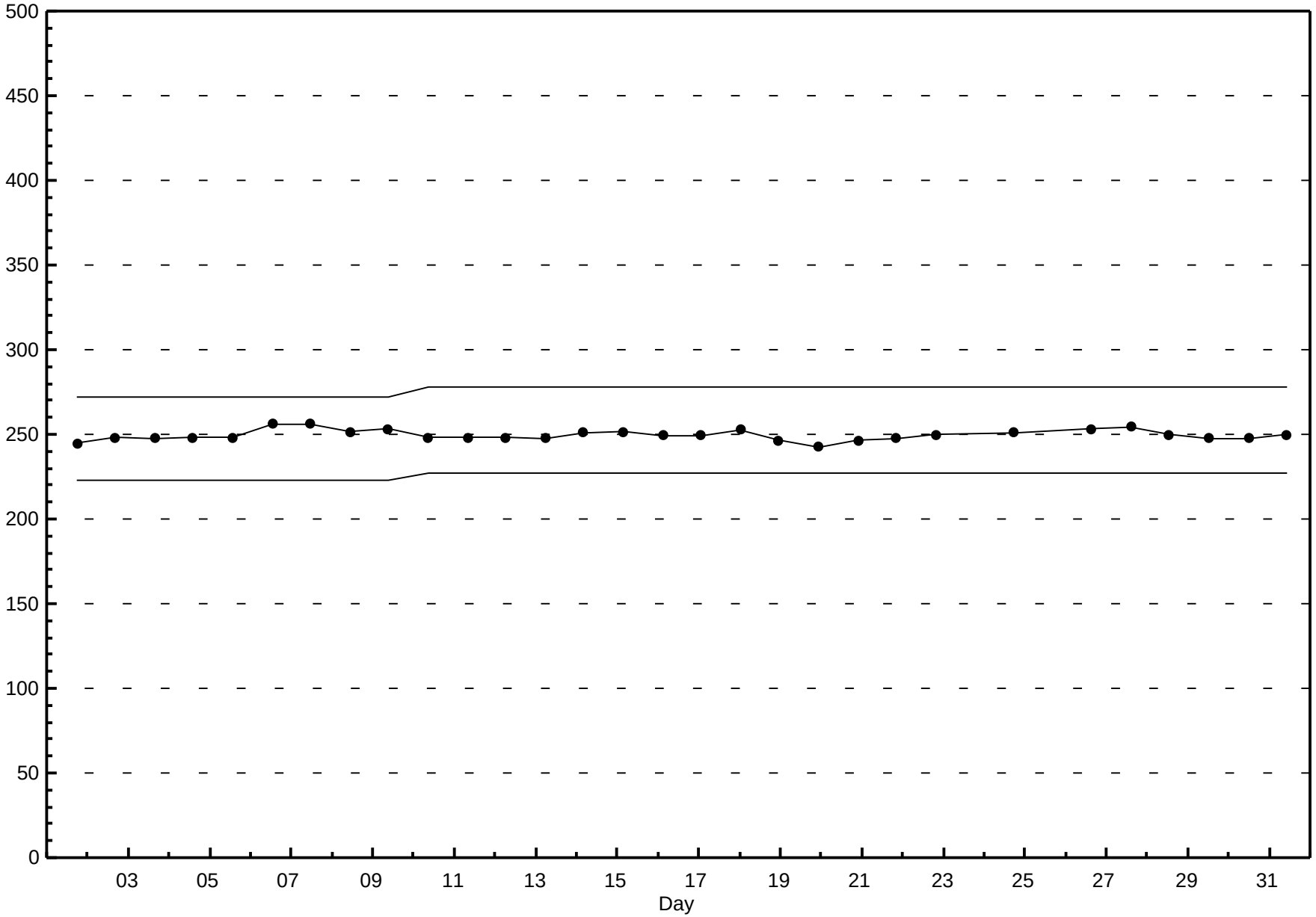


Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Henry Pirker - January 2013



Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 6.0 ppb on Jan 27 05:00 Maximum Daily Average: 2.4 ppb on Jan 27

Minimum Value: 0 ppb on Jan 17 18:00 Minimum Daily Average: 0.2 ppb on Jan 17
Maximum Diurnal Average: 0.7 ppb at hour 4 Minimum Diurnal Average: 0.4 ppb at hour 15
Monthly Average: 0.58 ppb Percentiles: $P_1 = 0.1$ $P_{10} = 0.2$ $Q_1 = 0.3$ Median = 0.4 $Q_3 = 0.7$ $P_{90} = 1.0$ $P_{99} = 4.1$

Hours in Service:	744
Hours of Data:	682
Hours of Missing Data:	62
Hours of Calibration:	35
Percent Operational Time:	96.4

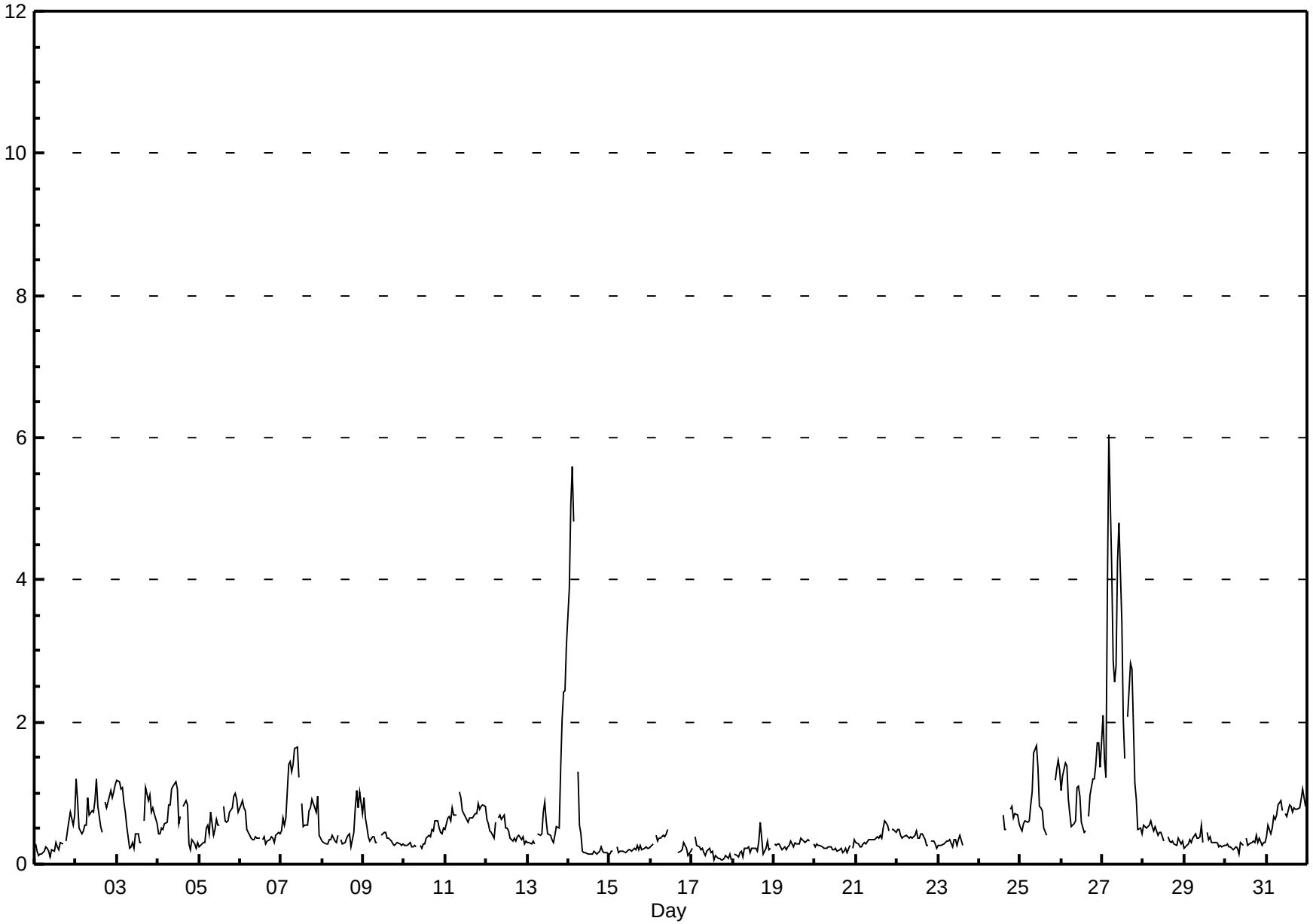
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	1	1	1	0.3	0.7
2-Jan	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	0	A	1	1	1	1	1	1	1	0.8	1.2
3-Jan	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	A	1	1	1	1	1	1	1	1	0.7	1.2
4-Jan	0	0	1	0	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0	0	0	0	0	0	0.6	1.1
5-Jan	0	0	0	0	1	1	0	1	0	0	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.6	1.0
6-Jan	1	1	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.5	0.9
7-Jan	0	1	1	1	1	1	1	1	2	2	1	A	1	1	1	1	1	1	1	1	1	1	0	0	0.9	1.7
8-Jan	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	1	1	0.5	1.0
9-Jan	1	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.9
10-Jan	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	0.4	0.6
11-Jan	0	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
12-Jan	1	1	0	0	0	1	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.7
13-Jan	0	0	0	0	0	A	0	0	0	1	1	1	0	0	0	0	0	1	1	1	2	2	2	3	0.8	3.1
14-Jan	4	5	6	5	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1	5.6
15-Jan	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
16-Jan	0	0	A	0	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0	0.3	0.5
17-Jan	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
18-Jan	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	A	0.2	0.6
19-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.3	0.4
20-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	0.3
21-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	A	0	0	0	0.4	0.6
22-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.4	0.5
23-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	D	D	D	D	D	D	D	D	D	--	0.4
24-Jan	D	D	D	D	D	D	D	D	D	D	D	D	D	D	1	0	0	A	1	1	1	1	1	1	--	0.8
25-Jan	1	0	1	1	1	1	1	1	2	2	1	1	1	1	1	0	D	M	M	M	1	1	1	1	0.9	1.7
26-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	A	1	1	1	1	1	2	2	1	1.0	1.7
27-Jan	2	1	1	4	6	4	3	3	3	4	5	3	2	1	A	2	3	3	2	1	1	0	1	0	2.4	6.0
28-Jan	1	1	1	1	1	1	0	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.4	0.6
29-Jan	0	0	0	0	0	0	0	0	0	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5
30-Jan	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
31-Jan	0	1	0	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1
	0.6	0.7	0.6	0.7	0.6	0.6	0.5	0.5	0.6	0.7	0.7	0.6	0.5	0.4	0.4	0.5	0.5	0.6	0.5	0.6	0.6	0.6	0.6	0.6	Diurnal Average	
	3.9	5.0	5.6	4.8	6.0	4.2	2.9	2.6	2.8	4.2	4.8	3.4	2.0	1.5	0.8	2.1	2.8	2.7	2.0	1.3	2.0	2.4	2.4	3.1	Diurnal Maximum	

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

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - January 2013



Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - January 2013

Maximum Value: 10.0 ppb on Jan 27 05:00

Maximum Daily Average: 3.5 ppb on Jan 27

Minimum Value: 0 ppb on Jan 15 01:00

Minimum Daily Average: 0.5 ppb on Jan 17

Maximum Diurnal Average: 1.3 ppb at hour 4

Minimum Diurnal Average: 0.8 ppb at hour 15

Monthly Average: 1.04 ppb

Percentiles: $P_1 = 0.5$ $P_{10} = 0.6$ $Q_1 = 0.7$ Median = 0.8 $Q_3 = 1.1$ $P_{90} = 1.5$ $P_{99} = 5.8$

Hours in Service:	744
Hours of Data:	682
Hours of Missing Data:	62
Hours of Calibration:	35
Percent Operational Time:	96.4

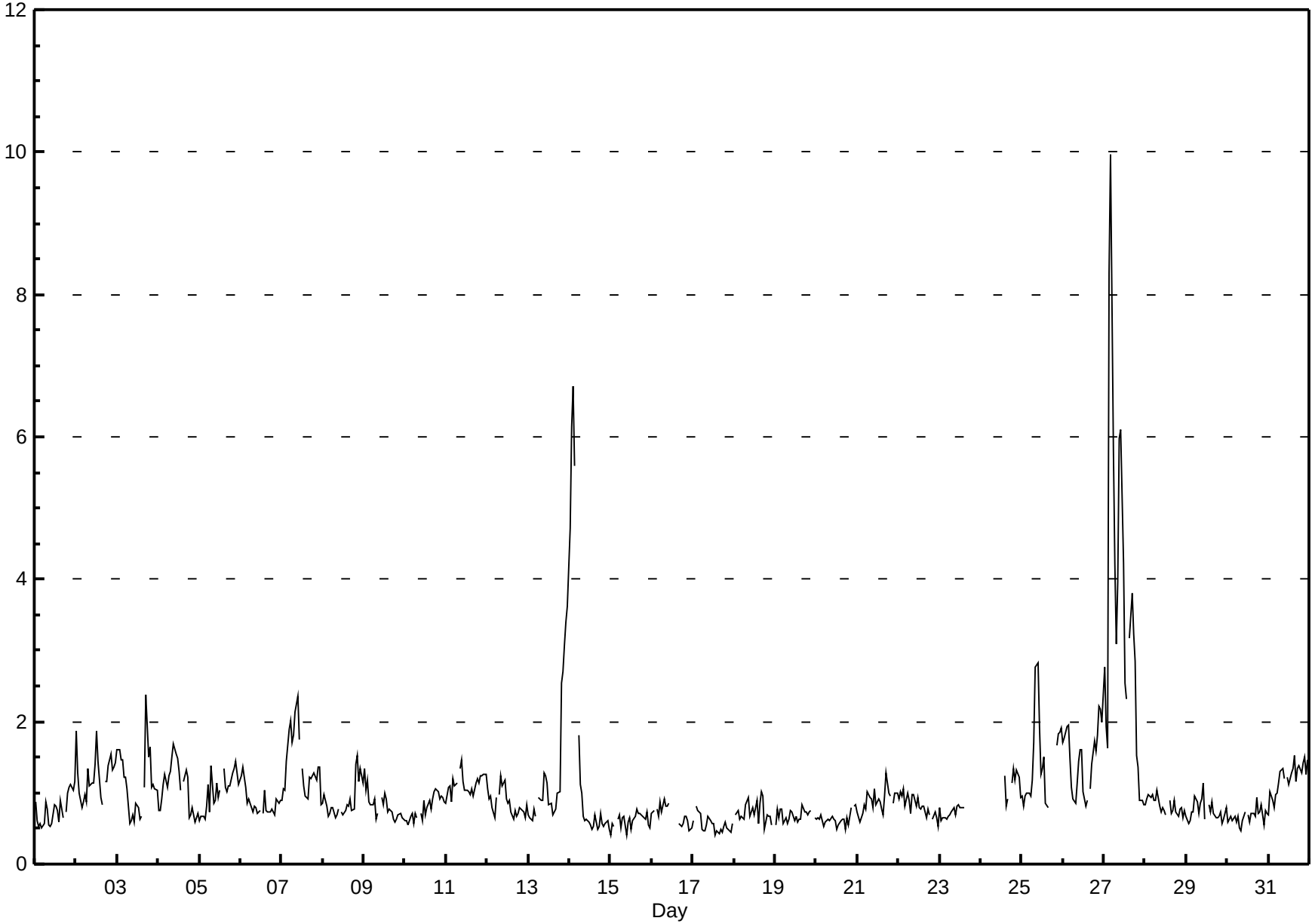
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jan	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.8	1.2
2-Jan	2	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	A	1	1	1	2	1	1	1	1.2	1.9
3-Jan	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	2	2	2	1	1	1	1	1.1	2.4
4-Jan	1	1	1	1	1	1	1	1	2	2	2	1	1	1	A	1	1	1	1	1	1	1	1	1	1.1	1.7
5-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1.0	1.4
6-Jan	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	1.4
7-Jan	1	1	1	1	2	2	2	2	2	2	2	A	1	1	1	1	1	1	1	1	1	1	1	1	1.4	2.4
8-Jan	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	2	1	1	1	0.9	1.5
9-Jan	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
10-Jan	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	1.1
11-Jan	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.5
12-Jan	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
13-Jan	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	3	3	4	1.3	3.6
14-Jan	5	6	7	6	A	2	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	0	1.6	6.7
15-Jan	0	1	1	A	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8
16-Jan	1	1	A	1	1	1	1	1	1	1	1	C	C	C	C	C	1	1	1	1	1	1	0	1	0.7	0.9
17-Jan	1	A	1	1	1	0	0	0	1	1	1	1	1	0	0	0	0	0	1	1	1	0	0	1	0.5	0.8
18-Jan	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	A	0.7	1.0
19-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.7	0.8
20-Jan	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	A	1	1	0.6	0.8
21-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.9	1.3
22-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.8	1.1
23-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	D	D	D	D	D	D	D	D	D	--	0.8
24-Jan	D	D	D	D	D	D	D	D	D	D	D	D	D	D	1	1	1	A	1	1	1	1	1	1	--	1.3
25-Jan	1	1	1	1	1	1	1	2	3	3	2	1	1	2	1	1	D	M	M	M	2	2	2	2	1.5	2.8
26-Jan	2	2	2	2	1	1	1	1	1	1	2	2	1	1	1	A	1	1	2	2	2	2	2	2	1.5	2.2
27-Jan	3	2	2	8	10	6	4	3	4	6	6	4	3	2	A	3	4	3	3	2	1	1	1	1	3.5	10.0
28-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.8	1.0
29-Jan	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1
30-Jan	1	1	1	1	1	1	1	1	0	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
31-Jan	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	2	1	1	1	1	1	2	1	1	1.2	1.5
	1.1	1.1	1.1	1.3	1.2	1.1	1.0	1.0	1.1	1.2	1.2	1.0	0.9	0.9	0.8	0.9	0.9	1.0	1.0	1.0	1.1	1.1	1.0	1.0	Diurnal Average	
	4.7	6.1	6.7	8.3	10.0	5.8	4.2	3.1	4.0	6.0	6.1	4.2	2.5	2.3	1.3	3.2	3.8	3.2	2.8	2.5	2.7	3.1	3.4	3.6	Diurnal Maximum	

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

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - January 2013

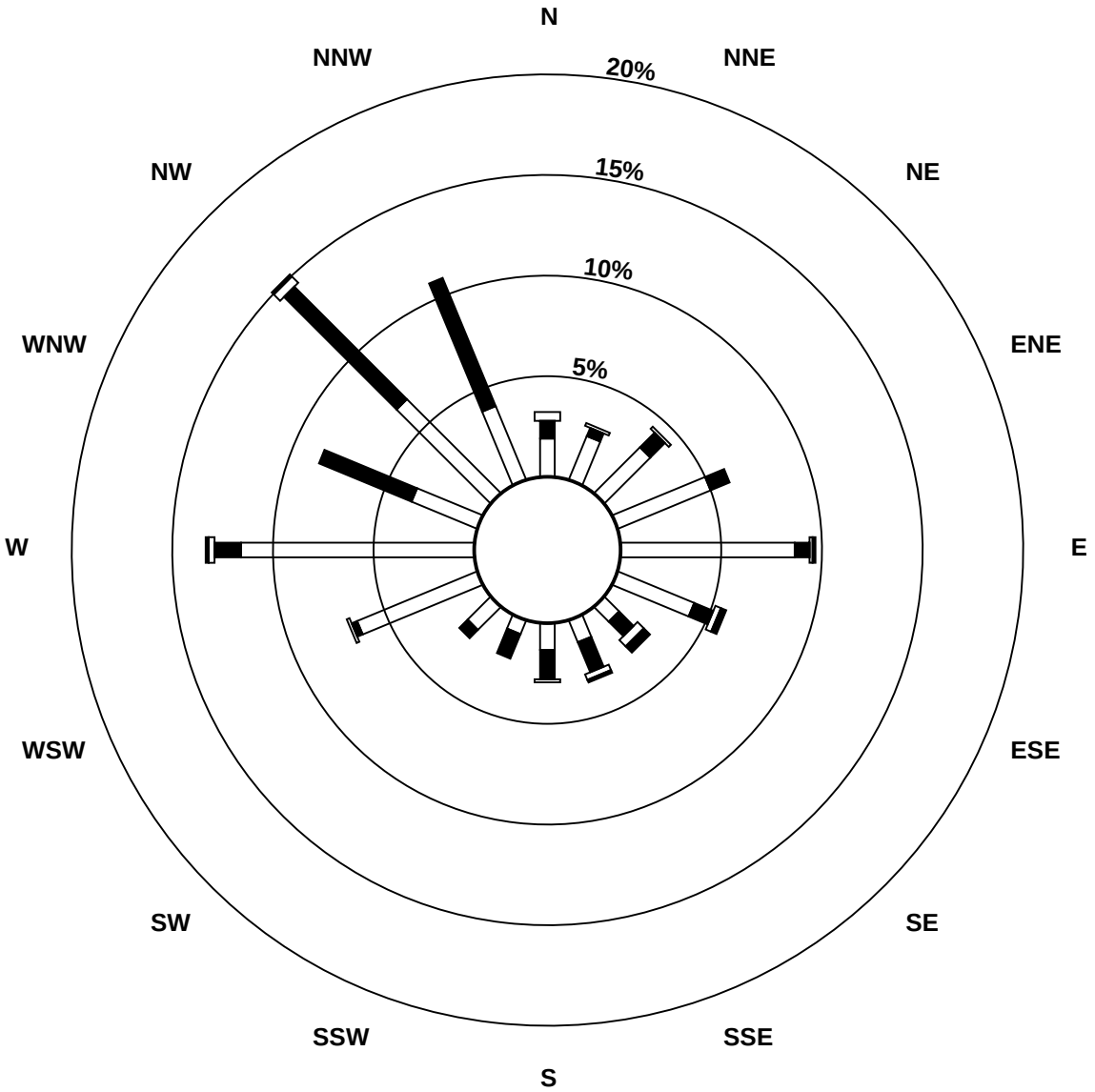


Peace Airshed Zone Association

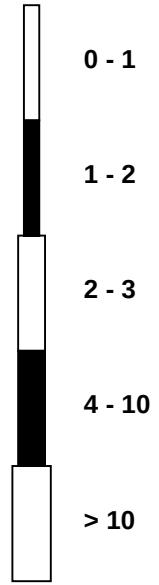
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Henry Pirker - January 2013



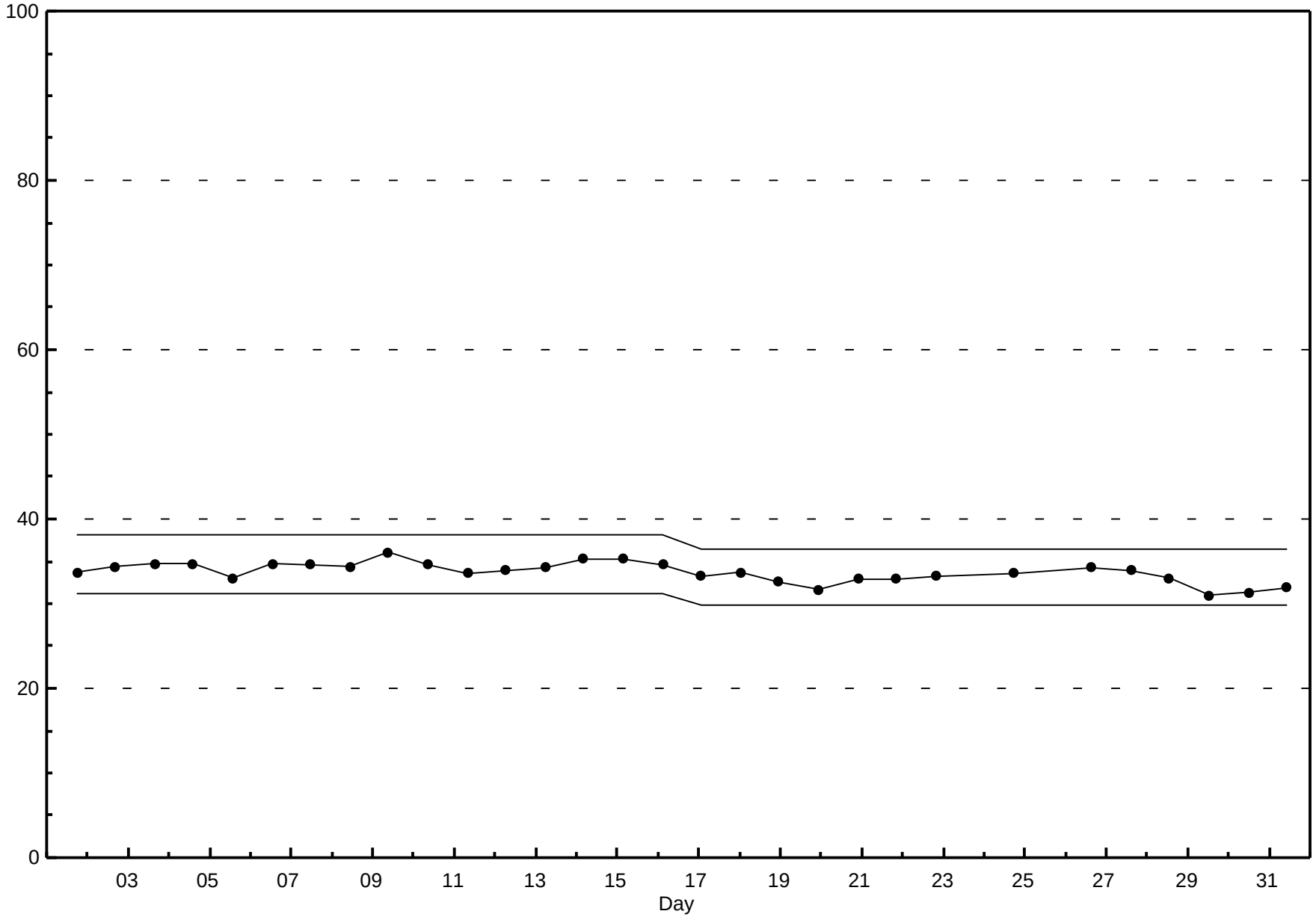
Pollutant Classes (ppb)



Span Responses

Total Reduced Sulphur (TRS)

Henry Pirker - January 2013



Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 59.2 ppb on Jan 3 18:00 Maximum Daily Average: 44.4 ppb on Jan 25

Minimum Value: 1 ppb on Jan 8 03:00 Minimum Daily Average: 3.9 ppb on Jan 15
Maximum Diurnal Average: 25.3 ppb at hour 19 Minimum Diurnal Average: 16.7 ppb at hour 14
Monthly Average: 20.91 ppb Percentiles: $P_1 = 2.0$ $P_{10} = 4.1$ $Q_1 = 6.5$ Median = 15.1 $Q_3 = 34.4$ $P_{90} = 44.1$ $P_{99} = 57.2$

Hours in Service:	744
Hours of Data:	677
Hours of Missing Data:	67
Hours of Calibration:	37
Percent Operational Time:	96.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jan	2	2	2	3	2	3	3	3	4	4	4	5	5	4	8	24	28	A	38	39	48	50	48	48	16.4	49.8
2-Jan	43	31	16	28	33	36	36	31	27	36	25	27	51	44	25	40	A	40	41	47	52	47	43	43	36.6	51.7
3-Jan	46	44	39	43	50	48	44	12	15	23	24	41	45	38	43	A	52	59	58	57	54	49	44	39	42.0	59.2
4-Jan	32	26	17	21	37	38	30	35	44	46	46	47	31	37	A	42	48	45	14	14	24	12	6	16	30.7	47.8
5-Jan	13	18	30	38	43	43	38	34	M	M	M	20	18	A	36	29	31	35	40	41	42	41	38	33	33.0	42.9
6-Jan	33	34	32	27	21	19	18	13	9	14	13	9	A	9	11	6	8	9	12	9	11	21	35	41	18.1	40.6
7-Jan	40	46	43	36	30	37	42	41	47	42	36	A	33	25	31	38	47	47	48	44	44	48	19	8	37.9	47.9
8-Jan	6	3	1	3	3	5	10	18	14	17	A	16	13	10	9	8	15	14	45	53	55	52	55	49	20.7	55.0
9-Jan	41	27	18	18	18	13	14	13	14	A	C	C	C	C	C	C	C	11	8	5	5	5	5	5	--	41.1
10-Jan	8	6	2	3	4	5	6	17	A	21	15	10	12	18	26	24	25	32	39	40	31	28	26	27	18.4	40.1
11-Jan	26	21	24	24	24	24	26	A	35	34	26	20	18	17	18	24	28	30	31	30	29	30	29	34	26.2	35.5
12-Jan	33	31	25	32	33	30	A	43	43	41	45	33	24	18	24	24	39	37	36	35	19	14	8	14	29.6	45.3
13-Jan	13	36	24	19	20	A	46	38	35	32	32	26	27	25	24	32	42	47	49	44	42	44	43	42	34.0	48.5
14-Jan	42	39	37	36	A	34	33	35	12	11	8	11	8	7	8	8	7	6	4	3	4	3	3	4	15.8	42.2
15-Jan	2	2	2	A	3	3	4	5	6	6	6	6	5	5	4	4	4	4	4	4	4	3	3	2	3.9	6.4
16-Jan	2	4	A	3	2	3	5	9	12	11	15	11	12	14	7	8	11	22	35	23	9	13	8	6	10.7	35.5
17-Jan	9	A	18	10	11	15	14	24	18	33	27	25	14	5	6	8	6	7	5	3	2	2	2	2	11.7	33.1
18-Jan	A	3	1	2	2	2	4	6	7	5	6	7	6	5	8	7	7	10	9	7	5	4	5	A	5.3	9.9
19-Jan	4	8	8	10	6	6	7	7	8	8	10	9	8	6	6	8	9	12	8	10	15	8	A	7	8.2	15.3
20-Jan	4	5	5	5	5	3	5	6	5	5	6	6	5	5	6	6	6	8	6	7	7	A	6	6	5.6	8.5
21-Jan	6	6	6	5	6	8	15	19	18	13	8	6	7	7	19	20	23	29	25	13	A	19	8	7	12.9	29.4
22-Jan	13	10	6	9	10	6	6	8	10	7	6	5	6	6	6	6	6	7	7	A	7	8	6	5	7.3	12.9
23-Jan	5	4	4	3	4	5	8	9	11	12	15	8	8	8	10	D	D	D	D	D	D	D	D	D	--	14.9
24-Jan	D	D	D	D	D	D	D	D	D	D	D	D	D	D	36	25	27	A	37	42	36	36	36	32	--	42.3
25-Jan	29	32	39	40	39	30	35	41	55	56	57	50	50	48	37	33	D	M	M	M	52	56	58	53	44.4	58.0
26-Jan	39	45	39	33	28	28	29	34	38	49	52	49	38	28	28	A	43	41	43	47	52	59	59	40	40.9	58.7
27-Jan	36	37	41	45	36	34	33	35	38	53	54	38	33	35	A	49	50	56	30	9	8	6	6	8	33.5	55.8
28-Jan	6	5	4	5	5	6	8	10	10	9	7	4	4	A	5	6	6	7	5	4	3	3	3	2	5.5	9.7
29-Jan	2	3	4	4	7	19	28	33	26	28	27	14	A	6	7	6	6	9	10	9	7	7	11	13	12.5	33.0
30-Jan	11	9	6	8	12	7	5	9	14	9	6	A	8	7	7	7	9	11	15	11	10	11	12	21	9.9	21.0
31-Jan	31	15	17	15	15	16	25	29	37	31	A	27	16	14	15	18	33	35	33	31	34	40	40	32	26.1	40.4
	19.9	19.1	17.7	18.2	17.6	18.1	19.9	21.4	21.8	23.5	22.2	19.7	18.6	16.7	16.8	19.0	22.9	24.8	25.3	24.3	24.5	24.8	23.0	22.0	Diurnal Average	
	45.6	46.5	43.2	45.1	50.0	47.6	46.0	43.4	55.0	55.8	57.3	49.8	50.6	48.2	43.5	49.4	51.7	59.2	58.0	57.3	55.0	58.7	58.7	52.9	Diurnal Maximum	

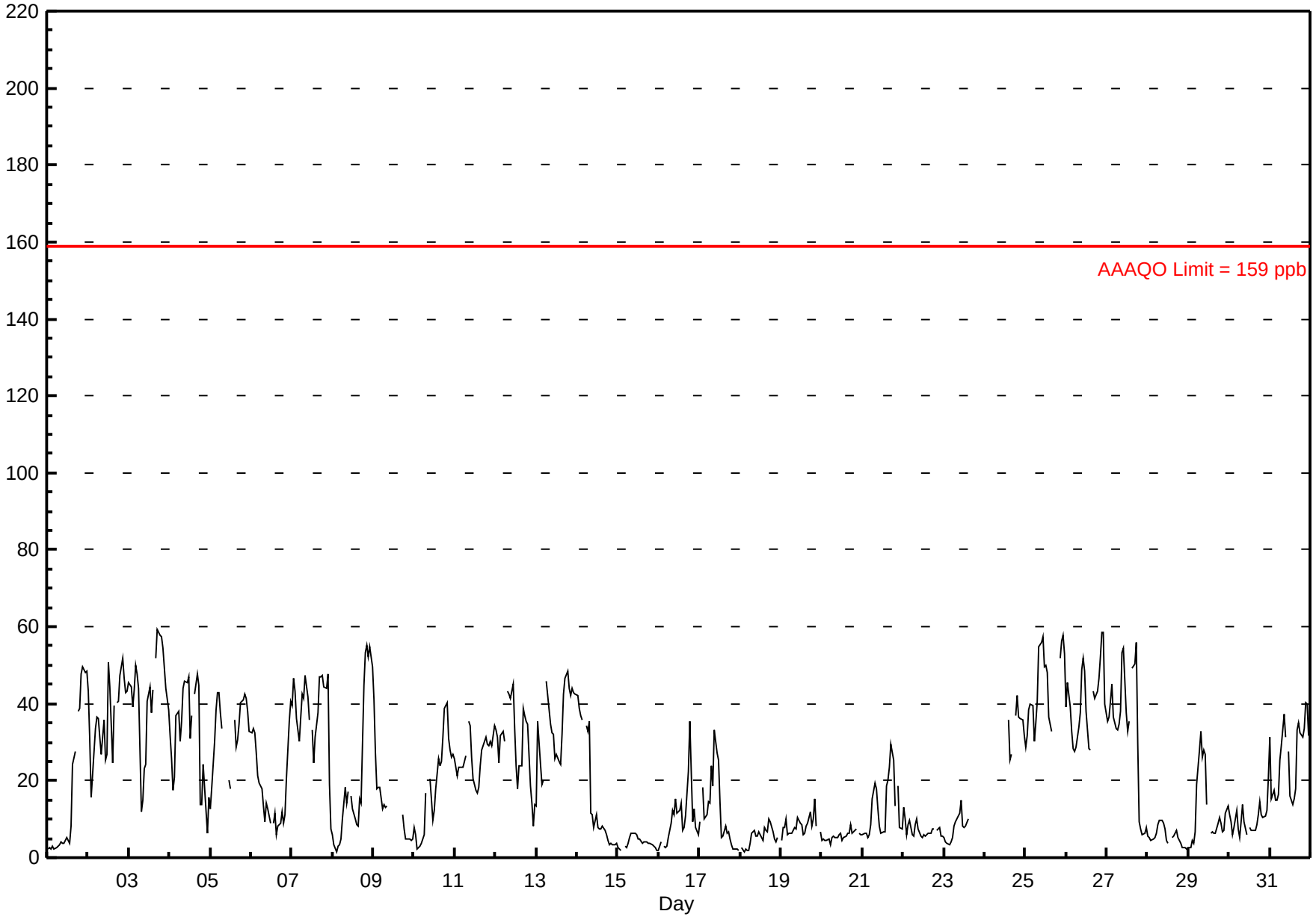
C - Calibration D - DAS Failure M - Maintenance A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb

Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - January 2013



PAZA
Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - January 2013

Maximum Value: 84.3 ppb on Jan 25 09:00

Maximum Daily Average: 53.9 ppb on Jan 25

Minimum Value: 2 ppb on Jan 8 03:00

Minimum Daily Average: 5.5 ppb on Jan 15

Maximum Diurnal Average: 32.0 ppb at hour 11

Minimum Diurnal Average: 22.0 ppb at hour 5

Monthly Average: 26.84 ppb

Percentiles: P_1 = 2.9 P_{10} = 6.2 Q_1 = 10.3 Median = 23.5 Q_3 = 41.3 P_{90} = 51.2 P_{99} = 68.0

Hours in Service:	744
Hours of Data:	677
Hours of Missing Data:	67
Hours of Calibration:	37
Percent Operational Time:	96.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	3	3	3	4	3	4	4	4	6	6	12	8	12	6	16	36	37	A	48	49	50	53	51	52	20.5	52.7
2-Jan	51	39	27	36	40	42	43	37	36	40	38	34	61	52	35	44	A	42	43	54	56	54	46	48	43.3	60.8
3-Jan	51	55	43	52	56	56	55	37	39	44	35	55	54	46	51	A	55	78	64	69	59	53	48	47	52.3	77.8
4-Jan	39	35	25	36	42	42	36	40	52	50	52	60	39	40	A	50	52	51	34	20	36	30	14	26	39.2	60.4
5-Jan	25	27	40	42	47	48	44	37	M	M	M	27	23	A	42	38	40	41	42	44	45	44	40	35	38.6	48.2
6-Jan	33	35	36	29	27	24	26	21	14	21	21	13	A	12	15	9	12	11	17	13	16	44	44	44	23.4	44.3
7-Jan	47	49	48	41	38	42	47	49	59	60	46	A	50	38	38	42	52	48	51	50	54	54	49	13	46.3	60.5
8-Jan	8	8	2	8	7	8	19	22	20	22	A	19	17	15	11	10	21	35	55	56	61	56	58	56	25.8	60.8
9-Jan	47	37	33	24	25	18	20	17	18	A	C	C	C	C	C	C	C	16	14	10	9	9	6	8	--	47.3
10-Jan	18	15	3	8	7	7	8	25	A	27	21	14	15	28	32	33	32	38	42	44	37	30	29	29	23.5	44.0
11-Jan	30	25	26	26	26	25	34	A	40	38	38	25	21	21	22	27	30	33	33	31	34	34	32	37	29.9	40.0
12-Jan	36	34	33	42	44	37	A	46	48	49	58	43	29	23	38	34	46	47	42	43	26	23	15	21	37.4	58.4
13-Jan	18	42	31	21	30	A	50	49	37	38	36	32	36	35	34	36	48	51	53	47	44	47	44	44	39.3	52.9
14-Jan	44	43	40	39	A	38	41	47	18	18	16	17	14	11	13	12	10	7	6	5	5	4	5	5	19.9	46.9
15-Jan	3	3	3	A	5	3	6	8	9	8	9	9	6	6	5	6	5	5	5	5	5	4	4	3	5.5	9.4
16-Jan	2	12	A	5	4	4	10	14	19	19	20	16	21	21	13	14	27	36	41	32	15	21	14	9	17.0	40.5
17-Jan	18	A	24	16	16	20	21	37	29	46	39	35	23	12	8	12	15	9	7	4	3	3	3	3	17.6	45.7
18-Jan	A	4	2	3	3	3	5	9	12	8	9	20	14	8	16	11	12	17	17	11	10	6	9	A	9.5	20.2
19-Jan	6	11	14	13	10	16	9	10	14	13	49	30	21	9	9	23	39	26	13	15	32	11	A	10	17.4	48.9
20-Jan	7	10	8	7	8	5	8	11	8	8	16	13	10	8	10	10	10	13	9	9	11	A	11	9	9.5	16.4
21-Jan	10	8	11	8	9	12	22	25	23	24	17	10	9	10	36	31	28	40	38	21	A	33	16	10	19.6	39.7
22-Jan	18	15	9	12	12	8	9	18	18	14	10	8	15	8	11	12	10	10	12	A	12	11	9	10	11.7	18.4
23-Jan	12	6	6	6	6	7	12	13	19	22	31	11	11	13	15	D	D	D	D	D	D	D	D	D	--	31.0
24-Jan	D	D	D	D	D	D	D	D	D	D	D	D	D	D	43	31	33	A	41	48	43	42	39	37	--	48.2
25-Jan	40	35	43	45	43	35	42	57	84	75	68	55	56	60	42	48	D	M	M	M	57	63	65	66	53.9	84.3
26-Jan	45	57	54	40	33	34	36	39	47	56	56	54	50	31	38	A	49	44	50	53	59	64	65	59	48.3	65.3
27-Jan	40	42	48	52	43	37	36	38	47	80	78	47	47	48	A	55	56	61	57	15	11	10	10	14	42.2	79.6
28-Jan	7	8	5	5	6	8	14	14	13	14	9	6	5	A	8	9	10	12	8	6	4	4	4	3	7.9	14.3
29-Jan	5	4	6	5	10	25	33	40	37	39	37	19	A	8	10	9	10	14	19	13	9	10	18	19	17.2	39.8
30-Jan	16	13	9	10	17	11	10	34	23	14	9	A	13	9	10	9	12	20	21	15	16	17	17	36	15.7	36.2
31-Jan	36	26	22	20	20	24	38	34	41	36	A	39	24	22	23	31	37	38	37	34	38	44	42	38	32.4	44.0
	24.7	24.0	22.6	22.6	22.0	22.2	25.4	28.6	29.6	31.7	32.0	26.6	25.7	22.2	23.0	25.3	29.2	31.3	31.7	29.2	29.5	30.3	27.9	27.3	Diurnal Average	
	51.0	57.1	53.8	52.3	56.3	56.0	54.8	56.8	84.3	79.6	77.6	60.4	60.8	59.5	51.2	55.1	55.6	77.8	63.5	69.0	60.8	64.1	65.4	65.9	Diurnal Maximum	

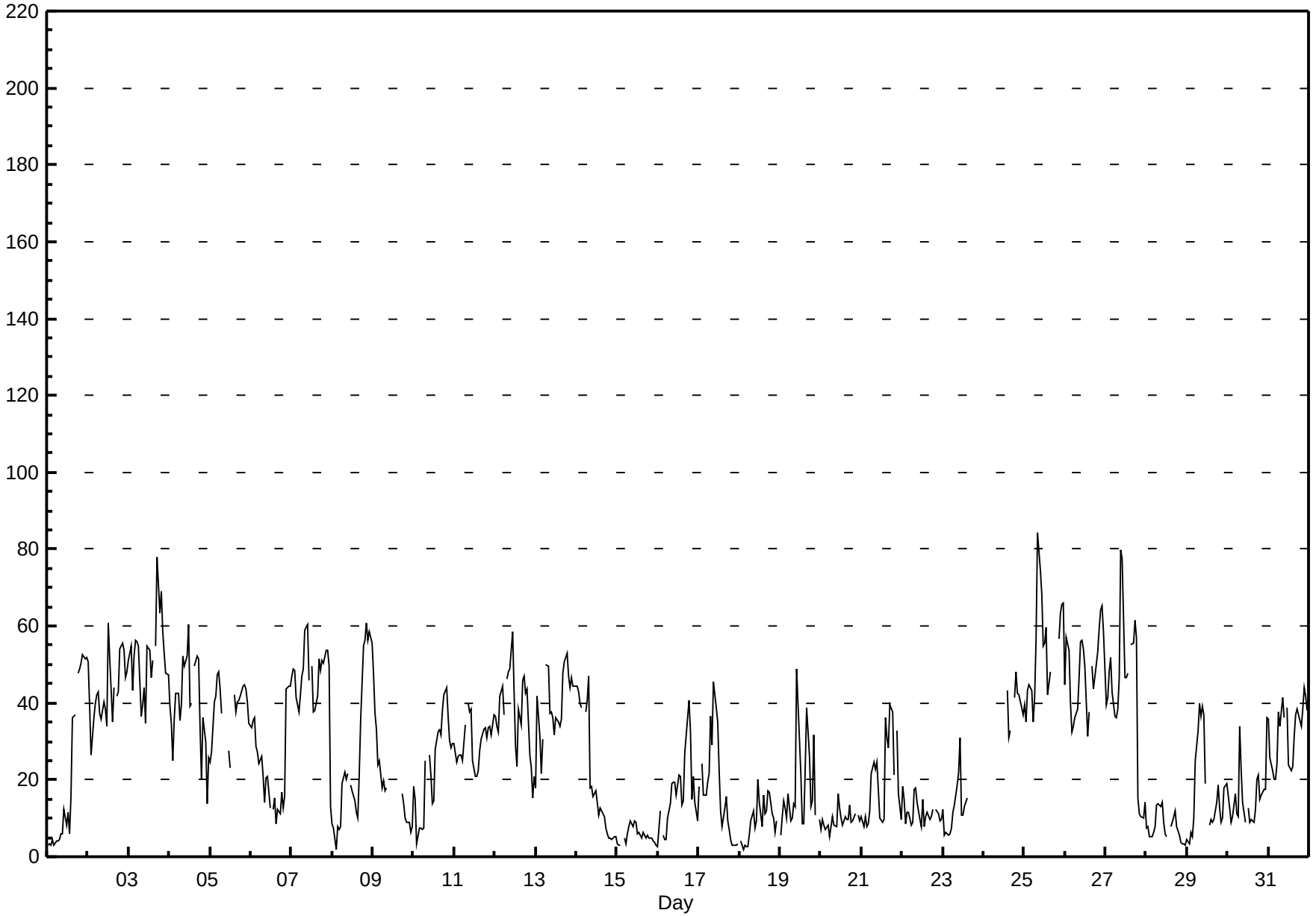
C - Calibration D - DAS Failure M - Maintenance A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

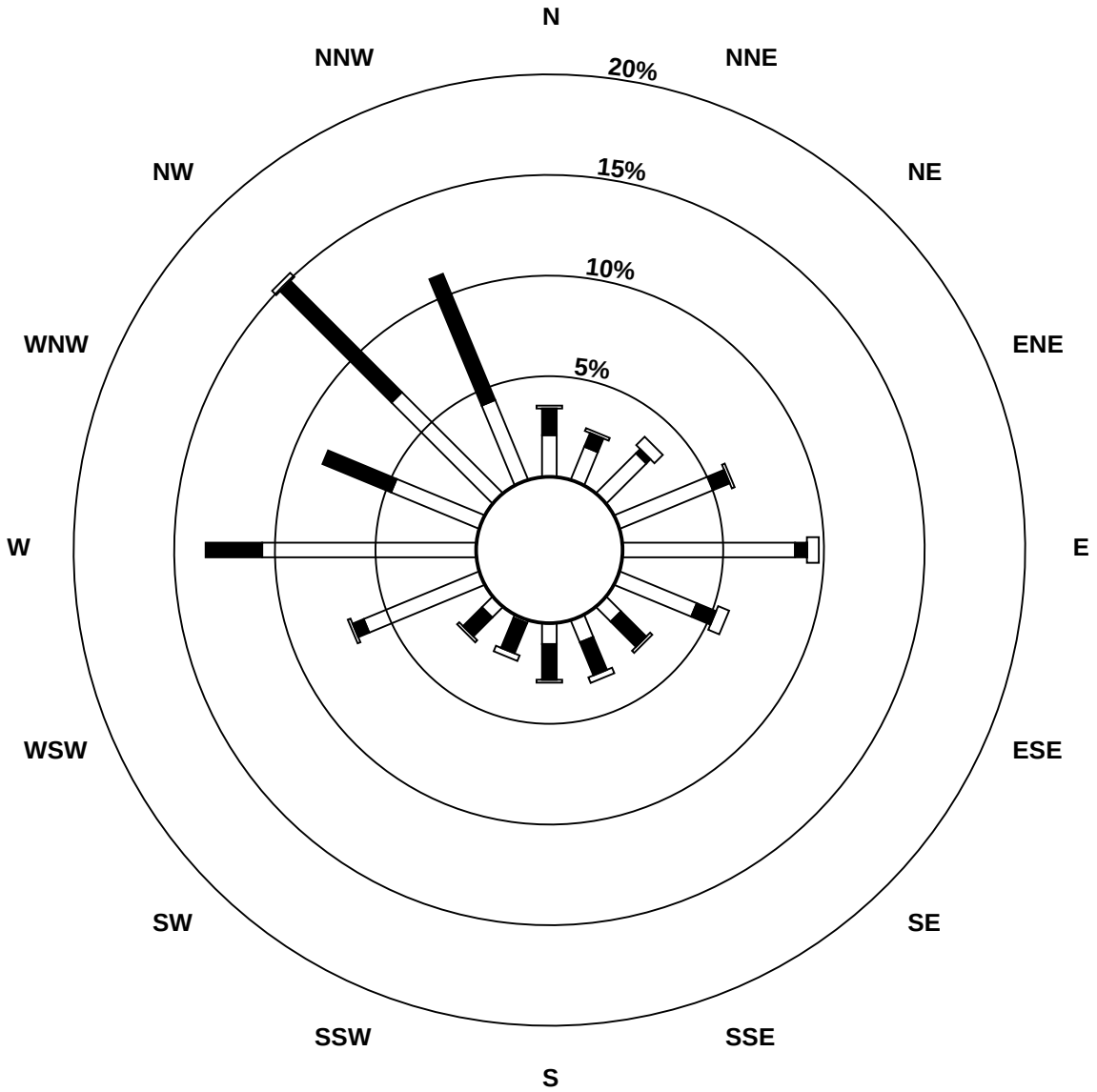
Henry Pirker - January 2013



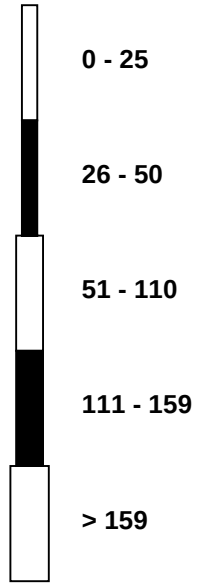
Pollutant Rose

Nitrogen Dioxide (NO_2) - ppb

Henry Pirker - January 2013



Pollutant Classes (ppb)

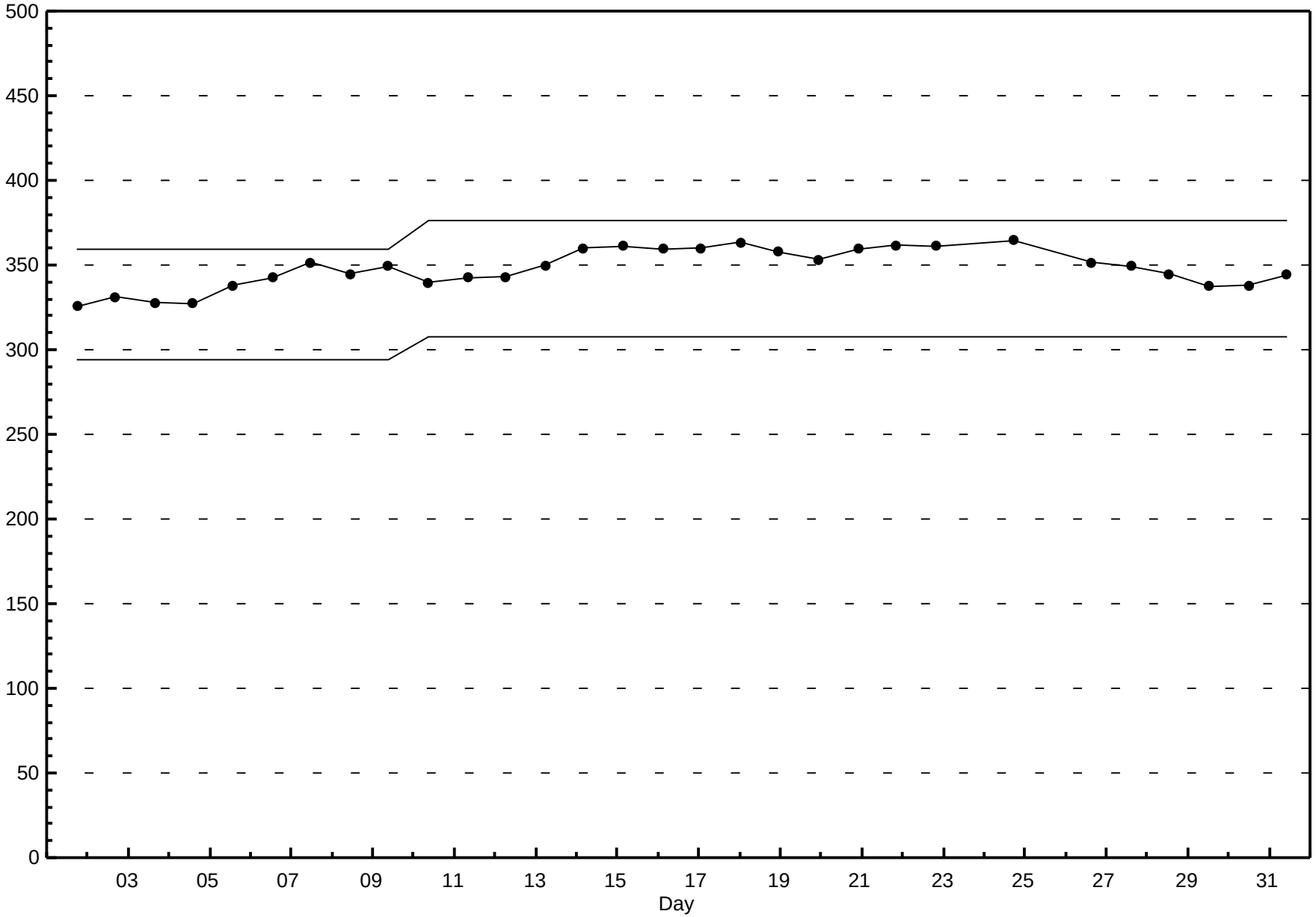


Peace Airshed Zone Association

Span Responses

Nitrogen Dioxide (NO_2)

Henry Pirker - January 2013



PAZA
Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Henry Pirker - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 202.0 ppb on Jan 26 23:00 Maximum Daily Average: 84.8 ppb on Jan 25

Minimum Value: 0 ppb on Jan 1 04:00 Minimum Daily Average: 0.3 ppb on Jan 15
Maximum Diurnal Average: 33.8 ppb at hour 22 Minimum Diurnal Average: 7.5 ppb at hour 6
Monthly Average: 18.24 ppb Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 0.6 Median = 2.3 Q_3 = 24.4 P_{90} = 60.4 P_{99} = 157.4

Hours in Service:	744
Hours of Data:	677
Hours of Missing Data:	67
Hours of Calibration:	37
Percent Operational Time:	96.0

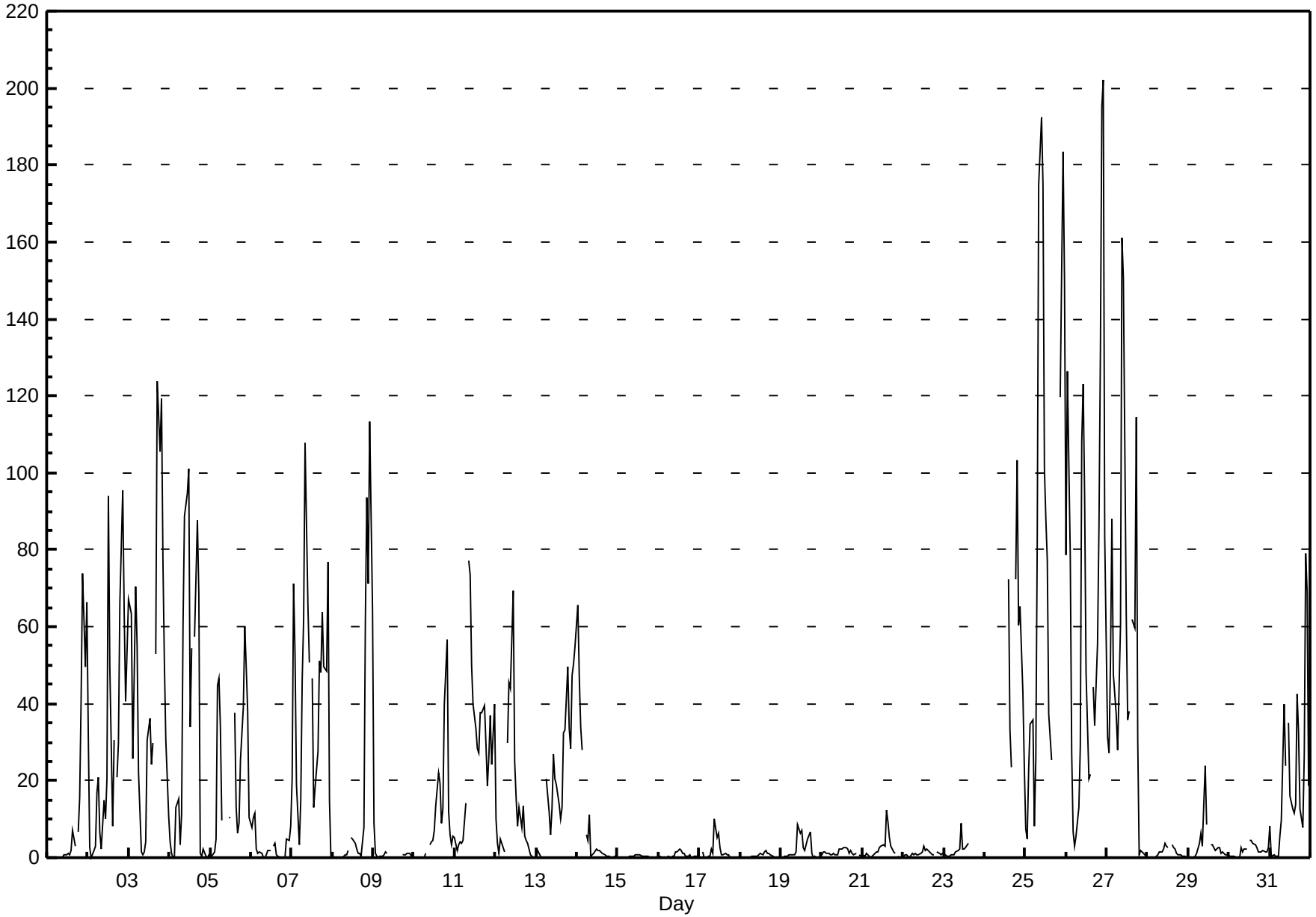
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jan	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	7	3	A	7	16	41	74	49	66	11.7	73.8
2-Jan	32	3	0	2	3	17	21	7	2	15	10	21	94	50	8	30	A	21	30	66	96	64	41	54	29.8	95.6
3-Jan	67	63	26	48	70	55	22	2	1	1	4	30	36	24	30	A	53	124	106	119	77	51	31	11	45.7	123.9
4-Jan	4	1	0	0	13	15	3	11	61	89	95	101	34	54	A	57	87	68	1	0	2	0	0	1	30.4	101.2
5-Jan	0	0	2	5	45	47	34	10	M	M	M	11	10	A	38	13	6	9	25	39	60	50	38	10	22.6	59.9
6-Jan	8	11	11	2	1	1	1	0	0	1	2	2	A	3	4	1	0	0	0	0	0	5	5	8	2.9	11.4
7-Jan	20	71	53	19	4	15	46	62	108	65	51	A	46	13	18	28	51	48	64	50	49	77	15	0	42.3	107.6
8-Jan	0	0	0	0	0	0	0	1	1	2	A	5	5	4	2	1	1	0	8	61	94	71	113	64	18.9	113.3
9-Jan	9	1	0	0	1	1	1	1	1	A	C	C	C	C	C	C	C	1	1	1	1	1	0	0	--	9.1
10-Jan	0	0	0	0	0	0	0	1	A	3	4	4	7	13	22	19	9	13	40	57	12	6	3	5	9.5	56.8
11-Jan	5	2	3	4	4	5	14	A	77	74	50	40	34	28	27	38	38	39	30	19	26	37	24	40	28.6	77.1
12-Jan	10	4	1	5	3	2	A	30	46	44	69	25	16	8	13	8	14	6	5	4	1	0	0	0	13.5	69.2
13-Jan	0	2	0	0	0	A	20	12	6	13	27	20	19	14	10	13	32	33	49	34	28	47	50	55	21.1	54.9
14-Jan	66	47	34	28	A	6	4	11	0	1	1	2	2	2	2	1	1	0	0	0	0	0	0	0	9.1	65.5
15-Jan	0	0	0	A	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.3	0.9
16-Jan	0	0	A	0	0	0	0	0	0	0	1	1	2	2	1	1	1	0	1	0	0	0	0	0	0.6	2.2
17-Jan	0	A	1	0	0	0	0	2	1	10	5	6	2	1	1	1	1	1	0	0	0	0	0	0	1.5	10.0
18-Jan	A	0	0	0	0	0	0	0	0	0	1	1	1	1	2	2	1	1	1	0	0	0	0	A	0.5	1.8
19-Jan	0	0	0	0	0	1	1	1	1	1	9	6	7	2	2	3	5	7	1	0	1	0	A	1	2.1	8.6
20-Jan	1	2	1	1	1	1	1	1	1	1	2	2	2	3	3	2	1	2	1	1	1	A	1	1	1.4	2.7
21-Jan	1	1	1	1	0	0	0	1	1	1	3	3	3	3	12	9	5	3	2	1	A	0	0	0	2.3	12.4
22-Jan	0	1	1	0	0	1	1	1	1	1	1	2	3	2	2	2	1	1	1	A	2	1	1	1	1.1	2.8
23-Jan	1	1	1	1	1	1	1	2	2	2	9	2	2	3	4	D	D	D	D	D	D	D	D	D	--	9.0
24-Jan	D	D	D	D	D	D	D	D	D	D	D	D	D	D	72	33	24	A	72	103	61	65	43	23	--	103.3
25-Jan	7	5	22	35	36	8	26	82	175	192	175	101	88	77	37	25	D	M	M	M	120	152	183	150	84.8	192.4
26-Jan	79	126	79	27	7	3	6	13	29	108	123	94	48	20	22	A	45	34	56	86	131	195	202	83	70.3	202.0
27-Jan	31	27	51	88	48	37	28	44	60	161	151	63	36	38	A	62	60	115	30	1	2	2	1	0	49.3	161.1
28-Jan	0	0	0	0	0	0	1	2	2	2	4	3	3	A	3	3	2	1	1	1	0	0	0	0	1.2	3.8
29-Jan	0	0	0	0	0	1	4	6	3	14	24	8	A	3	3	3	2	2	3	1	2	1	1	1	3.6	23.8
30-Jan	1	0	0	0	0	0	0	3	1	2	2	A	4	4	4	3	3	1	2	2	2	1	1	3	1.8	4.5
31-Jan	8	0	1	0	0	0	6	10	40	24	A	35	16	13	11	14	42	33	13	8	27	79	69	19	20.4	79.2
	12.1	12.7	9.9	9.2	8.1	7.5	8.3	10.9	22.2	29.6	31.6	21.9	19.4	14.4	12.7	14.1	18.1	20.9	18.9	23.9	28.8	33.8	30.1	20.6	Diurnal Average	
	78.6	126.4	78.8	88.0	70.4	55.4	46.4	82.3	174.9	192.4	174.8	101.2	94.0	77.2	72.5	62.1	87.5	123.9	105.6	119.2	131.4	195.5	202.0	149.5	Diurnal Maximum	

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

Hourly Averages

Nitrogen Oxide (NO) - ppb

Henry Pirker - January 2013



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Hourly Maximums

Nitrogen Oxide (NO) - ppb

Henry Pirker - January 2013

Maximum Value: 438.2 ppb on Jan 25 10:00

Maximum Daily Average: 140.6 ppb on Jan 25

Minimum Value: 0 ppb on Jan 10 03:00

Minimum Daily Average: 0.8 ppb on Jan 15

Maximum Diurnal Average: 56.1 ppb at hour 10

Minimum Diurnal Average: 13.9 ppb at hour 6

Monthly Average: 32.08 ppb

Percentiles: P_1 = 0.1 P_{10} = 0.5 Q_1 = 2.0 Median = 7.1 Q_3 = 46.2 P_{90} = 96.4 P_{99} = 233.6

Hours in Service:	744
Hours of Data:	677
Hours of Missing Data:	67
Hours of Calibration:	37
Percent Operational Time:	96.0

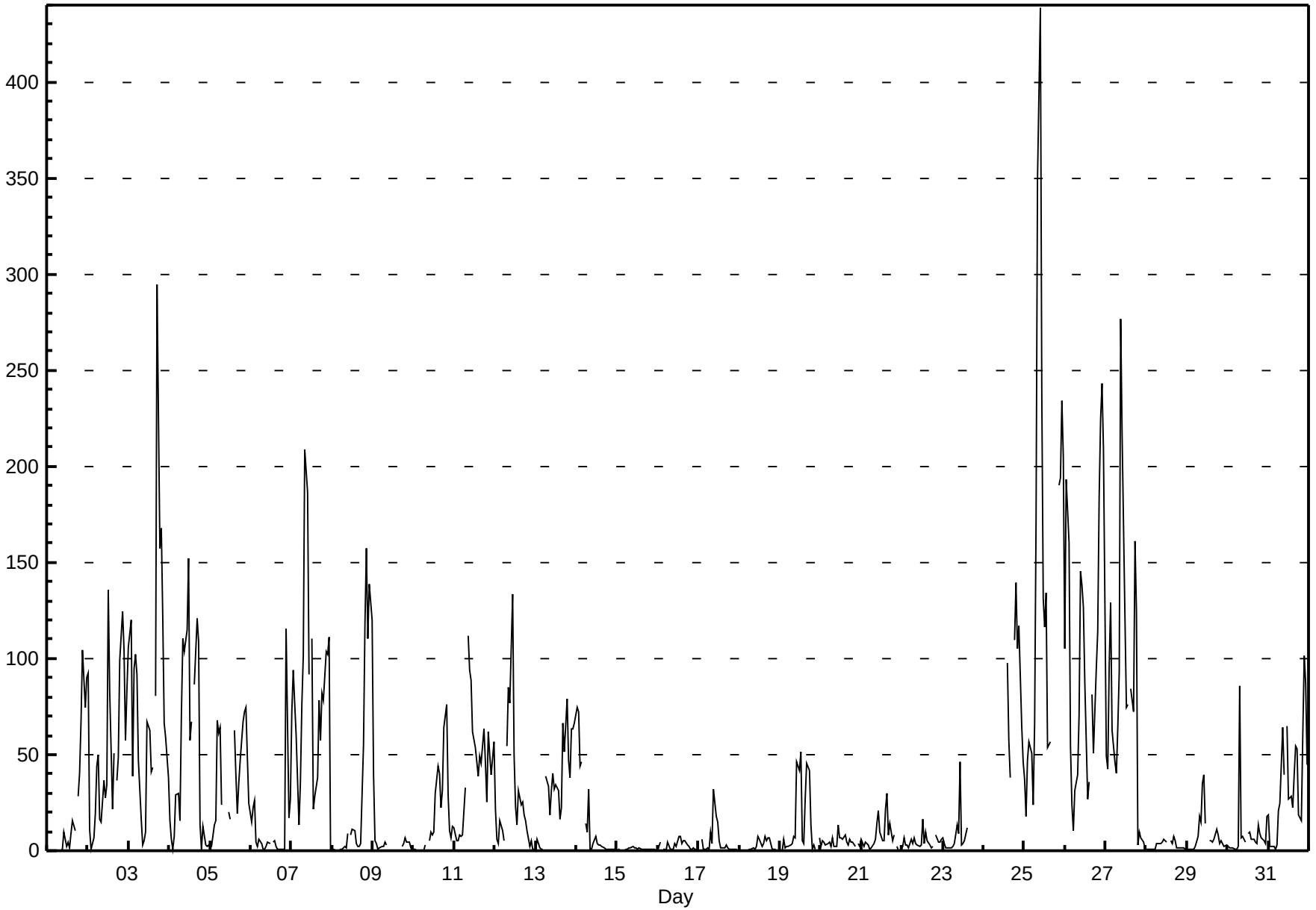
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0	0	0	0	0	0	0	0	0	0	10	3	5	2	9	16	11	A	29	40	67	105	74	90	20.0	104.7
2-Jan	93	11	1	7	19	44	50	16	15	37	28	34	136	83	22	51	A	37	49	99	124	104	57	84	52.2	136.0
3-Jan	106	120	39	95	102	92	47	16	3	5	10	67	63	41	43	A	81	295	157	168	122	66	59	38	79.8	294.7
4-Jan	16	6	1	8	29	30	16	71	110	104	115	152	57	67	A	86	121	109	13	1	13	3	2	3	49.3	151.9
5-Jan	1	2	14	16	68	61	64	24	M	M	M	20	16	A	63	39	20	35	47	67	72	75	48	25	38.9	74.7
6-Jan	15	23	26	4	2	6	4	0	1	2	4	3	A	4	5	2	1	0	1	0	1	115	17	27	11.5	115.4
7-Jan	73	94	77	60	13	36	76	101	209	187	92	A	111	21	29	38	78	57	82	78	103	102	111	0	79.5	208.7
8-Jan	0	0	0	0	0	0	1	2	1	9	A	8	11	11	3	2	2	4	55	118	157	110	139	120	32.9	157.2
9-Jan	40	5	3	1	1	2	2	5	3	A	C	C	C	C	C	C	C	3	4	6	5	5	2	2	--	39.8
10-Jan	1	0	0	0	0	0	0	3	A	5	9	8	9	30	44	40	22	31	64	76	29	10	6	13	17.6	75.9
11-Jan	12	5	5	8	7	8	33	A	111	94	89	62	54	47	39	49	46	63	47	25	62	50	39	57	44.0	111.5
12-Jan	22	6	3	15	10	5	A	54	85	77	134	50	23	13	31	24	25	19	16	10	2	5	1	1	27.5	133.6
13-Jan	0	6	1	0	0	A	39	34	18	32	40	32	34	31	16	23	67	52	79	47	38	63	63	66	34.1	79.4
14-Jan	75	72	44	47	A	14	10	32	1	1	3	7	3	3	3	2	1	1	1	1	1	1	1	1	14.0	74.9
15-Jan	0	1	0	A	0	0	0	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0.8	2.3
16-Jan	0	5	A	0	1	0	4	1	1	1	3	2	8	8	4	5	5	3	2	1	0	1	1	1	2.5	7.8
17-Jan	1	A	6	1	0	1	1	9	3	32	18	15	5	2	1	2	3	1	1	0	1	0	0	0	4.6	32.1
18-Jan	A	0	0	0	0	0	0	1	1	1	2	7	6	2	3	7	5	7	6	1	1	0	0	A	2.4	7.4
19-Jan	0	0	6	1	2	3	3	4	7	7	46	42	51	5	4	27	46	42	13	0	3	0	A	7	13.9	51.2
20-Jan	2	5	5	3	4	4	2	6	2	2	13	7	6	6	8	5	3	6	4	4	2	A	4	2	4.6	13.4
21-Jan	6	2	4	4	3	1	1	3	6	14	21	10	5	5	22	30	9	14	5	8	A	2	0	0	7.6	30.0
22-Jan	2	7	3	3	1	6	4	7	4	3	2	3	17	3	10	5	3	2	2	A	8	4	4	6	4.8	16.6
23-Jan	7	4	1	2	1	1	2	4	13	9	46	3	3	5	12	D	D	D	D	D	D	D	D	D	--	45.9
24-Jan	D	D	D	D	D	D	D	D	D	D	D	D	D	D	97	57	38	A	110	139	105	117	65	46	--	139.5
25-Jan	37	18	47	56	51	24	66	172	349	438	237	131	116	134	54	56	D	M	M	M	190	194	234	205	140.6	438.2
26-Jan	105	193	160	55	24	10	31	39	71	146	138	127	88	27	36	A	81	51	95	114	184	225	243	209	106.5	242.9
27-Jan	49	43	97	129	62	46	40	64	93	277	216	121	75	76	A	84	73	161	125	3	10	7	5	1	80.7	276.9
28-Jan	0	0	1	1	0	1	4	4	4	4	6	5	4	A	5	4	8	5	2	1	1	1	2	1	2.9	7.8
29-Jan	1	1	0	1	1	2	7	18	15	35	40	14	A	5	5	5	6	11	8	3	5	4	3	3	8.4	39.7
30-Jan	2	1	2	2	0	0	2	86	7	7	5	A	9	10	6	6	4	3	13	9	7	5	4	18	9.1	85.6
31-Jan	19	2	2	2	1	3	21	25	64	40	A	65	27	28	23	39	54	53	18	16	61	102	87	45	34.6	101.6
	23.6	21.8	18.9	17.9	14.0	13.9	18.3	27.7	42.9	56.1	51.1	37.0	35.0	24.9	21.4	26.1	30.1	39.4	36.2	37.2	47.4	51.0	43.9	36.9	Diurnal Average	
	106.0	193.1	160.5	129.1	101.9	91.6	75.8	172.4	349.1	438.2	237.2	151.9	136.0	134.4	97.4	86.4	120.6	294.7	157.5	168.1	189.9	224.5	242.9	208.8	Diurnal Maximum	

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

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Henry Pirker - January 2013



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Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Henry Pirker - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 260.4 ppb on Jan 26 23:00 Maximum Daily Average: 129.0 ppb on Jan 25

Minimum Value: 1 ppb on Jan 8 03:00 Minimum Daily Average: 4.3 ppb on Jan 15
Maximum Diurnal Average: 58.5 ppb at hour 22 Minimum Diurnal Average: 25.6 ppb at hour 6
Monthly Average: 39.07 ppb Percentiles: P_1 = 2.0 P_{10} = 4.6 Q_1 = 7.9 Median = 17.2 Q_3 = 57.6 P_{90} = 102.8 P_{99} = 210.0

Hours in Service:	744
Hours of Data:	677
Hours of Missing Data:	67
Hours of Calibration:	37
Percent Operational Time:	96.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jan	2	2	2	3	2	3	3	3	4	4	5	6	6	5	10	31	31	A	45	54	89	124	98	115	28.1	123.7
2-Jan	75	34	16	29	36	53	57	38	29	51	35	47	145	94	33	70	A	61	70	114	147	111	84	97	66.3	147.3
3-Jan	113	108	65	91	120	103	66	13	15	24	28	71	81	62	73	A	104	183	163	177	132	100	75	49	87.6	183.1
4-Jan	36	27	17	21	50	53	33	46	104	135	140	148	65	91	A	100	135	113	15	14	26	12	6	16	61.1	148.2
5-Jan	13	19	32	43	88	90	72	44	M	M	M	31	28	A	73	42	37	43	65	80	102	91	76	43	55.6	102.4
6-Jan	40	44	44	29	22	21	19	13	9	15	15	11	A	12	15	7	8	9	12	9	11	25	40	49	20.9	48.7
7-Jan	60	118	96	55	34	51	89	103	155	107	86	A	80	38	49	65	98	95	111	94	93	125	34	8	80.0	155.0
8-Jan	6	3	1	3	3	5	10	19	15	19	A	21	18	14	11	9	17	15	53	115	149	124	168	113	39.7	168.3
9-Jan	50	28	18	18	19	13	14	14	15	A	C	C	C	C	C	C	C	12	8	6	6	6	5	5	--	50.2
10-Jan	8	6	2	3	3	5	6	18	A	24	20	14	19	31	48	43	34	44	78	97	43	34	29	32	27.8	96.6
11-Jan	31	23	27	28	27	28	40	A	112	108	76	60	51	45	45	61	65	69	61	48	55	67	53	74	54.6	112.4
12-Jan	43	35	26	36	35	32	A	73	88	85	114	58	39	26	37	31	52	42	40	38	19	14	8	14	43.0	114.3
13-Jan	13	37	24	19	20	A	66	50	40	45	59	46	45	39	34	45	74	79	98	77	70	91	93	97	54.9	97.6
14-Jan	107	85	70	63	A	40	37	46	12	12	9	13	9	9	9	9	8	6	5	4	4	3	4	4	24.8	107.4
15-Jan	3	2	2	A	3	3	4	6	7	7	7	7	6	6	4	5	5	4	4	4	4	3	3	2	4.3	7.0
16-Jan	2	4	A	3	3	3	6	9	13	11	17	13	14	16	8	9	12	23	36	23	9	13	8	6	11.3	36.1
17-Jan	10	A	20	10	11	15	14	26	19	43	32	32	17	6	6	9	7	7	5	4	2	2	2	2	13.1	42.9
18-Jan	A	3	1	2	2	2	4	7	7	6	6	8	7	5	9	9	8	11	10	7	5	4	5	A	5.8	10.8
19-Jan	4	8	8	10	6	7	7	8	9	9	19	15	15	8	8	12	14	18	9	10	16	8	A	7	10.2	18.9
20-Jan	5	6	6	6	6	4	6	7	6	6	8	8	7	8	8	9	8	10	7	8	8	A	7	6	6.9	10.1
21-Jan	6	7	7	6	6	9	15	20	19	14	11	9	10	10	31	29	29	32	27	14	A	19	8	7	15.1	32.3
22-Jan	13	11	7	9	10	7	6	10	11	8	7	7	9	8	8	8	8	8	8	A	9	9	6	6	8.4	13.3
23-Jan	6	5	4	4	5	6	9	11	12	14	24	10	10	11	14	D	D	D	D	D	D	D	D	D	--	23.8
24-Jan	D	D	D	D	D	D	D	D	D	D	D	D	D	D	108	58	50	A	109	145	97	101	79	55	--	145.4
25-Jan	36	36	60	75	75	38	61	123	230	248	232	151	137	125	74	58	D	M	M	M	171	208	241	202	129.0	247.9
26-Jan	117	172	118	60	35	31	34	47	67	157	175	142	86	49	50	A	88	75	99	133	183	254	260	123	111.0	260.4
27-Jan	67	64	91	133	84	71	61	78	98	214	205	101	68	73	A	111	110	170	60	10	9	7	7	8	82.6	214.2
28-Jan	6	5	4	5	5	7	9	11	11	11	11	7	6	A	9	8	8	8	6	4	3	3	3	2	6.7	11.4
29-Jan	3	3	5	4	7	20	32	39	29	42	50	22	A	10	10	9	8	11	13	10	8	8	12	14	16.0	50.4
30-Jan	12	10	7	8	12	7	5	12	15	12	8	A	12	12	11	10	11	13	16	13	12	12	14	23	11.6	23.4
31-Jan	40	16	18	15	15	17	31	39	77	55	A	62	32	26	26	31	75	68	45	39	60	119	109	50	46.3	119.4
	31.9	31.7	27.5	27.3	25.7	25.6	28.2	32.2	43.9	53.0	53.8	41.5	37.9	31.0	29.4	33.0	40.9	45.6	44.1	48.2	53.2	58.5	53.0	42.5	Diurnal Average	
	117.5	171.6	117.9	132.8	120.4	102.8	88.6	122.9	229.6	247.9	231.8	150.6	144.6	125.1	108.0	111.2	135.4	183.1	163.5	176.5	183.1	253.8	260.4	202.2	Diurnal Maximum	

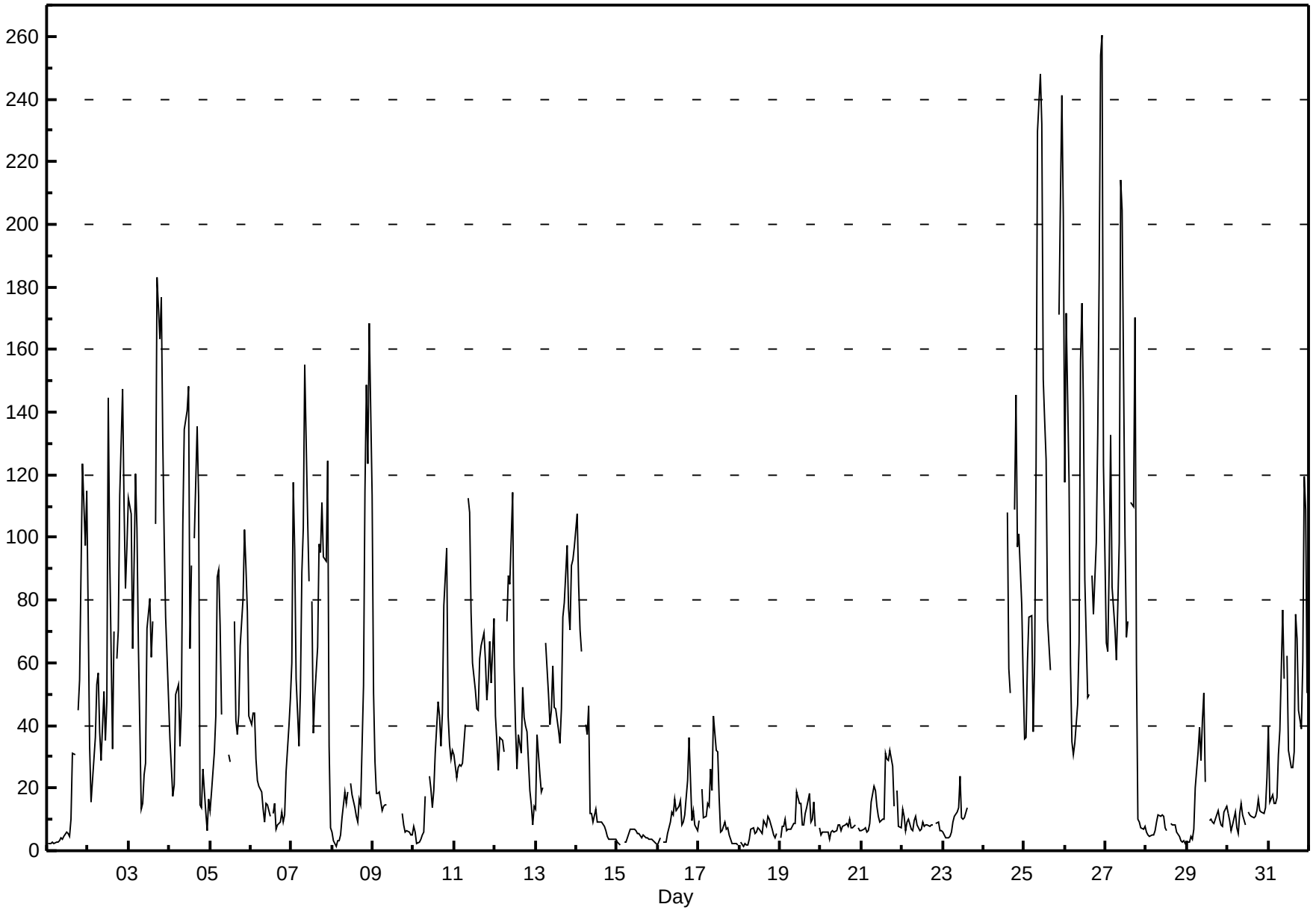
C - Calibration D - DAS Failure M - Maintenance A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Henry Pirker - January 2013



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Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Henry Pirker - January 2013

Maximum Value: 491.4 ppb on Jan 25 10:00

Maximum Daily Average: 191.7 ppb on Jan 25

Minimum Value: 2 ppb on Jan 8 03:00

Minimum Daily Average: 6.2 ppb on Jan 15

Maximum Diurnal Average: 85.7 ppb at hour 10

Minimum Diurnal Average: 35.4 ppb at hour 6

Monthly Average: 58.04 ppb

Percentiles: P_1 = 2.9 P_{10} = 7.3 Q_1 = 13.5 Median = 29.3 Q_3 = 84.3 P_{90} = 144.7 P_{99} = 292.9

Hours in Service:	744
Hours of Data:	677
Hours of Missing Data:	67
Hours of Calibration:	37
Percent Operational Time:	96.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jan	3	3	3	4	3	4	4	4	6	6	21	11	16	7	20	49	45	A	75	89	116	153	123	142	39.5	153.3
2-Jan	143	50	28	42	59	86	91	53	50	76	66	68	197	135	56	94	A	77	90	152	179	158	101	132	95.0	196.8
3-Jan	157	174	82	146	157	146	95	52	42	49	44	122	117	87	94	A	134	370	219	231	179	119	106	85	130.7	370.3
4-Jan	54	40	26	43	71	72	51	110	163	152	165	212	97	106	A	134	173	158	47	21	48	33	16	28	87.9	212.4
5-Jan	25	28	54	58	113	109	105	59	M	M	M	48	40	A	105	77	60	69	86	111	116	118	87	60	76.3	117.8
6-Jan	47	58	62	33	29	29	30	22	15	22	25	16	A	17	20	10	12	11	17	13	16	159	61	68	34.5	159.0
7-Jan	118	140	122	101	50	77	122	150	259	244	137	A	160	55	65	80	130	105	132	129	157	154	160	13	124.3	259.5
8-Jan	8	8	2	8	7	8	19	24	21	29	A	27	27	25	15	11	23	40	110	170	213	166	194	175	57.8	213.1
9-Jan	86	42	36	24	26	19	21	20	21	A	C	C	C	C	C	C	C	17	17	15	13	14	7	8	--	86.2
10-Jan	19	15	3	7	7	7	8	28	A	30	31	22	24	57	75	70	53	69	106	120	65	41	35	40	40.5	119.7
11-Jan	40	29	31	34	33	33	65	A	150	130	127	86	75	67	60	76	76	95	78	56	95	83	71	92	73.1	149.9
12-Jan	58	39	36	57	54	38	A	99	133	126	183	93	52	37	69	58	71	65	58	50	27	28	16	22	63.9	182.9
13-Jan	18	47	32	21	31	A	89	82	56	69	76	64	70	66	50	58	112	101	132	93	80	110	107	109	72.7	131.6
14-Jan	117	113	82	85	A	51	49	79	18	19	19	23	17	13	15	13	11	8	6	5	5	5	6	5	33.3	117.0
15-Jan	3	3	3	A	5	4	6	9	10	10	11	10	7	8	6	7	6	5	6	5	5	4	4	3	6.2	10.9
16-Jan	3	13	A	5	4	4	14	14	19	20	23	18	26	25	16	19	32	38	41	33	15	22	15	10	18.7	41.3
17-Jan	19	A	28	16	16	21	22	46	32	77	57	50	28	13	9	14	18	11	7	5	3	3	3	3	21.9	77.4
18-Jan	A	4	2	3	2	2	5	10	13	8	11	27	20	9	19	18	15	21	23	12	10	6	9	A	11.4	27.4
19-Jan	5	10	20	14	12	18	11	11	21	18	89	71	70	13	11	49	81	62	26	14	34	11	A	16	29.9	88.9
20-Jan	8	11	13	10	11	8	9	17	9	10	30	19	16	14	19	13	11	18	12	14	14	A	15	11	13.4	29.9
21-Jan	16	10	15	12	11	12	22	26	27	28	38	18	13	15	57	61	34	50	43	29	A	35	16	10	26.0	60.9
22-Jan	20	17	11	13	11	14	10	20	20	16	12	10	31	11	20	15	12	12	14	A	21	15	13	15	15.5	31.3
23-Jan	18	10	8	7	6	8	13	16	32	31	72	13	14	18	25	D	D	D	D	D	D	D	D	D	--	72.4
24-Jan	D	D	D	D	D	D	D	D	D	D	D	D	D	D	140	88	71	A	150	186	147	158	101	82	--	186.3
25-Jan	76	53	90	101	92	59	102	229	427	491	305	183	172	193	95	104	D	M	M	M	244	256	295	265	191.7	491.4
26-Jan	149	250	214	91	56	41	67	76	117	197	193	179	136	58	73	A	130	92	143	167	238	286	307	267	153.3	306.8
27-Jan	87	82	144	180	104	81	76	102	139	356	293	167	121	123	A	139	128	222	180	18	20	17	12	15	122.1	356.1
28-Jan	8	8	6	6	7	8	16	17	16	17	15	10	9	A	13	13	18	15	10	6	5	4	5	4	10.2	18.1
29-Jan	5	4	6	6	10	27	38	57	52	71	76	33	A	13	15	13	15	25	24	15	13	13	19	20	24.9	76.4
30-Jan	18	13	9	10	17	11	13	120	30	21	14	A	21	18	15	14	16	22	35	23	18	22	20	54	24.2	119.6
31-Jan	54	27	24	22	21	27	59	57	105	75	A	103	51	51	46	71	91	90	54	49	99	145	129	82	66.6	144.9
	47.7	44.9	41.1	40.0	35.4	35.4	42.5	55.5	71.6	85.7	82.0	63.1	60.2	46.5	43.8	50.7	58.4	69.2	66.9	65.4	75.8	80.6	70.8	63.3	Diurnal Average	
	156.7	249.9	214.0	180.4	157.1	146.0	121.8	229.0	427.3	491.4	305.0	212.4	196.8	193.1	140.1	138.8	173.0	370.3	219.2	231.3	244.1	285.7	306.8	267.1	Diurnal Maximum	

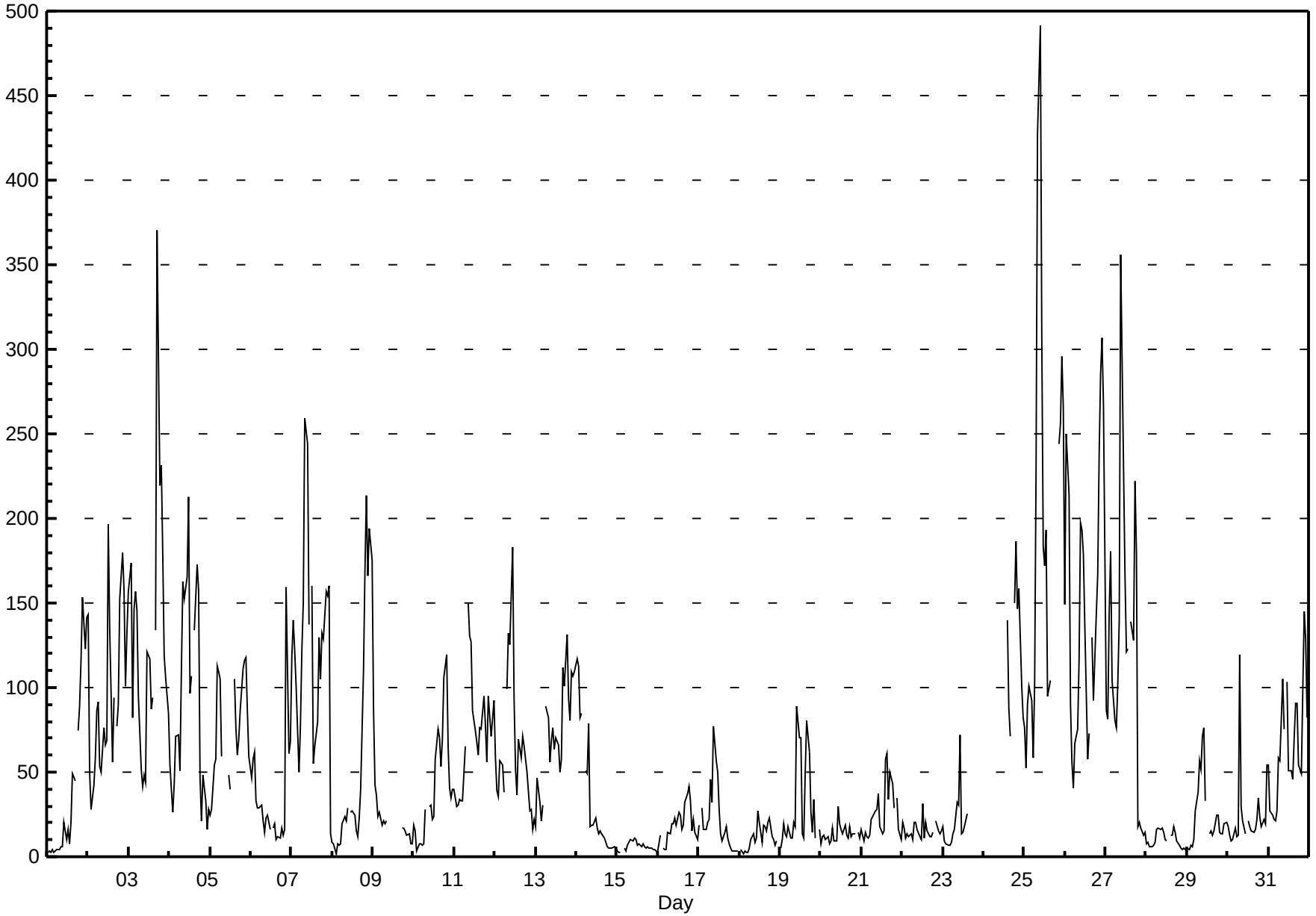
C - Calibration D - DAS Failure M - Maintenance A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

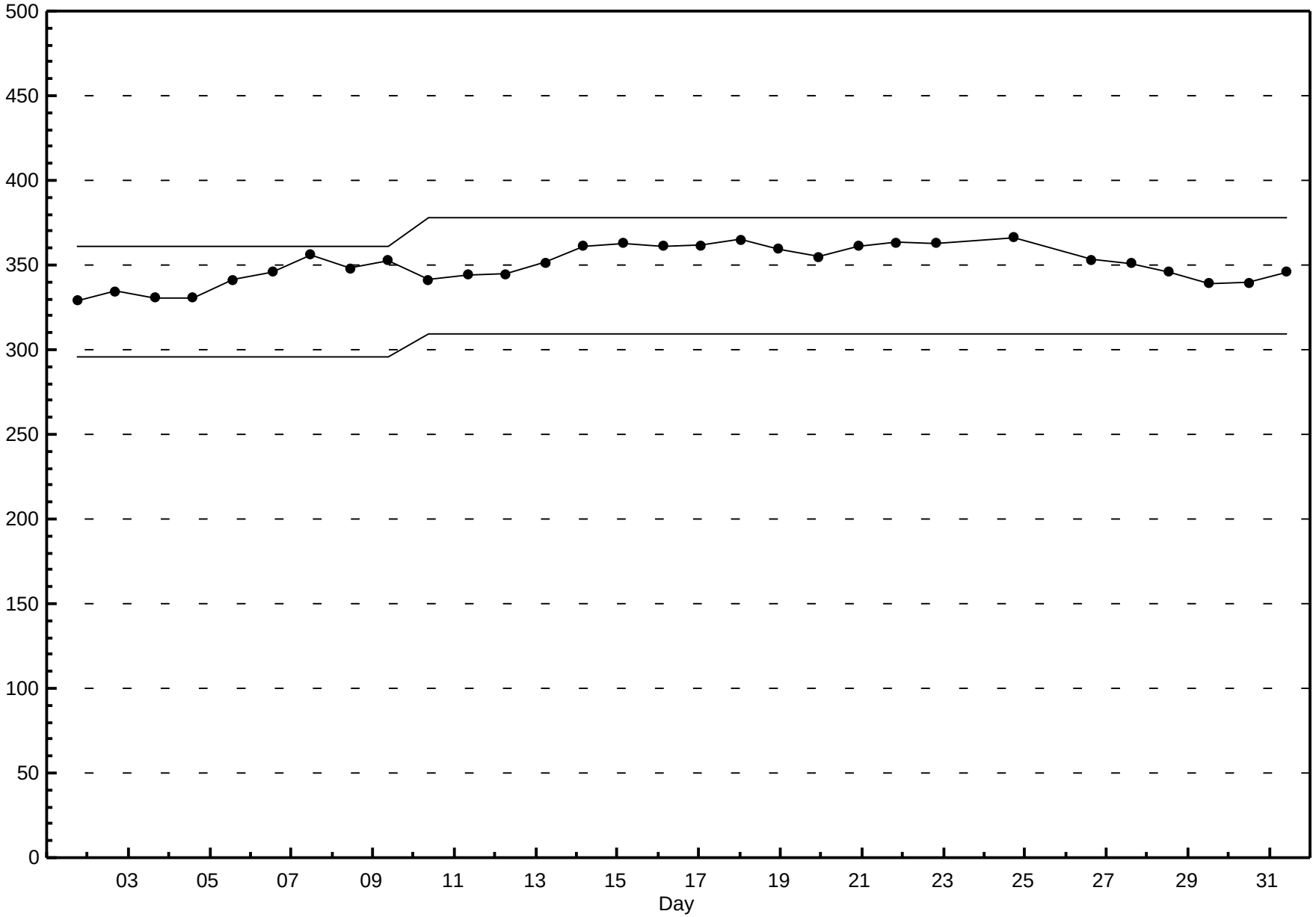
Henry Pirker - January 2013



Span Responses

Oxides of Nitrogen (NO_X)

Henry Pirker - January 2013



PAZA
Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Henry Pirker - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 41.7 ppb on Jan 18 06:00 Maximum Daily Average: 37.7 ppb on Jan 15

Minimum Value: 0 ppb on Jan 5 04:00 Minimum Daily Average: 3.7 ppb on Jan 11
Maximum Diurnal Average: 24.0 ppb at hour 14 Minimum Diurnal Average: 14.5 ppb at hour 19
Monthly Average: 17.92 ppb Percentiles: P_1 = 0.0 P_{10} = 1.1 Q_1 = 3.4 Median = 20.1 Q_3 = 28.9 P_{90} = 35.6 P_{99} = 40.7

Hours in Service:	744
Hours of Data:	678
Hours of Missing Data:	66
Hours of Calibration:	34
Percent Operational Time:	95.7

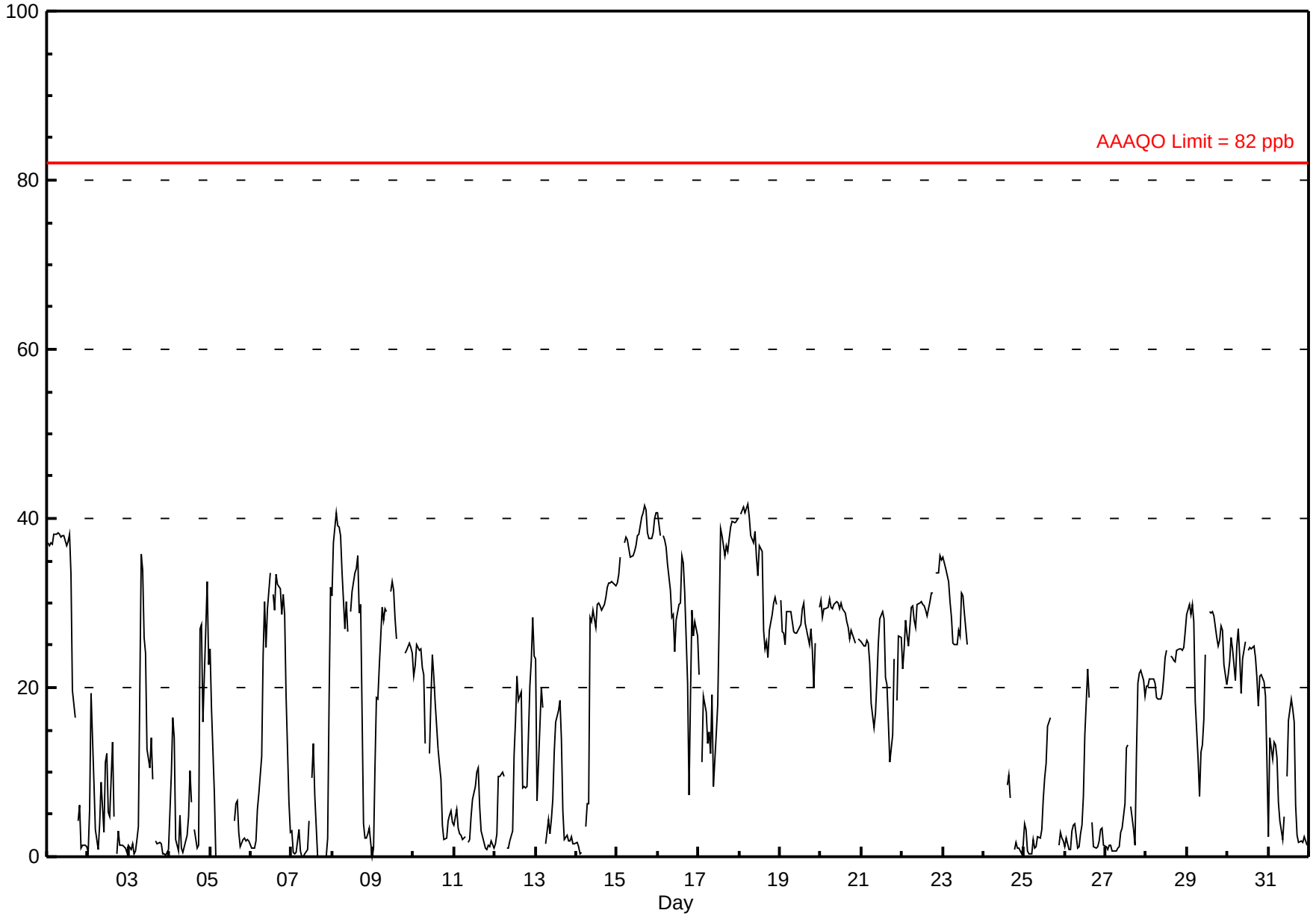
Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jan	37	37	37	37	38	38	38	38	38	38	38	37	37	38	33	20	17	A	4	6	1	1	1	1	26.6	38.2
2-Jan	0	6	19	9	3	2	1	4	9	3	11	12	5	5	14	5	A	0	3	1	1	1	1	0	5.1	19.3
3-Jan	1	1	2	0	1	2	4	36	34	26	24	13	10	14	9	A	2	2	2	2	0	0	0	1	8.0	35.8
4-Jan	5	10	16	14	2	1	5	1	1	1	3	5	10	6	A	3	1	1	27	27	16	27	33	23	10.3	32.6
5-Jan	25	18	7	0	0	0	0	0	M	M	M	M	M	A	4	6	7	3	1	2	2	2	2	2	4.5	24.6
6-Jan	1	1	1	2	6	7	12	24	30	25	29	34	A	31	29	33	32	32	29	31	29	19	6	3	19.4	33.5
7-Jan	3	1	0	0	3	1	0	0	0	1	4	A	9	13	7	0	0	0	0	0	0	2	19	32	4.2	31.8
8-Jan	31	37	41	39	39	38	34	27	30	27	A	29	31	34	34	36	29	30	4	2	2	3	3	0	25.2	40.7
9-Jan	1	11	19	19	23	30	28	29	29	A	31	33	32	28	26	C	C	C	C	24	24	25	25	24	24.2	32.5
10-Jan	21	23	25	24	25	22	21	13	A	12	19	24	21	18	13	11	9	4	2	2	4	5	5	4	14.3	25.1
11-Jan	4	6	3	3	2	2	2	A	2	2	5	7	8	10	10	6	3	2	1	1	1	1	2	1	3.7	10.5
12-Jan	1	3	9	9	10	10	A	1	1	2	3	12	16	21	19	20	8	8	8	8	20	23	28	24	11.5	28.4
13-Jan	23	7	15	20	18	A	2	4	3	4	7	12	16	17	18	14	5	2	3	2	2	2	1	1	8.7	23.4
14-Jan	2	1	0	1	A	3	6	6	28	28	29	27	30	30	30	29	30	31	32	32	32	32	32	32	21.9	32.5
15-Jan	32	33	35	A	37	38	38	36	35	36	36	37	38	38	40	41	42	41	38	38	38	38	40	41	37.7	41.5
16-Jan	41	38	A	38	37	37	35	32	28	29	24	28	30	30	36	35	31	20	7	19	29	26	28	26	29.7	40.6
17-Jan	21	A	11	19	17	13	15	12	19	8	15	18	28	39	38	36	37	36	38	39	40	40	40	40	26.8	40.0
18-Jan	A	41	41	41	41	42	40	38	37	38	36	33	37	36	27	25	25	24	27	29	30	31	30	A	34.0	41.7
19-Jan	30	27	27	25	29	29	29	28	27	27	26	27	28	29	30	28	27	25	27	24	20	25	A	30	27.1	30.3
20-Jan	30	28	29	29	30	30	29	29	30	30	30	29	30	29	29	28	27	26	27	26	25	A	26	26	28.5	30.5
21-Jan	25	25	25	26	25	23	18	15	17	21	25	28	29	28	21	20	16	11	14	23	A	18	26	26	22.1	28.9
22-Jan	22	25	28	26	25	30	30	28	27	30	30	30	30	30	29	28	30	31	31	A	34	34	36	35	29.5	35.5
23-Jan	35	35	34	33	30	28	25	25	25	27	26	31	31	29	25	D	D	D	D	D	D	D	D	D	--	35.5
24-Jan	D	D	D	D	D	D	D	D	D	D	D	D	D	D	8	10	7	A	1	2	1	1	0	1	--	9.7
25-Jan	4	3	1	0	0	2	1	1	2	2	3	7	9	11	15	16	D	M	M	M	1	3	2	2	4.4	16.4
26-Jan	1	2	1	1	3	4	4	1	1	3	4	7	14	22	19	A	4	1	1	1	2	3	3	1	4.5	22.3
27-Jan	1	1	1	1	1	1	1	1	1	3	3	6	13	13	A	6	3	1	12	21	22	22	21	19	7.6	22.1
28-Jan	20	20	21	21	21	20	19	19	19	19	21	24	24	A	24	24	23	23	24	25	25	24	25	27	22.2	26.6
29-Jan	29	30	29	30	28	18	12	7	12	13	16	24	A	29	29	29	28	26	25	26	27	27	23	20	23.3	29.8
30-Jan	22	23	26	24	21	25	27	24	19	23	25	A	24	25	25	25	24	21	18	21	21	21	19	11	22.4	27.0
31-Jan	2	14	12	14	13	12	6	4	2	5	A	10	16	19	17	16	6	3	2	2	2	2	2	1	7.9	18.6
	16.3	17.3	17.8	17.4	18.2	17.5	16.6	16.7	18.1	17.2	19.4	21.6	22.5	24.0	22.7	20.3	17.5	15.5	14.5	15.6	15.6	15.9	16.5	15.7	Diurnal Average	
	40.6	40.5	41.3	40.7	41.2	41.7	40.2	38.2	37.7	38.4	38.0	36.8	38.0	38.8	40.3	40.7	41.5	41.0	38.3	38.9	39.6	39.6	40.1	40.7	Diurnal Maximum	

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

Hourly Averages

Ozone (O_3) - ppb

Henry Pirker - January 2013



Hourly Maximums

Ozone (O_3) - ppb

Henry Pirker - January 2013

Maximum Value: 96.5 ppb on Jan 8 00:00

Maximum Daily Average: 38.9 ppb on Jan 15

Minimum Value: 0 ppb on Jan 5 05:00

Minimum Daily Average: 5.5 ppb on Jan 11

Maximum Diurnal Average: 28.5 ppb at hour 15

Minimum Diurnal Average: 18.9 ppb at hour 21

Monthly Average: 21.76 ppb

Percentiles: $P_1 = 0.9$ $P_{10} = 2.9$ $Q_1 = 8.1$ Median = 24.8 $Q_3 = 31.5$ $P_{90} = 38.5$ $P_{99} = 43.9$

Hours in Service:	744
Hours of Data:	678
Hours of Missing Data:	66
Hours of Calibration:	34
Percent Operational Time:	95.7

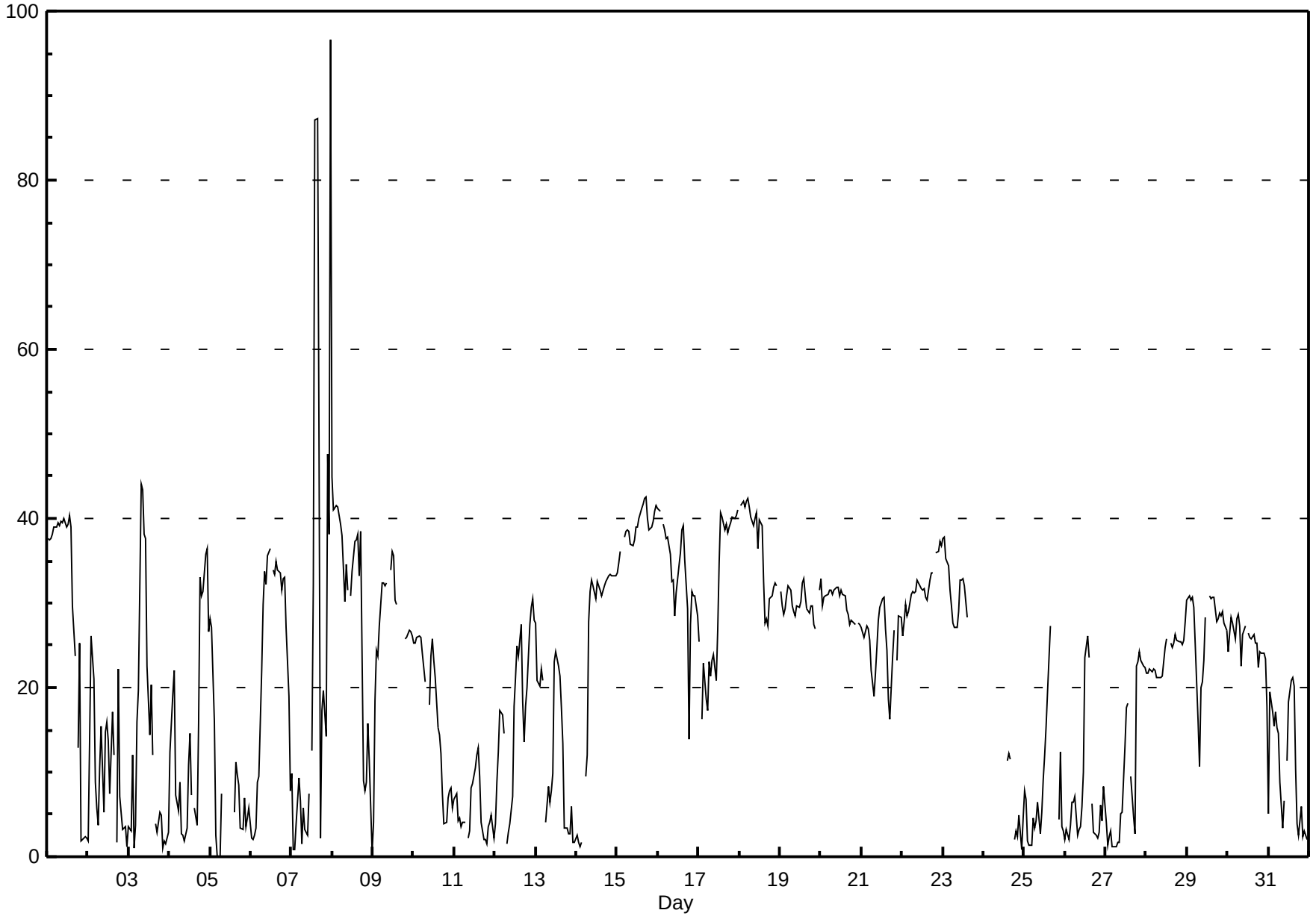
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	38	37	38	38	39	39	40	39	40	39	40	39	39	40	39	30	24	A	13	25	2	2	2	2	29.8	40.3
2-Jan	2	14	26	21	9	6	4	11	15	5	15	16	14	7	17	12	A	2	22	7	3	3	4	1	10.3	26.0
3-Jan	4	3	12	1	4	16	20	44	43	38	38	23	14	20	12	A	4	3	5	5	1	2	1	3	13.7	44.1
4-Jan	12	16	19	22	7	5	9	3	2	2	3	11	15	7	A	6	4	16	33	31	31	36	36	27	15.4	36.5
5-Jan	28	27	16	3	0	0	0	7	M	M	M	M	M	A	5	11	10	9	3	3	7	4	5	6	8.0	28.1
6-Jan	2	2	3	3	9	9	22	30	34	32	36	37	A	34	33	35	34	34	32	33	33	27	19	8	23.5	36.5
7-Jan	10	1	1	4	9	7	1	6	3	2	7	A	13	32	87	87	47	2	17	20	14	48	38	97	24.1	96.5
8-Jan	45	41	42	41	40	39	38	30	35	32	A	31	34	37	37	38	33	39	9	8	9	16	11	1	29.8	44.9
9-Jan	4	18	24	24	27	32	32	32	32	A	34	36	36	30	30	C	C	C	C	26	26	27	27	26	27.6	36.1
10-Jan	25	25	26	26	26	24	22	21	A	18	24	26	23	21	15	14	12	7	4	4	7	8	8	6	17.1	26.1
11-Jan	7	7	4	5	4	4	4	A	2	3	8	9	11	12	13	10	4	2	2	2	4	4	5	2	5.5	13.0
12-Jan	4	9	12	17	17	15	A	1	3	4	7	18	21	25	24	28	18	14	18	20	27	29	30	28	16.9	30.5
13-Jan	28	21	20	22	21	A	4	8	6	8	10	23	24	23	21	18	13	3	3	3	3	6	2	2	12.7	27.6
14-Jan	2	2	1	2	A	10	12	28	31	33	32	31	33	32	31	31	32	33	33	33	33	33	33	33	24.9	33.4
15-Jan	34	35	36	A	38	38	39	38	37	37	38	39	39	40	41	42	42	43	40	39	39	40	41	42	38.9	42.5
16-Jan	41	41	A	39	39	38	38	36	33	33	29	31	34	36	39	39	35	29	14	27	31	31	31	29	33.5	41.2
17-Jan	25	A	16	23	19	17	23	21	23	24	21	27	35	41	40	39	39	38	39	40	40	40	40	41	30.9	41.0
18-Jan	A	42	42	41	42	42	41	40	39	40	41	36	40	39	33	28	28	27	30	31	32	32	32	A	36.3	42.4
19-Jan	31	30	29	29	31	32	32	30	29	28	30	29	30	32	33	31	29	29	30	30	27	27	A	31	30.0	32.8
20-Jan	33	30	31	31	31	32	32	31	32	32	32	31	31	31	31	29	29	27	28	28	27	A	28	27	30.1	32.9
21-Jan	27	26	27	27	27	26	22	19	22	25	28	30	30	31	27	24	19	16	24	27	A	23	28	28	25.3	30.7
22-Jan	26	28	30	28	29	31	31	31	31	33	32	32	32	32	31	30	33	34	34	A	36	36	37	37	31.9	37.3
23-Jan	38	38	35	34	32	30	28	27	27	29	33	33	33	32	28	D	D	D	D	D	D	D	D	D	--	37.7
24-Jan	D	D	D	D	D	D	D	D	D	D	D	D	D	D	11	12	11	A	2	3	2	5	1	5	--	12.2
25-Jan	8	7	2	1	1	5	3	4	6	3	5	9	12	15	20	27	D	M	M	M	4	12	4	3	7.6	27.3
26-Jan	2	3	2	4	6	6	7	3	3	3	6	10	24	26	24	A	6	3	2	2	3	6	4	8	7.2	26.2
27-Jan	4	1	2	3	1	1	1	2	2	5	5	13	18	18	A	10	5	3	23	23	24	23	23	22	10.1	24.3
28-Jan	22	22	22	22	22	22	21	21	21	21	23	25	26	A	25	25	25	26	26	25	25	25	26	28	23.8	27.7
29-Jan	30	31	30	31	29	25	16	11	20	21	23	28	A	31	31	31	31	28	28	29	29	29	28	27	26.7	30.8
30-Jan	24	27	28	28	26	28	29	27	23	26	27	A	26	26	26	26	25	25	22	24	24	24	23	18	25.4	28.7
31-Jan	5	20	17	15	17	15	15	9	3	7	A	11	18	21	21	20	10	4	2	6	2	3	2	2	10.8	21.2
	19.3	20.7	20.5	20.2	20.8	20.5	20.2	21.1	21.4	20.8	23.2	25.3	26.1	27.6	28.5	27.1	22.4	19.0	19.2	19.7	18.9	20.7	19.6	20.3	Diurnal Average	
	44.9	41.5	42.0	41.4	42.0	42.4	41.4	44.1	43.4	40.0	40.6	39.0	39.8	40.8	87.2	87.3	47.5	42.5	40.1	39.6	40.2	47.6	40.8	96.5	Diurnal Maximum	

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

Hourly Maximums

Ozone (O_3) - ppb

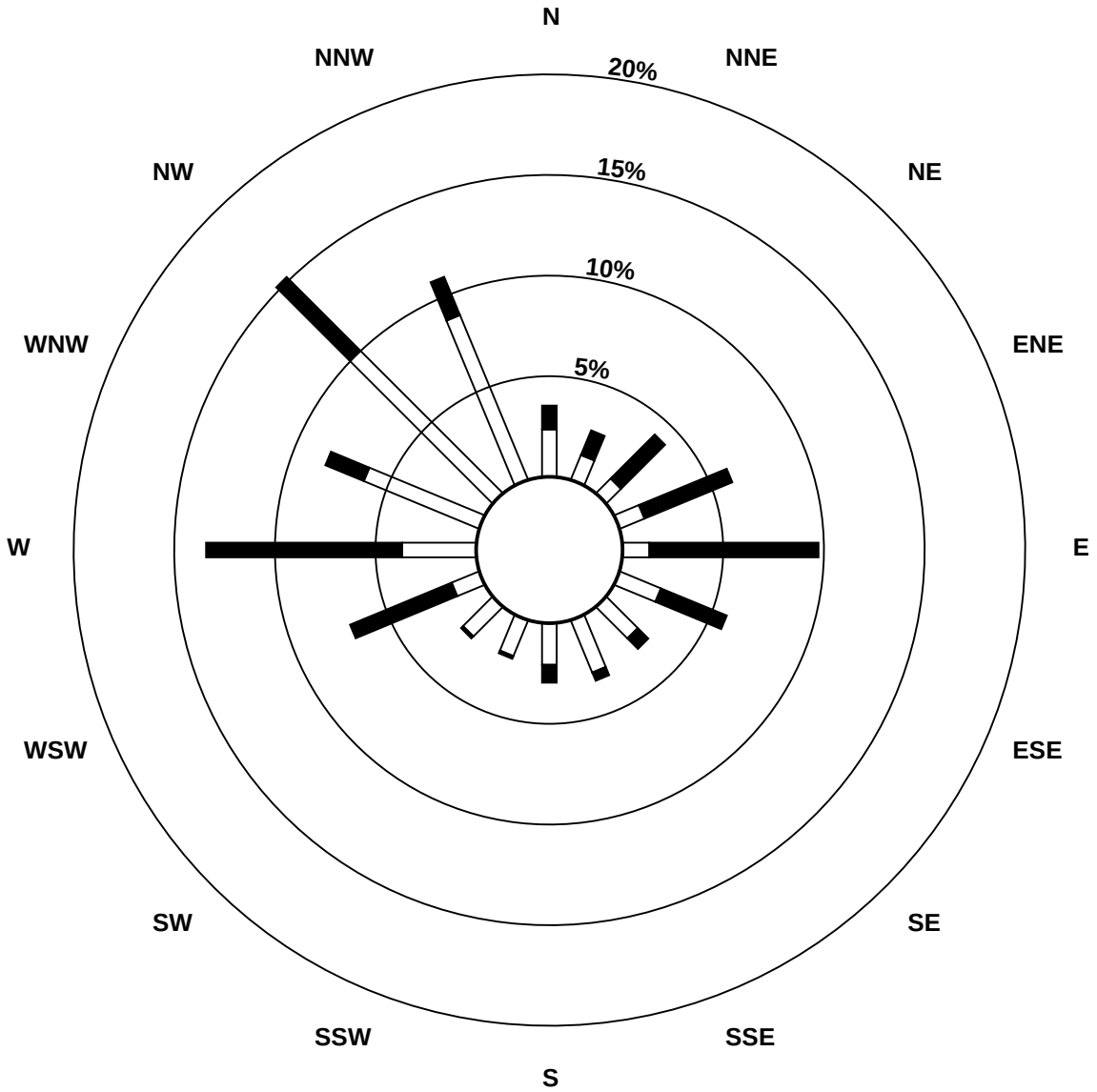
Henry Pirker - January 2013



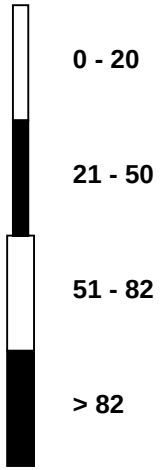
Pollutant Rose

Ozone (O_3) - ppb

Henry Pirker - January 2013



Pollutant Classes (ppb)



Peace Airshed Zone Association

Eight Hour Running Averages

Ozone (O_3) - ppb

Henry Pirker - January 2013

Maximum Value: 40.8 ppb on Jan 18 07:00

Minimum Value: 0.0 ppb on Jan 7 22:00

Percentiles: P_1 = 1.0 P_{10} = 2.1 Q_1 = 6.1 Median = 19.8 Q_3 = 27.9 P_{90} = 34.3 P_{99} = 39.9

Hours in Service:	744
Hours of Data:	693
Hours of Missing Data:	51
Hours of Calibration:	8
Percent Operational Time:	94.2

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-Jan	37	37	37	37	37	37	37	38	38	38	38	38	38	38	37	35	32	31	27	22	17	12	7	5	37.9
2-Jan	2	3	5	5	5	5	5	6	7	6	5	6	6	6	8	8	8	7	6	5	4	4	2	1	7.9
3-Jan	1	1	1	1	1	1	1	6	10	13	16	17	19	20	21	19	14	11	7	6	4	2	1	1	20.8
4-Jan	1	3	4	6	6	6	7	7	6	5	3	2	3	4	4	4	4	4	8	11	12	15	17	19	19.4
5-Jan	22	24	22	18	16	13	8	6	3	0	N	N	N	N	N	N	N	N	N	4	4	3	3	3	24.3
6-Jan	2	2	2	2	2	3	4	7	10	13	17	21	23	26	29	30	31	31	31	31	31	29	26	23	31.5
7-Jan	19	15	12	8	5	2	1	1	1	1	1	1	2	4	5	5	5	4	3	2	0	0	0	5	18.9
8-Jan	9	14	19	25	30	34	36	36	36	34	33	32	31	30	30	32	31	32	28	25	21	17	14	9	36.3
9-Jan	6	3	5	7	10	13	16	20	23	25	27	29	30	30	30	30	N	N	N	N	N	N	N	N	30.2
10-Jan	24	24	24	24	24	24	23	22	22	20	20	19	19	18	17	17	16	15	13	10	8	6	5	4	24.0
11-Jan	4	4	4	4	4	4	3	3	3	2	3	3	4	5	6	6	6	6	6	5	4	3	2	1	6.4
12-Jan	1	1	2	4	5	6	6	6	6	6	5	6	6	8	9	12	13	13	14	14	14	14	16	16	16.0
13-Jan	18	18	19	20	20	19	15	13	10	9	8	7	7	8	10	11	12	12	11	10	8	6	4	2	20.1
14-Jan	2	2	2	1	1	1	2	3	7	10	15	18	20	23	26	29	29	29	30	30	31	31	31	32	31.7
15-Jan	32	32	33	33	34	34	35	36	36	36	37	37	37	37	37	38	38	39	39	39	39	39	39	39	39.4
16-Jan	39	39	39	39	39	39	38	37	35	34	32	31	30	29	30	30	30	29	27	26	26	25	24	23	39.3
17-Jan	22	22	23	23	21	19	18	16	15	14	15	15	16	19	22	25	27	31	34	36	38	38	38	39	38.5
18-Jan	39	39	40	40	40	41	41	41	40	40	39	38	38	37	35	34	32	30	29	29	28	27	27	28	40.8
19-Jan	29	29	29	28	28	28	28	28	27	27	27	28	27	28	28	28	28	27	28	27	26	26	25	25	29.0
20-Jan	26	26	27	27	29	30	30	30	29	30	30	30	30	30	30	29	29	29	28	28	27	27	26	26	29.8
21-Jan	26	26	25	25	25	25	24	23	22	21	21	22	22	23	23	24	24	22	21	20	19	18	19	19	25.8
22-Jan	20	22	24	25	25	26	26	27	27	28	28	29	29	29	29	29	30	30	30	30	30	31	32	33	32.9
23-Jan	34	34	35	34	34	33	32	31	29	28	27	27	27	27	27	28	28	N	N	N	N	N	N	N	34.6
24-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	5	4	3	2	4.8
25-Jan	1	2	2	1	1	2	2	2	1	1	2	2	4	5	6	8	9	10	N	N	N	N	N	N	10.4
26-Jan	N	2	2	2	2	2	2	2	2	2	3	3	5	7	9	10	10	10	10	9	7	4	2	2	10.5
27-Jan	2	2	2	2	2	1	1	1	1	1	1	2	4	5	6	7	7	7	8	10	11	12	13	15	15.1
28-Jan	17	20	21	21	21	20	20	20	20	20	20	20	21	21	21	22	23	23	24	24	24	24	24	24	24.5
29-Jan	25	26	26	27	28	27	25	23	21	19	17	16	15	16	19	22	24	26	27	27	27	27	26	25	27.5
30-Jan	24	24	24	24	23	23	23	24	24	24	24	24	24	24	24	24	24	24	23	23	22	22	21	20	24.4
31-Jan	17	16	15	14	13	12	11	10	10	8	8	7	8	9	10	12	13	12	11	10	8	6	4	2	16.9
	39.3	39.4	39.9	40.2	40.4	40.7	40.8	40.5	40.1	39.9	39.1	38.2	37.8	37.8	37.2	37.6	38.4	39.1	39.3	39.4	39.4	39.4	39.4	39.4	
	Diurnal Maximums																								

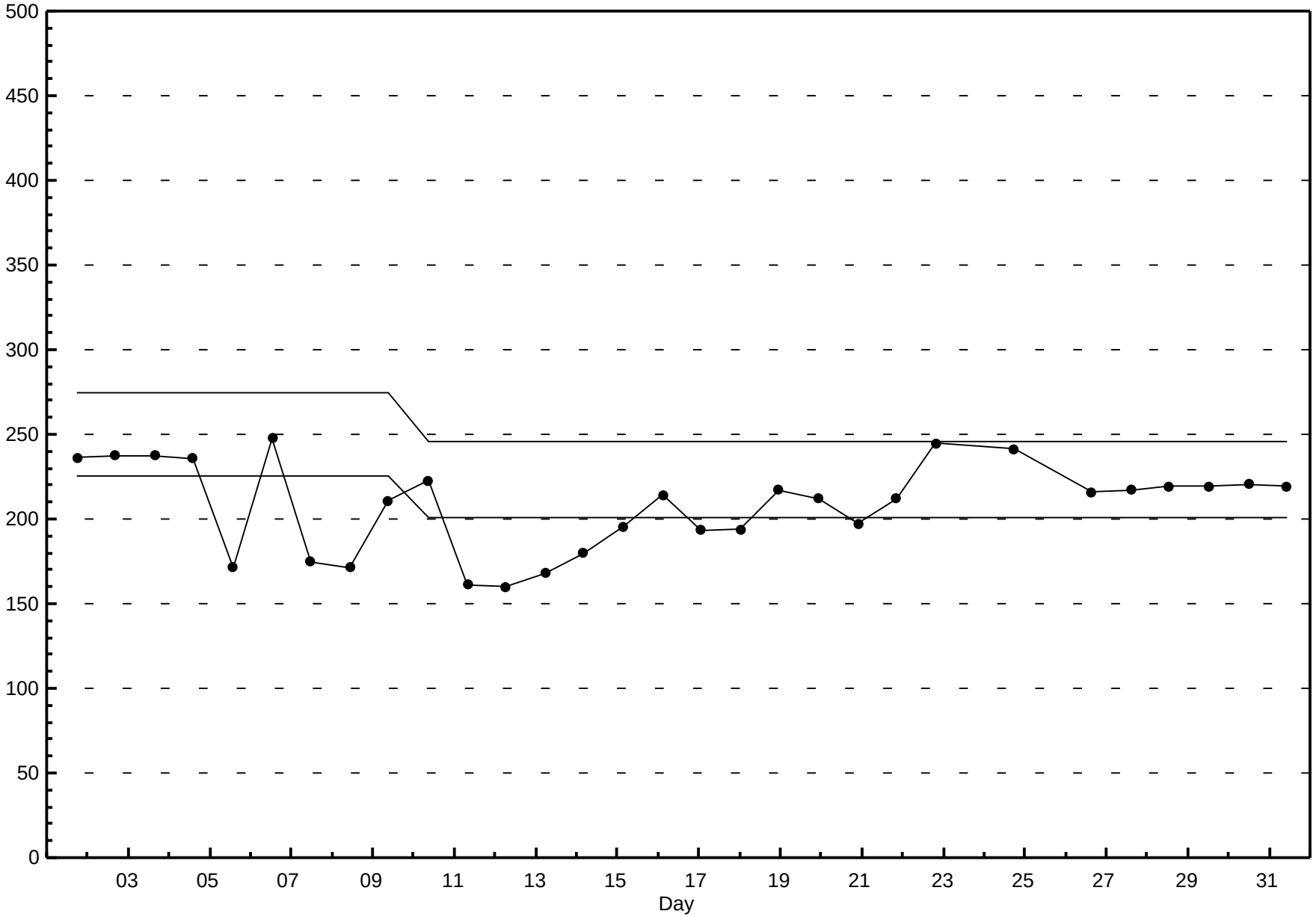
N - Not Valid

Peace Airshed Zone Association

Span Responses

Ozone (O_3)

Henry Pirker - January 2013



Peace Airshed Zone Association

Hourly Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 2.01 ppm on Jan 26 23:00
Maximum Daily Average: 0.76 ppm on Jan 25

Minimum Value: 0.0 ppm on Jan 8 18:00
Minimum Daily Average: 0.15 ppm on Jan 15
Maximum Diurnal Average: 0.43 ppm at hour 22
Minimum Diurnal Average: 0.23 ppm at hour 6
Monthly Average: 0.317 ppm
Percentiles: P_1 = 0.13 P_{10} = 0.15 Q_1 = 0.18 Median = 0.22 Q_3 = 0.36 P_{90} = 0.60 P_{99} = 1.40

Hours in Service:	744
Hours of Data:	683
Hours of Missing Data:	61
Hours of Calibration:	34
Percent Operational Time:	96.4

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	A	0.3	0.5	0.8	1.0	0.8	0.9	0.32	1.00
2-Jan	0.5	0.2	0.2	0.2	0.3	0.4	0.4	0.3	0.2	0.4	0.2	0.3	0.7	0.5	0.3	0.4	A	0.4	0.5	0.7	0.8	0.6	0.4	0.5	0.41	0.84
3-Jan	0.6	0.5	0.4	0.5	0.6	0.5	0.4	0.2	0.2	0.2	0.2	0.5	0.5	0.3	0.4	A	0.7	1.2	1.2	1.2	0.6	0.4	0.4	0.3	0.51	1.24
4-Jan	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.9	0.9	0.8	0.7	0.4	0.4	A	0.5	0.8	0.7	0.2	0.2	0.3	0.2	0.2	0.3	0.41	0.90
5-Jan	0.2	0.3	0.3	0.4	0.6	0.6	0.4	0.3	0.3	0.2	0.2	0.3	0.3	A	0.5	0.3	0.3	0.4	0.5	0.6	0.7	0.5	0.5	0.3	0.39	0.66
6-Jan	0.3	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.25	0.38
7-Jan	0.5	0.6	0.5	0.3	0.2	0.3	0.4	0.5	0.8	0.5	0.4	A	0.3	0.3	0.3	0.4	0.6	0.6	0.6	0.6	0.5	0.6	0.3	0.2	0.44	0.82
8-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.3	C	C	C	C	0.0	0.3	0.9	1.0	0.8	1.0	0.4	0.35	1.01
9-Jan	0.2	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18	0.25
10-Jan	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	A	0.4	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.3	0.2	0.2	0.2	0.25	0.52
11-Jan	0.2	0.3	0.2	0.2	0.2	0.2	0.3	A	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.32	0.50
12-Jan	0.3	0.3	0.3	0.2	0.2	0.3	A	0.5	0.6	0.5	0.6	0.4	0.3	0.2	0.3	0.3	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.32	0.61
13-Jan	0.2	0.3	0.2	0.2	0.3	A	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.7	0.5	0.5	0.6	0.6	0.6	0.39	0.71
14-Jan	0.7	0.6	0.4	0.4	A	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25	0.72
15-Jan	0.2	0.2	0.2	A	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.15	0.15
16-Jan	0.1	0.1	A	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	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.20	0.30
17-Jan	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20	0.32
18-Jan	A	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.17	0.22
19-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.16	0.18
20-Jan	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.16	0.22
21-Jan	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.2	A	0.2	0.2	0.2	0.21	0.28
22-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.20	0.26
23-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	D	D	D	D	D	D	D	D	D	--	0.27
24-Jan	D	D	D	D	D	D	D	D	D	D	D	D	D	D	0.5	0.4	0.4	A	0.5	0.8	0.4	0.5	0.3	0.3	--	0.77
25-Jan	0.3	0.3	0.3	0.3	0.3	0.2	0.4	0.8	1.5	1.4	1.4	0.8	0.7	0.7	0.5	0.4	D	M	M	M	1.0	1.3	1.4	1.2	0.76	1.49
26-Jan	0.6	1.1	0.6	0.3	0.3	0.2	0.2	0.3	0.5	1.2	1.0	0.8	0.5	0.4	0.4	A	0.5	0.4	0.7	0.7	1.1	1.7	2.0	0.7	0.72	2.01
27-Jan	0.5	0.4	0.6	0.8	0.6	0.4	0.4	0.5	0.6	1.5	1.7	0.8	0.6	0.5	A	0.8	0.7	1.0	0.5	0.2	0.2	0.2	0.2	0.2	0.60	1.71
28-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.18	0.23
29-Jan	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	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	0.21	0.40
30-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.20	0.27
31-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3	A	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.3	0.3	0.4	0.8	0.7	0.4	0.35	0.79
	0.27	0.27	0.25	0.24	0.24	0.23	0.25	0.27	0.35	0.40	0.39	0.31	0.30	0.28	0.27	0.30	0.34	0.36	0.36	0.38	0.39	0.43	0.41	0.33	Diurnal Average	
	0.72	1.15	0.59	0.79	0.62	0.62	0.43	0.79	1.49	1.47	1.71	0.82	0.74	0.68	0.52	0.77	0.79	1.24	1.21	1.22	1.07	1.70	2.01	1.16	Diurnal Maximum	

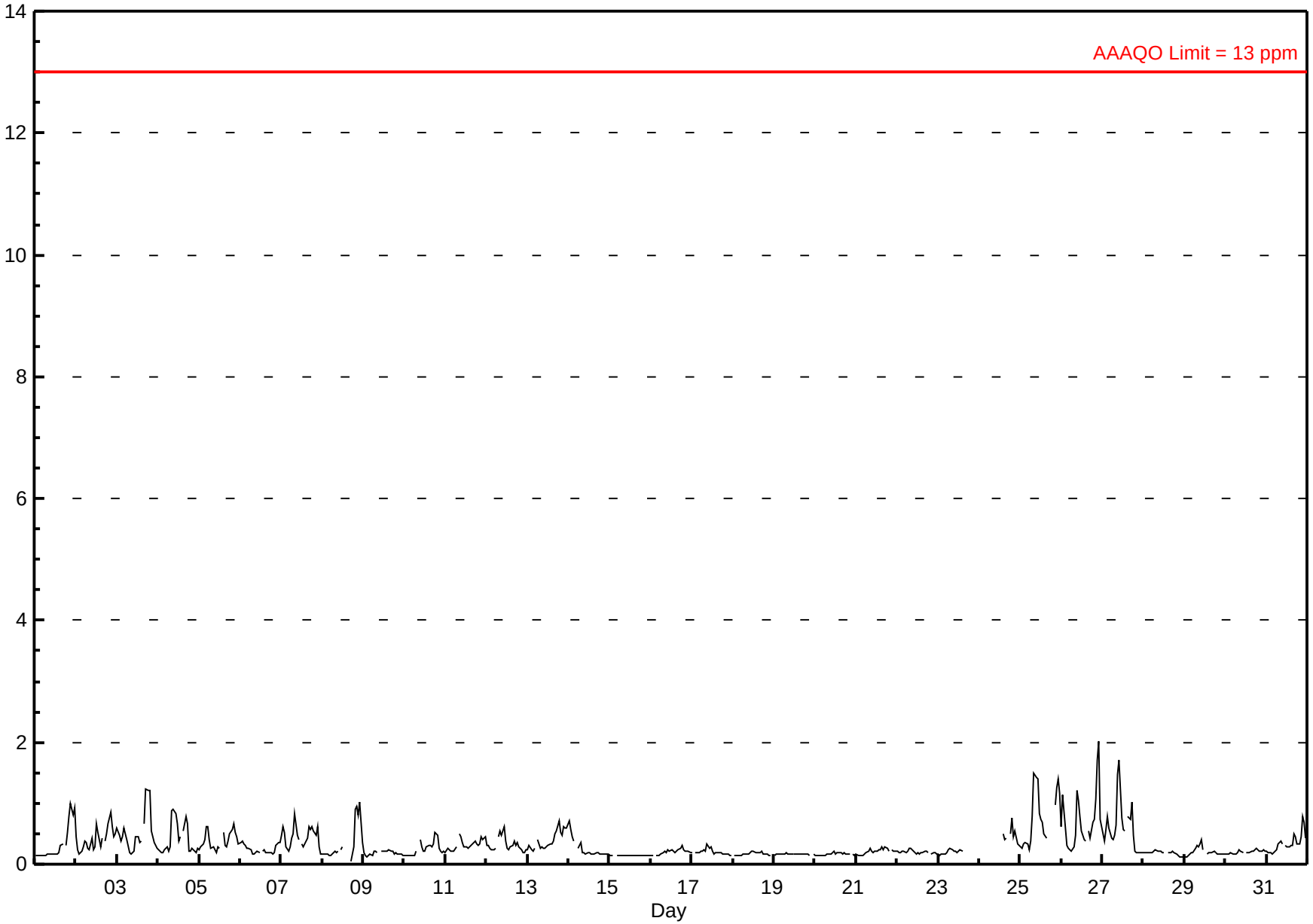
C - Calibration D - DAS Failure M - Maintenance A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 13 ppm 24-hr na

Peace Airshed Zone Association

Hourly Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - January 2013



Hourly Maximums

Carbon Monoxide (CO) - ppm

Henry Pirker - January 2013

Maximum Value: 4.25 ppm on Jan 27 11:00

Maximum Daily Average: 1.18 ppm on Jan 25

Minimum Value: 0.2 ppm on Jan 9 04:00

Minimum Daily Average: 0.16 ppm on Jan 15

Maximum Diurnal Average: 0.86 ppm at hour 10

Minimum Diurnal Average: 0.33 ppm at hour 5

Monthly Average: 0.522 ppm

Percentiles: P_1 = 0.15 P_{10} = 0.19 Q_1 = 0.23 Median = 0.34 Q_3 = 0.61 P_{90} = 1.05 P_{99} = 2.61

Hours in Service:	744
Hours of Data:	683
Hours of Missing Data:	61
Hours of Calibration:	34
Percent Operational Time:	96.4

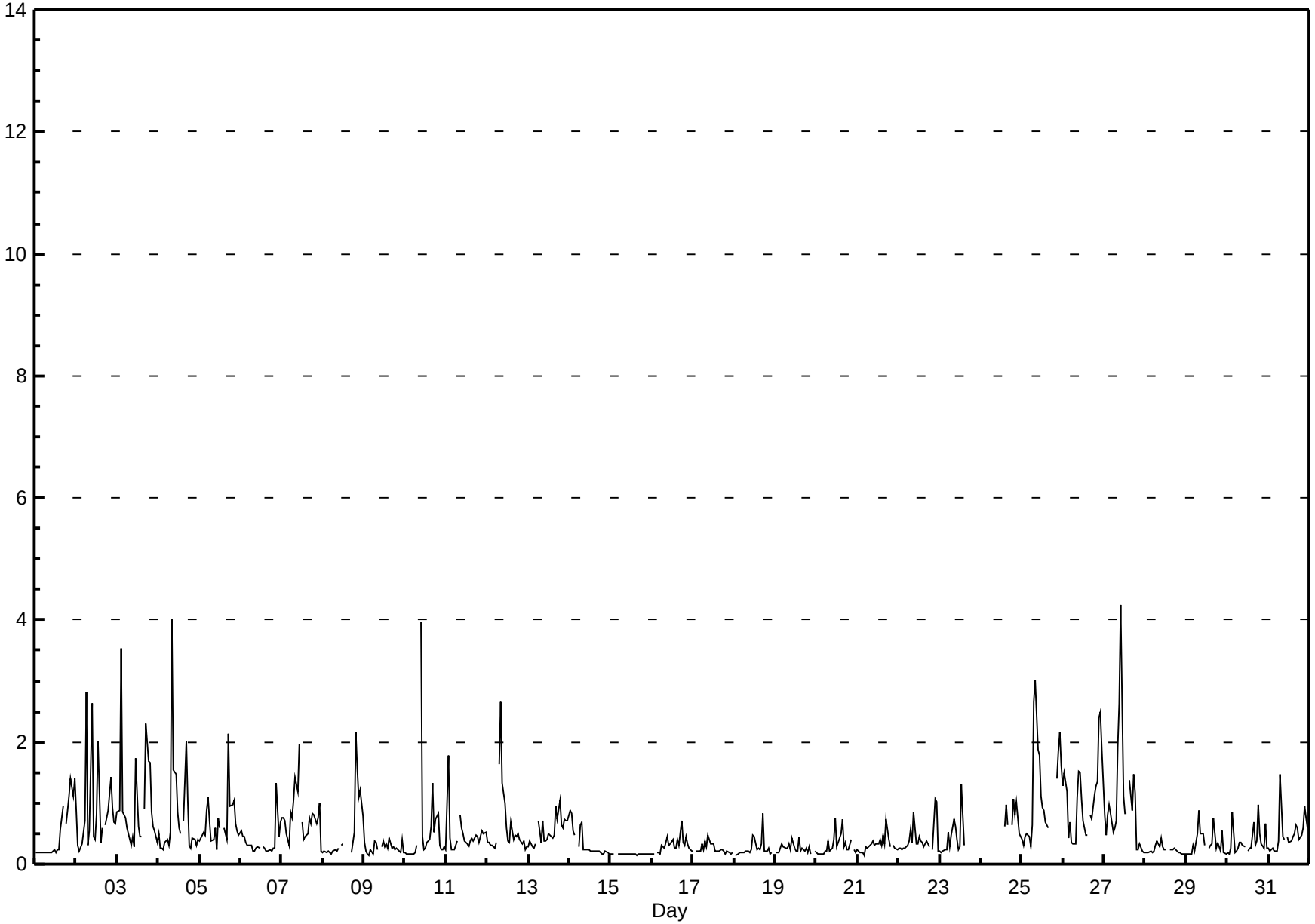
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.6	1.0	A	0.7	0.9	1.1	1.4	1.1	1.4	0.48	1.41
2-Jan	0.9	0.3	0.2	0.3	0.5	0.7	2.8	0.3	0.5	2.6	0.5	0.4	0.8	2.0	0.4	0.6	A	0.6	0.8	0.9	1.4	0.9	0.7	0.7	0.86	2.82
3-Jan	0.8	0.9	3.5	0.9	0.8	0.8	0.6	0.4	0.3	0.5	0.3	1.7	0.6	0.5	0.5	A	0.9	2.3	1.7	1.7	0.9	0.6	0.6	0.4	0.95	3.53
4-Jan	0.5	0.3	0.3	0.2	0.4	0.4	0.3	0.5	4.0	1.5	1.5	0.9	0.6	0.5	A	0.7	2.0	1.1	0.3	0.3	0.4	0.4	0.3	0.4	0.77	4.00
5-Jan	0.4	0.4	0.5	0.5	0.9	1.1	0.7	0.4	0.4	0.6	0.2	0.8	0.6	A	0.6	0.5	0.4	2.1	0.9	1.0	1.0	0.7	0.6	0.5	0.68	2.13
6-Jan	0.6	0.5	0.5	0.4	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.3	A	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	1.3	0.5	0.7	0.36	1.34
7-Jan	0.8	0.8	0.7	0.5	0.3	0.9	0.8	1.1	1.4	1.2	2.0	A	0.7	0.4	0.5	0.5	0.8	0.7	0.8	0.8	0.7	0.8	1.0	0.2	0.78	1.96
8-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	A	0.3	0.3	C	C	C	C	0.2	0.5	2.2	1.6	1.1	1.2	0.8	0.54	2.16
9-Jan	0.4	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.2	A	0.3	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.4	0.2	0.27	0.43
10-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	A	4.0	0.4	0.2	0.3	0.3	0.4	0.6	1.3	0.5	0.7	0.8	0.3	0.2	0.2	0.3	0.53	3.97
11-Jan	0.2	1.8	0.4	0.2	0.2	0.2	0.4	A	0.8	0.6	0.5	0.4	0.3	0.3	0.4	0.4	0.4	0.5	0.4	0.3	0.4	0.5	0.5	0.5	0.48	1.78
12-Jan	0.3	0.3	0.3	0.3	0.3	0.4	A	1.6	2.7	1.3	1.0	0.6	0.4	0.3	0.7	0.4	0.5	0.4	0.5	0.4	0.3	0.4	0.2	0.3	0.61	2.66
13-Jan	0.3	0.4	0.3	0.3	0.3	A	0.7	0.3	0.7	0.4	0.4	0.4	0.5	0.5	0.4	0.5	0.9	0.7	1.0	0.6	0.6	0.7	0.7	0.7	0.54	1.03
14-Jan	0.9	0.8	0.6	0.5	A	0.3	0.6	0.7	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.33	0.88
15-Jan	0.2	0.2	0.2	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.16	0.17
16-Jan	0.2	0.2	A	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.4	0.3	0.3	0.4	0.3	0.7	0.3	0.3	0.4	0.3	0.2	0.2	0.31	0.72
17-Jan	0.2	A	0.2	0.2	0.2	0.3	0.2	0.4	0.3	0.5	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25	0.48
18-Jan	A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.4	0.2	0.2	0.2	0.3	0.8	0.2	0.2	0.2	0.2	0.2	A	0.26	0.82
19-Jan	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.4	0.3	0.2	0.2	0.4	0.2	0.3	0.2	0.3	0.2	0.3	0.2	A	0.2	0.25	0.44
20-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.3	0.4	0.8	0.3	0.3	0.5	0.7	0.3	0.4	0.2	0.2	0.4	A	0.2	0.2	0.31	0.77
21-Jan	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.4	0.3	0.5	0.3	0.7	0.4	0.3	A	0.3	0.3	0.2	0.32	0.73
22-Jan	0.3	0.3	0.2	0.3	0.3	0.3	0.4	0.6	0.3	0.9	0.3	0.3	0.4	0.4	0.4	0.3	0.4	0.3	0.3	A	0.2	1.1	1.0	0.2	0.41	1.06
23-Jan	0.2	0.2	0.2	0.2	0.2	0.5	0.3	0.5	0.7	0.6	0.4	0.2	0.3	1.3	0.3	D	D	D	D	D	D	D	D	D	--	1.30
24-Jan	D	D	D	D	D	D	D	D	D	D	D	D	D	D	0.6	1.0	0.6	A	0.7	1.1	0.8	1.0	0.5	0.4	--	1.06
25-Jan	0.4	0.3	0.4	0.5	0.4	0.3	0.6	2.7	3.0	1.9	1.8	1.1	0.9	0.9	0.7	0.6	D	M	M	M	1.4	1.9	2.2	1.6	1.18	3.01
26-Jan	1.3	1.5	1.2	0.4	0.7	0.4	0.3	0.3	1.1	1.5	1.5	1.1	0.7	0.5	0.5	A	0.8	0.7	1.1	1.3	1.3	2.4	2.5	1.9	1.09	2.48
27-Jan	0.8	0.5	0.8	1.0	0.8	0.5	0.6	0.7	1.9	2.6	4.2	1.1	0.8	0.8	A	1.4	0.9	1.5	1.2	0.2	0.2	0.3	0.2	0.2	1.02	4.25
28-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.4	0.3	0.2	0.2	A	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.24	0.43
29-Jan	0.2	0.2	0.2	0.2	0.3	0.2	0.5	0.9	0.5	0.5	0.5	0.3	A	0.3	0.3	0.3	0.8	0.3	0.4	0.3	0.2	0.6	0.2	0.2	0.35	0.88
30-Jan	0.2	0.2	0.3	0.9	0.2	0.2	0.3	0.3	0.4	0.3	0.3	A	0.2	0.3	0.3	0.7	0.3	0.4	1.0	0.5	0.3	0.3	0.7	0.3	0.37	0.97
31-Jan	0.3	0.2	0.3	0.2	0.2	0.2	0.4	1.5	0.5	0.4	A	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.4	0.5	0.6	0.9	0.8	0.6	0.49	1.48
	0.40	0.40	0.44	0.34	0.33	0.35	0.47	0.57	0.77	0.86	0.69	0.51	0.43	0.46	0.38	0.48	0.57	0.64	0.55	0.58	0.57	0.67	0.61	0.48	Diurnal Average	
	1.29	1.78	3.53	0.97	0.88	1.08	2.82	2.66	4.00	3.97	4.25	1.74	0.94	2.01	0.69	1.39	2.01	2.30	1.68	2.16	1.56	2.39	2.48	1.87	Diurnal Maximum	

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

Hourly Maximums

Carbon Monoxide (CO) - ppm

Henry Pirker - January 2013

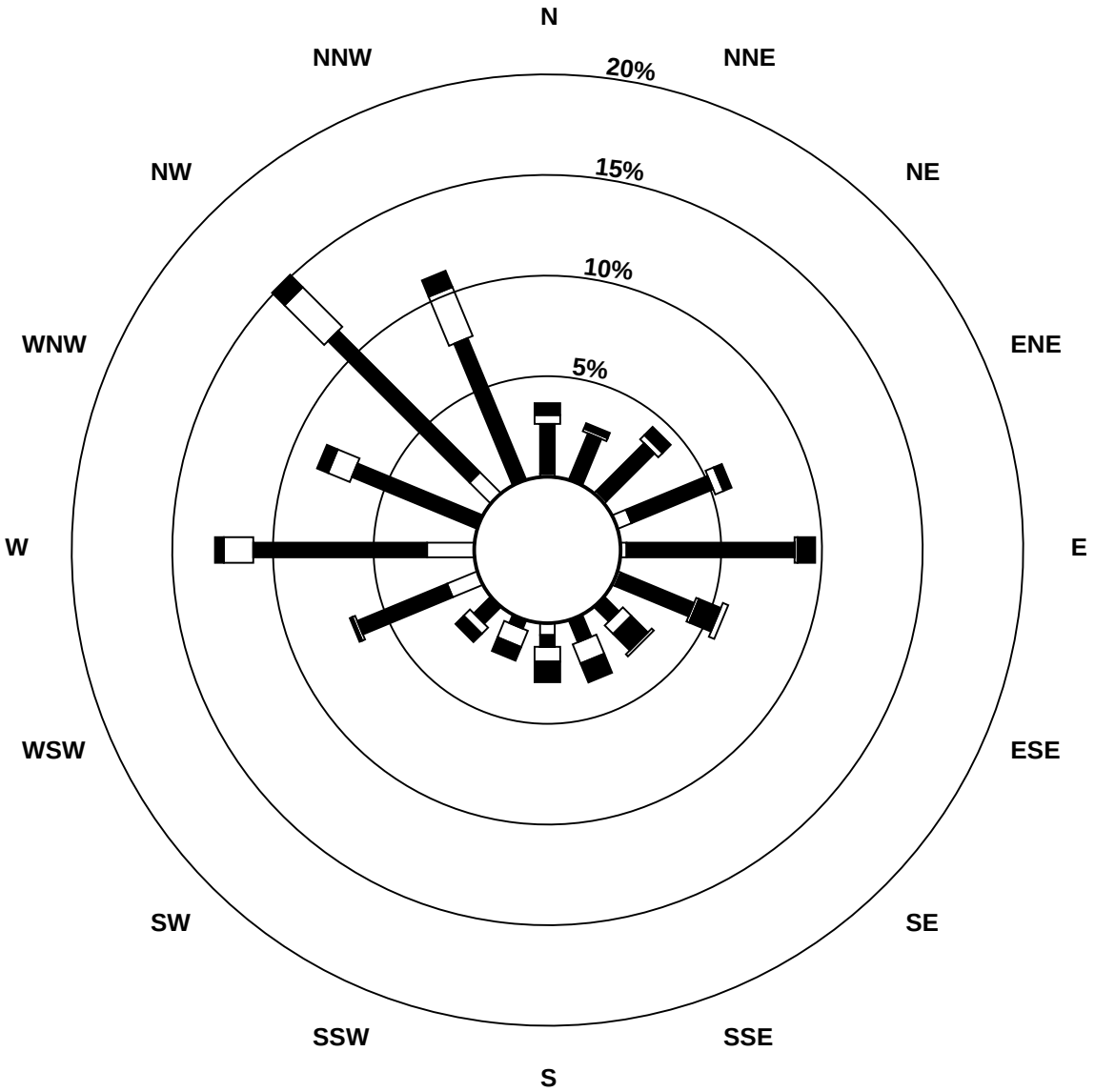


Peace Airshed Zone Association

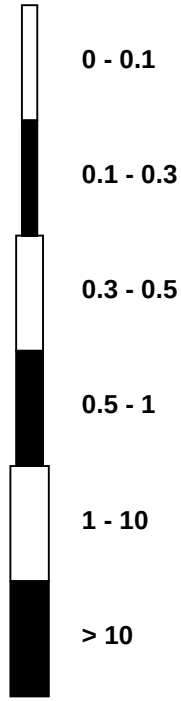
Pollutant Rose

Carbon Monoxide (CO) - ppm

Henry Pirker - January 2013



Pollutant Classes (ppm)



Eight Hour Running Averages

Carbon Monoxide (CO) - ppm

Henry Pirker - January 2013

Number of Exceedences (AAAQO): 8-hr: 0
Maximum Value: 1.09 ppm on Jan 26 02:00

Minimum Value: 0.13 ppm on Jan 29 04:00

Percentiles: P_1 = 0.14 P_{10} = 0.16 Q_1 = 0.18 Median = 0.23 Q_3 = 0.39 P_{90} = 0.57 P_{99} = 0.98

Hours in Service:	744
Hours of Data:	702
Hours of Missing Data:	42
Hours of Calibration:	8
Percent Operational Time:	95.4

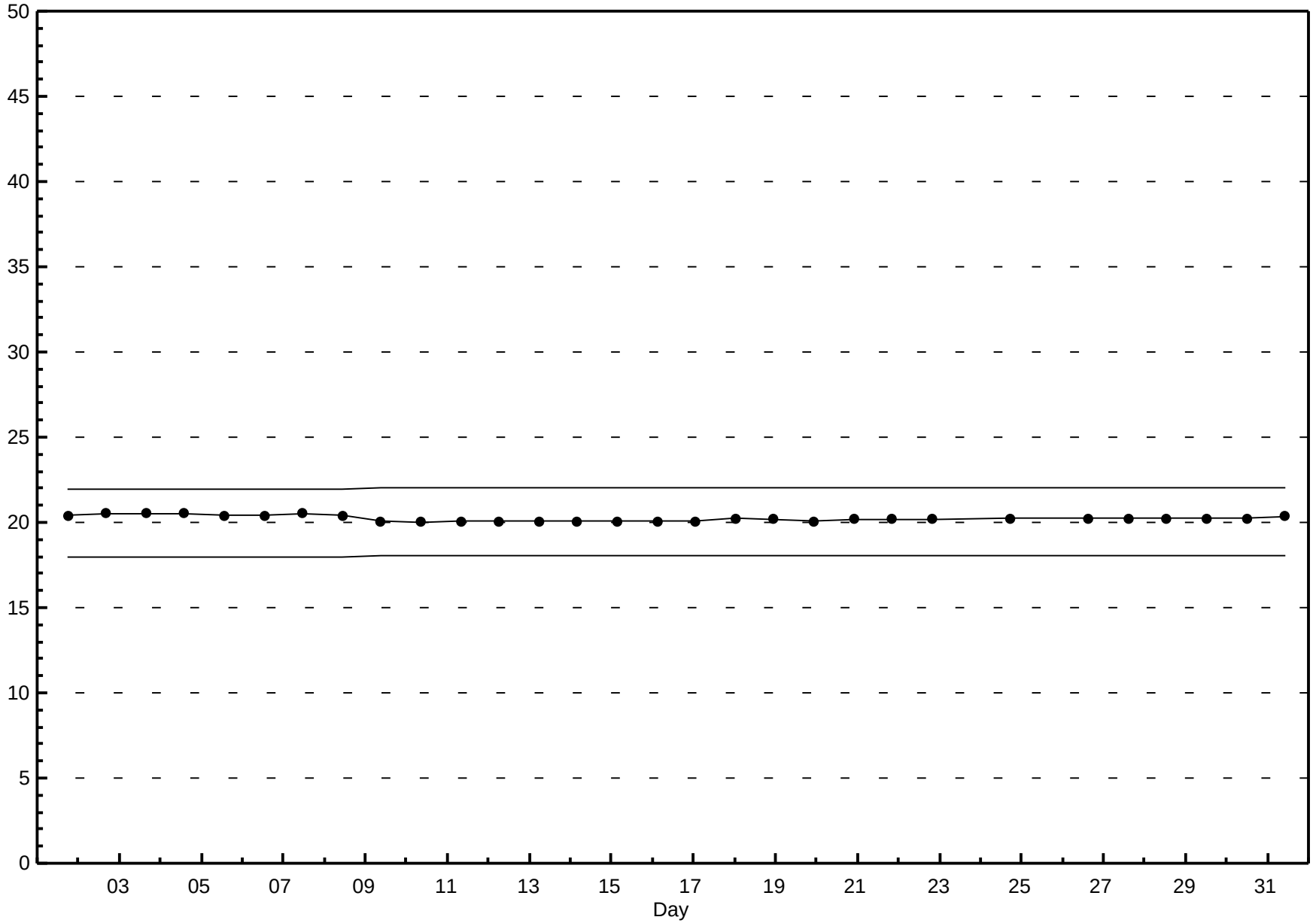
Day	Hourly Period Ending At (MST)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Jan	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.67
2-Jan	0.7	0.6	0.6	0.6	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.69
3-Jan	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.7	0.8	0.8	0.8	0.8	0.7	0.81
4-Jan	0.7	0.6	0.4	0.3	0.3	0.2	0.2	0.2	0.3	0.4	0.5	0.5	0.6	0.6	0.6	0.7	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.69
5-Jan	0.3	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.46
6-Jan	0.5	0.5	0.4	0.4	0.4	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	0.47
7-Jan	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.52
8-Jan	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	N	N	N	N	N	N	N	N	0.7	0.6	0.67
9-Jan	0.6	0.6	0.6	0.5	0.4	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	0.58
10-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.34
11-Jan	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.37
12-Jan	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.43
13-Jan	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.57
14-Jan	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.4	0.4	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	0.60
15-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.16
16-Jan	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24
17-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24
18-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.20
19-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.17
20-Jan	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.18
21-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.25
22-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.23
23-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	N	N	N	N	N	N	N	0.23
24-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	0.5	0.5	0.5	0.5	0.51
25-Jan	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.5	0.7	0.8	0.9	0.9	1.0	1.0	0.9	0.9	0.8	N	N	N	N	N	N	0.98
26-Jan	N	1.1	1.0	0.9	0.8	0.7	0.6	0.5	0.4	0.4	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.6	0.5	0.5	0.6	0.8	1.0	1.0	1.09
27-Jan	1.0	1.0	1.0	1.0	0.9	0.8	0.6	0.5	0.5	0.7	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.7	0.6	0.6	0.5	0.5	0.4	0.99
28-Jan	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.33
29-Jan	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.29
30-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.23
31-Jan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.4	0.4	0.4	0.5	0.5	0.50
	0.99	1.09	1.02	0.97	0.91	0.75	0.57	0.52	0.54	0.67	0.82	0.86	0.91	0.97	0.98	0.93	0.94	0.88	0.70	0.79	0.80	0.81	1.03	0.99	
	Diurnal Maximums																								

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

Span Responses

Carbon Monoxide (CO)

Henry Pirker - January 2013



Hourly Averages

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

Henry Pirker - January 2013

Number of Exceedences: 1-hr: 0 24-hr: 0
Maximum Value: 37.6 $\mu g/m^3$ on Jan 5 19:00
Maximum Daily Average: 15.2 $\mu g/m^3$ on Jan 5

Minimum Value: 1 $\mu g/m^3$ on Jan 1 03:00
Maximum Diurnal Average: 9.7 $\mu g/m^3$ at hour 22
Monthly Average: 6.57 $\mu g/m^3$
Minimum Daily Average: 1.0 $\mu g/m^3$ on Jan 15
Minimum Diurnal Average: 4.9 $\mu g/m^3$ at hour 14
Percentiles: P_1 = 0.9 P_{10} = 1.3 Q_1 = 2.5 Median = 4.5 Q_3 = 9.1 P_{90} = 13.9 P_{99} = 31.6

Hours in Service:	744
Hours of Data:	717
Hours of Missing Data:	27
Hours of Calibration:	0
Percent Operational Time:	96.4

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	9	4	8	10	11	14	15	3.6	14.6
2-Jan	14	9	10	9	11	17	10	7	7	7	6	9	10	8	6	10	8	9	36	15	11	15	10	9	11.0	36.3
3-Jan	15	12	15	10	10	9	6	3	2	2	2	3	3	3	3	7	8	12	16	18	10	11	11	11	8.4	17.8
4-Jan	10	13	9	11	8	8	8	8	11	13	13	14	10	12	12	13	16	17	6	4	5	4	3	2	9.6	16.7
5-Jan	3	4	5	6	6	7	8	13	12	13	9	7	7	7	9	11	22	25	38	33	36	30	32	22	15.2	37.6
6-Jan	13	15	15	15	18	12	8	5	4	4	4	3	2	1	1	1	1	1	1	1	2	2	2	3	5.5	17.5
7-Jan	4	6	7	6	8	9	13	14	17	12	15	9	9	8	8	8	10	12	12	11	12	18	7	4	9.9	18.3
8-Jan	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	2	8	12	19	35	7	4.8	34.5
9-Jan	6	6	7	6	5	4	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	3	3	3.9	7.4
10-Jan	3	3	3	3	3	3	3	3	3	4	4	3	2	2	3	4	5	5	9	10	12	10	9	7	4.8	12.1
11-Jan	7	8	8	8	10	10	12	18	15	17	13	10	9	8	7	7	9	10	9	9	11	11	19	12	10.8	19.5
12-Jan	7	8	6	5	4	5	5	6	7	6	7	7	6	6	5	4	4	4	4	4	3	2	2	3	5.0	7.6
13-Jan	2	2	2	2	2	3	3	3	5	5	7	6	6	5	4	3	5	8	9	8	9	13	13	13	5.8	13.0
14-Jan	16	14	13	13	10	8	7	6	4	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	4.6	16.0
15-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.0
16-Jan	1	2	2	2	2	2	2	2	2	2	3	2	2	2	2	2	2	3	2	2	2	3	2	2	2.0	3.2
17-Jan	2	2	3	4	5	4	4	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2.1	4.7
18-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	3	4	4	4	3	3	3	3	2.0	4.0
19-Jan	4	5	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	3.3	5.2
20-Jan	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.4	3.3
21-Jan	2	2	2	3	3	3	3	3	4	4	4	4	4	5	6	7	8	9	11	7	13	10	8	7	5.4	12.6
22-Jan	7	6	6	6	6	5	5	5	4	4	4	3	3	3	3	3	3	3	2	2	2	2	2	2	3.7	6.9
23-Jan	2	2	2	2	2	2	3	3	3	3	3	3	3	4	5	D	D	D	D	D	D	D	D	D	--	4.7
24-Jan	D	D	D	D	D	D	D	D	D	D	D	D	D	D	14	12	13	14	18	21	17	17	11	11	--	20.9
25-Jan	10	9	10	10	9	8	11	12	17	17	19	13	14	14	11	8	D	M	M	M	25	30	18	17	14.0	29.5
26-Jan	15	25	13	9	8	8	8	8	14	16	16	11	8	8	5	7	8	8	11	15	22	32	32	21	13.7	31.8
27-Jan	18	11	14	19	13	11	11	11	12	20	16	12	11	12	15	21	19	21	15	10	10	8	8	8	13.6	21.3
28-Jan	8	8	8	8	7	7	7	9	6	6	5	5	4	5	4	4	4	5	4	4	4	4	4	4	5.6	8.5
29-Jan	4	3	4	4	4	5	5	12	8	8	8	6	5	5	5	5	5	5	5	5	4	4	4	4	5.4	12.2
30-Jan	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	4.4	5.5
31-Jan	5	4	4	5	6	6	8	9	8	9	10	10	8	8	8	9	10	10	11	15	13	16	17	14	9.3	16.7
	6.3	6.4	6.1	6.0	5.9	5.7	5.5	6.0	6.2	6.5	6.2	5.3	4.9	4.9	5.0	5.6	6.3	7.3	8.6	8.0	8.9	9.7	9.4	7.2	Diurnal Average	
	18.3	25.1	14.9	19.1	17.5	17.3	12.8	17.6	17.1	20.3	18.7	14.1	13.7	14.4	14.7	21.3	22.2	25.4	37.6	33.1	35.9	31.8	34.5	21.6	Diurnal Maximum	

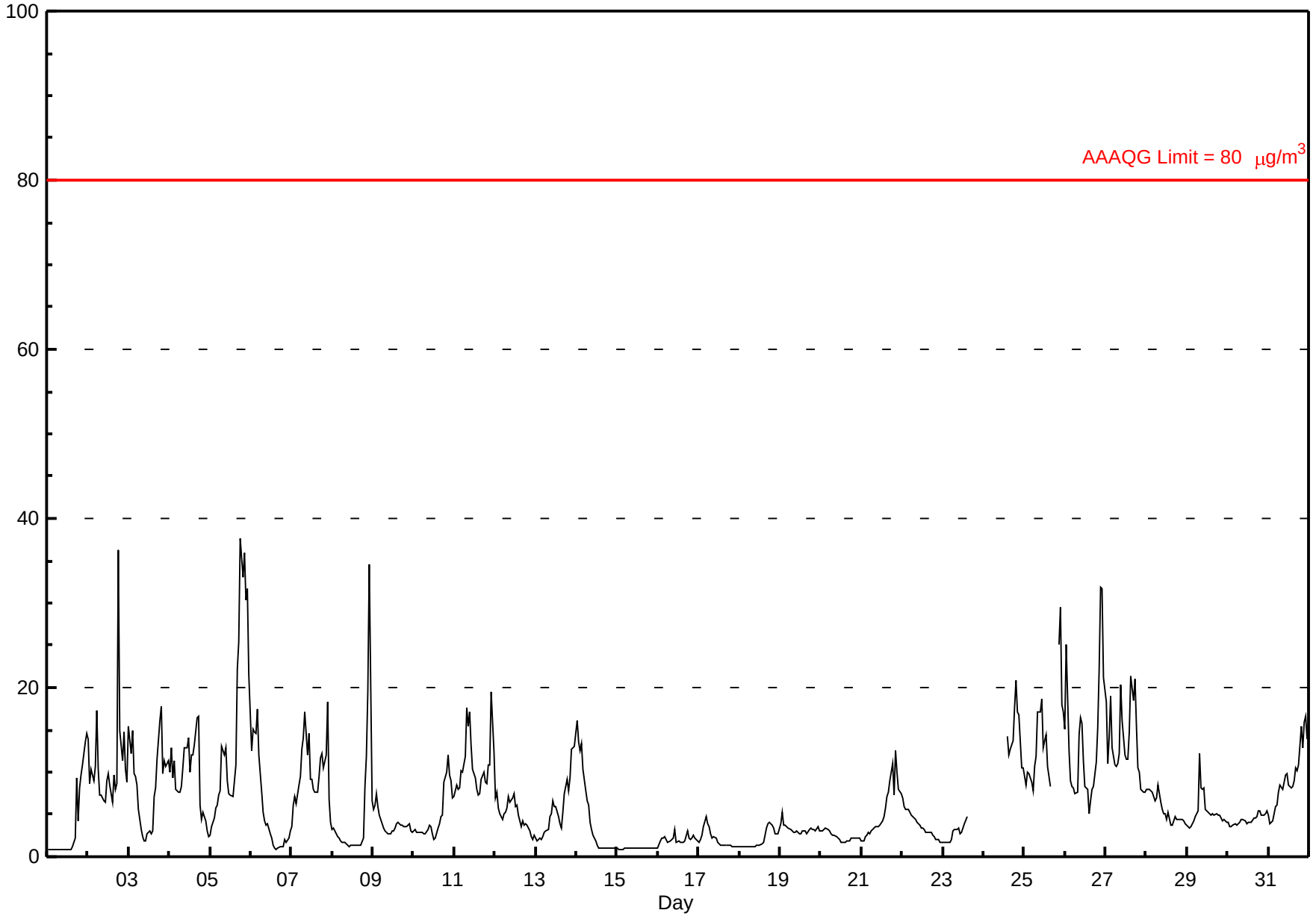
D - DAS Failure M - Maintenance
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

Hourly Averages

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

Henry Pirker - January 2013



Peace Airshed Zone Association

Hourly Maximums

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

Henry Pirker - January 2013

Maximum Value: 204.1 $\mu g/m^3$ on Jan 2 19:00

Maximum Daily Average: 28.2 $\mu g/m^3$ on Jan 2

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

Minimum Daily Average: 1.1 $\mu g/m^3$ on Jan 15

Maximum Diurnal Average: 20.0 $\mu g/m^3$ at hour 22

Minimum Diurnal Average: 6.0 $\mu g/m^3$ at hour 14

Monthly Average: 10.95 $\mu g/m^3$

Percentiles: $P_1 = 0.9$ $P_{10} = 1.4$ $Q_1 = 3.0$ Median = 5.8 $Q_3 = 13.0$ $P_{90} = 24.5$ $P_{99} = 72.9$

Hours in Service:	744
Hours of Data:	717
Hours of Missing Data:	27
Hours of Calibration:	0
Percent Operational Time:	96.4

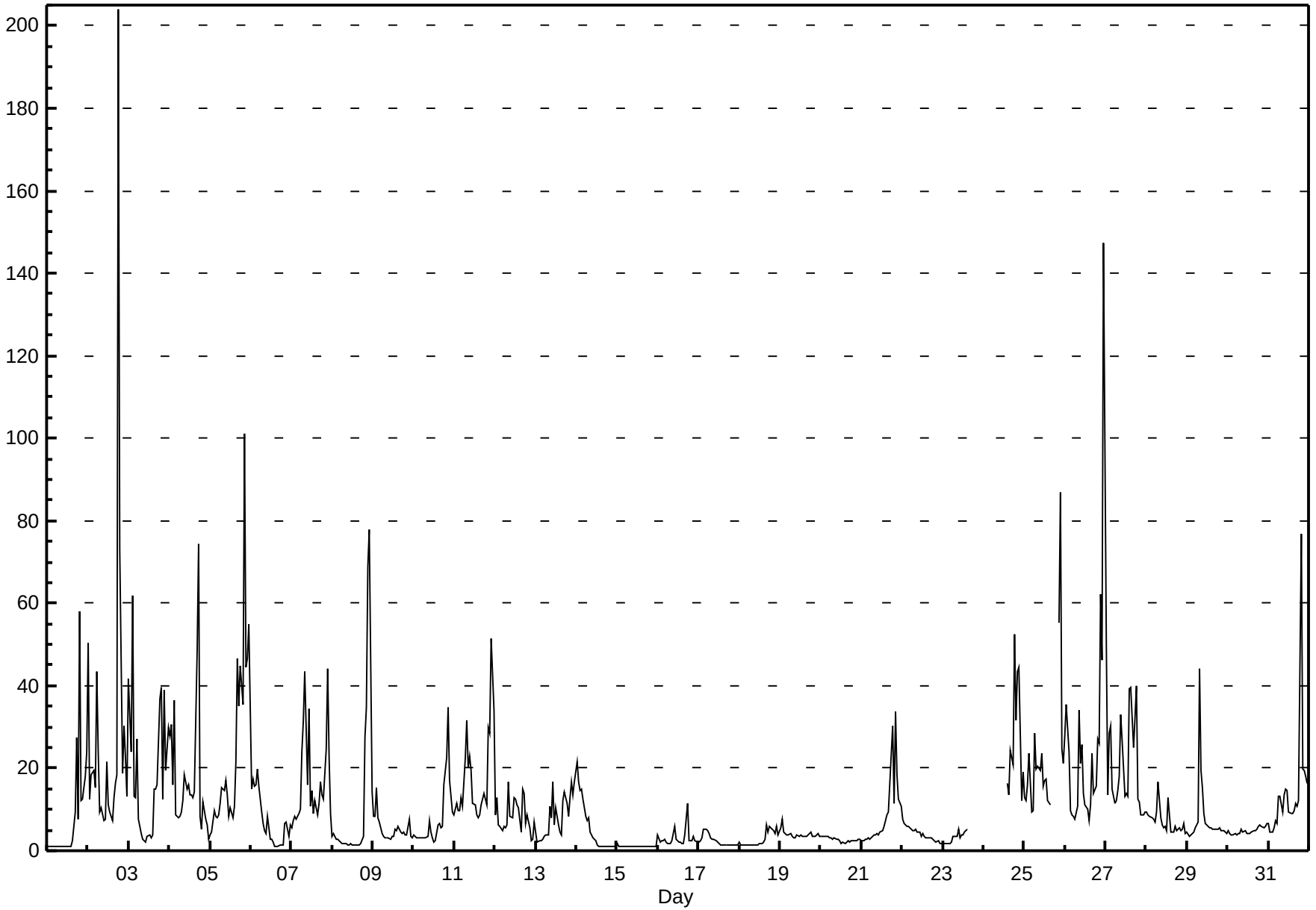
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	9	27	8	58	12	13	18	24	7.7	58.1
2-Jan	50	12	18	20	15	44	24	10	10	7	8	22	11	9	7	13	16	18	204	73	19	30	23	13	28.2	204.1
3-Jan	42	24	62	13	13	27	8	4	3	2	2	3	4	3	4	15	15	16	37	40	12	39	19	30	18.2	61.9
4-Jan	28	30	16	36	9	8	8	10	12	18	15	16	14	14	13	14	49	74	8	5	12	8	6	3	17.8	74.4
5-Jan	4	5	10	8	8	9	11	15	15	17	14	8	11	8	11	21	47	35	45	35	101	45	47	55	24.3	101.2
6-Jan	15	17	16	16	20	16	9	7	5	4	8	3	3	2	1	1	1	1	1	1	6	7	3	6	7.1	19.8
7-Jan	6	7	8	7	9	10	24	31	44	16	34	11	15	9	12	9	12	17	13	13	25	44	23	9	16.9	44.0
8-Jan	3	4	3	3	2	2	2	2	2	2	1	2	2	1	1	1	1	2	3	28	35	69	78	14	10.9	77.7
9-Jan	8	8	15	8	7	4	4	3	3	3	3	4	4	5	5	6	5	4	5	4	4	8	3	3	5.2	15.4
10-Jan	4	3	3	3	3	3	3	3	3	7	5	3	2	3	6	6	6	6	16	23	35	17	13	10	7.8	34.9
11-Jan	9	12	10	10	13	11	23	32	20	23	19	12	11	9	8	9	11	14	12	11	30	29	52	34	17.5	51.6
12-Jan	9	13	6	6	5	6	6	6	17	8	8	13	13	11	10	5	15	14	7	9	5	3	3	7	8.4	16.5
13-Jan	5	2	2	2	3	3	4	4	11	8	17	6	11	6	4	4	12	14	11	8	13	17	14	17	8.2	16.8
14-Jan	21	17	14	15	12	8	7	8	5	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	5.4	21.4
15-Jan	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.7
16-Jan	4	2	2	2	3	2	2	2	3	4	6	3	2	2	2	2	4	12	2	2	2	3	2	2	3.0	11.5
17-Jan	2	2	3	5	5	5	4	3	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	2.4	5.3
18-Jan	2	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	6	5	6	5	5	4	6	4	2.7	6.3
19-Jan	6	8	5	4	4	4	4	3	3	3	4	3	4	3	3	3	3	4	5	3	4	4	4	3	4.0	7.7
20-Jan	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	3	2	3	3	2.7	3.5
21-Jan	2	2	3	3	3	3	3	4	4	4	4	5	5	6	7	9	9	16	30	11	34	18	12	11	8.7	33.6
22-Jan	8	7	6	6	6	5	5	5	5	5	5	4	4	3	3	3	3	3	3	2	2	2	2	2	4.1	7.6
23-Jan	2	2	2	2	2	2	3	3	3	5	3	4	4	5	5	D	D	D	D	D	D	D	D	D	--	5.2
24-Jan	D	D	D	D	D	D	D	D	D	D	D	D	D	D	16	14	24	21	53	32	43	45	12	19	--	52.6
25-Jan	13	12	16	24	9	10	29	20	21	19	24	16	17	17	12	11	D	M	M	M	55	87	25	21	22.8	86.9
26-Jan	28	35	24	10	9	8	8	11	34	21	26	14	11	10	7	11	24	14	16	27	26	62	46	147	26.2	147.3
27-Jan	50	14	29	30	15	12	12	14	18	33	27	13	14	13	39	40	25	32	40	13	12	9	9	9	21.7	49.9
28-Jan	9	9	8	8	8	7	9	17	8	6	5	6	5	13	5	5	5	6	5	6	5	5	6	4	7.0	16.8
29-Jan	5	4	4	4	5	6	7	44	19	15	9	7	6	6	6	5	5	5	5	6	5	5	5	4	7.9	44.3
30-Jan	5	4	4	4	4	4	4	4	5	5	5	4	4	4	4	5	5	5	6	6	6	5	6	7	4.8	6.5
31-Jan	7	4	5	5	7	7	13	13	10	14	15	15	9	9	9	10	11	11	12	77	20	20	18	16	14.0	76.8
	11.7	8.9	10.0	8.7	6.9	7.7	8.1	9.5	9.7	8.8	9.2	6.8	6.4	6.0	6.8	7.7	11.4	13.2	19.3	17.4	17.8	20.0	15.4	16.0	Diurnal Average	
	50.5	35.5	61.9	36.3	19.8	43.5	28.6	44.3	43.5	33.1	34.2	21.5	16.9	17.3	39.3	39.6	48.8	74.4	204.1	76.8	101.2	86.9	77.7	147.3	Diurnal Maximum	

D - DAS Failure M - Maintenance

Hourly Maximums

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

Henry Pirker - January 2013

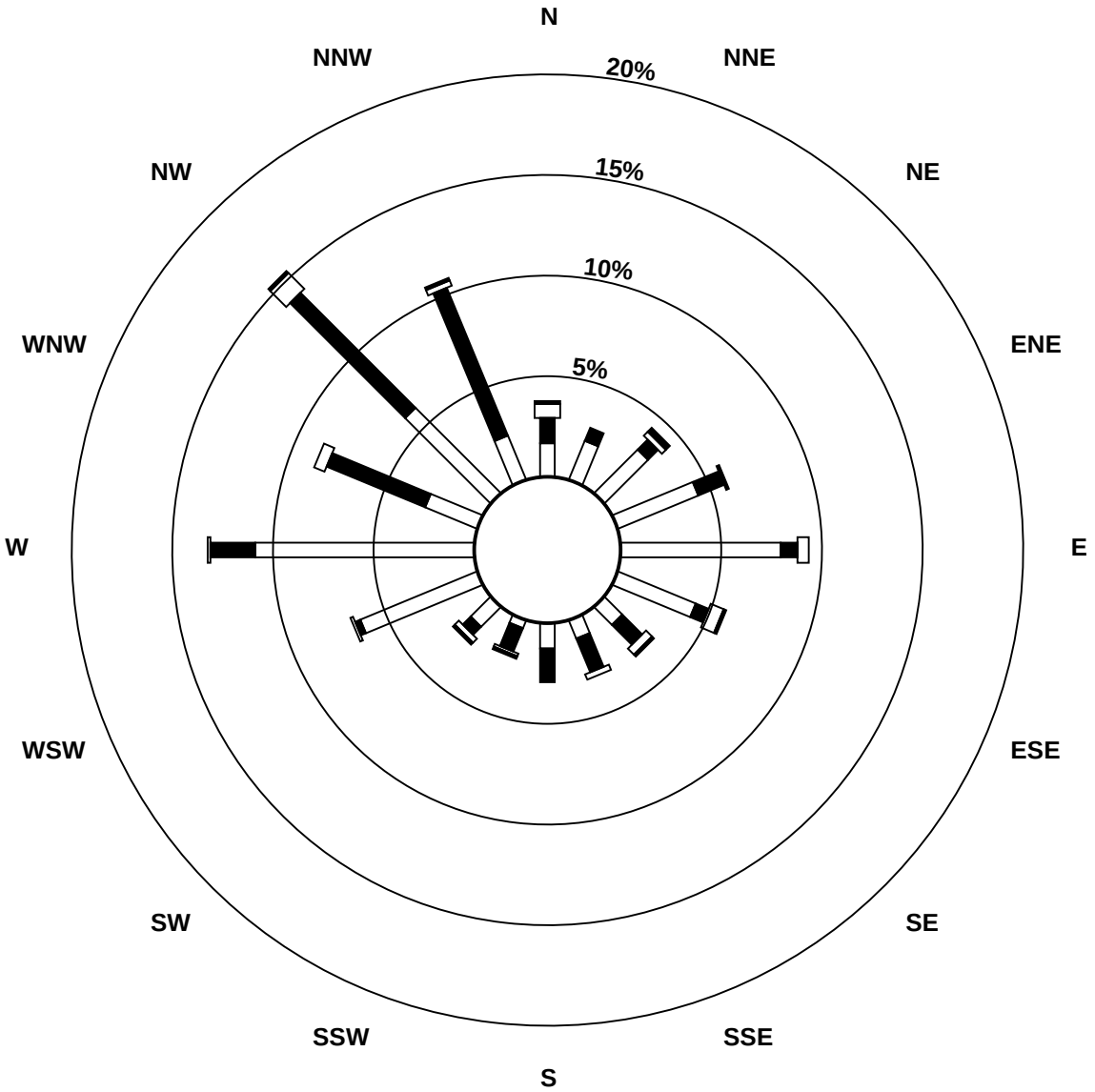


Peace Airshed Zone Association

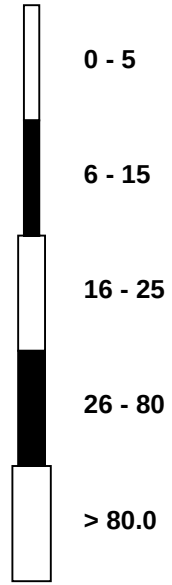
Pollutant Rose

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

Henry Pirker - January 2013



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



Hourly Averages

External Temperature (ET) - °C

Henry Pirker - January 2013

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

Maximum Value: 7.0 °C on Jan 15 15:00

Maximum Daily Average: 6.1 °C on Jan 15

Minimum Value: -32 °C on Jan 29 08:00

Minimum Daily Average: -28.2 °C on Jan 29

Maximum Diurnal Average: -7.3 °C at hour 14

Minimum Diurnal Average: -12.1 °C at hour 7

Monthly Average: -10.32 °C

Percentiles: P_1 = -30.5 P_{10} = -21.7 Q_1 = -15.5 Median = -10.7 Q_3 = -3.7 P_{90} = 2.3 P_{99} = 6.3

Hours in Service:	744
Hours of Data:	717
Hours of Missing Data:	27
Hours of Calibration:	0
Percent Operational Time:	96.4

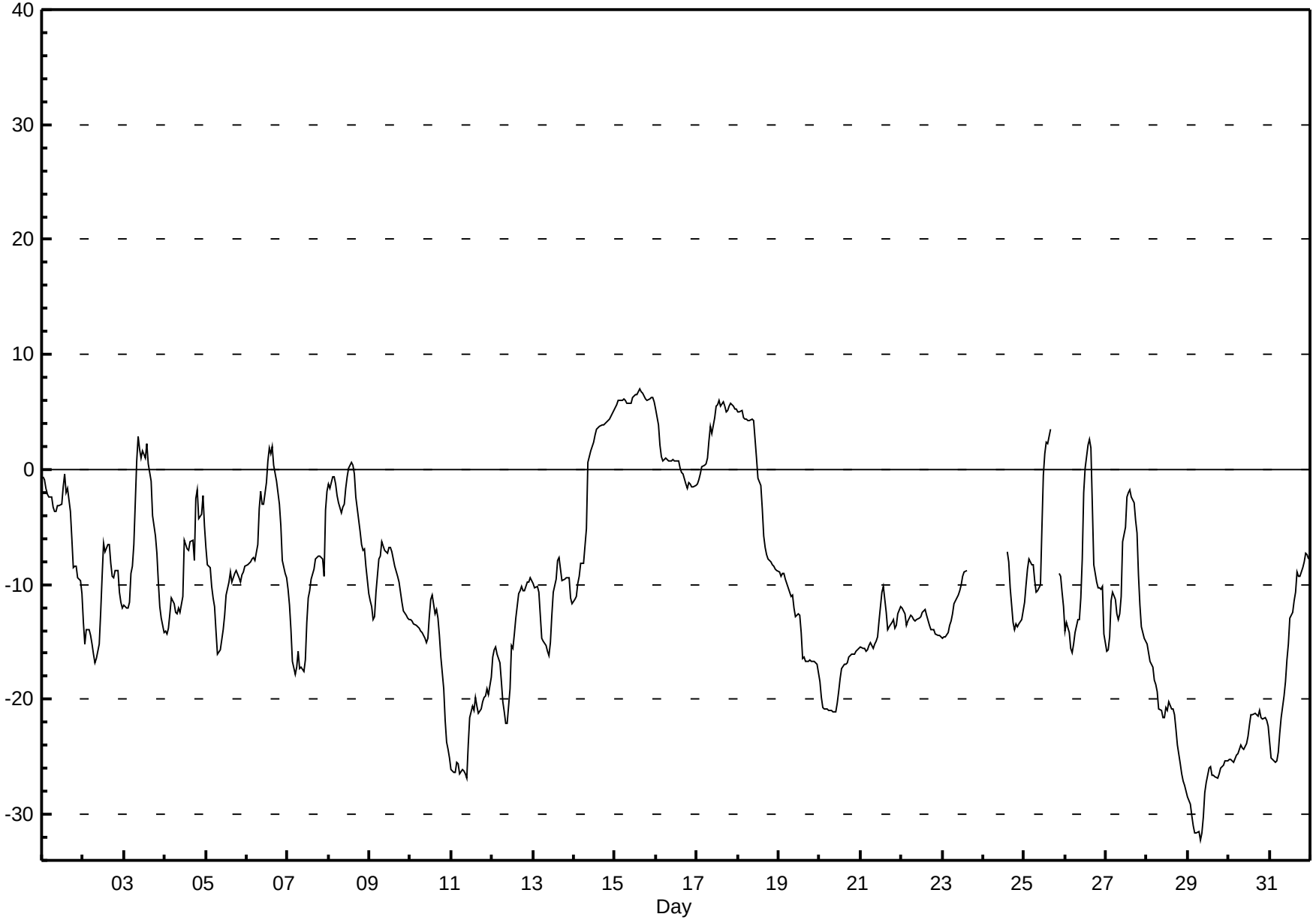
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-1	-1	-2	-2	-2	-2	-3	-4	-4	-3	-3	-3	-2	0	-2	-2	-4	-6	-9	-8	-8	-9	-10	-11	-4.2	-0.4
2-Jan	-13	-15	-14	-14	-14	-15	-16	-17	-16	-15	-12	-9	-6	-7	-7	-7	-8	-9	-9	-9	-9	-11	-12	-12	-11.6	-6.4
3-Jan	-12	-12	-12	-12	-9	-8	-7	1	3	2	1	2	1	2	0	0	-1	-4	-6	-7	-10	-12	-13	-14	-5.3	2.8
4-Jan	-14	-14	-14	-13	-11	-12	-12	-13	-12	-12	-11	-6	-6	-7	-7	-6	-6	-8	-3	-2	-4	-4	-2	-5	-8.5	-1.8
5-Jan	-7	-8	-9	-10	-11	-12	-14	-16	-16	-15	-14	-13	-11	-10	-9	-10	-9	-9	-9	-9	-10	-9	-9	-8	-10.7	-6.8
6-Jan	-8	-8	-8	-8	-8	-8	-7	-3	-2	-3	-3	-1	1	2	1	2	0	-1	-2	-3	-5	-8	-9	-9	-4.1	2.0
7-Jan	-10	-12	-14	-17	-18	-17	-16	-17	-17	-18	-17	-13	-11	-11	-10	-9	-8	-8	-8	-7	-8	-9	-3	-2	-11.6	-1.8
8-Jan	-1	-2	-1	-1	-1	-2	-3	-4	-3	-3	-2	-1	0	1	0	0	-2	-3	-5	-7	-7	-7	-8	-11	-3.1	0.6
9-Jan	-11	-12	-13	-13	-11	-8	-8	-6	-7	-7	-7	-7	-7	-7	-8	-8	-9	-10	-11	-12	-12	-13	-13	-13	-9.7	-6.3
10-Jan	-13	-13	-13	-14	-14	-14	-14	-14	-15	-15	-15	-13	-11	-11	-13	-12	-13	-14	-16	-19	-22	-24	-24	-25	-15.5	-10.9
11-Jan	-26	-26	-26	-26	-26	-26	-26	-26	-26	-27	-24	-22	-21	-21	-20	-21	-21	-21	-20	-20	-20	-19	-20	-18	-22.8	-18.0
12-Jan	-16	-16	-15	-16	-17	-18	-20	-21	-22	-22	-19	-15	-16	-14	-13	-11	-11	-10	-11	-11	-10	-10	-9	-10	-14.7	-9.4
13-Jan	-10	-10	-10	-11	-13	-15	-15	-15	-16	-16	-15	-13	-11	-10	-8	-8	-9	-10	-10	-9	-9	-9	-11	-12	-11.4	-7.7
14-Jan	-11	-11	-10	-9	-8	-8	-7	-5	1	1	2	2	3	3	4	4	4	4	4	4	4	4	5	5	-0.6	5.1
15-Jan	5	6	6	6	6	6	6	6	6	6	6	6	7	6	7	7	7	6	6	6	6	6	6	6	6.1	7.0
16-Jan	5	4	2	1	1	1	1	1	1	1	1	1	1	1	0	0	0	-1	-2	-1	-1	-2	-2	-1	0.4	5.2
17-Jan	-1	-1	0	0	0	0	1	2	4	3	4	5	6	6	5	6	6	5	5	5	6	6	5	5	3.5	6.0
18-Jan	5	5	5	5	4	4	4	4	4	4	3	1	-1	-1	-3	-6	-7	-7	-8	-8	-8	-8	-9	-9	-1.1	5.1
19-Jan	-9	-9	-9	-9	-10	-10	-11	-11	-11	-12	-13	-13	-13	-14	-16	-16	-17	-17	-17	-17	-17	-17	-17	-18	-13.3	-9.0
20-Jan	-18	-20	-21	-21	-21	-21	-21	-21	-21	-21	-20	-19	-18	-17	-17	-17	-17	-16	-16	-16	-16	-16	-16	-16	-18.5	-15.5
21-Jan	-15	-16	-16	-16	-16	-15	-15	-16	-15	-15	-15	-13	-11	-10	-11	-12	-14	-14	-13	-13	-14	-14	-13	-12	-13.8	-10.2
22-Jan	-12	-12	-13	-13	-13	-13	-13	-13	-13	-13	-13	-13	-12	-12	-12	-13	-14	-14	-14	-14	-14	-14	-14	-15	-13.2	-12.1
23-Jan	-15	-15	-15	-14	-14	-13	-13	-12	-11	-11	-11	-10	-9	-9	-9	D	D	D	D	D	D	D	D	D	--	-8.8
24-Jan	D	D	D	D	D	D	D	D	D	D	D	D	D	D	-7	-8	-10	-13	-14	-13	-14	-13	-13	-12	--	-7.2
25-Jan	-12	-10	-9	-8	-8	-8	-10	-11	-11	-10	-5	-1	1	2	2	3	D	M	M	M	-9	-9	-11	-12	-6.6	3.5
26-Jan	-14	-13	-14	-16	-16	-15	-14	-13	-13	-11	-8	-2	0	2	3	2	-3	-8	-10	-10	-10	-10	-10	-14	-9.1	2.7
27-Jan	-16	-16	-15	-11	-11	-11	-13	-13	-13	-11	-6	-5	-2	-2	-2	-2	-3	-4	-6	-9	-12	-14	-15	-15	-9.4	-1.7
28-Jan	-15	-16	-17	-17	-18	-19	-19	-21	-21	-22	-22	-21	-21	-20	-21	-21	-21	-23	-24	-26	-26	-27	-27	-28	-21.4	-15.1
29-Jan	-29	-29	-30	-31	-32	-32	-32	-32	-32	-30	-28	-27	-26	-26	-27	-27	-27	-27	-26	-26	-26	-26	-25	-25	-28.2	-25.3
30-Jan	-25	-25	-25	-25	-25	-25	-24	-24	-24	-24	-24	-23	-22	-21	-21	-21	-21	-21	-21	-22	-22	-22	-22	-22	-23.0	-21.0
31-Jan	-24	-25	-25	-25	-25	-25	-23	-22	-20	-18	-17	-15	-13	-12	-11	-11	-9	-9	-9	-9	-8	-7	-7	-8	-15.8	-7.3
	-11.5	-11.8	-11.9	-12.0	-12.0	-12.0	-12.1	-11.8	-11.4	-11.3	-10.2	-8.7	-7.7	-7.3	-7.4	-7.5	-8.5	-9.4	-9.7	-10.0	-10.5	-10.9	-10.9	-11.4	Diurnal Average	
	5.3	5.6	6.0	6.1	6.0	6.2	6.0	5.7	5.7	5.8	6.3	6.4	6.5	6.5	7.0	6.8	6.6	6.3	6.2	6.0	6.1	6.2	6.2	5.9	Diurnal Maximum	

D - DAS Failure M - Maintenance

Hourly Averages

External Temperature (ET) - ^{o}C

Henry Pirker - January 2013



Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Henry Pirker - January 2013

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

Maximum Value: 88.6 % on Jan 17 04:00 Maximum Daily Average: 80.5 % on Jan 16

Minimum Value: 40 % on Jan 15 16:00 Minimum Daily Average: 48.8 % on Jan 15

Maximum Diurnal Average: 72.1 % at hour 4 Minimum Diurnal Average: 60.6 % at hour 14

Monthly Average: 68.27 % Percentiles: P_1 = 44.6 P_{10} = 56.4 Q_1 = 62.7 Median = 69.5 Q_3 = 75.0 P_{90} = 79.0 P_{99} = 87.5

Hours in Service:	744
Hours of Data:	717
Hours of Missing Data:	27
Hours of Calibration:	0
Percent Operational Time:	96.4

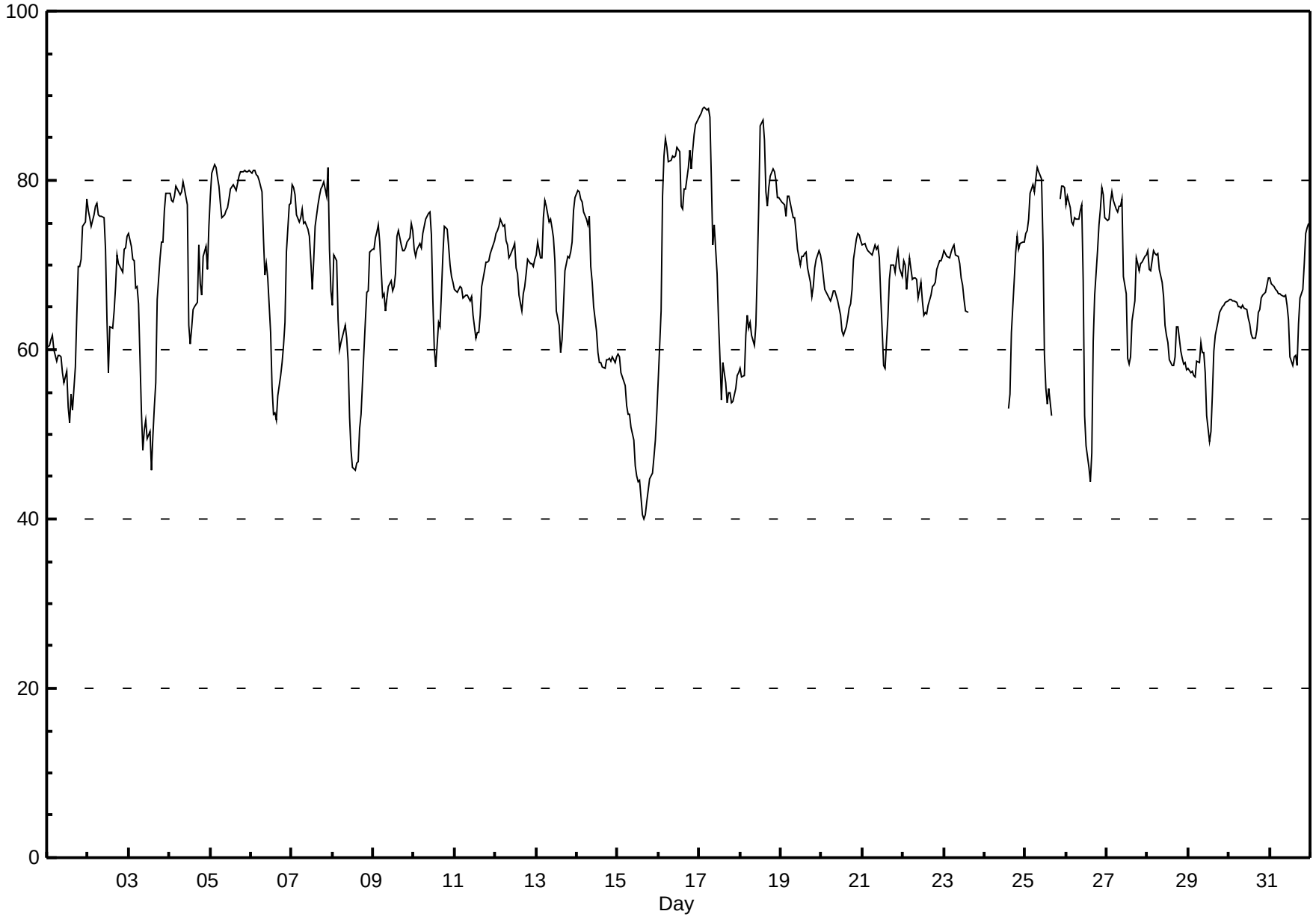
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	60	61	61	62	60	59	59	59	59	57	56	57	53	51	55	53	58	64	70	70	71	75	75	78	61.8	77.8
2-Jan	77	76	75	76	77	77	76	76	76	76	72	64	57	63	63	65	68	71	70	70	69	72	72	73	71.2	77.3
3-Jan	74	72	71	71	67	67	65	53	48	51	52	49	50	46	50	53	56	66	71	73	73	76	78	78	62.9	78.5
4-Jan	78	78	77	78	79	79	78	79	80	79	77	63	61	63	65	65	66	72	68	66	71	72	69	75	72.4	79.8
5-Jan	78	81	82	82	80	79	77	76	76	76	77	78	79	79	79	79	80	80	81	81	81	81	81	81	79.4	81.9
6-Jan	81	81	81	81	81	80	79	73	69	70	69	62	56	52	53	52	55	57	59	60	63	71	77	77	68.2	81.2
7-Jan	79	79	78	76	75	76	77	75	75	74	73	71	67	70	75	77	78	79	79	80	78	81	72	67	75.5	81.5
8-Jan	65	71	70	64	60	61	62	63	61	59	52	48	46	46	47	47	51	52	60	63	67	67	72	72	59.4	71.9
9-Jan	72	73	74	75	73	66	67	65	66	67	68	67	67	69	73	74	72	72	72	72	73	73	75	74	70.8	75.0
10-Jan	72	71	72	72	72	74	75	75	76	76	74	66	60	58	63	63	67	71	75	74	72	70	69	68	70.2	76.2
11-Jan	67	67	67	68	67	66	66	66	66	66	66	64	61	62	62	64	67	69	70	70	71	71	72	73	67.1	72.8
12-Jan	74	74	75	75	75	75	73	72	71	71	72	73	70	69	66	65	67	67	69	71	70	70	70	71	71.0	75.4
13-Jan	71	73	71	71	76	78	77	75	75	74	73	70	65	63	60	61	65	69	71	71	72	73	76	78	71.2	78.0
14-Jan	79	79	78	77	76	75	75	76	70	68	65	62	60	59	58	58	58	59	59	59	59	59	58	59	66.0	78.9
15-Jan	59	59	57	56	56	53	52	52	51	49	46	45	44	45	41	40	40	42	43	45	45	47	49	53	48.8	59.4
16-Jan	57	65	78	83	85	84	82	82	83	83	83	84	83	77	77	79	79	81	84	81	84	85	87	87	80.5	87.3
17-Jan	88	88	88	89	88	88	88	80	72	75	69	63	59	54	59	56	54	55	55	54	54	55	57	57	68.6	88.6
18-Jan	58	57	57	62	64	63	63	62	60	63	70	77	86	87	85	79	77	79	81	81	81	80	78	78	71.9	87.1
19-Jan	77	77	77	76	78	78	76	76	76	74	72	70	71	71	71	71	70	68	66	67	70	71	72	71	72.8	78.1
20-Jan	70	69	67	67	66	66	66	67	67	66	65	64	62	62	63	64	65	65	67	71	73	74	74	73	67.1	73.8
21-Jan	72	73	72	72	71	71	71	72	72	72	71	66	58	58	61	64	68	70	70	69	71	72	70	69	69.0	72.6
22-Jan	71	70	67	69	71	68	69	68	68	66	68	66	64	64	64	65	66	68	68	68	70	71	71	71	67.9	71.1
23-Jan	72	71	71	71	72	72	72	71	71	70	69	68	66	65	64	D	D	D	D	D	D	D	D	D	--	72.4
24-Jan	D	D	D	D	D	D	D	D	D	D	D	D	D	D	53	55	62	68	71	73	72	73	73	73	--	73.4
25-Jan	74	74	75	79	80	79	80	82	81	80	73	60	55	54	55	52	D	M	M	M	78	79	79	79	72.4	81.6
26-Jan	77	78	77	75	75	76	75	75	76	77	68	52	49	46	44	48	61	66	72	75	77	79	78	76	68.9	79.1
27-Jan	75	75	77	79	78	77	76	77	77	78	69	67	59	58	59	63	66	71	70	69	70	70	71	71	70.9	78.7
28-Jan	72	70	69	72	71	71	71	69	68	66	63	62	61	59	58	58	59	63	63	60	59	58	58	58	64.1	71.7
29-Jan	58	57	57	57	57	59	58	61	60	60	57	52	49	50	55	60	62	63	64	65	65	65	66	66	59.3	65.8
30-Jan	66	66	66	66	66	65	65	65	65	65	65	64	63	62	61	61	62	64	65	66	66	67	68	68	64.9	68.4
31-Jan	68	68	67	67	67	67	67	66	66	66	65	64	59	58	59	59	58	63	66	67	70	74	74	75	65.9	74.9
	71.4	71.7	71.9	72.1	72.0	71.6	71.3	70.3	69.4	69.2	67.2	63.9	61.4	60.6	61.2	61.7	64.0	66.8	68.2	68.7	69.7	71.1	71.3	71.6	Diurnal Average	
	87.7	88.0	88.4	88.6	88.4	88.5	87.5	82.3	82.8	82.8	82.9	84.0	86.5	87.1	84.8	79.0	79.7	81.5	83.6	81.4	83.5	85.5	86.6	87.3	Diurnal Maximum	

D - DAS Failure M - Maintenance

Hourly Averages

Relative Humidity (RH) - %

Henry Pirker - January 2013



Hourly Averages

Solar Radiation (SR) - W/m^2

Henry Pirker - January 2013

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

Maximum Value: 304.6 W/m^2 on Jan 25 13:00

Maximum Daily Average: 72.8 W/m^2 on Jan 25

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

Minimum Daily Average: 10.7 W/m^2 on Jan 16

Maximum Diurnal Average: 131.3 W/m^2 at hour 13

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

Monthly Average: 25.57 W/m^2

Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.0 Q_3 = 31.1 P_{90} = 95.4 P_{99} = 243.6

Hours in Service:	744
Hours of Data:	717
Hours of Missing Data:	27
Hours of Calibration:	0
Percent Operational Time:	96.4

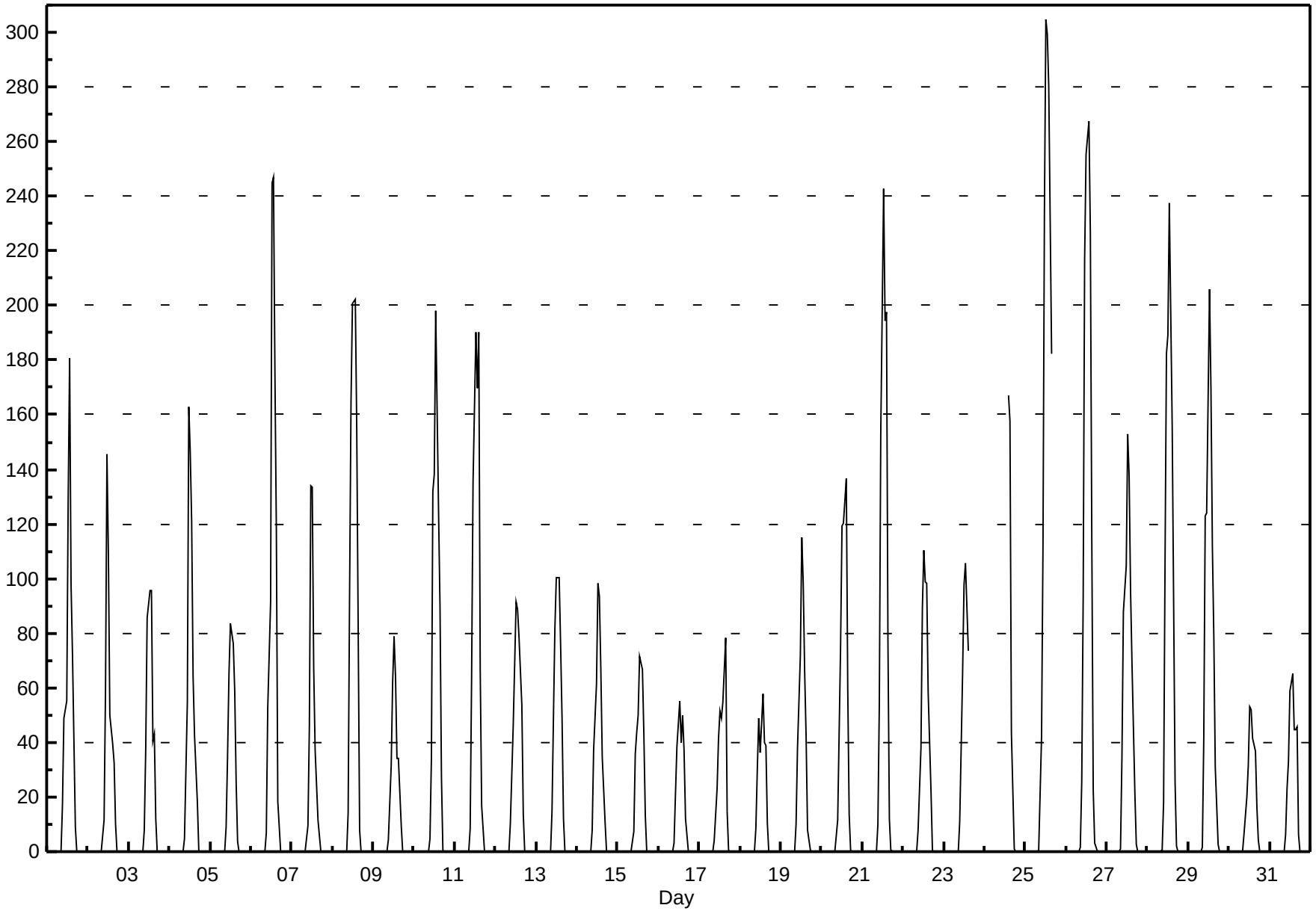
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jan	0	0	0	0	0	0	0	0	0	17	49	55	129	181	98	72	9	0	0	0	0	0	0	0	25.4	180.9
2-Jan	0	0	0	0	0	0	0	0	0	11	59	145	109	50	39	32	10	0	0	0	0	0	0	0	19.0	145.5
3-Jan	0	0	0	0	0	0	0	0	0	8	37	86	96	96	40	43	12	0	0	0	0	0	0	0	17.4	95.9
4-Jan	0	0	0	0	0	0	0	0	0	5	55	163	146	121	64	42	18	0	0	0	0	0	0	0	25.6	162.8
5-Jan	0	0	0	0	0	0	0	0	0	9	35	65	84	76	59	25	4	0	0	0	0	0	0	0	14.9	83.7
6-Jan	0	0	0	0	0	0	0	0	0	7	53	91	245	247	175	118	19	0	0	0	0	0	0	0	39.7	246.7
7-Jan	0	0	0	0	0	0	0	0	0	9	46	134	133	68	37	12	6	0	0	0	0	0	0	0	18.6	134.1
8-Jan	0	0	0	0	0	0	0	0	0	14	94	164	201	202	154	81	8	0	0	0	0	0	0	0	38.3	202.2
9-Jan	0	0	0	0	0	0	0	0	0	4	31	62	79	64	34	34	10	0	0	0	0	0	0	0	13.3	79.1
10-Jan	0	0	0	0	0	0	0	0	0	5	34	132	138	198	124	89	27	0	0	0	0	0	0	0	31.1	198.3
11-Jan	0	0	0	0	0	0	0	0	0	8	64	135	190	170	190	67	17	0	0	0	0	0	0	0	35.1	190.5
12-Jan	0	0	0	0	0	0	0	0	0	10	46	69	91	89	79	54	13	0	0	0	0	0	0	0	18.8	91.2
13-Jan	0	0	0	0	0	0	0	0	0	15	49	82	100	100	76	49	12	0	0	0	0	0	0	0	20.1	100.3
14-Jan	0	0	0	0	0	0	0	0	0	8	38	62	98	94	67	35	11	0	0	0	0	0	0	0	17.2	98.3
15-Jan	0	0	0	0	0	0	0	0	0	7	36	44	50	71	67	43	13	0	0	0	0	0	0	0	13.8	71.2
16-Jan	0	0	0	0	0	0	0	0	0	3	21	38	55	40	50	37	12	0	0	0	0	0	0	0	10.7	55.0
17-Jan	0	0	0	0	0	0	0	0	0	4	23	42	52	49	54	78	15	0	0	0	0	0	0	0	13.2	78.0
18-Jan	0	0	0	0	0	0	0	0	0	8	30	49	37	58	40	39	11	0	0	0	0	0	0	0	11.3	57.9
19-Jan	0	0	0	0	0	0	0	0	0	10	38	72	115	98	66	42	8	0	0	0	0	0	0	0	18.7	114.9
20-Jan	0	0	0	0	0	0	0	0	0	12	43	75	119	120	136	60	14	1	0	0	0	0	0	0	24.2	136.5
21-Jan	0	0	0	0	0	0	0	0	0	10	54	153	243	194	198	77	12	1	0	0	0	0	0	0	39.2	242.9
22-Jan	0	0	0	0	0	0	0	0	0	8	38	89	111	99	98	59	22	1	0	0	0	0	0	0	21.8	110.5
23-Jan	0	0	0	0	0	0	0	0	0	11	38	65	98	106	74	D	D	D	D	D	D	D	D	D	--	105.6
24-Jan	D	D	D	D	D	D	D	D	D	D	D	D	D	D	167	158	44	1	0	0	0	0	0	0	--	167.2
25-Jan	0	0	0	0	0	0	0	0	0	42	112	234	305	300	280	182	D	M	M	M	0	0	0	0	72.8	304.6
26-Jan	0	0	0	0	0	0	0	0	1	26	93	217	256	268	226	114	23	3	0	0	0	0	0	0	51.1	267.6
27-Jan	0	0	0	0	0	0	0	0	1	34	88	105	153	137	95	69	22	3	0	0	0	0	0	0	29.5	153.0
28-Jan	0	0	0	0	0	0	0	0	1	18	105	182	189	238	156	91	26	2	0	0	0	0	0	0	42.0	237.6
29-Jan	0	0	0	0	0	0	0	0	1	41	123	124	206	169	112	79	31	2	0	0	0	0	0	0	37.0	205.8
30-Jan	0	0	0	0	0	0	0	0	0	6	20	32	53	52	42	37	16	4	0	0	0	0	0	0	10.9	53.2
31-Jan	0	0	0	0	0	0	0	0	0	6	23	33	59	65	45	45	46	6	0	0	0	0	0	0	13.7	65.2
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	12.6	52.5	100.0	131.3	127.3	101.4	65.4	16.8	0.9	0.0	0.0	0.0	0.0	0.0	0.0	Diurnal Average	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	42.2	123.2	234.5	304.6	299.7	280.3	182.3	45.6	6.3	0.0	0.0	0.0	0.0	0.0	0.0	Diurnal Maximum	

D - DAS Failure M - Maintenance

Hourly Averages

Solar Radiation (SR) - W/m^2

Henry Pirker - January 2013



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Henry Pirker - January 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	24	22	22	14	14	14	13	11	13	13	12	10	10	12	8	4	6	5	4	2	4	5	0	2	8.8	24.1
Dir	258	259	259	276	260	255	270	275	265	267	285	284	291	294	297	279	279	310	304	78	102	123	77	3	271.4	258.1
2 Spd	4	3	4	3	0	1	4	6	5	3	3	2	2	2	2	4	5	3	2	2	1	2	2	1	2.1	6.0
Dir	322	331	299	13	1	349	327	335	339	347	328	325	208	170	167	328	292	322	331	58	40	299	323	19	327.3	335.3
3 Spd	1	1	1	0	1	2	2	15	14	7	6	3	4	4	2	2	0	3	2	2	5	4	3	4	2.4	14.6
Dir	312	338	316	192	343	327	196	280	277	261	258	229	197	217	220	263	174	85	102	48	306	336	334	332	277.8	279.6
4 Spd	5	5	1	4	1	3	5	4	1	2	2	3	4	4	1	1	2	5	13	13	7	11	10	5	3.9	12.9
Dir	328	329	328	287	296	338	302	283	180	282	183	216	269	306	297	164	294	310	268	266	296	301	315	340	293.2	267.8
5 Spd	6	2	2	2	2	1	3	4	3	2	2	3	1	0	1	3	2	1	1	1	1	2	2	2	1.3	5.5
Dir	3	272	2	164	101	163	341	301	336	357	295	342	287	216	259	339	304	295	55	222	198	357	322	318	326.8	3.3
6 Spd	1	2	3	0	3	4	5	11	15	10	8	11	11	9	9	17	16	16	13	13	9	3	3	3	7.8	16.6
Dir	283	205	248	204	233	230	263	246	245	235	267	258	259	288	264	266	260	259	266	261	294	308	198	260	259.1	266.4
7 Spd	2	2	1	3	3	1	1	4	0	4	3	3	5	5	3	2	6	2	1	3	4	3	12	12	2.1	12.3
Dir	217	148	278	329	341	117	133	325	6	324	327	313	295	314	323	168	135	180	331	261	315	321	265	277	289.4	277.0
8 Spd	13	18	25	17	15	16	16	13	16	16	17	14	14	16	16	15	13	10	3	1	3	2	2	3	10.8	25.4
Dir	281	310	304	286	281	260	255	253	253	244	248	238	248	256	259	263	273	279	225	26	94	84	66	292	267.5	303.8
9 Spd	5	4	4	4	5	8	5	8	11	9	6	6	8	7	7	8	6	9	9	8	9	9	7	3	6.1	11.0
Dir	327	341	316	355	35	46	61	55	46	55	47	53	23	18	35	44	51	26	26	77	69	67	85	87	42.1	45.7
10 Spd	4	4	7	7	6	6	6	5	4	4	5	4	1	3	4	4	3	4	3	4	6	5	4	3	1.4	7.0
Dir	117	176	171	170	170	170	164	155	131	113	115	128	176	37	23	33	69	71	60	341	331	323	330	311	121.3	170.0
11 Spd	5	4	4	4	5	4	4	1	3	3	3	3	3	3	4	3	3	3	5	3	4	3	3	4	3.3	4.6
Dir	308	314	322	336	321	303	302	321	306	324	318	298	299	284	318	294	308	319	332	312	314	331	295	261	310.7	308.0
12 Spd	3	3	6	6	5	5	3	2	3	2	1	5	4	5	4	5	4	6	5	5	7	8	6	4	4.2	8.1
Dir	349	305	300	277	299	307	359	338	338	272	219	299	291	311	292	259	268	307	306	304	326	302	308	307	302.8	302.1
13 Spd	4	2	3	3	3	2	3	4	3	1	3	3	4	3	1	2	2	3	4	4	4	3	3	3	1.0	4.3
Dir	270	245	250	229	219	215	271	304	337	309	314	275	297	10	252	179	301	170	144	139	152	118	132	134	232.2	138.5
14 Spd	3	3	3	4	7	6	5	6	13	11	14	14	17	16	15	15	22	25	33	28	26	27	28	29	14.1	32.8
Dir	113	129	126	165	299	310	343	269	274	285	279	262	266	267	273	267	258	257	257	260	264	253	260	264	263.9	257.1
15 Spd	28	32	29	24	25	30	29	31	28	24	26	28	34	37	41	40	39	37	33	31	28	30	32	36	31.2	41.1
Dir	265	259	260	262	263	265	267	277	277	273	270	265	259	258	259	257	257	257	257	258	264	269	269	268	263.3	258.7
16 Spd	30	13	11	11	11	9	9	7	5	5	3	6	5	7	10	4	2	1	5	2	1	1	1	1	4.8	30.4
Dir	261	312	352	337	336	321	339	324	314	303	327	332	5	357	4	335	271	264	171	171	153	114	121	124	318.9	261.2
17 Spd	1	1	1	5	7	6	5	7	11	7	9	11	15	31	25	17	29	26	23	29	35	38	32	31	15.4	37.8
Dir	126	133	138	156	165	146	210	251	261	251	235	245	264	271	255	255	278	277	265	263	259	258	257	258	258.1	258.1
18 Spd	26	27	31	30	33	34	27	28	27	26	15	11	12	12	7	7	5	5	7	6	9	7	7	6	13.0	33.6
Dir	259	251	252	260	256	256	251	246	253	261	307	327	342	324	41	81	76	48	4	318	317	310	313	307	271.0	256.4
19 Spd	5	3	3	5	8	8	9	9	7	6	8	8	10	12	11	7	9	7	5	2	3	1	6	7	5.2	11.9
Dir	313	315	6	79	97	98	90	93	76	52	45	47	32	39	31	22	20	30	51	123	148	153	117	96	57.4	38.8
20 Spd	10	9	8	8	7	10	9	8	9	9	8	6	6	6	9	9	9	8	8	10	9	6	8	7	7.9	9.9
Dir	85	71	71	75	78	92	102	97	95	102	111	101	86	74	87	97	91	91	87	86	92	89	94	95	89.7	92.1
21 Spd	6	6	5	5	4	2	3	4	4	6	6	6	4	2	7	5	5	5	5	4	4	4	3	3	2.7	6.5
Dir	92	98	69	70	70	95	358	23	78	114	92	94	69	67	357	344	319	335	10	34	308	310	306	357	41.6	357.1
22 Spd	3	6	5	4	2	6	5	5	4	5	7	7	6	5	5	7	9	9	8	6	8	6	8	8	5.9	8.9
Dir	78	73	66	87	88	75	75	87	99	105	100	102	98	84	82	88	98	96	87	74	74	77	88	83	86.5	96.0

Peace Airshed Zone Association

Hourly Averages

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	9	9	10	12	12	12	9	12	12	11	11	11	9	7	6	D	D	D	D	D	D	D	D	D	--	12.2
Dir	82	77	87	91	92	96	94	97	110	109	107	105	111	102	67	D	D	D	D	D	D	D	D	D	--	91.3
24 Spd	D	D	D	D	D	D	D	D	D	D	D	D	D	D	4	5	4	3	2	2	3	3	2	5	--	5.0
Dir	D	D	D	D	D	D	D	D	D	D	D	D	D	D	320	327	316	318	355	288	336	323	276	313	--	313.3
25 Spd	2	1	2	2	2	3	2	3	3	3	1	3	3	3	5	5	D	M	M	M	1	1	0	0	0.5	5.0
Dir	16	330	335	306	261	318	338	156	5	164	117	210	155	171	165	203	D	M	M	M	45	52	242	221	196.2	165.1
26 Spd	2	3	3	3	3	2	4	3	2	3	2	1	3	3	3	2	3	2	1	0	1	2	3	4	0.6	3.7
Dir	346	100	324	305	341	296	325	357	72	141	154	198	191	198	281	332	320	331	337	163	213	116	127	346	316.7	346.2
27 Spd	2	2	4	4	1	2	1	2	1	2	3	4	2	3	1	3	1	2	7	6	8	8	4	5	1.2	7.8
Dir	271	293	170	133	279	309	249	304	17	93	119	169	270	173	171	4	90	304	51	43	58	69	47	357	57.8	69.4
28 Spd	6	10	9	9	11	10	8	11	9	9	9	11	13	11	9	6	4	9	15	18	20	18	18	15	11.1	20.4
Dir	329	319	321	327	320	330	327	328	330	331	331	318	316	325	316	322	33	336	319	320	320	319	320	315	323.1	320.1
29 Spd	15	13	10	9	10	6	5	4	4	0	5	5	7	7	8	10	10	9	8	7	7	6	5	4	2.2	15.1
Dir	307	304	306	300	292	281	293	323	319	87	147	133	130	116	88	101	90	80	76	49	54	43	26	19	19.6	307.0
30 Spd	3	4	4	2	3	4	3	1	5	7	7	6	5	5	6	7	6	5	4	6	5	5	4	3	3.6	7.2
Dir	64	60	70	65	324	331	333	38	114	111	108	115	132	118	111	95	105	118	111	86	84	97	84	358	94.2	110.6
31 Spd	4	5	4	4	3	2	3	3	3	2	3	3	3	5	3	3	1	3	3	2	2	4	5	6	1.8	5.7
Dir	332	306	328	308	320	284	330	321	290	319	301	303	293	293	301	294	293	338	308	293	134	134	119	96	312.9	96.3
Spd	4.3	3.7	3.8	2.8	3.2	3.0	3.0	3.6	3.5	2.4	2.0	2.2	3.3	3.9	3.1	2.9	3.2	3.5	3.2	3.3	3.3	3.3	3.4	4.0	Diurnal Average	
Dir	285.7	288.1	289.8	286.9	283.5	277.0	284.1	282.9	279.6	268.0	280.7	271.2	278.4	287.9	293.1	281.6	279.8	290.3	288.5	284.6	296.4	292.9	284.9	290.0		
Spd	30.4	32.2	31.5	30.1	32.7	33.6	29.4	30.9	28.3	25.5	25.7	27.8	34.5	37.5	41.1	40.3	39.4	37.0	33.2	30.8	35.4	37.8	31.9	35.7	Diurnal Maximum	
Dir	261.2	259.4	252.3	259.8	256.2	256.4	266.7	277.2	277.0	260.6	269.6	265.4	258.7	257.6	258.7	256.6	256.7	257.0	257.2	257.8	259.2	258.1	256.6	268.2		

Maximum Speed Value: 41 km/h on Jan 15 15:00
Minimum Speed Value: 0 km/h on Jan 2 05:00
Maximum Daily Speed Average: 31.2 km/h on Jan 15
Minimum Daily Speed Average: 0.5 km/h on Jan 5
Maximum Diurnal Speed Average: 4.3 km/h at hour 1
Minimum Diurnal Speed Average: 2.0 km/h at hour 11

Monthly Average Velocity: 3.21 km/h 285.01 deg
Speed Percentiles: P_1 = 0.3 P_{10} = 1.6 Q_1 = 2.9 Median = 4.8 Q_3 = 8.9 P_{90} = 16.0 P_{99} = 34.7
All monthly, daily, and diurnal averages have been calculated using vector methods

Hours in Service:	744
Hours of Data:	717
Hours of Missing Data:	27
Percent Operational Time:	96.4

D - DAS Failure M - Maintenance

Frequency Distribution

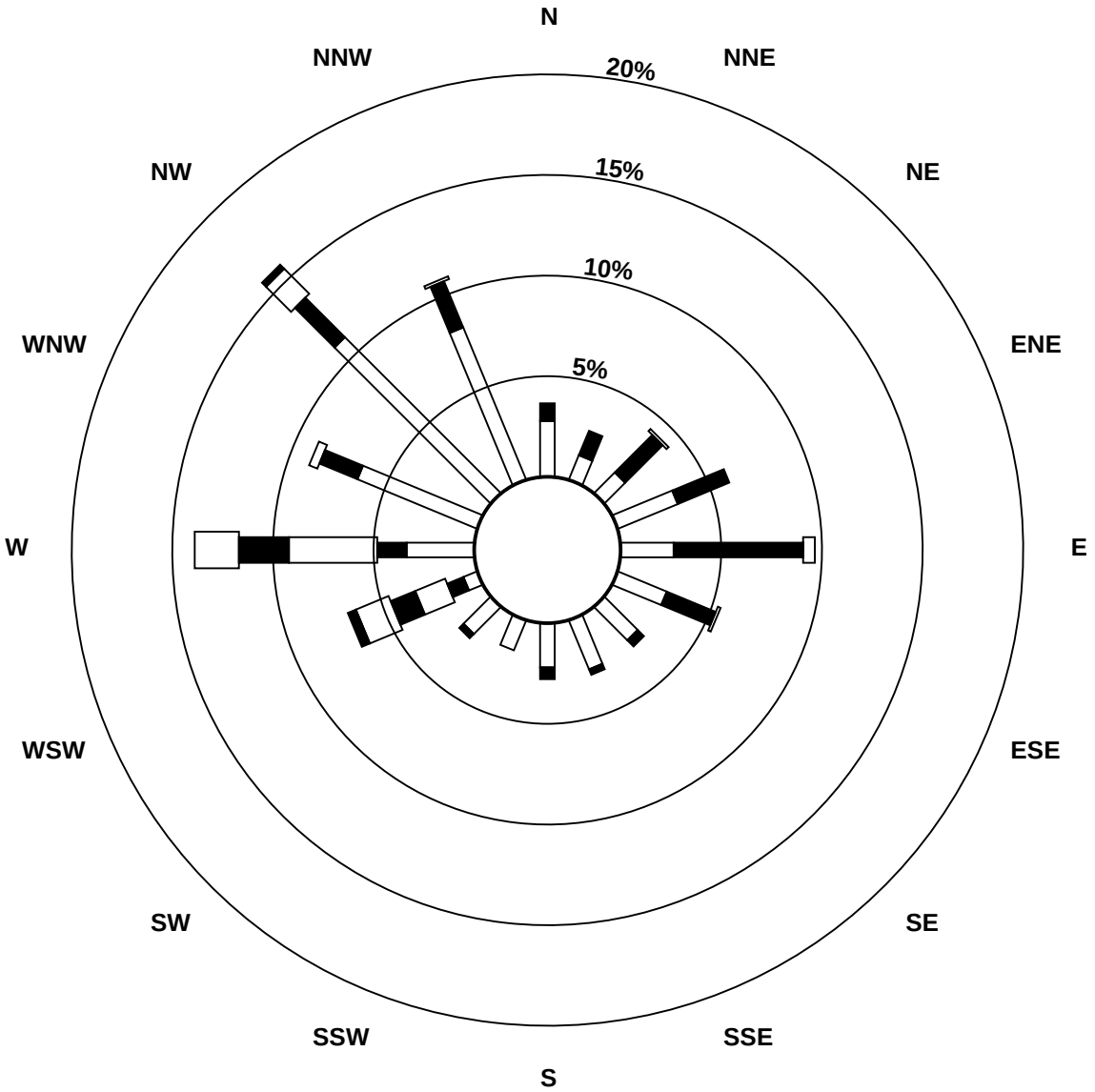
Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	43	14	2	0	0	0	59
NorthEast	24	28	3	0	0	0	55
East	30	80	7	0	0	0	117
SouthEast	44	11	0	0	0	0	55
South	32	7	0	0	0	0	39
SouthWest	24	3	4	0	1	0	32
West	38	19	44	22	30	3	156
NorthWest	138	47	17	2	0	0	204
Total	373	209	77	24	31	3	717

Peace Airshed Zone Association

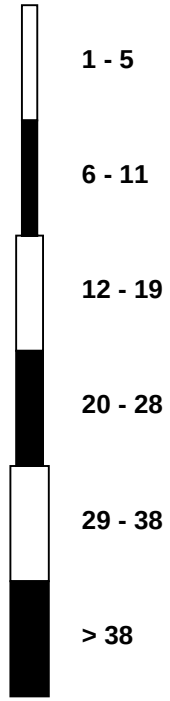
Wind Rose

Wind Speed (WS) (km/h)

Henry Pirker - January 2013



Wind Speed Classes (km/h)



Peace Airshed Zone Association

Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Henry Pirker - January 2013

Maximum Speed: 41 km/h on Jan 15 15:00

Maximum Daily Speed Average: 31.6 km/h on Jan 15

Minimum Speed: 1 km/h on Jan 17 02:00

Minimum Daily Speed Average: 3.0 km/h on Jan 5

Maximum Diurnal Speed Average: 8.6 km/h at hour 14

Minimum Diurnal Speed Average: 7.4 km/h at hour 12

Monthly Average Speed: 8.00 km/h

Percentiles: P_1 = 1.3 P_{10} = 2.8 Q_1 = 3.6 Median = 5.2 Q_3 = 9.3 P_{90} = 16.3 P_{99} = 35.0

Hours in Service:	744
Hours of Data:	717
Hours of Missing Data:	27
Percent Operational Time:	96.4

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	24	23	22	14	14	14	13	12	13	13	12	10	10	12	8	4	6	6	4	5	4	5	3	2	10.5	24.2
2-Jan	4	4	5	4	3	3	5	6	5	4	4	3	3	3	4	5	6	4	3	6	4	3	4	3	3.9	6.2
3-Jan	3	3	3	4	4	5	5	15	15	9	7	4	5	4	3	3	1	3	2	3	6	4	4	4	5.0	15.4
4-Jan	5	5	2	5	3	5	6	4	2	4	2	4	4	4	2	3	4	6	14	13	8	11	10	5	5.4	14.2
5-Jan	6	5	4	2	3	2	3	5	4	2	3	3	2	1	3	3	3	4	2	2	3	3	3	3	3.0	5.7
6-Jan	2	3	4	2	4	5	7	11	15	10	9	11	11	9	10	17	16	16	13	13	9	4	3	3	8.7	16.6
7-Jan	3	3	2	3	3	2	3	4	3	4	4	4	5	6	4	2	6	4	3	5	4	4	13	13	4.4	12.9
8-Jan	14	18	26	18	15	17	16	13	17	16	17	14	14	16	16	15	13	11	3	4	5	3	2	4	12.7	25.5
9-Jan	5	5	5	5	6	8	5	9	11	9	7	7	9	7	7	9	6	9	10	8	9	9	7	4	7.2	11.3
10-Jan	4	5	7	7	6	6	6	5	4	4	5	5	3	4	4	5	4	4	3	5	6	5	4	4	4.8	7.1
11-Jan	5	4	5	4	5	4	4	1	3	3	3	3	3	3	4	3	3	4	5	4	4	3	4	4	3.6	4.7
12-Jan	4	4	6	7	5	5	4	3	3	3	3	5	4	5	4	5	5	6	5	5	7	8	7	5	4.9	8.2
13-Jan	4	3	4	3	3	2	4	4	4	2	3	3	4	4	2	2	2	3	4	4	4	4	3	3	3.3	4.5
14-Jan	3	3	3	4	7	6	5	7	13	11	14	14	17	16	15	15	22	25	33	28	26	27	29	29	15.5	33.0
15-Jan	28	32	29	24	25	30	30	31	28	24	26	28	35	38	41	40	40	37	33	31	29	30	32	36	31.6	41.3
16-Jan	31	17	11	11	13	9	10	7	6	5	4	6	5	7	10	5	3	3	5	2	1	1	1	1	7.3	30.5
17-Jan	1	1	1	5	7	6	7	8	11	7	9	11	15	31	26	18	29	26	23	29	36	38	32	31	17.0	37.9
18-Jan	26	27	32	30	33	34	27	29	27	26	16	12	12	13	9	8	6	5	8	7	9	7	7	6	17.2	33.8
19-Jan	6	3	4	5	8	9	9	9	7	7	9	9	10	12	11	7	9	7	5	3	4	2	6	8	7.1	12.2
20-Jan	10	9	8	8	7	10	9	8	9	9	8	6	6	6	9	9	9	9	9	10	9	7	8	7	8.2	10.0
21-Jan	6	7	6	6	4	3	4	4	4	6	7	7	4	3	7	6	5	5	6	5	5	4	4	4	5.0	6.8
22-Jan	5	6	6	4	3	6	5	5	4	6	8	7	6	5	6	7	9	9	8	6	8	7	8	9	6.3	9.1
23-Jan	9	9	10	12	12	12	9	12	12	11	12	11	10	7	6	D	D	D	D	D	D	D	D	D		
	D	D	D	D	D	D	D	D	D	D	D	D	D	D	5	5	5	4	3	3	4	4	3	5	--	5.3
25-Jan	4	4	4	3	4	3	3	5	4	4	3	4	3	3	5	5	D	M	M	M	3	3	2	3	3.7	5.4
26-Jan	3	3	3	3	4	3	4	3	3	4	3	3	3	4	4	3	4	3	2	2	3	3	3	4	3.3	4.0
27-Jan	2	2	4	4	3	3	2	3	2	3	4	4	3	3	2	3	2	3	7	7	8	8	5	6	4.0	7.9
28-Jan	6	10	9	9	11	10	8	11	9	9	9	12	13	11	10	7	5	10	15	18	20	18	18	15	11.5	20.5
29-Jan	15	13	10	9	10	6	5	4	4	3	5	5	7	7	9	10	11	9	8	8	7	7	6	4	7.6	15.1
30-Jan	3	4	4	3	3	4	3	3	5	7	7	7	6	6	6	7	7	5	5	6	6	5	4	3	5.0	7.5
31-Jan	4	5	4	4	4	3	3	3	3	3	3	4	3	5	4	4	2	3	3	3	3	5	5	6	3.6	5.8
	8.2	8.0	8.0	7.5	7.7	7.8	7.5	8.1	8.4	7.6	7.5	7.4	7.9	8.6	8.2	7.9	8.3	8.4	8.5	8.4	8.3	8.2	7.9	7.8	Diurnal Average	
	30.5	32.4	31.7	30.3	32.8	33.8	29.6	31.0	28.4	25.6	25.9	28.0	34.6	37.6	41.3	40.4	39.5	37.2	33.4	30.9	35.6	37.9	32.0	35.9	Diurnal Maximum	

D - DAS Failure M - Maintenance

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

Hourly Standard Deviations

Wind Direction (WD) - deg

Henry Pirker - January 2013

Maximum Value: 99.1 deg on Jan 2 05:00

Minimum Value: 4.3 deg on Jan 29 04:00

Percentiles: P_1 = 5.1 P_{10} = 6.7 Q_1 = 11.1 Median = 19.6 Q_3 = 37.6 P_{90} = 63.9 P_{99} = 90.3

Hours in Service:	744
Hours of Data:	717
Hours of Missing Data:	27
Hours of Calibration:	0
Percent Operational Time:	96.4

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-Jan	7	6	6	12	13	11	12	10	7	7	8	6	9	12	10	25	15	17	24	66	25	23	87	56	86.8
2-Jan	20	46	51	27	99	62	45	11	14	63	25	78	41	58	75	44	14	62	80	82	89	68	71	83	99.1
3-Jan	76	93	86	87	79	78	70	12	30	55	63	60	40	30	43	35	88	19	50	64	27	17	17	22	93.2
4-Jan	16	15	79	34	68	42	25	19	64	69	41	46	34	14	57	76	71	44	26	9	30	15	20	9	78.8
5-Jan	21	83	50	42	53	59	43	24	23	26	36	27	34	95	62	44	59	74	84	63	84	55	61	62	95.3
6-Jan	88	52	40	92	36	42	78	11	6	9	26	7	7	11	13	6	6	5	7	7	17	42	36	47	91.7
7-Jan	47	30	67	30	35	89	90	34	89	21	23	51	28	28	67	43	11	76	90	67	20	41	26	18	90.3
8-Jan	25	13	5	19	10	9	5	6	5	6	6	6	7	9	7	6	10	26	44	87	51	57	46	41	86.7
9-Jan	19	15	15	23	28	14	25	13	13	17	27	30	20	18	22	19	27	23	20	19	11	11	16	19	29.7
10-Jan	27	15	7	8	9	9	7	13	17	12	13	33	87	43	23	30	33	24	26	24	11	12	10	24	86.9
11-Jan	8	6	33	15	8	9	11	66	25	7	15	13	14	12	15	14	20	18	10	28	19	40	23	16	66.1
12-Jan	41	36	9	10	13	18	18	42	30	56	71	22	21	18	22	20	16	25	12	17	10	11	15	15	71.2
13-Jan	24	25	30	23	19	27	29	14	23	68	22	31	16	39	70	33	33	42	21	16	18	12	18	17	69.8
14-Jan	24	18	21	19	14	17	17	30	10	9	6	6	10	8	8	11	9	6	5	6	7	7	7	7	30.1
15-Jan	6	5	5	8	6	7	7	5	6	6	6	7	5	6	5	5	5	5	6	5	6	6	6	6	7.5
16-Jan	6	42	12	17	30	18	12	24	30	37	35	13	34	16	11	15	50	65	11	11	19	17	13	7	64.8
17-Jan	10	23	20	24	11	15	43	26	10	16	16	13	8	10	10	10	6	6	6	6	6	5	5	6	43.1
18-Jan	5	9	7	6	5	5	6	6	6	5	26	8	13	8	35	17	32	30	20	15	8	9	7	10	35.4
19-Jan	11	18	22	25	8	11	9	10	26	19	30	20	15	13	10	18	11	19	29	29	33	68	14	15	67.7
20-Jan	10	12	12	11	15	9	15	15	12	13	15	16	15	16	11	14	14	11	14	10	10	17	13	14	17.3
21-Jan	17	20	19	24	23	62	33	37	38	19	16	22	36	62	19	20	21	20	38	30	20	22	33	34	61.8
22-Jan	42	18	15	11	49	14	19	14	30	22	16	22	23	26	16	14	12	12	11	18	11	12	14	12	49.3
23-Jan	11	12	12	10	10	9	9	8	11	8	10	12	11	17	15	D	D	D	D	D	D	D	D	D	16.6
24-Jan	D	D	D	D	D	D	D	D	D	D	D	D	D	D	16	23	39	27	75	54	45	42	53	19	75.3
25-Jan	78	90	76	55	61	38	73	56	61	51	83	40	41	25	11	36	D	M	M	M	81	65	90	83	90.3
26-Jan	62	41	54	42	34	66	14	39	60	43	55	64	28	20	40	73	35	55	90	88	64	60	42	23	89.9
27-Jan	37	37	22	18	73	26	61	66	81	55	26	20	24	39	67	36	62	68	23	32	14	11	56	33	80.6
28-Jan	12	8	9	10	8	11	12	7	8	9	8	10	9	9	12	39	41	33	6	6	6	6	5	5	41.4
29-Jan	5	6	6	4	5	13	28	15	23	95	14	25	20	23	16	12	12	12	12	18	20	18	19	21	94.7
30-Jan	36	27	25	67	40	29	43	85	26	15	15	18	26	27	23	19	22	28	40	21	24	22	17	43	85.3
31-Jan	16	14	17	22	13	34	17	26	29	44	39	54	23	17	20	18	59	49	29	54	48	33	21	10	59.4
	87.8	93.2	86.1	91.7	99.1	89.5	89.6	85.3	89.4	94.7	82.9	77.5	86.9	95.3	74.9	75.9	87.8	75.8	90.3	87.5	89.2	68.1	90.3	83.3	

D - DAS Failure M - Maintenance

PAZA
Evergreen Park Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 2.8 ppb on Jan 28 11:00 Maximum Daily Average: 0.8 ppb on Jan 28

Minimum Value: 0 ppb on Jan 1 07:00 Minimum Daily Average: 0.0 ppb on Jan 17
Maximum Diurnal Average: 0.4 ppb at hour 12 Minimum Diurnal Average: 0.2 ppb at hour 6
Monthly Average: 0.27 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.1$ Median = 0.2 $Q_3 = 0.4$ $P_{90} = 0.6$ $P_{99} = 1.3$

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	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
2-Jan	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	A	1	0	0	0	0	0	0	0.4	0.7
3-Jan	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	1	1	1	0.4	0.8
4-Jan	1	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	0.7
5-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	0	1	1	0	1	1	0.3	0.6
6-Jan	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
7-Jan	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0	0	0	0	0	0	0	0	0	0	0.2	0.9
8-Jan	0	0	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.9
9-Jan	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0.2	0.6
10-Jan	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
11-Jan	0	0	0	0	0	0	0	A	0	0	0	0	1	1	0	0	0	1	1	1	1	0	0	0	0.4	0.9
12-Jan	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0.3	1.9
13-Jan	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
14-Jan	0	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-Jan	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	0.1
16-Jan	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
17-Jan	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
18-Jan	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	A	0.2	0.9
19-Jan	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0.2	0.6
20-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.1
21-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	2	1	0.2	1.5
22-Jan	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.2	0.7
23-Jan	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	A	0	0	0	0	0	0.4	0.8
24-Jan	0	0	0	0	0	0	0	0	0	0	0	C	C	C	C	0	0	A	1	1	1	1	1	1	0.3	0.7
25-Jan	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.4	0.7
26-Jan	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	A	0	0	0	0	0	0	0	0	0.4	0.5
27-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	0.5
28-Jan	0	0	1	1	1	1	1	1	2	1	3	3	1	A	1	0	0	0	1	1	1	0	0	0	0.8	2.8
29-Jan	0	0	0	0	0	0	0	0	0	0	0	1	A	0	0	0	0	0	0	0	0	0	1	1	0.4	1.3
30-Jan	1	1	1	1	1	0	0	0	0	0	1	A	1	1	1	0	0	0	0	0	0	0	0	0	0.5	1.3
31-Jan	0	0	0	0	0	0	0	0	0	0	A	1	1	1	1	1	1	1	1	1	1	1	0	0	0.5	1.1
	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	Diurnal Average	
	1.3	1.0	1.1	0.9	0.9	1.3	1.3	0.6	1.6	0.7	2.8	2.6	1.2	1.1	1.1	1.0	1.9	0.7	0.9	1.1	0.9	0.7	1.5	1.4	Diurnal Maximum	

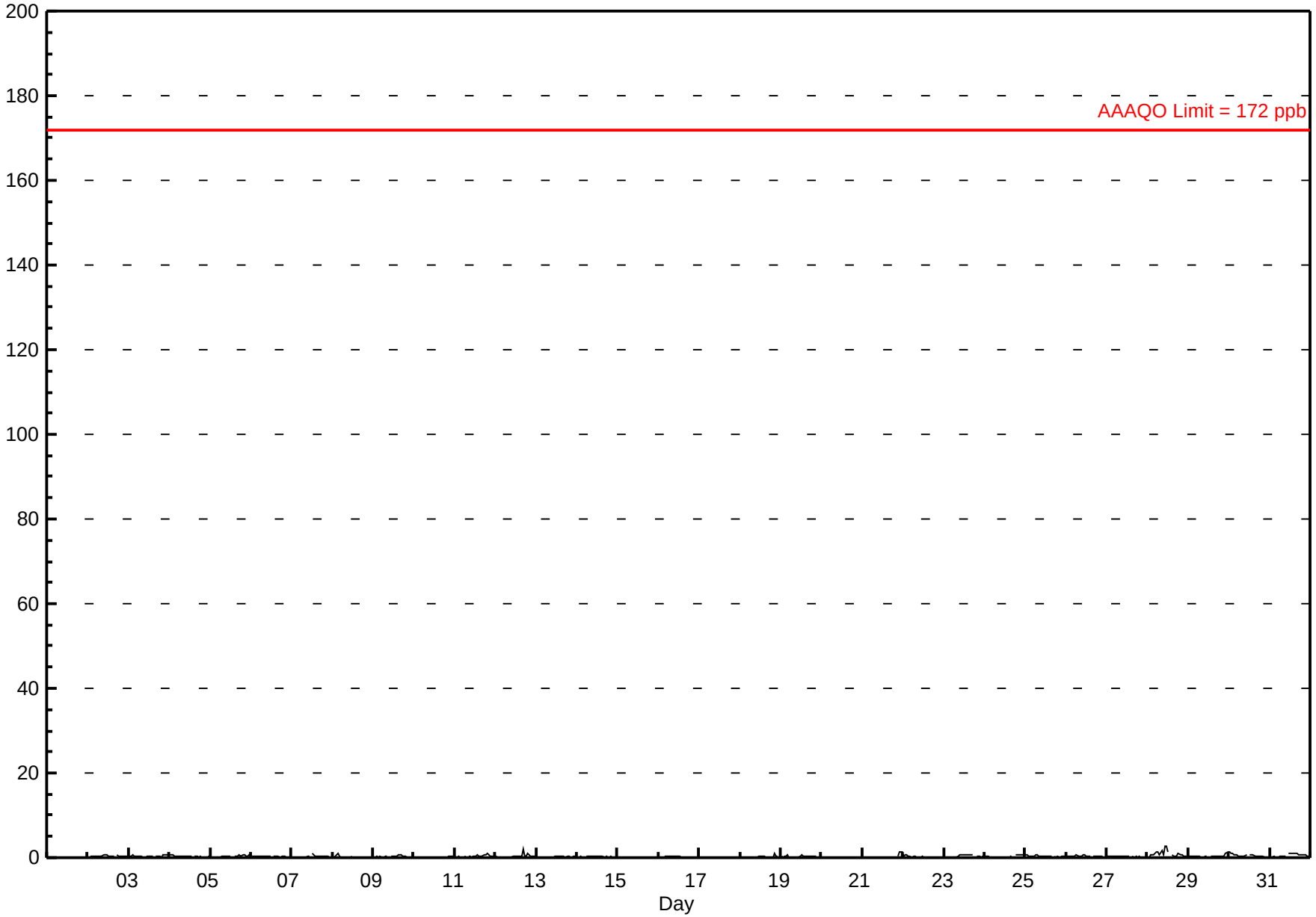
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - January 2013



Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - January 2013

Maximum Value: 5.8 ppb on Jan 12 17:00

Maximum Daily Average: 1.5 ppb on Jan 28

Minimum Value: 0 ppb on Jan 23 05:00

Minimum Daily Average: 0.5 ppb on Jan 15

Maximum Diurnal Average: 1.0 ppb at hour 21

Minimum Diurnal Average: 0.7 ppb at hour 2

Monthly Average: 0.83 ppb

Percentiles: $P_1 = 0.4$ $P_{10} = 0.5$ $Q_1 = 0.6$ Median = 0.7 $Q_3 = 1.0$ $P_{90} = 1.2$ $P_{99} = 2.6$

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	A	1	1	1	1	0	0	0.6	1.0
2-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.9	1.5
3-Jan	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1.0	2.6
4-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0	1	1	1	1	0.9	1.3
5-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.8	1.3
6-Jan	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	5	1	1	1	0.9	4.5
7-Jan	1	1	0	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	0.8	1.5
8-Jan	1	1	2	2	1	1	1	1	1	0	A	1	1	1	1	1	1	0	0	1	0	1	1	1	0.7	2.4
9-Jan	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0.8	1.5
10-Jan	0	1	0	0	1	0	0	1	A	1	0	0	1	1	1	1	0	0	0	1	1	1	1	1	0.5	0.9
11-Jan	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	1.4
12-Jan	1	1	1	1	1	1	A	1	1	0	1	1	1	1	1	1	6	1	1	2	1	1	1	1	1.0	5.8
13-Jan	1	1	1	0	0	A	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.4
14-Jan	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0.7	1.0
15-Jan	0	1	1	A	1	1	0	1	1	1	0	0	0	1	0	1	0	1	1	1	0	0	0	0	0.5	0.8
16-Jan	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	1	1	1	0	0.7	1.2
17-Jan	0	A	0	1	1	0	1	1	0	0	1	0	1	0	0	1	1	1	1	1	1	0	1	1	0.5	0.7
18-Jan	A	0	1	0	1	1	0	1	0	1	1	1	1	2	1	0	1	0	1	1	2	1	1	A	0.8	1.8
19-Jan	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	A	1	0.8	1.6
20-Jan	1	1	1	1	0	1	1	0	1	1	1	1	0	0	1	0	1	0	1	1	1	A	1	1	0.5	0.8
21-Jan	0	0	1	1	0	0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	A	1	3	4	0.8	4.1
22-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	A	0	0	0	0	0.7	1.2
23-Jan	1	1	0	0	0	1	0	0	1	1	2	1	1	1	1	1	1	1	A	1	1	1	1	1	0.9	1.5
24-Jan	1	1	1	1	0	0	1	0	0	1	1	C	C	C	C	1	1	A	1	1	1	1	1	1	0.9	1.4
25-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0	1	1	1	0.9	1.5
26-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.9	1.2
27-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	0	0.8	1.1
28-Jan	0	1	1	1	2	2	2	1	2	2	4	4	2	A	2	1	1	1	1	1	1	1	1	1	1.5	4.1
29-Jan	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	2	2	1.0	1.9
30-Jan	2	2	2	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1.1	2.4
31-Jan	0	1	1	1	0	1	1	1	1	1	A	2	2	2	2	2	1	1	1	1	1	1	1	1	1.1	1.8
	0.7	0.7	0.9	0.8	0.7	0.8	0.7	0.7	0.8	0.8	0.9	1.0	0.9	0.9	0.9	0.8	0.9	0.8	0.8	0.8	1.0	0.8	0.8	0.9	Diurnal Average	
	2.4	1.6	2.6	2.4	1.7	2.1	2.1	1.4	2.3	1.7	4.1	3.9	2.2	1.8	1.9	1.5	5.8	1.3	1.4	2.2	4.5	1.2	2.8	4.1	Diurnal Maximum	

C - Calibration

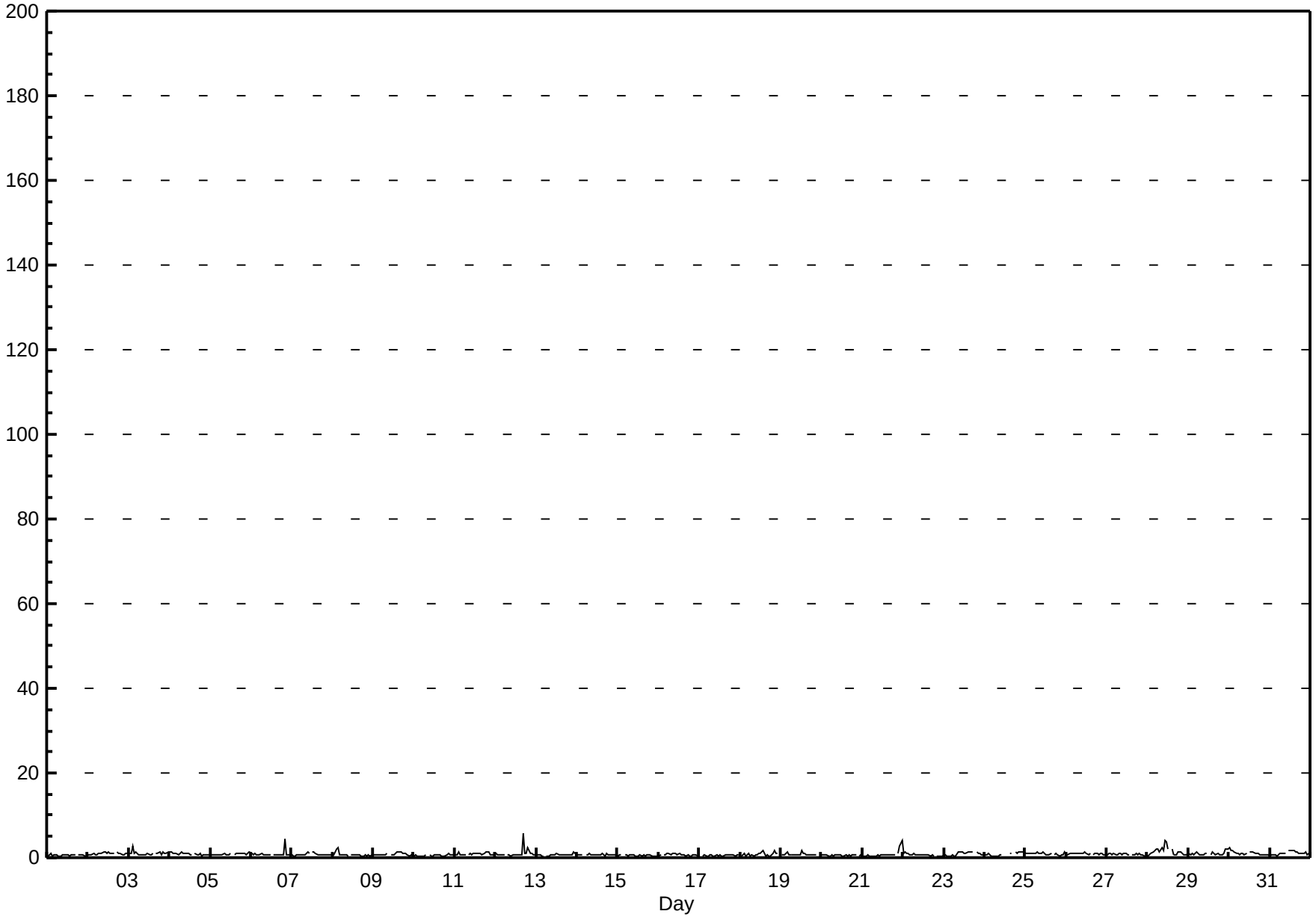
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - January 2013

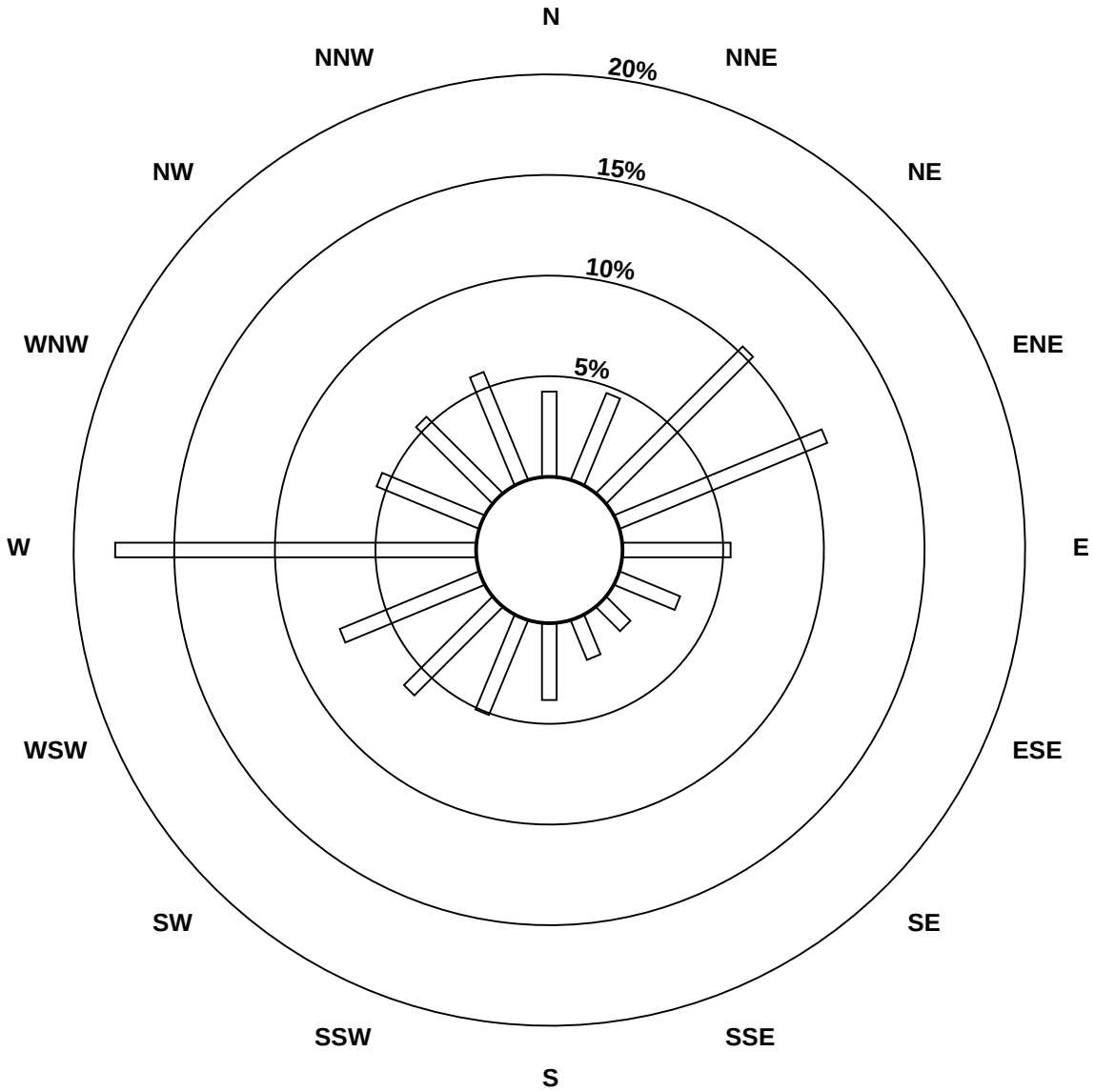


Peace Airshed Zone Association

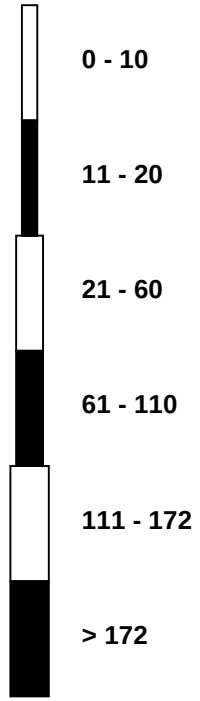
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Evergreen Park - January 2013



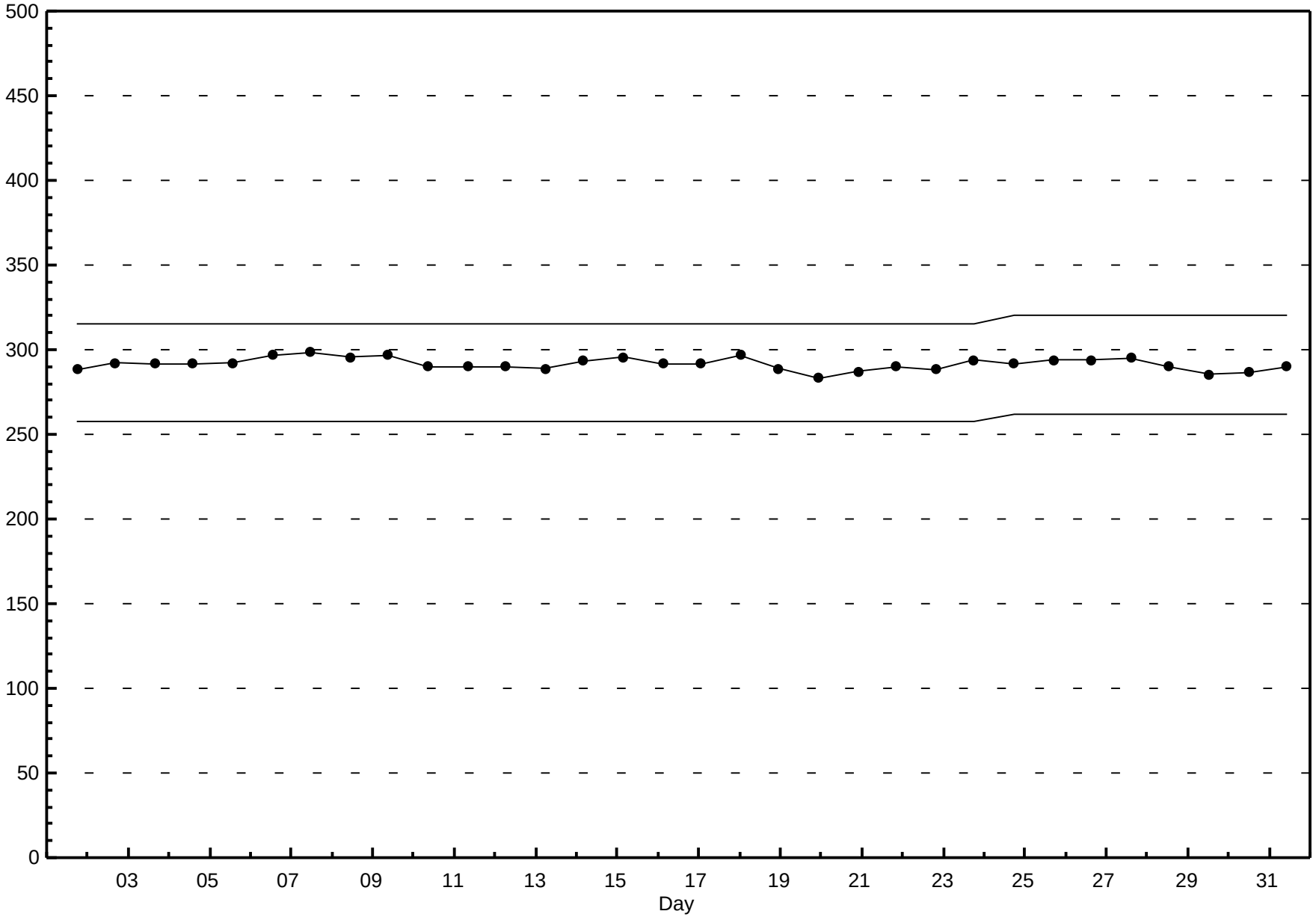
Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO_2)

Evergreen Park - January 2013



Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 4.9 ppb on Jan 27 13:00 Maximum Daily Average: 2.4 ppb on Jan 27

Minimum Value: 0 ppb on Jan 15 19:00 Minimum Daily Average: 0.1 ppb on Jan 23
Maximum Diurnal Average: 0.6 ppb at hour 4 Minimum Diurnal Average: 0.4 ppb at hour 15
Monthly Average: 0.54 ppb Percentiles: $P_1 = 0.1$ $P_{10} = 0.2$ $Q_1 = 0.3$ Median = 0.4 $Q_3 = 0.6$ $P_{90} = 1.0$ $P_{99} = 3.8$

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

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.4	0.5
2-Jan	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.9	1.5
3-Jan	1	1	1	1	1	1	1	1	0	0	0	1	1	0	1	A	1	0	1	0	1	1	1	1	0.7	1.3
4-Jan	1	1	1	1	1	1	1	1	1	1	1	1	0	0	A	0	1	0	0	0	0	0	0	0	0.6	1.2
5-Jan	0	0	0	0	0	0	0	0	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.6	0.9
6-Jan	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0.4	0.9
7-Jan	0	0	0	0	0	0	0	0	1	1	1	A	2	1	1	1	1	1	1	1	1	1	0	0	0.7	1.6
8-Jan	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
9-Jan	0	1	1	1	1	1	1	1	0	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.1
10-Jan	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.3	0.8
11-Jan	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.2
12-Jan	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.6
13-Jan	0	0	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	2	3	0.6	2.9
14-Jan	3	2	2	3	A	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	3.2
15-Jan	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
16-Jan	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.3	0.6
17-Jan	1	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.7
18-Jan	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.3	0.4
19-Jan	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
20-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0.3	0.5
21-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.4	0.4
22-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.2	0.3
23-Jan	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
24-Jan	0	0	0	0	0	0	0	0	0	0	C	C	C	C	0	1	1	A	1	1	1	1	1	2	0.6	1.5
25-Jan	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	A	1	1	1	0	1	1	1	0.7	1.4
26-Jan	1	1	1	2	2	2	1	1	1	1	1	1	1	0	0	A	0	1	1	1	1	1	1	1	1.0	1.9
27-Jan	1	1	2	1	1	1	2	3	4	5	4	5	5	4	A	3	4	4	3	1	1	1	0	0	2.4	4.9
28-Jan	0	0	1	1	1	1	1	0	1	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0.5	0.7
29-Jan	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
30-Jan	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
31-Jan	0	0	0	0	0	0	0	1	1	0	A	1	1	1	0	0	0	1	1	1	1	1	1	1	0.5	0.8
	0.6	0.5	0.6	0.6	0.5	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.6	Diurnal Average	
	2.8	2.1	2.2	3.2	1.9	2.4	2.3	2.8	3.9	4.5	3.8	4.6	4.9	4.1	0.8	2.9	3.8	3.6	3.0	1.4	0.9	1.2	2.1	2.9	Diurnal Maximum	

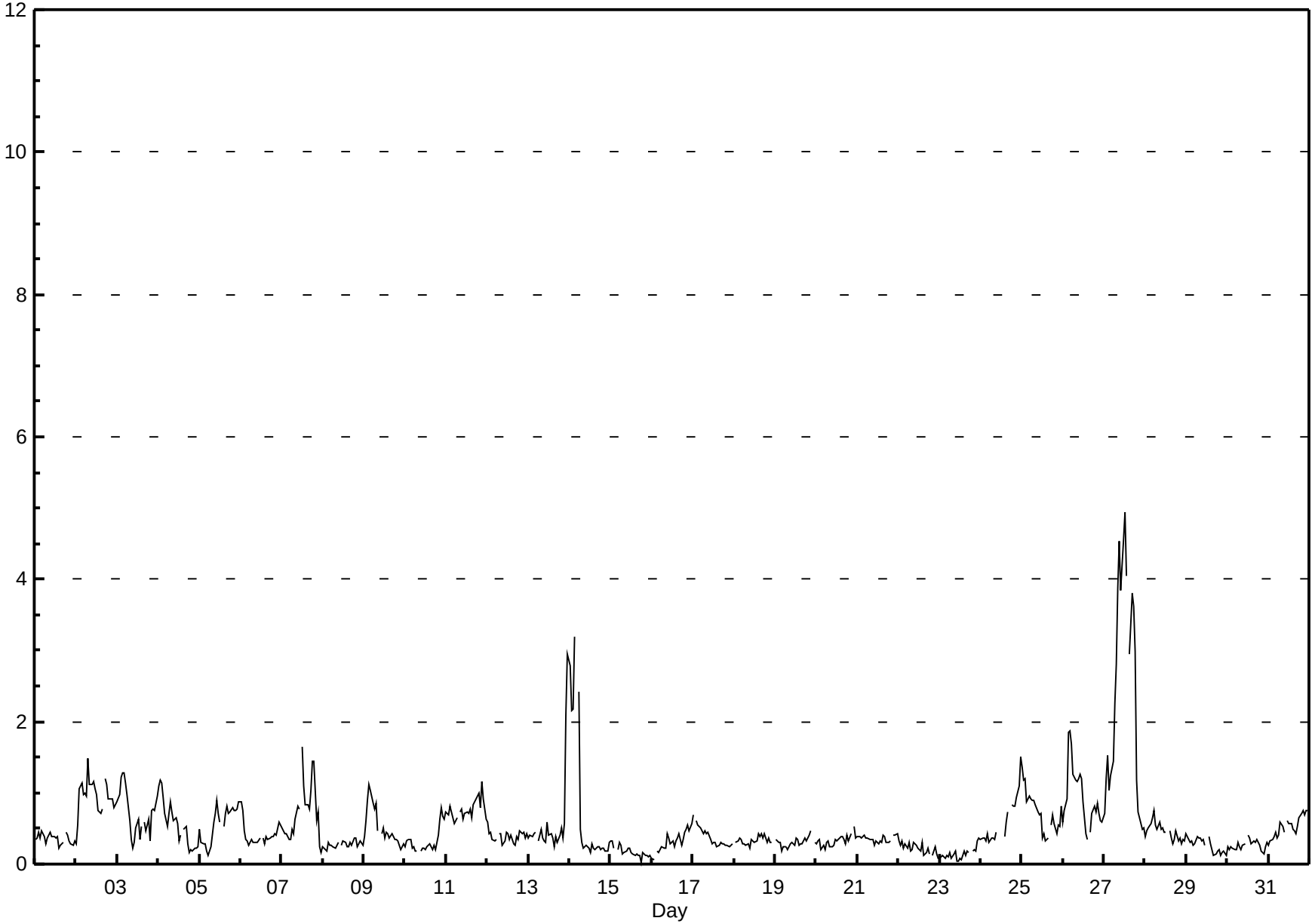
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - January 2013



Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - January 2013

Maximum Value: 6.6 ppb on Jan 27 10:00

Maximum Daily Average: 3.5 ppb on Jan 27

Minimum Value: 1 ppb on Jan 15 19:00

Minimum Daily Average: 0.9 ppb on Jan 23

Maximum Diurnal Average: 1.5 ppb at hour 4

Minimum Diurnal Average: 1.1 ppb at hour 15

Monthly Average: 1.31 ppb

Percentiles: $P_1 = 0.7$ $P_{10} = 0.9$ $Q_1 = 1.0$ Median = 1.1 $Q_3 = 1.4$ $P_{90} = 1.8$ $P_{99} = 4.7$

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1.0	1.2
2-Jan	1	1	2	2	2	2	2	2	2	2	2	2	2	1	1	1	A	2	2	2	1	1	1	1	1.7	2.2
3-Jan	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	A	1	1	2	1	1	2	2	2	1.5	2.3
4-Jan	2	2	2	2	1	1	1	2	2	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1.3	2.0
5-Jan	1	1	1	1	1	1	1	1	1	1	2	2	1	A	1	2	2	2	2	2	1	2	1	2	1.4	1.8
6-Jan	2	2	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	4	1	1	1	1.3	3.5
7-Jan	1	1	1	1	1	1	1	1	1	2	2	A	2	2	1	2	2	2	2	3	1	2	1	1	1.5	2.5
8-Jan	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.3
9-Jan	1	1	2	2	2	2	1	2	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.3	2.1
10-Jan	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1.0	1.6
11-Jan	1	1	2	1	2	1	2	A	1	2	1	1	1	1	1	1	2	2	2	2	2	3	2	1	1.5	2.7
12-Jan	1	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	1.4
13-Jan	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	4	1.4	4.2
14-Jan	4	3	3	6	A	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.8	6.2
15-Jan	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2
16-Jan	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	1.4
17-Jan	2	A	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	1.6
18-Jan	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1.1	1.4
19-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1.0	1.4
20-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1.1	1.3
21-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1.1	1.5
22-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0.9	1.2
23-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.9	1.2
24-Jan	1	1	1	1	1	1	1	1	1	1	C	C	C	C	1	1	2	A	2	2	2	2	2	2	1.4	2.4
25-Jan	2	2	2	2	2	2	2	1	1	1	1	2	1	1	1	1	A	1	2	1	1	2	1	2	1.5	2.3
26-Jan	1	2	2	3	3	2	2	2	2	2	2	2	2	1	1	A	1	1	2	1	2	1	1	1	1.8	3.3
27-Jan	1	2	2	2	2	3	4	4	5	7	5	7	6	5	A	5	5	4	4	2	2	1	1	1	3.5	6.6
28-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1.2	1.4
29-Jan	1	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	1.2
30-Jan	1	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	1.3
31-Jan	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	2	1	1	1	1	1	2	1.3	1.6
	1.3	1.3	1.4	1.5	1.3	1.4	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.3	1.1	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.4	Diurnal Average	
	4.0	3.4	3.3	6.2	2.8	4.4	3.7	3.9	4.7	6.6	4.7	6.5	6.2	5.0	1.5	4.6	4.6	4.3	4.2	2.5	3.5	2.7	3.3	4.2	Diurnal Maximum	

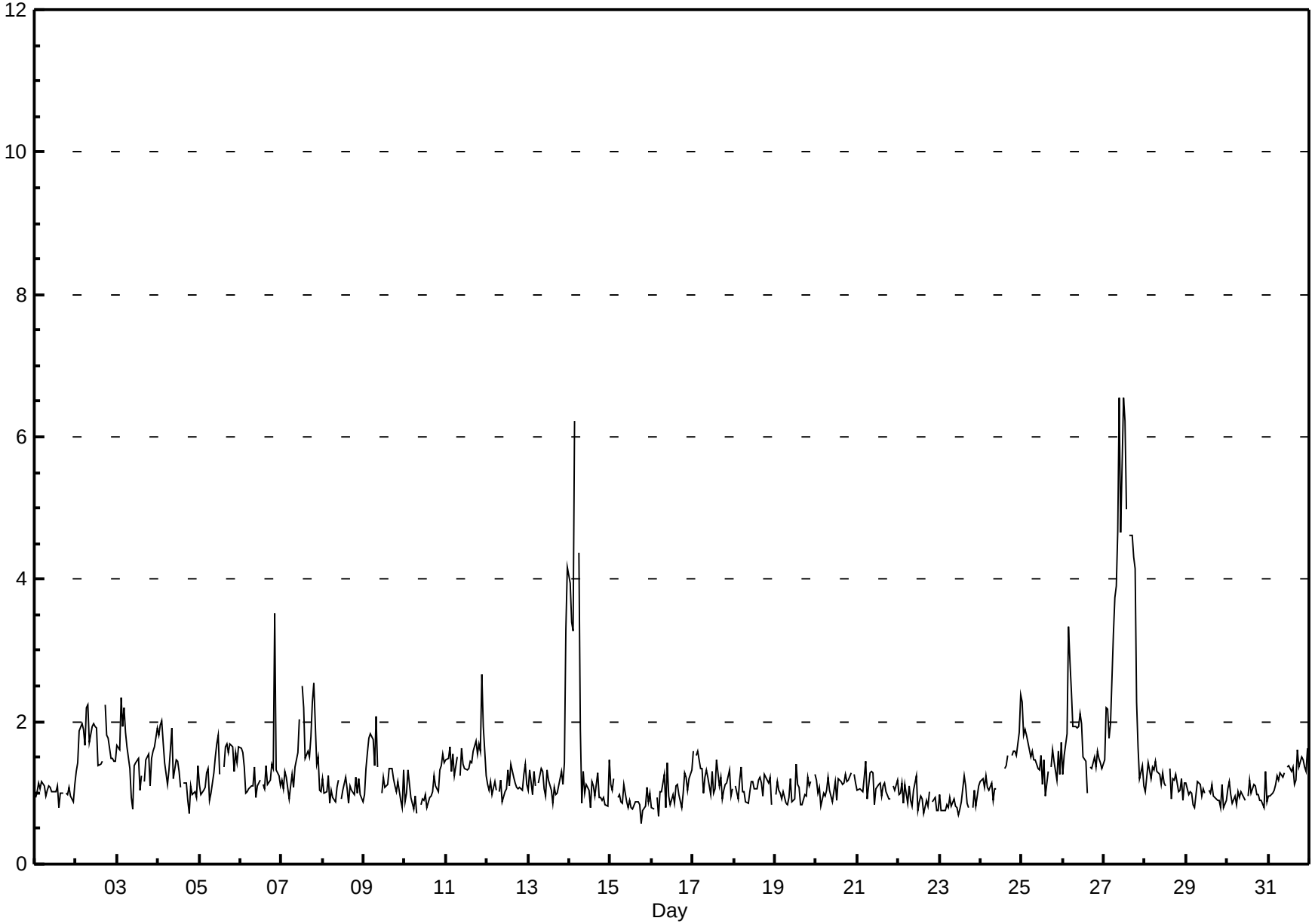
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - January 2013

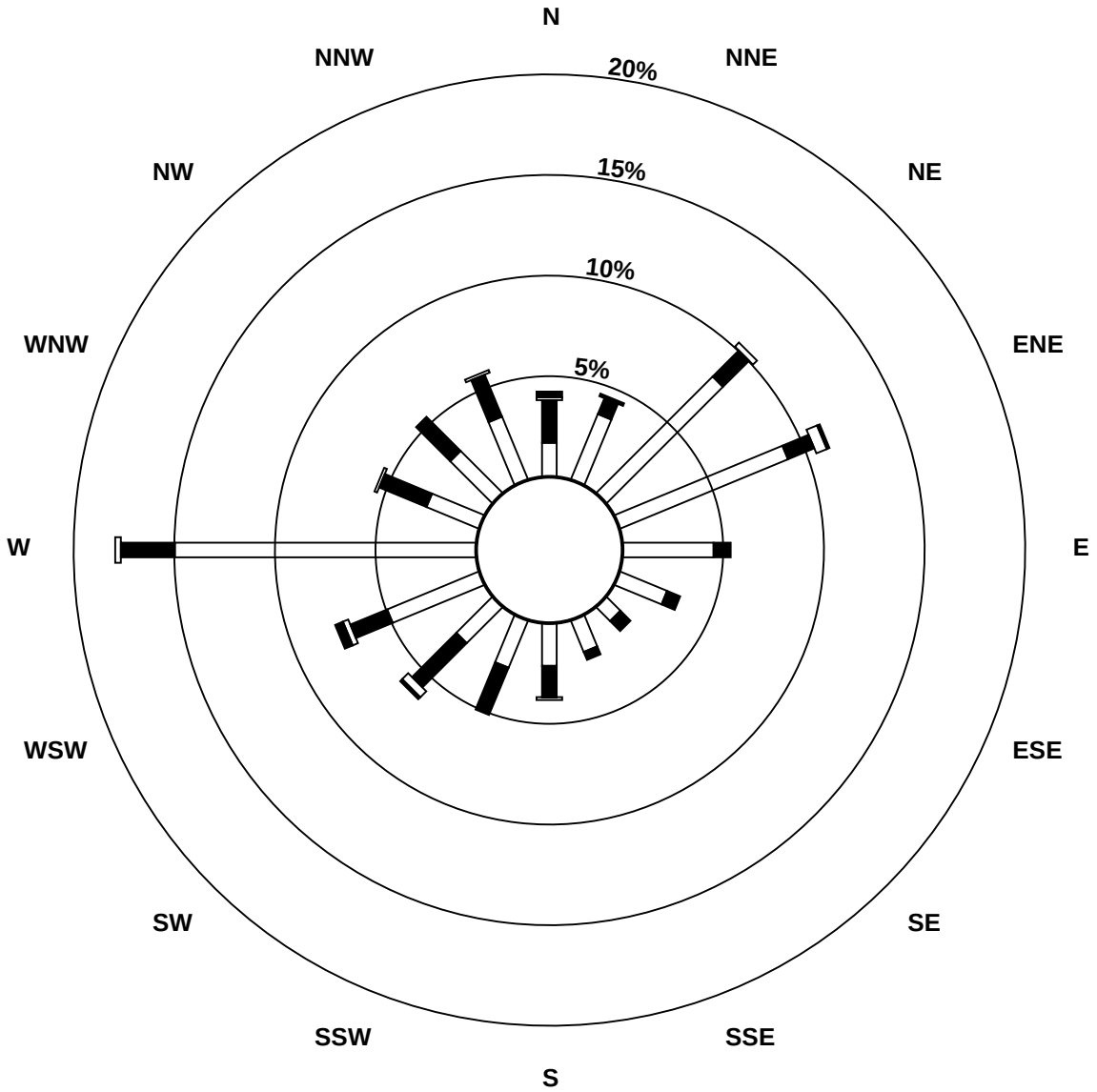


Peace Airshed Zone Association

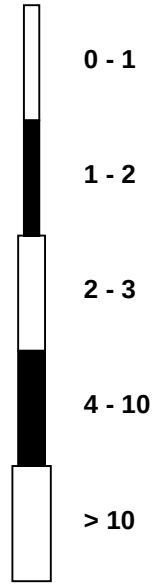
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Evergreen Park - January 2013



Pollutant Classes (ppb)

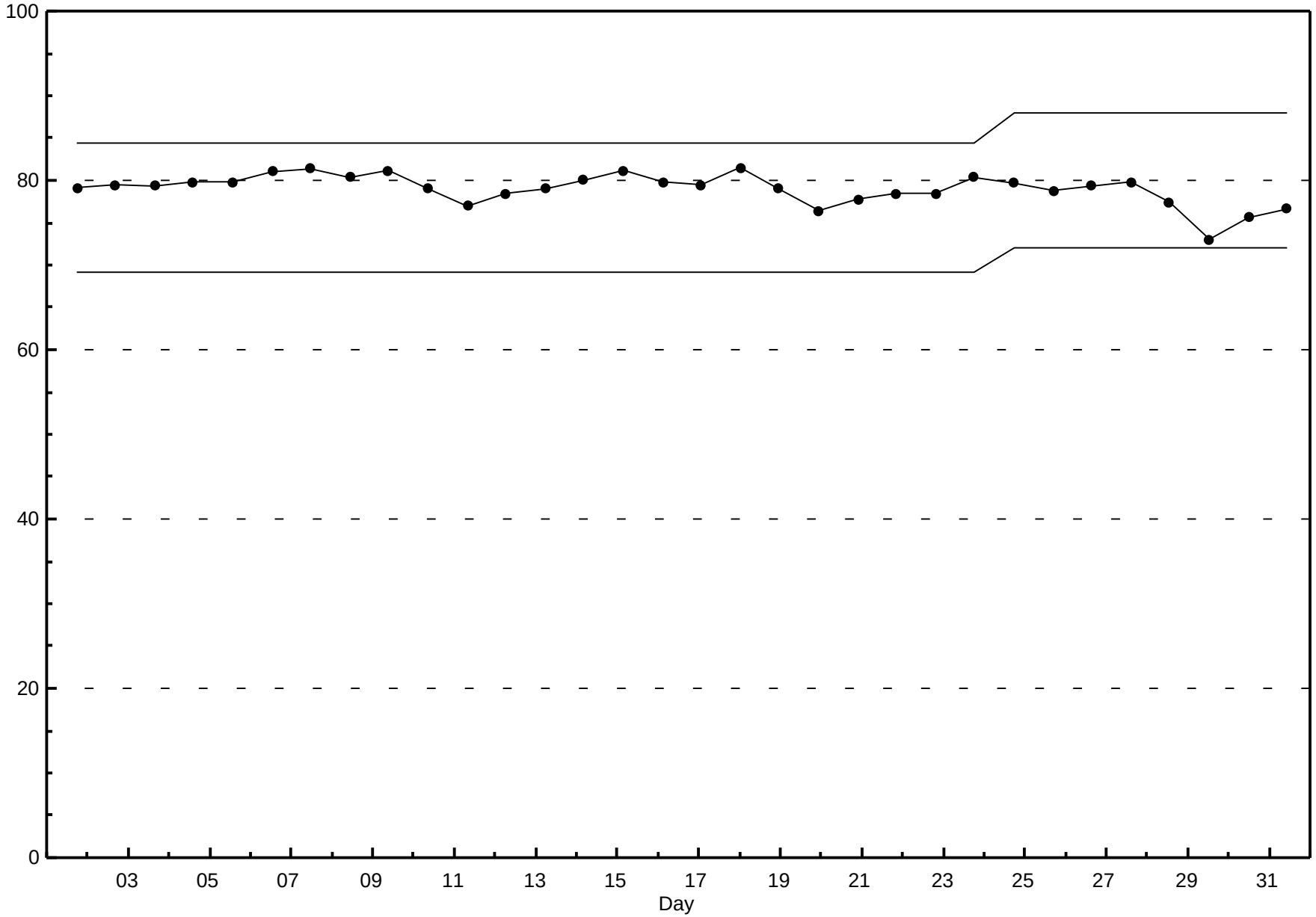


Peace Airshed Zone Association

Span Responses

Total Reduced Sulphur (TRS)

Evergreen Park - January 2013



Peace Airshed Zone Association

Hourly Averages

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

Evergreen Park - January 2013

Number of Exceedences: 1-hr: 0 24-hr: 0
Maximum Value: 19.8 $\mu g/m^3$ on Jan 24 17:00
Maximum Daily Average: 10.4 $\mu g/m^3$ on Jan 24

Minimum Value: 0 $\mu g/m^3$ on Jan 1 05:00
Minimum Daily Average: 0.0 $\mu g/m^3$ on Jan 20
Maximum Diurnal Average: 3.8 $\mu g/m^3$ at hour 12
Minimum Diurnal Average: 1.9 $\mu g/m^3$ at hour 8
Monthly Average: 2.86 $\mu g/m^3$
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 1.7 Q_3 = 4.5 P_{90} = 7.5 P_{99} = 15.2

Hours in Service:	744
Hours of Data:	729
Hours of Missing Data:	15
Hours of Calibration:	0
Percent Operational Time:	98.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0.3	1.3
2-Jan	2	1	5	4	2	0	2	2	3	5	7	9	4	5	4	6	7	8	4	2	4	5	4	5	4.2	8.9
3-Jan	5	6	8	7	6	6	4	2	2	1	3	2	3	2	3	6	6	3	4	0	6	6	8	7	4.4	7.6
4-Jan	8	8	5	6	4	3	4	5	3	3	6	7	4	2	3	3	5	3	0	0	1	0	0	0	3.5	7.8
5-Jan	0	0	0	0	0	0	0	0	4	6	11	7	6	4	5	7	9	9	6	5	5	6	9	10	4.5	10.8
6-Jan	4	4	5	4	3	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.0	4.5
7-Jan	0	0	0	0	0	0	0	0	0	2	4	11	15	15	7	9	7	7	6	7	11	6	2	0	4.6	15.3
8-Jan	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.6
9-Jan	1	1	2	3	2	2	2	4	3	2	1	2	3	2	2	2	1	2	2	2	2	2	1	1	2.0	4.1
10-Jan	0	1	1	0	0	0	1	1	1	1	2	0	0	0	1	4	1	1	0	3	3	4	3	3	1.3	4.1
11-Jan	4	4	7	7	4	5	7	N	N	N	M	M	9	8	8	3	5	8	11	9	6	5	5	5	6.4	10.6
12-Jan	3	2	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1	1	1	1	1	2	0	0	0.7	3.0
13-Jan	0	0	0	0	0	0	0	0	0	0	2	3	1	1	1	0	1	0	1	1	1	0	8	7	1.2	7.9
14-Jan	2	1	3	4	6	3	1	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.9	5.8
15-Jan	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	0.3	2.0
16-Jan	2	3	4	2	0	0	0	0	2	5	2	2	0	0	0	0	0	0	0	2	0	0	0	0	1.0	4.6
17-Jan	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.1	1.0
18-Jan	0	0	0	0	0	0	0	0	0	1	3	2	3	2	1	1	2	2	2	2	1	0	0	0	1.0	3.0
19-Jan	0	0	1	0	0	0	0	0	0	1	0	2	N	N	N	N	N	1	0	6	6	4	2	1	1.3	6.4
20-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
21-Jan	0	0	1	0	0	0	0	0	0	1	2	1	3	4	8	8	6	5	6	5	7	7	5	6	3.1	8.3
22-Jan	4	4	2	3	3	2	4	2	2	2	1	3	5	3	4	0	2	1	1	0	0	0	0	0	1.9	5.3
23-Jan	0	0	0	0	0	0	0	0	2	0	0	0	1	1	3	6	4	5	4	3	3	3	4	6	1.9	6.1
24-Jan	8	7	13	4	4	3	3	3	3	4	8	15	13	7	M	M	20	19	18	16	15	14	16	15	10.4	19.8
25-Jan	16	13	9	11	10	9	10	8	9	8	12	11	7	5	3	4	5	5	3	3	2	3	3	6	7.3	15.6
26-Jan	3	5	7	7	6	6	5	6	7	7	8	11	6	1	0	1	3	6	6	5	5	6	5	4	5.2	10.5
27-Jan	6	8	7	6	8	6	7	7	6	6	9	9	5	4	3	5	8	8	7	1	2	1	1	1	5.5	9.4
28-Jan	1	2	3	3	3	4	3	3	4	3	3	4	4	3	N	N	N	3	0	5	8	6	5	5	3.6	7.6
29-Jan	4	4	4	3	3	4	3	3	3	2	2	0	1	4	4	0	0	1	1	2	2	3	3	3	2.5	4.3
30-Jan	3	3	3	3	3	3	3	3	3	2	3	3	4	5	7	8	3	3	3	1	1	1	1	2	3.1	8.0
31-Jan	2	2	3	2	2	3	4	5	6	6	7	9	8	10	9	9	9	8	12	11	11	9	8	9	6.8	11.6
	2.6	2.5	3.1	2.6	2.2	1.9	2.1	1.9	2.2	2.3	3.2	3.8	3.5	2.9	2.8	2.9	3.7	3.6	3.2	3.0	3.4	3.0	3.1	3.2	Diurnal Average	
	15.6	13.1	13.5	10.6	9.9	9.2	10.3	8.0	8.9	8.3	11.5	15.4	15.0	15.3	8.8	8.9	19.8	18.6	18.2	15.6	14.9	14.1	16.4	14.7	Diurnal Maximum	

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

Peace Airshed Zone Association

Hourly Averages

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

Evergreen Park - January 2013

FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

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

Evergreen Park - January 2013

Maximum Value: 36.7 $\mu g/m^3$ on Jan 7 14:00

Maximum Daily Average: 14.3 $\mu g/m^3$ on Jan 24

Minimum Value: 0 $\mu g/m^3$ on Jan 6 09:00

Minimum Daily Average: 1.1 $\mu g/m^3$ on Jan 8

Maximum Diurnal Average: 6.8 $\mu g/m^3$ at hour 18

Minimum Diurnal Average: 4.1 $\mu g/m^3$ at hour 8

Monthly Average: 5.57 $\mu g/m^3$

Percentiles: $P_1 = 0.0$ $P_{10} = 0.7$ $Q_1 = 1.8$ Median = 4.5 $Q_3 = 8.0$ $P_{90} = 11.2$ $P_{99} = 21.8$

Hours in Service:	744
Hours of Data:	729
Hours of Missing Data:	15
Hours of Calibration:	0
Percent Operational Time:	98.0

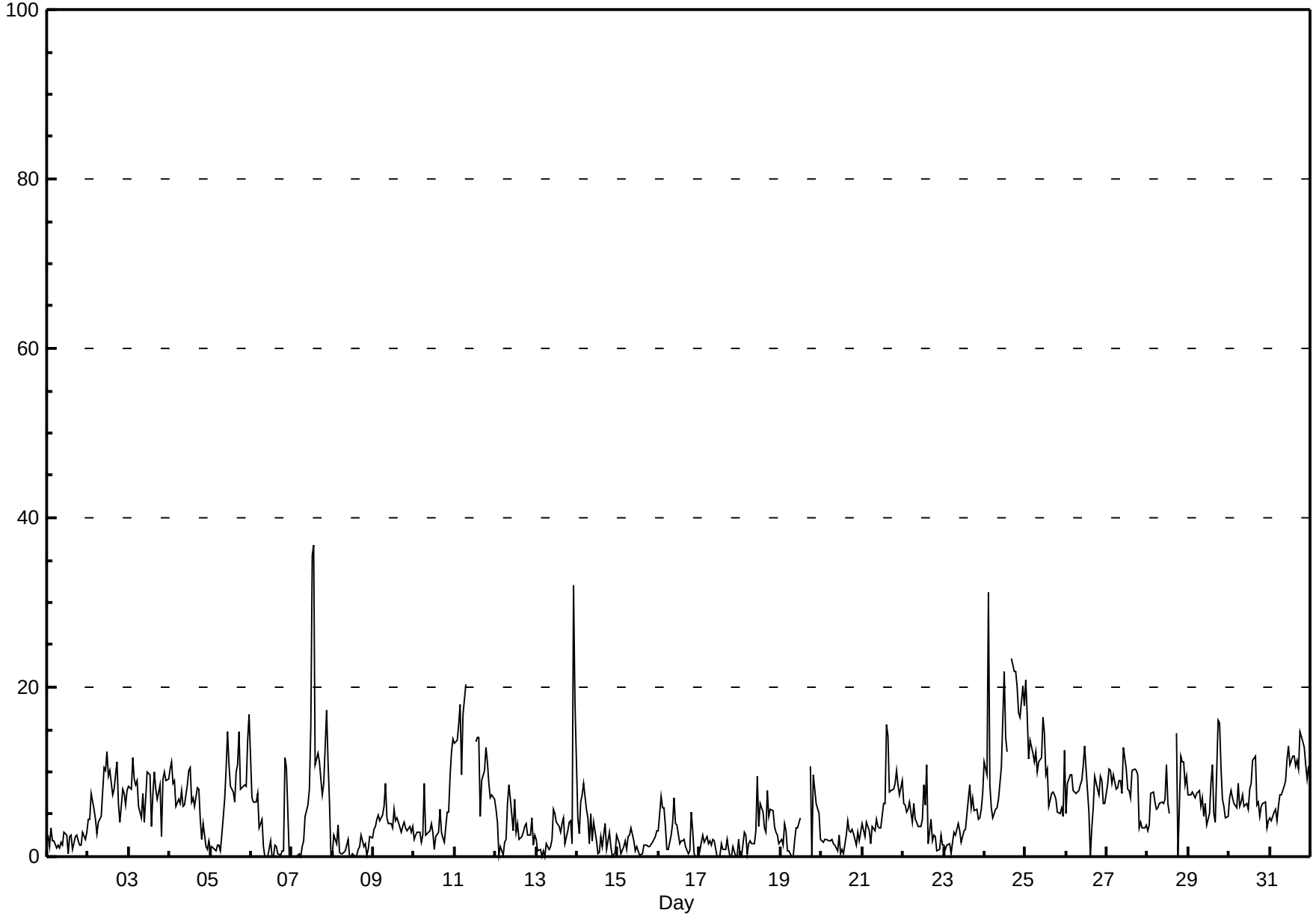
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	3	1	3	2	2	1	1	1	2	1	3	3	0	2	3	1	2	3	2	1	1	3	2	3	1.9	3.3
2-Jan	4	4	7	6	4	3	4	4	5	10	10	12	9	10	7	8	10	11	6	4	8	7	6	8	7.1	12.4
3-Jan	8	8	12	9	8	9	6	5	7	4	7	10	10	4	7	10	8	7	8	2	9	10	9	9	7.8	11.7
4-Jan	10	11	9	9	6	7	6	8	6	6	8	10	10	6	7	6	8	8	4	2	4	1	1	2	6.5	11.1
5-Jan	1	1	1	1	1	1	1	3	7	10	15	11	8	8	6	10	11	15	8	8	8	8	14	17	7.2	16.7
6-Jan	7	7	7	7	7	3	4	1	0	0	0	2	0	0	1	1	0	0	1	1	12	10	0	0	3.0	11.7
7-Jan	0	0	0	0	0	0	1	2	5	6	8	15	36	37	11	12	11	9	7	9	17	11	7	0	8.5	36.7
8-Jan	0	3	2	4	1	0	0	1	1	2	0	0	0	0	0	1	1	3	1	2	0	1	2	2	1.1	3.8
9-Jan	3	3	4	5	4	5	6	9	5	4	4	3	6	4	5	4	3	4	4	3	3	4	3	4	4.2	8.7
10-Jan	2	2	3	3	2	3	9	3	3	3	4	3	1	2	3	6	3	2	2	5	5	9	12	14	4.3	13.8
11-Jan	13	14	16	18	10	17	20	N	N	N	M	M	14	14	14	5	9	10	13	11	9	7	7	7	11.9	20.4
12-Jan	6	4	0	1	0	2	2	6	8	7	3	7	3	4	2	2	3	4	4	3	3	5	1	3	3.4	8.5
13-Jan	2	1	1	0	1	0	2	1	1	2	6	5	4	4	3	4	5	2	3	4	4	2	32	18	4.3	32.1
14-Jan	5	3	6	7	9	6	5	2	5	2	4	2	0	1	2	1	4	1	2	3	1	0	1	3	3.0	8.7
15-Jan	2	2	0	1	2	1	2	3	3	2	1	1	1	0	0	1	1	1	1	1	2	2	2	3	1.5	3.3
16-Jan	3	7	6	6	4	1	1	3	4	7	4	4	2	2	2	2	1	0	1	5	3	0	0	0	2.8	7.2
17-Jan	1	2	3	2	2	2	2	1	2	2	0	0	0	2	1	1	2	1	0	0	1	0	0	2	1.1	2.6
18-Jan	0	0	3	3	0	2	2	2	2	3	9	4	6	5	3	3	8	5	6	5	4	3	3	2	3.4	9.4
19-Jan	2	1	4	3	1	1	0	0	2	3	3	5	N	N	N	N	N	11	0	10	8	6	5	2	3.5	10.7
20-Jan	2	2	2	2	2	2	2	2	1	1	3	0	1	0	3	4	3	3	3	3	1	3	2	3	2.0	4.3
21-Jan	4	2	4	4	3	2	4	3	4	4	3	3	6	6	16	14	8	8	8	9	10	8	7	9	6.2	15.5
22-Jan	6	6	5	6	7	4	6	4	4	4	4	4	8	6	11	2	4	2	3	2	1	1	3	1	4.3	10.9
23-Jan	1	1	1	2	0	2	3	3	4	3	2	2	3	3	7	8	6	7	5	6	4	5	6	7	3.8	8.5
24-Jan	11	10	31	8	6	5	6	6	7	9	10	22	14	12	M	M	23	22	22	20	17	16	20	18	14.3	31.1
25-Jan	21	17	12	14	12	11	12	10	11	12	16	15	10	10	6	7	8	7	7	5	5	6	5	13	10.5	20.9
26-Jan	5	9	10	10	8	8	7	8	8	9	11	13	10	5	0	3	6	9	8	7	9	9	6	6	7.7	13.1
27-Jan	8	10	10	9	10	8	8	9	9	7	13	10	8	8	7	10	10	10	10	3	4	3	3	4	8.0	12.8
28-Jan	3	4	7	8	7	6	6	6	7	6	7	11	6	5	N	N	N	15	0	12	11	11	8	9	7.4	14.5
29-Jan	7	7	8	7	7	7	8	6	7	5	6	4	5	9	11	5	4	16	16	10	7	6	5	5	7.4	16.0
30-Jan	7	8	7	6	6	9	6	6	7	6	6	6	8	9	11	12	6	6	5	6	6	7	3	4	6.8	11.9
31-Jan	5	4	5	6	4	6	7	7	8	9	12	13	11	12	12	11	11	10	15	14	13	11	9	11	9.4	14.8
	4.9	4.9	6.1	5.3	4.4	4.2	4.8	4.1	4.9	5.0	6.0	6.7	6.7	6.4	5.8	5.5	6.2	6.8	5.6	5.7	6.2	5.7	6.0	6.0	Diurnal Average	
	20.9	16.8	31.1	18.0	12.2	16.7	20.4	9.9	11.2	11.7	16.5	21.8	35.6	36.7	15.5	14.3	23.3	21.9	21.8	20.1	17.2	16.5	32.1	18.1	Diurnal Maximum	

M - Maintenance N - Not Valid

Hourly Maximums

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

Evergreen Park - January 2013

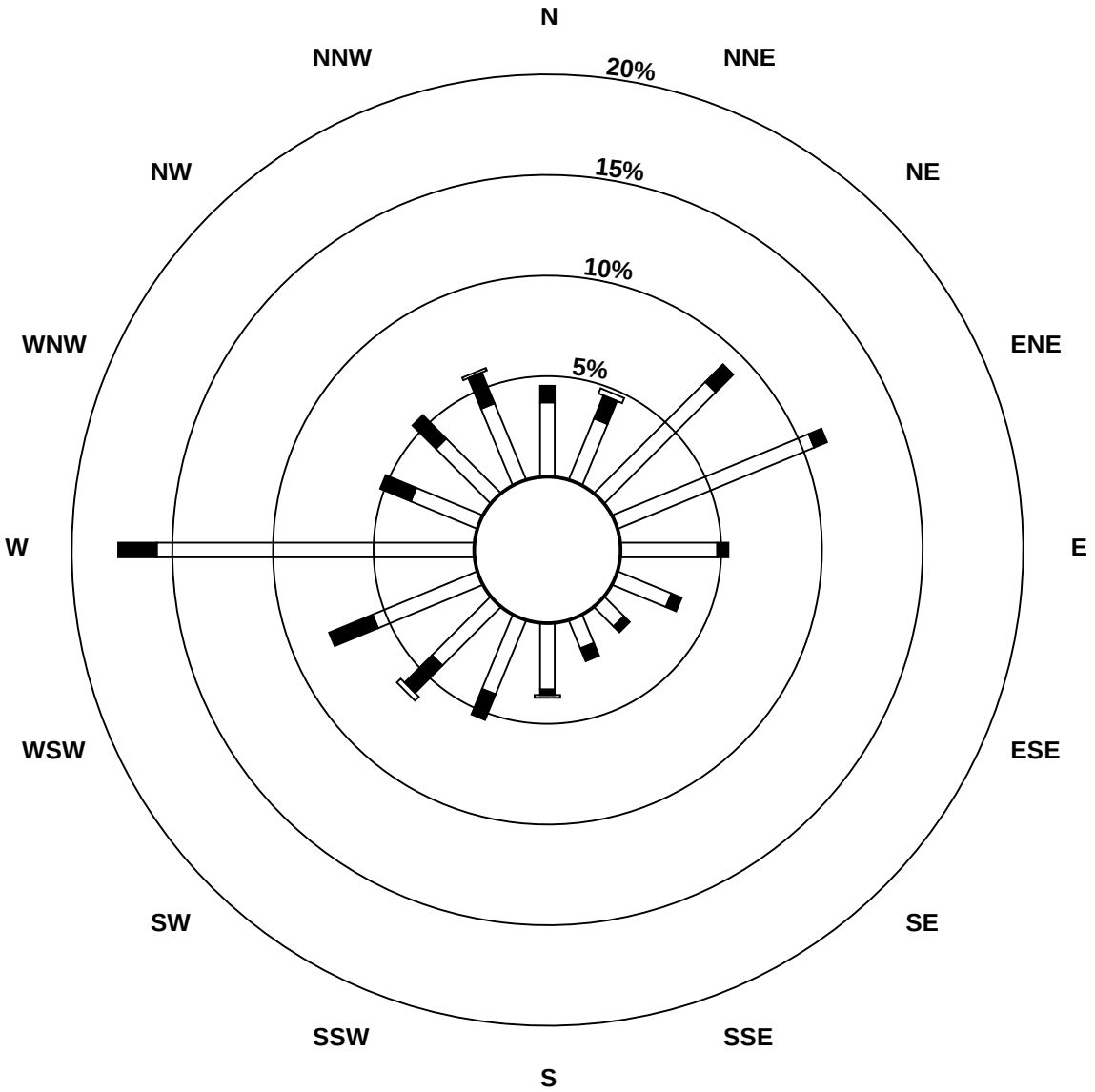


Peace Airshed Zone Association

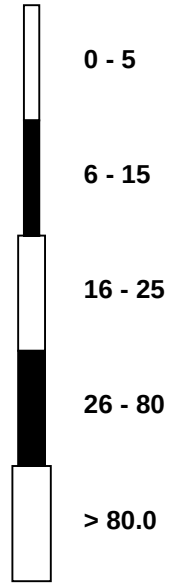
Pollutant Rose

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

Evergreen Park - January 2013



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



Hourly Averages

External Temperature (ET) - °C

Evergreen Park - January 2013

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

Maximum Value: 8.5 °C on Jan 15 15:00

Maximum Daily Average: 7.8 °C on Jan 15

Minimum Value: -31 °C on Jan 29 08:00

Minimum Daily Average: -27.8 °C on Jan 29

Maximum Diurnal Average: -6.8 °C at hour 16

Minimum Diurnal Average: -11.5 °C at hour 6

Monthly Average: -9.63 °C

Percentiles: P_1 = -29.1 P_{10} = -21.1 Q_1 = -14.7 Median = -10.4 Q_3 = -2.4 P_{90} = 2.2 P_{99} = 8.1

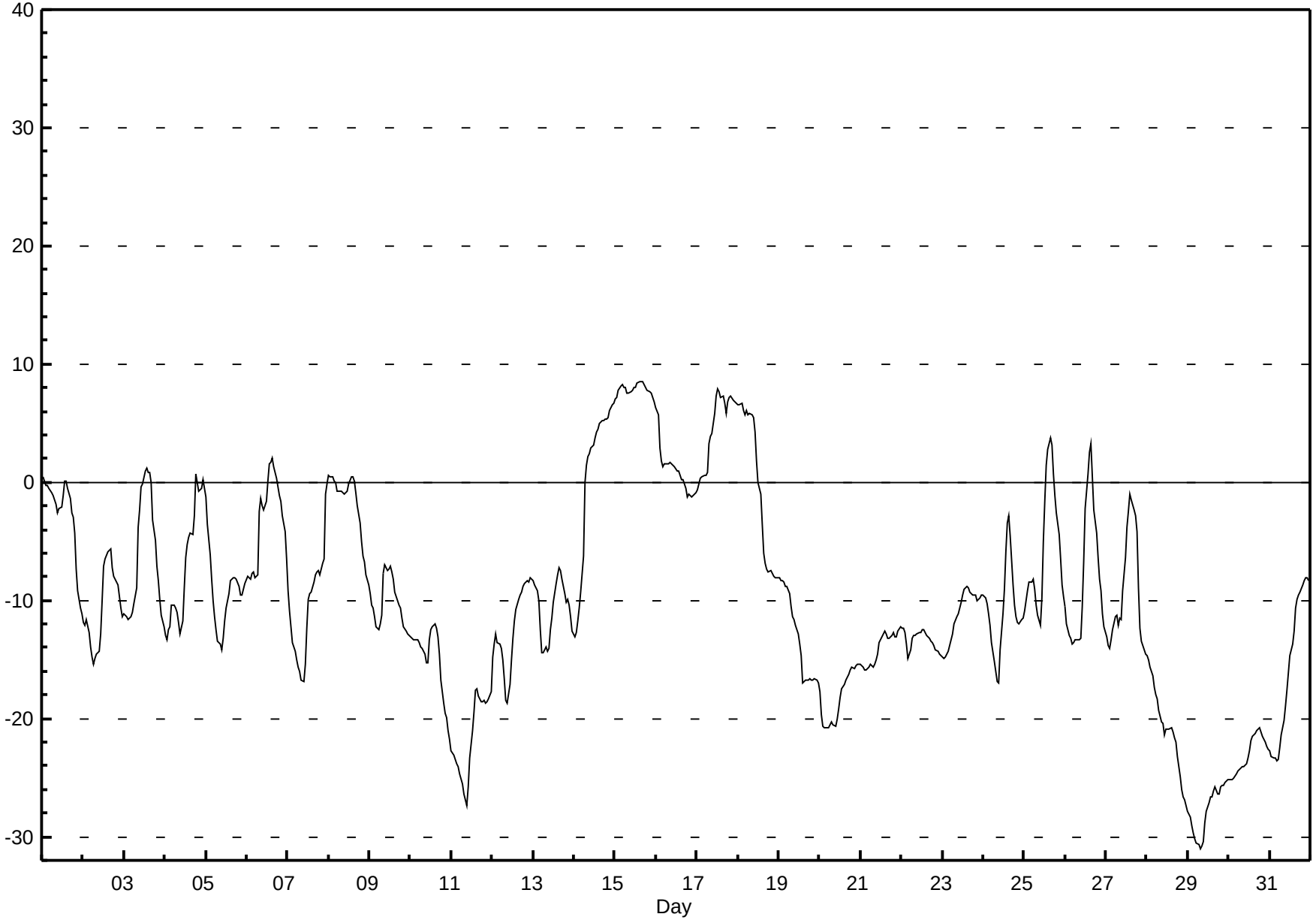
Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily	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-Jan	0	0	0	0	-1	-1	-1	-1	-2	-3	-2	-2	-1	0	0	-1	-1	-3	-3	-4	-7	-9	-11	-11	-2.7	0.5
2-Jan	-12	-12	-12	-13	-14	-15	-15	-15	-15	-14	-13	-10	-7	-7	-6	-6	-6	-7	-8	-8	-9	-10	-11	-11	-10.6	-5.6
3-Jan	-11	-11	-12	-11	-11	-11	-10	-9	-4	-2	0	0	1	1	1	1	0	-3	-5	-7	-8	-10	-11	-12	-6.1	1.2
4-Jan	-13	-13	-12	-12	-10	-10	-11	-11	-12	-13	-12	-9	-6	-5	-5	-4	-4	-3	1	0	-1	0	0	0	-7.0	0.6
5-Jan	-1	-4	-6	-8	-10	-11	-12	-14	-14	-14	-13	-12	-11	-9	-8	-8	-8	-8	-8	-9	-10	-10	-9	-9	-9.4	-1.3
6-Jan	-8	-8	-8	-8	-8	-8	-8	-2	-1	-2	-2	-2	0	2	2	2	1	0	0	-1	-2	-3	-4	-7	-3.1	2.1
7-Jan	-9	-11	-12	-14	-14	-15	-16	-16	-17	-17	-15	-12	-10	-9	-9	-9	-8	-8	-8	-8	-7	-6	-1	0	-10.4	-0.2
8-Jan	1	1	0	0	0	-1	-1	-1	-1	-1	-1	-1	0	0	0	0	-1	-2	-3	-5	-6	-7	-8	-9	-1.8	0.6
9-Jan	-9	-10	-11	-11	-12	-13	-12	-11	-8	-7	-7	-7	-7	-8	-8	-9	-10	-10	-11	-12	-12	-13	-13	-13	-10.2	-7.0
10-Jan	-13	-13	-13	-13	-13	-14	-14	-14	-15	-15	-15	-13	-13	-12	-12	-12	-13	-15	-17	-19	-20	-20	-21	-22	-15.0	-12.0
11-Jan	-23	-23	-23	-24	-24	-25	-26	-26	-27	-27	-26	-23	-21	-19	-18	-17	-18	-19	-19	-18	-19	-19	-18	-18	-21.6	-17.5
12-Jan	-15	-14	-13	-14	-14	-14	-15	-17	-18	-19	-17	-15	-13	-12	-11	-10	-10	-9	-9	-9	-8	-8	-8	-8	-12.4	-8.1
13-Jan	-8	-9	-9	-10	-12	-14	-14	-14	-14	-14	-12	-12	-10	-9	-8	-7	-8	-8	-9	-10	-10	-10	-11	-13	-10.7	-7.3
14-Jan	-13	-13	-12	-11	-9	-6	0	1	2	2	3	3	4	4	4	5	5	5	5	5	5	6	7	7	0.5	6.7
15-Jan	7	7	8	8	8	8	8	8	8	8	8	8	8	8	9	8	8	8	8	8	8	8	7	7	7.8	8.5
16-Jan	6	6	3	2	1	2	2	2	2	2	1	1	1	1	1	0	0	-1	-1	-1	-1	-1	-1	-1	1.0	6.4
17-Jan	-1	0	0	0	1	1	1	3	4	4	6	7	8	8	7	7	7	6	7	7	7	7	7	7	4.6	7.9
18-Jan	7	7	7	6	6	6	6	6	6	5	4	2	0	-1	-4	-6	-7	-7	-8	-7	-8	-8	-8	-8	-0.2	6.7
19-Jan	-8	-8	-8	-8	-9	-9	-9	-11	-11	-12	-12	-13	-14	-15	-17	-17	-17	-17	-17	-17	-17	-17	-17	-17	-13.1	-8.1
20-Jan	-18	-20	-21	-21	-21	-21	-21	-20	-21	-21	-20	-19	-18	-18	-17	-17	-17	-16	-16	-16	-16	-15	-15	-15	-18.2	-15.4
21-Jan	-15	-16	-16	-16	-16	-16	-15	-16	-15	-15	-15	-14	-13	-13	-13	-13	-13	-13	-13	-13	-13	-13	-13	-12	-14.1	-12.3
22-Jan	-12	-12	-13	-14	-15	-14	-13	-13	-13	-13	-13	-13	-12	-13	-13	-13	-13	-13	-14	-14	-14	-14	-15	-15	-13.3	-12.3
23-Jan	-15	-15	-15	-14	-14	-13	-13	-12	-11	-11	-11	-10	-10	-9	-9	-9	-9	-9	-10	-9	-10	-10	-10	-10	-11.1	-8.8
24-Jan	-9	-10	-10	-11	-12	-14	-15	-16	-17	-17	-14	-11	-9	-6	-3	-3	-5	-9	-10	-11	-12	-12	-12	-11	-10.8	-2.8
25-Jan	-11	-10	-9	-8	-8	-8	-9	-10	-11	-12	-10	-5	-2	1	3	4	3	1	-1	-3	-4	-6	-9	-10	-5.6	3.7
26-Jan	-11	-12	-13	-13	-14	-14	-13	-13	-13	-13	-11	-7	-2	1	2	3	0	-2	-4	-6	-8	-9	-11	-12	-8.1	3.2
27-Jan	-13	-14	-14	-13	-12	-11	-11	-12	-12	-12	-9	-6	-4	-2	-1	-1	-2	-3	-4	-9	-12	-13	-14	-15	-9.2	-1.0
28-Jan	-15	-15	-16	-16	-17	-18	-18	-19	-20	-20	-21	-21	-21	-21	-21	-21	-22	-22	-23	-25	-26	-27	-27	-27	-20.8	-14.7
29-Jan	-28	-28	-29	-30	-30	-31	-31	-31	-31	-30	-29	-28	-27	-27	-27	-26	-26	-26	-26	-26	-26	-26	-25	-25	-27.8	-25.2
30-Jan	-25	-25	-25	-25	-25	-24	-24	-24	-24	-24	-24	-23	-23	-22	-21	-21	-21	-21	-21	-21	-21	-22	-22	-23	-23.0	-20.8
31-Jan	-23	-23	-23	-23	-24	-23	-22	-21	-20	-19	-18	-16	-15	-14	-13	-11	-10	-10	-9	-9	-8	-8	-8	-8	-15.8	-8.0
	-10.3	-10.6	-10.9	-11.2	-11.4	-11.5	-11.4	-11.3	-11.1	-11.2	-10.3	-9.1	-8.0	-7.2	-6.9	-6.8	-7.2	-7.9	-8.3	-8.9	-9.5	-9.9	-10.1	-10.4	Diurnal Average	
	7.0	7.2	7.8	8.2	8.3	8.1	8.0	7.5	7.6	7.7	7.7	8.0	8.0	8.4	8.5	8.5	8.5	8.3	8.0	7.8	7.7	7.6	7.2	6.8	Diurnal Maximum	

Hourly Averages

External Temperature (ET) - °C

Evergreen Park - January 2013



Hourly Averages

Relative Humidity (RH) - %

Evergreen Park - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 95.7 % on Jan 17 06:00 Maximum Daily Average: 86.8 % on Jan 5

Minimum Value: 31 % on Jan 15 17:00 Minimum Daily Average: 40.6 % on Jan 15
Maximum Diurnal Average: 78.9 % at hour 5 Minimum Diurnal Average: 65.6 % at hour 15
Monthly Average: 74.00 % Percentiles: P_1 = 36.2 P_{10} = 53.8 Q_1 = 68.1 Median = 77.6 Q_3 = 83.1 P_{90} = 86.7 P_{99} = 94.0

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

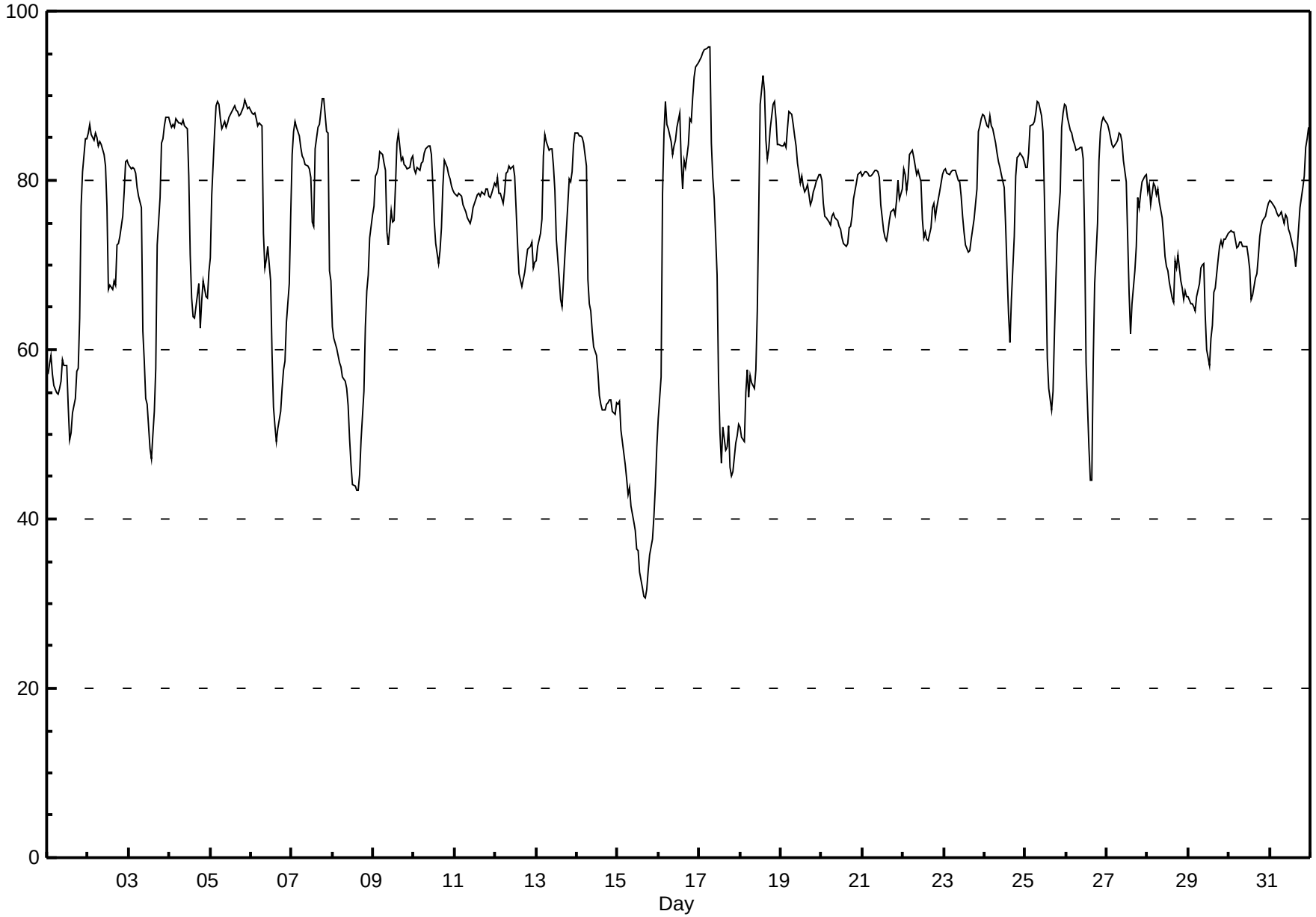
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jan	57	58	59	57	56	55	55	55	56	59	58	58	53	49	50	52	54	57	58	64	77	81	85	85	60.4	84.9
2-Jan	86	87	85	85	86	85	84	85	84	83	82	77	67	68	67	68	68	72	72	73	76	79	82	82	78.4	86.6
3-Jan	82	81	82	81	81	79	78	77	62	59	54	54	48	47	50	53	58	72	78	84	85	86	88	87	71.1	87.5
4-Jan	87	86	87	86	87	87	87	87	87	86	86	80	71	66	64	64	66	68	63	66	68	66	66	69	76.3	87.4
5-Jan	71	78	86	89	89	89	87	86	87	86	87	87	88	88	89	88	88	88	88	89	89	89	88	89	86.8	89.4
6-Jan	88	88	88	87	86	87	87	74	70	71	72	68	59	53	51	49	51	53	55	58	59	63	68	76	69.2	88.0
7-Jan	83	86	87	86	85	84	83	83	82	82	81	80	75	75	84	86	87	88	90	90	86	86	69	68	82.7	89.6
8-Jan	63	61	60	59	58	58	57	56	55	53	49	46	44	44	43	43	45	49	55	63	67	69	73	76	56.2	75.9
9-Jan	77	80	81	82	83	83	82	81	74	72	76	75	75	80	84	86	82	83	82	82	81	81	83	83	80.4	85.6
10-Jan	81	81	82	81	82	82	83	84	84	84	83	80	75	73	70	72	74	79	82	82	81	80	79	79	79.7	84.1
11-Jan	78	78	78	78	78	77	76	76	75	75	76	77	78	78	78	78	79	78	79	79	78	78	79	80	77.7	79.6
12-Jan	79	80	78	78	77	79	81	81	82	81	82	81	77	73	69	68	68	69	71	72	72	73	70	70	75.4	81.7
13-Jan	71	72	74	75	83	85	85	84	84	84	82	79	73	69	66	65	68	71	77	80	80	81	84	86	77.3	85.6
14-Jan	86	85	85	85	84	82	68	65	65	62	60	59	57	55	54	53	53	54	54	54	54	53	52	54	63.9	85.6
15-Jan	54	54	51	48	46	45	43	44	42	40	39	36	36	34	32	31	31	32	34	36	38	40	44	48	40.6	53.8
16-Jan	52	57	78	86	89	87	86	85	83	84	85	86	88	82	79	82	82	84	87	87	90	92	93	94	83.3	93.9
17-Jan	94	95	95	95	96	96	96	84	80	78	69	57	50	47	51	48	48	51	46	45	46	49	50	51	67.3	95.7
18-Jan	51	50	49	55	58	54	57	56	55	58	65	76	89	92	90	85	83	84	86	89	89	87	84	84	71.9	92.4
19-Jan	84	84	84	84	86	88	88	87	85	84	82	80	80	79	79	79	79	77	78	79	79	80	81	81	81.9	88.1
20-Jan	80	77	76	76	75	75	76	76	76	75	75	74	73	72	72	73	74	75	76	78	80	81	81	81	76.0	81.0
21-Jan	81	81	81	81	80	80	81	81	81	81	80	77	74	73	73	74	75	76	77	76	78	80	78	79	78.3	81.2
22-Jan	81	81	79	80	83	84	83	82	81	81	80	75	73	74	73	73	74	77	77	76	77	79	80	81	78.4	83.5
23-Jan	81	81	81	81	81	81	81	81	80	80	78	76	74	72	72	72	73	74	75	79	86	87	87	88	79.2	87.9
24-Jan	88	86	86	88	86	86	84	83	82	82	81	79	75	69	64	61	66	73	80	83	83	83	83	82	79.8	87.7
25-Jan	82	81	83	86	87	87	88	89	89	88	86	78	69	59	55	53	55	62	68	74	79	86	88	89	77.6	89.3
26-Jan	89	88	86	86	85	84	84	84	84	84	82	74	58	49	45	44	59	68	75	82	86	87	88	87	76.5	88.8
27-Jan	87	86	85	84	84	84	85	86	85	85	82	80	73	67	62	65	69	72	78	77	79	80	81	81	79.0	86.5
28-Jan	79	80	77	80	79	78	79	77	76	73	71	70	69	68	66	66	71	70	71	68	67	66	67	66	72.2	79.6
29-Jan	66	65	65	65	65	66	68	70	70	70	64	60	58	61	63	67	67	71	72	73	72	73	73	74	67.5	73.8
30-Jan	74	74	74	74	72	72	73	73	72	72	72	71	70	66	67	68	69	71	73	75	75	76	77	77	72.4	77.3
31-Jan	78	78	77	77	76	76	76	76	75	76	76	74	74	72	72	70	71	74	77	79	80	84	85	86	76.6	86.3
	77.0	77.4	78.1	78.6	78.9	78.6	78.0	77.0	75.6	75.1	74.0	71.8	68.6	66.3	65.6	65.7	67.4	70.1	72.1	73.8	75.3	76.6	76.9	77.8	Diurnal Average	
	94.3	94.6	95.1	95.5	95.6	95.7	95.7	89.3	89.1	87.7	86.7	87.4	89.0	92.4	90.5	88.4	88.1	88.1	89.6	89.6	89.9	92.2	93.4	93.9	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Evergreen Park - January 2013



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Evergreen Park - January 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	40	39	40	39	27	23	22	22	13	20	19	13	19	22	17	8	6	6	7	3	2	2	1	2	16.0	40.3
Dir	262	262	262	267	270	264	262	264	275	269	279	287	271	274	296	291	300	308	313	68	83	56	17	49	271.4	262.5
2 Spd	0	1	2	1	1	2	2	2	4	2	3	3	3	0	2	5	4	4	3	3	3	1	2	2	1.0	5.1
Dir	15	8	242	47	209	57	358	313	321	216	298	231	285	267	55	348	259	261	223	169	47	203	205	349	282.5	347.7
3 Spd	1	1	2	4	1	2	2	6	6	4	4	7	7	5	4	1	1	4	2	3	0	1	1	0	1.8	7.4
Dir	149	212	203	209	221	205	192	181	236	196	263	205	225	210	214	5	55	53	74	37	316	11	290	38	209.3	204.6
4 Spd	1	1	1	7	3	2	5	1	2	3	2	6	5	3	3	2	1	14	26	17	10	18	21	10	5.8	26.4
Dir	297	306	190	221	293	329	240	223	190	237	212	208	313	318	350	211	134	249	245	243	268	278	280	313	260.8	245.3
5 Spd	7	1	2	1	2	0	3	1	3	1	2	2	2	3	3	5	3	2	1	3	1	1	0	1	1.2	6.8
Dir	301	34	180	87	209	59	53	272	264	300	285	344	250	346	285	307	318	250	145	224	245	92	256	232	286.8	301.3
6 Spd	1	4	4	1	6	1	6	17	16	19	8	13	21	25	25	30	29	25	22	20	16	8	3	2	12.4	30.1
Dir	119	204	234	269	220	236	247	252	246	227	217	247	253	266	272	269	267	267	263	266	279	304	344	74	259.5	268.8
7 Spd	2	3	0	1	1	1	2	3	1	0	1	1	3	7	2	0	1	5	1	2	5	7	23	26	2.9	25.5
Dir	64	52	357	27	16	50	26	26	209	53	349	332	283	274	324	211	155	227	225	281	262	247	254	256	263.9	256.0
8 Spd	30	28	22	21	30	28	30	34	33	35	28	22	20	28	34	28	21	9	1	2	3	2	1	1	19.1	34.6
Dir	264	297	289	274	262	259	259	258	254	250	248	244	263	268	265	273	265	234	93	90	68	60	84	23	263.3	250.1
9 Spd	1	4	2	4	2	1	1	1	7	6	14	14	10	14	13	18	15	8	7	10	15	11	6	1	7.0	18.2
Dir	12	7	332	352	249	269	360	343	35	31	54	51	44	36	39	53	55	55	64	66	55	61	81	158	48.1	53.3
10 Spd	3	5	5	4	4	6	4	3	2	1	1	2	5	5	7	7	6	2	1	1	2	2	2	2	0.3	6.8
Dir	136	198	184	177	177	172	172	161	65	34	28	303	338	351	13	41	34	33	45	346	325	268	299	268	55.9	12.9
11 Spd	1	1	2	3	5	4	3	2	2	1	4	2	3	5	3	5	4	3	3	4	4	2	4	5	2.7	5.5
Dir	292	266	254	313	319	283	283	336	314	282	329	265	265	249	310	322	319	298	320	260	271	301	233	236	287.3	236.0
12 Spd	3	3	6	10	7	8	6	1	2	7	6	3	9	9	12	13	10	10	9	8	2	6	7	3	6.0	12.5
Dir	272	312	286	263	270	302	317	292	215	210	214	319	253	289	268	273	280	289	265	259	307	248	283	281	272.3	273.2
13 Spd	2	2	2	2	1	2	3	2	0	4	2	4	8	5	2	2	2	1	1	2	1	1	2	1	0.9	8.0
Dir	277	210	201	163	194	214	210	201	184	200	201	281	264	12	326	260	40	137	171	68	159	82	222	65	235.9	264.1
14 Spd	2	1	1	1	4	8	21	27	33	30	22	24	29	40	44	40	38	47	53	48	47	51	46	50	28.9	52.8
Dir	54	61	74	71	252	260	275	268	268	269	286	279	262	261	264	265	267	261	262	264	262	258	259	266	264.9	261.9
15 Spd	58	54	55	56	65	65	65	53	56	56	51	55	61	70	65	67	66	64	62	62	52	51	48	51	58.6	70.2
Dir	265	264	261	259	261	261	262	265	263	265	264	263	263	266	266	264	264	264	264	264	266	268	267	267	264.0	265.7
16 Spd	56	34	13	17	11	8	6	7	5	3	3	4	7	6	11	5	2	3	2	5	4	4	4	3	4.7	55.5
Dir	264	279	19	3	349	331	356	335	319	275	10	334	13	20	24	25	342	179	169	179	156	100	120	131	315.0	264.3
17 Spd	2	4	4	7	9	10	12	16	7	13	14	23	38	41	53	44	28	30	47	48	57	50	53	49	25.6	56.9
Dir	116	155	175	186	191	191	211	240	298	257	232	242	253	272	254	254	280	273	267	268	260	262	260	264	257.3	260.3
18 Spd	43	51	53	43	41	50	51	54	51	42	26	17	17	20	17	15	10	8	4	11	15	13	8	4	20.2	53.7
Dir	262	256	253	259	258	259	257	252	256	263	304	346	352	345	36	62	57	65	29	337	337	341	318	324	274.6	251.8
19 Spd	5	5	6	5	6	9	10	10	11	12	13	15	19	25	18	12	10	5	4	5	5	3	5	6	7.6	25.2
Dir	301	337	35	70	91	93	71	60	57	65	50	36	44	44	50	43	45	53	156	169	153	149	115	98	58.0	44.0
20 Spd	10	14	12	10	9	8	7	6	7	7	6	7	7	10	11	9	8	9	8	7	8	6	7	7	8.0	13.9
Dir	78	64	64	63	57	64	95	86	95	95	102	107	63	49	58	57	58	79	54	73	87	75	69	58	71.0	63.5
21 Spd	6	6	8	8	6	3	4	3	4	5	5	5	9	7	8	6	4	4	7	5	1	2	4	4	3.9	8.9
Dir	55	64	57	75	56	81	51	106	96	105	96	105	356	1	21	30	26	51	48	51	256	284	311	88	51.0	355.8
22 Spd	4	5	4	1	2	1	1	1	2	2	4	7	6	8	10	9	8	6	6	9	9	8	9	11	5.2	11.1
Dir	70	76	86	93	214	108	223	101	81	103	98	61	54	49	60	65	67	75	92	57	70	76	73	74	70.9	73.6

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Evergreen Park - January 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
23 Spd	11	13	12	9	10	6	5	8	11	8	9	11	10	8	6	9	7	4	3	4	7	1	4	3	6.3	13.2
Dir	73	70	71	72	69	64	46	76	103	98	99	103	111	106	54	54	68	59	93	167	210	159	15	37	82.2	70.1
24 Spd	6	7	6	8	6	1	0	0	1	0	2	2	5	8	4	5	7	2	1	1	2	1	0	2	2.0	8.3
Dir	310	281	261	250	248	136	74	15	61	3	27	342	247	212	251	273	339	12	34	179	26	37	229	276	278.1	249.7
25 Spd	0	1	4	1	2	1	3	1	1	1	4	0	1	4	1	8	8	6	3	1	1	1	2	1	1.0	8.5
Dir	220	322	51	130	227	266	235	168	28	80	40	312	347	220	314	215	203	220	209	197	91	186	40	344	213.5	203.2
26 Spd	0	2	1	1	1	1	2	1	1	0	0	2	3	6	7	6	1	4	0	1	2	2	2	3	0.9	7.1
Dir	175	25	3	254	332	220	231	343	107	102	339	290	243	218	221	205	293	224	284	87	353	204	55	37	233.9	221.1
27 Spd	1	1	1	1	3	2	3	2	4	1	2	2	2	3	2	2	2	2	8	13	10	8	3	6	1.6	13.4
Dir	6	1	184	183	28	222	214	238	216	241	4	57	9	244	224	10	21	243	55	68	69	73	58	48	59.6	67.8
28 Spd	10	8	9	9	14	11	6	12	11	8	16	15	19	15	13	11	10	9	21	28	28	27	21	23	13.5	27.7
Dir	45	43	351	355	341	348	345	355	352	33	346	336	335	359	30	40	35	25	345	338	337	336	328	327	350.7	337.7
29 Spd	20	20	19	14	11	9	5	1	1	2	5	7	7	8	8	9	9	10	12	11	12	9	6	5	3.1	20.0
Dir	324	318	321	304	289	275	254	310	83	140	216	170	143	125	85	102	103	58	55	55	40	44	42	41	10.1	318.4
30 Spd	5	6	4	3	2	3	3	5	6	7	6	6	7	4	6	7	7	6	5	4	6	3	2	2	3.6	7.3
Dir	52	67	72	74	227	62	72	109	95	108	109	121	182	171	147	119	145	143	83	76	68	66	6	341	104.7	119.4
31 Spd	1	4	2	2	1	2	1	2	5	2	1	3	3	7	6	3	1	3	1	1	3	3	2	6	0.9	6.7
Dir	333	226	267	312	206	200	216	270	245	59	273	332	253	267	254	262	316	17	134	61	191	123	82	70	259.4	266.8
Spd	6.8	6.0	5.0	5.2	6.0	5.7	6.4	6.4	5.8	5.7	4.1	4.0	6.4	7.4	6.4	5.3	4.7	5.1	5.6	5.2	5.1	5.1	5.8	5.3	Diurnal Average	
Dir	275.9	280.9	276.8	272.9	268.3	264.3	261.4	262.2	264.7	256.2	280.0	278.8	278.4	285.6	287.3	284.0	288.4	272.0	274.0	278.0	284.1	283.0	276.9	281.5		
Spd	58.0	54.3	55.5	56.0	64.8	64.7	65.2	53.7	55.5	56.1	51.4	55.1	60.7	70.2	64.8	66.5	65.9	63.9	61.6	62.0	56.9	51.4	52.8	50.8	Diurnal Maximum	
Dir	264.8	263.7	260.6	259.1	260.7	261.0	261.8	251.8	262.6	265.1	264.3	263.2	263.2	265.7	266.2	264.1	264.0	264.3	264.3	263.9	260.3	268.2	260.0	267.4		

Maximum Speed Value: 70 km/h on Jan 15 14:00
Minimum Speed Value: 0 km/h on Jan 7 16:00
Maximum Daily Speed Average: 58.6 km/h on Jan 15
Minimum Daily Speed Average: 0.3 km/h on Jan 26
Maximum Diurnal Speed Average: 7.4 km/h at hour 14
Minimum Diurnal Speed Average: 4.0 km/h at hour 12

Monthly Average Velocity: 5.54 km/h 275.44 deg
Speed Percentiles: P_1 = 0.3 P_{10} = 1.0 Q_1 = 2.1 Median = 5.2 Q_3 = 10.5 P_{90} = 29.4 P_{99} = 64.5
All monthly, daily, and diurnal averages have been calculated using vector methods

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

Frequency Distribution

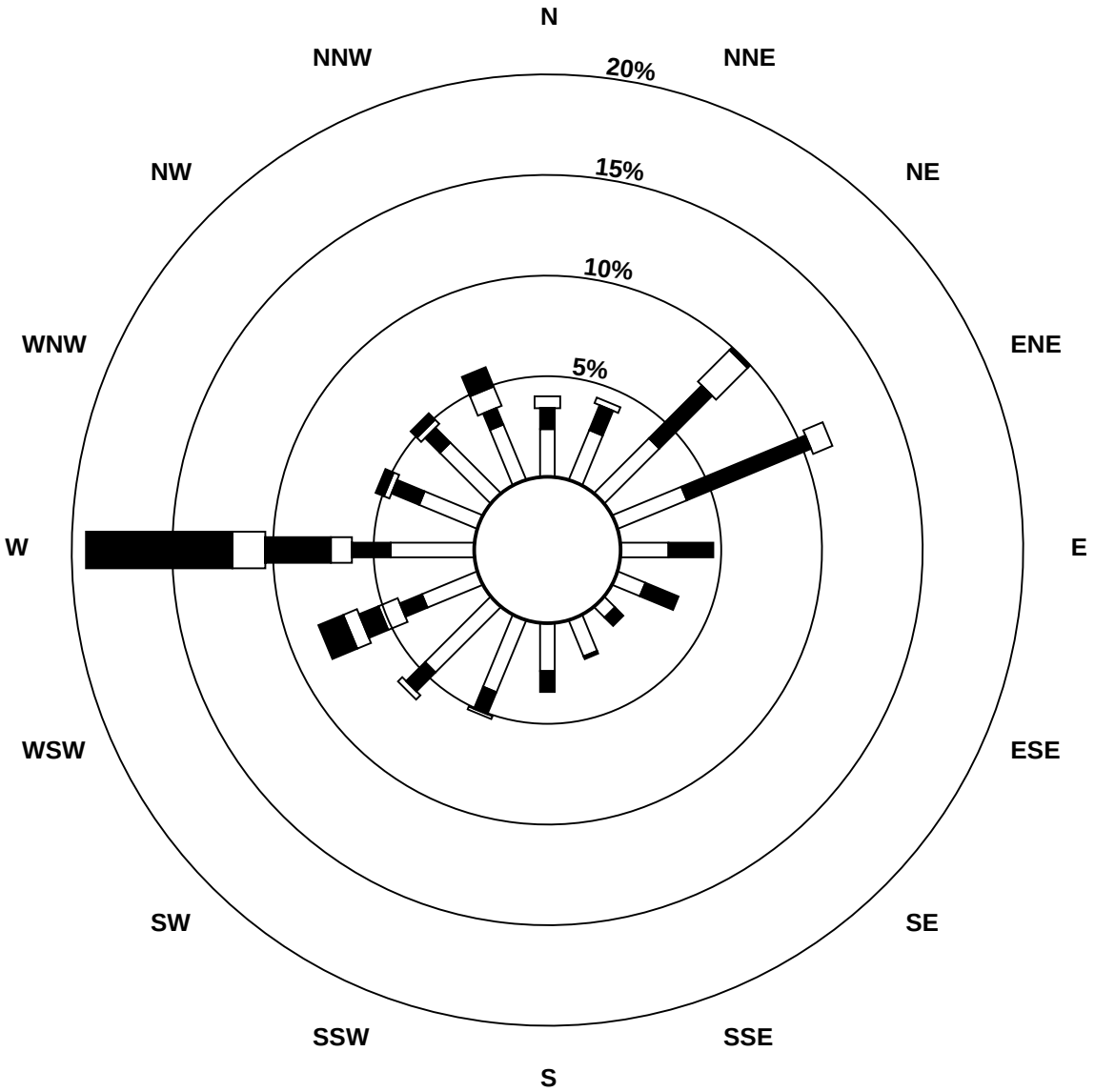
Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	42	15	12	3	0	0	72
NorthEast	60	53	23	2	0	0	138
East	43	46	6	0	0	0	95
SouthEast	20	8	0	0	0	0	28
South	37	9	0	0	0	0	46
SouthWest	60	25	7	3	0	0	95
West	54	25	9	27	18	59	192
NorthWest	47	17	6	8	0	0	78
Total	363	198	63	43	18	59	744

Peace Airshed Zone Association

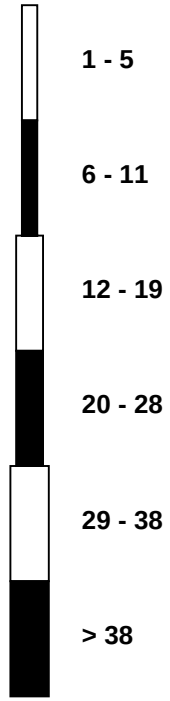
Wind Rose

Wind Speed (WS) (km/h)

Evergreen Park - January 2013



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Evergreen Park - January 2013

Maximum Speed: 70 km/h on Jan 15 14:00

Maximum Daily Speed Average: 58.9 km/h on Jan 15

Minimum Speed: 1 km/h on Jan 4 00:00

Minimum Daily Speed Average: 3.1 km/h on Jan 13

Maximum Diurnal Speed Average: 14.4 km/h at hour 14

Minimum Diurnal Speed Average: 10.0 km/h at hour 6

Monthly Average Speed: 11.36 km/h

Percentiles: P_1 = 1.6 P_{10} = 2.5 Q_1 = 3.4 Median = 6.1 Q_3 = 11.3 P_{90} = 29.6 P_{99} = 64.8

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	40	39	40	39	28	23	23	22	14	20	19	14	19	23	17	8	6	6	8	5	3	3	3	2	17.8	40.5
2-Jan	1	2	3	2	3	3	3	3	4	3	5	4	4	3	5	5	5	5	4	9	5	3	3	4	3.8	9.1
3-Jan	4	4	6	6	4	6	4	7	9	10	12	8	7	6	5	2	3	5	3	3	3	2	1	1	5.1	12.4
4-Jan	3	3	3	7	4	3	6	3	3	4	2	7	6	4	3	4	7	18	27	17	11	19	22	11	8.1	26.6
5-Jan	8	3	3	3	3	3	3	3	4	3	3	3	3	3	4	6	4	6	3	4	4	2	3	7	3.8	8.1
6-Jan	3	6	5	4	7	5	8	17	16	19	9	13	21	25	25	30	30	25	22	21	16	8	4	3	14.2	30.4
7-Jan	3	4	2	2	2	2	3	3	4	3	2	2	5	9	3	3	3	7	3	4	6	7	24	26	5.4	25.6
8-Jan	30	29	23	22	30	29	30	34	34	35	29	22	20	29	34	28	21	10	4	3	4	4	5	4	21.3	34.8
9-Jan	2	4	2	4	4	6	2	4	7	6	14	14	10	14	13	19	15	8	7	11	15	12	7	2	8.5	18.5
10-Jan	3	5	5	4	5	6	4	3	3	2	2	3	6	6	7	8	6	2	2	2	2	3	2	2	3.9	7.5
11-Jan	2	2	2	3	5	4	3	3	2	2	5	4	4	5	5	5	5	4	3	5	5	3	4	6	3.8	5.9
12-Jan	5	7	7	10	8	9	7	3	4	8	7	5	9	10	12	13	11	11	9	8	4	6	8	3	7.5	12.8
13-Jan	3	2	3	2	3	2	3	3	2	4	4	5	9	6	3	3	3	2	3	3	2	2	3	2	3.1	8.6
14-Jan	2	2	2	2	5	8	21	27	33	30	23	25	30	40	45	40	39	47	53	49	47	51	46	51	29.9	53.0
15-Jan	58	55	56	56	65	65	66	53	56	56	52	55	61	70	65	67	66	64	62	62	52	52	48	51	58.9	70.5
16-Jan	56	40	15	19	13	8	6	7	6	4	4	6	9	7	12	5	2	4	3	6	5	4	4	4	10.3	55.8
17-Jan	2	4	7	8	9	10	13	16	8	14	14	23	38	42	54	45	29	30	47	49	57	50	53	50	28.0	57.2
18-Jan	44	51	53	44	42	50	52	54	52	43	32	18	18	21	20	15	11	9	5	11	15	14	9	5	28.6	53.9
19-Jan	6	6	7	6	6	9	10	10	11	13	14	16	20	26	18	13	10	6	5	6	5	4	5	7	9.9	25.9
20-Jan	10	14	12	10	9	9	7	7	7	8	7	8	9	10	11	9	8	10	9	8	9	6	8	7	8.9	14.3
21-Jan	6	6	8	8	6	4	4	4	5	6	6	7	10	8	9	6	4	5	7	5	3	4	5	5	6.0	9.8
22-Jan	5	5	5	2	2	2	2	2	3	3	5	7	7	8	11	9	8	6	6	10	10	9	9	12	6.2	11.7
23-Jan	12	14	12	10	11	7	5	8	12	9	10	11	11	9	7	9	8	5	3	4	8	3	4	4	8.1	13.6
24-Jan	6	7	6	8	6	3	2	2	3	3	3	3	5	8	6	6	8	4	4	4	3	3	2	4	4.6	8.5
25-Jan	5	3	5	3	4	3	4	4	4	5	6	3	3	4	3	9	8	7	5	4	3	3	3	2	4.2	8.6
26-Jan	3	3	3	3	3	3	2	2	3	5	3	4	4	7	7	6	4	4	2	2	3	2	4	3	3.4	7.2
27-Jan	2	2	2	3	3	3	4	4	4	2	2	2	2	3	2	4	4	3	8	14	10	8	4	6	4.2	13.9
28-Jan	10	9	10	10	15	12	7	14	12	8	16	16	19	16	14	12	10	10	21	28	28	28	21	23	15.3	28.1
29-Jan	20	21	19	15	11	9	5	3	2	2	6	8	9	9	10	10	9	10	12	12	12	9	6	5	9.9	20.6
30-Jan	5	7	4	3	4	4	4	5	7	8	7	8	9	6	7	8	8	6	6	5	7	4	2	2	5.7	8.7
31-Jan	3	4	3	2	1	2	2	3	5	3	4	4	4	7	7	3	4	3	4	2	5	4	4	7	3.8	7.4
	11.7	11.7	10.8	10.3	10.4	10.0	10.2	10.7	11.0	10.9	10.5	10.6	12.6	14.4	14.3	13.3	11.5	11.0	11.6	12.0	11.7	10.7	10.5	10.3	Diurnal Average	
	58.3	54.6	55.7	56.3	65.1	64.9	65.5	53.9	55.7	56.3	51.6	55.3	61.0	70.5	65.1	66.9	66.3	64.2	62.0	62.2	57.2	51.7	53.1	51.0	Diurnal Maximum	

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

Hourly Standard Deviations

Wind Direction (WD) - deg

Evergreen Park - January 2013

Maximum Value: 100.3 deg on Jan 2 01:00

Minimum Value: 4.6 deg on Jan 8 00:00

Percentiles: P_1 = 5.1 P_{10} = 7.5 Q_1 = 18.0 Median = 31.8 Q_3 = 61.8 P_{90} = 81.8 P_{99} = 95.2

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

Day	Hourly Period Ending At (MST)																								Daily
	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-Jan	6	6	5	9	24	11	7	10	13	6	9	23	8	11	13	19	24	23	27	56	76	63	83	57	82.8
2-Jan	100	83	62	84	82	74	54	70	31	76	59	48	47	92	71	26	44	31	69	78	73	95	81	71	100.3
3-Jan	82	91	92	80	96	89	75	34	83	70	95	41	17	71	50	77	84	33	62	64	87	78	68	76	95.7
4-Jan	67	63	85	19	33	53	29	72	53	53	66	27	40	39	57	89	88	76	6	5	21	23	18	24	89.3
5-Jan	44	82	73	68	78	84	50	69	53	67	50	73	53	34	46	38	40	90	88	59	82	83	84	99	99.1
6-Jan	79	79	36	73	34	85	80	13	11	7	38	36	8	8	9	8	6	6	7	8	11	19	43	37	85.0
7-Jan	45	61	98	81	88	66	65	44	94	90	83	61	69	48	67	93	78	58	95	68	20	50	5	5	98.2
8-Jan	7	17	11	14	6	5	5	5	6	5	9	10	9	8	8	8	7	73	80	56	59	75	75	93	93.0
9-Jan	74	24	48	42	65	82	92	75	16	20	12	13	29	14	13	11	15	16	20	23	21	19	26	70	92.2
10-Jan	27	21	20	33	21	22	23	26	55	38	81	70	43	30	24	31	17	26	85	91	56	42	40	52	91.4
11-Jan	73	55	48	54	23	32	36	71	36	68	27	56	53	25	44	21	21	45	33	34	48	53	20	24	73.4
12-Jan	73	62	32	16	33	15	35	87	74	36	28	48	16	19	10	11	19	24	12	11	65	35	18	23	87.4
13-Jan	52	45	34	48	78	72	44	48	88	29	83	49	26	29	58	64	50	70	79	51	75	68	84	84	88.1
14-Jan	44	85	66	79	46	24	13	8	7	8	14	11	8	6	6	7	9	6	5	5	6	5	5	6	85.3
15-Jan	6	6	6	6	5	5	6	7	5	5	5	5	5	6	6	6	6	6	6	5	5	6	6	5	6.7
16-Jan	5	49	22	23	30	15	23	16	40	31	54	59	30	31	18	34	41	56	38	29	60	27	31	48	59.7
17-Jan	46	45	68	32	22	18	11	12	34	25	11	11	10	12	7	7	13	8	7	6	6	6	6	6	67.5
18-Jan	6	6	6	6	5	5	6	5	6	6	36	14	22	14	30	17	34	26	59	21	15	14	41	53	59.4
19-Jan	32	18	32	25	29	19	19	20	18	20	28	20	14	14	15	16	20	43	28	25	19	30	23	24	43.0
20-Jan	26	16	23	21	19	21	27	24	24	24	41	35	38	23	19	23	21	21	21	25	27	27	20	23	41.4
21-Jan	27	20	20	34	24	46	43	45	35	39	36	49	33	20	22	24	23	26	17	30	71	62	46	49	71.1
22-Jan	28	30	39	84	55	79	59	81	30	38	32	27	46	17	16	21	18	20	24	13	19	24	18	19	83.9
23-Jan	17	15	17	24	29	24	18	17	18	19	22	22	23	26	37	19	20	34	27	35	18	72	27	39	72.0
24-Jan	20	14	14	12	18	80	90	86	87	86	64	70	33	16	50	43	35	66	83	90	55	78	94	63	94.4
25-Jan	88	73	39	80	77	77	53	83	87	95	76	87	96	28	70	51	6	15	71	81	83	76	56	79	96.2
26-Jan	97	49	78	92	85	86	51	86	82	91	95	64	47	14	10	21	81	42	88	86	57	47	84	15	97.0
27-Jan	55	65	53	78	35	58	24	68	34	93	44	20	49	39	51	75	53	78	28	16	20	31	57	29	93.4
28-Jan	17	19	23	22	14	27	48	53	26	17	12	15	13	27	21	19	17	22	12	9	9	11	14	13	52.5
29-Jan	14	15	13	13	15	17	30	77	47	42	30	38	42	36	37	33	26	18	16	19	18	20	20	23	76.6
30-Jan	25	29	30	37	88	41	35	36	27	29	41	38	41	63	39	40	42	36	27	47	31	43	39	66	88.2
31-Jan	67	19	62	51	89	46	66	62	22	61	97	64	57	25	19	40	82	49	72	78	67	54	54	19	96.6
	100.3	90.8	98.2	92.4	95.7	88.6	92.2	87.4	93.8	95.5	96.6	87.3	96.2	92.5	71.0	92.6	87.5	89.9	94.8	91.4	87.3	95.3	94.4	99.1	

PAZA
Smoky Heights Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 7.9 ppb on Jan 1 06:00 Maximum Daily Average: 2.3 ppb on Jan 1

Minimum Value: 0 ppb on Jan 30 19:00
Maximum Diurnal Average: 1.0 ppb at hour 9
Monthly Average: 0.63 ppb

Minimum Daily Average: 0.0 ppb on Jan 10
Minimum Diurnal Average: 0.4 ppb at hour 16
Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.2 $Q_3 = 0.6$ $P_{90} = 2.0$ $P_{99} = 4.9$

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0	1	2	3	7	8	4	4	4	3	1	1	4	4	2	2	3	A	1	1	0	0	0	0	2.3	7.9
2-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	4	5	0.6	4.8
3-Jan	2	1	0	0	1	2	2	1	1	0	1	1	0	0	1	A	0	0	0	0	0	0	0	0	0.7	2.4
4-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	1	1	1	1	1	2	0.5	1.6
5-Jan	1	2	1	1	2	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.5	2.2
6-Jan	0	0	0	0	0	0	0	1	3	0	3	2	A	2	0	1	0	1	0	0	0	0	0	0	0.7	3.3
7-Jan	0	1	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
8-Jan	0	0	0	0	0	0	2	1	4	2	A	0	1	0	8	0	1	0	0	0	0	0	0	0	0.9	7.8
9-Jan	0	0	0	0	0	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
10-Jan	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
11-Jan	0	0	0	0	1	1	0	A	0	0	0	1	0	0	1	2	1	1	2	3	3	1	0	0	0.8	2.9
12-Jan	0	0	0	0	0	1	A	1	1	1	1	4	2	2	1	0	0	0	0	0	0	0	1	0	0.7	4.1
13-Jan	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
14-Jan	0	0	0	0	A	0	2	2	2	2	4	6	2	5	4	2	0	0	1	2	2	1	0	0	1.7	6.3
15-Jan	0	0	0	A	0	0	2	3	1	2	3	1	1	0	0	1	3	4	2	3	0	0	0	1	1.1	3.5
16-Jan	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
17-Jan	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	2	3	4	4	0.9	4.3
18-Jan	A	2	1	0	0	2	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.6	3.8
19-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.2
20-Jan	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
21-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	A	0	0	1	0.3	4.7
22-Jan	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.1	0.9
23-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	1	1	1	0.3	1.5
24-Jan	1	1	0	0	1	1	0	0	1	1	1	1	1	1	1	0	1	A	1	1	0	0	0	0	0.6	1.1
25-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	0.5
26-Jan	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	A	3	5	5	5	4	3	4	4	1.7	5.3
27-Jan	4	4	4	3	2	1	2	2	2	1	1	4	3	0	A	0	0	0	0	0	0	0	0	0	1.5	4.0
28-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	2	0	0	0	0	0	0.1	1.7
29-Jan	0	0	0	0	0	0	0	1	1	1	2	1	A	1	0	1	0	0	0	0	0	0	1	0	0.5	1.7
30-Jan	0	1	5	1	1	3	3	3	4	0	0	A	0	0	0	C	C	C	0	0	0	0	0	0	1.1	4.9
31-Jan	0	1	0	0	0	0	0	0	0	0	A	0	1	1	0	0	0	1	1	1	0	1	2	1	0.5	1.8
	0.4	0.5	0.6	0.4	0.6	0.7	0.7	0.7	1.0	0.5	0.6	0.8	0.6	0.6	0.7	0.4	0.5	0.5	0.7	0.9	0.5	0.5	0.7	0.7	Diurnal Average	
	3.8	3.6	4.9	3.2	7.1	7.9	3.9	3.7	4.0	2.7	4.3	6.3	3.8	4.9	7.8	2.1	3.3	4.8	5.3	5.0	4.1	3.3	4.2	4.8	Diurnal Maximum	

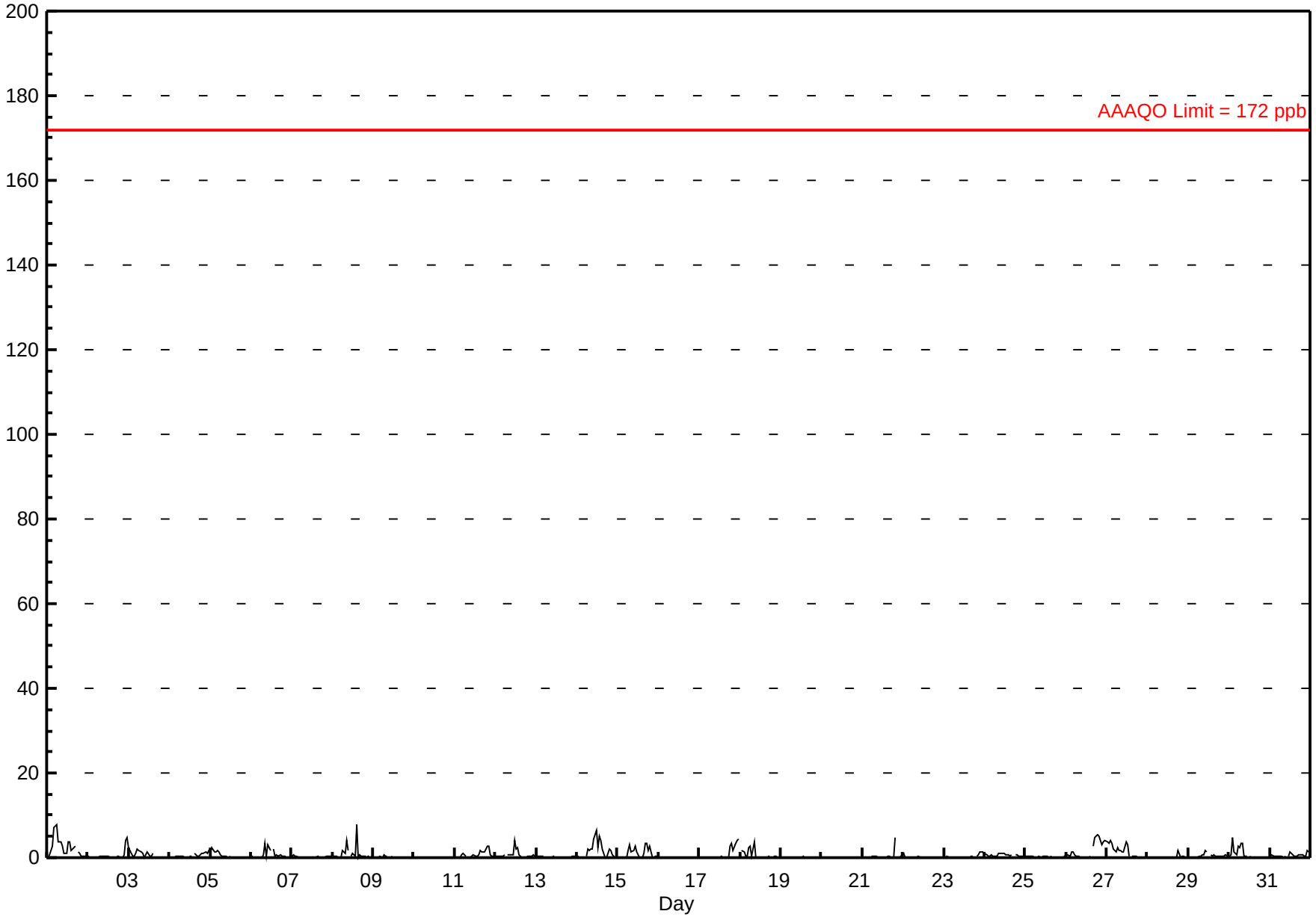
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - January 2013



Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - January 2013

Maximum Value: 46.9 ppb on Jan 8 15:00

Maximum Daily Average: 5.3 ppb on Jan 1

Minimum Value: 0 ppb on Jan 28 07:00

Minimum Daily Average: 0.2 ppb on Jan 10

Maximum Diurnal Average: 2.6 ppb at hour 15

Minimum Diurnal Average: 1.0 ppb at hour 1

Monthly Average: 1.56 ppb

Percentiles: $P_1 = 0.1$ $P_{10} = 0.2$ $Q_1 = 0.3$ Median = 0.6 $Q_3 = 1.3$ $P_{90} = 4.4$ $P_{99} = 12.8$

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0	5	6	6	20	27	11	6	6	4	3	2	5	6	3	3	4	A	2	2	1	1	1	1	5.3	26.5
2-Jan	1	1	1	0	0	0	1	0	1	1	1	1	1	0	0	0	A	1	1	0	1	2	6	7	1.2	6.7
3-Jan	4	2	1	1	4	4	3	4	2	0	1	4	2	1	5	A	0	0	0	0	0	0	0	0	1.7	4.8
4-Jan	0	0	0	0	1	1	1	1	1	0	1	0	1	1	A	2	1	1	1	3	2	2	3	3	1.1	3.3
5-Jan	3	3	2	2	2	2	1	1	0	1	0	1	1	A	0	0	0	0	0	1	1	0	0	0	1.0	3.4
6-Jan	1	0	0	1	0	1	1	8	17	2	8	10	A	9	1	2	1	1	1	1	1	0	1	1	2.8	17.2
7-Jan	1	1	1	1	1	0	0	0	0	0	0	A	0	0	0	1	0	0	0	0	1	1	1	1	0.5	1.3
8-Jan	1	1	1	0	0	0	10	4	12	4	A	2	2	1	47	0	3	2	1	1	1	1	1	1	4.1	46.9
9-Jan	0	0	0	1	1	1	1	1	1	A	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0.5	1.3
10-Jan	0	0	0	1	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.5
11-Jan	0	0	0	1	1	1	1	A	0	0	1	1	1	1	1	4	3	3	3	4	4	2	1	1	1.5	4.2
12-Jan	1	1	1	1	1	2	A	1	1	1	1	14	6	5	1	0	1	0	0	1	1	1	1	1	1.9	14.4
13-Jan	1	1	1	1	1	A	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	0.5	0.8
14-Jan	1	1	0	0	A	2	6	5	4	3	8	14	13	12	7	6	0	1	4	5	7	5	0	0	4.6	14.3
15-Jan	0	0	0	A	0	0	3	4	4	4	5	4	3	0	0	4	4	6	5	10	0	0	2	2	2.8	9.8
16-Jan	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.3	1.0
17-Jan	0	A	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	2	4	7	5	5	6	7	1.8	6.9
18-Jan	A	6	11	2	1	6	8	2	8	1	0	0	0	0	0	0	1	1	0	0	1	4	0	A	2.4	11.4
19-Jan	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	A	0	0.3	0.6
20-Jan	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	0.6
21-Jan	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	1	0	0	10	A	0	0	4	1.0	9.7
22-Jan	5	1	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	A	0	0	0	0	0.6	5.1
23-Jan	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	A	1	1	2	2	2	0.6	2.0
24-Jan	2	1	1	1	1	1	1	1	2	2	1	2	1	1	1	1	2	A	2	1	1	1	1	1	1.1	1.9
25-Jan	1	1	1	1	0	0	0	0	1	0	1	1	1	1	0	1	A	1	1	0	0	0	1	1	0.6	1.0
26-Jan	1	1	1	3	2	1	1	1	1	0	1	0	0	0	1	A	5	6	6	6	5	4	5	5	2.4	5.9
27-Jan	5	5	5	4	3	3	3	3	3	2	2	7	7	1	A	1	2	1	0	0	0	0	0	0	2.5	7.3
28-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	2	3	0	1	1	0	0	0.5	3.2
29-Jan	0	1	0	0	0	1	1	1	1	1	2	2	A	1	1	1	1	1	1	1	1	1	1	1	0.9	2.3
30-Jan	1	6	8	6	3	5	7	6	6	2	1	A	0	0	0	C	C	C	0	0	0	0	0	0	2.6	8.2
31-Jan	0	2	1	1	1	1	1	1	1	1	A	1	3	2	1	1	1	1	1	1	1	1	2	2	1.1	2.9
	1.0	1.4	1.5	1.1	1.5	2.0	2.1	1.8	2.4	1.1	1.4	2.3	1.7	1.7	2.6	1.2	1.2	1.2	1.3	1.9	1.2	1.3	1.3	1.4	Diurnal Average	
	5.1	6.4	11.4	6.4	19.7	26.5	10.5	8.0	17.2	4.3	8.3	14.4	13.4	12.4	46.9	6.2	5.1	6.3	5.9	9.8	7.2	5.3	6.4	6.9	Diurnal Maximum	

C - Calibration

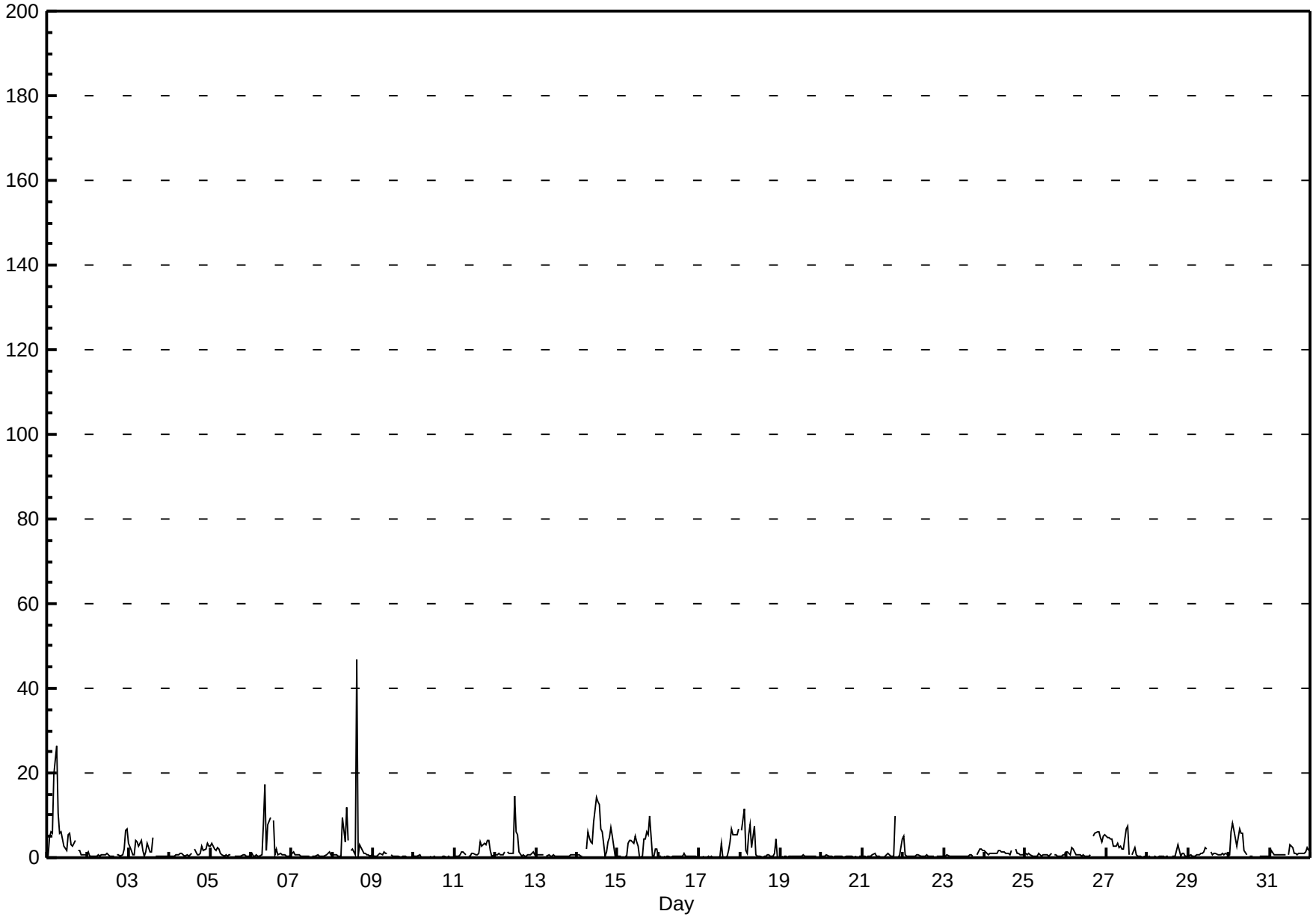
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - January 2013

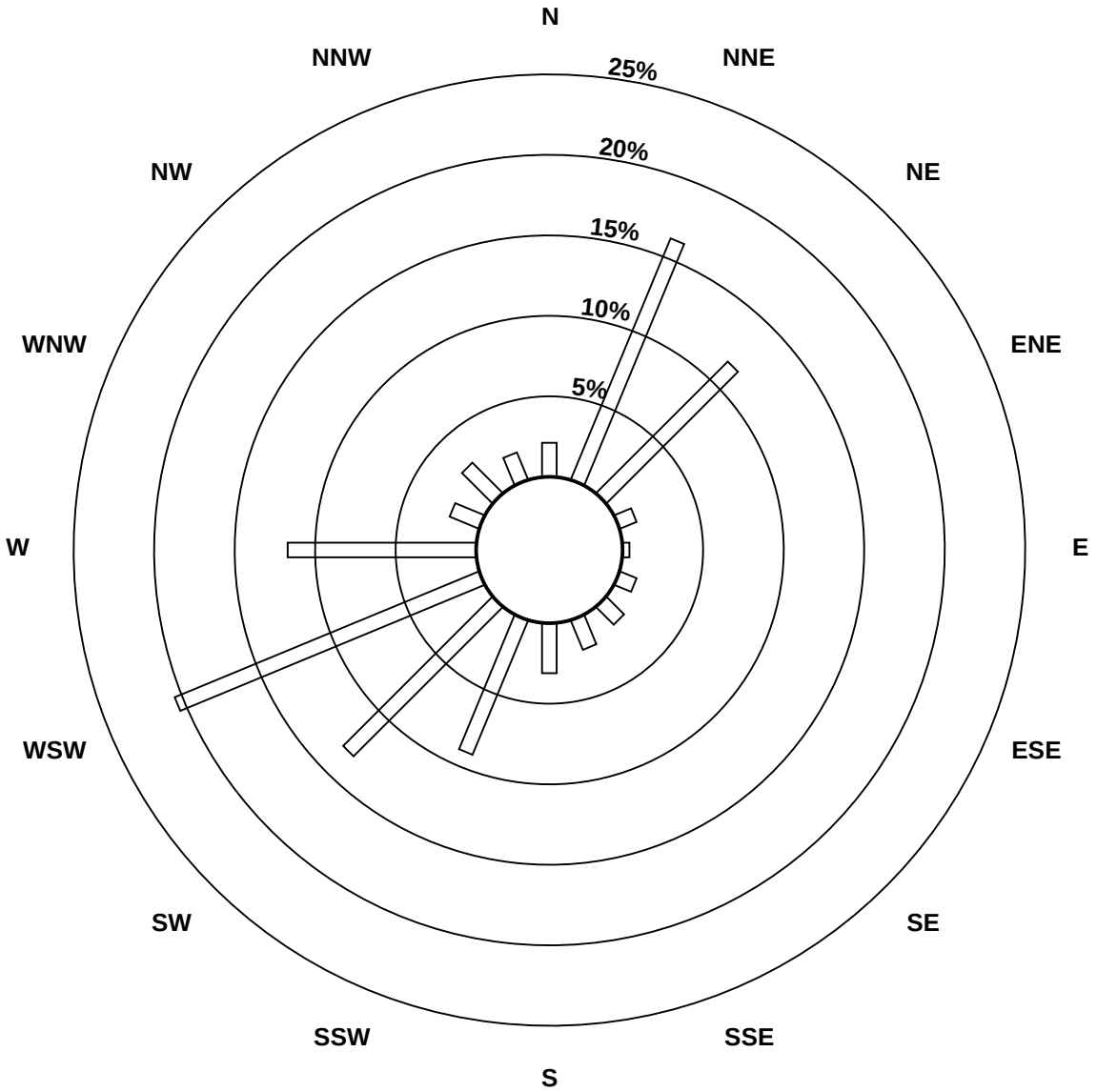


Peace Airshed Zone Association

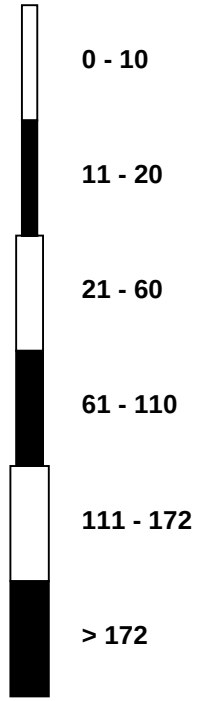
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Smoky Heights - January 2013



Pollutant Classes (ppb)

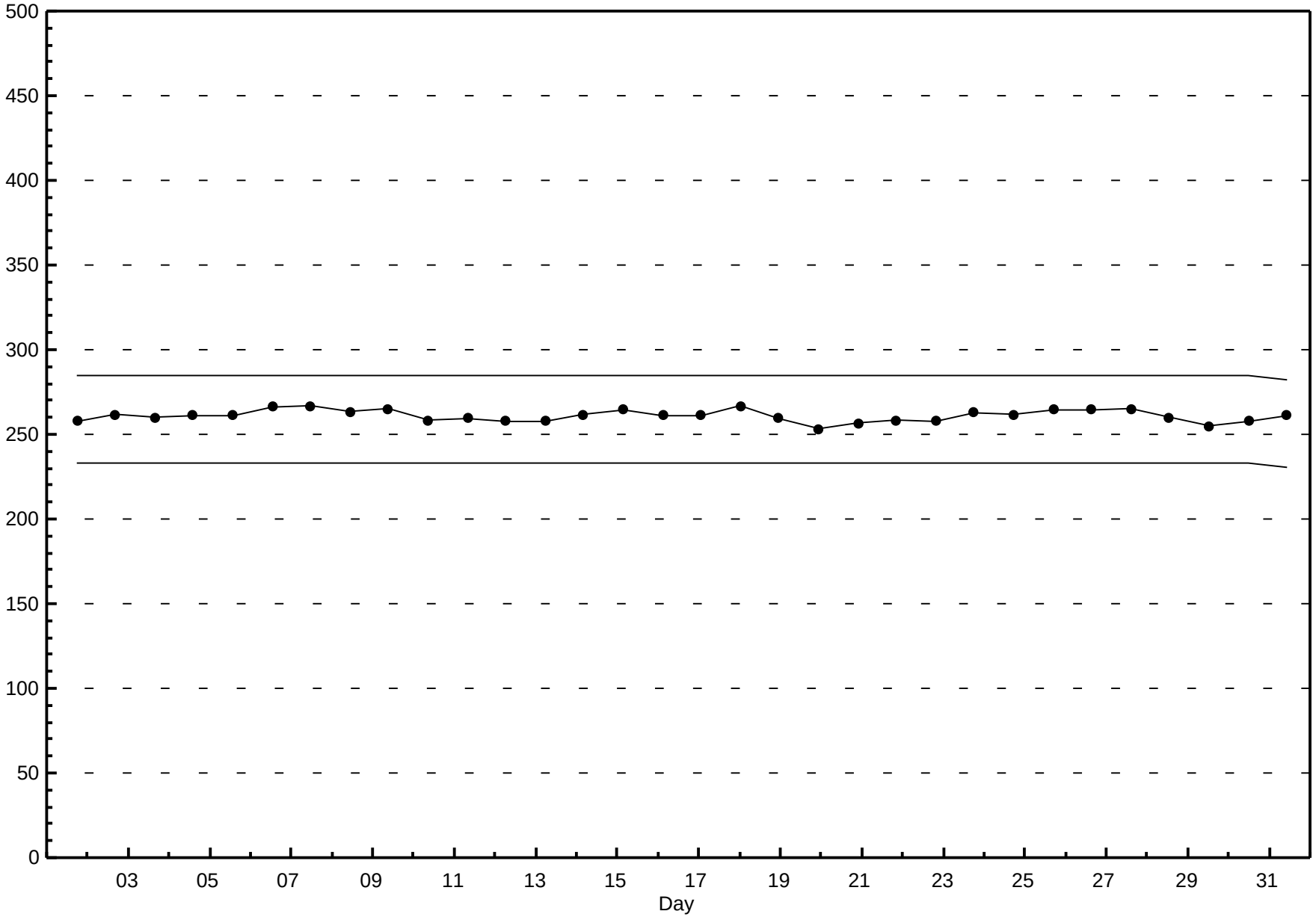


Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Smoky Heights - January 2013



Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 6.9 ppb on Jan 27 06:00 Maximum Daily Average: 2.3 ppb on Jan 27

Minimum Value: 0 ppb on Jan 3 09:00 Minimum Daily Average: 0.0 ppb on Jan 21
Maximum Diurnal Average: 0.4 ppb at hour 6 Minimum Diurnal Average: 0.1 ppb at hour 24
Monthly Average: 0.26 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.1 $Q_3 = 0.2$ $P_{90} = 0.4$ $P_{99} = 4.7$

Hours in Service:	744
Hours of Data:	699
Hours of Missing Data:	45
Hours of Calibration:	38
Percent Operational Time:	99.1

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-Jan	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	0.2
2-Jan	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	0.3
3-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.2
4-Jan	0	0	0	0	0	0	0	0	0	0	0	0	1	0	A	0	0	0	0	0	0	0	0	0	0.2	0.5
5-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.4
6-Jan	1	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	0.8
7-Jan	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
8-Jan	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
9-Jan	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
10-Jan	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
11-Jan	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
12-Jan	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0.4	0.6
13-Jan	1	1	1	1	1	A	1	1	1	1	1	2	3	2	2	2	3	3	3	3	2	1	1	0	1.5	3.2
14-Jan	1	2	1	1	A	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.1
15-Jan	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	0.1
16-Jan	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
17-Jan	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
18-Jan	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.2	0.3
19-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.2	0.3
20-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.0	0.2
21-Jan	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
22-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.2	0.3
23-Jan	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
24-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.2	0.3
25-Jan	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
26-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.3
27-Jan	0	0	0	1	5	7	5	5	5	7	7	4	1	1	A	1	3	1	0	0	0	0	0	0	2.3	6.9
28-Jan	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
29-Jan	0	0	0	0	0	0	0	0	0	0	M	M	M	M	M	M	M	0	0	0	0	0	0	0	--	0.2
30-Jan	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	C	C	0	0	0	0	0	0	0	--	0.2
31-Jan	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
	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.1	0.1	Diurnal Average	
	1.2	2.1	1.3	1.3	4.8	6.9	4.7	5.1	5.1	6.7	6.5	3.6	2.6	2.3	2.2	2.4	3.1	3.2	2.8	2.7	1.8	0.7	0.6	0.5	Diurnal Maximum	

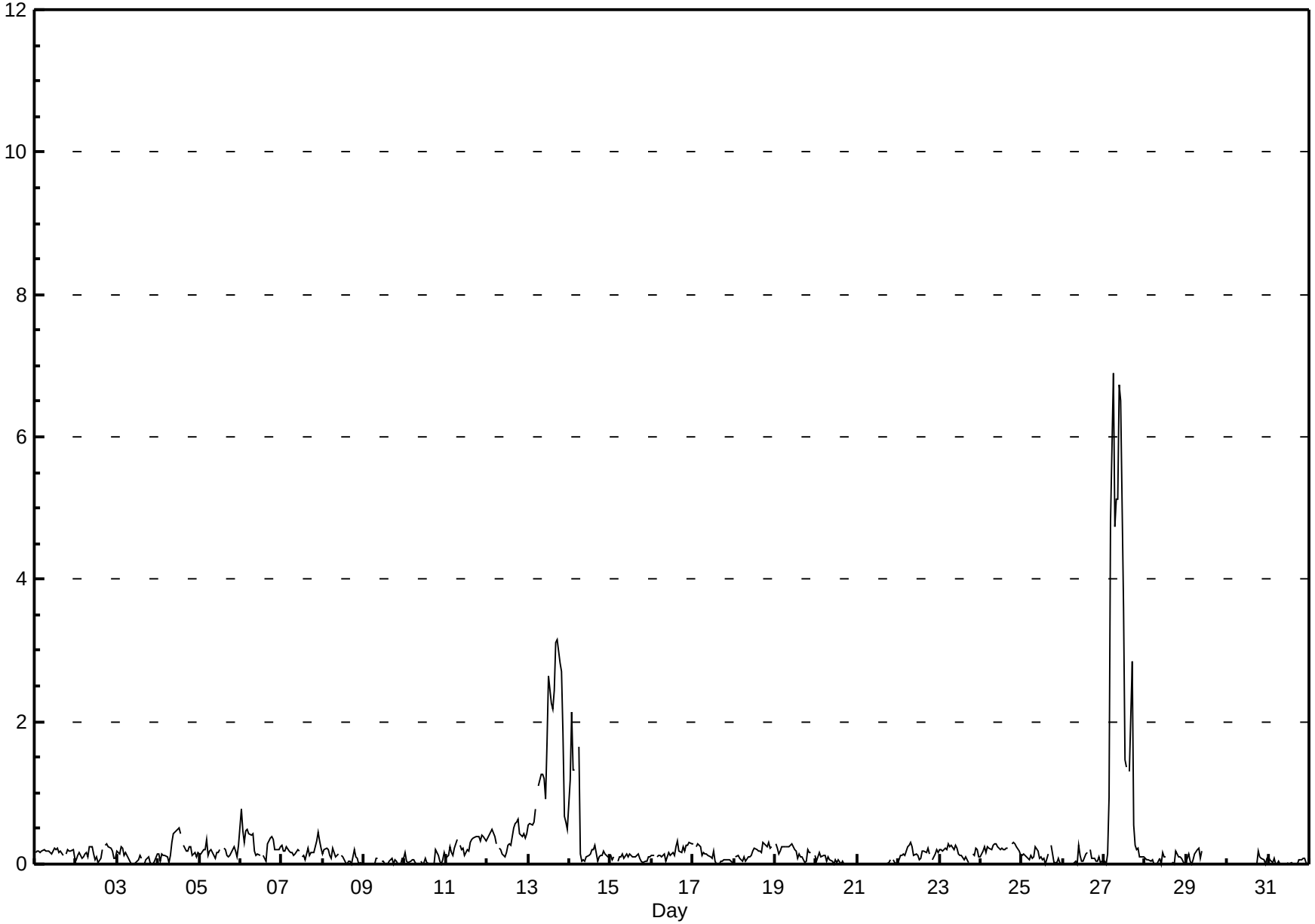
C - Calibration M - Maintenance A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - January 2013



Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - January 2013

Maximum Value: 9.6 ppb on Jan 27 10:00

Maximum Daily Average: 3.4 ppb on Jan 27

Minimum Value: 0 ppb on Jan 30 01:00

Minimum Daily Average: 0.4 ppb on Jan 21

Maximum Diurnal Average: 1.0 ppb at hour 6

Minimum Diurnal Average: 0.5 ppb at hour 23

Monthly Average: 0.72 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.4$ $Q_1 = 0.5$ Median = 0.6 $Q_3 = 0.7$ $P_{90} = 0.8$ $P_{99} = 5.5$

Hours in Service:	744
Hours of Data:	699
Hours of Missing Data:	45
Hours of Calibration:	38
Percent Operational Time:	99.1

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-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	A	1	1	1	1	1	1	0.6	0.9
2-Jan	0	1	0	1	1	0	0	1	1	1	1	0	1	0	0	1	A	1	1	1	1	1	0	0	0.5	0.8
3-Jan	1	0	1	1	1	1	0	0	0	0	0	0	0	1	1	A	0	1	1	1	0	0	1	1	0.5	0.9
4-Jan	1	1	0	0	0	0	0	1	1	1	1	1	1	1	A	1	1	1	1	1	0	1	0	1	0.7	1.0
5-Jan	1	0	1	1	1	1	1	1	1	0	1	1	1	A	1	1	0	1	1	1	1	1	1	1	0.7	1.2
6-Jan	1	1	1	1	1	1	1	1	1	1	1	0	A	0	0	0	1	1	1	1	1	1	1	1	0.7	1.3
7-Jan	1	1	1	1	1	1	1	1	0	1	1	A	0	1	0	1	0	0	0	1	1	1	1	1	0.6	1.0
8-Jan	1	1	1	1	1	1	1	0	1	1	A	0	1	0	1	0	0	0	1	0	1	1	1	1	0.5	0.7
9-Jan	0	0	0	0	0	0	0	1	1	A	0	1	0	0	1	1	1	1	1	1	0	0	0	0	0.5	0.7
10-Jan	1	0	0	0	0	1	0	0	A	0	0	0	0	0	1	0	0	0	1	1	0	1	0	1	0.5	0.9
11-Jan	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
12-Jan	1	1	1	1	1	1	A	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1
13-Jan	1	1	1	1	1	A	1	2	2	2	2	3	3	3	3	3	4	4	3	4	4	1	1	1	2.2	3.9
14-Jan	2	4	2	2	A	6	1	1	0	0	1	1	1	1	1	1	0	0	1	1	1	1	1	0	1.1	5.7
15-Jan	1	1	1	A	0	0	0	0	0	1	1	1	1	0	1	0	1	1	0	0	0	0	0	0	0.5	0.7
16-Jan	1	1	A	1	1	1	1	1	0	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	0.6	0.8
17-Jan	1	A	1	1	1	0	1	0	1	0	1	0	1	0	0	1	1	1	0	0	0	1	0	0	0.5	0.7
18-Jan	A	0	1	1	0	0	1	0	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	A	0.6	0.8
19-Jan	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	A	1	0.6	0.8
20-Jan	1	1	1	1	0	1	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0	A	0	0	0.5	0.7
21-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	1	0	0.4	0.6
22-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	0	1	1	1	0.6	0.8
23-Jan	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	A	0	1	1	1	0	0.6	0.8
24-Jan	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	0.6	0.7
25-Jan	1	1	1	1	0	0	1	0	1	1	1	0	1	1	0	1	A	1	1	0	0	0	1	0	0.5	0.8
26-Jan	0	0	0	0	0	1	0	1	0	1	1	0	0	1	1	A	1	0	1	1	1	1	0	1	0.5	0.7
27-Jan	0	0	1	3	7	8	6	6	6	10	8	7	2	2	A	4	5	1	1	1	1	1	0	1	3.4	9.6
28-Jan	1	0	1	1	1	0	0	0	1	0	1	1	1	A	0	0	0	0	1	1	0	1	0	0	0.5	0.8
29-Jan	1	0	0	0	0	0	1	1	0	1	M	M	M	M	M	M	M	0	0	0	0	0	0	0	--	0.6
30-Jan	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	C	C	0	1	1	0	0	0	1	--	0.7
31-Jan	0	1	0	0	0	0	1	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	0	0.4	0.6
	0.6	0.7	0.6	0.7	0.8	1.0	0.7	0.8	0.7	0.9	0.9	0.8	0.7	0.7	0.6	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.5	0.6	Diurnal Average	
	1.7	4.4	1.8	2.5	6.7	8.2	5.6	6.4	5.8	9.6	7.7	6.5	3.5	2.9	2.6	3.6	4.6	3.8	3.2	3.7	3.9	1.3	1.3	1.4	Diurnal Maximum	

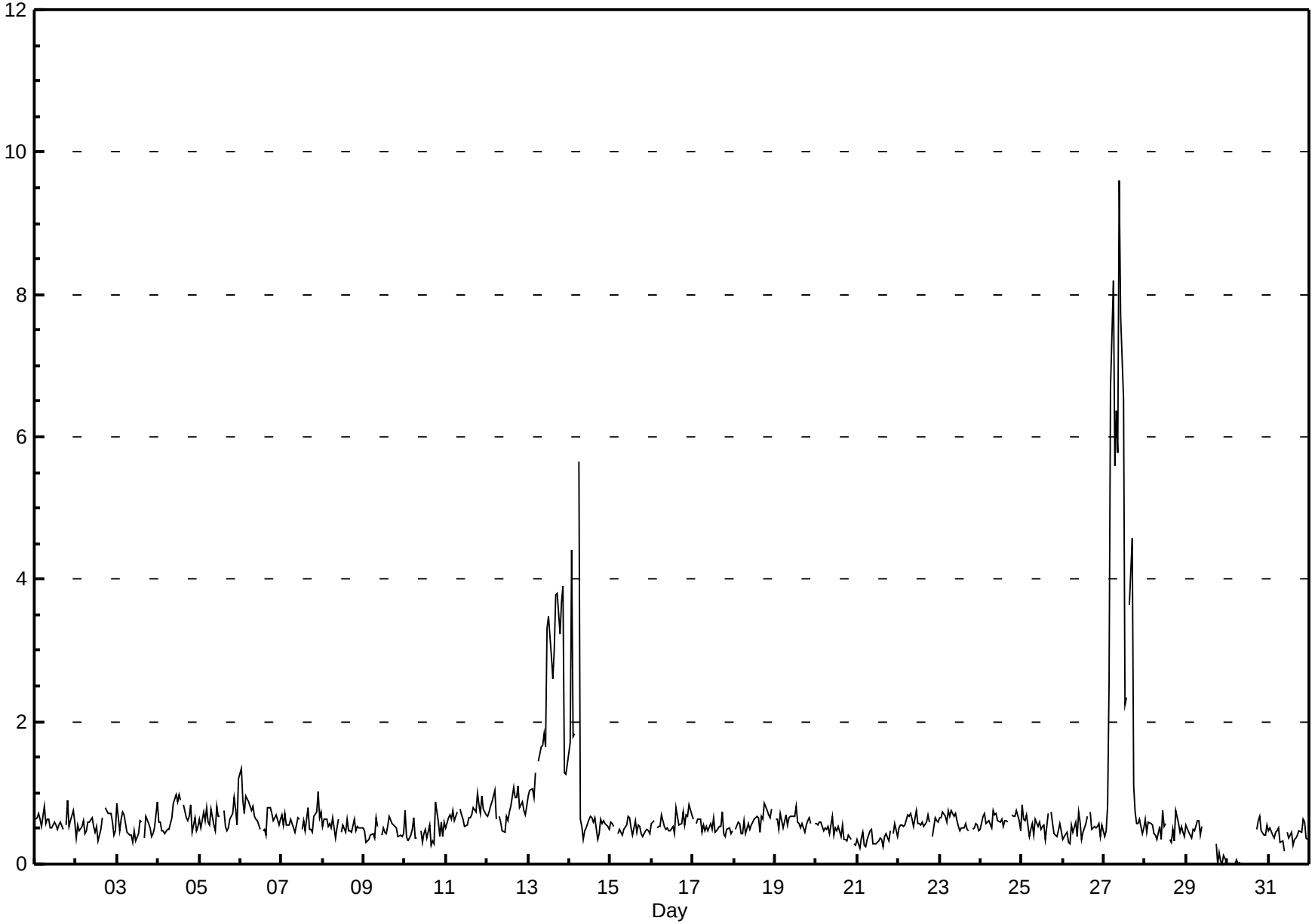
C - Calibration M - Maintenance A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - January 2013

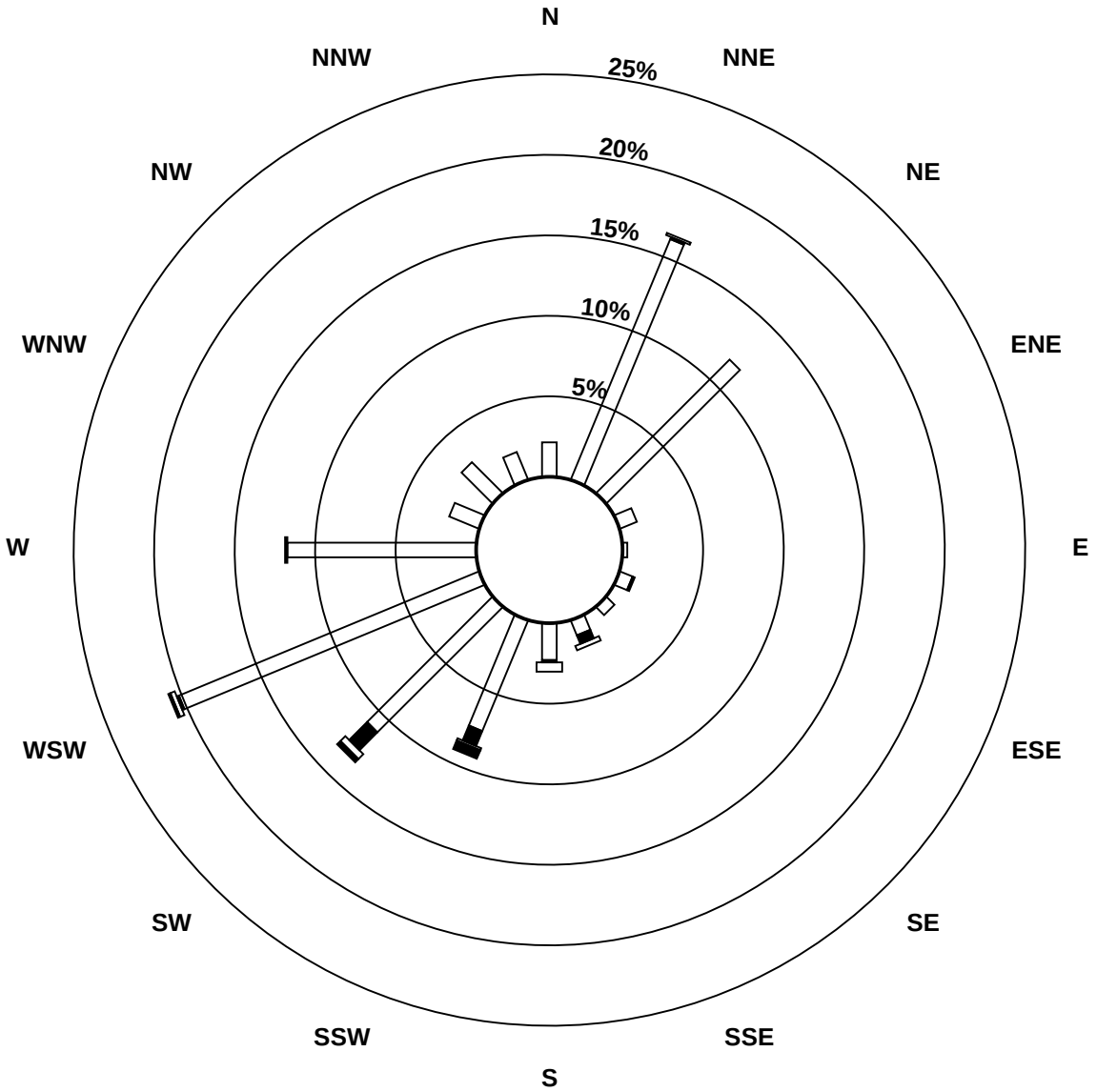


Peace Airshed Zone Association

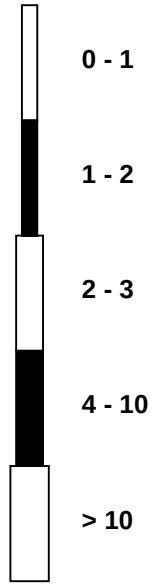
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Smoky Heights - January 2013



Pollutant Classes (ppb)

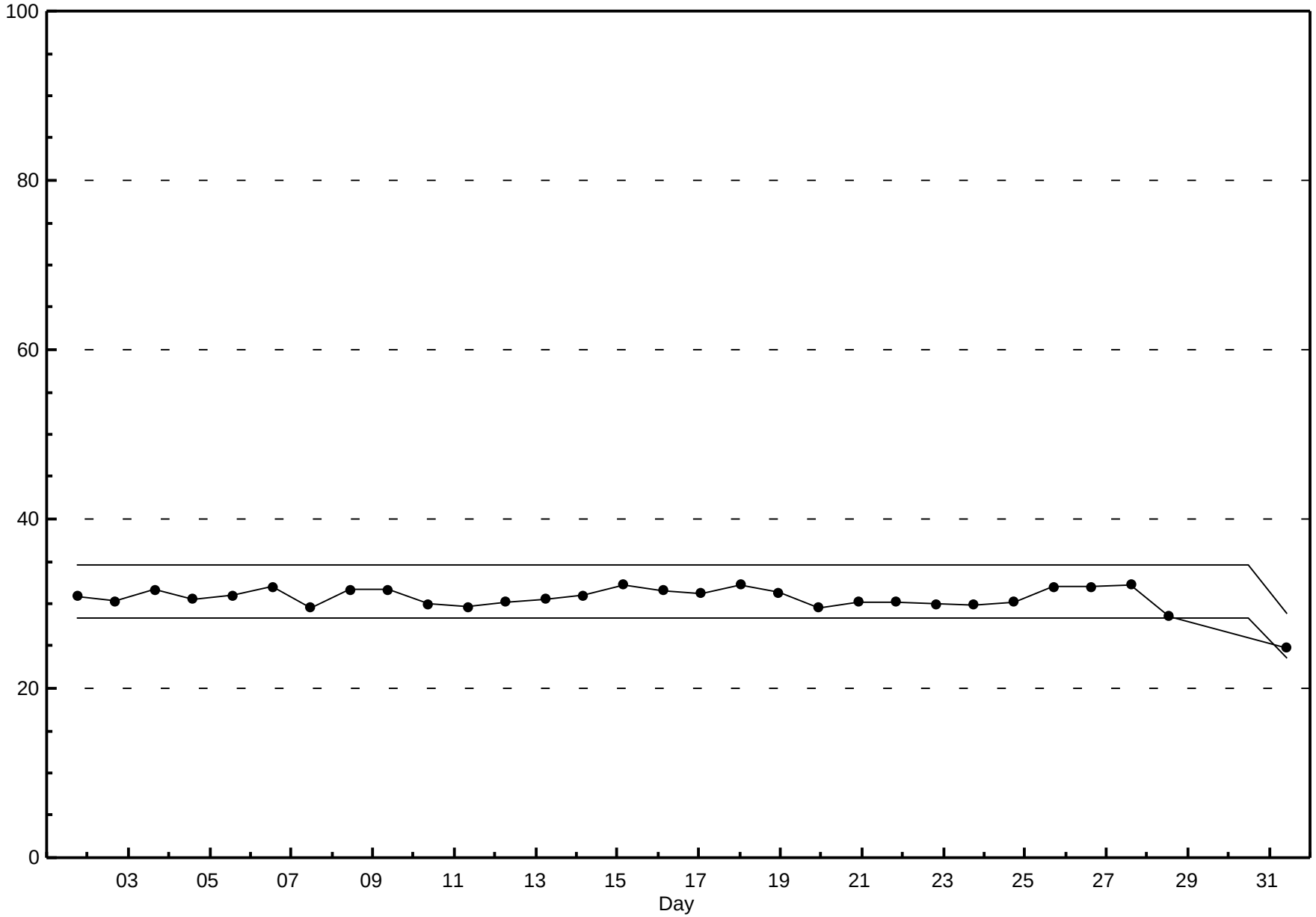


Peace Airshed Zone Association

Span Responses

Total Reduced Sulphur (TRS)

Smoky Heights - January 2013



Peace Airshed Zone Association

Hourly Averages

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

Smoky Heights - January 2013

Number of Exceedences: 1-hr: 2 24-hr: 0
Maximum Value: 84.9 $\mu g/m^3$ on Jan 4 00:00
Maximum Daily Average: 6.5 $\mu g/m^3$ on Jan 31

Minimum Value: 0 $\mu g/m^3$ on Jan 1 06:00
Maximum Diurnal Average: 8.0 $\mu g/m^3$ at hour 19
Monthly Average: 2.85 $\mu g/m^3$
Minimum Daily Average: 0.1 $\mu g/m^3$ on Jan 17
Minimum Diurnal Average: 1.6 $\mu g/m^3$ at hour 7
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 1.5 Q_3 = 4.0 P_{90} = 6.6 P_{99} = 17.1

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)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0	0	1	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0.3	1.1
2-Jan	0	0	0	1	1	2	3	3	2	5	10	8	4	2	5	6	5	4	4	6	6	1	0	0	3.3	9.7
3-Jan	16	1	2	3	0	0	0	1	0	0	0	0	0	0	15	2	0	2	1	0	0	1	2	85	5.5	84.9
4-Jan	10	11	29	N	0	0	0	0	1	4	4	6	3	5	3	2	5	2	0	2	0	0	0	0	3.9	29.1
5-Jan	2	0	1	1	1	1	1	0	1	1	3	3	2	2	3	4	3	2	3	3	2	3	4	5	2.1	5.2
6-Jan	5	2	6	6	6	8	7	7	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2.1	7.6
7-Jan	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	2	3	5	6	3	1.0	5.8
8-Jan	2	4	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	3.6
9-Jan	0	0	5	16	5	13	1	24	10	13	0	7	9	5	3	7	4	10	5	3	2	1	1	8	6.3	23.6
10-Jan	6	0	0	0	0	0	0	0	7	7	0	2	4	0	0	0	0	7	84	N	0	0	0	1	5.2	83.8
11-Jan	1	3	1	1	1	2	5	4	5	4	5	6	5	5	5	6	9	8	8	8	5	6	7	9	4.9	8.8
12-Jan	8	6	5	5	4	1	0	0	0	0	0	0	1	0	0	2	3	2	18	1	1	3	2	3	2.8	18.2
13-Jan	2	1	1	1	1	0	0	2	2	2	3	4	2	1	1	2	2	1	1	2	2	0	1	0	1.5	3.6
14-Jan	1	0	2	3	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	2.7
15-Jan	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	1	2	3	4	0.5	4.0
16-Jan	3	2	1	1	0	0	0	0	0	1	1	0	0	0	0	2	1	0	0	0	0	1	0	0	0.5	2.7
17-Jan	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	1.4
18-Jan	0	0	0	0	0	0	0	0	2	4	2	1	1	2	2	4	4	4	4	5	2	11	13	0	2.5	12.7
19-Jan	0	2	0	1	0	0	0	0	5	5	9	5	5	5	4	5	3	2	2	2	1	0	0	0	2.4	9.5
20-Jan	0	0	0	1	2	0	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	1	6	0.6	5.6
21-Jan	0	0	1	0	1	0	0	0	0	0	1	1	4	6	3	3	6	10	8	3	2	2	3	3	2.4	10.2
22-Jan	8	7	18	9	1	1	0	1	1	1	0	2	1	0	2	2	0	0	0	0	0	0	0	0	2.3	17.6
23-Jan	0	0	1	0	0	1	1	0	1	8	1	0	1	1	1	3	2	6	42	0	1	4	5	5	3.5	41.5
24-Jan	5	7	4	4	9	4	4	4	6	6	6	7	5	6	7	7	7	8	9	8	5	6	4	4	6.0	9.4
25-Jan	3	4	3	3	4	5	5	5	5	4	7	7	3	0	1	1	1	2	3	1	1	2	2	1	3.0	7.2
26-Jan	1	1	7	2	3	2	4	3	3	4	4	1	3	3	2	2	2	2	3	2	5	2	4	3	2.8	6.6
27-Jan	2	2	5	4	5	5	6	4	4	5	7	6	0	0	0	2	6	4	3	3	3	2	3	5	3.6	6.9
28-Jan	2	1	1	2	3	3	2	4	6	3	3	4	3	2	3	4	5	8	20	2	3	7	3	4	4.1	20.2
29-Jan	3	3	3	2	2	2	2	3	4	4	4	2	0	2	1	0	0	1	2	8	7	6	28	9	4.0	27.6
30-Jan	2	2	3	4	4	3	3	3	5	4	4	2	2	3	2	2	2	M	15	8	6	5	4	5	4.0	14.6
31-Jan	3	4	3	5	4	3	5	5	4	5	4	6	7	7	8	8	10	11	11	11	13	10	4	5	6.5	13.2
	2.8	2.1	3.4	2.6	1.9	1.9	1.6	2.4	2.6	3.0	2.5	2.6	2.1	2.0	2.4	2.4	2.6	3.3	8.0	2.7	2.3	2.6	3.2	5.5	Diurnal Average	
	15.5	11.1	29.1	16.3	9.4	13.4	6.7	23.6	10.1	12.8	9.7	8.1	9.1	6.9	14.9	8.2	9.5	11.3	83.8	11.3	13.2	11.1	27.6	84.9	Diurnal Maximum	

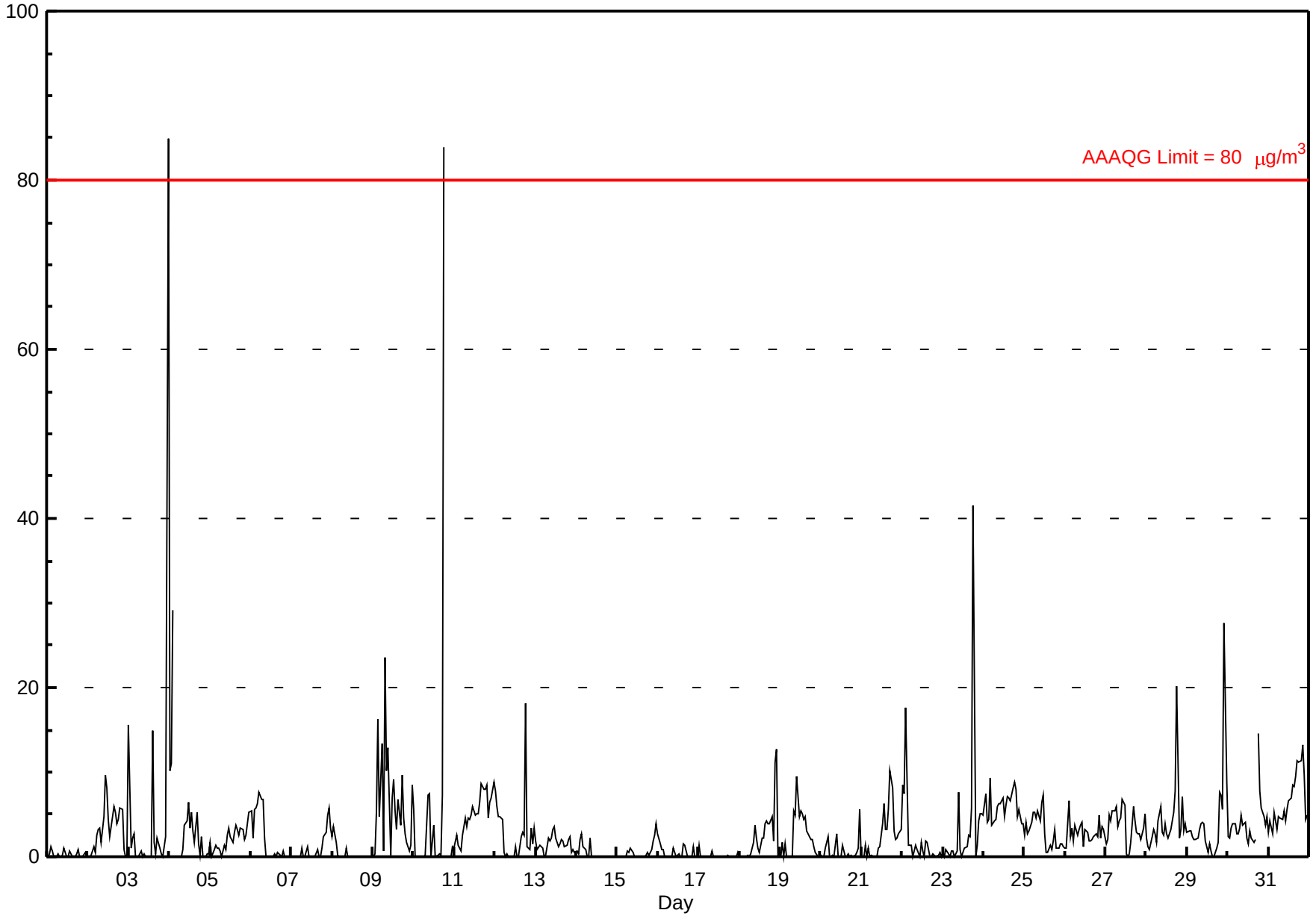
M - Maintenance N - Not Valid
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

Hourly Averages

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

Smoky Heights - January 2013



Hourly Maximums

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

Smoky Heights - January 2013

Maximum Value: 329.6 $\mu g/m^3$ on Jan 4 00:00

Maximum Daily Average: 23.7 $\mu g/m^3$ on Jan 3

Minimum Value: 0 $\mu g/m^3$ on Jan 17 11:00

Minimum Daily Average: 1.9 $\mu g/m^3$ on Jan 17

Maximum Diurnal Average: 20.8 $\mu g/m^3$ at hour 19

Minimum Diurnal Average: 5.8 $\mu g/m^3$ at hour 7

Monthly Average: 8.38 $\mu g/m^3$

Percentiles: $P_1 = 0.8$ $P_{10} = 2.0$ $Q_1 = 3.0$ Median = 5.4 $Q_3 = 8.8$ $P_{90} = 13.5$ $P_{99} = 49.4$

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	3	2	3	3	2	2	2	2	2	3	3	1	1	3	3	1	2	4	4	2	3	4	4	9	2.9	9.1
2-Jan	5	3	4	5	4	7	8	7	5	14	15	14	7	6	9	9	9	7	7	8	9	6	3	3	7.1	15.2
3-Jan	78	6	8	9	3	4	1	4	3	2	3	2	3	7	39	10	3	6	5	4	2	5	31	330	23.7	329.6
4-Jan	83	47	59	13	13	2	3	2	6	6	10	10	7	9	6	6	16	8	2	6	3	2	3	3	13.6	83.3
5-Jan	6	2	3	4	6	5	4	3	5	3	5	6	6	4	6	8	7	6	13	7	7	6	7	8	5.7	12.7
6-Jan	9	6	9	10	10	13	11	9	8	2	2	1	1	3	3	2	4	2	2	3	3	1	3	2	5.0	13.0
7-Jan	5	3	3	2	3	2	5	2	4	3	3	1	2	2	2	3	2	3	4	6	6	8	9	7	3.8	9.1
8-Jan	4	9	5	3	3	5	4	2	3	2	2	1	2	2	3	2	1	3	3	2	4	2	3	3	3.1	9.3
9-Jan	4	5	29	50	17	35	24	52	24	35	13	18	16	20	18	10	7	33	7	4	6	3	6	30	19.4	52.3
10-Jan	36	1	1	2	2	2	2	2	39	25	4	16	25	9	3	4	3	20	220	16	1	2	2	4	18.5	219.6
11-Jan	4	6	4	3	3	5	7	6	6	7	7	10	8	8	11	13	12	11	11	11	7	9	10	11	8.0	12.5
12-Jan	11	8	8	8	9	4	6	2	2	2	1	2	5	3	2	7	6	6	48	5	19	15	4	7	7.9	48.4
13-Jan	5	3	3	4	4	4	4	5	4	5	8	6	6	4	5	7	5	4	5	5	6	3	5	5	4.8	7.6
14-Jan	4	4	7	6	5	4	4	2	4	1	2	1	0	4	4	2	2	3	2	2	4	3	0	2	3.1	7.1
15-Jan	4	2	2	3	2	2	3	3	2	3	2	1	1	1	0	2	2	2	2	2	3	4	7	13	2.9	12.8
16-Jan	6	4	4	4	4	4	1	2	3	4	4	3	2	1	5	6	7	2	1	2	2	15	1	2	3.8	14.7
17-Jan	6	2	2	2	1	1	1	2	3	0	0	1	1	2	2	2	2	2	1	1	3	2	2	3	1.9	6.1
18-Jan	3	3	3	2	3	3	2	2	4	10	5	4	5	7	6	8	11	12	8	7	6	31	52	11	8.7	52.3
19-Jan	3	6	2	11	4	4	3	5	12	19	19	12	11	9	8	8	7	6	5	5	4	4	2	3	7.2	18.8
20-Jan	3	2	4	5	6	2	2	3	2	17	3	3	2	11	2	3	4	2	3	4	3	5	7	20	4.9	20.0
21-Jan	4	3	5	4	6	3	3	2	2	4	4	4	10	17	8	7	12	18	17	6	6	5	6	6	6.8	18.1
22-Jan	27	27	36	28	6	7	4	3	5	5	4	12	11	3	7	8	2	4	3	4	2	4	4	2	9.1	36.4
23-Jan	5	4	4	4	3	4	3	2	9	14	4	3	4	4	5	7	10	14	149	9	5	6	8	8	12.0	148.7
24-Jan	8	22	8	8	32	9	11	9	11	12	11	11	7	9	10	10	9	13	12	13	11	9	8	8	11.1	32.0
25-Jan	8	9	8	6	7	10	10	12	8	7	12	11	5	4	2	3	3	4	6	3	3	6	7	5	6.6	12.3
26-Jan	6	7	10	8	7	7	9	7	6	7	8	6	6	5	4	4	4	6	6	7	9	5	10	9	6.8	10.3
27-Jan	5	6	10	8	8	9	11	8	9	9	11	12	6	2	2	5	12	8	6	5	6	5	5	9	7.4	12.0
28-Jan	5	4	4	7	7	6	6	11	14	5	6	7	7	7	7	8	13	13	45	4	5	32	5	6	9.7	45.5
29-Jan	4	4	5	5	5	7	4	6	6	10	7	17	6	5	5	6	4	4	5	17	12	10	54	24	9.7	54.1
30-Jan	9	7	8	8	10	10	10	9	11	8	10	10	11	8	9	9	9	M	24	16	13	12	11	13	10.6	23.8
31-Jan	12	13	11	13	13	9	11	11	10	11	10	12	14	13	15	13	17	17	18	18	26	25	12	11	13.8	25.9
	12.1	7.6	8.8	8.0	6.7	6.2	5.8	6.4	7.6	8.2	6.4	7.0	6.3	6.2	6.9	6.3	6.6	8.1	20.8	6.6	6.4	8.1	9.4	18.6	Diurnal Average	
	83.3	47.5	59.2	50.1	32.0	35.2	24.2	52.3	39.4	34.7	18.8	17.6	25.0	19.5	38.9	13.5	16.6	32.8	219.6	17.6	25.9	32.5	54.1	329.6	Diurnal Maximum	

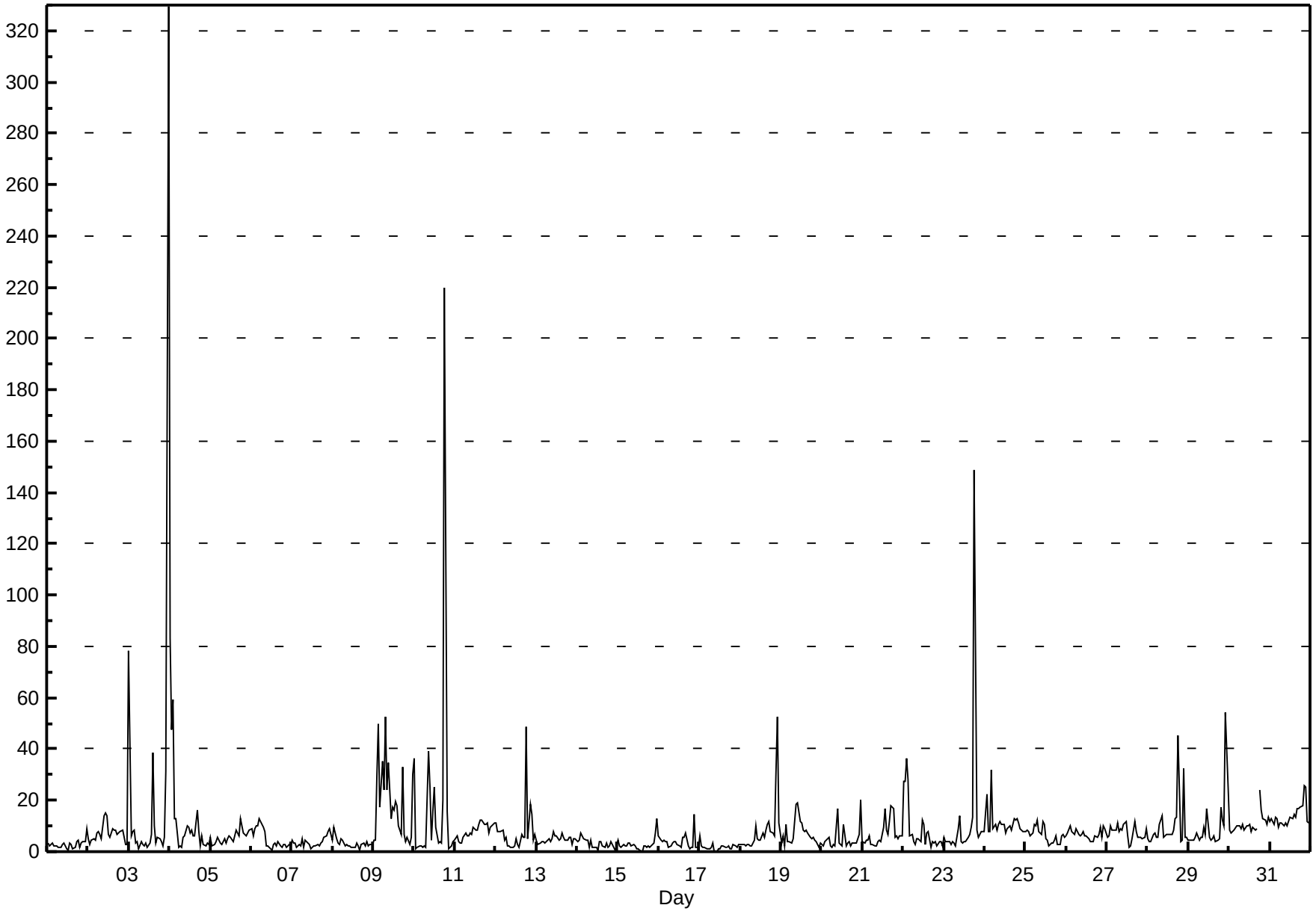
M - Maintenance

Peace Airshed Zone Association

Hourly Maximums

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

Smoky Heights - January 2013

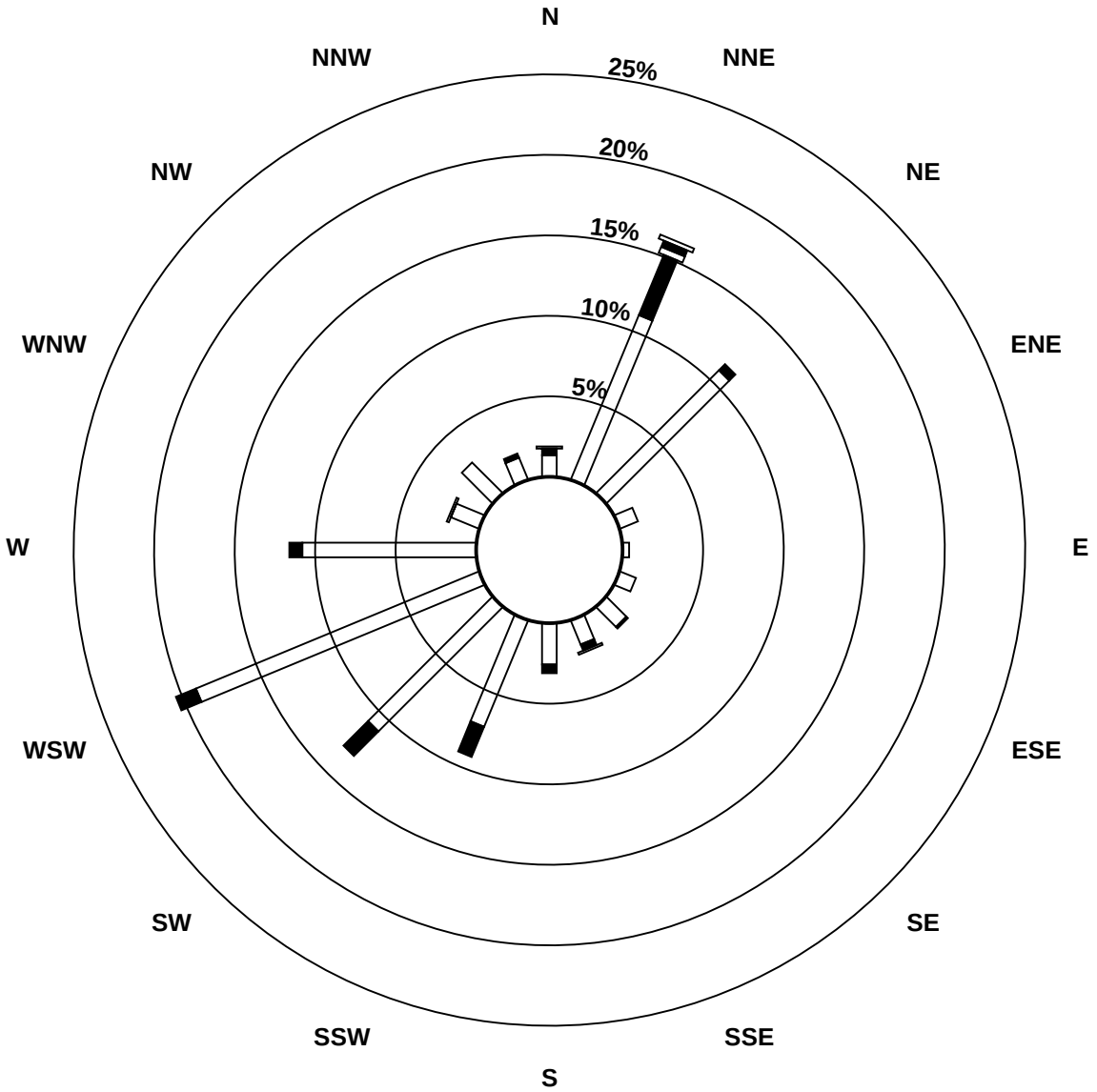


Peace Airshed Zone Association

Pollutant Rose

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

Smoky Heights - January 2013



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

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

Hourly Averages

External Temperature (ET) - °C

Smoky Heights - January 2013

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

Maximum Value: 6.1 °C on Jan 3 10:00

Maximum Daily Average: 5.0 °C on Jan 15

Minimum Value: -37 °C on Jan 29 06:00

Minimum Daily Average: -30.2 °C on Jan 29

Maximum Diurnal Average: -9.2 °C at hour 15

Minimum Diurnal Average: -12.1 °C at hour 8

Monthly Average: -10.93 °C

Percentiles: P_1 = -31.8 P_{10} = -22.7 Q_1 = -15.9 Median = -10.8 Q_3 = -5.8 P_{90} = 1.7 P_{99} = 5.0

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

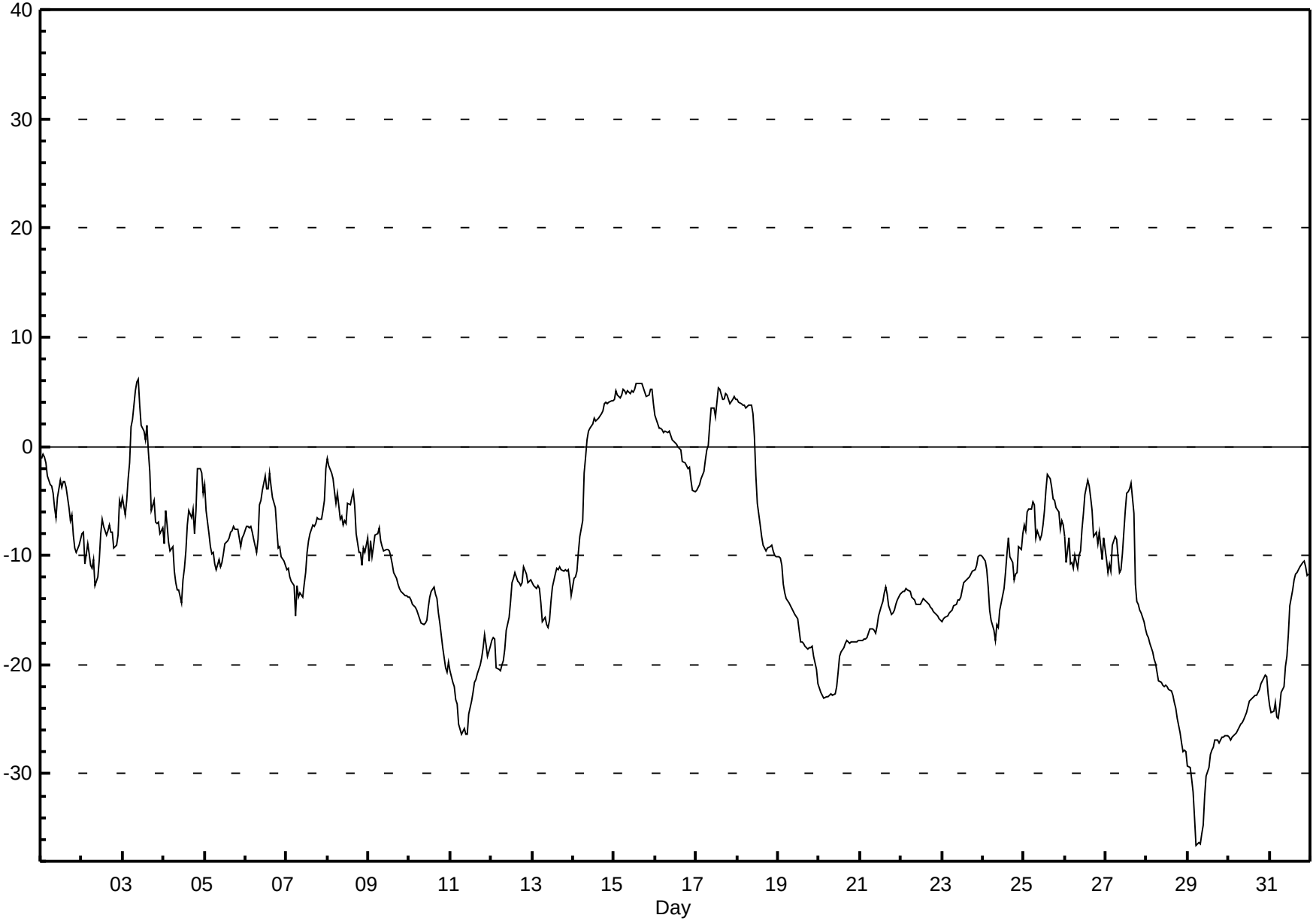
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jan	-1	-1	-1	-2	-3	-4	-4	-4	-6	-6	-5	-3	-4	-3	-3	-4	-6	-7	-6	-8	-9	-10	-9	-9	-4.8	-0.8
2-Jan	-8	-8	-11	-9	-10	-11	-11	-10	-13	-12	-10	-8	-7	-7	-8	-8	-7	-8	-8	-9	-9	-8	-5	-5	-8.8	-5.0
3-Jan	-5	-6	-5	-3	-1	2	2	5	6	6	4	2	1	1	2	-1	-2	-6	-5	-7	-7	-7	-8	-7	-1.7	6.1
4-Jan	-9	-6	-7	-9	-10	-9	-11	-13	-13	-13	-14	-12	-11	-10	-7	-6	-7	-6	-8	-6	-2	-2	-2	-4	-8.2	-2.0
5-Jan	-4	-6	-8	-9	-10	-10	-11	-11	-10	-11	-11	-10	-9	-9	-8	-8	-8	-7	-8	-8	-8	-9	-8	-8	-8.7	-3.5
6-Jan	-7	-7	-7	-7	-8	-8	-10	-9	-5	-5	-4	-3	-4	-4	-2	-4	-5	-6	-8	-9	-9	-10	-10	-11	-6.8	-2.5
7-Jan	-11	-11	-12	-12	-13	-16	-13	-14	-13	-14	-13	-12	-10	-9	-8	-7	-7	-7	-7	-7	-7	-6	-5	-2	-9.7	-2.1
8-Jan	-1	-2	-2	-3	-4	-5	-4	-7	-6	-7	-7	-7	-5	-5	-5	-4	-6	-8	-10	-10	-11	-9	-10	-8	-6.1	-1.1
9-Jan	-10	-9	-10	-9	-8	-8	-7	-9	-9	-10	-9	-9	-10	-10	-11	-12	-12	-13	-13	-13	-13	-14	-14	-14	-10.7	-7.4
10-Jan	-14	-14	-14	-15	-15	-15	-16	-16	-16	-16	-16	-15	-14	-13	-13	-14	-14	-15	-16	-18	-19	-20	-21	-20	-15.8	-12.9
11-Jan	-21	-22	-22	-23	-24	-25	-26	-26	-26	-26	-26	-25	-23	-23	-22	-21	-21	-20	-19	-18	-17	-18	-19	-18	-22.2	-17.3
12-Jan	-18	-18	-18	-20	-20	-21	-20	-20	-19	-17	-16	-14	-13	-12	-12	-12	-12	-13	-12	-11	-12	-13	-12	-12	-15.2	-11.0
13-Jan	-13	-13	-13	-13	-13	-14	-16	-16	-16	-17	-16	-14	-13	-12	-11	-11	-11	-11	-11	-11	-11	-11	-12	-14	-13.1	-11.0
14-Jan	-12	-12	-11	-10	-8	-7	-2	-1	1	1	2	2	3	2	2	3	3	3	4	4	4	4	4	4	-0.7	4.2
15-Jan	4	5	5	4	5	5	5	5	5	5	5	5	5	6	6	6	6	5	5	5	5	5	5	4	5.0	5.8
16-Jan	3	2	2	2	2	1	1	1	1	1	1	0	0	0	0	0	-1	-2	-2	-2	-2	-3	-4	-4	-0.1	2.9
17-Jan	-4	-4	-4	-3	-2	-1	0	0	2	3	4	3	4	5	5	4	4	5	5	4	4	4	5	4	2.0	5.4
18-Jan	4	4	4	4	4	4	4	4	4	3	1	-3	-5	-7	-8	-9	-9	-10	-9	-9	-9	-10	-10	-10	-2.9	4.4
19-Jan	-10	-10	-11	-13	-13	-14	-14	-15	-15	-15	-15	-16	-17	-18	-18	-18	-18	-19	-18	-18	-18	-19	-20	-22	-16.1	-10.1
20-Jan	-22	-23	-23	-23	-23	-23	-23	-23	-23	-23	-22	-21	-19	-19	-18	-18	-18	-18	-18	-18	-18	-18	-18	-18	-20.3	-17.8
21-Jan	-18	-18	-18	-18	-17	-17	-17	-17	-17	-17	-16	-16	-15	-14	-13	-13	-14	-15	-15	-15	-15	-14	-14	-14	-15.7	-12.9
22-Jan	-13	-13	-13	-13	-13	-13	-14	-14	-14	-14	-14	-14	-14	-14	-14	-14	-14	-15	-15	-15	-15	-15	-16	-16	-14.3	-13.0
23-Jan	-16	-16	-16	-15	-15	-15	-15	-15	-14	-14	-14	-14	-13	-13	-12	-12	-12	-12	-11	-11	-11	-10	-10	-10	-13.2	-10.0
24-Jan	-10	-11	-11	-13	-15	-16	-17	-18	-16	-17	-15	-14	-13	-12	-10	-8	-10	-11	-12	-12	-12	-9	-9	-8	-12.4	-8.0
25-Jan	-7	-8	-6	-6	-6	-5	-5	-8	-8	-9	-8	-7	-6	-4	-3	-3	-4	-5	-5	-6	-6	-8	-7	-7	-6.1	-2.6
26-Jan	-8	-11	-8	-11	-11	-11	-10	-11	-10	-10	-8	-6	-4	-3	-4	-5	-6	-8	-8	-9	-8	-9	-10	-8	-8.2	-3.0
27-Jan	-10	-12	-11	-11	-9	-8	-9	-10	-12	-11	-10	-6	-4	-4	-4	-3	-6	-13	-14	-14	-15	-15	-16	-17	-10.2	-3.3
28-Jan	-17	-17	-18	-19	-20	-20	-21	-21	-22	-22	-22	-22	-22	-22	-22	-23	-23	-24	-25	-26	-27	-28	-28	-28	-22.5	-17.2
29-Jan	-29	-29	-30	-32	-34	-37	-36	-36	-35	-35	-32	-30	-29	-28	-28	-28	-27	-27	-27	-27	-27	-27	-27	-26	-30.2	-26.5
30-Jan	-27	-27	-27	-26	-26	-26	-26	-25	-25	-25	-24	-24	-23	-23	-23	-23	-23	-23	-22	-22	-21	-21	-21	-23	-24.0	-20.9
31-Jan	-24	-24	-24	-23	-25	-25	-24	-23	-22	-20	-19	-17	-15	-13	-12	-12	-12	-11	-11	-11	-10	-11	-12	-12	-17.2	-10.5
	-10.9	-11.1	-11.3	-11.6	-11.8	-12.0	-11.9	-12.1	-11.9	-11.8	-11.4	-10.6	-9.9	-9.6	-9.2	-9.3	-9.7	-10.4	-10.7	-10.9	-10.9	-11.0	-11.1	-11.1	Diurnal Average	
	4.4	5.1	4.7	4.5	4.7	5.2	5.1	5.0	5.9	6.1	5.1	5.0	5.3	5.8	5.8	5.8	5.8	5.3	4.9	4.6	4.7	5.2	5.2	4.3	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Smoky Heights - January 2013



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Smoky Heights - January 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	29	30	36	35	35	34	34	29	24	22	25	29	34	27	22	18	16	20	17	14	6	16	12	16	24.1	35.8
Dir	255	251	255	260	260	258	258	259	260	263	262	262	259	259	265	266	263	265	266	254	242	265	256	265	259.6	255.4
2 Spd	13	15	11	12	11	12	13	12	7	6	13	12	11	9	9	11	7	7	8	8	6	9	17	11	9.6	16.6
Dir	265	241	198	214	223	226	235	229	225	233	260	240	228	197	189	194	209	209	182	192	222	236	247	241	225.5	246.7
3 Spd	6	4	6	10	10	17	22	26	25	25	15	13	11	6	8	4	3	6	4	2	3	3	6	6	7.6	26.3
Dir	281	218	261	235	227	242	256	269	298	304	259	247	246	293	33	154	309	232	277	269	277	338	35	13	271.0	268.7
4 Spd	6	11	6	6	2	5	4	2	8	6	8	8	8	11	14	11	10	14	9	15	23	25	20	22	7.5	25.0
Dir	14	21	18	41	296	269	203	145	194	234	197	205	210	210	230	218	207	238	246	240	267	272	261	243	244.1	272.1
5 Spd	22	19	17	11	8	8	8	8	9	10	9	7	7	6	4	7	6	4	3	9	3	6	8	9	7.7	22.2
Dir	256	260	257	253	226	228	251	244	232	225	226	211	221	193	198	273	262	220	121	257	147	183	191	236	237.2	256.4
6 Spd	9	7	9	9	9	8	12	15	25	24	21	21	12	14	16	11	13	12	11	13	15	15	15	13	13.0	24.7
Dir	220	178	244	227	226	210	211	244	243	241	265	258	252	268	264	250	273	266	237	235	249	268	260	257	247.9	243.5
7 Spd	18	15	11	13	10	11	9	8	9	12	10	7	2	3	5	7	6	5	10	10	11	12	12	17	8.5	17.7
Dir	268	271	257	277	272	217	216	235	218	236	226	201	226	220	182	169	191	240	243	235	249	258	272	292	245.9	268.3
8 Spd	20	13	19	12	3	8	16	20	22	20	18	18	23	19	18	17	17	12	11	13	12	10	7	7	13.7	22.9
Dir	289	316	309	307	245	201	260	263	261	264	253	256	256	262	256	244	252	248	238	269	253	263	216	267	262.6	255.7
9 Spd	4	4	4	7	10	12	15	16	18	18	18	18	21	19	19	19	20	18	21	20	17	18	10	6	14.3	21.4
Dir	272	323	33	22	21	20	23	20	20	22	30	22	20	32	24	19	19	15	17	22	24	32	44	26	22.0	17.4
10 Spd	5	6	7	6	4	8	7	5	6	6	3	3	5	4	2	3	4	5	6	4	5	3	3	5	3.9	7.9
Dir	37	49	59	59	85	47	47	47	30	26	58	20	12	41	51	31	19	26	22	4	351	358	267	236	34.4	47.4
11 Spd	3	4	7	7	6	6	6	5	5	4	4	4	4	3	4	4	3	4	3	4	3	4	3	2	4.0	6.9
Dir	243	215	238	247	215	194	207	210	209	206	206	225	240	245	249	251	234	218	206	225	234	202	197	196	221.4	247.0
12 Spd	2	4	2	3	2	3	3	4	5	5	5	7	7	9	9	5	4	2	2	5	3	3	3	3	2.9	8.8
Dir	167	217	188	192	199	208	230	262	253	232	238	243	260	242	206	153	147	154	164	315	50	115	211	173	217.6	241.9
13 Spd	4	4	4	4	3	5	5	5	6	5	6	5	5	5	4	4	4	4	8	10	10	8	8	8	5.0	9.8
Dir	116	194	192	195	214	236	217	224	211	198	222	166	171	188	179	177	162	196	221	225	243	226	224	223	207.9	225.0
14 Spd	11	11	11	10	14	13	18	25	29	31	30	28	26	19	19	19	26	30	36	38	37	37	37	37	24.2	37.9
Dir	246	246	234	234	215	216	256	258	259	255	259	257	260	252	245	242	251	256	263	264	263	258	256	251	253.8	263.9
15 Spd	31	36	34	34	33	33	34	35	38	36	36	34	35	45	46	44	46	41	37	33	36	30	15	11	33.7	46.5
Dir	245	248	246	248	243	243	255	246	251	252	248	250	257	262	260	256	253	255	258	261	263	273	327	343	255.3	253.3
16 Spd	14	16	22	20	17	18	20	17	15	11	9	13	10	14	10	5	3	6	4	4	4	7	7	9	8.3	21.8
Dir	337	314	300	284	285	280	286	303	318	304	331	298	267	317	307	52	64	188	119	130	104	29	35	30	307.5	300.1
17 Spd	5	6	6	3	2	4	8	10	17	26	18	12	20	36	51	37	30	40	37	32	31	32	34	33	19.9	50.6
Dir	23	30	34	33	11	193	206	223	231	237	228	208	220	254	252	246	249	253	254	255	258	257	254	256	248.5	251.9
18 Spd	32	29	32	39	41	38	36	36	32	18	14	16	18	19	17	13	10	6	1	1	3	10	7	7	10.7	40.9
Dir	257	257	250	256	254	256	258	256	257	313	347	40	39	42	40	42	37	51	311	212	303	8	28	35	280.3	254.4
19 Spd	3	5	10	12	12	12	13	15	19	20	18	22	24	26	20	19	14	7	3	4	3	12	12	13	12.7	26.2
Dir	63	32	38	37	38	38	36	34	32	32	24	19	19	22	20	15	33	45	97	114	65	58	58	46	32.8	22.1
20 Spd	11	10	9	9	8	7	6	5	7	7	7	6	5	8	9	11	14	13	15	10	12	14	12	11	9.4	15.3
Dir	41	35	36	27	25	37	35	44	35	32	34	31	33	30	31	30	32	37	35	34	33	34	31	28	33.2	34.9
21 Spd	11	13	14	12	10	12	11	11	10	8	10	9	8	8	7	9	9	7	8	6	8	8	5	5	8.5	13.6
Dir	33	36	28	28	25	36	31	35	43	42	34	36	25	24	32	34	25	14	18	352	308	352	338	349	24.3	27.6
22 Spd	8	8	7	10	11	11	11	9	9	10	9	10	8	9	8	10	9	8	10	10	11	15	14	13	9.7	15.3
Dir	2	14	20	28	30	28	45	37	39	48	52	40	37	40	29	34	42	44	34	37	39	39	42	41	35.8	39.4

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Smoky Heights - January 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
23 Spd	12	12	12	14	16	15	16	15	13	11	13	14	13	13	14	13	10	11	6	4	4	9	5	4	10.0	16.3
Dir	40	42	36	34	41	38	37	38	33	22	34	32	33	29	31	32	40	36	32	47	124	158	159	106	39.8	36.8
24 Spd	3	3	3	4	7	8	9	8	8	6	7	9	10	11	9	8	9	12	12	8	8	7	5	6	6.7	12.1
Dir	75	347	334	283	260	268	262	247	224	229	227	236	242	241	238	252	275	267	252	229	219	260	260	276	251.1	252.2
25 Spd	3	6	5	7	6	8	7	9	9	10	11	11	12	15	18	16	12	17	17	17	17	11	14	12	10.8	17.8
Dir	300	230	234	258	188	217	258	223	223	224	237	238	233	251	242	260	252	256	256	255	253	220	230	250	242.7	242.1
26 Spd	14	14	12	8	9	10	10	7	9	11	8	11	8	6	12	15	12	7	5	7	12	13	13	12	9.5	15.0
Dir	254	207	219	225	226	227	204	219	204	210	215	223	193	213	256	266	261	243	205	242	225	252	258	251	232.1	265.7
27 Spd	8	9	8	7	7	2	5	6	5	9	10	6	8	9	8	2	11	25	21	17	19	19	15	13	2.0	25.2
Dir	255	246	237	228	208	238	224	260	203	200	207	216	235	228	228	181	20	26	33	27	34	35	33	31	354.9	26.0
28 Spd	14	16	18	17	13	12	13	13	14	12	11	12	12	12	12	11	10	8	8	8	5	5	13	12	10.8	17.7
Dir	37	34	32	31	24	33	40	27	30	40	41	34	36	34	30	26	18	13	5	341	336	343	320	325	22.4	32.0
29 Spd	12	14	13	4	5	8	8	11	10	8	6	6	7	7	6	8	5	8	13	14	14	13	12	11	2.4	14.2
Dir	316	317	307	268	218	202	248	267	268	260	183	149	138	134	137	147	127	41	31	21	20	18	15	9	340.4	20.2
30 Spd	11	10	8	7	7	7	7	6	6	5	5	4	5	6	7	6	10	8	5	5	4	3	5	6	1.2	10.8
Dir	357	351	346	1	9	357	15	15	32	99	116	134	140	130	128	139	149	167	197	194	180	182	213	270	76.8	357.3
31 Spd	7	8	6	12	8	10	9	9	9	9	10	12	10	10	8	9	9	7	6	3	5	9	8	0	5.3	12.1
Dir	280	258	245	241	244	223	229	215	210	199	182	200	211	198	166	175	172	174	164	142	47	46	53	129	204.7	240.6
Spd	6.3	5.6	5.8	5.7	5.2	5.5	6.5	7.2	7.0	6.6	5.5	5.1	5.2	5.2	5.4	4.2	4.0	5.1	4.7	5.7	5.6	5.1	4.8	5.4	Diurnal Average	
Dir	283.8	280.7	278.9	274.6	261.3	253.4	263.1	267.0	266.5	266.1	260.8	260.7	262.5	272.1	265.6	262.5	271.8	270.3	273.2	269.7	274.7	288.4	281.2	283.7		
Spd	32.3	36.3	35.8	39.1	40.9	37.7	36.0	35.6	37.6	35.9	35.9	34.4	35.4	45.0	50.6	44.5	46.5	41.5	37.4	37.9	37.1	37.1	36.7	36.8	Diurnal Maximum	
Dir	257.0	248.3	255.4	256.4	254.4	256.4	257.6	255.5	251.3	252.1	248.0	249.9	256.7	261.9	251.9	256.1	253.3	254.6	254.4	263.9	263.4	257.7	255.9	251.3		

Maximum Speed Value: 51 km/h on Jan 17 15:00
Minimum Speed Value: 0 km/h on Feb 1 00:00
Maximum Daily Speed Average: 33.7 km/h on Jan 15
Minimum Daily Speed Average: 1.2 km/h on Jan 12
Maximum Diurnal Speed Average: 7.2 km/h at hour 8
Minimum Diurnal Speed Average: 4.0 km/h at hour 17

Monthly Average Velocity: 5.46 km/h 270.43 deg
Speed Percentiles: P_1 = 2.1 P_{10} = 3.9 Q_1 = 6.2 Median = 9.8 Q_3 = 14.6 P_{90} = 24.4 P_{99} = 40.4
All monthly, daily, and diurnal averages have been calculated using vector methods

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

Frequency Distribution

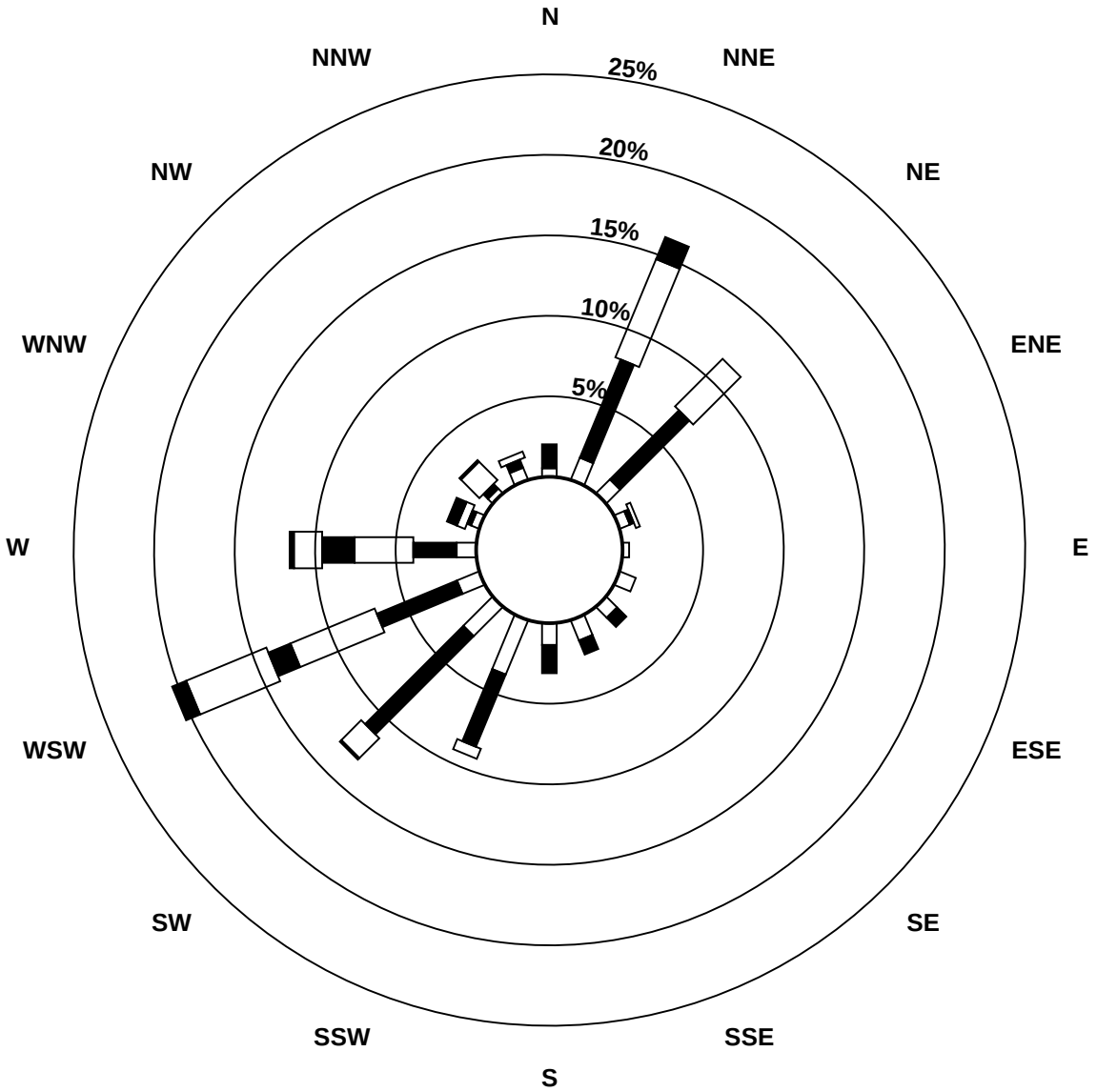
Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	11	29	15	9	0	0	64
NorthEast	17	76	74	5	0	0	172
East	6	0	0	0	0	0	6
SouthEast	18	10	0	0	0	0	28
South	23	38	2	0	0	0	63
SouthWest	33	109	40	6	6	0	194
West	10	34	58	25	48	9	184
NorthWest	8	6	16	3	0	0	33
Total	126	302	205	48	54	9	744

Peace Airshed Zone Association

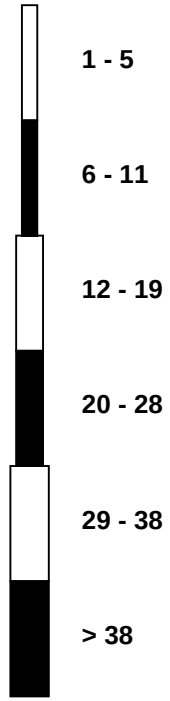
Wind Rose

Wind Speed (WS) (km/h)

Smoky Heights - January 2013



Wind Speed Classes (km/h)



Peace Airshed Zone Association

Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Smoky Heights - January 2013

Maximum Speed: 51 km/h on Jan 17 15:00

Maximum Daily Speed Average: 35.0 km/h on Jan 15

Minimum Speed: 2 km/h on Jan 18 19:00

Minimum Daily Speed Average: 4.3 km/h on Jan 11

Maximum Diurnal Speed Average: 13.9 km/h at hour 9

Minimum Diurnal Speed Average: 11.3 km/h at hour 24

Monthly Average Speed: 12.43 km/h

Percentiles: P_1 = 2.8 P_{10} = 4.4 Q_1 = 6.5 Median = 10.0 Q_3 = 14.9 P_{90} = 24.6 P_{99} = 40.4

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

Day	Hourly Period Ending At (MST)																								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-Jan	29	30	36	35	35	34	34	29	24	22	25	29	34	27	23	18	16	20	17	14	7	16	12	16	24.2	35.8
2-Jan	13	16	11	12	11	12	13	12	7	7	13	12	11	10	9	11	7	7	8	8	8	9	17	11	10.7	16.9
3-Jan	7	5	6	10	11	18	22	27	26	26	16	14	11	10	9	6	4	6	5	3	3	5	6	7	10.9	27.3
4-Jan	6	11	6	6	5	7	4	3	8	6	8	8	8	11	14	11	10	14	10	16	23	25	21	22	11.0	25.1
5-Jan	22	19	17	11	8	9	8	8	9	10	9	7	7	6	5	7	7	5	6	10	4	6	8	10	9.1	22.3
6-Jan	9	8	9	10	10	9	12	15	25	24	21	21	13	14	16	11	13	12	11	13	15	16	15	13	14.0	24.8
7-Jan	18	15	12	13	10	12	10	8	10	12	10	7	2	4	5	7	6	6	11	10	11	12	13	17	10.0	17.8
8-Jan	20	13	19	12	5	8	16	20	22	20	18	18	23	19	18	17	17	13	12	13	12	11	8	8	15.1	23.0
9-Jan	6	4	4	7	10	12	15	16	18	18	18	18	21	20	19	19	20	18	21	20	17	18	11	6	14.9	21.5
10-Jan	5	6	7	6	4	8	7	5	6	6	4	4	5	5	3	3	4	5	6	4	5	3	3	5	5.0	8.0
11-Jan	3	4	7	7	6	6	6	5	5	4	4	4	4	3	4	4	3	4	3	4	3	4	3	3	4.3	7.0
12-Jan	3	4	3	4	2	3	3	4	5	5	5	7	8	9	10	6	5	3	4	6	6	6	4	4	5.0	9.8
13-Jan	5	4	4	4	4	6	5	5	6	5	6	6	5	5	5	5	4	5	8	10	10	8	8	8	5.8	9.9
14-Jan	11	11	11	10	15	14	18	25	29	31	30	29	26	19	19	19	26	30	36	38	37	37	37	37	24.8	37.9
15-Jan	31	36	34	35	33	34	35	36	38	36	36	34	36	45	46	45	47	42	37	33	37	30	17	12	35.0	46.5
16-Jan	14	16	22	20	17	18	20	18	16	11	9	13	11	14	11	6	5	6	4	4	4	8	7	9	11.7	21.9
17-Jan	5	6	6	3	3	6	8	10	17	26	19	12	21	36	51	37	30	40	37	32	31	32	34	33	22.4	50.7
18-Jan	32	29	33	39	41	38	36	36	32	24	14	16	18	19	17	14	10	7	2	3	6	10	8	7	20.4	41.0
19-Jan	3	5	10	12	12	12	13	15	19	20	18	22	24	26	20	19	14	8	4	4	4	12	12	13	13.4	26.3
20-Jan	11	10	9	9	8	7	6	6	7	7	7	6	5	8	9	11	14	13	15	10	12	14	12	11	9.5	15.4
21-Jan	11	13	14	13	11	12	11	11	10	8	10	9	8	8	7	9	9	8	8	6	8	8	5	5	9.2	13.7
22-Jan	8	8	7	10	11	11	11	9	9	10	9	10	8	9	8	10	9	8	10	10	11	15	14	13	10.0	15.3
23-Jan	12	12	12	14	16	15	16	15	13	11	13	14	13	13	14	13	10	11	6	4	5	9	6	4	11.3	16.3
24-Jan	4	3	3	4	7	8	10	8	8	6	8	9	10	11	9	8	9	12	12	9	8	7	6	6	7.7	12.2
25-Jan	5	7	5	7	7	9	8	9	9	11	11	11	12	15	18	17	12	18	17	17	17	12	14	12	11.6	17.8
26-Jan	15	14	12	8	10	10	10	7	9	11	10	12	8	7	12	15	12	8	5	8	12	13	14	12	10.6	15.1
27-Jan	8	9	8	7	7	4	5	6	5	9	10	6	8	9	8	5	12	25	21	18	19	19	15	13	10.7	25.4
28-Jan	14	16	18	17	14	13	13	13	14	12	11	12	12	12	12	11	10	8	8	8	7	7	13	12	12.0	17.8
29-Jan	12	14	13	7	5	9	8	11	10	8	6	6	7	7	7	8	6	8	13	14	14	13	12	11	9.7	14.2
30-Jan	11	10	8	7	7	7	7	6	6	6	5	4	5	6	7	6	11	8	6	6	4	4	6	6	6.7	11.0
31-Jan	7	8	7	12	8	10	9	9	9	10	10	12	11	10	8	9	9	7	7	5	5	9	8	4	8.5	12.2
	11.7	11.9	12.1	12.0	11.5	12.2	12.9	13.1	13.9	13.6	12.8	12.8	12.7	13.5	13.6	12.5	12.0	12.4	12.0	11.6	11.9	12.8	11.9	11.3	Diurnal Average	
	32.3	36.4	35.8	39.1	41.0	37.7	36.1	35.6	37.6	36.0	35.9	34.5	35.5	45.1	50.7	44.5	46.5	41.5	37.4	37.9	37.1	37.2	36.8	36.8	Diurnal Maximum	

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

Hourly Standard Deviations

Wind Direction (WD) - deg

Smoky Heights - January 2013

Maximum Value: 85.1 deg on Jan 12 20:00

Minimum Value: 1.9 deg on Jan 1 09:00

Percentiles: P_1 = 2.3 P_{10} = 4.0 Q_1 = 5.9 Median = 9.3 Q_3 = 17.0 P_{90} = 29.1 P_{99} = 69.4

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

Day	Hourly Period Ending At (MST)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Jan	6	3	3	2	2	2	2	2	2	3	2	3	2	3	5	3	5	6	3	5	42	4	10	7	41.5
2-Jan	10	24	13	3	14	7	7	8	11	28	5	10	7	24	17	8	15	14	8	43	60	26	12	21	60.4
3-Jan	36	53	43	15	21	15	12	16	8	12	20	17	11	63	9	45	38	24	29	27	27	49	13	12	63.5
4-Jan	16	4	4	18	80	44	20	68	17	17	15	8	17	13	6	15	8	24	18	13	5	2	16	13	79.9
5-Jan	5	7	8	15	12	13	6	11	21	9	8	9	15	24	21	13	27	33	68	13	33	18	20	21	67.6
6-Jan	21	22	16	16	24	30	13	15	6	4	8	4	18	7	8	15	6	8	22	5	7	9	8	8	29.7
7-Jan	3	8	12	3	8	20	17	11	13	8	12	22	38	24	17	9	21	14	11	11	10	9	14	7	38.1
8-Jan	5	16	6	20	61	12	19	4	3	5	7	5	7	3	9	4	7	12	13	5	14	25	23	14	60.6
9-Jan	36	32	32	11	5	4	4	4	8	7	5	9	4	9	11	6	5	6	6	5	6	5	13	8	36.0
10-Jan	15	6	8	13	20	6	7	9	8	9	26	31	26	17	47	13	19	12	10	17	23	39	35	10	46.5
11-Jan	24	12	7	9	19	7	7	7	5	10	8	21	7	6	10	9	7	24	16	13	15	9	9	32	32.4
12-Jan	53	16	38	12	27	8	14	10	16	9	8	10	49	23	32	45	39	62	74	85	57	71	40	19	85.1
13-Jan	50	31	24	18	12	14	27	13	11	25	16	34	15	8	31	28	15	24	4	9	14	11	6	14	49.6
14-Jan	3	17	9	12	13	20	9	5	4	4	2	3	6	8	6	8	4	5	3	2	3	3	3	3	20.1
15-Jan	3	3	4	3	5	6	4	3	3	3	2	4	4	3	3	3	3	3	4	2	3	5	21	20	21.5
16-Jan	10	8	7	5	7	6	6	7	10	11	14	14	13	8	22	47	69	18	20	11	26	16	16	4	69.0
17-Jan	8	7	6	64	63	58	5	8	4	5	15	15	19	5	5	4	5	4	3	2	3	3	3	4	63.6
18-Jan	3	4	5	3	3	3	3	3	4	40	11	11	8	7	10	8	8	16	79	81	72	15	13	8	80.5
19-Jan	56	32	5	6	5	7	4	4	4	5	7	7	7	6	7	8	13	14	25	22	60	6	6	9	59.9
20-Jan	8	5	8	6	8	7	13	12	5	8	7	9	17	9	5	6	5	5	4	6	5	5	6	7	16.6
21-Jan	6	5	6	8	12	5	7	7	6	6	5	7	10	9	6	11	12	10	12	17	19	13	18	31	31.0
22-Jan	18	13	9	8	5	8	8	9	8	7	8	8	9	8	10	9	7	8	5	5	6	4	5	3	17.7
23-Jan	4	6	7	5	6	7	5	5	8	6	5	6	6	6	6	7	5	4	12	11	35	4	13	15	34.6
24-Jan	21	26	19	14	8	7	11	14	9	10	15	9	12	10	5	15	7	12	8	30	13	15	44	6	44.5
25-Jan	70	40	19	14	33	19	20	18	12	8	15	8	6	4	4	11	9	6	7	7	9	13	8	5	69.8
26-Jan	21	6	16	13	18	19	10	9	9	9	57	21	11	19	9	5	14	28	18	22	3	16	7	4	56.5
27-Jan	7	9	10	18	6	58	17	27	20	8	7	21	13	18	7	67	18	6	4	7	6	4	5	5	67.3
28-Jan	5	6	6	6	10	7	9	7	7	7	8	7	7	7	6	9	7	12	11	10	53	44	5	9	53.3
29-Jan	6	6	8	57	27	15	7	8	6	26	18	27	7	9	12	17	21	17	4	6	6	5	6	11	56.7
30-Jan	10	12	11	12	10	19	17	19	18	35	19	17	12	18	13	15	20	13	15	34	28	48	27	15	47.7
31-Jan	10	9	14	5	20	5	4	6	6	14	7	8	15	18	15	9	10	16	28	59	22	9	15	81	81.0
	69.8	53.5	42.7	63.6	79.9	58.2	27.4	67.9	21.2	39.9	56.5	34.2	49.1	63.5	46.5	67.3	69.0	62.2	79.0	85.1	71.7	70.5	44.5	81.0	

PAZA
Beaverlodge Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 26.3 ppb on Jan 26 04:00 Maximum Daily Average: 6.2 ppb on Jan 26

Minimum Value: 0 ppb on Jan 18 09:00
Maximum Diurnal Average: 1.9 ppb at hour 4
Monthly Average: 0.77 ppb

Minimum Daily Average: 0.1 ppb on Jan 15
Minimum Diurnal Average: 0.4 ppb at hour 23
Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 0.1 Median = 0.3 Q_3 = 0.6 P_{90} = 1.2 P_{99} = 11.7

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

Day	Hourly Period Ending At (MST)																								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-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2
2-Jan	0	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
3-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
4-Jan	0	0	0	0	A	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.8
5-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.3	0.8
6-Jan	1	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.7
7-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.2	0.6
8-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
9-Jan	1	1	0	0	A	1	2	2	3	5	2	1	1	1	1	0	0	0	1	1	1	0	0	0	1.1	5.2
10-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	2	1	1	1	1	1	1	1	0	0.6	1.7
11-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.3	0.5
12-Jan	0	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
13-Jan	0	0	0	2	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0.4	1.9
14-Jan	0	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-Jan	0	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-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.3	0.5
17-Jan	0	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-Jan	0	0	0	0	A	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	1	0.2	0.7
19-Jan	1	0	0	0	A	2	2	0	0	1	0	1	4	4	3	6	5	2	2	0	0	0	0	0	1.5	5.8
20-Jan	0	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6
21-Jan	0	0	0	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	0.9	2.3
22-Jan	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	0	0.8	1.4
23-Jan	0	0	0	0	A	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0.5	1.2
24-Jan	0	1	1	2	A	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.7
25-Jan	0	1	1	1	A	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.5	2.9
26-Jan	4	7	20	26	A	18	10	7	5	3	2	1	1	0	6	11	10	6	1	1	1	0	0	1	6.2	26.3
27-Jan	1	9	22	21	A	8	4	3	2	1	1	1	0	0	1	6	12	12	1	2	2	0	1	1	4.8	21.6
28-Jan	1	1	1	0	A	1	0	0	0	1	1	1	1	1	C	C	C	1	1	1	1	0	0	0	0.6	1.2
29-Jan	0	0	0	0	A	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.6	1.2
30-Jan	2	1	1	1	A	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1.1	1.8
31-Jan	1	1	1	1	A	1	1	0	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0.6	0.9
	0.5	0.8	1.7	1.9	--	1.3	0.9	0.7	0.6	0.6	0.5	0.5	0.5	0.6	0.7	1.1	1.2	1.0	0.5	0.4	0.4	0.4	0.4	0.4	Diurnal Average	
	3.8	9.4	21.6	26.3	--	18.4	10.0	7.0	5.4	5.2	2.3	1.3	3.9	4.4	5.7	11.2	11.8	11.9	2.2	2.4	2.3	2.0	1.4	2.9	Diurnal Maximum	

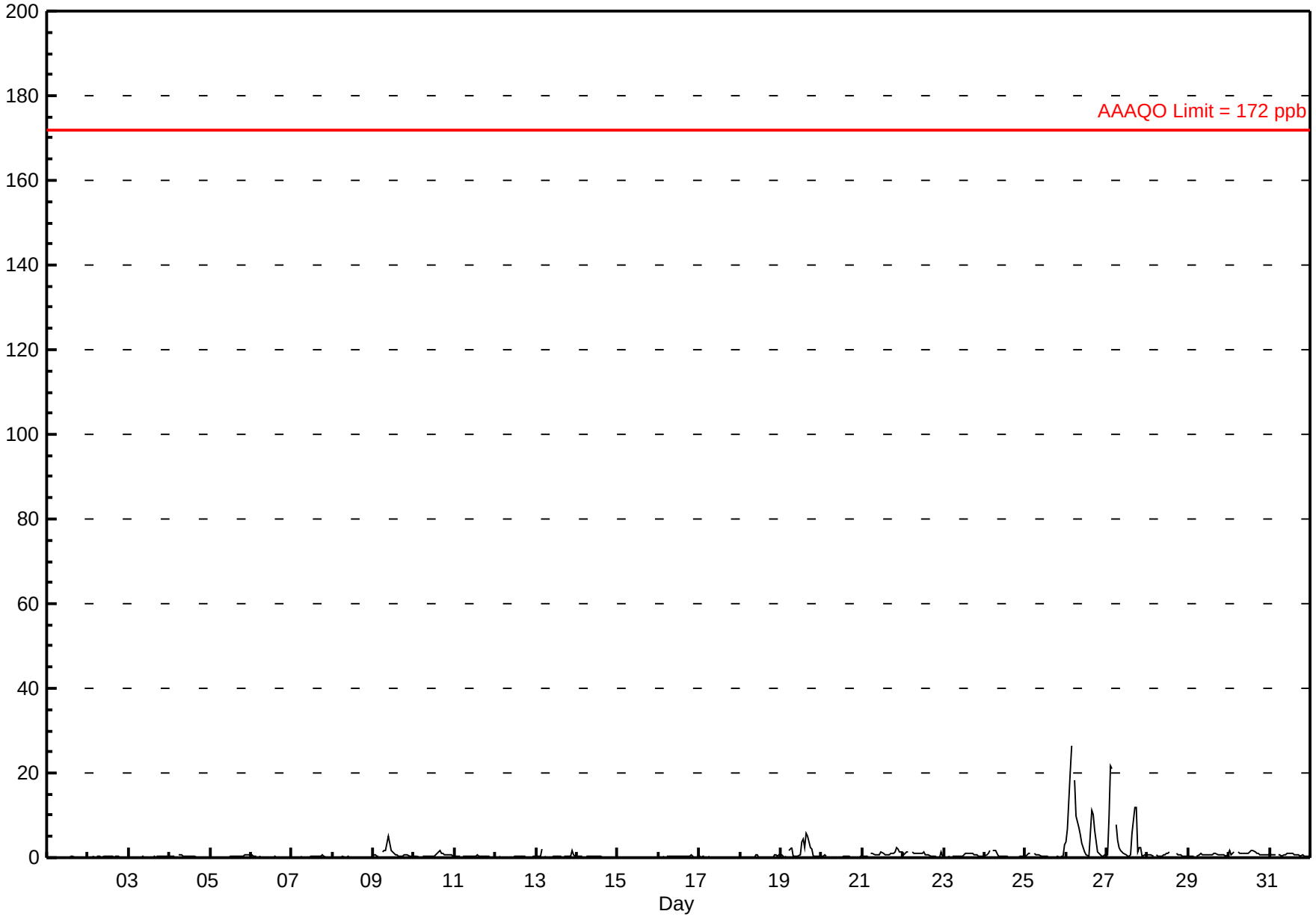
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - January 2013



Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - January 2013

Maximum Value: 28.2 ppb on Jan 26 04:00

Maximum Daily Average: 8.3 ppb on Jan 26

Minimum Value: 0 ppb on Jan 18 09:00

Minimum Daily Average: 0.2 ppb on Jan 15

Maximum Diurnal Average: 2.7 ppb at hour 4

Minimum Diurnal Average: 0.6 ppb at hour 22

Monthly Average: 1.20 ppb

Percentiles: $P_1 = 0.1$ $P_{10} = 0.2$ $Q_1 = 0.2$ Median = 0.5 $Q_3 = 1.0$ $P_{90} = 2.0$ $P_{99} = 13.2$

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

Day	Hourly Period Ending At (MST)																								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-Jan	0	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
2-Jan	0	0	0	0	A	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0.4	0.7
3-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0.3	0.6
4-Jan	0	0	1	1	A	1	1	1	1	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0.5	1.2
5-Jan	0	0	0	0	A	0	0	0	1	0	0	0	0	1	1	1	0	1	1	0	2	1	1	2	0.6	2.0
6-Jan	1	1	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9
7-Jan	0	0	0	0	A	0	0	0	0	0	0	1	0	1	1	0	0	1	1	0	0	0	0	0	0.4	1.3
8-Jan	0	0	0	0	A	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	1	0.4	1.3
9-Jan	2	1	1	0	A	3	2	2	7	8	2	2	2	1	1	1	1	1	1	1	1	1	0	0	1.7	7.6
10-Jan	0	0	0	0	A	0	1	2	0	0	0	0	1	1	3	2	1	2	1	1	1	1	1	1	0.9	2.8
11-Jan	0	1	0	0	A	1	0	1	1	1	1	1	0	2	1	0	0	0	0	1	1	0	0	0	0.6	2.2
12-Jan	0	0	0	0	A	0	0	0	0	0	0	3	0	1	1	0	1	0	0	0	0	0	0	1	0.5	2.8
13-Jan	0	0	1	15	A	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	1	3	2	1	1.3	15.0
14-Jan	0	1	0	1	A	1	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0.4	1.5
15-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.2
16-Jan	0	0	0	0	A	0	0	0	0	0	1	1	1	1	1	0	0	0	1	1	0	0	0	0	0.5	1.3
17-Jan	0	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
18-Jan	0	0	0	0	A	0	0	0	0	2	3	0	0	0	0	0	0	0	0	0	1	1	1	1	0.5	3.2
19-Jan	1	1	0	1	A	3	3	2	0	1	0	1	7	9	11	13	8	4	3	0	0	0	0	0	3.0	12.6
20-Jan	0	1	1	1	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9
21-Jan	0	0	1	0	A	1	2	1	1	1	1	1	1	1	1	1	1	1	1	2	3	2	2	2	1.2	2.6
22-Jan	1	1	2	1	A	2	2	1	1	1	1	2	2	1	1	1	1	1	0	1	0	0	2	2	1.1	2.1
23-Jan	0	0	0	1	A	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.7	1.3
24-Jan	1	1	2	2	A	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.7	2.1
25-Jan	1	1	1	1	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0.9	3.5
26-Jan	4	14	26	28	A	25	14	9	7	4	3	2	1	0	11	12	11	9	4	1	1	1	1	1	8.3	28.2
27-Jan	3	19	25	25	A	11	5	4	2	1	1	1	1	1	3	12	15	16	2	4	4	1	1	1	6.8	24.7
28-Jan	1	1	1	0	A	1	1	0	1	1	1	1	1	2	C	C	C	1	1	2	1	1	1	1	0.9	2.3
29-Jan	0	1	1	1	A	1	2	4	4	2	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1.3	4.1
30-Jan	4	1	1	2	A	1	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1.4	3.6
31-Jan	2	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	0	0	0	0.9	2.3
	0.8	1.6	2.2	2.7	--	1.9	1.4	1.1	1.1	1.0	0.8	0.8	0.9	1.0	1.5	1.8	1.6	1.5	0.8	0.8	0.7	0.6	0.6	0.7	Diurnal Average	
	4.3	19.4	25.5	28.2	--	25.4	14.4	9.3	7.4	7.6	3.2	2.8	7.3	8.9	11.5	12.6	14.8	15.6	3.7	3.6	3.9	2.9	2.0	3.5	Diurnal Maximum	

C - Calibration

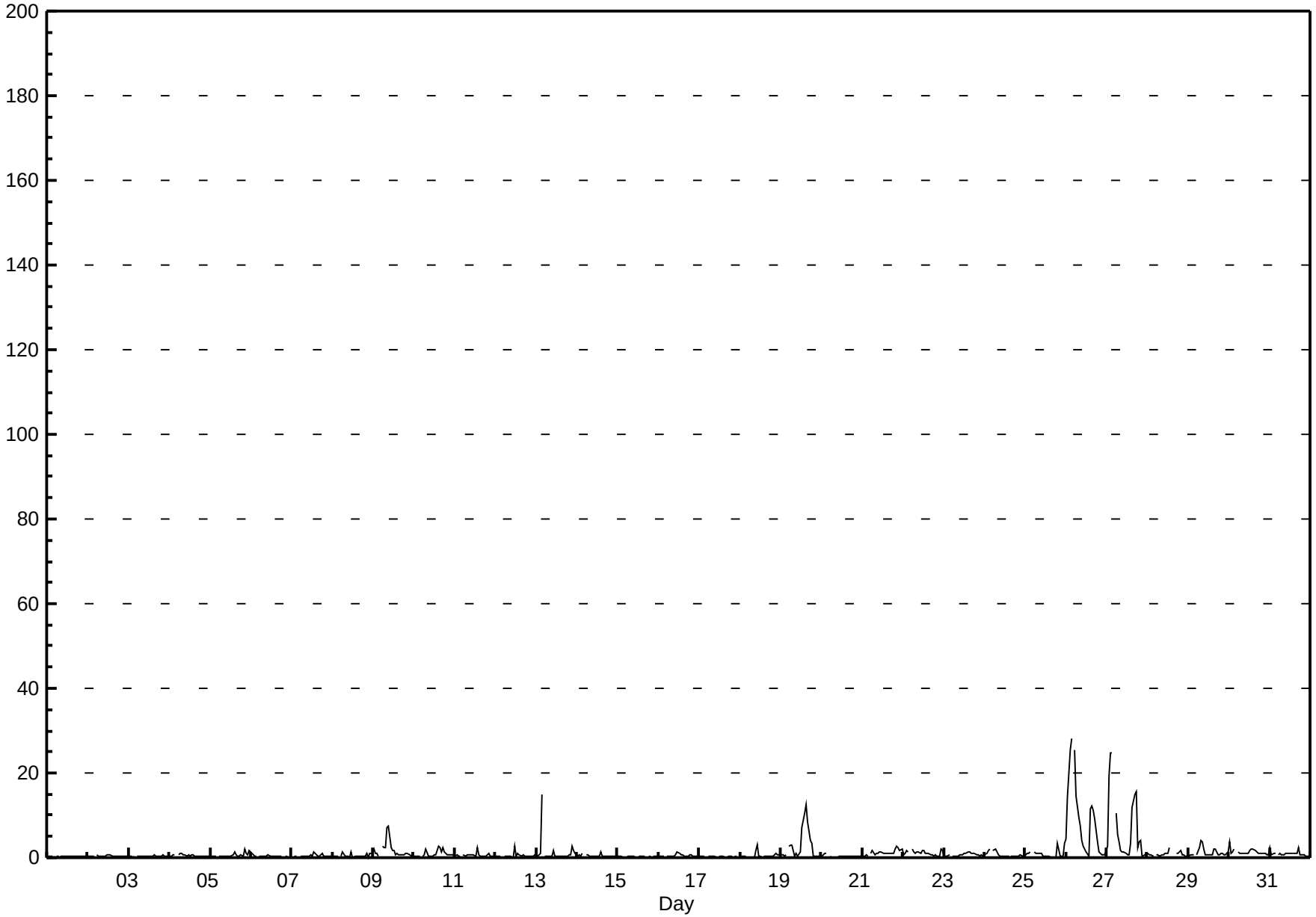
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - January 2013

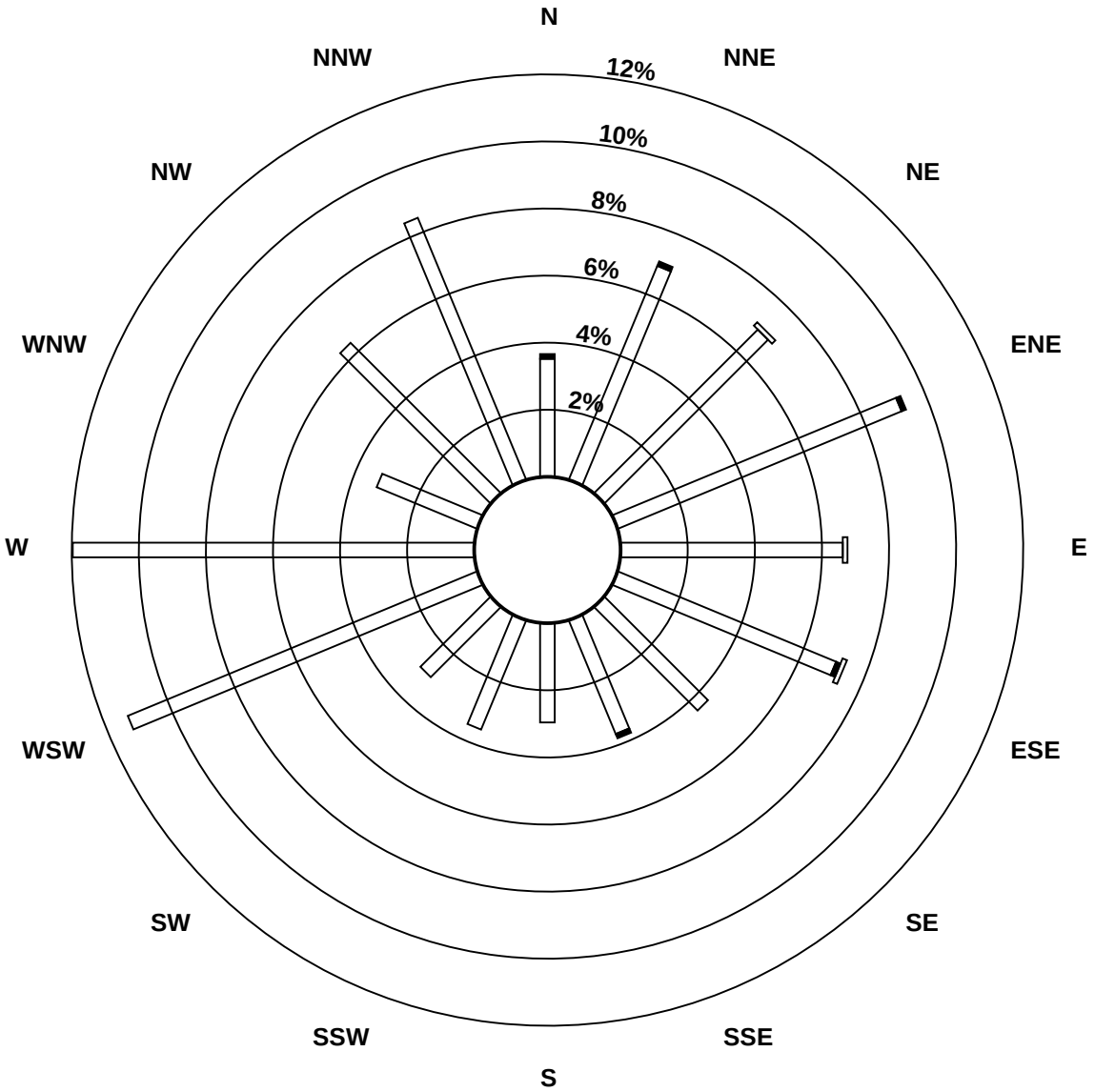


Peace Airshed Zone Association

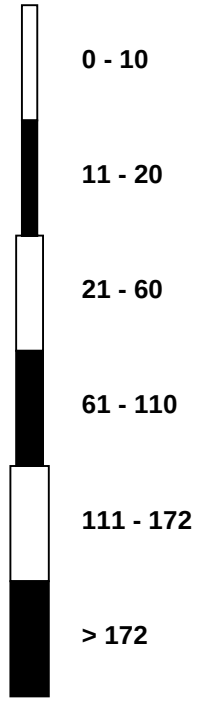
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Beaverlodge - January 2013



Pollutant Classes (ppb)

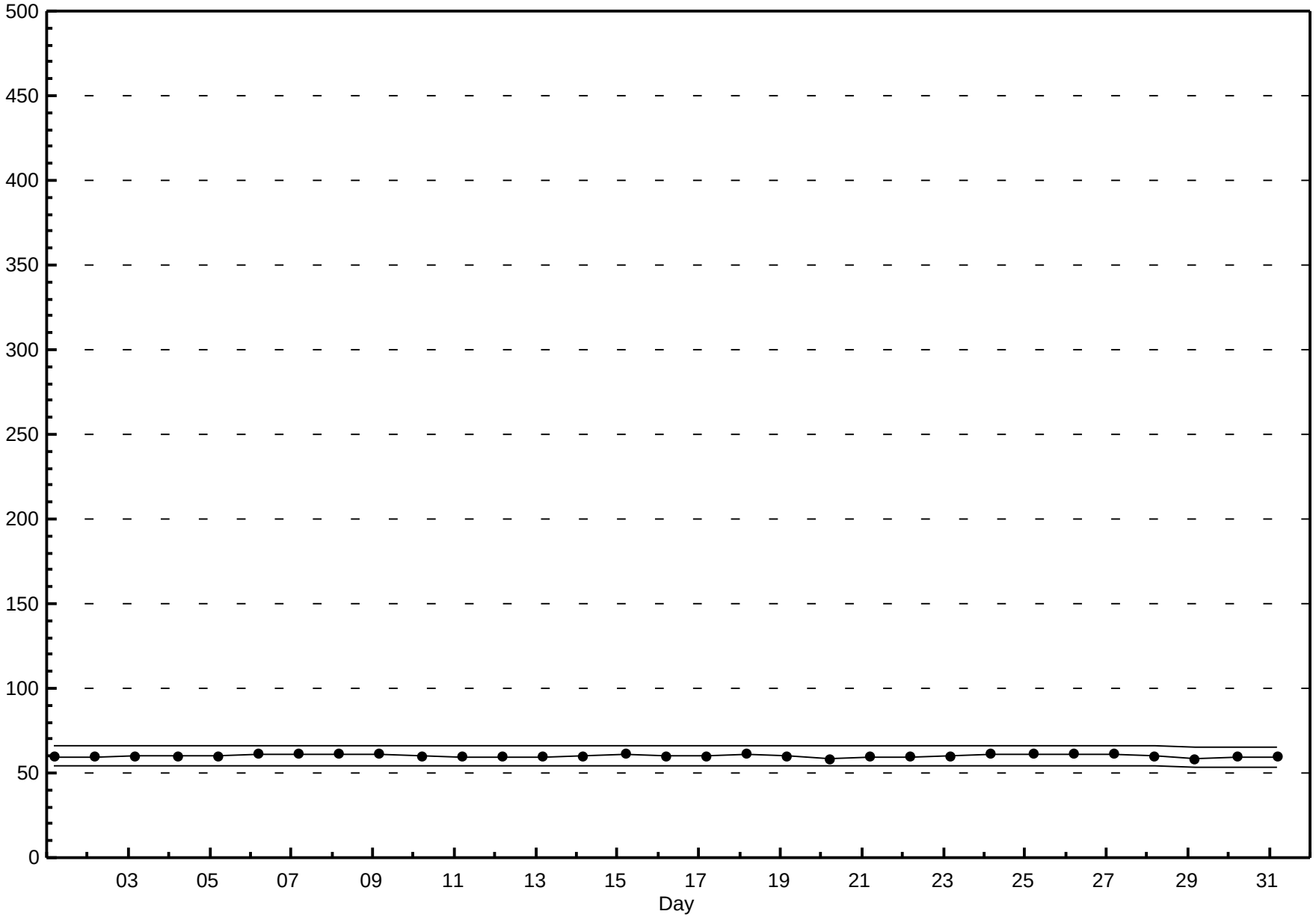


Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Beaverlodge - January 2013



Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 33.5 ppb on Jan 5 19:00 Maximum Daily Average: 14.5 ppb on Jan 5

Minimum Value: 0 ppb on Jan 15 03:00 Minimum Daily Average: 1.6 ppb on Jan 18
Maximum Diurnal Average: 7.2 ppb at hour 18 Minimum Diurnal Average: 3.9 ppb at hour 1
Monthly Average: 5.39 ppb Percentiles: P_1 = 0.4 P_{10} = 1.2 Q_1 = 2.1 Median = 3.9 Q_3 = 7.0 P_{90} = 11.8 P_{99} = 24.8

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	38
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jan	1	0	0	1	A	1	1	1	1	1	1	1	1	3	3	5	5	2	2	2	2	2	1	2	1.6	5.3
2-Jan	2	2	2	2	A	4	10	6	9	9	10	10	12	9	9	6	14	13	9	9	6	6	2	1	7.0	13.7
3-Jan	3	1	1	2	A	2	3	13	4	3	3	2	7	8	9	8	7	9	4	3	4	12	14	8	5.7	14.5
4-Jan	7	13	11	14	A	10	10	12	12	9	13	6	4	8	7	10	5	4	2	5	2	1	3	1	7.3	14.0
5-Jan	2	1	2	3	A	4	5	9	15	10	17	8	12	8	25	25	26	29	33	28	21	19	18	15	14.5	33.5
6-Jan	13	25	19	13	A	12	6	4	3	2	2	3	4	1	1	1	2	2	3	5	4	4	2	3	5.7	25.4
7-Jan	2	1	1	2	A	3	3	2	2	3	15	11	11	17	18	14	16	15	9	5	2	1	1	1	6.7	17.9
8-Jan	0	1	1	1	A	2	1	2	1	2	2	8	1	1	1	3	7	5	4	5	4	2	1	1	2.4	8.1
9-Jan	1	1	2	2	A	4	4	6	4	3	3	3	3	4	3	3	3	4	5	5	6	9	5	5	3.8	8.9
10-Jan	5	5	4	4	A	8	7	15	16	16	11	15	11	8	8	7	14	13	10	13	13	18	18	16	11.1	18.4
11-Jan	11	13	13	17	A	11	9	10	7	6	5	4	4	4	5	4	11	16	6	15	27	8	5	3	9.4	26.9
12-Jan	3	2	3	3	A	3	2	2	2	1	2	4	3	4	6	5	8	6	3	5	6	5	8	3	3.9	8.2
13-Jan	5	3	2	3	A	2	1	1	2	2	3	3	7	12	4	2	3	2	4	6	6	5	3	2	3.6	11.7
14-Jan	2	2	2	3	A	2	1	2	4	5	2	2	2	1	1	2	2	1	1	1	1	1	1	1	1.9	5.0
15-Jan	0	0	0	0	A	1	1	1	1	1	1	1	3	9	16	10	10	8	2	4	3	1	1	1	3.3	15.6
16-Jan	1	1	1	1	A	3	2	2	2	2	4	3	3	1	1	1	4	8	13	8	5	5	3	4	3.3	13.1
17-Jan	4	6	5	3	A	4	1	2	2	1	1	1	1	4	1	1	1	1	1	3	3	1	1	1	2.0	5.6
18-Jan	0	0	1	1	A	1	1	1	1	1	2	1	2	1	3	2	2	2	2	2	3	3	3	3	1.6	3.1
19-Jan	4	4	3	4	A	3	4	5	5	14	5	2	2	2	2	1	2	3	3	2	2	5	5	3	3.7	14.1
20-Jan	3	2	3	2	A	3	2	2	3	3	4	3	4	6	4	4	4	5	5	4	5	4	4	5	3.6	6.1
21-Jan	5	5	4	4	A	4	4	9	12	9	7	6	5	6	7	7	11	11	16	9	8	11	9	6	7.6	15.9
22-Jan	6	6	6	6	A	7	23	19	12	9	6	4	3	3	4	7	9	11	9	7	3	2	1	2	7.2	22.9
23-Jan	2	1	1	1	A	3	2	3	5	6	7	7	7	6	6	7	7	6	6	5	6	6	7	9	5.1	8.6
24-Jan	7	11	9	12	A	7	5	6	7	8	7	5	6	4	3	2	3	3	6	2	2	2	1	11	5.6	11.6
25-Jan	6	5	4	4	A	5	11	5	7	4	3	3	2	2	2	1	2	3	4	4	2	2	3	2	3.7	10.5
26-Jan	2	2	3	4	A	3	11	3	8	7	4	3	4	4	4	3	3	5	4	4	3	3	3	2	4.0	11.4
27-Jan	2	3	3	2	A	3	3	3	5	5	4	2	4	5	6	4	6	8	9	5	4	5	7	5	4.4	8.7
28-Jan	4	3	3	2	A	5	3	3	5	C	C	C	C	C	C	C	2	4	3	2	4	3	2	2	--	5.1
29-Jan	2	3	2	4	A	10	4	6	10	11	8	4	2	1	2	3	4	6	5	6	5	3	2	3	4.7	10.7
30-Jan	5	8	7	8	A	7	5	6	6	5	6	5	3	3	3	4	5	6	7	7	8	9	15	20	6.9	20.1
31-Jan	14	11	12	11	A	12	21	25	17	12	11	10	10	13	17	21	21	12	9	10	2	1	2	2	11.9	24.8
	3.9	4.6	4.2	4.4	--	4.8	5.3	6.0	6.1	5.7	5.6	4.8	4.8	5.4	6.0	5.7	7.0	7.2	6.4	6.2	5.5	5.1	5.0	4.6	Diurnal Average	
	13.6	25.4	18.8	17.4	--	12.3	22.9	24.8	17.3	16.0	17.1	14.6	11.8	16.6	25.0	25.0	26.3	28.7	33.5	27.8	26.9	18.6	18.2	20.1	Diurnal Maximum	

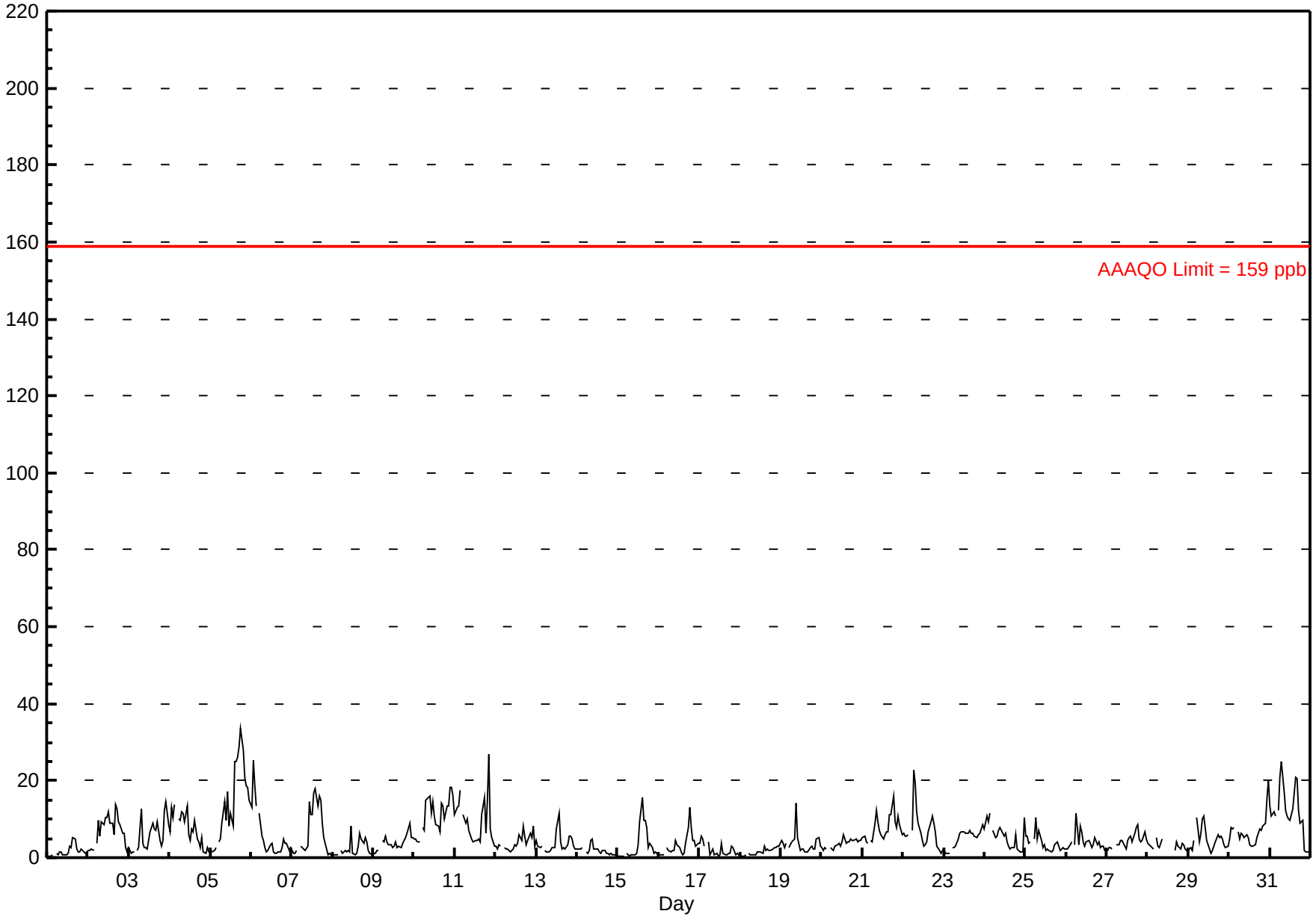
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb

Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - January 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - January 2013

Maximum Value: 318.9 ppb on Jan 10 08:00

Maximum Daily Average: 31.4 ppb on Jan 10

Minimum Value: 1 ppb on Jan 15 04:00

Minimum Daily Average: 3.0 ppb on Jan 18

Maximum Diurnal Average: 23.5 ppb at hour 8

Minimum Diurnal Average: 6.1 ppb at hour 1

Monthly Average: 10.82 ppb

Percentiles: P_1 = 1.0 P_{10} = 2.5 Q_1 = 3.9 Median = 6.5 Q_3 = 12.8 P_{90} = 22.4 P_{99} = 40.4

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	38
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	1	1	3	A	2	2	3	3	2	1	1	4	6	9	19	9	3	2	3	4	10	2	2	4.0	18.5
2-Jan	2	2	3	2	A	6	15	9	30	22	22	19	22	12	13	9	35	37	25	30	19	12	5	5	15.5	36.6
3-Jan	11	4	5	7	A	5	9	26	11	8	8	7	16	17	16	13	20	19	6	4	13	22	31	11	12.6	31.4
4-Jan	10	22	18	20	A	13	29	21	24	14	24	13	10	14	9	27	13	9	6	10	5	3	5	2	13.9	28.9
5-Jan	2	3	4	4	A	7	6	32	38	16	23	20	34	23	33	32	32	36	40	35	33	33	22	20	22.9	40.3
6-Jan	16	30	24	20	A	15	11	5	5	3	2	6	7	4	4	3	4	4	11	10	7	13	5	5	9.2	29.8
7-Jan	3	2	2	2	A	4	4	4	3	7	38	18	16	21	24	21	19	18	13	8	6	2	8	2	10.6	37.8
8-Jan	1	2	1	2	A	4	4	26	5	6	5	309	4	3	5	7	15	10	9	17	9	4	3	1	19.7	308.8
9-Jan	3	2	3	5	A	6	5	12	6	6	4	5	5	8	4	6	4	6	6	6	11	14	7	7	6.2	14.2
10-Jan	6	6	5	5	A	13	62	319	21	20	18	23	17	11	11	10	19	27	14	18	19	25	30	26	31.4	318.9
11-Jan	13	17	20	23	A	15	18	19	13	8	6	5	6	7	10	9	39	40	32	47	43	22	10	5	18.5	46.8
12-Jan	4	4	6	6	A	5	4	6	3	3	4	8	6	7	21	7	11	10	6	9	12	10	11	7	7.4	21.1
13-Jan	11	8	3	14	A	3	3	5	4	3	6	7	13	21	15	4	16	3	6	7	9	6	4	3	7.6	20.9
14-Jan	3	4	4	4	A	3	2	5	9	8	6	6	7	4	5	6	7	3	6	4	4	2	6	2	4.6	9.0
15-Jan	1	1	1	1	A	2	2	1	1	4	5	10	21	36	37	37	35	32	16	22	18	2	14	4	13.2	37.4
16-Jan	2	2	1	1	A	4	3	8	3	6	23	10	6	3	2	3	9	21	17	11	8	9	4	5	7.0	22.8
17-Jan	7	8	8	3	A	6	2	4	6	3	3	2	5	9	5	5	2	5	5	14	17	3	9	1	5.7	16.7
18-Jan	2	1	2	2	A	3	2	3	2	3	4	2	3	2	5	3	4	3	2	4	5	4	4	4	3.0	5.0
19-Jan	9	8	5	5	A	4	7	6	7	23	12	3	4	3	2	2	2	5	6	4	4	7	7	4	6.0	22.6
20-Jan	4	3	3	3	A	4	4	3	5	4	5	4	5	8	5	6	5	6	5	5	6	5	5	5	4.7	8.1
21-Jan	6	7	6	4	A	10	142	14	28	13	14	8	6	8	9	14	15	15	23	12	11	17	14	8	17.5	141.7
22-Jan	8	7	8	9	A	12	33	32	15	11	8	7	4	4	6	8	12	14	10	10	4	4	2	3	10.1	33.5
23-Jan	3	2	1	2	A	3	3	4	7	10	9	8	8	7	7	9	9	9	7	7	10	7	11	10	6.6	10.7
24-Jan	9	25	20	23	A	11	8	7	9	10	19	12	13	5	5	6	6	8	18	9	6	4	20	33	12.4	33.1
25-Jan	9	7	5	19	A	16	19	9	21	8	5	6	4	5	5	3	3	11	6	13	4	4	4	3	8.2	21.1
26-Jan	2	2	4	5	A	5	23	6	16	10	5	5	5	5	5	4	4	7	7	12	9	4	6	3	6.8	23.1
27-Jan	2	3	4	3	A	5	5	4	6	6	5	3	10	8	11	8	10	17	14	6	7	7	8	6	6.9	16.7
28-Jan	4	4	4	3	A	8	4	4	6	C	C	C	C	C	C	C	10	5	5	3	5	5	3	3	--	10.5
29-Jan	2	3	2	6	A	13	7	11	25	16	16	6	3	2	3	4	6	7	7	7	7	5	3	5	7.2	24.9
30-Jan	9	14	9	10	A	9	6	93	8	6	7	6	4	3	4	4	7	9	9	8	12	19	22	24	13.2	92.6
31-Jan	23	15	16	13	A	14	29	28	25	16	12	11	11	15	22	23	29	24	12	14	8	3	3	5	16.2	29.3
	6.1	6.9	6.4	7.4	--	7.3	15.3	23.5	11.8	9.2	10.7	18.2	9.3	9.4	10.4	10.4	13.3	13.6	11.4	11.9	10.7	9.2	9.3	7.2	Diurnal Average	
	23.4	29.8	23.7	22.8	--	15.5	141.7	318.9	38.4	22.6	37.8	308.8	33.6	35.5	37.4	37.0	39.1	40.4	40.3	46.8	42.7	32.7	31.4	33.1	Diurnal Maximum	

C - Calibration

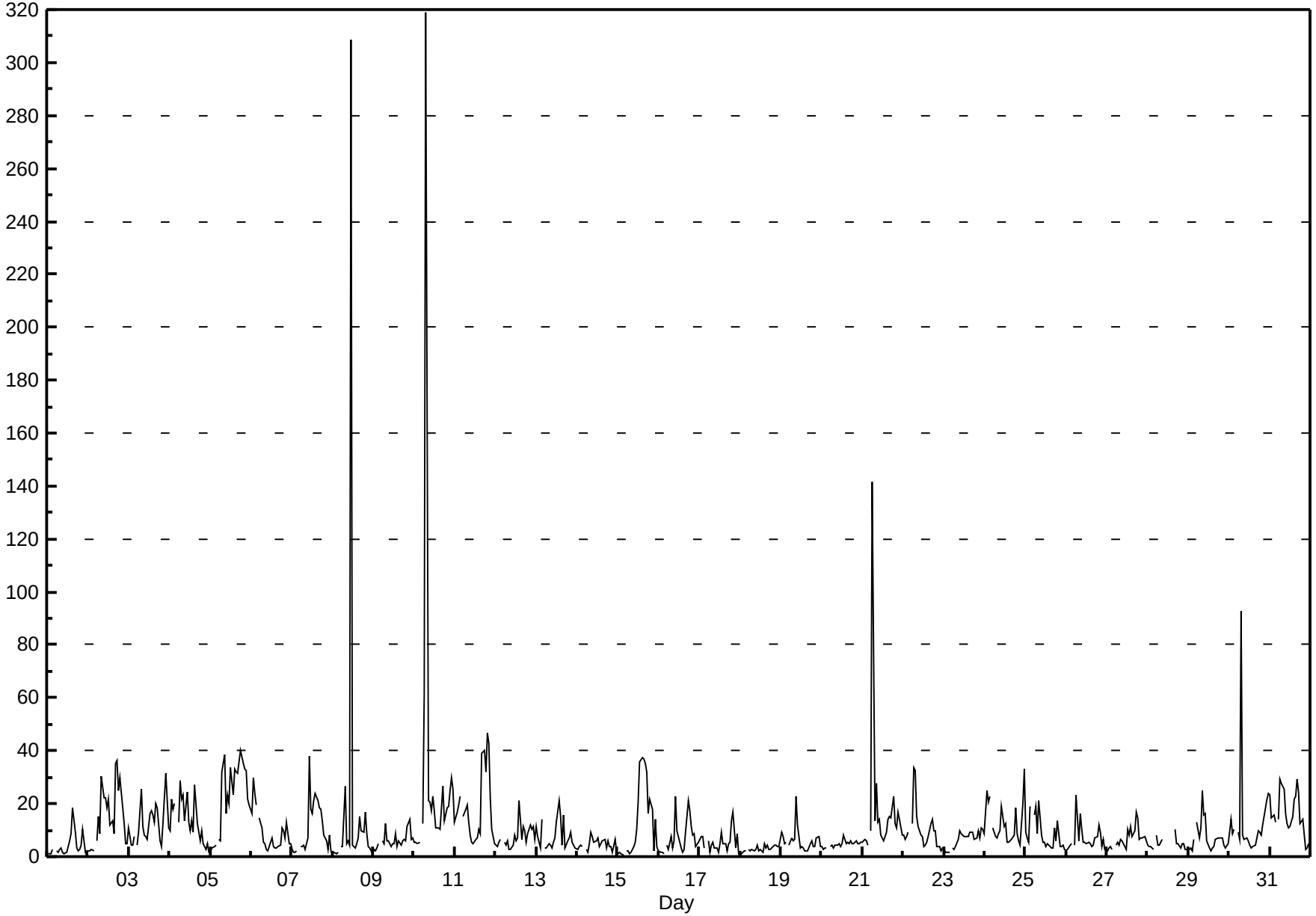
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - January 2013

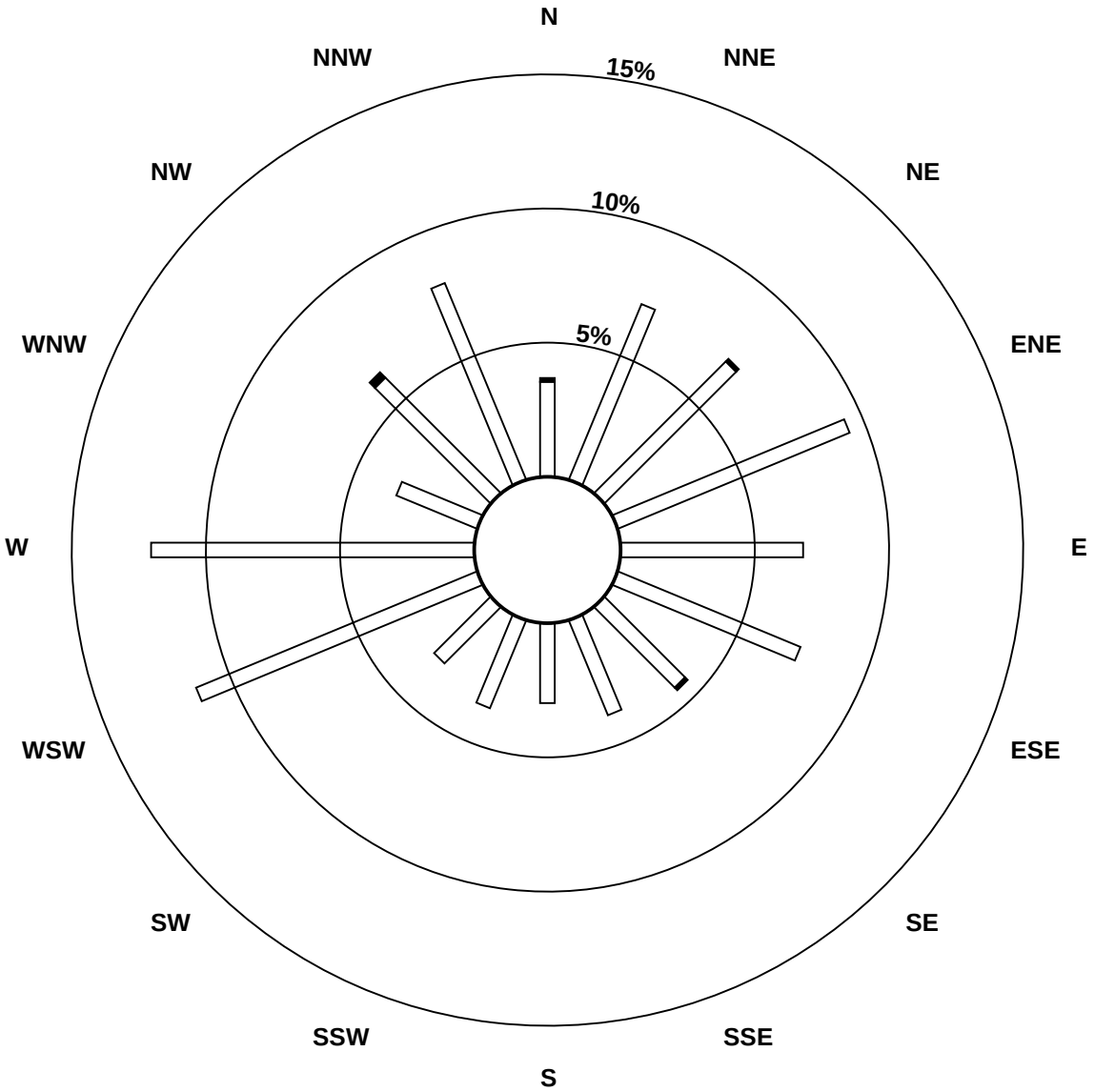


Peace Airshed Zone Association

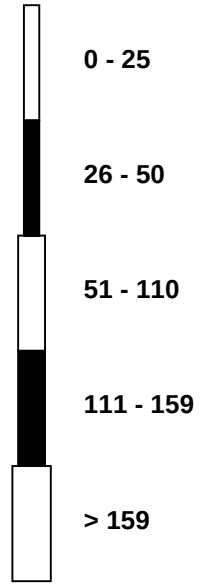
Pollutant Rose

Nitrogen Dioxide (NO_2) - ppb

Beaverlodge - January 2013



Pollutant Classes (ppb)

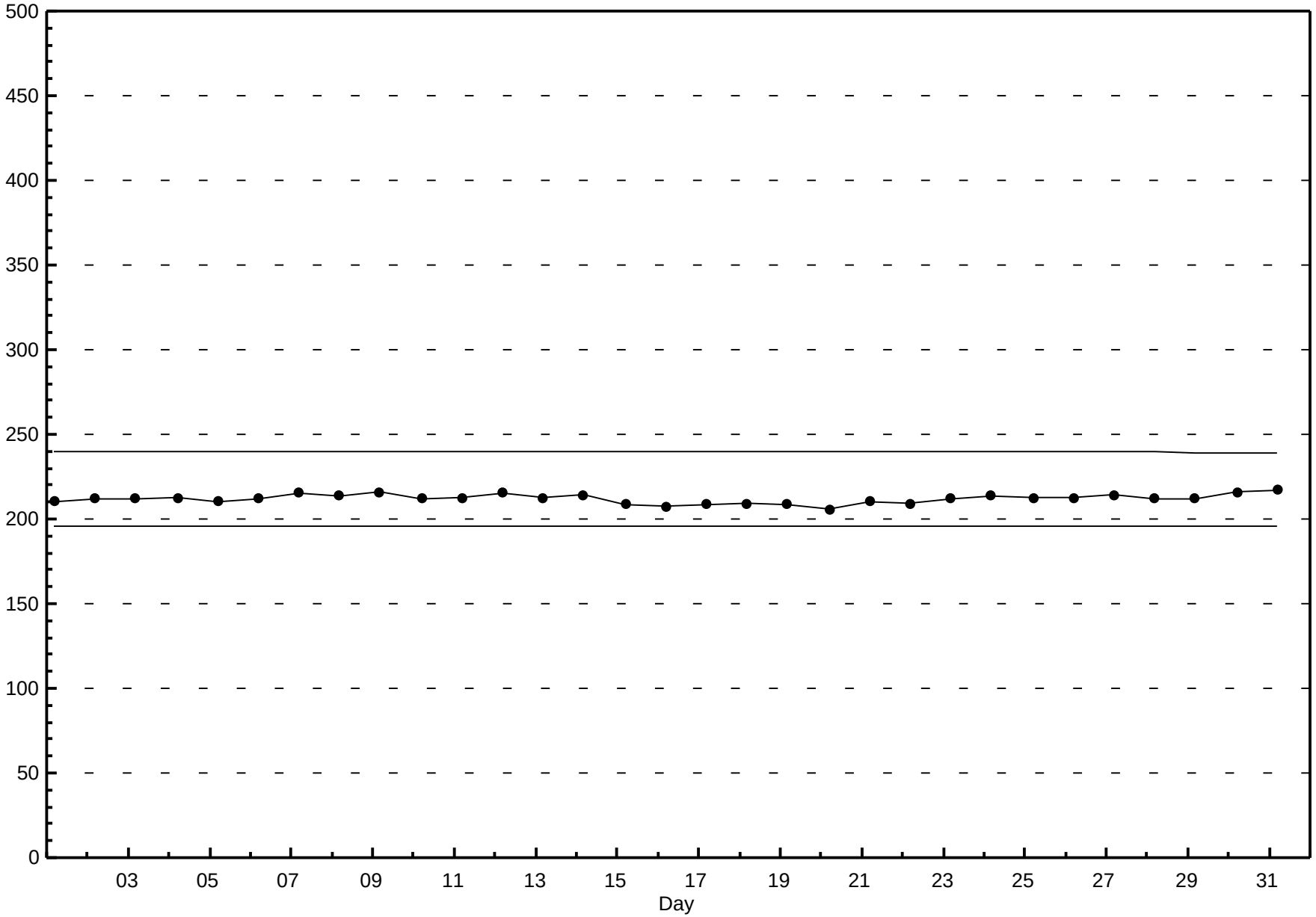


Peace Airshed Zone Association

Span Responses

Nitrogen Dioxide (NO_2)

Beaverlodge - January 2013



Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Beaverlodge - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 27.6 ppb on Jan 31 16:00 Maximum Daily Average: 4.6 ppb on Jan 31

Minimum Value: 0 ppb on Jan 1 02:00 Minimum Daily Average: 0.1 ppb on Jan 17
Maximum Diurnal Average: 2.8 ppb at hour 15 Minimum Diurnal Average: 0.0 ppb at hour 1
Monthly Average: 0.84 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.5 P_{90} = 2.1 P_{99} = 14.1

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	38
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0.1	0.9
2-Jan	0	0	0	0	A	0	0	0	0	0	2	2	3	2	2	1	1	0	0	0	0	0	0	0	0.6	2.9
3-Jan	0	0	0	0	A	0	0	0	0	0	0	0	2	2	2	1	0	0	0	0	0	0	0	0	0.4	2.1
4-Jan	0	0	0	0	A	0	0	0	0	0	4	2	1	2	2	2	0	0	0	0	0	0	0	0	0.6	3.8
5-Jan	0	0	0	0	A	0	0	0	0	0	4	3	7	3	21	13	5	2	6	2	1	0	0	0	2.9	20.7
6-Jan	0	1	0	0	A	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0.2	1.7
7-Jan	0	0	0	0	A	0	0	0	0	0	5	4	5	6	7	2	1	0	0	0	0	0	0	0	1.3	6.8
8-Jan	0	0	0	0	A	0	0	1	0	0	0	5	0	0	0	1	0	0	0	0	0	0	0	0	0.4	5.3
9-Jan	0	0	0	0	A	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0.2	1.2
10-Jan	0	0	0	0	A	0	2	4	2	5	7	20	17	10	7	3	4	2	0	0	0	1	2	1	3.8	20.0
11-Jan	0	0	0	0	A	0	0	0	0	0	1	2	3	3	2	1	5	4	0	15	14	0	0	0	2.3	14.9
12-Jan	0	0	0	0	A	0	0	0	0	0	0	1	1	1	2	1	1	0	0	0	0	0	0	0	0.3	2.2
13-Jan	0	0	0	0	A	0	0	0	0	0	0	1	3	6	1	0	0	0	0	0	0	0	0	0	0.5	6.0
14-Jan	0	0	0	0	A	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
15-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.4
16-Jan	0	0	0	0	A	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
17-Jan	0	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-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.1	0.8
19-Jan	0	0	0	0	A	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.2	1.0
20-Jan	0	0	0	0	A	0	0	0	0	0	1	1	2	4	2	1	0	0	0	0	0	0	0	0	0.5	4.0
21-Jan	0	0	0	0	A	0	15	0	0	1	2	3	3	4	4	2	2	0	0	0	0	0	0	0	1.6	14.5
22-Jan	0	0	0	0	A	0	2	1	0	0	1	1	1	1	1	2	1	0	0	0	0	0	0	0	0.6	1.9
23-Jan	0	0	0	0	A	0	0	0	0	0	1	2	3	3	2	2	1	0	0	0	0	0	0	0	0.6	2.9
24-Jan	0	0	0	0	A	0	0	0	0	1	4	4	6	3	1	1	0	0	0	0	0	0	0	0	0.9	5.5
25-Jan	0	0	0	0	A	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.3	1.3
26-Jan	0	0	0	0	A	0	0	0	0	0	1	1	2	2	2	1	0	0	0	0	0	0	0	0	0.4	2.4
27-Jan	0	0	0	0	A	0	0	0	0	0	1	1	2	2	2	1	1	0	0	0	0	0	0	0	0.4	2.2
28-Jan	0	0	0	0	A	0	0	0	0	C	C	C	C	C	C	C	1	0	0	0	0	0	0	0	--	0.7
29-Jan	0	0	0	0	A	0	0	0	0	3	4	2	1	1	1	1	1	0	0	0	0	0	0	0	0.7	4.1
30-Jan	0	0	0	0	A	0	0	3	0	1	2	2	2	2	2	2	1	0	0	0	0	0	0	0	0.8	2.9
31-Jan	0	0	0	0	A	0	2	1	1	3	6	8	9	13	18	28	16	1	0	0	0	0	0	0	4.6	27.6
	0.0	0.1	0.0	0.0	--	0.0	0.7	0.3	0.1	0.6	1.7	2.4	2.6	2.5	2.8	2.3	1.5	0.4	0.2	0.6	0.5	0.1	0.1	0.1	Diurnal Average	
	0.1	1.1	0.2	0.3	--	0.1	14.5	3.7	1.7	4.8	6.6	20.0	16.6	13.4	20.7	27.6	16.3	4.4	5.5	14.9	14.3	1.2	2.4	1.5	Diurnal Maximum	

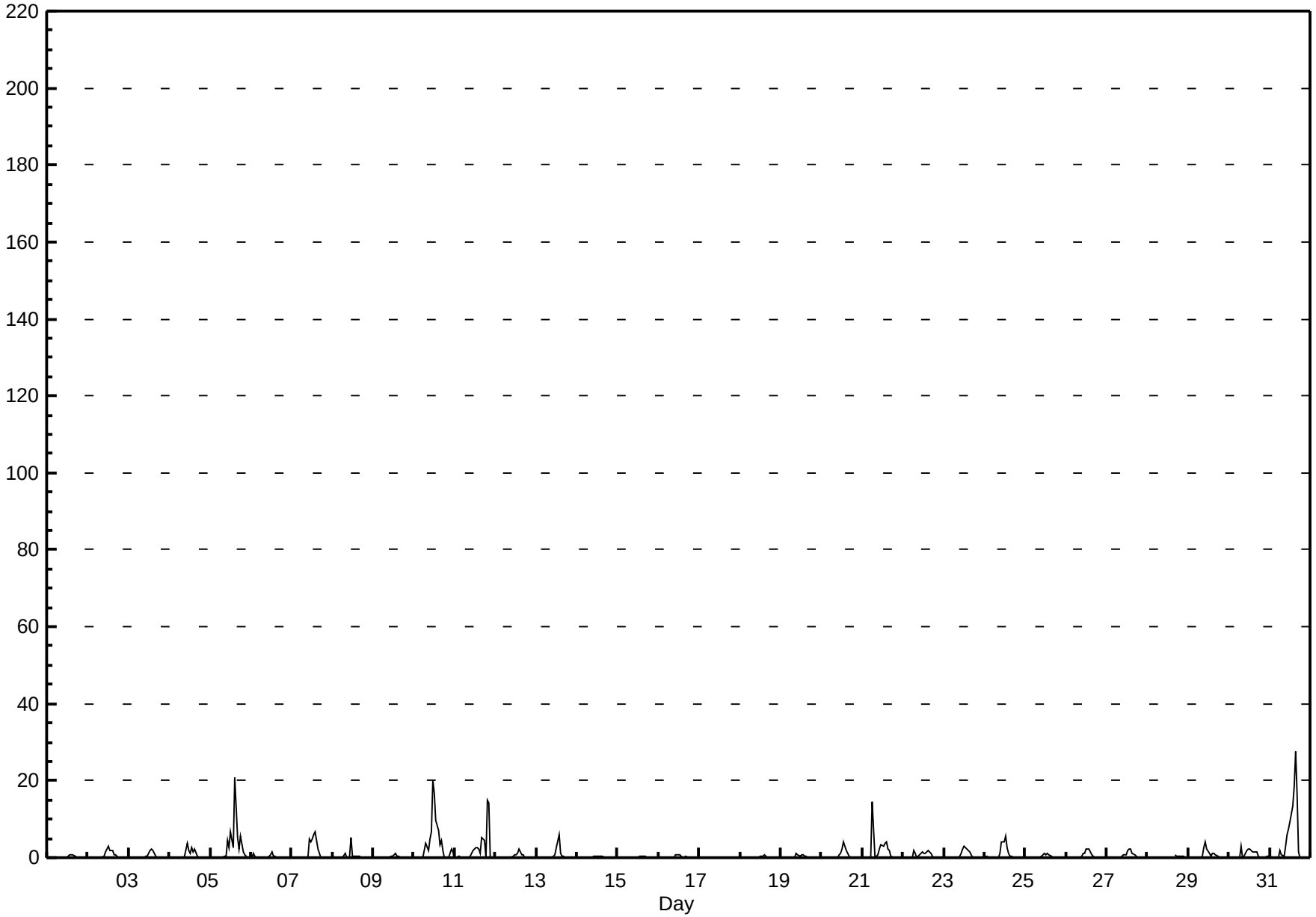
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Beaverlodge - January 2013



FOCUS AIR QUALITY MONITORING

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Beaverlodge - January 2013

Maximum Value: 278.7 ppb on Jan 21 07:00

Maximum Daily Average: 18.2 ppb on Jan 10

Minimum Value: 0 ppb on Jan 2 04:00

Minimum Daily Average: 0.4 ppb on Jan 15

Maximum Diurnal Average: 12.6 ppb at hour 7

Minimum Diurnal Average: 0.2 ppb at hour 1

Monthly Average: 3.44 ppb

Percentiles: P_1 = 0.1 P_{10} = 0.1 Q_1 = 0.2 Median = 0.4 Q_3 = 1.8 P_{90} = 5.7 P_{99} = 77.9

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	38
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jan	0	0	0	0	A	0	0	0	0	0	0	0	1	2	2	5	1	0	0	0	0	0	0	0	0.6	4.9
2-Jan	0	0	0	0	A	0	0	0	4	1	6	7	9	3	4	1	7	4	0	1	0	0	0	0	2.1	8.8
3-Jan	0	0	0	0	A	0	0	0	0	0	1	1	6	5	4	3	1	0	0	0	0	0	0	0	1.1	5.8
4-Jan	0	0	0	0	A	0	3	0	0	1	10	6	7	5	3	14	2	1	0	0	0	0	0	0	2.3	14.1
5-Jan	0	0	0	0	A	0	0	2	6	2	11	12	35	15	42	27	11	9	14	6	6	1	0	0	8.7	42.0
6-Jan	0	6	1	0	A	0	0	0	0	0	0	2	4	1	1	1	0	0	0	0	0	1	0	0	0.8	5.8
7-Jan	0	0	0	0	A	0	0	0	0	0	26	8	8	9	12	6	2	0	0	0	0	0	3	0	3.3	26.1
8-Jan	0	0	0	0	A	0	0	87	0	1	1	165	2	2	2	1	2	0	0	0	0	0	0	0	11.5	165.5
9-Jan	0	0	0	0	A	0	0	0	1	1	1	1	1	3	1	2	1	1	1	0	0	0	0	0	0.6	2.9
10-Jan	0	0	0	0	A	0	83	104	16	12	20	42	40	18	10	6	5	22	1	1	1	8	18	10	18.2	104.2
11-Jan	0	1	2	1	A	0	0	0	1	1	2	3	4	6	6	4	34	34	6	73	80	2	0	0	11.3	79.9
12-Jan	0	0	0	0	A	0	0	0	0	0	1	3	2	3	11	1	1	1	0	0	0	0	0	0	1.1	10.8
13-Jan	0	0	0	0	A	0	0	0	0	0	1	2	5	15	6	1	6	0	0	0	0	0	0	0	1.6	14.7
14-Jan	0	0	0	0	A	0	0	0	0	0	1	2	3	1	2	1	1	0	1	0	1	0	2	0	0.7	2.5
15-Jan	0	0	0	0	A	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	1	0	0	0.4	0.9
16-Jan	0	0	0	0	A	0	0	3	0	0	7	2	2	1	0	0	1	0	0	0	0	0	0	0	0.8	6.7
17-Jan	0	0	0	0	A	0	0	0	0	1	1	0	1	0	1	0	0	0	1	1	0	0	0	0	0.4	0.8
18-Jan	0	0	0	0	A	0	0	0	0	1	1	0	1	1	2	1	0	0	0	0	0	0	0	0	0.4	1.7
19-Jan	0	0	0	0	A	0	1	0	0	2	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0.7	2.2
20-Jan	0	0	0	0	A	0	0	0	0	0	1	2	3	6	3	2	1	0	0	0	0	0	0	0	0.9	5.9
21-Jan	0	0	0	0	A	1	279	0	14	2	4	5	4	5	6	5	6	1	0	0	1	0	0	0	14.5	278.7
22-Jan	0	0	0	0	A	0	12	8	0	2	2	3	1	2	2	2	2	1	0	0	0	0	0	0	1.7	11.9
23-Jan	0	0	0	0	A	0	0	0	0	1	2	3	4	3	3	2	1	1	0	0	0	0	0	0	1.0	3.7
24-Jan	0	2	1	1	A	1	0	0	2	3	31	10	15	4	3	2	1	1	1	1	0	0	1	2	3.6	30.9
25-Jan	0	0	0	0	A	0	0	0	4	1	2	3	2	3	2	2	1	1	0	0	0	0	0	0	1.0	3.5
26-Jan	0	0	0	0	A	0	0	0	0	1	1	2	3	3	3	1	1	0	0	0	0	0	0	0	0.7	2.9
27-Jan	0	0	0	0	A	0	0	0	0	0	1	1	5	5	5	3	1	1	1	0	0	0	0	0	1.1	5.0
28-Jan	0	0	0	0	A	0	0	0	1	C	C	C	C	C	C	C	1	1	1	1	0	0	0	0	--	1.1
29-Jan	0	0	0	0	A	0	0	0	3	7	9	4	2	1	2	2	1	1	0	0	0	0	0	0	1.5	9.1
30-Jan	0	1	0	0	A	0	0	96	0	1	2	3	3	2	2	2	2	1	0	0	1	0	1	2	5.3	96.3
31-Jan	1	0	0	0	A	0	7	3	2	6	8	9	11	18	27	33	31	13	0	0	0	0	0	0	7.4	33.4
	0.2	0.5	0.2	0.2	--	0.2	12.6	10.0	1.9	1.6	5.1	10.1	6.1	4.8	5.6	4.4	4.1	3.0	0.9	2.8	3.0	0.6	1.0	0.6	Diurnal Average	
	0.7	5.8	1.8	1.2	--	0.6	278.7	104.2	16.5	12.2	30.9	165.5	39.6	17.8	42.0	33.4	34.5	33.9	13.7	72.5	79.9	7.6	18.3	9.7	Diurnal Maximum	

C - Calibration

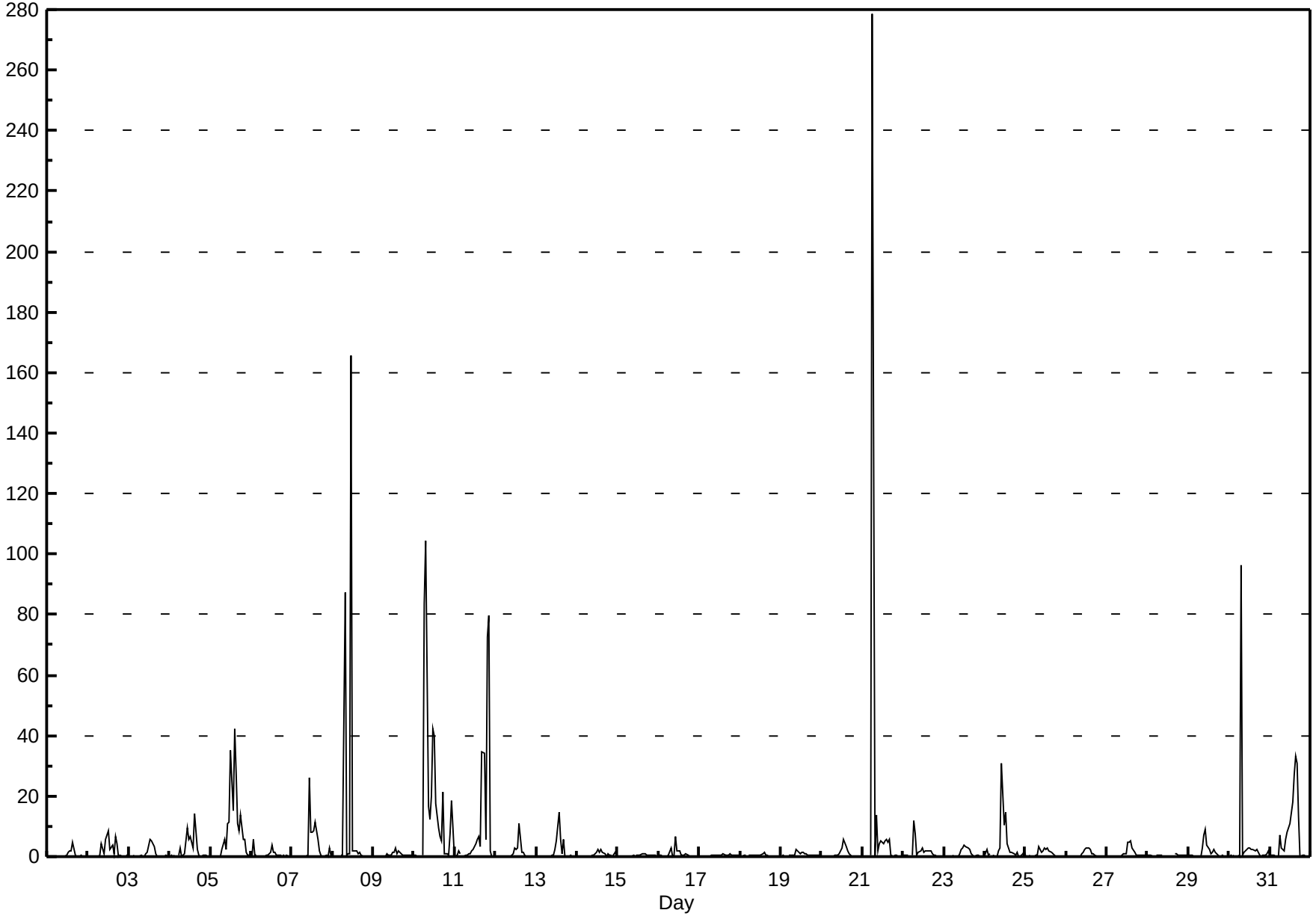
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Beaverlodge - January 2013



Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 48.6 ppb on Jan 31 16:00 Maximum Daily Average: 17.5 ppb on Jan 5

Minimum Value: 0 ppb on Jan 15 03:00 Minimum Daily Average: 1.7 ppb on Jan 18
Maximum Diurnal Average: 8.9 ppb at hour 15 Minimum Diurnal Average: 4.0 ppb at hour 1
Monthly Average: 6.28 ppb Percentiles: $P_1 = 0.5$ $P_{10} = 1.2$ $Q_1 = 2.2$ Median = 4.3 $Q_3 = 8.1$ $P_{90} = 13.6$ $P_{99} = 34.4$

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	38
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	0	0	1	A	1	1	1	1	1	1	1	2	4	3	6	5	2	2	2	2	2	1	2	1.8	6.3
2-Jan	2	2	2	2	A	4	10	6	10	9	12	13	15	11	11	7	15	13	10	9	6	7	3	1	7.7	14.9
3-Jan	3	1	1	2	A	2	3	13	4	3	3	3	8	10	11	9	7	9	4	3	4	12	15	9	6.1	14.6
4-Jan	7	13	11	14	A	10	10	12	12	10	17	8	6	10	8	12	5	4	2	5	2	1	3	1	8.0	17.3
5-Jan	2	1	2	3	A	4	5	9	15	10	22	11	19	11	46	38	31	31	39	30	22	19	18	15	17.5	45.8
6-Jan	13	27	19	14	A	12	6	4	3	2	2	4	6	2	1	1	2	2	3	5	4	4	2	3	6.0	26.6
7-Jan	2	1	1	2	A	3	3	2	2	3	20	15	16	23	25	16	17	15	9	5	2	1	1	1	8.1	24.8
8-Jan	1	1	1	1	A	2	1	3	1	2	2	15	1	1	1	4	7	5	4	5	4	2	1	1	2.8	14.5
9-Jan	1	1	2	2	A	4	4	6	4	4	4	3	4	5	3	3	3	4	5	5	7	9	5	5	4.1	9.1
10-Jan	5	5	4	4	A	8	9	21	17	21	18	35	28	18	15	10	19	15	10	14	14	20	21	18	15.1	34.7
11-Jan	11	13	14	18	A	11	9	10	7	6	6	6	7	7	7	5	17	20	7	30	41	8	5	3	11.7	41.3
12-Jan	3	2	3	3	A	3	2	2	2	1	3	4	4	5	8	5	9	6	3	5	6	5	8	3	4.3	8.8
13-Jan	5	3	2	3	A	2	1	1	2	3	3	3	10	18	5	3	3	2	4	6	6	5	3	2	4.2	17.8
14-Jan	2	2	2	3	A	2	1	2	4	5	2	3	3	2	2	2	2	1	1	1	1	1	1	1	2.0	5.1
15-Jan	0	0	0	0	A	1	1	1	1	1	1	1	4	10	16	10	10	8	3	4	3	1	1	1	3.4	16.1
16-Jan	1	1	1	1	A	3	2	2	2	2	5	4	3	2	1	1	4	8	13	8	5	5	3	4	3.4	13.2
17-Jan	4	6	5	3	A	4	1	2	2	1	1	1	1	4	1	1	1	1	1	3	3	1	1	1	2.1	5.6
18-Jan	0	0	1	1	A	1	1	1	1	1	2	2	2	2	4	2	2	2	2	2	3	3	3	3	1.7	3.7
19-Jan	5	4	3	4	A	3	4	5	5	15	6	3	3	3	2	2	2	3	3	3	2	5	5	3	4.0	15.3
20-Jan	3	2	3	2	A	3	2	2	3	4	5	4	6	10	6	5	5	5	5	4	5	4	4	5	4.2	10.1
21-Jan	5	6	4	4	A	4	11	9	13	10	9	9	8	10	11	9	13	12	16	9	8	11	9	6	8.9	16.1
22-Jan	6	6	6	6	A	7	25	21	12	9	8	6	4	5	6	8	11	11	9	7	3	2	1	2	7.9	24.9
23-Jan	2	1	1	1	A	3	3	3	5	7	8	9	10	9	8	9	7	6	6	5	6	7	7	9	5.7	9.7
24-Jan	7	11	10	12	A	7	5	6	7	9	11	9	12	7	4	3	3	3	6	2	2	2	1	11	6.6	11.9
25-Jan	6	6	4	4	A	5	11	5	7	5	3	5	3	3	3	2	2	3	4	4	2	2	3	2	4.0	10.7
26-Jan	2	2	3	4	A	3	12	3	8	7	5	4	6	7	5	3	4	5	4	4	3	3	3	2	4.5	11.6
27-Jan	2	3	3	2	A	3	3	3	5	5	4	3	6	7	8	5	7	8	9	5	4	5	7	5	4.9	8.9
28-Jan	4	4	3	3	A	5	3	3	5	C	C	C	C	C	C	C	3	5	3	3	4	4	3	2	--	5.2
29-Jan	2	3	2	4	A	10	4	6	10	13	12	7	3	2	3	4	5	6	5	6	5	4	3	3	5.4	13.4
30-Jan	5	8	7	8	A	7	5	8	6	6	8	8	6	5	5	5	6	7	8	7	8	9	15	20	7.7	20.4
31-Jan	14	11	12	11	A	12	23	26	18	15	17	18	19	26	35	49	37	14	9	10	2	1	2	2	16.5	48.6
	4.0	4.7	4.3	4.5	--	4.8	5.8	6.4	6.3	6.3	7.3	7.2	7.4	7.9	8.9	8.0	8.5	7.7	6.7	6.8	6.1	5.2	5.1	4.7	Diurnal Average	
	13.7	26.6	19.1	17.8	--	12.3	24.9	25.6	17.8	20.8	21.6	34.7	27.6	25.9	45.8	48.6	36.7	31.1	39.2	30.0	41.3	19.8	20.7	20.4	Diurnal Maximum	

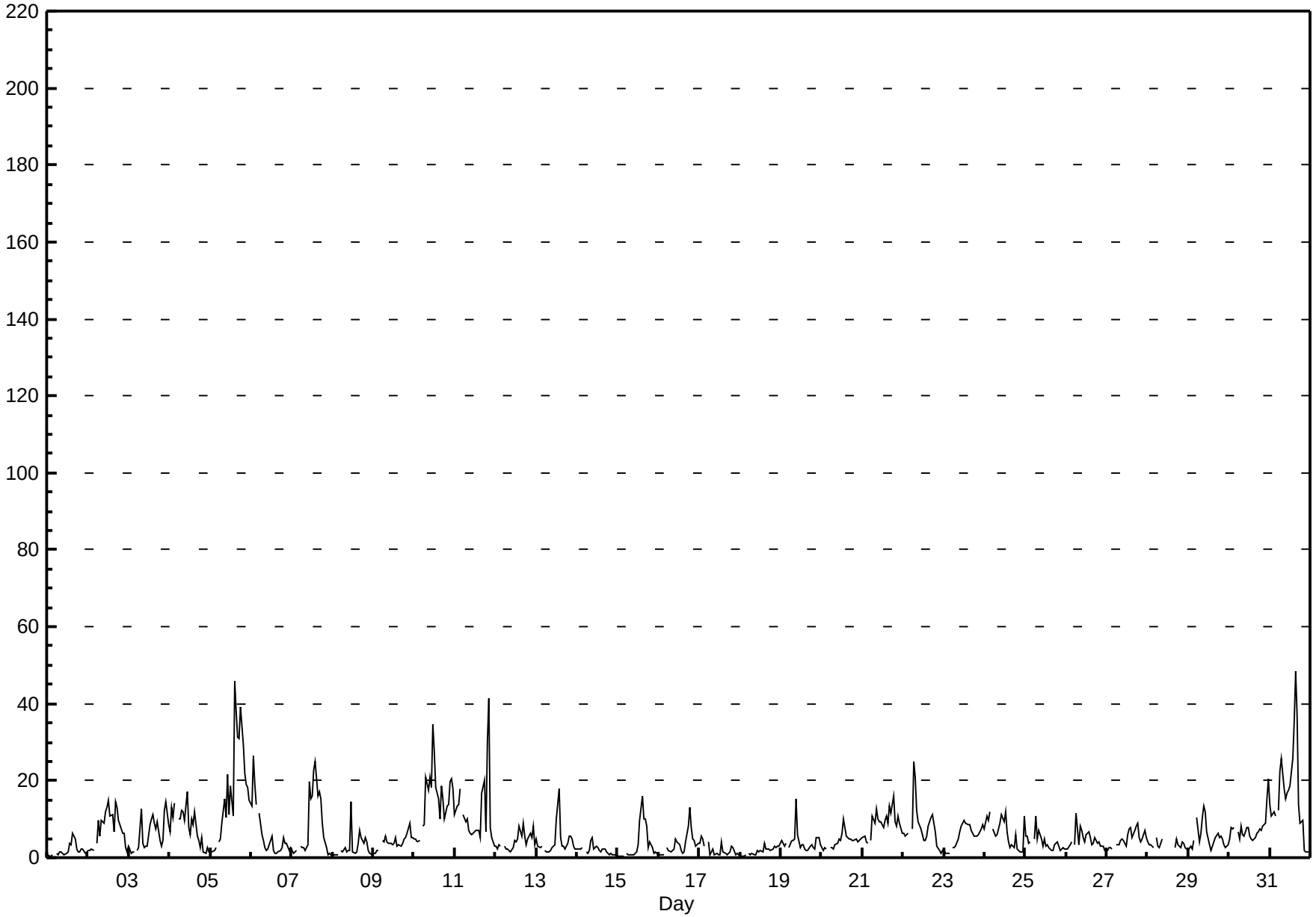
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - January 2013



Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - January 2013

Maximum Value: 434.3 ppb on Jan 8 12:00

Maximum Daily Average: 42.2 ppb on Jan 10

Minimum Value: 1 ppb on Jan 15 04:00

Minimum Daily Average: 3.3 ppb on Jan 18

Maximum Diurnal Average: 26.9 ppb at hour 12

Minimum Diurnal Average: 6.2 ppb at hour 1

Monthly Average: 13.27 ppb

Percentiles: P_1 = 1.1 P_{10} = 2.7 Q_1 = 4.3 Median = 7.4 Q_3 = 14.4 P_{90} = 27.5 P_{99} = 61.8

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	38
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jan	1	1	1	3	A	2	2	3	3	2	2	2	5	8	11	24	10	3	3	3	4	11	2	2	4.6	23.5
2-Jan	2	2	3	2	A	6	15	9	33	24	28	26	30	15	17	9	42	40	25	31	19	13	5	5	17.4	42.2
3-Jan	11	4	5	8	A	5	9	26	11	8	9	8	22	23	20	16	21	19	6	4	13	22	32	11	13.6	31.7
4-Jan	10	22	18	20	A	13	32	22	24	14	33	19	15	18	12	42	14	10	6	10	5	3	5	2	16.0	41.6
5-Jan	2	3	4	5	A	7	6	34	44	19	35	31	69	38	75	58	42	44	51	41	39	34	22	20	31.3	74.6
6-Jan	16	34	24	20	A	15	11	5	5	3	3	7	11	5	5	4	5	5	11	10	7	14	5	5	10.0	33.9
7-Jan	3	2	2	2	A	4	4	4	3	8	64	26	24	30	35	27	20	18	14	8	6	3	11	3	13.9	64.1
8-Jan	1	2	1	2	A	4	4	28	5	7	6	434	6	6	6	8	17	10	10	17	9	4	3	1	25.7	434.3
9-Jan	3	2	3	5	A	6	5	12	7	6	5	6	6	11	5	7	5	6	7	6	11	14	7	7	6.7	14.4
10-Jan	6	6	5	5	A	13	72	343	35	31	36	64	56	29	20	16	23	48	15	19	20	33	44	34	42.2	343.5
11-Jan	13	17	21	24	A	15	18	20	15	9	7	7	10	13	17	12	70	74	35	113	119	24	10	5	29.0	119.4
12-Jan	4	4	6	7	A	5	4	6	3	3	5	11	8	10	32	8	13	10	6	9	12	10	11	7	8.4	32.1
13-Jan	11	8	3	14	A	3	4	5	4	4	6	9	18	36	21	5	20	3	6	7	10	6	4	3	9.2	35.9
14-Jan	3	4	4	4	A	3	2	5	9	8	6	7	10	5	7	7	8	3	7	4	4	2	8	2	5.3	9.8
15-Jan	1	2	1	1	A	2	3	1	2	4	6	10	21	36	38	38	36	32	16	22	18	3	15	3	13.6	38.3
16-Jan	2	2	1	1	A	4	3	9	3	6	28	11	7	4	2	3	10	22	17	12	8	9	4	5	7.7	27.9
17-Jan	7	8	8	3	A	6	2	4	6	4	4	2	5	10	5	5	2	5	6	14	17	3	9	2	5.9	17.1
18-Jan	2	1	2	3	A	3	2	3	3	3	5	2	3	3	7	4	5	3	3	4	5	4	4	4	3.3	6.6
19-Jan	9	8	5	5	A	5	8	6	7	24	14	4	5	5	3	3	3	5	6	4	4	7	8	4	6.6	23.8
20-Jan	4	3	3	3	A	4	4	3	5	4	6	6	8	14	8	7	5	6	5	5	6	5	5	6	5.5	13.7
21-Jan	6	7	6	4	A	10	197	14	42	14	18	13	10	13	15	19	21	15	23	13	11	17	14	8	22.2	197.2
22-Jan	8	7	8	10	A	13	45	40	16	12	10	10	5	6	8	10	13	15	10	10	4	4	2	3	11.7	45.3
23-Jan	3	2	1	1	A	4	3	4	7	11	10	11	11	11	10	11	10	10	7	7	10	7	11	11	7.5	11.5
24-Jan	9	28	21	24	A	12	8	7	11	12	46	20	26	10	8	8	8	9	19	9	6	4	21	35	15.7	46.4
25-Jan	9	7	5	20	A	16	19	9	25	9	7	8	6	8	7	5	4	11	6	13	4	4	4	3	9.2	24.8
26-Jan	2	3	4	5	A	5	23	6	16	11	7	8	8	8	8	4	5	7	7	12	10	4	6	3	7.5	23.3
27-Jan	2	3	4	3	A	5	5	4	6	6	6	4	15	12	16	11	12	17	15	7	7	7	8	6	7.9	17.0
28-Jan	5	4	4	3	A	8	4	4	7	C	C	C	C	C	C	C	12	6	6	3	5	5	3	3	--	11.8
29-Jan	3	4	2	6	A	13	7	11	28	22	25	9	5	3	5	6	7	8	7	7	7	5	3	5	8.6	27.8
30-Jan	9	15	9	11	A	9	6	98	8	7	10	8	6	6	6	6	9	10	9	8	12	19	22	25	14.3	97.5
31-Jan	24	15	16	13	A	14	36	29	27	19	20	20	22	33	47	56	60	37	13	15	8	3	3	5	23.3	59.9
	6.2	7.3	6.5	7.6	--	7.5	18.2	25.0	13.5	10.4	15.5	26.9	15.2	14.2	15.8	14.7	17.2	16.5	12.1	14.4	13.6	9.8	10.1	7.7	Diurnal Average	
	24.1	33.9	24.0	23.9	--	15.8	197.2	343.5	44.2	30.7	64.1	434.3	68.6	38.0	74.6	58.3	70.1	73.7	50.6	112.8	119.4	34.0	44.4	35.3	Diurnal Maximum	

C - Calibration

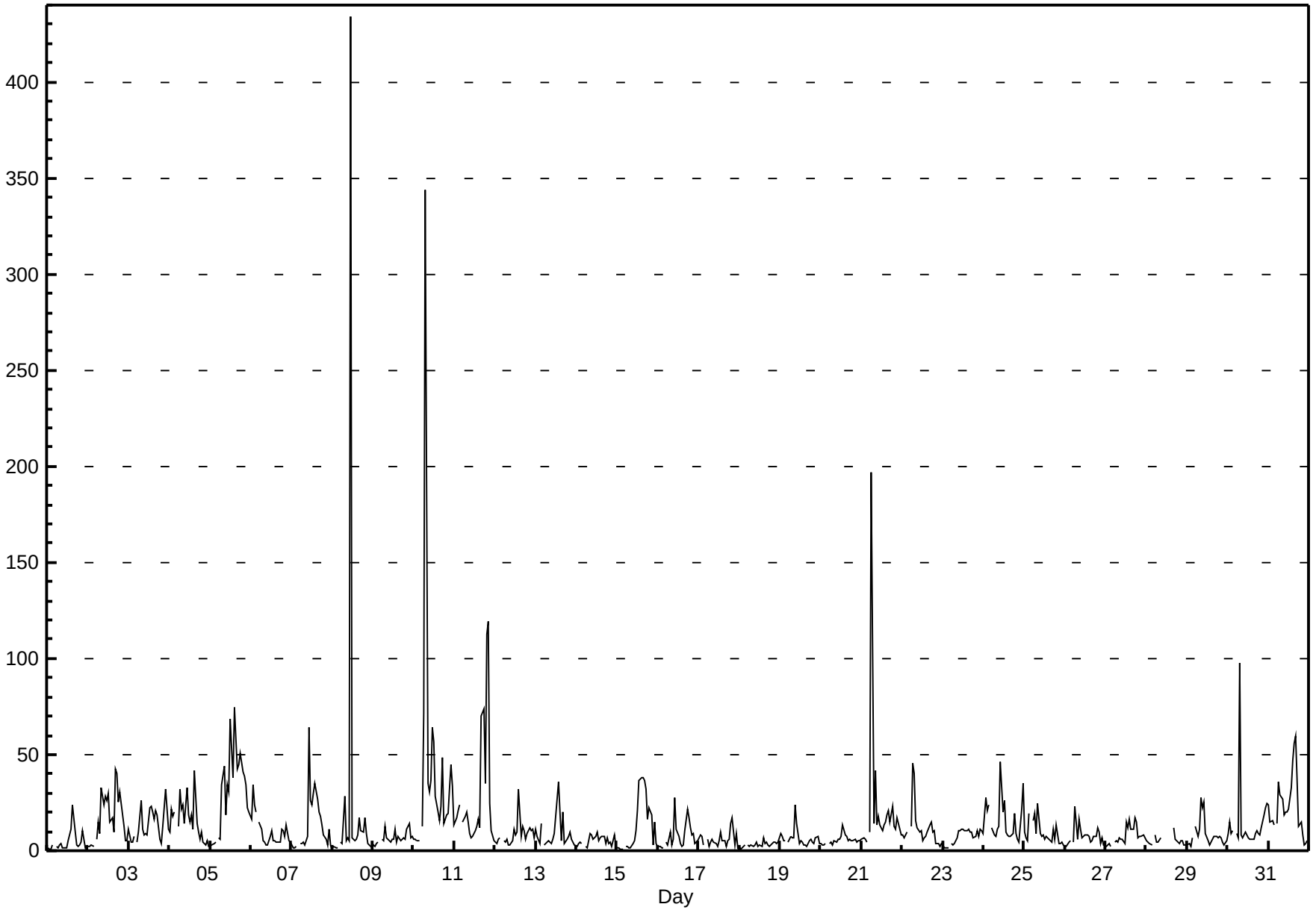
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Beaverlodge - January 2013

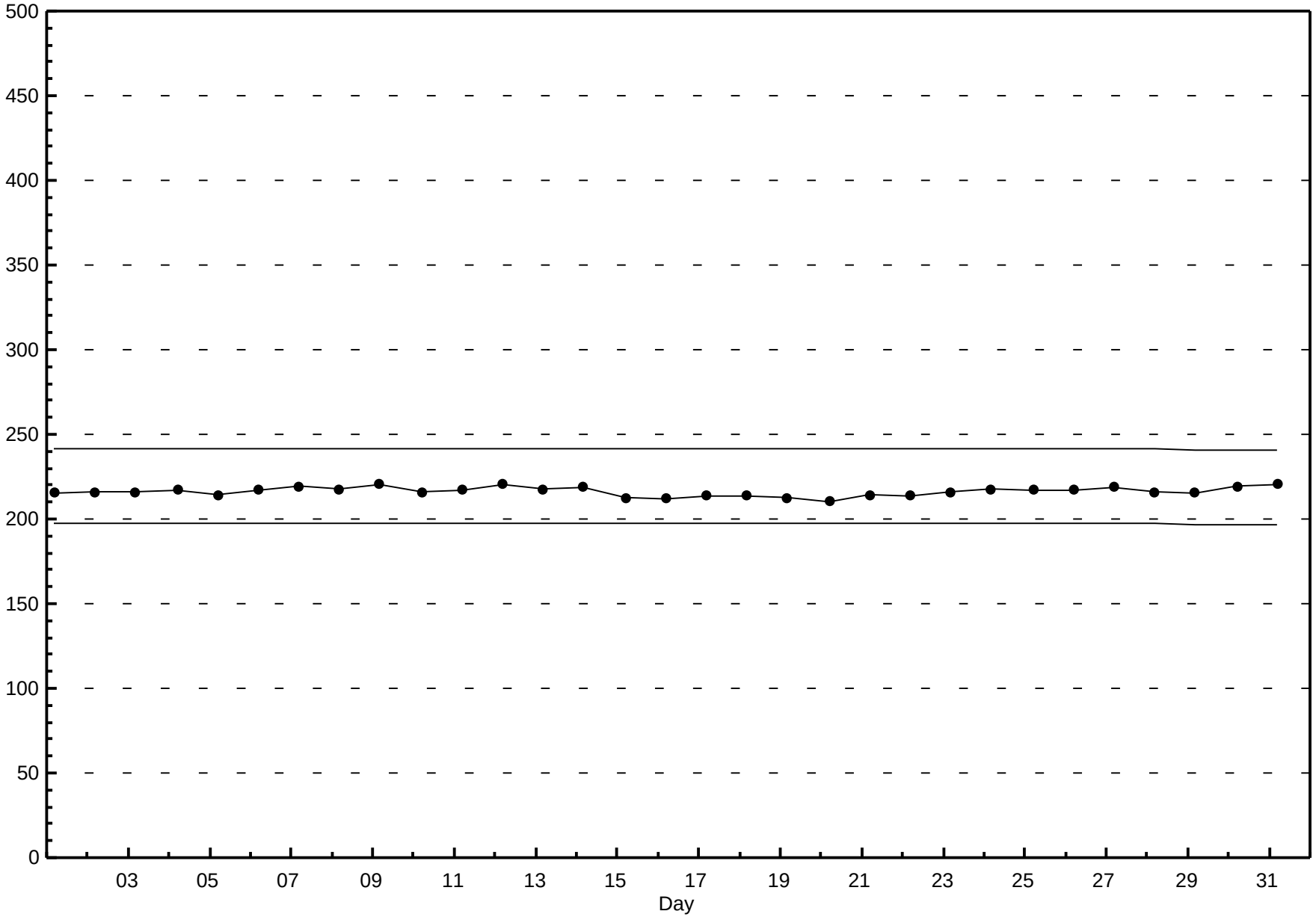


Peace Airshed Zone Association

Span Responses

Oxides of Nitrogen (NO_X)

Beaverlodge - January 2013



Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Beaverlodge - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 48.6 ppb on Jan 3 06:00 Maximum Daily Average: 42.0 ppb on Jan 15

Minimum Value: 4 ppb on Jan 5 19:00 Minimum Daily Average: 12.4 ppb on Jan 10
Maximum Diurnal Average: 32.8 ppb at hour 16 Minimum Diurnal Average: 30.0 ppb at hour 9
Monthly Average: 31.49 ppb Percentiles: P_1 = 6.7 P_{10} = 18.3 Q_1 = 26.1 Median = 33.1 Q_3 = 38.6 P_{90} = 41.0 P_{99} = 44.5

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

Day	Hourly Period Ending At (MST)																								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-Jan	40	40	40	41	A	41	42	41	41	41	42	42	42	40	40	38	38	41	41	41	40	41	42	42	40.7	42.2
2-Jan	41	41	41	41	A	39	32	36	32	32	31	31	28	32	32	37	29	31	34	37	40	39	45	46	36.0	46.3
3-Jan	45	48	48	49	A	49	46	36	44	45	45	45	40	39	38	38	39	36	40	41	40	31	28	32	40.9	48.6
4-Jan	34	26	29	23	A	27	28	25	24	27	24	33	35	31	34	32	38	39	40	37	39	40	38	39	32.2	40.2
5-Jan	39	39	38	36	A	35	33	29	23	26	20	28	27	33	14	11	10	9	4	7	12	16	15	19	22.6	38.9
6-Jan	20	6	10	14	A	19	30	32	37	39	38	37	36	40	40	40	39	39	38	36	37	37	38	38	32.1	39.9
7-Jan	38	39	39	39	A	38	38	39	40	39	27	30	27	24	22	26	22	22	27	30	34	39	40	40	33.0	40.0
8-Jan	40	40	40	40	A	40	41	40	40	40	40	41	42	42	42	40	37	38	39	38	38	41	41	41	40.0	41.9
9-Jan	41	41	40	40	A	36	37	34	36	37	37	37	37	35	36	34	31	29	28	26	22	16	17	17	32.2	41.0
10-Jan	17	17	18	18	A	14	15	11	6	6	11	10	14	15	15	17	10	11	14	11	11	7	7	8	12.4	17.6
11-Jan	12	11	11	7	A	14	17	18	25	27	29	31	31	32	33	34	28	23	32	23	11	32	35	37	24.1	37.1
12-Jan	36	38	37	37	A	37	38	38	38	39	38	37	37	37	35	36	32	35	37	36	34	34	31	36	36.3	38.7
13-Jan	34	36	36	35	A	37	37	37	37	36	36	37	32	28	36	38	38	38	36	33	33	34	36	37	35.5	38.1
14-Jan	37	37	37	36	A	38	37	37	34	34	37	37	38	38	38	37	37	38	38	38	38	38	38	38	37.1	38.2
15-Jan	38	39	40	40	A	42	42	42	43	43	43	44	43	41	39	42	41	43	44	43	44	44	43	43	42.0	44.3
16-Jan	42	42	41	40	A	37	37	38	38	38	36	36	35	38	40	40	37	33	27	33	36	35	36	34	36.9	41.8
17-Jan	33	29	29	31	A	27	38	38	37	40	40	42	42	39	42	42	43	42	42	40	41	42	42	43	38.4	43.0
18-Jan	43	43	43	43	A	43	42	43	43	43	40	39	41	37	33	34	33	33	34	33	32	32	31	31	37.8	43.3
19-Jan	29	30	31	29	A	31	28	28	28	18	28	31	30	29	31	32	33	31	30	29	29	27	27	29	29.0	32.5
20-Jan	30	31	30	30	A	30	31	31	29	29	29	30	30	29	31	30	30	29	29	28	28	28	28	27	29.2	30.8
21-Jan	26	25	26	26	A	26	27	21	18	21	22	24	25	25	24	25	21	21	17	22	24	21	22	25	23.2	26.7
22-Jan	24	24	25	24	A	22	9	12	17	20	25	26	28	29	29	27	24	23	24	28	32	34	38	36	25.3	38.3
23-Jan	35	36	36	35	A	31	30	29	28	26	26	26	27	28	28	28	28	28	28	27	25	24	22	20	28.2	36.4
24-Jan	21	18	20	17	A	20	21	20	17	17	21	25	26	32	38	41	40	39	35	39	40	39	40	28	28.4	40.6
25-Jan	33	32	35	36	A	34	25	29	27	32	37	37	38	39	41	42	42	41	40	39	42	41	40	40	36.7	42.3
26-Jan	40	40	39	38	A	39	27	36	30	33	36	38	37	38	39	38	38	36	39	38	39	39	39	39	37.1	40.1
27-Jan	39	39	38	38	A	38	37	36	34	34	35	37	34	34	33	34	32	29	20	21	23	22	19	20	31.6	39.4
28-Jan	21	22	22	24	A	22	24	24	22	23	23	25	25	C	C	C	27	25	25	25	23	24	27	29	24.1	28.9
29-Jan	30	29	30	28	A	24	29	26	23	22	25	30	32	33	31	31	29	28	28	28	28	29	30	29	28.3	33.1
30-Jan	28	25	24	23	A	25	27	26	26	26	26	26	28	28	28	28	25	23	22	22	21	20	14	10	24.1	28.5
31-Jan	15	17	16	16	A	14	8	4	10	14	16	17	18	17	15	14	13	23	29	29	39	39	39	39	20.0	39.3
	32.3	31.5	31.8	31.5	--	31.2	30.7	30.3	30.0	30.5	31.0	32.5	32.4	32.7	32.5	32.8	31.1	30.8	31.0	30.9	31.4	31.7	31.8	32.1	Diurnal Average	
	44.6	47.9	48.0	48.5	--	48.6	46.2	42.9	44.4	44.5	44.7	45.1	43.0	41.9	41.8	42.3	42.6	42.6	44.3	43.5	43.8	43.8	44.9	46.3	Diurnal Maximum	

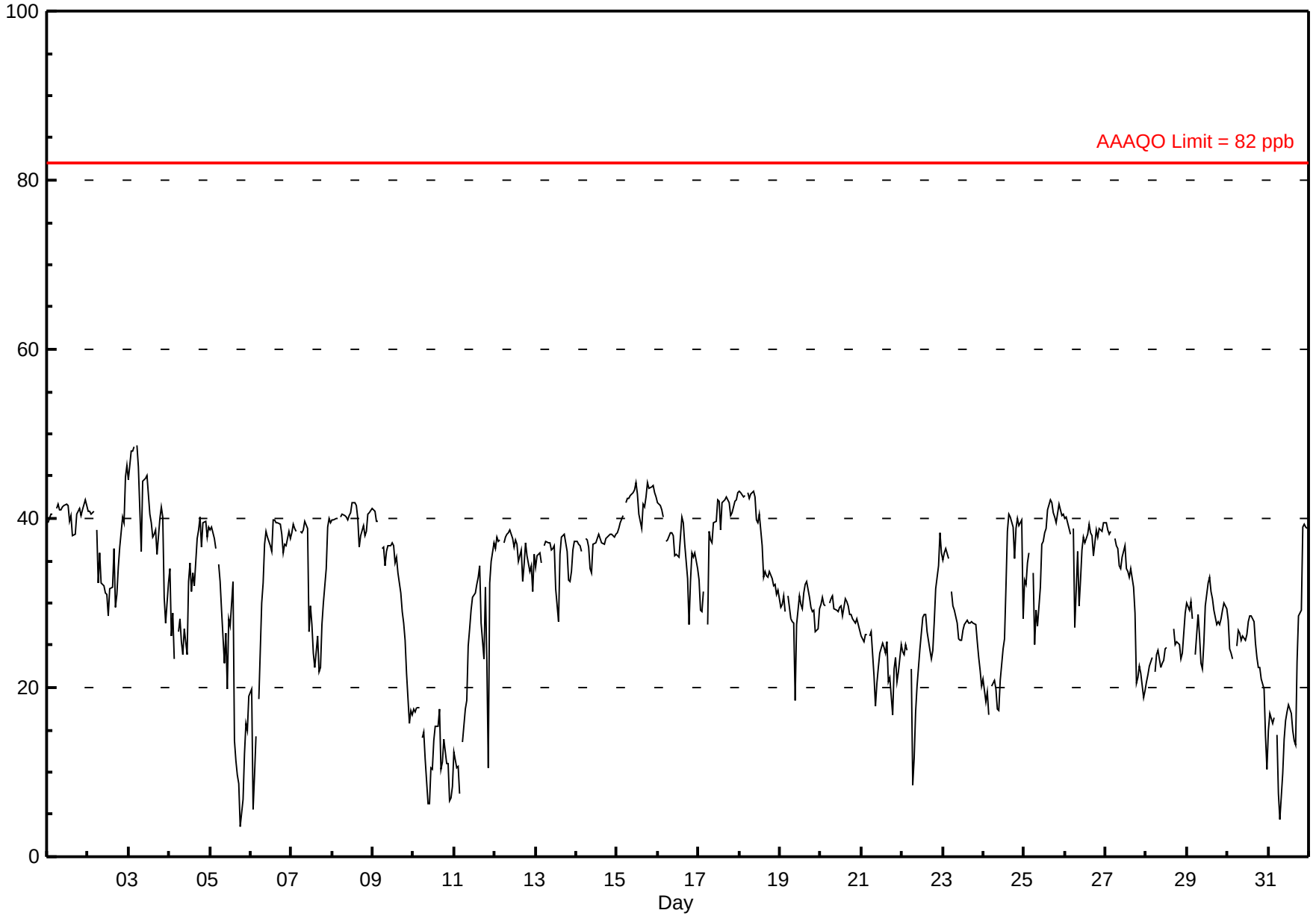
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na

Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Beaverlodge - January 2013



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Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

Beaverlodge - January 2013

Maximum Value: 50.4 ppb on Jan 3 04:00

Maximum Daily Average: 43.9 ppb on Jan 3

Minimum Value: 7 ppb on Jan 31 08:00

Minimum Daily Average: 15.5 ppb on Jan 10

Maximum Diurnal Average: 35.2 ppb at hour 14

Minimum Diurnal Average: 32.6 ppb at hour 9

Monthly Average: 33.74 ppb

Percentiles: P_1 = 13.0 P_{10} = 21.6 Q_1 = 28.5 Median = 36.1 Q_3 = 40.2 P_{90} = 42.7 P_{99} = 47.1

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	40	41	41	42	A	42	44	42	42	42	42	42	42	42	42	41	41	41	42	42	42	42	43	42	41.8	43.9
2-Jan	41	41	41	41	A	40	38	38	38	37	36	36	34	34	35	38	38	38	41	45	44	45	47	47	39.9	47.2
3-Jan	46	50	49	50	A	50	48	43	47	46	47	47	45	45	42	41	43	40	41	42	43	35	34	34	43.9	50.4
4-Jan	37	34	34	28	A	29	33	30	30	30	30	35	36	33	35	38	41	41	41	41	41	41	39	40	35.5	41.4
5-Jan	40	40	39	39	A	35	34	33	32	30	26	30	32	38	29	18	16	17	9	17	22	23	24	26	28.2	39.9
6-Jan	25	18	13	17	A	28	35	35	39	39	38	39	38	41	40	40	40	40	40	39	39	39	40	39	34.9	40.9
7-Jan	40	40	40	39	A	39	39	40	40	41	38	34	30	28	31	34	25	25	32	32	37	41	41	40	35.9	40.8
8-Jan	40	41	41	41	A	41	42	42	42	41	42	42	43	43	43	42	41	41	42	42	42	41	42	42	41.6	42.8
9-Jan	42	42	40	41	A	37	38	37	38	38	38	38	37	37	36	36	32	31	28	28	24	18	18	18	33.6	41.7
10-Jan	18	18	18	18	A	16	16	15	13	9	12	16	17	18	17	19	15	16	15	14	14	15	14	13	15.5	19.4
11-Jan	14	14	14	11	A	18	20	26	28	28	30	31	32	34	34	36	36	35	34	35	28	35	37	39	28.2	38.6
12-Jan	38	39	39	39	A	38	38	40	39	39	39	38	38	38	38	37	36	37	38	37	37	38	35	37	38.0	39.8
13-Jan	37	37	37	36	A	38	38	38	38	38	38	38	38	37	39	39	39	39	37	35	33	35	38	38	37.4	39.1
14-Jan	38	38	38	38	A	38	38	37	36	36	39	38	39	39	39	38	38	39	39	39	39	39	38	39	38.2	39.4
15-Jan	39	39	40	41	A	42	43	43	43	44	44	45	45	44	45	45	45	45	45	45	45	44	44	43	43.6	45.4
16-Jan	42	42	42	41	A	40	39	39	39	39	39	37	36	41	41	40	40	40	33	35	38	37	37	36	38.9	42.5
17-Jan	35	32	31	33	A	37	39	39	40	41	41	43	44	44	43	43	43	43	43	43	43	43	43	43	40.5	43.9
18-Jan	44	44	43	44	A	44	43	44	44	43	43	42	41	40	35	35	34	34	34	35	33	33	33	33	39.1	43.9
19-Jan	32	32	32	31	A	32	32	29	29	26	31	32	31	31	32	33	33	32	31	30	30	28	30	30	30.8	33.0
20-Jan	31	32	30	31	A	31	32	32	31	30	30	31	31	30	31	31	31	30	29	29	29	29	28	28	30.1	31.5
21-Jan	27	26	27	27	A	29	28	27	22	24	25	26	26	26	26	27	23	24	20	24	25	25	26	26	25.4	28.5
22-Jan	26	26	26	25	A	25	25	19	20	25	28	29	29	29	30	28	26	26	25	31	32	40	40	36	28.1	39.9
23-Jan	36	37	37	36	A	32	31	30	30	27	27	27	28	28	29	29	29	29	29	28	27	25	24	22	29.4	37.4
24-Jan	23	22	23	21	A	22	22	21	19	20	24	29	30	37	41	42	43	41	40	41	41	41	41	37	31.3	42.9
25-Jan	36	34	36	39	A	36	29	30	29	36	39	39	40	41	44	43	43	43	42	43	43	42	42	41	38.7	43.8
26-Jan	41	41	40	39	A	40	40	38	33	35	37	39	39	39	41	39	39	37	41	40	41	39	39	40	39.0	40.9
27-Jan	40	39	39	39	A	38	38	37	36	35	36	37	37	36	35	36	35	32	26	23	24	24	20	21	33.3	39.9
28-Jan	21	23	23	25	A	24	25	25	24	24	25	25	25	C	C	C	28	26	27	26	25	26	28	31	25.2	30.7
29-Jan	31	30	31	31	A	27	30	29	29	29	29	32	34	34	33	31	30	29	29	29	29	30	30	30	30.3	34.2
30-Jan	30	27	26	27	A	26	28	27	27	27	27	27	29	29	29	29	27	25	23	23	22	22	18	13	25.6	30.0
31-Jan	19	18	18	18	A	17	14	7	14	15	17	18	19	19	17	15	22	31	34	34	40	40	40	40	22.9	40.2
	33.8	33.4	33.2	33.1	--	33.3	33.5	32.7	32.6	32.8	33.4	34.3	34.4	35.2	35.0	34.9	34.0	33.8	33.3	33.8	33.9	34.0	33.9	33.7	Diurnal Average	
	45.9	49.8	49.4	50.4	--	49.8	48.3	43.9	47.4	46.3	46.5	47.2	45.4	44.7	45.4	45.4	45.4	45.4	45.4	44.9	44.6	44.9	46.5	47.2	Diurnal Maximum	

C - Calibration

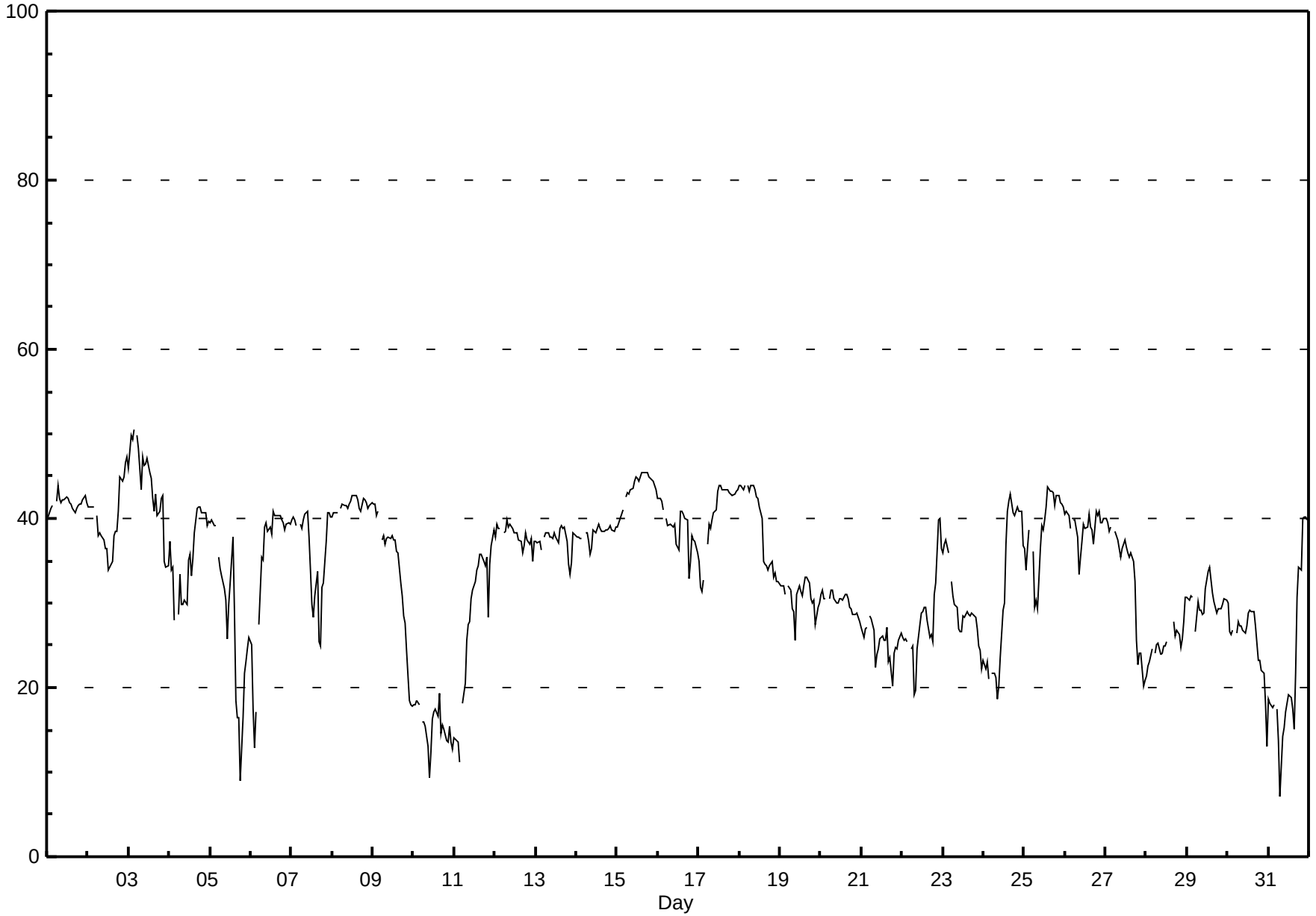
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

Beaverlodge - January 2013

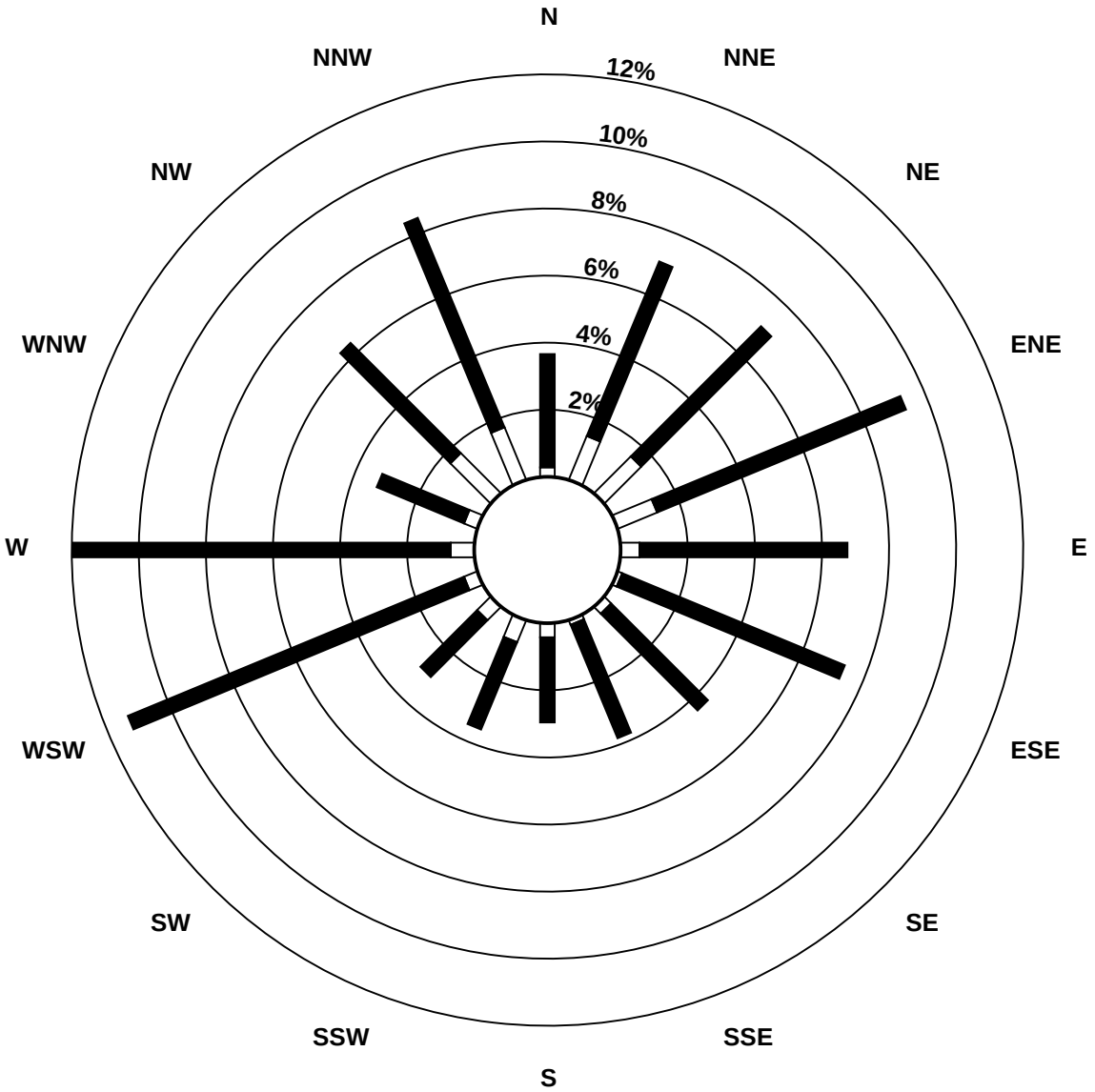


Peace Airshed Zone Association

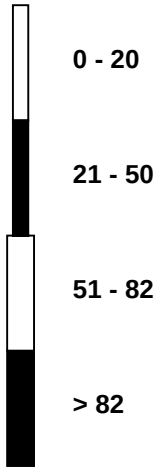
Pollutant Rose

Ozone (O_3) - ppb

Beaverlodge - January 2013



Pollutant Classes (ppb)



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Eight Hour Running Averages

Ozone (O_3) - ppb

Beaverlodge - January 2013

Maximum Value: 47.1 ppb on Jan 3 07:00

Minimum Value: 9.0 ppb on Jan 11 05:00

Percentiles: P_1 = 10.2 P_{10} = 19.5 Q_1 = 26.6 Median = 33.3 Q_3 = 38.2 P_{90} = 40.8 P_{99} = 44.8

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

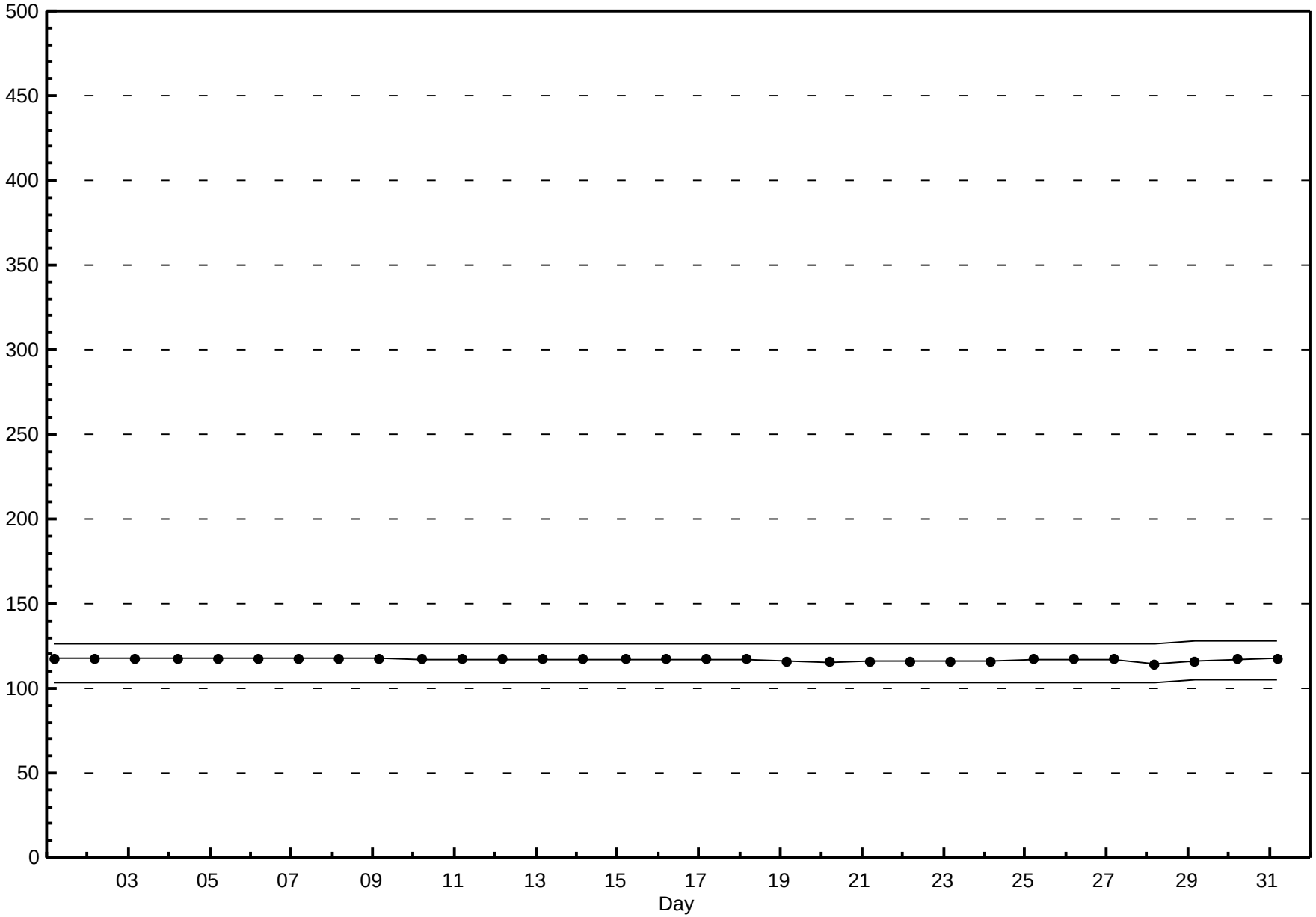
Day	Hourly Period Ending At (MST)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Jan	40	40	40	40	40	40	40	41	41	41	41	41	41	41	41	41	40	40	40	40	40	40	40	41	41.4
2-Jan	41	41	41	41	41	41	39	39	37	36	35	33	33	32	32	32	32	31	32	32	34	35	37	38	41.1
3-Jan	40	42	43	45	46	47	47	46	46	45	45	44	44	43	42	42	41	40	39	39	39	38	37	36	47.1
4-Jan	35	34	33	30	29	28	28	28	26	26	25	27	28	28	29	30	32	33	35	36	36	37	38	39	38.6
5-Jan	39	39	38	38	38	38	37	35	33	31	29	28	28	27	25	23	21	19	17	14	12	10	10	11	38.8
6-Jan	13	12	13	14	14	15	17	19	21	26	30	33	33	36	37	38	38	39	39	39	39	38	38	38	38.6
7-Jan	38	38	38	38	38	38	38	39	39	39	37	36	35	33	31	29	27	25	25	25	26	28	30	32	38.8
8-Jan	34	36	38	39	40	40	40	40	40	40	40	40	40	41	41	41	40	40	40	40	39	39	39	39	40.8
9-Jan	40	40	40	40	41	40	39	38	38	37	37	36	36	36	36	36	35	34	33	32	30	27	25	23	40.5
10-Jan	21	20	19	18	17	17	16	16	14	13	12	11	11	11	11	12	12	13	13	14	13	12	11	10	21.4
11-Jan	10	10	10	9	9	10	12	13	15	17	20	23	24	26	28	30	31	30	31	30	27	27	27	28	30.7
12-Jan	29	31	31	33	36	37	37	37	38	38	38	38	38	38	37	37	36	36	36	36	35	35	34	34	37.9
13-Jan	35	35	35	34	35	35	36	36	36	36	37	37	36	35	35	35	35	35	35	35	35	36	36	36	36.8
14-Jan	36	35	35	36	36	37	37	37	37	36	36	36	36	36	36	37	37	37	37	38	38	38	38	38	37.8
15-Jan	38	38	38	39	39	39	40	41	41	42	42	43	43	43	42	42	42	42	42	42	42	42	43	43	43.1
16-Jan	43	43	43	42	42	41	40	40	39	39	38	37	37	37	37	38	37	37	36	35	35	35	35	34	43.2
17-Jan	33	33	33	33	33	31	32	32	33	34	36	37	38	39	40	40	41	41	42	41	41	42	42	42	41.9
18-Jan	42	42	42	42	43	43	43	43	43	43	42	42	42	41	40	39	37	36	35	35	34	33	33	32	42.9
19-Jan	32	32	31	31	31	30	30	29	29	28	27	27	28	27	28	28	29	31	31	31	30	30	30	29	32.0
20-Jan	29	29	29	29	29	29	30	30	30	30	30	30	30	30	30	29	30	29	29	29	29	29	29	28	30.2
21-Jan	28	27	27	27	27	26	26	25	24	24	23	23	23	23	22	23	23	23	23	23	22	22	22	22	27.7
22-Jan	22	22	23	24	24	24	22	20	19	18	18	19	20	21	23	25	26	26	26	27	27	28	29	30	30.0
23-Jan	31	33	34	35	36	35	34	33	32	31	29	28	28	27	27	27	27	27	27	28	27	27	26	25	35.9
24-Jan	24	23	22	21	20	20	20	20	19	19	19	20	21	22	25	27	30	33	34	36	38	39	39	38	39.1
25-Jan	37	36	36	35	35	34	32	32	31	31	31	32	32	33	35	37	39	40	40	40	41	41	41	41	41.0
26-Jan	40	40	40	40	40	40	38	37	36	34	34	34	34	34	36	36	37	38	38	38	38	38	38	38	40.5
27-Jan	38	39	39	39	39	39	38	38	37	37	36	36	36	35	35	34	34	33	32	30	28	27	25	23	38.8
28-Jan	22	21	21	21	21	21	22	23	23	23	23	23	23	24	24	N	N	N	N	N	N	25	25	26	25.7
29-Jan	26	27	27	28	28	28	28	28	27	26	25	25	26	27	28	28	29	30	30	30	29	29	29	29	30.2
30-Jan	28	28	28	27	27	26	26	25	25	25	26	26	26	27	27	27	27	27	26	26	25	24	22	20	28.4
31-Jan	19	18	17	16	15	15	14	13	12	12	12	12	13	13	14	15	15	17	18	20	22	25	28	31	31.2
	43.2	43.0	43.5	45.0	45.7	47.0	47.1	45.7	45.7	45.2	44.7	44.2	43.8	42.7	42.3	42.2	42.0	42.0	42.1	42.0	42.1	42.5	43.0	43.1	
	Diurnal Maximums																								

N - Not Valid

Span Responses

Ozone (O_3)

Beaverlodge - January 2013



Peace Airshed Zone Association

Hourly Averages

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

Beaverlodge - January 2013

Number of Exceedences: 1-hr: 0 24-hr: 0
Maximum Value: 17.4 $\mu g/m^3$ on Jan 31 17:00
Maximum Daily Average: 10.6 $\mu g/m^3$ on Jan 31

Minimum Value: 0 $\mu g/m^3$ on Jan 14 09:00
Maximum Diurnal Average: 5.3 $\mu g/m^3$ at hour 21
Monthly Average: 4.96 $\mu g/m^3$
Minimum Daily Average: 2.9 $\mu g/m^3$ on Jan 8
Minimum Diurnal Average: 4.6 $\mu g/m^3$ at hour 7
Percentiles: P_1 = 0.4 P_{10} = 2.2 Q_1 = 3.0 Median = 4.2 Q_3 = 6.2 P_{90} = 8.8 P_{99} = 13.6

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)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	6	5	4	3	3	3	2	2	3	2	4	4	2	4	5	3	1	3	5	6	3	2	1	3	3.4	5.8
2-Jan	2	4	3	4	3	2	4	3	2	3	5	3	4	6	4	1	3	4	3	3	3	3	3	4	3.3	6.1
3-Jan	3	2	3	6	4	2	4	5	3	4	4	3	4	4	4	4	3	5	6	5	4	4	4	6	4.0	5.9
4-Jan	4	7	8	12	12	13	8	12	7	8	9	11	7	6	6	6	5	2	3	4	4	4	3	4	6.9	12.9
5-Jan	2	2	3	4	5	6	7	8	7	10	11	10	6	6	7	14	12	12	12	13	11	11	9	12	8.3	13.5
6-Jan	14	15	16	14	9	10	8	5	4	4	2	2	2	3	2	3	3	3	2	1	2	2	3	3	5.5	16.5
7-Jan	3	3	5	5	3	3	3	3	2	3	3	4	4	6	7	7	7	7	4	3	3	3	3	3	4.1	7.5
8-Jan	3	4	2	3	3	3	2	3	3	3	2	2	3	3	2	4	5	3	3	4	3	3	3	1	2.9	4.6
9-Jan	2	3	3	5	6	3	4	6	5	5	7	5	5	5	4	3	3	3	3	5	5	4	4	5	4.3	6.9
10-Jan	6	6	6	5	3	5	3	6	5	4	5	6	7	9	9	6	6	7	6	6	6	9	9	8	6.2	9.3
11-Jan	8	8	10	9	9	6	6	7	5	4	3	2	1	0	1	2	1	5	4	4	9	9	3	5	5.0	9.8
12-Jan	5	3	3	1	3	3	2	2	3	3	2	5	4	3	2	2	4	5	4	4	4	4	4	7	3.4	6.6
13-Jan	5	4	3	3	4	3	4	4	1	2	4	2	4	4	4	5	1	5	4	4	3	4	1	4	3.4	5.4
14-Jan	3	4	1	1	1	2	1	3	0	3	2	3	3	3	1	3	3	2	4	5	5	6	6	5	2.9	6.4
15-Jan	4	4	3	4	2	3	3	2	4	4	6	3	0	3	7	7	2	3	3	5	5	3	4	6	3.8	7.4
16-Jan	6	6	5	4	4	5	3	5	6	3	3	5	3	4	6	4	4	4	6	4	4	5	6	5	4.5	6.4
17-Jan	5	7	8	6	7	7	3	3	3	4	5	4	5	5	8	5	5	5	4	3	3	3	3	3	4.6	7.6
18-Jan	3	3	3	4	4	5	5	3	4	4	3	4	4	2	3	3	0	1	0	5	7	6	7	4	3.6	7.4
19-Jan	2	4	3	5	5	4	5	7	6	6	7	4	4	6	4	4	4	3	3	4	3	3	2	2	4.1	7.2
20-Jan	0	2	2	2	2	1	0	1	0	1	4	4	2	3	4	5	6	5	3	6	4	4	5	4	3.0	6.2
21-Jan	3	5	4	4	4	2	4	4	5	7	5	7	6	4	7	9	10	9	12	11	10	8	11	6	6.5	11.6
22-Jan	7	7	8	8	8	9	6	9	11	10	11	11	7	9	9	10	10	6	5	4	6	6	2	3	7.6	11.5
23-Jan	4	4	4	2	2	2	3	4	8	8	9	8	8	10	9	9	8	7	7	7	7	7	7	7	6.3	10.0
24-Jan	8	10	13	11	9	10	10	9	7	5	6	6	7	7	5	4	8	6	5	4	8	5	3	5	7.2	13.4
25-Jan	6	7	7	5	5	5	6	6	6	3	4	7	7	5	3	1	2	3	3	1	2	2	2	3	4.2	7.1
26-Jan	2	3	3	2	4	5	4	4	4	3	2	4	3	3	4	3	3	4	3	3	3	4	4	5	3.4	5.3
27-Jan	4	3	4	5	4	2	3	4	5	4	3	2	3	4	4	5	4	5	6	6	8	6	7	8	4.6	7.9
28-Jan	8	6	8	7	7	5	6	6	5	3	5	4	4	6	5	4	M	3	6	4	8	N	2	3	5.2	8.4
29-Jan	1	2	4	2	N	3	4	3	3	7	7	3	5	2	3	4	4	7	8	5	7	7	5	5	4.4	7.7
30-Jan	3	3	1	8	5	8	8	6	6	5	2	6	8	8	6	7	6	6	7	9	9	9	12	13	6.7	12.7
31-Jan	13	13	12	11	11	13	12	13	14	11	13	11	11	12	15	16	17	13	6	3	4	3	6	3	10.6	17.4
	4.7	5.2	5.3	5.3	5.1	4.9	4.6	5.0	4.8	4.8	5.0	5.0	4.6	4.9	5.2	5.3	5.0	5.1	4.9	4.8	5.3	4.8	4.7	4.8	Diurnal Average	
	14.0	14.7	16.5	14.3	12.4	12.9	12.0	12.6	13.6	10.9	12.5	11.3	10.9	12.5	15.0	16.0	17.4	13.1	11.7	13.1	11.1	10.8	12.2	12.7	Diurnal Maximum	

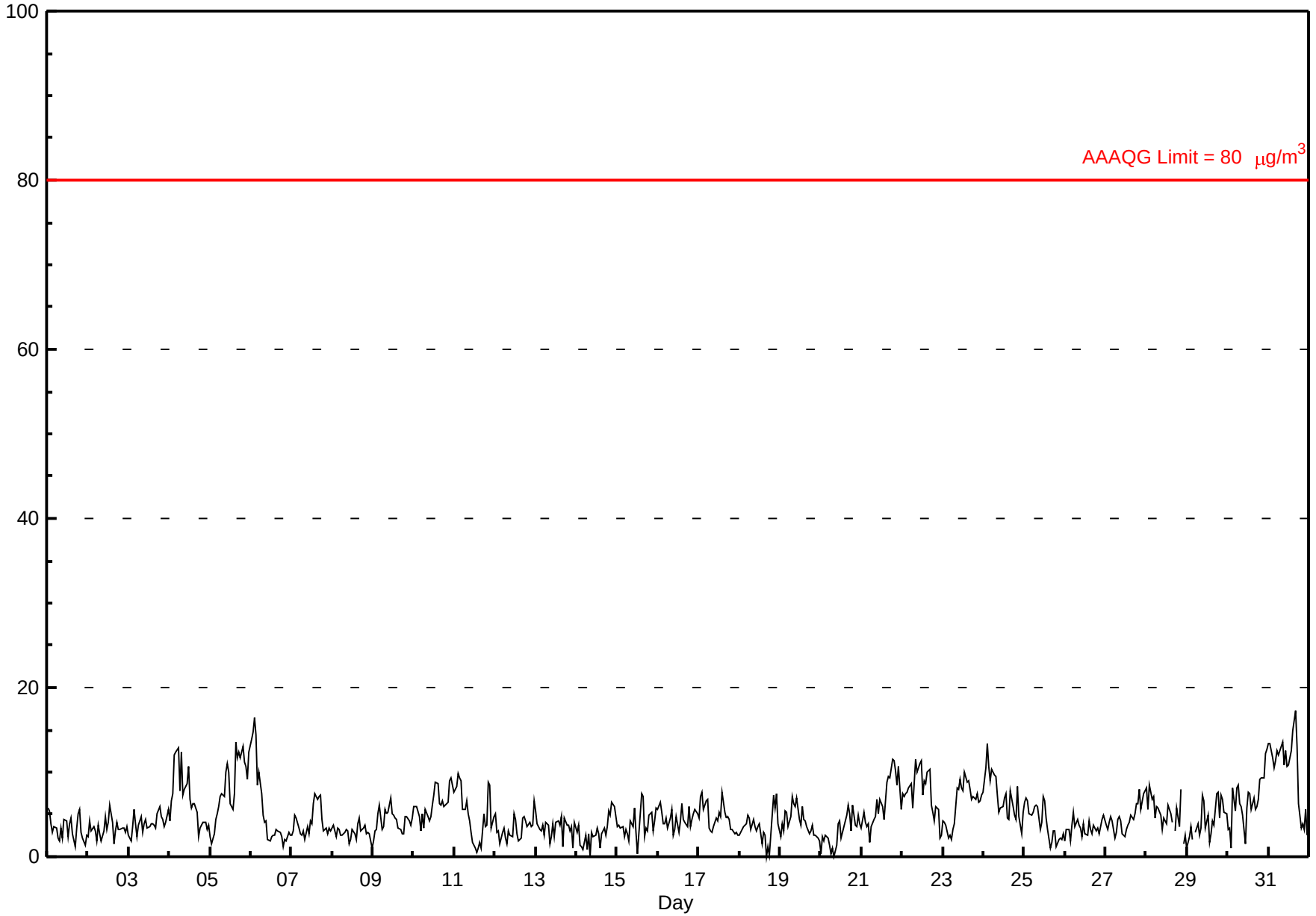
M - Maintenance N - Not Valid
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

Hourly Averages

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

Beaverlodge - January 2013



Peace Airshed Zone Association

Hourly Maximums

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

Beaverlodge - January 2013

Maximum Value: 18.3 $\mu g/m^3$ on Jan 31 17:00

Maximum Daily Average: 12.0 $\mu g/m^3$ on Jan 31

Minimum Value: 1 $\mu g/m^3$ on Jan 14 09:00

Minimum Daily Average: 3.7 $\mu g/m^3$ on Jan 8

Maximum Diurnal Average: 6.6 $\mu g/m^3$ at hour 16

Minimum Diurnal Average: 5.6 $\mu g/m^3$ at hour 7

Monthly Average: 6.19 $\mu g/m^3$

Percentiles: $P_1 = 1.7$ $P_{10} = 3.2$ $Q_1 = 4.1$ Median = 5.4 $Q_3 = 7.6$ $P_{90} = 10.5$ $P_{99} = 15.0$

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)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	6	6	5	3	4	5	3	4	4	3	5	5	4	5	5	4	2	4	7	6	5	3	2	4	4.4	6.6
2-Jan	3	5	4	4	4	3	4	4	4	4	7	5	5	7	7	2	4	5	4	4	4	4	4	5	4.4	7.3
3-Jan	5	3	4	7	7	3	5	5	5	5	5	5	4	5	5	5	5	7	7	6	6	4	6	6	5.1	7.0
4-Jan	5	9	9	14	13	14	11	14	11	9	12	12	9	7	7	8	8	3	4	4	5	5	5	4	8.4	14.2
5-Jan	4	2	4	5	6	7	8	8	8	12	12	12	7	7	11	14	13	13	14	14	12	12	11	14	9.6	14.2
6-Jan	15	16	17	16	12	11	9	6	5	5	3	2	3	3	3	4	4	4	3	2	3	3	4	3	6.5	17.3
7-Jan	3	4	6	6	4	3	3	4	3	5	5	6	5	7	8	8	8	8	6	4	4	3	4	4	5.1	8.3
8-Jan	4	4	3	4	4	3	3	4	4	4	3	4	4	3	3	6	6	4	4	4	3	3	4	2	3.7	6.1
9-Jan	4	4	4	6	7	6	4	7	7	6	8	7	5	5	5	4	4	3	4	5	5	5	4	5	5.2	7.5
10-Jan	7	7	7	6	4	6	4	7	5	5	5	8	9	10	9	9	7	7	7	7	8	10	10	9	7.2	9.9
11-Jan	9	10	10	10	10	8	6	7	7	5	5	3	2	1	2	3	3	6	5	4	11	11	5	6	6.3	11.5
12-Jan	5	5	4	2	5	5	3	2	4	4	4	6	6	3	3	3	6	6	5	5	5	4	6	7	4.4	7.3
13-Jan	7	5	4	4	4	4	5	5	2	4	5	4	5	5	5	6	5	6	5	5	5	5	4	5	4.7	7.3
14-Jan	5	4	3	3	3	3	2	4	1	4	3	4	5	5	2	5	6	4	5	6	7	7	7	7	4.4	7.3
15-Jan	4	5	4	4	3	4	4	4	5	5	7	6	2	4	11	12	5	5	5	5	6	5	5	6	5.3	11.7
16-Jan	7	7	6	4	5	5	4	5	6	5	5	5	4	6	7	5	5	4	8	5	6	6	7	6	5.6	7.6
17-Jan	6	9	9	7	8	8	5	4	4	5	6	6	7	8	10	10	7	7	6	4	5	5	4	3	6.2	9.8
18-Jan	4	3	4	5	5	6	6	5	5	4	4	4	6	3	3	4	1	2	2	9	9	9	10	5	4.9	9.7
19-Jan	4	5	4	7	7	4	6	9	8	7	8	5	5	7	6	5	4	3	4	5	3	3	3	2	5.3	8.5
20-Jan	1	3	3	3	3	3	1	2	2	4	4	6	5	4	5	5	8	7	7	7	5	5	6	5	4.4	8.3
21-Jan	5	7	6	6	6	6	5	6	7	8	7	8	8	6	8	10	10	10	12	12	12	11	12	9	8.1	12.3
22-Jan	9	9	9	9	9	10	8	11	12	11	12	12	9	10	9	11	11	9	6	5	7	7	4	3	8.8	12.5
23-Jan	6	6	5	4	3	3	4	6	9	9	10	9	8	11	10	10	9	8	9	7	8	7	8	8	7.4	10.8
24-Jan	9	12	14	13	10	11	11	11	8	6	8	8	10	10	5	5	10	10	6	6	10	7	4	6	8.8	14.1
25-Jan	7	8	8	8	7	6	7	7	7	4	5	9	8	5	4	2	3	4	4	2	3	3	2	3	5.2	8.6
26-Jan	3	4	4	3	5	6	4	5	4	4	3	5	4	4	5	3	3	4	4	4	4	5	5	5	4.2	5.7
27-Jan	5	4	4	5	5	4	3	5	5	5	4	3	4	5	5	6	6	6	7	8	9	7	8	9	5.4	8.8
28-Jan	9	7	10	8	8	6	7	7	7	5	5	5	5	7	6	6	M	5	7	7	11	N	2	3	6.5	10.8
29-Jan	3	3	4	3	N	4	4	4	4	10	10	5	6	3	5	6	5	9	9	7	8	8	8	6	5.8	9.7
30-Jan	5	5	7	9	7	9	10	8	7	8	3	10	10	8	7	8	7	7	8	12	12	12	13	13	8.6	13.5
31-Jan	14	14	13	11	12	13	13	14	15	13	13	11	11	15	15	17	18	17	10	5	5	6	7	4	12.0	18.3
	6.0	6.3	6.4	6.4	6.3	6.0	5.6	6.2	5.9	6.1	6.3	6.4	6.0	6.1	6.4	6.6	6.4	6.4	6.2	6.0	6.6	6.2	5.9	5.8	Diurnal Average	
	14.9	15.8	17.3	16.1	13.4	13.9	12.9	14.4	14.9	12.5	13.4	12.5	11.3	15.1	15.4	17.1	18.3	16.7	13.6	14.2	12.2	12.4	12.8	13.9	Diurnal Maximum	

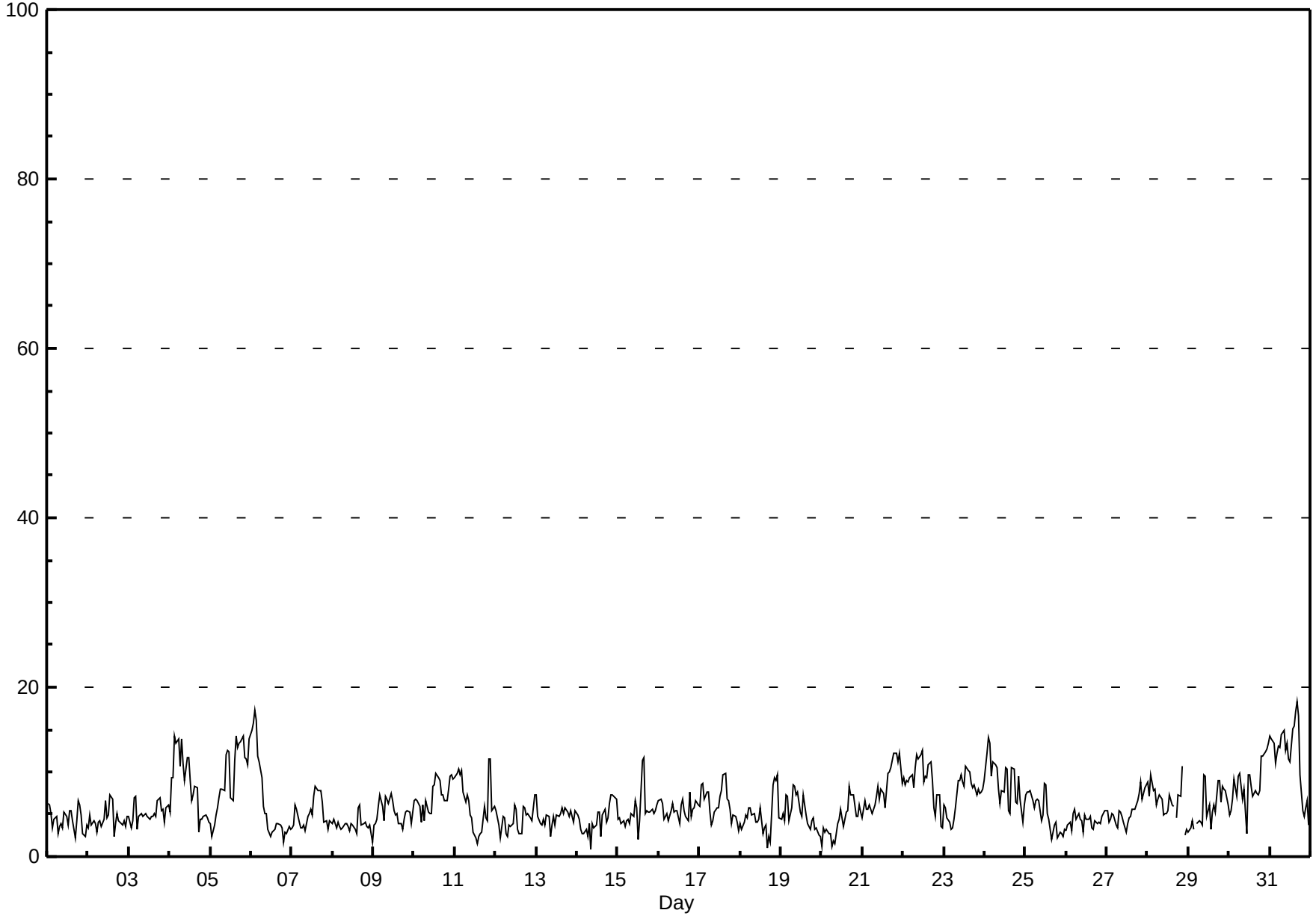
M - Maintenance N - Not Valid

Peace Airshed Zone Association

Hourly Maximums

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

Beaverlodge - January 2013

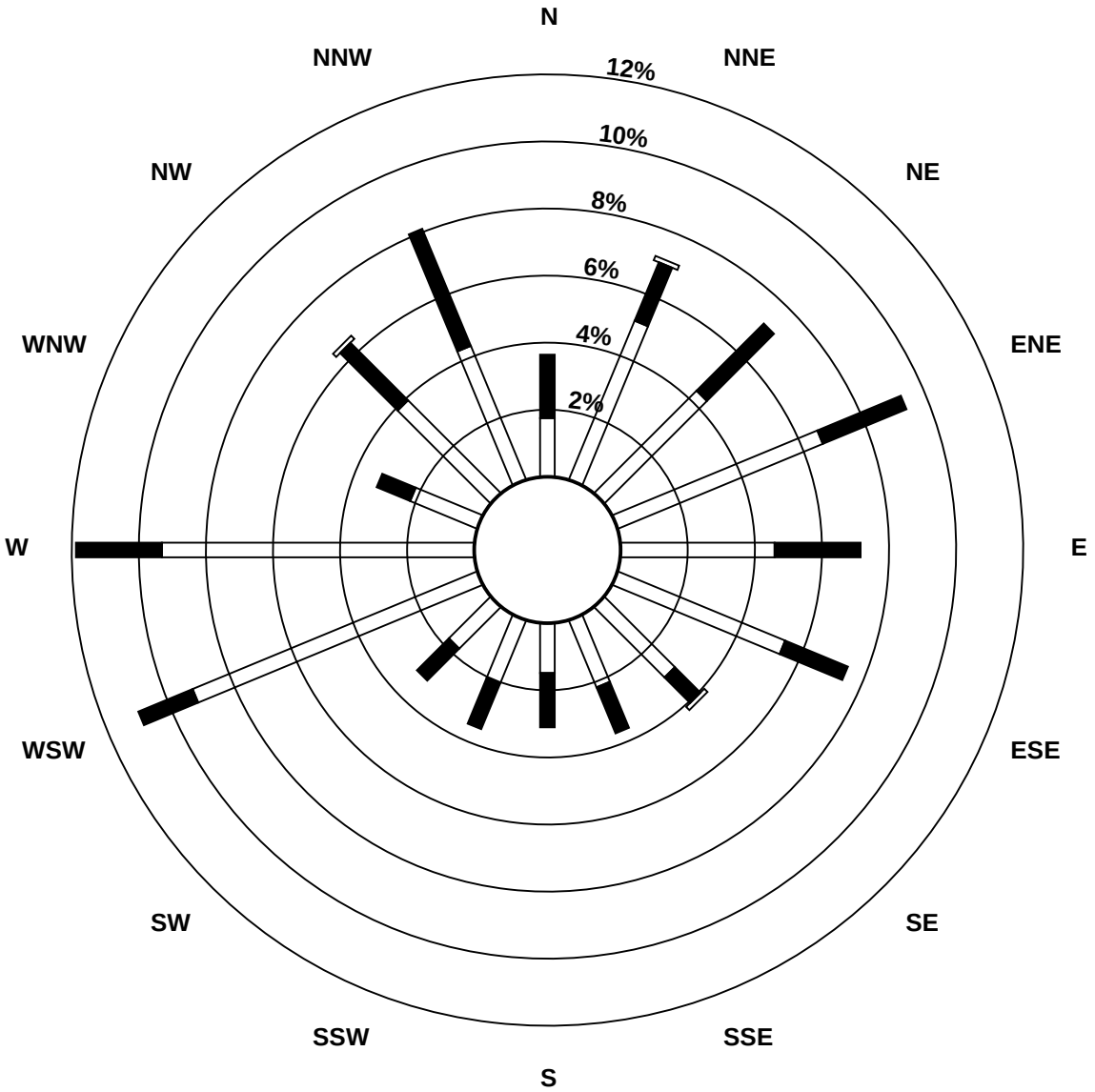


Peace Airshed Zone Association

Pollutant Rose

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

Beaverlodge - January 2013



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

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

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - °C

Beaverlodge - January 2013

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

Maximum Value: 7.5 °C on Jan 15 04:00

Maximum Daily Average: 6.7 °C on Jan 15

Minimum Value: -31 °C on Jan 29 07:00

Minimum Daily Average: -28.4 °C on Jan 29

Maximum Diurnal Average: -6.5 °C at hour 16

Minimum Diurnal Average: -9.2 °C at hour 9

Monthly Average: -7.98 °C

Percentiles: P_1 = -29.8 P_{10} = -20.7 Q_1 = -13.7 Median = -6.9 Q_3 = -1.4 P_{90} = 3.1 P_{99} = 6.9

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

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jan	-1	-1	-1	-2	-3	-2	-2	-2	-2	-2	-2	-1	-1	-1	-1	0	-2	-3	-4	-3	-4	-5	-4	-4	-2.1	0.0
2-Jan	-4	-3	-2	-3	-3	-6	-6	-5	-5	-6	-6	-6	-7	-5	-4	-1	-1	-2	-1	2	3	3	4	4	-2.5	4.0
3-Jan	2	5	5	5	4	3	4	2	3	2	3	4	2	2	1	1	1	-2	0	1	0	-3	-4	-5	1.5	5.2
4-Jan	-4	-8	-7	-9	-9	-7	-6	-7	-8	-7	-8	-6	-5	-5	-4	-2	0	0	0	-1	-1	0	-1	-1	-4.5	-0.2
5-Jan	-1	-1	-5	-6	-6	-6	-7	-6	-8	-8	-10	-8	-6	-5	-7	-8	-7	-7	-8	-8	-8	-7	-7	-6	-6.6	-1.2
6-Jan	-6	-8	-8	-8	-8	-7	-4	-4	-3	-4	-4	-3	-2	1	2	1	0	-1	-2	-2	-3	-3	-3	-5	-3.5	1.6
7-Jan	-5	-6	-7	-7	-6	-5	-6	-6	-6	-6	-9	-8	-8	-6	-6	-6	-6	-7	-5	-1	-1	0	0	0	-5.1	0.1
8-Jan	0	0	0	-1	-2	-3	-3	-2	-3	-3	-3	-2	-1	0	-1	0	-2	-4	-3	-3	-5	-4	-5	-5	-2.3	0.3
9-Jan	-5	-4	-5	-5	-6	-7	-7	-7	-7	-7	-7	-7	-7	-7	-8	-8	-9	-9	-10	-11	-12	-12	-13	-13	-8.0	-4.3
10-Jan	-13	-13	-14	-14	-15	-16	-16	-16	-17	-16	-16	-16	-16	-12	-13	-13	-13	-15	-15	-16	-17	-18	-18	-20	-15.3	-11.7
11-Jan	-20	-20	-20	N	N	N	-21	-20	-19	-18	-17	-16	-16	-15	-15	-15	-15	-16	-14	-13	-15	-12	-12	-12	-16.1	-11.5
12-Jan	-12	-12	-11	-13	-14	-14	-14	-14	-14	-14	-14	-13	-12	-11	-10	-10	-10	-10	-8	-8	-8	-8	-8	-8	-11.3	-7.8
13-Jan	-9	-9	-9	-11	-11	-12	-12	-12	-12	-11	-11	-9	-8	-8	-7	-7	-7	-7	-8	-8	-8	-8	-8	-8	-9.2	-6.8
14-Jan	-8	-8	-7	-6	-4	-3	-2	-2	-1	0	2	2	2	3	2	3	3	3	3	3	4	4	5	5	0.1	5.4
15-Jan	6	6	7	8	7	7	7	7	7	7	7	7	7	7	7	7	6	6	6	6	6	6	6	5	6.7	7.5
16-Jan	5	5	4	1	1	1	1	1	1	1	1	1	1	1	0	0	-1	-1	-2	-2	-2	-2	-2	-1	0.5	4.9
17-Jan	-1	-1	0	1	1	1	5	4	4	5	5	6	6	5	4	5	5	5	5	5	5	5	5	5	3.9	6.3
18-Jan	5	5	4	4	4	4	3	4	4	4	2	-1	-2	-3	-5	-6	-7	-8	-8	-9	-9	-10	-10	-10	-1.8	5.2
19-Jan	-10	-10	-9	-9	-10	-10	-9	-9	-9	-9	-9	-10	-11	-12	-15	-16	-16	-16	-16	-16	-17	-18	-18	-18	-12.6	-8.8
20-Jan	-18	-19	-19	-20	-21	-20	-21	-20	-20	-20	-20	-19	-18	-17	-17	-17	-17	-17	-17	-16	-16	-16	-16	-15	-18.1	-15.3
21-Jan	-15	-15	-15	-14	-15	-15	-15	-15	-16	-15	-14	-13	-11	-13	-13	-13	-12	-12	-12	-12	-13	-12	-12	-13	-13.6	-11.4
22-Jan	-13	-13	-14	-14	-15	-14	-14	-14	-13	-13	-13	-12	-12	-12	-11	-12	-13	-13	-13	-14	-14	-14	-14	-14	-13.2	-11.5
23-Jan	-14	-15	-15	-14	-14	-14	-14	-13	-13	-13	-12	-12	-11	-11	-11	-11	-11	-11	-11	-12	-11	-11	-11	-10	-12.3	-10.1
24-Jan	-11	-11	-12	-12	-13	-12	-12	-12	-12	-11	-8	-6	-5	-2	2	2	1	0	-2	-1	-1	-3	-2	-4	-6.1	2.1
25-Jan	-4	-4	-4	-3	-4	-3	-5	-7	-8	-5	-2	-1	1	2	3	3	3	2	1	-1	0	-2	-3	-3	-1.8	3.4
26-Jan	-4	-4	-4	-3	-2	-2	-4	-5	-5	-5	-3	-2	-2	0	1	2	-1	-2	0	-2	-2	-3	-4	-4	-2.6	2.0
27-Jan	-4	-5	-5	-6	-5	-5	-6	-6	-6	-6	-5	-4	-3	-3	-2	-2	-3	-3	-8	-12	-14	-16	-16	-17	-6.8	-1.8
28-Jan	-18	-18	-19	-20	-21	-21	N	-23	-23	-23	-24	-24	-23	-23	-23	-23	-24	-25	-26	-27	-27	-27	-28	-28	-23.4	-17.6
29-Jan	-29	-30	-30	-31	-31	-31	-31	-31	-31	-30	-28	-28	-28	-28	-28	-27	-27	-27	-26	-26	-26	-26	-26	-25	-28.4	-25.4
30-Jan	-25	-25	-25	-24	-25	-24	-24	-24	-24	-23	-22	-21	-22	-21	-21	-21	-21	-22	-22	-22	-22	-22	-23	-23	-22.8	-20.8
31-Jan	-23	-23	-23	-23	-21	-21	-20	-19	-19	-17	-16	-14	-13	-12	-10	-7	-7	-4	-1	0	3	3	2	1	-11.7	3.2
	-8.3	-8.5	-8.7	-8.6	-8.8	-8.9	-8.7	-9.1	-9.2	-8.8	-8.5	-7.8	-7.4	-6.9	-6.8	-6.5	-6.8	-7.3	-7.3	-7.4	-7.6	-7.8	-7.9	-8.1	Diurnal Average	
	6.3	6.4	6.6	7.5	7.5	7.1	6.8	6.8	6.8	6.9	7.0	7.2	6.8	6.7	7.0	6.9	6.5	6.5	6.4	6.4	6.3	6.2	6.1	5.4	Diurnal Maximum	

N - Not Valid

Hourly Averages

External Temperature (ET) - ^{o}C

Beaverlodge - January 2013

Hourly Averages

Relative Humidity (RH) - %

Beaverlodge - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 100.0 % on Jan 16 22:00 Maximum Daily Average: 92.3 % on Jan 5

Minimum Value: 34 % on Jan 2 23:00 Minimum Daily Average: 51.0 % on Jan 15
Maximum Diurnal Average: 81.7 % at hour 6 Minimum Diurnal Average: 73.3 % at hour 16
Monthly Average: 78.14 % Percentiles: P_1 = 39.5 P_{10} = 59.6 Q_1 = 69.1 Median = 81.3 Q_3 = 88.9 P_{90} = 93.7 P_{99} = 100.0

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	68	66	64	65	66	63	61	60	60	62	62	59	57	60	56	53	59	61	64	63	67	69	67	66	62.4	69.3
2-Jan	65	61	58	62	62	70	70	66	68	70	70	67	72	68	66	53	52	56	51	41	36	36	34	34	57.8	72.0
3-Jan	39	35	37	40	42	44	46	55	52	54	49	46	53	54	58	54	55	64	57	53	55	67	73	73	52.3	73.2
4-Jan	68	81	82	90	90	88	83	89	88	86	84	80	75	73	68	68	70	72	73	73	75	76	79	78	78.8	90.5
5-Jan	78	77	91	95	98	98	98	93	98	98	98	96	89	82	88	93	92	91	92	95	94	96	93	91	92.3	98.5
6-Jan	91	94	94	92	91	93	89	87	85	84	83	77	68	61	58	59	61	64	65	68	70	70	70	75	77.0	93.7
7-Jan	77	78	83	81	75	74	77	76	70	70	79	77	84	91	96	98	94	96	92	75	72	71	69	67	80.1	97.7
8-Jan	68	66	63	63	64	67	66	65	66	66	64	60	57	54	53	47	56	60	58	60	66	65	69	68	62.2	69.2
9-Jan	66	63	66	62	71	76	77	79	79	81	83	84	83	90	96	96	95	95	95	94	94	93	92	92	83.5	96.4
10-Jan	92	92	91	90	91	92	92	92	92	90	89	90	88	81	84	85	85	89	91	92	93	93	92	92	89.8	92.8
11-Jan	91	90	90	N	N	N	89	89	90	89	87	85	85	83	83	88	89	91	92	90	90	90	87	87	88.3	91.7
12-Jan	87	84	82	86	90	92	91	88	90	89	87	84	82	79	76	76	78	76	75	75	75	73	74	76	81.8	91.8
13-Jan	76	78	78	84	85	86	83	83	81	81	81	73	70	70	70	70	70	72	76	78	79	80	81	81	77.7	86.0
14-Jan	84	84	84	84	81	79	80	80	80	79	73	71	72	69	72	70	68	70	71	72	69	68	68	66	74.7	83.9
15-Jan	63	63	61	55	54	54	53	51	49	47	46	44	46	46	43	42	45	45	47	48	50	54	57	62	51.0	63.4
16-Jan	65	66	70	93	91	94	95	92	90	91	92	92	94	92	93	95	95	95	96	97	99	100	100	100	91.2	100.0
17-Jan	100	100	100	100	99	97	78	79	79	73	71	60	59	70	71	60	58	58	60	61	64	63	63	63	74.5	100.0
18-Jan	63	64	71	71	72	74	75	69	70	73	79	93	100	100	92	86	85	87	92	96	96	95	95	92	83.0	100.0
19-Jan	90	91	90	91	90	90	92	95	94	94	91	91	90	88	88	88	91	92	92	91	89	87	85	84	90.2	95.4
20-Jan	83	83	83	86	87	87	86	85	86	87	87	85	83	81	80	82	83	85	85	85	85	86	86	86	84.7	86.9
21-Jan	87	88	87	85	87	87	87	88	89	90	86	82	74	81	82	81	82	81	82	81	85	85	84	83	84.4	89.5
22-Jan	84	84	85	86	89	89	89	89	87	86	88	88	88	85	83	84	88	89	88	87	86	84	85	88	86.6	89.0
23-Jan	89	88	87	87	90	90	91	90	91	91	89	89	85	88	86	86	88	89	90	95	95	95	95	95	90.0	95.3
24-Jan	95	95	95	95	95	95	94	95	96	95	91	87	83	77	60	56	61	61	68	67	64	72	67	78	80.9	95.7
25-Jan	79	84	97	100	100	100	100	100	99	100	85	77	68	64	57	57	56	58	60	62	60	67	70	71	78.0	100.0
26-Jan	76	74	72	68	66	64	76	77	79	79	71	68	68	62	59	53	63	67	63	67	70	74	75	75	69.5	79.1
27-Jan	76	79	81	81	80	80	80	82	85	83	84	79	74	74	71	73	74	76	79	81	85	89	89	86	80.0	89.0
28-Jan	84	84	84	83	85	83	N	77	77	76	76	75	72	69	68	72	72	73	72	71	71	71	72	71	75.7	84.7
29-Jan	69	70	68	70	72	72	71	72	73	71	66	67	63	64	71	74	76	79	80	80	81	82	82	83	73.2	82.8
30-Jan	83	83	84	84	84	84	84	84	84	85	85	85	84	84	85	85	86	86	86	86	86	86	86	86	84.8	86.2
31-Jan	85	85	85	86	86	87	87	88	88	89	90	91	91	92	93	91	93	97	97	94	78	75	76	80	87.6	97.2
	78.2	78.4	79.5	80.5	81.1	81.7	81.4	81.1	81.1	80.9	79.5	77.5	76.0	75.1	74.3	73.3	74.8	76.7	77.0	76.7	76.9	77.8	77.9	78.3	Diurnal Average	
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.3	100.0	97.6	96.4	100.0	99.6	96.4	97.7	94.9	97.2	97.2	96.9	99.2	100.0	100.0	100.0	Diurnal Maximum	

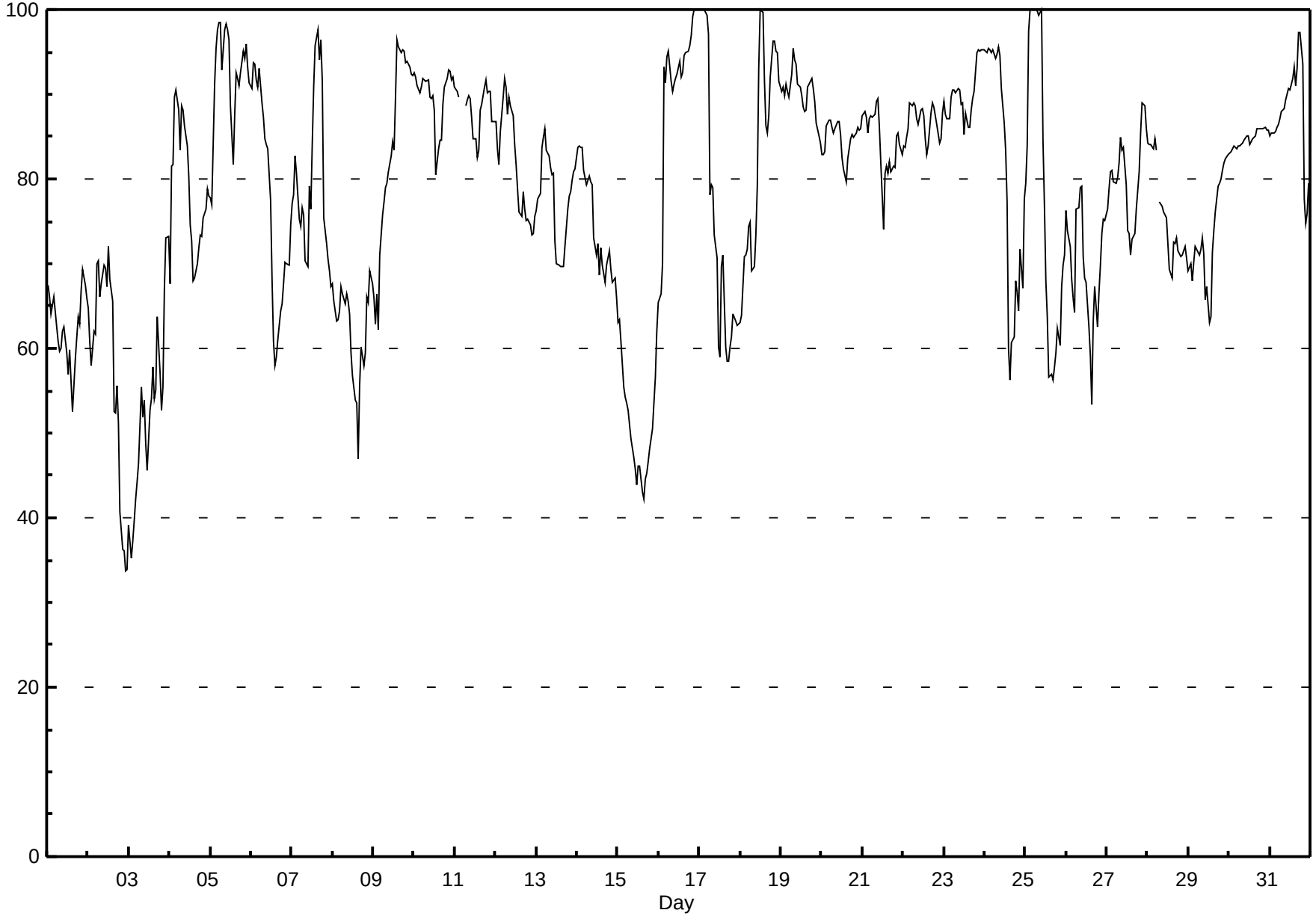
N - Not Valid

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Beaverlodge - January 2013



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Beaverlodge - January 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	30	28	24	13	12	21	19	15	12	14	13	15	16	7	4	2	3	4	2	5	3	4	5	4	9.4	29.8
Dir	265	266	269	251	230	266	268	272	280	274	282	274	258	238	304	253	91	51	76	249	245	63	73	94	266	265
2 Spd	3	3	2	5	4	5	2	2	4	6	2	1	2	4	3	6	2	1	3	8	13	9	12	10	1.4	12.7
Dir	97	85	230	70	94	144	162	320	22	331	51	195	149	220	44	48	43	334	277	252	260	265	296	285	289	260
3 Spd	3	11	6	31	20	12	14	10	20	12	13	10	2	1	2	2	4	5	7	5	3	2	1	1	5.2	30.9
Dir	256	314	288	274	282	342	331	287	267	273	276	306	129	118	103	91	40	71	72	68	97	206	221	23	294	274
4 Spd	5	2	6	4	4	6	4	3	2	6	1	3	4	4	3	7	18	15	10	13	27	26	10	9	5.0	26.7
Dir	323	67	330	296	42	33	351	338	315	42	86	36	69	67	52	245	250	239	257	268	268	267	290	308	282	268
5 Spd	10	8	4	5	4	5	6	1	0	1	1	6	5	4	3	3	6	2	3	0	0	2	2	1	1.5	10.1
Dir	320	326	238	212	57	64	59	198	253	199	73	47	50	40	40	252	48	352	317	133	332	320	51	23	12	320
6 Spd	4	3	3	4	2	2	5	3	1	3	1	6	3	16	31	27	20	22	11	15	10	14	12	5	7.8	30.8
Dir	76	234	144	178	81	184	215	184	8	197	163	209	179	261	266	264	260	265	265	271	260	265	259	240	255	266
7 Spd	0	3	2	3	3	2	4	5	5	3	4	2	2	2	3	3	3	3	3	11	17	28	25	28	3.9	28.3
Dir	230	207	132	199	183	119	72	73	95	100	234	115	344	58	90	223	149	84	280	267	262	263	267	266	255	266
8 Spd	33	31	28	28	27	16	17	21	19	18	18	21	26	26	20	4	10	10	11	6	1	6	5	6	15.3	32.7
Dir	265	276	275	264	263	256	258	257	250	251	256	259	257	261	264	278	220	256	261	235	7	43	70	57	262	265
9 Spd	6	6	7	9	14	16	17	9	13	10	12	7	8	9	12	16	19	11	10	13	8	11	14	9	10.1	19.3
Dir	56	46	58	37	22	25	32	1	17	13	21	16	355	4	12	23	25	15	343	345	335	325	325	322	11	25
10 Spd	7	2	9	7	7	7	8	8	2	2	2	4	4	2	2	2	2	3	3	1	1	1	3	2	2.7	9.2
Dir	344	334	309	312	305	313	330	331	14	15	16	279	45	61	72	71	63	42	63	337	265	168	252	26	335	309
11 Spd	1	1	2	0	1	2	1	2	3	3	4	3	4	3	4	3	2	3	5	2	3	4	4	1	1.8	4.8
Dir	33	15	39	6	358	38	43	48	56	64	64	70	69	67	53	58	62	72	42	309	312	303	310	148	40	42
12 Spd	3	5	5	3	1	1	4	1	3	3	3	1	2	1	1	1	1	4	7	12	6	3	2	4	1.8	11.6
Dir	61	16	340	21	202	103	48	16	55	72	116	263	43	18	58	22	65	38	328	297	285	288	308	328	354	297
13 Spd	3	1	0	2	0	2	1	1	2	1	5	3	2	1	2	3	2	3	3	2	3	3	1	2	1.3	5.0
Dir	289	186	87	107	116	17	30	94	46	240	49	48	49	191	50	52	45	68	58	116	65	76	150	152	66	49
14 Spd	3	4	4	5	4	3	3	2	2	6	12	10	12	12	17	15	16	17	18	22	23	20	24	28	9.3	27.6
Dir	70	52	55	46	49	70	57	68	162	215	257	251	229	237	236	240	247	241	237	238	243	243	245	254	242	254
15 Spd	36	28	26	29	40	48	46	44	48	52	53	52	52	53	59	58	59	58	53	55	52	46	50	47	47.5	58.8
Dir	258	250	256	266	267	267	269	273	270	270	271	266	260	256	259	262	262	264	266	263	264	265	265	264	264	262
16 Spd	41	43	19	17	13	2	9	10	6	7	7	7	7	11	10	2	2	3	4	7	6	6	5	6	3.7	43.1
Dir	264	266	306	17	18	221	32	16	5	10	10	11	17	25	31	54	233	148	117	114	127	116	97	123	337	266
17 Spd	4	6	4	2	7	8	28	21	14	27	22	33	40	49	43	40	39	38	44	47	42	41	43	39	27.0	49.2
Dir	142	116	128	149	189	202	244	245	256	246	249	255	249	246	243	251	262	257	252	250	247	252	253	257	249	246
18 Spd	28	32	37	27	38	32	27	27	33	29	14	16	14	19	17	13	11	11	8	9	11	12	8	7	15.3	37.8
Dir	261	245	243	248	248	242	242	253	245	253	328	354	341	325	323	340	356	351	343	303	300	303	312	330	274	248
19 Spd	5	9	5	5	7	10	11	11	5	6	5	15	16	21	23	17	12	2	5	12	13	12	12	9	6.7	22.8
Dir	16	33	26	124	116	91	94	94	94	289	338	22	19	8	23	32	45	133	227	320	323	329	330	336	20	23
20 Spd	9	9	7	4	5	6	9	10	9	11	9	6	5	7	7	11	13	11	9	9	9	7	6	5	6.5	12.6
Dir	5	9	14	122	100	120	126	104	109	115	118	113	135	145	151	123	105	115	119	117	123	115	126	133	110	105
21 Spd	5	5	3	2	6	6	2	2	1	3	4	4	1	2	2	2	1	2	2	3	4	2	7	9	0.6	9.1
Dir	142	144	113	106	114	132	158	197	100	167	107	171	176	203	287	334	185	207	53	354	3	317	307	316	139	316
22 Spd	8	8	8	8	5	3	3	5	2	3	5	5	4	3	3	4	8	12	10	11	11	10	11	13	4.1	12.6
Dir	341	6	2	4	35	31	292	305	14	99	104	164	169	134	122	140	123	121	105	87	95	103	95	93	85	93

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Beaverlodge - January 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
23 Spd	16	13	13	13	15	15	14	13	7	4	2	5	2	5	3	4	3	6	7	10	8	4	4	5	4.8	15.8
Dir	93	82	88	89	96	95	94	98	140	158	232	269	260	259	247	195	212	216	181	169	156	111	46	324	114	93
24 Spd	7	5	5	4	0	5	4	3	3	4	2	3	2	5	8	13	13	5	3	6	5	6	5	6	1.2	13.0
Dir	317	300	275	266	220	37	58	97	79	69	76	78	82	241	248	259	255	275	89	44	47	71	68	291	316	259
25 Spd	3	3	5	2	5	5	4	5	3	4	14	7	5	7	17	17	17	13	5	1	3	2	2	6	4.1	17.4
Dir	57	95	76	89	278	235	127	176	83	195	243	248	188	185	254	250	250	240	200	134	162	143	136	187	225	250
26 Spd	3	2	3	5	3	1	3	3	3	3	4	4	6	4	4	1	2	4	10	4	3	4	4	4	1.5	9.7
Dir	183	111	68	56	57	24	210	181	159	76	65	72	80	88	63	120	89	53	268	208	196	179	65	62	96	268
27 Spd	3	2	3	3	4	4	4	2	4	3	4	5	3	4	3	2	3	4	14	14	13	14	10	13	2.7	14.3
Dir	73	110	119	97	68	90	151	109	122	155	69	86	128	68	163	107	156	354	345	347	334	332	340	330	16	332
28 Spd	14	14	14	16	15	13	15	17	12	13	14	15	13	13	13	14	13	15	15	18	17	16	18	15	14.6	17.9
Dir	328	329	328	325	326	330	325	326	332	329	327	327	336	332	337	326	343	329	337	333	332	329	326	325	330	326
29 Spd	12	11	10	6	4	5	4	3	3	2	4	5	5	7	10	15	14	11	6	9	10	9	7	6	2.1	15.2
Dir	325	319	327	309	288	283	268	272	337	112	152	139	136	135	121	115	110	107	83	18	17	18	18	331	42	115
30 Spd	7	7	6	6	7	4	6	4	2	1	1	2	6	5	5	8	10	10	7	6	6	2	2	3	1.4	10.3
Dir	319	316	321	3	25	337	315	331	9	67	172	152	158	134	156	116	128	119	92	96	84	114	249	273	78	128
31 Spd	2	2	2	1	1	0	1	1	2	1	1	1	2	2	1	0	2	2	3	9	25	19	13	14	3.7	24.8
Dir	29	338	329	330	100	64	207	195	189	212	195	199	216	229	221	306	27	306	263	285	265	264	259	250	263	265
Spd	5.5	5.1	4.3	3.4	2.8	2.4	3.1	3.5	3.3	4.1	3.8	4.1	3.5	4.6	4.9	4.2	3.6	3.8	4.3	5.9	6.5	6.4	6.1	6.1	Diurnal Average	
Dir	287	287	293	289	286	283	283	279	274	267	282	283	267	267	274	268	264	263	273	276	272	276	283	281		
Spd	41.1	43.1	36.9	30.9	39.7	48.1	45.8	44.5	48.2	52.0	53.2	51.8	52.1	53.0	58.8	57.9	58.8	57.9	52.8	54.7	51.8	45.9	50.3	46.9	Diurnal Maximum	
Dir	264	266	243	274	267	267	269	273	270	270	271	266	260	256	259	262	262	264	266	263	264	265	265	264		

Maximum Speed Value: 59 km/h on Jan 15 17:00
Minimum Speed Value: 0 km/h on Jan 5 20:00
Maximum Daily Speed Average: 47.5 km/h on Jan 15
Minimum Daily Speed Average: 0.6 km/h on Jan 13
Maximum Diurnal Speed Average: 6.5 km/h at hour 21
Minimum Diurnal Speed Average: 2.4 km/h at hour 6

Monthly Average Velocity: 4.34 km/h 277.4 deg
Speed Percentiles: P_1 = 0.4 P_{10} = 1.6 Q_1 = 2.9 Median = 5.4 Q_3 = 12.6 P_{90} = 22.7 P_{99} = 52.8
All monthly, daily, and diurnal averages have been calculated using vector methods

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

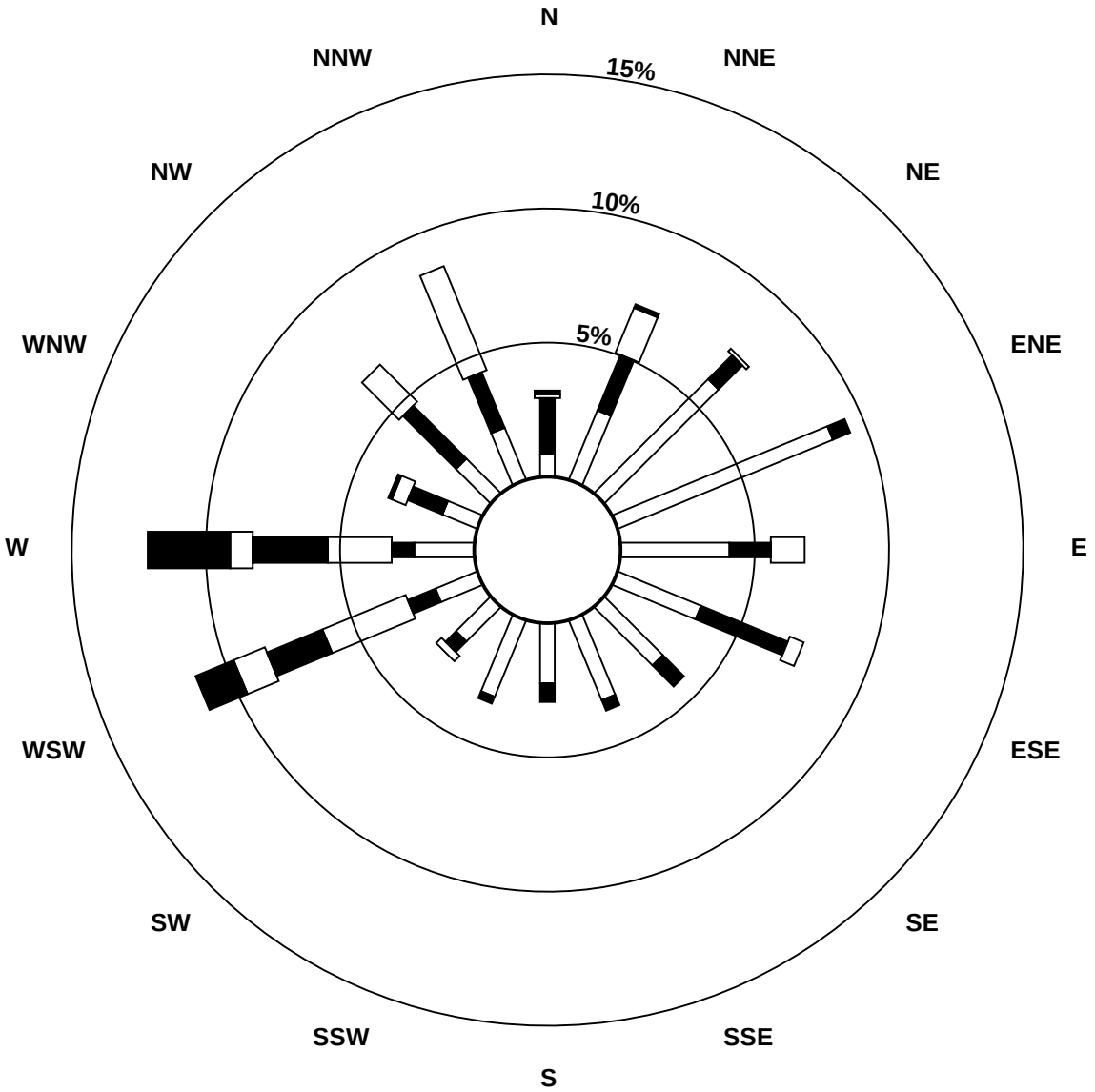
Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	25	32	17	1	0	0	75
NorthEast	78	23	5	2	0	0	108
East	74	19	15	0	0	0	108
SouthEast	46	33	3	0	0	0	82
South	43	7	0	0	0	0	50
SouthWest	31	9	11	8	4	3	66
West	28	20	33	28	14	30	153
NorthWest	29	31	42	0	0	0	102
Total	354	174	126	39	18	33	744

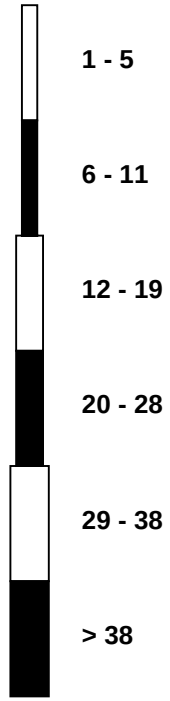
Wind Rose

Wind Speed (WS) (km/h)

Beaverlodge - January 2013



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Beaverlodge - January 2013

Maximum Speed: 59 km/h on Jan 15 17:00

Maximum Daily Speed Average: 47.7 km/h on Jan 15

Minimum Speed: 1 km/h on Jan 11 04:00

Minimum Daily Speed Average: 2.8 km/h on Jan 13

Maximum Diurnal Speed Average: 12.0 km/h at hour 21

Minimum Diurnal Speed Average: 8.6 km/h at hour 9

Monthly Average Speed: 10.18 km/h

Percentiles: P_1 = 1.5 P_{10} = 2.7 Q_1 = 3.7 Median = 5.9 Q_3 = 12.7 P_{90} = 22.8 P_{99} = 52.9

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

Day	Hourly Period Ending At (MST)																								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-Jan	30	28	24	14	12	21	20	15	12	14	13	15	17	8	5	5	4	5	3	5	5	4	5	4	12.0	29.8
2-Jan	4	5	4	5	4	5	3	3	6	7	3	2	3	7	6	6	4	3	5	9	13	9	12	10	5.7	13.1
3-Jan	4	12	7	31	20	14	14	10	21	12	14	11	4	3	2	4	5	5	7	5	4	2	1	2	8.9	31.0
4-Jan	5	5	8	7	4	6	5	4	4	6	2	3	4	4	4	8	18	15	11	13	27	26	10	9	8.8	26.8
5-Jan	10	8	5	5	4	5	6	3	4	2	4	6	5	4	4	5	6	6	5	2	3	4	3	3	4.6	10.4
6-Jan	4	4	4	4	4	3	5	4	2	4	2	6	6	17	31	27	20	22	11	15	10	14	12	6	9.9	30.9
7-Jan	5	4	6	4	4	3	5	5	5	4	5	4	5	3	4	4	4	3	5	11	17	28	25	28	8.0	28.3
8-Jan	33	31	28	28	27	16	17	21	19	18	18	21	26	26	20	5	10	11	11	7	6	6	5	7	17.3	32.8
9-Jan	6	6	7	9	14	16	17	10	13	10	12	8	9	10	12	16	19	11	10	13	8	11	14	9	11.3	19.4
10-Jan	7	3	9	7	7	7	8	8	3	3	3	4	4	2	3	3	3	4	3	3	2	2	3	2	4.3	9.2
11-Jan	2	3	3	1	1	2	2	3	3	3	4	3	4	3	4	3	3	3	5	4	3	4	4	3	3.0	4.9
12-Jan	4	6	5	3	4	2	5	2	4	4	3	4	3	2	2	1	2	4	8	12	6	3	3	5	3.9	11.7
13-Jan	5	2	1	3	4	2	2	3	3	2	5	3	2	2	3	3	3	3	3	2	3	3	3	3	2.8	5.1
14-Jan	3	4	4	5	5	4	4	4	3	7	12	11	12	12	17	15	17	17	19	22	23	21	24	28	12.1	27.9
15-Jan	36	28	26	29	40	48	46	45	48	52	53	52	52	53	59	58	59	58	53	55	52	46	50	47	47.7	58.9
16-Jan	41	43	24	17	13	6	10	10	6	8	9	7	7	11	10	4	2	4	5	7	7	7	5	6	11.1	43.1
17-Jan	5	6	5	3	7	8	28	21	15	27	22	34	40	49	43	40	39	38	44	47	42	41	43	39	28.6	49.3
18-Jan	28	32	37	27	38	32	27	27	34	29	21	17	15	19	18	14	12	11	9	9	11	12	8	7	20.5	37.9
19-Jan	6	9	6	6	7	10	12	11	6	6	6	15	16	21	23	17	12	6	9	12	13	12	12	10	10.8	23.2
20-Jan	10	9	8	4	5	6	9	10	9	11	9	7	6	7	7	11	13	11	9	9	9	7	6	5	8.2	12.8
21-Jan	5	5	4	3	6	6	3	2	2	4	4	4	1	3	3	3	2	2	3	3	4	3	7	9	3.7	9.3
22-Jan	8	8	8	8	6	3	3	5	3	3	6	5	5	4	3	5	8	12	10	11	11	10	11	13	7.1	12.7
23-Jan	16	13	14	13	15	15	14	13	8	4	2	5	3	5	3	4	3	6	7	10	8	5	4	5	8.2	15.8
24-Jan	7	5	5	4	2	5	4	3	4	5	3	3	3	6	8	15	14	8	6	6	6	7	6	7	5.9	14.7
25-Jan	5	4	5	3	5	6	4	5	4	9	14	8	6	7	19	17	17	13	5	3	4	3	3	6	7.3	18.8
26-Jan	3	3	3	5	3	2	4	3	5	4	5	4	6	4	4	2	3	5	10	6	4	4	4	4	4.2	10.2
27-Jan	3	3	3	3	5	4	4	3	4	3	4	5	3	4	4	4	4	6	14	14	13	14	11	13	6.3	14.5
28-Jan	14	14	14	16	15	13	15	17	12	13	14	15	13	13	13	14	13	15	15	18	18	16	18	16	14.8	18.0
29-Jan	12	11	10	6	4	5	4	4	4	3	4	5	5	7	10	15	14	11	6	9	10	9	7	6	7.6	15.3
30-Jan	7	7	6	7	8	5	6	4	2	3	2	3	7	5	6	8	11	10	7	6	6	3	3	3	5.5	10.6
31-Jan	3	3	3	2	1	1	2	2	3	2	2	2	2	3	3	3	3	3	4	10	25	19	13	14	5.4	24.8
	10.7	10.4	9.5	9.2	9.5	9.1	9.8	9.0	8.6	9.0	9.0	9.4	9.4	10.5	11.4	10.9	11.1	10.7	10.4	11.5	12.0	11.4	10.8	10.6	Diurnal Average	
	41.2	43.1	37.0	31.0	39.8	48.2	45.9	44.5	48.3	52.0	53.2	51.9	52.1	53.1	58.8	57.9	58.9	58.0	52.8	54.7	51.9	46.0	50.4	47.0	Diurnal Maximum	

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

Hourly Standard Deviations

Wind Direction (WD) - deg

Beaverlodge - January 2013

Maximum Value: 97.0 deg on Jan 5 20:00

Minimum Value: 2.2 deg on Jan 8 05:00

Percentiles: P_1 = 2.4 P_{10} = 4.5 Q_1 = 8.0 Median = 17.7 Q_3 = 44.2 P_{90} = 68.6 P_{99} = 90.0

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

Day	Hourly Period Ending At (MST)																								Daily
	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-Jan	3	2	3	20	8	7	5	6	10	16	12	9	7	18	38	71	31	11	68	35	88	50	24	14	87.6
2-Jan	27	59	80	14	23	19	76	60	47	44	55	71	49	64	87	20	91	86	72	20	14	18	12	18	91.2
3-Jan	58	16	18	5	5	33	19	9	9	9	31	30	62	76	50	56	66	20	10	11	44	20	73	49	75.6
4-Jan	51	84	52	84	28	11	41	48	62	12	84	26	21	37	57	43	5	3	11	4	5	5	14	8	84.3
5-Jan	12	25	36	13	31	14	10	78	92	83	77	26	27	16	82	50	11	71	81	97	90	57	53	83	97.0
6-Jan	29	47	33	25	57	73	32	42	83	61	69	11	66	52	5	4	3	3	6	4	5	3	4	35	83.3
7-Jan	85	41	69	28	49	44	32	8	19	68	35	59	71	72	46	63	34	44	73	12	6	3	4	3	84.6
8-Jan	3	5	4	5	2	16	12	3	6	9	5	4	5	5	18	34	7	25	12	21	86	22	24	15	86.3
9-Jan	9	6	19	8	2	2	6	22	8	11	5	18	18	18	6	4	4	18	8	9	14	6	3	6	22.4
10-Jan	17	37	5	8	6	8	3	6	40	62	55	14	46	54	72	60	79	45	75	69	67	65	71	51	79.2
11-Jan	64	84	71	79	66	34	68	63	15	24	15	14	27	27	15	19	32	49	10	56	40	15	30	61	84.0
12-Jan	42	28	10	29	79	41	10	61	11	19	39	92	56	74	63	90	76	22	25	9	37	46	54	47	91.8
13-Jan	62	65	84	37	83	56	88	85	70	61	18	55	68	75	35	14	80	27	9	34	13	14	66	41	87.8
14-Jan	32	11	9	40	49	23	27	70	40	11	22	18	7	11	3	5	9	9	6	5	5	9	4	8	70.0
15-Jan	4	5	5	5	4	3	4	3	3	3	3	4	3	3	3	3	2	3	3	3	3	2	3	3	5.3
16-Jan	4	3	39	7	7	82	15	24	21	18	32	8	4	6	11	82	64	35	12	10	17	12	22	22	81.9
17-Jan	43	14	31	56	15	15	4	4	15	3	5	4	6	4	2	6	4	6	3	3	3	4	4	3	56.0
18-Jan	5	4	3	4	3	3	3	5	6	5	44	12	12	6	9	10	17	14	15	9	9	7	8	9	43.8
19-Jan	30	6	16	40	18	5	6	7	58	9	32	7	7	6	10	5	8	64	53	10	6	6	6	8	63.5
20-Jan	11	8	6	30	15	11	11	6	5	5	8	13	19	20	20	14	9	10	9	8	8	13	11	23	30.4
21-Jan	21	15	37	73	14	9	47	28	62	30	21	18	65	44	39	76	51	38	62	53	13	33	14	13	76.3
22-Jan	9	10	8	19	32	18	33	12	56	10	13	18	9	36	25	17	8	9	7	6	6	5	13	8	55.6
23-Jan	5	5	9	11	13	5	4	10	15	33	25	24	77	38	38	19	14	13	8	4	11	41	19	18	76.6
24-Jan	6	16	13	13	81	9	38	31	27	29	45	35	55	54	19	51	52	74	65	21	15	13	34	48	80.9
25-Jan	87	56	35	70	15	34	32	39	38	73	18	70	47	29	79	4	4	7	13	70	36	48	48	4	86.6
26-Jan	26	56	24	12	40	55	52	26	47	37	44	13	9	21	21	70	35	27	35	38	63	13	22	11	69.9
27-Jan	26	20	20	19	19	23	18	36	18	44	41	16	15	25	34	54	33	67	18	8	10	8	11	7	67.4
28-Jan	8	7	7	7	7	5	6	6	7	6	6	8	9	10	10	8	10	7	9	7	6	6	5	7	10.2
29-Jan	6	7	5	9	11	9	28	70	40	45	11	15	15	13	11	7	7	8	14	12	5	5	12	15	70.1
30-Jan	10	11	10	31	8	30	8	31	68	68	65	68	17	18	17	14	13	11	14	16	12	53	29	23	68.1
31-Jan	50	58	44	49	77	84	67	60	50	73	70	46	30	78	84	96	64	57	48	34	3	2	5	6	95.9
	86.6	84.3	84.0	84.0	83.4	84.2	87.8	85.1	92.0	83.5	83.6	91.8	76.6	78.0	87.1	95.9	91.2	85.7	80.7	97.0	90.1	65.0	72.5	82.8	

PAZA
Valleyview Station
Monthly Summary Tables, Graphs and Roses

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Valleyview - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 12.5 ppb on Jan 1 13:00 Maximum Daily Average: 3.0 ppb on Jan 18

Minimum Value: 0 ppb on Jan 2 03:00 Minimum Daily Average: 0.0 ppb on Jan 22
Maximum Diurnal Average: 1.2 ppb at hour 14 Minimum Diurnal Average: 0.3 ppb at hour 8
Monthly Average: 0.62 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.2 $Q_3 = 0.4$ $P_{90} = 1.5$ $P_{99} = 9.7$

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	4	1	0	1	5	2	1	1	0	1	3	10	12	6	2	0	0	A	1	0	0	0	0	0	2.2	12.5
2-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	A	0	1	0	0	0	0	0	0.3	0.6
3-Jan	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	A	0	0	0	0	0	0	0	0	0.4	0.7
4-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0	0	0	0	0	0	1	0.3	0.6
5-Jan	1	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	0.7
6-Jan	0	0	0	0	0	0	0	0	0	0	0	0	A	5	1	0	0	0	0	4	3	1	0	0	0.7	4.7
7-Jan	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	1	10	0.7	9.8
8-Jan	4	1	1	0	0	0	0	0	2	6	A	11	3	10	5	3	2	1	0	0	0	0	0	0	2.3	10.9
9-Jan	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	0.4
10-Jan	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	0.4
11-Jan	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	0.3
12-Jan	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
13-Jan	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
14-Jan	0	0	0	0	A	0	0	0	0	3	8	2	2	2	5	5	3	7	3	1	1	1	7	8	2.6	8.5
15-Jan	2	1	1	A	1	1	0	0	0	0	0	0	2	4	2	8	2	2	4	1	0	0	0	0	1.3	7.5
16-Jan	0	0	A	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0.2	0.7
17-Jan	0	A	0	0	0	0	0	0	0	1	0	1	C	C	C	4	0	4	2	2	3	3	3	3	1.4	4.2
18-Jan	A	5	11	11	12	10	6	4	4	1	0	0	0	0	0	0	0	0	0	0	0	0	1	A	3.0	11.6
19-Jan	1	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	0.6
20-Jan	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
21-Jan	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
22-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0.0	0.1
23-Jan	0	0	0	0	0	0	0	1	2	1	1	1	2	1	2	2	2	3	A	3	2	2	2	2	1.3	2.6
24-Jan	2	2	1	1	1	1	0	0	0	0	0	1	1	1	1	1	1	A	0	0	0	0	0	0	0.6	1.9
25-Jan	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
26-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	A	1	0	0	0	0	0	0	0	0.1	0.7
27-Jan	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
28-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.0	0.1
29-Jan	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
30-Jan	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	1	1	1	1	0.3	1.1
31-Jan	1	1	1	0	0	1	1	0	0	0	A	0	0	0	1	1	0	0	0	0	0	0	0	0	0.4	0.8
	0.5	0.4	0.6	0.5	0.7	0.6	0.4	0.3	0.4	0.5	0.5	1.0	1.0	1.2	0.8	1.0	0.5	0.7	0.5	0.5	0.5	0.4	0.6	0.9	Diurnal Average	
	3.9	5.0	11.4	11.2	11.6	9.9	6.0	3.9	4.0	5.9	8.5	10.9	12.5	10.0	5.2	7.5	3.4	7.2	4.1	4.0	3.2	3.0	6.6	9.8	Diurnal Maximum	

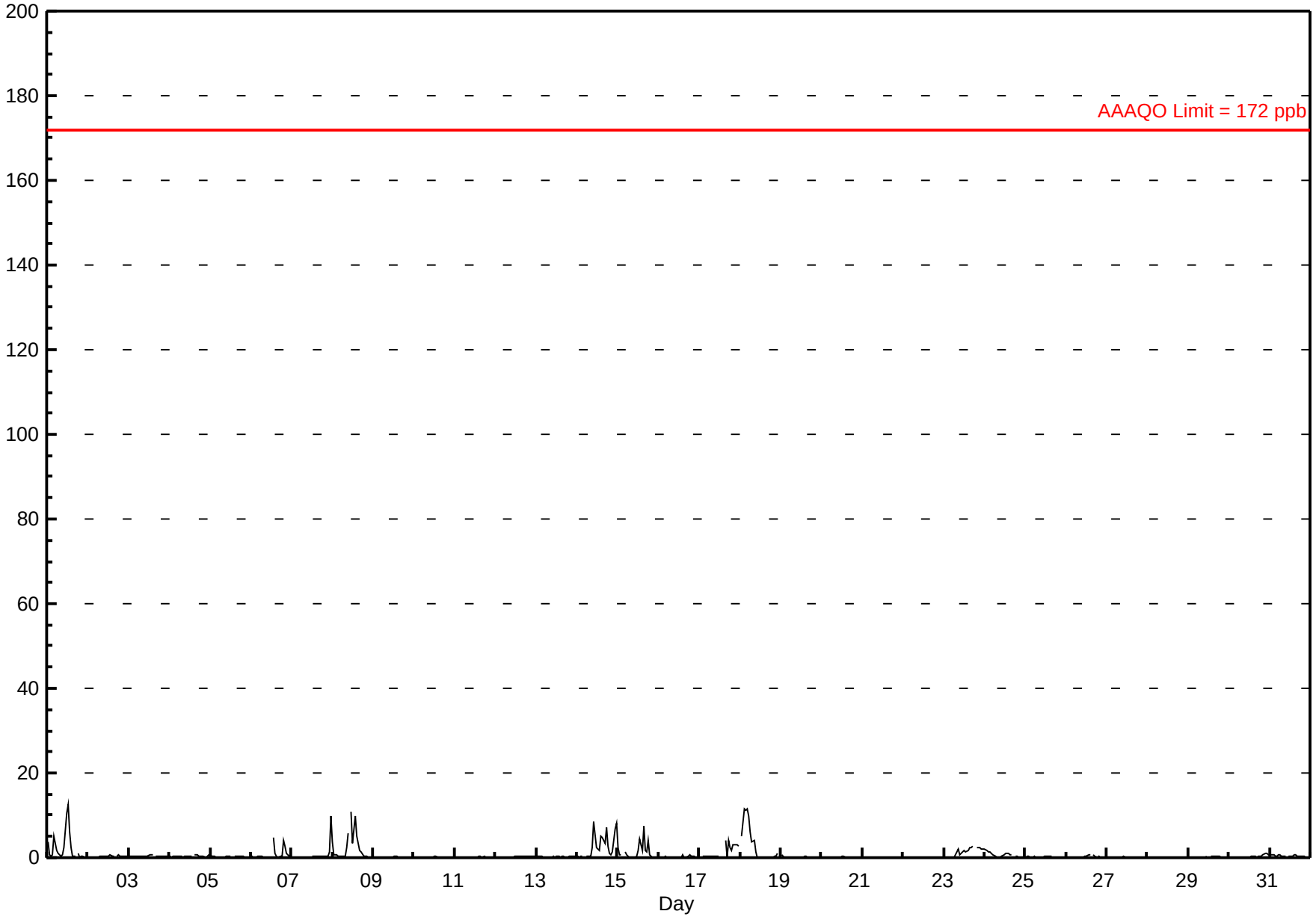
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Valleyview - January 2013



PAZA
Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Valleyview - January 2013

Maximum Value: 55.6 ppb on Jan 15 16:00

Maximum Daily Average: 6.6 ppb on Jan 18

Minimum Value: 0 ppb on Jan 17 17:00

Minimum Daily Average: 0.7 ppb on Jan 22

Maximum Diurnal Average: 4.3 ppb at hour 16

Minimum Diurnal Average: 1.3 ppb at hour 7

Monthly Average: 2.04 ppb

Percentiles: $P_1 = 0.5$ $P_{10} = 0.6$ $Q_1 = 0.8$ Median = 0.9 $Q_3 = 1.2$ $P_{90} = 2.9$ $P_{99} = 20.1$

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	10	2	1	4	15	5	2	2	1	1	11	24	24	21	12	1	1	A	2	1	1	1	1	1	6.3	23.9
2-Jan	1	1	1	1	1	1	1	1	2	1	1	1	1	2	1	1	A	1	2	1	1	1	1	1	1.1	1.9
3-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	A	1	1	1	1	1	1	1	1	1.1	1.8
4-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	2	1	1	1	1	1	1	1	1.0	1.6
5-Jan	2	1	1	1	1	1	1	1	1	1	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1.0	1.6
6-Jan	1	1	1	1	1	1	1	1	1	1	1	1	A	15	6	1	1	1	1	8	6	2	1	1	2.3	14.7
7-Jan	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	2	1	1	1	1	2	1	8	16	1.9	15.7
8-Jan	12	2	2	1	1	1	1	1	10	12	A	18	12	19	14	10	4	4	2	1	1	1	1	1	5.7	18.7
9-Jan	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	0.9
10-Jan	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
11-Jan	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.4
12-Jan	1	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	1.4
13-Jan	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3
14-Jan	1	1	1	1	A	1	1	1	1	11	14	4	5	5	15	14	12	12	11	2	2	4	16	17	6.5	16.7
15-Jan	11	3	2	A	2	2	1	1	1	1	1	1	14	24	4	56	4	3	14	2	1	1	1	1	6.5	55.6
16-Jan	1	1	A	1	1	1	1	1	1	1	1	1	0	1	2	1	1	1	2	1	1	1	1	1	1.0	2.3
17-Jan	1	A	1	1	1	1	1	1	1	1	1	1	C	C	C	17	0	17	11	11	9	9	7	7	5.1	17.3
18-Jan	A	15	23	20	18	18	12	10	10	5	1	1	1	1	1	1	1	1	1	1	3	1	2	A	6.6	23.0
19-Jan	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0.8	1.6
20-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.8	1.2
21-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	A	1	1	1	0.8	0.9
22-Jan	0	1	1	1	1	1	1	1	2	1	1	1	1	1	0	0	1	1	1	A	0	0	1	1	0.7	1.7
23-Jan	1	1	1	1	1	1	1	3	3	1	2	2	2	2	3	3	3	4	A	3	3	3	3	3	2.1	3.6
24-Jan	3	3	2	2	2	2	1	1	1	1	1	2	2	2	2	2	2	A	1	1	1	1	1	1	1.4	2.9
25-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.9	1.2
26-Jan	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1	A	3	1	1	1	1	1	1	1	1.0	2.8
27-Jan	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
28-Jan	1	1	1	0	1	1	1	1	0	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.8	1.0
29-Jan	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	1.4
30-Jan	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	2	2	2	2	1.0	1.7
31-Jan	2	2	1	1	1	2	2	1	1	1	A	1	1	2	1	2	1	1	1	1	1	1	1	1	1.3	2.1
	2.0	1.5	1.7	1.6	2.0	1.7	1.3	1.3	1.6	1.8	1.7	2.5	2.9	3.9	2.8	4.3	1.7	2.2	2.1	1.7	1.6	1.4	1.9	2.2	Diurnal Average	
	12.5	14.8	23.0	20.3	18.1	17.7	12.4	10.2	10.4	11.9	13.8	23.9	23.9	23.9	15.0	55.6	11.9	17.3	14.1	11.4	8.9	9.4	16.0	16.7	Diurnal Maximum	

C - Calibration

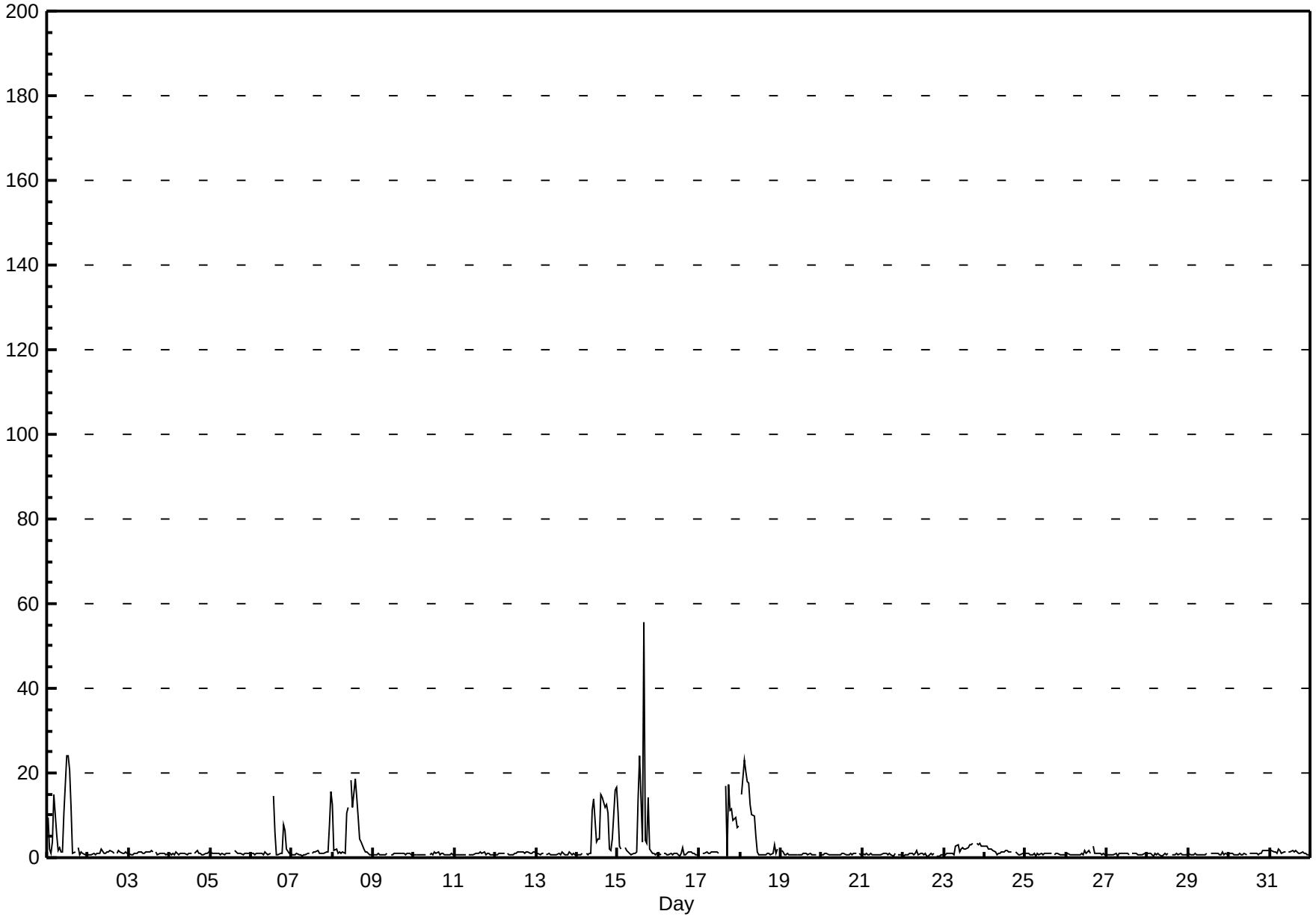
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

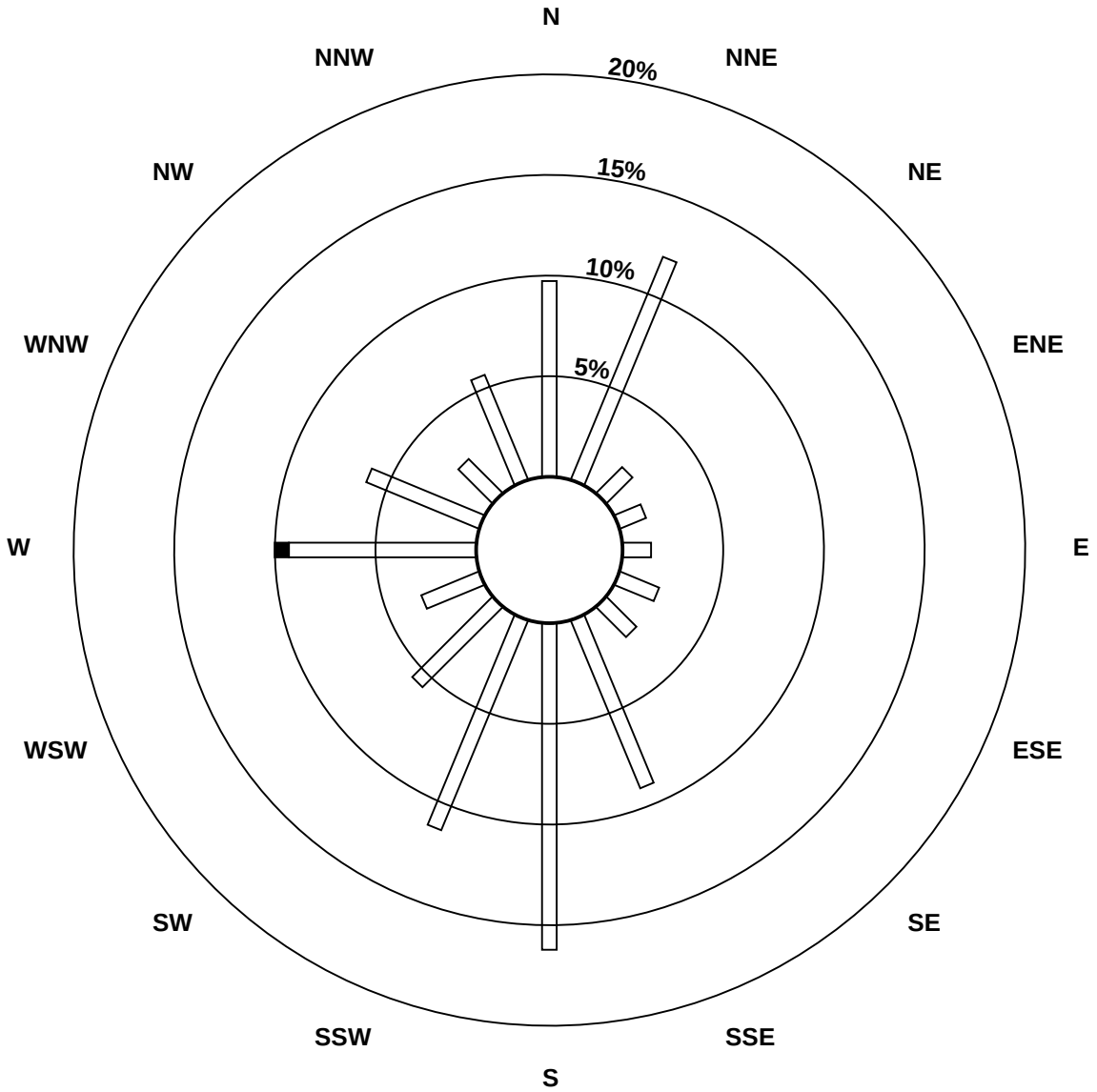
Valleyview - January 2013



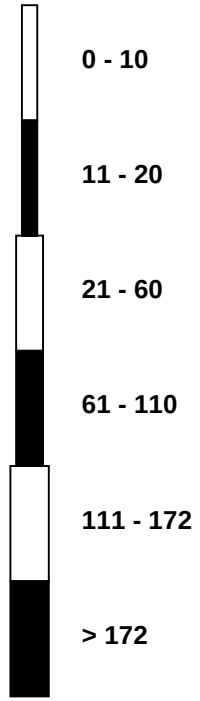
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Valleyview - January 2013



Pollutant Classes (ppb)

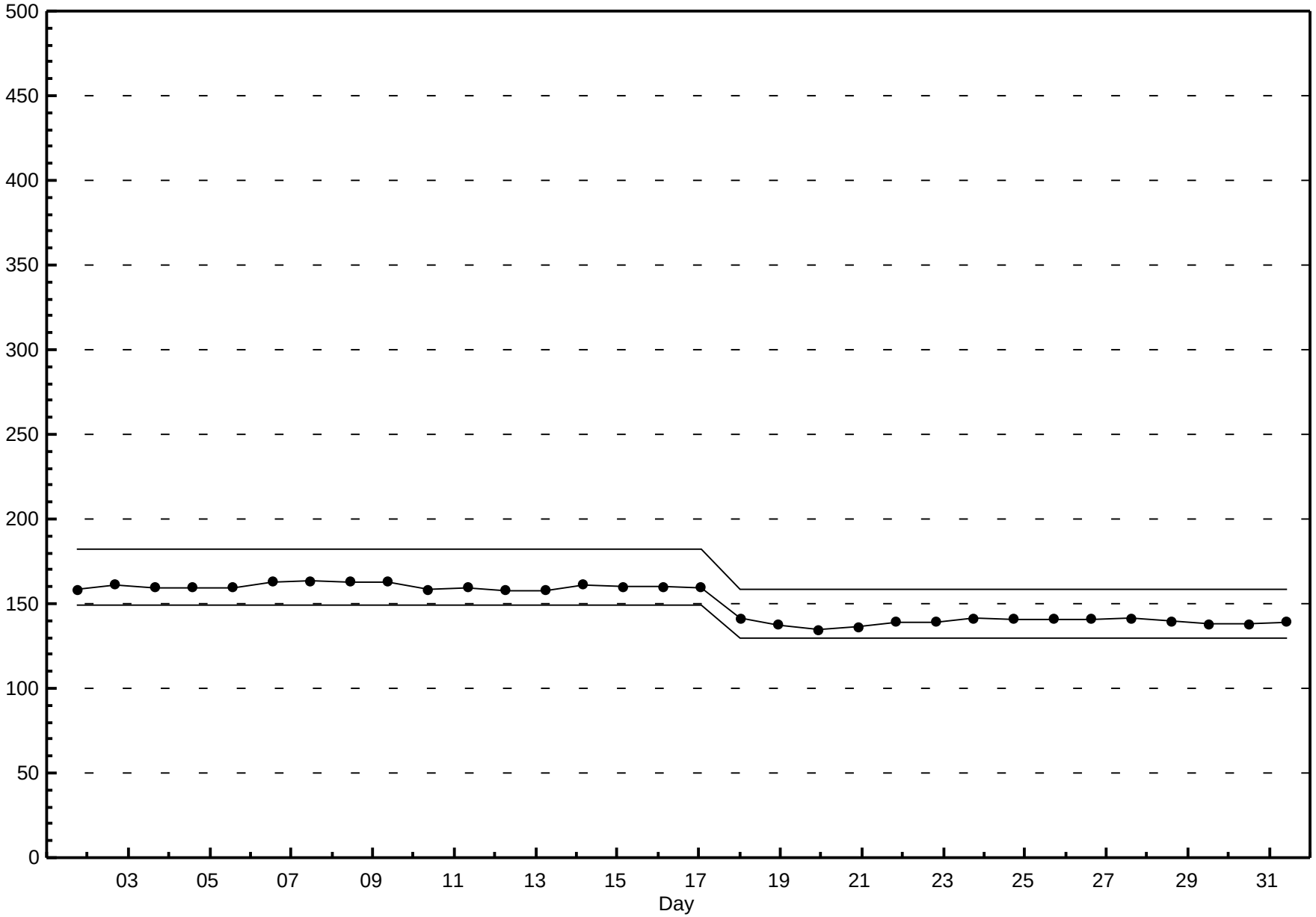


Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Valleyview - January 2013



Peace Airshed Zone Association

Hourly Averages

Hydrogen Sulphide (H_2S) - ppb

Valleyview - January 2013

Number of Exceedences (AAAQO): 1-hr: 7 24-hr: 1
Maximum Value: 20.7 ppb on Jan 12 14:00 Maximum Daily Average: 7.1 ppb on Jan 12

Minimum Value: 0 ppb on Jan 1 16:00
Maximum Diurnal Average: 1.2 ppb at hour 18
Monthly Average: 0.58 ppb

Minimum Daily Average: 0.0 ppb on Jan 29
Minimum Diurnal Average: 0.2 ppb at hour 6
Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.0 Median = 0.1 Q_3 = 0.4 P_{90} = 0.9 P_{99} = 13.0

Hours in Service:	744
Hours of Data:	707
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	0	0	0	1	1	1	1	1	2	1	0	0	1	1	0	1	A	2	0	0	0	0	0	0.6	1.8
2-Jan	0	0	0	0	0	0	0	0	0	0	2	5	2	1	1	1	A	1	0	0	0	0	0	0	0.6	4.7
3-Jan	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	2	1	3	1	1	1	1	0.6	2.8
4-Jan	1	1	1	1	0	1	0	0	1	1	1	0	0	0	A	0	0	0	0	0	0	0	0	1	0.5	1.3
5-Jan	2	1	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.3	1.8
6-Jan	0	0	0	0	0	0	0	0	0	0	0	0	A	1	4	0	0	1	1	1	0	0	0	0	0.4	3.8
7-Jan	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4
8-Jan	0	0	0	0	0	0	0	0	1	1	A	0	0	0	1	1	0	0	0	0	0	0	0	1	0.3	1.2
9-Jan	1	1	0	1	1	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.9
10-Jan	0	0	0	0	0	0	0	0	A	0	0	2	0	1	0	0	0	0	1	2	0	0	0	0	0.5	2.4
11-Jan	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0.3	0.6
12-Jan	0	0	0	0	0	0	A	0	0	0	0	8	17	21	20	19	17	16	14	9	9	5	4	2	7.1	20.7
13-Jan	1	1	1	1	2	A	1	1	1	1	0	0	1	1	1	2	2	3	3	3	4	4	5	5	1.9	5.1
14-Jan	5	4	3	2	A	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	5	1	1	1.3	5.3
15-Jan	1	4	1	A	1	0	0	0	1	0	0	0	1	0	0	1	0	7	7	1	0	0	0	0	1.1	7.3
16-Jan	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	0.4
17-Jan	0	A	0	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	1	0	1	1	1	1	0.3	1.3
18-Jan	A	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0.2	0.8
19-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.0	0.1
20-Jan	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
21-Jan	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
22-Jan	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
23-Jan	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	0.2
24-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	1	0	0	0.3	0.7
25-Jan	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0	0	0	0	0	0.2	0.5
26-Jan	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
27-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	0	1	1	1	1	0	0	0	0	0.2	0.9
28-Jan	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
29-Jan	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
30-Jan	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
31-Jan	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
	0.4	0.5	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.7	0.8	1.0	1.1	0.9	0.9	1.2	1.2	0.8	0.7	0.7	0.5	0.5	Diurnal Average	
	4.7	4.2	3.0	2.0	1.8	1.1	1.3	1.4	1.4	1.8	2.2	8.2	16.6	20.7	19.7	18.9	17.0	16.4	14.3	8.7	8.9	5.4	4.6	5.1	Diurnal Maximum	

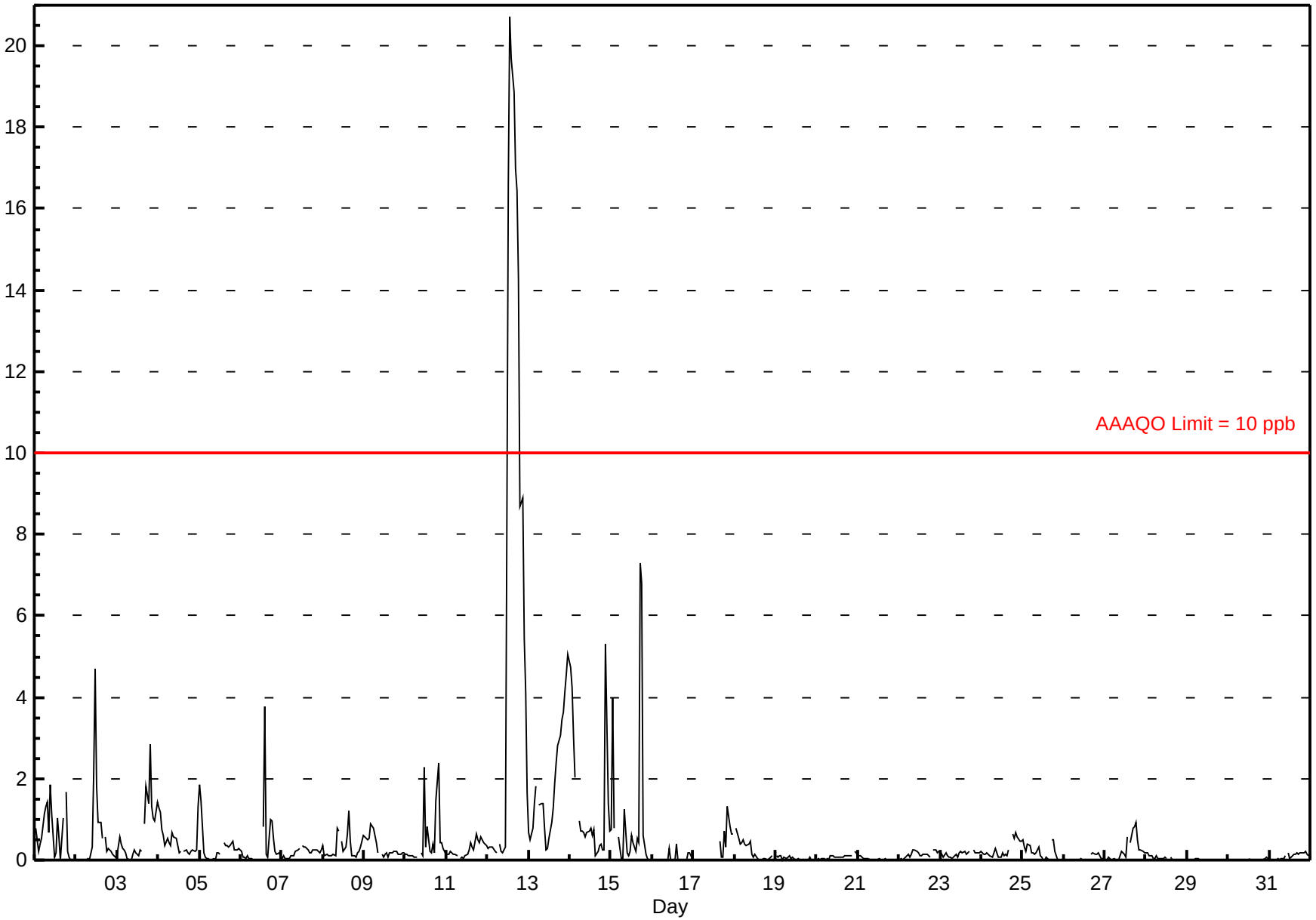
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

Peace Airshed Zone Association

Hourly Averages

Hydrogen Sulphide (H_2S) - ppb

Valleyview - January 2013



Peace Airshed Zone Association

Hourly Maximums

Hydrogen Sulphide (H_2S) - ppb

Valleyview - January 2013

Maximum Value: 81.6 ppb on Jan 14 22:00

Maximum Daily Average: 9.0 ppb on Jan 12

Minimum Value: 0 ppb on Jan 30 02:00

Minimum Daily Average: 0.3 ppb on Jan 29

Maximum Diurnal Average: 3.7 ppb at hour 22

Minimum Diurnal Average: 0.6 ppb at hour 6

Monthly Average: 1.55 ppb

Percentiles: $P_1 = 0.1$ $P_{10} = 0.3$ $Q_1 = 0.4$ Median = 0.5 $Q_3 = 0.9$ $P_{90} = 2.0$ $P_{99} = 21.1$

Hours in Service:	744
Hours of Data:	707
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	2	1	1	1	1	2	2	2	2	3	4	1	1	2	2	0	8	A	4	1	1	0	0	0	1.8	8.2
2-Jan	0	0	0	0	0	0	0	0	0	4	8	8	4	2	3	1	A	1	1	1	1	1	0	0	1.6	7.9
3-Jan	1	2	1	1	1	1	0	0	0	1	1	0	0	1	1	A	3	3	2	4	2	2	1	2	1.3	4.2
4-Jan	2	2	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0	1	1	1	1	2	0.9	2.1
5-Jan	3	4	1	0	0	0	0	0	0	0	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.8	3.6
6-Jan	1	0	0	0	0	0	0	0	0	0	0	0	A	2	50	1	1	2	2	1	1	1	1	1	2.9	49.9
7-Jan	1	1	0	0	0	0	0	0	1	1	1	A	1	1	1	1	0	1	1	1	1	1	1	1	0.6	0.9
8-Jan	1	0	0	0	1	1	1	1	1	1	A	1	1	1	1	2	1	1	0	0	1	1	1	1	0.8	1.9
9-Jan	1	1	1	1	1	1	1	1	1	A	1	0	0	1	0	1	1	1	1	1	1	1	1	1	0.7	1.4
10-Jan	0	0	0	0	1	0	1	1	A	1	0	11	1	2	1	1	1	1	10	9	1	1	1	1	1.9	10.8
11-Jan	1	1	1	0	0	1	1	A	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	0.7	1.5
12-Jan	1	1	1	1	1	0	A	1	1	1	1	15	22	22	21	20	19	17	17	13	13	9	7	4	9.0	21.9
13-Jan	1	1	1	2	2	A	2	2	2	1	1	1	1	1	2	3	3	4	4	4	4	5	6	6	2.5	5.6
14-Jan	5	5	4	3	A	1	1	1	1	1	1	1	1	3	5	1	1	1	1	1	1	82	4	1	5.5	81.6
15-Jan	1	57	1	A	1	1	1	1	23	1	1	1	2	3	1	1	1	46	52	1	0	0	0	0	8.5	57.3
16-Jan	0	0	A	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1	0	0.5	1.5
17-Jan	0	A	0	0	0	0	0	0	0	0	C	C	C	C	C	1	1	0	2	2	2	2	1	1	0.9	2.2
18-Jan	A	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	A	0.6	1.3
19-Jan	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.4	0.5
20-Jan	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	1	1	0	0	0	A	1	1	0.4	0.7
21-Jan	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.4	0.5
22-Jan	0	0	0	0	0	1	0	0	1	1	1	1	1	1	1	0	0	1	0	A	0	1	0	1	0.5	1.2
23-Jan	1	1	1	1	0	0	0	0	1	1	0	1	1	0	1	0	0	0	A	1	1	1	1	1	0.5	0.8
24-Jan	0	1	1	0	1	1	0	1	1	1	0	0	0	1	0	1	1	A	1	1	1	1	1	1	0.7	1.1
25-Jan	1	1	1	1	1	1	0	0	2	3	1	1	0	0	0	0	A	1	1	1	0	0	0	0	0.8	3.2
26-Jan	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	A	1	1	1	1	1	0	0	0	0.4	1.0
27-Jan	0	0	0	0	0	0	0	0	0	1	1	1	1	1	A	1	2	1	1	1	1	1	1	1	0.7	1.6
28-Jan	1	1	1	0	0	0	1	0	0	1	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0.4	0.6
29-Jan	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0.3	0.4
30-Jan	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
31-Jan	0	0	0	0	0	0	0	1	1	1	A	1	0	1	1	1	1	0	0	1	0	1	0	1	0.5	0.6
	0.9	2.8	0.7	0.6	0.6	0.6	0.6	0.6	1.5	0.9	1.0	1.7	1.5	1.7	3.4	1.4	1.7	3.0	3.5	1.7	1.2	3.7	1.1	0.9	Diurnal Average	
	5.2	57.3	3.7	2.8	2.4	1.9	2.2	2.2	23.3	3.9	7.9	14.9	21.6	21.9	49.9	20.0	18.8	46.3	51.6	13.2	12.9	81.6	7.1	5.6	Diurnal Maximum	

C - Calibration

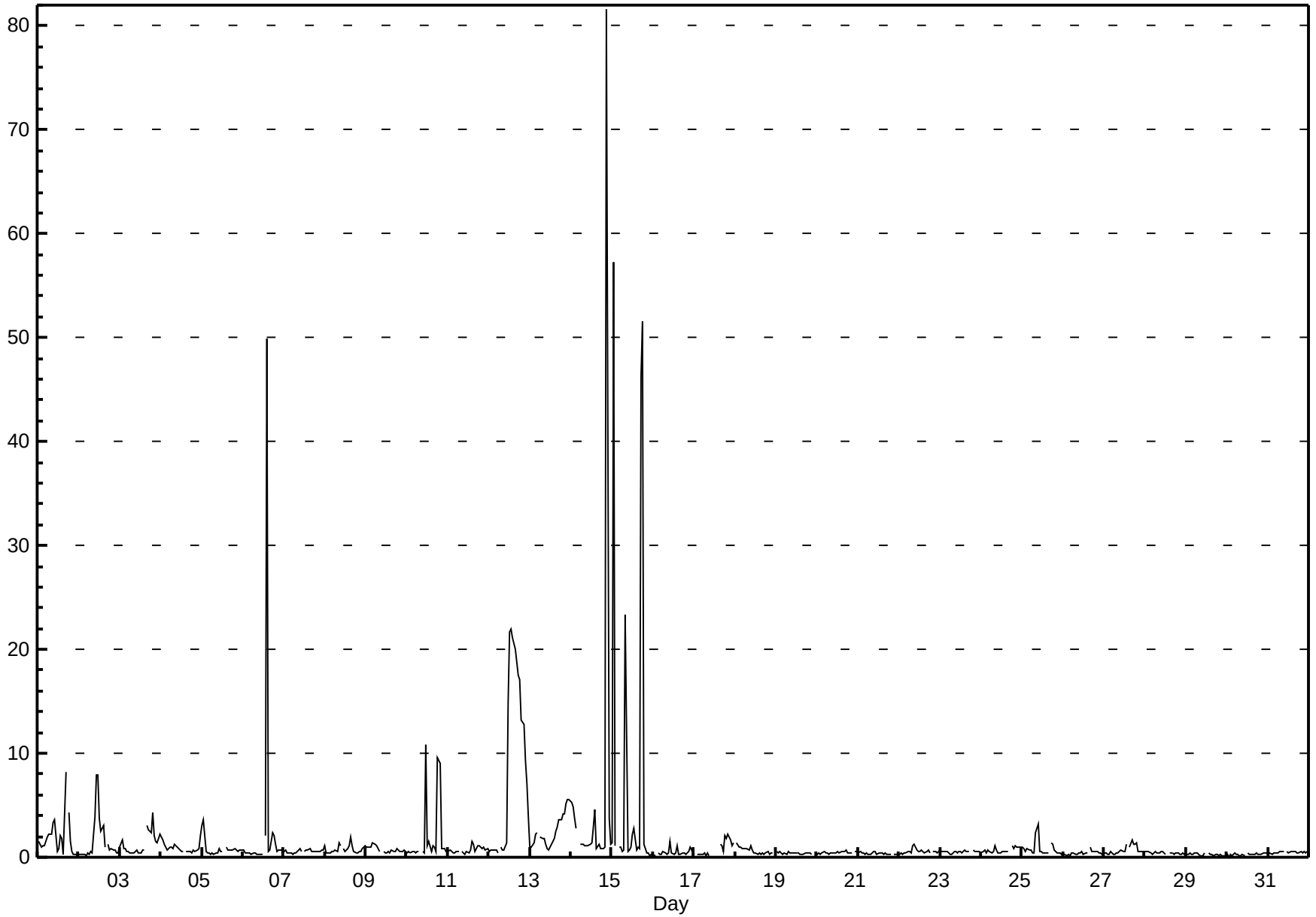
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Hydrogen Sulphide (H_2S) - ppb

Valleyview - January 2013

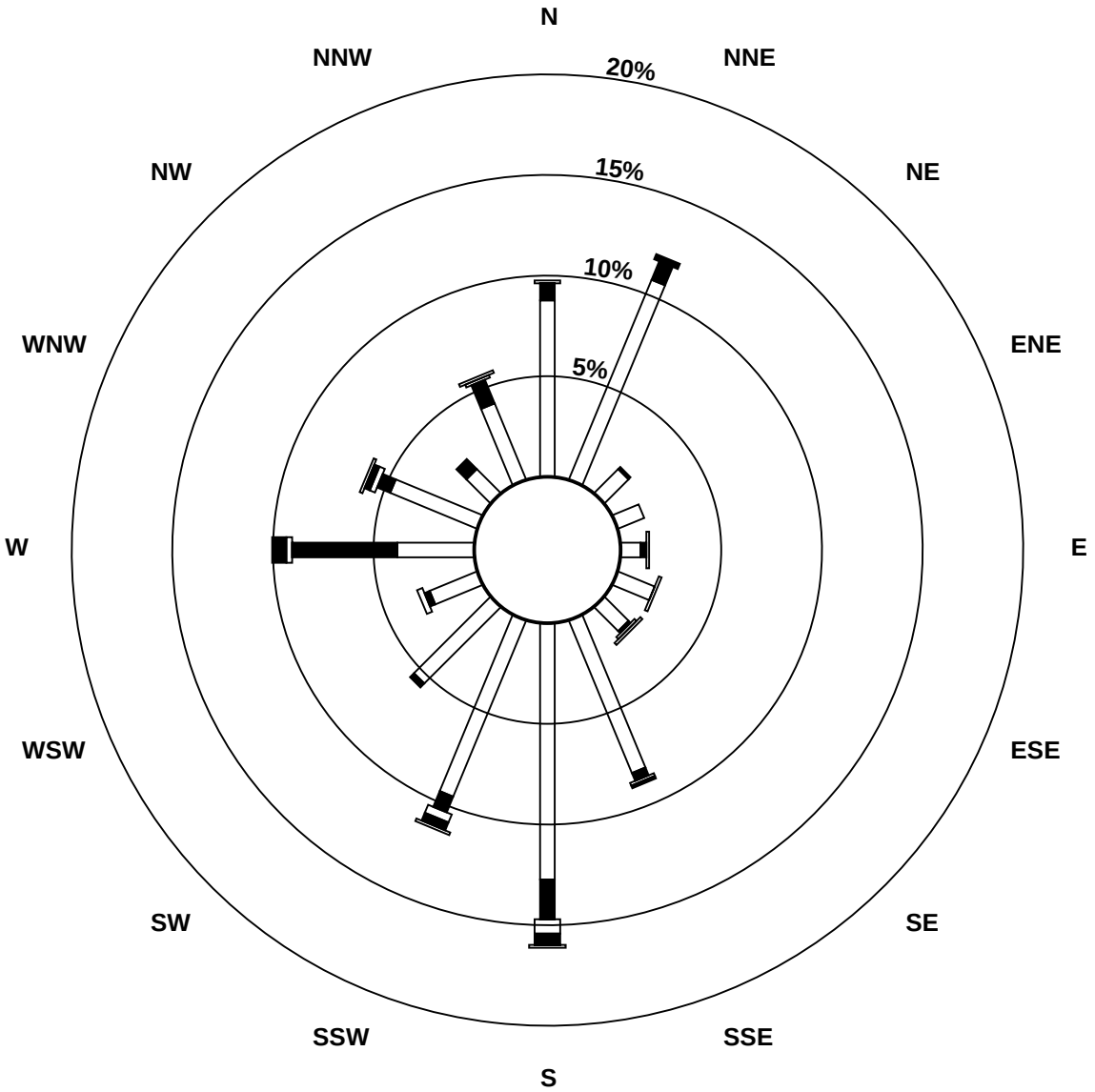


Peace Airshed Zone Association

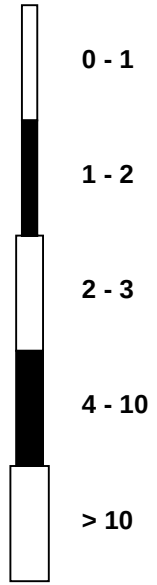
Pollutant Rose

Hydrogen Sulphide (H_2S) - ppb

Valleyview - January 2013



Pollutant Classes (ppb)

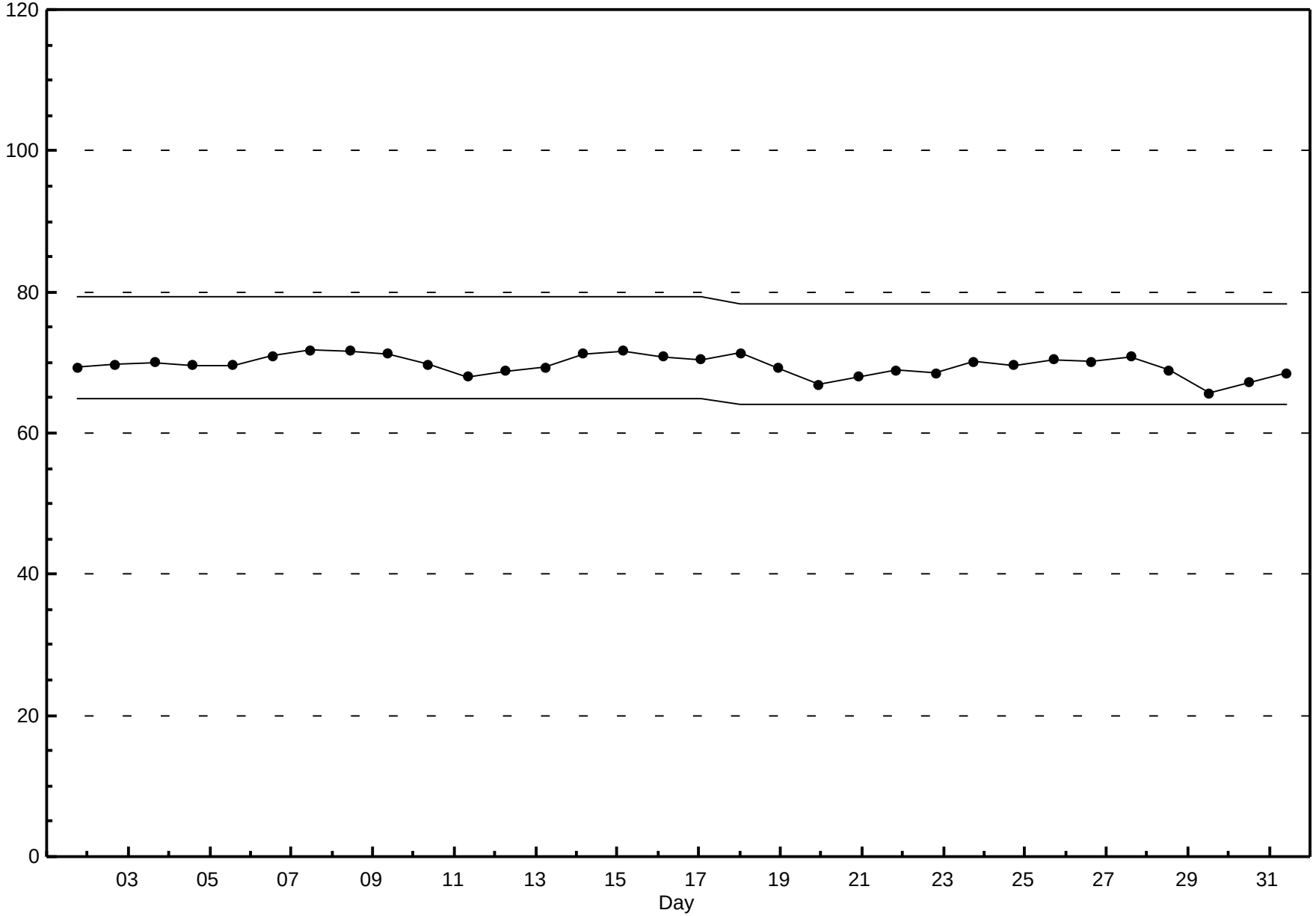


Peace Airshed Zone Association

Span Responses

Hydrogen Sulphide (H_2S)

Valleyview - January 2013



Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - °C

Valleyview - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 10.3 °C on Jan 15 16:00 Maximum Daily Average: 9.2 °C on Jan 15

Minimum Value: -32 °C on Jan 29 08:00 Minimum Daily Average: -26.9 °C on Jan 29
Maximum Diurnal Average: -6.0 °C at hour 16 Minimum Diurnal Average: -10.7 °C at hour 9
Monthly Average: -8.73 °C Percentiles: P_1 = -28.9 P_{10} = -21.5 Q_1 = -13.8 Median = -9.3 Q_3 = -2.4 P_{90} = 2.3 P_{99} = 9.6

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

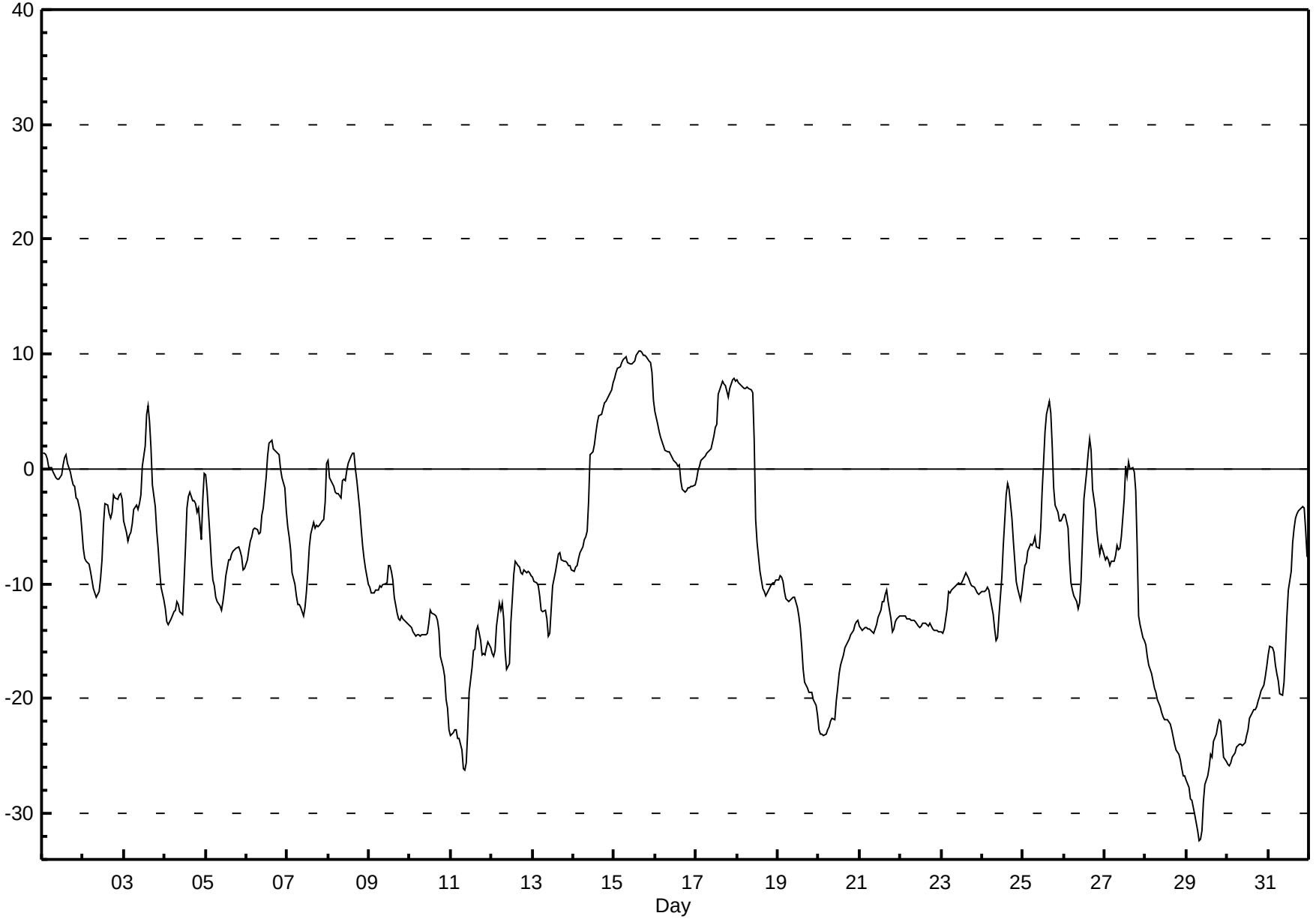
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jan	1	1	1	1	0	0	0	-1	-1	-1	-1	0	0	1	1	0	0	-1	-1	-2	-3	-3	-4	-5	-0.6	1.4
2-Jan	-7	-8	-8	-8	-9	-10	-10	-11	-11	-11	-10	-8	-5	-3	-3	-4	-4	-4	-2	-2	-3	-2	-2	-3	-6.1	-2.1
3-Jan	-5	-5	-6	-6	-6	-5	-4	-3	-4	-3	-2	0	2	5	5	4	2	-1	-3	-5	-7	-9	-10	-11	-3.2	5.5
4-Jan	-12	-13	-13	-13	-13	-12	-12	-11	-12	-12	-13	-10	-7	-3	-2	-2	-3	-3	-3	-4	-3	-6	-3	0	-7.8	-0.4
5-Jan	0	-2	-6	-8	-10	-10	-11	-12	-12	-12	-12	-11	-9	-8	-8	-7	-7	-7	-7	-7	-7	-8	-9	-9	-8.2	-0.5
6-Jan	-8	-7	-6	-6	-5	-5	-5	-6	-6	-4	-3	-1	1	2	2	2	2	2	1	1	0	-1	-2	-4	-2.3	2.5
7-Jan	-5	-6	-7	-9	-10	-11	-12	-12	-12	-13	-12	-11	-9	-7	-6	-5	-5	-5	-5	-5	-5	-4	-3	1	-7.4	0.5
8-Jan	1	-1	-1	-2	-2	-2	-2	-3	-1	-1	-1	0	0	1	1	1	0	-1	-3	-5	-7	-8	-9	-10	-2.2	1.4
9-Jan	-10	-11	-11	-11	-11	-11	-10	-10	-10	-10	-10	-8	-8	-9	-10	-11	-13	-13	-13	-13	-13	-13	-13	-14	-11.1	-8.4
10-Jan	-14	-14	-14	-15	-14	-14	-15	-14	-14	-14	-14	-13	-12	-13	-13	-13	-13	-14	-16	-17	-18	-20	-21	-23	-15.1	-12.3
11-Jan	-23	-23	-23	-23	-24	-23	-24	-26	-26	-26	-23	-19	-17	-16	-16	-14	-14	-15	-16	-16	-16	-16	-15	-16	-19.6	-13.7
12-Jan	-16	-16	-16	-14	-12	-12	-12	-13	-16	-17	-17	-13	-11	-9	-8	-8	-9	-9	-9	-9	-9	-9	-9	-9	-11.8	-8.1
13-Jan	-9	-10	-10	-10	-11	-12	-12	-12	-13	-15	-14	-12	-10	-9	-8	-7	-7	-8	-8	-8	-8	-8	-8	-9	-10.1	-7.3
14-Jan	-9	-9	-8	-8	-7	-7	-6	-6	-5	-3	1	1	2	3	4	5	5	5	6	6	6	6	7	8	-0.1	7.5
15-Jan	8	8	9	9	9	10	10	10	9	9	9	9	9	10	10	10	10	10	10	10	9	9	8	6	9.2	10.3
16-Jan	5	4	3	3	2	2	2	2	1	1	1	1	0	0	0	-1	-2	-2	-2	-2	-2	-2	-1	-1	0.6	5.1
17-Jan	-1	0	0	1	1	1	1	2	2	2	3	4	4	6	7	8	7	7	7	6	7	8	8	8	4.1	7.9
18-Jan	8	8	7	7	7	7	7	7	7	7	3	-4	-6	-9	-10	-10	-11	-11	-11	-10	-10	-10	-10	-10	-2.0	7.7
19-Jan	-10	-9	-9	-10	-11	-11	-12	-11	-11	-11	-11	-12	-13	-14	-15	-17	-19	-19	-19	-19	-19	-20	-21	-22	-14.4	-9.2
20-Jan	-23	-23	-23	-23	-23	-23	-22	-22	-22	-22	-20	-19	-18	-17	-16	-16	-15	-15	-15	-14	-14	-14	-13	-13	-18.6	-13.2
21-Jan	-14	-14	-14	-14	-14	-14	-14	-14	-14	-14	-14	-13	-12	-12	-12	-11	-11	-12	-13	-14	-14	-13	-13	-13	-13.1	-10.5
22-Jan	-13	-13	-13	-13	-13	-13	-13	-13	-13	-13	-14	-14	-14	-13	-13	-13	-14	-13	-14	-14	-14	-14	-14	-14	-13.4	-12.8
23-Jan	-14	-14	-14	-12	-11	-11	-11	-10	-10	-10	-10	-10	-10	-10	-9	-9	-10	-10	-10	-10	-11	-11	-11	-11	-10.7	-9.0
24-Jan	-11	-11	-11	-10	-11	-11	-13	-14	-15	-15	-13	-9	-7	-5	-2	-1	-2	-4	-6	-8	-10	-10	-11	-11	-9.2	-1.3
25-Jan	-9	-8	-8	-7	-7	-7	-6	-6	-7	-7	-5	-2	1	3	5	6	5	2	-2	-3	-4	-5	-5	-4	-3.3	5.9
26-Jan	-4	-4	-5	-8	-10	-11	-11	-12	-12	-12	-10	-6	-3	0	1	3	2	-2	-3	-5	-7	-7	-7	-7	-5.8	2.6
27-Jan	-8	-8	-8	-8	-8	-8	-7	-7	-7	-7	-6	-3	0	-1	1	0	0	0	-2	-7	-13	-14	-15	-15	-6.2	0.6
28-Jan	-15	-16	-17	-18	-18	-19	-19	-20	-21	-21	-22	-22	-22	-22	-22	-23	-23	-24	-24	-25	-25	-26	-27	-27	-21.6	-15.4
29-Jan	-27	-28	-29	-29	-29	-30	-31	-32	-32	-32	-29	-28	-27	-26	-25	-25	-24	-23	-22	-22	-22	-23	-25	-25	-26.9	-21.8
30-Jan	-26	-26	-26	-25	-25	-24	-24	-24	-24	-24	-24	-23	-23	-22	-21	-21	-21	-21	-20	-20	-19	-19	-18	-17	-22.3	-17.2
31-Jan	-16	-15	-16	-16	-17	-18	-18	-20	-20	-19	-16	-13	-11	-9	-6	-5	-4	-4	-4	-3	-3	-3	-5	-8	-11.2	-3.3
	-9.2	-9.5	-9.7	-9.8	-10.0	-10.2	-10.3	-10.5	-10.7	-10.6	-9.9	-8.7	-7.5	-6.5	-6.0	-6.0	-6.3	-6.9	-7.5	-8.0	-8.5	-8.8	-9.0	-9.3	Diurnal Average	
	7.9	8.3	8.7	8.9	9.3	9.5	9.7	9.7	9.3	9.1	9.2	9.3	9.4	9.8	10.2	10.3	10.1	9.9	9.9	9.7	9.3	9.3	8.4	7.7	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Valleyview - January 2013



Hourly Averages

Relative Humidity (RH) - %

Valleyview - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 97.4 % on Jan 17 08:00 Maximum Daily Average: 89.0 % on Jan 16

Minimum Value: 26 % on Jan 15 17:00 Minimum Daily Average: 36.9 % on Jan 15
Maximum Diurnal Average: 79.0 % at hour 4 Minimum Diurnal Average: 64.0 % at hour 15
Monthly Average: 73.57 % Percentiles: P_1 = 30.8 P_{10} = 52.7 Q_1 = 66.9 Median = 76.3 Q_3 = 83.2 P_{90} = 88.0 P_{99} = 96.0

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

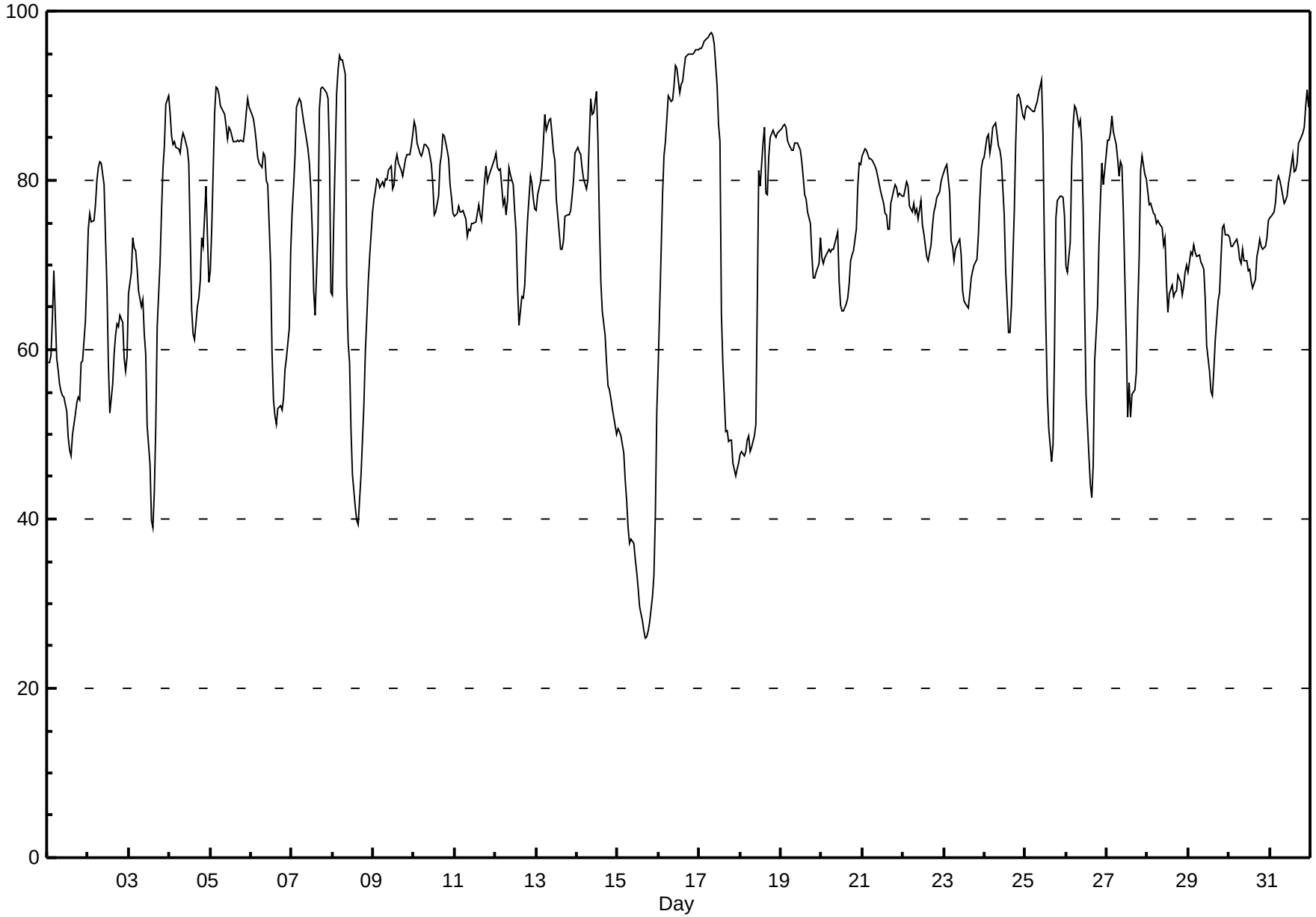
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jan	59	58	59	64	69	59	58	56	55	55	54	53	50	48	47	50	52	54	54	54	58	59	63	68	56.6	69.3
2-Jan	74	76	75	75	77	80	82	82	82	80	73	67	58	53	56	59	62	63	63	64	63	59	58	59	68.4	82.2
3-Jan	67	69	73	72	72	70	67	65	66	62	59	51	46	40	39	43	51	63	70	76	81	84	89	90	65.2	90.1
4-Jan	88	85	84	85	84	84	83	85	86	85	84	82	73	65	62	61	65	66	68	73	72	79	73	68	76.7	87.9
5-Jan	69	74	88	91	91	90	89	88	88	86	85	86	86	85	85	85	85	85	85	85	86	88	90	89	85.7	91.1
6-Jan	88	87	86	85	83	82	81	83	83	80	79	70	59	54	52	51	53	53	53	54	58	59	63	72	69.5	87.7
7-Jan	76	79	83	89	90	89	88	87	86	84	82	79	74	67	64	74	89	91	91	91	90	90	83	67	82.6	91.1
8-Jan	66	75	90	93	95	94	94	93	68	61	59	51	45	41	40	39	42	45	54	60	64	68	71	76	66.0	94.7
9-Jan	78	79	80	80	79	80	79	80	80	81	82	79	80	82	83	82	81	80	82	83	83	83	84	85	81.1	85.4
10-Jan	87	86	84	83	83	83	84	84	84	83	82	79	76	76	78	82	83	85	85	84	83	79	78	76	82.1	87.0
11-Jan	76	76	77	76	76	77	75	73	74	74	75	75	75	76	77	76	75	80	82	80	81	81	82	82	77.1	82.5
12-Jan	83	81	81	81	77	78	76	78	82	81	79	76	74	68	63	66	66	68	72	75	81	80	78	77	75.8	83.2
13-Jan	76	78	80	82	85	88	86	87	87	85	83	82	78	74	72	72	73	76	76	76	76	78	80	83	79.7	87.9
14-Jan	84	83	83	81	80	79	80	85	90	88	88	91	85	75	68	65	62	58	56	55	54	53	51	50	72.7	90.6
15-Jan	51	50	50	48	45	42	39	37	38	37	35	34	32	30	28	27	26	26	27	28	31	33	41	53	36.9	52.7
16-Jan	58	72	78	83	85	87	90	89	90	91	94	93	90	91	92	93	95	95	95	95	95	95	95	95	89.0	95.5
17-Jan	96	96	96	96	97	97	97	97	97	96	91	87	85	64	58	50	51	49	49	49	47	45	46	47	74.3	97.4
18-Jan	48	48	48	48	49	50	48	48	50	51	66	81	79	84	86	79	78	83	85	86	85	85	86	86	68.2	86.3
19-Jan	86	86	87	86	85	84	84	83	84	84	84	84	82	80	78	78	76	75	71	69	68	69	70	73	79.5	86.5
20-Jan	71	70	71	71	72	72	72	72	73	74	68	65	65	65	65	66	68	70	71	72	74	79	82	82	71.2	82.0
21-Jan	83	84	84	83	83	83	82	82	81	80	79	79	77	76	76	74	74	77	79	80	79	78	78	78	79.6	83.8
22-Jan	78	79	80	79	77	76	77	76	77	75	78	75	74	72	71	71	72	75	76	77	78	79	80	80	76.3	80.5
23-Jan	81	81	82	78	73	72	70	72	73	73	71	67	66	65	65	67	68	69	70	71	74	78	81	82	72.9	82.4
24-Jan	83	85	85	83	84	86	87	85	84	84	82	76	69	66	62	62	65	76	84	90	90	90	88	87	80.6	90.2
25-Jan	89	89	89	89	88	88	89	89	90	92	85	72	63	55	51	47	49	60	76	78	78	78	78	76	76.5	91.8
26-Jan	70	69	73	82	87	89	89	86	87	84	77	65	55	47	44	42	47	59	65	73	78	82	79	81	71.2	88.8
27-Jan	85	85	86	88	86	84	83	81	82	82	76	61	52	56	52	55	55	57	65	71	81	83	81	80	73.6	87.7
28-Jan	79	77	77	76	76	75	75	75	74	72	73	68	64	67	68	66	67	67	69	68	67	67	69	70	71.1	78.7
29-Jan	69	72	71	72	72	71	71	70	70	70	66	61	57	55	55	58	61	66	67	71	74	75	74	74	67.5	74.8
30-Jan	73	72	72	73	73	72	71	70	72	70	70	69	69	68	67	68	71	72	73	72	72	72	73	75	71.4	75.3
31-Jan	76	76	76	78	80	80	80	79	77	78	78	80	81	83	81	81	82	84	85	86	86	89	91	89	81.4	90.6
	75.7	76.8	78.3	79.0	79.0	78.8	78.3	78.1	77.7	76.7	75.5	72.2	68.4	65.4	64.0	64.2	65.9	68.6	70.9	72.4	73.8	74.8	75.3	75.8	Diurnal Average	
	95.7	95.6	95.9	96.4	96.7	96.9	97.3	97.4	97.2	96.2	93.6	93.2	90.3	91.3	91.7	93.3	94.6	94.8	94.9	94.9	94.9	95.1	95.4	95.5	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

Relative Humidity (RH) - %

Valleyview - January 2013



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Valleyview - January 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	18	17	19	20	16	16	16	13	12	6	6	9	10	9	9	8	6	8	10	8	2	2	3	3	9.6	19.9
Dir	274	283	284	280	274	276	275	279	281	277	260	263	267	278	281	300	285	269	286	294	154	192	167	168	276	280
2 Spd	1	2	4	2	2	1	1	1	1	1	1	1	1	0	1	1	0	3	2	3	1	2	2	1	1.2	4.0
Dir	154	185	172	181	182	218	231	220	218	278	282	275	256	318	269	195	195	207	220	213	223	228	208	232	210	172
3 Spd	1	2	1	1	1	2	3	2	0	2	2	2	1	1	1	2	1	1	0	0	1	1	2	1	0.7	2.6
Dir	298	352	183	213	194	198	195	179	214	175	215	219	161	212	136	201	86	338	330	198	187	26	344	317	200	195
4 Spd	1	1	1	1	0	0	0	1	2	0	1	2	3	2	3	2	2	3	2	2	3	2	6	9	1.3	9.0
Dir	85	182	219	184	219	15	149	210	16	340	185	181	178	183	183	188	192	189	168	180	231	214	257	278	217	278
5 Spd	8	3	2	2	2	1	1	1	1	1	1	2	2	0	2	1	1	1	1	0	1	0	1	0	0.8	7.8
Dir	278	262	173	176	181	204	194	185	207	207	271	248	245	297	7	341	164	168	8	189	170	201	158	301	235	278
6 Spd	1	1	1	2	1	2	2	3	4	3	3	3	10	18	15	11	7	7	6	6	5	3	2	2	3.9	18.2
Dir	214	159	205	211	209	235	189	180	184	149	177	203	260	279	282	296	286	274	279	261	251	245	222	178	259	279
7 Spd	2	2	2	2	2	2	2	3	3	2	3	2	1	1	3	2	2	1	1	1	2	2	5	12	2.1	11.9
Dir	197	188	184	217	207	220	205	215	194	206	212	171	265	238	190	196	190	238	217	285	209	188	236	261	219	261
8 Spd	10	11	12	11	7	4	0	3	11	9	9	12	11	11	11	4	3	2	2	1	0	1	1	2	5.4	12.1
Dir	292	321	294	316	325	323	231	224	275	268	263	267	257	267	277	283	237	222	215	193	297	202	40	342	281	294
9 Spd	2	1	1	2	2	1	3	4	2	2	7	9	12	13	13	14	14	12	10	11	11	10	11	9	7.2	14.4
Dir	333	13	301	4	12	11	38	5	16	14	15	20	10	5	4	6	13	16	7	7	0	1	360	6	8	6
10 Spd	6	4	5	4	1	1	2	1	1	1	1	1	1	2	2	2	1	1	0	2	2	1	1	2	0.8	6.2
Dir	6	25	16	22	32	110	74	101	69	46	64	144	166	308	319	346	103	123	194	237	213	194	175	168	30	6
11 Spd	1	0	0	0	1	1	1	1	1	1	1	2	1	1	3	0	0	0	1	1	1	1	0	1	0.3	2.9
Dir	154	45	100	345	12	183	178	176	178	193	190	167	299	296	330	344	88	356	15	266	190	173	223	195	219	330
12 Spd	1	2	4	2	2	1	5	2	3	3	4	3	2	1	2	2	1	1	1	1	1	1	1	3	0.6	4.7
Dir	183	174	166	180	217	38	316	239	133	161	172	172	123	95	336	124	297	183	207	29	148	289	23	350	177	316
13 Spd	4	2	0	1	1	1	0	1	1	1	3	2	2	2	2	1	0	1	1	2	1	2	2	2	1.1	3.8
Dir	323	342	142	182	159	166	150	192	186	196	186	176	182	183	172	181	195	198	172	177	178	196	185	196	189	323
14 Spd	2	4	4	5	3	3	2	2	3	6	16	15	15	12	5	4	7	9	16	13	16	16	17	22	7.8	22.2
Dir	197	186	184	178	185	175	163	167	187	253	279	280	278	277	258	242	258	268	278	282	282	277	272	272	266	272
15 Spd	25	25	22	19	22	26	26	25	26	24	22	23	23	22	21	22	25	23	23	22	19	20	19	20	22.3	26.0
Dir	277	279	278	276	277	281	283	287	282	283	284	280	282	284	282	277	277	278	278	285	289	290	310	332	284	283
16 Spd	18	17	13	10	8	9	11	9	9	5	6	6	5	6	4	8	7	2	2	0	0	1	2	1	5.7	18.4
Dir	339	341	334	327	310	298	287	295	309	291	291	313	303	316	278	5	7	287	193	33	115	83	53	63	321	339
17 Spd	1	1	1	1	2	3	4	4	4	3	3	4	4	9	16	17	10	10	8	7	11	13	16	17	5.4	17.2
Dir	141	166	163	172	170	175	162	179	178	181	188	167	168	272	278	262	252	259	264	271	279	276	279	277	256	277
18 Spd	21	18	16	16	19	21	23	25	24	21	15	18	16	16	12	14	13	11	5	1	0	1	2	1	9.6	25.0
Dir	275	274	266	269	268	273	274	275	276	280	338	18	25	10	17	4	4	355	339	297	212	225	186	182	303	275
19 Spd	2	1	2	5	6	5	4	3	5	7	8	11	15	18	21	18	19	20	21	16	11	10	7	6	9.6	21.5
Dir	181	155	19	21	3	4	340	341	17	19	12	9	9	12	3	356	357	353	353	358	9	20	27	24	4	3
20 Spd	3	1	1	2	2	1	1	0	1	2	1	4	5	4	3	3	4	4	4	3	3	1	1	2	1.7	4.8
Dir	50	24	17	30	27	82	154	94	60	357	123	173	165	68	100	114	118	119	120	115	115	90	78	111	102	165
21 Spd	4	4	5	5	4	5	5	6	5	2	2	5	6	6	7	4	4	5	6	6	5	3	4	5	4.6	7.1
Dir	12	2	10	17	23	4	357	2	16	30	357	358	345	341	338	354	14	9	8	356	342	330	334	18	360	338
22 Spd	5	5	5	5	7	7	6	5	6	5	6	5	6	5	6	7	6	4	5	4	4	3	3	4	5.2	7.2
Dir	29	25	18	24	18	20	15	356	1	21	36	32	16	25	16	8	0	17	28	20	22	39	34	24	19	18

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Valleyview - January 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
23 Spd	3	5	4	5	10	11	11	9	9	10	11	14	15	13	9	15	14	14	13	11	12	10	9	8	9.0	15.0
Dir	12	26	34	110	127	130	135	143	148	152	164	163	164	165	158	165	162	163	165	162	163	165	170	172	155	164
24 Spd	6	6	5	3	2	2	2	1	1	2	3	3	3	4	3	2	1	1	0	0	1	0	0	0	2.0	6.4
Dir	173	172	178	183	213	174	169	185	190	199	182	185	186	190	183	198	246	270	269	305	186	330	336	199	185	173
25 Spd	2	0	0	2	0	1	0	1	1	4	4	3	5	3	2	2	1	1	2	2	3	2	3	3	1.7	4.6
Dir	223	198	252	327	169	177	146	217	206	207	197	189	188	179	183	244	246	208	181	208	191	163	161	177	194	188
26 Spd	5	4	2	2	1	1	1	1	1	1	1	1	2	2	2	2	1	0	1	0	1	2	3	1	1.6	5.1
Dir	175	177	199	208	200	182	202	223	183	225	208	199	197	186	216	182	208	190	194	245	212	207	210	219	198	175
27 Spd	1	1	1	0	1	1	1	1	0	0	1	1	1	2	2	2	2	1	3	11	12	10	12	10	2.4	12.0
Dir	222	215	239	191	195	227	207	220	165	17	236	203	189	342	342	322	3	21	338	9	20	16	11	13	6	11
28 Spd	11	12	13	13	10	10	10	10	10	10	9	10	12	10	10	10	10	8	13	13	12	8	6	5	10.2	13.3
Dir	14	18	9	15	16	13	18	22	18	21	16	18	11	18	20	17	16	20	14	7	2	350	346	10	13	9
29 Spd	7	5	6	3	3	1	1	2	2	2	2	3	4	4	2	3	2	3	2	3	7	11	11	11	1.7	11.2
Dir	8	329	347	347	308	276	178	159	157	156	172	179	167	161	165	349	131	131	114	33	13	358	360	353	9	358
30 Spd	11	12	8	6	5	4	7	6	3	4	3	2	1	1	2	1	2	3	4	4	4	3	2	2	1.7	12.0
Dir	356	356	348	333	336	339	340	358	49	37	71	65	68	135	160	150	147	161	167	158	160	153	171	167	11	356
31 Spd	2	4	5	1	2	2	0	1	0	0	1	1	0	1	0	1	2	2	2	1	1	2	7	5	0.6	7.3
Dir	175	181	180	182	202	202	208	229	61	61	173	153	150	156	160	197	182	183	196	135	156	17	13	355	175	13
Spd	3.2	2.8	2.5	2.4	2.1	2.1	2.2	2.3	2.1	1.8	1.7	1.5	1.9	2.9	3.0	2.6	2.0	1.8	2.1	2.2	1.7	1.9	2.2	2.6	Diurnal Average	
Dir	304	309	300	305	292	287	286	281	285	279	284	290	293	308	312	318	320	302	306	317	312	307	314	310		
Spd	25.1	25.1	21.6	19.9	22.1	25.6	26.0	25.0	25.8	24.2	21.6	23.4	23.5	22.0	21.5	22.4	25.2	23.1	22.8	21.7	19.4	20.3	18.9	22.2	Diurnal Maximum	
Dir	277	279	278	280	277	281	283	287	282	283	284	280	282	284	3	277	277	278	278	285	289	290	310	272		

Maximum Speed Value: 26 km/h on Jan 15 07:00
Minimum Speed Value: 0 km/h on Jan 5 14:00
Maximum Daily Speed Average: 22.3 km/h on Jan 15
Minimum Daily Speed Average: 0.3 km/h on Jan 11
Maximum Diurnal Speed Average: 3.2 km/h at hour 1
Minimum Diurnal Speed Average: 1.5 km/h at hour 12

Monthly Average Velocity: 2.18 km/h 301.8 deg
Speed Percentiles: $P_1 = 0.2$ $P_{10} = 0.7$ $Q_1 = 1.3$ Median = 2.8 $Q_3 = 7.6$ $P_{90} = 13.8$ $P_{99} = 24.9$
All monthly, daily, and diurnal averages have been calculated using vector methods

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

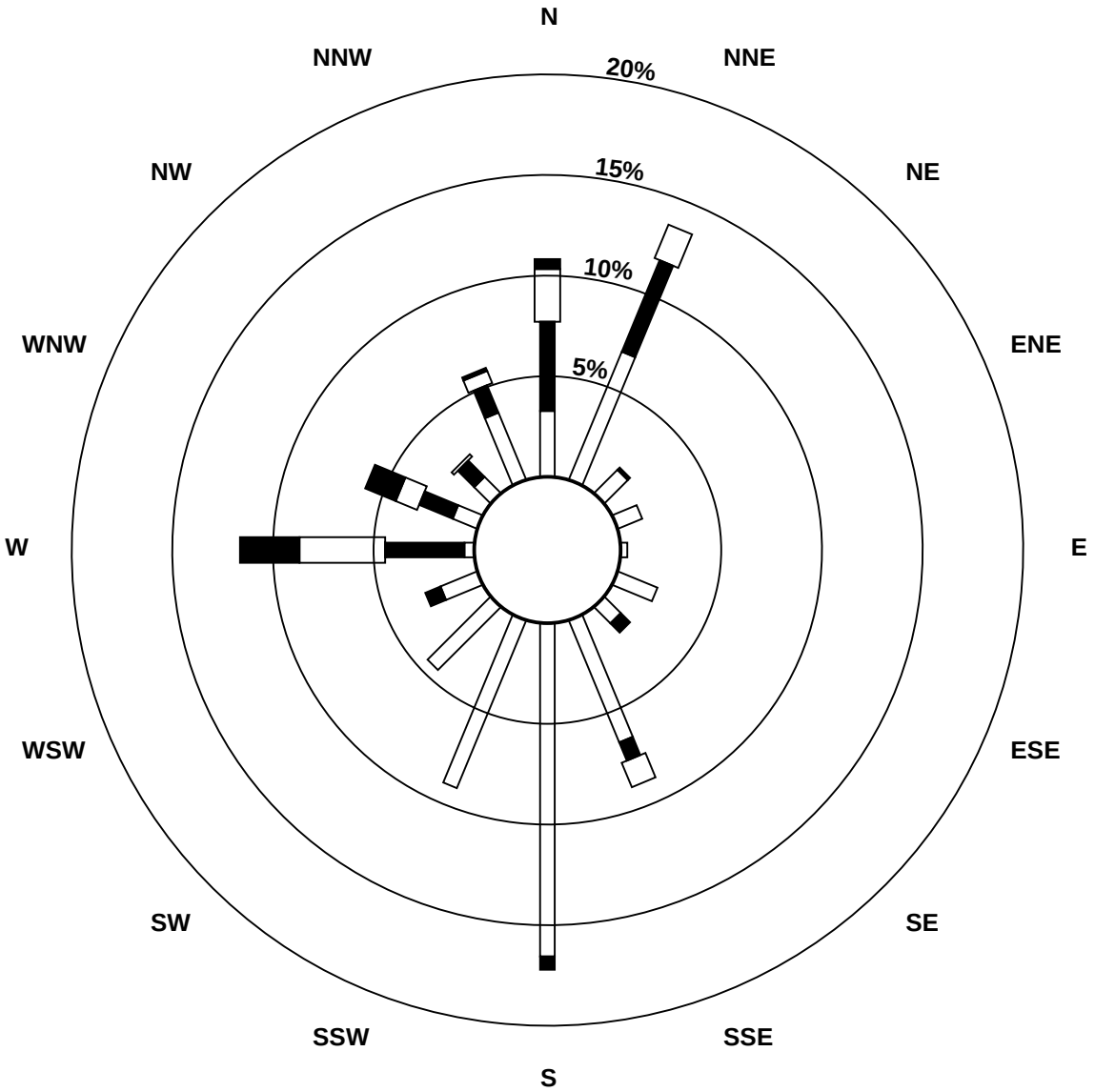
Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	60	66	33	4	0	0	163
NorthEast	34	7	1	0	0	0	42
East	21	0	0	0	0	0	21
SouthEast	40	6	0	0	0	0	46
South	199	8	9	0	0	0	216
SouthWest	89	1	0	0	0	0	90
West	19	36	30	32	0	0	117
NorthWest	30	15	3	1	0	0	49
Total	492	139	76	37	0	0	744

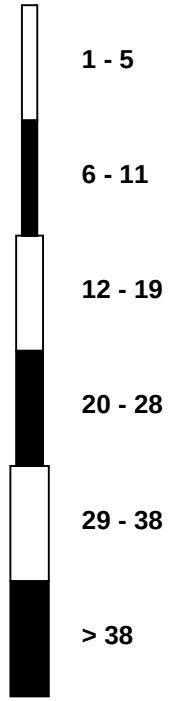
Wind Rose

Wind Speed (WS) (km/h)

Valleyview - January 2013



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Valleyview - January 2013

Maximum Speed: 26 km/h on Jan 15 07:00

Maximum Daily Speed Average: 22.9 km/h on Jan 15

Minimum Speed: 1 km/h on Jan 11 04:00

Minimum Daily Speed Average: 1.2 km/h on Jan 11

Maximum Diurnal Speed Average: 6.9 km/h at hour 14

Minimum Diurnal Speed Average: 4.8 km/h at hour 10

Monthly Average Speed: 5.59 km/h

Percentiles: P_1 = 0.7 P_{10} = 1.1 Q_1 = 1.7 Median = 3.1 Q_3 = 7.8 P_{90} = 14.2 P_{99} = 25.1

Hours in Service: 744

Hours of Data: 744

Hours of Missing Data: 0

Percent Operational Time: 100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	18	17	19	20	16	16	16	13	12	7	6	9	10	10	9	8	6	8	10	8	2	2	3	3	10.4	20.2
2-Jan	2	3	4	2	2	1	1	2	2	1	2	2	1	1	1	2	2	3	2	3	2	2	2	2	1.9	4.1
3-Jan	1	2	2	1	2	3	3	3	4	3	2	2	1	1	1	2	1	2	1	1	1	1	2	1	1.8	4.1
4-Jan	1	1	1	1	1	1	1	1	3	1	1	2	3	2	3	2	2	3	2	2	3	2	6	9	2.3	9.1
5-Jan	8	5	2	2	2	1	1	1	1	1	1	2	2	1	2	2	1	1	1	1	1	1	1	1	1.8	7.9
6-Jan	2	2	1	3	2	3	3	3	4	4	3	3	11	18	16	11	7	7	6	6	5	3	2	2	5.3	18.4
7-Jan	2	2	2	2	2	3	3	3	3	2	3	3	2	2	3	2	2	1	2	3	2	2	6	12	2.8	12.1
8-Jan	12	11	12	12	7	4	1	3	11	9	9	12	11	12	11	4	3	2	2	1	2	1	1	2	6.5	12.3
9-Jan	2	2	1	2	3	3	3	4	3	2	7	9	12	13	13	15	14	12	11	11	11	10	11	9	7.6	14.6
10-Jan	6	4	5	5	1	1	2	1	1	1	2	1	2	2	2	2	1	1	2	2	2	1	1	2	2.2	6.3
11-Jan	1	1	1	1	1	1	1	1	1	1	2	2	1	2	3	1	1	1	2	1	2	1	1	1	1.2	3.1
12-Jan	2	2	4	2	3	3	5	3	3	3	4	3	3	1	4	2	2	1	2	2	2	2	2	3	2.6	4.9
13-Jan	4	2	1	1	1	1	1	1	1	1	3	2	2	2	2	1	1	1	2	2	2	2	2	2	1.6	3.9
14-Jan	2	4	4	5	3	3	3	3	3	7	16	16	16	12	6	4	8	9	16	14	16	17	17	22	9.4	22.4
15-Jan	25	25	22	20	22	26	26	25	26	24	22	24	24	22	22	23	25	23	23	22	20	21	20	20	22.9	26.2
16-Jan	18	17	13	10	9	9	11	9	9	5	6	6	6	6	4	9	7	3	2	1	1	1	2	2	7.0	18.4
17-Jan	1	1	1	1	2	3	4	4	4	3	3	4	4	10	16	17	10	10	8	7	11	14	16	17	7.1	17.4
18-Jan	22	19	16	16	19	21	23	25	24	21	20	18	16	16	13	14	13	11	5	2	1	1	2	1	14.2	25.2
19-Jan	2	1	2	5	6	5	4	3	5	7	8	11	15	19	22	18	20	20	21	16	11	10	7	6	10.1	21.6
20-Jan	4	2	1	2	2	1	1	1	1	2	2	5	5	5	4	4	4	4	4	3	3	1	1	2	2.7	5.0
21-Jan	4	4	5	5	4	5	5	6	6	2	3	5	6	7	7	4	4	5	6	6	5	3	4	5	4.9	7.2
22-Jan	5	5	5	6	7	7	6	5	6	6	6	5	6	5	7	7	6	4	5	4	4	3	4	4	5.4	7.3
23-Jan	3	5	4	6	10	11	11	10	9	10	11	14	15	13	9	15	14	14	13	11	12	11	10	8	10.3	15.2
24-Jan	6	6	5	3	2	2	2	2	1	2	3	3	3	4	3	3	1	1	1	1	1	1	1	1	2.5	6.5
25-Jan	2	1	2	2	1	2	1	2	2	4	4	3	5	3	2	2	2	1	2	2	3	3	3	3	2.3	4.6
26-Jan	5	4	2	2	1	1	1	2	1	1	1	2	2	2	2	2	1	1	1	1	1	3	3	2	1.8	5.1
27-Jan	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	4	12	12	10	12	10	3.5	12.4
28-Jan	11	12	13	13	10	10	10	10	10	10	9	11	12	11	11	10	10	8	13	13	12	8	6	5	10.4	13.4
29-Jan	7	5	6	4	3	1	1	2	2	2	2	3	4	5	2	3	3	3	3	3	7	11	11	11	4.4	11.3
30-Jan	11	12	8	6	5	5	7	7	3	4	3	2	2	2	3	2	3	3	4	4	4	3	2	2	4.4	12.1
31-Jan	2	4	5	2	2	2	1	2	1	1	1	1	1	3	2	2	2	2	2	2	1	2	7	5	2.3	7.4
	6.3	5.8	5.5	5.2	4.8	5.0	5.1	5.1	5.3	4.8	5.4	6.0	6.6	6.9	6.6	6.3	5.7	5.5	5.7	5.4	5.2	5.0	5.4	5.7	Diurnal Average	
	25.3	25.3	21.7	20.2	22.2	25.8	26.2	25.2	25.9	24.4	21.8	23.6	23.7	22.2	21.6	22.5	25.4	23.2	23.0	22.0	19.5	20.6	19.7	22.4	Diurnal Maximum	

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

Hourly Standard Deviations

Wind Direction (WD) - deg

Valleyview - January 2013

Maximum Value: 97.3 deg on Jan 4 06:00

Minimum Value: 3.7 deg on Jan 16 01:00

Percentiles: P_1 = 5.9 P_{10} = 7.7 Q_1 = 10.0 Median = 18.3 Q_3 = 39.4 P_{90} = 66.9 P_{99} = 88.4

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

Day	Hourly Period Ending At (MST)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Jan	8	9	8	10	10	9	6	10	8	13	14	10	10	14	14	11	11	7	10	12	56	21	18	10	56.4
2-Jan	33	27	16	27	21	44	65	23	17	54	49	75	80	89	65	80	86	11	16	33	61	35	16	51	88.8
3-Jan	67	64	59	61	54	20	34	24	74	39	11	14	30	34	41	14	50	63	88	86	28	88	47	70	88.3
4-Jan	72	66	78	32	67	97	83	69	75	92	19	28	10	36	9	8	21	8	23	23	14	17	14	7	97.3
5-Jan	8	57	31	26	26	23	21	36	25	43	51	19	24	91	12	86	44	22	80	83	63	69	45	82	91.2
6-Jan	55	49	62	39	77	57	19	21	18	45	20	29	21	7	9	11	12	12	12	12	11	14	28	16	77.2
7-Jan	13	14	26	15	25	18	15	7	16	26	28	67	67	50	25	20	15	46	55	82	35	16	33	8	82.3
8-Jan	27	8	11	22	10	20	68	23	11	9	8	10	10	12	10	17	21	16	15	26	89	66	79	60	88.9
9-Jan	36	41	69	64	53	91	21	23	38	60	15	9	7	7	9	8	7	8	10	8	9	7	9	8	91.0
10-Jan	11	12	11	10	40	41	28	43	43	24	29	51	54	31	17	48	28	35	86	36	17	20	39	16	86.1
11-Jan	64	56	63	52	48	51	59	24	28	23	22	22	45	49	32	80	88	86	66	63	39	56	77	32	88.2
12-Jan	59	18	12	31	28	89	20	39	21	9	20	26	39	70	58	21	87	81	59	47	73	77	45	22	88.6
13-Jan	9	21	62	37	35	33	57	21	10	35	17	11	10	37	12	47	73	18	19	22	31	9	20	15	73.4
14-Jan	11	7	8	8	11	12	29	28	26	44	9	9	8	8	17	27	31	44	10	9	9	7	8	7	44.0
15-Jan	6	6	6	7	5	6	6	7	6	6	7	7	7	7	7	7	6	7	7	8	8	8	15	6	14.5
16-Jan	4	4	7	10	13	10	8	12	21	14	19	26	16	26	21	24	15	50	34	92	68	80	23	45	92.4
17-Jan	43	13	11	15	13	12	20	8	15	7	9	8	12	23	8	8	10	11	14	17	9	9	10	9	43.0
18-Jan	10	8	8	8	7	7	8	8	7	8	42	11	11	11	13	13	10	15	26	69	86	46	18	22	86.5
19-Jan	19	70	22	13	13	17	10	10	12	8	9	11	6	8	7	6	7	6	7	9	8	9	11	11	69.7
20-Jan	21	48	20	18	20	50	34	82	58	20	68	12	14	36	32	23	24	21	21	21	16	36	45	29	82.3
21-Jan	35	12	13	12	11	19	13	12	12	30	22	17	7	6	7	14	19	8	8	13	10	16	18	21	35.3
22-Jan	14	13	21	17	9	12	12	15	14	15	12	15	14	16	11	14	10	13	13	14	13	14	23	20	23.4
23-Jan	13	12	10	39	8	9	9	12	12	11	10	8	9	8	13	11	9	8	8	8	9	8	8	9	38.8
24-Jan	9	10	10	16	19	13	12	27	31	11	9	11	16	10	8	28	83	71	90	84	53	85	86	70	89.6
25-Jan	24	63	93	50	78	59	84	44	53	7	6	15	6	13	15	30	49	29	17	38	7	25	14	8	93.3
26-Jan	4	6	30	16	24	26	28	37	32	29	26	34	26	32	47	51	25	52	33	65	20	7	8	8	64.6
27-Jan	38	30	52	84	51	52	34	52	73	84	54	36	51	33	64	56	37	42	21	17	22	17	8	11	84.5
28-Jan	10	8	7	9	10	8	8	11	12	10	9	10	10	11	9	12	9	10	7	7	8	9	8	8	12.2
29-Jan	8	10	14	26	9	56	16	14	13	10	13	13	16	19	62	23	55	17	35	27	10	10	6	6	61.7
30-Jan	8	7	10	10	10	14	13	21	28	15	27	45	60	59	42	70	25	25	11	21	23	41	47	36	69.7
31-Jan	16	16	9	49	15	22	52	46	85	90	48	35	80	71	81	76	16	20	33	63	45	71	10	14	89.6
	72.2	69.7	93.3	84.5	77.7	97.3	83.9	82.3	84.7	91.8	67.5	75.2	80.3	91.2	80.6	85.5	88.2	85.8	89.6	92.4	88.9	88.1	86.1	82.0	

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

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Sunset House - January 2013

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

Maximum Value: 2.0 ppb on Jan 5 18:00 Maximum Daily Average: 0.7 ppb on Jan 24

Minimum Value: 0 ppb on Jan 15 08:00 Minimum Daily Average: 0.0 ppb on Jan 15

Maximum Diurnal Average: 0.5 ppb at hour 14 Minimum Diurnal Average: 0.3 ppb at hour 6

Monthly Average: 0.39 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.1$ $Q_1 = 0.2$ Median = 0.3 $Q_3 = 0.5$ $P_{90} = 0.7$ $P_{99} = 1.4$

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

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

C - Calibration A - Automated Daily Zero Span

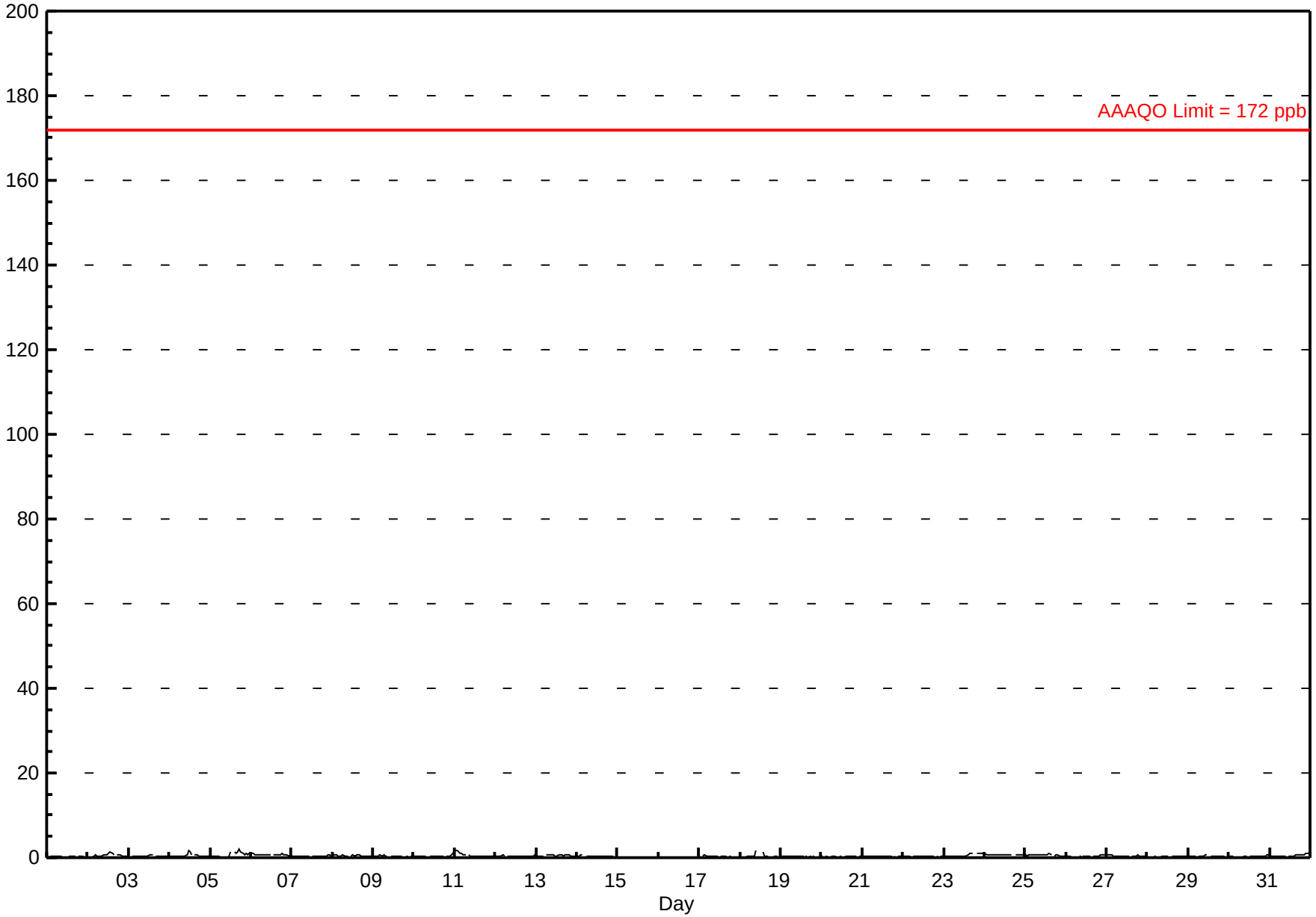
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb 30-day 11 ppb

Peace Airshed Zone Association

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Sunset House - January 2013



FOCUS AIR QUALITY MONITORING

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Sunset House - January 2013

Maximum Value: 19.4 ppb on Jan 17 04:00

Maximum Daily Average: 1.5 ppb on Jan 18

Minimum Value: 0 ppb on Jan 15 22:00

Minimum Daily Average: 0.5 ppb on Jan 15

Maximum Diurnal Average: 1.4 ppb at hour 4

Minimum Diurnal Average: 0.7 ppb at hour 6

Monthly Average: 0.89 ppb

Percentiles: $P_1 = 0.3$ $P_{10} = 0.5$ $Q_1 = 0.6$ Median = 0.8 $Q_3 = 1.0$ $P_{90} = 1.2$ $P_{99} = 2.4$

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	1	1	1	1	1	1	1	1	0	1	0	0	1	1	1	1	A	1	1	1	1	0	1	0.7	0.9
2-Jan	1	0	1	1	1	1	1	1	1	1	2	1	2	2	2	1	A	1	1	1	1	1	1	1	1.0	2.1
3-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	0.8	1.3
4-Jan	1	1	1	1	1	1	1	1	1	1	1	2	2	1	A	1	1	1	1	1	1	1	1	1	1.0	2.4
5-Jan	1	1	1	1	1	1	1	0	0	1	1	1	3	A	2	1	2	3	2	1	1	1	1	1	1.2	3.3
6-Jan	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	2	1	1	1	1	1	1.1	1.5
7-Jan	1	1	1	1	1	0	0	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.3
8-Jan	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.2
9-Jan	1	1	1	1	1	1	1	1	1	A	0	1	0	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
10-Jan	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	0.7	1.9
11-Jan	2	3	2	2	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1.1	2.5
12-Jan	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
13-Jan	1	1	1	0	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.4
14-Jan	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.3
15-Jan	1	1	1	A	0	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0	1	0	0	0	0.5	0.7
16-Jan	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0.6	0.6
17-Jan	1	A	1	19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1.5	19.4
18-Jan	A	1	1	1	1	1	1	1	1	12	C	C	C	2	2	2	1	1	0	1	1	1	1	A	1.5	12.5
19-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	1	0	0	A	1	0.7	0.9
20-Jan	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	1	1	1	1	1	1	A	1	1	0.6	1.0
21-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	A	0	1	1	0.7	1.0
22-Jan	1	0	1	1	0	0	1	1	1	0	0	1	1	1	1	1	1	1	1	A	1	1	0	1	0.6	0.9
23-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	A	2	2	2	2	2	1.1	1.7
24-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1.1	1.2
25-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	A	1	1	1	1	1	1	1	1.1	1.6
26-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.8	1.0
27-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.9	1.1
28-Jan	0	1	1	1	0	0	1	0	1	1	1	1	1	A	1	1	0	1	1	0	1	0	0	1	0.6	1.0
29-Jan	0	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0	1	0.8	1.0
30-Jan	0	1	0	0	0	0	0	0	0	0	1	A	1	1	1	0	0	0	0	1	0	1	1	1	0.7	1.4
31-Jan	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	1.5
	0.8	0.8	0.9	1.4	0.8	0.7	0.8	0.8	0.8	1.1	0.8	0.9	0.9	1.0	1.0	0.9	0.8	0.9	0.8	0.9	0.8	0.9	0.9	0.9	Diurnal Average	
	2.1	2.5	2.0	19.4	1.4	1.2	1.1	1.5	1.2	12.5	1.5	2.4	3.2	2.4	1.8	1.6	1.8	3.3	1.8	1.7	1.6	1.7	1.6	1.9	Diurnal Maximum	

C - Calibration

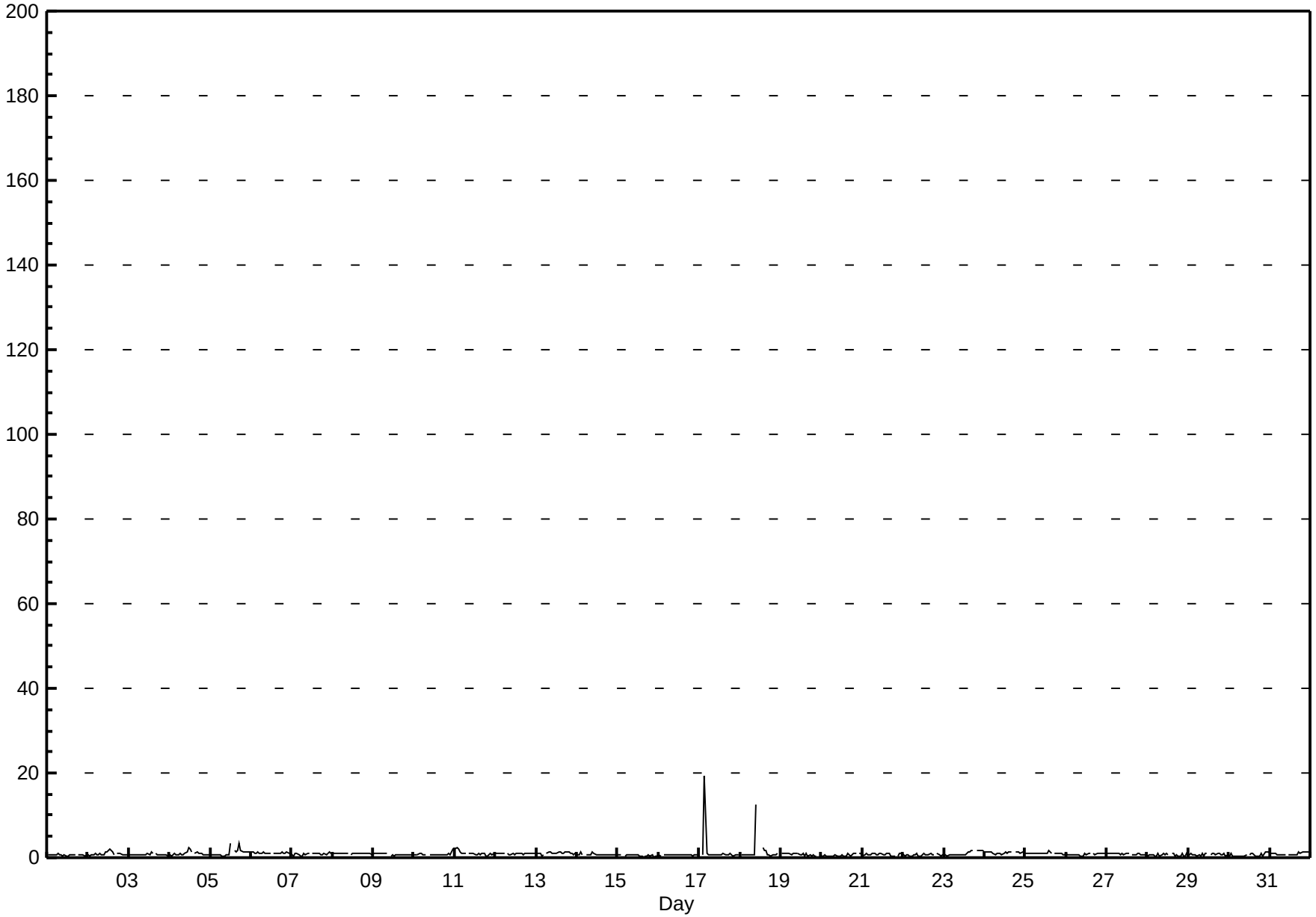
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Sunset House - January 2013

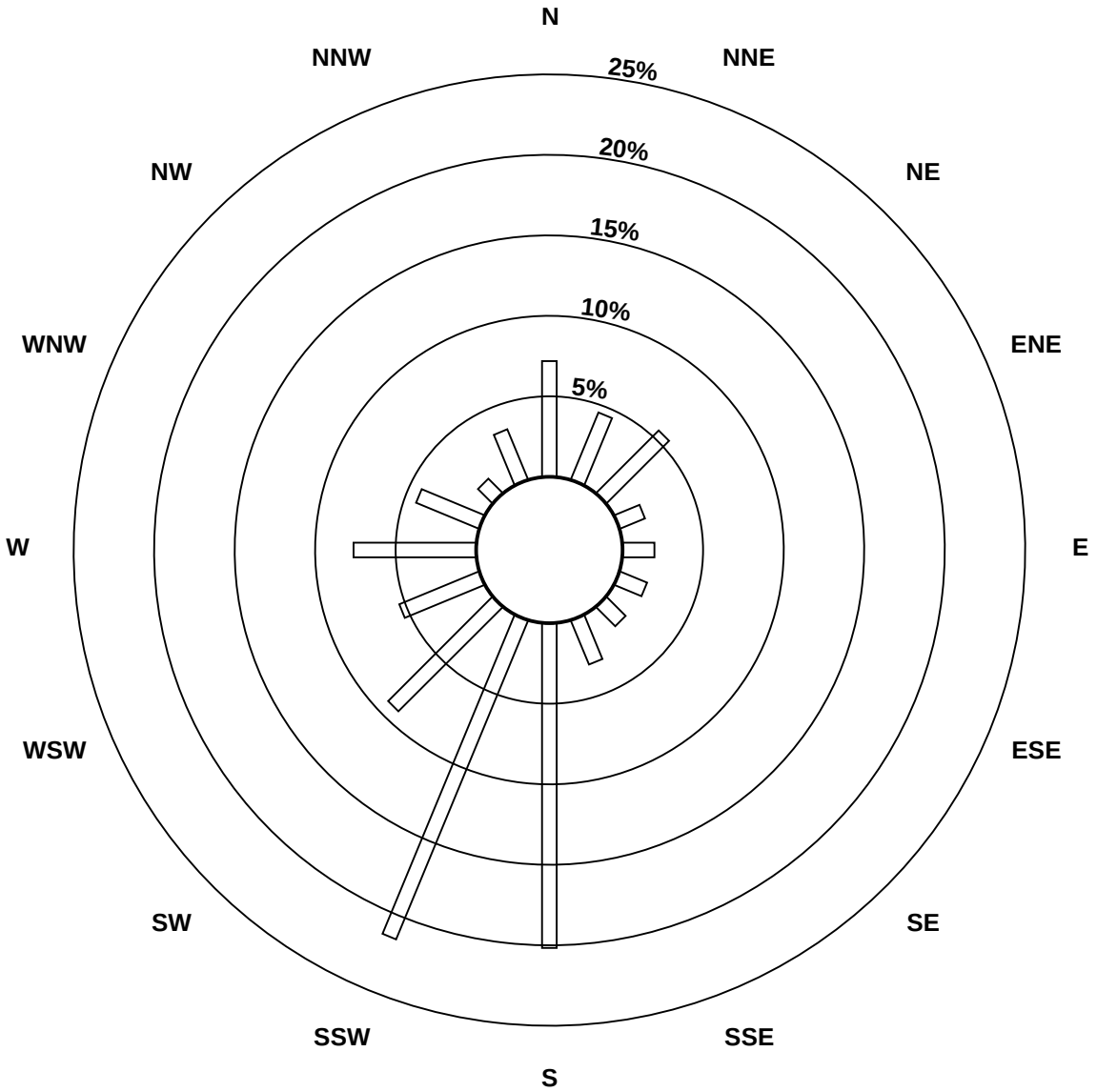


Peace Airshed Zone Association

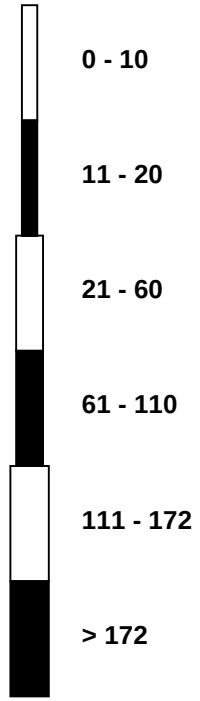
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Sunset House - January 2013



Pollutant Classes (ppb)

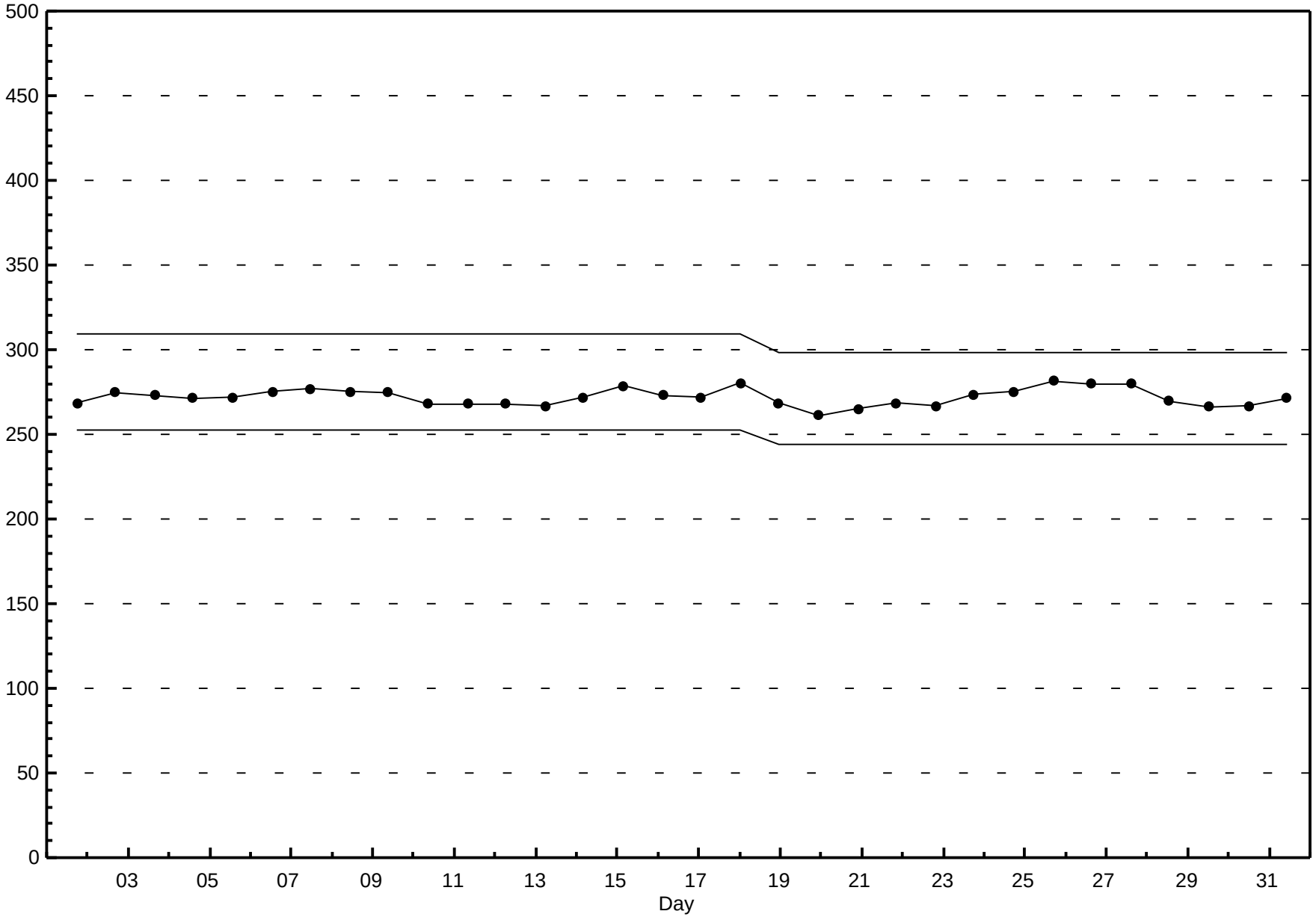


Peace Airshed Zone Association

Span Responses

Sulphur Dioxide (SO_2)

Sunset House - January 2013



Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Sunset House - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 9.5 ppb on Jan 12 14:00 Maximum Daily Average: 2.7 ppb on Jan 12

Minimum Value: 0 ppb on Jan 1 09:00 Minimum Daily Average: 0.1 ppb on Jan 15
Maximum Diurnal Average: 0.7 ppb at hour 14 Minimum Diurnal Average: 0.3 ppb at hour 9
Monthly Average: 0.45 ppb Percentiles: P_1 = 0.0 P_{10} = 0.1 Q_1 = 0.2 Median = 0.3 Q_3 = 0.4 P_{90} = 0.7 P_{99} = 4.3

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	1	0	1	1	1	1	1	0	1	1	1	1	1	0	0	0	A	1	1	1	1	1	1	0.8	1.4
2-Jan	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	A	0	0	0	0	0	0	0	0.5	1.0
3-Jan	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
4-Jan	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
5-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	1	0	0	0	0	0	0	0.2	0.5
6-Jan	0	0	0	0	0	1	0	0	0	0	1	0	A	0	0	0	0	0	1	0	0	1	1	0	0.3	0.6
7-Jan	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	1	0	0	0	0	1	1	0	0.4	0.6
8-Jan	1	1	1	1	1	1	0	0	0	0	A	0	1	1	1	1	1	1	0	1	1	1	0	0	0.5	0.8
9-Jan	1	0	0	0	0	0	0	0	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	1.1
10-Jan	1	1	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.7
11-Jan	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
12-Jan	0	0	0	0	0	0	A	0	0	0	0	2	9	10	7	7	6	5	5	4	3	2	0	0	2.7	9.5
13-Jan	0	0	0	0	0	A	1	1	0	0	0	0	0	0	2	4	3	4	5	5	4	2	2	3	1.7	5.2
14-Jan	3	3	2	1	A	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.8	3.0
15-Jan	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
16-Jan	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
17-Jan	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3
18-Jan	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C	C	0	0	0	0	0	0	A	0.2	0.3
19-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.1	0.2
20-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	0.3
21-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0.3	0.3
22-Jan	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
23-Jan	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
24-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.3	0.4
25-Jan	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	0.3
26-Jan	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
27-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	0.5
28-Jan	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
29-Jan	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
30-Jan	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
31-Jan	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.5
	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.7	0.7	0.6	0.7	0.6	0.6	0.6	0.6	0.5	0.4	0.4	0.4	Diurnal Average	
	3.0	3.0	1.6	1.1	0.9	1.1	1.2	1.1	1.3	1.4	1.1	2.3	9.4	9.5	7.0	7.0	6.2	4.6	5.2	4.6	3.6	2.4	2.5	2.7	Diurnal Maximum	

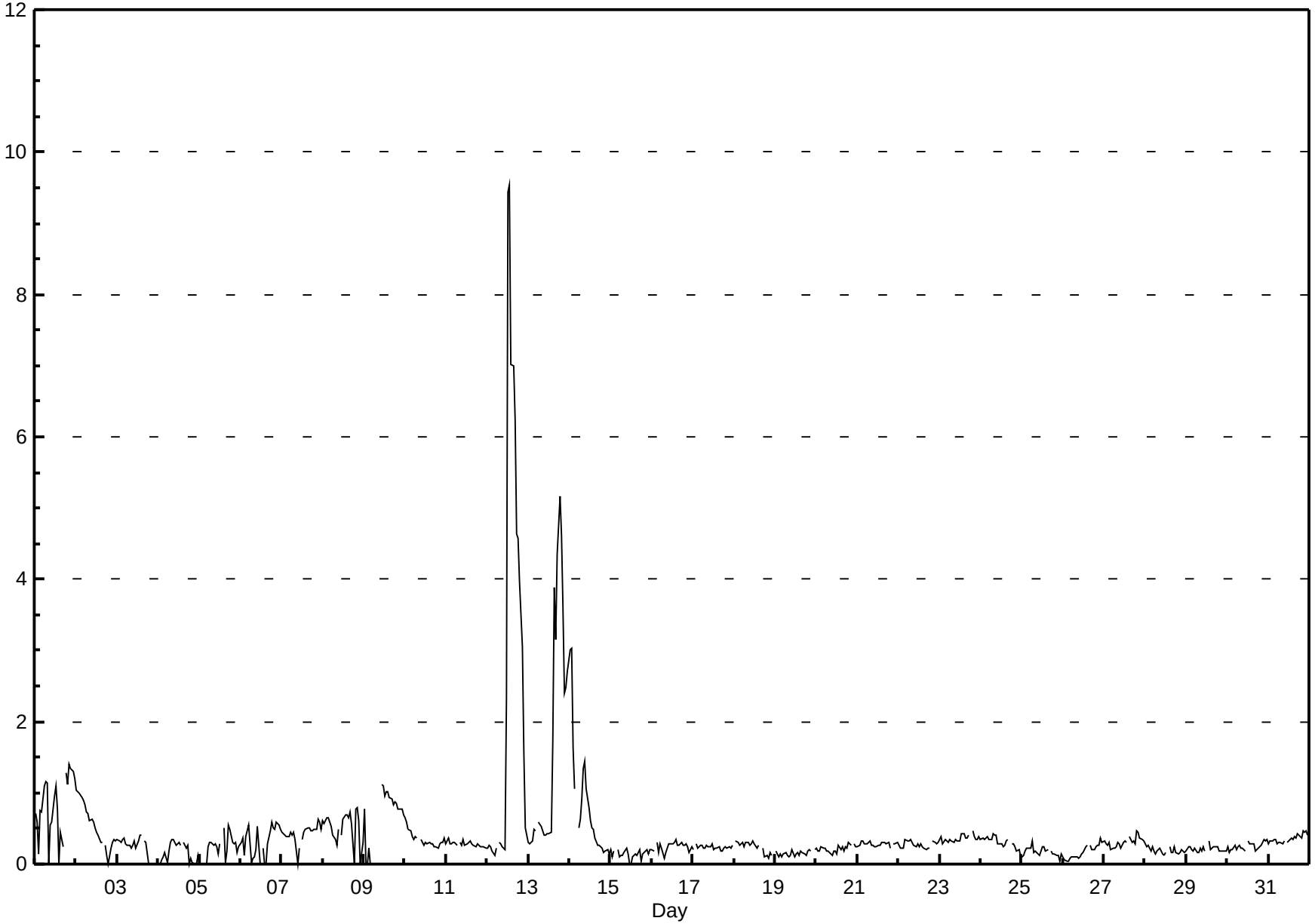
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb

Peace Airshed Zone Association

Hourly Averages

Total Reduced Sulphur (TRS) - ppb

Sunset House - January 2013



Peace Airshed Zone Association

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Sunset House - January 2013

Maximum Value: 11.5 ppb on Jan 12 14:00

Maximum Daily Average: 3.6 ppb on Jan 12

Minimum Value: 0 ppb on Jan 3 20:00

Minimum Daily Average: 0.5 ppb on Jan 19

Maximum Diurnal Average: 1.1 ppb at hour 16

Minimum Diurnal Average: 0.7 ppb at hour 5

Monthly Average: 0.86 ppb

Percentiles: $P_1 = 0.2$ $P_{10} = 0.5$ $Q_1 = 0.5$ Median = 0.6 $Q_3 = 0.8$ $P_{90} = 1.2$ $P_{99} = 6.0$

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	1	1	1	2	2	2	1	1	1	1	2	2	2	1	1	1	A	2	2	2	2	2	2	1.4	2.0
2-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.9	1.4
3-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0	0	0	0	0	0.5	0.9
4-Jan	0	0	0	0	0	0	1	1	1	1	1	1	1	1	A	1	1	1	0	1	1	0	1	1	0.5	0.9
5-Jan	0	0	0	1	0	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.7	0.9
6-Jan	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	1.0
7-Jan	1	1	1	1	1	1	1	1	1	0	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.1
8-Jan	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
9-Jan	1	1	1	1	0	0	1	1	1	A	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.5
10-Jan	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.0
11-Jan	0	1	1	1	1	1	1	A	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8
12-Jan	1	1	1	1	0	1	A	1	1	1	1	7	11	12	9	8	7	5	5	4	4	3	1	1	3.6	11.5
13-Jan	1	1	1	1	1	A	1	1	1	1	1	1	1	1	4	6	4	6	6	5	4	3	3	3	2.4	6.3
14-Jan	4	4	2	1	A	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.2	3.5
15-Jan	1	1	0	A	1	1	0	1	1	1	1	0	0	0	0	0	1	1	0	0	1	1	1	0	0.5	0.6
16-Jan	1	1	A	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.6	0.8
17-Jan	0	A	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0.7	3.8
18-Jan	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	C	C	1	0	0	0	0	0	A	0.6	0.9
19-Jan	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	1	0	0	1	1	0	A	1	0.5	0.6
20-Jan	1	1	1	1	0	1	1	1	1	0	0	0	0	1	0	1	1	1	1	1	1	A	1	1	0.6	0.8
21-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	0.6	0.8
22-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	A	1	1	1	1	0.6	0.9
23-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.7	0.8
24-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	0.7	0.8
25-Jan	0	0	1	1	1	1	1	1	0	0	1	1	1	1	1	1	A	1	1	1	0	0	0	0	0.5	0.7
26-Jan	0	0	0	0	0	0	1	1	1	1	0	1	1	1	1	A	1	1	1	1	1	1	1	1	0.5	0.8
27-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.7	1.0
28-Jan	1	1	0	1	1	1	0	1	1	1	1	1	0	A	1	1	0	1	0	0	1	0	1	1	0.5	0.8
29-Jan	0	1	1	1	1	1	1	1	1	1	0	1	A	1	1	1	0	0	0	0	1	0	0	0	0.5	0.8
30-Jan	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	0	1	1	1	1	1	1	1	0.6	0.8
31-Jan	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
	0.8	0.8	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.9	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	0.9	0.8	0.8	0.8	Diurnal Average	
	3.5	3.5	2.4	3.8	1.6	1.5	1.5	1.4	1.7	1.9	1.5	6.9	11.4	11.5	9.2	7.9	7.4	6.0	6.3	5.3	4.2	3.2	3.4	3.4	Diurnal Maximum	

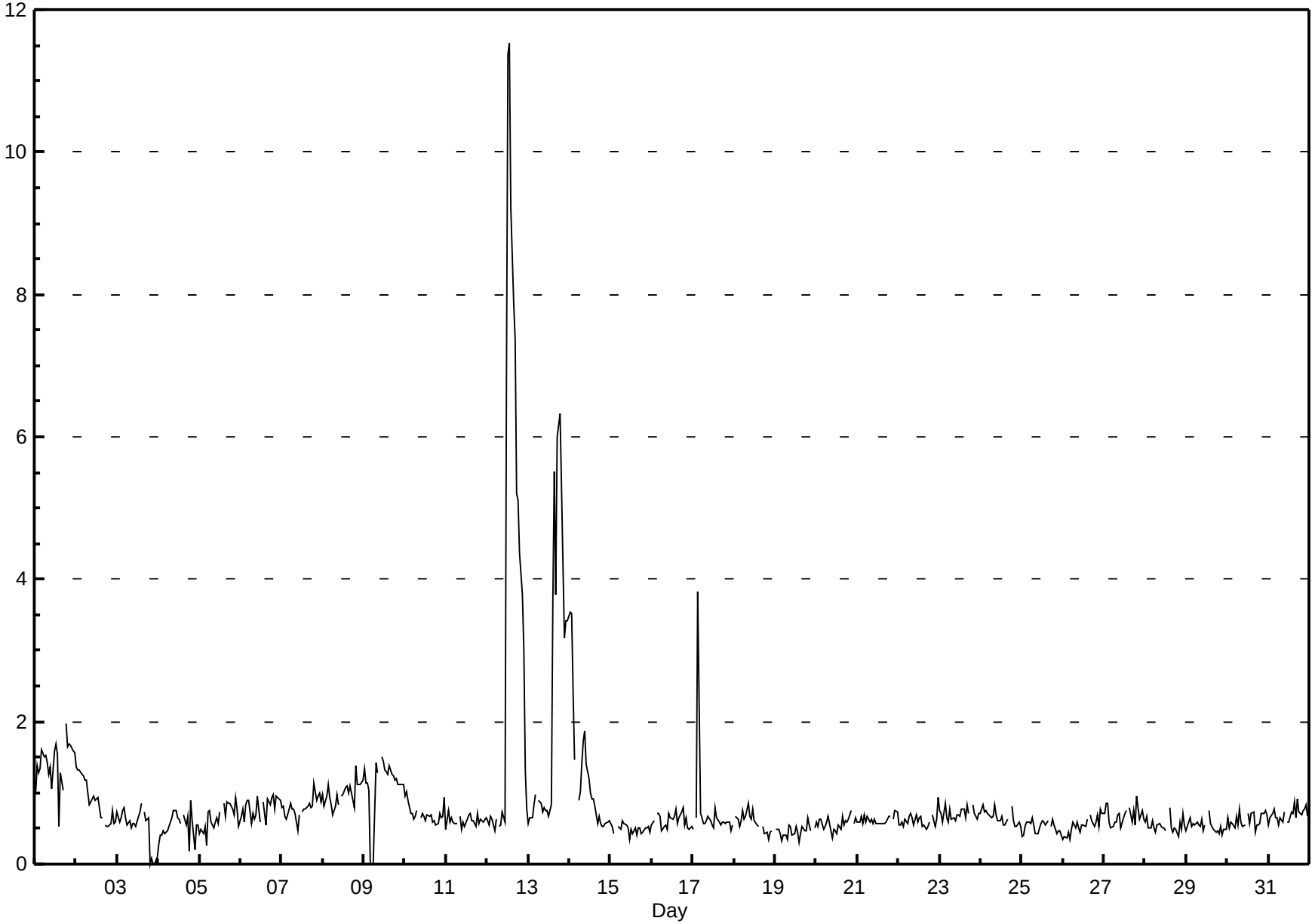
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums

Total Reduced Sulphur (TRS) - ppb

Sunset House - January 2013

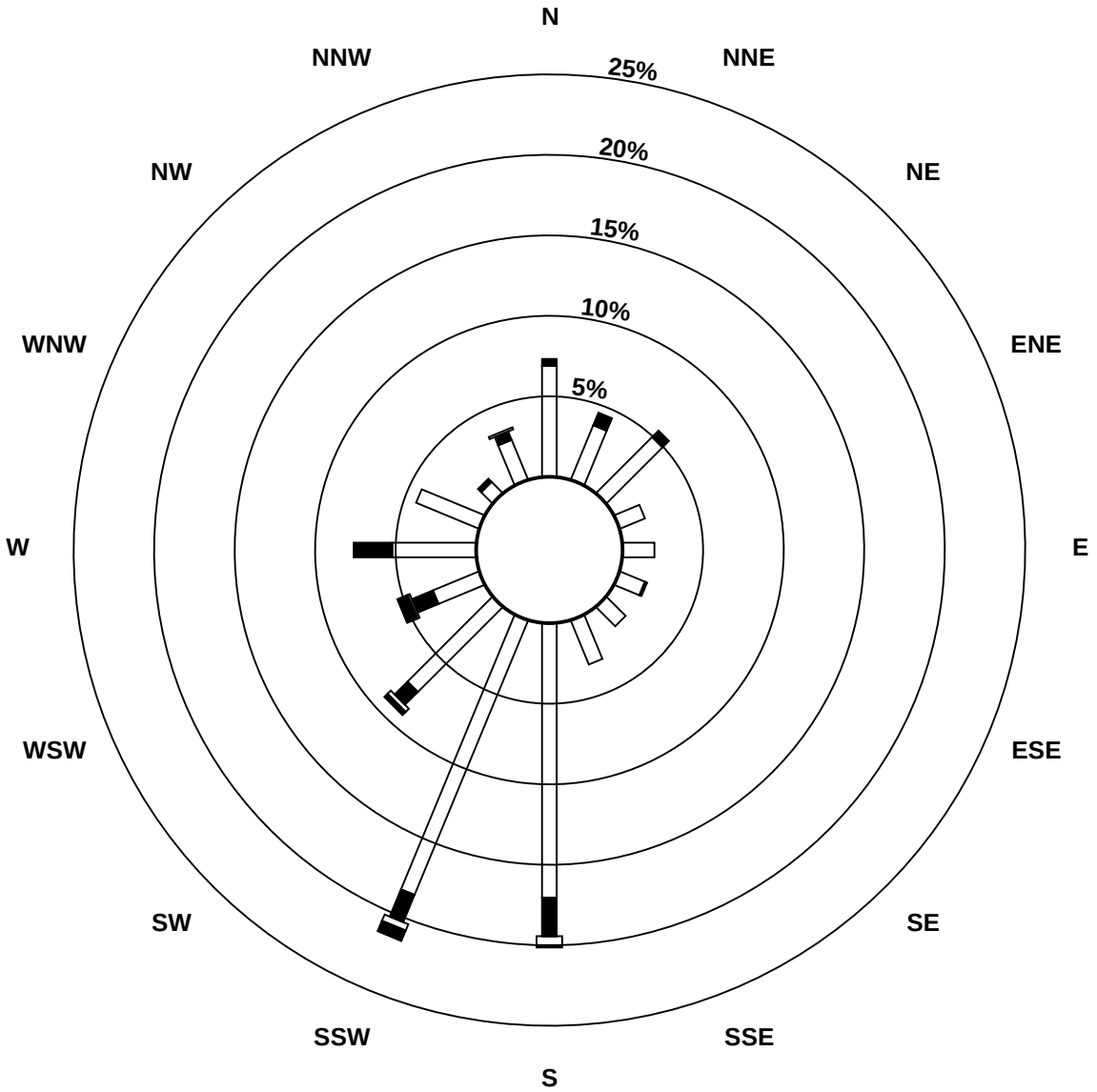


Peace Airshed Zone Association

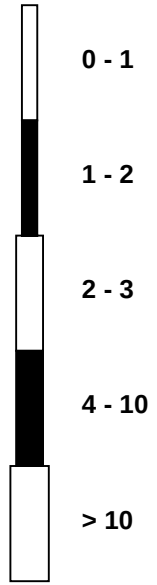
Pollutant Rose

Total Reduced Sulphur (TRS) - ppb

Sunset House - January 2013



Pollutant Classes (ppb)

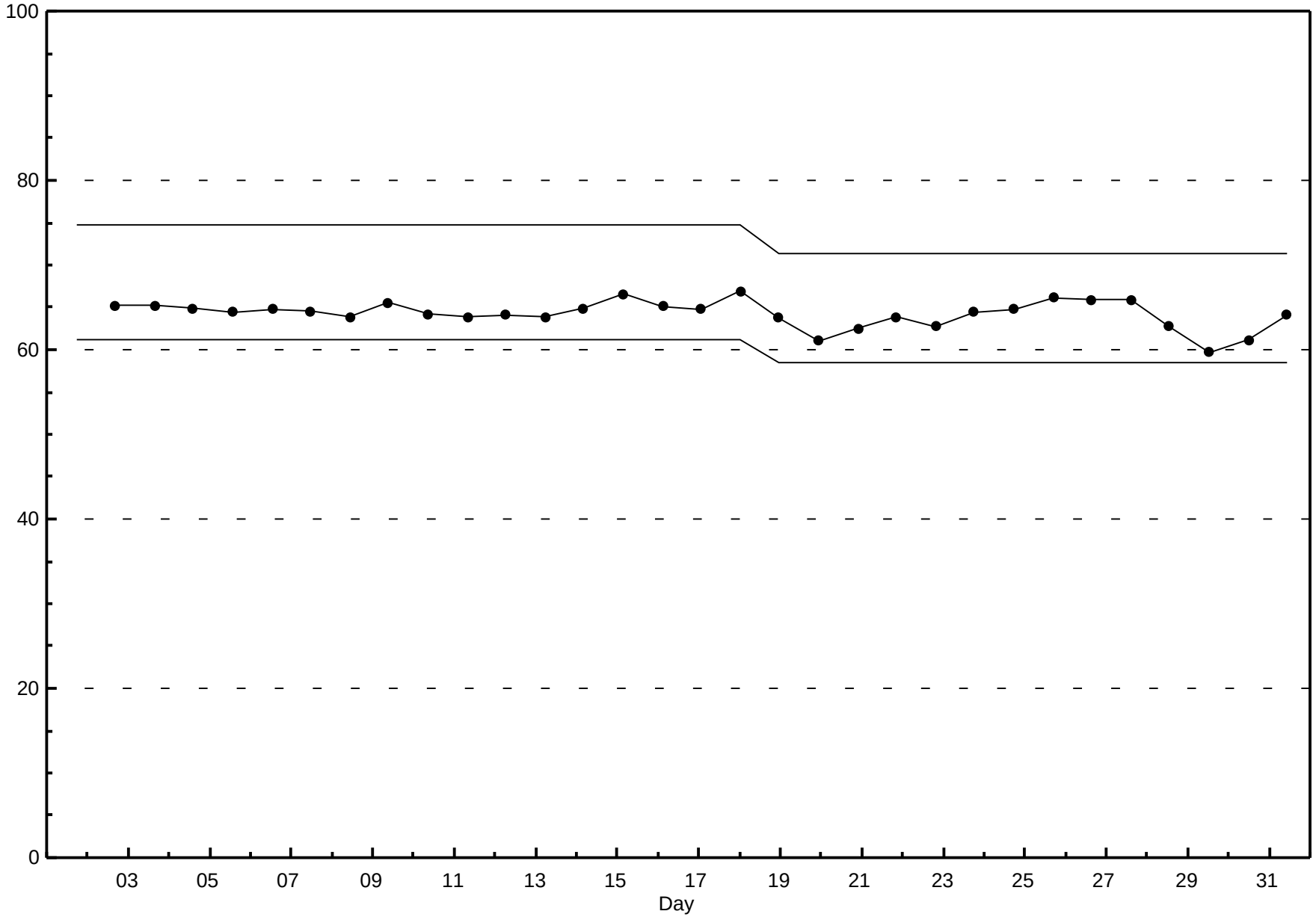


Peace Airshed Zone Association

Span Responses

Total Reduced Sulphur (TRS)

Sunset House - January 2013



Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Sunset House - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 10.7 ppb on Jan 31 22:00
Maximum Daily Average: 5.0 ppb on Jan 31

Minimum Value: 0 ppb on Jan 20 10:00
Maximum Diurnal Average: 2.8 ppb at hour 22
Monthly Average: 2.25 ppb
Minimum Daily Average: 0.7 ppb on Jan 20
Minimum Diurnal Average: 1.9 ppb at hour 5
Percentiles: $P_1 = 0.5$ $P_{10} = 0.8$ $Q_1 = 1.0$ Median = 1.8 $Q_3 = 3.0$ $P_{90} = 4.4$ $P_{99} = 7.7$

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	38
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	A	2	2	2	2	2	2	1.4	2.4
2-Jan	1	2	2	2	2	2	1	2	2	2	2	2	2	3	3	3	A	3	3	3	3	3	3	2	2.4	3.1
3-Jan	2	2	3	3	3	2	3	3	2	2	3	3	3	3	3	A	2	2	1	1	1	1	1	1	2.2	3.4
4-Jan	1	1	1	1	2	1	1	2	2	3	5	5	6	7	A	6	6	5	4	4	3	4	4	3	3.3	6.9
5-Jan	3	2	2	2	1	1	2	2	1	2	2	2	2	A	3	3	4	4	5	4	3	5	3	3	2.6	5.2
6-Jan	3	4	3	2	3	3	3	4	5	5	3	2	A	2	2	2	2	3	3	3	3	3	2	2	3.0	5.2
7-Jan	2	1	1	2	2	2	2	2	2	2	2	A	2	2	2	3	3	3	3	3	3	5	6	5	2.6	5.9
8-Jan	4	5	3	1	1	2	1	1	1	2	A	2	6	2	2	5	2	2	1	1	1	1	1	1	2.2	6.2
9-Jan	1	1	1	1	1	1	1	1	1	A	1	1	1	2	3	3	2	1	1	2	1	1	1	1	1.4	3.1
10-Jan	1	1	1	2	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	2	4	1.3	4.1
11-Jan	5	5	4	4	3	3	3	A	5	5	4	4	3	3	4	4	4	5	6	6	5	5	4	4	4.3	5.9
12-Jan	5	7	7	5	4	4	A	5	4	3	2	2	2	3	3	3	3	4	4	5	4	3	3	3	3.8	7.2
13-Jan	2	2	2	2	2	A	3	2	2	2	3	3	3	3	3	3	3	3	4	4	3	3	2	2	2.6	3.6
14-Jan	3	3	4	4	A	4	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	1	1	1	2.5	4.2
15-Jan	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	1.2
16-Jan	1	0	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.3
17-Jan	1	A	2	2	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1.5	2.8
18-Jan	A	1	1	1	1	1	1	1	1	1	C	C	C	C	C	C	1	1	0	1	1	1	1	A	--	1.3
19-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	0	1	A	1	0.9	1.5
20-Jan	1	1	1	1	1	1	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	A	1	1	0.7	1.2
21-Jan	1	1	1	1	1	1	2	1	1	1	1	1	1	2	2	2	2	2	2	2	A	2	2	2	1.6	2.4
22-Jan	2	2	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	2	2	A	2	1	1	1	1.5	2.0
23-Jan	2	2	2	2	2	2	2	1	1	1	1	2	3	5	8	9	9	8	A	7	7	7	6	5	4.1	8.7
24-Jan	5	5	5	5	5	5	6	6	9	7	6	4	3	3	3	3	4	A	4	4	5	4	3	2	4.6	8.5
25-Jan	2	2	2	3	3	3	3	5	4	4	3	3	3	2	2	2	A	3	3	2	2	3	2	2	2.7	4.6
26-Jan	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	A	3	3	3	4	6	5	4	4	2.8	5.6
27-Jan	3	4	4	4	3	3	3	3	3	3	3	3	3	3	A	2	2	2	2	4	2	2	2	2	2.7	3.8
28-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.8	1.2
29-Jan	1	1	1	1	1	1	1	2	2	3	2	2	A	1	1	1	1	1	1	1	1	1	1	1	1.1	2.6
30-Jan	1	1	1	1	1	1	1	1	2	2	2	A	1	1	1	1	1	1	1	1	1	4	4	4	1.5	4.2
31-Jan	3	3	3	4	4	4	5	6	6	5	A	4	3	3	3	4	4	5	6	6	8	11	7	5	5.0	10.7
	2.0	2.2	2.1	2.0	1.9	1.9	1.9	2.1	2.3	2.3	2.1	2.2	2.2	2.2	2.2	2.5	2.4	2.5	2.4	2.5	2.5	2.8	2.4	2.3	Diurnal Average	
	5.1	7.2	6.8	5.0	4.7	5.1	5.9	6.4	8.5	6.6	5.5	5.2	6.2	6.9	7.9	8.5	8.7	8.2	5.9	6.9	8.4	10.7	7.4	5.3	Diurnal Maximum	

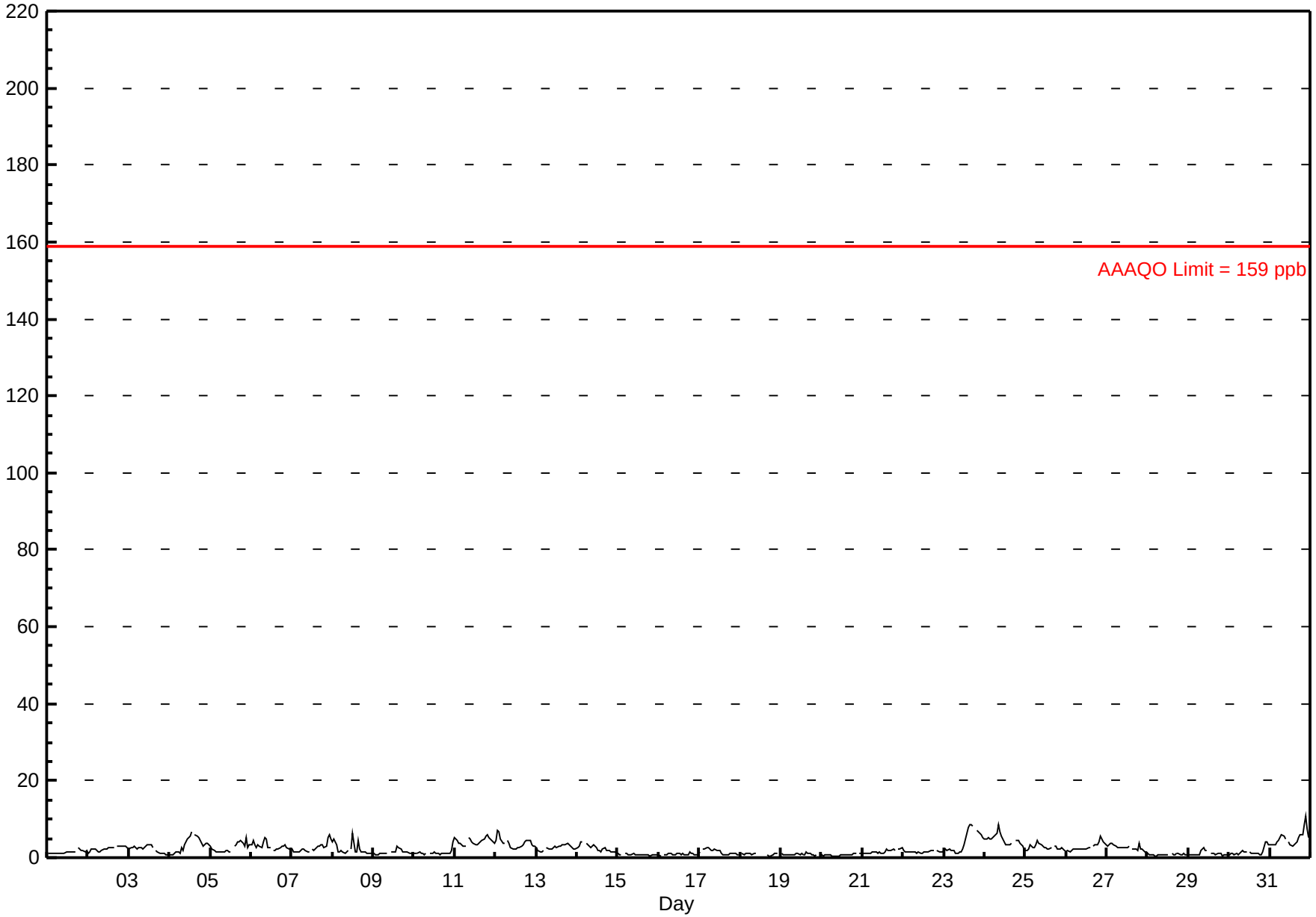
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb

Peace Airshed Zone Association

Hourly Averages

Nitrogen Dioxide (NO_2) - ppb

Sunset House - January 2013



Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Sunset House - January 2013

Maximum Value: 40.3 ppb on Jan 8 13:00

Maximum Daily Average: 6.5 ppb on Jan 8

Minimum Value: 1 ppb on Jan 20 11:00

Minimum Daily Average: 1.0 ppb on Jan 28

Maximum Diurnal Average: 3.8 ppb at hour 16

Minimum Diurnal Average: 2.3 ppb at hour 5

Monthly Average: 2.86 ppb

Percentiles: $P_1 = 0.7$ $P_{10} = 1.0$ $Q_1 = 1.4$ Median = 2.3 $Q_3 = 3.6$ $P_{90} = 5.3$ $P_{99} = 9.9$

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	38
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	2	2	1	2	1	1	1	2	2	1	2	2	2	2	2	2	2	A	4	3	3	2	2	2	2.0	4.2
2-Jan	1	2	3	2	3	2	2	2	2	2	2	3	3	3	3	3	A	3	3	3	3	3	3	3	2.7	3.5
3-Jan	3	3	3	3	3	3	3	3	3	4	3	4	4	4	4	A	2	2	2	1	1	1	1	1	2.6	4.1
4-Jan	1	1	1	7	2	2	1	5	3	5	6	6	6	7	A	7	6	6	5	4	3	4	5	4	4.2	7.4
5-Jan	3	3	2	2	3	2	2	2	2	2	2	2	2	A	5	4	5	5	5	5	4	6	4	4	3.2	6.4
6-Jan	4	5	4	3	4	3	4	5	6	6	4	3	A	2	3	3	3	4	4	4	4	4	3	2	3.8	6.5
7-Jan	2	2	2	2	2	2	3	3	2	2	2	A	2	2	3	3	3	4	4	3	4	7	7	6	3.1	7.1
8-Jan	5	6	5	2	2	3	2	1	2	3	A	10	40	10	3	31	16	2	2	2	1	1	1	1	6.5	40.3
9-Jan	1	1	1	1	1	1	2	1	1	A	2	2	2	2	4	3	3	2	2	2	1	2	1	1	1.7	3.8
10-Jan	1	1	1	2	2	2	1	2	A	1	1	2	2	2	1	1	1	1	1	1	1	1	3	5	1.7	5.0
11-Jan	6	5	4	4	4	3	3	A	6	5	5	4	3	4	4	5	5	5	8	7	6	5	5	4	4.8	7.6
12-Jan	8	9	8	6	4	5	A	5	4	3	3	3	3	3	3	3	5	6	6	7	6	4	3	3	4.8	8.6
13-Jan	3	2	2	2	3	A	3	2	2	3	3	4	3	3	3	4	3	4	4	4	3	3	3	3	3.0	3.9
14-Jan	3	4	4	5	A	4	4	3	3	3	4	4	2	2	2	3	4	3	2	3	2	2	2	1	3.0	4.5
15-Jan	2	1	1	A	1	2	1	1	1	3	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1.2	3.5
16-Jan	1	1	A	1	1	2	1	1	1	1	1	2	1	1	2	1	1	2	2	2	1	1	1	1	1.3	2.1
17-Jan	2	A	3	3	3	3	2	2	2	3	2	2	2	2	1	1	2	1	1	1	2	2	1	1	1.9	3.0
18-Jan	A	2	2	1	1	1	1	1	1	1	C	C	C	C	C	C	1	1	1	1	2	4	3	A	--	4.2
19-Jan	2	2	1	1	1	1	1	1	1	1	1	1	2	1	2	2	1	1	1	1	1	1	A	1	1.2	2.3
20-Jan	1	1	2	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	2	2	A	1	1	1.1	2.4
21-Jan	1	1	2	2	1	1	2	2	2	2	2	2	1	2	3	3	2	2	2	2	A	2	2	3	1.9	2.7
22-Jan	2	2	2	2	2	2	2	2	1	2	1	2	2	2	2	2	2	2	2	A	2	2	2	2	1.8	2.4
23-Jan	2	3	2	2	2	2	2	1	1	2	2	3	4	7	9	9	9	9	A	7	7	7	6	6	4.6	9.0
24-Jan	5	5	5	5	5	6	6	7	10	8	6	5	4	3	4	4	4	A	5	5	5	4	4	2	5.1	9.8
25-Jan	3	2	3	4	3	3	5	5	4	4	4	3	3	2	4	3	A	4	3	3	2	3	3	2	3.2	5.0
26-Jan	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	A	3	4	4	6	6	5	5	4	3.1	6.1
27-Jan	3	4	4	4	4	3	3	3	3	3	3	3	3	3	A	3	2	2	2	4	3	3	2	2	3.0	4.3
28-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1.0	1.4
29-Jan	1	1	1	1	1	1	2	2	3	3	2	2	A	2	1	2	1	1	1	1	1	1	1	1	1.5	3.3
30-Jan	1	2	1	1	1	1	1	2	2	2	2	A	2	2	2	2	1	1	1	1	2	5	5	4	1.9	5.2
31-Jan	4	4	5	4	4	5	6	6	6	6	A	5	4	3	4	4	5	6	6	7	10	12	13	6	5.9	12.6
	2.5	2.6	2.6	2.5	2.3	2.4	2.4	2.6	2.7	2.8	2.5	3.0	3.8	2.9	2.7	3.8	3.3	3.0	2.9	3.1	3.1	3.3	3.1	2.6	Diurnal Average	
	7.6	8.6	8.1	7.2	5.1	5.7	6.3	6.8	9.8	8.0	5.8	10.1	40.3	9.7	8.6	30.7	15.7	8.7	7.6	7.4	10.4	11.7	12.6	6.2	Diurnal Maximum	

C - Calibration

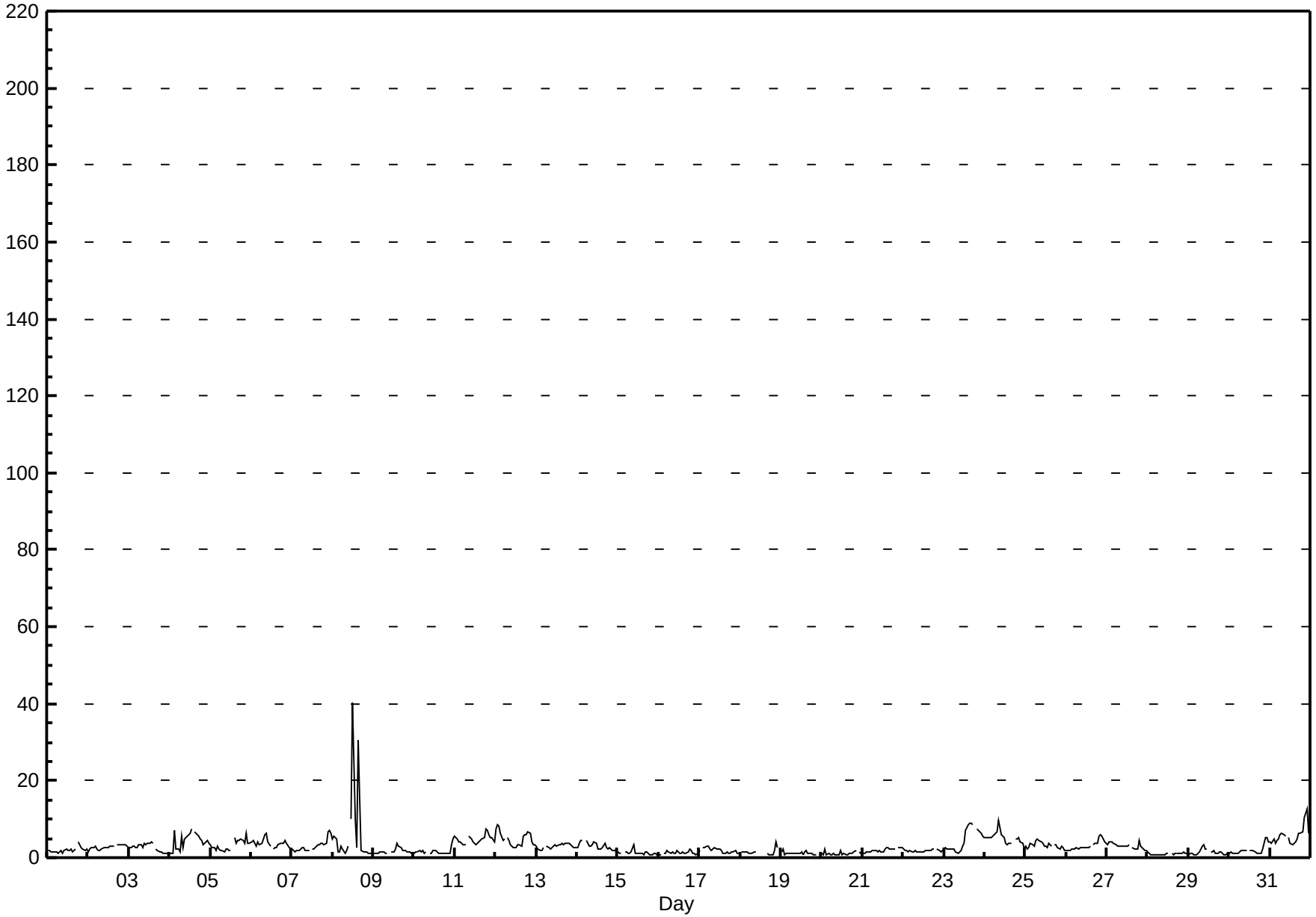
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Nitrogen Dioxide (NO_2) - ppb

Sunset House - January 2013

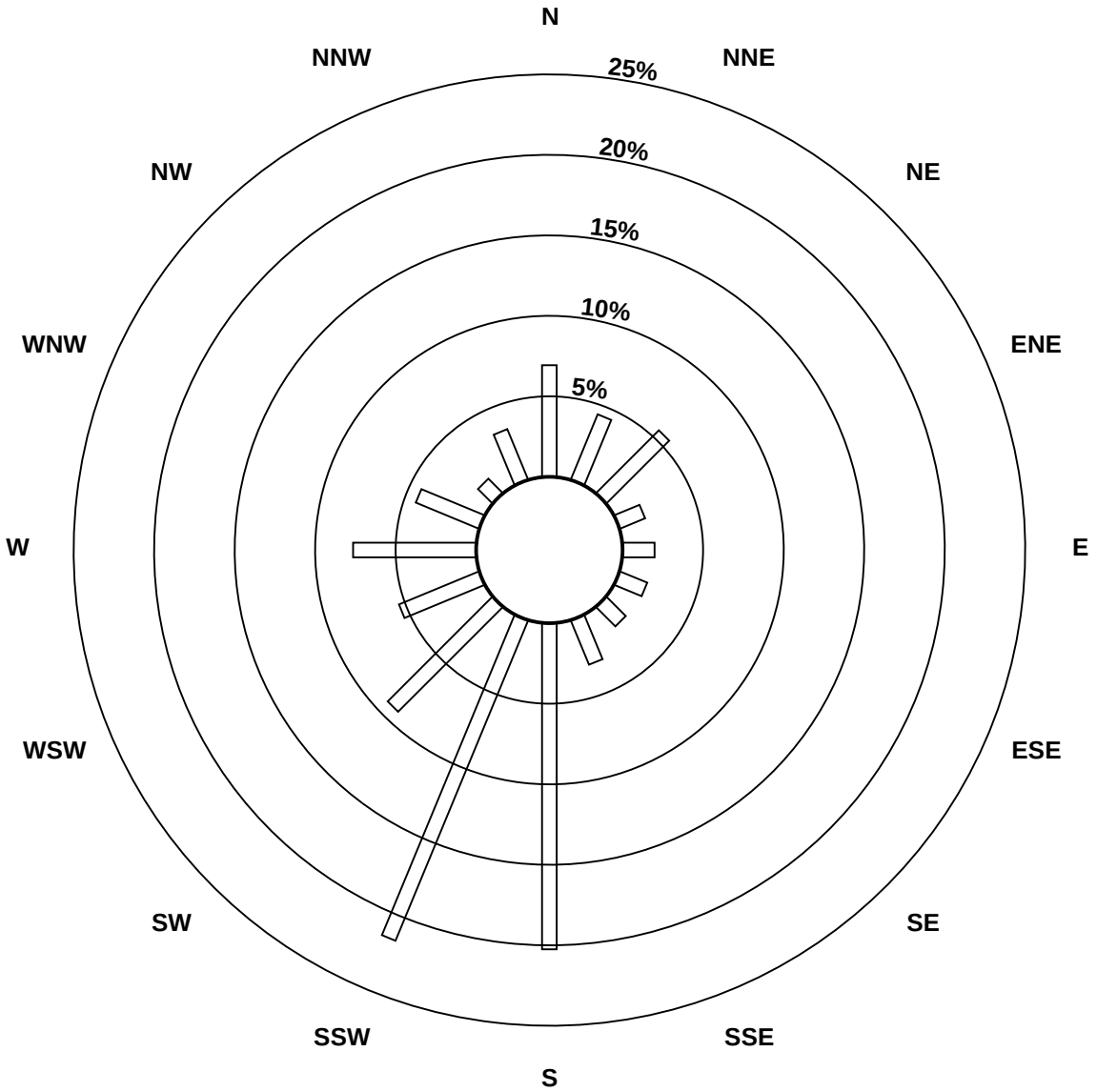


Peace Airshed Zone Association

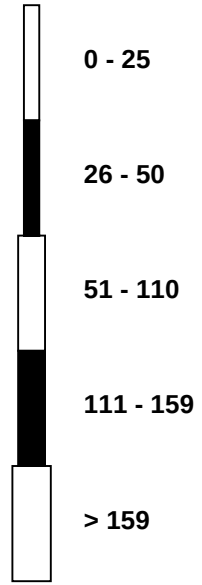
Pollutant Rose

Nitrogen Dioxide (NO_2) - ppb

Sunset House - January 2013



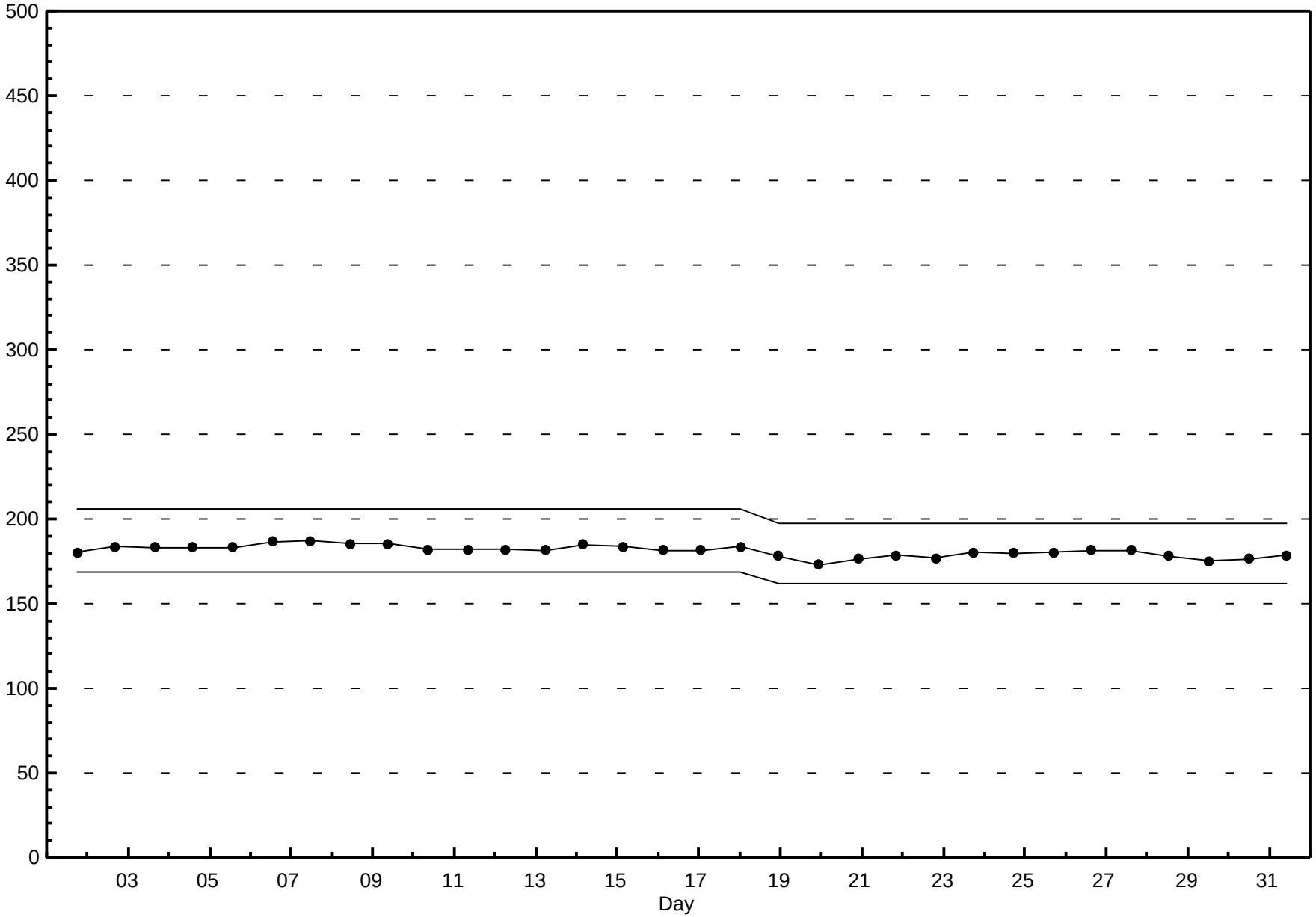
Pollutant Classes (ppb)



Span Responses

Nitrogen Dioxide (NO_2)

Sunset House - January 2013



Hourly Averages

Nitrogen Oxide (NO) - ppb

Sunset House - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 8.5 ppb on Jan 8 13:00 Maximum Daily Average: 0.7 ppb on Jan 8

Minimum Value: 0 ppb on Jan 1 22:00
Maximum Diurnal Average: 0.8 ppb at hour 13
Monthly Average: 0.18 ppb

Minimum Daily Average: 0.0 ppb on Jan 19
Minimum Diurnal Average: 0.0 ppb at hour 1
Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.1 $Q_3 = 0.2$ $P_{90} = 0.5$ $P_{99} = 1.6$

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	38
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Average	Daily Maximum
1-Jan	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
2-Jan	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	A	0	0	0	0	0	0	0	0.1	0.6
3-Jan	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	A	0	0	0	0	0	0	0	0	0.2	0.8
4-Jan	0	0	0	0	0	0	0	0	0	0	1	1	2	2	A	1	0	0	0	0	0	0	0	0	0.4	2.3
5-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.5
6-Jan	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	0.5
7-Jan	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	0.5
8-Jan	0	0	0	0	0	0	0	0	0	0	A	1	9	1	0	3	1	0	0	0	0	0	0	0	0.7	8.5
9-Jan	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.1	0.6
10-Jan	0	0	0	0	0	0	0	0	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.6
11-Jan	0	0	0	0	0	0	0	A	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.4	1.5
12-Jan	0	0	0	0	0	0	A	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0.2	0.6
13-Jan	0	0	0	0	0	A	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0.2	0.7
14-Jan	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3
15-Jan	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
16-Jan	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
17-Jan	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
18-Jan	A	0	0	0	0	0	0	0	0	0	C	C	C	C	C	C	0	0	0	0	0	0	0	A	--	0.2
19-Jan	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
20-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.1	0.3
21-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	A	0	0	0	0.1	0.6
22-Jan	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
23-Jan	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	1	0	A	0	0	0	0	0	0.4	2.4
24-Jan	0	0	0	0	0	0	0	0	0	1	2	2	1	1	1	1	0	A	0	0	0	0	0	0	0.4	1.7
25-Jan	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	A	0	0	0	0	0	0	0	0.2	0.9
26-Jan	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	A	0	0	0	0	0	0	0	0	0.1	0.8
27-Jan	0	0	0	0	0	0	0	0	0	0	0	1	1	1	A	0	0	0	0	0	0	0	0	0	0.2	0.8
28-Jan	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	0.3
29-Jan	0	0	0	0	0	0	0	0	0	1	1	1	A	1	0	0	0	0	0	0	0	0	0	0	0.2	1.1
30-Jan	0	0	0	0	0	0	0	0	0	0	0	A	1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5
31-Jan	0	0	0	0	0	0	0	0	0	1	A	1	1	1	1	1	0	0	0	0	0	0	0	0	0.3	0.9
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.5	0.8	0.6	0.5	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	Diurnal Average	
	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.8	1.7	1.6	8.5	2.3	2.4	2.5	0.8	0.2	0.3	0.3	0.3	0.3	0.3	0.3	Diurnal Maximum	

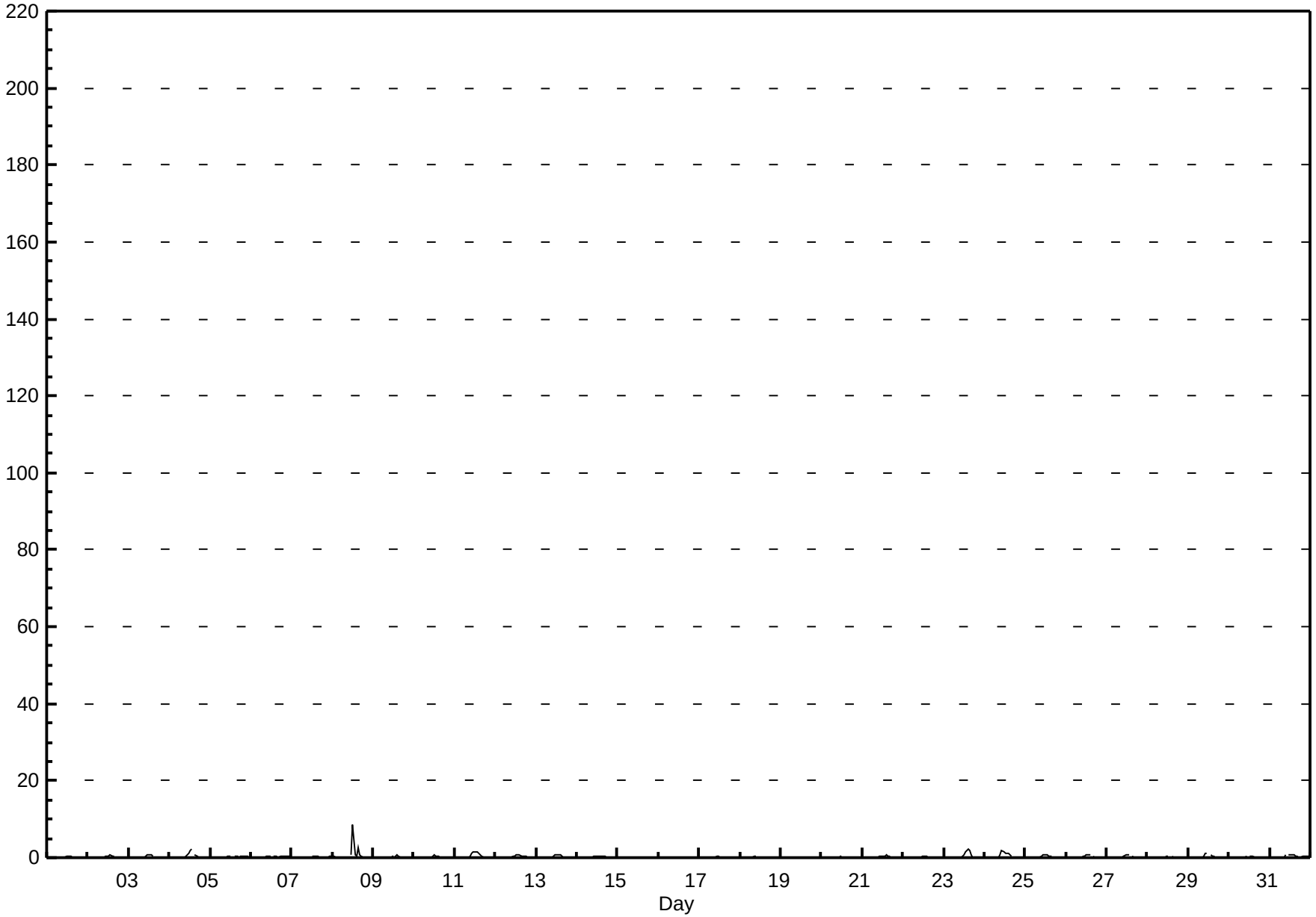
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Nitrogen Oxide (NO) - ppb

Sunset House - January 2013



PAZA
Peace Airshed Zone Association

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Sunset House - January 2013

Maximum Value: 124.1 ppb on Jan 8 13:00

Maximum Daily Average: 8.9 ppb on Jan 8

Minimum Value: 0 ppb on Jan 18 18:00

Minimum Daily Average: 0.2 ppb on Jan 19

Maximum Diurnal Average: 5.2 ppb at hour 13

Minimum Diurnal Average: 0.2 ppb at hour 7

Monthly Average: 0.68 ppb

Percentiles: $P_1 = 0.0$ $P_{10} = 0.1$ $Q_1 = 0.1$ Median = 0.2 $Q_3 = 0.5$ $P_{90} = 1.0$ $P_{99} = 2.3$

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	38
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	0	0	0	0	1	0	1	1	0	0	1	1	1	1	0	1	A	1	1	0	0	0	0	0.5	1.1
2-Jan	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	A	0	0	0	0	0	0	0	0.2	0.8
3-Jan	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	A	0	0	0	0	0	0	0	0	0.4	1.3
4-Jan	0	0	0	6	0	0	0	3	0	0	1	2	3	3	A	1	0	0	0	0	1	1	0	0	1.0	5.5
5-Jan	0	0	0	0	1	1	0	0	0	0	0	0	0	A	1	1	0	0	0	0	0	1	0	0	0.4	1.4
6-Jan	0	0	0	0	1	0	0	0	0	1	1	1	A	1	1	1	1	1	1	1	1	1	0	0	0.6	1.2
7-Jan	0	0	0	0	0	0	0	0	0	0	0	A	1	1	0	0	0	0	0	0	1	1	1	1	0.4	1.2
8-Jan	1	1	0	0	0	0	0	0	0	1	A	7	124	19	1	35	13	0	0	0	0	0	0	0	8.9	124.1
9-Jan	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0.3	0.9
10-Jan	0	0	0	0	0	1	0	0	A	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0.3	1.1
11-Jan	0	0	0	0	0	0	0	A	0	1	1	2	2	2	2	1	1	0	0	0	0	0	0	0	0.6	1.7
12-Jan	0	0	0	0	0	1	A	0	0	0	0	1	1	2	1	1	1	1	1	1	2	0	0	0	0.6	1.7
13-Jan	0	0	0	0	0	A	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.4	1.2
14-Jan	0	0	0	0	A	0	1	0	0	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0.5	0.9
15-Jan	0	0	0	A	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0.3	0.9
16-Jan	0	0	A	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1.1
17-Jan	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	0.5
18-Jan	A	0	0	0	1	1	0	0	0	0	C	C	C	C	C	C	0	0	0	0	1	2	0	A	--	1.8
19-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0.2	0.3
20-Jan	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	A	0	0	0.3	1.3
21-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	A	0	0	0	0.3	1.5
22-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	A	0	0	0	0	0.2	0.6
23-Jan	0	0	0	0	0	0	0	0	0	0	0	1	1	2	3	2	1	0	A	0	0	0	0	0	0.6	2.6
24-Jan	0	0	0	0	0	1	0	0	0	1	2	2	2	1	1	1	0	A	0	0	0	0	0	0	0.6	2.0
25-Jan	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	1	A	0	0	0	0	0	0	0	0.4	1.6
26-Jan	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	A	0	0	0	0	0	0	0	0	0.2	1.1
27-Jan	0	0	0	0	0	0	0	0	0	0	1	1	1	1	A	0	0	0	0	0	0	0	0	0	0.3	1.1
28-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.4
29-Jan	0	0	0	0	0	0	0	0	0	1	2	1	A	1	1	1	0	0	0	0	0	0	0	0	0.4	1.5
30-Jan	0	0	0	0	0	0	0	0	0	0	0	A	2	1	1	1	0	0	0	0	0	0	0	1	0.4	1.9
31-Jan	1	1	1	1	0	0	0	0	0	1	A	1	1	1	1	1	0	0	0	1	1	1	1	1	0.8	1.5
	0.2	0.2	0.2	0.4	0.2	0.3	0.2	0.3	0.2	0.4	0.6	1.0	5.2	1.6	0.8	1.9	0.8	0.3	0.3	0.3	0.4	0.4	0.2	0.2	Diurnal Average	
	0.9	1.3	1.4	5.5	1.1	1.1	0.5	3.4	0.6	1.3	2.0	6.8	124.1	18.9	2.6	35.5	13.0	1.4	1.1	1.2	1.7	1.8	0.7	1.2	Diurnal Maximum	

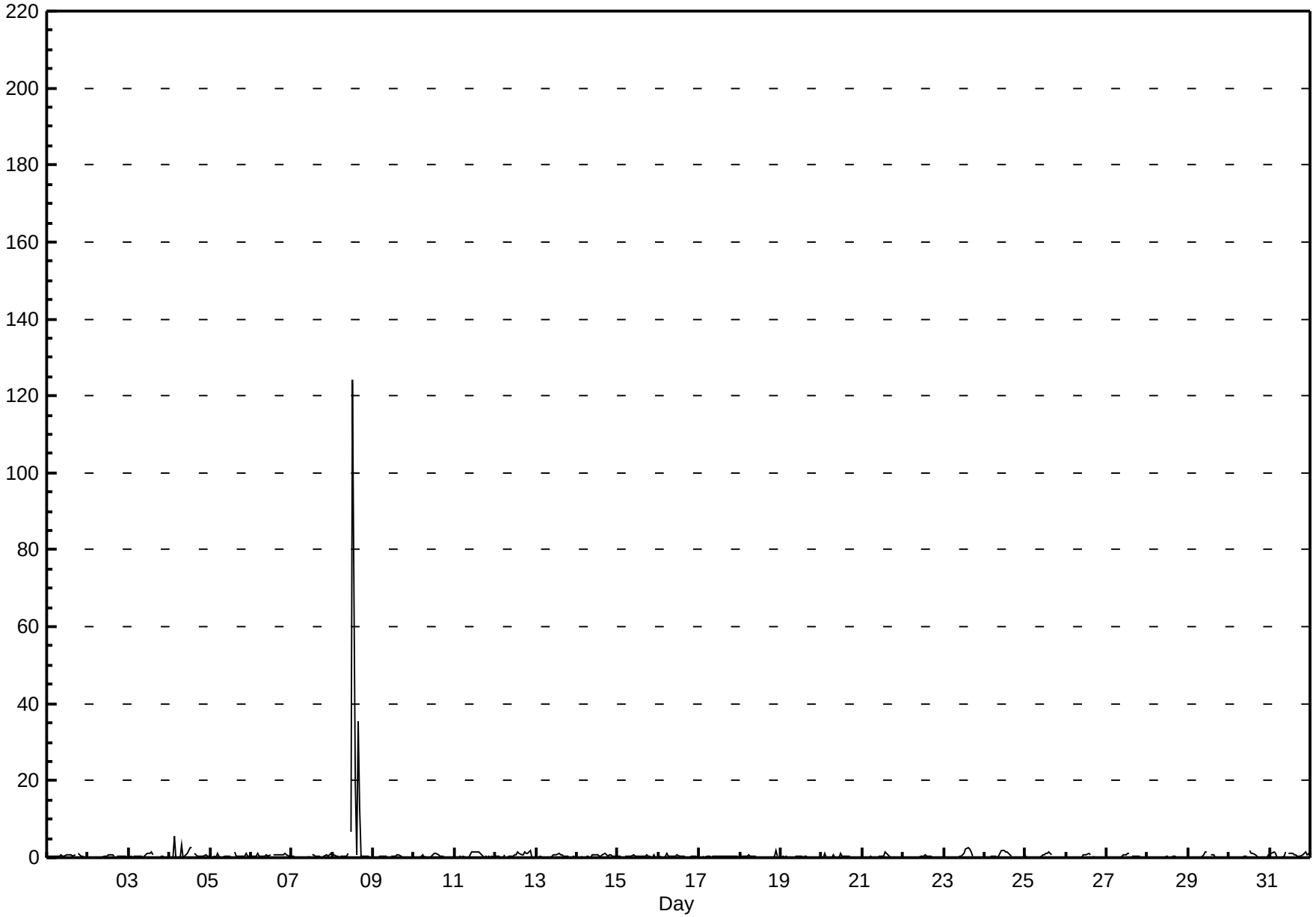
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums

Nitrogen Oxide (NO) - ppb

Sunset House - January 2013



Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Sunset House - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 14.8 ppb on Jan 8 13:00 Maximum Daily Average: 5.3 ppb on Jan 31

Minimum Value: 0 ppb on Jan 20 10:00 Minimum Daily Average: 0.8 ppb on Jan 28
Maximum Diurnal Average: 3.1 ppb at hour 13 Minimum Diurnal Average: 1.9 ppb at hour 5
Monthly Average: 2.43 ppb Percentiles: $P_1 = 0.5$ $P_{10} = 0.8$ $Q_1 = 1.1$ Median = 1.9 $Q_3 = 3.3$ $P_{90} = 4.6$ $P_{99} = 8.5$

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	38
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	A	3	2	2	2	2	2	1.5	2.6
2-Jan	1	1	2	2	2	2	1	2	2	2	2	3	3	3	3	3	A	3	3	3	3	3	3	2	2.5	3.2
3-Jan	2	3	3	3	3	2	3	3	2	3	3	4	4	4	3	A	2	2	1	1	1	1	1	1	2.3	4.1
4-Jan	1	1	1	1	2	2	1	3	2	3	6	7	8	9	A	7	6	5	5	4	3	4	4	3	3.7	9.2
5-Jan	3	2	2	2	2	2	2	2	1	2	2	2	2	A	4	4	4	4	5	4	3	6	3	3	2.8	5.5
6-Jan	4	4	3	3	3	3	3	4	5	5	3	3	A	2	2	2	3	3	3	3	4	3	3	2	3.2	5.4
7-Jan	2	2	1	2	2	2	2	2	2	2	2	A	3	2	3	3	3	3	3	3	3	5	6	5	2.8	6.1
8-Jan	4	5	4	1	1	2	1	1	1	2	A	3	15	2	2	7	3	2	2	2	1	1	1	1	2.8	14.8
9-Jan	1	1	1	1	1	1	1	1	1	A	1	2	2	2	4	3	2	1	1	1	1	1	1	1	1.5	3.6
10-Jan	1	1	1	2	1	1	1	1	A	1	1	1	2	2	1	1	1	1	1	1	1	1	2	4	1.4	4.2
11-Jan	5	5	4	4	3	3	3	A	5	5	5	5	5	5	5	5	5	5	6	6	5	5	4	4	4.6	6.0
12-Jan	5	7	7	5	4	4	A	5	4	3	2	3	3	3	3	3	3	4	5	5	5	3	3	3	4.0	7.3
13-Jan	2	2	2	2	2	A	3	2	2	2	3	4	3	3	4	4	3	3	4	4	3	3	2	2	2.8	3.7
14-Jan	3	3	4	4	A	4	3	3	3	3	4	3	2	2	2	3	3	2	2	2	2	2	1	1	2.6	4.3
15-Jan	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	1.2
16-Jan	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	1.4
17-Jan	1	A	2	2	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1.7	2.9
18-Jan	A	1	1	1	1	1	1	1	1	1	C	C	C	C	C	C	1	1	0	1	1	1	1	A	--	1.4
19-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	0	1	A	1	0.9	1.7
20-Jan	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.8	1.2
21-Jan	1	1	1	1	1	1	2	1	2	1	2	2	2	2	3	2	2	2	2	2	A	2	2	2	1.8	2.8
22-Jan	2	2	2	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	A	2	1	1	2	1.6	2.0
23-Jan	2	2	2	2	2	2	2	1	1	2	2	3	4	6	10	10	9	8	A	7	7	7	6	5	4.4	10.4
24-Jan	5	5	5	5	5	5	6	6	9	7	7	6	5	4	4	4	4	A	4	4	5	4	3	2	5.0	8.6
25-Jan	2	2	2	3	3	3	3	5	4	4	4	4	4	3	3	3	A	3	3	2	2	3	2	2	2.9	4.6
26-Jan	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	A	3	3	3	4	6	5	4	4	2.9	5.7
27-Jan	3	4	4	4	3	3	3	3	3	3	3	3	3	4	A	2	2	2	2	4	2	2	2	2	2.9	3.9
28-Jan	1	1	1	1	0	0	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.8	1.1
29-Jan	1	1	1	1	1	1	1	2	2	3	3	3	A	2	1	1	1	1	1	1	1	1	1	1	1.3	3.1
30-Jan	1	1	1	1	1	1	1	1	2	2	2	A	2	2	1	1	1	1	1	1	1	4	4	4	1.6	4.2
31-Jan	3	3	3	4	4	4	5	6	6	6	A	5	4	4	4	4	5	6	6	6	9	11	8	6	5.3	11.1
	2.1	2.2	2.2	2.1	1.9	2.0	2.0	2.2	2.3	2.4	2.5	2.7	3.1	2.8	2.7	2.9	2.6	2.6	2.5	2.6	2.6	2.8	2.5	2.3	Diurnal Average	
	5.1	7.3	6.9	5.1	4.8	5.1	5.9	6.4	8.6	7.4	7.3	6.5	14.8	9.2	10.3	10.4	9.4	8.3	6.1	7.1	8.8	11.1	7.7	5.6	Diurnal Maximum	

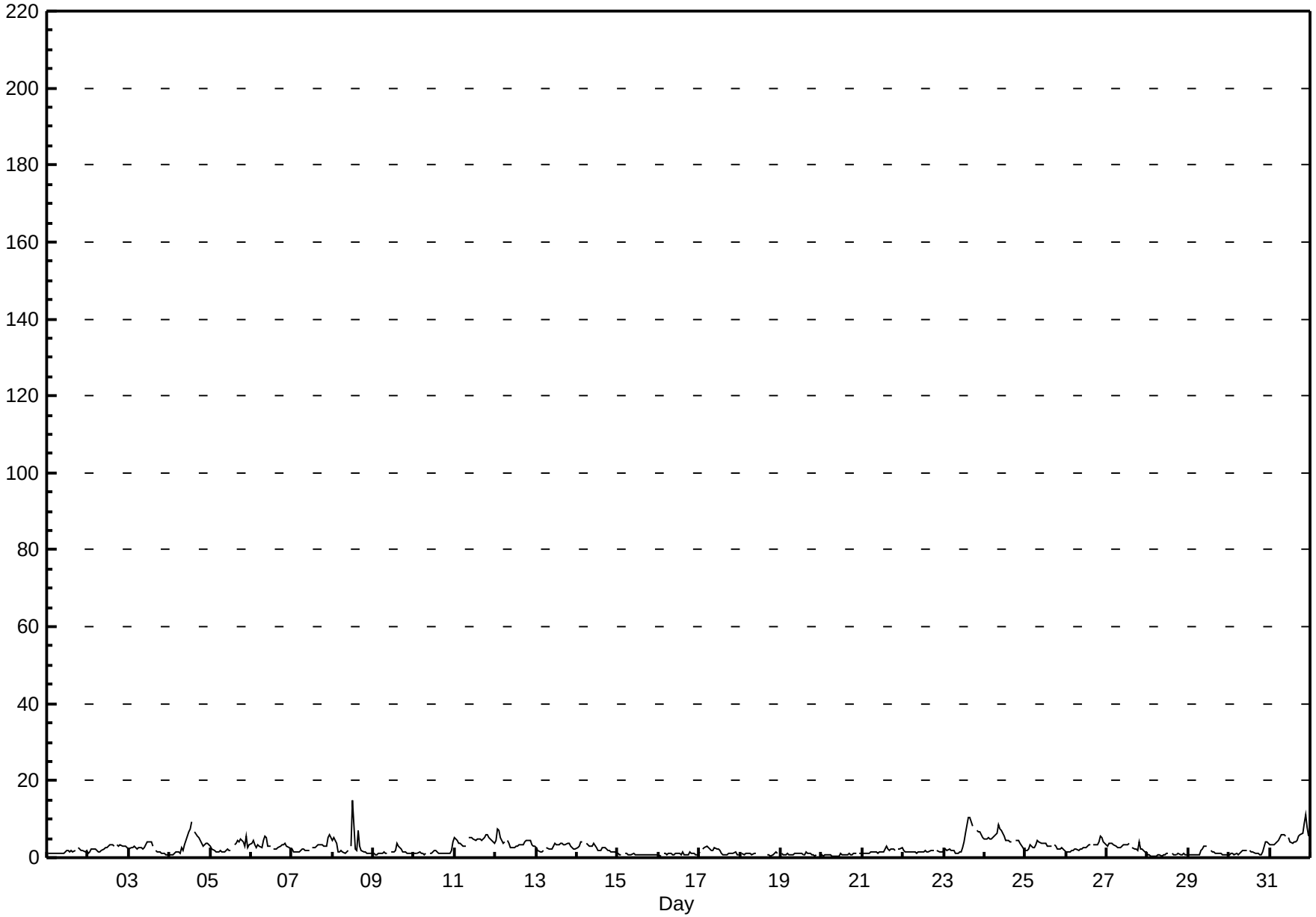
C - Calibration A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Averages

Oxides of Nitrogen (NO_X) - ppb

Sunset House - January 2013



Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

Sunset House - January 2013

Maximum Value: 163.9 ppb on Jan 8 13:00

Maximum Daily Average: 14.9 ppb on Jan 8

Minimum Value: 1 ppb on Jan 20 09:00

Minimum Daily Average: 1.0 ppb on Jan 28

Maximum Diurnal Average: 8.9 ppb at hour 13

Minimum Diurnal Average: 2.4 ppb at hour 5

Monthly Average: 3.38 ppb

Percentiles: $P_1 = 0.7$ $P_{10} = 1.1$ $Q_1 = 1.5$ Median = 2.5 $Q_3 = 4.0$ $P_{90} = 5.6$ $P_{99} = 12.8$

Hours in Service:	744
Hours of Data:	706
Hours of Missing Data:	38
Hours of Calibration:	38
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	2	2	2	2	2	2	2	2	3	2	2	3	3	2	3	2	3	A	5	4	3	2	2	2	2.4	5.1
2-Jan	1	2	2	2	3	2	2	2	2	2	3	3	4	4	3	3	A	4	3	4	3	3	3	3	2.8	3.6
3-Jan	3	3	3	3	3	3	4	4	3	4	4	5	5	5	4	A	2	2	2	1	1	1	1	1	2.8	5.1
4-Jan	1	1	1	13	2	2	1	8	3	5	7	7	9	10	A	8	6	6	5	4	4	5	5	4	5.1	12.9
5-Jan	3	3	3	2	4	3	2	2	2	2	2	2	2	A	6	4	5	5	5	5	4	8	4	4	3.5	7.5
6-Jan	4	5	4	3	5	3	4	5	7	7	5	4	A	3	3	3	4	5	4	4	6	5	3	2	4.3	7.0
7-Jan	2	2	2	2	2	2	3	3	2	2	2	A	3	3	3	4	4	4	4	3	4	7	8	8	3.3	7.9
8-Jan	5	7	5	2	2	3	3	2	2	4	A	17	164	22	3	66	27	2	2	2	2	1	1	1	14.9	163.9
9-Jan	1	1	1	1	1	1	2	1	1	A	2	2	2	2	4	4	3	2	2	2	1	1	1	1	1.8	4.5
10-Jan	1	1	1	2	2	2	1	2	A	1	1	3	3	3	2	1	1	1	1	1	1	1	3	5	1.9	5.1
11-Jan	6	5	4	4	4	3	3	A	6	5	5	5	5	5	5	5	5	5	8	7	6	5	6	4	5.1	8.0
12-Jan	8	9	8	6	4	6	A	5	4	3	3	3	3	5	4	4	6	7	7	8	8	4	3	3	5.3	8.6
13-Jan	3	2	2	2	3	A	3	2	2	3	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3.2	4.4
14-Jan	3	4	4	5	A	4	4	3	3	4	5	4	3	3	3	3	5	3	3	3	3	2	2	2	3.3	4.7
15-Jan	2	1	1	A	1	2	1	1	2	4	1	1	1	1	1	1	1	2	1	1	1	2	1	1	1.3	4.3
16-Jan	1	1	A	1	2	2	2	1	2	1	1	2	1	1	2	1	1	2	2	2	1	1	1	1	1.4	2.5
17-Jan	2	A	3	3	3	3	2	2	2	3	2	2	2	2	1	1	2	2	1	2	2	2	1	1	2.1	3.1
18-Jan	A	2	2	2	2	1	1	1	1	1	C	C	C	C	C	C	1	1	1	1	2	6	3	A	--	5.7
19-Jan	2	2	1	1	1	1	1	1	1	1	1	1	2	1	2	2	1	1	1	1	1	1	A	1	1.3	2.3
20-Jan	1	1	3	1	1	1	1	2	1	1	1	3	1	1	1	1	1	1	1	2	2	A	1	1	1.2	3.4
21-Jan	1	1	2	2	1	2	2	2	2	2	2	2	2	4	4	3	2	2	2	2	A	3	2	3	2.1	3.6
22-Jan	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	A	2	2	2	2	1.8	2.4
23-Jan	2	3	2	2	2	2	2	1	1	2	2	3	5	9	11	11	10	9	A	8	7	7	6	6	5.0	10.9
24-Jan	5	5	5	5	5	6	6	7	10	8	8	7	5	5	5	4	4	A	5	5	5	4	4	2	5.5	9.9
25-Jan	3	2	3	4	4	3	5	5	4	4	5	4	4	3	6	4	A	4	4	3	2	3	2	2	3.5	5.5
26-Jan	2	2	2	2	2	2	2	2	2	2	3	3	3	4	4	A	4	4	4	6	6	6	5	4	3.2	6.0
27-Jan	3	4	4	4	3	3	3	3	3	3	4	3	4	4	A	3	2	2	2	4	3	2	2	2	3.2	4.5
28-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1.0	1.3
29-Jan	1	1	1	1	1	1	2	2	3	4	3	3	A	2	2	2	1	1	1	1	1	1	1	1	1.7	3.7
30-Jan	1	2	1	1	1	1	1	2	2	2	2	A	4	3	3	2	1	1	1	1	2	5	5	5	2.2	5.2
31-Jan	5	5	6	5	4	5	6	6	6	6	A	6	5	4	4	5	5	7	7	8	11	13	13	7	6.5	13.0
	2.6	2.7	2.7	2.8	2.4	2.5	2.4	2.8	2.8	3.1	2.9	3.8	8.9	4.2	3.4	5.6	4.0	3.1	3.0	3.3	3.3	3.6	3.2	2.7	Diurnal Average	
	8.1	8.6	8.2	12.9	5.3	5.9	6.3	8.5	9.9	8.4	7.8	17.0	163.9	22.2	10.9	66.0	27.2	9.0	8.0	7.9	11.3	12.7	13.0	7.5	Diurnal Maximum	

C - Calibration

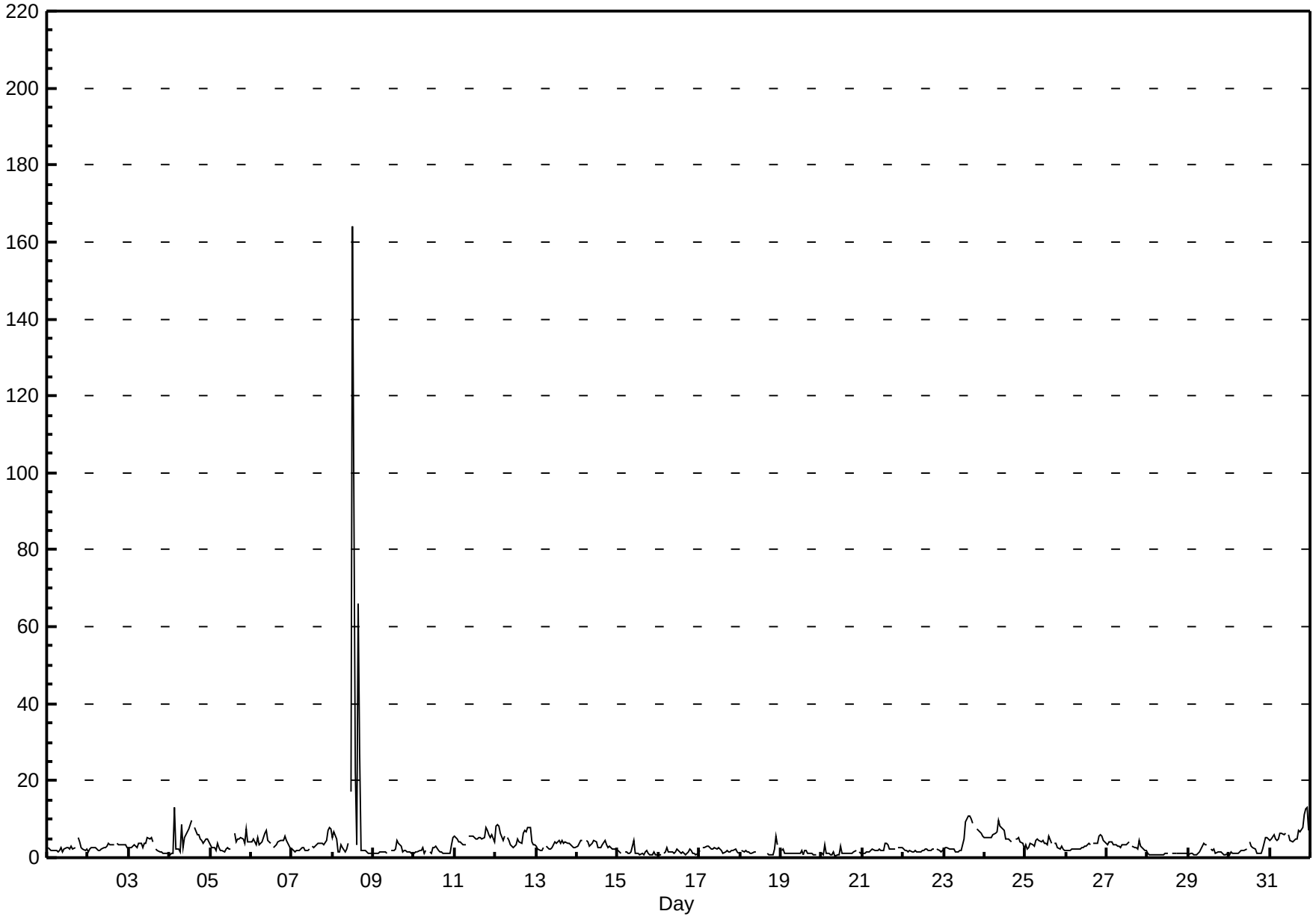
A - Automated Daily Zero Span

Peace Airshed Zone Association

Hourly Maximums

Oxides of Nitrogen (NO_X) - ppb

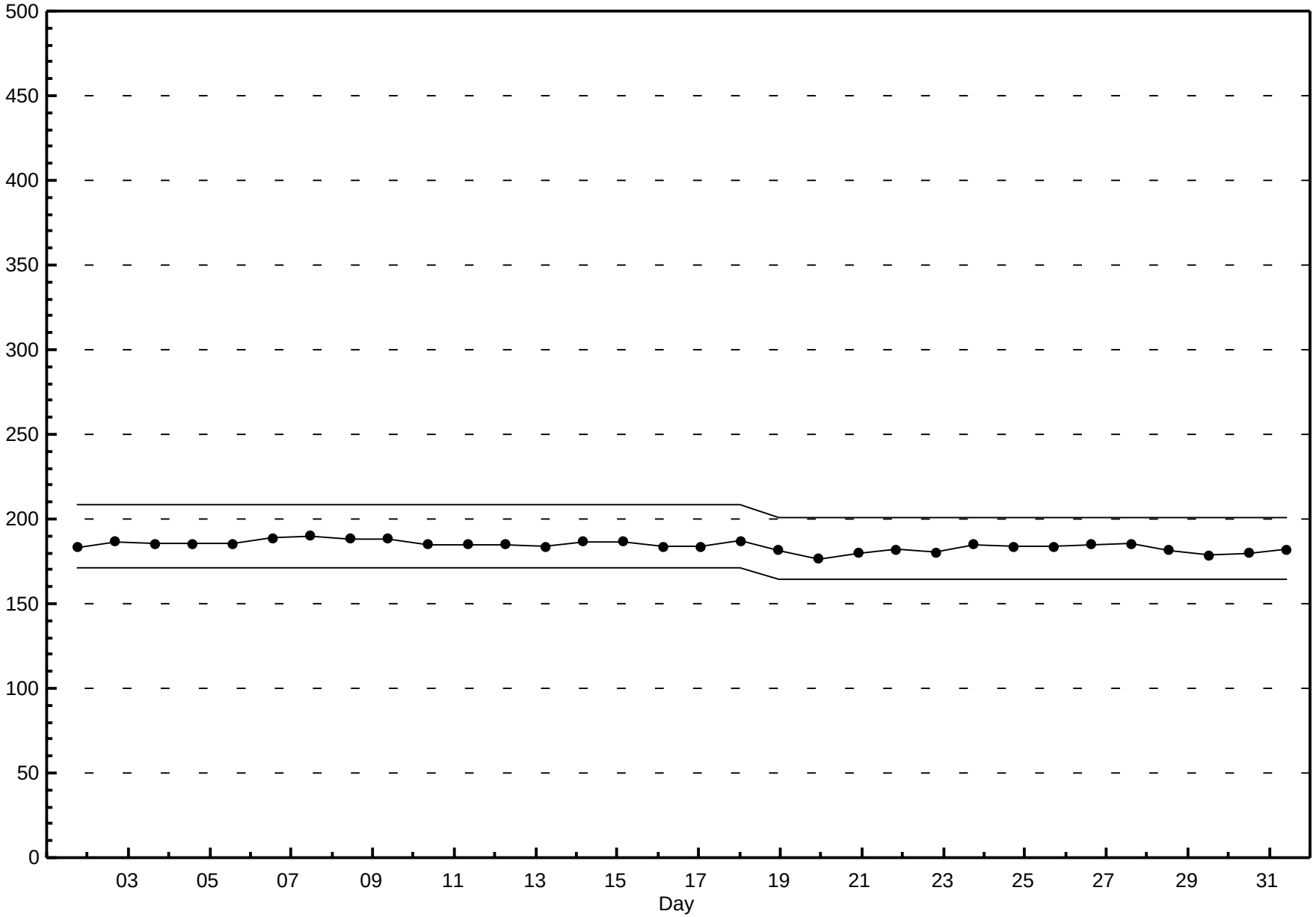
Sunset House - January 2013



Span Responses

Oxides of Nitrogen (NO_X)

Sunset House - January 2013



PAZA
Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Sunset House - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 46.1 ppb on Jan 15 18:00 Maximum Daily Average: 42.9 ppb on Jan 15

Minimum Value: 16 ppb on Jan 24 09:00 Minimum Daily Average: 26.4 ppb on Jan 28
Maximum Diurnal Average: 36.2 ppb at hour 14 Minimum Diurnal Average: 33.1 ppb at hour 22
Monthly Average: 34.42 ppb Percentiles: P_1 = 20.4 P_{10} = 26.2 Q_1 = 30.0 Median = 34.9 Q_3 = 39.3 P_{90} = 42.2 P_{99} = 45.2

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	40	40	39	40	40	40	40	40	40	40	40	40	41	41	41	41	41	A	40	40	40	40	41	41	40.3	41.3
2-Jan	41	41	40	41	41	43	44	44	43	42	43	43	43	43	43	43	A	44	44	43	42	42	42	43	42.6	44.4
3-Jan	42	41	40	40	41	42	43	43	43	43	43	43	43	44	45	A	44	43	43	43	42	42	43	42	42.6	45.2
4-Jan	44	44	43	37	38	37	39	32	33	32	33	33	31	33	A	35	36	36	36	37	37	35	35	35	36.2	43.7
5-Jan	36	37	38	37	37	38	37	38	38	38	39	40	41	A	37	39	39	39	35	34	35	26	34	36	36.8	40.6
6-Jan	35	33	37	39	32	38	38	32	30	30	36	36	A	39	39	39	38	37	37	37	36	36	37	37	36.1	39.3
7-Jan	37	38	38	37	37	37	37	38	39	40	41	A	41	42	41	40	39	38	37	36	34	29	26	28	37.0	41.9
8-Jan	30	29	32	36	35	33	34	36	37	37	A	39	36	40	41	39	40	41	41	41	41	41	40	39	37.4	41.2
9-Jan	41	42	42	42	41	40	39	37	37	A	35	35	36	35	31	27	24	24	24	23	23	24	24	24	32.6	42.0
10-Jan	24	25	27	28	30	30	31	31	A	31	30	30	29	29	29	29	28	28	28	28	29	29	28	27	28.5	30.9
11-Jan	26	26	27	27	29	29	28	A	27	28	30	32	34	34	34	34	33	31	29	28	30	31	32	33	30.1	34.3
12-Jan	31	26	27	30	31	32	A	31	33	36	37	37	37	37	37	36	36	35	34	33	33	34	34	34	33.4	37.3
13-Jan	35	36	36	37	36	A	34	35	35	34	34	34	35	35	35	35	35	34	33	33	34	35	36	36	34.8	36.5
14-Jan	36	35	34	33	A	34	35	35	34	34	33	35	36	37	36	36	36	36	36	37	37	37	37	38	35.5	37.8
15-Jan	38	38	38	A	39	40	41	42	43	42	43	43	44	45	45	45	46	46	46	46	45	45	44	43	42.9	46.1
16-Jan	43	43	A	41	40	39	38	37	38	37	39	37	37	39	35	37	38	38	36	36	36	36	36	34	37.9	43.0
17-Jan	32	A	30	29	26	29	29	31	31	28	30	31	34	40	43	43	43	43	43	42	41	41	43	43	35.9	43.0
18-Jan	A	44	44	44	44	45	45	46	45	44	34	32	32	C	C	C	C	36	37	37	36	35	35	A	39.7	45.9
19-Jan	35	35	35	35	33	33	33	32	31	30	30	31	31	34	36	34	32	31	33	34	33	32	A	32	33.0	36.2
20-Jan	32	33	34	33	33	34	34	34	33	33	33	32	32	32	32	32	32	32	31	31	31	A	31	31	32.4	34.0
21-Jan	31	32	31	31	31	31	30	32	33	34	31	32	32	30	28	31	33	32	32	31	A	33	32	31	31.5	33.8
22-Jan	32	33	34	34	34	34	34	35	36	35	36	36	36	35	35	35	34	34	33	A	33	33	32	31	34.2	36.0
23-Jan	30	28	28	27	29	29	31	39	41	40	40	38	34	30	26	25	25	27	A	27	26	26	26	26	30.3	40.6
24-Jan	26	25	25	24	24	23	21	19	16	19	20	25	28	30	30	31	33	A	33	33	33	35	36	37	27.1	36.8
25-Jan	39	40	39	36	39	37	33	32	33	34	36	36	37	38	40	39	A	40	41	42	41	40	40	41	38.0	42.1
26-Jan	41	41	41	41	40	40	40	40	40	40	40	41	41	40	41	A	39	39	39	37	35	35	37	37	39.3	41.3
27-Jan	39	37	36	37	37	37	38	38	38	38	39	39	39	38	A	40	40	38	39	26	23	23	21	22	34.9	39.8
28-Jan	24	26	26	26	26	26	26	26	26	26	27	27	27	A	27	27	27	27	27	27	26	26	26	26	26.4	27.1
29-Jan	26	26	26	27	28	28	27	25	24	24	26	28	A	28	28	29	30	29	28	27	29	29	29	28	27.3	29.7
30-Jan	29	29	29	28	25	24	25	24	24	25	29	A	30	30	30	30	29	29	29	29	28	24	24	25	27.3	30.2
31-Jan	26	27	26	25	24	24	23	22	24	27	A	31	33	35	35	33	32	30	28	26	20	16	19	24	26.4	34.8
	34.0	34.3	34.1	34.1	34.1	34.2	34.2	34.1	34.2	34.1	34.7	35.1	35.5	36.2	35.7	35.1	35.0	35.0	35.0	34.1	33.6	33.1	33.3	33.5	Diurnal Average	
	43.7	44.2	43.8	43.7	44.0	45.1	45.2	45.9	45.3	44.3	42.8	43.3	44.1	44.8	45.2	45.1	45.7	46.1	46.0	45.7	45.0	44.5	44.1	43.0	Diurnal Maximum	

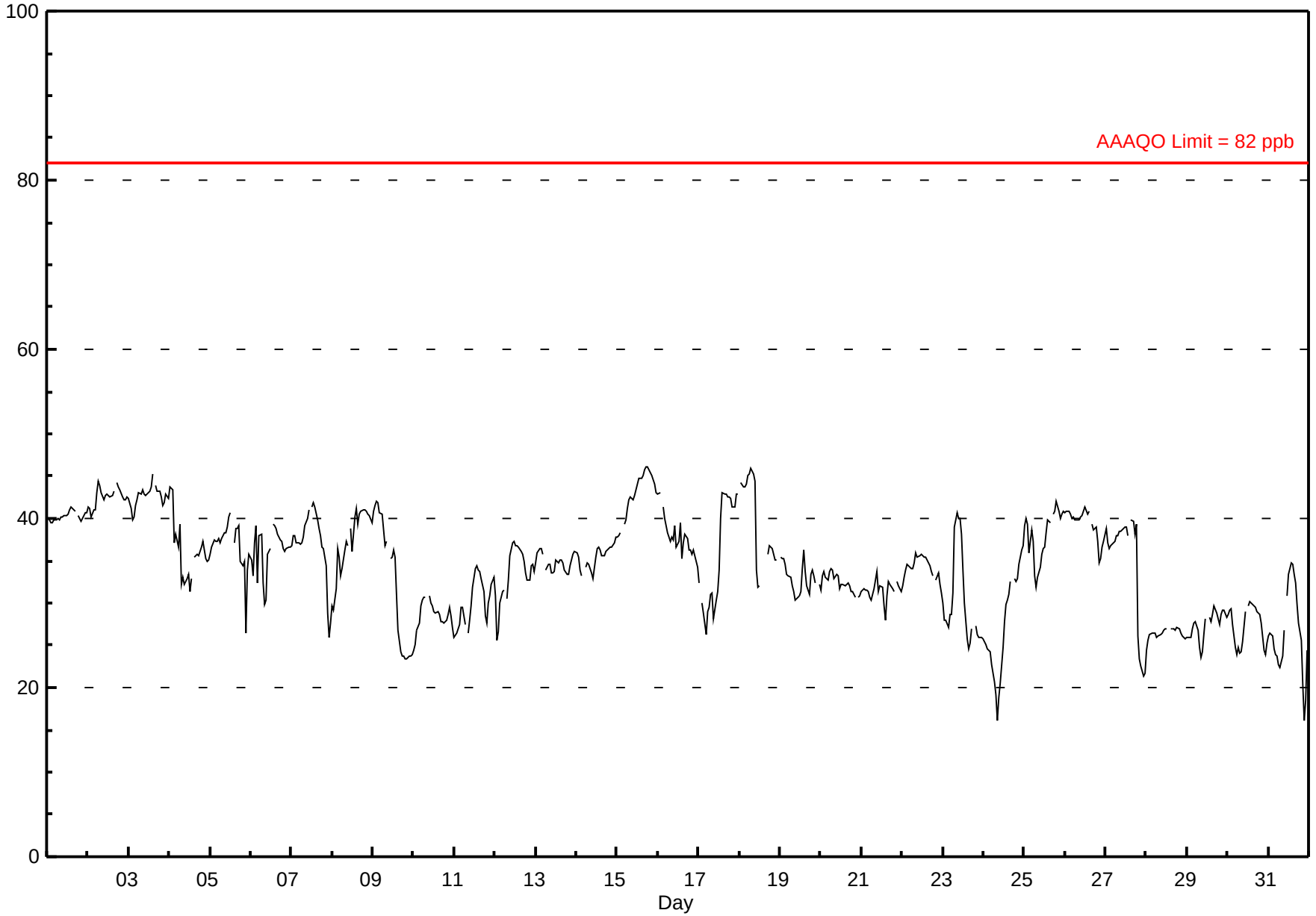
C - Calibration A - Automated Daily Zero Span
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82 ppb 24-hr na

Peace Airshed Zone Association

Hourly Averages

Ozone (O_3) - ppb

Sunset House - January 2013



PAZA
Peace Airshed Zone Association

Hourly Maximums

Ozone (O_3) - ppb

Sunset House - January 2013

Maximum Value: 46.7 ppb on Jan 15 19:00

Maximum Daily Average: 43.5 ppb on Jan 3

Minimum Value: 18 ppb on Jan 24 09:00

Minimum Daily Average: 26.8 ppb on Jan 28

Maximum Diurnal Average: 37.2 ppb at hour 14

Minimum Diurnal Average: 34.1 ppb at hour 23

Monthly Average: 35.36 ppb

Percentiles: P_1 = 21.6 P_{10} = 26.9 Q_1 = 31.4 Median = 35.9 Q_3 = 40.2 P_{90} = 42.9 P_{99} = 45.8

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	40	40	40	40	40	40	40	40	40	40	40	40	41	41	41	41	41	A	41	40	40	41	41	41	40.7	41.5
2-Jan	41	42	41	42	42	44	45	44	44	43	43	43	43	43	43	43	A	45	44	43	43	43	42	43	43.2	45.0
3-Jan	43	42	40	41	42	43	44	44	44	43	43	43	44	45	46	A	45	44	44	43	43	44	44	44	43.5	46.0
4-Jan	44	44	44	40	40	39	41	40	34	33	33	34	32	34	A	37	36	36	36	37	38	37	35	35	37.5	44.0
5-Jan	36	37	38	38	38	38	37	38	38	39	39	41	41	A	39	39	39	39	40	36	39	31	35	36	38.1	41.0
6-Jan	35	35	40	41	38	40	40	34	32	32	37	37	A	40	43	39	39	38	38	37	36	37	37	37	37.6	43.5
7-Jan	38	38	38	38	38	37	37	39	39	41	41	A	42	42	42	41	39	38	37	37	36	32	26	30	37.9	42.5
8-Jan	30	29	37	37	36	34	36	38	38	37	A	39	40	41	41	42	41	41	42	41	41	41	41	41	38.7	41.9
9-Jan	42	42	42	42	41	41	41	38	38	A	38	37	37	37	34	28	25	24	24	24	24	24	24	24	33.7	42.5
10-Jan	25	26	27	29	30	31	31	31	A	31	31	30	30	29	29	29	28	28	28	28	29	30	30	28	29.1	31.4
11-Jan	26	27	27	28	30	30	28	A	27	29	30	33	35	35	35	35	34	32	32	28	31	31	33	34	31.1	35.2
12-Jan	33	27	29	31	32	32	A	32	34	37	38	38	37	38	37	37	36	36	35	33	33	35	35	34	34.3	38.0
13-Jan	37	36	37	37	37	A	34	35	35	34	34	35	36	36	36	36	35	35	34	35	36	36	37	37	35.6	37.1
14-Jan	37	36	35	34	A	35	35	35	35	34	34	36	37	37	37	36	36	37	37	37	37	37	38	38	36.0	38.4
15-Jan	38	38	39	A	40	41	42	43	43	43	43	44	45	45	45	46	46	47	47	46	45	45	44	44	43.5	46.7
16-Jan	43	43	A	42	40	40	39	38	39	40	40	38	39	40	41	38	38	38	37	38	36	37	36	36	39.1	43.4
17-Jan	33	A	31	34	27	32	31	31	32	30	31	33	40	43	44	43	43	43	43	43	42	42	43	43	37.4	43.9
18-Jan	A	44	44	44	45	45	46	46	46	45	37	33	32	C	C	C	C	36	37	37	36	36	36	A	40.4	46.2
19-Jan	36	35	35	35	34	33	34	33	32	31	31	31	32	36	38	34	34	32	35	35	34	33	A	32	33.7	38.1
20-Jan	32	35	35	33	34	37	36	35	33	34	34	32	32	32	32	33	33	32	32	32	31	A	31	31	33.2	36.9
21-Jan	32	32	32	32	32	31	31	33	34	35	33	32	32	32	29	33	33	32	32	32	A	33	32	32	32.3	35.3
22-Jan	33	34	34	35	35	34	35	36	36	36	36	36	36	36	36	36	35	34	34	A	33	35	33	32	34.8	36.4
23-Jan	31	29	30	28	29	29	35	41	41	40	40	40	36	32	27	25	26	28	A	28	27	26	26	26	31.4	40.9
24-Jan	26	26	25	25	25	23	22	20	18	20	21	27	29	31	31	32	33	A	33	33	34	36	38	39	28.3	39.5
25-Jan	39	41	40	39	40	40	35	33	34	36	37	38	38	39	40	40	A	42	42	43	42	41	41	41	39.1	42.7
26-Jan	41	41	41	41	40	40	40	40	40	41	41	42	42	41	41	A	40	39	39	39	35	36	37	39	39.9	41.7
27-Jan	40	38	37	37	37	38	38	38	39	39	39	40	40	38	A	40	40	39	40	35	24	24	22	23	36.0	40.3
28-Jan	25	26	27	27	27	27	26	26	26	27	27	27	27	A	27	27	27	27	27	27	27	26	26	26	26.8	27.4
29-Jan	26	26	26	28	28	28	28	26	24	25	27	29	A	29	28	30	30	29	29	28	29	30	30	29	28.0	30.4
30-Jan	29	30	30	30	27	27	27	27	27	29	30	A	30	31	31	30	30	29	29	29	28	27	25	26	28.6	30.9
31-Jan	26	27	26	25	24	24	24	23	25	29	A	33	35	36	35	34	33	32	28	26	24	20	21	26	27.8	35.9
	34.7	35.0	35.0	35.2	35.0	35.3	35.3	35.3	35.1	35.2	35.6	36.0	36.7	37.2	36.8	35.9	35.7	35.6	35.9	35.1	34.6	34.3	34.1	34.4	Diurnal Average	
	44.0	44.4	44.0	43.9	44.9	45.5	45.9	46.2	45.7	45.5	43.4	43.9	44.9	45.4	46.0	45.7	46.4	46.6	46.7	46.4	45.4	44.9	44.4	44.0	Diurnal Maximum	

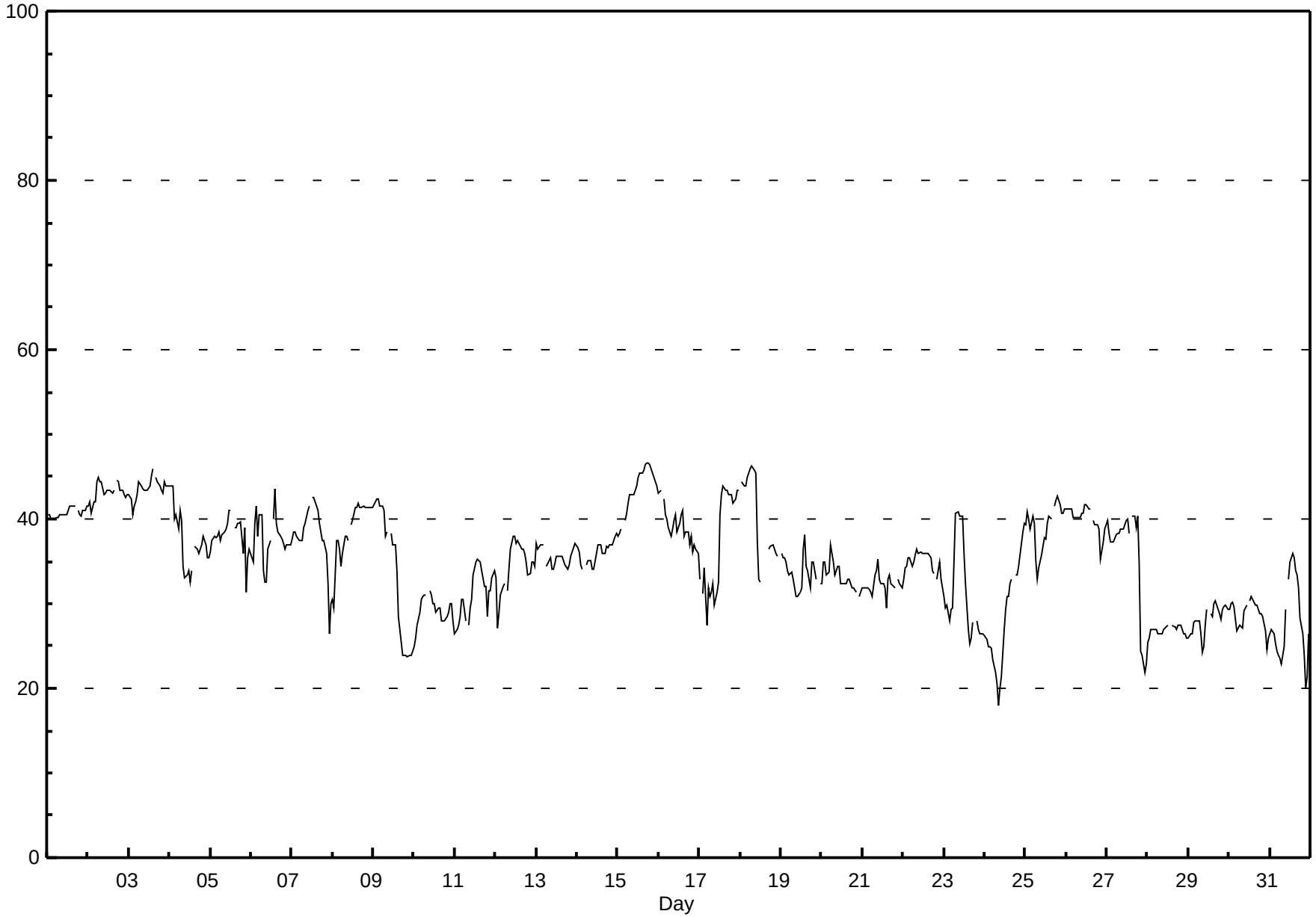
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums

Ozone (O_3) - ppb

Sunset House - January 2013

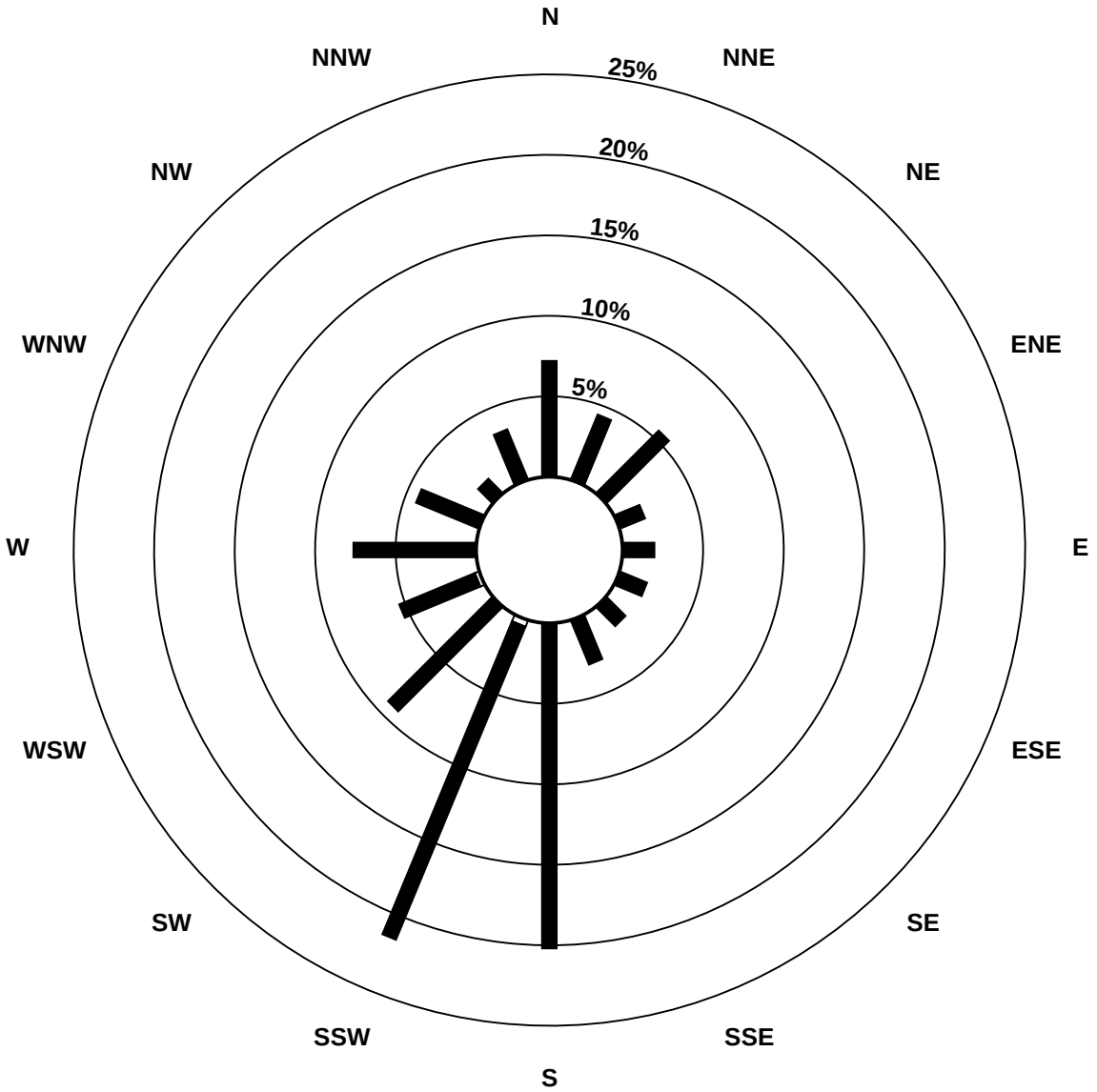


Peace Airshed Zone Association

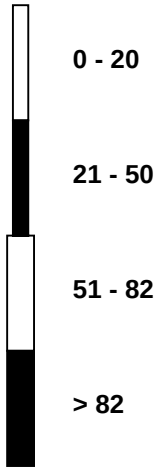
Pollutant Rose

Ozone (O_3) - ppb

Sunset House - January 2013



Pollutant Classes (ppb)



Peace Airshed Zone Association

Eight Hour Running Averages

Ozone (O_3) - ppb

Sunset House - January 2013

Maximum Value: 45.4 ppb on Jan 15 21:00

Minimum Value: 20.8 ppb on Jan 24 11:00

Percentiles: P_1 = 23.3 P_{10} = 26.5 Q_1 = 30.6 Median = 34.8 Q_3 = 38.9 P_{90} = 41.8 P_{99} = 44.4

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

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	41	41	41	41	41	41	41	40	40	40.8
2-Jan	40	40	40	41	41	41	42	42	42	42	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43.2
3-Jan	43	43	42	42	42	42	42	42	42	42	42	43	43	43	43	43	44	44	44	44	43	43	43	43	43.6
4-Jan	43	43	43	42	42	41	41	39	38	37	35	35	34	33	33	33	33	34	34	35	36	36	36	36	42.7
5-Jan	36	36	36	36	36	36	37	37	37	38	38	38	39	39	39	39	39	39	39	38	37	36	35	35	39.1
6-Jan	34	34	34	34	34	36	36	36	35	35	34	34	34	35	35	36	37	38	38	38	38	37	37	37	38.1
7-Jan	37	37	37	37	37	37	37	37	38	38	38	38	39	40	40	41	41	40	40	39	38	37	35	33	40.7
8-Jan	32	31	30	30	31	31	32	33	34	35	36	36	36	37	38	39	39	40	40	40	41	41	41	41	40.7
9-Jan	41	41	41	41	41	41	41	40	40	40	39	38	37	36	35	34	32	31	30	28	26	25	24	24	40.9
10-Jan	24	24	24	25	26	26	27	28	29	30	30	30	30	30	30	29	29	29	29	28	28	28	28	28	30.3
11-Jan	28	28	28	28	28	28	28	28	28	28	28	29	30	30	31	32	32	33	33	32	32	31	31	31	32.7
12-Jan	31	30	30	30	30	30	30	29	30	31	33	34	34	35	35	36	36	36	36	35	35	35	34	34	36.5
13-Jan	34	34	34	35	35	35	35	35	35	35	35	34	34	34	34	34	34	35	34	34	34	34	34	35	35.4
14-Jan	35	35	35	35	35	35	35	35	34	34	34	34	34	35	35	35	35	36	36	36	36	36	36	37	36.6
15-Jan	37	37	37	37	38	38	39	40	40	41	41	42	42	43	43	44	44	45	45	45	45	45	45	45	45.4
16-Jan	45	44	44	43	43	42	41	40	40	39	39	38	38	38	38	37	38	38	37	37	37	37	37	36	44.7
17-Jan	36	35	34	33	32	31	30	30	29	29	29	30	31	32	34	35	37	38	40	41	42	42	42	42	42.4
18-Jan	42	43	43	43	43	44	44	45	45	45	43	42	40	40	39	N	N	N	N	N	N	N	36	36	44.7
19-Jan	36	36	35	35	35	35	34	34	34	33	32	32	32	32	32	32	32	32	33	33	33	33	33	33	35.8
20-Jan	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	32	32	32	32	32	32	32	32	31	33.4
21-Jan	31	31	31	31	31	31	31	31	31	32	32	32	32	32	31	31	31	31	31	31	31	31	32	32	32.0
22-Jan	32	32	32	33	33	33	33	34	34	35	35	35	35	35	35	36	35	35	35	35	34	34	34	33	35.5
23-Jan	32	32	31	30	30	29	29	30	31	33	34	36	36	37	36	34	32	31	29	28	27	26	26	26	36.6
24-Jan	26	26	26	26	25	25	24	23	22	21	21	21	21	22	23	25	27	28	30	31	32	32	33	34	34.1
25-Jan	35	36	36	37	38	38	38	37	36	35	35	35	35	35	36	37	37	38	39	40	40	41	41	41	40.8
26-Jan	41	41	41	41	41	41	40	40	40	40	40	40	40	40	40	41	40	40	40	40	39	38	37	37	40.8
27-Jan	37	37	37	37	37	37	37	37	37	38	38	38	38	38	38	39	39	39	39	37	35	33	31	29	39.0
28-Jan	27	26	24	24	24	25	25	26	26	26	26	26	26	26	27	27	27	27	27	27	27	27	27	26	27.2
29-Jan	26	26	26	26	26	26	27	26	26	26	26	26	26	26	26	27	28	28	29	28	28	29	29	29	28.7
30-Jan	29	29	29	29	28	28	27	27	26	26	25	25	26	27	27	28	29	30	30	29	29	28	28	27	29.6
31-Jan	27	26	26	26	25	25	25	24	24	24	24	25	26	28	30	31	32	33	32	31	30	27	25	24	32.7
	44.7	44.3	44.0	43.4	43.3	43.8	44.1	44.6	44.7	44.7	43.4	42.9	43.1	43.1	43.4	43.7	44.1	44.6	45.0	45.3	45.4	45.4	45.3	45.0	
	Diurnal Maximums																								

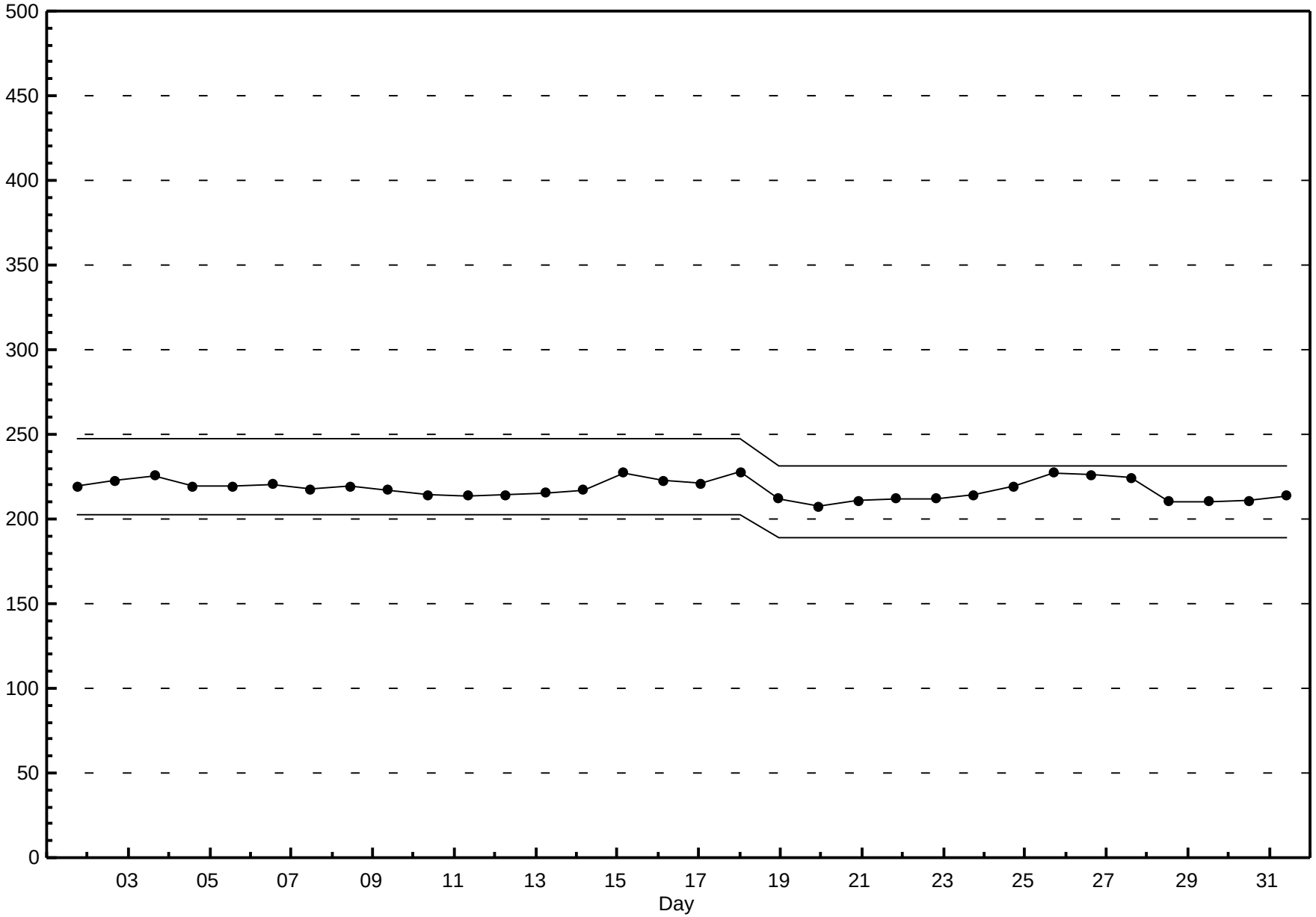
N - Not Valid

Peace Airshed Zone Association

Span Responses

Ozone (O_3)

Sunset House - January 2013



Peace Airshed Zone Association

Hourly Averages

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

Sunset House - January 2013

Number of Exceedences: 1-hr: 0 24-hr: 0
Maximum Value: 21.4 $\mu g/m^3$ on Jan 11 00:00
Maximum Daily Average: 5.2 $\mu g/m^3$ on Jan 24

Minimum Value: 0 $\mu g/m^3$ on Jan 1 06:00
Maximum Diurnal Average: 2.3 $\mu g/m^3$ at hour 24
Monthly Average: 1.49 $\mu g/m^3$
Minimum Daily Average: 0.0 $\mu g/m^3$ on Jan 17
Minimum Diurnal Average: 0.9 $\mu g/m^3$ at hour 13
Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.7 $Q_3 = 2.3$ $P_{90} = 4.2$ $P_{99} = 9.2$

Hours in Service:	744
Hours of Data:	720
Hours of Missing Data:	24
Hours of Calibration:	2
Percent Operational Time:	97.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	2	1	3	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	1	1	0	0.5	2.6
2-Jan	0	0	2	3	0	0	0	0	0	0	0	0	0	0	0	1	4	7	7	9	8	11	9	6	2.7	10.7
3-Jan	5	5	5	5	3	3	2	2	1	1	2	1	2	3	5	2	0	1	1	0	0	0	2	0	2.2	5.3
4-Jan	1	0	0	0	0	0	1	0	1	4	3	5	4	7	9	9	8	6	6	5	3	3	5	3	3.4	9.4
5-Jan	2	2	0	1	0	1	1	0	0	1	1	0	0	0	0	0	2	2	5	2	1	2	3	3	1.2	5.4
6-Jan	4	3	3	2	2	2	1	4	5	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1.4	4.7
7-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	7	3	4	4	4	4	2	2	1.4	6.6
8-Jan	3	3	3	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	3.0
9-Jan	0	0	0	0	0	0	0	0	3	2	1	3	3	2	2	2	1	3	3	2	2	2	2	2	1.5	3.2
10-Jan	1	2	2	1	1	1	0	1	0	1	1	1	0	0	0	0	1	0	0	2	1	1	3	21	1.9	21.4
11-Jan	10	6	2	3	3	1	2	3	4	3	2	1	0	0	1	1	1	2	2	3	1	1	1	0	2.2	9.8
12-Jan	2	2	2	1	1	1	1	0	2	1	1	0	0	1	1	0	1	1	2	1	1	1	2	1	1.1	2.3
13-Jan	2	0	1	0	1	1	1	1	1	1	2	1	0	1	1	1	1	0	1	0	1	0	0	0	0.7	1.7
14-Jan	0	0	1	0	1	1	3	1	2	1	4	3	2	2	0	0	0	0	0	0	0	0	0	0	0.9	3.5
15-Jan	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	3	2	0.4	3.4
16-Jan	5	4	3	2	1	1	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.8	4.6
17-Jan	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.9
18-Jan	0	0	0	0	0	0	0	0	1	2	0	0	1	1	1	C	C	N	N	N	N	N	N	N	--	1.6
19-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	0	0	1	0	0	0	0	0	0	0	0	--	1.0
20-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N	N	0	0	0	0	1	0	0	0	0.1	1.1
21-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1	1	0.3	1.3
22-Jan	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7
23-Jan	0	3	0	0	0	0	0	0	0	0	1	0	2	3	6	6	7	9	6	8	9	9	6	3	3.3	9.3
24-Jan	4	4	4	5	4	5	6	6	8	7	7	10	5	4	3	4	3	3	5	6	8	8	4	0	5.2	10.0
25-Jan	1	0	7	11	9	3	6	5	4	2	0	0	0	0	0	0	2	3	4	3	0	0	0	0	2.6	11.1
26-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	2	2	1	1	0.4	2.0
27-Jan	0	0	4	4	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	3	5	4	5	5	1.5	5.4
28-Jan	2	0	0	0	0	0	1	1	1	2	2	2	2	0	2	2	2	2	3	3	3	2	3	2	1.6	3.1
29-Jan	2	3	3	1	2	1	2	1	1	1	2	1	0	0	0	0	0	0	0	0	0	2	1	3	1.1	3.4
30-Jan	3	3	3	3	3	2	2	3	3	3	3	2	2	2	1	2	2	0	1	0	1	1	4	7	2.3	6.6
31-Jan	4	5	4	3	3	3	3	4	2	3	3	2	2	2	3	4	3	3	3	3	3	3	1	5	3.0	4.7
	1.8	1.5	1.8	1.6	1.3	0.9	1.1	1.1	1.4	1.3	1.2	1.1	0.9	0.9	1.2	1.3	1.5	1.6	1.9	2.0	1.9	2.0	2.0	2.3	Diurnal Average	
	9.8	5.6	7.2	11.1	9.2	4.5	6.2	5.7	7.6	6.8	6.8	10.0	5.5	7.3	9.4	8.8	8.0	9.0	6.5	8.7	9.3	10.7	8.9	21.4	Diurnal Maximum	

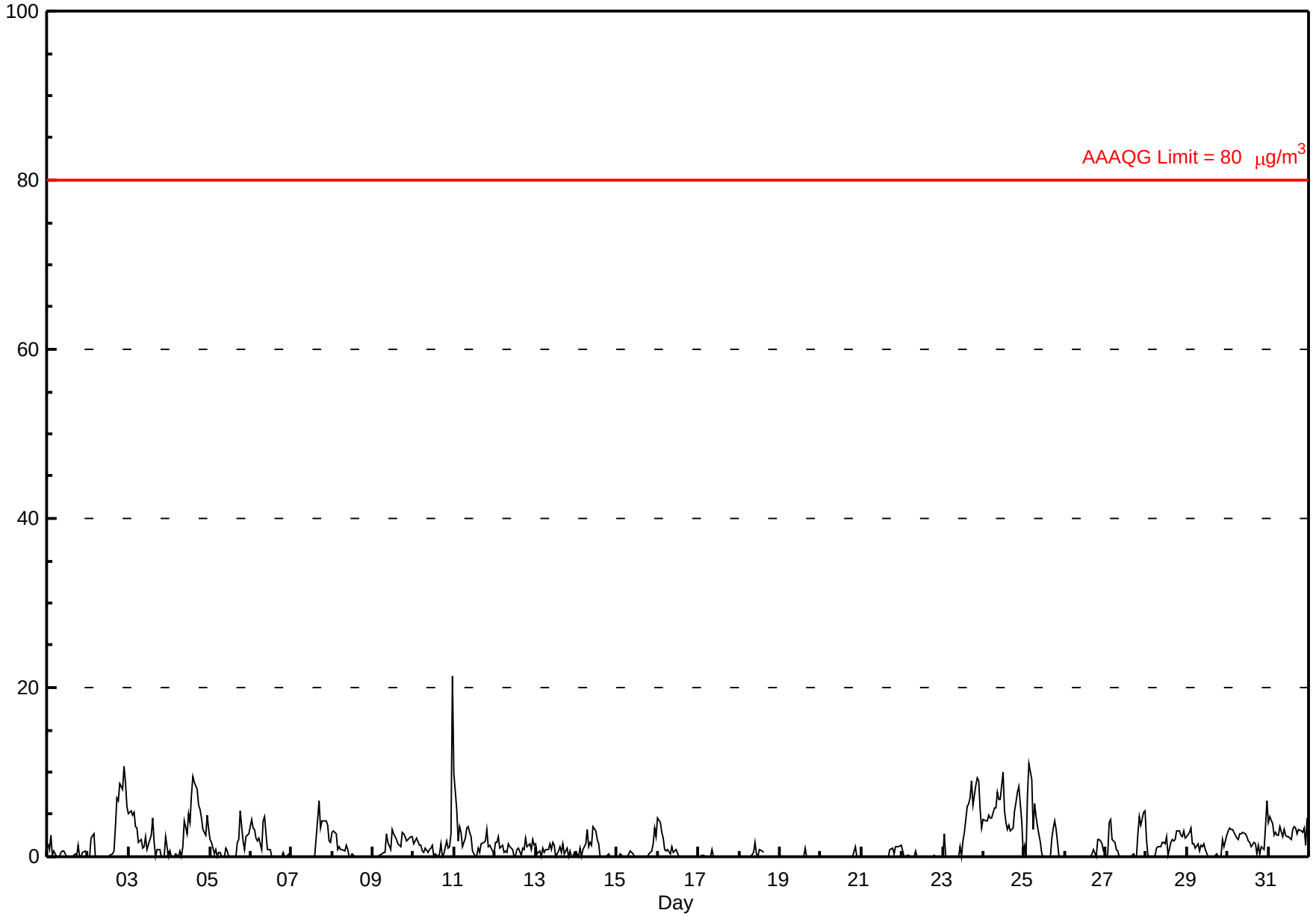
C - Calibration N - Not Valid
Alberta Ambient Air Quality Guideline (AAAQG): 1-hr 80 $\mu g/m^3$ Alberta Ambient Air Quality Objective (AAAQO): 24-hr 30 $\mu g/m^3$

Peace Airshed Zone Association

Hourly Averages

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

Sunset House - January 2013



Peace Airshed Zone Association

Hourly Maximums

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

Sunset House - January 2013

Maximum Value: 29.0 $\mu g/m^3$ on Jan 11 00:00

Maximum Daily Average: 7.8 $\mu g/m^3$ on Jan 24

Minimum Value: 0 $\mu g/m^3$ on Jan 2 07:00

Minimum Daily Average: 1.0 $\mu g/m^3$ on Jan 20

Maximum Diurnal Average: 4.9 $\mu g/m^3$ at hour 24

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

Monthly Average: 3.76 $\mu g/m^3$

Percentiles: $P_1 = 0.0$ $P_{10} = 0.7$ $Q_1 = 1.8$ Median = 3.2 $Q_3 = 5.1$ $P_{90} = 7.4$ $P_{99} = 12.4$

Hours in Service:	744
Hours of Data:	722
Hours of Missing Data:	22
Hours of Calibration:	2
Percent Operational Time:	97.3

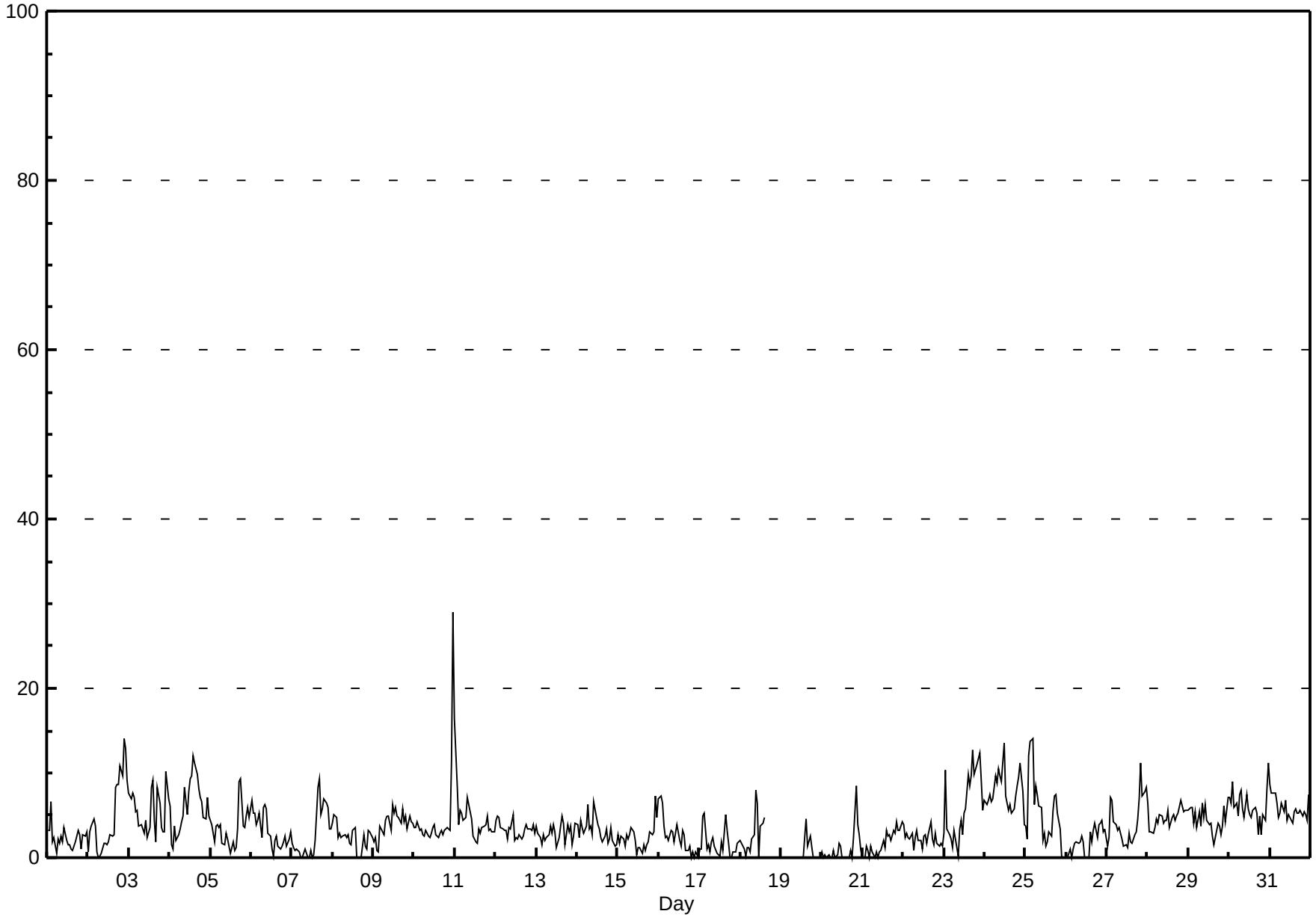
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	3	3	7	2	2	0	2	2	2	2	4	2	2	1	1	1	2	3	3	3	1	3	3	3	2.4	6.7
2-Jan	1	3	4	5	4	1	0	0	1	2	2	2	2	3	3	3	8	9	9	11	10	14	13	9	4.7	14.1
3-Jan	8	7	8	7	5	6	4	4	3	3	4	2	4	8	9	4	2	8	6	4	3	3	10	7	5.4	10.2
4-Jan	6	2	1	4	2	3	3	4	5	8	5	8	9	10	12	11	10	8	7	7	5	5	7	5	6.1	12.0
5-Jan	4	4	2	4	4	3	4	2	2	3	2	1	0	2	1	1	3	9	9	4	4	5	6	5	3.5	9.3
6-Jan	7	5	5	4	4	5	2	6	6	6	3	3	1	0	2	3	1	1	1	2	3	1	2	3	3.2	6.7
7-Jan	2	1	1	1	1	0	0	0	1	0	0	1	0	0	2	8	9	5	6	7	6	6	3	3	2.7	9.3
8-Jan	4	5	5	2	3	2	3	3	2	3	2	2	3	4	0	0	0	0	3	1	1	3	3	2	2.3	5.1
9-Jan	2	2	1	1	4	3	3	4	5	5	3	6	5	6	5	5	4	6	4	5	3	5	4	4	4.0	6.2
10-Jan	4	4	4	3	3	3	3	3	2	2	3	4	4	3	2	3	3	3	3	4	3	3	11	29	4.6	29.0
11-Jan	16	9	4	6	5	4	5	7	6	5	5	3	2	2	3	3	4	4	4	5	3	3	3	3	4.8	16.4
12-Jan	4	5	5	4	3	3	3	2	4	3	5	2	2	2	3	2	3	3	4	3	3	3	4	3	3.3	5.0
13-Jan	4	3	2	2	3	2	2	3	4	3	4	3	1	2	4	5	4	2	4	3	4	1	2	4	2.9	4.9
14-Jan	4	2	4	3	3	4	6	3	4	3	7	5	4	3	2	2	3	3	2	2	4	2	1	1	3.3	6.6
15-Jan	3	2	2	2	1	3	2	3	4	3	2	0	1	1	0	2	1	2	2	3	3	3	7	5	2.4	7.3
16-Jan	7	7	6	4	2	3	2	3	3	2	3	4	2	1	3	3	1	1	1	0	1	0	1	0	2.5	7.3
17-Jan	1	1	5	5	1	2	1	2	2	1	0	0	0	2	1	5	3	2	0	0	1	1	2	2	1.7	5.3
18-Jan	2	2	1	0	1	1	1	2	3	8	6	0	4	4	5	C	C	N	N	N	N	N	N	N	--	8.1
19-Jan	N	N	N	N	N	N	N	N	N	N	N	N	N	0	2	5	1	3	1	0	0	0	0	0	--	4.7
20-Jan	1	0	0	0	0	0	0	1	0	0	2	1	0	0	0	0	0	1	0	2	8	4	3	1	1.0	8.5
21-Jan	0	0	1	1	0	1	1	0	1	0	1	1	2	1	3	3	3	2	3	3	4	3	3	4	1.7	4.3
22-Jan	4	2	3	2	2	3	1	2	3	2	2	1	3	3	2	3	4	2	1	3	2	1	2	1	2.3	4.2
23-Jan	3	10	3	3	2	1	3	2	0	3	4	3	5	6	10	9	10	13	10	11	12	12	9	6	6.2	12.7
24-Jan	7	6	7	8	7	7	10	9	10	10	9	14	7	6	6	6	5	6	7	8	10	11	8	4	7.8	13.6
25-Jan	4	2	12	14	14	6	8	7	6	6	2	3	1	2	3	3	6	7	7	5	3	0	0	0	5.1	14.1
26-Jan	0	0	1	0	1	2	2	2	2	3	2	0	0	0	3	2	3	4	2	4	4	4	3	3	2.0	4.5
27-Jan	1	2	7	7	4	4	3	4	3	2	1	2	1	3	2	2	3	3	5	7	11	7	8	8	4.2	11.3
28-Jan	6	3	3	3	4	5	4	5	5	4	4	4	6	4	5	5	4	5	5	7	6	5	6	6	4.7	6.8
29-Jan	6	6	6	4	5	4	5	4	6	5	6	4	4	4	2	2	2	4	4	3	4	6	4	7	4.5	7.2
30-Jan	7	6	9	6	7	5	7	8	6	5	8	6	5	5	6	6	5	3	5	3	5	4	8	11	6.0	11.1
31-Jan	9	8	8	8	6	5	5	6	5	7	4	5	5	4	5	6	5	5	6	5	5	5	4	7	5.8	8.7
	4.3	3.8	4.2	3.7	3.5	3.0	3.2	3.5	3.6	3.6	3.5	3.0	2.9	3.0	3.4	3.6	3.8	4.2	4.2	4.1	4.4	4.2	4.7	4.9	Diurnal Average	
	16.4	10.3	12.1	13.7	14.1	7.0	9.7	8.8	10.5	9.6	9.0	13.6	9.3	9.6	12.0	11.2	9.8	12.7	9.8	11.1	11.7	14.1	12.9	29.0	Diurnal Maximum	

C - Calibration N - Not Valid

Hourly Maximums

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

Sunset House - January 2013

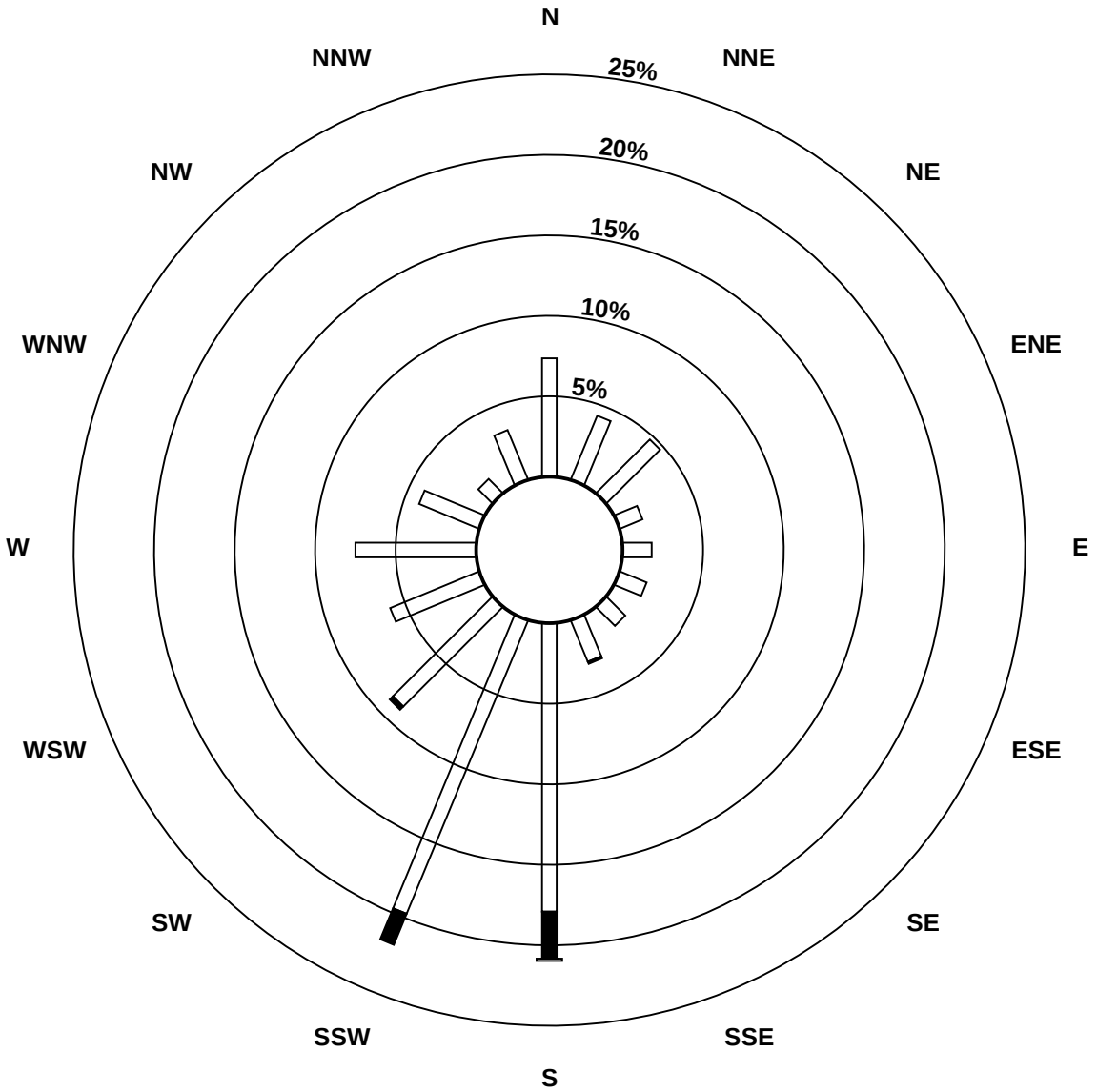


Peace Airshed Zone Association

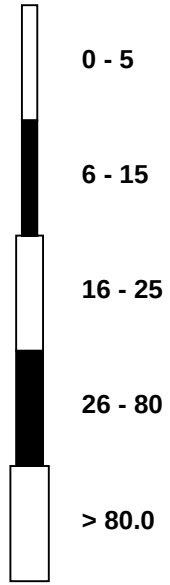
Pollutant Rose

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

Sunset House - January 2013



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



Hourly Averages

External Temperature (ET) - °C

Sunset House - January 2013

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

Maximum Value: 6.9 °C on Jan 15 17:00

Maximum Daily Average: 5.9 °C on Jan 15

Minimum Value: -34 °C on Jan 29 09:00

Minimum Daily Average: -28.9 °C on Jan 29

Maximum Diurnal Average: -6.0 °C at hour 15

Minimum Diurnal Average: -9.2 °C at hour 24

Monthly Average: -8.11 °C

Percentiles: P_1 = -31.5 P_{10} = -21.8 Q_1 = -14.0 Median = -6.1 Q_3 = -1.3 P_{90} = 2.7 P_{99} = 6.4

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

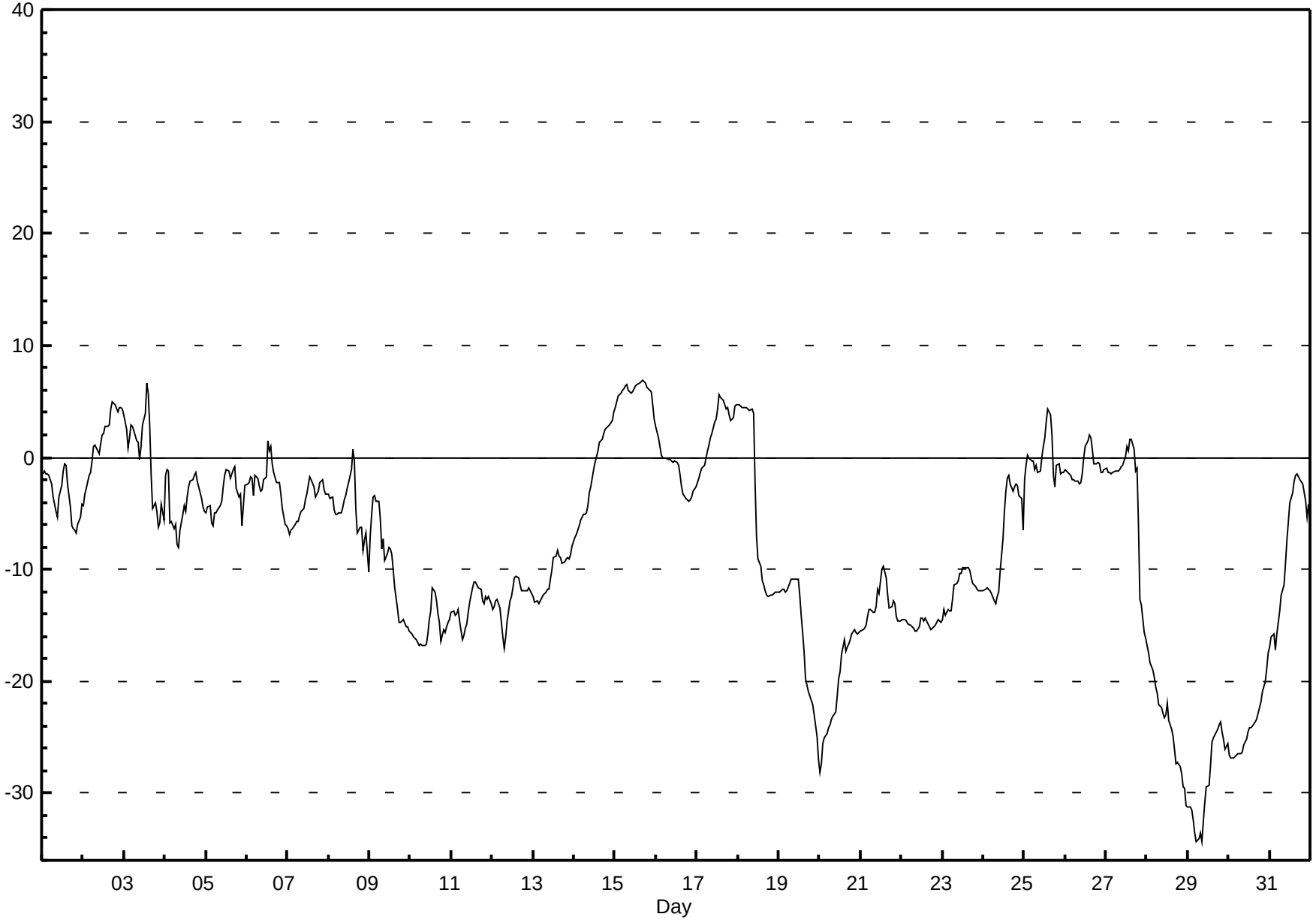
Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jan	-1	-1	-1	-1	-2	-2	-4	-4	-5	-5	-4	-2	-1	-1	-1	-2	-4	-6	-6	-6	-7	-6	-5	-4	-3.5	-0.6
2-Jan	-4	-3	-3	-2	-1	0	1	1	1	0	1	2	2	3	3	3	4	5	5	5	4	4	4	4	1.7	5.0
3-Jan	4	3	1	2	3	3	2	2	1	0	1	3	4	7	6	3	-1	-5	-4	-5	-6	-6	-4	-6	0.2	6.7
4-Jan	-2	-1	-1	-6	-6	-6	-6	-8	-8	-6	-5	-4	-5	-3	-3	-2	-2	-2	-1	-2	-3	-4	-4	-5	-4.0	-1.1
5-Jan	-5	-4	-4	-6	-6	-5	-5	-5	-4	-4	-3	-2	-1	-1	-2	-1	-1	-1	-3	-3	-3	-6	-4	-3	-3.4	-0.8
6-Jan	-2	-2	-2	-2	-3	-2	-2	-2	-3	-3	-2	-2	2	1	1	-1	-1	-2	-2	-2	-3	-5	-6	-6	-2.2	1.5
7-Jan	-6	-7	-7	-6	-6	-6	-6	-5	-5	-5	-4	-3	-3	-2	-2	-3	-4	-3	-3	-2	-2	-3	-3	-3	-4.1	-1.8
8-Jan	-3	-4	-4	-5	-5	-5	-5	-5	-4	-4	-3	-3	-2	-1	1	0	-5	-7	-6	-6	-8	-7	-7	-10	-4.6	0.7
9-Jan	-7	-5	-4	-3	-4	-4	-6	-8	-7	-9	-9	-8	-8	-9	-10	-12	-14	-15	-15	-15	-15	-15	-15	-15	-9.6	-3.4
10-Jan	-16	-16	-16	-16	-17	-17	-17	-17	-17	-17	-16	-14	-14	-12	-12	-13	-14	-15	-16	-15	-16	-15	-15	-14	-15.2	-11.6
11-Jan	-14	-14	-14	-14	-14	-15	-16	-16	-15	-15	-14	-13	-12	-11	-11	-11	-12	-12	-13	-13	-12	-13	-12	-13	-13.3	-11.1
12-Jan	-14	-13	-13	-13	-13	-15	-16	-17	-16	-15	-13	-12	-12	-11	-11	-11	-11	-12	-12	-12	-12	-12	-12	-12	-12.8	-10.6
13-Jan	-12	-13	-13	-13	-13	-13	-12	-12	-12	-12	-11	-10	-9	-9	-8	-9	-9	-9	-9	-9	-9	-9	-9	-8	-10.5	-7.9
14-Jan	-7	-7	-7	-6	-6	-5	-5	-5	-4	-3	-3	-1	0	0	1	1	2	2	2	3	3	3	3	4	-1.5	4.0
15-Jan	4	5	5	6	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	6	6	6	5	3	5.9	6.9
16-Jan	3	2	1	0	0	0	0	0	0	0	0	0	0	-1	-2	-3	-3	-4	-4	-4	-4	-4	-3	-3	-1.2	2.8
17-Jan	-2	-2	-1	-1	-1	0	1	1	2	2	3	3	4	6	5	5	5	4	4	4	3	4	5	5	2.5	5.7
18-Jan	5	5	4	4	4	4	4	4	4	4	-2	-7	-9	-10	-11	-11	-12	-12	-12	-12	-12	-12	-12	-12	-4.4	4.7
19-Jan	-12	-12	-12	-12	-12	-12	-11	-11	-11	-11	-11	-11	-12	-14	-16	-17	-20	-21	-21	-22	-22	-23	-25	-27	-15.7	-10.8
20-Jan	-28	-27	-26	-25	-25	-24	-24	-23	-23	-23	-21	-20	-19	-18	-16	-17	-17	-17	-16	-16	-15	-16	-16	-16	-20.3	-15.4
21-Jan	-16	-15	-15	-15	-14	-14	-14	-14	-14	-13	-12	-12	-10	-10	-10	-11	-12	-13	-13	-13	-13	-14	-15	-15	-13.2	-9.7
22-Jan	-15	-14	-15	-15	-15	-15	-15	-15	-16	-16	-15	-14	-14	-15	-14	-15	-15	-15	-15	-15	-15	-15	-15	-15	-14.9	-14.3
23-Jan	-14	-14	-14	-14	-14	-14	-13	-11	-11	-11	-10	-10	-10	-10	-10	-10	-10	-11	-11	-12	-12	-12	-12	-12	-11.7	-9.8
24-Jan	-12	-12	-12	-12	-12	-12	-13	-13	-12	-12	-10	-7	-5	-3	-2	-2	-2	-3	-3	-2	-3	-3	-4	-7	-7.4	-1.6
25-Jan	-2	-1	0	0	0	0	-1	-1	-1	-1	0	1	2	3	4	4	2	-2	-3	-1	-1	-1	-1	-1	0.0	4.3
26-Jan	-1	-1	-1	-2	-2	-2	-2	-2	-2	-2	-2	0	1	1	2	2	1	-1	-1	0	-1	-1	-1	-1	-0.8	2.0
27-Jan	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	1	1	2	2	1	-1	-1	-6	-13	-13	-16	-16	-3.0	1.7
28-Jan	-17	-18	-18	-19	-20	-21	-21	-22	-22	-23	-23	-23	-22	-24	-24	-25	-26	-27	-27	-28	-28	-29	-30	-31	-23.7	-16.8
29-Jan	-31	-31	-31	-32	-34	-34	-34	-34	-34	-32	-31	-29	-29	-28	-25	-25	-25	-24	-24	-24	-24	-25	-26	-26	-28.9	-23.7
30-Jan	-27	-27	-27	-27	-27	-26	-26	-26	-26	-26	-25	-25	-24	-24	-24	-24	-23	-23	-22	-22	-21	-20	-19	-17	-24.1	-17.5
31-Jan	-17	-16	-16	-17	-16	-15	-14	-12	-11	-9	-7	-6	-4	-3	-2	-2	-1	-2	-2	-2	-3	-4	-5	-4	-8.0	-1.4
	-8.8	-8.6	-8.6	-8.8	-8.8	-8.8	-8.8	-8.9	-8.8	-8.6	-7.9	-7.2	-6.6	-6.1	-6.0	-6.4	-7.2	-7.9	-8.0	-8.2	-8.6	-8.9	-9.0	-9.2	Diurnal Average	
	4.7	4.9	5.4	5.7	5.9	6.1	6.4	6.5	6.0	5.7	5.8	6.1	6.3	6.7	6.6	6.8	6.9	6.8	6.7	6.3	6.0	5.9	4.7	4.7	Diurnal Maximum	

Peace Airshed Zone Association

Hourly Averages

External Temperature (ET) - ^{o}C

Sunset House - January 2013



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Sunset House - January 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	11	10	14	12	13	10	9	9	8	7	9	10	8	9	8	6	7	5	7	6	5	7	10	13	8.0	13.9
Dir	272	273	282	263	270	248	242	248	253	220	231	236	243	267	257	231	228	241	265	255	223	207	199	189	245.4	281.9
2 Spd	14	20	24	23	22	20	20	23	23	24	25	22	21	20	16	18	19	21	19	18	21	20	18	17	20.4	25.5
Dir	183	185	191	188	191	182	185	182	178	177	179	185	188	189	194	179	179	178	186	192	186	188	192	192	185.1	179.0
3 Spd	16	9	8	8	7	8	7	6	7	6	8	5	5	3	5	9	3	5	5	4	3	5	8	7	3.4	15.5
Dir	194	207	194	202	217	222	232	236	219	225	208	241	238	272	16	33	47	121	147	140	93	91	94	110	192.5	194.4
4 Spd	9	10	10	4	7	2	2	5	4	10	15	16	14	13	13	13	13	14	13	9	8	7	7	7	7.1	16.1
Dir	97	103	93	61	201	124	35	210	233	202	194	200	201	204	200	207	199	195	206	220	232	249	227	224	196.6	200.1
5 Spd	6	8	5	9	10	10	13	12	14	16	16	14	12	9	5	9	13	13	3	2	2	4	9	15	9.1	16.1
Dir	211	218	234	193	191	197	192	189	187	182	181	187	189	200	209	166	178	180	260	78	190	228	205	186	191.1	181.8
6 Spd	16	12	10	5	10	15	10	10	9	9	8	9	7	12	12	9	7	6	6	7	7	6	6	6	7.5	16.4
Dir	194	188	177	183	193	180	203	213	235	240	227	216	251	282	279	267	259	245	247	255	255	239	203	208	224.0	194.3
7 Spd	8	6	12	12	14	17	16	16	18	19	20	19	20	21	16	16	14	14	11	9	8	8	8	9	12.8	20.8
Dir	203	211	193	192	190	185	185	184	180	175	177	185	180	180	190	198	193	195	189	206	241	246	264	276	192.9	179.6
8 Spd	9	9	11	13	8	3	5	6	5	7	7	8	8	8	8	6	4	5	8	6	8	8	6	6	4.5	12.8
Dir	267	266	304	337	340	271	213	205	229	234	238	261	262	262	267	262	227	199	202	204	181	174	148	117	245.2	337.1
9 Spd	5	8	12	14	15	15	6	10	12	12	15	17	17	17	19	20	19	14	12	12	12	11	11	9	10.1	19.7
Dir	114	117	112	113	113	115	124	37	59	41	43	53	48	34	28	25	20	15	13	14	10	6	1	348	45.6	25.5
10 Spd	6	5	4	4	3	1	3	1	0	1	1	2	4	5	6	5	3	7	8	11	9	12	16	19	3.7	19.3
Dir	345	324	328	307	291	203	5	330	239	129	156	236	192	229	196	217	220	177	190	178	184	185	185	185	200.4	184.6
11 Spd	24	23	24	23	21	15	17	18	19	18	18	17	15	13	11	9	11	12	6	7	6	6	6	7	14.1	23.7
Dir	182	181	181	179	180	201	195	188	189	192	196	195	200	201	207	207	202	199	223	206	211	220	228	210	193.6	180.6
12 Spd	8	6	10	13	10	7	6	7	7	9	10	15	10	6	7	6	7	6	6	4	2	5	7	2	5.9	15.3
Dir	215	213	208	201	210	237	239	205	208	219	211	195	201	251	256	210	223	238	247	239	249	348	7	28	220.4	194.8
13 Spd	2	1	3	7	11	7	7	8	7	7	8	8	7	6	5	6	7	7	9	11	10	13	15	17	7.8	17.1
Dir	260	159	204	194	195	201	206	198	200	195	188	200	220	223	215	207	218	220	203	189	205	191	192	190	200.5	189.6
14 Spd	16	18	17	17	18	14	9	10	11	10	11	12	12	10	8	8	7	11	9	8	8	8	10	10	10.1	17.6
Dir	194	187	189	193	196	201	214	231	219	238	241	270	274	269	231	233	232	227	241	252	249	240	234	253	224.2	195.9
15 Spd	11	17	19	18	19	20	26	27	23	21	19	20	21	25	28	24	25	26	27	27	30	32	20	16	21.9	32.2
Dir	267	278	277	274	273	278	287	287	285	283	280	278	278	290	293	288	286	284	288	289	291	293	316	341	287.0	293.1
16 Spd	19	17	15	10	5	5	6	4	4	3	2	1	2	1	5	9	3	0	1	1	1	1	1	3	3.9	19.4
Dir	338	331	316	297	282	284	292	289	299	298	290	268	286	299	2	29	9	236	276	30	149	155	145	146	320.1	338.4
17 Spd	8	11	13	13	12	12	13	16	19	18	17	16	13	22	21	13	12	12	17	13	10	12	19	19	11.2	21.5
Dir	166	172	178	176	187	197	194	187	195	198	203	198	214	279	275	261	249	250	275	273	263	267	277	275	229.3	279.2
18 Spd	18	18	13	11	15	19	19	20	21	22	23	27	21	21	21	12	12	18	15	9	5	3	3	4	10.6	26.5
Dir	271	274	266	256	264	272	272	276	277	293	0	3	9	15	3	359	353	12	22	357	298	261	266	306	318.4	3.2
19 Spd	2	1	5	6	7	4	6	2	6	9	10	12	18	24	25	21	22	22	19	18	16	15	8	5	10.0	25.4
Dir	315	316	23	44	53	58	202	176	49	50	54	51	54	42	25	4	360	357	348	350	358	354	351	32	17.9	25.0
20 Spd	10	8	3	1	1	4	7	8	7	5	5	5	7	2	4	11	5	7	5	3	3	7	7	7	2.6	11.2
Dir	70	70	226	142	129	192	195	200	191	164	179	212	194	213	55	88	106	79	75	101	56	53	54	42	113.9	87.8
21 Spd	8	7	8	7	4	3	6	5	5	3	3	7	3	4	3	5	6	8	8	7	7	6	7	7	4.5	8.1
Dir	46	47	48	52	43	114	52	80	51	131	323	18	347	288	277	333	13	27	40	43	17	359	354	12	28.1	27.4
22 Spd	6	5	9	9	11	10	6	6	8	6	5	4	6	8	7	7	8	6	6	5	8	6	9	14	6.1	14.2
Dir	10	345	6	15	17	10	351	348	351	353	332	336	326	5	20	360	30	55	47	49	48	73	54	101	19.9	100.5

Peace Airshed Zone Association

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Sunset House - January 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
23 Spd	11	8	8	11	7	7	8	16	22	21	16	17	15	18	20	17	21	18	13	20	18	17	18	18	13.0	21.5
Dir	98	89	83	108	70	61	124	154	155	157	172	167	171	164	167	175	180	181	178	187	180	184	186	196	163.2	155.2
24 Spd	15	13	13	9	8	7	8	8	12	11	16	15	13	12	10	11	12	12	13	13	12	11	8	6	10.7	15.6
Dir	201	203	202	223	225	222	224	214	201	195	192	194	199	201	203	204	192	180	182	180	178	169	157	140	194.9	192.1
25 Spd	6	13	17	17	16	12	14	16	13	13	14	15	13	10	8	7	7	8	9	12	12	11	12	14	11.6	17.5
Dir	156	174	170	171	182	191	190	184	193	185	190	201	203	212	227	232	211	200	191	183	196	189	193	190	190.1	171.5
26 Spd	16	16	16	15	15	16	16	18	18	16	15	13	12	11	11	11	11	12	14	15	14	12	13	15	14.2	18.4
Dir	183	183	181	182	184	184	185	182	182	182	186	193	199	197	195	189	189	179	174	178	183	179	177	174	183.8	181.7
27 Spd	14	13	14	14	14	15	12	13	14	14	15	13	11	9	9	10	4	6	5	13	15	12	17	15	6.5	16.6
Dir	179	182	173	180	180	180	184	178	175	182	184	192	202	194	186	181	212	174	157	20	34	46	33	27	169.4	32.8
28 Spd	14	12	13	13	10	11	12	15	9	12	11	11	12	12	13	13	12	9	11	17	14	10	10	4	11.6	17.4
Dir	14	6	9	6	358	357	357	3	1	348	351	358	356	354	354	2	5	10	359	5	16	12	348	328	1.0	4.8
29 Spd	6	9	9	8	2	3	5	7	6	8	8	7	12	9	4	5	10	7	7	7	12	13	13	9	2.2	13.5
Dir	349	350	353	8	1	160	197	192	187	189	199	202	185	189	188	129	159	149	89	66	54	53	61	49	117.1	53.5
30 Spd	13	13	8	9	7	7	7	6	8	4	3	3	4	6	6	6	7	7	7	8	7	8	10	10	1.1	13.5
Dir	48	46	14	353	337	325	336	347	4	346	303	304	252	213	213	204	196	191	190	189	190	196	200	201	261.0	48.2
31 Spd	7	11	7	9	13	14	15	12	11	9	13	14	14	16	15	8	6	6	6	6	5	3	1	3	8.9	15.6
Dir	214	208	224	221	206	202	192	195	186	189	194	188	191	188	187	203	219	207	215	217	239	252	28	217	200.6	188.5
Spd	3.5	4.0	4.2	4.6	5.6	5.7	6.2	6.4	6.4	6.6	6.6	6.0	5.5	4.5	3.6	2.9	3.5	3.8	3.2	2.8	2.6	2.6	2.4	3.4	Diurnal Average	
Dir	199.4	203.8	205.1	199.8	205.1	206.0	212.3	207.5	203.3	202.2	201.4	206.9	211.6	232.3	245.6	229.6	220.3	205.9	222.9	225.5	227.8	222.9	211.9	196.2		
Spd	23.6	23.0	24.4	23.3	22.5	20.2	25.8	27.5	22.7	24.3	25.5	26.5	21.4	24.7	27.5	24.3	24.8	25.8	27.3	26.9	30.3	32.2	19.6	19.3	Diurnal Maximum	
Dir	182.3	181.1	190.8	187.7	191.0	182.0	286.9	287.0	178.1	177.5	179.0	3.2	188.2	289.5	293.4	288.1	286.0	284.4	287.9	289.0	291.4	293.1	316.3	184.6		

Maximum Speed Value: 32 km/h on Jan 15 22:00
Minimum Speed Value: 0 km/h on Jan 10 09:00
Maximum Daily Speed Average: 21.9 km/h on Jan 15
Minimum Daily Speed Average: 1.1 km/h on Jan 16
Maximum Diurnal Speed Average: 6.6 km/h at hour 11
Minimum Diurnal Speed Average: 2.4 km/h at hour 23

Monthly Average Velocity: 4.35 km/h 210.67 deg
Speed Percentiles: P_1 = 0.7 P_{10} = 4.2 Q_1 = 6.5 Median = 9.9 Q_3 = 14.1 P_{90} = 18.9 P_{99} = 26.2
All monthly, daily, and diurnal averages have been calculated using vector methods

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

Frequency Distribution

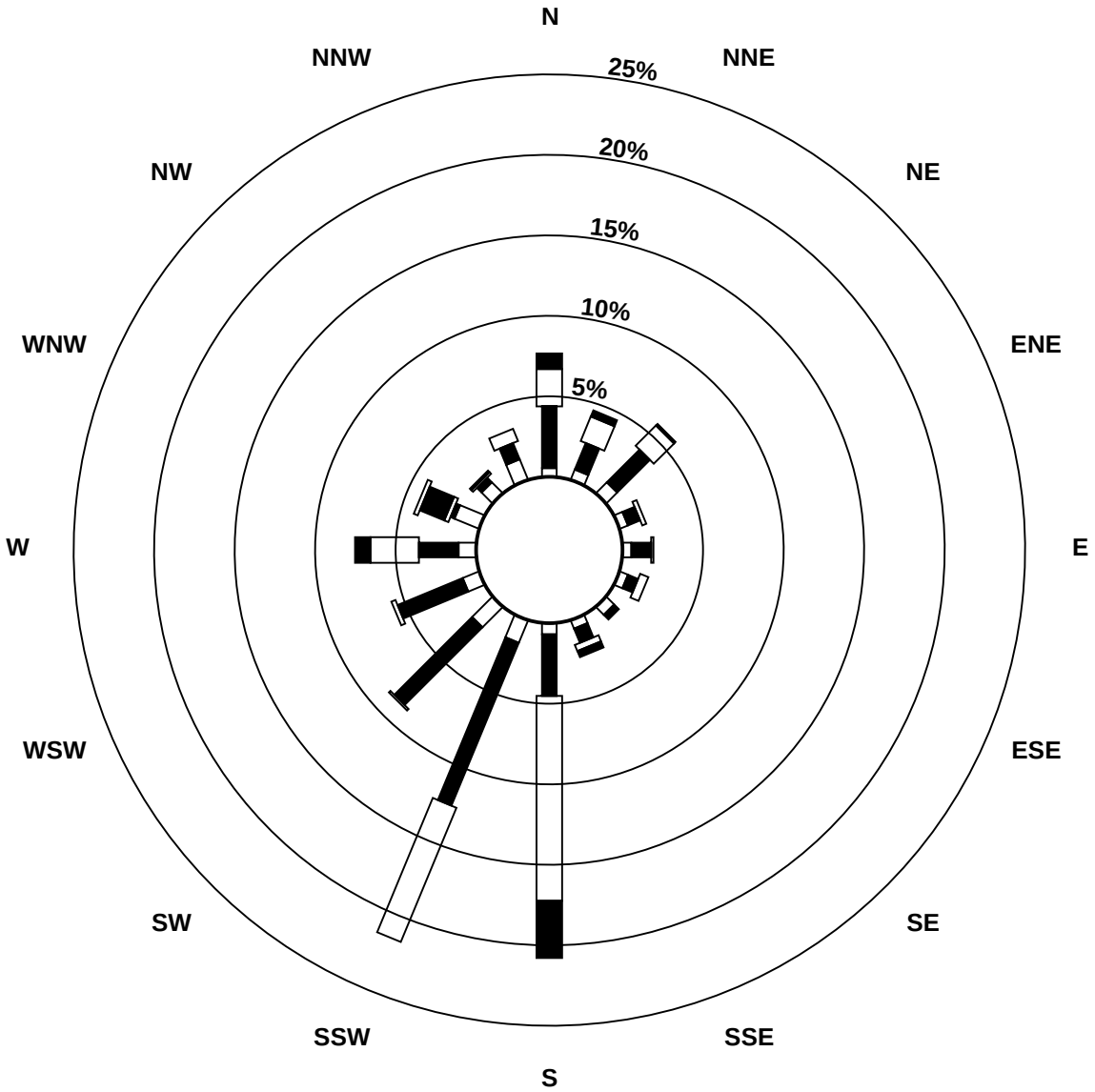
Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	7	41	33	9	0	0	90
NorthEast	13	28	17	4	0	0	62
East	5	16	4	0	0	0	25
SouthEast	15	11	4	2	0	0	32
South	11	65	155	32	0	0	263
SouthWest	18	115	11	0	0	0	144
West	18	35	22	21	1	0	97
NorthWest	17	7	3	3	1	0	31
Total	104	318	249	71	2	0	744

Peace Airshed Zone Association

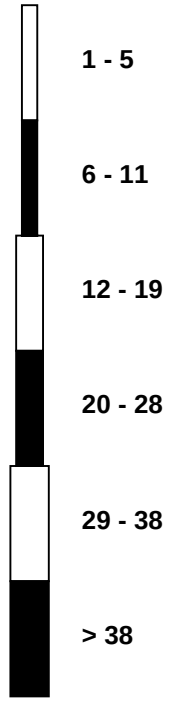
Wind Rose

Wind Speed (WS) (km/h)

Sunset House - January 2013



Wind Speed Classes (km/h)



Peace Airshed Zone Association

Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Sunset House - January 2013

Maximum Speed: 32 km/h on Jan 15 22:00

Maximum Daily Speed Average: 22.7 km/h on Jan 15

Minimum Speed: 1 km/h on Jan 16 22:00

Minimum Daily Speed Average: 5.1 km/h on Jan 16

Maximum Diurnal Speed Average: 12.3 km/h at hour 12

Minimum Diurnal Speed Average: 10.0 km/h at hour 22

Monthly Average Speed: 11.02 km/h

Percentiles: P_1 = 1.3 P_{10} = 4.8 Q_1 = 6.8 Median = 10.1 Q_3 = 14.3 P_{90} = 19.0 P_{99} = 26.6

Hours in Service: 744

Hours of Data: 744

Hours of Missing Data: 0

Percent Operational Time: 100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	11	10	14	13	13	10	10	9	8	8	10	10	8	9	8	6	7	6	7	6	6	7	10	13	9.2	14.4
2-Jan	14	20	24	23	23	20	20	23	23	24	26	22	21	20	16	18	19	21	20	18	21	20	18	17	20.5	25.6
3-Jan	16	9	8	8	8	9	7	6	7	6	8	6	6	3	5	9	4	5	5	5	3	5	8	8	6.8	15.6
4-Jan	9	10	11	6	8	3	3	6	5	10	16	16	14	13	13	13	13	14	13	9	8	7	7	7	9.8	16.4
5-Jan	6	8	6	9	10	11	13	12	14	16	16	14	12	10	6	9	13	13	5	5	5	6	9	15	10.1	16.1
6-Jan	17	13	10	6	12	15	11	10	10	10	9	9	8	12	12	10	8	6	6	7	7	6	6	6	9.3	16.5
7-Jan	8	6	12	12	14	17	17	16	18	19	20	19	20	21	16	16	14	14	11	9	9	8	8	10	14.0	20.8
8-Jan	10	9	12	13	8	4	6	7	6	7	7	8	8	8	8	6	4	5	8	6	8	8	6	6	7.4	12.9
9-Jan	6	8	12	14	15	15	9	10	12	12	15	17	17	17	19	20	19	14	12	12	12	11	11	9	13.3	19.9
10-Jan	6	5	4	4	4	2	3	2	1	1	1	2	4	6	6	5	3	7	8	11	10	12	16	19	6.0	19.3
11-Jan	24	23	24	23	21	15	17	19	19	18	18	17	15	13	11	9	11	12	6	7	6	7	6	8	14.5	23.8
12-Jan	9	7	10	13	10	7	6	7	7	9	10	15	10	7	7	6	7	6	6	5	3	5	7	3	7.5	15.4
13-Jan	2	2	4	7	11	7	8	8	7	7	8	8	7	7	6	7	8	7	9	11	11	13	15	17	8.1	17.2
14-Jan	16	18	17	18	18	14	10	10	11	11	11	12	12	10	9	8	8	11	9	8	9	8	10	10	11.6	17.7
15-Jan	11	17	19	18	19	20	26	28	23	21	19	20	21	25	28	24	25	26	28	27	30	32	20	16	22.7	32.3
16-Jan	20	17	15	10	5	5	6	4	5	3	2	2	2	1	5	9	3	1	1	1	1	1	1	3	5.1	19.5
17-Jan	8	11	13	13	12	13	13	16	19	18	17	16	15	22	21	14	13	12	17	13	10	13	19	19	14.9	22.2
18-Jan	18	18	13	11	15	20	20	20	21	25	23	27	22	21	21	13	13	18	15	9	6	4	3	4	15.8	26.8
19-Jan	3	2	5	6	7	5	6	4	6	10	10	12	18	24	26	22	22	22	19	18	16	15	8	6	12.1	25.8
20-Jan	11	9	3	2	1	4	7	8	7	6	6	5	7	4	6	11	6	7	5	5	5	7	7	7	6.2	11.4
21-Jan	8	7	8	7	5	4	6	5	5	5	4	7	3	4	4	6	6	8	8	7	7	6	7	7	6.1	8.3
22-Jan	7	6	9	10	11	10	6	7	8	7	5	4	6	8	7	7	8	6	6	5	8	6	10	14	7.6	14.3
23-Jan	12	10	9	11	8	7	9	17	22	21	16	17	15	19	20	17	21	18	13	20	18	17	18	18	15.5	21.8
24-Jan	15	14	13	9	9	8	8	8	12	12	16	15	13	13	11	11	12	12	13	13	12	12	8	6	11.4	15.7
25-Jan	7	13	17	18	16	12	15	16	13	13	14	15	13	10	8	7	7	8	10	12	12	11	12	14	12.2	17.6
26-Jan	16	17	16	15	15	16	16	18	18	16	15	13	12	11	11	11	11	12	14	15	14	12	13	15	14.3	18.4
27-Jan	14	13	14	14	14	15	12	13	14	14	15	13	11	9	9	10	4	6	7	13	16	12	17	15	12.2	16.8
28-Jan	14	13	13	13	11	11	12	15	10	12	11	11	12	13	13	13	12	9	11	18	14	10	10	5	12.0	17.6
29-Jan	6	9	9	8	2	3	5	7	6	8	9	8	12	10	5	8	10	8	7	7	12	14	13	10	8.2	13.6
30-Jan	14	13	9	9	7	7	8	7	8	5	3	4	5	6	6	7	7	7	7	8	7	8	10	10	7.5	13.6
31-Jan	7	12	8	9	13	14	15	13	11	10	13	14	14	16	15	8	6	7	6	6	5	3	4	3	9.7	15.8
	11.0	11.2	11.6	11.4	11.1	10.4	10.6	11.3	11.4	11.7	12.0	12.3	11.8	12.0	11.5	11.0	10.4	10.6	10.1	10.3	10.1	10.0	10.3	10.3	Diurnal Average	
	23.7	23.0	24.4	23.4	22.6	20.5	26.0	27.7	22.8	24.7	25.6	26.8	21.6	25.0	27.7	24.5	24.9	26.0	27.6	27.0	30.5	32.3	20.3	19.3	Diurnal Maximum	

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

Peace Airshed Zone Association

Hourly Standard Deviations

Wind Direction (WD) - deg

Sunset House - January 2013

Maximum Value: 92.0 deg on Jan 31 23:00

Minimum Value: 2.8 deg on Jan 26 19:00

Percentiles: P_1 = 3.4 P_{10} = 5.4 Q_1 = 7.4 Median = 10.6 Q_3 = 15.7 P_{90} = 27.4 P_{99} = 75.0

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

Day	Hourly Period Ending At (MST)																								Daily
	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-Jan	14	14	14	14	12	16	12	18	13	14	12	13	16	14	15	10	10	17	9	20	26	20	9	7	25.7
2-Jan	5	7	5	5	6	3	5	5	6	5	5	7	5	6	6	5	5	4	7	7	7	7	7	8	7.8
3-Jan	8	10	9	13	11	11	18	16	10	15	10	25	36	39	47	8	46	26	23	29	19	19	13	9	47.0
4-Jan	5	6	13	83	28	62	49	34	29	7	5	11	10	9	13	10	9	5	8	9	20	15	11	12	83.4
5-Jan	14	11	24	10	8	26	5	4	4	5	4	9	6	6	31	12	11	7	80	64	77	46	11	6	80.4
6-Jan	7	13	12	48	36	5	12	16	13	17	19	17	30	10	9	14	14	15	14	14	11	16	8	10	48.4
7-Jan	7	14	6	6	8	4	4	4	5	3	4	6	6	4	7	7	6	5	12	14	30	22	13	12	30.1
8-Jan	11	10	27	8	11	38	21	13	16	14	14	16	14	13	12	20	24	11	11	12	5	10	22	19	38.5
9-Jan	23	7	4	5	7	6	74	9	10	11	9	6	7	7	5	8	8	6	7	8	7	7	11	13	73.6
10-Jan	14	14	20	11	21	75	22	62	91	67	76	32	20	22	17	13	17	18	8	5	7	4	5	4	90.6
11-Jan	4	4	3	4	5	13	9	6	4	4	4	4	7	8	8	9	8	5	22	7	11	15	16	13	21.5
12-Jan	23	14	9	11	9	14	17	10	14	10	15	5	14	24	20	14	19	12	14	24	43	20	12	76	76.2
13-Jan	61	72	19	7	7	15	7	7	9	8	6	9	13	13	18	16	13	13	9	10	8	7	5	5	72.3
14-Jan	6	5	7	6	7	9	20	8	16	11	16	9	9	12	18	14	11	10	13	16	17	13	11	15	19.5
15-Jan	12	10	10	10	9	10	8	7	7	7	8	8	9	8	6	7	6	7	7	6	7	6	16	8	15.8
16-Jan	7	9	9	12	9	9	9	8	9	9	11	16	14	12	22	15	25	70	75	50	40	36	25	8	75.5
17-Jan	9	5	5	8	6	13	8	6	7	8	5	6	25	17	10	12	13	15	10	12	11	13	8	8	24.5
18-Jan	9	9	10	14	12	9	8	10	8	27	8	8	8	14	11	24	22	9	9	16	20	46	34	18	46.4
19-Jan	59	64	13	9	10	20	19	53	10	5	6	7	6	4	11	7	5	5	8	7	6	8	17	42	64.4
20-Jan	10	43	38	68	61	24	19	13	7	29	17	19	14	64	52	11	25	18	26	58	64	12	11	10	68.1
21-Jan	6	12	8	17	34	53	18	18	20	58	33	6	40	21	35	30	10	13	6	11	20	10	10	11	57.5
22-Jan	10	16	13	14	8	8	12	15	13	19	28	25	24	10	14	15	10	11	11	9	7	19	14	9	27.6
23-Jan	16	30	34	11	15	10	20	10	9	7	10	12	10	11	8	11	9	9	15	9	7	8	8	7	33.7
24-Jan	7	7	8	11	20	16	10	14	6	10	6	7	11	12	12	8	9	4	4	4	3	7	11	21	20.7
25-Jan	28	9	7	6	7	10	9	7	10	14	11	10	12	11	11	14	10	5	6	5	7	8	11	6	27.8
26-Jan	4	6	5	5	5	6	4	4	4	3	6	13	13	9	7	7	7	5	3	5	4	3	3	3	13.2
27-Jan	7	8	6	6	8	5	12	8	7	6	5	10	13	9	11	9	23	8	48	10	21	18	9	8	47.9
28-Jan	10	13	8	11	16	11	9	9	27	10	8	9	13	12	10	7	8	7	9	8	8	8	9	22	26.7
29-Jan	13	12	8	11	74	12	12	8	11	8	11	15	12	15	37	69	15	15	21	17	8	8	9	20	74.2
30-Jan	8	8	17	13	13	12	16	21	11	28	31	23	27	21	20	22	17	13	15	11	16	11	13	12	30.9
31-Jan	16	13	29	15	7	6	8	14	10	24	7	6	6	10	5	16	16	29	12	13	18	39	92	30	92.0
	61.3	72.3	37.6	83.4	74.2	75.3	73.6	62.2	90.6	67.0	75.6	31.8	40.3	64.1	51.7	68.8	45.5	69.5	80.4	63.9	77.4	46.4	92.0	76.2	

PAZA
Falher Station
Monthly Summary Tables, Graphs and Roses

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Guide-Falher - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 3.8 ppb on Jan 30 18:00 Maximum Daily Average: 0.7 ppb on Jan 12

Minimum Value: 0 ppb on Jan 3 20:00 Minimum Daily Average: 0.0 ppb on Jan 18
Maximum Diurnal Average: 0.4 ppb at hour 12 Minimum Diurnal Average: 0.2 ppb at hour 7
Monthly Average: 0.29 ppb Percentiles: P_1 = 0.0 P_{10} = 0.0 Q_1 = 0.1 Median = 0.2 Q_3 = 0.4 P_{90} = 0.6 P_{99} = 1.2

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

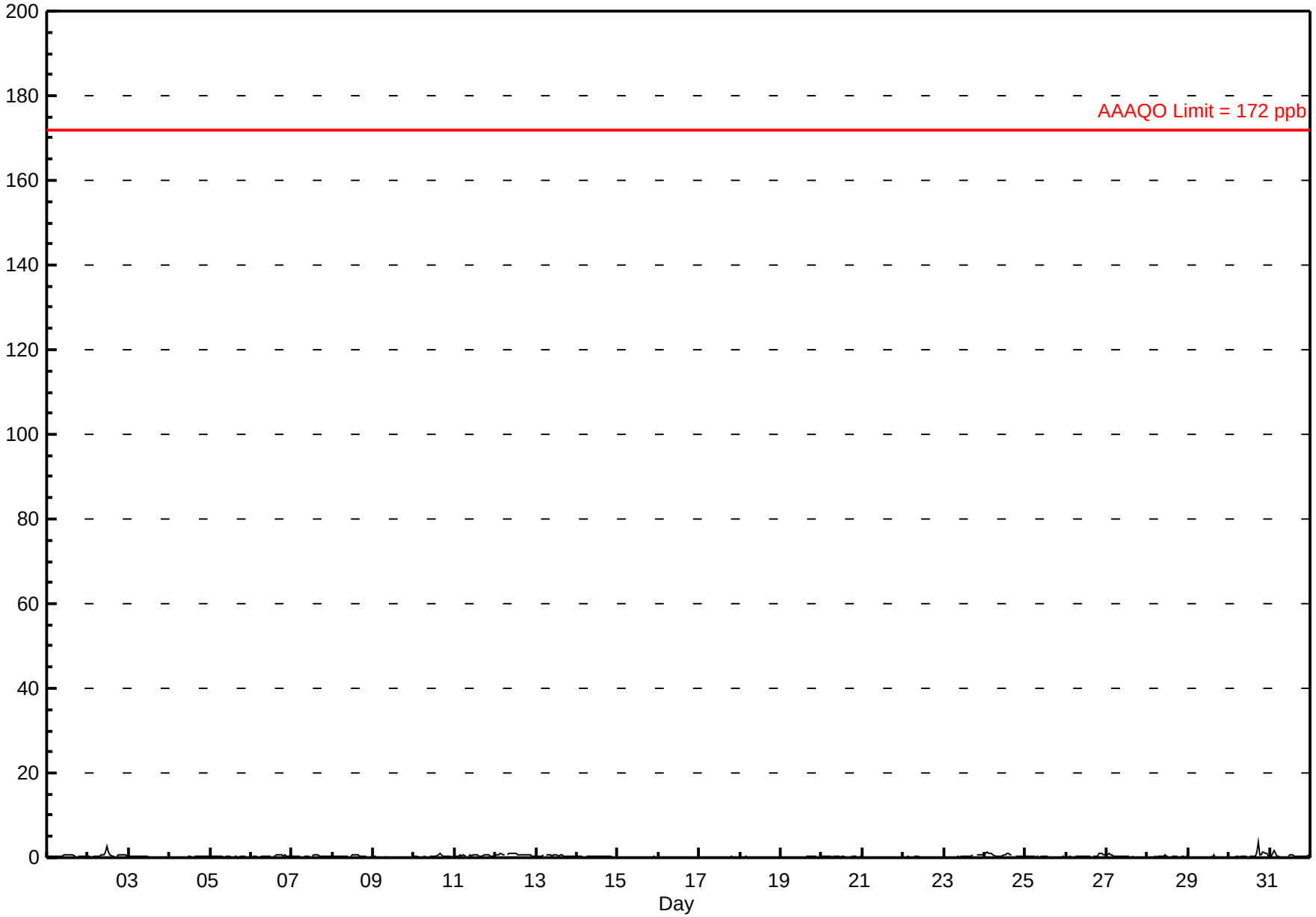
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	A	0	0	0	0	0	0	0.4	0.7
2-Jan	0	0	0	0	0	0	0	0	1	1	1	3	1	1	0	1	A	0	1	1	1	1	1	0	0.6	2.6
3-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.2	0.5
4-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.1	0.4
5-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.4
6-Jan	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	1	1	1	0	1	0	0	1	0.4	0.7
7-Jan	0	0	0	0	0	0	0	0	0	0	0	A	0	1	1	1	0	0	0	0	0	0	0	0	0.3	0.6
8-Jan	0	0	0	0	0	0	0	0	0	0	A	0	1	1	1	1	0	0	0	0	0	0	0	0	0.4	0.6
9-Jan	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	0.4
10-Jan	0	0	0	0	0	0	0	0	A	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0.3	0.9
11-Jan	0	0	0	1	0	1	0	A	0	1	0	1	1	1	0	0	0	1	1	1	1	0	0	0	0.5	0.8
12-Jan	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0.7	1.1
13-Jan	0	0	0	0	1	A	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.4	0.8
14-Jan	0	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
15-Jan	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
16-Jan	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
17-Jan	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
18-Jan	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	0.2
19-Jan	0	0	0	0	0	0	0	0	0	0	0	0	C	C	C	0	0	0	0	0	0	0	A	0	0.1	0.3
20-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0.2	0.3
21-Jan	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
22-Jan	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
23-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	A	1	1	1	1	1	0.3	0.7
24-Jan	1	1	1	1	1	1	0	0	0	0	0	1	1	1	1	1	1	A	0	0	0	0	0	0	0.6	1.2
25-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	0.5
26-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	1	1	1	1	1	0.4	1.1
27-Jan	1	1	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	0.8
28-Jan	0	0	0	0	0	0	0	0	0	0	1	0	0	A	0	0	0	0	0	0	0	0	0	0	0.2	0.6
29-Jan	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	1	0	0	0	0	0	0	0	0	0.1	0.5
30-Jan	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	1	4	1	1	1	1	1	0	0.6	3.8
31-Jan	0	0	2	1	0	0	0	0	0	0	A	0	1	1	0	0	0	0	0	0	0	0	0	1	0.4	1.6
	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.2	Diurnal Average	
	0.7	1.2	1.6	1.0	0.9	0.8	0.6	0.7	0.9	1.0	1.5	2.6	1.3	1.1	1.0	0.9	1.5	3.8	0.8	1.1	1.4	0.9	1.1	0.7	Diurnal Maximum	

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

Hourly Averages

Sulphur Dioxide (SO_2) - ppb

Guide-Falher - January 2013



Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

Guide-Falher - January 2013

Maximum Value: 16.3 ppb on Jan 30 18:00

Maximum Daily Average: 2.2 ppb on Jan 30

Minimum Value: 0 ppb on Jan 19 12:00

Minimum Daily Average: 0.5 ppb on Jan 19

Maximum Diurnal Average: 1.2 ppb at hour 18

Minimum Diurnal Average: 0.6 ppb at hour 8

Monthly Average: 0.79 ppb

Percentiles: $P_1 = 0.3$ $P_{10} = 0.5$ $Q_1 = 0.6$ Median = 0.7 $Q_3 = 0.8$ $P_{90} = 1.0$ $P_{99} = 3.4$

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	0.8	1.1
2-Jan	1	1	1	1	1	1	1	1	1	1	3	4	2	1	1	1	A	1	1	1	1	1	1	1	1.1	3.6
3-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	0	0	0	0	0	1	1	0.6	0.9
4-Jan	1	0	1	1	1	0	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	0.7	0.8
5-Jan	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	0.8
6-Jan	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
7-Jan	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1.0
8-Jan	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.0
9-Jan	1	1	1	1	1	1	1	1	1	A	1	1	0	1	1	1	0	0	0	0	0	0	1	1	0.6	0.9
10-Jan	1	1	1	1	1	1	1	1	A	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	0.8	2.2
11-Jan	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
12-Jan	1	1	1	1	1	1	A	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	1.6
13-Jan	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8	1.4
14-Jan	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
15-Jan	1	1	1	A	1	1	1	1	0	1	0	1	0	1	1	0	0	1	1	1	1	1	1	0	0.6	0.8
16-Jan	1	0	A	1	0	1	1	1	0	1	0	1	1	1	1	1	0	1	1	0	0	1	0	0	0.5	0.7
17-Jan	1	A	1	1	1	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6	0.8
18-Jan	A	0	1	1	1	1	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	1	1	A	0.5	0.8
19-Jan	1	0	0	0	0	0	0	0	0	0	1	0	C	C	C	1	1	1	1	1	1	1	A	1	0.5	0.9
20-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	0.6	0.7
21-Jan	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	0	0	1	1	A	0	1	1	0.6	0.7
22-Jan	1	1	1	1	1	1	1	1	1	1	1	1	2	1	0	1	0	1	1	A	0	1	1	1	0.7	1.9
23-Jan	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0.7	1.0
24-Jan	1	3	2	2	1	1	1	1	1	1	1	1	1	3	3	2	1	A	1	1	1	1	1	1	1.2	3.1
25-Jan	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0.6	0.8
26-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	2	2	1	1	1	0.9	1.8
27-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	0.7	1.3
28-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	0	1	1	1	1	0.6	1.0
29-Jan	1	1	0	1	1	1	0	1	1	0	0	0	A	1	0	4	0	0	0	0	0	0	0	0	0.6	4.5
30-Jan	0	1	0	1	1	1	1	1	1	1	1	A	1	1	1	1	6	16	3	3	3	3	5	1	2.2	16.3
31-Jan	1	1	4	3	1	1	1	0	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	3.9
	0.7	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.7	0.7	0.8	0.8	0.9	0.8	0.8	0.9	0.9	1.2	0.8	0.8	0.8	0.8	0.8	0.7	Diurnal Average	
	1.2	2.6	3.9	3.3	1.4	1.3	1.0	1.0	1.5	1.4	2.7	3.6	2.2	2.9	3.1	4.5	6.1	16.3	3.5	3.3	3.2	3.1	4.9	1.1	Diurnal Maximum	

C - Calibration

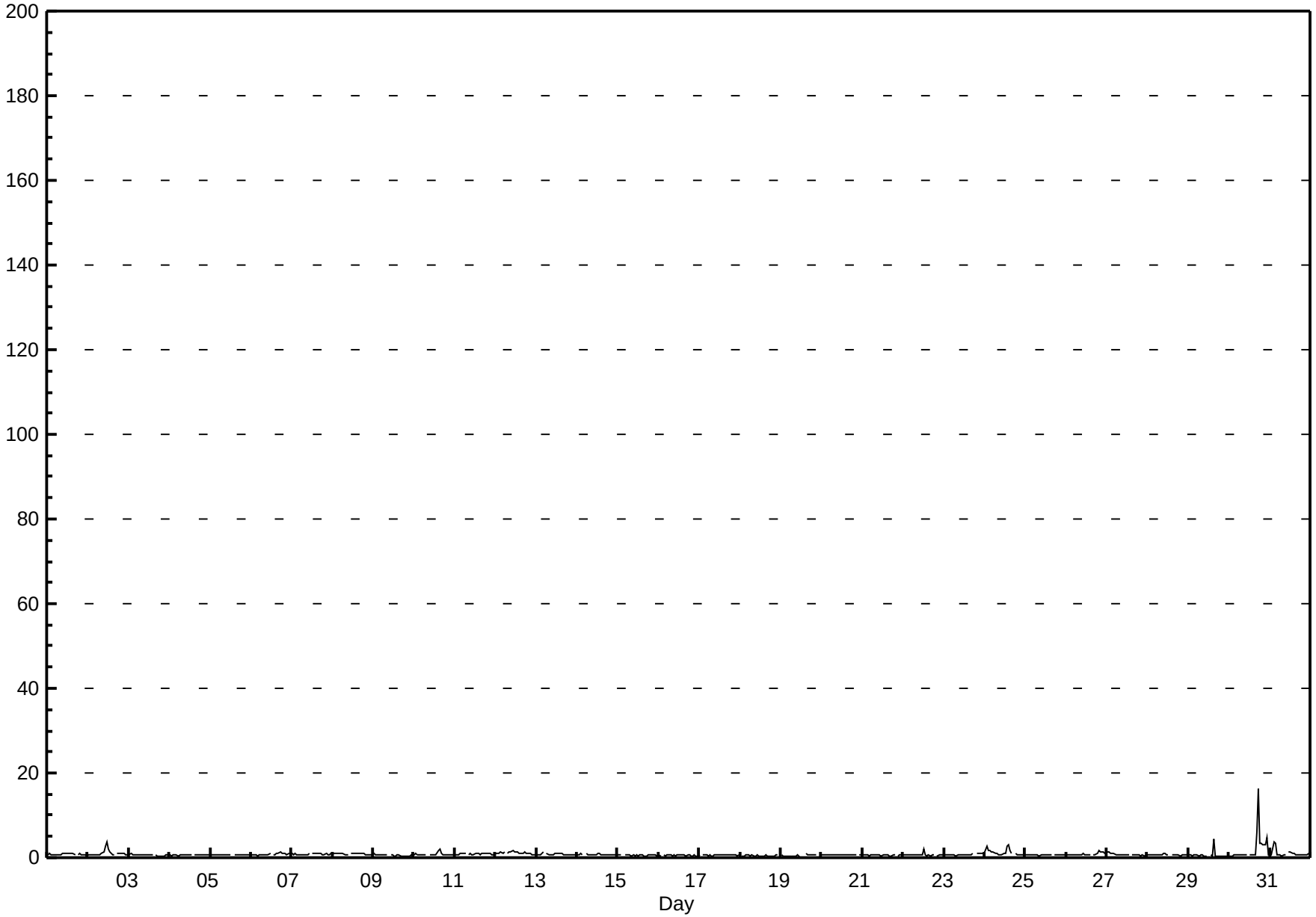
A - Automated Daily Zero Span

FOCUS AIR QUALITY MONITORING

Hourly Maximums

Sulphur Dioxide (SO_2) - ppb

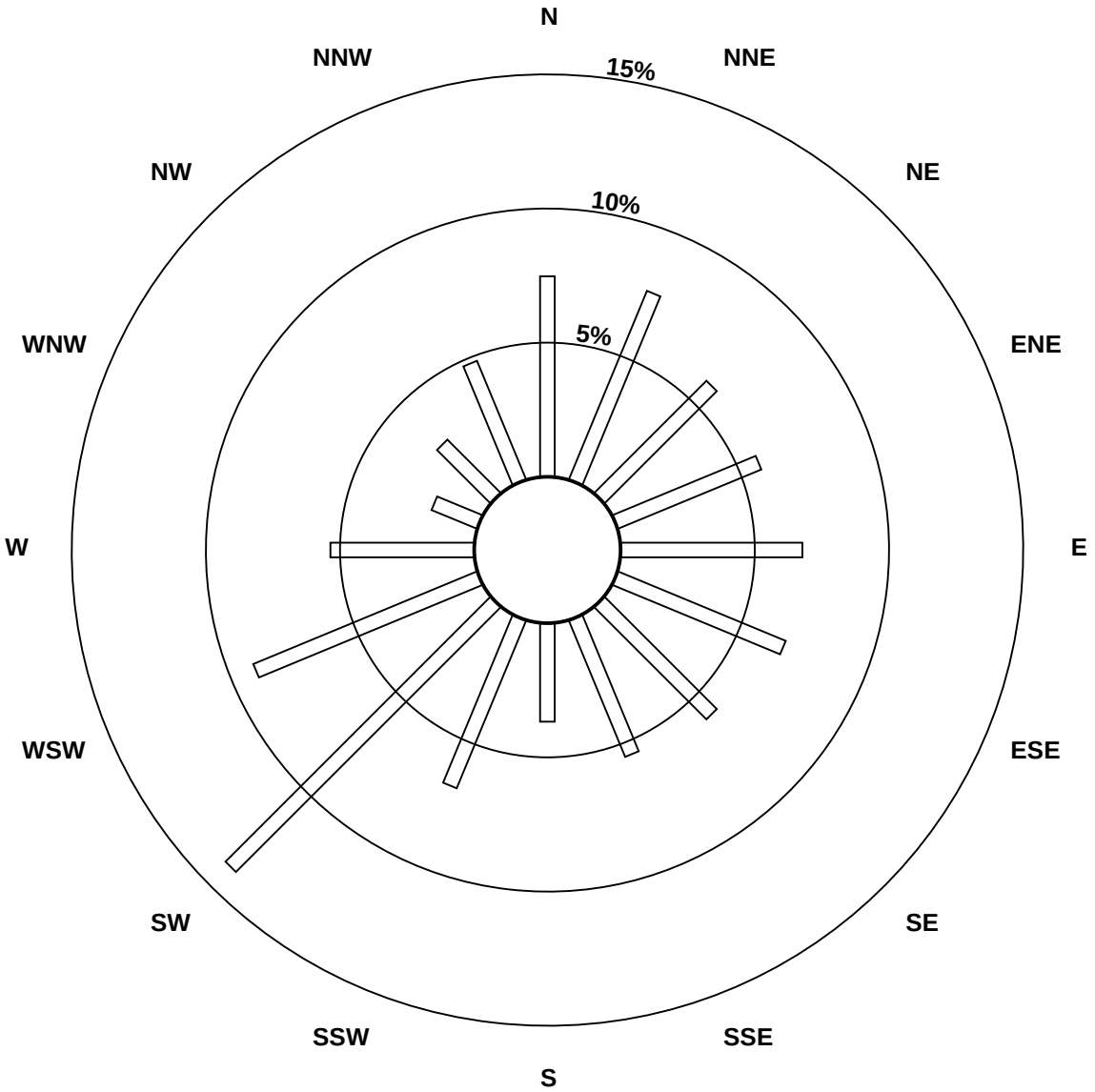
Guide-Falher - January 2013



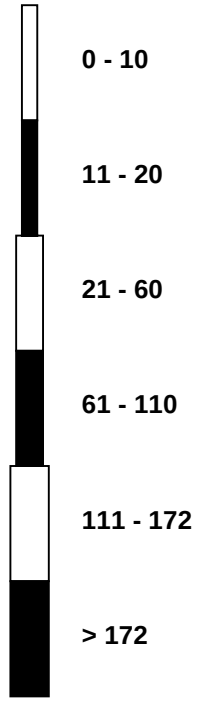
Pollutant Rose

Sulphur Dioxide (SO_2) - ppb

Guide-Falher - January 2013



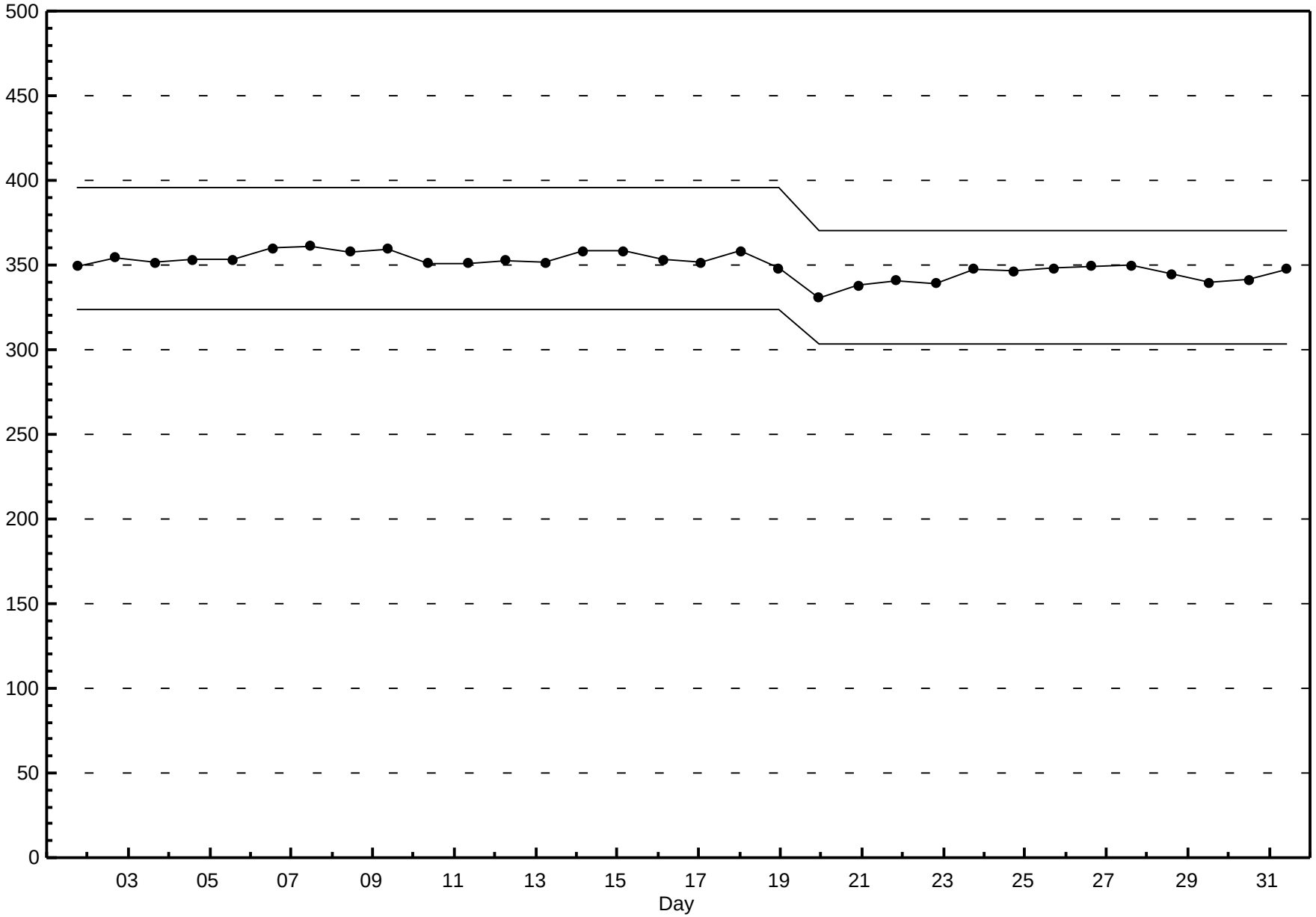
Pollutant Classes (ppb)



Span Responses

Sulphur Dioxide (SO_2)

Guide-Falher - January 2013



Hourly Averages

Hydrogen Sulphide (H_2S) - ppb

Guide-Falher - January 2013

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0
Maximum Value: 6.6 ppb on Jan 14 06:00 Maximum Daily Average: 1.9 ppb on Jan 14

Minimum Value: 0 ppb on Jan 1 01:00 Minimum Daily Average: 0.0 ppb on Jan 31
Maximum Diurnal Average: 0.4 ppb at hour 4 Minimum Diurnal Average: 0.1 ppb at hour 20
Monthly Average: 0.23 ppb Percentiles: $P_1 = 0.0$ $P_{10} = 0.0$ $Q_1 = 0.0$ Median = 0.1 $Q_3 = 0.2$ $P_{90} = 0.4$ $P_{99} = 4.0$

Hours in Service:	744
Hours of Data:	707
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

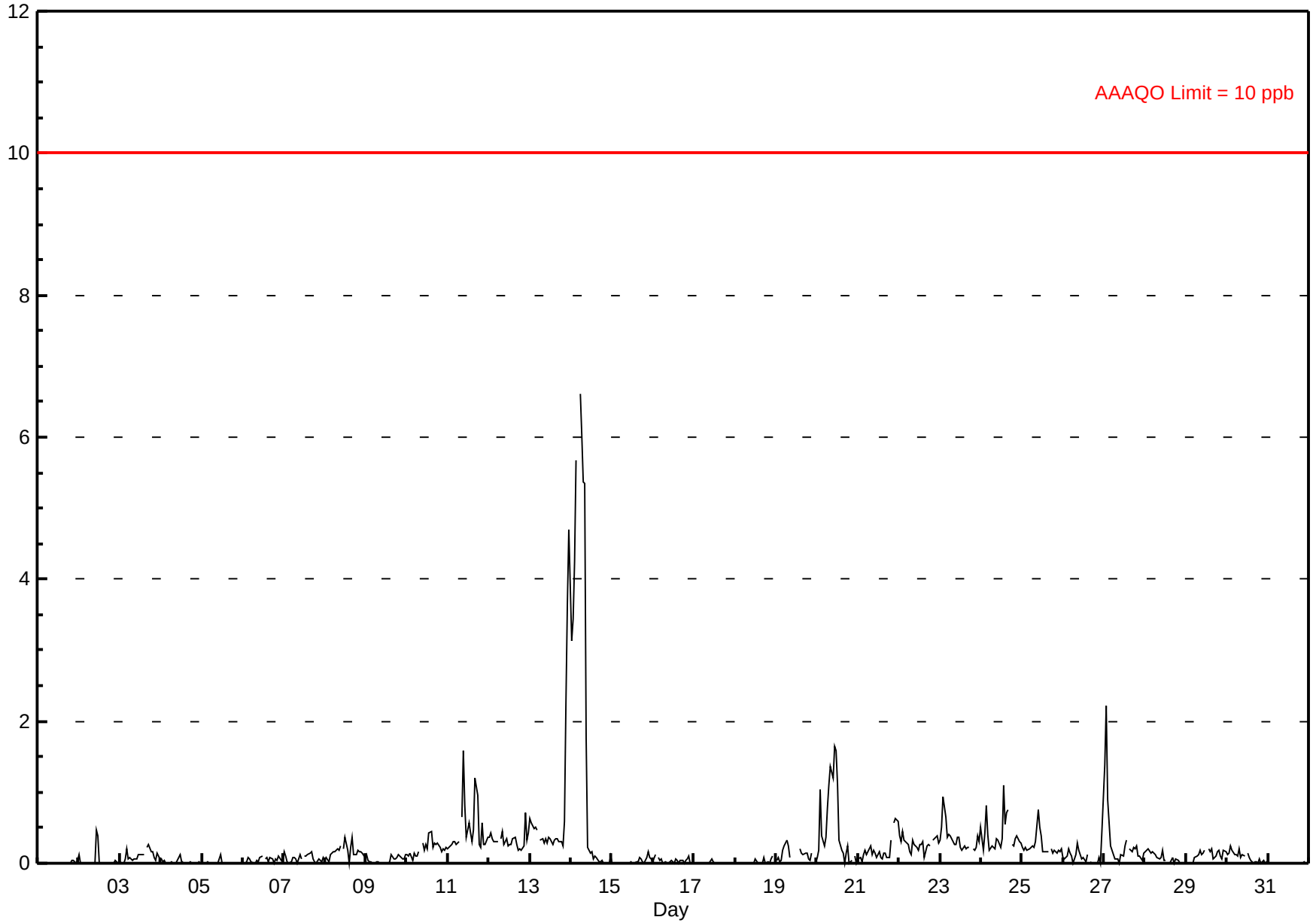
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0.0	0.0
2-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0.0	0.5
3-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0.1	0.3
4-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.0	0.1
5-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0.0	0.1
6-Jan	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
7-Jan	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
8-Jan	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
9-Jan	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
10-Jan	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
11-Jan	0	0	0	0	0	0	0	A	1	2	1	0	1	0	0	0	1	1	0	0	1	0	0	0	0.5	1.6
12-Jan	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.3	0.7
13-Jan	1	1	0	1	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	4	5	0.8	4.7
14-Jan	3	3	4	6	A	7	6	5	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.9	6.6
15-Jan	0	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.2
16-Jan	0	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
17-Jan	0	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.1
18-Jan	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
19-Jan	0	0	0	0	0	0	0	0	0	C	C	C	C	C	0	0	0	0	0	0	0	0	A	0	0.1	0.3
20-Jan	0	0	1	0	0	0	1	1	1	1	2	2	1	0	0	0	0	0	0	0	0	A	0	0	0.5	1.6
21-Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	1	1	1	0.2	0.6
22-Jan	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
23-Jan	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0.3	0.9
24-Jan	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	A	0	0	0	0	0	0	0.4	1.1
25-Jan	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	A	0	0	0	0	0	0	0	0.2	0.7
26-Jan	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
27-Jan	1	2	1	1	0	0	0	0	0	0	0	0	0	0	A	0	0	0	0	0	0	0	0	0	0.3	2.2
28-Jan	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
29-Jan	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
30-Jan	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
31-Jan	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
	0.3	0.3	0.3	0.4	0.1	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.3	Diurnal Average	
	3.1	3.4	4.3	5.7	0.5	6.6	6.0	5.4	5.3	1.8	1.6	1.6	1.1	1.1	0.5	0.7	1.2	1.0	0.3	0.3	0.6	2.2	3.7	4.7	Diurnal Maximum	

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

Hourly Averages

Hydrogen Sulphide (H_2S) - ppb

Guide-Falher - January 2013



Hourly Maximums

Hydrogen Sulphide (H_2S) - ppb

Guide-Falher - January 2013

Maximum Value: 8.8 ppb on Jan 24 14:00

Maximum Daily Average: 2.7 ppb on Jan 14

Minimum Value: 0 ppb on Jan 18 07:00

Minimum Daily Average: 0.6 ppb on Jan 18

Maximum Diurnal Average: 1.2 ppb at hour 10

Minimum Diurnal Average: 0.8 ppb at hour 20

Monthly Average: 0.97 ppb

Percentiles: $P_1 = 0.3$ $P_{10} = 0.5$ $Q_1 = 0.6$ Median = 0.8 $Q_3 = 1.0$ $P_{90} = 1.3$ $P_{99} = 5.6$

Hours in Service:	744
Hours of Data:	707
Hours of Missing Data:	37
Hours of Calibration:	37
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	1	1	0	1	0	0	0	0	0	0	1	1	1	1	1	1	A	1	0	1	1	1	1	0.6	0.8
2-Jan	1	1	1	1	1	1	1	0	0	1	1	1	1	0	1	1	A	1	1	1	0	1	1	0	0.6	1.3
3-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.7	1.1
4-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0	0.7	0.9
5-Jan	0	1	0	1	1	1	1	0	1	1	1	1	1	A	1	0	0	1	1	0	1	0	0	1	0.6	0.9
6-Jan	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	0.7	0.9
7-Jan	1	1	1	0	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	0	1	1	1	1	0.7	1.2
8-Jan	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	1.3
9-Jan	1	1	1	1	1	1	1	1	1	A	1	1	0	1	1	1	0	1	1	1	1	1	1	1	0.7	0.9
10-Jan	1	1	1	1	1	1	1	1	A	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	0.8	1.5
11-Jan	1	1	1	1	1	1	1	A	2	3	2	1	2	1	1	1	2	3	1	1	1	1	1	1	1.3	3.2
12-Jan	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1.0	1.6
13-Jan	2	2	2	2	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	5	6	1.6	5.9
14-Jan	4	4	5	7	A	7	7	6	6	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2.7	7.4
15-Jan	1	1	1	A	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	0.6	0.8
16-Jan	1	1	A	1	1	1	0	1	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0.7	0.8
17-Jan	1	A	1	1	1	0	1	1	0	1	1	1	0	0	0	0	0	0	1	0	1	1	1	0	0.6	1.1
18-Jan	A	0	1	0	1	1	0	0	1	1	0	0	1	1	1	0	1	1	1	1	1	1	1	A	0.6	0.8
19-Jan	1	1	1	1	1	1	1	1	1	C	C	C	C	C	1	1	1	1	1	1	1	1	A	1	0.9	1.1
20-Jan	1	1	3	1	1	2	2	2	3	2	3	3	2	1	1	1	1	1	1	1	1	A	1	1	1.5	3.3
21-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	2	1.0	1.6
22-Jan	1	1	1	1	1	1	1	1	2	1	1	1	4	1	1	1	1	1	1	A	1	1	2	1	1.2	3.6
23-Jan	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1.2	2.4
24-Jan	2	1	2	3	2	1	1	2	1	1	1	1	1	9	5	3	3	A	1	1	1	1	1	1	1.9	8.8
25-Jan	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	A	1	1	1	1	1	1	1	1.1	2.2
26-Jan	1	1	1	2	1	1	1	1	2	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	0.9	1.6
27-Jan	3	4	1	2	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1.2	3.8
28-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	0.8	1.0
29-Jan	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	1.3
30-Jan	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	1.4
31-Jan	1	1	1	1	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	1.1
	1.0	1.0	1.1	1.1	0.8	1.0	1.0	1.0	1.1	1.2	1.0	1.0	1.0	1.1	1.0	0.9	0.9	0.9	0.8	0.8	0.8	0.9	0.9	1.0	Diurnal Average	
	4.3	4.1	5.1	6.7	1.6	7.4	7.1	6.3	6.4	5.4	2.5	3.3	3.6	8.8	5.0	3.4	2.5	2.6	1.3	1.3	1.5	3.5	5.1	5.9	Diurnal Maximum	

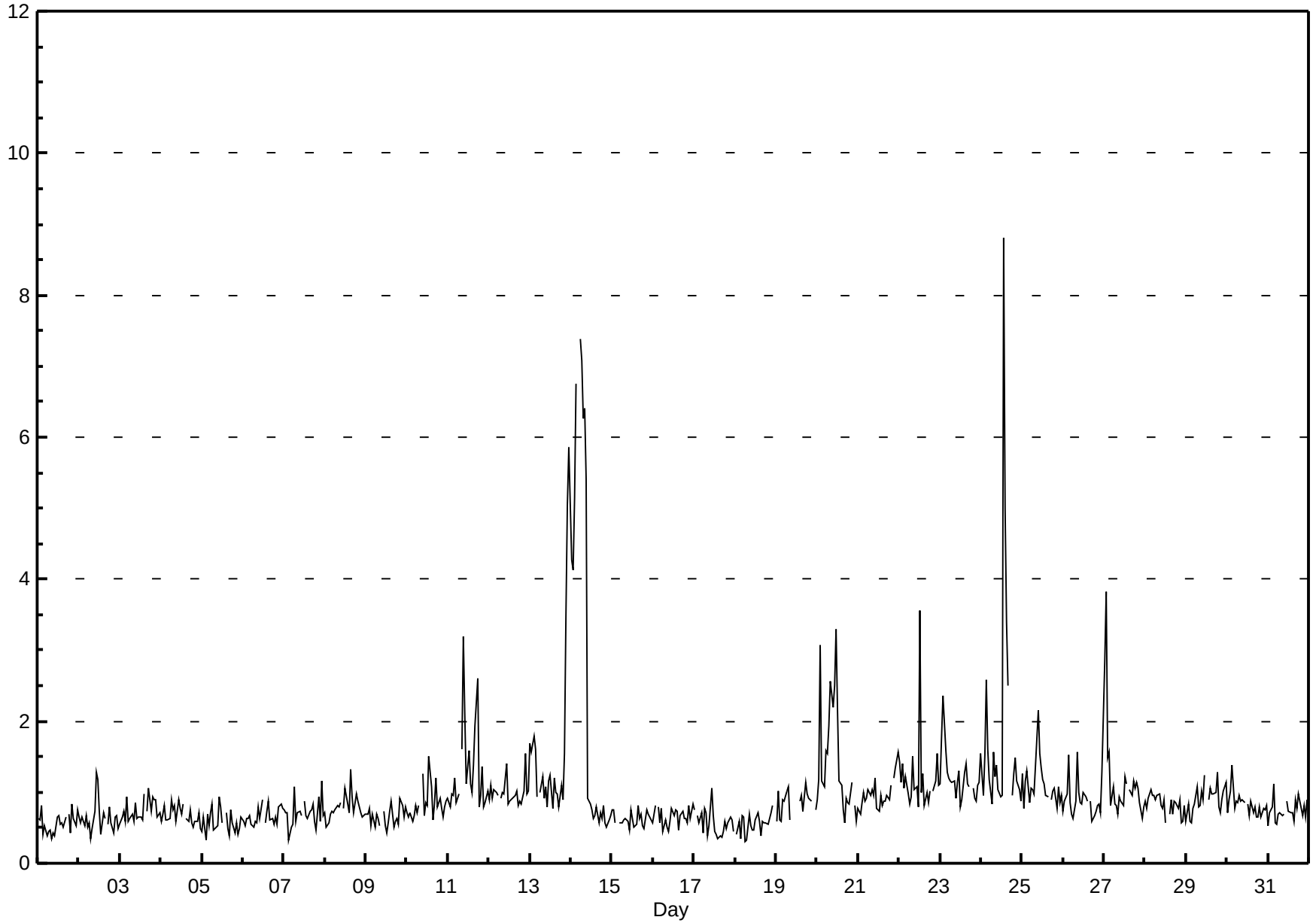
C - Calibration

A - Automated Daily Zero Span

Hourly Maximums

Hydrogen Sulphide (H_2S) - ppb

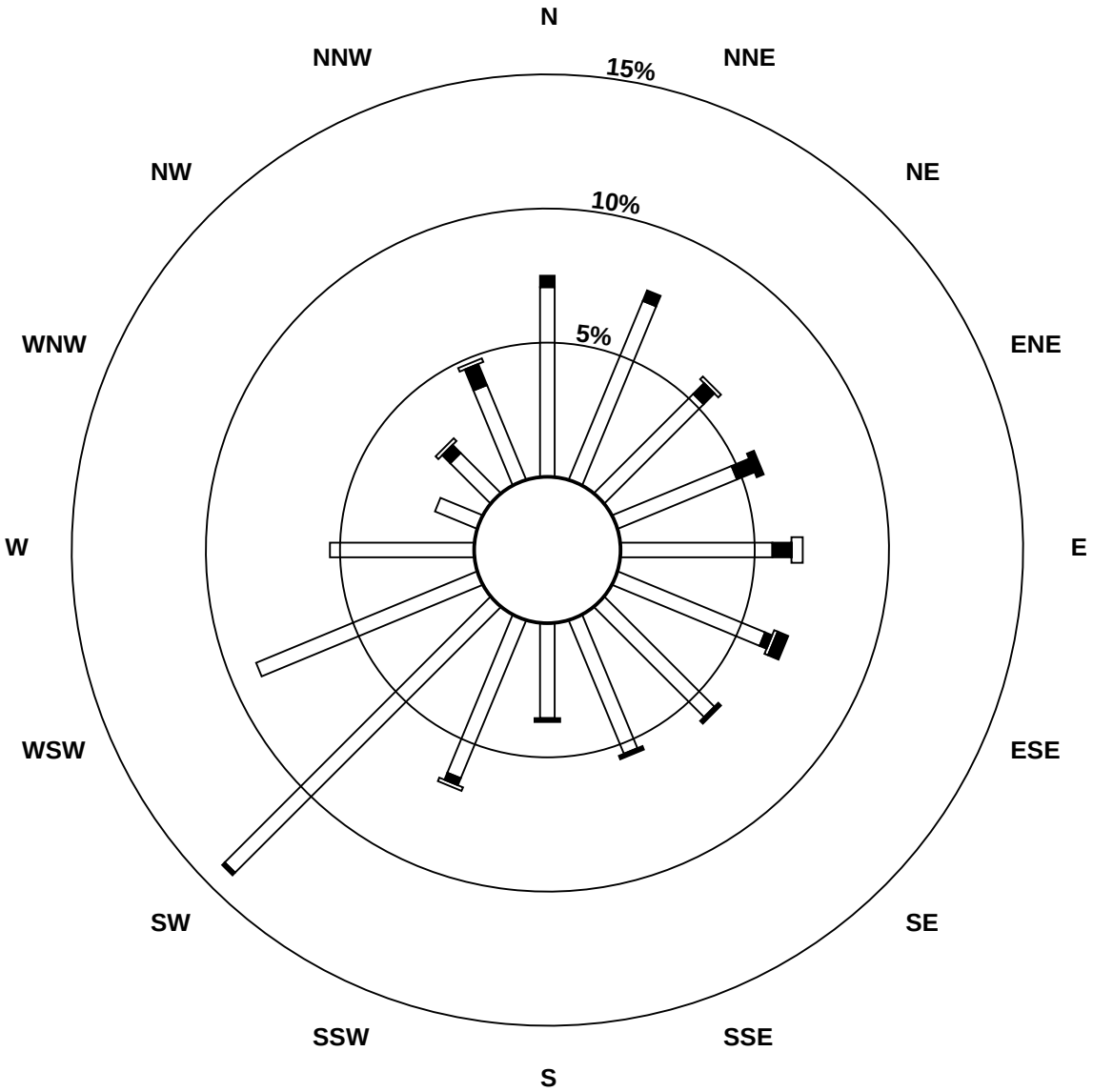
Guide-Falher - January 2013



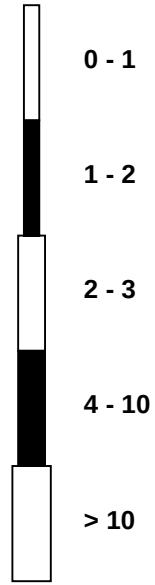
Pollutant Rose

Hydrogen Sulphide (H_2S) - ppb

Guide-Falher - January 2013



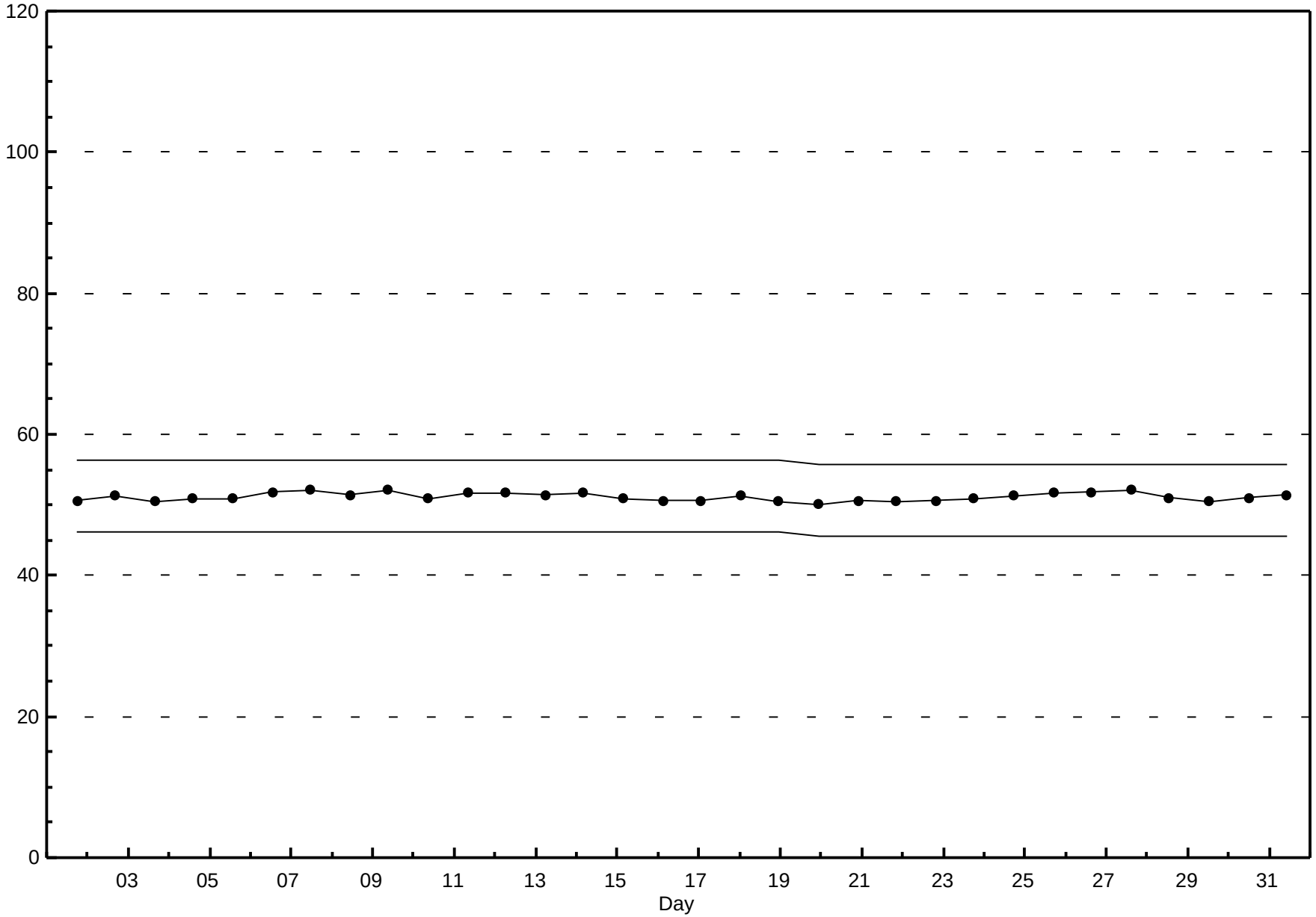
Pollutant Classes (ppb)



Span Responses

Hydrogen Sulphide (H_2S)

Guide-Falher - January 2013



Hourly Averages

External Temperature (ET) - °C

Guide-Falher - January 2013

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

Maximum Value: 5.4 °C on Jan 17 14:00

Maximum Daily Average: 4.0 °C on Jan 15

Minimum Value: -33 °C on Jan 20 05:00

Minimum Daily Average: -28.5 °C on Jan 29

Maximum Diurnal Average: -10.8 °C at hour 16

Minimum Diurnal Average: -13.1 °C at hour 10

Monthly Average: -12.13 °C

Percentiles: P_1 = -30.6 P_{10} = -24.0 Q_1 = -17.9 Median = -11.6 Q_3 = -6.3 P_{90} = -1.6 P_{99} = 4.5

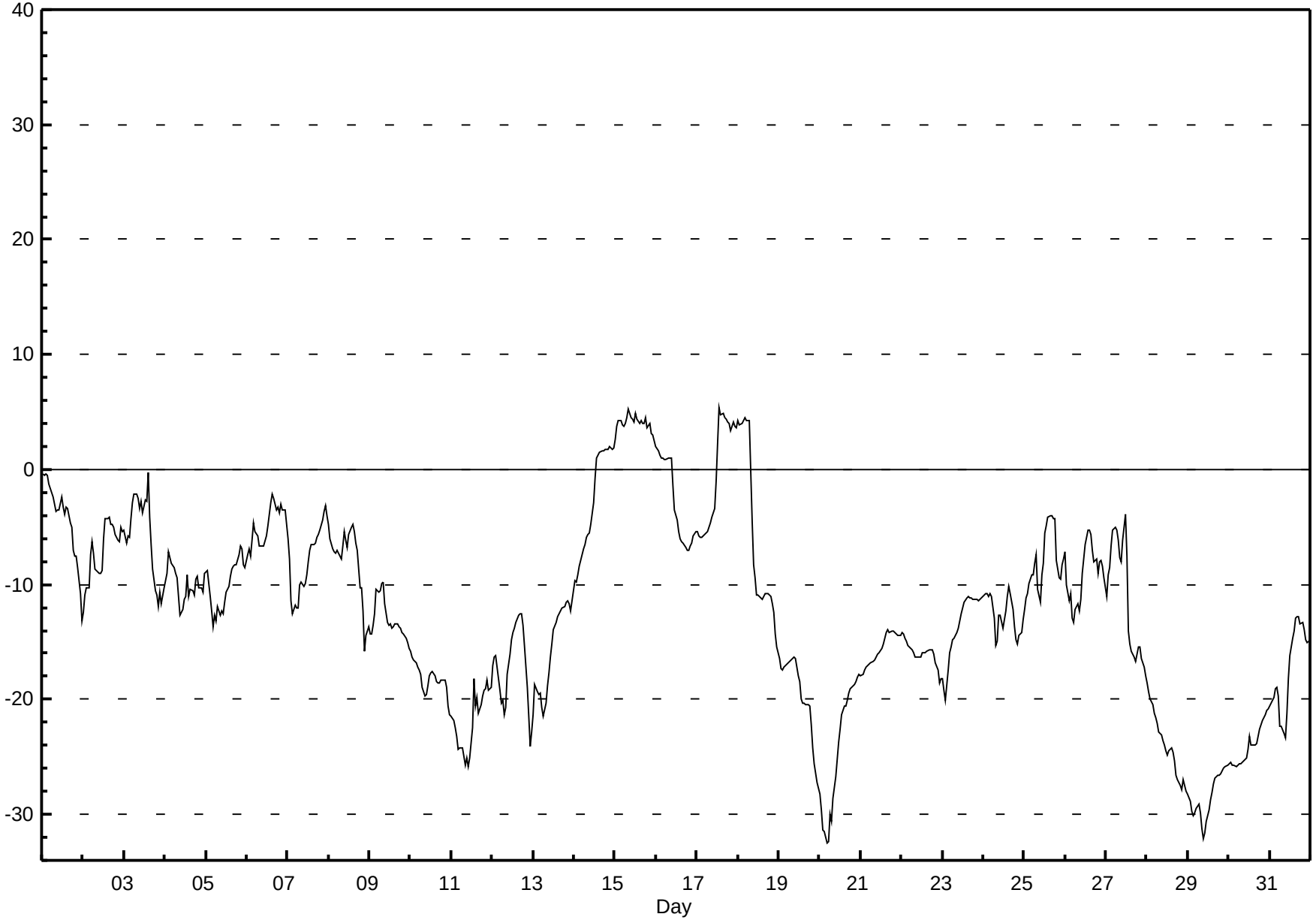
Hours in Service:	744
Hours of Data:	744
Hours of Missing Data:	0
Hours of Calibration:	0
Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily	Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Average	Maximum
1-Jan	0	-1	0	-1	-1	-2	-2	-3	-4	-4	-4	-2	-3	-4	-3	-3	-5	-5	-7	-8	-8	-9	-11	-13	-4.2	-0.3
2-Jan	-12	-11	-10	-10	-7	-6	-7	-9	-9	-9	-9	-9	-6	-4	-4	-4	-5	-5	-5	-6	-6	-6	-5	-5	-7.1	-4.2
3-Jan	-5	-6	-6	-6	-4	-3	-2	-2	-3	-3	-3	-4	-3	-3	0	-4	-7	-9	-10	-11	-12	-11	-12	-10	-5.8	-0.2
4-Jan	-10	-9	-7	-8	-8	-9	-9	-9	-11	-13	-12	-11	-11	-9	-11	-10	-11	-11	-10	-9	-10	-10	-11	-9	-9.9	-7.2
5-Jan	-9	-9	-11	-12	-14	-13	-13	-12	-13	-12	-13	-12	-11	-10	-9	-9	-8	-8	-8	-7	-7	-7	-8	-9	-10.1	-6.7
6-Jan	-7	-7	-8	-6	-5	-5	-6	-7	-7	-7	-7	-6	-5	-4	-3	-2	-3	-3	-3	-4	-3	-4	-4	-5	-4.9	-2.1
7-Jan	-6	-8	-11	-13	-12	-12	-12	-10	-10	-10	-10	-9	-8	-7	-7	-7	-6	-6	-6	-5	-4	-4	-3	-4	-7.9	-3.1
8-Jan	-5	-6	-7	-7	-7	-7	-7	-8	-7	-5	-6	-7	-6	-5	-5	-5	-6	-7	-10	-10	-12	-16	-14	-14	-7.9	-4.7
9-Jan	-14	-14	-14	-13	-10	-11	-11	-10	-10	-12	-13	-13	-13	-14	-14	-13	-13	-14	-14	-14	-14	-15	-15	-16	-13.1	-9.8
10-Jan	-16	-16	-17	-17	-17	-17	-18	-19	-20	-20	-19	-18	-18	-18	-18	-18	-19	-19	-18	-18	-18	-19	-21	-21	-18.2	-15.9
11-Jan	-21	-22	-23	-23	-24	-24	-24	-25	-26	-25	-26	-25	-23	-18	-21	-20	-21	-20	-20	-19	-19	-18	-19	-19	-21.9	-18.1
12-Jan	-17	-16	-16	-17	-19	-20	-20	-21	-21	-18	-16	-15	-14	-14	-13	-13	-13	-13	-14	-15	-19	-21	-24	-23	-17.2	-12.6
13-Jan	-21	-19	-19	-20	-20	-21	-22	-20	-19	-18	-16	-15	-14	-13	-13	-13	-12	-12	-12	-12	-11	-12	-12	-11	-15.7	-11.4
14-Jan	-10	-10	-9	-8	-8	-7	-6	-6	-6	-5	-5	-3	-1	1	1	1	2	2	2	2	2	2	2	2	-2.7	2.0
15-Jan	3	4	4	4	4	4	4	5	5	5	4	4	5	4	4	4	4	4	5	4	4	3	3	2	4.0	5.3
16-Jan	2	2	1	1	1	1	1	1	1	1	-1	-4	-4	-5	-6	-6	-6	-7	-7	-7	-7	-6	-6	-5	-2.8	2.1
17-Jan	-5	-6	-6	-6	-6	-6	-5	-5	-5	-4	-3	-1	2	5	5	5	5	4	4	4	3	4	4	4	-0.4	5.4
18-Jan	4	4	4	4	5	4	4	4	-5	-8	-9	-11	-11	-11	-11	-11	-11	-11	-11	-11	-12	-12	-14	-15	-5.9	4.5
19-Jan	-16	-17	-17	-17	-17	-17	-17	-17	-16	-16	-16	-18	-18	-20	-20	-20	-20	-20	-21	-22	-24	-26	-27	-28	-19.6	-16.4
20-Jan	-28	-30	-31	-32	-33	-32	-30	-31	-29	-27	-25	-24	-23	-21	-21	-21	-20	-19	-19	-19	-19	-18	-18	-18	-24.4	-17.9
21-Jan	-18	-18	-17	-17	-17	-17	-17	-17	-17	-16	-16	-16	-16	-15	-15	-14	-14	-14	-14	-14	-14	-14	-14	-14	-15.7	-13.9
22-Jan	-14	-14	-15	-15	-15	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-17	-17	-19	-18	-16.0	-14.2
23-Jan	-18	-19	-20	-17	-16	-15	-15	-15	-14	-14	-13	-13	-12	-12	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11	-13.6	-11.1
24-Jan	-11	-11	-11	-11	-11	-11	-13	-15	-15	-13	-13	-14	-13	-12	-11	-10	-11	-12	-14	-15	-15	-14	-14	-13	-12.6	-10.1
25-Jan	-12	-11	-11	-10	-9	-9	-8	-7	-10	-12	-9	-8	-6	-5	-4	-4	-4	-4	-4	-8	-9	-10	-8	-8	-8.0	-4.0
26-Jan	-7	-10	-11	-11	-13	-13	-12	-12	-12	-11	-9	-8	-6	-5	-5	-6	-7	-8	-8	-9	-8	-8	-8	-9	-9.1	-5.2
27-Jan	-11	-9	-9	-7	-5	-5	-5	-6	-8	-8	-6	-4	-8	-14	-15	-16	-16	-17	-16	-15	-15	-16	-17	-18	-11.1	-3.9
28-Jan	-19	-19	-20	-21	-21	-22	-22	-23	-23	-24	-24	-24	-25	-24	-24	-25	-25	-27	-27	-28	-28	-27	-27	-28	-24.0	-18.6
29-Jan	-28	-29	-30	-30	-30	-29	-29	-30	-31	-32	-32	-31	-30	-29	-28	-27	-27	-27	-27	-26	-26	-26	-26	-26	-28.5	-25.8
30-Jan	-26	-26	-26	-26	-26	-26	-26	-26	-25	-25	-25	-24	-23	-24	-24	-24	-24	-23	-23	-22	-22	-21	-21	-21	-24.1	-20.9
31-Jan	-21	-20	-20	-19	-19	-20	-22	-22	-23	-23	-21	-18	-16	-15	-14	-13	-13	-13	-13	-13	-14	-15	-15	-15	-17.4	-12.7
	-12.3	-12.4	-12.6	-12.5	-12.4	-12.4	-12.5	-12.6	-13.1	-13.1	-12.7	-12.2	-11.4	-11.0	-10.9	-10.8	-11.1	-11.3	-11.5	-11.8	-12.1	-12.4	-12.8	-12.9	Diurnal Average	
	4.2	3.8	4.2	4.3	4.5	4.3	4.2	4.5	5.3	4.5	4.4	4.1	4.9	5.4	4.7	4.8	4.5	4.3	4.5	4.0	4.0	4.2	3.7	3.6	Diurnal Maximum	

Hourly Averages

External Temperature (ET) - ^{o}C

Guide-Falher - January 2013



Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Guide-Falher - January 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	36	27	30	35	33	35	34	34	26	28	24	27	22	15	21	20	19	20	12	11	15	15	12	11	21.2	35.7
Dir	222	210	225	233	232	227	226	218	227	222	234	234	220	214	227	227	238	232	220	194	157	151	163	50	221	222
2 Spd	20	22	21	17	21	24	25	19	24	23	19	24	27	14	10	9	17	19	10	9	14	19	14	9	16.4	26.7
Dir	75	101	116	82	109	101	106	96	105	102	109	113	124	133	157	141	123	123	133	149	134	159	173	158	116	124
3 Spd	15	9	8	11	12	16	13	16	17	11	10	11	13	6	5	9	10	9	12	12	11	11	10	13	3.7	17.4
Dir	173	136	118	121	145	174	211	229	246	243	220	165	177	129	204	98	83	83	41	54	18	33	25	24	143	246
4 Spd	15	16	13	13	14	14	12	10	10	7	12	12	7	8	15	16	16	15	12	12	12	17	11	16	6.6	16.9
Dir	35	26	35	86	60	87	37	26	135	33	39	71	119	137	113	89	87	105	158	189	224	197	190	200	96	197
5 Spd	14	17	11	11	14	12	16	17	10	10	10	9	10	10	12	12	9	9	9	13	10	12	13	11	8.3	17.1
Dir	191	181	119	91	111	91	119	121	48	72	90	67	54	41	44	31	31	69	36	13	50	98	118	60	83	121
6 Spd	13	10	8	5	15	17	17	15	19	22	22	20	20	18	24	26	20	21	23	19	21	20	20	17	13.5	26.5
Dir	60	125	168	88	149	127	138	150	180	181	180	188	202	214	241	247	232	229	232	238	233	220	211	195	200	247
7 Spd	22	20	13	13	21	22	24	24	26	25	22	19	27	23	20	17	13	11	15	13	18	23	24	25	14.9	27.4
Dir	182	149	95	101	132	117	100	104	100	91	89	92	113	126	135	141	113	112	118	131	180	198	223	241	129	113
8 Spd	20	14	15	5	9	9	12	17	14	17	20	24	23	24	24	23	22	20	17	17	7	12	15	14	9.2	24.3
Dir	261	287	306	251	137	94	101	127	139	165	169	158	172	184	191	186	179	174	150	157	138	29	28	34	166	184
9 Spd	12	12	12	14	18	14	14	19	24	28	25	23	27	28	28	29	26	25	26	25	20	22	26	24	16.7	29.1
Dir	28	14	7	2	17	354	299	298	296	283	274	265	263	255	252	251	249	251	253	250	242	242	247	248	272	251
10 Spd	22	22	20	19	17	16	12	13	4	6	5	5	5	6	10	12	9	11	13	17	19	20	20	18	6.5	22.1
Dir	248	244	244	251	237	224	218	218	217	167	252	305	3	28	18	11	342	345	355	354	357	356	352	343	299	248
11 Spd	21	22	21	14	14	10	5	7	8	9	10	12	10	3	7	6	8	11	6	5	7	11	10	7	7.6	22.3
Dir	346	349	357	351	350	6	70	43	62	39	31	35	45	129	29	20	27	47	101	36	74	105	124	122	29	349
12 Spd	15	13	12	13	13	13	13	7	10	18	15	18	22	19	17	19	19	18	15	9	3	6	7	7	10.6	21.7
Dir	131	145	192	162	154	150	149	115	95	160	162	143	156	152	142	154	171	186	192	206	273	5	346	360	156	156
13 Spd	6	6	8	8	7	7	7	6	6	6	6	6	5	7	9	10	10	13	10	9	10	13	12	15	5.9	15.0
Dir	337	343	23	13	333	326	344	352	350	354	354	4	33	48	51	73	109	107	89	100	89	80	78	66	48	66
14 Spd	16	19	19	20	15	12	12	18	17	20	17	13	20	23	19	18	18	10	21	17	14	13	14	16	10.4	22.8
Dir	87	92	105	113	108	106	128	156	179	206	225	254	247	237	213	211	197	225	230	220	210	201	194	200	188	237
15 Spd	19	27	30	24	25	19	24	27	35	28	26	20	24	19	16	18	14	17	24	21	27	20	27	24	22.2	34.6
Dir	212	227	229	230	219	229	238	240	236	250	248	272	263	246	241	261	252	266	261	255	261	270	270	258	247	236
16 Spd	24	28	31	33	35	30	28	27	26	25	20	21	20	22	17	16	15	14	8	8	8	10	18	22	13.2	34.6
Dir	239	239	230	230	234	233	229	231	229	229	303	308	307	302	299	266	275	306	298	10	60	45	56	57	258	234
17 Spd	26	32	33	36	33	34	37	36	31	28	23	17	14	41	34	39	34	32	32	28	22	28	26	25	4.4	40.6
Dir	57	56	52	51	51	56	59	61	67	72	78	99	197	228	225	227	228	225	227	220	212	223	227	226	139	228
18 Spd	33	29	28	32	37	38	35	39	40	38	34	31	31	30	26	20	18	16	15	14	13	18	21	17	25.1	39.7
Dir	232	238	228	229	230	232	232	233	295	281	275	269	275	272	276	272	266	253	248	260	273	278	273	275	256	295
19 Spd	15	13	15	14	14	15	16	20	20	19	19	26	30	38	34	30	31	29	28	25	21	19	10	10	16.3	38.3
Dir	263	270	308	320	329	321	319	319	312	313	284	256	242	235	234	231	227	224	226	228	230	231	250	63	258	235
20 Spd	12	10	8	11	10	10	11	10	11	8	9	12	11	11	19	23	18	20	20	22	22	24	23	20	13.5	23.6
Dir	91	63	349	347	338	329	328	324	342	304	321	343	351	350	341	343	337	340	341	353	345	340	347	354	345	340
21 Spd	19	19	16	16	16	13	13	12	13	14	17	16	17	14	11	8	7	10	12	13	14	17	16	13	6.9	19.1
Dir	353	352	353	334	345	359	2	356	359	357	2	13	22	15	13	346	263	221	201	223	215	206	213	223	337	352
22 Spd	14	13	14	17	14	14	15	16	17	16	17	16	17	19	19	17	16	13	13	10	10	5	10	14	13.5	19.3
Dir	210	241	260	243	238	234	231	244	245	231	241	252	252	254	252	253	259	265	269	276	302	269	291	311	252	254

Hourly Averages

Wind Speed (km/h)
Wind Direction (deg)
Guide-Falher - January 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
23 Spd	18	15	17	24	29	30	34	31	35	37	35	36	36	36	36	34	30	29	28	28	27	25	21	18	26.6	37.1
Dir	320	336	317	330	343	346	355	1	6	3	7	15	18	27	28	30	27	32	31	34	32	36	39	39	12	3
24 Spd	16	15	12	10	10	17	15	10	8	11	14	17	17	17	16	16	16	17	12	12	14	17	16	16	9.7	17.2
Dir	51	64	69	81	147	187	174	153	122	111	105	87	76	61	54	88	77	63	36	11	12	15	14	14	70	15
25 Spd	19	19	20	19	22	20	19	20	18	17	14	16	17	21	20	21	19	20	18	15	15	14	20	21	10.7	21.6
Dir	25	28	32	37	38	40	53	56	53	90	75	86	131	155	156	159	162	166	159	142	138	129	164	168	103	38
26 Spd	23	18	18	18	17	17	17	17	18	16	13	19	21	23	20	18	21	22	23	21	24	23	22	23	17.6	24.5
Dir	159	120	103	90	65	60	61	57	73	86	92	121	134	130	132	134	129	127	128	123	123	126	125	117	113	123
27 Spd	19	23	24	23	23	24	25	25	23	15	14	11	14	21	21	25	25	25	27	25	25	22	22	28	8.4	27.8
Dir	90	109	114	118	126	127	124	112	107	81	90	113	269	273	263	256	246	240	242	237	243	233	229	232	186	232
28 Spd	27	28	27	29	30	28	25	23	25	26	23	26	25	21	21	20	21	15	17	18	19	23	21	23	23.1	29.6
Dir	230	231	230	234	227	227	221	220	217	215	215	220	216	209	214	214	210	208	204	203	203	212	217	212	218	227
29 Spd	24	22	14	9	8	7	5	8	13	12	10	13	17	17	16	21	24	24	23	20	19	16	14	15	5.3	24.2
Dir	217	226	211	218	152	160	207	89	76	66	47	18	23	25	5	343	342	331	321	309	291	278	242	232	314	342
30 Spd	14	14	17	19	20	19	17	15	12	11	9	6	4	7	8	10	13	14	15	16	19	19	19	18	1.4	19.7
Dir	220	202	192	193	195	195	196	197	207	216	240	294	15	58	23	4	6	6	11	21	11	15	7	1	282	195
31 Spd	17	18	16	13	14	14	10	12	10	12	8	11	10	7	9	5	7	9	12	8	13	10	7	8	3.9	18.2
Dir	356	5	21	60	79	89	85	70	33	11	1	0	36	37	344	350	76	218	239	178	221	208	202	243	30	5
Spd	3.2	1.9	1.3	1.1	2.8	3.1	3.2	2.7	0.8	1.7	1.5	0.7	3.2	5.0	4.8	5.1	4.7	4.5	5.4	4.0	3.7	3.6	4.0	2.6	Diurnal Average	
Dir	217	196	208	192	165	160	162	164	176	209	249	227	214	221	235	234	221	219	229	231	234	219	232	247		
Spd	35.7	32.2	33.4	35.5	37.5	38.0	36.7	38.8	39.7	37.9	35.2	36.4	36.4	40.6	36.3	39.4	34.2	31.7	32.1	27.7	27.2	27.9	27.4	27.8	Diurnal Maximum	
Dir	222	56	52	51	230	232	59	233	295	281	7	15	18	228	28	227	228	225	227	220	32	223	270	232		

Maximum Speed Value: 41 km/h on Jan 17 14:00
Minimum Speed Value: 3 km/h on Jan 11 14:00
Maximum Daily Speed Average: 26.6 km/h on Jan 17
Minimum Daily Speed Average: 1.4 km/h on Jan 13
Maximum Diurnal Speed Average: 5.4 km/h at hour 19
Minimum Diurnal Speed Average: 0.7 km/h at hour 12

Monthly Average Velocity: 2.82 km/h 215.7 deg
Speed Percentiles: P_1 = 4.9 P_{10} = 8.8 Q_1 = 12.2 Median = 16.7 Q_3 = 22.3 P_{90} = 27.8 P_{99} = 37.9
All monthly, daily, and diurnal averages have been calculated using vector methods

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

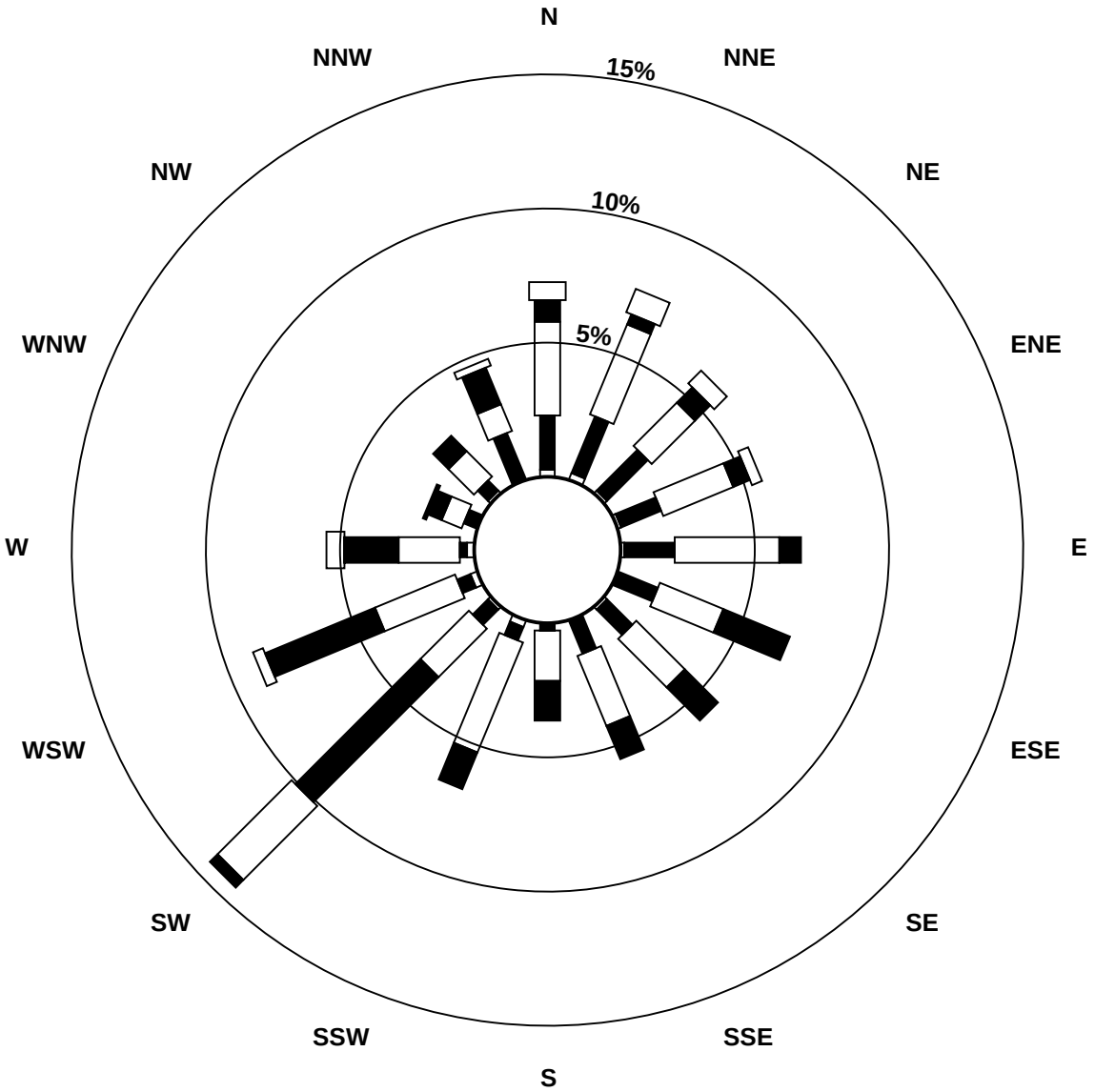
Frequency Distribution

Direction	Speed Range (km/h) 0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total
North	2	27	47	19	9	0	104
NorthEast	2	33	39	12	14	0	100
East	0	23	48	18	0	0	89
SouthEast	1	22	39	32	0	0	94
South	0	6	41	22	0	0	69
SouthWest	2	10	48	76	33	4	173
West	2	6	27	31	8	0	74
NorthWest	0	12	15	13	0	1	41
Total	9	139	304	223	64	5	744

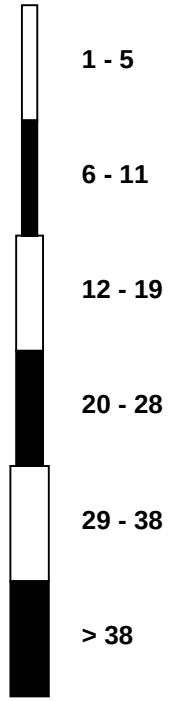
Wind Rose

Wind Speed (WS) (km/h)

Guide-Falher - January 2013



Wind Speed Classes (km/h)



Hourly Averages - Wind Speed (Scalar)

Wind Speed (km/h)

Guide-Falher - January 2013

Maximum Speed: 43 km/h on Jan 18 09:00

Maximum Daily Speed Average: 30.2 km/h on Jan 17

Minimum Speed: 5 km/h on Jan 29 07:00

Minimum Daily Speed Average: 8.7 km/h on Jan 13

Maximum Diurnal Speed Average: 19.1 km/h at hour 1

Minimum Diurnal Speed Average: 16.2 km/h at hour 20

Monthly Average Speed: 17.97 km/h

Percentiles: P_1 = 6.0 P_{10} = 9.3 Q_1 = 12.6 Median = 16.9 Q_3 = 22.3 P_{90} = 27.8 P_{99} = 37.9

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

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	36	27	31	35	33	35	34	34	26	28	24	27	22	15	21	20	19	20	13	11	15	17	12	13	23.7	35.8
2-Jan	21	23	21	17	21	24	25	19	24	23	19	24	27	15	14	10	17	19	11	11	15	19	14	10	18.4	26.8
3-Jan	15	11	10	11	13	17	13	16	18	13	10	13	13	9	8	9	10	10	12	12	12	11	11	13	12.1	17.6
4-Jan	16	16	13	14	14	14	12	11	11	8	12	12	11	10	15	16	16	16	12	12	13	17	11	16	13.3	17.0
5-Jan	15	18	13	13	14	13	16	17	10	10	10	9	10	11	12	12	9	9	9	13	11	14	14	12	12.2	17.9
6-Jan	14	12	9	13	15	17	17	15	19	22	22	20	20	18	24	27	20	21	23	19	21	20	20	18	18.6	26.5
7-Jan	22	20	14	14	22	22	24	24	26	25	22	19	27	23	20	17	13	12	15	13	18	23	25	25	20.2	27.4
8-Jan	20	15	15	7	9	9	12	17	14	17	20	24	23	24	24	23	22	20	17	18	9	13	15	14	16.7	24.4
9-Jan	12	12	13	14	19	15	15	19	24	28	25	24	27	28	28	29	26	25	26	25	20	22	26	24	21.9	29.1
10-Jan	22	22	20	19	17	16	12	13	7	8	6	6	6	7	11	12	10	11	13	17	19	20	20	18	13.8	22.2
11-Jan	21	22	21	14	15	10	6	7	8	9	11	12	10	6	8	7	8	11	8	8	8	11	10	8	10.8	22.3
12-Jan	16	13	12	13	13	13	13	8	11	18	15	18	22	19	18	19	20	18	15	9	6	6	9	8	13.7	21.8
13-Jan	7	6	8	8	7	7	7	7	6	6	6	6	5	8	10	11	10	13	11	10	10	14	13	15	8.7	15.1
14-Jan	16	19	19	21	15	13	13	18	17	20	17	14	20	23	19	18	18	10	21	17	14	13	14	16	16.8	22.8
15-Jan	20	27	30	24	25	19	24	28	35	28	26	21	24	19	16	18	14	17	24	21	27	21	28	24	23.3	34.7
16-Jan	24	28	31	33	35	30	28	27	26	25	23	21	21	22	18	16	15	14	9	9	8	10	18	22	21.4	34.6
17-Jan	26	32	33	36	33	34	37	36	31	28	23	18	16	41	34	39	34	32	32	28	22	28	26	25	30.2	40.9
18-Jan	34	29	28	32	38	38	35	39	43	38	35	31	31	30	26	20	18	16	15	15	13	18	21	18	27.4	43.0
19-Jan	15	14	16	14	14	16	16	20	20	19	20	26	30	38	34	30	31	29	28	25	21	20	13	11	21.7	38.3
20-Jan	12	10	9	11	10	10	11	10	11	9	9	12	11	11	19	23	18	20	20	22	22	24	23	20	14.8	23.6
21-Jan	19	19	16	16	16	13	13	12	13	14	17	16	17	14	12	9	8	10	12	13	14	17	16	13	14.2	19.2
22-Jan	14	14	14	17	15	14	15	16	17	16	17	16	17	19	19	17	16	13	13	10	10	7	10	14	14.6	19.3
23-Jan	18	16	17	24	29	30	34	31	36	37	35	36	37	36	36	34	30	29	28	28	27	25	21	18	28.8	37.2
24-Jan	16	15	13	10	11	17	15	10	9	11	14	17	17	17	16	16	16	17	14	12	14	17	16	16	14.5	17.3
25-Jan	19	19	20	19	22	20	19	20	18	17	15	16	17	21	20	21	19	20	18	16	15	14	20	22	18.6	21.6
26-Jan	24	19	18	19	17	17	17	18	18	16	14	19	21	23	20	18	21	22	23	21	25	23	22	23	19.9	24.5
27-Jan	19	24	24	23	23	24	25	25	23	17	14	12	15	21	22	25	25	25	27	25	25	22	22	28	22.2	27.8
28-Jan	27	28	27	29	30	28	25	24	25	26	23	26	25	21	21	21	21	15	17	18	19	23	21	23	23.5	29.7
29-Jan	24	22	15	9	9	8	5	9	13	12	11	13	17	17	17	22	24	24	23	20	19	16	14	15	15.7	24.3
30-Jan	15	14	17	19	20	19	18	15	12	11	9	6	5	7	8	10	13	14	15	16	19	19	19	18	14.2	19.7
31-Jan	17	18	16	13	14	14	11	12	11	12	8	11	10	8	9	6	8	10	12	10	13	10	8	9	11.3	18.3
	19.1	18.8	18.2	18.1	18.9	18.5	18.4	18.5	18.8	18.5	17.3	17.6	18.5	18.7	18.7	18.5	17.7	17.5	17.3	16.2	16.3	17.1	17.1	17.1	Diurnal Average	
	35.8	32.2	33.4	35.6	37.5	38.0	36.7	38.8	43.0	38.0	35.3	36.4	36.5	40.9	36.3	39.5	34.2	31.7	32.1	27.7	27.2	28.0	27.6	27.8	Diurnal Maximum	

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

Hourly Standard Deviations

Wind Direction (WD) - deg

Guide-Falher - January 2013

Maximum Value: 72.7 deg on Jan 11 20:00

Minimum Value: 1.4 deg on Jan 18 07:00

Percentiles: P_1 = 1.6 P_{10} = 2.9 Q_1 = 4.2 Median = 6.6 Q_3 = 12.1 P_{90} = 22.3 P_{99} = 54.1

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

Day	Hourly Period Ending At (MST)																								Daily
	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-Jan	4	8	12	2	2	2	4	3	3	4	6	4	6	6	4	5	3	6	12	12	12	21	10	49	49.3
2-Jan	9	11	12	10	6	5	8	9	5	3	7	5	5	11	62	51	3	6	54	53	12	5	14	38	62.1
3-Jan	10	39	32	19	25	14	9	5	10	39	19	43	24	44	51	13	13	25	6	10	13	10	14	6	51.3
4-Jan	7	5	7	15	12	9	9	35	25	46	9	8	54	39	12	5	6	14	12	11	20	8	7	5	54.2
5-Jan	11	20	33	25	9	17	10	16	10	16	14	13	7	18	10	7	7	8	15	9	22	31	20	22	33.0
6-Jan	30	36	24	62	12	9	6	6	8	3	4	4	6	4	7	4	9	3	5	7	8	4	6	22	61.6
7-Jan	5	14	22	21	6	6	4	2	5	4	2	5	4	6	5	6	9	14	4	9	13	2	14	3	22.3
8-Jan	5	13	3	40	19	14	9	4	14	8	11	4	5	5	4	2	3	3	7	7	47	16	5	7	46.6
9-Jan	6	9	15	13	7	12	21	6	3	6	4	7	6	3	3	3	4	5	3	4	5	4	3	3	21.5
10-Jan	6	4	6	7	6	8	8	6	66	35	32	30	38	31	12	5	16	6	4	3	2	2	2	2	65.6
11-Jan	3	3	2	7	7	8	36	17	12	10	17	10	10	60	20	30	11	10	41	73	20	7	11	25	72.7
12-Jan	6	14	20	8	3	5	8	30	14	15	12	6	4	3	10	4	12	6	2	15	53	23	30	27	52.9
13-Jan	27	19	10	14	10	5	6	8	6	9	12	14	22	10	11	17	8	5	14	8	16	16	14	7	27.3
14-Jan	4	6	7	8	7	10	23	6	7	8	4	22	6	5	8	4	8	19	6	8	5	4	8	5	22.8
15-Jan	6	5	3	4	3	11	4	6	4	4	4	13	6	6	7	3	7	8	3	3	2	10	7	7	13.0
16-Jan	3	4	4	4	2	2	4	3	2	6	32	7	6	6	10	15	12	10	23	24	15	14	5	3	32.0
17-Jan	3	2	3	2	2	3	2	2	2	2	6	19	25	8	4	3	2	2	2	3	3	5	2	2	24.7
18-Jan	3	6	2	2	2	2	1	2	23	5	8	6	5	6	4	6	8	5	8	20	11	5	5	10	23.2
19-Jan	6	15	20	8	12	12	8	6	5	5	14	4	7	2	3	4	3	3	5	7	7	8	51	23	50.8
20-Jan	8	14	21	9	6	6	8	9	10	10	8	8	9	9	4	4	4	5	4	6	5	3	5	5	20.6
21-Jan	4	4	8	4	9	10	6	7	7	9	4	5	4	11	12	27	30	10	6	5	6	4	6	7	30.0
22-Jan	5	14	7	4	5	4	9	5	5	7	4	5	4	4	3	4	5	5	5	10	15	51	7	12	51.3
23-Jan	3	12	10	9	2	4	3	5	4	3	4	2	5	2	3	2	3	3	3	2	2	2	2	3	11.8
24-Jan	5	3	14	14	23	4	8	15	14	4	4	9	6	6	7	6	8	12	31	14	6	6	7	4	31.1
25-Jan	9	5	3	4	3	5	5	5	6	10	15	13	12	4	3	3	2	2	5	18	6	4	15	9	17.9
26-Jan	12	14	2	20	9	6	7	7	12	7	9	13	2	2	3	4	5	3	8	4	2	2	2	4	19.9
27-Jan	4	7	3	3	3	3	3	3	5	26	9	20	13	4	12	5	5	5	3	5	5	5	3	4	26.0
28-Jan	3	4	6	4	3	4	6	6	4	4	7	5	4	6	4	5	3	7	3	8	16	3	4	5	15.5
29-Jan	3	3	7	13	23	15	20	43	5	7	26	9	9	6	15	6	4	7	5	4	9	8	13	5	42.8
30-Jan	7	12	7	4	5	6	6	7	9	11	18	34	40	19	16	19	9	7	7	6	7	7	7	6	39.5
31-Jan	6	5	8	16	10	5	21	16	20	13	10	15	11	28	13	41	25	18	6	37	12	10	18	30	40.8
	29.8	39.4	33.0	61.6	25.3	16.9	35.7	42.8	65.6	45.7	32.3	42.6	54.2	60.2	62.1	50.5	30.0	24.8	54.3	72.7	52.9	51.3	50.8	49.3	

PAZA

ALBERTA ENVIRONMENT AND SUSTAINABLE RESOURCES INCIDENCE REPORT

January 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:	**266707**	**Reported To (AENV Contact):**	Wendy
Date & Time Incident Reported to AENV:	January 24th, 2013	**Reported By:**	Focus-Patrick Andersen
Reported on Behalf of:	PAZA	**Approval Number (if applicable):**	Not applicable
Location(s) of Incident:	Henry Pirker Air Quality Station		
Start Date & Time of Incident:	December 1, 2012 00:00 MST	**End Date & Time of Incident:**	February 1, 2013 01:00 MST

Reason or Nature of Incident:

The THC analyzer failed on December 11th. Replacement is ongoing.

Immediate Actions Taken:

Analyzer replacement is underway.

Investigation Details:

Not applicable

Actions Taken to Prevent Reoccurrence (if any):

Not applicable

Additional Actions Required (if any):

Not applicable

Report Completed By:	Patrick	Date Report Submitted:	January 24th, 2013
7-Day Letter Due Date:	January 31st, 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:	**266178**	**Reported To (AENV Contact):**	Karla / Lisa (updated)
Date & Time Incident Reported to AENV:	January 4, 2013 12:15	**Reported By:**	Focus-Gagandeep Singh
Reported on Behalf of:	PAZA	**Approval Number (if applicable):**	Not applicable
Location(s) of Incident:	Smoky Heights Air Quality Station		
Start Date & Time of Incident:	January 3, 2013 23:00 MST	**End Date & Time of Incident:**	January 3, 2013 24:00 MST

Reason or Nature of Incident:

The $PM_{2.5}$ analyzer exceeded the Alberta Air Quality Ambient Guideline limit for a 1-hour average of $PM_{2.5}$ which is 80 µg/m^3.

23:00–24:00 MST $PM_{2.5}$= 84.9 µg/m^3 WS = 6.4 km/h WD = 12.9 deg

Immediate Actions Taken:

Confirmed validity of data and reported to AESRD Environmental Service Response Centre.

Investigation Details:

Operation of the $PM_{2.5}$ analyzer appeared to be normal during the time of this report. Suspect smoke from wood boiler heating system due to wind direction at the time of the incident.

Actions Taken to Prevent Reoccurrence (if any):

Not applicable

Additional Actions Required (if any):

Not applicable

Report Completed By:	Gagandeep Singh	Date Report Submitted:	January 4, 2013
7-Day Letter Due Date:	January 11, 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:	**266340**	**Reported To (AENV Contact):**	Lisa
Date & Time Incident Reported to AENV:	January 10, 2013	**Reported By:**	Focus-Lenin Flores
Reported on Behalf of:	PAZA	**Approval Number (if applicable):**	Not applicable
Location(s) of Incident:	Smoky Heights Air Quality Station		
Start Date & Time of Incident:	January 10, 2013 @18:00	**End Date & Time of Incident:**	January 10, 2013 @ 19:00

Reason or Nature of Incident:

1-hr Ave exceedence for:
January 10 @ 19:00 PM2.5=83.8 µg/m3 WS=5.6 km/hr WD=22.1 Degrees

Immediate Actions Taken:

Confirmed validity of data and reported to AESRD Environmental Service Response Centre.

Investigation Details:

Operation of the PM2.5 analyzer appeared to be normal during the time of this report.

Actions Taken to Prevent Reoccurrence (if any):

Not applicable

Additional Actions Required (if any):

Not applicable

Report Completed By:	Lenin Flores	Date Report Submitted:	January17, 2013
7-Day Letter Due Date:	January 17, 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:	**266389**	**Reported To (AENV Contact):**	Karla
Date & Time Incident Reported to AENV:	January 12, 2013	**Reported By:**	Focus-Lenin Flores
Reported on Behalf of:	PAZA	**Approval Number (if applicable):**	Not applicable
Location(s) of Incident:	Valleyview Air Quality Station		
Start Date & Time of Incident:	January 12, 2013 @12:00	**End Date & Time of Incident:**	January 12, 2013 @ 19:00

Reason or Nature of Incident:

The H_2S analyzer exceeded the Alberta Air Quality Ambient Guideline limit for a 1-hour average of H_2S which is 10 ppb and for a 24-Hr Average which is 3.0ppb.

12:00–13:00 MST H_2S =14.3ppb WS =2.4km/hr WD = 123.9Degrees
13:00-14:00 MST H_2S =18.4ppb WS =0.6km/hr WD = 95.3Degrees
14:00-15:00 MST H_2S =17.4ppb WS =2.3km/hr WD = 336Degrees
15:00-16:00 MST H_2S =16.6ppb WS =1.8km/hr WD = 123.6Degrees
16:00-17:00 MST H_2S =14.7ppb WS =0.9km/hr WD = 296.7Degrees
17:00-18:00 MST H_2S =14.2ppb WS =0.6km/hr WD = 183.5Degrees
18:00-19:00 MST H_2S =12.1ppb WS =1.0km/hr WD = 207.1Degrees
24-Hr Violation - H_2S =7.3ppb WS =2.1km/hr WD = 181.5Degrees

Immediate Actions Taken:

Confirmed validity of data and reported to AESRD Environmental Service Response Centre.

Investigation Details:

Operation of the H_2S analyzer appeared to be normal during the time of this report.
The correlation with an ongoing incident near Grande Cache during this time makes the elevated readings plausible however, the very low wind speeds, the distance between the station and the incident release site and the low readings measured at the release site seem to point to a local source of H2S. An investigation of the immediate area by local operators and the ERCB confirms that the presence of H2S does not appear to be in relation to an incident in this immediate area. Therefore no definitive cause has been determined.

Actions Taken to Prevent Reoccurrence (if any):

Not applicable

Additional Actions Required (if any):

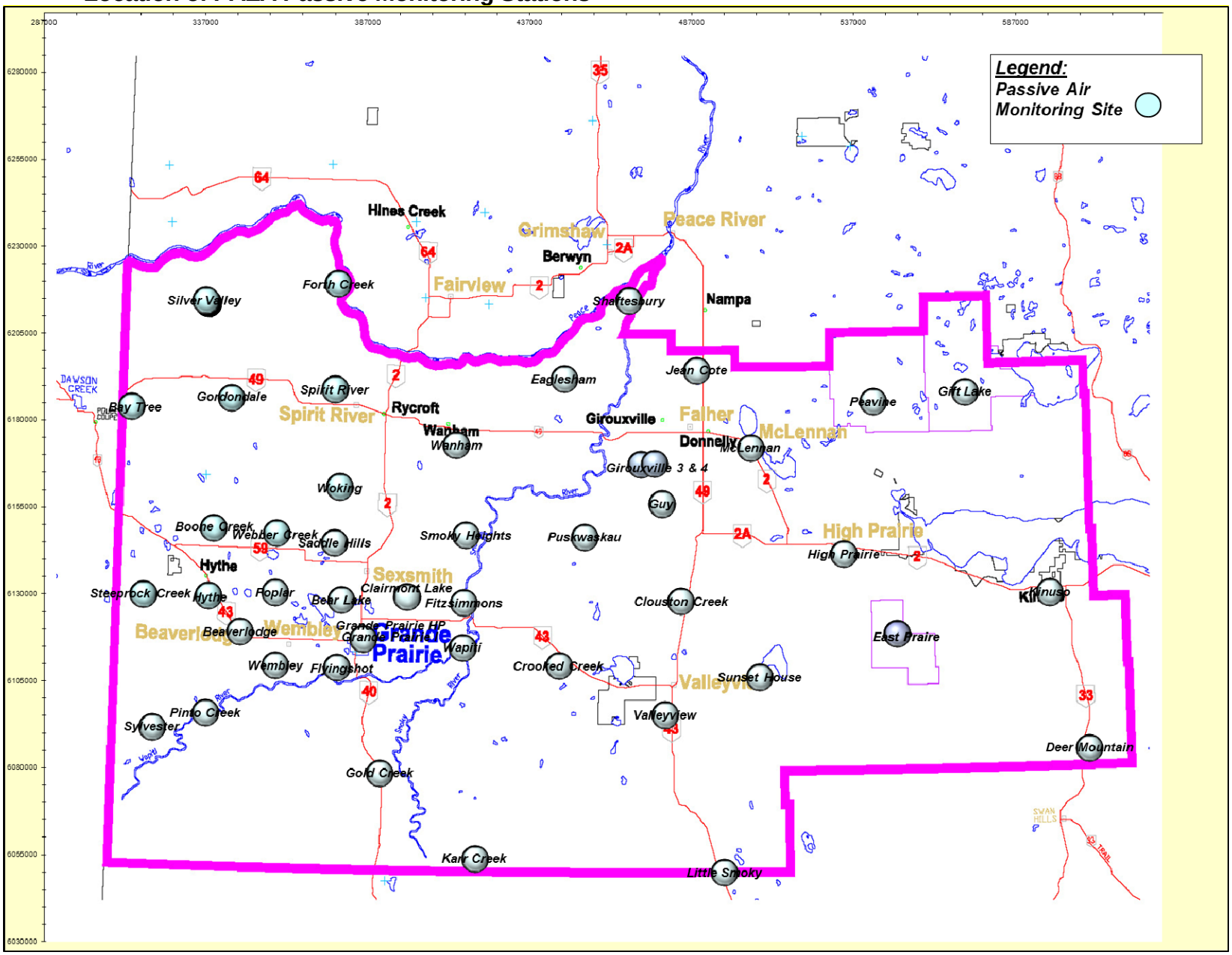
Not applicable

Report Completed By:	Lenin Flores	Date Report Submitted:	January 18, 2013
7-Day Letter Due Date:	January 19, 2013		

PAZA

Monthly Passive Data Summary

Location of PAZA Passive Monitoring Stations



PAZA Passive Results for January 2013

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	Site Legal
Duplicates						
27a	Grande Prairie I	**0.5**	**29.3**	**14.3**		
27b	Grande Prairie I	**0.3**	**26.0**	**11.8**		
28a	Clairmont Lake	**0.7**	**43.5**	**2.1**		
28b	Clairmont Lake	**0.7**	**41.4**	**Missing**		
30a	Fitzsimmons	**0.4**	**29.1**	**2.9**		
30b	Fitzsimmons	**0.3**	**33.5**	**3.1**		
35a	Jean Cote*	**No Access**	**No Access**	**No Access**		
35b	Jean Cote*	**No Access**	**No Access**	**No Access**		
64a	Girouxville 4*				**No Access**	
64b	Girouxville 4*				**No Access**	
1	Silver Valley	**0.6**	**39.3**	**1.6**		08-27-081-11 W6M
2	Bay Tree	**0.4**	**36.3**	**0.6**		13-16-078-13 W6M
3	Fourth Creek	**0.4**	**43.8**	**0.8**		04-13-082-07 W6M
4	Gordondale	**0.4**	**37.8**	**1.7**		04-34-078-10 W6M
5	Boone Creek	**0.4**	**35.9**	**1.5**		16-36-074-11 W6M
7	Steeprock Creek	**0.3**	**39.9**	**0.5**		09-35-072-13 W6M
9	Spirit River	**0.4**	**38.9**	**0.9**		08-12-079-07 W6M
10	Woking	**0.6**	**41.3**	**0.8**		01-13-076-07 W6M
11	Webber Creek	**0.6**	**37.1**	**3.1**		09-36-074-09 W6M
12	Hythe	**0.5**	**37.0**	**1.7**		14-36-072-11 W6M
14	Sylvester	**0.2**	**33.5**	**0.5**		08-06-069-12 W6M
16	Beaverlodge	**0.6**	**39.5**	**2.0**		15-36-071-10 W6M
17	Poplar	**0.7**	**32.1**	**2.6**		13-06-073-08 W6M
18	Saddle Hills	**0.8**	**41.2**	**0.8**		04-25-074-07 W6M
19	Wanham	**0.5**	**41.0**	**0.8**		16-22-077-03 W6M
20	Shaftesbury*	**-**	**-**	**-**		04-03-082-23 W5M
21	Eaglesham	**0.5**	**35.5**	**3.2**		16-21-079-25 W5M
23	Bear Lake	**0.8**	**38.6**	**3.0**		15-31-072-06 W6M

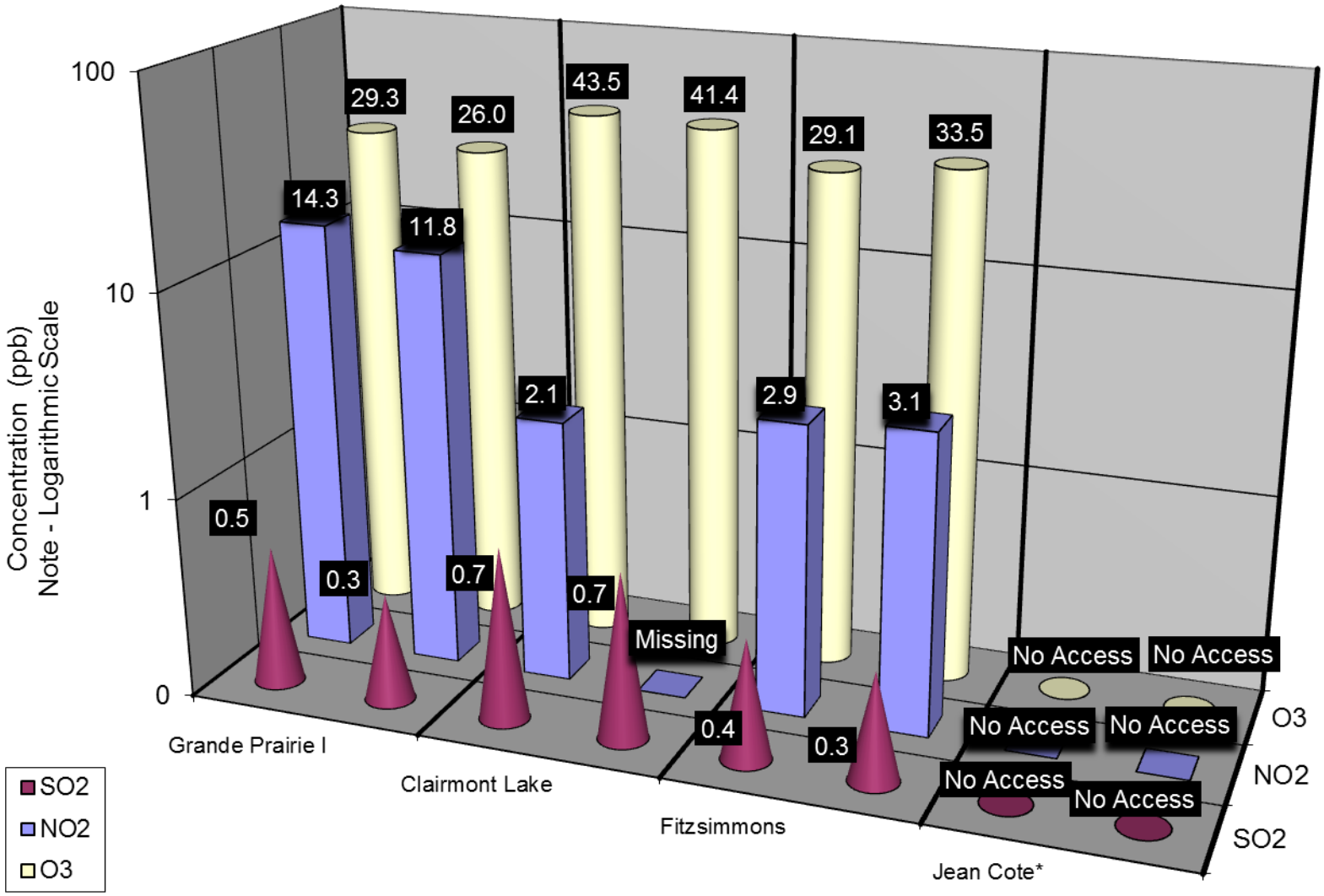
PAZA Passive Results for January 2013 (Continued)

24	Wembley	**0.3**	**35.7**	**2.2**		12-31-070-08 W6M
25	Pinto Creek	**0.3**	**38.2**	**0.8**		04-24-069-11 W6M
26	Flyingshot	**0.3**	**29.6**	**3.3**		15-36-070-07 W6M
27	Grande Prairie I	**0.4**	**27.6**	**13.0**		08-15-071-06 W6M
28	Clairmont Lake	**0.7**	**42.5**	**2.1**		09-06-073-04 W6M
29	Smoky Heights	**0.8**	**36.5**	**2.8**		04-06-075-02 W6M
30	Fitzsimmons	**0.4**	**31.3**	**3.0**		15-36-072-03 W6M
32	Gold Creek	**0.2**	**23.9**	**6.0**		06-33-067-05 W6M
33	Wapiti	**0.3**	**33.2**	**2.2**		02-25-071-03 W6M
34	Puskwaskau	**0.2**	**33.0**	**0.5**		15-35-074-25 W5M
35	Jean Cote*	**-**	**-**	**-**		12-35-079-21 W5M
36	Guy	**0.3**	**40.2**	**0.7**		03-04-076-22 W5M
37	Crooked Creek	**0.6**	**33.7**	**2.5**		16-01-071-26 W5M
38	Karr Creek	**1.0**	**26.2**	**1.2**		10-16-065-02 W6M
39	Clouston Creek	**0.4**	**38.8**	**1.1**		12-01-073-22 W5M
40	McLennan*	**-**	**-**	**-**		03-29-077-19 W5M
41	Valleyview	**0.5**	**34.9**	**1.3**		09-30-069-22 W5M
42	Sunset House	**0.4**	**41.8**	**0.5**		05-32-070-19 W5M
43	High Prairie	**0.2**	**35.2**	**1.7**		16-13-074-17 W5M
44	Peavine	**0.2**	**32.9**	**0.7**		03-05-079-15 W5M
45	Gift Lake	**0.2**	**33.3**	**1.1**	**0.1**	10-07-079-12 W5M
46	Little Smoky	**0.4**	**26.9**	**5.0**		12-01-065-21 W5M
47	Kinuso	**0.1**	**30.8**	**1.2**		12-10-073-10 W5M
48	Deer Mountain	**0.2**	**31.7**	**0.9**		15-22-068-09 W5M
49	Grande Prairie HP	**0.4**	**23.9**	**16.8**		17-26-071-06 W6M
62	East Prairie	**0.2**	**32.8**	**0.8**		13-02-072-15 W5M
63	Girouxville 3*				**-**	14-02-077-23 W5M
64	Girouxville 4*				**-**	4-08-077-22 W5M

*BDL = Below Detection Level

*N/S - No sample

*Shaftesbury, Jean Cote, McLennan, Girouxville 3 and Girouxville 4 not collected in January due to road conditions



Duplicate Summary Chart

Passive Summary for January 2013

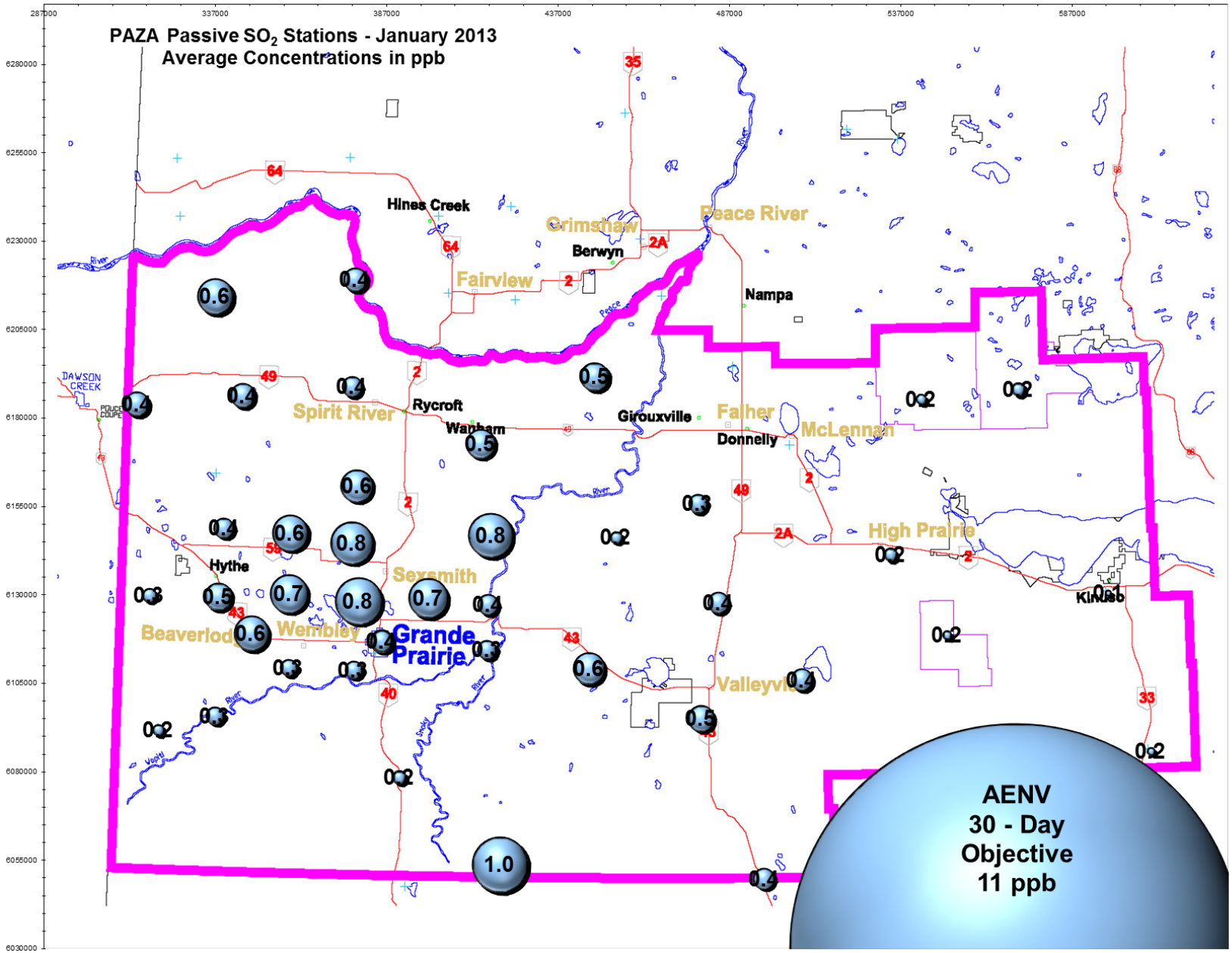
Stats	Sulphur Dioxide SO_2	Ozone O_3	Nitrogen Dioxide NO_2	Hydrogen Sulphide H_2S
	ppb	ppb	ppb	ppb
	Passive Summary for January 2013 (PAZA Zone)			
Mean	**0.4**	**35.2**	**2.4**	**0.1**
Standard Deviation	**0.2**	**5.0**	**3.1**	**-**
Minimum	**0.1**	**23.9**	**0.5**	**0.1**
Minimum At	**Kinuso (#47)**	**Grande Prairie HP**	**Puskwaskau (#34)**	**Gift Lake (#45)**
Maximum	**1.0**	**43.8**	**16.8**	**0.1**
Maximum At	**Karr Creek (#38)**	**Fourth Creek (#3)**	**Grande Prairie HP**	**Gift Lake (#45)**

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

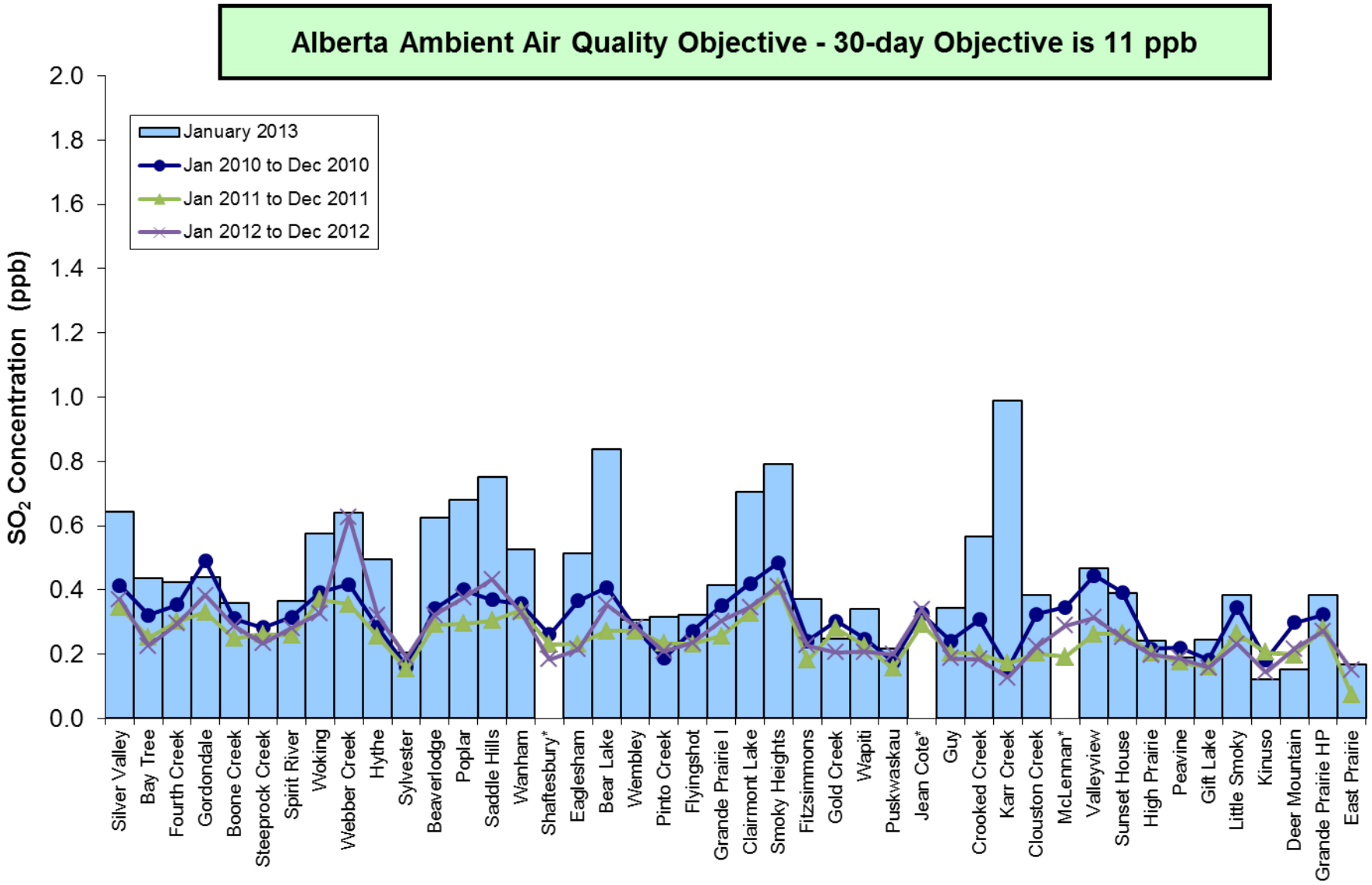
	SO_2	O_3	NO_2
PAZA Beaverlodge station	**0.8**	**31.5**	**5.4**
PAZA Beaverlodge passive	**0.6**	**39.5**	**2.0**

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

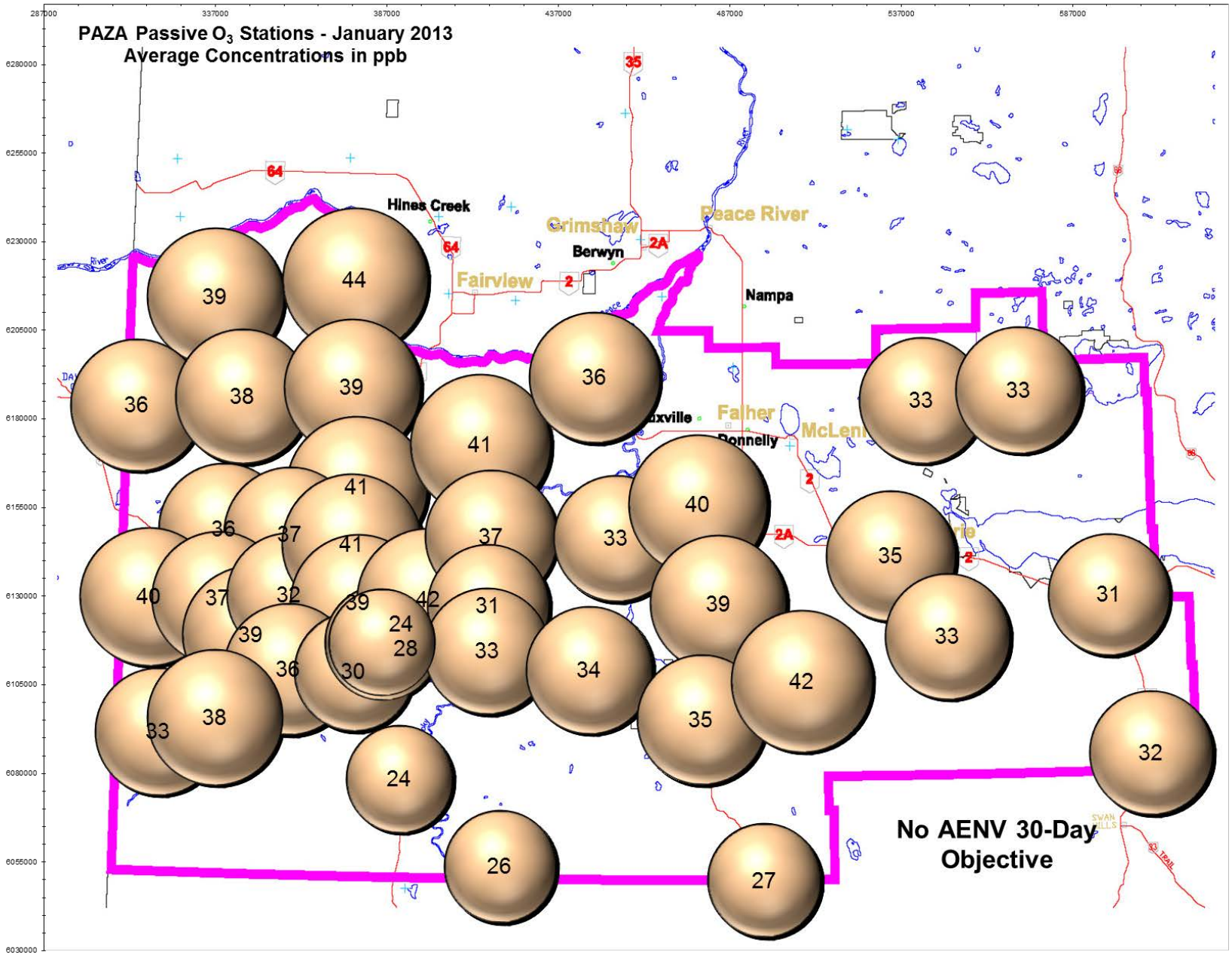
	SO_2	O_3	NO_2
PAZA Henry Pirker station	**0.5**	**17.9**	**20.9**
PAZA Grande Prairie passive	**0.4**	**23.9**	**16.8**



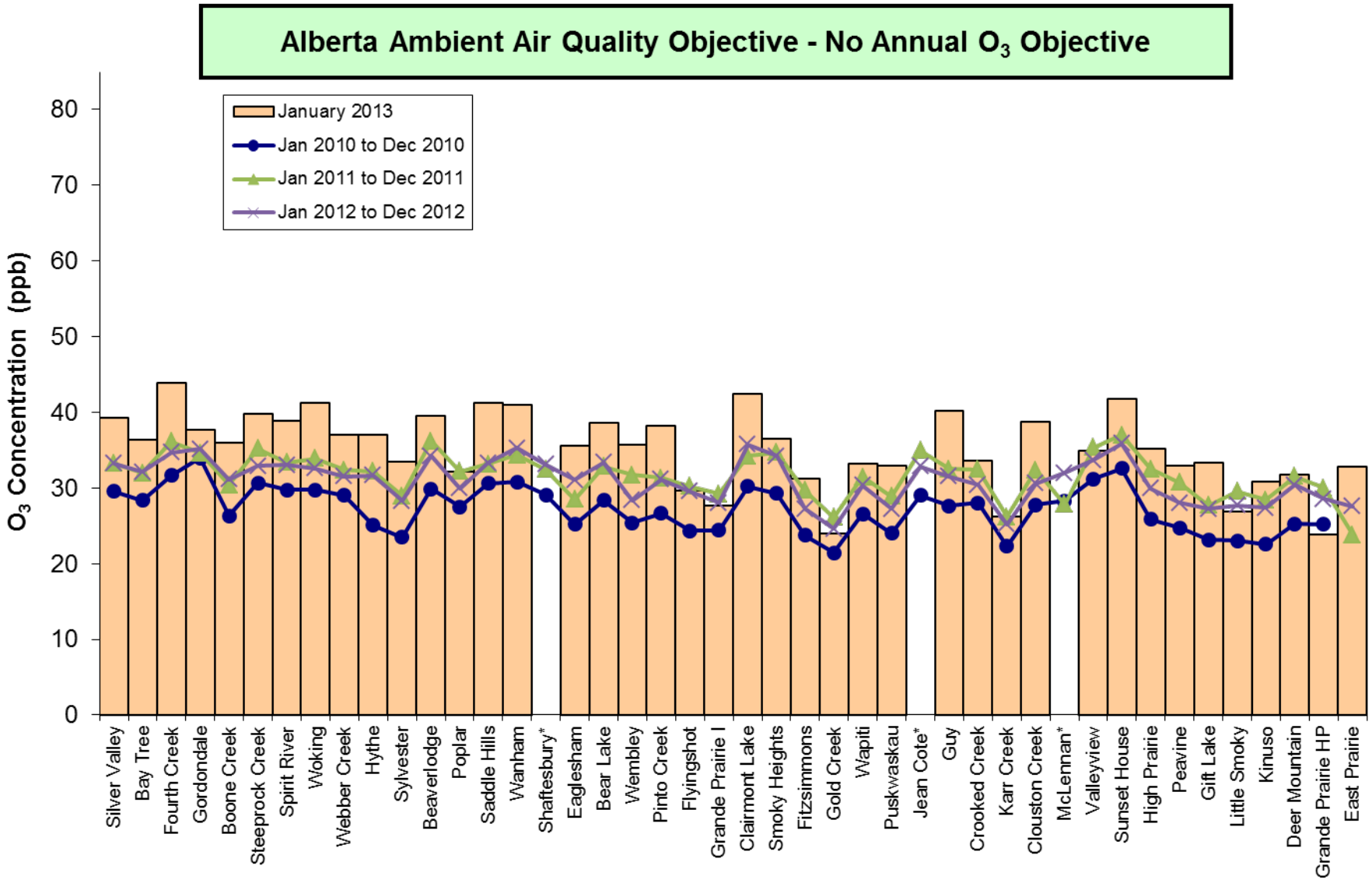
SO_2 Bubble Chart



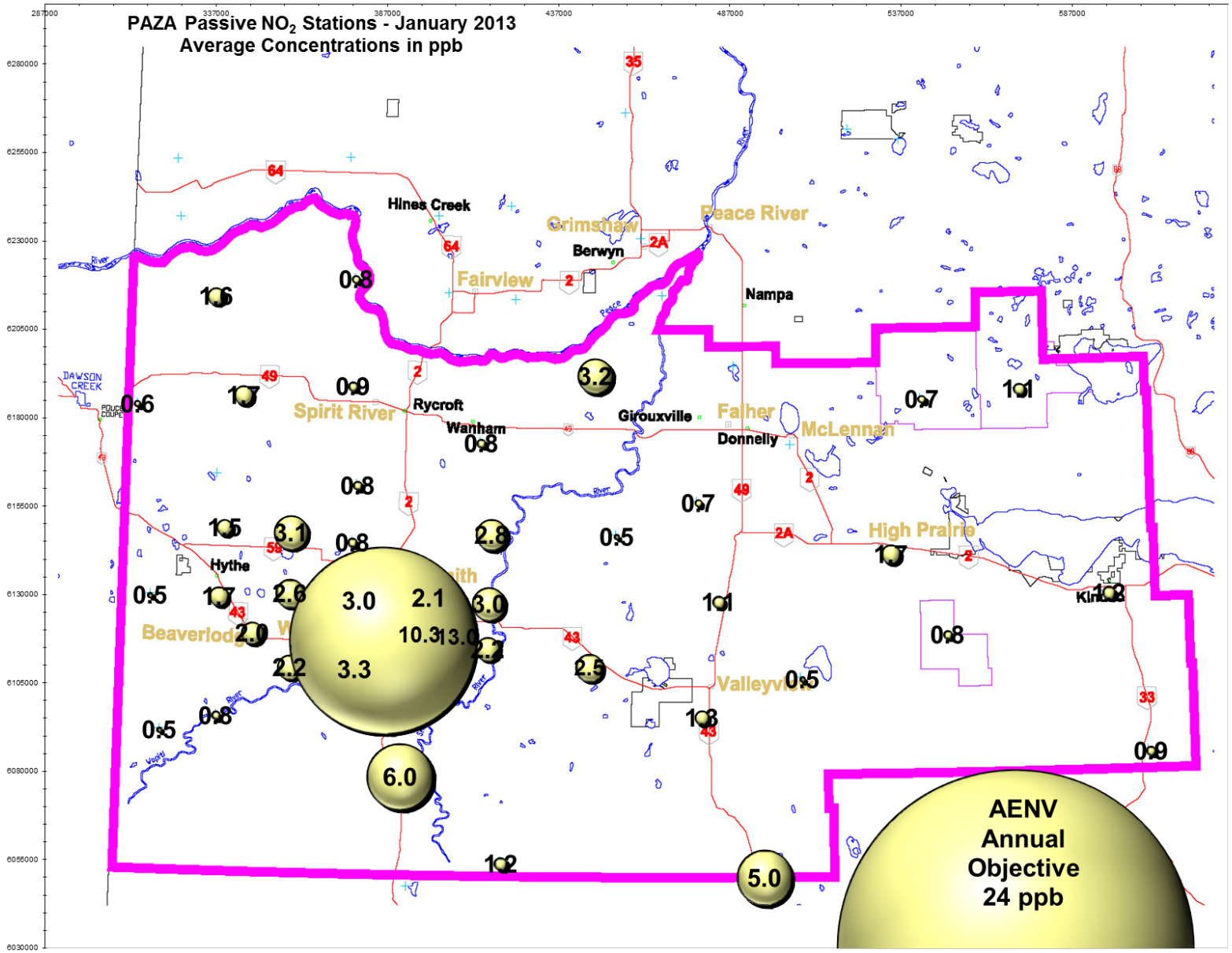
SO_2 Summary Chart



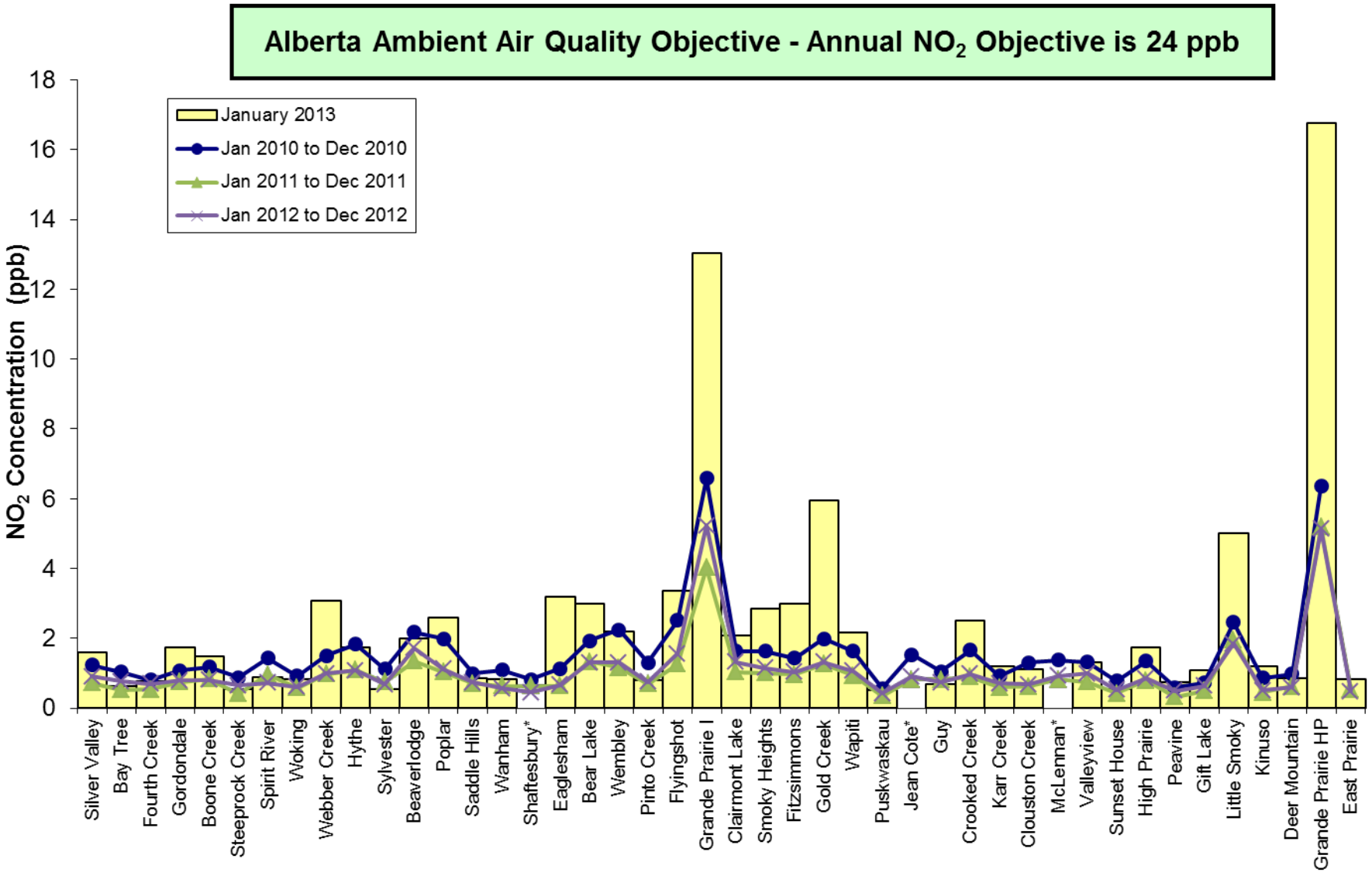
O_3 Bubble Chart



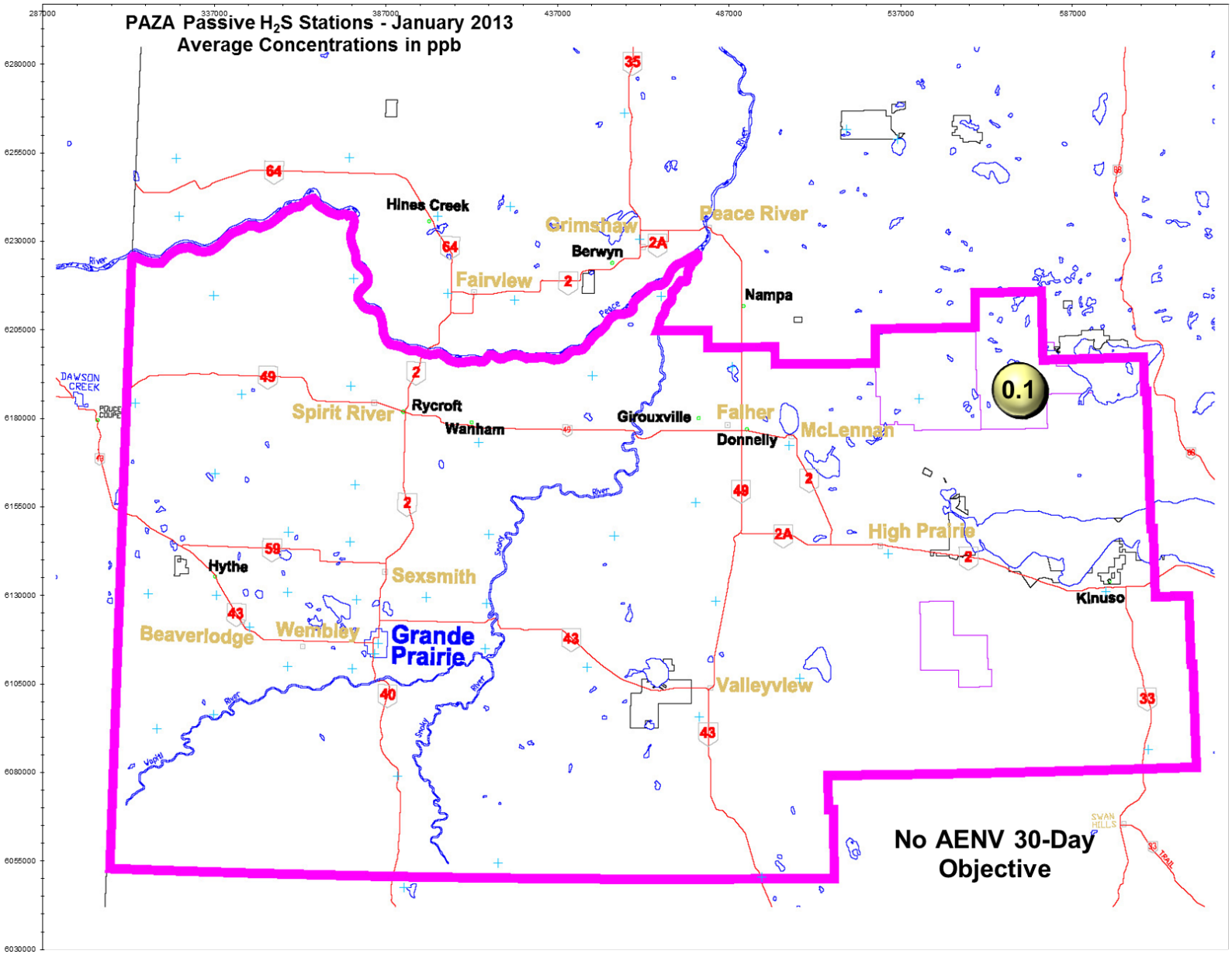
O_3 Summary Chart



NO_2 Bubble Chart



NO_2 Summary Chart



H_2S Bubble Chart

January 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

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	January 9, 2013	Previous Calibration	December 6, 2012
Station Number	1	Station Location	Henry Pirker
Reason:	Routine / Install / Removal / Other:		
Start Time (MST)	10:30	End Time (MST)	14:20
Barometric Pressure	na ATM	Station Temperature	20.5 Deg C
Calibrator	Environics 6100	Serial Number	3016
Cal Gas Conc	50.8 ppm	Cal Gas Cert Date	March 12, 2014
		Cal Gas Cylinder #	LL107272
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	10
	Before		After
Calculated slope	0.999085	Calculated slope	0.994870
Calculated intercept	2.282222	Calculated intercept	1.586867
Analyzer make	TEI 43C	Analyzer serial #	610816292

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	9.2		9.3	
Coefficient	0.801		0.808	
Pressure	639.6	mm Hg	636.0	mm Hg
Flow	0.494	lpm	0.492	lpm
Lamp Voltage	44110	Hz	44500	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)
4990	0.00	0.0	0.2	N/A
4990	39.92	403.2	404.6	0.9965
4990	19.98	202.6	200.9	1.0083
4990	9.98	101.4	98.7	1.0268
4990	0.00	0.0	0.2	As Found Zero
4990	39.94	403.4	393.6	As Found Span
			Average Correction Factor	1.0105

Calculated value of As Found Response: 395.3 ppb Percent Change of As Found: 2.0%

	before calibration		after calibration	
Auto zero	0.1	ppb	0.1	ppb
Auto span	247.2	ppb	252.6	ppb

Notes: Slight span adjustment made

Calibration Performed By: Stephanie Tandy

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

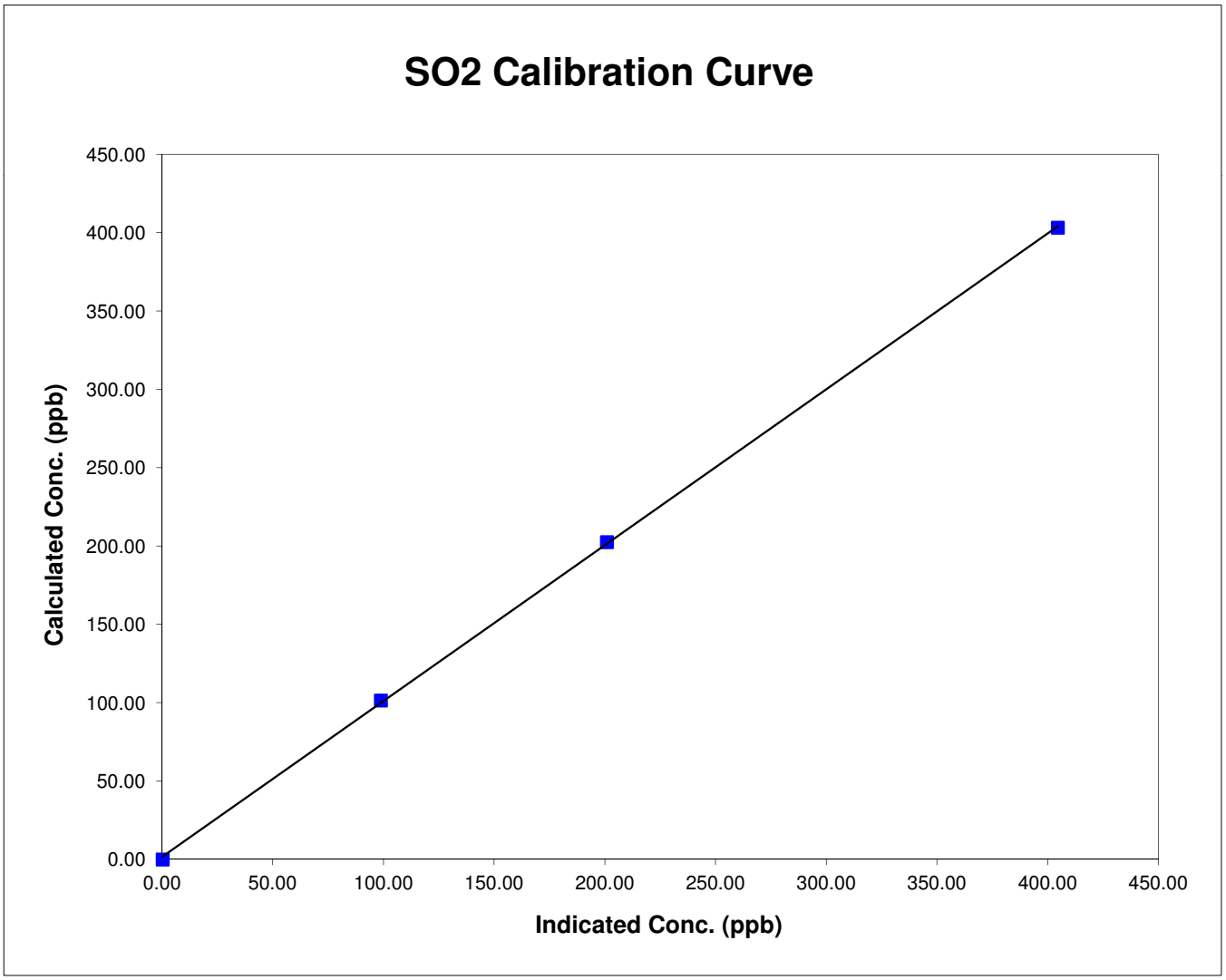
FOCUS AIR QUALITY MONITORING

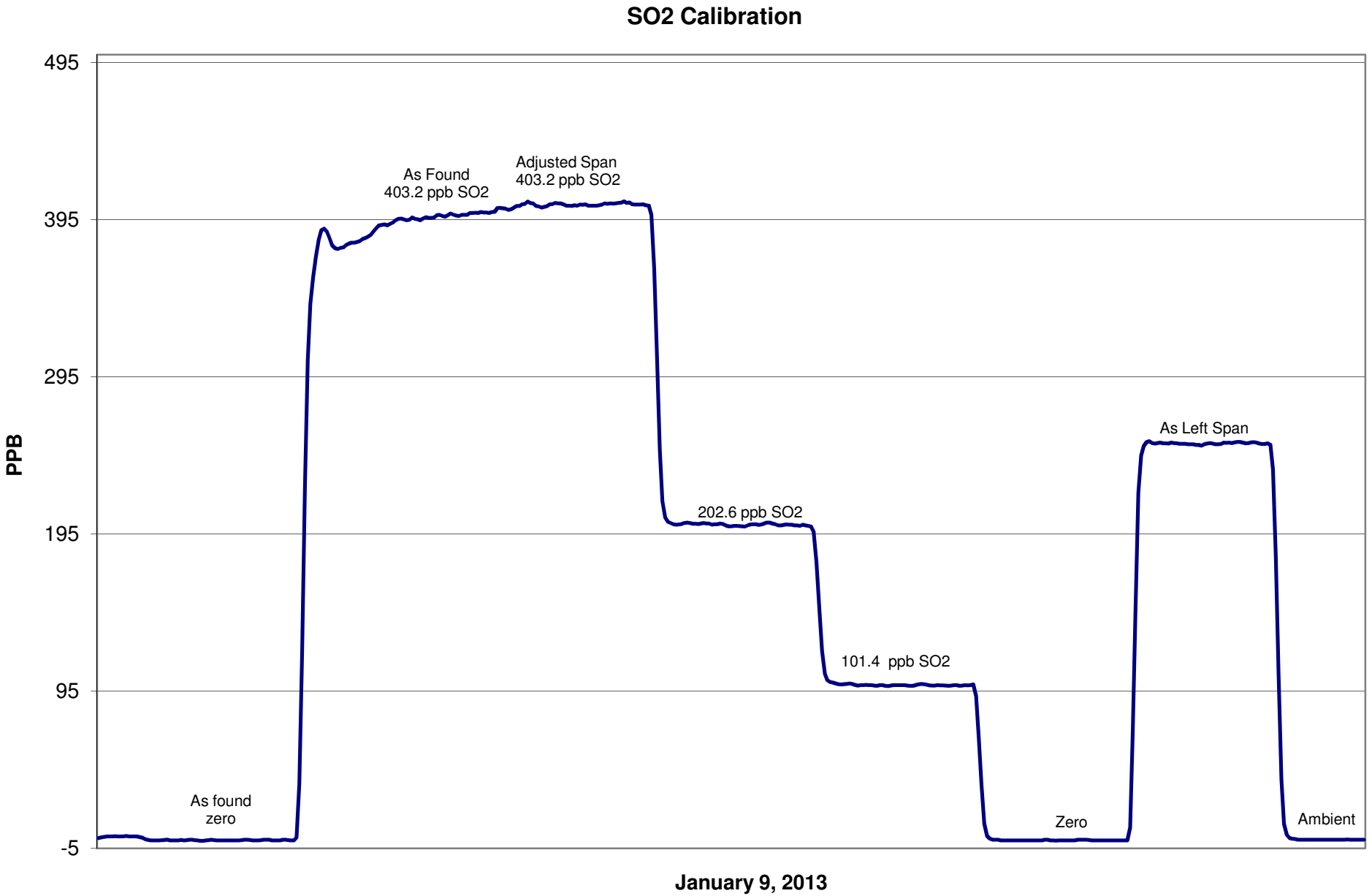
Station Information

Calibration Date	January 9, 2013	Previous Calibration	December 6, 2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:30	End Time (MST)	14:20
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	0.2	N/A		
403.2	404.6	0.9965	Correlation Coefficient	0.999914
202.6	200.9	1.0083		
101.4	98.7	1.0268	Slope	0.994870
			Intercept	1.586867




SO2 Calibration
495
395
295
195
95
-5
PPB
As found
zero
As Found
403.2 ppb SO2
Adjusted Span
403.2 ppb SO2
202.6 ppb SO2
101.4 ppb SO2
Zero
As Left Span
Ambient
January 9, 2013

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 9, 2013	Previous Calibration	December 6, 2012
Station Number	1	Station Location	Henry Pirker

Reason: Routine | Installation | Removal | Other:

Start Time (MST)	10:30		End Time (MST)	16:15	
Barometric Pressure	na	Atm	Station Temperature	20.5	Deg C
Calibrator	Environics 6100		Serial Number	3016	
NO Cal Gas Conc	51.2	ppm	Cal Gas Expiry Date	March 12, 2014	
NOx Cal Gas Conc	51.2	ppm	Cal Gas Serial #	LL107272	

DACS Information

DACS make: CR3000 DACS serial No.: 5408

Parameter		NO2	NOx	NO
Before	Data Slope	1.000566	0.999561	0.997182
	Data Offset	-0.203672	1.829232	1.811101
After	Data Slope	0.999922	0.995051	0.995031
	Data Offset	-0.612596	0.884984	1.363407
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	13.1	mV	12.5	mV
NOx bkgnd	13.5	mV	12.9	mV
NO coefficient	1.119		1.063	
NOx coefficient	0.997		1.001	
NO2 conv temp	318.0	Deg C	319.0	Deg C
PMT Temp	-2.5	Deg C	-2.4	Deg C
PMT Volt	-768.0	mV	-768.0	mV
R Cell Press	182.1	in Hg	169.1	in Hg

Calibration Report

Parameter **NOx-NO-NO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Calibration Date: January 9, 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	4990	0.00	0.0	0.0	0.0	0.5	0.0	0.5	N/A	N/A
1	4990	39.92	406.3	406.3	0.0	408.1	407.6	0.4	0.9958	0.9970
2	4990	19.98	204.2	204.2	0.0	203.9	203.4	0.4	1.0014	1.0036
3	4990	9.98	102.2	102.2	0.0	100.2	99.8	0.2	1.0200	1.0236
AFZ	4990	0.00	0.0	0.0	0.0	0.5	0.0	0.5	0.0000	0.0000
AFS	4990	39.94	406.6	406.6	0.0	415.7	414.1	1.4	0.9781	0.9818
							Average Correction Factor		1.0057	1.0081

As Found Concentrations: NO_X= 416.9 NO= 415.9 As Found Percent Change NO_X= 2.6% NO= 2.3%

Dilution Flow 4990 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	0.0	0.0	0.0	0.5	0.0	0.5	N/A	N/A	N/A	N/A
NO point	407.4	407.4	0.0	408.2	407.4	0.6	0.9982	1.0000	N/A	N/A
300	407.4	116.0	291.4	407.8	116.0	292.0	0.9991	1.0000	0.9981	100.2%
200	407.4	208.4	199.0	407.9	208.4	199.6	0.9988	1.0000	0.9969	100.3%
100	407.4	300.7	106.7	408.3	300.7	107.6	0.9980	1.0000	0.9924	100.8%
					Average Correction Factor		0.9986	1.0000	0.9958	100.4%

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.0	-0.3	0.0	ppb	0.1	0.0	0.0	ppb
Auto span	328.3	326.9	1.6	ppb	343.8	342.1	1.9	ppb

Calibration Performed By: Stephanie Tandy

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

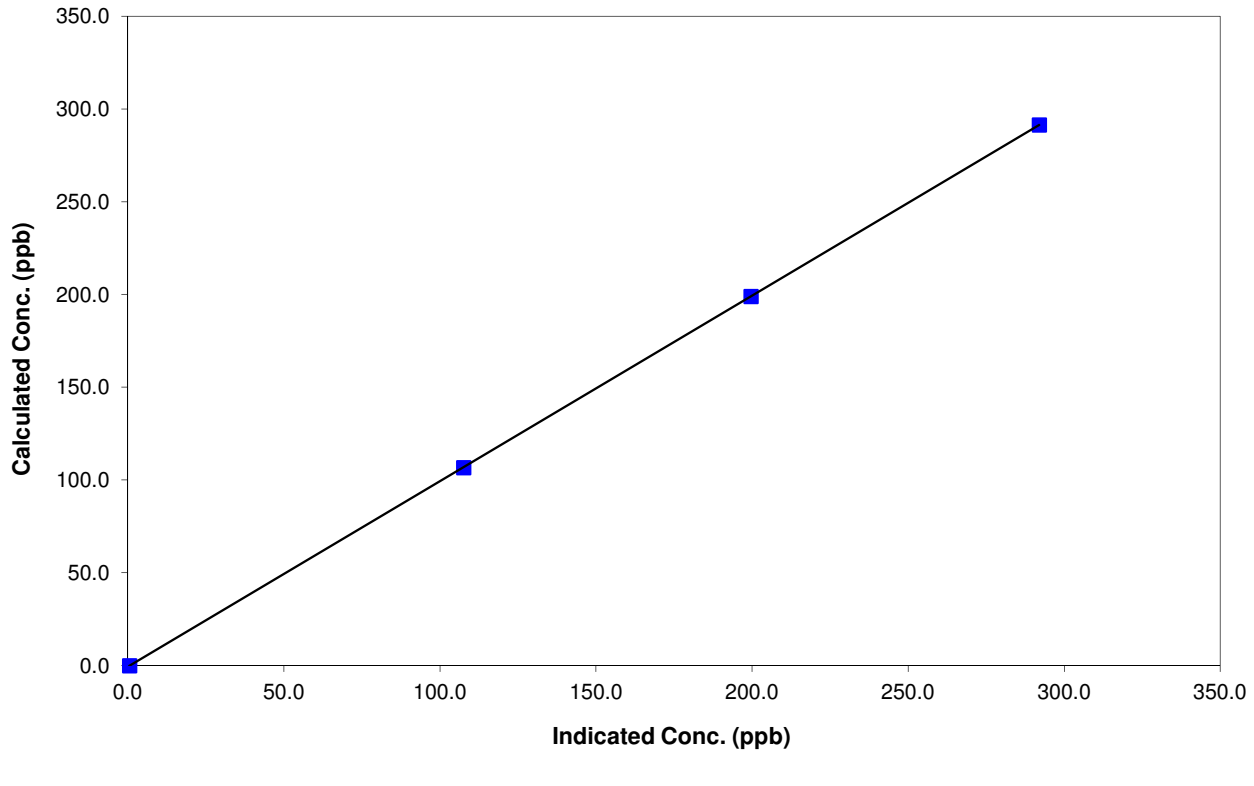
Station Information

Calibration Date	January 9, 2013	Previous Calibration	December 6, 2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:30	End Time (MST)	16:15
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	0.5	N/A		
291.4	292.0	0.9981	Correlation Coefficient	0.999999
199.0	199.6	0.9969		
106.7	107.6	0.9924	Slope	0.999922
			Intercept	-0.612596

NO_2 Calibration Curve



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

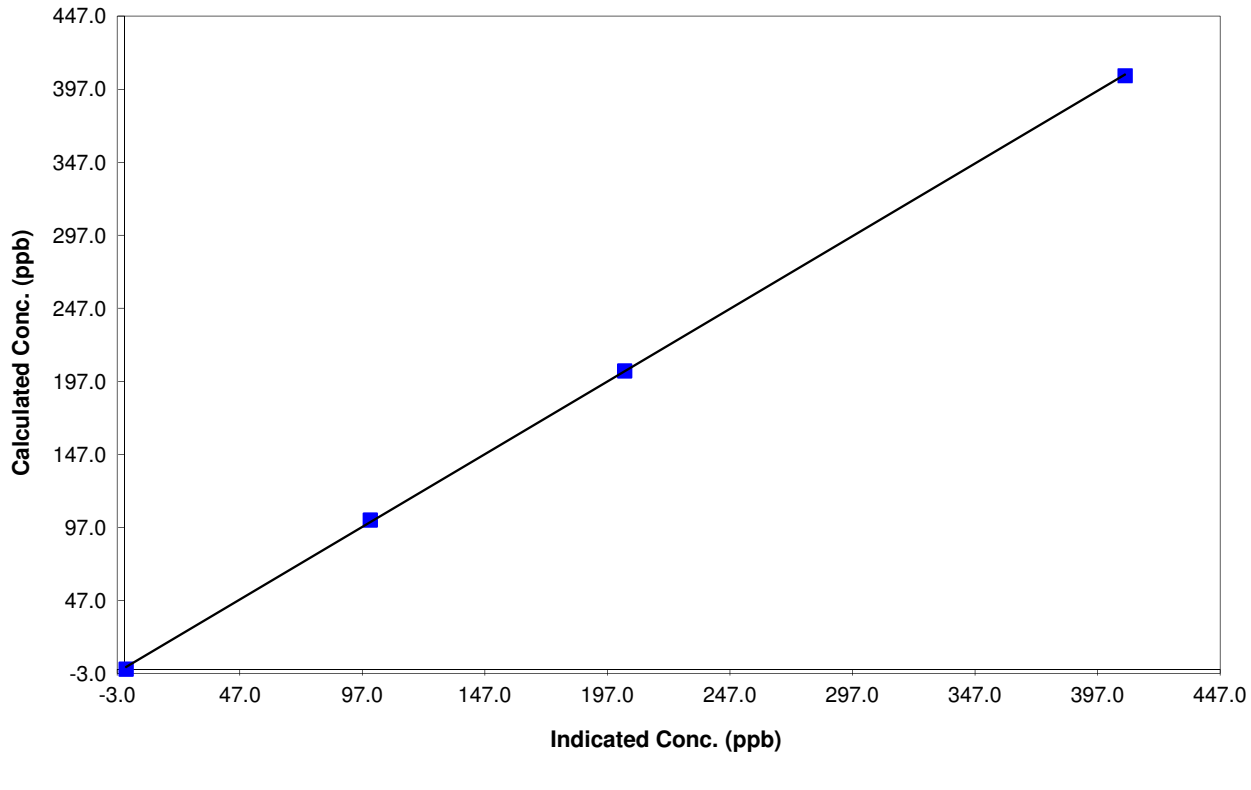
Station Information

Calibration Date	January 9, 2013	Previous Calibration	December 6, 2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:30	End Time (MST)	16:15
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	0.5	N/A		
406.3	408.1	0.9958	Correlation Coefficient	0.999943
204.2	203.9	1.0014		
102.2	100.2	1.0200	Slope	0.995051
			Intercept	0.884984

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

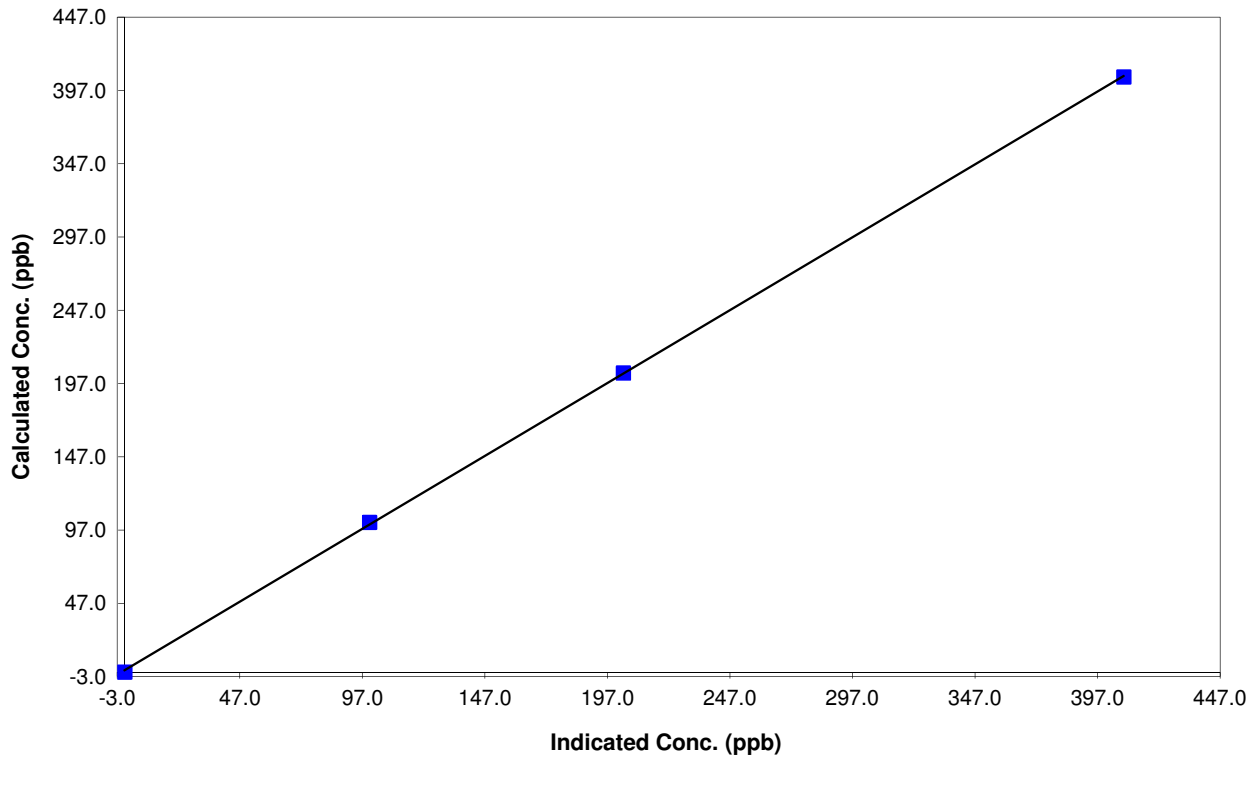
Station Information

Calibration Date	January 9, 2013	Previous Calibration	December 6, 2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	10:30	End Time (MST)	16:15
Analyzer make	TEI 42C	Analyzer serial #	508011073

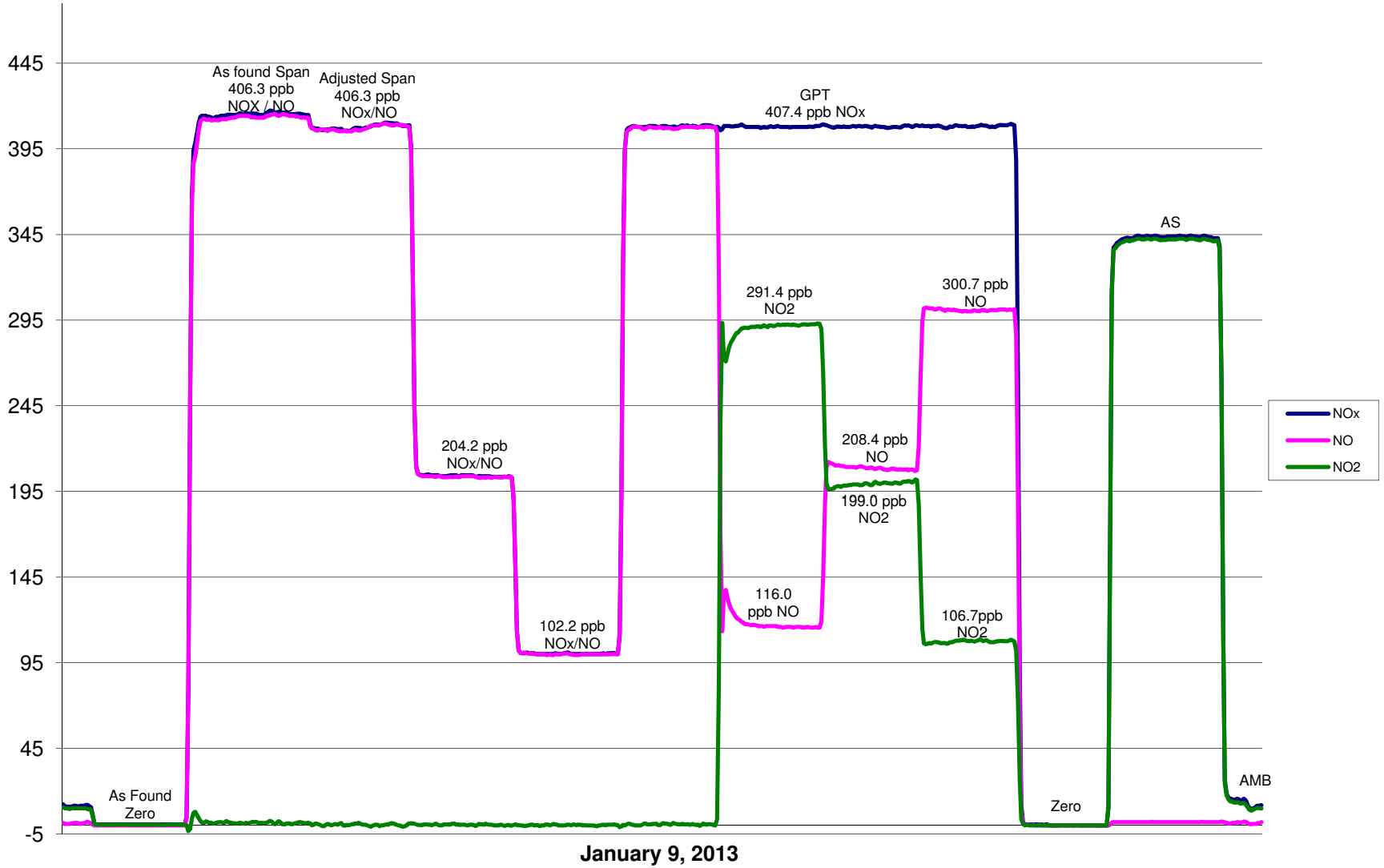
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
406.3	407.6	0.9970	Correlation Coefficient	0.999951
204.2	203.4	1.0036		
102.2	99.8	1.0236	Slope	0.995031
			Intercept	1.363407

NO Calibration Curve



PAZA
NO_X Calibration



Calibration Report

Parameter **O3**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 9, 2013	Previous Calibration	December 6, 2012
Station Number	1	Station Location	Henry Pirker
Reason:	Routine / Install	Removal	Other:
Start Time (MST)	15:30	End Time (MST)	19:15
Barometric Pressure	na atm	Station Temperature	20.5 Deg C
Calibrator	Environics 6100	Serial Number	3016
Cal Gas Concentration	NA	Cal Gas Expiry Date	NA
DACS make	CR3000	DACS serial No.	5408
DACS voltage range	0 - 1 volt	DACS channel #	5
	Before		After
Calculated slope	0.993541	Calculated slope	0.988416
Calculated intercept	-0.185395	Calculated intercept	-0.444458
Analyzer make	TECO 49C	Analyzer serial #	607415761

	before		after	
Concentration range	500	ppb	500	ppb
offset	-0.7	ppb	-0.7	ppb
slope	1.177		1.083	
O3 Lamp temp	71.1	Deg C	71.1	Deg C
Intensities	76530/67310	mV	74630/68280	mV
Pressure	699.4	inches Hg	683.3	inches Hg
Flow A	0.728	ccm	0.719	ccm
Flow B	0.741	ccm	0.726	ccm

Calibration Data

Dilution air flow rate (cc/min)	Referenced concentration (ppb)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4990	0	0.0	0.4	N/A
4990	300	291.4	295.8	0.9851
4990	200	199.0	200.7	0.9917
4990	100	106.7	109.1	0.9787
4990	0	0.0	0.4	As found zero
4990	300	291.4	315.5	As found span
			Average Correction Factor	0.9852

Calculated value of As Found Response: 312.9 ppm Percent Change of As Found: 7.4%

	before calibration		after calibration	
Auto zero	0.3	ppb	0.3	ppb
Auto span	157.9	ppb	223.2	ppb

Notes: Slight adjustment.

Calibration Performed By: Stephanie Tandy

Calibration Summary

Parameter **O3**

Air Monitoring Network **PAZA**

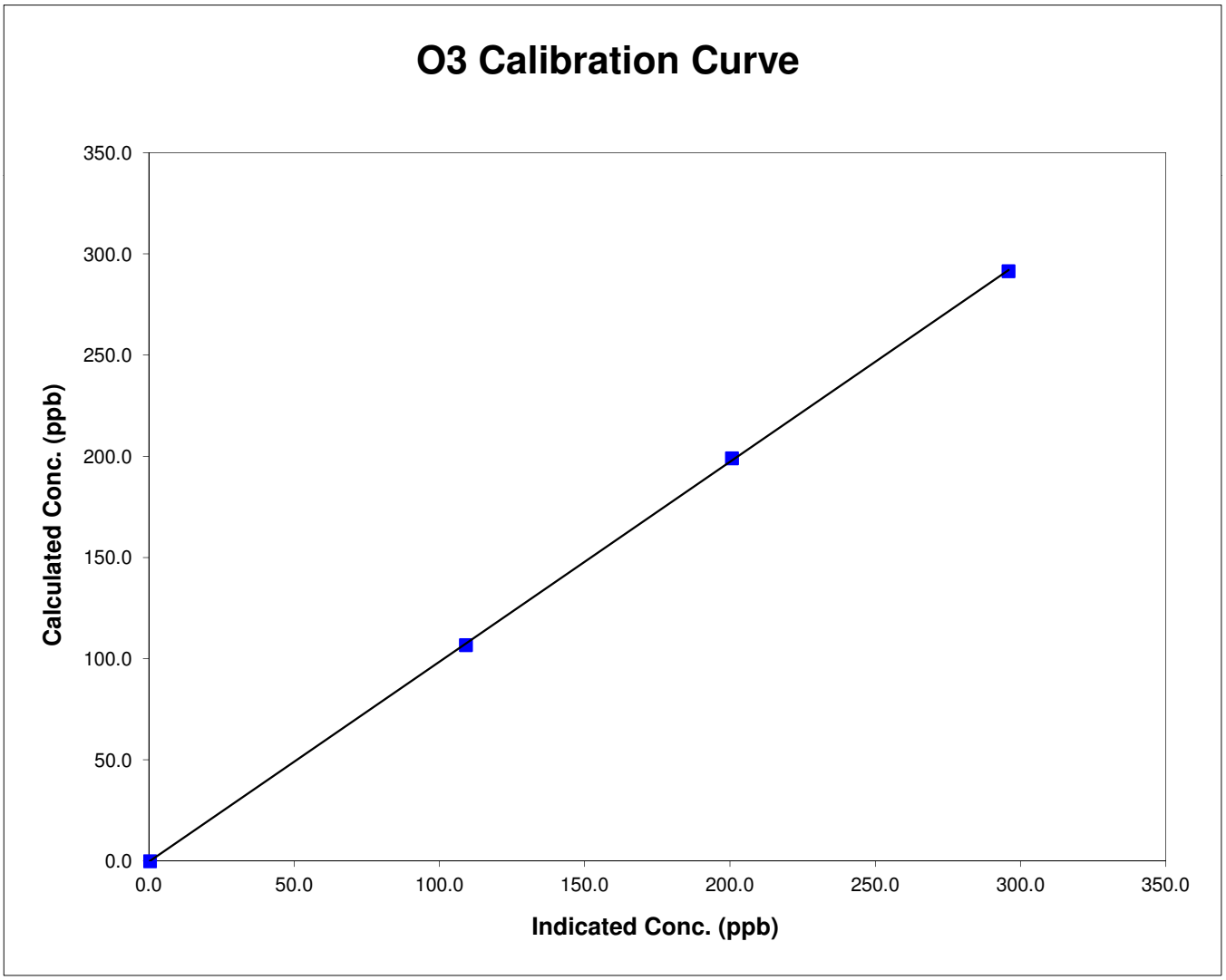
FOCUS AIR QUALITY MONITORING

Station Information

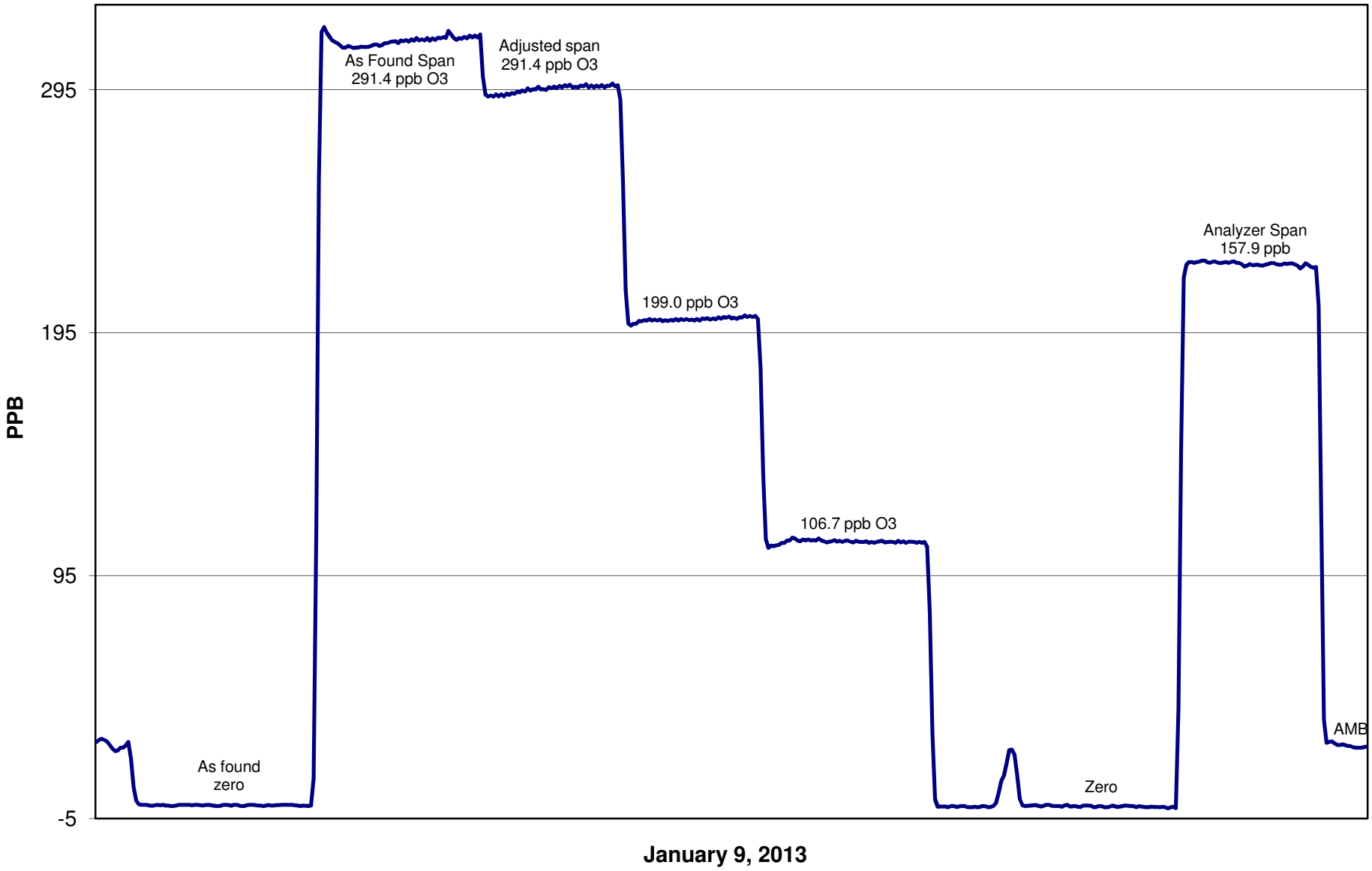
Calibration Date	January 9, 2013	Previous Calibration	December 6, 2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	15:30	End Time (MST)	19:15
Analyzer make/model	TECO 49C	Analyzer serial #	607415761

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	NA		
291.4	295.8	0.9851	Correlation Coefficient	0.999960
199.0	200.7	0.9917		
106.7	109.1	0.9787	Slope	0.988416
			Intercept	-0.444458



O3 Calibration



Calibration Report

Parameter **CO**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 8, 2013	Previous Calibration	December 5, 2012
Station Number	1	Station Location	Henry Pirker
Reason:	Routine ☐ Install	☐ Removal	☐ Other:
Start Time (MST)	13:30	End Time (MST)	17:00
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	1.004178	Calculated slope	0.996229
Calculated intercept	-0.273276	Calculated intercept	-0.511367
Analyzer make	TEI Model 48C	Analyzer serial #	508011062

	before		after	
Concentration range	0 - 50	ppm	0 - 50	ppm
CO span setting	1.110		1.11	
CO zero setting	4.156		4.199	
Sample pressure	684.2	mm Hg	673.8	mm Hg
Sample Flow	1.128	LPM	1.116	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)
4990	0.00	0.00	0.61	N/A
4990	69.94	40.06	40.77	0.9826
4990	34.99	20.18	20.73	0.9733
4990	18.99	10.99	11.44	0.9605
4990	0.00	0.00	0.61	As Found Zero
4990	69.94	40.06	40.77	As Found Span
			Average Correction Factor	0.9721

Calculated value of As Found Response: 40.056 ppm Percent Change of As Found: 0.0%

	before calibration		after calibration	
Auto zero	0.03	ppm	0.03	ppm
Auto span	19.96	ppm	20.05	ppm

Notes: Datalogger reads 0.4 ppm high.

Calibration Performed By: Stephanie Tandy

Calibration Summary

Parameter **CO**

Air Monitoring Network **PAZA**

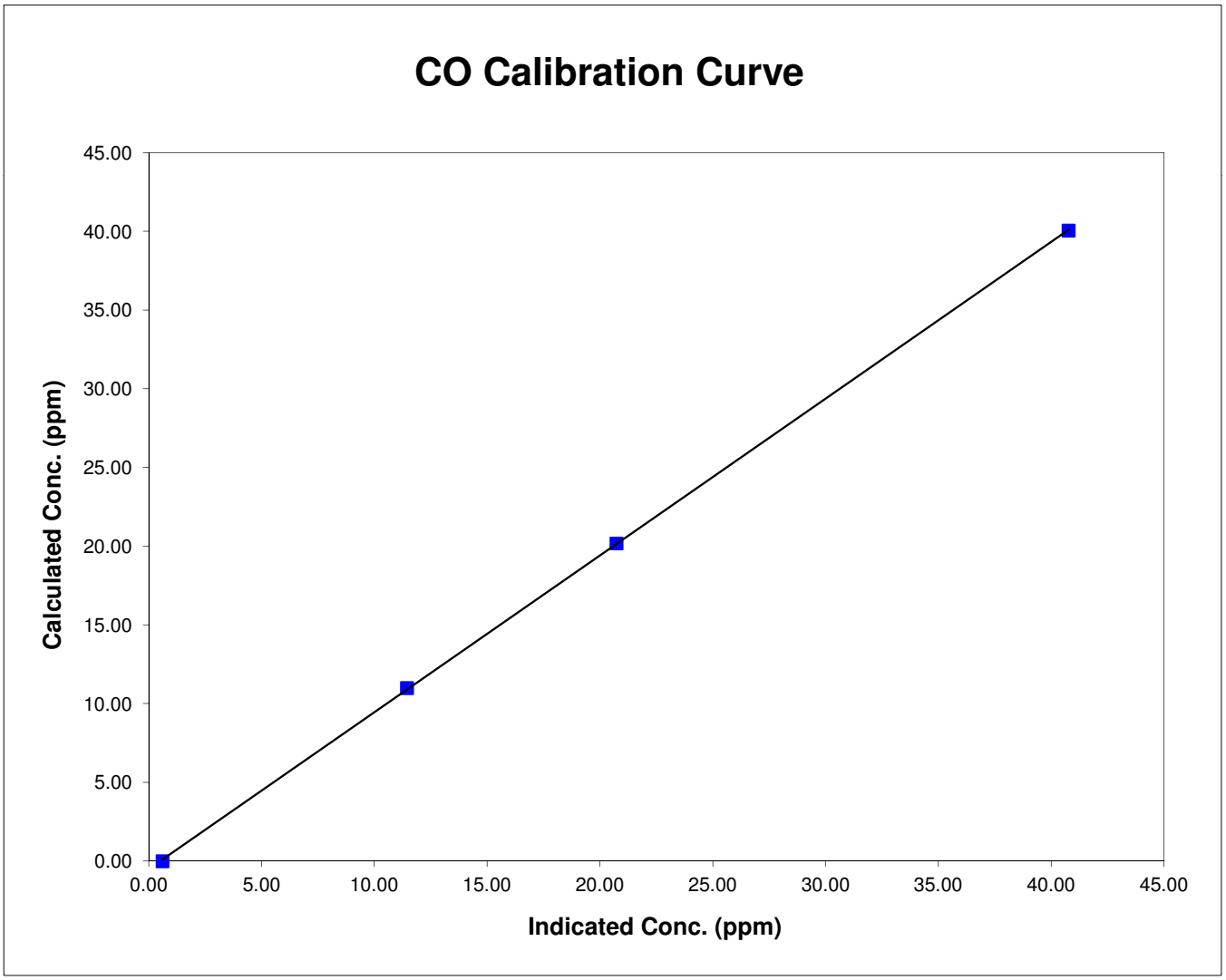
FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 8, 2013	Previous Calibration	December 5, 2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	13:30	End Time (MST)	17:00
Analyzer make/model	TEI Model 48C	Analyzer serial #	508011062

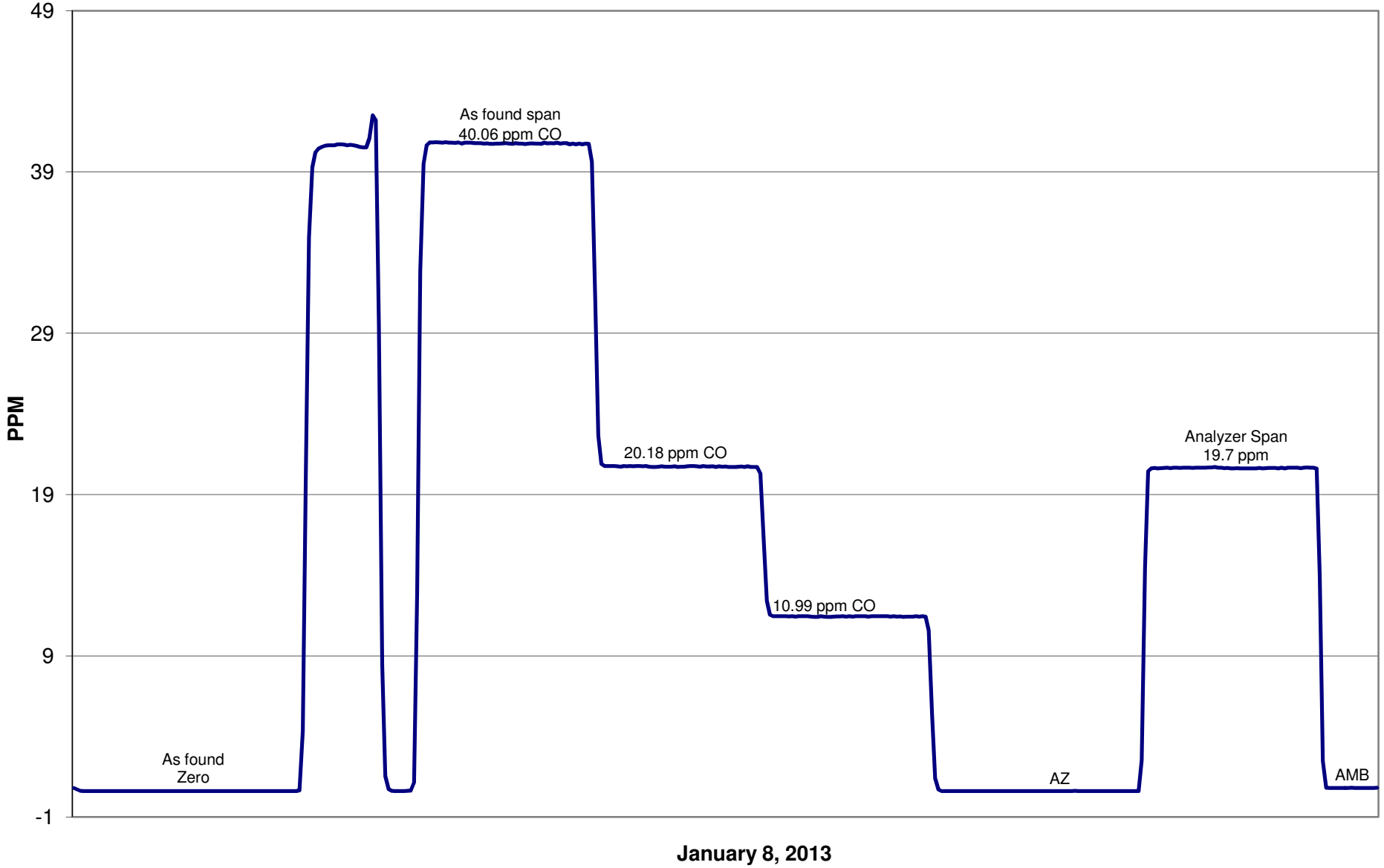
Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.606	N/A		
40.057	40.768	0.9826	Correlation Coefficient	0.999974
20.179	20.733	0.9733		
10.987	11.439	0.9605	Slope	0.996229
			Intercept	-0.511367



11.15 ppm CO

CO Calibration



Calibration Report

Parameter **TRS**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 16,2013	Previous Calibration	December 6,2012
Station Number	1	Station Location	Henry Pirker
Reason: Routine	Install	Removal	Other:
Start Time (MST)	11:40	End Time (MST)	13:50
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	0.998221	Calculated slope	0.998221
Calculated intercept	0.089391	Calculated intercept	0.089391
Analyzer make	TEI 45C	Analyzer serial #	630718528

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Coefficient	1.132		1.132	
Background	11.4		11.4	
Pressure	653.4	mm Hg	668.6	mm Hg
Flow	0.454	ccm	0.456	ccm
Lamp Voltage	824	V	825	V

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppb) (Cc)		Correction factor (Cc/Ic)
4995	0.00	0.00	0.23	N/A
4995	39.93	80.10	80.32	0.9973
4995	19.95	40.18	39.88	1.0075
8995	8.94	10.03	9.76	1.0276
4995	0.00	0.00	0.23	As Found Zero
4995	39.93	80.10	80.32	As Found Span
			Average Correction Factor	1.0108

Calculated value of As Found Response: 80.0 ppb Percent Change of As Found: 0.1%

	before calibration		after calibration	
Auto zero	-0.29	ppb	0.55	ppb
Auto span	33.10	ppb	34.61	ppb

Notes: Sox scrubber checked. No adjustment made.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **TRS**

Air Monitoring Network **PAZA**

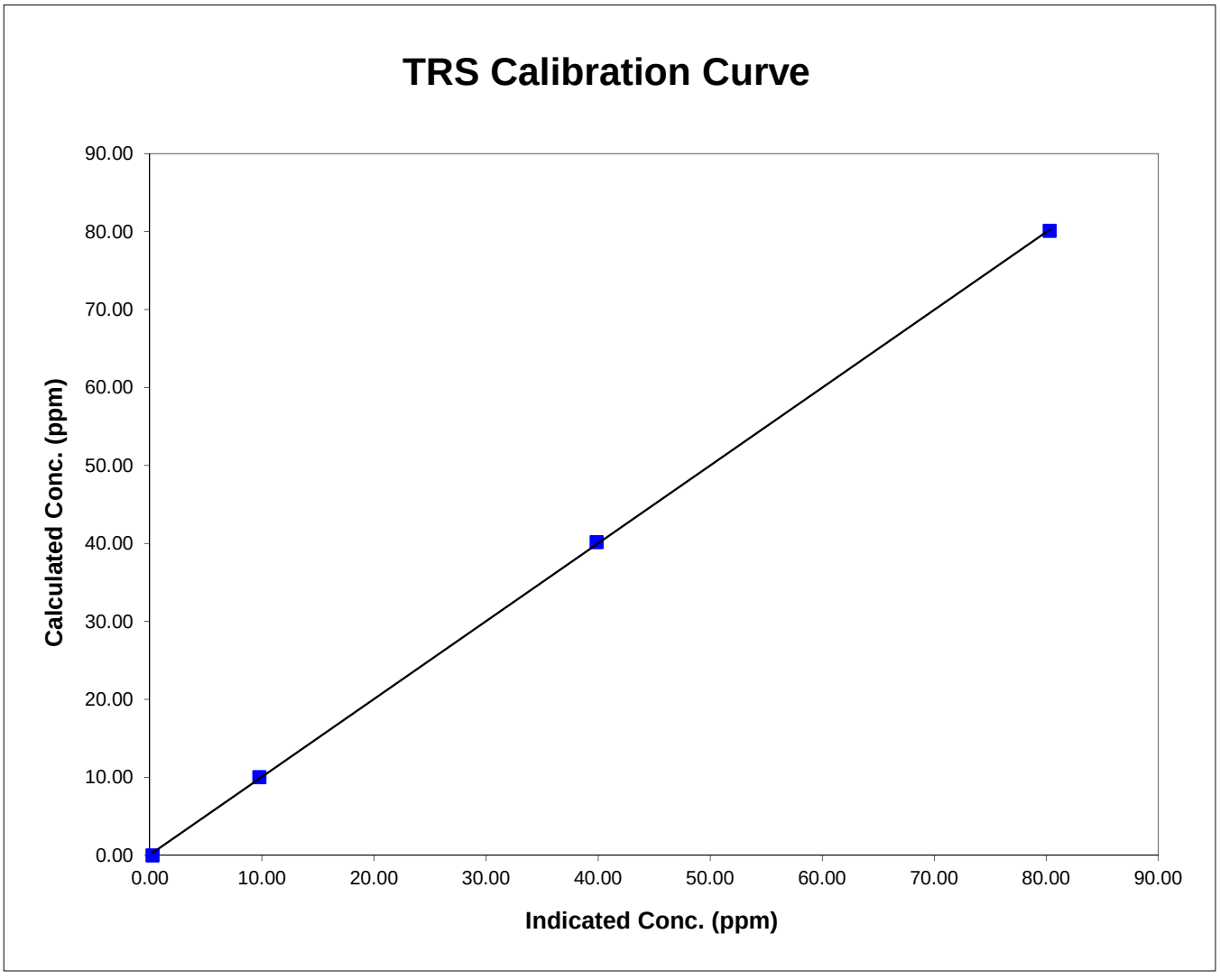
FOCUS AIR QUALITY MONITORING

Station Information

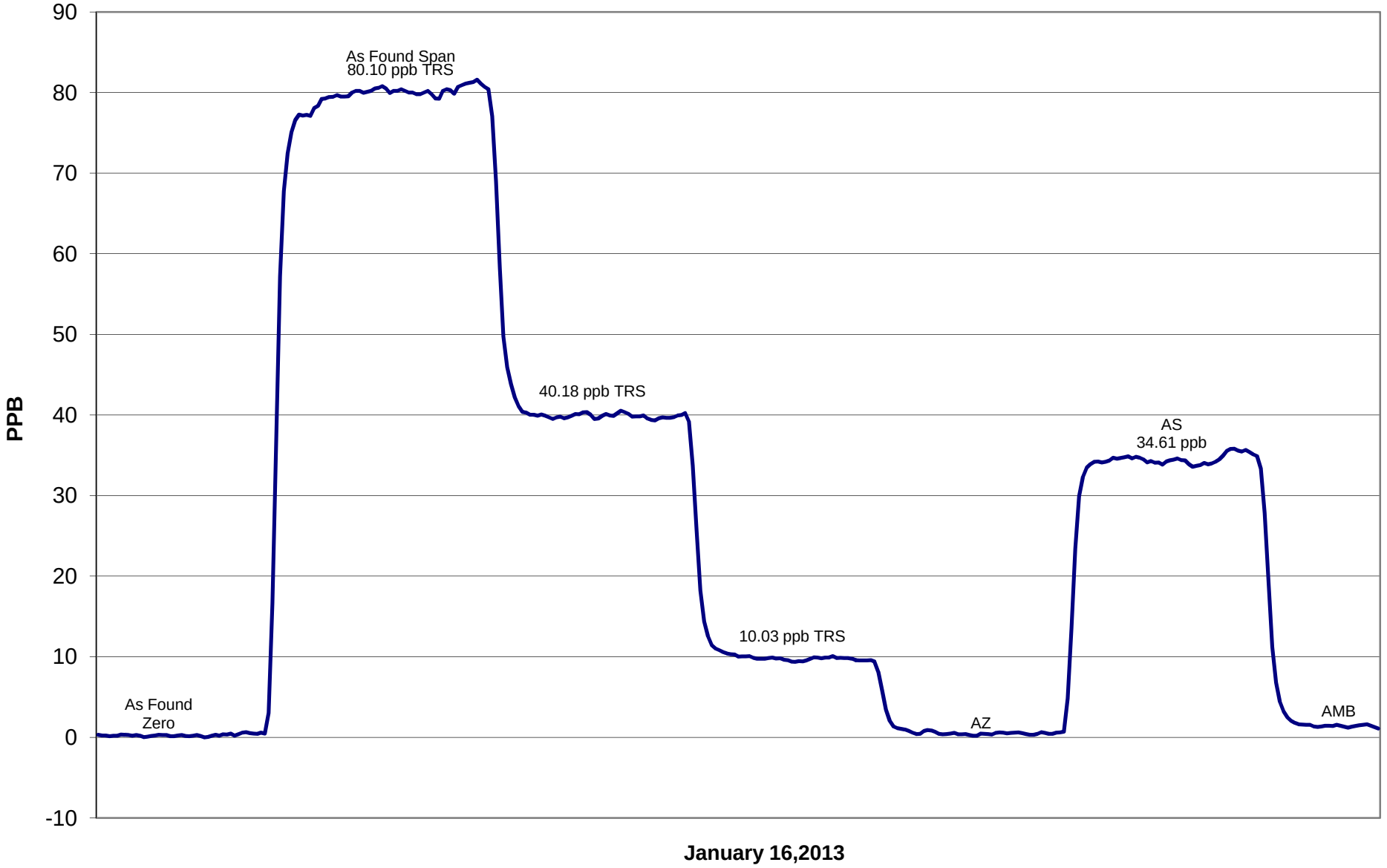
Calibration Date	January 16,2013	Previous Calibration	December 6,2012
Station Number	1	Station Location	Henry Pirker
Start Time (MST)	11:40	End Time (MST)	13:50
Analyzer make/model	TEI 45C	Analyzer serial #	630718528

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.000	0.226	N/A		
80.099	80.315	0.9973	Correlation Coefficient	0.999937
40.179	39.880	1.0075		
10.028	9.759	1.0276	Slope	0.998221
			Intercept	0.089391



TRS Calibration



Calibration Report

Parameter **SO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 24, 2013	Previous Calibration	December 24, 2012
Station Number	2	Station Location	Evergreen Park
Reason: Routine	Install	Removal	Other:
Start Time (MST)	11:35	End Time (MST)	14:59
Barometric Pressure	0.927 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics	Serial Number	3474
Cal Gas Concentration	50.8 ppm	Cal Gas Expiry Date	12/03/2014
Correction factor	0.031511	Cal Gas Cylinder #	LL107272
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	0.995342	Calculated slope	0.997725
Calculated intercept	1.088450	Calculated intercept	1.472884
Analyzer make	Teco 43i	Analyzer serial #	701120008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	11.7		11.5	
coefficient	1.24		1.228	
Lamp Voltage	830	volts	830	volts
Chamber Temp	45.2	Deg C	45.2	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	666.5	mm Hg	665.9	mm Hg
Sample Flow	0.448	ccm	0.447	ccm
Lamp Intensity	89	%	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)
4995	0.0	0.00	0.4	N/A
4995	39.93	402.9	403.4	0.9986
4995	19.97	202.3	199.7	1.0130
4995	9.97	101.2	98.5	1.0273
4995	0.0	0.0	0.3	As Found Zero
4995	39.93	402.9	406.8	As Found Span
			Average Correction Factor	1.0129

Calculated value of As Found Response: 405.641 ppm Percent Change of As Found: -0.7%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.5	ppm
Auto span	287.4	ppm	291.0	ppm

Notes: Slight adjust up on 80% point.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

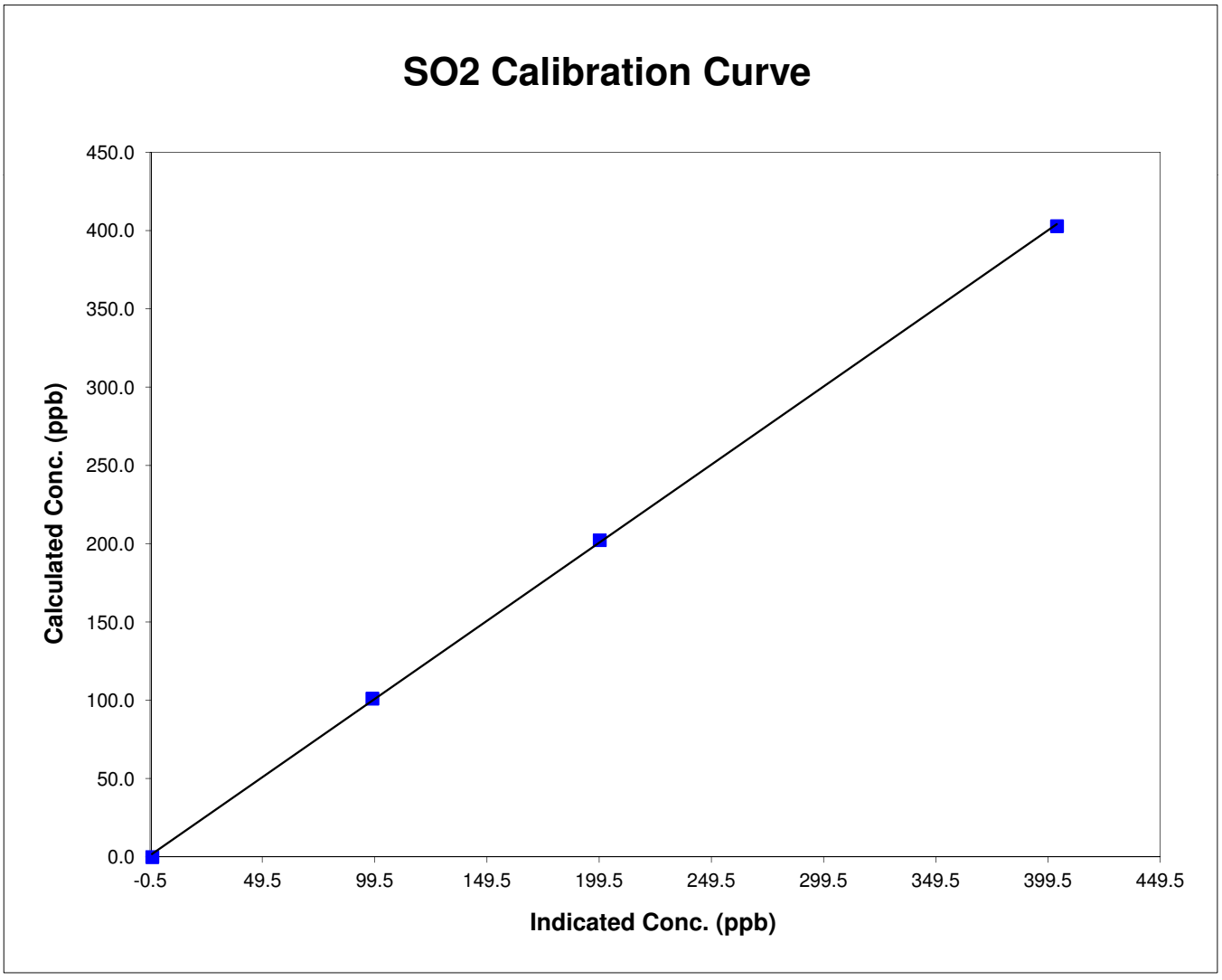
FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 24, 2013	Previous Calibration	December 24, 2012
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	11:35	End Time (MST)	14:59
Analyzer make/model	Teco 43i	Analyzer serial #	701120008

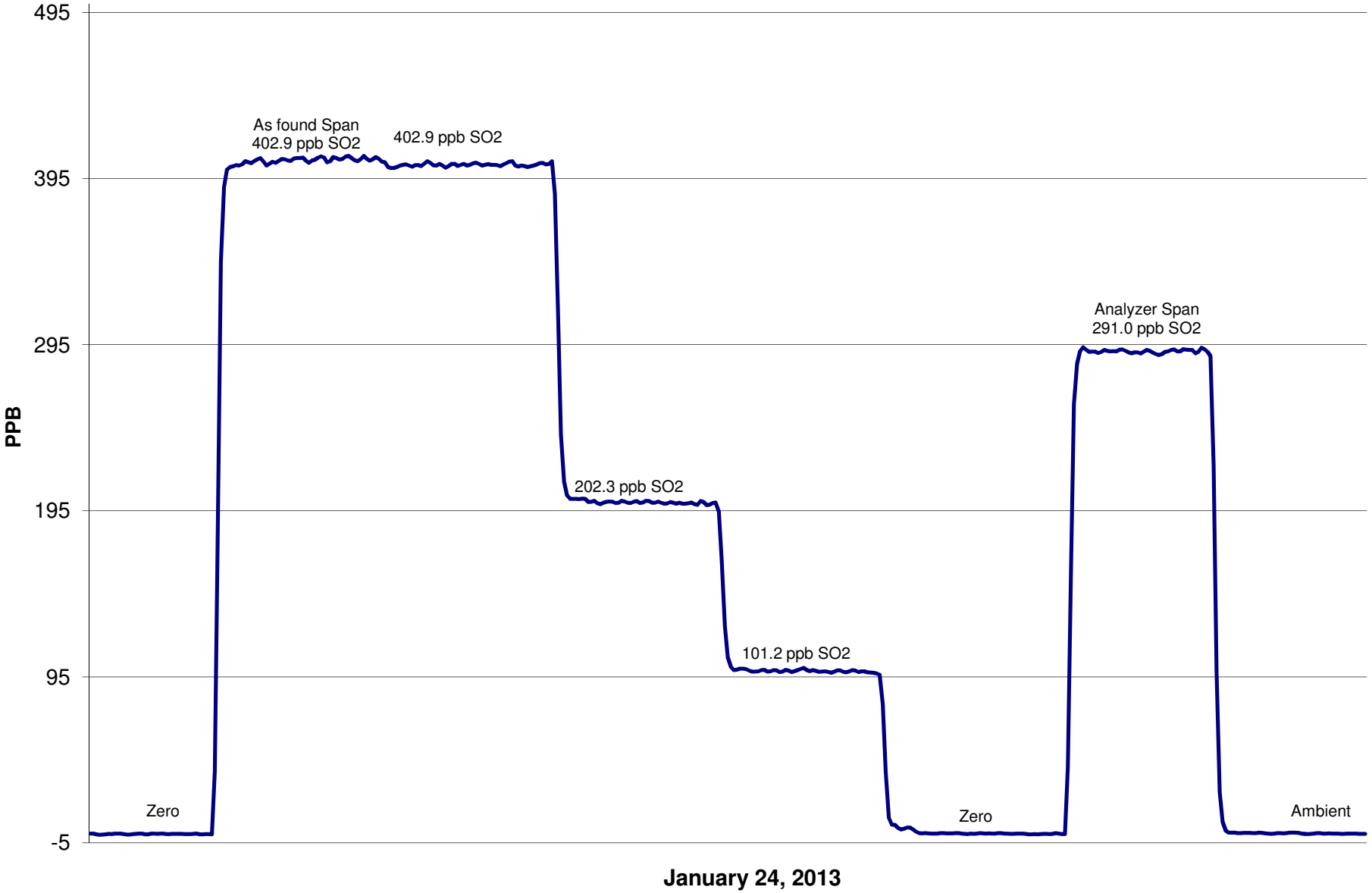
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A		
402.9	403.4	0.9986	Correlation Coefficient	0.999895
202.3	199.7	1.0130		
101.2	98.5	1.0273	Slope	0.997725
			Intercept	1.472884



202.1 ppb SO2

SO2 Calibration



Calibration Report

Parameter **TRS**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 24, 2013	Previous Calibration	December 24, 2012
Station Number	2	Station Location	Evergreen Park
Reason: Routine ☐ Install ☐ Removal ☐ Other:			
Start Time (MST)	9:50	End Time (MST)	13:17
Barometric Pressure	0.921 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics	Serial Number	3474
Cal Gas Conc	10.1 ppm	Cal Gas Expiry Date	11/05/2013
Correction factor	0.031307	Cal Gas Cylinder #	LL160692
DACS make	CR3000	DACS serial No.	5236
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
Calculated slope	1.006068	Calculated slope	0.992035
Calculated intercept	0.140318	Calculated intercept	-0.119076
Analyzer make	TEI Model 43C	Analyzer serial #	3.199E+13

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	35.4	ppb	35.5	ppb
coefficient	1.058		1.058	
Lamp Voltage	1030	volts	1030	volts
Chamber Temp	44.1	Deg C	44.1	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	637	mm Hg	633.3	mm Hg
Sample Flow	0.625	ccm	0.626	ccm
Lamp Intensity	31,881	mv	31,865	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	0.4	N/A
4995	39.93	80.10	80.9	0.9897
4995	19.96	40.20	40.6	0.9912
8995	8.97	10.06	10.0	1.0014
4995	0.00	0.00	0.4	As Found Zero
4995	39.95	80.14	80.9	As Found Span
			Average Correction Factor	0.9941

Calculated value of As Found Response: 81.13 ppm Percent Change of As Found: -1.2%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.3	ppm
Auto span	81.6	ppm	80.0	ppm

Notes: **No adjust.**

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **TRS**

Air Monitoring Network **PAZA**

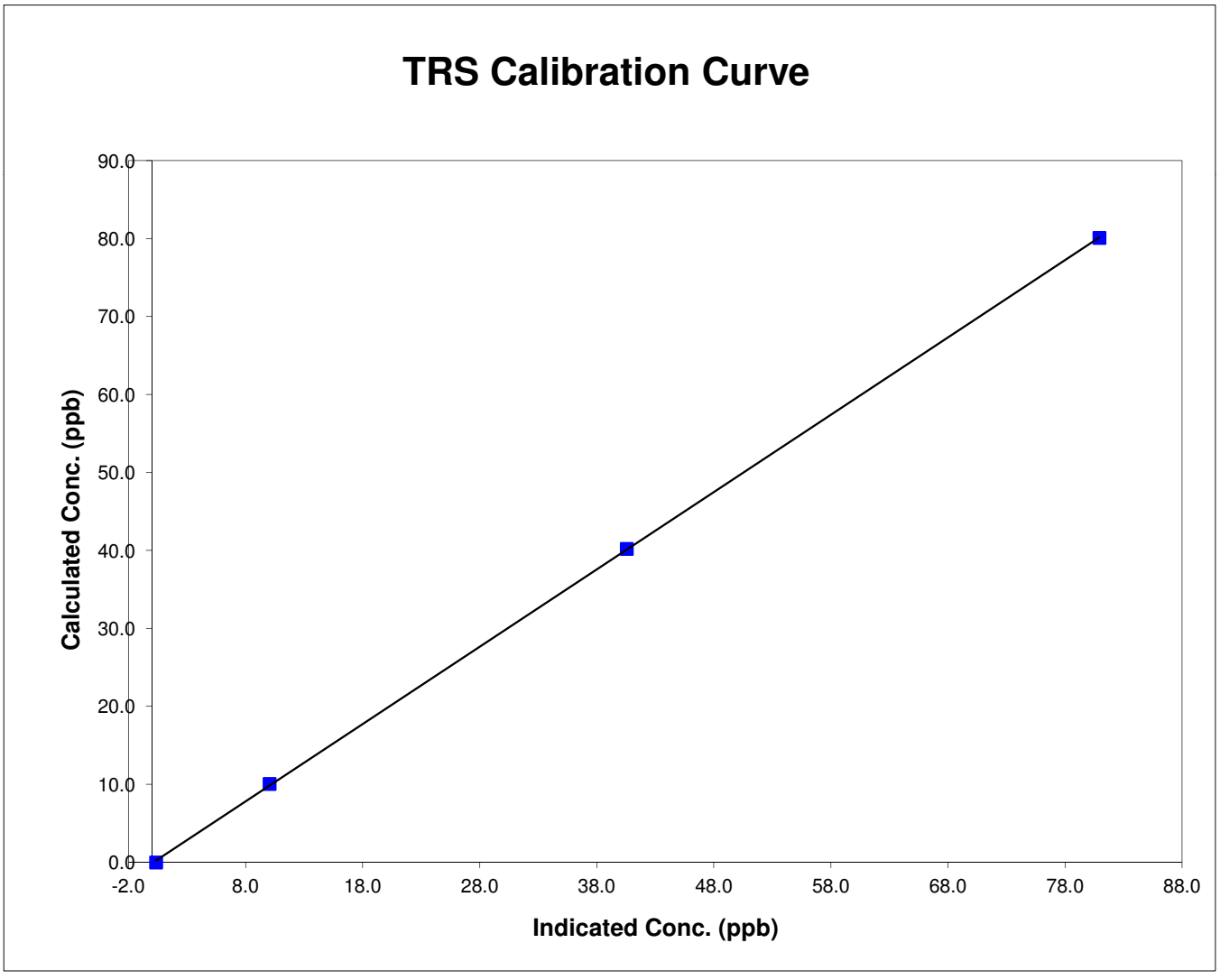
FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 24, 2013	Previous Calibration	December 24, 2012
Station Number	2	Station Location	Evergreen Park
Start Time (MST)	9:50	End Time (MST)	13:17
Analyzer make/model	TEI Model 43C	Analyzer serial #	31990000000491

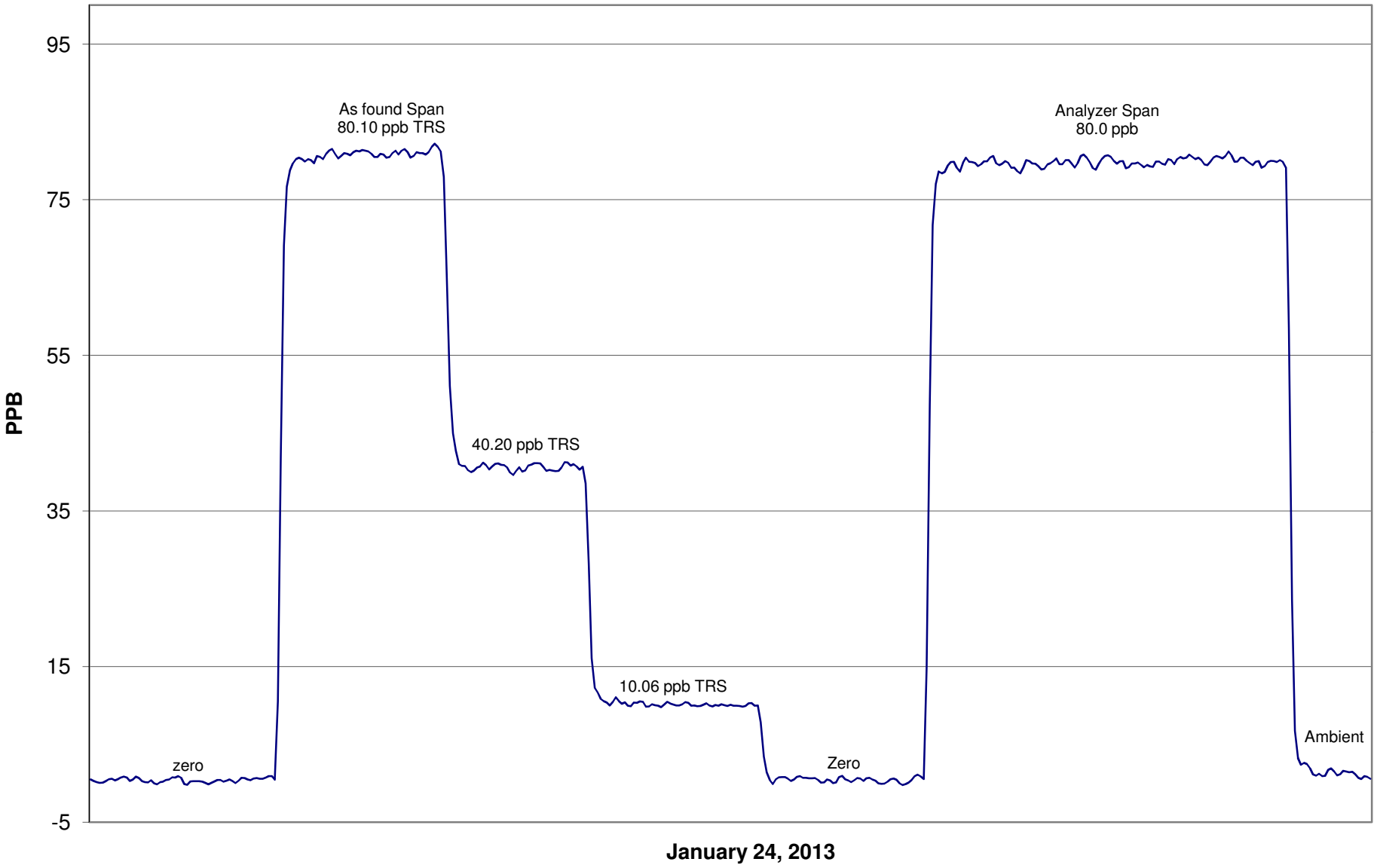
Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.4	N/A		
80.1	80.9	0.9897	Correlation Coefficient	0.999972
40.2	40.6	0.9912		
10.1	10.0	1.0014	Slope	0.992035
			Intercept	-0.119076



As found Span
80.10 ppb TRS

TRS Calibration



Calibration Report

Parameter **SO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 30, 2013	Previous Calibration	December 30, 2012
Station Number	3	Station Location	Smokey Heights
Reason: Routine	Install	Removal	Other:
Start Time (MST)	15:27:00 PM	End Time (MST)	18:01
Barometric Pressure	0.941 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	50.8 ppm	Cal Gas Cert Date	12/03/2014
Correction factor	0.031987	Cal Gas Cylinder #	LL107272
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	0.999174	Calculated slope	1.000087
Calculated intercept	1.053338	Calculated intercept	0.737909
Analyzer make	Teco 43i	Analyzer serial #	701120009

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	11.5		11.5	
coefficient	0.985		0.985	
Lamp Voltage	930	volts	930	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	675.8	mm Hg	676.8	mm Hg
Sample Flow	0.452	ccm	0.452	ccm
Lamp Intensity	89	%	89	%

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	0.0	0.00	0.2	N/A
4995	39.93	402.87	402.6	1.0006
4995	19.97	202.29	200.8	1.0072
4995	9.97	101.19	99.6	1.0155
4995	0.0	0.00	0.2	As Found Zero
4995	39.93	402.87	402.6	As Found Span
			Average Correction Factor	1.0078

Calculated value of As Found Response: 403.117 ppm Percent Change of As Found: -0.1%

	before calibration		after calibration	
Auto zero	0.4	ppb	0.2	ppb
Auto span	304.5	ppb	256.2	ppb

Notes: No adjust

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

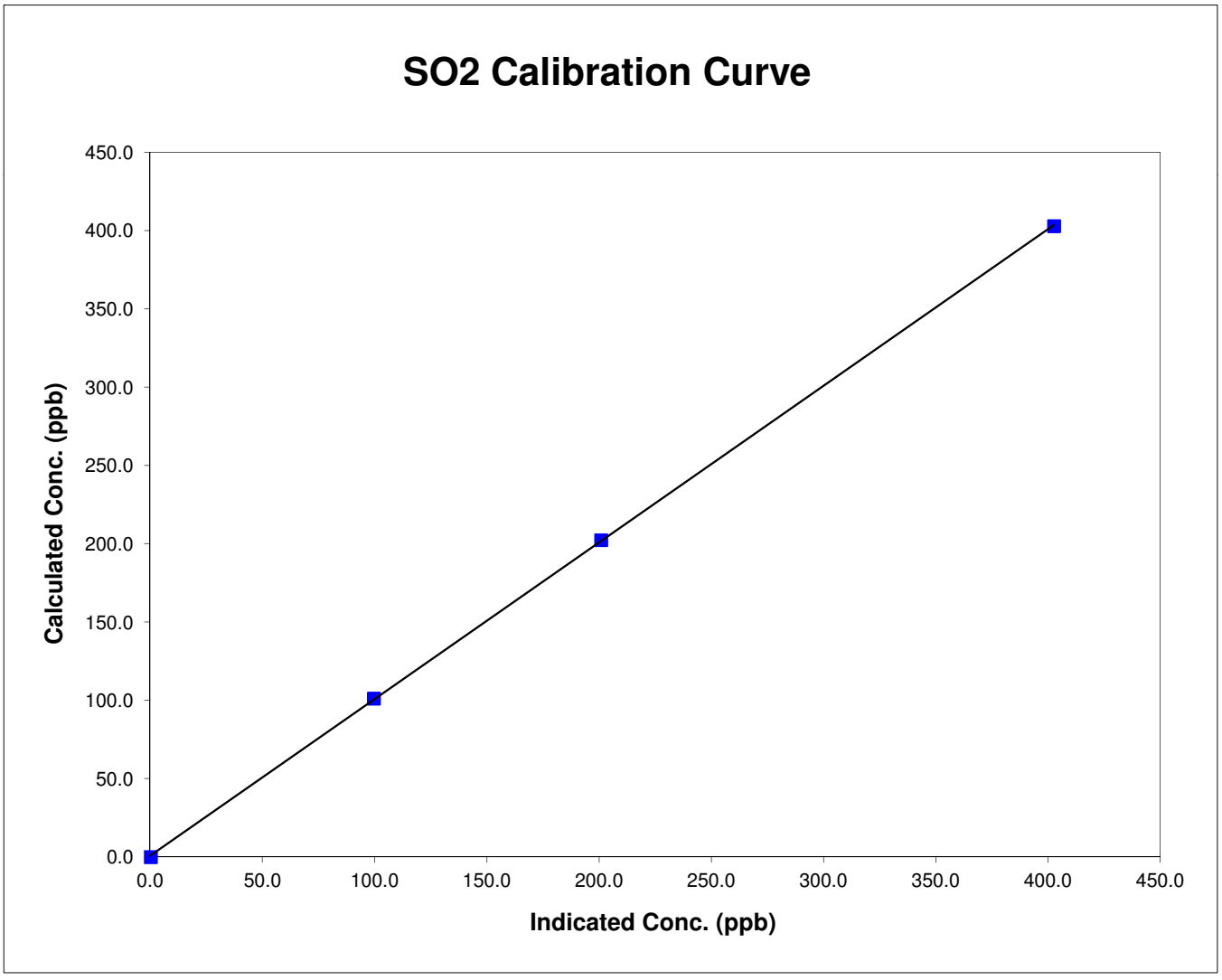
FOCUS AIR QUALITY MONITORING

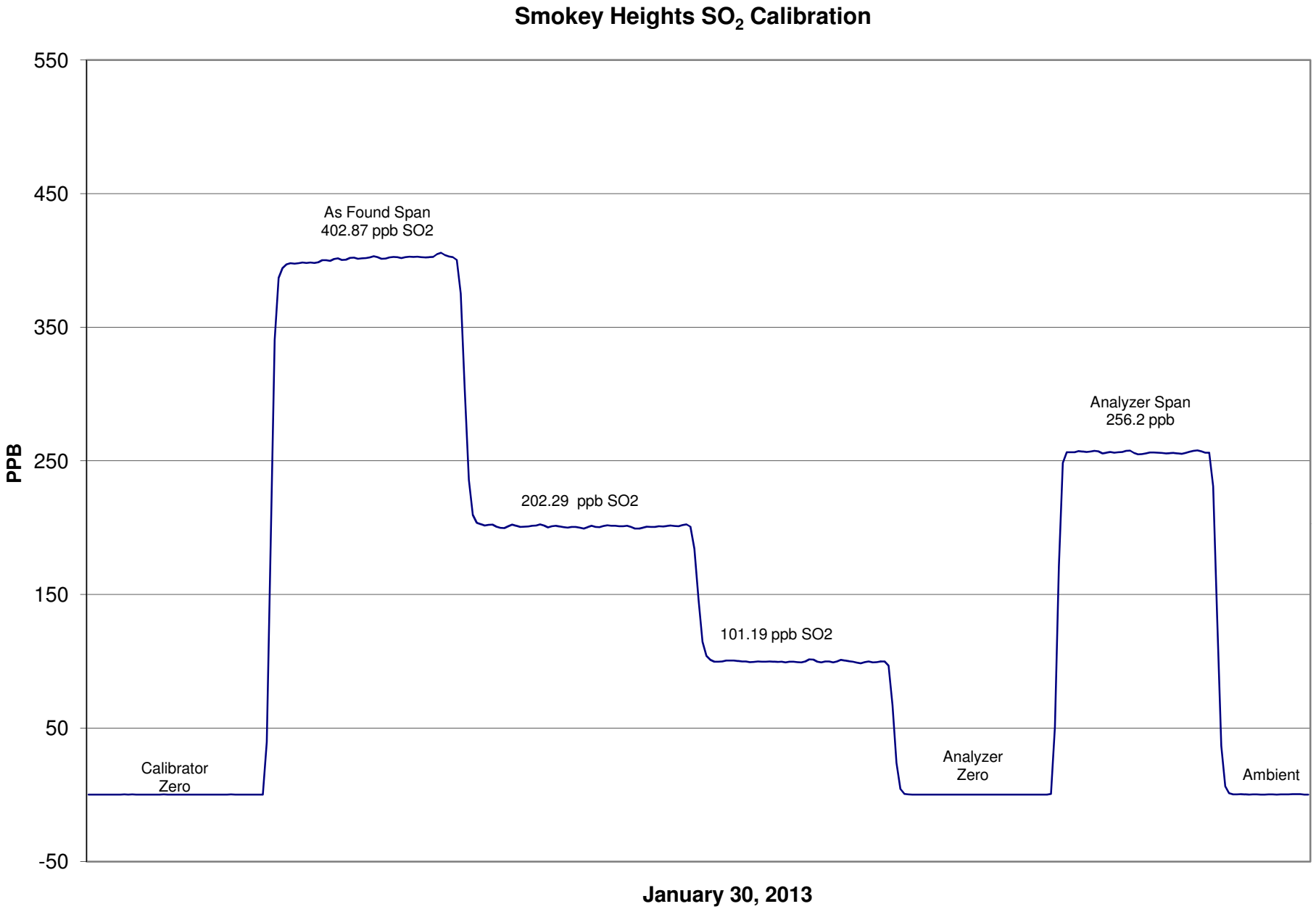
Station Information

Calibration Date	January 30, 2013	Previous Calibration	December 30, 2012
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	15:27:00 PM	End Time (MST)	18:01
Analyzer make/model	Teco 43i	Analyzer serial #	701120009

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
402.9	402.6	1.0006	Correlation Coefficient	0.999974
202.3	200.8	1.0072		
101.2	99.6	1.0155	Slope	1.000087
			Intercept	0.737909




Smokey Heights SO2 Calibration
550
450
350
250
150
50
-50
PPB
As Found Span
402.87 ppb SO2
202.29 ppb SO2
101.19 ppb SO2
Analyzer Span
256.2 ppb
Calibrator
Zero
Analyzer
Zero
Ambient
January 30, 2013

Calibration Report

Parameter **TRS**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 30, 2013	Previous Calibration	December 30, 2012
Station Number	3	Station Location	Smokey Heights
Reason: Routine	Install	Removal	Other: Maintenance
Start Time (MST)	14:22:00 PM	End Time (MST)	17:14
Barometric Pressure	0.941 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Conc	10.1 ppm	Cal Gas Expiry Date	11/05/2013
Correction factor	0.031987	Cal Gas Cylinder #	LL160692
DACS make	CR3000	DACS serial No.	5238
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
Calculated slope	1.000895	Calculated slope	0.994081
Calculated intercept	0.065912	Calculated intercept	0.917322
Analyzer make	TEI Model 43C	Analyzer serial #	0436610005

	before		after	
Concentration range	100	ppb	100	ppb
Background	18.4	ppb	19.2	ppb
coefficient	0.971		0.991	
Lamp Voltage	822	volts	822	volts
Chamber Temp	43.5	Deg C	43.5	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	611,1	mm Hg	588,7	mm Hg
Sample Flow	0.637	ccm	0.625	ccm
Lamp Intensity	35,313	mv	35,276	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)
4995	0.0	0.00	0.2	N/A
4995	39.94	80.12	80.4	0.9971
4995	19.97	40.22	38.2	1.0527
8995	8.96	10.05	8.7	1.1510
4995	0.0	0.00	0.2	As Found Zero
4995	39.94	80.12	80.4	As Found Span
			Average Correction Factor	1.0669

Calculated value of As Found Response: 80.31 ppm Percent Change of As Found: -0.2%

	before calibration		after calibration	
Auto zero	0.0	ppm	1.4	ppm
Auto span	52.9	ppm	26.2	ppm

Notes: Oxidizer work.Believe one eighth line going to "out" oxidizer may be contaminated. Will get parts.
SO2 scrubber checked after last cal point.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **TRS**

Air Monitoring Network **PAZA**

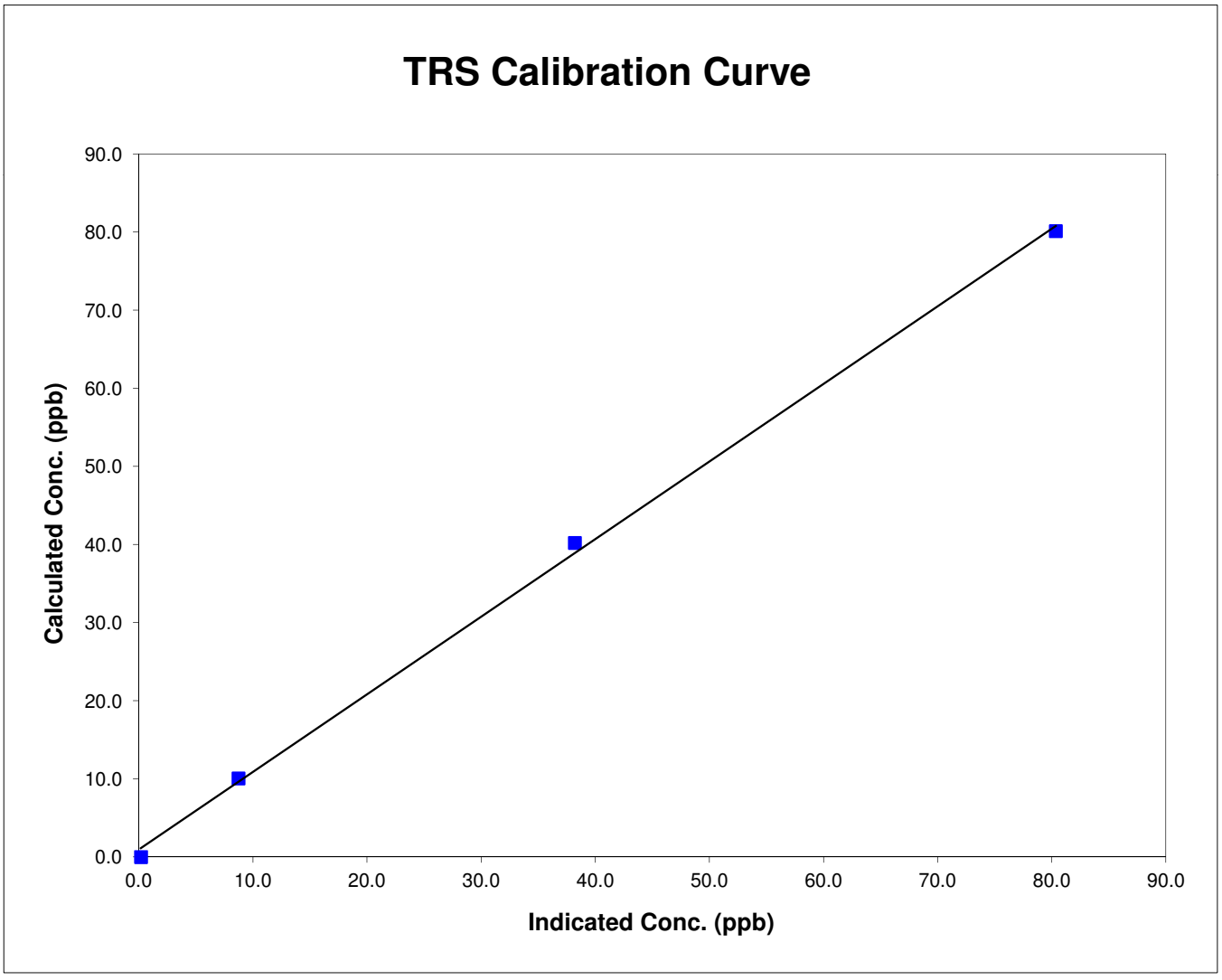
FOCUS AIR QUALITY MONITORING

Station Information

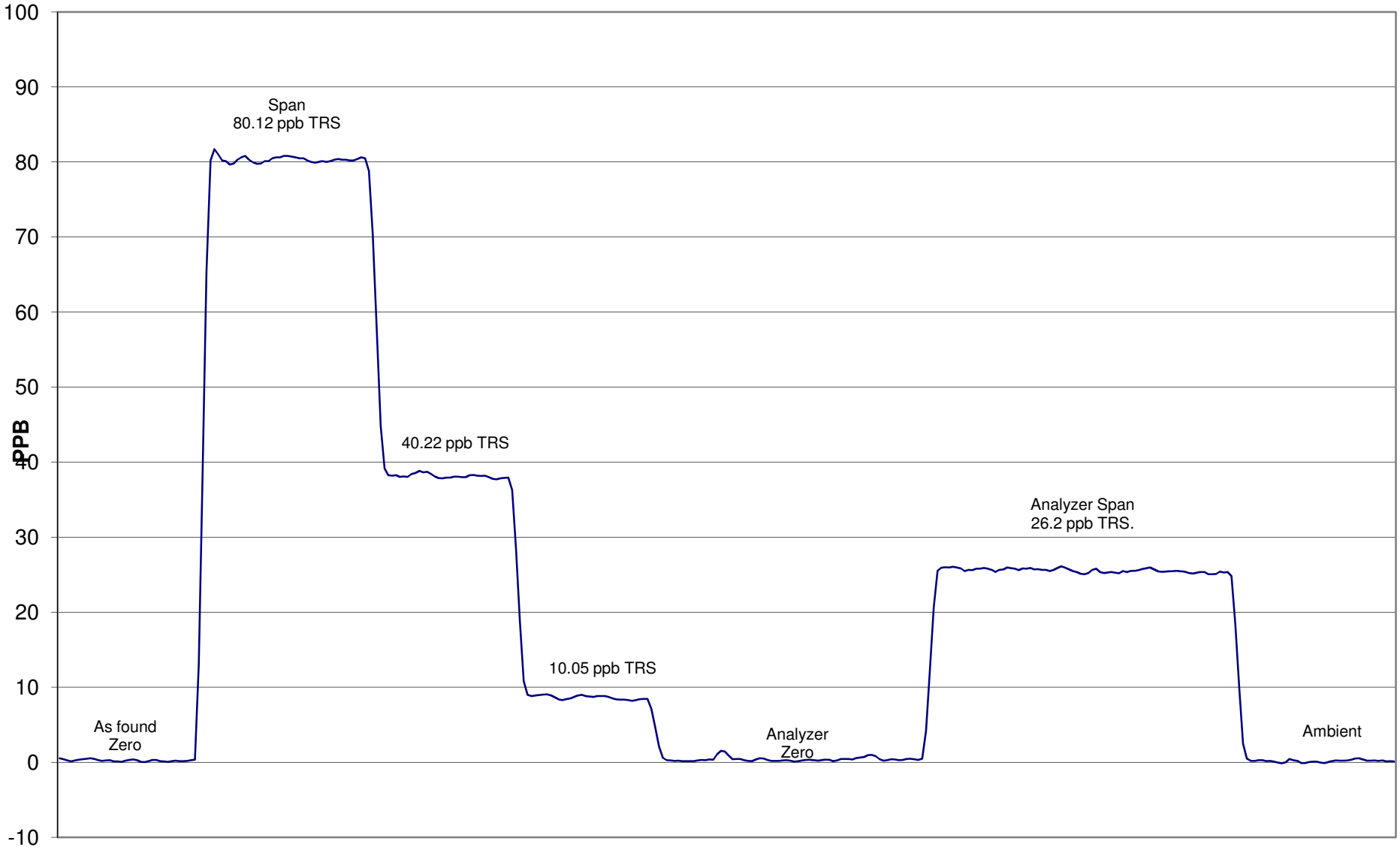
Calibration Date	January 30, 2013	Previous Calibration	December 30, 2012
Station Number	3	Station Location	Smokey Heights
Start Time (MST)	14:22:00 PM	End Time (MST)	17:14
Analyzer make/model	TEI Model 43C	Analyzer serial #	0436610005

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	N/A		
80.1	80.4	0.9971	Correlation Coefficient	0.999068
40.2	38.2	1.0527		
10.1	8.7	1.1510	Slope	0.994081
			Intercept	0.917322



Smokey Heights TRS Calibration



January 30, 2013

Calibration Report

Parameter **SO2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 28, 2013	Previous Calibration	December 21, 2012
Station Number	4	Station Location	Beaverlodge
Reason: Routine	Install	Removal	Other:
Start Time (MST)	14:00	End Time (MST)	17:02
Barometric Pressure	0.910 atm	Station Temperature	23.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	10.8 ppm	Cal Gas Expiry Date	28/09/2012
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	1.021843	Calculated slope	1.016320
Calculated intercept	-0.256148	Calculated intercept	-0.193783
Analyzer make	TEI Model 43i-TLE	Analyzer serial #	713021137

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	2.39		2.4	
Coefficient	1.071		1.071	
PMT	-767.6	V	-767.6	V
UV Lamp Voltage	1063	V	1062	V
Chamber Temp	45.2	Deg C	45.2	Deg C
Pressure	666.4	mm Hg	666.2	mm Hg
Sample Flow	0.485	LPM	0.485	LPM
Lamp Intesity	96%	%	96%	%

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)
4995	0.00	0.0	0.5	N/A
4995	39.93	85.7	84.6	1.0121
4995	19.97	43.0	42.3	1.0156
4995	9.97	21.5	21.0	1.0231
4995	0.00	0.0	0.5	As found zero
4995	39.93	85.7	84.6	As found span
			Average Correction Factor	1.0169

Calculated value of As Found Response: 85.679 ppm Percent Change of As Found: 0.0%

	before calibration		after calibration	
Auto zero	0.3	ppb	0.2	ppb
Auto span	58.5	ppb	59.7	ppb

Notes: No adjustments made.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

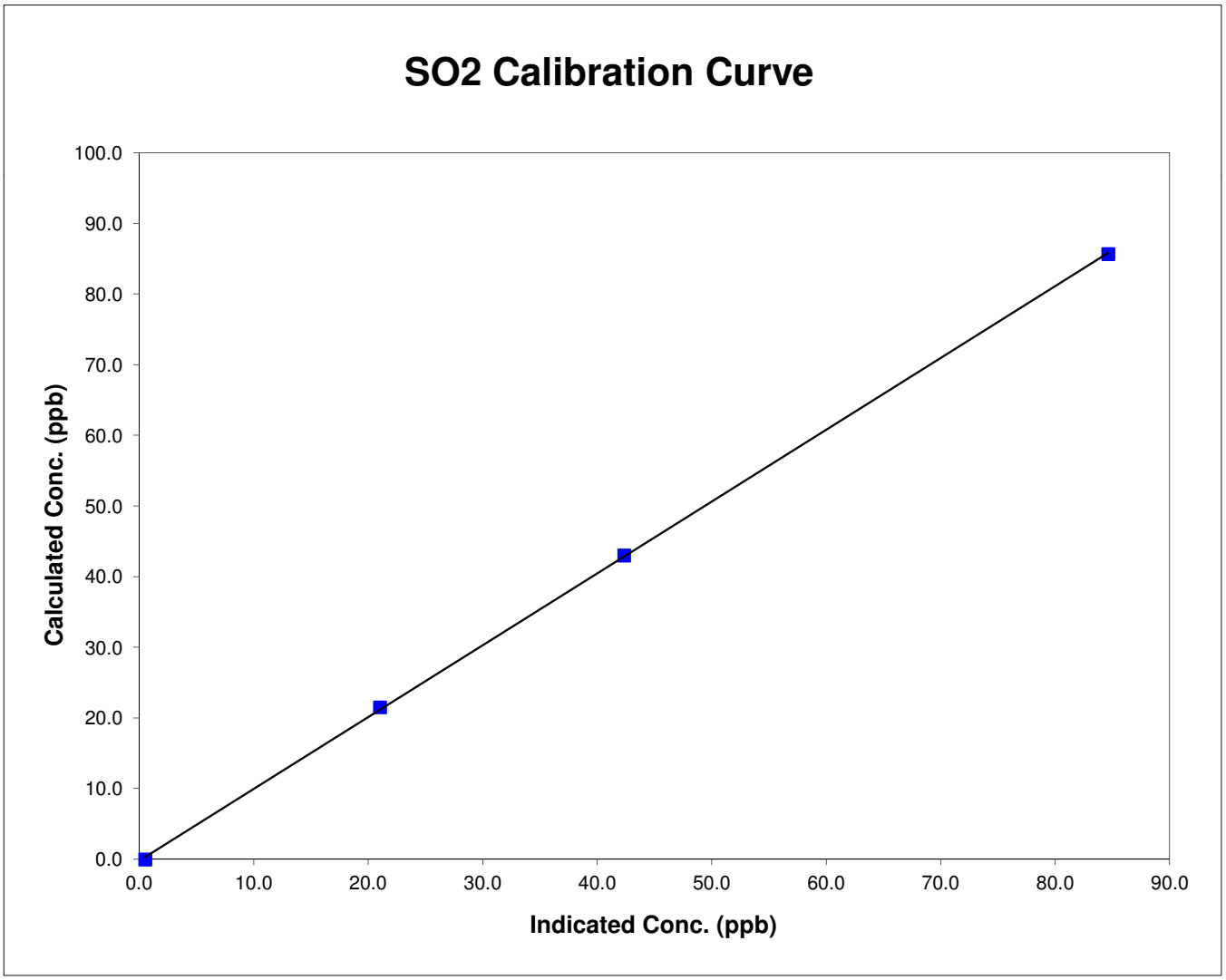
FOCUS AIR QUALITY MONITORING

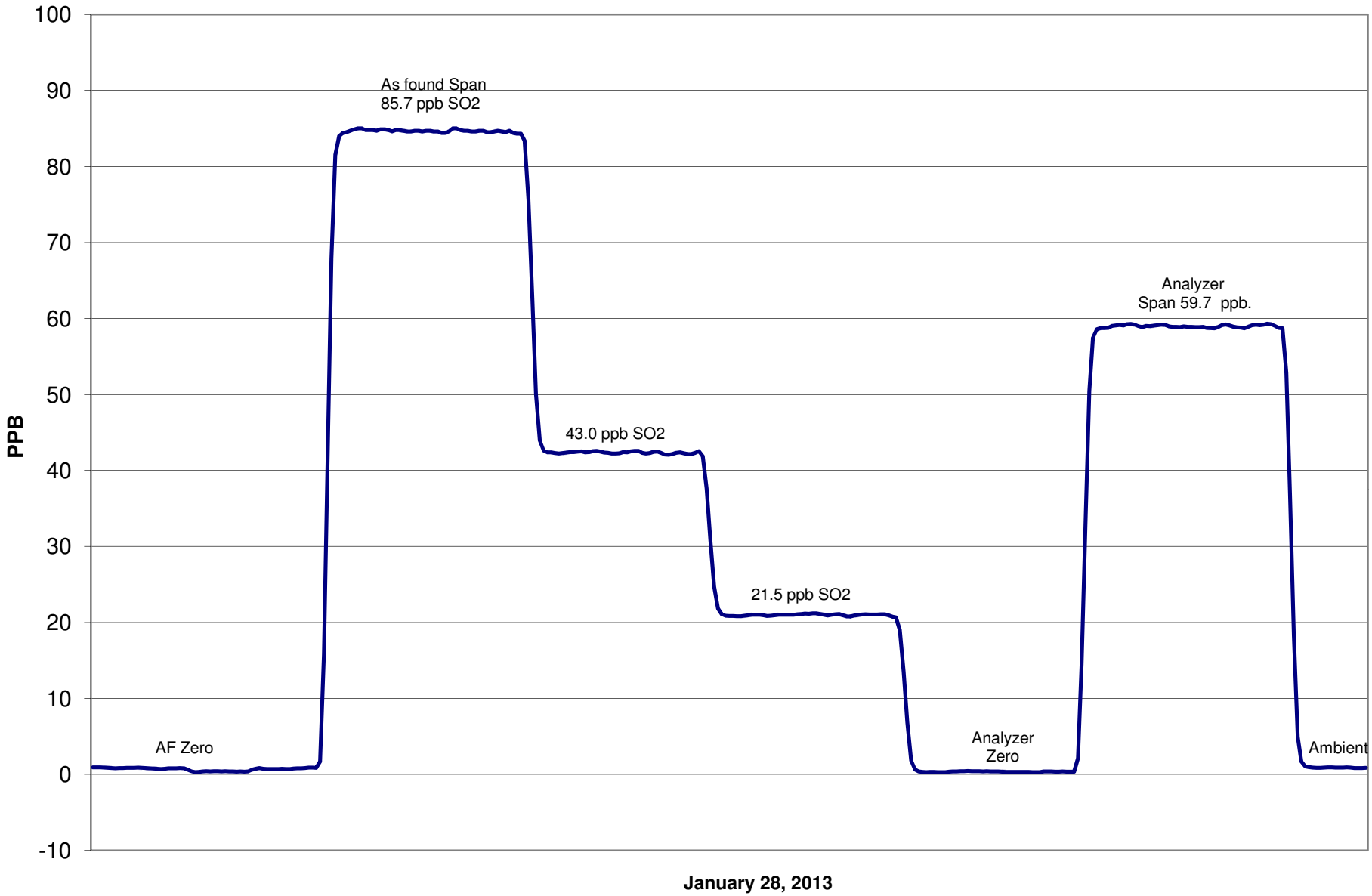
Station Information

Calibration Date	January 28, 2013	Previous Calibration	December 21, 2012
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	14:00	End Time (MST)	17:02
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	0.5	N/A		
85.7	84.6	1.0121	Correlation Coefficient	0.999931
43.0	42.3	1.0156		
21.5	21.0	1.0231	Slope	1.016320
			Intercept	-0.193783




SO2 Calibration
100
90
80
70
60
50
40
30
20
10
0
-10
PPB
As found Span
85.7 ppb SO2
43.0 ppb SO2
21.5 ppb SO2
Analyzer
Span 59.7 ppb.
AF Zero
Analyzer
Zero
Ambient
January 28, 2013

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 28, 2013	Previous Calibration	December 21, 2012
Station Number	4	Station Location	Beaverlodge

Reason: Routine | Installation | Removal | Other:

Start Time (MST)	8:55		End Time (MST)	14:14	
Barometric Pressure	0.910	Atm	Station Temperature	23.0	Deg C
Calibrator	Environics		Serial Number	2844	
NO Cal Gas Conc	51.2	ppm	Cal Gas Expiry Date	March 12, 2014	
NOx Cal Gas Conc	51.2	ppm	Cal Gas Serial #	LL107272	

DACS Information

DACS make: CR3000 DACS serial No.: 5237

Parameter		NO2	NOx	NO
Before	Data Slope	0.993215	1.000826	0.999397
	Data Offset	-0.242782	0.845194	1.432065
After	Data Slope	0.996931	0.997242	0.999145
	Data Offset	-0.166485	1.762485	1.947973
Channel #		8	6	7
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

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

Test Point	before		after	
Concentration range	0-500	ppb	0-500	ppb
NO offset	2.1	mV	2.1	mV
NOx bkgnd	2.3	mV	2.3	mV
NO coefficient	1.408		1.426	
NOx coefficient	1.002		1.002	
NO2 conv temp	326.0	Deg C	326.0	Deg C
PMT Temp	-2.8	Deg C	-2.8	Deg C
PMT Volt	-671.9	mV	-671.9	mV
R Cell Press	170.2	in Hg	171.7	in Hg
Sample Flow	0.786	ccm	0.793	ccm

Notes: Slight adjustment.

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **NOX-NO-NO2**

Air Monitoring Network **PAZA**

Station Information

Calibration Date: January 28, 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	4995	0.00	0.0	0.0	0.0	-0.1	-0.1	-0.1	N/A	N/A
1	4995	39.94	406.1	406.1	0.0	406.2	405.5	0.0	0.9998	1.0017
2	4995	19.97	203.9	203.9	0.0	202.1	201.1	0.2	1.0086	1.0136
3	4995	9.97	102.0	102.0	0.0	98.6	98.3	0.2	1.0342	1.0377
AFZ	4995	0.00	0.0	0.0	0.0	0.0	-0.1	0.0	0.0000	0.0000
AFS	4995	39.94	406.1	406.1	0.8	401.2	400.6	-0.1	1.0124	1.0139
							Average Correction Factor		1.0142	1.0177

As Found Concentrations: NO_X= 402.0 NO= 402.1 As Found Percent Change NO_X= -1.0% NO= -1.0%

GPT Calibration Data

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	-0.1	-0.1	0.0	-0.1	-0.1	-0.1	N/A	N/A	N/A	N/A
NO point	405.4	405.4	0.0	406.2	405.4	0.0	0.9981	1.0000	N/A	N/A
300	405.4	108.1	297.3	407.0	108.1	298.2	0.9961	1.0000	0.9970	100.3%
200	405.4	203.0	202.4	407.2	203.0	203.3	0.9957	1.0000	0.9956	100.4%
100	405.4	298.4	107.0	406.8	298.4	107.8	0.9966	1.0000	0.9923	100.8%
					Average Correction Factor		0.9961	1.0000	0.9950	100.5%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.0	-0.1	0.0	ppb	-0.1	-0.2	-0.1	ppb
Auto span	205.5	203.2	1.6	ppb	218.8	217.1	1.0	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PAZA**

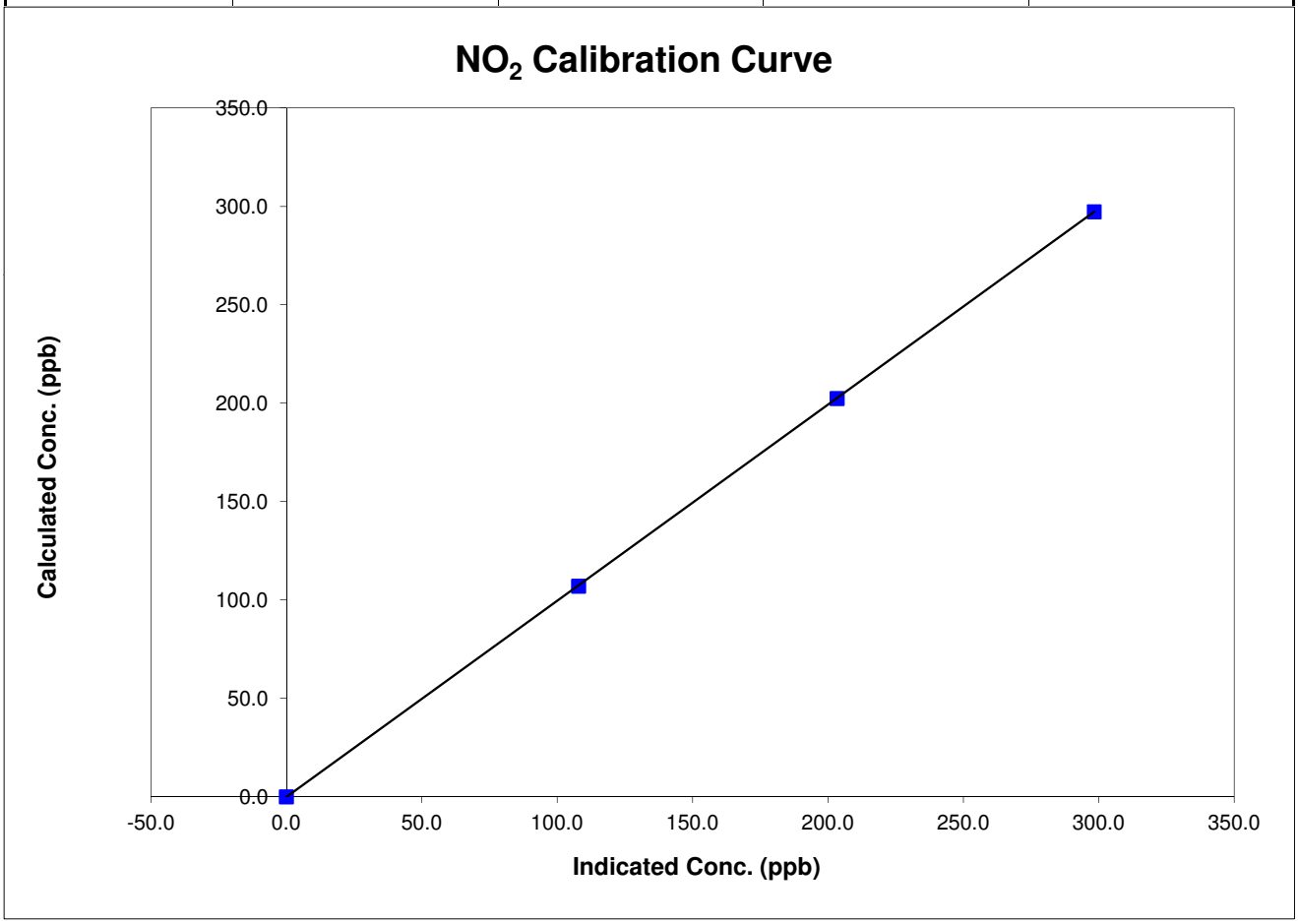
FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 28, 2013	Previous Calibration	December 21, 2012
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	8:55	End Time (MST)	14:14
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
297.3	298.2	0.9970	Correlation Coefficient	0.999996
202.4	203.3	0.9956		
107.0	107.8	0.9923	Slope	0.996931
			Intercept	-0.166485



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

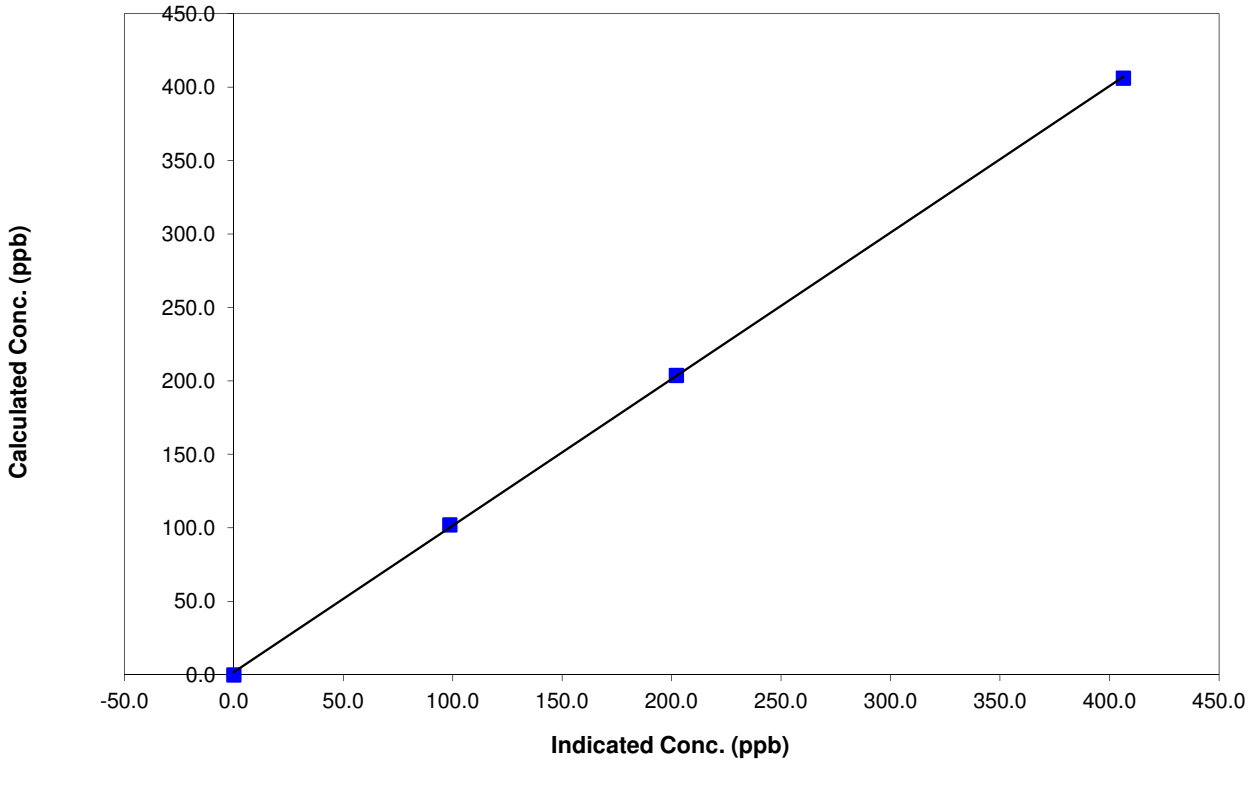
Station Information

Calibration Date	January 28, 2013	Previous Calibration	December 21, 2012
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	8:55	End Time (MST)	14:14
Analyzer make	TEI 42i	Analyzer serial #	906535068

Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
406.1	406.2	0.9998	Correlation Coefficient	0.999920
203.9	202.1	1.0086		
102.0	98.6	1.0342	Slope	0.997242
			Intercept	1.762485

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

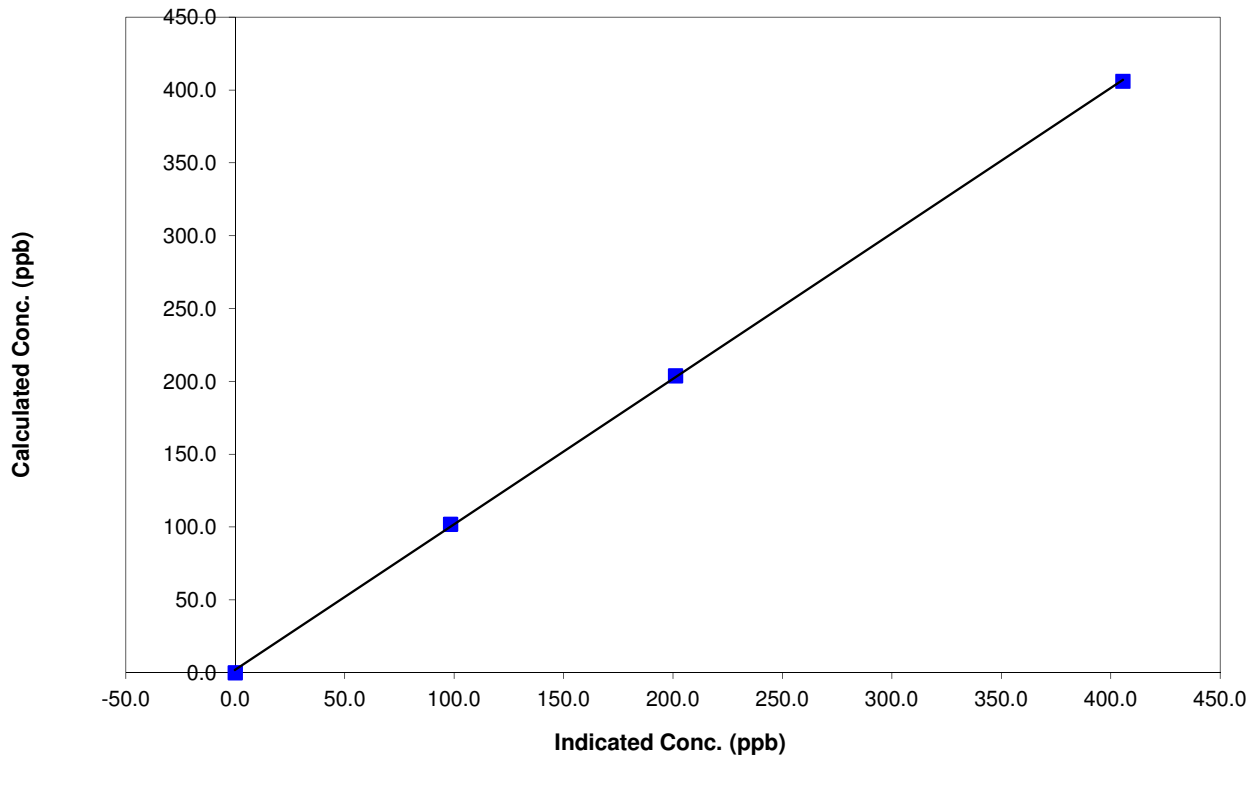
Station Information

Calibration Date	January 28, 2013	Previous Calibration	December 21, 2012
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	8:55	End Time (MST)	14:14
Analyzer make	TEI 42i	Analyzer serial #	906535068

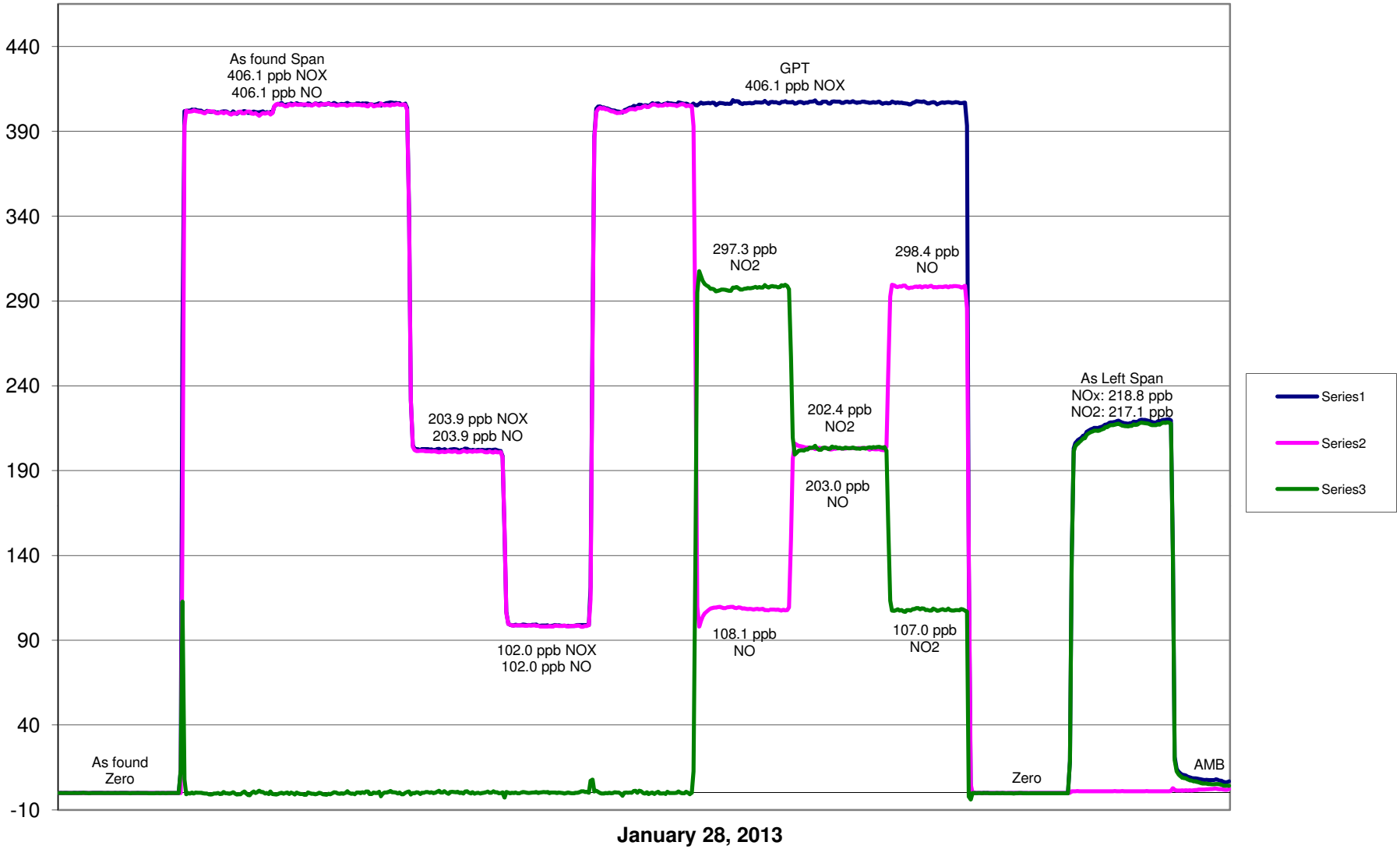
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
406.1	405.5	1.0017	Correlation Coefficient	0.999903
203.9	201.1	1.0136		
102.0	98.3	1.0377	Slope	0.999145
			Intercept	1.947973

NO Calibration Curve



PAZA Beaverlodge NO_X Calibration



Calibration Report

Parameter **O3**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 28, 2013	Previous Calibration	December 21, 2012
Station Number	4	Station Location	Beaverlodge

Reason: Routine | Install | Removal | Other:

Start Time (MST)	12:45	End Time (MST)	15:34
Barometric Pressure	0.910 atm	Station Temperature	23.0 Deg C
Calibrator	Environics 6100	Serial Number	2844
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	0.992002	Calculated slope	0.996335
Calculated intercept	0.202591	Calculated intercept	0.500088

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

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
offset	-1.50	ppb	-1.50	ppb
slope	1.036		1.036	
Lamp temp	56.4	mV	56.4	mV
Lamp Intensity A/B	51116/55185	mV	51226/55423	mV
Pressure	685.9	mm Hg	685.3	mm Hg
Flow A	0.763	ccm	0.763	ccm
Flow B	0.712	ccm	0.712	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)
5035	0.0	0.0	0.2	N/A
5035	0.3	297.3	298.7	0.9952
5035	0.2	202.4	201.7	1.0034
5035	0.1	107.0	106.3	1.0063
5035	0.0	0.0	0.0	As found zero
5035	0.3	297.3	298.7	As found span
			Average Correction Factor	1.0017

Calculated value of As Found Response: 296.5 ppm Percent Change of As Found: -0.3%

	before calibration		after calibration	
Auto zero	0.4	ppb	0.7	ppb
Auto span	110.0	ppb	116.4	ppb

Notes: No adjust

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **O3**

Air Monitoring Network **PAZA**

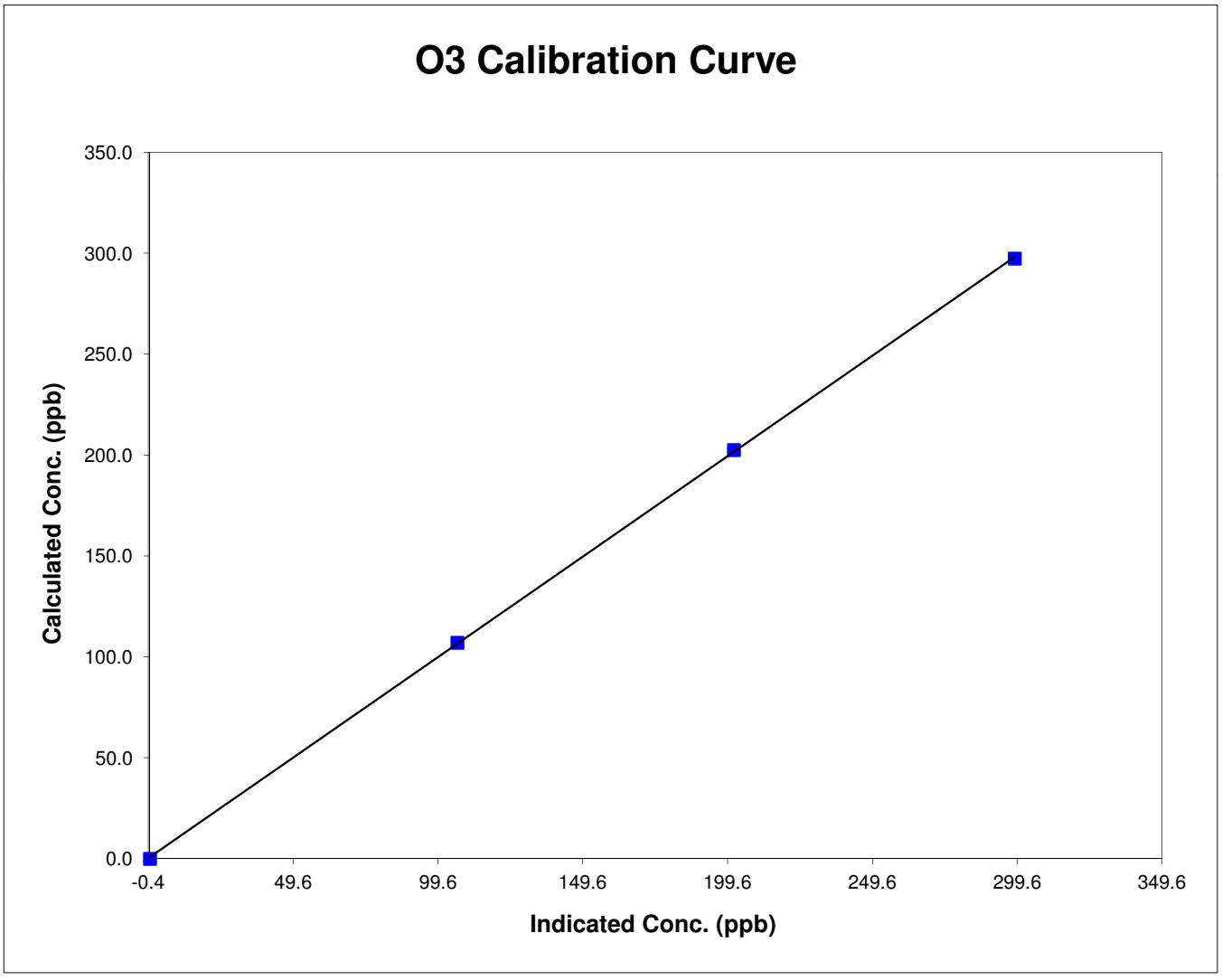
FOCUS AIR QUALITY MONITORING

Station Information

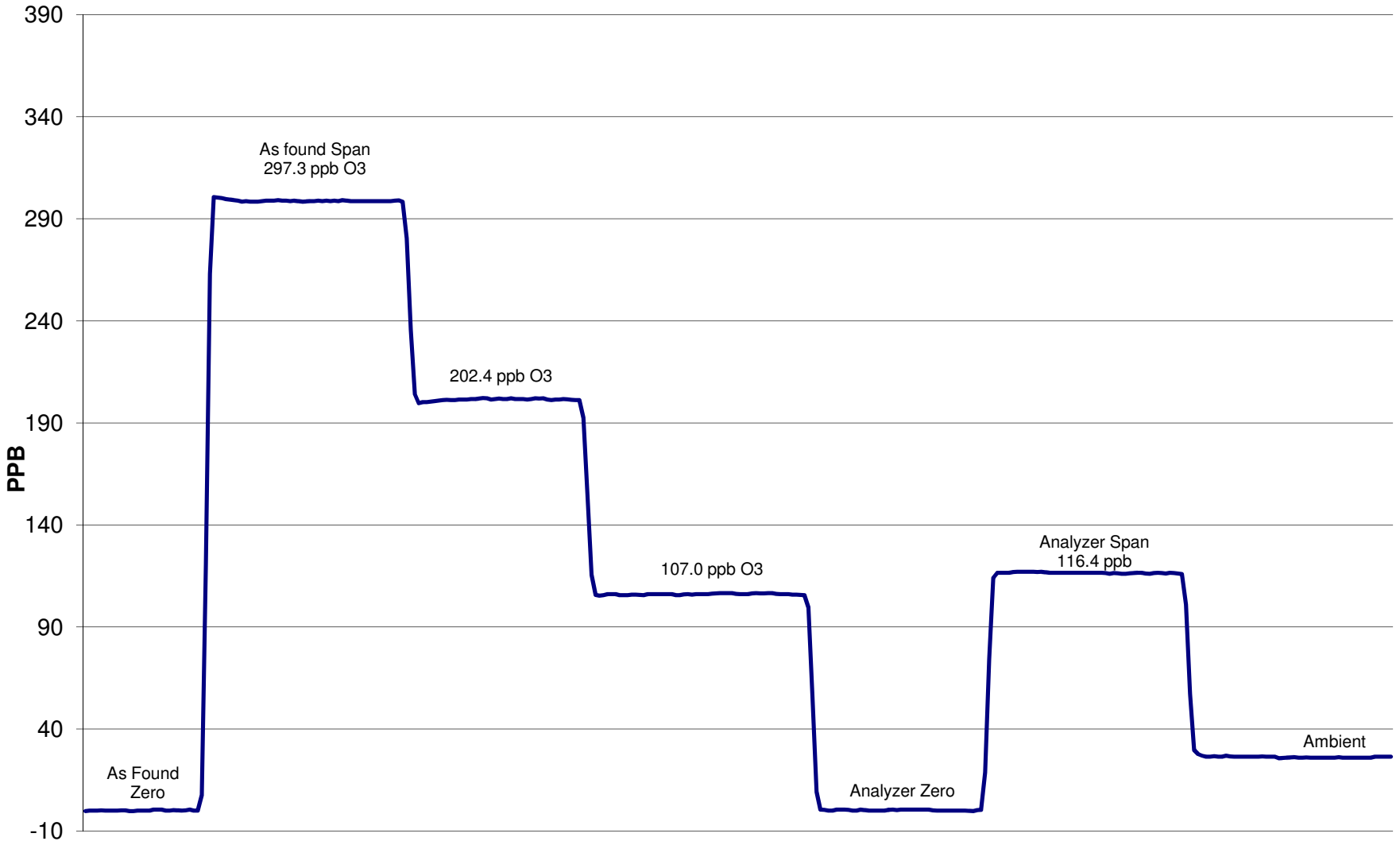
Calibration Date	January 28, 2013	Previous Calibration	December 21, 2012
Station Number	4	Station Location	Beaverlodge
Start Time (MST)	12:45	End Time (MST)	15:34
Analyzer make/model	Teco 49C	Analyzer serial #	49C-76443-383

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.2	NA		
297.3	298.7	0.9952	Correlation Coefficient	0.999953
202.4	201.7	1.0034		
107.0	106.3	1.0063	Slope	0.996335
			Intercept	0.500088



O3 Calibration



January 28, 2013

Calibration Report

Parameter **SO2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 17, 2013	Previous Calibration	December 14, 2012
Station Number	6	Station Location	Valleyview
Reason: Routine	Install	Removal	Other:
Start Time (MST)	12:25	End Time (MST)	15:07
Barometric Pressure	702.00 mmHg	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3016
Cal Gas Concentration	50.8 ppm	Cal Gas Cert Date	12/03/2013
Gas Cylinder Num.	LL107272	Cal gas Exp. Date	12/03/2014
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	0.984224	Calculated slope	0.997200
Calculated intercept	2.989262	Calculated intercept	1.788751
Analyzer make	TEI 45C	Analyzer serial #	45C-57531-313

	before		after	
Concentration range	0 - 1000	ppb	0 - 1000	ppb
Background	36.1		35.9	
Coefficient	0.882		0.882	
UV Lamp Voltage	981	LPM	982	LPM
Chamber Temp	43.9	V	43.9	V
Perm Gas Temp	32.3	C	32.3	C
Pressure	594.8	in Hg	599.9	in Hg
Sample Flow	0.552	LPM	0.556	LPM
Lamp Intensity	48109	Hz	48532	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)
4995	0.00	0.0	0.3	N/A
4995	39.94	403.0	403.3	0.9993
4995	19.97	202.3	200.2	1.0105
4995	9.94	100.9	97.2	1.0378
4995	0.00	0.0	0.3	As found zero
4995	39.94	403.0	403.3	As found span
			Average Correction Factor	1.0159

Calculated value of As Found Response: 399.6 ppm Percent Change of As Found: 0.8%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.0	ppm
Auto span	160.1	ppm	144.4	ppm

Notes: No adjustment.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

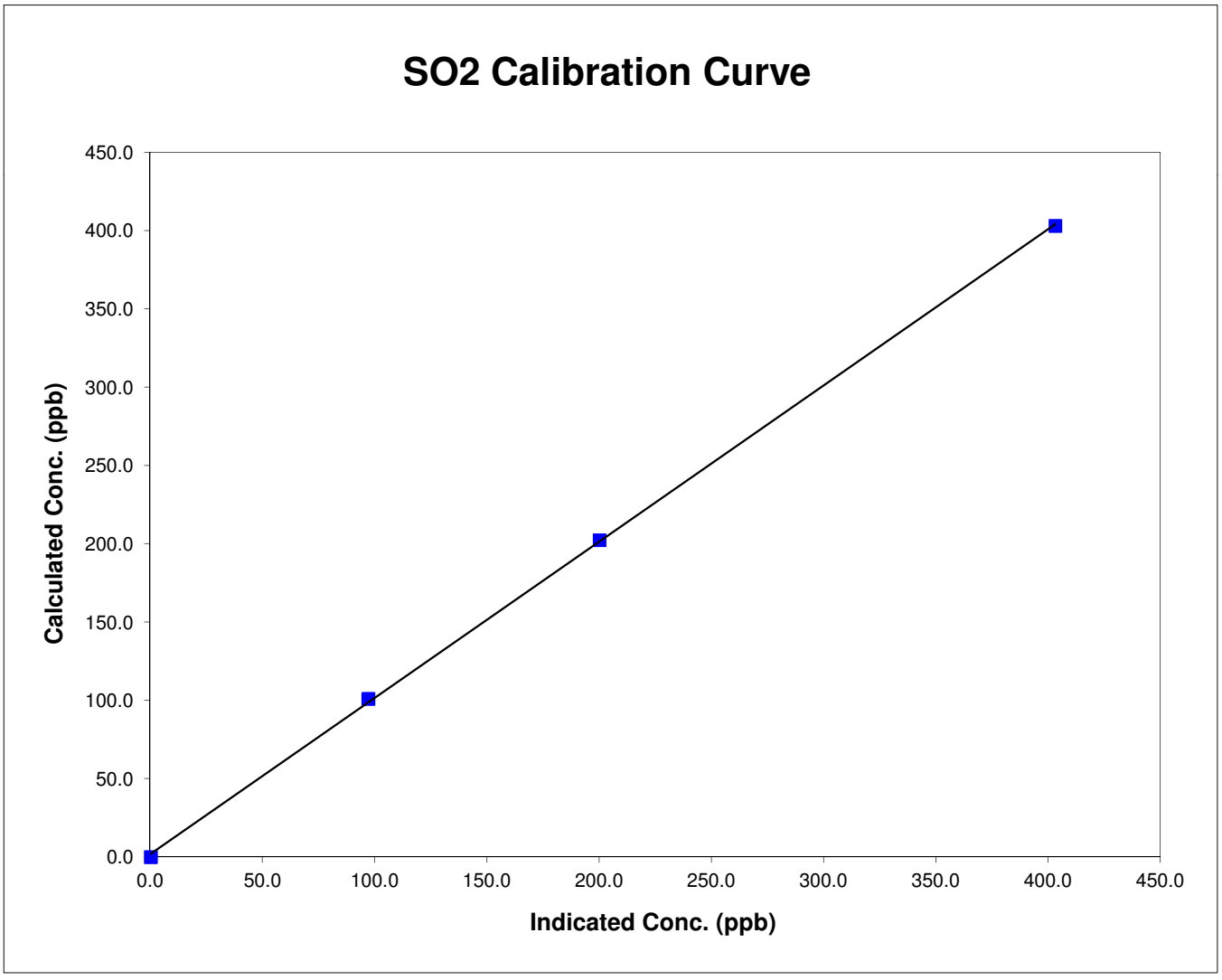
FOCUS AIR QUALITY MONITORING

Station Information

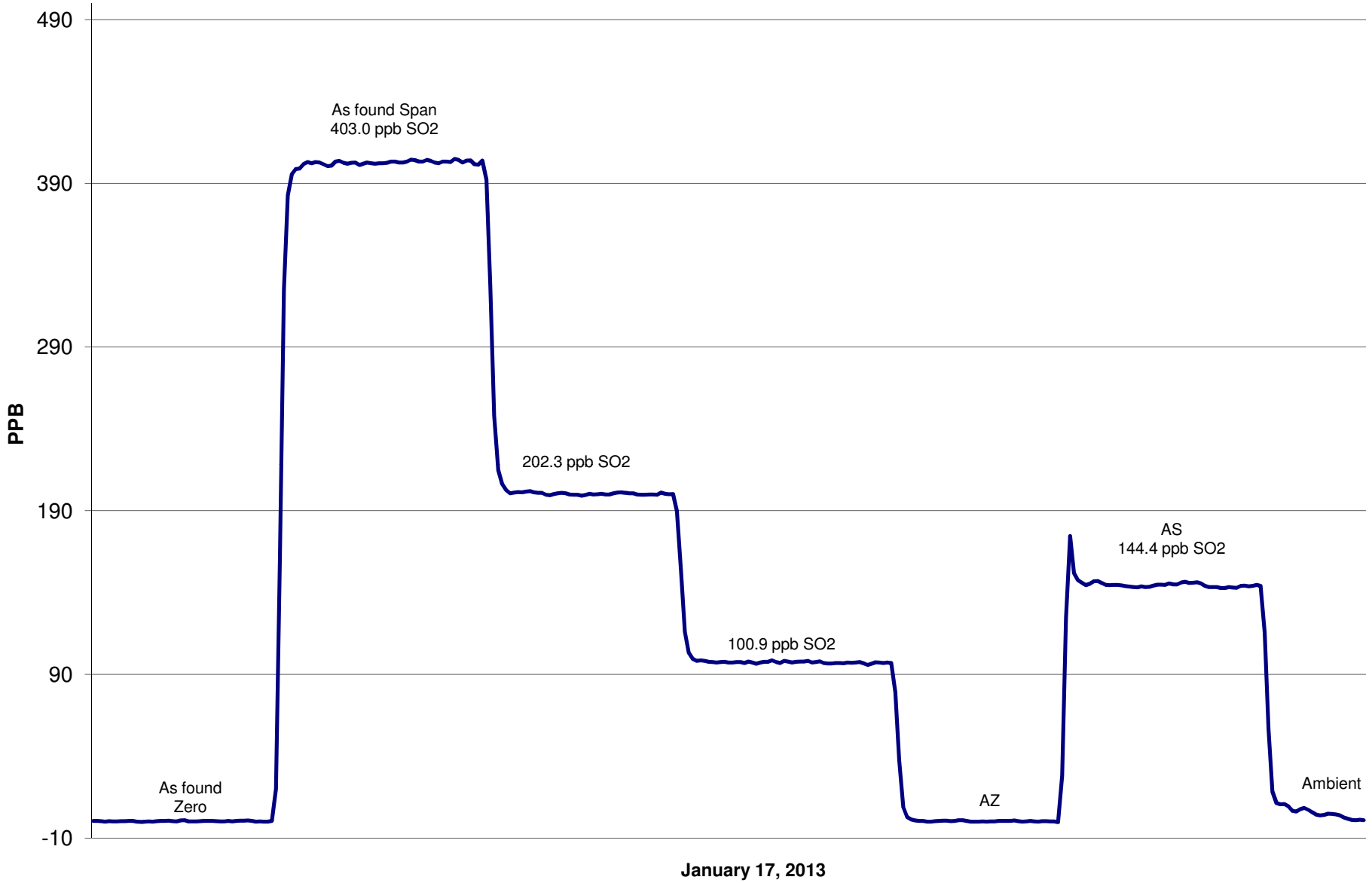
Calibration Date	January 17, 2013	Previous Calibration	December 14, 2012
Station Number	6	Station Location	Valleyview
Start Time (MST)	12:25	End Time (MST)	15:07
Analyzer make/model	TEI 45C	Analyzer serial #	45C-57531-313

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A		
403.0	403.3	0.9993	Correlation Coefficient	0.999880
202.3	200.2	1.0105		
100.9	97.2	1.0378	Slope	0.997200
			Intercept	1.788751



SO2 Calibration



Calibration Report

Parameter **H2S**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 17, 2013	Previous Calibration	December 14, 2012
Station Number	6	Station Location	Valleyview

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

Start Time (MST)	10:25	End Time (MST)	13:52
Barometric Pressure	702.00 mm	Station Temperature	21.0 Deg C
Calibrator	Environics 6100	Serial Number	LL160692
Cal Gas Concentration	10.1 ppm	Cal Gas Expiry Date	11/05/2013
Gas Cert Reference	15/05/2012		
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	0.978110	Calculated slope	0.966051
Calculated intercept	0.149549	Calculated intercept	0.310649

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

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Back Ground	7.8	ppb	7.8	ppb
Coefficient	1.040		1.040	
Lamp Voltage	790	V	790	V
Chamber Temp	45.1	c	45.1	c
Perm Oven Temp	44.33	c	44.33	c
Pressure	607.00	mm Hg	600.30	mm Hg
Sample Flow	0.412	ccm	0.408	ccm
Lamp Intensity	91.0	%	92.0	%

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)
4995	0.00	0.0	0.0	N/A
4995	39.93	80.1	82.8	0.9672
4995	19.97	40.2	40.9	0.9832
8979	8.97	10.1	10.0	1.0123
4995	0.00	0.0	0.0	As found zero
4995	39.95	80.1	82.8	As found span
			Average Correction Factor	0.9876

Calculated value of As Found Response: 81.11 ppm Percent Change of As Found: -1.2%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.4	ppm
Auto span	70.6	ppm	71.2	ppm

Notes: No adjust 80% point.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **H2S**

Air Monitoring Network **PAZA**

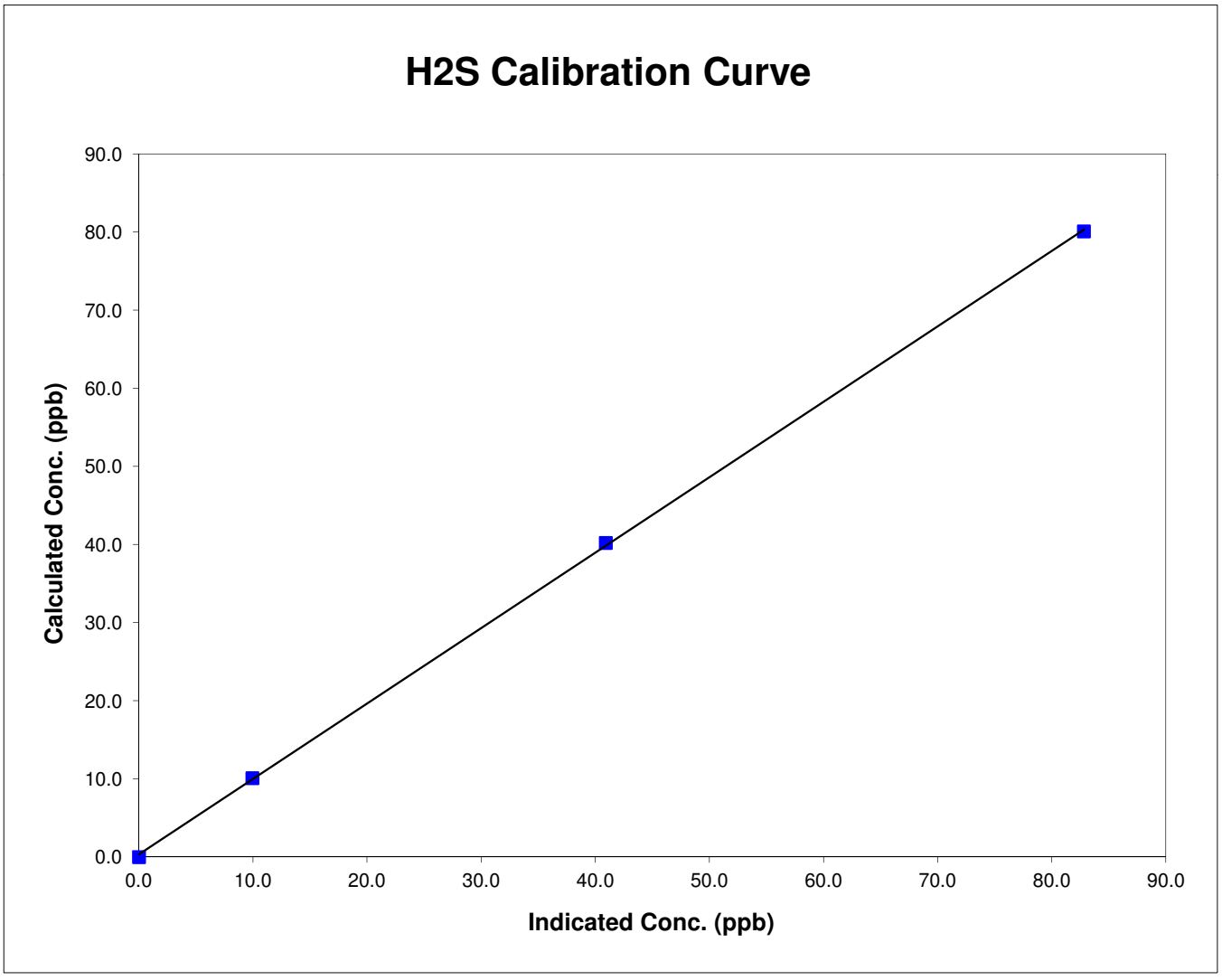
FOCUS AIR QUALITY MONITORING

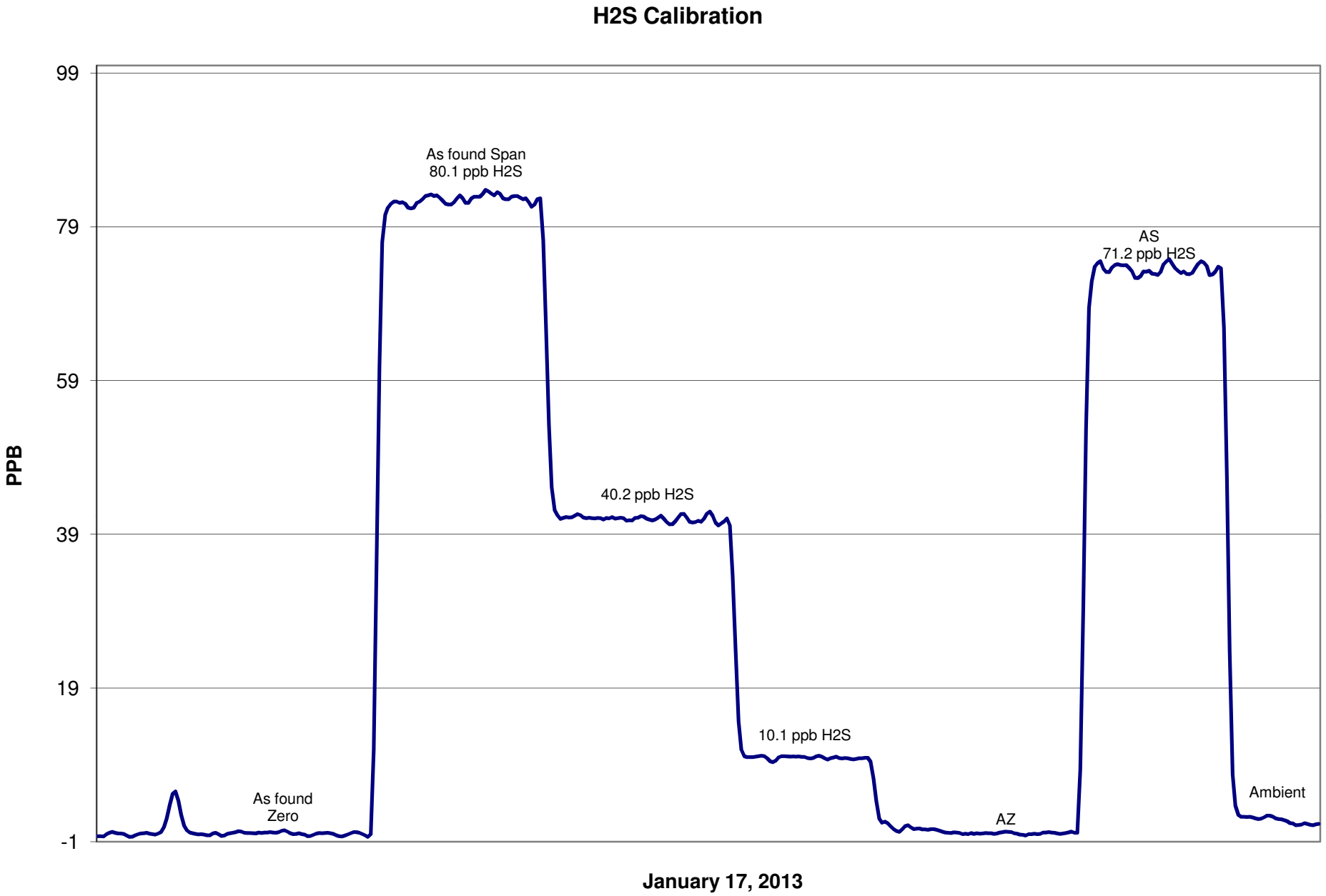
Station Information

Calibration Date	January 17, 2013	Previous Calibration	December 14, 2012
Station Number	6	Station Location	Valleyview
Start Time (MST)	10:25	End Time (MST)	13:52
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	0.0	N/A		
80.1	82.8	0.9672	Correlation Coefficient	0.999915
40.2	40.9	0.9832		
10.1	10.0	1.0123	Slope	0.966051
			Intercept	0.310649




H2S Calibration
99
79
59
39
19
-1
PPB
As found Span
80.1 ppb H2S
40.2 ppb H2S
10.1 ppb H2S
AZ
AS
71.2 ppb H2S
Ambient
As found
Zero
January 17, 2013

Calibration Report

Parameter **SO2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 18, 2013	Previous Calibration	December 13, 2012
Station Number	9	Station Location	Sunset House
Reason:	Routine / Install / Removal / Other:		
Start Time (MST)	9:50	End Time (MST)	13:17
Barometric Pressure	31.70 inches Hg	Station Temperature	19.7 Deg C
Calibrator	Environics 6100	Serial Number	3016
Cal Gas Concentration	50.8 ppm	Cal Gas Expiry Date	06/04/2012
Gas Cert Reference	LL85275		
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	0.994450	Calculated slope	0.997080
Calculated intercept	2.385343	Calculated intercept	1.956906
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Background	18.6		18.4	
Coefficient	1.011		1.013	
UV Lamp Voltage	837	V	837	V
Chamber Temp	44.9	C	44.9	C
Perm Gas Temp	45	C	45	C
Pressure	657	mm Hg	659.2	mm Hg
Sample Flow	0.479	LPM	0.48	LPM
Lamp Intesity	37186	Hz	37124	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)
4995	0.00	0.0	-0.1	N/A
4995	39.93	402.9	403.2	0.9991
4995	19.97	202.3	199.3	1.0152
4995	9.96	101.1	98.1	1.0307
4995	0.00	0.0	-0.1	As found zero
4995	39.93	402.9	399.1	As found span
			Average Correction Factor	1.0150

Calculated value of As Found Response: 399.419 ppm Percent Change of As Found: 0.9%

	before calibration		after calibration	
Auto zero	0.3	ppm	0.3	ppm
Auto span	264.0	ppm	271.0	ppm

Notes: Slight span adjust.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

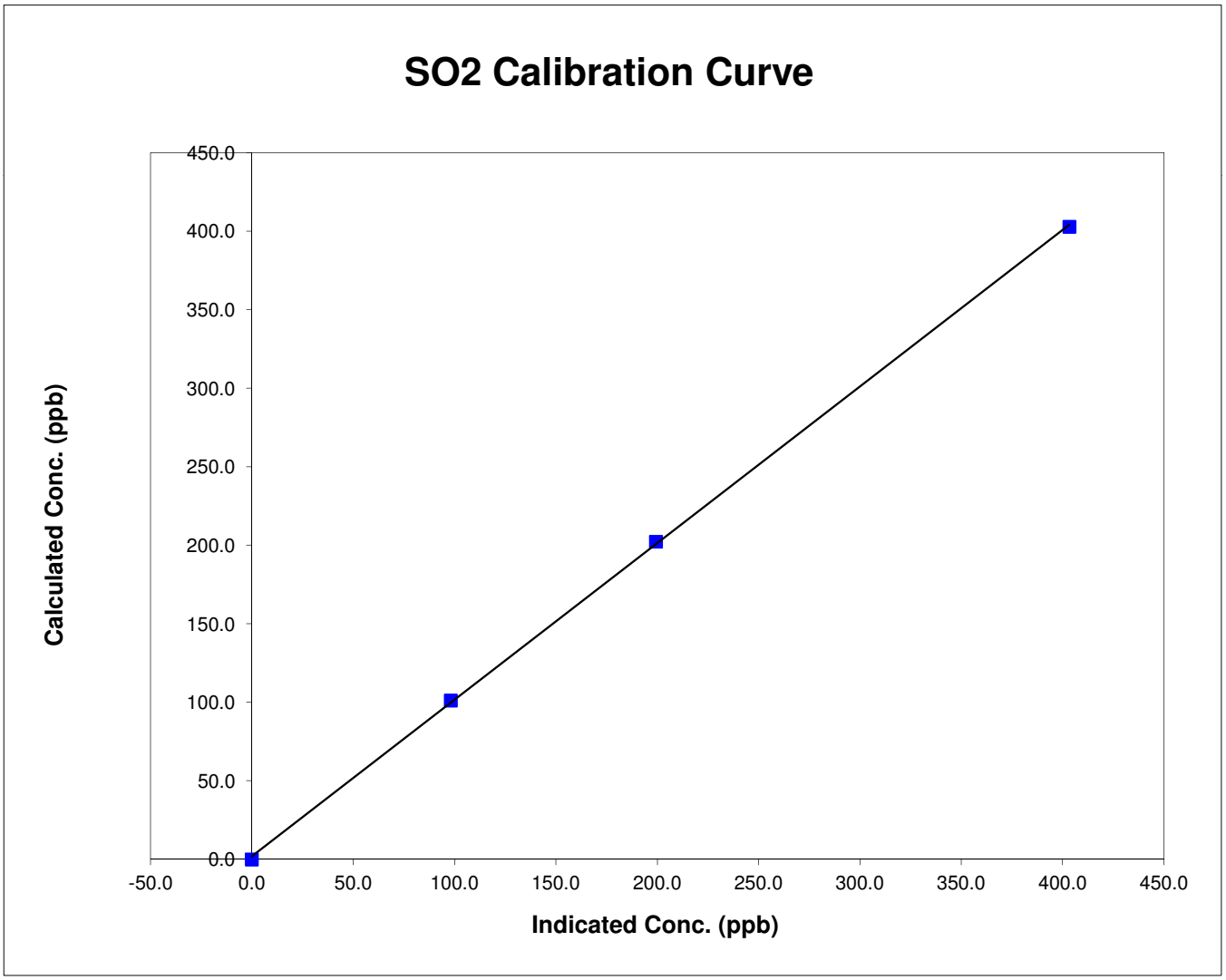
FOCUS AIR QUALITY MONITORING

Station Information

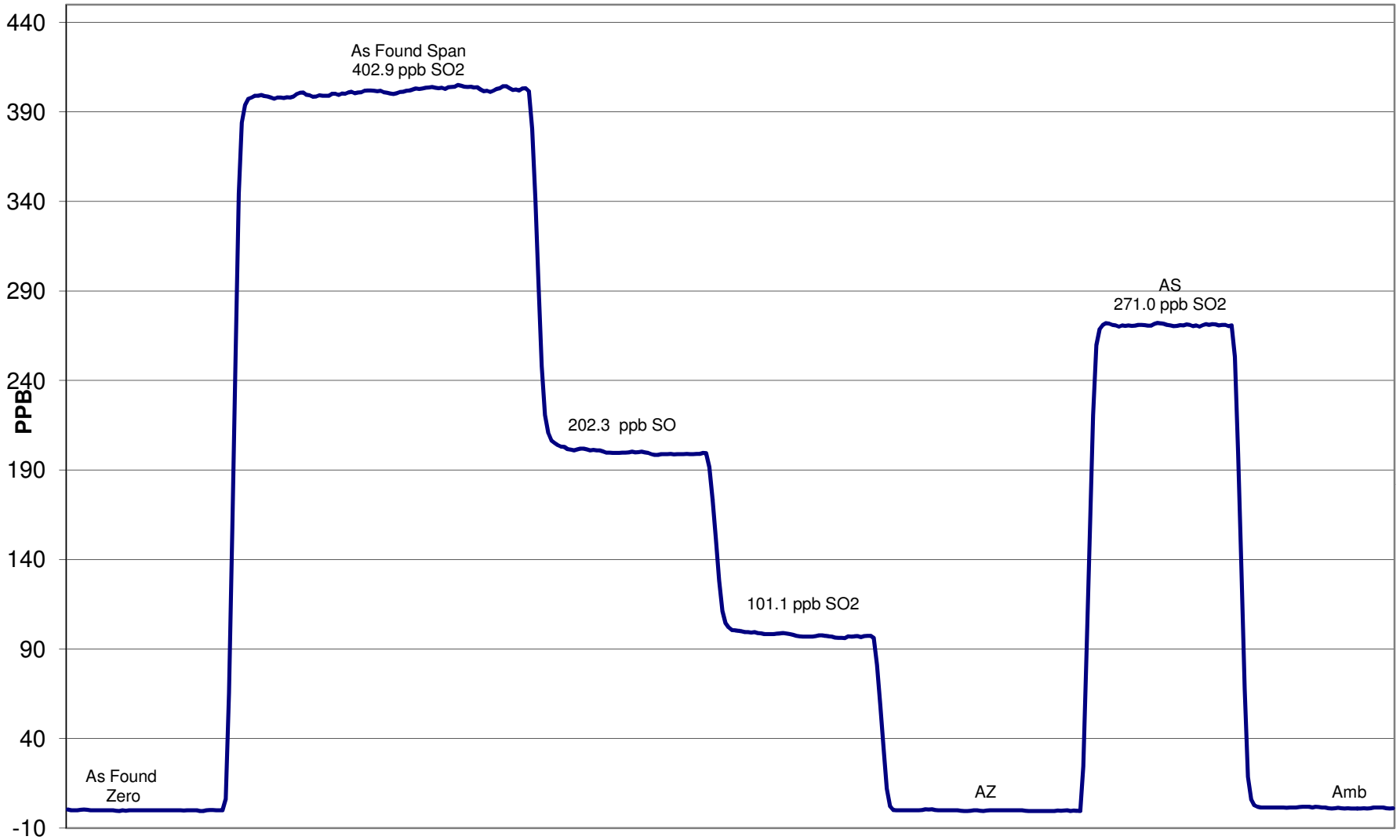
Calibration Date	January 18, 2013	Previous Calibration	December 13, 2012
Station Number	9	Station Location	Sunset House
Start Time (MST)	9:50	End Time (MST)	13:17
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	-0.1	N/A		
402.9	403.2	0.9991	Correlation Coefficient	0.999895
202.3	199.3	1.0152		
101.1	98.1	1.0307	Slope	0.997080
			Intercept	1.956906



SO2 Calibration



January 18, 2013

Calibration Report

Parameter **NO_X-NO-NO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 18, 2013	Previous Calibration	December 13, 2012
Station Number	9	Station Location	Sunset House

Reason: Routine | Install | Removal | Other:

Start Time (MST)	9:50		End Time (MST)	15:30	
Barometric Pressure	0.904	Atm	Station Temperature	20.0	Deg C
Calibrator	Environics		Serial Number	3016	
NO Cal Gas Conc	51.2	ppm	Cal Gas Expiry Date	March 12, 2014	
NOx Cal Gas Conc	51.2	ppm	Cal Gas Serial #	LL107272	

DACS Information

DACS make: CR3000 DACS serial No.: 5407

Parameter		NO2	NOx	NO
Before	Data Slope	1.000198	0.991049	0.997592
	Data Offset	-0.000267	1.423214	1.225121
After	Data Slope	0.996890	0.992468	0.997794
	Data Offset	-0.753323	0.914649	0.772844
Channel #		5	3	4
Voltage Range		0 - 5 VDC	0 - 5 VDC	0 - 5 VDC

Analyzer Information

Analyzer make/model: TEI 42i Analyzer serial #: 0701120011

Test Point	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
NO offset	4.7	mV	4.7	mV
NOx bkgnd	5.0	mV	4.9	mV
NO coefficient	1.077		1.064	
NOx coefficient	1.001		1.001	
NO2 conv temp	325.0	Deg C	325.0	Deg C
PMT Temp	-2.8	Deg C	-2.8	Deg C
PMT Volt	-805.1	mV	-805.2	mV
R Cell Press	169.3	in Hg	169.6	in Hg
Sample Flow	0.789	ccm	0.786	ccm

NOTES: Slight span adjust.

Calibration Report

FOCUS AIR QUALITY MONITORING

Parameter **NOX-NO-NO2**

Air Monitoring Network **PAZA**

Station Information

Calibration Date: January 18, 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	0.6	0.7	0.0	N/A	N/A
1	4995	39.93	406.0	406.0	0.0	409.1	407.1	0.3	0.9926	0.9974
2	4995	19.97	203.9	203.9	0.0	203.4	202.3	0.4	1.0023	1.0080
3	4995	9.96	101.9	101.9	0.0	100.4	100.2	0.0	1.0148	1.0168
AFZ	4995	0.00	0.0	0.0	0.0	0.7	0.7	0.1	0.0000	0.0000
AFS	4995	39.93	406.0	406.0	0.0	412.6	410.6	0.4	0.9840	0.9890
							Average Correction Factor		1.0032	1.0074

As Found Concentrations: NO_X= 413.4 NO= 411.1 As Found Percent Change NO_X= 1.8% NO= 1.2%

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	0.7	0.7	0.0	0.6	0.7	0.0	N/A	N/A	N/A	N/A
NO point	407.8	407.8	0.0	410.1	407.8	0.4	0.9942	1.0000	N/A	N/A
300	407.8	103.7	304.1	410.6	103.7	305.4	0.9931	1.0000	0.9957	100.4%
200	407.8	199.9	207.8	411.2	199.9	209.2	0.9916	1.0000	0.9937	100.6%
100	407.8	298.0	109.8	412.2	298.0	112.1	0.9893	1.0000	0.9792	102.1%
					Average Correction Factor		0.9914	1.0000	0.9895	101.1%

AIC Data

	Previous calibration				Current calibration			
Parameter	NOx	NO2	NO		NOx	NO2	NO	
Auto zero	0.8	0.2	0.7	ppb	0.6	0.1	0.8	ppb
Auto span	169.8	167.0	2.2	ppb	182.3	179.5	1.9	ppb

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **NO_2**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

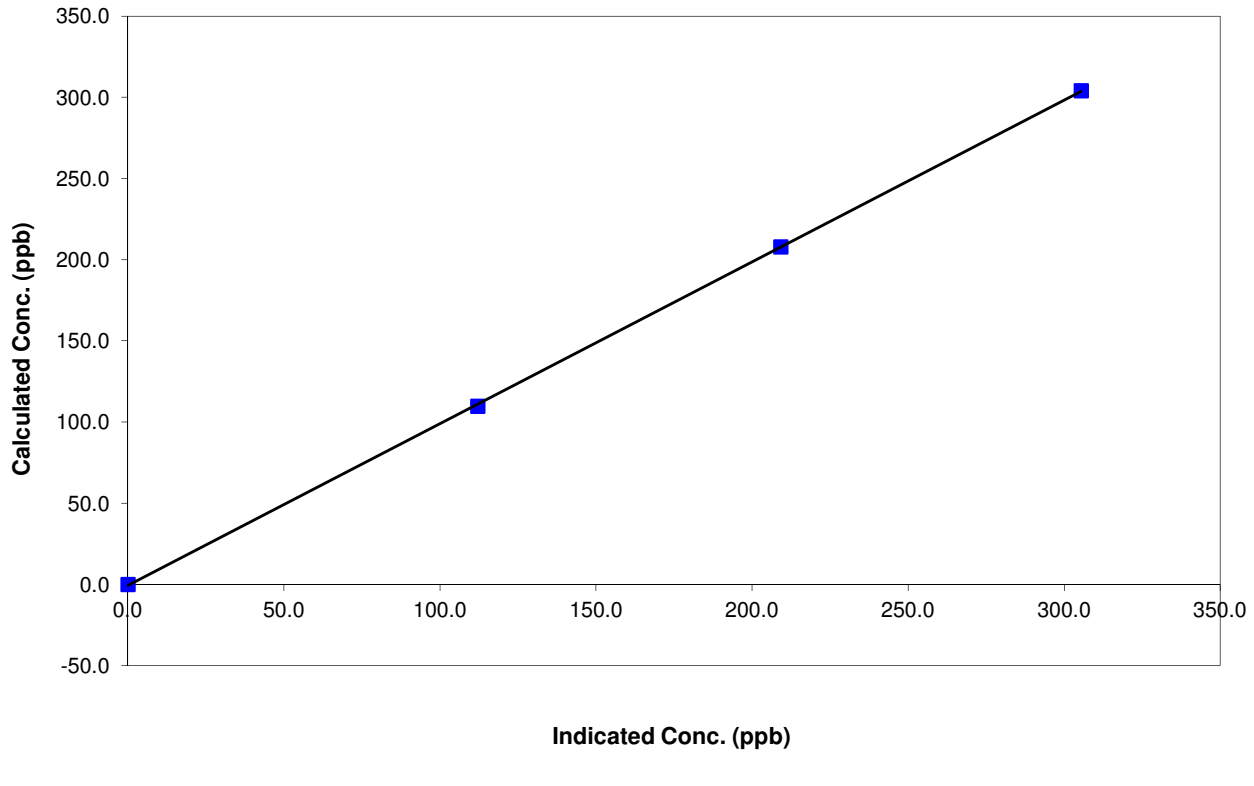
Station Information

Calibration Date	January 18, 2013	Previous Calibration	December 13, 2012
Station Number	9	Station Location	Sunset House
Start Time (MST)	9:50	End Time (MST)	15:30
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		
304.1	305.4	0.9957	Correlation Coefficient	0.999956
207.8	209.2	0.9937		
109.8	112.1	0.9792	Slope	0.996890
			Intercept	-0.753323

NO_2 Calibration Curve



Calibration Summary

Parameter **NO_x**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

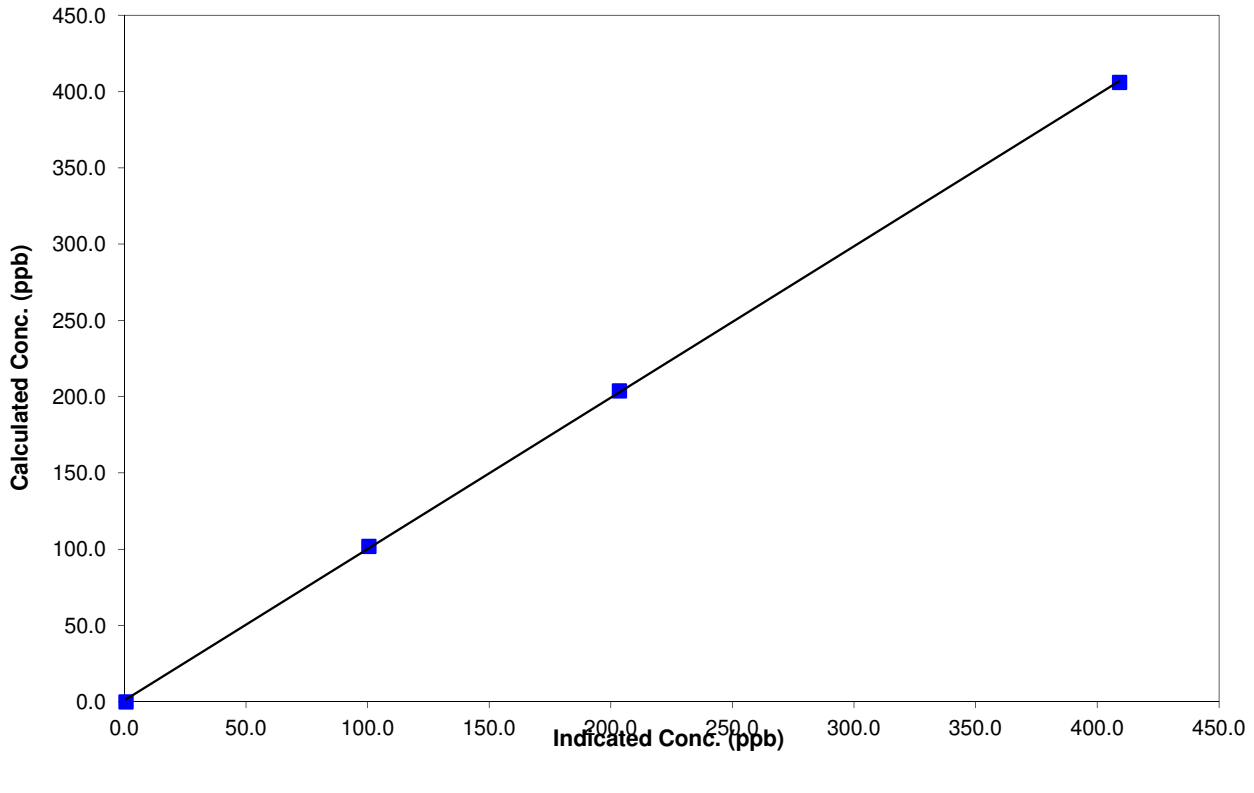
Station Information

Calibration Date	January 18, 2013	Previous Calibration	December 13, 2012
Station Number	9	Station Location	Sunset House
Start Time (MST)	9:50	End Time (MST)	15:30
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	0.6	N/A		
406.0	409.1	0.9926	Correlation Coefficient	0.999933
203.9	203.4	1.0023		
101.9	100.4	1.0148	Slope	0.992468
			Intercept	0.914649

NOx Calibration Curve



Calibration Summary

Parameter **NO**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

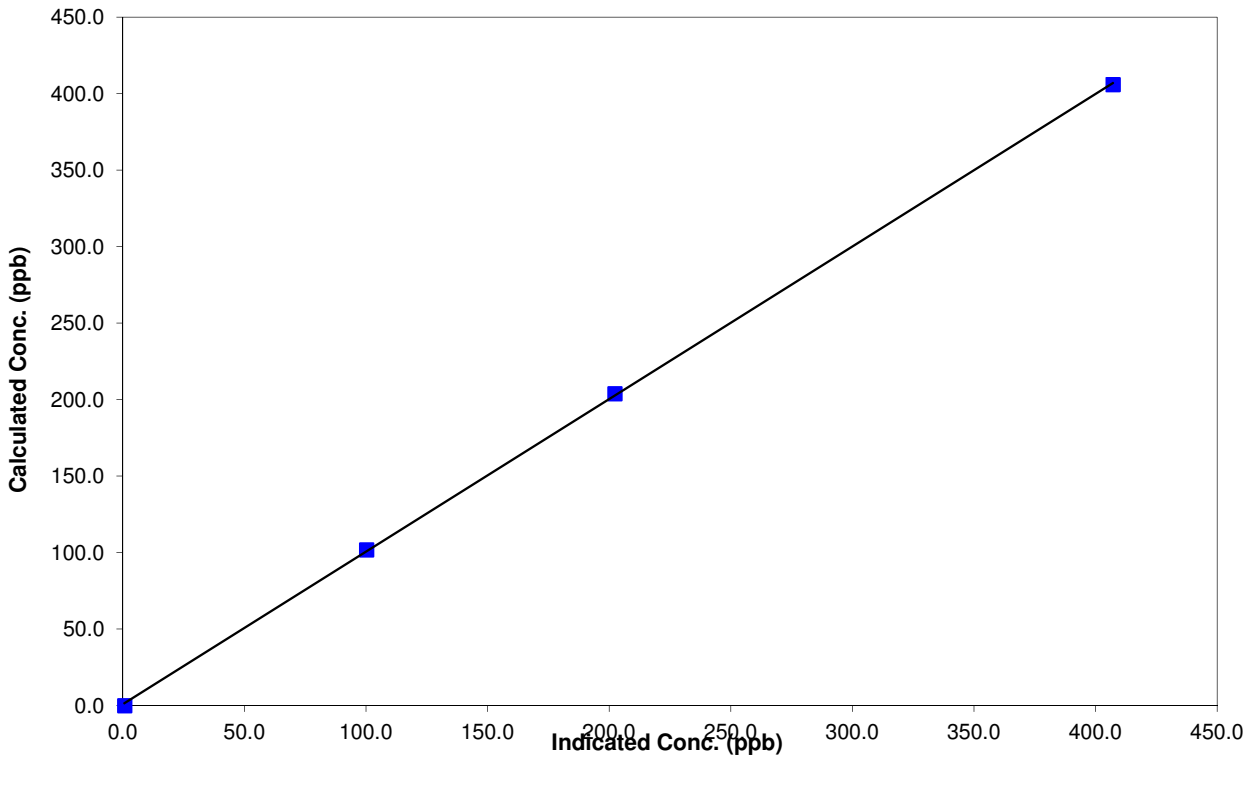
Station Information

Calibration Date	January 18, 2013	Previous Calibration	December 13, 2012
Station Number	9	Station Location	Sunset House
Start Time (MST)	9:50	End Time (MST)	15:30
Analyzer make	TEI 42i	Analyzer serial #	0701120011

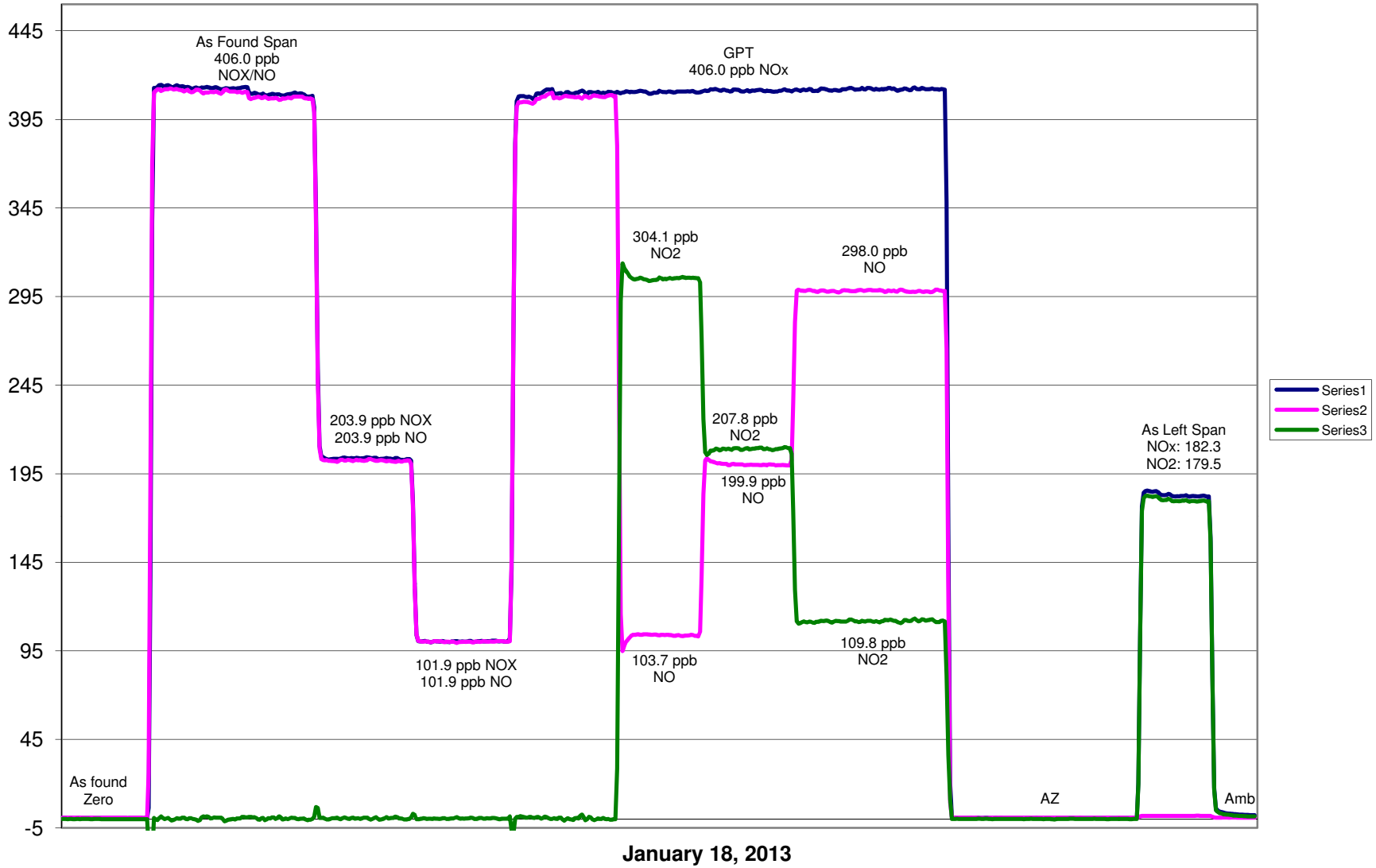
Calibration Data

Calculated conc (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.7	N/A		
406.0	407.1	0.9974	Correlation Coefficient	0.999933
203.9	202.3	1.0080		
101.9	100.2	1.0168	Slope	0.997794
			Intercept	0.772844

NO Calibration Curve



PASZA Sunset House NO_X Calibration



Calibration Report

Parameter **O3**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 18, 2013	Previous Calibration	December 13, 2012
Station Number	9	Station Location	Sunset House

Reason: Routine | Install | Removal | remove | Other:

Start Time (MST)	13:30:00 PM	End Time (MST)	16:14
Barometric Pressure	0.916 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	1.001920	Calculated slope	0.998578
Calculated intercept	0.227192	Calculated intercept	0.178529
Analyzer make	TEI Model 49C	Analyzer serial #	49C-0609716240

	before		after	
Concentration range	0-500	ppb	0-500	ppb
Offset	0.3	ppb	0.3	ppb
Span	1.035		1.035	
Cell A intensity	88567	Hz	84375	Hz
Cell B intensity	82248	Hz	78698	Hz
Pressure	665.40	in Hg	666.50	in Hg
CellA Flow	0.926	ccm	0.926	ccm
Cell B Flow	0.711	cmm	0.711	cmm

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
5040	0.00	0.0	0.1	N/A
5040	0.30	304.1	304.9	0.9972
5040	0.20	207.8	207.1	1.0034
5040	0.10	109.8	109.7	1.0011
5040	0.00	0.0	0.2	As found zero
5040	0.30	304.1	304.9	As found span
			Average Correction Factor	1.0006

Calculated value of As Found Response: 305.6 ppm Percent Change of As Found: 0.5%

	before calibration		after calibration	
Auto zero	0.6	ppb	0.2	ppb
Auto span	137.7	ppb	210.0	ppb

Notes: No adjust.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **O3**

Air Monitoring Network **PAZA**

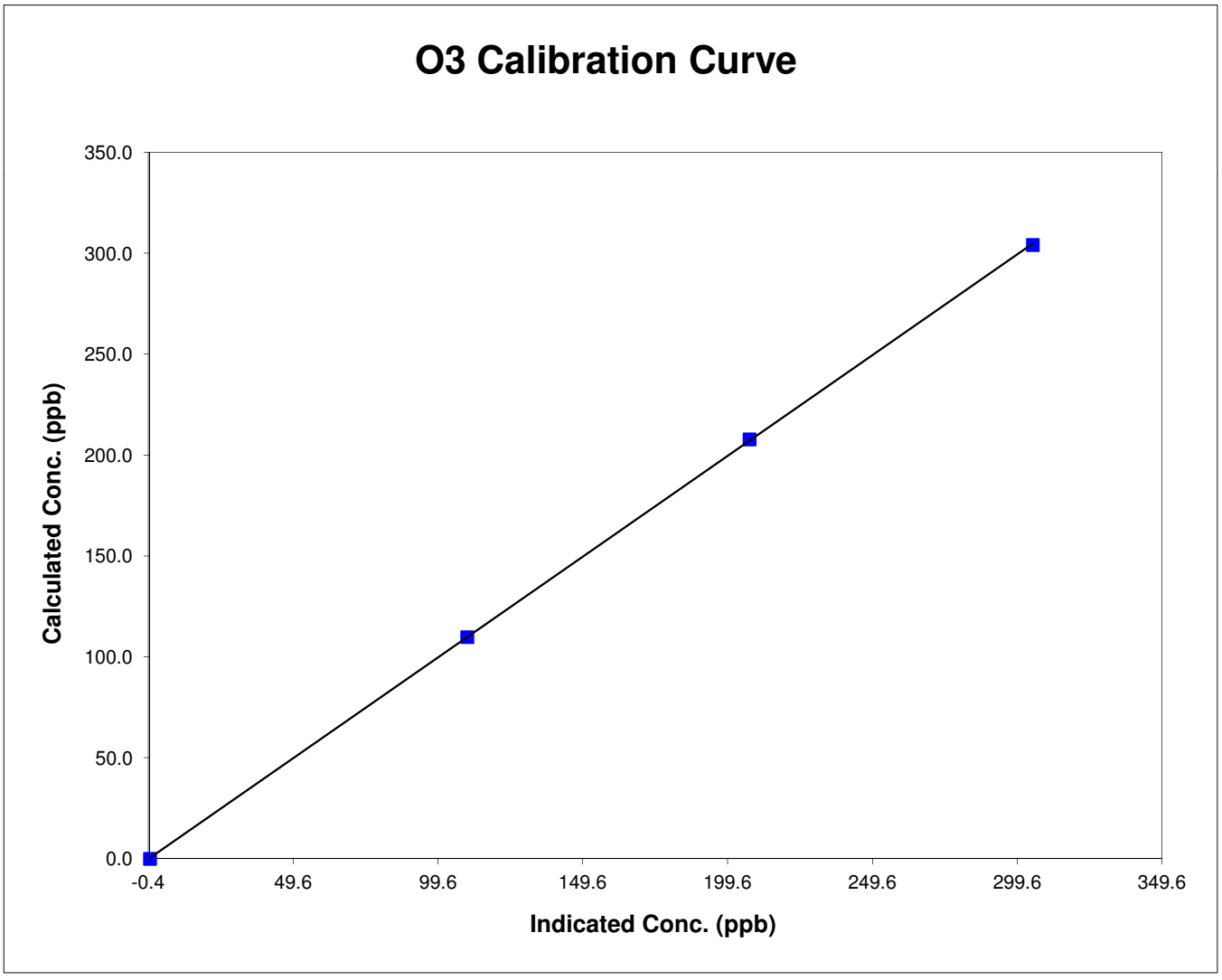
FOCUS AIR QUALITY MONITORING

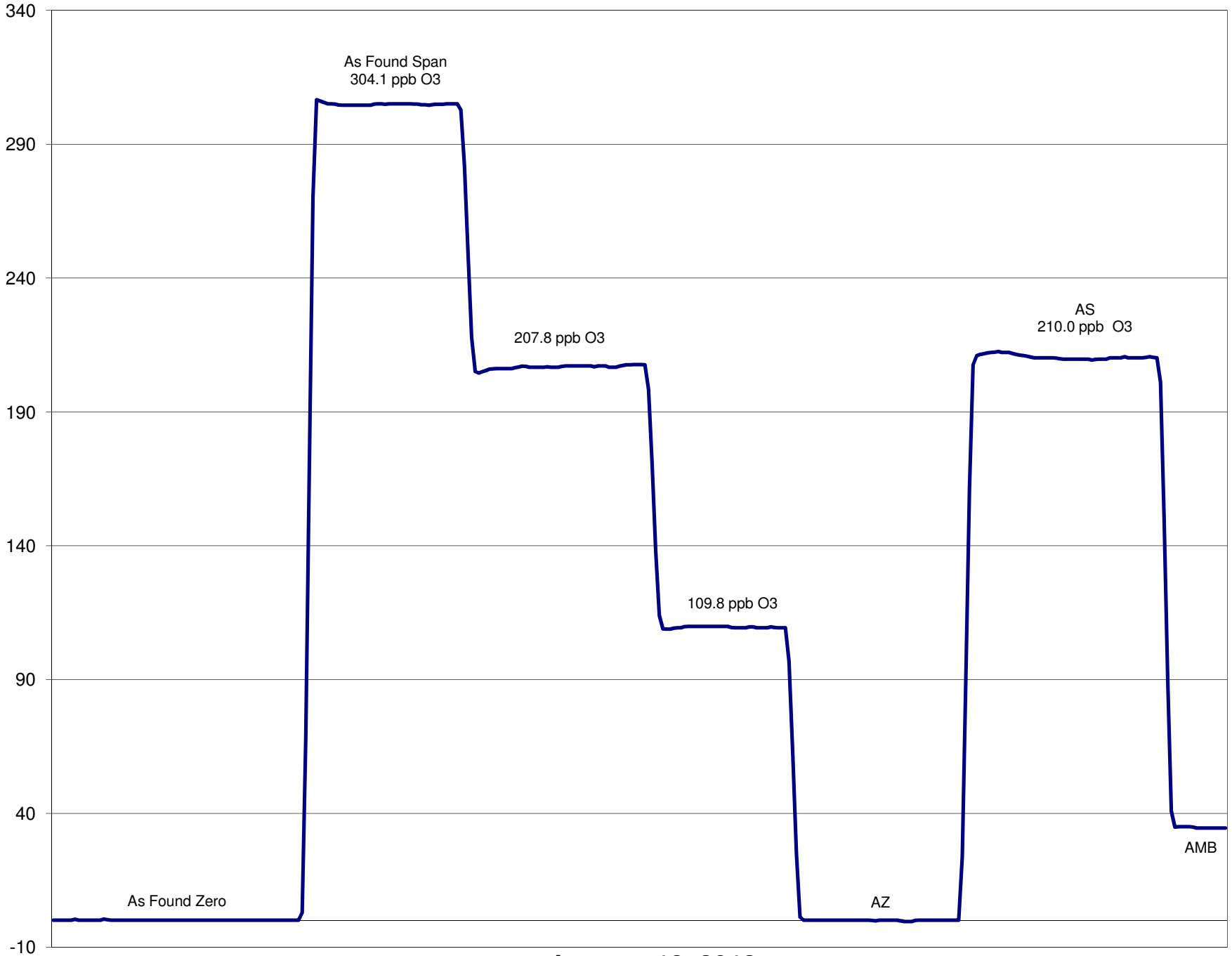
Station Information

Calibration Date	January 18, 2013	Previous Calibration	December 13, 2012
Station Number	9	Station Location	Sunset House
Start Time (MST)	13:30:00 PM	End Time (MST)	16:14
Analyzer make/model	TEI Model 49C	Analyzer serial #	49C-0609716240

Calibration Data

Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.1	NA		
304.1	304.9	0.9972	Correlation Coefficient	0.999978
207.8	207.1	1.0034		
109.8	109.7	1.0011	Slope	0.998578
			Intercept	0.178529





January 18, 2013

Calibration Report

Parameter **TRS**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 18, 2013	Previous Calibration	December 13, 2012
Station Name	PAZA Rover	Station Location	Sunset House
Reason:	Routine: Yes	Install:	Removal:	Other:
Start Time (MST)	14:47:00 PM	End Time (MST)	17:40
Barometric Pressure	27.5 inches Hg	Station Temperature	20.0 Deg C
Calibrator	Environics 6100	Serial Number	3474
Cal Gas Concentration	10.1 ppm	Cal Gas Expiry Date	03/09/2011
Gas Cert Reference	BLM001434		
DACS make	CR3000	DACS serial No.	5407
DACS voltage range	0 - 5 Volt	DACS channel #	1
	Before		After
DACS Scale High	100	DACS slope	100
DACS Scale Low	0	DACS intercept	0
Calculated slope	0.986477	Calculated slope	0.983499
Calculated intercept	0.251515	Calculated intercept	0.161806
Analyzer make	TEI 43C	Analyzer serial #	609716238

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	15.7	ppb	15.5	ppb
Coefficient	1.399		1.399	
Lamp Voltage	844	V	845	V
Chamber Temp	43.8	C	43.8	C
Perm gas Temp	45.0	C	45.0	C
Pressure	646.0	mmHg	647.7	mmHg
Sample Flow	0.440	ccm	0.440	ccm
Lamp Intensity	38630.0	Hz	38044.0	Hz

Calibration Data

Dilution air flow rate (cc/min)	Source gas flow rate (cc/min)	Calculated concentration (ppm) (Cc)	Indicated concentration (ppm) (Ic)	Correction factor (Cc/Ic)
4995	0.0	0.0	0.0	N/A
4995	39.94	80.1	81.4	0.9844
4995	19.96	40.2	40.5	0.9914
8995	8.94	10.0	9.9	1.0102
4995	0.00	0.0	0.2	As found zero
4995	39.94	80.1	79.5	As found span
			Average Correction Factor	0.9953

Calculated value of As Found Response: 78.51 ppm Percent Change of As Found: 2.0%

	before calibration		after calibration	
Auto zero	-0.6	ppm	0.5	ppm
Auto span	69.6	ppm	64.9	ppm

Notes: slite span adjust.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **TRS**

Air Monitoring Network **PAZA**

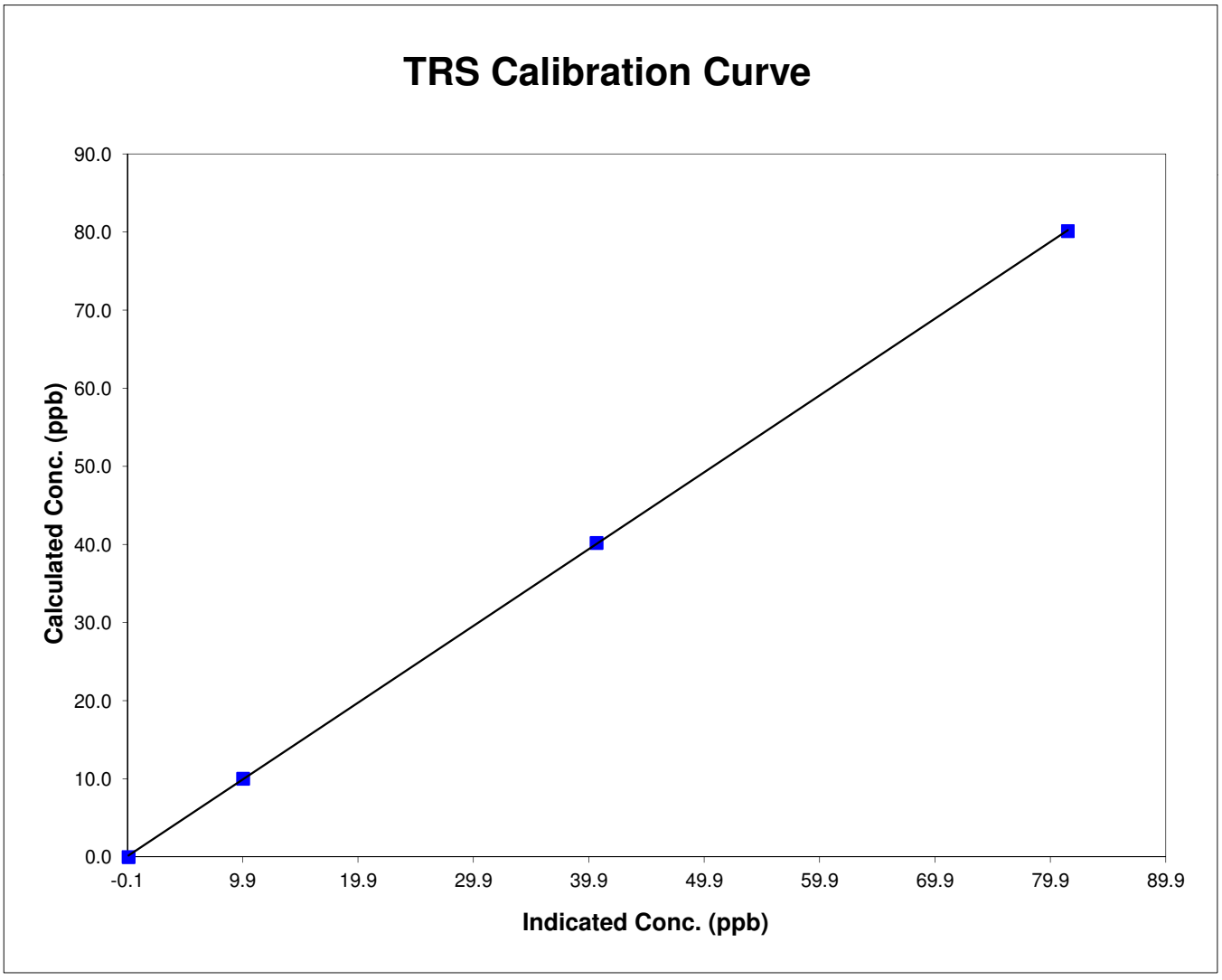
FOCUS AIR QUALITY MONITORING

Station Information

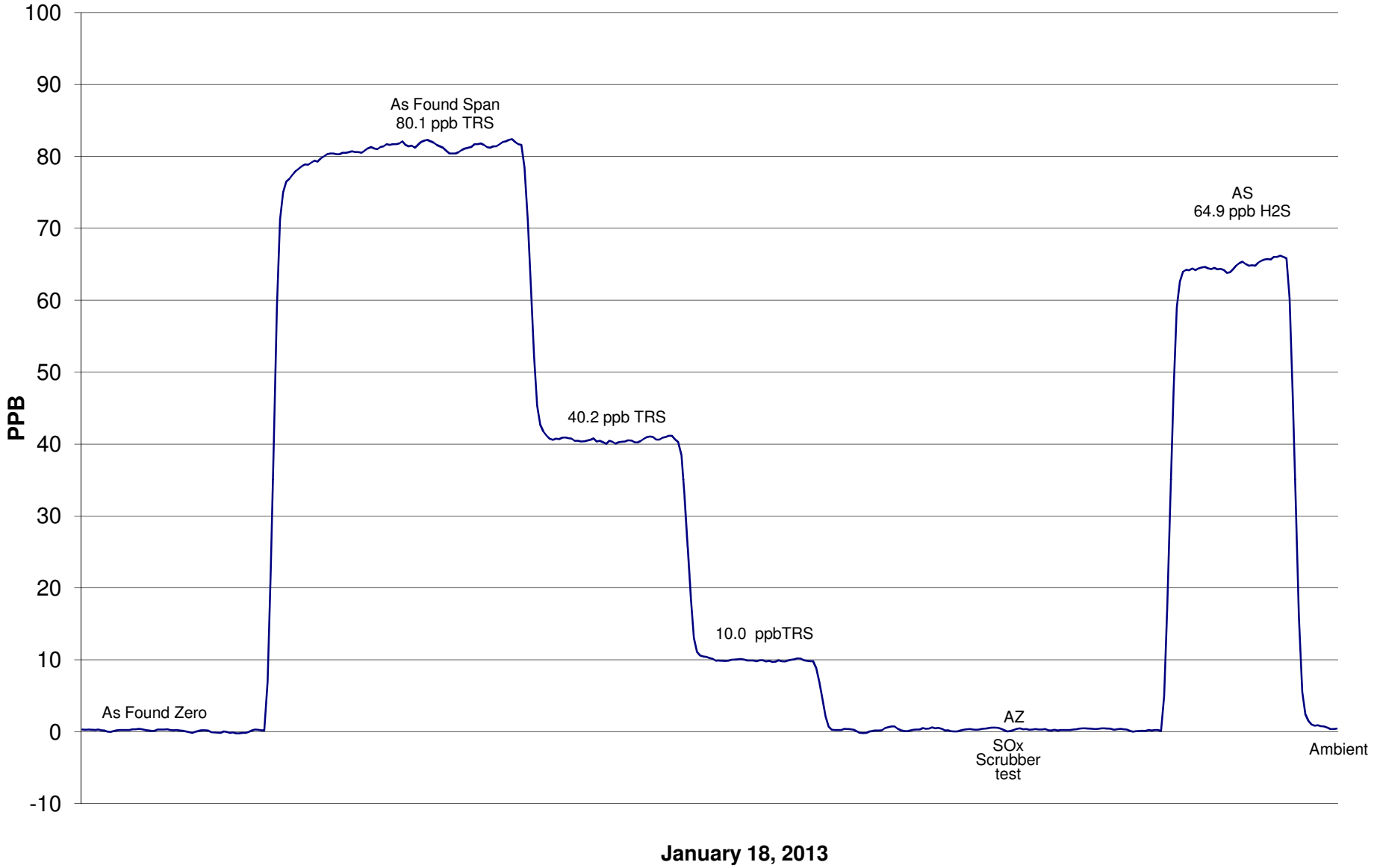
Calibration Date	January 18, 2013	Previous Calibration	December 13, 2012
Station Number	PAZA Rover	Station Location	Sunset House
Start Time (MST)	14:47:00 PM	End Time (MST)	17:40
Analyzer make/model	TEI 43C	Analyzer serial #	609716238

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
80.1	81.4	0.9844	Correlation Coefficient	0.999981
40.2	40.5	0.9914		
10.0	9.9	1.0102	Slope	0.983499
			Intercept	0.161806



TRS Calibration



January 18, 2013

AB TEOM PM2.5 Calibration

FOCUS AIR QUALITY MONITORING

STATION: **Rover-Sunset House**

LOCATION: PAZA - Grande Prairie

OPERATOR: Grover Christiansen

DATE: 18-Jan-13

MONITOR INFO / PARAMETER VALUES:

Make/Model	TEOM AB
Configuration	PM2.5
Serial Number	21551
Site Number	2
Inlet Type	PM 10 / SCC
FAdj. Main Setting	1.000
FAdj. Aux. Setting	1.000
T-Case Indicated / Set Point	40/40
T-Air Indicated / Set Point	40/40
T-Cap Indicated / Set Point	40/40
Splitter Assembly Alignment (cm)	15.5

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

RECENT CALIBRATION AND AUDIT HISTORY

Previous Audit	18-Oct-12
Previous Calibration	11-Apr-12

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	0.160	0.150
PUMP OFF	0.140	0.090
NET	0.020	0.060
LIMITS	***<0.15***	***<0.60***

		Ambient Temp. (^{0} C)	Ambient Pres. (atm)	Ko *	Bypass flow (lpm)	Sample flow (lpm)
	SET POINT (S)	na	na	9689	13.67	3.000
	INDICATED (I)	-12.0	0.910		13.67	2.990
As Found Data	MEASURED (AF)	-12.0	0.909		13.68	3.020
Adjusted Data	MEASURED (M)	-12.0	0.909	9672	13.68	3.020
	DIFFERENCE (M-I)	0.0	-0.001	-0.2%	0.01	0.02
	LIMITS	***± 2 ^{0} C***	***± 0.005 atm***	***± 2.5 %***	***± 1.0 L/min***	***± 0.2 L/min***

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

COMMENTS: **Pass**

Full audit was performed.

TEOM control unit S/N: 140AB215519705

TEOM sensor unit S/N: 1200B137649705

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	January 19, 2013	Previous Calibration	December 14, 2012
Station Number	1	Station Location	Falher
Reason: Routine	Install	Removal	Other:
Start Time (MST)	12:46	End Time (MST)	15:20
Barometric Pressure	0.917 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics	Serial Number	3474
Cal Gas Concentration	50.8 ppm	Cal Gas Expiry Date	12/03/2014
Correction factor	0.031171	Cal Gas Cylinder #	LL107272
DACS make	CR1000	DACS serial No.	3980
DACS voltage range	0 - 5 volt	DACS channel #	6
	Before		After
Calculated slope	0.985763	Calculated slope	0.993325
Calculated intercept	-0.263598	Calculated intercept	0.662278
Analyzer make	Teco 43i	Analyzer serial #	1207452008

	before		after	
Concentration range	0 - 500	ppb	0 - 500	ppb
Background	7.4		7.1	
coefficient	0.971		0.932	
Lamp Voltage	853	volts	849	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	681.5	mm Hg	692.5	mm Hg
Sample Flow	0.426	ccm	0.437	ccm
Lamp Intensity	96	%	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	0.0	N/A
4995	39.93	402.9	405.6	0.9932
4995	19.98	202.4	201.6	1.0037
4995	9.84	99.9	100.0	0.9993
4995	0.0	0.0	0.0	As Found Zero
4995	39.93	402.9	409.1	As Found Span
			Average Correction Factor	0.9987

Calculated value of As Found Response: 403.043 ppm Percent Change of As Found: 0.0%

	before calibration		after calibration	
Auto zero	0.5	ppm	0.1	ppm
Auto span	359.4	ppm	336.7	ppm

Notes: Slight span adjust.

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **SO2**

Air Monitoring Network **PAZA**

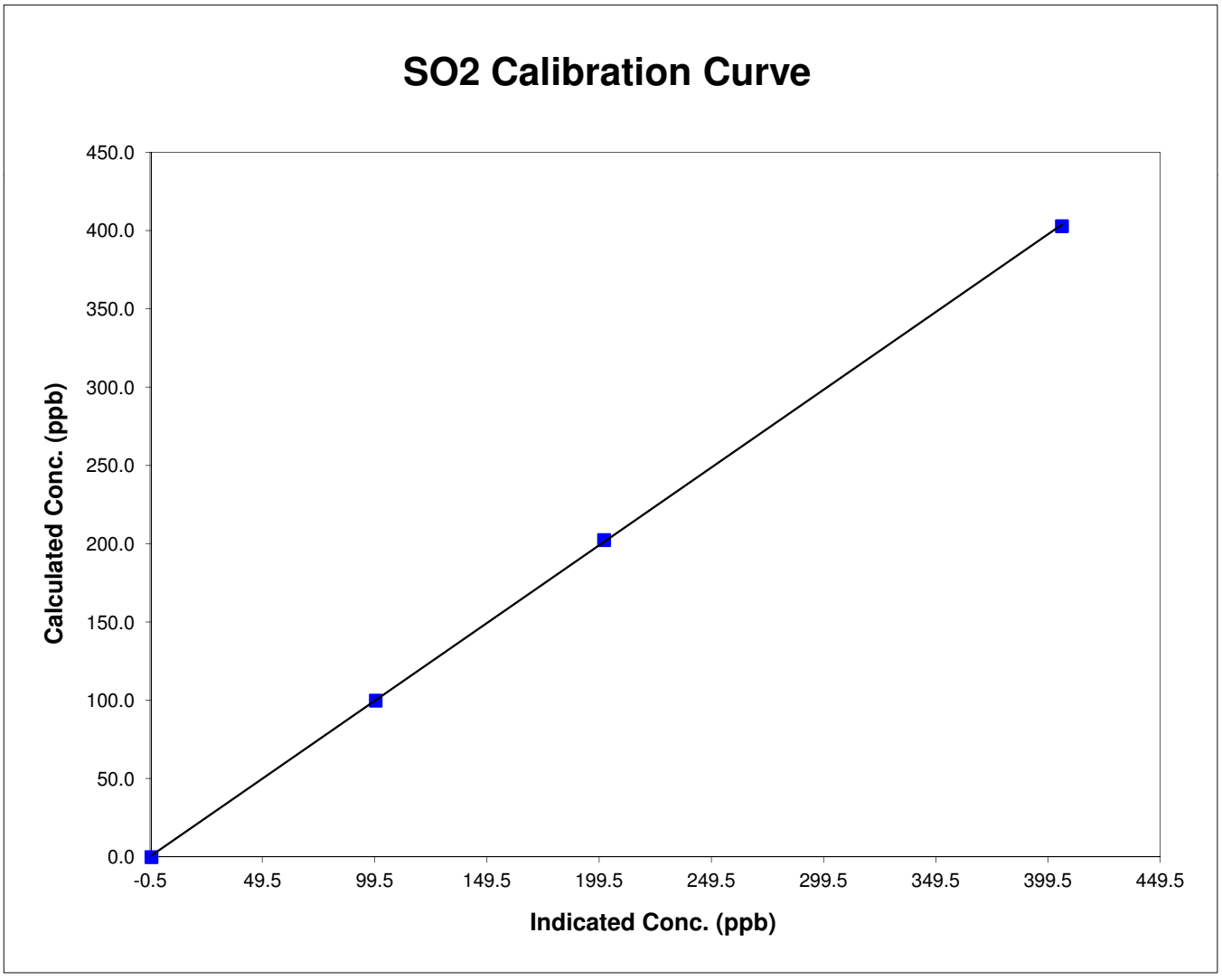
FOCUS AIR QUALITY MONITORING

Station Information

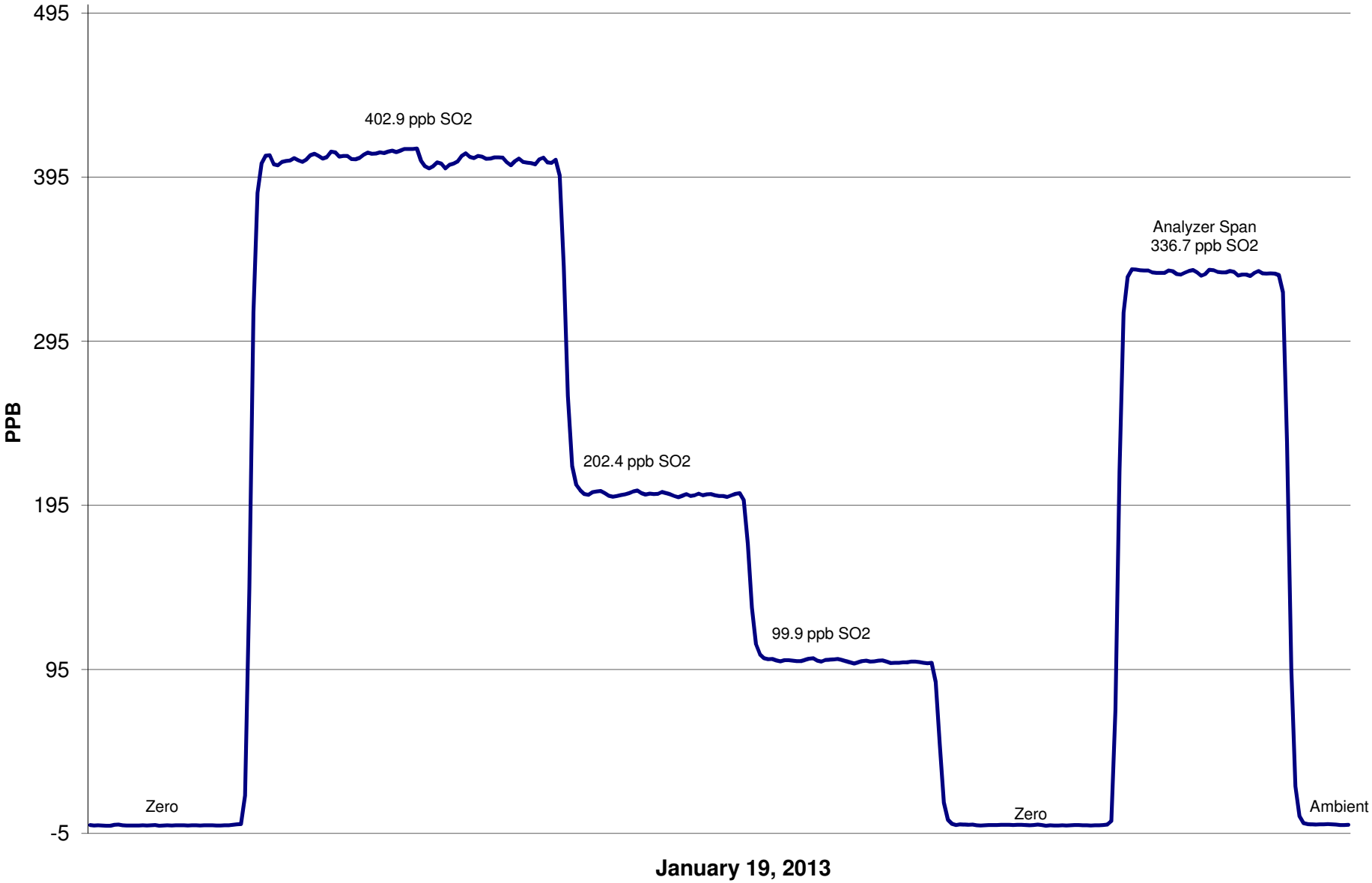
Calibration Date	January 19, 2013	Previous Calibration	
Station Number	1	Station Location	Falher
Start Time (MST)	12:46	End Time (MST)	15:20
Analyzer make/model	Teco 43i	Analyzer serial #	1207452008

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.0	N/A		
402.9	405.6	0.9932	Correlation Coefficient	0.999967
202.4	201.6	1.0037		
99.9	100.0	0.9993	Slope	0.993325
			Intercept	0.662278



SO2 Calibration



Calibration Report

Parameter **H2S**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 19, 2013	Previous Calibration	December 14, 2012
Station Number	1	Station Location	Falher
Reason:	Routine / Install / Removal / Other:		
Start Time (MST)	8:40	End Time (MST)	10:14
Barometric Pressure	0.917 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics	Serial Number	3474
Cal Gas Conc	10.1 ppm	Cal Gas Expiry Date	05/11/2013
Correction factor	0.031171	Cal Gas Cylinder #	LL160692
DACS make	CR1000	DACS serial No.	3980
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
Calculated slope	1.019491	Calculated slope	1.006429
Calculated intercept	-0.168390	Calculated intercept	-0.244012
Analyzer make	Thermo 450i	Analyzer serial #	1207452006

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	7.7	ppb	7.8	ppb
coefficient	0.964		0.964	
Lamp Voltage	886	volts	887	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	574.9	mm Hg	560.7	mm Hg
Sample Flow	0.963	ccm	0.952	ccm
Lamp Intensity	89	mv	90	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	0.3	N/A
4995	39.97	80.18	79.9	1.0035
4995	19.97	40.22	40.2	0.9993
8994	8.97	10.06	10.2	0.9901
4995	0.00	0.00	0.4	As Found Zero
4995	39.95	80.14	79.9	As Found Span
			Average Correction Factor	0.9976

Calculated value of As Found Response: 80.87 ppm Percent Change of As Found: -0.9%

	before calibration		after calibration	
Auto zero	0.0	ppm	NA	ppm
Auto span	51.2	ppm	#DIV/0!	ppm

Notes: **Complete as found calibration. Replace flash lamp & trigger pack. Scrubber checked - OK.**

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **H2S**

Air Monitoring Network **PAZA**

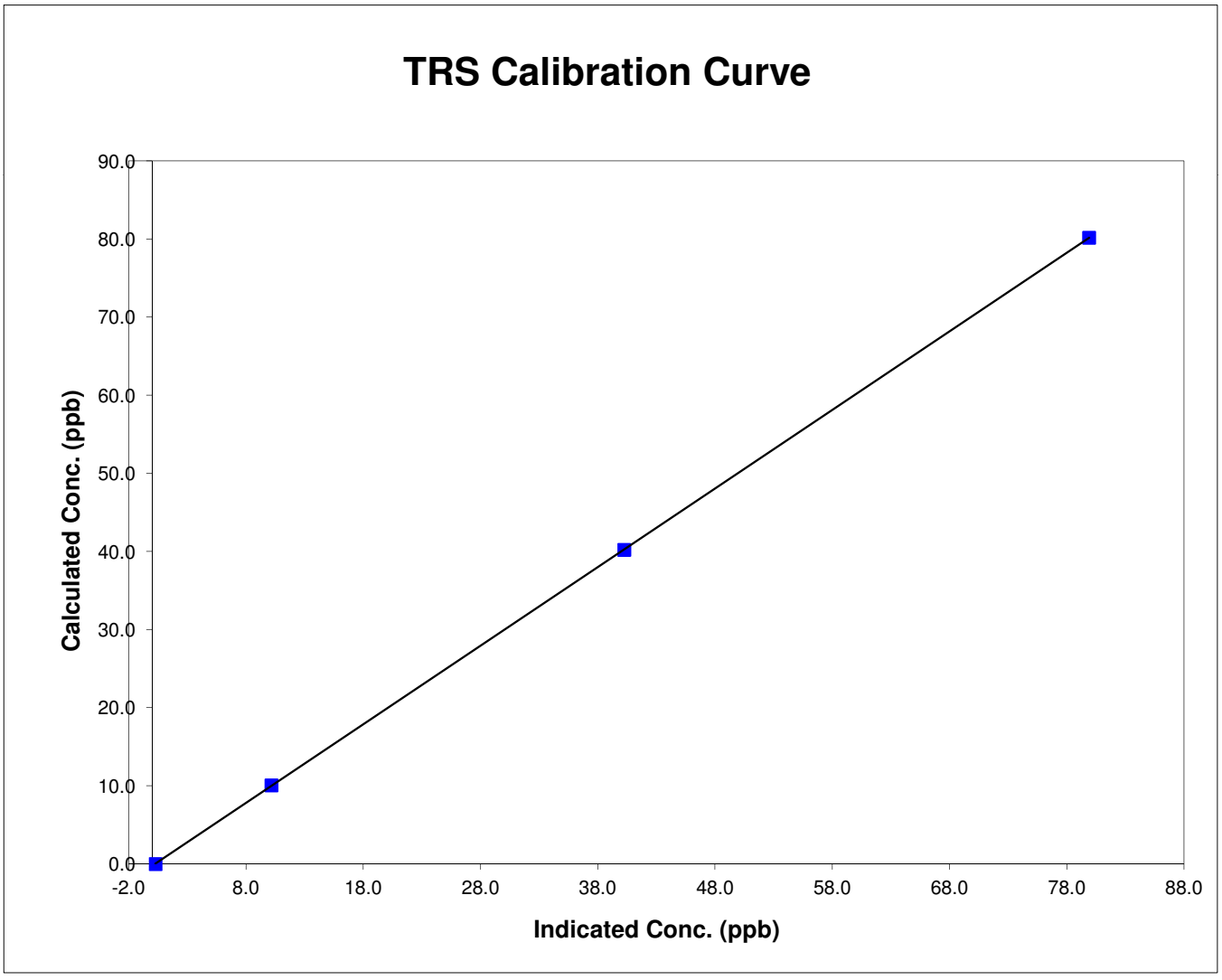
FOCUS AIR QUALITY MONITORING

Station Information

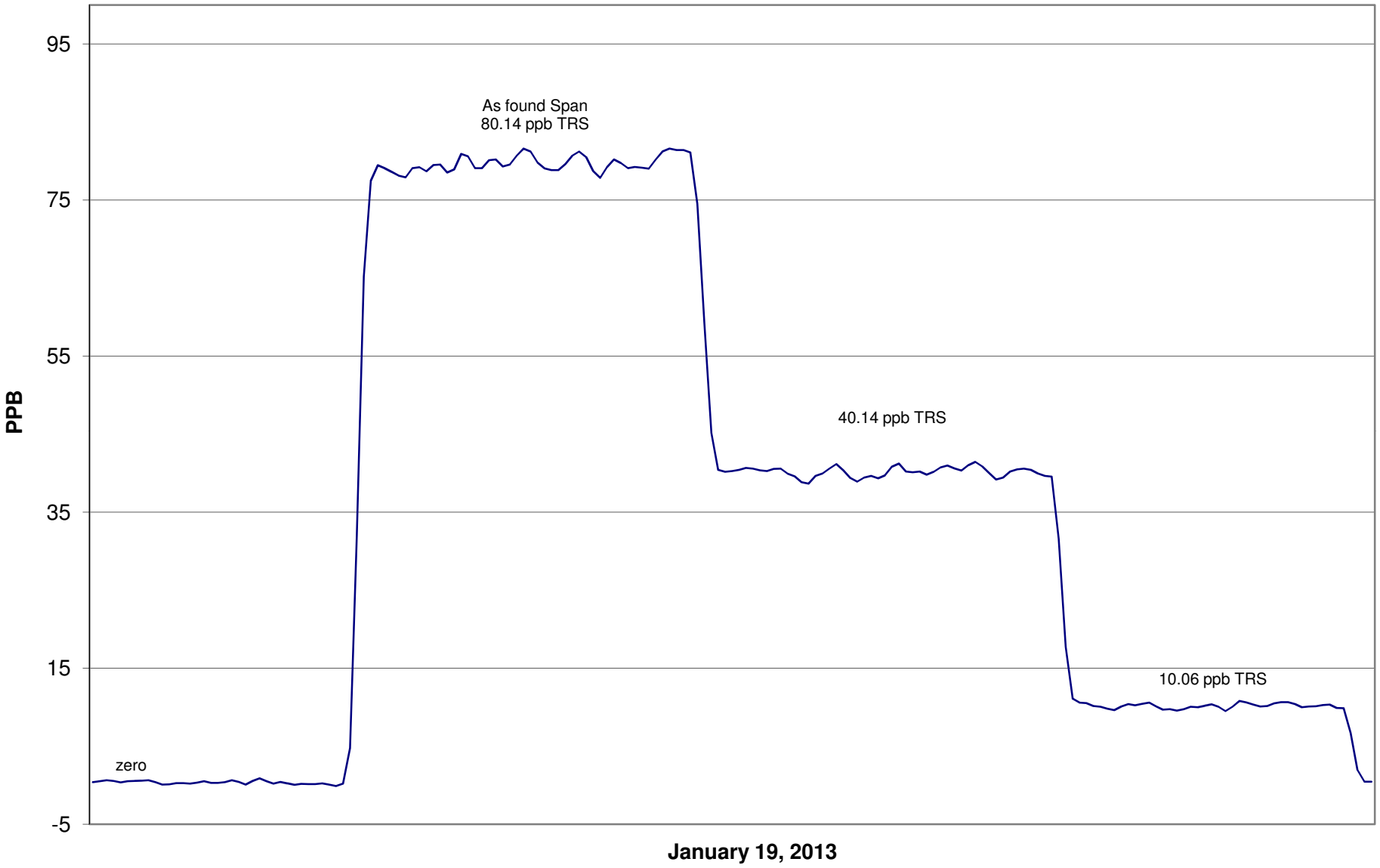
Calibration Date	January 19, 2013	Previous Calibration	December 14, 2012
Station Number	1	Station Location	Falher
Start Time (MST)	8:40	End Time (MST)	10:14
Analyzer make/model	Thermo 450i	Analyzer serial #	1207452006

Calibration Data

Calculated concentration (ppb) (Cc)	Indicated concentration (ppb) (Ic)	Correction factor (Cc/Ic)	Statistical Evaluation	
0.0	0.3	N/A		
80.2	79.9	1.0035	Correlation Coefficient	0.999997
40.2	40.2	0.9993		
10.1	10.2	0.9901	Slope	1.006429
			Intercept	-0.244012



H2S Calibration



Calibration Report

Parameter **H2S**

Air Monitoring Network **PAZA**

FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 19, 2013	Previous Calibration	December 14, 2012
Station Number	1	Station Location	Falher
Reason:	Routine / Install / Removal / Other:		
Start Time (MST)	11:35	End Time (MST)	14:15
Barometric Pressure	0.917 ATM	Station Temperature	20.0 Deg C
Calibrator	Environics	Serial Number	3474
Cal Gas Conc	10.1 ppm	Cal Gas Expiry Date	05/11/2013
Correction factor	0.031171	Cal Gas Cylinder #	LL160692
DACS make	CR1000	DACS serial No.	3980
DACS voltage range	0 - 5 volt	DACS channel #	5
	Before		After
Calculated slope	1.019491	Calculated slope	1.003014
Calculated intercept	-0.168390	Calculated intercept	-0.482345
Analyzer make	Thermo 450i	Analyzer serial #	1207452006

	before		after	
Concentration range	0 - 100	ppb	0 - 100	ppb
Background	12.3	ppb	12.3	ppb
coefficient	1.071		1.071	
Lamp Voltage	713	volts	711	volts
Chamber Temp	45	Deg C	45	Deg C
Perm Gas Temp	45	Deg C	45	Deg C
Pressure	575.8	mm Hg	576.1	mm Hg
Sample Flow	0.966	ccm	0.976	ccm
Lamp Intensity	99	mv	99	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	0.5	N/A
4995	39.97	80.18	80.4	0.9974
4995	19.97	40.22	40.6	0.9897
8994	8.97	10.06	10.5	0.9578
4995	0.00	0.00	0.5	As Found Zero
4995	39.95	80.14	80.4	As Found Span
			Average Correction Factor	0.9816

Calculated value of As Found Response: 81.32 ppm Percent Change of As Found: -1.5%

	before calibration		after calibration	
Auto zero	0.0	ppm	0.2	ppm
Auto span	51.2	ppm	50.7	ppm

Notes: **Re start cal following lamp & socket replacement & stabilization.**

Calibration Performed By: Grover Christiansen

Calibration Summary

Parameter **H2S**

Air Monitoring Network **PAZA**

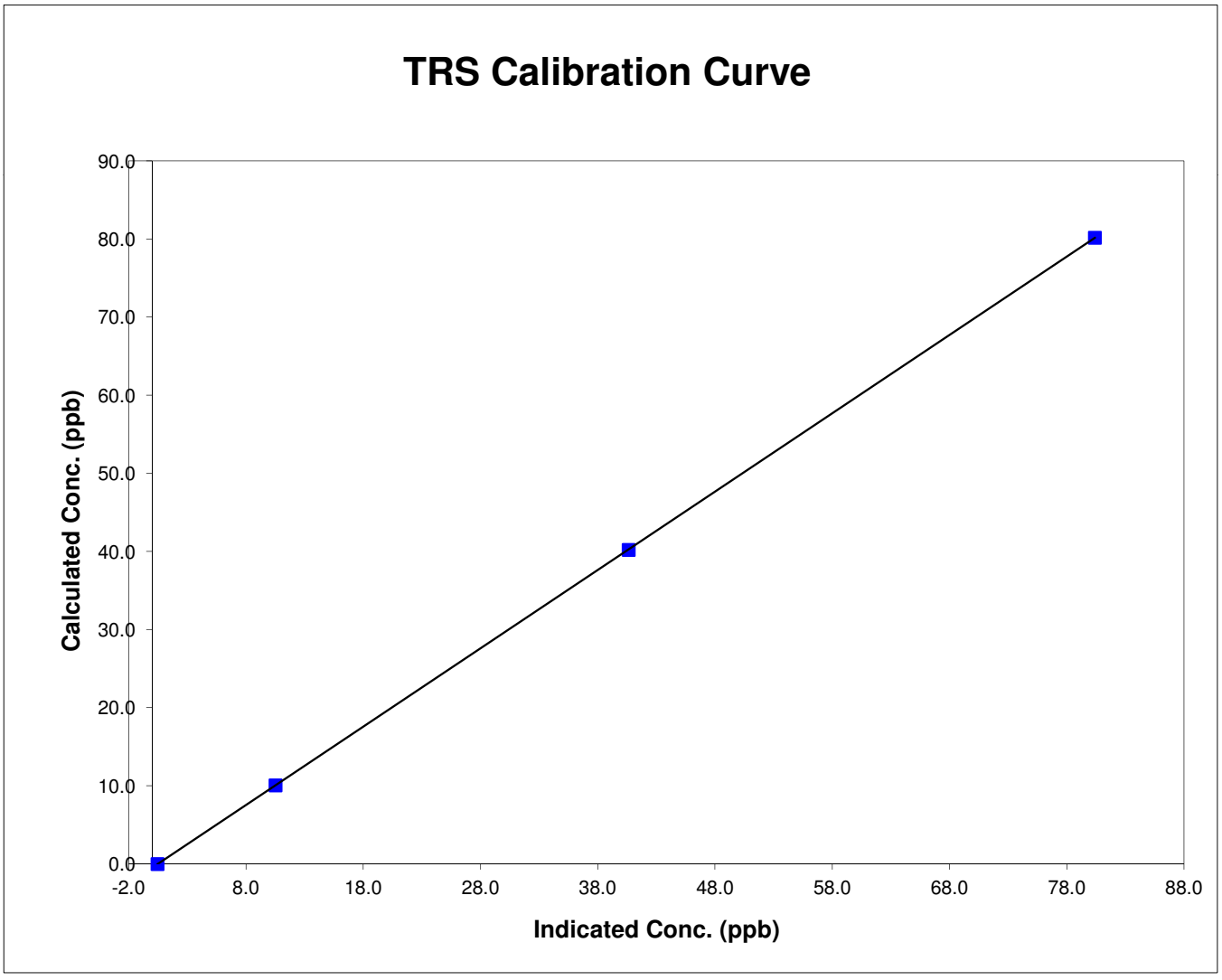
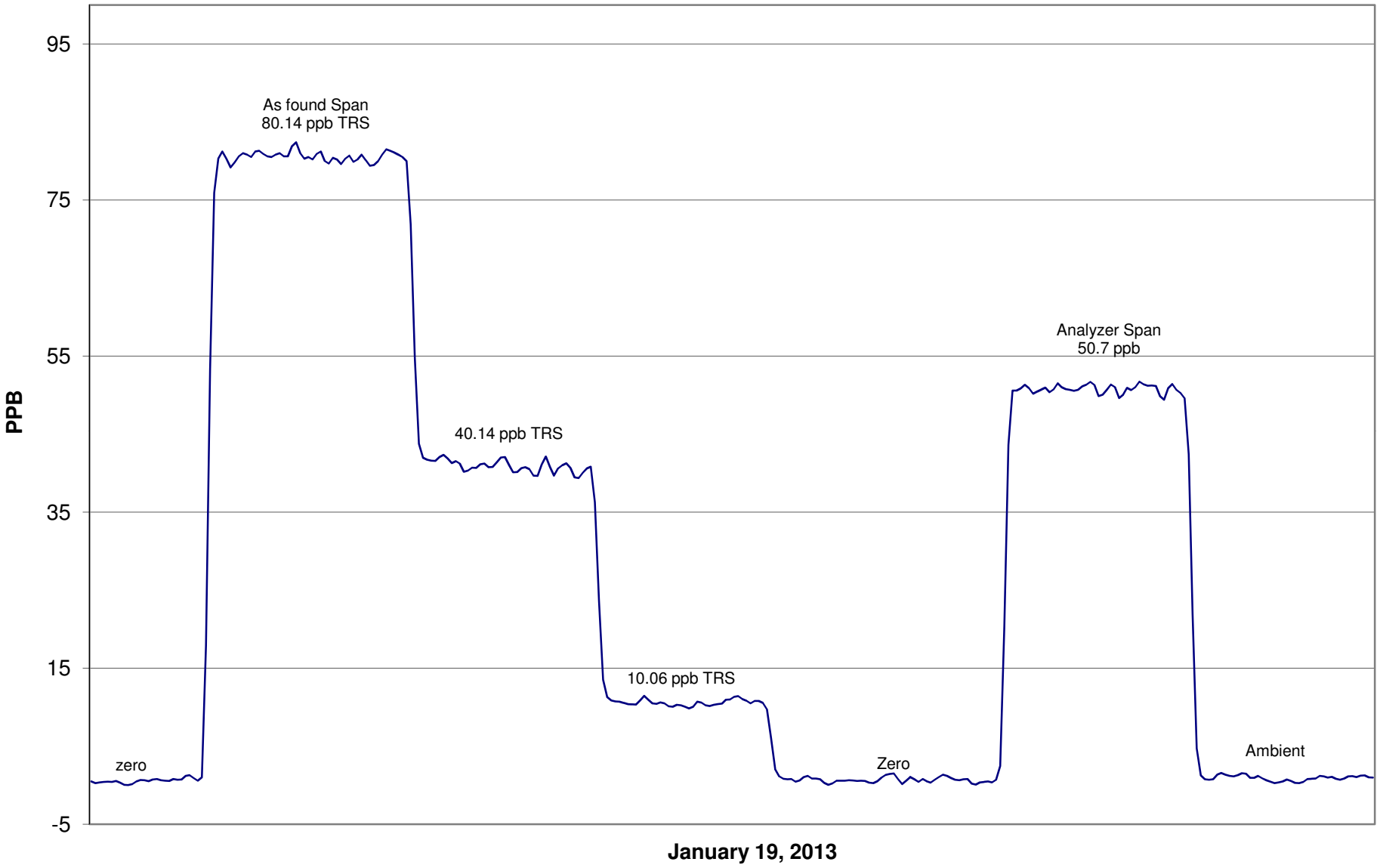
FOCUS AIR QUALITY MONITORING

Station Information

Calibration Date	January 19, 2013	Previous Calibration	December 14, 2012
Station Number	1	Station Location	Falher
Start Time (MST)	11:35	End Time (MST)	14:15
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	0.5	N/A		
80.2	80.4	0.9974	Correlation Coefficient	0.999999
40.2	40.6	0.9897		
10.1	10.5	0.9578	Slope	1.003014
			Intercept	-0.482345



H2S Calibration